



**VALLEY-WIDE**  
RECREATION AND PARK DISTRICT

**GoRecreation.org**  
AWARD WINNING CALIFORNIA PARKS

Riverside County  
Menifee, CA and Winchester, CA

**HOLLAND ROAD, SHRIMP LANE, AND BENTON CREEK CHANNEL  
RECYCLED WATER RETROFIT PROJECT**

**2019**

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**Board of Directors:**

Nick Schouten, President  
John Bragg, Vice President  
Jan Bissell, Secretary  
Steve Simpson, Director  
Noah Rau, Director

**District Administration:**

Dean Wetter, General Manager

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901 WEST ESPLANADE AVENUE  
P.O. BOX 907  
SAN JACINTO, CA 92582  
PHONE (951) 654-1505 · FAX (951) 654-5279

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**HOLLAND ROAD, SHRIMP LANE, AND BENTON CREEK CHANNEL  
RECYCLED WATER RETROFIT PROJECT**

**NOTICE INVITING BIDS**

**RECEIPT AND OPENING OF PROPOSALS:** Sealed bids will be received in the main office of the Valley-Wide Recreation & Park District (“District”), 901 West Esplanade Avenue, San Jacinto, CA 92582 until **Monday, July 8, 2019 at 2:00 p.m.**, at which time or soon thereafter said bids will be opened and publically read aloud. Bids received after this time will be returned unopened. Bids shall be valid for sixty (60) calendar days after the bid opening date. Bids must be submitted on the District’s Bid Forms. No electronic bids or email bids will be accepted.

**SCOPE OF WORK**

Irrigation system retrofit in order to provide recycled water to project to include: new mainlines, point-of-connection equipment, removal of existing point-of-connection equipment, warning signs, valve box replacement, purple colored coding, controller upgrades and installation of new water meter.

Additionally, the removal of existing material and installation of pressure treated redwood along Shrimp Lane and Benton Creek Channel.

**MANDATORY PRE-BID WALK-THRU**

Date: Wednesday, June 26, 2019 at 10:00 a.m.

Location: West side of Washington Street, 250 feet South of Shrimp Lane,  
Winchester, California 92596

**QUESTIONS:** All questions must be submitted in writing by 5:00 p.m. on Friday, June 28, 2019, to James Salvador at [JamesS@GoRecreation.org](mailto:JamesS@GoRecreation.org) or FAX: 951-654-5279. **Questions received after this time may not be responded to.**

**ENGINEERS ESTIMATE:** \$456,036.00

**COMPLETION OF WORK:** All work shall be complete within ninety (90) calendar days after receipt of Notice of Acceptance of Proposal/Notice to Proceed. Liquidated damages of \$250.00 per calendar day will be assessed for exceeding any of the time completion requirements. Additional days will be given for days classified as “rain days” by the District Inspector.

**PLANS AND SPECIFICATIONS:** Specifications will be available to be reviewed on Valley-Wide Recreation and Park District website: [www.GoRecreation.org/bids-and-documents](http://www.GoRecreation.org/bids-and-documents) Saturday, June 8, 2019. Specification can also be reviewed free of charge at the Administration Department at: 901 W. Esplanade Avenue, San Jacinto California, 92582 (951) 654-1505.

Plans and Specifications are also available for examination at:

**Bid America**

41085 Elm Street  
Murrieta, CA 92562  
Tel: (951) 572-3379  
FAX: (951) 677-4814

[planroom@bidamerica.com](mailto:planroom@bidamerica.com)

**AGC Planroom**

6212 Ferris Square  
San Diego, CA 92121  
Tel: (858) 558-7444  
Attn: RaeMarie

[planroom@agcsd.org](mailto:planroom@agcsd.org)

**GUARANTEE:** Bids must be accompanied by cash, a certified or cashier's check or a Bid Bond in favor of the Valley-Wide Recreation and Park District in an amount not less than ten percent (10%) of the submitted Total Bid Price, as a guarantee that the bidder will enter into the contract for the work, the full amount of such guarantee to be forfeited to the District should successful bidder fail to enter into said contract as set forth in Section 20160 et seq. of the Public Contract Code of the State of California.

**SECURITY:** Each bid shall be accompanied by the security referred to in the Contract Documents, the non-collusion affidavit, the list of proposed subcontractor, and all additional documentation required by the Instructions to Bidders. The successful bidder will be required to furnish the District with a Performance Bond equal to 100% of the successful bid, and Payment Bond equal to 100% of the successful bid, prior to execution of the Contract. All bonds are to be obtained from a surety that meets all the State of California bonding requirements, as defined in Code of Civil Procedure Section 995.120, and is admitted by the State of California. Pursuant of Public Contract Code Section 22300, the successful bidder may substitute certain securities for funds withheld by District to ensure his performance under the Contract.

**INSURANCE:** The successful bidder will also be required to furnish the District with an insurance policy as specified in the Specifications.

**PREVAILING WAGE RATES:** The Director of Industrial Relations (DIR) has determined the general prevailing rate 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 which will be awarded to the successful bidder, copies of which are on file and will be made available to any interested party upon request at the main office or online at <http://www.dir.ca.gov/dlsr>. A copy of these rates shall be posted by the successful bidder at the job site. The successful bidder, and all subcontractor(s) under him, shall comply with all applicable Labor Code provisions, which include, but are not limited to the payment of not less than the required prevailing rates to all hours of labor and the 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.

**CONTRACT TIME:** No bid or bid security may be withdrawn for seventy-five (75) calendar days after the date bids are received. The successful bidder shall within fifteen (15) calendar days after the District mails a Notice of Acceptance of Proposal, return the signed contract and bonds, and attend the pre-construction conference at the District's Administration office. The contract period shall commence fifteen (15) calendar days from the date of the Notice to Proceed. The Contractor shall complete all work including testing, within ninety (90) Calendar days.

**REQUIRED CONTRACTOR LICENSE:** Bidders on this work will be required to be licensed by the State of California as **Class A General Contractor, Class B General Building, or Class C-27 Landscaping Contractor** at the time of the bid and at the time of award as such license is defined in Section 7056 and/or Section 7058 of the Business and Professional Code and Section 732 of the California Administrative Code.

**AWARD OF CONTRACT:** The District shall award the Contract for the Project to the lowest responsible bidder as determined from the base bid alone by the District. The District reserves the right to reject any or all bids or to waive an irregularities or information in any bids or in the bidding process.

**CERTIFIED PAYROLL:** The winning bid contractor will be required to concurrently submit weekly certified payroll to the Department of Industrial Relations when submitting their monthly invoice payment request to Valley-Wide Recreation and Park District. The District's invoice payment policy is thirty (30) days.

**ADDITIONAL INFORMATION:** All inquiries shall be directed to James Salvador at [JamesS@GoRecreation.org](mailto:JamesS@GoRecreation.org) or at (951) 654-1505.

Dated this 5 day of JUNE 2019



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Dean Wetter, General Manager  
Valley-Wide Recreation & Park District

Posted date: June 8, 2019

## INSTRUCTIONS TO BIDDERS

### **B-01. SECURING DOCUMENTS**

Bids must be submitted to the District on the Bid Forms which are a part of the Bid Package for the Project. Bid and Contract Documents may be obtained from the Administration office at: 901 W. Esplanade Avenue, San Jacinto California, 92582 or [www.GoRecreation.org/bids-and-documents](http://www.GoRecreation.org/bids-and-documents) any time after **June 8, 2019**. Prospective bidders are encouraged to telephone in advance to determine the availability of Contract Documents. Any charge for the Contract Documents is stated in the Notice Inviting Bids.

The District may also make the Contract Documents available for review at one or more plan rooms, as indicated in the Notice Inviting Bids. Please Note: Prospective Bidders who choose to review the Contract Documents at a plan room must contact the District to obtain the required Contract Documents if they decide to submit a bid for the Project.

Any Addenda will be posted on [www.GoRecreation.org/bids-and-documents](http://www.GoRecreation.org/bids-and-documents). Failure to acknowledge addenda may make a bid nonresponsive and not eligible for award of the contract.

### **B-02. 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.

### **B-03. 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 District 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 District 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 District.

#### **B-04. PRE-BID WALK-THRU**

A Mandatory Pre-Bid Walk-Thru is scheduled for Wednesday, **June 26, 2019 @ 10:00 a.m.** to review the Project's existing conditions at the **West side of Washington Street, 250 South of Shrimp Lane, Winchester, California 92596**. Representatives of the District and consulting engineers, if any, will be present. Questions asked by Bidders at the Pre-Bid Walk-Thru not specifically addressed within the Contract Documents shall be answered in writing, and shall be sent to all Bidders present at the Pre-Bid Walk-Thru. **Bids will not be accepted from any bidder who did not attend the Mandatory Pre-Bid Walk-Thru.**

#### **B-05. ADDENDA**

The District 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 District shall be included in the Bid and made part of the Contract Documents. Pursuant to Public Contract Code Section 4104.5, if the District issues an Addendum which includes material changes to the Project less than 72 hours prior to the deadline for submission of Bids, the District will extend the deadline for submission of Bids. The District may determine, in its sole discretion, whether an Addendum warrants postponement of the Bid submission date. Each prospective Bidder shall provide District a name, address, email address, and facsimile number to which Addenda may be sent, as well as a telephone number by which the District 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 Valley-Wide Administration office at (951) 654-1505, or at [www.GoRecreation.org/bids-and-documents](http://www.GoRecreation.org/bids-and-documents), 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.

#### **B-06. 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 District 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.

#### **B-07. 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 District 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. **USE OF BLACK OR BLUE INK, INDELIBLE PENCIL, OR A TYPEWRITER IS REQUIRED.** Deviations in the Bid Forms may result in the Bid being deemed non-responsive.



**B-08. 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.

**B-09. 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.

**B-10. 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 District 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 District shall reject the Bid. The District shall have the right to request, and Bidders shall provide within ten (10) calendar days, evidence satisfactory to the District 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.

**B-11. BID GUARANTEE (BOND)**

Each bid shall be accompanied by: (a) cash; (b) a certified or cashier's check made payable to Valley-Wide Recreation and Park District; or (c) a Bid Bond secured from a surety company satisfactory to the District, the amount of which shall not be less than ten percent (10%) of the Total Bid Price, made payable to Valley-Wide Recreation and Park District 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 District 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 District 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 District. District will return the security accompanying the bids of all unsuccessful bidders no later than 60 calendar days after award of the contract.

**B-12. IRAN CONTRACTING ACT OF 2010**

In accordance with Public Contract Code Section 2200 *et seq.*, the District requires that any person that submits a bid or proposal or otherwise proposes to enter into or renew a contract with the District 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.

**B-13. NON-COLLUSION DECLARATION**

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

**B-14. 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.

**B-15. 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 District 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.

**B-16. 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 District 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.

**B-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.

**B-18. SUBMISSION OF SEALED BIDS**

Once the Bid and supporting documents have been completed and signed as set forth herein, they shall be placed, along with the Bid Guarantee and other required materials, in a sealed envelope, addressed and delivered or mailed, postage prepaid, to the Engineering Department of the District before the time and day set for the receipt of bids. The envelope shall bear the title of the work and the name of the bidder. No oral or telephonic bids will be considered. No forms transmitted via the internet, e-mail, facsimile, or any other electronic means will be considered unless specifically authorized by the District as provided herein. Bids received after the time and day set for the receipt of bids shall be returned to the bidder unopened. The envelope shall also contain the following in the lower left-hand corner thereof:

**Bid of \_\_\_\_\_ (Bidder's Name)  
for the \_\_\_\_\_  
                  HOLLAND ROAD, SHRIMP LANE, AND BENTON CREEK CHANNEL  
                  RECYCLED WATER RETROFIT PROJECT**

Only where expressly permitted in the Notice Inviting Bids may bidders submit their bids via electronic transmission pursuant to Public Contract Code sections 1600 and 1601. Any acceptable method(s) of electronic transmission shall be stated in the Notice Inviting Bids. District may reject any bid not strictly complying with District's designated methods for delivery.

**B-19. OPENING OF BIDS**

At the time and place set for the opening and reading of bids, or any time thereafter, each and every bid received prior to the time and day set for the receipt of bids will be publicly opened and read. The District will leave unopened any Bid received after the specified date and time, and any such unopened Bid will be returned to the bidder. It is the bidder's sole responsibility to ensure that its Bid is received as specified. Bids may be submitted earlier than the date(s) and time(s) indicated.

The public reading of each bid will include the following information:

- A. The name and business location of the bidder.
- B. The nature and amount of the bid security furnished by bidder.
- C. The bid amount.



Bidders or their representatives and other interested persons may be present at the opening of the bids. The District may, in its sole discretion, elect to postpone the opening of the submitted Bids. The District reserves the right to reject any or all Bids and to waive any informality or irregularity in any Bid.

**B-20. 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 District 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 District.

**B-21. 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.

**B-22. SUBSTITUTION OF SECURITY**

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

**B-23. PREVAILING WAGES**

The District 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 Valley-Wide Administration office at 901 W. Esplanade Avenue, San Jacinto, CA 92582 of the District 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).

**B-24. 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 District. 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.

**B-25. INSURANCE REQUIREMENTS**

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

**B-26. 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 District, 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 District within ten (10) working days from the date the District provides the successful bidder with the Notice of Award.

**B-27. 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.

**B-28. 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.

**B-29. FILING OF BID PROTESTS**

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

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

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

If the protest is timely and complies with the above requirements, the District's General Manager, or other designated District staff member, shall review the protest, any response from

the challenged Bidder(s), and all other relevant information. The General Manager 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.

**B-30. BASIS OF AWARD; BALANCED BID**

The District 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 Bid Price. The District may reject any Bid which, in its opinion when compared to other Bids received or to the District's internal estimates, does not accurately reflect the cost to perform the Work. The District 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.

**B-31. AWARD PROCESS**

Once all Bids are opened and reviewed to determine the lowest responsive and responsible Bidder, the District Board 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 District 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 District 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 District receives all of the properly drafted and executed documents and certifications from the Bidder, the District shall issue a Notice to Proceed to that Bidder.

**B-32. 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 District 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.

**B-33. QUESTIONS**

Questions regarding this Notice Inviting Bids may be directed to James Salvador, at (951) 654-1505 or [JamesS@GoRecreation.org](mailto:JamesS@GoRecreation.org) or email at. No other members of the District's staff or District Board 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 District. The District may, in its sole discretion, disqualify any Bidder who engages in any prohibited communications.

## PROPOSAL PACKAGE INFORMATION SHEET

**PROJECT NAME:** Holland Road, Shrimp Lane, and Benton Creek Channel  
Recycled Water Retrofit Project

**NOTICE TO BIDDER:** *The attached Proposal Package, when complete by you and returned to this District, constitutes your Bid on this project. **Please do not submit the bound copy of the specifications or addenda with your Bid.***

*The envelope enclosing the proposal **MUST** be sealed and addressed as follow:*

**Regular, Express Mail, FedEx or Hand-Deliver**

General Manager, Valley-Wide  
Attention: James Salvador  
901 W. Esplanade Avenue  
San Jacinto, CA 92581

*The envelope **MUST** be plainly marked in the upper left hand corner with the name and address of the bidder, and bear the words:*

**Proposal for:**  
**(Project Name)**  
**(Date and Hour)**

### **SIGN, COMPLETE, AND SUBMIT THE FOLLOWING:**

- Proposal Sheet (C3-1) **Signature required!**
- Bidding Sheets & Equipment and Material List – (BS-1 thru 15)
- Bidder's Experience Record & Resumes of Key Personnel (C4-2 thru 8)
- Subcontractors List (C-5(d) thru (e))
- Public Works Contractor Registration Certification (C22-1) – **Attach extracts of Bidder & Subs listed on Designation of Subcontractors form. Go to: <https://efiling.dir.ca.gov/PWCR/Search>**
- Contractor's Licensing Statement (C6-1)
- Non-collusion Declaration (C7-1)
- Workers' Compensation Insurance Certificate (C11-1)
- Iran Contracting Act Certification (C13-1) **(only required if bid is over \$1 million)**
- Cal/OSHA Form 300A (C16-1 thru 2)
- Contractor's Cal Osha Compliance History and SIC Code (C17-1 thru 2)
- Bid Guarantee (per Notice Inviting Bids and Instructions to Bidders)

**If Bid Bond, must be signed By You and Your Surety Company-Surety Acknowledgement required. Notary Acknowledgement required or Surety and Contractor**

**PLEASE COMPLETE AND SIGN ALL REQUIRED AREAS. SUBMIT AND ATTACH ANY ADDITIONAL DOCUMENTATION WHICH CONSTITUTES YOUR BID**

**FAILURE TO COMPLETE THIS PROPOSAL PACKAGE MAY RENDER YOUR BID  
"NON-RESPONSIVE"**

**[\\*Please Remove This Information Sheet Prior to Submitting Your Bid\\*](#)**

**PROPOSAL**

The undersigned hereby declares, as Bidder, that the only persons or parties interested in this proposal as principals are those named herein; that no director or any other officer or employee of the Valley-Wide Recreation District is in any manner interested directly or indirectly in this proposal or in the profits to be derived from the contract proposed to be taken; that this bid is made without any connection with any person or persons making a bid for the same purpose; that the bid is in all respects fair and without collusion or fraud; that he has read the Notice Inviting Bids (or Bidding Information) and the Instructions to Bidders and agrees to all the stipulations contained herein; that he proposes and agrees that if his bid as submitted in the attached sheets, be accepted he will contract in the form so approved and furnish the items called for in accordance with the provisions of said approved form of Agreement and the Specifications and to deliver the same within the time stipulated therein; and that he will accept in full payment therefore the prices named in said Bid Sheet.

The Bidder further agrees, that upon receipt of written notice of acceptance of the proposal with 60 days after the day of opening bids (unless otherwise specified in the Notice Inviting Bids or Bidding information) he will execute and return the Contract in accordance with the proposal as accepted and furnish the required bond(s) within **ten (10)** days from the date of mailing the Notice of Acceptance of Proposal to him at his address given below, or within such time as allowed by Valley-Wide; and that upon his failure or refusal to do so within the said time, then the certified or cashier's check or bond accompanying this bid shall become the property of and be retained by Valley-Wide as liquidated damages for such failure or refusal, and shall be deposited with the Accountant of said Valley-Wide as monies belonging to Valley-Wide; provided, that if said Bidder shall execute the Contract and furnish the required bond within the time aforesaid, his check or bond shall be returned to him thereafter.

The Bidder further declares that the surety or sureties named in the attached sheet have agreed to furnish bond in form and amount set forth in the accompanying Notice Inviting Bids (or Bidding Information) and Article 11 of the Instructions to Bidders, in the event contract is awarded on basis of this proposal.

Company: \_\_\_\_\_

Address: \_\_\_\_\_ Date: \_\_\_\_\_

By: \_\_\_\_\_  
 (Print Name) Name should appear below (Signature of Owner or Officer required)

Name(s) of Member of Firm or Officer of Corporation Authorized to enter into a binding Contract:	Address (if different from above)

For further detail on this proposal, please contact:

Name:	Address:
Email Address:	Telephone:

**VALLEY-WIDE RECREATION**

**HOLLAND ROAD, SHRIMP LANE, AND BENTON CREEK CHANNEL  
RECYCLED WATER RETROFIT PROJECT**

**BIDDING SHEETS**

Bids will be received at the Valley-Wide Recreation and Park District office, located at 901 W. Esplanade Avenue, San Jacinto, California, until **Monday, July 8, 2019 @ 2:00 p.m.**

NAME OF BIDDER: \_\_\_\_\_

To the Board of Directors  
of the Valley-Wide Recreation and Park District  
901 W. Esplanade Avenue  
San Jacinto, California 92581

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:

**Holland Road, Shrimp Lane, and Benton Creek Channel  
Recycled Water Retrofit 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 for the following TOTAL BID PRICE:

Total Bid Amount in Numerals:                            \$ \_\_\_\_\_

Total Bid Amount in Words:        \$ \_\_\_\_\_

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

Addenda and/or Letter of Clarification

By submitting a bid, Bidder certifies that any addenda and letters of clarification issued to these specifications, whether acknowledged or not below, shall be made a part of the contract. Bidder further agrees to perform all labor and services and furnish all materials, tools and appliances necessary for completing the work called out in the addenda or letter of clarification.

Addenda Received:    \_\_\_\_\_

Letter of Clarification received:    \_\_\_\_\_

**VALLEY-WIDE RECREATION**  
**HOLLAND ROAD, SHRIMP LANE, AND BENTON CREEK CHANNEL**  
**RECYCLED WATER RETROFIT PROJECT**

**BIDDING SHEETS**

The Contractor shall construct the project under these Specifications all in conformance with the Contract Drawings listed in Section P and these Specifications

The District reserves the right to:

- A. Accept or reject any or all bids on this specification;
- B. Award Contract to the lowest qualified bidder, based on the total bid price;
- C. Waive any defects and informalities.

The District shall be the final authority with regard to whether a bid is responsive to the call for bids and to whether a bidder is a responsible bidder under the conditions of his bid, or for any reason.

The total contract price shall include all work, materials, and equipment needed to complete the project as defined in the General Conditions, Section F. The bidder shall include costs for such other items in the most appropriate category (bid item).

**VALLEY-WIDE RECREATION  
HOLLAND ROAD, SHRIMP LANE, AND BENTON CREEK CHANNEL  
RECYCLED WATER RETROFIT PROJECT**

**BIDDING SHEETS**

ADDITION OR DEDUCTION: Provision is made here for the bidder to include an addition/deduction in their bid, if desired, to reflect any last minute adjustments in process. The addition/deduction, if made, will be proportionately applied to item(s) \_\_\_\_\_ (fill in) and reflected in the unit process for payment purposes. If the addition/deduction affects more than one bid item, the proportionate application of the addition/deduction shall be mutually agreed upon by the Contract and the District at the pre-job.

Person who inspected site of the proposed work as an employee of your firm: **(Representative must have inspected the jobsite and be employee on the company's payroll to be considered a responsive bidder)**

\_\_\_\_\_  
(Name)

\_\_\_\_\_  
(Date of Inspection)



**VALLEY-WIDE RECREATION**

**HOLAND ROAD, SHRIMP LANE, AND BENTON CREEK CHANNEL  
RECYCLED WATER RETROFIT PROJECT**

**BIDDING SHEETS**

<b>Bid Item</b>	<b>QTY</b>	<b>Unit</b>	<b>Description Unit Price Written in Words</b>	<b>Unit Price (Figures)</b>	<b>Total Amount (Figures)</b>
1	1	LS	Mobilization, Performance and Payment Bonds (not to exceed 10%)  _____ (words)	\$ _____	\$ _____
<b>HOLLAND ROAD</b>					
2	1	EA	Install new 2" Recycled water meter per EMWD standards PB-10. Water meter will be provided by EMWD.  _____ (words)	\$ _____	\$ _____
3	2	EA	Provide and install Nelson 7645 (1") quick coupler valve with acme thread and purple locking cover.  _____ (words)	\$ _____	\$ _____
4	2	EA	Provide and install Yardney strainer MCS2-1. To be installed above ground with stainless steel enclosure per manufacturer standard and details.  _____ (words)	\$ _____	\$ _____
5	1	EA	Provide and install Griswold 2230 epoxy coated normally open master valve (size: see plan) per detail. Run wires to existing irrigation controller location.  _____ (words)	\$ _____	\$ _____
6	1	EA	Provide and install Calsense flow sensor (Size: 2"). Install per detail. Run wires to existing irrigation controller.  _____ (words)	\$ _____	\$ _____

**VALLEY-WIDE RECREATION**

**HOLAND ROAD, SHRIMP LANE, AND BENTON CREEK CHANNEL  
RECYCLED WATER RETROFIT PROJECT**

**BIDDING SHEETS**

<b>Bid Item</b>	<b>QTY</b>	<b>Unit</b>	<b>Description Unit Price Written in Words</b>	<b>Unit Price (Figures)</b>	<b>Total Amount (Figures)</b>
7	2	EA	Provide and install 1" ball valve inside round purple valve box.  _____ (words)	\$ _____	\$ _____
8	200	LF	Provide and install 3" class 315 PVC purple recycled water irrigation mainline with ductile iron fittings (bury 24" min. deep) and connect to existing irrigation mainline.  _____ (words)	\$ _____	\$ _____
9	60	LF	Provide and install 14GA. Valve wires for flow sensor and master valve inside 1.5" PVC Sch.40 conduit and connect to existing controller. Install pull box at 150" O.C. or at any change in direction.  _____ (words)	\$ _____	\$ _____
10	30	EA	Provide and install recycled water signage per EMWD standards.  _____ (words)	\$ _____	\$ _____
11	2	EA	Cut and cap existing irrigation mainline-provide a minimum of 4ft separation. Remove unused pipe. Remove existing backflow preventer and equipment.  _____ (words)	\$ _____	\$ _____
12	64	EA	Replace existing quick coupler with Nelson 7645 (1") quick coupler valve with acme thread and purple locking cover. Install per detail.  _____ (words)	\$ _____	\$ _____

**VALLEY-WIDE RECREATION**

**HOLAND ROAD, SHRIMP LANE, AND BENTON CREEK CHANNEL  
RECYCLED WATER RETROFIT PROJECT**

**BIDDING SHEETS**

<b>Bid Item</b>	<b>QTY</b>	<b>Unit</b>	<b>Description Unit Price Written in Words</b>	<b>Unit Price (Figures)</b>	<b>Total Amount (Figures)</b>
13	147	EA	Replace all existing irrigation valve box lids with purple recycled water and label accordingly.  _____ (words)	\$ _____	\$ _____
14	1	EA	Install new 1.5" Recycled water meter per EMWD standards PB-11. Water meter will be provided by EMWD.  _____ (words)	\$ _____	\$ _____
15	2	EA	Existing domestic irrigation water meter to be removed.  _____ (words)	\$ _____	\$ _____
16	1	EA	Connect proposed new master valve and flow sensor wires to existing controller. Adjust/setup existing controller for high-flow shut off setting.  _____ (words)	\$ _____	\$ _____
17	60	LF	Install 6" PVC purple Class 200 sleeve and 2.5" PVC purple Class 315 irrigation mainline. Sleeve must be buried at a minimum of 36" from finish grade or per the City standard.  _____ (words)	\$ _____	\$ _____
18	2	EA	Install gate valve Nibco T-113 size to match the mainline size. Install per Detail.  _____ (words)	\$ _____	\$ _____
19	2	EA	Install 850 Small double check backflow preventer (Size: 2" to match strainer) with stainless steel enclosure. Install per Detail.  _____ (words)	\$ _____	\$ _____

**VALLEY-WIDE RECREATION**

**HOLAND ROAD, SHRIMP LANE, AND BENTON CREEK CHANNEL  
RECYCLED WATER RETROFIT PROJECT**

**BIDDING SHEETS**

<b>Bid Item</b>	<b>QTY</b>	<b>Unit</b>	<b>Description Unit Price Written in Words</b>	<b>Unit Price (Figures)</b>	<b>Total Amount (Figures)</b>
20	1	LS	Remove and cap existing remote control valves that irrigate the bottom of the basin. Lateral lines shall be abandoned in place.  _____ (words)	\$ _____	\$ _____
21	1	LS	Upgrade existing controllers. See index map sheet 2 and 5 of Holland Road plans.  _____ (words)	\$ _____	\$ _____
<b>SHRIMP LANE</b>					
22	1	EA	Install new 3" Recycled water meter per EMWD standards PB-13. Water meter will be provided by EMWD.  _____ (words)	\$ _____	\$ _____
23	2	EA	Provide and install Nelson 7645 (1") quick coupler valve with acme thread and purple locking cover.  _____ (words)	\$ _____	\$ _____
24	1	EA	Provide and install Yardney strainer MCS3-1. To be installed above ground with stainless steel enclosure per manufacturer standards and details.  _____ (words)	\$ _____	\$ _____
25	1	EA	Provide and install Griswold 2230 epoxy coated normally closed master valve (size: 3") per detail. Run wires to existing irrigation controller location.  _____ (words)	\$ _____	\$ _____
26	1	EA	Provide and install Calsense flow sensor (size: 3"). Install per detail. Run wires to existing irrigation controller.  _____ (words)	\$ _____	\$ _____

**VALLEY-WIDE RECREATION**

**HOLAND ROAD, SHRIMP LANE, AND BENTON CREEK CHANNEL  
RECYCLED WATER RETROFIT PROJECT**

**BIDDING SHEETS**

<b>Bid Item</b>	<b>QTY</b>	<b>Unit</b>	<b>Description Unit Price Written in Words</b>	<b>Unit Price (Figures)</b>	<b>Total Amount (Figures)</b>
27	2	EA	Provide and install 1" ball valve inside round purple valve box.  _____ (words)	\$ _____	\$ _____
28	2835	LF	Provide and install 6" class 200 PVC purple recycled water irrigation mainline with ductile iron fittings (bury 36" min. deep) and connect to existing irrigation mainline.  _____ (words)	\$ _____	\$ _____
29	2785	LF	Provide and install 14GA. Valve wires for flow sensor and master valve inside 1.5" PVC Sch.40 conduit and connect to existing controller. Install pull box at 150" O.C. or at any change in direction.  _____ (words)	\$ _____	\$ _____
30	27	EA	Provide and install recycled water signage per EMWD standards.  _____ (words)	\$ _____	\$ _____
31	3	EA	Cut and cap existing irrigation mainline. Remove unused pipe. Remove existing backflow preventer and equipment.  _____ (words)	\$ _____	\$ _____
32	128	EA	Replace existing quick coupler with Nelson 7645 (1") quick coupler valve with acme thread and purple locking cover. Install per detail.  _____ (words)	\$ _____	\$ _____
33	487	EA	Replace all existing irrigation valve box lids with purple recycled water and label accordingly.  _____ (words)	\$ _____	\$ _____

**VALLEY-WIDE RECREATION**

**HOLAND ROAD, SHRIMP LANE, AND BENTON CREEK CHANNEL  
RECYCLED WATER RETROFIT PROJECT**

**BIDDING SHEETS**

<b>Bid Item</b>	<b>QTY</b>	<b>Unit</b>	<b>Description Unit Price Written in Words</b>	<b>Unit Price (Figures)</b>	<b>Total Amount (Figures)</b>
34	1	LS	Provide purple cap for recycled water identification to all existing overhead irrigation rotor / spray system.  _____ (words)	\$ _____	\$ _____
35	18	LF	Install new 6" wide concrete mow curb.  _____ (words)	\$ _____	\$ _____
36	1	EA	Connect proposed new master valve and flow sensor wires to existing controller. Adjust / setup existing controller for flow monitoring.  _____ (words)	\$ _____	\$ _____
37	2	EA	Connect new proposed recycled water mainline to existing booster pump.  _____ (words)	\$ _____	\$ _____
38	5	EA	Existing domestic irrigation water meter to be removed.  _____ (words)	\$ _____	\$ _____
39	1150	LF	Provide and install 4" class 200 PVC purple recycled water irrigation mainline with ductile iron fittings (bury 36" min. deep) and connect to existing irrigation mainline  _____ (words)	\$ _____	\$ _____
40	2	EA	Remove existing booster pump and unused pipe. Return all equipment to owner representative.  _____ (words)	\$ _____	\$ _____

**VALLEY-WIDE RECREATION**

**HOLAND ROAD, SHRIMP LANE, AND BENTON CREEK CHANNEL  
RECYCLED WATER RETROFIT PROJECT**

**BIDDING SHEETS**

<b>Bid Item</b>	<b>QTY</b>	<b>Unit</b>	<b>Description Unit Price Written in Words</b>	<b>Unit Price (Figures)</b>	<b>Total Amount (Figures)</b>
41	400	LF	Provide and install 3" class 315 PVC purple recycled water irrigation mainline with Sch.80 fittings (bury 36" min. deep) and connect to existing irrigation mainline.  _____ (words)	\$ _____	\$ _____
42	1	LS	Relocate 10HP – 126 gpm park booster pump to paseo and connect to existing 125 amp electrical pedestal. Connect pump and piping per plan.  _____ (words)	\$ _____	\$ _____
43	1	EA	Install new 2" Recycled water meter per EMWD standards PB-10. Water meter will be provided by EMWD.  _____ (words)	\$ _____	\$ _____
44	1	EA	Provide and install Yardney strainer MCS2-1. To be install above ground with stainless steel enclosure per manufacturer standard and details.  _____ (words)	\$ _____	\$ _____
45	1	EA	Provide and install Griswold 2230 epoxy coated normally closed master valve (size: 1") per detail. Run wires to existing irrigation controller location.  _____ (words)	\$ _____	\$ _____
46	1	EA	Provide and install Calsense flow sensor (size: 1"). Install per detail. Run wires to existing irrigation controller.  _____ (words)	\$ _____	\$ _____

**VALLEY-WIDE RECREATION**

**HOLAND ROAD, SHRIMP LANE, AND BENTON CREEK CHANNEL  
RECYCLED WATER RETROFIT PROJECT**

**BIDDING SHEETS**

<b>Bid Item</b>	<b>QTY</b>	<b>Unit</b>	<b>Description Unit Price Written in Words</b>	<b>Unit Price (Figures)</b>	<b>Total Amount (Figures)</b>
47	1	LS	Remove existing master valves and flow sensors including valve boxes and reconnect existing mainline.  _____ (words)	\$ _____	\$ _____
48	1	LS	Upgrade existing controllers per note on sheet 3 of Shrimp Lane plans.  _____ (words)	\$ _____	\$ _____
<b>BENTON CREEK CHANNEL</b>					
49	1	EA	Install new 3" Recycled water meter per EMWD standards PB-13. Water meter will be provided by EMWD.  _____ (words)	\$ _____	\$ _____
50	1	EA	Provide and install Nelson 7645 (1") quick coupler valve with acme thread and purple locking cover.  _____ (words)	\$ _____	\$ _____
51	1	EA	Provide and install Yardney strainer MCS3-1. To be installed above ground with stainless steel enclosure per manufacturer standards and details.  _____ (words)	\$ _____	\$ _____
52	1	EA	Provide and install Griswold 2230 epoxy coated normally closed master valve (size: 3") per detail. Run wires to existing irrigation controller location.  _____ (words)	\$ _____	\$ _____



**VALLEY-WIDE RECREATION**

**HOLAND ROAD, SHRIMP LANE, AND BENTON CREEK CHANNEL  
RECYCLED WATER RETROFIT PROJECT**

**BIDDING SHEETS**

<b>Bid Item</b>	<b>QTY</b>	<b>Unit</b>	<b>Description Unit Price Written in Words</b>	<b>Unit Price (Figures)</b>	<b>Total Amount (Figures)</b>
53	1	EA	Provide and install Calsense flow sensor (size: 3"). Install per detail. Run wires to existing irrigation controller.  _____ (words)	\$ _____	\$ _____
54	1	EA	Provide and install 1" ball valve inside round purple valve box.  _____ (words)	\$ _____	\$ _____
55	400	LF	Provide and install 4" class 200 PVC purple recycled water irrigation mainline with ductile iron fittings (bury 36" min. deep) and connect to existing irrigation mainline.  _____ (words)	\$ _____	\$ _____
56	400	LF	Provide and install 14GA. Valve wires for flow sensor and master valve inside 1.5" PVC Sch.40 conduit and connect to existing controller. Install pull box at 150" O.C. or at any change in direction.  _____ (words)	\$ _____	\$ _____
57	17	EA	Provide and install recycled water signage per EMWD standards.  _____ (words)	\$ _____	\$ _____
58	3	EA	Cut and cap existing irrigation mainline-provide a minimum of 4ft separation. Remove unused pipe. Remove existing backflow preventer and equipment.  _____ (words)	\$ _____	\$ _____
59	40	EA	Replace existing quick coupler with Nelson 7645 (1") quick coupler valve with acme thread and purple locking cover. Install per detail.  _____ (words)	\$ _____	\$ _____

**VALLEY-WIDE RECREATION**

**HOLAND ROAD, SHRIMP LANE, AND BENTON CREEK CHANNEL  
RECYCLED WATER RETROFIT PROJECT**

**BIDDING SHEETS**

<b>Bid Item</b>	<b>QTY</b>	<b>Unit</b>	<b>Description Unit Price Written in Words</b>	<b>Unit Price (Figures)</b>	<b>Total Amount (Figures)</b>
60	150	EA	Replace all existing irrigation valve box lids with purple recycled water and label accordingly.  _____ (words)	\$ _____	\$ _____
61	1	LS	Provide purple cap for recycled water identification to all existing overhead irrigation rotor / spray system.  _____ (words)	\$ _____	\$ _____
62	3	EA	Existing domestic irrigation water meter to be removed.  _____ (words)	\$ _____	\$ _____
63	1	EA	Connect proposed new master valve and flow sensor wires to existing controller. Adjust / setup existing controller for high-flow shut off setting.  _____ (words)	\$ _____	\$ _____
64	1	EA	Connect new proposed recycled water mainline to existing booster pump.  _____ (words)	\$ _____	\$ _____
65	1	EA	Remove existing booster pump and unused pipe. Return all equipment to owner representative.  _____ (words)	\$ _____	\$ _____
66	300	LF	Provide and install 3" class 315 PVC purple recycled water irrigation mainline with ductile iron fittings (bury 24" min. deep) and connect to existing irrigation mainline.  _____ (words)	\$ _____	\$ _____

**VALLEY-WIDE RECREATION**

**HOLAND ROAD, SHRIMP LANE, AND BENTON CREEK CHANNEL  
RECYCLED WATER RETROFIT PROJECT**

**BIDDING SHEETS**

<b>Bid Item</b>	<b>QTY</b>	<b>Unit</b>	<b>Description Unit Price Written in Words</b>	<b>Unit Price (Figures)</b>	<b>Total Amount (Figures)</b>
67	1	EA	Replace existing booster pump with new irrigation plan.  _____ (words)	\$ _____	\$ _____
68	1	LS	Upgrade existing controller per plans.  _____ (words)	\$ _____	\$ _____
<b>TOTAL BID AMOUNT (Bid Items 1-68)</b>					
_____ (words)				\$ _____	

## **EQUIPMENT AND MATERIAL**

No substitution will be permitted without written justification and the approval of the District prior to the bid opening.

**PRODUCTS OF MANUFACTURERS LISTED AS EQUALS TO THOSE SPECIFIED IN THE CONTRACT DOCUMENTS MUST BE SUBMITTED FOR REVIEW AND APPROVAL BY THE DISTRICT NO LATER THAN THE TENTH (10TH) DAY PRECEDING THE DATE SET FOR RECEIPT OF BIDS.**

**VALLEY-WIDE RECREATION**

**HOLLAND ROAD, SHRIMP LANE, AND BENTON CREEK CHANNEL  
RECYCLED WATER RETROFIT PROJECT**

**BIDDER'S 3-YEAR EXPERIENCE  
RECORD & RESUMES OF KEY PERSONNEL**

All bidders must provide a **detailed three (3) year** experience record showing successful completion, as a licensed **Class A, Class B or Class C-27** contractor, of at least three (3) similar projects within the last **three (3) years** as follows:

- 1. Public Works**
- 2. \$400,000 or greater contract value**
- 3. Owner occupied renovation projects**
- 4. Renovation of publicly accessible areas while maintaining public access for public administration buildings, hospitals, or schools.**

Additionally, bidders must include resumes of key personnel proposed to work on this project when submitting your bid. This information will be critical in determining the most responsible bidder.

Provide client reference contact information for each of the Projects submitted.

**Failure to submit any of the above-mentioned information with your bid  
“may” deem your bid non-responsive**

VALLEY-WIDE RECREATION

HOLLAND ROAD, SHRIMP LANE, AND BENTON CREEK CHANNEL  
RECYCLED WATER RETROFIT PROJECT

BIDDER'S 3-YEAR EXPERIENCE  
RECORD & RESUMES OF KEY PERSONNEL

**Bidder Information and Experience Form**

**ARTICLE 1. INFORMATION ABOUT BIDDER**

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

**NOTE:** Where Bidder is a joint venture, pages shall be duplicated and information provided for all parties to the joint venture.

1.0 Name of Bidder: \_\_\_\_\_

2.0 Type, if Entity: \_\_\_\_\_

3.0 Bidder Address: \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_

Facsimile Number

Telephone Number

\_\_\_\_\_  
\_\_\_\_\_

Email Address

4.0 How many years has Bidder's organization been in business as a Contractor?  
\_\_\_\_\_

5.0 How many years has Bidder's organization been in business under its present name? \_\_\_\_\_

5.1 Under what other or former names has Bidder's organization operated? \_\_\_\_\_

6.0 If Bidder'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: \_\_\_\_\_

**VALLEY-WIDE RECREATION**

**HOLLAND ROAD, SHRIMP LANE, AND BENTON CREEK CHANNEL  
RECYCLED WATER RETROFIT PROJECT**

**BIDDER'S 3-YEAR EXPERIENCE  
RECORD & RESUMES OF KEY PERSONNEL**

6.6 Treasurer's Name: \_\_\_\_\_

7.0 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):

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

8.0 If other than a corporation or partnership, describe organization and name principals:

\_\_\_\_\_  
\_\_\_\_\_

9.0 List other states in which Bidder's organization is legally qualified to do business.

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

10.0 What type of work does the Bidder normally perform with its own forces?

\_\_\_\_\_  
\_\_\_\_\_

11.0 Has Bidder ever failed to complete any work awarded to it? If so, note when, where, and why:

\_\_\_\_\_  
\_\_\_\_\_

12.0 Within the last five years, has any officer or partner of Bidder's organization ever been an officer or partner of another organization when it failed to complete a contract? If so, attach a separate sheet of explanation:

\_\_\_\_\_

**VALLEY-WIDE RECREATION**

**HOLLAND ROAD, SHRIMP LANE, AND BENTON CREEK CHANNEL  
RECYCLED WATER RETROFIT PROJECT**

**BIDDER'S 3-YEAR EXPERIENCE  
RECORD & RESUMES OF KEY PERSONNEL**

---

13.0 List Trade References:

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14.0 List Bank References (Bank and Branch Address):

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15.0 Name of Bonding Company and Name and Address of Agent:

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**VALLEY-WIDE RECREATION**

**HOLLAND ROAD, SHRIMP LANE, AND BENTON CREEK CHANNEL  
RECYCLED WATER RETROFIT PROJECT**

**BIDDER'S 3-YEAR EXPERIENCE  
RECORD & RESUMES OF KEY PERSONNEL**

**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

**VALLEY-WIDE RECREATION**

**HOLLAND ROAD, SHRIMP LANE, AND BENTON CREEK CHANNEL  
RECYCLED WATER RETROFIT PROJECT**

**BIDDER'S 3-YEAR EXPERIENCE  
RECORD & RESUMES OF KEY PERSONNEL**

**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

**VALLEY-WIDE RECREATION**

**HOLLAND ROAD, SHRIMP LANE, AND BENTON CREEK CHANNEL  
RECYCLED WATER RETROFIT PROJECT**

**BIDDER'S 3-YEAR EXPERIENCE  
RECORD & RESUMES OF KEY PERSONNEL**

**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.

1. List each person's job title, name and percent of time to be allocated to this project:

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2. Summarize each person's specialized education:

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---

---

3. List each person's years of construction experience relevant to the project:

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---

---

4. Summarize such experience:

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Bidder agrees that personnel named in this Bid will remain on this Project until completion of all relevant Work, unless substituted by personnel of equivalent experience and qualifications approved in advance by the District.

***Changes Occurring 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.

**VALLEY-WIDE RECREATION**

**HOLLAND ROAD, SHRIMP LANE, AND BENTON CREEK CHANNEL  
RECYCLED WATER RETROFIT PROJECT**

**BIDDER'S 3-YEAR EXPERIENCE  
RECORD & RESUMES OF KEY PERSONNEL**

---

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***Additional Bidder's Statements:***

If the Bidder feels that there is additional information which has not been included in the questionnaire above, and which would contribute to the qualification review, it may add that information in a statement here or on an attached sheet, appropriately marked:

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**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 foregoing information is true and correct:

Name of Bidder \_\_\_\_\_

Signature \_\_\_\_\_

Name \_\_\_\_\_

Title \_\_\_\_\_

Date \_\_\_\_\_

## DESIGNATION OF SUBCONTRACTORS

In compliance with the provisions of Sec. 4100-4111, inclusive, of the Public Contract Code of the State of California, and any amendments thereof, each bidder shall set forth below: (a) The name and the location of the place of business of each subcontractor who will perform work or labor or render service to the Contractor in or about the construction of the work or improvement in an amount in excess of one-half of one percent (1/2 of 1%) of the Contractor's total bid; and (b) the portion of the work which will be done by each such subcontractor.

**Each subcontractor shall possess, both at the time the bid is submitted and at all times when work is performed, a valid contractor's license for the appropriate classification necessary to perform the work for which that subcontractor is listed. Each subcontractor shall be registered with the Department of Industrial Relations at time of bid and during the performance of the Contract.**

If the Contractor fails to specify a subcontractor for any portion of the work to be performed under the contract in excess of one-half of one percent (1/2 of 1%) of the Contractor's total bid, he agrees that he is fully qualified to perform that work himself, and that he shall perform that work himself, and that he shall perform that portion himself.

The Contractor shall not, without the consent of the District, or unless, either: (a) Substitute any person as subcontractor in place of the subcontractor designated in the original bid; (b) Permit any such subcontract to be assigned or transferred or allow it to be performed by anyone other than the original subcontractor listed in the bid; or (c) Sublet or subcontract any portion of the work in excess of one-half of one percent (1/2 of 1%) of the Contractor's total bid as to which his original bid did not designate a subcontractor.

In the following instances, the District may consent to the substitution of another subcontractor:

- (1) When the subcontractor listed in the bid after having a reasonable opportunity to do so fails or refuses to execute the written contract which is based upon the general terms, conditions, plans and specifications of the involved project or the terms of the subcontractor's written bid when it is presented to the subcontractor by the prime subcontractor;
- (2) When the listed subcontractor becomes bankrupt or insolvent;
- (3) When the listed subcontractor fails or refuses to perform his or her subcontract;
- (4) When the listed subcontractor fails or refuses to meet the bond requirements of the prime Contractor to furnish a bond guaranteeing prompt and faithful performance of the subcontract and the payment of all claims for labor and materials furnished or used pursuant to Public Contract Code 4108;
- (5) When the prime Contractor demonstrates to the District, as set forth in Public Contract Code 4107.5 that the name of the subcontractor was listed as the result of an inadvertent clerical error;

As a condition to assert claim of clerical error, the Contractor must give written notice of the inadvertent clerical error to the District with copies to both the listed and intended subcontractor within two (2) working days of the time of the prime bid opening. The District shall consent to the substitution if the prime Contractor and both subcontractor listed in error and the intended subcontractor each submit an affidavit to the District within eight (8) working days of the time of the prime bid opening indicating that an inadvertent clerical error was made.

The District shall also consent to the substitution of the intended Contractor if affidavits are filed by both the prime Contractor and the intended Subcontractor within six (6) working days and the subcontractor claimed to be listed in error does not submit within six (6) working days a written objection to the claim to both the District and the Contractor.

However, if the listed subcontractor submits a written objection to the Contractor's claim of inadvertent clerical error within six (6) working days from the time of the prime bid opening, the District shall investigate the claims of the parties and shall hold a public hearing as described herein to determine the validity of those claims.

Any declarations submitted must be submitted under penalty of perjury by all three (3) parties and supported by testimony under oath and subject to cross-examination.

(6) When the listed Contractor is not licensed pursuant to the Contractor's license law;

(7) When the District determines that the work performed by the listed subcontractor is substantially unsatisfactory and not in substantial accordance with the plans and specifications, or that the subcontractor is substantially delaying or disrupting the progress of the work.

Prior to any substitution of a subcontractor, the District shall give notice in writing to the listed subcontractor of the request to substitute subcontractors and the reasons for the request. The notice shall be served by registered or certified mail to the last known address of the subcontractor. The listed subcontractor who has been so notified shall have five (5) working days within which to submit written objections to the substitution to the District. Failure to file these written objections shall constitute the listed subcontractor's consent to the substitution. If written objections are filed, the District shall give notice in writing of at least five (5) working days to the listed subcontractor of a hearing by the District on the Contractor's request for substitution.

The original bid need not designate a subcontractor for the performance of any change orders.

No subletting or subcontracting of any portion of the work in excess of one-half of one percent (1/2 of 1%) of the prime Contractor's total bid shall be permitted except in cases of public emergency or necessity and then only after a written finding is made by the District as a public record setting forth the facts constituting the emergency or necessity.

As used in this designation, the term subcontractor means only those subcontractors who contract directly with the prime Contractor.

If the Contractor violates any of the provisions of this section, it is deemed to have violated and breached this contract, and the District may exercise the option in its own discretion of: (1) canceling the contract; or (2) assessing the contract or a penalty in an amount of not more than ten percent (10%) of the amount of the subcontract involved, and this penalty shall be deposited in the fund out of which the prime contract is awarded. The Contractor shall be entitled to a public hearing in five (5) days notice of the time and place of the hearing.

**LIST OF DESIGNATED SUBCONTRACTORS**

<b>SPEC #:</b>	
<b>PROJECT TITLE:</b>	Holland Road, Shrimp Lane, and Benton Creek Channel Recycled Water Retrofit Project
<b>NAME OF CONTRACTOR:</b>	

In compliance with the provisions of Sec. 4100-4111, inclusive, of the Public Contract Code of the State of California, and any amendments thereof, each bidder shall set forth: the name, location of the place of business, license number, portion of the work which will be done by each subcontractor who will perform work or labor or render service to the Contractor in or about the construction of the work or improvement in an amount in excess of one-half of one percent (1/2 of 1%) of the Contractor's total bid. Each portion of Subcontracted work noted in the below table must be specific and contain all major activities associated with completion of the project, outside of the services provided by the bidding Contractor. Ambiguous and/or incomplete Subcontracted work information may deem the bid nonresponsive. **Each subcontractor shall possess, both at the time the bid is submitted and at all times when work is performed, a valid contractor's license for the appropriate classification necessary to perform the work for which that subcontractor is listed.**

**BIDDER SHALL PROVIDE THE FOLLOWING INFORMATION:**

**Company Name, Business Address, Email Address, License No., Contractor Registration No., Subcontract Work, and % Of Total Bid**

**\* PLEASE WRITE LEGIBLY\***

LICENSED SUBCONTRACTOR'S NAME, BUSINESS ADDRESS, & EMAIL ADDRESS	LICENSE #	SUBCONTRACT WORK <b>(Be Specific)</b>	% OF TOTAL BID
	CONTRACTOR REGISTRATION #		
<i>Company Name:</i>	<i>License #:</i>		
<i>Address:</i>			
<i>Email Address:</i>	<i>DIR Registration #:</i>		
<i>Company Name:</i>	<i>License #:</i>		
<i>Address:</i>			
<i>Email Address:</i>	<i>DIR Registration #:</i>		



LICENSED SUBCONTRACTOR'S NAME, BUSINESS ADDRESS, & EMAIL ADDRESS	LICENSE #	SUBCONTRACT WORK <i>(Be Specific)</i>	% OF TOTAL BID
<i>Company Name:</i> <hr/> <i>Address:</i> <hr/> <i>Email Address:</i>	<i>License #:</i> <hr/> <i>DIR Registration #:</i>		
<i>Company Name:</i> <hr/> <i>Address:</i> <hr/> <i>Email Address:</i>	<i>License #:</i> <hr/> <i>DIR Registration #:</i>		
<i>Company Name:</i> <hr/> <i>Address:</i> <hr/> <i>Email Address:</i>	<i>License #:</i> <hr/> <i>DIR Registration #:</i>		
<i>Company Name:</i> <hr/> <i>Address:</i> <hr/> <i>Email Address:</i>	<i>License #:</i> <hr/> <i>DIR Registration #:</i>		
<i>Company Name:</i> <hr/> <i>Address:</i> <hr/> <i>Email Address:</i>	<i>License #:</i> <hr/> <i>DIR Registration #:</i>		

(Do not list alternative subcontractors for the same work) (Use additional pages if needed)

**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/PublicWorks.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 further 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 1771.1 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 result in a finding that the bid is non-responsive.

Name of Bidder \_\_\_\_\_

Signature \_\_\_\_\_

Name and Title \_\_\_\_\_

Dated \_\_\_\_\_

**CONTRACTOR'S LICENSING STATEMENT**

The undersigned is licensed in accordance with the laws of the State of \_\_\_\_\_ providing for the registration of contractors. The representations made herein and in the proposal documents are made under penalty of perjury. The undersigned is hereby representing that he is properly licensed both at the time that he submits a bid as well as at the time the contract is awarded, if the contract is awarded to the undersigned.

**CONTRACTOR'S CLASSIFICATION** \_\_\_\_\_

**LICENSE NUMBER** \_\_\_\_\_ **TYPE** \_\_\_\_\_ **EXPIRATION DATE** \_\_\_\_\_

**A. INDIVIDUAL CONTRACTOR**

<b>NAME OF INDIVIDUAL CONTRACTOR:</b>
<b>BUSINESS ADDRESS:</b>
<b>PHONE NUMBER:</b>
<b>SIGNATURE OF OWNER:</b>

**B. FIRM OR PARTNERSHIP**

<b>NAME OF FIRM OR PARTNERSHIP:</b>	
<b>BUSINESS ADDRESS:</b>	
<b>PHONE NUMBER:</b>	
<b>SIGNATURE(S) &amp; TITLE OF MEMBERS SIGNING ON BEHALF OF THE PARTNERSHIP:</b>	
<b>SIGNATURE:</b> _____	<b>TITLE:</b> _____
<b>SIGNATURE:</b> _____	<b>TITLE:</b> _____
<b>SIGNATURE:</b> _____	<b>TITLE:</b> _____

**C. CORPORATION**

<b>NAME OF CORPORATION:</b>	
<b>BUSINESS ADDRESS:</b>	
<b>PHONE NUMBER:</b>	
<b>SIGNATURE OF AUTHORIZED OFFICER OF CORPORATION:</b>	
<b>SIGNATURE:</b> _____	<b>TITLE:</b> _____

**NON-COLLUSION DECLARATION**

**TO BE EXECUTED BY BIDDER AND SUBMITTED WITH BID**

The undersigned declares:

I am the \_\_\_\_\_ of \_\_\_\_\_,  
the party making the foregoing bid.

The bid is not made in the interest of, or on behalf of, any undisclosed person, partnership, company, association, organization, or corporation. The bid is genuine and not collusive or sham. The bidder has not directly or indirectly induced or solicited any other bidder to put in a false or sham bid. The bidder has not directly or indirectly colluded, conspired, connived, or agreed with any bidder or anyone else to put in a sham bid, or to refrain from bidding. The bidder has not in any manner, directly or indirectly, sought by agreement, communication, or conference with anyone to fix the bid price of the bidder or of any other bidder, or to fix any overhead, profit, or cost element of the bid price, or of that of any other bidder. All statements contained in the bid are true. The bidder has not, directly or indirectly, submitted his or her bid price or any breakdown thereof, or the contents thereof, or divulged information or data relative thereto, to any corporation, partnership, company, association, organization, bid depository, or to any member or agent thereof, to effectuate a collusive or sham bid, and has not paid, and will not pay, any person or entity for such purpose.

Any person executing this declaration on behalf of a bidder that is a corporation, partnership, joint venture, limited liability company, limited liability partnership, or any other entity, hereby represents that he or she has full power to execute, and does execute, this declaration on behalf of the bidder.

I declare under penalty of perjury under the laws of the State of California that the foregoing is true and correct and that this declaration is executed on \_\_\_\_\_ [date],  
at \_\_\_\_\_ [city], \_\_\_\_\_ [state]

Signed: \_\_\_\_\_

Name: \_\_\_\_\_  
*(Print Name Here)*

Project Title: \_\_\_\_\_

**WORKERS' COMPENSATION INSURANCE CERTIFICATE**

The Contractor shall execute the following form as required by the California Labor Code, Sections 1860 and 1861:

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. Date: (Contractor) By: (Signature) (Title)

Date: \_\_\_\_\_

\_\_\_\_\_  
(Contractor)

By: \_\_\_\_\_  
(Signature)

\_\_\_\_\_  
(Title)

**IRAN CONTRACTING ACT**  
**(Public Contract Code sections 2202-2208)**

Prior to bidding on, submitting a proposal or executing a contract or renewal for a State of California contract for goods or services of \$1,000,000 or more, a vendor must either: a) certify it is **not** on the current list of persons engaged in investment activities in Iran created by the California Department of General Services (“DGS”) pursuant to Public Contract Code section 2203(b) and is not a financial institution extending twenty million dollars (\$20,000,000) or more in credit to another person, for 45 days or more, if that other person will use the credit to provide goods or services in the energy sector in Iran and is identified on the current list of persons engaged in investment activities in Iran created by DGS; or b) demonstrate it has been exempted from the certification requirement for that solicitation or contract pursuant to Public Contract Code section 2203(c) or (d).

To comply with this requirement, please insert your vendor or financial institution name and Federal ID Number (if available) and complete **one** of the options below. Please note: California law establishes penalties for providing false certifications, including civil penalties equal to the greater of \$250,000 or twice the amount of the contract for which the false certification was made; contract termination; and three-year ineligibility to bid on contracts. (Public Contract Code section 2205.)

**OPTION #1 - CERTIFICATION**

I, the official named below, certify I am duly authorized to execute this certification on behalf of the vendor/financial institution identified below, and the vendor/financial institution identified below is **not** on the current list of persons engaged in investment activities in Iran created by DGS and is not a financial institution extending twenty million dollars (\$20,000,000) or more in credit to another person/vendor, for 45 days or more, if that other person/vendor will use the credit to provide goods or services in the energy sector in Iran and is identified on the current list of persons engaged in investment activities in Iran created by DGS.

<i>Vendor Name/Financial Institution (Printed)</i>	<i>Federal ID Number (or n/a)</i>
<i>By (Authorized Signature)</i>	
<i>Printed Name and Title of Person Signing</i>	
<i>Date Executed</i>	<i>Executed in</i>

**OPTION #2 – EXEMPTION**

Pursuant to Public Contract Code sections 2203(c) and (d), a public entity may permit a vendor/financial institution engaged in investment activities in Iran, on a case-by-case basis, to be eligible for, or to bid on, submit a proposal for, or enters into or renews, a contract for goods and services.

If you have obtained an exemption from the certification requirement under the Iran Contracting Act, please fill out the information below, and attach documentation demonstrating the exemption approval.

<i>Vendor Name/Financial Institution (Printed)</i>	<i>Federal ID Number (or n/a)</i>
<i>By (Authorized Signature)</i>	
<i>Printed Name and Title of Person Signing</i>	<i>Date Executed</i>

# **Cal/OSHA Form 300A**

## **Annual Summary of Work-Related Injuries and Illnesses**

**Bidders shall provide the most current, completed  
Cal/OSHA Form 300A with their bid (blank form attached)**

**Failure to submit this form “may” deem your bid non-responsive**

# Annual Summary of Work Related Injuries and Illnesses



All establishments covered by CCR Title 8 Section 14300 must complete this Annual Summary, even if no work-related injuries or illnesses occurred during the year. Remember to review the Log to verify that the entries are complete and accurate before completing this summary.

Using the Log, count the individual entries you made for each category. Then write the totals below, making sure you've added the entries from every page of the Log. If you had no cases, write "0."

Employees, former employees, and their representatives have the right to review the Cal/ OSHA Form 300 in its entirety. They also have limited access to the Cal/ OSHA Form 301 or its equivalent. See CCR Title 8 Section 14300.35, in Cal/ OSHA's recordkeeping rule, for further details on the access provisions for these forms.

### Facility Information

Establishment name \_\_\_\_\_

Street \_\_\_\_\_

City \_\_\_\_\_ State \_\_\_\_\_ Zip \_\_\_\_\_

Industry description (e.g. Manufacturer of motor truck trailers)

\_\_\_\_\_

Standard Industrial Classification (SIC), if known (e.g. SIC 3715)

\_\_\_\_\_

### Employment Information

(If you don't have these figures, use the optional Worksheet to estimate)

Annual average number of employees \_\_\_\_\_

Total hours worked by all employees last year \_\_\_\_\_

### Sign here

**Knowingly falsifying this document may result in a fine.**

I certify that I have examined this document and that to the best of my knowledge the entries are true, accurate, and complete.

\_\_\_\_\_  
Company executive Title

\_\_\_\_\_  
Phone Date

### Number of Cases

Total number of deaths	Total number of cases with days away from work	Total number of cases with job transfer or restriction	Total number of other recordable cases
_____	_____	_____	_____
(G)	(H)	(I)	(J)

### Number of Days

Total number of days of job transfer or restriction	Total number of days away from work
_____	_____
(K)	(L)

### Injury and Illness Types

Total number of...	(M)
(1) Injuries	_____
(2) Skin disorders	_____
(3) Respiratory conditions	_____
(4) Poisonings	_____
(5) Hearing loss	_____
(6) All other Illnesses	_____

Post this Annual Summary from February 1 to April 30 of the year following the year covered by the form.



**C-17 Contractor's Cal/OSHA Compliance History and SIC Code**  
**THIS DOCUMENT IS TO BE SUBMITTED WITH THE PROPOSAL PACKAGE AT TIME OF BID**

**Bidders shall complete and submit the attached C-17 form with the Proposal Package at time of bid**

**Failure to fully divulge, complete and submit this form "may" deem your bid non-responsive**

**C-17 Contractor's Cal/OSHA Compliance History and SIC Code**  
**THIS DOCUMENT IS TO BE SUBMITTED WITH THE PROPOSAL PACKAGE AT TIME OF BID**

<b>Bid Date:</b>		<b>Contractor's Standard Industry Code:</b>	
<b>Specification No.</b>		<b>Project Name:</b>	
<b>Contractor name:</b>			
<b>Contractor Address:</b>			
<b>Contractor License No.</b>		<b>Phone No:</b>	
<b>Contact Person:</b>			

**Please answer the following questions:**

1. Has the Contractor been cited by Cal/OSHA or any regulatory agency for a violation related to safety or environmental issues within the past seven (7) years?      No  Yes

*If yes, please attach all documentation specific to each violation and what actions have been taken to ensure that there is not a repeat violation.*

2. Has the Contractor had a fatality or serious incident per Cal/OSHA on a jobsite within the past ten (10) years?      No  Yes

*If yes, please attach all documentation specific to each violation and what actions have been taken to ensure that there is not a repeat violation.*

**I certify (or declare) under penalty of perjury under the laws of the State of California that the foregoing is true and correct.**

Contractor's Representative  
signature:

Date:

***Failure to fully divulge, complete and submit this form "may" deem your bid non-responsive***

# VALLEY-WIDE RECREATION BID BOND

Bid Bond No.

KNOW ALL MEN BY THESE PRESENTS, that we \_\_\_\_\_  
(Here insert full name and address or legal title of Contractor)

\_\_\_\_\_ as Principal, hereinafter called the Principal, and

\_\_\_\_\_ (Here insert full name and address or legal title of Surety)

A corporation duly organized under the laws of the State of \_\_\_\_\_ as Surety, Hereinafter call the Surety, are held and firmly bound unto Valley-Wide Recreation.

Obligee, hereinafter all the Obligee, in the sum of \_\_\_\_\_

\_\_\_\_\_ Dollars (\_\_\_\_\_),

for the payment of which sum well and truly to be made, the said Principal and the said Surety, bind ourselves, our heir, executors, administrator, successors and assigns, jointly and severally firmly by these presents.

WHEREAS, the Principal has submitted a bid, dated \_\_\_\_\_, 20\_\_\_\_, for \_\_\_\_\_

\_\_\_\_\_ (Here insert full name, address and description of Project)

NOW, THEREFORE, IF THE Obligee shall accept the bid of the Principal and the Principal shall enters into a Contracto with the Obligee in accordance with the terms of such bid, and give such bond or bonds as may be specified in the bidding of Contract Documents with good and sufficient surety for the faithful performance of such Contract and for the prompt payment of labor and material furnished in the prosecution thereof, or in the event of the failure of the Principal to enter such Contract and give such bond or bonds, if the Principal shall pay the Obligee the difference not to exceed the penalty hereof between the amount specified in said bid and such larger amount for which the Obligee may in good faith contract with another party to perform the Work covered by said bid, then this obligation shall be null and void, otherwise to remain in full force and effect.

In the event suit is brought upon this Bond by Obligee and judgement is recovered , the Surety shall pay all costs incurred by Obligee in such suits to be fixed by the court.

Signed and sealed this \_\_\_\_\_ day of \_\_\_\_\_, \_\_\_\_\_

\_\_\_\_\_  
(Witness)

\_\_\_\_\_  
(Principal)

\_\_\_\_\_  
(Title)

\_\_\_\_\_  
(Witness)

\_\_\_\_\_  
(Surety)

\_\_\_\_\_  
(Title)

The Bid Bond (BB-1) form shall be submitted to be considered a responsive bid

**Notary Public Acknowledgement required for Surety  
Per Civil Code 1189 a notice must be legible and provided at the top in an enclosed box to be deemed responsible**

# SAMPLE ALL PURPOSE ACKNOWLEDGEMENT FORM

Per Civil Code 1189 a notice must be legible and provided at the op in an enclosed box to be deemed responsive

**CALIFORNIA ALL-PURPOSE ACKNOWLEDGEMENT**

**CIVIL CODE 1189**

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

**PERFORMANCE BOND.**

KNOW ALL PERSONS BY THESE PRESENTS:

THAT WHEREAS, the Valley-Wide Recreation and Park District, (hereinafter referred to as "District") has awarded to \_\_\_\_\_, (hereinafter referred to as the "Contractor") an agreement for the **Holland Road, Shrimp Lane, and Benton Creek Channel Recycled Water Retrofit Project** (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 District in the sum of \_\_\_\_\_ DOLLARS, (\$\_\_\_\_\_), said sum being not less than one hundred percent (100%) of the total amount of the Contract, for which amount well and truly to be made, we bind ourselves, our heirs, executors and administrators, successors and assigns, 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 District, 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 District 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 District, during which time if Contractor shall fail to make full, complete, and satisfactory repair and replacements and totally protect the District 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 District'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 District to be, in default under the Contract Documents, the Surety shall remedy the default pursuant to the Contract Documents, or shall promptly, at the District'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 District, 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 District under the Contract and any modification thereto, less any amount previously paid by the District to the Contractor and any other set offs pursuant to the Contract Documents.
- iii. Permit the District 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 District under the Contract and any modification thereto, less any amount previously paid by the District to the Contractor and any other set offs pursuant to the Contract Documents.

Surety expressly agrees that the District 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 District, when declaring the Contractor in default, notifies Surety of the District'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.

IN WITNESS WHEREOF, we have hereunto set our hands and seals this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_.

(Corporate Seal)

\_\_\_\_\_  
Contractor/ Principal

By \_\_\_\_\_

Title \_\_\_\_\_

(Corporate Seal)

\_\_\_\_\_  
Surety

By \_\_\_\_\_  
Attorney-in-Fact

(Attach Attorney-in-Fact Certificate)

Title \_\_\_\_\_

The rate of premium on this bond is \_\_\_\_\_ per thousand. The total amount of premium charges is \$\_\_\_\_\_.  
(The above must be filled in by corporate attorney.)

**THIS IS A REQUIRED FORM**

Any claims under this bond may be addressed to:

(Name and Address of Surety) \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

(Name and Address of Agent or 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 \_\_\_\_\_

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/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

- Individual
- Corporate Officer

\_\_\_\_\_ Title(s)

\_\_\_\_\_ Title or Type of Document

- Partner(s)  Limited
- General

\_\_\_\_\_ Number of Pages

- Attorney-In-Fact
- Trustee(s)
- Guardian/Conservator
- Other:

\_\_\_\_\_ Date of Document

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

\_\_\_\_\_ 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 PERFORMANCE BOND**



## PAYMENT BOND

KNOW ALL MEN BY THESE PRESENTS:

THAT WHEREAS, the Valley-Wide Recreation and Park District (hereinafter designated as the "District"), by action taken or a resolution passed \_\_\_\_\_, 20\_\_\_\_, has awarded to \_\_\_\_\_ hereinafter designated as the "Principal," a contract for the work described as follows: **Holland Road, Shrimp Lane, and Benton Creek Channel Recycled Water Retrofit Project.**

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 District 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 District 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 District 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 set our hands and seals this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_.

(Corporate Seal)

\_\_\_\_\_  
Contractor/ Principal

By \_\_\_\_\_

Title \_\_\_\_\_

(Corporate Seal)

\_\_\_\_\_  
Surety

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\_\_\_\_, 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/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**

- Individual
- Corporate Officer

\_\_\_\_\_  
 Title(s)

\_\_\_\_\_  
 Title or Type of Document

- Partner(s)  Limited
- Attorney-In-Fact  General

\_\_\_\_\_  
 Number of Pages

- Trustee(s)
- Guardian/Conservator
- Other:

\_\_\_\_\_  
 Date of Document

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

\_\_\_\_\_  
 \_\_\_\_\_

\_\_\_\_\_  
 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

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

- Individual
- Corporate Officer

Title(s)

Title or Type of Document

- Partner(s)  Limited
- General

Number of Pages

- Attorney-In-Fact
- Trustee(s)
- Guardian/Conservator
- Other:

Date of Document

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

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 PAYMENT BOND**

**CONTRACT**

This **CONTRACT**, is made and entered into this \_\_\_\_\_ day of \_\_\_\_\_, in the year of \_\_\_\_\_, by and between Valley-Wide Recreation and Park District, sometimes hereinafter called "District," 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:

ARTICLE 1. for and in consideration of the payments and agreements hereinafter mentioned to be made and performed by the District, the Contractor agrees with the District to perform the following work:

**HOLLAND ROAD, SHRIMP LANE, AND BENTON CREEK CHANNEL  
RECYCLED WATER RETROFIT PROJECT**

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as set forth in this specification for **Holland Road, Shrimp Lane, and Benton Creek Channel Recycled Water Retrofit Project**, and to perform and complete in a good and workmanlike manner all the work pertaining thereto shown on the drawings and described in the specifications hereto attached and by this reference made a part thereof, to furnish at his own proper cost and expensed all tools, equipment, labor and materials necessary.

ARTICLE II. The District will pay and the Contractor shall receive in full compensation therefor the prices named in \_\_\_\_\_

For \_\_\_\_\_ of the bidding sheet of the proposal hereto attached for furnishing all said materials and labors, furnishing and removing all plants, temporary works or structures, tools and equipment, and doing all the work contemplated and embraced in the Contract/Agreement; also for all loss and damage arising out of the nature of the work aforesaid, or from the action of the elements, or from and unforeseen difficulties which may arise or be encountered in the prosecution of the work until its acceptance by the District, and for all risks of every description connected with the work; also for all expenses incurred by or in consequence of the suspension or discontinuance of work; except such as in the said specifications are expressly stipulated to be borne by the District; and for well and faithfully completing the work and the who thereof, in the manner shown and described in the said drawings and specification and in accordance with the requirements of the Engineer under them.

ARTICLE III. The District hereby promises and agrees with the said Contractor to employ, and does hereby employ the said Contractor to provide the material and to do the work according to the terms and conditions herein contained and referred to, for the prices aforesaid, and hereby contracts to pay the same at the time, and in the manner and upon the conditions set forth in the specifications; and the said parties for themselves, their heirs, executors, administrators, successors, and assigns, do hereby agree to the full performance of the covenants herein contained.

ARTICLE IV. The Notice Inviting Bids, the Instructions to Bidders, the Proposal, Addenda, the Specifications, and the Drawings mentioned therein, all of which are hereto attached, are hereby incorporated in and made a part of this Contract/Agreement.

IN WITNESS WHEREOF: The parties hereto have caused this contract to be executed the da and year first above written:

**VALLEY-WIDE RECREATION AND  
PARK DISTRICT**

\_\_\_\_\_  
Name of Contractor

By \_\_\_\_\_

Name and Title: \_\_\_\_\_

License No. \_\_\_\_\_

Date: \_\_\_\_\_

By \_\_\_\_\_

Dean Wetter, General Manager

Date: \_\_\_\_\_

**(CONTRACTOR'S SIGNATURE MUST BE  
NOTARIZED AND CORPORATE  
SEAL AFFIXED, IF APPLICABLE)**

Approved as to form this \_\_\_\_\_ day of \_\_\_\_\_ 20\_\_\_\_.

\_\_\_\_\_  
Attorney for Valley-Wide Recreation and  
Park District

**END OF CONTRACT**

MEMORANDUM



**VALLEY-WIDE**  
RECREATION AND PARK DISTRICT

**GoRecreation.org**  
*AWARD WINNING CALIFORNIA PARKS*

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TO: Whom It May Concern

FROM: Valley-Wide Recreation and Park District

SUBJECT: Insurance Requirements

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**Insurance:** Each group needs to provide Valley-Wide Recreation and Park District with a Certificate of Insurance naming **Valley-Wide Recreation and Park District** as Additional Insured, (\$1,000,000 General Liability Limit with a \$2,000,000 General Aggregate Limit). Also, must include **Form Number CG2010, Additional Endorsement** with Valley-Wide Recreation and Park District listed as Additional Insured. (Or applicable approved form from the Insurance Carrier.) **A minimum of 10 Days' Notice of Cancellation is required.**

**ALSO:** Please have the statement: "**Throughout Various Valley-Wide Recreation Facilities**" added to the Description of Operations Box on the certificate of Insurance. (This is to cover the use of all facility sites within our District that may be requested)

Note: Anyone utilizing the facility and having alcohol present, must also include Liquor Liability Coverage on the Certificate of Insurance.

**Certificate Holder and Additional Endorsement should name:**

Valley-Wide Recreation & Park District  
901 W. Esplanade Ave.  
San Jacinto, Ca 92582

**Please Note:** When submitting the Certificate and Additional Endorsement forms to Valley-Wide Recreation, please include the following information on a front cover page or envelope. This will ensure that the forms will be directed to the correct Valley-Wide Recreation site and Supervisor.

**Facility SITE: District Office                      ATTN: James Salvador**

Facility Contact Number (for any questions): (951) 654-1505

Facility FAX: (951) 654-5279    Contact EMAIL: JamesS@GoRecreation.org

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**GENERAL CONDITIONS**  
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**GENERAL CONDITIONS**  
**SECTION F- LABOR AND CONSTRUCTION**

**ARTICLE 1    DEFINITIONS**

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. Addenda -- Written or graphic instruments issued prior to the submission of Bids which clarify, correct, or change the Contract Documents.
- C. Additional Work -- New or unforeseen work will be classified as “Additional Work” when the District’s Representative determines that it is not covered by the Contract.
- D. Applicable Laws -- The laws, statutes, ordinances, rules, codes, regulations, permits, and licenses of 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. Bid -- 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. Bidder -- The individual or entity who submits a Bid directly to the District.
- G. Change Order (“CO”) -- 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.
- H. Change Order Request (“COR”) -- 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”).
- I. District -- The Valley-Wide Recreation and Park District.
- J. District Board, Board -- The Board of Directors of the District.
- K. District’s Representative -- The individual or entity as identified in the Special Conditions to act as the District’s Representative.
- L. Claim -- A demand or assertion by the District 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.
- M. Contract -- The entire integrated written agreement between the District and Contractor concerning the Work. “Contract” may be used interchangeably with

**GENERAL CONDITIONS**  
**SECTION F- LABOR AND CONSTRUCTION**

“Agreement” in the Contract Documents. The Contract supersedes prior negotiations, representations, or agreements, whether written or oral, and includes all Contract Documents.

- N. Contract Documents -- The documents listed in Section 00 52 13, Article 5. Some documents provided by the District to the Bidders and Contractor, including but not limited to reports and drawings of subsurface and physical conditions are not Contract Documents.
- O. Contract Price -- Amount to be paid by the District 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.
- P. Contract Times -- 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.
- Q. Contractor -- The individual or entity with which the District has contracted for performance of the Work.
- R. Contractor’s Designated On-Site Representative -- 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 District.
- S. Daily Rate -- The Daily Rate stipulated in the Contract Documents as full compensation to the Contractor due to the District’s unreasonable delay to the Project that was not contemplated by the parties.
- T. Day -- A calendar day of 24 hours measured from midnight to the next midnight.
- U. Defective Work -- 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.
- V. Demobilization -- The complete dismantling and removal by the Contractor of all of the Contractor’s temporary facilities, equipment, and personnel at the Site.
- W. Drawings -- 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. Effective Date of the Contract -- 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. Engineer, whenever not qualified, shall mean the General Manager of the District, acting either directly or through properly authorized agents, such agents acting

**GENERAL CONDITIONS**  
**SECTION F- LABOR AND CONSTRUCTION**

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 District Board, shall be binding and final upon both parties.

Z. Engineer of Record -- 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 District.

AA. Green Book -- The current edition of the Standard Specifications for Public Works Construction promulgated by the Joint Cooperative Committee of the Southern California Chapter American Public Works Association and the Southern California Districts of the Associated General Contractors of California.

BB. Hazardous Waste -- 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.

CC. 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.

DD. Notice of Award -- The written notice by the District to the Successful Bidder stating that upon timely compliance by the Successful Bidder with the conditions precedent listed therein, the District will sign and deliver the Contract.

EE. Notice of Completion -- The form which may be executed by the District and recorded by the county where the Project is located constituting final acceptance of the Project.

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- FF. Notice to Proceed -- A written notice given by the District to Contractor fixing the date on which the Contractor may proceed with the Work and when Contract Times will commence to run.
- GG. Project -- The total construction of which the Work to be performed under the Contract Documents may be the whole, or a part.
- HH. Recyclable Waste Materials -- 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.
- II. Schedule of Submittals -- A schedule, prepared and maintained by Contractor, of required submittals and the time requirements to facilitate scheduled performance of related construction activities.
- JJ. Shop Drawings -- 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.
- KK. Specifications -- 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.
- LL. Stop Payment Notice -- A written notice as defined in Civil Code section 8044.
- MM. Subcontractor -- An individual or entity other than a Contractor having a contract with any other entity than the District for performance of any portion of the Work at the Site.
- NN. Submittal -- Written and graphic information and physical samples prepared and supplied by the Contractor demonstrating various portions of the Work.
- OO. Successful Bidder -- The Bidder submitting a responsive Bid to whom the District makes an award.
- PP. Supplier -- 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.
- QQ. Underground Facilities -- 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.

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- RR. Unit Price Work -- 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.
- SS. Warranty -- A written guarantee provided to the District 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.
- TT. Work -- 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:

Change Orders

1. Addenda
2. Special Conditions
3. Technical Specifications
4. Plans (Contract Drawings)
5. Contract
6. General Conditions
7. Instructions to Bidders
8. Notice Inviting Bids
9. Contractor's Bid Forms
10. Standard Specifications for Public Works Construction (Sections 1-9 Excluded)
11. Applicable Local Agency Standards and Specifications
12. Standard Drawings
13. Reference Documents

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

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- C. **Conflicts in Contract Documents.** Notwithstanding the orders of precedence established above, in the event of conflicts, the higher standard, higher quality, and most expensive 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 District, Contractor, District'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 District 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.

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- 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.



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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 District 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 District 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 District has the responsibility to identify, with reasonable accuracy, main or trunk line facilities on the plans and specifications. In the event that main or trunk line utility facilities are not identified with reasonable accuracy in the plans and specifications made a part of the invitation for Bids, the District 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](http://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 District, and obtain an inquiry identification number from that notification center. No

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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 District 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 District of explorations and tests of subsurface conditions at or contiguous to the site; and
  2. those drawings known to the District of physical conditions relating to existing surface or subsurface structures at the site (except Underground Facilities).
- B. Limited Reliance by Contractor on Technical Data Authorized. 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 District, District'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 District. 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.

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- B. Any person in the employ of the Contractor whom the District 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 District and not an employee. Contractor understands and agrees that it and all of its employees shall not be considered officers, employees, or agents of District and are not entitled to benefits of any kind normally provided employees of District, 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 District 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 District.
- B. The District reserves the right to accept all subcontractors. The District'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 District 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

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every respect to that indicated in the Standard Specifications or otherwise referenced herein.

- B. Pursuant to Public Contract Code section 3400(b), the District 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 District 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 District, the Contractor shall provide the material, method or service specified herein. The District 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

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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 District 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.

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- 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 District 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 District or any independent contractor.
- F. Contractor shall verify all measurements, dimensions, elevations, and quantities before ordering any materials or performing any Work, and the District 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. District will apply and pay for the review of necessary encroachment permits for Work within the public rights-of-way. Contractor shall obtain all other necessary permits and licenses for the construction of the Project, including encroachment permits, and shall pay all fees required by law and shall comply with all laws, ordinances, rules and regulations relating to the Work and to the preservation of

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public health and safety. Before acceptance of the Project, the Contractor shall submit all licenses, permits, certificates of inspection and required approvals to the District.

- B. 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. Payment by District to Contractor under the Permit and Inspection Allowance Bid Item shall be made based on actual cost receipts only and 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 District in writing of any of the following conditions:
- C. 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.
1. Subsurface or latent physical conditions at the site differing from those indicated.

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2. 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 District 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 District 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



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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 District'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 District 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 District in writing. The District 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 District 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 local codes and ordinances. 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 South Coast Air Quality Management District. 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.

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**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 District, Contractor shall promptly inform the District of the date fixed for such inspection. Required certificates of inspection (or similar) shall be secured by Contractor. Costs for District testing and District inspection shall be paid by the District. 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 District, 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 District so that the District 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 District, 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 District. If so ordered, Work must be uncovered or deconstructed by Contractor. If Work is found to be in accordance with the Contract Documents, the District 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 District. 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

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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 District. Any compensation claimed by Contractor on account of emergency work shall be determined by and agreed upon by the District 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 District shall designate representatives, who shall have the right to be present at the Project site at all times. The District 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 District and to the Division of Labor Law Enforcement, Department of Industrial Relations of the State of California.

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- C. The Contractor shall pay to the District 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 District.
- E. District 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 District-observed holidays, unless otherwise approved by the District:
  - 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.

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- C. The payroll records described herein shall be certified and submitted by the Contractor at a time designated by the District. The Contractor shall also provide the following:
  - 1. 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 District, 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 District 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](http://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 District's Administration Office and shall be made available to

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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 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 Prevailing Wage Laws.

- B. The Contractor shall forfeit as a penalty to the District 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.

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**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 District or its representatives for inspection and copy at any time during normal business hours. The District 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 District 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

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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 District. 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 District prior to beginning Work at the Project site. Contractor shall maintain a confined space program that meets or exceeds the District Standards. Contractor shall adhere to the District'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 District 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 District that the subcontractor has secured all insurance required under this Article. Failure to provide and maintain all required insurance shall be grounds for the District to terminate this Contract for cause. Contractor shall furnish District with original certificates of insurance and endorsements effective coverage required by this Contract on forms satisfactory to the District. 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 District. All certificates and endorsements must be received and approved by the District before Work commences.

- A. **Additional Insureds; Waiver of Subrogation.** The District, 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



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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 District certificates of his insurance protecting workers. Company or companies providing insurance coverage shall be acceptable to the District, 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 District 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 District.
- 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.

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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 District, and shall not preclude the District from taking such other actions available to the District 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 District 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 District. 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.
1. **Builder's Risk ["All Risk"]** 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 District accepts no responsibility for the Work until the Work is formally accepted by the District. The Contractor shall provide a

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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 District, 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 District.
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 District 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.
- F. **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.
- G. 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 District. 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 District harmless from any damage, loss, cost, or expense, including attorneys' fees, incurred by the District as a result thereof.

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**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 District'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 District 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 District 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 District; 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 District, its officials, officers, agents, employees, and volunteers.
- C. The Certificate(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 District prior to any material modification or cancellation of such insurance. In the event of a material modification or cancellation of coverage, the District may terminate the Contract or stop the Work in accordance with the Contract Documents, unless the District 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 District 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 District's insurance and/or deductibles and/or self-insured retentions or self-insured programs shall not be construed as contributory.
- E. District reserves the right to adjust the monetary limits of insurance coverages during the term of this Contract including any extension thereof if, in the District's reasonable judgment, the amount or type of insurance carried by the Contractor becomes inadequate.

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- F. Contractor shall report to the District, 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 District's Notice to Proceed and shall be completed by Contractor in the time specified in the Contract Documents. The District is under no obligation to consider early completion of the Project; and the Contract completion date shall not be amended by the District's receipt or acceptance of the Contractor's proposed earlier completion date. Furthermore, Contractor shall not, under any circumstances, receive additional compensation from the District (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 District 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 District 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 District in writing of causes of delay. The District 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 District's liability to Contractor for delays for which the District is responsible shall be limited to only an extension of time unless such delays were unreasonable under the circumstances. In no case shall the District 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 District delay, including delays caused by items that are the responsibility of the District

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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 INVOICING**

Contractor shall furnish on forms Approved by the District:

- 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 District 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 District's Acceptance of the Work, the Contractor shall submit to the District a written statement of the final quantities of unit price items for inclusion in the final payment request.
- E. The District 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 District 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 District 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:

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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 District 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 District 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 District shall be deemed the agent of Contractor and any payment so made by the District shall be considered as a payment made under contract by the District to Contractor and the District 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 District 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 District 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 District to make a payment without incurring interest pursuant to

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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 District.

**ARTICLE 43 SECURITIES FOR MONEY WITHHELD**

Pursuant to section 22300 of the Public Contract Code of the State of California, Contractor may request the District to make retention payments directly to an escrow agent or may substitute securities for any money withheld by the District to ensure performance under the contract. At the request and expense of Contractor, securities equivalent to the amount withheld shall be deposited with the District 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 District, 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 District 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.



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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 District any of the Contractor's documents related to the Project immediately upon request of the District, 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 District, unless the District requests that proposals be submitted in less than seven (7) Days.
  - b. Contractor Initiated Change. 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 District.
  - d. Price quotations from the Contractor shall be accompanied by sufficiently detailed supporting documentation to permit verification by the District, including but not limited to estimates and quotations from subcontractors or material suppliers, as the District 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 District 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 District's estimate. If the change is issued based on the District'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 District's estimate was in error.
2. Unit Price Change Orders.
  - 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

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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 District's issuance of a unit quantity adjustment to the Contract Unit Prices and/or Contract Time in accordance with the Contract Documents.
  - e. The District 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 District believes that the District 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. Lump Sum Change Orders. Compensation for Lump Sum Change Orders shall be limited to expenditures necessitated specifically by the Additional Work, and shall be segregated as follows:
- a. Labor. 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.

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- b. Materials. 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 District shall determine the materials cost, at its sole discretion.
  - c. Tool and Equipment Use. 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. General. 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 District, 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. Timely and Final Documentation.
    - i. T&M Daily Sheets. Contractor must submit timesheets, materials invoices, records of equipment hours, and records of rental equipment hours to the District's Representative for an approval signature **each day** Additional Work is performed. Failure to get the District's Representative's approval signature each Day shall result in a waiver of Contractor's right to claim these costs. The District's Representative's signature on time sheets only serves as verification that the Work was performed and is not indicative of District'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

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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 District 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.
  - iv. Labor. 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.
  - v. 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.
  - vi. Foreman Exception. 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.
- C. Materials. 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.
- 1. Trade discounts available to the purchaser shall be credited to the District notwithstanding the fact that such discounts may not have been taken by Contractor.

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2. 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 District's Representative.
3. 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.
4. If, in the opinion of the District'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.
5. The District 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 District furnished materials.

D. Equipment.

1. 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.
2. 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

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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 District 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 District's Representative. Contractor may furnish cost data which might assist the District's Representative in the establishment of the rental rate.

E. Contractor-Owned Equipment.

1. 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.
2. (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 District shall pay for the entirety of the time the equipment is on Site. It shall be Contractor's burden to demonstrate to the District that the equipment could be actively used on another project.
  - a. All equipment shall, in the opinion of the District's Representative, be in good working condition and suitable for the purpose for which the equipment is to be used.
  - b. 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 District's Representative, in duplicate, a description of the equipment and its identifying number and the scheduled Additional Work activities planned.
  - c. 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. Special Services. 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.

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- G. Invoices for Special Services. When the District'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 District's Representative.
- H. Discount and Allowance. 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.
- a. When the District determines, in its sole discretion, that competitive bidding is necessary for certain special services, Contractor shall solicit competitive bids for those special services.
- I. Excluded Costs. 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.
1. 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;
  2. Office Expenses. Expenses of Contractor's principal and branch offices;
  3. Capital Expenses. 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;
  4. 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;
  5. Other. Other overhead or general expense costs of any kind and the cost of any item not specifically and expressly included in the Contract Documents;

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6. Small Tools. Cost of small tools valued at less than \$1,000 and that remain the property of Contractor;
  7. Administrative Costs. Costs associated with the preparation of Change Orders (whether or not ultimately authorized), cost estimates, or the preparation or filing of Claims;
  8. Anticipated Lost Profits. Expenses of Contractor associated with anticipated lost profits or lost revenues, lost income or earnings, lost interest on earnings, or unpaid retention;
  9. Home Office Overhead. Costs derived from the computation of a "home office overhead" rate by application of the *Eichleay, Allegheny*, burden fluctuation, or other similar methods;
  10. Special Consultants and Attorneys. 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.
- J. 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:
1. "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 District with documentation of the costs, including, but not limited to, payroll records, invoices, and such other information as District may reasonably request.
  2. 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.
  3. 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.
  4. 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.
  5. No additional mark-up will be allowed for lower tier subcontractors, and in no case shall the added cost for overhead and profit payable



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by District exceed twenty-five percent (25%) of the Net Cost as defined herein, of the party that performs the Work.

6. 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.
7. For added or deducted Work by subcontractors, the Contractor shall furnish to the District 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
8. For added or deducted work furnished by a vendor or supplier, the Contractor shall furnish to the District a detailed record of the cost to the Contractor, signed by such vendor or supplier.
9. 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.
10. 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 District's change order form in an attempt to reserve additional rights.
11. If the District disagrees with the proposal submitted by Contractor, it will notify the Contractor and the District will provide its opinion of the

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appropriate price and/or time extension. If the Contractor agrees with the District, a Change Order will be issued by the District. If no agreement can be reached, the District 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 District 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 District may require.

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

**L. Use of Float and Critical Path.**

1. Float is for the benefit of the Project. Float shall not be considered for the exclusive use or benefit of either the District or the Contractor.
2. Contractor shall not be entitled to compensation, and District 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.
3. Contractor's entitlement to an extension of the Contract Times is limited to a District-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 District-caused delay extends the critical path beyond the

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previously approved Contract Time. If approved, the increase in time required to complete the Work shall be added to the Contract Time.

4. 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.
5. If Contractor is delayed in the performance or progress of the Work by fire, flood, epidemic, abnormal weather conditions (as determined by the District), Acts of God, acts or failures to act of utility owners not under the control of District, or other causes not the fault of and beyond control of District and Contractor, then Contractor shall be entitled to a 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.

M. Utility-Related Delays.

1. Contractor shall immediately notify in writing the utility owner and District'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.
2. 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.

N. 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:

1. 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.

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2. 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.

O. No Damages for Reasonable Delay.

1. District's liability to Contractor for delays for which District is responsible shall be limited to only an extension of time unless such delays were unreasonable under the circumstances. In no case shall District 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.
2. Damages caused by unreasonable District delay that impact the critical path, including delays caused by items that are the responsibility of the District 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.
3. District and District'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.
4. 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 District's and District'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 District will be made by the Engineer. Such acceptance by the District 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 District from Contractor under the terms of the contract. The final five percent (5%), or the percentage specified in the notice inviting bids where the District 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

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under the provisions of Civil Code section 9356. If the Contractor has placed securities with the District 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 District under the terms of the Contract.

- B. Unless Contractor advises the District in writing prior to acceptance of the final five percent (5%) or the percentage specified in the notice inviting bids where the District 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 District 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 District and for all other claims relating to or arising out of this work. If Contractor advises the District 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 District may pay the undisputed amount contingent upon the Contractor furnishing a release of all undisputed claims against the District 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 District to the extent necessary to repay the District 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 District or the date of occupation, beneficial use and enjoyment of the Work by the District 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 District and the Contractor, the District 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 District 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.

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**ARTICLE 47 INDEMNIFICATION**

To the fullest extent permitted by law, Contractor shall immediately defend (with counsel of the District's choosing), indemnify and hold harmless the District, 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 District or its officers, employees, or authorized volunteers (including passive negligence), except the sole negligence or willful misconduct or active negligence of the District 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 District Board's choosing, any and all such aforesaid suits, actions or other legal proceedings of every kind that may be brought or instituted against the District, its officials, officers, agents, employees and representatives. Contractor shall pay and satisfy any judgment, award or decree that may be rendered against the District, its officials, officers, employees, agents, employees and representatives, in any such suit, action or other legal proceeding. Contractor shall reimburse the District, 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.

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**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 District shall be resolved under the following statutory procedure unless the District 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 District.
  
- B. **Claims Under \$50,000.** The District shall respond in writing to the claim within 45 calendar days of receipt of the claim, or, the District 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 District may have. If additional information is needed thereafter, it shall be provided upon mutual agreement of the District and the Contractor. The District'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 District 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 District may have against the District. If additional information is needed thereafter, it shall be provided pursuant to mutual agreement between the District and the Contractor. The District 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

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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.** If the Contractor disputes the District's response, or if the District fails to respond within the statutory time period(s), the Contractor may so notify the District 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 District shall schedule a meet and confer conference within 30 calendar days.

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

G. **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 District. 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 District.

**ARTICLE 49 DISTRICT'S RIGHT TO TERMINATE CONTRACT**

**A. Termination for Cause by the District:**

1. In the sole estimation of the District, if the Contractor refuses or fails to prosecute the Work or any separable part thereof with such diligence as will



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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 District may serve written notice upon the Contractor and its Surety of the District'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 District have been made for correction of said violations.

2. In the event that the District 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 District written notice of Surety's intention to take over and commence performance of the Contract within 15 calendar days of the District'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 District's service of said notice upon Surety; then the District 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 District elects to obtain an alternative performance of the Contract as specified above: (1) the District 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 District in the event of such suspension is hereby created against any property of Contractor taken into the possession of the District under the terms hereof and such lien may be enforced by sale of such property under the direction of the District Board 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 District against Contractor, the balance will be paid to Contractor or Contractor's legal representatives.); and (2) Surety shall be liable to the District for any cost or other damage to the District necessitated by the District securing an alternate performance pursuant to this Article.

**B. Termination for Convenience by the District:**

1. The District may terminate performance of the Work called for by the Contract Documents in whole or, from time to time, in part, if the District determines that a termination is in the District'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

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convenience of the District, the extent of termination, and the Effective Date of such termination.

3. After receipt of Notice of Termination, and except as directed by the District'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 District'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 District'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 District'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 District exercises its right to terminate this Contract pursuant to this clause, the District 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.

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- b. A reasonable allowance for profit on the cost of the Work performed, provided Contractor establishes to the satisfaction of the District'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.
6. 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 District may immediately order Contractor to cease Work on the Project until such safety or liability issues are addressed to the satisfaction of the District 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 District, 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 District, 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 reinstatement 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 District 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 District, the District 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 District for any expenses incurred hereunder immediately upon demand.

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- C. In addition to the warranty set forth in this Article, Contractor shall obtain for District all warranties that would be given in normal commercial practice and assign to District 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 District with all warranty and guarantee documents prior to final Acceptance of the Project by the District as required.
- D. When specifically indicated in the Contract Documents or when directed by the Engineer, the District 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 District for installation by the Contractor to be voided or reduced, Contractor shall indemnify District from and against any cost, expense, or other liability arising therefrom, and shall be responsible to the District 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 District-owned or controlled real or personal property.
- F. The District 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 District 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 District 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 District prefers to accept it, District 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 District's evaluation of and determination to accept such Defective Work and for the diminished value of the Work.
  - 2. 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 District shall be entitled to an appropriate decrease in the Contract Price, reflecting the diminished value of Work and all costs incurred by District.

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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 District.
  4. If the acceptance of Defective Work occurs after release of the Project Retention, an appropriate amount will be paid by Contractor to District.
- I. District May Correct Defective Work.
1. If Contractor fails within a reasonable time after written notice from District's Representative to correct Defective Work, or to remove and replace rejected Work as required by District, 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, District may, after seven (7) Days' written notice to Contractor, correct, or remedy any such deficiency.
  2. In connection with such corrective or remedial action, District 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 District has paid Contractor but which are stored elsewhere. Contractor shall allow District and District's Representative, and the agents, employees, other contractors, and consultants of each of them, access to the Site to enable District 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 District 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 District 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 District 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 District.
  6. If the Change Order is executed after release of the Project Retention, an appropriate amount will be paid by Contractor to District.
  7. Contractor shall not be allowed an extension of the Contract Times because of any delay in the performance of the Work attributable to District correcting Defective work.

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- J. Nothing in the Warranty or in the Contract Documents shall be construed to limit the rights and remedies available to District 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 District 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 District any of the Contractor's other documents related to the Project immediately upon request of the District.
- C. In addition to the State Auditor rights above, the District 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 District, for a period of four (4) years after final payment.

**ARTICLE 52 SEPARATE CONTRACTS**

- A. The District 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 District 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 District 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.

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**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 District shall be addressed to the District as designated in the Notice Inviting Bids unless District 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 District shall provide the Contractor with timely notification of the receipt of any third-party claims relating to the Contract. The District 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 District 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 District. Any assignment or change of Contractor's name of legal entity without the written consent of the District 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.

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**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 District 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 District'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 District 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 District tenders final payment to the Contractor, without further acknowledgment by the parties.

**ARTICLE 60 PROHIBITED INTERESTS**

No District official or representative who is authorized in such capacity and on behalf of the District 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 ARTICLE 11 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



**GENERAL CONDITIONS**  
**SECTION F- LABOR AND CONSTRUCTION**

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 ARTICLE 11 compliance with ADA regulations.

**ARTICLE 64 PATENTS**

Contractor shall hold and save the District, 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 District are District 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 District 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 ARTICLE 11 responsible.

**ARTICLE 67 SURVIVAL OF OBLIGATIONS**

All representations, 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.

**VALLEY-WIDE RECREATION**

**HOLLAND ROAD, SHRIMP LANE, AND BENTON CREEK CHANNEL  
RECYCLED WATER RETROFIT PROJECT**

**SECTION 00100 SC-SPECIAL CONDITIONS**

**SPECIAL PROVISIONS**

**SC-01. SCOPE OF WORK**

All trades necessary to construct the park per the approved drawings, and in compliance with applicable regulations and standards

**SC-02. PRECONSTRUCTION AND CONSTRUCTION COMMUNICATION**

Before any Work at the site is started, a conference attended by the District, Contractor, District'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 District 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.

**SC-03. CONTRACT DOCUMENTS: COPIES & MAINTENANCE**

Contractor will be furnished, free of charge, **two (2)** 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.

**SC-04. 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.

## SC-05

### 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.

**SC-06.           EXISTENCE OF UTILITIES AT THE WORK SITE**

1. The District 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.
2. 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 District in writing of any utility discovered in a different position than shown on the Plans or which is not shown on the Plans.
3. 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.
4. Notwithstanding the above, pursuant to section 4215 of the Government Code, the District 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 District shall assume the responsibility for their timely removal, relocation, or protection.

5. 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](http://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 District, 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 District has been given the identification number by the Contractor.

## **SC-07 SOILS INVESTIGATIONS**

### **A. Reports and Drawings.** The Special Conditions identify:

1. Those reports known to the District of explorations and tests of subsurface conditions at or contiguous to the site; and
2. Those drawings known to the District of physical conditions relating to existing surface or subsurface structures at the site (except Underground Facilities).
3. Limited Reliance by Contractor on Technical Data Authorized. 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 District, District's Representative, or Engineer of Record, or any of their officers, directors, members, partners, employees, agents, consultants, or subcontractors, with respect to:
4. 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
5. Other data, interpretations, opinions, conclusions and information contained in such reports or shown or indicated in such drawings; or

6. Any Contractor interpretation of or conclusion drawn from any “technical data” or any such other data, interpretations, opinions, or information.

#### **SC-08 CONTRACTOR’S SUPERVISION**

Contractor shall continuously keep at the Project site, a competent and experienced full-time Project superintendent acceptable to the District. 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.

#### **SC-09. WORKERS**

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.

Any person in the employ of the Contractor whom the District may deem incompetent or unfit shall be dismissed from the Work and shall not be employed on this Project.

#### **SC-10. INDEPENDENT CONTRACTORS**

Contractor shall be an independent contractor for the District and not an employee. Contractor understands and agrees that it and all of its employees shall not be considered officers, employees, or agents of District and are not entitled to benefits of any kind normally provided employees of District, 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.

#### **SC-11. SUBCONTRACTS**

1. 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 District 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 District.
2. The District reserves the right to accept all subcontractors. The District’s acceptance of any subcontractor under this Contract shall not in any way relieve Contractor of its obligations in the Contract Documents.
3. 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.

**SC-12. 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 District 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.

**SC-13. REQUESTS FOR SUBSTITUTION**

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 Standard Specifications or otherwise referenced herein.

- A. Pursuant to Public Contract Code section 3400(b), the District 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.
- B. 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 District has adopted uniform standards for certain materials, processes, and articles.
- C. 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 District, the Contractor shall provide the material, method or service specified herein. The District 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.

- D. 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.
- E. 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.
- F. 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.\
- G. The Contractor shall bear the costs of all District work associated with the review of substitution requests.
- H. 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.

#### **SC-14. 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.

**SC-15. 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.

**SC-16. 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 District 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 District or any independent contractor.
- F. Contractor shall verify all measurements, dimensions, elevations, and quantities before ordering any materials or performing any Work, and the District shall not be liable for Contractor's failure to do 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.

**SC-17. PERMITS AND LICENSES**

- A. District will apply and pay for the review of necessary encroachment permits for Work within the public rights-of-way. Contractor shall obtain all other necessary permits and licenses for the construction of the Project, including encroachment permits, and shall pay all fees required by law and shall comply with all laws, ordinances, rules and regulations relating to the Work and to the preservation of public health and safety. Before acceptance of the Project, the Contractor shall submit all licenses, permits, certificates of inspection and required approvals to the District.
- B. 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. Payment by District to Contractor under the Permit and Inspection Allowance Bid Item shall be made based on actual cost receipts only and in accordance with the provisions of these specifications.

**SC-18. 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 District in writing of any of the following conditions:
- C.** 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.
- D.** Subsurface or latent physical conditions at the site differing from those indicated.
- E.** 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 District 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 District 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.

**SC-19. 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.

**SC-20. DIVERSION OF RECYCLABLE WASTE MATERIALS**

In compliance with the applicable District'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 District 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.

**SC-21. 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 District in writing. The District 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 District and Contractor.

**SC-22. 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 local codes and ordinances. 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.

**SC-23. 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 South Coast Air Quality Management District. 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.

**SC-24. 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.

**SC-25. 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 District, Contractor shall promptly inform the District of the date fixed for such inspection. Required certificates of inspection (or similar) shall be secured by Contractor. Costs for District testing and District inspection shall be paid by the District. 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 District, 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 District so that the District 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 District, 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 District. If so ordered, Work must be uncovered or deconstructed by Contractor. If Work is found to be in accordance with the Contract Documents, the District 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.

**SC-26. 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 District. 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 District. Any compensation claimed by Contractor on account of emergency work shall be determined by and agreed upon by the District and the Contractor.

**SC-27. 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.

**SC-28. AUTHORIZED REPRESENTATIVES**

The District shall designate representatives, who shall have the right to be present at the Project site at all times. The District 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.

**SC-29. 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 District and to the Division of Labor Law Enforcement, Department of Industrial Relations of the State of California.
- C. The Contractor shall pay to the District 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 District.
- E. District 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 District-observed holidays, unless otherwise approved by the District:
  - 1. Powered Vehicles
  - 2. Construction Equipment
  - 3. Loading and Unloading Vehicles
  - 4. Domestic Power Tools

**SC-30. 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 District. The Contractor shall also provide the following:
- D. 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.



- E. A certified copy of all payroll records described herein shall be made available for inspection or furnished upon request of the DIR.
- F. 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.
- G. Any copy of records made available for inspection as copies and furnished upon request to the public or any public agency, the District, 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.
- H. 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 District 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.
- I. The responsibility for compliance with this Article shall rest upon the Contractor.

**SC-31. 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](http://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 District’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 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 Prevailing Wage Laws.

- B. The Contractor shall forfeit as a penalty to the District 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.

**SC-32. 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.

**SC-33. 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.

**SC-34. 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.

1. 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 District or its representatives for inspection and copy at any time during normal business hours. The District shall not be responsible for any costs or expenses related to Contractor's compliance with the requirements provided for or referred to herein.
2. 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.
3. 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 District 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.

### **SC-35. 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 District. 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.

### **SC-36. 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 District prior to beginning Work at the Project site. Contractor shall maintain a confined space program that meets or exceeds the District Standards. Contractor shall adhere to the District's lock out tag out program.

### **SC-37. 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 District 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 District that the subcontractor has secured all insurance required under this Article. Failure to provide and maintain all required insurance shall be grounds for the District to terminate this Contract for cause. Contractor shall furnish District with original certificates of insurance and endorsements effective coverage required by this Contract on forms satisfactory to the District. 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 District. All certificates and endorsements must be received and approved by the District before Work commences.

- A. **Additional Insureds; Waiver of Subrogation.** The District, 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 District certificates of his insurance protecting workers. Company or companies providing insurance coverage shall be acceptable to the District, 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 District 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 District.
- 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.
- E.** 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 District, and shall not preclude the District from taking such other actions available to the District under other provisions of the Contract Documents or law.

- F. All general liability policies provided pursuant to the provisions of this Article shall comply with the provisions of the Contract Documents.
- G. 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.
- H. 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 District 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.
- I. 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.
- J. **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 District. 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.

**SC-38. FORM AND PROOF OF CARRIAGE OF INSURANCE**

- 1. 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 District'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 District 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 District indicating that such coverage is subject to the same terms and conditions as the underlying liability policy.

2. 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 District; 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 District, its officials, officers, agents, employees, and volunteers.
3. The Certificate(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 District prior to any material modification or cancellation of such insurance. In the event of a material modification or cancellation of coverage, the District may terminate the Contract or stop the Work in accordance with the Contract Documents, unless the District 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 District 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.
4. The Certificate(s) of Insurance, policies and endorsements shall so covenant and shall be construed as primary, and the District's insurance and/or deductibles and/or self-insured retentions or self-insured programs shall not be construed as contributory.
5. District reserves the right to adjust the monetary limits of insurance coverages during the term of this Contract including any extension thereof if, in the District's reasonable judgment, the amount or type of insurance carried by the Contractor becomes inadequate.
6. Contractor shall report to the District, in addition to the Contractor's insurer, any and all insurance claims submitted by the Contractor in connection with the Work under this Contract.

#### **SC-39. TIME FOR COMPLETION AND LIQUIDATED DAMAGES**

1. **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 District's Notice to Proceed and shall be completed by Contractor in the time specified in the Contract Documents. The District is under no obligation to consider early completion of the Project; and the Contract completion date shall not be amended by the District's receipt or acceptance of the Contractor's proposed earlier completion date. Furthermore, Contractor shall not, under any circumstances, receive additional compensation from the District (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 District 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 District 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.

- A. **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.
- B. **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 District in writing of causes of delay. The District 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.
- C. **No Damages for Reasonable Delay.** The District's liability to Contractor for delays for which the District is responsible shall be limited to only an extension of time unless such delays were unreasonable under the circumstances. In no case shall the District 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 District delay, including delays caused by items that are the responsibility of the District 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.

**SC-40. COST BREAKDOWN AND PERIODIC ESTIMATES**

Contractor shall furnish on forms Approved by the District:

1. 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.
2. A monthly itemized estimate of Work done for the purpose of making progress payments. In order for the District 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.



3. 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.
4. Following the District's Acceptance of the Work, the Contractor shall submit to the District a written statement of the final quantities of unit price items for inclusion in the final payment request.
5. The District 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.

#### **SC-41. PROGRESS ESTIMATES AND PAYMENT**

1. 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 District 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.
2. The District 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:
  - a. 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.
  - b. Defective work not remedied.
  - c. Failure of Contractor to make proper payments to his subcontractor or for material or labor.
  - d. Completion of the Contract if there is a reasonable doubt that the Work can be completed for balance then unpaid.
  - e. Damage to another contractor or a third party.
  - f. Amounts which may be due the District for claims against Contractor.
  - g. Failure of Contractor to keep the record ("as-built") drawings up to date.
  - h. Failure to provide update on construction schedule as required herein.

- i. Site cleanup.
  - j. Failure to comply with Contract Documents.
  - k. Liquidated damages.
  - l. Legally permitted penalties.
3. The District 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 District shall be deemed the agent of Contractor and any payment so made by the District shall be considered as a payment made under contract by the District to Contractor and the District 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 District will render Contractor a proper accounting of such funds disbursed on behalf of Contractor.
  4. 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 District 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 District 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.
  5. 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 District.

**SC-42. SECURITIES FOR MONEY WITHHELD**

Pursuant to section 22300 of the Public Contract Code of the State of California, Contractor may request the District to make retention payments directly to an escrow agent or may substitute securities for any money withheld by the District to ensure performance under the contract. At the request and expense of Contractor, securities equivalent to the amount withheld shall be deposited with the District 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.

**SC-43. CHANGES AND EXTRA WORK.**

**A. Contract Change Orders.**

1. The District, 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 District 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 District any of the Contractor's documents related to the Project immediately upon request of the District, 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.**

**A. 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 District, unless the District requests that proposals be submitted in less than seven (7) Days.
- b. Contractor Initiated Change. 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 District.

- d. Price quotations from the Contractor shall be accompanied by sufficiently detailed supporting documentation to permit verification by the District, including but not limited to estimates and quotations from subcontractors or material suppliers, as the District 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 District 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 District's estimate. If the change is issued based on the District'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 District's estimate was in error.

**C. Unit Price Change Orders.**

1. 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.
2. 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.
3. Bid items included on the Bid Form may be deducted from the Work in their entirety without any negotiated extra costs.
4. 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 District's issuance of a unit quantity adjustment to the Contract Unit Prices and/or Contract Time in accordance with the Contract Documents.
5. The District or Contractor may make a Claim for an adjustment in the Unit Price in accordance with the Contract Documents if:
6. 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
7. There is no corresponding adjustment with respect to any other item of Work; and
8. Contractor believes that Contractor is entitled to an increase in Unit Price as a result of having incurred additional expense or the District believes that the

District 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.

**D.. Lump Sum Change Orders.**

1. Compensation for Lump Sum Change Orders shall be limited to expenditures necessitated specifically by the Additional Work, and shall be segregated as follows:
2. Labor. 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.
3. Materials. 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 District shall determine the materials cost, at its sole discretion. Tool and Equipment Use. 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.

**E. Time and Materials Change Orders.**

1. General. 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 District, such costs shall be in amounts no higher than those prevailing in the locality of the Project, and shall include only the following items.

**F. Timely and Final Documentation.**

1. T&M Daily Sheets. Contractor must submit timesheets, materials invoices, records of equipment hours, and records of rental equipment hours to the District's Representative for an approval signature **each day** Additional Work is performed. Failure to get the District's Representative's approval signature each Day shall result in a waiver of Contractor's right to claim these costs. The District's Representative's signature on time sheets only serves as verification that the Work was performed and is not indicative of District's agreement to Contractor's entitlement to the cost.

2. 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.
3. 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 District 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.
4. Labor. 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.
5. 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.
6. Foreman Exception. 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.

7. Materials. 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.
8. Trade discounts available to the purchaser shall be credited to the District notwithstanding the fact that such discounts may not have been taken by Contractor.
9. 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 District's Representative.
10. 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.
11. If, in the opinion of the District'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.
12. The District 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 District furnished materials.

**G. Equipment.**

1. 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.
2. Rental Time Not Allowed. Rental time will not be allowed while equipment is inoperative due to breakdowns.
3. Computation Method. The following shall be used in computing the rental time of equipment on the Project site.
4. 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.

5. 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.

#### **H. Rental Rates.**

1. 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 District 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 District's Representative. Contractor may furnish cost data which might assist the District's Representative in the establishment of the rental rate.

#### **I. Contractor-Owned Equipment.**

1. 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.
2. 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 District shall pay for the entirety of the time the equipment is on Site. It shall be Contractor's burden to demonstrate to the District that the equipment could be actively used on another project.
3. All equipment shall, in the opinion of the District's Representative, be in good working condition and suitable for the purpose for which the equipment is to be used.
4. 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 District's Representative, in duplicate, a description of the equipment and its identifying number and the scheduled Additional Work activities planned.
5. 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.
6. **Special Services.** 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.



7. **Invoices for Special Services.** When the District'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 District's Representative.
- a. **Discount and Allowance.** 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.
  - b. When the District determines, in its sole discretion, that competitive bidding is necessary for certain special services, Contractor shall solicit competitive bids for those special services.
  - c. **Excluded Costs.** 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.
  - d. **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;
  - e. **Office Expenses.** Expenses of Contractor's principal and branch offices;
  - f. **Capital Expenses.** 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;
  - g. **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;
  - h. **Other.** Other overhead or general expense costs of any kind and the cost of any item not specifically and expressly included in the Contract Documents;
  - i. **Small Tools.** Cost of small tools valued at less than \$1,000 and that remain the property of Contractor;
  - j. **Administrative Costs.** Costs associated with the preparation of Change Orders (whether or not ultimately authorized), cost estimates, or the preparation or filing of Claims;

- k. Anticipated Lost Profits. Expenses of Contractor associated with anticipated lost profits or lost revenues, lost income or earnings, lost interest on earnings, or unpaid retention;
- l. Home Office Overhead. Costs derived from the computation of a “home office overhead” rate by application of the *Eichleay, Allegheny*, burden fluctuation, or other similar methods;
- m. Special Consultants and Attorneys. 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.
- n. 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 District with documentation of the costs, including, but not limited to, payroll records, invoices, and such other information as District 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 District exceed twenty-five percent (25%) of the Net Cost as defined herein, of the party that performs the Work.
- o. 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; production 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.

- p. For added or deducted Work by subcontractors, the Contractor shall furnish to the District 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
- q. For added or deducted work furnished by a vendor or supplier, the Contractor shall furnish to the District a detailed record of the cost to the Contractor, signed by such vendor or supplier.
- r. 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.
- s. 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 District's change order form in an attempt to reserve additional rights.
- t. If the District disagrees with the proposal submitted by Contractor, it will notify the Contractor and the District will provide its opinion of the appropriate price and/or time extension. If the Contractor agrees with the District, a Change Order will be issued by the District. If no agreement can be reached, the District 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 District 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 District may require.

**J.. 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.
3. 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 District'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.
  - a. District may elect, at District's sole discretion, to grant an extension in Contract Times, without Contractor's request, because of delays or other factors.
  - b. Use of Float and Critical Path.
4. Float is for the benefit of the Project. Float shall not be considered for the exclusive use or benefit of either the District or the Contractor.
5. Contractor shall not be entitled to compensation, and District 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 a District-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 District-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.
7. 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.
8. If Contractor is delayed in the performance or progress of the Work by fire, flood, epidemic, abnormal weather conditions (as determined by the

District), Acts of God, acts or failures to act of utility owners not under the control of District, or other causes not the fault of and beyond control of District 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.

a. Utility-Related Delays.

9. Contractor shall immediately notify in writing the utility owner and District'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.
10. 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.
11. 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.
12. No Damages for Reasonable Delay.
  - a. District's liability to Contractor for delays for which District is responsible shall be limited to only an extension of time unless such delays were unreasonable under the circumstances. In no case shall District 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 District delay that impact the critical path, including delays caused by items that are the responsibility of the District 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. District and District'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.
- d. 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 District's and District'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.

#### **SC-44. FINAL ACCEPTANCE AND PAYMENT**

1. The acceptance of the Work on behalf of the District will be made by the Engineer. Such acceptance by the District 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 District from Contractor under the terms of the contract. The final five percent (5%), or the percentage specified in the notice inviting bids where the District 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 District 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 District under the terms of the Contract.
2. Unless Contractor advises the District in writing prior to acceptance of the final five percent (5%) or the percentage specified in the notice inviting bids where the District 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

District 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 District and for all other claims relating to or arising out of this work. If Contractor advises the District 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 District may pay the undisputed amount contingent upon the Contractor furnishing a release of all undisputed claims against the District 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.

3. In case of suspension of the contract any unpaid balance shall be and become the sole and absolute property of the District to the extent necessary to repay the District any excess in the cost of the Work above the contract price. final payment shall be made no later than 60 days after the date of acceptance of the Work by the District or the date of occupation, beneficial use and enjoyment of the Work by the District 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 District and the Contractor, the District may withhold from the final payment an amount not to exceed 150% of the disputed amount.
4. 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.

#### **SC.45. OCCUPANCY**

The District 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.

#### **SC-46. INDEMNIFICATION**

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

1. 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 District or its officers, employees, or authorized volunteers (including passive negligence), except the sole negligence or willful misconduct or active negligence of the District or its officials, officers, employees, or authorized volunteers.

2. 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.
3. 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;
4. 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.
5. Contractor shall immediately defend, at Contractor's own cost, expense and risk, with the District Board's choosing, any and all such aforesaid suits, actions or other legal proceedings of every kind that may be brought or instituted against the District, its officials, officers, agents, employees and representatives. Contractor shall pay and satisfy any judgment, award or decree that may be rendered against the District, its officials, officers, employees, agents, employees and representatives, in any such suit, action or other legal proceeding. Contractor shall reimburse the District, 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.

#### **SC-47. 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 District shall be resolved under the following statutory procedure unless the District has elected to resolve the dispute pursuant to Public Contract Code section 10240 *et seq.*

1. **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 District.

2. **Claims Under \$50,000.** The District shall respond in writing to the claim within 45 calendar days of receipt of the claim, or, the District 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 District may have. If additional information is needed thereafter, it shall be provided upon mutual agreement of the District and the Contractor. The District'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.
3. **Claims over \$50,000 but less than or equal to \$375,000.** The District 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 District may have against the District. If additional information is needed thereafter, it shall be provided pursuant to mutual agreement between the District and the Contractor. The District 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.
4. **All Claims.** The Contractor will submit the claim justification in the following format:
  - a. Summary of claim merit and price, and Contract clause pursuant to which the claim is made.
  - b. List of documents relating to claim:
    1. Specifications
    2. Drawings
    3. Clarifications (Requests for Information)
    4. Schedules
    5. Other (All Related Documents)
  - a. Chronology of events and correspondence.
  - b. Analysis of claim merit.
  - c. Analysis of claim cost.
  - d. Analysis of time impact analysis in CPM format.
  - e. Cover letter and certification of validity of the claim.
5. **All Claims.** If the Contractor disputes the District's response, or if the District fails to respond within the statutory time period(s), the Contractor may so notify the District 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 District shall schedule a meet and confer conference within 30 calendar days.

6. 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 District, is a condition precedent to any action, proceeding, litigation, suit, general conditions claim, or demand for arbitration by Contractor.
7. **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 District. 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 District.

#### **SC-48. DISTRICT'S RIGHT TO TERMINATE CONTRACT**

##### **1. Termination for Cause by the District:**

- a. In the sole estimation of the District, 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 District may serve written notice upon the Contractor and its Surety of the District'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 District have been made for correction of said violations.
- b. In the event that the District 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

District written notice of Surety's intention to take over and commence performance of the Contract within 15 calendar days of the District'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 District's service of said notice upon Surety; then the District 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.

- c. In the event that the District elects to obtain an alternative performance of the Contract as specified above: (1) the District 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 District in the event of such suspension is hereby created against any property of Contractor taken into the possession of the District under the terms hereof and such lien may be enforced by sale of such property under the direction of the District Board 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 District against Contractor, the balance will be paid to Contractor or Contractor's legal representatives.); and (2) Surety shall be liable to the District for any cost or other damage to the District necessitated by the District securing an alternate performance pursuant to this Article.

## **2. Termination for Convenience by the District:**

- a. The District may terminate performance of the Work called for by the Contract Documents in whole or, from time to time, in part, if the District determines that a termination is in the District's interest.
- b. 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 District, the extent of termination, and the Effective Date of such termination.
- c. After receipt of Notice of Termination, and except as directed by the District'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 District'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 District'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 District's Termination for Convenience."
- g. Termination of the Contract shall not relieve Surety of its obligation for any just claims arising out of or relating to the Work performed.
- h. In the event that the District exercises its right to terminate this Contract pursuant to this clause, the District 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:
  - 1. All actual reimbursable costs incurred according to the provisions of this Contract.
  - 2. A reasonable allowance for profit on the cost of the Work performed, provided Contractor establishes to the satisfaction of the District'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.
  - 3. A reasonable allowance for Contractor's administrative costs in determining the amount payable due to termination of the Contract under this Article.
  - 4. 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 District may immediately order Contractor to cease Work on the Project until such safety or liability issues are addressed to the satisfaction of the District or the Contract is terminated.

## **SC-49. WARRANTY AND GUARANTEE OF WORK**

1. 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 District, 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 District, 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 reinstatement of equipment and materials necessary to gain access, shall be the sole responsibility of the Contractor.
2. 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 District 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 District, the District 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 District for any expenses incurred hereunder immediately upon demand.
3. In addition to the warranty set forth in this Article, Contractor shall obtain for District all warranties that would be given in normal commercial practice and assign to District 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 District with all warranty and guarantee documents prior to final Acceptance of the Project by the District as required.
4. When specifically indicated in the Contract Documents or when directed by the Engineer, the District 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 District for installation by the Contractor to be voided or reduced, Contractor shall indemnify District from and against any cost, expense, or other liability arising therefrom, and shall be responsible to the District 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.
5. The Contractor shall remedy at its expense any damage to District-owned or controlled real or personal property.

6. The District 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 District shall have the right to replace, repair or otherwise remedy the defect, or damage at the Contractor's expense.
7. 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 District may undertake at Contractor's expense, and without prior notice, all Work necessary to correct such condition.

**A. Acceptance of Defective Work.**

1. If, instead of requiring correction or removal and replacement of Defective Work, the District prefers to accept it, District 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 District's evaluation of and determination to accept such Defective Work and for the diminished value of the Work.
2. 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 District shall be entitled to an appropriate decrease in the Contract Price, reflecting the diminished value of Work and all costs incurred by District.
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 District.
4. If the acceptance of Defective Work occurs after release of the Project Retention, an appropriate amount will be paid by Contractor to District.

**B. District May Correct Defective Work.**

1. If Contractor fails within a reasonable time after written notice from District's Representative to correct Defective Work, or to remove and replace rejected Work as required by District, 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, District may, after seven (7) Days' written notice to Contractor, correct, or remedy any such deficiency.
2. In connection with such corrective or remedial action, District 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 District has paid Contractor but which are stored elsewhere. Contractor shall allow District and District's Representative, and the agents, employees, other contractors, and consultants of each of them, access

to the Site to enable District 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 District 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 District 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 District 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 District.
6. If the Change Order is executed after release of the Project Retention, an appropriate amount will be paid by Contractor to District.
7. Contractor shall not be allowed an extension of the Contract Times because of any delay in the performance of the Work attributable to District correcting Defective work.
8. Nothing in the Warranty or in the Contract Documents shall be construed to limit the rights and remedies available to District at law or in equity, including, but not limited to, Code of Civil Procedure section 337.15.

#### **SC-50. DOCUMENT RETENTION & EXAMINATION**

1. In accordance with Government Code section 8546.7, records of both the District 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.
2. Contractor shall make available to the District any of the Contractor's other documents related to the Project immediately upon request of the District.
3. In addition to the State Auditor rights above, the District 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 District, for a period of four (4) years after final payment.

#### **SC-51. SEPARATE CONTRACTS**

1. The District 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.

2. 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.
3. 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 District 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 District 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.

#### **SC-52. 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 District shall be addressed to the District as designated in the Notice Inviting Bids unless District 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.

#### **SC-53. NOTICE OF THIRD PARTY CLAIMS**

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

#### **SC-54. 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.

#### **SC-55. INTEGRATION**

1. **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.



2. **Contract Documents Represent Entire Contract.** The Contract Documents represent the entire agreement of the District and Contractor.

#### **SC-56. 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 District. Any assignment or change of Contractor's name or legal entity without the written consent of the District 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.

#### **SC-57. 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 District 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 District's rights under the Contract, including but not limited to the bonds.

#### **SC-58. 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 District 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 District tenders final payment to the Contractor, without further acknowledgment by the parties.

#### **SC-59. PROHIBITED INTERESTS**

No District official or representative who is authorized in such capacity and on behalf of the District 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.

#### **SC-60. 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.

### **SC-61. 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.

### **SC-62. LAWS AND REGULATIONS**

1. 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.
2. 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.

### **SC-63. PATENTS**

Contractor shall hold and save the District, 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.

### **SC-64. OWNERSHIP OF CONTRACT DOCUMENTS**

All Contract Documents furnished by the District are District 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 District on request at completion of the Work.

### **SC-65. 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.

### **SC-66. SURVIVAL OF OBLIGATIONS**

All representations, 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.

**SC-67. NOISE RESTRICTIONS**

- A. Contractor shall use only such equipment on the Work and in such state of repair so that the emission of sound therefrom is within the noise tolerance level of that equipment as established by Cal/OSHA.
- B. Contractor shall comply with the most restrictive of the following: (1) local sound control and noise level rules, regulations and ordinances and (2) the requirements contained in these Contract Documents, including hours of operation requirements.
- C. No internal combustion engine shall be operated on the Project without a muffler of the type recommended by the manufacturer. Should any muffler or other control device sustain damage or be determined to be ineffective or defective, the Contractor shall promptly remove the equipment and shall not return said equipment to the job until the device is repaired or replaced. Said noise and vibration level requirements shall apply to all equipment on the job or related to the job, including but not limited to, trucks, transit mixers or transit equipment that may or may not be owned by the Contractor.

**SC-68. SAFETY PROGRAM.**

CalOsha

**SC-69. COORDINATION WITH OTHER CONTRACTORS.**

NOT USED.

**SC-70. MODIFICATION OF HOURS OF WORK**

[NOT USED.]

**SC-71. DESIGNATION OF DISTRICT'S REPRESENTATIVE**

Unless otherwise modified by District, Districts' Representative shall be James Salvador (951) 654-1505

**SC-72. ENGINEER OF RECORD.**

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

**Zeru Aman, Eastern Municipal Water District Project Engineer**

**END OF SPECIAL CONDITIONS**

## **Project Plans and Supporting Documents**

1. Holland Road
  - a. Holland Road Recycled Water Retrofit Plans
  - b. Supporting Documents
    - i. Shadowridge II – TR 30105 – Detention Basins
    - ii. Lexington – TR 31629 – Landscape Plan
    - iii. Shadowridge II – TR 30105 – Landscape Improvement Plans
    - iv. Hidden Meadows – TR 30948 – Reverse Frontage Landscape
  
2. Shrimp Lane
  - a. Shrimp Lane Recycled Water Retrofit Plans
  - b. Supporting Documents
    - i. Fieldview Park As-Builts
    - ii. Shrimp Lane Channel As-Builts
    - iii. Shrimp Lane Parkway As-Builts
  
3. Benton Creek Channel
  - a. Benton Creek Channel Recycled Water Retrofit Plans
  - b. Supporting Documents
    - i. Benton Road Streetscapes – TR 30167
    - ii. Benton Creek Channel – TR 30167 – Flood Control & Detention Basin
    - iii. Landscape Construction Documents – Park Sites for (Lots 26, 151 & 152)



# VALLEY-WIDE RECREATION AND PARK DISTRICT

## RECYCLED WATER RETROFIT PLAN

### FOR HOLLAND ROAD

### CITY OF MENIFEE, CALIFORNIA

EMWD WO# 19227

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#### EMWD STANDARD RECYCLED WATER IRRIGATION PLAN NOTES

- THE RECYCLED WATER IRRIGATION SYSTEM SHOWN ON THESE PLANS SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE MOST RECENT EDITION OF THE EMWD RECYCLED WATER IRRIGATION GUIDELINES, AND EMWD STANDARDS AND SPECIFICATIONS.
- THE USE OF RECYCLED WATER SHALL ADHERE TO CDPH TITLE 22, DIVISION 4, CHAPTER 3 OF THE CALIFORNIA CODE OF REGULATIONS AND THE CURRENT RULES, ORDINANCES, REGULATIONS OF EMWD.
- EMWD REQUIRES THAT A PRE-CONSTRUCTION CONFERENCE BE SCHEDULED PRIOR TO ANY CONSTRUCTION BY CALLING THE EMWD FIELD ENGINEERING DEPARTMENT AT (951) 928-3777, EXTENSION 4830.
- THE EASTERN MUNICIPAL WATER DISTRICT OPERATION DEPARTMENT SHALL BE NOTIFIED TWO WORKING DAYS PRIOR TO THE START OF CONSTRUCTION AT (951) 679-3222. ALL WORK PERFORMED WITHOUT BENEFIT OF INSPECTION SHALL BE SUBJECT TO REJECTION AND REMOVAL.
- WHEN POTABLE WATER IS ONSITE, THE CDPH TITLE 22 REQUIRES A CROSS CONNECTION SHUTDOWN TEST TO PRECEDE THE FINAL RELEASE OF THE IRRIGATION SYSTEM. THIS TEST WILL BE CONDUCTED BY EMWD.
- THE RECYCLED WATER IRRIGATION PLAN IS A "LIVING" DOCUMENT OF RECORD THAT SHALL BE UPDATED IF THE PROJECT CONDITIONS, THE SITE PLAN, FACILITIES, IRRIGATED AREA, IRRIGATION DEMAND, OR DATA RELATIVE TO THE SITE CHANGES ONCE IT VARIES FROM THE ACCEPTED PLAN. DELTA REVISIONS OF THE PLAN SHALL BE AS DEEMED NECESSARY BY EMWD TO MAINTAIN ACCURATE DOCUMENT RECORDS OF THE PROJECT SITE AND LANDSCAPE IRRIGATION INSTALLATION.
- ANY PROPOSED CHANGES TO A SYSTEM DURING CONSTRUCTION MUST BE SUBMITTED TO EMWD FOR AUTHORIZATION OF THE CHANGES PRIOR TO THE CHANGE BEING MADE IN THE FIELD.
- UPON FINAL ACCEPTANCE OF AN IRRIGATION SYSTEM ANY FUTURE MODIFICATIONS MUST BE APPROVED THROUGH EMWD PRIOR TO THE START OF CONSTRUCTION.
- ALL PUBLIC AND PRIVATE POTABLE WATER MAINS INCLUDING FIRE MAINS, ANY WATER WELLS AND/OR WATER COURSES WITHIN THE RECYCLED WATER PROJECT SHALL BE SHOWN ON THE PLANS.
- DURING CONSTRUCTION, ALL RECYCLED IRRIGATION SYSTEMS SHALL BE CONNECTED TO A TEMPORARY POTABLE WATER SOURCE AT A T-METER CONNECTION TO A PUBLIC FIRE HYDRANT AS APPROVED BY EMWD. THIS CONNECTION WILL SERVE THE IRRIGATION SYSTEM WITH POTABLE WATER UNTIL THE METER IS RELEASED AT PROJECT APPROVAL. ALL TEMPORARY POTABLE CONNECTIONS FOR CONSTRUCTION OR IRRIGATION MUST BE HI-LINED THROUGH A T-METER AND AN APPROVED ABOVE GROUND REDUCED PRESSURE (RP) PRINCIPAL BACKFLOW DEVICE WITHIN 3 FEET OF METER. NO PURPLE COLORED PIPING OR APPURTENANCES SHALL BE CONNECTED TO ANY POTABLE WATER SOURCE.
- REDUCED PRESSURE (RP) PRINCIPAL BACKFLOW DEVICES MUST BE APPROVED AND TESTED BY AN EMWD APPROVED BACKFLOW TESTER (A LIST OF APPROVED TESTERS ARE AVAILABLE UPON REQUEST).
- CROSS CONNECTIONS BETWEEN RECYCLED WATER LINES AND POTABLE WATER LINES ARE STRICTLY PROHIBITED. FINES MAY BE LEVIED.
- INTERCONNECTION OF IRRIGATION PRESSURE SUPPLY MAINLINES ORIGINATING FROM MORE THAN ONE METER IS STRICTLY PROHIBITED.
- NO PONDING, RUNOFF OR OVERSPRAY IS PERMITTED. ADJUST ALL SPRINKLER HEADS TO MINIMIZE OVERSPRAY ONTO SIDEWALKS, STREETS, DRINKING FOUNTAINS, DECORATIVE FOUNTAINS, COMFORT STATIONS, PLAYGROUND EQUIPMENT, PICNIC TABLES, BBQ, PRIVATE LOTS, POTABLE WATER AREAS AND EQUIPMENT, FOOD PREPARATION, OUTDOOR EATING AREAS, OR NON-DESIGNATED USE AREAS MUST NOT BE SUBJECT TO RECYCLED WATER OVERSPRAY, WINDBLOWN SPRAY, RUNOFF, PONDING, OR UNAUTHORIZED USE. LACK OF PREVENTION, WHETHER BY DESIGN, CONSTRUCTION PRACTICE, OR SYSTEM OPERATION, IS STRICTLY PROHIBITED.
- HOSE BIBS ARE STRICTLY PROHIBITED ON RECYCLED WATER SYSTEMS. POTABLE QUICK COUPLERS ARE NOT ALLOWED WITHIN THE RECYCLED WATER IRRIGATED AREA.
- QUICK COUPLING VALVES SHALL BE OF A TYPE APPROVED FOR RECYCLED WATER USE WITH BRASS CONSTRUCTION, A SPECIAL QUICK COUPLER KEY WITH AN ACME THREAD FOR OPENING AND CLOSING THE VALVE. QUICK COUPLER VALVES CANNOT BE LOCATED WITHIN 50 FEET OF FOOD PREPARATION, OUTDOOR EATING AREAS, OR DESIGNATED CHILDREN PLAY EQUIPMENT OR WITHIN THE FENCED PERIMETER SURROUNDING SWIMMING POOLS.
- ALL NEW ON-SITE RECYCLED WATER PIPING INSTALLED ON THIS PROJECT SHALL BE PURPLE IN COLOR, PANTONE 522C AND IDENTIFIED IN ACCORDANCE WITH THE CURRENT CDPH GUIDELINES AND EASTERN MUNICIPAL WATER DISTRICTS STANDARDS AND SPECIFICATIONS.
- WARNING TAPE FOR THE RECYCLED WATER PIPING SHALL BE PURPLE IN COLOR, PANTONE 522C, WITH THE WORDS "CAUTION: RECYCLED WATER" IMPRINTED IN MINIMUM 1 INCH HIGH LETTERS. IMPRINTING SHALL BE CONTINUOUS AND PERMANENT. THE WARNING TAPE SHALL BE INSTALLED CONTINUOUSLY ABOVE THE NEW RECYCLED WATER IRRIGATION MAINLINE.
- WARNING SIGNS AND LABELS SHALL READ "CAUTION: RECYCLED WATER DO NOT DRINK" AND INCLUDE THE INTERNATIONAL SYMBOL FOR DO NOT DRINK. THE LOCATION FOR WARNING SIGNS SHALL BE AS CALLED OUT ON THE PLANS AND AT BOTH SIDES OF ALL DRIVEWAY AND WALKWAY ENTRANCES, AT RECYCLED WATER METERS AND POSTED EVERY 500' ALONG THE RECYCLED WATER USE SITE PERIMETER. FINAL FIELD LOCATIONS SHALL BE AS DIRECTED BY THE DISTRICT REPRESENTATIVE.

- EACH AUTOMATIC CONTROLLER AND ITS ASSOCIATED EQUIPMENT SHALL BE IDENTIFIED WITH A SIGN BEARING THE WORDS "CAUTION: RECYCLED WATER DO NOT DRINK", WITH LETTERS AT LEAST 1 INCH HIGH ON A PURPLE BACKGROUND AND WITH A "DO NOT DRINK" SYMBOL SIGN. THE SIGNS SHALL BE PLACED AS TO BE READILY SEEN BY ANY OPERATIONS PERSONNEL UTILIZING THE EQUIPMENT.
- SIGNS OR DECALS WITH "RECYCLED WATER, DO NOT DRINK" AND THE DO NOT DRINK SYMBOL MUST BE POSTED ON PUMP CABINETS, AND ALL ENCLOSURES.
- RECYCLED WATER SPRINKLERS / SPRAY HEADS MUST HAVE PURPLE CAPS, PURPLE COLLARS, AND THE RISERS HAVE A RECYCLED WATER DECAL. LARGE THROW HEADS MUST HAVE PURPLE INSERTS. PURPLE CAPS AND COLLARS MUST BE FIRMLY AFFIXED TO SPRINKLER HEADS. ALL OTHER ABOVE GROUND EQUIPMENTS MUST BE COLORED PURPLE OR HAVE A "RECYCLED WATER, DO NOT DRINK" DECAL OR SIGN.
- ALL AUTOMATIC CONTROLLERS MUST BE SET TO OPERATE BETWEEN THE HOURS OF 9:00 P.M. AND 6:00 A.M. UNLESS OTHERWISE PERMITTED BY EMWD.
- EDUCATE ALL MAINTENANCE PERSONNEL ON A CONTINUOUS BASIS OF THE PRESENCE OF RECYCLED WATER. PERSONNEL MUST BE INFORMED THAT RECYCLED WATER IS MEANT FOR IRRIGATION PURPOSES ONLY, AND IS NOT APPROVED FOR DRINKING PURPOSES, HAND WASHING, CLEANING OF TOOLS, ETC.

IN CASE OF EMERGENCY, CONTACT GREG ODEN AT (951) 654-1505 OR AFTER HOURS, CONTACT GREG ODEN AT (951) 306-5016

- AN ON-SITE USER/SUPERVISOR SHALL BE DESIGNATED IN WRITING. THIS INDIVIDUAL SHALL BE FAMILIAR WITH PLUMBING SYSTEMS WITHIN THE PROPERTY, WITH THE BASIC CONCEPTS OF BACKFLOW/CROSS CONNECTION PROTECTION, THE RECYCLED PURVEYOR'S RULES AND REGULATIONS, AND THE SPECIFIC REQUIREMENTS OF A RECYCLED WATER SYSTEM. SAID PERSON IS REQUIRED TO PROVIDE A 24 HOUR CONTACT PHONE NUMBER AND ATTEND APPROVED SITE SUPERVISOR CLASS. COPIES OF THE DESIGNATION, WITH CONTACT PHONE NUMBERS SHALL BE PROVIDED TO EASTERN MUNICIPAL WATER DISTRICT.
- FAILURE TO COMPLY WITH THESE NOTES AND EMWD'S RULES AND REGULATIONS IS A VIOLATION AND COULD RESULT IN SUSPENSION OF SERVICE UNTIL THE APPROPRIATE CORRECTIVE STEPS HAVE BEEN TAKEN.

#### LANDSCAPE MAINTENANCE RESPONSIBILITY NOTE

IT SHALL BE THE RESPONSIBILITY OF VALLEY-WIDE RECREATION AND PARK DISTRICT TO MAINTAIN ALL ON SITE RECYCLED WATER IRRIGATION IN ACCORDANCE WITH EMWD ORDINANCE 68 LATEST EDITION.

#### EMWD TIME LIMITATION NOTE

THE TIME LIMIT ON DRAWING APPROVAL SHALL BE SIX (6) MONTHS FROM THE DATE OF PLAN APPROVAL. IF CONSTRUCTION HAS NOT COMMENCED WITHIN THE STATED TIME, EMWD REQUIRES DRAWING(S) TO BE REVIEWED BY THE DESIGN ENGINEER AND/OR ARCHITECT AND RESUBMITTED TO EMWD FOR POSSIBLE CHANGES IN MASTER PLANNED FACILITIES, SPECIFICATIONS AND STANDARDS.

#### EMWD STANDARD NOTE

INSTALLATION NOTES  
THE RECYCLED WATER IRRIGATION SYSTEM SHOWN ON THESE PLANS SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE MOST RECENT EDITION OF THE EASTERN MUNICIPAL WATER DISTRICT STANDARDS AND SPECIFICATIONS.

#### COLOR CODING NOTES

- ALL IRRIGATION RISERS, DRIP LINE, AND COMPONENTS THAT ARE NOT AVAILABLE FROM THE MANUFACTURE WITH PURPLE RECYCLED WATER IDENTIFICATION SHALL BE LABELED WITH RECYCLED WATER DECALS OR STICKERS.
- ALL IRRIGATION COMPONENTS AND VALVES MUST HAVE A RECYCLED WATER ID TAG AND A VALVE ID TAG IN A VALVE BOX WITH A PURPLE LID. THE PURPLE LID SHALL BE HEAT BRANDED WITH THE VALVE LABEL.
- ROTOR HEADS MAY BE PAINTED PURPLE WHEN REPLACEMENT CAPS OR COLLARS ARE NOT AVAILABLE. CONTRACTOR TO SUBMIT QUANTITIES, MANUFACTURER AND MODEL NUMBER OF THE HEAD TO EMWD FOR APPROVAL.

RECYCLED WATER AND POTABLE WATER SEPARATION CLEARANCE NOTE  
THE RECYCLED WATER IRRIGATION MAINLINE IS SHOWN DIAGRAMMATICALLY FOR CLARITY PURPOSES ONLY. THE RECYCLED WATER IRRIGATION MAINLINE MUST:

- BE INSTALLED WITH A 4' (FOOT) MINIMUM HORIZONTAL CLEARANCE FROM ALL POTABLE WATERLINES AND FIRE LINES.
- BE INSTALLED WITH A 1' (FOOT) OF VERTICAL CLEARANCE AND BE LOCATED UNDER ALL POTABLE WATERLINES AND FIRE LINES.
- WHERE THE RECYCLED WATER IRRIGATION MAINLINES MUST BE INSTALLED ABOVE THE POTABLE WATERLINE, A 4" (INCH) MINIMUM VERTICAL CLEARANCE MUST BE MAINTAINED AND THE RECYCLED WATER IRRIGATION MAINLINE MUST BE INSTALLED IN A CONTINUOUS SLEEVE (PVC CLASS 200 PIPE MINIMUM) WHICH EXTENDS A MINIMUM OF 10' (FEET) EACH SIDE OF THE POTABLE WATERLINE OR FIRE LINE.

#### IRRIGATION NOTES

- CONTRACTOR SHALL CAREFULLY PERFORM WORK TO INSURE THAT NO SERVICE INTERRUPTION OF DOMESTIC WATER OCCURS DURING OPERATION HOURS. CONTRACTOR SHALL NOTIFY THE DISTRICT 24 HOURS PRIOR TO ANY SCHEDULED SHUTDOWN OF DOMESTIC OR IRRIGATION WATER.
- IRRIGATION WATER SUPPLY SHALL NOT BE TERMINATED FOR ANY PERIOD LONGER THAN 24 HOURS. IN THE EVENT THAT WATER IS TERMINATED LONGER THAN 24 HOURS, CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGES TO ANY LANDSCAPE RELATED TO LACK OF WATER.
- CONTRACTOR SHALL DISCONNECT AND CAP ALL EXISTING MAINLINE AT LOCATIONS AS SHOWN ON THE PLANS. ALL FITTINGS (INCLUDING CAPS) 3" AND SMALLER SHALL BE SCH 80 PVC AND ALL FITTINGS LARGER THAN 3" SHALL BE LEMCO IRON DUCTILE RESTRAINTS.
- ALL NEW WORK SHALL COMPLY WITH CURRENT DISTRICT STANDARDS AND SPECIFICATIONS.
- ALL NEW PRESSURE LINE PIPING SHALL BE PRESSURE TESTED PER EMWD REQUIREMENTS BEFORE CONNECTING TO ANY EXISTING MAINLINE. ANY EXISTING MAINLINE WILL NOT BE REQUIRED TO BE PRESSURE TESTED.
- CONTRACTOR SHALL SLEEVE ALL EXISTING POTABLE PRESSURE LINE PIPING WITHIN 4 FEET OF ANY NEW RECYCLED WATER LINE AS REQUIRED BY EMWD. LOCATIONS OF DOMESTIC WATER PIPING IS SHOWN ON PLANS TO BE THE BEST KNOWLEDGE OF EMWD. IN THE EVENT ANY DISCREPANCY BETWEEN FIELD CONDITIONS AND PLANS, THE CONTRACTOR SHALL BE RESPONSIBLE FOR INSTALLING SEPARATIONS SLEEVING AS REQUIRED BY EMWD WITHOUT ADDITIONAL COMPENSATION.
- ALL EXISTING VALVE BOXES THAT ARE UNEVEN, OUT OF PLUMB, ABOVE OR BELOW GRADE SHALL BE ADJUSTED TO GRADE PER DISTRICT DETAILS.
- ALL NEW VALVES AND PIPING SHALL BE MEASURED AND AS-BUILT PER EMWD REQUIREMENTS PRIOR TO BACKFILLING. ALL EXISTING PIPING LOCATED DURING CONSTRUCTION SHALL BE IDENTIFIED, MEASURED AND INCLUDED WITH THE AS-BUILTS.
- ALL NEW PURPLE VALVE BOX LID SHALL BE HEAT BRANDED TO INDICATE THE CORRESPONDING CONTROLLER AND STATION NUMBER PER DISTRICT DETAIL.
- INSTALL PURPLE CAPS FOR ALL SPRAY HEADS AND ROTORS THAT ARE CONNECTED TO RECYCLED WATER SYSTEM.
- CONTRACTOR TO LOCATE AND REDLINE (DOCUMENT) ALL POTABLE AND FIRE WATER LINE ON-SITE FACILITIES WITHIN CLOSE PROXIMITY OF NEW RECYCLED WATER LINES.
- ALL WORK SHALL CONFORM TO EASTERN MUNICIPAL WATER DISTRICT'S CURRENT STANDARDS, SPECIFICATIONS AND GUIDELINES FOR RECYCLED WATER.
- IN THE EVENT OF ANY DISCREPANCY BETWEEN PLANS AND EMWD STANDARD GUIDELINES / SPECIFICATIONS, THE SPECIFICATIONS SHALL TAKE PRECEDENCE OVER PLANS AS DETERMINED BY THE DISTRICT.
- CONTRACTOR SHALL CONTACT UNDERGROUND SERVICE ALERT PRIOR TO ANY DIGGING AND SHALL BE RESPONSIBLE FOR ANY DAMAGED UTILITIES.
- CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR REPAIRING AND OR REPLACING ANY DAMAGE TO EXISTING LANDSCAPE AND IRRIGATION REQUIRED TO RETROFIT PROJECT TO RECYCLED WATER.
- CONTRACTOR IS RESPONSIBLE FOR FAMILIARIZING HIM / HERSELF WITH EXISTING SITE CONDITIONS PRIOR TO SUBMITTAL OF BID.
- IF FIELD CONDITIONS ARE DIFFERENT FROM WHAT IS SHOWN ON THE PLANS, THE CONTRACTOR IS RESPONSIBLE FOR NOTIFYING THE OWNER'S AUTHORIZED REPRESENTATIVE PRIOR TO CONTINUING WITH SITE IMPROVEMENTS.
- ANY COMPONENTS OF THE IRRIGATION SYSTEM WHICH ARE REPLACED / REPAIRED MUST BE REPLACED WITH PURPLE RECYCLED WATER COMPONENTS PER EMWD STANDARDS.
- ALL WORK MUST CONFORM TO VALLEY-WIDE RECREATION AND PARK DISTRICT STANDARDS AND SPECIFICATIONS. IN THE EVENT OF ANY CONFLICT BETWEEN STANDARDS, THE MORE STRINGENT STANDARD SHALL PREVAIL, UNLESS OTHERWISE APPROVED BY BOTH EMWD AND VALLEY-WIDE.

**HOLD HARMLESS AND INDEMNIFICATION CLAUSE**  
CONTRACTOR AGREES TO ASSUME SOLE 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, THE CSA, COUNTY OF LOCAL JURISDICTION, THE CITY OF MENIFEE, VALLEY-WIDE RECREATION AND PARK DISTRICT AND EASTERN MUNICIPAL WATER DISTRICT 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, THE CSA, AND COUNTY OF LOCAL JURISDICTION.

EXISTING POTABLE IRRIGATION DATA TABLE				
EXISTING POTABLE METER LOCATION	EXISTING P.O.C. DESIGNATION	SERVICE ORDER (SO) NUMBER	HISTORICAL USAGE (AF/Y)	EXISTING POTABLE METER SIZE (IN.)
Holland Rd	A	202884	5.9	2
Holland Rd	B	209955	3.4	2
Millbury Rd	C	224965	2.7	1

#### RECYCLED METER INFORMATION TABLE

POC ID	POC STA.	DWG #	IRRIGATED AREA (SF)	DEMAND (GPM)	ANNUAL USAGE ACRE FEET	LATERAL SIZE (IN.)	METER SIZE (IN.)
POC #1			126,000	70	9.3	2"	2"
POC #2			27,800	50	2.7	2"	1.5"
TOTAL			153,800	120	12.0		

CUSTOMER ACKNOWLEDGES AND AGREES THAT THIS DESIGN AND PLAN IS CONSISTENT WITH CUSTOMER'S OWN STANDARDS AND FIT FOR ITS INTENDED PURPOSE.

NAME \_\_\_\_\_

TITLE \_\_\_\_\_

SIGNATURE \_\_\_\_\_ DATE \_\_\_\_\_

**DIG ALERT**



Call: TOLL FREE  
1-800-227-2600  
OR  
811

TWO FULL WORKING DAYS BEFORE YOU DIG

BENCH MARK DESCRIPTION: \_\_\_\_\_

LOCATION: \_\_\_\_\_

VERTICAL DATUM: \_\_\_\_\_

HORIZONTAL DATUM: \_\_\_\_\_

ACCEPTED BY: \_\_\_\_\_

VALLEY-WIDE RECREATION AND PARK DISTRICT

DEPARTMENT	ACCEPTANCE	DATE
	<i>[Signature]</i>	6/17/19

ACCEPTED BY: \_\_\_\_\_

EASTERN MUNICIPAL WATER DISTRICT

DATE	BY	MARK

SENIOR CIVIL ENGINEER \_\_\_\_\_ DATE \_\_\_\_\_

DEPARTMENT	ACCEPTANCE	DATE
NEW BUSINESS P.C.		
OPERATIONS		
ENGINEERING		
POS ENGINEER		

DATE: 03/25/2019

DRAWN BY: HNCC

CHECKED BY: ENGINEER

DESCRIPTION

ACCEPTED BY: \_\_\_\_\_

HOLLAND ROAD  
MENIFEE, CA.

RECYCLED WATER IRRIGATION RETROFIT IMPROVEMENTS

**TITLE SHEET**

WO: 19227

PCWO: \_\_\_\_\_

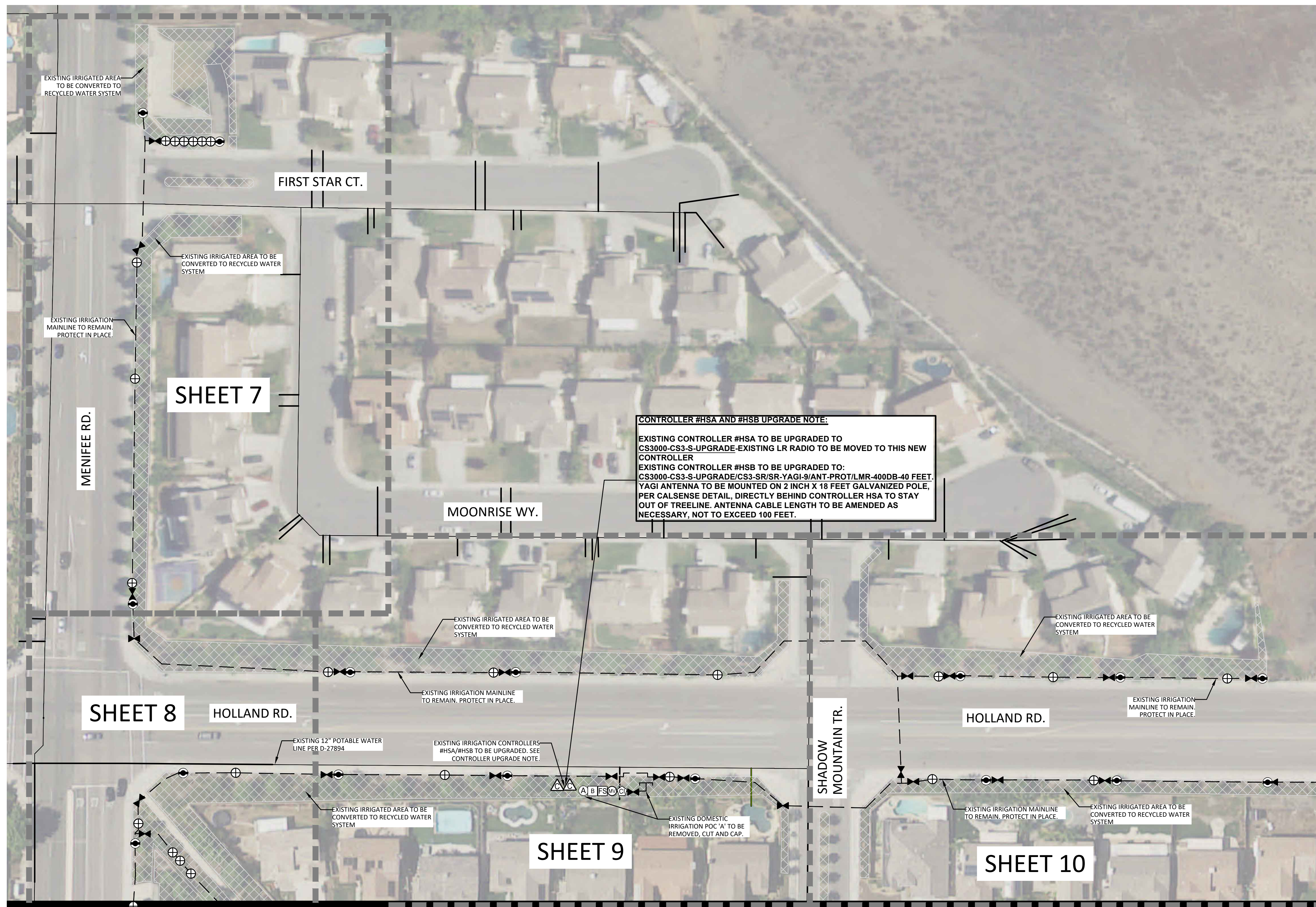
DOPP: RWJW: \_\_\_\_\_

COORD. RWJUP: \_\_\_\_\_

I.D. SHT. 1 OF 22

S.A. D-





**CONTROLLER #HSA AND #HSB UPGRADE NOTE:**  
 EXISTING CONTROLLER #HSA TO BE UPGRADED TO CS3000-CS3-S-UPGRADE-EXISTING LR RADIO TO BE MOVED TO THIS NEW CONTROLLER  
 EXISTING CONTROLLER #HSB TO BE UPGRADED TO: CS3000-CS3-S-UPGRADE/CS3-SR/SR-YAGI-9/ANT-PROT/LMR-400DB-40 FEET. YAGI ANTENNA TO BE MOUNTED ON 2 INCH X 18 FEET GALVANIZED POLE, PER CALSENSE DETAIL, DIRECTLY BEHIND CONTROLLER HSA TO STAY OUT OF TREELINE. ANTENNA CABLE LENGTH TO BE AMENDED AS NECESSARY, NOT TO EXCEED 100 FEET.

**EMWD STANDARD NOTE**

**CONSTRUCTION NOTE**  
 EASTERN MUNICIPAL WATER DISTRICT REQUIRES THAT A PRE-CONSTRUCTION CONFERENCE BE SCHEDULED PRIOR TO ANY CONSTRUCTION BY CALLING THE EASTERN MUNICIPAL WATER DISTRICT FIELD ENGINEERING DEPARTMENT AT (951) 928-3777, EXTENSION 4830.

**INSTALLATION NOTES**  
 • ALL IRRIGATION EMISSION DEVICES, SUCH AS SPRAY HEADS, ROTORS, BUBBLERS, DRIP EMITTERS, OR DRIP ASSEMBLIES SHALL BE IDENTIFIED WITH PURPLE IDENTIFICATION BODIES, COLLARS, CAPS, CONNECTORS, ADAPTERS, ETC. TO PERMANENTLY LABEL THE COMPONENTS AS EMITTING RECYCLED IRRIGATION WATER. THE PURPLE IDENTIFICATION SHALL BE EXPOSED TO THE SURFACE.  
 • ALL IRRIGATION RISERS, DRIP LINE, AND COMPONENTS THAT ARE NOT AVAILABLE FROM THE MANUFACTURE WITH PURPLE RECYCLED WATER IDENTIFICATION SHALL BE LABELED WITH RECYCLED WATER DECALS OR STICKERS.  
 • ALL IRRIGATION COMPONENTS AND VALVES MUST HAVE A RECYCLED WATER ID TAG AND A VALVE ID TAG IN A PURPLE VALVE BOX WITH A PURPLE LID. THE PURPLE LID SHALL BE HEAT BRANDED WITH THE VALVE LABEL.

**COLOR CODING NOTES**  
 • ALL IRRIGATION EMISSION DEVICES, SUCH AS SPRAY HEADS, ROTORS, BUBBLERS, DRIP EMITTERS, OR DRIP ASSEMBLIES SHALL BE IDENTIFIED WITH PURPLE IDENTIFICATION BODIES, COLLARS, CAPS, CONNECTORS, ADAPTERS, ETC. TO PERMANENTLY LABEL THE COMPONENTS AS EMITTING RECYCLED IRRIGATION WATER. THE PURPLE IDENTIFICATION SHALL BE EXPOSED TO THE SURFACE.  
 • ALL IRRIGATION RISERS, DRIP LINE, AND COMPONENTS THAT ARE NOT AVAILABLE FROM THE MANUFACTURE WITH PURPLE RECYCLED WATER IDENTIFICATION SHALL BE LABELED WITH RECYCLED WATER DECALS OR STICKERS.  
 • ALL IRRIGATION COMPONENTS AND VALVES MUST HAVE A RECYCLED WATER ID TAG AND A VALVE ID TAG IN A PURPLE VALVE BOX WITH A PURPLE LID. THE PURPLE LID SHALL BE HEAT BRANDED WITH THE VALVE LABEL.

**RECYCLED WATER AND POTABLE WATER SEPARATION CLEARANCE NOTE**  
 THE RECYCLED WATER IRRIGATION MAINLINE IS SHOWN DIAGRAMMATICALLY FOR CLARITY PURPOSES ONLY. THE RECYCLED WATER IRRIGATION MAINLINE MUST:

- BE INSTALLED WITH A 4' (FOOT) MINIMUM HORIZONTAL CLEARANCE FROM ALL POTABLE WATERLINES AND FIRE LINES.
- BE INSTALLED WITH A 1' (FOOT) OF VERTICAL CLEARANCE AND BE LOCATED UNDER ALL POTABLE WATERLINES AND FIRE LINES.
- WHERE THE RECYCLED WATER IRRIGATION MAINLINES MUST BE INSTALLED ABOVE THE POTABLE WATERLINE, A 4" (INCH) MINIMUM VERTICAL CLEARANCE MUST BE MAINTAINED AND THE RECYCLED WATER IRRIGATION MAINLINE MUST BE INSTALLED IN A CONTINUOUS SLEEVE (PVC CLASS 200 PIPE MINIMUM) WHICH EXTENDS A MINIMUM OF 10' (FEET) EACH SIDE OF THE POTABLE WATERLINE OR FIRE LINE.

**RECYCLED WATER IRRIGATION LEGEND:**

SYMBOL	DESCRIPTION
	RECYCLED ISOLATION VALVE
	RECYCLED REMOTE CONTROL VALVE
	RECYCLED QUICK COUPLER VALVE
	RECYCLED IRRIGATION CONTROLLER
	RECYCLED IRRIGATION BOOSTER PUMP
	RECYCLED IRRIGATION WATER METER
	RECYCLED DOUBLE-CHECK BACKFLOW
	RECYCLED STRAINER
	RECYCLED MASTER VALVE
	RECYCLED FLOW SENSOR
	RECYCLED FERTILIZER INJECTOR
	RECYCLED IRRIGATION MAINLINE (PROPOSE)
	RECYCLED IRRIGATION MAINLINE (EXISTING)

**POTABLE WATER LEGEND:**

SYMBOL	DESCRIPTION
	POTABLE WATER METER
	POTABLE BACKFLOW PREVENTER

MATCHLINE SEE INDEX MAP SHEET 3

MATCHLINE SEE INDEX MAP SHEET 4

**RECYCLED WATER RETROFIT CONSTRUCTION NOTE**

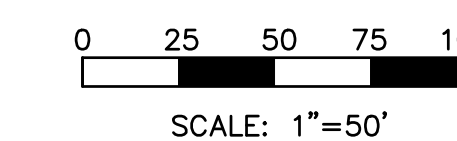
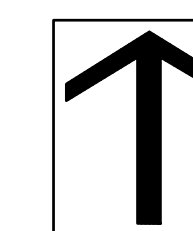
CONTRACTOR TO INSTALL RECYCLED WATER PURPLE CAP ON ALL OVERHEAD SPRAYS AND ROTORS.  
 CONTRACTOR TO REPLACE ALL EXISTING VALVE BOXES' LID THAT ARE CONNECTED TO NEW RECYCLED WATER SYSTEM TO PURPLE COLOR PER EMWD REQUIREMENTS.

**VALVE BOX NOTE:**

1. CONTRACTOR TO REPLACE EXISTING VALVE BOXES' LID ONLY. VALVE BOX LID SHALL BE PURPLE AND HEAT BRANDED WITH REMOTE CONTROL VALVE STATION AND COMPONENT IDENTIFICATION.
2. CONTRACTOR TO ADJUST EXISTING VALVE BOXES TO GRADE PER VALLEY-WIDE STANDARD AND INSTALL RECYCLED WATER ID TAG.
3. ALL DAMAGED VALVE BOXES SHALL BE REPLACED WITH NEW PURPLE COLOR VALVE BOX AND HEAT BRANDED LID AND INSTALL RECYCLED WATER ID TAG WITHIN THE BOX.

**IRRIGATION SCHEDULING RUN TIME NOTE:**

PROPOSE NEW RECYCLED WATER POC #1 WILL SERVE EXISTING POTABLE WATER POC #A, AND #B. COMBINED IRRIGATION SCHEDULE FOR POC #A AND #B NOT TO EXCEED THE MAXIMUM FLOW OF 50 GPM AT ANY IRRIGATION DAY. POC #2 WILL SERVE EXISTING POTABLE POC #C WITH MAXIMUM FLOW NOT TO EXCEED 50 GPM.



**DIG ALERT**  
 Call: TOLL FREE 1-800-227-2600 OR 811  
 TWO FULL WORKING DAYS BEFORE YOU DIG

**BENCH MARK**  
 DESCRIPTION: \_\_\_\_\_  
 LOCATION: \_\_\_\_\_  
 VERTICAL DATUM: \_\_\_\_\_  
 HORIZONTAL DATUM: \_\_\_\_\_

ACCEPTED BY: VALLEY-WIDE RECREATION AND PARK DISTRICT

DEPARTMENT	ACCEPTANCE	DATE
	<i>[Signature]</i>	6/17/19

REVISIONS

DATE	BY	MARK	DESCRIPTION
03/25/2019	HNCC		
	ENGINEER		

DATE: 03/25/2019  
 DRAWN BY: HNCC  
 CHECKED BY: ENGINEER

ACCEPTED BY: EASTERN MUNICIPAL WATER DISTRICT

DEPARTMENT	ACCEPTANCE	DATE
NEW BUSINESS P.C.		
OPERATIONS		
ENGINEERING		
POS ENGINEER		

**HOLLAND ROAD**  
 MENIFEE, CA.  
 RECYCLED WATER IRRIGATION RETROFIT IMPROVEMENTS  
 INDEX MAP

WO: 19227  
 PCWO:  
 DOPP: RWUJ:  
 COORD: RWUP:  
 I.D. SHT. 2 OF 22  
 S.A. D-



# MATCHLINE SEE INDEX MAP SHEET 2



### EMWD STANDARD NOTE

**CONSTRUCTION NOTE**  
 EASTERN MUNICIPAL WATER DISTRICT REQUIRES THAT A PRE-CONSTRUCTION CONFERENCE BE SCHEDULED PRIOR TO ANY CONSTRUCTION BY CALLING THE EASTERN MUNICIPAL WATER DISTRICT FIELD ENGINEERING DEPARTMENT AT (951) 928-3777, EXTENSION 4830.

### INSTALLATION NOTES

- THE RECYCLED WATER IRRIGATION SYSTEM SHOWN ON THESE PLANS SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE MOST RECENT EDITION OF THE EASTERN MUNICIPAL WATER DISTRICT STANDARDS AND SPECIFICATIONS FOR DEVELOPER'S PROJECTS.
- HOSE BIBS ARE STRICTLY PROHIBITED ON RECYCLED WATER IRRIGATION SYSTEMS. POTABLE QUICK COUPLERS ARE NOT ALLOWED WITHIN THE RECYCLED WATER IRRIGATION AREA.

### COLOR CODING NOTES

- ALL IRRIGATION EMISSION DEVICES, SUCH AS SPRAY HEADS, ROTORS, BUBBLERS, DRIP EMITTERS, OR DRIP ASSEMBLIES SHALL BE IDENTIFIED WITH PURPLE IDENTIFICATION BODIES, COLLARS, CAPS, CONNECTORS, ADAPTERS, ETC. TO PERMANENTLY LABEL THE COMPONENTS AS EMITTING RECYCLED IRRIGATION WATER. THE PURPLE IDENTIFICATION SHALL BE EXPOSED TO THE SURFACE.
- ALL IRRIGATION RISERS, DRIP LINE, AND COMPONENTS THAT ARE NOT AVAILABLE FROM THE MANUFACTURE WITH PURPLE RECYCLED WATER IDENTIFICATION SHALL BE LABELED WITH RECYCLED WATER DECALS OR STICKERS.
- ALL IRRIGATION COMPONENTS AND VALVES MUST HAVE A RECYCLED WATER ID TAG AND A VALVE ID TAG IN A PURPLE VALVE BOX WITH A PURPLE LID. THE PURPLE LID SHALL BE HEAT BRANDED WITH THE VALVE LABEL.

**RECYCLED WATER AND POTABLE WATER SEPARATION CLEARANCE NOTE**  
 THE RECYCLED WATER IRRIGATION MAINLINE IS SHOWN DIAGRAMMATICALLY FOR CLARITY PURPOSES ONLY. THE RECYCLED WATER IRRIGATION MAINLINE MUST:

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- BE INSTALLED WITH A 1' (FOOT) OF VERTICAL CLEARANCE AND BE LOCATED UNDER ALL POTABLE WATERLINES AND FIRE LINES.
- WHERE THE RECYCLED WATER IRRIGATION MAINLINES MUST BE INSTALLED ABOVE THE POTABLE WATERLINE, A 4" (INCH) MINIMUM VERTICAL CLEARANCE MUST BE MAINTAINED AND THE RECYCLED WATER IRRIGATION MAINLINE MUST BE INSTALLED IN A CONTINUOUS SLEEVE (PVC CLASS 200 PIPE MINIMUM) WHICH EXTENDS A MINIMUM OF 10' (FEET) EACH SIDE OF THE POTABLE WATERLINE OR FIRE LINE.

MATCHLINE SEE INDEX MAP SHEET 5

RECYCLED WATER IRRIGATION LEGEND:	
SYMBOL	DESCRIPTION
	RECYCLED ISOLATION VALVE
	RECYCLED REMOTE CONTROL VALVE
	RECYCLED QUICK COUPLER VALVE
	RECYCLED IRRIGATION CONTROLLER
	RECYCLED IRRIGATION BOOSTER PUMP
	RECYCLED IRRIGATION WATER METER
	RECYCLED DOUBLE-CHECK BACKFLOW
	RECYCLED STRAINER
	RECYCLED MASTER VALVE
	RECYCLED FLOW SENSOR
	RECYCLED FERTILIZER INJECTOR
	RECYCLED IRRIGATION MAINLINE (PROPOSE)
	RECYCLED IRRIGATION MAINLINE (EXISTING)

POTABLE WATER LEGEND:	
SYMBOL	DESCRIPTION
	POTABLE WATER METER
	POTABLE BACKFLOW PREVENTER

### RECYCLED WATER RETROFIT CONSTRUCTION NOTE

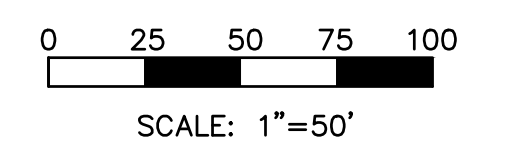
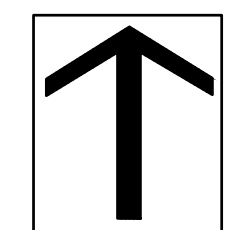
CONTRACTOR TO INSTALL RECYCLED WATER PURPLE CAP ON ALL OVERHEAD SPRAYS AND ROTORS.  
 CONTRACTOR TO REPLACE ALL EXISTING VALVE BOXES' LID THAT ARE CONNECTED TO NEW RECYCLED WATER SYSTEM TO PURPLE COLOR PER EMWD REQUIREMENTS.

### IRRIGATION SCHEDULING RUN TIME NOTE:

PROPOSE NEW RECYCLED WATER POC #1 WILL SERVE EXISTING POTABLE WATER POC #A, AND #B. COMBINED IRRIGATION SCHEDULE FOR POC #A AND #B NOT TO EXCEED THE MAXIMUM FLOW OF 50 GPM AT ANY IRRIGATION DAY. POC #2 WILL SERVE EXISTING POTABLE POC #C WITH MAXIMUM FLOW NOT TO EXCEED 50 GPM.

### VALVE BOX NOTE:

1. CONTRACTOR TO REPLACE EXISTING VALVE BOXES' LID ONLY. VALVE BOX LID SHALL BE PURPLE AND HEAT BRANDED WITH REMOTE CONTROL VALVE STATION AND COMPONENT IDENTIFICATION.
2. CONTRACTOR TO ADJUST EXISTING VALVE BOXES TO GRADE PER VALLEY-WIDE STANDARD AND INSTALL RECYCLED WATER ID TAG.
3. ALL DAMAGED VALVE BOXES SHALL BE REPLACED WITH NEW PURPLE COLOR VALVE BOX AND HEAT BRANDED LID AND INSTALL RECYCLED WATER ID TAG WITHIN THE BOX.



**DIG ALERT**  
 Call: TOLL FREE  
 1-800-227-2600  
 OR  
 811  
 TWO FULL WORKING DAYS BEFORE YOU DIG

BENCH MARK DESCRIPTION: \_\_\_\_\_  
 LOCATION: \_\_\_\_\_  
 VERTICAL DATUM: \_\_\_\_\_  
 HORIZONTAL DATUM: \_\_\_\_\_

ACCEPTED BY: VALLEY-WIDE RECREATION AND PARK DISTRICT		
DEPARTMENT	ACCEPTANCE	DATE
		6/17/19

REVISIONS			
DATE	BY	MARK	DESCRIPTION
03/25/2019	HNCC		
	ENGINEER		

ACCEPTED BY: EASTERN MUNICIPAL WATER DISTRICT		
DEPARTMENT	ACCEPTANCE	DATE
NEW BUSINESS P.C.		
OPERATIONS		
ENGINEERING		
POS ENGINEER		

HOLLAND ROAD  
 MENIFEE, CA.  
 RECYCLED WATER IRRIGATION RETROFIT  
 IMPROVEMENTS  
**INDEX MAP**

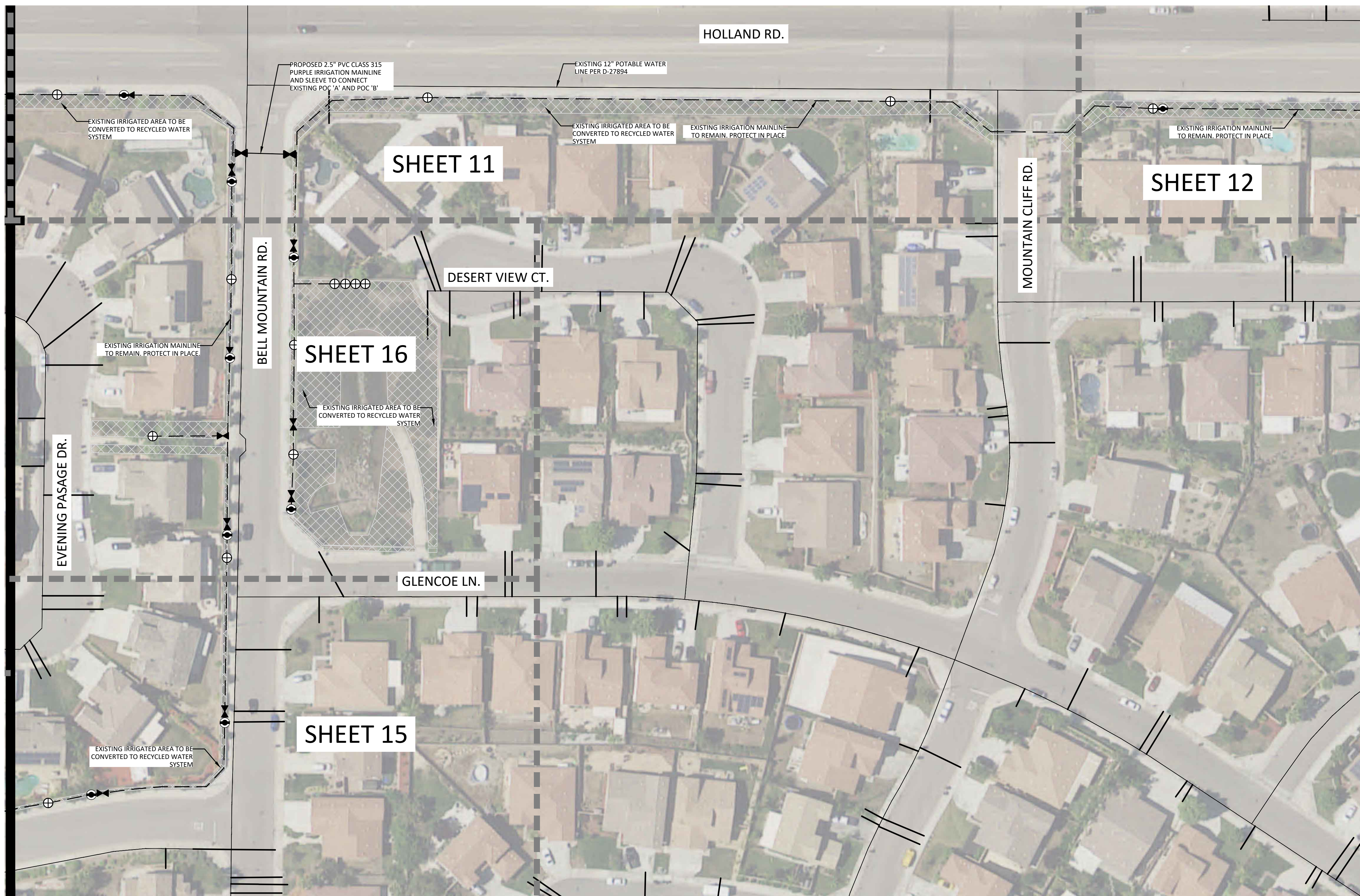
WO: 19227
PCWO:
DOPP: RWJW:
COORD: RWUP:
I.D. SHT. 3 OF 22
S.A. D-



MATCHLINE SEE INDEX MAP SHEET 2

MATCHLINE SEE INDEX MAP SHEET 3

MATCHLINE SEE INDEX MAP SHEET 5



**EMWD STANDARD NOTE**

**CONSTRUCTION NOTE**  
EASTERN MUNICIPAL WATER DISTRICT REQUIRES THAT A PRE-CONSTRUCTION CONFERENCE BE SCHEDULED PRIOR TO ANY CONSTRUCTION BY CALLING THE EASTERN MUNICIPAL WATER DISTRICT FIELD ENGINEERING DEPARTMENT AT (951) 928-3777, EXTENSION 4830.

**INSTALLATION NOTES**

- THE RECYCLED WATER IRRIGATION SYSTEM SHOWN ON THESE PLANS SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE MOST RECENT EDITION OF THE EASTERN MUNICIPAL WATER DISTRICT STANDARDS AND SPECIFICATIONS FOR DEVELOPER'S PROJECTS.
- HOSE BIBS ARE STRICTLY PROHIBITED ON RECYCLED WATER IRRIGATION SYSTEMS. POTABLE QUICK COUPLERS ARE NOT ALLOWED WITHIN THE RECYCLED WATER IRRIGATION AREA.

**COLOR CODING NOTES**

- ALL IRRIGATION EMISSION DEVICES, SUCH AS SPRAY HEADS, ROTORS, BUBBLERS, DRIP EMITTERS, OR DRIP ASSEMBLIES SHALL BE IDENTIFIED WITH PURPLE IDENTIFICATION BODIES, COLLARS, CAPS, CONNECTORS, ADAPTERS, ETC. TO PERMANENTLY LABEL THE COMPONENTS AS EMITTING RECYCLED IRRIGATION WATER. THE PURPLE IDENTIFICATION SHALL BE EXPOSED TO THE SURFACE.
- ALL IRRIGATION RISERS, DRIP LINE, AND COMPONENTS THAT ARE NOT AVAILABLE FROM THE MANUFACTURE WITH PURPLE RECYCLED WATER IDENTIFICATION SHALL BE LABELED WITH RECYCLED WATER DECALS OR STICKERS.
- ALL IRRIGATION COMPONENTS AND VALVES MUST HAVE A RECYCLED WATER ID TAG AND A VALVE ID TAG IN A PURPLE VALVE BOX WITH A PURPLE LID. THE PURPLE LID SHALL BE HEAT BRANDED WITH THE VALVE LABEL.

**RECYCLED WATER AND POTABLE WATER SEPARATION CLEARANCE NOTE**  
THE RECYCLED WATER IRRIGATION MAINLINE IS SHOWN DIAGRAMMATICALLY FOR CLARITY PURPOSES ONLY. THE RECYCLED WATER IRRIGATION MAINLINE MUST:

- BE INSTALLED WITH A 4' (FOOT) MINIMUM HORIZONTAL CLEARANCE FROM ALL POTABLE WATERLINES AND FIRE LINES.
- BE INSTALLED WITH A 1' (FOOT) OF VERTICAL CLEARANCE AND BE LOCATED UNDER ALL POTABLE WATERLINES AND FIRE LINES.
- WHERE THE RECYCLED WATER IRRIGATION MAINLINES MUST BE INSTALLED ABOVE THE POTABLE WATERLINE, A 4" (INCH) MINIMUM VERTICAL CLEARANCE MUST BE MAINTAINED AND THE RECYCLED WATER IRRIGATION MAINLINE MUST BE INSTALLED IN A CONTINUOUS SLEEVE (PVC CLASS 200 PIPE MINIMUM) WHICH EXTENDS A MINIMUM OF 10' (FEET) EACH SIDE OF THE POTABLE WATERLINE OR FIRE LINE.

RECYCLED WATER IRRIGATION LEGEND:	
SYMBOL	DESCRIPTION
	RECYCLED ISOLATION VALVE
	RECYCLED REMOTE CONTROL VALVE
	RECYCLED QUICK COUPLER VALVE
	RECYCLED IRRIGATION CONTROLLER
	RECYCLED IRRIGATION BOOSTER PUMP
	RECYCLED IRRIGATION WATER METER
	RECYCLED DOUBLE-CHECK BACKFLOW
	RECYCLED STRAINER
	RECYCLED MASTER VALVE
	RECYCLED FLOW SENSOR
	RECYCLED FERTILIZER INJECTOR
	RECYCLED IRRIGATION MAINLINE (PROPOSE)
	RECYCLED IRRIGATION MAINLINE (EXISTING)

POTABLE WATER LEGEND:	
SYMBOL	DESCRIPTION
	POTABLE WATER METER
	POTABLE BACKFLOW PREVENTER

**RECYCLED WATER RETROFIT CONSTRUCTION NOTE**

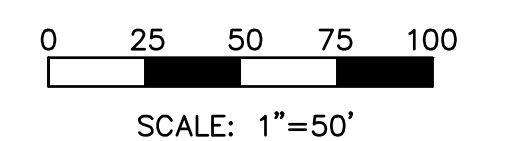
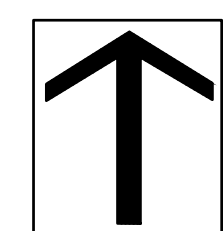
CONTRACTOR TO INSTALL RECYCLED WATER PURPLE CAP ON ALL OVERHEAD SPRAYS AND ROTORS.  
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DESCRIPTION: \_\_\_\_\_

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VERTICAL DATUM: \_\_\_\_\_

HORIZONTAL DATUM: \_\_\_\_\_

ACCEPTED BY: \_\_\_\_\_

VALLEY-WIDE RECREATION AND PARK DISTRICT

DEPARTMENT	ACCEPTANCE	DATE
	<i>[Signature]</i>	6/17/19

REVISIONS			
DATE	BY	MARK	DESCRIPTION
03/25/2019	HNCC		
	ENGINEER		

DATE: 03/25/2019  
DRAWN BY: HNCC  
CHECKED BY: ENGINEER

ACCEPTED BY: \_\_\_\_\_

EASTERN MUNICIPAL WATER DISTRICT

SENIOR CIVIL ENGINEER \_\_\_\_\_ DATE \_\_\_\_\_

DEPARTMENT	ACCEPTANCE	DATE
NEW BUSINESS P.C.		
OPERATIONS		
ENGINEERING		
POS ENGINEER		

**HOLLAND ROAD**  
MENIFEE, CA.

**RECYCLED WATER IRRIGATION RETROFIT IMPROVEMENTS**

**INDEX MAP**

WO: 19227	
PCWO:	
DOPP: RWUJ:	
COORD. RWUP:	
I.D. SHT. 4 OF 22	
S.A. D-	







**EMWD STANDARD NOTE**

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**Dynamic Pressure Loss Calculation**

Client Name:	VALLEY-WIDE RECREATION AND PARK DISTRICT
Project Name:	HOLLAND ROAD, MENIFEE, CA
Water Meter / POC No.:	2 / POC #6
Domestic / Recycled:	RECYCLED
Static Pressure:	95 psi
Water Source & Phone #:	EMWD (951) 928-3777
Date:	May 5, 2018
Valve Station No.:	D-7
Valve Flow Rate:	26 gpm

Equipment	Size	Flow	Length / Qty.	PSI Loss	
Water Meter	1 1/2 in.	50 gpm	N/A	4.9 psi	
Basket Strainer	2 in.	50 gpm	N/A	2.0 psi	
Mainline (PVC)	2 1/2 in.	50 gpm	110 ft.	0.8 psi	
Mainline (PVC)	2 in.	26 gpm	600 ft.	2.9 psi	
Master Valve	2 in.	50 gpm	N/A	0.8 psi	
Flow Meter	2 in.	50 gpm	N/A	0.0 psi	
Gate Valve	2 in.	50 gpm	1	0.1 psi	
Remote Control Valve	1 in.	26 gpm	N/A	2.9 psi	
Lateral Line	VARIES	VARIES	VARIES	4.0 psi	
Fittings (Estimate 10%)	N/A	N/A	N/A	1.8 psi	
				Elevation Change	0.0 psi
				Pressure Req. to Operate Heads	30.0 psi
				Total Pressure Required	50.3 psi
				Available Residual Pressure	44.6 psi

**RECYCLED WATER RETROFIT CONSTRUCTION NOTE**

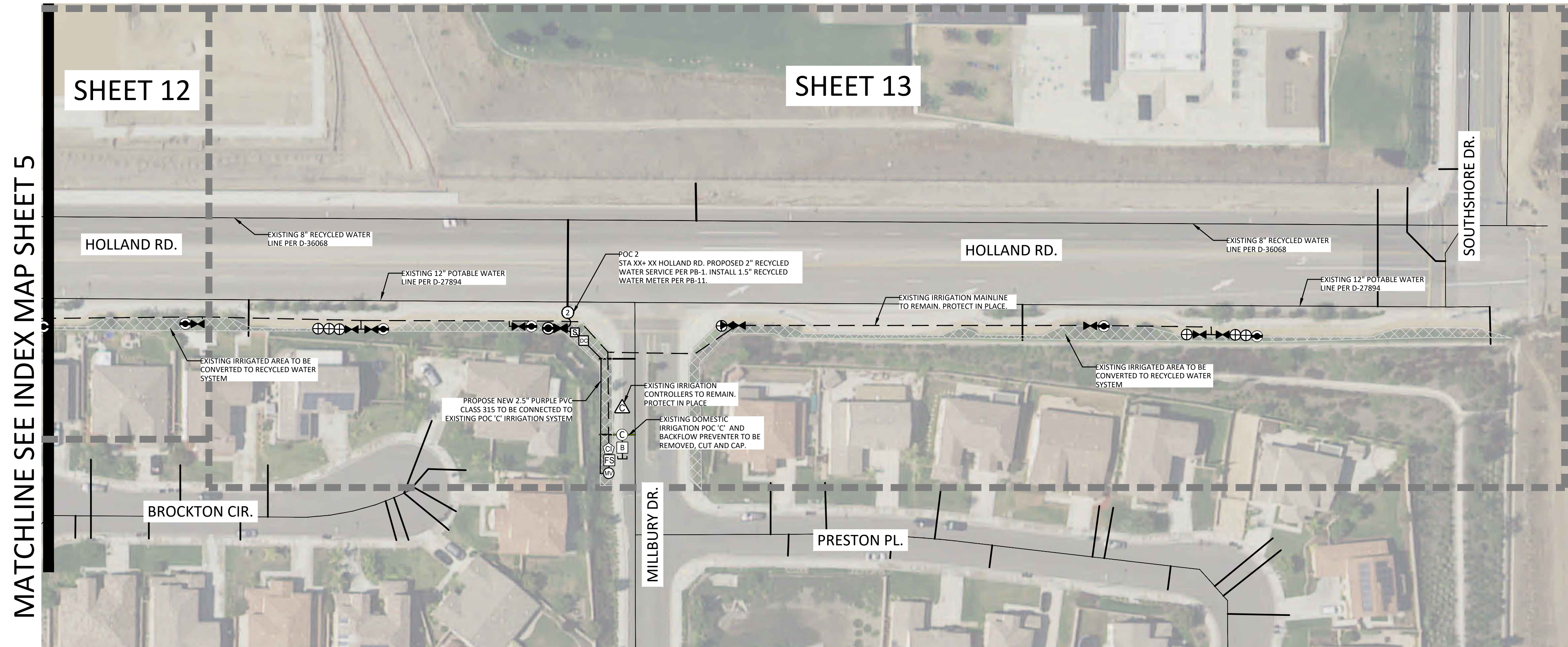
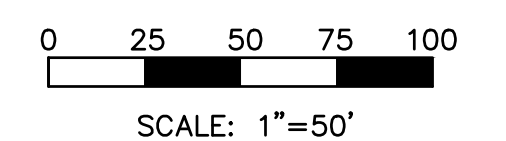
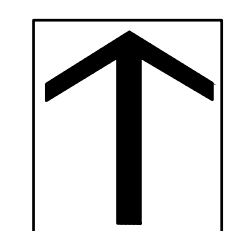
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POC METER DATA TABLE	
WATER METER #6	
P.O.C. DESIGNATION	2
STREET STATION	XXX+XX
SERVICE LATERAL LINE SIZE (IN)	2
RECYCLED WATER METER SIZE (IN)	1.5
EMWD METER DETAIL REFERENCE NUMBER	PB-11
DESIGN MAX FLOW (GPM)	50
CHEMICAL INJECTION SYSTEM (Y/N)	YES
BOOSTER PUMP (PSI BOOST)	XX
METER ELEVATION (FT)	XXXX
PRESSURE RANGE (PSI)	0 - 80 PSI
DESIGN PRESSURE (PSI)	50
TOTAL AREA SERVED (SF)	27,800 SF.
ANNUAL WATER USAGE (ACRE/FT)	2.7 AF/YR
EMWD REFERENCE DRAWING NUMBER	D-XXXX
INITIAL SOURCE OF WATER SUPPLY	RECYCLED
IRRIGATION TYPE (DRIP, SPRAY, ROTOR, ETC)	DRIP/EMITTER
WATER WINDOW RESTRICTED	YES

**RECYCLED WATER IRRIGATION LEGEND:**

SYMBOL	DESCRIPTION
	RECYCLED ISOLATION VALVE
	RECYCLED REMOTE CONTROL VALVE
	RECYCLED QUICK COUPLER VALVE
	RECYCLED IRRIGATION CONTROLLER
	RECYCLED IRRIGATION BOOSTER PUMP
	RECYCLED IRRIGATION WATER METER
	RECYCLED DOUBLE-CHECK BACKFLOW
	RECYCLED STRAINER
	RECYCLED MASTER VALVE
	RECYCLED FLOW SENSOR
	RECYCLED FERTILIZER INJECTOR
	RECYCLED IRRIGATION MAINLINE (PROPOSE)
	RECYCLED IRRIGATION MAINLINE (EXISTING)

**POTABLE WATER LEGEND:**

SYMBOL	DESCRIPTION
	POTABLE WATER METER
	POTABLE BACKFLOW PREVENTER

**DIG ALERT**

Call: TOLL FREE  
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ACCEPTED BY:  
 VALLEY-WIDE RECREATION AND PARK DISTRICT

DEPARTMENT: \_\_\_\_\_ ACCEPTANCE: \_\_\_\_\_ DATE: 6/17/19

DESCRIPTION: \_\_\_\_\_

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DATE	BY	MARK	DESCRIPTION
03/25/2019	HNCC		
	ENGINEER		

ACCEPTED BY:  
 EASTERN MUNICIPAL WATER DISTRICT

DEPARTMENT: \_\_\_\_\_ ACCEPTANCE: \_\_\_\_\_ DATE: \_\_\_\_\_

DESCRIPTION: \_\_\_\_\_

ACCEPTED BY:  
 HOLLAND ROAD  
 MENIFEE, CA.

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DESCRIPTION: \_\_\_\_\_

WO: 19227

PCWO: \_\_\_\_\_

DOPP: \_\_\_\_\_ RWJW: \_\_\_\_\_

COORD. \_\_\_\_\_ RWJUP: \_\_\_\_\_

I.D. \_\_\_\_\_ SHT. 6 OF 22

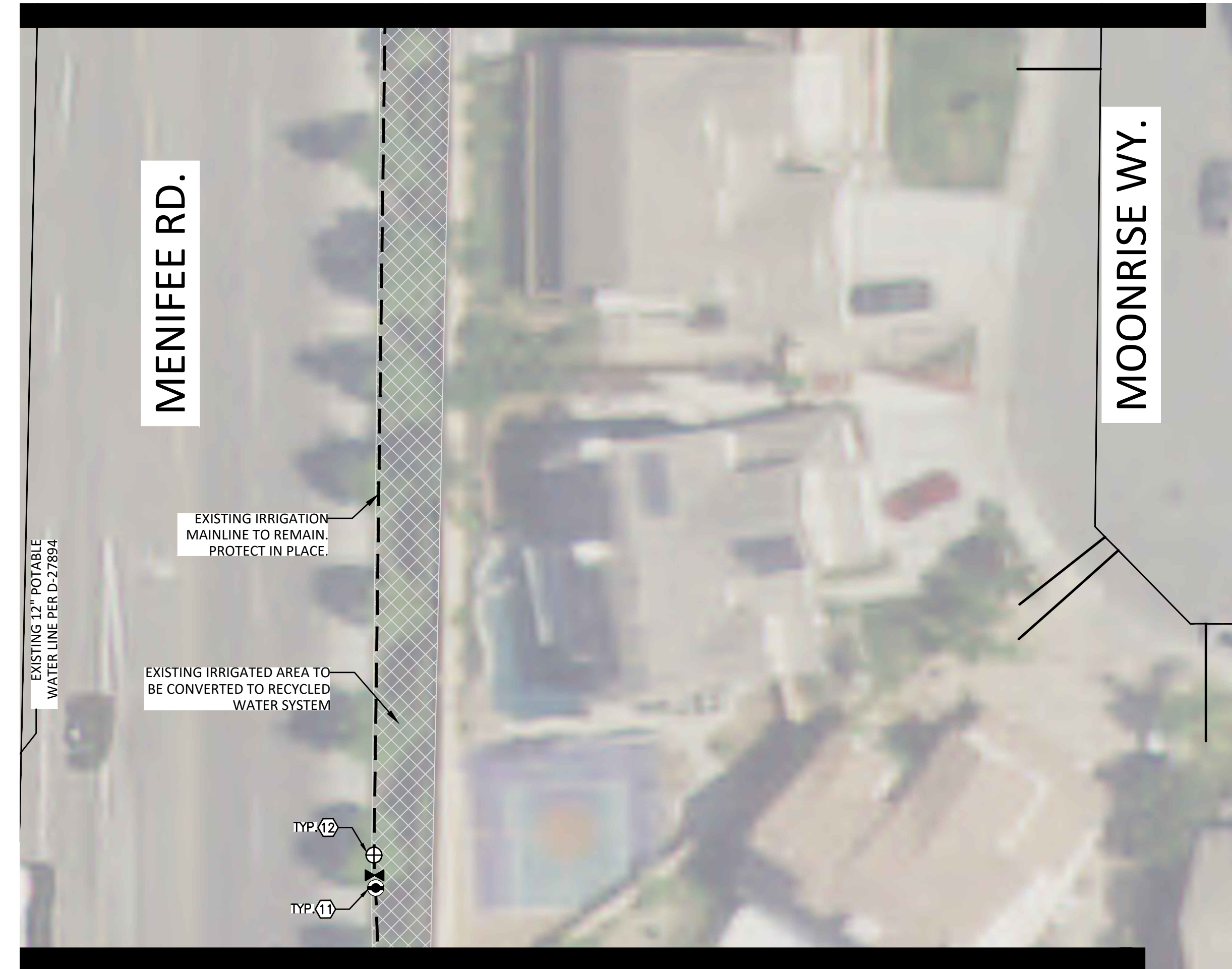
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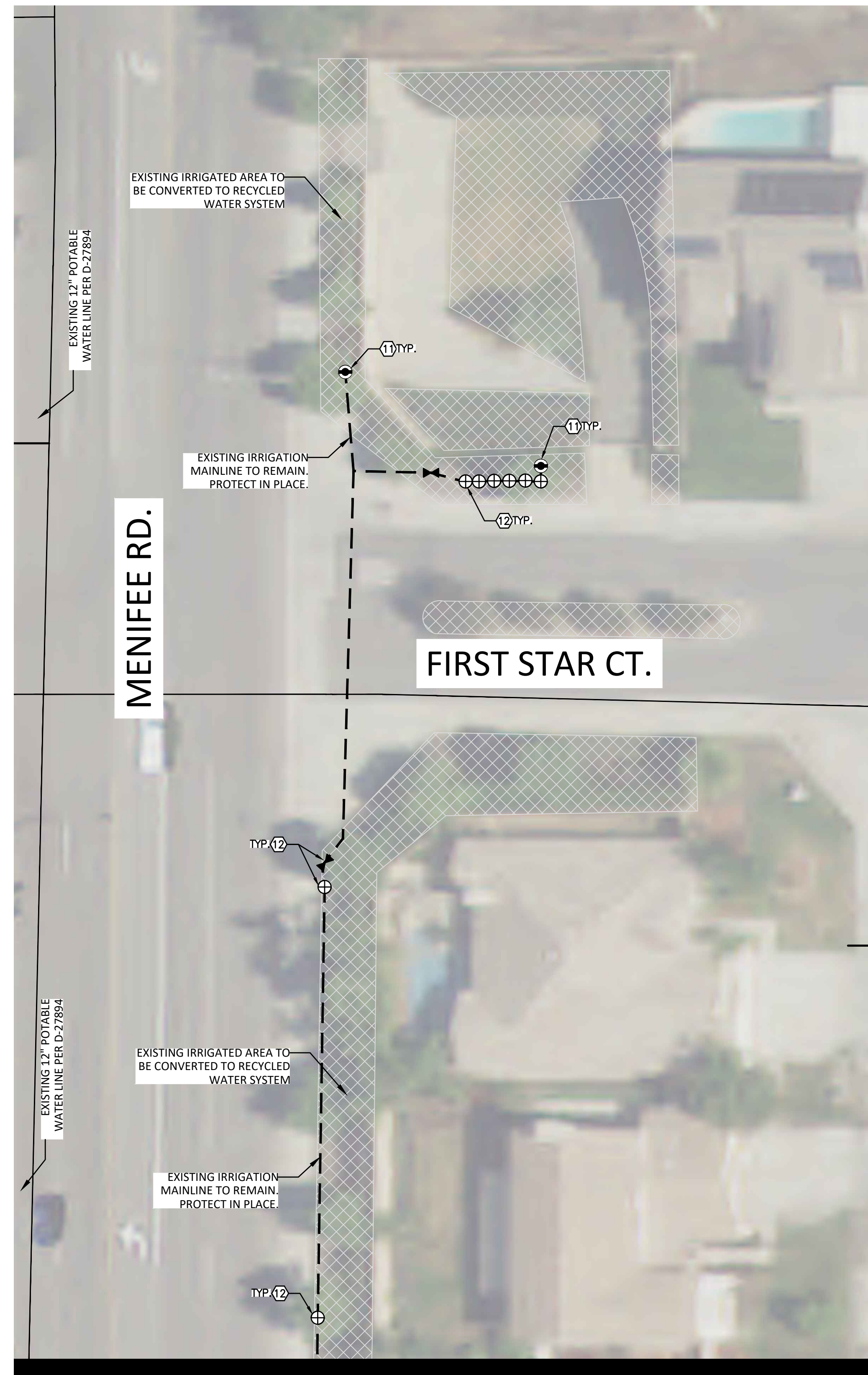
**CONSTRUCTION LEGEND**

SYMBOL	DESCRIPTION
①	INSTALL NEW 2" RECYCLED WATER METER PER EMWD STANDARD PB-10. WATER METER WILL BE PROVIDED BY EMWD.
②	PROVIDE AND INSTALL NELSON 7645 (1") QUICK COUPLER VALVE WITH ACME THREAD AND PURPLE LOCKING COVER - INSTALL PER DETAIL.
③	PROVIDE AND INSTALL YARDNEY STRAINER MCS2-1. SIZE: 2" WITH MAX. FLOW 110 GPM. INSTALL ABOVE GROUND WITH STAINLESS STEEL ENCLOSURE PER MANUFACTURER STANDARD AND DETAIL.
④	PROVIDE AND INSTALL GRISWOLD 2260 EPOXY COATED NORMALLY OPEN MASTER VALVE (SIZE: 2") PER DETAIL. RUN WIRES TO EXISTING IRRIGATION CONTROLLER LOCATION.
⑤	PROVIDE AND INSTALL CALSENSE FLOW SENSOR FM-2 (SIZE: 2"). INSTALL PER DETAIL. RUN WIRES TO EXISTING IRRIGATION CONTROLLER LOCATION.
⑥	PROVIDE AND INSTALL 1" BALL VALVE INSIDE ROUND PURPLE VALVE BOX.
⑦	PROVIDE AND INSTALL 3" CLASS 200 PVC PURPLE RECYCLED WATER IRRIGATION MAINLINE WITH DUCTILE IRON FITTINGS (24" DEEP MIN.) AND CONNECT TO EXISTING IRRIGATION POC AS SHOWN ON PLAN.
⑧	PROVIDE AND INSTALL 14GA. VALVE WIRES FOR FLOW SENSOR AND MASTER VALVE INSIDE A 1.5" PVC SCH.40 CONDUIT. CONNECT TO EXISTING IRRIGATION CONTROLLER.
⑨	PROVIDE AND INSTALL RECYCLED WATER SIGNAGE PER EMWD STANDARD. EXACT LOCATION WILL BE DETERMINED BY EMWD INSPECTOR.
⑩	CUT AND CAP EXISTING IRRIGATION MAINLINE-PROVIDE A MINIMUM OF 4FT. SEPARATION AND REMOVE UNUSED PIPE. REMOVE EXISTING BACKFLOW PREVENTER AND EQUIPMENT
⑪	REPLACE EXISTING QUICK COUPLER WITH NELSON 7645 (1") QUICK COUPLER VALVE WITH ACME THREAD AND PURPLE LOCKING COVER - INSTALL PER DETAIL.
⑫	REPLACE ALL EXISTING IRRIGATION VALVE BOX'S LIDS WITH PURPLE RECYCLED WATER AND LABEL ACCORDINGLY.
⑬	INSTALL NEW 1.5" RECYCLED WATER METER PER EMWD STANDARD PB-11. WATER METER WILL BE PROVIDED BY EMWD.
⑭	EXISTING DOMESTIC IRRIGATION WATER METER TO BE REMOVED (BY OTHERS)
⑮	CONNECT PROPOSE NEW MASTER VALVE AND FLOW SENSOR WIRES TO EXISTING CONTROLLER. ADJUST EXISTING CONTROLLER FOR HIGH-FLOW SHUT-OFF SETTING.
⑯	INSTALL 6" PVC PURPLE CLASS 200 SLEEVE AND 2.5" PVC PURPLE CLASS 315 IRRIGATION MAINLINE. SLEEVE MUST BE BURY MINIMUM OF 36" FROM FINISH GRADE OR PER THE CITY STANDARD.
⑰	INSTALL GATE VALVE NIBCO T-113 SIZE TO MATCH MAINLINE SIZE. INSTALL PER DETAIL.
⑱	INSTALL 850 SMALL DOUBLE CHECK BACKFLOW PREVENTER (SIZE: 2" TO MATCH STRAINER) WITH STAINLESS STEEL ENCLOSURE. INSTALL PER DETAIL.
⑲	REMOVE AND CAP EXISTING REMOTE CONTROL VALVES THAT IRRIGATE THE BOTTOM OF THE BASIN. LATERAL LINES SHALL BE ABANDONED IN PLACE.

MATCHLINE 'A' SEE BELOW LEFT



MATCHLINE SEE SHEET 8



MATCHLINE 'A' SEE ABOVE RIGHT

**RECYCLED WATER IRRIGATION LEGEND:**

SYMBOL	DESCRIPTION
⊘	RECYCLED ISOLATION VALVE
⊕	RECYCLED REMOTE CONTROL VALVE
⊙	RECYCLED QUICK COUPLER VALVE
⊗	RECYCLED IRRIGATION CONTROLLER
⊕	RECYCLED FERTILIZER INJECTOR
⊗	RECYCLED DOUBLE-CHECK BACKFLOW
⊙	RECYCLED IRRIGATION WATER METER
⊗	RECYCLED IRRIGATION STRAINER
⊕	RECYCLED IRRIGATION MASTER VALVE
⊗	RECYCLED IRRIGATION FLOW SENSOR
—	RECYCLED IRRIGATION MAINLINE (PROPOSE)
- -	RECYCLED IRRIGATION MAINLINE (EXISTING)

**POTABLE WATER LEGEND:**

SYMBOL	DESCRIPTION
⊕	POTABLE WATER METER
⊗	POTABLE BACKFLOW PREVENTER

**VALVE BOX NOTE:**

ALL DAMAGED VALVE BOXES SHALL BE REPLACED WITH NEW PURPLE COLOR VALVE BOX. SIZE TO MATCH EXISTING.

**POTABLE AND RECYCLED WATER SEPARATION NOTE:**

RECYCLED MAINLINE (CONSTANT PRESSURE) SHOWN DIAGRAMMATICALLY FOR CLARITY ONLY. ACTUAL LOCATION MUST PROVIDE A MINIMUM FOUR (4) FEET HORIZONTAL CLEARANCE BETWEEN ALL POTABLE AND CONSTANT PRESSURE RECYCLED WATERLINES. RECYCLED WATER MAINLINE SHOULD BE INSTALLED UNDER POTABLE WATERLINES AND MAINTAIN ONE (1) FOOT OF VERTICAL CLEARANCE. WHERE THE RECYCLED WATER CONSTANT PRESSURE LINE MUST BE INSTALLED ABOVE THE POTABLE WATERLINE, A FOUR (4) INCH MINIMUM VERTICAL CLEARANCE MUST BE MAINTAINED AND THE RECYCLED WATER PRESSURE LINE MUST BE INSTALLED IN A CONTINUOUS PVC CLASS 200 PIPE SLEEVE WHICH EXTENDS A MINIMUM OF TEN (10) FEET EACH SIDE OF THE POTABLE WATERLINE.

**COLOR CODING**

SPRINKLERS, ROTOR HEADS AND OTHER TYPES OF DISPERSION HEADS SHALL HAVE THE EXPOSED SURFACE COLORED PURPLE. THE EXPOSED SURFACE SHALL BE COLORED THROUGH THE USE OF INTEGRALLY MOLDED PURPLE PLASTIC OR PERMANENTLY ATTACHED PURPLE PLASTIC RING OR DISC. VALVE BOX LIDS SHALL BE PURPLE PER INDUSTRY STANDARDS. THE LIDS SHALL HAVE THE WARNING "RECYCLED: DO NOT DRINK" IN ENGLISH AND SPANISH AND THE INTERNATIONAL "DO NOT DRINK" ON ONE SIDE AND "PELIGRO: AGUA IMPURA-NO BEBER" ON THE OPPOSITE SIDE. ALL SHRUB HEADS SHALL HAVE PURPLE CAPS. ROTOR HEADS MAYBE PAINTED PURPLE WHEN REPLACEMENT CAPS OR COLLARS ARE NOT AVAILABLE. CONTRACTOR TO SUBMIT QUANTITIES, MANUFACTURER AND MODEL NUMBER OF THE HEAD TO EMWD FOR APPROVAL.

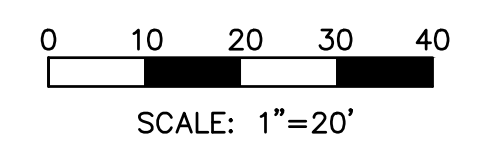
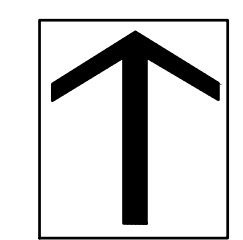
**INSTALLATION NOTES**

THE MATERIALS AND THE INSTALLATION OF THE IRRIGATION SYSTEM SHOWN ON THIS PLAN SHALL MEET THE LATEST EMWD STANDARDS AND SPECIFICATIONS AT COMMENCEMENT OF WORK. IF CONTRACTOR NOTICES ANY INCONSISTENCIES WITH THE LATEST IRRIGATION DESIGN STANDARDS, ONE SHALL IMMEDIATELY NOTIFY ALL PARTIES.

NO HOSE BIBS WILL BE ALLOWED FOR INSTALLATION ON SYSTEMS USING RECYCLED WATER.

**IRRIGATION DRAWING NOTE:**

THIS RETROFIT PLANS ARE BASED ON IRRIGATION PLANS NOT PREPARED BY EMWD / EMWD REPRESENTATIVE. EMWD AND OR EMWD REPRESENTATIVES ARE NOT RESPONSIBLE FOR THE ACCURACY OF THE INFORMATION PROVIDED HEREIN. IT ULTIMATELY THE RESPONSIBILITY OF THE CONTRACTOR TO FAMILIARIZE THEMSELVES WITH ALL EXISTING CONDITIONS, EQUIPMENT, UTILITIES AND REQUIREMENTS.



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VALLEY-WIDE RECREATION AND PARK DISTRICT

DEPARTMENT	ACCEPTANCE	DATE
	<i>[Signature]</i>	6/17/19

ACCEPTED BY: \_\_\_\_\_

EASTERN MUNICIPAL WATER DISTRICT

DATE	BY	MARK

SENIOR CIVIL ENGINEER \_\_\_\_\_ DATE \_\_\_\_\_

DEPARTMENT	ACCEPTANCE	DATE
NEW BUSINESS P.C.		
OPERATIONS		
ENGINEERING		
POS ENGINEER		

DRAWN BY: HNCC  
CHECKED BY: ENGINEER

DATE	BY	MARK
03/25/2019	HNCC	

APPR. DATE: \_\_\_\_\_

EMWD: \_\_\_\_\_

**HOLLAND ROAD**  
MENIFEE, CA.

**RECYCLED WATER IRRIGATION RETROFIT IMPROVEMENTS**

**IRRIGATION PLAN**

WO: 19227

PCWO: \_\_\_\_\_

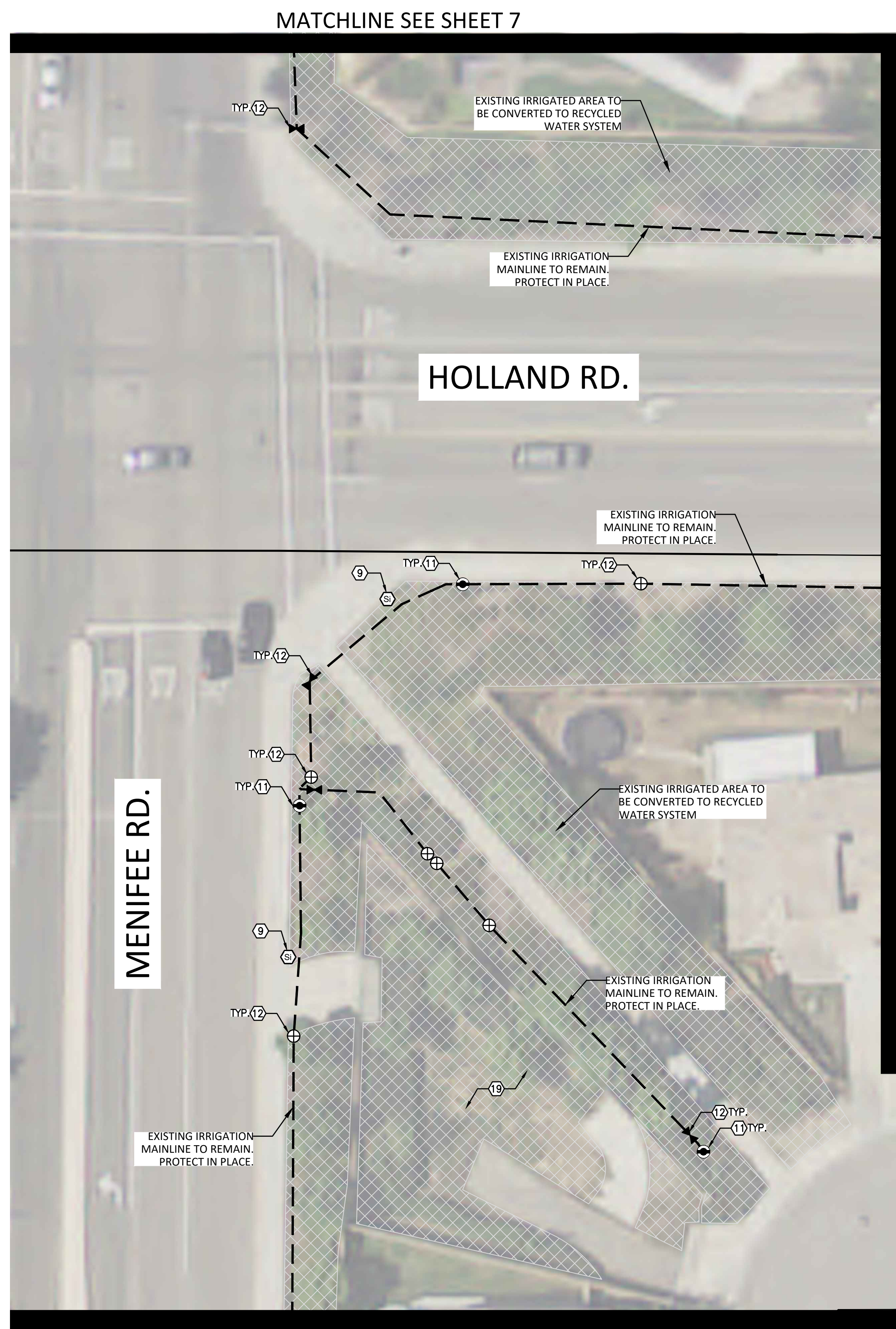
DOPP: RWUE: \_\_\_\_\_

COORD. RWUP: \_\_\_\_\_

I.D. SHT. 7 OF 22

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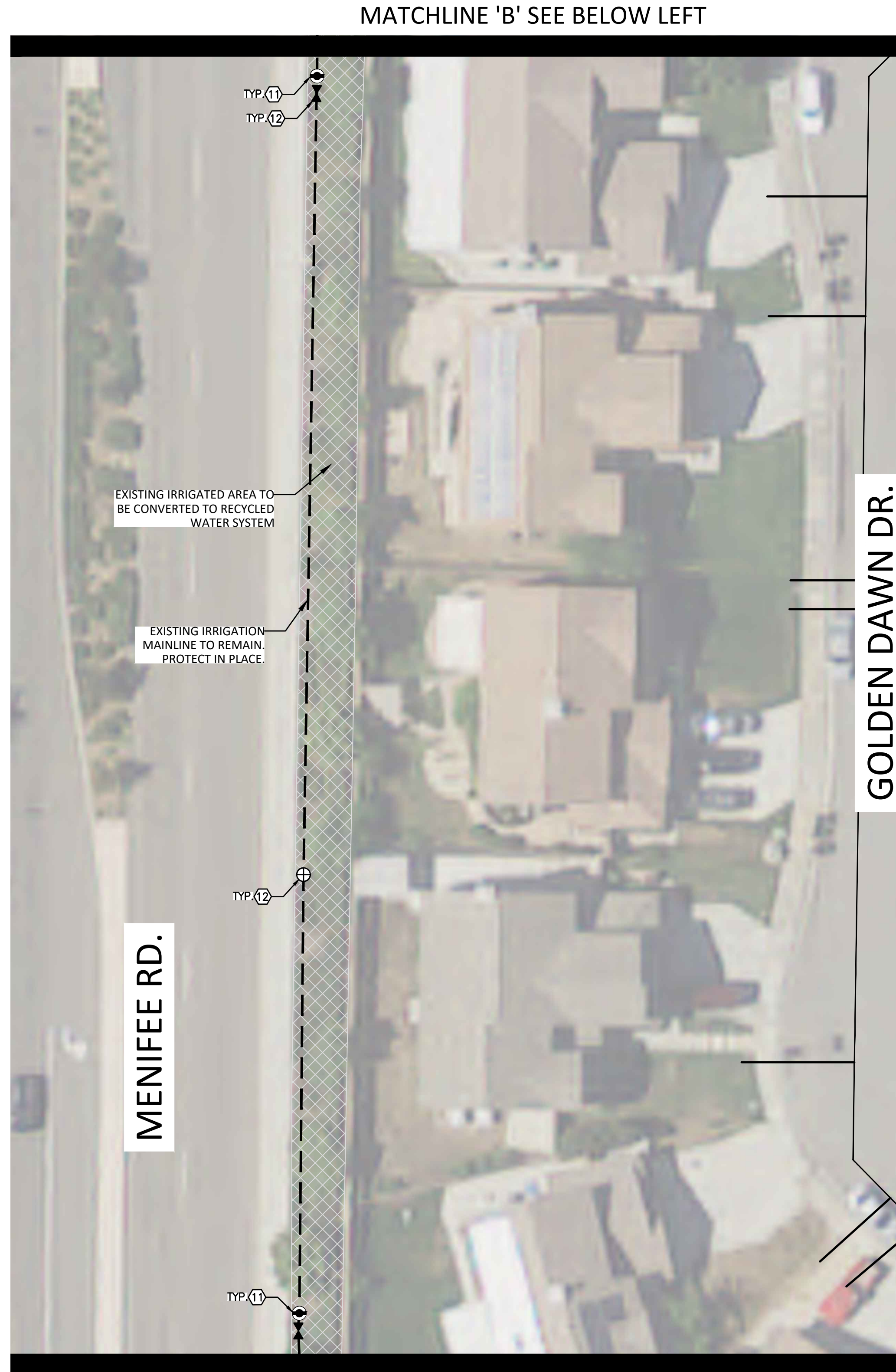
MATCHLINE SEE SHEET 7

HOLLAND RD.

MENIFEE RD.

MATCHLINE SEE SHEET 9

MATCHLINE 'B' SEE ABOVE RIGHT



MATCHLINE 'B' SEE BELOW LEFT

GOLDEN DAWN DR.

MENIFEE RD.

MATCHLINE SEE SHEET 14

CONSTRUCTION LEGEND

- | SYMBOL | DESCRIPTION  |
|--------|--|
| ①      | INSTALL NEW 2" RECYCLED WATER METER PER EMWD STANDARD PB-10. WATER METER WILL BE PROVIDED BY EMWD.   |
| ②      | PROVIDE AND INSTALL NELSON 7645 (1") QUICK COUPLER VALVE WITH ACME THREAD AND PURPLE LOCKING COVER - INSTALL PER DETAIL.   |
| ③      | PROVIDE AND INSTALL YARNEY STRAINER MCS2-1. SIZE: 2" WITH MAX. FLOW 110 GPM. INSTALL ABOVE GROUND WITH STAINLESS STEEL ENCLOSURE PER MANUFACTURER STANDARD AND DETAIL.             |
| ④      | PROVIDE AND INSTALL GRISWOLD 2260 EPOXY COATED NORMALLY OPEN MASTER VALVE (SIZE: 2") PER DETAIL. RUN WIRES TO EXISTING IRRIGATION CONTROLLER LOCATION.                             |
| ⑤      | PROVIDE AND INSTALL CALSENSE FLOW SENSOR FM-2 (SIZE: 2"). INSTALL PER DETAIL. RUN WIRES TO EXISTING IRRIGATION CONTROLLER LOCATION.  |
| ⑥      | PROVIDE AND INSTALL 1" BALL VALVE INSIDE ROUND PURPLE VALVE BOX.   |
| ⑦      | PROVIDE AND INSTALL 3" CLASS 200 PVC PURPLE RECYCLED WATER IRRIGATION MAINLINE WITH DUCTILE IRON FITTINGS (24" DEEP MIN.) AND CONNECT TO EXISTING IRRIGATION POC AS SHOWN ON PLAN. |
| ⑧      | PROVIDE AND INSTALL 14GA. VALVE WIRES FOR FLOW SENSOR AND MASTER VALVE INSIDE A 1.5" PVC SCH.40 CONDUIT. CONNECT TO EXISTING IRRIGATION CONTROLLER.                                |
| ⑨      | PROVIDE AND INSTALL RECYCLED WATER SIGNAGE PER EMWD STANDARD. EXACT LOCATION WILL BE DETERMINED BY EMWD INSPECTOR.   |
| ⑩      | CUT AND CAP EXISTING IRRIGATION MAINLINE-PROVIDE A MINIMUM OF 4FT. SEPARATION AND REMOVE UNUSED PIPE. REMOVE EXISTING BACKFLOW PREVENTER AND EQUIPMENT.                            |
| ⑪      | REPLACE EXISTING QUICK COUPLER WITH NELSON 7645 (1") QUICK COUPLER VALVE WITH ACME THREAD AND PURPLE LOCKING COVER - INSTALL PER DETAIL.   |
| ⑫      | REPLACE ALL EXISTING IRRIGATION VALVE BOX'S LIDS WITH PURPLE RECYCLED WATER AND LABEL ACCORDINGLY.   |
| ⑬      | INSTALL NEW 1.5" RECYCLED WATER METER PER EMWD STANDARD PB-11. WATER METER WILL BE PROVIDED BY EMWD.   |
| ⑭      | EXISTING DOMESTIC IRRIGATION WATER METER TO BE REMOVED (BY OTHERS)   |
| ⑮      | CONNECT PROPOSE NEW MASTER VALVE AND FLOW SENSOR WIRES TO EXISTING CONTROLLER. ADJUST EXISTING CONTROLLER FOR HIGH-FLOW SHUT-OFF SETTING.  |
| ⑯      | INSTALL 6" PVC PURPLE CLASS 200 SLEEVE AND 2.5" PVC PURPLE CLASS 315 IRRIGATION MAINLINE. SLEEVE MUST BE BURY MINIMUM OF 36" FROM FINISH GRADE OR PER THE CITY STANDARD.           |
| ⑰      | INSTALL GATE VALVE NIBCO T-113 SIZE TO MATCH MAINLINE SIZE. INSTALL PER DETAIL.  |
| ⑱      | INSTALL 850 SMALL DOUBLE CHECK BACKFLOW PREVENTER (SIZE: 2") TO MATCH STRAINER WITH STAINLESS STEEL ENCLOSURE. INSTALL PER DETAIL.   |
| ⑲      | REMOVE AND CAP EXISTING REMOTE CONTROL VALVES THAT IRRIGATE THE BOTTOM OF THE BASIN. LATERAL LINES SHALL BE ABANDONED IN PLACE.  |

**RECYCLED WATER IRRIGATION LEGEND:**

SYMBOL	DESCRIPTION
⊗	RECYCLED ISOLATION VALVE
⊕	RECYCLED REMOTE CONTROL VALVE
⊙	RECYCLED QUICK COUPLER VALVE
⊚	RECYCLED IRRIGATION CONTROLLER
⊛	RECYCLED FERTILIZER INJECTOR
⊜	RECYCLED DOUBLE-CHECK BACKFLOW
⊝	RECYCLED IRRIGATION WATER METER
⊞	RECYCLED IRRIGATION STRAINER
⊟	RECYCLED IRRIGATION MASTER VALVE
⊠	RECYCLED IRRIGATION FLOW SENSOR
—	RECYCLED IRRIGATION MAINLINE (PROPOSE)
- -	RECYCLED IRRIGATION MAINLINE (EXISTING)

**POTABLE WATER LEGEND:**

SYMBOL	DESCRIPTION
Ⓐ	POTABLE WATER METER
Ⓑ	POTABLE BACKFLOW PREVENTER

INSTALLATION NOTES

THE MATERIALS AND THE INSTALLATION OF THE IRRIGATION SYSTEM SHOWN ON THIS PLAN SHALL MEET THE LATEST EMWD STANDARDS AND SPECIFICATIONS AT COMMENCEMENT OF WORK. IF CONTRACTOR NOTICES ANY INCONSISTENCIES WITH THE LATEST IRRIGATION DESIGN STANDARDS, ONE SHALL IMMEDIATELY NOTIFY ALL PARTIES.

NO HOSE BIBS WILL BE ALLOWED FOR INSTALLATION ON SYSTEMS USING RECYCLED WATER.

IRRIGATION DRAWING NOTE:

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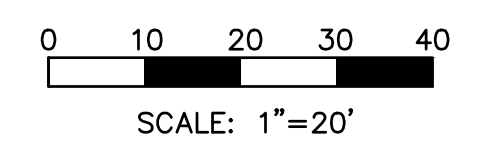
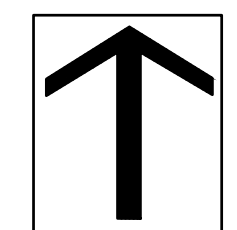
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COLOR CODING

SPRINKLERS, ROTOR HEADS AND OTHER TYPES OF DISPERSION HEADS SHALL HAVE THE EXPOSED SURFACE COLORED PURPLE. THE EXPOSED SURFACE SHALL BE COLORED THROUGH THE USE OF INTEGRALLY MOLDED PURPLE PLASTIC OR PERMANENTLY ATTACHED PURPLE PLASTIC RING OR DISC. VALVE BOX LIDS SHALL BE PURPLE PER INDUSTRY STANDARDS. THE LIDS SHALL HAVE THE WARNING "RECYCLED: DO NOT DRINK" IN ENGLISH AND SPANISH AND THE INTERNATIONAL "DO NOT DRINK" ON ONE SIDE AND "PELIGRO: AGUA IMPURA-NO BEBER" ON THE OPPOSITE SIDE. ALL SHRUB HEADS SHALL HAVE PURPLE CAPS. ROTOR HEADS MAYBE PAINTED PURPLE WHEN REPLACEMENT CAPS OR COLLARS ARE NOT AVAILABLE. CONTRACTOR TO SUBMIT QUANTITIES, MANUFACTURER AND MODEL NUMBER OF THE HEAD TO EMWD FOR APPROVAL.

VALVE BOX NOTE:

ALL DAMAGED VALVE BOXES SHALL BE REPLACED WITH NEW PURPLE COLOR VALVE BOX. SIZE TO MATCH EXISTING.



<p><b>DIG ALERT</b></p> <p>Call: TOLL FREE 1-800-227-2600 OR 811</p> <p>TWO FULL WORKING DAYS BEFORE YOU DIG</p>	<p>BENCH MARK</p> <p>DESCRIPTION: _____</p> <p>LOCATION: _____</p> <p>VERTICAL DATUM: _____</p> <p>HORIZONTAL DATUM: _____</p>	ACCEPTED BY:		<p>VALLEY-WIDE RECREATION AND PARK DISTRICT</p>				ACCEPTED BY:				<p>EASTERN MUNICIPAL WATER DISTRICT</p>				<p>HOLLAND ROAD MENIFEE, CA.</p>		WO: 19227
		DEPARTMENT		ACCEPTANCE	DATE	DATE		BY	MARK	DEPARTMENT		ACCEPTANCE	DATE	DEPARTMENT		ACCEPTANCE	DATE	DOPP:
					6/17/19	DATE:		03/25/2019		NEW BUSINESS P.C.				OPERATIONS				COORD.
				DRAWN BY:		HNCC		ENGINEERING				POS ENGINEER				I.D.		
				CHECKED BY:		ENGINEER		DESCRIPTION								S.A.		
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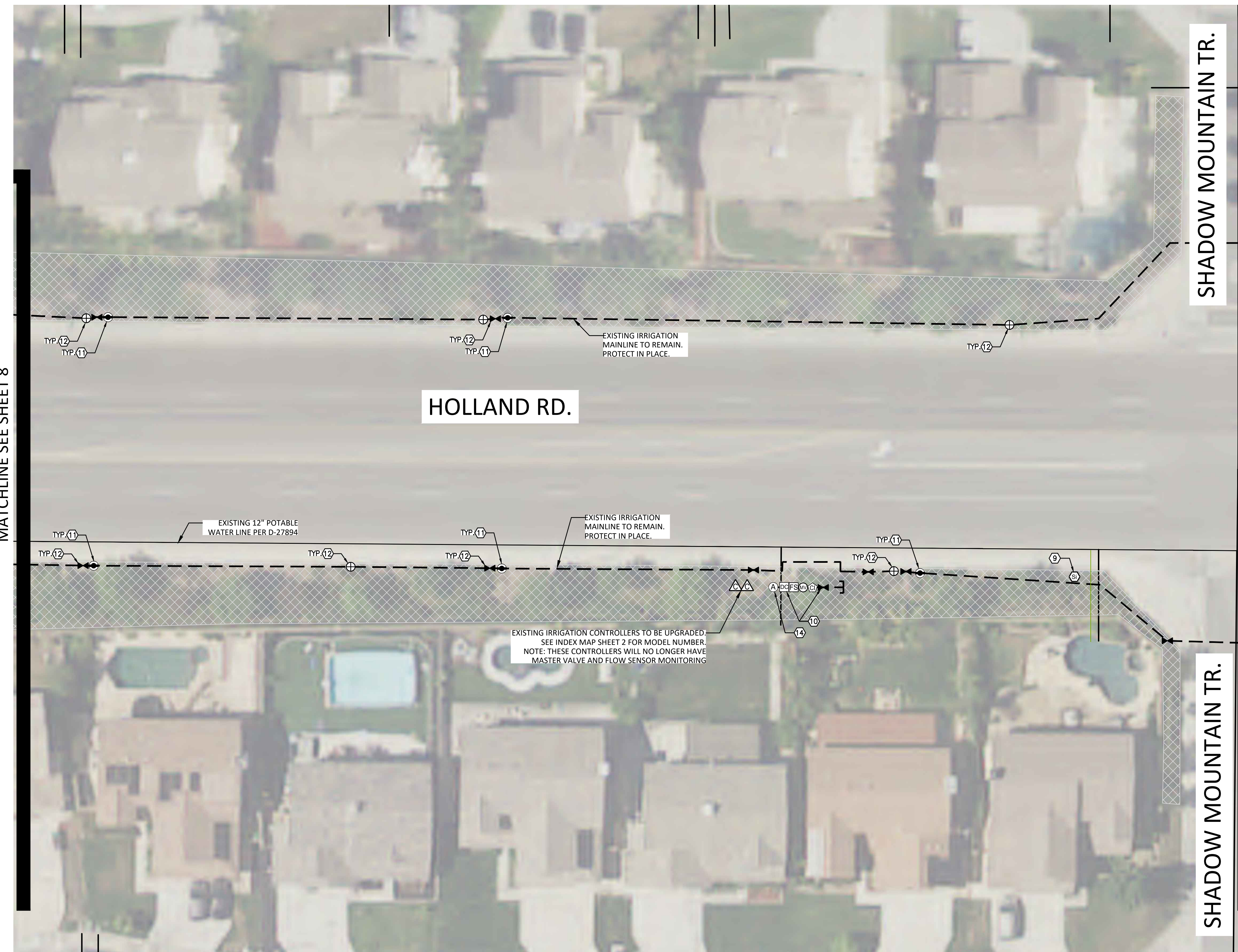
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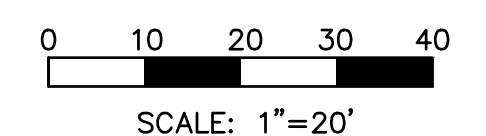
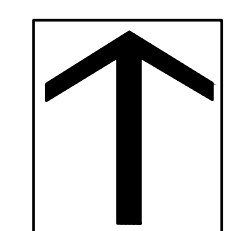
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**BENCH MARK**

DESCRIPTION: \_\_\_\_\_

LOCATION: \_\_\_\_\_

VERTICAL DATUM: \_\_\_\_\_

HORIZONTAL DATUM: \_\_\_\_\_

ACCEPTED BY: VALLEY-WIDE RECREATION AND PARK DISTRICT

DEPARTMENT	ACCEPTANCE	DATE
	<i>[Signature]</i>	6/17/19

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03/25/2019 <td>HNCC <td></td> </td>	HNCC <td></td>	

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MENIFEE, CA.  
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**IRRIGATION PLAN**

WO: 19227
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DOPP: RWUE:
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I.D. SHT. 9 OF 22
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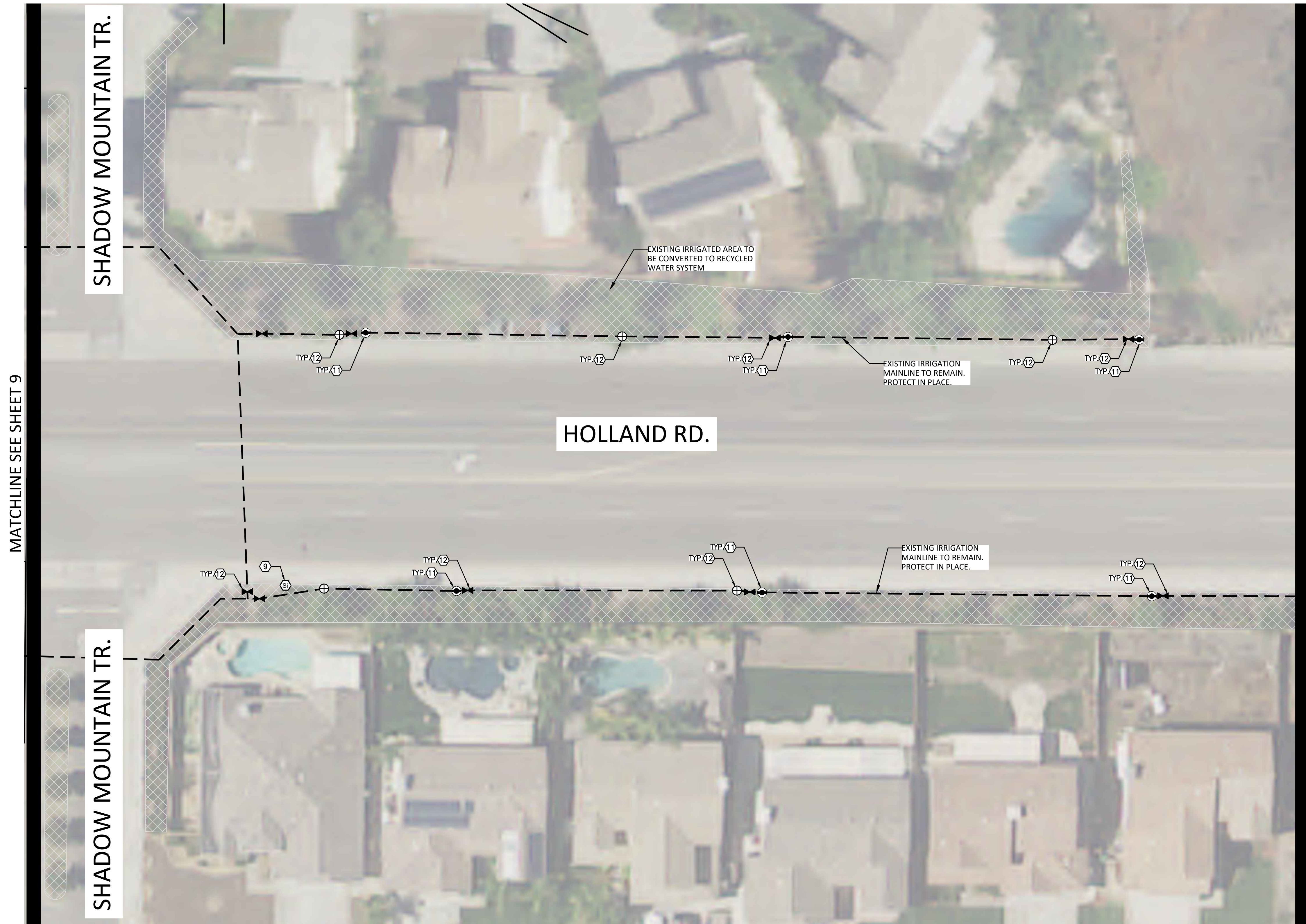
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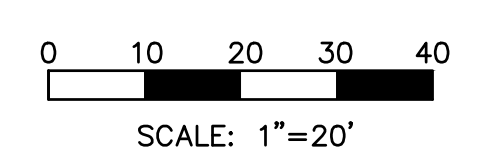
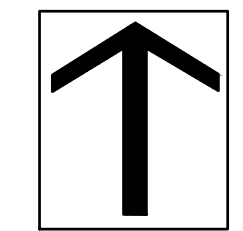
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**VALVE BOX NOTE:**

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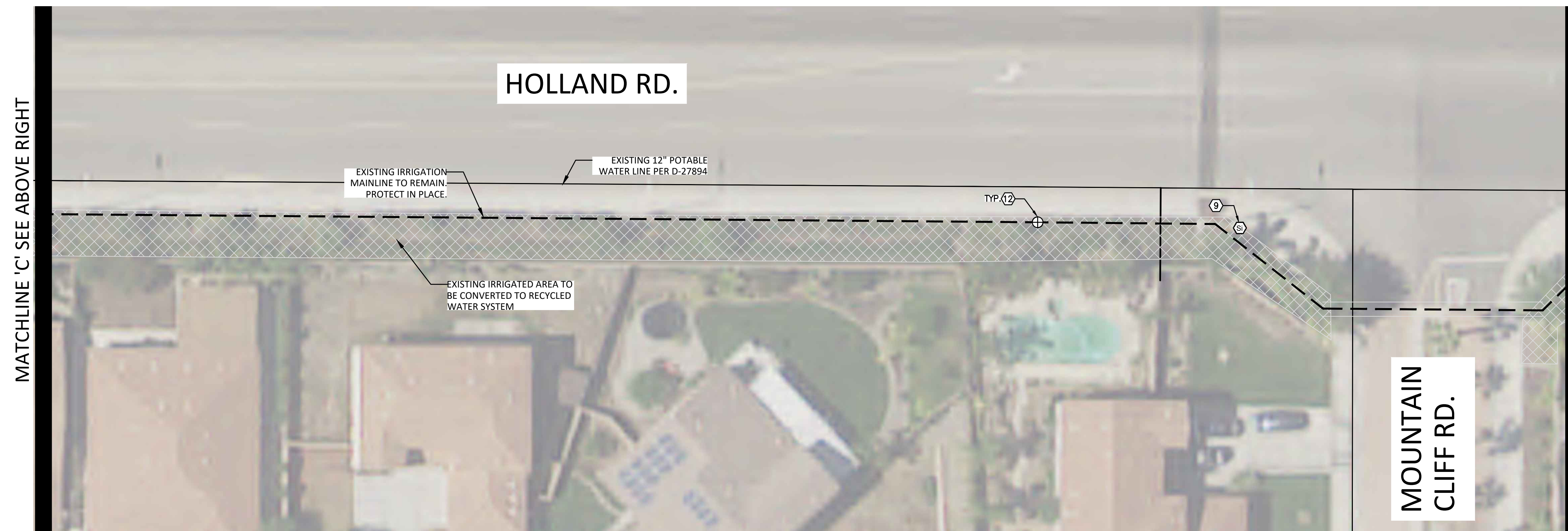
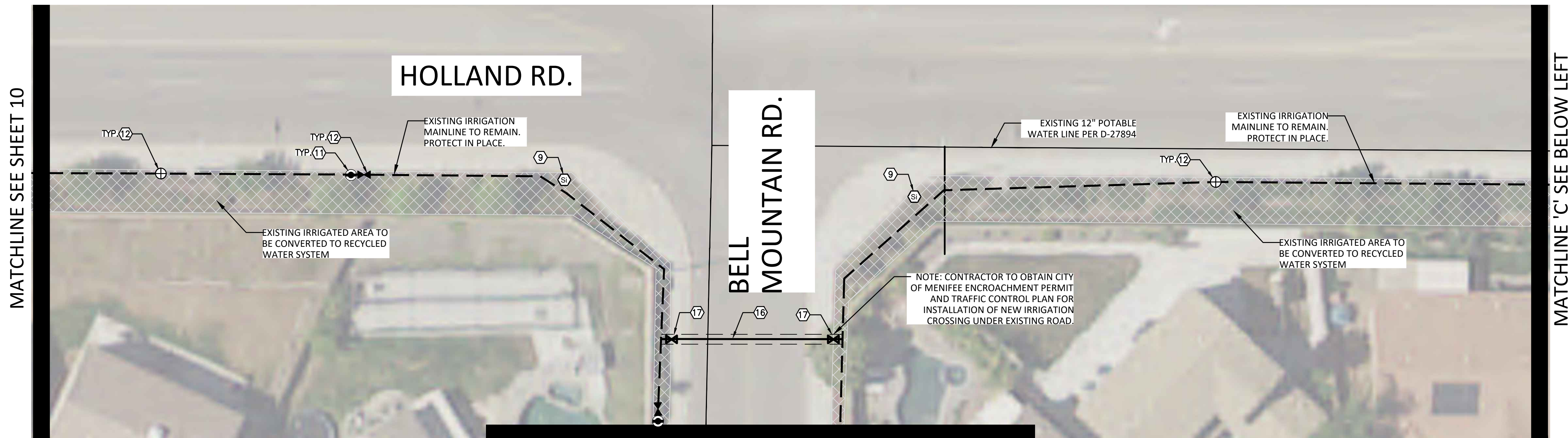


<b>DIG ALERT</b>  Call: TOLL FREE 1-800-227-2600 OR 811 TWO FULL WORKING DAYS BEFORE YOU DIG	BENCH MARK DESCRIPTION: _____ LOCATION: _____ VERTICAL DATUM: _____ HORIZONTAL DATUM: _____	ACCEPTED BY: VALLEY-WIDE RECREATION AND PARK DISTRICT DEPARTMENT: _____ ACCEPTANCE: _____ DATE: 6/17/19	REVISIONS <table border="1"> <thead> <tr> <th>DATE</th> <th>BY</th> <th>MARK</th> <th>DESCRIPTION</th> </tr> </thead> <tbody> <tr> <td>03/25/2019</td> <td>HNCC</td> <td></td> <td></td> </tr> <tr> <td></td> <td>ENGINEER</td> <td></td> <td></td> </tr> </tbody> </table>	DATE	BY	MARK	DESCRIPTION	03/25/2019	HNCC				ENGINEER			ACCEPTED BY: EASTERN MUNICIPAL WATER DISTRICT SENIOR CIVIL ENGINEER: _____ DATE: _____ DEPARTMENT: _____ ACCEPTANCE: _____ DATE: _____ NEW BUSINESS P.C. _____ OPERATIONS _____ ENGINEERING _____ POS ENGINEER _____	HOLLAND ROAD MENIFEE, CA. RECYCLED WATER IRRIGATION RETROFIT IMPROVEMENTS <b>IRRIGATION PLAN</b>	WO: 19227 PCWO: _____ DOPP: RWUJ: _____ COORD. RWUP: _____ I.D. SHT. 10 OF 22 S.A. D-
	DATE	BY	MARK	DESCRIPTION														
03/25/2019	HNCC																	
	ENGINEER																	
DRAWN BY: HNCC CHECKED BY: ENGINEER		DATE: 03/25/2019 APPR. DATE: _____ EMWD: _____																



**CONSTRUCTION LEGEND**

- | SYMBOL | DESCRIPTION  |
|--------|--|
| ①      | INSTALL NEW 2" RECYCLED WATER METER PER EMWD STANDARD PB-10. WATER METER WILL BE PROVIDED BY EMWD.   |
| ②      | PROVIDE AND INSTALL NELSON 7645 (1") QUICK COUPLER VALVE WITH ACME THREAD AND PURPLE LOCKING COVER - INSTALL PER DETAIL.   |
| ③      | PROVIDE AND INSTALL YARDNEY STRAINER MCS2-1. SIZE: 2" WITH MAX. FLOW 110 GPM. INSTALL ABOVE GROUND WITH STAINLESS STEEL ENCLOSURE PER MANUFACTURER STANDARD AND DETAIL.            |
| ④      | PROVIDE AND INSTALL GRISWOLD 2260 EPOXY COATED NORMALLY OPEN MASTER VALVE (SIZE: 2") PER DETAIL. RUN WIRES TO EXISTING IRRIGATION CONTROLLER LOCATION.                             |
| ⑤      | PROVIDE AND INSTALL CALSENSE FLOW SENSOR FM-2 (SIZE: 2"). INSTALL PER DETAIL. RUN WIRES TO EXISTING IRRIGATION CONTROLLER LOCATION.  |
| ⑥      | PROVIDE AND INSTALL 1" BALL VALVE INSIDE ROUND PURPLE VALVE BOX.   |
| ⑦      | PROVIDE AND INSTALL 3" CLASS 200 PVC PURPLE RECYCLED WATER IRRIGATION MAINLINE WITH DUCTILE IRON FITTINGS (24" DEEP MIN.) AND CONNECT TO EXISTING IRRIGATION POC AS SHOWN ON PLAN. |
| ⑧      | PROVIDE AND INSTALL 14GA. VALVE WIRES FOR FLOW SENSOR AND MASTER VALVE INSIDE A 1.5" PVC SCH.40 CONDUIT. CONNECT TO EXISTING IRRIGATION CONTROLLER.                                |
| ⑨      | PROVIDE AND INSTALL RECYCLED WATER SIGNAGE PER EMWD STANDARD. EXACT LOCATION WILL BE DETERMINED BY EMWD INSPECTOR.   |
| ⑩      | CUT AND CAP EXISTING IRRIGATION MAINLINE-PROVIDE A MINIMUM OF 4FT. SEPARATION AND REMOVE UNUSED PIPE. REMOVE EXISTING BACKFLOW PREVENTER AND EQUIPMENT                             |
| ⑪      | REPLACE EXISTING QUICK COUPLER WITH NELSON 7645 (1") QUICK COUPLER VALVE WITH ACME THREAD AND PURPLE LOCKING COVER - INSTALL PER DETAIL.   |
| ⑫      | REPLACE ALL EXISTING IRRIGATION VALVE BOX'S LIDS WITH PURPLE RECYCLED WATER AND LABEL ACCORDINGLY.   |
| ⑬      | INSTALL NEW 1.5" RECYCLED WATER METER PER EMWD STANDARD PB-11. WATER METER WILL BE PROVIDED BY EMWD.   |
| ⑭      | EXISTING DOMESTIC IRRIGATION WATER METER TO BE REMOVED (BY OTHERS)   |
| ⑮      | CONNECT PROPOSE NEW MASTER VALVE AND FLOW SENSOR WIRES TO EXISTING CONTROLLER. ADJUST EXISTING CONTROLLER FOR HIGH-FLOW SHUT-OFF SETTING.  |
| ⑯      | INSTALL 6" PVC PURPLE CLASS 200 SLEEVE AND 2.5" PVC PURPLE CLASS 315 IRRIGATION MAINLINE. SLEEVE MUST BE BURY MINIMUM OF 36" FROM FINISH GRADE OR PER THE CITY STANDARD.           |
| ⑰      | INSTALL GATE VALVE NIBCO T-113 SIZE TO MATCH MAINLINE SIZE. INSTALL PER DETAIL.  |
| ⑱      | INSTALL 850 SMALL DOUBLE CHECK BACKFLOW PREVENTER (SIZE: 2") TO MATCH STRAINER) WITH STAINLESS STEEL ENCLOSURE. INSTALL PER DETAIL.  |
| ⑲      | REMOVE AND CAP EXISTING REMOTE CONTROL VALVES THAT IRRIGATE THE BOTTOM OF THE BASIN. LATERAL LINES SHALL BE ABANDONED IN PLACE.  |



MATCHLINE 'C' SEE ABOVE RIGHT

MATCHLINE SEE SHEET 10

MATCHLINE 'C' SEE BELOW LEFT

MATCHLINE SEE SHEET 12

**RECYCLED WATER IRRIGATION LEGEND:**

SYMBOL	DESCRIPTION
⊗	RECYCLED ISOLATION VALVE
⊕	RECYCLED REMOTE CONTROL VALVE
⊙	RECYCLED QUICK COUPLER VALVE
⊠	RECYCLED IRRIGATION CONTROLLER
⊞	RECYCLED FERTILIZER INJECTOR
⊞	RECYCLED DOUBLE-CHECK BACKFLOW
⊕	RECYCLED IRRIGATION WATER METER
⊞	RECYCLED IRRIGATION STRAINER
⊞	RECYCLED IRRIGATION MASTER VALVE
FS	RECYCLED IRRIGATION FLOW SENSOR
---	RECYCLED IRRIGATION MAINLINE (PROPOSE)
- - -	RECYCLED IRRIGATION MAINLINE (EXISTING)

**POTABLE WATER LEGEND:**

SYMBOL	DESCRIPTION
(A)	POTABLE WATER METER
(B)	POTABLE BACKFLOW PREVENTER

**INSTALLATION NOTES**

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**POTABLE AND RECYCLED WATER SEPARATION NOTE:**

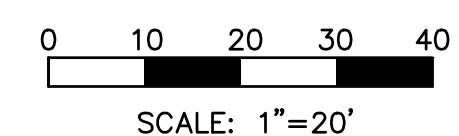
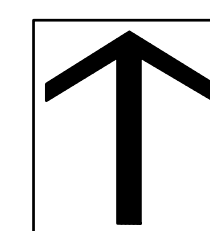
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**DIG ALERT**



Call: TOLL FREE  
1-800-227-2600  
OR  
811

BENCH MARK DESCRIPTION:	ACCEPTED BY:
LOCATION:	VALLEY-WIDE RECREATION AND PARK DISTRICT
VERTICAL DATUM:	DEPARTMENT
HORIZONTAL DATUM:	ACCEPTANCE

DATE	BY	MARK
03/25/2019	HNCC	
DATE	BY	MARK
6/17/19		

DATE	BY	MARK
03/25/2019	HNCC	
DATE	BY	MARK
6/17/19		

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03/25/2019	HNCC	
DATE	BY	MARK
6/17/19		

DEPARTMENT	ACCEPTANCE	DATE
NEW BUSINESS P.C.		
OPERATIONS		
ENGINEERING		
POS ENGINEER		

**HOLLAND ROAD**  
MENIFEE, CA.  
**RECYCLED WATER IRRIGATION RETROFIT IMPROVEMENTS**  
**IRRIGATION PLAN**

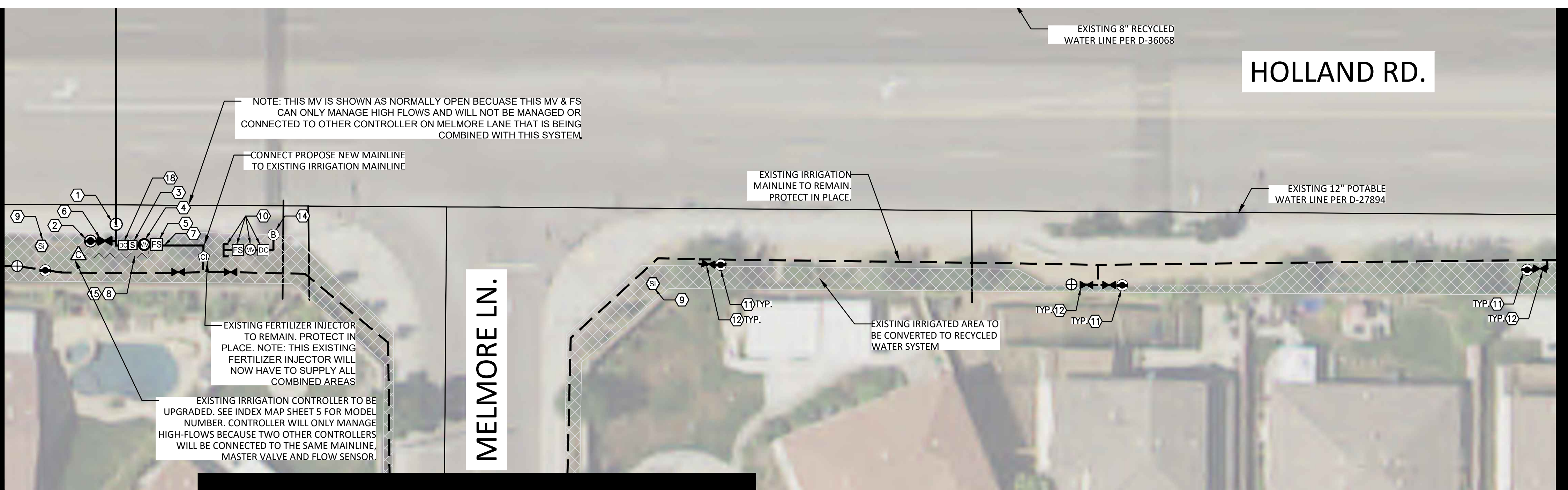
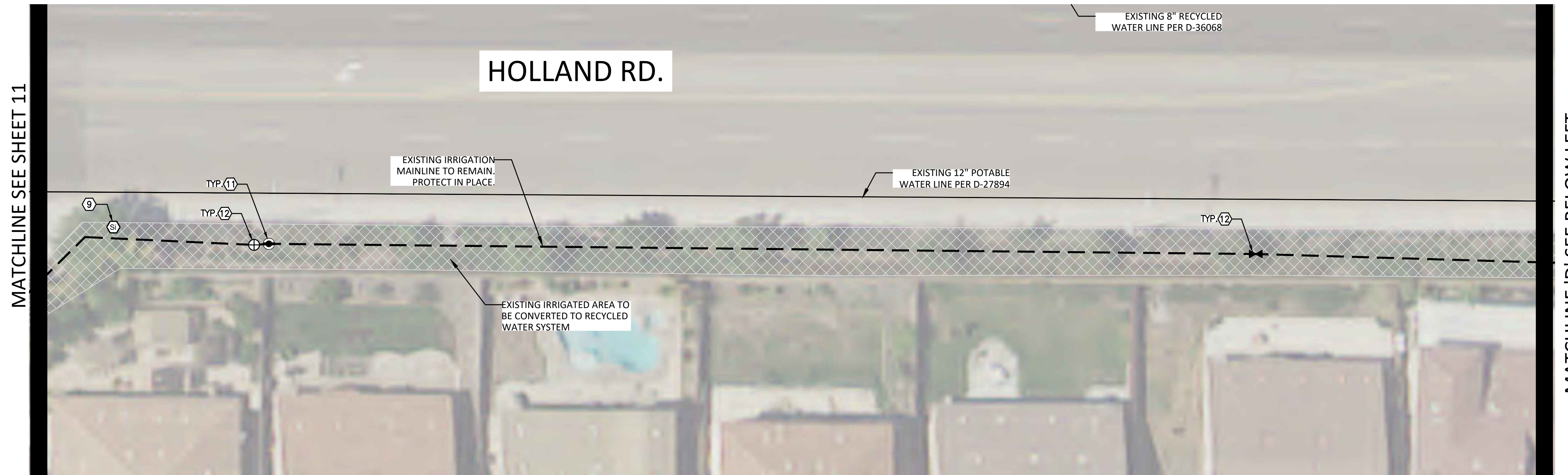
WO: 19227  
PCWO:  
DOPP: RWUE:  
COORD. RWUP:  
I.D. SHT. 11 OF 22  
S.A. D-



**CONSTRUCTION LEGEND**

SYMBOL	DESCRIPTION
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RECYCLED WATER IRRIGATION LEGEND:		POTABLE WATER LEGEND:	
SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION
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⊖	RECYCLED REMOTE CONTROL VALVE	(B)	POTABLE BACKFLOW PREVENTER
⊙	RECYCLED QUICK COUPLER VALVE		
⊕	RECYCLED IRRIGATION CONTROLLER		
⊕	RECYCLED FERTILIZER INJECTOR		
⊕	RECYCLED DOUBLE-CHECK BACKFLOW		
⊕	RECYCLED IRRIGATION WATER METER		
⊕	RECYCLED IRRIGATION STRAINER		
⊕	RECYCLED IRRIGATION MASTER VALVE		
⊕	RECYCLED IRRIGATION FLOW SENSOR		
---	RECYCLED IRRIGATION MAINLINE (PROPOSE)		
---	RECYCLED IRRIGATION MAINLINE (EXISTING)		



MATCHLINE SEE SHEET 17

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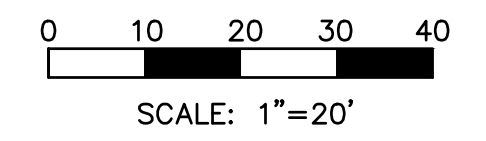
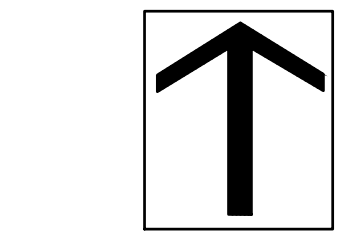
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TWO FULL WORKING DAYS BEFORE YOU DIG

**BENCH MARK**  
DESCRIPTION: \_\_\_\_\_  
LOCATION: \_\_\_\_\_  
VERTICAL DATUM: \_\_\_\_\_  
HORIZONTAL DATUM: \_\_\_\_\_

ACCEPTED BY: VALLEY-WIDE RECREATION AND PARK DISTRICT

DEPARTMENT	ACCEPTANCE	DATE
	<i>[Signature]</i>	6/17/19

ACCEPTED BY: EASTERN MUNICIPAL WATER DISTRICT

DATE	BY	MARK
03/25/2019 <td>HNCC <td></td> </td>	HNCC <td></td>	

DRAWN BY: ENGINEER  
CHECKED BY: ENGINEER

DEPARTMENT	ACCEPTANCE	DATE
NEW BUSINESS P.C.		
OPERATIONS		
ENGINEERING		
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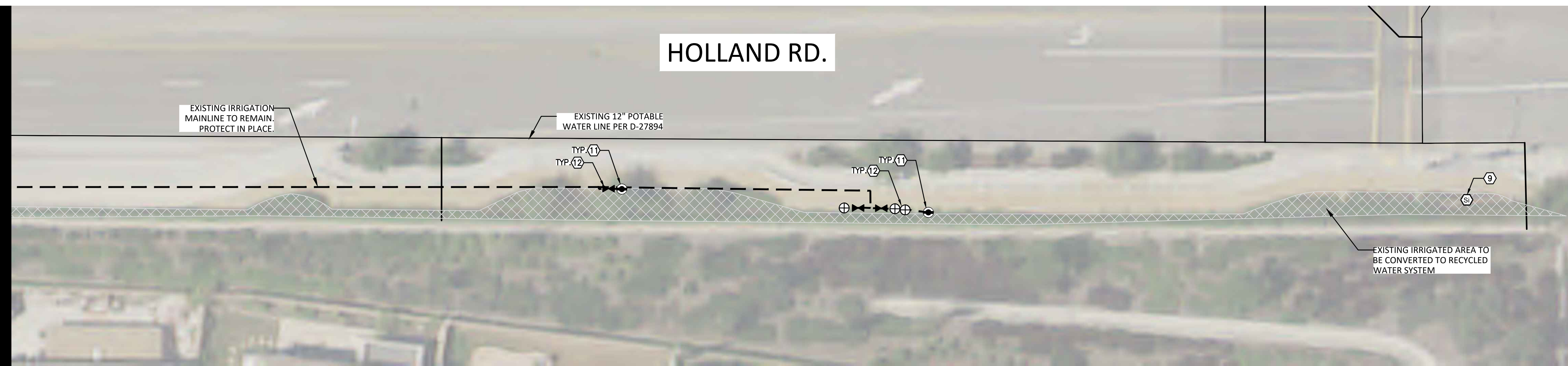
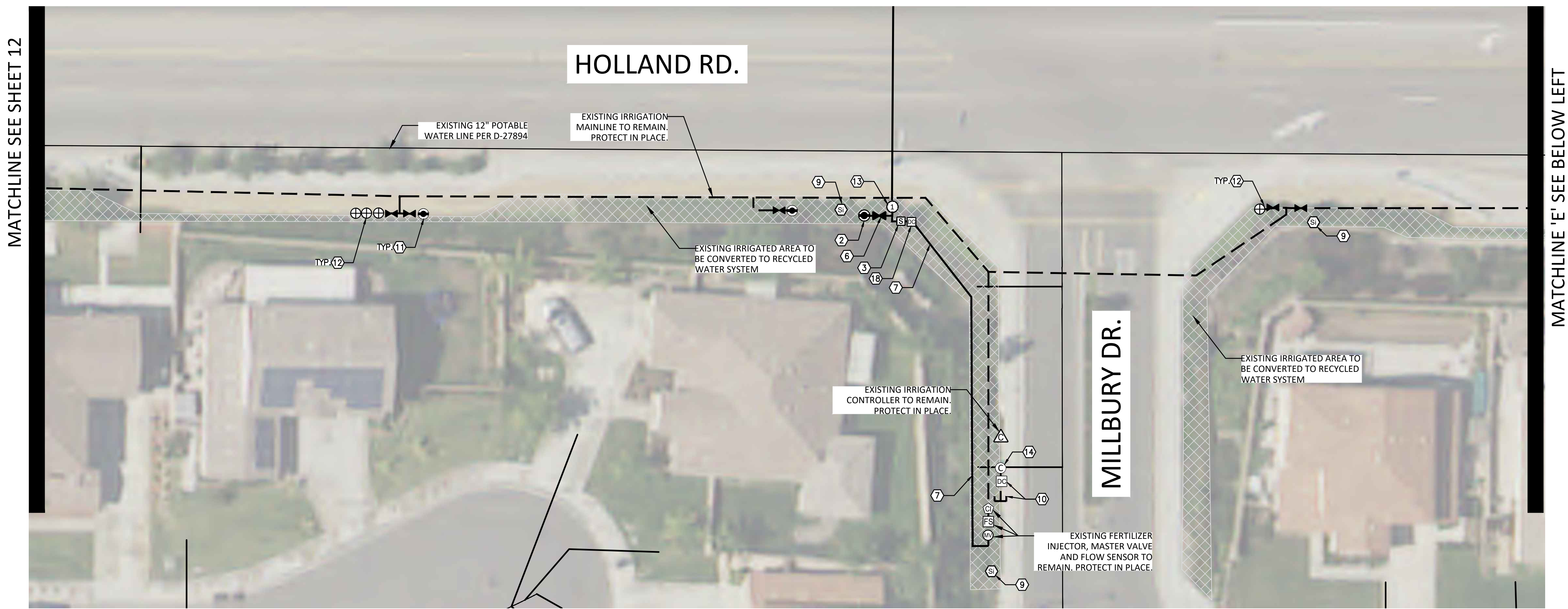
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WO: 19227  
PCWO:  
DOPP: RWUJ:  
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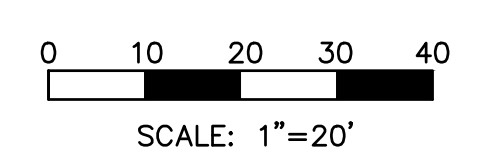
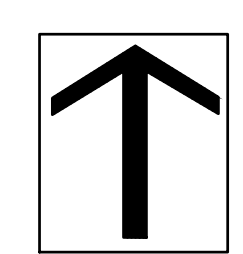


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⊙	RECYCLED QUICK COUPLER VALVE
⊗	RECYCLED IRRIGATION CONTROLLER
⊚	RECYCLED FERTILIZER INJECTOR
⊛	RECYCLED DOUBLE-CHECK BACKFLOW
⊜	RECYCLED IRRIGATION WATER METER
⊝	RECYCLED IRRIGATION STRAINER
⊞	RECYCLED IRRIGATION MASTER VALVE
⊟	RECYCLED IRRIGATION FLOW SENSOR
⊠	RECYCLED IRRIGATION MAINLINE (PROPOSE)
---	RECYCLED IRRIGATION MAINLINE (EXISTING)

**POTABLE WATER LEGEND:**

SYMBOL	DESCRIPTION
(A)	POTABLE WATER METER
(B)	POTABLE BACKFLOW PREVENTER



**INSTALLATION NOTES**

THE MATERIALS AND THE INSTALLATION OF THE IRRIGATION SYSTEM SHOWN ON THIS PLAN SHALL MEET THE LATEST EMWD STANDARDS AND SPECIFICATIONS AT COMMENCEMENT OF WORK. IF CONTRACTOR NOTICES ANY INCONSISTENCIES WITH THE LATEST IRRIGATION DESIGN STANDARDS, ONE SHALL IMMEDIATELY NOTIFY ALL PARTIES.  
NO HOSE BIBS WILL BE ALLOWED FOR INSTALLATION ON SYSTEMS USING RECYCLED WATER.

**IRRIGATION DRAWING NOTE:**

THIS RETROFIT PLANS ARE BASED ON IRRIGATION PLANS NOT PREPARED BY EMWD / EMWD REPRESENTATIVE. EMWD AND OR EMWD REPRESENTATIVES ARE NOT RESPONSIBLE FOR THE ACCURACY OF THE INFORMATION PROVIDED HEREIN. IT ULTIMATELY THE RESPONSIBILITY OF THE CONTRACTOR TO FAMILIARIZE THEMSELVES WITH ALL EXISTING CONDITIONS, EQUIPMENT, UTILITIES AND REQUIREMENTS.

**POTABLE AND RECYCLED WATER SEPARATION NOTE:**

RECYCLED MAINLINE (CONSTANT PRESSURE) SHOWN DIAGRAMMATICALLY FOR CLARITY ONLY. ACTUAL LOCATION MUST PROVIDE A MINIMUM FOUR (4) FEET HORIZONTAL CLEARANCE BETWEEN ALL POTABLE AND CONSTANT PRESSURE RECYCLED WATERLINES. RECYCLED WATER MAINLINE SHOULD BE INSTALLED UNDER POTABLE WATERLINES AND MAINTAIN ONE (1) FOOT OF VERTICAL CLEARANCE. WHERE THE RECYCLED WATER CONSTANT PRESSURE LINE MUST BE INSTALLED ABOVE THE POTABLE WATERLINE, A FOUR (4) INCH MINIMUM VERTICAL CLEARANCE MUST BE MAINTAINED AND THE RECYCLED WATER PRESSURE LINE MUST BE INSTALLED IN A CONTINUOUS PVC CLASS 200 PIPE SLEEVE WHICH EXTENDS A MINIMUM OF TEN (10) FEET EACH SIDE OF THE POTABLE WATERLINE.

**COLOR CODING**

SPRINKLERS, ROTOR HEADS AND OTHER TYPES OF DISPERSION HEADS SHALL HAVE THE EXPOSED SURFACE COLORED PURPLE. THE EXPOSED SURFACE SHALL BE COLORED THROUGH THE USE OF INTEGRALLY MOLDED PURPLE PLASTIC OR PERMANENTLY ATTACHED PURPLE PLASTIC RING OR DISC. VALVE BOX LIDS SHALL BE PURPLE PER INDUSTRY STANDARDS. THE LIDS SHALL HAVE THE WARNING "RECYCLED: DO NOT DRINK" IN ENGLISH AND SPANISH AND THE INTERNATIONAL "DO NOT DRINK" ON ONE SIDE AND "PELIGRO: AGUA IMPURA-NO BEBER" ON THE OPPOSITE SIDE. ALL SHRUB HEADS SHALL HAVE PURPLE CAPS. ROTOR HEADS MAYBE PAINTED PURPLE WHEN REPLACEMENT CAPS OR COLLARS ARE NOT AVAILABLE. CONTRACTOR TO SUBMIT QUANTITIES, MANUFACTURER AND MODEL NUMBER OF THE HEAD TO EMWD FOR APPROVAL.

**VALVE BOX NOTE:**

ALL DAMAGED VALVE BOXES SHALL BE REPLACED WITH NEW PURPLE COLOR VALVE BOX. SIZE TO MATCH EXISTING.

**DIG ALERT**

Call: TOLL FREE 1-800-227-2600 OR 811

**BENCH MARK**

DESCRIPTION: \_\_\_\_\_

LOCATION: \_\_\_\_\_

VERTICAL DATUM: \_\_\_\_\_

HORIZONTAL DATUM: \_\_\_\_\_

ACCEPTED BY: VALLEY-WIDE RECREATION AND PARK DISTRICT

DEPARTMENT	ACCEPTANCE	DATE
	<i>[Signature]</i>	6/17/19

ACCEPTED BY: EASTERN MUNICIPAL WATER DISTRICT

DATE	BY	MARK
03/25/2019 <td>HNCC <td></td> </td>	HNCC <td></td>	

DRAWN BY: ENGINEER

CHECKED BY: ENGINEER

DEPARTMENT	ACCEPTANCE	DATE
NEW BUSINESS P.C.		
OPERATIONS		
ENGINEERING		
POS ENGINEER		

**HOLLAND ROAD**  
MENIFEE, CA.

**RECYCLED WATER IRRIGATION RETROFIT IMPROVEMENTS**

**IRRIGATION PLAN**

WO: 19227

PCWO: \_\_\_\_\_

DOPP: RWJUE: \_\_\_\_\_

COORD. RWJUP: \_\_\_\_\_

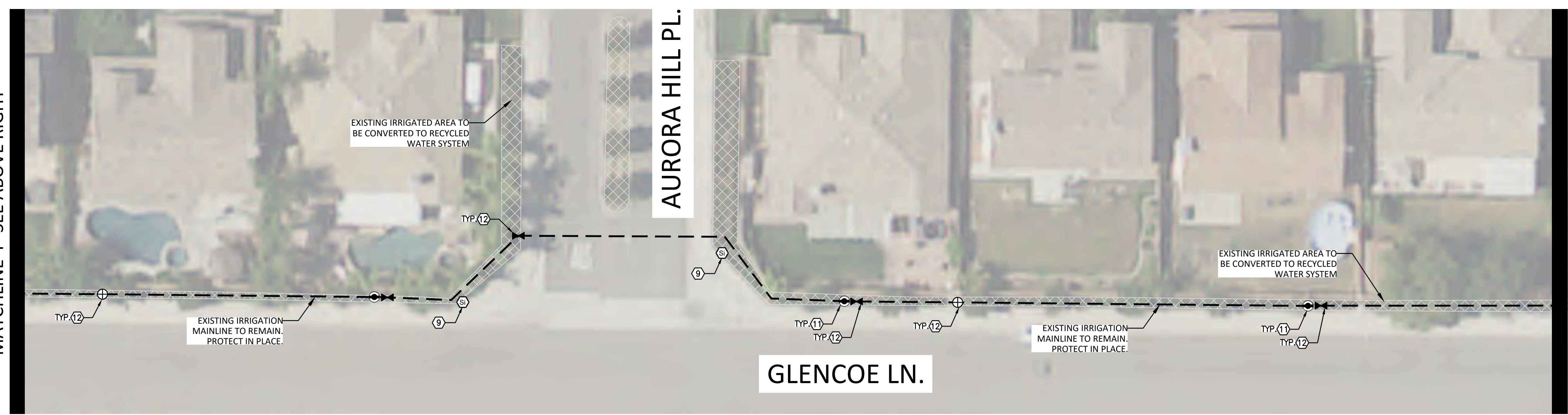
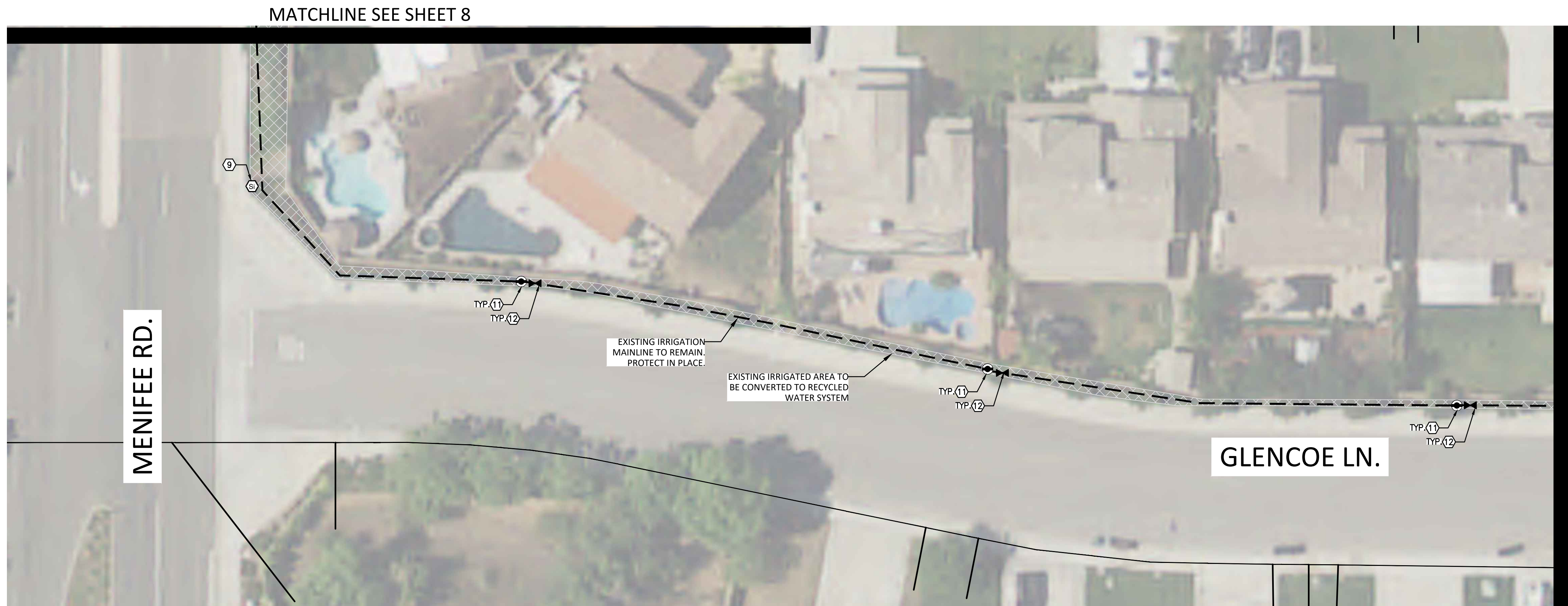
I.D. SHT. 13 OF 22

S.A. D-



CONSTRUCTION LEGEND

- | SYMBOL | DESCRIPTION  |
|--------|--|
| ①      | INSTALL NEW 2" RECYCLED WATER METER PER EMWD STANDARD PB-10. WATER METER WILL BE PROVIDED BY EMWD.   |
| ②      | PROVIDE AND INSTALL NELSON 7645 (1") QUICK COUPLER VALVE WITH ACME THREAD AND PURPLE LOCKING COVER - INSTALL PER DETAIL  |
| ③      | PROVIDE AND INSTALL YARNEY STRAINER MCS2-1. SIZE: 2" WITH MAX. FLOW 110 GPM. INSTALL ABOVE GROUND WITH STAINLESS STEEL ENCLOSURE PER MANUFACTURER STANDARD AND DETAIL.             |
| ④      | PROVIDE AND INSTALL GRISWOLD 2260 EPOXY COATED NORMALLY OPEN MASTER VALVE (SIZE: 2") PER DETAIL. RUN WIRES TO EXISTING IRRIGATION CONTROLLER LOCATION.                             |
| ⑤      | PROVIDE AND INSTALL CALSENSE FLOW SENSOR FM-2 (SIZE: 2"). INSTALL PER DETAIL. RUN WIRES TO EXISTING IRRIGATION CONTROLLER LOCATION.  |
| ⑥      | PROVIDE AND INSTALL 1" BALL VALVE INSIDE ROUND PURPLE VALVE BOX.   |
| ⑦      | PROVIDE AND INSTALL 3" CLASS 200 PVC PURPLE RECYCLED WATER IRRIGATION MAINLINE WITH DUCTILE IRON FITTINGS (24" DEEP MIN.) AND CONNECT TO EXISTING IRRIGATION POC AS SHOWN ON PLAN. |
| ⑧      | PROVIDE AND INSTALL 14GA. VALVE WIRES FOR FLOW SENSOR AND MASTER VALVE INSIDE A 1.5" PVC SCH.40 CONDUIT. CONNECT TO EXISTING IRRIGATION CONTROLLER.                                |
| ⑨      | PROVIDE AND INSTALL RECYCLED WATER SIGNAGE PER EMWD STANDARD. EXACT LOCATION WILL BE DETERMINED BY EMWD INSPECTOR.   |
| ⑩      | CUT AND CAP EXISTING IRRIGATION MAINLINE-PROVIDE A MINIMUM OF 4FT. SEPARATION AND REMOVE UNUSED PIPE. REMOVE EXISTING BACKFLOW PREVENTER AND EQUIPMENT                             |
| ⑪      | REPLACE EXISTING QUICK COUPLER WITH NELSON 7645 (1") QUICK COUPLER VALVE WITH ACME THREAD AND PURPLE LOCKING COVER - INSTALL PER DETAIL  |
| ⑫      | REPLACE ALL EXISTING IRRIGATION VALVE BOX'S LIDS WITH PURPLE RECYCLED WATER AND LABEL ACCORDINGLY.   |
| ⑬      | INSTALL NEW 1.5" RECYCLED WATER METER PER EMWD STANDARD PB-11. WATER METER WILL BE PROVIDED BY EMWD.   |
| ⑭      | EXISTING DOMESTIC IRRIGATION WATER METER TO BE REMOVED (BY OTHERS)   |
| ⑮      | CONNECT PROPOSE NEW MASTER VALVE AND FLOW SENSOR WIRES TO EXISTING CONTROLLER. ADJUST EXISTING CONTROLLER FOR HIGH-FLOW SHUT-OFF SETTING.  |
| ⑯      | INSTALL 6" PVC PURPLE CLASS 200 SLEEVE AND 2.5" PVC PURPLE CLASS 315 IRRIGATION MAINLINE. SLEEVE MUST BE BURY MINIMUM OF 36" FROM FINISH GRADE OR PER THE CITY STANDARD.           |
| ⑰      | INSTALL GATE VALVE NIBCO T-113 SIZE TO MATCH MAINLINE SIZE. INSTALL PER DETAIL.  |
| ⑱      | INSTALL 850 SMALL DOUBLE CHECK BACKFLOW PREVENTER (SIZE: 2" TO MATCH STRAINER) WITH STAINLESS STEEL ENCLOSURE. INSTALL PER DETAIL.   |
| ⑲      | REMOVE AND CAP EXISTING REMOTE CONTROL VALVES THAT IRRIGATE THE BOTTOM OF THE BASIN. LATERAL LINES SHALL BE ABANDONED IN PLACE.  |



**RECYCLED WATER IRRIGATION LEGEND:**

SYMBOL	DESCRIPTION
⊕	RECYCLED ISOLATION VALVE
⊖	RECYCLED REMOTE CONTROL VALVE
⊕	RECYCLED QUICK COUPLER VALVE
⊕	RECYCLED IRRIGATION CONTROLLER
⊕	RECYCLED FERTILIZER INJECTOR
⊕	RECYCLED DOUBLE-CHECK BACKFLOW
⊕	RECYCLED IRRIGATION WATER METER
⊕	RECYCLED IRRIGATION STRAINER
⊕	RECYCLED IRRIGATION MASTER VALVE
⊕	RECYCLED IRRIGATION FLOW SENSOR
---	RECYCLED IRRIGATION MAINLINE (PROPOSE)
---	RECYCLED IRRIGATION MAINLINE (EXISTING)

**POTABLE WATER LEGEND:**

SYMBOL	DESCRIPTION
A	POTABLE WATER METER
B	POTABLE BACKFLOW PREVENTER

INSTALLATION NOTES

THE MATERIALS AND THE INSTALLATION OF THE IRRIGATION SYSTEM SHOWN ON THIS PLAN SHALL MEET THE LATEST EMWD STANDARDS AND SPECIFICATIONS AT COMMENCEMENT OF WORK. IF CONTRACTOR NOTICES ANY INCONSISTENCIES WITH THE LATEST IRRIGATION DESIGN STANDARDS, ONE SHALL IMMEDIATELY NOTIFY ALL PARTIES.  
NO HOSE BIBS WILL BE ALLOWED FOR INSTALLATION ON SYSTEMS USING RECYCLED WATER.

IRRIGATION DRAWING NOTE:

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POTABLE AND RECYCLED WATER SEPARATION NOTE:

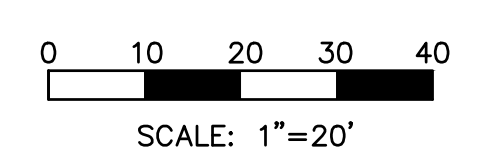
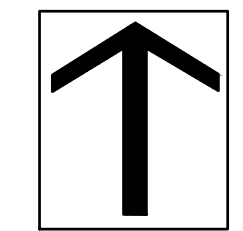
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COLOR CODING

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VALVE BOX NOTE:

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**DIG ALERT**

Call: TOLL FREE  
1-800-227-2600  
OR  
811

TWO FULL WORKING DAYS BEFORE YOU DIG

**BENCH MARK**

DESCRIPTION: \_\_\_\_\_

LOCATION: \_\_\_\_\_

VERTICAL DATUM: \_\_\_\_\_

HORIZONTAL DATUM: \_\_\_\_\_

ACCEPTED BY: \_\_\_\_\_

VALLEY-WIDE RECREATION AND PARK DISTRICT

DEPARTMENT	ACCEPTANCE	DATE
	<i>[Signature]</i>	6/17/19

REVISIONS

DATE	BY	MARK	DESCRIPTION
03/25/2019	HNCC		
	ENGINEER		

DRAWN BY: \_\_\_\_\_

CHECKED BY: \_\_\_\_\_

ACCEPTED BY: \_\_\_\_\_

EASTERN MUNICIPAL WATER DISTRICT

SENIOR CIVIL ENGINEER \_\_\_\_\_ DATE \_\_\_\_\_

DEPARTMENT	ACCEPTANCE	DATE
NEW BUSINESS P.C.		
OPERATIONS		
ENGINEERING		
POS ENGINEER		

**HOLLAND ROAD**  
MENIFEE, CA.

**RECYCLED WATER IRRIGATION RETROFIT IMPROVEMENTS**

**IRRIGATION PLAN**

WO: 19227
PCWO: _____
DOPP: RWUE: _____
COORD. RWUP: _____
I.D. SHT. 14 OF 22
S.A. D-



**CONSTRUCTION LEGEND**

SYMBOL DESCRIPTION

- ① INSTALL NEW 2" RECYCLED WATER METER PER EMWD STANDARD PB-10. WATER METER WILL BE PROVIDED BY EMWD.
- ② PROVIDE AND INSTALL NELSON 7645 (1") QUICK COUPLER VALVE WITH ACME THREAD AND PURPLE LOCKING COVER - INSTALL PER DETAIL.
- ③ PROVIDE AND INSTALL YARNEY STRAINER MCS2-1. SIZE: 2" WITH MAX. FLOW 110 GPM. INSTALL ABOVE GROUND WITH STAINLESS STEEL ENCLOSURE PER MANUFACTURER STANDARD AND DETAIL.
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- ⑨ PROVIDE AND INSTALL RECYCLED WATER SIGNAGE PER EMWD STANDARD. EXACT LOCATION WILL BE DETERMINED BY EMWD INSPECTOR.
- ⑩ CUT AND CAP EXISTING IRRIGATION MAINLINE-PROVIDE A MINIMUM OF 4FT. SEPARATION AND REMOVE UNUSED PIPE. REMOVE EXISTING BACKFLOW PREVENTER AND EQUIPMENT
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- ⑯ INSTALL 6" PVC PURPLE CLASS 200 SLEEVE AND 2.5" PVC PURPLE CLASS 315 IRRIGATION MAINLINE. SLEEVE MUST BE BURY MINIMUM OF 36" FROM FINISH GRADE OR PER THE CITY STANDARD.
- ⑰ INSTALL GATE VALVE NIBCO T-113 SIZE TO MATCH MAINLINE SIZE. INSTALL PER DETAIL.
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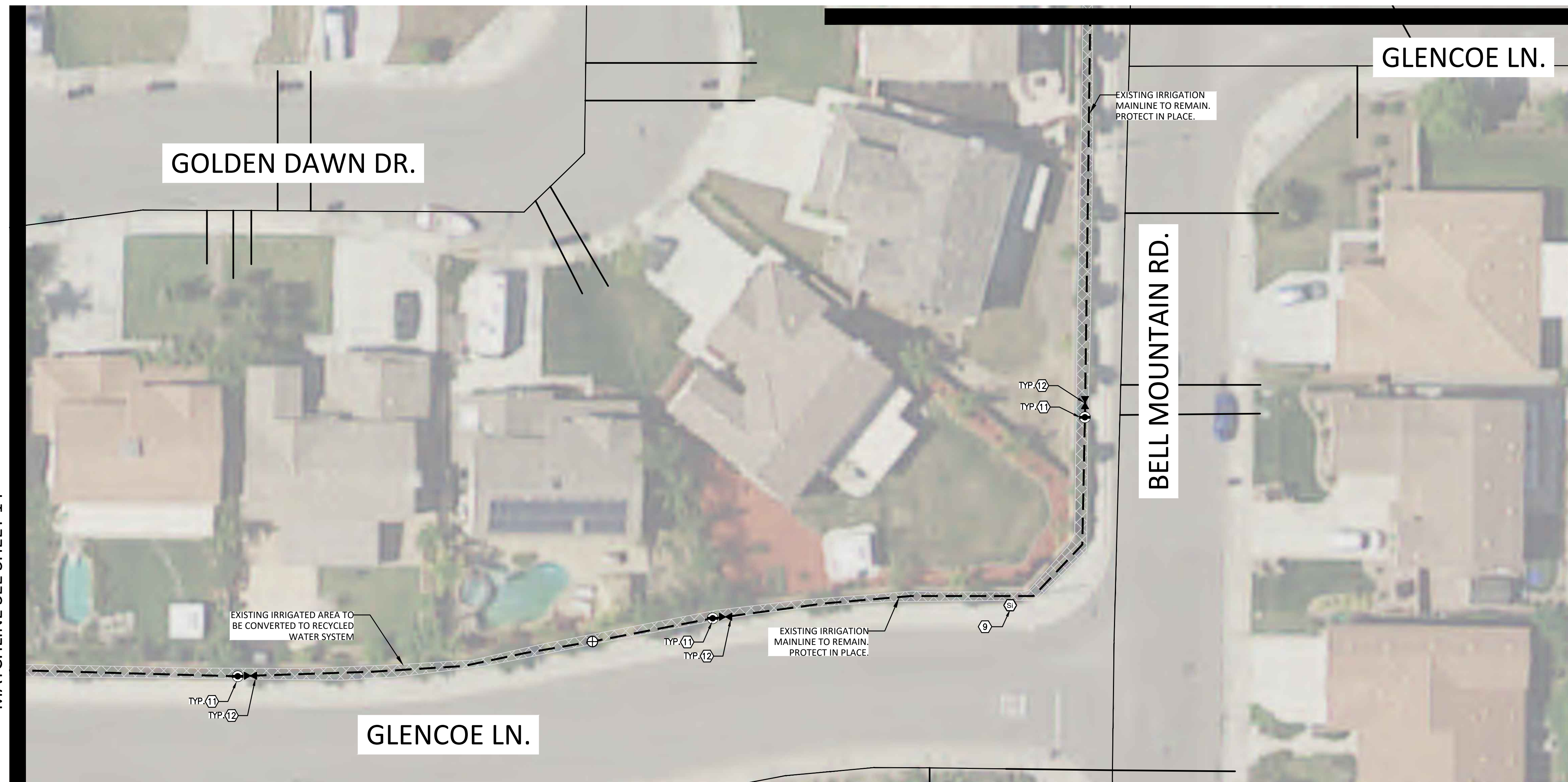
**RECYCLED WATER IRRIGATION LEGEND:**

SYMBOL	DESCRIPTION
	RECYCLED ISOLATION VALVE
	RECYCLED REMOTE CONTROL VALVE
	RECYCLED QUICK COUPLER VALVE
	RECYCLED IRRIGATION CONTROLLER
	RECYCLED FERTILIZER INJECTOR
	RECYCLED DOUBLE-CHECK BACKFLOW
	RECYCLED IRRIGATION WATER METER
	RECYCLED IRRIGATION STRAINER
	RECYCLED IRRIGATION MASTER VALVE
	RECYCLED IRRIGATION FLOW SENSOR
	RECYCLED IRRIGATION MAINLINE (PROPOSE)
	RECYCLED IRRIGATION MAINLINE (EXISTING)

**POTABLE WATER LEGEND:**

SYMBOL	DESCRIPTION
	POTABLE WATER METER
	POTABLE BACKFLOW PREVENTER



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SCALE: 1"=20'

**DIG ALERT**  
  
 Call: TOLL FREE 1-800-227-2600 OR 811  
 TWO FULL WORKING DAYS BEFORE YOU DIG

**BENCH MARK**  
 DESCRIPTION: \_\_\_\_\_  
 LOCATION: \_\_\_\_\_  
 VERTICAL DATUM: \_\_\_\_\_  
 HORIZONTAL DATUM: \_\_\_\_\_

ACCEPTED BY: VALLEY-WIDE RECREATION AND PARK DISTRICT

DEPARTMENT	ACCEPTANCE	DATE
		6/17/19

ACCEPTED BY: EASTERN MUNICIPAL WATER DISTRICT

DATE	BY	MARK
03/25/2019 <td>HNCC <td></td> </td>	HNCC <td></td>	
	ENGINEER <td></td>	

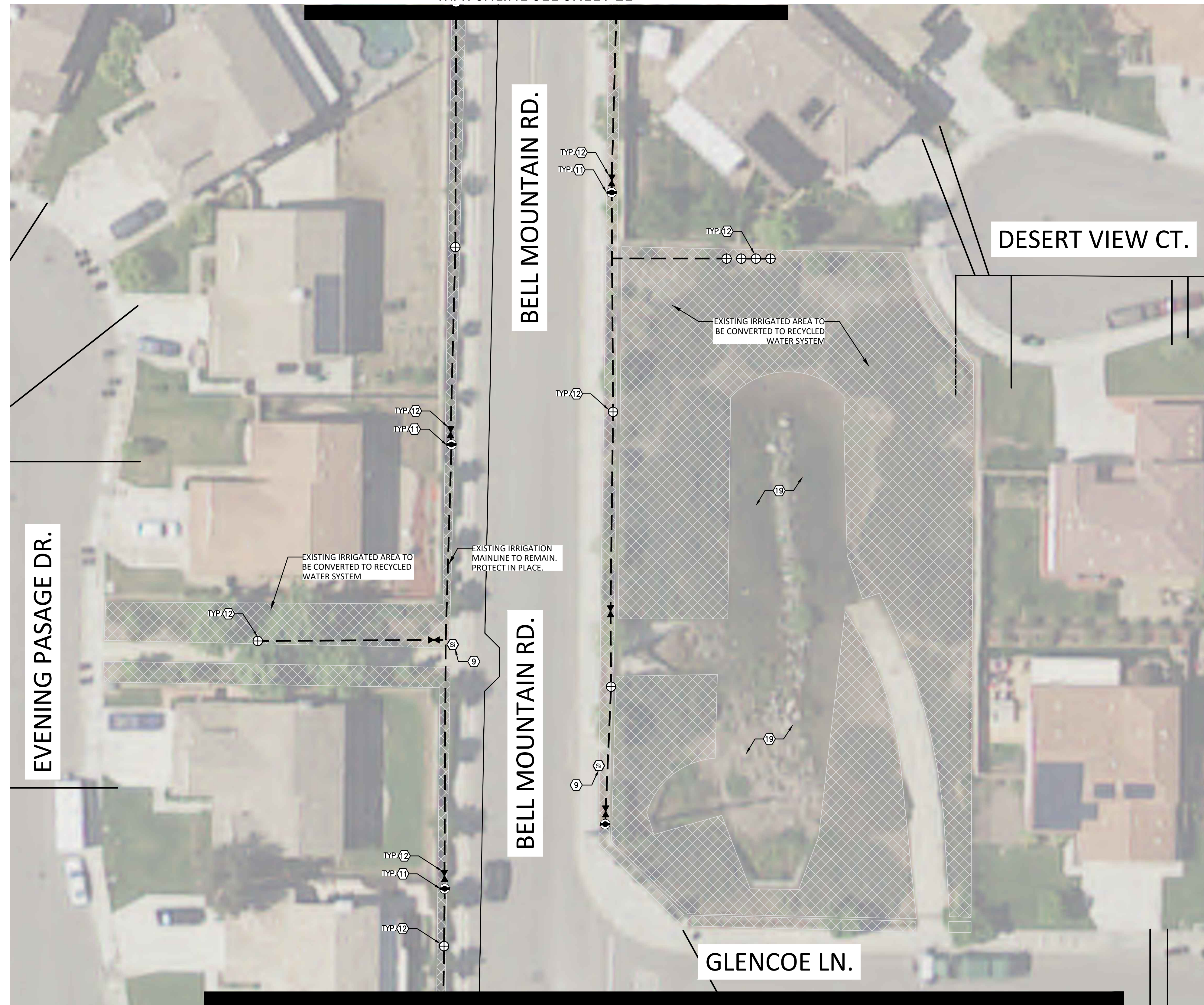
DEPARTMENT	ACCEPTANCE	DATE
NEW BUSINESS P.C.		
OPERATIONS		
ENGINEERING		
POS ENGINEER		

**HOLLAND ROAD**  
 MENIFEE, CA.  
**RECYCLED WATER IRRIGATION RETROFIT IMPROVEMENTS**  
**IRRIGATION PLAN**

WO: 19227
PCWO:
DOPP: RWUE:
COORD. RWUP:
I.D. SHT. 15 OF 22
S.A. D-



MATCHLINE SEE SHEET 11



CONSTRUCTION LEGEND

- | SYMBOL | DESCRIPTION  |
|--------|--|
| ①      | INSTALL NEW 2" RECYCLED WATER METER PER EMWD STANDARD PB-10. WATER METER WILL BE PROVIDED BY EMWD.   |
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| ⑧      | PROVIDE AND INSTALL 14GA. VALVE WIRES FOR FLOW SENSOR AND MASTER VALVE INSIDE A 1.5" PVC SCH.40 CONDUIT. CONNECT TO EXISTING IRRIGATION CONTROLLER.                                |
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| ⑩      | CUT AND CAP EXISTING IRRIGATION MAINLINE-PROVIDE A MINIMUM OF 4FT. SEPARATION AND REMOVE UNUSED PIPE. REMOVE EXISTING BACKFLOW PREVENTER AND EQUIPMENT                             |
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| ⑱      | INSTALL 850 SMALL DOUBLE CHECK BACKFLOW PREVENTER (SIZE: 2" TO MATCH STRAINER) WITH STAINLESS STEEL ENCLOSURE. INSTALL PER DETAIL.   |
| ⑲      | REMOVE AND CAP EXISTING REMOTE CONTROL VALVES THAT IRRIGATE THE BOTTOM OF THE BASIN. LATERAL LINES SHALL BE ABANDONED IN PLACE.  |

**RECYCLED WATER IRRIGATION LEGEND:**

SYMBOL	DESCRIPTION
⊕	RECYCLED ISOLATION VALVE
⊖	RECYCLED REMOTE CONTROL VALVE
⊙	RECYCLED QUICK COUPLER VALVE
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—	RECYCLED IRRIGATION MAINLINE (PROPOSE)
- -	RECYCLED IRRIGATION MAINLINE (EXISTING)

**POTABLE WATER LEGEND:**

SYMBOL	DESCRIPTION
A	POTABLE WATER METER
B	POTABLE BACKFLOW PREVENTER

MATCHLINE SEE SHEET 15

INSTALLATION NOTES

THE MATERIALS AND THE INSTALLATION OF THE IRRIGATION SYSTEM SHOWN ON THIS PLAN SHALL MEET THE LATEST EMWD STANDARDS AND SPECIFICATIONS AT COMMENCEMENT OF WORK. IF CONTRACTOR NOTICES ANY INCONSISTENCIES WITH THE LATEST IRRIGATION DESIGN STANDARDS, ONE SHALL IMMEDIATELY NOTIFY ALL PARTIES.

NO HOSE BIBS WILL BE ALLOWED FOR INSTALLATION ON SYSTEMS USING RECYCLED WATER.

IRRIGATION DRAWING NOTE:

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POTABLE AND RECYCLED WATER SEPARATION NOTE:

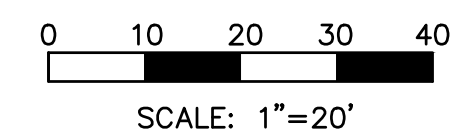
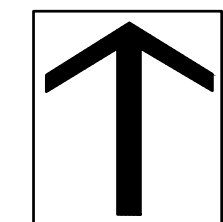
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COLOR CODING

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VALVE BOX NOTE:

ALL DAMAGED VALVE BOXES SHALL BE REPLACED WITH NEW PURPLE COLOR VALVE BOX. SIZE TO MATCH EXISTING.



**DIG ALERT**

Call: TOLL FREE  
1-800-227-2600  
OR  
811

TWO FULL WORKING DAYS BEFORE YOU DIG

ACCEPTED BY:

VALLEY-WIDE RECREATION AND PARK DISTRICT

DEPARTMENT: \_\_\_\_\_ ACCEPTANCE: \_\_\_\_\_ DATE: 6/17/19

DESCRIPTION: \_\_\_\_\_

LOCATION: \_\_\_\_\_

VERTICAL DATUM: \_\_\_\_\_

HORIZONTAL DATUM: \_\_\_\_\_

DATE	BY	MARK
03/25/2019	HNCC	
	ENGINEER	

ACCEPTED BY:

EASTERN MUNICIPAL WATER DISTRICT

SENIOR CIVIL ENGINEER: \_\_\_\_\_ DATE: \_\_\_\_\_

DEPARTMENT: \_\_\_\_\_ ACCEPTANCE: \_\_\_\_\_ DATE: \_\_\_\_\_

NEW BUSINESS P.C. \_\_\_\_\_

OPERATIONS \_\_\_\_\_

ENGINEERING \_\_\_\_\_

POS ENGINEER \_\_\_\_\_

DEPARTMENT	ACCEPTANCE	DATE

HOLLAND ROAD  
MENIFEE, CA.

RECYCLED WATER IRRIGATION RETROFIT IMPROVEMENTS

**IRRIGATION PLAN**

WO: 19227
PCWO: _____
DOPP: RWJUE: _____
COORD. RWUP: _____
I.D. SHT. 16 OF 22
S.A. D-



**CONSTRUCTION LEGEND**

- | SYMBOL | DESCRIPTION  |
|--------|--|
| ①      | INSTALL NEW 2" RECYCLED WATER METER PER EMWD STANDARD PB-10. WATER METER WILL BE PROVIDED BY EMWD.   |
| ②      | PROVIDE AND INSTALL NELSON 7645 (1") QUICK COUPLER VALVE WITH ACME THREAD AND PURPLE LOCKING COVER - INSTALL PER DETAIL.   |
| ③      | PROVIDE AND INSTALL YARDNEY STRAINER MCS2-1. SIZE: 2" WITH MAX. FLOW 110 GPM. INSTALL ABOVE GROUND WITH STAINLESS STEEL ENCLOSURE PER MANUFACTURER STANDARD AND DETAIL.            |
| ④      | PROVIDE AND INSTALL GRISWOLD 2260 EPOXY COATED NORMALLY OPEN MASTER VALVE (SIZE: 2") PER DETAIL. RUN WIRES TO EXISTING IRRIGATION CONTROLLER LOCATION.                             |
| ⑤      | PROVIDE AND INSTALL CALSENSE FLOW SENSOR FM-2 (SIZE: 2"). INSTALL PER DETAIL. RUN WIRES TO EXISTING IRRIGATION CONTROLLER LOCATION.  |
| ⑥      | PROVIDE AND INSTALL 1" BALL VALVE INSIDE ROUND PURPLE VALVE BOX.   |
| ⑦      | PROVIDE AND INSTALL 3" CLASS 200 PVC PURPLE RECYCLED WATER IRRIGATION MAINLINE WITH DUCTILE IRON FITTINGS (24" DEEP MIN.) AND CONNECT TO EXISTING IRRIGATION POC AS SHOWN ON PLAN. |
| ⑧      | PROVIDE AND INSTALL 1/4GA. VALVE WIRES FOR FLOW SENSOR AND MASTER VALVE INSIDE A 1.5" PVC SCH.40 CONDUIT. CONNECT TO EXISTING IRRIGATION CONTROLLER.                               |
| ⑨      | PROVIDE AND INSTALL RECYCLED WATER SIGNAGE PER EMWD STANDARD. EXACT LOCATION WILL BE DETERMINED BY EMWD INSPECTOR.   |
| ⑩      | CUT AND CAP EXISTING IRRIGATION MAINLINE-PROVIDE A MINIMUM OF 4FT. SEPARATION AND REMOVE UNUSED PIPE. REMOVE EXISTING BACKFLOW PREVENTER AND EQUIPMENT                             |
| ⑪      | REPLACE EXISTING QUICK COUPLER WITH NELSON 7645 (1") QUICK COUPLER VALVE WITH ACME THREAD AND PURPLE LOCKING COVER - INSTALL PER DETAIL.   |
| ⑫      | REPLACE ALL EXISTING IRRIGATION VALVE BOX'S LIDS WITH PURPLE RECYCLED WATER AND LABEL ACCORDINGLY.   |
| ⑬      | INSTALL NEW 1.5" RECYCLED WATER METER PER EMWD STANDARD PB-11. WATER METER WILL BE PROVIDED BY EMWD.   |
| ⑭      | EXISTING DOMESTIC IRRIGATION WATER METER TO BE REMOVED (BY OTHERS)   |
| ⑮      | CONNECT PROPOSE NEW MASTER VALVE AND FLOW SENSOR WIRES TO EXISTING CONTROLLER. ADJUST EXISTING CONTROLLER FOR HIGH-FLOW SHUT-OFF SETTING.  |
| ⑯      | INSTALL 6" PVC PURPLE CLASS 200 SLEEVE AND 2.5" PVC PURPLE CLASS 315 IRRIGATION MAINLINE. SLEEVE MUST BE BURY MINIMUM OF 36" FROM FINISH GRADE OR PER THE CITY STANDARD.           |
| ⑰      | INSTALL GATE VALVE NIBCO T-113 SIZE TO MATCH MAINLINE SIZE. INSTALL PER DETAIL.  |
| ⑱      | INSTALL 850 SMALL DOUBLE CHECK BACKFLOW PREVENTER (SIZE: 2" TO MATCH STRAINER) WITH STAINLESS STEEL ENCLOSURE. INSTALL PER DETAIL.   |
| ⑲      | REMOVE AND CAP EXISTING REMOTE CONTROL VALVES THAT IRRIGATE THE BOTTOM OF THE BASIN. LATERAL LINES SHALL BE ABANDONED IN PLACE.  |

**RECYCLED WATER IRRIGATION LEGEND:**

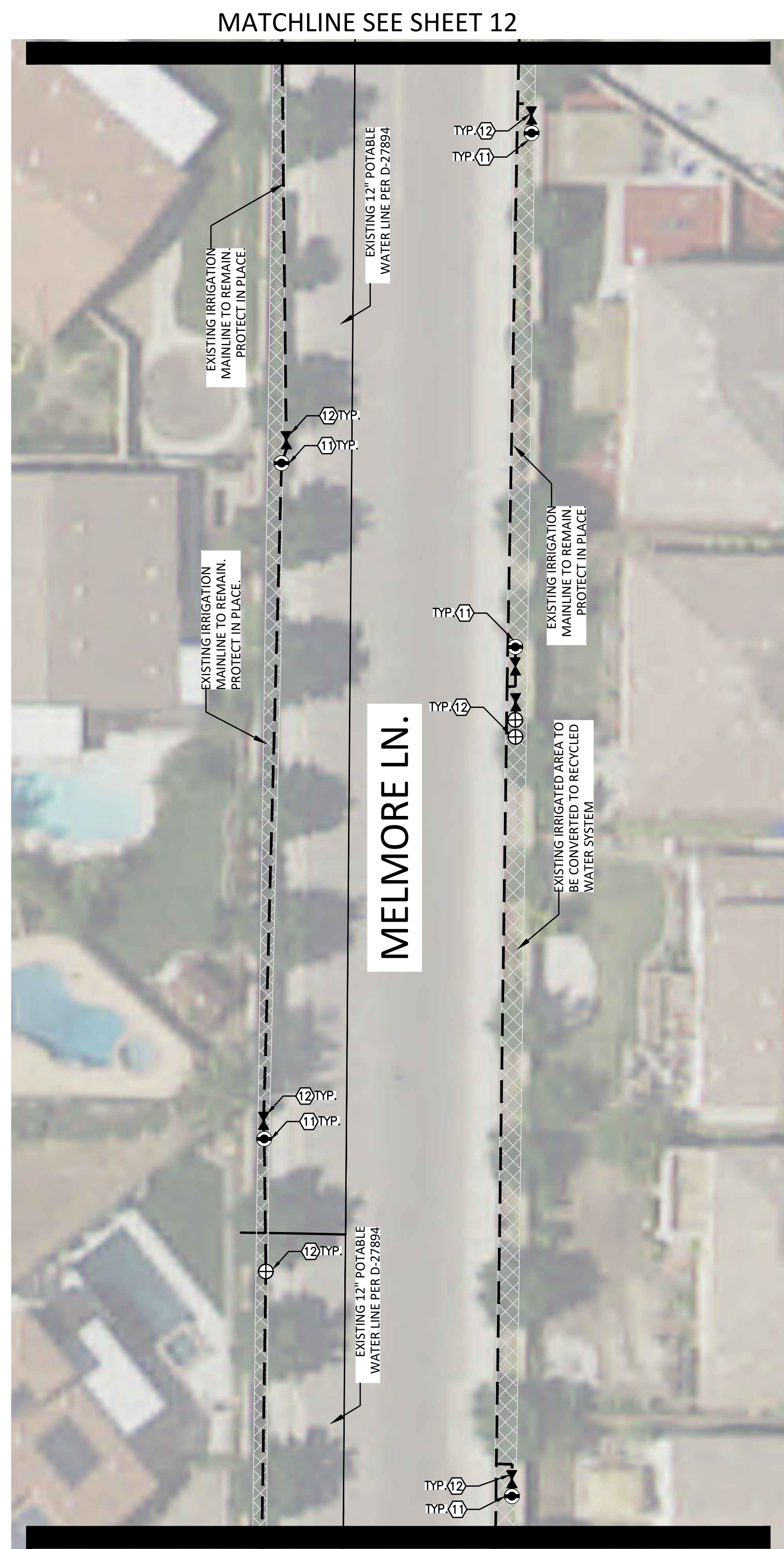
SYMBOL	DESCRIPTION
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	RECYCLED QUICK COUPLER VALVE
	RECYCLED IRRIGATION CONTROLLER
	RECYCLED FERTILIZER INJECTOR
	RECYCLED DOUBLE-CHECK BACKFLOW
	RECYCLED IRRIGATION WATER METER
	RECYCLED IRRIGATION STRAINER
	RECYCLED IRRIGATION MASTER VALVE
	RECYCLED IRRIGATION FLOW SENSOR
	RECYCLED IRRIGATION MAINLINE (PROPOSE)
	RECYCLED IRRIGATION MAINLINE (EXISTING)

**POTABLE WATER LEGEND:**

SYMBOL	DESCRIPTION
	POTABLE WATER METER
	POTABLE BACKFLOW PREVENTER

**VALVE BOX NOTE:**  
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SCALE: 1"=20'



**INSTALLATION NOTES**

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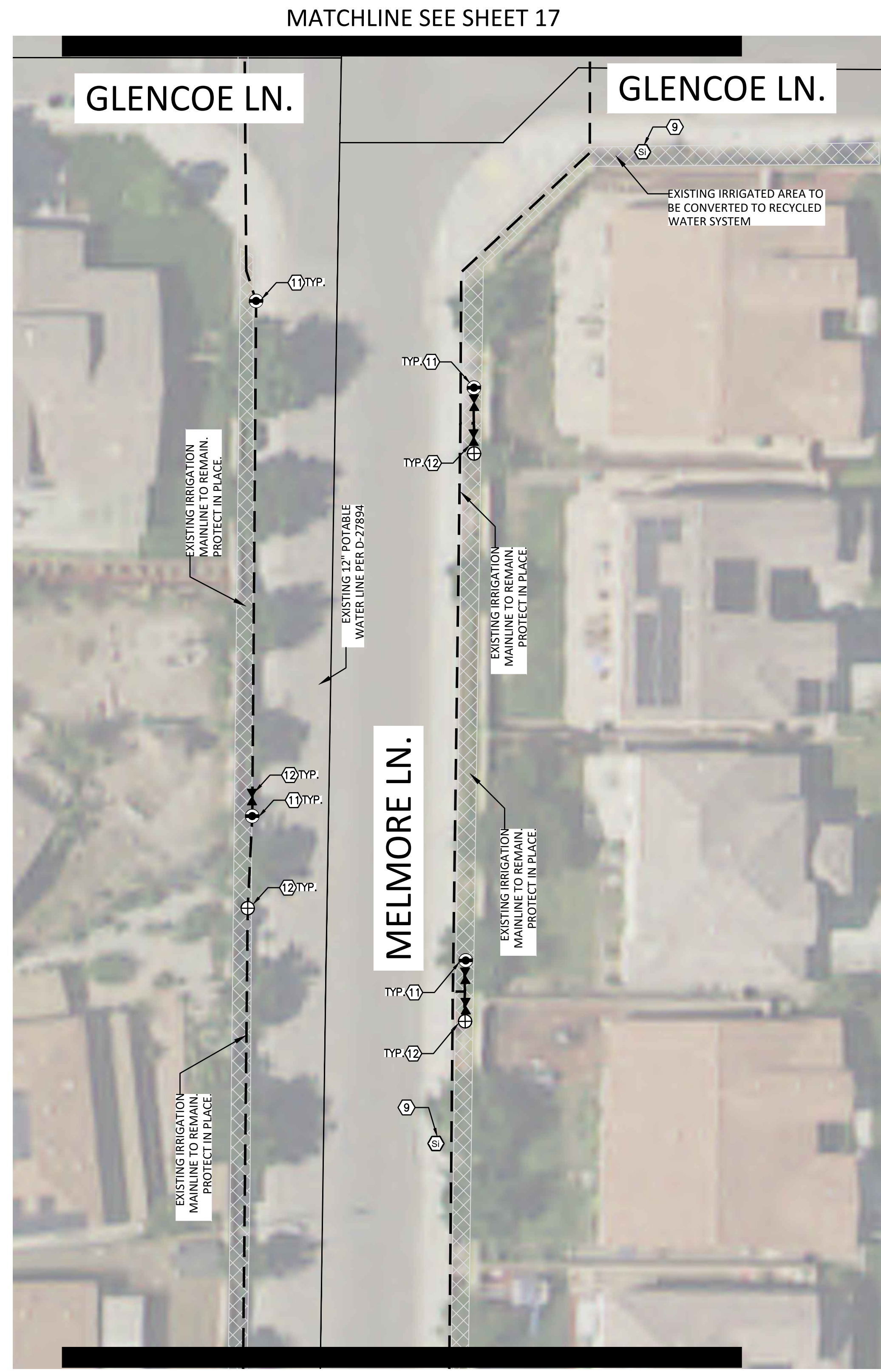
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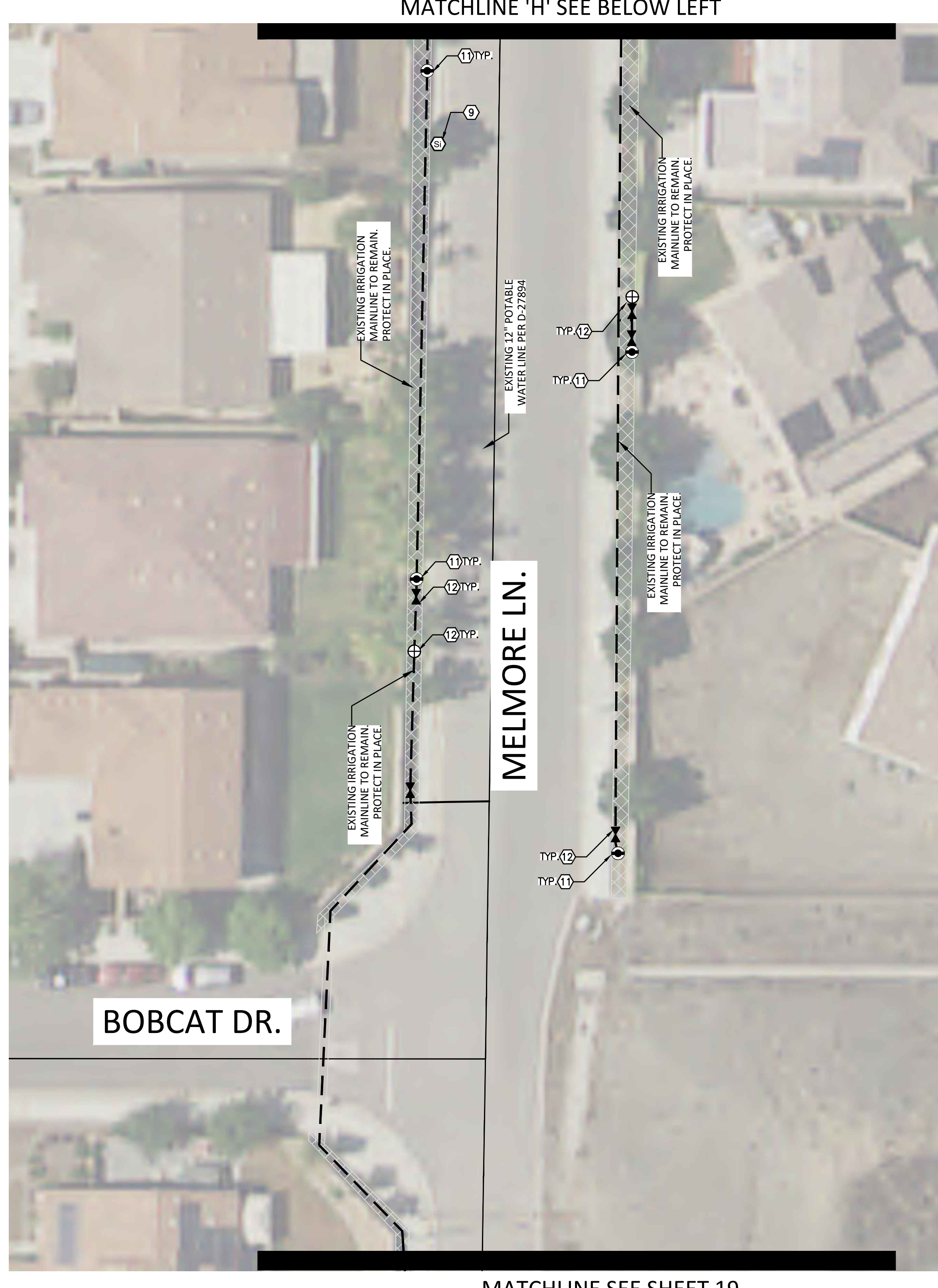
<b>DIG ALERT</b>  Call: TOLL FREE 1-800-227-2600 OR 811 TWO FULL WORKING DAYS BEFORE YOU DIG	BENCH MARK DESCRIPTION: _____ LOCATION: _____ VERTICAL DATUM: _____ HORIZONTAL DATUM: _____	ACCEPTED BY: VALLEY-WIDE RECREATION AND PARK DISTRICT DEPARTMENT: _____ ACCEPTANCE: _____ DATE: 6/17/19	REVISIONS <table border="1"> <thead> <tr> <th>DATE</th> <th>BY</th> <th>MARK</th> <th>DESCRIPTION</th> </tr> </thead> <tbody> <tr> <td>03/25/2019</td> <td>HNCC</td> <td></td> <td></td> </tr> <tr> <td></td> <td>ENGINEER</td> <td></td> <td></td> </tr> </tbody> </table> DRAWN BY: HNCC CHECKED BY: ENGINEER	DATE	BY	MARK	DESCRIPTION	03/25/2019	HNCC				ENGINEER			ACCEPTED BY: EASTERN MUNICIPAL WATER DISTRICT SENIOR CIVIL ENGINEER: _____ DATE: _____ DEPARTMENT: _____ ACCEPTANCE: _____ DATE: _____ NEW BUSINESS P.C. _____ OPERATIONS _____ ENGINEERING _____ POS ENGINEER _____	HOLLAND ROAD MENIFEE, CA. RECYCLED WATER IRRIGATION RETROFIT IMPROVEMENTS <b>IRRIGATION PLAN</b>	WO: 19227 PCWO: _____ DOPP: RWJUE COORD. RWJUE I.D. SHT. 17 OF 22 S.A. D-
	DATE	BY	MARK	DESCRIPTION														
	03/25/2019	HNCC																
	ENGINEER																	





MATCHLINE SEE SHEET 17

MATCHLINE 'H' SEE ABOVE RIGHT



MATCHLINE 'H' SEE BELOW LEFT

MATCHLINE SEE SHEET 19

**CONSTRUCTION LEGEND**

- | SYMBOL | DESCRIPTION  |
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SYMBOL	DESCRIPTION
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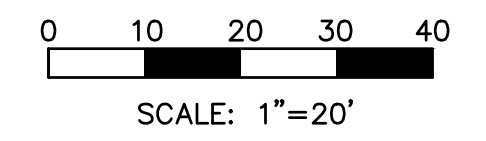
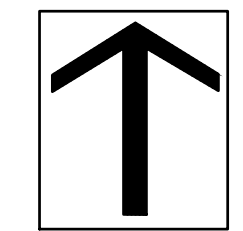
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**BENCH MARK**

DESCRIPTION: \_\_\_\_\_

LOCATION: \_\_\_\_\_

VERTICAL DATUM: \_\_\_\_\_

HORIZONTAL DATUM: \_\_\_\_\_

ACCEPTED BY: \_\_\_\_\_

VALLEY-WIDE RECREATION AND PARK DISTRICT

DEPARTMENT	ACCEPTANCE	DATE
		6/17/19

ACCEPTED BY: \_\_\_\_\_

EASTERN MUNICIPAL WATER DISTRICT

DATE	BY	MARK

REVISIONS	DATE	BY	MARK

DATE: 03/25/2019

DRAWN BY: HNCC

CHECKED BY: ENGINEER

DEPARTMENT	ACCEPTANCE	DATE
NEW BUSINESS P.C.		
OPERATIONS		
ENGINEERING		
POS ENGINEER		

**HOLLAND ROAD**  
MENIFEE, CA.

**RECYCLED WATER IRRIGATION RETROFIT IMPROVEMENTS**

**IRRIGATION PLAN**

WO: 19227
PCWO:
DOPP: RWUJ:
COORD. RWUP:
I.D. SHT. 18 OF 22
S.A. D-

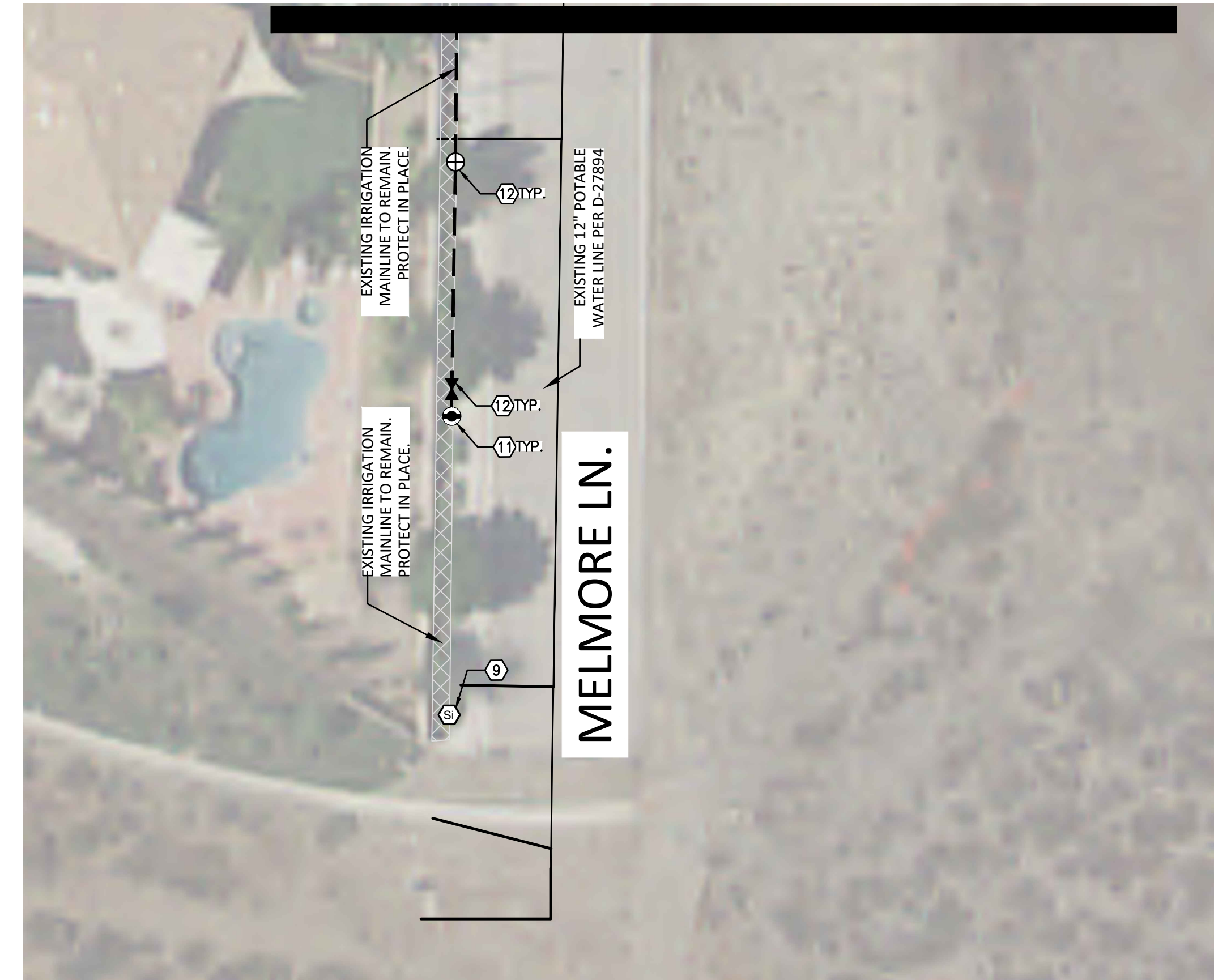


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MATCHLINE SEE SHEET 18

MATCHLINE 'I' SEE BELOW LEFT



**RECYCLED WATER IRRIGATION LEGEND:**

SYMBOL	DESCRIPTION
⊗	RECYCLED ISOLATION VALVE
⊕	RECYCLED REMOTE CONTROL VALVE
⊙	RECYCLED QUICK COUPLER VALVE
⊠	RECYCLED IRRIGATION CONTROLLER
⊕	RECYCLED FERTILIZER INJECTOR
⊕	RECYCLED DOUBLE-CHECK BACKFLOW
⊕	RECYCLED IRRIGATION WATER METER
⊕	RECYCLED IRRIGATION STRAINER
⊕	RECYCLED IRRIGATION MASTER VALVE
⊕	RECYCLED IRRIGATION FLOW SENSOR
⊕	RECYCLED IRRIGATION MAINLINE (PROPOSE)
---	RECYCLED IRRIGATION MAINLINE (EXISTING)

**POTABLE WATER LEGEND:**

SYMBOL	DESCRIPTION
Ⓐ	POTABLE WATER METER
Ⓑ	POTABLE BACKFLOW PREVENTER

INSTALLATION NOTES

THE MATERIALS AND THE INSTALLATION OF THE IRRIGATION SYSTEM SHOWN ON THIS PLAN SHALL MEET THE LATEST EMWD STANDARDS AND SPECIFICATIONS AT COMMENCEMENT OF WORK. IF CONTRACTOR NOTICES ANY INCONSISTENCIES WITH THE LATEST IRRIGATION DESIGN STANDARDS, ONE SHALL IMMEDIATELY NOTIFY ALL PARTIES.

NO HOSE BIBS WILL BE ALLOWED FOR INSTALLATION ON SYSTEMS USING RECYCLED WATER.

IRRIGATION DRAWING NOTE:

THIS RETROFIT PLANS ARE BASED ON IRRIGATION PLANS NOT PREPARED BY EMWD / EMWD REPRESENTATIVE.

EMWD AND OR EMWD REPRESENTATIVES ARE NOT RESPONSIBLE FOR THE ACCURACY OF THE INFORMATION PROVIDED HEREIN. IT ULTIMATELY THE RESPONSIBILITY OF THE CONTRACTOR TO FAMILIARIZE THEMSELVES WITH ALL EXISTING CONDITIONS, EQUIPMENT, UTILITIES AND REQUIREMENTS.

POTABLE AND RECYCLED WATER SEPARATION NOTE:

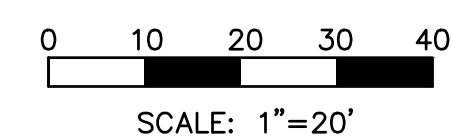
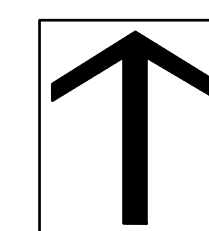
RECYCLED MAINLINE (CONSTANT PRESSURE) SHOWN DIAGRAMMATICALLY FOR CLARITY ONLY. ACTUAL LOCATION MUST PROVIDE A MINIMUM FOUR (4) FEET HORIZONTAL CLEARANCE BETWEEN ALL POTABLE AND CONSTANT PRESSURE RECYCLED WATERLINES. RECYCLED WATER MAINLINE SHOULD BE INSTALLED UNDER POTABLE WATERLINES AND MAINTAIN ONE (1) FOOT OF VERTICAL CLEARANCE. WHERE THE RECYCLED WATER CONSTANT PRESSURE LINE MUST BE INSTALLED ABOVE THE POTABLE WATERLINE, A FOUR (4) INCH MINIMUM VERTICAL CLEARANCE MUST BE MAINTAINED AND THE RECYCLED WATER PRESSURE LINE MUST BE INSTALLED IN A CONTINUOUS PVC CLASS 200 PIPE SLEEVE WHICH EXTENDS A MINIMUM OF TEN (10) FEET EACH SIDE OF THE POTABLE WATERLINE.

COLOR CODING

SPRINKLERS, ROTOR HEADS AND OTHER TYPES OF DISPERSION HEADS SHALL HAVE THE EXPOSED SURFACE COLORED PURPLE. THE EXPOSED SURFACE SHALL BE COLORED THROUGH THE USE OF INTEGRALLY MOLDED PURPLE PLASTIC OR PERMANENTLY ATTACHED PURPLE PLASTIC RING OR DISC. VALVE BOX LIDS SHALL BE PURPLE PER INDUSTRY STANDARDS. THE LIDS SHALL HAVE THE WARNING "RECYCLED: DO NOT DRINK" IN ENGLISH AND SPANISH AND THE INTERNATIONAL "DO NOT DRINK" ON ONE SIDE AND "PELIGRO: AGUA IMPURA-NO BEBER" ON THE OPPOSITE SIDE. ALL SHRUB HEADS SHALL HAVE PURPLE CAPS. ROTOR HEADS MAYBE PAINTED PURPLE WHEN REPLACEMENT CAPS OR COLLARS ARE NOT AVAILABLE. CONTRACTOR TO SUBMIT QUANTITIES, MANUFACTURER AND MODEL NUMBER OF THE HEAD TO EMWD FOR APPROVAL.

VALVE BOX NOTE:

ALL DAMAGED VALVE BOXES SHALL BE REPLACED WITH NEW PURPLE COLOR VALVE BOX. SIZE TO MATCH EXISTING.



DIG ALERT



Call: TOLL FREE  
1-800-227-2600  
OR  
811

ACCEPTED BY: \_\_\_\_\_

VALLEY-WIDE RECREATION AND PARK DISTRICT

DEPARTMENT: \_\_\_\_\_ ACCEPTANCE: \_\_\_\_\_ DATE: 6/17/19

DATE: 03/25/2019

DRAWN BY: HNCC

CHECKED BY: ENGINEER

DATE	BY	MARK	DESCRIPTION

DEPARTMENT	ACCEPTANCE	DATE

DEPARTMENT	ACCEPTANCE	DATE

ACCEPTED BY: \_\_\_\_\_

EASTERN MUNICIPAL WATER DISTRICT

SENIOR CIVIL ENGINEER \_\_\_\_\_ DATE \_\_\_\_\_

HOLLAND ROAD  
MENIFEE, CA.  
RECYCLED WATER IRRIGATION RETROFIT  
IMPROVEMENTS  
IRRIGATION PLAN

WO: 19227

PCWO: \_\_\_\_\_

DOPP: RWJUE

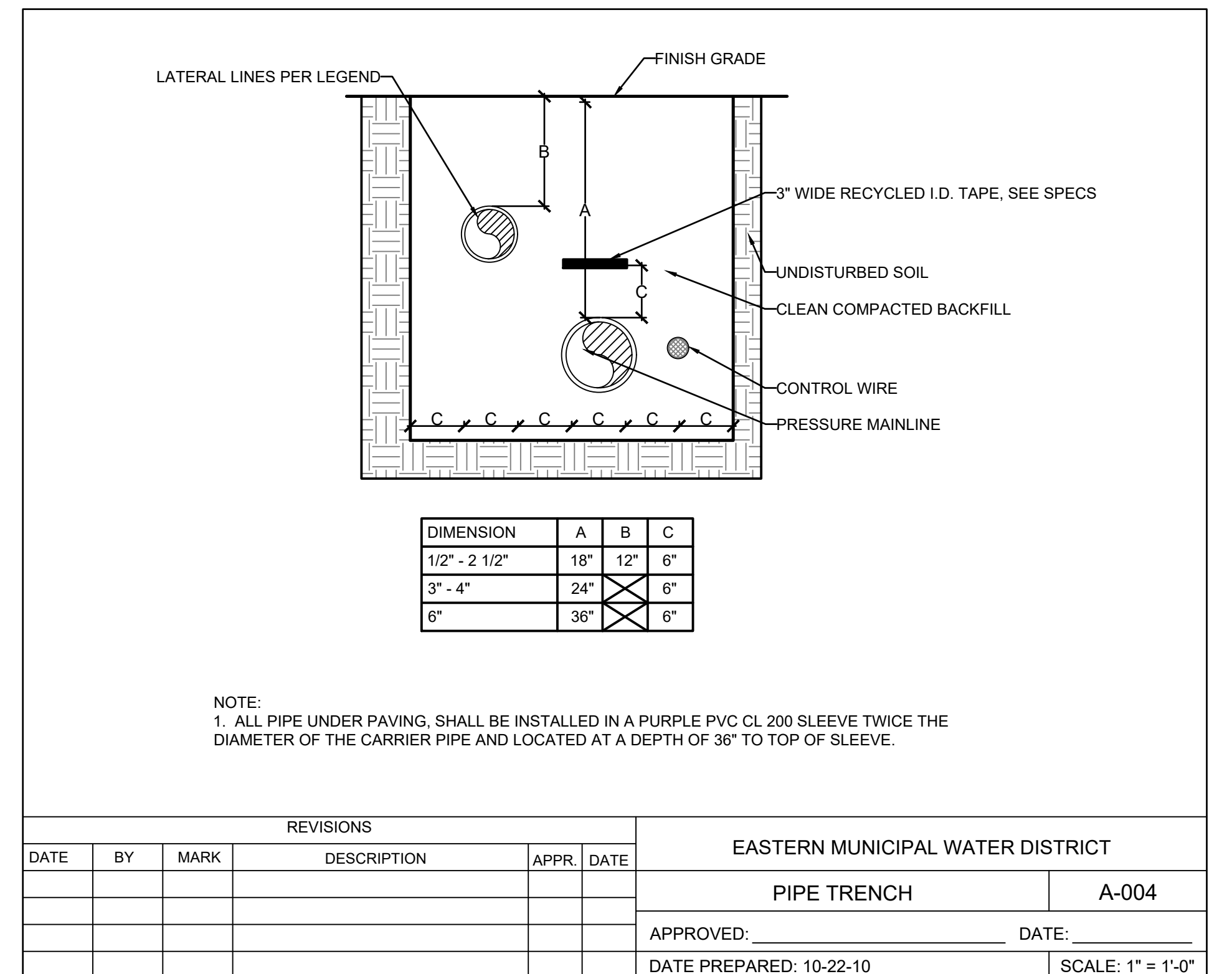
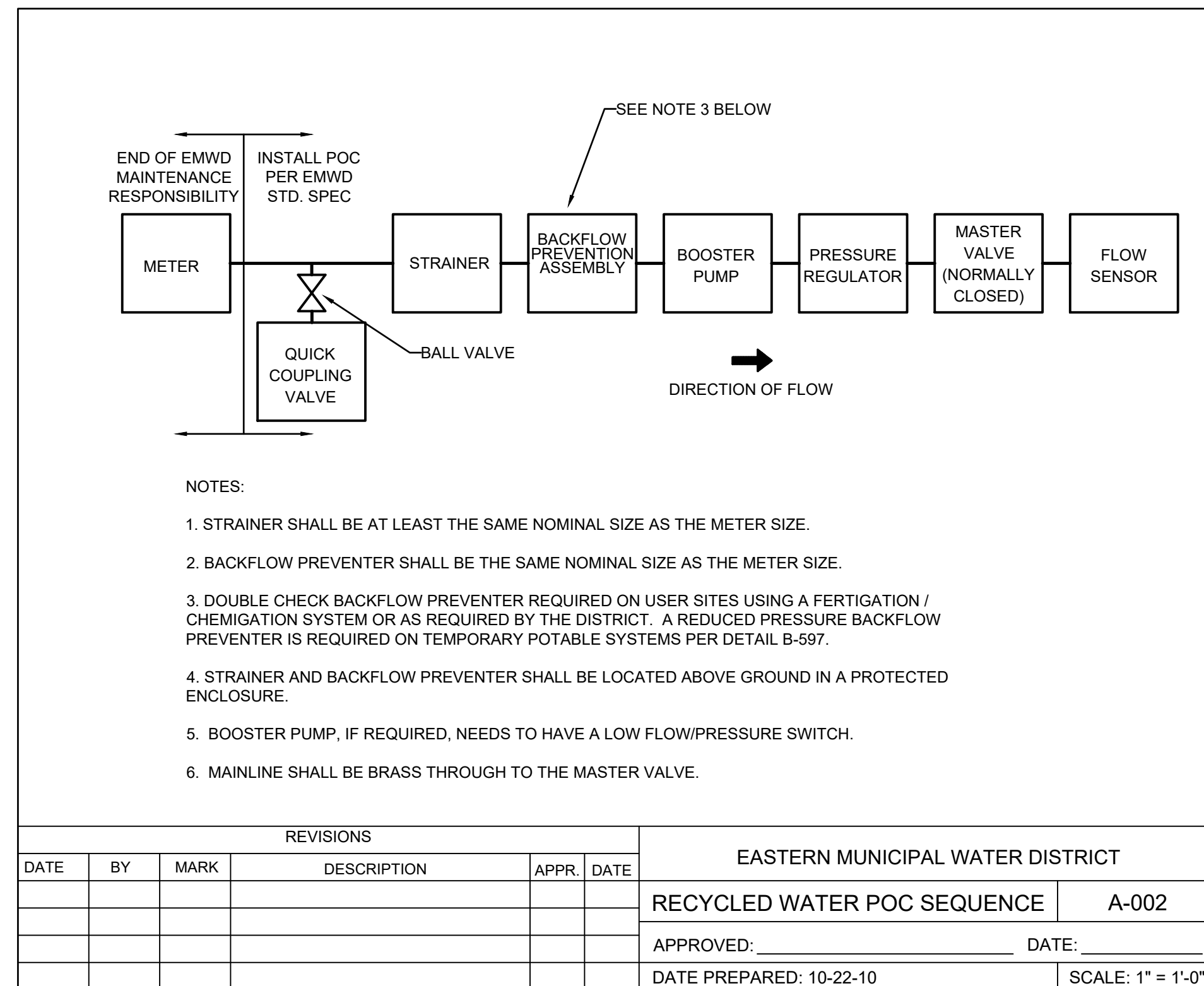
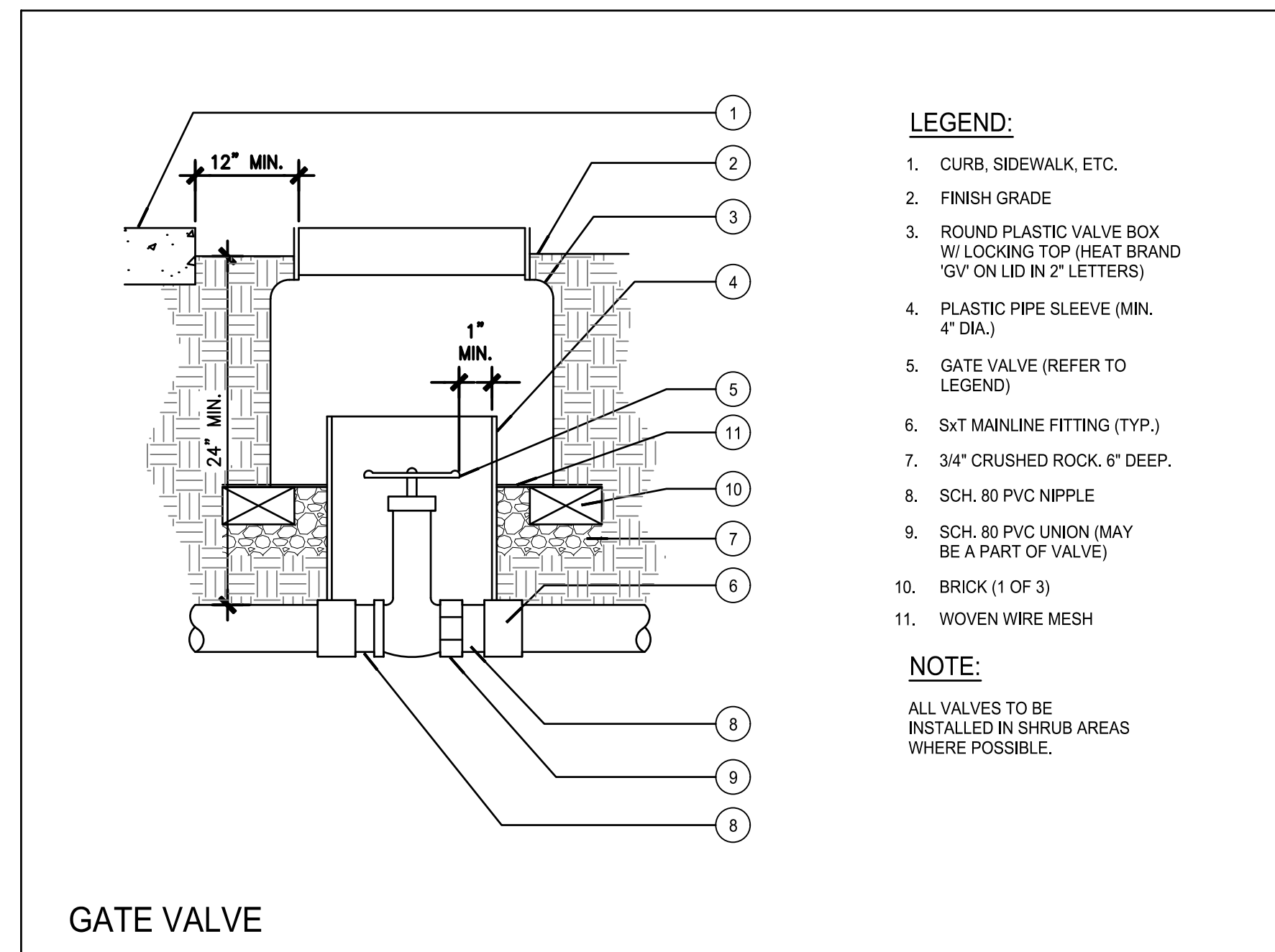
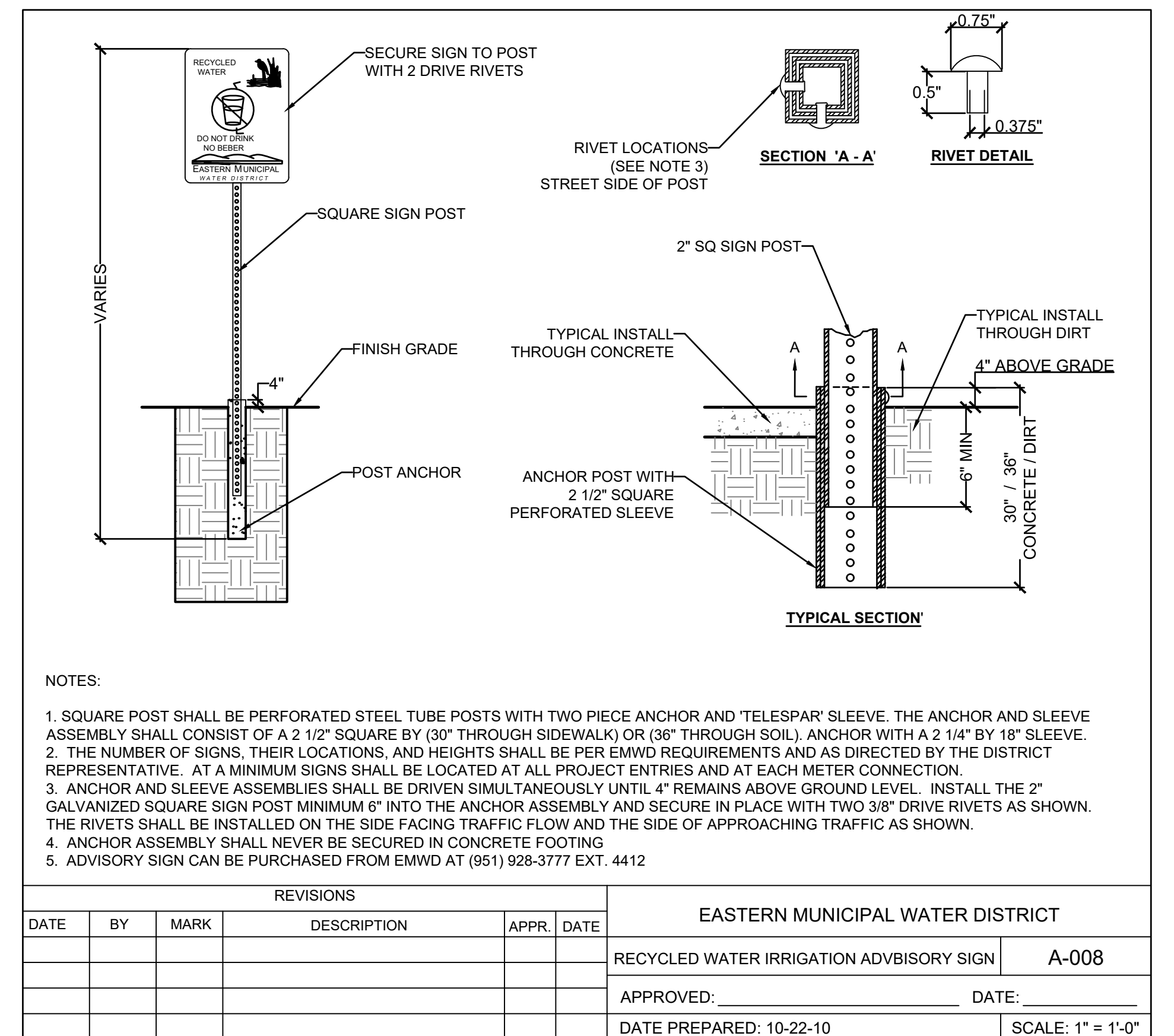
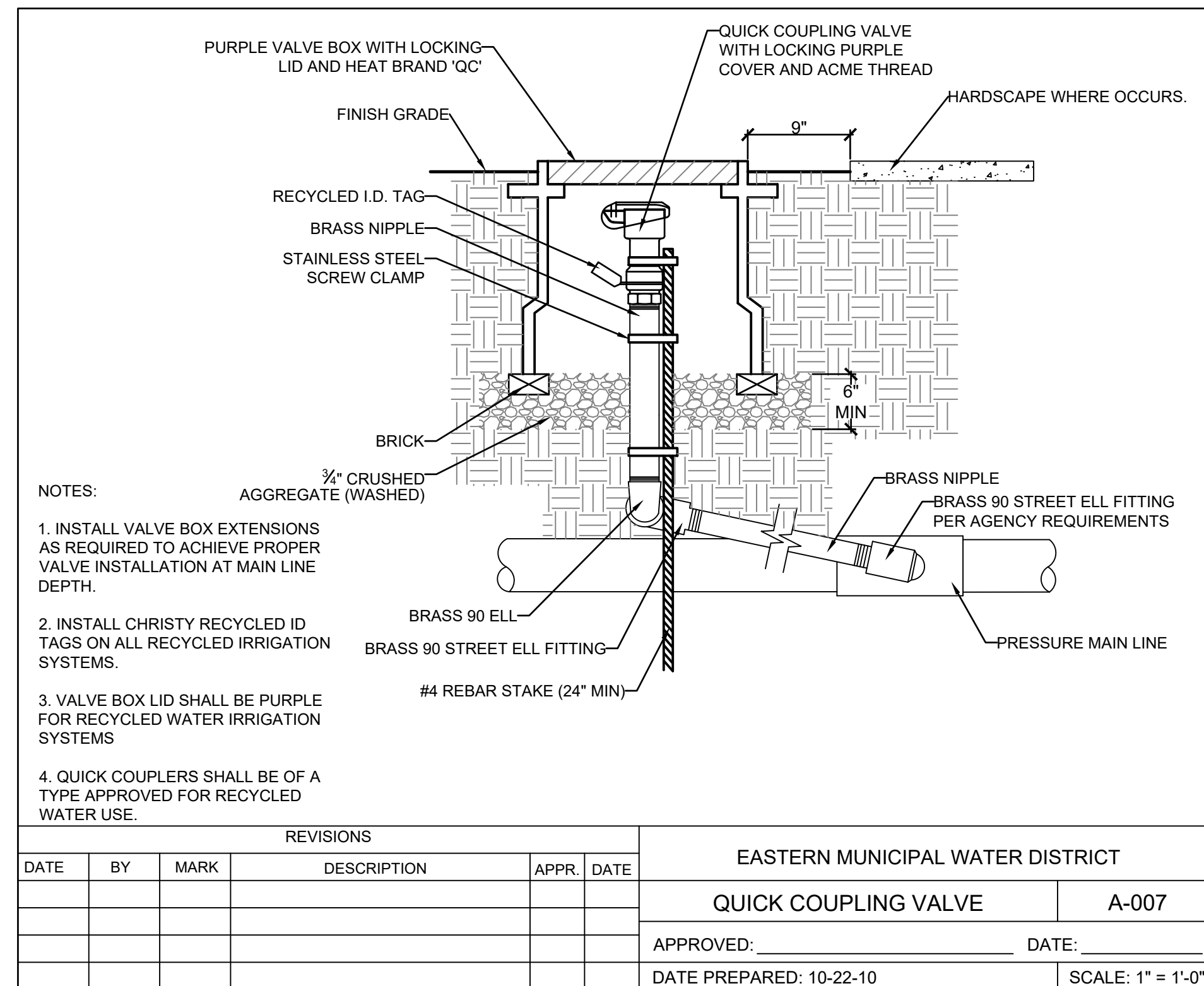
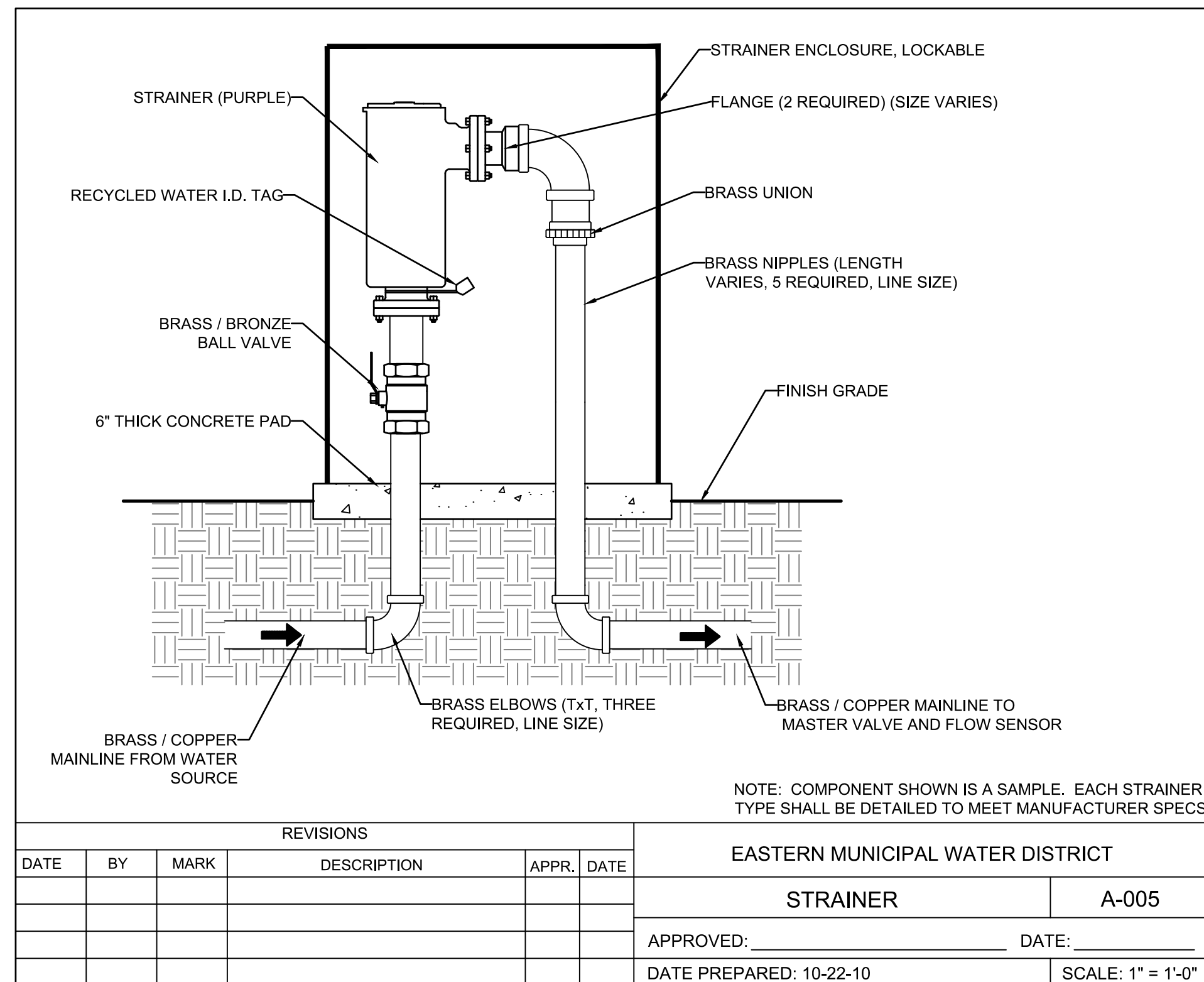
COORD. RWJUE

I.D. SHT. 19 OF 22

S.A. D-

TWO FULL WORKING DAYS BEFORE YOU DIG





**COLOR CODING**

SPRINKLERS, ROTOR HEADS AND OTHER TYPES OF DISPERSION HEADS SHALL HAVE THE EXPOSED SURFACE COLORED PURPLE. THE EXPOSED SURFACE SHALL BE COLORED THROUGH THE USE OF INTEGRALLY MOLDED PURPLE PLASTIC OR PERMANENTLY ATTACHED PURPLE PLASTIC RING OR DISC. VALVE BOXES AND LIDS SHALL BE PURPLE PER INDUSTRY STANDARDS. THE LIDS SHALL HAVE THE WARNING "RECYCLED: DO NOT DRINK" IN ENGLISH AND SPANISH AND THE INTERNATIONAL "DO NOT DRINK" ON ONE SIDE AND "PELIGRO: AGUA IMPURA-NO BEBER" ON THE OPPOSITE SIDE. ALL SHRUB HEADS SHALL HAVE PURPLE CAPS. ROTOR HEADS MAYBE PAINTED PURPLE WHEN REPLACEMENT CAPS OR COLLARS ARE NOT AVAILABLE. CONTRACTOR TO SUBMIT QUANTITIES, MANUFACTURER AND MODEL NUMBER OF THE HEAD TO EMWD FOR APPROVAL.

**INSTALLATION NOTES**

THE MATERIALS AND THE INSTALLATION OF THE IRRIGATION SYSTEM SHOWN ON THIS PLAN SHALL MEET THE LATEST EMWD AND CITY OF WINCHESTER / VALLEY-WIDE RECREATION AND PARK DISTRICT STANDARDS AND SPECIFICATIONS. IF CONTRACTOR NOTICES ANY INCONSISTENCIES WITH THE LATEST IRRIGATION DESIGN STANDARDS, HE SHALL IMMEDIATELY NOTIFY ALL PARTIES.

NO HOSE BIBS WILL BE ALLOWED FOR INSTALLATION ON SYSTEMS USING RECYCLED WATER.

**DIG ALERT**

Call: TOLL FREE 1-800-227-2600 OR 811

TWO FULL WORKING DAYS BEFORE YOU DIG

BENCH MARK DESCRIPTION: \_\_\_\_\_

LOCATION: \_\_\_\_\_

VERTICAL DATUM: \_\_\_\_\_

HORIZONTAL DATUM: \_\_\_\_\_

ACCEPTED BY: \_\_\_\_\_

VALLEY-WIDE RECREATION AND PARK DISTRICT

DEPARTMENT	ACCEPTANCE	DATE
	<i>[Signature]</i>	6/17/19

DATE: 03/25/2019

DRAWN BY: HNCC

CHECKED BY: ENGINEER

REVISIONS

DATE	BY	MARK	DESCRIPTION

ACCEPTED BY: \_\_\_\_\_

EASTERN MUNICIPAL WATER DISTRICT

SENIOR CIVIL ENGINEER \_\_\_\_\_ DATE: \_\_\_\_\_

DEPARTMENT	ACCEPTANCE	DATE
NEW BUSINESS P.C.		
OPERATIONS		
ENGINEERING		
POS ENGINEER		

**HOLLAND ROAD**

MENIFEE, CA.

RECYCLED WATER IRRIGATION RETROFIT IMPROVEMENTS

IRRIGATION DETAILS

WO: 19227

PCWO: \_\_\_\_\_

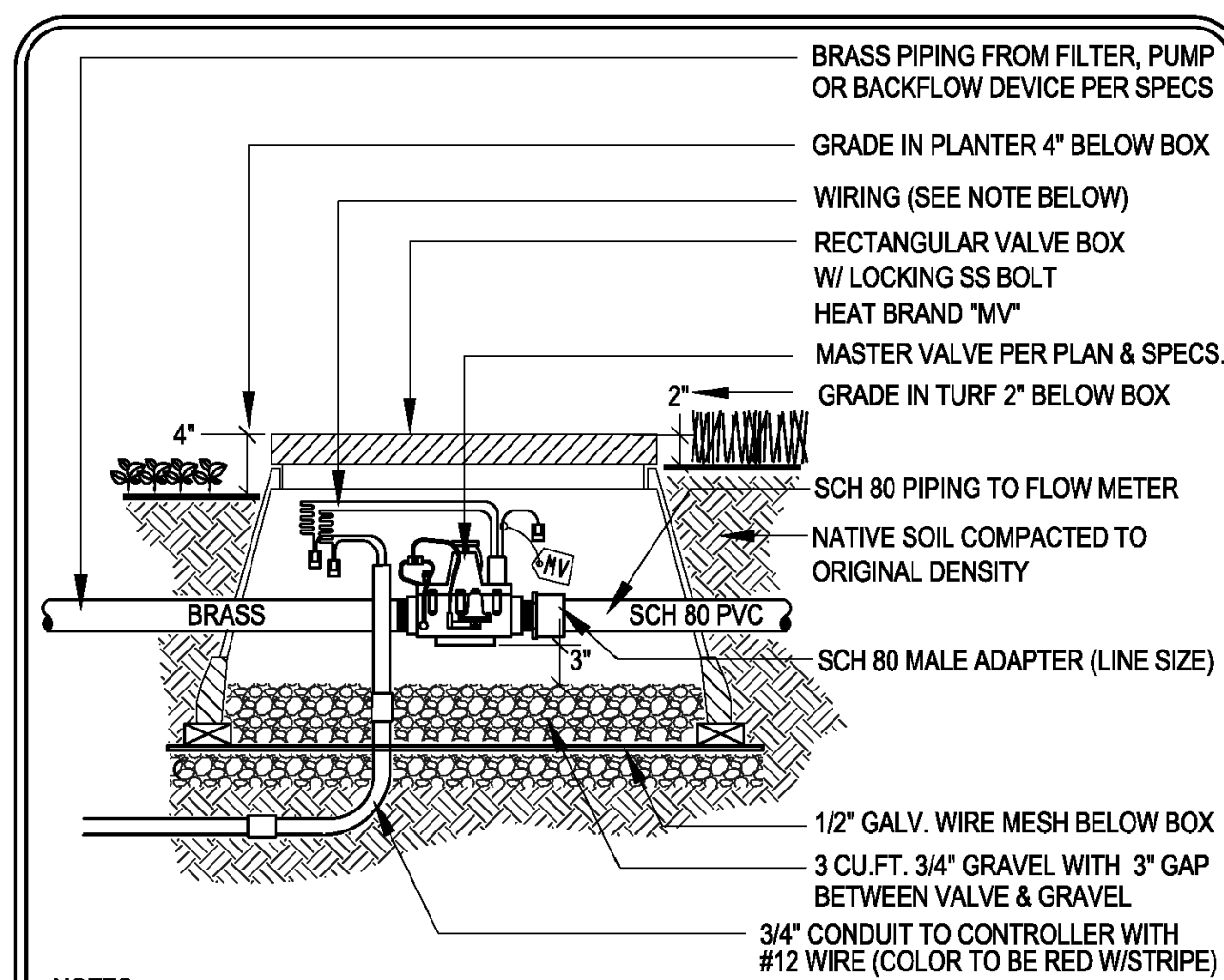
DOPP: RWJW: \_\_\_\_\_

COORD. RWUP: \_\_\_\_\_

I.D. SHT. 20 OF 22

S.A. D-



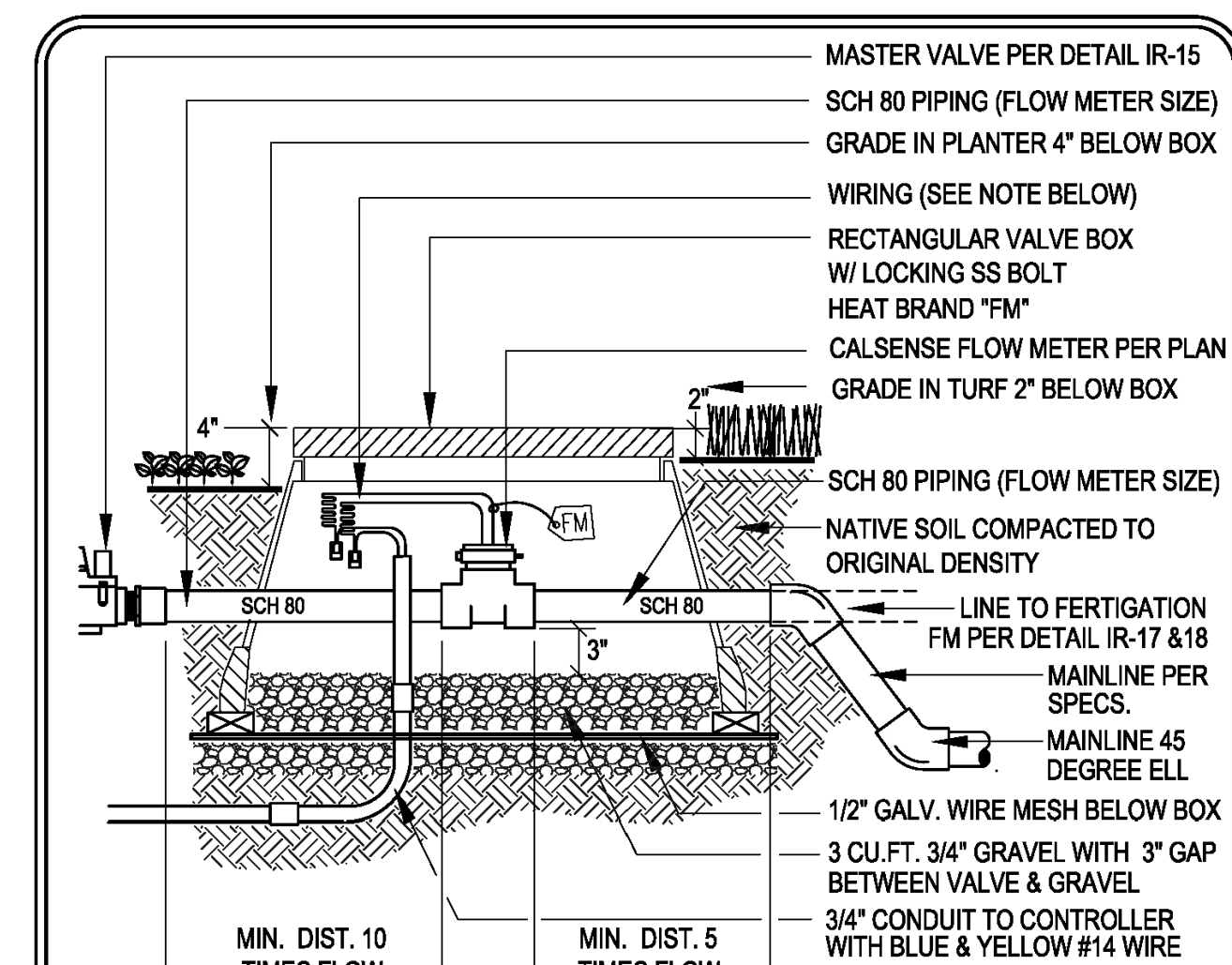


- BRASS PIPING FROM FILTER, PUMP OR BACKFLOW DEVICE PER SPECS  
 GRADE IN PLANTER 4" BELOW BOX  
 WIRING (SEE NOTE BELOW)  
 RECTANGULAR VALVE BOX W/ LOCKING SS BOLT HEAT BRAND "MV"  
 MASTER VALVE PER PLAN & SPECS. GRADE IN TURF 2" BELOW BOX  
 SCH 80 PIPING TO FLOW METER  
 NATIVE SOIL COMPACTED TO ORIGINAL DENSITY  
 BRASS  
 SCH 80 PVC  
 SCH 80 MALE ADAPTER (LINE SIZE)  
 1/2" GALV. WIRE MESH BELOW BOX  
 3 CU. FT. 3/4" GRAVEL WITH 3" GAP BETWEEN VALVE & GRAVEL  
 3/4" CONDUIT TO CONTROLLER WITH #12 WIRE (COLOR TO BE RED W/ STRIPE)
- NOTES:  
 1. ALL WIRING SHALL BE APPROVED BY THE DISTRICT PRIOR TO BACKFILL  
 2. PROVIDE 24" LONG EXPANSION COILS AT EACH WIRE CONNECTION  
 3. PROVIDE 4 EA. CONCRETE BRICKS UNDER VALVE BOX (TYP.)  
 4. USE IRON DUCTILE FITTINGS FOR 4" & LARGER MAINLINE  
 5. PROVIDE SEPARATE MASTER VALVE AND FLOW METER WHEN AN ADDITIONAL CONTROLLER IS SPECIFIED OR USE SINGLE MASTER VALVE AND FLOW METER WHEN THE "FL" OPTION IS USED FOR MULTIPLE CONTROLLERS AS APPROVED BY THE DISTRICT AND CALSENSE  
 6. NEVER CONNECT SINGLE MASTER VALVES AND FLOW METERS TO BOTH CONTROLLERS  
 7. PROVIDE BRASS PIPING IN LIEU OF SCH 80 PVC WHEN BRASS FLOW METER IS SPECIFIED  
 8. SEAL WIRE CONNECTORS AND CONDUIT OPENING WITH HARDENING SEALANT PER SPECS.  
 9. FLOW METERS 3" AND LARGER SHALL BE FLANGED. PROVIDE SPOOLS AND ADAPTERS AS REQ'D.  
 10. MASTER VALVE SHALL BE STAINLESS STEEL W/ PRESSURE REDUCING AND SURGE RELIEF OPTIONS

LD Consulting 2012 (Any deviation or reproduction of this design must be approved in writing by Valley-Wide Recreation & Park District)

**VALLEY-WIDE RECREATION & PARK DISTRICT**  
**MASTER CONTROL VALVE** IR-15  
 REV. 2012

Valley-Wide Recreation & Park District 2012 Standards & Specifications 205

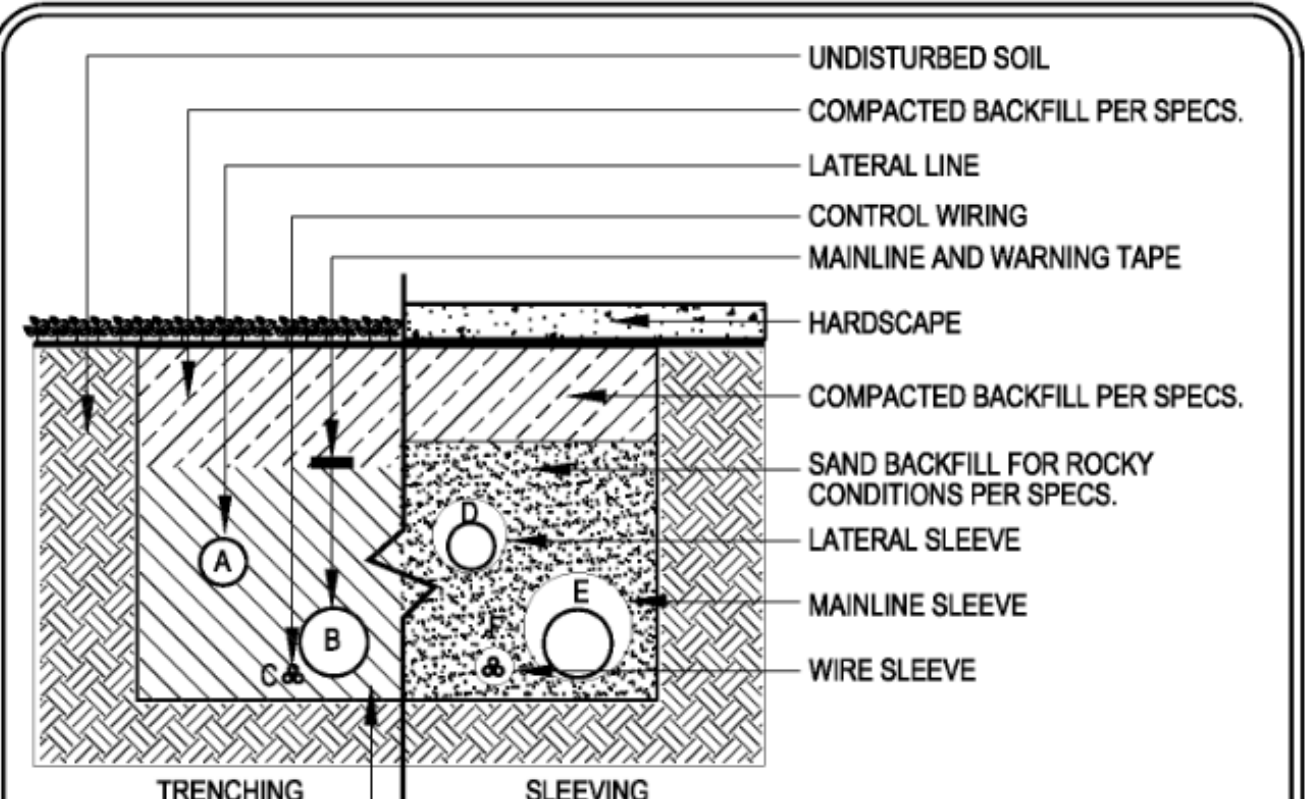


- MASTER VALVE PER DETAIL IR-15  
 SCH 80 PIPING (FLOW METER SIZE)  
 GRADE IN PLANTER 4" BELOW BOX  
 WIRING (SEE NOTE BELOW)  
 RECTANGULAR VALVE BOX W/ LOCKING SS BOLT HEAT BRAND "FM"  
 CALSENSE FLOW METER PER PLAN GRADE IN TURF 2" BELOW BOX  
 SCH 80 PIPING (FLOW METER SIZE)  
 NATIVE SOIL COMPACTED TO ORIGINAL DENSITY  
 LINE TO FERTIGATION FM PER DETAIL IR-17 & 18  
 MAINLINE PER SPECS.  
 MAINLINE 45 DEGREE ELL  
 1/2" GALV. WIRE MESH BELOW BOX  
 3 CU. FT. 3/4" GRAVEL WITH 3" GAP BETWEEN VALVE & GRAVEL  
 3/4" CONDUIT TO CONTROLLER WITH BLUE & YELLOW #14 WIRE
- MIN. DIST. 10 TIMES FLOW METER SIZE  
 MIN. DIST. 5 TIMES FLOW METER SIZE
- NOTES:  
 1. ALL WIRING SHALL BE APPROVED BY THE DISTRICT PRIOR TO BACKFILL  
 2. PROVIDE 24" LONG EXPANSION COILS AT EACH WIRE CONNECTION  
 3. PROVIDE 4 EA. CONCRETE BRICKS UNDER VALVE BOX (TYP.)  
 4. USE IRON DUCTILE FITTINGS FOR 4" & LARGER MAINLINE  
 5. PROVIDE SEPARATE MASTER VALVE AND FLOW METER WHEN AN ADDITIONAL CONTROLLER IS SPECIFIED OR USE SINGLE MASTER VALVE AND FLOW METER WHEN THE "FL" OPTION IS USED FOR MULTIPLE CONTROLLERS AS APPROVED BY THE DISTRICT AND CALSENSE  
 6. NEVER CONNECT SINGLE MASTER VALVES AND FLOW METERS TO BOTH CONTROLLERS  
 7. PROVIDE BRASS PIPING IN LIEU OF SCH 80 PVC WHEN BRASS FLOW METER IS SPECIFIED  
 8. SEAL WIRE CONNECTORS AND CONDUIT OPENING WITH HARDENING SEALANT PER SPECS.  
 9. PIPING AFTER FLOW METER CAN RUN DIRECTLY TO FERTIGATION FLOW METER WHEN USED

LD Consulting 2012 (Any deviation or reproduction of this design must be approved in writing by Valley-Wide Recreation & Park District)

**VALLEY-WIDE RECREATION & PARK DISTRICT**  
**FLOW METER** IR-16  
 REV. 2012

Valley-Wide Recreation & Park District 2012 Standards & Specifications 206



UNDISTURBED SOIL  
 COMPACTED BACKFILL PER SPECS.  
 LATERAL LINE  
 CONTROL WIRING  
 MAINLINE AND WARNING TAPE  
 HARDSCAPE  
 COMPACTED BACKFILL PER SPECS.  
 SAND BACKFILL FOR ROCKY CONDITIONS PER SPECS.  
 LATERAL SLEEVE  
 MAINLINE SLEEVE  
 WIRE SLEEVE

TRENCHING SLEEVING INITIAL BACKFILL PER SPECS.

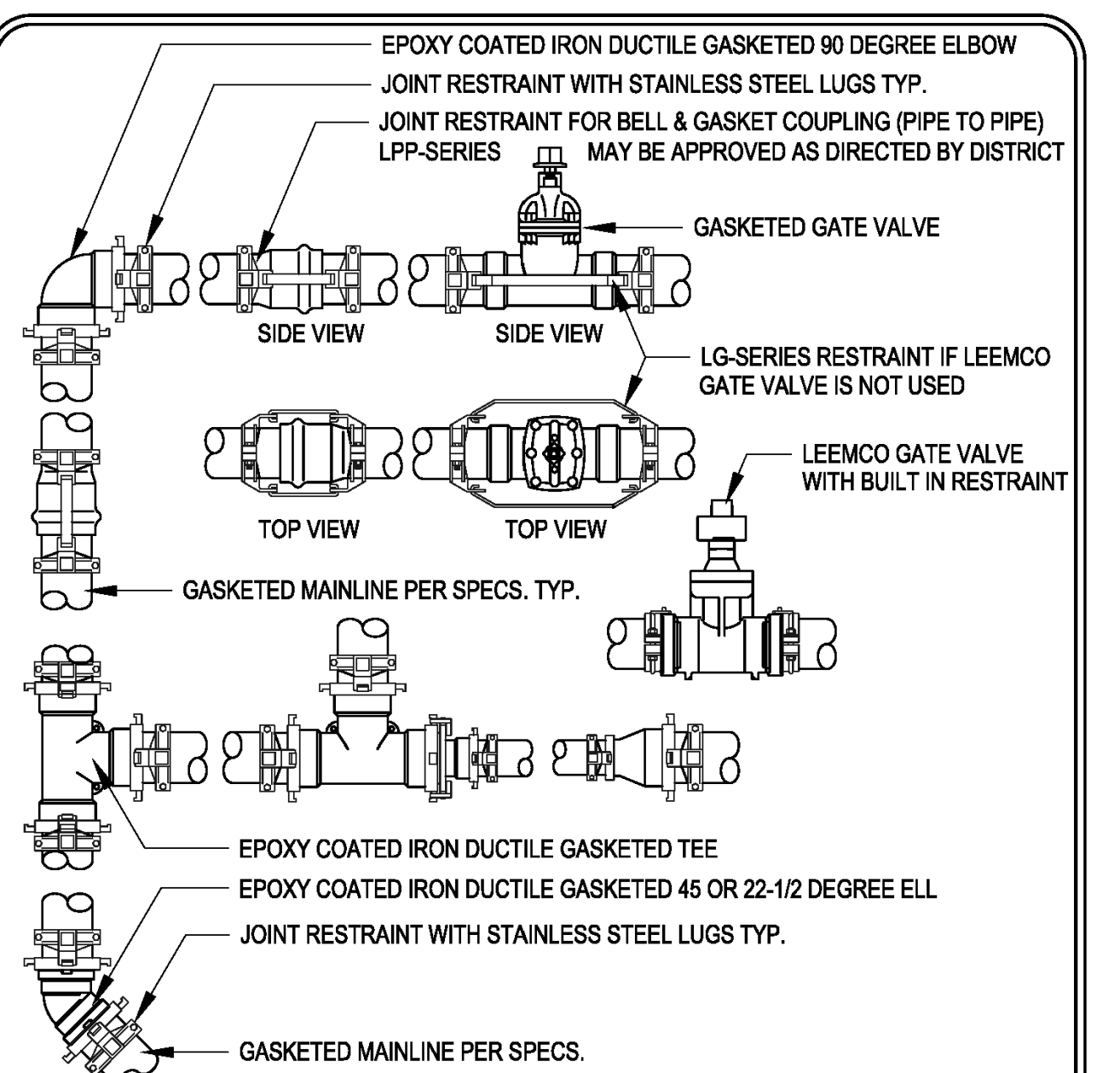
DEPTH	A	B	C	D	E	F
4" & LARGER	-	30"	30"	36"	36"	36"
3" & SMALLER	18"	24"	24"	30"	36"	36"
2-1/2" & SMALLER	12"	24"	24"	24"	30"	30"
WIRING	-	-	BELOW MAIN	-	-	BELOW MAIN

- NOTES:  
 1. LINES MUST HAVE MIN. CLEARANCE OF 4" FROM EACH OTHER & 24" FROM OTHER TRADES  
 2. RUN WIRING UNDER MAINLINE, TAPE & BUNDLE @ 10' O.C.  
 3. PROVIDE A 24" LOOP IN ALL WIRING AT CHANGES IN DIRECTION  
 4. ALL SLEEVES MUST BE 2 TIMES THE DIAMETER OF THE PIPE WITHIN  
 5. ALL SLEEVES MUST HAVE FOAM AT PIPE OPENING TO PREVENT DIRT ENTRY  
 6. ALL SLEEVES MUST EXTEND 12" MIN. DISTANCE PAST CURB OR SIDEWALK  
 7. CONTRACTOR MUST ADJUST MAINLINE AROUND ALL STREET LIGHT LOCATIONS

LD Consulting 2012 (Any deviation or reproduction of this design must be approved in writing by Valley-Wide Recreation & Park District)

**VALLEY-WIDE RECREATION & PARK DISTRICT**  
**TRENCHING & SLEEVING** IR-23  
 REV. 2012

Valley-Wide Recreation & Park District 2012 Standards & Specifications 213



- EPOXY COATED IRON DUCTILE GASKETED 90 DEGREE ELBOW  
 JOINT RESTRAINT WITH STAINLESS STEEL LUGS TYP.  
 JOINT RESTRAINT FOR BELL & GASKET COUPLING (PIPE TO PIPE) LPP-SERIES MAY BE APPROVED AS DIRECTED BY DISTRICT  
 GASKETED GATE VALVE  
 LG-SERIES RESTRAINT IF LEEMCO GATE VALVE IS NOT USED  
 LEEMCO GATE VALVE WITH BUILT IN RESTRAINT  
 GASKETED MAINLINE PER SPECS. TYP.  
 EPOXY COATED IRON DUCTILE GASKETED TEE  
 EPOXY COATED IRON DUCTILE GASKETED 45 OR 22-1/2 DEGREE ELL  
 JOINT RESTRAINT WITH STAINLESS STEEL LUGS TYP.  
 GASKETED MAINLINE PER SPECS.
- NOTES:  
 ALL UNIONS SHALL BE RESTRAINED AS SHOWN ABOVE  
 1. ALL IRON DUCTILE FITTINGS SHALL BE EPOXY COATED WITH INNER GASKET PER SPECS.  
 2. ALL FITTINGS AND BELL & GASKET COUPLINGS SHALL BE RESTRAINED AS SHOWN ABOVE  
 3. ALL LUGS SHALL BE STAINLESS STEEL AND TIGHTENED PER MANUFACTURER TORQUE CHART

LD Consulting 2012 (Any deviation or reproduction of this design must be approved in writing by Valley-Wide Recreation & Park District)

**VALLEY-WIDE RECREATION & PARK DISTRICT**  
**MAINLINE RESTRAINTS 4" & LARGER** IR-25  
 REV. 2012

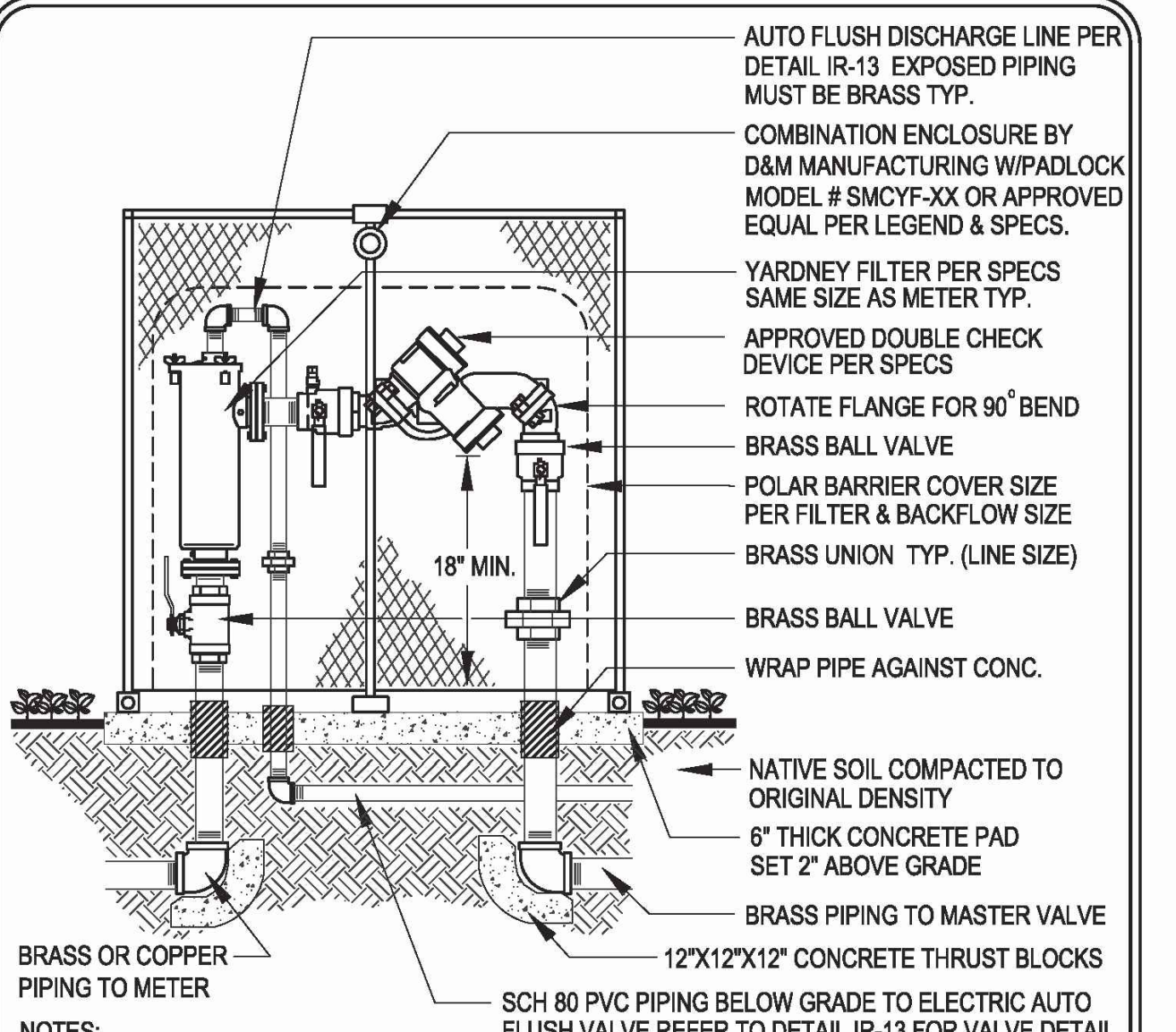
Valley-Wide Recreation & Park District 2012 Standards & Specifications 215

**INSTALLATION NOTES**

THE MATERIALS AND THE INSTALLATION OF THE IRRIGATION SYSTEM SHOWN ON THIS PLAN SHALL MEET THE LATEST EMWD AND CITY OF WINCHESTER / VALLEY-WIDE RECREATION AND PARK DISTRICT STANDARDS AND SPECIFICATIONS. IF CONTRACTOR NOTICES ANY INCONSISTENCIES WITH THE LATEST IRRIGATION DESIGN STANDARDS, HE SHALL IMMEDIATELY NOTIFY ALL PARTIES.  
 NO HOSE BIBS WILL BE ALLOWED FOR INSTALLATION ON SYSTEMS USING RECYCLED WATER.

**COLOR CODING**

SPRINKLERS, ROTOR HEADS AND OTHER TYPES OF DISPERSION HEADS SHALL HAVE THE EXPOSED SURFACE COLORED PURPLE. THE EXPOSED SURFACE SHALL BE COLORED THROUGH THE USE OF INTEGRALLY MOLDED PURPLE PLASTIC OR PERMANENTLY ATTACHED PURPLE PLASTIC RING OR DISC. VALVE BOXES AND LIDS SHALL BE PURPLE PER INDUSTRY STANDARDS. THE LIDS SHALL HAVE THE WARNING "RECYCLED: DO NOT DRINK" IN ENGLISH AND SPANISH AND THE INTERNATIONAL "DO NOT DRINK" ON ONE SIDE AND "PELIGRO: AGUA IMPURA-NO BEBER" ON THE OPPOSITE SIDE. ALL SHRUB HEADS SHALL HAVE PURPLE CAPS.  
 ROTOR HEADS MAYBE PAINTED PURPLE WHEN REPLACEMENT CAPS OR COLLARS ARE NOT AVAILABLE. CONTRACTOR TO SUBMIT QUANTITIES, MANUFACTURER AND MODEL NUMBER OF THE HEAD TO EMWD FOR APPROVAL.



- AUTO FLUSH DISCHARGE LINE PER DETAIL IR-13. EXPOSED PIPING MUST BE BRASS TYP.  
 COMBINATION ENCLOSURE BY D&M MANUFACTURING W/PADLOCK MODEL # SMCYF-XX OR APPROVED EQUAL PER LEGEND & SPECS.  
 YARDNEY FILTER PER SPECS SAME SIZE AS METER TYP.  
 APPROVED DOUBLE CHECK DEVICE PER SPECS  
 ROTATE FLANGE FOR 90° BEND  
 BRASS BALL VALVE  
 POLAR BARRIER COVER SIZE PER FILTER & BACKFLOW DEVICE  
 BRASS UNION TYP. (LINE SIZE)  
 BRASS BALL VALVE  
 WRAP PIPE AGAINST CONC.  
 NATIVE SOIL COMPACTED TO ORIGINAL DENSITY  
 6" THICK CONCRETE PAD SET 2" ABOVE GRADE  
 BRASS PIPING TO MASTER VALVE  
 12"x12"x12" CONCRETE THRUST BLOCKS  
 SCH 80 PVC PIPING BELOW GRADE TO ELECTRIC AUTO FLUSH VALVE REFER TO DETAIL IR-13 FOR VALVE DETAIL
- NOTES:  
 1. INSTALLATION MUST CONFORM TO LOCAL CODES AND PROVIDE BACKFLOW CERTIFICATION  
 2. OBTAIN EMWD APPROVAL PRIOR TO INSTALLATION  
 3. LOCATE BACKFLOW/FILTER IN PLANTER WHERE POSSIBLE  
 4. WRAP ALL PIPING WHERE CONCRETE OCCURS  
 5. ALL EXPOSED PIPING FROM FILTER FLUSH LINE SHALL BE BRASS  
 6. CONTRACTOR MUST PROVIDE BACKFLOW CERTIFICATION PRIOR TO ACCEPTANCE  
 7. ALL BALL VALVES AND UNIONS MUST BE 4" MIN. ABOVE CONCRETE SLAB

LD Consulting 2012 (Any deviation or reproduction of this design must be approved in writing by Valley-Wide Recreation & Park District)

**VALLEY-WIDE RECREATION & PARK DISTRICT**  
**RECYCLED WATER BACKFLOW/FILTER** IR-12A  
 REV. 2012

Valley-Wide Recreation & Park District 2012 Standards & Specifications 200

**DIG ALERT**  
 Call: TOLL FREE 1-800-227-2600 OR 811  
 TWO FULL WORKING DAYS BEFORE YOU DIG

BENCH MARK DESCRIPTION: \_\_\_\_\_  
 LOCATION: \_\_\_\_\_  
 VERTICAL DATUM: \_\_\_\_\_  
 HORIZONTAL DATUM: \_\_\_\_\_

ACCEPTED BY: VALLEY-WIDE RECREATION AND PARK DISTRICT

DEPARTMENT	ACCEPTANCE	DATE
	<i>[Signature]</i>	6/17/19

REVISIONS

DATE	BY	MARK

DATE: 03/25/2019  
 DRAWN BY: HNCC  
 CHECKED BY: ENGINEER

ACCEPTED BY: EASTERN MUNICIPAL WATER DISTRICT

DEPARTMENT	ACCEPTANCE	DATE

SENIOR CIVIL ENGINEER \_\_\_\_\_ DATE \_\_\_\_\_  
 NEW BUSINESS P.C. \_\_\_\_\_  
 OPERATIONS \_\_\_\_\_  
 ENGINEERING \_\_\_\_\_  
 POS ENGINEER \_\_\_\_\_

**HOLLAND ROAD**  
 MENIFEE, CA.  
 RECYCLED WATER IRRIGATION RETROFIT IMPROVEMENTS  
 IRRIGATION DETAILS

WO: 19227  
 PCWO: \_\_\_\_\_  
 DOPP: RWJW: \_\_\_\_\_  
 COORD. RWUP: \_\_\_\_\_  
 I.D. SHT. 21 OF 22  
 S.A. D-



**I. CONTRACTOR'S IRRIGATION WORK RESPONSIBILITIES**

- A. SCOPE OF WORK: THE CONTRACTOR SHALL PROVIDE ALL LABOR, MATERIALS, TRANSPORTATION, AND SERVICES NECESSARY TO FURNISH AND INSTALL A COMPLETE IRRIGATION SYSTEM AS SHOWN ON THE DRAWINGS AND SPECIFIED HEREIN.
- B. CONFORMANCE: ALL IRRIGATION WORK SHALL CONFORM TO APPLICABLE LOCAL, COUNTY AND/OR STATE CODES, REGULATIONS AND RULES.
- C. LICENSE: ALL WORK SHALL BE PERFORMED BY A C-27 CALIFORNIA LICENSED LANDSCAPE IRRIGATION CONTRACTOR.
- D. PERMITS AND INSPECTIONS: THE CONTRACTOR SHALL OBTAIN, COORDINATE AND PAY FOR ANY AND ALL PERMITS, FEES AND AGENCY INSPECTIONS AS REQUIRED.
- E. INSURANCE: THE CONTRACTOR SHALL CARRY ALL WORKMAN'S COMPENSATION, PUBLIC LIABILITY AND PROPERTY DAMAGE INSURANCE AS REQUIRED BY ALL APPLICABLE CODES, REGULATIONS AND BY THE OWNER (JOB SUPERINTENDENT).
- F. SITE VERIFICATION: PRIOR TO COMMENCEMENT OF WORK, THE CONTRACTOR SHALL VERIFY, AT THE SITE, ALL CONDITIONS AND DIMENSIONS SHOWN ON THE PLANS NECESSARY TO ACHIEVE THE INTENDED DESIGN OF THE IRRIGATION SYSTEM. ANY DISCREPANCIES SHALL BE REPORTED TO THE OWNER (JOB SUPERINTENDENT) IMMEDIATELY.
- G. LIABILITY FOR ENCROACHMENT: THE CONTRACTOR SHALL BE RESPONSIBLE AND LIABLE FOR ANY ENCROACHMENT INTO ADJACENT PROPERTY, RIGHTS-OF-WAYS, EASEMENTS, SET-BACKS OR ANY OTHER LEGAL PROPERTY RESTRICTIONS EITHER MARKED OR UNMARKED.
- H. POINT OF CONNECTION VERIFICATION: THE CONTRACTOR SHALL VERIFY THE STATIC PRESSURE, METER SIZE AND SIZE OF SERVICE TO METER (P.O.C.) AT EACH POINT OF CONNECTION.
- I. FIELD STAKING: PRIOR TO INSTALLATION, THE CONTRACTOR SHALL LOCATE BY STAKES OR OTHER MEANS ALL PRESSURE SUPPLY LINES, CONTROL EQUIPMENT, GROUND COVER DELINEATIONS AND HEADS FOR APPROVAL BY THE OWNER (JOB SUPERINTENDENT).
- J. COORDINATION OF ACTIVITIES: THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATION OF HIS ACTIVITIES WITH ALL OTHER TRADES THROUGH THE OWNER (JOB SUPERINTENDENT).
- K. INTENDED DESIGN COVERAGE: THE CONTRACTOR SHALL BE RESPONSIBLE FOR COMPLETION, MODIFICATION OR REVISIONS OF THE SYSTEMS AS NECESSARY TO MAINTAIN THE CONSISTENT COVERAGE DESIGN OF THE CONTRACT DOCUMENTS. ANY DEVIATION FROM THE CONTRACT DOCUMENTS SHALL HAVE THE PRIOR WRITTEN APPROVAL OF THE OWNER (JOB SUPERINTENDENT) AND LANDSCAPE ARCHITECT.
- L. NOTIFICATION OF DISCREPANCIES: ANY DISCREPANCIES BETWEEN THE FIELD CONDITIONS AND THE CONTRACT DOCUMENTS AND/OR THE DESIGN INTENT AFFECTING THE SUCCESSFUL COMPLETION AND COST OF THE PROJECT SHALL BE REPORTED TO THE OWNER (JOB SUPERINTENDENT) IMMEDIATELY. ALL WORK RELATED TO THE PROBLEM AREA SHALL CEASE UNTIL THE DISCREPANCIES HAVE BEEN RESOLVED BY THE OWNER (JOB SUPERINTENDENT) OR LANDSCAPE ARCHITECT IN WRITING. ANY CONTINUATION OF WORK IS AT THE CONTRACTOR'S RISK AND EXPENSE.
- M. IRRIGATION PLANS: THE IRRIGATION PLANS, INCLUDING PIPING AND EQUIPMENT LOCATIONS, ARE DRAWN DIAGRAMMATICALLY. THE CONTRACTOR SHALL MAKE MINOR ADJUSTMENTS TO THE SYSTEM AS REQUIRED TO AVOID PHYSICAL ELEMENTS AND CONFORM TO THE SITE CONDITIONS. IN ALL CASES, THE CONTRACTOR SHALL INSURE THAT THERE ARE NO CONFLICTS BETWEEN THE IRRIGATION SYSTEM, PLANTING AND CONSTRUCTION ELEMENTS, AND EXISTING UTILITIES.
- N. ELECTRICAL CONNECTION: THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE FINAL ELECTRICAL CONNECTION FROM POWER SOURCE TO CONTROLLERS AS INDICATED ON THE PLANS WHERE APPLICABLE.
- O. LIABILITY FOR DAMAGE: THE CONTRACTOR SHALL BE LIABLE FOR DAMAGE TO ALL UTILITIES, CONSTRUCTION, IRRIGATION AND PLANTING ELEMENTS, EITHER MARKED OR UNMARKED, AND SHALL REPAIR OR REPLACE DAMAGE TO ITS ORIGINAL CONDITION IN A MANNER ACCEPTABLE TO THE OWNER (JOB SUPERINTENDENT).
- P. LIABILITY FOR LOSS: THE CONTRACTOR SHALL BE RESPONSIBLE AND LIABLE FOR ANY LOSS TO HIS EQUIPMENT, PARTS AND MATERIALS ON THIS PROJECT UNTIL COMPLETION AND ACCEPTANCE OF THE JOB IN WRITING FROM THE OWNER (JOB SUPERINTENDENT).
- Q. AS BUILTS: THE CONTRACTOR SHALL PROVIDE AND KEEP UP TO DATE A COMPLETE SET OF PRINTS WHICH SHALL BE CORRECTED DAILY AND SHOW EVERY CHANGE FROM THE ORIGINAL DRAWINGS. BEFORE THE TIME OF THE FINAL INSPECTION, THE CONTRACTOR SHALL TRANSFER ALL INFORMATION FROM THE "AS BUILT" SET AND FIELD STAKING OF ALL EQUIPMENT LOCATED ON THE MAINLINE AND CONTROL WIRE LOCATION TO A REPRODUCIBLE OZALID SEPIA, PROCURED FROM THE OWNER (JOB SUPERINTENDENT) AND LANDSCAPE ARCHITECT. ALL WORK SHALL BE NEAT AND LEGIBLE. THE CONTRACTOR SHALL CERTIFY REPRODUCIBLES AS TO ACCURACY AND COMPLETENESS.
- R. WRITTEN GUARANTEE: ALL IRRIGATION WORK SHALL BE GUARANTEED BY THE CONTRACTOR AS TO MATERIAL AND WORKMANSHIP FOR A PERIOD OF ONE YEAR FOLLOWING THE DATE OF FINAL ACCEPTANCE OF THE PROJECT. THE CONTRACTOR SHALL PROVIDE A WRITTEN GUARANTEE ON HIS LETTERHEAD AT THE TIME OF THE FINAL INSPECTION.
- S. WRITTEN CERTIFICATION: THE CONTRACTOR SHALL PROVIDE A WRITTEN CERTIFICATION THAT THE IRRIGATION SYSTEM IS INSTALLED FREE FROM DEFECTS IN MATERIALS AND WORKMANSHIP AND IN FULL COMPLIANCE WITH THE DRAWINGS AND SPECIFICATIONS. THIS SHALL BE ON THE CONTRACTOR'S LETTERHEAD WITH HIS IRRIGATION AND CALIFORNIA C-27 CONTRACTOR'S LICENSE NUMBER.
- T. TURNOVER ITEMS: THE CONTRACTOR SHALL SUPPLY TO THE OWNER (JOB SUPERINTENDENT) AS A PART OF THIS CONTRACT, THE FOLLOWING ITEMS PRIOR TO THE TIME OF THE FINAL SITE OBSERVATION:
  1. A REPRODUCIBLE SET OF "AS BUILT" DRAWINGS AS PER NOTE "Q" ABOVE.
  2. THE ORIGINAL OF THE GUARANTEE LETTER.
  3. THE ORIGINAL OF THE CERTIFICATION LETTER.
  4. TWO (2) KEYS FOR EACH AUTOMATIC CONTROLLER.
  5. TWO (2) SETS OF ANY SPECIAL EQUIPMENT REQUIRED FOR OPERATING, ADJUSTING, ASSEMBLING AND REMOVING EACH TYPE OF EQUIPMENT SUPPLIED ON THIS PROJECT AS REQUESTED BY THE OWNER.

**II. OWNER'S IRRIGATION WORK RESPONSIBILITIES**

- A. CONSTRUCTION RESPONSIBILITIES: THE OWNER WILL BE DIRECTLY RESPONSIBLE FOR ALL ASPECTS OF CONSTRUCTION INCLUDING ALL IRRIGATION INSPECTIONS. ALL FIELD MEETINGS SHALL BE INITIATED BY THE CONTRACTOR AND COORDINATED THROUGH THE OWNER (JOB SUPERINTENDENT).
- B. DETERMINING LEGAL AND PHYSICAL ELEMENTS: THE OWNER (JOB SUPERINTENDENT) SHALL BE RESPONSIBLE FOR DETERMINING PROPERTY LINES, RIGHTS-OF-WAYS, TRACT BOUNDARIES, GRADES, EASEMENTS, UTILITY LOCATIONS (ABOVE AND BELOW GRADE) AND ANY OTHER LEGAL OR PHYSICAL ELEMENTS AS REQUIRED FOR THE SUCCESSFUL COMPLETION OF THE WORK. THE CONTRACTOR SHALL NOT BE PERMITTED TO PROCEED WITH ANY WORK WITHOUT DETERMINATION OF THE ABOVE INFORMATION.
- C. SITE DISCREPANCIES: ALL DISCREPANCIES IN SITE CONDITIONS, DRAWINGS OR SPECIFICATIONS SHALL BE BROUGHT TO THE ATTENTION OF THE OWNER (JOB SUPERINTENDENT) IMMEDIATELY. IT IS THE OWNER'S (JOB SUPERINTENDENT'S) RESPONSIBILITY TO CONSULT THE LANDSCAPE ARCHITECT PRIOR TO ANY FURTHER WORK IN THAT AREA. ANY UNREPORTED DISCREPANCY AND CONTINUED WORK WITHOUT WRITTEN AUTHORIZATION FROM THE OWNER (JOB SUPERINTENDENT) AND LANDSCAPE ARCHITECT SHALL BE AT THE CONTRACTOR'S RISK AND EXPENSE.
- D. CONTRACT FULFILLMENT: ALL QUESTIONS RELATING TO INTERPRETATION OF THE DRAWINGS AND SPECIFICATIONS, QUALITY OF WORK AND ACCEPTABLE FULFILLMENT OF INTENT OF THE CONTRACT DOCUMENT SHALL BE DECIDED BY THE OWNER (JOB SUPERINTENDENT) AND LANDSCAPE ARCHITECT CONCURRENTLY.

**III. REQUIRED FIELD OBSERVATION WORK**

- A. REQUIRED FIELD OBSERVATION WORK: THESE PLANS WERE PREPARED WITH THE UNDERSTANDING THAT THE OWNER OF SAID PLANS WILL USE E.M.W.D. TO PROVIDE "FULL" CONTRACT SERVICES INCLUDING FIELD OBSERVATION SERVICES DURING CONSTRUCTION. FAILURE TO USE E.M.W.D. TO PROVIDE AND COMPLETE THE FIELD OBSERVATION SERVICES SET FORTH HEREIN WILL SIGNIFICANTLY INCREASE THE RISK OF LOSS RESULTING, AMONG OTHER CAUSES, FROM MISINTERPRETATION OF THE INTENT OF THE DESIGN, UNAUTHORIZED MODIFICATIONS THERETO, AND FAILURE TO DETECT ERRORS AND OMISSIONS IN THE PLANS AND SPECIFICATIONS BEFORE THEY BECOME COSTLY MISTAKES BUILT INTO THE PROJECT. THEREFORE, IN THE EVENT THAT E.M.W.D. IS OTHERWISE PRECLUDED FROM COMPLETING THE FIELD OBSERVATION SERVICES SET FORTH HEREIN, THE OWNER, OR SUBSEQUENT OWNER (INDIVIDUALS OR CORPORATIONS WHO HAVE PURCHASED THESE PLANS WITH THE PROJECT), AGREES TO HOLD HARMLESS, INDEMNIFY, AND DEFEND E.M.W.D. FROM AND AGAINST ANY AND ALL CLAIMS.

**IV. LANDSCAPE ARCHITECT'S IRRIGATION FIELD OBSERVATION SCHEDULE**

- A. FIELD OBSERVATION COORDINATION: THE FOLLOWING OBSERVATIONS SHALL BE INITIATED BY THE CONTRACTOR AND COORDINATED THROUGH THE OWNER (JOB SUPERINTENDENT). THE CONTRACTOR SHALL NOTIFY THE OWNER (JOB SUPERINTENDENT) AND LANDSCAPE ARCHITECT NOT LESS THAN FORTY-EIGHT (48) HOURS IN ADVANCE OF ANY OBSERVATION. CONTINUED WORK WITHOUT OBSERVATION AT THESE PHASES OF WORK IS AT THE CONTRACTOR'S RISK, WITH ANY REQUIRED CHANGE OR MODIFICATION AT THE CONTRACTOR'S EXPENSE. THE OWNER (JOB SUPERINTENDENT) SHALL INFORM THE LANDSCAPE ARCHITECT AS TO THE PURPOSE AND TIME OF THE OBSERVATION FORTY-EIGHT (48) HOURS IN ADVANCE.
- B. CONTRACTOR ORIENTATION/PRE-CONSTRUCTION MEETING: THIS MEETING SHALL BE CONDUCTED TO DISCUSS THE PLANS AND SPECIFICATIONS, POSSIBLE DISCREPANCIES, SITE CONDITIONS AND OTHER ASPECTS OF THE PROJECT IRRIGATION WORK SUCH AS PERSONNEL, SCHEDULE AND REQUIREMENTS FOR STARTING WORK. PRIOR TO THE MEETING, THE CONTRACTOR SHALL THOROUGHLY ACQUAINT HIMSELF WITH SITE CONDITIONS AND THE PLANS, DETAILS AND SPECIFICATIONS.
- C. IRRIGATION MAINLINE AND EQUIPMENT LAYOUT: THIS OBSERVATION SHALL BE PERFORMED BY THE OWNER (JOB SUPERINTENDENT) FOLLOWING STAKING OF ALL PRESSURE MAINLINE AND CONTROL EQUIPMENT, VERIFICATION OF ALL SITE CONDITIONS AND PRIOR TO ANY TRENCHING. ANY DISCREPANCIES NOT PREVIOUSLY NOTED SHALL BE CORRECTED AT THIS TIME TO THE SATISFACTION OF THE OWNER (JOB SUPERINTENDENT) AND LANDSCAPE ARCHITECT AT THE CONTRACTOR'S EXPENSE.
- D. IRRIGATION MAINLINE AND PRESSURE TEST: THIS OBSERVATION IS FOR THE PURPOSE OF REVIEWING ALL MAINLINE LAYOUT FOR CONFORMANCE TO SPECIFICATIONS AND VERIFYING THE WATER TIGHTNESS OF PRESSURE SYSTEMS PRIOR TO BACKFILLING TRENCHES. PRESSURE TESTS MUST CONFORM TO MANUFACTURER'S SPECIFICATIONS. ALL PRESSURE LINES SHALL BE TESTED UNDER A SUSTAINED HYDROSTATIC PRESSURE OF 150 POUNDS PER SQUARE INCH FOR A PERIOD OF NOT LESS THAN TWO (2) HOURS. THIS TEST SHALL BE PERFORMED IN THE PRESENCE OF THE OWNER (JOB SUPERINTENDENT) TO MANUFACTURER'S ACCEPTED TESTING PROCEDURES AND APPROVED IN WRITING BY THE OWNER (JOB SUPERINTENDENT), PRIOR TO BACKFILLING ANY TRENCHES. CONTRACTOR SHALL FURNISH NECESSARY FORCE PUMP AND ALL OTHER NECESSARY TESTING EQUIPMENT.
- E. PROGRESS INSPECTIONS: PERIODIC INSPECTIONS SHALL BE PERFORMED BY OWNER (JOB SUPERINTENDENT) DURING THE LAYOUT OF ALL LATERAL LINE SYSTEMS, WITH TRENCHES OPEN TO VERIFY CONFORMANCE TO DETAILS, DEPTH OF PIPE AND EQUIPMENT ASSEMBLIES.
- F. IRRIGATION COMPLETION/COVERAGE TEST: THIS OBSERVATION IS TO INSURE CONFORMANCE OF ALL IRRIGATION EQUIPMENT WITH IRRIGATION CONTRACT DOCUMENTS AND WILL CONSIST OF OPERATION OF EACH SYSTEM TO INSURE INTENDED COVERAGE. THE CONTRACTOR SHALL FLUSH AND ADJUST ALL HEADS FOR OPTIMUM PERFORMANCE AND TO PREVENT OVERSPRAY ONTO WALKS, ROADWAYS AND BUILDINGS, ETC. PRIOR TO THIS OBSERVATION, THIS MAY INCLUDE CHANGES IN NOZZLE SIZES AND DEGREE OF ARC TO OPTIMIZE OPERATION.

**V. SCOPE OF IRRIGATION WORK**

- A. GENERAL IRRIGATION NOTES:
  1. SPECIFIED EQUIPMENT: ALL EQUIPMENT SHALL BE AS LISTED IN THE LEGEND AND INSTALLED AS PER DETAILS AND SPECIFICATIONS, OR MANUFACTURER'S RECOMMENDATION. ANY SUBSTITUTIONS SHALL BE APPROVED IN WRITING BY OWNER (JOB SUPERINTENDENT) AND LANDSCAPE ARCHITECT. ANY UNAPPROVED EQUIPMENT SHALL BE REPLACED AT THE CONTRACTOR'S EXPENSE.
  2. ALTERNATE ITEMS: APPROVAL OF ANY ITEM OR ALTERNATE ITEM INDICATES ONLY THAT IT APPARENTLY MEETS THE REQUIREMENTS OF THE DRAWINGS ON THE BASIS OF THE INFORMATION SUBMITTED, AND DOES NOT RELIEVE THE CONTRACTOR OF ANY RESPONSIBILITY FOR THE EQUIPMENT'S SUCCESSFUL OPERATION.
  3. CONTRACTOR'S GUARANTEE: MANUFACTURER'S WARRANTIES SHALL NOT RELIEVE THE CONTRACTOR OF THIS LIABILITY UNDER THE GUARANTEE. SUCH WARRANTIES WILL ONLY SUPPLEMENT THE GUARANTEE.
  4. SOLVENT WELD MAINLINE PIPE: PRESSURE MAINLINE PIPE SIZED 1-1/2" AND SMALLER SHALL BE IPS PRESSURE RATED PVC 1120 SCHEDULE 40 RATED PIPE. PRESSURE MAINLINE PIPE SIZED TWO INCHES (2") AND LARGER SHALL BE IPS PRESSURE RATED PVC 1120 SDR 13.5 315 PSI RATED PIPE PVC (CLASS 315) CONFORMING TO MATERIALS ASTM D1784 AND PRODUCT DESIGN ASTM D2214 FOR SDR 315 AND ASTM 1784 FOR SCHEDULE 40 PIPE, BURIED A MINIMUM OF EIGHTEEN INCHES (18") DEEP WITH SOLVENT WELD JOINTS MADE FROM NSF APPROVED, TYPE 1, GRADE 1 (PVC COMPOUND CONFORMING TO ASTM RESIN SPECIFICATION D1784).
  5. LATERAL LINE PIPE: NON-PRESSURE BURIED LATERAL LINE PIPE SHALL BE PRESSURE RATED PVC 1120 SDR 21 200 PSI RATED PIPE CONFORMING TO MATERIALS ASTM D1784 AND PRODUCT DESIGN ASTM D2214 FOR SDR 21 PIPE 200 PSI RATED PIPE CONFORMING TO MATERIALS ASTM D1784 AND PRODUCTS DESIGN ASTM D2214 FOR SDR 21 PIPE 200 BURIED A MINIMUM OF 12" DEEP WITH SOLVENT WELD JOINTS MADE FROM NSF APPROVED, TYPE 1, GRADE II PVC COMPOUND CONFORMING TO ASTM RESIN SPECIFICATION D1784.
  6. GASKET SEAL MAINLINE PIPE: PRESSURE MAINLINE PIPE SIZED TWO INCHES (2") AND LARGER SHALL BE IPS PRESSURE RATED PVC 1120 SDR 21 200 PSI RATED PIPE, CONFORMING TO MATERIALS ASTM D1784, PRODUCT DESIGN ASTM D2214, GASKET JOINT ASTM DB139, GASKET ASTM F477, CELL CLASS ASTM 1245A, BURIED A MINIMUM OF EIGHTEEN INCHES (18") BELOW FINISH GRADE WITH THRUST BLOCKS PER MANUFACTURER'S INSTRUCTIONS.
  7. SOLVENT CEMENT: SOLVENT PRIMER SHALL CONFORM TO ASTM D-2564. SOLVENT CEMENT SHALL CONFORM TO ASTM D2564.
  8. SOLVENT FITTINGS: SOLVENT FITTINGS SHALL BE SCHEDULE 40 PRODUCED FROM PVC TYPE 1 CELL CLASSIFICATION B2454-B.
  9. THREADED FITTINGS: THREADED FITTINGS SHALL BE SCHEDULE 40 AND THREADED NIPPLES SHALL BE SCHEDULE 80, PRODUCED FROM PVC TYPE 1 CELL CLASSIFICATION 12454-B. USE PERMATEX #51/TEFLON TAPE OR APPROVED PIPE JOINT COMPOUND PER FITTINGS MANUFACTURER'S RECOMMENDATIONS.
  10. STEEL PIPE: GALVANIZED STEEL PIPE SHALL BE ASA SCHEDULE 40 MILLED STEEL SCREWED PIPE WITH MEDIUM GALVANIZED SCREWED BEADED MALLEABLE IRON FITTINGS.
  11. STEEL PIPE BELOW GRADE: ALL GALVANIZED PIPE AND FITTINGS INSTALLED BELOW GRADE SHALL BE COATED WITH TWO (2) COATS OF KOPPER'S #50 BITUMASTIC.
  12. BRASS PIPE AND FITTINGS: BRASS PIPE SHALL BE B85 RED BRASS, AMERICAN NATIONAL STANDARD INSTITUTE (ANSI), SCHEDULE 40 SCREWED PIPE. FITTINGS SHALL BE MEDIUM BRASS, SCREWED, 125 POUND CLASS.
  13. COPPER PIPE AND FITTINGS: COPPER PIPE SHALL BE TYPE K, (HARD) ASTM B88 SOLDER FITTINGS IN ACCORDANCE WITH ANSI B16.22. SOLDER JOINTS SHALL BE 45% SILVER, 15% COPPER, 16% ZINC, 24% CADMIUM AND SOLIDUS AS 11250F AND LIQUIDS AT 11450F, CONFORMING TO ASTM B206 AND FS Q-Q-B-655C.
  14. METAL PIPE JOINTS: ALL CONNECTIONS TO BE SEALED WITH PIPE JOINT COMPOUND FOR METAL JOINTS.
  15. CONTROL WIRE: CONNECTIONS BETWEEN THE AUTOMATIC CONTROLLERS AND THE ELECTRIC CONTROL VALVES SHALL BE MADE WITH DIRECT BURIAL COPPER WIRE AWG-U.F. 600 VOLT UL APPROVED. MINIMUM SIZE IS #14 AWG, BURIED EIGHTEEN (18") INCHES BELOW GRADE. USE DIFFERENT COLOR CONTROL WIRE FOR EACH CONTROLLER. COMMON WIRES SHALL BE WHITE OR A DIFFERENT COLOR FROM THE CONTROL WIRES FOR EACH OF AUTOMATIC CONTROLLER ON THE SITE.
  16. WIRE TRENCH: WIRING SHALL OCCUPY THE SAME TRENCH AND SHALL BE INSTALLED ALONG THE SAME ROUTE AS PRESSURE SUPPLY OR LATERAL LINES WHEREVER POSSIBLE. THE WIRES SHALL BE TAPED TOGETHER AT INTERVALS NOT EXCEEDING TEN (10) FEET.
  17. EXPANSION CURL: A TWELVE INCH (12") EXPANSION CURL SHOULD BE PROVIDED WITHIN THREE (3) FEET OF EACH WIRE CONNECTION AND AT LEAST EVERY ONE HUNDRED (100) FEET OF WIRE LENGTH. AT STREET CROSSINGS AND GATE VALVE LOCATIONS THE CONTRACTOR SHALL BRING ALL THE WIRES TO GRADE AND PROVIDE A 12" EXPANSION CURL COVERED BY A RECTANGULAR VALVE BOX MARKED "IRRIGATION WIRE".
  18. WIRE SPLICES: ALL SPLICES SHALL BE MADE WITH SCOTCH-LOK #3577 CONNECTOR SEALING PACKS, PEN-TITE WIRE CONNECTOR, OR APPROVED EQUAL. USE ONE SPLICE PER CONNECTOR. ALL SPLICES WILL BE MADE AT VALVES OR CONTROLLER. NO OTHER SPLICES WILL BE ALLOWED UNLESS APPROVED BY THE OWNER (JOB SUPERINTENDENT). ALL SPLICES NOT AT VALVES, SHALL BE MADE IN A RECTANGULAR VALVE BOX MARKED "IRRIGATION WIRE".
  19. TRENCHES: DIG TRENCHES STRAIGHT AND SUPPORT PIPE CONTINUOUSLY ON BOTTOM OF TRENCH. LAY PIPE TO AN EVEN GRADE.
  20. BACKFILL: THE TRENCHES SHALL NOT BE BACKFILLED UNTIL ALL REQUIRED TESTS ARE PERFORMED. TRENCHES SHALL BE CAREFULLY BACKFILLED WITH APPROVED MATERIALS, FREE FROM CLODS OF EARTH OR STONES TWO INCHES (2") OR LARGER. BACKFILL SHALL BE MECHANICALLY COMPACTED TO A DRY DENSITY EQUAL TO ADJACENT UNDISTURBED SOIL AND SHALL CONFORM TO ADJACENT SURFACE GRADES WITHOUT IRREGULARITIES.
  21. LINES UNDER PAVING: ALL IRRIGATION LINES, VALVES AND WIRING RUNS SHOWN ON PLANS IN THE STREET, PAVED AREAS AND UNDER HARDSCAPING ARE DIAGRAMMATIC. INSTALL THESE LINES, VALVES AND WIRING RUNS IN PLANTING AREAS EXCEPT WHERE IT IS OBVIOUS THAT THEY MUST CROSS THAT PAVED AREA TO GET FROM ONE PLANTING AREA TO ANOTHER OR UNLESS NOTED OTHERWISE.
  22. STREETS: WHERE ANY CUTTING OR BREAKING OF CONCRETE OR OTHER PAVING SURFACE IS NECESSARY, IT SHALL BE DONE AND REPLACED TO MATCH THE EXISTING WORK TO THE OWNER'S (JOB SUPERINTENDENT'S) SATISFACTION, BY THE CONTRACTOR, AS PART OF THE CONTRACT COST.
  23. SLEEVES: SLEEVES SHALL BE INSTALLED UNDER ALL STREETS AND PAVEMENT WIDER THAN SEVEN FEET (7') PER THE IRRIGATION PLAN. THE CONTRACTOR SHALL COORDINATE THE INSTALLATION OF SLEEVES WITH THE OWNER (JOB SUPERINTENDENT) PRIOR TO THE PAVING BEING INSTALLED.
  24. SLEEVE/PIPE COVER: ALL WIRE, PRESSURE AND NON-PRESSURE PIPE INSTALLED UNDER ASPHALTIC CONCRETE PAVING SHALL BE INSTALLED IN CLASS 315 PVC SLEEVES BURIED TWENTY-FOUR INCHES (24") BELOW THE ROAD BED AND BACKFILLED PER STRUCTURAL SOILS REPORT SPECIFICATIONS.
  25. PIPE CLEARANCE: ALL LINES SHALL HAVE A MINIMUM CLEARANCE OF SIX INCHES (6") FROM EACH OTHER. PARALLEL LINES SHALL NOT BE INSTALLED DIRECTLY OVER ONE ANOTHER.
  26. CONTROL VALVES: INSTALL EACH CONTROL VALVE IN A SEPARATE LOCKING VALVE BOX WITH A MINIMUM OF TWELVE INCHES (12") BETWEEN VALVE BOXES, AND A MINIMUM OF SIX INCHES (6") BETWEEN VALVE BOXES AND ANY WALK OR STRUCTURE.
  27. HEAD INSTALLATION: IRRIGATION HEADS SHALL BE INSTALLED ONLY AFTER THE SYSTEM HAS BEEN FLUSHED TO THE COMPLETE SATISFACTION OF THE OWNER (JOB SUPERINTENDENT).
  28. HEAD SPACING: SPACING OF HEADS SHALL NOT EXCEED THE MAXIMUM INDICATED ON THE DRAWINGS. IN NO CASE SHALL THE SPACING EXCEED THE MAXIMUM RECOMMENDED BY THE MANUFACTURER.
  29. INSTALLATION ANGLE OF IRRIGATION HEAD: ALL SPRINKLER HEADS SHALL BE SET PERPENDICULAR TO FINISHED GRADES UNLESS OTHERWISE DESIGNATED ON THE PLANS.
  30. PIPE ON GRADE: ALL PIPE ON GRADE SHALL BE SECURED TO SLOPE SURFACES AT 10' O.C. AND TO FLAT AREAS AT 20' O.C. MAXIMUM WITH #4 X 24" REBAR WITH "J" HOOKED RADIUS AT ONE END TO HOLD PIPE SECURELY IN PLACE.
  31. IRRIGATION SYSTEM REQUIREMENTS PRIOR TO PLANTING: THE ENTIRE SPRINKLER IRRIGATION SYSTEM SHALL BE UNDER FULL AUTOMATIC OPERATION PRIOR TO THE START OF ANY PLANTING WORK AND AN IRRIGATION COVERAGE TEST SHALL ALSO BE PERFORMED BY THE LANDSCAPE ARCHITECT PRIOR TO THE START OF ANY PLANTING.

**INSTALLATION NOTES**

THE MATERIALS AND THE INSTALLATION OF THE IRRIGATION SYSTEM SHOWN ON THIS PLAN SHALL MEET THE LATEST EMWD AND CITY OF WINCHESTER / VALLEY-WIDE RECREATION AND PARK DISTRICT STANDARDS AND SPECIFICATIONS. IF CONTRACTOR NOTICES ANY INCONSISTENCIES WITH THE LATEST IRRIGATION DESIGN STANDARDS, HE SHALL IMMEDIATELY NOTIFY ALL PARTIES.

NO HOSE BIBS WILL BE ALLOWED FOR INSTALLATION ON SYSTEMS USING RECYCLED WATER.

**COLOR CODING**

SPRINKLERS, ROTOR HEADS AND OTHER TYPES OF DISPERSION HEADS SHALL HAVE THE EXPOSED SURFACE COLORED PURPLE. THE EXPOSED SURFACE SHALL BE COLORED THROUGH THE USE OF INTEGRALLY MOLDED PURPLE PLASTIC OR PERMANENTLY ATTACHED PURPLE PLASTIC RING OR DISC. VALVE BOXES AND LIDS SHALL BE PURPLE PER INDUSTRY STANDARDS. THE LIDS SHALL HAVE THE WARNING "RECYCLED: DO NOT DRINK" IN ENGLISH AND SPANISH AND THE INTERNATIONAL "DO NOT DRINK" ON ONE SIDE AND "PELIGRO: AGUA IMPURA-NO BEBER" ON THE OPPOSITE SIDE. ALL SHRUB HEADS SHALL HAVE PURPLE CAPS. ROTOR HEADS MAYBE PAINTED PURPLE WHEN REPLACEMENT CAPS OR COLLARS ARE NOT AVAILABLE. CONTRACTOR TO SUBMIT QUANTITIES, MANUFACTURER AND MODEL NUMBER OF THE HEAD TO EMWD FOR APPROVAL.

**DIG ALERT**

Call: TOLL FREE  
1-800-227-2600  
OR  
811

TWO FULL WORKING DAYS BEFORE YOU DIG

BENCH MARK

DESCRIPTION: \_\_\_\_\_

LOCATION: \_\_\_\_\_

VERTICAL DATUM: \_\_\_\_\_

HORIZONTAL DATUM: \_\_\_\_\_

ACCEPTED BY:

VALLEY-WIDE RECREATION AND PARK DISTRICT

DEPARTMENT	ACCEPTANCE	DATE
	<i>[Signature]</i>	6/17/19

REVISIONS

DATE	BY	MARK

DATE: 03/25/2019

DRAWN BY: HNCC

CHECKED BY: ENGINEER

ACCEPTED BY:

EASTERN MUNICIPAL WATER DISTRICT

DEPARTMENT	ACCEPTANCE	DATE

SENIOR CIVIL ENGINEER

NEW BUSINESS P.C.

OPERATIONS

ENGINEERING

POS ENGINEER

HOLLAND ROAD

MENIFEE, CA.

RECYCLED WATER IRRIGATION RETROFIT IMPROVEMENTS

IRRIGATION SPECIFICATIONS

WO: 19227
PCWO:
DOPP: RWJW:
COORD: RWUP:
I.D. SHT. 22 OF 22
S.A. D-



# SHADOWRIDGE II - TR 30105

## DETENTION BASINS

COUNTY OF RIVERSIDE, CALIFORNIA

## GRIFFIN COMMUNITIES

110 NORTH LINCOLN AVENUE CORONA,  
CALIFORNIA 92882

CONTACT: JOE KISH

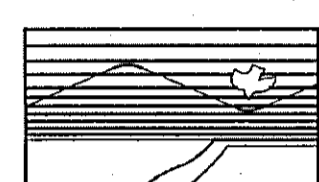
PH. 951-898-1234 FAX. 951-739-6145

LANDSCAPE ARCHITECT

**LANTEX**

Landscape Architecture - Planning  
31726 Rancho Viejo Road, Suite 206  
San Juan Capistrano, California 92675  
(949) 248-1993 FAX (949) 493-0706

CIVIL ENGINEER



ADAMS • STREETER  
CIVIL ENGINEERS, INC.  
2900 Adams Street, Suite A-400  
Riverside Ca. 92504  
Ph: (909) 352-4100 Fax: (909) 352-6200  
engineering@adams-streeter.com

### AMERICANS WITH DISABILITIES NOTES

- ALL SLOPES SHOWN ON THIS PLAN WERE DESIGNED AT OR BELOW MAXIMUMS ALLOWED BY THE AMERICANS WITH DISABILITY ACT ACCESS GUIDE (A.D.A.A.G.) IN ORDER TO ALLOW FOR CONSTRUCTION TOLERANCES. IT IS THE CONTRACTORS RESPONSIBILITY TO FAMILIARIZE THEMSELVES WITH A.D.A.A.G. AND IN THE EVENT THAT A DESIGN QUESTION SHOULD ARISE, OR A FIELD CONDITION PRESENT ITSELF THAT IS DIFFERENT THAN SHOWN ON THESE PLANS, WORK SHOULD CEASE AND THE ENGINEER BE NOTIFIED SO THAT AN ACCEPTABLE SOLUTION CAN BE DETERMINED.
- THE CONTRACTOR IS ADVISED TO CAREFULLY CHECK ALL PHASES OF WORK RELATING TO A.D.A.A.G. ACCESS FOR THIS PROJECT. SINCE THE CODE DOES NOT ALLOW FOR A CONSTRUCTION TOLERANCE, ANY CONSTRUCTION THAT EXCEEDS MAXIMUM OR MINIMUM DIMENSIONS AND SLOPES AS CALLED OUT BY A.D.A.A.G. ARE SUBJECT TO REJECTION BY THE COUNTY AND MAY BE REQUIRED TO BE REMOVED AND REPLACED.
- SINCE THE CIVIL ENGINEER OR SURVEYOR CANNOT CONTROL THE EXACT METHODS OR MEANS USED BY THE GENERAL CONTRACTOR OR THEIR SUB-CONTRACTOR DURING GRADING AND CONSTRUCTION OF THE PROJECT, THE CIVIL ENGINEER OR SURVEYOR ASSUMES NO RESPONSIBILITY FOR FINAL ACCEPTANCE OF A.D.A.A.G. RELATED ITEMS OF THIS PROJECT BY THE COUNTY, ANY OTHER AUTHORITY OR OTHER AFFECTED PARTIES.

COMPLIANCE WITH A.D.A.A.G. CONSTRUCTION REQUIREMENTS WILL BE THE SOLE RESPONSIBILITY OF THE GENERAL CONTRACTOR AND THEIR SUB-CONTRACTORS.

### HOLD HARMLESS & INDEMNIFICATION CLAUSE

CONTRACTOR AGREES TO ASSUME SOLE RESPONSIBILITY FOR JOB SITE CONDITIONS DURING THE COURSE OF CONSTRUCTION OF THIS PROJECT, INCLUDING SAFETY AND NOT BE LIMITED TO NORMAL WORKING HOURS, AND THAT THE CONTRACTOR SHALL DEFEND, INDEMNIFY, AND HOLD THE OWNER/DEVELOPER, THE COUNTY OF LOCAL JURISDICTION AND THE LANDSCAPE DESIGNER HARMLESS FROM ANY AND ALL LIABILITY REAL OR ALLEGED, IN CONNECTION WITH THE PERFORMANCE OF WORK ON THIS PROJECT, EXCEPTING FOR LIABILITY ARISING FROM SOLE NEGLIGENCE OF THE OWNER/DEVELOPER, COUNTY OF LOCAL JURISDICTION AND THE LANDSCAPE DESIGNER.

### NOTES

TOTAL ORIGINAL ACREAGE:  
40.01 ACRES (GROSS)  
32.85 ACRES (NET)

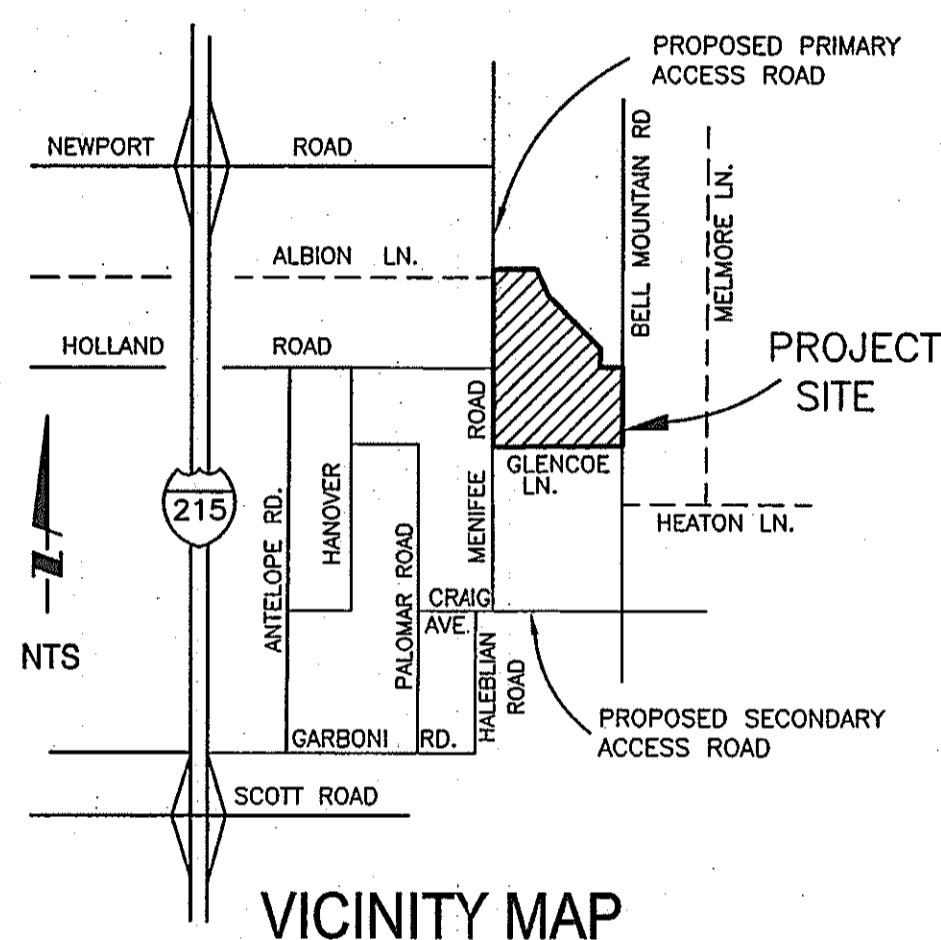
#### LEGAL DESCRIPTION

PARCELS 1, 2, 3 AND 4 OF PARCEL MAP NO. 15840 AS PER MAP RECORDED IN BOOK 87 OF PARCEL MAPS, PAGES 65 AND 66 RECORDS OF RIVERSIDE COUNTY, STATE OF CALIFORNIA

PLANS 4, 5, & 6 OF THIS MODEL COMPLEX HAVE BEEN PREVIOUSLY APPROVED AND ARE INSTALLED PER THE FOLLOWING BRS NUMBERS:

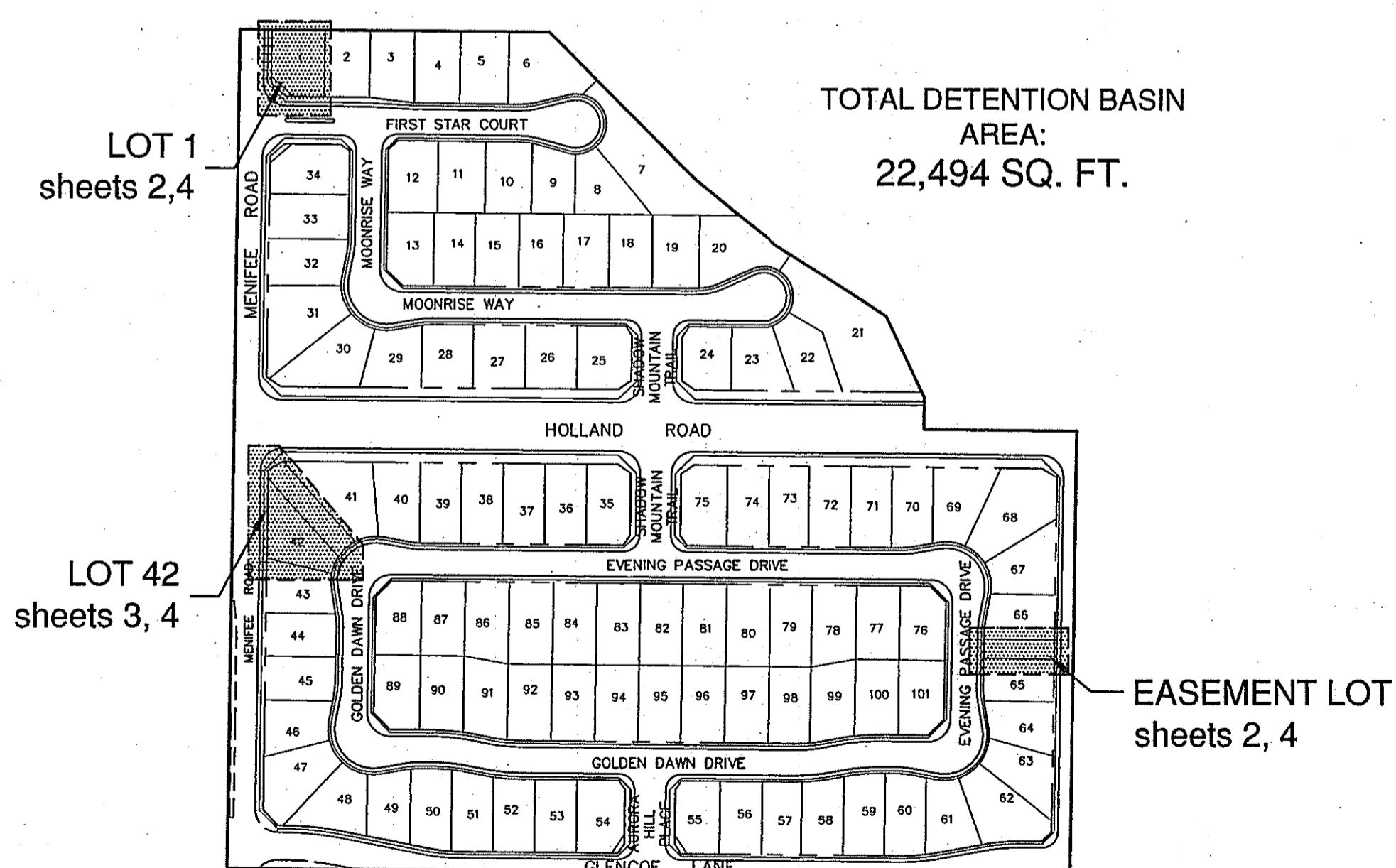
- PLAN 4 BRS021826
- PLAN 5 BRS021828
- PLAN 6 BRS021829.

PARKING LOT IS EXISTING AND THE CURRENT LAYOUT SHALL REMAIN THE SAME AS APPROVED BY DEPUTY PLANNING DIRECTOR MARK BALYS ON NOV. 10, 2003.



VICINITY MAP

SECTION 11, TOWNSHIP 6 SOUTH, RANGE 3 WEST



INDEX MAP

### REQUIRED LANDSCAPE INSPECTIONS:

Pre-construction conference	7 DAYS
Pressure line installation and testing	48 HOURS
Controller installation	48 HOURS
Lateral line and sprinkler installation	48 HOURS
Coverage test	48 HOURS
Final grading	48 HOURS
Weedabatement Observation	48 HOURS
Tree & shrub layout & plant material observation	48 HOURS
Finish grade prior to hydroseeding	48 HOURS
Final walk (commencement of maintenance)	7 DAYS
Monthly maintenance walk	48 HOURS
Final inspection	7 DAYS

VALLEY-WIDE RECREATION & PARK DISTRICT (951) 660-4700

### VALLEY WIDE RECREATION AND PARKS NOTE:

INSTALLATION:  
PLANTING AND IRRIGATION MUST CONFORM TO VALLEY WIDE SPECIFICATIONS  
CONTRACTOR MUST CALL FOR A PRE-JOB CONFERENCE PRIOR TO COMMENCEMENT OF CONSTRUCTION

MAINTENANCE:  
CONTINUED MAINTENANCE SHALL BE PERFORMED BY VALLEYWIDE RECREATION AND PARKS DISTRICT PER ANNEXATION AGREEMENT DATED: \_12-30-2004\_.

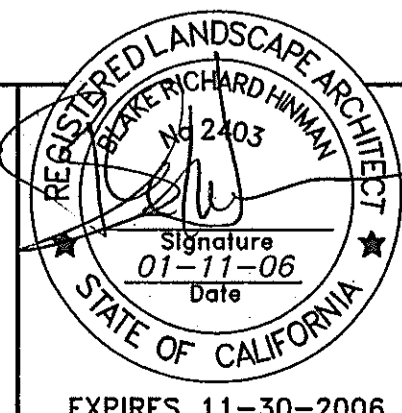
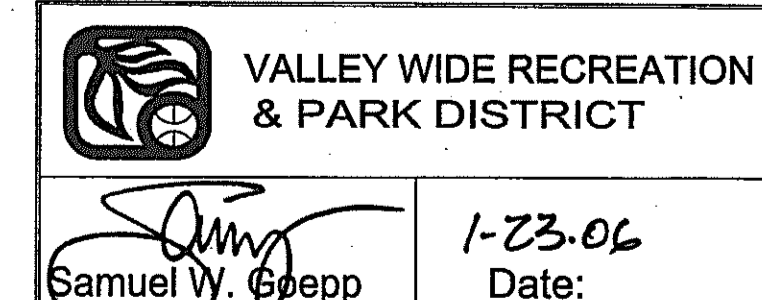
VALLEYWIDE NOTE:  
NO WORK SHALL COMMENCE UNTIL STORM DRAIN PLANS HAVE BEEN APPROVED BY VALLEY-WIDE.

CONTRACTOR SHALL VERIFY WATER PRESSURE ON SITE PRIOR TO INSTALLATION. IF PRESSURE DIFFERS FROM NOTED AVAILABLE PRESSURE INDICATED ON THESE PLANS, CONTACT THE LANDSCAPE ARCHITECT FOR FURTHER INSTRUCTION. FAILURE TO DO SO WILL PLACE THE CONTRACTOR RESPONSIBLE FOR CHANGES THAT MAY BE REQUIRED.

NOTE: TO PREVENT BLOCKING OF MOTORIST VIEW IN THE ROAD RIGHT OF WAY, NO VEGETATION WITH A GROWTH HABIT OVER 2 FEET IN HEIGHT MAY BE PLANTED WITHIN 10 FEET OF ANY CORNER CUTBACK OR DRIVEWAY ENTRANCES AND EXITS.

## SHEET INDEX

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**LANTEX**  
Landscape Architecture Inc.  
31726 Rancho Viejo Road, Suite 206  
San Juan Capistrano, California 92675  
(949) 248-1993 FAX (949) 493-0706

DESIGNED BY: B.H.	DRAWN BY: S.H.	CHECKED BY:
REVISIONS	APPR.	DATE

COUNTY OF RIVERSIDE  
DEPARTMENT OF BUILDING & SAFETY  
APPROVED \_\_\_\_\_ 20\_\_  
BY: \_\_\_\_\_

TITLE SHEET	DATE: 3-10-03
SHADOWRIDGE II TR 30105 LANDSCAPE IMPROVEMENT PLANS COUNTY OF RIVERSIDE, CALIFORNIA	SCALE:
PREPARED FOR: GRIFFIN COMMUNITIES	SHEET No. 1 OF 9 SHEETS



# IRRIGATION NOTES

**DIAGRAMMATIC PLAN**  
THIS SYSTEM IS DIAGRAMMATIC. ALL PIPE, VALVES, ETC. SHOWN WITHIN PAVED AREAS ARE FOR DESIGN CLARIFICATION ONLY AND SHALL BE INSTALLED IN PLANTING AREAS AND JOINT TRENCHES WHEREVER POSSIBLE.

**SPRINKLER ADJUSTMENT REQUIRED**  
THE IRRIGATION CONTRACTOR SHALL FLUSH AND ADJUST ALL SPRINKLER HEADS FOR OPTIMUM PERFORMANCE AND PREVENT OVERSPRAY ONTO WALKS AND ROADWAYS AS MUCH AS POSSIBLE. THIS SHALL INCLUDE SELECTING THE BEST DEGREE OF ARC TO FIT THE EXISTING SITE CONDITIONS. CONTRACTOR TO USE PRESSURE COMPENSATING SCREENS WHEN RADIUS IS REDUCED MORE THAN FIFTY PERCENT (50%).

INSTALL NECESSARY CHECK VALVE IN HEADS THAT EXHIBIT TENDENCIES FOR LOW HEAD DRAINAGE.  
INSTALL ALL HEADS A MINIMUM OF 18" AWAY FROM BUILDING WALLS & A MINIMUM OF 12" AWAY FROM ALL STUCCO SURFACES.

**FIELD CONDITIONS**  
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 AND SHOULD BE BROUGHT TO THE ATTENTION OF THE CONTRACTING OFFICER. IN THE EVENT THAT THIS NOTIFICATION IS NOT PERFORMED, THE CONTRACTOR MUST ASSUME FULL RESPONSIBILITY FOR ANY REVISIONS REQUIRED.

**SWING JOINTS**  
STANDARD RISERS MAY BE USED ON IRRIGATION HEADS THAT ARE AGAINST BUILDING, BUT NOT ADJACENT TO WALKS, CURBS OR WHATEVER PEDESTRIAN TRAFFIC MAY OCCUR.

**MINIMUM PRESSURE AND MAXIMUM GALLONS REQUIRED**  
THE SPRINKLER SYSTEM DESIGN IS BASED ON A MINIMUM OPERATIONAL PRESSURE AND A MAXIMUM DEMAND AT THE POINT OF CONNECTION, AS NOTED ON THE PLAN. BEFORE INSTALLING THE SYSTEM, CHECK POINT OF CONNECTION AND IMMEDIATELY NOTIFY CONTRACTING OFFICER IF PRESSURE IS NOT AS NOTED OR THE REQUIRED GALLONS PER MINUTE IS NOT AVAILABLE.

**WATER LINE UNDER PAVING**  
ALL MAINLINE UNDER PAVING SHALL BE INSTALLED 24" DEEP. ALL LATERAL LINES UNDER PAVING SHALL BE SCH 40 PVC AND INSTALLED 24" DEEP.

**SYSTEM COVERAGE**  
THE IRRIGATION CONTRACTOR IS TO ADJUST HEAD LOCATIONS IN THE FIELD IN ORDER TO GUARANTEE 100% COVERAGE. CONTRACTOR TO CONTACT THE CONTRACTING OFFICER PRIOR TO ANY MAJOR CHANGE(S) RESULTING IN ADDITIONAL COST TO THE OWNER.

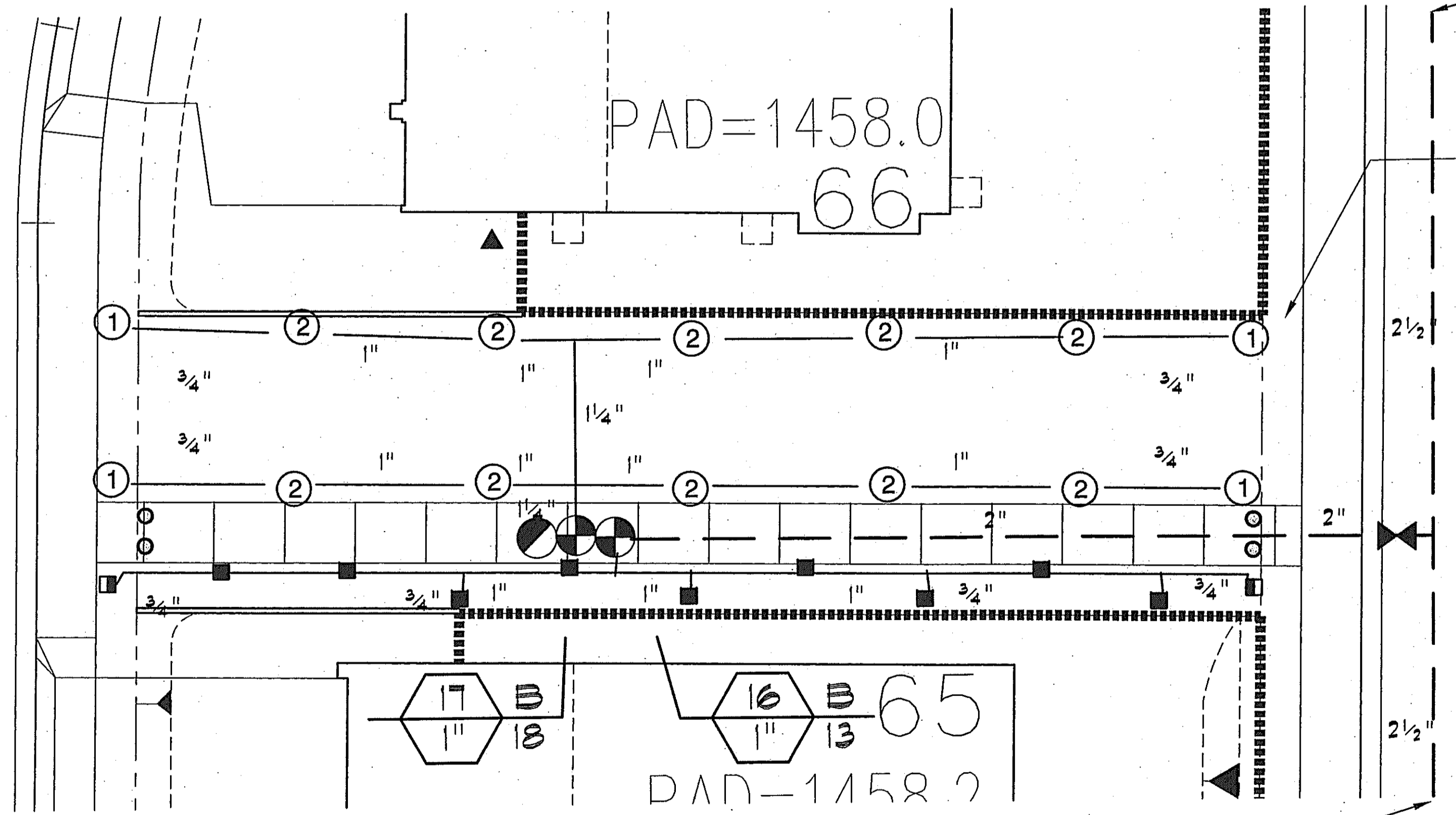
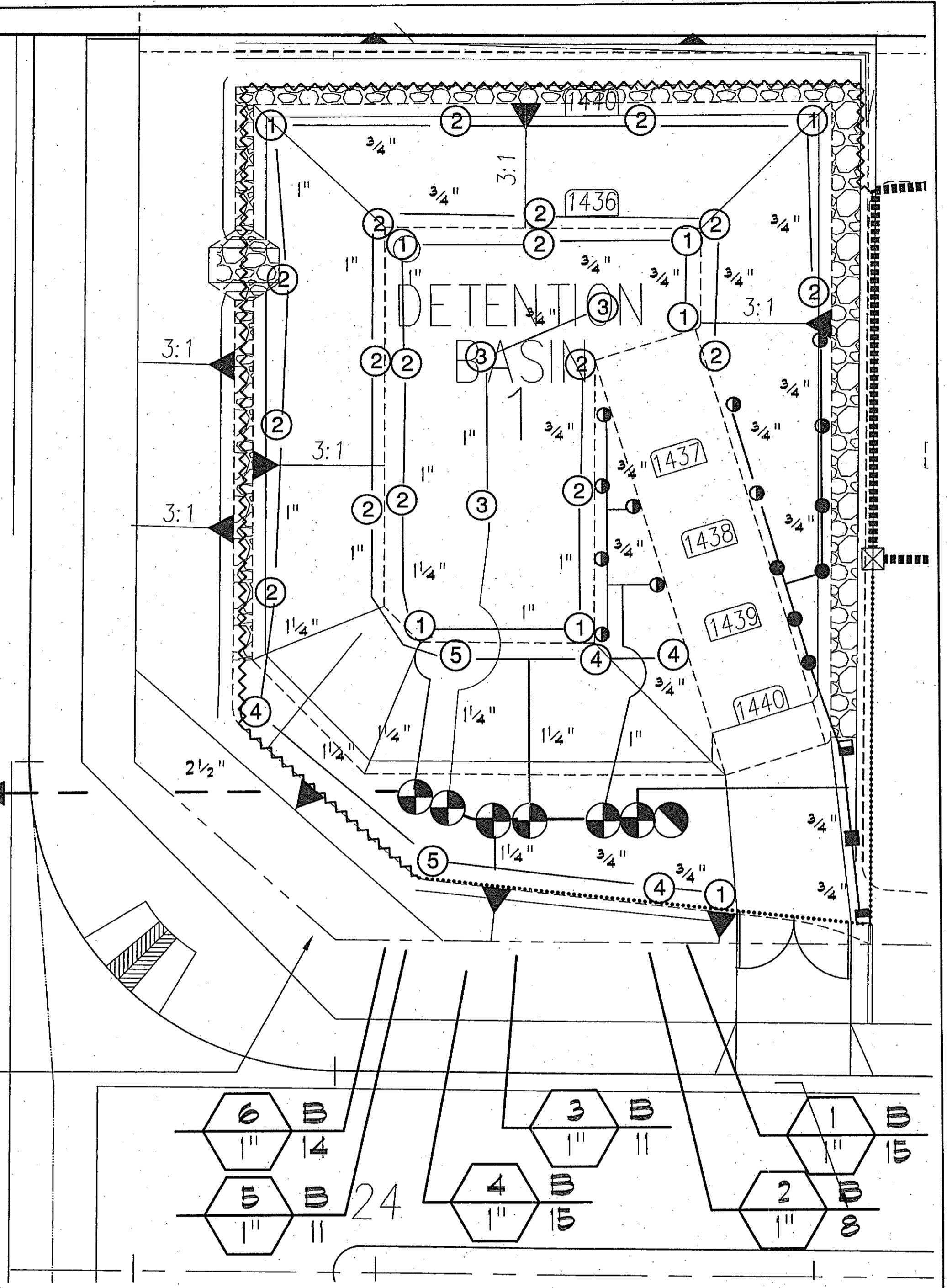
CONTRACTOR TO VERIFY WATER PRESSURE ON SITE PRIOR TO INSTALLATION. IF PRESSURE DIFFERS FROM NOTED AVAILABLE ON THIS PLAN, CONTACT THE LANDSCAPE ARCHITECT FOR FURTHER INSTRUCTION. FAILURE TO DO SO WILL PLACE THE CONTRACTOR RESPONSIBLE FOR CHANGES THAT MAY BE REQUIRED.

# IRRIGATION LEGEND

SYMBOL	BODY / NOZ.	DESCRIPTION	RAD.	GPM	PSI
□	HUNTER INST-12 / RAINBIRD 5Q	QTR. SPRAY	4'	.07	25
□	HUNTER INST-12 / RAINBIRD 5H	HALF SPRAY	4'	.13	25
□	HUNTER INST-12 / RAINBIRD 8Q	QTR. SPRAY	7'	.21	25
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□	HUNTER INST-12 / RAINBIRD 8F	FULL SPRAY	7'	.82	25
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□	HUNTER INST-12 / RAINBIRD 15SST	STRIP SPRAY	4 x 28'	1.11	25
○	RAINBIRD 5000-MPR-25-Q	ROTOR	23'	.74	25
○	RAINBIRD 5000-MPR-25-H	ROTOR	23'	1.44	25
○	RAINBIRD 5000-MPR-25-F	ROTOR	23'	2.78	25
○	RAINBIRD 5012-PL-PC-SAM-1.5	ROTOR	33'	1.12	25
○	RAINBIRD 5012-PL-PC-SAM-3.0	ROTOR	36'	2.26	25
○	1" RAINBIRD 44 LRC LOCKING W/ LOCKING RUBBER CAP, QUICK COUPLER.				
○	NIBCO T-580 GATE VALVE - LINE SIZE.				
○	1 1/2" CALSENSE FLOW METER MODEL # FM-1.50 (PER SEPARATE PLAN)				
○	WATER METER - (PER SEPARATE PLAN)				
○	BACKFLOW DEVICE - (PER SEPARATE PLAN)				
○	AMAD TURBOCLEAN FILTER - (PER SEPARATE PLAN)				
○	FERTILIZER INJECTOR SYSTEM F-4000 AVAILABLE FROM PLANT'S CHOICE INC. (PER SEPARATE PLAN)				
○	AUTOMATIC CONTROLLER LOCATION - SEE NOTE.				
○	2" TORO P220 MASTER VALVE / PRESSURE REGULATOR.				
○	RAINBIRD PESB-FRS SERIES REMOTE CONTROL VALVE - SIZES INDICATED.				
○	PVC SCH 40 LATERAL LINE - 12" COVER IN PLANTING AREAS, 24" COVER UNDER PAVING. - SIZES INDICATED.				
○	PVC SCH 40 MAINLINE 2" AND SMALLER, CLASS 315 2 1/2" OR LARGER - 18" COVER IN PLANTING AREAS, 24" COVER UNDER PAVING. - SIZES INDICATED.				
○	PVC SCH 40 WIRE SLEEVE - SIZE AND LOCATION PER CONTRACTOR				
○	PVC SCH 40 MAIN AND LATERAL LINE SLEEVE 2X DIA. OF PIPE. - PROVIDE SLEEVES UNDER ANY PAVING THAT EXCEEDS 4' WIDE.				
○	INDICATES STATION NUMBER				
○	INDICATES CONTROLLER				
○	INDICATES GPM				
○	INDICATES VALVE SIZE				

WORST CONDITION IRRIGATION CALCULATION ('A'+'B')		
TYPE OF WATER:	POTABLE	
SHADOW RIDGE II - GRIFFIN COMMUNITIES		
MENIFEE CA.		
RUN (1) VALVE AT A TIME		
CONTROLLER:		
VALVE NO.	3	
GPM's	22	
METER ELEV.	54 PSI @ 1454' ELEV.	
VALVE ELEV.	1444	
SIZE	ITEM	
2"	WATER METER	N/A
2"	BACKFLOW DEVICE	11.0
2 1/2"	GATE VALVE	1.4
2 1/2"	CL 315 MAINLINE 1600'	1.44
1"	REMOTE CONTROL VALVE	2.9
SCH 40 PVC LATERAL LINES		5.2
		23.94
IRRIGATION HEAD PRESSURE		25
TOTAL SYSTEM LOSS		46.94
ELEVATION LOSS	(11' @ +4.76)	5.4
10% RESIDUAL PSI		5.4
REQUIRED PRESSURE		57.10
AVAILABLE PRESSURE		54.0
RESIDUAL PRESSURE		-3.1

MENIFEE ROAD



SEE MAINLINE LAYOUT / SHEET KEY - THIS SHEET

STREETSCAPE LANDSCAPE PER SEPARATE PLAN SET

SEE MAINLINE LAYOUT / SHEET KEY - THIS SHEET

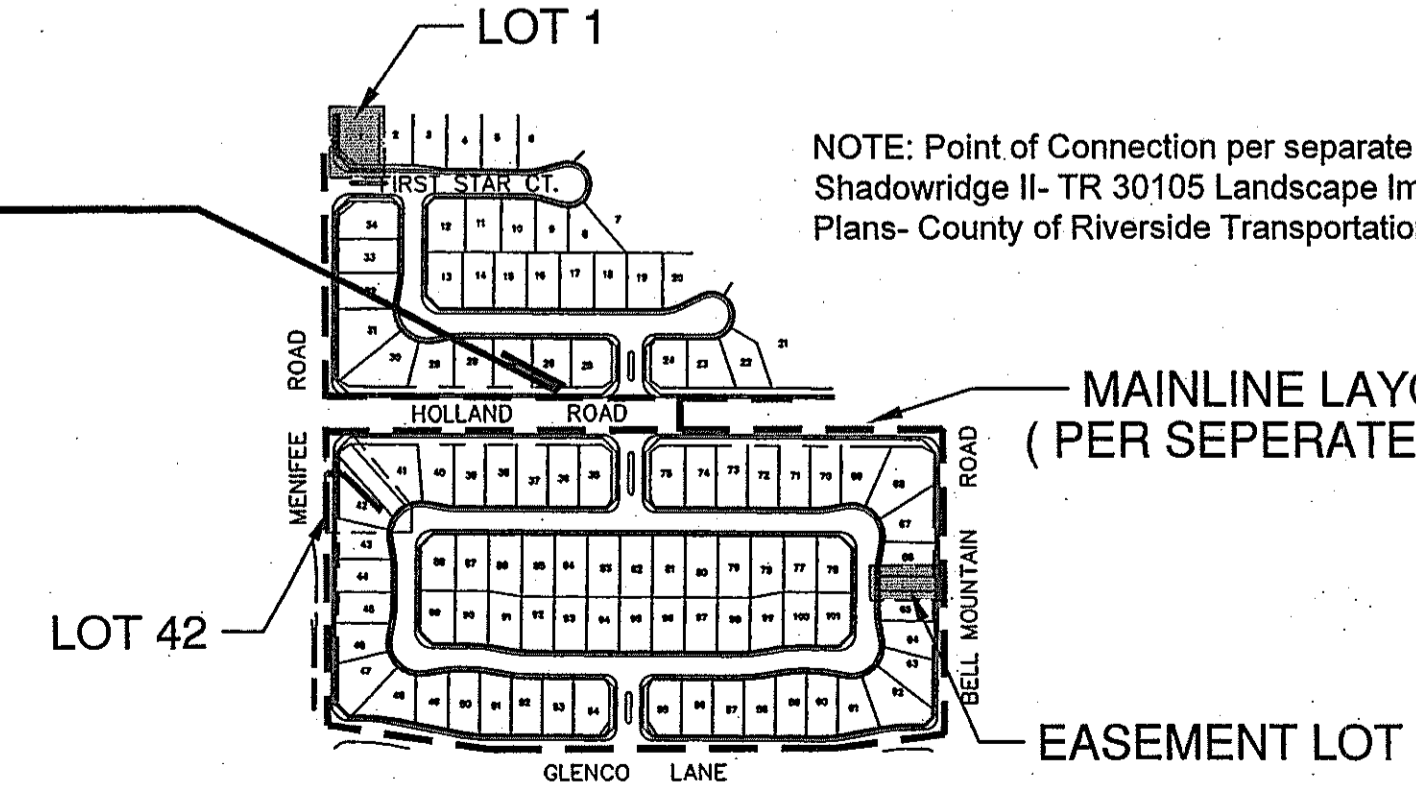
**Point of Connection 'A' & 'B'** (PER SEPARATE PLAN)  
INSTALL A 2" DOMESTIC WATER METER - LOCATE PER CIVIL PLANS. INSTALL A 2" FEBCO 825YA REDUCED PRESSURE TYPE BACKFLOW DEVICE. - VERIFY LOCATIONS WITH CITY INSPECTOR. VERIFY FINAL LOCATIONS

Static Pressure @1483' ELEV.: 54 PSI +30 FROM PUMP  
Design Pressure: 59.1 PSI  
Maximum Demand: 20 GPM

PRESSURE DATA OBTAINED FROM: Eastern Municipal Water District  
Corey Wallace 909-928-3777

**Controller 'A' & 'B'** (PER SEPARATE PLAN)  
CONTACT BOB MOXLEY @ CALSENSE FOR VALLEY WIDE STANDARDS. CONTROLLERS TO BE:  
ET-2000-32-MLR-FL-RR-SSE-R & ET-2000-24-ML-FL-RR-SSE-R  
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MAINLINE LAYOUT / SHEET KEY



NOTE: Point of Connection per separate plan set- Shadowridge II- TR 30105 Landscape Improvement Plans- County of Riverside Transportation Dept.

**STATIC PRESSURE CALCULATIONS**

Pressure Zone HWL/Nearest Tank: 1627 Perris  
Height of Nearest Tank in PZ (ft): 40

PAD	LOT	ELEVATION (ft)	PRESSURE (psi)
HIGHEST	21	1468	57.1
LOWEST	2	1444	78.8

Project will receive Normal Pressure

Underground Service Alert

Call: TOLL FREE 1-800-227-2600

180 WORKING DAYS BEFORE YOU DIG

REGISTERED LANDSCAPE ARCHITECT

RICHARD RICHARDSON

Signature: 01-11-06

Date: 01-11-06

STATE OF CALIFORNIA

EXPIRES 11-30-2006

**LANTEX**  
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MARK	REVISIONS	APPR.	DATE

DESIGNED BY: B.H. DRAWN BY: S.H. CHECKED BY: \_\_\_\_\_

**COUNTY OF RIVERSIDE**  
DEPARTMENT OF BUILDING & SAFETY

APPROVED \_\_\_\_\_ 20\_\_

**IRRIGATION PLAN**

SHADOWRIDGE II TR 30105  
LANDSCAPE IMPROVEMENT PLANS  
COUNTY OF RIVERSIDE, CALIFORNIA

PREPARED FOR: GRIFFIN COMMUNITIES

**VALLEY WIDE RECREATION & PARK DISTRICT**

Samuel W. Spepp

Date: 1-23-06

DATE: 3-10-03
SCALE: 1"=10'
SHEET No. 2
OF 9 SHEETS



STREETSCAPE LANDSCAPE  
PER SEPARATE PLAN SET

SEE MAINLINE LAYOUT /  
SHEET KEY - THIS SHEET

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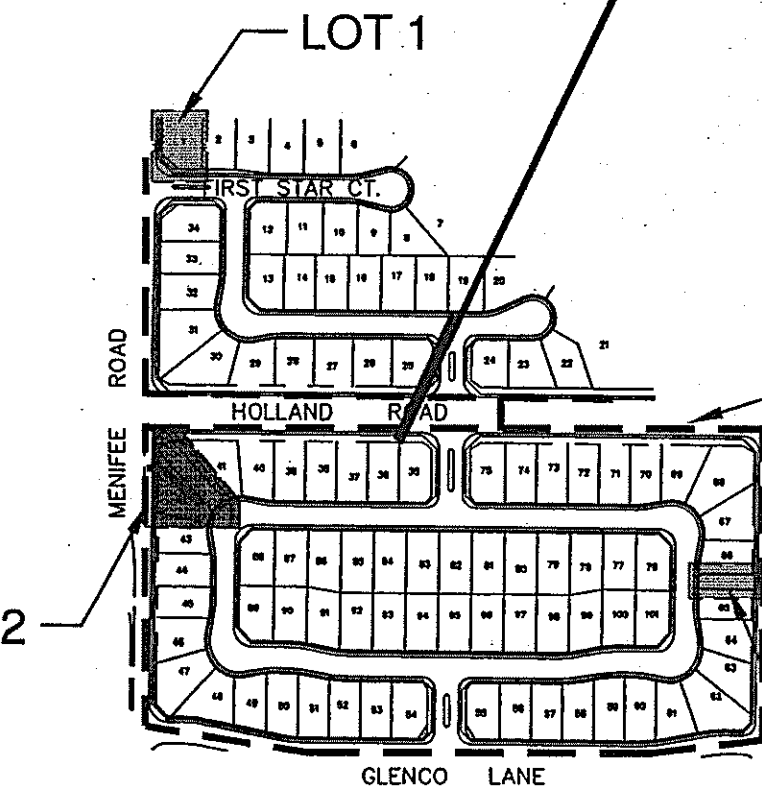
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**MAINLINE LAYOUT /  
SHEET KEY**



**MAINLINE LAYOUT  
(PER SEPARATE PLAN)**

NOTE: Point of Connection per separate plan set-  
Shadowridge II-TR 30105 Landscape Improvement  
Plans- County of Riverside Transportation Dept.

VALLEY WIDE RECREATION  
& PARK DISTRICT

Samuel W. Goepp  
1-23-06  
Date:

**STATIC PRESSURE  
CALCULATIONS**

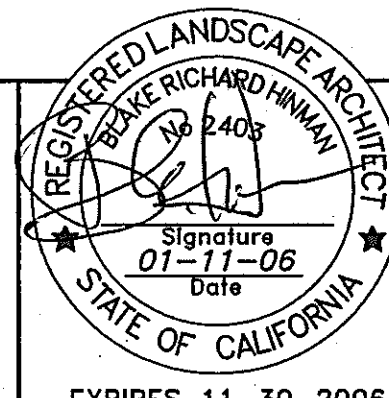
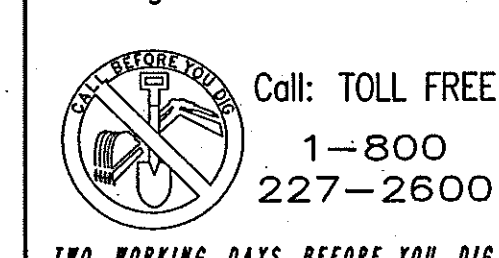
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MARK	REVISIONS	APPR.	DATE

DESIGNED BY: B.H. DRAWN BY: S.H. CHECKED BY: \_\_\_\_\_

**COUNTY OF RIVERSIDE**  
DEPARTMENT OF BUILDING & SAFETY

APPROVED \_\_\_\_\_ 20\_\_

BY: \_\_\_\_\_

**IRRIGATION PLAN**

SHADOWRIDGE II TR 30105  
LANDSCAPE IMPROVEMENT PLANS  
COUNTY OF RIVERSIDE, CALIFORNIA

PREPARED FOR: GRIFFIN COMMUNITIES

DATE: 3-10-03

SCALE: 1"=10'

SHEET No.

3

OF 9 SHEETS



MENIFEE ROAD

CONCRETE PAVING  
PER CIVIL  
ENGINEER'S PLANS

STREETSCAPE LANDSCAPE  
PER SEPARATE PLAN SET  
SHADOWRIDGE II TR 30105  
LANDSCAPE IMPROVEMENT  
PLANS- COUNTY OF RIVERSIDE  
TRANSPORTATION DEPARTMENT

PL-8  
SHEET  
6

**GENERAL PLANTING NOTES**

- THE CONTRACTOR SHALL MAINTAIN A QUALIFIED SUPERVISOR ON THE SITE AT ALL TIMES DURING CONSTRUCTION THROUGH COMPLETION OF PICK UP WORK.
- THE CONTRACTOR SHALL VERIFY ALL PLANT MATERIAL QUANTITIES PRIOR TO INSTALLATION. PLANT MATERIAL QUANTITIES LISTED FOR CONVENIENCE OF CONTRACTOR. ACTUAL NUMBER OF SYMBOLS SHALL HAVE PRIORITY OVER QUANTITY DESIGNATED.
- THE CONTRACTOR SHALL FURNISH AND PAY FOR ALL CONTAINER GROWN TREES, SHRUBS AND VINES INCLUDING SEEDED AND SODDED TURF, HYDROMULCHES AND FLATTED GROUND COVERS. THE CONTRACTOR SHALL ALSO BE RESPONSIBLE AND PAY FOR: PLANTING OF ALL PLANT MATERIALS, THE SPECIFIED GUARANTEE OF ALL PLANT MATERIALS, THE STAKING AND GUYING OF TREES AND THE CONTINUOUS PROTECTION OF ALL PLANT MATERIALS UPON THEIR ARRIVAL AT THE SITE.
- GROUND COVER PLANTING SHALL BE CONTINUOUS UNDER ALL TREES AND SHRUB MASSES AS SHOWN ON THE PLAN.
- ALL PLANT MATERIAL SHALL BE SUBJECT TO APPROVAL BY THE LANDSCAPE ARCHITECT AND/OR OWNER PRIOR TO INSTALLATION.
- ALL BOXED TREES SHALL BE SELECTED AND SPOTTED BY THE LANDSCAPE ARCHITECT OR OWNER'S REPRESENTATIVE.
- ALL VINE RUNNERS SHALL BE INSTALLED WITH THE NURSERY STAKES REMOVED AND VINE RUNNERS SHALL BE ESPALIÉRIED TO THE ADJACENT WALL.
- ALL SOIL PREPARATION SHALL BE INSTALLED AS PER THE SOIL AGRONOMY REPORT TO BE PROVIDED AND PAID FOR BY THE SUBCONTRACTOR. THE REPORT SHALL BE IMMEDIATELY FORWARDED TO THE LANDSCAPE ARCHITECT UPON COMPLETION.
- THE SOIL AMENDMENTS SPECIFIED ARE FOR BIDDING PURPOSES ONLY. THE CONTRACTOR SHALL PROVIDE FOR A SOILS AGRONOMY REPORT FROM AN APPROVED SOILS LABORATORY AND/OR ANY ADDITIONAL SPECIFICATION PROVIDED BY THE LANDSCAPE ARCHITECT PRIOR TO INSTALLATION OF PLANT MATERIALS.
- FOR AREA TO BE LANDSCAPED, THE FOLLOWING AMENDMENTS SHALL BE UNIFORMLY BROADCAST AND THOROUGHLY INCORPORATED BY MEANS OF A ROTOTILLER OR EQUAL. 4 CU. YDS. NITROGEN STABILIZED ORGANIC AMENDMENT DERIVED FROM REDWOOD SAWDUST, FIR SAWDUST OR CEDAR SAWDUST. 15 LBS SOIL SULFUR 15 LBS 12-12-12 FERTILIZER
- THE PLANTING PITS FOR BOXED TREES SHALL BE EXCAVATED TWICE THE DIAMETER OF THE ROOTBALL WITH A MINIMUM OF 12" FROM THE BOTTOM OF THE ROOTBALL TO THE BOTTOM OF THE PLANTING PIT. THE BACKFILL MIX FOR USE AROUND THE ROOTBALL OF ALL TREES AND SHRUBS SHALL CONSIST OF THE FOLLOWING FORMULA:  
6 PARTS ON SITE SOIL  
4 PARTS BY VOLUME ORGANIC AMENDMENT PER ABOVE SOIL PREPARATION  
1 LB/CU. YD. OF MIX 12-12-12 COMMERCIAL FERTILIZER  
2 LBS/CU. YD. OF MIX IRON SULFATE  
10 LBS/CU. YD. OF MIX AGRICULTURAL GYPSUM
- THIRTY (30) DAYS AFTER INSTALLATION ALL LANDSCAPE SHALL BE FERTILIZED WITH BEST FERTILIZER 16-4-8 OR APPROVED EQUAL APPLIED AT THE RATE OF SIX POUNDS (LBS) PER 1,000 SQ. FT. FERTILIZER APPLICATION SHALL BE CONTINUED THEREAFTER AT MONTHLY INTERVALS.
- FOR ALL STAKED TREES, SEE DETAIL SHEET
- FOR ALL BOX TREES, SEE DETAIL SHEET
- FERTILIZER TABLETS SHALL BE AGRIFORM 21 GRAM TABLETS (20-10-5) IN QUANTITIES AS FOLLOWS:  
PLACE TABLETS AT HALF THE DEPTH OF THE ROOTBALL.  
1 GALLON SHRUBS 1  
5 GALLON SHRUBS 3  
15 GALLON SHRUBS 4  
15 GALLON TREES 5  
BOXED TREES 1 PER 4" OF BOX SIZE

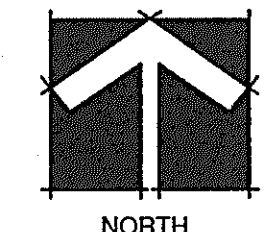
**PLANTING LEGEND**

SYMBOL	BOTANICAL NAME	COMMON NAME	SIZE/ SPACING
●	LIQUIDAMBAR STYRACIFLUA	AMERICAN SWEET GUM	15 GAL
+	PLATANUS RACEMOSA	CALIFORNIA SYCAMORE	15 GAL
<b>SHRUB</b>			
⊕	ACACIA REDOLENS	NCN	5 GAL
⊖	COTONEASTER LACTEUS	NCN	5 GAL
⊙	HEMEROCALLIS HYBRID (ORANGE)	SPANISH LAVENDER	1 GAL
⊕	LAVANDULA S. 'OTTO QUAST'	NCN	1 GAL
⊖	PHOTINIA FRASERI	INDIA HAWTHORN	5 GAL
⊙	RHAPHIOLEPIS I. 'SPRINGTIME'	NCN	5 GAL
<b>GROUND COVER</b>			
⊗	SEED MIX	(AS NOTED BELOW)	
⊘	MYOPORUM PARVIFOLIUM 'PINK'	MYOPORUM	ROOTED CUTTINGS FROM FLATS @ 12" O.C.
<b>VINE</b>			
—	PARTHENOCISSUS TRICUSPIDATA		5 GAL. @ 10' O.C.

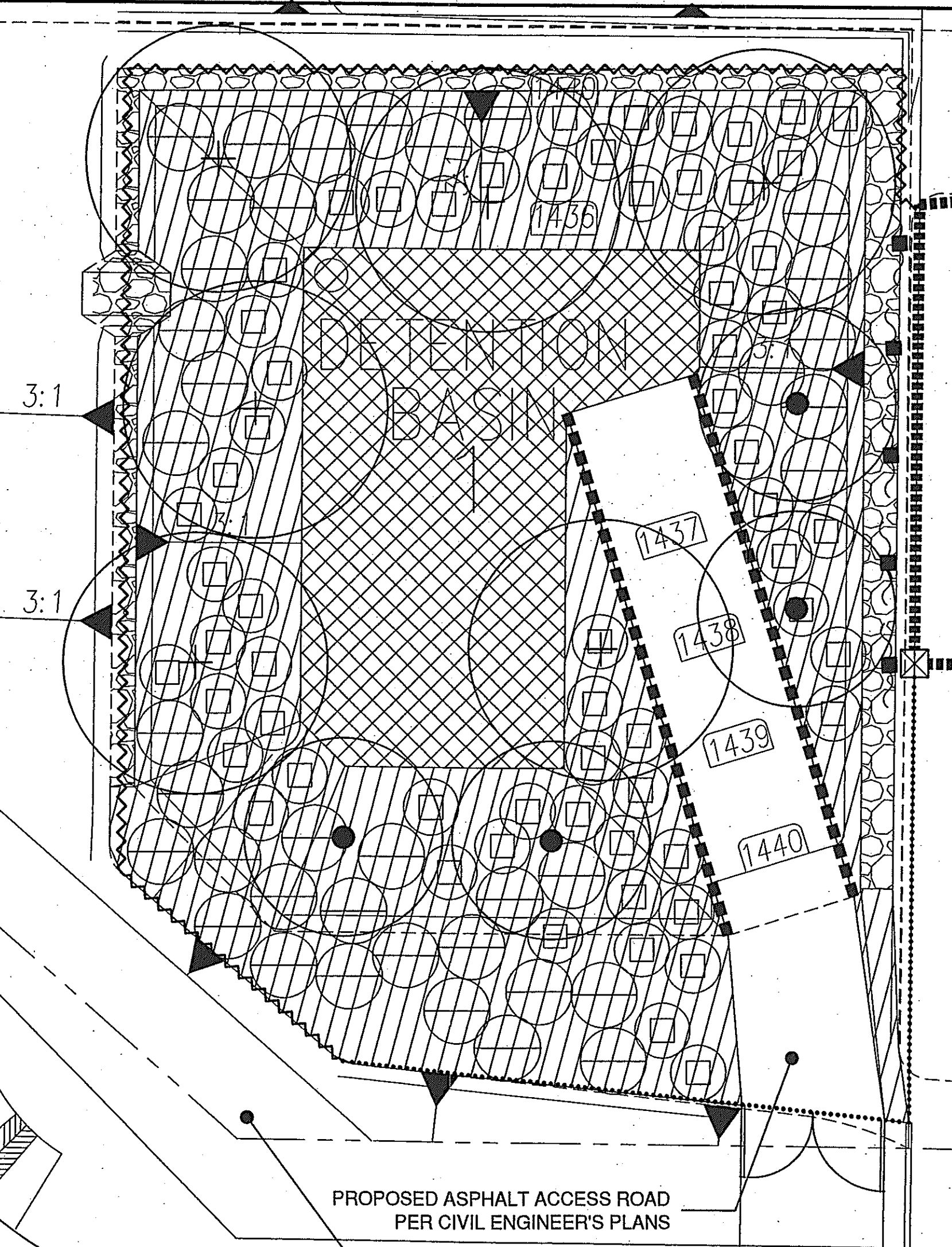
--- LINEAL ROOT BARRIER - PROVIDE ROOT BARRIER FOR TREES WITHIN 8' OF ANY SIDEWALK OR OTHER HARD SURFACE. SEE DETAIL PL-9 SHEET 6

**SEED MIX FOR UPPER, MIDDLE & LOWER CHANNEL BOTTOM & VEGETATED SWALE**

SCIENTIFIC NAME	COMMON NAME	MIN. PURITY/GERM.	APPLICATION RATE LBS./ACRE
AMBROSIA PSILOSTACHYA	WESTERN RAGWEED	20/30	15
ARTEMISIA DOUGLASIANA	MUGWORT	10/50	2
ARTEMISIA DRACUNCULUS	TARRAGON	6/50	1.5
BROMUS CARINATUS	CALIFORNIA BROME	90/80	1
CONYZA CANDEUSIS	HORSEWEED	TBD	TBD
MARAH MACROCARPUS	WILD CUCUMBER	98/70	0.5
MELICA IMPERFECTA	MELIC GRASS	90/60	0.5
PLANTAGO OVATA	PLANTAIN	98/75	10
TRIFOLIUM WILDENOVII	TOMCAT CLOVER	90/80	2
VULPIA MICROSTACHYS	SMALL FESCUE	90/80	6



MENIFEE ROAD



PROPOSED ASPHALT ACCESS ROAD  
PER CIVIL ENGINEER'S PLANS

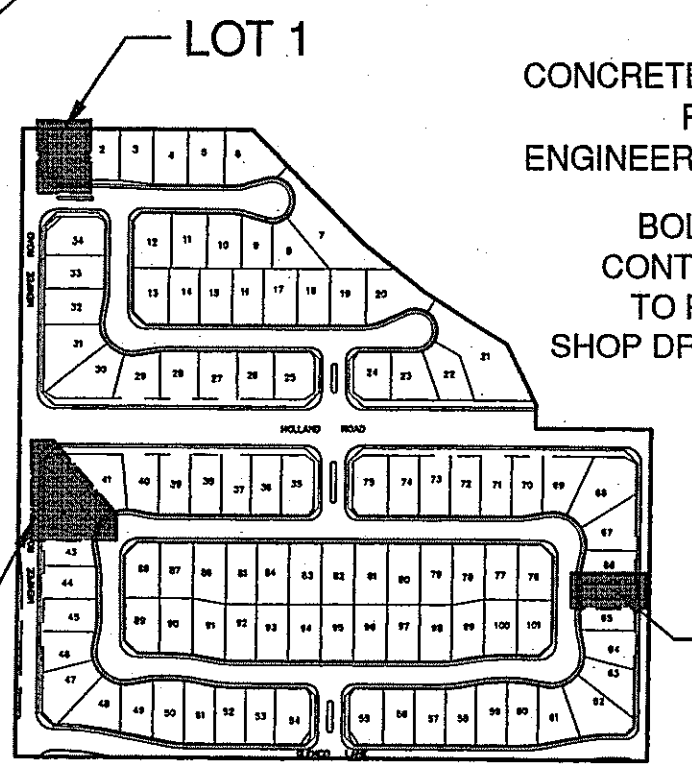
STREETSCAPE LANDSCAPE  
PER SEPARATE PLAN SET  
SHADOWRIDGE II TR 30105  
LANDSCAPE IMPROVEMENT  
PLANS- COUNTY OF RIVERSIDE  
TRANSPORTATION DEPARTMENT

PROPOSED ASPHALT ACCESS ROAD  
PER CIVIL ENGINEER'S PLANS

BOLLARDS -  
CONTRACTOR  
TO PROVIDE  
SHOP DRAWINGS

CONCRETE PAVING  
PER CIVIL  
ENGINEER'S PLANS

BOLLARDS -  
CONTRACTOR  
TO PROVIDE  
SHOP DRAWINGS



PL-8  
SHEET  
6

**VALLEY WIDE RECREATION & PARK DISTRICT**  
  
 Samuel W. Goepf  
 Date: 1-23-06

Underground Service Alert  
  
 Call: TOLL FREE  
 1-800  
 227-2600  
 TWO WORKING DAYS BEFORE YOU DIG

REGISTERED LANDSCAPE ARCHITECT  
 RICHARD W. WAIN  
 No. 1408  
 Signature  
 01-11-06  
 State of California  
 EXPIRES 11-30-2006

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 Landscape Architecture Inc.  
 31726 Rancho Viejo Road, Suite 206  
 San Juan Capistrano, California 92675  
 (949) 248-1993 FAX (949) 493-0706

MARK	REVISIONS	APPR.	DATE

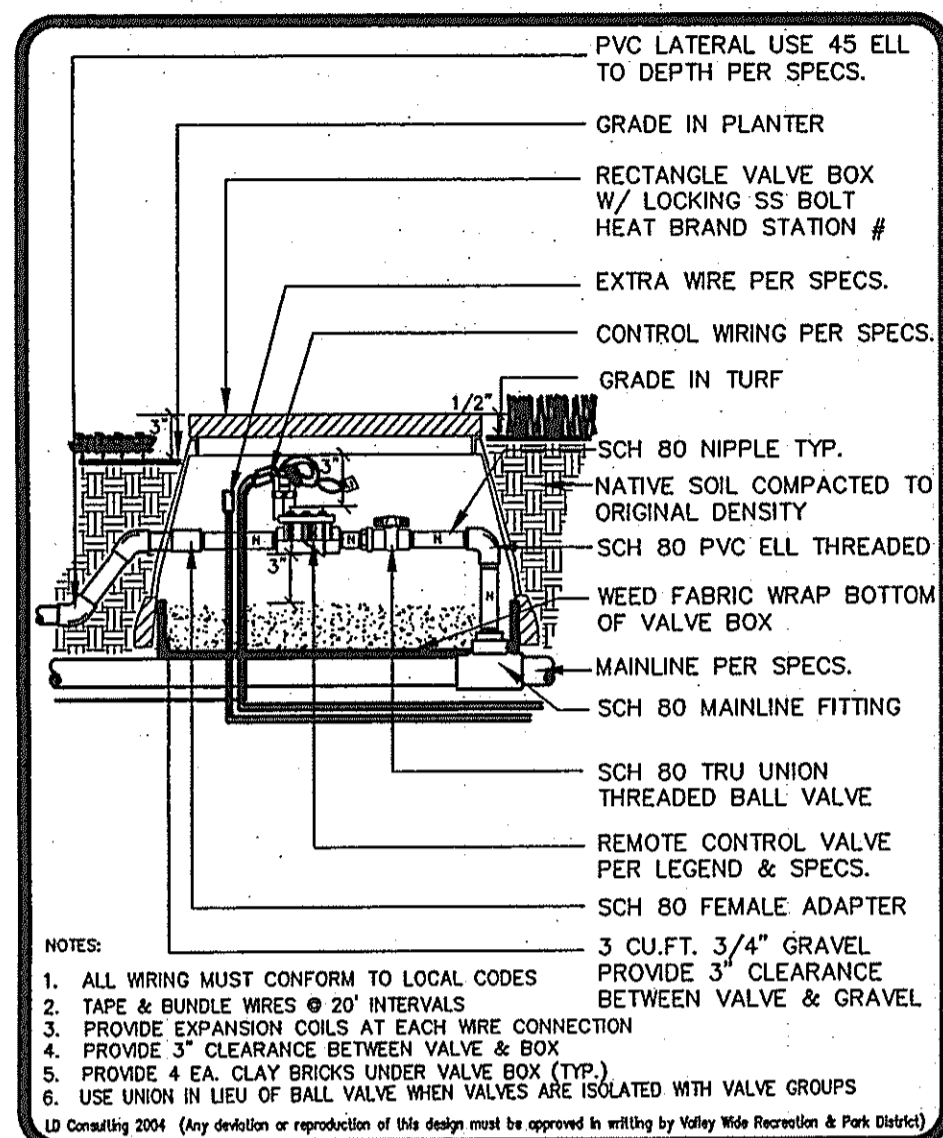
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**COUNTY OF RIVERSIDE**  
 DEPARTMENT OF BUILDING & SAFETY  
 APPROVED \_\_\_\_\_ 20\_\_\_\_  
 BY: \_\_\_\_\_

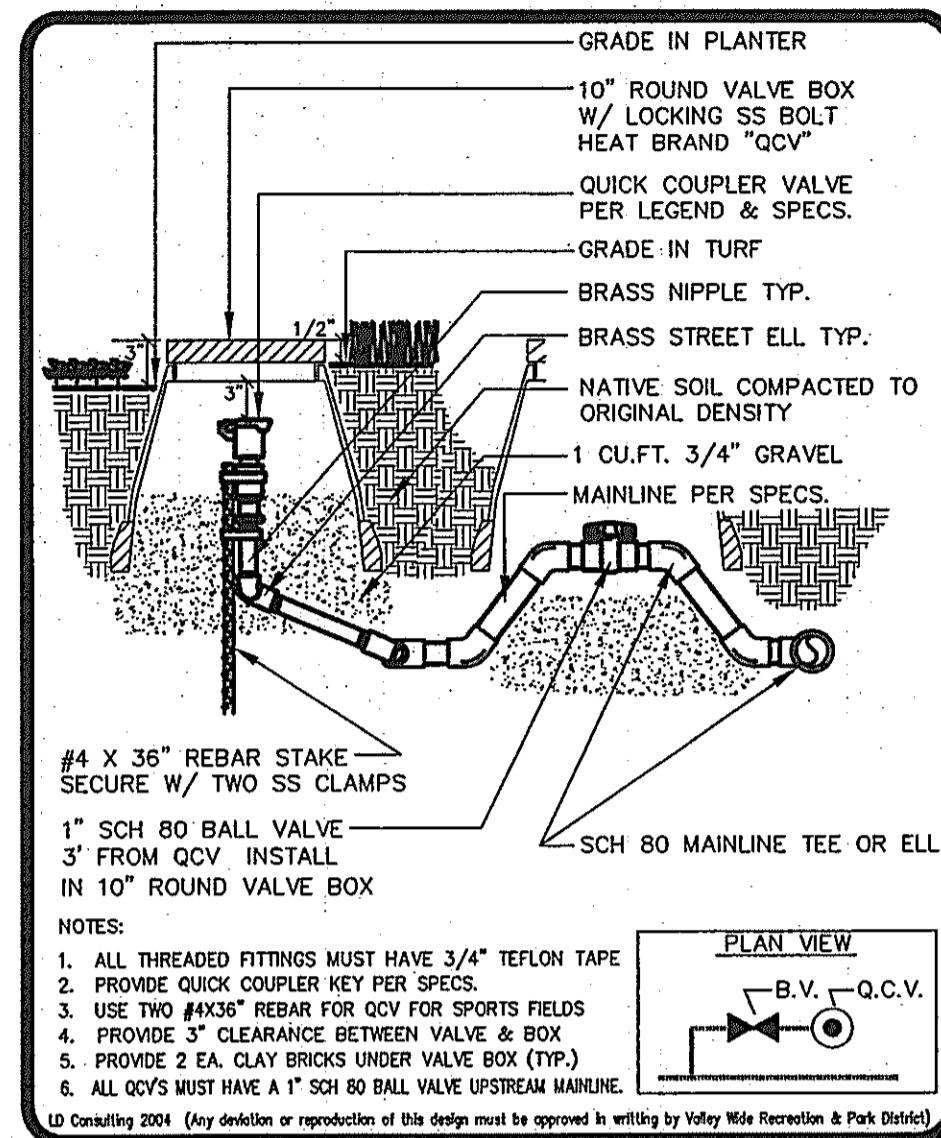
**PLANTING PLAN**  
 SHADOWRIDGE II TR 30105  
 LANDSCAPE IMPROVEMENT PLANS  
 COUNTY OF RIVERSIDE, CALIFORNIA  
 PREPARED FOR: GRIFFIN COMMUNITIES

DATE: 3-10-03  
 SCALE: 1"=10'  
 SHEET No.  
 4  
 OF 9 SHEETS

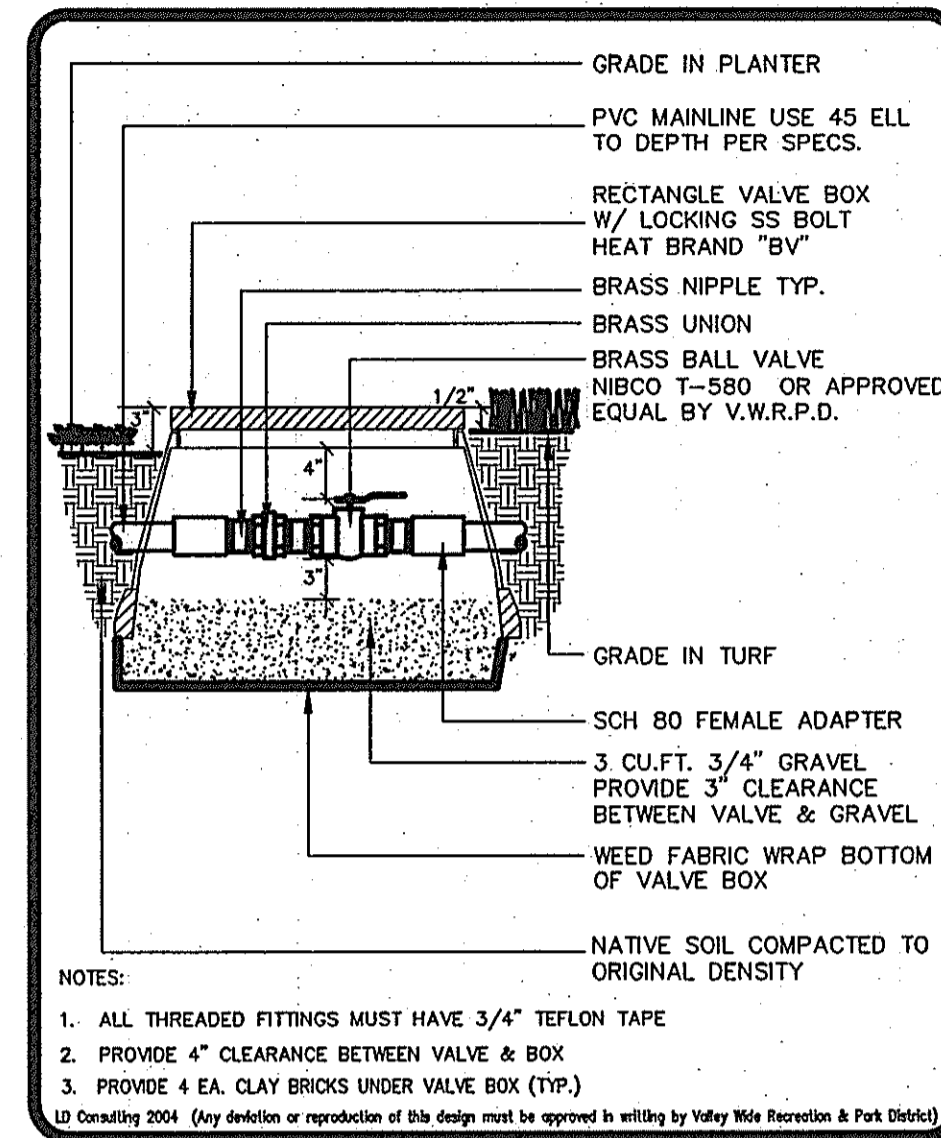




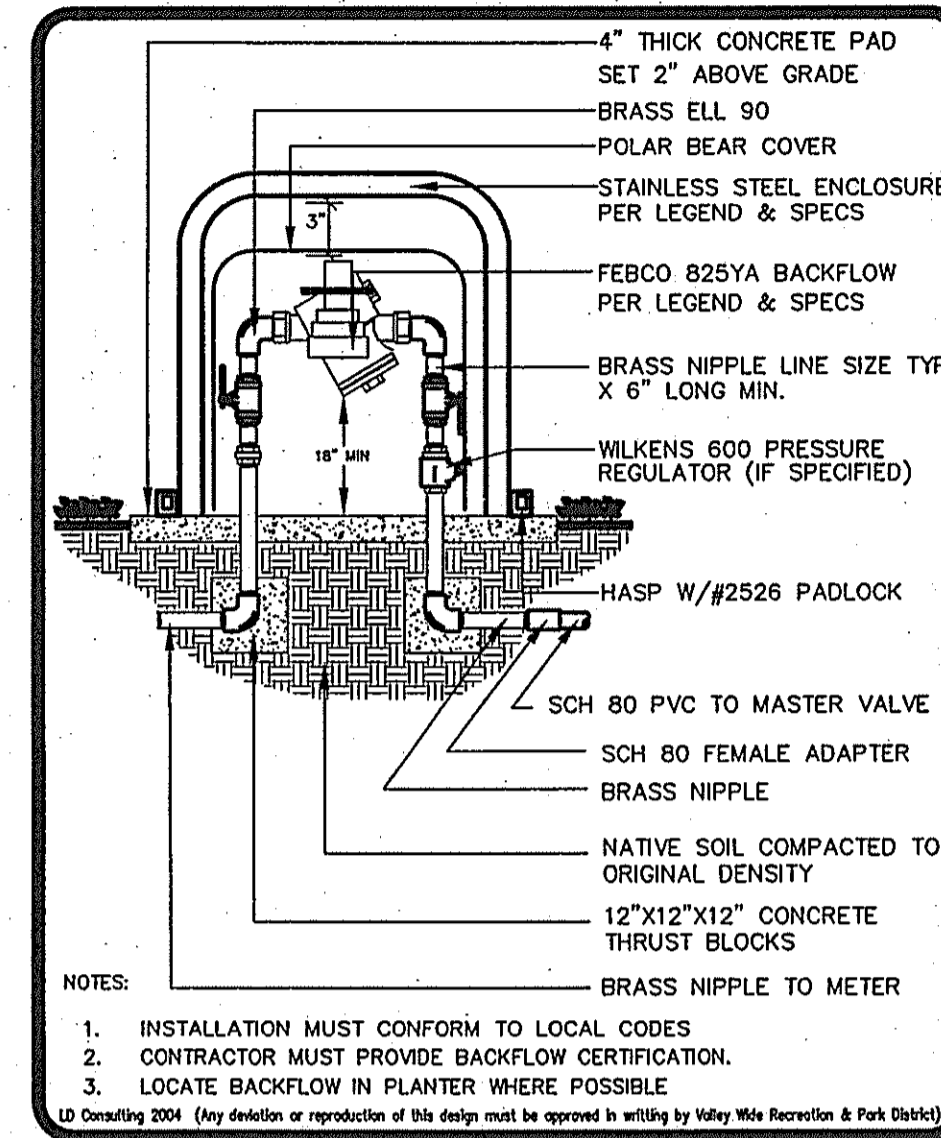
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 11/04 REMOTE CONTROL VALVE IR-1



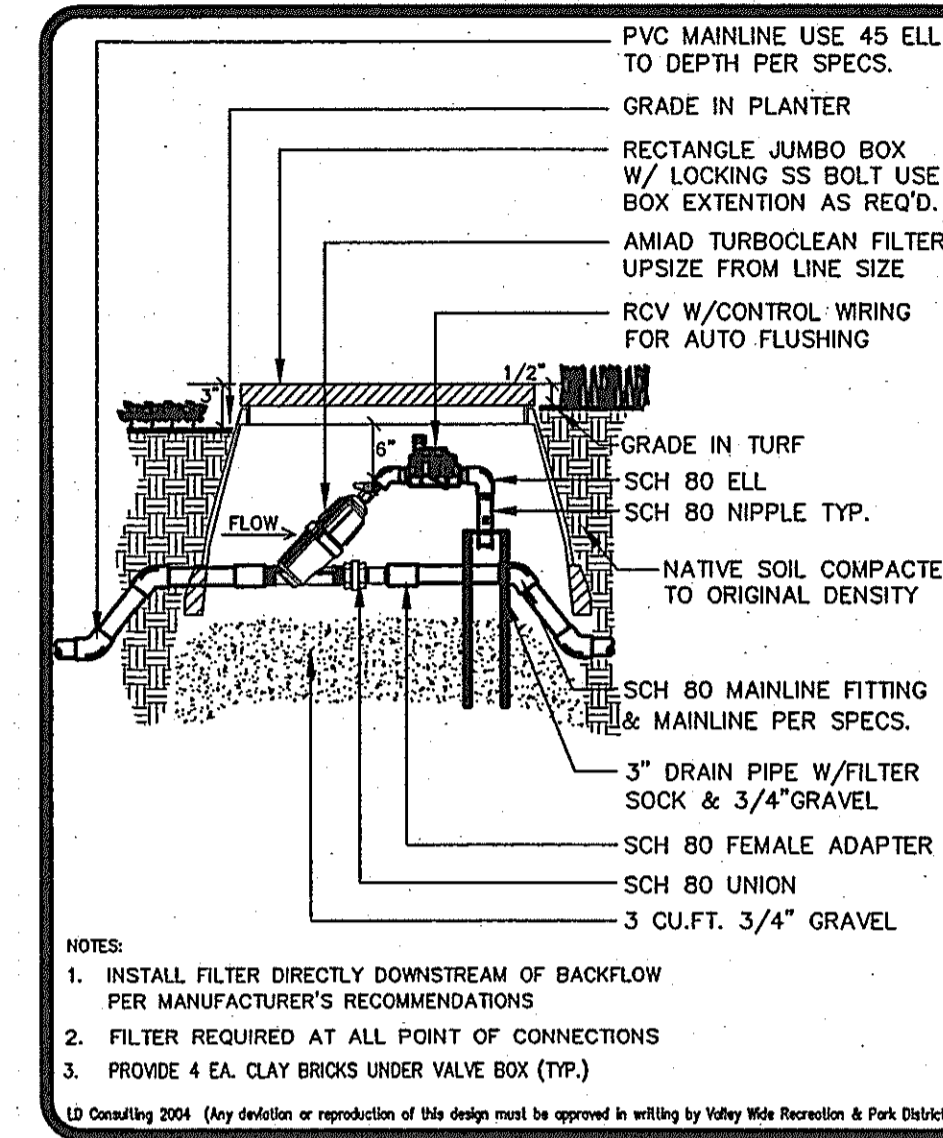
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 11/04 QUICK COUPLER VALVE IR-3



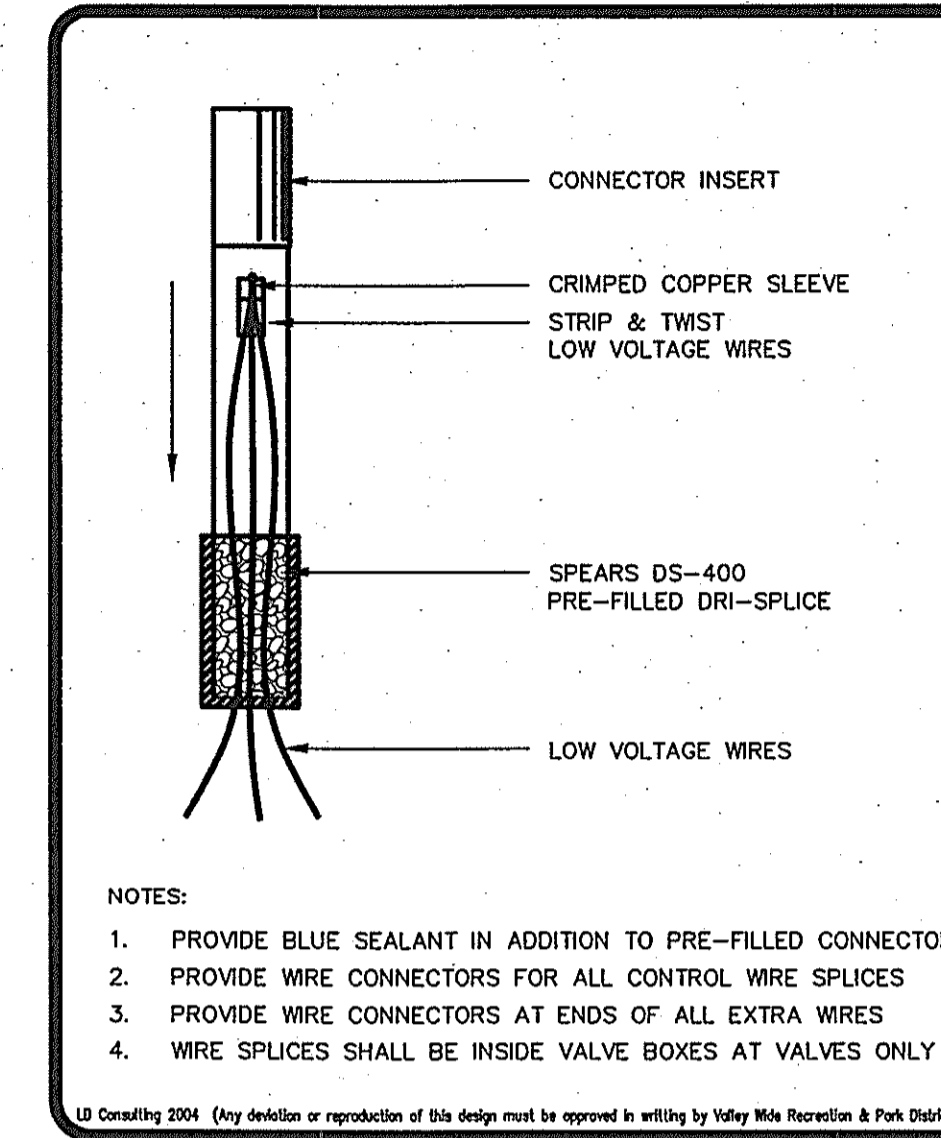
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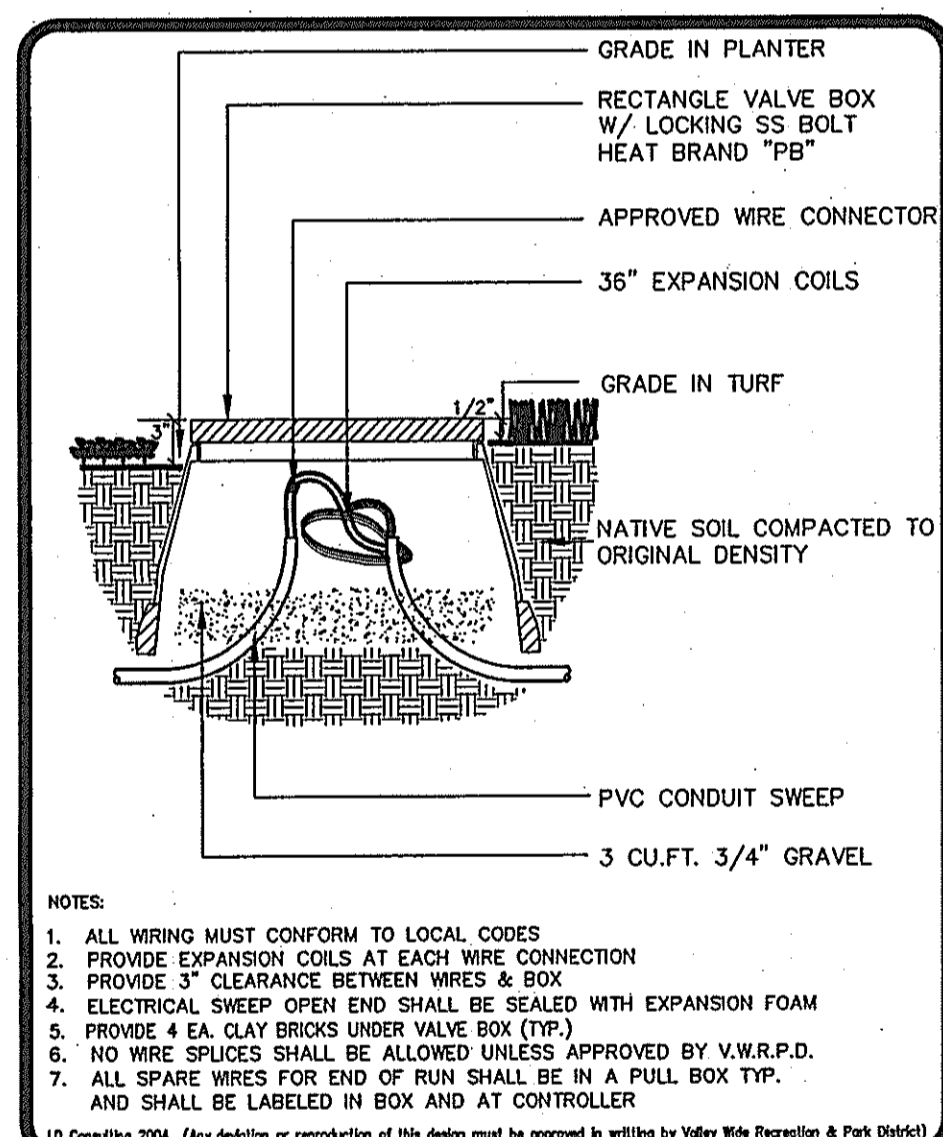
VALLEY WIDE RECREATION  
 11/04 BACKFLOW PREVENTER IR-6



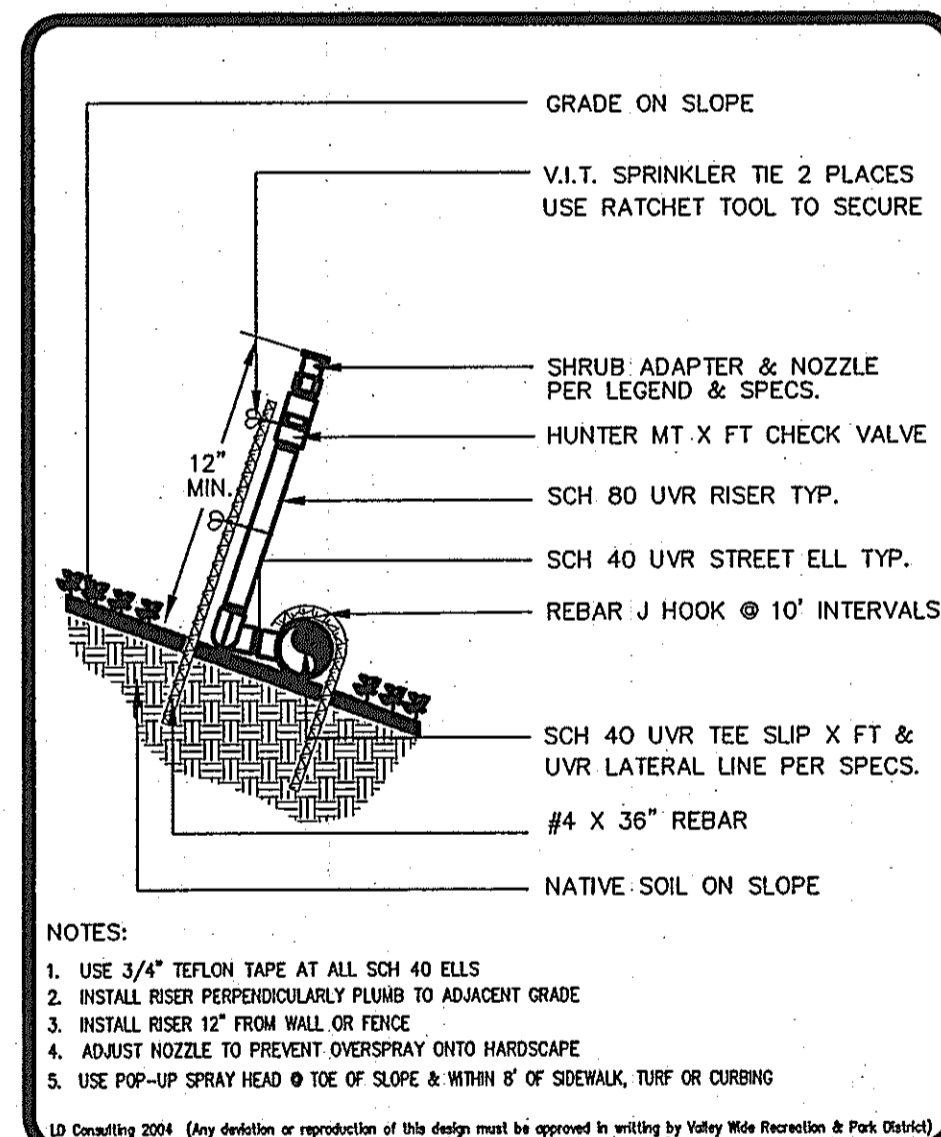
VALLEY WIDE RECREATION  
 11/04 MAINLINE INLINE FILTER IR-8



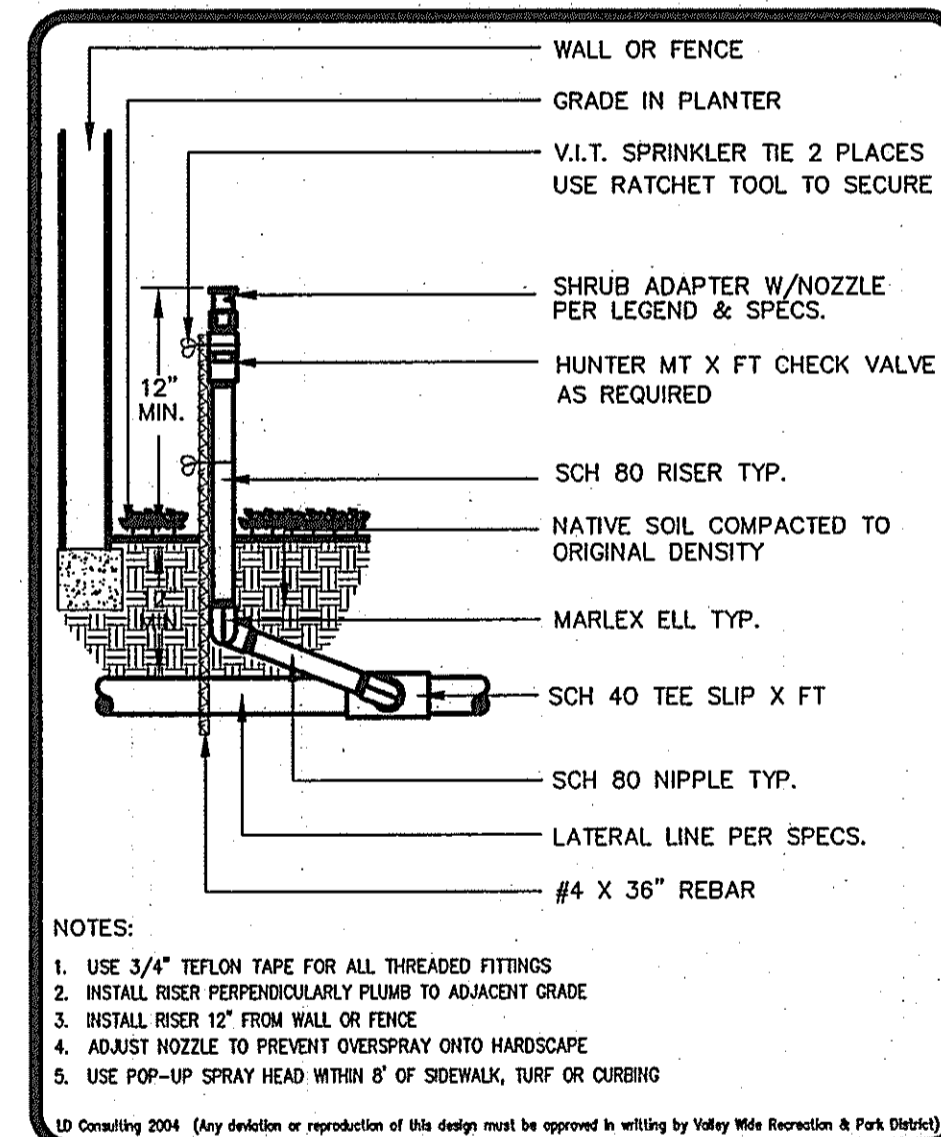
VALLEY WIDE RECREATION  
 11/04 WIRE CONNECTORS IR-9



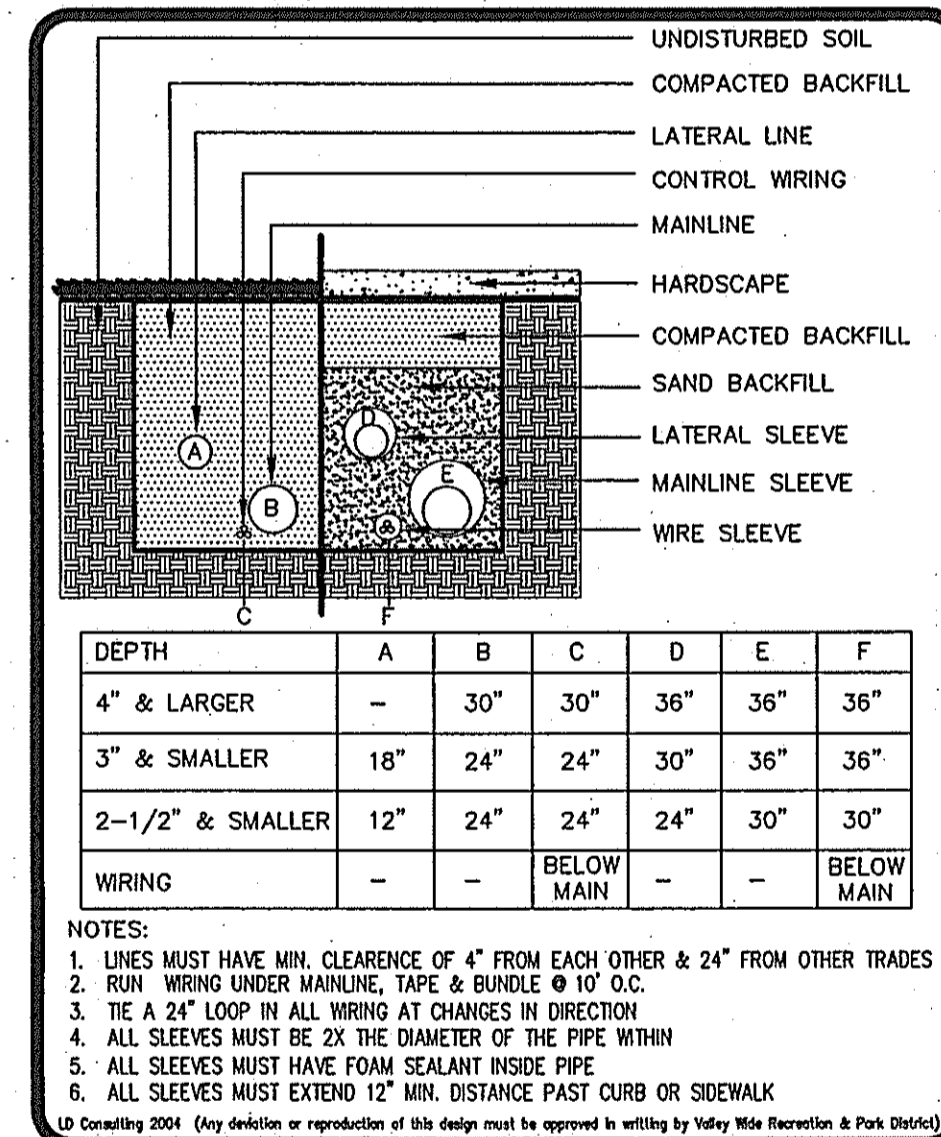
VALLEY WIDE RECREATION  
 11/04 PULL BOX IR-10



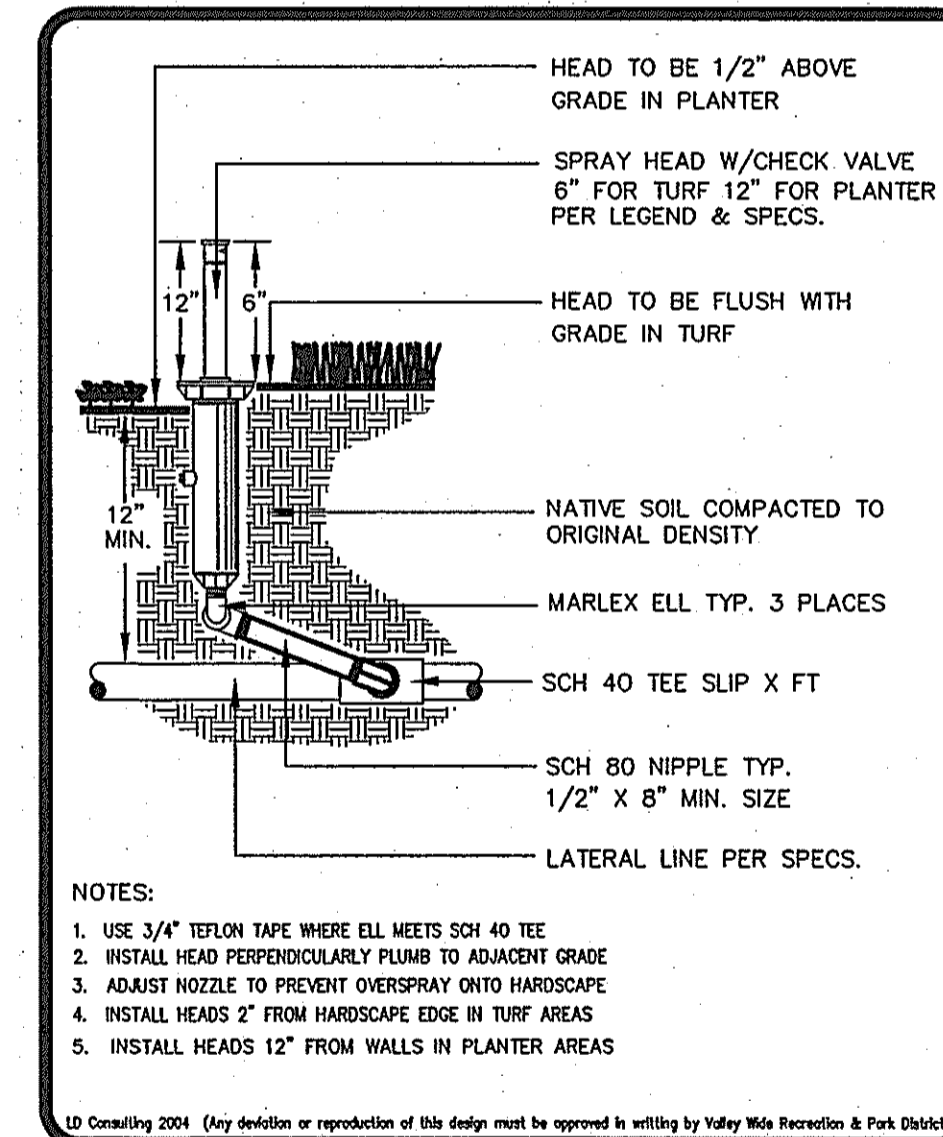
VALLEY WIDE RECREATION  
 11/04 SHRUB SPRAY ON GRADE IR-15



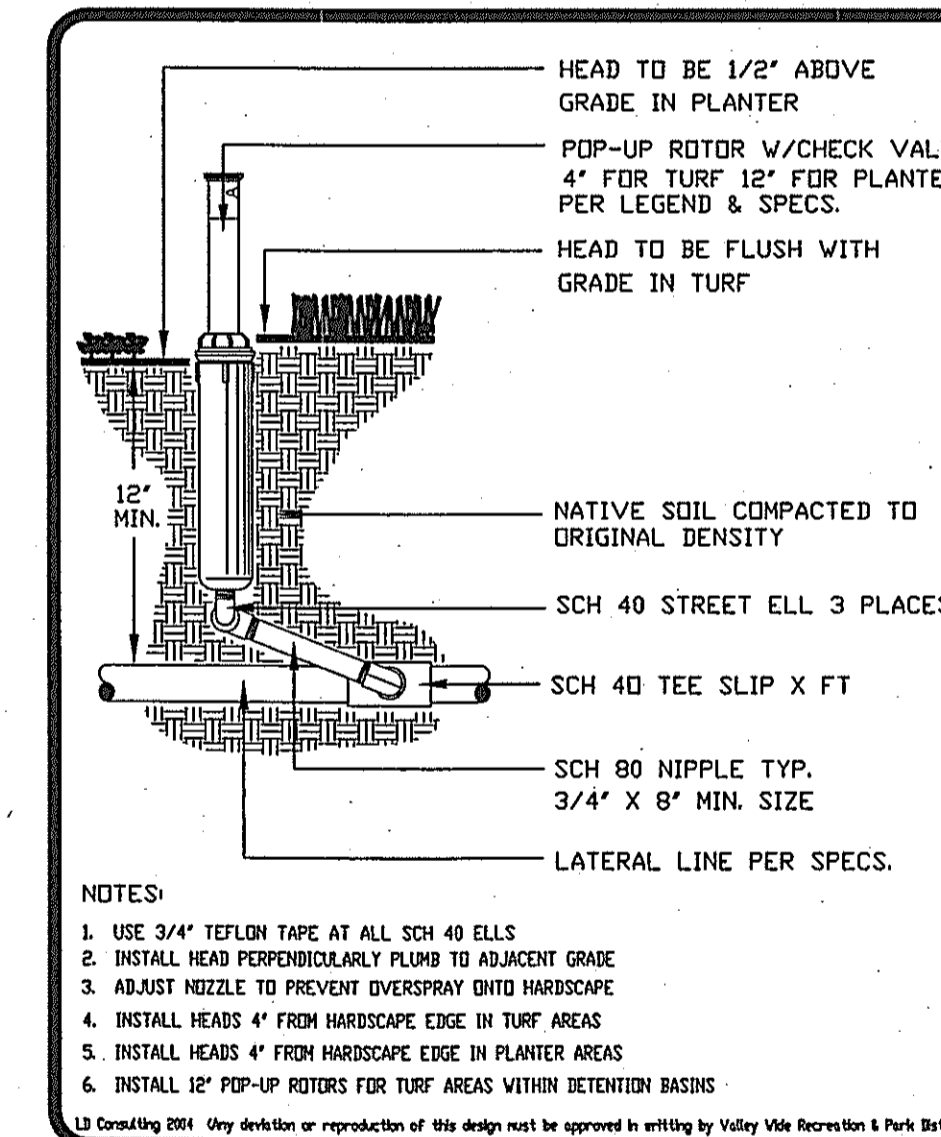
VALLEY WIDE RECREATION  
 11/04 SHRUB SPRAY ON RISER IR-16



VALLEY WIDE RECREATION  
 11/04 PIPE & WIRE TRENCHING IR-11



VALLEY WIDE RECREATION  
 11/04 POP-UP SPRAY HEAD IR-17



VALLEY WIDE RECREATION  
 11/04 POP-UP ROTOR HEAD IR-19

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 San Juan Capistrano, California 92675  
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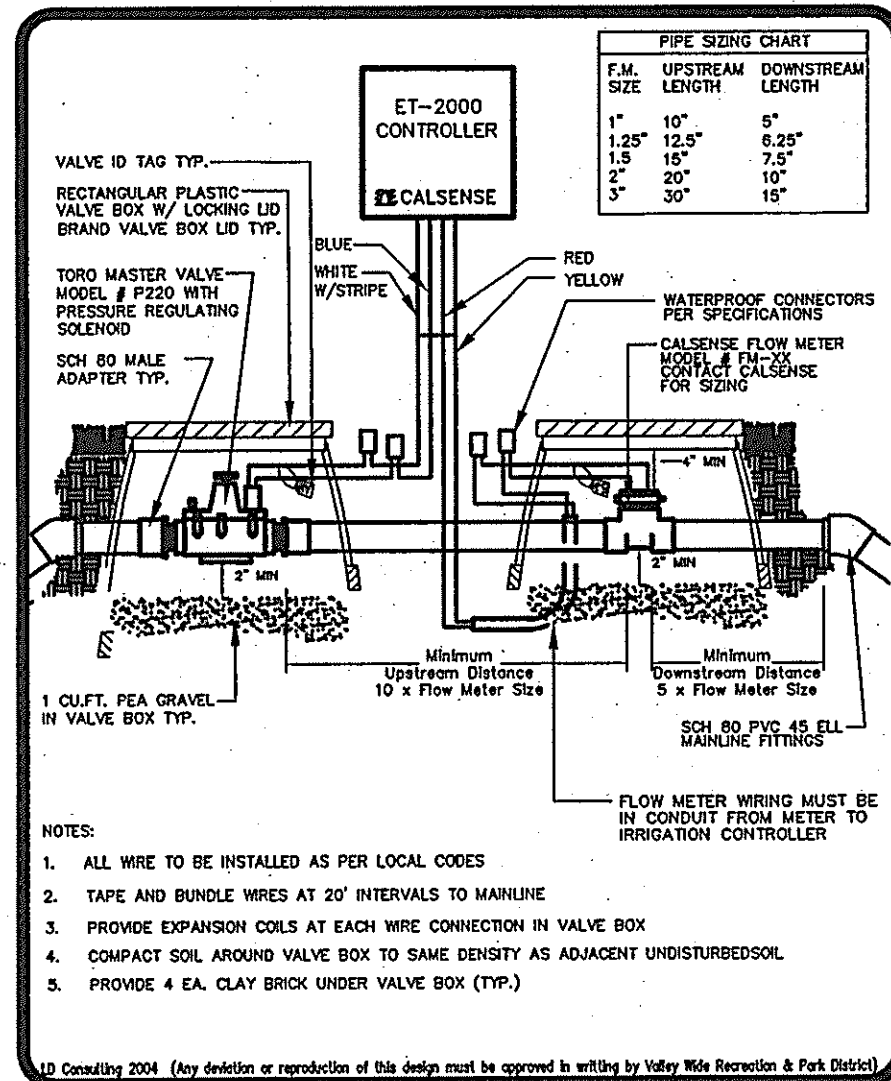
COUNTY OF RIVERSIDE  
 DEPARTMENT OF BUILDING & SAFETY  
 APPROVED \_\_\_\_\_ 20\_\_\_\_  
 BY: \_\_\_\_\_

IRRIGATION DETAILS  
 SHADOWRIDGE II TR 30105  
 LANDSCAPE IMPROVEMENT PLANS  
 COUNTY OF RIVERSIDE, CALIFORNIA  
 PREPARED FOR: GRIFFIN COMMUNITIES

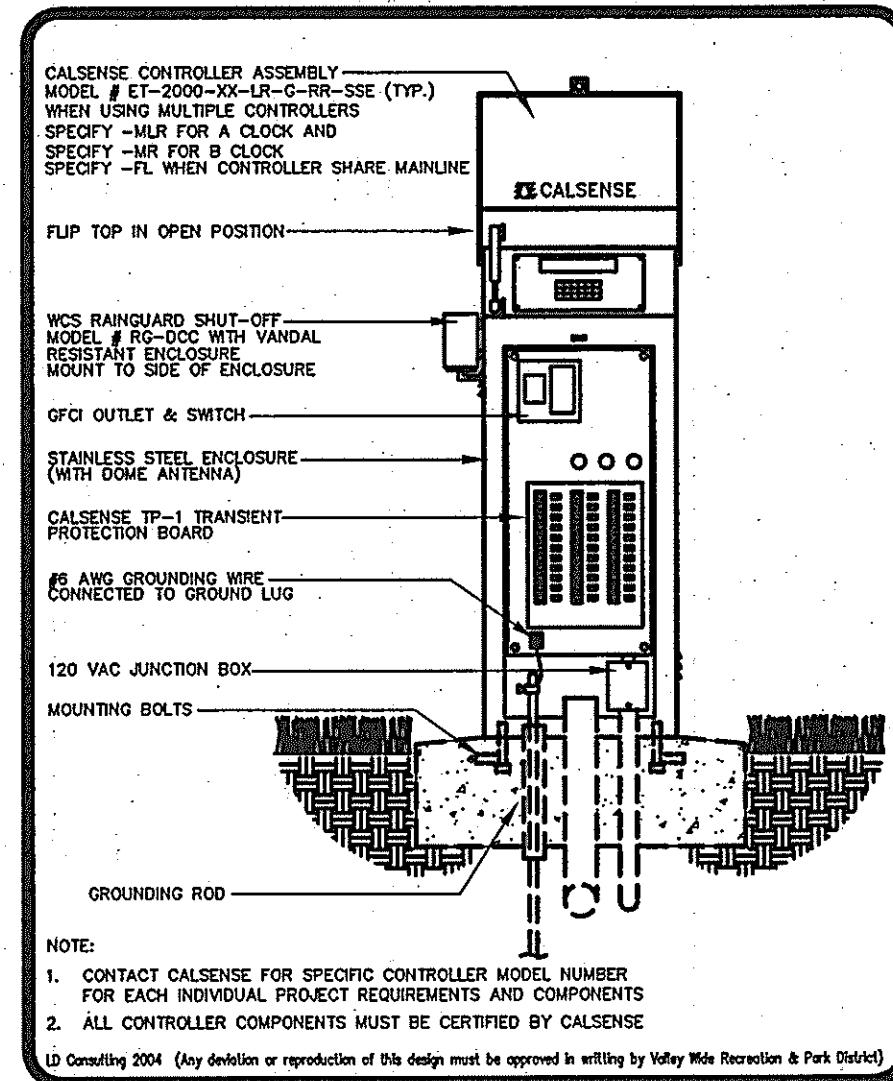
DATE: 3-10-03  
 SCALE: SHEET No. 5 OF 9 SHEETS

VALLEY WIDE RECREATION & PARK DISTRICT  
 Samuel W. Goepf  
 1-23-06  
 Date: \_\_\_\_\_

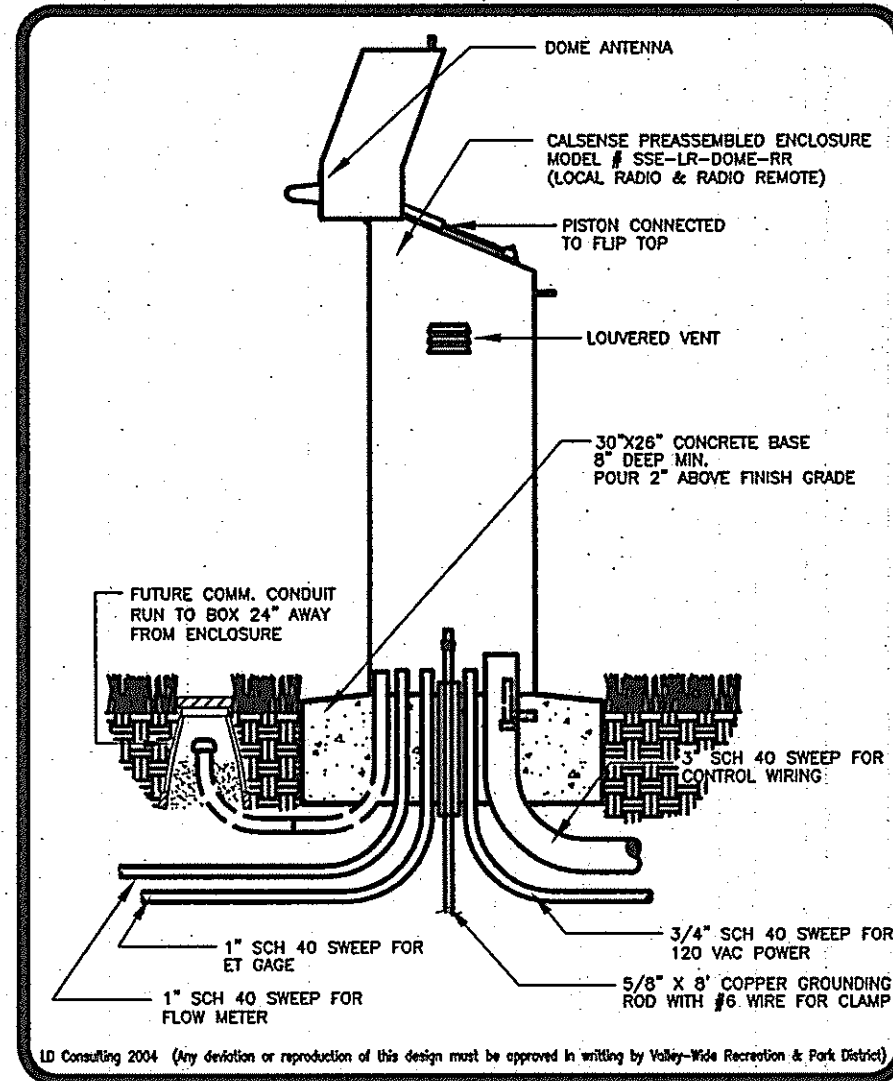




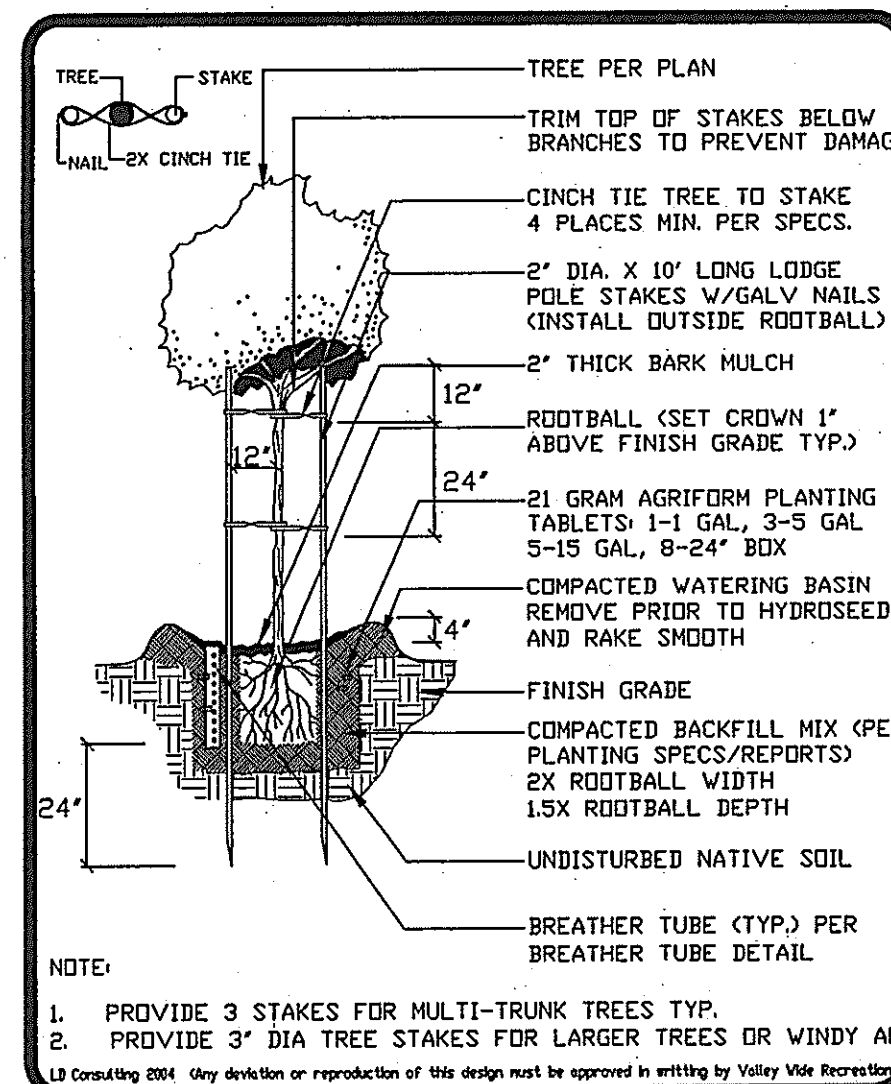
VALLEY WIDE RECREATION  
11/04  
MASTER VALVE & FLOW METER | IR-21



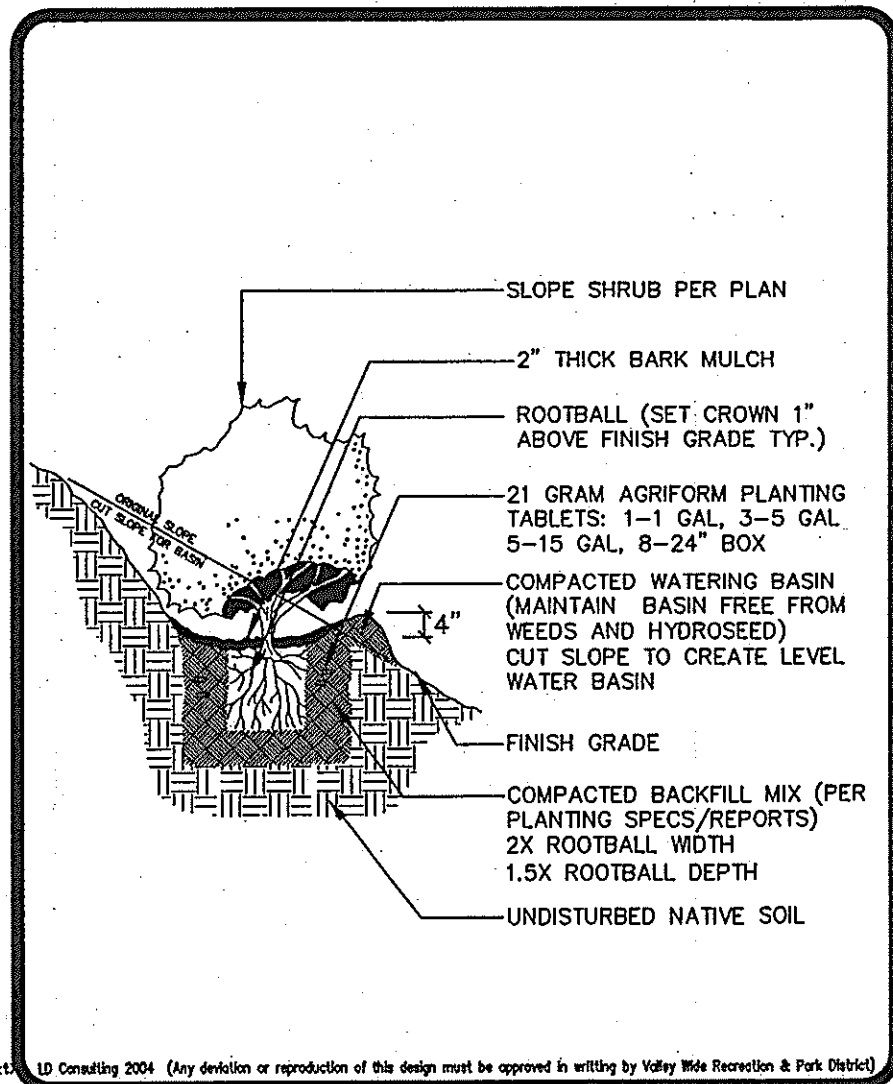
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11/04  
PEDESTAL CONTROLLER | IR-23



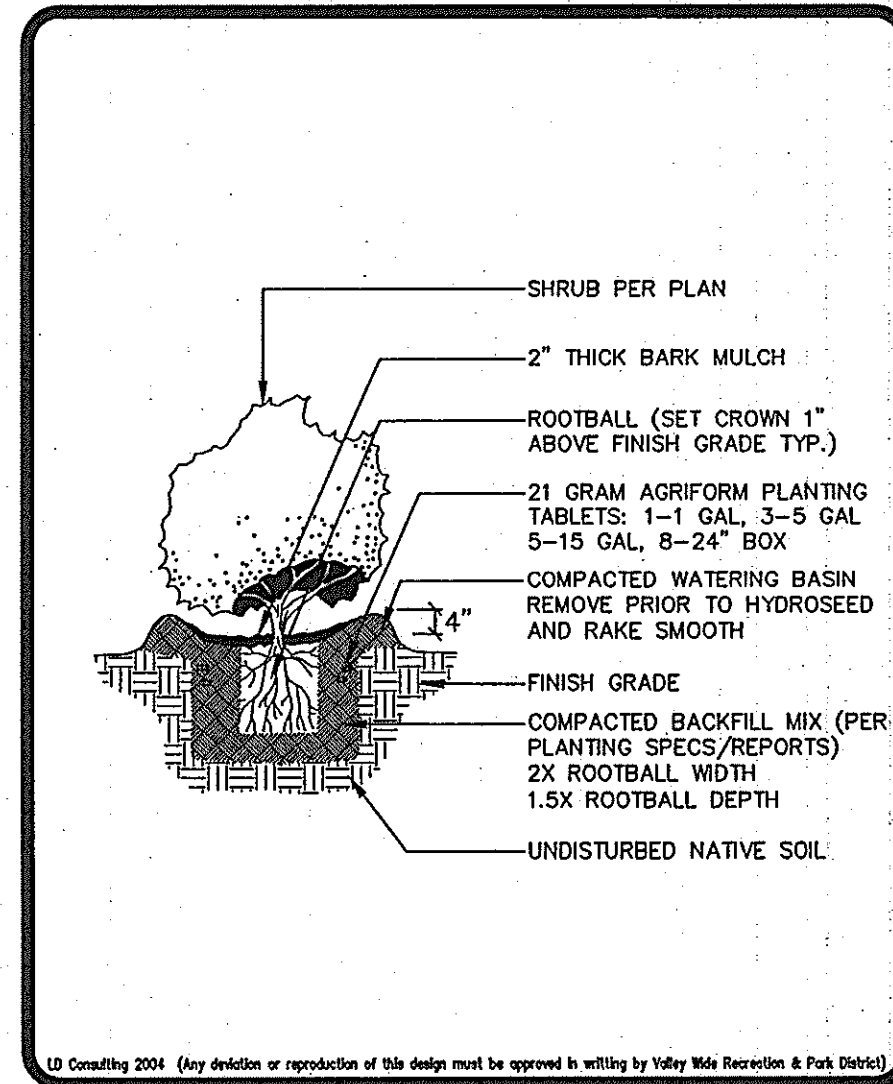
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11/04  
PEDESTAL ASSEMBLY | IR-24



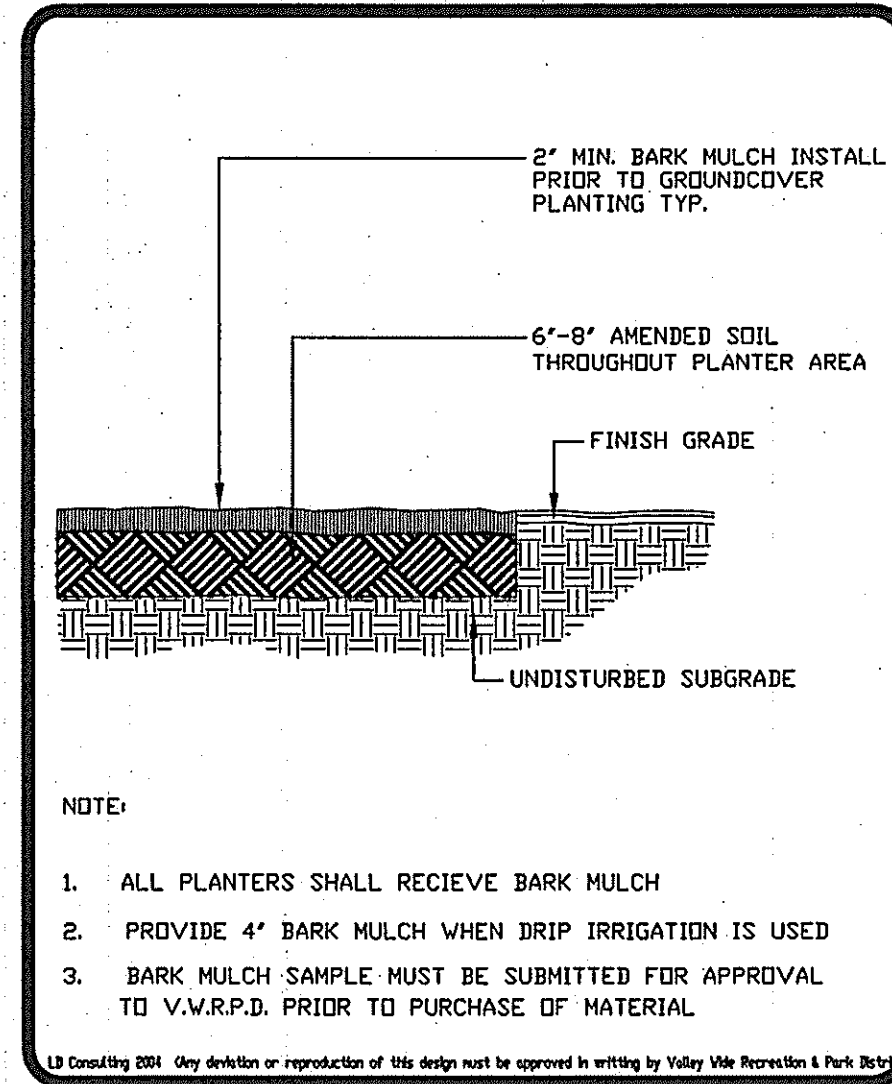
VALLEY WIDE RECREATION  
11/04  
TREE PLANTING | PL-3



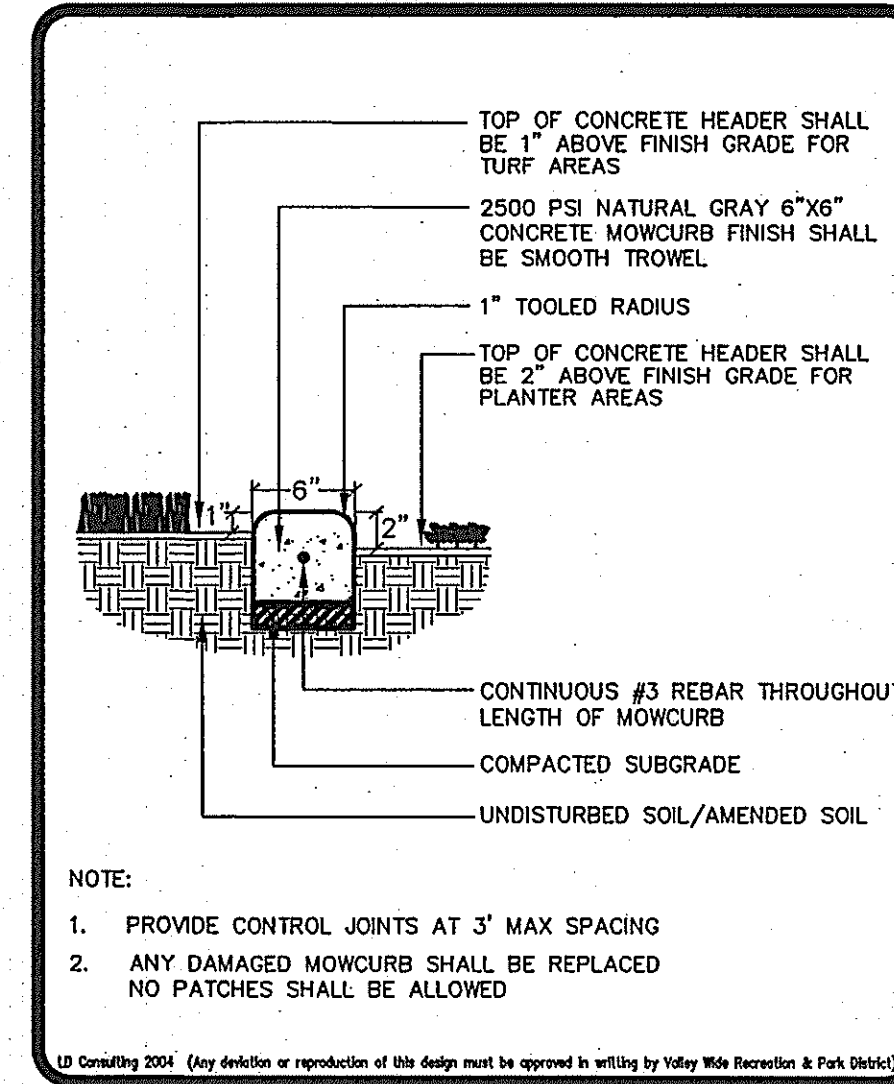
VALLEY WIDE RECREATION  
11/04  
SLOPE SHRUB PLANTING | PL-4



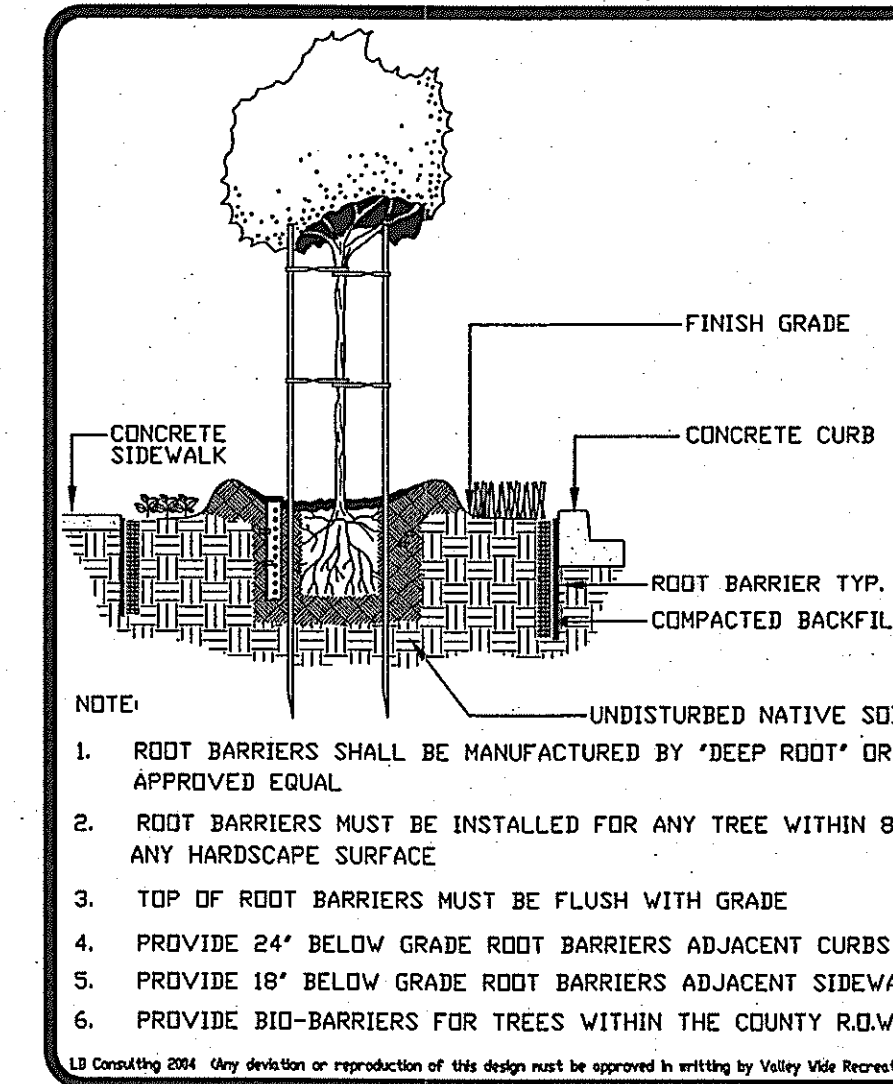
VALLEY WIDE RECREATION  
11/04  
SHRUB PLANTING | PL-5



VALLEY WIDE RECREATION  
11/04  
BARK MULCH | PL-7

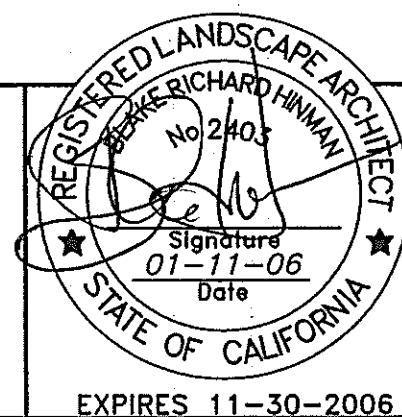


VALLEY WIDE RECREATION  
11/04  
CONCRETE MOWCURB | PL-8



VALLEY WIDE RECREATION  
11/04  
ROOT BARRIER | PL-9

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(949) 248-1993 FAX (949) 493-0706

MARK	REVISIONS	APPR.	DATE

DESIGNED BY: B.H. DRAWN BY: S.H. CHECKED BY: \_\_\_\_\_

COUNTY OF RIVERSIDE  
DEPARTMENT OF BUILDING & SAFETY  
APPROVED \_\_\_\_\_ 20\_\_  
BY: \_\_\_\_\_

IRRIGATION & PLANTING DETAILS  
SHADOWRIDGE II TR 30105  
LANDSCAPE IMPROVEMENT PLANS  
COUNTY OF RIVERSIDE, CALIFORNIA  
PREPARED FOR: GRIFFIN COMMUNITIES

DATE: 3-10-03  
SCALE:  
SHEET No.  
**6**  
OF 9 SHEETS

VALLEY WIDE RECREATION & PARK DISTRICT  
Samuel W. Gepp  
1-23-06  
Date:











SECTION 02800

PLANTING

PLANTING SPECIFICATIONS GENERAL

1. General Requirements

- a. Permits: Contractor shall obtain and pay for any permits required.
- b. All irrigation shall be completed, approved and under automatic operation for a minimum of 7 days prior to any planting.
- c. No planting shall commence until the weed-abatement process has been completed.

2. Scope of Work

- a. The intent of the drawings and specifications is to indicate the processes required for the installation of a complete planting without additional cost in labor and material to the Owner.

3. Inspections

- a. Request for inspections must have 48 hour notice in advance.
- b. Contractor must be on site for all inspections.
- c. Any work not completed when inspector arrives which was requested for, shall be billed to the contractor at the current inspector's rate
- d. Any work completed without inspection or approval shall be removed, exposed or replaced at the cost of the contractor.
- e. Contractor shall call for inspection for the following items:
  - i. Final grading
  - ii. Weed-abatement Observation
  - iii. Tree and shrub layout
  - iv. Tree and shrub planting pits
  - v. Finish grade prior to hydro-seeding
  - vi. Final inspection

4. Submittals

- a. All submittals shall be submitted within 15 days after receipt of executed contract.
- b. Contract shall submit the follow items but not limited to:
  - i. Plant material proof of purchase with listed nurseries and material sizes for approval
  - ii. All soil amendments
  - iii. Bark mulch
  - iv. Soil report
  - v. Labels for all herbicide and fertilizers used
  - vi. Hydro-seed mix

PLANTING SPECIFICATIONS MATERIALS

1. Plant Material

- a. All plant material shall be the same as specified in the drawings.
- b. Contractor shall tag one plant from each bundle or lot with the plant name in accordance with the recommendations of the American Association of Nurserymen.
- c. All plant material shall be free of pest, plant diseases abrasions or any other object-able disfigurements.
- d. Plant material must show vigorous habit of growth that is normal for that particular species.

2. Tree Stakes/Guying

- a. Tree stakes shall be copper maphthanate, green color impregnated lodge pole.
- b. Tree stake shall be 2" in diameter 10 feet long.
- c. Tree stake for larger trees or windy areas shall be 3" diameter.
- d. Tree ties shall be V.I.T. cinch ties or approved equal (four per tree).
- e. Tree ties shall be attached to lodge poles with galvanized nails per detail.
- f. Contractor shall install 3" diameter stakes for all trees where high winds occur as directed by Valley-Wide's representative.
- g. All trees 36" box and larger shall have three guys with 1/2" PVC pipe to protect wire.
- h. 3" lodge poles may be used for 36" box trees and larger in high traffic areas or in small tree wells with the approval of Valley-Wide's representative.

3. Vine Ties

- a. Vine ties shall be as specified in details.

4. Herbicides

- a. Contractor shall submit labels of all herbicides used prior to application for approval.
- b. Contractor shall apply pre-emergent herbicide to all areas possible as recommended by a licensed pest control consultant.

5. Concrete Mow Curb

- a. Concrete mow curb shall be 2500 PSI concrete and as specified in detail.
- b. All mowcurb shall be 6" x 6" with #3 continuous rebar.

6. Redwood Header Board

- a. Redwood header board shall be grade A fine redwood and as specified in detail.
- b. Header board shall be used for temporary project limits only.

7. Plant Tablets

- a. Planting tablets shall be as specified in details.
- 8. Soil Conditioners
  - a. All soil conditioner material shall be approved prior to ordering under this section.
  - c. Soil conditioners shall be based on soil report recommendations.
  - d. Soil conditioners shall be EPA class 'A' co-compost or compost with SAR less than 3.0 and CN ratio of 15 to 25:1 passing through 1/2" mesh screen as approved by Valley-Wide's representative prior to delivery of material.

PLANTING SPECIFICATIONS EXECUTION

1. Installation

- a. Contractor shall clean, remove legally dispose of all weeds, grasses including roots and construction debris under this section.
- b. Contractor shall be responsible for the protection and storage of all material for the project.
- c. All grades shall be as indicated on the drawings and must be +10%.

2. Landscape Grading

- a. The contractor shall complete grading and filling as needed or remove additional dirt, rock and debris over 3/4 inch in diameter within the top 3 inches in all turf and planter areas less than 3:1.
- b. Contractor shall bring all landscaped areas to finish grade.
- c. Flow lines shall be established to existing curbs and/or sidewalks.
- d. All landscape areas shall be sloped to provide positive drainage.

3. Soil Preparation

- a. Contractor shall rotor-till amendments into all turf and planter areas 3:1 or less throughout the first 6 inches.
- b. Contractor shall rake soil conditioner lightly into all 2:1 slopes areas.
- c. The following application rate is for bidding purposed only and is per 1000 square feet of planting area.
  - i. 4 cubic yards of soil conditioner
  - ii. 30 lbs. of commercial fertilizer approved by the Owner's representative
  - iii. 50 lbs. of agriculture grade gypsum
  - iv. 25 lbs. soil sulfur

4. Weed-abatement

- a. Weed-abatement shall not commence until complete irrigation system is under complete automatic irrigation and has been approved.
- b. Upon completion of soil preparation the contractor shall complete the following:
  - i. Irrigate all areas to be planted, sodded or seeded for a period of seven days to germinate all weed seeds.
  - ii. Cut watering and apply approved weed killer per manufacture's recommendations and allow adequate time to complete kill.
  - iii. Repeat step one and two.
  - iv. Obtain approval of completed weed-abatement prior to any planting. Trees may be planted prior to weed-abatement process with the approval of the Owner's representative writing.

5. Layout

- a. Contractor shall layout all trees and shrubs for approval from the Owner's representative prior to excavation of any planting pits.
- d. Contractor shall not willfully layout any planting material where obstructions exist. The contractor shall notify the engineer to obtain direction.
- e. Contractor shall adjust tree locations around all street lights as directed by Valley-Wide's representative.

6. Planting

- a. Planting shall be as shown in detail and as follows:
  - i. Excavate all planting pits to a diameter twice the size of container to be planted and 11/2 times the depth of container to be planted.
  - ii. Contractor shall scarify the side of planting pits if an auger is used with shovel or digging bar.
  - iii. Plant material shall be placed in planting pit in a manner as not to disrupt the root ball and the crown shall be set 1" above grade.
  - iv. Provide 21gram fertilizer tablets per detail.
  - v. Backfill all plant material with approved backfill mix.
  - vi. Contractor shall provide 5 gram fertilizer tablets to all rooted cuttings.

7. Percolation Test

- a. Contractor shall flood planting pits with water to test water penetration through the soil, if no penetration occurs the contractor shall auger 6 inches in diameter and 36 inches long and backfill with pea gravel, repeat water test and if water still does not penetrate the contractor shall notify the Owner's representative prior to planting.

8. Sodded Turf

- a. All sodded areas shall be semi dwarf fescue unless otherwise noted.
- b. Contractor shall evenly rake all sodded areas to level and remove all rocks 3/4 inch in diameter and larger.
- c. Contractor shall spread 16-20-0 commercial fertilizer to all sodded areas.
- d. Contractor shall lay sod immediately upon arrival.
- e. Sod must be laid along a straight line staggering each row like laying bricks and must be butted tightly together preventing any air pockets. Do not overlap edges.
- f. Sod shall be cut with a sharp knife and never pulled apart.
- g. Sod shall be rolled immediately after sod is installed.
- h. Sod must be watered thoroughly to a depth of 12 inches.
- i. Contractor shall monitor watering to prevent browning and fungus.
- j. Contractor shall take every measure possible to protect sod by providing temporary fencing if necessary at no additional cost.

9. Hydro-seeding

- a. Turf hydro-seed mix shall be Team Crest available from Creative Hydroseed (951) 676-8444.
- b. Contractor shall evenly rake all areas to receive turf to level and remove all rocks 3/4 inch in diameter and larger.
- c. Hydro-seed mixes shall be as follows:

FESTUCA RUBRA

440 #S/PER AC. CREEPING RED FESCUE  
2000 WOOD FIBER MULCH  
300 15-15-15 FERTILIZER  
120 M-BINDER

BASIN BOTTOMS

174#S/PER AC. HYBRID BERMUDA  
261#S PERENNIAL RYE  
2000 WOOD FIBER MULCH  
120 M-BINDER

PARK/PARKWAY TURF

653#S/PER AC. TEAM FESCUE 90% CREST BLUEGRASS 10%  
2000 WOOD FIBER MULCH  
300 15-15-15 FERTILIZER

- d. Contractor shall monitor watering to prevent browning and fungus.
- e. Contractor shall take every measure possible to protect seed by providing temporary fencing if necessary at no additional cost.
- f. Hydro-mulch slurry shall be applied under high pressure evenly and provide a uniform coat on all areas specified.
- g. Over spray shall be removed immediately from sidewalks, walls or any structures.
- h. Contractor shall provide 98 percent germination to all hydro-seeded areas prior to turn-over.
- i. Hydro-seeding can not commence until all irrigation, soil preparation and final finish grade has been accepted.

10. Root Barriers

- a. Root barrier shall be "Deep Root" control barrier panels # UB 24-2 or approved equal. No cylinder root barriers shall be approved.
- b. Root barrier shall be "Bio Barrier" for all trees within 8 feet of and street curbs within the County right of way.

- c. Root barriers shall be install for all trees planted within 8 feet of any hardscape.

- d. Contractor shall install root barriers per detail.

11. Jute Netting

- a. Jute netting shall be uniform plain weave, flame-retardant mesh. Geo-jute, smolder resistant or approved equal. The mesh shall be green in color.
- b. Jute shall be 48 inches wide with a weight of .97 pounds per linear yard.
- c. All slopes adjacent sidewalks are subject to jute netting as directed by Valley-Wide's representative.

12. Grades

- a. Prior to commencing any work the contractor shall carefully check all grades and verify that after all irrigation work and soil preparation completed, all grades will be per specified depth as per the landscape contractor's scope of work with a +1/10.

13. Guarantee

- a. All trees and shrubs shall guaranteed for a period of one year.
- b. All plant material that is dead or dying or as directed by the engineer within the guarantee period shall be replaced at the cost of the contractor with 7 days of written notice.
- c. All replacement plant material shall be exact as specified in species and size. No substitutions shall be allowed unless written approval is obtained.
- d. Guarantee period shall start on the date of the project letter of acceptance.

- END OF SECTION -

Underground Service Alert  
Call: TOLL FREE  
1-800-227-2600  
TWO WORKING DAYS BEFORE YOU DIG

REGISTERED LANDSCAPE ARCHITECT  
No. 2403  
Signature: [Signature]  
Date: 07-11-06  
STATE OF CALIFORNIA  
EXPIRES 11-30-2006

**LANTEX**  
Landscape Architecture Inc.  
31726 Rancho Viejo Road, Suite 206  
San Juan Capistrano, California 92675  
(949) 248-1993 FAX (949) 493-0706

MARK	REVISIONS	APPR.	DATE
DESIGNED BY: B.H.	DRAWN BY: S.H.	CHECKED BY:	

COUNTY OF RIVERSIDE  
DEPARTMENT OF BUILDING & SAFETY  
APPROVED \_\_\_\_\_ 20\_\_  
BY: \_\_\_\_\_

PLANTING SPECIFICATIONS  
SHADOWRIDGE II TR 30105  
LANDSCAPE IMPROVEMENT PLANS  
COUNTY OF RIVERSIDE, CALIFORNIA  
PREPARED FOR: GRIFFIN COMMUNITIES

DATE: 3-10-03  
SCALE:  
SHEET No. 9  
OF 9 SHEETS  
LANTEX PLOT DATE: 07-11-06

VALLEY WIDE RECREATION & PARK DISTRICT  
[Signature]  
Samuel W. Guapp  
Date: 1-23-06





**GENERAL CONDITIONS**

**SPECIAL NOTES**

FOLLOWING NOTES ARE PROVIDED TO GIVE DIRECTIONS TO THE CONTRACTOR BY THE ENGINEER OF WORK. THE CITY/COUNTY ENGINEER'S SIGNATURE ON THESE PLANS DOES NOT CONSTITUTE APPROVAL OF THESE NOTES, AND THE CITY/COUNTY WILL NOT BE RESPONSIBLE FOR THEIR ENFORCEMENT.

**STANDARD SPECIFICATIONS**

MINIMUM STANDARDS FOR ALL WORK SHALL CONFORM TO THE CURRENT EDITION OF THE "GREEN BOOK" STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION AND ANY LOCAL SUPPLEMENTAL AMENDMENTS.

**DEFINITIONS**

**OWNER**

OWNER OR LESSEE OF PROJECT SITE WHO IS CONTRACTING FOR SERVICES. THE OWNER MAY APPOINT A REPRESENTATIVE TO ADVISE THE OWNER. WHEREVER IN THESE SPECIFICATIONS THE OWNER IS REFERRED TO, IT SHALL BE DEEMED TO BE FOLLOWED BY THE WORDS "OR OWNERS REPRESENTATIVE". THE OWNER SHALL FORWARD OR REFER ALL INFORMATION REGARDING PLANS AND SPECIFICATIONS TO LANDSCAPE ARCHITECT.

**LANDSCAPE ARCHITECT**

PREPARER OF LANDSCAPE ARCHITECTURAL PLANS AND SPECIFICATIONS. THE LANDSCAPE ARCHITECT MAY BE THE OWNER'S REPRESENTATIVE IF THE OWNER CONTRACTS WITH LANDSCAPE ARCHITECT FOR SUCH SERVICES.

**CONTRACTOR**

THE LEGAL ENTITY HAVING A CONTRACT WITH THE OWNER TO PERFORM THE WORK. IN THESE PLANS, CONTRACTOR MEANS LANDSCAPE CONTRACTOR. IF THERE IS A GENERAL CONTRACTOR, IT WILL BE SPECIFICALLY REFERRED TO AS "GENERAL CONTRACTOR". THIS ONLY OCCURS WHEN THERE IS A GENERAL CONTRACTOR, AND THE LANDSCAPE CONTRACTOR IS NOT THE PRIMARY CONTRACTOR.

**SCOPE OF WORK**

THE WORK SHALL INCLUDE ALL LABOR, MATERIALS, EQUIPMENT, AND INCIDENTALS NECESSARY TO INSTALL ALL WORK AS INDICATED IN THESE PLANS AND SPECIFICATIONS. CONTRACTOR SHALL VERIFY ANY ADDITIONS OR DELETIONS IN OWNER'S INVITATION TO BID.

CONTRACT INSTALLATION TIME SHALL BE 60 CALENDAR DAYS. LIQUIDATED DAMAGES OF \$200 PER DAY MAY BE DEDUCTED FOR EACH DAY PAST THE CONTRACT INSTALLATION TIME THAT THE WORK REMAINS UNFINISHED.

CONTRACTOR (SUCCESSFUL BIDDER) SHALL SUBMIT TO THE OWNER FOR APPROVAL PRIOR TO THE AWARDED OF CONTRACT, AN ITEMIZED UNIT PRICE LIST FOR CHANGES TO THE LUMP SUM CONTRACT PRICE CAUSED BY CHANGES IN THE PLANS.

**GOVERNING AGENCY REQUIREMENTS**

WHEN THESE SPECIFICATIONS AND PLANS CALL FOR MATERIALS OF A HIGHER STANDARD THAN THOSE REQUIRED CONFORMING TO MINIMUM LOCAL AND STATE CODES, THE SPECIFICATIONS AND DRAWINGS SHALL PREVAIL.

**PERMITS**

THE CONTRACTOR SHALL OBTAIN NECESSARY PERMITS AND ORDER NECESSARY WORK DONE, AND SUBMIT INVOICE FOR DIRECT REIMBURSEMENT OF RELATED FEES AND TAXES REQUIRED BY GOVERNING AGENCIES, UNLESS OTHERWISE INSTRUCTED BY THE OWNER.

**PLANS**

THESE PLANS ARE BASED ON GRADING PLANS PREPARED BY:  
THE KEITH COMPANIES, INC.  
277 RANCHEROS DR., SUITE 300  
SAN MARCOS, CALIFORNIA 92069  
(760) 891-3200

OWNER APPROVED GRADING PLANS TAKE PRECEDENCE OVER THESE PLANS.

CONTRACTOR SHALL MAINTAIN ONE COMPLETE SET OF PLANS (JOB SET) ON SITE UNTIL CONTRACT INSTALLATION IS COMPLETE.

**SCOPE OF LANDSCAPE ARCHITECT'S PLANS**

THE KEITH COMPANIES, INC., AS PROJECT LANDSCAPE ARCHITECT, HAS PREPARED THESE PLANS AND SPECIFICATIONS. PROJECT SERVICES NOT PROVIDED, BUT WHICH MAY APPEAR AS REFERENCES ON THESE PLANS, MAY INCLUDE, BUT ARE NOT LIMITED TO, THE FOLLOWING:

- SURVEYS
- SITE DRAINAGE
- FLOOD PLANS
- BUILDINGS
- ROOFING
- WATER UTILITIES
- ELECTRICAL UTILITIES
- EASEMENTS OF ANY KIND
- NOISE ABATEMENT SYSTEMS
- FIRE PREVENTION SYSTEMS
- SUBJACENT AND LATERAL SUPPORT
- SITE ENVIRONMENTAL FEATURES
- HARDSCAPE (UNLESS OTHERWISE NOTED)
- COVENANTS, CONDITIONS, AND RESTRICTIONS (CC&R'S) !?
- ASSOCIATION RULES OR REGULATIONS
- THE WORK OF OTHER LANDSCAPE ARCHITECTS, ARCHITECTS OR ENGINEERS BEFORE OR AFTER THE WORK OF THIS LANDSCAPE ARCHITECT

THE LANDSCAPE ARCHITECT IS NOT RESPONSIBLE FOR ANY WORK WHICH IS NOT EXPLICITLY DETAILED IN THIS AGREEMENT, AND IS NOT RESPONSIBLE FOR ANY WORK OF ANY OTHER COMPANY, PARTNERSHIP OR INDIVIDUAL WHO PROVIDES SERVICES ON THIS PROJECT.

**CHANGES**

IDEAS, CONCEPTS AND SPECIFIC TECHNIQUES USED IN THESE PLANS ARE THE PROPERTY OF THE LANDSCAPE ARCHITECT. CHANGES WITHOUT WRITTEN CONSENT OF THE LANDSCAPE ARCHITECT RELIEVE THE LANDSCAPE ARCHITECT OF ALL RESPONSIBILITY AND THE INTENDED AESTHETIC QUALITY. THE OWNER RESERVES THE RIGHT TO SUBSTITUTE, ADD, OR DELETE ANY MATERIAL OR LABOR AS THE WORK PROGRESSES. ADJUSTMENTS SHALL BE MADE TO THE CONTRACT PRICE AT UNIT PRICES ESTABLISHED WITH THE OWNER PRIOR TO BEGINNING WORK.

**EXISTING SITE CONDITIONS**

CONTRACTOR SHALL VERIFY ALL CONDITIONS IN THE FIELD AND NOTIFY THE LANDSCAPE ARCHITECT OF ANY DISCREPANCIES WITHIN THE PLANS PRIOR TO BEGINNING WORK.

CONTRACTOR SHALL SUPPLEMENT THESE PLANS WITH APPLICABLE ENGINEERING PLANS PRIOR TO COMMENCEMENT OF WORK.

PRIOR TO COMMENCEMENT OF WORK, ALL SERVICES AND UTILITIES SHALL BE LOCATED BY CONTRACTOR. THE EXISTING UTILITIES OR STRUCTURES REPORTED BY THE OWNER OR OTHERS, AND THOSE SHOWN ON THESE PLANS, ARE INDICATED IN THEIR APPROXIMATE LOCATION. THE CONTRACTOR IS REQUIRED TO TAKE DUE PRECAUTIONARY MEASURES TO PROTECT ALL EXISTING UTILITIES FOUND AT THE SITE AND SHOULD CALL DIG ALERT AT 1-800-422-4133. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO NOTIFY THE OWNER OF THE UTILITIES AND VERIFY DEPTH AND LOCATION PRIOR TO EXCAVATION OR PRIOR TO STARTING WORK. IF IT IS DETERMINED THAT A POSSIBLE CONFLICT EXISTS, THE CONTRACTOR IS RESPONSIBLE FOR ARRANGING WITH THE OWNER, THE RELOCATION OF ANY UTILITIES AND/OR ANY MODIFICATION OF THE PLANS.

THE CONTRACTOR IS TO PROTECT AT ALL TIMES ALL EXISTING UTILITIES, STRUCTURES, PLANT MATERIAL AND OTHER FEATURES INTENDED TO REMAIN ON AND ADJACENT TO THE JOB SITE. SHOULD DAMAGE BE INCURRED WHICH IS CAUSED BY CONTRACTOR'S OPERATIONS OR NEGLIGENCE, THE CONTRACTOR SHALL REPAIR THE DAMAGE TO ITS ORIGINAL CONDITION AT HIS OWN EXPENSE.

IF ANY EXISTING HARDSCAPE OR LANDSCAPE INDICATED ON THE APPROVED PLANS IS DAMAGED OR REMOVED DURING DEMOLITION OR CONSTRUCTION, IT SHALL BE REPLACED IN KIND WITH EQUIVALENT SIZE PER THE APPROVED PLANS.

**OWNER FURNISHED MATERIALS**

THE OWNER WILL PROVIDE THE FOLLOWING MATERIAL:  
NONE

THE CONTRACTOR SHALL INSTALL ALL OWNER FURNISHED MATERIAL ACCORDING TO THESE PLANS AND SPECIFICATIONS.

**EQUIPMENT & MATERIALS, INCLUDING PLANT MATERIALS**

ALL MATERIAL, EQUIPMENT AND PLANT MATERIAL (GENUS, SPECIES AND VARIETY) SPECIFIED SHALL BE NEW, WITHOUT DEFECTS, AND SHALL BE INSTALLED IN ACCORDANCE WITH DETAILS SHOWN IN THESE PLANS.

THE CONTRACTOR SHALL SUBMIT TO THE OWNER A LIST OF ANY ITEMS HE WISHES TO SUBSTITUTE AS "EQUAL" WITH ACCOMPANYING CATALOG DATA. SUBSTITUTED EQUIPMENT INSTALLED WITHOUT THE PRIOR APPROVAL OF THE OWNER MAY BE REJECTED, AND THE CONTRACTOR REQUIRED TO REMOVE SUCH MATERIALS FROM THE SITE AT HIS OWN EXPENSE. THE OWNER SHALL DETERMINE THE EQUALITY OF PROPOSED SUBSTITUTE MATERIALS.

ALL SUBSTITUTIONS MUST BE SUBMITTED WITHIN 10 DAYS AFTER CONTRACTOR IS AWARDED THE CONTRACT. CONTRACTOR MUST SUBMIT IN WRITING WITHIN 10 DAYS, AFTER CONTRACT AWARD, EVIDENCE OF PURCHASE (OR DEPOSIT) OR PROOF OF AVAILABILITY OF ALL MATERIALS, INCLUDING PLANTS, NECESSARY TO INSTALL ALL WORK INDICATED ON THESE DOCUMENTS.

**SITE CONDITIONS**

DURING CONSTRUCTION, THE CONTRACTOR SHALL MAINTAIN THE SITE IN AN ORDERLY AND SAFE CONDITION.

ALL AREAS SHALL BE LEFT CLEAN, FREE OF DEBRIS, AND WASHED DOWN UPON COMPLETION OF WORK.

**NOTIFICATIONS**

THE CONTRACTOR SHALL NOTIFY THE OWNER PRIOR TO BEGINNING WORK, AND SHALL BE RESPONSIBLE FOR COORDINATING HIS WORK WITH THE OWNER, LANDSCAPE ARCHITECT, OTHER CONSTRUCTION TRADES, AND GOVERNING AGENCIES.

LESS THAN FORTY-EIGHT HOURS IN ADVANCE.

CONTRACTOR SHALL BE CHARGED BY THE OWNER FOR THE OWNER'S REPRESENTATIVE'S TIME AT OWNER'S REPRESENTATIVE'S CONTRACT RATE WHEN CONSTRUCTION OBSERVATIONS ARE CALLED FOR AND WORK IS NOT READY FOR OBSERVATION, OR THE APPOINTMENT IS NOT KEPT.

**CONSTRUCTION OBSERVATION AND MEETINGS**

CONTRACTOR SHALL REQUEST CONSTRUCTION OBSERVATION BY OWNER AT THE FOLLOWING CHECKPOINTS:

- COMPLETION OF DECORATIVE GRADING PRIOR TO INSTALLING IRRIGATION SYSTEM (EXCEPT PRESSURE LINE)
- POSITIVE DRAINAGE WATER TEST
- IRRIGATION LINE PRESSURE TESTING
- IRRIGATION COVERAGE TEST AND ADJUSTMENT
- SOIL ANALYSIS REPORT SUBMITTAL
- AMENDMENT CERTIFICATION, UPON DELIVERY OF SOIL AMENDMENTS TO SITE (NOTE: MAY BE PERFORMED CONCURRENTLY WITH IRRIGATION COVERAGE TEST)
- DELIVERY OF PLANTS, PRIOR TO PLANTING
- PLACEMENT OF TREES PRIOR TO EXCAVATING PLANTING PITS
- AT THE BEGINNING OF PLANTING OF CONTAINER STOCK AND GROUND COVERS
- COMPLETION OF WORK (PRE-MAINTENANCE)
- COMPLETION OF PRE-MAINTENANCE PUNCH LIST OF ITEMS (START OF MAINTENANCE PERIOD)
- THREE DAYS PRIOR TO COMPLETION OF MAINTENANCE PERIOD (POST- MAINTENANCE)
- COMPLETION OF POST-MAINTENANCE PUNCH LIST OF ITEMS (COMPLETION)
- ADDITIONAL CHECKPOINTS AS INDICATED ON THESE DOCUMENTS

THE LANDSCAPE ARCHITECT OR OWNER MAY OBSERVE ANY WORK AT ANY TIME DURING THE CONTRACT INSTALLATION TIME WITHOUT NOTICE TO CONTRACTOR.

CONTRACTOR SHALL REQUEST CONSTRUCTION OBSERVATION BY OWNER AT ANY TIME AN INCONSISTENCY DEVELOPS BETWEEN THE PLANS AND SITE CONDITIONS, PROJECTED SCHEDULES MUST BE CHANGED, AN UNSAFE CONDITION DEVELOPS, A FIELD CHANGE FROM THE PLANS APPEARS NECESSARY, A CONFLICT WITH ADJACENT OWNERS OR OPERATORS DEVELOPS, OR ANY CONDITIONS WHICH MAY RESULT IN A CHANGE OF PROJECT SCOPE OR PROJECTED COMPLETION DATES.

**SUBMITTALS**

THE FOLLOWING SUBMITTALS TO THE OWNER ARE REQUIRED TO BE MADE BY THE CONTRACTOR, UNLESS SPECIFICALLY STATED OTHERWISE. SUBMITTALS SHALL BE MADE IN COPIES OF THREE (3), AND ONE (1) COPY SHALL BE RETURNED TO THE CONTRACTOR. MATERIALS SHALL NOT BE FURNISHED OR FABRICATED, NOR ANY WORK DONE FOR WHICH SUBMITTALS ARE REQUIRED, BEFORE APPROVAL OF THE OWNER IS SECURED IN WRITING.

**UNIT PRICES**

CONTRACTOR (SUCCESSFUL BIDDER) SHALL SUBMIT TO THE OWNER FOR APPROVAL, PRIOR TO AWARDED OF THE CONTRACT, AN ITEMIZED UNIT PRICE LIST ENCOMPASSING ALL WORK WITHIN THE CONTRACT. THESE UNIT PRICES SHALL BE USED TO CALCULATE CHANGES TO THE LUMP SUM CONTRACT PRICE CAUSED ONLY BY OWNER-APPROVED CHANGES IN THE PLANS.

**SOILS TEST**

CONTRACTOR SHALL SUBMIT A SOILS ANALYSIS REPORT INCLUDING A MINIMUM OF THREE REPRESENTATIVE LOCATIONS WITH RECOMMENDATIONS FROM A LICENSED LABORATORY TO THE OWNER PRIOR TO BEGINNING WORK

**MATERIALS & EQUIPMENT**

THE CONTRACTOR SHALL SUBMIT TO THE OWNER A LIST OF ANY ITEMS HE WISHES TO SUBSTITUTE AS "EQUAL" WITH ACCOMPANYING CATALOG DATA. ALL SUBSTITUTIONS MUST BE SUBMITTED WITHIN 10 DAYS AFTER CONTRACTOR IS AWARDED THE CONTRACT.

CONTRACTOR MUST SUBMIT IN WRITING WITHIN 10 DAYS AFTER CONTRACT AWARD, EVIDENCE OF PURCHASE (OR DEPOSIT), OR PROOF OF AVAILABILITY OF ALL MATERIALS NECESSARY TO INSTALL ALL WORK INDICATED ON THESE DOCUMENTS.

CONTRACTOR SHALL SUBMIT SAMPLES IN THE FORM OF ACTUAL MATERIALS, OR PHOTOGRAPHS AND ADDRESS OF SAME MATERIAL INSTALLATION, FOR THE FOLLOWING CONTRACT ITEMS:

- STONE VENEER, INCLUDING PLACEMENT METHODS
- METAL PRIMER AND ENAMEL COATINGS
- WOOD STAINS AND PRESERVATIVES
- SAMPLE OF ORGANIC TOP DRESSING
- CONTRACTOR SHALL SUBMIT REPRESENTATIVE PHOTOS OF ALL 15 GALLON AND LARGER PLANTS TO OWNER FOR APPROVAL PRIOR TO PLANTING. (SUBMIT ONE PHOTO PER SPECIES PER SIZE.)

ALL GALVANIZED MATERIALS SHALL BE SUBMITTED FOR COMPLIANCE WITH THESE SPECIFICATIONS. CONTRACTOR SHALL SUBMIT A CERTIFICATION SUPPLIED BY THE GALVANIZER INDICATING THE GALVANIZER'S NAME, ADDRESS, AND PHONE NUMBER; THE APPLICABLE ASTM NUMBER OF THE GALVANIZING PROCESS; AND THE WEIGHT OF THE ZINC COATING IN OUNCES PER SQUARE FOOT FOR EACH PARTICULAR PRODUCT.

**RECORD PLANS**

CONTRACTOR SHALL PROVIDE THE OWNER WITH RECORD PLANS, IN THE FORM OF REDLINE CORRECTED BLUEPRINTS. (SUBMIT ONE COPY PER PLAN PER SHEET.) THE FOLLOWING SHALL BE DIMENSIONED FROM TWO PERMANENT POINTS OF REFERENCE (I.E. BUILDING CORNERS, SIDEWALKS, ETC.):

LANDSCAPE DRAINAGE SYSTEM:  
PIPE; DRAIN INLETS; CATCH BASINS; SUBSURFACE DRAIN LINES; OUTLETS

IRRIGATION SYSTEM:  
POINTS OF CONNECTION; GATE VALVES AND CONTROL VALVES; PRESSURE LINE LOCATION; QUICK-COUPPLERS; HOSE BIBS; CONTROLLERS (INCLUDING LOCATION OF POWER SOURCE); ROUTING OF ALL DIRECT BURIAL CONTROL WIRE (INCLUDING PULL BOX LOCATION)

**ACCESSORIES**

THE CONTRACTOR SHALL FURNISH THE OWNER WITH THE FOLLOWING UPON COMPLETION OF THE WORK:

- ALL EQUIPMENT GUARANTEES AND OPERATION MANUALS
- TWO KEYS FOR EACH CONTROLLER ENCLOSURE
- TWO QUICK-COUPLING VALVE KEYS WITH HOSE SWIVEL ELL
- ONE LOOSE KEY PER HOSE BIB

**MAINTENANCE**

CONTRACTOR SHALL BE RESPONSIBLE FOR ALL MAINTENANCE OF PROJECT.

MAINTENANCE PERIOD SHALL BE FOR 60 CALENDAR DAYS, COMMENCING FROM THE TIME THE ENTIRE INSTALLATION IS COMPLETE, AS DETERMINED BY THE OWNER. PRIVATELY MAINTAINED AREAS SHALL BE MAINTAINED FOR 60 DAYS OR UNTIL OWNER'S OCCUPANCY, WHICH EVER COMES FIRST.

PLANT MAINTENANCE SHALL CONSIST OF APPLYING WATER, WEEDING, CARING FOR PLANTS, PLANT REPLACEMENT, FERTILIZING, AND ALL OTHER OPERATIONS NECESSARY TO MAINTAIN ALL PLANTINGS IN A HEALTHY GROWING CONDITION.

IRRIGATION MAINTENANCE SHALL CONSIST OF REPLACING ANY MALFUNCTIONING IRRIGATION EQUIPMENT IN A TIMELY WAY SO AS TO PREVENT SITE DAMAGE OR FAILURE OF IRRIGATION.

**SECTION 02900**

**MAINTENANCE SPECIFICATIONS GENERAL**

1. MAINTENANCE DURATION  
A. CONTRACTOR SHALL MAINTAIN ENTIRE PROJECT WITHIN THE CONTRACTOR'S SCOPE OF WORK UNTIL APPROVAL TO ENTER INTO MAINTENANCE PERIOD HAS BEEN OBTAINED IN WRITING. AFTER APPROVAL THE CONTRACTOR SHALL ENTER INTO THE 90 CALENDAR DAY MAINTENANCE PERIOD AND CALL FOR THE FOLLOWING INSPECTIONS:  
I. 30 DAY MAINTENANCE WALK  
II. 60 DAY MAINTENANCE WALK  
III. 90 DAY MAINTENANCE WALK/FINAL INSPECTION  
B. CONTRACTOR SHALL CONTINUOUSLY MAINTAIN THE ENTIRE PROJECT UNTIL ALL CORRECTION ITEMS HAVE BEEN COMPLETED AND APPROVED IN WRITING.
2. TURF MAINTENANCE  
A. CONTRACTOR SHALL MOW WEEKLY OR AS NEEDED, ALL TURF AREAS TO A HEIGHT BETWEEN 3/4" AND 2 1/2" DEPENDING ON VARIETY OF TURF.  
B. CONTRACTOR SHALL EDGE ALL TURF AREAS ADJACENT SIDEWALKS, WALLS, OR OTHER APPLICABLE STRUCTURES AND TREES BI-WEEKLY OR AS NEEDED.  
C. ALL CLIPPINGS MUST BE REMOVED FROM SIDEWALKS AND ADJACENT AREAS.  
D. CONTRACTOR SHALL REMOVE ALL EXCESS CLIPPING FROM TURF AREAS.  
E. CONTRACTOR SHALL MONITOR WATERING TO ALL TURF AREAS AND PROVIDE SUFFICIENT MOISTURE LEVELS AS REQUIRED TO ACHIEVE A LUSH APPEARANCE.

3. TREE AND SHRUB MAINTENANCE  
A. CONTRACTOR SHALL REMOVE ANY DEAD GROWTH ON ALL TREES AND SHRUBS AS NEEDED.  
B. LOWER BRANCHES OF ALL TREES UNDER TWELVE FEET SHALL BE PRUNED USING BEST HORTICULTURAL PRACTICES AND AS DIRECTED BY VALLEY-WIDE'S REPRESENTATIVE.  
C. NO TOPPING OF ANY TREE IS ALLOWED UNLESS DIRECTED BY VALLEY-WIDE'S REPRESENTATIVE.  
D. PRUNING OF TREES ABOVE TWELVE FEET WILL BE CONSIDERED ADDITIONAL WORK.  
E. CONTRACTOR SHALL REMOVE TREE STAKES WHEN STAKES ARE NO LONGER NEEDED.

4. GROUNDCOVER  
A. CONTRACTOR SHALL EDGE ALL GROUNDCOVER AREAS AS REQUIRED TO MAINTAIN A NEAT LUSH THRIVING APPEARANCE AND SHALL EDGE NO LESS THAT ONCE PER MONTH.  
B. CONTRACTOR SHALL EDGE GROUNDCOVER AROUND SHRUB AND TREE BASINS AS REQUIRED.  
C. CONTRACTOR SHALL TRIM ALL GROUNDCOVER OVER 24" IN HEIGHT.

5. WEED CONTROL  
A. CONTRACTOR SHALL ERADICATE ALL WEEDS FROM ALL TURF, PLANTER AND SLOPE AREAS BY MEANS OF MANUAL OR CHEMICAL ABATEMENT.  
B. CONTRACTOR MUST HAVE A VALID PEST CONTROL LICENSE.  
C. CONTRACTOR SHALL APPLY PRE-EMERGENT HERBICIDE WHERE POSSIBLE TO PREVENT WEEDS AS DIRECTED BY A LICENSED PEST CONTROL CONSULTANT.  
D. ANY UNDESIRABLE PLANT 3/4" OR LARGER SHALL BE CONSIDERED A WEED.  
E. CONTRACTOR SHALL MAINTAIN ALL SIDEWALKS CLEAN AND WEED FREE.

6. RODENT CONTROL  
A. CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING A RODENT FREE PROJECT.  
B. ALL MEASURES TO ERADICATE RODENTS MUST BE AS DIRECTED BY A LICENSED PEST CONTROL CONSULTANT.  
C. CONTRACTOR SHALL REPAIR/REPLACE ALL DAMAGED CAUSED BY RODENTS UNDER THIS SECTION.

7. FERTILIZATION  
A. CONTRACTOR SHALL FERTILIZE TURF, SLOPE AND PLANTER AREAS EVERY 30 CALENDAR DAYS WITH APPROVED FERTILIZER AT THE MANUFACTURER'S RECOMMENDED APPLICATION RATE.  
B. APPROVED FERTILIZERS ARE 15-15-15, 16-6-8 AND 21-7-14

8. IRRIGATION  
A. CONTRACTOR SHALL BE RESPONSIBLE FOR COMPLETE IRRIGATION ADJUSTMENTS TO ACHIEVE PROPER MOISTURE LEVELS THROUGHOUT ALL PROJECTS FOR ALL SEASONS AS REQUIRED TO PROMOTE HEALTHY, THRIVING PLANT MATERIAL, GROUND COVER AND TURF WHILE TAKING EVERY POSSIBLE MEASURE TO CONSERVE WATER.  
B. CONTRACTOR SHALL BE RESPONSIBLE FOR REPAIRING ALL NOZZLES, SPRINKLER HEADS, LATERAL LINES, MAINLINES, VALVES AND/OR OTHER REQUIRED ASSEMBLIES THROUGHOUT THE PROJECT.  
C. CONTRACTOR SHALL ENSURE THAT ALL IRRIGATION HEADS ARE ADJUSTED PROPERLY TO ALLEVATE OVER SPRAY WHEREVER POSSIBLE.  
D. CONTRACTOR SHALL TEST IRRIGATION SYSTEM A MINIMUM OF ONCE PER WEEK OR AS REQUIRED.  
E. PROVIDE BACKFLOW CERTIFICATION PRIOR TO TURN-OVER.  
F. REPAIR AND/OR REPLACE AND DAMAGED BACKFLOW DEVICES, WATER METERS, ELECTRIC PEDESTALS AND/OR IRRIGATION CONTROLLERS.

9. MAINTENANCE GENERAL  
A. EDGE GROUNDCOVER AS NEEDED TO MAINTAIN NO GROWTH OVER SIDEWALKS, AROUND TREE AND SHRUB BASINS OR UP WALLS OR FENCES.  
B. REMOVE ALL TRASH WEEKLY  
C. TEST COMPLETE IRRIGATION SYSTEM BIWEEKLY.

10. CLEAN-UP  
A. CLEAN UP SHALL TAKE PLACE ON A DAILY BASIS, AFTER EACH PORTION OF WORK HAS BEEN COMPLETED AND AS DIRECTED BY VALLEY-WIDE'S REPRESENTATIVE.  
B. THE CONTRACTOR SHALL LEGALLY REMOVE FROM SITE ANY GREEN WASTE, TRASH OR OTHER DEBRIS.

11. GRAFFITI  
A. REMOVAL OF ANY AND ALL GRAFFITI SHALL BE COMPLETED WITHIN 48 HOURS OF NOTIFICATION.  
B. CONTRACTOR SHALL BE RESPONSIBLE UNTIL PROJECT HAS BEEN COMPLETED AND HAS RECEIVED THE LETTER OF COMPLETION.

12. VANDALISM  
A. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL VANDALISM TO THE PROJECT UNTIL PROJECT HAS BEEN COMPLETED, AND APPROVED IN WRITING.

13. FINAL APPROVAL  
A. ALL LANDSCAPED AREAS SHALL BE INSPECTED IN IT'S ENTIRETY BY VALLEY-WIDE'S REPRESENTATIVE UPON THE COMPLETION OF THE 90 CALENDAR DAY MAINTENANCE PERIOD.  
B. CONTRACTOR SHALL PROVIDE ALL CHARTS, RECORD DRAWINGS, TURN OVER ITEMS ETC. PRIOR TO FINAL TURN OVER.  
C. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE ENTIRE PROJECT UNTIL FINAL ACCEPTANCE HAS BEEN PROVIDED IN WRITING BY VALLEY-WIDE.

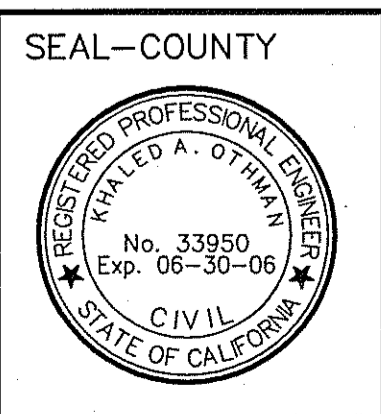
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R:\160277\00\landscape\Plan Sets\Valley-Wide\277.00\_S-1.dwg XREFS= 277.00\_F, 277.00\_SPEC.L

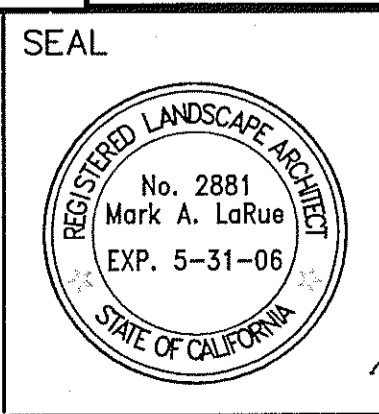
NOTE: WORK CONTAINED WITHIN THESE PLANS SHALL NOT COMMENCE UNTIL AN ENCROACHMENT PERMIT AND/OR GRADING PERMIT HAS BEEN ISSUED.

THE PRIVATE LANDSCAPE ARCHITECT SIGNING THESE PLANS IS RESPONSIBLE FOR ASSURING THE ACCURACY AND ACCEPTABILITY OF THE DESIGN HEREON, IN THE EVENT OF DISCREPANCIES AFTER COUNTY APPROVAL OR DURING CONSTRUCTION, THE PRIVATE LANDSCAPE ARCHITECT SHALL BE RESPONSIBLE FOR DETERMINING AN ACCEPTABLE SOLUTION AND REVISING THE PLANS FOR APPROVAL BY THE COUNTY.

DATE	BY	MARK	REVISIONS	APPR.	DATE



COUNTY OF RIVERSIDE  
TRANSPORTATION DEPARTMENT  
APPROVED BY:  
  
KHALED A. OTHMAN DATE: \_\_\_\_\_  
RECOMMENDED DATE: \_\_\_\_\_



Stantec Consulting, Inc.  
277 Rancheros Drive Suite 300  
San Marcos, CA 92069  
Tel. (760) 891-3200  
Fax. (760) 891-3201  
www.stantec.com  
PREPARED BY: *[Signature]*  
Mark A. LaRue DATE: 11/7/06

BENCHMARK DATUM  
NGVD 29 (MSL)  
  
PROJECT BENCHMARK  
BM 600 29 (DX1713): BENCHMARK DISK SET IN TOP OF CONCRETE MONUMENT, STAMP 600-29-68 POSTED ELEVATION OF 1429.27 FEET NGVD 29.  
  
SCALE: HOR: VERT:

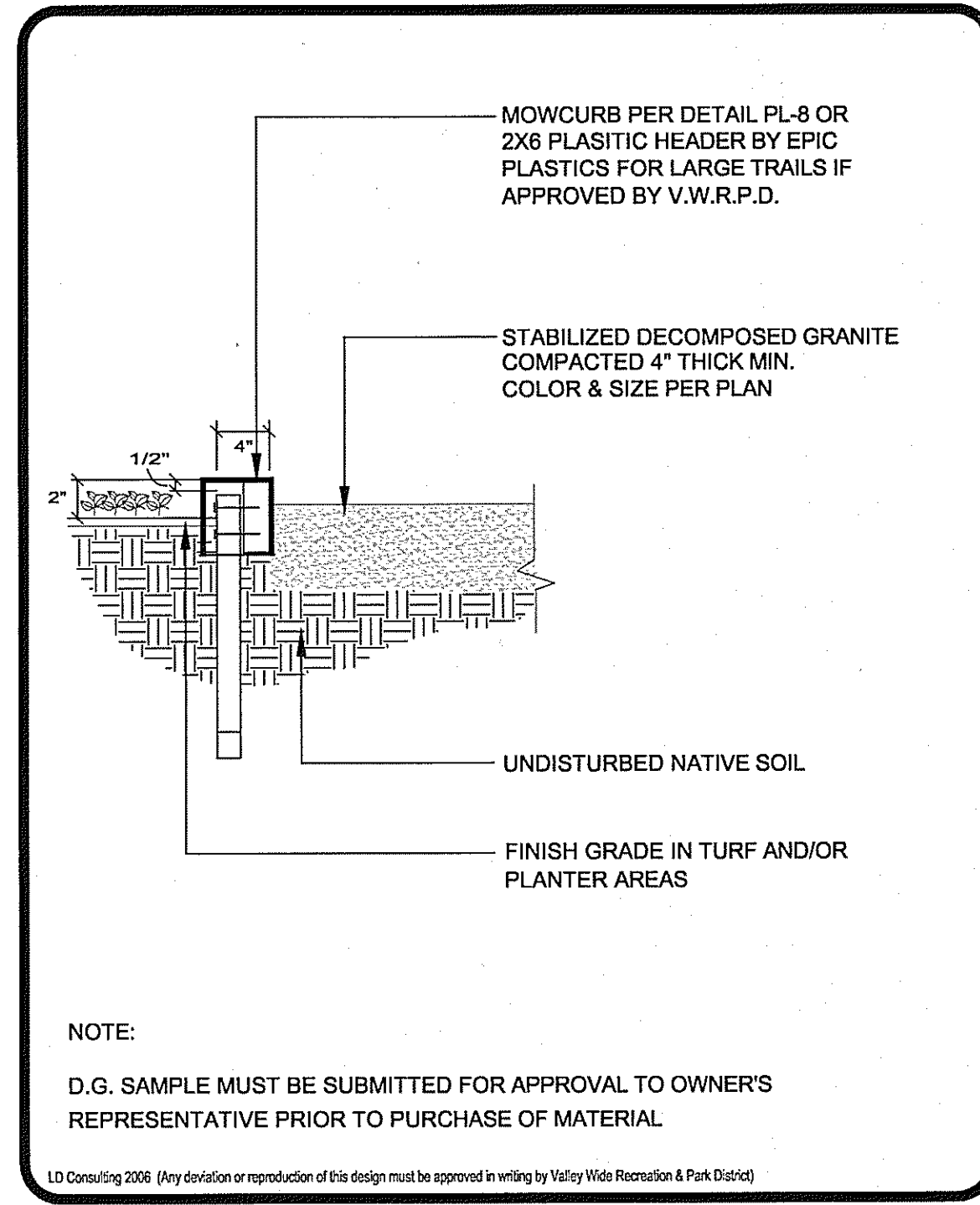
COUNTY OF RIVERSIDE  
LANDSCAPE CONSTRUCTION PLANS FOR  
TRACT NO. 31629  
GENERAL AND MAINTENANCE  
SPECIFICATIONS

VALLEY WIDE RECREATION & PARK DISTRICT  
*[Signature]*  
Samuel W. Goepf Date: 11-09-06

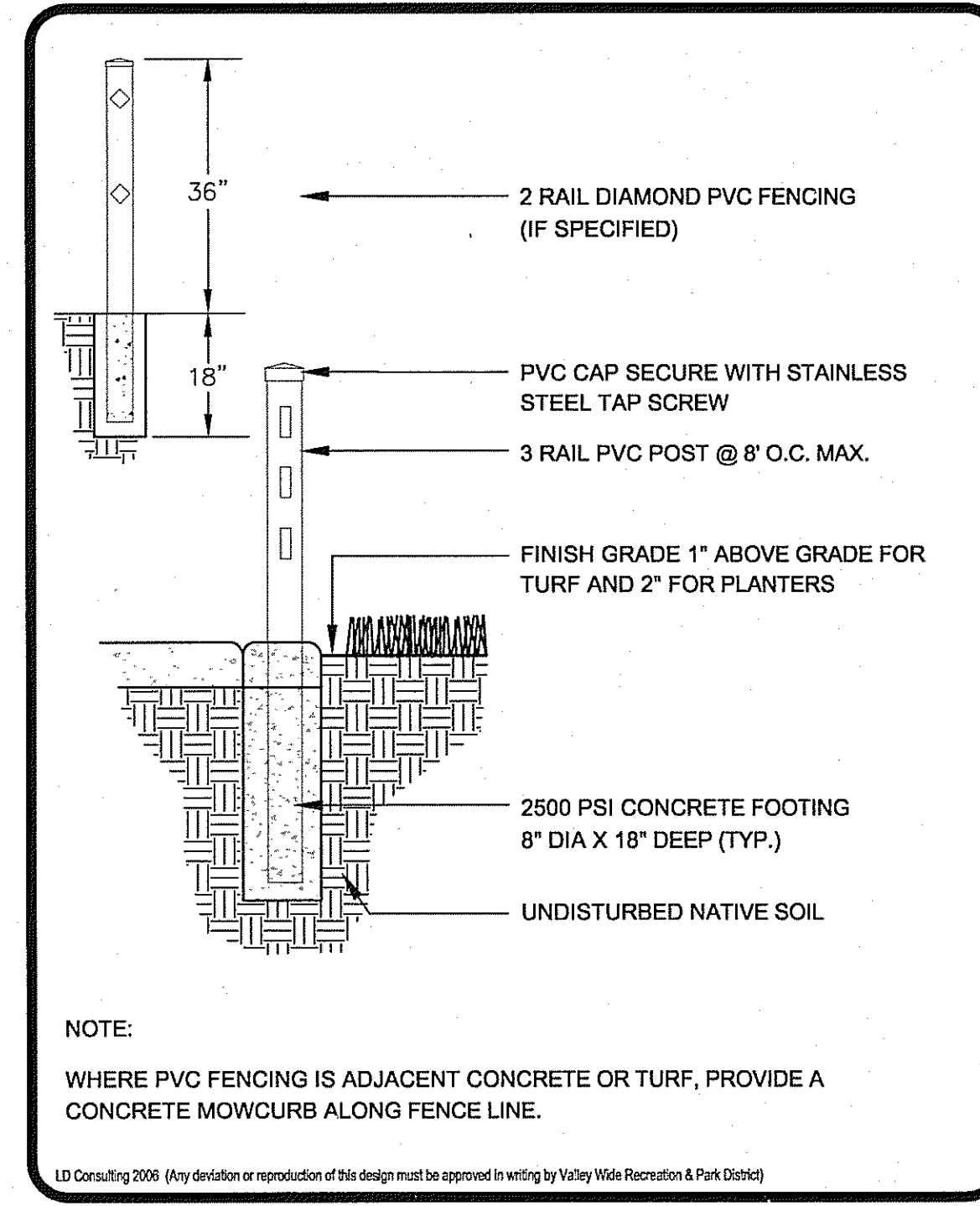
SHEET ID.  
**S-1**  
REV. PLOT DATE  
11-07-06

SHEET NO.  
**2**  
OF 13 SHTS.

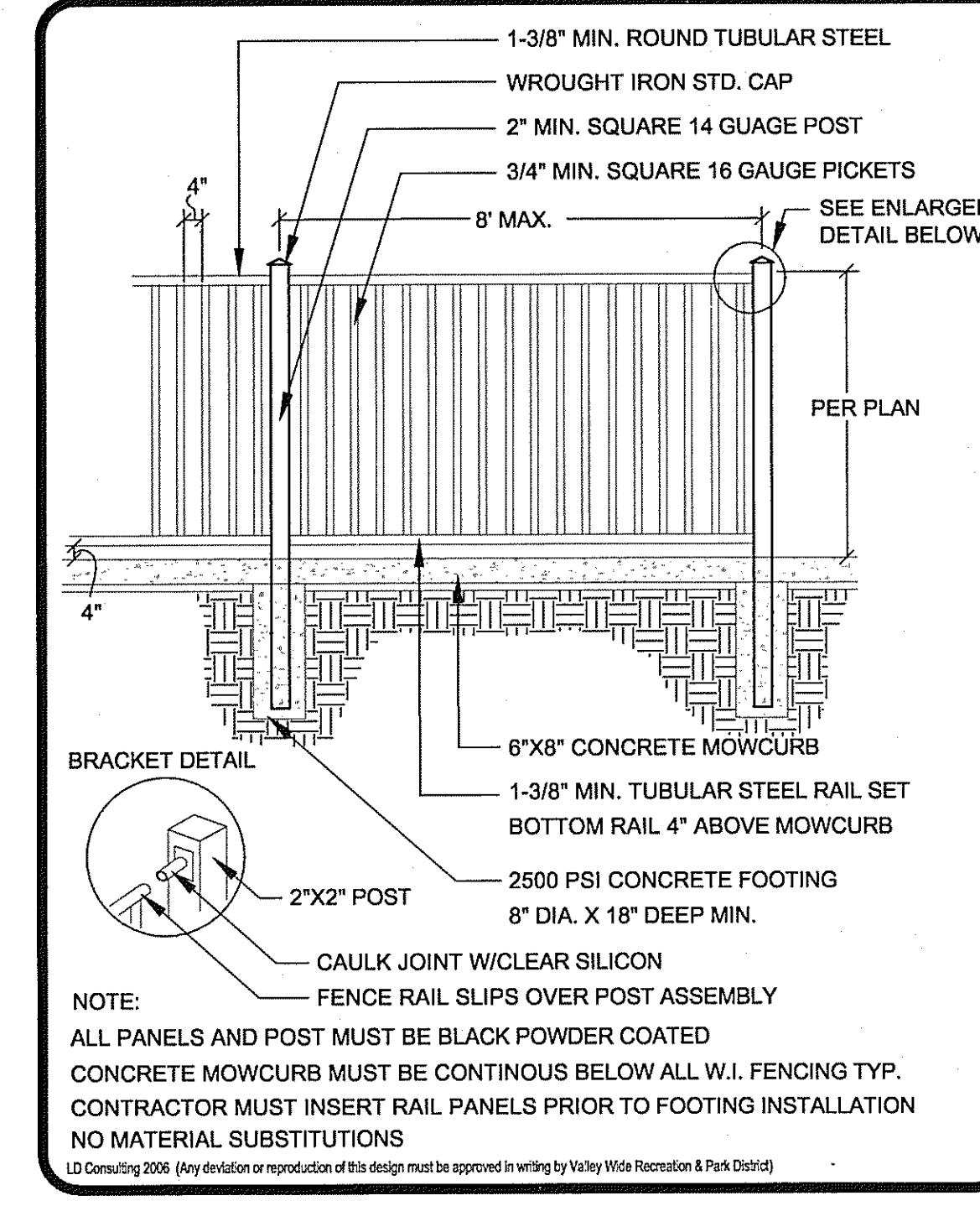




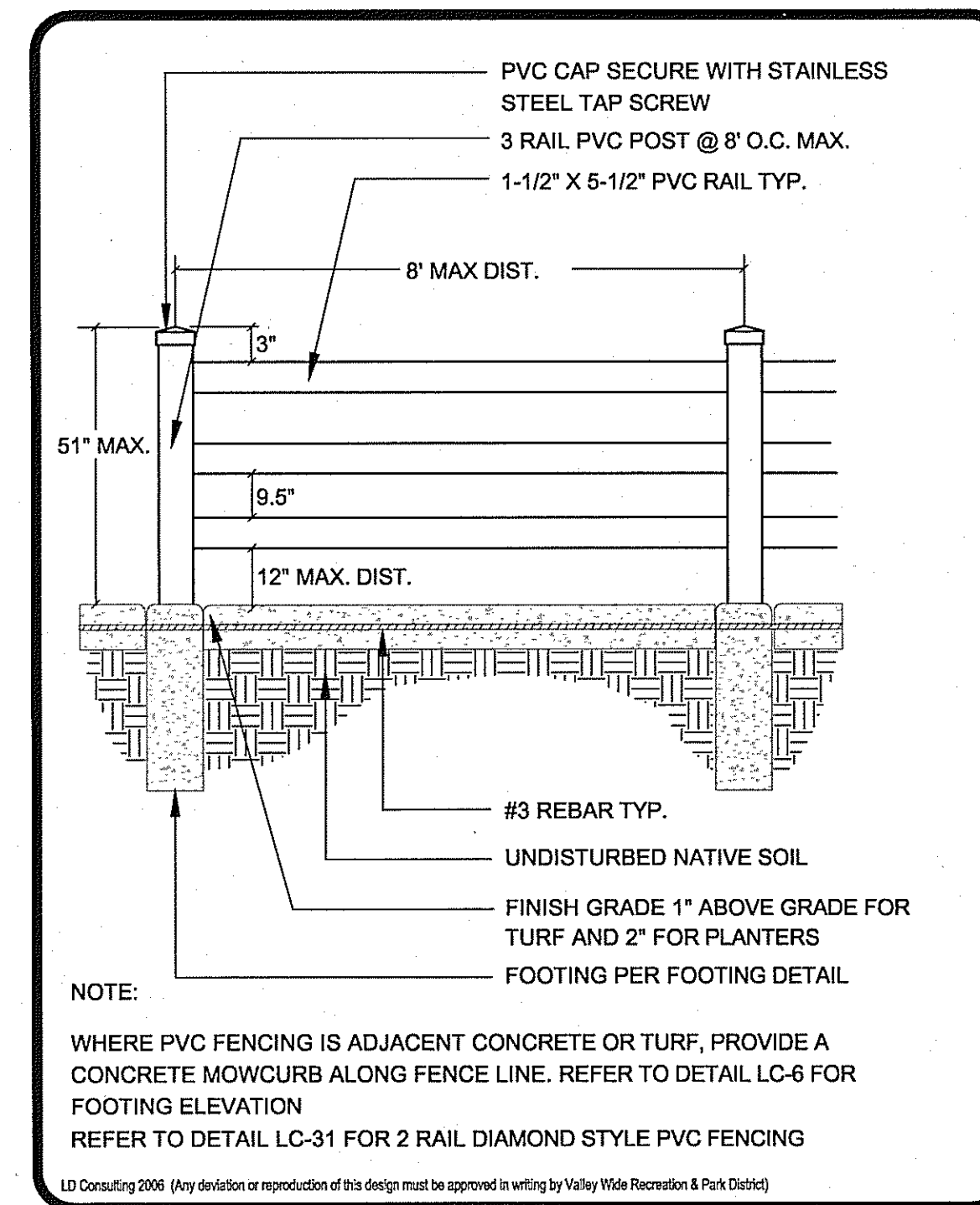
**VALLEY WIDE RECREATION**  
01/06  
DECOMPOSED GRANITE PATH LC-1



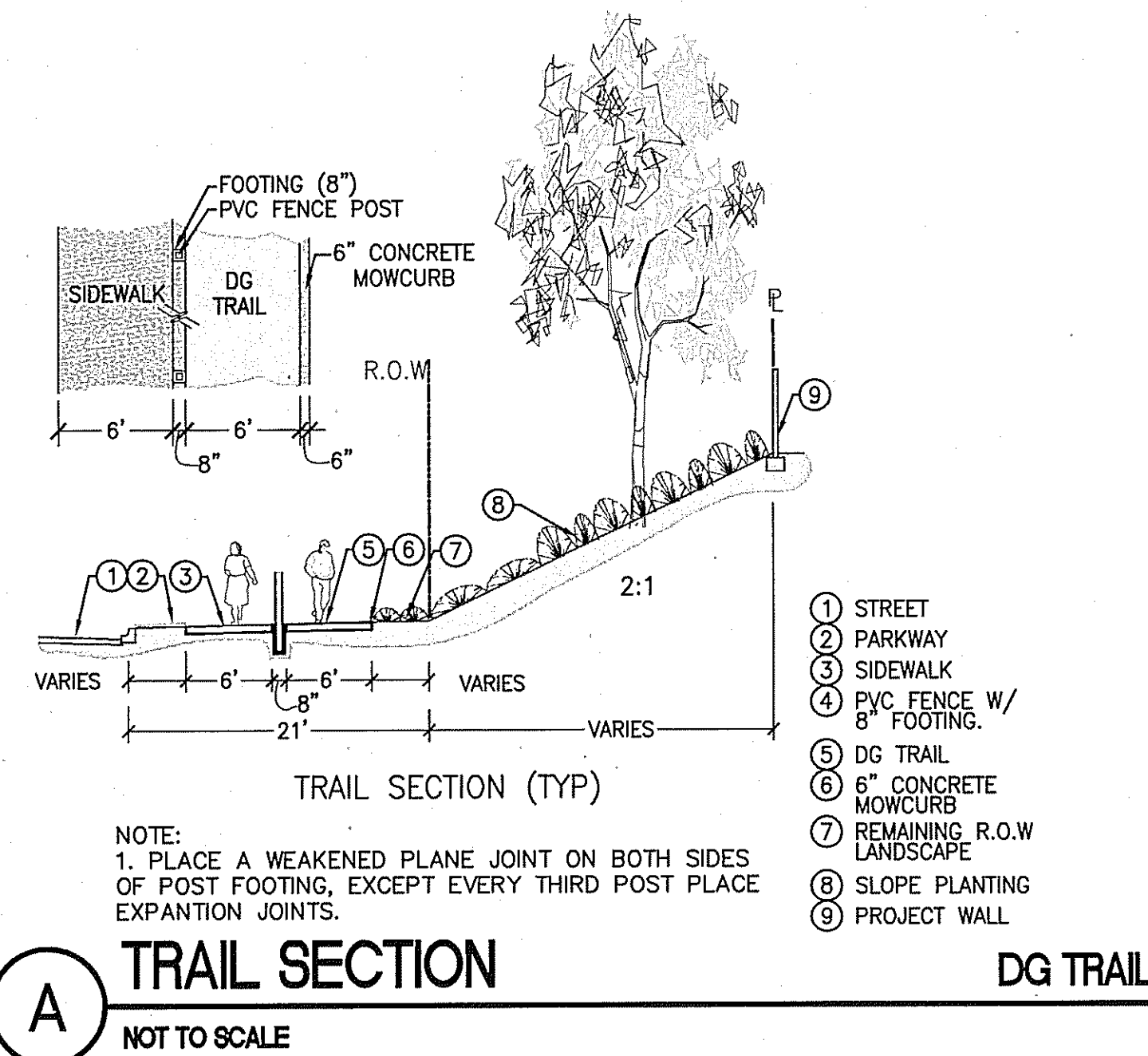
**VALLEY WIDE RECREATION**  
01/06  
PVC FENCE FOOTING LC-6



**VALLEY WIDE RECREATION**  
01/06  
TUBULAR STEEL FENCING LC-10



**VALLEY WIDE RECREATION**  
01/06  
THREE RAIL PVC FENCING LC-7



**UNDERGROUND SERVICE ALERT**  
CALL: TOLL FREE

**HOLD HARMLESS & INDEMNIFICATION CLAUSE**  
CONTRACTOR AGREES TO ASSUME SOLE 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/DEVELOPER, THE COUNTY OF LOCAL JURISDICTION AND THE LANDSCAPE DESIGNER HARMLESS FROM ANY AND ALL LIABILITY REAL OR ALLEGED, IN CONNECTION WITH THE PERFORMANCE OF WORK ON THIS PROJECT, EXCEPTING FOR LIABILITY ARISING FROM SOLE NEGLIGENCE OF THE OWNER/DEVELOPER, COUNTY OF LOCAL JURISDICTION AND THE LANDSCAPE DESIGNER.

**VALLEY WIDE RECREATION & PARK DISTRICT**  
Samuel W. Goopp  
Date: 11-09-06

SHEET ID: **D-1**  
REV. PLOT DATE: 11-07-06

NOTE: WORK CONTAINED WITHIN THESE PLANS SHALL NOT COMMENCE UNTIL AN ENCROACHMENT PERMIT AND/OR GRADING PERMIT HAS BEEN ISSUED.

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DATE	BY	MARK	REVISIONS	APPR.	DATE

SEAL-COUNTY

COUNTY OF RIVERSIDE  
TRANSPORTATION DEPARTMENT  
APPROVED BY:  
KHALED A. OTHMAN DATE: \_\_\_\_\_  
RECOMMENDED DATE: \_\_\_\_\_

SEAL  
REGISTERED LANDSCAPE ARCHITECT  
No. 2881  
Mark A. LoRue  
EXP. 5-31-06

Stantec  
Stantec Consulting, Inc.  
277 Rancheros Drive Suite 300  
San Marcos, CA 92069  
Tel. (760) 891-3200  
Fax. (760) 891-3201  
www.stantec.com

BENCHMARK DATUM  
NGVD 29 (MSL)

PROJECT BENCHMARK  
BM 600 29 (DX1713); BENCHMARK DISK SET IN TOP OF CONCRETE MONUMENT, STAMP 600-29-68 POSTED ELEVATION OF 1429.27 FEET NGVD 29.

COUNTY OF RIVERSIDE  
LANDSCAPE CONSTRUCTION PLANS FOR  
TRACT NO. 31629  
CONSTRUCTION DETAILS

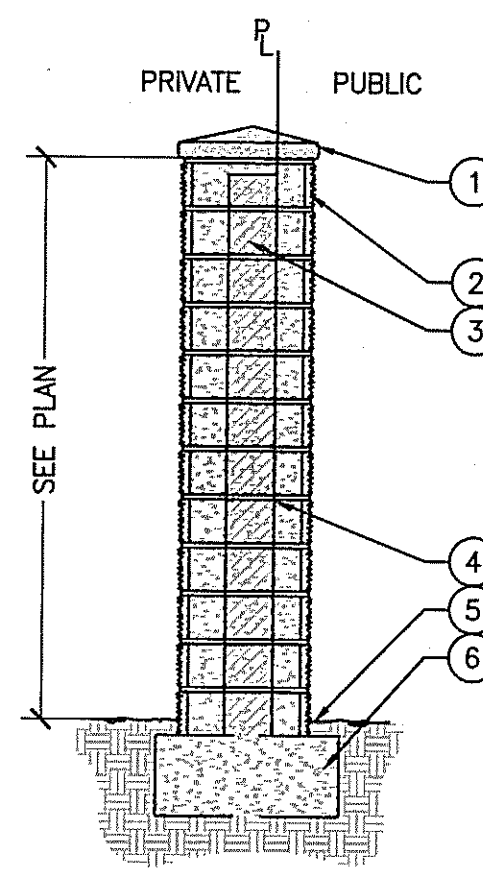
SHEET NO. **3**  
OF 13 SHTS.

SCALE: \_\_\_\_\_ HOR: \_\_\_\_\_ VERT: \_\_\_\_\_

FOR: \_\_\_\_\_ W.O. \_\_\_\_\_ COUNTY FILE NO. \_\_\_\_\_

BGR





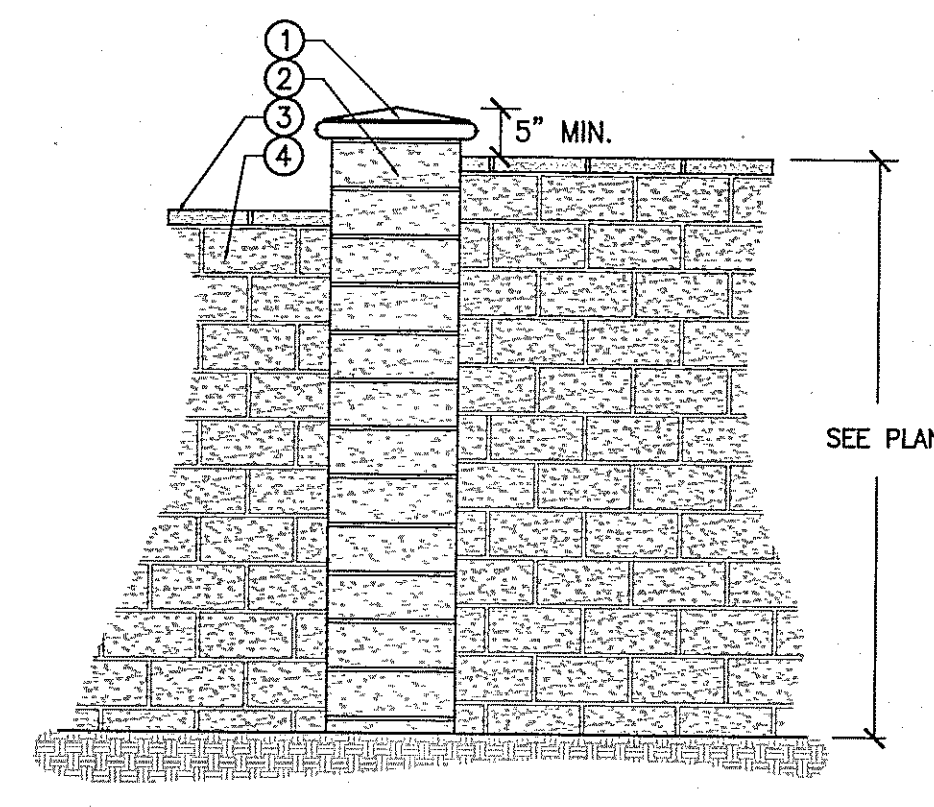
- 1 PRECAST PILASTER CAP, QUICK CRETE MODEL NO Q-H17PC
- 2 16x8x16 SPLITFACE BLOCK
- 3 PROJECT WALL
- 4 PROJECT BOUNDARY - SEE NOTE
- 5 FINISH GRADE
- 6 FOOTING - SEE NOTES 9 & 10

**NOTES:**

- ALL CELLS WITH VERTICAL STEEL SHALL BE FILLED SOLID W/ GROUT.
- TOP OF WALL SHALL BE LEVEL.
- SURFACES ADJACENT TO SOIL SHALL RECEIVE TWO COATS OF ASPHALTIC EMULSION.
- JOINTS SHALL BE UNIFORM WIDTH NOT TO EXCEED 1/2" AND NOT LESS THAN 3/8".
- PROVIDE EXPANSION JOINTS 50' O.C. MIN. PREFERABLY AT PROPERTY LINES.
- FOOTINGS ADJACENT TO SLOPES SHALL BE EMBEDDED SUCH THAT AT LEAST 7' IS PROVIDED HORIZONTALLY FROM THE BOTTOM OUTSIDE EDGE OF FOOTING TO FACE OF SLOPE.
- SEE FINISH SCHEDULE OR PLAN FOR: BRICK CAP TYPE AND COLOR; BLOCK TYPE AND COLOR; SLURRY FINISH AND COLOR (IF APPLICABLE)
- WALLS SHALL BE CENTERED AT THE PROPERTY LINE WHEN BETWEEN TWO PRIVATE RESIDENCES. WHEN WALLS ARE ADJACENT TO PROJECT BOUNDARIES OR RIGHT-OF-WAYS, THE WALL SHALL BE LOCATED AT THE ROW OR BOUNDARY.
- FOR WALLS 6' OR LESS IN HEIGHT, ALL STRUCTURAL ELEMENTS INCLUDING FOOTINGS, REINFORCEMENT STEEL, ETC. SHALL BE BY COUNTY OF RIVERSIDE, DEPARTMENT OF BUILDING & SAFETY, DRAWING NUMBER 284.
- FOR WALL GREATER THAN 6' IN HEIGHT, ALL STRUCTURAL ELEMENTS INCLUDING FOOTINGS, REINFORCEMENT STEEL, ETC. SHALL BE BY STRUCTURAL ENGINEER.

**A WALL** **PILASTER**  
NOT TO SCALE **SPLITFACE BLOCK/PRECAST CAP**

SCHAL109



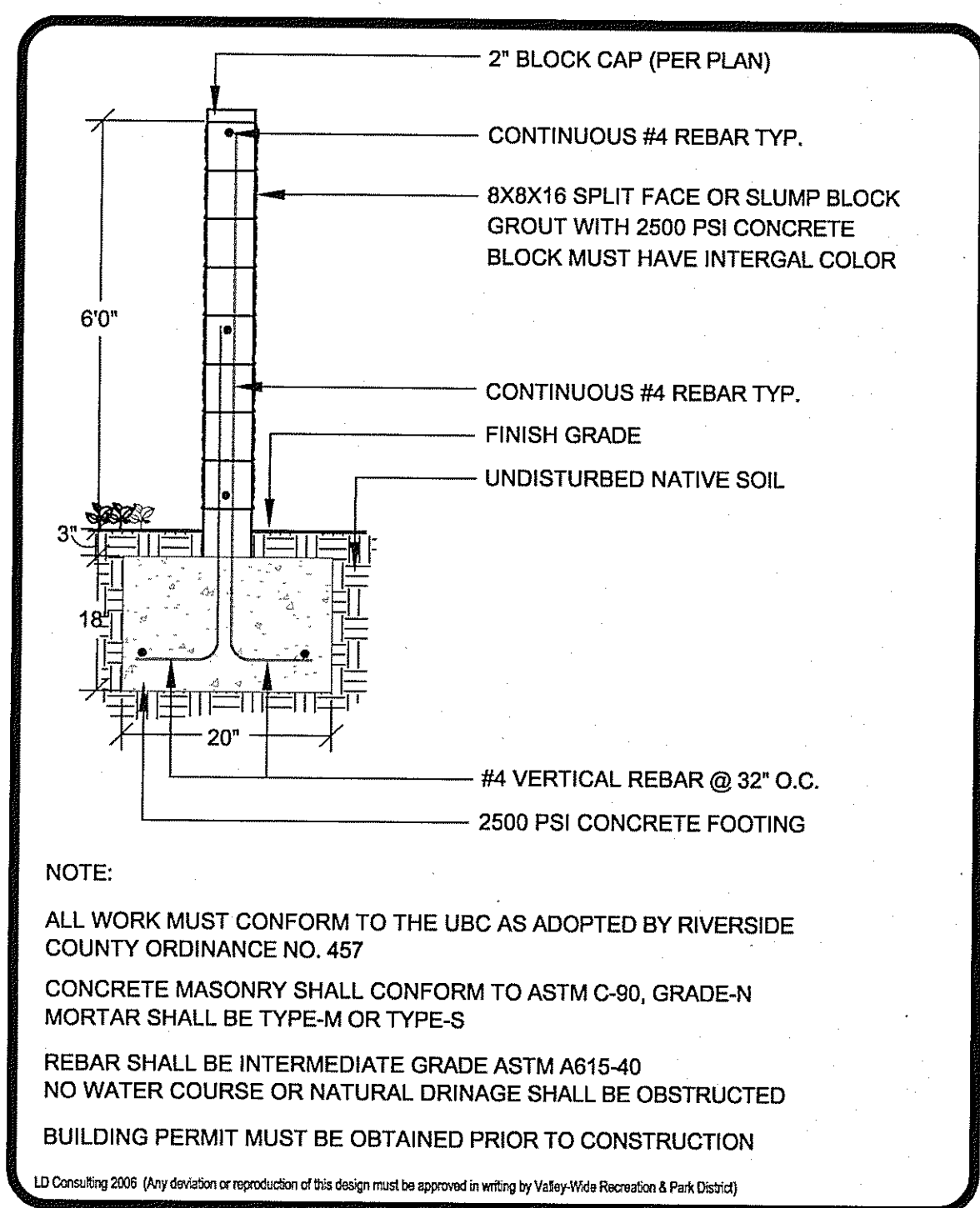
- 1 PRECAST PILASTER CAP, QUICK CRETE MODEL NO Q-H17PC
- 2 COLUMN BLOCK (A-D-2)
- 3 CAP BLOCK
- 4 WALL BLOCK (C-D-2)

**NOTES:**

- FOR BLOCK TYPE, WALL HEIGHTS, & FINISHES & ADDITIONAL INFORMATION SEE FENCING PLANS PREPARED BY TKC.
- SEE STRUCTURAL ENGINEER'S PLANS FOR FOOTINGS, STEEL, & OTHER STRUCTURAL ELEMENTS.

**B WALL** **MASONRY**  
NOT TO SCALE **BLOCK WALL AND PILASTER**

SCHAL108



**NOTE:**

ALL WORK MUST CONFORM TO THE UBC AS ADOPTED BY RIVERSIDE COUNTY ORDINANCE NO. 457

CONCRETE MASONRY SHALL CONFORM TO ASTM C-90, GRADE-N MORTAR SHALL BE TYPE-M OR TYPE-S

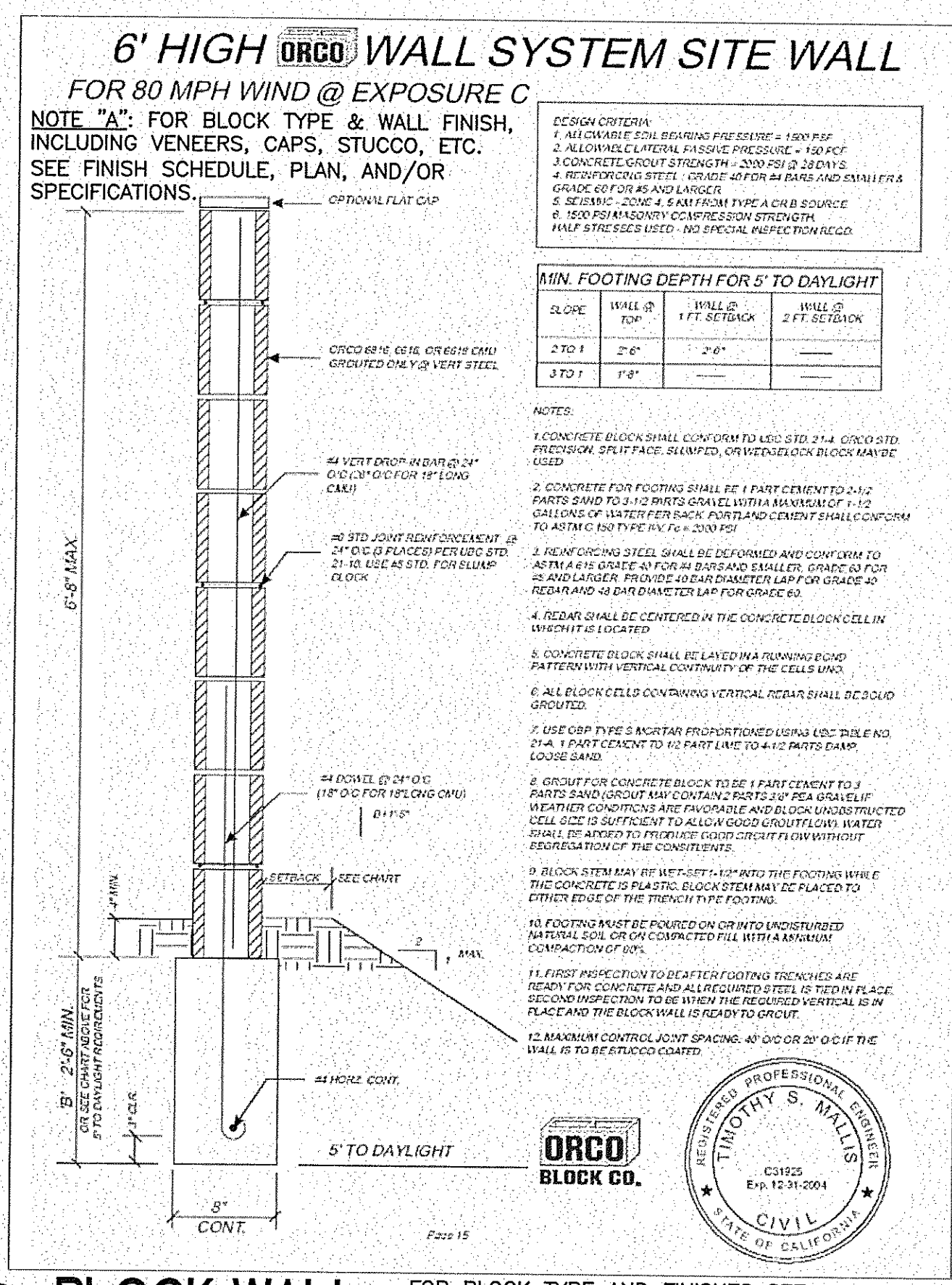
REBAR SHALL BE INTERMEDIATE GRADE ASTM A615-40

NO WATER COURSE OR NATURAL DRAINAGE SHALL BE OBSTRUCTED

BUILDING PERMIT MUST BE OBTAINED PRIOR TO CONSTRUCTION

LD Consulting 2006 (Any deviation or reproduction of this design must be approved in writing by Valley Wide Recreation & Park District)

**VALLEY WIDE RECREATION**  
01/06 **BLOCK WALL FOOTING** LC-15



**C BLOCK WALL** **MASONRY**  
NOT TO SCALE **ORCO WALL SYSTEM**

SCHAL121

**HOLD HARMLESS & INDEMNIFICATION CLAUSE**

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Underground Services Alert  
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TWO WORKING DAYS BEFORE YOU DIG

VALLEY WIDE RECREATION & PARK DISTRICT  
Date: 11-09-06  
SHEET ID: D-2  
REV. PLOT DATE: 11-07-06

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DATE	BY	MARK	REVISIONS	APPR.	DATE
	ENGINEER				COUNTY

SEAL-COUNTY

COUNTY OF RIVERSIDE  
TRANSPORTATION DEPARTMENT  
APPROVED BY:

KHALED A. OTHMAN DATE: \_\_\_\_\_

RECOMMENDED DATE: \_\_\_\_\_

SEAL: REGISTERED PROFESSIONAL ENGINEER  
KHALED A. OTHMAN  
No. 33950  
Exp. 06-30-06  
CIVIL  
STATE OF CALIFORNIA

SEAL: REGISTERED LANDSCAPE ARCHITECT  
No. 2881  
Mark A. LaRue  
Exp. 5-31-06  
STATE OF CALIFORNIA

Stantec Consulting, Inc.  
277 Rancheros Drive Suite 300  
San Marcos, CA 92069  
Tel. (760) 891-3200  
Fax. (760) 891-3201  
www.stantec.com

PREPARED BY: Mark A. LaRue  
DATE: 11/7/06

BENCHMARK DATUM  
NGVD 29 (MSL)

PROJECT BENCHMARK  
BM 600 29 (DX1713); BENCHMARK DISK SET IN TOP OF CONCRETE MONUMENT, STAMP 600-29-68 POSTED ELEVATION OF 1429.27 FEET NGVD 29.

SCALE: HOR: VERT:

COUNTY OF RIVERSIDE  
LANDSCAPE CONSTRUCTION PLANS FOR  
TRACT NO. 31629  
CONSTRUCTION DETAILS

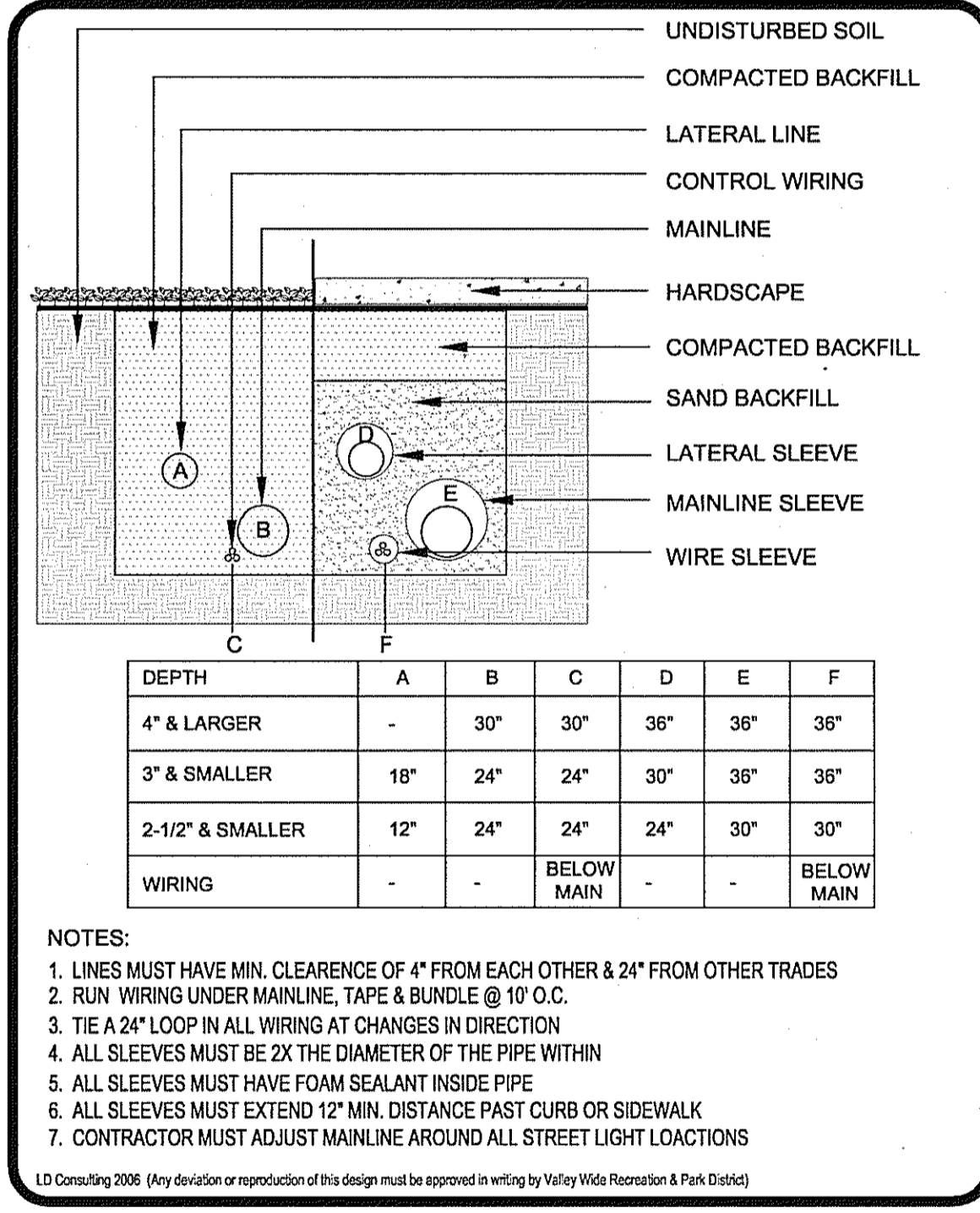
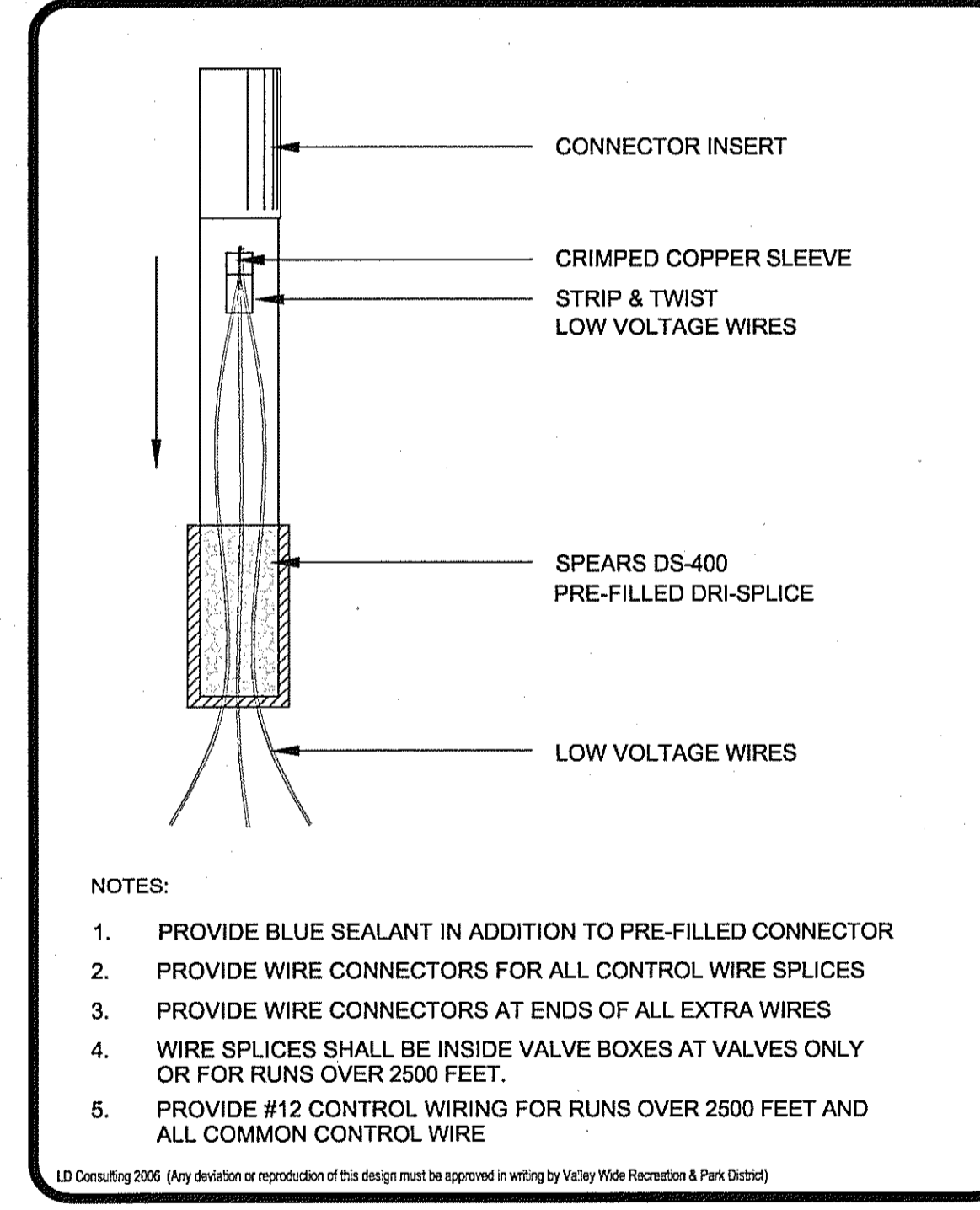
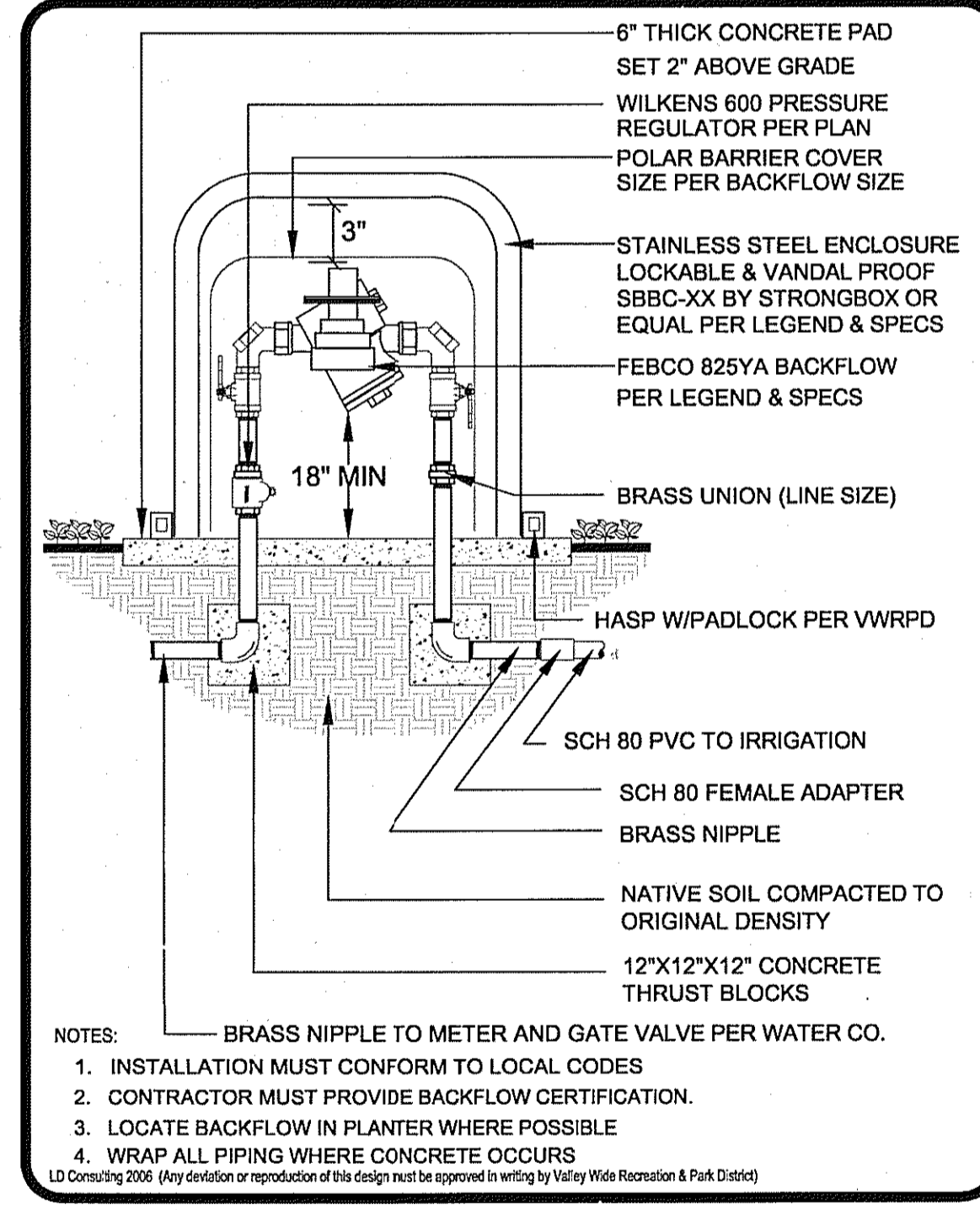
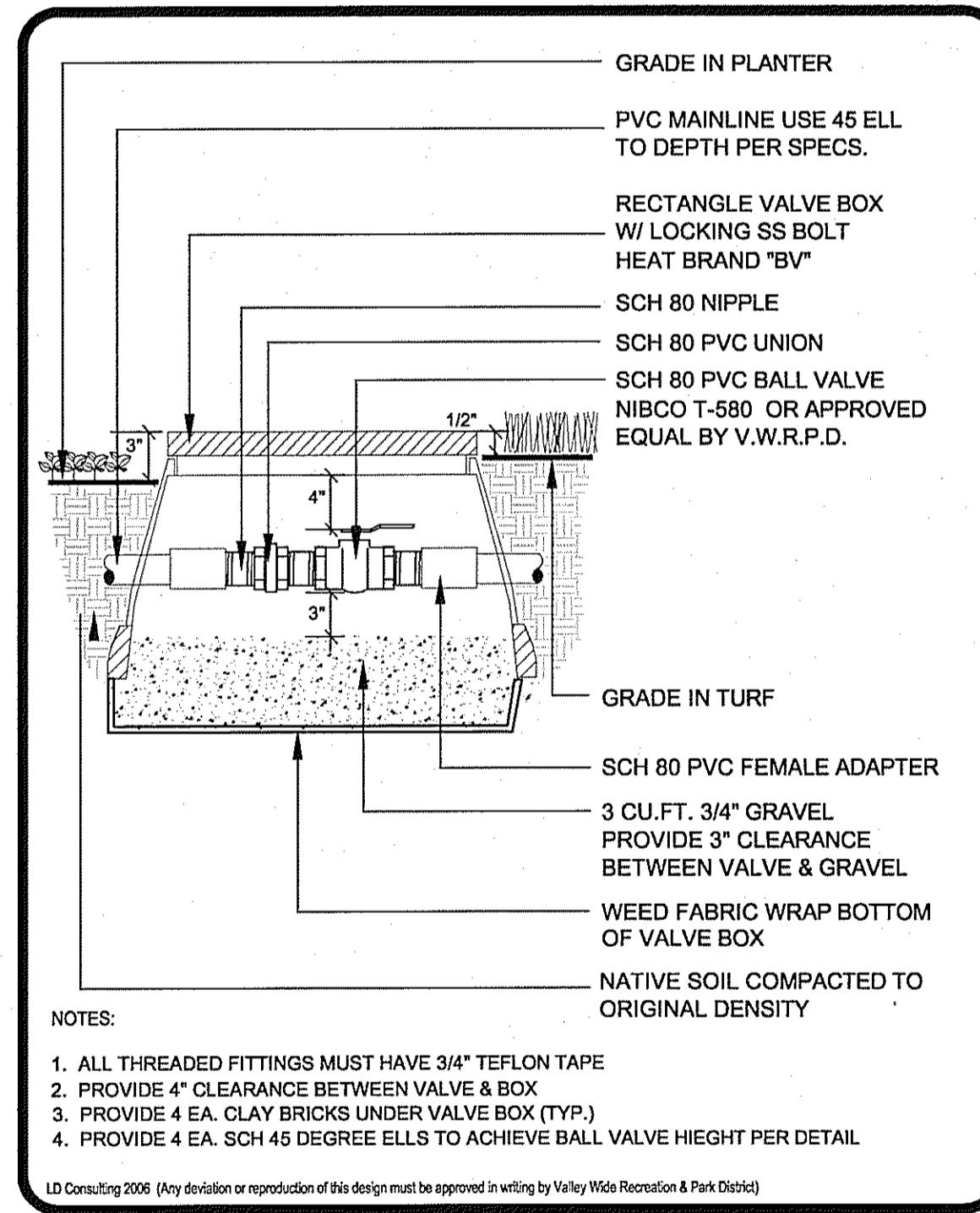
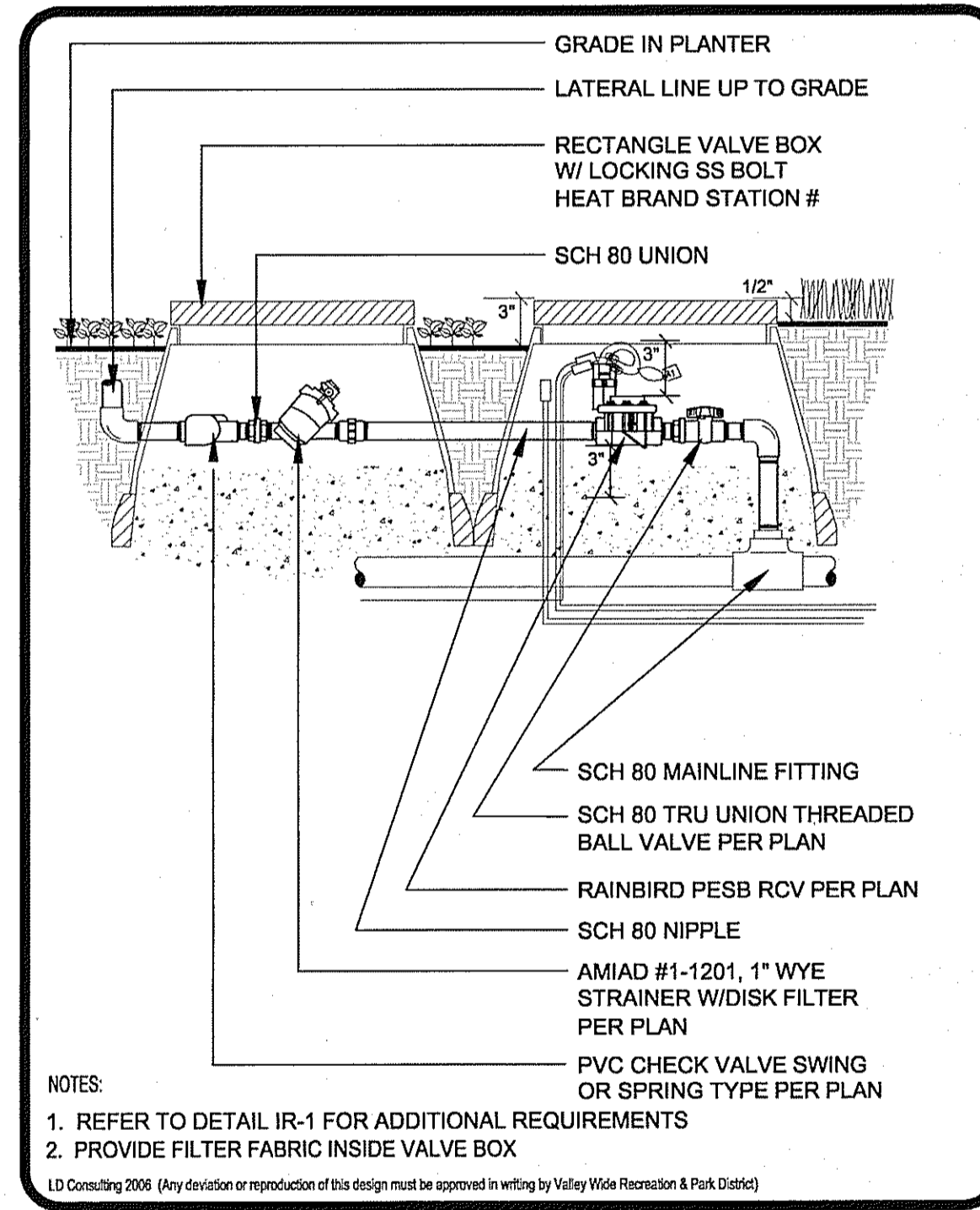
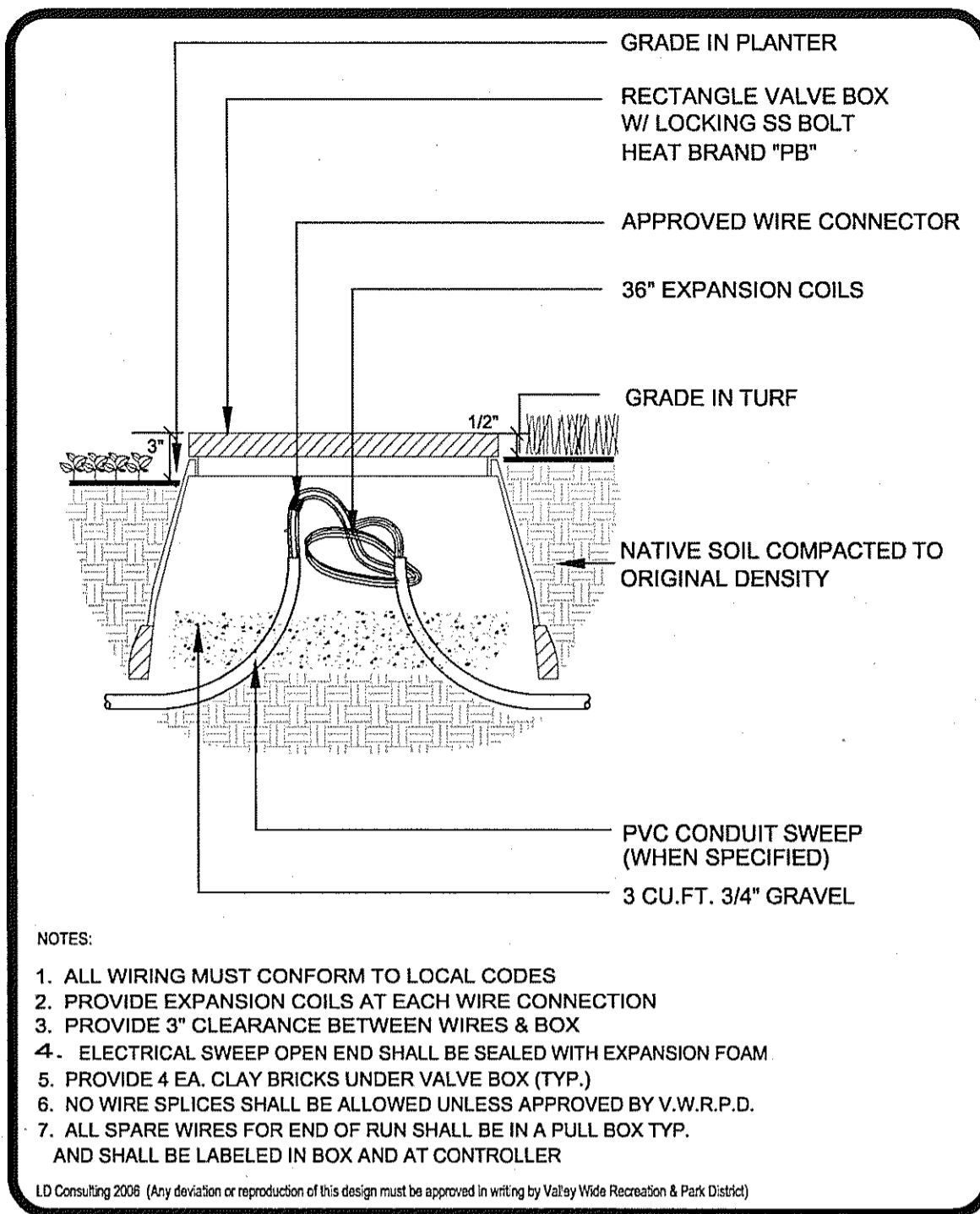
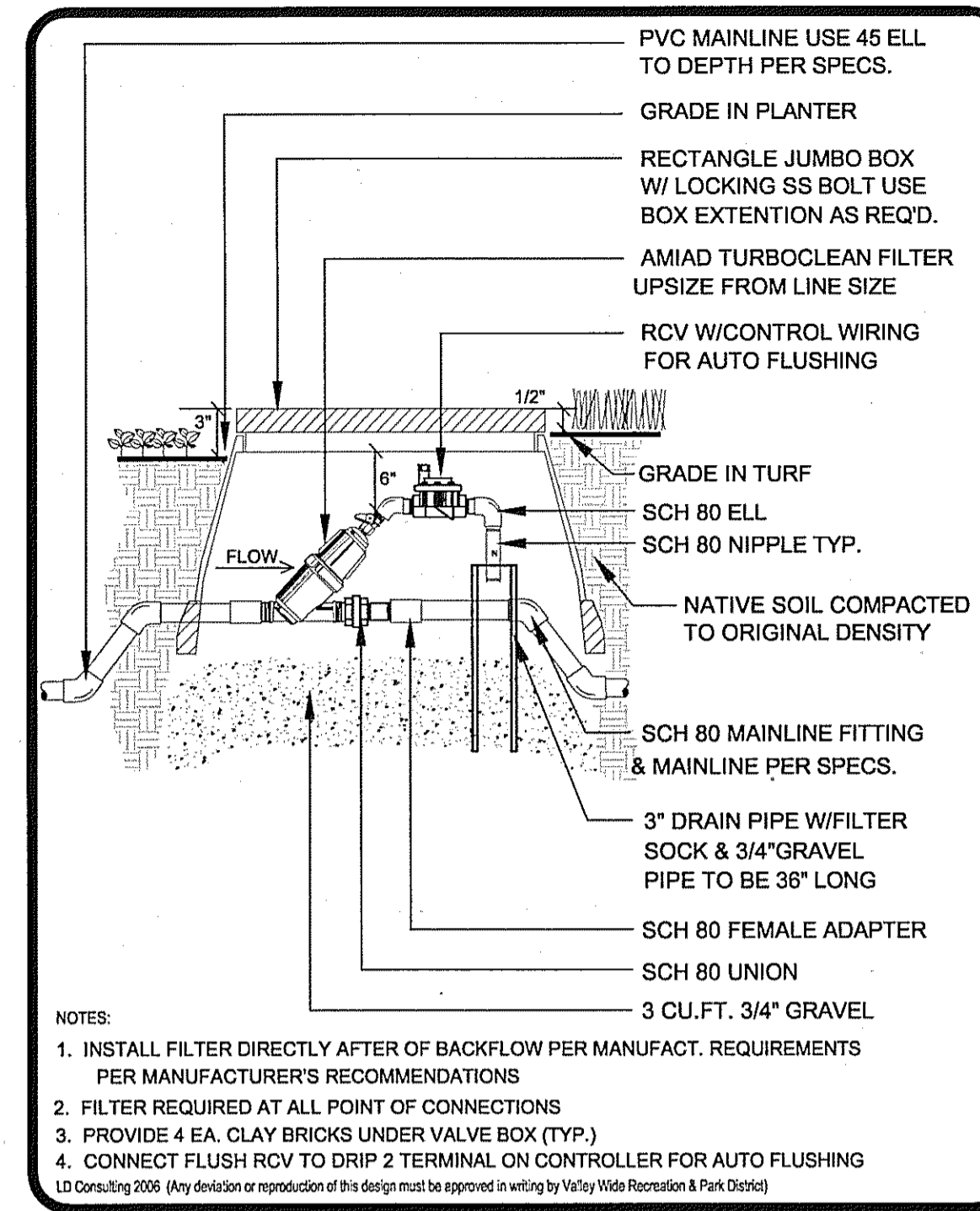
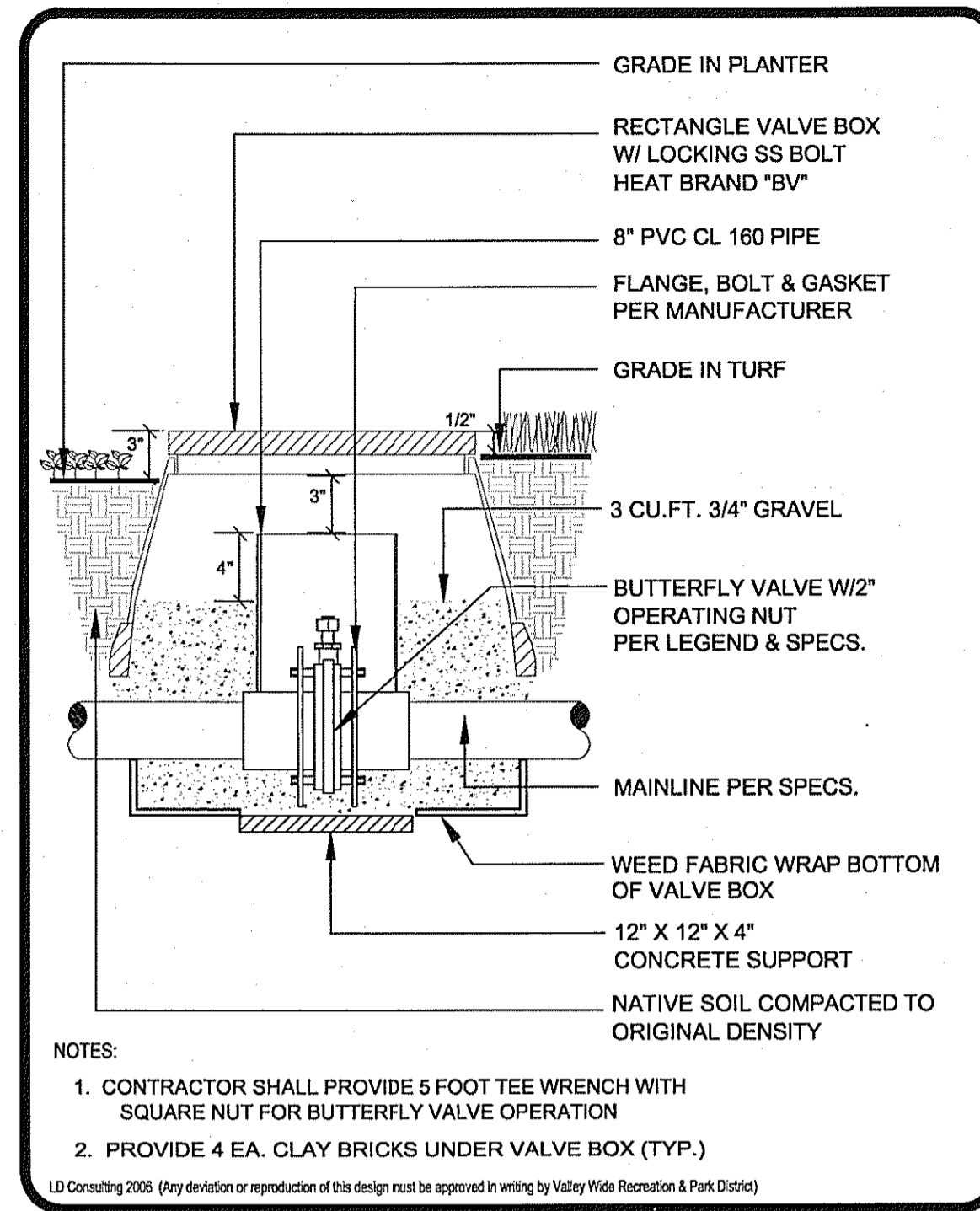
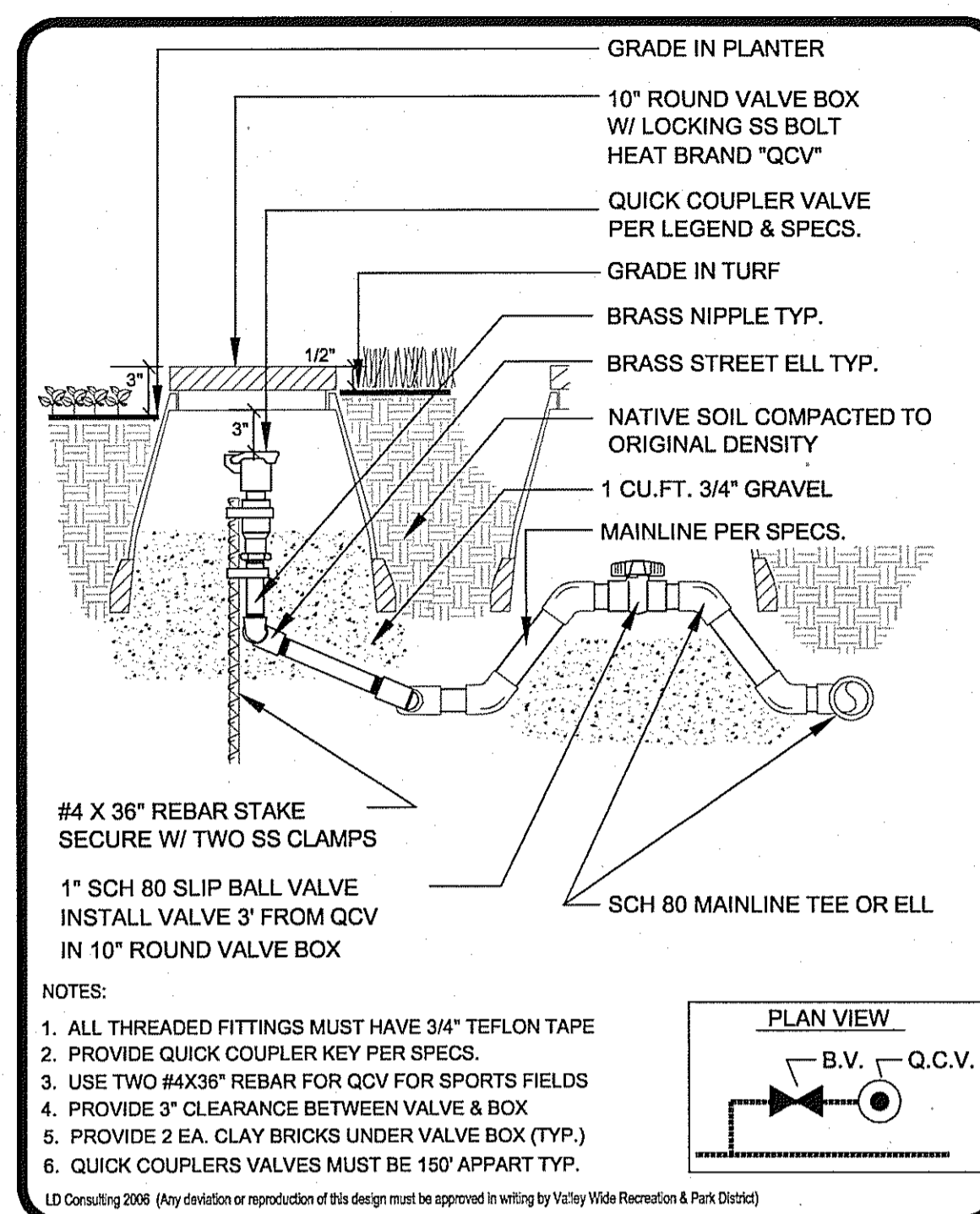
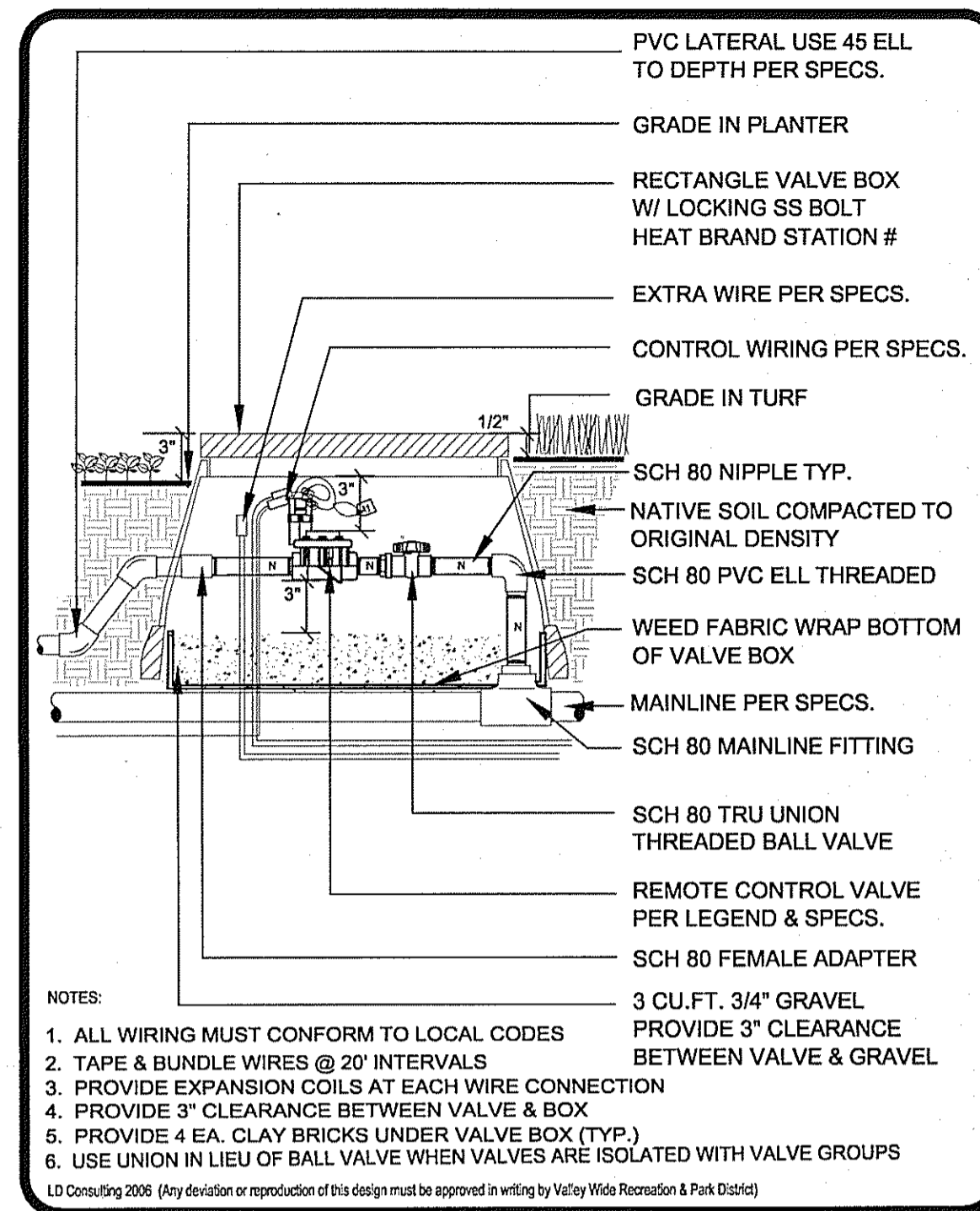
FOR: W.O. COUNTY FILE NO.

SHEET NO. 4  
OF 13 SHTS.

BGR

Printed On 11/7/2006 Approved Construction Plans



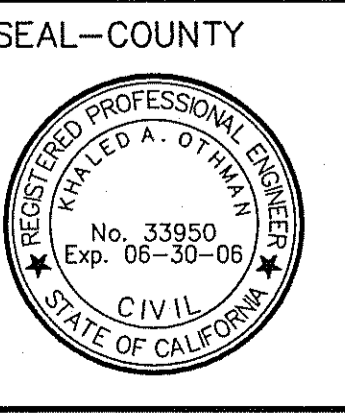


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DATE	BY	MARK	REVISIONS	APPR.	DATE
ENGINEER				COUNTY	

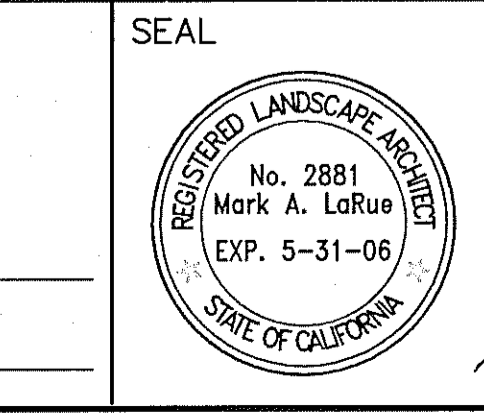


SEAL-COUNTY

COUNTY OF RIVERSIDE  
TRANSPORTATION DEPARTMENT  
APPROVED BY:

KHALED A. OTHMAN DATE: \_\_\_\_\_

RECOMMENDED DATE: \_\_\_\_\_



SEAL

Stantec Consulting, Inc.  
277 Rancheros Drive Suite 300  
San Marcos, CA 92069

Tel. (760) 891-3200  
Fax. (760) 891-3201  
www.stantec.com

PREPARED BY: *Mark A. LoRue* R.L.A. No. 2881  
DATE: 4/7/06

BENCHMARK DATUM  
NGVD 29 (MSL)

PROJECT BENCHMARK  
BM 600 29 (DX1713); BENCHMARK DISK SET IN TOP OF CONCRETE MONUMENT, STAMP 600-29-68 POSTED ELEVATION OF 1429.27 FEET NGVD 29.

SCALE: \_\_\_\_\_ HOR: \_\_\_\_\_ VERT: \_\_\_\_\_

COUNTY OF RIVERSIDE  
LANDSCAPE CONSTRUCTION PLANS FOR  
TRACT NO. 31629  
IRRIGATION DETAILS

FOR: \_\_\_\_\_ W.O. \_\_\_\_\_ COUNTY FILE NO. \_\_\_\_\_

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Underground Service Alert CALL: TOLL FREE TWO WORKING DAYS BEFORE YOU DIG

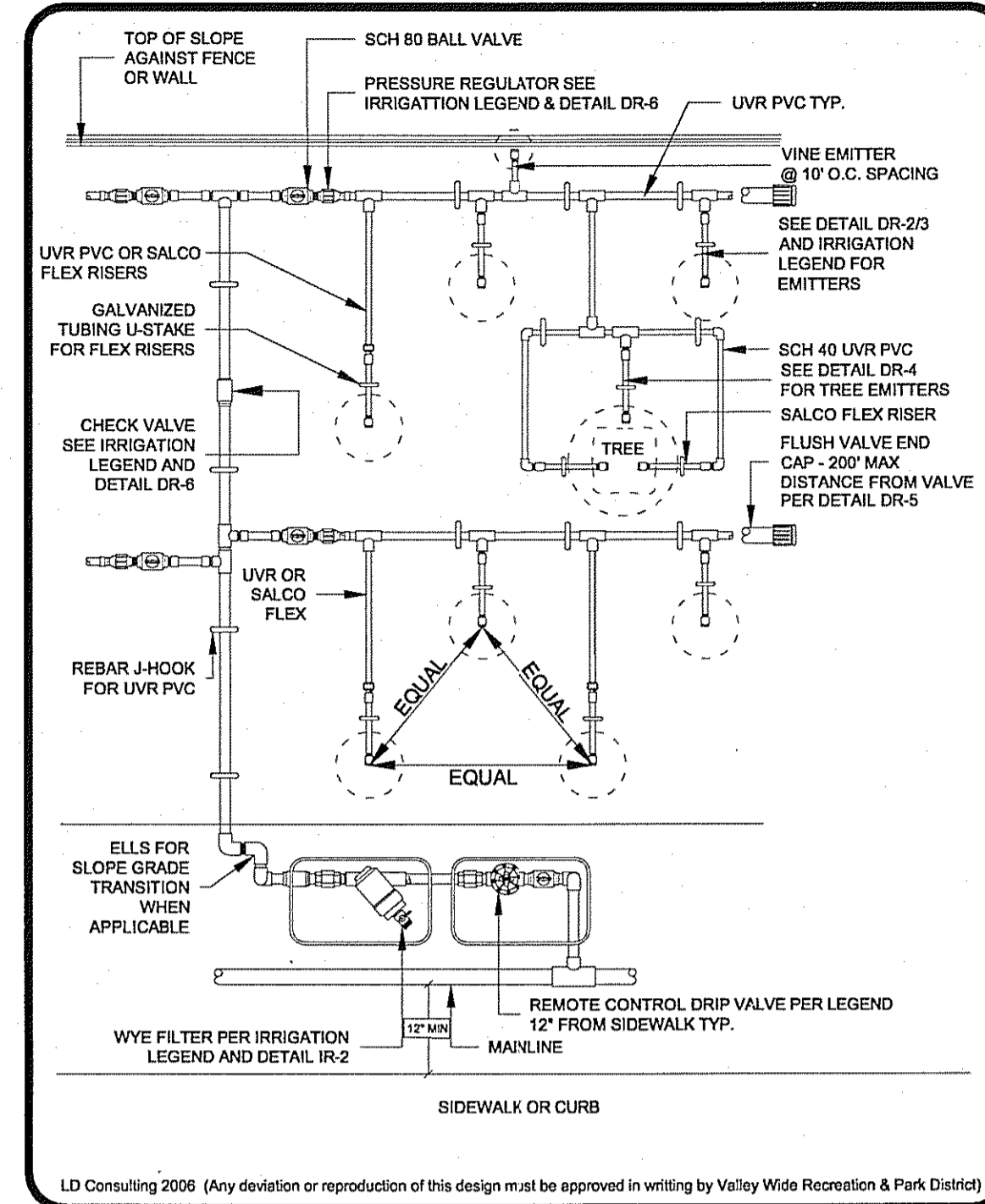
VALLEY WIDE RECREATION & PARK DISTRICT  
Samuel W. Goepf 11-09-06 Date: \_\_\_\_\_

SHEET ID. **D-3**  
REV. PLOT DATE 11-07-06  
SHEET NO. **5**  
OF 13 SHTS.

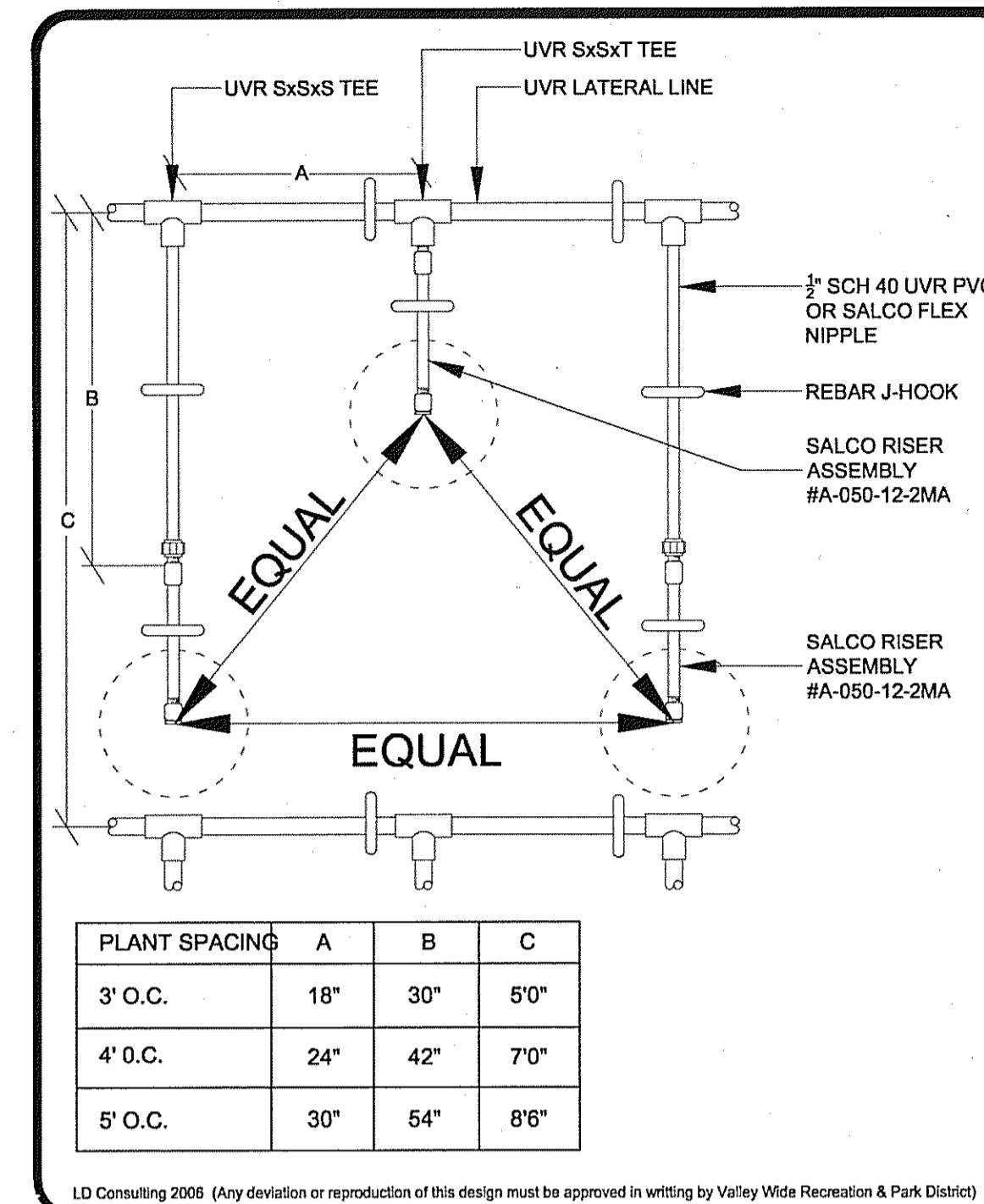




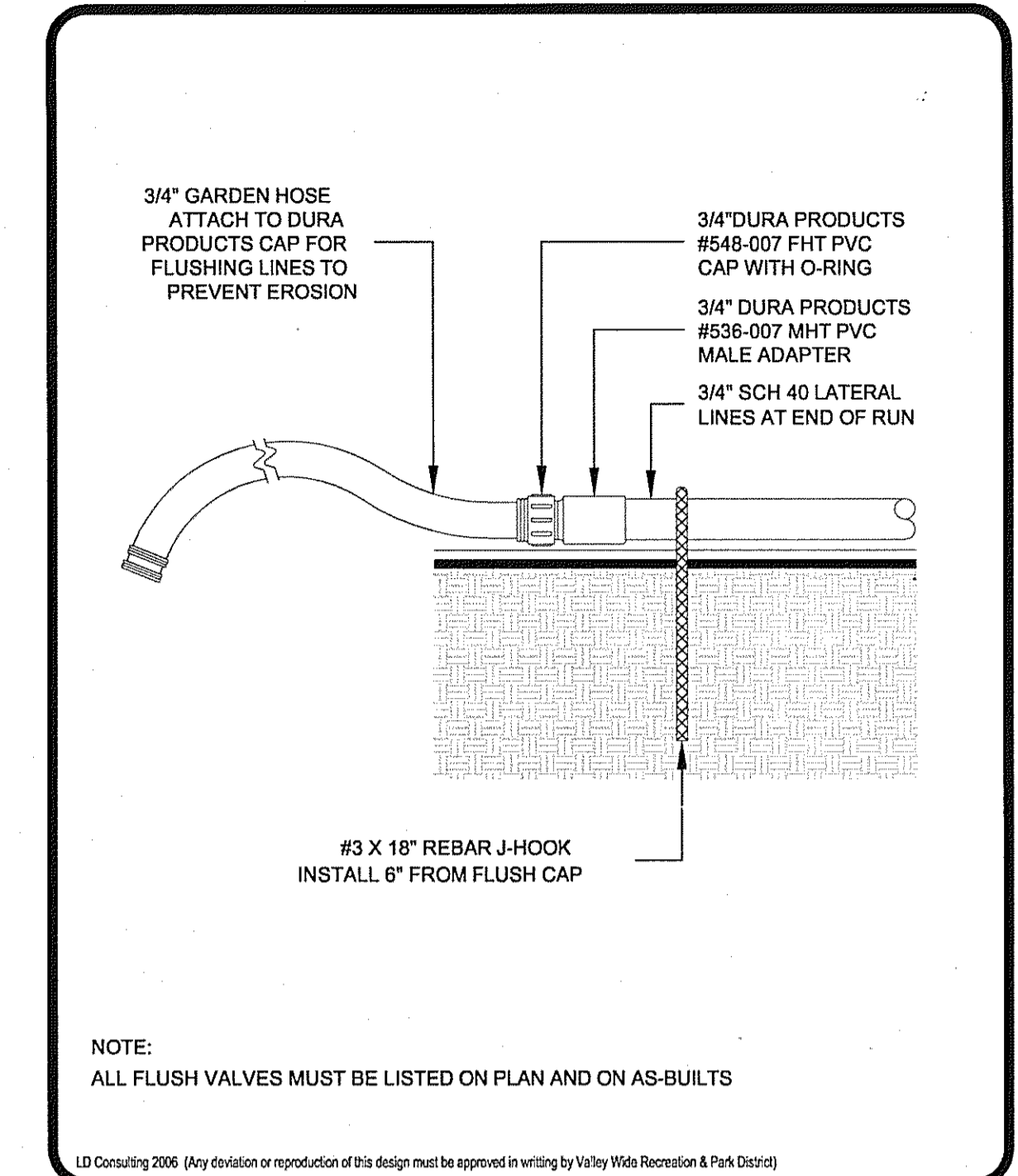




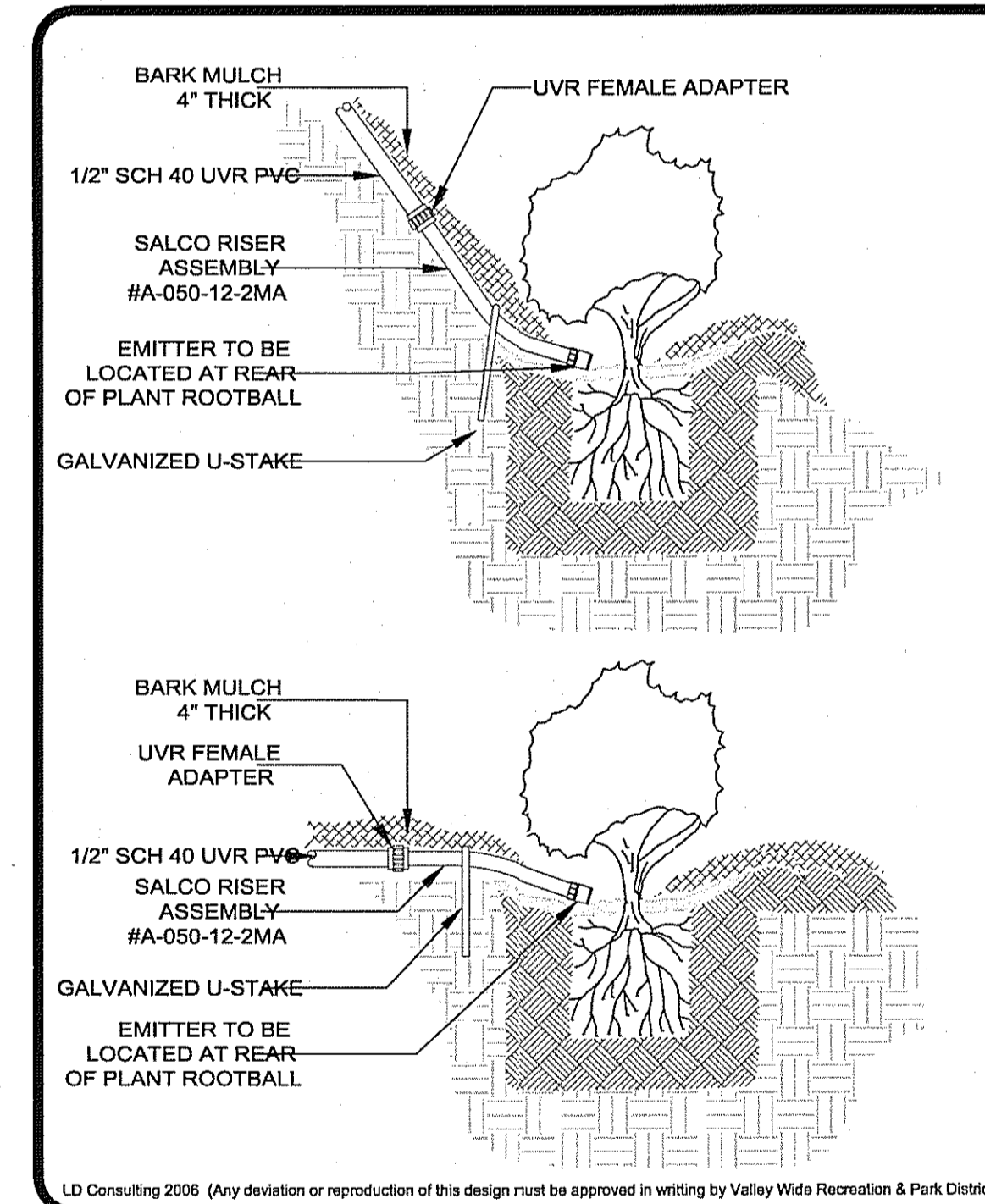
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01/06  
POINT TO POINT LAYOUT DR-1



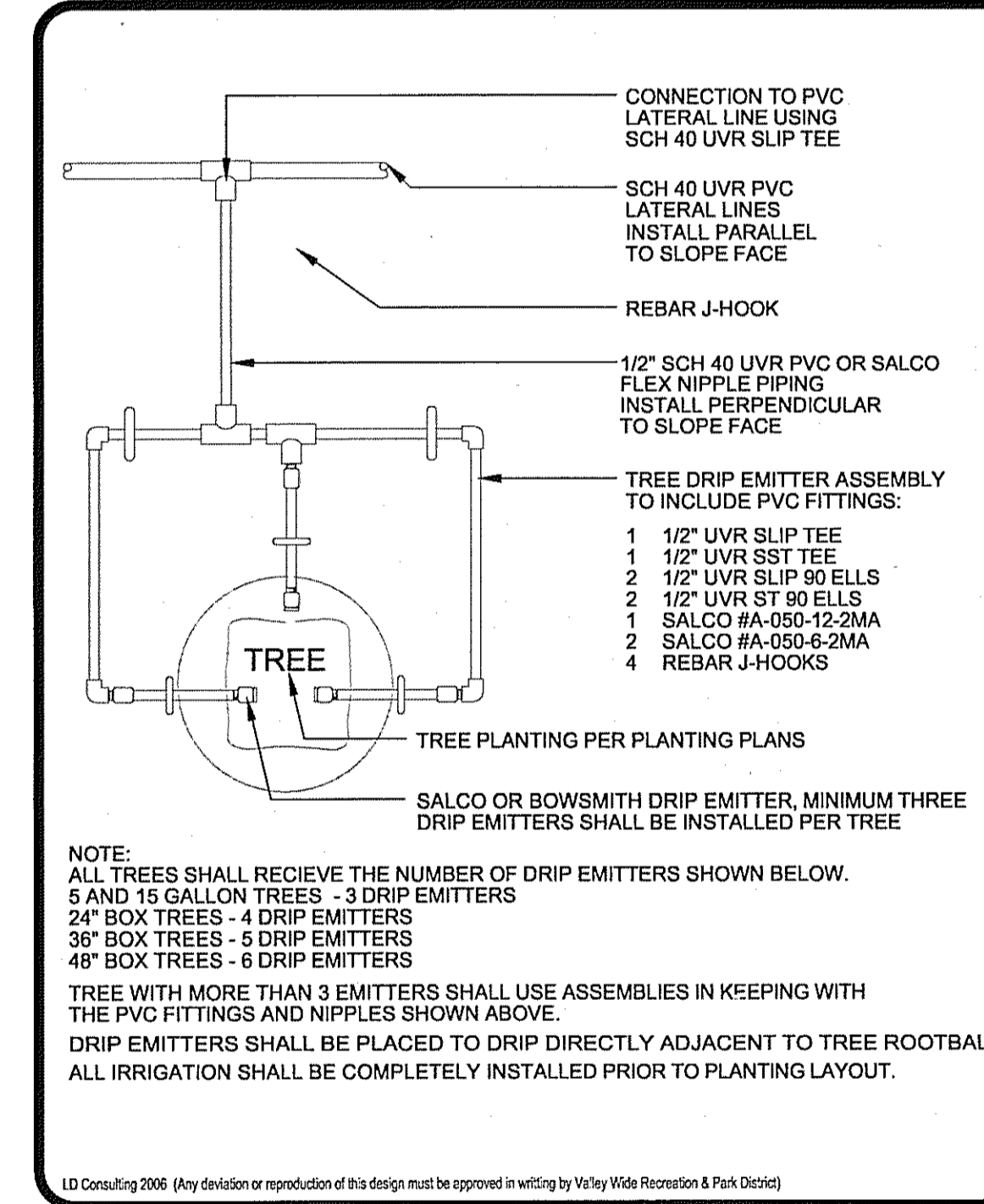
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01/06  
EMITTER ASSEMBLY DR-3



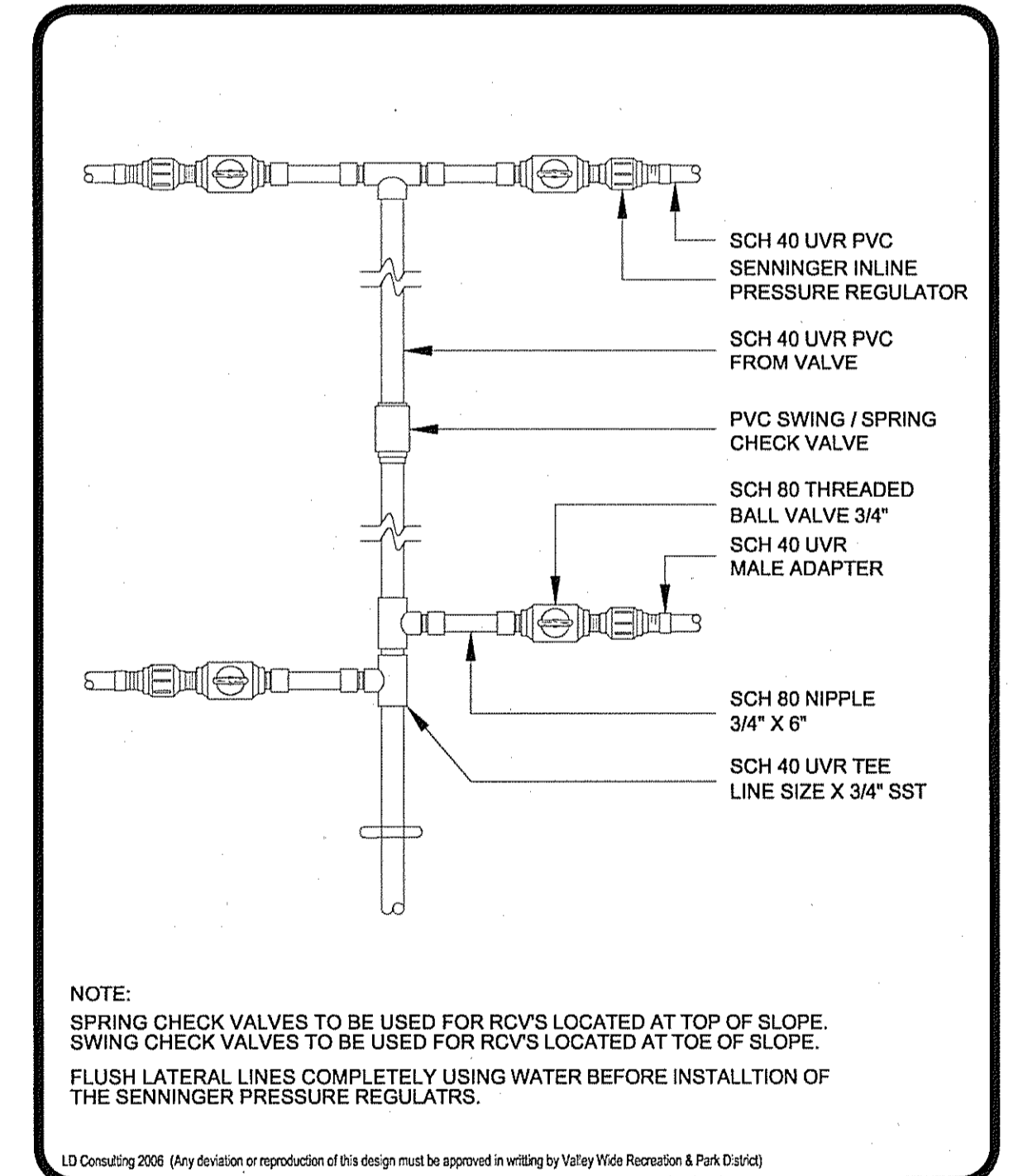
VALLEY WIDE RECREATION  
01/06  
DRIP FLUSH ASSEMBLY DR-5



VALLEY WIDE RECREATION  
01/06  
SHRUB EMITTER DR-2



VALLEY WIDE RECREATION  
01/06  
TREE EMITTER LAYOUT DR-4



VALLEY WIDE RECREATION  
01/06  
CHECK VALVE & PR. DR-6

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TWO WORKING DAYS BEFORE YOU DIG

VALLEY WIDE RECREATION & PARK DISTRICT  
Samuel W. Goopp  
Date: 11-09-06

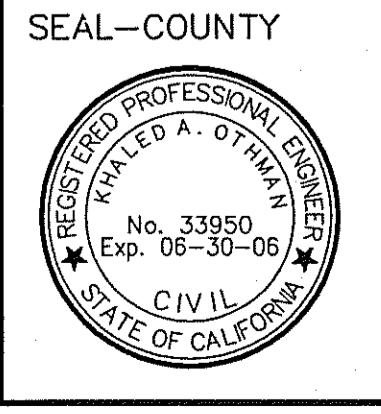
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REV. PLOT DATE 11-07-06

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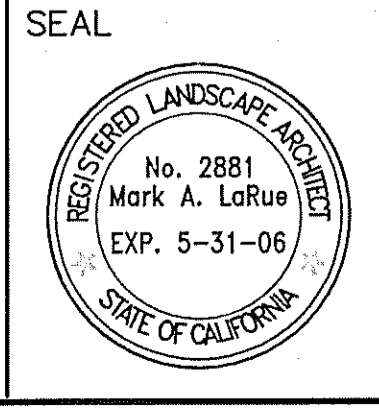
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DATE	BY	MARK	REVISIONS	APPR.	DATE



SEAL-COUNTY  
COUNTY OF RIVERSIDE  
TRANSPORTATION DEPARTMENT  
APPROVED BY:  
KHALED A. OTHMAN  
DATE: \_\_\_\_\_  
RECOMMENDED  
DATE: \_\_\_\_\_



SEAL  
PREPARED BY:  
Mark A. LoRue  
DATE: 4/7/06  
R.L.A. NO. 2881  
DATE: 4/7/06

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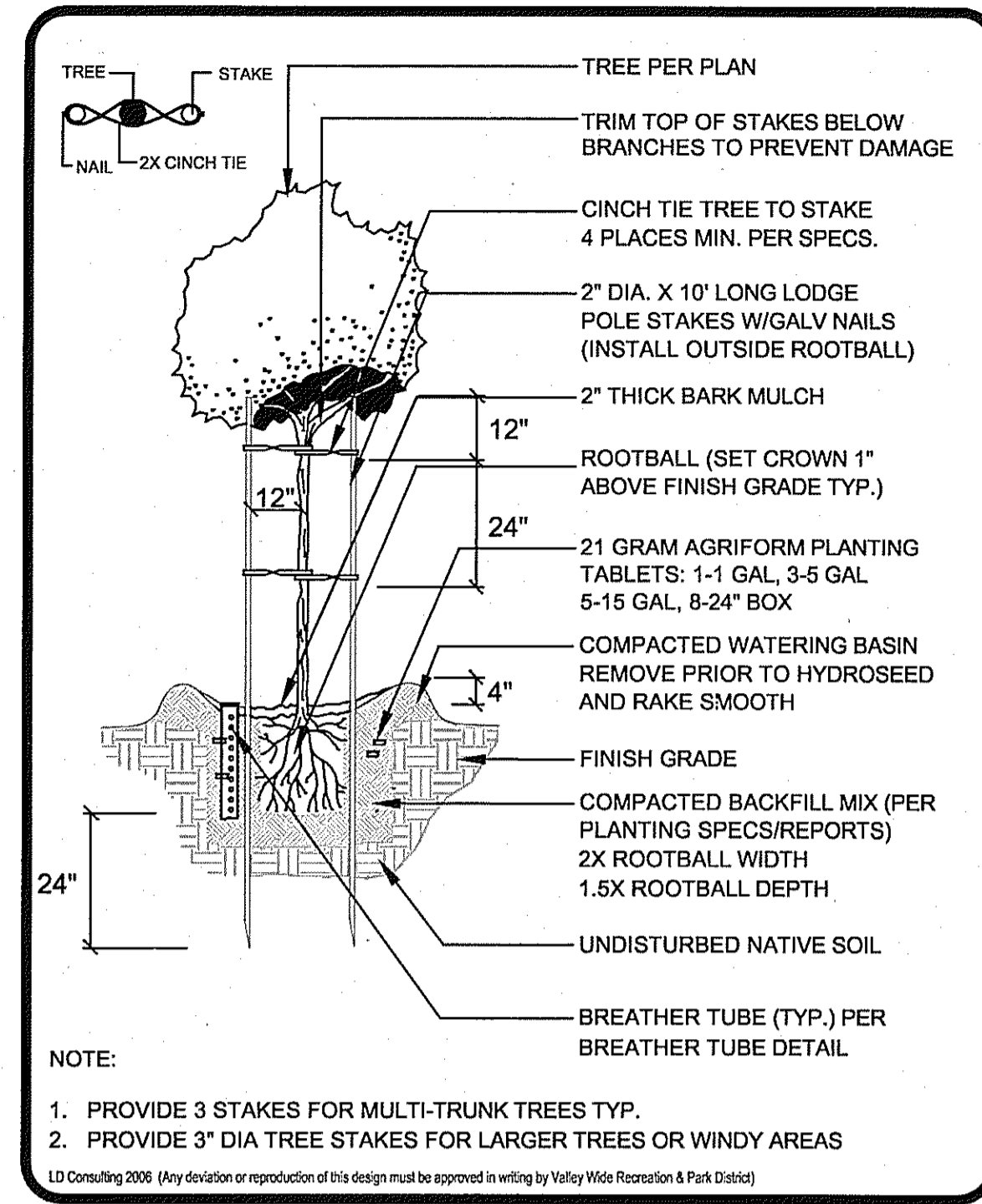
BENCHMARK DATUM  
NGVD 29 (MSL)

PROJECT BENCHMARK  
BM 600 29 (DX1713): BENCHMARK DISK SET IN TOP OF CONCRETE MONUMENT, STAMP 600-29-68 POSTED ELEVATION OF 1429.27 FEET NGVD 29.

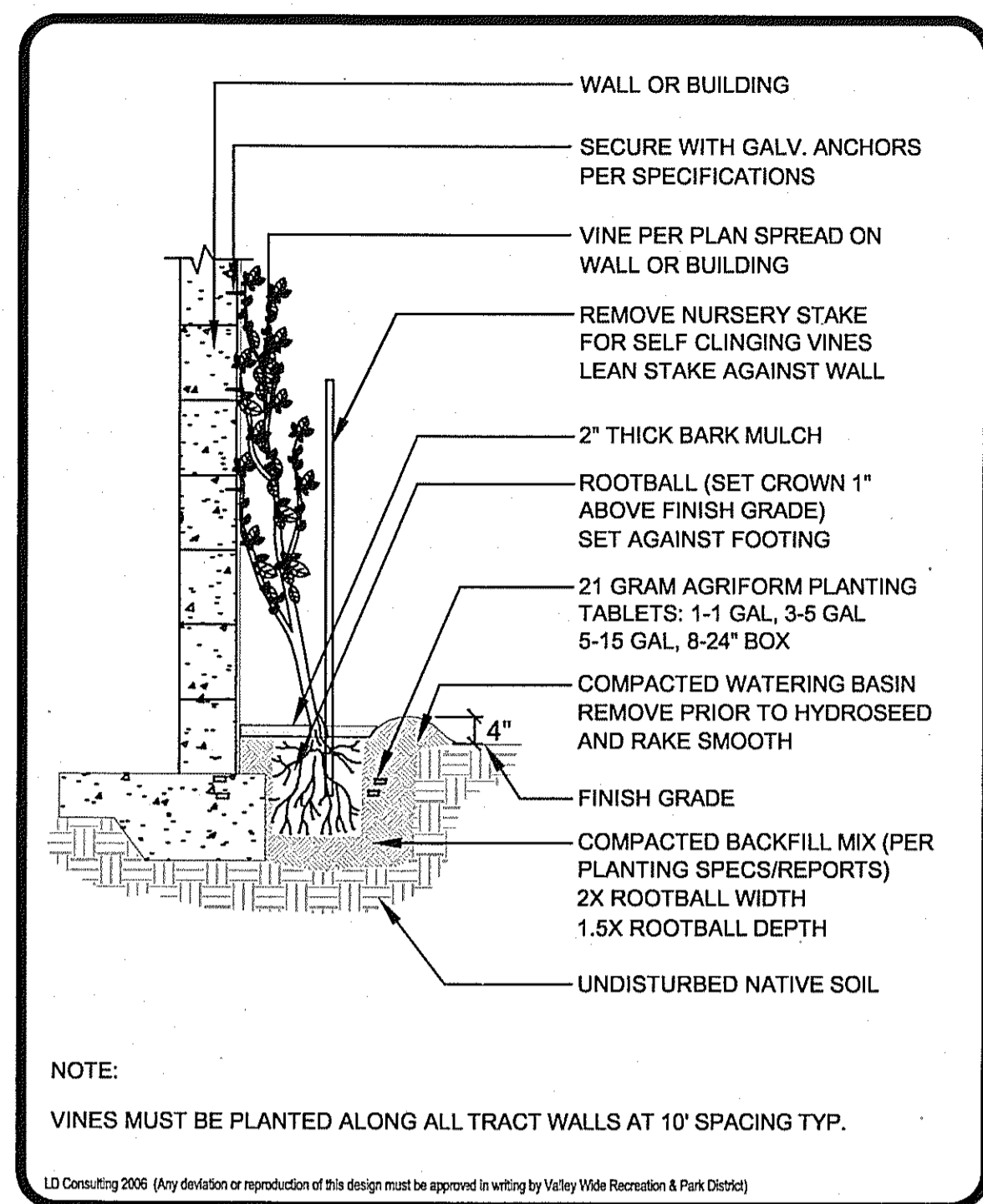
COUNTY OF RIVERSIDE  
LANDSCAPE CONSTRUCTION PLANS FOR  
TRACT NO. 31629  
IRRIGATION DETAILS

SHEET NO. 7  
OF 13 SHTS.

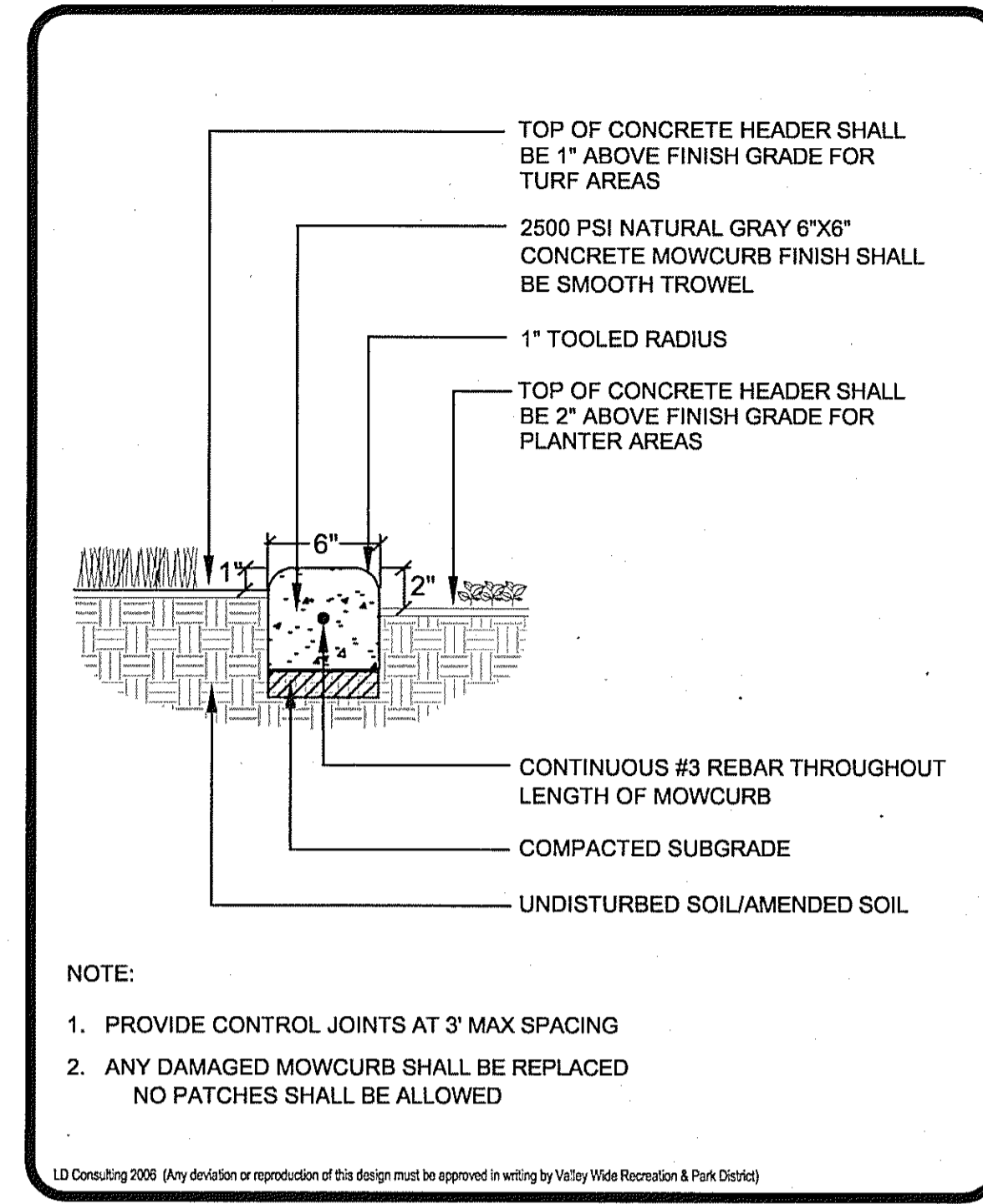




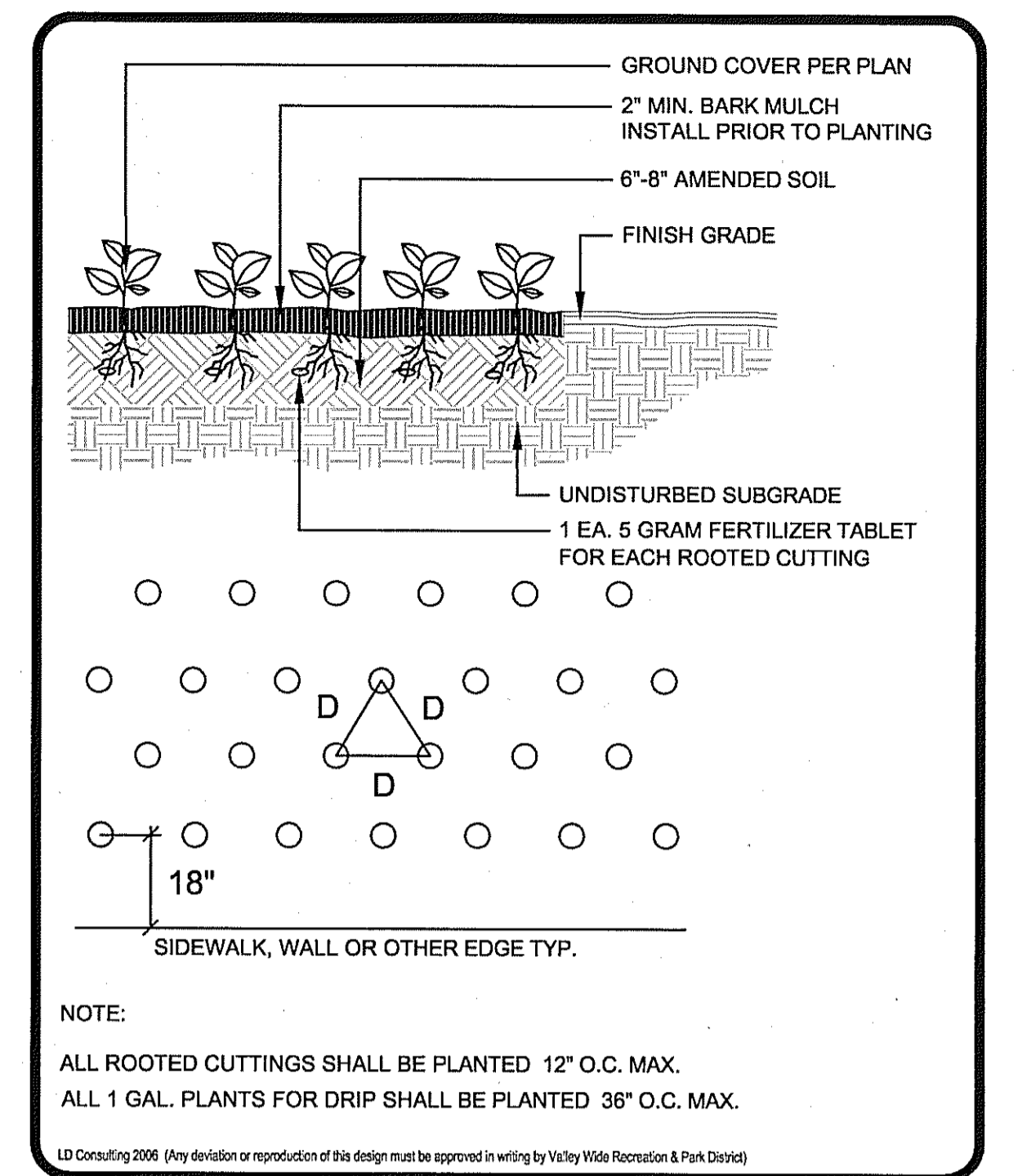
01/06 VALLEY WIDE RECREATION TREE PLANTING PL-3



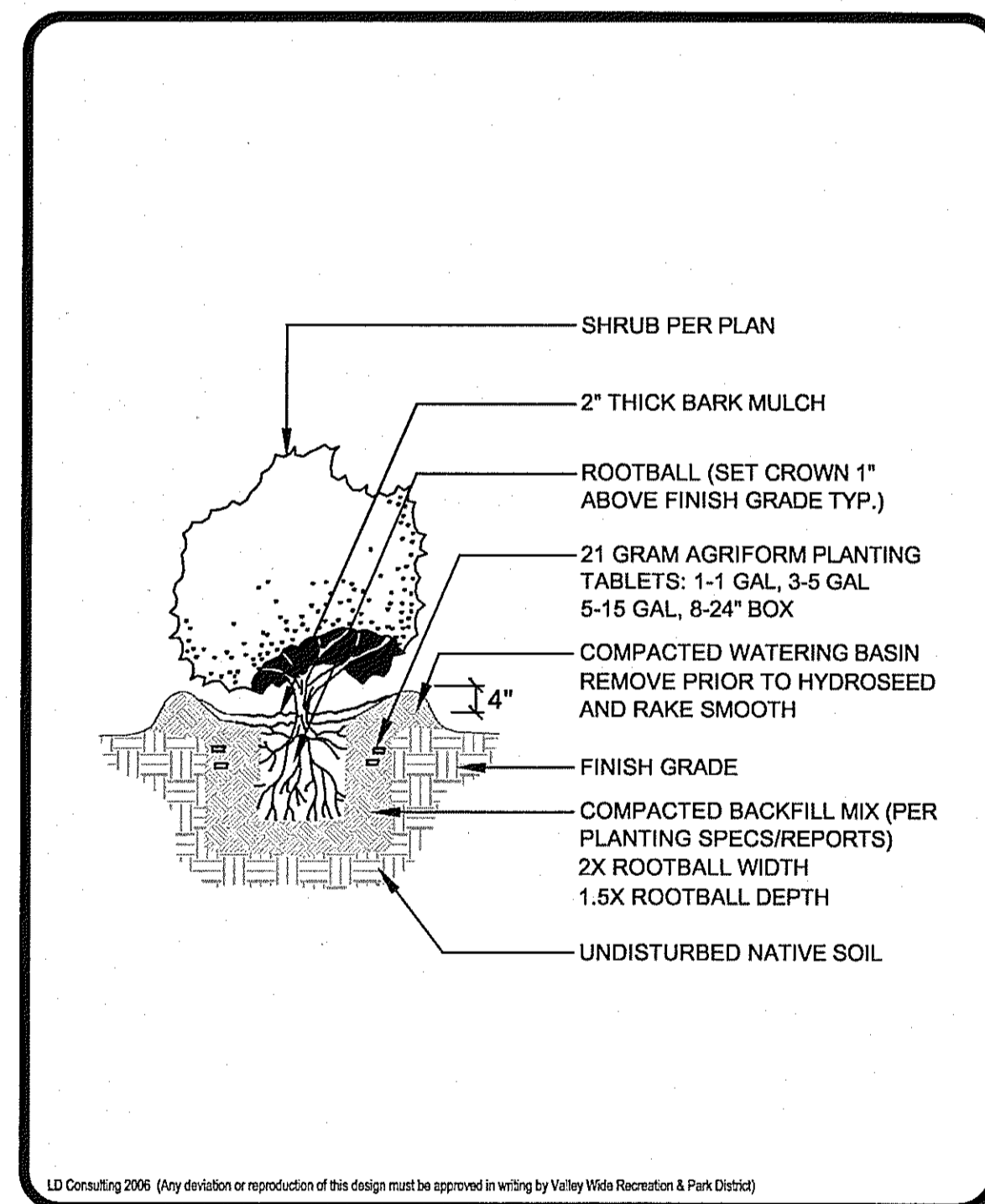
01/06 VALLEY WIDE RECREATION VINE PLANTING PL-6



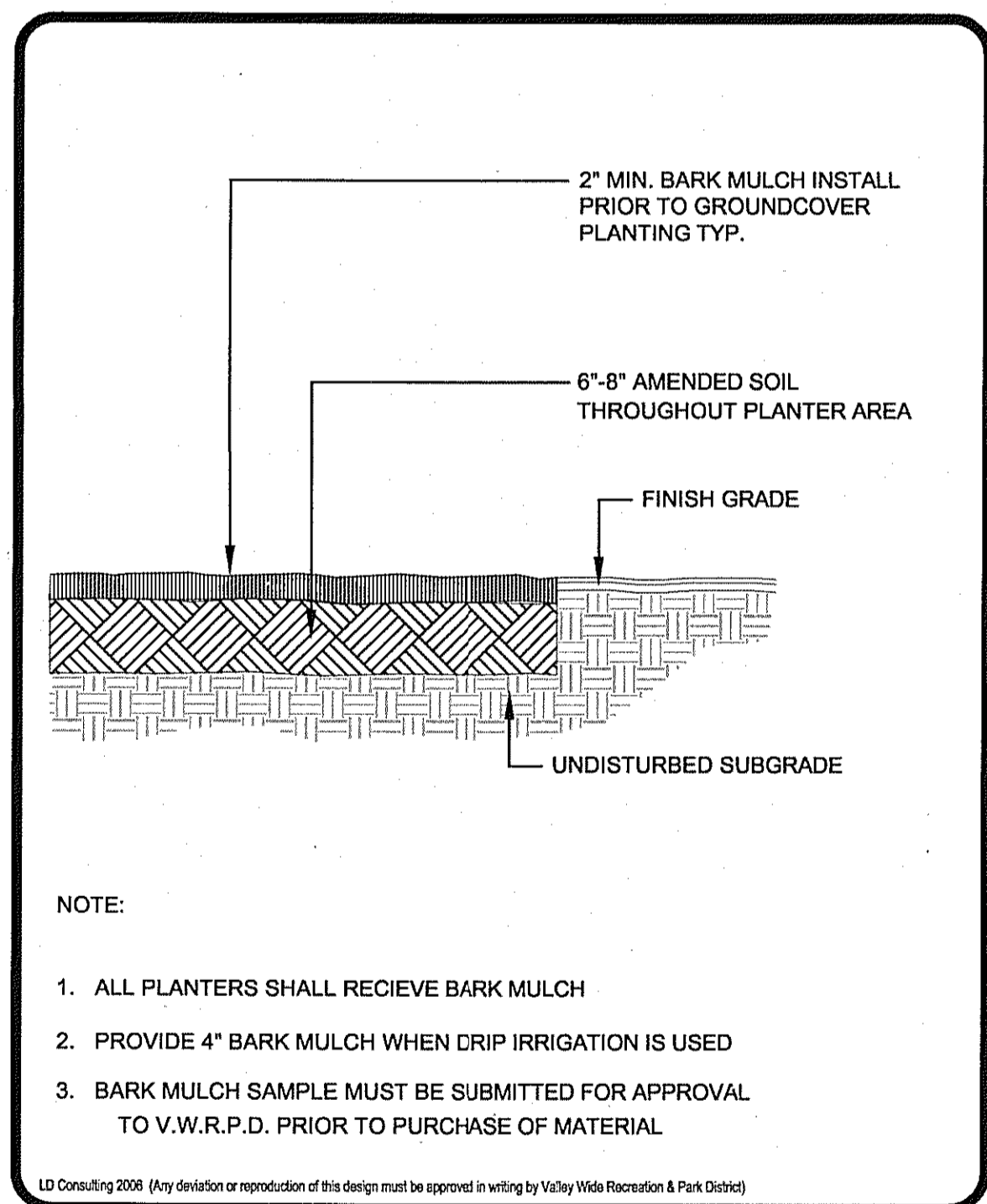
01/06 VALLEY WIDE RECREATION CONCRETE MOWCURB PL-8



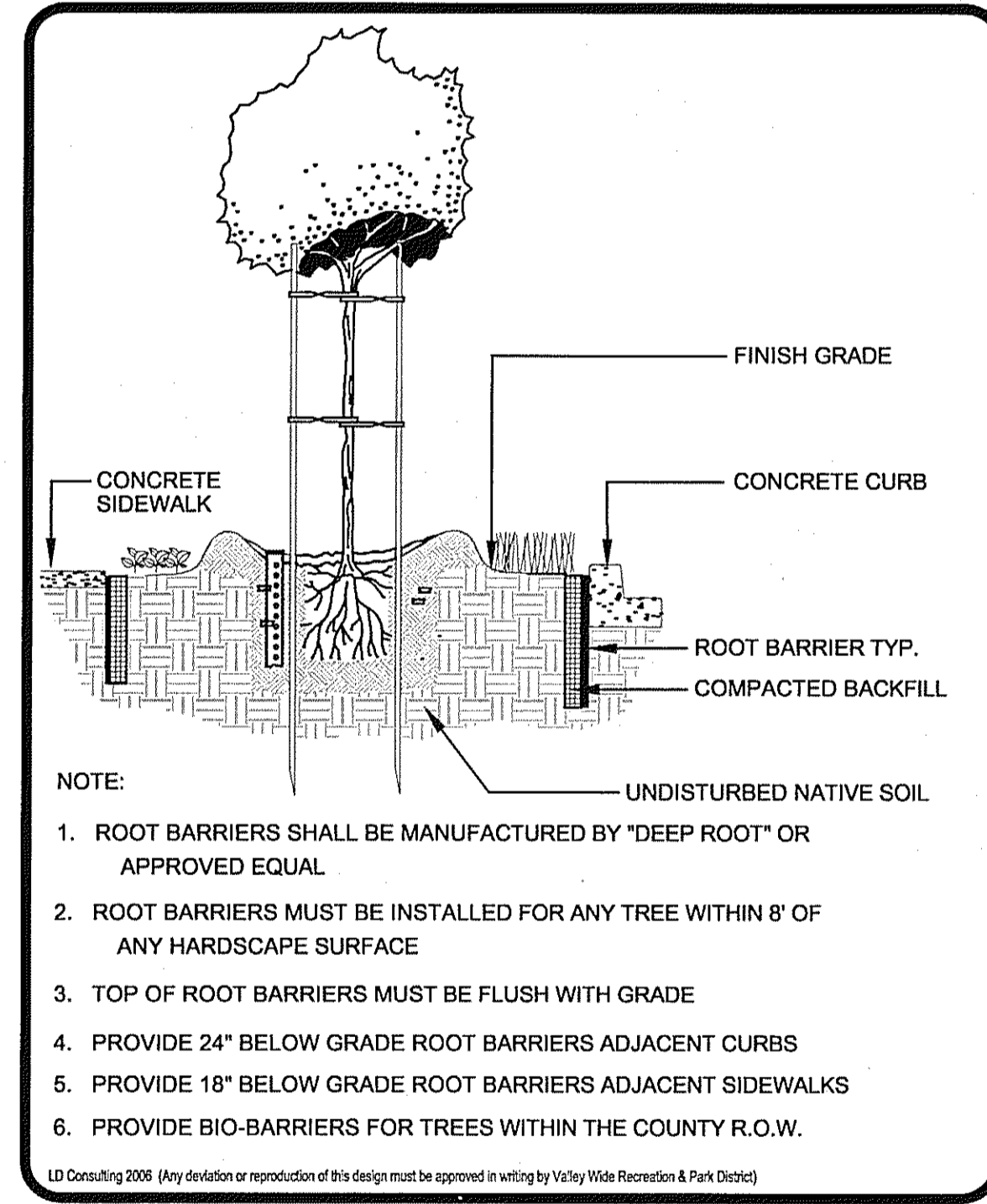
01/06 VALLEY WIDE RECREATION GROUND COVER PLANTING PL-10



01/06 VALLEY WIDE RECREATION SHRUB PLANTING PL-5



01/06 VALLEY WIDE RECREATION BARK MULCH PL-7

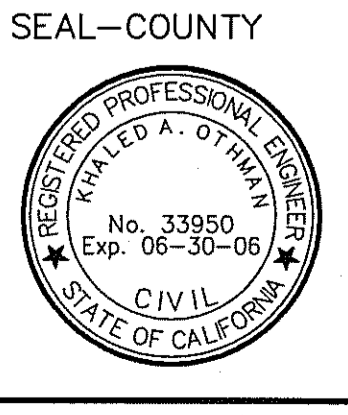


01/06 VALLEY WIDE RECREATION ROOT BARRIER PL-9

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DATE	BY	MARK	REVISIONS	APPR.	DATE
ENGINEER				COUNTY	



COUNTY OF RIVERSIDE  
TRANSPORTATION DEPARTMENT  
APPROVED BY:  
KHALED A. OTHMAN DATE: \_\_\_\_\_



PREPARED BY:  
Mark A. LaRue DATE: 11/7/06  
R.L.A. NO. 2881

Stantec Consulting, Inc.  
277 Rancheros Drive Suite 300  
San Marcos, CA 92069  
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COUNTY OF RIVERSIDE  
LANDSCAPE CONSTRUCTION PLANS FOR  
TRACT NO. 31629  
PLANTING DETAILS

SHEET ID. D-6  
REV. PLOT DATE 11-07-06  
SHEET NO. 8  
OF 13 SHTS.

**HOLD HARMLESS & INDEMNIFICATION CLAUSE**  
CONTRACTOR AGREES TO ASSUME SOLE 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/DEVELOPER, THE COUNTY OF LOCAL JURISDICTION AND THE LANDSCAPE DESIGNER HARMLESS FROM ANY AND ALL LIABILITY REAL OR ALLEGED, IN CONNECTION WITH THE PERFORMANCE OF WORK ON THIS PROJECT, EXCEPTING FOR LIABILITY ARISING FROM SOLE NEGLIGENCE OF THE OWNER/DEVELOPER, COUNTY OF LOCAL JURISDICTION AND THE LANDSCAPE DESIGNER.

Underground Service Alert CALL: TOLL FREE TWO WORKING DAYS BEFORE YOU DIG

VALLEY WIDE RECREATION & PARK DISTRICT  
Samuel W. Goepf Date: 11-09-06

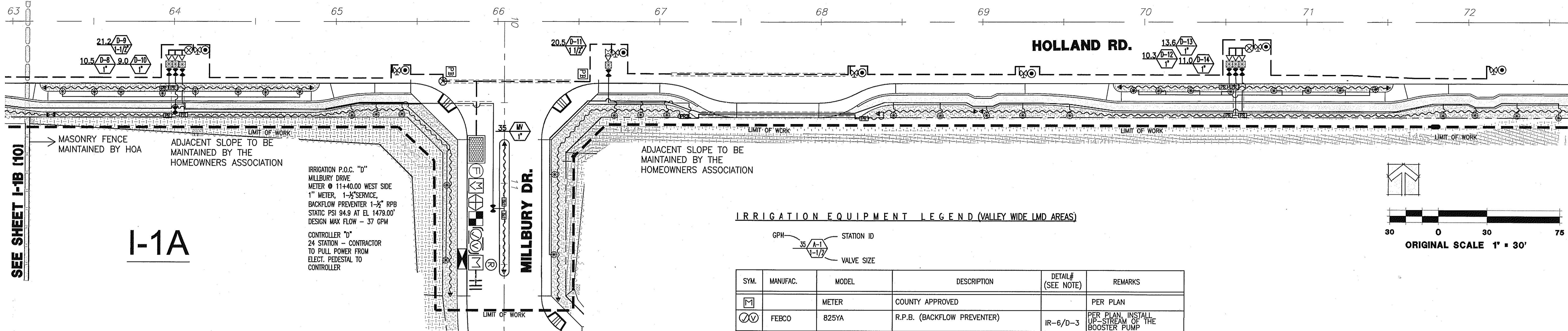
Printed On 11/7/2006 Approved Construction Plans

BGR









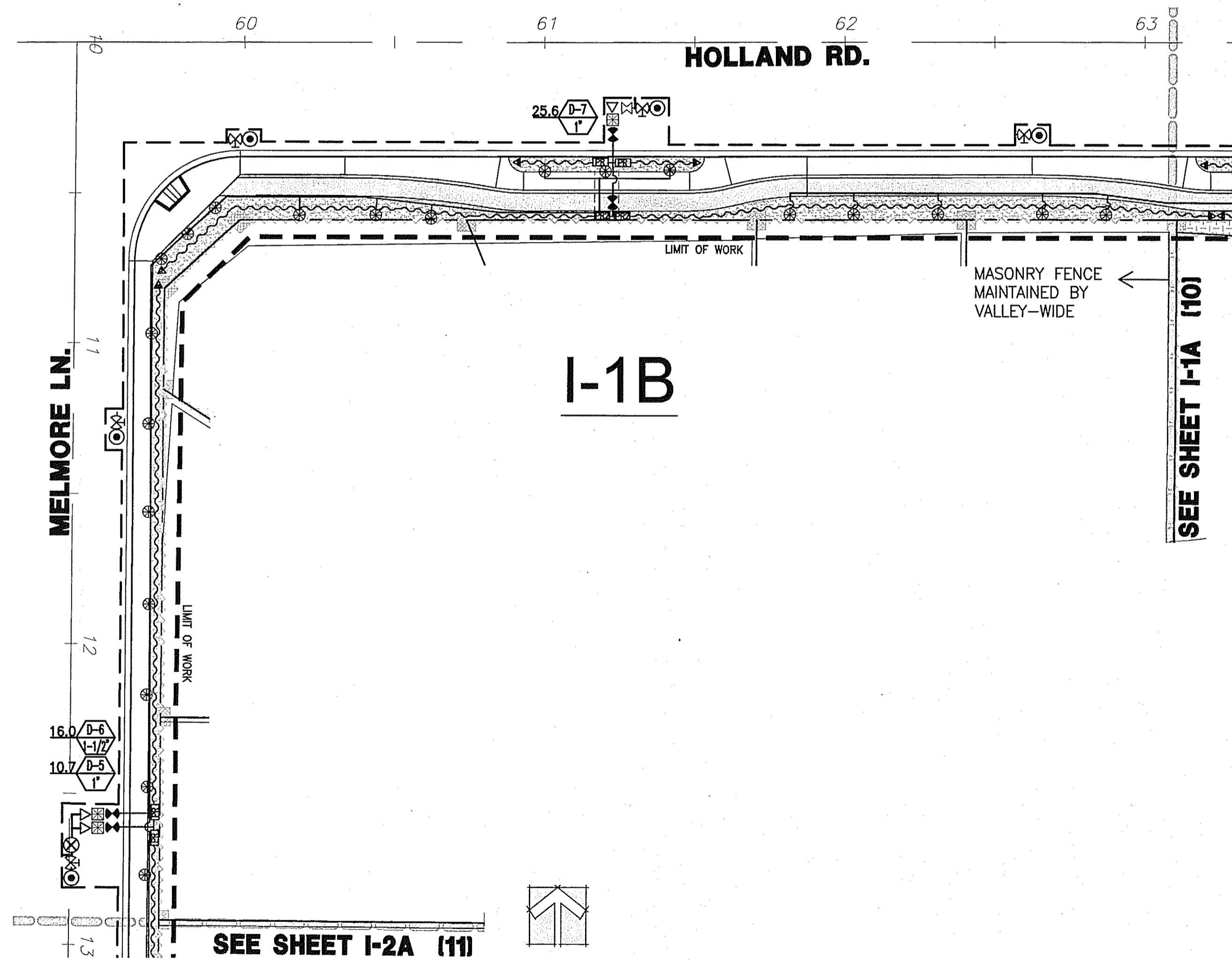
I-1A

IRRIGATION P.O.C. "D"  
MILLBURY DRIVE  
METER Ø 11440.00 WEST SIDE  
1" METER, 1-1/2" SERVICE,  
BACKFLOW PREVENTER 1-1/2" RPB  
STATIC PSI 94.9 AT EL. 1479.00'  
DESIGN MAX FLOW - 37 GPM  
  
CONTROLLER "D"  
24 STATION - CONTRACTOR  
TO PULL POWER FROM  
ELECT. PEDESTAL TO  
CONTROLLER

IRRIGATION EQUIPMENT LEGEND (VALLEY WIDE LMD AREAS)

SYM.	MANUFAC.	MODEL	DESCRIPTION	DETAIL # (SEE NOTE)	REMARKS	
[M]		METER	COUNTY APPROVED		PER PLAN	
[FB]	FEBCO	825YA	R.P.B. (BACKFLOW PREVENTER)	IR-6/D-3	PER PLAN, INSTALL UP-STREAM OF THE BOOSTER PUMP	
[W]	WILKINS	500-HLR/100YSBR	PRESSURE REDUCER/WYE STRAINER		INSTALL ON R.P.B. ASSEMBLY	
[C]	CALSENSE	FM-1B-1"	PVC FLOW SENSOR	IR-21/D-4	1"	
[T]	TORO	P220	MASTER CONTROL VALVE W/ UNION	IR-21/D-4	1"	
[R]	WCS	RAINGUARD	RAIN SHUT-OFF SWITCH, LOCATE ON CONTROLLER IN VANDAL RESISTANT ENCLOSURE			
[PR]	SENNINGER	PR-LF	INLINE PRESSURE REGULATOR	DR-6/D-5		
[PR]	SENNINGER	PR-MF	INLINE PRESSURE REGULATOR	DR-6/D-5		
[F]	AMIAID	2" T (122)	T-FILTER WITH RAINBIRD PESB ELECTRIC VALVE FOR AUTO FLUSH	IR-8/D-3	UPSIZE FROM LINE SIZE	
[F]	AMIAID	#1-1201	WYE STRAINER W/DISK FILTER	IR-2/D-3		
[P]	PLANTS CHOICE	F4000	FERTIGATION SYSTEM #DI-BPM-F-JVB-TE-15NT-SH		PER MFG	
[S]	STRONGBOX	SBBC-SS	SOLID ENCLOSURE FOR R.P.B.		PER MFG	
[C]	CALSENSE	ET2000e-XX-LR-RRE-SSER with RRETRAN	PEDESTAL MOUNT IRR. CONTROLLER	IR-23 & 24/D-4	LOCATE IN STRONG BOX SB-18-SS	
[V]	DURA	ST8-010	SCH. 80 TRUE UNION BALL VALVE	IR-2 & 3/D-3	LINE SIZE	
[V]	DURA	S1-010G	SCH. 80 SLIP BALL VALVE	IR-3/D-3	LINE SIZE	
[V]	KING BROTHERS	KCC-X-S	PVC CHECK VALVE (SPRING)	IR-2/D-3	LINE SIZE	
[V]	KING BROTHERS	KSCC-X-S	PVC CHECK VALVE (SWING)	DR-6/D-5	LINE SIZE	
[V]	NIBCO	T-580	BRASS BALL VALVE	IR-4/D-3	LINE SIZE	
[V]	NIBCO	FC-27 5-0	BUTTERFLY VALVE	IR-5/D-3	LINE SIZE	
[V]	RAINBIRD	44LRC	QUICK COUPLING VALVE	IR-3/D-3	PER PLAN	
[PB]	BROOKS	NO. 3 HL	PULL BOX	IR-10/D-3	MARKED "ELECTRIC"	
[V]	RAINBIRD	PESB-PRS-D	REMOTE CONTROL PRES. REG. VALVE	IR-2/D-3	PER PLAN	
[A]	DURA PRODUCTS	MODEL # 548-007 MODEL # 536-007	DRIP FLUSH ASSEMBLY	DR-5/D-5	LOCATE AT END OF LATERAL LINES OF DRIP SYSTEMS 2" (UNLESS NOTED OTHERWISE)	
[L]		SCH. 40 PVC	PRESSURE SUPPLY LINE			
[L]		SCH. 40 PVC	LATERAL LINES			
[L]		SCH. 40 UVR PVC	DRIP SYSTEM LATERAL LINE	DR-1/D-5	SEE NOTE 12	
[L]		SCH. 40 PVC	PVC SLEEVE UNDER PAVING, SCHEMATIC	IR-28/D-4	2X LINE SIZE	
[P.C.]			POINT OF CONNECTION (P.O.C.) ASSOCIATION	IR-30/D-4		
[M]	MANUFAC.	MODEL	DESCRIPTION	PSI	FLOW	DETAILS AND REMARKS
[E]	SALCO PRO	#PST-4	EMITTER	10 TO 20	.067 GPM	DR-1, 2, 3, 4, & 6/D-5
[B]	RAINBIRD	RWS-BCG W/ SOCK W/ 1402	BUBBLER	20+	.5 GPM	IR-13, IR-14/D-4

FOR A COMPLETE IRRIGATION LEGEND SEE SHEET 9/D-7



I-1B



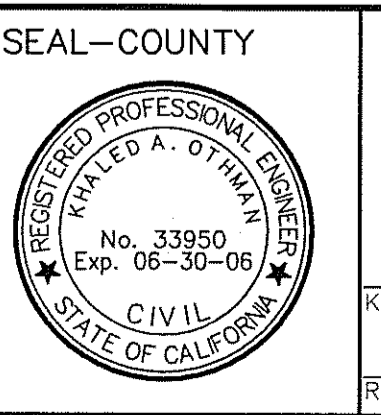
MAP KEY  
NTS

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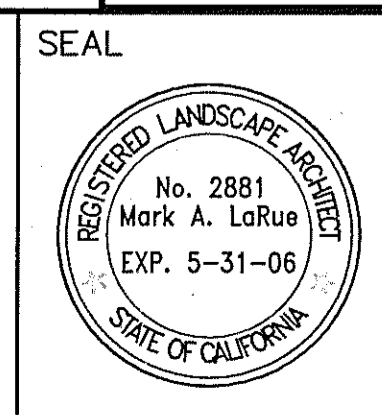
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DATE	BY	MARK	REVISIONS	APPR.	DATE



COUNTY OF RIVERSIDE  
TRANSPORTATION DEPARTMENT  
APPROVED BY:  
  
KHALED A. OTHMAN DATE: \_\_\_\_\_  
RECOMMENDED DATE: \_\_\_\_\_



Stantec Consulting, Inc.  
277 Rancheros Drive Suite 300  
San Marcos, CA 92069  
  
Tel. (760) 891-3200  
Fax. (760) 891-3201  
www.stantec.com  
  
PREPARED BY: *Mark A. LaRue*  
R.L.A. NO. 2881  
DATE: 4/7/06

BENCHMARK DATUM  
NGVD 29 (MSL)  
  
PROJECT BENCHMARK  
BM 600 29 (DX1713): BENCHMARK DISK SET IN TOP OF CONCRETE MONUMENT, STAMP 600-29-68 POSTED ELEVATION OF 1429.27 FEET NGVD 29.  
  
SCALE: \_\_\_\_\_ HOR: \_\_\_\_\_ VERT: \_\_\_\_\_

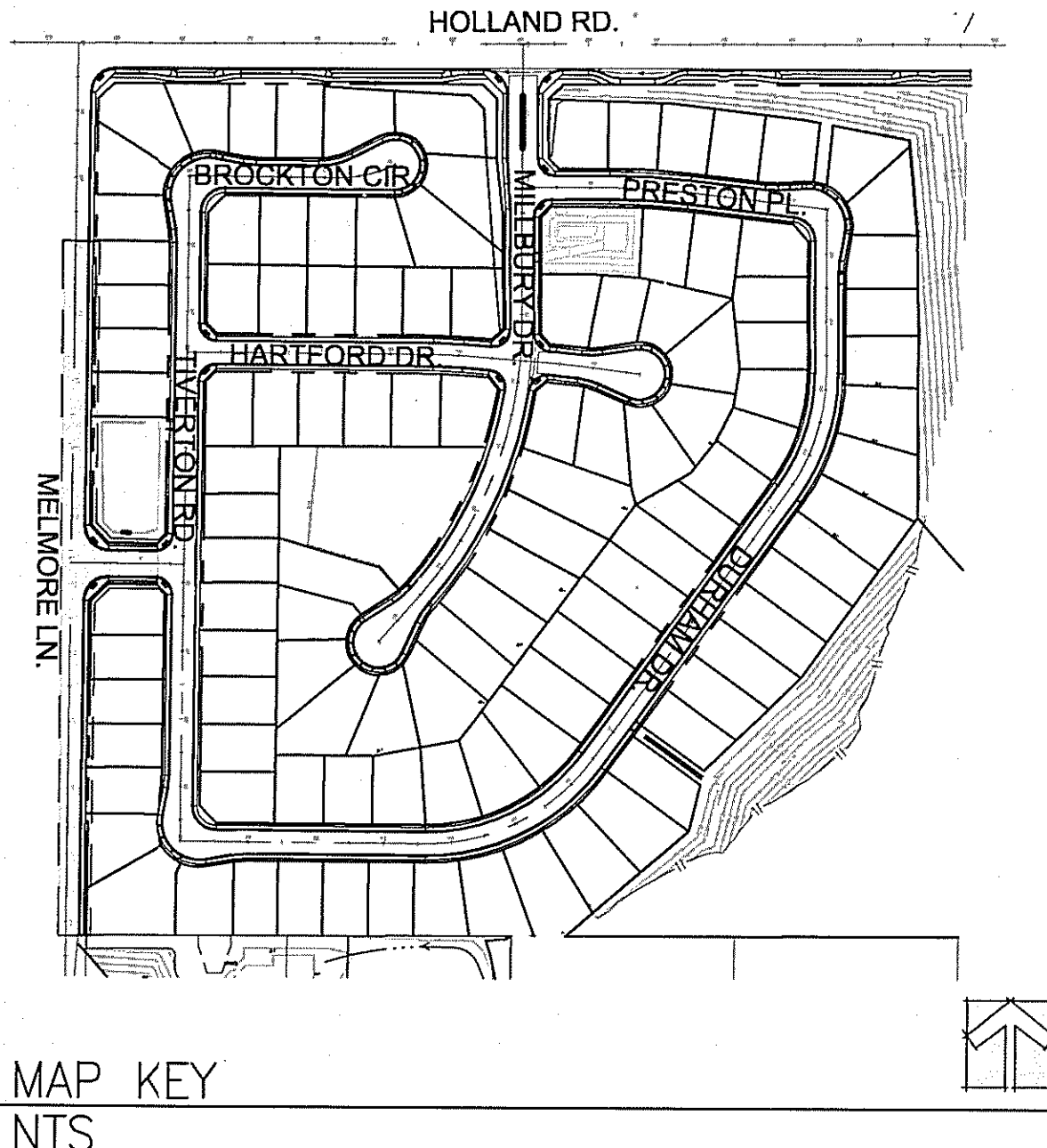
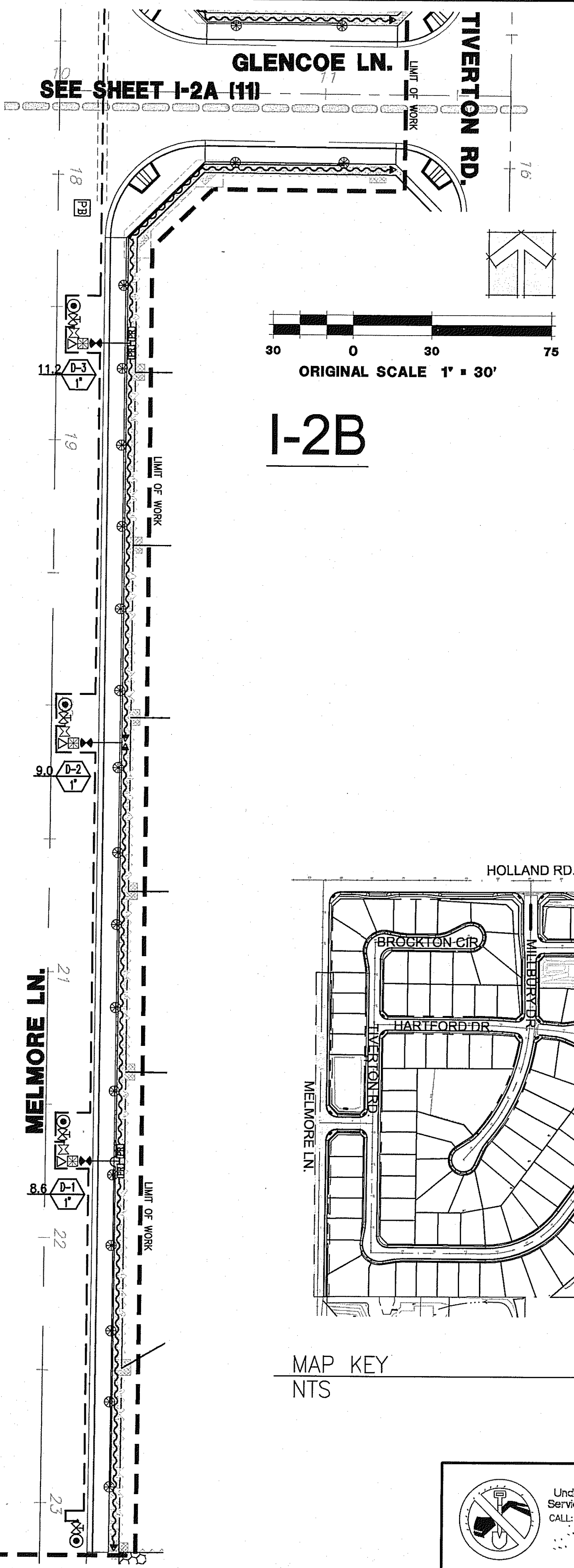
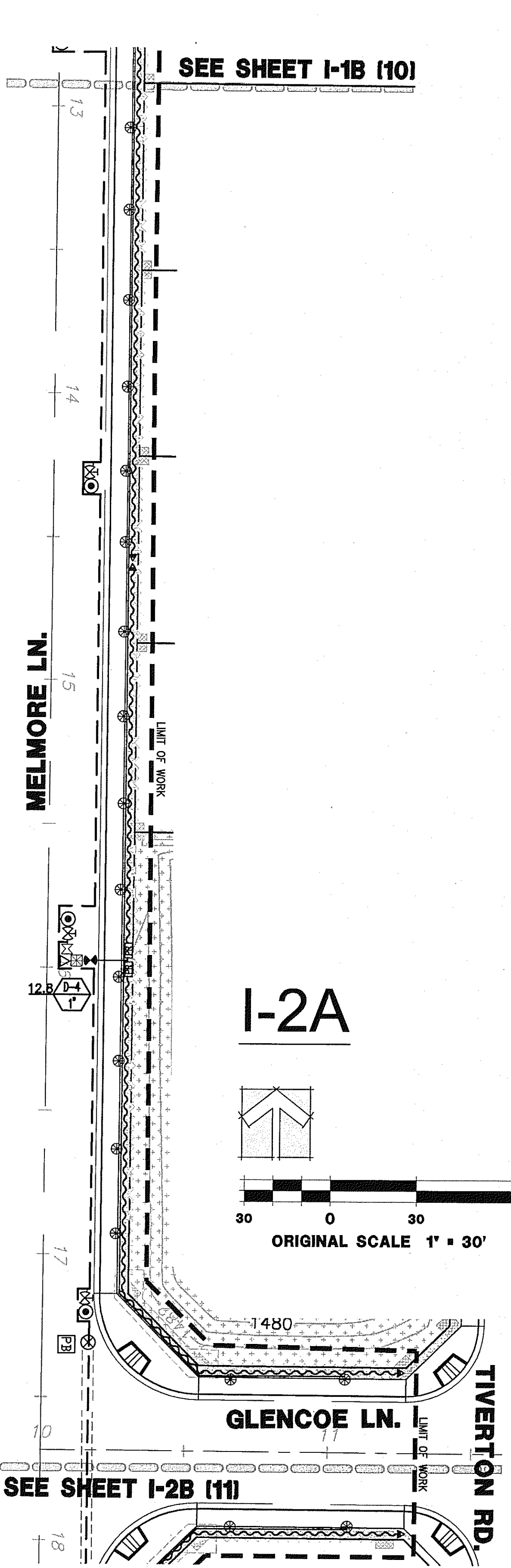
COUNTY OF RIVERSIDE  
LANDSCAPE CONSTRUCTION PLANS FOR  
TRACT NO. 31629  
IRRIGATION PLAN  
  
FOR: \_\_\_\_\_ W.O. \_\_\_\_\_ COUNTY FILE NO. \_\_\_\_\_

SHEET ID.  
**I-1**  
REV. PLOT DATE  
11-06-06  
  
SHEET NO.  
**10**  
OF 13 SHTS.

BGR

Printed On 11/7/2006 Approved Construction Plans





IRRIGATION EQUIPMENT LEGEND (VALLEY WIDE LMD AREAS)

SYM.	MANUFAC.	MODEL	DESCRIPTION	DETAIL# (SEE NOTE)	REMARKS	
M		METER	COUNTY APPROVED		PER PLAN	
∞	FEBCO	B25YA	R.P.B. (BACKFLOW PREVENTER)	IR-6/D-3	PER PLAN. INSTALL UP-STREAM OF THE BOOSTER PUMP	
⊕	WILKINS	500-HLR/100YSBR	PRESSURE REDUCER/WYE STRAINER		INSTALL ON R.P.B. ASSEMBLY	
⊖	CALSENSE	FM-1B-1"	PVC FLOW SENSOR	IR-21/D-4	1"	
⊕	TORO	P220	MASTER CONTROL VALVE W/ UNION	IR-21/D-4	1"	
⊖	WCS	RAINGUARD	RAIN SHUT-OFF SWITCH, LOCATE ON CONTROLLER IN VANDAL RESISTANT ENCLOSURE			
PR-LF	SENNINGER	PR-LF	INLINE PRESSURE REGULATOR	DR-6/D-5		
PR-MF	SENNINGER	PR-MF	INLINE PRESSURE REGULATOR	DR-6/D-5		
T	AMIA	2" T (122)	T-FILTER WITH RAINBIRD PESB ELECTRIC VALVE FOR AUTO FLUSH	IR-8/D-3	UPSIZE FROM LINE SIZE	
W	AMIA	#1-1201	WYE STRAINER W/DISK FILTER	IR-2/D-3		
F	PLANTS CHOICE	F4000	FERTIGATION SYSTEM		PER MFG	
DI	STRONGBOX	SBBC-SS	SOLID ENCLOSURE FOR R.P.B.		PER MFG	
ET	CALSENSE	ET20006-XX-IR-RRe-SSER with RRTRAN	PEDESTAL MOUNT IRR. CONTROLLER	IR-23 & 24 /D-4	LOCATE IN STRONG BOX SB-18-SS	
S	DURA	S78-010	SCH. 80 TRUE UNION BALL VALVE	IR-2 & 3 /D-3	LINE SIZE	
S	DURA	S1-010G	SCH. 80 SLIP BALL VALVE	IR-3/D-3	LINE SIZE	
K	KING BROTHERS	KCC-X-S	PVC CHECK VALVE (SPRING)	IR-2/D-3 DR-6/D-5	LINE SIZE	
K	KING BROTHERS	KSCC-X-S	PVC CHECK VALVE (SWING)	IR-2/D-3 DR-6/D-5	LINE SIZE	
N	NIBCO	T-580	BRASS BALL VALVE	IR-4/D-3	LINE SIZE	
N	NIBCO	FC-27 5-0	BUTTERFLY VALVE	IR-5/D-3	LINE SIZE	
R	RAINBIRD	44LRC	QUICK COUPLING VALVE	IR-3/D-3	PER PLAN	
B	BROOKS	NO. 3 HL	PULL BOX	IR-10/D-3	MARKED "ELECTRIC"	
R	RAINBIRD	PESB-PRS-D	REMOTE CONTROL PRES. REG. VALVE	IR-2/D-3	PER PLAN	
D	DURA PRODUCTS	MODEL # 548-007 MODEL # 536-007	DRIP FLUSH ASSEMBLY	DR-5/D-5	LOCATE AT END OF LATERAL LINES OF DRIP SYSTEMS	
S		SCH 40 PVC	PRESSURE SUPPLY LINE		2" (UNLESS NOTED OTHERWISE)	
S		SCH. 40 PVC	LATERAL LINES			
S		SCH. 40 UVR PVC	DRIP SYSTEM LATERAL LINE	DR-1/D-5	SEE NOTE 12	
S		SCH 40 PVC	PVC SLEEVE UNDER PAVING, SCHEMATIC	IR-28/D-4	2X LINE SIZE	
P			POINT OF CONNECTION (P.O.C.) ASSOCIATION	IR-30/D-4		
	MANUFAC.	MODEL	DESCRIPTION	PSI	FLOW	DETAILS AND REMARKS
NOT SHOWN	SALCO PRO	#PST-4	EMITTER	10 TO 20	.067 GPM	DR-1, 2, 3, 4, & 6/D-5
⊕	RAINBIRD	RWS-BCC W/ SOCK W/ 1402	BUBBLER	20+	.5 GPM	IR-13, IR-14/D-4

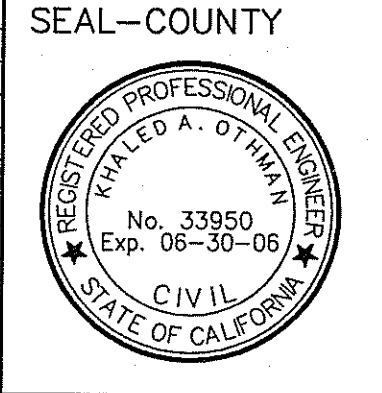
FOR A COMPLETE IRRIGATION LEGEND SEE SHEET 9/D-7

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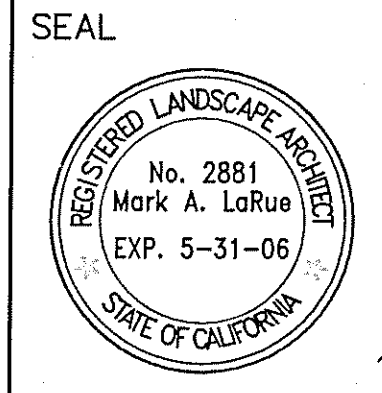
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DATE	BY	MARK	REVISIONS	APPR.	DATE



COUNTY OF RIVERSIDE  
TRANSPORTATION DEPARTMENT  
APPROVED BY:  
KHALED A. OTHMAN  
DATE:



Stantec Consulting, Inc.  
277 Rancheros Drive Suite 300  
San Marcos, CA 92069  
Tel. (760) 891-3200  
Fax. (760) 891-3201  
www.stantec.com  
PREPARED BY: Mark A. LaRue  
R.L.A. NO. 2881  
DATE: 11/7/06

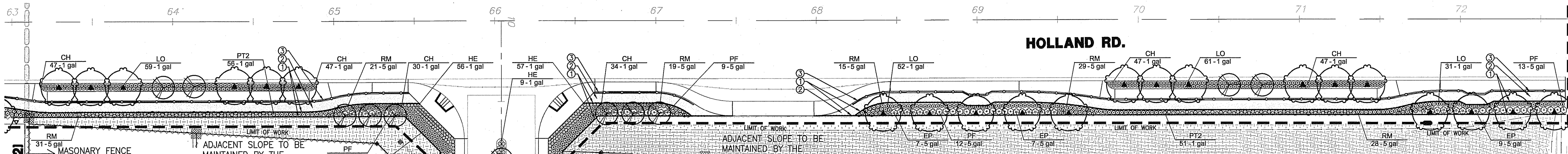
BENCHMARK DATUM  
NGVD 29 (MSL)  
PROJECT BENCHMARK  
BM 600 29 (DX1713): BENCHMARK DISK SET IN TOP OF CONCRETE MONUMENT, STAMP 600-29-68 POSTED ELEVATION OF 1429.27 FEET NGVD 29.

COUNTY OF RIVERSIDE  
LANDSCAPE CONSTRUCTION PLANS FOR  
TRACT NO. 31629  
IRRIGATION PLAN

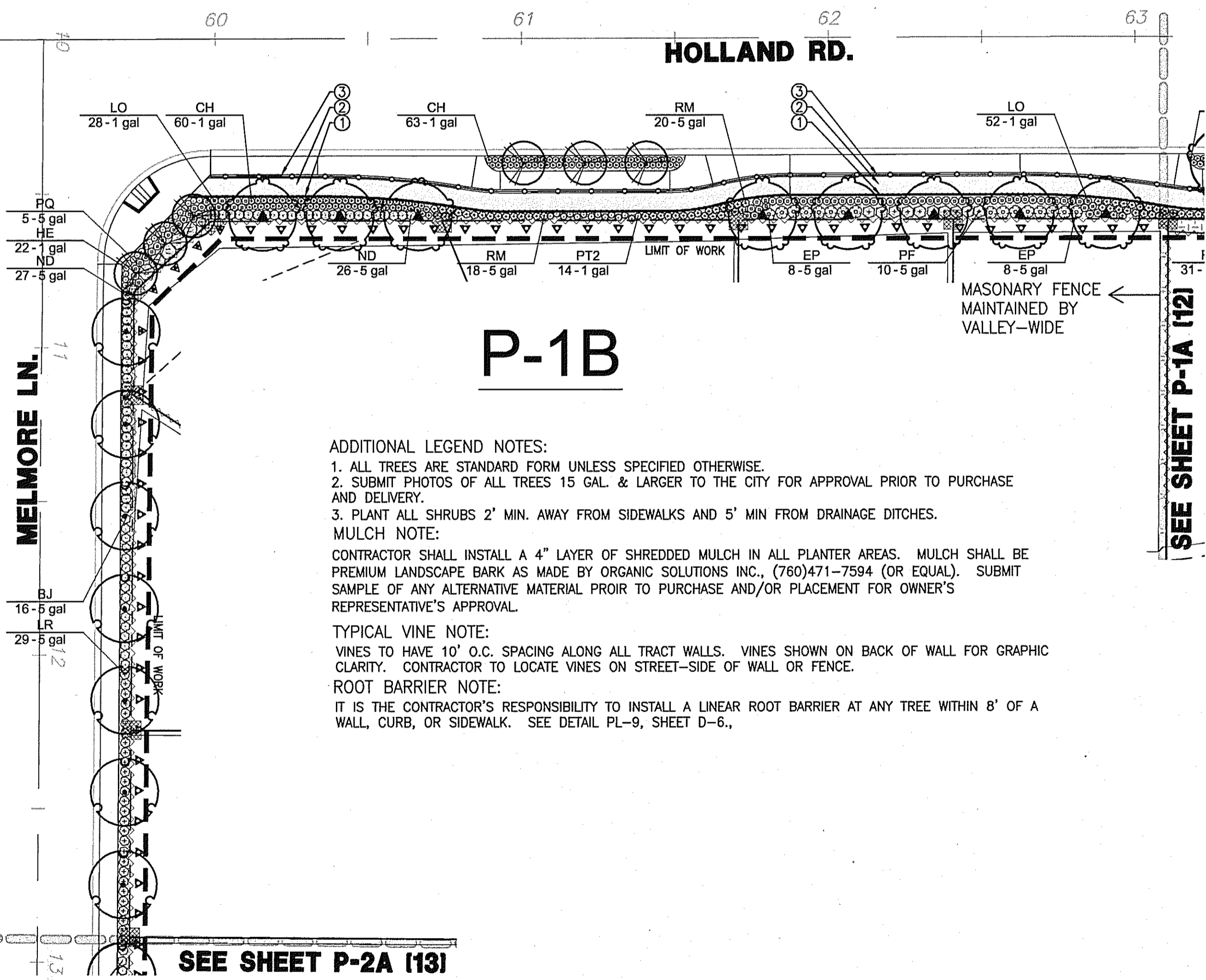
SHEET ID.  
**I-2**  
REV. PLOT DATE  
11-06-06  
SHEET NO.  
**11**  
OF 13 SHTS.

BGR





P-1A



P-1B

**ADDITIONAL LEGEND NOTES:**  
 1. ALL TREES ARE STANDARD FORM UNLESS SPECIFIED OTHERWISE.  
 2. SUBMIT PHOTOS OF ALL TREES 15 GAL. & LARGER TO THE CITY FOR APPROVAL PRIOR TO PURCHASE AND DELIVERY.  
 3. PLANT ALL SHRUBS 2' MIN. AWAY FROM SIDEWALKS AND 5' MIN FROM DRAINAGE DITCHES.  
**MULCH NOTE:**  
 CONTRACTOR SHALL INSTALL A 4" LAYER OF SHREDDED MULCH IN ALL PLANTER AREAS. MULCH SHALL BE PREMIUM LANDSCAPE BARK AS MADE BY ORGANIC SOLUTIONS INC., (760)471-7594 (OR EQUAL). SUBMIT SAMPLE OF ANY ALTERNATIVE MATERIAL PRIOR TO PURCHASE AND/OR PLACEMENT FOR OWNER'S REPRESENTATIVE'S APPROVAL.  
**TYPICAL VINE NOTE:**  
 VINES TO HAVE 10' O.C. SPACING ALONG ALL TRACT WALLS. VINES SHOWN ON BACK OF WALL FOR GRAPHIC CLARITY. CONTRACTOR TO LOCATE VINES ON STREET-SIDE OF WALL OR FENCE.  
**ROOT BARRIER NOTE:**  
 IT IS THE CONTRACTOR'S RESPONSIBILITY TO INSTALL A LINEAR ROOT BARRIER AT ANY TREE WITHIN 8' OF A WALL, CURB, OR SIDEWALK. SEE DETAIL PL-9, SHEET D-6.

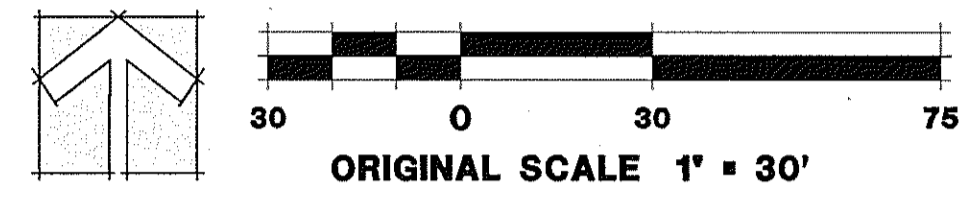
**PLANT LEGEND**

**SUMMARY PLANT TAKE-OFF & NOTES:**  
 1. THIS TAKE-OFF IS FOR THE CONVENIENCE OF THE CONTRACTOR ONLY.  
 2. FOR A COMPLETE LEGEND SEE SHEET 9.

TREES	BOTANICAL/COMMON	CONT	QTY
	BRACHYCHITON POPULNEUS / BOTTLE TREE	24"BOX	4
	QUERCUS AGRIFOLIA / COAST LIVE OAK	24"BOX	29
	LAGERSTROEMIA INDICA 'RED' / CRAPE MYRTLE	24"BOX	20
	RHUS LANCEA / AFRICAN SUMAC	24"BOX	7
SHRUBS	BOTANICAL/COMMON	CONT	QTY
	BJ BUXUS MICROPHYLLA 'JAPONICA' / JAPANESE BOXWOOD	5 GAL	16
	CH CUPHEA HYSSOPIFOLIA / FALSE HEATHER	1 GAL	454
	EP ESCALLONIA FRADESII / PINK ESCALLONIA	5 GAL	39
	HE HEMEROCALLIS HYBRID 'EVERGREEN RED' / DAY LILY	1 GAL	153
	LO LAVANDULA STOECHAS 'OTTO QUAST' / SPANISH LAVENDER	1 GAL	396
	LR LEPTOSPERMUM SCOPARIUM 'RUBY GLOW' / RED NEW ZEALAND TEA TREE	5 GAL	27
	ND NANDINA DOMESTICA / HEAVENLY BAMBOO	5 GAL	53
	PQ PHORMIUM 'MAORI CHIEF' / MAORI CHIEF NEW ZEALAND FLAX	5 GAL	5
	PT2 PHORMIUM TENAX 'TOM THUMB' / DWARF GREEN FLAX	1 GAL	121
	PF PHOTINIA FRASERI / PHOTINIA	5 GAL	90
	RJ RHAPHIOLEPIS INDICA 'JACK EVANS' / INDIAN HAWTHORN	5 GAL	41
	RM ROSMARINUS OFFICINALIS 'MAJORICA PINK' / ROSEMARY	5 GAL	247
VINE/ESPALIER	BOTANICAL/COMMON	CONT	QTY
	CC CLYTOSTOMA CALLISTEGIOIDES / VIOLET TRUMPET VINE	5 GAL	5
	PT3 PARTHENOISSUS TRICUSPIDATA / BOSTON IVY	1 GAL	49

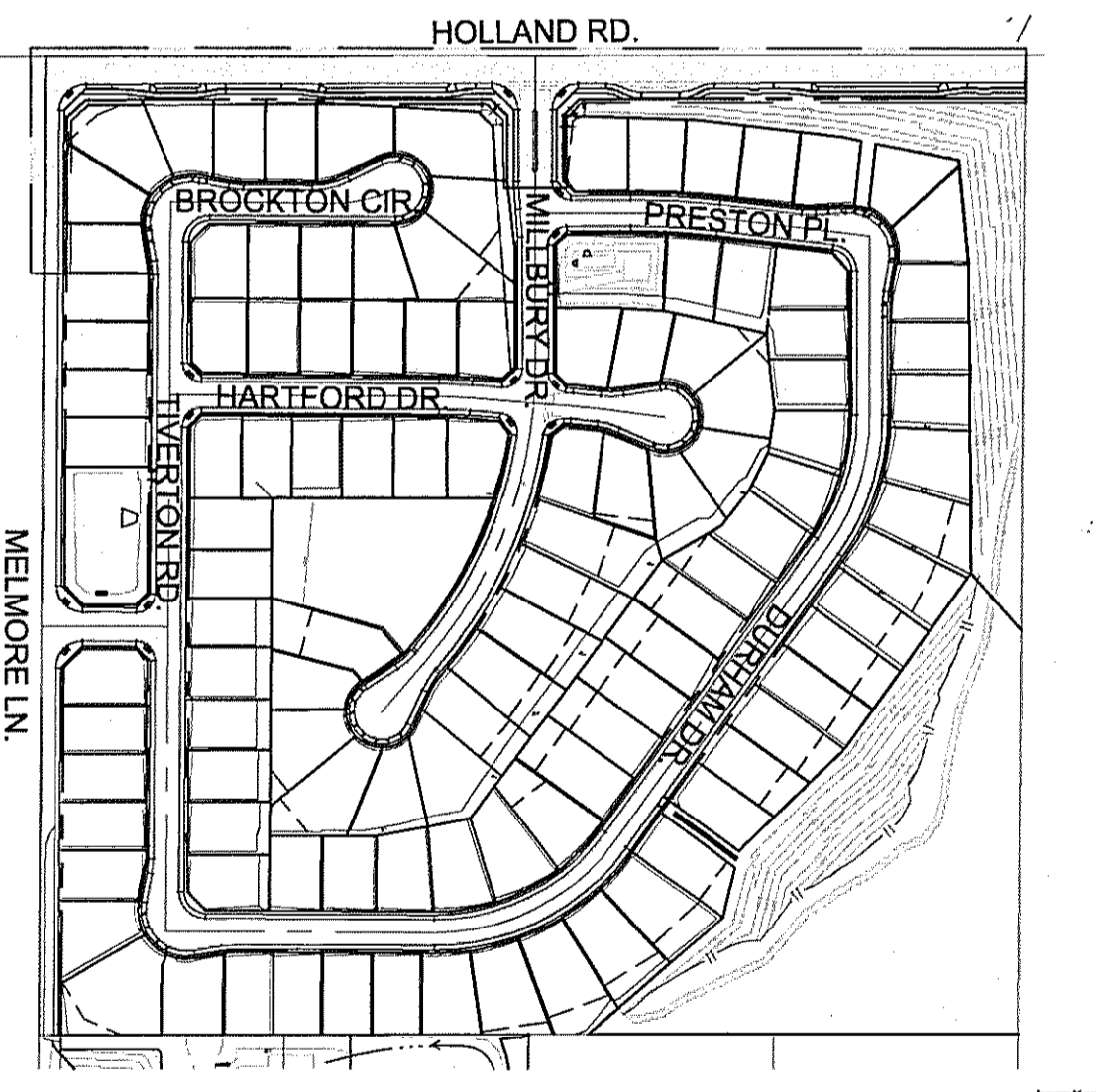
**GROUND COVERS**

	MULCH - "LANDSCAPE MULCH" - SEE SPECIFICATIONS AND NOTE THIS SHEET - SEE DETAIL PL-7/D-6
	NOT SHOWN MYOPORUM PARVIFOLIUM 'PINK' 1 GAL 3' O.C. TO BE PLANTED IN ALL OPEN SPACES THAT ARE GREATER THAN 36".



**CONSTRUCTION ELEMENTS**

ITEM	DETAIL	COMMENT
① CONCRETE MOWCURB	A/D-1 PL-8/D-6	CENTER MOWCURBS ON R.O.W. AND EXTEND TO THE BASE OF PROJECT WALLS AS SHOWN. NATURAL COLOR, TROWEL FINISH. MOWCURBS SHALL SEPARATE ALL VALLEY-WIDE MAINTAINED AREAS FROM HOA MAINTAINED AREAS.
② STABILIZED DECOMPOSED GRANITE TRAIL	LC-1 & A/D-1	TRAIL TO PARALLEL SIDEWALK ALIGNMENT, DG COLOR: NATURAL
③ PVC FENCE W/8" MOWCURB	LC-6, LC-7, & A/D-1	PER FENCING PLAN PREPARED BY STANTEC CONSULTING INC.



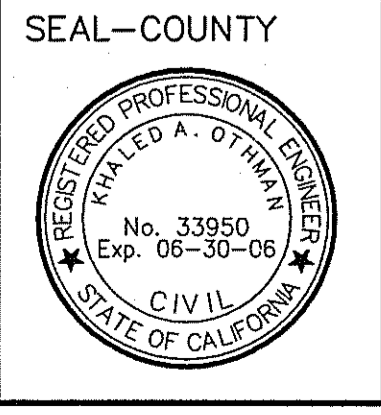
MAP KEY  
NTS

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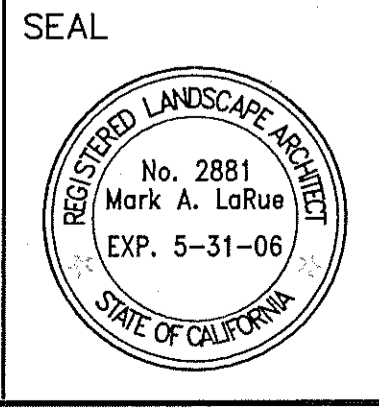
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DATE	BY	MARK	REVISIONS	APPR.	DATE



COUNTY OF RIVERSIDE  
TRANSPORTATION DEPARTMENT  
APPROVED BY:  
KHALED A. OTHMAN  
DATE: \_\_\_\_\_



SEAL  
PREPARED BY: *Mark A. LaRue*  
DATE: *4/2/06*  
R.L.A. NO. 2881

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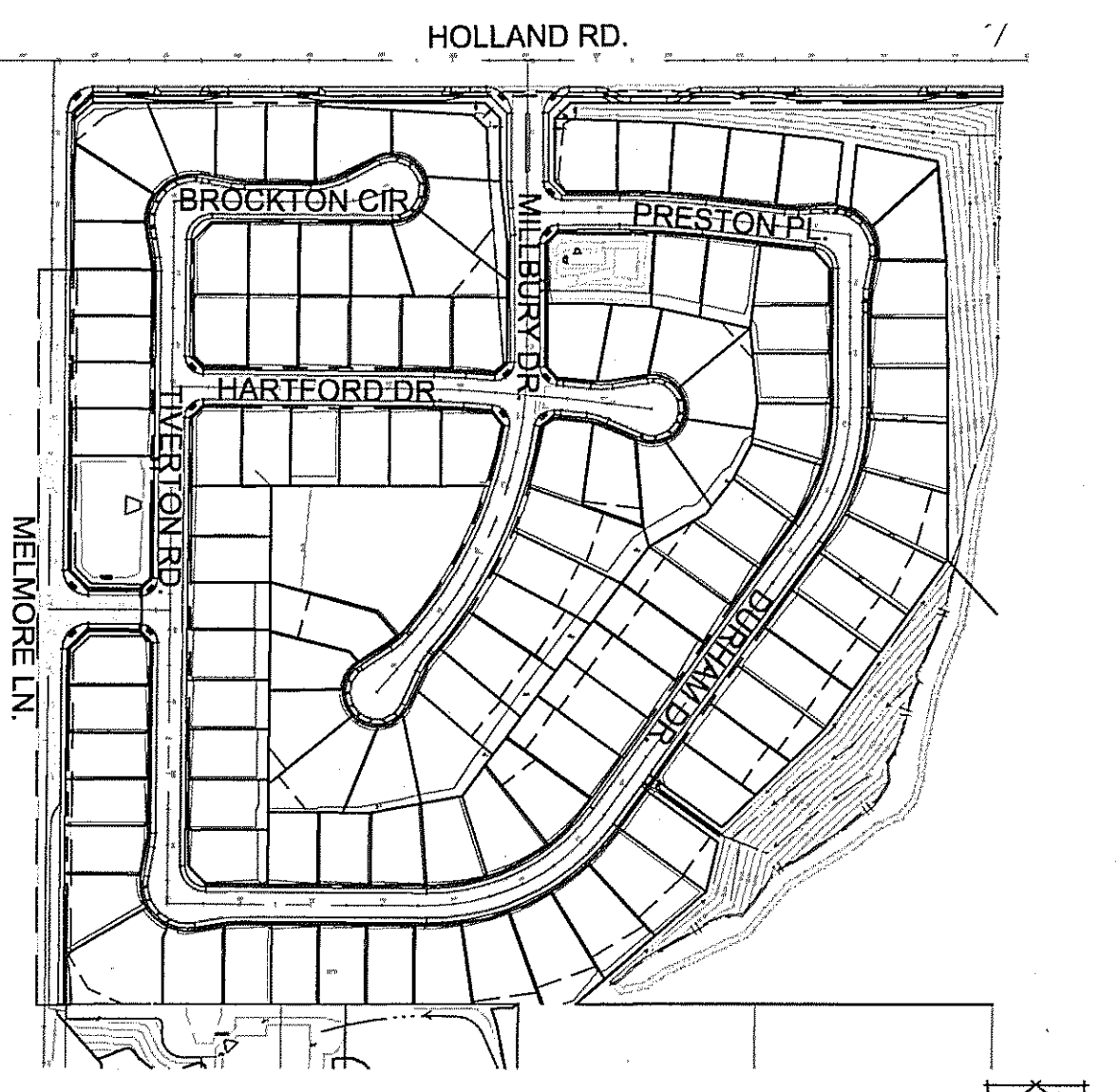
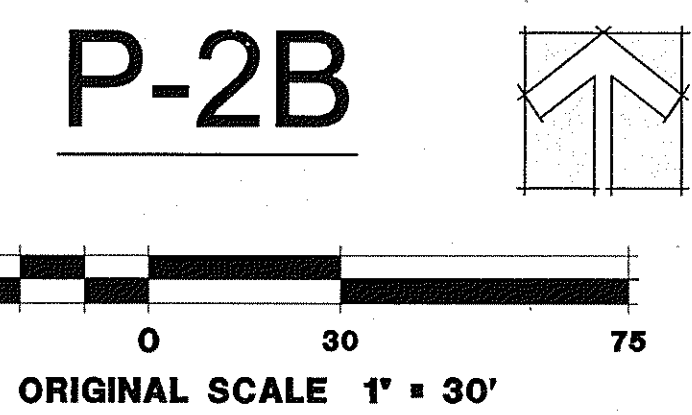
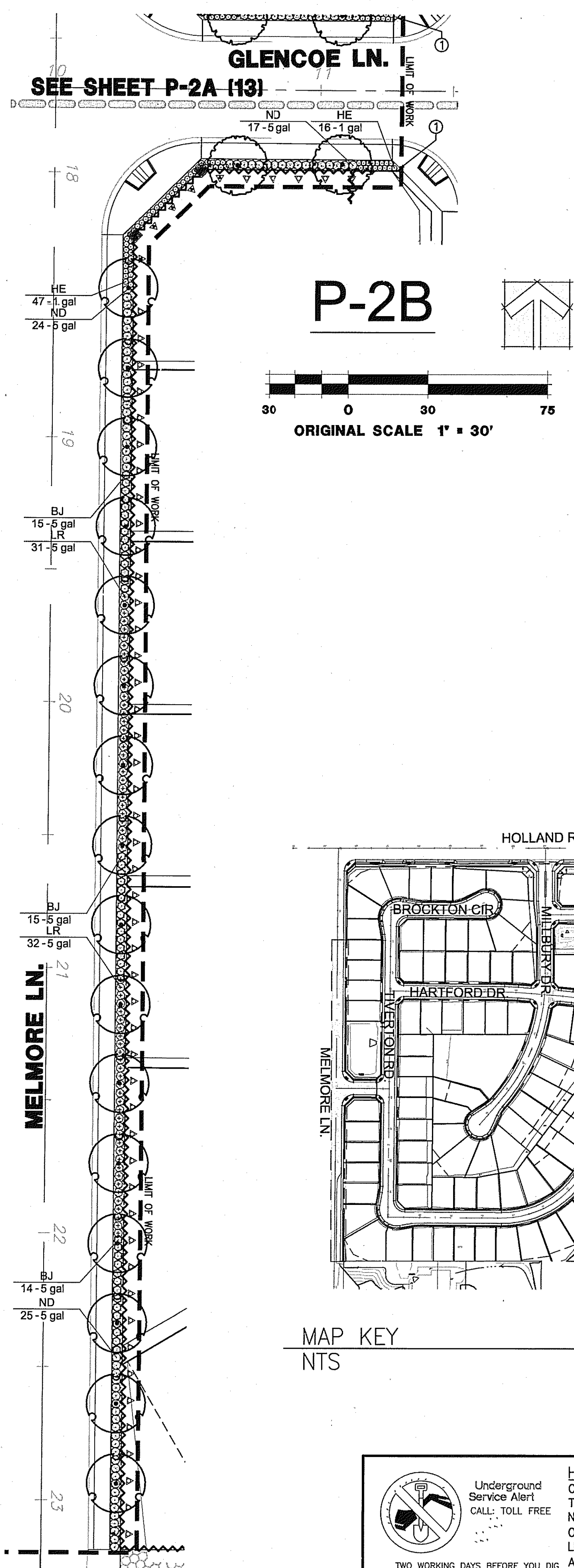
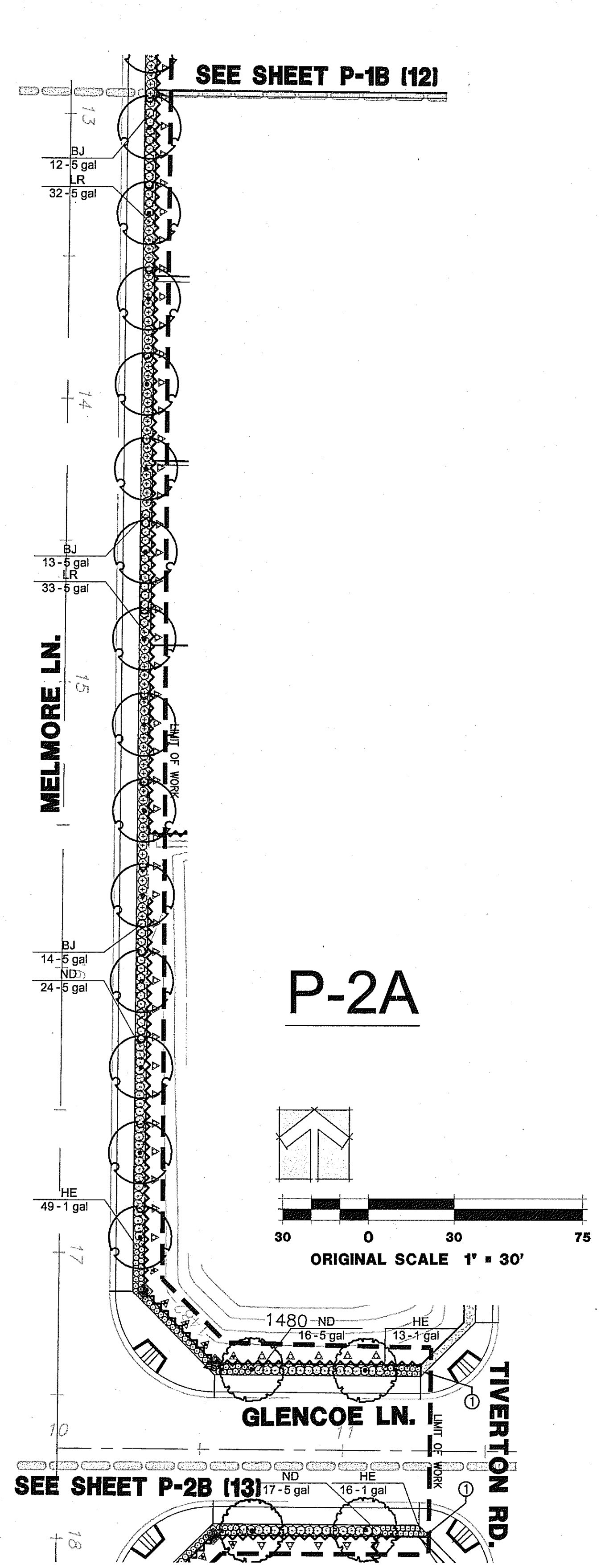
BENCHMARK DATUM  
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PROJECT BENCHMARK  
BM 600 29 (DX1713); BENCHMARK DISK SET IN TOP OF CONCRETE MONUMENT, STAMP 600-29-68 POSTED ELEVATION OF 1429.27 FEET NGVD 29.

VALLEY WIDE RECREATION & PARK DISTRICT  
Samuel W. Goesp  
Date: 11-09-06

SHEET ID.  
**P-1**  
REV. PLOT DATE  
11-03-06  
SHEET NO.  
**12**  
OF 13 SHEETS.

BGR





**PLANT LEGEND**

SUMMARY PLANT TAKE-OFF & NOTES:  
 1. THIS TAKE-OFF IS FOR THE CONVENIENCE OF THE CONTRACTOR ONLY.  
 2. FOR A COMPLETE LEGEND SEE SHEET 9.

TREES	BOTANICAL / COMMON	CONT	QTY
	BRACHYCHITON POPULNEUS / BOTTLE TREE	24" BOX	4
	RHUS LANCEA / AFRICAN SUMAC	24" BOX	30
SHRUBS	BOTANICAL / COMMON	CONT	QTY
	BJ BUXUS MICROPHYLLA 'JAPONICA' / JAPANESE BOXWOOD	5 GAL	83
	HE HEMEROCALLIS HYBRID 'EVERGREEN RED' / DAY LILY	1 GAL	125
	LR LEPTOSPERMUM SCOPARIUM 'RUBY GLOW' / RED NEW ZEALAND TEA TREE	5 GAL	130
	ND NANDINA DOMESTICA / HEAVENLY BAMBOO	5 GAL	106
VINE/ESPALIER	BOTANICAL / COMMON	CONT	QTY
	CC CLYTOSTOMA CALLISTEGIOIDES / VIOLET TRUMPET VINE	5 GAL	10
	PT3 PARTHENOISSUS TRICUSPIDATA / BOSTON IVY	1 GAL	98

**GROUND COVERS**

MULCH - "LANDSCAPE MULCH" - SEE SPECIFICATIONS AND NOTE THIS SHEET - SEE DETAIL PL-7/D-6  
 NOT SHOWN MYOPORUM PARVIFOLIUM 'PINK' 1 GAL 3' O.C. TO BE PLANTED IN ALL OPEN SPACES THAT ARE GREATER THAN 36".

**ADDITIONAL LEGEND NOTES:**

- ALL TREES ARE STANDARD FORM UNLESS SPECIFIED OTHERWISE.
- SUBMIT PHOTOS OF ALL TREES 15 GAL & LARGER TO THE CITY FOR APPROVAL PRIOR TO PURCHASE AND DELIVERY.
- PLANT ALL SHRUBS 2' MIN. AWAY FROM SIDEWALKS AND 5' MIN FROM DRAINAGE DITCHES.

**MULCH NOTE:**

CONTRACTOR SHALL INSTALL A 4" LAYER OF SHREDDED MULCH IN ALL PLANTER AREAS. MULCH SHALL BE PREMIUM LANDSCAPE BARK AS MADE BY ORGANIC SOLUTIONS INC., (760)471-7594 (OR EQUAL). SUBMIT SAMPLE OF ANY ALTERNATIVE MATERIAL PRIOR TO PURCHASE AND/OR PLACEMENT FOR OWNER'S REPRESENTATIVE'S APPROVAL.

**TYPICAL VINE NOTE:**

VINES TO HAVE 10' O.C. SPACING ALONG ALL TRACT WALLS. VINES SHOWN ON BACK OF WALL FOR GRAPHIC CLARITY. CONTRACTOR TO LOCATE VINES ON STREET-SIDE OF WALL OR FENCE.

**ROOT BARRIER NOTE:**

IT IS THE CONTRACTOR'S RESPONSIBILITY TO INSTALL A LINEAR ROOT BARRIER AT ANY TREE WITHIN 8' OF A WALL, CURB, OR SIDEWALK. SEE DETAIL PL-9, SHEET D-6.

**CONSTRUCTION ELEMENTS**

ITEM	DETAIL	COMMENT
	A/D-1 PL-8/D-6	CENTER MOWCURBS ON R.O.W. AND EXTEND TO THE BASE OF PROJECT WALLS AS SHOWN. NATURAL COLOR, TROWEL FINISH. MOWCURBS SHALL SEPARATE ALL VALLEY-WIDE MAINTAINED AREAS FROM HOA MAINTAINED AREAS.

MAP KEY  
NTS

**HOLD HARMLESS & INDEMNIFICATION CLAUSE**  
 CONTRACTOR AGREES TO ASSUME SOLE 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/DEVELOPER, THE COUNTY OF LOCAL JURISDICTION AND THE LANDSCAPE DESIGNER HARMLESS FROM ANY AND ALL LIABILITY REAL OR ALLEGED, IN CONNECTION WITH THE PERFORMANCE OF WORK ON THIS PROJECT, EXCEPT FOR LIABILITY ARISING FROM SOLE NEGLIGENCE OF THE OWNER/DEVELOPER, COUNTY OF LOCAL JURISDICTION AND THE LANDSCAPE DESIGNER.

Underground Service Alert  
CALL: TOLL FREE  
TWO WORKING DAYS BEFORE YOU DIG

VALLEY WIDE RECREATION & PARK DISTRICT  
Date: 11-09-06  
Samuel W. Goepf


SHEET ID. P-2  
REV. PLOT DATE 11-03-06



R:\160277\00\Landscapes\Plan\_Sets\ValleyWide\1177.00\_P-02.dwg  
 XREFS = 277.00\_P-1, 277.00\_P-2, 277.00\_P-3, 277.00\_P-4, 277.00\_P-5, 277.00\_P-6, 277.00\_P-7, 277.00\_P-8, 277.00\_P-9, 277.00\_P-10, 277.00\_P-11, 277.00\_P-12, 277.00\_P-13, 277.00\_P-14, 277.00\_P-15, 277.00\_P-16, 277.00\_P-17, 277.00\_P-18, 277.00\_P-19, 277.00\_P-20, 277.00\_P-21, 277.00\_P-22, 277.00\_P-23, 277.00\_P-24, 277.00\_P-25, 277.00\_P-26, 277.00\_P-27, 277.00\_P-28, 277.00\_P-29, 277.00\_P-30, 277.00\_P-31, 277.00\_P-32, 277.00\_P-33, 277.00\_P-34, 277.00\_P-35, 277.00\_P-36, 277.00\_P-37, 277.00\_P-38, 277.00\_P-39, 277.00\_P-40, 277.00\_P-41, 277.00\_P-42, 277.00\_P-43, 277.00\_P-44, 277.00\_P-45, 277.00\_P-46, 277.00\_P-47, 277.00\_P-48, 277.00\_P-49, 277.00\_P-50, 277.00\_P-51, 277.00\_P-52, 277.00\_P-53, 277.00\_P-54, 277.00\_P-55, 277.00\_P-56, 277.00\_P-57, 277.00\_P-58, 277.00\_P-59, 277.00\_P-60, 277.00\_P-61, 277.00\_P-62, 277.00\_P-63, 277.00\_P-64, 277.00\_P-65, 277.00\_P-66, 277.00\_P-67, 277.00\_P-68, 277.00\_P-69, 277.00\_P-70, 277.00\_P-71, 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**OWNER**  
**GRIFFIN COMMUNITIES**  
 110 NORTH LINCOLN AVENUE  
 CORONA, CA 92882  
 PH (951) 898-1234 FAX (951) 739-6145  
 CONTACT: JOSEPH KISH

**LANDSCAPE ARCHITECT**  
**LANTEX INC.**  
 LANDSCAPE ARCHITECTURE INC.  
 31726 RANCHO VIEJO ROAD, STE. 206  
 SAN JUAN CAPISTRANO, CA 92675  
 (949) 248-1993 FAX (949) 493-0706

**CIVIL ENGINEER**  

**ADAMS • STREETER**  
 CIVIL ENGINEERS, INC.  
 2900 Adams Street, Suite A-400  
 Riverside Ca. 92504  
 Ph: (909) 352-4100 Fax: (909) 352-6200  
 engineering@adams-streeter.com

 **AMERICANS WITH DISABILITIES NOTES** 

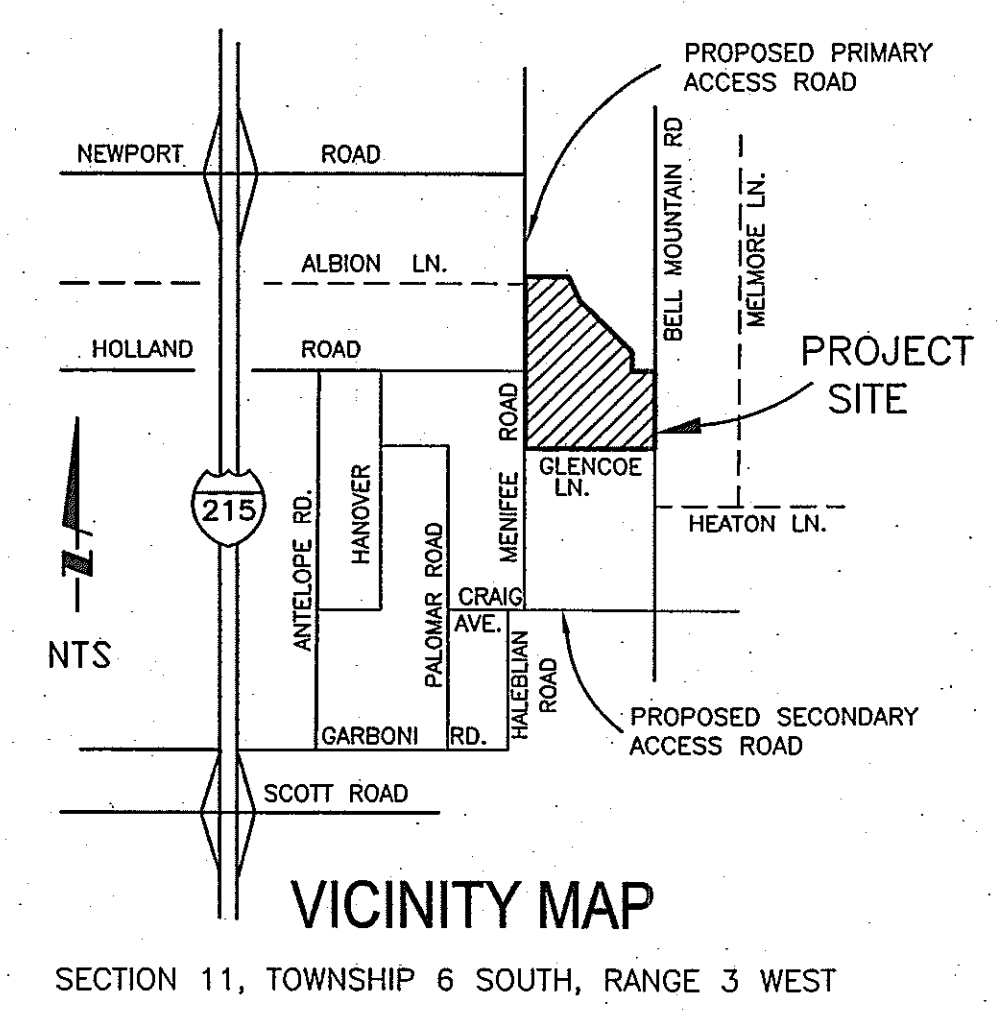
- ALL SLOPES SHOWN ON THIS PLAN WERE DESIGNED AT OR BELOW MAXIMUMS ALLOWED BY THE AMERICANS WITH DISABILITY ACT ACCESS GUIDE (A.D.A.A.G.) IN ORDER TO ALLOW FOR CONSTRUCTION TOLERANCES. IT IS THE CONTRACTOR'S RESPONSIBILITY TO FAMILIARIZE THEMSELVES WITH A.D.A.A.G. AND IN THE EVENT THAT A DESIGN QUESTION SHOULD ARISE, OR A FIELD CONDITION PRESENT ITSELF THAT IS DIFFERENT THAN SHOWN ON THESE PLANS, WORK SHOULD CEASE AND THE ENGINEER BE NOTIFIED SO THAT AN ACCEPTABLE SOLUTION CAN BE DETERMINED.
- THE CONTRACTOR IS ADVISED TO CAREFULLY CHECK ALL PHASES OF WORK RELATING TO A.D.A.A.G. ACCESS FOR THIS PROJECT. SINCE THE CODE DOES NOT ALLOW FOR A CONSTRUCTION TOLERANCE, ANY CONSTRUCTION THAT EXCEEDS MAXIMUM OR MINIMUM DIMENSIONS AND SLOPES AS CALLED OUT BY A.D.A.A.G. ARE SUBJECT TO REJECTION BY THE COUNTY AND MAY BE REQUIRED TO BE REMOVED AND REPLACED.
- SINCE THE CIVIL ENGINEER OR SURVEYOR CANNOT CONTROL THE EXACT METHODS OR MEANS USED BY THE GENERAL CONTRACTOR OR THEIR SUB-CONTRACTOR DURING GRADING AND CONSTRUCTION OF THE PROJECT, THE CIVIL ENGINEER OR SURVEYOR ASSUMES NO RESPONSIBILITY FOR FINAL ACCEPTANCE OF A.D.A.A.G. RELATED ITEMS OF THIS PROJECT BY THE COUNTY, ANY OTHER AUTHORITY OR OTHER AFFECTED PARTIES.

COMPLIANCE WITH A.D.A.A.G. CONSTRUCTION REQUIREMENTS WILL BE THE SOLE RESPONSIBILITY OF THE GENERAL CONTRACTOR AND THEIR SUB-CONTRACTORS.

# SHADOWRIDGE II - TR 30105

## LANDSCAPE IMPROVEMENT PLANS

### COUNTY OF RIVERSIDE, CALIFORNIA



**VALLEY WIDE RECREATION AND PARKS NOTE:**

**INSTALLATION:**  
 PLANTING AND IRRIGATION MUST CONFORM TO VALLEY WIDE SPECIFICATIONS  
 CONTRACTOR MUST CALL FOR A PRE-JOB CONFERENCE PRIOR TO COMMENCEMENT OF CONSTRUCTION

**MAINTENANCE:**  
 CONTINUED MAINTENANCE SHALL BE PERFORMED BY VALLEYWIDE RECREATION AND PARKS DISTRICT PER ANNEXATION AGREEMENT DATED: 12-30-2004.

**REQUIRED LANDSCAPE INSPECTIONS:**

Pre-construction conference	7 DAYS
Pressure line installation and testing	48 HOURS
Controller installation	48 HOURS
Lateral line and sprinkler installation	48 HOURS
Coverage test	48 HOURS
Final grading	48 HOURS
Weedabatement Observation	48 HOURS
Tree & shrub layout & plant material observation	48 HOURS
Finish grade prior to hydroseeding	48 HOURS
Final walk (commencement of maintenance)	7 DAYS
Monthly maintenance walk	48 HOURS
Final inspection	7 DAYS

VALLEY-WIDE RECREATION & PARK DISTRICT (951) 660-4700

**NOTES**

TOTAL ORIGINAL ACREAGE:  
 40.01 ACRES (GROSS)  
 32.85 ACRES (NET)

LEGAL DESCRIPTION  
 PARCELS 1, 2, 3 AND 4 OF PARCEL MAP NO. 15840 AS PER MAP RECORDED IN BOOK 87 OF PARCEL MAPS, PAGES 65 AND 66 RECORDS OF RIVERSIDE COUNTY STATE OF CALIFORNIA

**VALLEYWIDE NOTE:**  
 NO WORK SHALL COMMENCE UNTIL STORM DRAIN PLANS HAVE BEEN APPROVED BY VALLEY-WIDE.

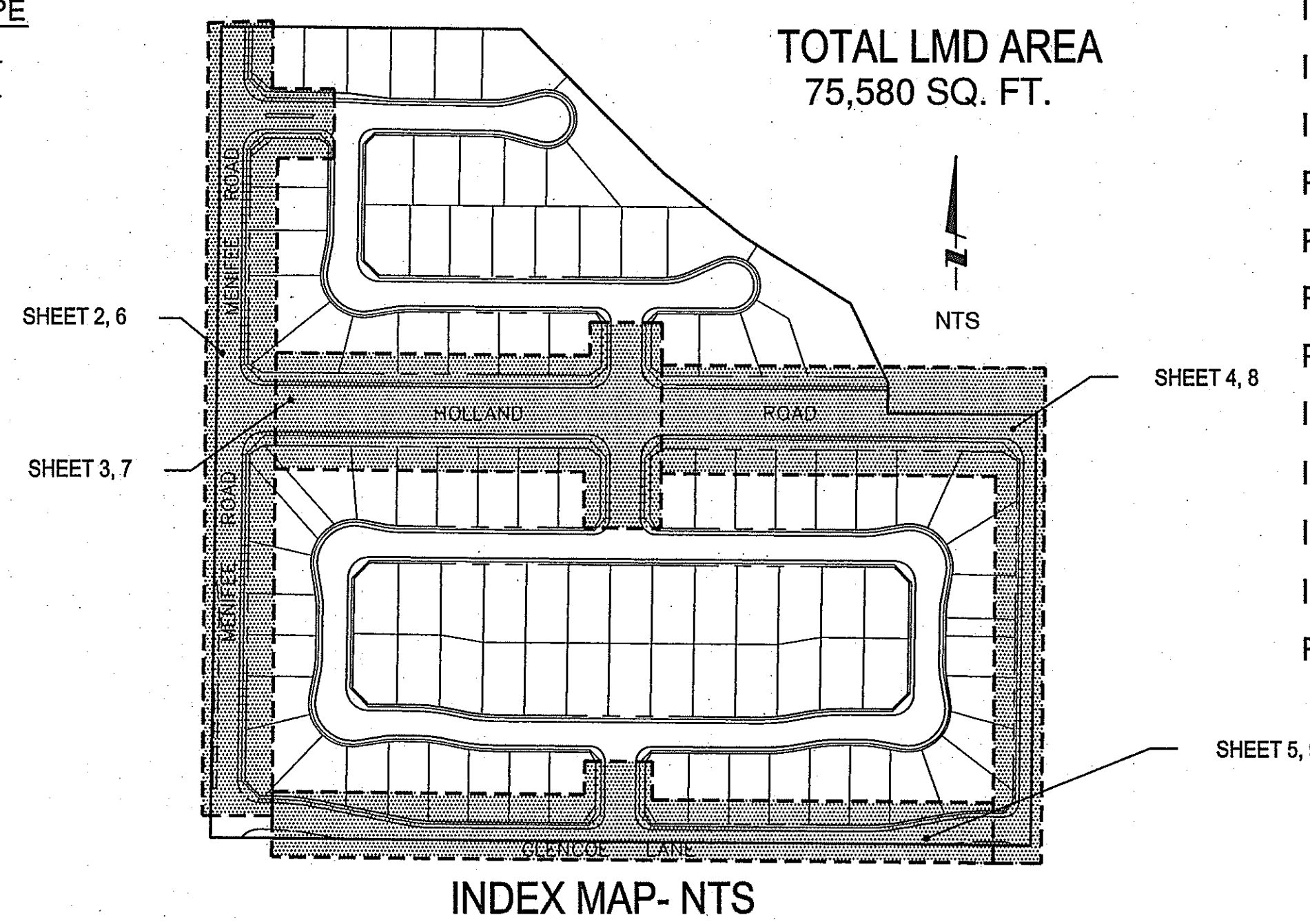
**LANDSCAPE CONTRACTOR SHALL BE REQUIRED TO FOLLOW VALLEYWIDE RECREATION AND PARKS DISTRICT LANDSCAPE DESIGN GUIDELINES DATED NOVEMBER 2004.**

**CONTRACTOR SHALL VERIFY WATER PRESSURE ON SITE PRIOR TO INSTALLATION. IF PRESSURE DIFFERS FROM NOTED AVAILABLE PRESSURE INDICATED ON THESE PLANS, CONTACT THE LANDSCAPE ARCHITECT FOR FURTHER INSTRUCTION. FAILURE TO DO SO WILL PLACE THE CONTRACTOR RESPONSIBLE FOR CHANGES THAT MAY BE REQUIRED.**

**NOTE: TO PREVENT BLOCKING OF MOTORIST VIEW IN THE ROAD RIGHT OF WAY, NO VEGETATION WITH A GROWTH HABIT OVER 2 FEET IN HEIGHT MAY BE PLANTED WITHIN 10 FEET OF ANY CORNER CUTBACK OR DRIVEWAY ENTRANCES AND EXITS.**

### SHEET INDEX

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 TWO WORKING DAYS BEFORE YOU DIG

**HOLD HARMLESS & INDEMNIFICATION CLAUSE**  
 CONTRACTOR AGREES TO ASSUME SOLE RESPONSIBILITY FOR JOB SITE CONDITIONS DURING THE COURSE OF CONSTRUCTION OF THIS PROJECT, INCLUDING SAFETY AND NOT BE LIMITED TO NORMAL WORKING HOURS, AND THAT THE CONTRACTOR SHALL DEFEND, INDEMNIFY, AND HOLD THE OWNER/DEVELOPER, THE COUNTY OF LOCAL JURISDICTION AND THE LANDSCAPE DESIGNER HARMLESS FROM ANY AND ALL LIABILITY REAL OR ALLEGED, IN CONNECTION WITH THE PERFORMANCE OF WORK ON THIS PROJECT, EXCEPTING FOR LIABILITY ARISING FROM SOLE NEGLIGENCE OF THE OWNER/DEVELOPER, COUNTY OF LOCAL JURISDICTION AND THE LANDSCAPE DESIGNER.

NOTE: WORK CONTAINED WITHIN THESE PLANS SHALL NOT COMMENCE UNTIL AN ENCROACHMENT PERMIT AND/OR GRADING PERMIT HAS BEEN ISSUED

THE PRIVATE ENGINEER SIGNING THESE PLANS IS RESPONSIBLE FOR ASSURING THE ACCURACY AND ACCEPTABILITY OF THE DESIGN HEREON. IN THE EVENT OF DISCREPANCIES ARISING AFTER COUNTY APPROVAL OR DURING CONSTRUCTION THE PRIVATE ENGINEER SHALL BE RESPONSIBLE FOR DETERMINING AN ACCEPTABLE SOLUTION AND REVISING THE PLANS FOR APPROVAL BY THE COUNTY.

MARK	BY	DATE	REVISIONS	APPR.	DATE

COUNTY SEAL  


NOTE: APPROVAL BY THE TRANSPORTATION DEPARTMENT IS FOR THE AREA WITHIN ROAD RIGHT OF WAY ONLY

COUNTY OF RIVERSIDE  
 TRANSPORTATION DEPARTMENT  
 APPROVED BY:  
 KHALED A. OTHMAN  
 R.C.E. 33950  
 DATE: \_\_\_\_\_

REGISTERED LANDSCAPE ARCHITECT  
 BLAKE RICHARD HANWYN  
 No. 2403  
 07/11/06  
 State of California  
 EXPIRES 11-30-2006

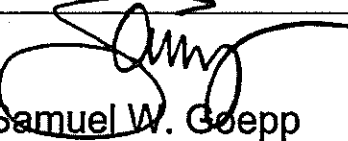
**LANTEX**  
 Landscape Architecture Inc.  
 31726 Rancho Viejo Road, Suite 206  
 San Juan Capistrano, California 92675  
 (949) 248-1993 FAX (949) 493-0706

DESIGNED BY: S.H. DRAWN BY: S.H. CHECKED BY: B.H. SCALE: \_\_\_\_\_ DATE: \_\_\_\_\_

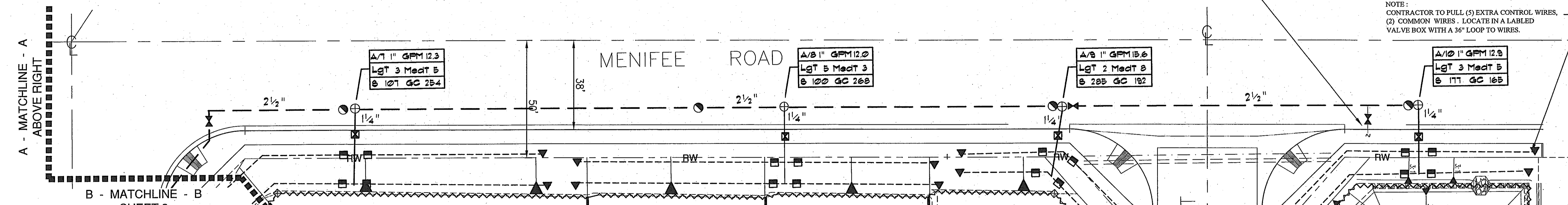
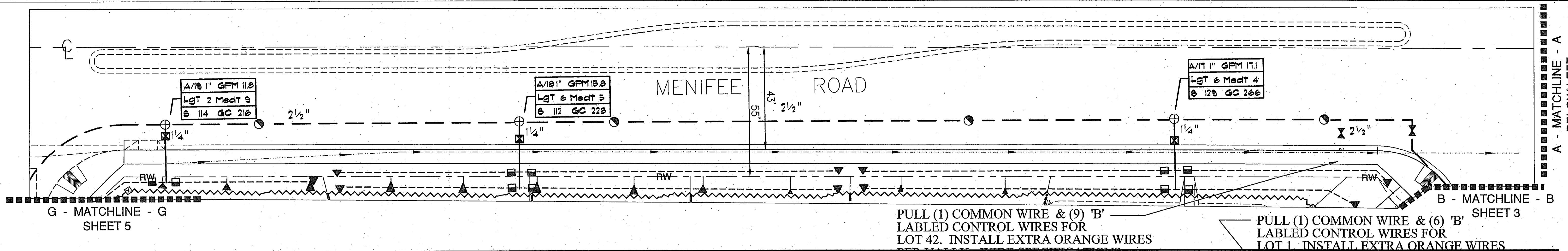
FOR: **GRIFFIN COMMUNITIES**  
 ENGINEERS FILE No. \_\_\_\_\_ COUNTY FILE No. \_\_\_\_\_

TRACT 30105 I.P. No. 030147  
**TITLE SHEET**  
 SHADOWRIDGE II TR 30105  
 LANDSCAPE IMPROVEMENTS PLANS  
 SCHEDULE 'A' MAP

SHEET No. 1 OF 14 SHEETS

VALLEY WIDE RECREATION & PARK DISTRICT  
  
 Date: 1-23-06





PULL (1) COMMON WIRE & (9) 'B' LABELED CONTROL WIRES FOR LOT 42. INSTALL EXTRA ORANGE WIRES PER VALLEY - WIDE SPECIFICATIONS

PULL (1) COMMON WIRE & (6) 'B' LABELED CONTROL WIRES FOR LOT 1. INSTALL EXTRA ORANGE WIRES PER VALLEY-WIDE SPECIFICATIONS

NOTE: CONTRACTOR TO PULL (5) EXTRA CONTROL WIRES, (2) COMMON WIRES. LOCATE IN A LABELED VALVE BOX WITH A 36\"/>

**IRRIGATION NOTES**

DIAGRAMMATIC PLAN  
THIS SYSTEM IS DIAGRAMMATIC. ALL PIPE, VALVES, ETC. SHOWN WITHIN PAVED AREAS ARE FOR DESIGN CLARIFICATION ONLY AND SHALL BE INSTALLED IN PLANTING AREAS AND JOINT TRENCHES WHEREVER POSSIBLE.

SPRINKLER ADJUSTMENT REQUIRED  
THE IRRIGATION CONTRACTOR SHALL FLUSH AND ADJUST ALL SPRINKLER HEADS FOR OPTIMUM PERFORMANCE AND PREVENT OVERSPRAY ONTO WALKS AND ROADWAYS AS MUCH AS POSSIBLE. THIS SHALL INCLUDE SELECTING THE BEST DEGREE OF ARC TO FIT THE EXISTING SITE CONDITIONS. CONTRACTOR TO USE PRESSURE COMPENSATING SCREENS WHEN RADIUS IS REDUCED MORE THAN FIFTY PERCENT (50%).

INSTALL NECESSARY CHECK VALVE IN HEADS THAT EXHIBIT TENDENCIES FOR LOW HEAD DRAINAGE.

INSTALL ALL HEADS A MINIMUM OF 18\"/>

**IRRIGATION LEGEND**

- SYMBOL MFG. MODEL NO.
- 1\"/>

**WORST CONDITION IRRIGATION CALCULATION ('A'+ 'B')**

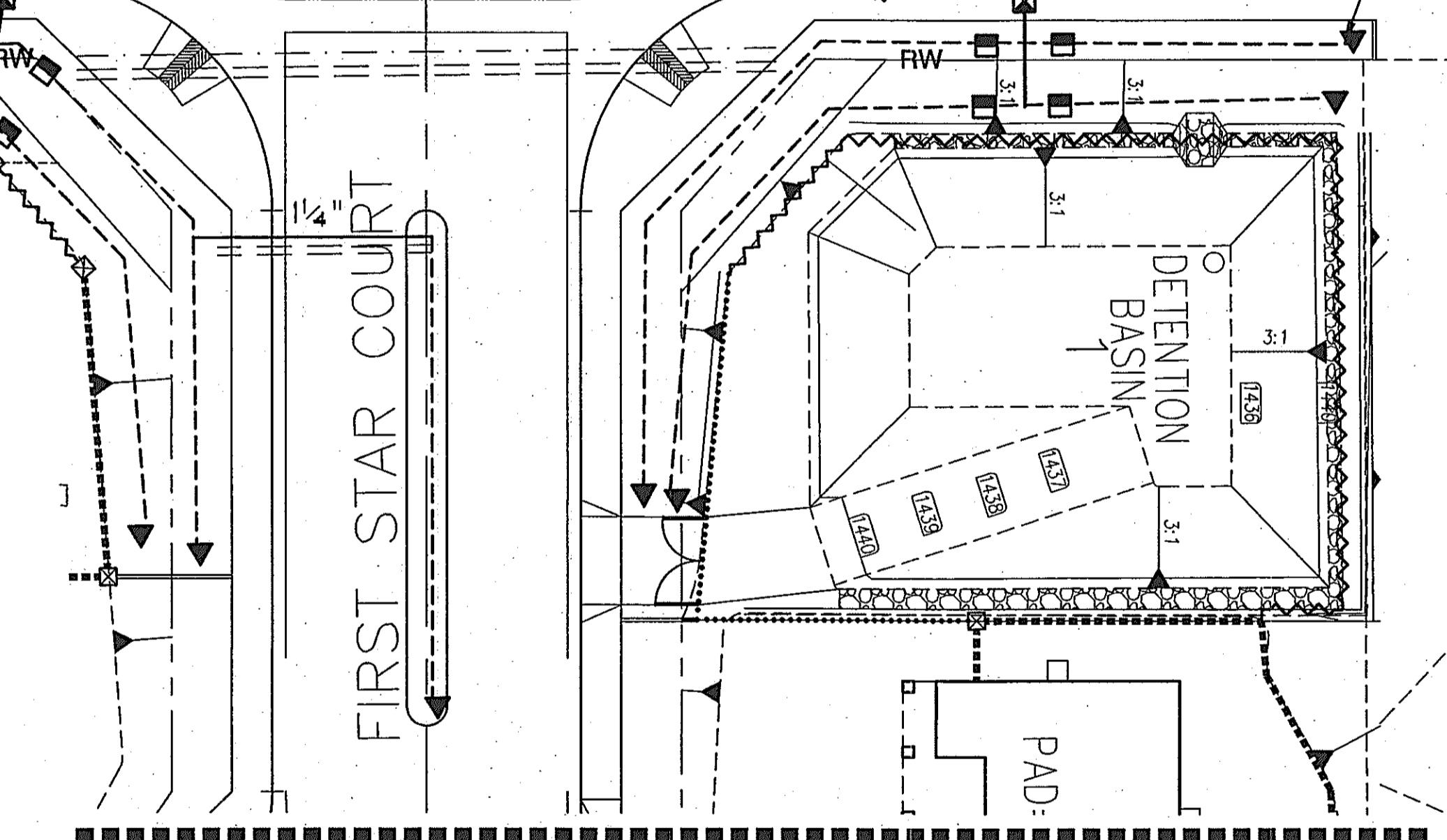
TYPE OF WATER:	POTABLE
SHADOWRIDGE II - GRIFFIN COMMUNITIES	
MINIFEE CA.	
RUN (1) VALVE AT A TIME	
CONTROLLER:	'B'
VALVE NO.	3
GPM's	22
METER ELEV.	54 PSI @ 1454' ELEV.
VALVE ELEV.	1444
SIZE	ITEM
2"	WATER METER
2"	BACKFLOW DEVICE
2 1/2"	GATE VALVE
2 1/2"	CL 315 MAINLINE 1600'
1"	REMOTE CONTROL VALVE
SCH 40 PVC LATERAL LINES	5.2
	23.94
IRRIGATION HEAD PRESSURE	25
TOTAL SYSTEM LOSS	46.94
ELEVATION LOSS	(11' @ +4.76)
10% RESIDUAL PSI	5.4
REQUIRED PRESSURE	57.10
AVAILABLE PRESSURE	54.0
RESIDUAL PRESSURE	-3.1

**PIPE SIZING / SLEEVING**

THIS LEGEND TO BE USED FOR LATERAL LINE PIPE INSTALLATION. ALL MAINLINE TO BE SIZED AS INDICATED ON PLAN

PIPE SIZE	GPM's	APPROX. # HEADS
3/4"	1-8	1-10
1"	9-14	11-14
1 1/4"	14-23	15-20
1 1/2"	24-34	21-30
2"	35-45	31-35+

NOTE: LATERAL SIZE IS SHOWN AT EACH VALVE EXT. NOTE: CONTRACTOR IS REQUIRED TO PROVIDE SLEEVING FOR ALL LATERAL LINE AND MAINLINE UNDER ALL PAVING SURFACES THAT EXCEEDS 4\"/>



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TWO WORKING DAYS BEFORE YOU DIG

EMITTER SCHEDULE SEE DETAIL DR-4 SHT-11

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MARK	BY	DATE	REVISIONS	APPR.	DATE

COUNTY SEAL

REGISTERED PROFESSIONAL ENGINEER  
KHALED A. OTHMAN  
No. 33950  
EXP. 06-30-06  
CIVIL  
STATE OF CALIFORNIA

COUNTY OF RIVERSIDE  
TRANSPORTATION DEPARTMENT  
APPROVED BY:

KHALED A. OTHMAN  
R.C.E. 33950

REGISTERED LANDSCAPE ARCHITECT  
BLAKE RICHARD HANMAN  
No. 2403  
07-11-06  
0616  
STATE OF CALIFORNIA

EXPIRES 11-30-2006

**LANTEX**  
Landscape Architecture Inc.  
31726 Rancho Viejo Road, Suite 206  
San Juan Capistrano, California 92675  
(949) 248-1993 FAX (949) 493-0706

DESIGNED BY: S.H. DRAWN BY: S.H. CHECKED BY: B.H. SCALE: DATE:

VALLEY WIDE RECREATION & PARK DISTRICT

Samuel W. Eppert  
1-23-06  
Date:

TRACT 30105 I.P. No. 030147  
IRRIGATION PLAN  
SHADOWRIDGE II TR 30105  
LANDSCAPE IMPROVEMENTS PLANS  
SCHEDULE 'A' MAP

SHEET No. 2 OF 14 SHEETS

FOR: GRIFFIN COMMUNITIES ENGINEERS FILE No. COUNTY FILE No. PLOT DATE: 01-11-06



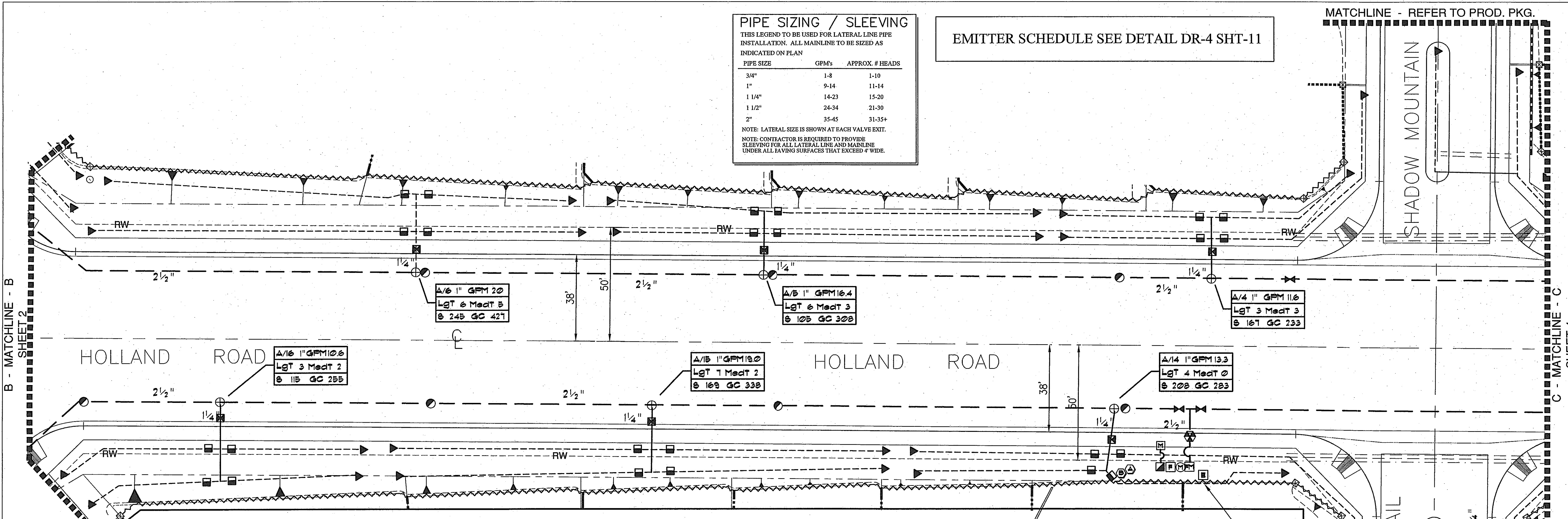
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NOTE: LATERAL SIZE IS SHOWN AT EACH VALVE EXIT.  
NOTE: CONTRACTOR IS REQUIRED TO PROVIDE SLEEVING FOR ALL LATERAL LINE AND MAINLINE UNDER ALL PAVING SURFACES THAT EXCEED 4' WIDE.

EMITTER SCHEDULE SEE DETAIL DR-4 SHT-11

MATCHLINE - REFER TO PROD. PKG.



**IRRIGATION LEGEND**

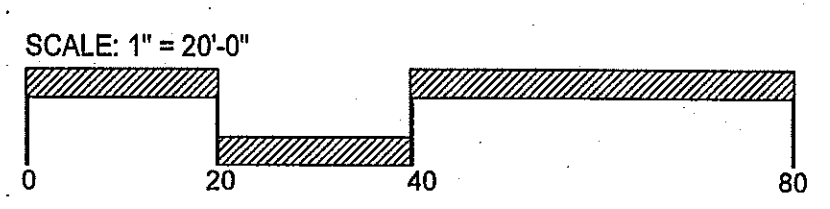
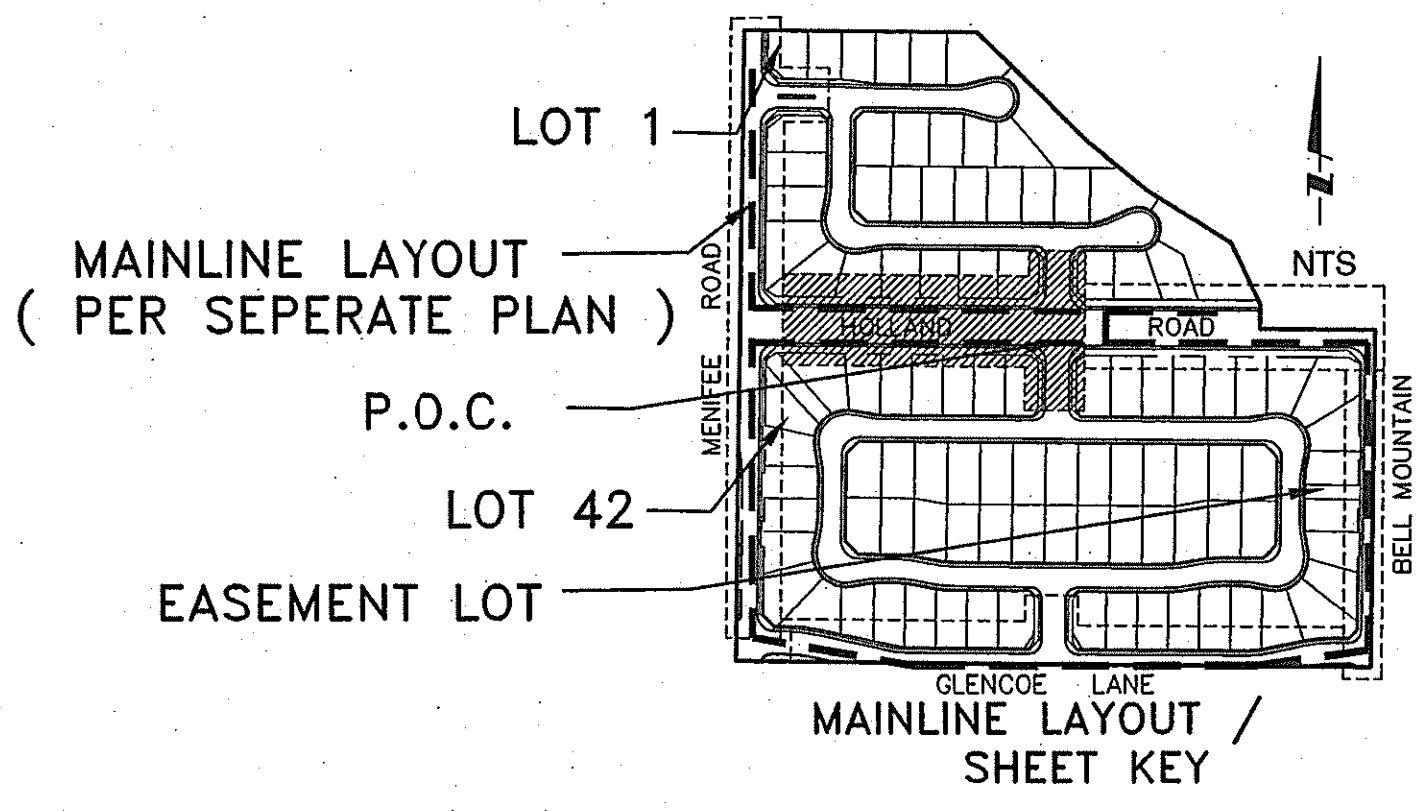
- | SYMBOL              | MFG.     | MODEL NO.  |
|---------------------|----------|--|
| ○                   | RAINBIRD | 44 LRC LOCKING W/ LOCKING RUBBER CAP, QUICK COUPLER.   |
| ⊗                   | NIBCO    | T-580 GATE VALVE - LINE SIZE.  |
| ⊠                   | 11/2"    | CALSENSE FLOW METER MODEL # FM-1.50  |
| ⊡                   |          | WATER METER - VERIFY EXISTING LOCATION ON SITE   |
| ⊞                   |          | BACKFLOW DEVICE - SEE P.O.C. NOTE  |
| ⊞                   |          | 11/2" AMIAD TURBO CLEAN FILTER   |
| ⊞                   |          | AUTOMATIC CONTROLLER LOCATION - SEE NOTE.  |
| ⊞                   |          | 2" TORO P220 MASTER VALVE / PRESSURE REGULATOR.  |
| ⊞                   |          | RAINBIRD PESB-PRS SERIES REMOTE CONTROL VALVE - SIZES INDICATED.   |
| ⊞                   |          | SENNINGER INLINE PRESSURE REGULATOR - LINE SIZE.   |
| ⊞                   |          | DURA PRODUCTS MODEL #536-007 3/4" SLIP X 3/4" MALE HOSE THREAD PVC MALE ADAPTER, WITH A DURA PRODUCTS MODEL #548-007 3/4" PVC FEMALE HOSE THREAD CAP WITH O-RING FLUSH CAP AT THE END OF ALL MANIFOLD LINES. |
| ⊞                   |          | INSTALL 1" PVC CHECK VALVE SWING OR SPRING TYPE PER VALLEY WIDE STDS.  |
| ⊞                   |          | FERTILIZER INJECTOR SYSTEM F-4000 AVAILABLE FROM PLANT'S CHOICE INC.   |
| <b>DRIP SYSTEMS</b> |          |  |
| ⊞                   |          | RAIN BIRD PESB-100 SERIES VALVE, WITH A AMIAD #1-1201, 1" WYE STRAINER W/DISK FILTER. PER DRIP VALVE DETAIL.   |
| ---                 |          | SCH 40 UVR PVC MAINFOLD LATERAL LINES - SEE EMITTER ASSEMBLY FOR POINT TO POINT IRRIGATION.  |
| ---                 |          | PVC SCH 40 LATERAL LINE - 12" COVER IN PLANTING AREAS, 24" COVER UNDER PAVING. - SIZES INDICATED.  |
| ---                 |          | PVC SCH 40 MAINLINE 2" AND SMALLER, CLASS 315 2 1/2" OR LARGER - 18" COVER IN PLANTING AREAS, 24" COVER UNDER PAVING - SIZES INDICATED.  |
| ---                 |          | PVC SCH 40 WIRE SLEEVE - SIZE AND LOCATION PER CONTRACTOR  |
| ---                 |          | PVC SCH 40 MAIN AND LATERAL LINE SLEEVE 2X DIA. OF PIPE. - PROVIDE SLEEVES UNDER ANY PAVING THAT EXCEEDS 4' WIDE.  |
| ⊞                   |          | INDICATES STATION NUMBER   |
| ⊞                   |          | INDICATES CONTROLLER   |
| ⊞                   |          | INDICATES GPM  |
| ⊞                   |          | INDICATES VALVE SIZE   |
| ⊞                   |          | INDICATES CONTROLLER   |
| ⊞                   |          | INDICATES DRIP VALVE SIZE  |
| ⊞                   |          | INDICATES GPM  |
| ⊞                   |          | INDICATES TREE SIZE / QTY.   |
| ⊞                   |          | INDICATES 1 GAL GROUND COVER QTY.  |
| ⊞                   |          | INDICATES SHRUB QTY.   |

**Point of Connection 'A' & 'B'**  
INSTALL A 2" DOMESTIC WATER METER - LOCATE PER CIVIL PLANS. INSTALL A 2" FEBCO 825YA REDUCED PRESSURE TYPE BACKFLOW DEVICE. - VERIFY LOCATIONS WITH CITY INSPECTOR. VERIFY FINAL LOCATIONS

Static Pressure @ 1463' ELEV.: 54 PSI  
Design Pressure: 59.1 PSI  
Maximum Demand: 20 GPM

PRESSURE DATA OBTAINED FROM: Eastern Municipal Water District  
Corey Wallace 909-928-3777

**Controller 'A' & 'B'**  
CONTACT BOB MOXLEY @ CALSENSE FOR VALLEY WIDE STANDARDS. CONTROLLERS TO BE:  
ET-2000-32-MLR-FL-RR-SSE-R & ET-2000-24-ML-FL-RR-SSE-R  
(2) CALSENSE ET 2000 CONTROLLERS IN TWO SEPARATE ENCLOSURES  
MASTER VALVE RELAY / FLOW SENSOR / RAIN SENSOR ASSEMBLY  
CONTROLLER 'A' (32) FOR LMD PARKWAYS  
CONTROLLER 'B' (24) FOR LETTERED LOTS AND BASINS.  
LOCATE IN AN APPROXIMATE LOCATION AS SHOWN. SCREEN WITH ADDITIONAL SHRUBS AS NECESSARY TO ALLOW FULL MOVEMENT OF ENCLOSURE DOORS. CONTRACTOR TO PROVIDE 110V CONTINUOUS POWER AND MAKE FINAL HOOK UP.  
COORDINATE LOCATIONS WITH OWNER/ DEVELOPER AND LANDSCAPE ARCHITECT PRIOR TO SETTING PEDESTAL. LOCATE IN AN AREA FREE FROM OVER HEAD OBSTRUCTION.



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MARK	BY	DATE	REVISIONS	APPR.	DATE

COUNTY SEAL

COUNTY OF RIVERSIDE  
TRANSPORTATION DEPARTMENT  
APPROVED BY:

KHALED A. OTHMAN  
R.C.E. 33950

DATE: \_\_\_\_\_

RECOMMENDED

DATE: \_\_\_\_\_

REGISTERED LANDSCAPE ARCHITECT  
BLAINE RICHARD FINNAN  
No. 2403  
07-11-06  
Date

LANTEX  
Landscape Architecture Inc.  
31726 Rancho Viejo Road, Suite 206  
San Juan Capistrano, California 92675  
(949) 248-1993 FAX (949) 493-0706

DESIGNED BY: S.H. DRAWN BY: S.H. CHECKED BY: B.H. SCALE: \_\_\_\_\_ DATE: \_\_\_\_\_

VALLEY WIDE RECREATION & PARK DISTRICT

Samuel W. Godepp  
1-23-06  
Date: \_\_\_\_\_

TRACT 30105 I.P. No. 030147  
IRRIGATION PLAN  
SHADOWRIDGE II TR 30105  
LANDSCAPE IMPROVEMENTS PLANS  
SCHEDULE 'A' MAP

SHEET No. 3  
OF 14 SHEETS

FOR: GRIFFIN COMMUNITIES ENGINEERS FILE No. COUNTY FILE No.

PLAT DATE: 07-11-06

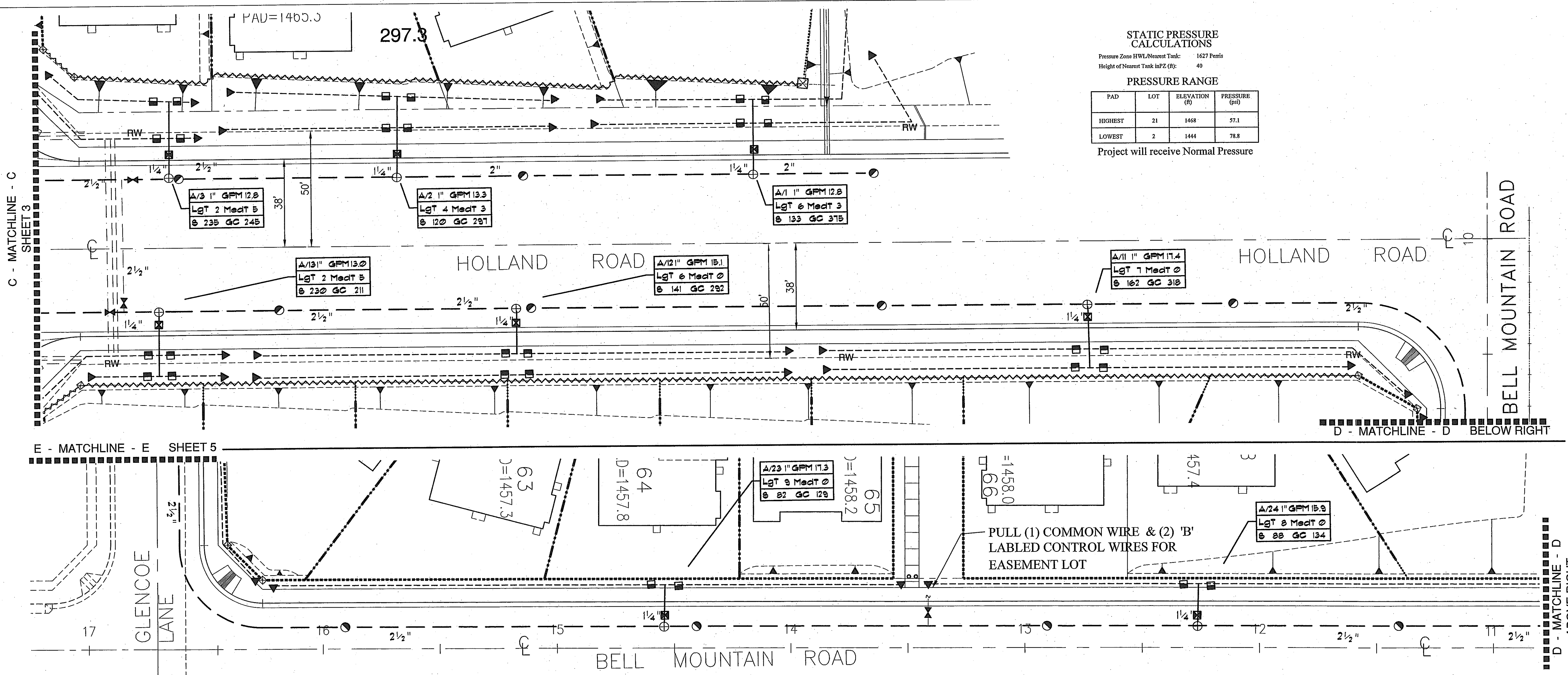
**STATIC PRESSURE CALCULATIONS**

Pressure Zone HWL/Nearest Tank: 1627 Peris  
Height of Nearest Tank in PZ (ft): 40

**PRESSURE RANGE**

PAD	LOT	ELEVATION (ft)	PRESSURE (psi)
HIGHEST	21	1468	57.1
LOWEST	2	1444	78.8

Project will receive Normal Pressure



**IRRIGATION LEGEND**

- | SYMBOL | MFG.     | MODEL NO.  |
|--------|----------|--|
| ○      | RAINBIRD | 44 LRC LOCKING W/ LOCKING RUBBER CAP, QUICK COUPLER.   |
| ⊗      | NIBCO    | T-580 GATE VALVE - LINE SIZE.  |
| ⊠      | 1 1/2"   | CALSENSE FLOW METER MODEL # FM-1.50  |
| ⊡      |          | WATER METER - VERIFY EXISTING LOCATION ON SITE   |
| ⊞      |          | BACKFLOW DEVICE - SEE P.O.C. NOTE  |
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| ⊞      |          | FERTILIZER INJECTOR SYSTEM F-4000 AVAILABLE FROM PLANT'S CHOICE INC.   |

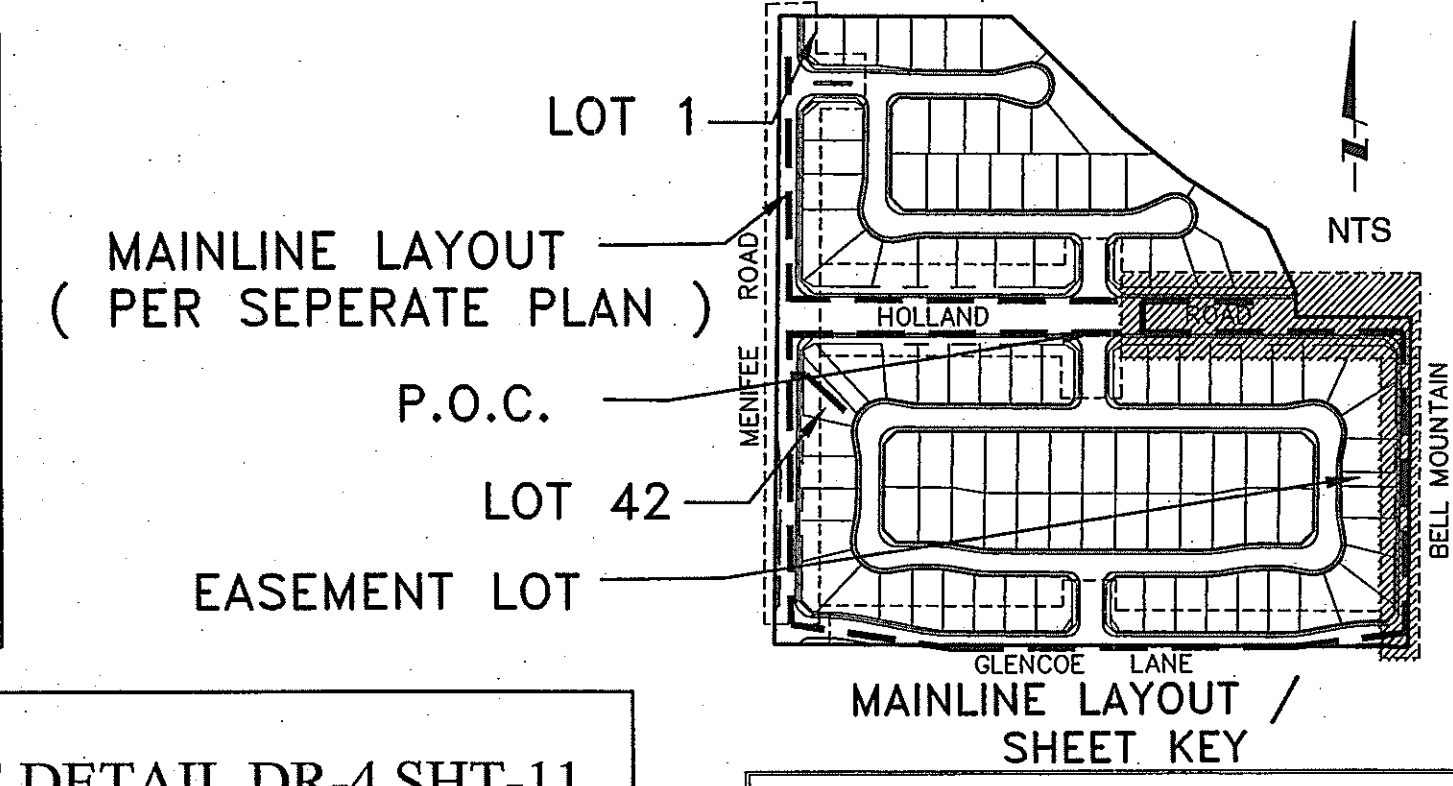
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|--------|------|-----------------------------------|
| ⊞      |      | INDICATES STATION NUMBER          |
| ⊞      |      | INDICATES CONTROLLER              |
| ⊞      |      | INDICATES GPM                     |
| ⊞      |      | INDICATES TREE SIZE / QTY.        |
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| ⊞      |      | INDICATES SHRUB QTY.              |

**PIPE SIZING / SLEEVING**

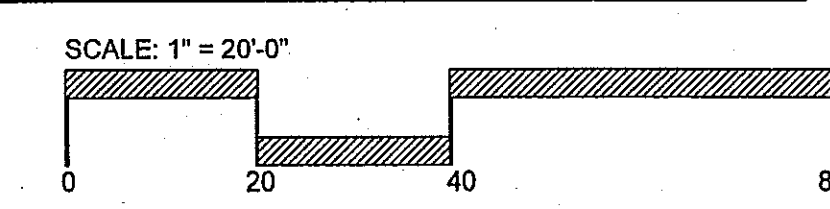
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EMITTER SCHEDULE SEE DETAIL DR-4 SHT-11



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COUNTY SEAL

COUNTY OF RIVERSIDE  
TRANSPORTATION DEPARTMENT  
APPROVED BY:

KHALED A. OTHMAN  
R.C.E. 33950

DATE: \_\_\_\_\_

RECOMMENDED

DATE: \_\_\_\_\_

REGISTERED LANDSCAPE ARCHITECT

BLAKE RICHARD HANNA  
No. 2403

01-11-06  
Signature

DATE OF CALIFORNIA

EXPIRES 11-30-2006

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VALLEY WIDE RECREATION & PARK DISTRICT

Samuel W. Goepf  
Date: 1-23-06

TRACT 30105 I.P. No. 030147

IRRIGATION PLAN  
SHADOWRIDGE II TR 30105  
LANDSCAPE IMPROVEMENTS PLANS

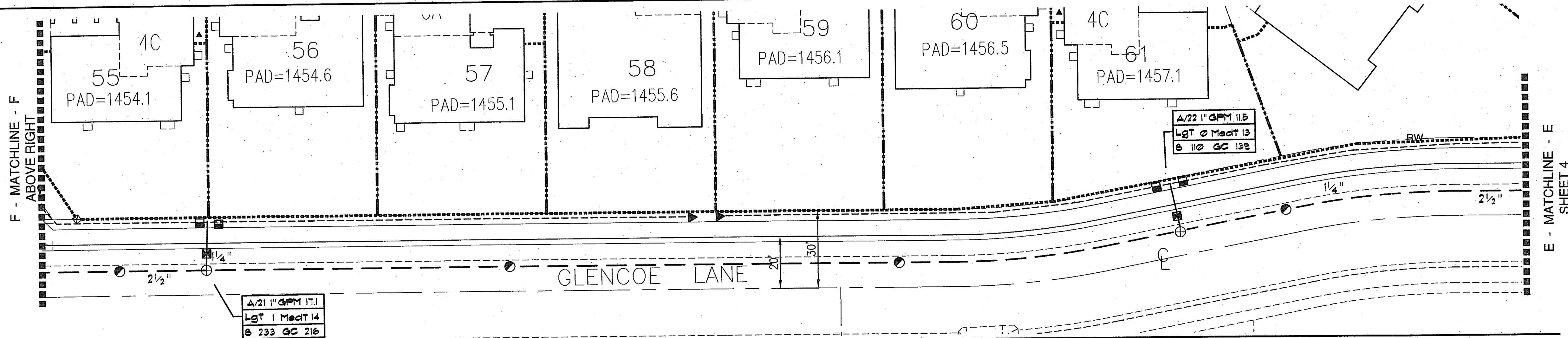
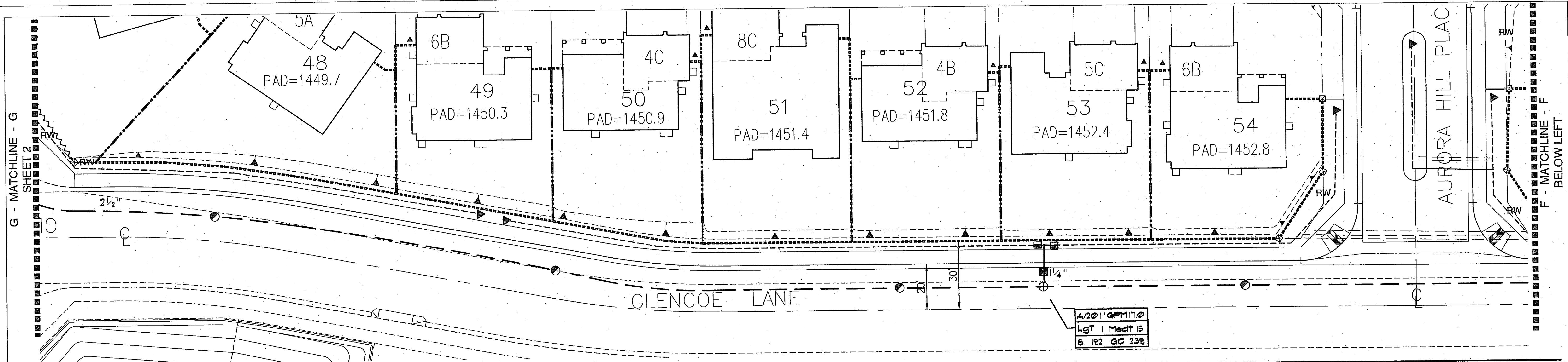
SCHEDULE 'A' MAP

FOR: GRIFFIN COMMUNITIES ENGINEERS FILE No. COUNTY FILE No.

SHEET No. 4 OF 14 SHEETS

PLAT DATE: 01-11-06





**IRRIGATION LEGEND**

- | SYMBOL | MFG.          | MODEL NO.  |
|--------|---------------|--|
|        | RAINBIRD      | 44 LRC LOCKING W/ LOCKING RUBBER CAP, QUICK COUPLER.   |
|        | NIBCO         | T-580 GATE VALVE - LINE SIZE.  |
|        | CAL-SENSE     | FLOW METER MODEL # FM-1.50   |
|        |               | WATER METER - VERIFY EXISTING LOCATION ON SITE   |
|        |               | BACKFLOW DEVICE - SEE P.O.C. NOTE  |
|        | AMIAD         | TURBO CLEAN FILTER   |
|        |               | AUTOMATIC CONTROLLER LOCATION - SEE NOTE.  |
|        | TORO          | P220 MASTER VALVE / PRESSURE REGULATOR.  |
|        | RAINBIRD      | PESB-PRS SERIES REMOTE CONTROL VALVE - SIZES INDICATED.  |
|        | SENNINGER     | INLINE PRESSURE REGULATOR - LINE SIZE.   |
|        | DURA PRODUCTS | MODEL #536-007 3/4" SLIP X 3/4" MALE HOSE THREAD PVC MALE ADAPTER, WITH A DURA PRODUCTS MODEL #548-007 3/4" PVC FEMALE HOSE THREAD CAP WITH O-RING FLUSH CAP AT THE END OF ALL MANIFOLD LINES. |
|        |               | INSTALL 1" PVC CHECK VALVE SWING OR SPRING TYPE PER VALLEY WIDE STDS.  |
|        |               | FERTILIZER INJECTOR SYSTEM F-4000 AVAILABLE FROM PLANTS CHOICE INC.  |

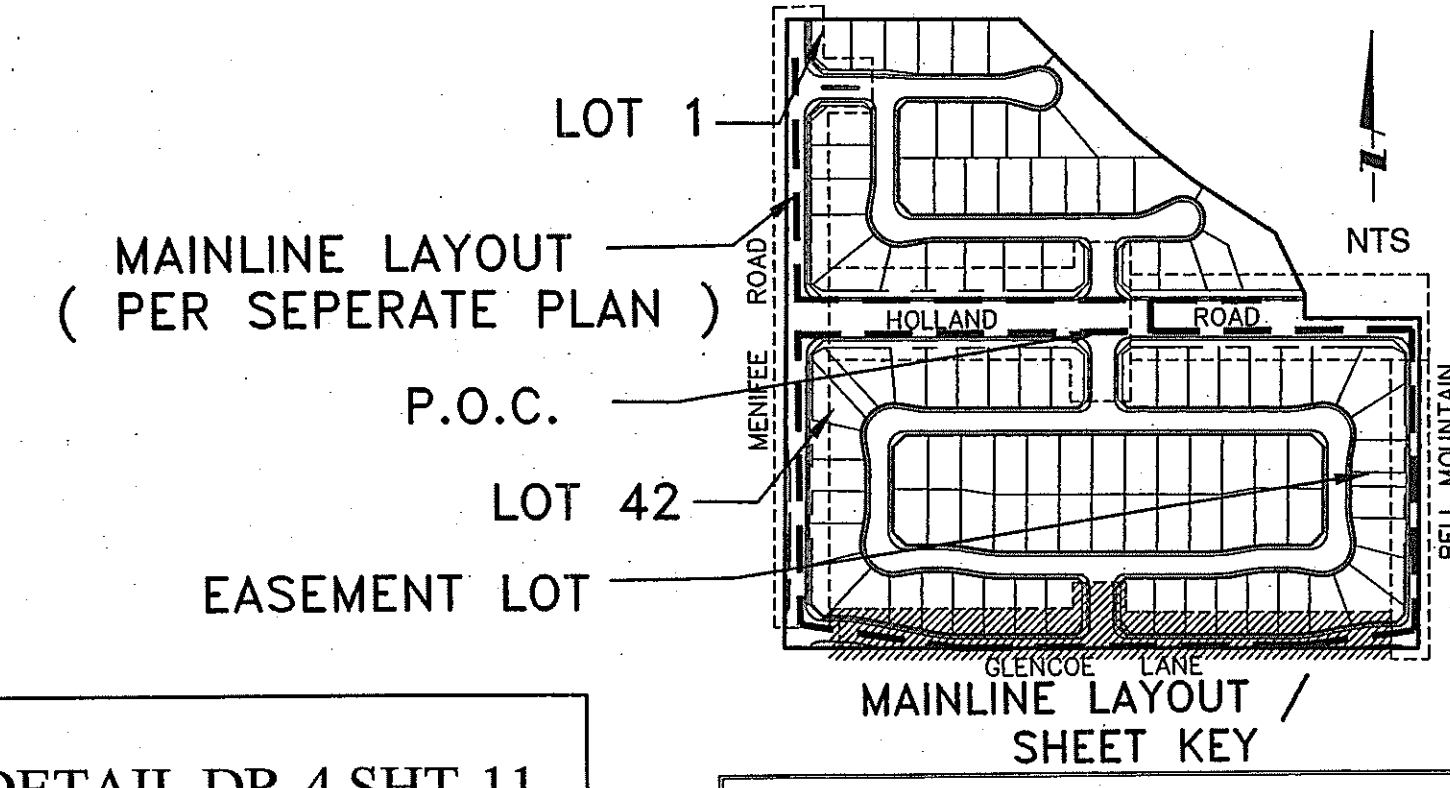
- | SYMBOL | MFG.       | MODEL NO.  |
|--------|------------|--|
|        | RAIN BIRD  | PESB-100 SERIES VALVE, WITH A AMIAD #1-1201, 1" WYE STRAINER W/DISK FILTER. PER DRIP VALVE DETAIL.                           |
|        | SCH 40 UVR | PVC MANIFOLD LATERAL LINES - SEE EMITTER ASSEMBLY FOR POINT TO POINT IRRIGATION.   |
|        | PVC SCH 40 | LATERAL LINE - 12" COVER IN PLANTING AREAS, 24" COVER UNDER PAVING - SIZES INDICATED.  |
|        | PVC SCH 40 | MAINLINE 2" AND SMALLER, CLASS 315 2 1/2" OR LARGER - 18" COVER IN PLANTING AREAS, 24" COVER UNDER PAVING - SIZES INDICATED. |
|        | PVC SCH 40 | WIRE SLEEVE - SIZE AND LOCATION PER CONTRACTOR   |
|        | PVC SCH 40 | MAIN AND LATERAL LINE SLEEVE 2X DIA. OF PIPE - PROVIDE SLEEVES UNDER ANY PAVING THAT EXCEEDS 4" WIDE.                        |
|        |            | INDICATES STATION NUMBER   |
|        |            | INDICATES CONTROLLER   |
|        |            | INDICATES GPM  |
|        |            | INDICATES TREE SIZE / QTY.   |
|        |            | INDICATES 1 GAL GROUND COVER QTY.  |
|        |            | INDICATES SHRUB QTY.   |

**PIPE SIZING / SLEEVING**

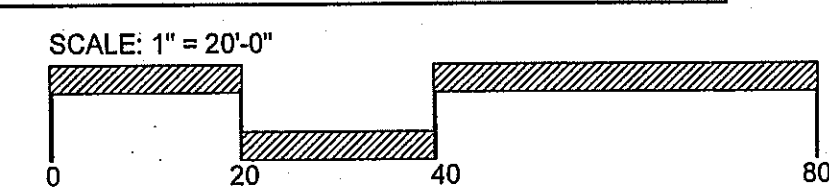
THIS LEGEND TO BE USED FOR LATERAL LINE PIPE INSTALLATION. ALL MAINLINE TO BE SIZED AS INDICATED ON PLAN

PIPE SIZE	GPM's	APPROX. # HEADS
3/4"	1-8	1-10
1"	9-14	11-14
1 1/4"	14-23	15-20
1 1/2"	24-34	21-30
2"	35-45	31-35+

NOTE: LATERAL SIZE IS SHOWN AT EACH VALVE EXIT.  
NOTE: CONTRACTOR IS REQUIRED TO PROVIDE SLEEVING FOR ALL LATERAL LINE AND MAINLINE UNDER ALL PAVING SURFACES THAT EXCEED 4" WIDE.

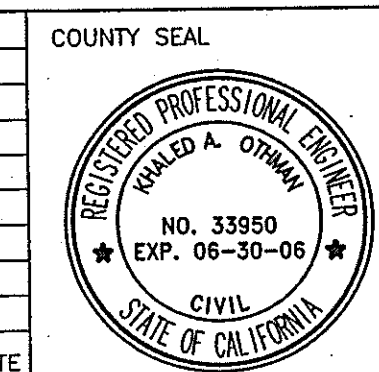


EMITTER SCHEDULE SEE DETAIL DR-4 SHT-11

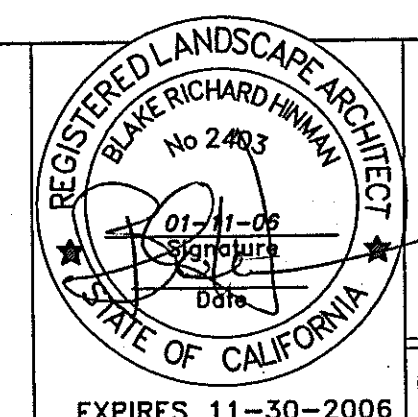


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 Call: TOLL FREE  
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 TWO WORKING DAYS BEFORE YOU DIG

NOTE: APPROVAL BY THE TRANSPORTATION DEPARTMENT IS FOR THE AREA WITHIN ROAD RIGHT OF WAY ONLY



COUNTY OF RIVERSIDE  
 TRANSPORTATION DEPARTMENT  
 APPROVED BY:  
 KHALED A. OTHMAN  
 R.C.E. 33950  
 DATE: \_\_\_\_\_  
 RECOMMENDED: \_\_\_\_\_ DATE: \_\_\_\_\_



**LANTEX**  
 Landscape Architecture Inc.  
 31726 Rancho Viejo Road, Suite 206  
 San Juan Capistrano, California 92675  
 (949) 248-1993 FAX (949) 493-0706

**VALLEY WIDE RECREATION & PARK DISTRICT**  
  
 Samuel W. Goepf  
 Date: 1-23-06

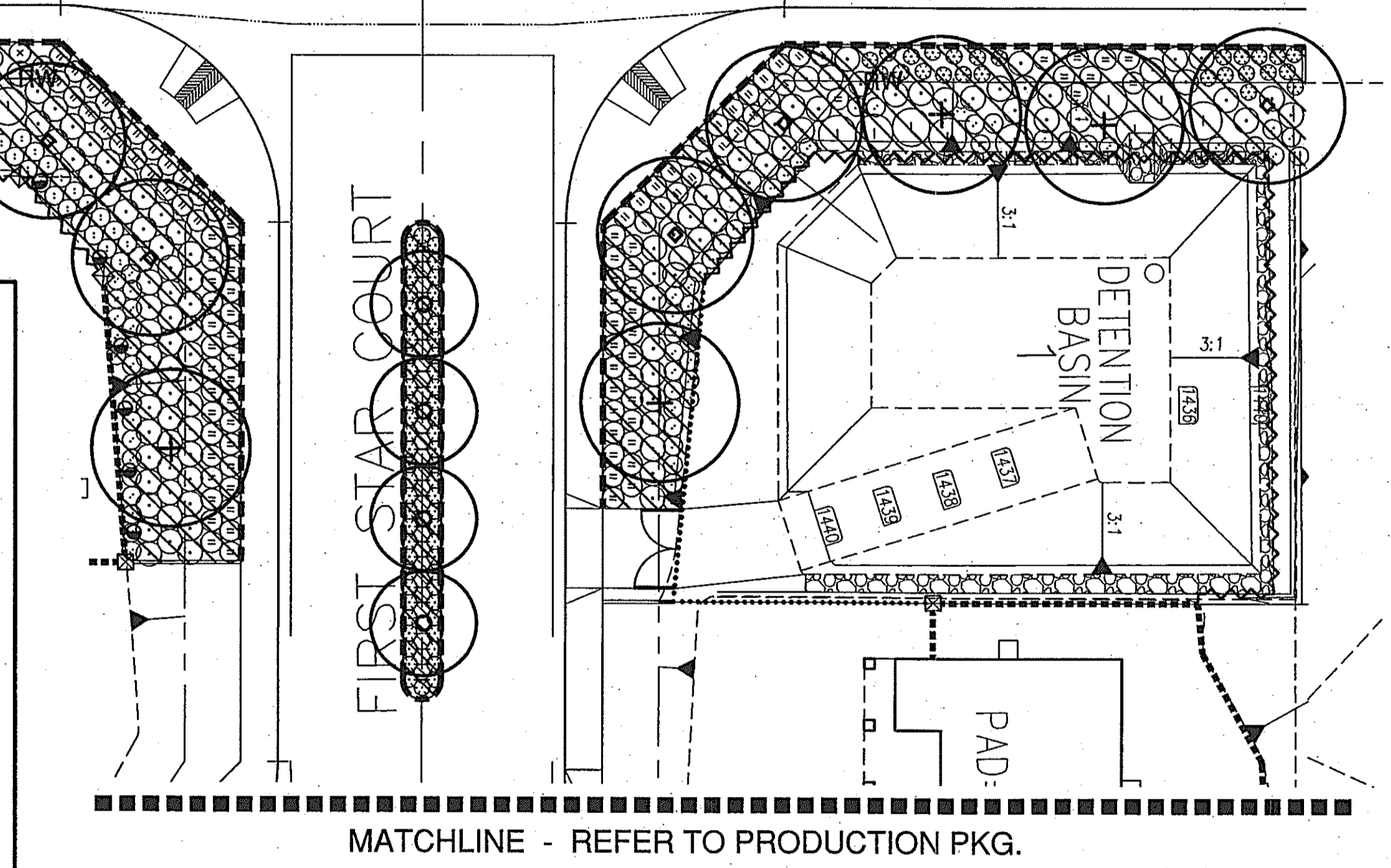
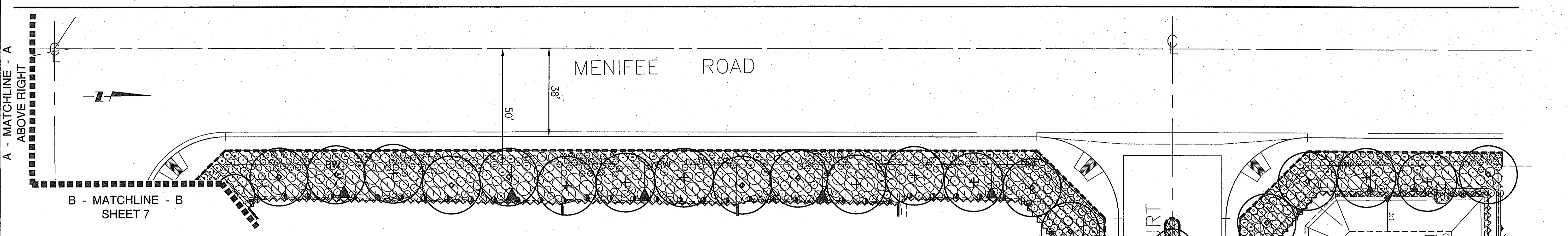
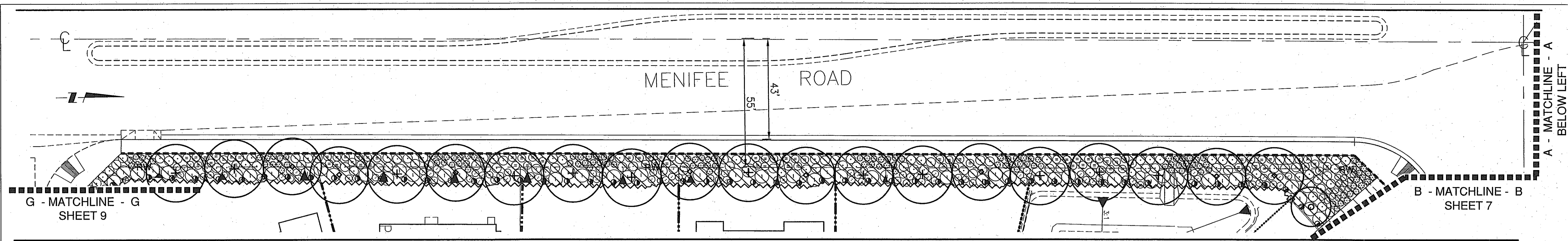
TRACT 30105  
 IRRIGATION PLAN  
 SHADOWRIDGE II TR 30105  
 LANDSCAPE IMPROVEMENTS PLANS  
 SCHEDULE 'A' MAP  
 SHEET No. **5**  
 OF 14 SHEETS

NOTE: WORK CONTAINED WITHIN THESE PLANS SHALL NOT COMMENCE UNTIL AN ENCROACHMENT PERMIT AND/OR GRADING PERMIT HAS BEEN ISSUED

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MARK	BY	DATE	REVISIONS	APPR.	DATE

DESIGNED BY: S.H. DRAWN BY: S.H. CHECKED BY: B.H. SCALE: \_\_\_\_\_ DATE: \_\_\_\_\_  
 FOR: **GRIFFIN COMMUNITIES** ENGINEERS FILE No. \_\_\_\_\_ COUNTY FILE No. \_\_\_\_\_ PLOT DATE: 01-11-06



**PLANT LEGEND**

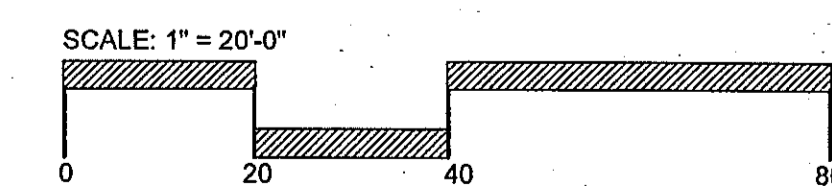
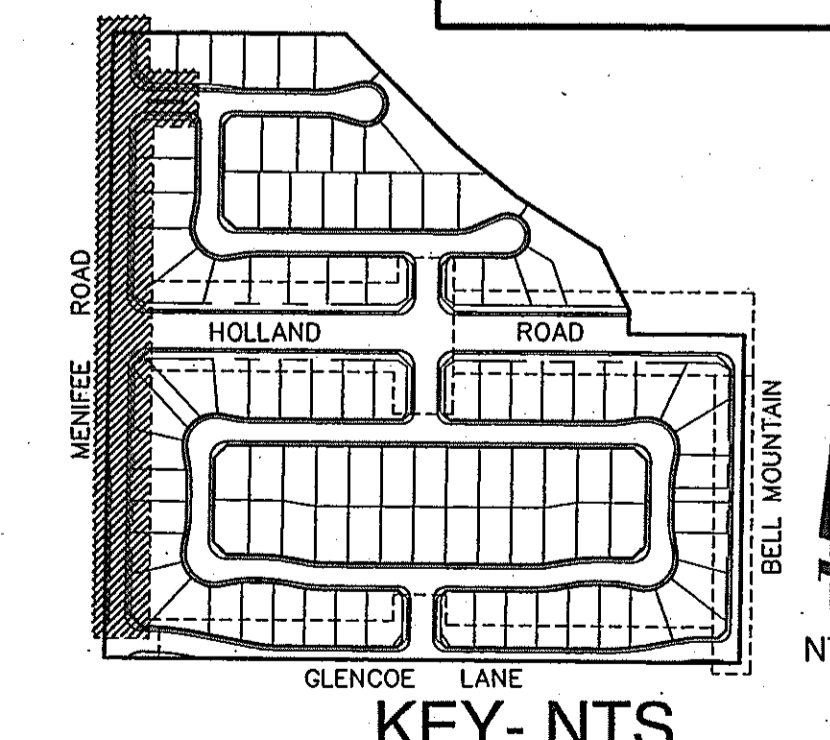
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	○	LAGERSTROEMIA INDICA 'RED'	CRAPE MYRTLE	24" BOX	105
SHRUBS	○	ESCALLONIA COMPACTA	ESCALLONIA	5 GAL.	513
	⊗	HEMEROCALLIS HYBRID (ORANGE)	DAYLILY	1 GAL.	965
	⊙	LAVANDULA STOECHAS	SPANISH LAVENDER	1 GAL.	289
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**PLANT LEGEND**

VINES	SYM.	BOTANICAL NAME	COMMON NAME	SIZE	QTY.
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GROUNDCOVER	▨	MYOPORUM PARVIFLORUM 'PINK'	MYOPORUM	1 GAL. @ 4' O.C.	

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▬ LINEAL ROOT BARRIER - PROVIDE ROOT BARRIER FOR TREES WITHIN 8' OF ANY SIDEWALK OR OTHER HARD SURFACE. SEE DETAIL PL-9 SHEET 11

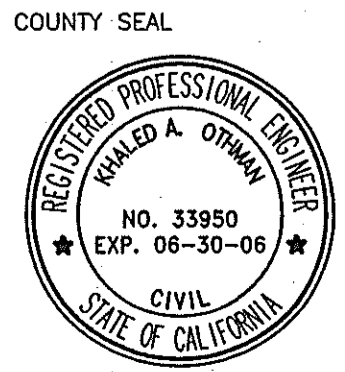


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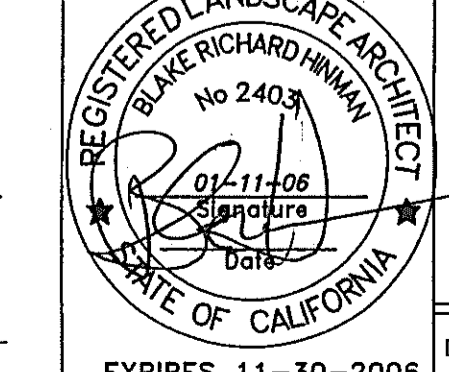
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MARK	BY	DATE	REVISIONS	APPR.	DATE



APPROVAL BY THE TRANSPORTATION DEPARTMENT IS FOR THE AREA WITHIN ROAD RIGHT OF WAY ONLY

COUNTY OF RIVERSIDE  
TRANSPORTATION DEPARTMENT  
APPROVED BY:  
KHALED A. OTHMAN  
R.C.E. 33950



**LANTEX**  
Landscape Architecture Inc.  
31726 Rancho Viejo Road, Suite 206  
San Juan Capistrano, California 92675  
(949) 248-1993 FAX (949) 493-0706

DESIGNED BY: S.H. DRAWN BY: S.H. CHECKED BY: B.H. SCALE: \_\_\_\_\_ DATE: \_\_\_\_\_

TRACT 30105 I.P. No. 030147  
PLANTING PLAN  
SHADOWRIDGE II TR 30105  
LANDSCAPE IMPROVEMENTS PLANS  
SCHEDULE 'A' MAP

FOR: GRIFFIN COMMUNITIES ENGINEERS FILE No. COUNTY FILE No.

SHEET No. 6 OF 14 SHEETS

DATE: 1-23-06

DATE: 01-11-06



B - MATCHLINE - B SHEET 6

C - MATCHLINE - C SHEET 8

MATCHLINE - REFER TO PROD. PKG.

MATCHLINE - REFER TO PROD. PKG.

HOLLAND ROAD

HOLLAND ROAD

SHADOW MOUNTAIN TRAIL

SHADOW MOUNTAIN

PLANT LEGEND

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PLANT LEGEND

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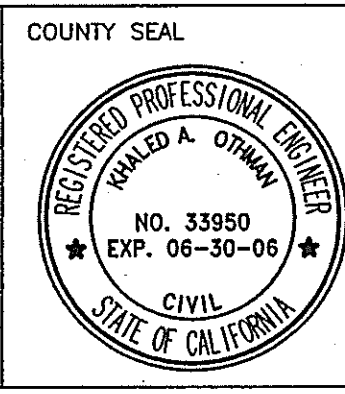
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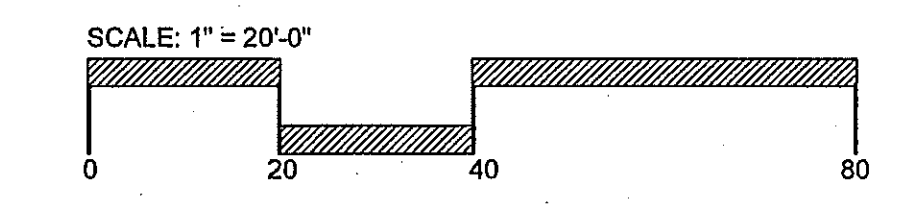
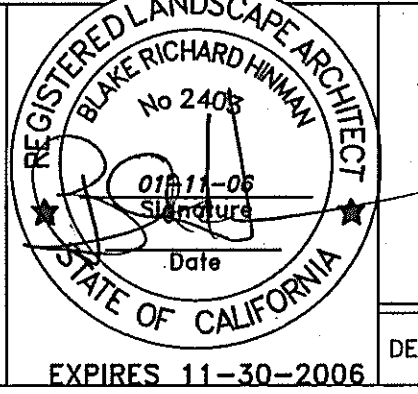
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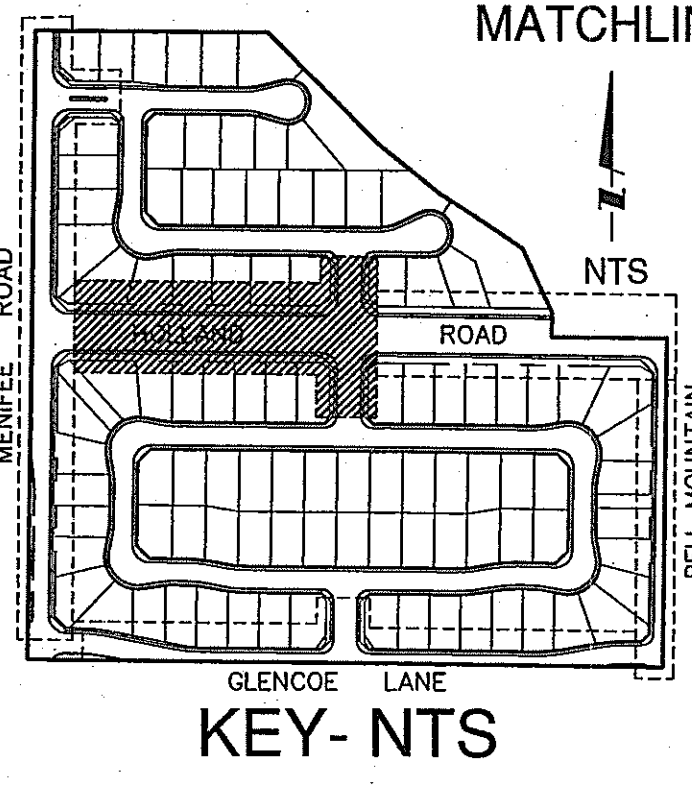
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COUNTY OF RIVERSIDE  
TRANSPORTATION DEPARTMENT  
APPROVED BY:  
KHALED A. OTHMAN  
R.C.E. 33950  
DATE: \_\_\_\_\_  
RECOMMENDED: \_\_\_\_\_  
DATE: \_\_\_\_\_



**LANTEX**  
Landscape Architecture Inc.  
31726 Rancho Viejo Road, Suite 206  
San Juan Capistrano, California 92675  
(949) 248-1993 FAX (949) 493-0706

DESIGNED BY: S.H. DRAWN BY: S.H. CHECKED BY: B.H. SCALE: \_\_\_\_\_ DATE: \_\_\_\_\_

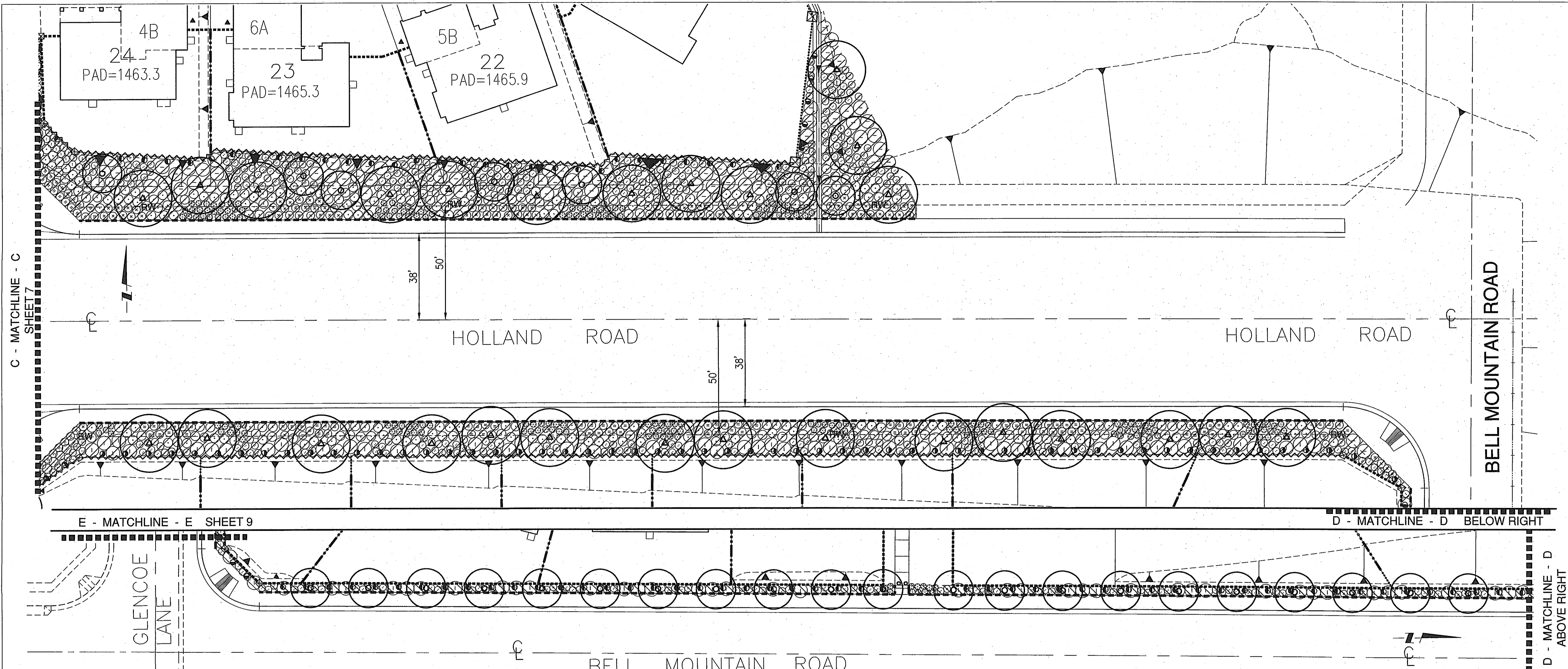


VALLEY WIDE RECREATION & PARK DISTRICT

Samuel W. Bepp  
Date: 1-23-06

TRACT 30105 I.P. No. 030147  
SHEET No. 7  
PLANTING PLAN  
SHADOWRIDGE II TR 30105  
LANDSCAPE IMPROVEMENTS PLANS  
SCHEDULE 'A' MAP  
FOR: GRIFFIN COMMUNITIES ENGINEERS FILE No. COUNTY FILE No.  
PLOT DATE: 01-11-06





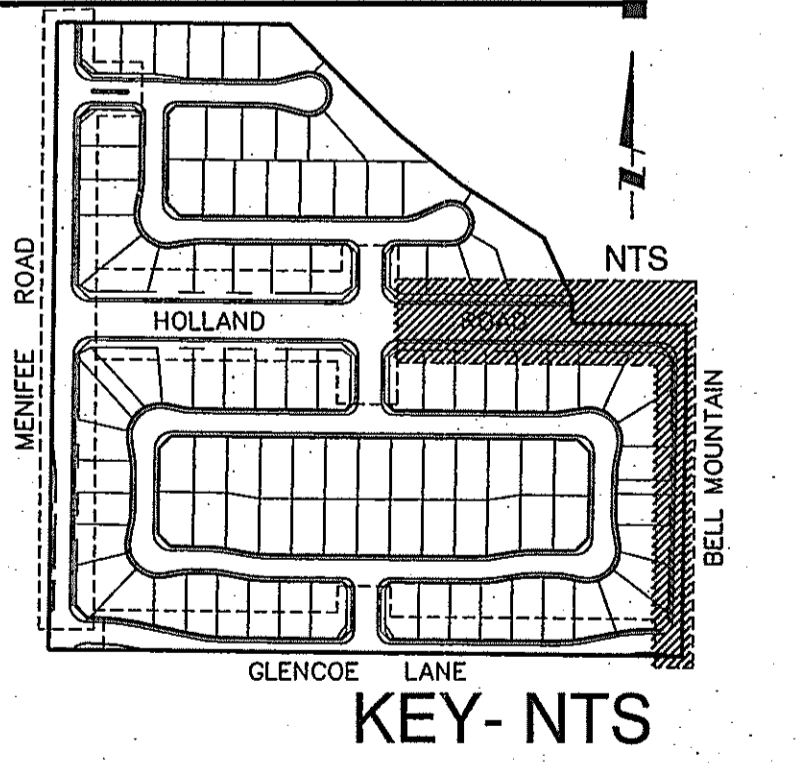
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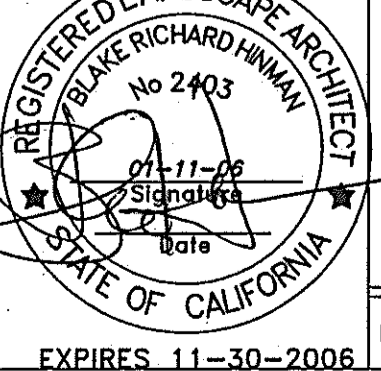
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COUNTY OF RIVERSIDE  
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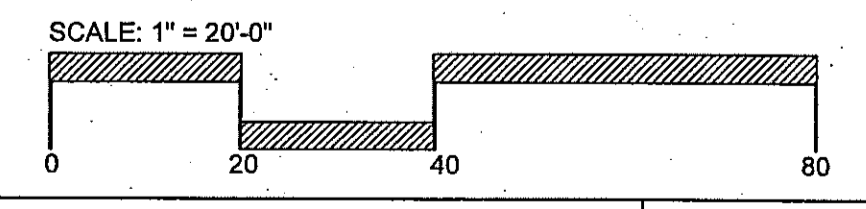


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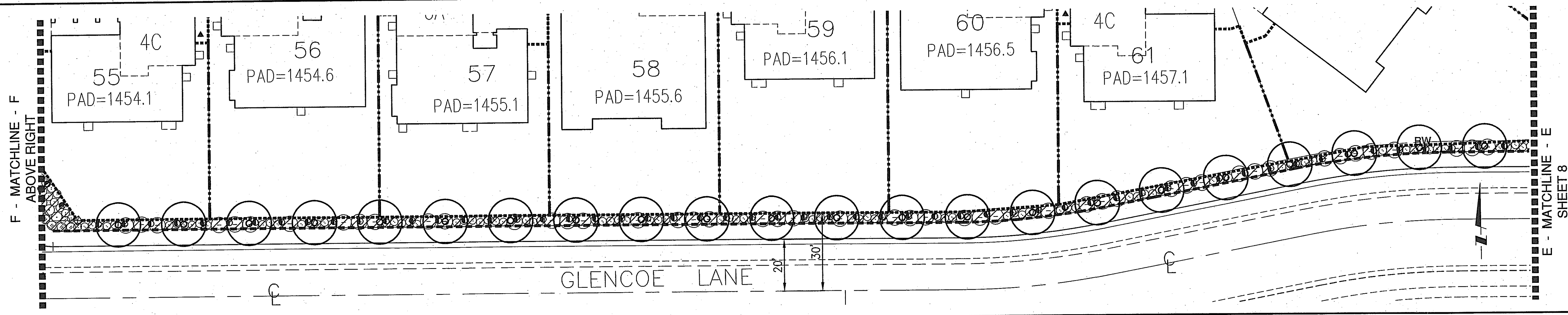
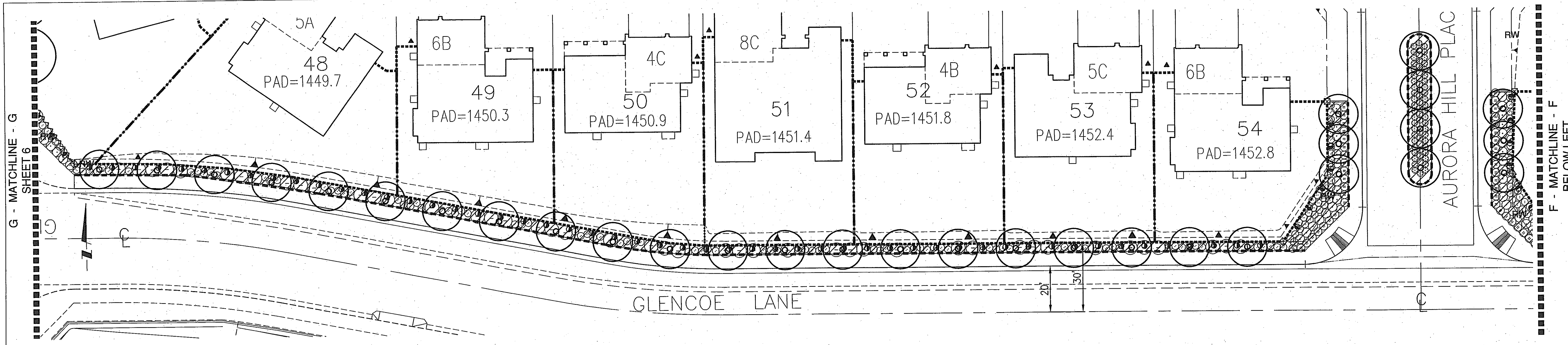
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TRACT 30105 I.P. No. 030147  
PLANTING PLAN  
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FOR: GRIFFIN COMMUNITIES ENGINEERS FILE No. COUNTY FILE No.  
SHEET No. 8 OF 14 SHEETS  
Date: 1-23-06  
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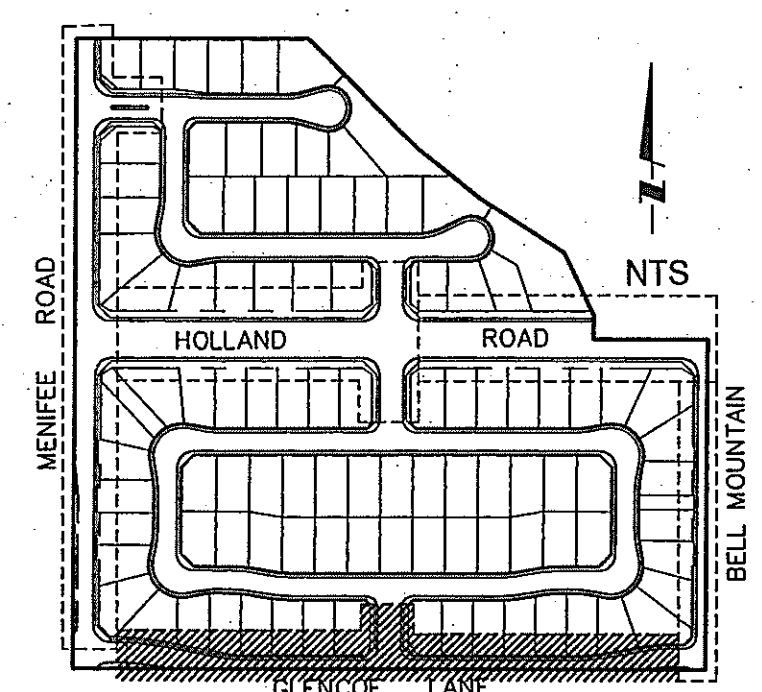
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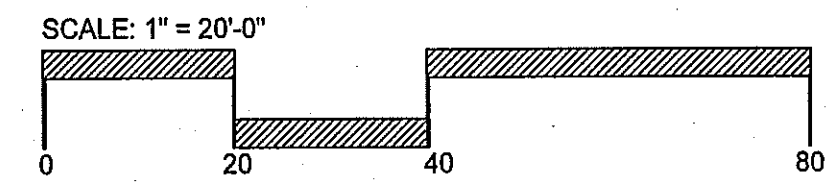
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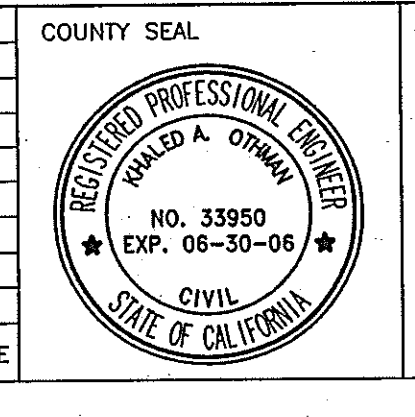
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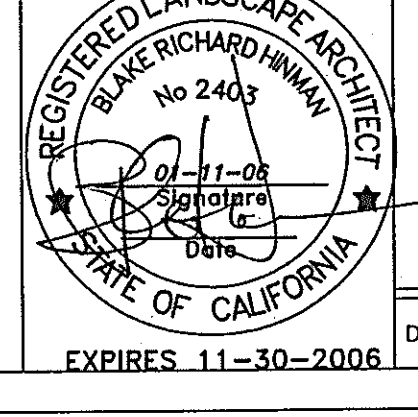
**KEY-NTS**  
VALLEY WIDE RECREATION & PARK DISTRICT  
Date: 1-23-06

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MARK	BY	DATE	REVISIONS	APPR.	DATE



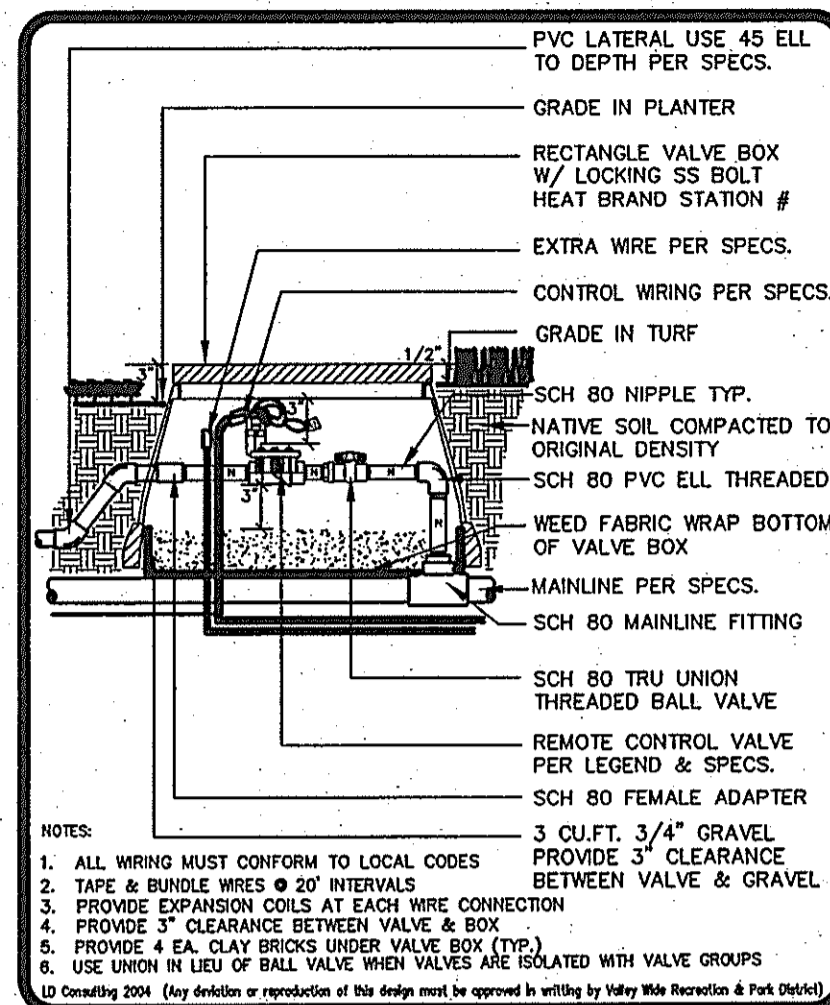
COUNTY OF RIVERSIDE  
TRANSPORTATION DEPARTMENT  
APPROVED BY:  
KHALED A. OTHMAN  
R.C.E. 33950



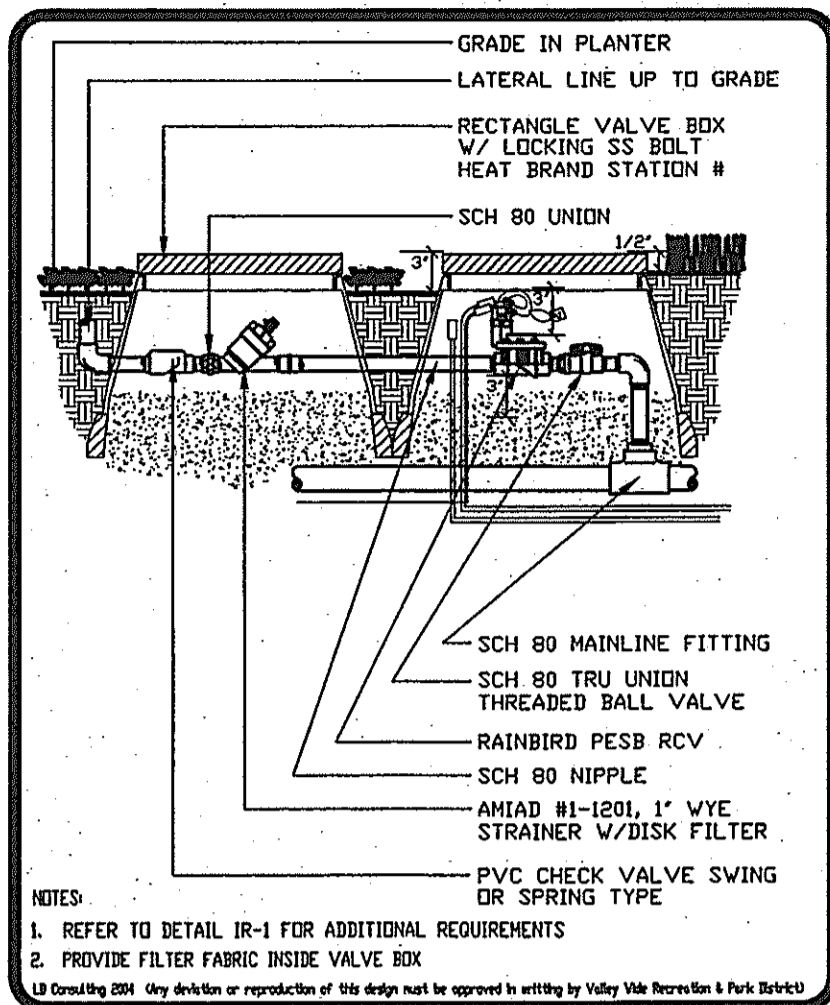
**LANTEX**  
Landscape Architecture Inc.  
31726 Rancho Viejo Road, Suite 206  
San Juan Capistrano, California 92675  
(949) 248-1993 FAX (949) 493-0706

TRACT 30105 I.P. No. 030147  
PLANTING PLAN  
SHADOWRIDGE II TR 30105  
LANDSCAPE IMPROVEMENTS PLANS  
SCHEDULE 'A' MAP  
FOR: GRIFFIN COMMUNITIES  
ENGINEERS FILE No. COUNTY FILE No.  
SHEET No. 9 OF 14 SHEETS  
DATE: 01-11-06

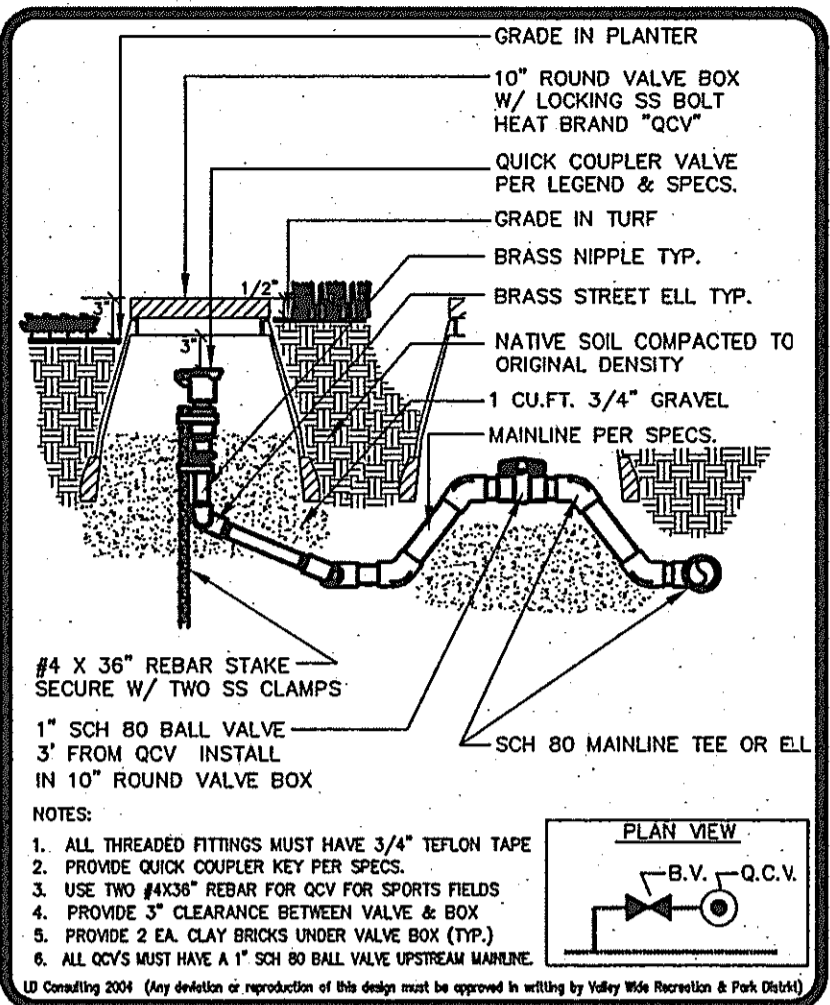




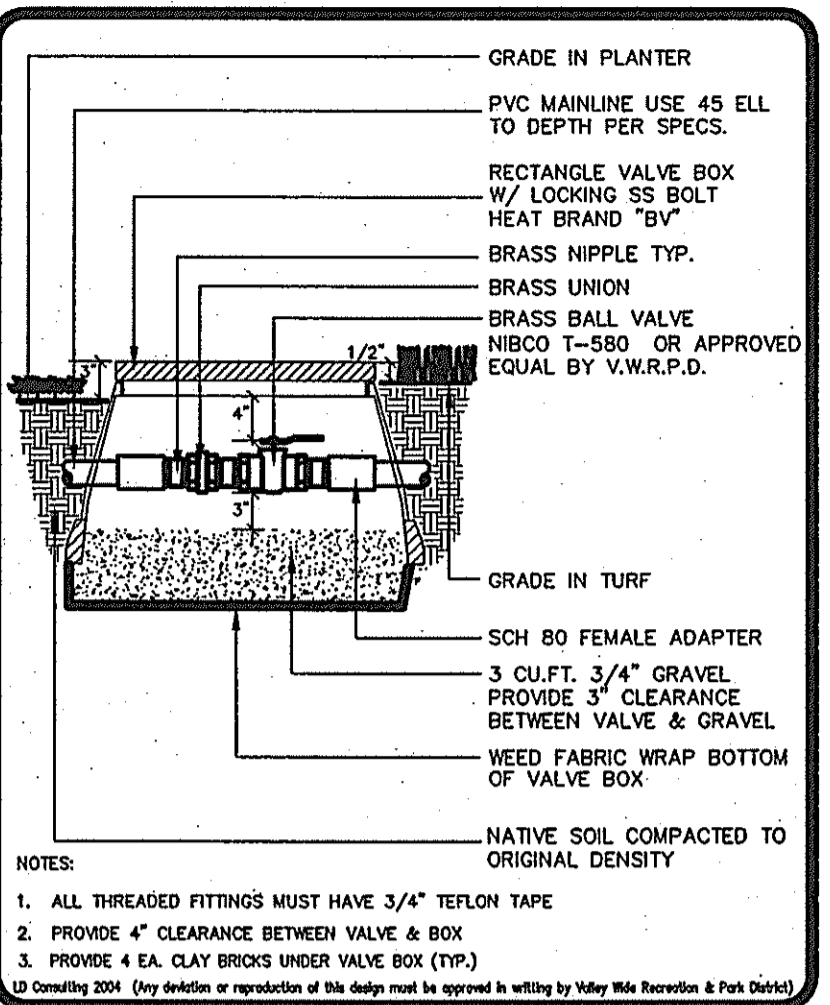
VALLEY WIDE RECREATION  
11/04 REMOTE CONTROL VALVE IR-1



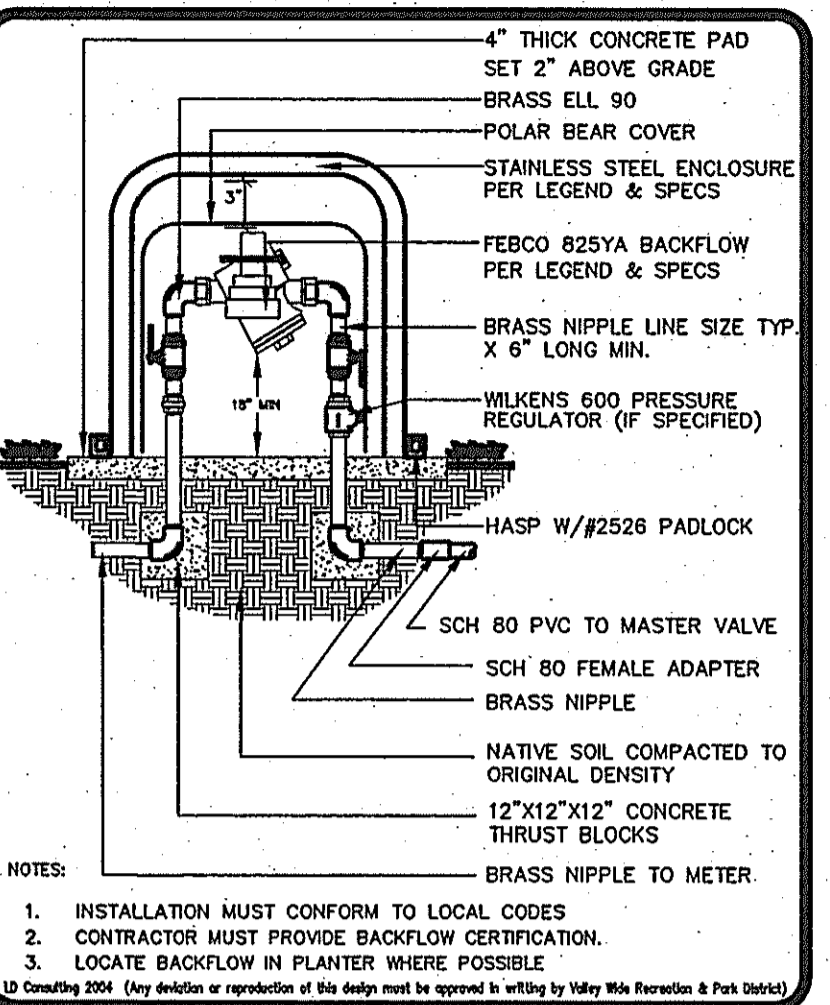
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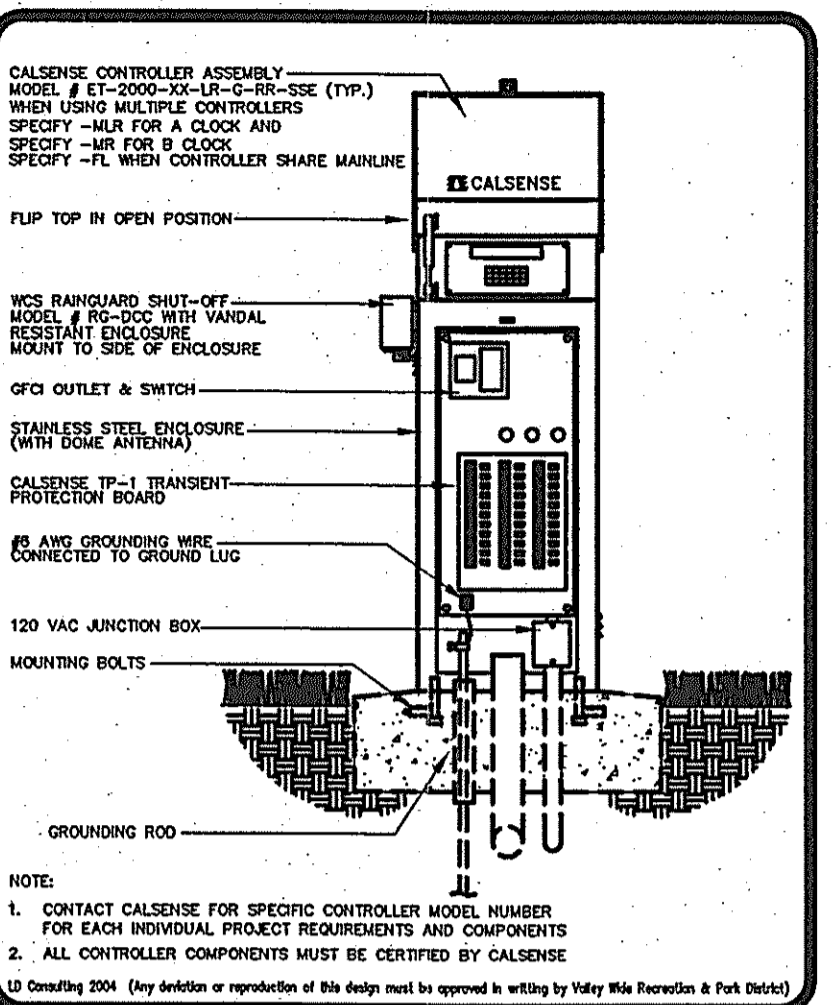
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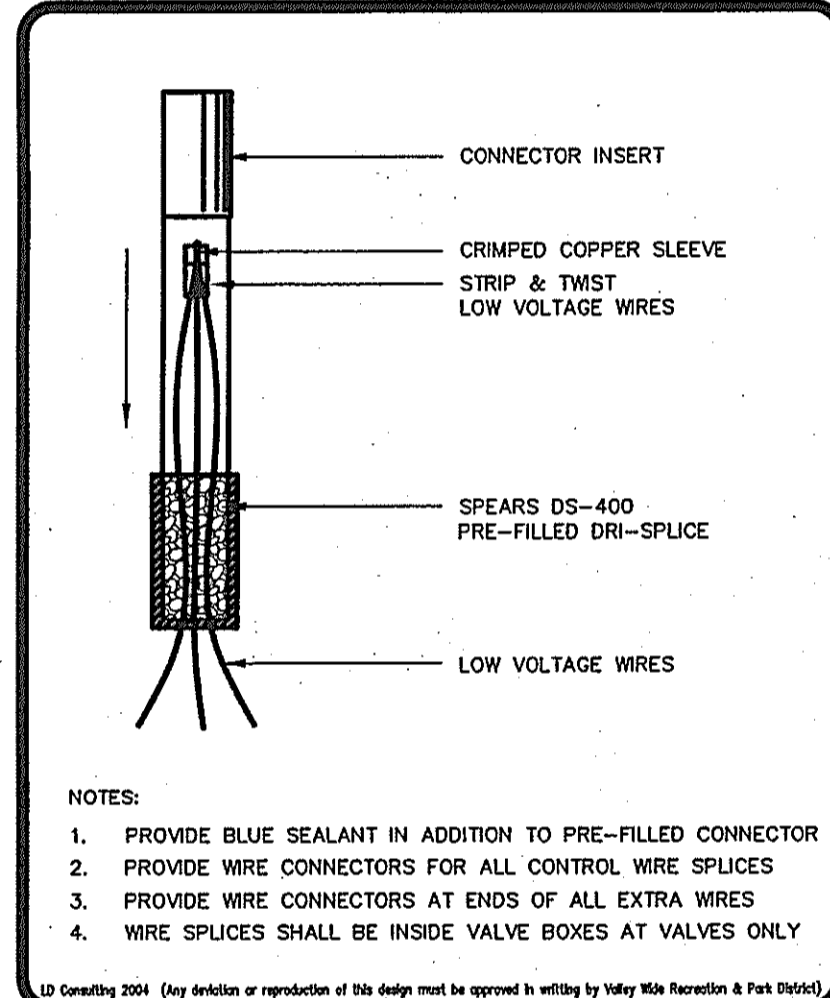
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11/04 BRASS BALL VALVE IR-4



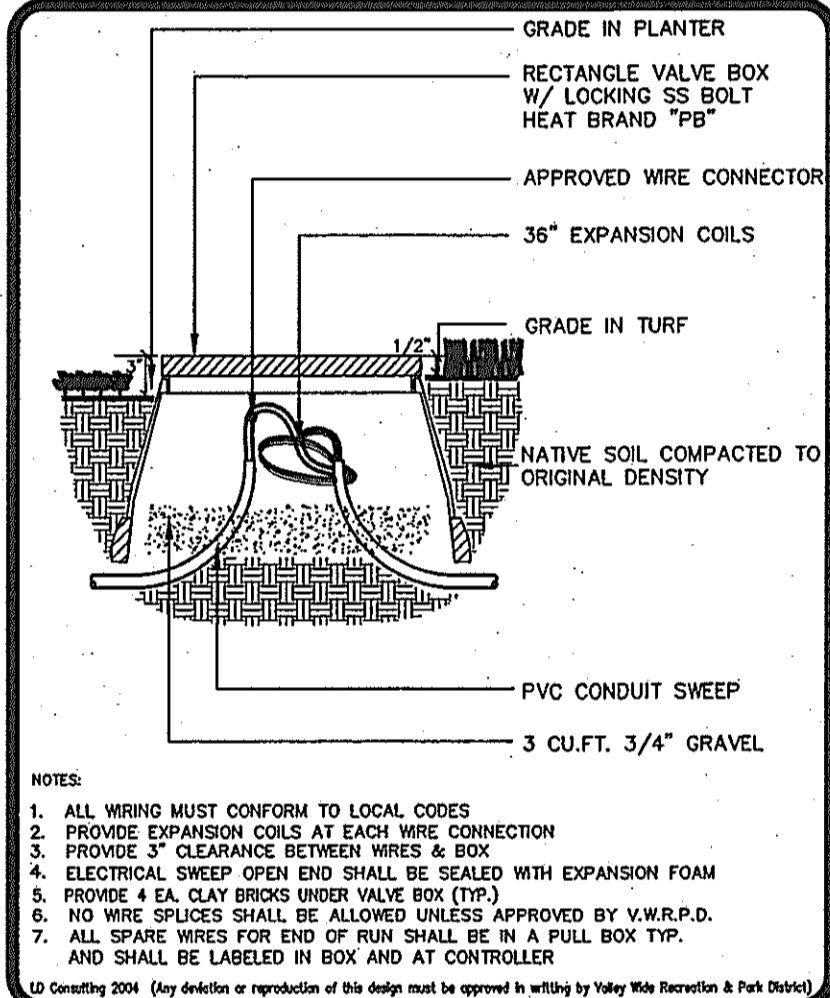
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11/04 BACKFLOW PREVENTER IR-6



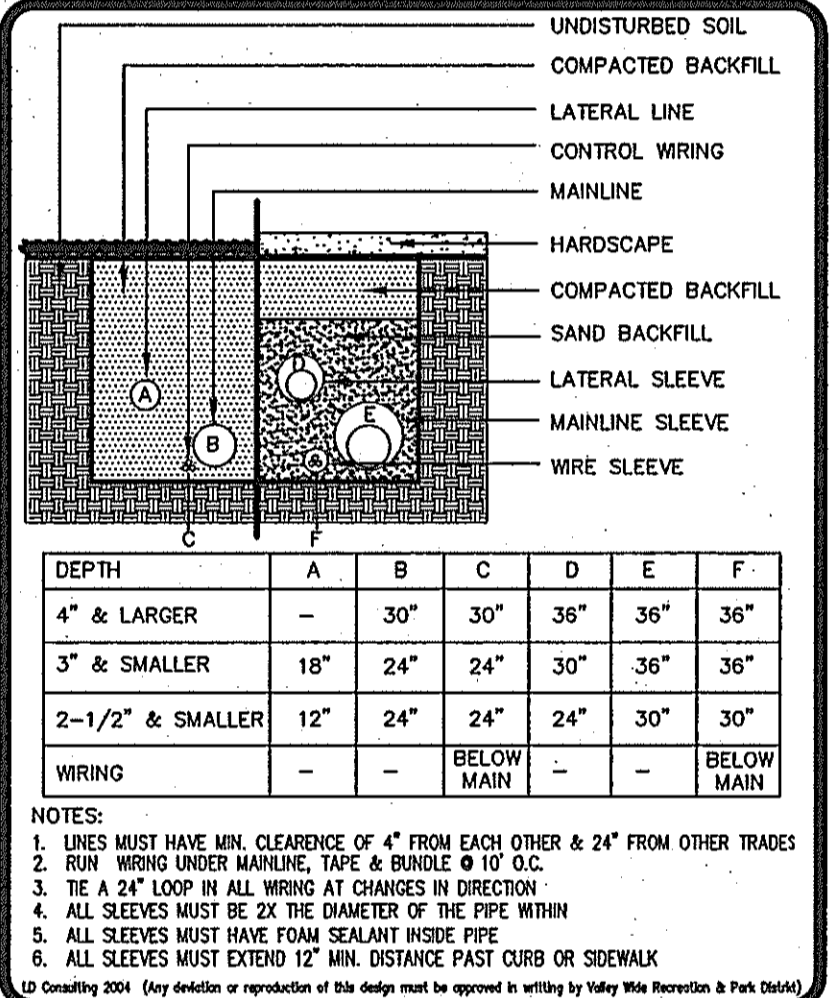
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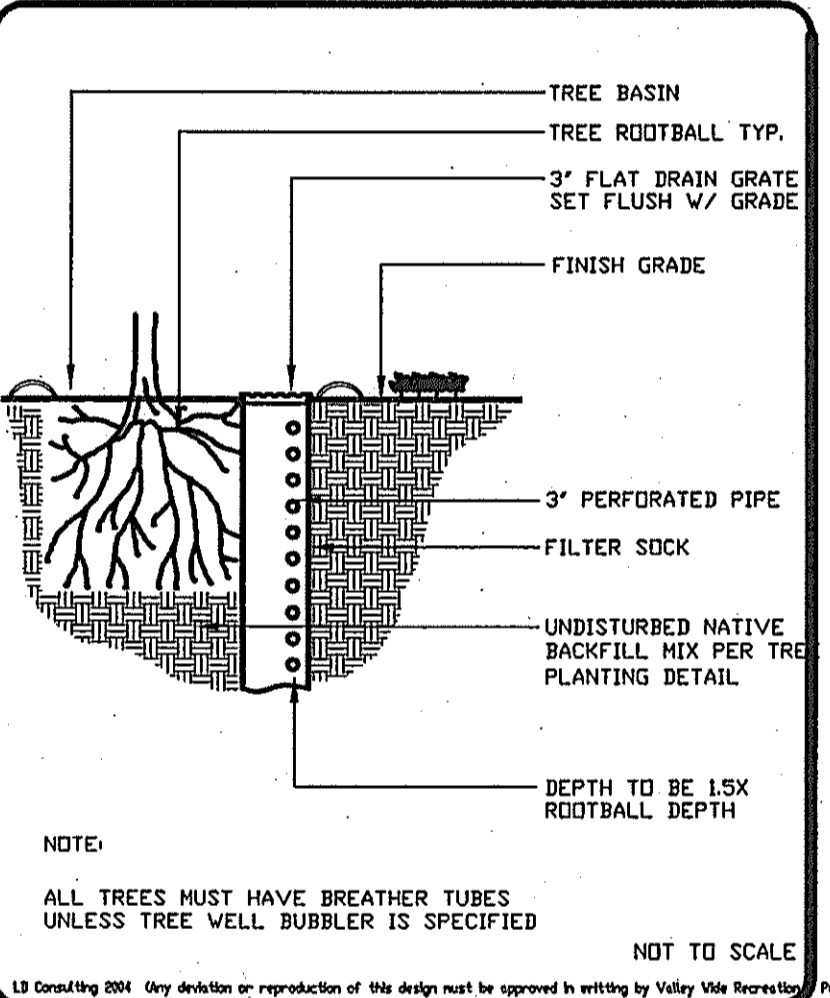
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11/04 WIRE CONNECTORS IR-9



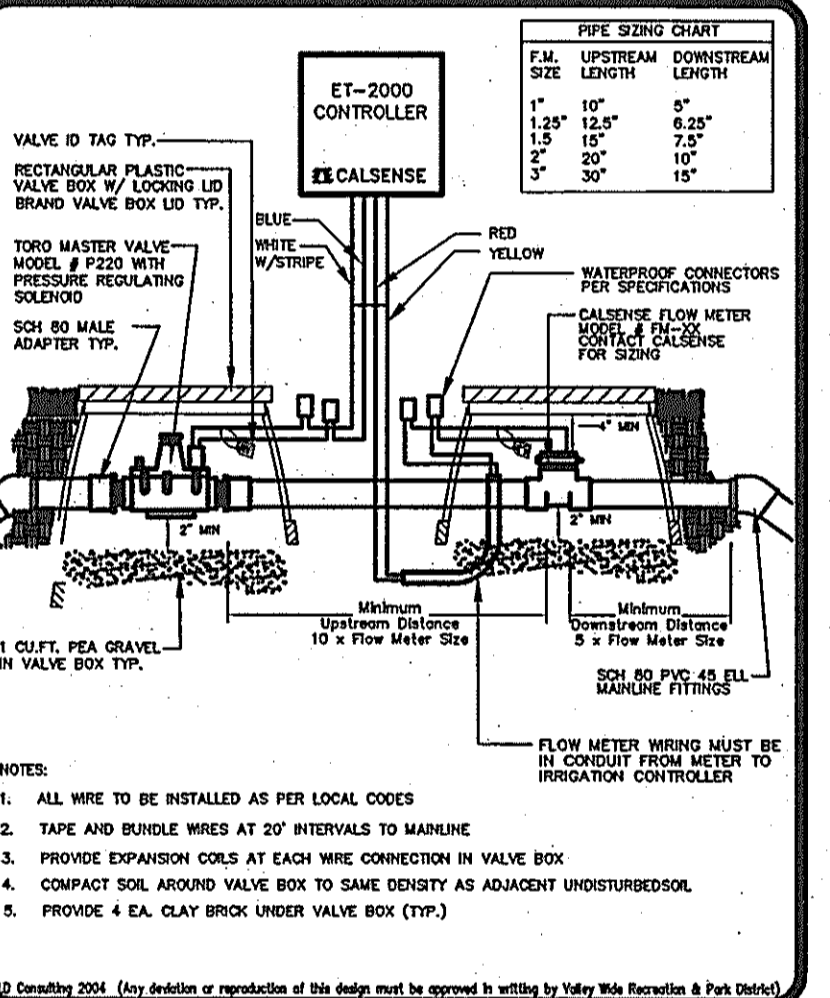
VALLEY WIDE RECREATION  
11/04 PULL BOX IR-10



VALLEY WIDE RECREATION  
11/04 PIPE & WIRE TRENCHING IR-11



VALLEY WIDE RECREATION  
11/04 TREE BREATHING TUBE IR-13



VALLEY WIDE RECREATION  
11/04 MASTER VALVE & FLOW METER IR-21

Underground Service Alert  
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TWO WORKING DAYS BEFORE YOU DIG

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MARK	BY	DATE	REVISIONS	APPR.	DATE

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COUNTY SEAL

COUNTY OF RIVERSIDE  
TRANSPORTATION DEPARTMENT  
APPROVED BY:  
KHALED A. OTHMAN  
R.C.E. 33950  
DATE: \_\_\_\_\_

REGISTERED LANDSCAPE ARCHITECT  
BLAKE RICHARD HANMAN  
No. 2403  
DATE: \_\_\_\_\_  
EXPIRES 11-30-2006

LANTEX  
Landscape Architecture Inc.  
31726 Rancho Viejo Road, Suite 206  
San Juan Capistrano, California 92675  
(949) 248-1993 FAX (949) 493-0706

DESIGNED BY: S.H. DRAWN BY: S.H. CHECKED BY: B.H. SCALE: \_\_\_\_\_ DATE: \_\_\_\_\_

VALLEY WIDE RECREATION & PARK DISTRICT

Samuel W. Goepf  
1-23-06  
Date: \_\_\_\_\_

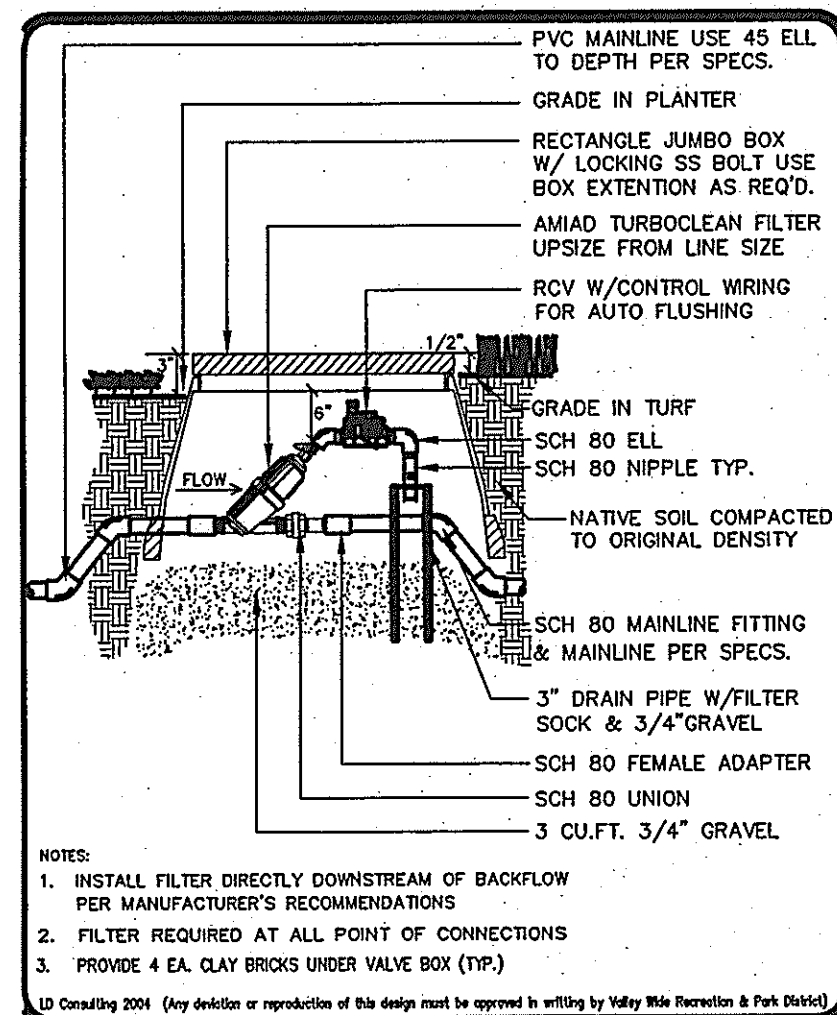
TRACT 30105 LP No. 030147  
IRRIGATION DETAILS  
SHADOWRIDGE II TR 30105  
LANDSCAPE IMPROVEMENTS PLANS  
SCHEDULE 'A' MAP

SHEET No. 10  
OF 14 SHEETS

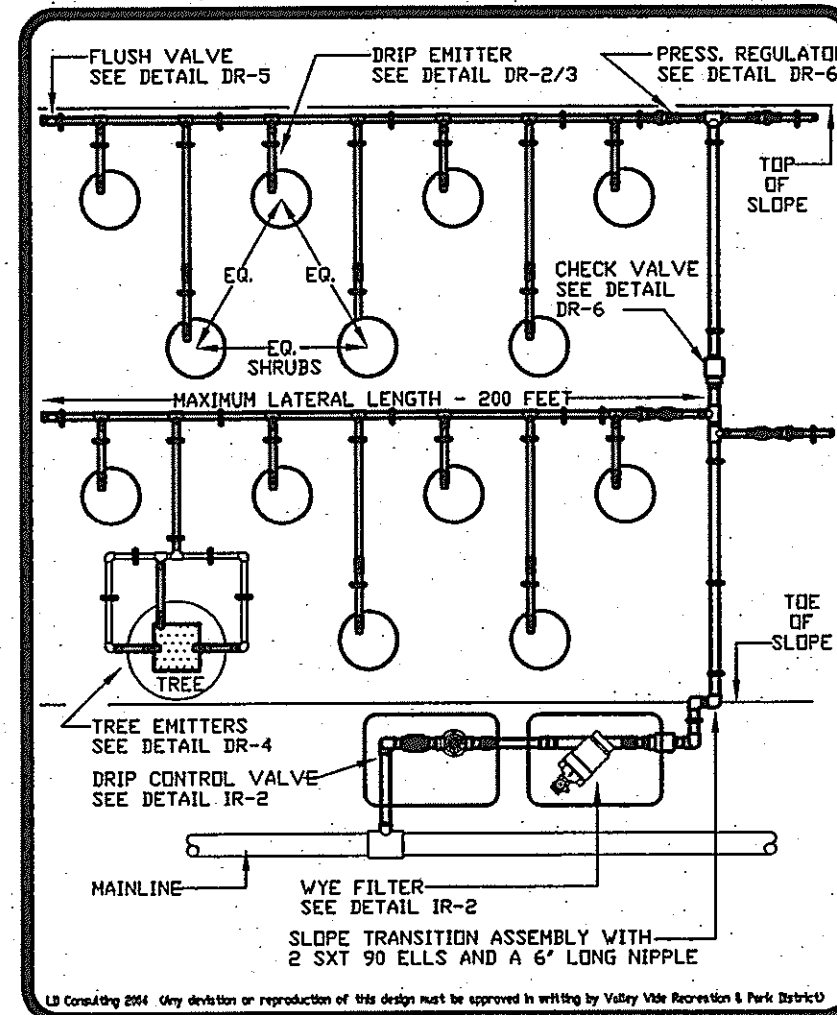
FOR: GRIFFIN COMMUNITIES ENGINEERS FILE No. COUNTY FILE No.

PL07 DATE: 01-11-06

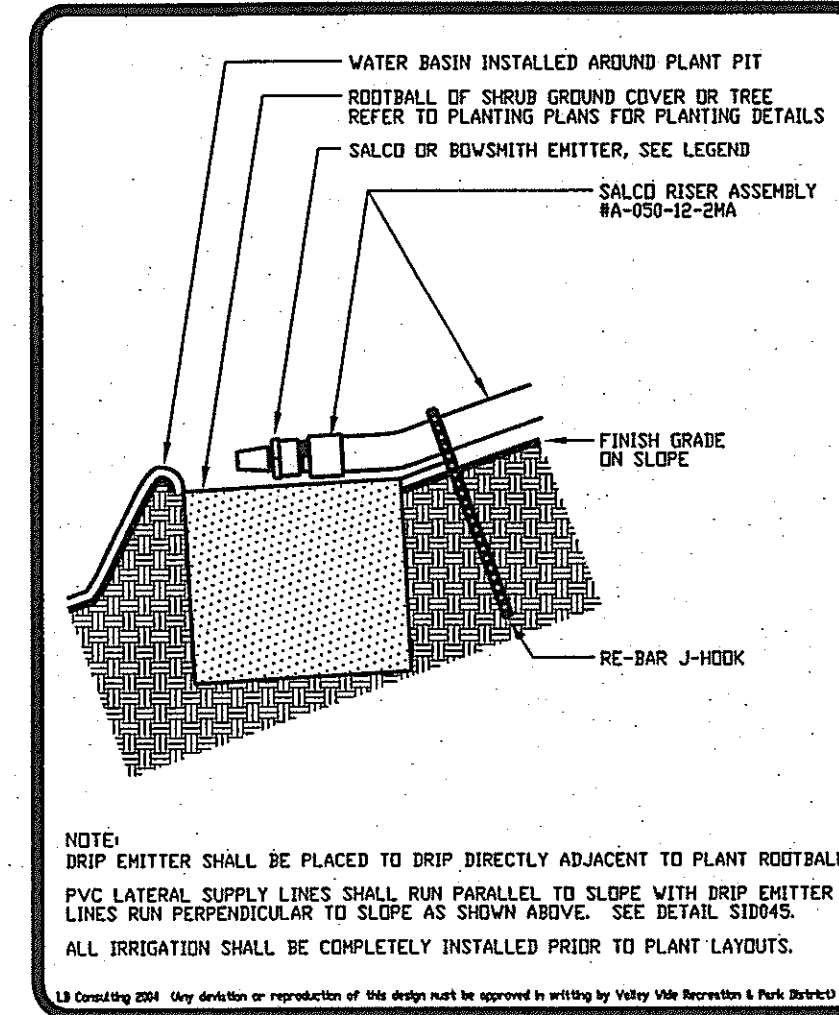




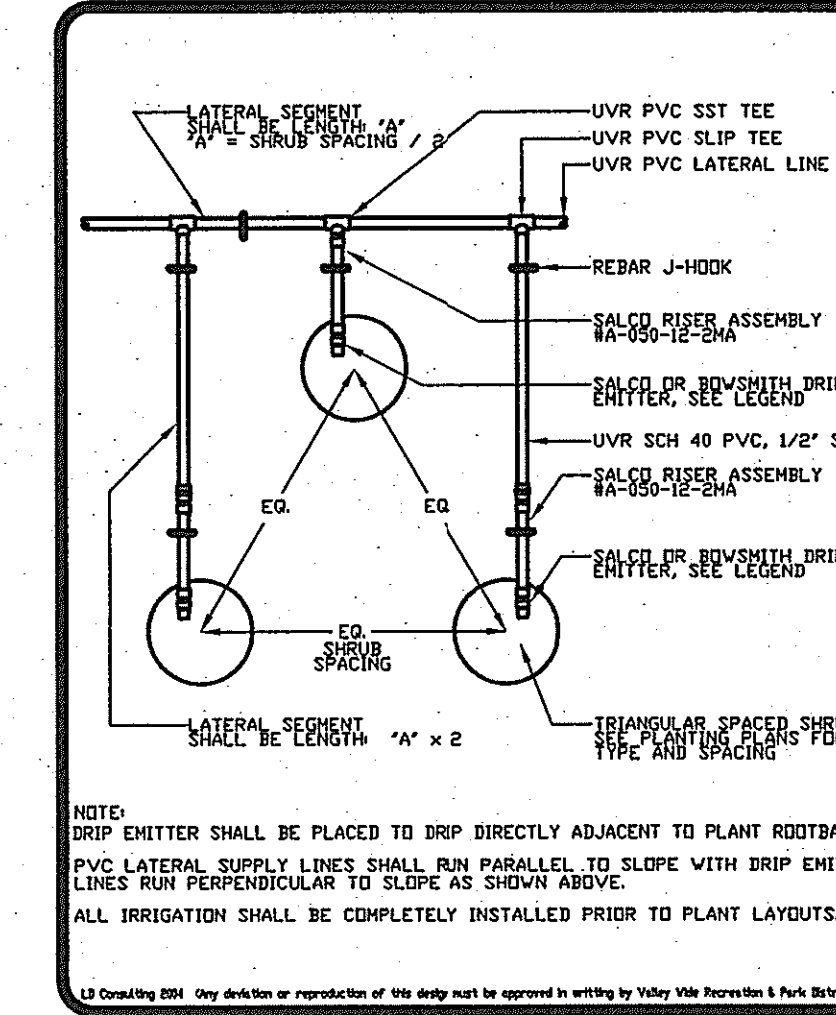
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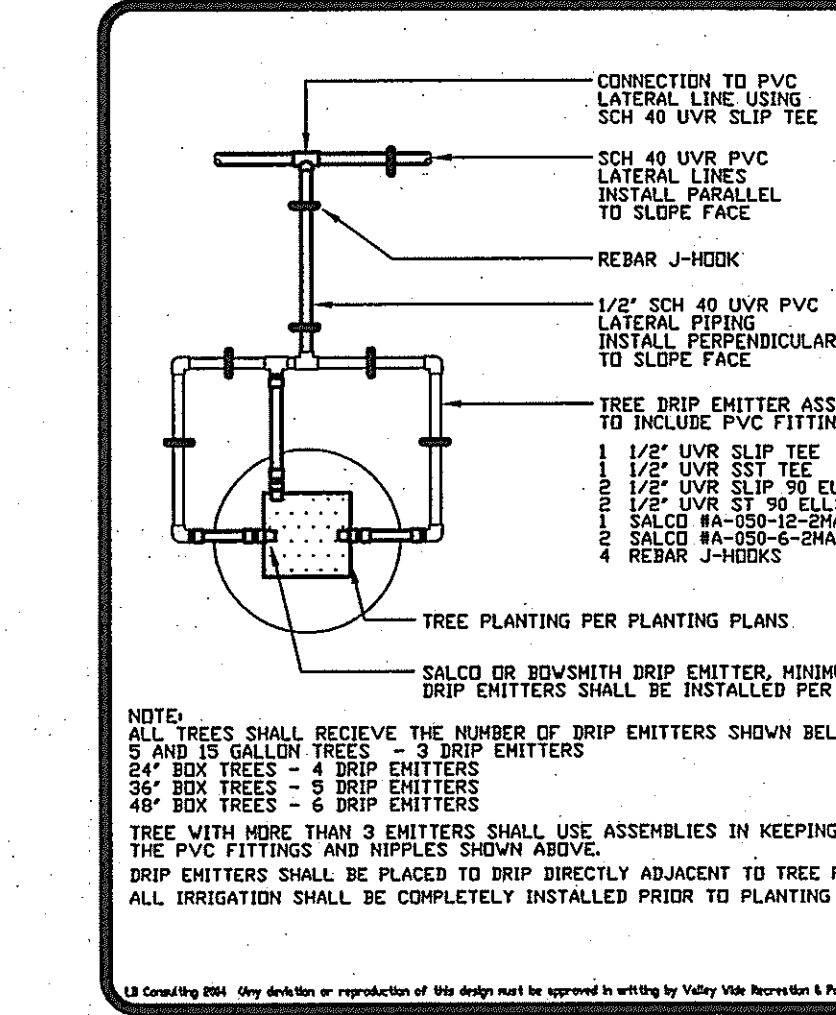
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11/04  
POINT TO POINT LAYOUT DR-1



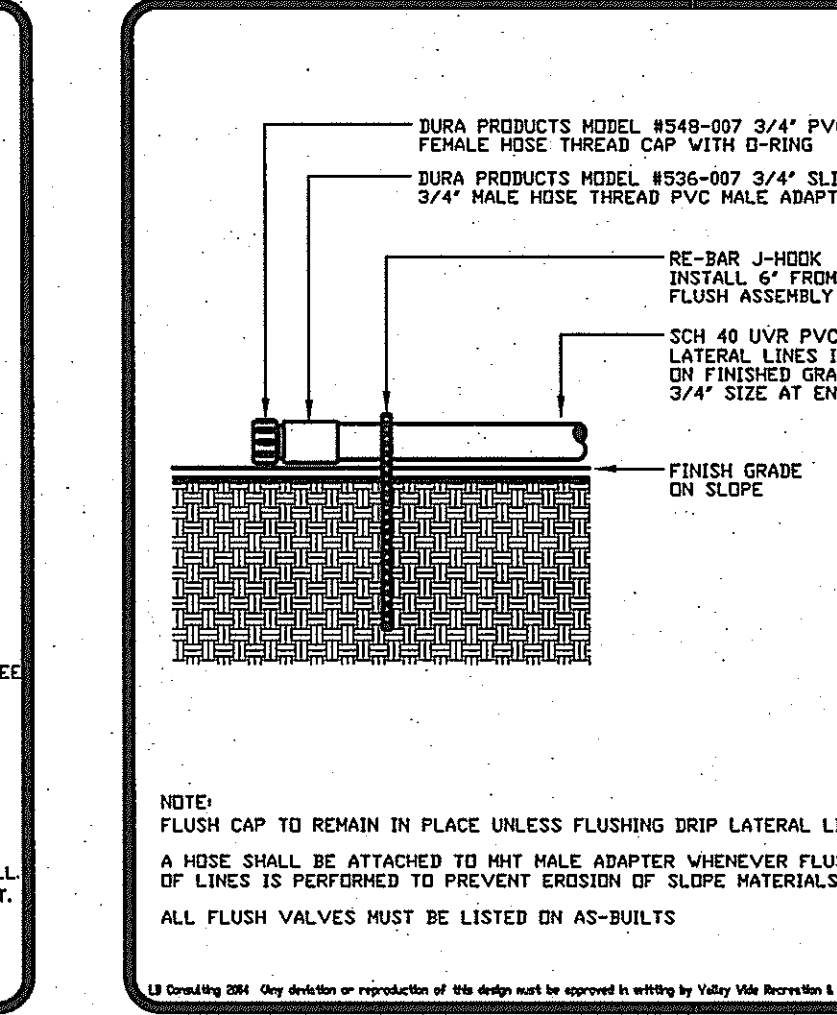
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11/04  
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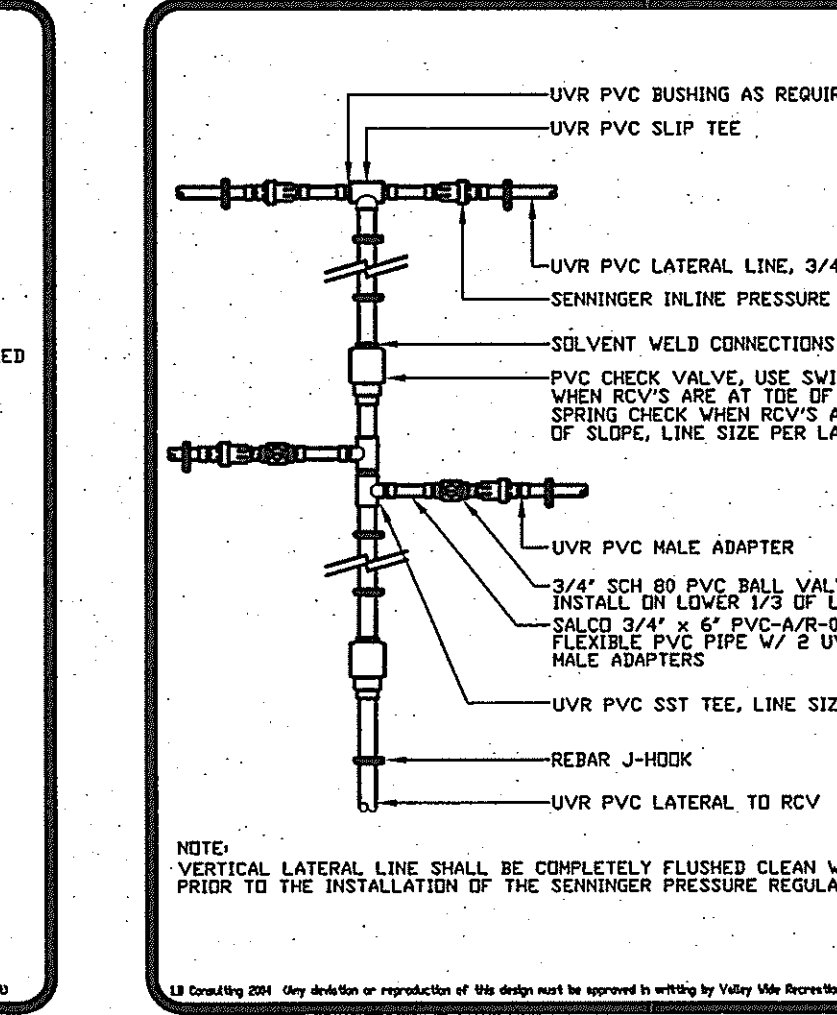
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11/04  
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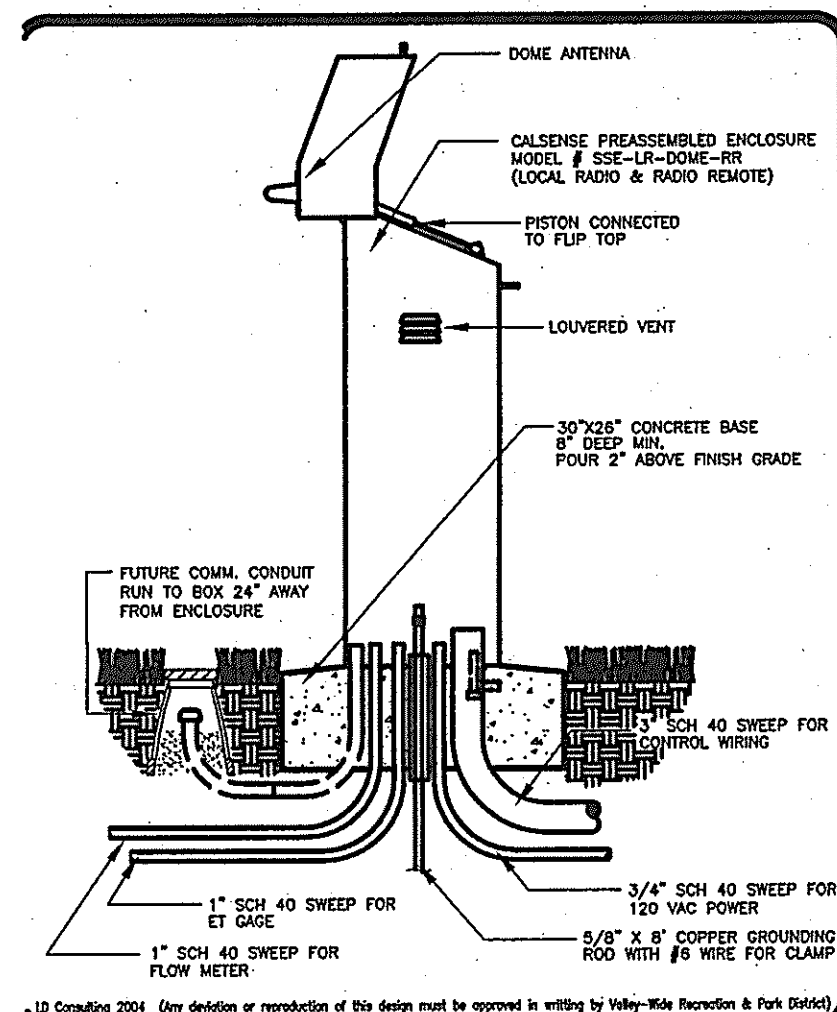
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11/04  
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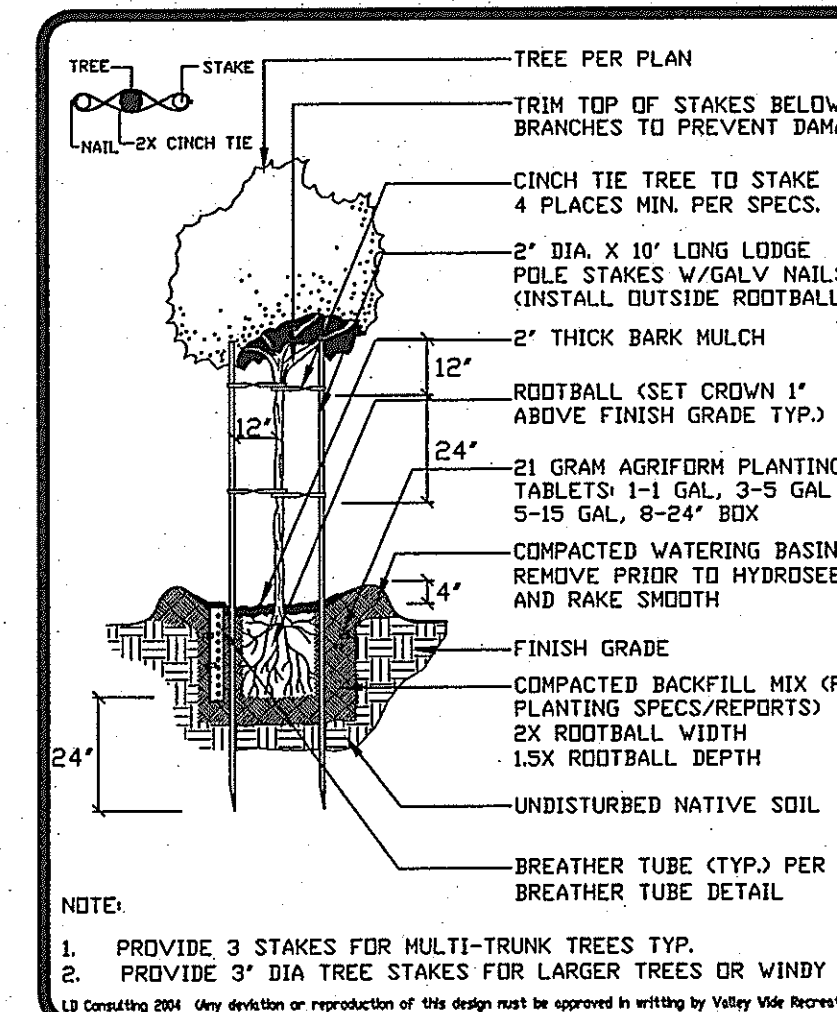
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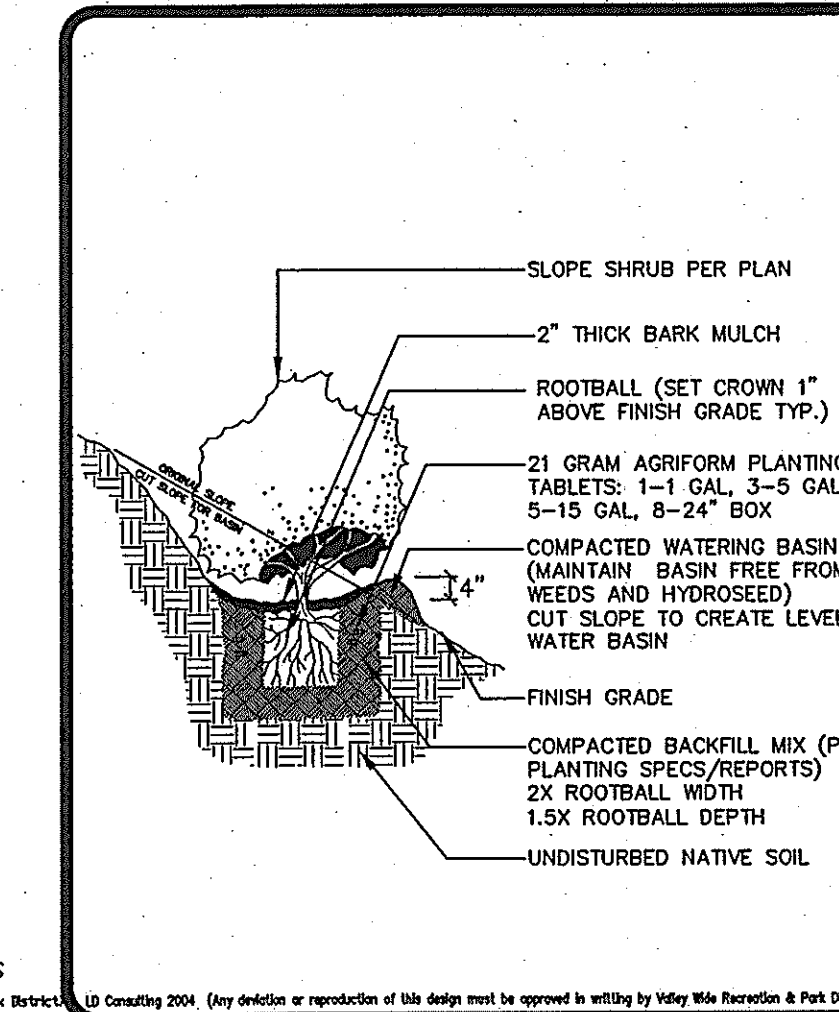
**VALLEY WIDE RECREATION**  
11/04  
CHECK VALVE & PR. DR-6



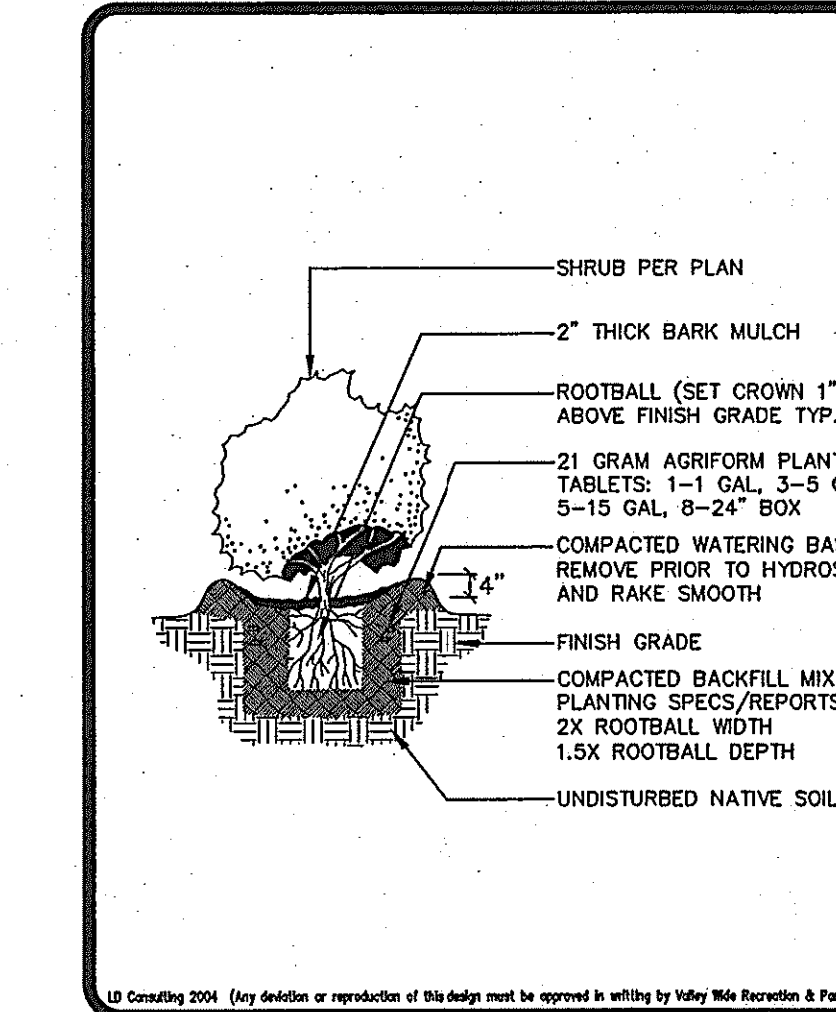
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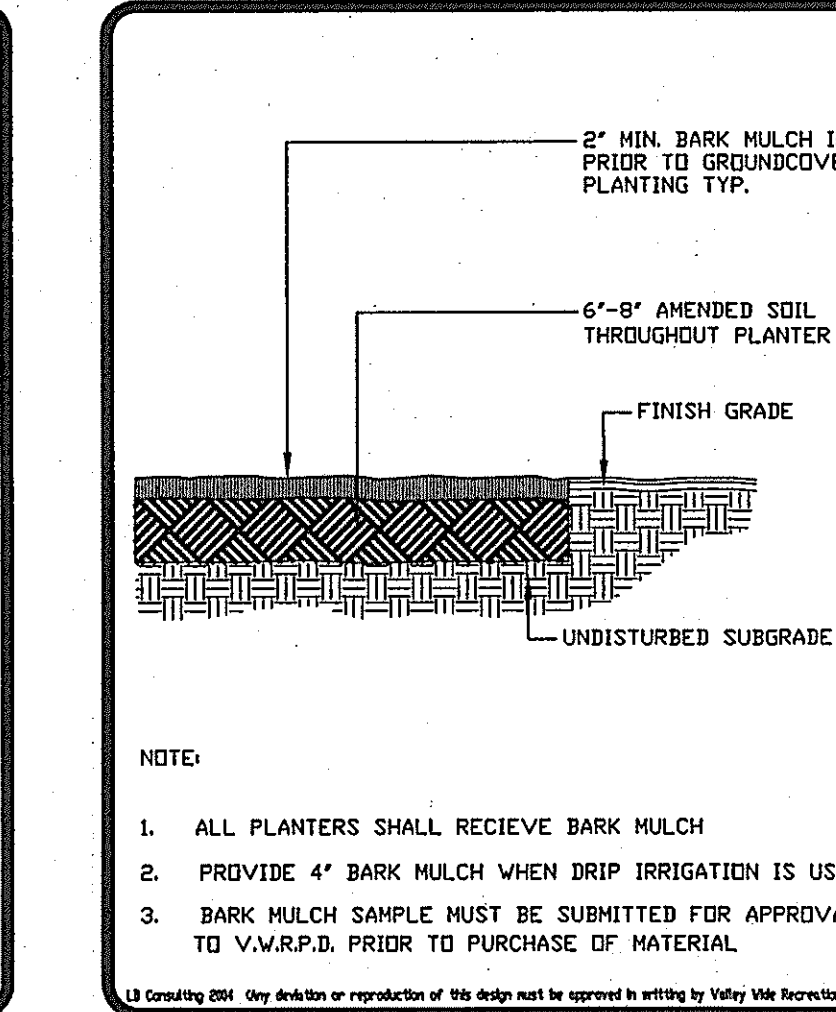
**VALLEY WIDE RECREATION**  
11/04  
TREE PLANTING PL-3



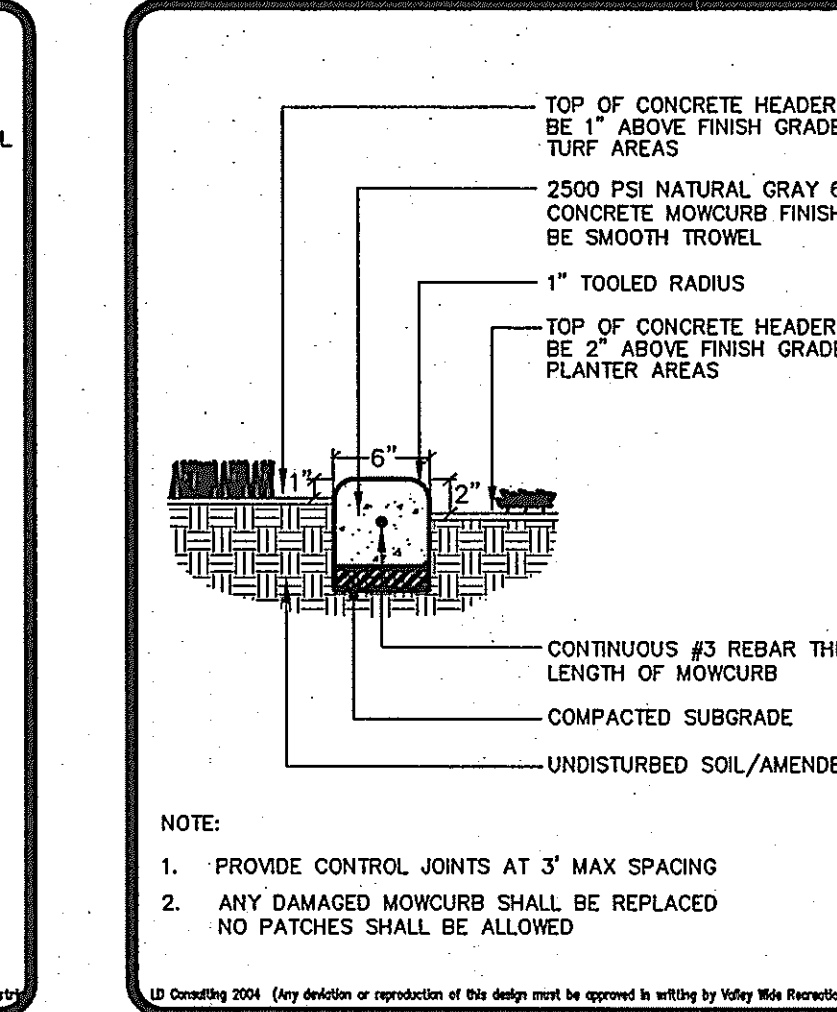
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11/04  
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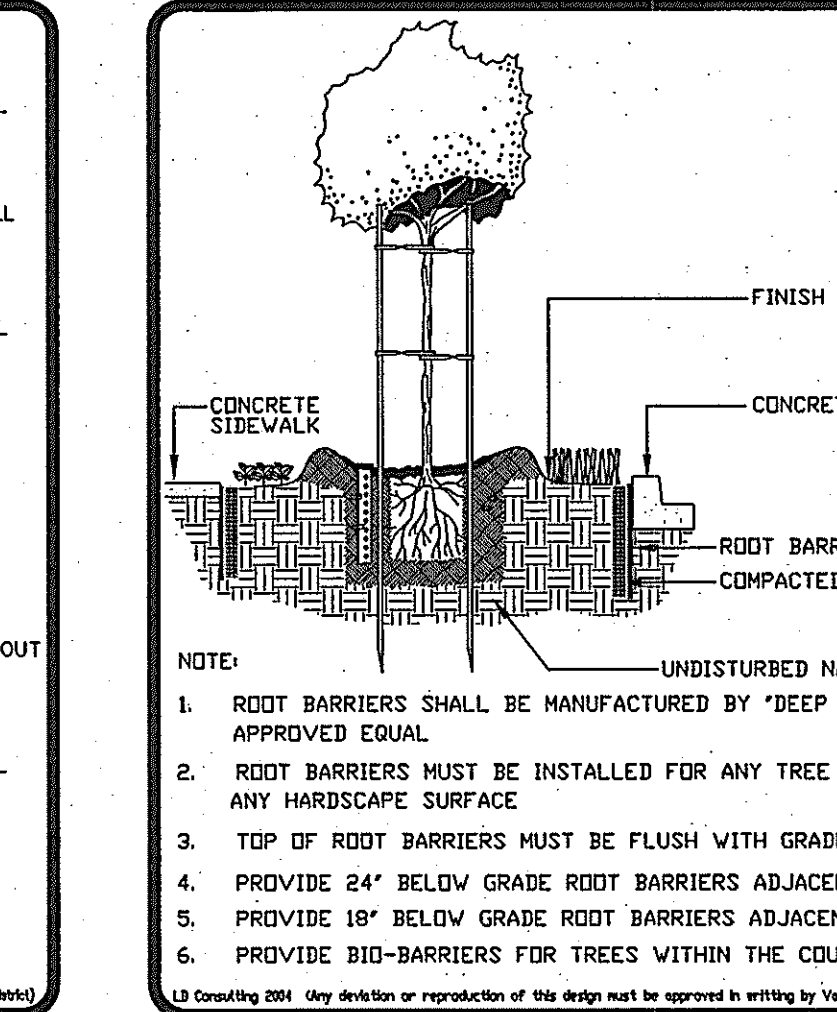
**VALLEY WIDE RECREATION**  
11/04  
SHRUB PLANTING PL-5



**VALLEY WIDE RECREATION**  
11/04  
BARK MULCH PL-7



**VALLEY WIDE RECREATION**  
11/04  
CONCRETE MOWCURB PL-8



**VALLEY WIDE RECREATION**  
11/04  
ROOT BARRIER PL-9

**Underground Service Alert**

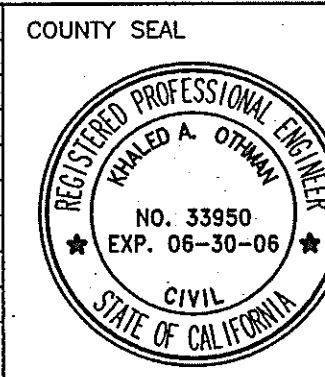
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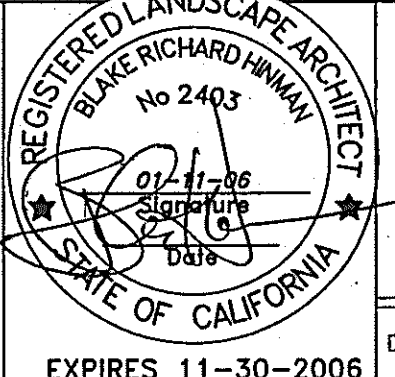
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KHALED A. OTHMAN  
R.C.E. 33950  
DATE: \_\_\_\_\_  
RECOMMENDED  
DATE: \_\_\_\_\_



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31726 Rancho Viejo Road, Suite 206  
San Juan Capistrano, California 92675  
(949) 248-1993 FAX (949) 493-0706  
DESIGNED BY: S.H. DRAWN BY: S.H. CHECKED BY: B.H. SCALE: \_\_\_\_\_ DATE: \_\_\_\_\_

**VALLEY WIDE RECREATION & PARK DISTRICT**  
TRACT 30105 I.P. No. 030147  
IRRIGATION & PLANTING DETAILS  
SHADOWRIDGE II TR 30105  
LANDSCAPE IMPROVEMENTS PLANS  
SCHEDULE 'A' MAP  
SHEET No. 11  
OF 14 SHEETS  
FOR: GRIFFIN COMMUNITIES  
ENGINEERS FILE No. \_\_\_\_\_ COUNTY FILE No. \_\_\_\_\_  
Date: 1-23-06  
PL07 DATE: 01-11-06







c. The booster pump must be pre-assembled from the manufacturer with an enclosure and pressure regulator.

d. Pump size, pressure regulator settings and relay timing shall be determined by the landscape architect and the pump manufacturer.

12. Filtration Equipment

a. Filter shall be Turbo-Clean in filter available from Amlad Filtration Systems Inc. (800) 969-4055.

b. Specify filter at P.O.C. directly down stream of the backflow device. Install per filter detail.

c. Filter must have an automatic remote control valve with control wiring connected to irrigation controller for automatic flushing per filter detail.

13. Automatic Controller

a. The controller shall operate on a minimum of 120 volts A.C. power input and shall be capable of operating up to four 5.5 VAC 24 volt A.C. remote control valves at once. The controller shall have a reset circuit breaker to protect the controller from overloading.

b. The controller shall have independent programmable stations. The controller-programming schedule shall be capable of allowing four automatic start times per day on four separate programs. Station timing shall be variable from 1 to 99 minutes. The controller must have a water budgeting function to allow increasing or decreasing of watering times for all stations at once.

c. The controller shall have a master valve/remote pump start circuit for use with a master valve to pressurize the system when the programmed cycle starts to activate a remote pump start relay to run the pump during the programmed cycle.

d. The controller shall have manual watering capabilities for single station operation at any time with out changing programmed times.

e. The controller shall have a factory installed backup program for standby operation and a backup battery to maintain the programs during power loss.

f. Install one extra 1-1/2" inch conduit to controller for future use.

g. Contractor shall be responsible to communicate with Calsense to insure that all of the required components are ordered and installed per the District's requirements as determined by Calsense for each individual project.

Manufacture: Calsense ET-2000. Contact Bob Moxley with Calsense at (800) 572-8608 for specific District requirements and communication components as determined per project.

14. Controller Enclosure

a. All controllers installed outside must be mounted inside a stainless steel enclosure with lockable-hinged doors provided by the controller manufacturer.

b. The enclosure shall have one full time 120 VAC GFCI type circuit with on/off switch and pigtail connection for remote control use.

Manufacture: Calsense SSE.

15. Control Wiring

a. All control wiring for connections between remote control valves and controllers shall be direct burial AWG-F wire installed in accordance with manufacturer's specifications.

b. All splices shall be sealed with waterproof connectors and waterproof sealant.

c. All extra wires shall be sealed with waterproof connectors.

d. Wiring shall be buried adjacent to mainline wherever possible and for more than one wire they shall be bundled at every ten feet using black electrical tape.

e. Expansion curl shall be provided within three feet of each connection and at all changes in direction. Provide a two-foot expansion loop for every 100 feet of run.

f. Wire size shall not be less than #14 gauge.

g. Control wires shall be black in color. If additional controllers are installed provide different color common wires for each controller.

h. Common wire shall be white in color. If additional controllers are installed provide white wire with colored stripe. Stripe to be same color as control wire color.

i. Contractor shall provide one extra wire for every five valves and two extra wires shall be provided for every valve in any isolated area and the extra wires shall extend past the last valve in a group. Extra wires shall be orange in color and looped in every valve box and made accessible for future use if needed.

j. No wire splices shall be permitted unless run is longer than 2500 feet or approved by Owner's representative.

Manufactures: Dri-Splice or approved equal.

16. Valve Boxes

a. Rectangular valve boxes shall be 9-1/2 inch wide by 16 inch long and 11 inch high. Round valve boxes shall be 10-inch diameter and 10 1/4 inch. All valve boxes shall be constructed of rigid polyolefin.

b. Valve boxes shall have locking covers secure with a 3/8-inch stainless steel bolt and washer.

c. Rectangle valve boxes shall be used for control valves, master control valves, pressure regulators, flow sensors, wye strainers, basket strainers ball valves, butterfly valves and pull boxes.

d. Round valve boxes shall be used for quick coupler valves.

e. All valve boxes to be green in color unless otherwise specified for use of reclaimed water. All valve boxes for reclaimed water shall be purple in color and bare the reclaimed water warnings as well as the international "Do Not Drink" symbol.

f. Heat brand all box lids with the appropriate two-inch high identification letters and/or numbers.

g. All valve boxes shall receive landscape fabric. Landscape fabric shall be constructed of 5.0 oz. weight proven polypropylene weed barrier with burst strength of 225 P.S.I. and capable of 12 gallons per minute of water flow and puncture strength of 60 lbs. Dewitt Pro, Minify or approved equal.

h. All valve boxes shall receive 2 cubic feet of 3/4-inch gravel per plan.

Manufactures: Carson, Brooks, or approved equal.

17. General Piping

a. Pressure line from point of connection to backflow prevention device shall be brass or Type K copper

b. Pressure lines 2" and smaller after backflow prevention device shall be Schedule 40 solvent weld PVC

c. Pressure lines 2-1/2 inch to 3 inch after backflow prevention device shall be Class 315 solvent-weld P.V.C.

d. Pressure lines 1-1/2 inch and smaller after backflow prevention device shall be Schedule 40 solvent-weld P.V.C.

e. Pressure lines 4 inch and larger after backflow device shall be Class 200 bell and gasket P.V.C.

f. Lateral lines 1-1/2 inch and smaller shall be Schedule 40 solvent-weld P.V.C.

g. Lateral lines 2 inch and larger shall be Class 315 solvent-weld P.V.C.

h. All pipe and fittings shall bear the markings of the Manufacturer's name, nominal pipe size, pressure rating P.S.I., NSF, schedule or class and date of extrusion.

18. Plastic Pipe

a. Solvent weld pipe shall conform to ASTM D 1784 or D 2241 to meet the requirements of cell classification 12454B for pipe. Pipe shall be extruded of an approved P.V.C. virgin pipe compound high impact strength. Compound shall have a hydrostatic design stress rating of 2,000 P.S.I. Manufactures: Pacific Plastics or approved equal.

b. Rubber gasket P.V.C. pipe shall conform to ASTM D-1784 Type I, Grade I, 2,000 P.S.I. design stress. All pipes shall conform to commercial standards CS-256-64 and NSF testing laboratories. Rubber gaskets shall conform to ASTM 1869.

Manufactures: Pacific Plastics or approved equal.

c. Reclaimed water pipe shall conform to ASTM D1784 or D 2241 to meet the requirements of cell classification 12454B for pipe. Pipe shall be extruded of an approved P.V.C. virgin pipe compound high strength. Compound shall have a hydrostatic design street rating of 2,000 P.S.I. Reclaimed water pipe shall be purple in color and bare the words "CAUTION - RECLAIMED WATER" printed in black letters on two sides of all pipes.

Manufactures: Pacific Plastics or approved equal.

d. Ultra Violet Resistant (U.V.R.) pipe shall conform to ASTM D 1784 or D 2241 to meet the requirements of cell classification 12454B for pipe. Pipe shall be extruded of an approved P.V.C. virgin pipe compound high strength. Compound shall have a hydrostatic design street rating of 2,000 P.S.I. U.V.R. pipe shall be manufactured using material proven to resist corrosion by ultra-violet radiation. Pipe shall be brown in color.

Manufactures: Pacific Plastics or approved equal.

e. All pressure line fittings 3 inch and smaller shall be Schedule 80 solvent weld P.V.C. Fabricated pipe shall be from an NSF approved Type I, Grade I, P.V.C. compound conforming to ASTM D1784

Manufactures: Dura, Lasco or approved equal.

f. All pressure line fittings 4 inch and larger shall be iron ductile deep bell type constructed of grade 65-45-12 and shall be in accordance with ASTM A536. Rubber for gaskets in fittings shall be in accordance with ASTM-477. All iron ductile fittings shall have stainless steel exterior lugs to secure a joint restraint system.

Manufactures: Leemco or approved equal.

g. All lateral line fittings downstream control valve shall be Schedule 40 solvent weld P.V.C. Fabricated pipe shall be from an NSF approved Type I, Grade I, P.V.C. compound to ATTM D1784

Manufactures: Dura, Lasco or approved equal.

d. Provide primer and solvent cement for PVC solvent weld pipe and fittings of specified type by manufactures recommendations.

Manufacturer: Weld-on or approved equal.

e. All fittings shall have the manufacture's name, trademark and size applicable NSF or IPS approval.

f. All threaded fittings shall have 1/4 inch teflon tape.

a. Brass pipe shall be in accordance with American National Standard Institute and be 85 percent Schedule 40 red brass.

b. Brass fittings shall be threaded 125-pound class.

21. Galvanized Steel Pipe and Fittings

a. Galvanized steel pipe shall be Schedule 40 hot dipped galvanized.

b. Galvanized fittings shall be Schedule 40 hot dipped galvanized.

22. Irrigation Heads (General)

a. All irrigation heads shall be the size, type, and provide the same rate of precipitation with the same radius of spray, pressure and discharge in G.P.M. as listed on drawings

b. All spray head sprinklers shall have stainless steel screw adjustment for radius of spray.

c. Riser and swing joint assemblies shall be as indicated on drawings.

d. All irrigation heads shall have a factory installed check valve or have an after market check valve installed.

e. All other requirements for non-pressure lateral line pipe to be as specified in fitting specification section.

f. In no case shall the irrigation head spacing exceed the maximum manufacturer's recommendation.

g. Irrigation heads along walks, curbs, paving, etc. shall be positioned 1 inch above finish grade. Irrigation in turf areas shall be positioned 2 inches above finish grade.

h. All sprinkler heads shall be set perpendicular to finish grades.

i. All sprinklers in turf areas shall have a minimum pop-up height of six (6) inches.

j. All sprinklers in planter/slope areas shall have a minimum pop-up height of twelve (12) inches.

23. Bubblers

a. Bubblers shall be constructed of heavy duty plastic and be pressure compensation full circle. The bubbler shall have a screen to protect it from clogging.

b. Bubblers shall be adjustable from .25 - 1.0 GPM and operate between 20-90 PSI.

Manufacturer: Rainbird 1400 Series or approved equal.

c. The sprinkler shall have an adjustment screw used for regulating flow and radius with matched precipitation rate (MPR) nozzle.

d. The sprinkler shall have a removable screen to protect it from clogging.

e. The sprinkler shall have a stainless steel spring for proper pop down.

f. The sprinkler shall be equipped with a factory installed check valve identified on the cap and capable of holding water up to 10 feet of elevation change.

g. The sprinkler shall be equipped with a factory installed pressure-regulating device constructed of stainless steel and heavy-duty plastic capable of maintaining a pressure of 35-70 P.S.I. to 30 P.S.I. for operation of the sprinkler.

Manufactures: Hunter INST-CV. or approved equal.

25. Rotor Heads (Medium Range)

a. All pop-up rotors shall have a rubber cover and be constructed of heavy duty plastic except for wiper seal, bearing spring and bearing washers. All rotors to have a reinforced rib design with flange encasement.

b. Pop-up height shall be as listed in drawings and in no case be shorted than 3-1/2 inches.

c. The rotor shall have a diffuser pin for regulating flow and radius.

d. The rotor shall have a screen to protect it from clogging and have a minimum inlet of 3/4 inch.

e. The rotor shall be capable of covering 16-55 feet radius at 20-60 PSI with a rate of .5 - 9.2 GPM and be adjustable from 1-360 degrees.

Manufactures: Hunter I-10, Hunter I-20 or approved equal.

26. Rotor Heads (Large Range)

a. All pop-up rotors shall have a rubber cover and be constructed of heavy duty plastic except for wiper seal, bearing spring and bearing washers. The riser shall be constructed of plastic encase in a stainless steel sleeve. All rotors to have a reinforced rib design with flange encasement.

b. Pop-up height shall be as listed in drawings and in no case be shorted than 3-1/2 inches.

c. The rotor shall have a diffuser pin for regulating flow and radius.

d. The rotor shall have a screen to protect it from clogging and have a minimum inlet of 1 inch.

e. The rotor shall be capable of covering 16-55 feet radius at 40-74 PSI with a rate of 3.8 - 27.5 GPM. and be adjustable from 1-360 degrees.

Manufactures: Hunter I-25, Hunter I-40 or approved equal.

27. Trenching and Backfilling

a. Contractor must contact Dig Alert prior to any trenching.

b. No trenches are to be backfilled until approval from Owner's representative has been acquired.

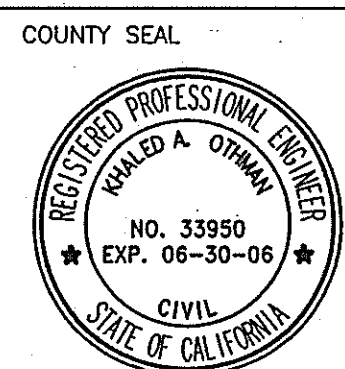
c. Excavate trenches straight and support pipe continuously on the bottom of trench per layout indicated on drawings.

d. All lines shall have a minimum clearance of 4 inches from each other and 24 inches from any other lines from other trades.

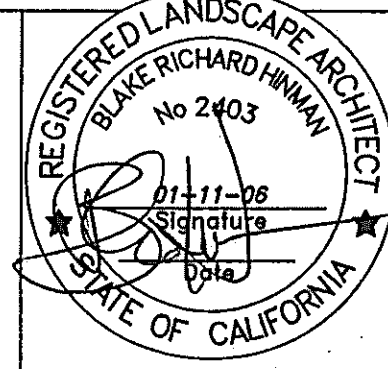
e. Provide the minimum covers as listed below:

i. Pressure lines 4 inch and larger 30 inches

NOTE: APPROVAL BY THE TRANSPORTATION DEPARTMENT IS FOR THE AREA WITHIN ROAD RIGHT OF WAY ONLY



COUNTY SEAL COUNTY OF RIVERSIDE TRANSPORTATION DEPARTMENT APPROVED BY: KHALED A. OTHMAN R.C.E. 33950 DATE: RECOMMENDED DATE:



LANTEX Landscape Architecture Inc. 31726 Rancho Viejo Road, Suite 206 San Juan Capistrano, California 92675 (949) 248-1993 FAX (949) 493-0706

DESIGNED BY: S.H. DRAWN BY: S.H. CHECKED BY: B.H. SCALE: DATE:

TRACT 30105 I.P. No. 030147 IRRIGATION SPECIFICATIONS SHADOWRIDGE II TR 30105 LANDSCAPE IMPROVEMENTS PLANS

SCHEDULE 'A' MAP

SHEET No. 13 OF 14 SHEETS

FOR: GRIFFIN COMMUNITIES ENGINEERS FILE No. COUNTY FILE No.

Underground Service Alert

Call: TOLL FREE 1-800 227-2600

TWO WORKING DAYS BEFORE YOU DIG

NOTE: WORK CONTAINED WITHIN THESE PLANS SHALL NOT COMMENCE UNTIL AN ENCROACHMENT PERMIT AND/OR GRADING PERMIT HAS BEEN ISSUED

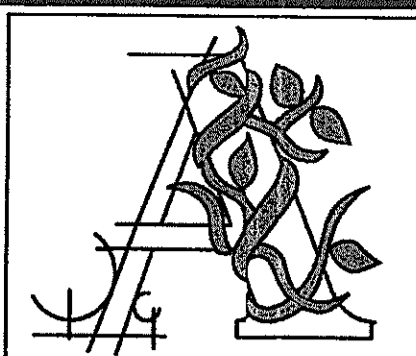
THE PRIVATE ENGINEER SIGNING THESE PLANS IS RESPONSIBLE FOR ASSURING THE ACCURACY AND ACCEPTABILITY OF THE DESIGN HEREON IN THE EVENT OF DISCREPANCIES ARISING AFTER COUNTY APPROVAL OR DURING CONSTRUCTION, THE PRIVATE ENGINEER SHALL BE RESPONSIBLE FOR DETERMINING AN ACCEPTABLE SOLUTION AND REVISING THE PLANS FOR APPROVAL BY THE COUNTY.

Table with columns: MARK, BY, DATE, REVISIONS, APPR., DATE









ARCHITERRA  
DESIGN GROUP

LANDSCAPE ARCHITECTURAL CONSTRUCTION DOCUMENTS  
FOR

# HIDDEN MEADOWS

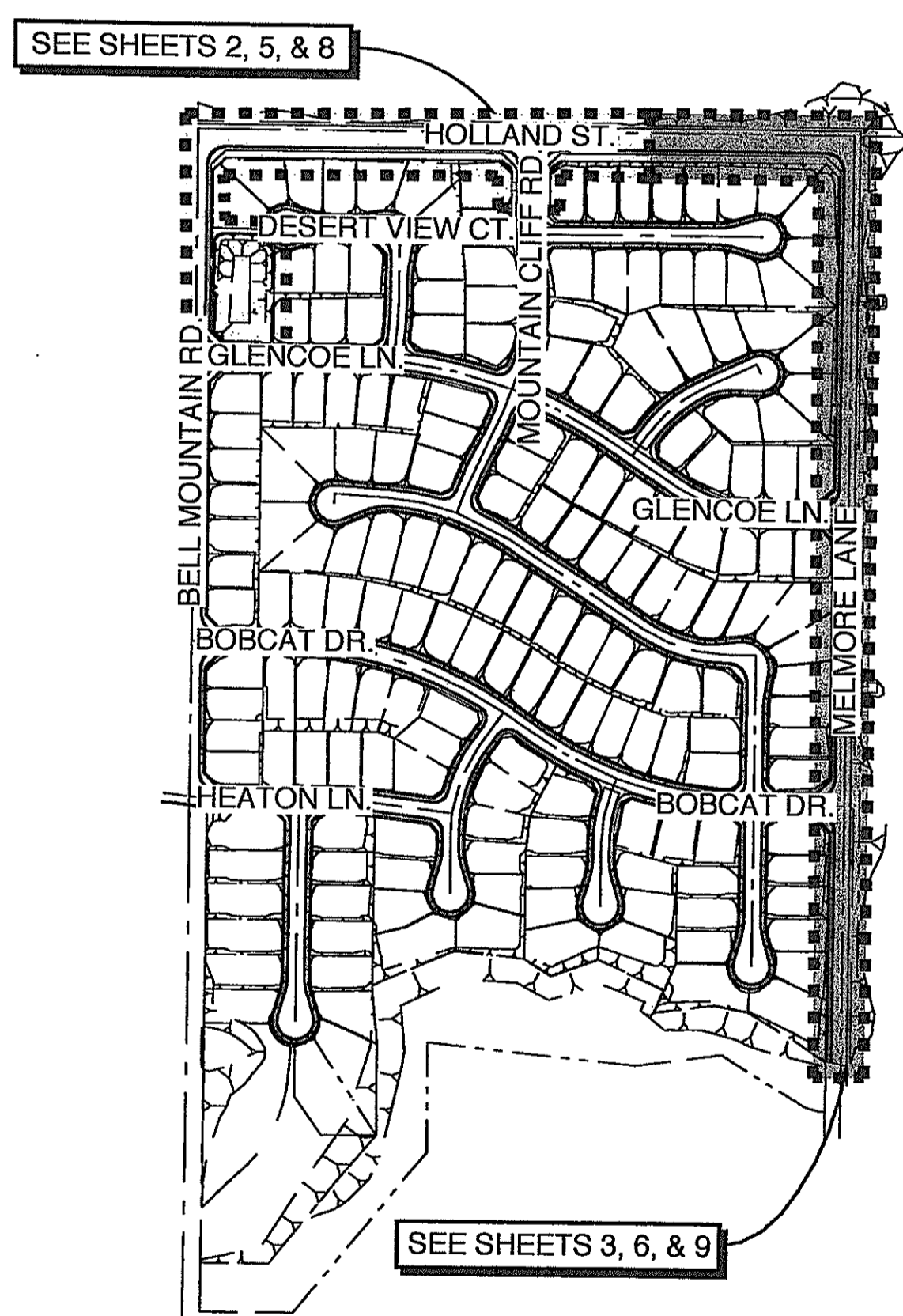
Tract # 30948-Reverse Frontage Perimeter Landscape  
VALLEY-WIDE RECREATION AND PARK DISTRICT  
Riverside County, California  
Forecast Homes, Ontario, CA

DISABILITY NOTES:

- ALL SLOPES SHOWN ON THIS PLAN WERE DESIGNED AT OR BELOW MAXIMUMS ALLOWED BY THE AMERICANS WITH DISABILITY ACT ACCESS GUIDE (A.D.A.A.G.) IN ORDER TO ALLOW FOR CONSTRUCTION TOLERANCES. IT IS THE CONTRACTOR'S RESPONSIBILITY TO FAMILIARIZE THEMSELVES WITH A.D.A.A.G. AND IN THE EVENT THAT A DESIGN QUESTION SHOULD ARISE, OR A FIELD CONDITION PRESENTS ITSELF THAT IS DIFFERENT THAN SHOWN ON THESE PLANS, WORK SHOULD CEASE AND THE ENGINEER BE NOTIFIED SO THAT AN ACCEPTABLE SOLUTION CAN BE DETERMINED.
- THE CONTRACTOR IS ADVISED TO CAREFULLY CHECK ALL PHASES OF WORK RELATING TO A.D.A.A.G. ACCESS FOR THIS PROJECT. SINCE THE CODE DOES NOT ALLOW FOR A CONSTRUCTION TOLERANCE, ANY CONSTRUCTION THAT EXCEEDS MAXIMUM OR MINIMUM DIMENSIONS AND SLOPES AS CALLED OUT BY A.D.A.A.G. ARE SUBJECT TO REJECTIONS BY THE COUNTY AND MAY BE REQUIRED TO BE REMOVED AND REPLACED.
- SINCE THE CIVIL ENGINEER OR SURVEYOR CANNOT CONTROL THE EXACT METHODS OR MEANS USED BY THE GENERAL CONTRACTOR OR THEIR SUB-CONTRACTOR DURING GRADING AND CONSTRUCTION OF THE PROJECT, THE CIVIL ENGINEER OR SURVEYOR ASSUMES NO RESPONSIBILITY FOR FINAL ACCEPTANCE OF A.D.A.A.G. RELATED ITEMS OF THIS PROJECT BY THE COUNTY, ANY OTHER AUTHORITY OR OTHER AFFECTED PARTIES.

COMPLIANCE WITH A.D.A.A.G. CONSTRUCTION REQUIREMENTS WILL BE THE SOLE RESPONSIBILITY OF THE GENERAL CONTRACTOR AND THEIR SUB-CONTRACTOR.

SHEET KEY MAP:



INSPECTIONS/SUBMITTALS:

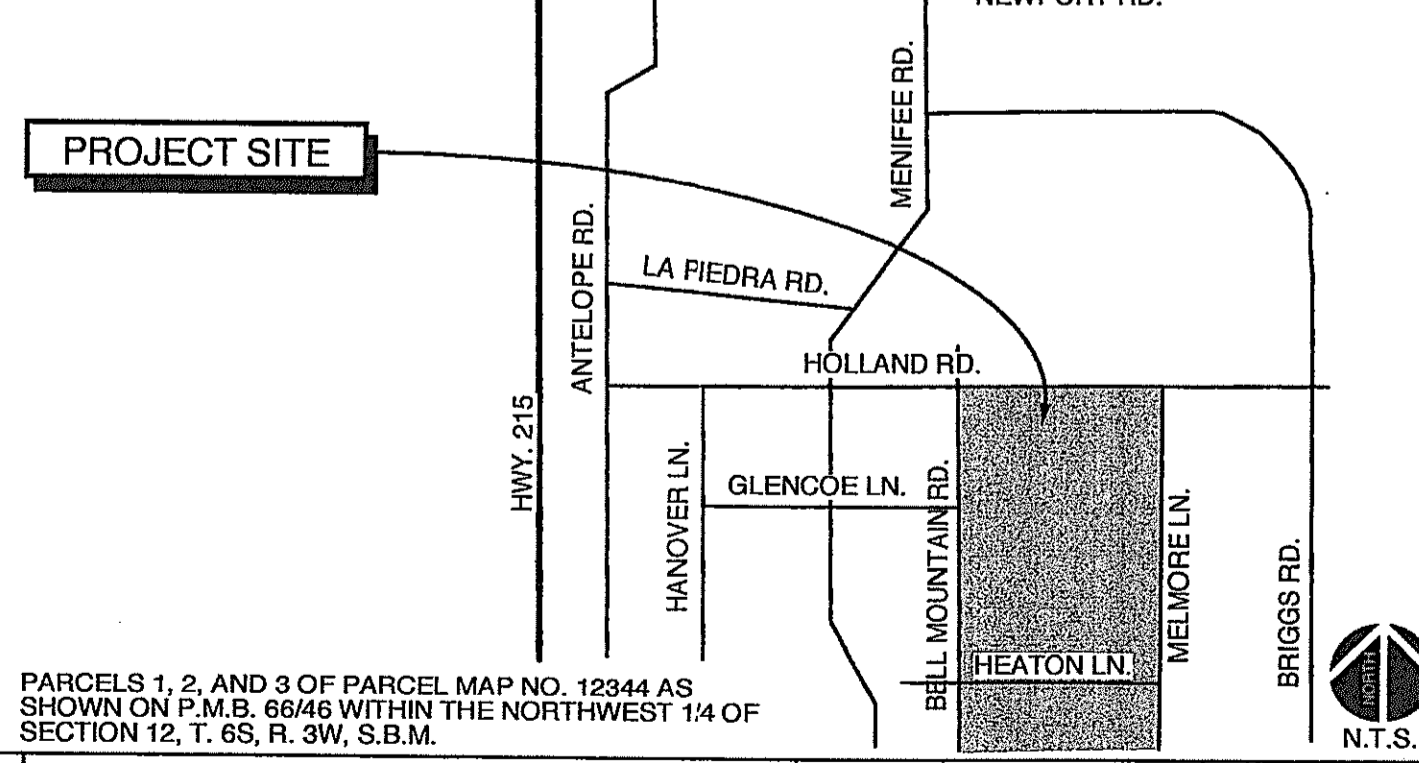
- Irrigation Inspections:
  - Site inspections and notification time.
    - Pre-construction conference 7 days
    - Pressure line installation and testing 48 hours
    - Controller installation 48 hours
    - Lateral line and sprinkler installation 48 hours
    - Coverage test 48 hours
    - Final grading 48 hours
  - No field inspections will commence unless record drawings are current and available for observation upon request by the Owner's representative.
- Planting Inspections:
  - Request for inspections must have 48 hour notice in advance.
  - Contractor must be on site for all inspections.
  - Any work not completed when inspector arrives which was requested for, shall be billed to the contractor at the current inspector's rate.
  - Any work completed without inspection or approval shall be removed, exposed or replaced at the cost of the contractor.
  - Contractor shall call for inspection for the following items:
    - Weed-abatement Observation 48 hours
    - Tree and shrub layout and plant material observation 48 hours
    - Finish grade prior to hydro-seeding 48 hours
    - Final walk (commencement of maintenance) 7 days
    - Monthly maintenance walk 48 hours
    - Final Inspection 7 days
- Submittals:
  - All submittals shall be submitted within 15 days after receipt of executed contract. Contract shall submit the follow items but not limited to:
    - Plant material proof of purchase with listed nurseries & material sizes for approval
    - All soil amendments
    - Bark mulch
    - Soil report
    - Labels for all herbicide and fertilizers used
    - Hydro-seed mix

INSPECTION NOTE:  
Valley-Wide inspection number is (951)660-4700.

ABBREVIATIONS:

A.B. Anchor Bolt	Fin. Fountain	S.L. Scoreline
A.C. Asphaltic Concrete	Ga. Gauge	Smth. Smooth
Adj. Adjacent	Galv. Galvanized	Specs. Specifications
Alt. Alternate	G.C. Ground Cover	Sq. Square
Arch. Architect	G.I. Galvanized Iron	Stl. Steel
Auto. Automatic	H.B. Hose Bib	T.A.D. Top of Area Drain
Bldg. Building	Hdr. Brd. Header Board	T & B Top and Bottom
Bk. Black	Horiz. Horizontal	T.B. Top of Berm
B.M. Bench Mark	H.P. High Point	T.C. Top of Curb
B.S. Bottom of Steps	Hgt. Hgt.	Tex. Textured
C.B. Catch Basin	I.D. Inside Diameter	T.G. Top of Grate
C.F. Cubic Foot	Inv. Invert	T.G.D. Top of Grate Drain
C.I. Cast Iron	Int. Integral	Thk. Thick
C.I.P. Cast Iron Pipe	J. Box Junction Box	T.P. Top of Paving
C.J. Cold Joint	Jts. Joints	T.P.C. Top of Poll Coupling
C.L. Center Line	J.A. Landscape Architect	T.S. Top of Steps
Clr. Clearance	Lic. Licensed	T.W. Top of Wall
C.O. Clean Out	L.P. Low Point	Twl. Trowel
C.M.P. Corrugated Metal Pipe	Max. Maximum	Typ. Typical
Comp. Compacted	M.B. Machine Bolt	Vert. Vertical
Con. Concrete	Mech. Mechanical	W/ With
Cond. Condition	Med. Medium	W/O Without
Cont. Continuous	Min. Minimum	W.S. Water Surface
Cnt. Center	M.H. Manhole	
Ctr. Sink Counter Sink	Multi. Multi-branched	
D.D. Deck Drain	Nat. Natural	
D.F. Douglas Fir	N.I.C. Not in Contract	
D.G. Decomposed Granite	O.C. On Center	
Dia. Diameter	O.D. Outside Diameter	
Dim. Dimension	P.A. Planting Area	
Dtl. Detail	Perf. Perforated	
Ea. Each	P.O.C. Point of Connection	
E.J. Expansion Joint	P.S.I. Pounds Per Square	
Elec. Electric	P.T. Pressure Treated	
Elev. Elevation	P.V.C. Poly Vinyl Chloride	
Eng. Engineer	R. Radius	
Esp. Espalier	R.C.P. Reinforced Concrete	
Eq. Equal	Rebar Reinforcing Bar	
E.W. Electric Wire	Rein. Reinforcing	
E.W.W.M. Electric Welded Wire Mesh	Reqd. Required	
Ex. Existing	Retard. Retardant	
Exp. Exposed	Rgh. Rough	
F.F. Finish Floor Elevation	R.S. Rough Sawn	
F.G. Finish Grade	R.S.R. Rough Sawn Redwood	
F.H. Fire Hydrant	Rwd. Redwood	
Fin. Finish	Sch. Schedule	
F.L. Flow Line	S.F. Square Foot	
Flt. Flat	Sht. Sheet	
F.S. Finish Surface	Sht. Mt. Sheet Metal	
Fig. Footing	Sim. Similar	

VICINITY MAP:



SHEET INDEX:

- TITLE SHEET
- CONSTRUCTION PLAN
- CONSTRUCTION PLAN
- CONSTRUCTION DETAILS
- IRRIGATION PLAN
- IRRIGATION PLAN
- IRRIGATION DETAILS
- DRIP IRRIGATION DETAILS
- PLANTING PLAN
- PLANTING PLAN
- PLANTING DETAILS
- IRRIGATION SPECIFICATIONS
- PLANTING SPECIFICATIONS

**DIGALERT**

CALL BEFORE YOU DIG

TWO WORKING DAYS BEFORE YOU DIG

TOLL FREE A PUBLIC SERVICE BY 1-800-227-2600

UNDERGROUND SERVICE ALERT

QUANTITIES:

TOTAL LMD AREA (REVERSE FRONTAGE) (DETENTION BASIN)	= 55,388 SQ. FT. - 1.27 ACRES
	= 27,148 SQ. FT. - .62 ACRES
	= 25,979 SQ. FT. - .59 ACRES

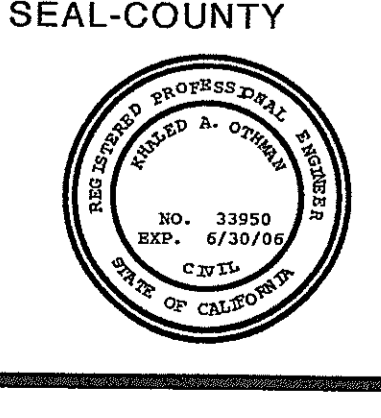
TOTAL TREES IN LMD:	
15 Gallon	= 0
24" Box	= 132
36" Box	= 4
Palms	= 150 BTF

PARCELS 1, 2, AND 3 OF PARCEL MAP NO. 12344 AS SHOWN ON P.M.B. 6646 WITHIN THE NORTHWEST 1/4 OF SECTION 12, T. 8S, R. 3W, S.B.M.

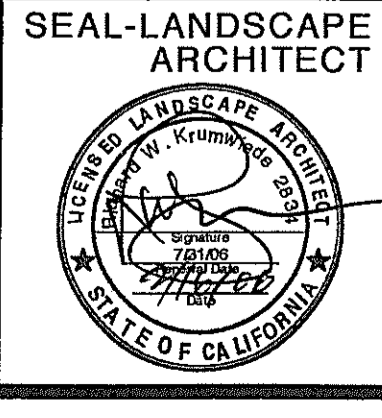
HOLD HARMLESS & INDEMNIFICATION CLAUSE:

CONTRACTOR AGREES TO ASSUME SOLE 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/DEVELOPER, THE COUNTY OF LOCAL JURISDICTION AND THE LANDSCAPE DESIGNER HARMLESS FROM ANY AND ALL LIABILITY REAL OR ALLEGED IN CONNECTION WITH THE PERFORMANCE OF WORK ON THIS PROJECT, EXCEPTING FOR LIABILITY ARISING FROM SOLE NEGLIGENCE OF THE OWNER/DEVELOPER, COUNTY OF LOCAL JURISDICTION AND THE LANDSCAPE DESIGNER.

DATE	BY	MARK	REVISIONS	APPR.	DATE
	ENGINEER				COUNTY



COUNTY OF RIVERSIDE  
TRANSPORTATION DEPARTMENT  
APPROVED BY:  
KHALED A. OTHMAN, P.E.  
R.C.E. 33950 EXP. 6-30-06



LANDSCAPE ARCHITECTURE  
SITE PLANNING  
10221-A Trademark Street  
Rancho Cucamonga, CA 91730  
Tel: (951) 484-2800  
Fax: (909) 484-2802  
Arch. # 95115  
CA Lic. # 9534  
NV Lic. # 456  
TX Lic. # 91804

PREPARED BY:  
KPF  
R.L.A. NO 2834  
DATE 1/31/06

VALLEY-WIDE RECREATION AND PARK DISTRICT

SAMUEL W. GOEPP  
DATE: 2/22/06

HIDDEN MEADOWS  
TRACT NO. 30948, I. P. NO. 030095  
VALLEY-WIDE REC. AND PARK DISTRICT

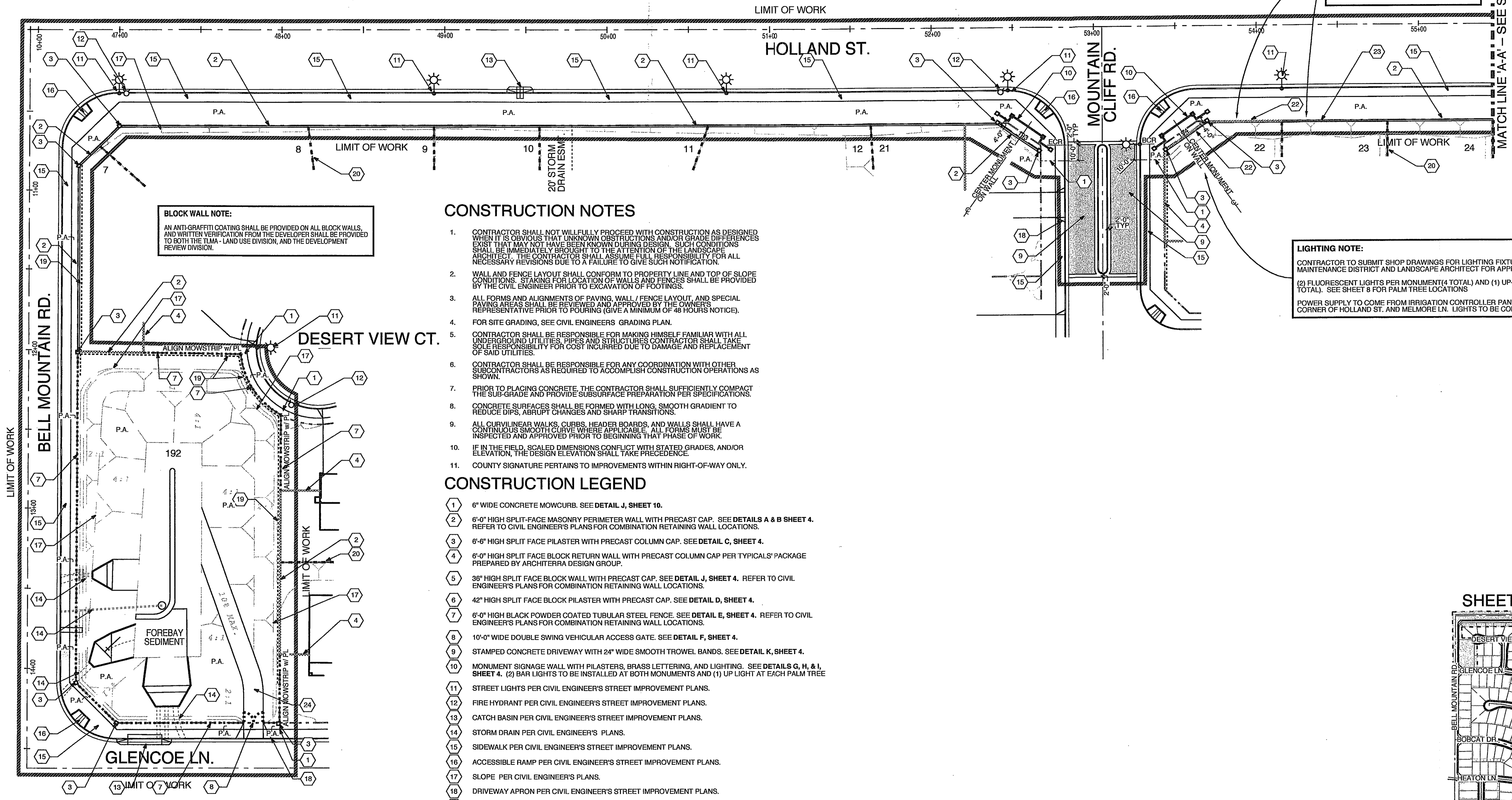
TITLE SHEET

FOR: FORECAST HOMES  
JOB # 0352-3  
COUNTY FILE NO.

SHEET NO. 1  
OF 14 SHEETS



**WALL HEIGHT TRANSITION NOTE:**  
 CONTRACTOR TO STEP WALL DOWN FROM 8'-0" AT THE PROPERTY LINE OF LOT 22 TO 7'-0" ALONG LOT 23. STEP WALL FROM 7'-0" AT THE PROPERTY LINE OF LOT 23 TO 6'-0" ALONG LOT 24. TRANSITION WALL HEIGHT AT A RATE OF ONE COURSE PER 4'-0".



**BLOCK WALL NOTE:**  
 AN ANTI-GRAFFITI COATING SHALL BE PROVIDED ON ALL BLOCK WALLS, AND WRITTEN VERIFICATION FROM THE DEVELOPER SHALL BE PROVIDED TO BOTH THE T.L.M.A. - LAND USE DIVISION, AND THE DEVELOPMENT REVIEW DIVISION.

**CONSTRUCTION NOTES**

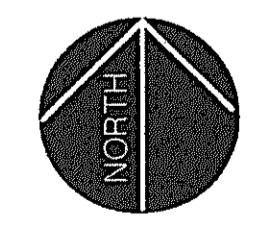
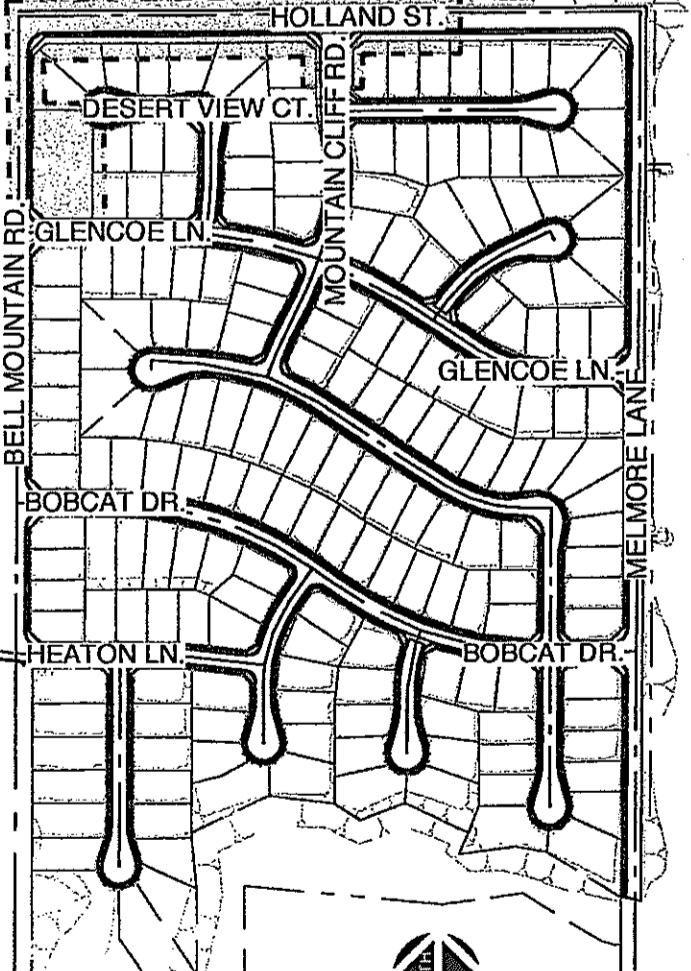
- CONTRACTOR SHALL NOT WILLFULLY PROCEED WITH CONSTRUCTION AS DESIGNED WHEN IT IS OBVIOUS THAT UNKNOWN OBSTRUCTIONS AND/OR GRADE DIFFERENCES EXIST THAT MAY NOT HAVE BEEN KNOWN DURING DESIGN. SUCH CONDITIONS SHALL BE IMMEDIATELY BROUGHT TO THE ATTENTION OF THE LANDSCAPE ARCHITECT. THE CONTRACTOR SHALL ASSUME FULL RESPONSIBILITY FOR ALL NECESSARY REVISIONS DUE TO A FAILURE TO GIVE SUCH NOTIFICATION.
- WALL AND FENCE LAYOUT SHALL CONFORM TO PROPERTY LINE AND TOP OF SLOPE CONDITIONS. STAKING FOR LOCATION OF WALLS AND FENCES SHALL BE PROVIDED BY THE CIVIL ENGINEER PRIOR TO EXCAVATION OF FOOTINGS.
- ALL FORMS AND ALIGNMENTS OF PAVING, WALL / FENCE LAYOUT, AND SPECIAL PAVING AREAS SHALL BE REVIEWED AND APPROVED BY THE OWNER'S REPRESENTATIVE PRIOR TO POURING (GIVE A MINIMUM OF 48 HOURS NOTICE).
- FOR SITE GRADING, SEE CIVIL ENGINEER'S GRADING PLAN.
- CONTRACTOR SHALL BE RESPONSIBLE FOR MAKING HIMSELF FAMILIAR WITH ALL UNDERGROUND UTILITIES, PIPES AND STRUCTURES CONTRACTOR SHALL TAKE SOLE RESPONSIBILITY FOR COST INCURRED DUE TO DAMAGE AND REPLACEMENT OF SAID UTILITIES.
- CONTRACTOR SHALL BE RESPONSIBLE FOR ANY COORDINATION WITH OTHER SUBCONTRACTORS AS REQUIRED TO ACCOMPLISH CONSTRUCTION OPERATIONS AS SHOWN.
- PRIOR TO PLACING CONCRETE, THE CONTRACTOR SHALL SUFFICIENTLY COMPACT THE SUB-GRADE AND PROVIDE SUBSURFACE PREPARATION PER SPECIFICATIONS.
- CONCRETE SURFACES SHALL BE FORMED WITH LONG, SMOOTH GRADIENT TO REDUCE DIPS, ABRUPT CHANGES AND SHARP TRANSITIONS.
- ALL CURVILINEAR WALKS, CURBS, HEADER BOARDS, AND WALLS SHALL HAVE A CONTINUOUS SMOOTH CURVE WHERE APPLICABLE. ALL FORMS MUST BE INSPECTED AND APPROVED PRIOR TO BEGINNING THAT PHASE OF WORK.
- IF IN THE FIELD, SCALED DIMENSIONS CONFLICT WITH STATED GRADES, AND/OR ELEVATION, THE DESIGN ELEVATION SHALL TAKE PRECEDENCE.
- COUNTY SIGNATURE PERTAINS TO IMPROVEMENTS WITHIN RIGHT-OF-WAY ONLY.

**CONSTRUCTION LEGEND**

- 1 6" WIDE CONCRETE MOWCURB. SEE DETAIL J, SHEET 10.
- 2 6'-0" HIGH SPLIT-FACE MASONRY PERIMETER WALL WITH PRECAST CAP. SEE DETAILS A & B SHEET 4. REFER TO CIVIL ENGINEER'S PLANS FOR COMBINATION RETAINING WALL LOCATIONS.
- 3 6'-6" HIGH SPLIT FACE PILASTER WITH PRECAST COLUMN CAP. SEE DETAIL C, SHEET 4.
- 4 6'-0" HIGH SPLIT FACE BLOCK RETURN WALL WITH PRECAST COLUMN CAP PER TYPICALS' PACKAGE PREPARED BY ARCHITERRA DESIGN GROUP.
- 5 36" HIGH SPLIT FACE BLOCK WALL WITH PRECAST CAP. SEE DETAIL J, SHEET 4. REFER TO CIVIL ENGINEER'S PLANS FOR COMBINATION RETAINING WALL LOCATIONS.
- 6 42" HIGH SPLIT FACE BLOCK PILASTER WITH PRECAST CAP. SEE DETAIL D, SHEET 4.
- 7 6'-0" HIGH BLACK POWDER COATED TUBULAR STEEL FENCE. SEE DETAIL E, SHEET 4. REFER TO CIVIL ENGINEER'S PLANS FOR COMBINATION RETAINING WALL LOCATIONS.
- 8 10'-0" WIDE DOUBLE SWING VEHICULAR ACCESS GATE. SEE DETAIL F, SHEET 4.
- 9 STAMPED CONCRETE DRIVEWAY WITH 24" WIDE SMOOTH TROWEL BANDS. SEE DETAIL K, SHEET 4.
- 10 MONUMENT SIGNAGE WALL WITH PILASTERS, BRASS LETTERING, AND LIGHTING. SEE DETAILS G, H, & I, SHEET 4. (2) BAR LIGHTS TO BE INSTALLED AT BOTH MONUMENTS AND (1) UP LIGHT AT EACH PALM TREE
- 11 STREET LIGHTS PER CIVIL ENGINEER'S STREET IMPROVEMENT PLANS.
- 12 FIRE HYDRANT PER CIVIL ENGINEER'S STREET IMPROVEMENT PLANS.
- 13 CATCH BASIN PER CIVIL ENGINEER'S STREET IMPROVEMENT PLANS.
- 14 STORM DRAIN PER CIVIL ENGINEER'S PLANS.
- 15 SIDEWALK PER CIVIL ENGINEER'S STREET IMPROVEMENT PLANS.
- 16 ACCESSIBLE RAMP PER CIVIL ENGINEER'S STREET IMPROVEMENT PLANS.
- 17 SLOPE PER CIVIL ENGINEER'S PLANS.
- 18 DRIVEWAY APRON PER CIVIL ENGINEER'S STREET IMPROVEMENT PLANS.
- 19 RETAINING WALL PER CIVIL ENGINEER'S PLANS.
- 20 WOOD FENCE PER TYPICALS' PACKAGE PREPARED BY ARCHITERRA DESIGN GROUP.
- 21 CONCRETE DRAIN SWALE PER CIVIL ENGINEER'S PLANS.
- 22 8'-0" HIGH SPLIT-FACE MASONRY PERIMETER WALL WITH PRECAST CAP (ALONG LOT 22). SEE DETAILS A & B SHEET 4. REFER TO CIVIL ENGINEER'S PLANS FOR COMBINATION RETAINING WALL LOCATIONS.
- 23 7'-0" HIGH SPLIT-FACE MASONRY PERIMETER WALL WITH PRECAST CAP (ALONG LOT 23). SEE DETAILS A & B SHEET 4. REFER TO CIVIL ENGINEER'S PLANS FOR COMBINATION RETAINING WALL LOCATIONS.
- 24 CONCRETE ACCESS ROAD PER CIVIL ENGINEER'S STORM DRAIN PLANS.

**LIGHTING NOTE:**  
 CONTRACTOR TO SUBMIT SHOP DRAWINGS FOR LIGHTING FIXTURES AND LOCATIONS TO MAINTENANCE DISTRICT AND LANDSCAPE ARCHITECT FOR APPROVAL. SEE DETAIL G, SHEET 4.  
 (2) FLUORESCENT LIGHTS PER MONUMENT (4 TOTAL) AND (1) UP-LIGHT PER PALM TREE (15 TOTAL). SEE SHEET 8 FOR PALM TREE LOCATIONS.  
 POWER SUPPLY TO COME FROM IRRIGATION CONTROLLER PANEL LOCATION AT SOUTHWEST CORNER OF HOLLAND ST. AND MELMORE LN. LIGHTS TO BE CONTROLLED BY PHOTOCELL.

**SHEET KEY MAP**



SCALE: 1" = 30'  
 0' 15' 30' 60' 120'

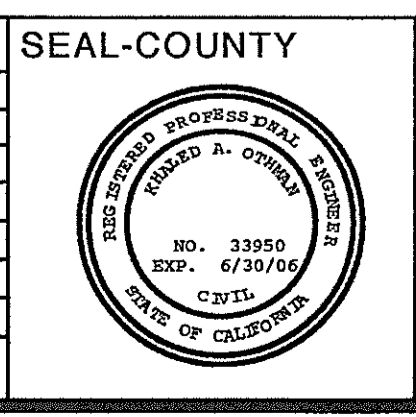
**PLAN CROSS REFERENCES**

FOR NOTES AND LEGENDS, SEE THIS SHEET  
 FOR CONSTRUCTION DETAILS, SEE SHEET 4  
 FOR CONSTRUCTION SPECIFICATIONS, SEE SHEET 11  
 FOR CORRESPONDING IRRIGATION PLAN, SEE SHEET 5  
 FOR CORRESPONDING PLANTING PLAN, SEE SHEET 8

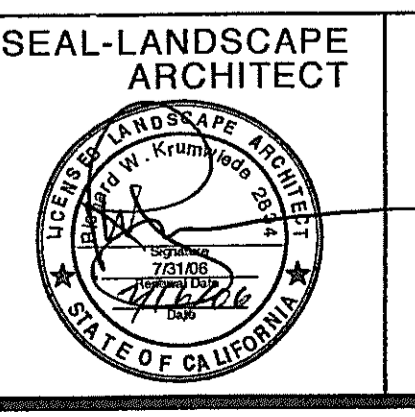
**DIGALERT**  
 A PUBLIC SERVICE BY 1-800-227-2600  
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DATE	BY	MARK	REVISIONS	APPR. DATE



SEAL-COUNTY  
 COUNTY OF RIVERSIDE  
 TRANSPORTATION DEPARTMENT  
 APPROVED BY:  
 KHALED A. OTHMAN, P.E. DATE  
 R.C.E. 33950 EXP. 6-30-06  
 RECOMMENDED DATE



LANDSCAPE ARCHITECTURE  
 SITE PLANNING  
 10221-A Trademark Street  
 Rancho Cucamonga, CA 91730  
 Tel: (909) 454-2800  
 Fax: (909) 454-2802  
 Richard Krumwiede  
 CA Lic. #6824  
 AZ Lic. #29115  
 NV Lic. #1492  
 TX Lic. #19824

PREPARED BY: KPF  
 R.L.A. NO. 2834  
 DATE 1/12/06

VALLEY-WIDE RECREATION AND PARK DISTRICT  
 SAMUEL W. GOEPP  
 DATE: 2/22/06

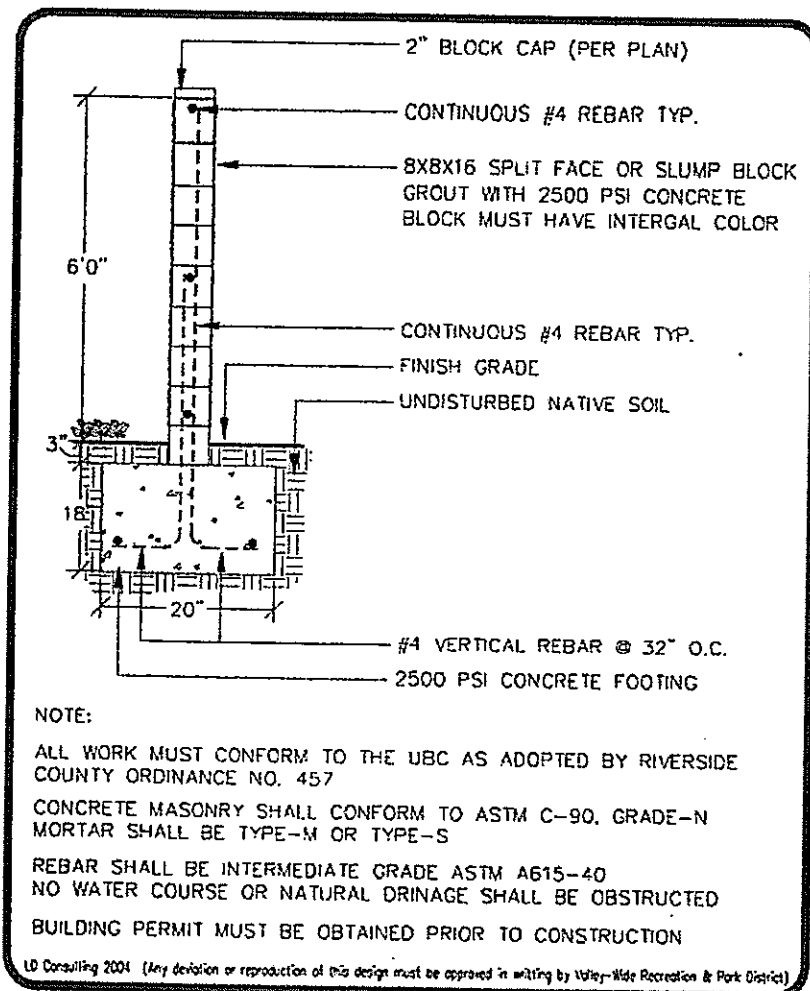
**HIDDEN MEADOWS**  
 TRACT NO. 30948, I. P. NO. 030095  
 VALLEY-WIDE REC. AND PARK DISTRICT  
**CONSTRUCTION PLAN**  
 FOR: FORECAST HOMES  
 JOB # 0352-3  
 COUNTY FILE NO.

SHEET NO. **2**  
 OF 14 SHEETS  
 2/16/2006







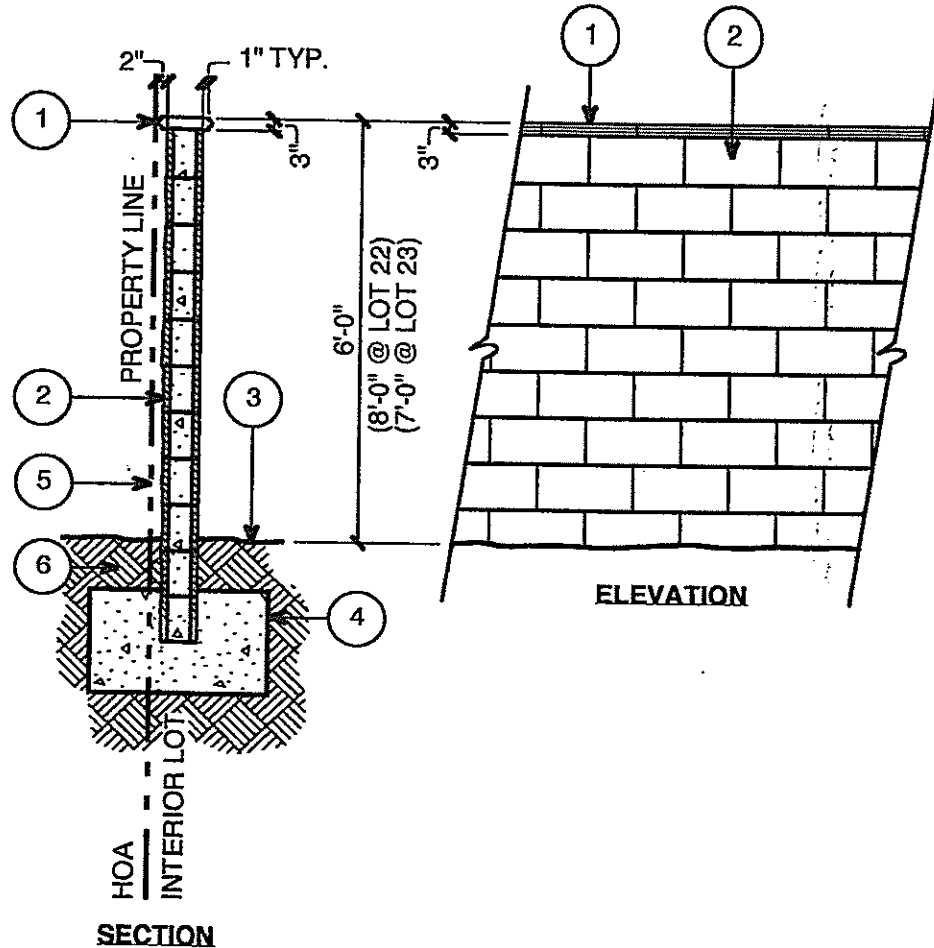


**LEGEND:**

- 8" x 8" x 16" PRECAST WALL CAP, MODEL # WC3-8S THROUGH LITE STONE (619)596-9151. COLOR TO BE "NATURAL/COOL GRAY".
- 6" x 8" x 16" SPLIT FACE BLOCK (EXTERIOR SIDE ONLY). COLOR TO BE "SANDSTONE".
- FINISH GRADE.
- PROPOSED CONCRETE FOOTING PER STRUCTURAL ENGINEER'S REPORT. THE FOOTING INTO PILASTER FOOTINGS.
- ALIGN FACE OF WALL PARALLEL TO PROPERTY LINE AND 2' INSIDE PROPERTY LINE.
- COMPACTED SUBGRADE PER SOIL ENGINEER'S REPORT.

**NOTES:**

- WALL TO BE PROTO II CONSTRUCTION TECHNIQUE (ENGINEERING CALCS PROVIDED BY MANUFACTURER).
- ALL BLOCKS AVAILABLE FROM ANGELUS BLOCK COMPANY. CONTACT: LINDSAY BARTO, PHONE NO. (609)350-0244
- AN ANTI-GRAFFITI COATING SHALL BE PROVIDED ON ALL BLOCK WALLS, AND WRITTEN VERIFICATION FROM THE DEVELOPER SHALL BE PROVIDED TO BOTH THE TLMA - LAND USE DIVISION, AND THE DEVELOPMENT REVIEW DIVISION.



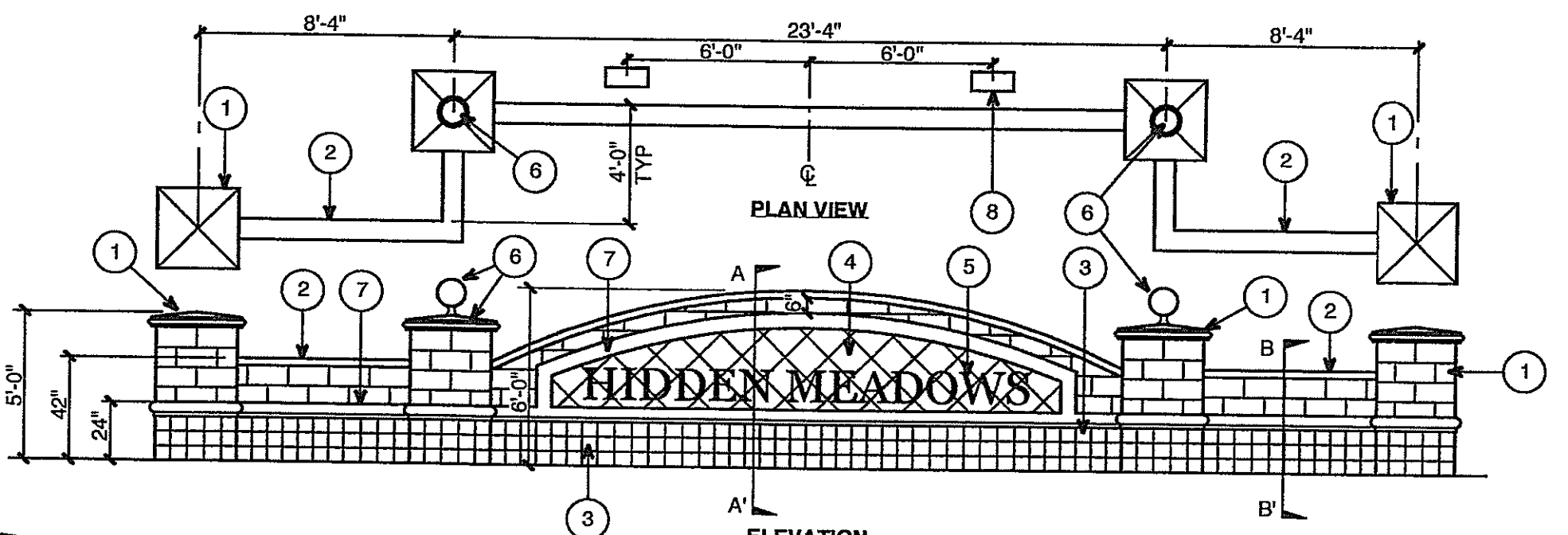
**B 6'-0" HIGH SPLIT FACE WALL WITH PRECAST CAP**

SCALE: N.T.S.

**LEGEND:**

- 5' HIGH "SPICE" SPLIT FACE PILASTER WITH NATURAL COLOR PRECAST CAP. SPLIT FACE BLOCK AVAILABLE FROM ANGELUS BLOCK (714)837-8594. COLUMN CAP MODEL NO. PC2-17 BY LITE STONE (619)596-9151. CONSTRUCT SIMILAR TO DETAIL C, THIS SHEET.
- 42" HIGH "SANDSTONE" SPLIT FACE BLOCK WALL WITH NATURAL COLOR PRECAST CAP. CAP MODEL NO. WC3-8S BY LITE STONE. SPLIT FACE BLOCK AVAILABLE FROM ANGELUS BLOCK (714)837-8594. SEE SECTIONS, PER DETAIL H, THIS SHEET.
- 6" SQ. CANTERA STONE TILE. COLOR TO BE "GUANJUATO VERDE" CS 145. GRID SETTING. AVAILABLE FROM CANTERA ESPECIAL (818)907-7170.
- 12" SQ. CANTERA STONE TILE. COLOR TO BE "CREMA" CS141. 45° DIAGONAL SETTING. AVAILABLE FROM CANTERA ESPECIAL (818)907-7170.
- 12" TALL BRASS LETTERING TO BE SCREWED AWAY FROM TILE w/ 1" SPACERS, CENTERED ON WALL. LETTERING TO READ "HIDDEN MEADOWS".
- "NATURAL/COOL GRAY" PRECAST CAP MODEL # PC2-18W WITH FINIAL BALL, MODEL #FB1-12. INSTALL PER MANUFACTURER'S RECOMMENDATIONS.
- NATURAL COLOR, PRECAST WALL TRIM. MODEL # T11-6S, THROUGH LITE STONE (619)596-9151. INSTALL PER MANUFACTURER'S RECOMMENDATIONS.
- FLUORESCENT LIGHT. MODEL #WA2-H-F232T8-120V. AVAILABLE THROUGH HADCO. INSTALL PER MANUFACTURER'S RECOMMENDATIONS.

**NOTE:** ALLOW 4-6 WEEKS LEAD TIME FOR DELIVERY. REFER TO DETAILS H & I THIS SHEET FOR SECTIONS A & B.



**G MONUMENT WALL WITH PILASTERS**

SCALE: N.T.S.

**LEGEND:**

- ASPHALT PAVING OR CURB AND GUTTER FINISH SURFACE PER CIVIL ENGINEER'S STREET IMPROVEMENT PLANS.
- 24" WIDE X 12" DEEP NATURAL COLOR SMOOTH TROWEL FINISH CONCRETE BAND. PROVIDE 1/2" RADIUS AT EDGES.
- "ASHLAR SLATE" PATTERN STAMPED CONCRETE PAVING. THICKNESS PER SOIL ENGINEER'S REPORT (8" MIN.). PATTERN AVAILABLE THROUGH SULLIVAN CONCRETE TEXTURES, (714) 558-7633, OR EQUAL. COLOR TO BE "SALMON".
- #5 REBAR AT MIDPOINT OF BAND (CONTINUOUS), 2 PLACES. TIE TO REBAR FROM PAVING.
- COMPACTED SUBGRADE PER SOIL ENGINEER'S REPORT.
- COMPACTED SUBGRADE MATERIAL, MATERIAL TYPE AND THICKNESS PER SOIL ENGINEER'S REPORT.
- REBAR REINFORCEMENT, SIZE AND PLACEMENT AS PER SOIL ENGINEER'S REPORT.

**K 24" CONCRETE BANDING WITH STAMPED FIELD**

SCALE: N.T.S.

**C 6'-6" HIGH SPLIT-FACE PILASTER**

SCALE: N.T.S.

**LEGEND:**

- "NATURAL/COOL GRAY" PRECAST COLUMN CAP. MODEL NO. PC2-17 LITE STONE CONCRETE. PHONE NO. (619)596-9151.
- 16" x 8" x 16" "SPICE" COLOR SPLIT FACE COLUMN BLOCK. FILL CELLS SOLID. AVAILABLE FROM ANGELUS BLOCK COMPANY. PHONE NO. (609)350-0244
- #4 VERTICAL REBAR @ (4) PLACES.
- #4 HORIZONTAL REBAR LOOPS @ 24" o.c. TIE INTO ADJACENT WALL.
- 30" WIDE BY 1'-6" DEEP CONCRETE FOOTING.
- ADJACENT WALL. SEE DETAIL B, THIS SHEET.
- FINISH GRADE.
- COMPACTED SUBGRADE PER SOIL ENGINEER'S REPORT.

**NOTES:**

- PILASTER FOOTING TO BE CONSTRUCTED CONTINUOUS w/ WALL FOOTING PER STANDARD PROTO II CONSTRUCTION. ALL WALL HEIGHTS SHALL BE MEASURED FROM HIGHEST ADJACENT GRADE.
- AN ANTI-GRAFFITI COATING SHALL BE PROVIDED ON ALL BLOCK WALLS, AND WRITTEN VERIFICATION FROM THE DEVELOPER SHALL BE PROVIDED TO BOTH THE TLMA - LAND USE DIVISION, AND THE DEVELOPMENT REVIEW DIVISION.

**D 42" HIGH SPLIT-FACE PILASTER**

SCALE: N.T.S.

**LEGEND:**

- 8" x 8" x 16" PRECAST WALL CAP, MODEL # WC3-8S THROUGH LITE STONE (619)596-9151. COLOR TO BE "NATURAL/COOL GRAY".
- 6" x 8" x 16" SPLIT FACE BLOCK (BOTH SIDES). COLOR TO BE "SANDSTONE".
- 4" x 8" x 16" SPLIT FACE BLOCK (BOTH SIDES). COLOR TO BE "SANDSTONE".
- FINISH GRADE.
- PROPOSED CONCRETE FOOTING PER STRUCTURAL ENGINEER'S REPORT. THE FOOTING INTO PILASTER FOOTINGS.
- COMPACTED SUBGRADE PER SOIL ENGINEER'S REPORT.
- NATURAL COLOR, PRECAST WALL TRIM. MODEL # T11-6S, THROUGH LITE STONE (619)596-9151. INSTALL PER MANUFACTURER'S RECOMMENDATIONS.
- 12" SQ. CANTERA STONE TILE. COLOR TO BE "CREMA" CS141. 45° DIAGONAL SETTING.
- 12" TALL BRASS LETTERING TO BE SCREWED AWAY FROM TILE w/ 1" SPACERS, CENTERED ON WALL. LETTERING TO READ "HIDDEN MEADOWS".
- 6" SQ. CANTERA STONE TILE. COLOR TO BE "GUANJUATO VERDE" CS 145. GRID SETTING.

**NOTES:**

- WALL TO BE PROTO II CONSTRUCTION TECHNIQUE (ENGINEERING CALCS PROVIDED BY MANUFACTURER).
- ALL BLOCKS AVAILABLE FROM ANGELUS BLOCK COMPANY. CONTACT: LINDSAY BARTO, PHONE NO. (609)350-0244
- TILES AVAILABLE FROM CANTERA ESPECIAL (818)907-7170.
- TRIM AND MOLDINGS AVAILABLE FROM LITE STONE (619)596-9151.
- INSTALL PER MANUFACTURER'S RECOMMENDATIONS.
- ALLOW 4-6 WEEKS LEAD TIME FOR DELIVERY.
- AN ANTI-GRAFFITI COATING SHALL BE PROVIDED ON ALL BLOCK WALLS, AND WRITTEN VERIFICATION FROM THE DEVELOPER SHALL BE PROVIDED TO BOTH THE TLMA - LAND USE DIVISION, AND THE DEVELOPMENT REVIEW DIVISION.

**H MONUMENT WALL SECTION A -A'**

SCALE: N.T.S.

**I MONUMENT WALL SECTION B-B'**

SCALE: N.T.S.

**E W. I. FENCING**

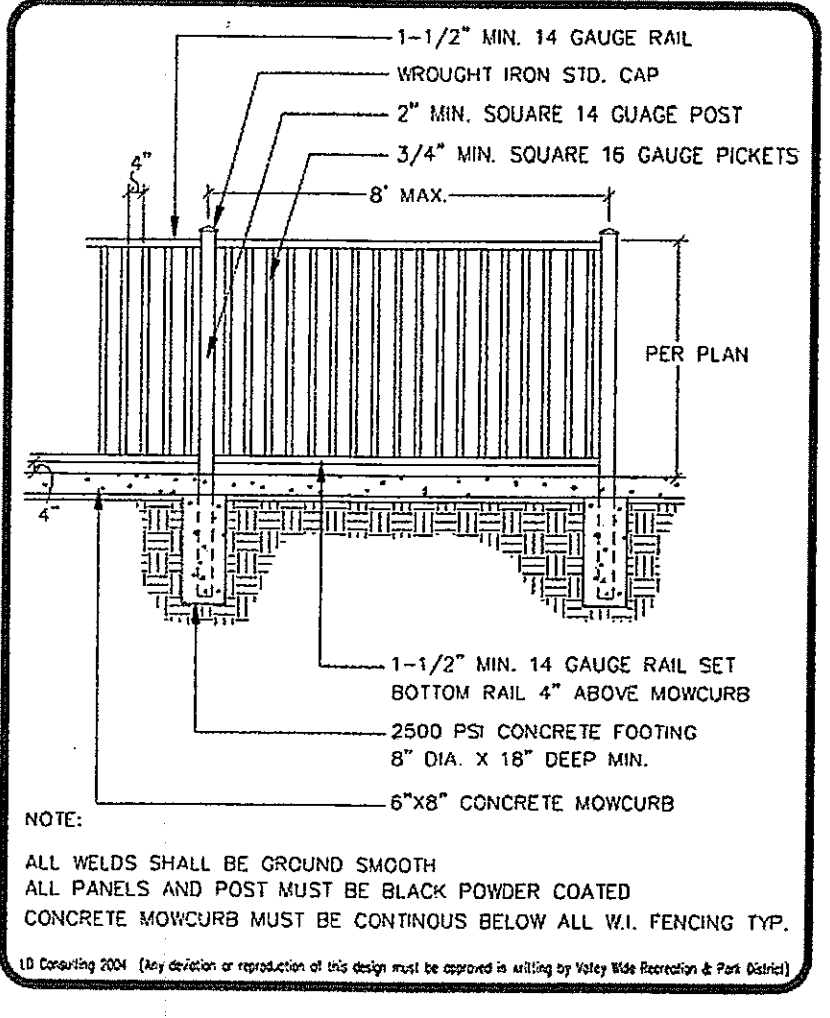
SCALE: N.T.S.

**LEGEND:**

- 6" x 3" x 16" PRECAST WALL CAP, MODEL # WC3-8S THROUGH LITE STONE (619)596-9151. COLOR TO BE "NATURAL/COOL GRAY".
- 6" x 8" x 16" SPLIT FACE BLOCK (BOTH SIDES). COLOR TO BE "SANDSTONE".
- FINISH GRADE.
- PROPOSED CONCRETE FOOTING PER STRUCTURAL ENGINEER'S REPORT. THE FOOTING INTO PILASTER FOOTINGS.
- COMPACTED SUBGRADE PER SOIL ENGINEER'S REPORT.
- NATURAL COLOR, PRECAST WALL TRIM. MODEL # T11-6S, THROUGH LITE STONE (619)596-9151. INSTALL PER MANUFACTURER'S RECOMMENDATIONS.
- 6" SQ. CANTERA STONE TILE. COLOR TO BE "GUANJUATO VERDE" CS 145. GRID SETTING.

**NOTES:**

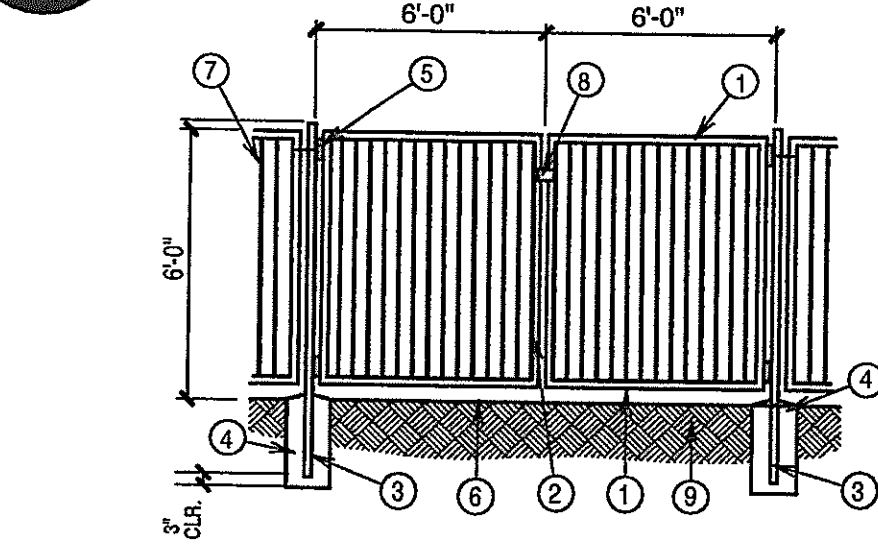
- WALL TO BE PROTO II CONSTRUCTION TECHNIQUE (ENGINEERING CALCS PROVIDED BY MANUFACTURER).
- ALL BLOCKS AVAILABLE FROM ANGELUS BLOCK COMPANY. CONTACT: LINDSAY BARTO, PHONE NO. (609)350-0244
- TILES AVAILABLE FROM CANTERA ESPECIAL (818)907-7170.
- TRIM AND MOLDINGS AVAILABLE FROM LITE STONE (619)596-9151.
- INSTALL PER MANUFACTURER'S RECOMMENDATIONS.
- ALLOW 4-6 WEEKS LEAD TIME FOR DELIVERY.
- AN ANTI-GRAFFITI COATING SHALL BE PROVIDED ON ALL BLOCK WALLS, AND WRITTEN VERIFICATION FROM THE DEVELOPER SHALL BE PROVIDED TO BOTH THE TLMA - LAND USE DIVISION, AND THE DEVELOPMENT REVIEW DIVISION.



**VALLEY WIDE RECREATION WROUGHT IRON FENCING LC-10**

**A MASONRY**

SCALE: N.T.S.



**LEGEND:**

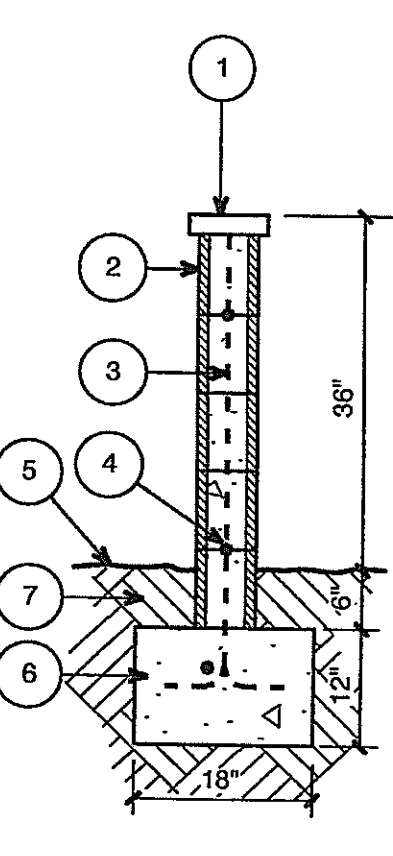
- 2" SQ. 12 GA. TUBULAR STEEL GATE FRAME w/ CORNERS MITERED, WELDED & GROUND SMOOTH.
- 3/4" SQ. 16 GA. TUBULAR STEEL FENCE PICKETS @ 4" O.C. MAX. TYPICAL (4" CLR. MAX. OPENING ALLOWED BY CODE).
- 2" SQ. 12 GA. TUBULAR STEEL POST SET IN 24" DEEP X 12" SQ. CONCRETE FOOTING. CONCRETE SOLID POST VOID.
- 3/8" DEEP X 12" SQ. CONCRETE FOOTING. FOOTING SHALL ACHIEVE 2500 PSI @ END OF 28 DAYS. GROWN TOP 1" AS SHOWN TO DRAIN.
- HINGE ASSEMBLY. WELD HEAVY DUTY 1/4" THICK BALL-BEARING HINGES TO GATE FRAME AND 2X2 POST.
- ASPHALT STREET FINISH SURFACE.
- TUBULAR STEEL VIEW FENCE PER DETAIL E, THIS SHEET.
- SELF CLOSING LATCH w/ LOCKABLE HASP.
- 5/8" DIAMETER CANE BOLT w/ 3/4" DIAMETER PIPE SLEEVE

**NOTE:**

- ALL CONNECTIONS TO BE CONTINUOUS WELDED. REMOVE ALL SLAG & SPATTER AND GRIND ALL WELDS SMOOTH. ALL TUBING TO HAVE ENDS WELDED CLOSED. ALL STEEL TO BE BLACK POWDER COATED.

**F TUBULAR STEEL ACCESS GATE**

SCALE: N.T.S.



**J 36" HIGH SPLIT-FACE WALL W/ CAP**

SCALE: N.T.S.

**LEGEND:**

- 8" x 8" x 16" PRECAST WALL CAP, MODEL # WC3-8S THROUGH LITE STONE (619)596-9151. COLOR TO BE "NATURAL/COOL GRAY".
- 6" x 8" x 16" SPLIT FACE BLOCK (BOTH SIDES). COLOR TO BE "SANDSTONE".
- #3 VERTICAL REBAR @ 24" o.c. GROUT ALL CELLS WITH REBAR SOLID.
- #3 CONTINUOUS HORIZONTAL REBAR @ 24" o.c. TIE INTO ADJACENT PILASTER.
- FINISH GRADE.
- 16" WIDE CONCRETE FOOTING. TIE FOOTING INTO PILASTER FOOTINGS.
- COMPACTED SUBGRADE PER SOIL ENGINEER'S REPORT.

**NOTES:**

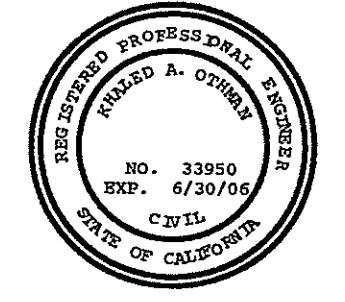
- WALL TO BE PROTO II CONSTRUCTION TECHNIQUE (ENGINEERING CALCS PROVIDED BY MANUFACTURER).
- ALL BLOCKS AVAILABLE FROM ANGELUS BLOCK COMPANY. CONTACT: LINDSAY BARTO, PHONE NO. (609)350-0244
- AN ANTI-GRAFFITI COATING SHALL BE PROVIDED ON ALL BLOCK WALLS, AND WRITTEN VERIFICATION FROM THE DEVELOPER SHALL BE PROVIDED TO BOTH THE TLMA - LAND USE DIVISION, AND THE DEVELOPMENT REVIEW DIVISION.

**HOLD HARMLESS & INDEMNIFICATION CLAUSE:**

CONTRACTOR AGREES TO ASSUME SOLE 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/DEVELOPER, THE COUNTY OF LOCAL JURISDICTION AND THE LANDSCAPE DESIGNER HARMLESS FROM ANY AND ALL LIABILITY REAL OR ALLEGED IN CONNECTION WITH THE PERFORMANCE OF WORK ON THIS PROJECT, EXCEPTING FOR LIABILITY ARISING FROM SOLE NEGLIGENCE OF THE OWNER/DEVELOPER, COUNTY OF LOCAL JURISDICTION AND THE LANDSCAPE DESIGNER.

DATE	BY	MARK	REVISIONS	APPR. DATE
	ENGINEER			COUNTY

**SEAL-COUNTY**



COUNTY OF RIVERSIDE  
TRANSPORTATION DEPARTMENT  
APPROVED BY:

KHALED A. OTHMAN, P.E.  
R.C.E. 33950 EXP. 6-30-06

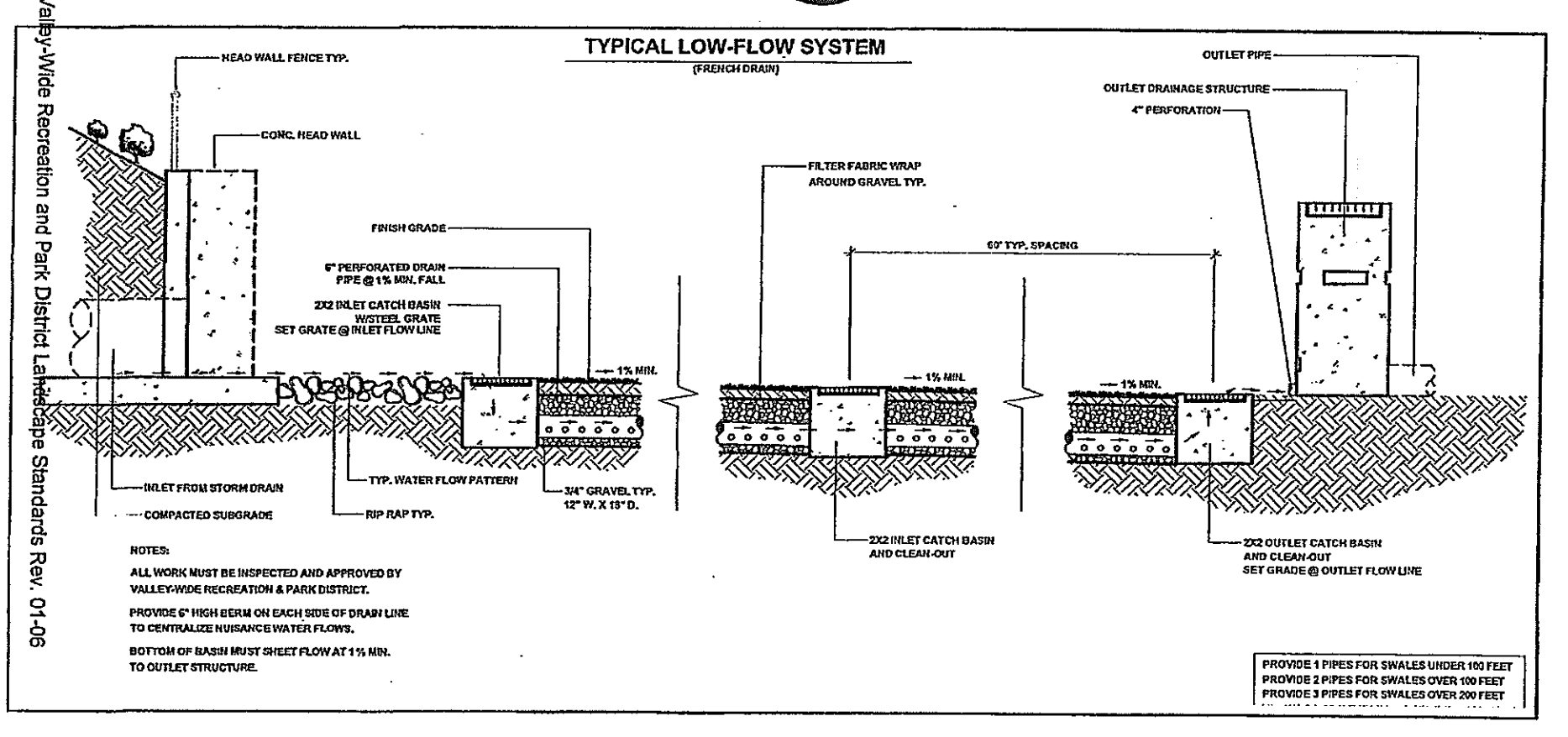
**SEAL-LANDSCAPE ARCHITECT**



LANDSCAPE ARCHITECTURE  
SITE PLANNING  
10221-A Trademark Street  
Rancho Cucamonga, CA 91730  
Tel (909) 484-2800  
Fax (909) 484-2802  
Richard Krumwiede  
CA Lic #2534  
AZ Lic # 0115  
NY Lic # 0418  
TX Lic #2836

PREPARED BY: KPF  
R.L.A. NO. 2834  
DATE 1/31/06

**VALLEY WIDE RECREATION LOW-FLOW DRAINAGE LC-29**



VALLEY WIDE RECREATION  
LOW-FLOW DRAINAGE  
LC-29

**HIDDEN MEADOWS**

TRACT NO. 30948, I. P. NO. 030095  
VALLEY-WIDE REC. AND PARK DISTRICT

**CONSTRUCTION DETAILS**

FOR: FORECAST HOMES  
JOB # 0352-3  
COUNTY FILE NO.

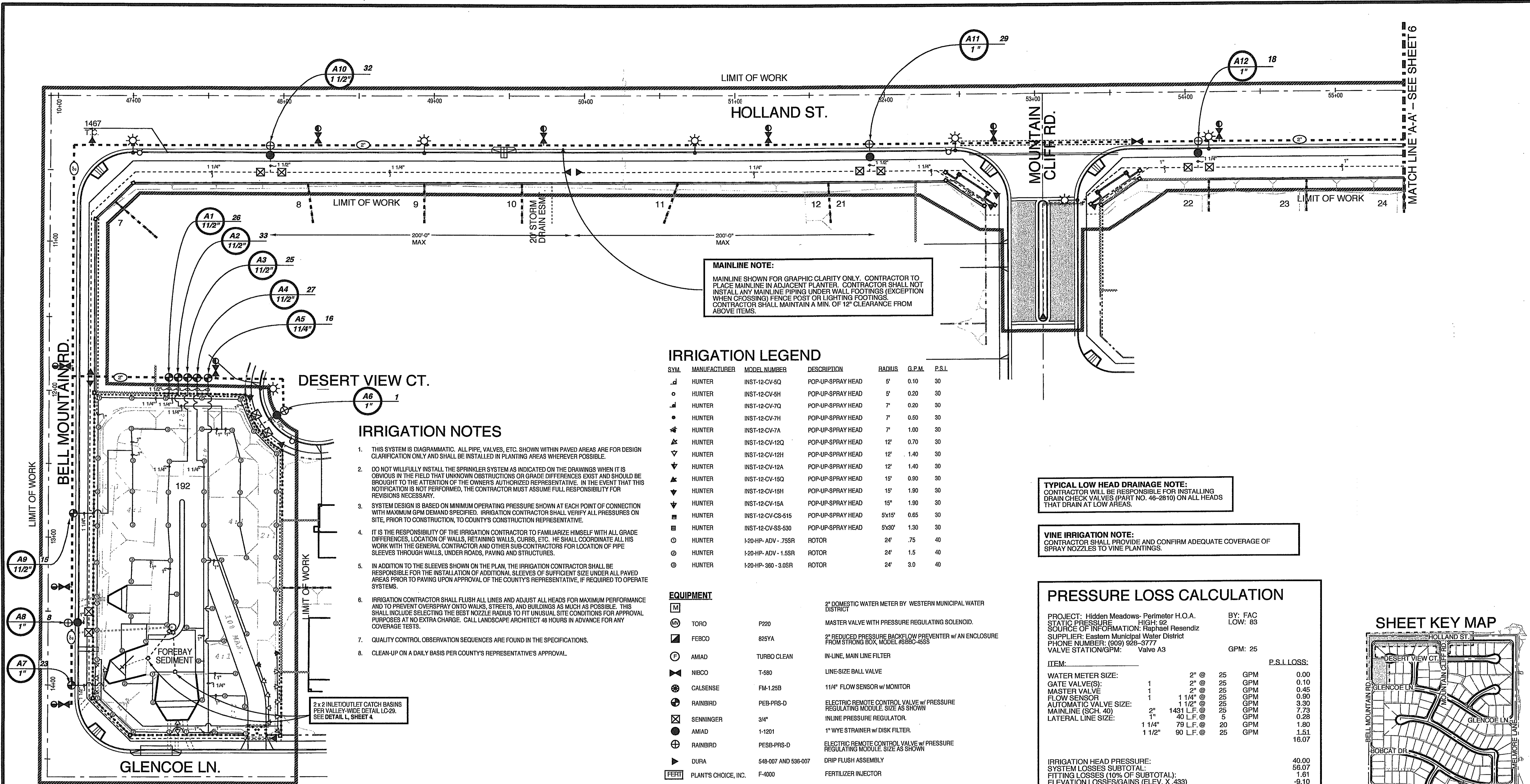
**SHEET NO.**

4

OF 14 SHEETS

2/16/2006





**MAINLINE NOTE:**  
 MAINLINE SHOWN FOR GRAPHIC CLARITY ONLY. CONTRACTOR TO PLACE MAINLINE IN ADJACENT PLANTER. CONTRACTOR SHALL NOT INSTALL ANY MAINLINE PIPING UNDER WALL FOOTINGS (EXCEPTION WHEN CROSSING) FENCE POST OR LIGHTING FOOTINGS. CONTRACTOR SHALL MAINTAIN A MIN. OF 12" CLEARANCE FROM ABOVE ITEMS.

**IRRIGATION LEGEND**

SYM.	MANUFACTURER	MODEL NUMBER	DESCRIPTION	RADIUS	G.P.M.	P.S.I.
▲	HUNTER	INST-12-CV-5Q	POP-UP-SPRAY HEAD	5'	0.10	30
○	HUNTER	INST-12-CV-5H	POP-UP-SPRAY HEAD	5'	0.20	30
▲	HUNTER	INST-12-CV-7Q	POP-UP-SPRAY HEAD	7'	0.20	30
○	HUNTER	INST-12-CV-7H	POP-UP-SPRAY HEAD	7'	0.50	30
▲	HUNTER	INST-12-CV-7A	POP-UP-SPRAY HEAD	7'	1.00	30
▼	HUNTER	INST-12-CV-12Q	POP-UP-SPRAY HEAD	12'	0.70	30
▲	HUNTER	INST-12-CV-12H	POP-UP-SPRAY HEAD	12'	1.40	30
▼	HUNTER	INST-12-CV-12A	POP-UP-SPRAY HEAD	12'	1.40	30
▲	HUNTER	INST-12-CV-15Q	POP-UP-SPRAY HEAD	15'	0.90	30
▼	HUNTER	INST-12-CV-15H	POP-UP-SPRAY HEAD	15'	1.90	30
▲	HUNTER	INST-12-CV-15A	POP-UP-SPRAY HEAD	15'	1.90	30
■	HUNTER	INST-12-CV-CS-515	POP-UP-SPRAY HEAD	5x15'	0.65	30
■	HUNTER	INST-12-CV-CS-530	POP-UP-SPRAY HEAD	5x30'	1.30	30
○	HUNTER	I-20-HP-ADV - 75SR	ROTOR	24'	.75	40
○	HUNTER	I-20-HP-ADV - 1.5SR	ROTOR	24'	1.5	40
○	HUNTER	I-20-HP-360 - 3.0SR	ROTOR	24'	3.0	40

- IRRIGATION NOTES**
- THIS SYSTEM IS DIAGRAMMATIC. ALL PIPE, VALVES, ETC. SHOWN WITHIN PAVED AREAS ARE FOR DESIGN CLARIFICATION ONLY AND SHALL BE INSTALLED IN PLANTING AREAS WHEREVER POSSIBLE.
  - 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 AND SHOULD BE BROUGHT TO THE ATTENTION OF THE OWNER'S AUTHORIZED REPRESENTATIVE. IN THE EVENT THAT THIS NOTIFICATION IS NOT PERFORMED, THE CONTRACTOR MUST ASSUME FULL RESPONSIBILITY FOR REVISIONS NECESSARY.
  - SYSTEM DESIGN IS BASED ON MINIMUM OPERATING PRESSURE SHOWN AT EACH POINT OF CONNECTION WITH MAXIMUM GPM DEMAND SPECIFIED. IRRIGATION CONTRACTOR SHALL VERIFY ALL PRESSURES ON SITE, PRIOR TO CONSTRUCTION, TO COUNTY'S CONSTRUCTION REPRESENTATIVE.
  - IT IS THE RESPONSIBILITY OF THE IRRIGATION CONTRACTOR TO FAMILIARIZE HIMSELF WITH ALL GRADE DIFFERENCES, LOCATION OF WALLS, CURBS, ETC. HE SHALL COORDINATE ALL HIS WORK WITH THE GENERAL CONTRACTOR AND OTHER SUB-CONTRACTORS FOR LOCATION OF PIPE SLEEVES THROUGH WALLS, UNDER ROADS, PAVING AND STRUCTURES.
  - IN ADDITION TO THE SLEEVES SHOWN ON THE PLAN, THE IRRIGATION CONTRACTOR SHALL BE RESPONSIBLE FOR THE INSTALLATION OF ADDITIONAL SLEEVES OF SUFFICIENT SIZE UNDER ALL PAVED AREAS PRIOR TO PAVING UPON APPROVAL OF THE COUNTY'S REPRESENTATIVE, IF REQUIRED TO OPERATE SYSTEMS.
  - IRRIGATION CONTRACTOR SHALL FLUSH ALL LINES AND ADJUST ALL HEADS FOR MAXIMUM PERFORMANCE AND TO PREVENT OVERSPRAY ONTO WALKS, STREETS, AND BUILDINGS AS MUCH AS POSSIBLE. THIS SHALL INCLUDE SELECTING THE BEST NOZZLE RADIUS TO FIT UNUSUAL SITE CONDITIONS FOR APPROVAL PURPOSES AT NO EXTRA CHARGE. CALL LANDSCAPE ARCHITECT 48 HOURS IN ADVANCE FOR ANY COVERAGE TESTS.
  - QUALITY CONTROL OBSERVATION SEQUENCES ARE FOUND IN THE SPECIFICATIONS.
  - CLEAN-UP ON A DAILY BASIS PER COUNTY'S REPRESENTATIVE'S APPROVAL.

**EQUIPMENT**

TM	TORO	P220	MASTER VALVE WITH PRESSURE REGULATING SOLENOID.
F	FEBCO	825YA	2" REDUCED PRESSURE BACKFLOW PREVENTER w/ AN ENCLOSURE FROM STRONG BOX, MODEL #S55C-4555
P	AMIAD	TURBO CLEAN	IN-LINE, MAIN LINE FILTER
N	NIBCO	T-580	LINE-SIZE BALL VALVE
C	CALSENSE	FM-125B	1 1/4" FLOW SENSOR w/ MONITOR
R	RAINBIRD	PEB-PRS-D	ELECTRIC REMOTE CONTROL VALVE w/ PRESSURE REGULATING MODULE. SIZE AS SHOWN
S	SENNINGER	3/4"	IN-LINE PRESSURE REGULATOR.
A	AMIAD	1-1201	1" WYE STRAINER w/ DISK FILTER.
R	RAINBIRD	PE5B-PRS-D	ELECTRIC REMOTE CONTROL VALVE w/ PRESSURE REGULATING MODULE. SIZE AS SHOWN
D	DURA	548-007 AND 536-007	DRIP FLUSH ASSEMBLY
F	PLANT'S CHOICE, INC.	F-4000	FERTILIZER INJECTOR
A	CALSENSE	ET2000-24-LR-RR-SSER	24-STATION ELECTRIC CONTROLLER w/ CALSENSE SSE ENCLOSURE
B	CALSENSE	ET2000-40-LR-RR-SSER	40-STATION ELECTRIC CONTROLLER w/ CALSENSE SSE ENCLOSURE (FOR FUEL MODIFICATION AREA)
W	WCS	RGDCC	WIRELESS RAIN SENSOR
R	RAINBIRD	44 LRC44K	1" QUICK COUPLER VALVE w/ (2 KEYS TOTAL)
CL	APPROVED	CL-315	MAINLINE, SIZE AS SHOWN, MIN. COVER 24" SCH 40 FOR 2" & SMALLER.
SCH	APPROVED	SCH. 40 PVC	LATERAL LINE, SIZE AS SHOWN, MIN. COVER 12"
SCH	APPROVED	SCH. 40 PVC	SLEEVES, SIZED 2X LARGER THAN PIPE TO BE INSERTED, UNLESS OTHERWISE NOTED
SCH	APPROVED	UVR SCH. 40 PVC	1/2" PVC LATERAL LINE PIPE FOR DRIP.
SCH	APPROVED	SCH. 40 PVC	WIRE SLEEVE, SIZE AS REQUIRED UNLESS OTHERWISE NOTED

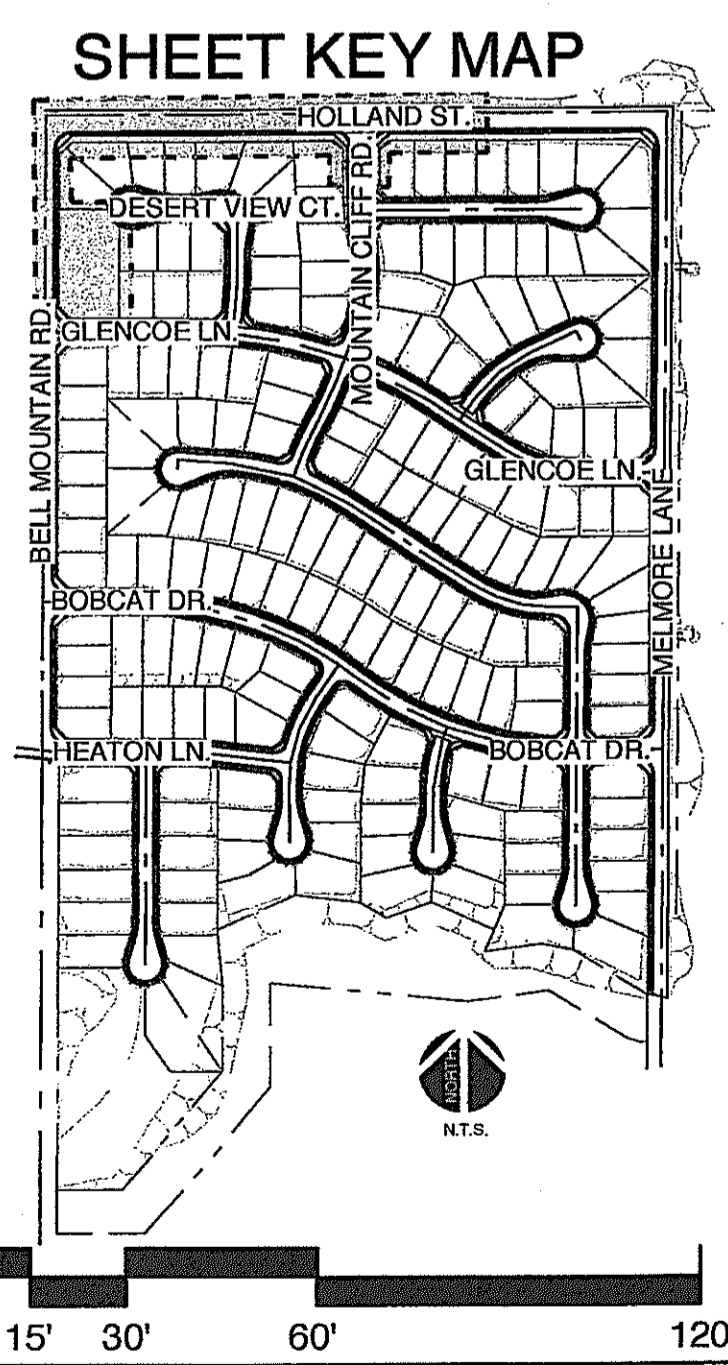
**TYPICAL LOW HEAD DRAINAGE NOTE:**  
 CONTRACTOR WILL BE RESPONSIBLE FOR INSTALLING DRAIN CHECK VALVES (PART NO. 46-2810) ON ALL HEADS THAT DRAIN AT LOW AREAS.

**VINE IRRIGATION NOTE:**  
 CONTRACTOR SHALL PROVIDE AND CONFIRM ADEQUATE COVERAGE OF SPRAY NOZZLES TO VINE PLANTINGS.

**PRESSURE LOSS CALCULATION**

PROJECT: Hidden Meadows- Perimeter H.O.A. BY: FAC  
 STATIC PRESSURE: HIGH: 92 LOW: 83  
 SOURCE OF INFORMATION: Raphael Resendiz  
 SUPPLIER: Eastern Municipal Water District  
 PHONE NUMBER: (909) 928-3777  
 VALVE STATION/GPM: Valve A3 GPM: 25

ITEM:	QTY	SIZE	LOSS	P.S.I. LOSS:
WATER METER SIZE:		2" @ 25 GPM	0.00	
GATE VALVE(S):	1	2" @ 25 GPM	0.10	
MASTER VALVE	1	2" @ 25 GPM	0.45	
FLOW SENSOR	1	1 1/4" @ 25 GPM	0.90	
AUTOMATIC VALVE SIZE:	2	1 1/2" @ 25 GPM	3.30	
MAINLINE (SCH. 40)	1	1 1/2" L.F. @ 25 GPM	7.73	
LATERAL LINE SIZE:	1	1" @ 5 GPM	0.28	
	1	1 1/4" @ 20 GPM	1.80	
	1	1 1/2" @ 25 GPM	1.51	
			16.07	
IRRIGATION HEAD PRESSURE:			40.00	
SYSTEM LOSSES SUBTOTAL:			56.07	
FITTING LOSSES (10% OF SUBTOTAL):			1.61	
ELEVATION LOSSES/GAINS (ELEV. X .433)			-9.10	
TOTAL SYSTEM LOSSES:			48.58	
AVAILABLE PRESSURE (LOW):			83.00	
(-) DEFICIT OR (+) RESIDUAL PRESSURE:			(+) 34.42	



**PLAN CROSS REFERENCES**

FOR NOTES AND LEGENDS, SEE THIS SHEET FOR IRRIGATION DETAILS, SEE SHEETS 7 & 7D FOR IRRIGATION SPECIFICATIONS, SEE SHEET 12 FOR CORRESPONDING CONSTRUCTION PLAN, SEE SHEET 2 FOR CORRESPONDING PLANTING PLAN, SEE SHEET 8

**DIGALERT**

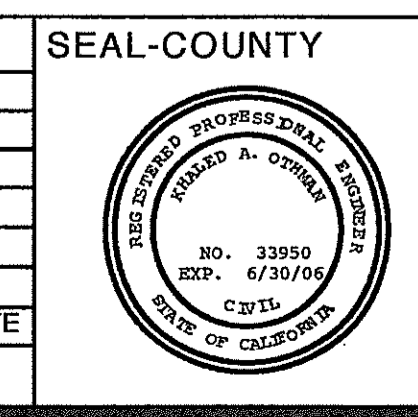
DEAL BEFORE YOU DIG  
 TOLL FREE  
 A PUBLIC SERVICE BY 1-800-227-2600  
 UNDERGROUND SERVICE ALERT

**VALVE SIZING KEY**

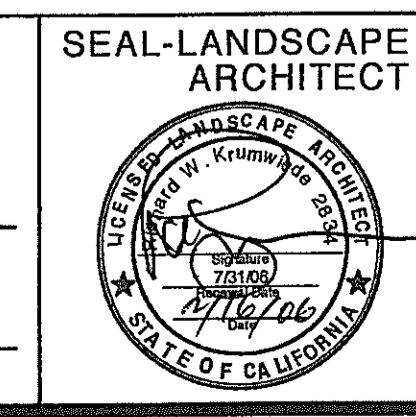
VALVE #	10	GPM
VALVE SIZE	3/4"	SQ. FT.

**HOLD HARMLESS & INDEMNIFICATION CLAUSE:**  
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DATE	BY	MARK	REVISIONS	APPR. DATE	COUNTY



COUNTY OF RIVERSIDE  
 TRANSPORTATION DEPARTMENT  
 APPROVED BY:  
 KHALED A. OTHMAN, P.E.  
 R.C.E. 33950 EXP. 6-30-06  
 DATE: \_\_\_\_\_  
 RECOMMENDED DATE: \_\_\_\_\_



LANDSCAPE ARCHITECTURE  
 SITE PLANNING  
 10221-A Trademark Street  
 Rancho Cucamonga, CA 91730  
 Tel: (909) 484-2800  
 Fax: (909) 484-2802  
 Richard Koumieda  
 CAL. REG. #29115  
 N.Y. Lic. #648  
 TX. Lic. #1834

PREPARED BY: MPWFAC R.L.A. NO. 2834  
 DATE: 1/31/06

VALLEY-WIDE RECREATION  
 AND PARK DISTRICT

SAMUEL W. GOEPP  
 DATE: 2/22/06

**HIDDEN MEADOWS**  
 TRACT NO. 30948, I. P. NO. 030095  
 VALLEY-WIDE REC. AND PARK DISTRICT

**IRRIGATION PLAN**

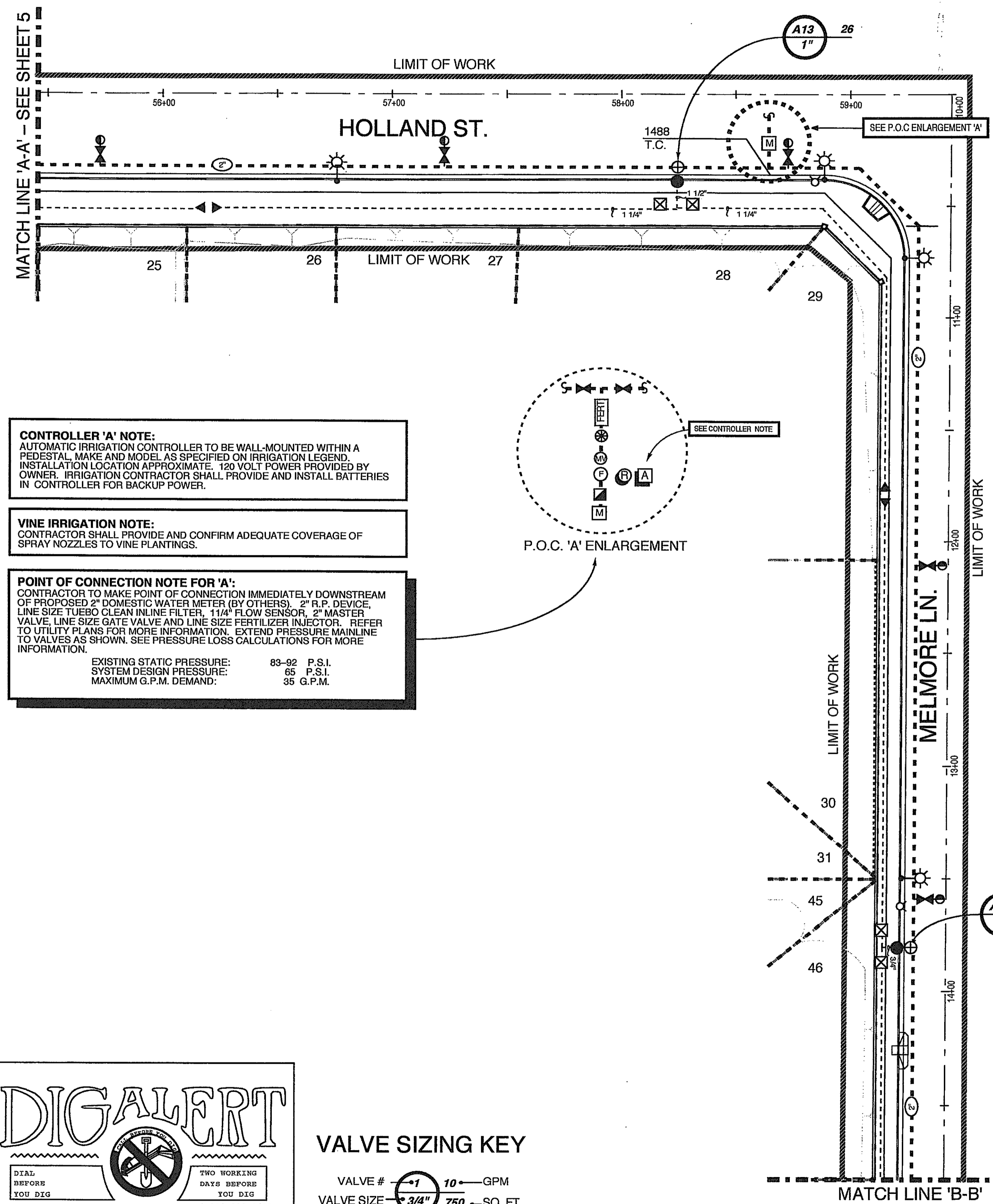
FOR: FORECAST HOMES JOB # 0352-3 COUNTY FILE NO. \_\_\_\_\_

SHEET NO. **5**  
 OF 14 SHEETS



**MAINLINE NOTE:**  
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**TYPICAL LOW HEAD DRAINAGE NOTE:**  
 CONTRACTOR WILL BE RESPONSIBLE FOR INSTALLING DRAIN CHECK VALVES (PART NO. 46-2810) ON ALL HEADS THAT DRAIN AT LOW AREAS.

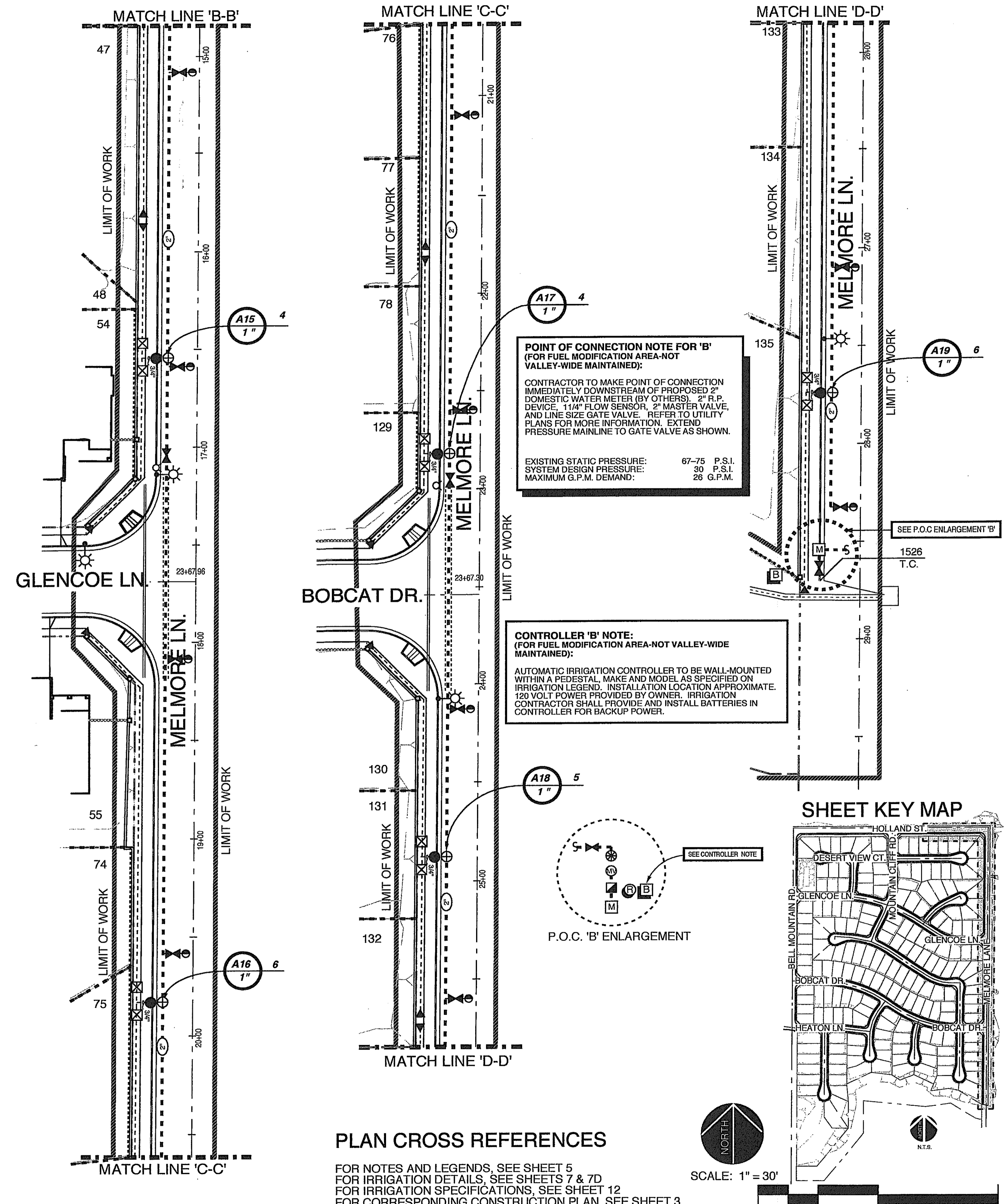
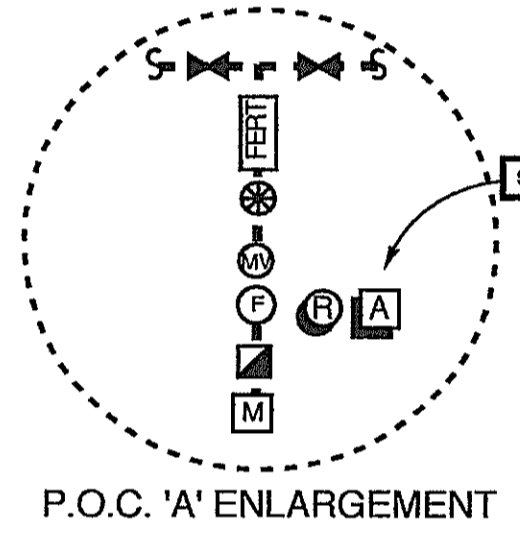


**CONTROLLER 'A' NOTE:**  
 AUTOMATIC IRRIGATION CONTROLLER TO BE WALL-MOUNTED WITHIN A PEDESTAL. MAKE AND MODEL AS SPECIFIED ON IRRIGATION LEGEND. INSTALLATION LOCATION APPROXIMATE. 120 VOLT POWER PROVIDED BY OWNER. IRRIGATION CONTRACTOR SHALL PROVIDE AND INSTALL BATTERIES IN CONTROLLER FOR BACKUP POWER.

**VINE IRRIGATION NOTE:**  
 CONTRACTOR SHALL PROVIDE AND CONFIRM ADEQUATE COVERAGE OF SPRAY NOZZLES TO VINE PLANTINGS.

**POINT OF CONNECTION NOTE FOR 'A':**  
 CONTRACTOR TO MAKE POINT OF CONNECTION IMMEDIATELY DOWNSTREAM OF PROPOSED 2" DOMESTIC WATER METER (BY OTHERS). 2" R.P. DEVICE, LINE SIZE TUBEO CLEAN INLINE FILTER, 1 1/4" FLOW SENSOR, 2" MASTER VALVE, LINE SIZE GATE VALVE AND LINE SIZE FERTILIZER INJECTOR. REFER TO UTILITY PLANS FOR MORE INFORMATION. EXTEND PRESSURE MAINLINE TO VALVES AS SHOWN. SEE PRESSURE LOSS CALCULATIONS FOR MORE INFORMATION.

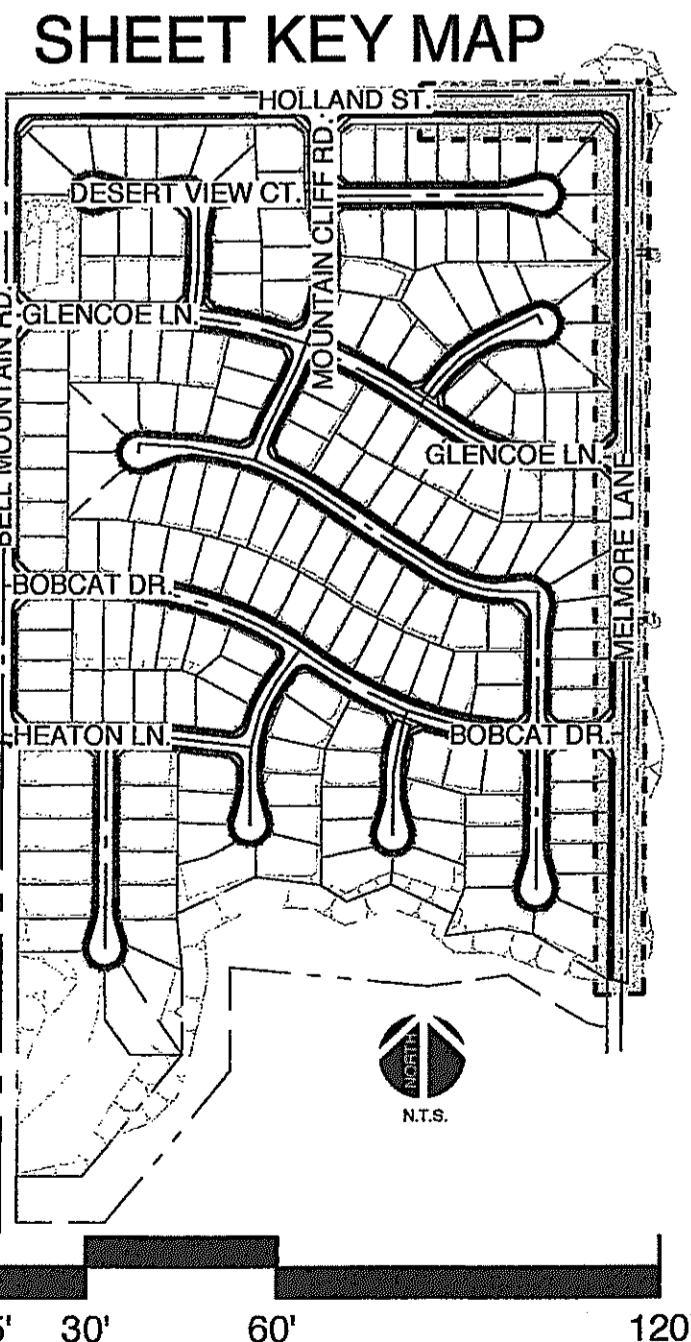
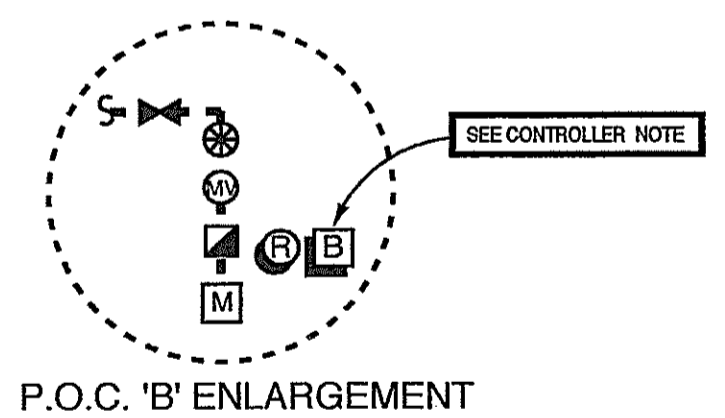
EXISTING STATIC PRESSURE: 83-92 P.S.I.  
 SYSTEM DESIGN PRESSURE: 65 P.S.I.  
 MAXIMUM G.P.M. DEMAND: 35 G.P.M.



**POINT OF CONNECTION NOTE FOR 'B'**  
 (FOR FUEL MODIFICATION AREA-NOT VALLEY-WIDE MAINTAINED):  
 CONTRACTOR TO MAKE POINT OF CONNECTION IMMEDIATELY DOWNSTREAM OF PROPOSED 2" DOMESTIC WATER METER (BY OTHERS). 2" R.P. DEVICE, 1 1/4" FLOW SENSOR, 2" MASTER VALVE, AND LINE SIZE GATE VALVE. REFER TO UTILITY PLANS FOR MORE INFORMATION. EXTEND PRESSURE MAINLINE TO GATE VALVE AS SHOWN.

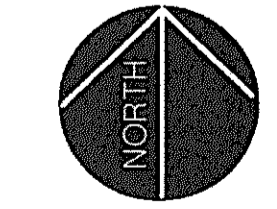
EXISTING STATIC PRESSURE: 67-75 P.S.I.  
 SYSTEM DESIGN PRESSURE: 30 P.S.I.  
 MAXIMUM G.P.M. DEMAND: 26 G.P.M.

**CONTROLLER 'B' NOTE:**  
 (FOR FUEL MODIFICATION AREA-NOT VALLEY-WIDE MAINTAINED):  
 AUTOMATIC IRRIGATION CONTROLLER TO BE WALL-MOUNTED WITHIN A PEDESTAL. MAKE AND MODEL AS SPECIFIED ON IRRIGATION LEGEND. INSTALLATION LOCATION APPROXIMATE. 120 VOLT POWER PROVIDED BY OWNER. IRRIGATION CONTRACTOR SHALL PROVIDE AND INSTALL BATTERIES IN CONTROLLER FOR BACKUP POWER.

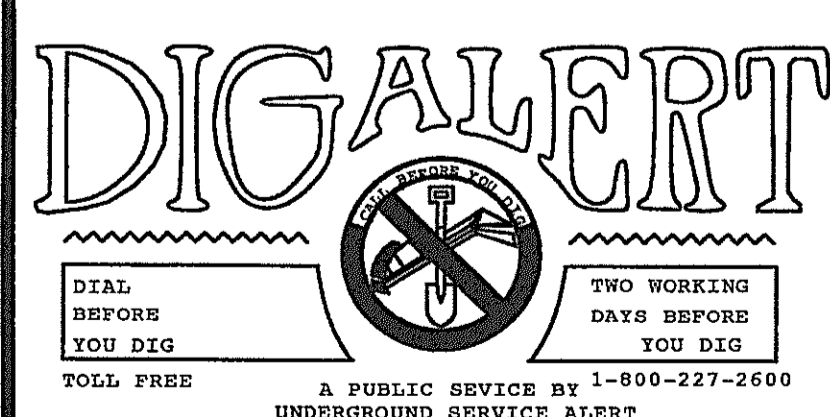


**PLAN CROSS REFERENCES**

FOR NOTES AND LEGENDS, SEE SHEET 5  
 FOR IRRIGATION DETAILS, SEE SHEETS 7 & 7D  
 FOR IRRIGATION SPECIFICATIONS, SEE SHEET 12  
 FOR CORRESPONDING CONSTRUCTION PLAN, SEE SHEET 3  
 FOR CORRESPONDING PLANTING PLAN, SEE SHEET 9



SCALE: 1" = 30'

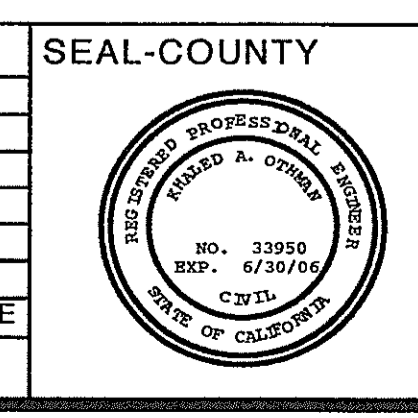


**VALVE SIZING KEY**

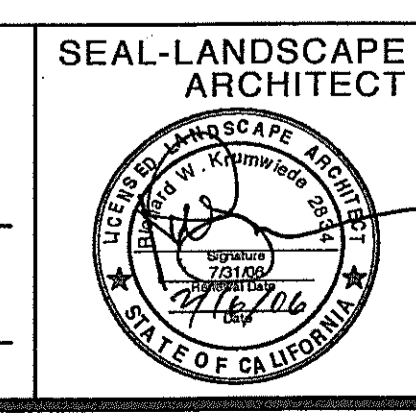
VALVE #  $\frac{1}{2}$  10 GPM  
 VALVE SIZE  $\frac{3}{4}$ " 750 -SQ. FT.

**HOLD HARMLESS & INDEMNIFICATION CLAUSE:**  
 CONTRACTOR AGREES TO ASSUME SOLE 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/DEVELOPER, THE COUNTY OF LOCAL JURISDICTION AND THE LANDSCAPE DESIGNER HARMLESS FROM ANY AND ALL LIABILITY REAL OR ALLEGED IN CONNECTION WITH THE PERFORMANCE OF WORK ON THIS PROJECT, EXCEPTING FOR LIABILITY ARISING FROM SOLE NEGLIGENCE OF THE OWNER/DEVELOPER, COUNTY OF LOCAL JURISDICTION AND THE LANDSCAPE DESIGNER.

DATE	BY	MARK	REVISIONS	APPR. DATE	COUNTY



COUNTY OF RIVERSIDE  
 TRANSPORTATION DEPARTMENT  
 APPROVED BY:  
 KHALED A. OTHMAN, P.E.  
 R.C.E. 33950 EXP. 6-30-06  
 DATE: \_\_\_\_\_  
 RECOMMENDED DATE: \_\_\_\_\_



LANDSCAPE ARCHITECTURE  
 SITE PLANNING  
 10221-A Trademark Street  
 Rancho Cucamonga, CA 91730  
 Tel: (909) 484-2800  
 Fax: (909) 484-2802  
 Richard Schumwiede  
 C.S. Lic. #2554  
 A.Z. Lic. #26115  
 N.Y. Lic. # 648  
 TX. Lic. #12884

PREPARED BY: TMW  
 R.L.A. NO. 2834  
 DATE: 1/12/06

VALLEY-WIDE RECREATION  
 AND PARK DISTRICT

SAMUEL W. GOEPP  
 DATE: 2/22/06

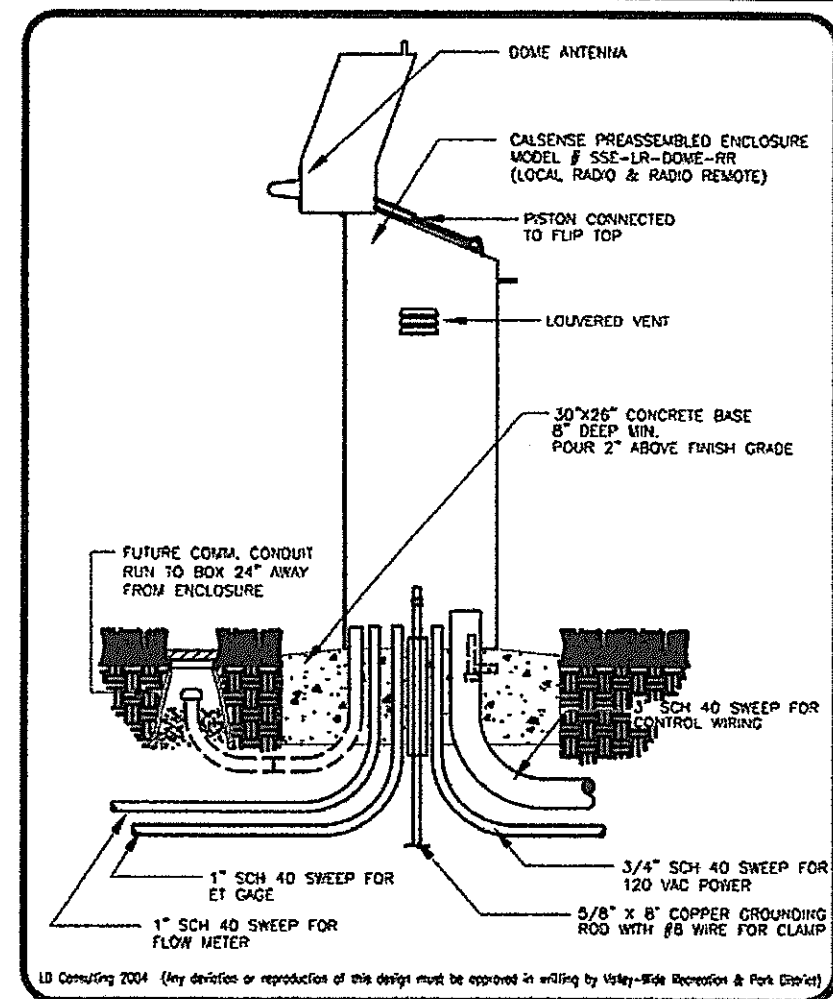
**HIDDEN MEADOWS**  
 TRACT NO. 30948, I. P. NO. 030095  
 VALLEY-WIDE REC. AND PARK DISTRICT

**IRRIGATION PLAN**

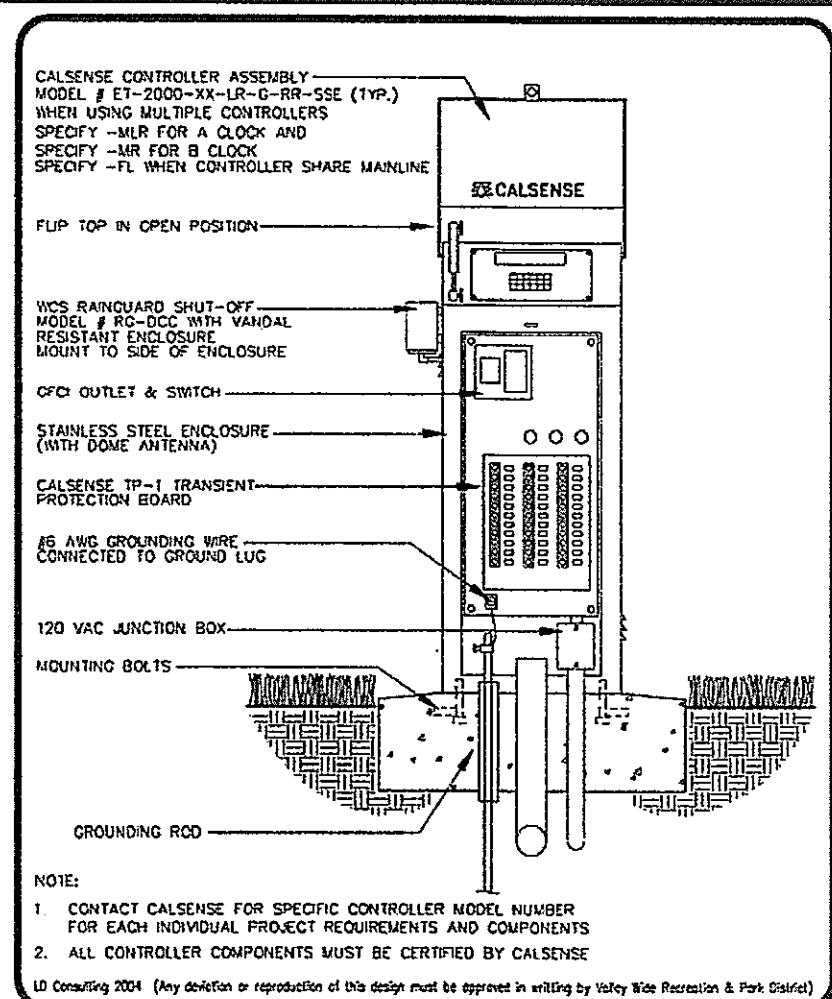
FOR: FORECAST HOMES  
 JOB #: 0352-3  
 COUNTY FILE NO. \_\_\_\_\_

SHEET NO. **6**  
 OF 14 SHEETS

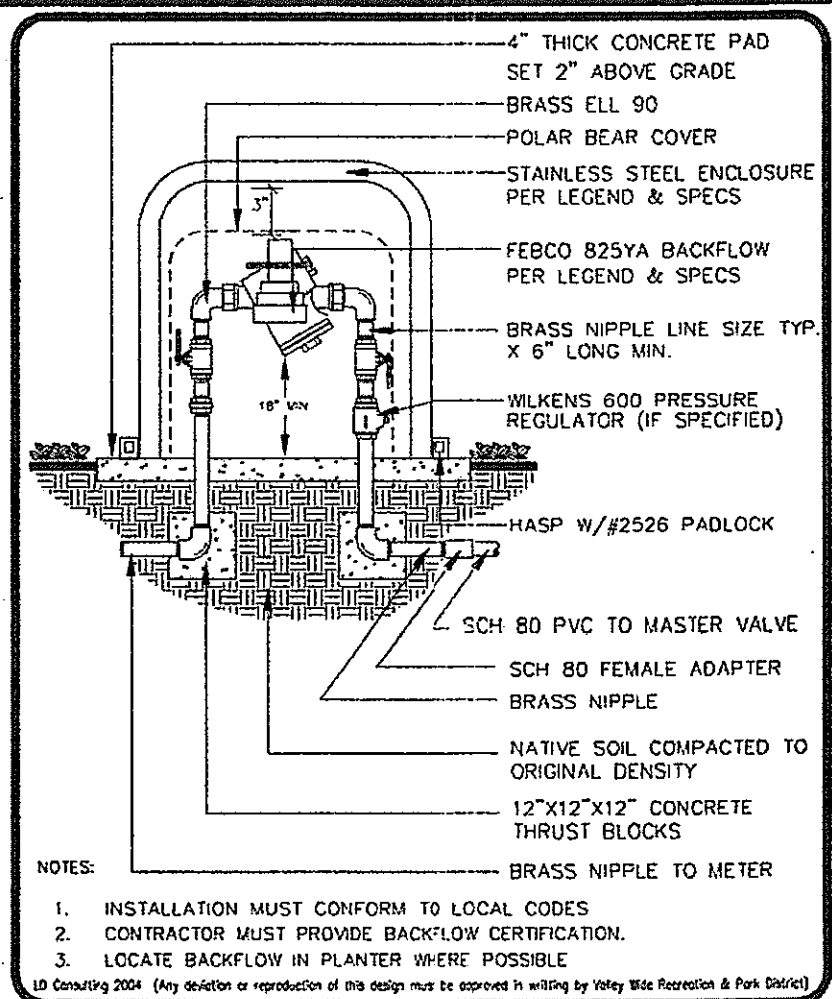




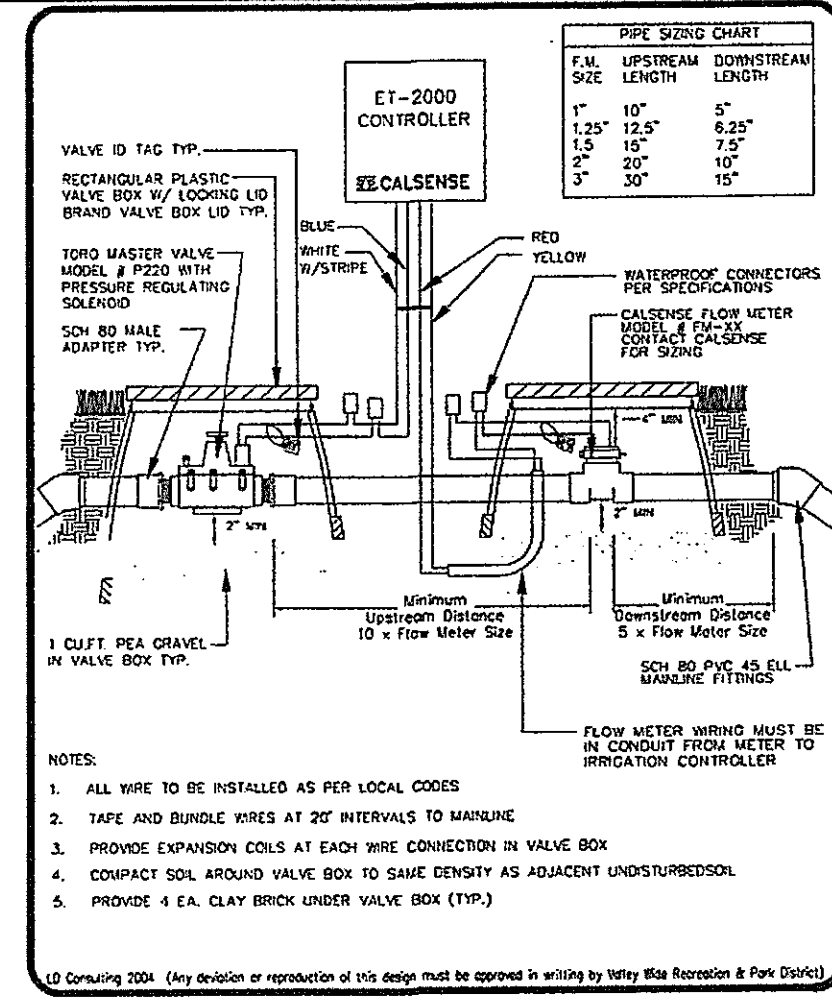
**A** VALLEY WIDE RECREATION  
PEDESTAL ASSEMBLY IR-24  
SCALE: N.T.S.



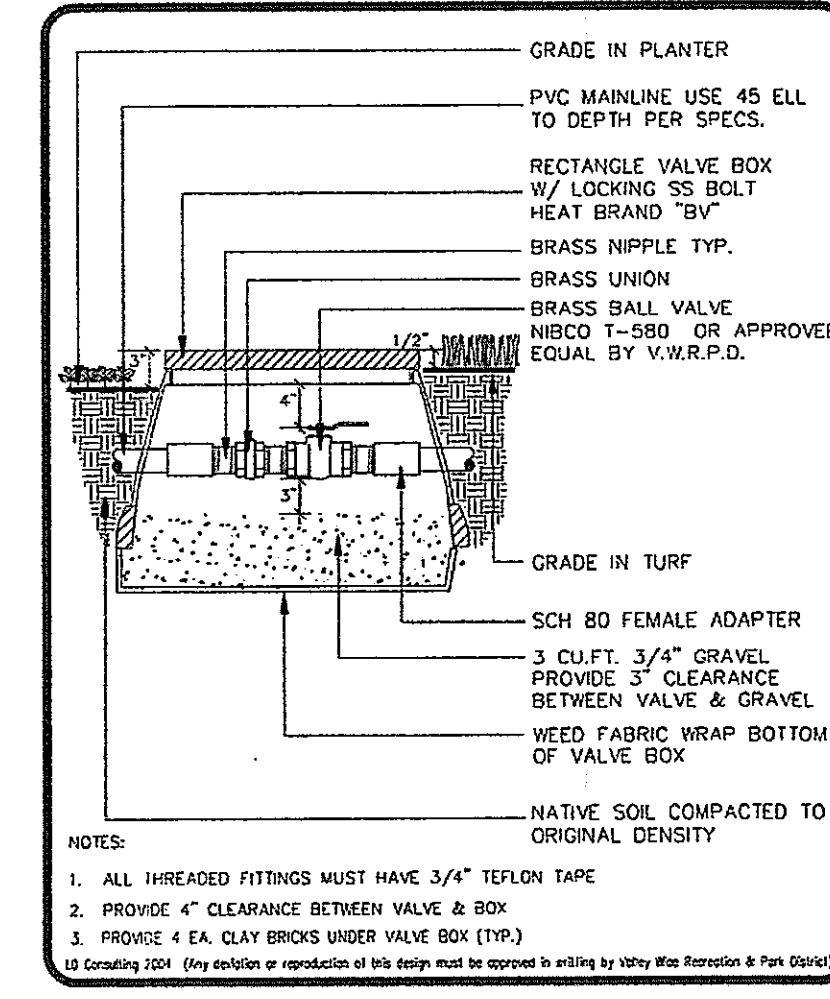
**B** VALLEY WIDE RECREATION  
PEDESTAL CONTROLLER IR-23  
SCALE: N.T.S.



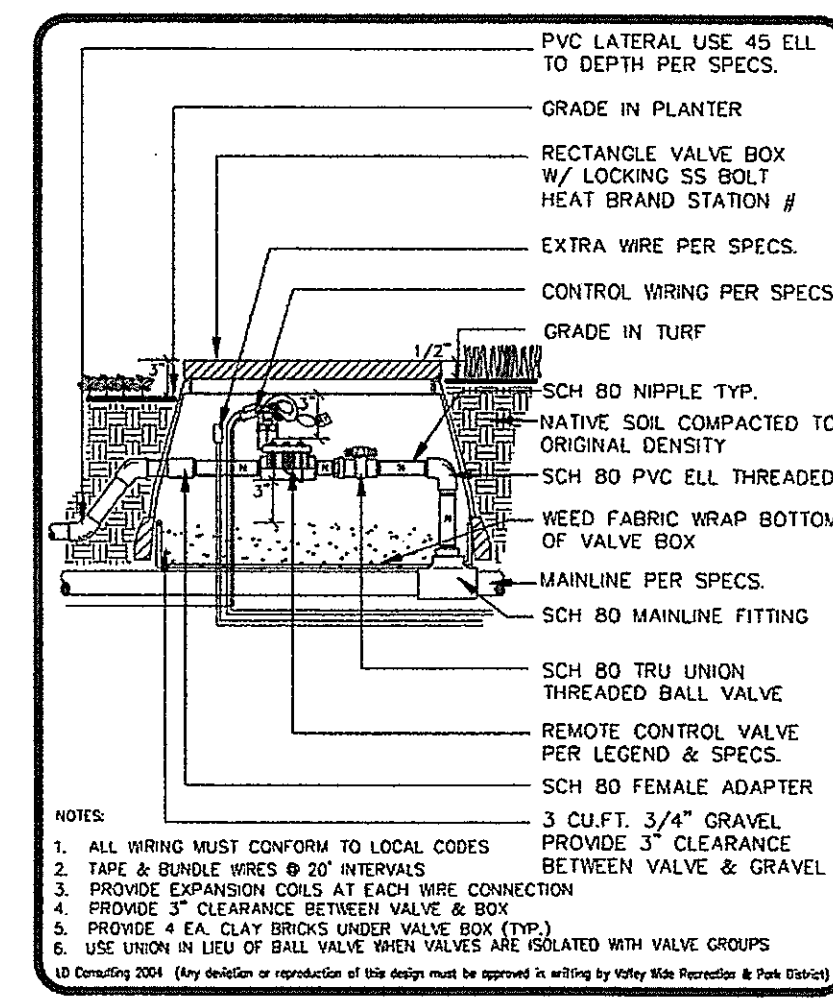
**C** VALLEY WIDE RECREATION  
BACKFLOW PREVENTER IR-6  
SCALE: N.T.S.



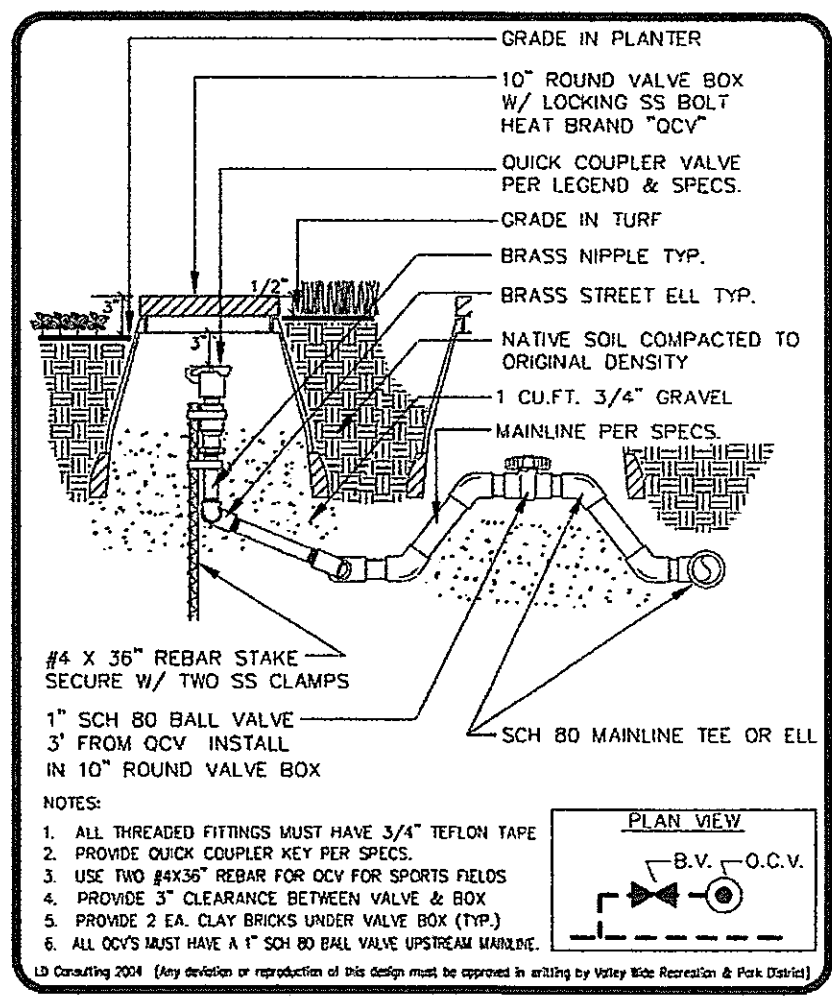
**D** VALLEY WIDE RECREATION  
MASTER VALVE & FLOW METER IR-21  
SCALE: N.T.S.



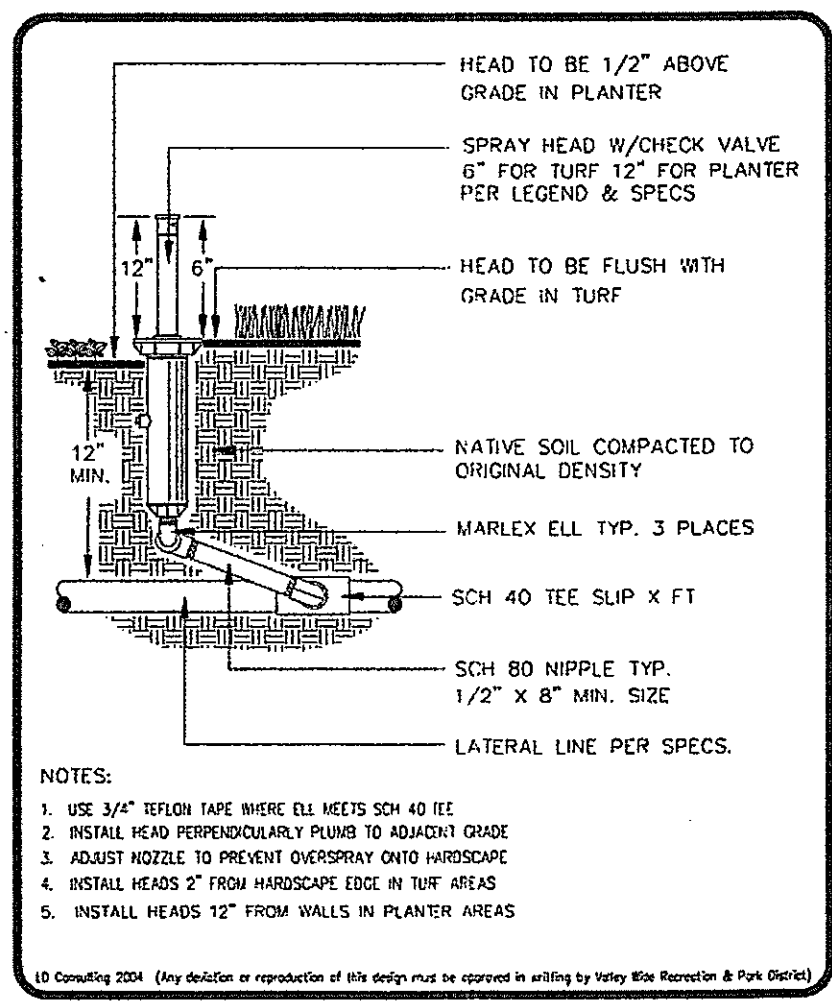
**E** VALLEY WIDE RECREATION  
BRASS BALL VALVE IR-4  
SCALE: N.T.S.



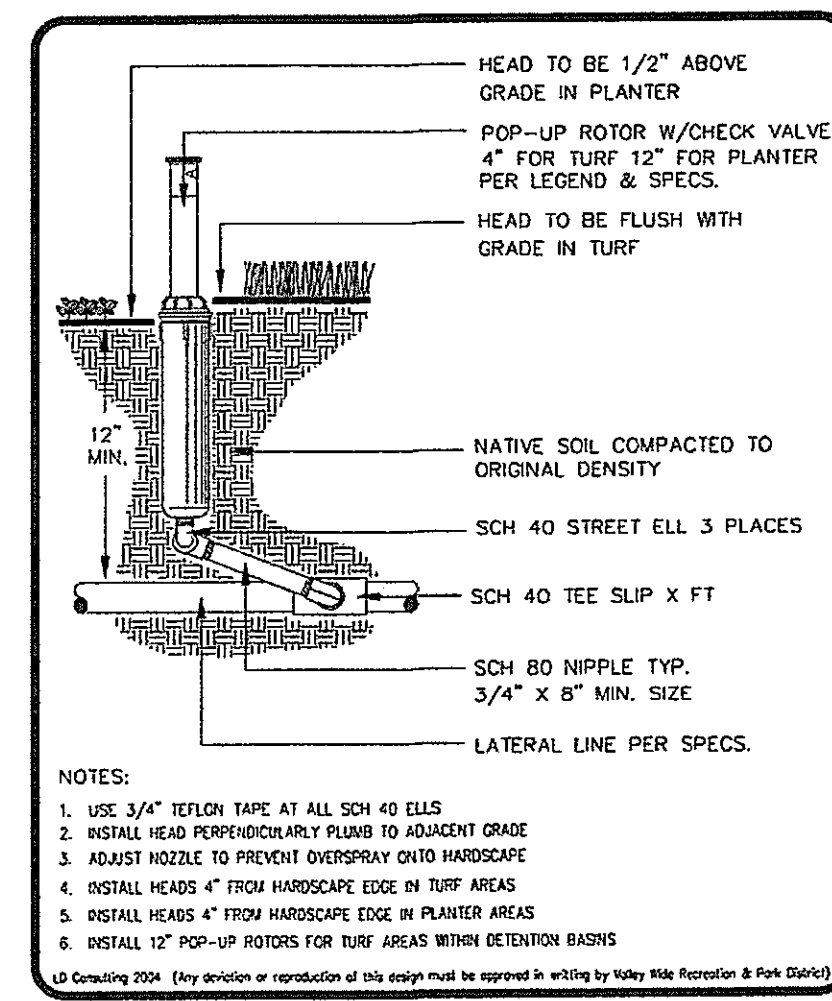
**F** VALLEY WIDE RECREATION  
REMOTE CONTROL VALVE IR-1  
SCALE: N.T.S.



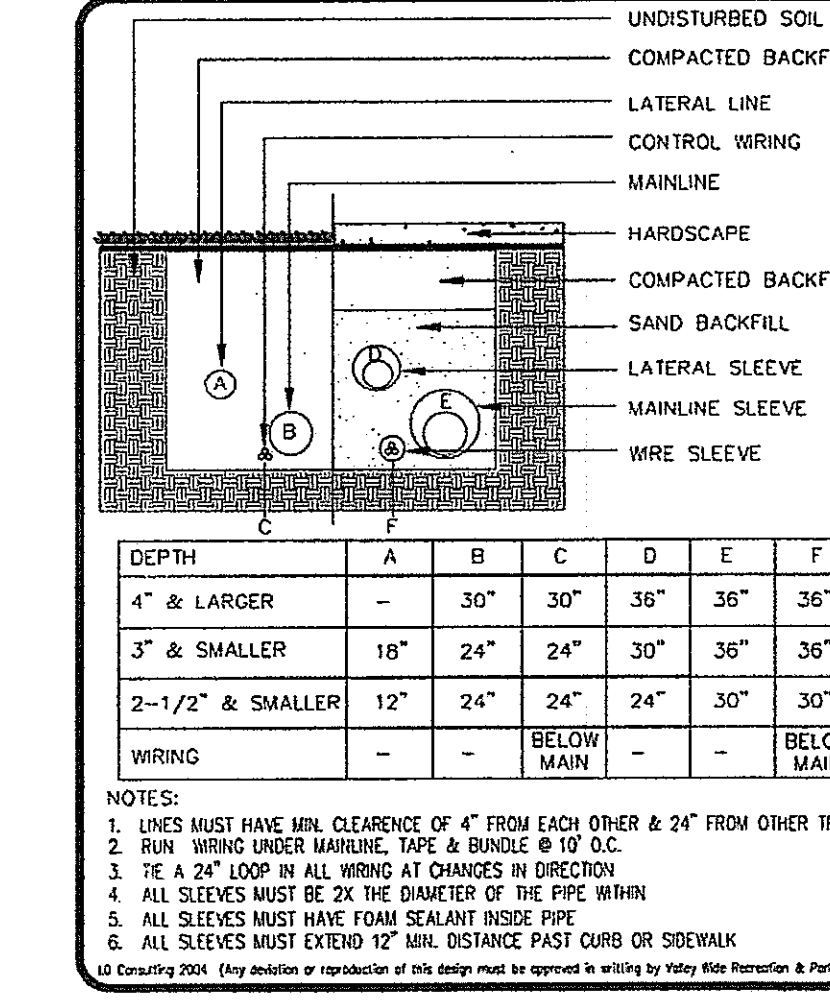
**G** VALLEY WIDE RECREATION  
QUICK COUPLER VALVE IR-3  
SCALE: N.T.S.



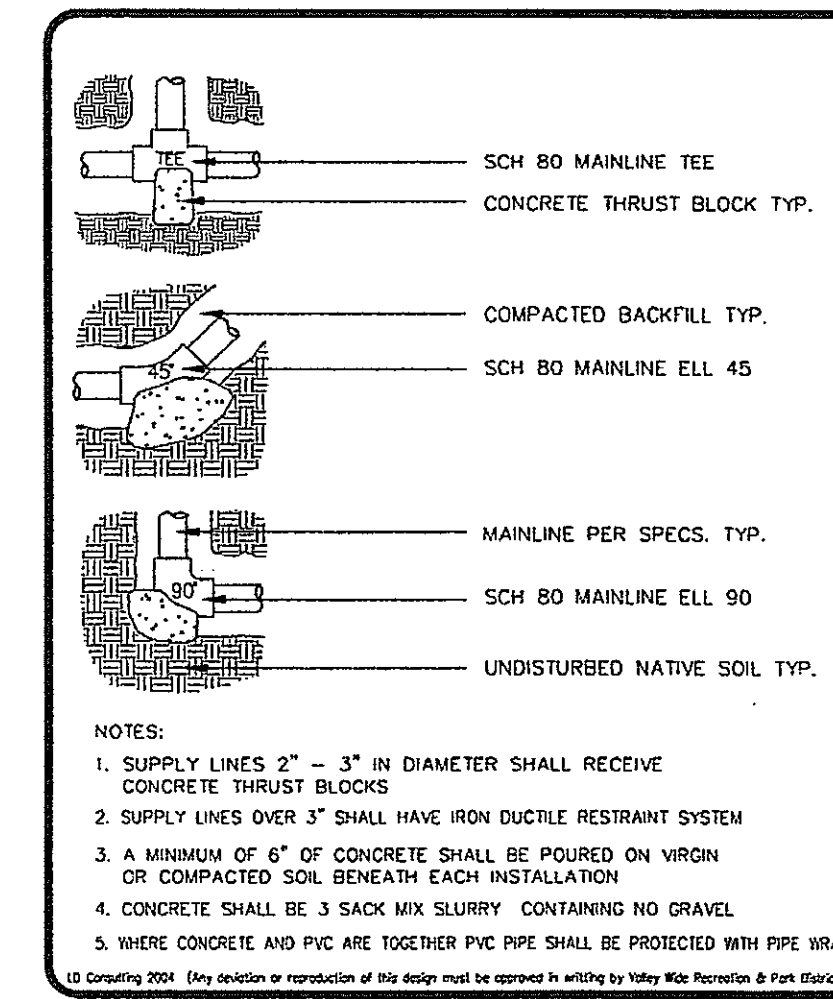
**H** VALLEY WIDE RECREATION  
POP-UP SPRAY HEAD IR-17  
SCALE: N.T.S.



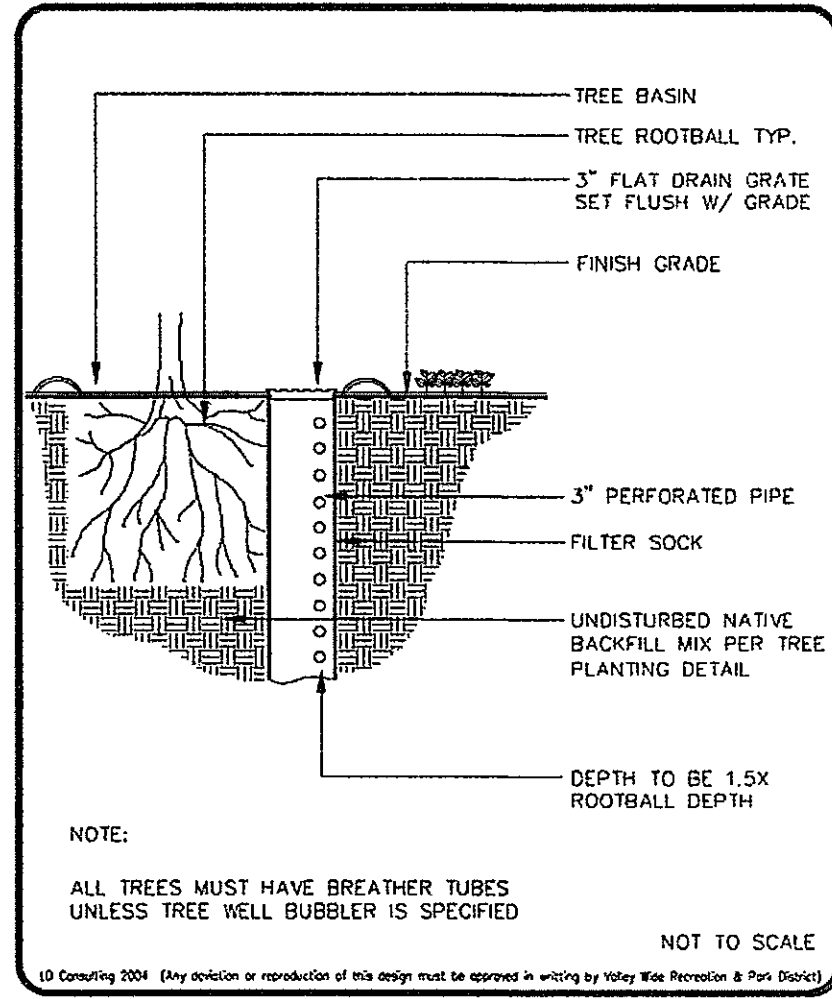
**I** VALLEY WIDE RECREATION  
POP-UP ROTOR HEAD IR-19  
SCALE: N.T.S.



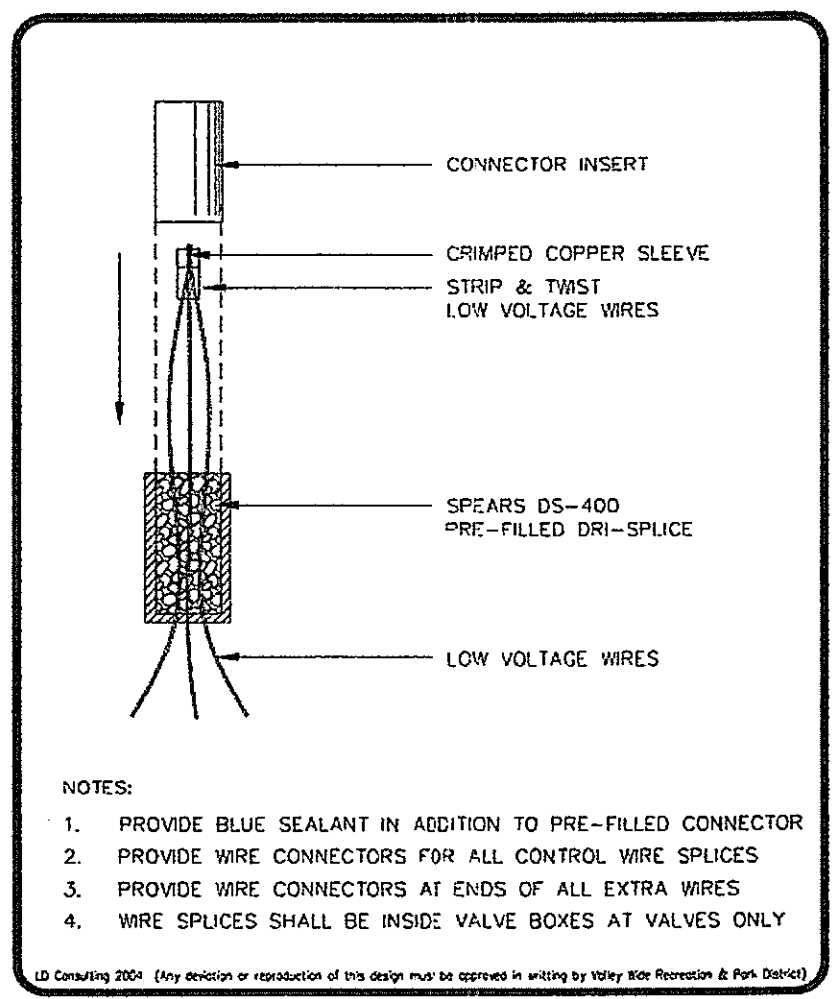
**J** VALLEY WIDE RECREATION  
PIPE & WIRE TRENCHING IR-11  
SCALE: N.T.S.



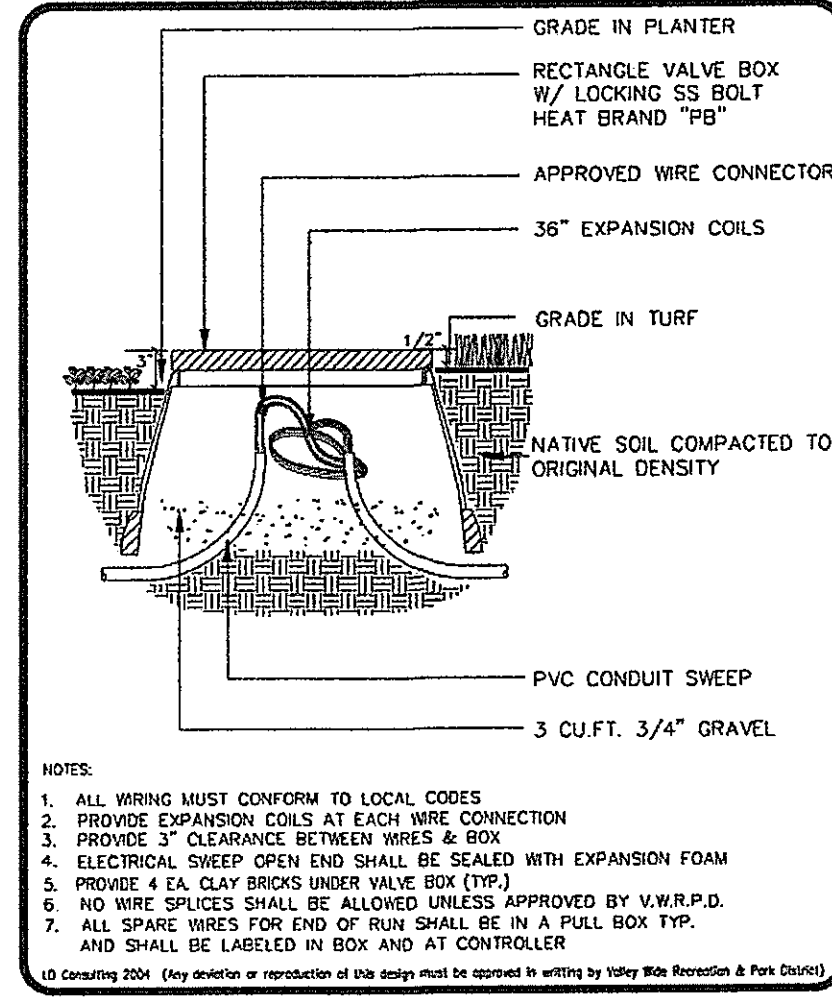
**K** VALLEY WIDE RECREATION  
CONCRETE THRUST BLOCK IR-12  
SCALE: N.T.S.



**L** VALLEY WIDE RECREATION  
TREE BREATHER TUBE IR-13  
SCALE: N.T.S.



**M** VALLEY WIDE RECREATION  
WIRE CONNECTORS IR-9  
SCALE: N.T.S.



**N** VALLEY WIDE RECREATION  
PULL BOX IR-10  
SCALE: N.T.S.

1600 PCS SCREEN PERFORMANCE STANDARD & SMALL RADII SPRAY PATTERNS AND LIMBELLIA BUBBLERS

MODEL	PCS-010	PCS-020	PCS-030	PCS-040	PCS-060	PCS-080	PCS-125	PCS-175	PCS-200	PCS-370
GPM	0.1	0.2	0.3	0.4	0.6	0.8	1.25	1.75	2.0	3.7
COLOR	PURPLE	BROWN	SILVER	ORANGE	BLACK	WHITE	GREEN	YELLOW	BLUE	RED
8F	-	1'	1'	3'	5'	8'	-	-	-	-
8H	-	2'	4'	7'	9'	8'	-	-	-	-
8Q	-	5'	5'	5'	7'	10'	-	-	-	-
10F	-	-	8'	5'	8'	10'	-	-	-	-
10H	-	2'	6'	2'	10'	11'	-	11'	-	-
10T	-	2'	6'	7'	10'	-	-	-	-	-
10Q	2'	5'	8'	7'	10'	-	-	-	-	-
12F	-	-	10'	5'	7'	8'	-	10'	-	12'
12G	-	2'	3'	5'	7'	10'	-	-	-	-
12TT	-	2'	3'	5'	8'	11'	-	12'	-	-
12H	-	4'	4'	3'	8'	10'	-	12'	-	-
12T	-	2'	6'	4'	10'	12'	-	-	-	-
12Q	-	2'	8'	8'	12'	-	-	-	-	-
15F	-	-	8'	10'	-	7'	-	11'	-	13'
15TT	-	-	1'	-	6'	8'	-	15'	-	-
15T	-	1'	4'	5'	8'	12'	-	15'	-	-
15H	-	1'	4'	5'	8'	12'	-	15'	-	-
15T	-	2'	4'	8'	12'	-	-	-	-	-
15Q	-	2'	5'	7'	-	12X14'	-	18X18'	-	20X20'
15ST	-	-	-	-	4X22'	4X24'	-	4X30'	-	4X40'
15SST	-	-	-	-	4X18'	4X24'	-	4X30'	-	4X40'
15EST	-	-	-	-	4X14'	4X18'	-	4X24'	-	4X30'
15SQ	-	-	-	-	4'	5'	-	6'	-	8'
15SB	-	3'	4'	6'	2'	3'	-	-	-	-
15HB	-	5'	10'	6'	2'	-	-	-	-	-
15QSB	-	10'	3'	3'	-	-	-	-	-	-
15QSB-B	-	7'	14'	3'	5'	-	-	-	-	-
16FSLA	-	-	6'	5'	1'	4'	-	6'	-	14'
16HSLA	-	-	6'	11'	5'	10'	-	18'	-	16'
16QSLA	6'	2'	5'	3'	12'	16'	-	16'	-	16'
22F-S8	-	-	-	8'	1'	4'	-	6'	-	17'
22H-S8	-	4'	1'	3'	5'	12'	-	18'	-	21'
22Q-S8	-	-	-	15'	5'	25'	-	-	-	-
22Q-S8-B	-	-	-	-	-	-	-	-	-	-

**O** PCS SCREEN CHART  
SCALE: N/A

**HOLD HARMLESS & INDEMNIFICATION CLAUSE:**  
CONTRACTOR AGREES TO ASSUME SOLE 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/DEVELOPER, THE COUNTY OF LOCAL JURISDICTION AND THE LANDSCAPE DESIGNER HARMLESS FROM ANY AND ALL LIABILITY REAL OR ALLEGED IN CONNECTION WITH THE PERFORMANCE OF WORK ON THIS PROJECT, EXCEPTING FOR LIABILITY ARISING FROM SOLE NEGLIGENCE OF THE OWNER/DEVELOPER, COUNTY OF LOCAL JURISDICTION AND THE LANDSCAPE DESIGNER.

DATE	BY	MARK	REVISIONS	APPR. DATE	COUNTY

SEAL-COUNTY  
PROFESSIONAL LANDSCAPE ARCHITECT  
KHALED A. OTHMAN, P.E.  
R.C.E. 33950 EXP. 6-30-06

COUNTY OF RIVERSIDE  
TRANSPORTATION DEPARTMENT  
APPROVED BY:  
KHALED A. OTHMAN, P.E.  
R.C.E. 33950 EXP. 6-30-06

SEAL-LANDSCAPE ARCHITECT  
ARCHITERRA  
DESIGN GROUP  
PREPARED BY: MPW  
R.L.A. NO. 2834  
DATE 1/12/06

LANDSCAPE ARCHITECTURE  
SITE PLANNING  
10221-A Trademark Street  
Rancho Cucamonga, CA 91730  
Tel (909) 484-2000  
Fax (909) 484-2002  
Richard Krumholz  
A2 Lic. # 93115  
C2 Lic. # 4481  
TX Lic. # 91854

VALLEY-WIDE RECREATION AND PARK DISTRICT  
SAMUEL W. GOEPP  
DATE: 2/22/06

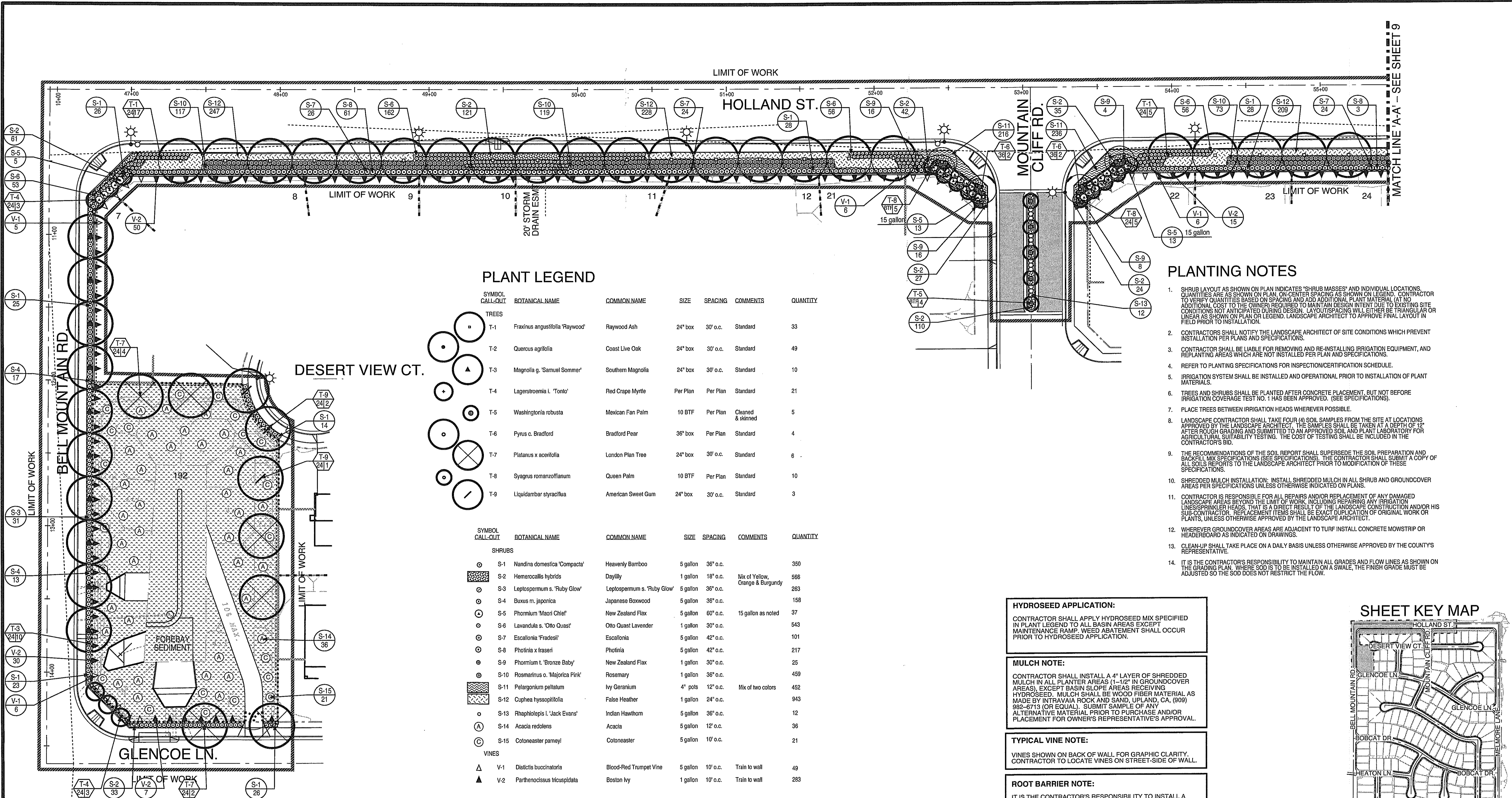
HIDDEN MEADOWS  
TRACT NO. 30948, I. P. NO. 030095  
VALLEY-WIDE REC. AND PARK DISTRICT  
IRRIGATION DETAILS  
FOR: FORECAST HOMES  
JOB #: 0352-3  
COUNTY FILE NO.

SHEET NO. 7  
OF 14 SHEETS  
2/16/2006









**PLANT LEGEND**

SYMBOL CALL-OUT	BOTANICAL NAME	COMMON NAME	SIZE	SPACING	COMMENTS	QUANTITY
<b>TREES</b>						
T-1	Fraxinus angustifolia 'Raywood'	Raywood Ash	24" box	30' o.c.	Standard	33
T-2	Quercus agrifolia	Coast Live Oak	24" box	30' o.c.	Standard	49
T-3	Magnolia g. 'Samuel Sommer'	Southern Magnolia	24" box	30' o.c.	Standard	10
T-4	Lagerstroemia l. 'Tonto'	Red Crape Myrtle	Per Plan	Per Plan	Standard	21
T-5	Washingtonia robusta	Mexican Fan Palm	10 BTF	Per Plan	Cleaned & skinned	5
T-6	Pyrus c. Bradford	Bradford Pear	36" box	Per Plan	Standard	4
T-7	Platanus a. acerifolia	London Plan Tree	24" box	30' o.c.	Standard	6
T-8	Syagrus romanzoffianum	Queen Palm	10 BTF	Per Plan	Standard	10
T-9	Liquidambar styraciflua	American Sweet Gum	24" box	30' o.c.	Standard	3

SYMBOL CALL-OUT	BOTANICAL NAME	COMMON NAME	SIZE	SPACING	COMMENTS	QUANTITY
<b>SHRUBS</b>						
S-1	Nandina domestica 'Compacta'	Heavenly Bamboo	5 gallon	36" o.c.		350
S-2	Hemerocallis hybrids	Daylily	1 gallon	18" o.c.	Mix of Yellow, Orange & Burgundy	566
S-3	Leprospermum s. 'Ruby Glow'	Leprospermum s. 'Ruby Glow'	5 gallon	36" o.c.		263
S-4	Buxus m. japonica	Japanese Boxwood	5 gallon	36" o.c.		158
S-5	Phormium 'Maori Chief'	New Zealand Flax	5 gallon	60" o.c.	15 gallon as noted	37
S-6	Lavandula s. 'Otto Quast'	Otto Quast Lavender	1 gallon	30" o.c.		543
S-7	Escallonia 'Fradesi'	Escallonia	5 gallon	42" o.c.		101
S-8	Photinia x fraseri	Photinia	5 gallon	42" o.c.		217
S-9	Phormium l. 'Bronze Baby'	New Zealand Flax	1 gallon	30" o.c.		25
S-10	Rosmarinus o. 'Majorica Pink'	Rosemary	1 gallon	36" o.c.		459
S-11	Pelargonium peltatum	Ivy Geranium	4" pots	12" o.c.	Mix of two colors	452
S-12	Cuphea hyssopifolia	False Heather	1 gallon	24" o.c.		943
S-13	Rhaphtoeis l. 'Jack Evans'	Indian Hawthorn	5 gallon	36" o.c.		12
S-14	Acacia redolens	Acacia	5 gallon	12" o.c.		36
S-15	Cotoneaster pameyi	Cotoneaster	5 gallon	18" o.c.		21
<b>VINES</b>						
V-1	Distictis buccinatoria	Blood-Red Trumpet Vine	5 gallon	10' o.c.	Train to wall	49
V-2	Parthenocissus tricuspidata	Boston Ivy	1 gallon	10' o.c.	Train to wall	283

Lbs./Acra	Species	Common Name	Minimum Purity/ Germination
115	Ambrosia polioleptachya	Western Ragweed	20/30
2	Artemisia douglasiana	Mugwort	10/30
1.5	Artemisia dracunculoides	Tarragon	6/50
1	Bromus carinatus	California Brome	90/80
TBD	Conyza canadensis	Horweeed	TBD
0.5	Marsh macrocarpus a	Wild Cucumber	99/70
0.5	Melica imperfecta	Melic Grass	90/60
10	Plantago ovata	Plantain	98/73
2	Tilium wildenowii	Tomcat Clover	90/60
6	Vulpia microstachys	Small Fescue	90/80

**PLANTING NOTES**

- SHRUB LAYOUT AS SHOWN ON PLAN INDICATES "SHRUB MASSES" AND INDIVIDUAL LOCATIONS. QUANTITIES ARE AS SHOWN ON PLAN. ON-CENTER SPACING AS SHOWN ON LEGEND. CONTRACTOR TO VERIFY QUANTITIES BASED ON SPACING AND ADD ADDITIONAL PLANT MATERIAL AT NO ADDITIONAL COST TO THE OWNER REQUIRED TO MAINTAIN DESIGN INTENT DUE TO EXISTING SITE CONDITIONS NOT ANTICIPATED DURING DESIGN. LAYOUT/SPACING WILL EITHER BE TRIANGULAR OR LINEAR AS SHOWN ON PLAN OR LEGEND. LANDSCAPE ARCHITECT TO APPROVE FINAL LAYOUT IN FIELD PRIOR TO INSTALLATION.
- CONTRACTORS SHALL NOTIFY THE LANDSCAPE ARCHITECT OF SITE CONDITIONS WHICH PREVENT INSTALLATION PER PLANS AND SPECIFICATIONS.
- CONTRACTOR SHALL BE LIABLE FOR REMOVING AND RE-INSTALLING IRRIGATION EQUIPMENT, AND REPLANTING AREAS WHICH ARE NOT INSTALLED PER PLAN AND SPECIFICATIONS.
- REFER TO PLANTING SPECIFICATIONS FOR INSPECTION/CERTIFICATION SCHEDULE.
- IRRIGATION SYSTEM SHALL BE INSTALLED AND OPERATIONAL PRIOR TO INSTALLATION OF PLANT MATERIAL.
- TREES AND SHRUBS SHALL BE PLANTED AFTER CONCRETE PLACEMENT, BUT NOT BEFORE IRRIGATION COVERAGE TEST NO. 1 HAS BEEN APPROVED. (SEE SPECIFICATIONS).
- PLACE TREES BETWEEN IRRIGATION HEADS WHEREVER POSSIBLE.
- LANDSCAPE CONTRACTOR SHALL TAKE FOUR (4) SOIL SAMPLES FROM THE SITE AT LOCATIONS APPROVED BY THE LANDSCAPE ARCHITECT. THE CONTRACTOR SHALL SUBMIT A COPY OF ALL SOIL REPORTS TO THE LANDSCAPE ARCHITECT PRIOR TO MODIFICATION OF THESE SPECIFICATIONS.
- THE RECOMMENDATIONS OF THE SOIL REPORT SHALL SUPERSEDE THE SOIL PREPARATION AND BACKFILL MIX SPECIFICATIONS (SEE SPECIFICATIONS). THE CONTRACTOR SHALL SUBMIT A COPY OF ALL SOIL REPORTS TO THE LANDSCAPE ARCHITECT PRIOR TO MODIFICATION OF THESE SPECIFICATIONS.
- SHREDDED MULCH INSTALLATION: INSTALL SHREDDED MULCH IN ALL SHRUB AND GROUNDCOVER AREAS PER SPECIFICATIONS UNLESS OTHERWISE INDICATED ON PLANS.
- CONTRACTOR IS RESPONSIBLE FOR ALL REPAIRS AND/OR REPLACEMENT OF ANY DAMAGED LANDSCAPE AREAS BEYOND THE LIMIT OF WORK, INCLUDING REPAIRING ANY IRRIGATION LINES/SPRINKLER HEADS, THAT IS A DIRECT RESULT OF THE LANDSCAPE CONSTRUCTION AND/OR HIS SUB-CONTRACTOR. REPLACEMENT ITEMS SHALL BE EXACT DUPLICATION OF ORIGINAL WORK OR PLANTS, UNLESS OTHERWISE APPROVED BY THE LANDSCAPE ARCHITECT.
- WHEREVER GROUNDCOVER AREAS ARE ADJACENT TO TURF INSTALL CONCRETE MOWSTRIP OR HEADERBOARD AS INDICATED ON DRAWINGS.
- CLEAN-UP SHALL TAKE PLACE ON A DAILY BASIS UNLESS OTHERWISE APPROVED BY THE COUNTY'S REPRESENTATIVE.
- IT IS THE CONTRACTOR'S RESPONSIBILITY TO MAINTAIN ALL GRADES AND FLOW LINES AS SHOWN ON THE GRADING PLAN. WHERE SOIL IS BEING CALLED ON A SWALE, THE FINISH GRADE MUST BE ADJUSTED SO THE SOIL DOES NOT RESTRICT THE FLOW.

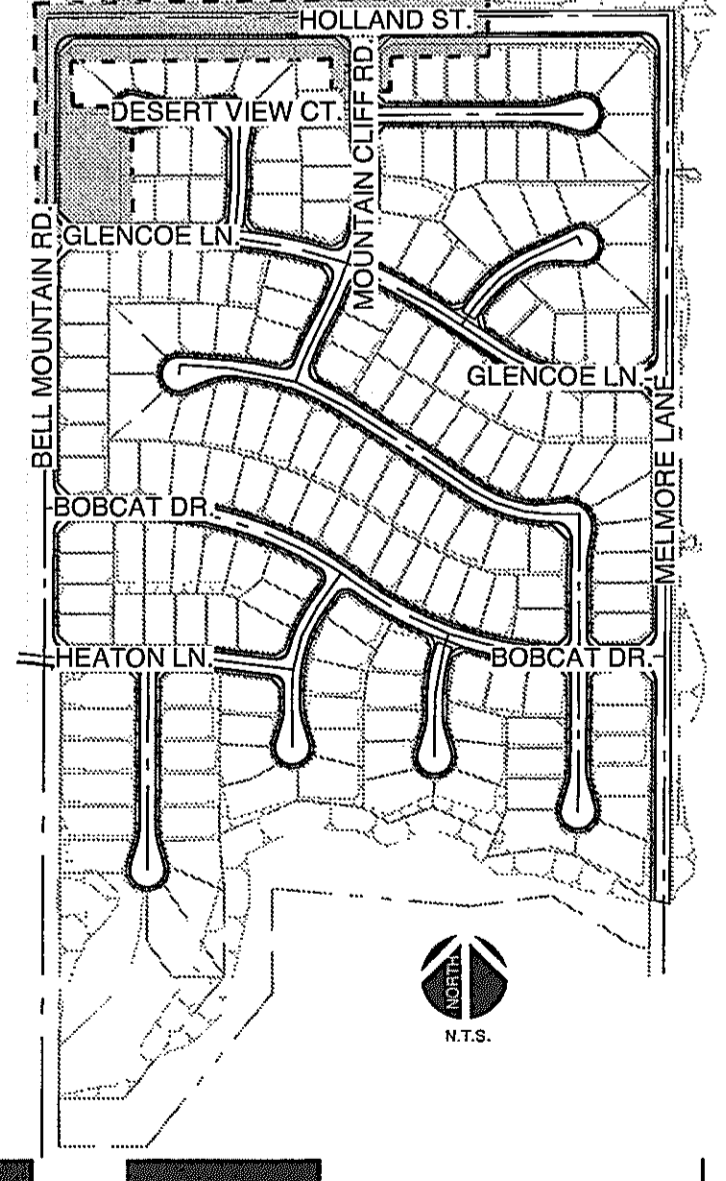
**HYDROSEED APPLICATION:**  
CONTRACTOR SHALL APPLY HYDROSEED MIX SPECIFIED IN PLANT LEGEND TO ALL BASIN AREAS EXCEPT MAINTENANCE RAMP. WEED ABATEMENT SHALL OCCUR PRIOR TO HYDROSEED APPLICATION.

**MULCH NOTE:**  
CONTRACTOR SHALL INSTALL A 4" LAYER OF SHREDDED MULCH IN ALL PLANTER AREAS (1-1/2" IN GROUNDCOVER AREAS), EXCEPT BASIN SLOPE AREAS RECEIVING HYDROSEED. MULCH SHALL BE WOOD FIBER MATERIAL AS MADE BY INTRAVIA ROK AND SAND, PLANTA, CA, (909) 982-6713 (OR EQUAL). SUBMIT SAMPLE OF ANY ALTERNATIVE MATERIAL PRIOR TO PURCHASE AND/OR PLACEMENT FOR OWNER'S REPRESENTATIVE'S APPROVAL.

**TYPICAL VINE NOTE:**  
VINES SHOWN ON BACK OF WALL FOR GRAPHIC CLARITY. CONTRACTOR TO LOCATE VINES ON STREET-SIDE OF WALL.

**ROOT BARRIER NOTE:**  
IT IS THE CONTRACTOR'S RESPONSIBILITY TO INSTALL A LINEAR ROOT BARRIER AT ANY TREE WITHIN 8' OF A WALL, CURB, OR SIDEWALK. SEE DETAIL G, SHEET 10.

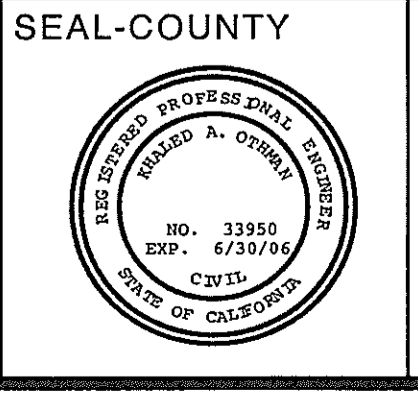
**SHEET KEY MAP**



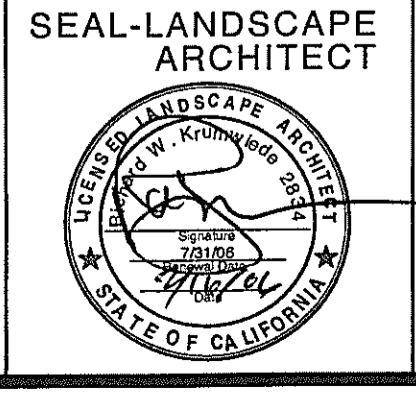
**DIGALERT**  
DEAL BEFORE YOU DIG  
TWO WORKING DAYS BEFORE YOU DIG  
TOLL FREE A PUBLIC SERVICE BY 1-800-227-2600 UNDERGROUND SERVICE ALERT

**HOLD HARMLESS & INDEMNIFICATION CLAUSE:**  
CONTRACTOR AGREES TO ASSUME SOLE 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/DEVELOPER, THE COUNTY OF LOCAL JURISDICTION AND THE LANDSCAPE DESIGNER HARMLESS FROM ANY AND ALL LIABILITY REAL OR ALLEGED IN CONNECTION WITH THE PERFORMANCE OF WORK ON THIS PROJECT, EXCEPTING FOR LIABILITY ARISING FROM SOLE NEGLIGENCE OF THE OWNER/DEVELOPER, COUNTY OF LOCAL JURISDICTION AND THE LANDSCAPE DESIGNER.

DATE	BY	MARK	REVISIONS	APPR. DATE	COUNTY



COUNTY OF RIVERSIDE  
TRANSPORTATION DEPARTMENT  
APPROVED BY:  
KHALED A. OTHMAN, P.E.  
R.C.E. 33950 EXP. 6-30-06



LANDSCAPE ARCHITECTURE  
SITE PLANNING  
10221-A Trademark Street  
Rancho Cucamonga, CA 91730  
Tel (909) 484-2800  
Fax (909) 484-2802  
Richard Krueger  
CAL Lic. # 28115  
RV Lic. # 446  
TX Lic. # 1988

PREPARED BY:  
PSC/JJM

R.L.A. NO. 2834  
DATE 1/12/06

VALLEY-WIDE RECREATION AND PARK DISTRICT  
SAMUEL W. GOEPP  
DATE: 2/22/06

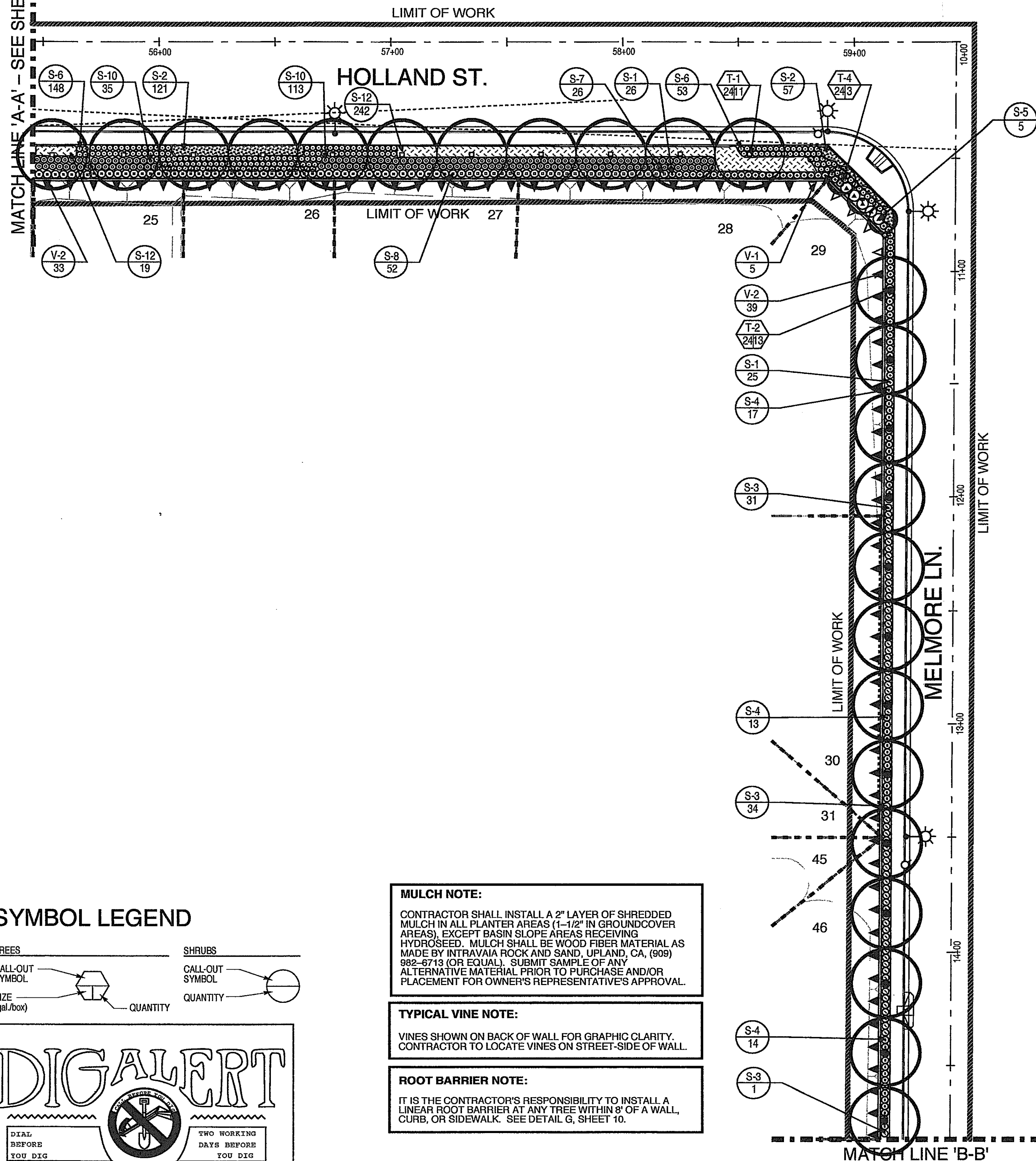
**HIDDEN MEADOWS**  
TRACT NO. 30948, I. P. NO. 030095  
VALLEY-WIDE REC. AND PARK DISTRICT  
**PLANTING PLAN**

FOR: FORECAST HOMES  
JOB # 0352-3  
COUNTY FILE NO.

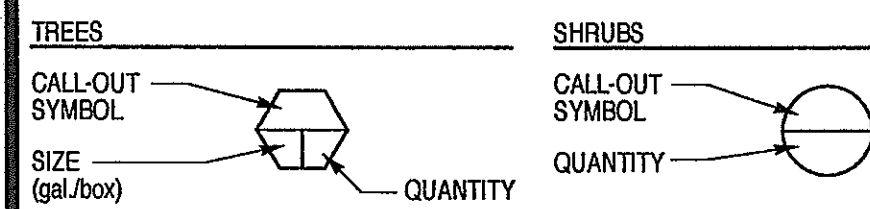
SHEET NO. **8**  
OF 14 SHEETS



MATCH LINE 'A-A' - SEE SHEET 8



**SYMBOL LEGEND**



**DIGALERT**

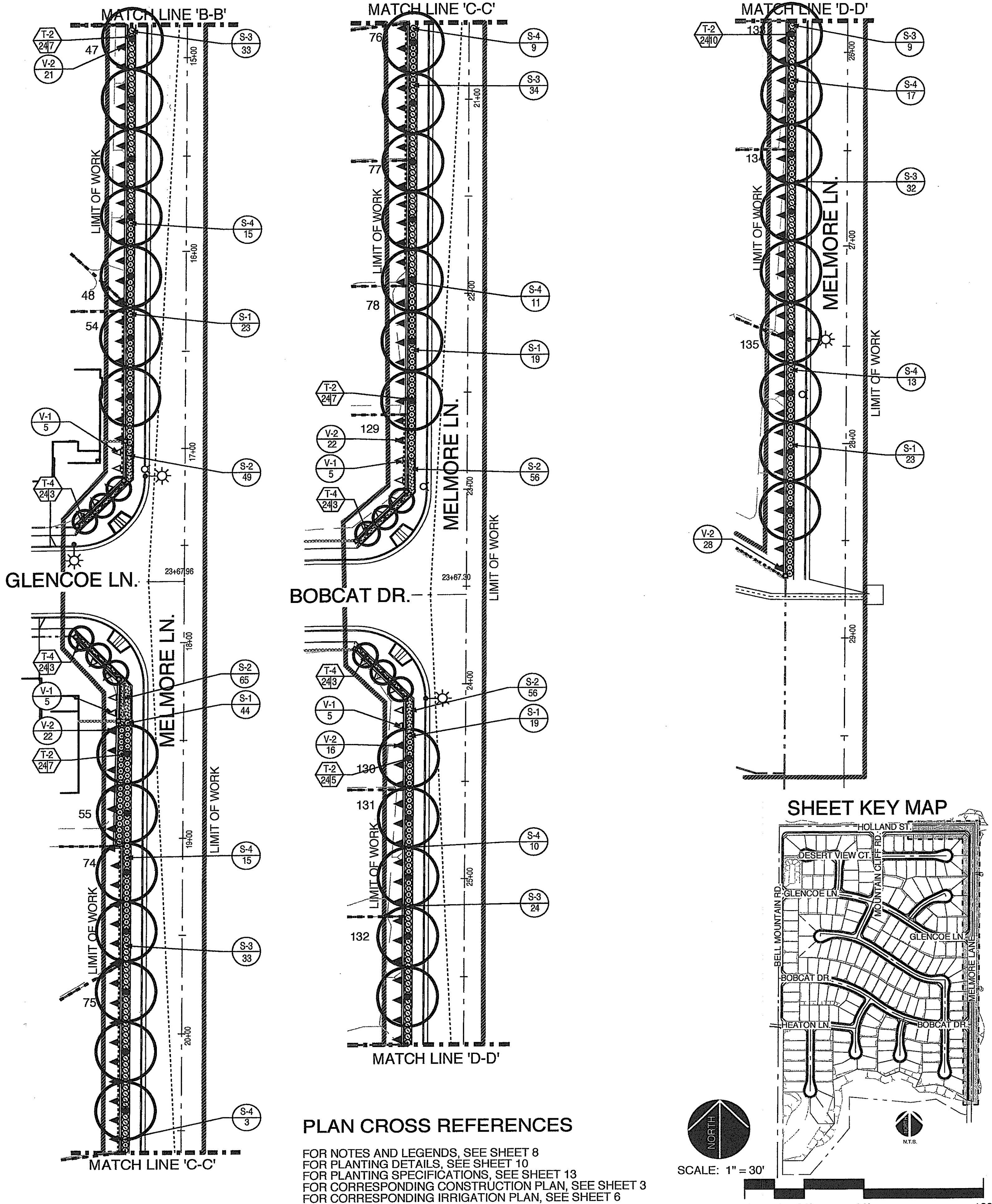
DEAL BEFORE YOU DIG  
TOLL FREE

A PUBLIC SERVICE BY 1-800-227-2600  
UNDERGROUND SERVICE ALERT

**MULCH NOTE:**  
CONTRACTOR SHALL INSTALL A 2" LAYER OF SHREDDED MULCH IN ALL PLANTER AREAS (4"-1/2" IN GROUND COVER AREAS), EXCEPT BASIN SLOPE AREAS RECEIVING HYDROSEED. MULCH SHALL BE WOOD FIBER MATERIAL AS MADE BY INTRAVAIA ROCK AND SAND, UPLAND, CA, (909) 982-8713 (OR EQUAL). SUBMIT SAMPLE OF ANY ALTERNATIVE MATERIAL PRIOR TO PURCHASE AND/OR PLACEMENT FOR OWNER'S REPRESENTATIVE'S APPROVAL.

**TYPICAL VINE NOTE:**  
VINES SHOWN ON BACK OF WALL FOR GRAPHIC CLARITY. CONTRACTOR TO LOCATE VINES ON STREET-SIDE OF WALL.

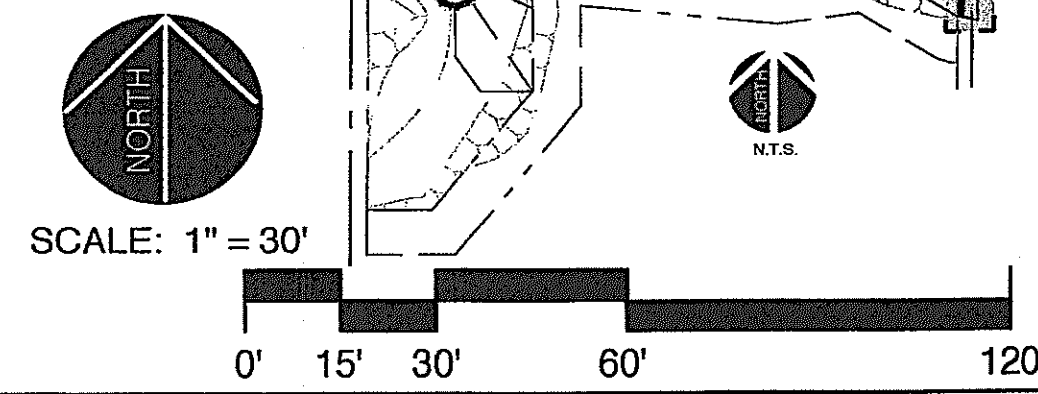
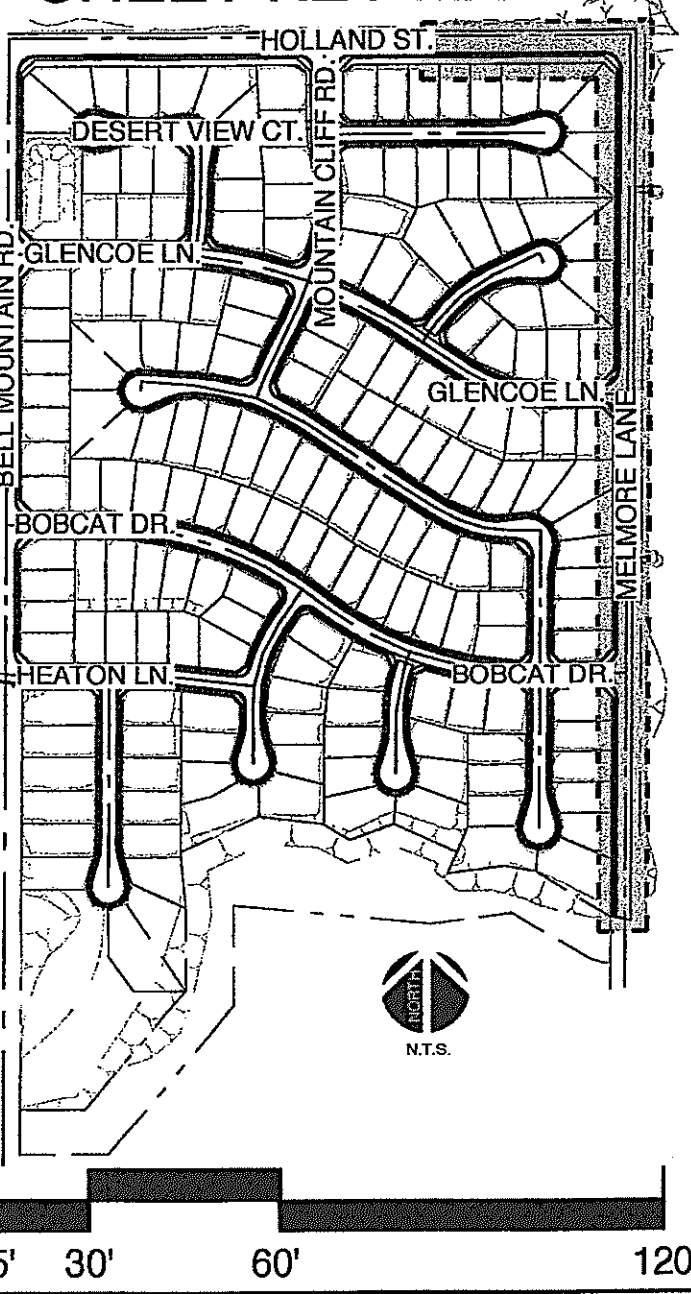
**ROOT BARRIER NOTE:**  
IT IS THE CONTRACTOR'S RESPONSIBILITY TO INSTALL A LINEAR ROOT BARRIER AT ANY TREE WITHIN 8' OF A WALL, CURB, OR SIDEWALK. SEE DETAIL G, SHEET 10.



**PLAN CROSS REFERENCES**

FOR NOTES AND LEGENDS, SEE SHEET 8  
FOR PLANTING DETAILS, SEE SHEET 10  
FOR PLANTING SPECIFICATIONS, SEE SHEET 13  
FOR CORRESPONDING CONSTRUCTION PLAN, SEE SHEET 3  
FOR CORRESPONDING IRRIGATION PLAN, SEE SHEET 6

**SHEET KEY MAP**



**HOLD HARMLESS & INDEMNIFICATION CLAUSE:**  
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DATE	BY	MARK	REVISIONS	APPR. DATE

SEAL-COUNTY

COUNTY OF RIVERSIDE  
TRANSPORTATION DEPARTMENT  
APPROVED BY:

KHALED A. OTHMAN, P.E.  
R.C.E. 33950 EXP. 6-30-06

DATE

RECOMMENDED

DATE

SEAL-LANDSCAPE ARCHITECT

LANDSCAPE ARCHITECTURE  
SITE PLANNING  
11021-A Trademark Street  
Rancho Cucamonga, CA 91730  
Tel: (909) 484-2800  
Fax: (909) 484-2802  
Richard Krumwiede  
AZ Lic. #29115  
CV Lic. #448  
TX Lic. #1884

PREPARED BY: PSC  
R.L.A. NO. 2834  
DATE 7/19/05

VALLEY-WIDE RECREATION AND PARK DISTRICT

SAMUEL W. GOEPP  
DATE: 2/22/06

**HIDDEN MEADOWS**  
TRACT NO. 30948, I. P. NO. 030095  
VALLEY-WIDE REC. AND PARK DISTRICT

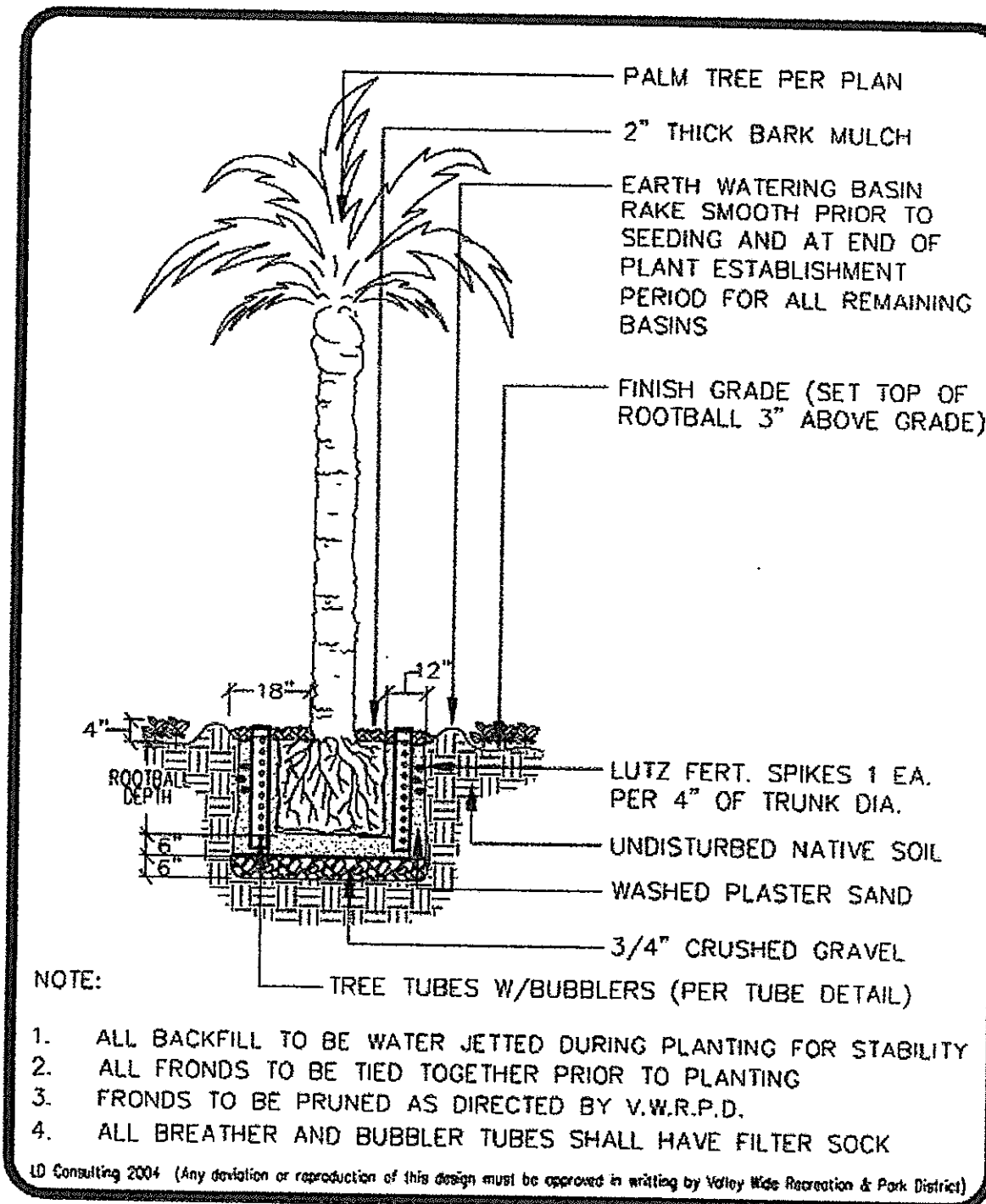
**PLANTING PLAN**

FOR: FORECAST HOMES  
JOB #: 0352-3  
COUNTY FILE NO.

SHEET NO. **9**  
OF 14 SHEETS

2/16/2006

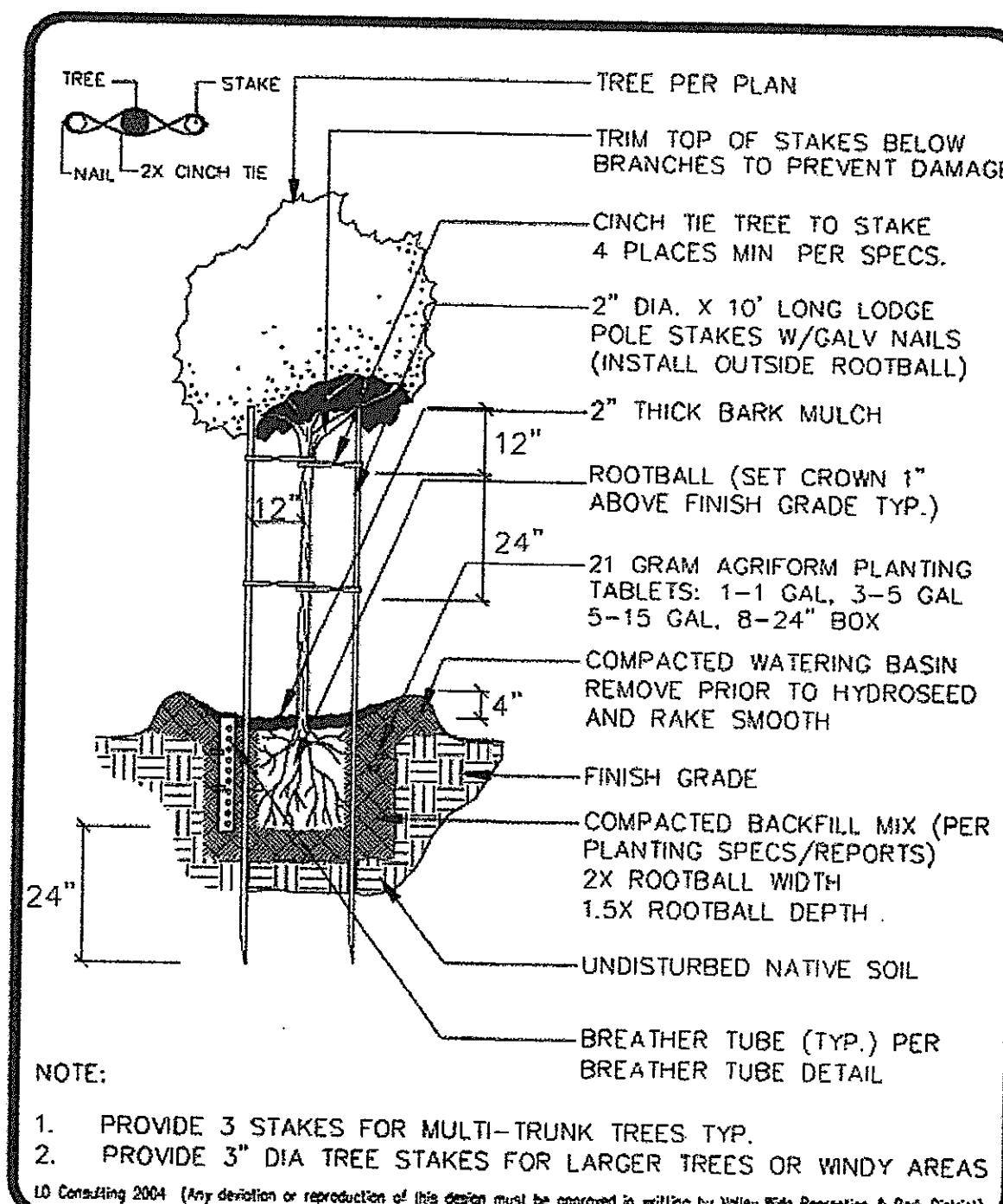




- NOTE:
1. ALL BACKFILL TO BE WATER JETTED DURING PLANTING FOR STABILITY
  2. ALL FRONDS TO BE TIED TOGETHER PRIOR TO PLANTING
  3. FRONDS TO BE PRUNED AS DIRECTED BY V.W.R.P.D.
  4. ALL BREATHER AND BUBBLER TUBES SHALL HAVE FILTER SOCK
- LD Consulting 2004 (Any deviation or reproduction of this design must be approved in writing by Valley Wide Recreation & Park District)

**VALLEY WIDE RECREATION**  
11/04  
**PALM TREE PLANTING** | PL-1

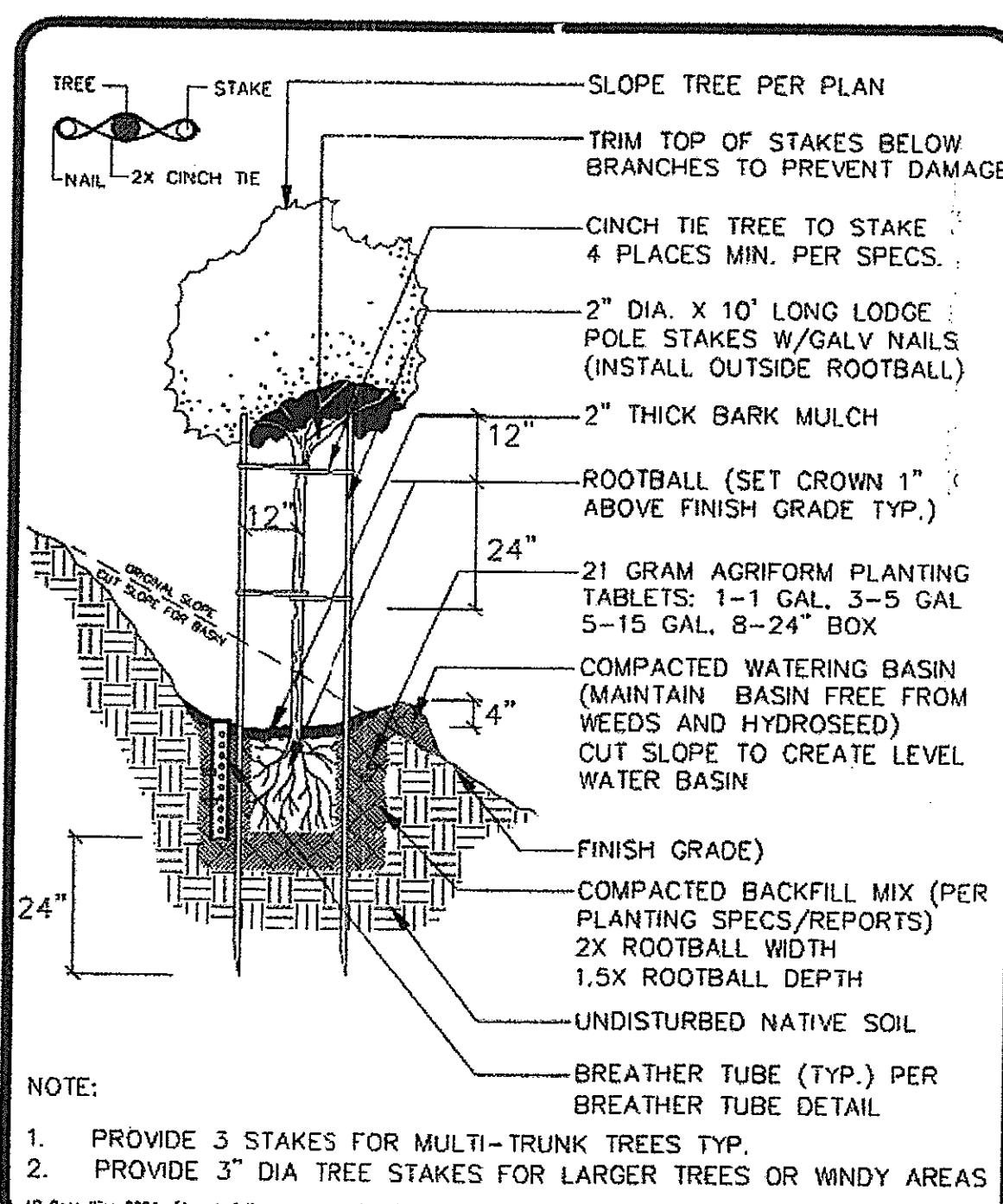
**A PALM TREE PLANTING**  
SCALE: N.T.S.



- NOTE:
1. PROVIDE 3 STAKES FOR MULTI-TRUNK TREES TYP.
  2. PROVIDE 3\"/>
- LD Consulting 2004 (Any deviation or reproduction of this design must be approved in writing by Valley Wide Recreation & Park District)

**VALLEY WIDE RECREATION**  
11/04  
**TREE PLANTING** | PL-3

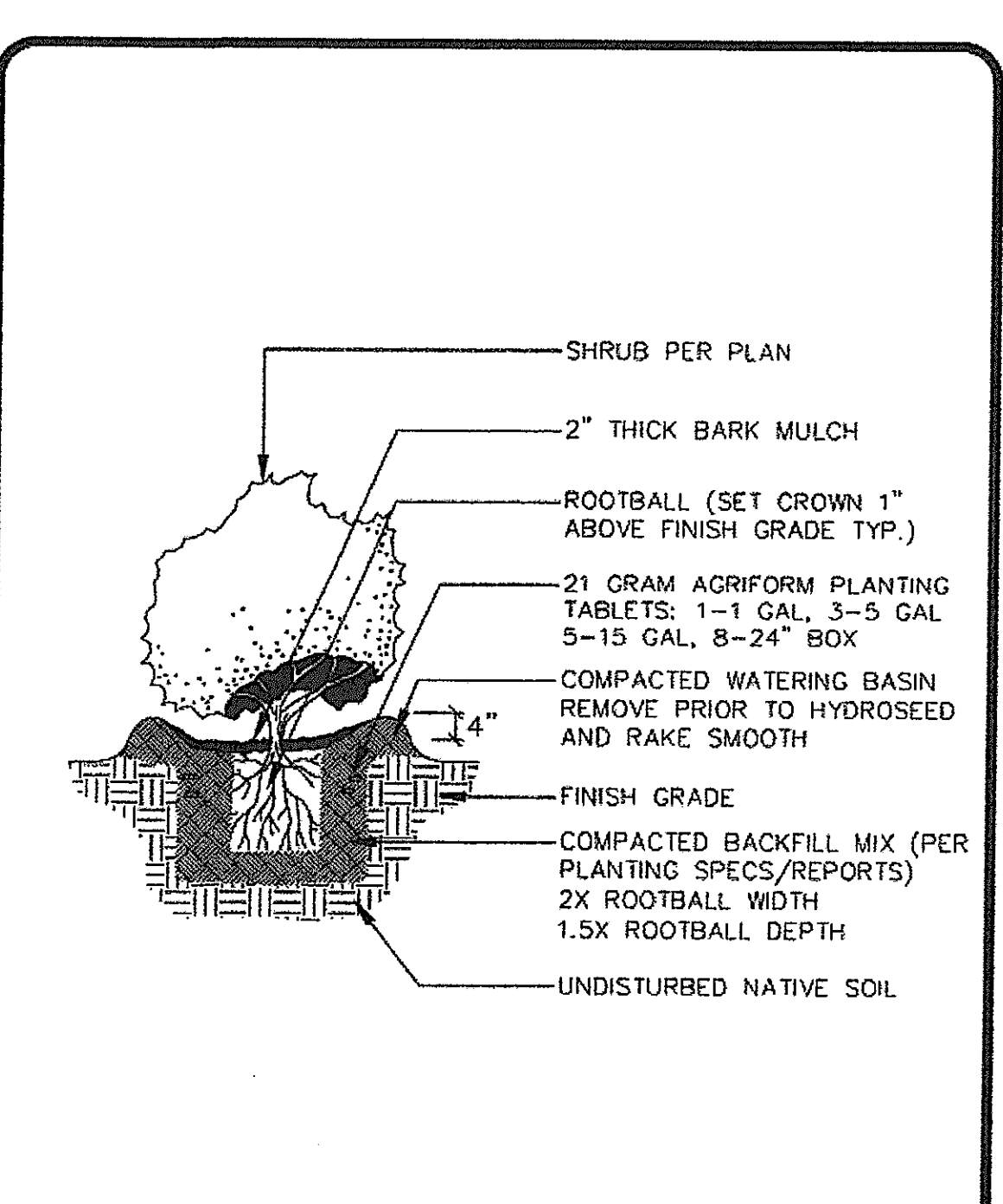
**B TREE PLANTING**  
SCALE: N.T.S.



- NOTE:
1. PROVIDE 3 STAKES FOR MULTI-TRUNK TREES TYP.
  2. PROVIDE 3\"/>
- LD Consulting 2004 (Any deviation or reproduction of this design must be approved in writing by Valley Wide Recreation & Park District)

**VALLEY WIDE RECREATION**  
11/04  
**SLOPE TREE PLANTING** | PL-2

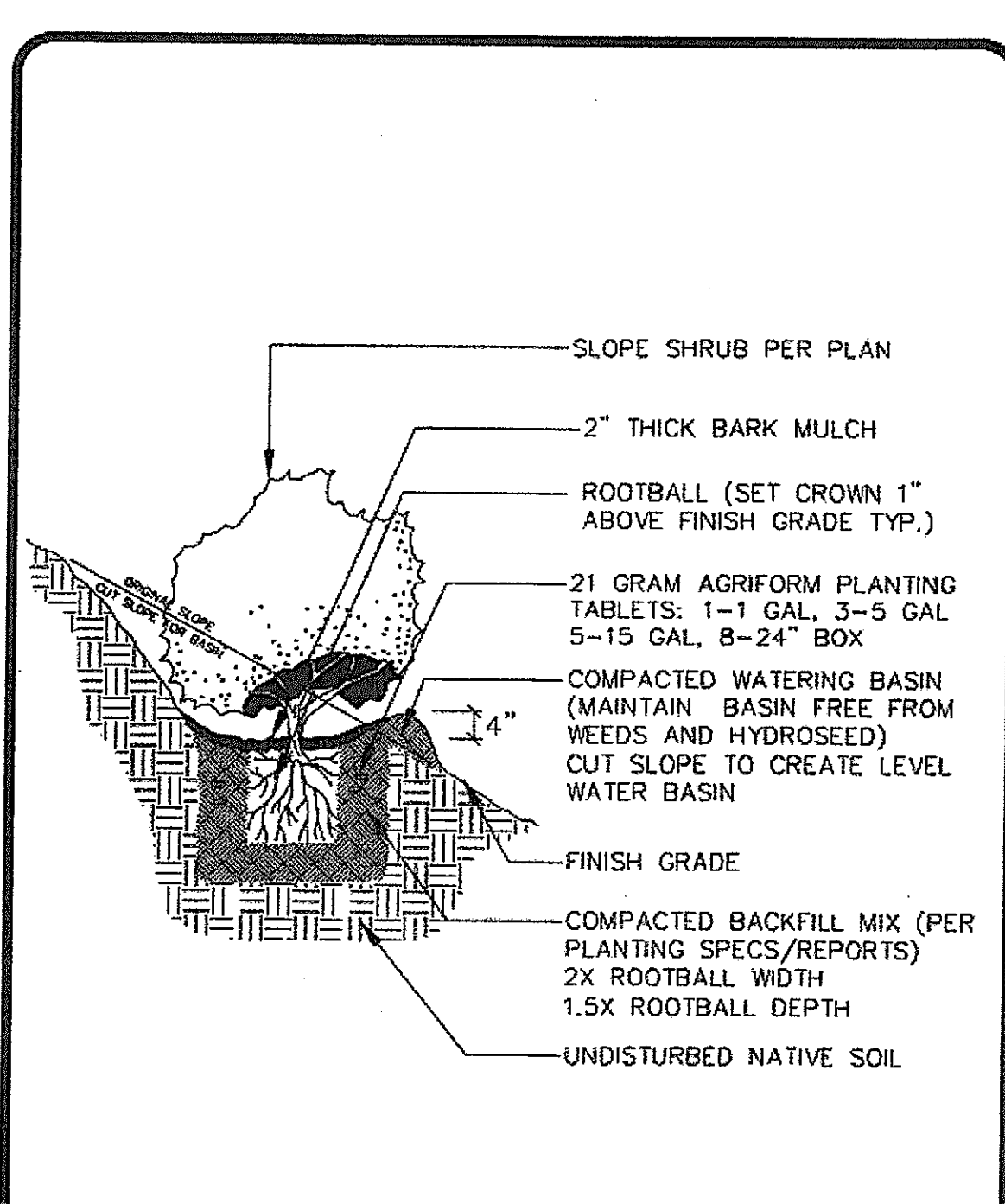
**C SLOPE TREE PLANTING**  
SCALE: N.T.S.



- LD Consulting 2004 (Any deviation or reproduction of this design must be approved in writing by Valley Wide Recreation & Park District)

**VALLEY WIDE RECREATION**  
11/04  
**SHRUB PLANTING** | PL-5

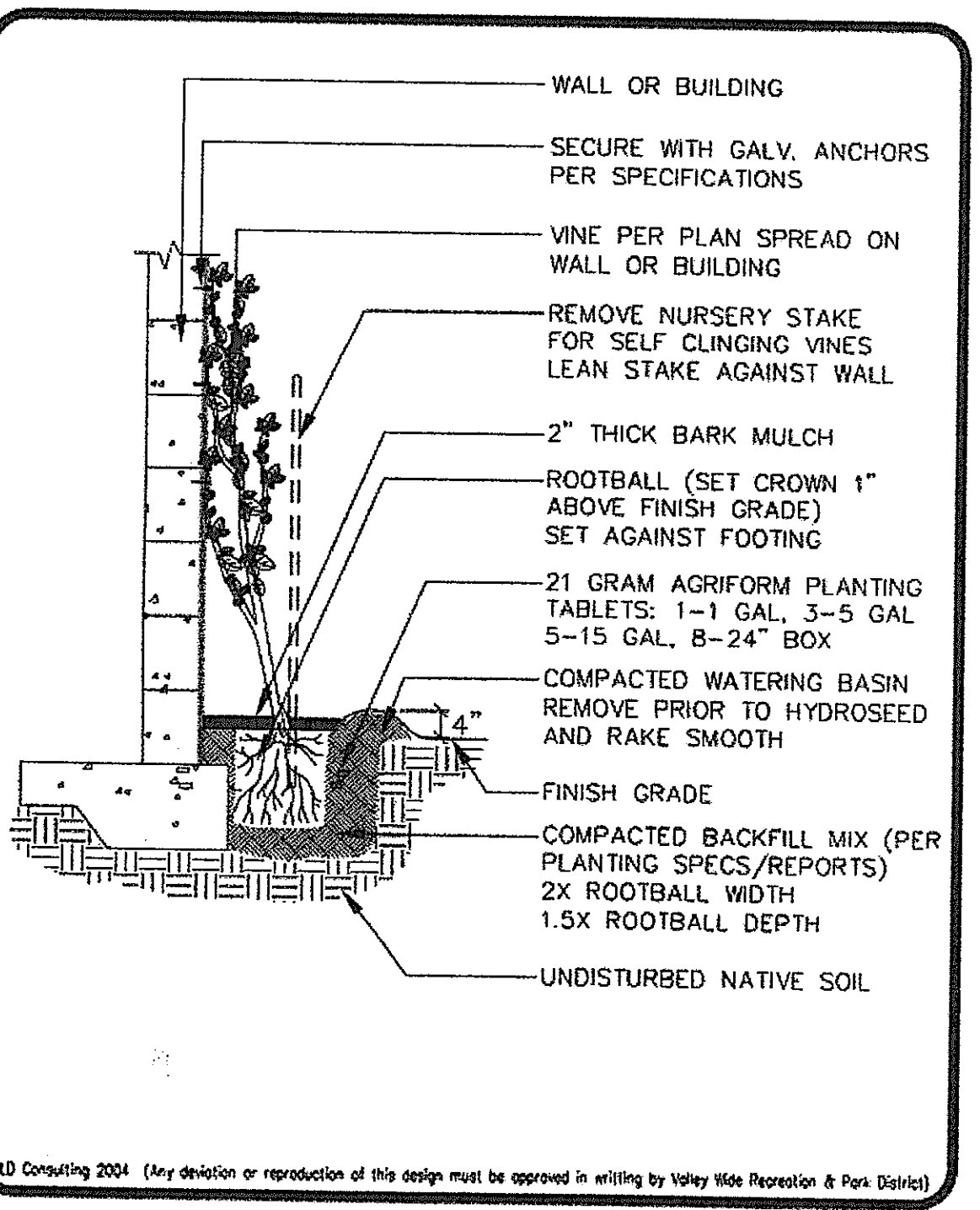
**D SHRUB PLANTING**  
SCALE: N.T.S.



- LD Consulting 2004 (Any deviation or reproduction of this design must be approved in writing by Valley Wide Recreation & Park District)

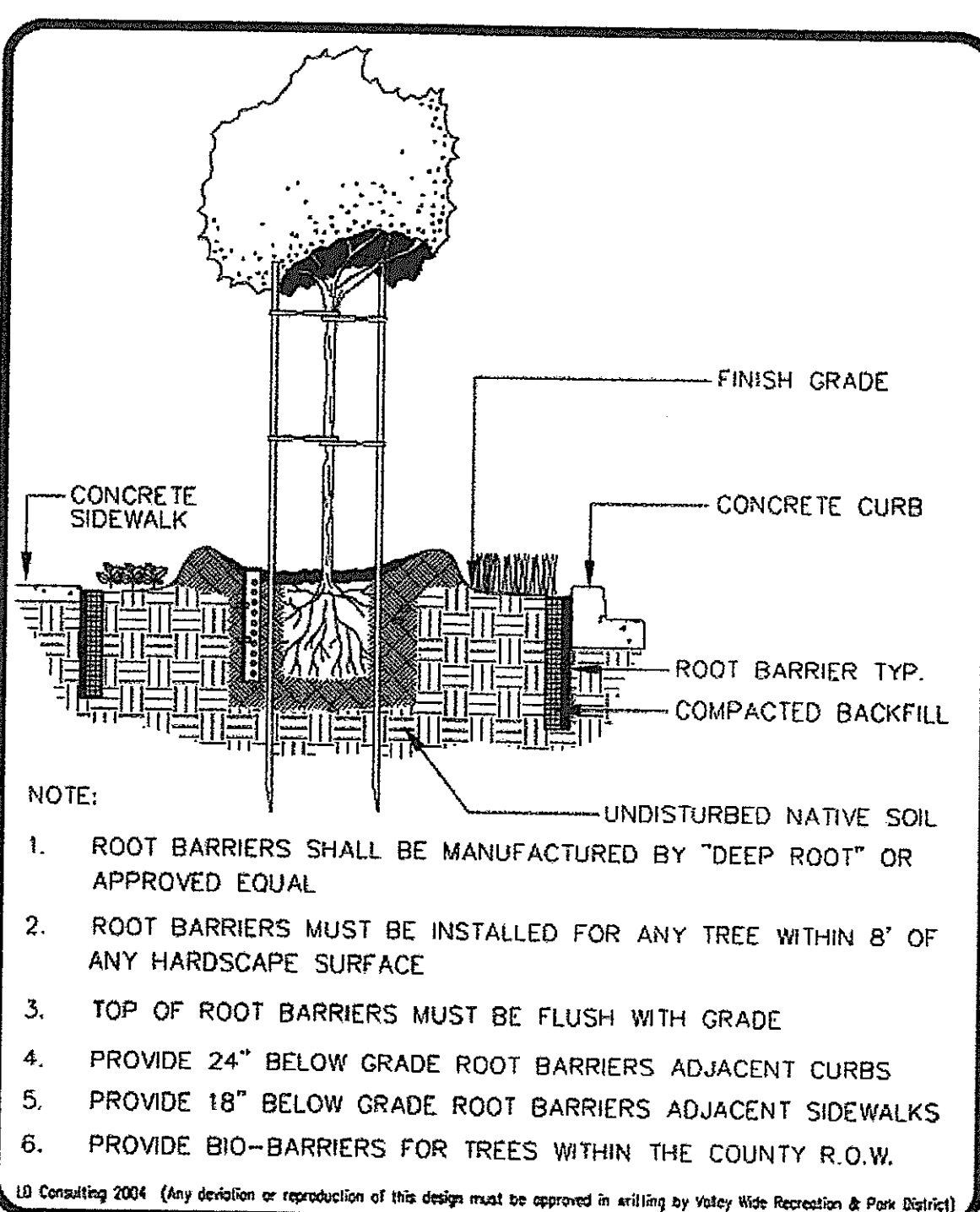
**VALLEY WIDE RECREATION**  
11/04  
**SLOPE SHRUB PLANTING** | PL-4

**E SLOPE SHRUB PLANTING**  
SCALE: N.T.S.



**VALLEY WIDE RECREATION**  
11/04  
**VINE PLANTING** | PL-6

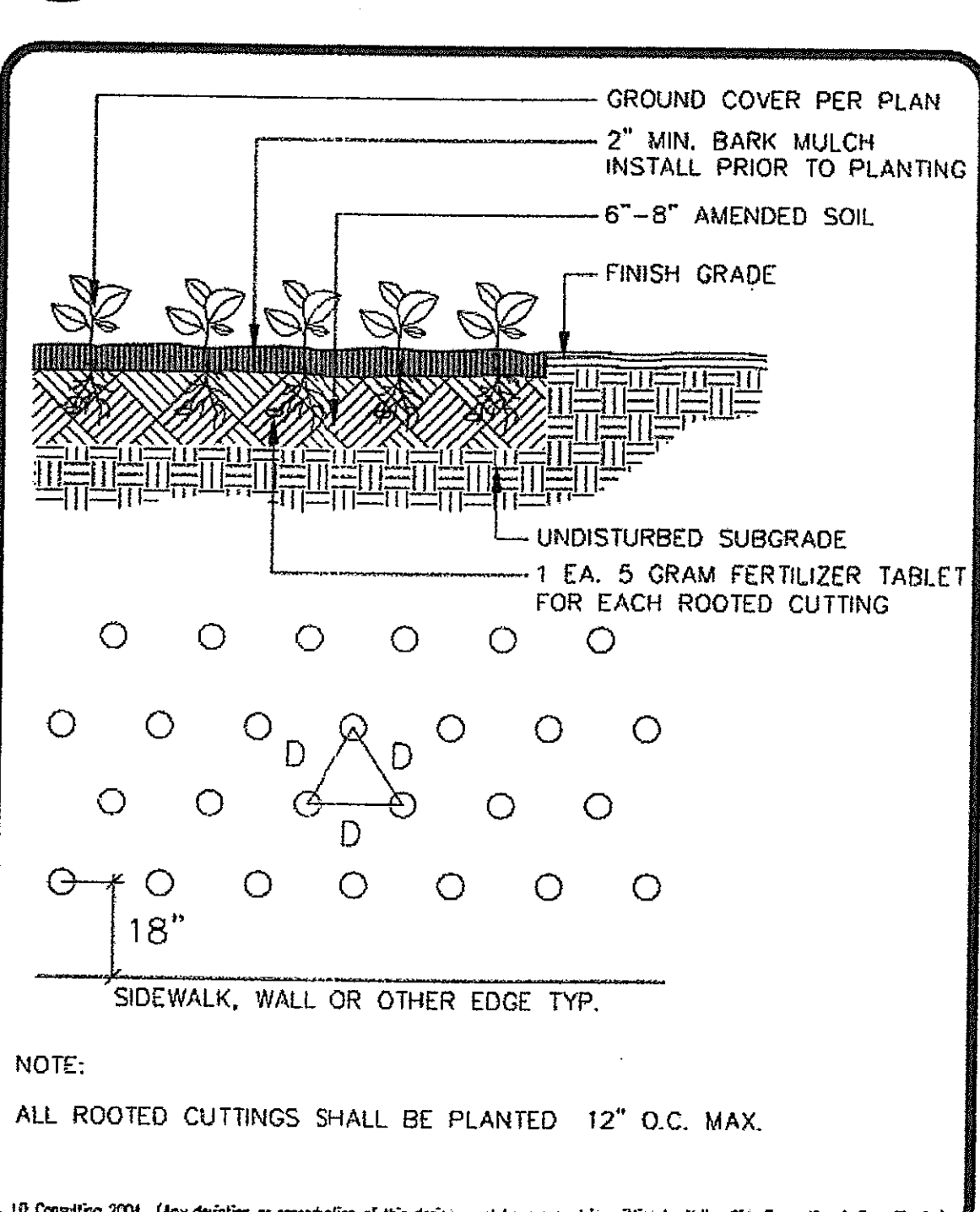
**F VINE PLANTING**  
SCALE: N.T.S.



- NOTE:
1. ROOT BARRIERS SHALL BE MANUFACTURED BY "DEEP ROOT" OR APPROVED EQUAL
  2. ROOT BARRIERS MUST BE INSTALLED FOR ANY TREE WITHIN 8' OF ANY HARDSCAPE SURFACE
  3. TOP OF ROOT BARRIERS MUST BE FLUSH WITH GRADE
  4. PROVIDE 24\"/>
- LD Consulting 2004 (Any deviation or reproduction of this design must be approved in writing by Valley Wide Recreation & Park District)

**VALLEY WIDE RECREATION**  
11/04  
**ROOT BARRIER** | PL-9

**G ROOT BARRIER**  
SCALE: N.T.S.

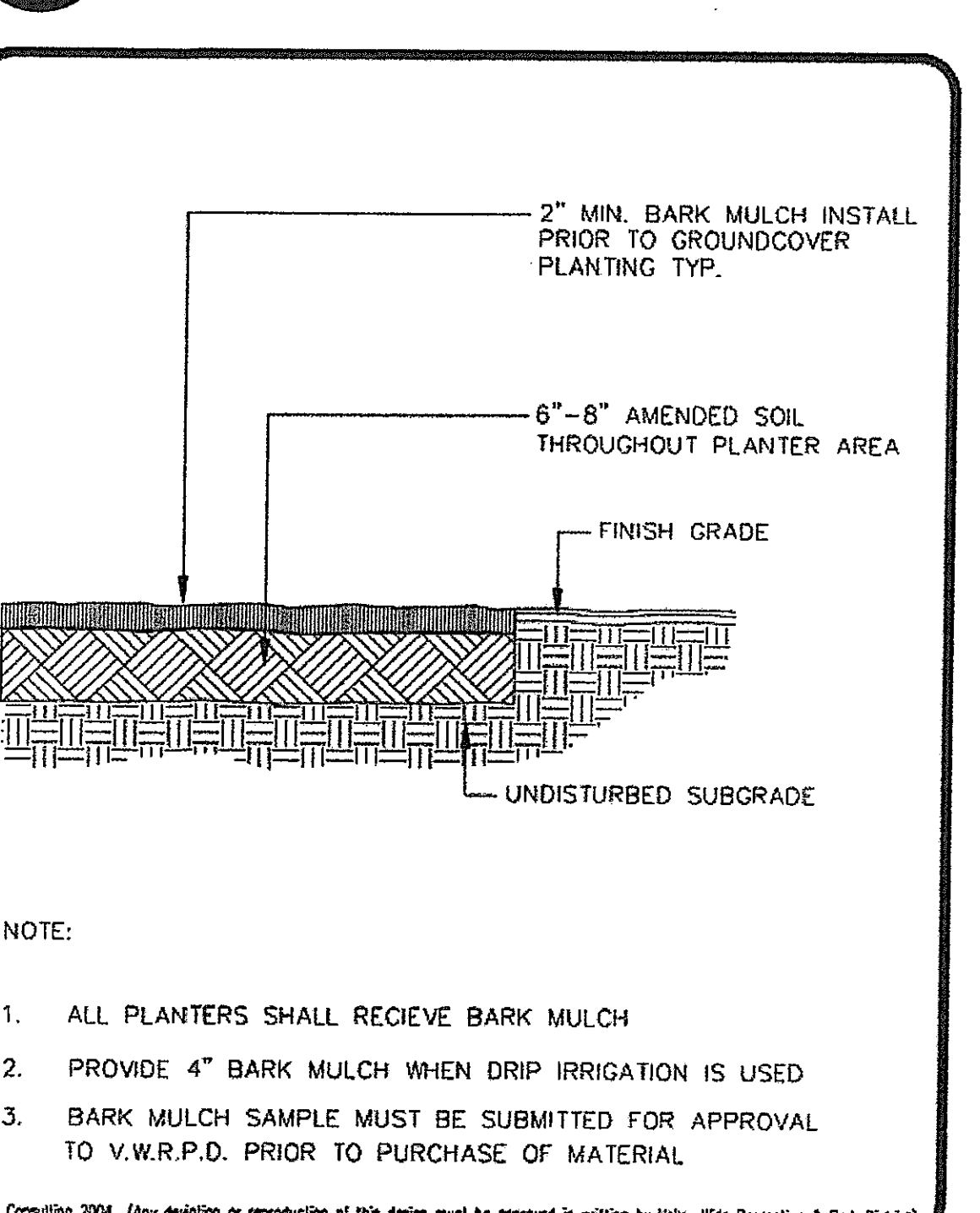


- NOTE:
- ALL ROOTED CUTTINGS SHALL BE PLANTED 12\"/>

LD Consulting 2004 (Any deviation or reproduction of this design must be approved in writing by Valley Wide Recreation & Park District)

**VALLEY WIDE RECREATION**  
11/04  
**GROUND COVER PLANTING** | PL-10

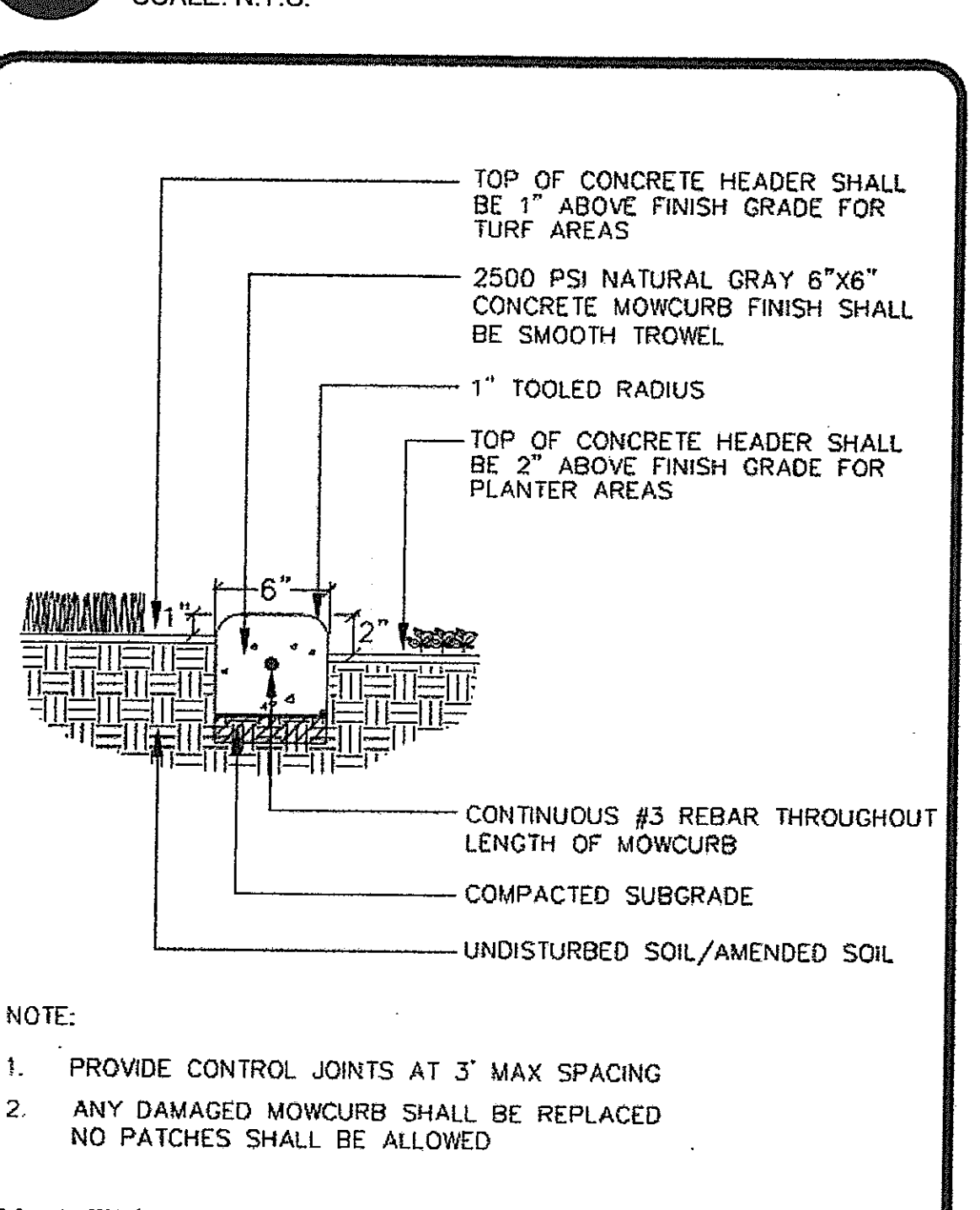
**H GROUND COVER PLANTING**  
SCALE: N.T.S.



- NOTE:
1. ALL PLANTERS SHALL RECEIVE BARK MULCH
  2. PROVIDE 4\"/>
- LD Consulting 2004 (Any deviation or reproduction of this design must be approved in writing by Valley Wide Recreation & Park District)

**VALLEY WIDE RECREATION**  
11/04  
**BARK MULCH** | PL-7

**I MULCH PLACEMENT**  
SCALE: N.T.S.



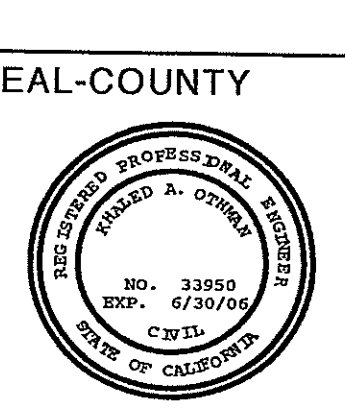
- NOTE:
1. PROVIDE CONTROL JOINTS AT 3' MAX SPACING
  2. ANY DAMAGED MOWCURB SHALL BE REPLACED NO PATCHES SHALL BE ALLOWED
- LD Consulting 2004 (Any deviation or reproduction of this design must be approved in writing by Valley Wide Recreation & Park District)

**VALLEY WIDE RECREATION**  
11/04  
**CONCRETE MOWCURB** | PL-8

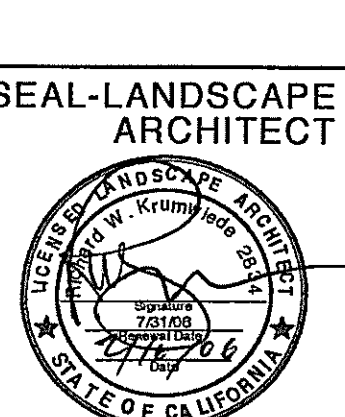
**J CONCRETE MOWSTRIP**  
SCALE: N.T.S.

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DATE	BY	MARK	REVISIONS	APPR. DATE



SEAL-COUNTY  
COUNTY OF RIVERSIDE  
TRANSPORTATION DEPARTMENT  
APPROVED BY:  
KHALED A. OTHMAN, P.E.  
R.C.E. 33950 EXP. 6-30-06



SEAL-LANDSCAPE ARCHITECT  
LANDSCAPE ARCHITECTURE  
SITE PLANNING  
10221-A Trademark Street  
Rancho Cucamonga, CA 91730  
Tel (909) 494-2800  
Fax (909) 494-2802  
Richard Krummholz  
CA Lic #2534  
AZ Lic # 09115  
NY Lic # 456  
TX Lic #19284

PREPARED BY:  
KPF  
R.L.A. NO. 2834  
DATE 7/19/05

VALLEY-WIDE RECREATION AND PARK DISTRICT  
SAMUEL W. GOEPP  
DATE: 2/22/06

**HIDDEN MEADOWS**  
TRACT NO. 30948, I. P. NO. 030095  
VALLEY-WIDE REC. AND PARK DISTRICT  
**PLANTING DETAILS**  
SHEET NO. 10  
OF 14 SHEETS  
FOR: FORECAST HOMES  
JOB # 0352-3  
COUNTY FILE NO.



CONCRETE

PART 1 - SCOPE OF WORK

1.01 WORK INCLUDED

Work includes, but is not limited to the following: Furnish all labor and materials, appliances, tools, equipment, facilities, transportation, and services necessary for installing all concrete work complete as indicated on the drawings and specifications including, but not limited to:

- A. Furnish and set all reinforcing steel, bolts and anchors.
B. Install all items required by other trades which are to be cast into concrete.
C. Concrete mow curbs, banding, poured in place walls, other flatwork, footings, pans and slabs for: walls, fencing, benches, controllers, decks, etc., where applicable.

PART 2 - GENERAL

All requirements of subsection 3.31, standard specifications for Public Works Construction, shall apply except as specified herein.

2.1 INSPECTION OF SITE

Examine related work and surfaces before starting work in this section. Report to the Landscape Architect in writing, site conditions which will prevent the proper provision of this work. Beginning the work in this section without reporting unsuitable conditions to the Landscape Architect constitutes acceptance of site conditions by the Contractor. Any required removal, repair, or replacement of this work caused by unsuitable conditions shall be done at no additional cost to Owner.

2.2 PROTECTION OF EXISTING CONDITIONS

Contractor shall acquaint himself with all site conditions. He shall take necessary precautions to protect existing site conditions. Should damage be incurred, this Contractor shall repair damage to its original condition or furnish and install equal replacement at his own expense, to the satisfaction of the County.

2.4 COORDINATION

- A. Cooperation On-Site: Coordinate and cooperate with other contractors to enable the work to proceed as rapidly and as efficiently as possible.
B. Work With Other Trades: Coordinate with General Contractor items of other trades to be furnished and set in place. Such portions of their work as all or in part embedded, built-in, attached to, or supported by the work shall be executed by them in ample time that progress of the work is not delayed. Any cutting or patching made necessary to comply with this injunction shall be done at the Contractor's expense.

2.5 APPROVAL

Wherever the terms "approve," "approval," or "approved" are used in the Specifications, they mean approval of the Landscape Architect, the County's Representative or their field representatives, or in writing.

2.6 SUBMITTALS

At least 10 days after award of contract, Contractor shall submit for approval samples and/or manufacturers' latest catalog cuts and specifications of the following prior to beginning work. Approved samples shall be standards for completing work.

- A. One 2-ft. x 2-ft. x 2-in. sample for each type of concrete finish and color at the job site.
B. Color samples for expansion joint compounds.
C. All submittal data shall be forwarded in a single package to the Landscape Architect within 15 days after award of the General Contract unless otherwise approved by the Landscape Architect and/or Owner's Construction Landscape Architect.

2.7 SUBSTITUTIONS

- A. Standards: Specific reference to manufacturers' names and products specified in this section are used as standards; this implies no right to substitute other material or methods without written approval of the
B. Approval: Installation of any approved substitutions is Contractor's responsibility. Any changes required for installation of any approved substitution must be made to the satisfaction of Landscape Architect and without additional cost to County. Approval by Landscape Architect of substituted materials and/or dimensional drawings do not waive these requirements.

PART 3 - MATERIALS

Materials shall be of first quality and of domestic manufacture as noted below:

- A. Portland cement shall conform to ASTM-C150, Type I or Type II.
B. Concrete aggregate shall conform to ASTM-C33.
C. Water shall be clean, free from strong acid, alkali, oil or organic matter.
D. Admixture for all formed concrete shall be Sika Chemical Corp.'s "Plastiment", or approved equal, applied in strict accordance with manufacturer's directions.
E. Reinforcement: reinforcing steel ASTM-A15 and ASTM-A305. Wire fabric: ASTM-A185
F. Forms:
1. Lumber shall be "construction grade" Douglas fir.
2. Plywood for forming of concrete which is exposed shall be Plyform. All plywood used for forming shall be at least 5/8 inch thick and edge sealed.
G. Expansion joint filler shall conform with ASTM-D1751 (premixed).

PART 4 - EXECUTION

4.01 CONCRETE DESIGN MIX

- A. Contractor assumes responsibility for the design mix and guarantees the specified ultimate strength as indicated or specified herein.
B. Concrete, minimum 28-day ultimate strength shall be 2000 PSI.
C. Ready-mixed concrete shall conform to ASTM-C94.

4.02 CONCRETE PROPORTIONS & CONSISTENCY

- A. The proportions of aggregate to cement shall provide a dense mixture which will readily work into all corners of the forms and around all reinforcements without any segregation of the materials, cause excess free water to collect on the surface or cause excessive bleeding of the forms.
B. The recommended practices of the American Concrete Institute shall be followed in all applicable procedures. The maximum slump shall not exceed (4") four inches for footings, slabs on grade, and mass concrete; 5 inches for foundation walls.

4.03 CONCRETE APPROVAL

The concrete quality, proportions, consistency, etc., is subject to the approval of County, and no changes shall be made without prior written approval.

4.04 FORMWORK

- A. Forms for concrete work shall be either metal or wood. Forms that are warped or that do not have a smooth straight upper edge shall not be used. Forms shall be set with the upper edge of the board true to line and grade and shall be staked rigidly in place with stakes set not more than four feet (4') apart so as to remain immovable throughout the construction. All forms shall be approved by County within a tolerance of one percent (1%). All materials shall be accurately and separately weighted and mixing shall continue until the distribution of material is uniform and the mass of concrete is homogeneous.
B. Two and one-half (2 1/2) gallons of water per cubic yard, shall be withheld from the mix at the plant, and all or a portion may be added to the mix at the job site as directed by the Inspector. The concrete shall be mixed at least 5 minutes after such water is added and not less than 3 minutes of this time shall be immediately prior to the discharge of the batch. Total mixing time after adding original water shall be at least 15 minutes.
C. Concrete which is not placed within 90 minutes after the introduction of cement and water, and concrete which has stood for 30 minutes after leaving the mixer, shall not be used.

4.05 REBAR

Reinforcing bar shall be spliced with 40 bar diameters minimum overlap.

4.06 CONVEYING AND PLACING

- A. Before pouring, all forms shall be thoroughly cleaned and made tight. The bottom of trenches shall be wet down before pouring footings; earth shall not be muddy at the time of pouring. Concrete shall not be placed until reinforcements, rough hardware, and forms are approved by County.
B. Before depositing new concrete against old concrete, all laitance shall be removed, and the surfaces roughened to expose the embedded aggregate. The surfaces shall then be covered with cement grout, using the specified mix with 1/2 of the course aggregate omitted, 1-1/2 inches thick.

- C. Conveying and placing of concrete shall be done so as to prevent separation of ingredients, and in no case shall the free fall exceed 6 feet. Tremies shall be used as required. Surfaces of concrete shall be kept reasonably level, with a minimum amount of concrete being allowed to flow after being placed. Placing shall be performed as a continuous operation until each section is completed.
D. Concrete shall be spaded and vibrated with mechanical vibrators to a maximum subsidence, without separation of ingredients. The moving of concrete by vibration will not be permitted.

4.07 COLORED CONCRETE

Integral color and Dust-On color hardener shall be as specified on plans and details.

4.08 GROUTING

- A. Grout shall be composed of one part Portland Cement and two parts of fine aggregate by volume. Materials shall be mixed dry and water added just sufficient to make the mixture flow under its own weight.
B. For dry tamp cement grout, a minimum of water shall be added to the mix so that when wet sample is squeezed hard in the hand, surface moisture, but no free water, shall appear on the sample. Do not mix more than can be used in 30 minutes.

4.09 CURING AND PROTECTION

- A. All exposed surfaces of concrete shall be protected from damage due to temperature, elements, and construction operations.
B. Curing shall be as follows:
1. All exposed surfaces of concrete shall be protected from premature drying and freshly placed concrete shall be protected against wash by rain. All concrete shall be kept wet for a period of ten days after placing. In order that curing water may reach both surfaces of walls, the forms shall be loosened and water shall be poured over the tops of the walls and allowed to run down between the concrete and the forms.
2. All liquid curing compounds shall be used in accordance with the manufacturer's recommendations and shall not be used on surfaces receiving concrete hardener.

4.10 DEFECTIVE CONCRETE

- A. Concrete which is not in accordance with these specifications, out of line, level, or plumb; showing structural cracks, rock sockets, voids, spalls, honeycombing, exposed reinforcing or other damaged surfaces shall be considered as defective.
B. All fines and irregularities shall be removed from exposed concrete surfaces while the concrete is still green. Where patching is required, all loose and uniform concrete shall be removed prior to patching.

4.11 CONCRETE FINISHES

Flat surfaces shall be screeded to the required levels and slopes and then any excess water or laitance removed. Concrete shall be compacted with a grid tamper and then floated to a true and level surface within the tolerance of 1/8-inch along a 10-inch straight edge. Contractor shall ensure positive drainage on all flatwork. See Plans for concrete finish in landscape areas.

CONCRETE UNIT MASONRY AND STUCCO SURFACING

PART 1 - SCOPE OF WORK

1.01 WORK INCLUDED

Furnish all labor, tools, equipment, materials, transportation, and perform all operations necessary and incidental for the proper execution and completion of all concrete unit masonry in accordance with the Drawings and Specifications including, but not limited to, the following work items:

- A. Plasters (Stuccoed where applicable)
B. Walls (Stuccoed where applicable)
C. Masonry Barbeques (Stuccoed where applicable)

1.02 RELATED WORK

- A. Furnishing and placing rebar.
B. Concrete placement.
C. Stucco application.

PART 2 - GENERAL

2.01 PERMITS & INSPECTIONS

Obtain necessary County Building & Safety Department permits and inspections.

2.02 APPLICABLE STANDARDS

Any reference to the "Standard Specifications," "ASTM," or "ACI" manuals shall mean the current or latest editions.

- A. Standard Specifications: Standard Specifications of the State of California, Business and Transportation Agency, Department of Transportation, CALTRANS.
B. Standards:
1. ASTM - American Society of Testing and Materials.
2. ACI - American Concrete Institute, Manual of Concrete Practice.

2.03 INSPECTION OF SITE

Examine related work and surfaces before starting work in this Section. Report to the Landscape Architect in writing site conditions which will prevent the proper provision of this work. Beginning the work in this Section without reporting unsuitable conditions to the Landscape Architect constitutes acceptance of site conditions by the Contractor. Any required removal, repair, or replacement of this work caused by unsuitable conditions shall be done at no additional cost to Owner.

2.04 PROTECTION OF EXISTING CONDITIONS

Contractor shall acquaint himself with all site conditions. He shall take necessary precautions to protect existing site conditions. Should damage be incurred, this Contractor shall repair damage to its original condition or furnish and install equal replacement at his own expense, to the satisfaction of the County.

2.05 COORDINATION

- A. Cooperation onsite: Coordinate and cooperate with other contractors to enable the work to proceed as rapidly and as efficiently as possible.
B. Work With Other Trades: Coordinate with General Contractor items of other trades to be furnished and set in place. Such portions of their work as all or in part embedded, built-in, attached to, or supported by the work shall be executed by them in ample time that progress of the work is not delayed. Any cutting or patching made necessary to comply with this injunction shall be done at the General Contractor's expense.

2.06 FINAL ACCEPTANCE

- A. Review: Review for Final Acceptance shall be held in conjunction with the final review of Section 4-A & B, Planting and Construction.
B. Acceptance: Work under this Section will be accepted by Landscape Architect upon satisfactory completion of all work. Upon Final Acceptance at the end of the maintenance period, including backfilling of walls, County will assume responsibility for maintenance of the work. Said assumption does not relieve Contractor of obligations under Warranty.

PART 3 - MATERIALS

Materials shall be of first quality and of domestic manufacture as noted below:

- A. Concrete masonry units: ASTM C 90, Grade N-1, hollow, normal weight lad bearing units.
1. Types and sizes: As indicated on drawings.
2. Color: As indicated on Color Schedule.
B. Portland cement: ASTM C 150, Type I or Type II.
C. Aggregates:
1. Sand: ASTM C 144, clean, hard, strong, durable, free from injurious amounts of saline, alkaline, organic or other deleterious substances, with not less than 3 percent by weight passing No. 100 sieve.
2. Pea gravel: ASTM C 404, worked and graded with no more than 5 percent passing No. 8 sieve and with 100 percent passing 3/8 inch sieve.
D. Water: Clean, portable, from domestic supply.
E. Hydrated lime: ASTM C 207, Type S, and containing 85% by weight of calcium oxide.
F. Admixture for grout: Material acceptable to Architect. Obtain acceptance from Project Supervisor prior to use.
1. Use according to manufacturer's printed instructions. Secure manufacturer or distributor initial supervision by a qualified field representative to assure proper use of admixture.
G. Mineral color pigments: Pure ground mineral non-fading oxides, lime and alkali proof. Colors as selected by Landscape Architect where applicable.
H. Cleaning material: Sure Klean No. 600 detergent, by Process Solvent Co., Inc., or equivalent.
I. Expansion joint filler: ASTM C 1751.
J. Sealant materials: As noted on plans.
K. Submit Catalogue Cut Cementitious waterproofing material.
L. Vertical expansion joints: In concrete masonry wall construction shall be a minimum 20' - 0" apart. Use breaking bond whether for exposed or stuccoed masonry wall work.

PART 4 - EXECUTION

Each item of Work shall include excavations for foundations and footings, concrete masonry block, deformed billet-steel bars, Douglas Fir wood grant, stucco finishing and backfilling clean-up to the satisfaction of the County.

C. Reinforcing steel, except dowels in other Material.

- 1. Vertical bars: Continuous from bottom cell to top of wall, centered in cells, except where otherwise indicated. Secure vertical reinforcement in position at top, bottom and at intervals not farther apart than 192 bar diameters. Where necessary, hold vertical steel firmly in place by frames or other suitable devices as accepted by Architect.
2. Horizontal bars: Wire temporarily above exact position and tag to indicate correct locations. Use calibrated vertical bars where indicated, wired to vertical bars or dowels.
3. Accurately splice using lap of bars as indicated on drawings with a minimum of 40 bar diameters.
4. Tie at intersections using No. 16 gauge annealed wire.

4.06 MORTAR AND GROUT

- A. Mortar: Type S in accord with UBC Chapter 24.
1. Color: As indicated on plans.
B. Grout: In accord with UBC Chapter 24, with exception that lime shall not be used.
C. Dispose of mortar and grout not used within 30 minutes after leaving mixer. Retempering of mixture will be allowed in accord with UBC Chapter 24.
D. Mortar and grout minimum compressive strength:
1. Mortar: 28 days 1,800 psi
2. Grout: 28 days 2,000 psi
E. After all ingredients are in the batch mixer, mix mechanically for not less than three minutes. Do not use hand mixing unless specifically acceptable to Project Superintendent.

4.07 WORKMANSHIP

- A. Preserve unobstructed vertical continuity of cells to be filled. Fully bed webs and crosswalls forming such cells in mortar to prevent leakage of grout.
B. Fractional parts of masonry units are prohibited where whole units can be used. Chinking of interstices with fragments will not be allowed. Provide special units as necessary to form openings and lintels.
C. Do not construct any part of any masonry wall more than 6 feet higher than adjoining portions.
D. Where absolutely necessary, for construction purposes to stop off longitudinal runs of masonry, stop off only by racking back one-half unit length in each course. Tooling shall not be permitted.
E. At openings for ducts, pipes and conduit built into masonry walls, cut to form fractional units with abrasive saw.
F. Align vertical cells to maintain continuous unobstructed cell area.
G. Set units with joints straight and uniform in width.

4.08 JOINTS AND COURSING - EXPOSED MASONRY

- A. Joints: Raked as exposed masonry and flush with stuccoed; concave tooled with brick.
B. Bond: Common running bond, unless otherwise indicated.
C. Joints: 3/8 inch wide.
D. Keep all areas to be grouted free from mortar so that grout will contact foundation.
E. Perform tooling or raking when mortar is partially set but still sufficiently plastic to bond. Use a tool which compacts mortar, pressing excess mortar out of joint rather than dragging it out.
F. Rake out joints which are not tight at time of tooling, point and then tool - where applicable.
G. Butter vertical head joints well for thickness equal to face shell of unit and shove these joints tightly so that mortar bonds well to both units.
1. Fill joints solidly from face of block to at least depth of face shell.
H. Set lintels, capping units and bearing plates in a full bed of mortar.
I. Control joints shall be as detailed. Apply sealant, where required, in accord with plans and specifications.

4.09 GROUTING

- A. Fill all masonry cells containing reinforcing steel solidly with grout. At finished course, stop grout one-half the course height below top of last course grouted.
B. Keep mortar dropping out of or remove from grout space before grouting.
C. Puddle grout or vibrate in place.
D. Grout bolts and anchors inserted in wall solidly in place so that there is a minimum of 1 inch of grout between bolt and masonry unit, unless otherwise indicated.
E. Set bolts, frames and inserts necessary for attachment of subsequent Work must be secured in place prior to grouting.

4.10 POINTING AND CLEANING

- A. Immediately remove from exposed surfaces surplus mortar, grout, foreign material, and stains.
B. Defective joints: Point holes or defective mortar joints in exposed masonry and cut out and repoint defective joints. Replace chipped or broken masonry units.
C. Staining and excess mortar: Protect exposed masonry against grout staining. Where grout or mortar does contact the faces of masonry, remove it immediately. Should accidental spillage occur, wash and clean surfaces immediately with a 10% muriatic acid and water solution, followed by a thorough water rinse. Remove stains where they occur.
D. Clean efflorescence from masonry with specified cleaner in accord with cleaner manufacturer's instructions.
E. After wall in constructed, do not saturate with water for curing or any other purpose.

4.11 STUCCO SURFACING

- A. Wood Framed Walls:
1. Stucco shall be three coat work not less than 7/8" thick.
(a) Scratch coat shall be approximately 1/2" thick. Before the scratch coat has set, it shall be well cross-scratched to provide a strong bond and damp cured for at least 48 hours.
(b) Brown coat shall be 1/4" thick. When brown coat has set sufficiently it shall be floated with a dry float to form a bond for the finish coat. Brown coat shall be applied no sooner than 48 hours after application of scratch coat. Scratch coat shall be dampened evenly before application of brown coat to provide even suction.
(c) Finish color coat shall be approximately 1/8" thick and shall be applied and damp cured strictly in accordance with the manufacturer's directions, and city and local governing bodies.
2. Stucco shall be Merlex, La Habra or approved equal as per color selection by Landscape Architect.
3. Packaged material shall be delivered in the original packages, containers or bundles bearing the name of manufacturer and the brand name.
4. Texture to be rubber float finish (scrub coat) or as approved by Landscape Architect. 5. All exposed foundations shall receive one application of finish color coat to match building color.
6. All stucco shall be water proofed up to three feet above finish grade with Thompson's Water Sealer or equal.
B. Block Walls
1. Stucco shall be two coat work not less than 1/2" thick.
(a) Brown coat shall be approximately 3/8" thick. Float with a dry float to form a bond for the finish coat.
(b) Finish color coat shall be approximately 1/8" thick and shall be applied and damp cured strictly in accordance with the manufacturer's direction including city and governing bodies.
2. Color and manufacturer shall be selected and approved by Landscape Architect.
3. Deliver packaged material in original packages bearing the manufacturer's and brand names.
4. Texture as called out on plan or I.P. field approval.
5. All exposed foundation shall receive one application of finish color coat to match building color.

4.12 CLEANUP

All subcontractor's materials and tools of the trade shall be removed from the job site upon completion of work. Subcontractor shall be responsible for damage to the finished surfaces of other work. Subcontractor guarantees all work will be performed in a good and workmanlike manner.

PART 5 - WARRANTIES

In addition to manufacturers' warranties or warranties, all work shall be warranted for one year from the date of Final Acceptance against defects in materials and workmanship by Contractor. Warranty shall also cover repair of damage to any part of the premises resulting from defects in materials and workmanship to the satisfaction of the County.

END OF SECTION

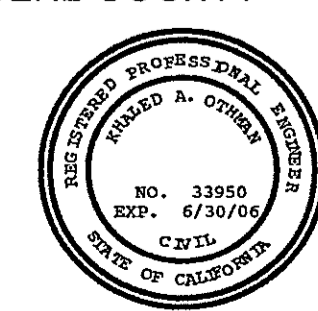
NOTE: APPROVAL BY THE TRANSPORTATION DEPARTMENT IS FOR THE AREA WITHIN THE RIGHT-OF-WAY ONLY.

HOLD HARMLESS & INDEMNIFICATION CLAUSE:

CONTRACTOR AGREES TO ASSUME SOLE 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/DEVELOPER, THE COUNTY OF LOCAL JURISDICTION AND THE LANDSCAPE DESIGNER HARMLESS FROM ANY AND ALL LIABILITY REAL OR ALLEGED IN CONNECTION WITH THE PERFORMANCE OF WORK ON THIS PROJECT, EXCEPTING FOR LIABILITY ARISING FROM SOLE NEGLIGENCE OF THE OWNER/DEVELOPER, COUNTY OF LOCAL JURISDICTION AND THE LANDSCAPE DESIGNER.

Table with columns: DATE, BY, MARK, ENGINEER, REVISIONS, APPR. DATE, COUNTY

SEAL-COUNTY

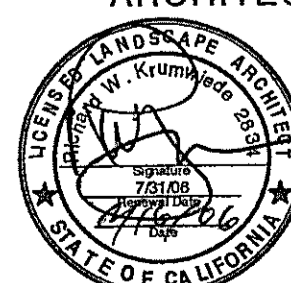


COUNTY OF RIVERSIDE TRANSPORTATION DEPARTMENT APPROVED BY:

KHALED A. OTHMAN, P.E. R.C.E. 33950 EXP. 6-30-06 DATE

RECOMMENDED DATE

SEAL-LANDSCAPE ARCHITECT



ARCHITERRA DESIGN GROUP PREPARED BY: KPF

LANDSCAPE ARCHITECTURE SITE PLANNING 10221-A Trademark Street Riverside, CA 91730 Tel: (909) 484-2800 Fax: (909) 484-2802 Richard Krumholz C.S.L.C. #2634 N.Y.L.C. #456 T.S.L.C. #1982 R.L.A. NO. 2834 DATE 7/19/05



VALLEY-WIDE RECREATION AND PARK DISTRICT

SAMUEL W. GOEPP DATE: 7/22/06

HIDDEN MEADOWS TRACT NO. 30948, I.P. NO. 030095 VALLEY-WIDE REC. AND PARK DISTRICT

CONSTRUCTION SPECS.

FOR: FORECAST HOMES JOB #: 0352-3 COUNTY FILE NO.

SHEET NO. 11 OF 14 SHEETS

2/16/2006



LANDSCAPE IRRIGATION SYSTEM

PART 1 - GENERAL

1.01 Refer to standard contract documents for non-technical contractual requirements and conditions.

1.02 SCOPE OF WORK:

Furnish labor, materials, equipment, appliances and services necessary for the execution and completion of "Landscape Irrigation" as indicated on the drawings and/or herein specified.

PART 2 - MATERIALS

Materials shall be of first quality and C. domestic manufacture unless otherwise noted.

2.01 SUBMISSION FOR APPROVAL:

Furnish the articles, equipment, materials, or processes specified by name on the drawings and in specifications. No substitutions will be allowed without prior written approval of the County's Representative.

- A. A complete material list shall be submitted to the County's Representative prior to performing any work. Catalog data and full descriptive literature must be submitted whenever the use of items different than those specified is requested. Notarized certificates must be submitted by plastic pipe and fitting manufacturer indicating that material complies with specifications, unless material has been previously approved.
B. The material list shall be submitted using the following layout (double space between each item):
Item No. Description Manufacturer Model# Schedule 40
1. Pressure Supply Lines Lasco
2. Lawn Head Buckner #404
3. Etc. Etc. Etc.
C. Equipment or materials installed or furnished without the prior approval of the County's Representative may be rejected and such material removed from the site at no expense to the Owner.
D. 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 submitted.
E. Manufacturer's warranties shall not relieve liability under the guarantee. Such warranties shall only supplement the guarantee. The County's Representative may, at his option, require a manufacturer's warranty on any product offered for use.

2.02 GENERAL PIPING

- A. Pressure supply line from point of connection through backflow prevention unit shall be per local code. Pressure supply lines downstream of backflow prevention unit shall be per the legend.
B. Non-pressure lines shall be Schedule 40 PVC pipe.

2.03 PLASTIC PIPE AND FITTINGS

- A. 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-1782 or D-2241, this compound shall meet the requirements of cell classification 12454B for pipe and 13454B for fittings. This compound must have a 2,000 psi hydrostatic design stress rating.
B. 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.
C. 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.
D. 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 fitting manufacturer before starting the job, unless he has been previously instructed on recommended solvent cementing procedures by a competent representative of the manufacturer.
E. 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.
F. 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 elbows shall be side gated.
G. Apply primer and solvent on all pipe sizes and fittings. Primer solvent on both female and male ends.
H. All threaded nipples shall be standard weight Schedule 80, with molded threads.
I. All fittings shall bear the company's name or trademark, material designation, size applicable I.P.S. schedule, and NSF seal of approval.

2.04 PVC CONDUIT/SLEEVING

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 indicated in details and Legend.

2.05 RING-TITE PVC PIPE

- A. All pipe indicated on the working drawings, shall be Class 160 PSI Johns-Manville PVC pipe with ring-tite joints.
B. All ring-tite joints shall be sealed with rubber rings as provided by the manufacturer. All pipe joints shall provide for expansion and contraction.
C. Thrust blocks shall be provided as required for proper anchorage and durability of the ring tie pipe. (Refer to Details)

2.06 BRASS PIPE AND FITTINGS (if required)

- A. Brass pipe shall be 80% red brass, American National Standard Institute (ANSI), Schedule 40 screwed pipe. Fittings shall be medium brass, screwed 125 pound class.

2.07 BACKFLOW PREVENTION UNIT:

See plan for type, manufacturer, and size.

2.08 QUICK COUPLING VALVES

- A. The body of the valve shall be red brass with a wall thickness guaranteed to withstand normal working pressure of 150 pounds per square inch without leakage. Valve shall have a 3/4-inch female threaded opening at base.
B. Hinge cover shall be red brass with a rubber-like vinyl cover bonded to it in such a manner that it becomes a permanent-type cover, yellow in color. Hinge shall be locking type.
C. Quick couplers shall be installed as indicated on Plan and Details.

2.09 AUTOMATIC CONTROL VALVES, ELECTRICAL

- A. Valve shall be per legend.
B. Valve shall be capable of being operated in the field without electricity at the controller, by a bleeding valve.
C. Valve shall be completely serviceable in the field without removing valve body from the line.
D. Valve shall be installed in a shrub area whenever possible and installed according to construction detail.

2.10 GATE VALVES

Approved gate valves shall be Nibco T-113 or Hammond 606-32 with bronze turning handles. Size and location shall be as indicated on Plan.

2.11 VALVE BOXES

All remote control valves, gate valves, and pressure relief valves shall be installed in suitable valve boxes as shown in details, complete with locking covers. All shall be "Christie", or an approved equal. Install tags.

2.12 AUTOMATIC CONTROLLER

- A. The Automatic Sprinkler Controller shall be as noted in the legend.
B. All wiring to and from the controller shall be through color-coded plugs and sockets. The controller shall be locking, weather-proof type, constructed of heavy gauge steel with corrosion resistant enamel finish inside and out.

2.13 ELECTRICAL, HIGH VOLTAGE

- A. Power to and connection to the automatic controller shall be provided by the Owner.
B. All electrical equipment outside of buildings shall be Nema 3 type, waterproof for such installation.
C. All high voltage work shall be installed under this section. Refer to Wiring, Low Voltage for additional information.

2.14 WIRING, LOW VOLTAGE

- A. Connections between the controller and remote control valves shall be made with direct burial AWG-UF type wire, installed in accordance with valve manufacturer's specifications. Wire color: black or color coded for control, white for ground.
B. Sizing of wire shall be according to manufacturer recommendations, in no case less than #14 in size.

2.15 SMALL SHRUBBERY SPRINKLER HEADS

See irrigation plan legend for manufacturer and model numbers.

PART 3 - EXECUTION

3.01 GENERAL

- A. Materials shall be of first quality and of domestic manufacturer unless otherwise noted.
B. Coordinate the installation of all sprinkler materials, including pipe, with the landscape drawings, to avoid interfering with the trees, shrubs, or other planting.
C. For purposes of legibility, sprinkler lines are essentially diagrammatic. Although size and location of sprinkler equipment are drawn to scale whenever possible, make use of all data in all of the contract documents and verify this information at construction site.
D. All work called for on the drawings by notes shall be furnished and installed whether or not specifically mentioned in the specifications.
E. 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 County'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 County's Representative regarding general details of work of this contract.

3.02 OBSERVATION SCHEDULE

- A. Contractor will be responsible for notifying the County Transportation inspector in advance for the following observations according to the time indicated:
-Pre-job Conference - 7 days
-Pressure supply line installation and testing - 36 hours
-System layout - 36 hours Coverage tests - 36 hours
-Final Inspection - 48 hours
B. When observations have been conducted by other than the regular County's Representative, show evidence of when and by whom these observations were made.
C. No observation will commence without as-built drawings.

3.03 WATER SUPPLY:

Connections to the existing points of connection shall be at the approximate locations shown on the drawings. Minor changes caused by actual site conditions shall be made without additional cost to the County.

3.04 LAYOUT:

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 Owner. Layout shall be approved by the County's Representative before installation.

3.05 GRADES:

Before starting work on the sprinkler system, carefully check all grades to determine that work may safely proceed, keeping within the specified material depths.

3.06 ASSEMBLIES

- A. Install the backflow assembly at the height required by local codes.
B. Routing of pressure supply lines as indicated on drawings is diagrammatic. Install lines (and various assemblies) to conform with details on plans.
C. Install no multiple assemblies on plastic lines. Provide each assembly with its own outlet. When called for, the pressure relief valve shall be the last assembly.
D. 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.

3.07 LINE CLEARANCE:

All lines shall have a minimum clearance of 4 inches from each other, and 6 inches from lines of other trades. Parallel lines shall not be installed directly over one another.

3.08 TRENCHING

- A. Dig trenched and support pipe continuously on bottom of ditch. Lay pipe to an even grade. Trenching excavation shall follow layout indicated on drawings and as noted. Where lines occur under paved area, these dimensions shall be considered below subgrade.
B. Provide minimum cover of 18 inches on all pressure supply lines.
C. Provide minimum cover of 18 inches for all control wires. Provide minimum cover of 12 inches for non-pressure lines.
D. Provide minimum cover of 24 inches for all lines under paving.

3.09 BACKFILLING

- A. Initial backfill on all lines shall be of a fine granular material with no foreign matter larger than 1/2-inch in size. Backfill material shall be approved soil.
B. Backfill material 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 under and on each side of pipe, to provide support free of voids. Backfill for trenching shall be compacted to dry density equal to the adjacent undisturbed soil, and shall conform to adjacent grades without dips, sunken areas, humps, or other irregularities. Under no circumstances shall truck wheels be used for compacting soil.
C. Provide sand backfill a minimum of 6 inches over and under all piping under paved areas.

3.10 PVC PIPE

- A. PVC pipe shall be snaked in a manner which will provide for expansion and contraction as recommended by the pipe manufacturer.
B. All plastic to metal joints shall be made with plastic male adaptors, unless otherwise shown in details.
C. The joints shall be allowed to set at least twenty-four (24) hours before pressure is applied to the PVC pipe system.
D. Main lines shall be tested in place before backfilling for a period of not less than four (4) hours and shall show 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.
E. After all new sprinkler piping and risers are in place and connected, all necessary work has been completed and prior to the installation of sprinkler heads, control valves shall be opened and a full head of water used to flush out the system for a minimum of five (5) minutes.
F. 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.

3.11 INSTALLATION OF RING-TITE PVC PIPE

- A. 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-Manville 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.
B. Each line shall be tested at a pressure 50 PSI greater than the manufacturer's recommended working pressure for a period of four (4) hours, with the couplings and connections exposed and with the center of pipe section sufficiently supported and filled to hold pipe in place.

3.12 SPRINKLERS

- A. 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 County's Representative.
B. Sprinkler heads and risers shall be installed according to details for final approval.
C. 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.

NOTE: APPROVAL BY THE TRANSPORTATION DEPARTMENT IS FOR THE AREA WITHIN THE RIGHT-OF-WAY ONLY.

3.13 VALVES

- A. 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 valve boxes.
B. 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.

3.14 VALVE BOXES

- A. 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.
B. 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.
C. Valve boxes shall be installed in shrub planters, not in turf areas whenever possible, unless otherwise approved.

3.15 AUTOMATIC CONTROLLER LOCATION AND INSTALLATION

- A. The automatic controller shall be installed at the approximate location shown on the Plan, unless otherwise instructed by the County's Representative.
B. All local and other applicable codes shall take precedence in connecting the 100 volt electrical services to the controller. Owner shall provide power to controller. Irrigation Contractor shall complete hook-up to controller.
C. There shall be adequate coverage of earth (18" minimum) over the 24-volt control wire. Bundle and tape wires at 15' O.C. and install adjacent to mainline.

3.16 CONTROL WIRE

- A. All electrical equipment and wiring shall comply with local and state codes and be installed by those skilled and licensed in the trade.
B. Connecting and splicing of wire at the valves or in the field shall be made using Rain Bird Pen-Tite connectors.
C. Three (3) feet long Pig-Tail wire splices shall be allowed only at 1500 ft. intervals. The wire splices shall be enclosed in an RCV Box with cover stenciled "E8" in yellow.

3.17 BACKFLOW PREVENTION UNITS

- A. The backflow prevention units shall be installed as shown on Plans and Details. Backflow prevention units shall be installed per local codes including certification.

3.18 FLUSHING THE SYSTEM:

After all new sprinkler pipe lines and risers are in place and connected, all necessary diversion work has been completed, and prior to installation of sprinkler heads, the control valves shall be opened and a full head of water used to flush out the system for a minimum of 5 minutes. Sprinkler heads shall be installed only after flushing of the system has been accomplished to the complete satisfaction of the County's Representative.

3.19 ADJUSTING THE SYSTEM

- A. Adjust the valves and alignment and coverage of all sprinkler heads. If it is determined that adjustments in the irrigation equipment or nozzle changer will provide proper and more adequate coverage, make all necessary changes or make arrangements with the manufacturer to have adjustments made, prior to any planting. These changes or adjustments shall be made without additional cost to the Owner.
B. The entire system shall be operating properly before any planting operations commence.

3.20 COVERAGE TEST:

When the sprinkler system is completed, perform a coverage test in the presence of the County's Representative to determine if the water coverage for planting areas is complete and adequate. Furnish 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 as indicated on the drawings when it is obviously inadequate, without bringing to the attention of the County's Representative. This test shall be accomplished before planting begins.

3.21 HYDROSTATIC TEST:

All hydrostatic tests shall be made only in the presence of the County's Representative, or other duly authorized representative of the County. 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 hours.

3.22 COMPLETION

- A. Upon completion of the work, make ground surface level, remove excess materials, rubbish, debris, etc., and remove construction and installation equipment from the premises.
B. Supply as part of this contract the following tools:
- Two wrenches for disassembling and adjusting each type of sprinkler head supplied.
- Two keys for each automatic controller.
- Four quick coupler keys with attached hose swivels.
- Four (4) of each of all types of sprinkler heads and nozzles.
- Two keys for enclosure lock.
- Two cover lifting tools for valve boxes.
C. The above equipment shall be turned over to the County at the conclusion of the project. Before final acceptance can occur, evidence that the Owner has received materials must be shown to the County's Representative.

PART 4 - RECORD DRAWINGS, CHARTS & MANUALS

4.01 RECORD DRAWINGS

- A. Record accurately on one set of black and white prints of the drawings, all changes in the work constituting departures from the original contract drawings, including changes in both pressure and non-pressure lines.
B. Upon completion of each increment of work, transfer all such information and dimensions to the prints. The changes and dimensions shall be recorded in a legible and workmanlike manner to the satisfaction of the County's Representative. When the drawings are approved, transfer all information to a set of reproducible drawings at cost by the County's Representative.

- C. Dimensions from two permanent points of reference (buildings, monuments, sidewalks, curbs, pavement, etc.). Locations shown on as-built drawings shall be kept day to day as the project is being installed. All dimensions noted on drawings shall be 3/8-inch in size.
D. Show locations and depths of the following items:
-Point of connection.
-Routing of sprinkler pressure lines (dimension maximum 100 feet along routing).
-Sprinkler control valves (buried only).
-Routing of control valves.
-Other related equipment (as may be directed by the County's Representative).
E. Quick coupling valves.
F. Maintain as-built drawings on site at all times.
G. Make all changes to reproducible drawings in ink. If necessary, use eradicating fluid when redrawing drawings.

4.02 CONTROLLER CHARTS

- A. As-built drawings must be approved by the County's Representative before charts are prepared.
B. Provide one controller chart for each controller supplied, of the maximum size the controller door will allow, showing the area covered by the automatic controller. The chart is to be a reduced drawing of the actual as-built system. However, in the event the controller sequence is not legible when the drawing is reduced, it shall be enlarged to a size that will be readable when reduced. The chart shall be a blackline print and a different color shall be used to show the area of coverage for each station.
C. When completed and approved, the chart shall be hermetically sealed between two pieces of plastic, each piece being a minimum 20 mils. thick. The chart shall be mounted using Velcro or approved equal type of tape.
D. These charts must be completed and approved prior to final inspection of the irrigation system.

4.03 OPERATION AND MAINTENANCE MANUALS

- A. Prepare and deliver to the County'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. Each complete, bound manual shall include the following information:
1. Index sheet stating Contractor's address and telephone number, duration of guarantee period, list of equipment with names and addresses of local manufacturers.
2. Complete operating and maintenance instructions on all major equipment.
B. In addition to the above maintenance manuals, provide the maintenance personnel with instructions for major equipment and show written evidence to the County's Representative at the conclusion of the project that this service has been rendered.

PART 5 - GUARANTEES

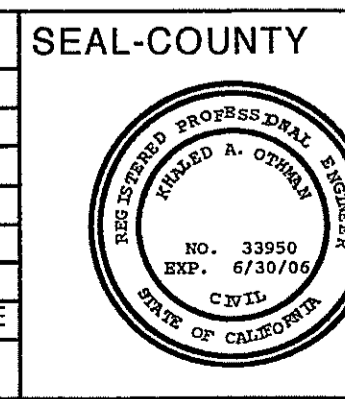
- A. The entire sprinkler system shall be unconditionally guaranteed by Contractor as to material and workmanship, including settling of backfilled areas below grade for a period of one (1) year following the date of final acceptance of the work. Owner may exercise option to withhold part of final payment until the one year product/workmanship guarantee has elapsed from date of final acceptance.
B. If within one year from the date of completion, settlement occurs, and adjustments in pipes, valves and sprinkler heads or paving is necessary to bring the system or paving to the proper level of the permanent grades, contractor, as part of the work under his contract, shall make all adjustments without extra cost to Owner, including the restoration of all damaged paving, paving or other improvements of any kind. Should any difficulties develop within the specified guarantee period which County feels may be due to inferior material and/or workmanship, these difficulties shall be immediately corrected by Contractor to the satisfaction of County at no additional cost to Owner, within 48 hours of written notice, including any and all other damage caused by such defects. Failure of Contractor to respond in a timely manner to repair damaged conditions, shall prompt owner to repair same and deduct costs of labor, material and equipment used from Contractor's final payment.
C. The County reserves the privilege of making any emergency repair without relieving Contractor's warranty obligations.
D. Written guarantee shall be supplied in the completion of the project, showing date of completion

END OF SECTION

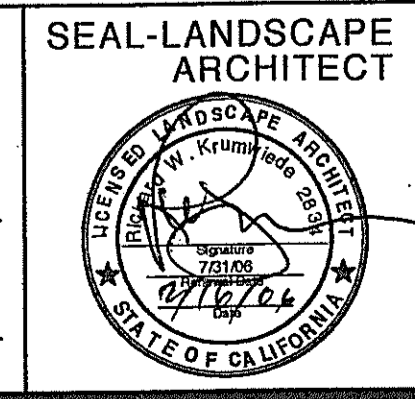
HOLD HARMLESS & INDEMNIFICATION CLAUSE:

CONTRACTOR AGREES TO ASSUME SOLE 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/DEVELOPER, THE COUNTY OF LOCAL JURISDICTION AND THE LANDSCAPE DESIGNER HARMLESS FROM ANY AND ALL LIABILITY OR ALLEGED IN CONNECTION WITH THE PERFORMANCE OF WORK ON THIS PROJECT, EXCEPTING FOR LIABILITY ARISING FROM SOLE NEGLIGENCE OF THE OWNER/DEVELOPER, COUNTY OF LOCAL JURISDICTION AND THE LANDSCAPE DESIGNER.

Table with columns: DATE, BY, MARK, ENGINEER, REVISIONS, APPR. DATE, COUNTY



COUNTY OF RIVERSIDE TRANSPORTATION DEPARTMENT APPROVED BY: KHALED A. OTHMAN, P.E. R.C.E. 33950 EXP. 6-30-06 DATE



LANDSCAPE ARCHITECTURE SITE PLANNING 10221-A Trademark Street Rancho Cucamonga, CA 91730 Tel: (909) 484-2800 Fax: (909) 484-2802 Richard Krummholz A.L.C. # 29115 W.L.C. # 29115 TX Lic. #1824 PREPARED BY: KPF R.L.A. NO. 2834 DATE: 7/19/05

VALLEY-WIDE RECREATION AND PARK DISTRICT SAMUEL W. GOEPP DATE: 7/27/06

HIDDEN MEADOWS TRACT NO. 30948, I. P. NO. 030095 VALLEY-WIDE REC. AND PARK DISTRICT IRRIGATION SPECS. FOR: FORECAST HOMES JOB # 0352-3 COUNTY FILE NO.

SHEET NO. 12 OF 14 SHEETS



**PLANTING**  
**PART 1 - GENERAL**

**1.01**  
Refer to standard contract documents for non-technical contractual requirements and conditions.

**1.02 SCOPE**

- A.** Work included: All labor and materials, appliances, tools, equipment, facilities, transportation, and services necessary for and incidental to performing all operations in connection with furnishing, delivery, and installation of "landscaping", complete, as shown on the drawings and/or specified herein. Work includes, but is not limited to the following:
1. Provide the fine grading in all areas to be planted.
  2. Furnish and apply weed control to all planting areas.
  3. Preparation of soil in all planting areas per soils analysis.
  4. Furnish and install all plant materials.
  5. Stake trees.
  6. Furnish and install sodded lawn.
  7. Furnish and install redwood header board.
  8. Furnish and apply bark mulch.
  9. Pruning of nursery stock.
  10. Maintenance of all plantings until end of maintenance period and acceptance.
  11. Guarantee of materials and workmanship.

- B.** Related work specified under other contracts (copies available from the County).
1. Concrete sidewalks and curbs.
  2. Asphalt paving.
  3. Rough grading.
  4. Electrical.

**C.** Verification of Plant Quantities: Quantities given for plant materials are shown for convenience only. The Contractor shall provide all plants shown on the plans.

**PART 2 - MATERIALS**  
**2.01 MATERIALS:**

If requested, samples of soils additives and plants shall be submitted for inspection and stored on the site until furnishing of materials is completed. Delivery may begin upon approval of samples, or as directed by the County's Representative. A copy of delivery slips on all materials used on project shall be forwarded to the Owner's Representative. Substitutions in any material will not be permitted unless specifically approved in writing by the County's Representative.

- A.** Soil and Soil Amendments:
1. Fertilizer for soil conditioning and maintenance shall bear the manufacturer's guaranteed analysis, and shall be as recommended in the required soils laboratory report.
  2. Fertilizer plant tablets shall be "AGRIFORM SLOW RELEASE" to be applied per Manufacturer's Specifications.
  3. Application rates:  
Apply 21 gram agriform tablets at the following rates per plant by size:  
Shrubs:  
-1 gal. shrub - 1 tablet  
-5 gal. shrub - 3 tablets  
-15 gal. & 24" box shrubs - 1 tablet for each 1/2" of trunk Diameter or each foot of height or spread.  
Trees:  
Apply one 21 gram agriform tablet for each 1/2" of trunk diameter or each foot of height or spread.  
Ground Cover:  
Apply one 5 gram agriform tablet per rooted ground cover cutting. Refer to Manufacturer's Specification for installation procedure.
  4. Organic amendment shall be nitroized redwood sawdust (5% actual nitrogen, or Fir Bark 1% nitrogen). It shall be fine textured, having minimum 80% passing #8 screen and minimum 95% passing #4 mesh screen. Salinity shall be no higher than 3.5 millimhos per centimeter at 25 Centigrade as measured by saturation. Fines shall not be used as an organic amendment.

- B.** Plant Materials
1. Quality and size of all plants shall conform to the California Standard Grading Code of nursery stock and shall be No. 1 grade. Plants shall be vigorous, or normal growth, free from disease, insects, insect eggs and larvae. All plants shall equal or exceed any measurements specified and shall be supplied from the source indicated when a source is specified.
  2. Container stock shall have grown in containers for at least one year, but not over two years. Samples shall be shown to prove that no rootbound conditions prevail. No container plants that have cracked or broken balls of earth, when taken from container, shall be planted except on special approval from the County's Representative.
  3. Nomenclature conforms to customary nursery usage. For clarification, the term "multi-trunk" defines a plant having a minimum of three trunks and a maximum of five trunks of nearly equal diameter.
  4. Inspections: All plant materials must have been previously inspected at the nursery by a State or County Horticultural Department, and shall be subject to the inspection and approval of the Landscape Architect before planting.

**a.** Inspection of Plant Material: Inspection of plant materials required by City, County, State, or Federal authorities shall be the responsibility of the Contractor and where necessary he shall have secured permits or certificates prior to delivery of plants to the site.

**b.** Plants shall be subject to inspection and approval or rejection at place of growth and on the project site at any time before and during progress of work or during the maintenance period. Poor condition, latent defects, injuries, and improper size, variety, and shape shall be cause for rejection. Rejected plants shall be removed from the project site immediately.

**5.** Substitutions for the indicated plant materials will be permitted provided the substitute materials are approved in advance by the Landscape Architect and the substitutions are made at no additional cost to Owner. Except for authorized variations, all substitute plant materials shall conform to the requirements of these specifications. If the accepted substitute materials are of a less value than those indicated or specified, the Contract price will be adjusted in accordance with the provisions of the Contract.

**C. Tree support materials:**

1. Stakes for tree support shall be lodgepole pine free from knots, rot, cross grain or other defects that would impair strength. Stakes shall be pressure treated with pentachlorophenol, and a minimum of 2" diameter by 8'-0" long and pointed at one end.
2. Ties for holding trees shall be "cinch-tie" or approved equal. "Cinch-tie" manuf. by V.I.T. Products, 15561 Product Lane, D-4, Huntington Beach, CA 92649.
3. Tree guying materials shall be as follows:  
(a) Ground anchors for guying shall be redwood per detail.  
(b) Guying wire shall be 12 gauge annealed galvanized steel.  
(c) Guying cable shall be a minimum of two strands, making a 3/16" diameter steel cable.  
(d) Hose chafing guards shall be new or used 2-ply, one half inch (1/2") reinforced rubber or plastic hose and shall be all the same color on the project. Length shall be one and one-half times the circumference of the plant at its base.  
(e) Guying cable shall be covered with 3/8" dia x 3' long white PVC tubing.  
(f) Turnbuckles shall be galvanized or cadmium-plated steel and have a 3" minimum lengthwise opening fitted with screw eyes.  
(g) Duckbill 88-OTS earth anchor may be used as an alternate to the guying materials specified above manuf. by Foresight Products, Inc. North Glen, Colorado, (1-800) 325-5360.

**D.** Mulching: Weed control mulch shall consist of processed "FOREST FLOOR 0-2" wood fiber material equal to or supplied by Aquinaga Fertilizer Co. 7992 Irvine Blvd. Irvine, CA 92708 Ph. # (714) 786-9558 Fax # (714) 786-3574. Submit sample of any alternative material prior to purchase and/or placement for County's Representative's approval.

**E.** Header board/Mowstrip: See details.

**F.** Herbicides:

1. Herbicides used must comply with all applicable State and Federal laws and be registered with the U.S. Environmental Protection Agency. Herbicide control shall be:  
(a) Pre-emergence application of "Treflan 5% Granules" or equivalent, applied according to manufacturer's recommendations and incorporated into soil as specified.  
(b) Post-emergence application of "Round-up" or equivalent, applied as specified by manufacturer. Spray with extreme care to avoid contact with landscape plantings.

**PART 3 - EXECUTION**  
**3.01 GENERAL PREPARATION**

- A.** Commence work as directed by the County's Representative and conduct operations continually to completion unless weather conditions are unfavorable. All work shall conform to high standards of practice within the trade.
- B.** Clean up and remove from planting areas all existing plant material not removed under the general site construction contract, including roots and any accumulated debris and rubbish before commencing work. Legally dispose of such materials off the site.
- C.** Underground Obstructions to Planting:
1. If underground utilities, construction or solid rock ledges are encountered, other locations for planting may be selected by the County's Representative. Damage to utility lines shall be repaired at the Contractor's expense at no additional cost to the Owner or Tenant.
- D.** Protection of Existing Vegetation:
1. If lawns have been established prior to planting operations, the surrounding turf shall be covered in a manner that will protect turf areas before excavations begin.
- E.** Storage: Store plants and materials on the project site, and ensure that they are protected from damage by sun, rain, wind, theft, vandalism, and construction work. Water plants regularly.

**3.02 INSPECTION OF WORK IN PROGRESS**

- A.** Installations and operations in progress must be approved at various stages by the County's authorized Representative. The county transportation inspector will inspect parkway planting of all roads.
- B.** In no event shall the Contractor proceed from one state to another of the work, without prior approval of the County's authorized Representative.
- C.** The Contractor must notify the County's authorized Representative for inspections of the following stages of work:

1. When all grading within planting areas has been completed.
2. When all plants are ready to be delivered at the nursery or when plants have been delivered to the site and prior to any planting.
3. When all trees and shrubs have been spotted on the site where shown on the drawings.
4. When all tree and shrub pits have been excavated after water has leached out of the pits.
5. When weed germination and removal is complete, and seedbed is prepared but prior to installation of seed.

**3.03 FINE GRADING**

- A.** The Contractor shall import as required. The Contractor's bid shall indicate the total in-place cost of required import. No additional charges will be allowed.
- B.** The soil shall not be worked when moisture content is so great that excessive compaction will occur, nor when it is so dry that dust will form, or clods not readily break up.
- C.** The Contractor shall be responsible for dust control in areas within the scope of this contract.
- D.** Rip in two directions to the depth of 12" on all areas upon which fill will be placed.
- E.** Rough grade requirements shall allow for soil amendments. Coordinate with General Contractor.
- F.** Bring to the attention of the County's authorized Representative all soil in planting areas that contain any deleterious substances such as oil, plaster, concrete, gasoline, paints, solvents, etc.. Upon the approval of the Owner's authorized Representative, remove and dispose of all above mentioned soil to the level of dryness in the affected areas. The affected soil shall be replaced with native soil. If the Contractor fails to notify County's authorized Representative of the above-mentioned soil, the Contractor shall be responsible for any damage to installed plants caused by such substances.
- G.** If an area to be landscaped is not acceptable to the Contractor, he shall notify the County's Representative.
- H.** Finish grade all planting areas to a smooth and even conditions, making certain that no water pockets or irregularities remain. Remove and dispose of all foreign materials, clods and rocks over one inch in diameter within six inches of the surface so that, after conditions and planting, the finish grade in shrub and in groundcover areas is 3" below the top of all curbs and 1" below the top of all walks.
- I.** Omit rototilling on slopes 2 to 1 or greater in ratio. Instead, lightly hand scarify the soil. Refer to Drawings for sloped areas, if any.
- J.** Patch all areas having damage from erosion and soil related earth moving to create a smooth and regular surface for planting. Final grade to be approved by County's Representative.

**3.04 SOIL CONDITIONING (also see Fine Grading Section)**

- A.** Broadcast the recommended soil additives per 1,000 square feet and cultivate to a depth of 6" based upon required soils and plant laboratory report. It is the Contractor's responsibility to obtain soils tests. Soils analysis shall be done by Soils & Plant Laboratory, Inc. 412 S. Lyon, Santa Ana, CA (714) 559-8333. Copies of the report shall be sent to the Owner's Representatives.
- B.** For bidding purposes when no soils report is available in all planting areas the following application shall be made per 1,000 square feet of area and shall be thoroughly cultivated in two directions into the top 6" of soil, and the area watered down:  
3 CU. YDS. nitroized wood shavings  
20 LBS. 12-12-12 commercial fertilizer (Best Products or equal)  
100 LBS. AG. gypsum  
10 LBS. soil sulfur  
20 LBS. iron sulfate
- C.** For bidding purposes where no soils report is available, prepare soil mix for backfill in pits for trees, shrubs and vines, other than azaleas, ferns and palms, as follows:  
2/3 YD screened site soil  
1/3 YD nitroized wood shavings  
1 LB. 12-12-12 commercial fertilizer  
10 LBS. AG. Gypsum  
1 LB. Soil sulfur  
2 LBS. iron sulfate
- D.** Planting pits shall be excavated one and one-half the diameter and 12" below the rootball depth for trees, 6" for shrubs. (Refer to planting details).  
Prepare soil mix for back fill in pits for azaleas, camellias, ferns and other plants (as specified) as follows:  
1/3 Washed Plaster sand  
1/3 Canadian Peat Moss  
1/3 Lornite or Forest Humus
- E.** Backfill mix for Palms shall be concrete sand. (Refer to details)
- F.** The prepared soil shall be uniformly blended in an area adjacent to the planting work and shall be accurately proportioned using a suitable measuring container. Unused excavated soil shall be removed from site. Protect the mix from water until it has been placed in backfill around plants.

**3.05 WEED CONTROL/ABATEMENT**

- A.** Weed abatement: after earthwork, installation of irrigation system, and soil preparation, but prior to planting, perform weed abatement program to all planting areas as follows:
1. Hydroseded or hand seeded planting areas:  
a. Apply sulfate of ammonia at the rate of 5 lbs. per 1,000 Sq. Ft. to all areas be planted.  
b. Keep area moist by regular irrigations for a period of two (2) weeks to germinate existing weed seeds.

- c.** At the end of two weeks, apply "Round-Up" or equal systemic herbicide. Do not irrigate within six (6) hours after application. Herbicide shall be applied by an individual with appropriate license, refer to MFG specifications for period of time required from time of application to time of implementing planting. After complete weed kill, remove all weed residue and top growth and dispose of in a legal manner. Alternative methods of weed kill for item C may be Vapam or Methyl Bromide applied per licensed herbicide agency and specifications.
- 2.** Shrub and hand planted ground cover areas:  
a. Apply pre-emergent weed control chemicals to hand planted groundcover areas. Do not apply to areas to be seeded.  
b. Proceed with installation of shrubs and groundcover after removal of any weeds by cultivation.
- B.** The Contractor shall be responsible for control of weeds in all landscape areas through the final acceptance of the work. Any selective weed control spray or physical weed removal shall be the Contractor's responsibility and the Contractor shall repair any damage resulting from weed control activity.
- C.** All herbicides shall be applied only by a licensed herbicide application agency. No herbicides shall be applied without first obtaining written approval from the city inspector.

**3.06 PLANTING SHALL BE DONE AS FOLLOWS:**

- A.** Planting of Trees
1. Position plants in plant locations indicated on drawings and secure approval before excavating pits, making necessary adjustments as indicated.
  2. All pits for trees shall be dug square with bottom level, the length of sides and depth equal to one and one-half times the diameter of the tree ball. Compacted soil at sides and bottoms shall be loosened by scarifying or other approved method. Pits shall be backfilled with "native soil" to a depth of 12". The balance of the pit filled with "amended soil", thoroughly settled by water application. (Refer to planting details and spacing details)
  3. Set plants in center of pit, in a vertical position, so that crown of ball will be level with finish grade after allowing for watering and settling and shall bear the same relationship to the finish grade that it did to the soil surface in the container.
  4. Prepare depressed water basin as wide as plant balls at each plant. Water thoroughly, backfilling any voids with additional prepared planting mix.
- B.** Planting Vines, Shrubs and Groundcovers
1. Vines and shrubs shall be planted in pits at least one and one-half times greater than the diameter of the rootball and at least 6" below the bottom of the ball. Compacted soil at bottom of pit shall be loosened and the pit filled with "native soil" to the bottom of the ball. When the plant has been properly set, the pit shall be filled to the required grade with "amended soil" and thoroughly settled by tamping and watering. All vines shall be removed from stakes, unfiled, and securely fastened in an approved manner to the wall, fence or other surface next to which they are planted. (Refer to planting details)
  2. Prepare a depressed water basin as wide as plant balls at each plant. Water thoroughly, backfilling any voids with additional prepared planting mix.
  3. Ground Covers  
(a) Pits for flat sized plants to be at least 4" x 4" x 4". Ground cover areas shall be moistened prior to planting. No flatted liner, or potted plants shall be planted in dry soil.  
(b) Set plants in center of pits so that crown of plant will be level with finished grade after settling of soil, then backfill, and water. (Refer to spacing detail)  
(c) Flatted plants shall be well-rooted with runners at least 4" but not more than 6" in length.
- 3.08 HYDROSEEDING**
- A.** Slope areas: Refer to planting plan and slope mix designs for types and amount of seeds to be used. Alternate seed mixes may be used only upon approval of the Landscape Architect or the Owner's Representative. The designed slurry mixes shall be applied by an approved hydromulch company. Designed slurry mixes will be either irrigated or non-irrigated slope conditions. (Refer to plans and seed mix designs). Each container of slurry mix shall be applied within a 2 hour time limit, or be rejected and removed at Contractor's expense.
- B.** Turf Areas: The designed seed and slurry mix shall be applied in designated areas by an approved hydromulch company within a 2 hour time limit per container mix. (Refer to Planting Plan and Legend). Where applicable, a substitute seed mix may be used only upon approval of the Landscape Architect or County's Representative.
- C.** Daily Work Sheets: Daily work sheets shall be signed by the Nozzlemen and sent to the County's Representative for payment approval. The following information shall be recorded:

1. Seed - types, amounts
  2. Fertilizer - analysis, amount
  3. Mulch - type, amount
  4. Seeding additive - type, amount
  5. Number of loads - amount of water
  6. Area covered - in acres
  7. Equipment used - capacity and license number
- D.** Protection/Clean-up: Prevent and/or clean-up overspray onto concrete reservoirs, drainage ditches, channels, structures, roads and walkways. Overspray and spillage onto restricted areas shall be removed the same day at Contractor's expense to the satisfaction of the County's Representative.

**3.09 STAKING (See Staking Details)**

- A.** Stakes shall be driven into the ground in such a way as to minimize damage to the ball of the tree, and shall be placed so that the tree will blow away from the stakes, except where such placement will cause damage by parked cars.
- B.** Form loops around trunk with "cinch-ties", and securely attach through stake(s) in at least 2 places at the top of the stake so that slippage cannot occur. (Refer to Detail)

**3.10 GUYING**

Trees 36" box size or larger, shall be immediately guyed after planting with four guys per tree. (Refer to Detail)

**3.11 PRUNING:**

Pruning of nursery stock shall not be done prior to delivery. All plants shall be pruned according to standard horticultural practice by a qualified arborist approved by the County's Representative. All cuts shall be covered by an application of "Tree Seal" or equal, colored to match trunk. Do not use lead base paint.

**3.12 MULCHING:**

- A.** All planting areas (except as noted) shall be mulched (top dressed) with a minimum of 2" depth layer of "Forest Floor 0-2 inch" wood fiber material. Remove mulch falling on hard-surface areas.

**3.13 CLEAN-UP**

- A.** During the course of the work and at its conclusion, remove surface material from the site and leave the premises in a neat and clean condition.
- B.** Remove all tags, labels, nursery stakes and ties from all plants.

**3.14 PROTECTION**

Contractor shall carefully and continuously protect all areas included in the Contract, including plant materials, fences, supports, public safety, etc., until final acceptance of the work by the County's Representative.

**3.15 MAINTENANCE**

- A.** Maintenance operations shall begin immediately after each plant is planted and shall be continued satisfactorily for a period of 90 days after the time all items of work have been completed as specified herein and to the satisfaction of the County's Representative.
- B.** During the maintenance period specified in paragraph A. above, all plants in planted areas shall be kept watered at all times; weeds shall be removed and disposed of; basins and depressions shall be maintained and cultivated and kept well formed around trees and shrubs; paper and debris shall be regularly removed from planters; and water system shall be maintained and repaired; rodents shall be controlled; and the entire project shall be so cared for that a neat and clean condition is presented at all times. Keep walks and curbs swept clean. Legally dispose of excess materials including paper and debris in planted areas.
- C.** Maintain a sufficient number of men and adequate equipment to perform the maintenance work hereinafter specified during the time of planting until completion of the maintenance period and acceptance by the County.
- D.** An application of fertilizer shall be made to all landscape areas just prior to the completion of the maintenance period according to the recommendations for the required soils laboratory report.
- E.** A written notice requesting a pre-maintenance inspection shall be received by the County's Representative at least 5 days to completion of the project.
- F.** A written notice requesting final inspection shall be received by the County's Representative at least 5 days prior to completion of maintenance period.
- G.** The Contractor shall make a periodic inspection of plant materials until the end of the guarantee plant period. If unfavorable conditions exist which might be harmful to the guaranteed plant, the Contractor shall notify the County in writing of the condition, or he may be held responsible under the guarantee.
- H.** Pre-maintenance inspection and final inspections are to be held with the understanding that the project has been reviewed by the principals of the responsible Contractor in advance of the review by the County's Representative and/or County. Discrepancies noted during this advance review are to be corrected before the project receives these official inspections.
- I.** The Landscape Contractor shall refer to the Landscape Maintenance Manual for further maintenance requirements (if applicable).

**PART 4 - GUARANTEES**

**4.01 GUARANTEE**  
All shrubs and groundcover shall be guaranteed by Contractor as to growth and health for period of ninety (90) days after completion of the specified maintenance period, and/or final acceptance by the County's Representative. All trees up to 24" box size shall be guaranteed by Contractor to live and grow in an acceptable upright position for a period of six (6) months after completion of the specified maintenance period, and/or final acceptance by the County's representative. Trees in 24" boxes or larger, and all field grown specimens shall be guaranteed by Contractor to live and grow in an acceptable upright manner for a period of one (1) year after completion of the specified maintenance period, and/or final acceptance by the County's representative.

**4.02 REPLACEMENT STOCK**

All replacement stock shall be subject to the same warranty requirements as the original stock. Any damage due to replacement operations shall be repaired by the Landscape Contractor. At the end of the warranty period, inspections shall be made jointly by the County's Construction Representative, Developer, Tenant and Landscape Contractor. All plants and lawn areas not in a healthy growing condition shall be removed and replaced with plants and grasses of a like kind and size before the close of the next planting season.

END OF SECTION

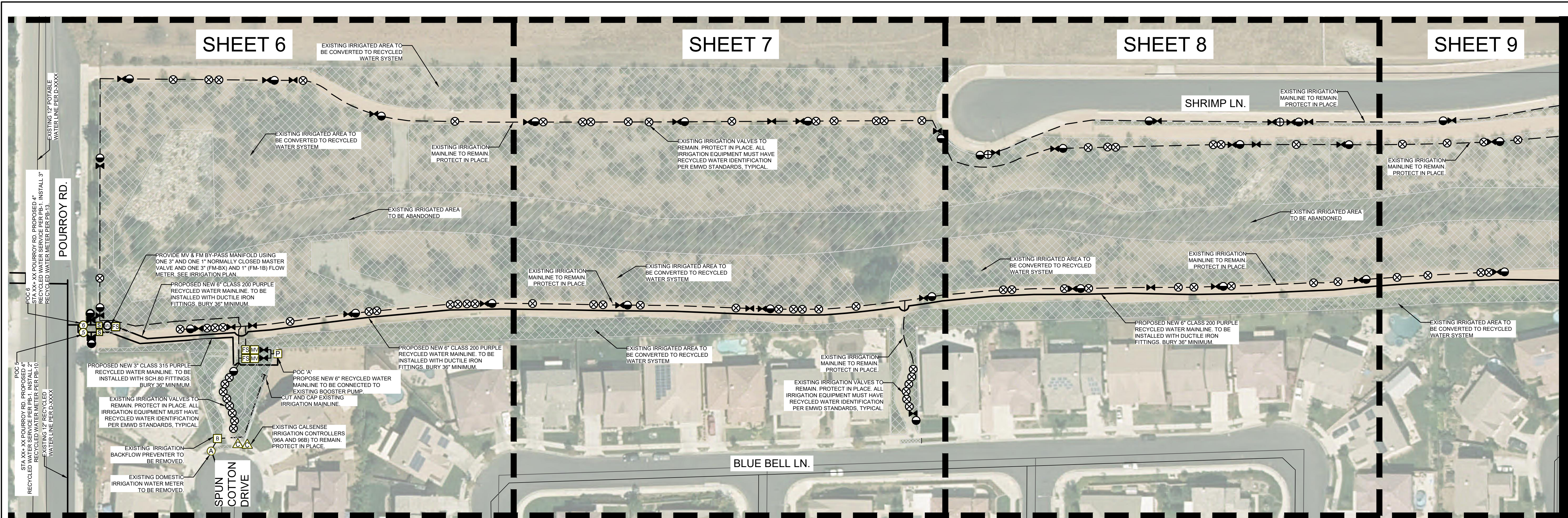
NOTE:  
APPROVAL BY THE TRANSPORTATION DEPARTMENT IS FOR THE AREA WITHIN THE RIGHT-OF-WAY ONLY.

<p><b>HOLD HARMLESS &amp; INDEMNIFICATION CLAUSE:</b></p> <p>CONTRACTOR AGREES TO ASSUME SOLE 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/DEVELOPER, THE COUNTY OF LOCAL JURISDICTION AND THE LANDSCAPE DESIGNER HARMLESS FROM ANY AND ALL LIABILITY REAL OR ALLEGED IN CONNECTION WITH THE PERFORMANCE OF WORK ON THIS PROJECT, EXCEPTING FOR LIABILITY ARISING FROM SOLE NEGLIGENCE OF THE OWNER/DEVELOPER, COUNTY OF LOCAL JURISDICTION AND THE LANDSCAPE DESIGNER.</p>	DATE	BY	MARK	REVISIONS	APPR.	DATE	SEAL-COUNTY	COUNTY OF RIVERSIDE TRANSPORTATION DEPARTMENT APPROVED BY: KHALED A. OTHMAN, P.E. R.C.E. 33950 EXP. 6-30-06	DATE	SEAL-LANDSCAPE ARCHITECT	LANDSCAPE ARCHITECTURE SITE PLANNING 10221-A Trademark Street Rancho Cucamonga, CA 91730 Tel: (909) 494-2800 Fax: (909) 494-2802 Richard Krumholz CA Lic. #20115 AZ Lic. # 20115 NV Lic. # 20115 TX Lic. #1854	VALLEY-WIDE RECREATION AND PARK DISTRICT	HIDDEN MEADOWS TRACT NO. 30948, I. P. NO. 030095 VALLEY-WIDE REC. AND PARK DISTRICT PLANTING SPECS.	SHEET NO. 13 OF 14 SHEETS
	DATE	BY	MARK	REVISIONS	APPR.	DATE	COUNTY	DATE	DATE	R.L.A. NO. 2834 DATE 7/19/05	SAMUEL W. GOEPP	FOR: FORECAST HOMES	JOB # 0352-3	COUNTY FILE NO.









MATCHLINE SEE INDEX MAP SHEET 3

POC METER DATA TABLE	
WATER METER #5	
P.O.C. DESIGNATION	5
STREET STATION	XXX+XX
SERVICE LATERAL LINE SIZE (IN)	4"
RECYCLED WATER METER SIZE (IN)	2"
EMWD METER DETAIL REFERENCE NUMBER	PB-1 and PB-10
DESIGN MAX FLOW (GPM)	100
CHEMICAL INJECTION SYSTEM (Y/N)	NO
BOOSTER PUMP (PSI BOOST)	XX
METER ELEVATION (FT)	XXXX
PRESSURE RANGE (PSI)	0 PSI
DESIGN PRESSURE (PSI)	XX PSI
TOTAL AREA SERVED (SF)	278,000 SF
ANNUAL WATER USAGE (ACRE/FT)	8 AF/YR
EMWD REFERENCE DRAWING NUMBER	D-XXXX
INITIAL SOURCE OF WATER SUPPLY	RECYCLED
IRRIGATION TYPE (DRIP, SPRAY, ROTOR, ETC)	SPRAY/ROTOR
WATER WINDOW RESTRICTED	YES

POC METER DATA TABLE	
WATER METER #6	
P.O.C. DESIGNATION	6
STREET STATION	XXX+XX
SERVICE LATERAL LINE SIZE (IN)	4"
RECYCLED WATER METER SIZE (IN)	3"
EMWD METER DETAIL REFERENCE NUMBER	PB-1 and PB-13
DESIGN MAX FLOW (GPM)	400
CHEMICAL INJECTION SYSTEM (Y/N)	NO
BOOSTER PUMP (PSI BOOST)	XX
METER ELEVATION (FT)	XXXX
PRESSURE RANGE (PSI)	0 PSI
DESIGN PRESSURE (PSI)	XX PSI
TOTAL AREA SERVED (SF)	545,100 SF
ANNUAL WATER USAGE (ACRE/FT)	32 AF/YR
EMWD REFERENCE DRAWING NUMBER	D-XXXX
INITIAL SOURCE OF WATER SUPPLY	RECYCLED
IRRIGATION TYPE (DRIP, SPRAY, ROTOR, ETC)	SPRAY/ROTOR
WATER WINDOW RESTRICTED	YES

Dynamic Pressure Loss Calculation				
Client Name:	VALLEY-WIDE RECREATION AND PARK DISTRICT			
Project Name:	SHRIMP LANE, WINCHESTER, CA			
Water Meter / POC No.:	5			
Domestic / Recycled:	RECYCLED			
Static Pressure:	53 psi			
Water Source & Phone #:	EMWD (951) 928-3777			
Date:	March 9, 2018			
Valve Station No.:	J-10			
Valve Flow Rate:	52 gpm			
Equipment	Size	Flow	Length / Qty.	PSI Loss
Water Meter	2 in.	100 gpm	N/A	7.8 psi
Basket Strainer	3 in.	100 gpm	N/A	2.0 psi
Mainline (PVC)	3 in.	100 gpm	300 ft.	3.2 psi
Mainline (PVC)				0.0 psi
Mainline (PVC)				0.0 psi
Master Valve	2 in.	100 gpm	N/A	3.2 psi
Flow Meter	2 in.	100 gpm	N/A	0.2 psi
Gate Valve	4 in.	100 gpm	5	2.0 psi
Remote Control Valve	1 1/2 in.	52 gpm	N/A	3.6 psi
Lateral Line	VARIES	VARIES	VARIES	4.0 psi
Fittings (Estimate 10%)	N/A	N/A	N/A	2.6 psi
Elevation Change				
Pressure Req. to Operate Heads				
Total Pressure Required				
Booster Pump Design Boost				
Available Residual Pressure				

Dynamic Pressure Loss Calculation				
Client Name:	VALLEY-WIDE RECREATION AND PARK DISTRICT			
Project Name:	SHRIMP LANE, WINCHESTER, CA			
Water Meter / POC No.:	6			
Domestic / Recycled:	RECYCLED			
Static Pressure:	53 psi			
Water Source & Phone #:	EMWD (951) 928-3777			
Date:	March 9, 2018			
Valve Station No.:	H-7 @ FIELD VIEW PARK			
Valve Flow Rate:	63 gpm			
Equipment	Size	Flow	Length / Qty.	PSI Loss
Water Meter	3 in.	400 gpm	N/A	13.0 psi
Basket Strainer	3 in.	400 gpm	N/A	2.0 psi
Mainline (PVC)	6 in.	400 gpm	3,000 ft.	13.8 psi
Mainline (PVC)	3 in.	100 gpm	900 ft.	9.5 psi
Mainline (PVC)	3 in.	63 gpm	1,500 ft.	6.2 psi
Master Valve	3 in.	400 gpm	N/A	10.7 psi
Flow Meter	3 in.	400 gpm	N/A	0.3 psi
Gate Valve	3 in.	400 gpm	5	2.0 psi
Remote Control Valve	2 in.	63 gpm	N/A	4.8 psi
Lateral Line	VARIES	VARIES	VARIES	4.0 psi
Fittings (Estimate 10%)	N/A	N/A	N/A	6.6 psi
Elevation Change				
Pressure Req. to Operate Heads				
Total Pressure Required				
Booster Pump Design Boost				
Available Residual Pressure				

**EMWD STANDARD NOTE**

CONSTRUCTION NOTE  
EASTERN MUNICIPAL WATER DISTRICT REQUIRES THAT A PRE-CONSTRUCTION CONFERENCE BE SCHEDULED PRIOR TO ANY CONSTRUCTION BY CALLING THE EASTERN MUNICIPAL WATER DISTRICT FIELD ENGINEERING DEPARTMENT AT (951) 928-3777, EXTENSION 4830.

**INSTALLATION NOTES**

- THE RECYCLED WATER IRRIGATION SYSTEM SHOWN ON THESE PLANS SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE MOST RECENT EDITION OF THE EASTERN MUNICIPAL WATER DISTRICT STANDARDS AND SPECIFICATIONS FOR DEVELOPER'S PROJECTS.
- HOSE BIBS ARE STRICTLY PROHIBITED ON RECYCLED WATER IRRIGATION SYSTEMS. POTABLE QUICK COUPLERS ARE NOT ALLOWED WITHIN THE RECYCLED WATER IRRIGATION AREA.

**COLOR CODING NOTES**

- ALL IRRIGATION EMISSION DEVICES, SUCH AS SPRAY HEADS, ROTORS, BUBBLERS, DRIP EMITTERS, OR DRIP ASSEMBLIES SHALL BE IDENTIFIED WITH PURPLE IDENTIFICATION BODIES, COLLARS, CAPS, CONNECTORS, ADAPTERS, ETC. TO PERMANENTLY LABEL THE COMPONENTS AS EMITTING RECYCLED IRRIGATION WATER. THE PURPLE IDENTIFICATION SHALL BE EXPOSED TO THE SURFACE.
- ALL IRRIGATION RISERS, DRIP LINE, AND COMPONENTS THAT ARE NOT AVAILABLE FROM THE MANUFACTURE WITH PURPLE RECYCLED WATER IDENTIFICATION SHALL BE LABELED WITH RECYCLED WATER DECALS OR STICKERS.
- ALL IRRIGATION COMPONENTS AND VALVES MUST HAVE A RECYCLED WATER ID TAG AND A VALVE ID TAG IN A PURPLE VALVE BOX WITH A PURPLE LID. THE PURPLE LID SHALL BE HEAT BRANDED WITH THE VALVE LABEL.

RECYCLED WATER AND POTABLE WATER SEPARATION CLEARANCE NOTE  
THE RECYCLED WATER IRRIGATION MAINLINE IS SHOWN DIAGRAMMATICALLY FOR CLARITY PURPOSES ONLY. THE RECYCLED WATER IRRIGATION MAINLINE MUST:

- BE INSTALLED WITH A 4' (FOOT) MINIMUM HORIZONTAL CLEARANCE FROM ALL POTABLE WATERLINES AND FIRE LINES.
- BE INSTALLED WITH A 1' (FOOT) OF VERTICAL CLEARANCE AND BE LOCATED UNDER ALL POTABLE WATERLINES AND FIRE LINES.
- WHERE THE RECYCLED WATER IRRIGATION MAINLINES MUST BE INSTALLED ABOVE THE POTABLE WATERLINE, A 4" (INCH) MINIMUM VERTICAL CLEARANCE MUST BE MAINTAINED AND THE RECYCLED WATER IRRIGATION MAINLINE MUST BE INSTALLED IN A CONTINUOUS SLEEVE (PVC CLASS 200 PIPE MINIMUM) WHICH EXTENDS A MINIMUM OF 10' (FEET) EACH SIDE OF THE POTABLE WATERLINE OR FIRE LINE.

**RECYCLED WATER IRRIGATION LEGEND:**

SYMBOL	DESCRIPTION
	RECYCLED WATER SIGNAGE
	RECYCLED ISOLATION VALVE
	RECYCLED REMOTE CONTROL VALVE
	RECYCLED QUICK COUPLER VALVE
	RECYCLED IRRIGATION CONTROLLER
	RECYCLED IRRIGATION BOOSTER PUMP
	RECYCLED IRRIGATION WATER METER
	RECYCLED IRRIGATION MASTER VALVE
	RECYCLED IRRIGATION FLOW SENSOR
	RECYCLED IRRIGATION MAINLINE (PROPOSE)
	RECYCLED IRRIGATION MAINLINE (EXISTING)

**POTABLE WATER LEGEND:**

SYMBOL	DESCRIPTION
	POTABLE WATER METER
	POTABLE BACKFLOW PREVENTER
	POTABLE DRINKING FOUNTAIN
	POTABLE MAINLINE FOR DRINKING FOUNTAIN

**IRRIGATION SCHEDULING RUN TIME NOTE:**

PROPOSE NEW RECYCLED WATER POC #5 WILL SERVE EXISTING POTABLE WATER POC #A. IRRIGATION SCHEDULE FOR POC #A SHALL NOT EXCEED THE MAXIMUM FLOW OF 100 GPM AT ANY IRRIGATION DAY.

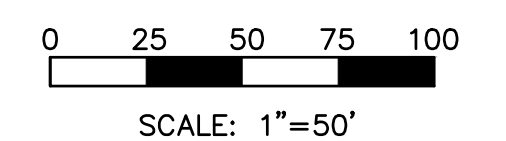
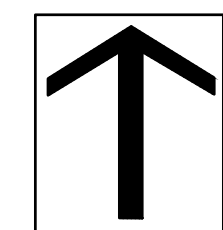
PROPOSE NEW RECYCLED WATER POC #6 WILL SERVE EXISTING POTABLE WATER POC #B, #C, #D AND #E. COMBINED IRRIGATION SCHEDULE FOR POC #B, #C, #D AND #E SHALL NOT EXCEED THE MAXIMUM FLOW OF 400 GPM AT ANY IRRIGATION DAY.

**RECYCLED WATER RETROFIT CONSTRUCTION NOTE**

CONTRACTOR TO REPLACE ALL EXISTING LIDS OF IRRIGATION VALVE BOXES THAT ARE CONNECTED TO NEW RECYCLED WATER SYSTEM TO PURPLE COLOR PER EMWD REQUIREMENTS.

**VALVE BOX NOTE:**

- CONTRACTOR TO REPLACE EXISTING LIDS OF IRRIGATION VALVE BOXES. VALVE BOX LID SHALL BE PURPLE AND HEAT BRANDED WITH REMOTE CONTROL VALVE STATION AND COMPONENT IDENTIFICATION.
- CONTRACTOR TO ADJUST EXISTING VALVE BOXES TO GRADE PER VALLEY-WIDE STANDARD AND INSTALL RECYCLED WATER ID TAG.
- ALL DAMAGED VALVE BOXES SHALL BE REPLACED WITH NEW PURPLE COLOR VALVE BOXES AND HEAT BRANDED LID. INSTALL RECYCLED WATER ID TAG WITHIN EACH BOX.



**DIG ALERT**

Call: TOLL FREE 1-800-227-2600 OR 811

TWO FULL WORKING DAYS BEFORE YOU DIG

ACCEPTED BY: VALLEY-WIDE RECREATION AND PARK DISTRICT

DEPARTMENT: ACCEPTANCE DATE: 6/17/19

DATE: 03/25/2019

DRAWN BY: HNCC

CHECKED BY: ENGINEER

DATE	BY	MARK

ACCEPTED BY:		EASTERN MUNICIPAL WATER DISTRICT	
DEPARTMENT	ACCEPTANCE	DEPARTMENT	ACCEPTANCE
		NEW BUSINESS P.C.	
		OPERATIONS	
		ENGINEERING	
		POS ENGINEER	

ACCEPTED BY: EASTERN MUNICIPAL WATER DISTRICT

SENIOR CIVIL ENGINEER DATE

DEPARTMENT: ACCEPTANCE DATE

**SHRIMP LANE**  
WINCHESTER, CA.

RECYCLED WATER IRRIGATION RETROFIT INDEX MAP

WO: 14882

PCWO:

DOPP: RWJW:

COORD: RWUP:

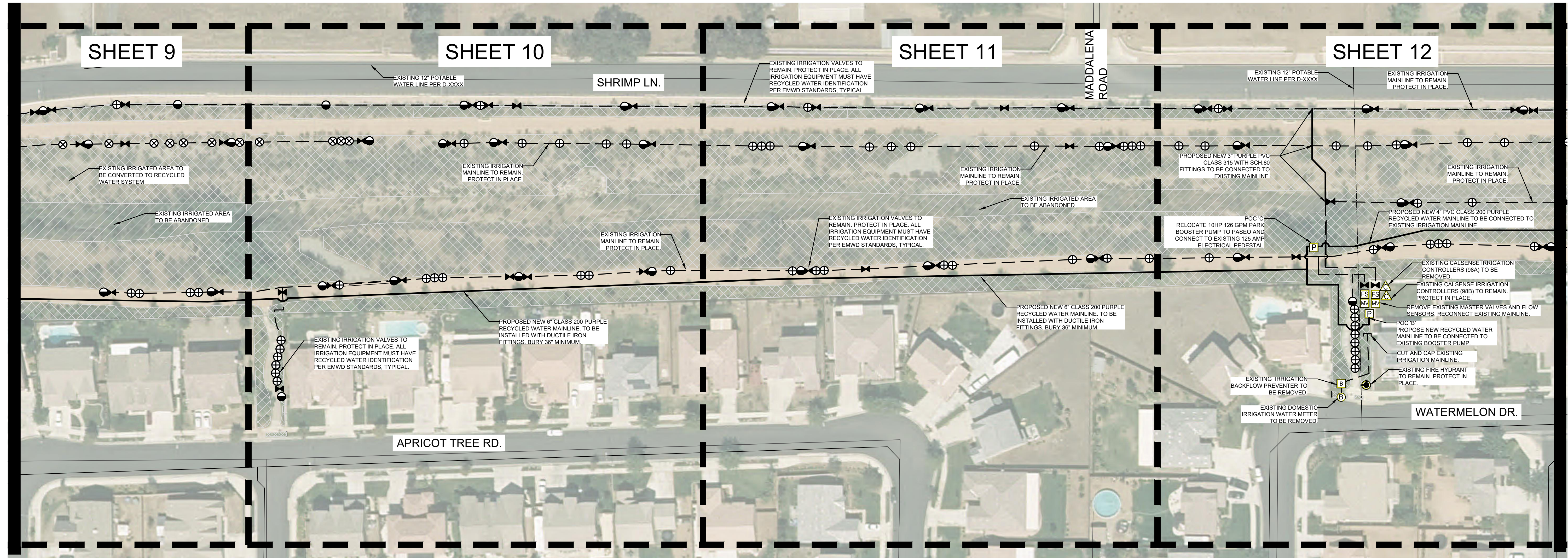
I.D. SHT 2 OF 22

S.A. D-



MATCHLINE SEE INDEX MAP SHEET 2

MATCHLINE SEE INDEX MAP SHEET 4



**SHRIMP CHANNEL CONTROLLER UPGRADES**

**CONTROLLER 98B-EXISTING SERIAL #29376**  
 ET2000E-48-M-RR-SSER- SHALL BE UPGRADED TO CS3-S-UPGRADE/CS3-LR-KIT/CS3-SR/ ANT-PROT/LMR-400DB-5 FEET/SR-YAGI-9/CS3-FL/CS3-2WIRE-OPT/CS-2W/POC(2)/FM1B/FM3/ SR-YAGI ANTENNA TO BE MOUNTED ON 18 FEET ABOVE GROUND 2" GALVANIZED POLE AT TOP OF SLOPE TO NE OF CONTROLLER. YAGI TO BE POINTED AT YAGI MOUNTED AT P9A. ANTENNA CABLE LENGTH CAN BE ADJUSTED IF NEEDED BUT NOT TO EXCEED 100 FEET. EXISTING LR RADIO FROM CONTROLLER 74A TO BE MOVED TO THIS CONTROLLER. FLOW SENSORS AND MASTER VALVES TO BE CONNECTED TO THIS CONTROLLER USING 2 WIRE. ALL EXISTING VALVES TO REMAIN CONVENTIONALLY WIRED.

**CONTROLLER 74A-EXISTING SERIAL #26089**  
 ET2000-40-MLR-RR-SSER-TO BE UPGRADED TO CS3-S-UPGRADE/CS3-8STA-KIT/CS3-FL/CS3-SR/SR-STUBBY/ CONTROLLERS 74A, 74B, 74C, 74D TO BE HARDWIRED TOGETHER USING PAIGE P-7171D COMMUNICATION CABLING TO SHARE SR RADIO ON 74A.

**CONTROLLER 74B-EXISTING SERIAL #27441**  
 ET2000-40-ML-RR-SSER-TO BE UPGRADED TO CS3-S-UPGRADE/CS3-FL/

**CONTROLLER 74C-EXISTING SERIAL #27453**  
 ET2000-40-ML-RR-SSER-TO BE UPGRADED TO CS3-S-UPGRADE/CS3-FL/

**CONTROLLER 74D-EXISTING SERIAL #23351**  
 ET2000-40-ML-RR-FL-SSER-TO BE UPGRADED TO CS3-S-UPGRADE/

**CONTROLLER P9A-EXISTING SERIAL #26197**  
 ET2000-32-LR-RR-SSER- TO BE UPGRADED TO CS3-S-UPGRADE/CS3-SR/CS3-FL/ANT-PROT/LMR-400DB-40 FEET/SR-YAGI-9/ SR-YAGI ANTENNA TO BE MOUNTED ON 18 FEET ABOVE GROUND 2" GALVANIZED POLE NEXT TO ENCLOSURE. YAGI TO BE POINTED AT YAGI MOUNTED AT 98B. ANTENNA CABLE LENGTH CAN BE ADJUSTED IF NEEDED BUT NOT TO EXCEED 100'. LR RADIO ON EXISTING CONTROLLER BECOMES SPARE. STATION COUNTS ON UPGRADES TO BE SUPPLIED AS THEY ARE ON EXISTING CONTROLLERS. CONTROLLER 74A HAS AN EXTRA 8 STATION KIT TO ACCOMMODATE UP TO 48 STATIONS.

**RECYCLED WATER IRRIGATION LEGEND:**

SYMBOL	DESCRIPTION
	RECYCLED WATER SIGNAGE
	RECYCLED ISOLATION VALVE
	RECYCLED REMOTE CONTROL VALVE
	RECYCLED QUICK COUPLER VALVE
	RECYCLED IRRIGATION CONTROLLER
	RECYCLED IRRIGATION BOOSTER PUMP
	RECYCLED IRRIGATION WATER METER
	RECYCLED IRRIGATION MASTER VALVE
	RECYCLED IRRIGATION FLOW SENSOR
	RECYCLED IRRIGATION MAINLINE (PROPOSE)
	RECYCLED IRRIGATION MAINLINE (EXISTING)

**POTABLE WATER LEGEND:**

SYMBOL	DESCRIPTION
	POTABLE WATER METER
	POTABLE BACKFLOW PREVENTER
	POTABLE DRINKING FOUNTAIN
	POTABLE MAINLINE FOR DRINKING FOUNTAIN

**RECYCLED WATER RETROFIT CONSTRUCTION NOTE**

CONTRACTOR TO REPLACE ALL EXISTING LIDS OF IRRIGATION VALVE BOXES THAT ARE CONNECTED TO NEW RECYCLED WATER SYSTEM TO PURPLE COLOR PER EMWD REQUIREMENTS.

**IRRIGATION SCHEDULING RUN TIME NOTE:**

PROPOSE NEW RECYCLED WATER POC #5 WILL SERVE EXISTING POTABLE WATER POC #A. IRRIGATION SCHEDULE FOR POC #A SHALL NOT EXCEED THE MAXIMUM FLOW OF 100 GPM AT ANY IRRIGATION DAY.

PROPOSE NEW RECYCLED WATER POC #6 WILL SERVE EXISTING POTABLE WATER POC #B, #C, #D AND #E. COMBINED IRRIGATION SCHEDULE FOR POC #B, #C, #D AND #E SHALL NOT EXCEED THE MAXIMUM FLOW OF 400 GPM AT ANY IRRIGATION DAY.

**VALVE BOX NOTE:**

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- CONTRACTOR TO ADJUST EXISTING VALVE BOXES TO GRADE PER VALLEY-WIDE STANDARD AND INSTALL RECYCLED WATER ID TAG.
- ALL DAMAGED VALVE BOXES SHALL BE REPLACED WITH NEW PURPLE COLOR VALVE BOXES AND HEAT BRANDED LID. INSTALL RECYCLED WATER ID TAG WITHIN EACH BOX.

**EMWD STANDARD NOTE**

**CONSTRUCTION NOTE**  
 EASTERN MUNICIPAL WATER DISTRICT REQUIRES THAT A PRE-CONSTRUCTION CONFERENCE BE SCHEDULED PRIOR TO ANY CONSTRUCTION BY CALLING THE EASTERN MUNICIPAL WATER DISTRICT FIELD ENGINEERING DEPARTMENT AT (951) 928-3777, EXTENSION 4830.

**INSTALLATION NOTES**  
 • THE RECYCLED WATER IRRIGATION SYSTEM SHOWN ON THESE PLANS SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE MOST RECENT EDITION OF THE EASTERN MUNICIPAL WATER DISTRICT STANDARDS AND SPECIFICATIONS FOR DEVELOPER'S PROJECTS.  
 • HOSE BIBS ARE STRICTLY PROHIBITED ON RECYCLED WATER IRRIGATION SYSTEMS. POTABLE QUICK COUPLERS ARE NOT ALLOWED WITHIN THE RECYCLED WATER IRRIGATION AREA.

**COLOR CODING NOTES**  
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 • ALL IRRIGATION RISERS, DRIP LINE, AND COMPONENTS THAT ARE NOT AVAILABLE FROM THE MANUFACTURE WITH PURPLE RECYCLED WATER IDENTIFICATION SHALL BE LABELED WITH RECYCLED WATER DECALS OR STICKERS.  
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**RECYCLED WATER AND POTABLE WATER SEPARATION CLEARANCE NOTE**  
 THE RECYCLED WATER IRRIGATION MAINLINE IS SHOWN DIAGRAMMATICALLY FOR CLARITY PURPOSES ONLY. THE RECYCLED WATER IRRIGATION MAINLINE MUST:

- BE INSTALLED WITH A 4' (FOOT) MINIMUM HORIZONTAL CLEARANCE FROM ALL POTABLE WATERLINES AND FIRE LINES.
- BE INSTALLED WITH A 1' (FOOT) OF VERTICAL CLEARANCE AND BE LOCATED UNDER ALL POTABLE WATERLINES AND FIRE LINES.
- WHERE THE RECYCLED WATER IRRIGATION MAINLINES MUST BE INSTALLED ABOVE THE POTABLE WATERLINE, A 4" (INCH) MINIMUM VERTICAL CLEARANCE MUST BE MAINTAINED AND THE RECYCLED WATER IRRIGATION MAINLINE MUST BE INSTALLED IN A CONTINUOUS SLEEVE (PVC CLASS 200 PIPE MINIMUM) WHICH EXTENDS A MINIMUM OF 10' (FEET) EACH SIDE OF THE POTABLE WATERLINE OR FIRE LINE.

**CONSTRUCTION NOTE**

CONTRACTOR SHALL CUT AND REMOVE EXISTING CHANNEL SLOPE VALVES AND CAP MAINLINE AT THE FOLLOWING VALVE LOCATIONS:

**CONTROLLER 96A**  
 VALVES 3, 4, 7, 9, 11, 12, 14, 15, 18-20, 22-25, 27-29, 31, 32, 34, 35 & 37.

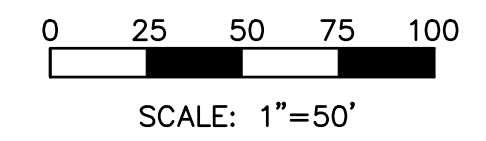
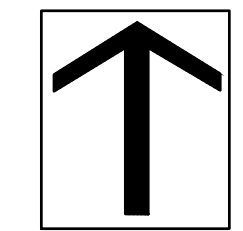
**CONTROLLER 96B**  
 VALVES 14, 15, 20, 21, 25, 26, 30, 33, 36 & 39.

**CONTROLLER 98B**  
 VALVES 11, 17, 20, 23, 25, 31, 32, 36 & 37.

**CONTROLLER 74C**  
 VALVES 2, 3, 5, 7, 10-12, 16-27, 29, 30, 32-34, 39 & 40.

**CONTROLLER 74D**  
 VALVES 2, 4, 6, 8-12, 14, 17, 19, 25, 26 & 29.

ALL IRRIGATION HEADS AND PIPING DOWN STREAM OF THE REFERENCED VALVES WILL BE ABANDONED IN PLACE AND REMAIN NON-FUNCTIONAL. CONTRACTOR SHALL CONFIRM ALL VALVES WITH VALLEY-WIDE REPRESENTATIVE IN WRITING PRIOR TO REMOVAL.



**DIG ALERT**

Call: TOLL FREE  
 1-800-227-2600  
 OR  
 811

TWO FULL WORKING DAYS BEFORE YOU DIG

**BENCH MARK**

DESCRIPTION: \_\_\_\_\_

LOCATION: \_\_\_\_\_

VERTICAL DATUM: \_\_\_\_\_

HORIZONTAL DATUM: \_\_\_\_\_

ACCEPTED BY: \_\_\_\_\_

VALLEY-WIDE RECREATION AND PARK DISTRICT

DEPARTMENT	ACCEPTANCE	DATE
		6/17/19

ACCEPTED BY: \_\_\_\_\_

EASTERN MUNICIPAL WATER DISTRICT

DATE	BY	MARK

SENIOR CIVIL ENGINEER \_\_\_\_\_ DATE \_\_\_\_\_

DEPARTMENT	ACCEPTANCE	DATE
NEW BUSINESS P.C.		
OPERATIONS		
ENGINEERING		
POS ENGINEER		

DATE: 03/25/2019

DRAWN BY: HNCC

CHECKED BY: ENGINEER

ACCEPTED BY: \_\_\_\_\_

EASTERN MUNICIPAL WATER DISTRICT

DEPARTMENT	ACCEPTANCE	DATE
NEW BUSINESS P.C.		
OPERATIONS		
ENGINEERING		
POS ENGINEER		

**SHRIMP LANE**  
 WINCHESTER, CA.

**RECYCLED WATER IRRIGATION RETROFIT**  
**IMPROVEMENTS**  
**INDEX MAP**

WO: 14882

PCWO: \_\_\_\_\_

DOPP: RWUE: \_\_\_\_\_

COORD: RWUP: \_\_\_\_\_

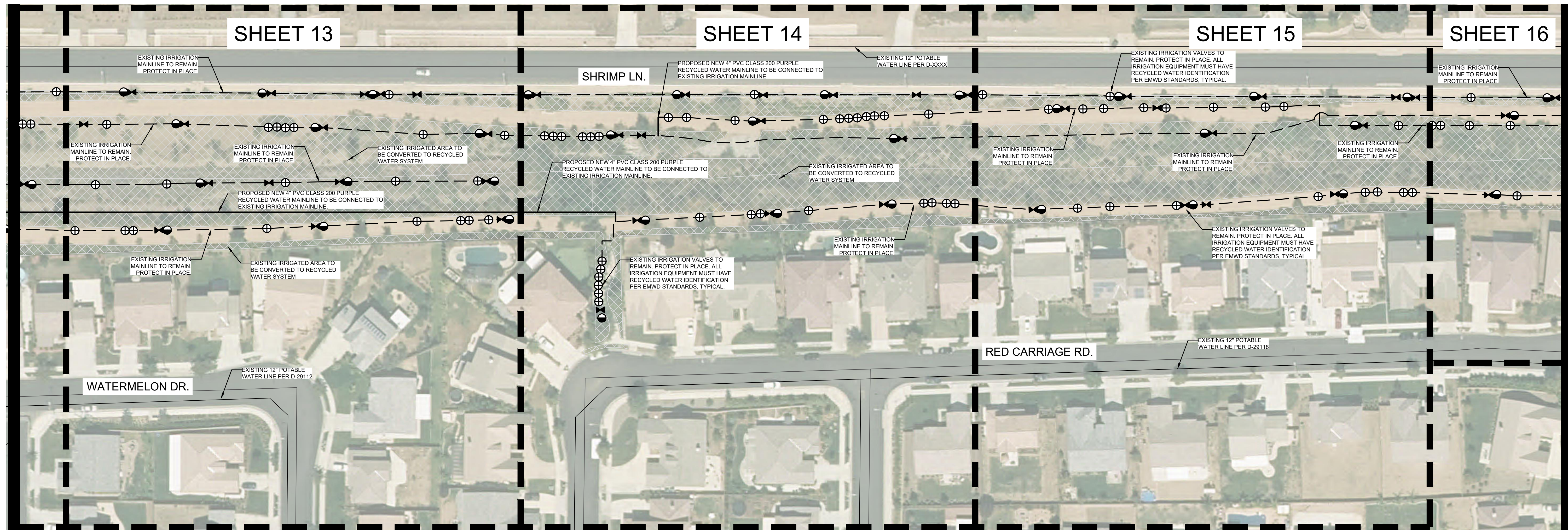
I.D. SHT 3 OF 22

S.A. D-



MATCHLINE SEE INDEX MAP SHEET 3

MATCHLINE SEE INDEX MAP SHEET 5



**VALVE BOX NOTE:**

- CONTRACTOR TO REPLACE EXISTING LIDS OF IRRIGATION VALVE BOXES. VALVE BOX LID SHALL BE PURPLE AND HEAT BRANDED WITH REMOTE CONTROL VALVE STATION AND COMPONENT IDENTIFICATION.
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	RECYCLED IRRIGATION MASTER VALVE
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SYMBOL	DESCRIPTION
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	POTABLE MAINLINE FOR DRINKING FOUNTAIN

**EMWD STANDARD NOTE**

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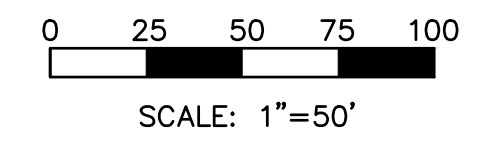
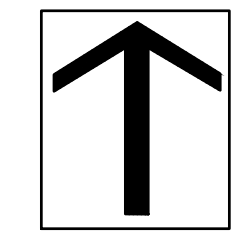
**RECYCLED WATER RETROFIT CONSTRUCTION NOTE**

CONTRACTOR TO REPLACE ALL EXISTING LIDS OF IRRIGATION VALVE BOXES THAT ARE CONNECTED TO NEW RECYCLED WATER SYSTEM TO PURPLE COLOR PER EMWD REQUIREMENTS.

**IRRIGATION SCHEDULING RUN TIME NOTE:**

PROPOSE NEW RECYCLED WATER POC #5 WILL SERVE EXISTING POTABLE WATER POC #A. IRRIGATION SCHEDULE FOR POC #A SHALL NOT EXCEED THE MAXIMUM FLOW OF 100 GPM AT ANY IRRIGATION DAY.

PROPOSE NEW RECYCLED WATER POC #6 WILL SERVE EXISTING POTABLE WATER POC #B, #C, #D AND #E. COMBINED IRRIGATION SCHEDULE FOR POC #B, #C, #D AND #E SHALL NOT EXCEED THE MAXIMUM FLOW OF 400 GPM AT ANY IRRIGATION DAY.



**DIG ALERT**

Call: TOLL FREE  
1-800-227-2600  
OR  
811

TWO FULL WORKING DAYS BEFORE YOU DIG

**BENCH MARK**

DESCRIPTION: \_\_\_\_\_

LOCATION: \_\_\_\_\_

VERTICAL DATUM: \_\_\_\_\_

HORIZONTAL DATUM: \_\_\_\_\_

ACCEPTED BY: \_\_\_\_\_

VALLEY-WIDE RECREATION AND PARK DISTRICT

DEPARTMENT	ACCEPTANCE	DATE
		6/17/19

**REVISIONS**

DATE	BY	MARK	DESCRIPTION
03/25/2019	HNCC		
	ENGINEER		

DATE: 03/25/2019

DRAWN BY: HNCC

CHECKED BY: ENGINEER

ACCEPTED BY: \_\_\_\_\_

EASTERN MUNICIPAL WATER DISTRICT

SENIOR CIVIL ENGINEER \_\_\_\_\_ DATE \_\_\_\_\_

DEPARTMENT	ACCEPTANCE	DATE
NEW BUSINESS P.C.		
OPERATIONS		
ENGINEERING		
POS ENGINEER		

**SHRIMP LANE**  
WINCHESTER, CA.

**RECYCLED WATER IRRIGATION RETROFIT IMPROVEMENTS**

**INDEX MAP**

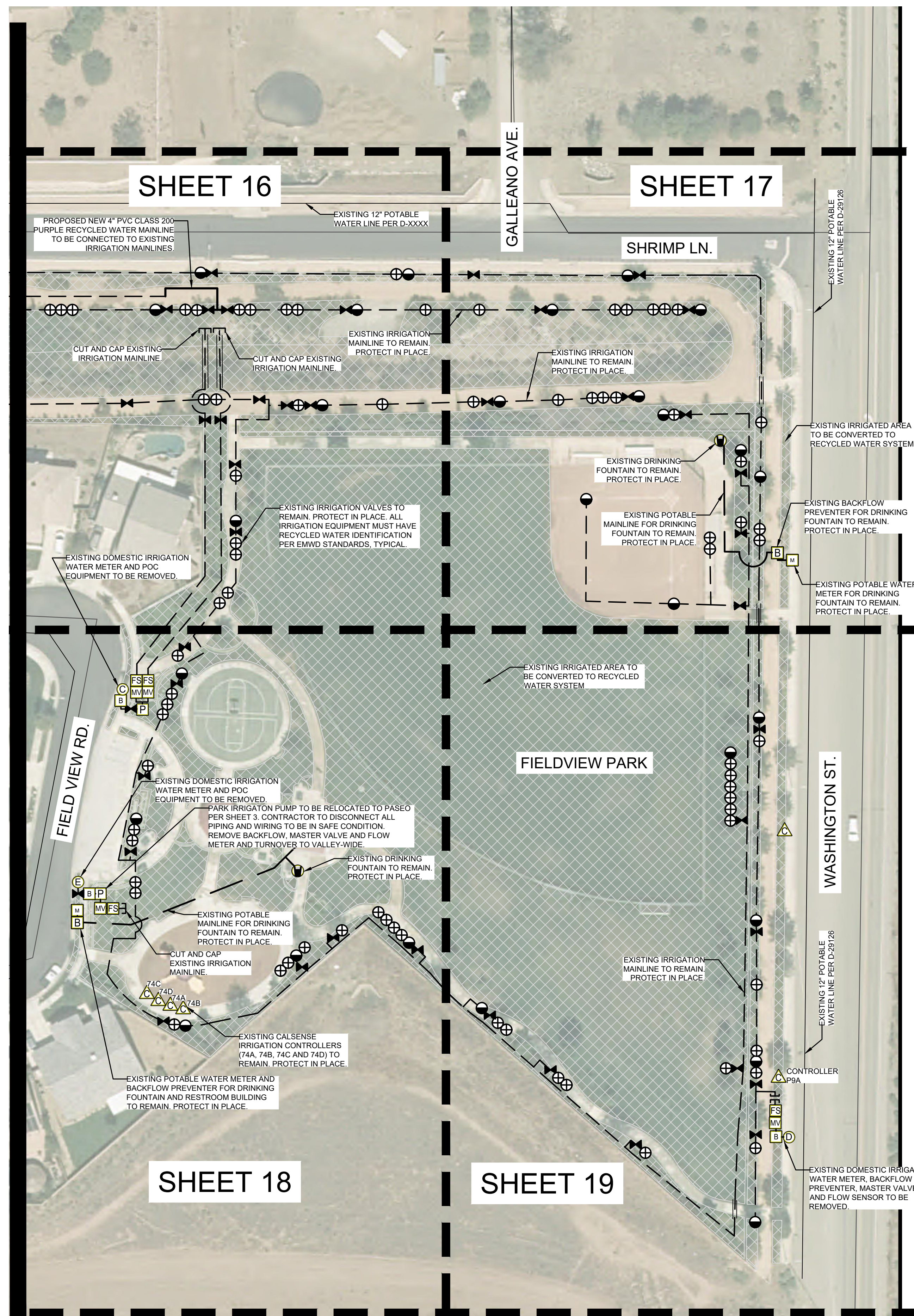
WT: 14882
PCWO: _____
DOPP: RWJW: _____
COORD: RWUP: _____
I.D. SHT 4 OF 22
S.A. D-



RECYCLED WATER IRRIGATION LEGEND:	
SYMBOL	DESCRIPTION
	RECYCLED WATER SIGNAGE
	RECYCLED ISOLATION VALVE
	RECYCLED REMOTE CONTROL VALVE
	RECYCLED QUICK COUPLER VALVE
	RECYCLED IRRIGATION CONTROLLER
	RECYCLED IRRIGATION BOOSTER PUMP
	RECYCLED IRRIGATION WATER METER
	RECYCLED IRRIGATION MASTER VALVE
	RECYCLED IRRIGATION FLOW SENSOR
	RECYCLED IRRIGATION MAINLINE (PROPOSE)
	RECYCLED IRRIGATION MAINLINE (EXISTING)

POTABLE WATER LEGEND:	
SYMBOL	DESCRIPTION
	POTABLE WATER METER
	POTABLE BACKFLOW PREVENTER
	POTABLE DRINKING FOUNTAIN
	POTABLE MAINLINE FOR DRINKING FOUNTAIN

MATCHLINE SEE INDEX MAP SHEET 4



**EMWD STANDARD NOTE**

**CONSTRUCTION NOTE**  
EASTERN MUNICIPAL WATER DISTRICT REQUIRES THAT A PRE-CONSTRUCTION CONFERENCE BE SCHEDULED PRIOR TO ANY CONSTRUCTION BY CALLING THE EASTERN MUNICIPAL WATER DISTRICT FIELD ENGINEERING DEPARTMENT AT (951) 928-3777, EXTENSION 4830.

**INSTALLATION NOTES**

- THE RECYCLED WATER IRRIGATION SYSTEM SHOWN ON THESE PLANS SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE MOST RECENT EDITION OF THE EASTERN MUNICIPAL WATER DISTRICT STANDARDS AND SPECIFICATIONS FOR DEVELOPER'S PROJECTS.
- HOSE BIBS ARE STRICTLY PROHIBITED ON RECYCLED WATER IRRIGATION SYSTEMS. POTABLE QUICK COUPLERS ARE NOT ALLOWED WITHIN THE RECYCLED WATER IRRIGATION AREA.

**COLOR CODING NOTES**

- ALL IRRIGATION EMISSION DEVICES, SUCH AS SPRAY HEADS, ROTORS, BUBBLERS, DRIP EMITTERS, OR DRIP ASSEMBLIES SHALL BE IDENTIFIED WITH PURPLE IDENTIFICATION BODIES, COLLARS, CAPS, CONNECTORS, ADAPTERS, ETC. TO PERMANENTLY LABEL THE COMPONENTS AS EMITTING RECYCLED IRRIGATION WATER. THE PURPLE IDENTIFICATION SHALL BE EXPOSED TO THE SURFACE.
- ALL IRRIGATION RISERS, DRIP LINE, AND COMPONENTS THAT ARE NOT AVAILABLE FROM THE MANUFACTURE WITH PURPLE RECYCLED WATER IDENTIFICATION SHALL BE LABELED WITH RECYCLED WATER DECALS OR STICKERS.
- ALL IRRIGATION COMPONENTS AND VALVES MUST HAVE A RECYCLED WATER ID TAG AND A VALVE ID TAG IN A PURPLE VALVE BOX WITH A PURPLE LID. THE PURPLE LID SHALL BE HEAT BRANDED WITH THE VALVE LABEL.

**RECYCLED WATER AND POTABLE WATER SEPARATION CLEARANCE NOTE**

THE RECYCLED WATER IRRIGATION MAINLINE IS SHOWN DIAGRAMMATICALLY FOR CLARITY PURPOSES ONLY. THE RECYCLED WATER IRRIGATION MAINLINE MUST:

- BE INSTALLED WITH A 4' (FOOT) MINIMUM HORIZONTAL CLEARANCE FROM ALL POTABLE WATERLINES AND FIRE LINES.
- BE INSTALLED WITH A 4' (FOOT) OF VERTICAL CLEARANCE AND BE LOCATED UNDER ALL POTABLE WATERLINES AND FIRE LINES.
- WHERE THE RECYCLED WATER IRRIGATION MAINLINES MUST BE INSTALLED ABOVE THE POTABLE WATERLINE, A 4" (INCH) MINIMUM VERTICAL CLEARANCE MUST BE MAINTAINED AND THE RECYCLED WATER IRRIGATION MAINLINE MUST BE INSTALLED IN A CONTINUOUS SLEEVE (PVC CLASS 200 PIPE MINIMUM) WHICH EXTENDS A MINIMUM OF 10' (FEET) EACH SIDE OF THE POTABLE WATERLINE OR FIRE LINE.

**RECYCLED WATER RETROFIT CONSTRUCTION NOTE**

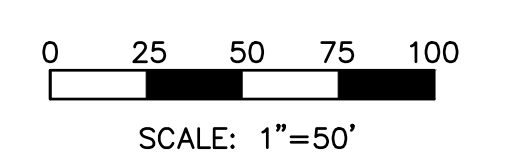
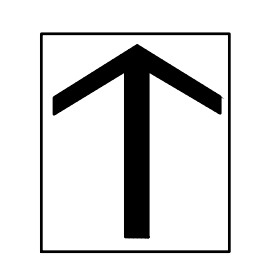
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**VALVE BOX NOTE:**

1. CONTRACTOR TO REPLACE EXISTING LIDS OF IRRIGATION VALVE BOXES. VALVE BOX LID SHALL BE PURPLE AND HEAT BRANDED WITH REMOTE CONTROL VALVE STATION AND COMPONENT IDENTIFICATION.
2. CONTRACTOR TO ADJUST EXISTING VALVE BOXES TO GRADE PER VALLEY-WIDE STANDARD AND INSTALL RECYCLED WATER ID TAG.
3. ALL DAMAGED VALVE BOXES SHALL BE REPLACED WITH NEW PURPLE COLOR VALVE BOXES AND HEAT BRANDED LID. INSTALL RECYCLED WATER ID TAG WITHIN EACH BOX.



<b>DIG ALERT</b>  Call: TOLL FREE 1-800-227-2600 OR 811 TWO FULL WORKING DAYS BEFORE YOU DIG	BENCH MARK DESCRIPTION: _____ LOCATION: _____ VERTICAL DATUM: _____ HORIZONTAL DATUM: _____	ACCEPTED BY: VALLEY-WIDE RECREATION AND PARK DISTRICT DEPARTMENT: _____ ACCEPTANCE: DATE: 6/17/19	ACCEPTED BY: EASTERN MUNICIPAL WATER DISTRICT SENIOR CIVIL ENGINEER: _____ DATE: _____	DEPARTMENT: _____ ACCEPTANCE: _____ DATE: _____	SHRIMP LANE WINCHESTER, CA. RECYCLED WATER IRRIGATION RETROFIT IMPROVEMENTS INDEX MAP	WO: 14882 PCWO: _____ DOPP: _____ RWUJ: _____ COORD: _____ RWUP: _____ I.D.: _____ SHT. 5 OF 22 S.A.: _____ D-												
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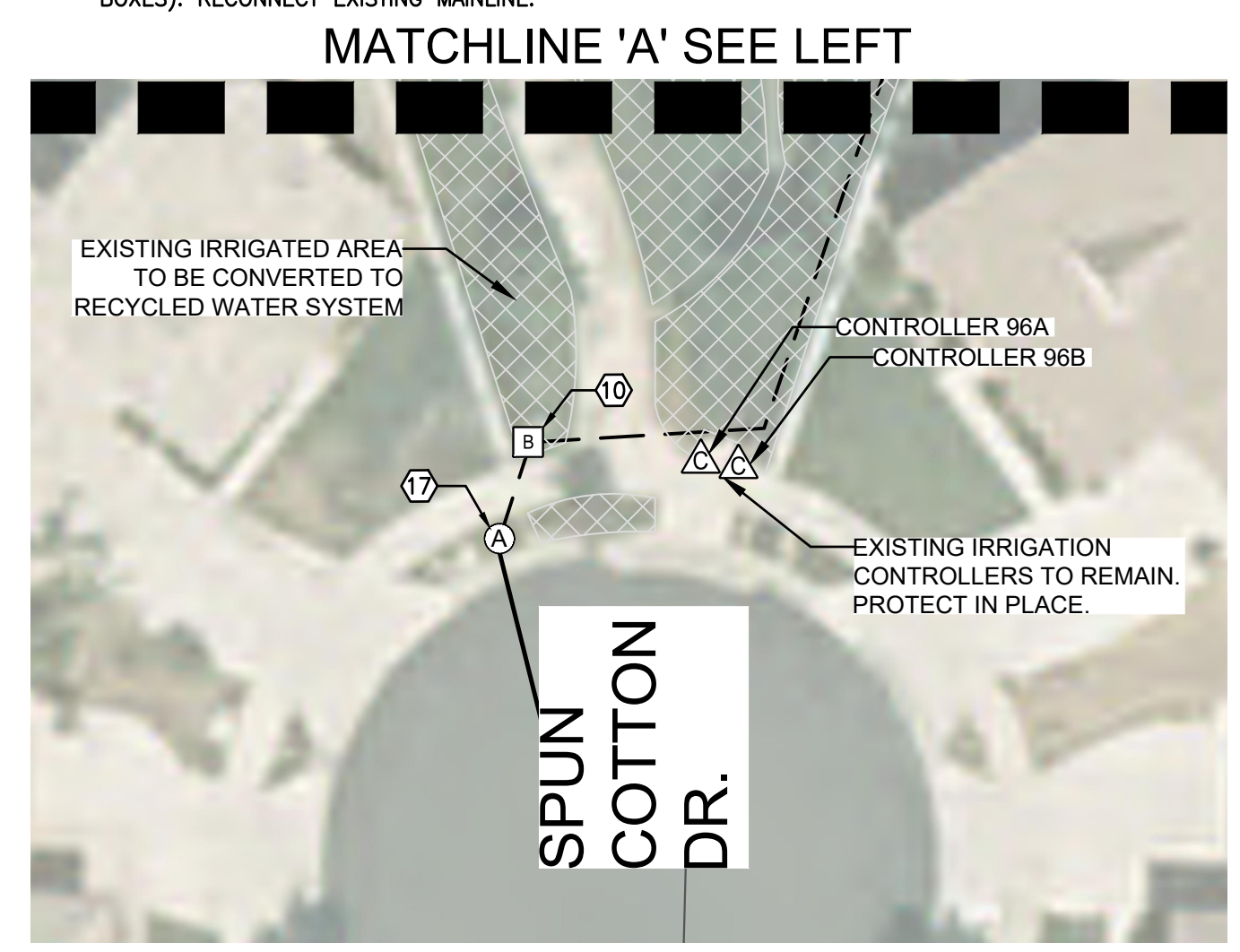


**CONSTRUCTION LEGEND**

- | SYMBOL | DESCRIPTION  |
|--------|--|
| ①      | INSTALL NEW 3" RECYCLED WATER METER PER EMWD STANDARD PB-13. WATER METER WILL BE PROVIDED BY EMWD.   |
| ②      | PROVIDE AND INSTALL NELSON 7645 (1") QUICK COUPLER VALVE WITH ACME THREAD AND PURPLE LOCKING COVER - INSTALL PER DETAIL.   |
| ③      | PROVIDE AND INSTALL YARDNEY STRAINER MCS3-1. SIZE: 3" WITH MAX. FLOW 225 GPM. INSTALL ABOVE GROUND WITH STAINLESS STEEL ENCLOSURE PER MANUFACTURER STANDARD AND DETAIL.            |
| ④      | PROVIDE AND INSTALL GRISWOLD 2230 EPOXY COATED NORMALLY CLOSED MASTER VALVE (SIZE: 3") PER DETAIL. RUN WIRES TO EXISTING IRRIGATION CONTROLLER LOCATION.                           |
| ⑤      | PROVIDE AND INSTALL CALSENSE FLOW SENSOR FM-3 (SIZE: 3"). INSTALL PER DETAIL. RUN WIRES TO EXISTING IRRIGATION CONTROLLER LOCATION AND SET CONTROLLER FOR HIGH-FLOW MONITORING.    |
| ⑥      | PROVIDE AND INSTALL 1" BALL VALVE INSIDE ROUND PURPLE VALVE BOX.   |
| ⑦      | PROVIDE AND INSTALL 6" CLASS 200 PVC PURPLE RECYCLED WATER IRRIGATION MAINLINE WITH DUCTILE IRON FITTINGS (36" DEEP MIN.) AND CONNECT TO EXISTING IRRIGATION POC AS SHOWN ON PLAN. |
| ⑧      | PROVIDE AND INSTALL 14GA. VALVE WIRES FOR FLOW SENSOR AND MASTER VALVE INSIDE A 1.5" PVC SCH.40 CONDUIT. CONNECT TO EXISTING IRRIGATION CONTROLLER.                                |
| ⑨      | PROVIDE AND INSTALL RECYCLED WATER SIGNAGE PER EMWD STANDARD. EXACT LOCATION WILL BE DETERMINED BY EMWD INSPECTOR.   |
| ⑩      | CUT AND CAP EXISTING IRRIGATION MAINLINE AND REMOVE UNUSED PIPE. REMOVE EXISTING BACKFLOW PREVENTER AND EQUIPMENT.   |
| ⑪      | REPLACE EXISTING QUICK COUPLER WITH NELSON 7645 (1") QUICK COUPLER VALVE WITH ACME THREAD AND PURPLE LOCKING COVER - INSTALL PER DETAIL.   |
| ⑫      | REPLACE ALL EXISTING IRRIGATION VALVE BOXES' LID WITH PURPLE RECYCLED WATER AND LABEL ACCORDINGLY.   |
| ⑬      | PROVIDE PURPLE CAP FOR RECYCLED WATER IDENTIFICATION TO ALL EXISTING OVER HEAD IRRIGATION ROTOR / SPRAY SYSTEM.  |
| ⑭      | INSTALL NEW 6" WIDE CONCRETE MOW CURB  |
| ⑮      | CONNECT PROPOSE NEW MASTER VALVE AND FLOW SENSOR WIRES TO EXISTING CONTROLLER. ADJUST EXISTING CONTROLLER FOR FLOW MONITORING.   |
| ⑯      | CONNECT NEW PROPOSED RECYCLED MAINLINE TO EXISTING BOOSTER PUMP  |
| ⑰      | EXISTING DOMESTIC IRRIGATION WATER METER TO BE REMOVED (BY OTHERS)   |
| ⑱      | PROVIDE AND INSTALL 4" CLASS 200 PVC PURPLE RECYCLED WATER IRRIGATION MAINLINE WITH DUCTILE IRON FITTINGS (36" DEEP MIN.) AND CONNECT TO EXISTING IRRIGATION MAINLINE.             |
| ⑲      | REMOVE EXISTING BOOSTER PUMP AND UNUSED PIPE. RETURN ALL EQUIPMENT TO OWNER REPRESENTATIVE   |
| ⑳      | PROVIDE AND INSTALL 3" CLASS 200 PVC PURPLE RECYCLED WATER IRRIGATION MAINLINE WITH SCH.80 FITTINGS (36" DEEP MIN.) AND CONNECT TO EXISTING IRRIGATION MAINLINE.                   |
| ㉑      | INSTALL RELOCATED 10HP 126 GPM PARK BOOSTER PUMP AND CONNECT TO EXISTING 125 AMP ELECTRICAL PEDESTAL.  |
| ㉒      | INSTALL NEW 2" RECYCLED WATER METER PER EMWD STANDARD PB-10. WATER METER WILL BE PROVIDED BY EMWD.   |
| ㉓      | PROVIDE AND INSTALL YARDNEY STRAINER MCS2-1. SIZE: 2" WITH MAX. FLOW 110 GPM. INSTALL ABOVE GROUND WITH STAINLESS STEEL ENCLOSURE PER MANUFACTURER STANDARD AND DETAIL.            |
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| ㉕      | PROVIDE AND INSTALL CALSENSE FLOW SENSOR FM-1B (SIZE: 1"). INSTALL PER DETAIL. RUN WIRES TO EXISTING IRRIGATION CONTROLLER LOCATION AND SET CONTROLLER FOR HIGH-FLOW MONITORING.   |
| ㉖      | REMOVE EXISTING MASTER VALVES AND FLOW SENSORS (INCLUDING VALVE BOXES). RECONNECT EXISTING MAINLINE.   |

POURROY RD.

MATCHLINE SEE SHEET 7



MATCHLINE 'A' SEE RIGHT

**INSTALLATION NOTES**

THE MATERIALS AND THE INSTALLATION OF THE IRRIGATION SYSTEM SHOWN ON THIS PLAN SHALL MEET THE LATEST EMWD STANDARDS AND SPECIFICATIONS AT COMMENCEMENT OF WORK. IF CONTRACTOR NOTICES ANY INCONSISTENCIES WITH THE LATEST IRRIGATION DESIGN STANDARDS, ONE SHALL IMMEDIATELY NOTIFY ALL PARTIES.  
NO HOSE BIBS WILL BE ALLOWED FOR INSTALLATION ON SYSTEMS USING RECYCLED WATER.

**IRRIGATION DRAWING NOTE:**

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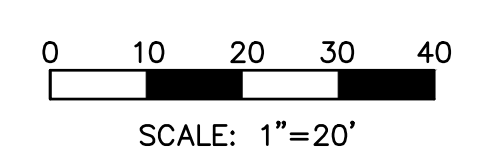
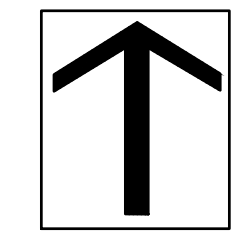
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**COLOR CODING**

SPRINKLERS, ROTOR HEADS AND OTHER TYPES OF DISPERSION HEADS SHALL HAVE THE EXPOSED SURFACE COLORED PURPLE. THE EXPOSED SURFACE SHALL BE COLORED THROUGH THE USE OF INTEGRALLY MOLDED PURPLE PLASTIC OR PERMANENTLY ATTACHED PURPLE PLASTIC RING OR DISC. VALVE BOX LIDS SHALL BE PURPLE PER INDUSTRY STANDARDS. THE LIDS SHALL HAVE THE WARNING "RECYCLED: DO NOT DRINK" IN ENGLISH AND SPANISH AND THE INTERNATIONAL "DO NOT DRINK" ON ONE SIDE AND "PELIGRO: AGUA IMPURA-NO BEBER" ON THE OPPOSITE SIDE. ALL SHRUB HEADS SHALL HAVE PURPLE CAPS. ROTOR HEADS MAYBE PAINTED PURPLE WHEN REPLACEMENT CAPS OR COLLARS ARE NOT AVAILABLE. CONTRACTOR TO SUBMIT QUANTITIES, MANUFACTURER AND MODEL NUMBER OF THE HEAD TO EMWD FOR APPROVAL.

MATCHLINE 'A' SEE LEFT



**DIG ALERT**  
Call: TOLL FREE 1-800-227-2600 OR 811  
TWO FULL WORKING DAYS BEFORE YOU DIG

**BENCH MARK**  
DESCRIPTION: \_\_\_\_\_  
LOCATION: \_\_\_\_\_  
VERTICAL DATUM: \_\_\_\_\_  
HORIZONTAL DATUM: \_\_\_\_\_

ACCEPTED BY: VALLEY-WIDE RECREATION AND PARK DISTRICT  
DEPARTMENT: \_\_\_\_\_ ACCEPTANCE: \_\_\_\_\_ DATE: 6/17/19

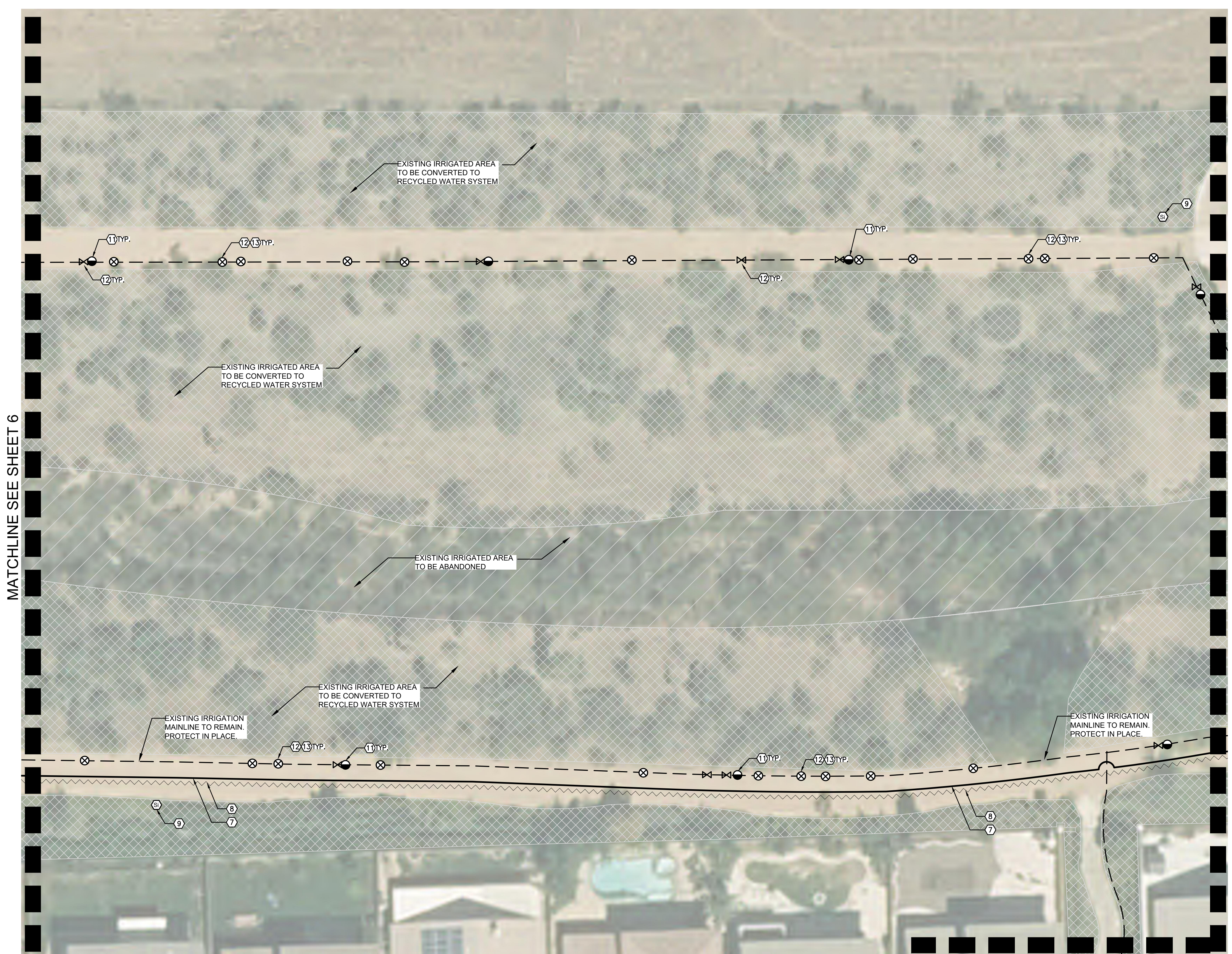
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ENGINEERING \_\_\_\_\_  
POS ENGINEER \_\_\_\_\_

SHRIMP LANE WINCHESTER, CA.  
RECYCLED WATER IRRIGATION RETROFIT IMPROVEMENTS  
**IRRIGATION PLAN**

WO: 14882
PCWO: _____
DOPP: _____ RWUJ: _____
COORD. _____ RWUP: _____
I.D. _____ SHT. 6 OF 22
S.A. _____ D- _____





**CONSTRUCTION LEGEND**

- | SYMBOL | DESCRIPTION  |
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MATCHLINE SEE SHEET 6

MATCHLINE SEE SHEET 8

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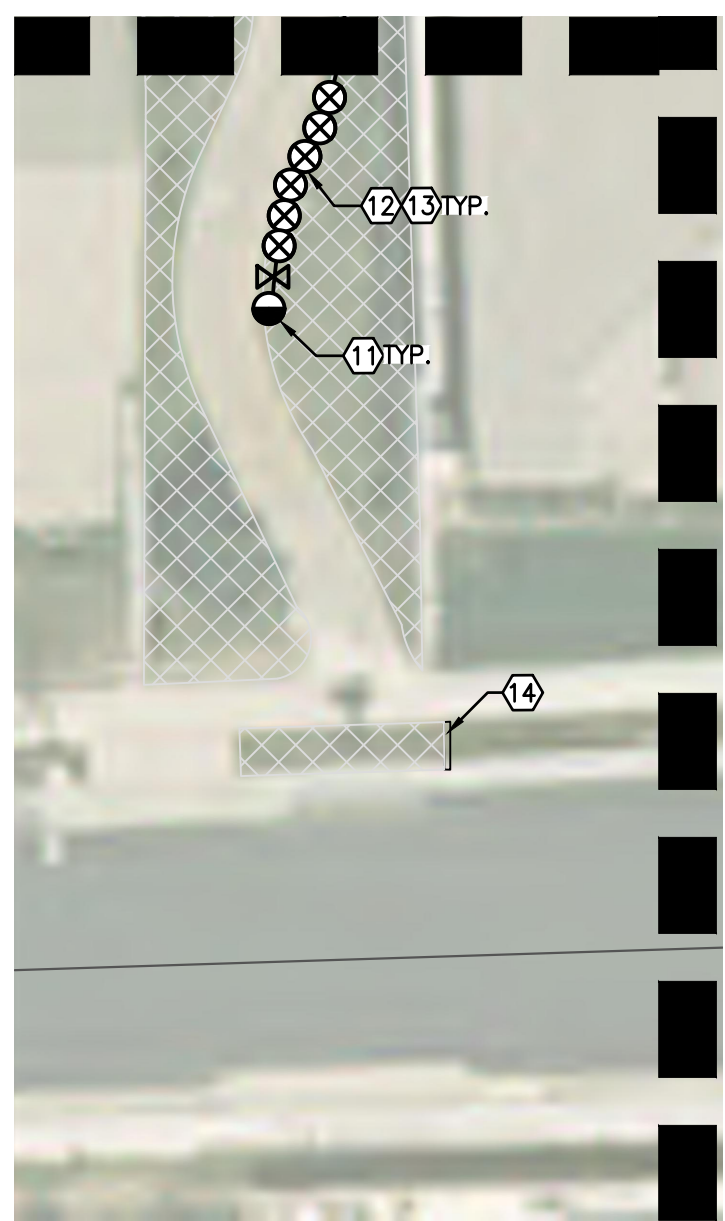
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**COLOR CODING**

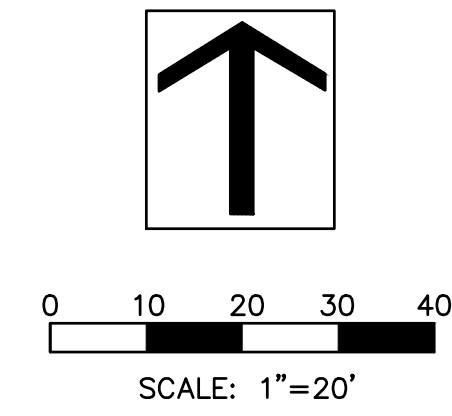
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**MATCHLINE 'B' SEE LEFT**



MATCHLINE SEE SHEET 8

MATCHLINE 'B' SEE RIGHT



**DIG ALERT**

Call: TOLL FREE  
1-800-227-2600  
OR  
811

TWO FULL WORKING DAYS BEFORE YOU DIG

**BENCH MARK**

DESCRIPTION: \_\_\_\_\_

LOCATION: \_\_\_\_\_

VERTICAL DATUM: \_\_\_\_\_

HORIZONTAL DATUM: \_\_\_\_\_

ACCEPTED BY:

VALLEY-WIDE RECREATION AND PARK DISTRICT

DEPARTMENT	ACCEPTANCE	DATE
	<i>[Signature]</i>	6/17/19

DATE: 03/25/2019

DRAWN BY: HNCC

CHECKED BY: ENGINEER

REVISIONS		
DATE	BY	MARK

ACCEPTED BY:

EASTERN MUNICIPAL WATER DISTRICT

SENIOR CIVIL ENGINEER \_\_\_\_\_ DATE \_\_\_\_\_

DEPARTMENT	ACCEPTANCE	DATE
NEW BUSINESS P.C.		
OPERATIONS		
ENGINEERING		
POS ENGINEER		

**SHRIMP LANE**  
WINCHESTER, CA.

RECYCLED WATER IRRIGATION RETROFIT IMPROVEMENTS

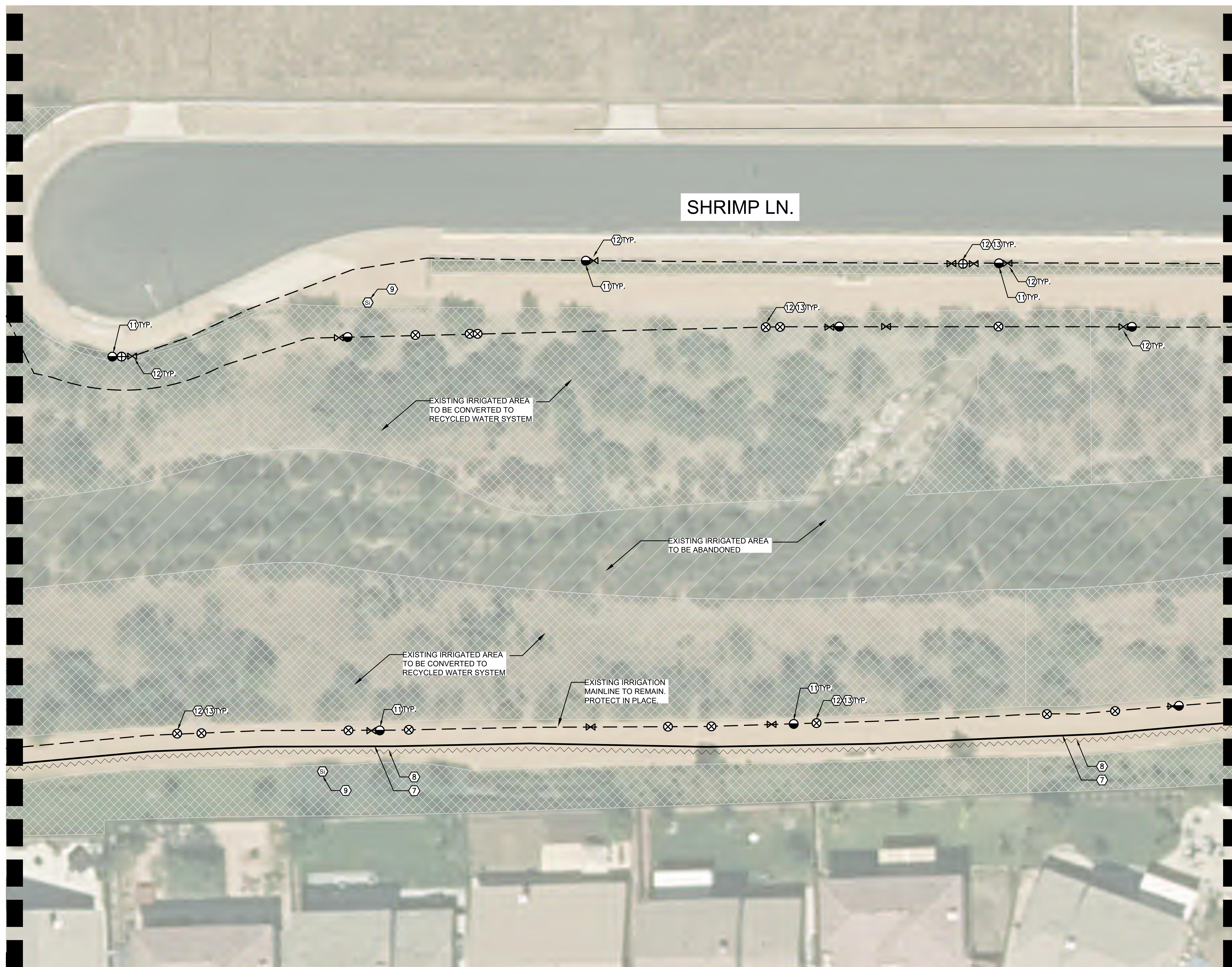
**IRRIGATION PLAN**

WO: 14882
PCWO:
DOPP: RWUJ:
COORD: RWUP:
I.D. SHT 7 OF 22
S.A. D-



MATCHLINE SEE SHEET 7

MATCHLINE SEE SHEET 9



**CONSTRUCTION LEGEND**

SYMBOL	DESCRIPTION
①	INSTALL NEW 3" RECYCLED WATER METER PER EMWD STANDARD PB-13. WATER METER WILL BE PROVIDED BY EMWD.
②	PROVIDE AND INSTALL NELSON 7645 (1") QUICK COUPLER VALVE WITH ACME THREAD AND PURPLE LOCKING COVER - INSTALL PER DETAIL.
③	PROVIDE AND INSTALL YARDNEY STRAINER MCS3-1. SIZE: 3" WITH MAX. FLOW 225 GPM. INSTALL ABOVE GROUND WITH STAINLESS STEEL ENCLOSURE PER MANUFACTURER STANDARD AND DETAIL.
④	PROVIDE AND INSTALL GRISWOLD 2230 EPOXY COATED NORMALLY CLOSED MASTER VALVE (SIZE: 3") PER DETAIL. RUN WIRES TO EXISTING IRRIGATION CONTROLLER LOCATION.
⑤	PROVIDE AND INSTALL CALSENSE FLOW SENSOR FM-3 (SIZE: 3"). INSTALL PER DETAIL. RUN WIRES TO EXISTING IRRIGATION CONTROLLER LOCATION AND SET CONTROLLER FOR HIGH-FLOW MONITORING.
⑥	PROVIDE AND INSTALL 1" BALL VALVE INSIDE ROUND PURPLE VALVE BOX.
⑦	PROVIDE AND INSTALL 6" CLASS 200 PVC PURPLE RECYCLED WATER IRRIGATION MAINLINE WITH DUCTILE IRON FITTINGS (36" DEEP MIN.) AND CONNECT TO EXISTING IRRIGATION POC AS SHOWN ON PLAN.
⑧	PROVIDE AND INSTALL 14GA. VALVE WIRES FOR FLOW SENSOR AND MASTER VALVE INSIDE A 1.5" PVC SCH.40 CONDUIT. CONNECT TO EXISTING IRRIGATION CONTROLLER.
⑨	PROVIDE AND INSTALL RECYCLED WATER SIGNAGE PER EMWD STANDARD. EXACT LOCATION WILL BE DETERMINED BY EMWD INSPECTOR.
⑩	CUT AND CAP EXISTING IRRIGATION MAINLINE AND REMOVE UNUSED PIPE. REMOVE EXISTING BACKFLOW PREVENTER AND EQUIPMENT.
⑪	REPLACE EXISTING QUICK COUPLER WITH NELSON 7645 (1") QUICK COUPLER VALVE WITH ACME THREAD AND PURPLE LOCKING COVER - INSTALL PER DETAIL.
⑫	REPLACE ALL EXISTING IRRIGATION VALVE BOXES' LID WITH PURPLE RECYCLED WATER AND LABEL ACCORDINGLY.
⑬	PROVIDE PURPLE CAP FOR RECYCLED WATER IDENTIFICATION TO ALL EXISTING OVER HEAD IRRIGATION ROTOR / SPRAY SYSTEM.
⑭	INSTALL NEW 6" WIDE CONCRETE MOW CURB
⑮	CONNECT PROPOSE NEW MASTER VALVE AND FLOW SENSOR WIRES TO EXISTING CONTROLLER. ADJUST EXISTING CONTROLLER FOR FLOW MONITORING.
⑯	CONNECT NEW PROPOSED RECYCLED MAINLINE TO EXISTING BOOSTER PUMP
⑰	EXISTING DOMESTIC IRRIGATION WATER METER TO BE REMOVED (BY OTHERS)
⑱	PROVIDE AND INSTALL 4" CLASS 200 PVC PURPLE RECYCLED WATER IRRIGATION MAINLINE WITH DUCTILE IRON FITTINGS (36" DEEP MIN.) AND CONNECT TO EXISTING IRRIGATION MAINLINE.
⑲	REMOVE EXISTING BOOSTER PUMP AND UNUSED PIPE. RETURN ALL EQUIPMENT TO OWNER REPRESENTATIVE.
⑳	PROVIDE AND INSTALL 3" CLASS 200 PVC PURPLE RECYCLED WATER IRRIGATION MAINLINE WITH SCH.80 FITTINGS (36" DEEP MIN.) AND CONNECT TO EXISTING IRRIGATION MAINLINE.
㉑	INSTALL RELOCATED 10HP 126 GPM PARK BOOSTER PUMP AND CONNECT TO EXISTING 125 AMP ELECTRICAL PEDESTAL.
㉒	INSTALL NEW 2" RECYCLED WATER METER PER EMWD STANDARD PB-10. WATER METER WILL BE PROVIDED BY EMWD.
㉓	PROVIDE AND INSTALL YARDNEY STRAINER MCS2-1. SIZE: 2" WITH MAX. FLOW 110 GPM. INSTALL ABOVE GROUND WITH STAINLESS STEEL ENCLOSURE PER MANUFACTURER STANDARD AND DETAIL.
㉔	PROVIDE AND INSTALL GRISWOLD 2230 EPOXY COATED NORMALLY CLOSED MASTER VALVE (SIZE: 1") PER DETAIL. RUN WIRES TO EXISTING IRRIGATION CONTROLLER LOCATION.
㉕	PROVIDE AND INSTALL CALSENSE FLOW SENSOR FM-1B (SIZE: 1"). INSTALL PER DETAIL. RUN WIRES TO EXISTING IRRIGATION CONTROLLER LOCATION AND SET CONTROLLER FOR HIGH-FLOW MONITORING.
㉖	REMOVE EXISTING MASTER VALVES AND FLOW SENSORS (INCLUDING VALVE BOXES). RECONNECT EXISTING MAINLINE.

**RECYCLED WATER IRRIGATION LEGEND:**

SYMBOL	DESCRIPTION
Ⓢ	RECYCLED WATER SIGNAGE
⊗	RECYCLED ISOLATION VALVE
⊙	RECYCLED REMOTE CONTROL VALVE
⊕	RECYCLED QUICK COUPLER VALVE
⚠	RECYCLED IRRIGATION CONTROLLER
P	RECYCLED IRRIGATION BOOSTER PUMP
Ⓜ	RECYCLED IRRIGATION WATER METER
Ⓢ	RECYCLED IRRIGATION STRAINER
Ⓜ	RECYCLED IRRIGATION MASTER VALVE
FS	RECYCLED IRRIGATION FLOW SENSOR
—	RECYCLED IRRIGATION MAINLINE (PROPOSE)
- - -	RECYCLED IRRIGATION MAINLINE (EXISTING)

**POTABLE WATER LEGEND:**

SYMBOL	DESCRIPTION
Ⓜ	POTABLE WATER METER
Ⓢ	POTABLE BACKFLOW PREVENTER
Ⓜ	POTABLE DRINKING FOUNTAIN
—	POTABLE WATER MAINLINE

**INSTALLATION NOTES**

THE MATERIALS AND THE INSTALLATION OF THE IRRIGATION SYSTEM SHOWN ON THIS PLAN SHALL MEET THE LATEST EMWD STANDARDS AND SPECIFICATIONS AT COMMENCEMENT OF WORK. IF CONTRACTOR NOTICES ANY INCONSISTENCIES WITH THE LATEST IRRIGATION DESIGN STANDARDS, ONE SHALL IMMEDIATELY NOTIFY ALL PARTIES.

NO HOSE BIBS WILL BE ALLOWED FOR INSTALLATION ON SYSTEMS USING RECYCLED WATER.

**IRRIGATION DRAWING NOTE:**

THIS RETROFIT PLANS ARE BASED ON IRRIGATION PLANS NOT PREPARED BY EMWD / EMWD REPRESENTATIVE.

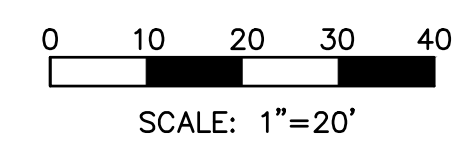
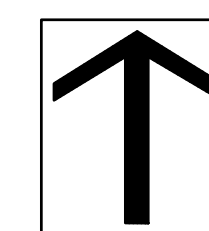
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**POTABLE AND RECYCLED WATER SEPARATION NOTE:**

RECYCLED MAINLINE (CONSTANT PRESSURE) SHOWN DIAGRAMMATICALLY FOR CLARITY ONLY. ACTUAL LOCATION MUST PROVIDE A MINIMUM FOUR (4) FEET HORIZONTAL CLEARANCE BETWEEN ALL POTABLE AND CONSTANT PRESSURE RECYCLED WATERLINES. RECYCLED WATER MAINLINE SHOULD BE INSTALLED UNDER POTABLE WATERLINES AND MAINTAIN ONE (1) FOOT OF VERTICAL CLEARANCE. WHERE THE RECYCLED WATER CONSTANT PRESSURE LINE MUST BE INSTALLED ABOVE THE POTABLE WATERLINE, A FOUR (4) INCH MINIMUM VERTICAL CLEARANCE MUST BE MAINTAINED AND THE RECYCLED WATER PRESSURE LINE MUST BE INSTALLED IN A CONTINUOUS PVC CLASS 200 PIPE SLEEVE WHICH EXTENDS A MINIMUM OF TEN (10) FEET EACH SIDE OF THE POTABLE WATERLINE.

**COLOR CODING**

SPRINKLERS, ROTOR HEADS AND OTHER TYPES OF DISPERSION HEADS SHALL HAVE THE EXPOSED SURFACE COLORED PURPLE. THE EXPOSED SURFACE SHALL BE COLORED THROUGH THE USE OF INTEGRALLY MOLDED PURPLE PLASTIC OR PERMANENTLY ATTACHED PURPLE PLASTIC RING OR DISC. VALVE BOX LIDS SHALL BE PURPLE PER INDUSTRY STANDARDS. THE LIDS SHALL HAVE THE WARNING "RECYCLED: DO NOT DRINK" IN ENGLISH AND SPANISH AND THE INTERNATIONAL "DO NOT DRINK" ON ONE SIDE AND "PELIGRO: AGUA IMPURA-NO BEBER" ON THE OPPOSITE SIDE. ALL SHRUB HEADS SHALL HAVE PURPLE CAPS. ROTOR HEADS MAYBE PAINTED PURPLE WHEN REPLACEMENT CAPS OR COLLARS ARE NOT AVAILABLE. CONTRACTOR TO SUBMIT QUANTITIES, MANUFACTURER AND MODEL NUMBER OF THE HEAD TO EMWD FOR APPROVAL.



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**BENCH MARK**

DESCRIPTION: \_\_\_\_\_

LOCATION: \_\_\_\_\_

VERTICAL DATUM: \_\_\_\_\_

HORIZONTAL DATUM: \_\_\_\_\_

ACCEPTED BY: \_\_\_\_\_

VALLEY-WIDE RECREATION AND PARK DISTRICT

DEPARTMENT	ACCEPTANCE	DATE
	<i>[Signature]</i>	6/17/19

**REVISIONS**

DATE	BY	MARK	DESCRIPTION
03/25/2019	HNCC		
	ENGINEER		

ACCEPTED BY: \_\_\_\_\_

EASTERN MUNICIPAL WATER DISTRICT

SENIOR CIVIL ENGINEER \_\_\_\_\_ DATE \_\_\_\_\_

DEPARTMENT	ACCEPTANCE	DATE
NEW BUSINESS P.C.		
OPERATIONS		
ENGINEERING		
POS ENGINEER		

**SHRIMP LANE**  
WINCHESTER, CA.

RECYCLED WATER IRRIGATION RETROFIT IMPROVEMENTS

**IRRIGATION PLAN**

WO: 14882

PCWO: \_\_\_\_\_

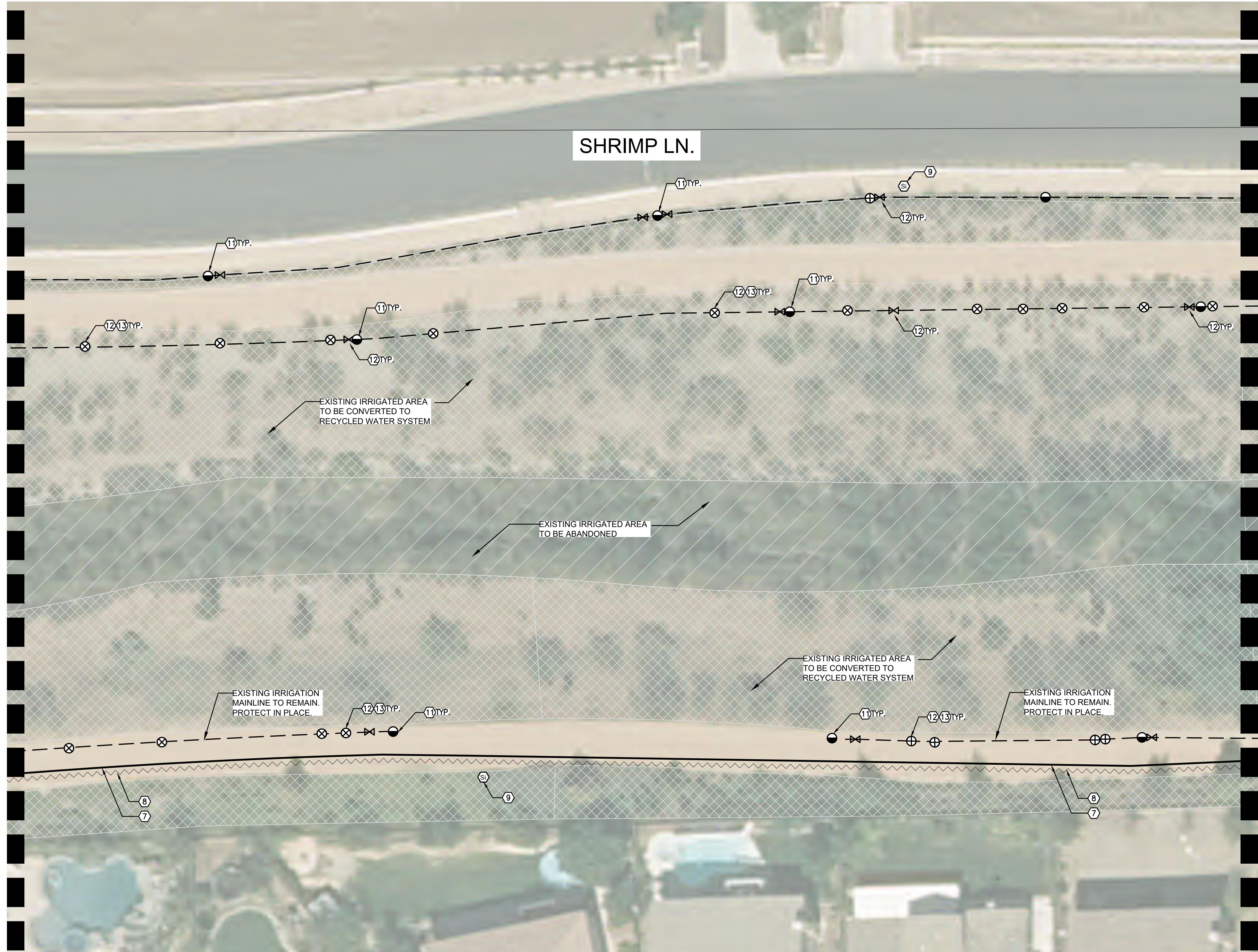
DOPP: RWJW: \_\_\_\_\_

COORD. RWUP: \_\_\_\_\_

I.D. SHT. 8 OF 22

S.A. D-





**CONSTRUCTION LEGEND**

- | SYMBOL | DESCRIPTION  |
|--------|--|
| ①      | INSTALL NEW 3" RECYCLED WATER METER PER EMWD STANDARD PB-13. WATER METER WILL BE PROVIDED BY EMWD.   |
| ②      | PROVIDE AND INSTALL NELSON 7645 (1") QUICK COUPLER VALVE WITH ACME THREAD AND PURPLE LOCKING COVER - INSTALL PER DETAIL.   |
| ③      | PROVIDE AND INSTALL YARNEY STRAINER MCS3-1. SIZE: 3" WITH MAX. FLOW 225 GPM. INSTALL ABOVE GROUND WITH STAINLESS STEEL ENCLOSURE PER MANUFACTURER STANDARD AND DETAIL.             |
| ④      | PROVIDE AND INSTALL GRISWOLD 2230 EPOXY COATED NORMALLY CLOSED MASTER VALVE (SIZE: 3") PER DETAIL. RUN WIRES TO EXISTING IRRIGATION CONTROLLER LOCATION.                           |
| ⑤      | PROVIDE AND INSTALL CALSENSE FLOW SENSOR FM-3 (SIZE: 3"). INSTALL PER DETAIL. RUN WIRES TO EXISTING IRRIGATION CONTROLLER LOCATION AND SET CONTROLLER FOR HIGH-FLOW MONITORING.    |
| ⑥      | PROVIDE AND INSTALL 1" BALL VALVE INSIDE ROUND PURPLE VALVE BOX.   |
| ⑦      | PROVIDE AND INSTALL 6" CLASS 200 PVC PURPLE RECYCLED WATER IRRIGATION MAINLINE WITH DUCTILE IRON FITTINGS (36" DEEP MIN.) AND CONNECT TO EXISTING IRRIGATION POC AS SHOWN ON PLAN. |
| ⑧      | PROVIDE AND INSTALL 14GA. VALVE WIRES FOR FLOW SENSOR AND MASTER VALVE INSIDE A 1.5" PVC SCH.40 CONDUIT. CONNECT TO EXISTING IRRIGATION CONTROLLER.                                |
| ⑨      | PROVIDE AND INSTALL RECYCLED WATER SIGNAGE PER EMWD STANDARD. EXACT LOCATION WILL BE DETERMINED BY EMWD INSPECTOR.   |
| ⑩      | CUT AND CAP EXISTING IRRIGATION MAINLINE AND REMOVE UNUSED PIPE. REMOVE EXISTING BACKFLOW PREVENTER AND EQUIPMENT.   |
| ⑪      | REPLACE EXISTING QUICK COUPLER WITH NELSON 7645 (1") QUICK COUPLER VALVE WITH ACME THREAD AND PURPLE LOCKING COVER - INSTALL PER DETAIL.   |
| ⑫      | REPLACE ALL EXISTING IRRIGATION VALVE BOXES' LID WITH PURPLE RECYCLED WATER AND LABEL ACCORDINGLY.   |
| ⑬      | PROVIDE PURPLE CAP FOR RECYCLED WATER IDENTIFICATION TO ALL EXISTING OVER HEAD IRRIGATION ROTOR / SPRAY SYSTEM.  |
| ⑭      | INSTALL NEW 6" WIDE CONCRETE MOW CURB  |
| ⑮      | CONNECT PROPOSE NEW MASTER VALVE AND FLOW SENSOR WIRES TO EXISTING CONTROLLER. ADJUST EXISTING CONTROLLER FOR FLOW MONITORING.   |
| ⑯      | CONNECT NEW PROPOSED RECYCLED MAINLINE TO EXISTING BOOSTER PUMP  |
| ⑰      | EXISTING DOMESTIC IRRIGATION WATER METER TO BE REMOVED (BY OTHERS)   |
| ⑱      | PROVIDE AND INSTALL 4" CLASS 200 PVC PURPLE RECYCLED WATER IRRIGATION MAINLINE WITH DUCTILE IRON FITTINGS (36" DEEP MIN.) AND CONNECT TO EXISTING IRRIGATION MAINLINE.             |
| ⑲      | REMOVE EXISTING BOOSTER PUMP AND UNUSED PIPE. RETURN ALL EQUIPMENT TO OWNER REPRESENTATIVE.  |
| ⑳      | PROVIDE AND INSTALL 3" CLASS 200 PVC PURPLE RECYCLED WATER IRRIGATION MAINLINE WITH SCH.80 FITTINGS (36" DEEP MIN.) AND CONNECT TO EXISTING IRRIGATION MAINLINE.                   |
| ㉑      | INSTALL RELOCATED 10HP 126 GPM PARK BOOSTER PUMP AND CONNECT TO EXISTING 125 AMP ELECTRICAL PEDESTAL.  |
| ㉒      | INSTALL NEW 2" RECYCLED WATER METER PER EMWD STANDARD PB-10. WATER METER WILL BE PROVIDED BY EMWD.   |
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| ㉕      | PROVIDE AND INSTALL CALSENSE FLOW SENSOR FM-1B (SIZE: 1"). INSTALL PER DETAIL. RUN WIRES TO EXISTING IRRIGATION CONTROLLER LOCATION AND SET CONTROLLER FOR HIGH-FLOW MONITORING.   |
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**RECYCLED WATER IRRIGATION LEGEND:**

SYMBOL	DESCRIPTION
Ⓢ	RECYCLED WATER SIGNAGE
⊗	RECYCLED ISOLATION VALVE
⊗	RECYCLED REMOTE CONTROL VALVE
⊗	RECYCLED QUICK COUPLER VALVE
⊗	RECYCLED IRRIGATION CONTROLLER
P	RECYCLED IRRIGATION BOOSTER PUMP
Ⓢ	RECYCLED IRRIGATION WATER METER
Ⓢ	RECYCLED IRRIGATION STRAINER
Ⓢ	RECYCLED IRRIGATION MASTER VALVE
Ⓢ	RECYCLED IRRIGATION FLOW SENSOR
—	RECYCLED IRRIGATION MAINLINE (PROPOSE)
- -	RECYCLED IRRIGATION MAINLINE (EXISTING)

**POTABLE WATER LEGEND:**

SYMBOL	DESCRIPTION
Ⓐ	POTABLE WATER METER
Ⓑ	POTABLE BACKFLOW PREVENTER
Ⓢ	POTABLE DRINKING FOUNTAIN
—	POTABLE WATER MAINLINE

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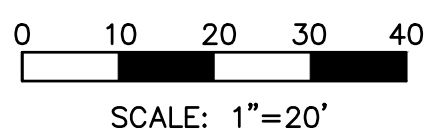
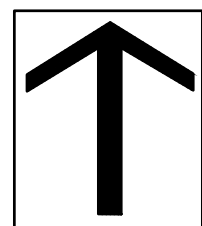
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DESCRIPTION: \_\_\_\_\_

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HORIZONTAL DATUM: \_\_\_\_\_

ACCEPTED BY: \_\_\_\_\_

VALLEY-WIDE RECREATION AND PARK DISTRICT

DEPARTMENT	ACCEPTANCE	DATE
	<i>[Signature]</i>	6/17/19

ACCEPTED BY: \_\_\_\_\_

EASTERN MUNICIPAL WATER DISTRICT

DATE	BY	MARK
03/25/2019	HNCC	
	ENGINEER	

DRAWN BY: \_\_\_\_\_

CHECKED BY: \_\_\_\_\_

ACCEPTED BY: \_\_\_\_\_

EASTERN MUNICIPAL WATER DISTRICT

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NEW BUSINESS P.C.		
OPERATIONS		
ENGINEERING		
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**SHRIMP LANE**  
WINCHESTER, CA.

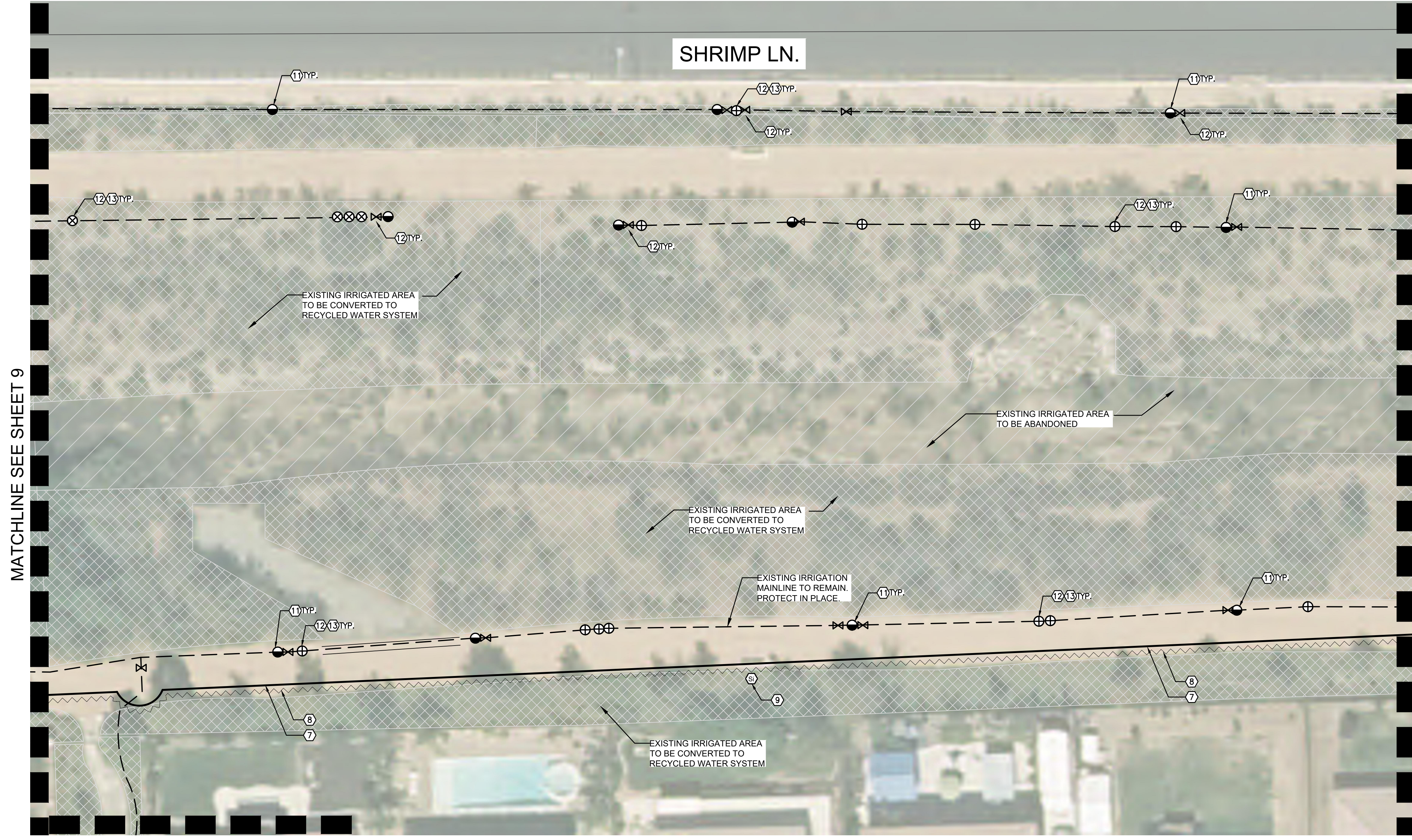
RECYCLED WATER IRRIGATION RETROFIT IMPROVEMENTS

**IRRIGATION PLAN**

WO: 14882
PCWO: _____
DOPP: RWUJ: _____
COORD. RWUP: _____
I.D. SHT 9 OF 22
S.A. D-



SHRIMP LN.



CONSTRUCTION LEGEND

- | SYMBOL | DESCRIPTION  |
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| 7      | PROVIDE AND INSTALL 6" CLASS 200 PVC PURPLE RECYCLED WATER IRRIGATION MAINLINE WITH DUCTILE IRON FITTINGS (36" DEEP MIN.) AND CONNECT TO EXISTING IRRIGATION POC AS SHOWN ON PLAN. |
| 8      | PROVIDE AND INSTALL 14GA. VALVE WIRES FOR FLOW SENSOR AND MASTER VALVE INSIDE A 1.5" PVC SCH.40 CONDUIT. CONNECT TO EXISTING IRRIGATION CONTROLLER.                                |
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| 10     | CUT AND CAP EXISTING IRRIGATION MAINLINE AND REMOVE UNUSED PIPE. REMOVE EXISTING BACKFLOW PREVENTER AND EQUIPMENT  |
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| 19     | REMOVE EXISTING BOOSTER PUMP AND UNUSED PIPE. RETURN ALL EQUIPMENT TO OWNER REPRESENTATIVE.  |
| 20     | PROVIDE AND INSTALL 3" CLASS 200 PVC PURPLE RECYCLED WATER IRRIGATION MAINLINE WITH SCH.80 FITTINGS (36" DEEP MIN.) AND CONNECT TO EXISTING IRRIGATION MAINLINE.                   |
| 21     | INSTALL RELOCATED 10HP 126 GPM PARK BOOSTER PUMP AND CONNECT TO EXISTING 125 AMP ELECTRICAL PEDESTAL.  |
| 22     | INSTALL NEW 2" RECYCLED WATER METER PER EMWD STANDARD PB-10. WATER METER WILL BE PROVIDED BY EMWD.   |
| 23     | PROVIDE AND INSTALL YARDNEY STRAINER MCS2-1. SIZE: 2" WITH MAX. FLOW 110 GPM. INSTALL ABOVE GROUND WITH STAINLESS STEEL ENCLOSURE PER MANUFACTURER STANDARD AND DETAIL.            |
| 24     | PROVIDE AND INSTALL GRISWOLD 2230 EPOXY COATED NORMALLY CLOSED MASTER VALVE (SIZE: 1") PER DETAIL. RUN WIRES TO EXISTING IRRIGATION CONTROLLER LOCATION.                           |
| 25     | PROVIDE AND INSTALL CALSENSE FLOW SENSOR FM-18 (SIZE: 1"). INSTALL PER DETAIL. RUN WIRES TO EXISTING IRRIGATION CONTROLLER LOCATION AND SET CONTROLLER FOR HIGH-FLOW MONITORING.   |
| 26     | REMOVE EXISTING MASTER VALVES AND FLOW SENSORS (INCLUDING VALVE BOXES) RECONNECT EXISTING MAINLINE   |

MATCHLINE SEE SHEET 9

MATCHLINE SEE SHEET 11

MATCHLINE 'C' SEE RIGHT

MATCHLINE 'C' SEE LEFT

**RECYCLED WATER IRRIGATION LEGEND:**

SYMBOL	DESCRIPTION
Ⓢ	RECYCLED WATER SIGNAGE
⊗	RECYCLED ISOLATION VALVE
⊗	RECYCLED REMOTE CONTROL VALVE
⊗	RECYCLED QUICK COUPLER VALVE
⊗	RECYCLED IRRIGATION CONTROLLER
P	RECYCLED IRRIGATION BOOSTER PUMP
Ⓢ	RECYCLED IRRIGATION WATER METER
Ⓢ	RECYCLED IRRIGATION STRAINER
Ⓢ	RECYCLED IRRIGATION MASTER VALVE
Ⓢ	RECYCLED IRRIGATION FLOW SENSOR
---	RECYCLED IRRIGATION MAINLINE (PROPOSE)
---	RECYCLED IRRIGATION MAINLINE (EXISTING)

**POTABLE WATER LEGEND:**

SYMBOL	DESCRIPTION
Ⓐ	POTABLE WATER METER
Ⓢ	POTABLE BACKFLOW PREVENTER
Ⓢ	POTABLE DRINKING FOUNTAIN
---	POTABLE WATER MAINLINE

**INSTALLATION NOTES**

THE MATERIALS AND THE INSTALLATION OF THE IRRIGATION SYSTEM SHOWN ON THIS PLAN SHALL MEET THE LATEST EMWD STANDARDS AND SPECIFICATIONS AT COMMENCEMENT OF WORK. IF CONTRACTOR NOTICES ANY INCONSISTENCIES WITH THE LATEST IRRIGATION DESIGN STANDARDS, ONE SHALL IMMEDIATELY NOTIFY ALL PARTIES.

NO HOSE BIBS WILL BE ALLOWED FOR INSTALLATION ON SYSTEMS USING RECYCLED WATER.

**IRRIGATION DRAWING NOTE:**

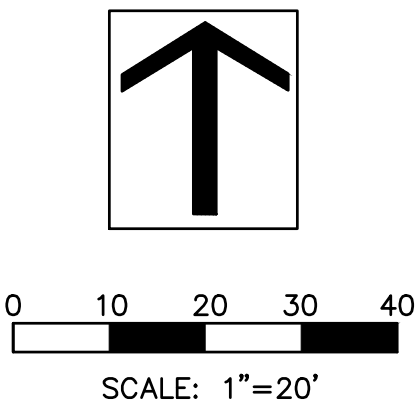
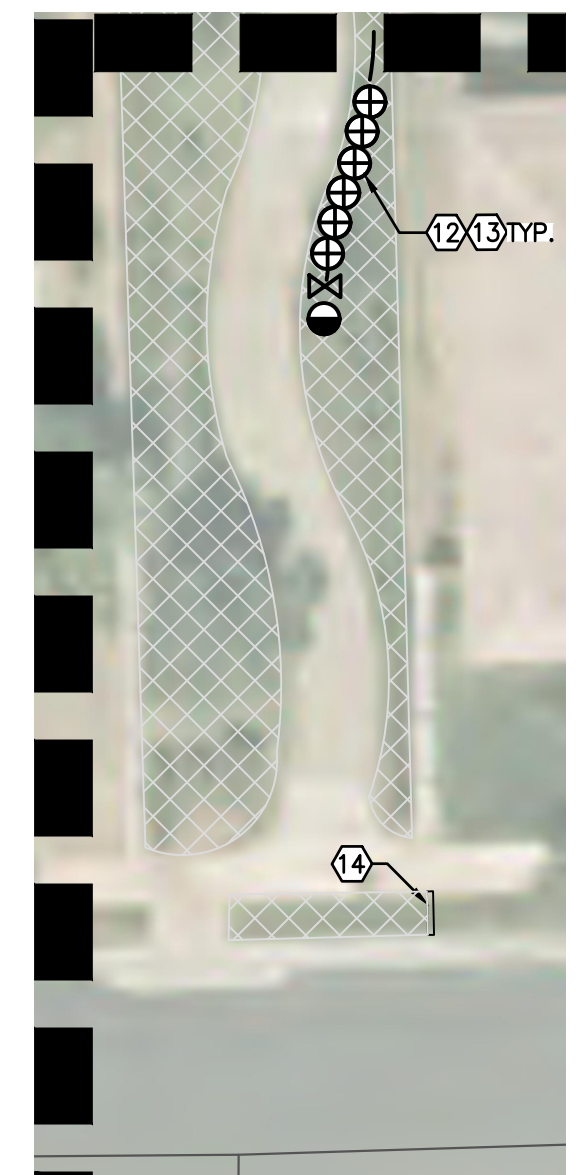
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**POTABLE AND RECYCLED WATER SEPARATION NOTE:**

RECYCLED MAINLINE (CONSTANT PRESSURE) SHOWN DIAGRAMMATICALLY FOR CLARITY ONLY. ACTUAL LOCATION MUST PROVIDE A MINIMUM FOUR (4) FEET HORIZONTAL CLEARANCE BETWEEN ALL POTABLE AND CONSTANT PRESSURE RECYCLED WATERLINES. RECYCLED WATER MAINLINE SHOULD BE INSTALLED UNDER POTABLE WATERLINES AND MAINTAIN ONE (1) FOOT OF VERTICAL CLEARANCE. WHERE THE RECYCLED WATER CONSTANT PRESSURE LINE MUST BE INSTALLED ABOVE THE POTABLE WATERLINE, A FOUR (4) INCH MINIMUM VERTICAL CLEARANCE MUST BE MAINTAINED AND THE RECYCLED WATER PRESSURE LINE MUST BE INSTALLED IN A CONTINUOUS PVC CLASS 200 PIPE SLEEVE WHICH EXTENDS A MINIMUM OF TEN (10) FEET EACH SIDE OF THE POTABLE WATERLINE.

**COLOR CODING**

SPRINKLERS, ROTOR HEADS AND OTHER TYPES OF DISPERSION HEADS SHALL HAVE THE EXPOSED SURFACE COLORED PURPLE. THE EXPOSED SURFACE SHALL BE COLORED THROUGH THE USE OF INTEGRALLY MOLDED PURPLE PLASTIC OR PERMANENTLY ATTACHED PURPLE PLASTIC RING OR DISC. VALVE BOX LIDS SHALL BE PURPLE PER INDUSTRY STANDARDS. THE LIDS SHALL HAVE THE WARNING "RECYCLED: DO NOT DRINK" IN ENGLISH AND SPANISH AND THE INTERNATIONAL "DO NOT DRINK" ON ONE SIDE AND "PELIGRO: AGUA IMPURA-NO BEBER" ON THE OPPOSITE SIDE. ALL SHRUB HEADS SHALL HAVE PURPLE CAPS. ROTOR HEADS MAYBE PAINTED PURPLE WHEN REPLACEMENT CAPS OR COLLARS ARE NOT AVAILABLE. CONTRACTOR TO SUBMIT QUANTITIES, MANUFACTURER AND MODEL NUMBER OF THE HEAD TO EMWD FOR APPROVAL.



**DIG ALERT**

Call: TOLL FREE 1-800-227-2600 OR 811

FOUR FULL WORKING DAYS BEFORE YOU DIG

ACCEPTED BY: VALLEY-WIDE RECREATION AND PARK DISTRICT

DEPARTMENT: \_\_\_\_\_

ACCEPTANCE: \_\_\_\_\_

DATE: 6/17/19

VERTICAL DATUM: \_\_\_\_\_

HORIZONTAL DATUM: \_\_\_\_\_

DATE	BY	MARK
03/25/2019	HNCC	
	ENGINEER	

ACCEPTED BY: EASTERN MUNICIPAL WATER DISTRICT

SENIOR CIVIL ENGINEER: \_\_\_\_\_

DATE: \_\_\_\_\_

DEPARTMENT	ACCEPTANCE	DATE
NEW BUSINESS P.C.		
OPERATIONS		
ENGINEERING		
POS ENGINEER		

SHRIMP LANE WINCHESTER, CA.

RECYCLED WATER IRRIGATION RETROFIT IMPROVEMENTS

**IRRIGATION PLAN**

WO: 14882

PCWO: \_\_\_\_\_

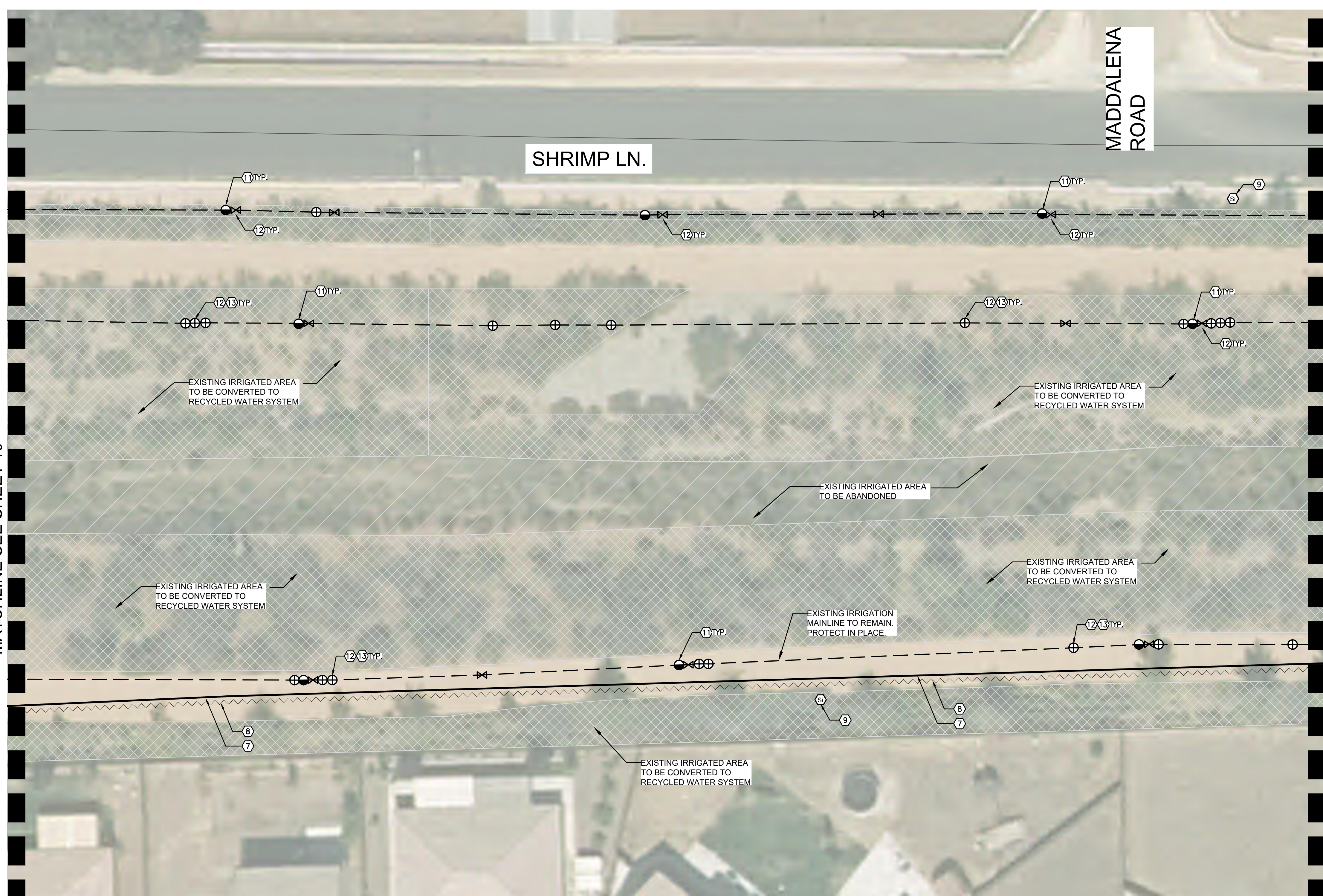
DOPP: RWJUE: \_\_\_\_\_

COORD. RWUP: \_\_\_\_\_

I.D. SHT\_10\_OF\_22

S.A. D-





**CONSTRUCTION LEGEND**

SYMBOL	DESCRIPTION
1	INSTALL NEW 3" RECYCLED WATER METER PER EMWD STANDARD PB-13. WATER METER WILL BE PROVIDED BY EMWD.
2	PROVIDE AND INSTALL NELSON 7645 (1") QUICK COUPLER VALVE WITH ACME THREAD AND PURPLE LOCKING COVER - INSTALL PER DETAIL
3	PROVIDE AND INSTALL YARDNEY STRAINER MCS3-1. SIZE: 3" WITH MAX. FLOW 225 GPM. INSTALL ABOVE GROUND WITH STAINLESS STEEL ENCLOSURE PER MANUFACTURER STANDARD AND DETAIL.
4	PROVIDE AND INSTALL GRISWOLD 2230 EPOXY COATED NORMALLY CLOSED MASTER VALVE (SIZE: 3") PER DETAIL. RUN WIRES TO EXISTING IRRIGATION CONTROLLER LOCATION.
5	PROVIDE AND INSTALL CALSENSE FLOW SENSOR FM-3 (SIZE: 3"). INSTALL PER DETAIL. RUN WIRES TO EXISTING IRRIGATION CONTROLLER LOCATION AND SET CONTROLLER FOR HIGH-FLOW MONITORING.
6	PROVIDE AND INSTALL 1" BALL VALVE INSIDE ROUND PURPLE VALVE BOX.
7	PROVIDE AND INSTALL 6" CLASS 200 PVC PURPLE RECYCLED WATER IRRIGATION MAINLINE WITH DUCTILE IRON FITTINGS (36" DEEP MIN.) AND CONNECT TO EXISTING IRRIGATION POC AS SHOWN ON PLAN.
8	PROVIDE AND INSTALL 14GA. VALVE WIRES FOR FLOW SENSOR AND MASTER VALVE INSIDE A 1.5" PVC SCH.40 CONDUIT. CONNECT TO EXISTING IRRIGATION CONTROLLER.
9	PROVIDE AND INSTALL RECYCLED WATER SIGNAGE PER EMWD STANDARD. EXACT LOCATION WILL BE DETERMINED BY EMWD INSPECTOR.
10	CUT AND CAP EXISTING IRRIGATION MAINLINE AND REMOVE UNUSED PIPE. REMOVE EXISTING BACKFLOW PREVENTER AND EQUIPMENT
11	REPLACE EXISTING QUICK COUPLER WITH NELSON 7645 (1") QUICK COUPLER VALVE WITH ACME THREAD AND PURPLE LOCKING COVER - INSTALL PER DETAIL
12	REPLACE ALL EXISTING IRRIGATION VALVE BOXES' LID WITH PURPLE RECYCLED WATER AND LABEL ACCORDINGLY.
13	PROVIDE PURPLE CAP FOR RECYCLED WATER IDENTIFICATION TO ALL EXISTING OVER HEAD IRRIGATION ROTOR / SPRAY SYSTEM.
14	INSTALL NEW 6" WIDE CONCRETE MOW CURB
15	CONNECT PROPOSE NEW MASTER VALVE AND FLOW SENSOR WIRES TO EXISTING CONTROLLER. ADJUST EXISTING CONTROLLER FOR FLOW MONITORING.
16	CONNECT NEW PROPOSED RECYCLED MAINLINE TO EXISTING BOOSTER PUMP
17	EXISTING DOMESTIC IRRIGATION WATER METER TO BE REMOVED (BY OTHERS)
18	PROVIDE AND INSTALL 4" CLASS 200 PVC PURPLE RECYCLED WATER IRRIGATION MAINLINE WITH DUCTILE IRON FITTINGS (36" DEEP MIN.) AND CONNECT TO EXISTING IRRIGATION MAINLINE.
19	REMOVE EXISTING BOOSTER PUMP AND UNUSED PIPE. RETURN ALL EQUIPMENT TO OWNER REPRESENTATIVE.
20	PROVIDE AND INSTALL 3" CLASS 200 PVC PURPLE RECYCLED WATER IRRIGATION MAINLINE WITH SCH.80 FITTINGS (36" DEEP MIN.) AND CONNECT TO EXISTING IRRIGATION MAINLINE.
21	INSTALL RELOCATED 10HP 126 GPM PARK BOOSTER PUMP AND CONNECT TO EXISTING 125 AMP ELECTRICAL PEDESTAL.
22	INSTALL NEW 2" RECYCLED WATER METER PER EMWD STANDARD PB-10. WATER METER WILL BE PROVIDED BY EMWD.
23	PROVIDE AND INSTALL YARDNEY STRAINER MCS2-1. SIZE: 2" WITH MAX. FLOW 110 GPM. INSTALL ABOVE GROUND WITH STAINLESS STEEL ENCLOSURE PER MANUFACTURER STANDARD AND DETAIL.
24	PROVIDE AND INSTALL GRISWOLD 2230 EPOXY COATED NORMALLY CLOSED MASTER VALVE (SIZE: 1") PER DETAIL. RUN WIRES TO EXISTING IRRIGATION CONTROLLER LOCATION.
25	PROVIDE AND INSTALL CALSENSE FLOW SENSOR FM-1B (SIZE: 1"). INSTALL PER DETAIL. RUN WIRES TO EXISTING IRRIGATION CONTROLLER LOCATION AND SET CONTROLLER FOR HIGH-FLOW MONITORING.
26	REMOVE EXISTING MASTER VALVES AND FLOW SENSORS (INCLUDING VALVE BOXES). RECONNECT EXISTING MAINLINE.

**RECYCLED WATER IRRIGATION LEGEND:**

SYMBOL	DESCRIPTION
5	RECYCLED WATER SIGNAGE
6	RECYCLED ISOLATION VALVE
7	RECYCLED REMOTE CONTROL VALVE
8	RECYCLED QUICK COUPLER VALVE
9	RECYCLED IRRIGATION CONTROLLER
P	RECYCLED IRRIGATION BOOSTER PUMP
10	RECYCLED IRRIGATION WATER METER
11	RECYCLED IRRIGATION STRAINER
12	RECYCLED IRRIGATION MASTER VALVE
13	RECYCLED IRRIGATION FLOW SENSOR
14	RECYCLED IRRIGATION MAINLINE (PROPOSE)
15	RECYCLED IRRIGATION MAINLINE (EXISTING)

**POTABLE WATER LEGEND:**

SYMBOL	DESCRIPTION
A	POTABLE WATER METER
B	POTABLE BACKFLOW PREVENTER
C	POTABLE DRINKING FOUNTAIN
---	POTABLE WATER MAINLINE

**INSTALLATION NOTES**

THE MATERIALS AND THE INSTALLATION OF THE IRRIGATION SYSTEM SHOWN ON THIS PLAN SHALL MEET THE LATEST EMWD STANDARDS AND SPECIFICATIONS AT COMMENCEMENT OF WORK. IF CONTRACTOR NOTICES ANY INCONSISTENCIES WITH THE LATEST IRRIGATION DESIGN STANDARDS, ONE SHALL IMMEDIATELY NOTIFY ALL PARTIES.  
NO HOSE BIBS WILL BE ALLOWED FOR INSTALLATION ON SYSTEMS USING RECYCLED WATER.

**IRRIGATION DRAWING NOTE:**

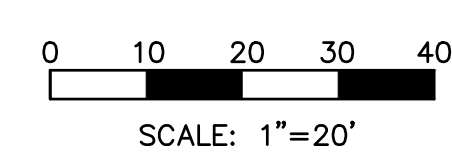
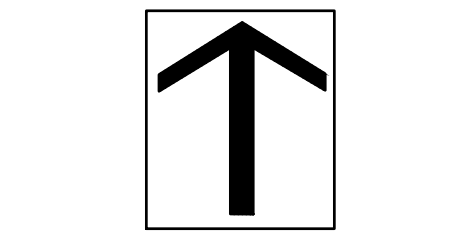
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**POTABLE AND RECYCLED WATER SEPARATION NOTE:**

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**COLOR CODING**

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**DIG ALERT**  
Call: TOLL FREE 1-800-227-2600 OR 811  
TWO FULL WORKING DAYS BEFORE YOU DIG

**BENCH MARK**  
DESCRIPTION: \_\_\_\_\_  
LOCATION: \_\_\_\_\_  
VERTICAL DATUM: \_\_\_\_\_  
HORIZONTAL DATUM: \_\_\_\_\_

ACCEPTED BY: VALLEY-WIDE RECREATION AND PARK DISTRICT  
DEPARTMENT: \_\_\_\_\_ ACCEPTANCE: \_\_\_\_\_ DATE: 6/17/19

**REVISIONS**

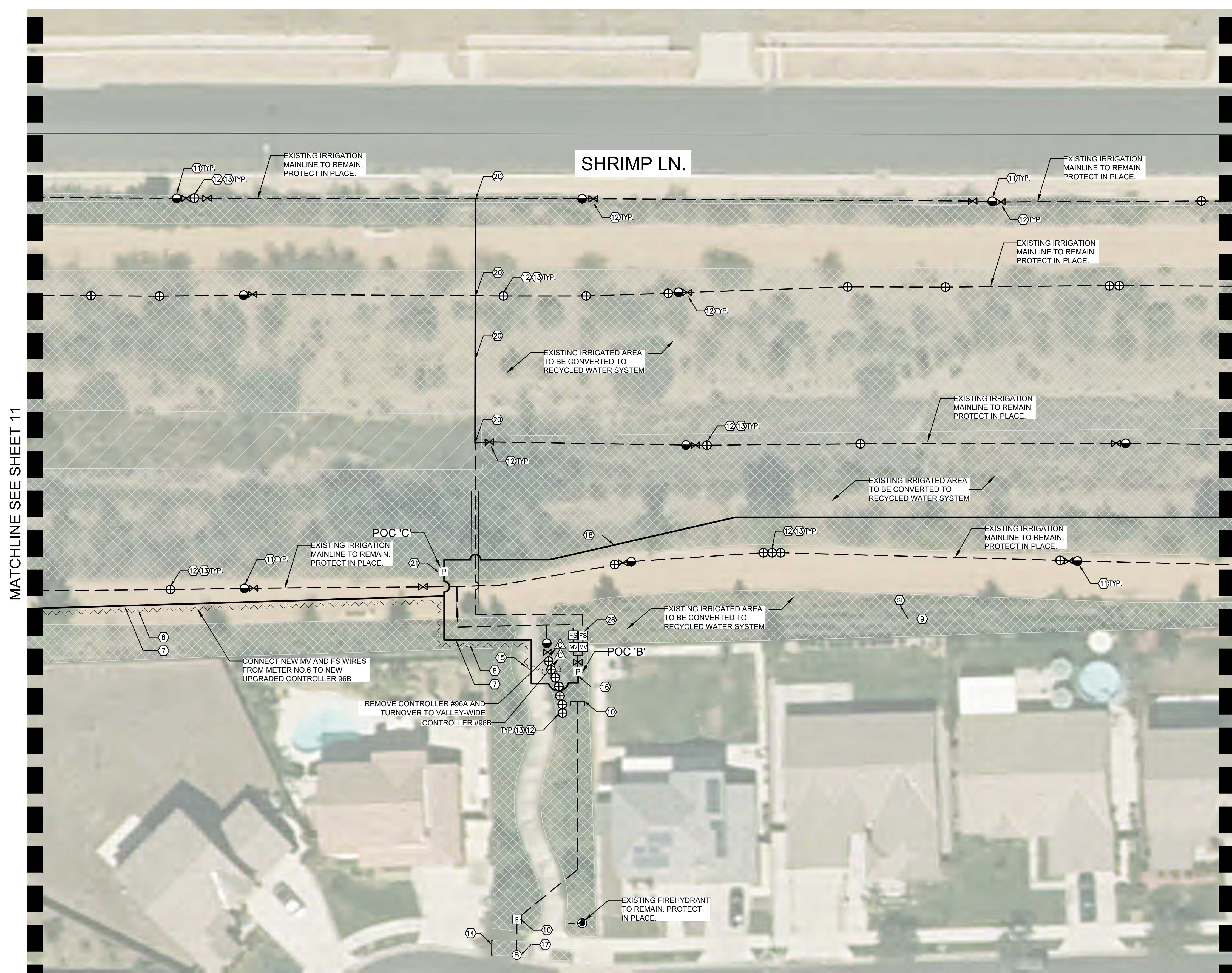
DATE	BY	MARK	DESCRIPTION
03/25/2019	HNCC		
	ENGINEER		

ACCEPTED BY: EASTERN MUNICIPAL WATER DISTRICT  
SENIOR CIVIL ENGINEER: \_\_\_\_\_ DATE: \_\_\_\_\_  
DEPARTMENT: \_\_\_\_\_ ACCEPTANCE: \_\_\_\_\_ DATE: \_\_\_\_\_  
NEW BUSINESS P.C. \_\_\_\_\_  
OPERATIONS \_\_\_\_\_  
ENGINEERING \_\_\_\_\_  
POS ENGINEER \_\_\_\_\_

**SHRIMP LANE**  
WINCHESTER, CA.  
RECYCLED WATER IRRIGATION RETROFIT IMPROVEMENTS  
**IRRIGATION PLAN**

WO: 14882
PCWO: _____
DOPP: RWUJ: _____
COORD: RWUP: _____
I.D. SHT 11 OF 22
S.A. D-





**CONSTRUCTION LEGEND**

SYMBOL	DESCRIPTION
①	INSTALL NEW 3" RECYCLED WATER METER PER EMWD STANDARD PB-13. WATER METER WILL BE PROVIDED BY EMWD.
②	PROVIDE AND INSTALL NELSON 7645 (1") QUICK COUPLER VALVE WITH ACME THREAD AND PURPLE LOCKING COVER - INSTALL PER DETAIL.
③	PROVIDE AND INSTALL YARDNEY STRAINER MCS3-1. SIZE: 3" WITH MAX. FLOW 225 GPM. INSTALL ABOVE GROUND WITH STAINLESS STEEL ENCLOSURE PER MANUFACTURER STANDARD AND DETAIL.
④	PROVIDE AND INSTALL GRISWOLD 2230 EPOXY COATED NORMALLY CLOSED MASTER VALVE (SIZE: 3") PER DETAIL. RUN WIRES TO EXISTING IRRIGATION CONTROLLER LOCATION.
⑤	PROVIDE AND INSTALL CALSENSE FLOW SENSOR FM-3 (SIZE: 3"). INSTALL PER DETAIL. RUN WIRES TO EXISTING IRRIGATION CONTROLLER LOCATION AND SET CONTROLLER FOR HIGH-FLOW MONITORING.
⑥	PROVIDE AND INSTALL 1" BALL VALVE INSIDE ROUND PURPLE VALVE BOX.
⑦	PROVIDE AND INSTALL 6" CLASS 200 PVC PURPLE RECYCLED WATER IRRIGATION MAINLINE WITH DUCTILE IRON FITTINGS (36" DEEP MIN.) AND CONNECT TO EXISTING IRRIGATION POC AS SHOWN ON PLAN.
⑧	PROVIDE AND INSTALL 14GA. VALVE WIRES FOR FLOW SENSOR AND MASTER VALVE INSIDE A 1.5" PVC SCH.40 CONDUIT. CONNECT TO EXISTING IRRIGATION CONTROLLER.
⑨	PROVIDE AND INSTALL RECYCLED WATER SIGNAGE PER EMWD STANDARD. EXACT LOCATION WILL BE DETERMINED BY EMWD INSPECTOR.
⑩	CUT AND CAP EXISTING IRRIGATION MAINLINE AND REMOVE UNUSED PIPE. REMOVE EXISTING BACKFLOW PREVENTER AND EQUIPMENT.
⑪	REPLACE EXISTING QUICK COUPLER WITH NELSON 7645 (1") QUICK COUPLER VALVE WITH ACME THREAD AND PURPLE LOCKING COVER - INSTALL PER DETAIL.
⑫	REPLACE ALL EXISTING IRRIGATION VALVE BOXES' LID WITH PURPLE RECYCLED WATER AND LABEL ACCORDINGLY.
⑬	PROVIDE PURPLE CAP FOR RECYCLED WATER IDENTIFICATION TO ALL EXISTING OVER HEAD IRRIGATION ROTOR / SPRAY SYSTEM.
⑭	INSTALL NEW 6" WIDE CONCRETE MOW CURB
⑮	CONNECT PROPOSE NEW MASTER VALVE AND FLOW SENSOR WIRES TO EXISTING CONTROLLER. ADJUST EXISTING CONTROLLER FOR FLOW MONITORING.
⑯	CONNECT NEW PROPOSED RECYCLED MAINLINE TO EXISTING BOOSTER PUMP
⑰	EXISTING DOMESTIC IRRIGATION WATER METER TO BE REMOVED (BY OTHERS)
⑱	PROVIDE AND INSTALL 4" CLASS 200 PVC PURPLE RECYCLED WATER IRRIGATION MAINLINE WITH DUCTILE IRON FITTINGS (36" DEEP MIN.) AND CONNECT TO EXISTING IRRIGATION MAINLINE.
⑲	REMOVE EXISTING BOOSTER PUMP AND UNUSED PIPE. RETURN ALL EQUIPMENT TO OWNER REPRESENTATIVE.
⑳	PROVIDE AND INSTALL 3" CLASS 200 PVC PURPLE RECYCLED WATER IRRIGATION MAINLINE WITH SCH.80 FITTINGS (36" DEEP MIN.) AND CONNECT TO EXISTING IRRIGATION MAINLINE.
㉑	INSTALL RELOCATED 10HP 126 GPM PARK BOOSTER PUMP AND CONNECT TO EXISTING 125 AMP ELECTRICAL PEDESTAL.
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㉕	PROVIDE AND INSTALL CALSENSE FLOW SENSOR FM-1B (SIZE: 1"). INSTALL PER DETAIL. RUN WIRES TO EXISTING IRRIGATION CONTROLLER LOCATION AND SET CONTROLLER FOR HIGH-FLOW MONITORING.
㉖	REMOVE EXISTING MASTER VALVES AND FLOW SENSORS (INCLUDING VALVE BOXES). RECONNECT EXISTING MAINLINE.

**RECYCLED WATER IRRIGATION LEGEND**

SYMBOL	DESCRIPTION
Ⓢ	RECYCLED WATER SIGNAGE
⊗	RECYCLED ISOLATION VALVE
⊗	RECYCLED REMOTE CONTROL VALVE
⊗	RECYCLED QUICK COUPLER VALVE
⊗	RECYCLED IRRIGATION CONTROLLER
P	RECYCLED IRRIGATION BOOSTER PUMP
Ⓢ	RECYCLED IRRIGATION WATER METER
Ⓢ	RECYCLED IRRIGATION STRAINER
Ⓢ	RECYCLED IRRIGATION MASTER VALVE
FS	RECYCLED IRRIGATION FLOW SENSOR
---	RECYCLED IRRIGATION MAINLINE (PROPOSE)
- - -	RECYCLED IRRIGATION MAINLINE (EXISTING)

**POTABLE WATER LEGEND**

SYMBOL	DESCRIPTION
Ⓐ	POTABLE WATER METER
Ⓑ	POTABLE BACKFLOW PREVENTER
Ⓢ	POTABLE DRINKING FOUNTAIN
---	POTABLE WATER MAINLINE

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**IRRIGATION DRAWING NOTE:**

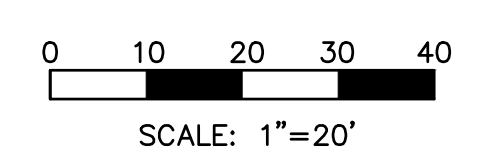
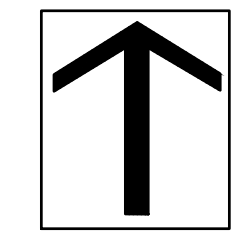
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**COLOR CODING**

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**DIG ALERT**

Call: TOLL FREE  
1-800-227-2600  
OR  
811

TWO FULL WORKING DAYS BEFORE YOU DIG

**BENCH MARK**

DESCRIPTION: \_\_\_\_\_

LOCATION: \_\_\_\_\_

VERTICAL DATUM: \_\_\_\_\_

HORIZONTAL DATUM: \_\_\_\_\_

ACCEPTED BY: \_\_\_\_\_

VALLEY-WIDE RECREATION AND PARK DISTRICT

DEPARTMENT	ACCEPTANCE	DATE
	<i>[Signature]</i>	6/17/19

**REVISIONS**

DATE	BY	MARK	DESCRIPTION
03/25/2019	HNCC		
	ENGINEER		

ACCEPTED BY: \_\_\_\_\_

EASTERN MUNICIPAL WATER DISTRICT

SENIOR CIVIL ENGINEER \_\_\_\_\_ DATE \_\_\_\_\_

DEPARTMENT	ACCEPTANCE	DATE
NEW BUSINESS P.C.		
OPERATIONS		
ENGINEERING		
POS ENGINEER		

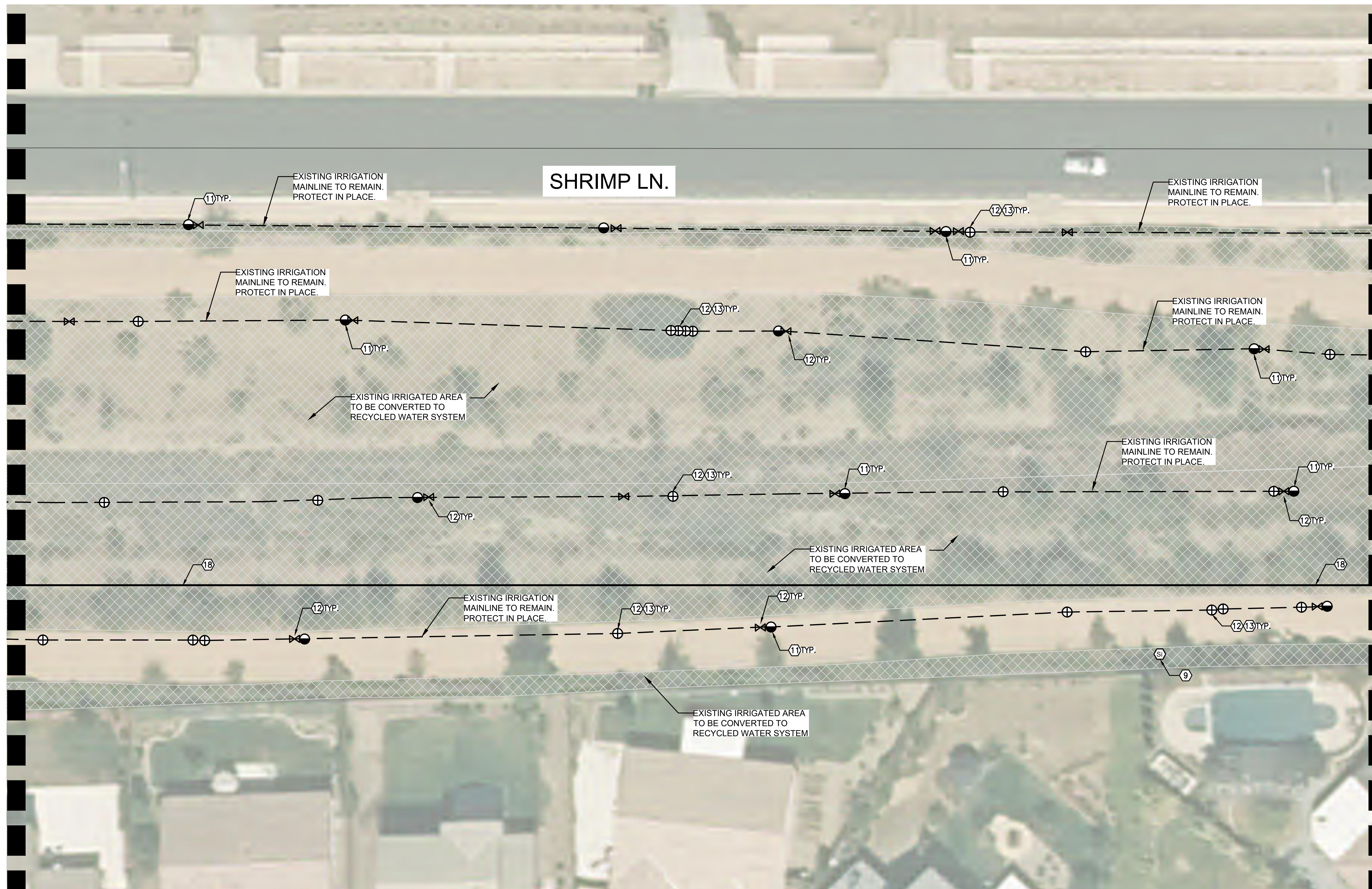
**SHRIMP LANE**  
WINCHESTER, CA.

RECYCLED WATER IRRIGATION RETROFIT IMPROVEMENTS

**IRRIGATION PLAN**

WO: 14882
PCWO: _____
DOPP: RWJW: _____
COORD: RWUP: _____
I.D. SHT_12_OF_22
S.A. D-





MATCHLINE SEE SHEET 12

MATCHLINE SEE SHEET 14

**CONSTRUCTION LEGEND**

SYMBOL	DESCRIPTION
①	INSTALL NEW 3" RECYCLED WATER METER PER EMWD STANDARD PB-13. WATER METER WILL BE PROVIDED BY EMWD.
②	PROVIDE AND INSTALL NELSON 7645 (1") QUICK COUPLER VALVE WITH ACME THREAD AND PURPLE LOCKING COVER - INSTALL PER DETAIL.
③	PROVIDE AND INSTALL YARDNEY STRAINER MCS3-1. SIZE: 3" WITH MAX. FLOW 225 GPM. INSTALL ABOVE GROUND WITH STAINLESS STEEL ENCLOSURE PER MANUFACTURER STANDARD AND DETAIL.
④	PROVIDE AND INSTALL GRISWOLD 2230 EPOXY COATED NORMALLY CLOSED MASTER VALVE (SIZE: 3") PER DETAIL. RUN WIRES TO EXISTING IRRIGATION CONTROLLER LOCATION.
⑤	PROVIDE AND INSTALL CALSENSE FLOW SENSOR FM-3 (SIZE: 3"). INSTALL PER DETAIL. RUN WIRES TO EXISTING IRRIGATION CONTROLLER LOCATION AND SET CONTROLLER FOR HIGH-FLOW MONITORING.
⑥	PROVIDE AND INSTALL 1" BALL VALVE INSIDE ROUND PURPLE VALVE BOX.
⑦	PROVIDE AND INSTALL 6" CLASS 200 PVC PURPLE RECYCLED WATER IRRIGATION MAINLINE WITH DUCTILE IRON FITTINGS (36" DEEP MIN.) AND CONNECT TO EXISTING IRRIGATION POC AS SHOWN ON PLAN.
⑧	PROVIDE AND INSTALL 14GA. VALVE WIRES FOR FLOW SENSOR AND MASTER VALVE INSIDE A 1.5" PVC SCH.40 CONDUIT. CONNECT TO EXISTING IRRIGATION CONTROLLER.
⑨	PROVIDE AND INSTALL RECYCLED WATER SIGNAGE PER EMWD STANDARD. EXACT LOCATION WILL BE DETERMINED BY EMWD INSPECTOR.
⑩	CUT AND CAP EXISTING IRRIGATION MAINLINE AND REMOVE UNUSED PIPE. REMOVE EXISTING BACKFLOW PREVENTER AND EQUIPMENT.
⑪	REPLACE EXISTING QUICK COUPLER WITH NELSON 7645 (1") QUICK COUPLER VALVE WITH ACME THREAD AND PURPLE LOCKING COVER - INSTALL PER DETAIL.
⑫	REPLACE ALL EXISTING IRRIGATION VALVE BOXES' LID WITH PURPLE RECYCLED WATER AND LABEL ACCORDINGLY.
⑬	PROVIDE PURPLE CAP FOR RECYCLED WATER IDENTIFICATION TO ALL EXISTING OVER HEAD IRRIGATION ROTOR / SPRAY SYSTEM.
⑭	INSTALL NEW 6" WIDE CONCRETE MOW CURB
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⑯	CONNECT NEW PROPOSED RECYCLED MAINLINE TO EXISTING BOOSTER PUMP
⑰	EXISTING DOMESTIC IRRIGATION WATER METER TO BE REMOVED (BY OTHERS)
⑱	PROVIDE AND INSTALL 4" CLASS 200 PVC PURPLE RECYCLED WATER IRRIGATION MAINLINE WITH DUCTILE IRON FITTINGS (36" DEEP MIN.) AND CONNECT TO EXISTING IRRIGATION MAINLINE.
⑲	REMOVE EXISTING BOOSTER PUMP AND UNUSED PIPE. RETURN ALL EQUIPMENT TO OWNER REPRESENTATIVE.
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㉑	INSTALL RELOCATED 10HP 126 GPM PARK BOOSTER PUMP AND CONNECT TO EXISTING 125 AMP ELECTRICAL PEDESTAL.
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㉕	PROVIDE AND INSTALL CALSENSE FLOW SENSOR FM-18 (SIZE: 1"). INSTALL PER DETAIL. RUN WIRES TO EXISTING IRRIGATION CONTROLLER LOCATION AND SET CONTROLLER FOR HIGH-FLOW MONITORING.
㉖	REMOVE EXISTING MASTER VALVES AND FLOW SENSORS (INCLUDING VALVE BOXES). RECONNECT EXISTING MAINLINE.

**RECYCLED WATER IRRIGATION LEGEND:**

SYMBOL	DESCRIPTION
⑤	RECYCLED WATER SIGNAGE
⊗	RECYCLED ISOLATION VALVE
⊗	RECYCLED REMOTE CONTROL VALVE
⊗	RECYCLED QUICK COUPLER VALVE
⊗	RECYCLED IRRIGATION CONTROLLER
P	RECYCLED IRRIGATION BOOSTER PUMP
⊗	RECYCLED IRRIGATION WATER METER
⊗	RECYCLED IRRIGATION STRAINER
⊗	RECYCLED IRRIGATION MASTER VALVE
⊗	RECYCLED IRRIGATION FLOW SENSOR
---	RECYCLED IRRIGATION MAINLINE (PROPOSE)
---	RECYCLED IRRIGATION MAINLINE (EXISTING)

**POTABLE WATER LEGEND:**

SYMBOL	DESCRIPTION
⊗	POTABLE WATER METER
⊗	POTABLE BACKFLOW PREVENTER
⊗	POTABLE DRINKING FOUNTAIN
---	POTABLE WATER MAINLINE

**INSTALLATION NOTES**

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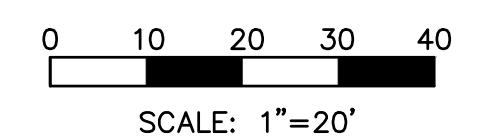
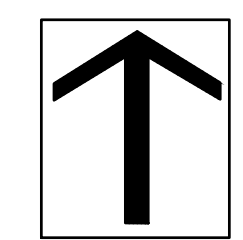
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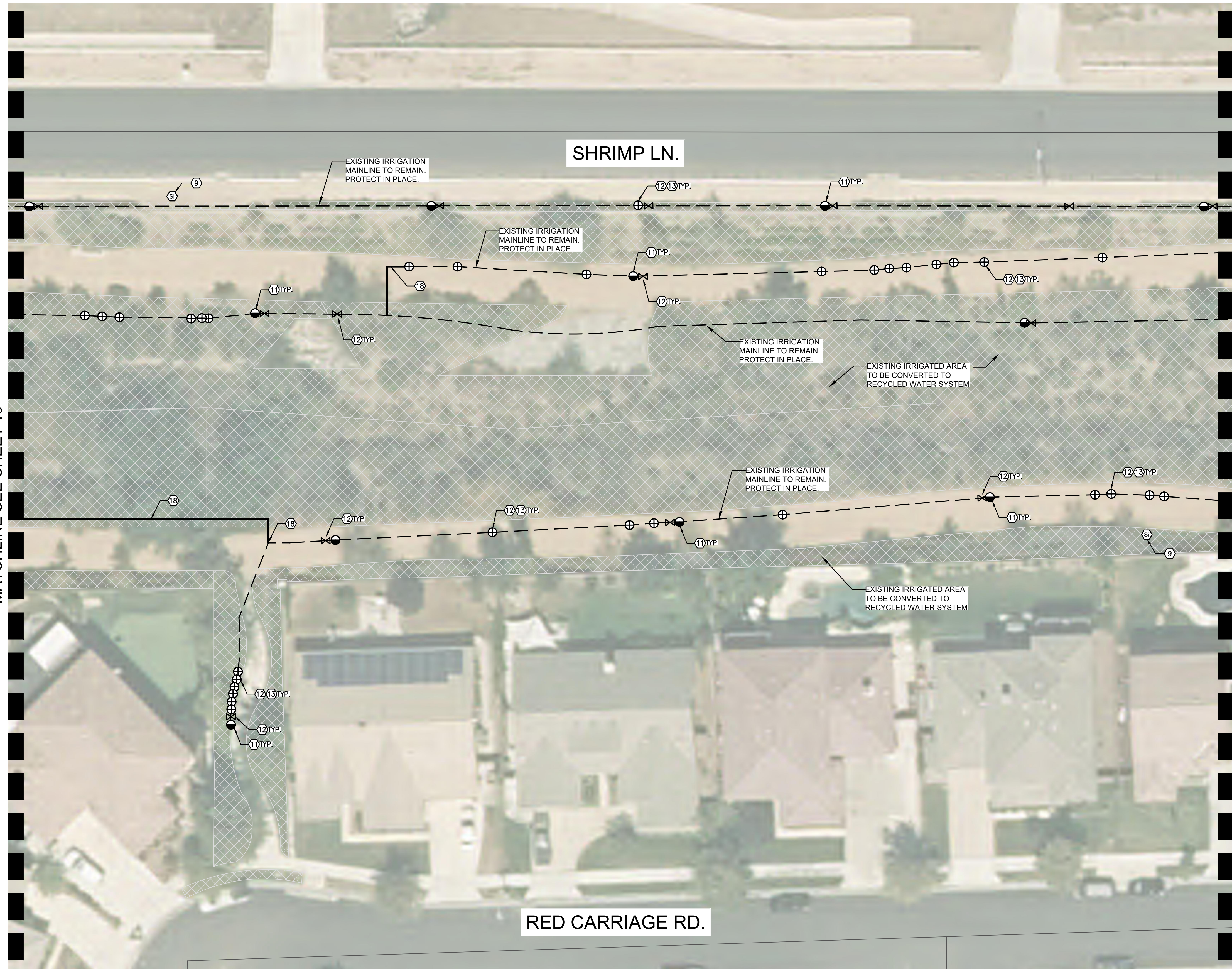
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<b>DIG ALERT</b>  Call: TOLL FREE 1-800-227-2600 OR 811 TWO FULL WORKING DAYS BEFORE YOU DIG	BENCH MARK DESCRIPTION: _____ LOCATION: _____ VERTICAL DATUM: _____ HORIZONTAL DATUM: _____	ACCEPTED BY: <b>VALLEY-WIDE RECREATION AND PARK DISTRICT</b> DEPARTMENT: _____ ACCEPTANCE: _____ DATE: 6/17/19	REVISIONS <table border="1"> <thead> <tr> <th>DATE</th> <th>BY</th> <th>MARK</th> <th>DESCRIPTION</th> </tr> </thead> <tbody> <tr> <td>03/25/2019</td> <td>HNCC</td> <td></td> <td></td> </tr> <tr> <td></td> <td>ENGINEER</td> <td></td> <td></td> </tr> </tbody> </table>	DATE	BY	MARK	DESCRIPTION	03/25/2019	HNCC				ENGINEER			ACCEPTED BY: <b>EASTERN MUNICIPAL WATER DISTRICT</b> SENIOR CIVIL ENGINEER: _____ DATE: _____ DEPARTMENT: _____ ACCEPTANCE: _____ DATE: _____ NEW BUSINESS P.C. _____ OPERATIONS _____ ENGINEERING _____ POS ENGINEER _____	<b>SHRIMP LANE</b> WINCHESTER, CA. <b>RECYCLED WATER IRRIGATION RETROFIT IMPROVEMENTS</b> <b>IRRIGATION PLAN</b> WO: 14882 PCWO: _____ DOPP: _____ RWJW: _____ COORD: _____ RWUP: _____ I.D. _____ SHT_13_OF_22 S.A. _____ D-
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**CONSTRUCTION LEGEND**

SYMBOL	DESCRIPTION
①	INSTALL NEW 3" RECYCLED WATER METER PER EMWD STANDARD PB-13. WATER METER WILL BE PROVIDED BY EMWD.
②	PROVIDE AND INSTALL NELSON 7645 (1") QUICK COUPLER VALVE WITH ACME THREAD AND PURPLE LOCKING COVER - INSTALL PER DETAIL.
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⑤	PROVIDE AND INSTALL CALSENSE FLOW SENSOR FM-3 (SIZE: 3"). INSTALL PER DETAIL. RUN WIRES TO EXISTING IRRIGATION CONTROLLER LOCATION AND SET CONTROLLER FOR HIGH-FLOW MONITORING.
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**RECYCLED WATER IRRIGATION LEGEND:**

SYMBOL	DESCRIPTION
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SYMBOL	DESCRIPTION
Ⓐ	POTABLE WATER METER
Ⓑ	POTABLE BACKFLOW PREVENTER
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MATCHLINE SEE SHEET 13

MATCHLINE SEE SHEET 15

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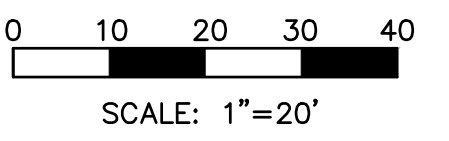
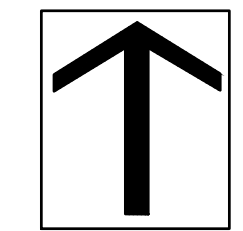
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**DIG ALERT**

Call: TOLL FREE  
1-800-227-2600  
OR  
811

TWO FULL WORKING DAYS BEFORE YOU DIG

**BENCH MARK**

DESCRIPTION: \_\_\_\_\_

LOCATION: \_\_\_\_\_

VERTICAL DATUM: \_\_\_\_\_

HORIZONTAL DATUM: \_\_\_\_\_

ACCEPTED BY: \_\_\_\_\_

VALLEY-WIDE RECREATION AND PARK DISTRICT

DEPARTMENT	ACCEPTANCE	DATE
	<i>[Signature]</i>	6/17/19

**REVISIONS**

DATE	BY	MARK	DESCRIPTION
03/25/2019	HNCC		
	ENGINEER		

DRAWN BY: \_\_\_\_\_

CHECKED BY: \_\_\_\_\_

ACCEPTED BY: \_\_\_\_\_

EASTERN MUNICIPAL WATER DISTRICT

SENIOR CIVIL ENGINEER \_\_\_\_\_ DATE \_\_\_\_\_

DEPARTMENT	ACCEPTANCE	DATE
NEW BUSINESS P.C.		
OPERATIONS		
ENGINEERING		
POS ENGINEER		

**SHRIMP LANE**  
WINCHESTER, CA.

**RECYCLED WATER IRRIGATION RETROFIT IMPROVEMENTS**

**IRRIGATION PLAN**

WO: 14882
PCWO: _____
DOPP: _____
COORD. RWUP: _____
I.D. SHT 14 OF 22
S.A. D-





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MATCHLINE SEE SHEET 14

MATCHLINE SEE SHEET 16

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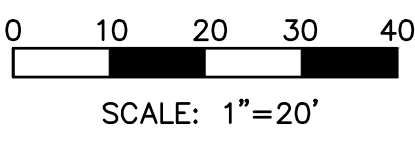
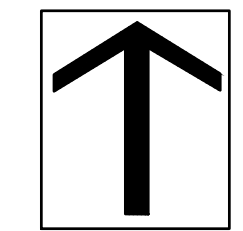
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RECYCLED MAINLINE (CONSTANT PRESSURE) SHOWN DIAGRAMMATICALLY FOR CLARITY ONLY. ACTUAL LOCATION MUST PROVIDE A MINIMUM FOUR (4) FEET HORIZONTAL CLEARANCE BETWEEN ALL POTABLE AND CONSTANT PRESSURE RECYCLED WATER LINES. RECYCLED WATER MAINLINE SHOULD BE INSTALLED UNDER POTABLE WATER LINES AND MAINTAIN ONE (1) FOOT OF VERTICAL CLEARANCE. WHERE THE RECYCLED WATER CONSTANT PRESSURE LINE MUST BE INSTALLED ABOVE THE POTABLE WATERLINE, A FOUR (4) INCH MINIMUM VERTICAL CLEARANCE MUST BE MAINTAINED AND THE RECYCLED WATER PRESSURE LINE MUST BE INSTALLED IN A CONTINUOUS PVC CLASS 200 PIPE SLEEVE WHICH EXTENDS A MINIMUM OF TEN (10) FEET EACH SIDE OF THE POTABLE WATERLINE.

**COLOR CODING**

SPRINKLERS, ROTOR HEADS AND OTHER TYPES OF DISPERSION HEADS SHALL HAVE THE EXPOSED SURFACE COLORED PURPLE. THE EXPOSED SURFACE SHALL BE COLORED THROUGH THE USE OF INTEGRALLY MOLDED PURPLE PLASTIC OR PERMANENTLY ATTACHED PURPLE PLASTIC RING OR DISC. VALVE BOX LIDS SHALL BE PURPLE PER INDUSTRY STANDARDS. THE LIDS SHALL HAVE THE WARNING "RECYCLED: DO NOT DRINK" IN ENGLISH AND SPANISH AND THE INTERNATIONAL "DO NOT DRINK" ON ONE SIDE AND "PELIGRO: AGUA IMPURA-NO BEBER" ON THE OPPOSITE SIDE. ALL SHRUB HEADS SHALL HAVE PURPLE CAPS. ROTOR HEADS MAYBE PAINTED PURPLE WHEN REPLACEMENT CAPS OR COLLARS ARE NOT AVAILABLE. CONTRACTOR TO SUBMIT QUANTITIES, MANUFACTURER AND MODEL NUMBER OF THE HEAD TO EMWD FOR APPROVAL.



**DIG ALERT**

Call: TOLL FREE 1-800-227-2600 OR 811

TWO FULL WORKING DAYS BEFORE YOU DIG

ACCEPTED BY: VALLEY-WIDE RECREATION AND PARK DISTRICT

DEPARTMENT: \_\_\_\_\_ ACCEPTANCE: \_\_\_\_\_ DATE: 6/17/19

DESCRIPTION: \_\_\_\_\_

LOCATION: \_\_\_\_\_

VERTICAL DATUM: \_\_\_\_\_

HORIZONTAL DATUM: \_\_\_\_\_

DATE	BY	MARK
03/25/2019	HNCC	
	ENGINEER	

ACCEPTED BY: EASTERN MUNICIPAL WATER DISTRICT

DEPARTMENT: \_\_\_\_\_ ACCEPTANCE: \_\_\_\_\_ DATE: \_\_\_\_\_

NEW BUSINESS P.C. \_\_\_\_\_

OPERATIONS \_\_\_\_\_

ENGINEERING \_\_\_\_\_

POS ENGINEER \_\_\_\_\_

SHRIMP LANE WINCHESTER, CA.

RECYCLED WATER IRRIGATION RETROFIT IMPROVEMENTS

**IRRIGATION PLAN**

WO: 14882

PCWO: \_\_\_\_\_

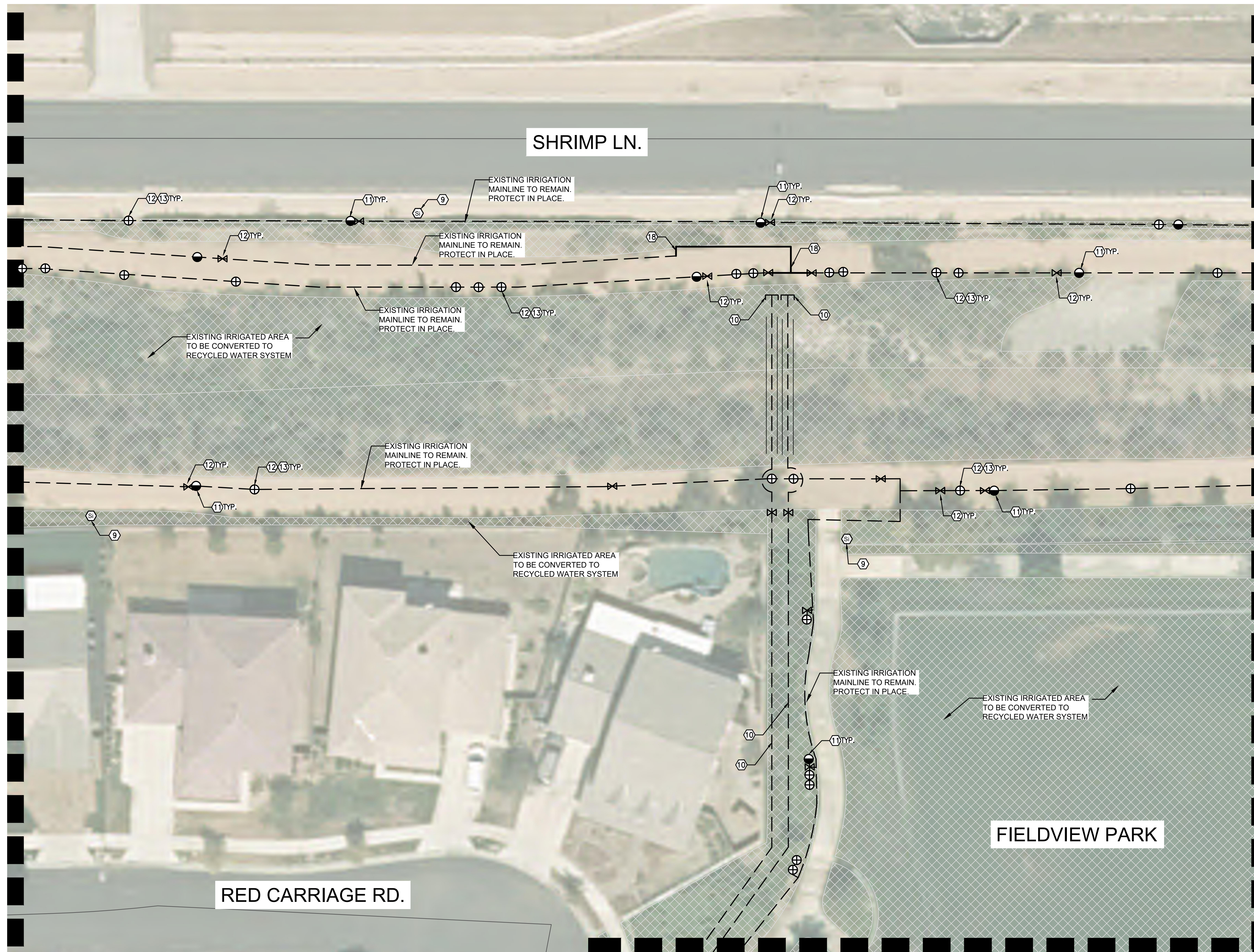
DOPP: \_\_\_\_\_ RWJW: \_\_\_\_\_

COORD. \_\_\_\_\_ RWUP: \_\_\_\_\_

I.D. \_\_\_\_\_ SHT. 15 OF 22

S.A. \_\_\_\_\_ D- \_\_\_\_\_





**CONSTRUCTION LEGEND**

SYMBOL	DESCRIPTION
①	INSTALL NEW 3" RECYCLED WATER METER PER EMWD STANDARD PB-13. WATER METER WILL BE PROVIDED BY EMWD.
②	PROVIDE AND INSTALL NELSON 7645 (1") QUICK COUPLER VALVE WITH ACME THREAD AND PURPLE LOCKING COVER - INSTALL PER DETAIL.
③	PROVIDE AND INSTALL YARDNEY STRAINER MCS3-1. SIZE: 3" WITH MAX. FLOW 225 GPM. INSTALL ABOVE GROUND WITH STAINLESS STEEL ENCLOSURE PER MANUFACTURER STANDARD AND DETAIL.
④	PROVIDE AND INSTALL GRISWOLD 2230 EPOXY COATED NORMALLY CLOSED MASTER VALVE (SIZE: 3") PER DETAIL. RUN WIRES TO EXISTING IRRIGATION CONTROLLER LOCATION.
⑤	PROVIDE AND INSTALL CALSENSE FLOW SENSOR FM-3 (SIZE: 3"). INSTALL PER DETAIL. RUN WIRES TO EXISTING IRRIGATION CONTROLLER LOCATION AND SET CONTROLLER FOR HIGH-FLOW MONITORING.
⑥	PROVIDE AND INSTALL 1" BALL VALVE INSIDE ROUND PURPLE VALVE BOX.
⑦	PROVIDE AND INSTALL 6" CLASS 200 PVC PURPLE RECYCLED WATER IRRIGATION MAINLINE WITH DUCTILE IRON FITTINGS (36" DEEP MIN.) AND CONNECT TO EXISTING IRRIGATION POC AS SHOWN ON PLAN.
⑧	PROVIDE AND INSTALL 14GA. VALVE WIRES FOR FLOW SENSOR AND MASTER VALVE INSIDE A 1.5" PVC SCH.40 CONDUIT. CONNECT TO EXISTING IRRIGATION CONTROLLER.
⑨	PROVIDE AND INSTALL RECYCLED WATER SIGNAGE PER EMWD STANDARD. EXACT LOCATION WILL BE DETERMINED BY EMWD INSPECTOR.
⑩	CUT AND CAP EXISTING IRRIGATION MAINLINE AND REMOVE UNUSED PIPE. REMOVE EXISTING BACKFLOW PREVENTER AND EQUIPMENT.
⑪	REPLACE EXISTING QUICK COUPLER WITH NELSON 7645 (1") QUICK COUPLER VALVE WITH ACME THREAD AND PURPLE LOCKING COVER - INSTALL PER DETAIL.
⑫	REPLACE ALL EXISTING IRRIGATION VALVE BOXES' LID WITH PURPLE RECYCLED WATER AND LABEL ACCORDINGLY.
⑬	PROVIDE PURPLE CAP FOR RECYCLED WATER IDENTIFICATION TO ALL EXISTING OVER HEAD IRRIGATION ROTOR / SPRAY SYSTEM.
⑭	INSTALL NEW 6" WIDE CONCRETE MOW CURB
⑮	CONNECT PROPOSE NEW MASTER VALVE AND FLOW SENSOR WIRES TO EXISTING CONTROLLER. ADJUST EXISTING CONTROLLER FOR FLOW MONITORING.
⑯	CONNECT NEW PROPOSED RECYCLED MAINLINE TO EXISTING BOOSTER PUMP
⑰	EXISTING DOMESTIC IRRIGATION WATER METER TO BE REMOVED (BY OTHERS)
⑱	PROVIDE AND INSTALL 4" CLASS 200 PVC PURPLE RECYCLED WATER IRRIGATION MAINLINE WITH DUCTILE IRON FITTINGS (36" DEEP MIN.) AND CONNECT TO EXISTING IRRIGATION MAINLINE.
⑲	REMOVE EXISTING BOOSTER PUMP AND UNUSED PIPE. RETURN ALL EQUIPMENT TO OWNER REPRESENTATIVE.
⑳	PROVIDE AND INSTALL 3" CLASS 200 PVC PURPLE RECYCLED WATER IRRIGATION MAINLINE WITH SCH.80 FITTINGS (36" DEEP MIN.) AND CONNECT TO EXISTING IRRIGATION MAINLINE.
㉑	INSTALL RELOCATED 10HP 126 GPM PARK BOOSTER PUMP AND CONNECT TO EXISTING 125 AMP ELECTRICAL PEDESTAL.
㉒	INSTALL NEW 2" RECYCLED WATER METER PER EMWD STANDARD PB-10. WATER METER WILL BE PROVIDED BY EMWD.
㉓	PROVIDE AND INSTALL YARDNEY STRAINER MCS2-1. SIZE: 2" WITH MAX. FLOW 110 GPM. INSTALL ABOVE GROUND WITH STAINLESS STEEL ENCLOSURE PER MANUFACTURER STANDARD AND DETAIL.
㉔	PROVIDE AND INSTALL GRISWOLD 2230 EPOXY COATED NORMALLY CLOSED MASTER VALVE (SIZE: 1") PER DETAIL. RUN WIRES TO EXISTING IRRIGATION CONTROLLER LOCATION.
㉕	PROVIDE AND INSTALL CALSENSE FLOW SENSOR FM-1B (SIZE: 1"). INSTALL PER DETAIL. RUN WIRES TO EXISTING IRRIGATION CONTROLLER LOCATION AND SET CONTROLLER FOR HIGH-FLOW MONITORING.
㉖	REMOVE EXISTING MASTER VALVES AND FLOW SENSORS (INCLUDING VALVE BOXES). RECONNECT EXISTING MAINLINE.

**RECYCLED WATER IRRIGATION LEGEND:**

SYMBOL	DESCRIPTION
Ⓢ	RECYCLED WATER SIGNAGE
⊗	RECYCLED ISOLATION VALVE
⊗	RECYCLED REMOTE CONTROL VALVE
⊗	RECYCLED QUICK COUPLER VALVE
⊗	RECYCLED IRRIGATION CONTROLLER
⊗	RECYCLED IRRIGATION BOOSTER PUMP
⊗	RECYCLED IRRIGATION WATER METER
⊗	RECYCLED IRRIGATION STRAINER
⊗	RECYCLED IRRIGATION MASTER VALVE
⊗	RECYCLED IRRIGATION FLOW SENSOR
⊗	RECYCLED IRRIGATION MAINLINE (PROPOSE)
---	RECYCLED IRRIGATION MAINLINE (EXISTING)

**POTABLE WATER LEGEND:**

SYMBOL	DESCRIPTION
Ⓐ	POTABLE WATER METER
Ⓑ	POTABLE BACKFLOW PREVENTER
Ⓒ	POTABLE DRINKING FOUNTAIN
---	POTABLE WATER MAINLINE

**INSTALLATION NOTES**

THE MATERIALS AND THE INSTALLATION OF THE IRRIGATION SYSTEM SHOWN ON THIS PLAN SHALL MEET THE LATEST EMWD STANDARDS AND SPECIFICATIONS AT COMMENCEMENT OF WORK. IF CONTRACTOR NOTICES ANY INCONSISTENCIES WITH THE LATEST IRRIGATION DESIGN STANDARDS, ONE SHALL IMMEDIATELY NOTIFY ALL PARTIES.  
NO HOSE BIBS WILL BE ALLOWED FOR INSTALLATION ON SYSTEMS USING RECYCLED WATER.

**IRRIGATION DRAWING NOTE:**

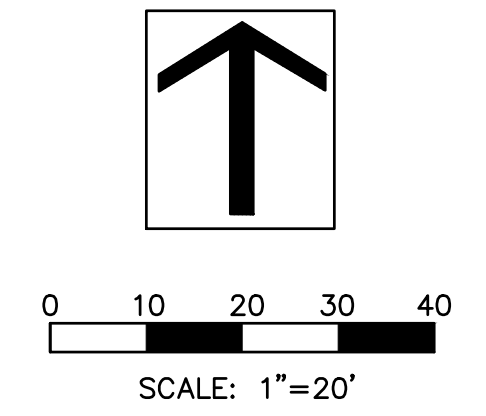
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**POTABLE AND RECYCLED WATER SEPARATION NOTE:**

RECYCLED MAINLINE (CONSTANT PRESSURE) SHOWN DIAGRAMMATICALLY FOR CLARITY ONLY. ACTUAL LOCATION MUST PROVIDE A MINIMUM FOUR (4) FEET HORIZONTAL CLEARANCE BETWEEN ALL POTABLE AND CONSTANT PRESSURE RECYCLED WATERLINES. RECYCLED WATER MAINLINE SHOULD BE INSTALLED UNDER POTABLE WATERLINES AND MAINTAIN ONE (1) FOOT OF VERTICAL CLEARANCE. WHERE THE RECYCLED WATER CONSTANT PRESSURE LINE MUST BE INSTALLED ABOVE THE POTABLE WATERLINE, A FOUR (4) INCH MINIMUM VERTICAL CLEARANCE MUST BE MAINTAINED AND THE RECYCLED WATER PRESSURE LINE MUST BE INSTALLED IN A CONTINUOUS PVC CLASS 200 PIPE SLEEVE WHICH EXTENDS A MINIMUM OF TEN (10) FEET EACH SIDE OF THE POTABLE WATERLINE.

**COLOR CODING**

SPRINKLERS, ROTOR HEADS AND OTHER TYPES OF DISPERSION HEADS SHALL HAVE THE EXPOSED SURFACE COLORED PURPLE. THE EXPOSED SURFACE SHALL BE COLORED THROUGH THE USE OF INTEGRALLY MOLDED PURPLE PLASTIC OR PERMANENTLY ATTACHED PURPLE PLASTIC RING OR DISC. VALVE BOX LIDS SHALL BE PURPLE PER INDUSTRY STANDARDS. THE LIDS SHALL HAVE THE WARNING "RECYCLED: DO NOT DRINK" IN ENGLISH AND SPANISH AND THE INTERNATIONAL "DO NOT DRINK" ON ONE SIDE AND "PELIGRO: AGUA IMPURA-NO BEBER" ON THE OPPOSITE SIDE. ALL SHRUB HEADS SHALL HAVE PURPLE CAPS. ROTOR HEADS MAYBE PAINTED PURPLE WHEN REPLACEMENT CAPS OR COLLARS ARE NOT AVAILABLE. CONTRACTOR TO SUBMIT QUANTITIES, MANUFACTURER AND MODEL NUMBER OF THE HEAD TO EMWD FOR APPROVAL.



**DIG ALERT**

Call: TOLL FREE  
1-800-227-2600  
OR  
811

TWO FULL WORKING DAYS BEFORE YOU DIG

**BENCH MARK**

DESCRIPTION: \_\_\_\_\_

LOCATION: \_\_\_\_\_

VERTICAL DATUM: \_\_\_\_\_

HORIZONTAL DATUM: \_\_\_\_\_

ACCEPTED BY: \_\_\_\_\_

VALLEY-WIDE RECREATION AND PARK DISTRICT

DEPARTMENT	ACCEPTANCE	DATE
	<i>[Signature]</i>	6/17/19

**REVISIONS**

DATE	BY	MARK	DESCRIPTION
03/25/2019	HNCC		
	ENGINEER		

DRAWN BY: \_\_\_\_\_

CHECKED BY: \_\_\_\_\_

ACCEPTED BY: \_\_\_\_\_

EASTERN MUNICIPAL WATER DISTRICT

SENIOR CIVIL ENGINEER \_\_\_\_\_ DATE \_\_\_\_\_

DEPARTMENT	ACCEPTANCE	DATE
NEW BUSINESS P.C.		
OPERATIONS		
ENGINEERING		
POS ENGINEER		

**SHRIMP LANE**  
WINCHESTER, CA.

RECYCLED WATER IRRIGATION RETROFIT IMPROVEMENTS

**IRRIGATION PLAN**

WO: 14882

PCWO: \_\_\_\_\_

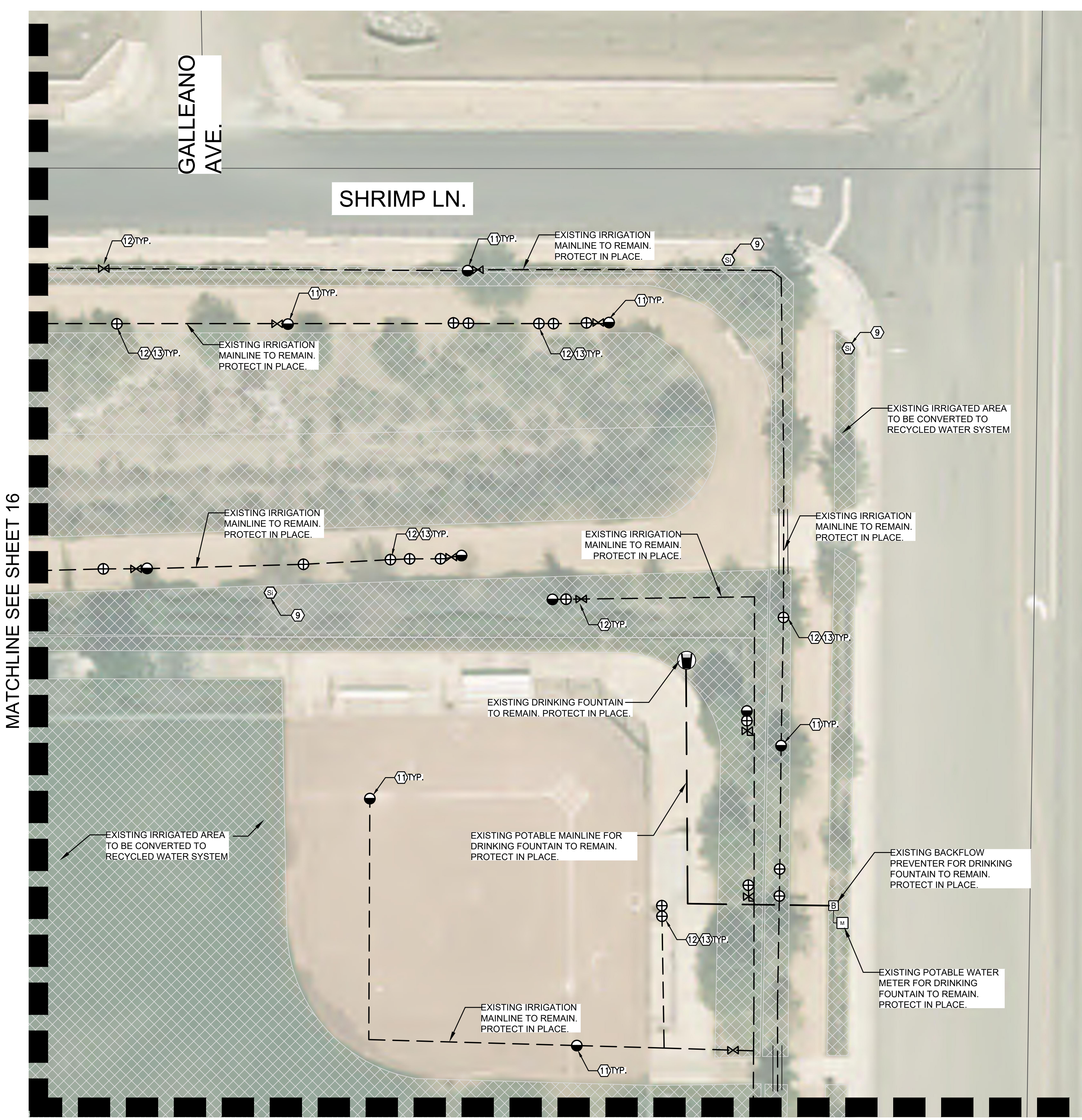
DOPP: RWJW: \_\_\_\_\_

COORD. RWUP: \_\_\_\_\_

I.D. SHT\_16\_OF\_22

S.A. D-





**CONSTRUCTION LEGEND**

SYMBOL	DESCRIPTION
①	INSTALL NEW 3" RECYCLED WATER METER PER EMWD STANDARD PB-13. WATER METER WILL BE PROVIDED BY EMWD.
②	PROVIDE AND INSTALL NELSON 7645 (1") QUICK COUPLER VALVE WITH ACME THREAD AND PURPLE LOCKING COVER - INSTALL PER DETAIL
③	PROVIDE AND INSTALL YARNEY STRAINER MCS3-1. SIZE: 3" WITH MAX. FLOW 225 GPM. INSTALL ABOVE GROUND WITH STAINLESS STEEL ENCLOSURE PER MANUFACTURER STANDARD AND DETAIL.
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⑤	PROVIDE AND INSTALL CALSENSE FLOW SENSOR FM-3 (SIZE: 3"). INSTALL PER DETAIL. RUN WIRES TO EXISTING IRRIGATION CONTROLLER LOCATION AND SET CONTROLLER FOR HIGH-FLOW MONITORING.
⑥	PROVIDE AND INSTALL 1" BALL VALVE INSIDE ROUND PURPLE VALVE BOX.
⑦	PROVIDE AND INSTALL 6" CLASS 200 PVC PURPLE RECYCLED WATER IRRIGATION MAINLINE WITH DUCTILE IRON FITTINGS (36" DEEP MIN.) AND CONNECT TO EXISTING IRRIGATION POC AS SHOWN ON PLAN.
⑧	PROVIDE AND INSTALL 14GA. VALVE WIRES FOR FLOW SENSOR AND MASTER VALVE INSIDE A 1.5" PVC SCH.40 CONDUIT. CONNECT TO EXISTING IRRIGATION CONTROLLER.
⑨	PROVIDE AND INSTALL RECYCLED WATER SIGNAGE PER EMWD STANDARD. EXACT LOCATION WILL BE DETERMINED BY EMWD INSPECTOR.
⑩	CUT AND CAP EXISTING IRRIGATION MAINLINE AND REMOVE UNUSED PIPE. REMOVE EXISTING BACKFLOW PREVENTER AND EQUIPMENT
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⑭	INSTALL NEW 6" WIDE CONCRETE MOW CURB
⑮	CONNECT PROPOSE NEW MASTER VALVE AND FLOW SENSOR WIRES TO EXISTING CONTROLLER. ADJUST EXISTING CONTROLLER FOR FLOW MONITORING.
⑯	CONNECT NEW PROPOSED RECYCLED MAINLINE TO EXISTING BOOSTER PUMP
⑰	EXISTING DOMESTIC IRRIGATION WATER METER TO BE REMOVED (BY OTHERS)
⑱	PROVIDE AND INSTALL 4" CLASS 200 PVC PURPLE RECYCLED WATER IRRIGATION MAINLINE WITH DUCTILE IRON FITTINGS (36" DEEP MIN.) AND CONNECT TO EXISTING IRRIGATION MAINLINE.
⑲	REMOVE EXISTING BOOSTER PUMP AND UNUSED PIPE. RETURN ALL EQUIPMENT TO OWNER REPRESENTATIVE.
⑳	PROVIDE AND INSTALL 3" CLASS 200 PVC PURPLE RECYCLED WATER IRRIGATION MAINLINE WITH SCH.80 FITTINGS (36" DEEP MIN.) AND CONNECT TO EXISTING IRRIGATION MAINLINE.
㉑	INSTALL RELOCATED 10HP 126 GPM PARK BOOSTER PUMP AND CONNECT TO EXISTING 125 AMP ELECTRICAL PEDESTAL.
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㉕	PROVIDE AND INSTALL CALSENSE FLOW SENSOR FM-1B (SIZE: 1"). INSTALL PER DETAIL. RUN WIRES TO EXISTING IRRIGATION CONTROLLER LOCATION AND SET CONTROLLER FOR HIGH-FLOW MONITORING.
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**RECYCLED WATER IRRIGATION LEGEND:**

SYMBOL	DESCRIPTION
Ⓢ	RECYCLED WATER SIGNAGE
⊗	RECYCLED ISOLATION VALVE
⊗	RECYCLED REMOTE CONTROL VALVE
⊗	RECYCLED QUICK COUPLER VALVE
⊗	RECYCLED IRRIGATION CONTROLLER
P	RECYCLED IRRIGATION BOOSTER PUMP
Ⓢ	RECYCLED IRRIGATION WATER METER
Ⓢ	RECYCLED IRRIGATION STRAINER
Ⓢ	RECYCLED IRRIGATION MASTER VALVE
FS	RECYCLED IRRIGATION FLOW SENSOR
---	RECYCLED IRRIGATION MAINLINE (PROPOSE)
---	RECYCLED IRRIGATION MAINLINE (EXISTING)

**POTABLE WATER LEGEND:**

SYMBOL	DESCRIPTION
A	POTABLE WATER METER
B	POTABLE BACKFLOW PREVENTER
F	POTABLE DRINKING FOUNTAIN
---	POTABLE WATER MAINLINE

**INSTALLATION NOTES**

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**POTABLE AND RECYCLED WATER SEPARATION NOTE:**

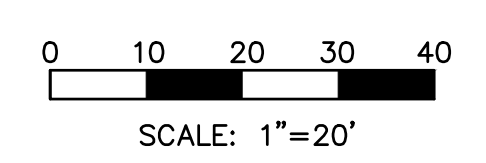
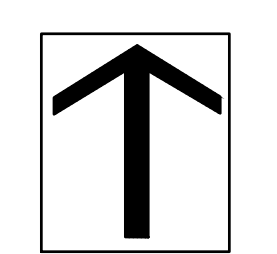
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**COLOR CODING**

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MATCHLINE SEE SHEET 16

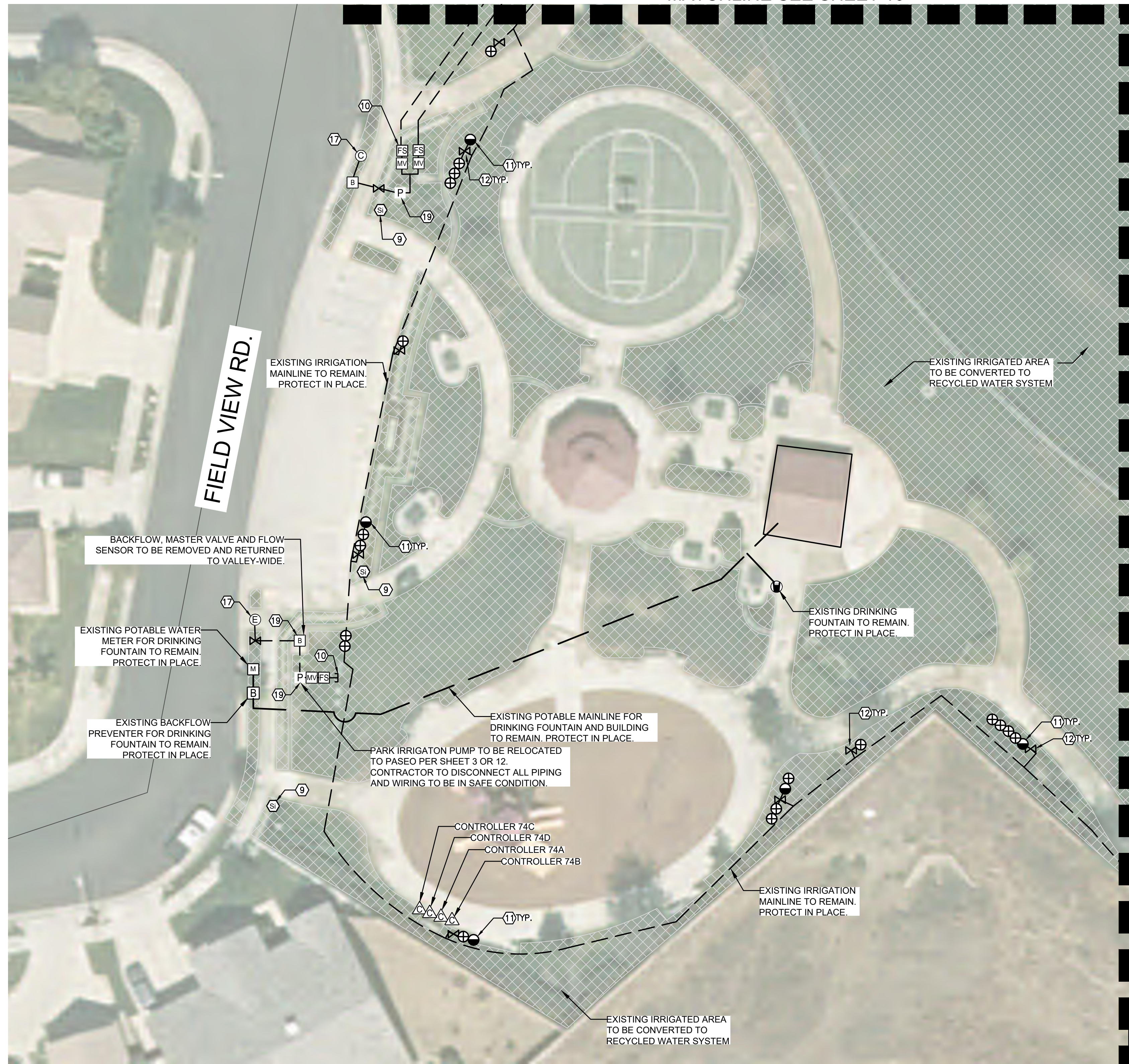
MATCHLINE SEE SHEET 19



<p><b>DIG ALERT</b></p> <p>Call: TOLL FREE 1-800-227-2600 OR 811</p>	<p><b>BENCH MARK</b></p> <p>DESCRIPTION: _____</p> <p>LOCATION: _____</p> <p>VERTICAL DATUM: _____</p> <p>HORIZONTAL DATUM: _____</p>	<p>ACCEPTED BY:</p> <p>VALLEY-WIDE RECREATION AND PARK DISTRICT</p>		<p>ACCEPTED BY:</p> <p>EASTERN MUNICIPAL WATER DISTRICT</p>		<p><b>SHRIMP LANE</b> WINCHESTER, CA.</p> <p>RECYCLED WATER IRRIGATION RETROFIT IMPROVEMENTS</p> <p><b>IRRIGATION PLAN</b></p>	<p>WO: 14882</p> <p>PCWO: _____</p> <p>DOPP: RWUJ: _____</p> <p>COORD. RWUP: _____</p> <p>I.D. SHT_17_OF_22</p> <p>S.A. D-</p>
		<p>DEPARTMENT</p> <p>ACCEPTANCE</p> <p>DATE</p> <p>6/17/19</p>	<p>DATE</p> <p>03/25/2019</p> <p>BY</p> <p>HNCC</p> <p>MARK</p> <p>EMWD</p>	<p>DEPARTMENT</p> <p>ACCEPTANCE</p> <p>DATE</p>	<p>DEPARTMENT</p> <p>OPERATIONS</p> <p>ENGINEERING</p> <p>POS ENGINEER</p>		



MATCHLINE SEE SHEET 16



CONSTRUCTION LEGEND

- | SYMBOL | DESCRIPTION  |
|--------|--|
| ①      | INSTALL NEW 3" RECYCLED WATER METER PER EMWD STANDARD PB-13. WATER METER WILL BE PROVIDED BY EMWD.   |
| ②      | PROVIDE AND INSTALL NELSON 7645 (1") QUICK COUPLER VALVE WITH ACME THREAD AND PURPLE LOCKING COVER - INSTALL PER DETAIL  |
| ③      | PROVIDE AND INSTALL YARDNEY STRAINER MCS3-1. SIZE: 3" WITH MAX. FLOW 225 GPM. INSTALL ABOVE GROUND WITH STAINLESS STEEL ENCLOSURE PER MANUFACTURER STANDARD AND DETAIL.            |
| ④      | PROVIDE AND INSTALL GRISWOLD 2230 EPOXY COATED NORMALLY CLOSED MASTER VALVE (SIZE: 3") PER DETAIL. RUN WIRES TO EXISTING IRRIGATION CONTROLLER LOCATION.                           |
| ⑤      | PROVIDE AND INSTALL CALSENSE FLOW SENSOR FM-3 (SIZE: 3"). INSTALL PER DETAIL. RUN WIRES TO EXISTING IRRIGATION CONTROLLER LOCATION AND SET CONTROLLER FOR HIGH-FLOW MONITORING.    |
| ⑥      | PROVIDE AND INSTALL 1" BALL VALVE INSIDE ROUND PURPLE VALVE BOX.   |
| ⑦      | PROVIDE AND INSTALL 6" CLASS 200 PVC PURPLE RECYCLED WATER IRRIGATION MAINLINE WITH DUCTILE IRON FITTINGS (36" DEEP MIN.) AND CONNECT TO EXISTING IRRIGATION POC AS SHOWN ON PLAN. |
| ⑧      | PROVIDE AND INSTALL 14GA. VALVE WIRES FOR FLOW SENSOR AND MASTER VALVE INSIDE A 1.5" PVC SCH.40 CONDUIT. CONNECT TO EXISTING IRRIGATION CONTROLLER.                                |
| ⑨      | PROVIDE AND INSTALL RECYCLED WATER SIGNAGE PER EMWD STANDARD. EXACT LOCATION WILL BE DETERMINED BY EMWD INSPECTOR.   |
| ⑩      | CUT AND CAP EXISTING IRRIGATION MAINLINE AND REMOVE UNUSED PIPE. REMOVE EXISTING BACKFLOW PREVENTER AND EQUIPMENT  |
| ⑪      | REPLACE EXISTING QUICK COUPLER WITH NELSON 7645 (1") QUICK COUPLER VALVE WITH ACME THREAD AND PURPLE LOCKING COVER - INSTALL PER DETAIL  |
| ⑫      | REPLACE ALL EXISTING IRRIGATION VALVE BOXES' LID WITH PURPLE RECYCLED WATER AND LABEL ACCORDINGLY.   |
| ⑬      | PROVIDE PURPLE CAP FOR RECYCLED WATER IDENTIFICATION TO ALL EXISTING OVER HEAD IRRIGATION ROTOR / SPRAY SYSTEM.  |
| ⑭      | INSTALL NEW 6" WIDE CONCRETE MOW CURB  |
| ⑮      | CONNECT PROPOSE NEW MASTER VALVE AND FLOW SENSOR WIRES TO EXISTING CONTROLLER. ADJUST EXISTING CONTROLLER FOR FLOW MONITORING.   |
| ⑯      | CONNECT NEW PROPOSED RECYCLED MAINLINE TO EXISTING BOOSTER PUMP  |
| ⑰      | EXISTING DOMESTIC IRRIGATION WATER METER TO BE REMOVED (BY OTHERS)   |
| ⑱      | PROVIDE AND INSTALL 4" CLASS 200 PVC PURPLE RECYCLED WATER IRRIGATION MAINLINE WITH DUCTILE IRON FITTINGS (36" DEEP MIN.) AND CONNECT TO EXISTING IRRIGATION MAINLINE.             |
| ⑲      | REMOVE EXISTING BOOSTER PUMP AND UNUSED PIPE. RETURN ALL EQUIPMENT TO OWNER REPRESENTATIVE.  |
| ⑳      | PROVIDE AND INSTALL 3" CLASS 200 PVC PURPLE RECYCLED WATER IRRIGATION MAINLINE WITH SCH.80 FITTINGS (36" DEEP MIN.) AND CONNECT TO EXISTING IRRIGATION MAINLINE.                   |
| ㉑      | INSTALL RELOCATED 10HP 126 GPM PARK BOOSTER PUMP AND CONNECT TO EXISTING 125 AMP ELECTRICAL PEDESTAL.  |
| ㉒      | INSTALL NEW 2" RECYCLED WATER METER PER EMWD STANDARD PB-10. WATER METER WILL BE PROVIDED BY EMWD.   |
| ㉓      | PROVIDE AND INSTALL YARDNEY STRAINER MCS2-1. SIZE: 2" WITH MAX. FLOW 110 GPM. INSTALL ABOVE GROUND WITH STAINLESS STEEL ENCLOSURE PER MANUFACTURER STANDARD AND DETAIL.            |
| ㉔      | PROVIDE AND INSTALL GRISWOLD 2230 EPOXY COATED NORMALLY CLOSED MASTER VALVE (SIZE: 1") PER DETAIL. RUN WIRES TO EXISTING IRRIGATION CONTROLLER LOCATION.                           |
| ㉕      | PROVIDE AND INSTALL CALSENSE FLOW SENSOR FM-1B (SIZE: 1"). INSTALL PER DETAIL. RUN WIRES TO EXISTING IRRIGATION CONTROLLER LOCATION AND SET CONTROLLER FOR HIGH-FLOW MONITORING.   |
| ㉖      | REMOVE EXISTING MASTER VALVES AND FLOW SENSORS (INCLUDING VALVE BOXES). RECONNECT EXISTING MAINLINE.   |

**RECYCLED WATER IRRIGATION LEGEND:**

SYMBOL	DESCRIPTION
Ⓢ	RECYCLED WATER SIGNAGE
⊗	RECYCLED ISOLATION VALVE
⊗	RECYCLED REMOTE CONTROL VALVE
⊗	RECYCLED QUICK COUPLER VALVE
⊗	RECYCLED IRRIGATION CONTROLLER
P	RECYCLED IRRIGATION BOOSTER PUMP
Ⓢ	RECYCLED IRRIGATION WATER METER
Ⓢ	RECYCLED IRRIGATION STRAINER
Ⓢ	RECYCLED IRRIGATION MASTER VALVE
FS	RECYCLED IRRIGATION FLOW SENSOR
---	RECYCLED IRRIGATION MAINLINE (PROPOSE)
---	RECYCLED IRRIGATION MAINLINE (EXISTING)

**POTABLE WATER LEGEND:**

SYMBOL	DESCRIPTION
Ⓐ	POTABLE WATER METER
Ⓑ	POTABLE BACKFLOW PREVENTER
Ⓢ	POTABLE DRINKING FOUNTAIN
---	POTABLE WATER MAINLINE

INSTALLATION NOTES

THE MATERIALS AND THE INSTALLATION OF THE IRRIGATION SYSTEM SHOWN ON THIS PLAN SHALL MEET THE LATEST EMWD STANDARDS AND SPECIFICATIONS AT COMMENCEMENT OF WORK. IF CONTRACTOR NOTICES ANY INCONSISTENCIES WITH THE LATEST IRRIGATION DESIGN STANDARDS, ONE SHALL IMMEDIATELY NOTIFY ALL PARTIES.

NO HOSE BIBS WILL BE ALLOWED FOR INSTALLATION ON SYSTEMS USING RECYCLED WATER.

IRRIGATION DRAWING NOTE:

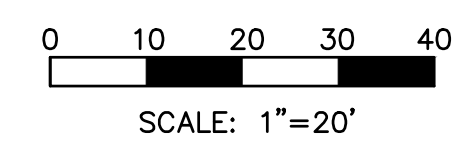
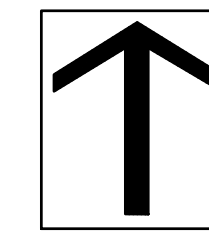
THIS RETROFIT PLANS ARE BASED ON IRRIGATION PLANS NOT PREPARED BY EMWD / EMWD REPRESENTATIVE. EMWD AND OR EMWD REPRESENTATIVES ARE NOT RESPONSIBLE FOR THE ACCURACY OF THE INFORMATION PROVIDED HEREIN. IT ULTIMATELY THE RESPONSIBILITY OF THE CONTRACTOR TO FAMILIARIZE THEMSELVES WITH ALL EXISTING CONDITIONS, EQUIPMENT, UTILITIES AND REQUIREMENTS.

POTABLE AND RECYCLED WATER SEPARATION NOTE:

RECYCLED MAINLINE (CONSTANT PRESSURE) SHOWN DIAGRAMMATICALLY FOR CLARITY ONLY. ACTUAL LOCATION MUST PROVIDE A MINIMUM FOUR (4) FEET HORIZONTAL CLEARANCE BETWEEN ALL POTABLE AND CONSTANT PRESSURE RECYCLED WATERLINES. RECYCLED WATER MAINLINE SHOULD BE INSTALLED UNDER POTABLE WATERLINES AND MAINTAIN ONE (1) FOOT OF VERTICAL CLEARANCE. WHERE THE RECYCLED WATER CONSTANT PRESSURE LINE MUST BE INSTALLED ABOVE THE POTABLE WATERLINE, A FOUR (4) INCH MINIMUM VERTICAL CLEARANCE MUST BE MAINTAINED AND THE RECYCLED WATER PRESSURE LINE MUST BE INSTALLED IN A CONTINUOUS PVC CLASS 200 PIPE SLEEVE WHICH EXTENDS A MINIMUM OF TEN (10) FEET EACH SIDE OF THE POTABLE WATERLINE.

COLOR CODING

SPRINKLERS, ROTOR HEADS AND OTHER TYPES OF DISPERSION HEADS SHALL HAVE THE EXPOSED SURFACE COLORED PURPLE. THE EXPOSED SURFACE SHALL BE COLORED THROUGH THE USE OF INTEGRALLY MOLDED PURPLE PLASTIC OR PERMANENTLY ATTACHED PURPLE PLASTIC RING OR DISC. VALVE BOX LIDS SHALL BE PURPLE PER INDUSTRY STANDARDS. THE LIDS SHALL HAVE THE WARNING "RECYCLED: DO NOT DRINK" IN ENGLISH AND SPANISH AND THE INTERNATIONAL "DO NOT DRINK" ON ONE SIDE AND "PELIGRO: AGUA IMPURA-NO BEBER" ON THE OPPOSITE SIDE. ALL SHRUB HEADS SHALL HAVE PURPLE CAPS. ROTOR HEADS MAYBE PAINTED PURPLE WHEN REPLACEMENT CAPS OR COLLARS ARE NOT AVAILABLE. CONTRACTOR TO SUBMIT QUANTITIES, MANUFACTURER AND MODEL NUMBER OF THE HEAD TO EMWD FOR APPROVAL.



**DIG ALERT**

Call: TOLL FREE  
1-800-227-2600  
OR  
811

FOUR FULL WORKING DAYS BEFORE YOU DIG

ACCEPTED BY:

VALLEY-WIDE RECREATION AND PARK DISTRICT

DEPARTMENT: \_\_\_\_\_

ACCEPTANCE: \_\_\_\_\_

DATE: 6/17/19

DATE: \_\_\_\_\_

BY: \_\_\_\_\_

MARK: \_\_\_\_\_

DATE: 03/25/2019

DRAWN BY: HNCC

CHECKED BY: ENGINEER

DATE	BY	MARK

ACCEPTED BY:

EASTERN MUNICIPAL WATER DISTRICT

SENIOR CIVIL ENGINEER: \_\_\_\_\_

DATE: \_\_\_\_\_

DEPARTMENT	ACCEPTANCE	DATE
NEW BUSINESS P.C.		
OPERATIONS		
ENGINEERING		
POS ENGINEER		

SHRIMP LANE  
WINCHESTER, CA.

RECYCLED WATER IRRIGATION RETROFIT  
IMPROVEMENTS

**IRRIGATION PLAN**

WO: 14882

PCWO: \_\_\_\_\_

DOPP: RWUJ: \_\_\_\_\_

COORD. RWUP: \_\_\_\_\_

I.D. SHT. 18 OF 22

S.A. D-



MATCHLINE SEE SHEET 17



MATCHLINE SEE SHEET 18

MATCHLINE 'D' SEE RIGHT

CONSTRUCTION LEGEND

- | SYMBOL | DESCRIPTION  |
|--------|--|
| ①      | INSTALL NEW 3" RECYCLED WATER METER PER EMWD STANDARD PB-13. WATER METER WILL BE PROVIDED BY EMWD.   |
| ②      | PROVIDE AND INSTALL NELSON 7645 (1") QUICK COUPLER VALVE WITH ACME THREAD AND PURPLE LOCKING COVER - INSTALL PER DETAIL.   |
| ③      | PROVIDE AND INSTALL YARNEY STRAINER MCS3-1, SIZE: 3" WITH MAX. FLOW 225 GPM. INSTALL ABOVE GROUND WITH STAINLESS STEEL ENCLOSURE PER MANUFACTURER STANDARD AND DETAIL.             |
| ④      | PROVIDE AND INSTALL GRISWOLD 2230 EPOXY COATED NORMALLY CLOSED MASTER VALVE (SIZE: 3") PER DETAIL. RUN WIRES TO EXISTING IRRIGATION CONTROLLER LOCATION.                           |
| ⑤      | PROVIDE AND INSTALL CALSENSE FLOW SENSOR FM-3 (SIZE: 3"). INSTALL PER DETAIL. RUN WIRES TO EXISTING IRRIGATION CONTROLLER LOCATION AND SET CONTROLLER FOR HIGH-FLOW MONITORING.    |
| ⑥      | PROVIDE AND INSTALL 1" BALL VALVE INSIDE ROUND PURPLE VALVE BOX.   |
| ⑦      | PROVIDE AND INSTALL 6" CLASS 200 PVC PURPLE RECYCLED WATER IRRIGATION MAINLINE WITH DUCTILE IRON FITTINGS (36" DEEP MIN.) AND CONNECT TO EXISTING IRRIGATION POC AS SHOWN ON PLAN. |
| ⑧      | PROVIDE AND INSTALL 14GA. VALVE WIRES FOR FLOW SENSOR AND MASTER VALVE INSIDE A 1.5" PVC SCH.40 CONDUIT. CONNECT TO EXISTING IRRIGATION CONTROLLER.                                |
| ⑨      | PROVIDE AND INSTALL RECYCLED WATER SIGNAGE PER EMWD STANDARD. EXACT LOCATION WILL BE DETERMINED BY EMWD INSPECTOR.   |
| ⑩      | CUT AND CAP EXISTING IRRIGATION MAINLINE AND REMOVE UNUSED PIPE. REMOVE EXISTING BACKFLOW PREVENTER AND EQUIPMENT.   |
| ⑪      | REPLACE EXISTING QUICK COUPLER WITH NELSON 7645 (1") QUICK COUPLER VALVE WITH ACME THREAD AND PURPLE LOCKING COVER - INSTALL PER DETAIL.   |
| ⑫      | REPLACE ALL EXISTING IRRIGATION VALVE BOXES' LID WITH PURPLE RECYCLED WATER AND LABEL ACCORDINGLY.   |
| ⑬      | PROVIDE PURPLE CAP FOR RECYCLED WATER IDENTIFICATION TO ALL EXISTING OVER HEAD IRRIGATION ROTOR / SPRAY SYSTEM.  |
| ⑭      | INSTALL NEW 6" WIDE CONCRETE MOW CURB  |
| ⑮      | CONNECT PROPOSE NEW MASTER VALVE AND FLOW SENSOR WIRES TO EXISTING CONTROLLER. ADJUST EXISTING CONTROLLER FOR FLOW MONITORING.   |
| ⑯      | CONNECT NEW PROPOSED RECYCLED MAINLINE TO EXISTING BOOSTER PUMP  |

- ⑰ EXISTING DOMESTIC IRRIGATION WATER METER TO BE REMOVED (BY OTHERS)
- ⑱ PROVIDE AND INSTALL 4" CLASS 200 PVC PURPLE RECYCLED WATER IRRIGATION MAINLINE WITH DUCTILE IRON FITTINGS (36" DEEP MIN.) AND CONNECT TO EXISTING IRRIGATION MAINLINE.
- ⑲ REMOVE EXISTING BOOSTER PUMP AND UNUSED PIPE. RETURN ALL EQUIPMENT TO OWNER REPRESENTATIVE.
- ⑳ PROVIDE AND INSTALL 3" CLASS 200 PVC PURPLE RECYCLED WATER IRRIGATION MAINLINE WITH SCH.80 FITTINGS (36" DEEP MIN.) AND CONNECT TO EXISTING IRRIGATION MAINLINE.
- ㉑ INSTALL RELOCATED 10HP 126 GPM PARK BOOSTER PUMP AND CONNECT TO EXISTING 125 AMP ELECTRICAL PEDESTAL.
- ㉒ INSTALL NEW 2" RECYCLED WATER METER PER EMWD STANDARD PB-10. WATER METER WILL BE PROVIDED BY EMWD.
- ㉓ PROVIDE AND INSTALL YARNEY STRAINER MCS2-1, SIZE: 2" WITH MAX. FLOW 110 GPM. INSTALL ABOVE GROUND WITH STAINLESS STEEL ENCLOSURE PER MANUFACTURER STANDARD AND DETAIL.
- ㉔ PROVIDE AND INSTALL GRISWOLD 2230 EPOXY COATED NORMALLY CLOSED MASTER VALVE (SIZE: 1") PER DETAIL. RUN WIRES TO EXISTING IRRIGATION CONTROLLER LOCATION.
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- ㉖ REMOVE EXISTING MASTER VALVES AND FLOW SENSORS (INCLUDING VALVE

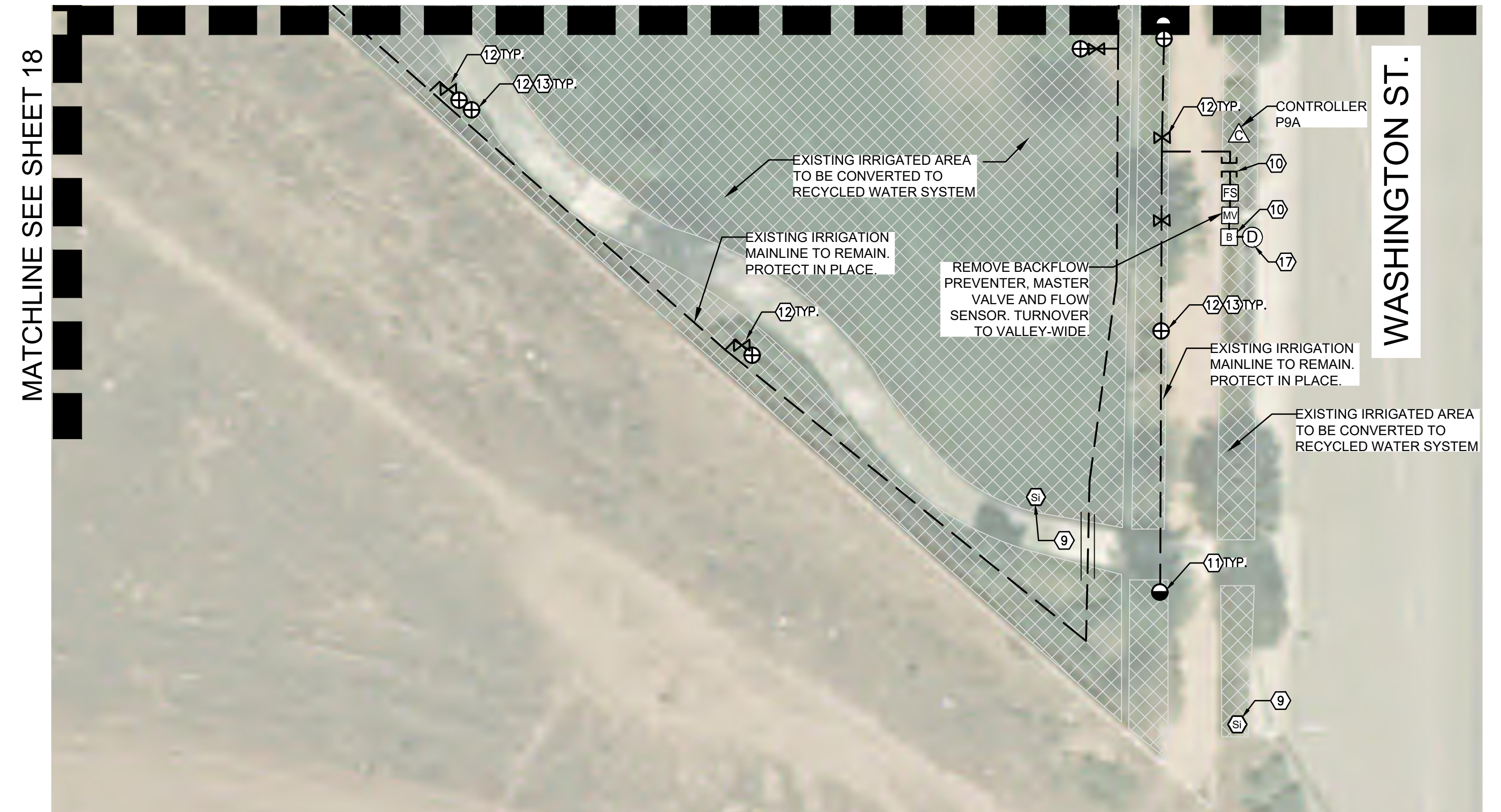
RECYCLED WATER IRRIGATION LEGEND:

SYMBOL	DESCRIPTION
Ⓢ	RECYCLED WATER SIGNAGE
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---	RECYCLED IRRIGATION MAINLINE (EXISTING)

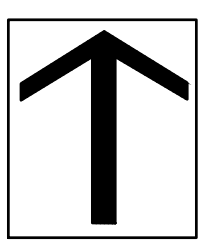
POTABLE WATER LEGEND:

SYMBOL	DESCRIPTION
Ⓢ	POTABLE WATER METER
Ⓢ	POTABLE BACKFLOW PREVENTER
Ⓢ	POTABLE DRINKING FOUNTAIN
---	POTABLE WATER MAINLINE

MATCHLINE 'D' SEE LEFT



MATCHLINE SEE SHEET 18



SCALE: 1"=20'

INSTALLATION NOTES

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IRRIGATION DRAWING NOTE:

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POTABLE AND RECYCLED WATER SEPARATION NOTE:

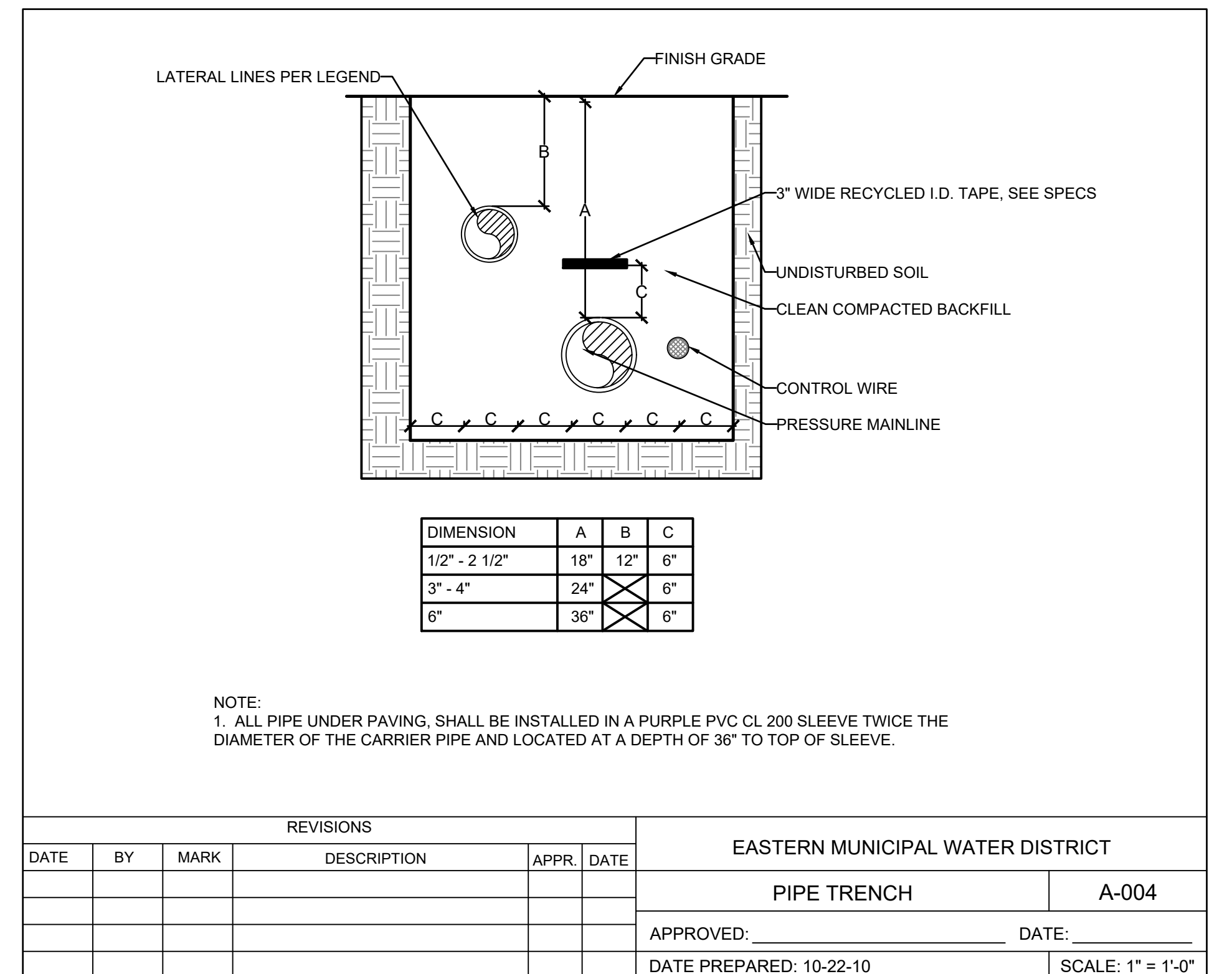
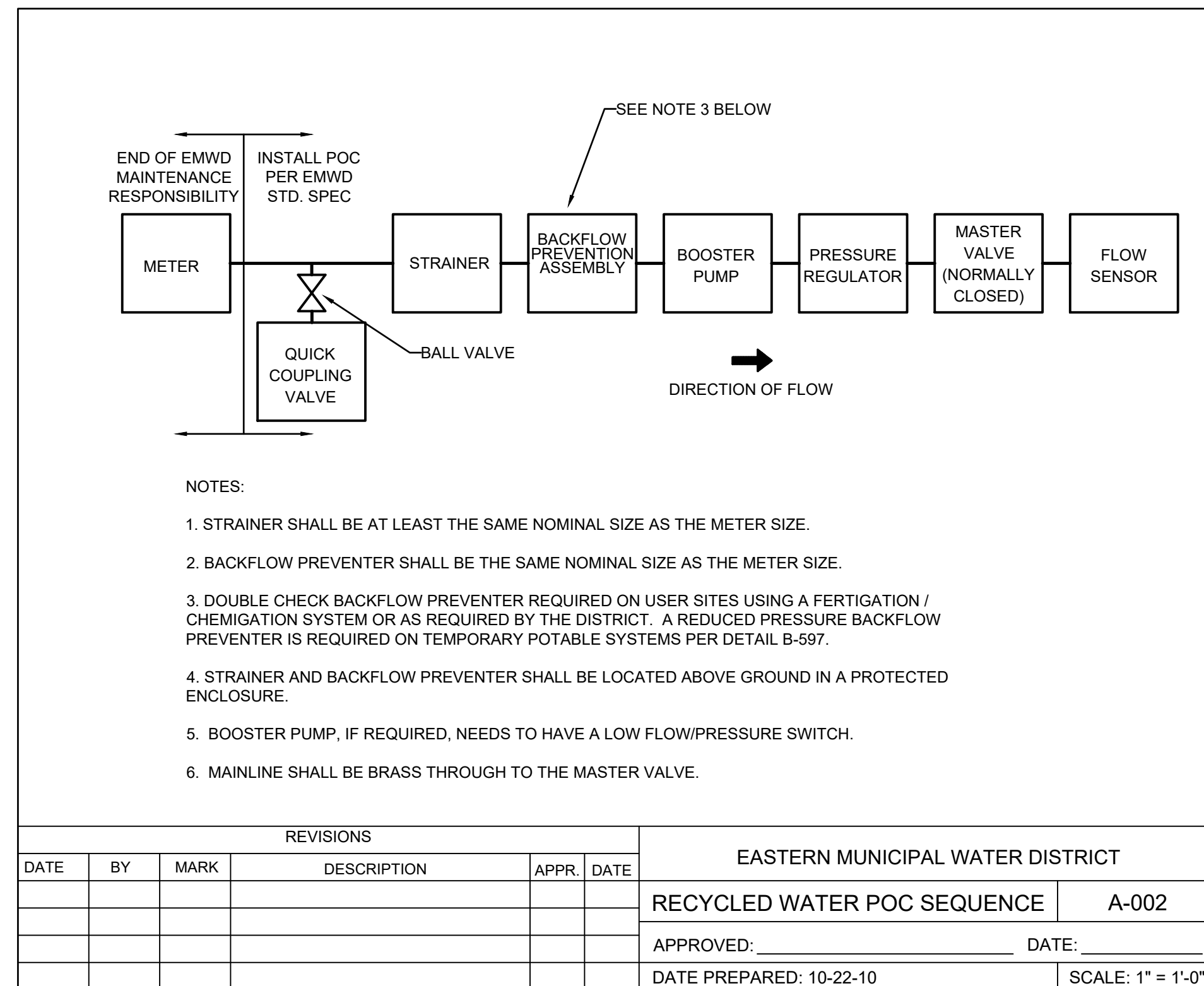
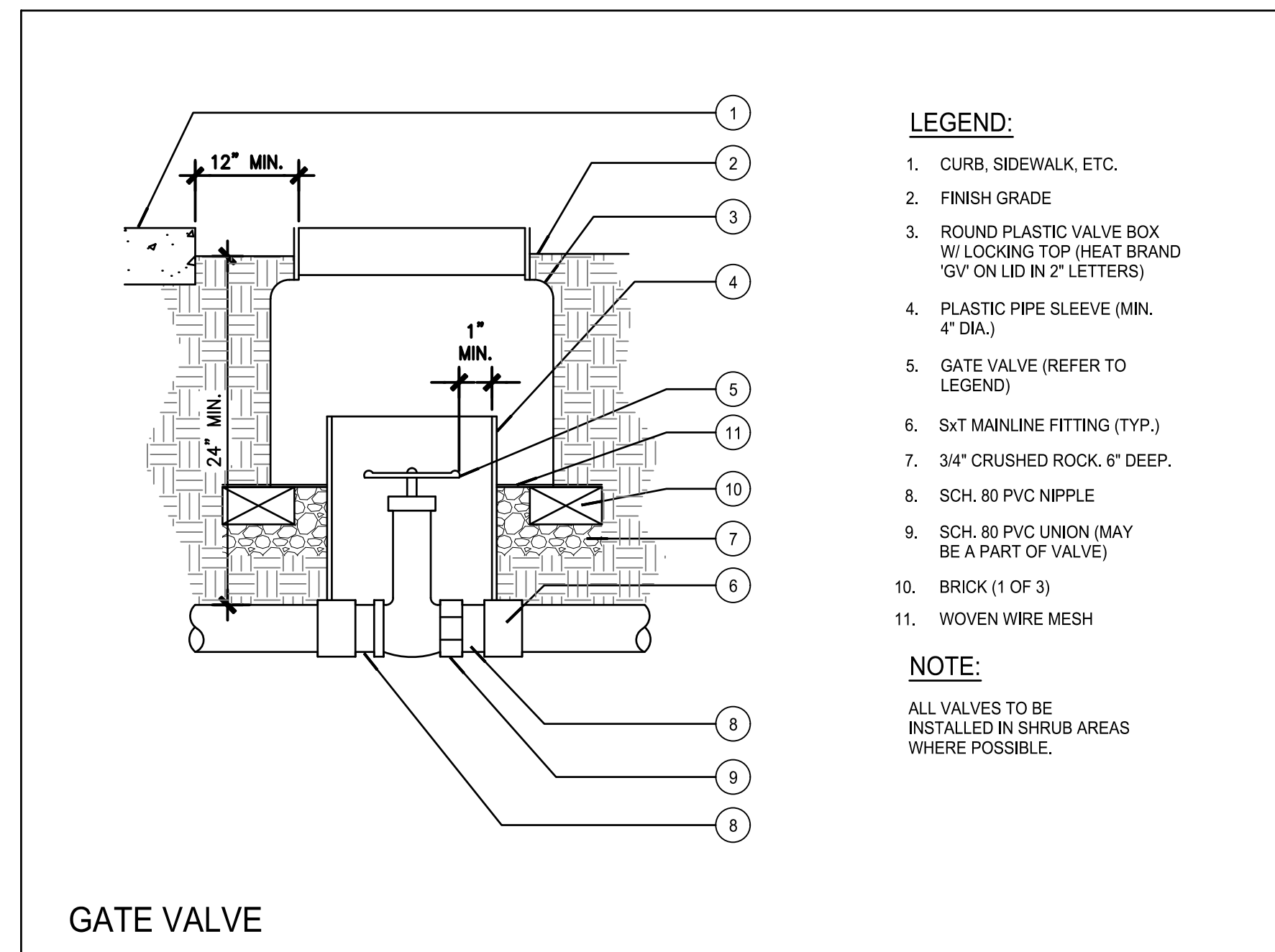
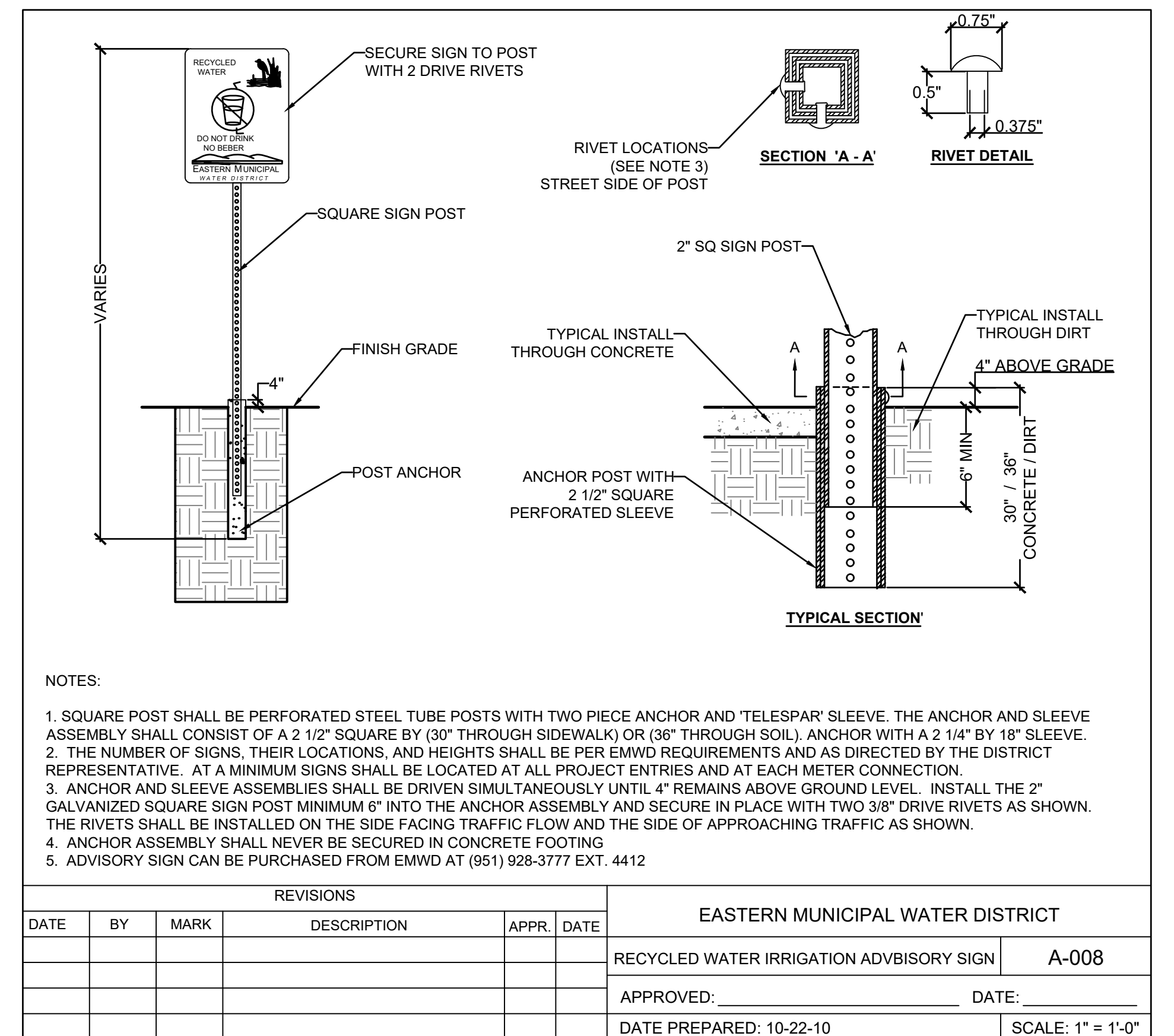
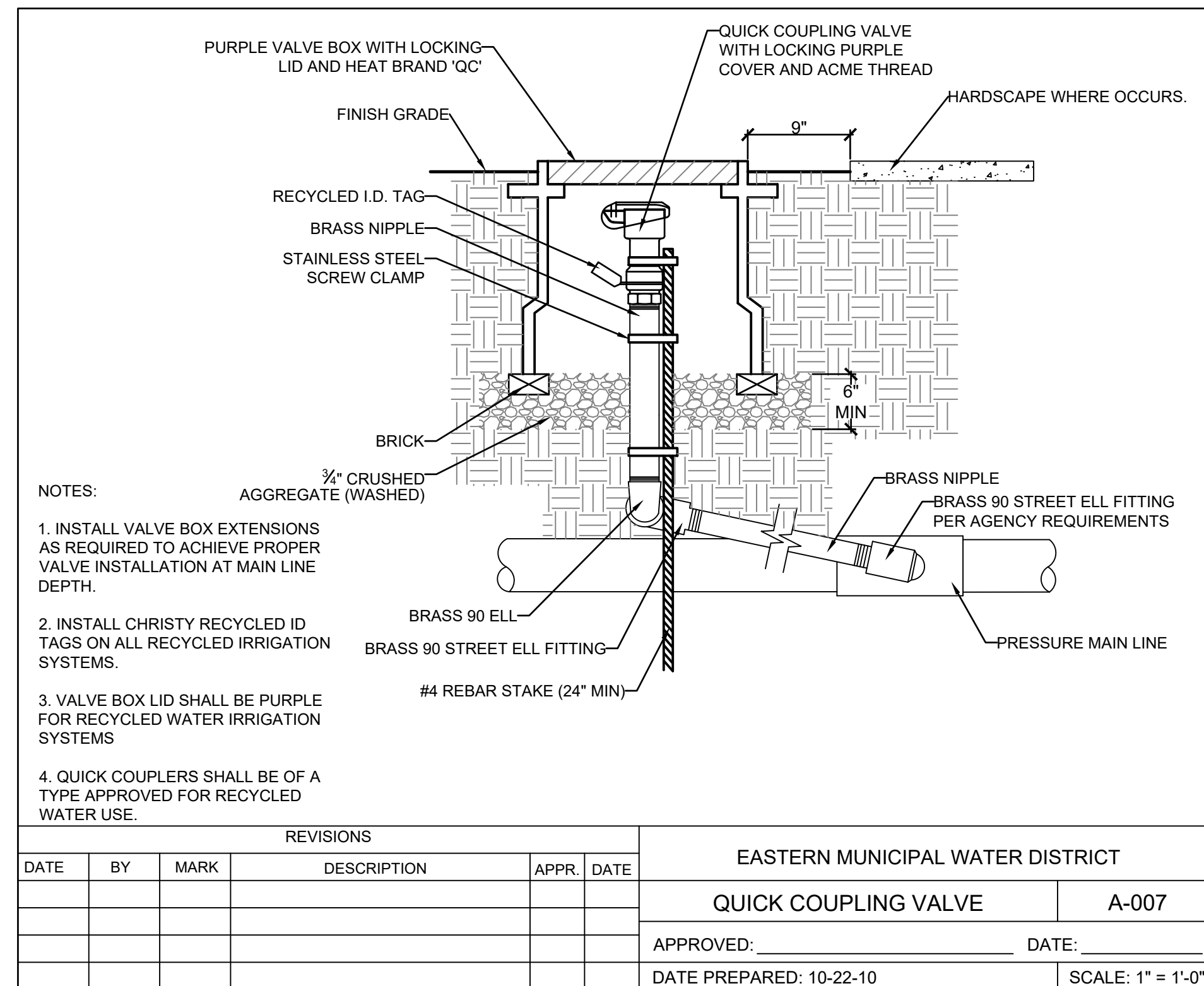
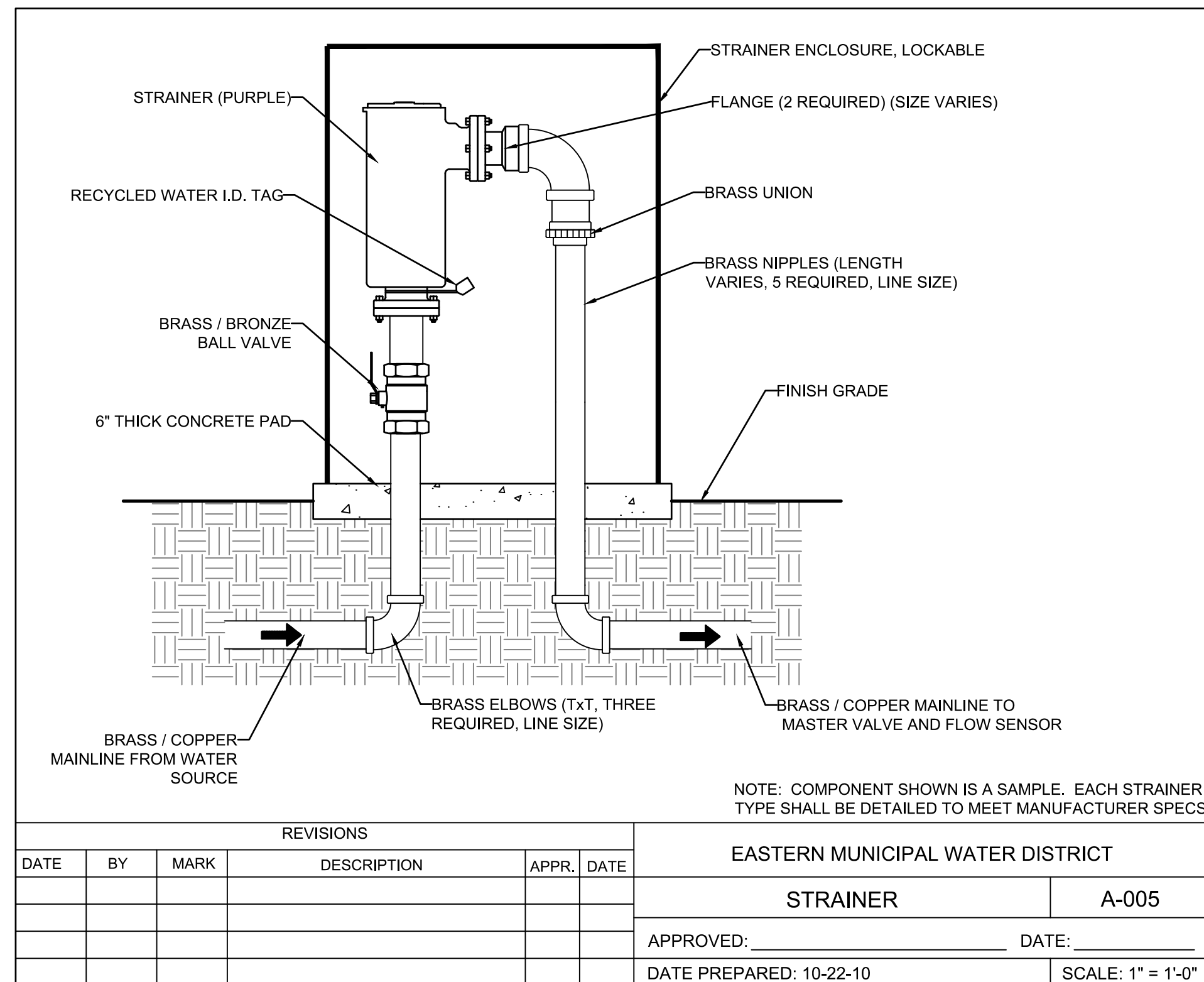
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<b>DIG ALERT</b>  Call: TOLL FREE 1-800-227-2600 OR 811 TWO FULL WORKING DAYS BEFORE YOU DIG	BENCH MARK DESCRIPTION: _____ LOCATION: _____ VERTICAL DATUM: _____ HORIZONTAL DATUM: _____	ACCEPTED BY: VALLEY-WIDE RECREATION AND PARK DISTRICT DEPARTMENT: _____ ACCEPTANCE: _____ DATE: 6/17/19	REVISIONS <table border="1"> <thead> <tr> <th>DATE</th> <th>BY</th> <th>MARK</th> <th>DESCRIPTION</th> </tr> </thead> <tbody> <tr> <td>03/25/2019</td> <td>HNCC</td> <td></td> <td></td> </tr> <tr> <td></td> <td>ENGINEER</td> <td></td> <td></td> </tr> </tbody> </table>	DATE	BY	MARK	DESCRIPTION	03/25/2019	HNCC				ENGINEER			ACCEPTED BY: EASTERN MUNICIPAL WATER DISTRICT SENIOR CIVIL ENGINEER: _____ DATE: _____ DEPARTMENT: _____ ACCEPTANCE: _____ DATE: _____ NEW BUSINESS P.C.: _____ OPERATIONS: _____ ENGINEERING: _____ POS ENGINEER: _____	SHRIMP LANE WINCHESTER, CA. RECYCLED WATER IRRIGATION RETROFIT IMPROVEMENTS IRRIGATION PLAN WO: 14882 PCWO: _____ DOPP: RWJW: _____ COORD: RWUP: _____ I.D. SHT_19_OF_22 S.A. D-
	DATE	BY	MARK	DESCRIPTION													
03/25/2019	HNCC																
	ENGINEER																
DRAWN BY: HNCC CHECKED BY: ENGINEER		DATE: 03/25/2019 APPR. DATE: _____ EMWD: _____															





**COLOR CODING**

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**INSTALLATION NOTES**

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Call: TOLL FREE 1-800-227-2600 OR 811

TWO FULL WORKING DAYS BEFORE YOU DIG

BENCH MARK DESCRIPTION: \_\_\_\_\_

LOCATION: \_\_\_\_\_

VERTICAL DATUM: \_\_\_\_\_

HORIZONTAL DATUM: \_\_\_\_\_

ACCEPTED BY: \_\_\_\_\_

VALLEY-WIDE RECREATION AND PARK DISTRICT

DEPARTMENT	ACCEPTANCE	DATE
	<i>[Signature]</i>	6/17/19

DATE: 12/05/2016

DRAWN BY: HNCC

CHECKED BY: ENGINEER

REVISIONS

DATE	BY	MARK	DESCRIPTION

ACCEPTED BY: \_\_\_\_\_

EASTERN MUNICIPAL WATER DISTRICT

SENIOR CIVIL ENGINEER \_\_\_\_\_ DATE \_\_\_\_\_

DEPARTMENT	ACCEPTANCE	DATE
NEW BUSINESS P.C.		
OPERATIONS		
ENGINEERING		
POS ENGINEER		

SHRIMP LANE WEST

WINCHESTER, CA.

RECYCLED WATER IRRIGATION RETROFIT IMPROVEMENTS

IRRIGATION DETAILS

WO: 19229

PCWO: \_\_\_\_\_

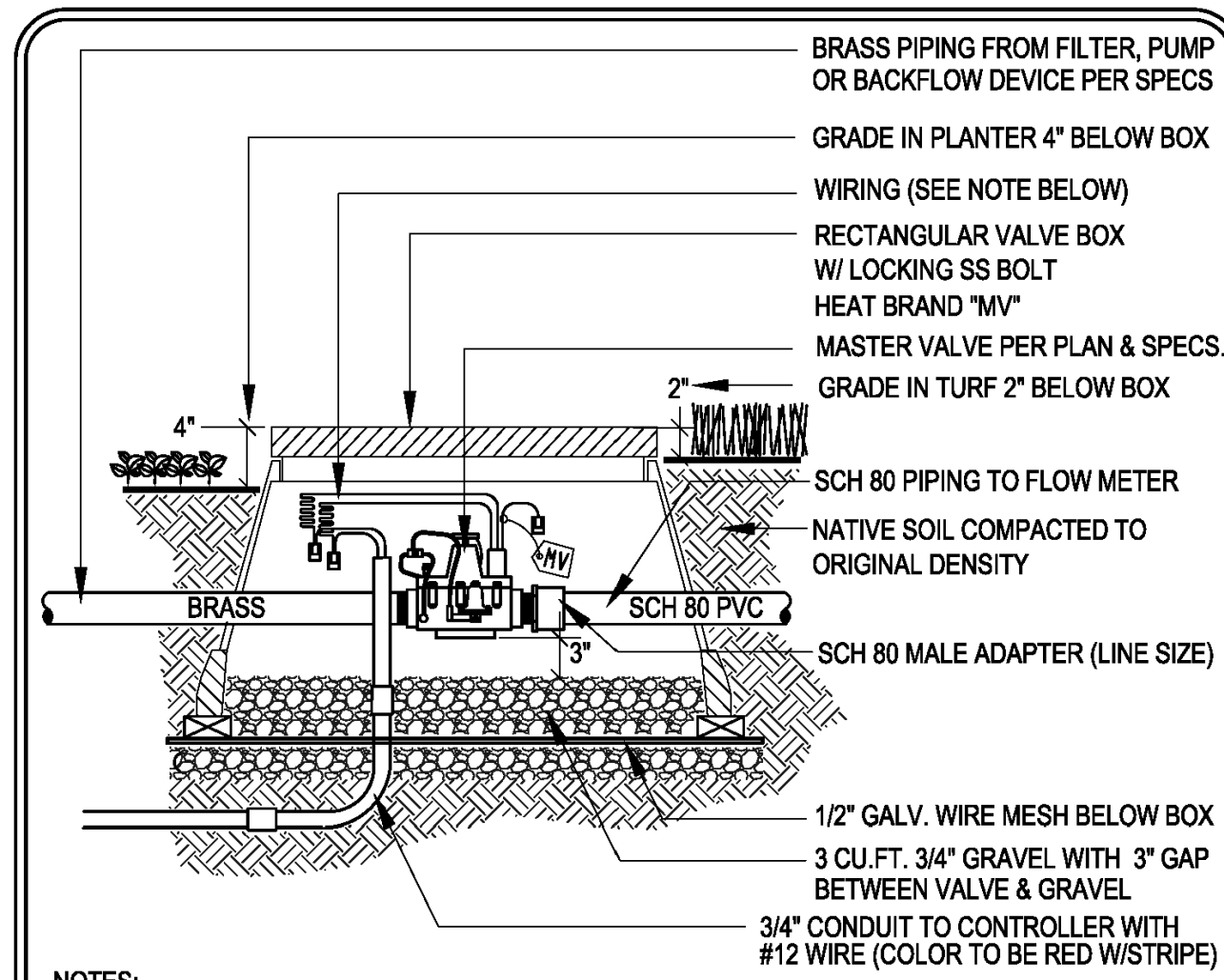
DOPP: RWJW: \_\_\_\_\_

COORD. RWUP: \_\_\_\_\_

I.D. SHT. 10 OF 12

S.A. D-



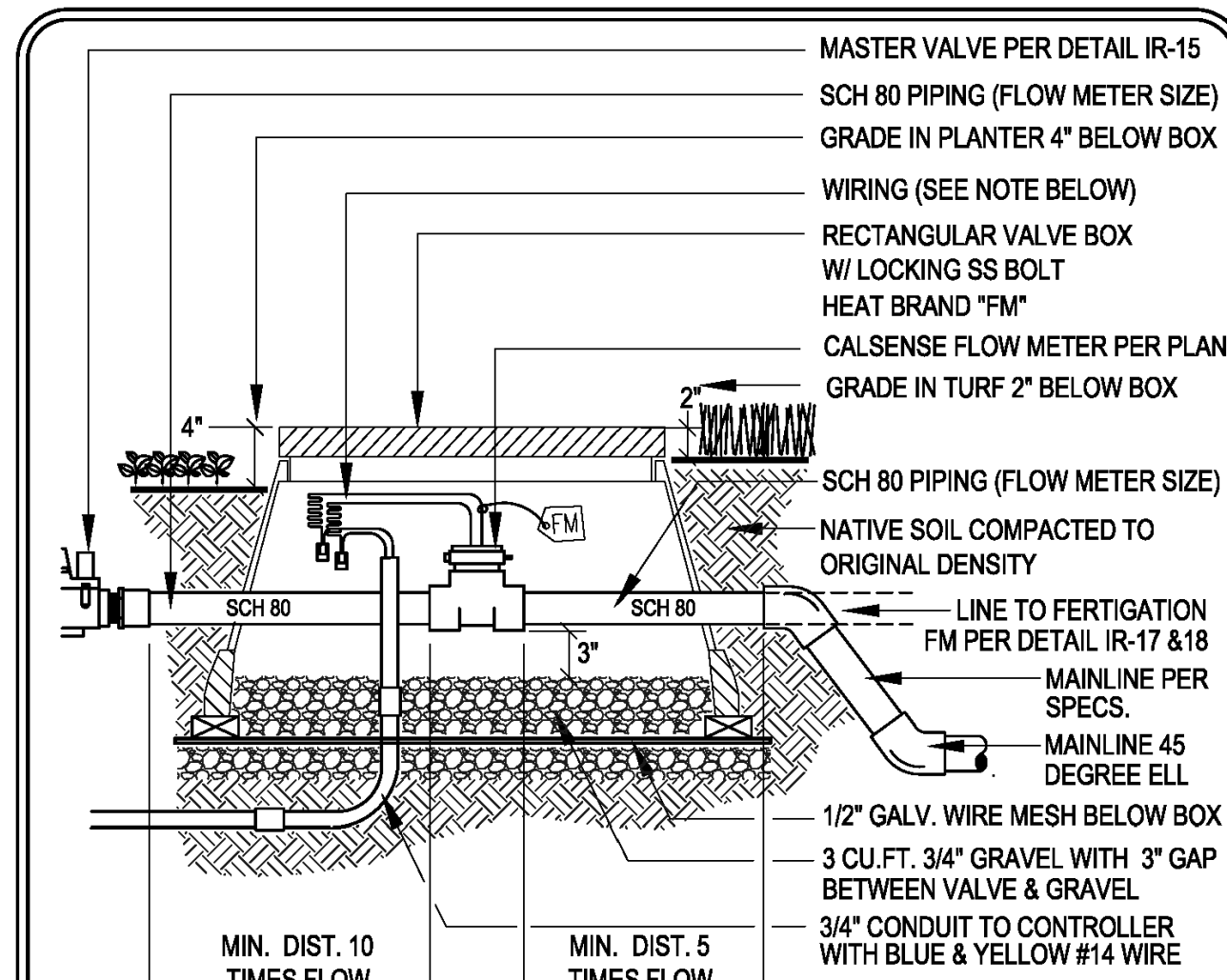


- BRASS PIPING FROM FILTER, PUMP OR BACKFLOW DEVICE PER SPECS  
 GRADE IN PLANTER 4" BELOW BOX  
 WIRING (SEE NOTE BELOW)  
 RECTANGULAR VALVE BOX W/ LOCKING SS BOLT HEAT BRAND "MV"  
 MASTER VALVE PER PLAN & SPECS.  
 GRADE IN TURF 2" BELOW BOX  
 SCH 80 PIPING TO FLOW METER  
 NATIVE SOIL COMPACTED TO ORIGINAL DENSITY  
 SCH 80 MALE ADAPTER (LINE SIZE)  
 1/2" GALV. WIRE MESH BELOW BOX  
 3 CU.FT. 3/4" GRAVEL WITH 3" GAP BETWEEN VALVE & GRAVEL  
 3/4" CONDUIT TO CONTROLLER WITH #12 WIRE (COLOR TO BE RED W/STRIPE)

NOTES:  
 1. ALL WIRING SHALL BE APPROVED BY THE DISTRICT PRIOR TO BACKFILL  
 2. PROVIDE 24" LONG EXPANSION COILS AT EACH WIRE CONNECTION  
 3. PROVIDE 4 EA. CONCRETE BRICKS UNDER VALVE BOX (TYP.)  
 4. USE IRON DUCTILE FITTINGS FOR 4" & LARGER MAINLINE  
 5. PROVIDE SEPARATE MASTER VALVE AND FLOW METER WHEN AN ADDITIONAL CONTROLLER IS SPECIFIED OR USE SINGLE MASTER VALVE AND FLOW METER WHEN THE "FL" OPTION IS USED FOR MULTIPLE CONTROLLERS AS APPROVED BY THE DISTRICT AND CALSENSE  
 6. NEVER CONNECT SINGLE MASTER VALVES AND FLOW METERS TO BOTH CONTROLLERS  
 7. PROVIDE BRASS PIPING IN LIEU OF SCH 80 PVC WHEN BRASS FLOW METER IS SPECIFIED  
 8. SEAL WIRE CONNECTORS AND CONDUIT OPENING WITH HARDENING SEALANT PER SPECS.  
 9. FLOW METERS 3" AND LARGER SHALL BE FLANGED. PROVIDE SPOOLS AND ADAPTERS AS REQ'D.  
 10. MASTER VALVE SHALL BE STAINLESS STEEL W/PRESSURE REDUCING AND SURGE RELIEF OPTIONS  
 LD Consulting 2012 (Any deviation or reproduction of this design must be approved in writing by Valley-Wide Recreation & Park District)

**VALLEY-WIDE RECREATION & PARK DISTRICT**  
**MASTER CONTROL VALVE** **IR-15**  
 REV. 2012

Valley-Wide Recreation & Park District 2012 Standards & Specifications 205

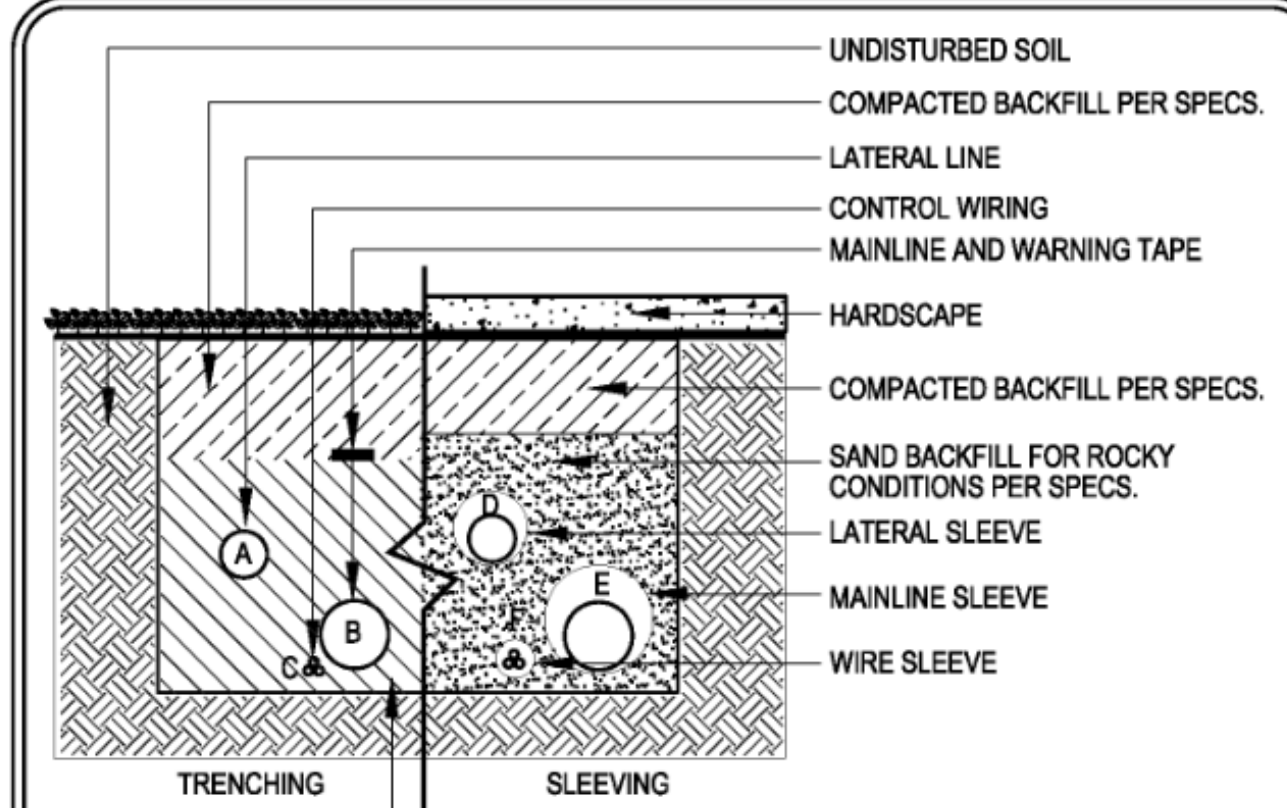


- MASTER VALVE PER DETAIL IR-15  
 SCH 80 PIPING (FLOW METER SIZE)  
 GRADE IN PLANTER 4" BELOW BOX  
 WIRING (SEE NOTE BELOW)  
 RECTANGULAR VALVE BOX W/ LOCKING SS BOLT HEAT BRAND "FM"  
 CALSENSE FLOW METER PER PLAN  
 GRADE IN TURF 2" BELOW BOX  
 SCH 80 PIPING (FLOW METER SIZE)  
 NATIVE SOIL COMPACTED TO ORIGINAL DENSITY  
 LINE TO FERTIGATION FM PER DETAIL IR-17 & 18  
 MAINLINE PER SPECS.  
 MAINLINE 45 DEGREE ELL  
 1/2" GALV. WIRE MESH BELOW BOX  
 3 CU.FT. 3/4" GRAVEL WITH 3" GAP BETWEEN VALVE & GRAVEL  
 3/4" CONDUIT TO CONTROLLER WITH BLUE & YELLOW #14 WIRE  
 MIN. DIST. 10 TIMES FLOW METER SIZE  
 MIN. DIST. 5 TIMES FLOW METER SIZE

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 6. NEVER CONNECT SINGLE MASTER VALVES AND FLOW METERS TO BOTH CONTROLLERS  
 7. PROVIDE BRASS PIPING IN LIEU OF SCH 80 PVC WHEN BRASS FLOW METER IS SPECIFIED  
 8. SEAL WIRE CONNECTORS AND CONDUIT OPENING WITH HARDENING SEALANT PER SPECS.  
 9. PIPING AFTER FLOW METER CAN RUN DIRECTLY TO FERTIGATION FLOW METER WHEN USED  
 LD Consulting 2012 (Any deviation or reproduction of this design must be approved in writing by Valley-Wide Recreation & Park District)

**VALLEY-WIDE RECREATION & PARK DISTRICT**  
**FLOW METER** **IR-16**  
 REV. 2012

Valley-Wide Recreation & Park District 2012 Standards & Specifications 206

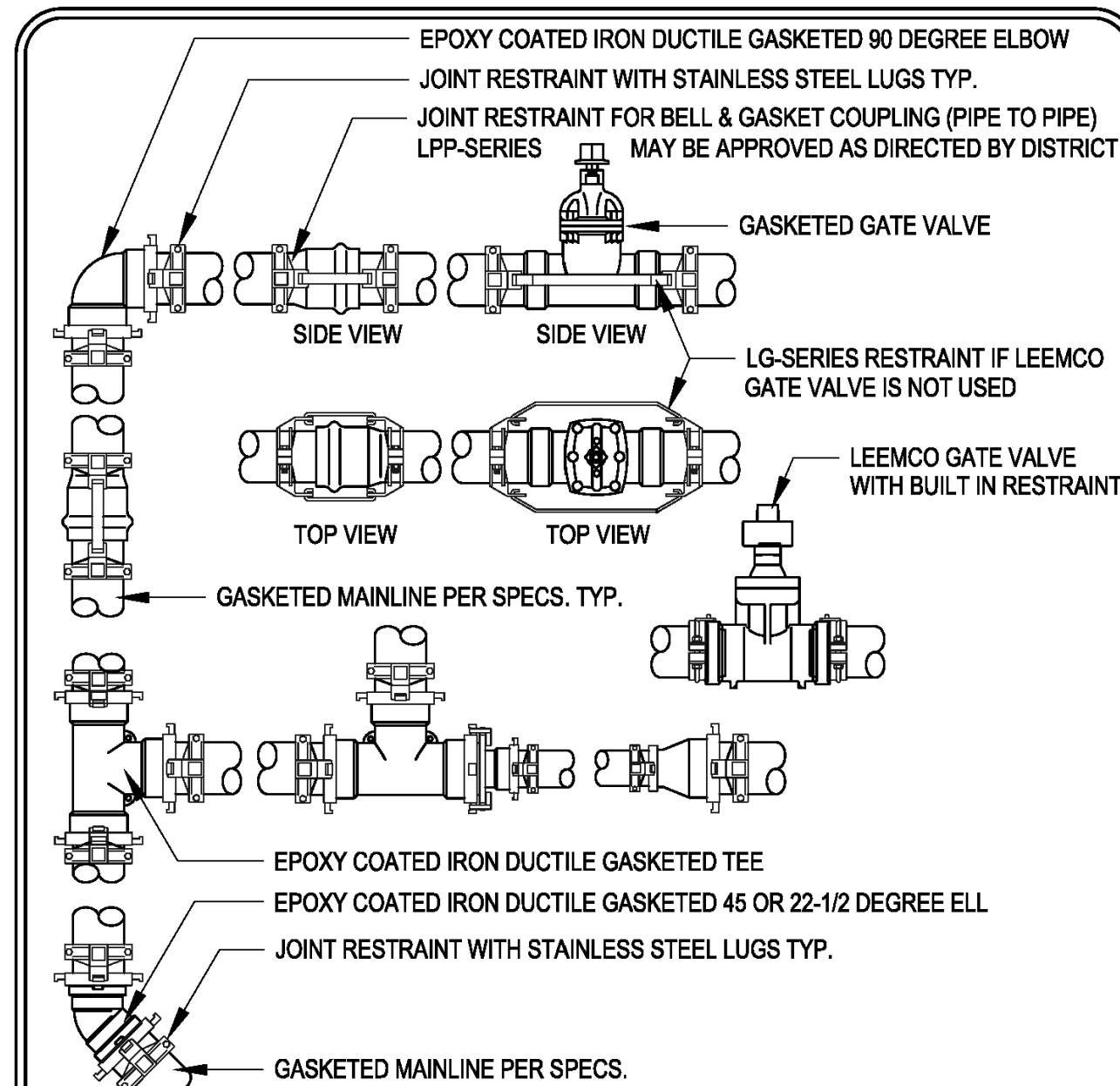


DEPTH	INITIAL BACKFILL PER SPECS.					
	A	B	C	D	E	F
4" & LARGER	-	30"	30"	36"	36"	36"
3" & SMALLER	18"	24"	24"	30"	36"	36"
2-1/2" & SMALLER	12"	24"	24"	24"	30"	30"
WIRING	-	-	BELOW MAIN	-	-	BELOW MAIN

- NOTES:  
 1. LINES MUST HAVE MIN. CLEARANCE OF 4" FROM EACH OTHER & 24" FROM OTHER TRADES  
 2. RUN WIRING UNDER MAINLINE, TAPE & BUNDLE @ 10" O.C.  
 3. PROVIDE A 24" LOOP IN ALL WIRING AT CHANGES IN DIRECTION  
 4. ALL SLEEVES MUST BE 2 TIMES THE DIAMETER OF THE PIPE WITHIN  
 5. ALL SLEEVES MUST HAVE FOAM AT PIPE OPENING TO PREVENT DIRT ENTRY  
 6. ALL SLEEVES MUST EXTEND 12" MIN. DISTANCE PAST CURB OR SIDEWALK  
 7. CONTRACTOR MUST ADJUST MAINLINE AROUND ALL STREET LIGHT LOCATIONS  
 LD Consulting 2012 (Any deviation or reproduction of this design must be approved in writing by Valley-Wide Recreation & Park District)

**VALLEY-WIDE RECREATION & PARK DISTRICT**  
**TRENCHING & SLEEVING** **IR-23**  
 REV. 2012

Valley-Wide Recreation & Park District 2012 Standards & Specifications 213



- NOTES:  
 ALL UNIONS SHALL BE RESTRAINED AS SHOWN ABOVE  
 1. ALL IRON DUCTILE FITTINGS SHALL BE EPOXY COATED WITH INNER GASKET PER SPECS.  
 2. ALL FITTINGS AND BELL & GASKET COUPLINGS SHALL BE RESTRAINED AS SHOWN ABOVE  
 3. ALL LUGS SHALL BE STAINLESS STEEL AND TIGHTENED PER MANUFACTURER TORQUE CHART  
 LD Consulting 2012 (Any deviation or reproduction of this design must be approved in writing by Valley-Wide Recreation & Park District)

**VALLEY-WIDE RECREATION & PARK DISTRICT**  
**MAINLINE RESTRAINTS 4" & LARGER** **IR-25**  
 REV. 2012

Valley-Wide Recreation & Park District 2012 Standards & Specifications 215

**INSTALLATION NOTES**

THE MATERIALS AND THE INSTALLATION OF THE IRRIGATION SYSTEM SHOWN ON THIS PLAN SHALL MEET THE LATEST EMWD AND CITY OF WINCHESTER / VALLEY-WIDE RECREATION AND PARK DISTRICT STANDARDS AND SPECIFICATIONS. IF CONTRACTOR NOTICES ANY INCONSISTENCIES WITH THE LATEST IRRIGATION DESIGN STANDARDS, HE SHALL IMMEDIATELY NOTIFY ALL PARTIES.

NO HOSE BIBS WILL BE ALLOWED FOR INSTALLATION ON SYSTEMS USING RECYCLED WATER.

**COLOR CODING**

SPRINKLERS, ROTOR HEADS AND OTHER TYPES OF DISPERSION HEADS SHALL HAVE THE EXPOSED SURFACE COLORED PURPLE. THE EXPOSED SURFACE SHALL BE COLORED THROUGH THE USE OF INTEGRALLY MOLDED PURPLE PLASTIC OR PERMANENTLY ATTACHED PURPLE PLASTIC RING OR DISC. VALVE BOXES AND LIDS SHALL BE PURPLE PER INDUSTRY STANDARDS. THE LIDS SHALL HAVE THE WARNING "RECYCLED: DO NOT DRINK" IN ENGLISH AND SPANISH AND THE INTERNATIONAL "DO NOT DRINK" ON ONE SIDE AND "PELIGRO: AGUA IMPURA-NO BEBER" ON THE OPPOSITE SIDE. ALL SHRUB HEADS SHALL HAVE PURPLE CAPS. ROTOR HEADS MAYBE PAINTED PURPLE WHEN REPLACEMENT CAPS OR COLLARS ARE NOT AVAILABLE. CONTRACTOR TO SUBMIT QUANTITIES, MANUFACTURER AND MODEL NUMBER OF THE HEAD TO EMWD FOR APPROVAL.

**DIG ALERT**  
 Call: TOLL FREE  
 1-800-227-2600  
 OR  
 811  
 TWO FULL WORKING DAYS BEFORE YOU DIG

BENCH MARK  
 DESCRIPTION: \_\_\_\_\_  
 LOCATION: \_\_\_\_\_  
 VERTICAL DATUM: \_\_\_\_\_  
 HORIZONTAL DATUM: \_\_\_\_\_

ACCEPTED BY:  
 VALLEY-WIDE RECREATION AND PARK DISTRICT

DEPARTMENT	ACCEPTANCE	DATE
	<i>[Signature]</i>	6/17/19

REVISIONS

DATE	BY	MARK	DESCRIPTION

DATE: 12/05/2016  
 DRAWN BY: HNCC  
 CHECKED BY: ENGINEER

ACCEPTED BY:  
 EASTERN MUNICIPAL WATER DISTRICT

SENIOR CIVIL ENGINEER \_\_\_\_\_ DATE \_\_\_\_\_

DEPARTMENT	ACCEPTANCE	DATE
NEW BUSINESS P.C.		
OPERATIONS		
ENGINEERING		
POS ENGINEER		

**SHRIMP LANE WEST**  
 WINCHESTER, CA.  
 RECYCLED WATER IRRIGATION RETROFIT  
 IMPROVEMENTS  
 IRRIGATION DETAILS

WO: 19229	PCWO:
DOPP: RWUJ:	
COORD. RWUP:	
I.D. SHT. 11 OF 12	
S.A. D-	



**I. CONTRACTOR'S IRRIGATION WORK RESPONSIBILITIES**

- A. SCOPE OF WORK: THE CONTRACTOR SHALL PROVIDE ALL LABOR, MATERIALS, TRANSPORTATION, AND SERVICES NECESSARY TO FURNISH AND INSTALL A COMPLETE IRRIGATION SYSTEM AS SHOWN ON THE DRAWINGS AND SPECIFIED HEREIN.
- B. CONFORMANCE: ALL IRRIGATION WORK SHALL CONFORM TO APPLICABLE LOCAL, COUNTY AND/OR STATE CODES, REGULATIONS AND RULES.
- C. LICENSE: ALL WORK SHALL BE PERFORMED BY A C-27 CALIFORNIA LICENSED LANDSCAPE IRRIGATION CONTRACTOR.
- D. PERMITS AND INSPECTIONS: THE CONTRACTOR SHALL OBTAIN, COORDINATE AND PAY FOR ANY AND ALL PERMITS, FEES AND AGENCY INSPECTIONS AS REQUIRED.
- E. INSURANCE: THE CONTRACTOR SHALL CARRY ALL WORKMAN'S COMPENSATION, PUBLIC LIABILITY AND PROPERTY DAMAGE INSURANCE AS REQUIRED BY ALL APPLICABLE CODES, REGULATIONS AND BY THE OWNER (JOB SUPERINTENDENT).
- F. SITE VERIFICATION: PRIOR TO COMMENCEMENT OF WORK, THE CONTRACTOR SHALL VERIFY, AT THE SITE, ALL CONDITIONS AND DIMENSIONS SHOWN ON THE PLANS NECESSARY TO ACHIEVE THE INTENDED DESIGN OF THE IRRIGATION SYSTEM. ANY DISCREPANCIES SHALL BE REPORTED TO THE OWNER (JOB SUPERINTENDENT) IMMEDIATELY.
- G. LIABILITY FOR ENCROACHMENT: THE CONTRACTOR SHALL BE RESPONSIBLE AND LIABLE FOR ANY ENCROACHMENT INTO ADJACENT PROPERTY, RIGHTS-OF-WAYS, EASEMENTS, SET-BACKS OR ANY OTHER LEGAL PROPERTY RESTRICTIONS EITHER MARKED OR UNMARKED.
- H. POINT OF CONNECTION VERIFICATION: THE CONTRACTOR SHALL VERIFY THE STATIC PRESSURE, METER SIZE AND SIZE OF SERVICE TO METER (P.O.C.) AT EACH POINT OF CONNECTION.
- I. FIELD STAKING: PRIOR TO INSTALLATION, THE CONTRACTOR SHALL LOCATE BY STAKES OR OTHER MEANS ALL PRESSURE SUPPLY LINES, CONTROL EQUIPMENT, GROUND COVER DELINEATIONS AND HEADS FOR APPROVAL BY THE OWNER (JOB SUPERINTENDENT).
- J. COORDINATION OF ACTIVITIES: THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATION OF HIS ACTIVITIES WITH ALL OTHER TRADES THROUGH THE OWNER (JOB SUPERINTENDENT).
- K. INTENDED DESIGN COVERAGE: THE CONTRACTOR SHALL BE RESPONSIBLE FOR COMPLETION, MODIFICATION OR REVISIONS OF THE SYSTEMS AS NECESSARY TO MAINTAIN THE CONSISTENT COVERAGE DESIGN OF THE CONTRACT DOCUMENTS. ANY DEVIATION FROM THE CONTRACT DOCUMENTS SHALL HAVE THE PRIOR WRITTEN APPROVAL OF THE OWNER (JOB SUPERINTENDENT) AND LANDSCAPE ARCHITECT.
- L. NOTIFICATION OF DISCREPANCIES: ANY DISCREPANCIES BETWEEN THE FIELD CONDITIONS AND THE CONTRACT DOCUMENTS AND/OR THE DESIGN INTENT AFFECTING THE SUCCESSFUL COMPLETION AND COST OF THE PROJECT SHALL BE REPORTED TO THE OWNER (JOB SUPERINTENDENT) IMMEDIATELY. ALL WORK RELATED TO THE PROBLEM AREA SHALL CEASE UNTIL THE DISCREPANCIES HAVE BEEN RESOLVED BY THE OWNER (JOB SUPERINTENDENT) OR LANDSCAPE ARCHITECT IN WRITING. ANY CONTINUATION OF WORK IS AT THE CONTRACTOR'S RISK AND EXPENSE.
- M. IRRIGATION PLANS: THE IRRIGATION PLANS, INCLUDING PIPING AND EQUIPMENT LOCATIONS, ARE DRAWN DIAGRAMMATICALLY. THE CONTRACTOR SHALL MAKE MINOR ADJUSTMENTS TO THE SYSTEM AS REQUIRED TO AVOID PHYSICAL ELEMENTS AND CONFORM TO THE SITE CONDITIONS. IN ALL CASES, THE CONTRACTOR SHALL INSURE THAT THERE ARE NO CONFLICTS BETWEEN THE IRRIGATION SYSTEM, PLANTING AND CONSTRUCTION ELEMENTS, AND EXISTING UTILITIES.
- N. ELECTRICAL CONNECTION: THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE FINAL ELECTRICAL CONNECTION FROM POWER SOURCE TO CONTROLLERS AS INDICATED ON THE PLANS WHERE APPLICABLE.
- O. LIABILITY FOR DAMAGE: THE CONTRACTOR SHALL BE LIABLE FOR DAMAGE TO ALL UTILITIES, CONSTRUCTION, IRRIGATION AND PLANTING ELEMENTS, EITHER MARKED OR UNMARKED, AND SHALL REPAIR OR REPLACE DAMAGE TO ITS ORIGINAL CONDITION IN A MANNER ACCEPTABLE TO THE OWNER (JOB SUPERINTENDENT).
- P. LIABILITY FOR LOSS: THE CONTRACTOR SHALL BE RESPONSIBLE AND LIABLE FOR ANY LOSS TO HIS EQUIPMENT, PARTS AND MATERIALS ON THIS PROJECT UNTIL COMPLETION AND ACCEPTANCE OF THE JOB IN WRITING FROM THE OWNER (JOB SUPERINTENDENT).
- Q. AS BUILTS: THE CONTRACTOR SHALL PROVIDE AND KEEP UP TO DATE A COMPLETE SET OF PRINTS WHICH SHALL BE CORRECTED DAILY AND SHOW EVERY CHANGE FROM THE ORIGINAL DRAWINGS. BEFORE THE TIME OF THE FINAL INSPECTION, THE CONTRACTOR SHALL TRANSFER ALL INFORMATION FROM THE "AS BUILT" SET AND FIELD STAKING OF ALL EQUIPMENT LOCATED ON THE MAINLINE AND CONTROL WIRE LOCATION TO A REPRODUCIBLE OZALID SEPIA, PROCURED FROM THE OWNER (JOB SUPERINTENDENT) AND LANDSCAPE ARCHITECT. ALL WORK SHALL BE NEAT AND LEGIBLE. THE CONTRACTOR SHALL CERTIFY REPRODUCIBLES AS TO ACCURACY AND COMPLETENESS.
- R. WRITTEN GUARANTEE: ALL IRRIGATION WORK SHALL BE GUARANTEED BY THE CONTRACTOR AS TO MATERIAL AND WORKMANSHIP FOR A PERIOD OF ONE YEAR FOLLOWING THE DATE OF FINAL ACCEPTANCE OF THE PROJECT. THE CONTRACTOR SHALL PROVIDE A WRITTEN GUARANTEE ON HIS LETTERHEAD AT THE TIME OF THE FINAL INSPECTION.
- S. WRITTEN CERTIFICATION: THE CONTRACTOR SHALL PROVIDE A WRITTEN CERTIFICATION THAT THE IRRIGATION SYSTEM IS INSTALLED FREE FROM DEFECTS IN MATERIALS AND WORKMANSHIP AND IN FULL COMPLIANCE WITH THE DRAWINGS AND SPECIFICATIONS. THIS SHALL BE ON THE CONTRACTOR'S LETTERHEAD WITH HIS IRRIGATION AND CALIFORNIA C-27 CONTRACTOR'S LICENSE NUMBER.
- T. TURNOVER ITEMS: THE CONTRACTOR SHALL SUPPLY TO THE OWNER (JOB SUPERINTENDENT) AS A PART OF THIS CONTRACT, THE FOLLOWING ITEMS PRIOR TO THE TIME OF THE FINAL SITE OBSERVATION:
  1. A REPRODUCIBLE SET OF "AS BUILT" DRAWINGS AS PER NOTE "Q" ABOVE.
  2. THE ORIGINAL OF THE GUARANTEE LETTER.
  3. THE ORIGINAL OF THE CERTIFICATION LETTER.
  4. TWO (2) KEYS FOR EACH AUTOMATIC CONTROLLER.
  5. TWO (2) SETS OF ANY SPECIAL EQUIPMENT REQUIRED FOR OPERATING, ADJUSTING, ASSEMBLING AND REMOVING EACH TYPE OF EQUIPMENT SUPPLIED ON THIS PROJECT AS REQUESTED BY THE OWNER.

**II. OWNER'S IRRIGATION WORK RESPONSIBILITIES**

- A. CONSTRUCTION RESPONSIBILITIES: THE OWNER WILL BE DIRECTLY RESPONSIBLE FOR ALL ASPECTS OF CONSTRUCTION INCLUDING ALL IRRIGATION INSPECTIONS. ALL FIELD MEETINGS SHALL BE INITIATED BY THE CONTRACTOR AND COORDINATED THROUGH THE OWNER (JOB SUPERINTENDENT).
- B. DETERMINING LEGAL AND PHYSICAL ELEMENTS: THE OWNER (JOB SUPERINTENDENT) SHALL BE RESPONSIBLE FOR DETERMINING PROPERTY LINES, RIGHTS-OF-WAYS, TRACT BOUNDARIES, GRADES, EASEMENTS, UTILITY LOCATIONS (ABOVE AND BELOW GRADE) AND ANY OTHER LEGAL OR PHYSICAL ELEMENTS AS REQUIRED FOR THE SUCCESSFUL COMPLETION OF THE WORK. THE CONTRACTOR SHALL NOT BE PERMITTED TO PROCEED WITH ANY WORK WITHOUT DETERMINATION OF THE ABOVE INFORMATION.
- C. SITE DISCREPANCIES: ALL DISCREPANCIES IN SITE CONDITIONS, DRAWINGS OR SPECIFICATIONS SHALL BE BROUGHT TO THE ATTENTION OF THE OWNER (JOB SUPERINTENDENT) IMMEDIATELY. IT IS THE OWNER'S (JOB SUPERINTENDENT'S) RESPONSIBILITY TO CONSULT THE LANDSCAPE ARCHITECT PRIOR TO ANY FURTHER WORK IN THAT AREA. ANY UNREPORTED DISCREPANCY AND CONTINUED WORK WITHOUT WRITTEN AUTHORIZATION FROM THE OWNER (JOB SUPERINTENDENT) AND LANDSCAPE ARCHITECT SHALL BE AT THE CONTRACTOR'S RISK AND EXPENSE.
- D. CONTRACT FULFILLMENT: ALL QUESTIONS RELATING TO INTERPRETATION OF THE DRAWINGS AND SPECIFICATIONS, QUALITY OF WORK AND ACCEPTABLE FULFILLMENT OF INTENT OF THE CONTRACT DOCUMENT SHALL BE DECIDED BY THE OWNER (JOB SUPERINTENDENT) AND LANDSCAPE ARCHITECT CONCURRENTLY.

**III. REQUIRED FIELD OBSERVATION WORK**

- A. REQUIRED FIELD OBSERVATION WORK: THESE PLANS WERE PREPARED WITH THE UNDERSTANDING THAT THE OWNER OF SAID PLANS WILL USE E.M.W.D. TO PROVIDE "FULL" CONTRACT SERVICES INCLUDING FIELD OBSERVATION SERVICES DURING CONSTRUCTION. FAILURE TO USE E.M.W.D. TO PROVIDE AND COMPLETE THE FIELD OBSERVATION SERVICES SET FORTH HEREIN WILL SIGNIFICANTLY INCREASE THE RISK OF LOSS RESULTING, AMONG OTHER CAUSES, FROM MISINTERPRETATION OF THE INTENT OF THE DESIGN, UNAUTHORIZED MODIFICATIONS THERETO, AND FAILURE TO DETECT ERRORS AND OMISSIONS IN THE PLANS AND SPECIFICATIONS BEFORE THEY BECOME COSTLY MISTAKES BUILT INTO THE PROJECT. THEREFORE, IN THE EVENT THAT E.M.W.D. IS OTHERWISE PRECLUDED FROM COMPLETING THE FIELD OBSERVATION SERVICES SET FORTH HEREIN, THE OWNER, OR SUBSEQUENT OWNER (INDIVIDUALS OR CORPORATIONS WHO HAVE PURCHASED THESE PLANS WITH THE PROJECT), AGREES TO HOLD HARMLESS, INDEMNIFY, AND DEFEND E.M.W.D. FROM AND AGAINST ANY AND ALL CLAIMS.

**IV. LANDSCAPE ARCHITECT'S IRRIGATION FIELD OBSERVATION SCHEDULE**

- A. FIELD OBSERVATION COORDINATION: THE FOLLOWING OBSERVATIONS SHALL BE INITIATED BY THE CONTRACTOR AND COORDINATED THROUGH THE OWNER (JOB SUPERINTENDENT). THE CONTRACTOR SHALL NOTIFY THE OWNER (JOB SUPERINTENDENT) AND LANDSCAPE ARCHITECT NOT LESS THAN FORTY-EIGHT (48) HOURS IN ADVANCE OF ANY OBSERVATION. CONTINUED WORK WITHOUT OBSERVATION AT THESE PHASES OF WORK IS AT THE CONTRACTOR'S RISK, WITH ANY REQUIRED CHANGE OR MODIFICATION AT THE CONTRACTOR'S EXPENSE. THE OWNER (JOB SUPERINTENDENT) SHALL INFORM THE LANDSCAPE ARCHITECT AS TO THE PURPOSE AND TIME OF THE OBSERVATION FORTY-EIGHT (48) HOURS IN ADVANCE.
- B. CONTRACTOR ORIENTATION/PRE-CONSTRUCTION MEETING: THIS MEETING SHALL BE CONDUCTED TO DISCUSS THE PLANS AND SPECIFICATIONS, POSSIBLE DISCREPANCIES, SITE CONDITIONS AND OTHER ASPECTS OF THE PROJECT IRRIGATION WORK SUCH AS PERSONNEL, SCHEDULE AND REQUIREMENTS FOR STARTING WORK. PRIOR TO THE MEETING, THE CONTRACTOR SHALL THOROUGHLY ACQUAINT HIMSELF WITH SITE CONDITIONS AND THE PLANS, DETAILS AND SPECIFICATIONS.
- C. IRRIGATION MAINLINE AND EQUIPMENT LAYOUT: THIS OBSERVATION SHALL BE PERFORMED BY THE OWNER (JOB SUPERINTENDENT) FOLLOWING STAKING OF ALL PRESSURE MAINLINE AND CONTROL EQUIPMENT, VERIFICATION OF ALL SITE CONDITIONS AND PRIOR TO ANY TRENCHING. ANY DISCREPANCIES NOT PREVIOUSLY NOTED SHALL BE CORRECTED AT THIS TIME TO THE SATISFACTION OF THE OWNER (JOB SUPERINTENDENT) AND LANDSCAPE ARCHITECT AT THE CONTRACTOR'S EXPENSE.
- D. IRRIGATION MAINLINE AND PRESSURE TEST: THIS OBSERVATION IS FOR THE PURPOSE OR REVIEWING ALL MAINLINE LAYOUT FOR CONFORMANCE TO SPECIFICATIONS AND VERIFYING THE WATER TIGHTNESS OF PRESSURE SYSTEMS PRIOR TO BACKFILLING TRENCHES. PRESSURE TESTS MUST CONFORM TO MANUFACTURER'S SPECIFICATIONS. ALL PRESSURE LINES SHALL BE TESTED UNDER A SUSTAINED HYDROSTATIC PRESSURE OF 150 POUNDS PER SQUARE INCH FOR A PERIOD OF NOT LESS THAN TWO (2) HOURS. THIS TEST SHALL BE PERFORMED IN THE PRESENCE OF THE OWNER (JOB SUPERINTENDENT) TO MANUFACTURER'S ACCEPTED TESTING PROCEDURES AND APPROVED IN WRITING BY THE OWNER (JOB SUPERINTENDENT), PRIOR TO BACKFILLING ANY TRENCHES. CONTRACTOR SHALL FURNISH NECESSARY FORCE PUMP AND ALL OTHER NECESSARY TESTING EQUIPMENT.
- E. PROGRESS INSPECTIONS: PERIODIC INSPECTIONS SHALL BE PERFORMED BY OWNER (JOB SUPERINTENDENT) DURING THE LAYOUT OF ALL LATERAL LINE SYSTEMS, WITH TRENCHES OPEN TO VERIFY CONFORMANCE TO DETAILS, DEPTH OF PIPE AND EQUIPMENT ASSEMBLIES.
- F. IRRIGATION COMPLETION/COVERAGE TEST: THIS OBSERVATION IS TO INSURE CONFORMANCE OF ALL IRRIGATION EQUIPMENT WITH IRRIGATION CONTRACT DOCUMENTS AND WILL CONSIST OF OPERATION OF EACH SYSTEM TO INSURE INTENDED COVERAGE. THE CONTRACTOR SHALL FLUSH AND ADJUST ALL HEADS FOR OPTIMUM PERFORMANCE AND TO PREVENT OVERSPRAY ONTO WALKS, ROADWAYS AND BUILDINGS, ETC. PRIOR TO THIS OBSERVATION, THIS MAY INCLUDE CHANGES IN NOZZLE SIZES AND DEGREE OF ARC TO OPTIMIZE OPERATION.

**V. SCOPE OF IRRIGATION WORK**

- A. GENERAL IRRIGATION NOTES:
  1. SPECIFIED EQUIPMENT: ALL EQUIPMENT SHALL BE AS LISTED IN THE LEGEND AND INSTALLED AS PER DETAILS AND SPECIFICATIONS, OR MANUFACTURER'S RECOMMENDATION. ANY SUBSTITUTIONS SHALL BE APPROVED IN WRITING BY OWNER (JOB SUPERINTENDENT) AND LANDSCAPE ARCHITECT. ANY UNAPPROVED EQUIPMENT SHALL BE REPLACED AT THE CONTRACTOR'S EXPENSE.
  2. ALTERNATE ITEMS: APPROVAL OF ANY ITEM OR ALTERNATE ITEM INDICATES ONLY THAT IT APPARENTLY MEETS THE REQUIREMENTS OF THE DRAWINGS ON THE BASIS OF THE INFORMATION SUBMITTED, AND DOES NOT RELIEVE THE CONTRACTOR OF ANY RESPONSIBILITY FOR THE EQUIPMENT'S SUCCESSFUL OPERATION.
  3. CONTRACTOR'S GUARANTEE: MANUFACTURER'S WARRANTIES SHALL NOT RELIEVE THE CONTRACTOR OF THIS LIABILITY UNDER THE GUARANTEE. SUCH WARRANTIES WILL ONLY SUPPLEMENT THE GUARANTEE.
  4. SOLVENT WELD MAINLINE PIPE: PRESSURE MAINLINE PIPE SIZED 1-1/2" AND SMALLER SHALL BE IPS PRESSURE RATED PVC 1120 SCHEDULE 40 RATED PIPE. PRESSURE MAINLINE PIPE SIZED TWO INCHES (2") AND LARGER SHALL BE IPS PRESSURE RATED PVC 1120 SDR 13.5 315 PSI RATED PIPE PVC (CLASS 315) CONFORMING TO MATERIALS ASTM D1784 AND PRODUCT DESIGN ASTM D2214 FOR SDR 315 AND ASTM 1784 FOR SCHEDULE 40 PIPE, BURIED A MINIMUM OF EIGHTEEN INCHES (18") DEEP WITH SOLVENT WELD JOINTS MADE FROM NSF APPROVED, TYPE 1, GRADE 1 (PVC COMPOUND CONFORMING TO ASTM RESIN SPECIFICATION D1784).
  5. LATERAL LINE PIPE: NON-PRESSURE BURIED LATERAL LINE PIPE SHALL BE PRESSURE RATED PVC 1120 SDR 21 200 PSI RATED PIPE CONFORMING TO MATERIALS ASTM D1784 AND PRODUCT DESIGN ASTM D2214 FOR SDR 21 PIPE 200 PSI RATED PIPE CONFORMING TO MATERIALS ASTM D1784 AND PRODUCTS DESIGN ASTM D2214 FOR SDR 21 PIPE 200 BURIED A MINIMUM OF 12" DEEP WITH SOLVENT WELD JOINTS MADE FROM NSF APPROVED, TYPE 1, GRADE II PVC COMPOUND CONFORMING TO ASTM RESIN SPECIFICATION D1784.
  6. GASKET SEAL MAINLINE PIPE: PRESSURE MAINLINE PIPE SIZED TWO INCHES (2") AND LARGER SHALL BE IPS PRESSURE RATED PVC 1120 SDR 21 200 PSI RATED PIPE, CONFORMING TO MATERIALS ASTM D1784, PRODUCT DESIGN ASTM D2214, GASKET JOINT ASTM DB139, GASKET ASTM F477, CELL CLASS ASTM 1245A, BURIED A MINIMUM OF EIGHTEEN INCHES (18") BELOW FINISH GRADE WITH THRUST BLOCKS PER MANUFACTURER'S INSTRUCTIONS.
  7. SOLVENT CEMENT: SOLVENT PRIMER SHALL CONFORM TO ASTM D-2564. SOLVENT CEMENT SHALL CONFORM TO ASTM D2564.
  8. SOLVENT FITTINGS: SOLVENT FITTINGS SHALL BE SCHEDULE 40 PRODUCED FROM PVC TYPE 1 CELL CLASSIFICATION B2454-B.
  9. THREADED FITTINGS: THREADED FITTINGS SHALL BE SCHEDULE 40 AND THREADED NIPPLES SHALL BE SCHEDULE 80, PRODUCED FROM PVC TYPE 1 CELL CLASSIFICATION 12454-B. USE PERMATEX #51/TEFLON TAPE OR APPROVED PIPE JOINT COMPOUND PER FITTINGS MANUFACTURER'S RECOMMENDATIONS.
  10. STEEL PIPE: GALVANIZED STEEL PIPE SHALL BE ASA SCHEDULE 40 MILLED STEEL SCREWED PIPE WITH MEDIUM GALVANIZED SCREWED BEADED MALLEABLE IRON FITTINGS.
  11. STEEL PIPE BELOW GRADE: ALL GALVANIZED PIPE AND FITTINGS INSTALLED BELOW GRADE SHALL BE COATED WITH TWO (2) COATS OF KOPPER'S #50 BITUMASTIC.
  12. BRASS PIPE AND FITTINGS: BRASS PIPE SHALL BE B85 RED BRASS, AMERICAN NATIONAL STANDARD INSTITUTE (ANSI), SCHEDULE 40 SCREWED PIPE. FITTINGS SHALL BE MEDIUM BRASS, SCREWED, 125 POUND CLASS.
  13. COPPER PIPE AND FITTINGS: COPPER PIPE SHALL BE TYPE K, (HARD) ASTM B88 SOLDER FITTINGS IN ACCORDANCE WITH ANSI B16.22. SOLDER JOINTS SHALL BE 45% SILVER, 15% COPPER, 16% ZINC, 24% CADMIUM AND SOLIDUS AS 11250F AND LIQUIDS AT 11450F. CONFORMING TO ASTM B206 AND FS Q-Q-B-655C.
  14. METAL PIPE JOINTS: ALL CONNECTIONS TO BE SEALED WITH PIPE JOINT COMPOUND FOR METAL JOINTS.
  15. CONTROL WIRE: CONNECTIONS BETWEEN THE AUTOMATIC CONTROLLERS AND THE ELECTRIC CONTROL VALVES SHALL BE MADE WITH DIRECT BURIAL COPPER WIRE AWG-U.F. 600 VOLT UL APPROVED. MINIMUM SIZE IS #14 AWG, BURIED EIGHTEEN (18") INCHES BELOW GRADE. USE DIFFERENT COLOR CONTROL WIRE FOR EACH CONTROLLER. COMMON WIRES SHALL BE WHITE OR A DIFFERENT COLOR FROM THE CONTROL WIRES FOR EACH OF AUTOMATIC CONTROLLER ON THE SITE.
  16. WIRE TRENCH: WIRING SHALL OCCUPY THE SAME TRENCH AND SHALL BE INSTALLED ALONG THE SAME ROUTE AS PRESSURE SUPPLY OR LATERAL LINES WHEREVER POSSIBLE. THE WIRES SHALL BE TAPED TOGETHER AT INTERVALS NOT EXCEEDING TEN (10) FEET.
  17. EXPANSION CURL: A TWELVE INCH (12") EXPANSION CURL SHOULD BE PROVIDED WITHIN THREE (3) FEET OF EACH WIRE CONNECTION AND AT LEAST EVERY ONE HUNDRED (100) FEET OF WIRE LENGTH. AT STREET CROSSINGS AND GATE VALVE LOCATIONS THE CONTRACTOR SHALL BRING ALL THE WIRES TO GRADE AND PROVIDE A 12" EXPANSION CURL COVERED BY A RECTANGULAR VALVE BOX MARKED "IRRIGATION WIRE".
  18. WIRE SPLICES: ALL SPLICES SHALL BE MADE WITH SCOTCH-LOK #357 CONNECTOR SEALING PACKS, PEN-TITE WIRE CONNECTOR, OR APPROVED EQUAL. USE ONE SPLICE PER CONNECTOR. ALL SPLICES WILL BE MADE AT VALVES OR CONTROLLER. NO OTHER SPLICES WILL BE ALLOWED UNLESS APPROVED BY THE OWNER (JOB SUPERINTENDENT). ALL SPLICES NOT AT VALVES, SHALL BE MADE IN A RECTANGULAR VALVE BOX MARKED "IRRIGATION WIRE".
  19. TRENCHES: DIG TRENCHES STRAIGHT AND SUPPORT PIPE CONTINUOUSLY ON BOTTOM OF TRENCH. LAY PIPE TO AN EVEN GRADE.
  20. BACKFILL: THE TRENCHES SHALL NOT BE BACKFILLED UNTIL ALL REQUIRED TESTS ARE PERFORMED. TRENCHES SHALL BE CAREFULLY BACKFILLED WITH APPROVED MATERIALS, FREE FROM CLODS OF EARTH OR STONES TWO INCHES (2") OR LARGER. BACKFILL SHALL BE MECHANICALLY COMPACTED TO A DRY DENSITY EQUAL TO ADJACENT UNDISTURBED SOIL AND SHALL CONFORM TO ADJACENT SURFACE GRADES WITHOUT IRREGULARITIES.
  21. LINES UNDER PAVING: ALL IRRIGATION LINES, VALVES AND WIRING RUNS SHOWN ON PLANS IN THE STREET, PAVED AREAS AND UNDER HARDSCAPING ARE DIAGRAMMATIC. INSTALL THESE LINES, VALVES AND WIRING RUNS IN PLANTING AREAS EXCEPT WHERE IT IS OBVIOUS THAT THEY MUST CROSS THAT PAVED AREA TO GET FROM ONE PLANTING AREA TO ANOTHER OR UNLESS NOTED OTHERWISE.
  22. STREETS: WHERE ANY CUTTING OR BREAKING OF CONCRETE OR OTHER PAVING SURFACE IS NECESSARY, IT SHALL BE DONE AND REPLACED TO MATCH THE EXISTING WORK TO THE OWNER'S (JOB SUPERINTENDENT'S) SATISFACTION, BY THE CONTRACTOR, AS PART OF THE CONTRACT COST.
  23. SLEEVES: SLEEVES SHALL BE INSTALLED UNDER ALL STREETS AND PAVEMENT WIDER THAN SEVEN FEET (7") PER THE IRRIGATION PLAN. THE CONTRACTOR SHALL COORDINATE THE INSTALLATION OF SLEEVES WITH THE OWNER (JOB SUPERINTENDENT) PRIOR TO THE PAVING BEING INSTALLED.
  24. SLEEVE/PIPE COVER: ALL WIRE, PRESSURE AND NON-PRESSURE PIPE INSTALLED UNDER ASPHALTIC CONCRETE PAVING SHALL BE INSTALLED IN CLASS 315 PVC SLEEVES BURIED TWENTY-FOUR INCHES (24") BELOW THE ROAD BED AND BACKFILLED PER STRUCTURAL SOILS REPORT SPECIFICATIONS.
  25. PIPE CLEARANCE: ALL LINES SHALL HAVE A MINIMUM CLEARANCE OF SIX INCHES (6") FROM EACH OTHER. PARALLEL LINES SHALL NOT BE INSTALLED DIRECTLY OVER ONE ANOTHER.
  26. CONTROL VALVES: INSTALL EACH CONTROL VALVE IN A SEPARATE LOCKING VALVE BOX WITH A MINIMUM OF TWELVE INCHES (12") BETWEEN VALVE BOXES, AND A MINIMUM OF SIX INCHES (6") BETWEEN VALVE BOXES AND ANY WALK OR STRUCTURE.
  27. HEAD INSTALLATION: IRRIGATION HEADS SHALL BE INSTALLED ONLY AFTER THE SYSTEM HAS BEEN FLUSHED TO THE COMPLETE SATISFACTION OF THE OWNER (JOB SUPERINTENDENT).
  28. HEAD SPACING: SPACING OF HEADS SHALL NOT EXCEED THE MAXIMUM INDICATED ON THE DRAWINGS. IN NO CASE SHALL THE SPACING EXCEED THE MAXIMUM RECOMMENDED BY THE MANUFACTURER.
  29. INSTALLATION ANGLE OF IRRIGATION HEAD: ALL SPRINKLER HEADS SHALL BE SET PERPENDICULAR TO FINISHED GRADES UNLESS OTHERWISE DESIGNATED ON THE PLANS.
  30. PIPE ON GRADE: ALL PIPE ON GRADE SHALL BE SECURED TO SLOPE SURFACES AT 10' O.C. AND TO FLAT AREAS AT 20' O.C. MAXIMUM WITH #4 X 24" REBAR WITH "J" HOOKED RADIUS AT ONE END TO HOLD PIPE SECURELY IN PLACE.
  31. IRRIGATION SYSTEM REQUIREMENTS PRIOR TO PLANTING: THE ENTIRE SPRINKLER IRRIGATION SYSTEM SHALL BE UNDER FULL AUTOMATIC OPERATION PRIOR TO THE START OF ANY PLANTING WORK AND AN IRRIGATION COVERAGE TEST SHALL ALSO BE PERFORMED BY THE LANDSCAPE ARCHITECT PRIOR TO THE START OF ANY PLANTING.

**INSTALLATION NOTES**

THE MATERIALS AND THE INSTALLATION OF THE IRRIGATION SYSTEM SHOWN ON THIS PLAN SHALL MEET THE LATEST EMDW AND CITY OF WINCHESTER / VALLEY-WIDE RECREATION AND PARK DISTRICT STANDARDS AND SPECIFICATIONS. IF CONTRACTOR NOTICES ANY INCONSISTENCIES WITH THE LATEST IRRIGATION DESIGN STANDARDS, HE SHALL IMMEDIATELY NOTIFY ALL PARTIES.

NO HOSE BIBS WILL BE ALLOWED FOR INSTALLATION ON SYSTEMS USING RECYCLED WATER.

**COLOR CODING**

SPRINKLERS, ROTOR HEADS AND OTHER TYPES OF DISPERSION HEADS SHALL HAVE THE EXPOSED SURFACE COLORED PURPLE. THE EXPOSED SURFACE SHALL BE COLORED THROUGH THE USE OF INTEGRALLY MOLDED PURPLE PLASTIC OR PERMANENTLY ATTACHED PURPLE PLASTIC RING OR DISC. VALVE BOXES AND LIDS SHALL BE PURPLE PER INDUSTRY STANDARDS. THE LIDS SHALL HAVE THE WARNING "RECYCLED: DO NOT DRINK" IN ENGLISH AND SPANISH AND THE INTERNATIONAL "DO NOT DRINK" ON ONE SIDE AND "PELIGRO: AGUA IMPURA-NO BEBER" ON THE OPPOSITE SIDE. ALL SHRUB HEADS SHALL HAVE PURPLE CAPS. ROTOR HEADS MAYBE PAINTED PURPLE WHEN REPLACEMENT CAPS OR COLLARS ARE NOT AVAILABLE. CONTRACTOR TO SUBMIT QUANTITIES, MANUFACTURER AND MODEL NUMBER OF THE HEAD TO EMDW FOR APPROVAL.

ACCEPTED BY:

VALLEY-WIDE RECREATION AND PARK DISTRICT

DEPARTMENT	ACCEPTANCE	DATE
	<i>[Signature]</i>	6/17/19

DATE: 12/05/2016

DRAWN BY: HNCC

CHECKED BY: ENGINEER

**REVISIONS**

DATE	BY	MARK	DESCRIPTION

ACCEPTED BY:

EASTERN MUNICIPAL WATER DISTRICT

DEPARTMENT	ACCEPTANCE	DATE

APPR. DATE

EMWD

SHRIMP LANE WEST  
WINCHESTER, CA.

RECYCLED WATER IRRIGATION RETROFIT  
IMPROVEMENTS

IRRIGATION SPECIFICATIONS

WO: 19229

PCWO:

DOPP:

RWJW:

COORD:

RWUP:

I.D.

SHT. 12 OF 12

S.A.

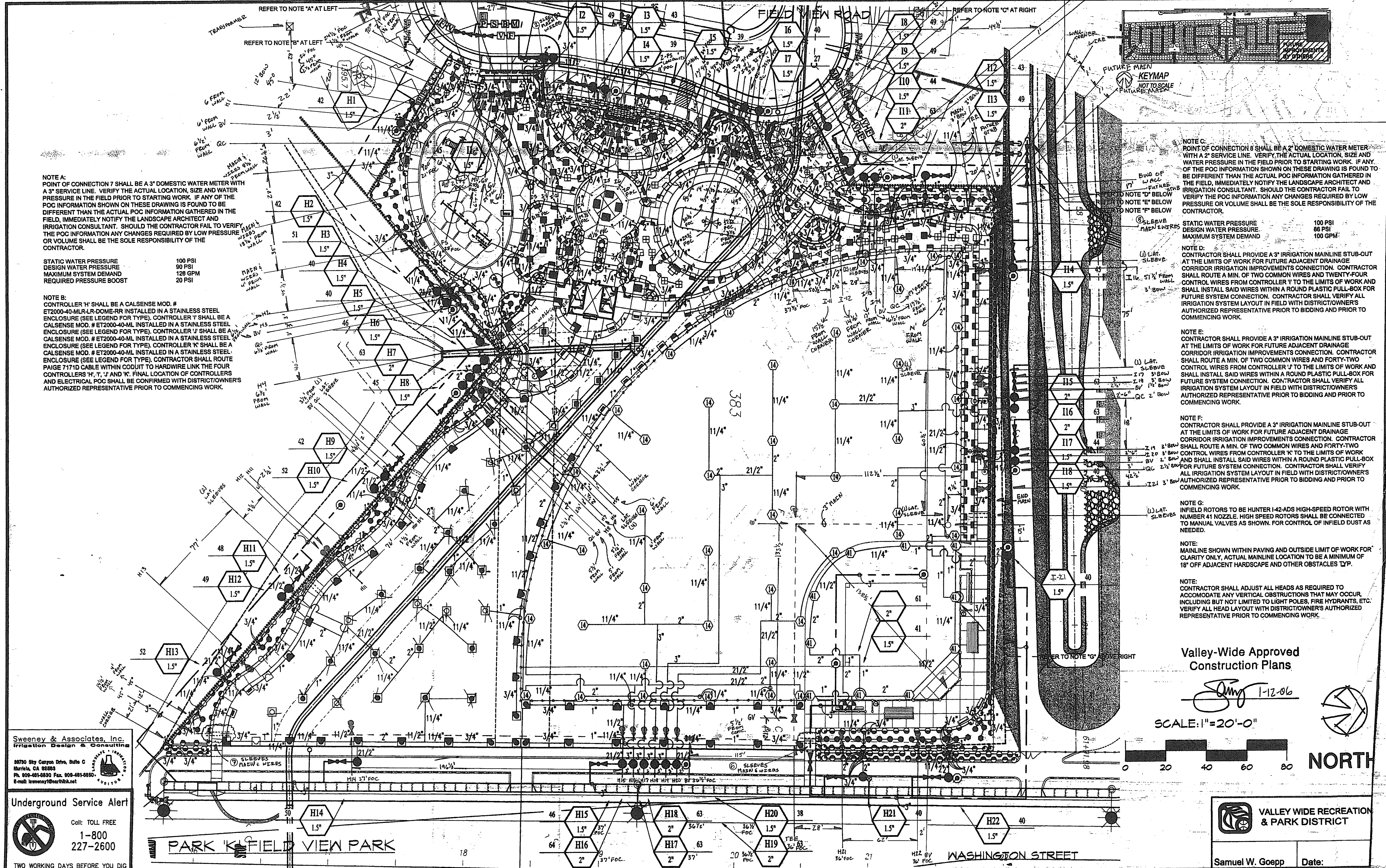
D-

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OR  
811

TWO FULL WORKING DAYS BEFORE YOU DIG





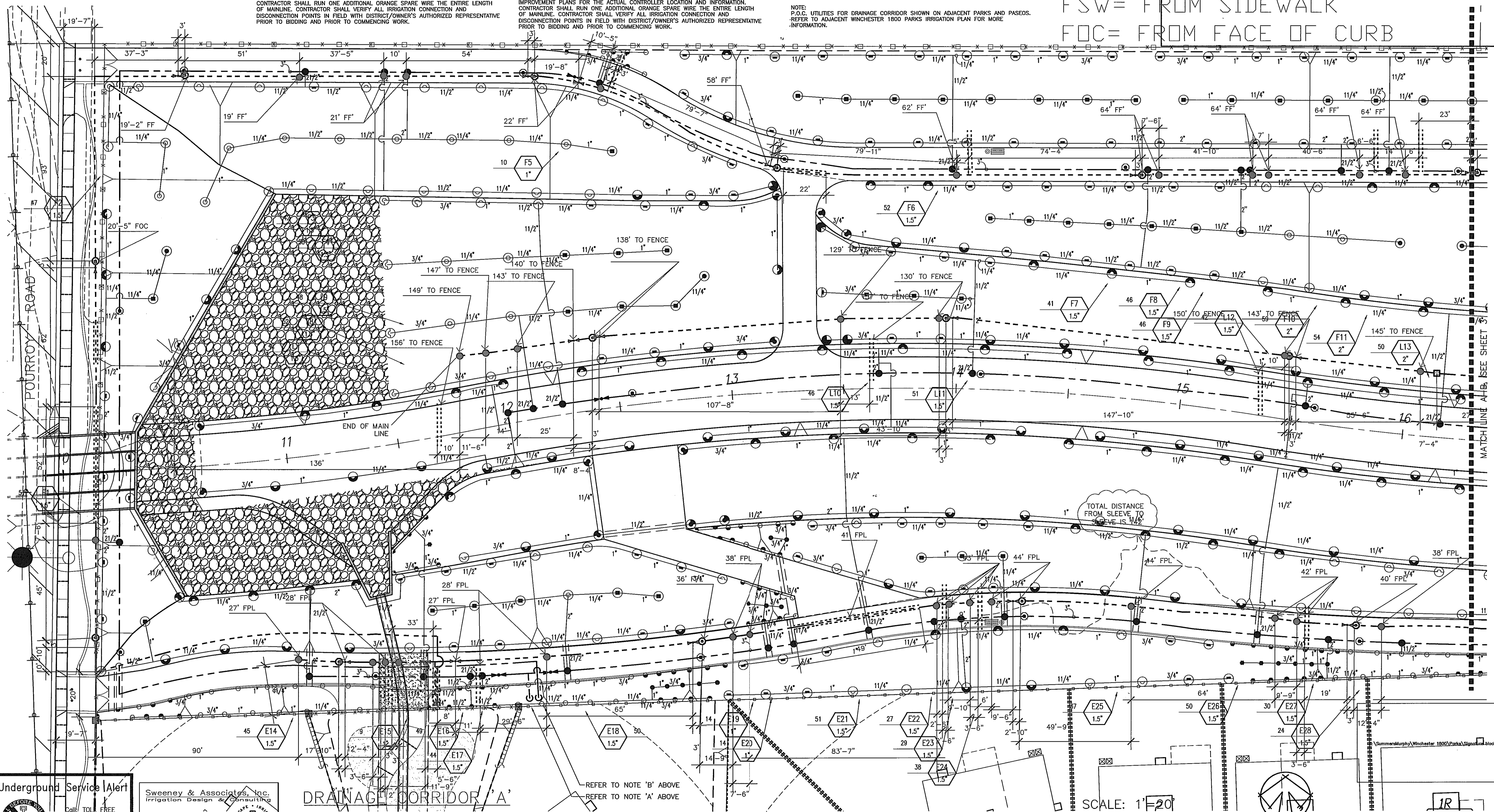


NOTE A:  
 CONTRACTOR SHALL CONNECT PROPOSED 3" IRRIGATION MAINLINE TO THE EXISTING 3" IRRIGATION SYSTEM MAINLINE STUB-OUT. CONTRACTOR SHALL VERIFY ACTUAL EXISTING 3" IRRIGATION SYSTEM MAINLINE LOCATION IN FIELD WITH AUTHORIZED REPRESENTATIVE PRIOR TO COMMENCING WORK. CONTRACTOR SHALL REFER TO FRENCH VALLEY @ WINCHESTER 1800 LMD PARKS & PASEOS IRRIGATION PLANS PREPARED BY SWEENEY & ASSOCIATES, INC. FOR EXISTING IRRIGATION SYSTEM LAYOUT. CONTRACTOR SHALL CONNECT VALVES E14 THROUGH E46 TO THE EXISTING CONTROL WIRES PROVIDED BY THE LMD PARKS & PASEOS CONSTRUCTION, SAID WIRES SHALL BE CONNECTED TO THE EXISTING CONTROLLER INSTALLED AS PART OF THE LMD PARKS & PASEOS IRRIGATION IMPROVEMENTS. REFER TO SHEET 11 OF THE LMD PARKS & PASEOS IRRIGATION IMPROVEMENT PLANS FOR THE ACTUAL CONTROLLER LOCATION AND INFORMATION. CONTRACTOR SHALL RUN ONE ADDITIONAL ORANGE SPARE WIRE THE ENTIRE LENGTH OF MAINLINE. CONTRACTOR SHALL VERIFY ALL IRRIGATION CONNECTION AND DISCONNECTION POINTS IN FIELD WITH DISTRICT/OWNER'S AUTHORIZED REPRESENTATIVE PRIOR TO BIDDING AND PRIOR TO COMMENCING WORK.

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NOTE:  
 MAINLINE SHOWN WITHIN PAVING AND OUTSIDE LIMIT OF WORK FOR CLARITY ONLY. ACTUAL MAINLINE LOCATION TO BE A MINIMUM OF 18" OFF ADJACENT HARDSCAPE AND OTHER OBSTACLES TYP.  
 NOTE:  
 CONTRACTOR SHALL ADJUST ALL HEADS AS REQUIRED TO ACCOMMODATE ANY VERTICAL OBSTRUCTIONS THAT MAY OCCUR, INCLUDING BUT NOT LIMITED TO LIGHT POLES, FIRE HYDRANTS, ETC. VERIFY ALL HEAD LAYOUT WITH DISTRICT/OWNER'S AUTHORIZED REPRESENTATIVE PRIOR TO COMMENCING WORK.  
 NOTE:  
 P.O.C. UTILITIES FOR DRAINAGE CORRIDOR SHOWN ON ADJACENT PARKS AND PASEOS. REFER TO ADJACENT WINCHESTER 1800 PARKS IRRIGATION PLAN FOR MORE INFORMATION.

FPL = FROM PROPERTY LINE  
 FF = FROM FENCE  
 FSW = FROM SIDEWALK  
 FOC = FROM FACE OF CURB



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 Ph. 951-461-8830 Fax. 951-461-8850  
 E-mail: email@sweeneysoc.com

DRAINAGE CORRIDOR 'A'  
 REFER TO NOTE 'B' ABOVE  
 REFER TO NOTE 'A' ABOVE

SCALE: 1" = 20'  
 0 20 40 60 80  
 NORTH

NOTE: WORK CONTAINED WITHIN THESE PLANS SHALL NOT COMMENCE UNTIL AN ENCROACHMENT PERMIT AND/OR GRADING PERMIT HAS BEEN ISSUED.  
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MARK	BY	DATE	DESCRIPTION	APPR'D	DATE

SEAL-COUNTY  
 COUNTY OF RIVERSIDE  
 TRANSPORTATION DEPARTMENT  
 APPROVED BY: KHALED A. OTHMAN, R.C.E. 33950  
 DATE: 06-30-06  
 RECOMMENDED BY: DATE:

SEAL-ARCHITECT  
 SUMMERS/MURPHY & PARTNERS, INC.  
 34187 COAST HIGHWAY, SUITE 200  
 DANA POINT, CALIFORNIA 92629 (949) 443-1446  
 LANDSCAPE ARCHITECTS  
 PATRICK C.M. MURPHY DATE: RF

BENCH MARK  
 RIVERSIDE COUNTY B.M. T-39-81, DATE 1935  
 3.5" BRASS DISK IN CONC. POST, STAMPED Y31 1935  
 FROM THE INT. OF RANCHO CALIF. RD. AND FRONT ST.  
 1.7 MILES N.W. ON FRONT ST.; JEFFERSON AVE. TO THE  
 INT. OF JEFFERSON AVE. AND WINCHESTER RD. (HWY 79)  
 TO THE INT. OF BENTON RD. AND WINCHESTER RD. (HWY 79).  
 2.4 MILES E. ON BENTON RD. TO THE INT. 20.2'S.  
 OF C/L BENTON RD. 28.7' W. OF WASHINGTON ST. 3' S.E.  
 OF 8"X8" POST.  
 ELEVATION: 1396.191

IP 040059  
 SHEET NO. 2  
 OF SHEETS

IRRIGATION LAYOUT  
 FOR: SHEA HOMES W.O. NO. 2339.00 COUNTY FILE NO.

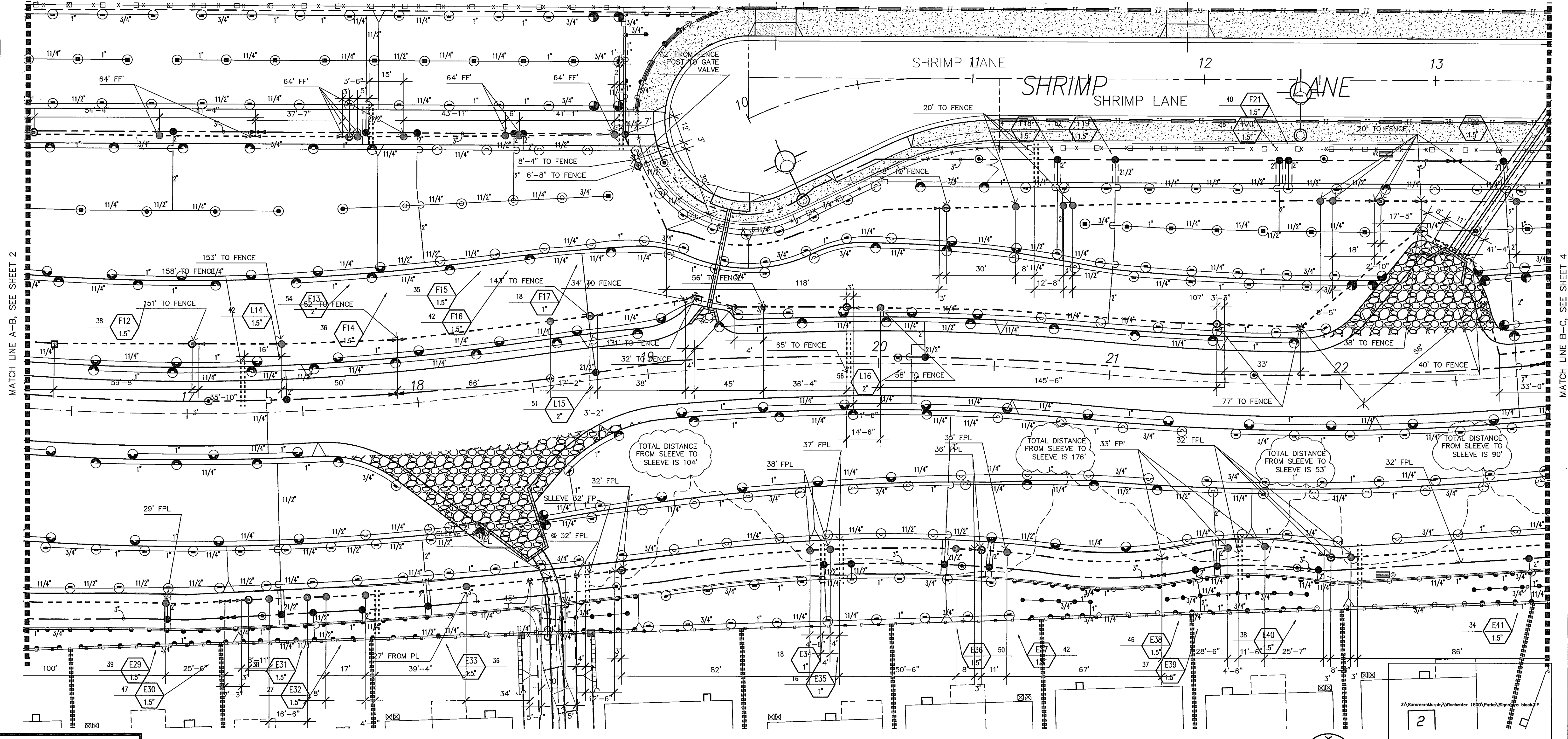


NOTE:  
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Irrigation Design & Consulting

38730 Sky Canyon Drive, Suite C  
Murrieta, CA 92563  
Ph: 951-661-6330 Fax: 951-661-6550  
E-mail: email@sweeneyassoc.com

DRAINAGE CORRIDOR 'B'

SCALE: 1"=20'

NORTH

NOTE: WORK CONTAINED WITHIN THESE PLANS SHALL NOT COMMENCE UNTIL AN ENCROACHMENT PERMIT AND/OR GRADING PERMIT HAS BEEN ISSUED.

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MARK	BY	DATE	DESCRIPTION	APPR'D	DATE
	ENGINEER		REVISIONS		COUNTY

SEAL-COUNTY

COUNTY OF RIVERSIDE  
TRANSPORTATION DEPARTMENT

APPROVED BY: KHALED A. OTHMAN, R.C.E. 33950  
DATE: 06-30-06  
EXPIRES DATE: 06-30-06

RECOMMENDED BY: \_\_\_\_\_ DATE: \_\_\_\_\_

SEAL-ARCHITECT

**SUMMERS/MURPHY & PARTNERS, INC.**  
34187 COAST HIGHWAY, SUITE 200  
DANA POINT, CALIFORNIA 92629 (949) 443-1446  
LANDSCAPE ARCHITECTS

PATRICK C.M. MURPHY DATE: \_\_\_\_\_  
RF

BENCH MARK  
RIVERSIDE COUNTY B.M. T-39-81, DATE 1935  
3.5" BRASS DISK IN CONC. POST, STAMPED Y31 1935  
FROM THE INT. OF RANCHO CALIF. RD. AND FRONT ST.  
1.7 MILES N.W. ON FRONT ST., JEFFERSON AVE. TO THE  
INT. OF JEFFERSON AVE. AND WINCHESTER RD. (HWY 79)  
TO THE INT. OF BENTON RD. AND WINCHESTER RD. (HWY 79).  
2.4 MILES E. ON BENTON RD. TO THE INT. 20.2'S.  
OF C/L BENTON RD. 26.7' W. OF WASHINGTON ST. 3' S.E.  
OF 8"X8" POST.  
ELEVATION: 1396.191

IP 040059

SHEET NO. 3

OF \_\_\_\_\_ SHEETS

IRRIGATION LAYOUT

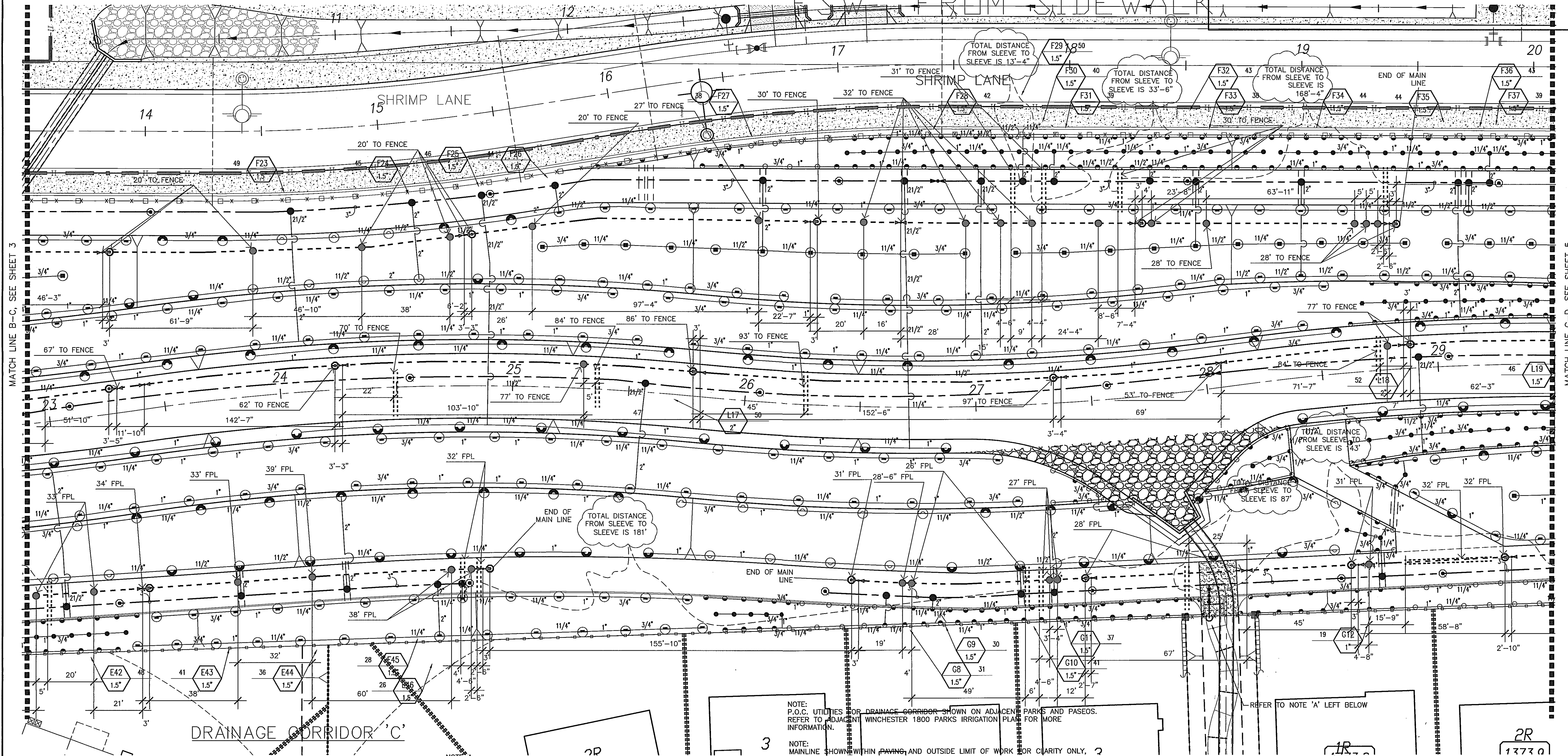
FOR: SHEA HOMES W.O. NO. 2339.00 COUNTY FILE NO.



FPL = FROM PROPERTY LINE

FF = FROM FENCE

FSW = FROM SIDEWALK



MATCH LINE B-C, SEE SHEET 3

MATCH LINE C-D, SEE SHEET 5

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38730 Sky Canyon Drive, Suite C  
Murrieta, CA 92563  
Ph: 951-461-6830 Fax: 951-461-6850  
E-mail: emc@sweeneyassoc.com

NOTE A:  
CONTRACTOR SHALL PROVIDE A 3" IRRIGATION MAINLINE STUB-OUT AT THE LIMITS OF WORK FOR FUTURE ADJACENT PASEO IRRIGATION IMPROVEMENTS CONNECTION. CONTRACTOR SHALL ROUTE A MIN. OF ONE COMMON WIRE, SIX CONTROL WIRES AND ONE ORANGE SPARE WIRE FROM CONTROLLER 'G' TO THE LIMITS OF WORK AND SHALL INSTALL SAID WIRES WITHIN A ROUND PLASTIC PULL-BOX FOR FUTURE SYSTEM CONNECTION. CONTRACTOR SHALL VERIFY ALL IRRIGATION SYSTEM LAYOUT IN FIELD WITH DISTRICT/OWNER'S AUTHORIZED REPRESENTATIVE PRIOR TO BIDDING AND PRIOR TO COMMENCING WORK.

NOTE:  
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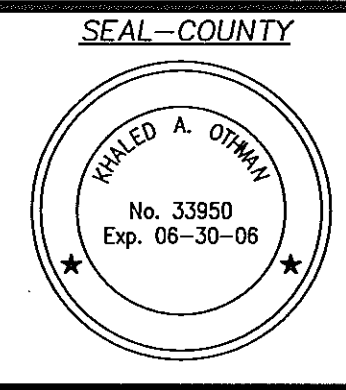
SCALE: 1"=20'



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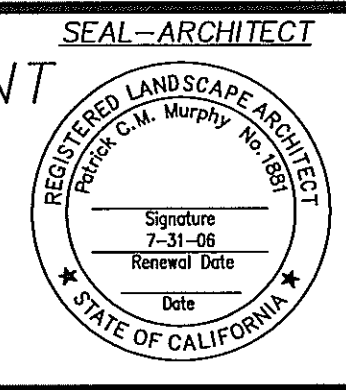
MARK	BY	DATE	DESCRIPTION	APPR'D	DATE
	ENGINEER		REVISIONS	COUNTY	



SEAL-COUNTY COUNTY OF RIVERSIDE TRANSPORTATION DEPARTMENT

APPROVED BY: KHALED A. OTHMAN R.C.E. 33950 DATE: EXP. 06-30-06

RECOMMENDED BY: DATE:



SEAL-ARCHITECT SUMMERS/MURPHY & PARTNERS, INC. 34197 COAST HIGHWAY, SUITE 200 DANA POINT, CALIFORNIA 92629 (949) 443-1446 LANDSCAPE ARCHITECTS

PATRICK C.M. MURPHY DATE: RF

BENCH MARK RIVERSIDE COUNTY B.M. T-39-81, DATE 1935 3.5" BRASS DISK IN CONC. POST; STAMPED Y311 1935 FROM THE INT. OF RANCHO CALIF. RD. AND FRONT ST. 1.7 MILES N.W. ON FRONT ST.; JEFFERSON AVE. TO THE INT. OF JEFFERSON AVE. AND WINCHESTER RD. (HWY 79) TO THE INT. OF BENTON RD. AND WINCHESTER RD. (HWY 79); 2.4 MILES E. ON BENTON RD. TO THE INT. 20.2'S. OF C/L BENTON RD. 26.7' W. OF WASHINGTON ST. 3' S.E. OF 8"X8" POST. ELEVATION: 1396.191

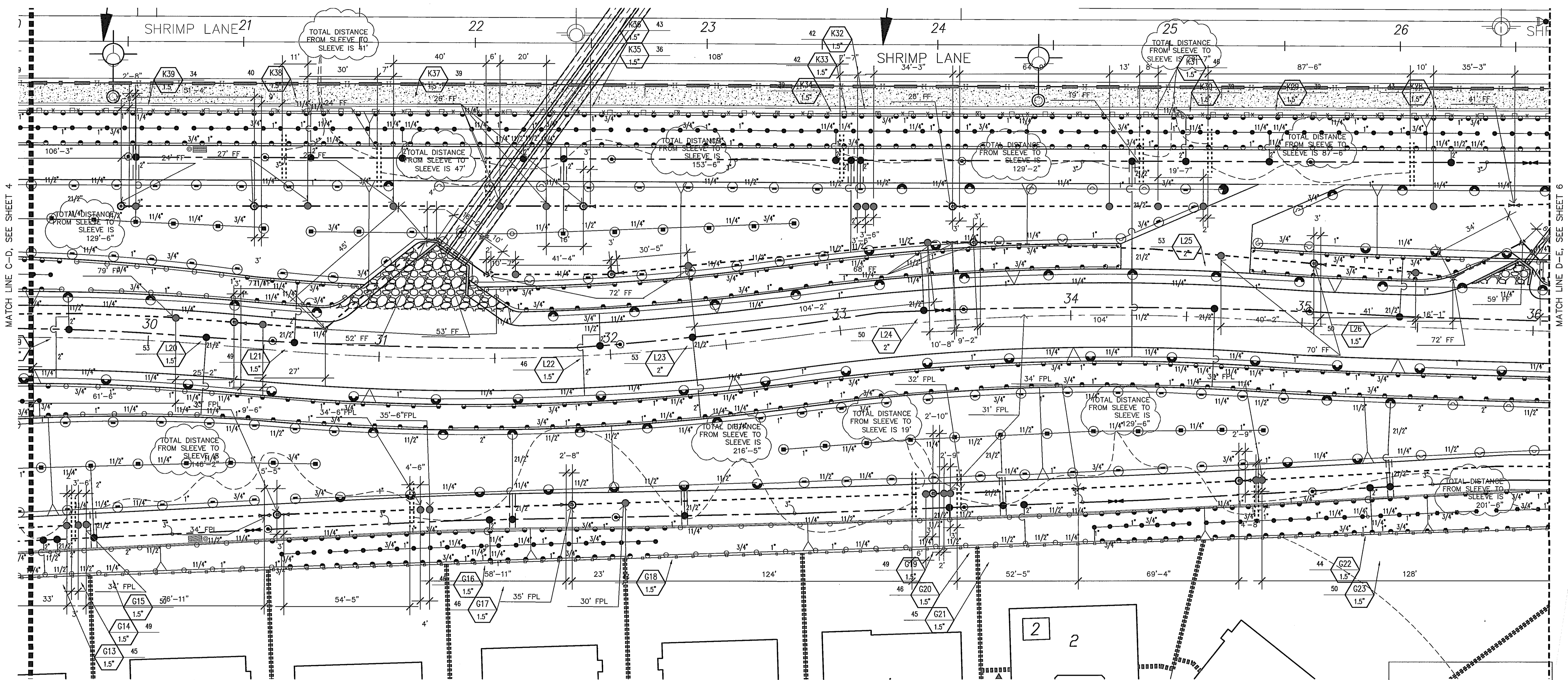
IP 040059 SHEET NO. 4 OF SHEETS

IRRIGATION LAYOUT

FOR: SHEA HOMES | W.O. NO. 2339.00 | COUNTY FILE NO.



FPL = FROM PROPERTY LINE  
 FF = FROM FENCE  
 FSW = FROM SIDEWALK



DRAINAGE CORRIDOR 'D'

NOTE:  
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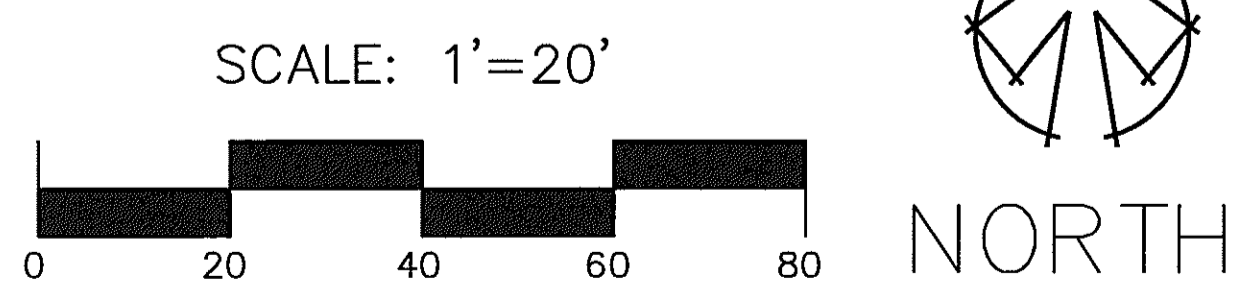
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MARK	BY	DATE	DESCRIPTION	APPR'D	DATE
	ENGINEER		REVISIONS	COUNTY	

SEAL-COUNTY

PAULE A. OTHMAN  
 No. 33950  
 Exp. 06-30-06

COUNTY OF RIVERSIDE  
 TRANSPORTATION DEPARTMENT

APPROVED BY:  
 KHALED A. OTHMAN R.C.E. 33950  
 EXPIRES DATE: 06-30-06

RECOMMENDED BY: \_\_\_\_\_ DATE: \_\_\_\_\_

SEAL-ARCHITECT

REGISTERED LANDSCAPE ARCHITECT  
 Patrick C.M. Murphy No. 18787  
 State of California

**SUMMERS/MURPHY & PARTNERS, INC.**  
 34197 COAST HIGHWAY, SUITE 200  
 DANA POINT, CALIFORNIA 92629 (949) 443-1446  
 LANDSCAPE ARCHITECTS

PATRICK C.M. MURPHY DATE: \_\_\_\_\_  
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IP 040059

SHEET NO. 5

OF SHEETS

IRRIGATION LAYOUT

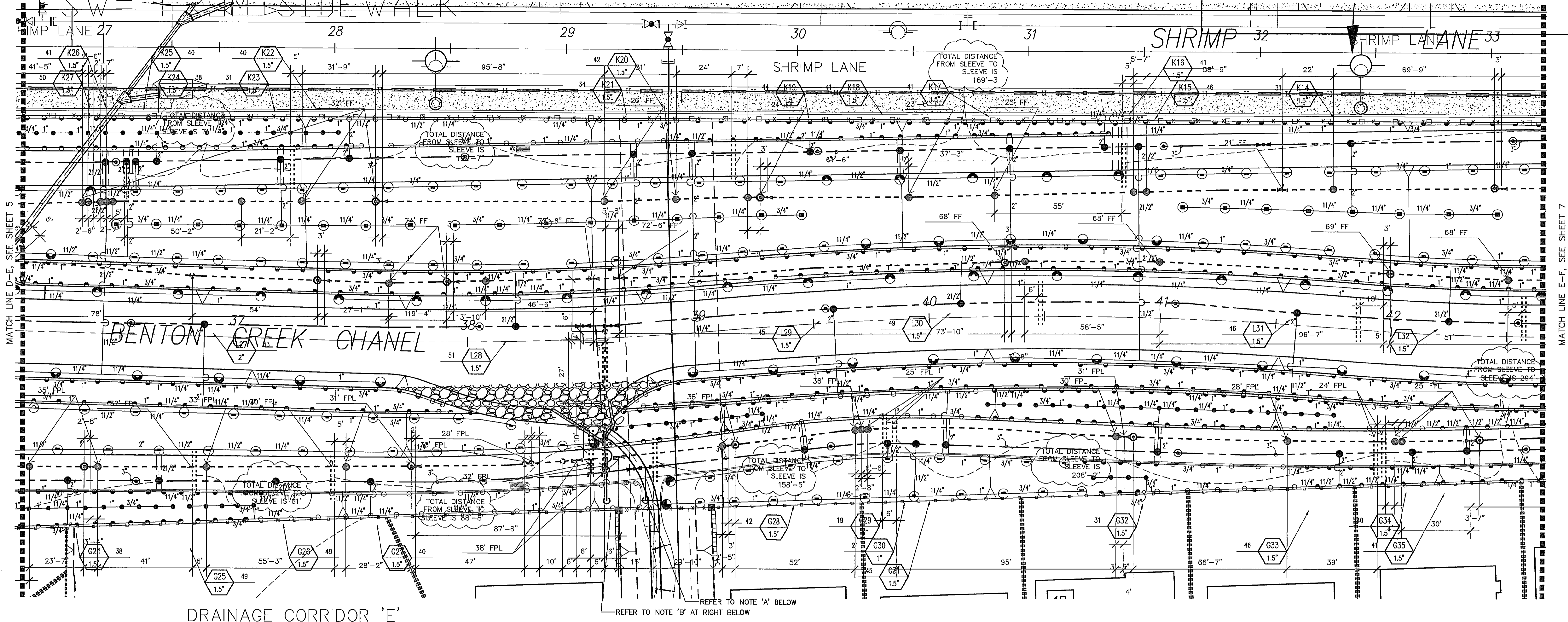
FOR: SHEA HOMES | W.O. NO. 2339.00 | COUNTY FILE NO.



FPL = FROM PROPERTY LINE

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DRAINAGE CORRIDOR 'E'

REFER TO NOTE 'A' BELOW

REFER TO NOTE 'B' AT RIGHT BELOW

**NOTE A:**  
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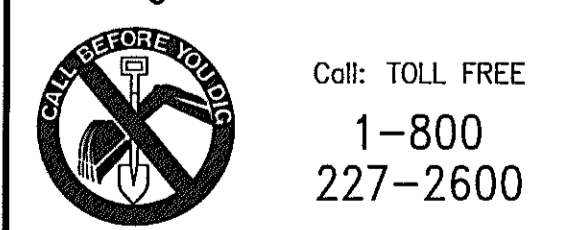
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Z:\Summer\Murphy\Winchester 1800\Plan\Signature block.TIF

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TWO WORKING DAYS BEFORE YOU DIG

Sweeney & Associates, Inc.

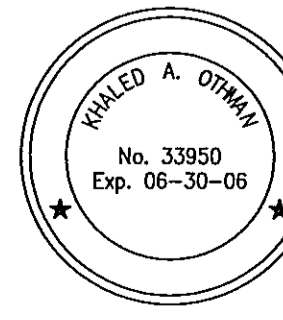
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	ENGINEER		REVISIONS		COUNTY

SEAL-COUNTY

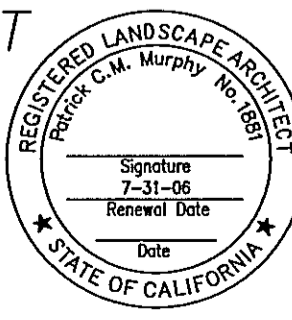


COUNTY OF RIVERSIDE  
TRANSPORTATION DEPARTMENT

APPROVED BY:  
KHALED A. OTHMAN R.C.E. 33950  
EXPIRES DATE: 06-30-06

RECOMMENDED BY: DATE:

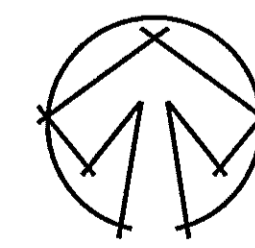
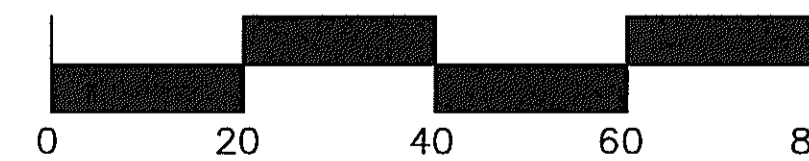
SEAL-ARCHITECT



SUMMERS/MURPHY & PARTNERS, INC.  
34187 COAST HIGHWAY, SUITE 200  
DANA POINT, CALIFORNIA 92629 (949) 443-1446  
LANDSCAPE ARCHITECTS

PATRICK C.M. MURPHY DATE: RF

SCALE: 1"=20'



NORTH

BENCH MARK

RIVERSIDE COUNTY B.M. T-39-81, DATE 1935  
3.5" BRASS DISK IN CONC. POST; STAMPED Y311 1935  
FROM THE INT. OF RANCHO CALIF. RD. AND FRONT ST.  
1.7 MILES N.W. ON FRONT ST.; JEFFERSON AVE. TO THE  
INT. OF JEFFERSON AVE. AND WINCHESTER RD. (HWY 79)  
TO THE INT. OF BENTON RD. AND WINCHESTER RD. (HWY  
79). 2.4 MILES E. ON BENTON RD. TO THE INT. 20.2'S.  
OF C/L BENTON RD. 28.7' W. OF WASHINGTON ST. 3' S.E.  
OF 8"x8" POST.  
ELEVATION: 1396.191

IRRIGATION LAYOUT

FOR: SHEA HOMES | W.O. NO. 2339.00 | COUNTY FILE NO.

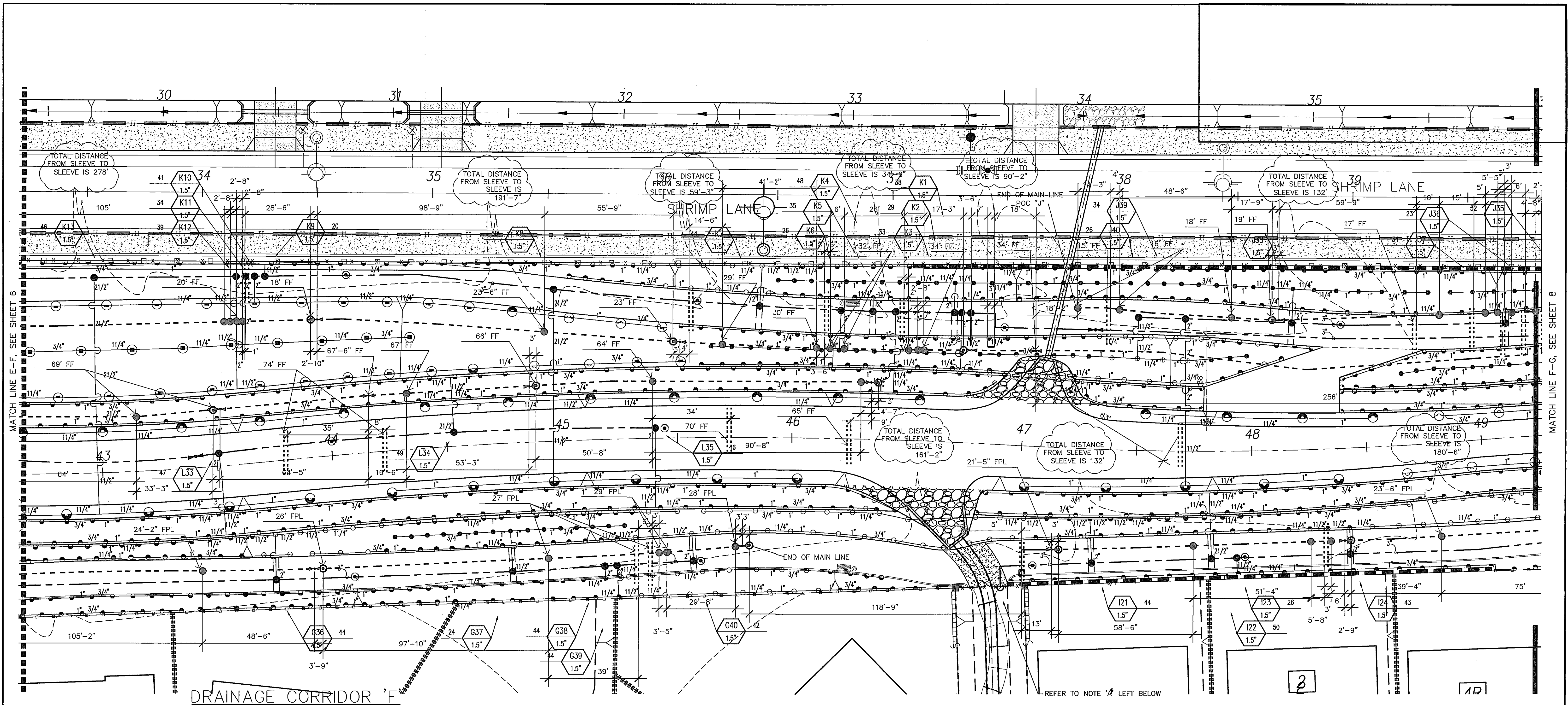
IP 040059

SHEET NO.

6

OF SHEETS





MATCH LINE E-F, SEE SHEET 6

MATCH LINE F-G, SEE SHEET 8

NOTE A:  
 CONTRACTOR SHALL PROVIDE A 3" IRRIGATION MAINLINE STUB-OUT AT THE LIMITS OF WORK FOR FUTURE ADJACENT PASEO IRRIGATION IMPROVEMENTS CONNECTION.  
 CONTRACTOR SHALL ROUTE A MIN. OF ONE COMMON WIRE, SIX CONTROL WIRES AND ONE ORANGE SPARE WIRE FROM CONTROLLER '1' TO THE LIMITS OF WORK AND SHALL INSTALL SAID WIRES WITHIN A ROUND PLASTIC PULL-BOX FOR FUTURE SYSTEM CONNECTION. CONTRACTOR SHALL VERIFY ALL IRRIGATION SYSTEM LAYOUT IN FIELD WITH DISTRICT/OWNER'S AUTHORIZED REPRESENTATIVE PRIOR TO BIDDING AND PRIOR TO COMMENCING WORK.

NOTE:  
 P.O.C. UTILITIES FOR DRAINAGE CORRIDOR SHOWN ON ADJACENT PARKS AND PASEOS. REFER TO ADJACENT WINCHESTER 1800 PARKS IRRIGATION PLAN FOR MORE INFORMATION.

NOTE:  
 MAINLINE SHOWN WITHIN PAVING AND OUTSIDE LIMIT OF WORK FOR CLARITY ONLY, ACTUAL MAINLINE LOCATION TO BE A MINIMUM OF 18" OFF ADJACENT HARDSCAPE AND OTHER OBSTACLES TYP.

NOTE:  
 CONTRACTOR SHALL ADJUST ALL HEADS AS REQUIRED TO ACCOMMODATE ANY VERTICAL OBSTRUCTIONS THAT MAY OCCUR, INCLUDING BUT NOT LIMITED TO LIGHT POLES, FIRE HYDRANTS, ETC. VERIFY ALL HEAD LAYOUT WITH DISTRICT/OWNER'S AUTHORIZED REPRESENTATIVE PRIOR TO COMMENCING WORK.

REFER TO NOTE 'A' LEFT BELOW

2:\SummersMurphy\Winchester 1800\Parks\Signature block.TIF

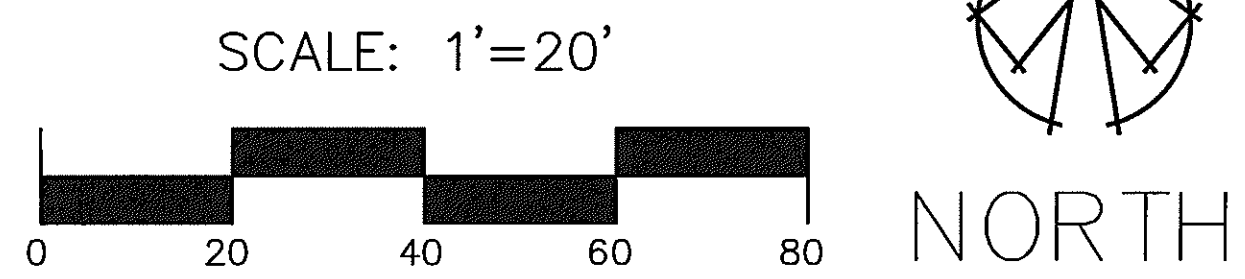
**Underground Service Alert**

Call: TOLL FREE  
 1-800  
 227-2600

TWO WORKING DAYS BEFORE YOU DIG

**Sweeney & Associates, Inc.**  
 Irrigation Design & Consulting

38730 Sky Canyon Drive, Suite C  
 Murrieta, CA 92563  
 Ph: 951-461-6230 Fax: 951-461-6950  
 E-mail: email@sweeneyassoc.com



NOTE: WORK CONTAINED WITHIN THESE PLANS SHALL NOT COMMENCE UNTIL AN ENCROACHMENT PERMIT AND/OR GRADING PERMIT HAS BEEN ISSUED.

THE LANDSCAPE ARCHITECT SIGNING THESE PLANS IS RESPONSIBLE FOR ASSURING THE ACCURACY AND ACCEPTABILITY OF THE DESIGN HEREON. IN THE EVENT OF DISCREPANCIES AFTER COUNTY APPROVAL OR DURING CONSTRUCTION, THE LANDSCAPE ARCHITECT SHALL BE RESPONSIBLE FOR DETERMINING AN ACCEPTABLE SOLUTION AND REVISING THE PLANS FOR APPROVAL BY THE COUNTY.

MARK	BY	DATE	DESCRIPTION	APPR'D	DATE

SEAL-COUNTY

COUNTY OF RIVERSIDE  
**TRANSPORTATION DEPARTMENT**

APPROVED BY:  
 KHALED A. OTHMAN R.C.E. 33950  
 EXPIRES DATE: 06-30-06

RECOMMENDED BY: \_\_\_\_\_ DATE: \_\_\_\_\_

SEAL-ARCHITECT

**SUMMERS/MURPHY & PARTNERS, INC.**  
 34197 COAST HIGHWAY, SUITE 200  
 DANA POINT, CALIFORNIA 92629 (949) 443-1446  
 LANDSCAPE ARCHITECTS

PATRICK C.M. MURPHY DATE: \_\_\_\_\_  
 RF

BENCH MARK

RIVERSIDE COUNTY B.M. T-39-81, DATE 1935  
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 TO THE INT. OF BENTON RD. AND WINCHESTER RD. (HWY  
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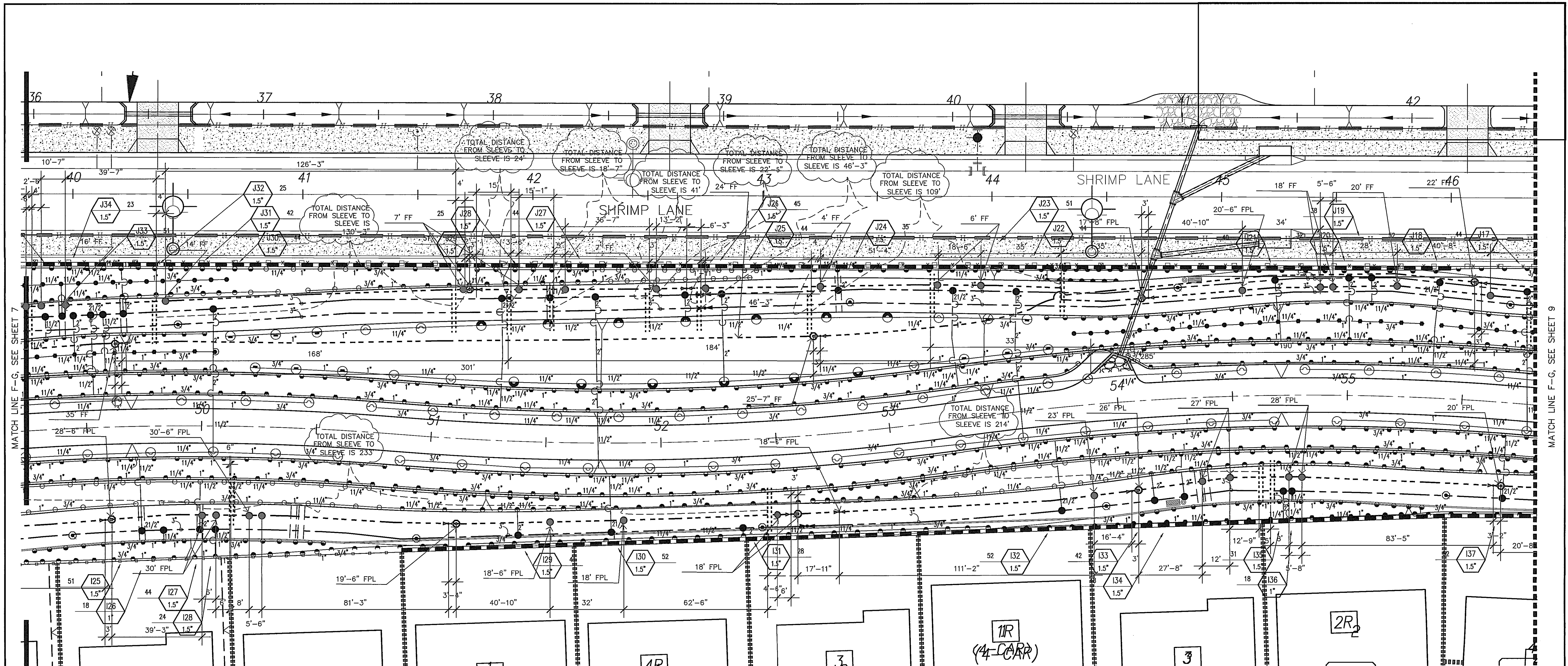
IP 040059

**IRRIGATION LAYOUT**

FOR: SHEA HOMES | W.O. NO. 2339.00 | COUNTY FILE NO. \_\_\_\_\_

SHEET NO. **7** OF \_\_\_\_\_ SHEETS





DRAINAGE CORRIDOR 'G'

FPL = FROM PROPERTY LINE

FF = FROM FENCE

FSW = FROM SIDEWALK

NOTE:  
P.O.C. UTILITIES FOR DRAINAGE CORRIDOR SHOWN ON ADJACENT PARKS AND PASEOS.  
REFER TO ADJACENT WINCHESTER 1800 PARKS IRRIGATION PLAN FOR MORE  
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NOTE:  
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ACTUAL MAINLINE LOCATION TO BE A MINIMUM OF 18\"/>

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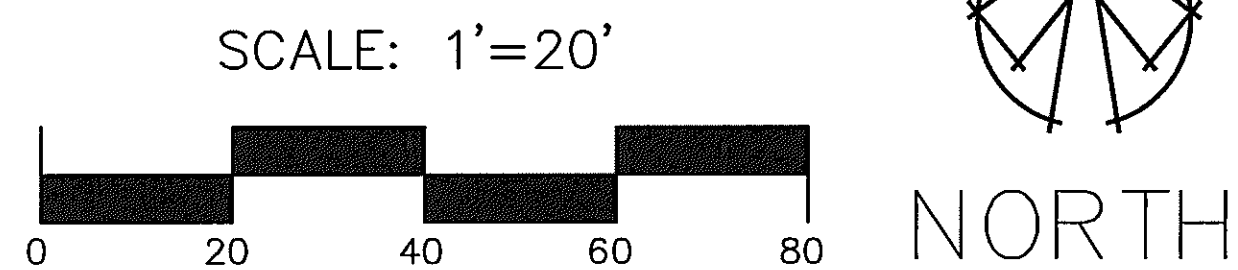
Z:\SummersMurphy\Winchester 1800\Park\Signature block.TIF

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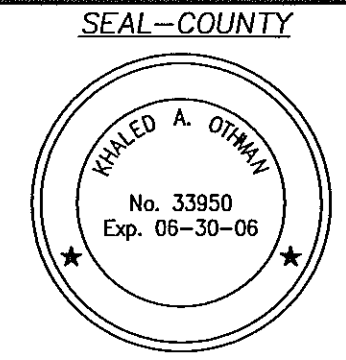
TWO WORKING DAYS BEFORE YOU DIG



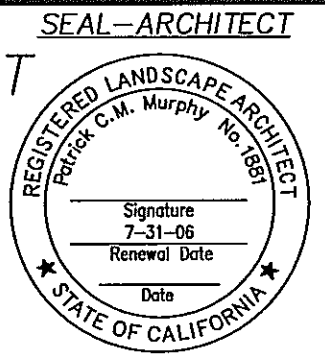
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MARK	BY	DATE	DESCRIPTION	APPR'D	DATE
	ENGINEER		REVISIONS		COUNTY



SEAL-COUNTY  
COUNTY OF RIVERSIDE  
TRANSPORTATION DEPARTMENT  
APPROVED BY: KHALED A. OTHMAN R.C.E. 33950  
DATE: EXP. 06-30-06  
RECOMMENDED BY: DATE:

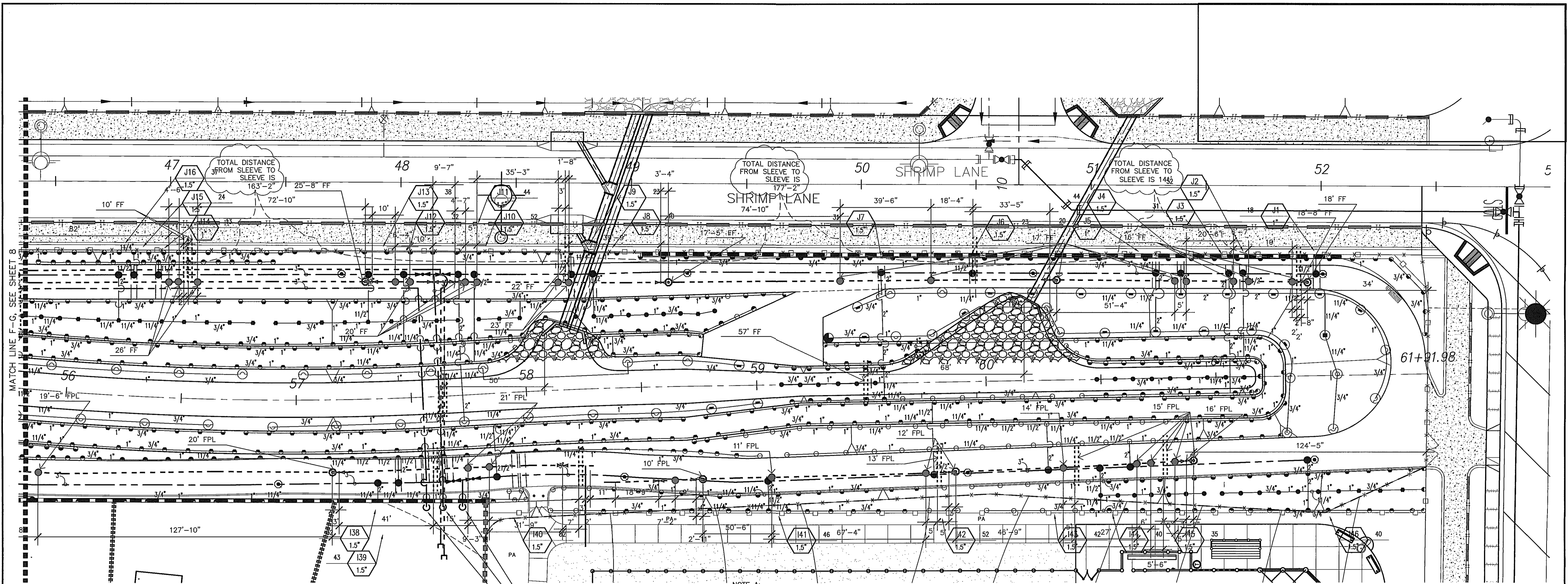


SEAL-ARCHITECT  
SUMMERS/MURPHY & PARTNERS, INC.  
34197 COAST HIGHWAY, SUITE 200  
DANA POINT, CALIFORNIA 92629 (949) 443-1446  
LANDSCAPE ARCHITECTS  
PATRICK C.M. MURPHY DATE: RF

BENCH MARK  
RIVERSIDE COUNTY B.M. T-39-81, DATE 1935  
3.5\"/>

IP 040059 SHEET NO. 8 OF SHEETS  
IRRIGATION LAYOUT  
FOR: SHEA HOMES | W.O. NO. 2339.00 | COUNTY FILE NO.





DRAINAGE CORRIDOR 'H'

REFER TO NOTE 'A' BELOW RIGHT  
 REFER TO NOTE 'B' BELOW RIGHT  
 REFER TO NOTE 'C' BELOW RIGHT

FPL = FROM PROPERTY LINE  
 FF = FROM FENCE  
 FSW = FROM SIDEWALK

NOTE A:  
 CONTRACTOR SHALL CONNECT PROPOSED 3" IRRIGATION MAINLINE TO THE EXISTING 3" IRRIGATION SYSTEM MAINLINE STUB-OUT. CONTRACTOR SHALL VERIFY ACTUAL EXISTING 3" IRRIGATION SYSTEM MAINLINE LOCATION IN FIELD WITH AUTHORIZED REPRESENTATIVE PRIOR TO COMMENCING WORK. CONTRACTOR SHALL REFER TO FRENCH VALLEY @ WINCHESTER 1800 LMD PARKS & PASEOS IRRIGATION PLANS PREPARED BY SWEENEY & ASSOCIATES, INC. FOR EXISTING IRRIGATION SYSTEM LAYOUT. CONTRACTOR SHALL CONNECT VALVES J19 THROUGH J47 TO THE EXISTING CONTROL WIRES PROVIDED BY THE LMD PARKS & PASEOS CONSTRUCTION, SAID WIRES SHALL BE CONNECTED TO THE EXISTING CONTROLLER INSTALLED AS PART OF THE LMD PARKS & PASEOS IRRIGATION IMPROVEMENTS, REFER TO SHEET L-11 OF THE LMD PARKS & PASEOS IRRIGATION IMPROVEMENT PLANS FOR THE ACTUAL CONTROLLER LOCATION AND INFORMATION. CONTRACTOR SHALL RUN ONE ADDITIONAL ORANGE SPARE WIRE THE ENTIRE LENGTH OF MAINLINE. CONTRACTOR SHALL VERIFY ALL IRRIGATION CONNECTION AND DISCONNECTION POINTS IN FIELD WITH DISTRICT/OWNER'S AUTHORIZED REPRESENTATIVE PRIOR TO BIDDING AND PRIOR TO COMMENCING WORK.

NOTE B:  
 CONTRACTOR SHALL CONNECT PROPOSED 3" IRRIGATION MAINLINE TO THE EXISTING 3" IRRIGATION SYSTEM MAINLINE STUB-OUT. CONTRACTOR SHALL VERIFY ACTUAL EXISTING 3" IRRIGATION SYSTEM MAINLINE LOCATION IN FIELD WITH AUTHORIZED REPRESENTATIVE PRIOR TO COMMENCING WORK. CONTRACTOR SHALL REFER TO FRENCH VALLEY @ WINCHESTER 1800 LMD PARKS & PASEOS IRRIGATION PLANS PREPARED BY SWEENEY & ASSOCIATES, INC. FOR EXISTING IRRIGATION SYSTEM LAYOUT. CONTRACTOR SHALL CONNECT VALVES J1 THROUGH J40 TO THE EXISTING CONTROL WIRES PROVIDED BY THE LMD PARKS & PASEOS CONSTRUCTION, SAID WIRES SHALL BE CONNECTED TO THE EXISTING CONTROLLER INSTALLED AS PART OF THE LMD PARKS & PASEOS IRRIGATION IMPROVEMENTS, REFER TO SHEET L-11 OF THE LMD PARKS & PASEOS IRRIGATION IMPROVEMENT PLANS FOR THE ACTUAL CONTROLLER LOCATION AND INFORMATION. CONTRACTOR SHALL RUN ONE ADDITIONAL ORANGE SPARE WIRE THE ENTIRE LENGTH OF MAINLINE. CONTRACTOR SHALL VERIFY ALL IRRIGATION CONNECTION AND DISCONNECTION POINTS IN FIELD WITH DISTRICT/OWNER'S AUTHORIZED REPRESENTATIVE PRIOR TO BIDDING AND PRIOR TO COMMENCING WORK.

NOTE C:  
 CONTRACTOR SHALL CONNECT PROPOSED 3" IRRIGATION MAINLINE TO THE EXISTING 3" IRRIGATION SYSTEM MAINLINE STUB-OUT. CONTRACTOR SHALL VERIFY ACTUAL EXISTING 3" IRRIGATION SYSTEM MAINLINE LOCATION IN FIELD WITH AUTHORIZED REPRESENTATIVE PRIOR TO COMMENCING WORK. CONTRACTOR SHALL REFER TO FRENCH VALLEY @ WINCHESTER 1800 LMD PARKS & PASEOS IRRIGATION PLANS PREPARED BY SWEENEY & ASSOCIATES, INC. FOR EXISTING IRRIGATION SYSTEM LAYOUT. CONTRACTOR SHALL CONNECT VALVES K1 THROUGH K39 TO THE EXISTING CONTROL WIRES PROVIDED BY THE LMD PARKS & PASEOS CONSTRUCTION, SAID WIRES SHALL BE CONNECTED TO THE EXISTING CONTROLLER INSTALLED AS PART OF THE LMD PARKS & PASEOS IRRIGATION IMPROVEMENTS, REFER TO SHEET L-11 OF THE LMD PARKS & PASEOS IRRIGATION IMPROVEMENT PLANS FOR THE ACTUAL CONTROLLER LOCATION AND INFORMATION. CONTRACTOR SHALL RUN ONE ADDITIONAL ORANGE SPARE WIRE THE ENTIRE LENGTH OF MAINLINE. CONTRACTOR SHALL VERIFY ALL IRRIGATION CONNECTION AND DISCONNECTION POINTS IN FIELD WITH DISTRICT/OWNER'S AUTHORIZED REPRESENTATIVE PRIOR TO BIDDING AND PRIOR TO COMMENCING WORK.

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TWO WORKING DAYS BEFORE YOU DIG

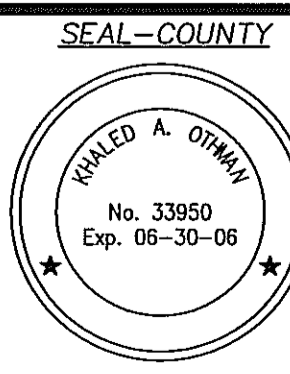
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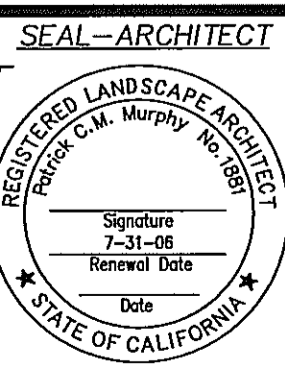
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MARK	BY	DATE	DESCRIPTION	APPR'D	DATE
	ENGINEER		REVISIONS		COUNTY



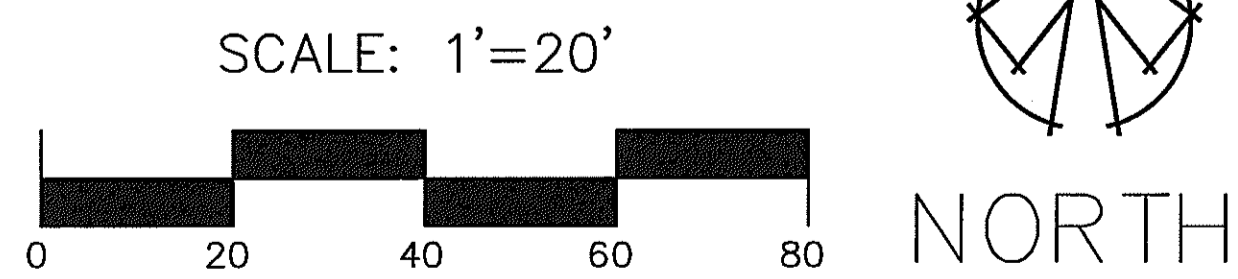
SEAL-COUNTY COUNTY OF RIVERSIDE TRANSPORTATION DEPARTMENT  
 APPROVED BY: KHALED A. OTHMAN, R.C.E. 33950, DATE: 06-30-06  
 RECOMMENDED BY: DATE:



SEAL-ARCHITECT SUMMERS/MURPHY & PARTNERS, INC.  
 34197 COAST HIGHWAY, SUITE 200  
 DANA POINT, CALIFORNIA 92629 (949) 443-1446  
 LANDSCAPE ARCHITECTS  
 PATRICK C.M. MURPHY DATE: RF

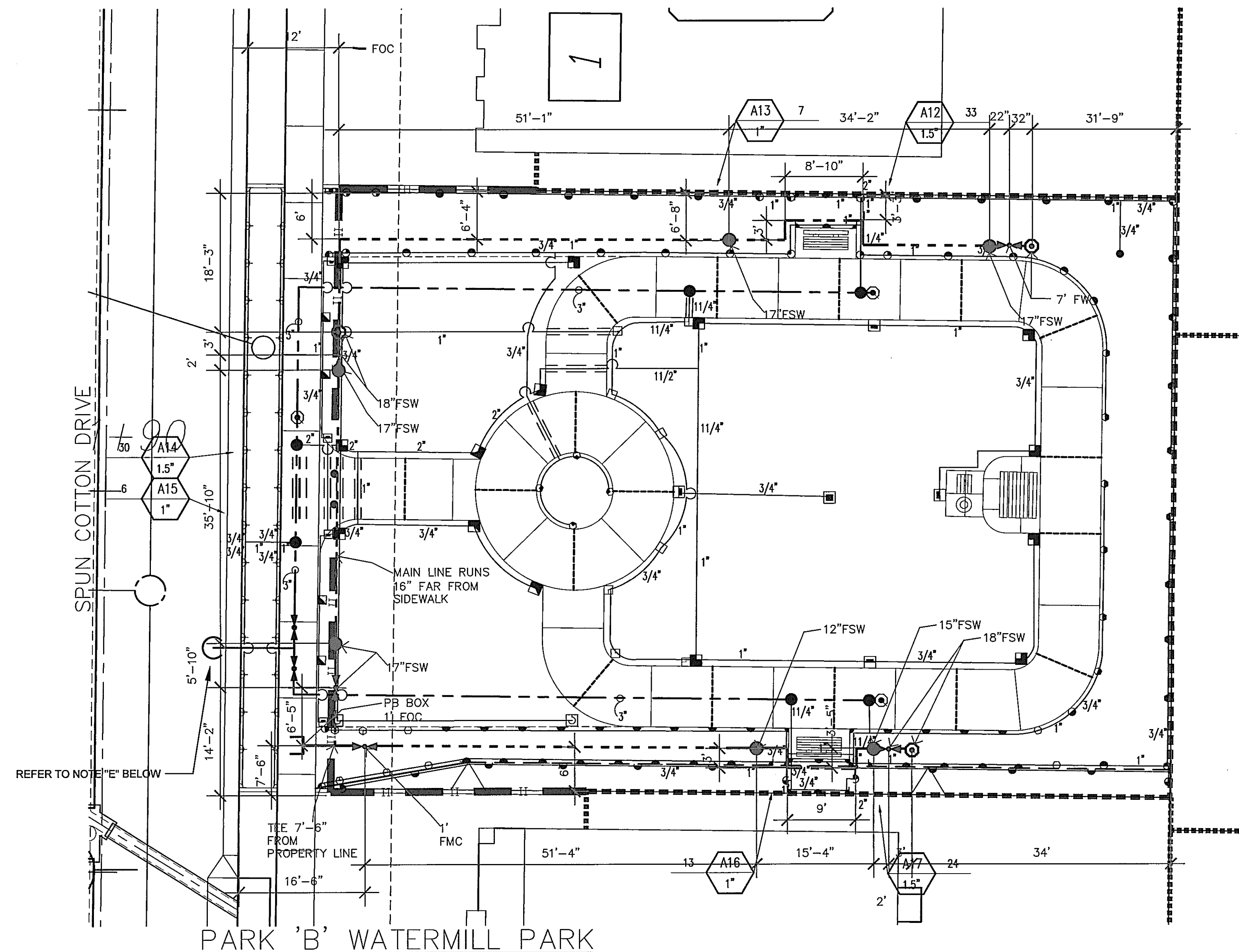
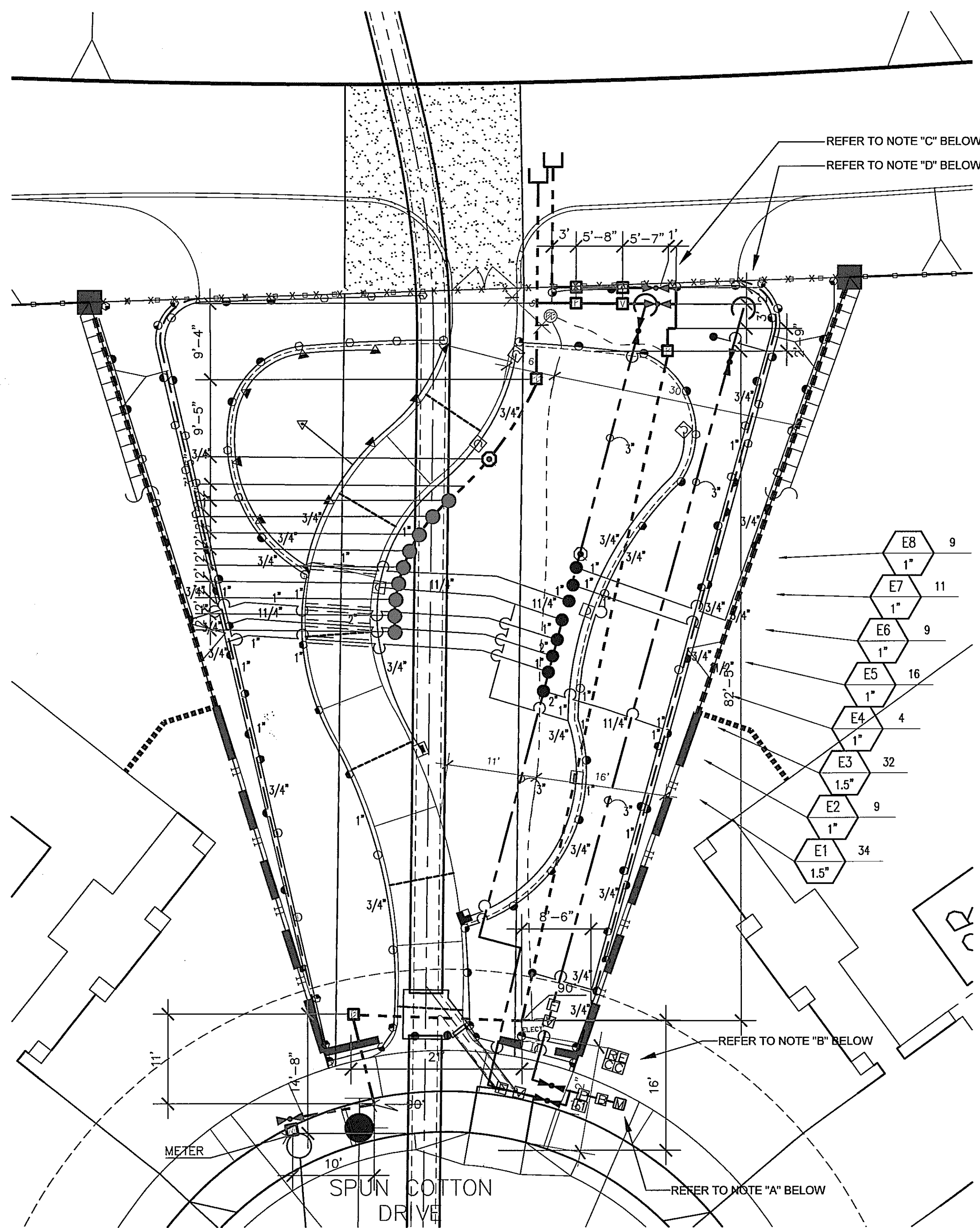
BENCH MARK RIVERSIDE COUNTY B.M. T-39-81, DATE 1935  
 3.5" BRASS DISK IN CONC. POST; STAMPED Y31 1935  
 FROM THE INT. OF FRANCO CALIF. RD. AND FRONT ST.  
 1.7 MILES N.W. ON FRONT ST.; JEFFERSON AVE. TO THE INT. OF JEFFERSON AVE. AND WINCHESTER RD. (HWY 79)  
 TO THE INT. OF BENTON RD. AND WINCHESTER RD. (HWY 79); 2.4 MILES E. ON BENTON RD. TO THE INT. 20.2'S. OF C/L BENTON RD. 28.7' W. OF WASHINGTON ST. 3' S.E. OF 8"X8" POST.  
 ELEVATION: 1396.191

IP 040059 SHEET NO. 9 OF SHEETS  
 IRRIGATION LAYOUT FOR: SHEA HOMES | W.O. NO. 2339.00 COUNTY FILE NO.





FOC= FACE OF CURB  
 FSW= FROM SIDEWALK  
 FW= FROM WALL



PARK 'A'

NOTE A:  
 POINT OF CONNECTION S SHALL BE A 2" DOMESTIC WATER METER WITH A 2" SERVICE LINE. VERIFY THE ACTUAL LOCATION, SIZE AND WATER PRESSURE IN THE FIELD PRIOR TO STARTING WORK. IF ANY OF THE POC INFORMATION SHOWN ON THESE DRAWING IS FOUND TO BE DIFFERENT THAN THE ACTUAL POC INFORMATION GATHERED IN THE FIELD, IMMEDIATELY NOTIFY THE LANDSCAPE ARCHITECT AND IRRIGATION CONSULTANT. SHOULD THE CONTRACTOR FAIL TO VERIFY THE POC INFORMATION ANY CHANGES REQUIRED BY LOW PRESSURE OR VOLUME SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR.

STATIC WATER PRESSURE 45 PSI  
 DESIGN WATER PRESSURE 66 PSI  
 MAXIMUM SYSTEM DEMAND 100 GPM  
 PRESSURE BOOST REQUIRED 82 PSI

BOOSTER PUMP SHALL BE A BARRETT ENGINEERED BOOSTER PUMP ASSEMBLY BY UNITED GREEN TECH, MODEL NUMBER BEP45E2100/2301/A1. CONTACT DARYL GREEN AT UNITED GREEN TECH FOR FURTHER INFORMATION (949) 584-7311.

NOTE B:  
 CONTROLLER 'E' SHALL BE A CALSENSE MOD. # ET2000e-48-MLR-LR-DOME-RRc INSTALLED IN A STAINLESS STEEL ENCLOSURE (SEE LEGEND FOR TYPE).  
 CONTROLLER 'F' SHALL BE A CALSENSE MOD. # ET2000-40-ML INSTALLED IN A STAINLESS STEEL ENCLOSURE (SEE LEGEND FOR TYPE). CONTRACTOR SHALL ROUTE PAIGE 7171D CABLE WITHIN COUNTRY TO HARDWIRE LINK THE TWO CONTROLLERS 'E' AND 'F'.  
 FINAL LOCATION OF CONTROLLERS AND ELECTRICAL POC SHALL BE CONFIRMED WITH DISTRICT/OWNER'S AUTHORIZED REPRESENTATIVE PRIOR TO COMMENCING WORK.

NOTE C:  
 CONTRACTOR SHALL PROVIDE A 3" IRRIGATION MAINLINE STUB-OUT AT THE LIMITS OF WORK FOR FUTURE ADJACENT DRAINAGE CORRIDOR AND PASEO IRRIGATION IMPROVEMENTS CONNECTION. CONTRACTOR SHALL ROUTE A MIN. OF TWO COMMON WIRES, THIRTY-EIGHT CONTROL WIRES AND ONE SPARE ORANGE WIRE FROM CONTROLLER 'E' TO THE LIMITS OF WORK AND SHALL INSTALL SAID WIRES WITHIN A ROUND PLASTIC PULL-BOX FOR FUTURE SYSTEM CONNECTION. CONTRACTOR SHALL VERIFY ALL IRRIGATION SYSTEM LAYOUT IN FIELD WITH DISTRICT/OWNER'S AUTHORIZED REPRESENTATIVE PRIOR TO BIDDING AND PRIOR TO COMMENCING WORK.

NOTE D:  
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NOTE E:  
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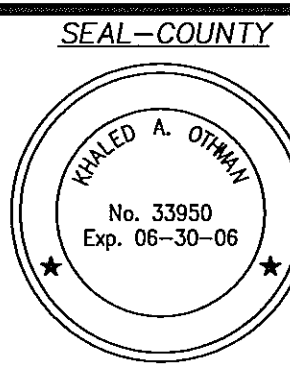
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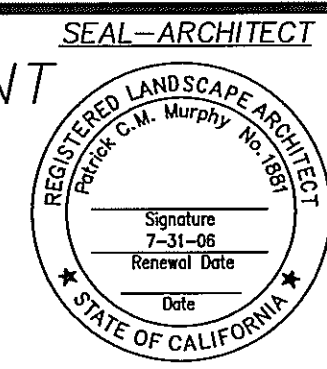
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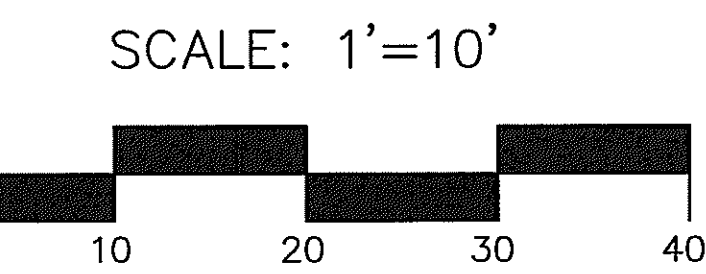
MARK	BY	DATE	DESCRIPTION	APPR'D	DATE
	ENGINEER		REVISIONS		COUNTY



SEAL-COUNTY  
 COUNTY OF RIVERSIDE  
 TRANSPORTATION DEPARTMENT  
 APPROVED BY: KHALED A. OTHMAN R.C.E. 33950  
 DATE: 06-30-06  
 RECOMMENDED BY: DATE:



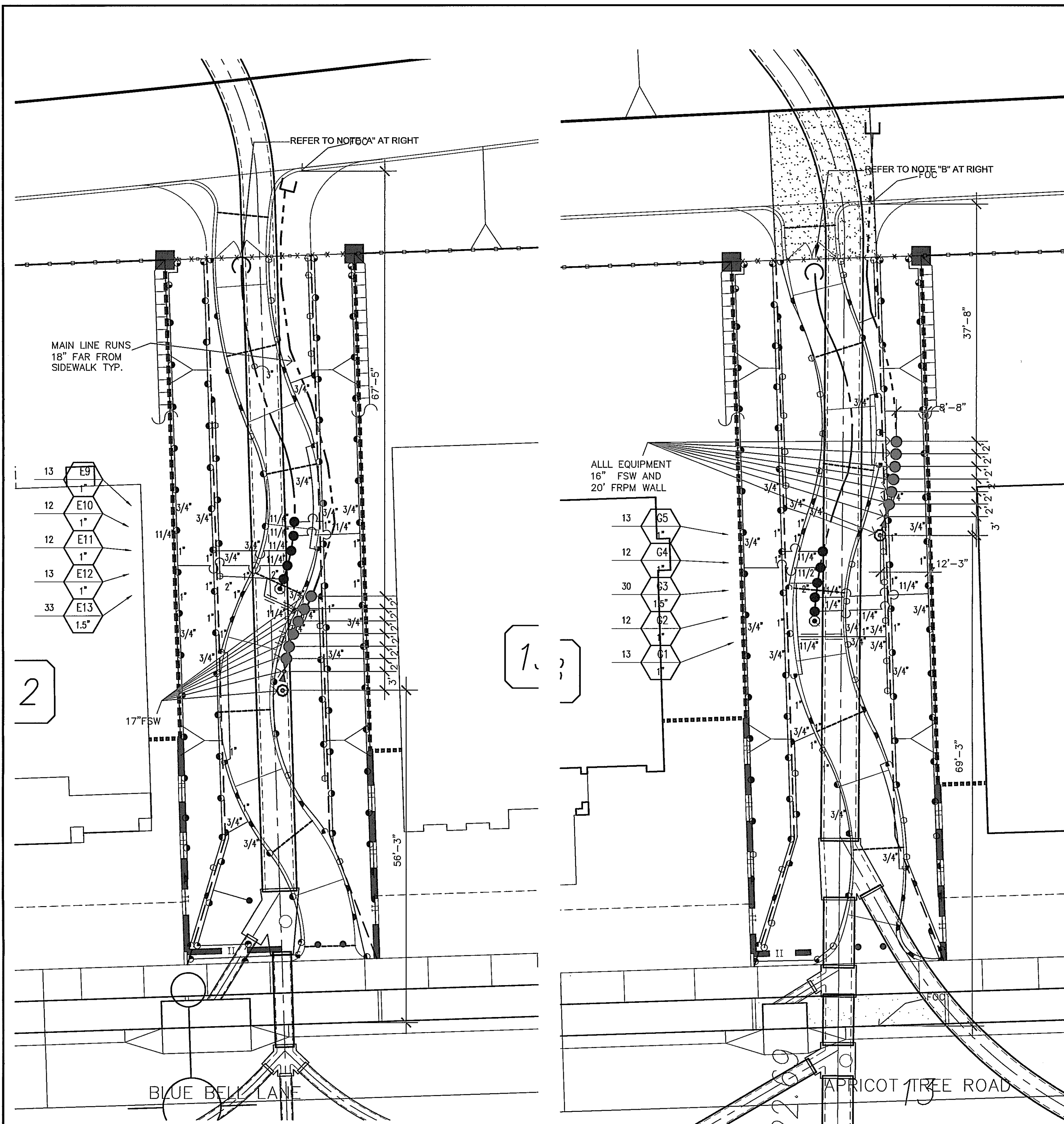
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 34197 COAST HIGHWAY, SUITE 200  
 DANA POINT, CALIFORNIA 92629 (949) 443-1446  
 LANDSCAPE ARCHITECTS  
 PATRICK C.M. MURPHY DATE:



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 TO THE INT. OF BENTON RD. AND WINCHESTER RD. (HWY 79).  
 2.4 MILES E. ON BENTON RD. TO THE INT. 20.2'S.  
 OF C/L BENTON RD. 26.7' W. OF WASHINGTON ST. 3' S.E.  
 OF 8"X8" POST.  
 ELEVATION: 1396.191

IP 040059 SHEET NO. 11 OF SHEETS  
 LMD IRRIGATION LAYOUT  
 FOR: SHEA HOMES | W.O. NO. 2339.00 | COUNTY FILE NO.





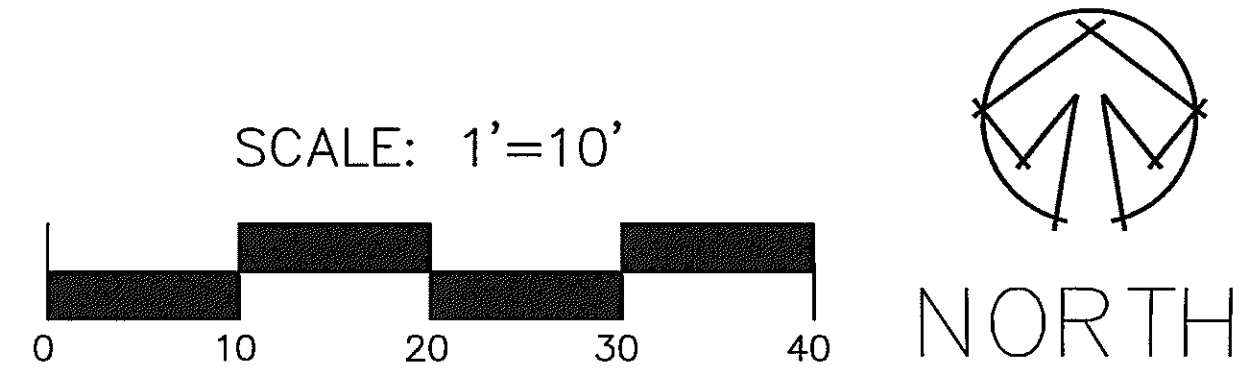
NOTE A:  
 CONTRACTOR SHALL CONNECT PROPOSED 3" IRRIGATION MAINLINE TO THE EXISTING 3" IRRIGATION SYSTEM MAINLINE STUB-OUT. CONTRACTOR SHALL VERIFY ACTUAL EXISTING 3" IRRIGATION SYSTEM MAINLINE LOCATION IN FIELD WITH AUTHORIZED REPRESENTATIVE PRIOR TO COMMENCING WORK. CONTRACTOR SHALL REFER TO SHEET 6 OF FLOOD BASIN PLANS FOR EXISTING IRRIGATION SYSTEM LAYOUT. CONTRACTOR SHALL CONNECT VALVES E9 THROUGH E13 TO THE EXISTING CONTROL WIRES PROVIDED, SAID WIRES SHALL BE CONNECTED TO THE CONTROLLER "E", REFER TO SHEET 11 FOR THE ACTUAL CONTROLLER LOCATION AND INFORMATION. CONTRACTOR SHALL VERIFY ALL IRRIGATION CONNECTION AND DISCONNECTION POINTS IN FIELD WITH DISTRICT/OWNER'S AUTHORIZED REPRESENTATIVE PRIOR TO BIDDING AND PRIOR TO COMMENCING WORK.

NOTE B:  
 CONTRACTOR SHALL CONNECT PROPOSED 3" IRRIGATION MAINLINE TO THE EXISTING 3" IRRIGATION SYSTEM MAINLINE STUB-OUT. CONTRACTOR SHALL VERIFY ACTUAL EXISTING 3" IRRIGATION SYSTEM MAINLINE LOCATION IN FIELD WITH AUTHORIZED REPRESENTATIVE PRIOR TO COMMENCING WORK. CONTRACTOR SHALL REFER TO SHEET 6 OF FLOOD BASIN PLANS FOR EXISTING IRRIGATION SYSTEM LAYOUT. CONTRACTOR SHALL CONNECT VALVES G1 THROUGH G5 TO THE EXISTING CONTROL WIRES PROVIDED, SAID WIRES SHALL BE CONNECTED TO THE CONTROLLER "G", REFER TO SHEET 15 FOR THE ACTUAL CONTROLLER LOCATION AND INFORMATION. CONTRACTOR SHALL VERIFY ALL IRRIGATION CONNECTION AND DISCONNECTION POINTS IN FIELD WITH DISTRICT/OWNER'S AUTHORIZED REPRESENTATIVE PRIOR TO BIDDING AND PRIOR TO COMMENCING WORK.

NOTE:  
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NOTE:  
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FOC = FACE OF CURB  
 FSW = FROM SIDEWALK  
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MARK	BY	DATE	DESCRIPTION	APPR'D	DATE
	ENGINEER		REVISIONS		COUNTY

SEAL-COUNTY

KHALED A. OTHMAN  
 No. 33950  
 Exp. 06-30-06

COUNTY OF RIVERSIDE  
**TRANSPORTATION DEPARTMENT**

APPROVED BY: KHALED A. OTHMAN R.C.E. 33950  
 DATE: \_\_\_\_\_  
 EXPIRES DATE: 06-30-06

RECOMMENDED BY: \_\_\_\_\_  
 DATE: \_\_\_\_\_

SEAL-ARCHITECT

PATRICK C.M. MURPHY  
 No. 73108  
 Expires Date: \_\_\_\_\_  
 State of California

**SUMMERS/MURPHY & PARTNERS, INC.**  
 34187 COAST HIGHWAY, SUITE 200  
 DANA POINT, CALIFORNIA 92629 (949) 443-1446  
 LANDSCAPE ARCHITECTS

PATRICK C.M. MURPHY DATE: \_\_\_\_\_

BENCH MARK

RIVERSIDE COUNTY B.M. T-39-81, DATE 1935  
 3.5" BRASS DISK IN CONC. POST; STAMPED Y311 1935  
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IP 040059

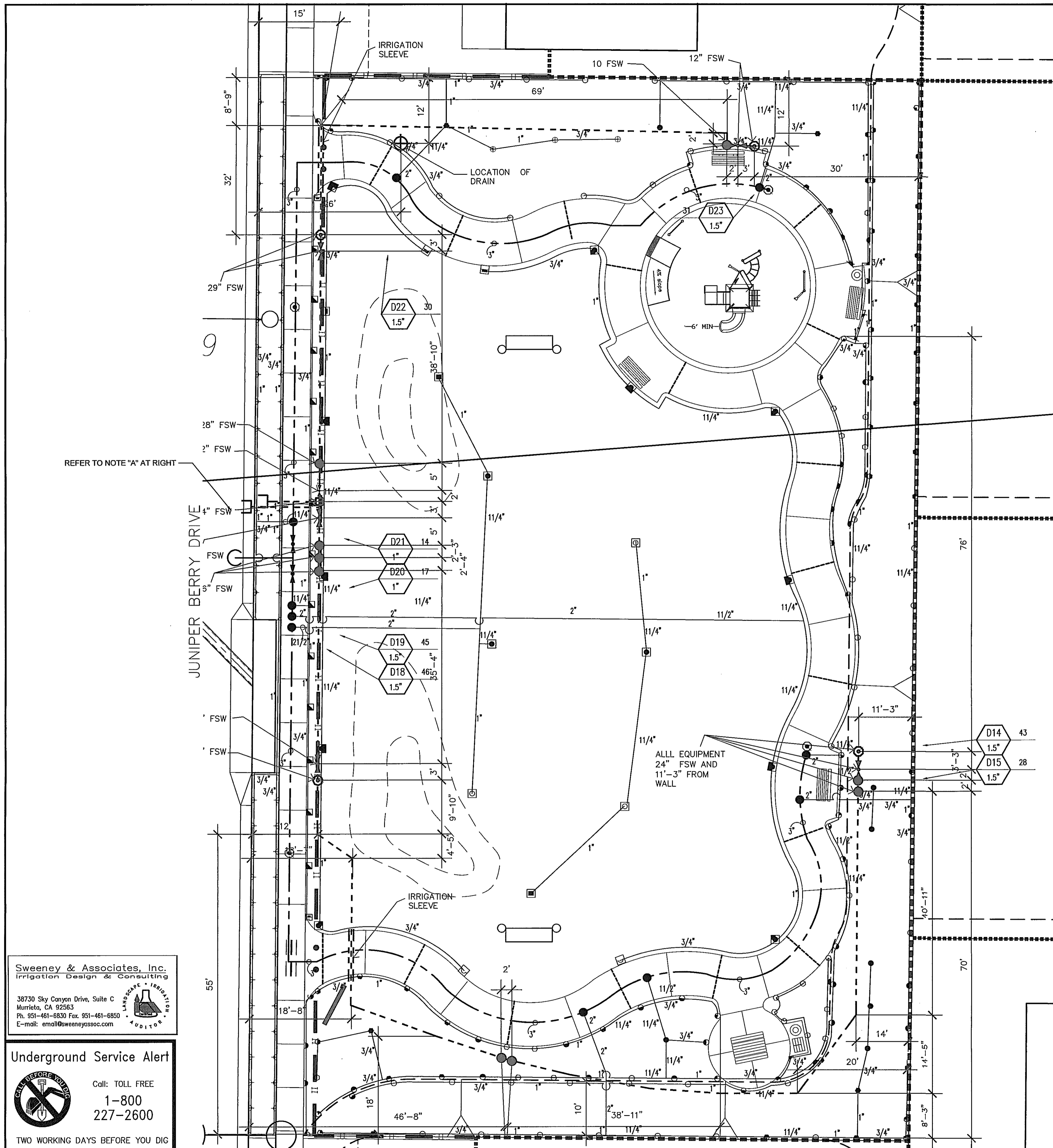
**LMD IRRIGATION LAYOUT**

FOR: SHEA HOMES | W.O. NO. 2339.00 | COUNTY FILE NO. \_\_\_\_\_

SHEET NO. **12** OF \_\_\_\_\_ SHEETS





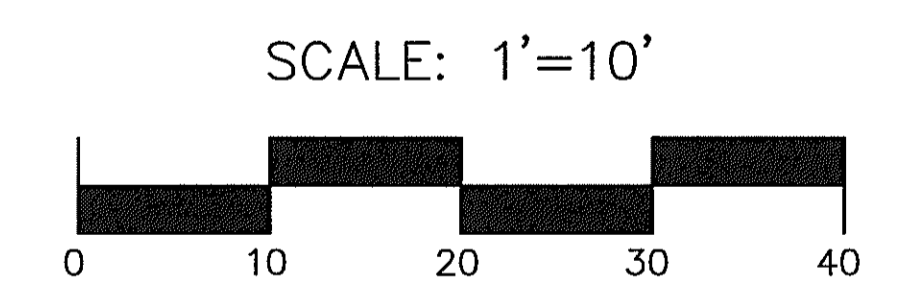


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PARK 'H'  
 WAGON WHEEL PARK

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MARK	BY	DATE	DESCRIPTION	APPR'D	DATE
	ENGINEER		REVISIONS		COUNTY

SEAL-COUNTY  
 COUNTY OF RIVERSIDE  
 TRANSPORTATION DEPARTMENT

APPROVED BY: KHALED A. OTHMAN R.C.E. 33950 DATE: 06-30-06  
 EXPIRES DATE: 06-30-06

RECOMMENDED BY: DATE:

SEAL-ARCHITECT  
 SUMMERS/MURPHY & PARTNERS, INC.  
 34187 COAST HIGHWAY, SUITE 200  
 DANA POINT, CALIFORNIA 92629 (949) 443-1446  
 LANDSCAPE ARCHITECTS

PATRICK C.M. MURPHY DATE:

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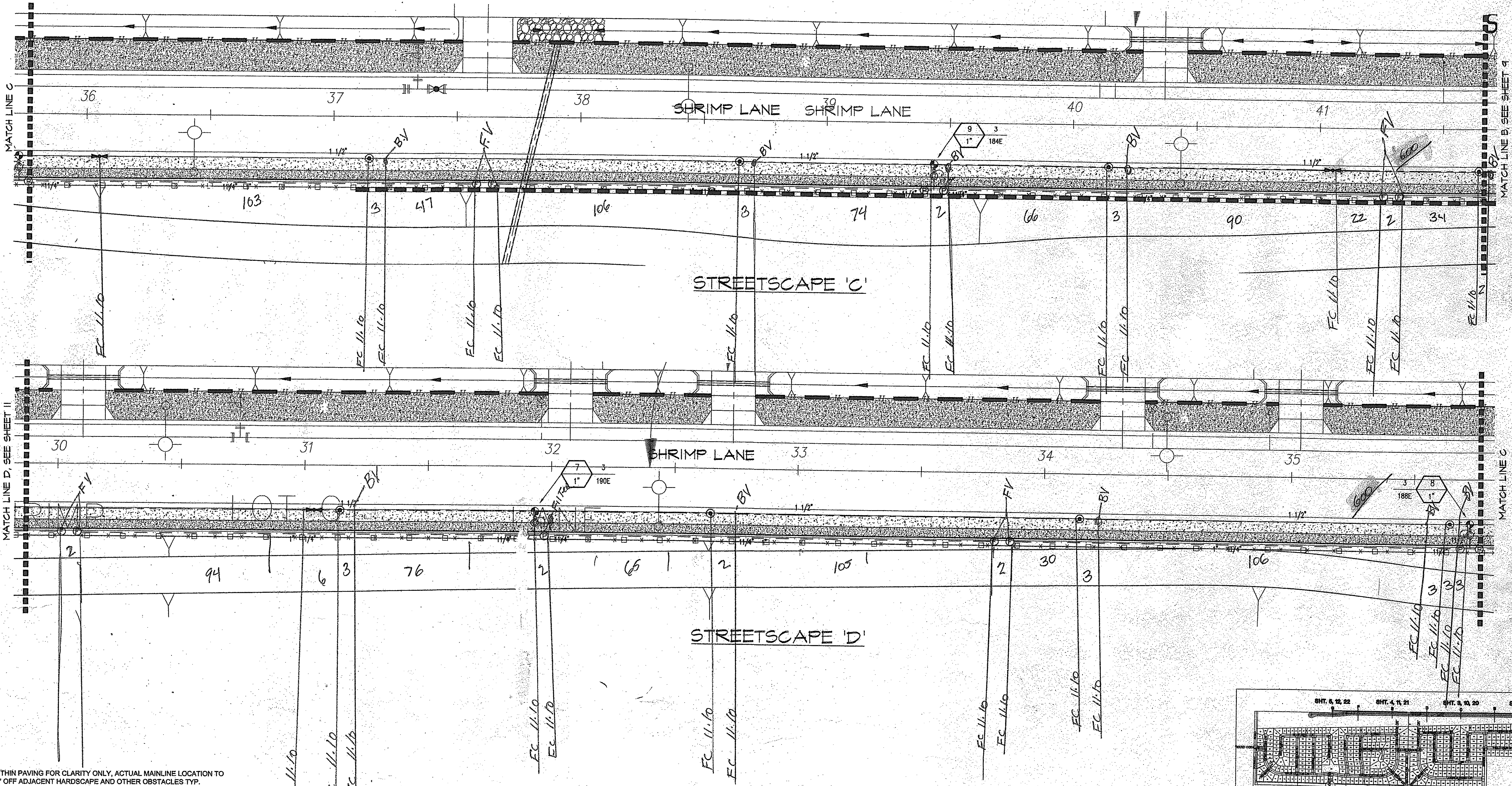
IP 040059	SHEET NO. 14
LMD IRRIGATION LAYOUT	
FOR: SHEA HOMES	W.O. NO. 2339.00
COUNTY FILE NO.	OF _____ SHEETS





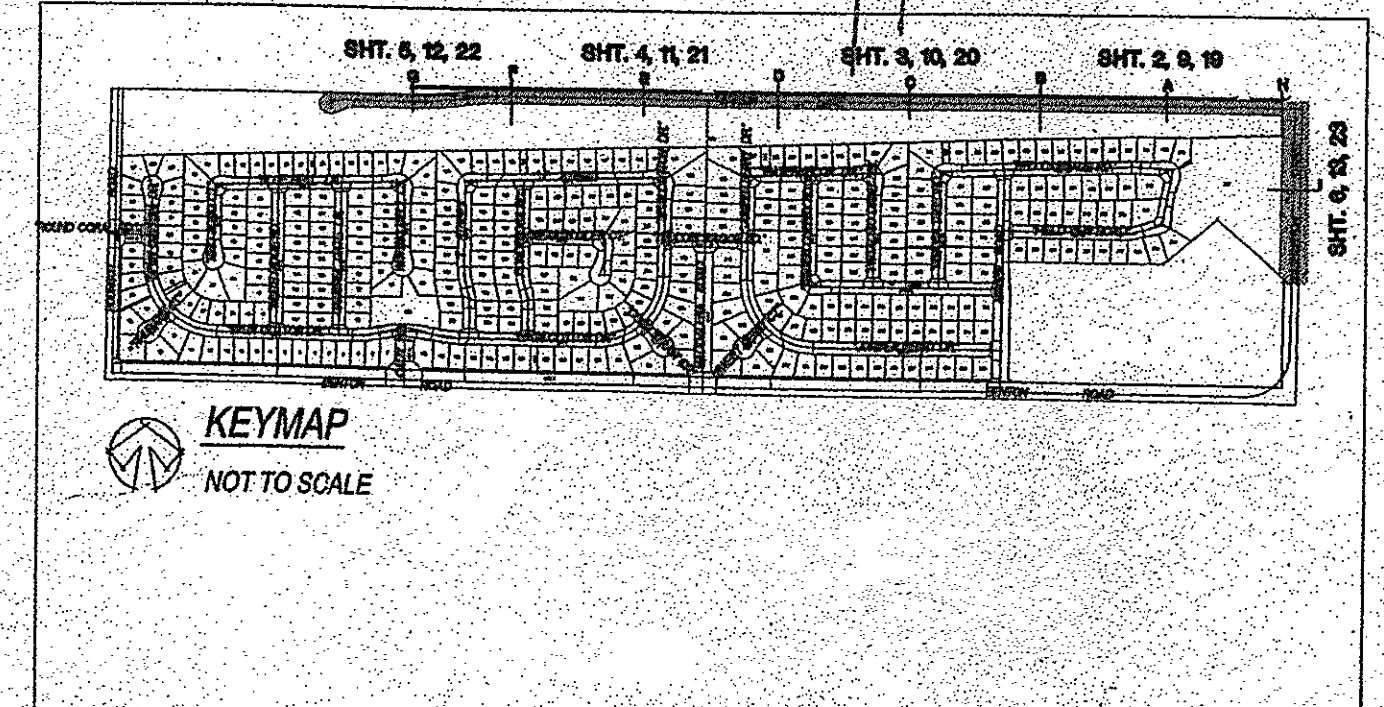






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Ph: 951-681-8830 Fax: 951-681-8850  
E-mail: email@sweeneyassoc.com

SCALE: 1"=20'  
0 20 40 60 80  
NORTH

**VALLEY WIDE RECREATION & PARK DISTRICT**  
Samuel W. Goepf Date: 12/2/06

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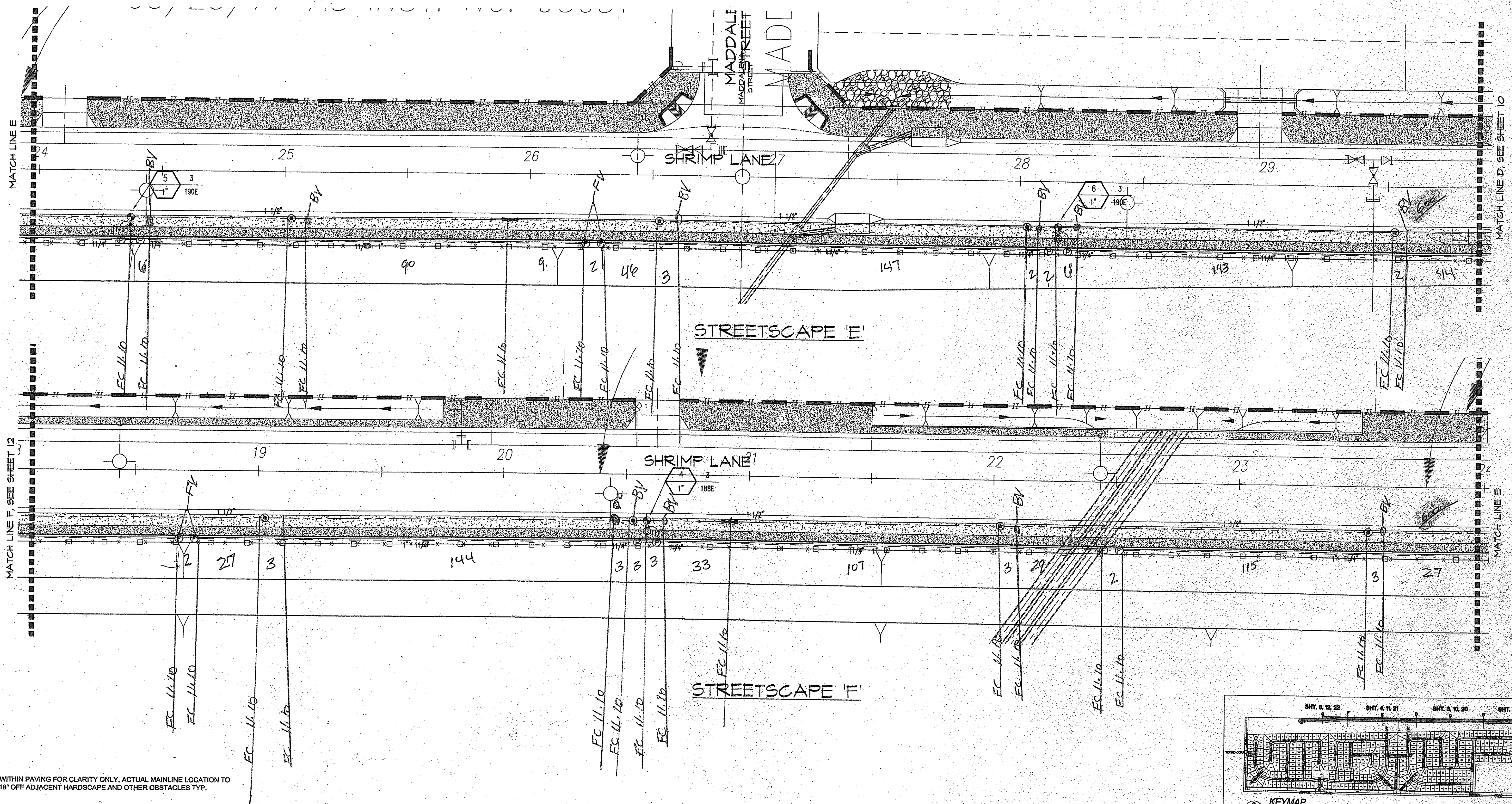
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**TRANSPORTATION DEPARTMENT**  
APPROVED BY: KHALED A. OTHMAN R.C.E. 33950 DATE: 06-30-06  
EXPIRES DATE: 06-30-06  
RECOMMENDED BY: DATE:

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**SUMMERS/MURPHY & PARTNERS, INC.**  
3407 COAST HIGHWAY, SUITE 200  
DANA POINT, CALIFORNIA 92629 (949) 425-5246  
LANDSCAPE ARCHITECTS  
Patrick C.M. Murphy DATE: 11/3/06  
DATE: 03.15.04 DRAWN BY: RF SMP# 261164

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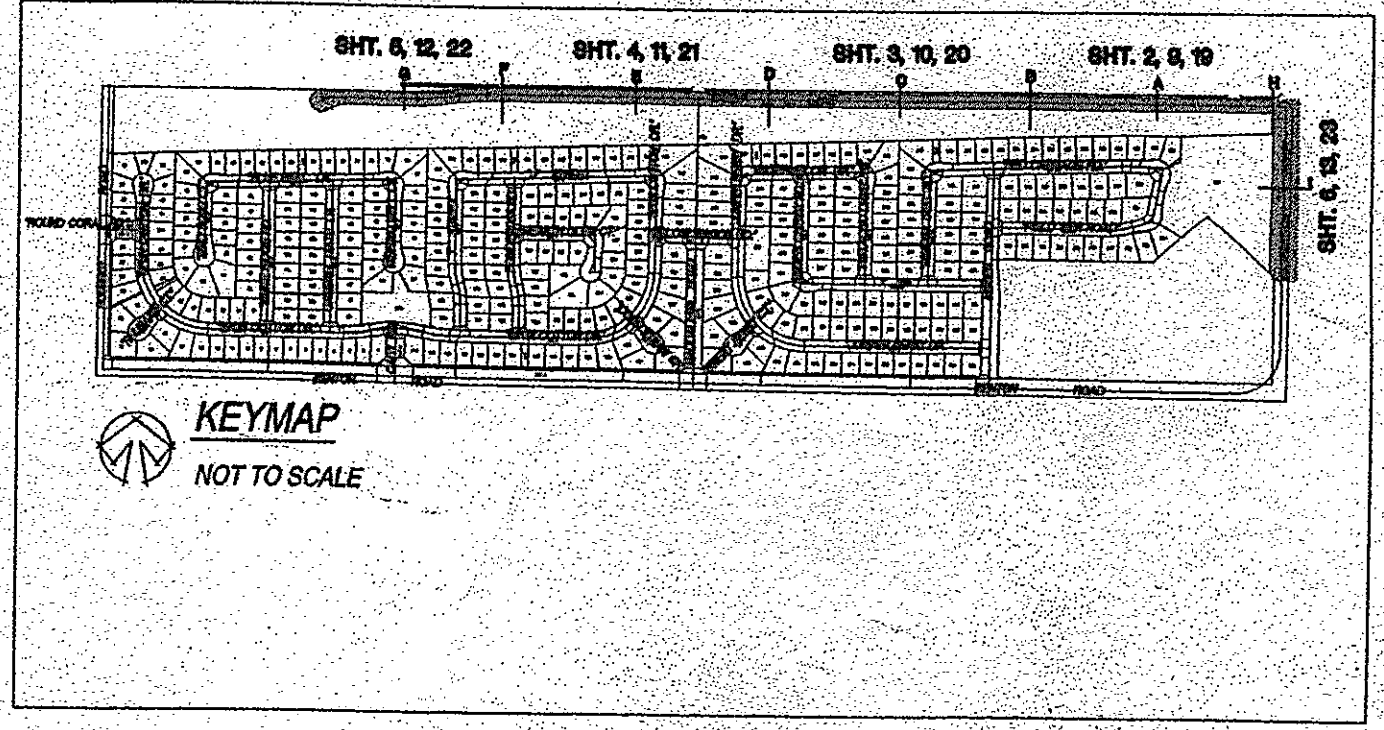
COUNTY OF RIVERSIDE - ADELINE'S FARM  
VALLEY-WIDE - SHRIMP LANE & WASHINGTON  
STREETSCAPE  
**IRRIGATION LAYOUT**  
FOR: SHEA HOMES I.W.O. NO. 2339.00 COUNTY FILE NO.  
SHEET NO. 10 OF 26 SHEETS  
MAY 1 2006





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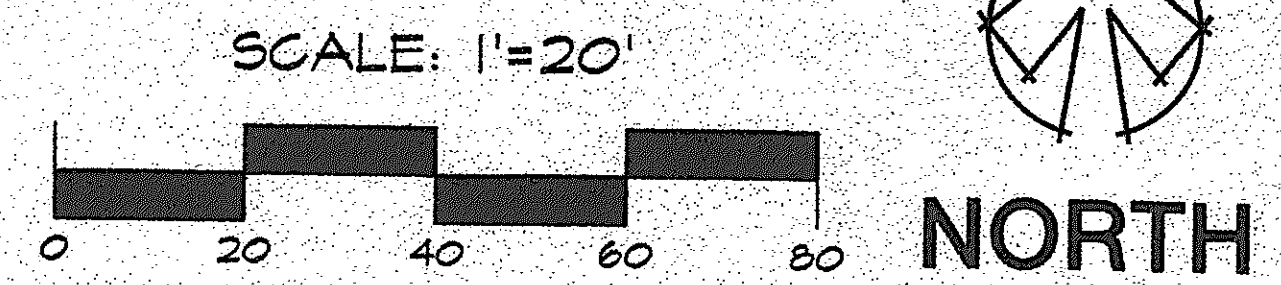
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38790 Sky Canyon Drive, Suite C  
Merrill, CA 92093  
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E-mail: email@sweeneyassoc.com



**VALLEY WIDE RECREATION & PARK DISTRICT**

Samuel W. Goepp  
IP 040059  
Date: 12/2/06

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MARK	BY	DATE	DESCRIPTION	APPR'D	DATE
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SEAL-COUNTY

COUNTY OF RIVERSIDE  
**TRANSPORTATION DEPARTMENT**

APPROVED BY: KHALED A. OTHMAN R.C.E. 33950 DATE: 06-30-06  
EXPIRES DATE: 06-30-06

RECOMMENDED BY: DATE:

SEAL-ARCHITECT

**SUMMERS/MURPHY & PARTNERS, INC.**  
3497 COAST ASCWAY, SUITE 200  
DANA POINT, CALIFORNIA 92629 (949) 243-5446  
LANDSCAPE ARCHITECTS

PATRICK C.M. MURPHY  
DATE: 11/3/05  
DATE: 03.15.04 DRAWN BY: RF SMP# 261164

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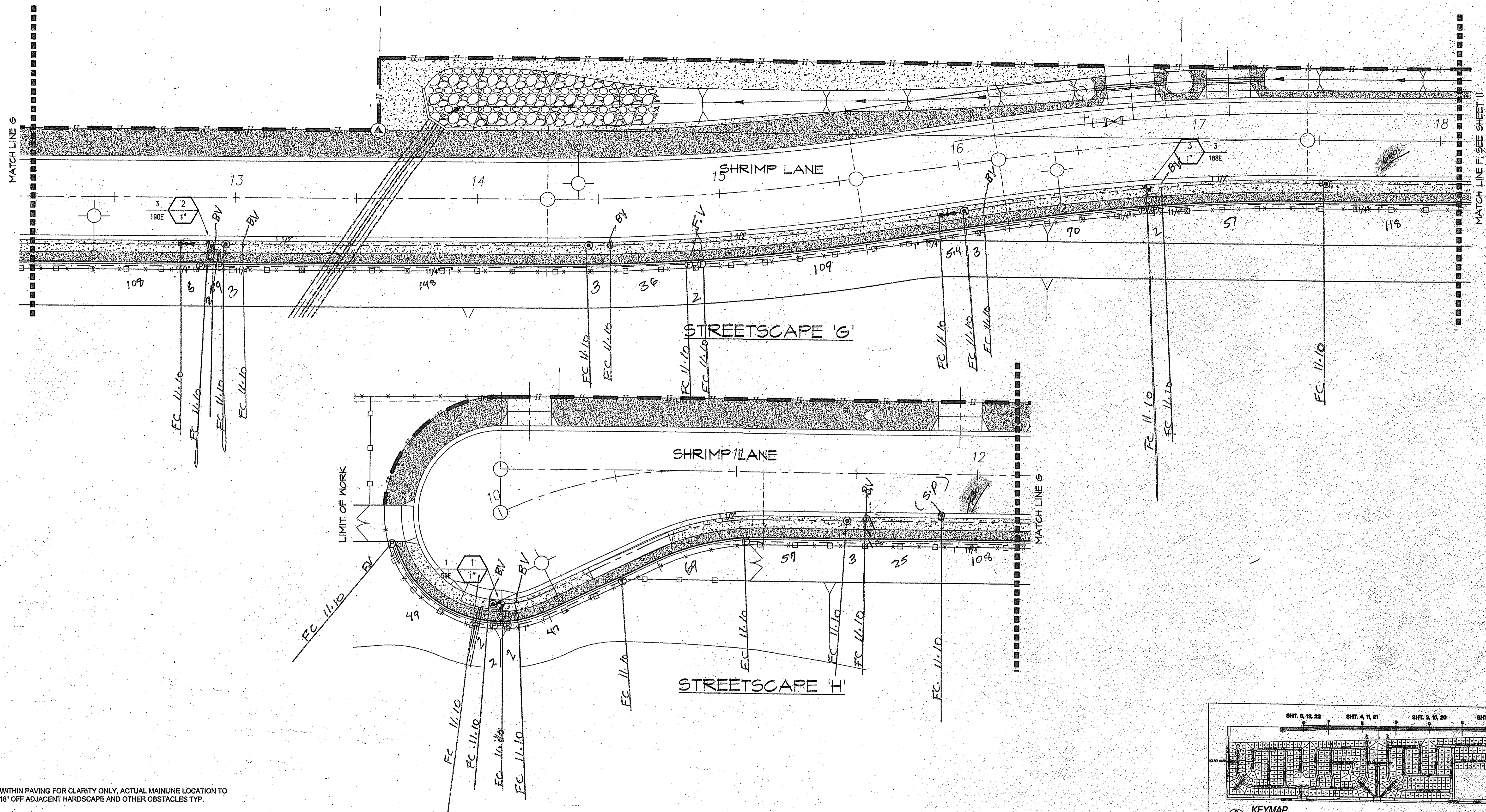
COUNTY OF RIVERSIDE - ADELINES FARM  
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STREETSCAPE

**IRRIGATION LAYOUT**

FOR: SHEA HOMES W.O. NO. 2339.00 COUNTY FILE NO.

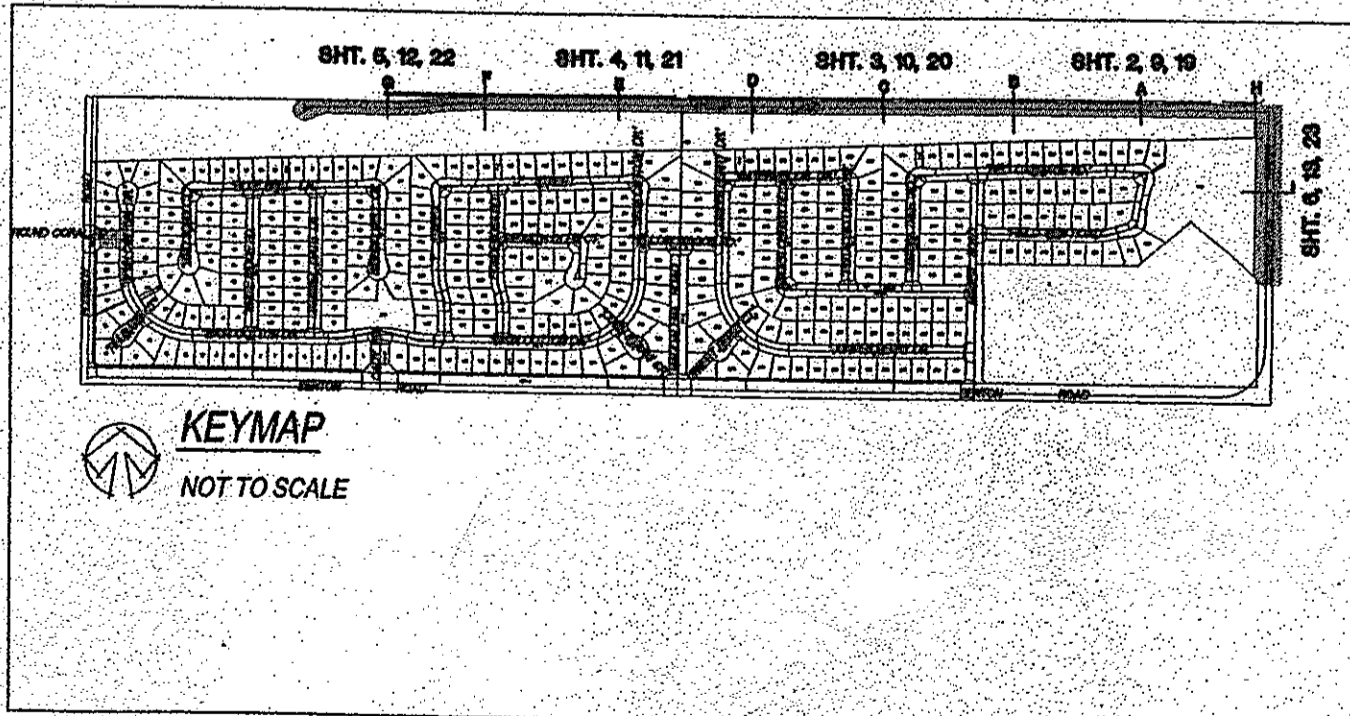
SHEET NO. 11 OF 26 SHEETS





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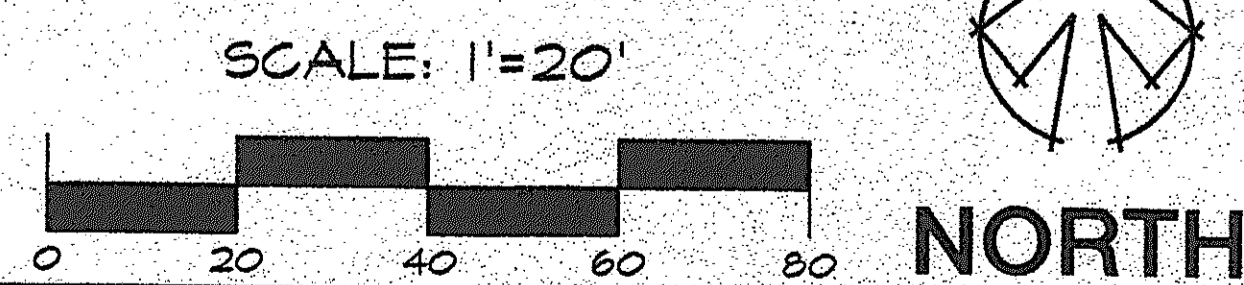
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**VALLEY WIDE RECREATION & PARK DISTRICT**

Samuel W. Goepf Date: 12/8/05

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MARK	BY	DATE	DESCRIPTION	APPR'D	DATE

SEAL-COUNTY

KHALED A. OTHMAN  
No. 33950  
Exp. 06-30-06

COUNTY OF RIVERSIDE  
**TRANSPORTATION DEPARTMENT**

APPROVED BY: KHALED A. OTHMAN R.C.E. 33950 DATE: 06-30-06  
EXPIRES DATE: 06-30-06

RECOMMENDED BY: DATE:

SEAL-ARCHITECT

PATRICK C.M. MURPHY  
No. 23109  
Date: 11/3/06

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3497 COAST HIGHWAY, SUITE 200  
DANA POINT, CALIFORNIA 92629 (949) 443-5446  
LANDSCAPE ARCHITECTS

PATRICK C.M. MURPHY DATE: 11/3/06  
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**IRRIGATION LAYOUT**

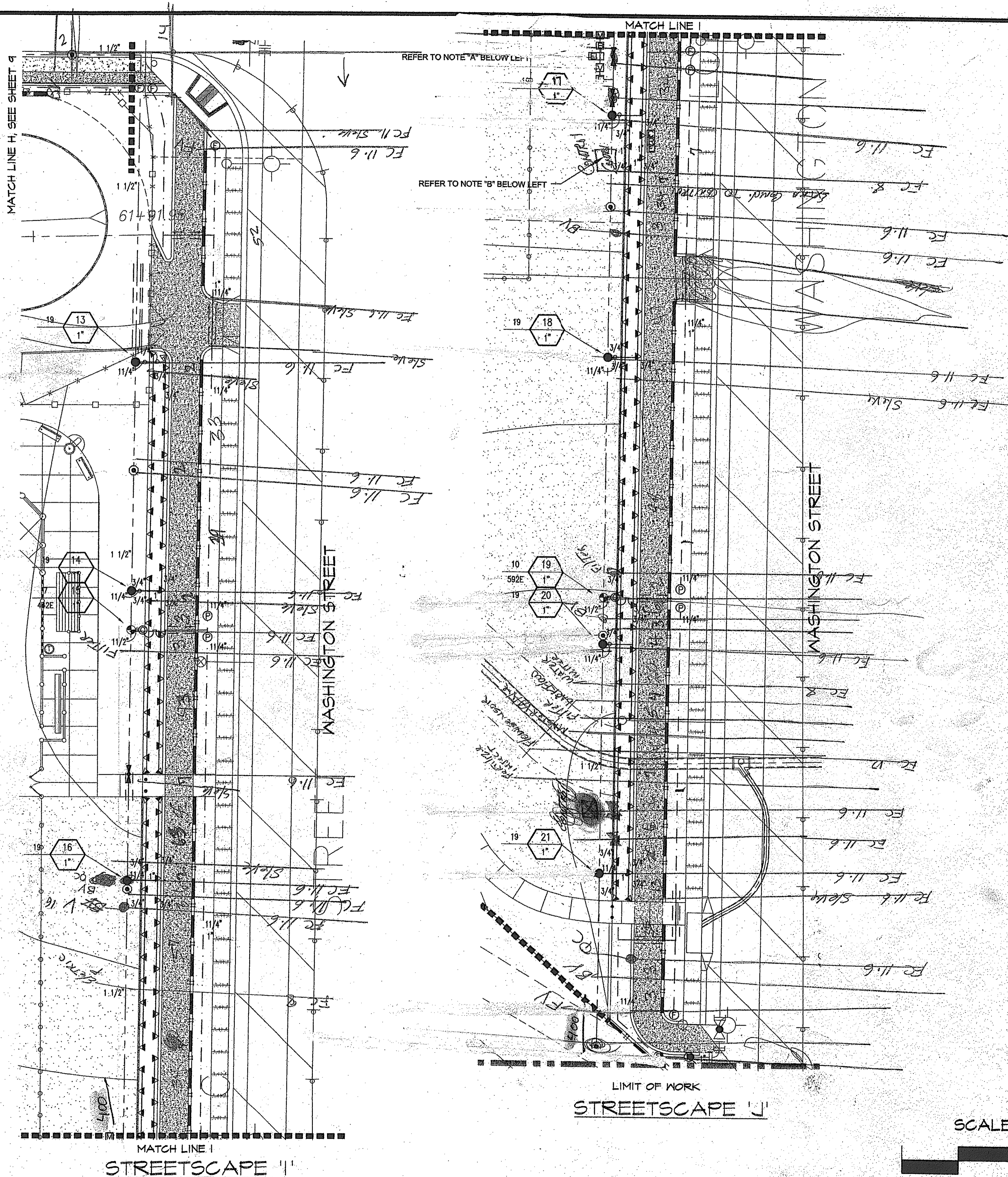
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IP 040059 SHEET NO. 12 OF 26 SHEETS

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ADELINE'S FARM - LMD - SHRIMP LANE - LANDSCAPE





**NOTE A:**  
POINT OF CONNECTION SHALL BE A 1" DOMESTIC WATER METER WITH A 1" SERVICE LINE. VERIFY THE ACTUAL LOCATION, SIZE AND WATER PRESSURE IN THE FIELD PRIOR TO STARTING WORK. IF ANY OF THE POC INFORMATION SHOWN ON THESE DRAWING IS FOUND TO BE DIFFERENT THAN THE ACTUAL POC INFORMATION GATHERED IN THE FIELD, IMMEDIATELY NOTIFY THE LANDSCAPE ARCHITECT AND IRRIGATION CONSULTANT. SHOULD THE CONTRACTOR FAIL TO VERIFY THE POC INFORMATION ANY CHANGES REQUIRED BY LOW PRESSURE OR VOLUME SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR.

STATIC WATER PRESSURE 104 PSI  
DESIGN WATER PRESSURE 65 PSI  
MAXIMUM SYSTEM DEMAND 19 GPM  
RESIDUAL WATER PRESSURE 39 PSI

**NOTE B:**  
CONTROLLER SHALL BE CALSENSE MOD. # ET2000-24-LR-LR-DOME-RR INSTALLED IN STAINLESS STEEL ENCLOSURE (SEE LEGEND FOR TYPE) FINAL LOCATION OF CONTROLLER AND ELECTRICAL POC SHALL BE CONFIRMED WITH OWNER'S AUTHORIZED REPRESENTATIVE PRIOR TO COMMENCING WORK.

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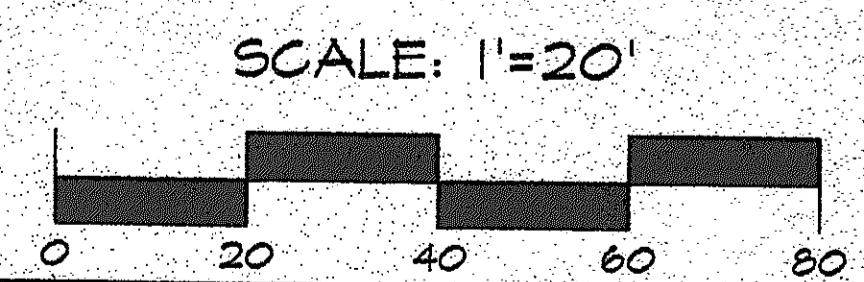
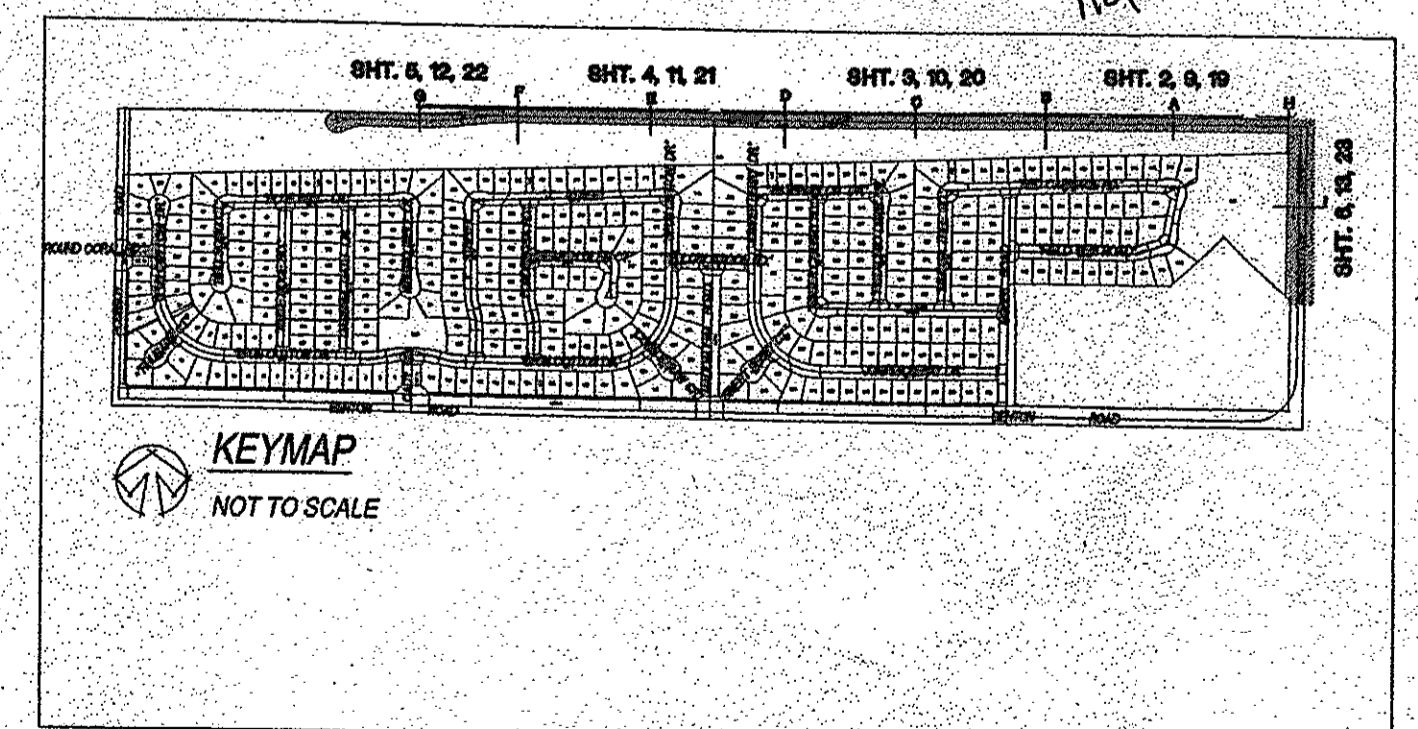
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3.5" BRASS DISK IN CONC. POST: STAMPED Y311 1935  
FROM THE INT. OF RANCHO CALIF. RD. AND FRONT ST.  
1.7 MILES N.W. ON FRONT ST.; JEFFERSON AVE. TO THE INT. OF JEFFERSON AVE. AND WINCHESTER RD. (HWY 79)  
TO THE INT. OF BENTON RD. AND WINCHESTER RD. (HWY 79) - 2.4 MILES E. ON BENTON RD. TO THE INT. 20.2'S. OF C/L BENTON RD. 26.7' W. OF WASHINGTON ST. 3' S.E. OF 8"X8" POST.  
ELEVATION: 1396.191

COUNTY OF RIVERSIDE - ADELINE'S FARM  
VALLEY-WIDE - SHRIMP LANE & WASHINGTON  
STREETSCAPE  
IRRIGATION LAYOUT  
FOR: SHEA HOMES | W.O. NO. 2339.00 | COUNTY FILE NO.

IP 040059  
SHEET NO. 13  
OF 26 SHEETS  
DATE: 12/2/06



VALLEY WIDE RECREATION & PARK DISTRICT  
Samuel W. Goepf

ADELINE'S FARM - LMD - SHRIMP LANE - LANDSCAPE



# VALLEY-WIDE RECREATION AND PARK DISTRICT

## RECYCLED WATER RETROFIT PLAN FOR BENTON CREEK CHANNEL CITY OF WINCHESTER, CALIFORNIA

EMWD WO# 19229

### EMWD STANDARD RECYCLED WATER IRRIGATION PLAN NOTES

- THE RECYCLED WATER IRRIGATION SYSTEM SHOWN ON THESE PLANS SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE MOST RECENT EDITION OF THE EMWD RECYCLED WATER IRRIGATION GUIDELINES, AND EMWD STANDARDS AND SPECIFICATIONS.
- THE USE OF RECYCLED WATER SHALL ADHERE TO CDPH TITLE 22, DIVISION 4, CHAPTER 3 OF THE CALIFORNIA CODE OF REGULATIONS AND THE CURRENT RULES, ORDINANCES, REGULATIONS OF EMWD.
- EMWD REQUIRES THAT A PRE-CONSTRUCTION CONFERENCE BE SCHEDULED PRIOR TO ANY CONSTRUCTION BY CALLING THE EMWD FIELD ENGINEERING DEPARTMENT AT (951) 928-3777, EXTENSION 4830.
- THE EASTERN MUNICIPAL WATER DISTRICT OPERATION DEPARTMENT SHALL BE NOTIFIED TWO WORKING DAYS PRIOR TO THE START OF CONSTRUCTION AT (951) 679-3222. ALL WORK PERFORMED WITHOUT BENEFIT OF INSPECTION SHALL BE SUBJECT TO REJECTION AND REMOVAL.
- WHEN POTABLE WATER IS ONSITE, THE CDPH TITLE 22 REQUIRES A CROSS CONNECTION SHUTDOWN TEST TO PRECEDE THE FINAL RELEASE OF THE IRRIGATION SYSTEM. THIS TEST WILL BE CONDUCTED BY EMWD.
- THE RECYCLED WATER IRRIGATION PLAN IS A "LIVING" DOCUMENT OF RECORD THAT SHALL BE UPDATED IF THE PROJECT CONDITIONS, THE SITE PLAN, FACILITIES, IRRIGATED AREA, IRRIGATION DEMAND, OR DATA RELATIVE TO THE SITE CHANGES ONCE IT VARIES FROM THE ACCEPTED PLAN. DELTA REVISIONS OF THE PLAN SHALL BE AS DEEMED NECESSARY BY EMWD TO MAINTAIN ACCURATE DOCUMENT RECORDS OF THE PROJECT SITE AND LANDSCAPE IRRIGATION INSTALLATION.
- ANY PROPOSED CHANGES TO A SYSTEM DURING CONSTRUCTION MUST BE SUBMITTED TO EMWD FOR AUTHORIZATION OF THE CHANGES PRIOR TO THE CHANGE BEING MADE IN THE FIELD.
- UPON FINAL ACCEPTANCE OF AN IRRIGATION SYSTEM ANY FUTURE MODIFICATIONS MUST BE APPROVED THROUGH EMWD PRIOR TO THE START OF CONSTRUCTION.
- ALL PUBLIC AND PRIVATE POTABLE WATER MAINS INCLUDING FIRE MAINS, ANY WATER WELLS AND/OR WATER COURSES WITHIN THE RECYCLED WATER PROJECT SHALL BE SHOWN ON THE PLANS.
- DURING CONSTRUCTION, ALL RECYCLED IRRIGATION SYSTEMS SHALL BE CONNECTED TO A TEMPORARY POTABLE WATER SOURCE AT A T-METER CONNECTION TO A PUBLIC FIRE HYDRANT AS APPROVED BY EMWD. THIS CONNECTION WILL SERVE THE IRRIGATION SYSTEM WITH POTABLE WATER UNTIL THE METER IS RELEASED AT PROJECT APPROVAL. ALL TEMPORARY POTABLE CONNECTIONS FOR CONSTRUCTION OR IRRIGATION MUST BE HI-LINED THROUGH A T-METER AND AN APPROVED ABOVE GROUND REDUCED PRESSURE (RP) PRINCIPAL BACKFLOW DEVICE WITHIN 3 FEET OF METER. NO PURPLE COLORED PIPING OR APPURTENANCES SHALL BE CONNECTED TO ANY POTABLE WATER SOURCE.
- REDUCED PRESSURE (RP) PRINCIPAL BACKFLOW DEVICES MUST BE APPROVED AND TESTED BY AN EMWD APPROVED BACKFLOW TESTER (A LIST OF APPROVED TESTERS ARE AVAILABLE UPON REQUEST).
- CROSS CONNECTIONS BETWEEN RECYCLED WATER LINES AND POTABLE WATER LINES ARE STRICTLY PROHIBITED. FINES MAY BE LEVIED.
- INTERCONNECTION OF IRRIGATION PRESSURE SUPPLY MAINLINES ORIGINATING FROM MORE THAN ONE METER IS STRICTLY PROHIBITED.
- NO PONDING, RUNOFF OR OVERSPRAY IS PERMITTED. ADJUST ALL SPRINKLER HEADS TO MINIMIZE OVERSPRAY ONTO SIDEWALKS, STREETS, DRINKING FOUNTAINS, DECORATIVE FOUNTAINS, COMFORT STATIONS, PLAYGROUND EQUIPMENT, PICNIC TABLES, BBQ, PRIVATE LOTS, POTABLE WATER AREAS AND EQUIPMENT, FOOD PREPARATION, OUTDOOR EATING AREAS, OR NON-DESIGNATED USE AREAS MUST NOT BE SUBJECTED TO RECYCLED WATER OVERSPRAY, WINDBLOWN SPRAY, RUNOFF, PONDING, OR UNAUTHORIZED USE. LACK OF PREVENTION, WHETHER BY DESIGN, CONSTRUCTION PRACTICE, OR SYSTEM OPERATION, IS STRICTLY PROHIBITED.
- HOSE BIBS ARE STRICTLY PROHIBITED ON RECYCLED WATER SYSTEMS. POTABLE QUICK COUPLERS ARE NOT ALLOWED WITHIN THE RECYCLED WATER IRRIGATED AREA.
- QUICK COUPLING VALVES SHALL BE OF A TYPE APPROVED FOR RECYCLED WATER USE WITH BRASS CONSTRUCTION, A SPECIAL QUICK COUPLER KEY WITH AN ACME THREAD FOR OPENING AND CLOSING THE VALVE. QUICK COUPLER VALVES CANNOT BE LOCATED WITHIN 50 FEET OF FOOD PREPARATION, OUTDOOR EATING AREAS, OR DESIGNATED CHILDREN PLAY EQUIPMENT OR WITHIN THE FENCED PERIMETER SURROUNDING SWIMMING POOLS.
- ALL NEW ON-SITE RECYCLED WATER PIPING INSTALLED ON THIS PROJECT SHALL BE PURPLE IN COLOR, PANTONE 522C AND IDENTIFIED IN ACCORDANCE WITH THE CURRENT CDPH GUIDELINES AND EASTERN MUNICIPAL WATER DISTRICTS STANDARDS AND SPECIFICATIONS.
- WARNING TAPE FOR THE RECYCLED WATER PIPING SHALL BE PURPLE IN COLOR, PANTONE 522C, WITH THE WORDS "CAUTION: RECYCLED WATER" IMPRINTED IN MINIMUM 1 INCH HIGH LETTERS. IMPRINTING SHALL BE CONTINUOUS AND PERMANENT. THE WARNING TAPE SHALL BE INSTALLED CONTINUOUSLY ABOVE THE NEW RECYCLED WATER IRRIGATION MAINLINE.
- WARNING SIGNS AND LABELS SHALL READ "CAUTION: RECYCLED WATER DO NOT DRINK" AND INCLUDE THE INTERNATIONAL SYMBOL FOR DO NOT DRINK. THE LOCATION FOR WARNING SIGNS SHALL BE AS CALLED OUT ON THE PLANS AND AT BOTH SIDES OF ALL DRIVEWAY AND WALKWAY ENTRANCES, AT RECYCLED WATER METERS AND POSTED EVERY 500' ALONG THE RECYCLED WATER USE SITE PERIMETER. FINAL FIELD LOCATIONS SHALL BE AS DIRECTED BY THE DISTRICT REPRESENTATIVE.

- EACH AUTOMATIC CONTROLLER AND ITS ASSOCIATED EQUIPMENT SHALL BE IDENTIFIED WITH A SIGN BEARING THE WORDS "CAUTION: RECYCLED WATER DO NOT DRINK", WITH LETTERS AT LEAST 1 INCH HIGH ON A PURPLE BACKGROUND AND WITH A "DO NOT DRINK" SYMBOL SIGN. THE SIGNS SHALL BE PLACED AS TO BE READILY SEEN BY ANY OPERATIONS PERSONNEL UTILIZING THE EQUIPMENT.
  - SIGNS OR DECALS WITH "RECYCLED WATER, DO NOT DRINK" AND THE DO NOT DRINK SYMBOL MUST BE POSTED ON PUMP CABINETS, AND ALL ENCLOSURES.
  - RECYCLED WATER SPRINKLERS / SPRAY HEADS MUST HAVE PURPLE CAPS, PURPLE COLLARS, AND THE RISERS HAVE A RECYCLED WATER DECAL. LARGE THROW HEADS MUST HAVE PURPLE INSERTS. PURPLE CAPS AND COLLARS MUST BE FIRMLY AFFIXED TO SPRINKLER HEADS. ALL OTHER ABOVE GROUND EQUIPMENTS MUST BE COLORED PURPLE OR HAVE A "RECYCLED WATER, DO NOT DRINK" DECAL OR SIGN.
  - ALL AUTOMATIC CONTROLLERS MUST BE SET TO OPERATE BETWEEN THE HOURS OF 9:00 P.M. AND 6:00 A.M. UNLESS OTHERWISE PERMITTED BY EMWD.
  - EDUCATE ALL MAINTENANCE PERSONNEL ON A CONTINUOUS BASIS OF THE PRESENCE OF RECYCLED WATER. PERSONNEL MUST BE INFORMED THAT RECYCLED WATER IS MEANT FOR IRRIGATION PURPOSES ONLY, AND IS NOT APPROVED FOR DRINKING PURPOSES, HAND WASHING, CLEANING OF TOOLS, ETC.
- IN CASE OF EMERGENCY, CONTACT GREG ODEN AT (951) 654-1505 OR AFTER HOURS,

CONTACT GREG ODEN AT (951) 306-5016

- AN ON-SITE USER/SUPERVISOR SHALL BE DESIGNATED IN WRITING. THIS INDIVIDUAL SHALL BE FAMILIAR WITH PLUMBING SYSTEMS WITHIN THE PROPERTY, WITH THE BASIC CONCEPTS OF BACKFLOW/CROSS CONNECTION PROTECTION, THE RECYCLED PURVEYOR'S RULES AND REGULATIONS, AND THE SPECIFIC REQUIREMENTS OF A RECYCLED WATER SYSTEM. SAID PERSON IS REQUIRED TO PROVIDE A 24 HOUR CONTACT PHONE NUMBER AND ATTEND APPROVED SITE SUPERVISOR CLASS. COPIES OF THE DESIGNATION, WITH CONTACT PHONE NUMBERS SHALL BE PROVIDED TO EASTERN MUNICIPAL WATER DISTRICT.
- FAILURE TO COMPLY WITH THESE NOTES AND EMWD'S RULES AND REGULATIONS IS A VIOLATION AND COULD RESULT IN SUSPENSION OF SERVICE UNTIL THE APPROPRIATE CORRECTIVE STEPS HAVE BEEN TAKEN.

### LANDSCAPE MAINTENANCE RESPONSIBILITY NOTE

IT SHALL BE THE RESPONSIBILITY OF VALLEY-WIDE RECREATION AND PARK DISTRICT TO MAINTAIN ALL ON SITE RECYCLED WATER IRRIGATION IN ACCORDANCE WITH EMWD ORDINANCE 68 LATEST EDITION.

### EMWD TIME LIMITATION NOTE

THE TIME LIMIT ON DRAWING APPROVAL SHALL BE SIX (6) MONTHS FROM THE DATE OF PLAN APPROVAL. IF CONSTRUCTION HAS NOT COMMENCED WITHIN THE STATED TIME, EMWD REQUIRES DRAWING(S) TO BE REVIEWED BY THE DESIGN ENGINEER AND/OR ARCHITECT AND RESUBMITTED TO EMWD FOR POSSIBLE CHANGES IN MASTER PLANNED FACILITIES, SPECIFICATIONS AND STANDARDS.

### EMWD STANDARD NOTE

INSTALLATION NOTES  
THE RECYCLED WATER IRRIGATION SYSTEM SHOWN ON THESE PLANS SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE MOST RECENT EDITION OF THE EASTERN MUNICIPAL WATER DISTRICT STANDARDS AND SPECIFICATIONS.

### COLOR CODING NOTES

- ALL IRRIGATION RISERS, DRIP LINE, AND COMPONENTS THAT ARE NOT AVAILABLE FROM THE MANUFACTURE WITH PURPLE RECYCLED WATER IDENTIFICATION SHALL BE LABELED WITH RECYCLED WATER DECALS OR STICKERS.
- ALL IRRIGATION COMPONENTS AND VALVES MUST HAVE A RECYCLED WATER ID TAG AND A VALVE ID TAG IN A VALVE BOX WITH A PURPLE LID. THE PURPLE LID SHALL BE HEAT BRANDED WITH THE VALVE LABEL.
- ROTOR HEADS MAY BE PAINTED PURPLE WHEN REPLACEMENT CAPS OR COLLARS ARE NOT AVAILABLE. CONTRACTOR TO SUBMIT QUANTITIES, MANUFACTURER AND MODEL NUMBER OF THE HEAD TO EMWD FOR APPROVAL.

RECYCLED WATER AND POTABLE WATER SEPARATION CLEARANCE NOTE  
THE RECYCLED WATER IRRIGATION MAINLINE IS SHOWN DIAGRAMMATICALLY FOR CLARITY PURPOSES ONLY. THE RECYCLED WATER IRRIGATION MAINLINE MUST:

- BE INSTALLED WITH A 4' (FOOT) MINIMUM HORIZONTAL CLEARANCE FROM ALL POTABLE WATERLINES AND FIRE LINES.
- BE INSTALLED WITH A 1' (FOOT) OF VERTICAL CLEARANCE AND BE LOCATED UNDER ALL POTABLE WATERLINES AND FIRE LINES.
- WHERE THE RECYCLED WATER IRRIGATION MAINLINES MUST BE INSTALLED ABOVE THE POTABLE WATERLINE, A 4" (INCH) MINIMUM VERTICAL CLEARANCE MUST BE MAINTAINED AND THE RECYCLED WATER IRRIGATION MAINLINE MUST BE INSTALLED IN A CONTINUOUS SLEEVE (PVC CLASS 200 PIPE MINIMUM) WHICH EXTENDS A MINIMUM OF 10' (FEET) EACH SIDE OF THE POTABLE WATERLINE OR FIRE LINE.

### IRRIGATION NOTES

- CONTRACTOR SHALL CAREFULLY PERFORM WORK TO INSURE THAT NO SERVICE INTERRUPTION OF DOMESTIC WATER OCCURS DURING OPERATION HOURS. CONTRACTOR SHALL NOTIFY THE DISTRICT 24 HOURS PRIOR TO ANY SCHEDULED SHUTDOWN OF DOMESTIC OR IRRIGATION WATER.
- IRRIGATION WATER SUPPLY SHALL NOT BE TERMINATED FOR ANY PERIOD LONGER THAN 24 HOURS. IN THE EVENT THAT WATER IS TERMINATED LONGER THAN 24 HOURS, CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGES TO ANY LANDSCAPE RELATED TO LACK OF WATER.
- CONTRACTOR SHALL DISCONNECT AND CAP ALL EXISTING MAINLINE AT LOCATIONS AS SHOWN ON THE PLANS. ALL FITTINGS (INCLUDING CAPS) 3" AND SMALLER SHALL BE SCH 80 PVC AND ALL FITTINGS LARGER THAN 3" SHALL BE LEEMCO IRON DUCTILE RESTRAINTS.
- ALL NEW WORK SHALL COMPLY WITH CURRENT DISTRICT STANDARDS AND SPECIFICATIONS.
- ALL NEW PRESSURE LINE PIPING SHALL BE PRESSURE TESTED PER EMWD REQUIREMENTS BEFORE CONNECTING TO ANY EXISTING MAINLINE. ANY EXISTING MAINLINE WILL NOT BE REQUIRED TO BE PRESSURED TESTED.
- CONTRACTOR SHALL SLEEVE ALL EXISTING POTABLE PRESSURE LINE PIPING WITHIN 4 FEET OF ANY NEW RECYCLED WATER LINE AS REQUIRED BY EMWD. LOCATIONS OF DOMESTIC WATER PIPING IS SHOWN ON PLANS TO BE THE BEST KNOWLEDGE OF EMWD. IN THE EVENT ANY DISCREPANCY BETWEEN FIELD CONDITIONS AND PLANS, THE CONTRACTOR SHALL BE RESPONSIBLE FOR INSTALLING SEPARATIONS SLEEVING AS REQUIRED BY EMWD WITHOUT ADDITIONAL COMPENSATION.
- ALL EXISTING VALVE BOXES THAT ARE UNEVEN, OUT OF PLUMB, ABOVE OR BELOW GRADE SHALL BE ADJUSTED TO GRADE PER DISTRICT DETAILS.
- ALL NEW VALVES AND PIPING SHALL BE MEASURED AND AS-BUILT PER EMWD REQUIREMENTS PRIOR TO BACKFILLING. ALL EXISTING PIPING LOCATED DURING CONSTRUCTION SHALL BE IDENTIFIED, MEASURED AND INCLUDED WITH THE AS-BUILTS.
- ALL NEW PURPLE VALVE BOX LID SHALL BE HEAT BRANDED TO INDICATE THE CORRESPONDING CONTROLLER AND STATION NUMBER PER DISTRICT DETAIL.
- INSTALL PURPLE CAPS FOR ALL SPRAY HEADS AND ROTORS THAT ARE CONNECTED TO RECYCLED WATER SYSTEM.
- CONTRACTOR TO LOCATE AND REDLINE (DOCUMENT) ALL POTABLE AND FIRE WATER LINE ON-SITE FACILITIES WITHIN CLOSE PROXIMITY OF NEW RECYCLED WATER LINES.
- ALL WORK SHALL CONFORM TO EASTERN MUNICIPAL WATER DISTRICT'S CURRENT STANDARDS, SPECIFICATIONS AND GUIDELINES FOR RECYCLED WATER.
- IN THE EVENT OF ANY DISCREPANCY BETWEEN PLANS AND EMWD STANDARD GUIDELINES / SPECIFICATIONS, THE SPECIFICATIONS SHALL TAKE PRECEDENCE OVER PLANS AS DETERMINED BY THE DISTRICT.
- CONTRACTOR SHALL CONTACT UNDERGROUND SERVICE ALERT PRIOR TO ANY DIGGING AND SHALL BE RESPONSIBLE FOR ANY DAMAGED UTILITIES.
- CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR REPAIRING AND OR REPLACING ANY DAMAGE TO EXISTING LANDSCAPE AND IRRIGATION REQUIRED TO RETROFIT PROJECT TO RECYCLED WATER.
- CONTRACTOR IS RESPONSIBLE FOR FAMILIARIZING HIM / HERSELF WITH EXISTING SITE CONDITIONS PRIOR TO SUBMITTAL OF BID.
- IF FIELD CONDITIONS ARE DIFFERENT FROM WHAT IS SHOWN ON THE PLANS, THE CONTRACTOR IS RESPONSIBLE FOR NOTIFYING THE OWNER'S AUTHORIZED REPRESENTATIVE PRIOR TO CONTINUING WITH SITE IMPROVEMENTS.
- ANY COMPONENTS OF THE IRRIGATION SYSTEM WHICH ARE REPLACED / REPAIRED MUST BE REPLACED WITH PURPLE RECYCLED WATER COMPONENTS PER EMWD STANDARDS.
- ALL WORK MUST CONFORM TO VALLEY-WIDE RECREATION AND PARK DISTRICT STANDARDS AND SPECIFICATIONS. IN THE EVENT OF ANY CONFLICT BETWEEN STANDARDS, THE MORE STRINGENT STANDARD SHALL PREVAIL, UNLESS OTHERWISE APPROVED BY BOTH EMWD AND VALLEY-WIDE.

### PURPLE CODING NOTE:

CONTRACTOR SHALL PROVIDE PURPLE CODING FOR ALL HEADS THAT ARE ACCESSIBLE TO INSTALL WITHOUT HAVING TO PRUNE OR REMOVE EXISTING VEGETATION GREATER THAN 2 HORIZONTAL FEET OR MORE THAN 40% OF ANY EXISTING SHRUB.

### SHEET INDEX

- TITLE SHEET
- INDEX MAP
- INDEX MAP
- IRRIGATION PLAN
- IRRIGATION PLAN
- IRRIGATION PLAN
- IRRIGATION PLAN
- IRRIGATION PLAN
- IRRIGATION PLAN
- IRRIGATION DETAILS
- IRRIGATION DETAILS
- IRRIGATION SPECIFICATIONS

### HOLD HARMLESS AND INDEMNIFICATION CLAUSE

CONTRACTOR AGREES TO ASSUME SOLE 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, THE CSA, COUNTY OF LOCAL JURISDICTION, THE CITY OF WINCHESTER, VALLEY-WIDE RECREATION AND PARK DISTRICT AND EASTERN MUNICIPAL WATER DISTRICT 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, THE CSA, AND COUNTY OF LOCAL JURISDICTION.

EXISTING POTABLE IRRIGATION DATA TABLE				
EXISTING POTABLE METER LOCATION	EXISTING P.O.C. DESIGNATION	SERVICE ORDER (SO) NUMBER	HISTORICAL USAGE (AF/Y)	EXISTING POTABLE METER SIZE (IN)
CHEVAL DR.	A	204428	1	1
POMPEI DR.	B	204421	6	1.5
CAPRI DR.	C	204427	7	1.5

### RECYCLED METER INFORMATION TABLE

POC ID	POC STA.	DWG #	IRRIGATED AREA (SF)	DEMAND (GPM)	ANNUAL USAGE ACRE FEET	LATERAL SIZE (IN.)	METER SIZE (IN.)
POC #1			163,000	200	14.0	4"	3"
TOTAL			163,000	200	14.0		

CUSTOMER ACKNOWLEDGES AND AGREES THAT THIS DESIGN AND PLAN IS CONSISTENT WITH CUSTOMER'S OWN STANDARDS AND FIT FOR ITS INTENDED PURPOSE.

NAME \_\_\_\_\_  
TITLE \_\_\_\_\_  
SIGNATURE \_\_\_\_\_ DATE \_\_\_\_\_

**DIG ALERT**  
Call: TOLL FREE 1-800-227-2600 OR 811  
TWO FULL WORKING DAYS BEFORE YOU DIG

BENCH MARK DESCRIPTION: \_\_\_\_\_  
LOCATION: \_\_\_\_\_  
VERTICAL DATUM: \_\_\_\_\_  
HORIZONTAL DATUM: \_\_\_\_\_

ACCEPTED BY: \_\_\_\_\_  
VALLEY-WIDE RECREATION AND PARK DISTRICT

DEPARTMENT	ACCEPTANCE	DATE
	<i>[Signature]</i>	6/17/19

REVISIONS			
DATE	BY	MARK	

DATE: 12/05/2016  
DRAWN BY: HNCC  
CHECKED BY: ENGINEER

ACCEPTED BY: \_\_\_\_\_  
EASTERN MUNICIPAL WATER DISTRICT

SENIOR CIVIL ENGINEER \_\_\_\_\_ DATE \_\_\_\_\_

DEPARTMENT	ACCEPTANCE	DATE
NEW BUSINESS P.C.		
OPERATIONS		
ENGINEERING		
POS ENGINEER		

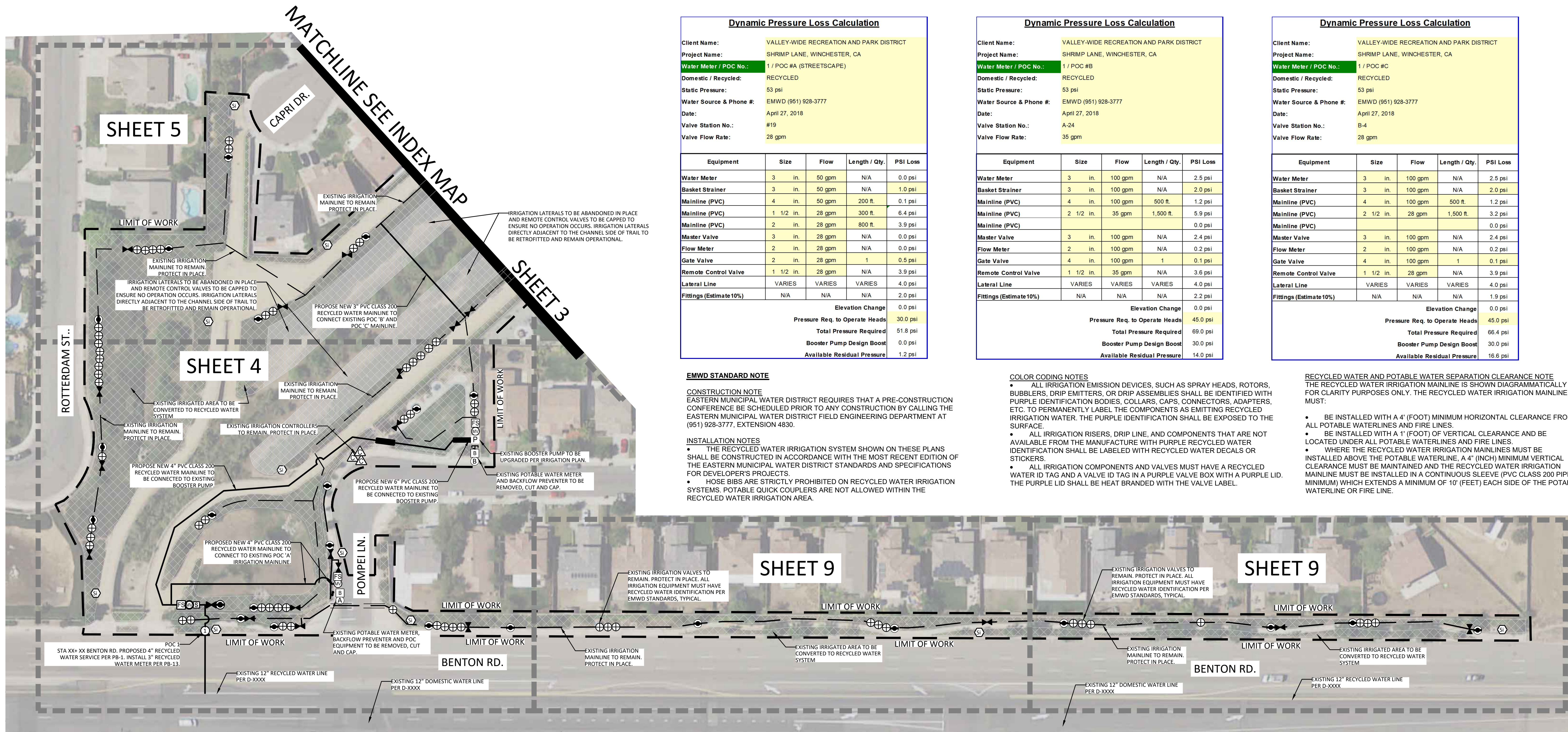
BENTON CREEK CHANNEL  
WINCHESTER, CA.

RECYCLED WATER IRRIGATION RETROFIT IMPROVEMENTS

**TITLE SHEET**

WO: 19229  
PCWO: \_\_\_\_\_  
DOPP: RWJW: \_\_\_\_\_  
COORD. RWUP: \_\_\_\_\_  
I.D. SHT. 1 OF 12  
S.A. D-





**Dynamic Pressure Loss Calculation**

Client Name: VALLEY-WIDE RECREATION AND PARK DISTRICT  
 Project Name: SHRIMP LANE, WINCHESTER, CA  
 Water Meter / POC No.: 1 / POC #A (STREETSCAPE)  
 Domestic / Recycled: RECYCLED  
 Static Pressure: 53 psi  
 Water Source & Phone #: EMWD (951) 928-3777  
 Date: April 27, 2018  
 Valve Station No.: #19  
 Valve Flow Rate: 28 gpm

Equipment	Size	Flow	Length / Qty.	PSI Loss
Water Meter	3 in.	50 gpm	N/A	0.0 psi
Basket Strainer	3 in.	50 gpm	N/A	1.0 psi
Mainline (PVC)	4 in.	50 gpm	200 ft.	0.1 psi
Mainline (PVC)	1 1/2 in.	28 gpm	300 ft.	6.4 psi
Mainline (PVC)	2 in.	28 gpm	800 ft.	3.9 psi
Master Valve	3 in.	28 gpm	N/A	0.0 psi
Flow Meter	2 in.	28 gpm	N/A	0.0 psi
Gate Valve	2 in.	28 gpm	1	0.5 psi
Remote Control Valve	1 1/2 in.	28 gpm	N/A	3.9 psi
Lateral Line	VARIES	VARIES	VARIES	4.0 psi
Fittings (Estimate 10%)	N/A	N/A	N/A	2.0 psi
Elevation Change				0.0 psi
Pressure Req. to Operate Heads				30.0 psi
Total Pressure Required				51.8 psi
Booster Pump Design Boost				0.0 psi
Available Residual Pressure				1.2 psi

**Dynamic Pressure Loss Calculation**

Client Name: VALLEY-WIDE RECREATION AND PARK DISTRICT  
 Project Name: SHRIMP LANE, WINCHESTER, CA  
 Water Meter / POC No.: 1 / POC #B  
 Domestic / Recycled: RECYCLED  
 Static Pressure: 53 psi  
 Water Source & Phone #: EMWD (951) 928-3777  
 Date: April 27, 2018  
 Valve Station No.: A-24  
 Valve Flow Rate: 35 gpm

Equipment	Size	Flow	Length / Qty.	PSI Loss
Water Meter	3 in.	100 gpm	N/A	2.5 psi
Basket Strainer	3 in.	100 gpm	N/A	2.0 psi
Mainline (PVC)	4 in.	100 gpm	500 ft.	1.2 psi
Mainline (PVC)	2 1/2 in.	35 gpm	1,500 ft.	5.9 psi
Mainline (PVC)	2 in.	28 gpm	N/A	0.0 psi
Master Valve	3 in.	100 gpm	N/A	2.4 psi
Flow Meter	2 in.	100 gpm	N/A	0.2 psi
Gate Valve	4 in.	100 gpm	1	0.1 psi
Remote Control Valve	1 1/2 in.	35 gpm	N/A	3.6 psi
Lateral Line	VARIES	VARIES	VARIES	4.0 psi
Fittings (Estimate 10%)	N/A	N/A	N/A	2.2 psi
Elevation Change				0.0 psi
Pressure Req. to Operate Heads				45.0 psi
Total Pressure Required				69.0 psi
Booster Pump Design Boost				30.0 psi
Available Residual Pressure				14.0 psi

**Dynamic Pressure Loss Calculation**

Client Name: VALLEY-WIDE RECREATION AND PARK DISTRICT  
 Project Name: SHRIMP LANE, WINCHESTER, CA  
 Water Meter / POC No.: 1 / POC #C  
 Domestic / Recycled: RECYCLED  
 Static Pressure: 53 psi  
 Water Source & Phone #: EMWD (951) 928-3777  
 Date: April 27, 2018  
 Valve Station No.: B-4  
 Valve Flow Rate: 28 gpm

Equipment	Size	Flow	Length / Qty.	PSI Loss
Water Meter	3 in.	100 gpm	N/A	2.5 psi
Basket Strainer	3 in.	100 gpm	N/A	2.0 psi
Mainline (PVC)	4 in.	100 gpm	500 ft.	1.2 psi
Mainline (PVC)	2 1/2 in.	28 gpm	1,500 ft.	3.2 psi
Mainline (PVC)	2 in.	28 gpm	N/A	0.0 psi
Master Valve	3 in.	100 gpm	N/A	2.4 psi
Flow Meter	2 in.	100 gpm	N/A	0.2 psi
Gate Valve	4 in.	100 gpm	1	0.1 psi
Remote Control Valve	1 1/2 in.	28 gpm	N/A	3.9 psi
Lateral Line	VARIES	VARIES	VARIES	4.0 psi
Fittings (Estimate 10%)	N/A	N/A	N/A	1.9 psi
Elevation Change				0.0 psi
Pressure Req. to Operate Heads				45.0 psi
Total Pressure Required				66.4 psi
Booster Pump Design Boost				30.0 psi
Available Residual Pressure				16.6 psi

**EMWD STANDARD NOTE**

**CONSTRUCTION NOTE**  
 EASTERN MUNICIPAL WATER DISTRICT REQUIRES THAT A PRE-CONSTRUCTION CONFERENCE BE SCHEDULED PRIOR TO ANY CONSTRUCTION BY CALLING THE EASTERN MUNICIPAL WATER DISTRICT FIELD ENGINEERING DEPARTMENT AT (951) 928-3777, EXTENSION 4830.

**INSTALLATION NOTES**

- THE RECYCLED WATER IRRIGATION SYSTEM SHOWN ON THESE PLANS SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE MOST RECENT EDITION OF THE EASTERN MUNICIPAL WATER DISTRICT STANDARDS AND SPECIFICATIONS FOR DEVELOPER'S PROJECTS.
- HOSE BIBS ARE STRICTLY PROHIBITED ON RECYCLED WATER IRRIGATION SYSTEMS. POTABLE QUICK COUPLERS ARE NOT ALLOWED WITHIN THE RECYCLED WATER IRRIGATION AREA.

**COLOR CODING NOTES**

- ALL IRRIGATION EMISSION DEVICES, SUCH AS SPRAY HEADS, ROTORS, BUBBLERS, DRIP EMITTERS, OR DRIP ASSEMBLIES SHALL BE IDENTIFIED WITH PURPLE IDENTIFICATION BODIES, COLLARS, CAPS, CONNECTORS, ADAPTERS, ETC. TO PERMANENTLY LABEL THE COMPONENTS AS EMITTING RECYCLED IRRIGATION WATER. THE PURPLE IDENTIFICATION SHALL BE EXPOSED TO THE SURFACE.
- ALL IRRIGATION RISERS, DRIP LINE, AND COMPONENTS THAT ARE NOT AVAILABLE FROM THE MANUFACTURE WITH PURPLE RECYCLED WATER IDENTIFICATION SHALL BE LABELED WITH RECYCLED WATER DECALS OR STICKERS.
- ALL IRRIGATION COMPONENTS AND VALVES MUST HAVE A RECYCLED WATER ID TAG AND A VALVE ID TAG IN A PURPLE VALVE BOX WITH A PURPLE LID. THE PURPLE LID SHALL BE HEAT BRANDED WITH THE VALVE LABEL.

**RECYCLED WATER AND POTABLE WATER SEPARATION CLEARANCE NOTE**  
 THE RECYCLED WATER IRRIGATION MAINLINE IS SHOWN DIAGRAMMATICALLY FOR CLARITY PURPOSES ONLY. THE RECYCLED WATER IRRIGATION MAINLINE MUST:

- BE INSTALLED WITH A 4' (FOOT) MINIMUM HORIZONTAL CLEARANCE FROM ALL POTABLE WATERLINES AND FIRE LINES.
- BE INSTALLED WITH A 1' (FOOT) OF VERTICAL CLEARANCE AND BE LOCATED UNDER ALL POTABLE WATERLINES AND FIRE LINES.
- WHERE THE RECYCLED WATER IRRIGATION MAINLINES MUST BE INSTALLED ABOVE THE POTABLE WATERLINE, A 4" (INCH) MINIMUM VERTICAL CLEARANCE MUST BE MAINTAINED AND THE RECYCLED WATER IRRIGATION MAINLINE MUST BE INSTALLED IN A CONTINUOUS SLEEVE (PVC CLASS 200 PIPE MINIMUM) WHICH EXTENDS A MINIMUM OF 10' (FEET) EACH SIDE OF THE POTABLE WATERLINE OR FIRE LINE.

**RECYCLED WATER IRRIGATION LEGEND:**

SYMBOL	DESCRIPTION
(S)	RECYCLED WATER SIGNAGE
(X)	RECYCLED ISOLATION VALVE
(R)	RECYCLED REMOTE CONTROL VALVE
(C)	RECYCLED QUICK COUPLER VALVE
(I)	RECYCLED IRRIGATION CONTROLLER
(P)	RECYCLED IRRIGATION BOOSTER PUMP
(M)	RECYCLED IRRIGATION WATER METER
(V)	RECYCLED IRRIGATION MASTER VALVE
(F)	RECYCLED IRRIGATION FLOW SENSOR
(M)	RECYCLED IRRIGATION MAINLINE (PROPOSE)
(M)	RECYCLED IRRIGATION MAINLINE (EXISTING)

**POTABLE WATER LEGEND:**

SYMBOL	DESCRIPTION
(A)	POTABLE WATER METER
(B)	POTABLE BACKFLOW PREVENTER

**VALVE BOX NOTE:**

- CONTRACTOR TO REPLACE EXISTING LIDS OF IRRIGATION VALVE BOXES. VALVE BOX LID SHALL BE PURPLE AND HEAT BRANDED WITH REMOTE CONTROL VALVE STATION AND COMPONENT IDENTIFICATION.
- CONTRACTOR TO ADJUST EXISTING VALVE BOXES TO GRADE PER VALLEY-WIDE STANDARD AND INSTALL RECYCLED WATER ID TAG.
- ALL DAMAGED VALVE BOXES SHALL BE REPLACED WITH NEW PURPLE COLOR VALVE BOXES AND HEAT BRANDED LID AND INSTALL RECYCLED WATER ID TAG WITHIN EACH BOX.

**RECYCLED WATER RETROFIT CONSTRUCTION NOTE**

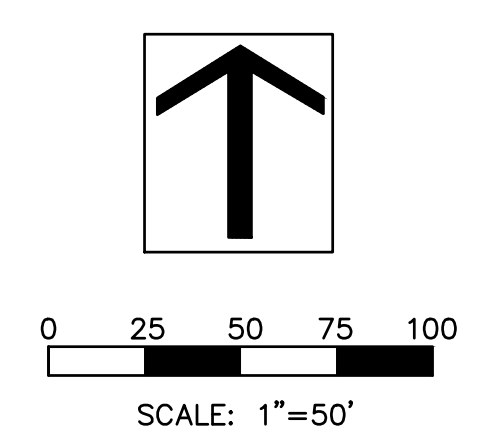
CONTRACTOR TO REPLACE ALL EXISTING LIDS OF IRRIGATION VALVE BOXES THAT ARE CONNECTED TO NEW RECYCLED WATER SYSTEM TO PURPLE COLOR PER EMWD REQUIREMENTS.

**IRRIGATION SCHEDULING RUN TIME NOTE:**

PROPOSE NEW RECYCLED WATER POC #1 WILL SERVE EXISTING POTABLE WATER POC #A, #B AND #C. COMBINED FLOW FROM ALL POC'S NOT TO EXCEED 200 GPM.

**POC METER DATA TABLE**

WATER METER #1	
P.O.C. DESIGNATION	1
STREET STATION	XXX+XX
SERVICE LATERAL LINE SIZE (IN)	4"
RECYCLED WATER METER SIZE (IN)	3"
EMWD METER DETAIL REFERENCE NUMBER	PB-13
DESIGN MAX FLOW (GPM)	200
CHEMICAL INJECTION SYSTEM (Y/N)	NO
BOOSTER PUMP (PSI BOOST)	XX
METER ELEVATION (FT)	XXXX
PRESSURE RANGE (PSI)	0 - 60 PSI
DESIGN PRESSURE (PSI)	XX PSI
TOTAL AREA SERVED (SF)	163,000 SF
ANNUAL WATER USAGE (ACRE/FT)	14 AF/YR
EMWD REFERENCE DRAWING NUMBER	D-XXXX
INITIAL SOURCE OF WATER SUPPLY	RECYCLED
IRRIGATION TYPE (DRIP, SPRAY, ROTOR, ETC)	SPRAY/ROTOR
WATER WINDOW RESTRICTED	YES



**DIG ALERT**

Call: TOLL FREE  
1-800-227-2600  
OR  
811

TWO FULL WORKING DAYS BEFORE YOU DIG

**BENCH MARK**

DESCRIPTION: \_\_\_\_\_

LOCATION: \_\_\_\_\_

VERTICAL DATUM: \_\_\_\_\_

HORIZONTAL DATUM: \_\_\_\_\_

ACCEPTED BY: VALLEY-WIDE RECREATION AND PARK DISTRICT

DEPARTMENT	ACCEPTANCE	DATE
	<i>[Signature]</i>	6/17/19

**REVISIONS**

DATE	BY	MARK	DESCRIPTION
12/05/2016	HNCC		
	ENGINEER		

ACCEPTED BY: EASTERN MUNICIPAL WATER DISTRICT

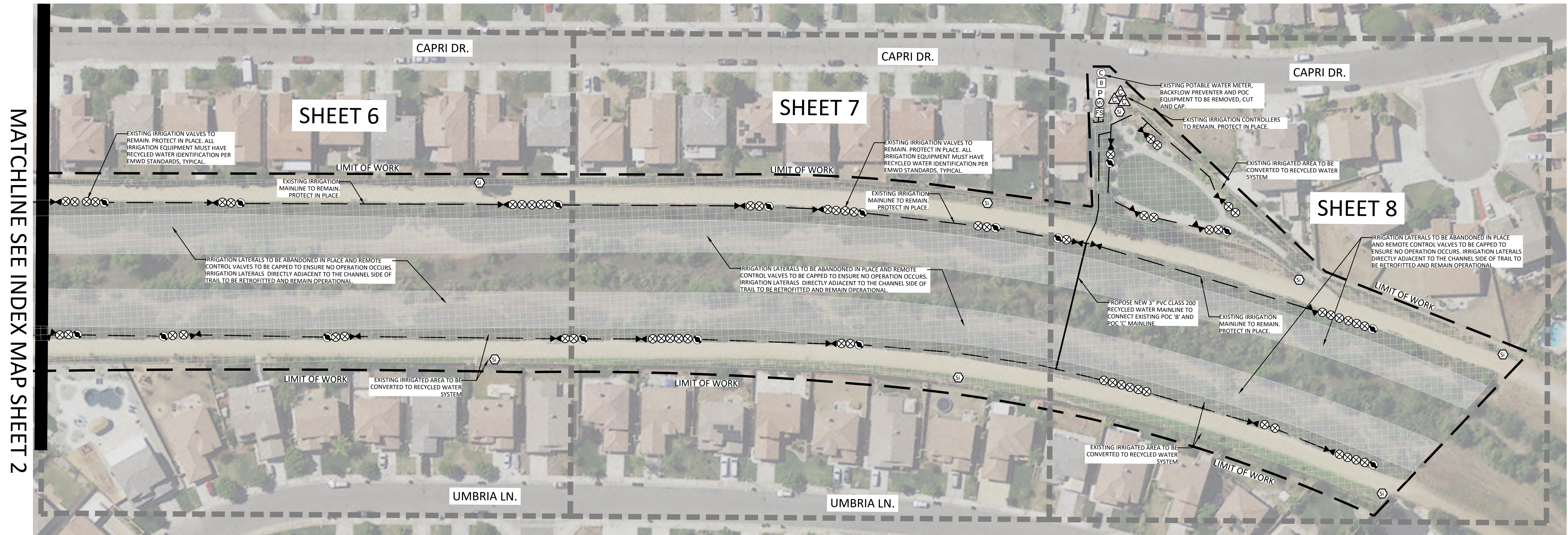
SENIOR CIVIL ENGINEER: \_\_\_\_\_ DATE: \_\_\_\_\_

DEPARTMENT	ACCEPTANCE	DATE
NEW BUSINESS P.C.		
OPERATIONS		
ENGINEERING		
POS ENGINEER		

**BENTON CREEK CHANNEL**  
 WINCHESTER, CA.  
 RECYCLED WATER IRRIGATION RETROFIT  
 IMPROVEMENTS  
 INDEX MAP

WO: 19229
PCWO: _____
DOPP: _____
COORD. RWJUP: _____
I.D. SHT. 2 OF 12
S.A. D-





MATCHLINE SEE INDEX MAP SHEET 2

**EMWD STANDARD NOTE**

**CONSTRUCTION NOTE**  
 EASTERN MUNICIPAL WATER DISTRICT REQUIRES THAT A PRE-CONSTRUCTION CONFERENCE BE SCHEDULED PRIOR TO ANY CONSTRUCTION BY CALLING THE EASTERN MUNICIPAL WATER DISTRICT FIELD ENGINEERING DEPARTMENT AT (951) 928-3777, EXTENSION 4830.

**INSTALLATION NOTES**

- THE RECYCLED WATER IRRIGATION SYSTEM SHOWN ON THESE PLANS SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE MOST RECENT EDITION OF THE EASTERN MUNICIPAL WATER DISTRICT STANDARDS AND SPECIFICATIONS FOR DEVELOPER'S PROJECTS.
- HOSE BIBS ARE STRICTLY PROHIBITED ON RECYCLED WATER IRRIGATION SYSTEMS. POTABLE QUICK COUPLERS ARE NOT ALLOWED WITHIN THE RECYCLED WATER IRRIGATION AREA.

**COLOR CODING NOTES**

- ALL IRRIGATION EMISSION DEVICES, SUCH AS SPRAY HEADS, ROTORS, BUBBLERS, DRIP EMITTERS, OR DRIP ASSEMBLIES SHALL BE IDENTIFIED WITH PURPLE IDENTIFICATION BODIES, COLLARS, CAPS, CONNECTORS, ADAPTERS, ETC. TO PERMANENTLY LABEL THE COMPONENTS AS EMITTING RECYCLED IRRIGATION WATER. THE PURPLE IDENTIFICATION SHALL BE EXPOSED TO THE SURFACE.
- ALL IRRIGATION RISERS, DRIP LINE, AND COMPONENTS THAT ARE NOT AVAILABLE FROM THE MANUFACTURE WITH PURPLE RECYCLED WATER IDENTIFICATION SHALL BE LABELED WITH RECYCLED WATER DECALS OR STICKERS.
- ALL IRRIGATION COMPONENTS AND VALVES MUST HAVE A RECYCLED WATER ID TAG AND A VALVE ID TAG IN A PURPLE VALVE BOX WITH A PURPLE LID. THE PURPLE LID SHALL BE HEAT BRANDED WITH THE VALVE LABEL.

**RECYCLED WATER AND POTABLE WATER SEPARATION CLEARANCE NOTE**  
 THE RECYCLED WATER IRRIGATION MAINLINE IS SHOWN DIAGRAMMATICALLY FOR CLARITY PURPOSES ONLY. THE RECYCLED WATER IRRIGATION MAINLINE MUST:

- BE INSTALLED WITH A 4' (FOOT) MINIMUM HORIZONTAL CLEARANCE FROM ALL POTABLE WATERLINES AND FIRE LINES.
- BE INSTALLED WITH A 1' (FOOT) OF VERTICAL CLEARANCE AND BE LOCATED UNDER ALL POTABLE WATERLINES AND FIRE LINES.
- WHERE THE RECYCLED WATER IRRIGATION MAINLINES MUST BE INSTALLED ABOVE THE POTABLE WATERLINE, A 4" (INCH) MINIMUM VERTICAL CLEARANCE MUST BE MAINTAINED AND THE RECYCLED WATER IRRIGATION MAINLINE MUST BE INSTALLED IN A CONTINUOUS SLEEVE (PVC CLASS 200 PIPE MINIMUM) WHICH EXTENDS A MINIMUM OF 10' (FEET) EACH SIDE OF THE POTABLE WATERLINE OR FIRE LINE.

**VALVE BOX NOTE:**

- CONTRACTOR TO REPLACE EXISTING LIDS OF IRRIGATION VALVE BOXES. VALVE BOX LID SHALL BE PURPLE AND HEAT BRANDED WITH REMOTE CONTROL VALVE STATION AND COMPONENT IDENTIFICATION.
- CONTRACTOR TO ADJUST EXISTING VALVE BOXES TO GRADE PER VALLEY-WIDE STANDARD AND INSTALL RECYCLED WATER ID TAG.
- ALL DAMAGED VALVE BOXES SHALL BE REPLACED WITH NEW PURPLE COLOR VALVE BOXES AND HEAT BRANDED LID AND INSTALL RECYCLED WATER ID TAG WITHIN EACH BOX.

**IRRIGATION SCHEDULING RUN TIME NOTE:**

PROPOSE NEW RECYCLED WATER POC #1 WILL SERVE EXISTING POTABLE WATER POC #A, #B AND #C. COMBINED FLOW FROM ALL POC'S NOT TO EXCEED 200 GPM.

**RECYCLED WATER RETROFIT CONSTRUCTION NOTE**

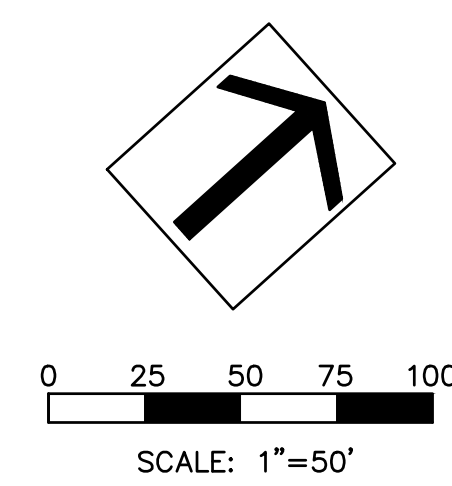
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**RECYCLED WATER IRRIGATION LEGEND:**

SYMBOL	DESCRIPTION
Ⓜ	RECYCLED WATER SIGNAGE
⊕	RECYCLED ISOLATION VALVE
⊗	RECYCLED REMOTE CONTROL VALVE
⊙	RECYCLED QUICK COUPLER VALVE
⚙	RECYCLED IRRIGATION CONTROLLER
⚙	RECYCLED IRRIGATION BOOSTER PUMP
Ⓜ	RECYCLED IRRIGATION WATER METER
Ⓜ	RECYCLED IRRIGATION MASTER VALVE
Ⓜ	RECYCLED IRRIGATION FLOW SENSOR
---	RECYCLED IRRIGATION MAINLINE (PROPOSE)
---	RECYCLED IRRIGATION MAINLINE (EXISTING)

**POTABLE WATER LEGEND:**

SYMBOL	DESCRIPTION
Ⓐ	POTABLE WATER METER
Ⓑ	POTABLE BACKFLOW PREVENTER



**DIG ALERT**

Call: TOLL FREE  
 1-800-227-2600  
 OR  
 811

TWO FULL WORKING DAYS BEFORE YOU DIG

BENCH MARK DESCRIPTION: \_\_\_\_\_

LOCATION: \_\_\_\_\_

VERTICAL DATUM: \_\_\_\_\_

HORIZONTAL DATUM: \_\_\_\_\_

ACCEPTED BY: \_\_\_\_\_

VALLEY-WIDE RECREATION AND PARK DISTRICT

DEPARTMENT	ACCEPTANCE	DATE
	<i>[Signature]</i>	6/17/19

DATE: 12/05/2016

DRAWN BY: HNCC

CHECKED BY: ENGINEER

REVISIONS			
DATE	BY	MARK	DESCRIPTION

ACCEPTED BY: \_\_\_\_\_

EASTERN MUNICIPAL WATER DISTRICT

SENIOR CIVIL ENGINEER \_\_\_\_\_ DATE \_\_\_\_\_

DEPARTMENT	ACCEPTANCE	DATE
NEW BUSINESS P.C.		
OPERATIONS		
ENGINEERING		
POS ENGINEER		

**BENTON CREEK CHANNEL**  
 WINCHESTER, CA.

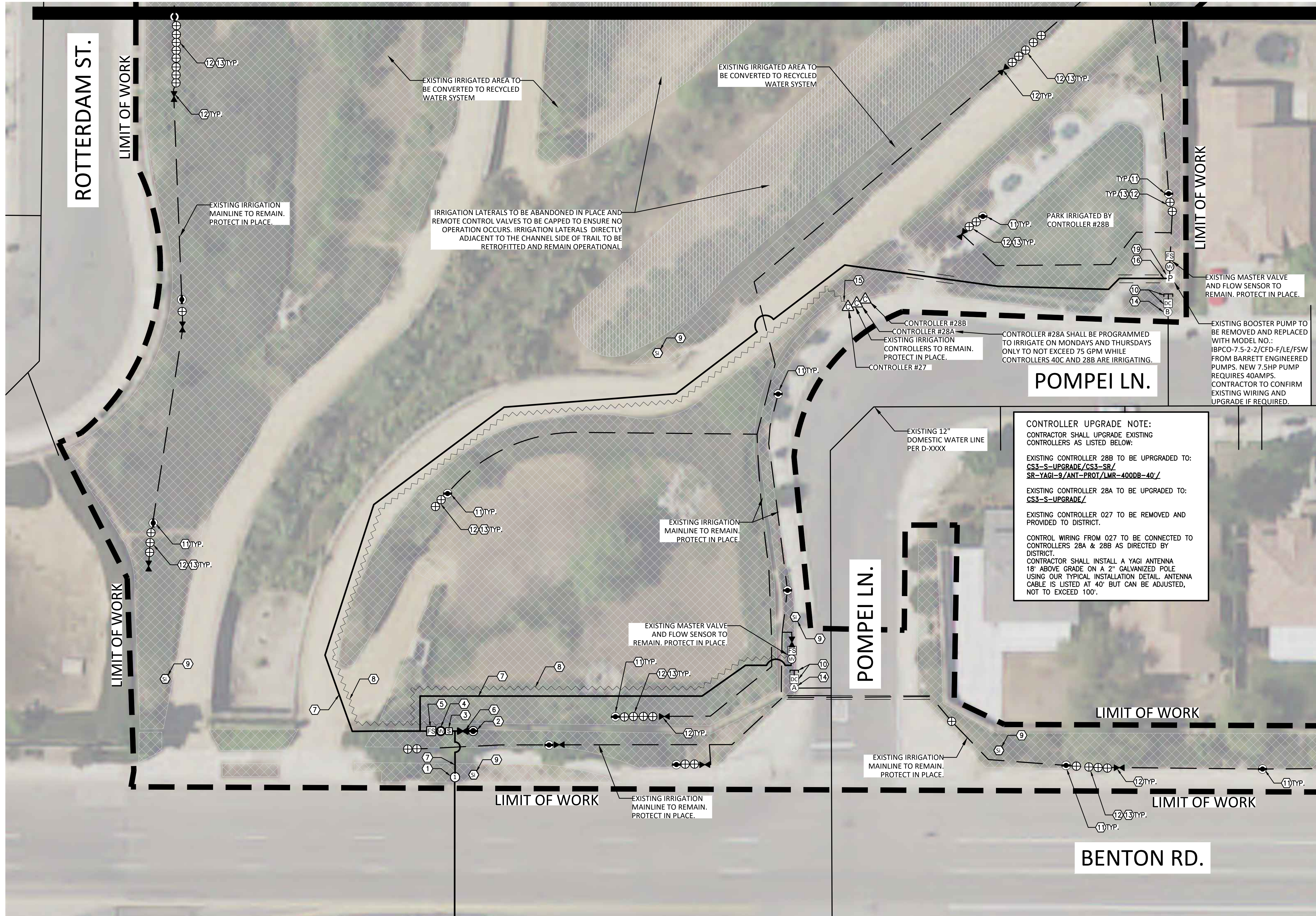
**RECYCLED WATER IRRIGATION RETROFIT IMPROVEMENTS**

**INDEX MAP**

WO: 19229	PCWO: _____
DOPP: _____	RWUJ: _____
COORD. _____	RWUP: _____
I.D. _____	SHT. 2 OF 12
S.A. _____	D- _____



MATCHLINE SEE SHEET 5



**CONSTRUCTION LEGEND**

- | SYMBOL | DESCRIPTION  |
|--------|--|
| ①      | INSTALL NEW 3" RECYCLED WATER METER PER EMWD STANDARD PB-13. WATER METER WILL BE PROVIDED BY EMWD.   |
| ②      | PROVIDE AND INSTALL NELSON 7645 (1") QUICK COUPLER VALVE WITH ACME THREAD AND PURPLE LOCKING COVER - INSTALL PER DETAIL.   |
| ③      | PROVIDE AND INSTALL YARDNEY STRAINER MCS3-1. SIZE: 3" WITH MAX. FLOW 225 GPM. INSTALL ABOVE GROUND WITH STAINLESS STEEL ENCLOSURE PER MANUFACTURER STANDARD AND DETAIL.  |
| ④      | PROVIDE AND INSTALL GRISWOLD 2230 EPOXY COATED NORMALLY CLOSED MASTER VALVE (SIZE: 3") PER DETAIL. RUN WIRES TO EXISTING IRRIGATION CONTROLLER LOCATION.   |
| ⑤      | PROVIDE AND INSTALL CALSENSE FLOW SENSOR FM-3 (SIZE: 3"). INSTALL PER DETAIL. RUN WIRES TO EXISTING IRRIGATION CONTROLLER LOCATION.  |
| ⑥      | PROVIDE AND INSTALL 1" BALL VALVE INSIDE ROUND PURPLE VALVE BOX.   |
| ⑦      | PROVIDE AND INSTALL 4" CLASS 200 PVC PURPLE RECYCLED WATER IRRIGATION MAINLINE WITH DUCTILE IRON FITTINGS (36" DEEP MIN.) AND CONNECT TO EXISTING IRRIGATION POC AS SHOWN ON PLAN.   |
| ⑧      | PROVIDE AND INSTALL 14GA. VALVE WIRES FOR FLOW SENSOR AND MASTER VALVE INSIDE A 1.5" PVC SCH-40 CONDUIT. CONNECT TO EXISTING IRRIGATION CONTROLLER.  |
| ⑨      | PROVIDE AND INSTALL RECYCLED WATER SIGNAGE PER EMWD STANDARD. EXACT LOCATION WILL BE DETERMINED BY EMWD INSPECTOR.   |
| ⑩      | CUT AND CAP EXISTING IRRIGATION MAINLINE-PROVIDE A MINIMUM OF 4FT. SEPARATION AND REMOVE UNUSED PIPE. REMOVE EXISTING BACKFLOW PREVENTER AND EQUIPMENT.  |
| ⑪      | REPLACE EXISTING QUICK COUPLER WITH NELSON 7645 (1") QUICK COUPLER VALVE WITH ACME THREAD AND PURPLE LOCKING COVER - INSTALL PER DETAIL.   |
| ⑫      | REPLACE ALL EXISTING IRRIGATION VALVE BOX LIDS WITH PURPLE RECYCLED WATER AND LABEL ACCORDINGLY.   |
| ⑬      | PROVIDE PURPLE CAP FOR RECYCLED WATER IDENTIFICATION TO ALL EXISTING OVER HEAD IRRIGATION ROTOR / SPRAY SYSTEM.  |
| ⑭      | EXISTING DOMESTIC IRRIGATION WATER METER TO BE REMOVED (BY OTHERS)   |
| ⑮      | CONNECT PROPOSE NEW MASTER VALVE AND FLOW SENSOR WIRES TO EXISTING CONTROLLER. ADJUST EXISTING CONTROLLER FOR HIGH-FLOW SHUT-OFF SETTING. CONNECT TO CONTROLLER #027.  |
| ⑯      | CONNECT NEW PROPOSED RECYCLED MAINLINE TO EXISTING BOOSTER PUMP  |
| ⑰      | REMOVE EXISTING BOOSTER PUMP AND POC EQUIPMENT. REMOVE UNUSED PIPE. RETURN ALL EQUIPMENT TO OWNER REPRESENTATIVE.  |
| ⑱      | PROVIDE AND INSTALL 3" CLASS 315 PVC PURPLE RECYCLED WATER IRRIGATION MAINLINE WITH DUCTILE IRON FITTINGS (24" DEEP MIN.) AND CONNECT TO EXISTING IRRIGATION POC AS SHOWN ON PLAN. DUCTILE PIPE-TO-PIPE FITTINGS REQUIRED AT ALL PIPE COUPLINGS. |
| ⑲      | EXISTING BOOSTER PUMP TO BE REMOVED AND REPLACED WITH MODEL NO.: IBPCO-7.5-2-2/CFD-F/LE/FSW FROM BARRETT ENGINEERED PUMPS. NEW 7.5HP PUMP REQUIRES 40AMPS. CONTRACTOR TO CONFIRM EXISTING WIRING AND UPGRADE IF REQUIRED.                        |

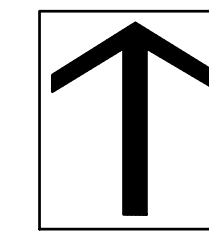
**CONTROLLER UPGRADE NOTE:**  
 CONTRACTOR SHALL UPGRADE EXISTING CONTROLLERS AS LISTED BELOW:  
 EXISTING CONTROLLER 28B TO BE UPGRADED TO:  
 CS3-S-UPGRADE/CS3-SR/  
 SR-YAGI-9/ANT-PROT/LMR-400DB-40/  
 EXISTING CONTROLLER 28A TO BE UPGRADED TO:  
 CS3-S-UPGRADE/  
 EXISTING CONTROLLER 027 TO BE REMOVED AND PROVIDED TO DISTRICT.  
 CONTROL WIRING FROM 027 TO BE CONNECTED TO CONTROLLERS 28A & 28B AS DIRECTED BY DISTRICT.  
 CONTRACTOR SHALL INSTALL A YAGI ANTENNA 18" ABOVE GRADE ON A 2" GALVANIZED POLE USING OUR TYPICAL INSTALLATION DETAIL. ANTENNA CABLE IS LISTED AT 40' BUT CAN BE ADJUSTED, NOT TO EXCEED 100'.

**RECYCLED WATER IRRIGATION LEGEND:**

SYMBOL	DESCRIPTION
Ⓢ	RECYCLED WATER SIGNAGE
⊕	RECYCLED ISOLATION VALVE
⊕	RECYCLED REMOTE CONTROL VALVE
⊕	RECYCLED QUICK COUPLER VALVE
⊕	RECYCLED IRRIGATION CONTROLLER
P	RECYCLED IRRIGATION BOOSTER PUMP
Ⓢ	RECYCLED IRRIGATION WATER METER
Ⓢ	RECYCLED IRRIGATION STRAINER
Ⓢ	RECYCLED IRRIGATION MASTER VALVE
FS	RECYCLED IRRIGATION FLOW SENSOR
---	RECYCLED IRRIGATION MAINLINE (PROPOSE)
---	RECYCLED IRRIGATION MAINLINE (EXISTING)

**POTABLE WATER LEGEND:**

SYMBOL	DESCRIPTION
A	POTABLE WATER METER
B	POTABLE BACKFLOW PREVENTER



0 10 20 30 40  
 SCALE: 1"=20'

**INSTALLATION NOTES**

THE MATERIALS AND THE INSTALLATION OF THE IRRIGATION SYSTEM SHOWN ON THIS PLAN SHALL MEET THE LATEST EMWD STANDARDS AND SPECIFICATIONS AT COMMENCEMENT OF WORK. IF CONTRACTOR NOTICES ANY INCONSISTENCIES WITH THE LATEST IRRIGATION DESIGN STANDARDS, ONE SHALL IMMEDIATELY NOTIFY ALL PARTIES.  
 NO HOSE BIBS WILL BE ALLOWED FOR INSTALLATION ON SYSTEMS USING RECYCLED WATER.

**IRRIGATION DRAWING NOTE:**

THIS RETROFIT PLANS ARE BASED ON IRRIGATION PLANS NOT PREPARED BY EMWD / EMWD REPRESENTATIVE.  
 EMWD AND OR EMWD REPRESENTATIVES ARE NOT RESPONSIBLE FOR THE ACCURACY OF THE INFORMATION PROVIDED HEREIN. IT ULTIMATELY THE RESPONSIBILITY OF THE CONTRACTOR TO FAMILIARIZE THEMSELVES WITH ALL EXISTING CONDITIONS, EQUIPMENT, UTILITIES AND REQUIREMENTS.

**POTABLE AND RECYCLED WATER SEPARATION NOTE:**

RECYCLED MAINLINE (CONSTANT PRESSURE) SHOWN DIAGRAMMATICALLY FOR CLARITY ONLY. ACTUAL LOCATION MUST PROVIDE A MINIMUM FOUR (4) FEET HORIZONTAL CLEARANCE BETWEEN ALL POTABLE AND CONSTANT PRESSURE RECYCLED WATERLINES. RECYCLED WATER MAINLINE SHOULD BE INSTALLED UNDER POTABLE WATERLINES AND MAINTAIN ONE (1) FOOT OF VERTICAL CLEARANCE. WHERE THE RECYCLED WATER CONSTANT PRESSURE LINE MUST BE INSTALLED ABOVE THE POTABLE WATERLINE, A FOUR (4) INCH MINIMUM VERTICAL CLEARANCE MUST BE MAINTAINED AND THE RECYCLED WATER PRESSURE LINE MUST BE INSTALLED IN A CONTINUOUS PVC CLASS 200 PIPE SLEEVE WHICH EXTENDS A MINIMUM OF TEN (10) FEET EACH SIDE OF THE POTABLE WATERLINE.

**COLOR CODING**

SPRINKLERS, ROTOR HEADS AND OTHER TYPES OF DISPERSION HEADS SHALL HAVE THE EXPOSED SURFACE COLORED PURPLE. THE EXPOSED SURFACE SHALL BE COLORED THROUGH THE USE OF INTEGRALLY MOLDED PURPLE PLASTIC OR PERMANENTLY ATTACHED PURPLE PLASTIC RING OR DISC. VALVE BOX LIDS SHALL BE PURPLE PER INDUSTRY STANDARDS. THE LIDS SHALL HAVE THE WARNING "RECYCLED: DO NOT DRINK" IN ENGLISH AND SPANISH AND THE INTERNATIONAL "DO NOT DRINK" ON ONE SIDE AND "PELIGRO: AGUA IMPURA-NO BEBER" ON THE OPPOSITE SIDE. ALL SHRUB HEADS SHALL HAVE PURPLE CAPS.  
 ROTOR HEADS MAYBE PAINTED PURPLE WHEN REPLACEMENT CAPS OR COLLARS ARE NOT AVAILABLE. CONTRACTOR TO SUBMIT QUANTITIES, MANUFACTURER AND MODEL NUMBER OF THE HEAD TO EMWD FOR APPROVAL.

**DIG ALERT**  
 Call: TOLL FREE 1-800-227-2600 OR 811  
 TWO FULL WORKING DAYS BEFORE YOU DIG

**BENCH MARK**  
 DESCRIPTION: \_\_\_\_\_  
 LOCATION: \_\_\_\_\_  
 VERTICAL DATUM: \_\_\_\_\_  
 HORIZONTAL DATUM: \_\_\_\_\_

ACCEPTED BY: VALLEY-WIDE RECREATION AND PARK DISTRICT

DEPARTMENT	ACCEPTANCE	DATE
	<i>[Signature]</i>	6/17/19

ACCEPTED BY: EASTERN MUNICIPAL WATER DISTRICT

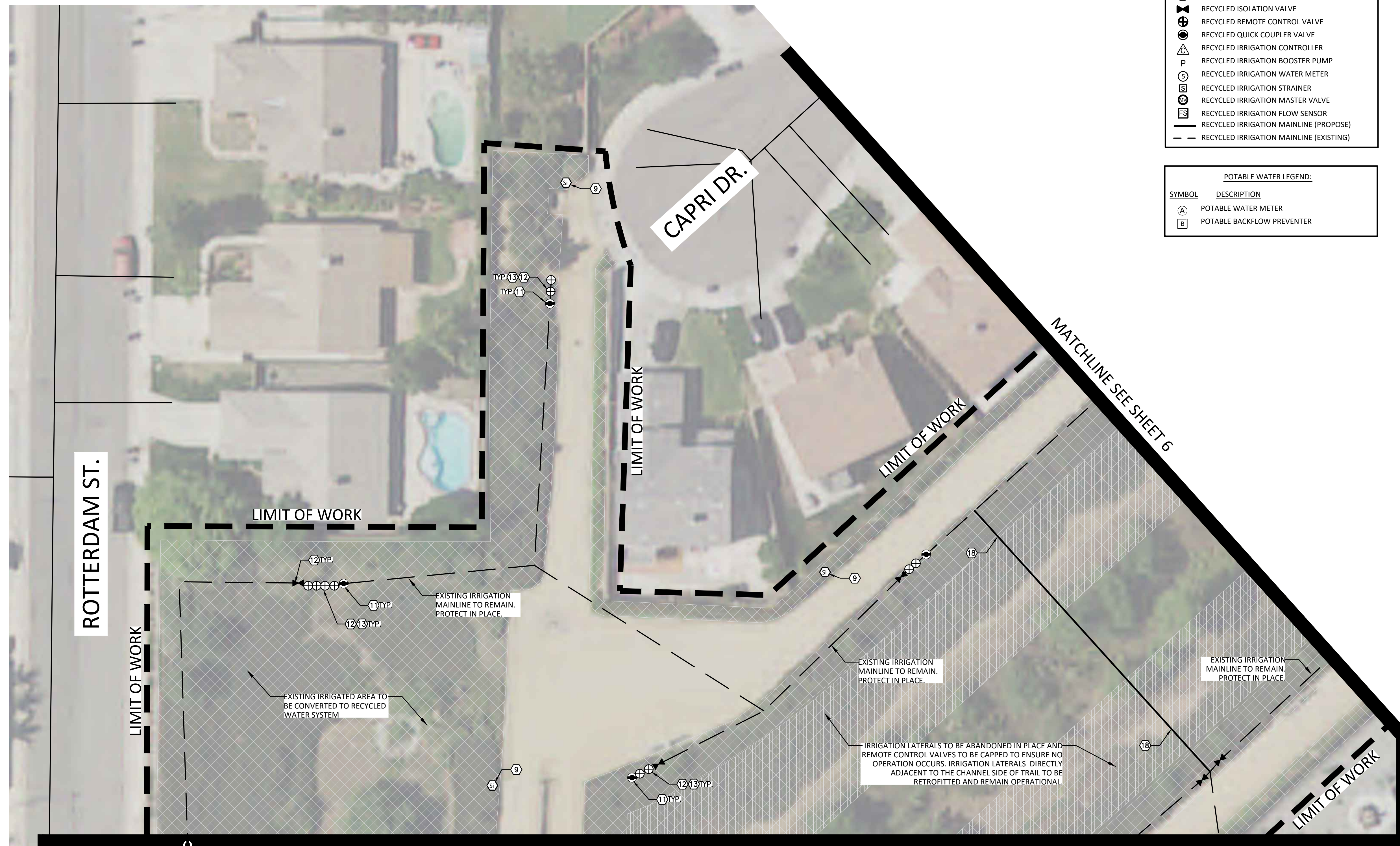
DATE	BY	MARK
12/05/2016	HNCC	
	ENGINEER	

DEPARTMENT	ACCEPTANCE	DATE
NEW BUSINESS P.C.		
OPERATIONS		
ENGINEERING		
POS ENGINEER		

**BENTON CREEK CHANNEL**  
 WINCHESTER, CA.  
 RECYCLED WATER IRRIGATION RETROFIT IMPROVEMENTS  
**IRRIGATION PLAN**

WO: 19229  
 PCWO: \_\_\_\_\_  
 DOPP: RWUJ: \_\_\_\_\_  
 COORD: RWUP: \_\_\_\_\_  
 I.D. SHT. 4 OF 12  
 S.A. D-





**RECYCLED WATER IRRIGATION LEGEND:**

SYMBOL	DESCRIPTION
⊕	RECYCLED WATER SIGNAGE
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⊕	RECYCLED IRRIGATION STRAINER
⊕	RECYCLED IRRIGATION MASTER VALVE
⊕	RECYCLED IRRIGATION FLOW SENSOR
---	RECYCLED IRRIGATION MAINLINE (PROPOSE)
---	RECYCLED IRRIGATION MAINLINE (EXISTING)

**POTABLE WATER LEGEND:**

SYMBOL	DESCRIPTION
A	POTABLE WATER METER
B	POTABLE BACKFLOW PREVENTER

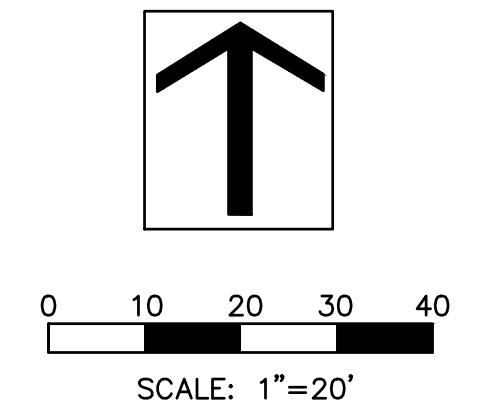
- CONSTRUCTION LEGEND**
- | SYMBOL | DESCRIPTION  |
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| ④      | PROVIDE AND INSTALL GRISWOLD 2230 EPOXY COATED NORMALLY CLOSED MASTER VALVE (SIZE: 3") PER DETAIL. RUN WIRES TO EXISTING IRRIGATION CONTROLLER LOCATION.   |
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| ⑩      | CUT AND CAP EXISTING IRRIGATION MAINLINE-PROVIDE A MINIMUM OF 4FT. SEPARATION AND REMOVE UNUSED PIPE. REMOVE EXISTING BACKFLOW PREVENTER AND EQUIPMENT   |
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| ⑬      | PROVIDE PURPLE CAP FOR RECYCLED WATER IDENTIFICATION TO ALL EXISTING OVER HEAD IRRIGATION ROTOR / SPRAY SYSTEM.  |
| ⑭      | EXISTING DOMESTIC IRRIGATION WATER METER TO BE REMOVED (BY OTHERS)   |
| ⑮      | CONNECT PROPOSE NEW MASTER VALVE AND FLOW SENSOR WIRES TO EXISTING CONTROLLER. ADJUST EXISTING CONTROLLER FOR HIGH-FLOW SHUT-OFF SETTING. CONNECT TO CONTROLLER #027.  |
| ⑯      | CONNECT NEW PROPOSED RECYCLED MAINLINE TO EXISTING BOOSTER PUMP  |
| ⑰      | REMOVE EXISTING BOOSTER PUMP AND POC EQUIPMENT. REMOVE UNUSED PIPE. RETURN ALL EQUIPMENT TO OWNER REPRESENTATIVE.  |
| ⑱      | PROVIDE AND INSTALL 3" CLASS 315 PVC PURPLE RECYCLED WATER IRRIGATION MAINLINE WITH DUCTILE IRON FITTINGS (24" DEEP MIN.) AND CONNECT TO EXISTING IRRIGATION POC AS SHOWN ON PLAN. DUCTILE PIPE-TO-PIPE FITTINGS REQUIRED AT ALL PIPE COUPLINGS. |
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**INSTALLATION NOTES**  
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**IRRIGATION DRAWING NOTE:**  
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**POTABLE AND RECYCLED WATER SEPARATION NOTE:**  
 RECYCLED MAINLINE (CONSTANT PRESSURE) SHOWN DIAGRAMMATICALLY FOR CLARITY ONLY. ACTUAL LOCATION MUST PROVIDE A MINIMUM FOUR (4) FEET HORIZONTAL CLEARANCE BETWEEN ALL POTABLE AND CONSTANT PRESSURE RECYCLED WATER LINES. RECYCLED WATER MAINLINE SHOULD BE INSTALLED UNDER POTABLE WATER LINES AND MAINTAIN ONE (1) FOOT OF VERTICAL CLEARANCE. WHERE THE RECYCLED WATER CONSTANT PRESSURE LINE MUST BE INSTALLED ABOVE THE POTABLE WATERLINE, A FOUR (4) INCH MINIMUM VERTICAL CLEARANCE MUST BE MAINTAINED AND THE RECYCLED WATER PRESSURE LINE MUST BE INSTALLED IN A CONTINUOUS PVC CLASS 200 PIPE SLEEVE WHICH EXTENDS A MINIMUM OF TEN (10) FEET EACH SIDE OF THE POTABLE WATERLINE.

**COLOR CODING**  
 SPRINKLERS, ROTOR HEADS AND OTHER TYPES OF DISPERSION HEADS SHALL HAVE THE EXPOSED SURFACE COLORED PURPLE. THE EXPOSED SURFACE SHALL BE COLORED THROUGH THE USE OF INTEGRALLY MOLDED PURPLE PLASTIC OR PERMANENTLY ATTACHED PURPLE PLASTIC RING OR DISC. VALVE BOX LIDS SHALL BE PURPLE PER INDUSTRY STANDARDS. THE LIDS SHALL HAVE THE WARNING "RECYCLED: DO NOT DRINK" IN ENGLISH AND SPANISH AND THE INTERNATIONAL "DO NOT DRINK" ON ONE SIDE AND "PELIGRO: AGUA IMPURA-NO BEBER" ON THE OPPOSITE SIDE. ALL SHRUB HEADS SHALL HAVE PURPLE CAPS.  
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MATCHLINE SEE SHEET 4

MATCHLINE SEE SHEET 6

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 TWO FULL WORKING DAYS BEFORE YOU DIG

**BENCH MARK**  
 DESCRIPTION: \_\_\_\_\_  
 LOCATION: \_\_\_\_\_  
 VERTICAL DATUM: \_\_\_\_\_  
 HORIZONTAL DATUM: \_\_\_\_\_

ACCEPTED BY: VALLEY-WIDE RECREATION AND PARK DISTRICT

DEPARTMENT	ACCEPTANCE	DATE
	<i>[Signature]</i>	6/17/19

ACCEPTED BY: EASTERN MUNICIPAL WATER DISTRICT

DATE	BY	MARK
12/05/2016	HNCC	

DRAWN BY: HNCC  
 CHECKED BY: ENGINEER

DEPARTMENT	ACCEPTANCE	DATE
NEW BUSINESS P.C.		
OPERATIONS		
ENGINEERING		
POS ENGINEER		

**BENTON CREEK CHANNEL**  
 WINCHESTER, CA.  
 RECYCLED WATER IRRIGATION RETROFIT IMPROVEMENTS  
**IRRIGATION PLAN**

WO: 19229	PCWO:
DOPP:	RWUE:
COORD.	RWUP:
I.D.	SHT. 5 OF 12
S.A.	D-



**CONSTRUCTION LEGEND**

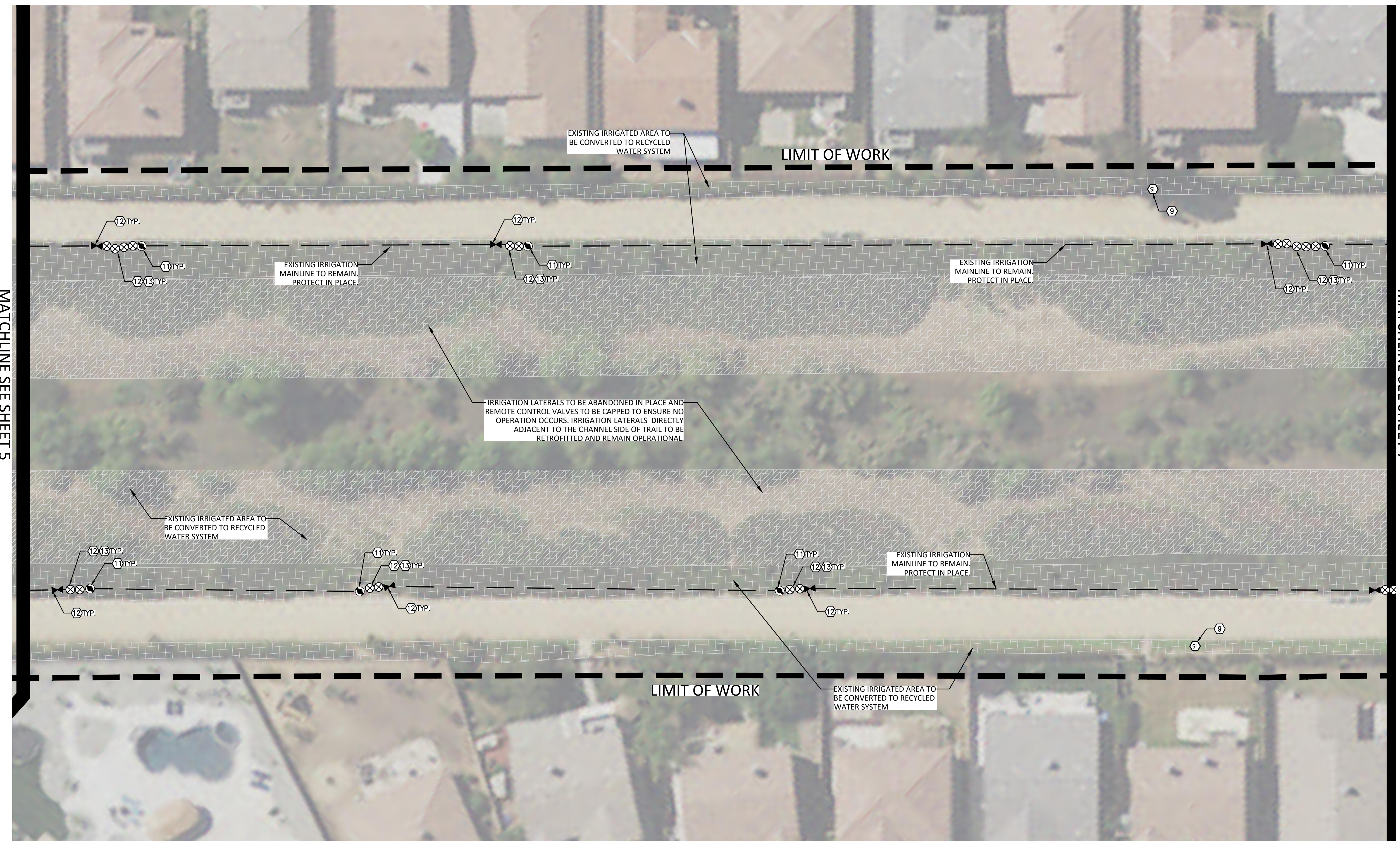
- | SYMBOL | DESCRIPTION  |
|--------|--|
| ①      | INSTALL NEW 3" RECYCLED WATER METER PER EMWD STANDARD PB-13. WATER METER WILL BE PROVIDED BY EMWD.   |
| ②      | PROVIDE AND INSTALL NELSON 7645 (1") QUICK COUPLER VALVE WITH ACME THREAD AND PURPLE LOCKING COVER - INSTALL PER DETAIL  |
| ③      | PROVIDE AND INSTALL YARDNEY STRAINER MCS3-1. SIZE: 3" WITH MAX. FLOW 225 GPM. INSTALL ABOVE GROUND WITH STAINLESS STEEL ENCLOSURE PER MANUFACTURER STANDARD AND DETAIL.  |
| ④      | PROVIDE AND INSTALL GRISWOLD 2230 EPOXY COATED NORMALLY CLOSED MASTER VALVE (SIZE: 3") PER DETAIL. RUN WIRES TO EXISTING IRRIGATION CONTROLLER LOCATION.   |
| ⑤      | PROVIDE AND INSTALL CALSENSE FLOW SENSOR FM-3 (SIZE: 3"). INSTALL PER DETAIL. RUN WIRES TO EXISTING IRRIGATION CONTROLLER LOCATION.  |
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| ⑦      | PROVIDE AND INSTALL 4" CLASS 200 PVC PURPLE RECYCLED WATER IRRIGATION MAINLINE WITH DUCTILE IRON FITTINGS (36" DEEP MIN.) AND CONNECT TO EXISTING IRRIGATION POC AS SHOWN ON PLAN.   |
| ⑧      | PROVIDE AND INSTALL 14GA. VALVE WIRES FOR FLOW SENSOR AND MASTER VALVE INSIDE A 1.5" PVC SCH 40 CONDUIT. CONNECT TO EXISTING IRRIGATION CONTROLLER.  |
| ⑨      | PROVIDE AND INSTALL RECYCLED WATER SIGNAGE PER EMWD STANDARD. EXACT LOCATION WILL BE DETERMINED BY EMWD INSPECTOR.   |
| ⑩      | CUT AND CAP EXISTING IRRIGATION MAINLINE-PROVIDE A MINIMUM OF 4FT. SEPARATION AND REMOVE UNUSED PIPE. REMOVE EXISTING BACKFLOW PREVENTER AND EQUIPMENT   |
| ⑪      | REPLACE EXISTING QUICK COUPLER WITH NELSON 7645 (1") QUICK COUPLER VALVE WITH ACME THREAD AND PURPLE LOCKING COVER - INSTALL PER DETAIL  |
| ⑫      | REPLACE ALL EXISTING IRRIGATION VALVE BOX LIDS WITH PURPLE RECYCLED WATER AND LABEL ACCORDINGLY.   |
| ⑬      | PROVIDE PURPLE CAP FOR RECYCLED WATER IDENTIFICATION TO ALL EXISTING OVER HEAD IRRIGATION ROTOR / SPRAY SYSTEM.  |
| ⑭      | EXISTING DOMESTIC IRRIGATION WATER METER TO BE REMOVED (BY OTHERS)   |
| ⑮      | CONNECT PROPOSED NEW MASTER VALVE AND FLOW SENSOR WIRES TO EXISTING CONTROLLER. ADJUST EXISTING CONTROLLER FOR HIGH-FLOW SHUT-OFF SETTING. CONNECT TO CONTROLLER #027.   |
| ⑯      | CONNECT NEW PROPOSED RECYCLED MAINLINE TO EXISTING BOOSTER PUMP  |
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| ⑲      | EXISTING BOOSTER PUMP TO BE REMOVED AND REPLACED WITH MODEL NO.: IBPCO-7.5-2-2/CFD-F/LE/FSW FROM BARRETT ENGINEERED PUMPS. NEW 7.5HP PUMP REQUIRES 40AMPS. CONTRACTOR TO CONFIRM EXISTING WIRING AND UPGRADE IF REQUIRED.                        |

**RECYCLED WATER IRRIGATION LEGEND:**

SYMBOL	DESCRIPTION
Ⓢ	RECYCLED WATER SIGNAGE
⊕	RECYCLED ISOLATION VALVE
⊗	RECYCLED REMOTE CONTROL VALVE
⊙	RECYCLED QUICK COUPLER VALVE
⊕	RECYCLED IRRIGATION CONTROLLER
P	RECYCLED IRRIGATION BOOSTER PUMP
Ⓢ	RECYCLED IRRIGATION WATER METER
Ⓢ	RECYCLED IRRIGATION STRAINER
Ⓢ	RECYCLED IRRIGATION MASTER VALVE
Ⓢ	RECYCLED IRRIGATION FLOW SENSOR
—	RECYCLED IRRIGATION MAINLINE (PROPOSE)
- -	RECYCLED IRRIGATION MAINLINE (EXISTING)

**POTABLE WATER LEGEND:**

SYMBOL	DESCRIPTION
Ⓐ	POTABLE WATER METER
Ⓑ	POTABLE BACKFLOW PREVENTER



**INSTALLATION NOTES**

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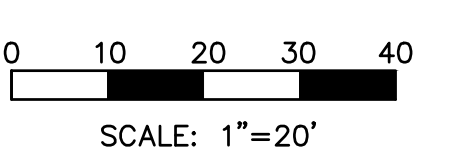
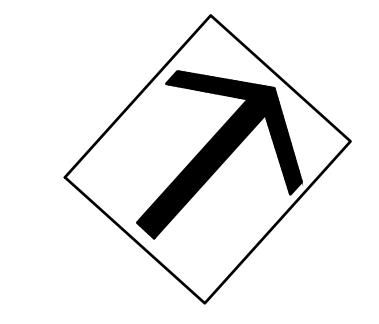
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HORIZONTAL DATUM: \_\_\_\_\_

ACCEPTED BY: \_\_\_\_\_

VALLEY-WIDE RECREATION AND PARK DISTRICT

DEPARTMENT	ACCEPTANCE	DATE
	<i>[Signature]</i>	6/17/19

**REVISIONS**

DATE	BY	MARK	DESCRIPTION
12/05/2016	HNCC		
	ENGINEER		

ACCEPTED BY: \_\_\_\_\_

EASTERN MUNICIPAL WATER DISTRICT

SENIOR CIVIL ENGINEER \_\_\_\_\_ DATE \_\_\_\_\_

DEPARTMENT	ACCEPTANCE	DATE
NEW BUSINESS P.C.		
OPERATIONS		
ENGINEERING		
POS ENGINEER		

**BENTON CREEK CHANNEL**  
WINCHESTER, CA.

**RECYCLED WATER IRRIGATION RETROFIT IMPROVEMENTS**

**IRRIGATION PLAN**

WO: 19229

PCWO: \_\_\_\_\_

DOPP: RWUE: \_\_\_\_\_

COORD. RWUP: \_\_\_\_\_

I.D. SHT. 6 OF 12

S.A. D-



**CONSTRUCTION LEGEND**

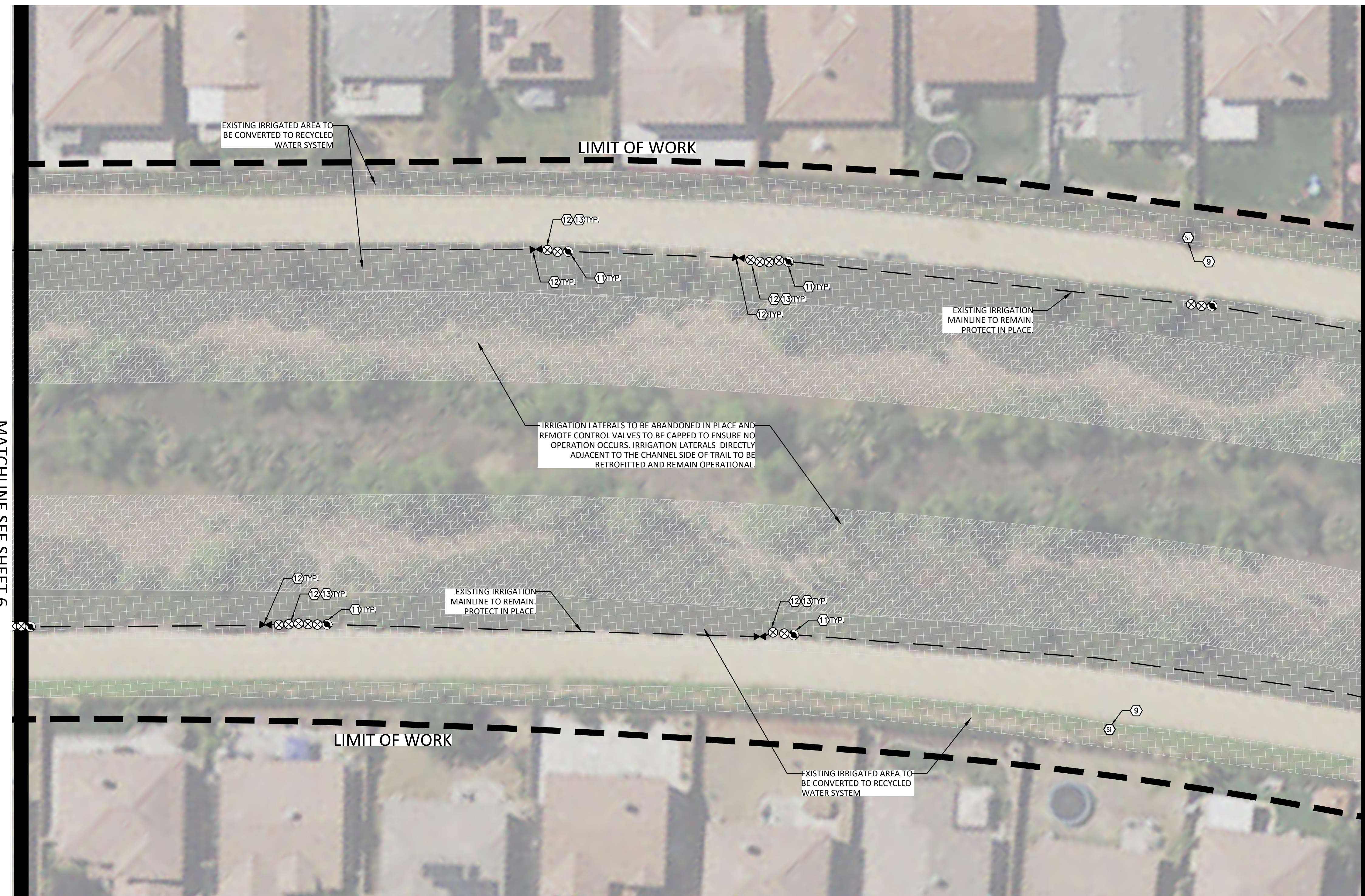
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**RECYCLED WATER IRRIGATION LEGEND:**

SYMBOL	DESCRIPTION
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⊕	RECYCLED IRRIGATION CONTROLLER
P	RECYCLED IRRIGATION BOOSTER PUMP
⑤	RECYCLED IRRIGATION WATER METER
⊕	RECYCLED IRRIGATION STRAINER
⊕	RECYCLED IRRIGATION MASTER VALVE
FS	RECYCLED IRRIGATION FLOW SENSOR
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SYMBOL	DESCRIPTION
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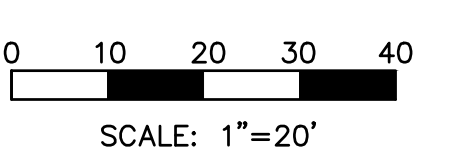
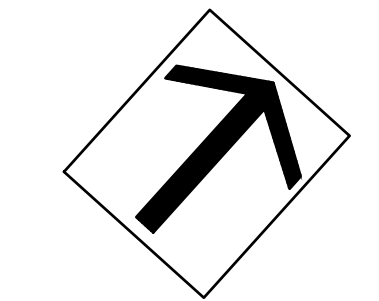
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	<i>[Signature]</i>	6/17/19

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POS ENGINEER		

**BENTON CREEK CHANNEL**  
WINCHESTER, CA.

**RECYCLED WATER IRRIGATION RETROFIT IMPROVEMENTS**

**IRRIGATION PLAN**

WO: 19229

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I.D. \_\_\_\_\_ SHT. 7 OF 12

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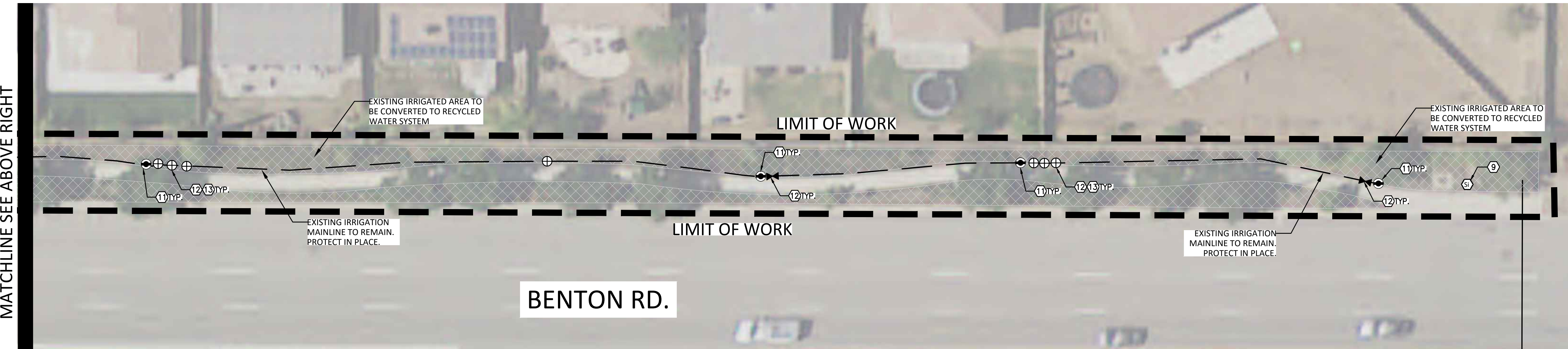
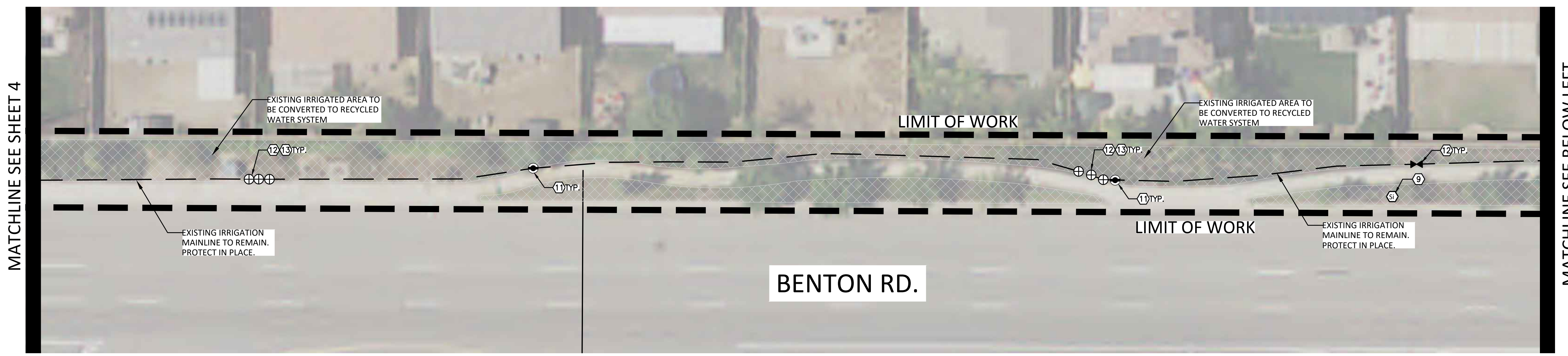
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P	RECYCLED IRRIGATION BOOSTER PUMP
⑤	RECYCLED IRRIGATION WATER METER
⊕	RECYCLED IRRIGATION STRAINER
⊕	RECYCLED IRRIGATION MASTER VALVE
FS	RECYCLED IRRIGATION FLOW SENSOR
---	RECYCLED IRRIGATION MAINLINE (PROPOSE)
---	RECYCLED IRRIGATION MAINLINE (EXISTING)

**POTABLE WATER LEGEND:**

SYMBOL	DESCRIPTION
A	POTABLE WATER METER
B	POTABLE BACKFLOW PREVENTER



**INSTALLATION NOTES**

THE MATERIALS AND THE INSTALLATION OF THE IRRIGATION SYSTEM SHOWN ON THIS PLAN SHALL MEET THE LATEST EMWD STANDARDS AND SPECIFICATIONS AT COMMENCEMENT OF WORK. IF CONTRACTOR NOTICES ANY INCONSISTENCIES WITH THE LATEST IRRIGATION DESIGN STANDARDS, ONE SHALL IMMEDIATELY NOTIFY ALL PARTIES.  
NO HOSE BIBS WILL BE ALLOWED FOR INSTALLATION ON SYSTEMS USING RECYCLED WATER.

**IRRIGATION DRAWING NOTE:**

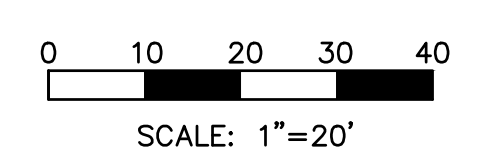
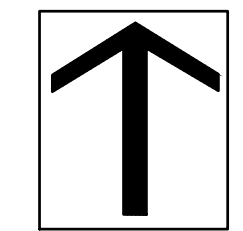
THIS RETROFIT PLANS ARE BASED ON IRRIGATION PLANS NOT PREPARED BY EMWD / EMWD REPRESENTATIVE.  
EMWD AND OR EMWD REPRESENTATIVES ARE NOT RESPONSIBLE FOR THE ACCURACY OF THE INFORMATION PROVIDED HEREIN. IT ULTIMATELY THE RESPONSIBILITY OF THE CONTRACTOR TO FAMILIARIZE THEMSELVES WITH ALL EXISTING CONDITIONS, EQUIPMENT, UTILITIES AND REQUIREMENTS.

**POTABLE AND RECYCLED WATER SEPARATION NOTE:**

RECYCLED MAINLINE (CONSTANT PRESSURE) SHOWN DIAGRAMMATICALLY FOR CLARITY ONLY. ACTUAL LOCATION MUST PROVIDE A MINIMUM FOUR (4) FEET HORIZONTAL CLEARANCE BETWEEN ALL POTABLE AND CONSTANT PRESSURE RECYCLED WATERLINES. RECYCLED WATER MAINLINE SHOULD BE INSTALLED UNDER POTABLE WATERLINES AND MAINTAIN ONE (1) FOOT OF VERTICAL CLEARANCE. WHERE THE RECYCLED WATER CONSTANT PRESSURE LINE MUST BE INSTALLED ABOVE THE POTABLE WATERLINE, A FOUR (4) INCH MINIMUM VERTICAL CLEARANCE MUST BE MAINTAINED AND THE RECYCLED WATER PRESSURE LINE MUST BE INSTALLED IN A CONTINUOUS PVC CLASS 200 PIPE SLEEVE WHICH EXTENDS A MINIMUM OF TEN (10) FEET EACH SIDE OF THE POTABLE WATERLINE.

**COLOR CODING**

SPRINKLERS, ROTOR HEADS AND OTHER TYPES OF DISPERSION HEADS SHALL HAVE THE EXPOSED SURFACE COLORED PURPLE. THE EXPOSED SURFACE SHALL BE COLORED THROUGH THE USE OF INTEGRALLY MOLDED PURPLE PLASTIC OR PERMANENTLY ATTACHED PURPLE PLASTIC RING OR DISC. VALVE BOX LIDS SHALL BE PURPLE PER INDUSTRY STANDARDS. THE LIDS SHALL HAVE THE WARNING "RECYCLED: DO NOT DRINK" IN ENGLISH AND SPANISH AND THE INTERNATIONAL "DO NOT DRINK" ON ONE SIDE AND "PELIGRO: AGUA IMPURA-NO BEBER" ON THE OPPOSITE SIDE. ALL SHRUB HEADS SHALL HAVE PURPLE CAPS.  
ROTOR HEADS MAYBE PAINTED PURPLE WHEN REPLACEMENT CAPS OR COLLARS ARE NOT AVAILABLE. CONTRACTOR TO SUBMIT QUANTITIES, MANUFACTURER AND MODEL NUMBER OF THE HEAD TO EMWD FOR APPROVAL.



**DIG ALERT**

Call: TOLL FREE  
1-800-227-2600  
OR  
811

**BENCH MARK**

DESCRIPTION: \_\_\_\_\_

LOCATION: \_\_\_\_\_

VERTICAL DATUM: \_\_\_\_\_

HORIZONTAL DATUM: \_\_\_\_\_

ACCEPTED BY: \_\_\_\_\_

VALLEY-WIDE RECREATION AND PARK DISTRICT

DEPARTMENT	ACCEPTANCE	DATE
	<i>[Signature]</i>	6/17/19

ACCEPTED BY: \_\_\_\_\_

EASTERN MUNICIPAL WATER DISTRICT

DATE	BY	MARK

DEPARTMENT	ACCEPTANCE	DATE
NEW BUSINESS P.C.		
OPERATIONS		
ENGINEERING		
POS ENGINEER		

ACCEPTED BY: \_\_\_\_\_

EASTERN MUNICIPAL WATER DISTRICT

DEPARTMENT	ACCEPTANCE	DATE

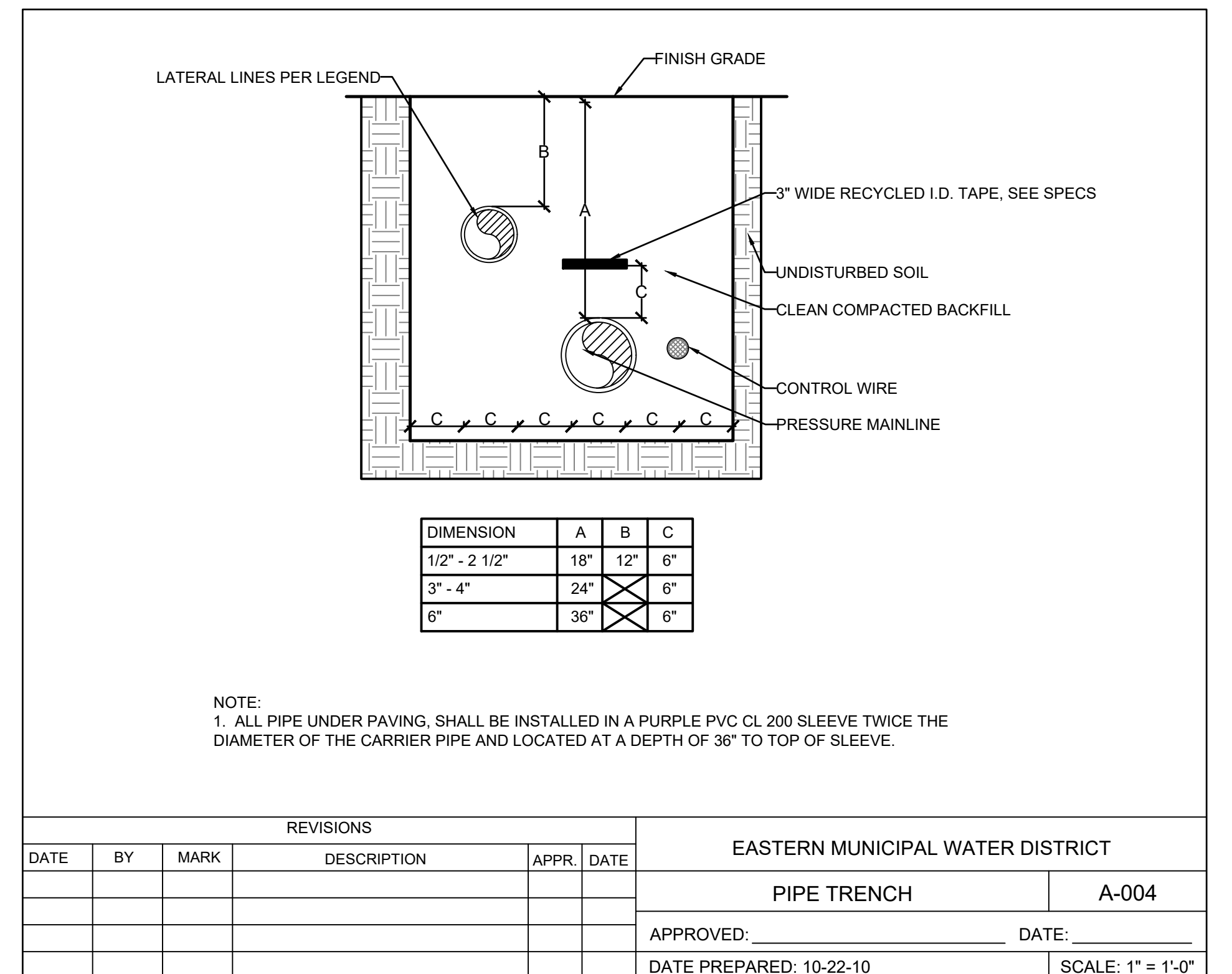
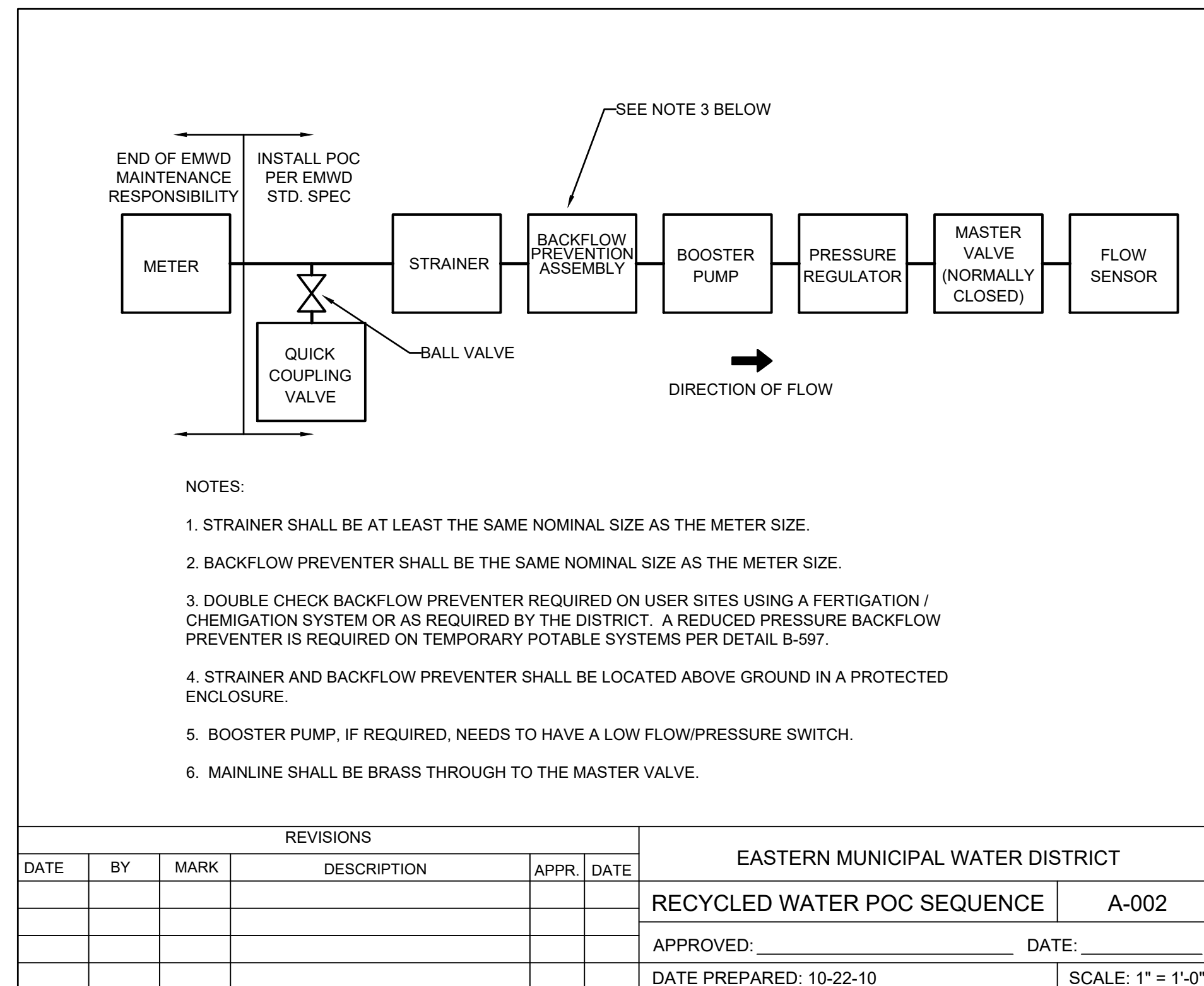
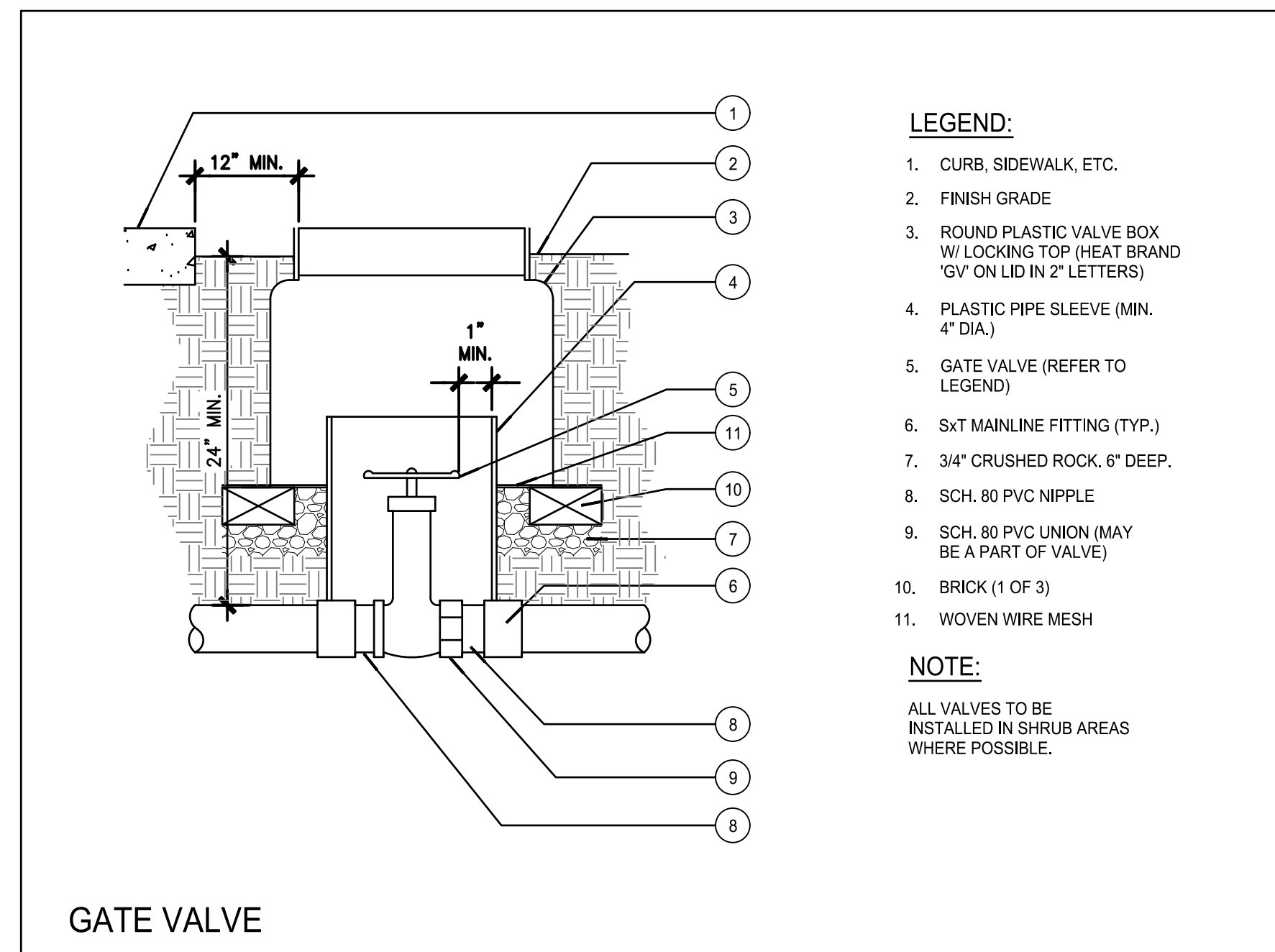
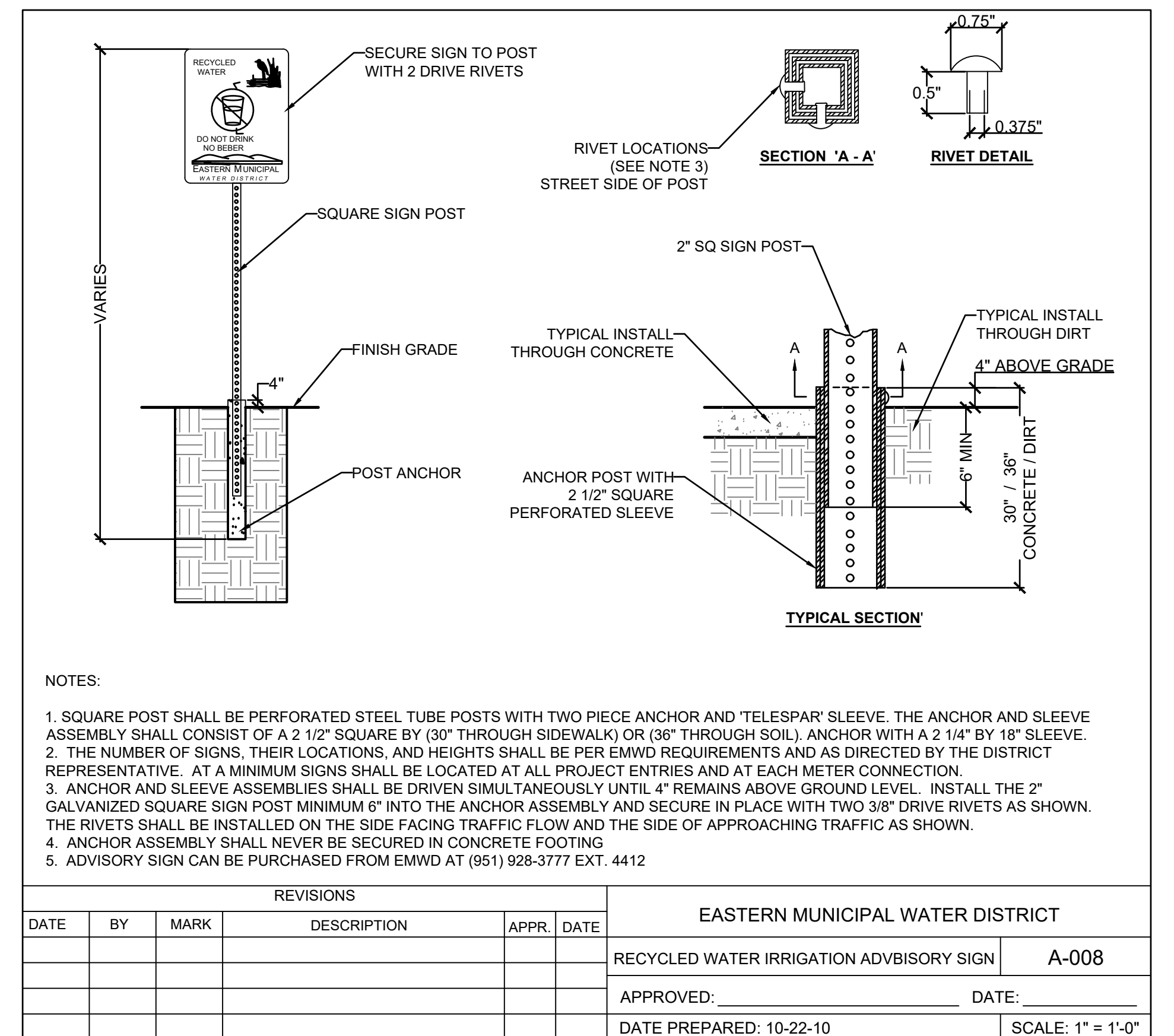
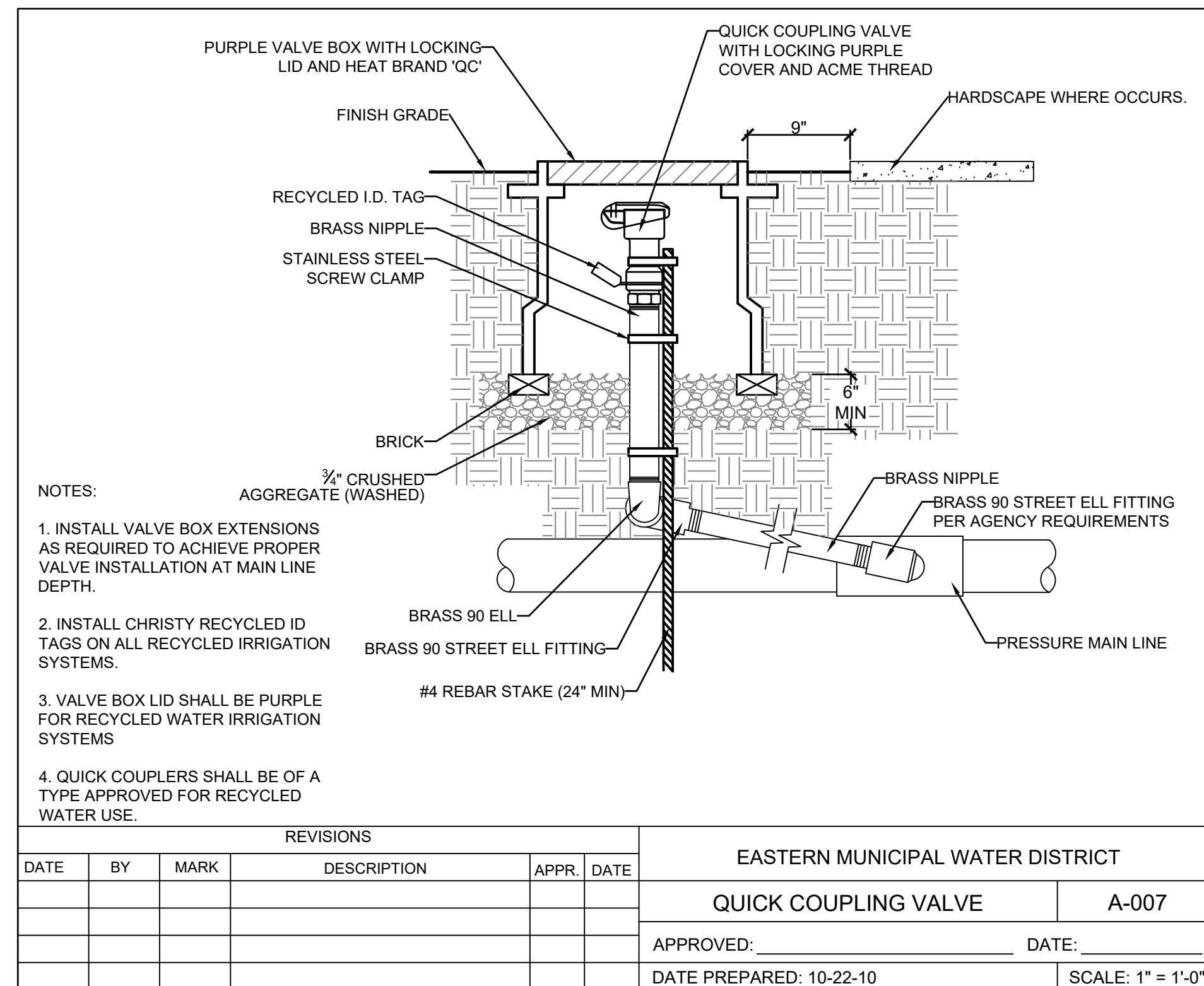
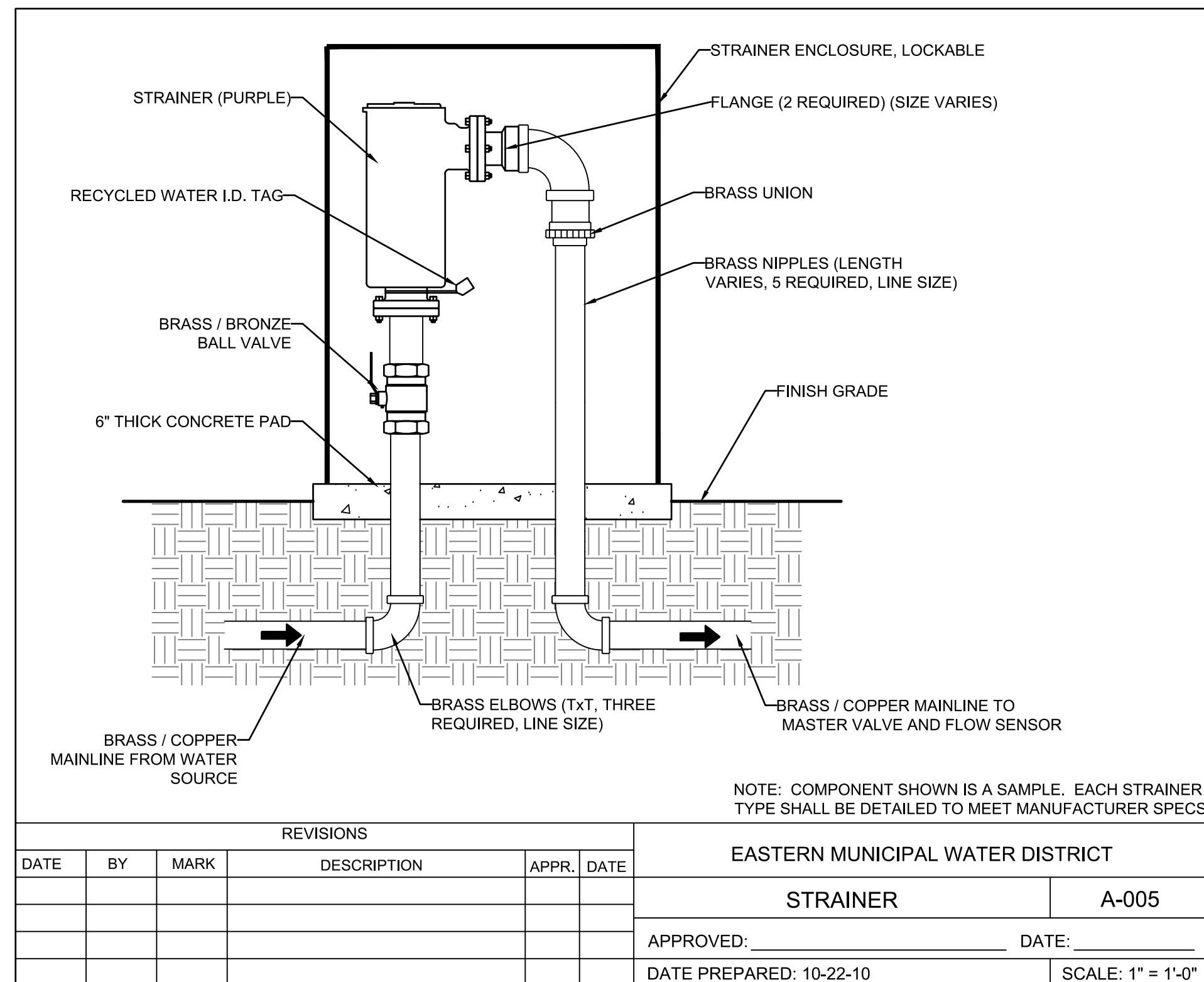
**BENTON CREEK CHANNEL**  
WINCHESTER, CA.

**RECYCLED WATER IRRIGATION RETROFIT IMPROVEMENTS**

**IRRIGATION PLAN**

WO: 19229	PCWO:
DOPP: RWUJ:	
COORD: RWUP:	
I.D. SHT. 9 OF 12	
S.A. D-	





**COLOR CODING**

SPRINKLERS, ROTOR HEADS AND OTHER TYPES OF DISPERSION HEADS SHALL HAVE THE EXPOSED SURFACE COLORED PURPLE. THE EXPOSED SURFACE SHALL BE COLORED THROUGH THE USE OF INTEGRALLY MOLDED PURPLE PLASTIC OR PERMANENTLY ATTACHED PURPLE PLASTIC RING OR DISC. VALVE BOXES AND LIDS SHALL BE PURPLE PER INDUSTRY STANDARDS. THE LIDS SHALL HAVE THE WARNING "RECYCLED: DO NOT DRINK" IN ENGLISH AND SPANISH AND THE INTERNATIONAL "DO NOT DRINK" ON ONE SIDE AND "PELIGRO: AGUA IMPURA-NO BEBER" ON THE OPPOSITE SIDE. ALL SHRUB HEADS SHALL HAVE PURPLE CAPS. ROTOR HEADS MAYBE PAINTED PURPLE WHEN REPLACEMENT CAPS OR COLLARS ARE NOT AVAILABLE. CONTRACTOR TO SUBMIT QUANTITIES, MANUFACTURER AND MODEL NUMBER OF THE HEAD TO EMWD FOR APPROVAL.

**INSTALLATION NOTES**

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BENCH MARK  
 DESCRIPTION: \_\_\_\_\_  
 LOCATION: \_\_\_\_\_  
 VERTICAL DATUM: \_\_\_\_\_  
 HORIZONTAL DATUM: \_\_\_\_\_

ACCEPTED BY:  
 VALLEY-WIDE RECREATION AND PARK DISTRICT

DEPARTMENT	ACCEPTANCE	DATE
	<i>[Signature]</i>	6/17/19

REVISIONS

DATE	BY	MARK	DESCRIPTION

DATE: 12/05/2016  
 DRAWN BY: HNCC  
 CHECKED BY: ENGINEER

ACCEPTED BY:  
 EASTERN MUNICIPAL WATER DISTRICT

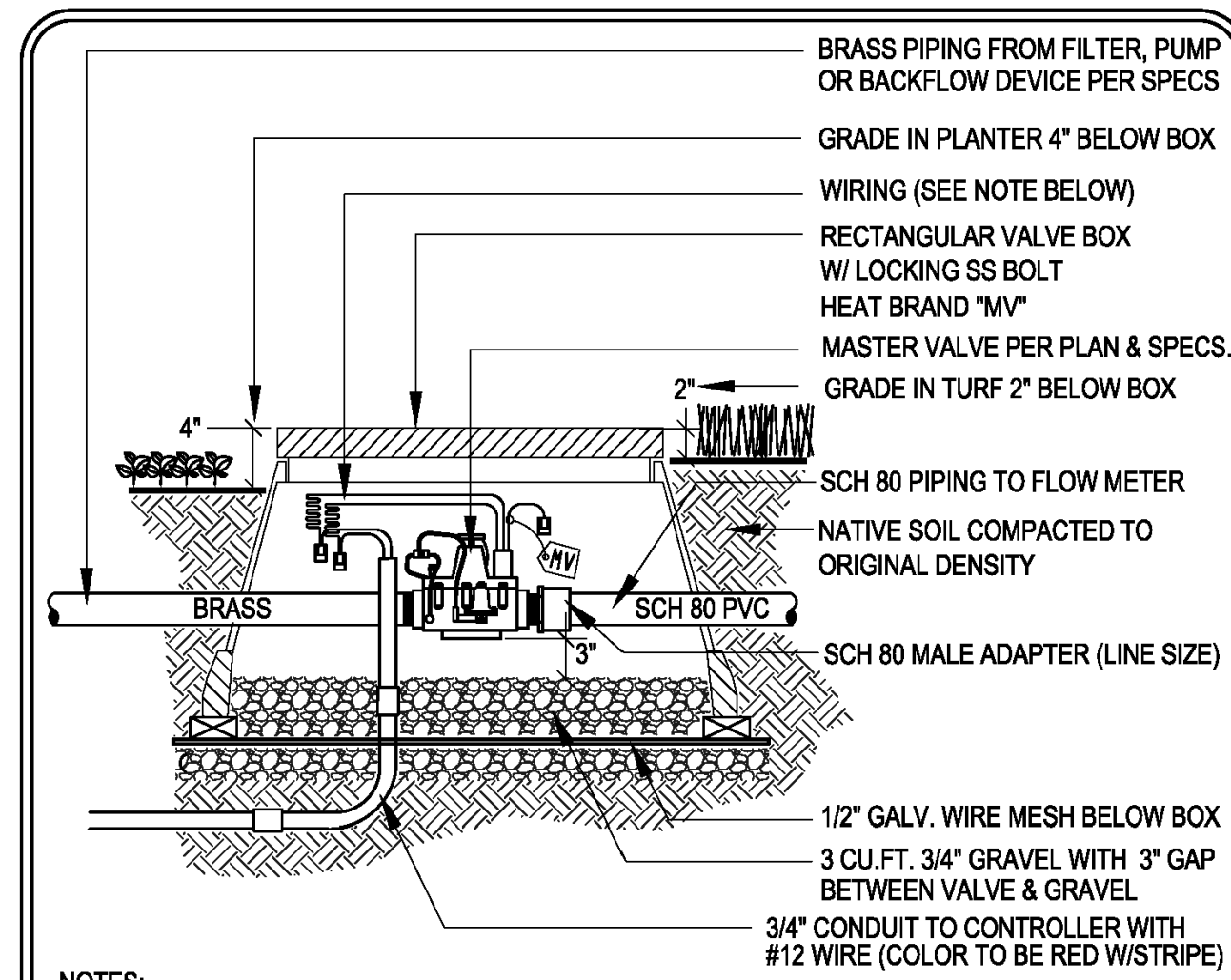
SENIOR CIVIL ENGINEER \_\_\_\_\_ DATE \_\_\_\_\_

DEPARTMENT	ACCEPTANCE	DATE
NEW BUSINESS P.C.		
OPERATIONS		
ENGINEERING		
POS ENGINEER		

**BENTON CREEK CHANNEL**  
 WINCHESTER, CA.  
 RECYCLED WATER IRRIGATION RETROFIT  
 IMPROVEMENTS  
 IRRIGATION DETAILS

WO: 19229  
 PCWO:  
 DOPP: RWJW:  
 COORD: RWUP:  
 I.D. SHT\_10\_OF\_12  
 S.A. D-



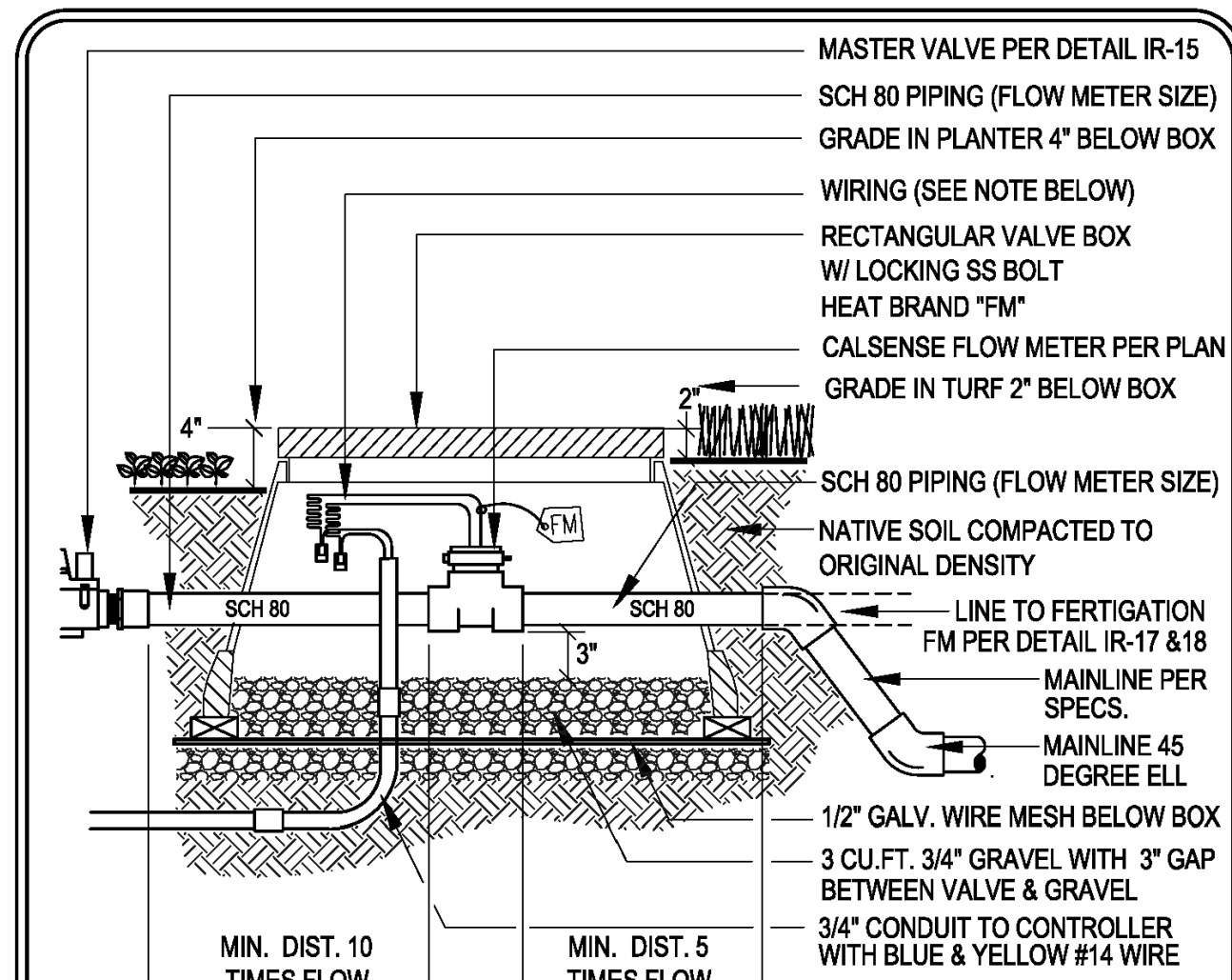


- NOTES:
1. ALL WIRING SHALL BE APPROVED BY THE DISTRICT PRIOR TO BACKFILL
  2. PROVIDE 24" LONG EXPANSION COILS AT EACH WIRE CONNECTION
  3. PROVIDE 4 EA. CONCRETE BRICKS UNDER VALVE BOX (TYP.)
  4. USE IRON DUCTILE FITTINGS FOR 4" & LARGER MAINLINE
  5. PROVIDE SEPARATE MASTER VALVE AND FLOW METER WHEN AN ADDITIONAL CONTROLLER IS SPECIFIED OR USE SINGLE MASTER VALVE AND FLOW METER WHEN THE "FL" OPTION IS USED FOR MULTIPLE CONTROLLERS AS APPROVED BY THE DISTRICT AND CALSENSE
  6. NEVER CONNECT SINGLE MASTER VALVES AND FLOW METERS TO BOTH CONTROLLERS
  7. PROVIDE BRASS PIPING IN LIEU OF SCH 80 PVC WHEN BRASS FLOW METER IS SPECIFIED
  8. SEAL WIRE CONNECTORS AND CONDUIT OPENING WITH HARDENING SEALANT PER SPECS.
  9. FLOW METERS 3" AND LARGER SHALL BE FLANGED. PROVIDE SPOOLS AND ADAPTERS AS REQ'D.
  10. MASTER VALVE SHALL BE STAINLESS STEEL W/PRESSURE REDUCING AND SURGE RELIEF OPTIONS

LD Consulting 2012 (Any deviation or reproduction of this design must be approved in writing by Valley-Wide Recreation & Park District)

**VALLEY-WIDE RECREATION & PARK DISTRICT**  
**MASTER CONTROL VALVE** **IR-15**  
 REV. 2012

Valley-Wide Recreation & Park District 2012 Standards & Specifications 205

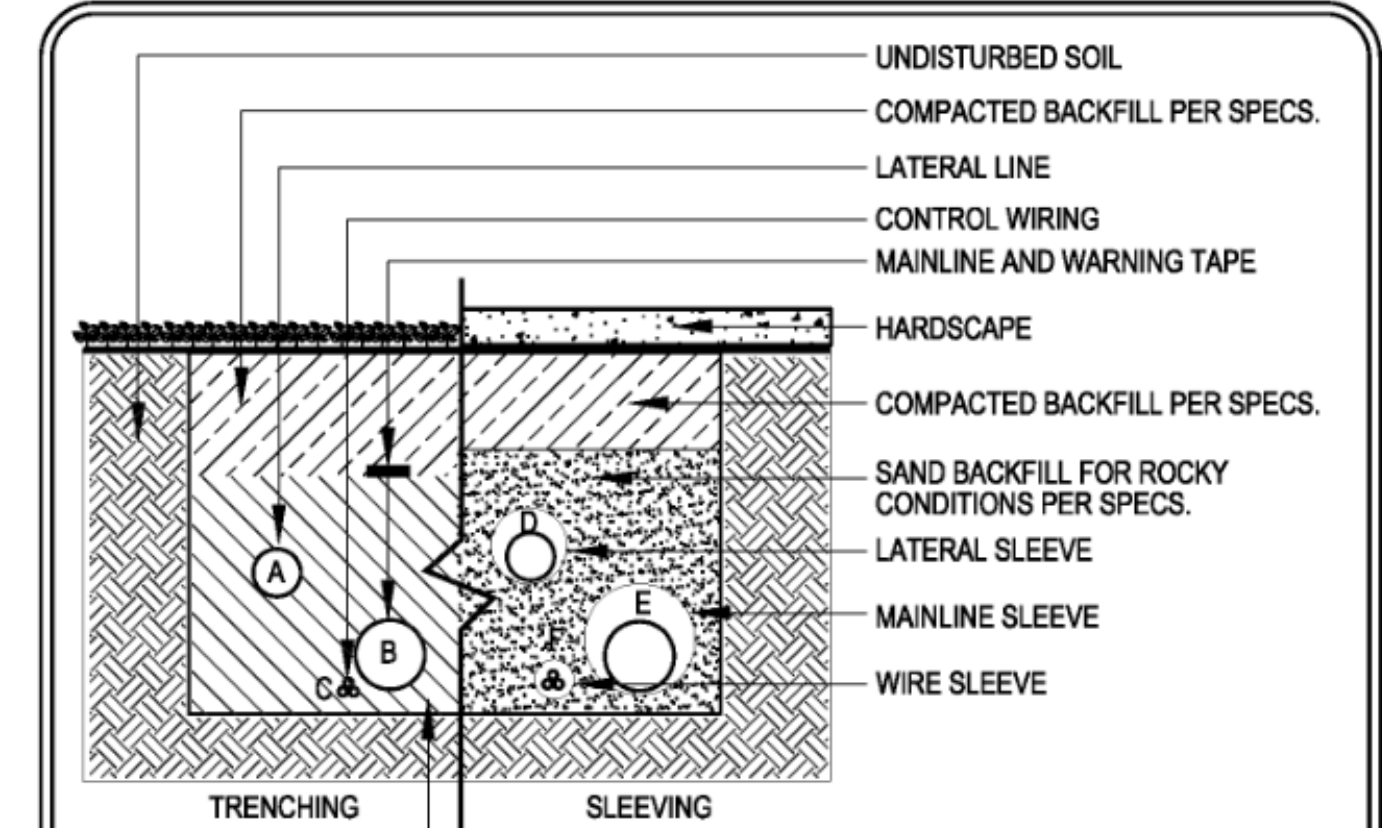


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  2. PROVIDE 24" LONG EXPANSION COILS AT EACH WIRE CONNECTION
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  6. NEVER CONNECT SINGLE MASTER VALVES AND FLOW METERS TO BOTH CONTROLLERS
  7. PROVIDE BRASS PIPING IN LIEU OF SCH 80 PVC WHEN BRASS FLOW METER IS SPECIFIED
  8. SEAL WIRE CONNECTORS AND CONDUIT OPENING WITH HARDENING SEALANT PER SPECS.
  9. PIPING AFTER FLOW METER CAN RUN DIRECTLY TO FERTIGATION FLOW METER WHEN USED

LD Consulting 2012 (Any deviation or reproduction of this design must be approved in writing by Valley-Wide Recreation & Park District)

**VALLEY-WIDE RECREATION & PARK DISTRICT**  
**FLOW METER** **IR-16**  
 REV. 2012

Valley-Wide Recreation & Park District 2012 Standards & Specifications 206



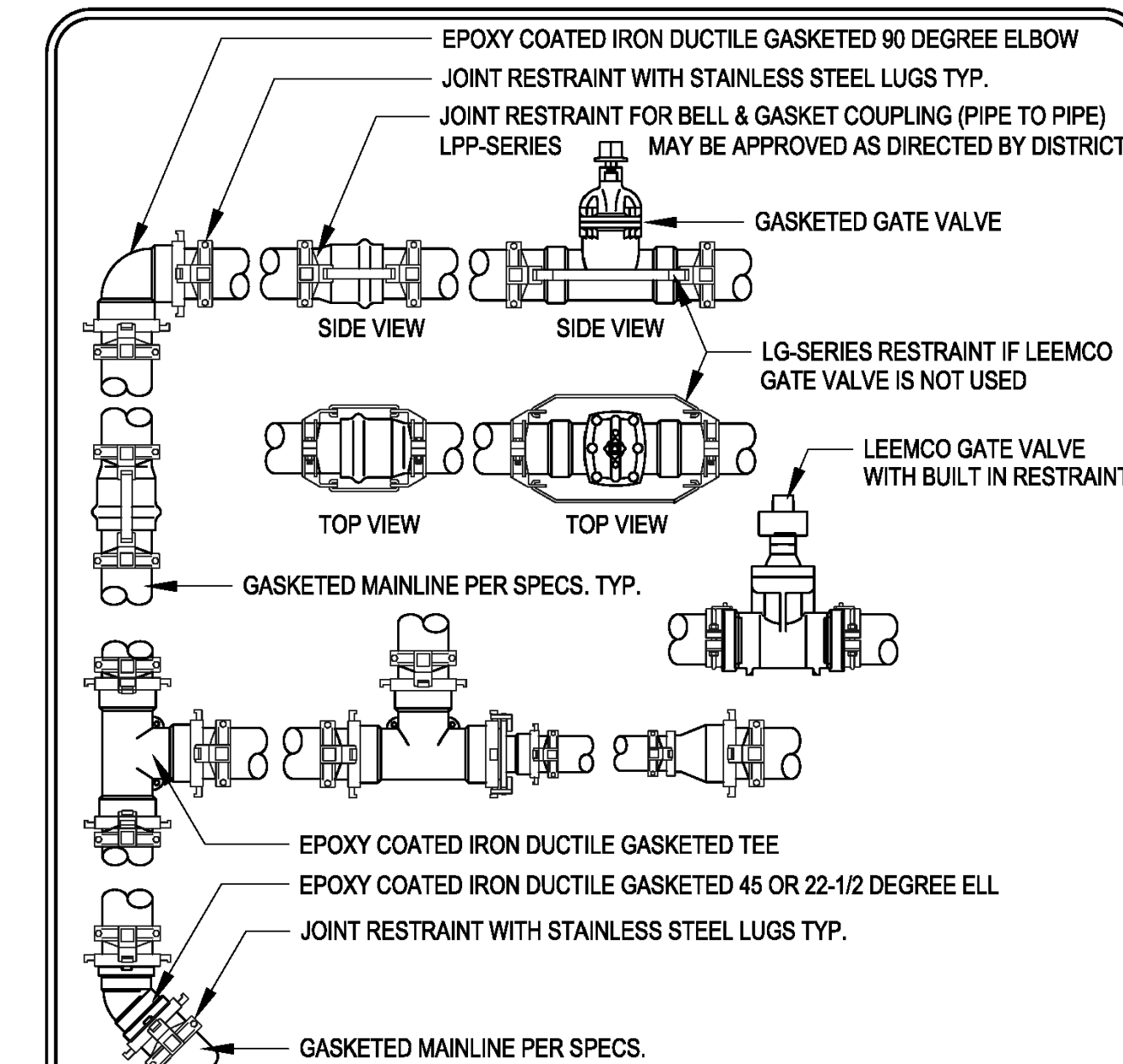
DEPTH	A	B	C	D	E	F
4" & LARGER	-	30"	30"	36"	36"	36"
3" & SMALLER	18"	24"	24"	30"	36"	36"
2-1/2" & SMALLER	12"	24"	24"	24"	30"	30"
WIRING	-	-	BELOW MAIN	-	-	BELOW MAIN

- NOTES:
1. LINES MUST HAVE MIN. CLEARANCE OF 4" FROM EACH OTHER & 24" FROM OTHER TRADES
  2. RUN WIRING UNDER MAINLINE, TAPE & BUNDLE @ 10' O.C.
  3. PROVIDE A 24" LOOP IN ALL WIRING AT CHANGES IN DIRECTION
  4. ALL SLEEVES MUST BE 2 TIMES THE DIAMETER OF THE PIPE WITHIN
  5. ALL SLEEVES MUST HAVE FOAM AT PIPE OPENING TO PREVENT DIRT ENTRY
  6. ALL SLEEVES MUST EXTEND 12" MIN. DISTANCE PAST CURB OR SIDEWALK
  7. CONTRACTOR MUST ADJUST MAINLINE AROUND ALL STREET LIGHT LOCATIONS

LD Consulting 2012 (Any deviation or reproduction of this design must be approved in writing by Valley-Wide Recreation & Park District)

**VALLEY-WIDE RECREATION & PARK DISTRICT**  
**TRENCHING & SLEEVING** **IR-23**  
 REV. 2012

Valley-Wide Recreation & Park District 2012 Standards & Specifications 213



- NOTES:
1. ALL IRON DUCTILE FITTINGS SHALL BE EPOXY COATED WITH INNER GASKET PER SPECS.
  2. ALL FITTINGS AND BELL & GASKET COUPLINGS SHALL BE RESTRAINED AS SHOWN ABOVE
  3. ALL LUGS SHALL BE STAINLESS STEEL AND TIGHTENED PER MANUFACTURER TORQUE CHART

LD Consulting 2012 (Any deviation or reproduction of this design must be approved in writing by Valley-Wide Recreation & Park District)

**VALLEY-WIDE RECREATION & PARK DISTRICT**  
**MAINLINE RESTRAINTS 4" & LARGER** **IR-25**  
 REV. 2012

Valley-Wide Recreation & Park District 2012 Standards & Specifications 215

**INSTALLATION NOTES**

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 TWO FULL WORKING DAYS BEFORE YOU DIG

BENCH MARK DESCRIPTION: \_\_\_\_\_  
 LOCATION: \_\_\_\_\_  
 VERTICAL DATUM: \_\_\_\_\_  
 HORIZONTAL DATUM: \_\_\_\_\_

ACCEPTED BY: \_\_\_\_\_  
 VALLEY-WIDE RECREATION AND PARK DISTRICT

DEPARTMENT	ACCEPTANCE	DATE
	<i>[Signature]</i>	6/17/19

REVISIONS		
DATE	BY	MARK

DATE: 12/05/2016  
 DRAWN BY: HNCC  
 CHECKED BY: ENGINEER

ACCEPTED BY: \_\_\_\_\_  
 EASTERN MUNICIPAL WATER DISTRICT

SENIOR CIVIL ENGINEER \_\_\_\_\_ DATE \_\_\_\_\_

DEPARTMENT	ACCEPTANCE	DATE
NEW BUSINESS P.C.		
OPERATIONS		
ENGINEERING		
POS ENGINEER		

**BENTON CREEK CHANNEL**  
 WINCHESTER, CA.  
 RECYCLED WATER IRRIGATION RETROFIT  
 IMPROVEMENTS  
 IRRIGATION DETAILS

WO: 19229  
 PCWO: \_\_\_\_\_  
 DOPP: RWUJ: \_\_\_\_\_  
 COORD: RWUP: \_\_\_\_\_  
 I.D. SHT. 11 OF 12  
 S.A. D-



**I. CONTRACTOR'S IRRIGATION WORK RESPONSIBILITIES**

- A. SCOPE OF WORK: THE CONTRACTOR SHALL PROVIDE ALL LABOR, MATERIALS, TRANSPORTATION, AND SERVICES NECESSARY TO FURNISH AND INSTALL A COMPLETE IRRIGATION SYSTEM AS SHOWN ON THE DRAWINGS AND SPECIFIED HEREIN.
- B. CONFORMANCE: ALL IRRIGATION WORK SHALL CONFORM TO APPLICABLE LOCAL, COUNTY AND/OR STATE CODES, REGULATIONS AND RULES.
- C. LICENSE: ALL WORK SHALL BE PERFORMED BY A C-27 CALIFORNIA LICENSED LANDSCAPE IRRIGATION CONTRACTOR.
- D. PERMITS AND INSPECTIONS: THE CONTRACTOR SHALL OBTAIN, COORDINATE AND PAY FOR ANY AND ALL PERMITS, FEES AND AGENCY INSPECTIONS AS REQUIRED.
- E. INSURANCE: THE CONTRACTOR SHALL CARRY ALL WORKMAN'S COMPENSATION, PUBLIC LIABILITY AND PROPERTY DAMAGE INSURANCE AS REQUIRED BY ALL APPLICABLE CODES, REGULATIONS AND BY THE OWNER (JOB SUPERINTENDENT).
- F. SITE VERIFICATION: PRIOR TO COMMENCEMENT OF WORK, THE CONTRACTOR SHALL VERIFY, AT THE SITE, ALL CONDITIONS AND DIMENSIONS SHOWN ON THE PLANS NECESSARY TO ACHIEVE THE INTENDED DESIGN OF THE IRRIGATION SYSTEM. ANY DISCREPANCIES SHALL BE REPORTED TO THE OWNER (JOB SUPERINTENDENT) IMMEDIATELY.
- G. LIABILITY FOR ENCROACHMENT: THE CONTRACTOR SHALL BE RESPONSIBLE AND LIABLE FOR ANY ENCROACHMENT INTO ADJACENT PROPERTY, RIGHTS-OF-WAYS, EASEMENTS, SET-BACKS OR ANY OTHER LEGAL PROPERTY RESTRICTIONS EITHER MARKED OR UNMARKED.
- H. POINT OF CONNECTION VERIFICATION: THE CONTRACTOR SHALL VERIFY THE STATIC PRESSURE, METER SIZE AND SIZE OF SERVICE TO METER (P.O.C.) AT EACH POINT OF CONNECTION.
- I. FIELD STAKING: PRIOR TO INSTALLATION, THE CONTRACTOR SHALL LOCATE BY STAKES OR OTHER MEANS ALL PRESSURE SUPPLY LINES, CONTROL EQUIPMENT, GROUND COVER DELINEATIONS AND HEADS FOR APPROVAL BY THE OWNER (JOB SUPERINTENDENT).
- J. COORDINATION OF ACTIVITIES: THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATION OF HIS ACTIVITIES WITH ALL OTHER TRADES THROUGH THE OWNER (JOB SUPERINTENDENT).
- K. INTENDED DESIGN COVERAGE: THE CONTRACTOR SHALL BE RESPONSIBLE FOR COMPLETION, MODIFICATION OR REVISIONS OF THE SYSTEMS AS NECESSARY TO MAINTAIN THE CONSISTENT COVERAGE DESIGN OF THE CONTRACT DOCUMENTS. ANY DEVIATION FROM THE CONTRACT DOCUMENTS SHALL HAVE THE PRIOR WRITTEN APPROVAL OF THE OWNER (JOB SUPERINTENDENT) AND LANDSCAPE ARCHITECT.
- L. NOTIFICATION OF DISCREPANCIES: ANY DISCREPANCIES BETWEEN THE FIELD CONDITIONS AND THE CONTRACT DOCUMENTS AND/OR THE DESIGN INTENT AFFECTING THE SUCCESSFUL COMPLETION AND COST OF THE PROJECT SHALL BE REPORTED TO THE OWNER (JOB SUPERINTENDENT) IMMEDIATELY. ALL WORK RELATED TO THE PROBLEM AREA SHALL CEASE UNTIL THE DISCREPANCIES HAVE BEEN RESOLVED BY THE OWNER (JOB SUPERINTENDENT) OR LANDSCAPE ARCHITECT IN WRITING. ANY CONTINUATION OF WORK IS AT THE CONTRACTOR'S RISK AND EXPENSE.
- M. IRRIGATION PLANS: THE IRRIGATION PLANS, INCLUDING PIPING AND EQUIPMENT LOCATIONS, ARE DRAWN DIAGRAMMATICALLY. THE CONTRACTOR SHALL MAKE MINOR ADJUSTMENTS TO THE SYSTEM AS REQUIRED TO AVOID PHYSICAL ELEMENTS AND CONFORM TO THE SITE CONDITIONS. IN ALL CASES, THE CONTRACTOR SHALL INSURE THAT THERE ARE NO CONFLICTS BETWEEN THE IRRIGATION SYSTEM, PLANTING AND CONSTRUCTION ELEMENTS, AND EXISTING UTILITIES.
- N. ELECTRICAL CONNECTION: THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE FINAL ELECTRICAL CONNECTION FROM POWER SOURCE TO CONTROLLERS AS INDICATED ON THE PLANS WHERE APPLICABLE.
- O. LIABILITY FOR DAMAGE: THE CONTRACTOR SHALL BE LIABLE FOR DAMAGE TO ALL UTILITIES, CONSTRUCTION, IRRIGATION AND PLANTING ELEMENTS, EITHER MARKED OR UNMARKED, AND SHALL REPAIR OR REPLACE DAMAGE TO ITS ORIGINAL CONDITION IN A MANNER ACCEPTABLE TO THE OWNER (JOB SUPERINTENDENT).
- P. LIABILITY FOR LOSS: THE CONTRACTOR SHALL BE RESPONSIBLE AND LIABLE FOR ANY LOSS TO HIS EQUIPMENT, PARTS AND MATERIALS ON THIS PROJECT UNTIL COMPLETION AND ACCEPTANCE OF THE JOB IN WRITING FROM THE OWNER (JOB SUPERINTENDENT).
- Q. AS BUILTS: THE CONTRACTOR SHALL PROVIDE AND KEEP UP TO DATE A COMPLETE SET OF 'AS BUILT' DRAWINGS AND PRINTS WHICH SHALL BE CORRECTED DAILY AND SHOW EVERY CHANGE FROM THE ORIGINAL DRAWINGS. BEFORE THE TIME OF THE FINAL INSPECTION, THE CONTRACTOR SHALL TRANSFER ALL INFORMATION FROM THE 'AS BUILT' SET AND FIELD STAKING OF ALL EQUIPMENT LOCATED ON THE MAINLINE AND CONTROL WIRE LOCATION TO A REPRODUCIBLE OZALID SEPIA, PROCURED FROM THE OWNER (JOB SUPERINTENDENT) AND LANDSCAPE ARCHITECT. ALL WORK SHALL BE NEAT AND LEGIBLE. THE CONTRACTOR SHALL CERTIFY REPRODUCIBLES AS TO ACCURACY AND COMPLETENESS.
- R. WRITTEN GUARANTEE: ALL IRRIGATION WORK SHALL BE GUARANTEED BY THE CONTRACTOR AS TO MATERIAL AND WORKMANSHIP FOR A PERIOD OF ONE YEAR FOLLOWING THE DATE OF FINAL ACCEPTANCE OF THE PROJECT. THE CONTRACTOR SHALL PROVIDE A WRITTEN GUARANTEE ON HIS LETTERHEAD AT THE TIME OF THE FINAL INSPECTION.
- S. WRITTEN CERTIFICATION: THE CONTRACTOR SHALL PROVIDE A WRITTEN CERTIFICATION THAT THE IRRIGATION SYSTEM IS INSTALLED FREE FROM DEFECTS IN MATERIALS AND WORKMANSHIP AND IN FULL COMPLIANCE WITH THE DRAWINGS AND SPECIFICATIONS. THIS SHALL BE ON THE CONTRACTOR'S LETTERHEAD WITH HIS IRRIGATION AND CALIFORNIA C-27 CONTRACTOR'S LICENSE NUMBER.
- T. TURNOVER ITEMS: THE CONTRACTOR SHALL SUPPLY TO THE OWNER (JOB SUPERINTENDENT) AS A PART OF THIS CONTRACT, THE FOLLOWING ITEMS PRIOR TO THE TIME OF THE FINAL SITE OBSERVATION:
  1. A REPRODUCIBLE SET OF 'AS BUILT' DRAWINGS AS PER NOTE 'Q' ABOVE.
  2. THE ORIGINAL OF THE GUARANTEE LETTER.
  3. THE ORIGINAL OF THE CERTIFICATION LETTER.
  4. TWO (2) KEYS FOR EACH AUTOMATIC CONTROLLER.
  5. TWO (2) SETS OF ANY SPECIAL EQUIPMENT REQUIRED FOR OPERATING, ADJUSTING, ASSEMBLING AND REMOVING EACH TYPE OF EQUIPMENT SUPPLIED ON THIS PROJECT AS REQUESTED BY THE OWNER.

**II. OWNER'S IRRIGATION WORK RESPONSIBILITIES**

- A. CONSTRUCTION RESPONSIBILITIES: THE OWNER WILL BE DIRECTLY RESPONSIBLE FOR ALL ASPECTS OF CONSTRUCTION INCLUDING ALL IRRIGATION INSPECTIONS. ALL FIELD MEETINGS SHALL BE INITIATED BY THE CONTRACTOR AND COORDINATED THROUGH THE OWNER (JOB SUPERINTENDENT).
- B. DETERMINING LEGAL AND PHYSICAL ELEMENTS: THE OWNER (JOB SUPERINTENDENT) SHALL BE RESPONSIBLE FOR DETERMINING PROPERTY LINES, RIGHTS-OF-WAYS, TRACT BOUNDARIES, GRADES, EASEMENTS, UTILITY LOCATIONS (ABOVE AND BELOW GRADE) AND ANY OTHER LEGAL OR PHYSICAL ELEMENTS AS REQUIRED FOR THE SUCCESSFUL COMPLETION OF THE WORK. THE CONTRACTOR SHALL NOT BE PERMITTED TO PROCEED WITH ANY WORK WITHOUT DETERMINATION OF THE ABOVE INFORMATION.
- C. SITE DISCREPANCIES: ALL DISCREPANCIES IN SITE CONDITIONS, DRAWINGS OR SPECIFICATIONS SHALL BE BROUGHT TO THE ATTENTION OF THE OWNER (JOB SUPERINTENDENT) IMMEDIATELY. IT IS THE OWNER'S (JOB SUPERINTENDENT'S) RESPONSIBILITY TO CONSULT THE LANDSCAPE ARCHITECT PRIOR TO ANY FURTHER WORK IN THAT AREA. ANY UNREPORTED DISCREPANCY AND CONTINUED WORK WITHOUT WRITTEN AUTHORIZATION FROM THE OWNER (JOB SUPERINTENDENT) AND LANDSCAPE ARCHITECT SHALL BE AT THE CONTRACTOR'S RISK AND EXPENSE.
- D. CONTRACT FULFILLMENT: ALL QUESTIONS RELATING TO INTERPRETATION OF THE DRAWINGS AND SPECIFICATIONS, QUALITY OF WORK AND ACCEPTABLE FULFILLMENT OF INTENT OF THE CONTRACT DOCUMENT SHALL BE DECIDED BY THE OWNER (JOB SUPERINTENDENT) AND LANDSCAPE ARCHITECT CONCURRENTLY.

**III. REQUIRED FIELD OBSERVATION WORK**

- A. REQUIRED FIELD OBSERVATION WORK: THESE PLANS WERE PREPARED WITH THE UNDERSTANDING THAT THE OWNER OF SAID PLANS WILL USE E.M.W.D. TO PROVIDE 'FULL' CONTRACT SERVICES INCLUDING FIELD OBSERVATION SERVICES DURING CONSTRUCTION. FAILURE TO USE E.M.W.D. TO PROVIDE AND COMPLETE THE FIELD OBSERVATION SERVICES SET FORTH HEREIN WILL SIGNIFICANTLY INCREASE THE RISK OF LOSS RESULTING, AMONG OTHER CAUSES, FROM MISINTERPRETATION OF THE INTENT OF THE DESIGN, UNAUTHORIZED MODIFICATIONS THERETO, AND FAILURE TO DETECT ERRORS AND OMISSIONS IN THE PLANS AND SPECIFICATIONS BEFORE THEY BECOME COSTLY MISTAKES BUILT INTO THE PROJECT. THEREFORE, IN THE EVENT THAT E.M.W.D. IS OTHERWISE PRECLUDED FROM COMPLETING THE FIELD OBSERVATION SERVICES SET FORTH HEREIN, THE OWNER, OR SUBSEQUENT OWNER (INDIVIDUALS OR CORPORATIONS WHO HAVE PURCHASED THESE PLANS WITH THE PROJECT), AGREES TO HOLD HARMLESS, INDEMNIFY, AND DEFEND E.M.W.D. FROM AND AGAINST ANY AND ALL CLAIMS.

**IV. LANDSCAPE ARCHITECT'S IRRIGATION FIELD OBSERVATION SCHEDULE**

- A. FIELD OBSERVATION COORDINATION: THE FOLLOWING OBSERVATIONS SHALL BE INITIATED BY THE CONTRACTOR AND COORDINATED THROUGH THE OWNER (JOB SUPERINTENDENT). THE CONTRACTOR SHALL NOTIFY THE OWNER (JOB SUPERINTENDENT) AND LANDSCAPE ARCHITECT NOT LESS THAN FORTY-EIGHT (48) HOURS IN ADVANCE OF ANY OBSERVATION. CONTINUED WORK WITHOUT OBSERVATION AT THESE PHASES OF WORK IS AT THE CONTRACTOR'S RISK, WITH ANY REQUIRED CHANGE OR MODIFICATION AT THE CONTRACTOR'S EXPENSE. THE OWNER (JOB SUPERINTENDENT) SHALL INFORM THE LANDSCAPE ARCHITECT AS TO THE PURPOSE AND TIME OF THE OBSERVATION FORTY-EIGHT (48) HOURS IN ADVANCE.
- B. CONTRACTOR ORIENTATION/PRE-CONSTRUCTION MEETING: THIS MEETING SHALL BE CONDUCTED TO DISCUSS THE PLANS AND SPECIFICATIONS, POSSIBLE DISCREPANCIES, SITE CONDITIONS AND OTHER ASPECTS OF THE PROJECT IRRIGATION WORK SUCH AS PERSONNEL, SCHEDULE AND REQUIREMENTS FOR STARTING WORK. PRIOR TO THE MEETING, THE CONTRACTOR SHALL THOROUGHLY ACQUAINT HIMSELF WITH SITE CONDITIONS AND THE PLANS, DETAILS AND SPECIFICATIONS.
- C. IRRIGATION MAINLINE AND EQUIPMENT LAYOUT: THIS OBSERVATION SHALL BE PERFORMED BY THE OWNER (JOB SUPERINTENDENT) FOLLOWING STAKING OF ALL PRESSURE MAINLINE AND CONTROL EQUIPMENT, VERIFICATION OF ALL SITE CONDITIONS AND PRIOR TO ANY TRENCHING. ANY DISCREPANCIES NOT PREVIOUSLY NOTED SHALL BE CORRECTED AT THIS TIME TO THE SATISFACTION OF THE OWNER (JOB SUPERINTENDENT) AND LANDSCAPE ARCHITECT AT THE CONTRACTOR'S EXPENSE.
- D. IRRIGATION MAINLINE AND PRESSURE TEST: THIS OBSERVATION IS FOR THE PURPOSE OF REVIEWING ALL MAINLINE LAYOUT FOR CONFORMANCE TO SPECIFICATIONS AND VERIFYING THE WATER TIGHTNESS OF PRESSURE SYSTEMS PRIOR TO BACKFILLING TRENCHES. PRESSURE TESTS MUST CONFORM TO MANUFACTURER'S SPECIFICATIONS. ALL PRESSURE LINES SHALL BE TESTED UNDER A SUSTAINED HYDROSTATIC PRESSURE OF 150 POUNDS PER SQUARE INCH FOR A PERIOD OF NOT LESS THAN TWO (2) HOURS. THIS TEST SHALL BE PERFORMED IN THE PRESENCE OF THE OWNER (JOB SUPERINTENDENT) TO MANUFACTURER'S ACCEPTED TESTING PROCEDURES AND APPROVED IN WRITING BY THE OWNER (JOB SUPERINTENDENT), PRIOR TO BACKFILLING ANY TRENCHES. CONTRACTOR SHALL FURNISH NECESSARY FORCE PUMP AND ALL OTHER NECESSARY TESTING EQUIPMENT.
- E. PROGRESS INSPECTIONS: PERIODIC INSPECTIONS SHALL BE PERFORMED BY OWNER (JOB SUPERINTENDENT) DURING THE LAYOUT OF ALL LATERAL LINE SYSTEMS, WITH TRENCHES OPEN TO VERIFY CONFORMANCE TO DETAILS, DEPTH OF PIPE AND EQUIPMENT ASSEMBLIES.
- F. IRRIGATION COMPLETION/COVERAGE TEST: THIS OBSERVATION IS TO INSURE CONFORMANCE OF ALL IRRIGATION EQUIPMENT WITH IRRIGATION CONTRACT DOCUMENTS AND WILL CONSIST OF OPERATION OF EACH SYSTEM TO INSURE INTENDED COVERAGE. THE CONTRACTOR SHALL FLUSH AND ADJUST ALL HEADS FOR OPTIMUM PERFORMANCE AND TO PREVENT OVERSPRAY ONTO WALKS, ROADWAYS AND BUILDINGS, ETC. PRIOR TO THIS OBSERVATION, THIS MAY INCLUDE CHANGES IN NOZZLE SIZES AND DEGREE OF ARC TO OPTIMIZE OPERATION.

**V. SCOPE OF IRRIGATION WORK**

- A. GENERAL IRRIGATION NOTES:
  1. SPECIFIED EQUIPMENT: ALL EQUIPMENT SHALL BE AS LISTED IN THE LEGEND AND INSTALLED AS PER DETAILS AND SPECIFICATIONS, OR MANUFACTURER'S RECOMMENDATION. ANY SUBSTITUTIONS SHALL BE APPROVED IN WRITING BY OWNER (JOB SUPERINTENDENT) AND LANDSCAPE ARCHITECT. ANY UNAPPROVED EQUIPMENT SHALL BE REPLACED AT THE CONTRACTOR'S EXPENSE.
  2. ALTERNATE ITEMS: APPROVAL OF ANY ITEM OR ALTERNATE ITEM INDICATES ONLY THAT IT APPARENTLY MEETS THE REQUIREMENTS OF THE DRAWINGS ON THE BASIS OF THE INFORMATION SUBMITTED, AND DOES NOT RELIEVE THE CONTRACTOR OF ANY RESPONSIBILITY FOR THE EQUIPMENT'S SUCCESSFUL OPERATION.
  3. CONTRACTOR'S GUARANTEE: MANUFACTURER'S WARRANTIES SHALL NOT RELIEVE THE CONTRACTOR OF THIS LIABILITY UNDER THE GUARANTEE. SUCH WARRANTIES WILL ONLY SUPPLEMENT THE GUARANTEE.
  4. SOLVENT WELD MAINLINE PIPE: PRESSURE MAINLINE PIPE SIZED 1-1/2" AND SMALLER SHALL BE IPS PRESSURE RATED PVC 1120 SCHEDULE 40 RATED PIPE. PRESSURE MAINLINE PIPE SIZED TWO INCHES (2") AND LARGER SHALL BE IPS PRESSURE RATED PVC 1120 SDR 13.5 315 PSI RATED PIPE (CLASS 315) CONFORMING TO MATERIALS ASTM D1784 AND PRODUCT DESIGN ASTM D2214 FOR SDR 315 AND ASTM 1784 FOR SCHEDULE 40 PIPE, BURIED A MINIMUM OF EIGHTEEN INCHES (18") DEEP WITH SOLVENT WELD JOINTS MADE FROM NSF APPROVED, TYPE 1, GRADE 1 (PVC COMPOUND CONFORMING TO ASTM RESIN SPECIFICATION D1784).
  5. LATERAL LINE PIPE: NON-PRESSURE BURIED LATERAL LINE PIPE SHALL BE PRESSURE RATED PVC 1120 SDR 21 200 PSI RATED PIPE CONFORMING TO MATERIALS ASTM D1784 AND PRODUCT DESIGN ASTM D2214 FOR SDR 21 PIPE 200 PSI RATED PIPE CONFORMING TO MATERIALS ASTM D1784 AND PRODUCTS DESIGN ASTM D2214 FOR SDR 21 PIPE 200 PSI RATED PIPE, BURIED A MINIMUM OF 12" DEEP WITH SOLVENT WELD JOINTS MADE FROM NSF APPROVED, TYPE 1, GRADE II PVC COMPOUND CONFORMING TO ASTM RESIN SPECIFICATION D1784.
  6. GASKET SEAL MAINLINE PIPE: PRESSURE MAINLINE PIPE SIZED TWO INCHES (2") AND LARGER SHALL BE IPS PRESSURE RATED PVC 1120 SDR 21 200 PSI RATED PIPE, CONFORMING TO MATERIALS ASTM D1784, PRODUCT DESIGN ASTM D2214, GASKET JOINT ASTM DB139, GASKET ASTM F477, CELL CLASS ASTM 1245A, BURIED A MINIMUM OF EIGHTEEN INCHES (18") BELOW FINISH GRADE WITH THRUST BLOCKS PER MANUFACTURER'S INSTRUCTIONS.
  7. SOLVENT CEMENT: SOLVENT PRIMER SHALL CONFORM TO ASTM D-2564. SOLVENT CEMENT SHALL CONFORM TO ASTM D2564.
  8. SOLVENT FITTINGS: SOLVENT FITTINGS SHALL BE SCHEDULE 40 PRODUCED FROM PVC TYPE 1 CELL. CLASSIFICATION B2454-B.
  9. THREADED FITTINGS: THREADED FITTINGS SHALL BE SCHEDULE 40 AND THREADED NIPPLES SHALL BE SCHEDULE 80, PRODUCED FROM PVC TYPE 1 CELL CLASSIFICATION 12454-B. USE PERMATEX #51/TEFLON TAPE OR APPROVED PIPE JOINT COMPOUND PER FITTINGS MANUFACTURER'S RECOMMENDATIONS.
  10. STEEL PIPE: GALVANIZED STEEL PIPE SHALL BE ASA SCHEDULE 40 MILLED STEEL SCREWED PIPE WITH MEDIUM GALVANIZED SCREWED BEADED MALLEABLE IRON FITTINGS.
  11. STEEL PIPE BELOW GRADE: ALL GALVANIZED PIPE AND FITTINGS INSTALLED BELOW GRADE SHALL BE COATED WITH TWO (2) COATS OF KOPPER'S #50 BITUMASTIC.
  12. BRASS PIPE AND FITTINGS: BRASS PIPE SHALL BE B357 RED BRASS, AMERICAN NATIONAL STANDARD INSTITUTE (ANSI), SCHEDULE 40 SCREWED PIPE. FITTINGS SHALL BE MEDIUM BRASS, SCREWED, 125 POUND CLASS.
  13. COPPER PIPE AND FITTINGS: COPPER PIPE SHALL BE TYPE K, (HARD) ASTM B88 SOLDER FITTINGS IN ACCORDANCE WITH ANSI B16.22. SOLDER JOINTS SHALL BE 45% SILVER, 15% COPPER, 16% ZINC, 24% CADMIUM AND SOLIDUS AS 11250F AND LIQUIDS AT 11450F. CONFORMING TO ASTM B206 AND FS QQ-B-655C.
  14. METAL PIPE JOINTS: ALL CONNECTIONS TO BE SEALED WITH PIPE JOINT COMPOUND FOR METAL JOINTS.
  15. CONTROL WIRE: CONNECTIONS BETWEEN THE AUTOMATIC CONTROLLERS AND THE ELECTRIC CONTROL VALVES SHALL BE MADE WITH DIRECT BURIAL COPPER WIRE AWG-U.F. 600 VOLT UL APPROVED. MINIMUM SIZE IS #14 AWG, BURIED EIGHTEEN (18") INCHES BELOW GRADE. USE DIFFERENT COLOR CONTROL WIRE FOR EACH CONTROLLER. COMMON WIRES SHALL BE WHITE OR A DIFFERENT COLOR FROM THE CONTROL WIRES FOR EACH AUTOMATIC CONTROLLER ON THE SITE.
  16. WIRE TRENCH: WIRING SHALL OCCUPY THE SAME TRENCH AND SHALL BE INSTALLED ALONG THE SAME ROUTE AS PRESSURE SUPPLY OR LATERAL LINES WHEREVER POSSIBLE. THE WIRES SHALL BE TAPED TOGETHER AT INTERVALS NOT EXCEEDING TEN (10) FEET.
  17. EXPANSION CURL: A TWELVE INCH (12") EXPANSION CURL SHOULD BE PROVIDED WITHIN THREE (3) FEET OF EACH WIRE CONNECTION AND AT LEAST EVERY ONE HUNDRED (100) FEET OF WIRE LENGTH. AT STREET CROSSINGS AND GATE VALVE LOCATIONS THE CONTRACTOR SHALL BRING ALL THE WIRES TO GRADE AND PROVIDE A 12" EXPANSION CURL COVERED BY A RECTANGULAR VALVE BOX MARKED "IRRIGATION WIRE".
  18. WIRE SPLICES: ALL SPLICES SHALL BE MADE WITH SCOTCH-LOK #3577 CONNECTOR SEALING PACKS, PEN-TITE WIRE CONNECTOR, OR APPROVED EQUAL. USE ONE SPLICE PER CONNECTOR. ALL SPLICES SHALL BE MADE AT VALVES OR CONTROLLER. NO OTHER SPLICES WILL BE ALLOWED UNLESS APPROVED BY THE OWNER (JOB SUPERINTENDENT). ALL SPLICES NOT AT VALVES, SHALL BE MADE IN A RECTANGULAR VALVE BOX MARKED "IRRIGATION WIRE".
  19. TRENCHES: DIG TRENCHES STRAIGHT AND SUPPORT PIPE CONTINUOUSLY ON BOTTOM OF TRENCH. LAY PIPE TO AN EVEN GRADE.
  20. BACKFILL: THE TRENCHES SHALL NOT BE BACKFILLED UNTIL ALL REQUIRED TESTS ARE PERFORMED. TRENCHES SHALL BE CAREFULLY BACKFILLED WITH APPROVED MATERIALS, FREE FROM CLODS OF EARTH OR STONES TWO INCHES (2") OR LARGER. BACKFILL SHALL BE MECHANICALLY COMPACTED TO A DRY DENSITY EQUAL TO ADJACENT UNDISTURBED SOIL AND SHALL CONFORM TO ADJACENT SURFACE GRADES WITHOUT IRREGULARITIES.
  21. LINES UNDER PAVING: ALL IRRIGATION LINES, VALVES AND WIRING RUNS SHOWN ON PLANS IN THE STREET, PAVED AREAS AND UNDER HARDSCAPING ARE DIAGRAMMATIC. INSTALL THESE LINES, VALVES AND WIRING RUNS IN PLANTING AREAS EXCEPT WHERE IT IS OBVIOUS THAT THEY MUST CROSS THAT PAVED AREA TO GET FROM ONE PLANTING AREA TO ANOTHER OR UNLESS NOTED OTHERWISE.
  22. STREETS: WHERE ANY CUTTING OR BREAKING OF CONCRETE OR OTHER PAVING SURFACE IS NECESSARY, IT SHALL BE DONE AND REPLACED TO MATCH THE EXISTING WORK TO THE OWNER'S (JOB SUPERINTENDENT'S) SATISFACTION, BY THE CONTRACTOR, AS PART OF THE CONTRACT COST.
  23. SLEEVES: SLEEVES SHALL BE INSTALLED UNDER ALL STREETS AND PAVEMENT WIDER THAN SEVEN FEET (7') PER THE IRRIGATION PLAN. THE CONTRACTOR SHALL COORDINATE THE INSTALLATION OF SLEEVES WITH THE OWNER (JOB SUPERINTENDENT) PRIOR TO THE PAVING BEING INSTALLED.
  24. SLEEVE/PIPE COVER: ALL WIRE, PRESSURE AND NON-PRESSURE PIPE INSTALLED UNDER ASPHALTIC CONCRETE PAVING SHALL BE INSTALLED IN CLASS 315 PVC SLEEVES BURIED TWENTY-FOUR INCHES (24") BELOW THE ROAD BED AND BACKFILLED PER STRUCTURAL SOILS REPORT SPECIFICATIONS.
  25. PIPE CLEARANCE: ALL LINES SHALL HAVE A MINIMUM CLEARANCE OF SIX INCHES (6") FROM EACH OTHER. PARALLEL LINES SHALL NOT BE INSTALLED DIRECTLY OVER ONE ANOTHER.
  26. CONTROL VALVES: INSTALL EACH CONTROL VALVE IN A SEPARATE LOCKING VALVE BOX WITH A MINIMUM OF TWELVE INCHES (12") BETWEEN VALVE BOXES, AND A MINIMUM OF SIX INCHES (6") BETWEEN VALVE BOXES AND ANY WALK OR STRUCTURE.
  27. HEAD INSTALLATION: IRRIGATION HEADS SHALL BE INSTALLED ONLY AFTER THE SYSTEM HAS BEEN FLUSHED TO THE COMPLETE SATISFACTION OF THE OWNER (JOB SUPERINTENDENT).
  28. HEAD SPACING: SPACING OF HEADS SHALL NOT EXCEED THE MAXIMUM INDICATED ON THE DRAWINGS. IN NO CASE SHALL THE SPACING EXCEED THE MAXIMUM RECOMMENDED BY THE MANUFACTURER.
  29. INSTALLATION ANGLE OF IRRIGATION HEAD: ALL SPRINKLER HEADS SHALL BE SET PERPENDICULAR TO FINISHED GRADES UNLESS OTHERWISE DESIGNATED ON THE PLANS.
  30. PIPE ON GRADE: ALL PIPE ON GRADE SHALL BE SECURED TO SLOPE SURFACES AT 10' O.C. AND TO FLAT AREAS AT 20' O.C. MAXIMUM WITH #4 X 24" REBAR WITH "J" HOOKED RADIUS AT ONE END TO HOLD PIPE SECURELY IN PLACE.
  31. IRRIGATION SYSTEM REQUIREMENTS PRIOR TO PLANTING: THE ENTIRE SPRINKLER IRRIGATION SYSTEM SHALL BE UNDER FULL AUTOMATIC OPERATION PRIOR TO THE START OF ANY PLANTING WORK AND AN IRRIGATION COVERAGE TEST SHALL ALSO BE PERFORMED BY THE LANDSCAPE ARCHITECT PRIOR TO THE START OF ANY PLANTING.

**PURPLE CODING NOTE:**

CONTRACTOR SHALL PROVIDE PURPLE CODING FOR ALL HEADS THAT ARE ACCESSIBLE TO INSTALL WITHOUT HAVING TO PRUNE OR REMOVE EXISTING VEGETATION GREATER THAN 2 HORIZONTAL FEET OR MORE THAN 40% OF ANY EXISTING SHRUB.

**INSTALLATION NOTES**

THE MATERIALS AND THE INSTALLATION OF THE IRRIGATION SYSTEM SHOWN ON THIS PLAN SHALL MEET THE LATEST EMWD AND CITY OF WINCHESTER / VALLEY-WIDE RECREATION AND PARK DISTRICT STANDARDS AND SPECIFICATIONS. IF CONTRACTOR NOTICES ANY INCONSISTENCIES WITH THE LATEST IRRIGATION DESIGN STANDARDS, HE SHALL IMMEDIATELY NOTIFY ALL PARTIES.

NO HOSE BIBS WILL BE ALLOWED FOR INSTALLATION ON SYSTEMS USING RECYCLED WATER.

**COLOR CODING**

SPRINKLERS, ROTOR HEADS AND OTHER TYPES OF DISPERSION HEADS SHALL HAVE THE EXPOSED SURFACE COLORED PURPLE. THE EXPOSED SURFACE SHALL BE COLORED THROUGH THE USE OF INTEGRALLY MOLDED PURPLE PLASTIC OR PERMANENTLY ATTACHED PURPLE PLASTIC RING OR DISC. VALVE BOXES AND LIDS SHALL BE PURPLE PER INDUSTRY STANDARDS. THE LIDS SHALL HAVE THE WARNING "RECYCLED: DO NOT DRINK" IN ENGLISH AND SPANISH AND THE INTERNATIONAL "DO NOT DRINK" ON ONE SIDE AND "PELIGRO: AGUA IMPURA-NO BEBER" ON THE OPPOSITE SIDE. ALL SHRUB HEADS SHALL HAVE PURPLE CAPS. ROTOR HEADS MAYBE PAINTED PURPLE WHEN REPLACEMENT CAPS OR COLLARS ARE NOT AVAILABLE. CONTRACTOR TO SUBMIT QUANTITIES, MANUFACTURER AND MODEL NUMBER OF THE HEAD TO EMWD FOR APPROVAL.

**DIG ALERT**

Call: TOLL FREE  
1-800-227-2600  
OR  
811

TWO FULL WORKING DAYS BEFORE YOU DIG



BENCH MARK DESCRIPTION: \_\_\_\_\_

LOCATION: \_\_\_\_\_

VERTICAL DATUM: \_\_\_\_\_

HORIZONTAL DATUM: \_\_\_\_\_

ACCEPTED BY: \_\_\_\_\_

VALLEY-WIDE RECREATION AND PARK DISTRICT

DEPARTMENT	ACCEPTANCE	DATE
	<i>[Signature]</i>	6/17/19

DATE: 12/05/2016

DRAWN BY: HNCC

CHECKED BY: ENGINEER

ACCEPTED BY: \_\_\_\_\_

REVISIONS

DATE	BY	MARK	DESCRIPTION

APPR. DATE: \_\_\_\_\_

EMWD

ACCEPTED BY: \_\_\_\_\_

EASTERN MUNICIPAL WATER DISTRICT

SENIOR CIVIL ENGINEER

DATE: \_\_\_\_\_

DEPARTMENT: \_\_\_\_\_

ACCEPTANCE: \_\_\_\_\_

DATE: \_\_\_\_\_

NEW BUSINESS P.C.

OPERATIONS

ENGINEERING

POS ENGINEER

ACCEPTED BY: \_\_\_\_\_

BENTON CREEK CHANNEL

WINCHESTER, CA.

RECYCLED WATER IRRIGATION RETROFIT IMPROVEMENTS

IRRIGATION SPECIFICATIONS

WO: 19229
PCWO: _____
RWUE: _____
RWUP: _____
SHT _12_ OF _12_
D-



# LANDSCAPE CONSTRUCTION DOCUMENTS

## BENTON ROAD STREETSCAPE

### (Valley Wide Landscape Maintenance District)

## RHEINGANS, TRACT 30167

### County of Riverside, Ca.

#### GENERAL NOTES

##### VALLEY WIDE INSPECTION LIST

##### 1. Irrigation Inspections:

##### a. Site inspections and notification time.

- i. Pre-construction conference 7 days
- ii. Pressure line installation and testing 48 hours
- iii. Controller installation 48 hours
- iv. Lateral line and sprinkler installation 48 hours
- v. Coverage test 48 hours
- vi. Final Inspection 7 days

b. No field inspections will commence unless record drawings are current and available for observation upon request by the Owner's representative.

##### 2. Planting Inspections:

- a. Request for inspections must have 48 hour notice in advance.
- b. Contractor must be on site for all inspections.
- c. Any work not completed when inspector arrives which was requested for, shall be billed to the contractor at the current inspector's rate
- d. Any work completed without inspection or approval shall be removed, exposed or replaced at the cost of the contractor.
- e. Contractor shall call for inspection for the following items:

- i. Final grading
- ii. Weed-abatement Observation
- iii. Tree and shrub layout
- iv. Tree and shrub planting pits
- v. Finish grade prior to hydro-seeding
- vi. Final Inspection

##### 3. Submittals:

- a. All submittals shall be submitted within 15 days after receipt of executed contract.
- b. Contract shall submit the follow items but not limited to:
  - i. Plant material proof of purchase with listed nurseries and material sizes for approval
  - ii. All soil amendments
  - iii. Bark mulch
  - iv. Soil report
  - v. Labels for all herbicide and fertilizers used
  - vi. Hydro-seed mix

#### SHEET INDEX

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#### PREPARED FOR

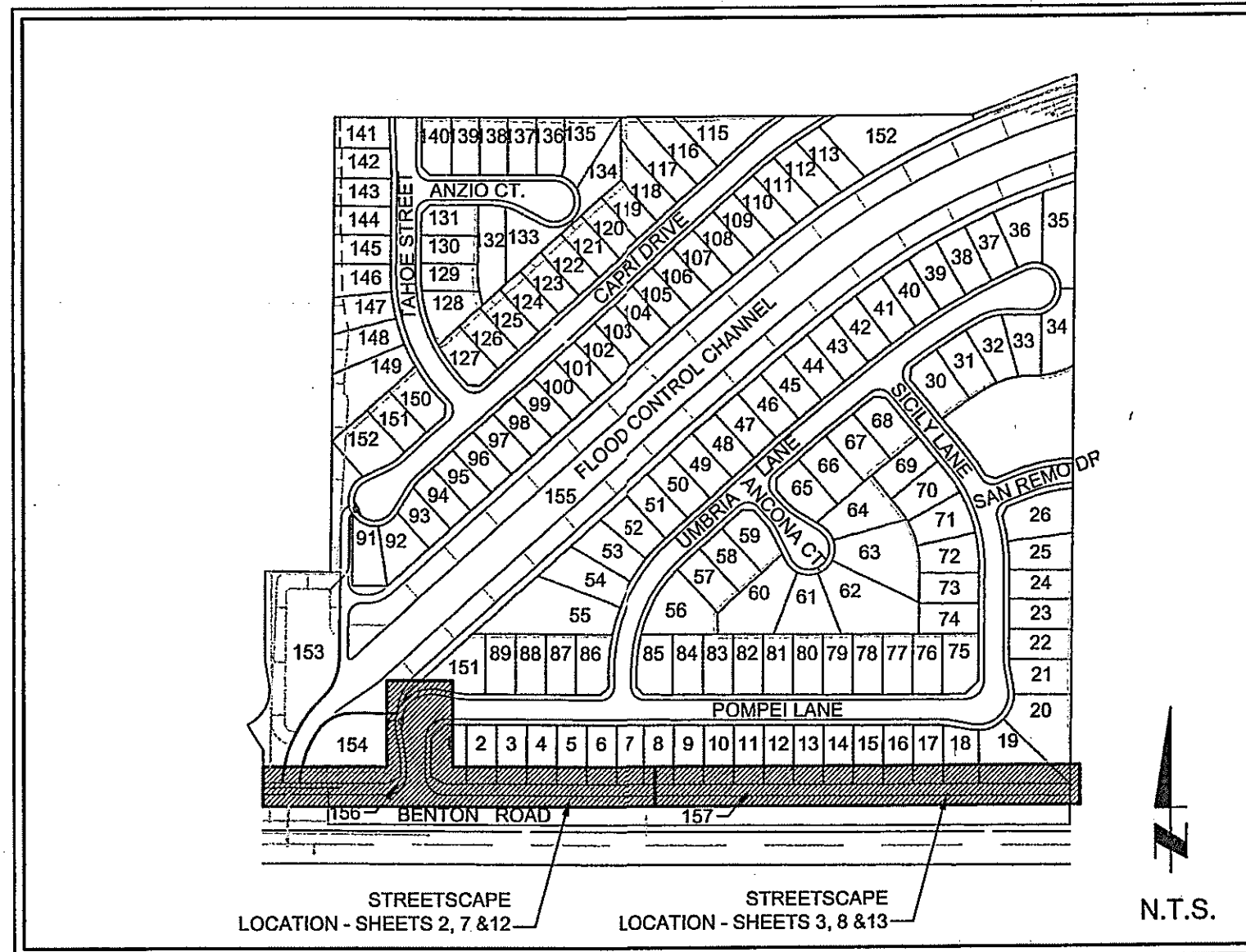
**K B HOME - COASTAL SAN DIEGO DIVISION, INC.**  
 12235 EL CAMINO REAL, SUITE 100  
 SAN DIEGO, CA 92130  
 PHONE: 858-259-6000,  
 FAX: 858-259-5108  
 CONTACT: SCOTT HANSEN

#### PREPARED BY

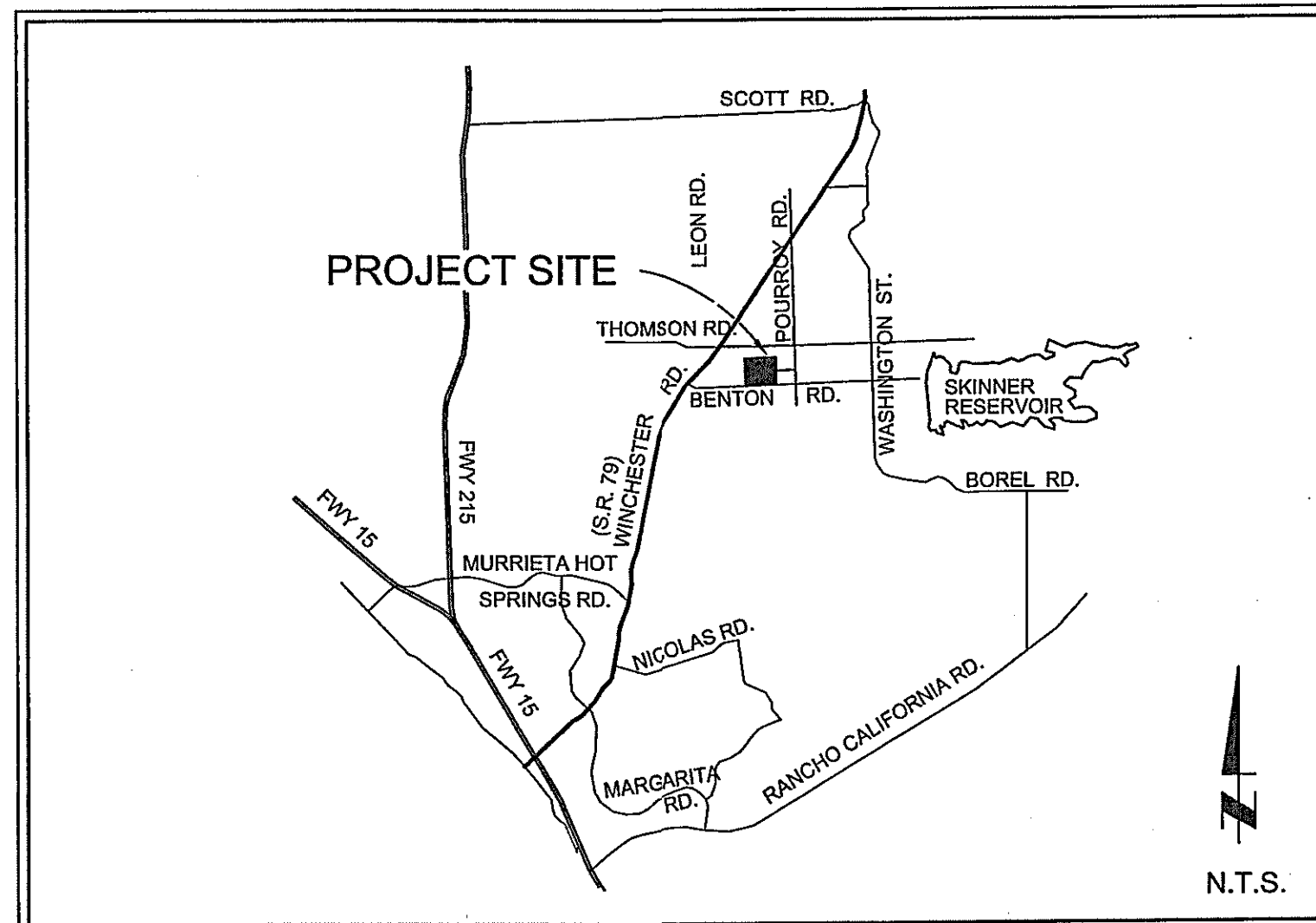
**SKA LANDSCAPE ARCHITECTURE, INC.**  
 6153 FAIRMOUNT AVENUE, SUITE 260  
 SAN DIEGO, CA 92120  
 PHONE: 619-584-5444  
 FAX: 619-584-5448  
 CONTACT: JOHN O'MALLEY

#### LANDSCAPE QUANTITIES

8,392 TOTAL SQ. FT. IN R.O.W.  
 14,034 TOTAL SQ. FT. IN VALLEY-WIDE LMD AREA  
 (27) 24" BOX TREES IN R.O.W. BY SIZE



KEY MAP

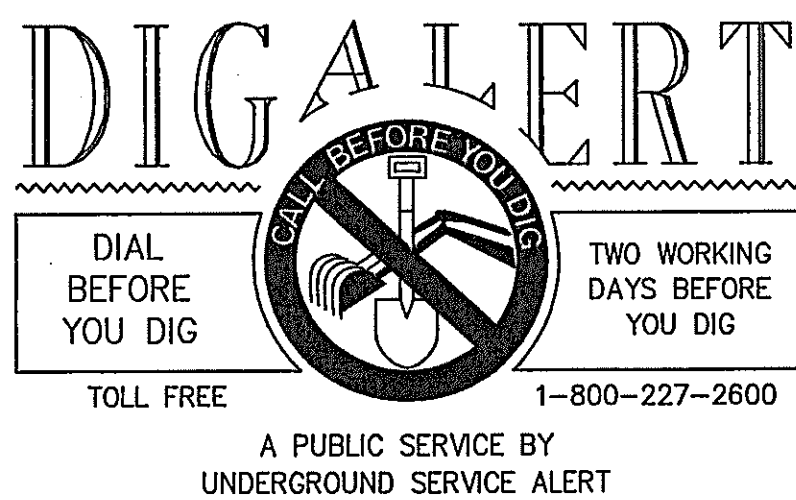


VICINITY MAP

#### AMERICANS WITH DISABILITIES NOTES

- ALL SLOPES SHOWN ON THIS PLAN WERE DESIGNED AT OR BELOW MAXIMUMS ALLOWED BY THE AMERICANS WITH DISABILITY ACT ACCESS GUIDE (A.D.A.A.G.) IN ORDER TO ALLOW FOR CONSTRUCTION TOLERANCES. IT IS THE CONTRACTORS RESPONSIBILITY TO FAMILIARIZE THEMSELVES WITH A.D.A.A.G. AND IN THE EVENT THAT A DESIGN QUESTION SHOULD ARISE, OR A FIELD CONDITION PRESENT ITSELF THAT IS DIFFERENT THAN SHOWN ON THESE PLANS, WORK SHOULD CEASE AND THE ENGINEER BE NOTIFIED SO THAT AN ACCEPTABLE SOLUTION CAN BE DETERMINED.
- THE CONTRACTOR IS ADVISED TO CAREFULLY CHECK ALL PHASES OF WORK RELATING TO A.D.A.A.G. ACCESS FOR THIS PROJECT. SINCE THE CODE DOES NOT ALLOW FOR A CONSTRUCTION TOLERANCE, ANY CONSTRUCTION THAT EXCEEDS MAXIMUM OR MINIMUM DIMENSIONS AND SLOPES AS CALLED OUT BY A.D.A.A.G. ARE SUBJECT TO REJECTION BY THE COUNTY AND MAY BE REQUIRED TO BE REMOVED AND REPLACED.
- SINCE THE CIVIL ENGINEER OR SURVEYOR CANNOT CONTROL THE EXACT METHODS OR MEANS USED BY THE GENERAL CONTRACTOR OR THEIR SUB-CONTRACTOR DURING GRADING AND CONSTRUCTION OF THE PROJECT, THE CIVIL ENGINEER OR SURVEYOR ASSUMES NO RESPONSIBILITY FOR FINAL ACCEPTANCE OF A.D.A.A.G. RELATED ITEMS OF THIS PROJECT BY THE COUNTY, ANY OTHER AUTHORITY OR OTHER AFFECTED PARTIES.

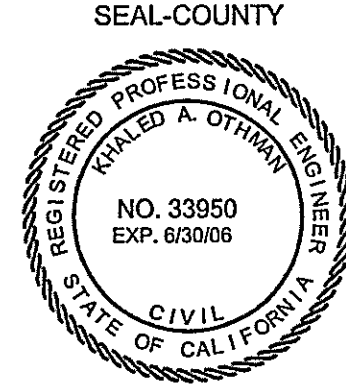
COMPLIANCE WITH A.D.A.A.G. CONSTRUCTION REQUIREMENTS WILL BE THE SOLE RESPONSIBILITY OF THE GENERAL CONTRACTOR AND THEIR SUB-CONTRACTORS.



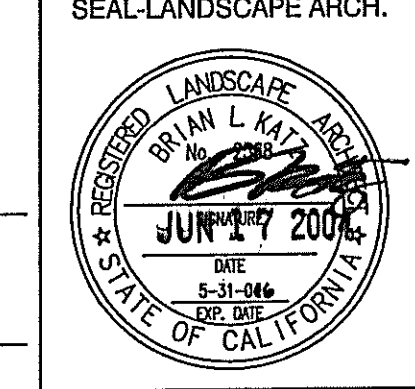
RECOMMENDED FOR APPROVAL	
DATE CHECKED BY	
DATE	

**NOTE:**  
 WORK CONTAINED WITHIN THESE PLANS SHALL NOT COMMENCE UNTIL AN ENCROACHMENT PERMIT AND/OR A GRADING PERMIT HAS BEEN ISSUED.  
 The private engineer signing these plans is responsible for assuring the accuracy and acceptability of the design hereon. In the event of discrepancies arising after county approval or during construction, the private engineer shall be responsible for determining an acceptable solution or revising the plans for approval by the county.

MARK	BY	DATE	REVISIONS	APPR. DATE	COUNTY
2	MVM	1-7-04	REVISED PER CITY PLAN CHECK COMMENTS		
3	MVM	4-26-04	REVISED PER CITY PLAN CHECK COMMENTS		
4	MVM	6-17-04	REVISED PER VALLEY-WIDE PLAN CHECK COMMENTS		

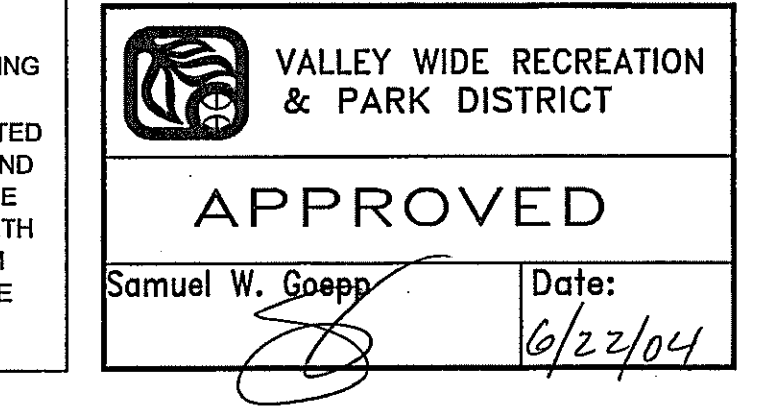


COUNTY OF RIVERSIDE  
 TRANSPORTATION DEPARTMENT  
 APPROVED BY:  
 KHALED A. OTHMAN DATE \_\_\_\_\_  
 RECOMMENDED BY: WILL DAN DATE \_\_\_\_\_



SKA LANDSCAPE ARCHITECTURE  
 SITE PLANNING  
 6153 Fairmount Ave. Suite 260  
 San Diego, CA 92120  
 T 619-584-5444 F 619-584-5448  
 mail@skainc.com  
 PREPARED BY: Brian L. Katz  
 R.L.A. NO. 2568  
 DATE 6/20/04

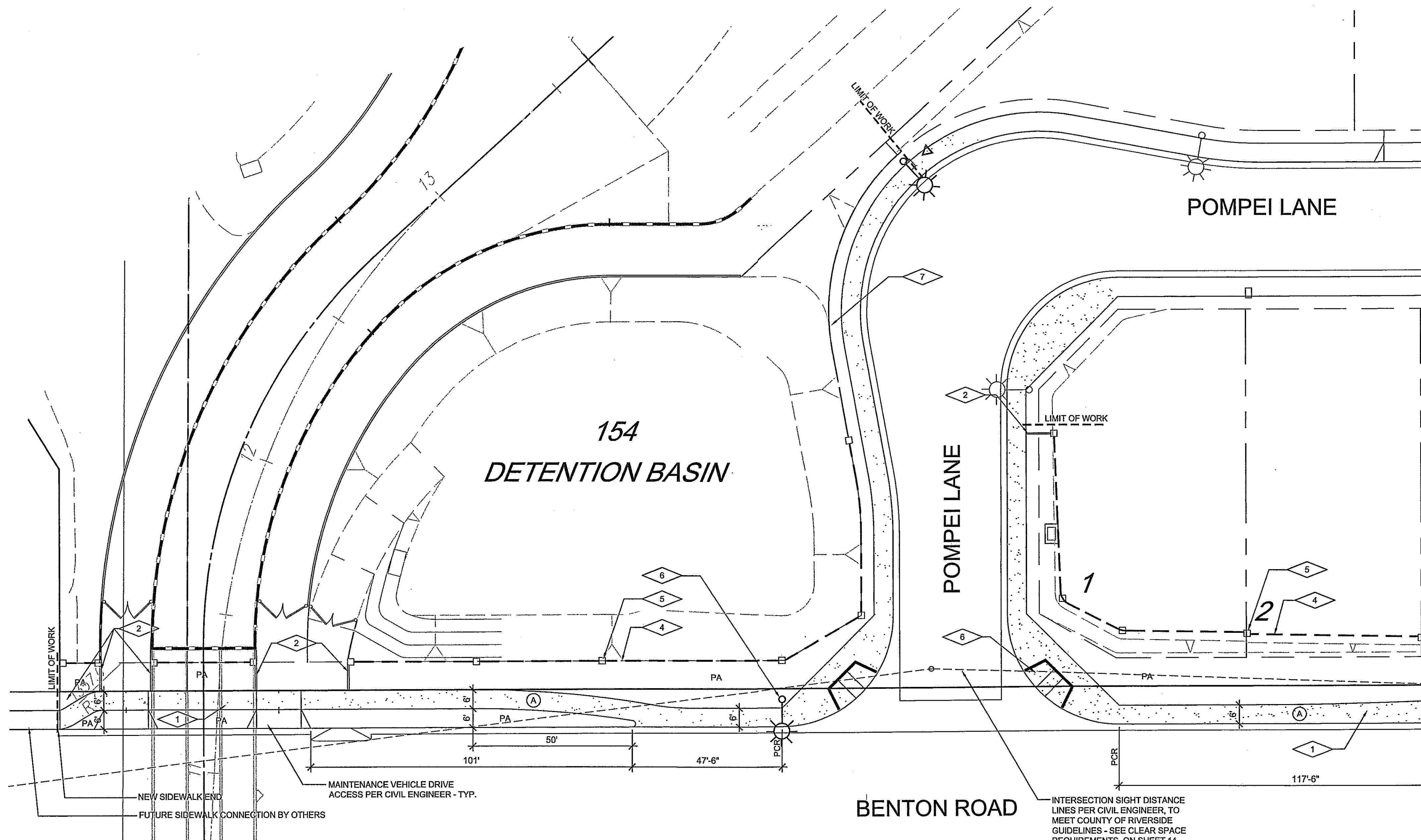
BENCHMARK: ELEV. 1339.039  
 RIVERSIDE COUNTY B.M. T-49-81, 2.5" BRASS DISK IN CONC. CYLINDER LOCATED AS FOLLOWS: FROM THE INT. OF RANCHO CA. RD. & FRONT ST. 1.7 MI. NW ON FRONT ST. -JEFFERSON AVE. TO THE INT. OF JEFFERSON & WINCHESTER RD. (HWY. 79), 6.5 MILES NE ON WINCH RD. (HWY. 79) TO THE INT. OF WINCH AND BENTON RD., 0.05 MI. W. ON BENTON RD. TO THE BENTON/BRIGGS ROAD INT., 0.5 MI. N. ON BRIGGS RD. TO THE BRIGGS/THOMPSON RD. INT., 200' E. OF THE INT., 22' S. OF THE CL THOMPSON RD. NEAR THE N.W. COR. OF 16' x 22' CHAIN LINK FENCE AROUND SOUTHERN CA. GAS CO. VALVES. WIRED PADDLE MARKED TO FENCE.  
 SCALE: H: \_\_\_\_\_ N.T.S. V: \_\_\_\_\_ N.T.S.



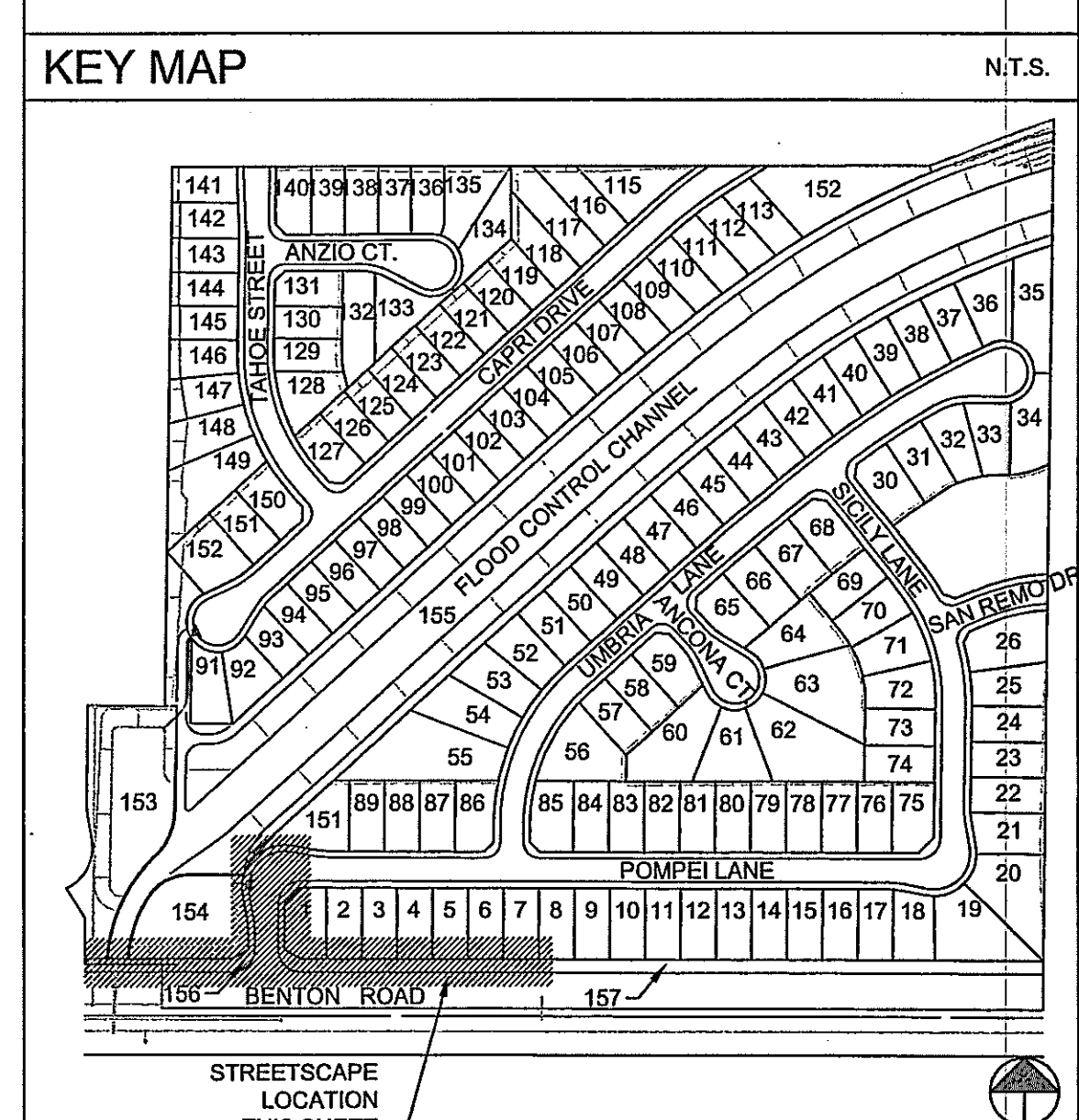
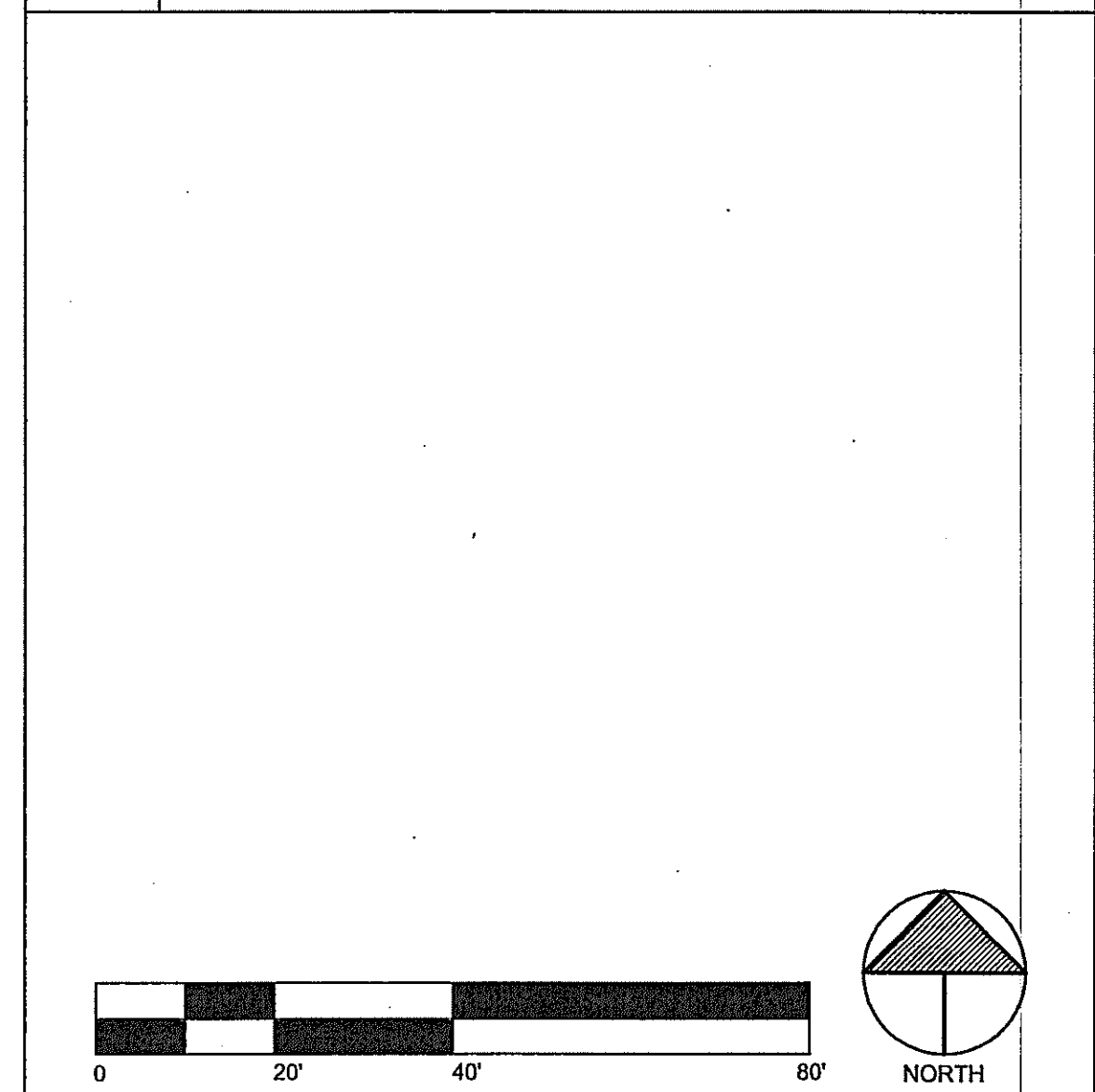
IP #030071  
 COUNTY OF RIVERSIDE  
 BENTON ROAD STREETSCAPE  
 TRACT 30167  
 TITLE SHEET

SHEET NO. 1 OF 16 SHTS.  
 FOR: KB HOME - COASTAL  
 W.O.:  
 COUNTY FILE NO.





CONSTRUCTION LEGEND	
1	CONCRETE FLATWORK - SEE DETAIL A, SHEET 4 (SEE ENGINEERING PLANS FOR VERTICAL CONTROL)
2	CONCRETE MOWCURB - SEE DETAIL B, SHEET 4
4	ADJACENT PROJECT PERIMETER WALL (NIC) - SEE WALL AND FENCING PLANS PREPARED BY SKA (SEPARATE PACKAGE)
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CONCRETE FINISH KEY	
(A)	CONCRETE PAVING WITH NO COLOR (GRAY) AND LIGHT BROOM FINISH
CONSTRUCTION SYMBOLS	
CLR	CLEAR
TOS	TOP OF SLOPE
TYP	TYPICAL
R	RADIUS EQUAL
FS	FINISH SURFACE
∧	FACE OF RISER
FG	FINISH GRADE
—	EXPANSION JOINT-SEE CONSTRUCTION DETAILS
PA	PLANTING AREA
⤵	ALIGN SYMBOL
PCR	POINT OF CURB RETURN

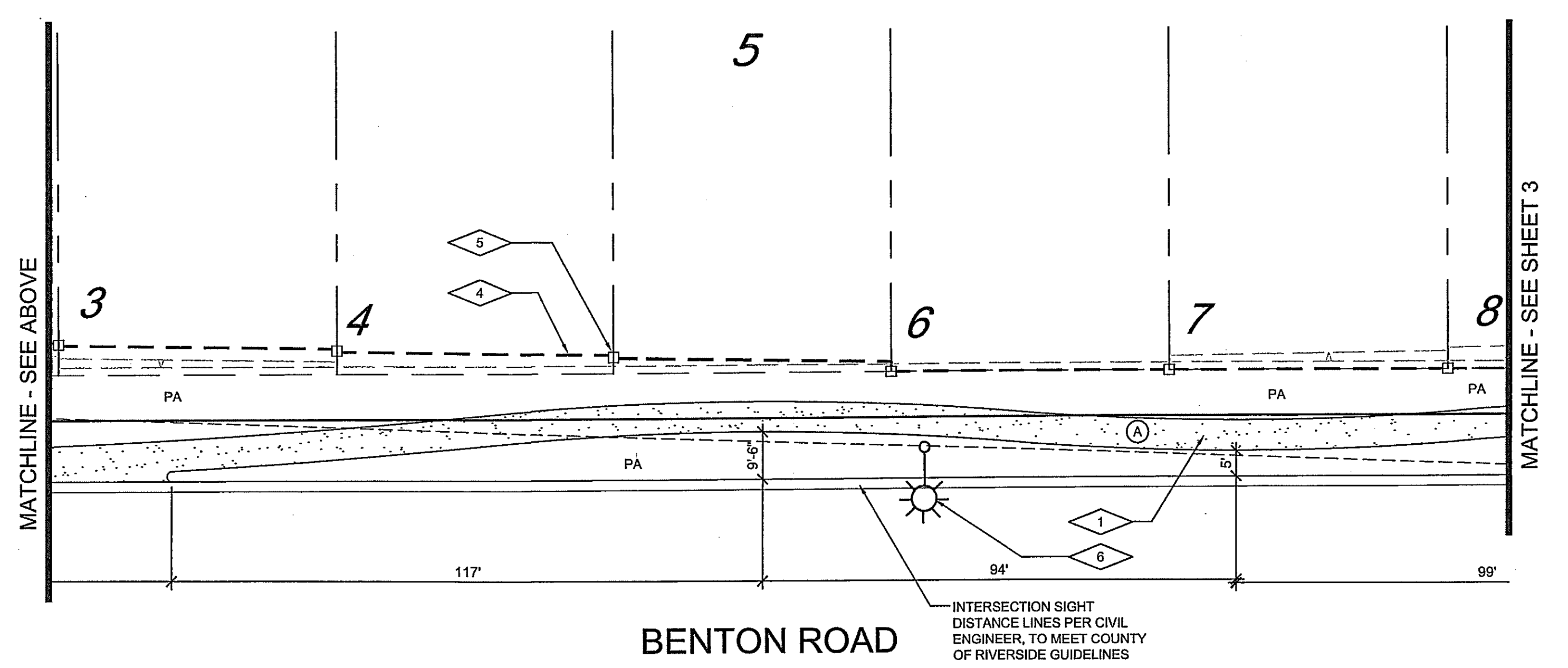


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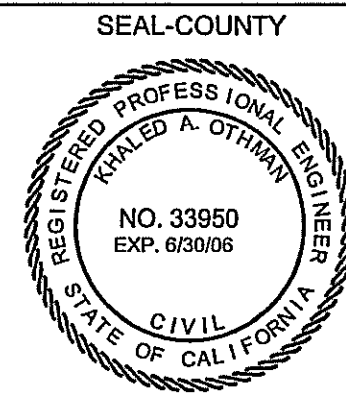
RECOMMENDED FOR APPROVAL	
DATE CHECKED BY	
DATE	

VALLEY WIDE RECREATION & PARK DISTRICT  
**APPROVED**  
 Samuel W. Goepf Date: 6/22/04



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COUNTY OF RIVERSIDE  
 TRANSPORTATION DEPARTMENT  
 APPROVED BY:  
 KHALED A. OTHMAN DATE  
 RECOMMENDED BY: WILL DAN DATE

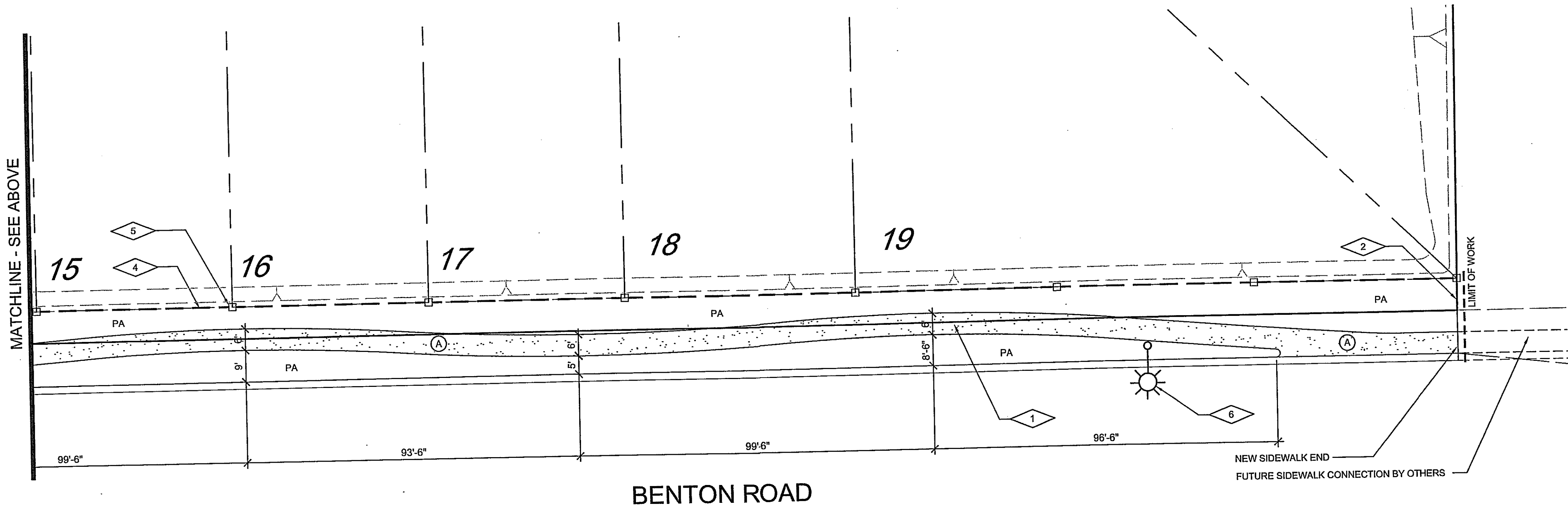
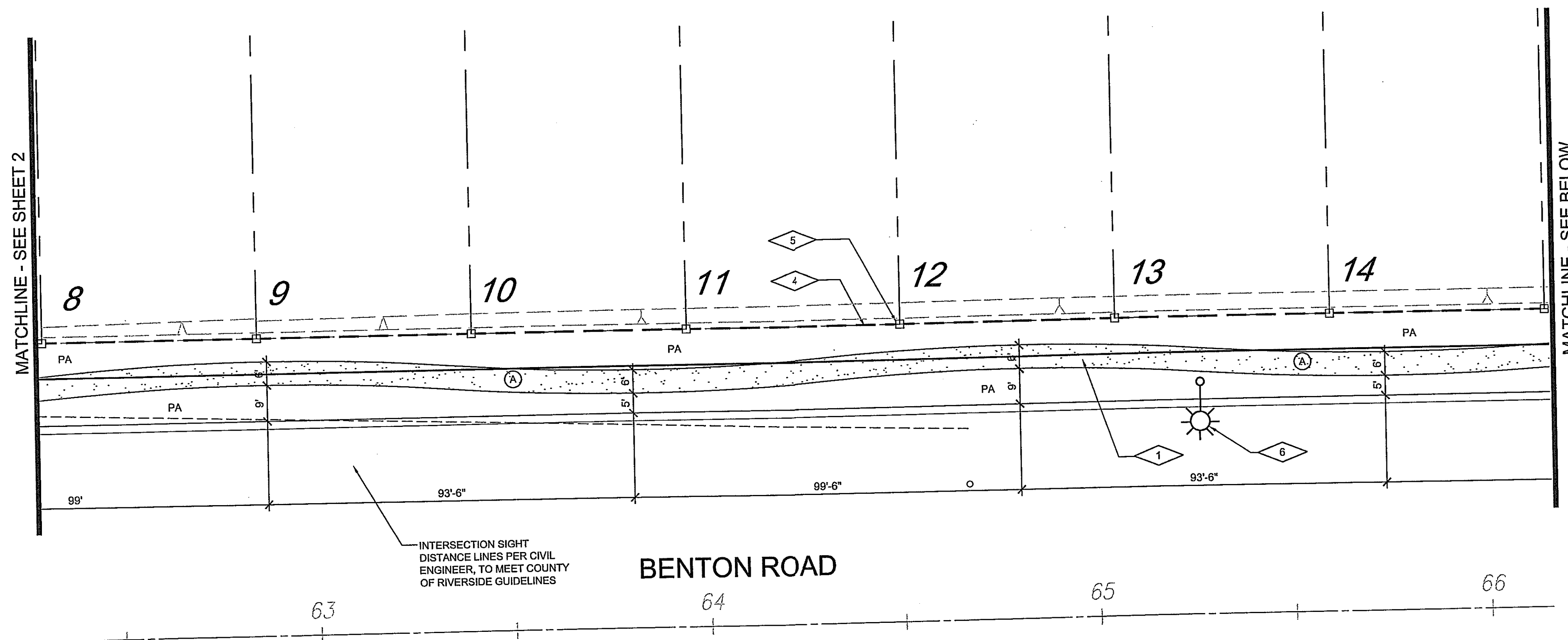


LANDSCAPE ARCHITECTURE SITE PLANNING  
 6153 Fairmount Ave. Suite 260  
 San Diego, CA 92120  
 T 619-584-5444 F 619-584-5448  
 mail@skainc.com  
 PREPARED BY: BRIAN L. KATZ  
 R.L.A. NO. 2568  
 DATE: 6/22/04

BENCHMARK: ELEV. 1339.039  
 RIVERSIDE COUNTY B.M. T-49-81, 2.5" BRASS DISK IN CONC. CYLINDER LOCATED AS FOLLOWS: FROM THE INT. OF RANCHO CA. RD. & FRONT ST. 1.7 MI. NW ON FRONT ST., JEFFERSON AVE. TO THE INT. OF JEFFERSON & WINCHESTER RD. (HWY. 79), 5.5 MILES NE ON WINCH RD. (HWY. 79) TO THE INT. OF WINCH AND BENTON RD., 0.05 MI. W. ON BENTON RD. TO THE BENTON/BRIGGS ROAD INT., 0.5 MI. N. ON BRIGGS RD. TO THE BRIGGS/THOMPSON RD. INT., 200' E. OF THE INT. 22' S. OF THE CAL. THOMPSON RD. NEAR THE N.W. COR. OF 16' x 22' CHAIN LINK FENCE AROUND SOUTHERN CA. GAS CO. VALVES. WIRED PADDLE MARKED TO FENCE.  
 SCALE: H: 1" = 20'-0" V: 1" = 20'-0"

IP #030071	SHEET NO. 2
COUNTY OF RIVERSIDE BENTON ROAD STREETScape TRACT 30167 CONSTRUCTION PLAN	OF 16 SHTS.
FOR: KB HOME - COASTAL	W.O.: COUNTY FILE NO.





**CONSTRUCTION LEGEND**

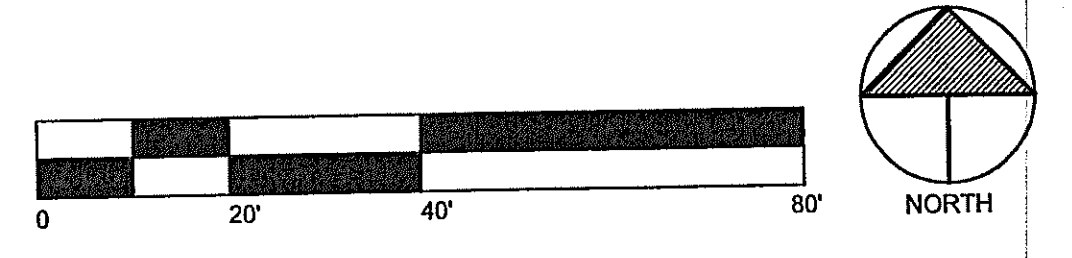
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**CONCRETE FINISH KEY**

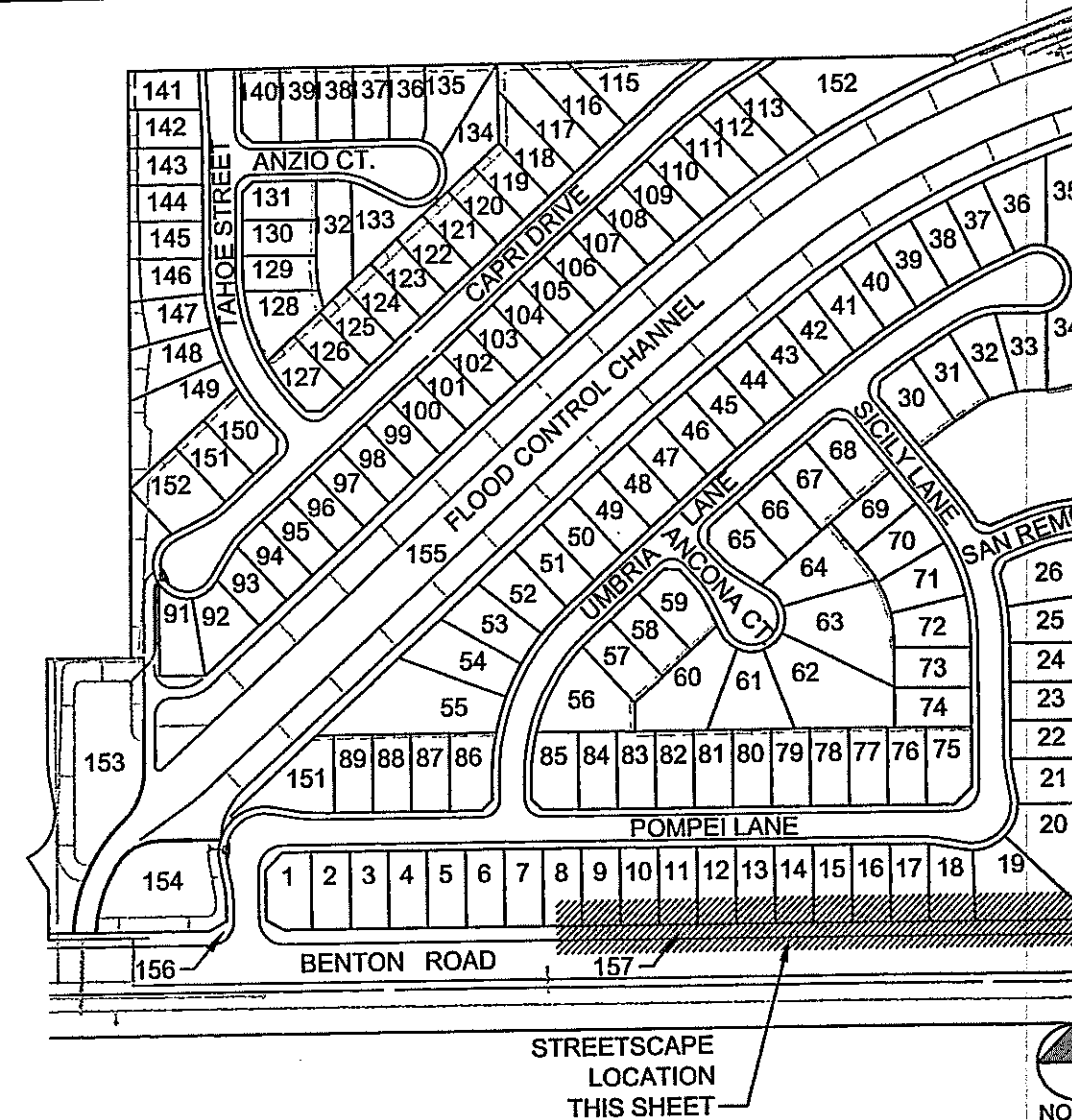
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**KEY MAP** N.T.S.



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**APPROVED**  
 Samuel W. Goepf Date: 6/22/04

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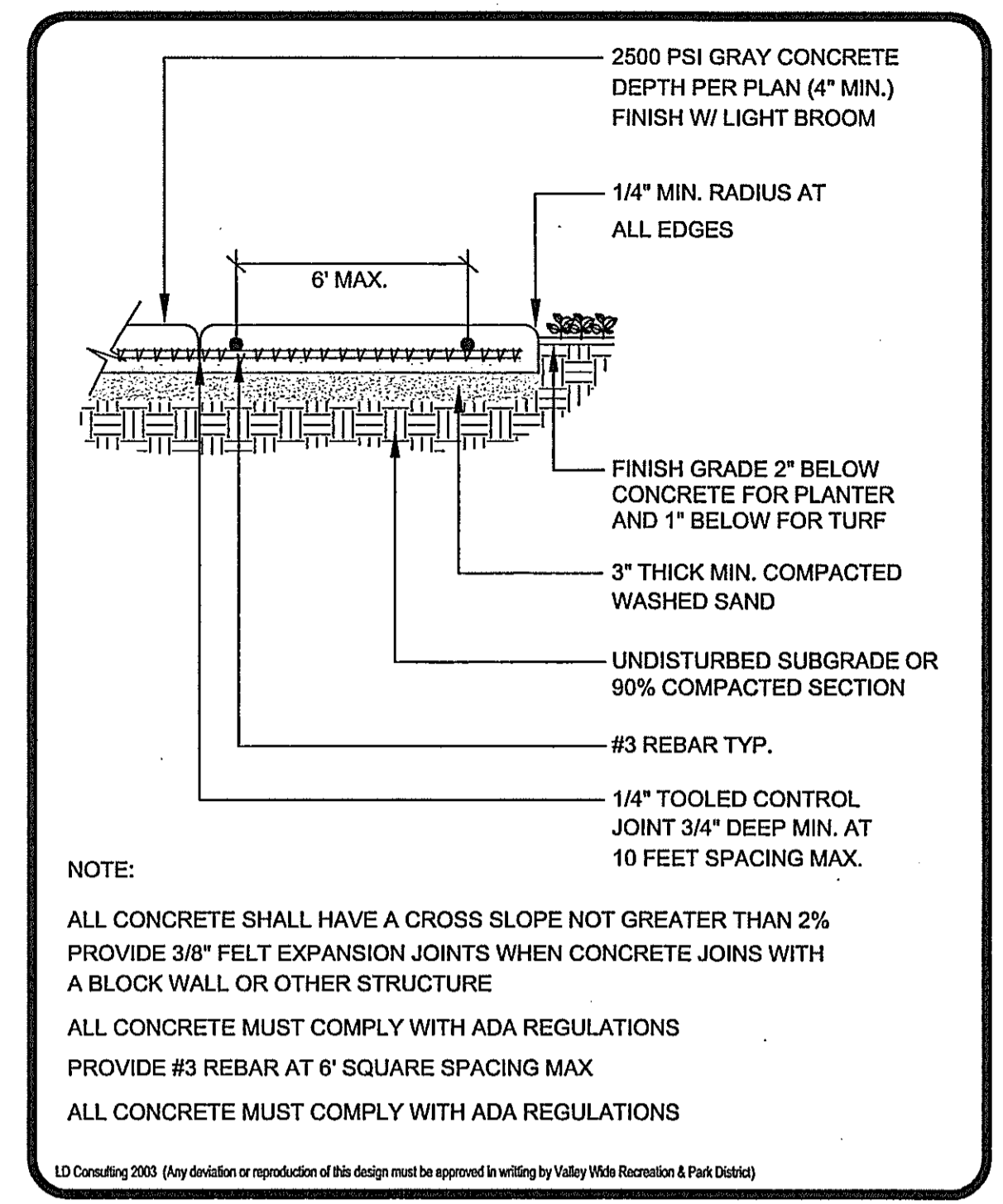
SEAL-COUNTY  
 COUNTY OF RIVERSIDE  
**TRANSPORTATION DEPARTMENT**  
 APPROVED BY:  
 KHALED A. OTHMAN  
 DATE: \_\_\_\_\_  
 RECOMMENDED BY: WILL DAN  
 DATE: \_\_\_\_\_

SEAL-LANDSCAPE ARCH.  
**SKA**  
 LANDSCAPE ARCHITECTURE  
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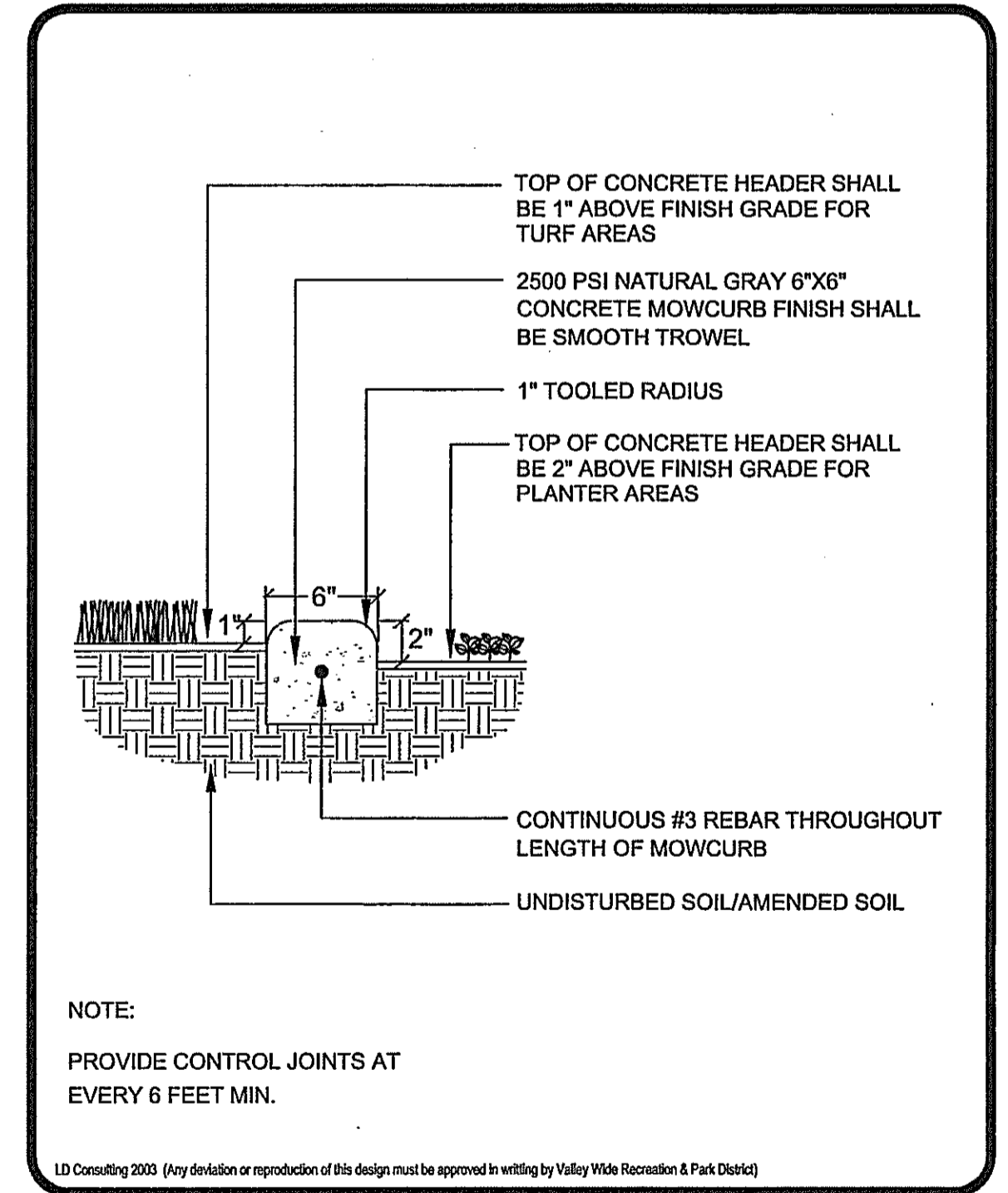
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 COUNTY OF RIVERSIDE  
**BENTON ROAD STREETScape**  
 TRACT 30167  
**CONSTRUCTION PLAN**  
 SHEET NO. 3 OF 16 SHTS.  
 FOR: KB HOME - COASTAL  
 W.O.:  
 COUNTY FILE NO.:





**VALLEY WIDE RECREATION**  
5/03  
**CONCRETE FLATWORK** LC-2



**VALLEY WIDE RECREATION**  
5/03  
**CONCRETE MOWCURB** PL-8

**VALLEY WIDE RECREATION & PARK DISTRICT**  
**APPROVED**  
Samuel W. Coopp Date: 6/22/04

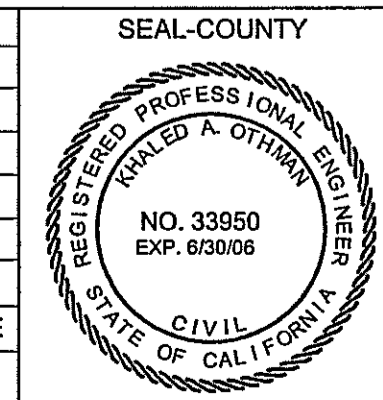
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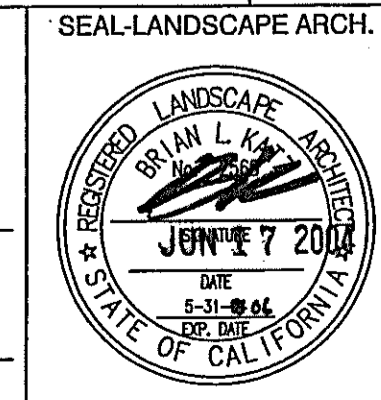
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COUNTY OF RIVERSIDE  
**TRANSPORTATION DEPARTMENT**  
APPROVED BY:  
KHALED A. OTHMAN DATE  
RECOMMENDED BY: WILL DAN DATE



**SLTA**  
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BENTON ROAD STREETSCAPE  
TRACT 30167  
CONSTRUCTION DETAILS  
FOR: KB HOME - COASTAL  
W.O.:  
COUNTY FILE NO.  
SHEET NO. 4  
OF 16 SHTS.



SECTION 02600 - CONCRETE

I. CONCRETE SPECIFICATIONS: GENERAL

1. Permits
  - a. Contractor shall obtain and pay for any permits required.
2. Intent
  - a. The intent of the drawings and specifications is to indicate the process required for the installation without additional cost in labor and material to the owner.
3. Scope of Work
  - a. Furnish all labor, material, equipment, tools and all necessary operations to perform and complete all construction as indicated in specifications and drawings.
4. Inspections
  - a. A 48-hour notice is required for inspections.
  - b. Contractor must be on site for all inspections
  - c. Any non-productive inspection shall be billed to the contractor at the current inspector's rate
5. Submittals
  - a. All submittals shall be submitted within 15 days after receipt of executed contract.
  - b. Contractor shall submit all, but not limited to, the following items:
    - i. Manufacturer specifications of material used
    - ii. Manufacturer warranties
    - iii. Required shop drawings
  - iv. Specifications for herbicide
  - v. Base rock
  - vi. Portland cement
  - c. Submittals for substitutions will be considered when specified material is proven unavailable.
  - d. All substitutions shall be approved in writing.

II. CONCRETE SPECIFICATIONS: MATERIALS

1. Cement
  - a. Cement shall be Portland cement standard brand type I or II in compliance with ASTM C-150.
2. Aggregates
  - a. Aggregates shall be aggregate hardrock in compliance with ATSM C-33. Aggregates shall be class II with a maximum of 3/8" in diameter.
3. Sand
  - a. Sand shall be natural, strong and durable washed, not containing more than 2% of shale, clay or other harmful material, free of impurities.
4. Water
  - a. Water shall be potable free from harmful levels of alkali, acid or salt.
5. Bars
  - a. Bars shall be Grade 40 and in compliance with ASTM A-615.
6. Welded Wire Mesh
  - a. Welded wire mesh shall be 6" x 6" unless otherwise noted. Welded wire mesh shall be in compliance with ASTM A-185.
7. Tie Wire
  - a. Tie wire shall be 16 gauge minimum, black annealed.
8. Integral Pigment
  - a. Integral pigment shall be iron oxide plain concrete.
9. Curing Compound
  - a. Curing compound shall be A.C. Horn or equal.
10. Expansion Joints
  - a. Expansion joints shall be asphalt impregnated fiberboard 3/8" thick minimum.

III. CONCRETE SPECIFICATION: EXECUTION

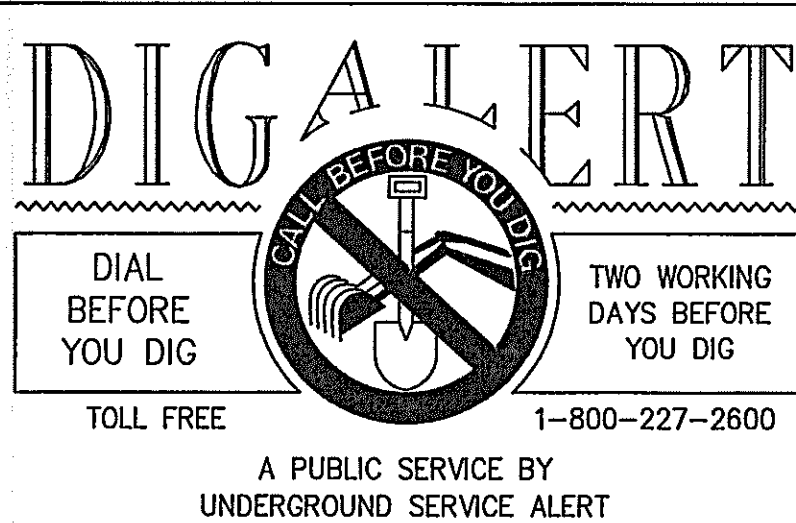
1. Subgrade Preparation
  - a. Prior to placement of concrete the subgrade shall be compacted using a tamp or roller.
  - b. Sub-grade shall be compacted to 95% density unless otherwise noted.
2. Sand Base
  - a. Sand Base shall have a depth as specified in details.
  - b. Sand Base shall be mechanically compacted to a smooth surface and watered after completion.
3. Forms
  - a. Forms shall be Douglas Fir or equal with a minimum height of 3 1/2 inches. Forms shall have a smooth texture, straight upper edge.
  - b. Bender board or thin planks shall be used for radius curves.
  - c. Forms shall not vary from vertical grade by more than 0.02' in 10' and from horizontal alignment by more than 6". A window of fill dirt may be required to eliminate bulging when concrete is poured.
  - d. All forms shall be protected in place for a period of 12 hours minimum with the exception of vertical curbs.
  - e. All forms shall be clean and coated with a light oil to prevent the concrete from adhering to forms.
  - f. All forms shall be held in place with steel or wood stakes as required.

4. Reinforcing

- a. Bars
  - i. Bars shall be as specified in drawings.
  - ii. Bars shall be clean, free of rust, oil and grease.
  - iii. Bars shall be secured together at intersections with 16-gauge wire.
  - iv. Intersections shall be supported with pre-cast mortar blocks or other approved spacers.
  - v. The bars shall be supported in a manner to support foot traffic and concrete pouring without displacement.
  - vi. All bar welding shall be performed by a qualified welder in compliance with the American Welding Society's recommendations for welding reinforcing steel. (AWS D12.1) latest edition.
  - vii. Existing reinforcing bars, which are connected to new reinforcing bars, shall be cleaned to remove any dirt, rust, oil or grease.
  - b. Welded wire mesh shall be as specified and be overlapped one full mesh square and shall be held in the middle of the slab.
5. Concrete Mixing
  - a. Concrete mixing shall be in compliance with ASTM C-94 and shall consist of the following:
    - i. 6 sacks of Portland cement per cubic yard.
    - ii. 6-3/4 gallons of water per sack of cement maximum.
  - b. Slump, 2 to 5 inches of concrete shall fall in globs from chute. Any soupy mixtures shall not be accepted.
  - c. Mixing strength for footings, curbs and flat work shall be 2,500 pounds per square inch @ 28 days.
  - d. Concrete mixed in a transit mixer shall be mixed for a period of 10 minutes minimum at a peripheral drum speed of 200 feet per minute.
  - e. Concrete color shall be standard gray unless otherwise specified.
6. Site Conditions
  - a. All existing trees, shrubs, groundcovers, hardscaping and structures within the limits of work specified shall be protected under this section.
7. Weather Conditions
  - a. No concrete shall be poured or finished when rain is apparent.
  - b. No concrete paving shall commence during rainfall or unless air temperature is 50°F and increasing unless previously approved in writing. No request will be reviewed unless contractor submits a program for cold weather pouring. Report shall be based on ACI Standards.
  - c. No concrete shall be mixed or poured when the temperature is below 40°F or when conditions indicate that the temperature will fall below 40°F within 72 hours. Concrete when deposited shall have a temperature of not less than 60°F. Reinforcements, forms, and ground of which concrete will come in contact with shall be completely free of frost.
8. Pouring
  - a. Prior to placement of concrete, all tools and equipment used for mixing and conveying shall be cleaned. All forms must be wet and entire area where concrete will be placed must be cleaned.
  - b. Concrete pouring shall be carried on, as a continuous operation until the areas of approved size is complete. Cut off locations shall be approved and shall never end on a driveway.
  - c. Concrete shall be handled as rapidly as practicable from the mixer to the place of final deposit by methods, which prevent the separation or loss of material. It shall be deposited as nearly as practicable, in its final position to avoid rehandling or flowing. Concrete shall not be dropped freely more than six feet. Concrete that has partially hardened shall not be deposited in the work. The discharge of concrete shall be started not more than 45 minutes after the introduction of mixing water. Placing of concrete shall be completed within 90 minutes of the first introduction of water into the mix. It shall not be reworked.
  - d. In pouring columns, walls or thin sections of considerable heights, openings in the forms, elephant trunks or other approved devices shall be used which will permit the concrete to be placed without segregation and the accumulation of hardened concrete on the forms or metal reinforcement above the level of the concrete. Such devices shall be installed so the concrete will be dropped vertically. At least two hours must elapse after depositing concrete in wall or columns before depositing concrete in heads over openings, supported beams, girders or slabs.
  - e. All concrete shall be thoroughly compacted using approved mechanical vibrators. Internal vibration must be by direct action in the concrete and not against forms or reinforcement. Each pour shall be vibrated until the water shows indications of rising, but not until the water has risen.
  - f. Along the faces of the forms, suitable tools shall be used during the pour to force large particles away from the forms and bring mortar to the surface of the forms. In addition, when approved by the owner's representative, external form vibration may be used. The responsibility for providing fully filled out, smooth, clean and properly aligned surfaces free from objectionable pockets and blemishes shall rest entirely upon the contractor.
  - g. Slabs shall be tamped to depress the rock and push floated with a fill float as necessary. Care shall be taken at all times so that the wet slab meets the screeds accurately and does not rise above or lower below them.
  - h. When the slab is indicated as being poured directly on an earth construction pad without rock fill, proceed as follows: Although the construction pad was made level within 1.10 feet, it is assumed that by the time all the excavation for footings and utility trenches is completed, the surface will be considerably disturbed. Therefore, it shall be bladed off and brought to an accurate level of slight scarifying if necessary and compacted to a smooth, true surface. This level shall be thoroughly relevelled before each day's pour and thoroughly wet down, but not flooded.
  - i. Cast in place concrete foundation piers shall be poured into undisturbed pier holds. Casing should be placed where walls of the pier holes show instability. Casing should be withdrawn gradually as pour proceeds. Where ground water occurs in the pier hole, it should be pumped dry before pour or concrete by tremie method.
9. Construction Joints
  - a. Location and details of construction joints shall be as indicated. Joints shall be made and located as not to impair strength of the structure. Review all locations of construction joints with the owner's representative before blocking out the pours.
  - b. Large slabs poured on grade shall be limited to 10 x 10 ft. between construction joints, or as shown on the details and as approved by the owner's representative. Pathways shall have control joints every 5 feet. In general, lines of joints shall follow column lines or permanent walls. Construction and control joints shall be tooled with a 1/2" radius edge tool on both sides of the joint. Made joints straight, true and level. Control joints shall be 1/4" wide by 1/2" deep minimum.
10. Finishing
  - a. Finish shall be as specified on the details.
  - b. After concrete has been troweled to a smooth finish following lines and grades shown on the drawings, one of the following finishes shall be executed:
    - i. Broom: Draw broom across the surface at 90° to direction of traffic in a continuous motion from score mark to score mark or edge to edge. The degree of texture - light, medium or heavy broom - will be specified on the drawings. Broom marks shall be neat, parallel and uniform in texture throughout.
    - ii. Washed aggregate finish: Evenly expose aggregate by water washing and brushing or other approved means to an average depth of 1/8 inch.

- iii. Avoid pocketing and kicking out of aggregate.
  - iv. Finish shall be uniform throughout in color, texture and degree of exposure of aggregate and shall match existing work.
  11. Protections
    - a. Concrete surfaces shall be protected from the elements, defacement and traffic during construction operations with plywood.
  12. Defects
    - a. If any concrete work is not formed as indicated, is under-strength concrete, concrete out of line, level, plumb, or showing objectionable cracks, honeycomb, rock pockets, voids, spalling, exposed reinforcing or vandalism, it shall be repaired or removed and replaced as directed by the owner's representative. All cleaning, patching and repairs shall be subject to the owner's representative's approval and acceptance.
    - b. Defects in concrete work shall be repaired as directed by the owner's representative. Voids shall be chipped to a depth of at least one (1) inch or to remove all loose material with the edges perpendicular to the surface and parallel to form markings. Voids, surface irregularities, chipped areas, etc. Shall be filled by patching, gunite and/or rubbing as directed by the owner's representative and shall be done at the contractor's expense. Repaired surfaces shall duplicate the appearance of the unpatched work. Prepare a sample of a repaired condition for approval before proceeding with all of this work.
  13. Grading
    - a. The contractor shall complete grading and filling as needed and remove all rocks and debris
    - b. Sub-grading preparation shall be in accordance local governing agencies.
    - c. Prior to commencing any work the contractor shall carefully check all grades and verify that after all irrigation work and soil preparation completed, all grades will be per specified depth as per the landscape contractor's scope of work with +/-1/10.
  14. Clean-Up
    - a. Clean up shall take place on a daily basis, after each portion of work has been completed and as directed by the owner's representative. The contractor shall legally remove from site any trash or material from his scope of work.
  15. Final Approval
    - a. All concrete paving shall be inspected in its entirety by the owner's representative and have project final approval in writing.
- End of Section -

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RECOMMENDED FOR APPROVAL

DATE \_\_\_\_\_

CHECKED BY \_\_\_\_\_

DATE \_\_\_\_\_

**NOTE:**  
 WORK CONTAINED WITHIN THESE PLANS SHALL NOT COMMENCE UNTIL AN ENCROACHMENT PERMIT AND/OR A GRADING PERMIT HAS BEEN ISSUED.

*The private engineer signing these plans is responsible for assuring the accuracy and acceptability of the design hereon. In the event of discrepancies arising after county approval or during construction, the private engineer shall be responsible for determining an acceptable solution or revising the plans for approval by the county.*

MARK	BY	DATE	REVISIONS	APPR.	DATE
	ENGINEER			COUNTY	
2	MVM	1-7-04	REVISED PER CITY PLAN CHECK COMMENTS		
3	MVM	4-26-04	REVISED PER CITY PLAN CHECK COMMENTS		
4	MVM	6-17-04	REVISED PER VALLEY-WIDE PLAN CHECK COMMENTS		

SEAL-COUNTY

COUNTY OF RIVERSIDE  
 TRANSPORTATION DEPARTMENT  
 APPROVED BY:

KHALED A. OTHMAN \_\_\_\_\_ DATE \_\_\_\_\_

RECOMMENDED BY: WILL DAN \_\_\_\_\_ DATE \_\_\_\_\_

SEAL-LANDSCAPE ARCH.

LANDSCAPE ARCHITECTURE  
 SITE PLANNING

6153 Fairmount Ave, Suite 260  
 San Diego, CA 92120  
 T 619-584-5444 F 619-584-5448  
 mail@skainc.com

PREPARED BY: R.L.A. NO. 2569  
 DATE: 6/22/04

BENCHMARK: ELEV. 1339.039  
 RIVERSIDE COUNTY B.M. T-49-81, 2" BRASS DISK IN CONC.  
 CYLINDER LOCATED AS FOLLOWS: FROM THE INT. OF RANCHO CA. RD. & FRONT ST. 1.7 MI. NW ON FRONT ST. - JEFFERSON AVE. TO THE INT. OF JEFFERSON & WINCHESTER RD. (HWY. 79), 5.5 MILES NE ON WINCH RD. (HWY. 79) TO THE INT. OF WINCH AND BENTON RD., 0.05 MI. W. ON BENTON RD. TO THE BENTON/BRIGGS ROAD INT., 0.5 MI. N. ON BRIGGS RD. TO THE BRIGGS/THOMPSON RD. INT., 200' E. OF THE INT. 22' S. OF THE CA. THOMPSON RD. NEAR THE N.W. COR. OF 16' x 22' CHAIN LINK FENCE AROUND SOUTHERN GAS CO. VALVES. WIRED PADDLE MARKED TO FENCE.

SCALE: H: \_\_\_\_\_ N.T.S. V: \_\_\_\_\_ N.T.S.

VALLEY WIDE RECREATION & PARK DISTRICT

APPROVED

Samuel W. Goepf \_\_\_\_\_ Date: 6/22/04

IP #030071

COUNTY OF RIVERSIDE  
 BENTON ROAD STREETScape  
 TRACT 30167  
 CONSTRUCTION NOTES

FOR: KB HOME - COASTAL W.O.: COUNTY FILE NO.

SHEET NO. 5 OF 16 SHTS.



**METALWORKING**

**I. SCOPE OF WORK**

**A. GENERAL:**

1. CONTRACTOR SHALL PROVIDE ALL LABOR, MATERIALS, EQUIPMENT, AND INCIDENTALS TO FURNISH AND INSTALL MISCELLANEOUS METAL ITEMS CONFORMING TO THE DIMENSIONS AND DETAILS AS INDICATED ON THE DRAWINGS.
2. THIS SECTION DOES NOT INCLUDE REINFORCING STEEL FOR CONCRETE AND MASONRY OR ITEMS REQUIRED IN CONNECTION WITH IRRIGATION OR ELECTRICAL WORK.
3. CONTRACTOR SHALL SUBMIT IN TRIPlicate, SHOP DRAWINGS SHOWING DETAILS, DIMENSIONS, SIZES OF MATERIALS, AND ALL INFORMATION AND DATA NECESSARY FOR FABRICATION OF METAL ITEMS. ONE (1) SET WILL BE RETURNED TO THE CONTRACTOR.
4. NO SEPARATE PAYMENT SHALL BE MADE OF ANY WORK PERFORMED RELATED TO MISCELLANEOUS METALS. COMPENSATION SHALL BE INCLUDED IN THE UNIT PRICE BID FOR THE VARIOUS ITEMS OF WORK AND NO ADDITIONAL PAYMENT WILL BE MADE.
5. COSTS INCURRED FOR REPAIR OR REPLACEMENT OF DEFECTIVE OR DAMAGED WORK, REJECTED MATERIALS OR WORKMANSHIP SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.

**B. WORKMANSHIP:**

1. WORKMANSHIP AND FINISH SHALL BE TO THE BEST GENERAL PRACTICE IN STEEL FABRICATING SHOPS.
2. THE USE OF PARTICULAR METHODS AND EQUIPMENT SHALL BE TO THE APPROVAL OF THE OWNER'S AUTHORIZED REPRESENTATIVE. THIS APPROVAL SHALL NOT RELIEVE THE CONTRACTOR OF THE RESPONSIBILITY FOR THE SAFETY OF SUCH METHODS AND EQUIPMENT, OR FOR CARRYING OUT THE WORK IN FULL ACCORDANCE WITH THE DRAWINGS AND SPECIFICATIONS.
3. NO FABRICATING, MACHINING, CUTTING, ASSEMBLING OR PAINTING SHALL BE DONE WITHOUT THE OWNER'S AUTHORIZED REPRESENTATIVE'S KNOWLEDGE. ANY WORK DONE OTHERWISE WILL BE SUBJECTED TO REJECTION.
4. THE ACCEPTANCE OF ANY MATERIAL OR FINISHED MEMBER BY THE OWNER'S AUTHORIZED REPRESENTATIVE SHALL NOT PRECLUDE THE POSSIBILITY OF SUBSEQUENT REJECTION IF FOUND TO BE DEFECTIVE.
5. WHEN REQUESTED BY THE OWNER'S AUTHORIZED REPRESENTATIVE, CONTRACTOR SHALL FURNISH A MILL CERTIFIED REPORT CONTAINING THE RESULTS OF CHEMICAL AND PHYSICAL TESTS REQUIRED BY THE ASTM SPECIFICATION FOR THE MATERIAL BEING FABRICATED.
6. PARTS WILL BE ACCURATELY ASSEMBLED AS INDICATED ON THE DRAWINGS. MATERIALS SHALL BE CAREFULLY HANDLED TO AVOID DAMAGE. HAMMERING WHICH WILL INJURE OR DISTORT MEMBERS SHALL NOT BE PERMITTED.
7. PORTIONS OF WORK EXPOSED TO VIEW SHALL BE FINISHED NEATLY. SHEARING, FLAME CUTTING, AND CHIPPING SHALL BE DONE CAREFULLY AND ACCURATELY. ALL SHARP CORNERS AND EDGES THAT ARE MARRED, CUT OR ROUGHENED DURING ERECTION SHALL BE SLIGHTLY ROUNDED BY GRINDING OR OTHER MEANS SATISFACTORY TO THE OWNER'S AUTHORIZED REPRESENTATIVE.
8. CONTRACTOR SHALL MAKE ALL MEASUREMENTS FOR FABRICATION IN FIELD PRIOR TO STARTING WORK.
9. HORIZONTAL BARS TO TAPER WITH GRADE OR STEP WITH GRADE AS SHOWN ON THE DRAWINGS. VERTICAL BARS TO BE PLUMB.
10. GATES TO BE SELF-CLOSING.

**C. WELDING:**

1. WELDING, WELDER QUALIFICATIONS AND INSPECTION OF WELDING OPERATIONS SHALL CONFORM TO THE REQUIREMENTS OF THE AMERICAN WELDING SOCIETY AND THESE SPECIFICATIONS.
2. WELDING SHALL BE PERFORMED AT SHOP WHENEVER POSSIBLE, FIELD WELDS SHALL BE CLEANED AND TREATED WITH LEAD FREE ZINC RICH SOLDER APPLIED PER MANUFACTURER SPECIFICATIONS.
3. WELDING TO COMPLY WITH THE REQUIREMENTS OF STANDARD CODE FOR ARC AND GAS WELDING.
4. WELD TO ONLY CLEAN, RUST FREE SURFACE.
5. ALL WELDS TO BE CONTINUOUS AND FREE OF CRACKS, CRATERS, AND POROSITY. TACK WELDS ARE NOT ACCEPTABLE.
6. GRIND SMOOTH ALL EXPOSED WELDS, MATCH ADJOINING SURFACES.
7. PLUG ALL OPEN ENDS, TOPS, AND WELDS.

**D. MATERIALS:**

1. ALL MATERIALS, PRIOR TO FABRICATION, SHALL BE THOROUGHLY WIRE BRUSHED AND CLEANED OF ALL SCALE AND RUST. FINISHED MEMBERS SHALL BE FREE FROM TWISTS, BENDS OR OPENED JOINTS.
2. STEEL BARS, PLATES, AND SHAPES SHALL CONFORM TO ASTM A-36.
3. ROLLING AND CUTTING TOLERANCE, PERMISSIBLE VARIATIONS IN WEIGHT AND DIMENSIONS, DEFECTS AND IMPERFECTIONS SHALL NOT EXCEED LIMITS CONTAINED IN ASTM A-6.

**E. BOLTS, NUTS, NAILS, AND FASTENERS:**

1. BOLTS, NUTS, AND FASTENERS SHALL BE HOT DIPPED GALVANIZED, PRE-PRIMED AND SHALL CONFORM TO ASTM A-307.
2. BOLTS SHALL BE LONG ENOUGH TO EXTEND ENTIRELY THROUGH THE NUT BUT NOT MORE THAN ONE-QUARTER INCH (1/4") BEYOND. CUT ALL BOLTS FLUSH WITH NUTS, PEEN SMOOTH AND REMOVE ALL BURRS. HEADS AND NUTS OF MACHINE BOLTS AND NUTS OF CARRIAGE BOLTS SHALL HAVE WASHERS, EXCEPT AGAINST STEEL PLATES.
3. HOLES SHALL BE EITHER PUNCHED FULL SIZE, DRILLED FULL SIZE, OR SUB-PUNCHED AND REAMED. FINISH HOLES SHALL BE CYLINDRICAL PERPENDICULAR TO THE PLANE OF THE CONNECTION AND ONE-SIXTEENTH INCH (1/16") LARGER THAN THE NOMINAL DIAMETER OF THE BOLT; FREE OF BURRS, FINIS, SHARP EDGES AND HOLE IRREGULARITIES WHICH WOULD PREVENT SOLID SEATING OF THE PARTS.
4. ANCHOR BOLTS SHALL BE CAREFULLY INSTALLED TO PERMIT TRUE POSITIONING OF THE BEARING ASSEMBLIES.
5. FRAMING ANCHORS SHALL BE SIXTEEN (16) GAUGE, ZINC-COATED, CORROSION RESISTANT SHEET METAL.
6. NAILS TO BE GENERAL FRAMING COMMON OF STANDARD SIZE AND FORM, HOT DIPPED GALVANIZED OR ALUMINUM, UNLESS SPECIFICALLY NOTED. BOX NAILS WILL NOT BE ACCEPTED.

**F. GALVANIZING:**

1. GALVANIZING SHALL BE PERFORMED AFTER FABRICATION AND PRIOR TO ASSEMBLING COMPONENT PARTS. FABRICATION SHALL INCLUDE ALL OPERATIONS SUCH AS SHEARING, CUTTING, PUNCHING, FORMING, DRILLING, MILLING, BENDING, WELDING, AND RIVETING.
2. ZINC USED FOR GALVANIZING SHALL BE GRADE PRIME WESTERN CONFORMING TO ASTM B-6. ZINC COATING SHALL BE EVEN, SMOOTH AND UNIFORM THROUGHOUT. MATERIALS SHALL BE GALVANIZED BY THE HOT DIP METHOD OR ELECTRO-DEPOSITING PROCESS.
3. MINIMUM WEIGHT OF COATING SHALL CONFORM TO ASTM A-123 FOR STEEL BARS, PLATES AND SHAPES; AND ASTM A-153 FOR BOLTS AND SCREWS.
4. GALVANIZED SURFACES THAT ARE ABRADED OR DAMAGED AFTER ZINC COATING APPLICATION SHALL HAVE REPAIRING METHOD APPROVED BY OWNER'S AUTHORIZED REPRESENTATIVE.
5. ALL WORK SHALL BE PERFORMED IN CONFORMANCE WITH THE REQUIREMENTS OF THE AMERICAN GALVANIZING ASSOCIATION, AND THESE SPECIFICATIONS.

**G. TUBULAR STEEL FABRICATION:**

1. SUBMIT SHOP DRAWINGS, CLEARLY INDICATING IN DETAIL ALL METHODS OF FABRICATION AND ASSEMBLY, DIMENSIONS, SIZE, WEIGHT, AND MATERIAL, HOLES, LUGS, INSERTS, FINISHES, AND OTHER PERTINENT INFORMATION.
2. FORM EXPOSED WORK TRUE TO LINE AND LEVEL WITH ACCURATE ANGLES AND SURFACES.
3. FABRICATE ITEMS IS THE LARGEST SECTIONS PRACTICAL TO MINIMIZE WELD JOINING.
4. STEEL TUBING IN SIZES ARE SHOWN ON THE DRAWINGS, COLD ROLLED TUBULAR STEEL SHALL BE WELDED CONTINUOUS ON ALL FOUR SIDES. PANELS SHALL BE HAND SCRUBBED WITH TRICHLOROETHANE III, RCFRT-17-500 AND DIPPED INTO 'BLUE GRIP' IRON PHOSPHATE ETCHING SOLUTION.

**H. PROTECTION AND CLEANUP:**

1. PROTECT ALL EXISTING WORK FROM PAINT OVERSPRAY.
2. OBTAIN FIRE PERMIT WHERE REQUIRED FOR ON SITE WELDING.
3. UPON COMPLETION OF WORK, REMOVE ALL SCRAP, DEBRIS, MATERIALS, AND TOOLS FROM SITE.

END OF SECTION

**PAINTING AND STAINING**

**I. SCOPE OF WORK**

**A. GENERAL:**

1. CONTRACTOR SHALL PROVIDE ALL LABOR, MATERIALS, EQUIPMENT AND INCIDENTALS FOR SANDING, PRIMING, PAINTING, AND STAINING OF IMPROVEMENTS AS INDICATED ON THE DRAWINGS AND SPECIFIED HEREIN.
2. CONTRACTOR SHALL BE RESPONSIBLE FOR THE LOCATION, ALIGNMENT, LAYOUT, DIMENSIONS, AND APPLICATION OF PAINT STAINS.
3. EXCEPT AS ITEMIZED ON THE BID FORM, NO SEPARATE PAYMENT WILL BE MADE FOR ANY WORK PERFORMED RELATED TO PAINTING AND STAINING. COMPENSATION SHALL BE AS INCLUDED IN THE UNIT PRICE BID FOR THE VARIOUS ITEMS OF WORK AND NO ADDITIONAL PAYMENT WILL BE MADE.
4. PLUMBING FIXTURES SHALL NOT BE USED FOR CLEANING OR DISPOSAL OF WASTE FROM PAINTING OPERATIONS.
5. COSTS INCURRED FOR REPAIR OR REPLACEMENT OF DEFECTIVE OR DAMAGED WORK, REJECTED MATERIALS, OR WORKMANSHIP SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.
6. ALL PAINT OR STAIN COLORS SHALL BE APPROVED BY THE OWNER'S AUTHORIZED REPRESENTATIVE PRIOR TO APPLICATION.

**B. MATERIALS:**

1. PAINTS AND STAINS SHALL BE OF COLORS AND TINTS AS INDICATED ON THE DRAWINGS AND SHALL BE APPLIED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS AND THESE SPECIFICATIONS. CONTRACTOR SHALL SUBMIT COLOR SAMPLES TO THE OWNER'S AUTHORIZED REPRESENTATIVE FOR APPROVAL PRIOR TO APPLYING ANY PAINT MATERIALS.
2. PAINTS AND STAINS SHALL BE HOMOGENEOUS, FREE OF CONTAMINANTS AND OF A CONSISTENCY SUITABLE FOR USE IN THE CAPACITY FOR WHICH IT IS SPECIFIED. FINISHED PAINT SHALL BE WELL GROUND AND THE PIGMENT SHALL BE PROPERLY DISPERSED IN THE VEHICLE ACCORDING TO THE REQUIREMENTS OF THE PAINT. THE DISPERSION SHALL BE OF SUCH NATURE THAT THE PIGMENT DOES NOT SETTLE APPRECIABLY, DOES NOT CAKE OR THICKEN IN THE CONTAINER OR BECOME GRANULAR OR CURDLED. PAINTS AND STAINS SHALL POSSESS PROPERTIES WHICH IN ALL RESPECTS AFFECT SATISFACTORY APPLICATION, ADHESION AND CURING. THINNING WILL NOT BE PERMITTED.
3. PAINTS AND STAINS SHALL BE DELIVERED TO THE PROJECT SITE IN NEW, UNOPENED, ROUND, AIRTIGHT CONTAINERS, APPROPRIATELY IDENTIFIED WITH THE MANUFACTURER'S NAME, DATE OF MANUFACTURE, TYPE OF MATERIAL AND LOT BATCH NUMBER.

**C. WORKMANSHIP:**

1. PAINT SHALL BE APPLIED ON THOROUGHLY DRY SURFACES AND DURING PERIODS OF FAVORABLE WEATHER.
2. SURFACES BEING COVERED SHALL BE FREE FROM MOISTURE, DUST, GREASE, OR OTHER DELETERIOUS SUBSTANCES WHICH WOULD PREVENT BONDING.
3. PAINT AND STAINING SHALL BE DONE IN A NEAT AND SKILLFUL MANNER, APPLIED BY BRUSH, ROLLER OR SPRAY METHODS. FINISHED SURFACES SHALL BE UNIFORM IN COLOR AND TEXTURE, FREE OF BRUSH MARKS, ROLLER STIPPLE TEXTURE, RUNS, OR SKIPS. EACH APPLICATION OF PAINT SHALL BE THOROUGHLY CURED AND ANY DEFECTS CORRECTED BEFORE A SUCCEEDING APPLICATION.
4. CONTRACTOR SHALL PROTECT ALL ADJACENT IMPROVEMENTS AGAINST DISFIGUREMENT, OVER-SPRAY OR SPATTERING AS A RESULT OF PAINTING OPERATIONS.

**D. PAINTING ASPHALT:**

1. TRAFFIC STRIPING AND MARKING SHALL BE APPLIED TEN (10) CALENDAR DAYS AFTER APPLICATION OF THE SEAL COAT, AT LOCATIONS AND TO THE DIMENSIONS AND SPACING INDICATED ON THE DRAWINGS. CONTRACTOR SHALL BE RESPONSIBLE FOR THE LOCATION, ALIGNMENT, LAYOUT, EQUIPMENT, DIMENSIONS, AND APPLICATION OF PAINT.
2. PAINT SHALL BE "RAPID DRY" OR "REGULAR DRY" IN ACCORDANCE WITH THE PROVISIONS OF SECTION 210, PAINT AND PROTECTIVE COATINGS OF THE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION. PAINT SHALL BE MIXED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS. WHEN REQUESTED, THE CONTRACTOR SHALL FURNISH THE OWNER'S AUTHORIZED REPRESENTATIVE WITH A CERTIFICATE OF COMPLIANCE STATING THAT THE MATERIAL SUBSTANTIALLY MEETS THE SPECIFICATIONS.
3. HANDICAP AREAS SHALL BE PAINTED AS DESIGNATED ON THE DRAWINGS. COLOR TO BE EQUAL TO BLUE # 15090 IN ACCORDANCE WITH FEDERAL STANDARD # 595A.

**E. PAINTING GALVANIZED SURFACES:**

1. GALVANIZED SURFACES, WHICH ARE TO BE PAINTED, SHALL BE PREPARED BY HAND-SCRAPING, BRUSHING WITH STIFF FIBER OR WIRE BRUSHES OR CLEANING WITH AN ALKALINE SOLUTION FOLLOWED BY A FRESH WATER RINSE. AFTER WASHING, SURFACES SHALL BE ROUGHENED BY ABRASIVE BLASTING. GALVANIZING SHALL NOT BE REMOVED DURING THE PREPARATION OPERATION.
2. AFTER PREPARATION, APPLY ONE (1) COAT OF ZINC OXIDE PRIMER FOLLOWED BY A VINYL WASH PRE-TREATMENT AND TWO (2) APPLICATIONS OF FINISH COAT 'RUSTOLEUM' OR EQUAL.

**F. PAINTING CONCRETE:**

1. PRIOR TO PAINTING CONCRETE SURFACES, A BRUSH COAT OR SURFACE FILM OF THIN CEMENT MORTAR SHALL BE APPLIED. WHEN THE FILM HAS SET SUFFICIENTLY THE SURFACE SHALL BE RUBBED BY HAND OR MECHANICAL MEANS NECESSARY TO REMOVE EXCESS MORTAR AND PRODUCE A SMOOTH SURFACE OF EVEN TEXTURE. FINISH SURFACES SHALL BE WASHED WITH WATER AND THEN WITH A TEN PERCENT (10%) TO FIFTEEN PERCENT (15%) MURIATIC ACID WASH. CONCRETE SURFACES SHALL BE THOROUGHLY DRY AND FREE OF DUST AT THE TIME OF PAINTING.
2. PAINT FOR CONCRETE SURFACES SHALL BE EITHER EPOXY ENAMEL TYPE OR ACRYLIC EMULSION TYPE APPLIED NOT LESS THAN TWO (2) APPLICATIONS PRODUCING A UNIFORM APPEARANCE.

**G. PAINTING WOOD SURFACES:**

1. WOOD SURFACES SHALL BE PREPARED FOR PAINTING BY REMOVING ANY FOREIGN MATTER BY WIRE BRUSHING, SCRAPING, OR SANDING. ALL SURFACES SHALL BE WIPED OR DRY BRUSHED TO REMOVE ANY DUST OR CHALKY RESIDUE RESULTING FROM PREPARATION OPERATIONS.
2. PAINT FOR WOOD SURFACES SHALL BE APPLIED IN NOT LESS THAN TWO (2) APPLICATIONS, PRODUCING A UNIFORM APPEARANCE.
3. PAINTS, STAINS OR SEALERS SHALL BE APPLIED TO WOOD SURFACES PRIOR TO ASSEMBLING.

END OF SECTION

**DIG ALERT**

DIAL BEFORE YOU DIG  
TOLL FREE 1-800-227-2600

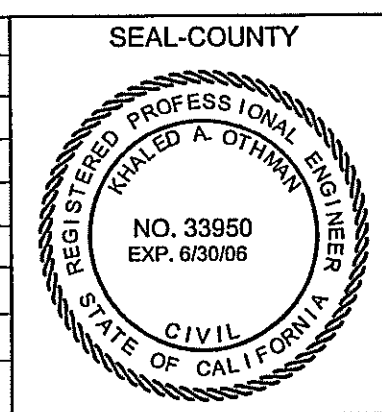
A PUBLIC SERVICE BY UNDERGROUND SERVICE ALERT

RECOMMENDED FOR APPROVAL	
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SEAL-COUNTY  
COUNTY OF RIVERSIDE  
TRANSPORTATION DEPARTMENT  
APPROVED BY:  
KHALED A. OTHMAN  
RECOMMENDED BY: WILL DAN



LANDSCAPE ARCHITECTURE  
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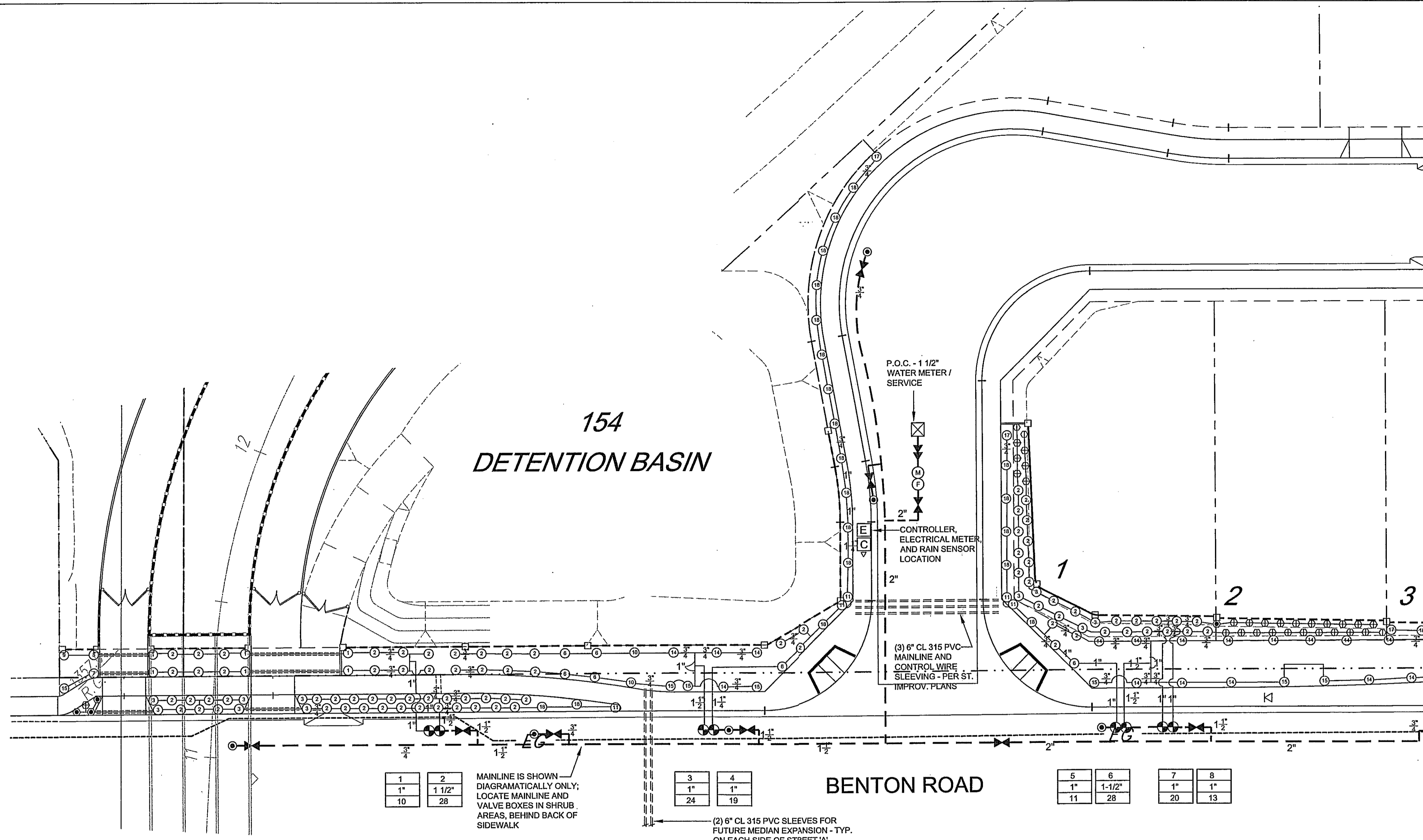
BENCHMARK: ELEV. 1339.039  
RIVERSIDE COUNTY B.M. T-49-81, 2.5" BRASS DISK IN CONC. CYLINDER LOCATED AS FOLLOWS: FROM THE INT. OF RANCHO CA. RD. & FRONT ST. 1.7 MI. NW ON FRONT ST. -JEFFERSON AVE. TO THE INT. OF JEFFERSON & WINCHESTER RD. (HWY. 79), 5.5 MILES NE ON WINCH RD. (HWY. 79) TO THE INT. OF WINCH AND BENTON RD., 0.05 MI. W. ON BENTON RD. TO THE BENTONBRIGGS ROAD INT., 0.5 MI. N. ON BRIGGS RD. TO THE BRIGGS/THOMPSON RD. INT., 200' E. OF THE INT., 22' S. OF THE C/L THOMPSON RD. NEAR THE N.W. COR. OF 16' X 22' CHAIN LINK FENCE AROUND SOUTHERN CA. GAS CO. VALVES. WIRED PADDLE MARKED TO FENCE.  
SCALE: H: N.T.S. V: N.T.S.

IP #030071  
COUNTY OF RIVERSIDE  
BENTON ROAD STREETScape  
TRACT 30167  
CONSTRUCTION NOTES  
SHEET NO. 6 OF 16 SHEETS  
FOR: KB HOME - COASTAL  
W.O.:  
COUNTY FILE NO.

VALLEY WIDE RECREATION & PARK DISTRICT  
**APPROVED**  
Samuel W. Goepf  
Date: 6/22/04

**HOLD HARMLESS & INDEMNIFICATION CLAUSE**  
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1	1"	10
2	1 1/2"	28

3	1"	24
4	1"	19

5	1"	11
6	1 1/2"	28

7	1"	20
8	1"	13

MAINLINE IS SHOWN DIAGRAMMATICALLY ONLY; LOCATE MAINLINE AND VALVE BOXES IN SHRUB AREAS, BEHIND BACK OF SIDEWALK

(2) 6" CL 315 PVC SLEEVES FOR FUTURE MEDIAN EXPANSION - TYP. ON EACH SIDE OF STREET 'A'

BENTON ROAD

BENTON ROAD

MAINLINE IS SHOWN DIAGRAMMATICALLY ONLY; LOCATE MAINLINE AND VALVE BOXES IN SHRUB AREAS, BEHIND BACK OF SIDEWALK

9	1"	29
10	1 1/2"	29
11	1 1/2"	27

SEE SHEET 9 FOR IRRIGATION DETAILS  
SEE SHEETS 10 & 11 FOR IRRIGATION NOTES

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**VALLEY WIDE RECREATION & PARK DISTRICT**  
**APPROVED**  
Samuel W. Goepf Date: 6/22/04

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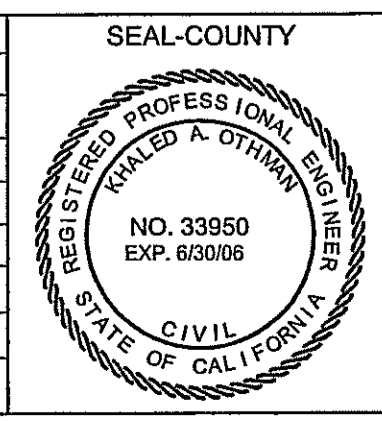
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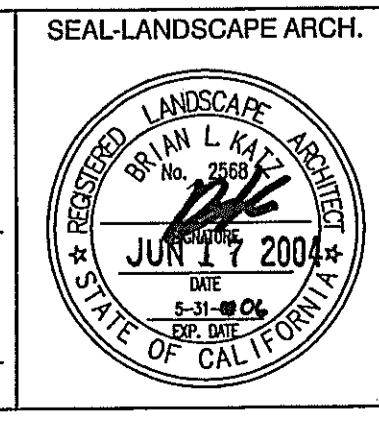
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COUNTY OF RIVERSIDE  
**TRANSPORTATION DEPARTMENT**  
APPROVED BY:  
KHALED A. OTHMAN DATE  
RECOMMENDED BY: WILLDAN DATE



LANDSCAPE ARCHITECTURE SITE PLANNING  
6153 Fairmount Ave., Suite 260  
San Diego, CA 92120  
T 619-584-5444 F 619-584-5448  
mail@skinc.com  
PREPARED BY: BRIAN L. KATZ  
R.L.A. NO. 2568  
DATE: 6/17/04

BENCHMARK: ELEV. 1339.039  
RIVERSIDE COUNTY B.M. T-49-81, 2.5" BRASS DISK IN CONC. CYLINDER LOCATED AS FOLLOWS: FROM THE INT. OF RANCHO CA. RD. & FRONT ST. 1.7 MI. NW ON FRONT ST. -JEFFERSON AVE. TO THE INT. OF JEFFERSON & WINCHESTER RD. (HWY. 79), 0.5 MILES NE ON WINCH RD. (HWY. 79) TO THE INT. OF WINCH AND BENTON RD., 0.05 MI. W. ON BENTON RD. TO THE BENTON/BRIGGS ROAD INT., 0.5 MI. N. ON BRIGGS RD. TO THE BRIGGS/THOMPSON RD. INT., 200' E. OF THE INT. 22' S. OF THE CAL THOMPSON RD. NEAR THE N.W. COR. OF 16' x 22' CHAIN LINK FENCE AROUND SOUTHERN CA. GAS CO. VALVES. WIRED PADDLE MARKED TO FENCE.  
SCALE: H: 1" = 20'-0" V: 1" = 20'-0"

IP #030071  
COUNTY OF RIVERSIDE  
BENTON ROAD STREETSCAPE  
TRACT 30167  
IRRIGATION PLAN  
SHEET NO. 7 OF 16 SHTS.  
FOR: KB HOME - COASTAL  
W.O.:  
COUNTY FILE NO.

**IRRIGATION LEGEND**

SPRAY AND ROTOR EQUIPMENT

SYMBOL	MANUF.	MODEL NUMBER	RAD	PSI	GPM	DESCRIPTION
90 180 VAN 360	RAINBIRD	1800-SAM SERIES	5'	30	90 180 VAN 360	SPRAY HEAD *
10 30 30 60 VAR 1.1	RAINBIRD	1800 SAM SERIES	8'	30	10 30 30 60 VAR 1.1	SPRAY HEAD *
10 30 40 80 VAR 1.8	RAINBIRD	1800 SAM SERIES	10'	30	10 30 40 80 VAR 1.8	SPRAY HEAD *
12 30 60 1.3 VAR 2.6	RAINBIRD	1800 SAM SERIES	12'	30	12 30 60 1.3 VAR 2.6	SPRAY HEAD *
15 30 90 1.8 VAR 3.7	RAINBIRD	1800 SAM SERIES	15'	30	15 30 90 1.8 VAR 3.7	SPRAY HEAD *
4x15 30	RAINBIRD	1800 SAM 15 EST	4x15	30	.60	END STRIP *
4x30 30	RAINBIRD	1800 SAM 15 SST	4x30	30	1.3	SIDE STRIP *

IRRIGATION EQUIPMENT

SYMBOL	MANUF.	MODEL NUMBER / DESCRIPTION
RAINBIRD	PESB-PRS	REMOTE CONTROL VALVE - SIZE AS NOTED
RAINBIRD	#44LRC	QUICK COUPLING VALVE
WILKINS	800C SERIES	BALL VALVE - LINE SIZE
FEBCO	825YA - 1"	BACKFLOW PREVENTER; INSTALL IN SBBC-AL "STRONG BOX" OR APPROVED EQUAL
CALSENSE	FM-1.5	FLOW SENSOR W/ LARC - SIZE PER MFGR SPECS.
TORO	P220-27-8	2" PLASTIC MASTER VALVE
WCS	"RAINGUARD"	RAIN SENSOR; INSTALL W/ VANDAL RESISTANT ENCLOSURE
CALSENSE	ET2000-24-LR-G-RR-SSE	IRRIGATION CONTROLLER
-	-	ELECTRICAL METER - TO BE INSTALLED BY CERTIFIED ELECTRICIAN (PER UTILITY PLAN BY BUTSOD)
-	-	1 1/2" WATER METER AND SERVICE LINE - FIND LOCATION PER CIVIL PLANS
AMAD	CAT. NO. 3-23	2" DISCOFILTER - PROVIDE IN-LINE FILTER DIRECTLY DOWNSTREAM OF BACKFLOW

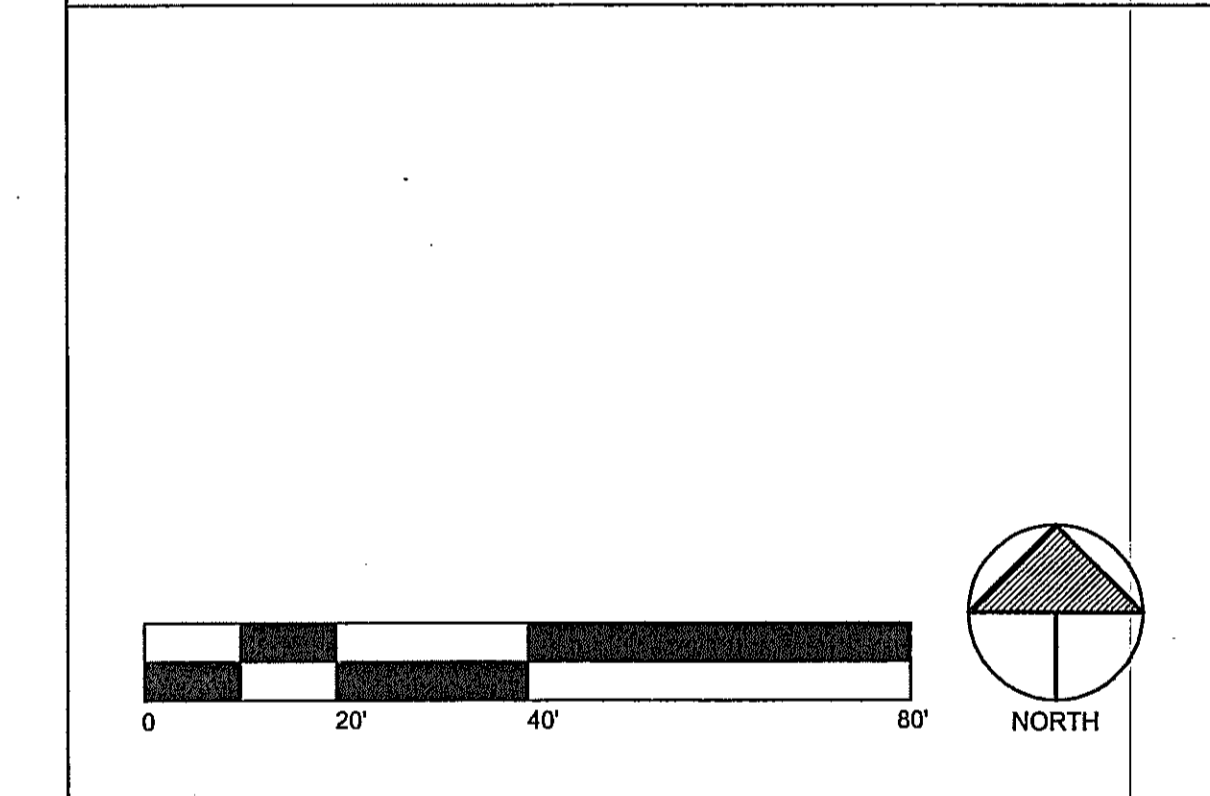
LATERAL/MAINLINE

SYMBOL	MANUF.	MODEL NUMBER / DESCRIPTION
PWP	SCH 40 PVC	LATERAL LINE - SIZE AS NOTED W/16" COVER
PWP	SCH 40 PVC	MAINLINE - SIZE AS NOTED W/24" COVER
PWP	SCH 40 PVC	SLEEVE - TWICE LINE SIZE CARRIED WITHIN W/24" MIN. COVER UNDER PAVING

VALVE CALLOUT

1	CONTROLLER STATION NUMBER
2"	VALVE SIZE
15	GALLONS PER MINUTE

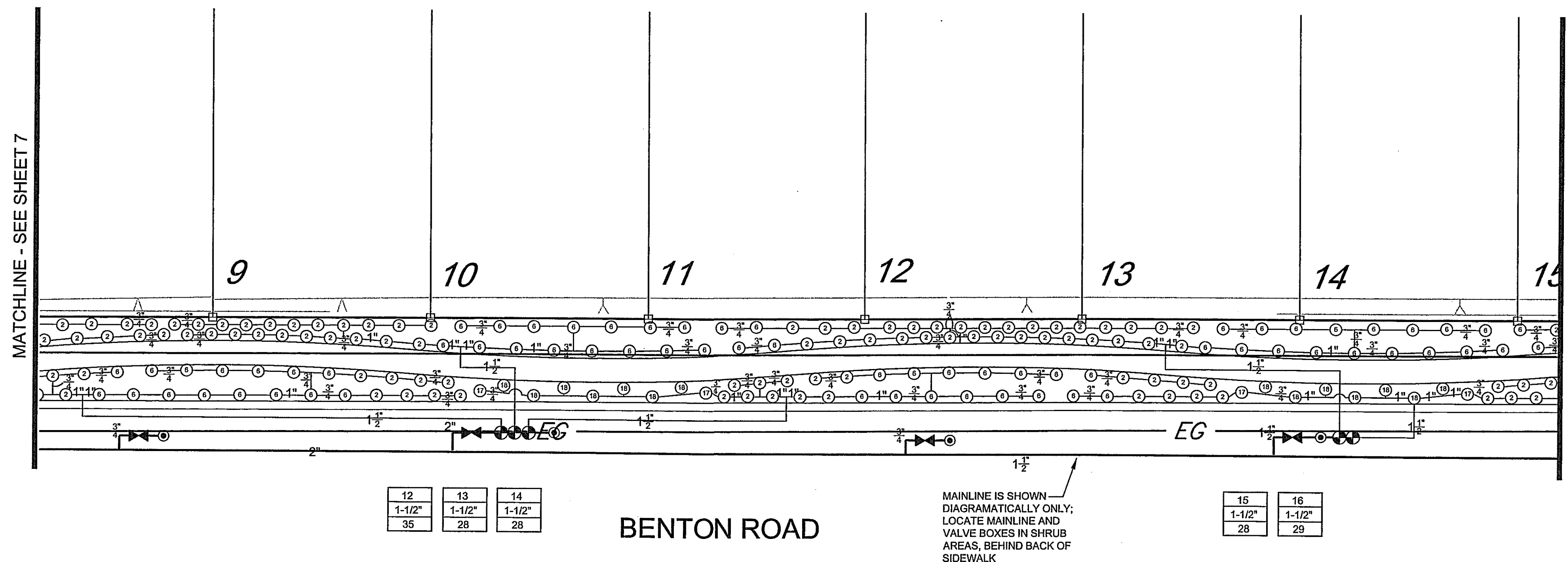
NOTE  
\* ALL HEADS TO BE 12" POP-UP BODIES (1812) MINIMUM.



MATCHLINE - SEE ABOVE

MATCHLINE - SEE SHEET 8





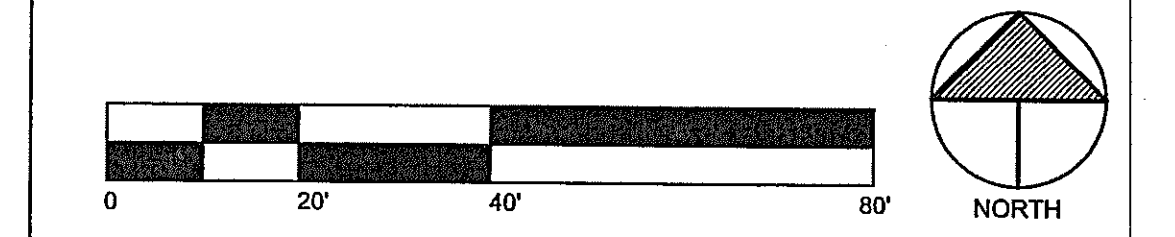
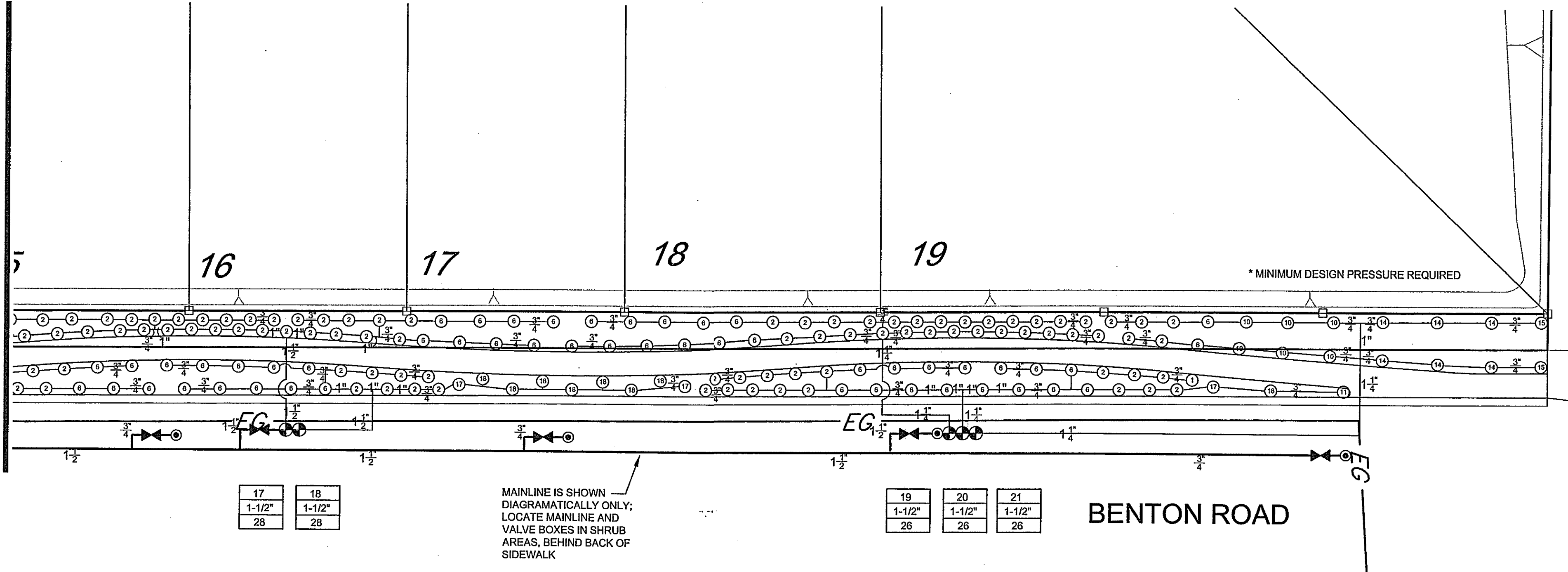
IRRIGATION LEGEND						
SPRAY AND ROTOR EQUIPMENT						
SYMBOL	MANUF.	MODEL NUMBER	RAD	PSI	GPM	DESCRIPTION
90 180 VAN 360					90 180 VAN 360	
⊙	RAINBIRD	1800-SAM SERIES	5'	30	.50 1.0 VAR 1.5	SPRAY HEAD *
⊙	RAINBIRD	1800 SAM SERIES	8'	30	.30 VAR 1.1	SPRAY HEAD *
⊙	RAINBIRD	1800 SAM SERIES	10'	30	.40 VAR 1.8	SPRAY HEAD *
⊙	RAINBIRD	1800 SAM SERIES	12'	30	.60 1.3 VAR 2.6	SPRAY HEAD *
⊙	RAINBIRD	1800 SAM SERIES	15'	30	.90 1.8 VAR 3.7	SPRAY HEAD *
⊙	RAINBIRD	1800 SAM 15 EST	4x15	30	.60	END STRIP *
⊙	RAINBIRD	1800 SAM 15 SST	4x30	30	1.3	SIDE STRIP *

IRRIGATION EQUIPMENT		
SYMBOL	MANUF.	MODEL NUMBER / DESCRIPTION
⊙	RAINBIRD	PESB-PRS REMOTE CONTROL VALVE - SIZE AS NOTED
⊙	RAINBIRD	# 44LRC - QUICK COUPLING VALVE
⊙	WILKINS	800C SERIES BALL VALVE - LINE SIZE
⊙	FEBCO	800C SERIES BALL VALVE - LINE SIZE
⊙	CALSENSE	FM-1.5 FLOW SENSOR W/ LARC - SIZE PER MFGR SPEC'S.
⊙	TORO	P220-27-8 2" PLASTIC MASTER VALVE
⊙	WCS	"RAINGUARD" RAIN SENSOR; INSTALL W/ VANDAL RESISTANT ENCLOSURE
⊙	CALSENSE	IRRIGATION CONTROLLER - ET2000-24-LR-G-RR-SSE
⊙		ELECTRICAL METER - TO BE INSTALLED BY CERTIFIED ELECTRICIAN (PER UTILITY PLAN BY BUTSCO)
⊙		1 1/2" WATER METER AND SERVICE LINE - FIND LOCATION PER CIVIL PLANS
NO SYMBOL	AMAD	CAT. NO. 3-23, 2" DISCOFILTER - PROVIDE IN-LINE FILTER DIRECTLY DOWNSTREAM OF BACKFLOW

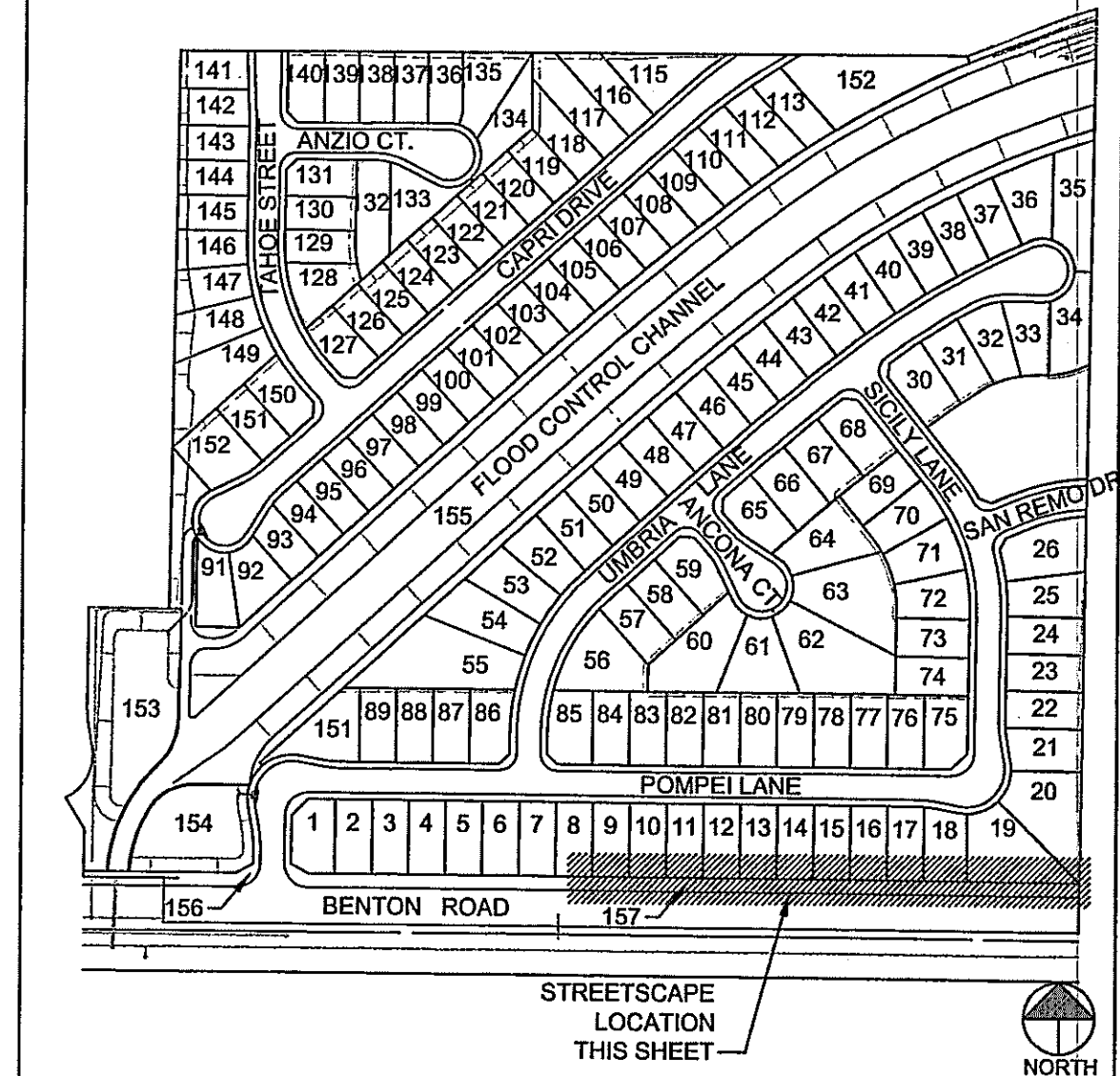
VALVE CALLOUT		
SYMBOL	MANUF.	MODEL NUMBER / DESCRIPTION
---	PWP	SCH 40 PVC LATERAL LINE - SIZE AS NOTED W/18" COVER
---	PWP	SCH 40 PVC MAINLINE - SIZE AS NOTED W/24" COVER
---	PWP	SCH 40 PVC SLEEVE - TWICE LINE SIZE CARRIED WITHIN W/ 24" MIN. COVER UNDER PAVING

NOTE  
\* ALL HEADS TO BE 12" POP-UP BODIES (1812) MINIMUM.

Friction Loss Calculations - Rhinmans Streetscape		
Prepared by SKA Landscape Architects 7/10/2003		
<b>Water Pressure Calculations</b>		
P.O.C. #	n/a	
STATIC ELEVATION	1351	
STATIC PRESSURE @ P.O.C.	75	
REMOTE CONTROL VALVE #	18	
CONTROL VALVE DESIGN FLOW RATE	29 GPM	
ELEVATION OF HIGHEST IRRIG. HEAD	1368	
<b>IRRIGATION SYSTEM COMPONENTS:</b>		
DESCRIPTION	SIZE	PSI LOSS
WATER METER	1-1/2"	5.3
BACKFLOW PREVENTER	1"	12
GATE/BALL VALVES	Per Line	1
MASTER CONTROL VALVE	1"	5.5
FLOW METER	1"	0.5
MAINLINE, SCH. 40	2"	5.7
REMOTE CONTROL VALVE	1-1/2"	3.6
LATERAL LINE, SCH. 39	1-1/2"	1.83
LATERAL LINE, SCH. 40	1-1/4"	0.1
LATERAL LINE, SCH. 40	1"	0.3
LATERAL LINE, SCH. 40	3/4"	2.6
FITTING LOSS (10%)		0.87
1) TOTAL SYSTEM FRICTION LOSS:		39.10
2) PRESSURE REQUIRED @ HEAD:		30.00
3) ELEVATION PRESSURE LOSS:		2.15
4) TOTAL PRESSURE REQUIREMENT (1+2+3):		71.25
5) STATIC WATER PRESSURE @ METER:		75.00
6) RESIDUAL PRESSURE AVAILABLE (5-4):		3.75



KEY MAP N.T.S.



SEE SHEET 9 FOR IRRIGATION DETAILS  
SEE SHEETS 10 & 11 FOR IRRIGATION NOTES

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TWO WORKING DAYS BEFORE YOU DIG  
TOLL FREE 1-800-227-2600  
A PUBLIC SERVICE BY UNDERGROUND SERVICE ALERT

RECOMMENDED FOR APPROVAL

DATE CHECKED BY

DATE

VALLEY WIDE RECREATION & PARK DISTRICT

**APPROVED**

Samuel W. Goepfert Date: 6/22/04

**HOLD HARMLESS & INDEMNIFICATION CLAUSE**

CONTRACTOR AGREES TO ASSUME SOLE 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/DEVELOPER, THE COUNTY OF LOCAL JURISDICTION AND THE LANDSCAPE DESIGNER HARMLESS FROM ANY AND ALL LIABILITY REAL OR ALLEGED, IN CONNECTION WITH THE PERFORMANCE OF WORK ON THIS PROJECT, EXCEPTING FOR LIABILITY ARISING FROM SOLE NEGLIGENCE OF THE OWNER/DEVELOPER, COUNTY OF LOCAL JURISDICTION AND THE LANDSCAPE DESIGNER.

**NOTE:**  
WORK CONTAINED WITHIN THESE PLANS SHALL NOT COMMENCE UNTIL AN ENCROACHMENT PERMIT AND/OR A GRADING PERMIT HAS BEEN ISSUED.

The private engineer signing these plans is responsible for assuring the accuracy and availability of the design hereon. In the event of discrepancies arising after county approval or during construction, the private engineer shall be responsible for determining an acceptable solution or revising the plans for approval by the county.

MARK	BY	DATE	REVISIONS	APPR. DATE	COUNTY
2	MVM	1-7-04	REVISED PER CITY PLAN CHECK COMMENTS		
3	MVM	4-28-04	REVISED PER CITY PLAN CHECK COMMENTS		
4	MVM	6-17-04	REVISED PER VALLEY-WIDE PLAN CHECK COMMENTS		

SEAL-COUNTY

COUNTY OF RIVERSIDE

TRANSPORTATION DEPARTMENT

APPROVED BY:

KHALED A. OTHMAN DATE

RECOMMENDED BY: WILL DAN DATE

SEAL-LANDSCAPE ARCH.

LANDSCAPE ARCHITECTURE SITE PLANNING

6153 Fairmount Ave. Suite 260  
San Diego, CA 92120  
T 619-584-5444 F 619-584-5448  
mail@skainc.com

BENCHMARK: ELEV. 1339.039  
RIVERSIDE COUNTY 9.M. T-49-81, 2.5" BRASS DISK IN CONC. CYLINDER LOCATED AS FOLLOWS: FROM THE INT. OF RANCHO CA RD. & FRONT ST. 1.7 MI. NW ON FRONT ST. -JEFFERSON AVE. TO THE INT. OF JEFFERSON & WINCHESTER RD. (HWY. 79), 5.5 MILES NE ON WINCH RD. (HWY. 79) TO THE INT. OF WINCH AND BENTON RD., 0.05 MI. W. ON BENTON RD. TO THE BENTON/BRIGGS ROAD INT., 0.5 MI. N. ON BRIGGS RD. TO THE BRIGGS/THOMPSON RD. INT., 200' E. OF THE INT., 22' S. OF THE CL. THOMPSON RD. NEAR THE N.W. COR. OF 18' X 22' CHAIN LINK FENCE AROUND SOUTHERN CA. GAS CO. VALVES. WIRED PADDLE MARKED TO FENCE.

PREPARED BY: BRIAN L. KATZ R.L.A. NO. 2568 DATE: 6/17/04

SCALE: H: 1" = 20'-0" V: 1" = 20'-0"

IP #030071

COUNTY OF RIVERSIDE

BENTON ROAD STREETScape

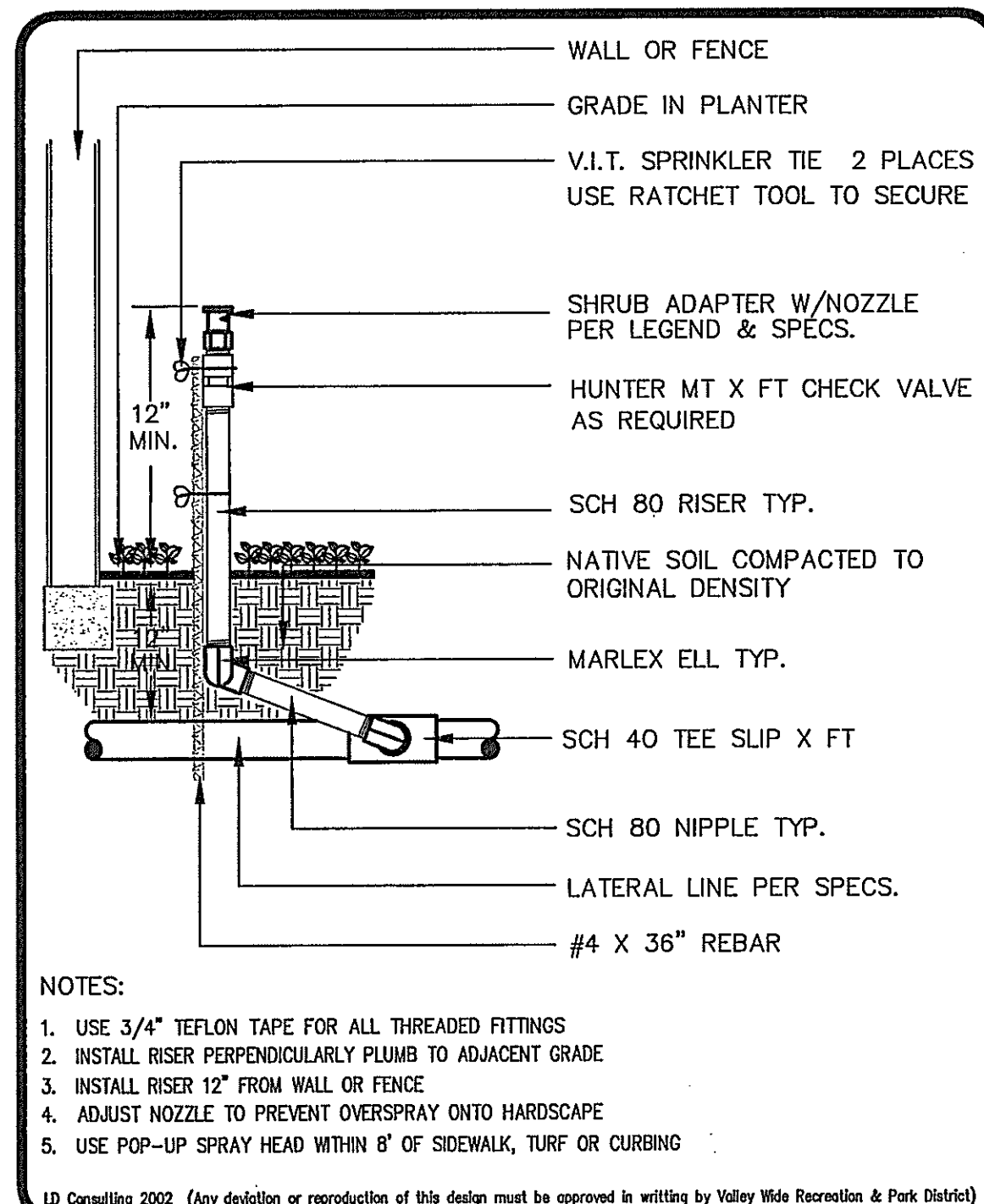
TRACT 30167

IRRIGATION PLAN

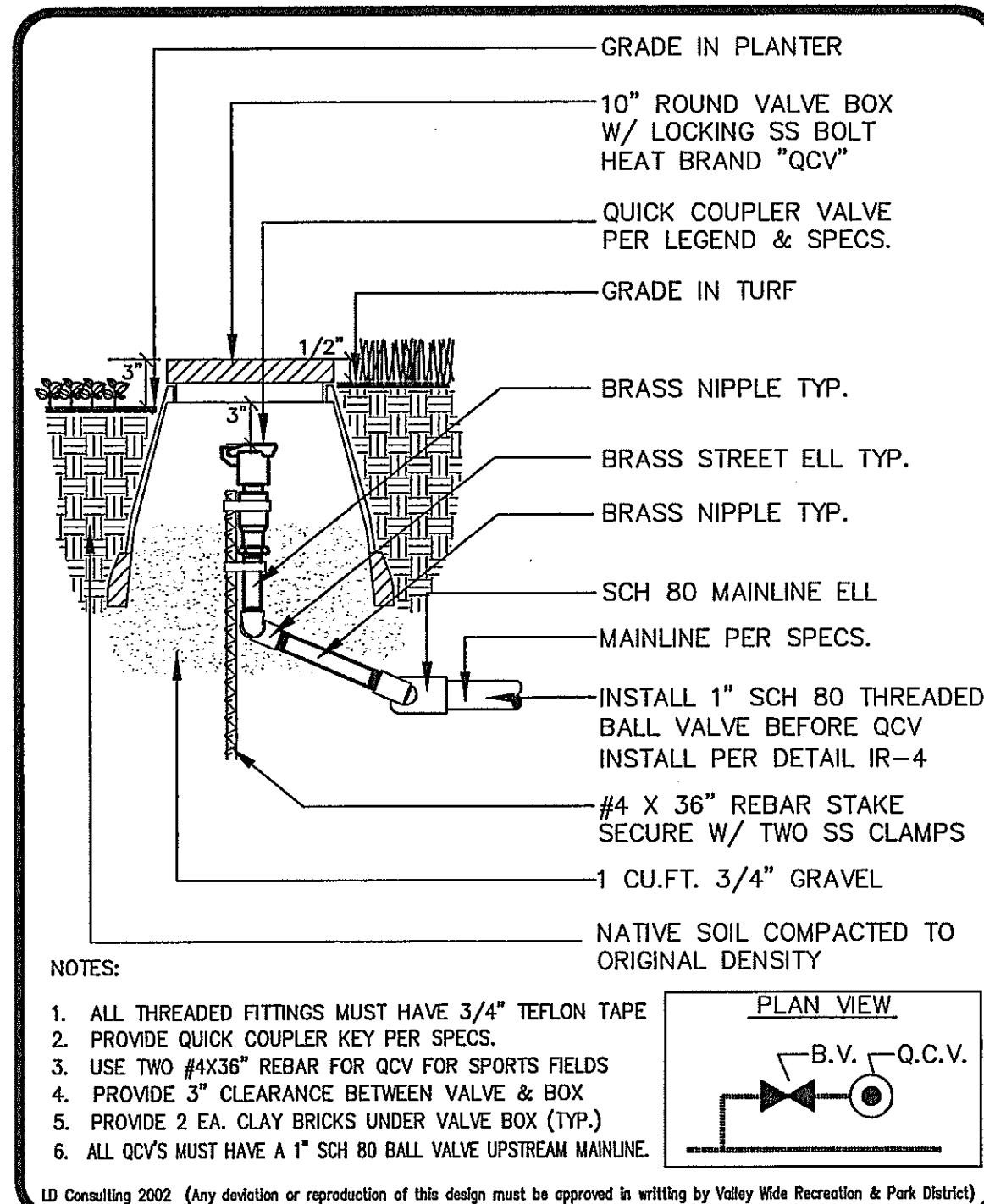
FOR: KB HOME - COASTAL W.O.: COUNTY FILE NO.

SHEET NO. 8 OF 16 SHTS.

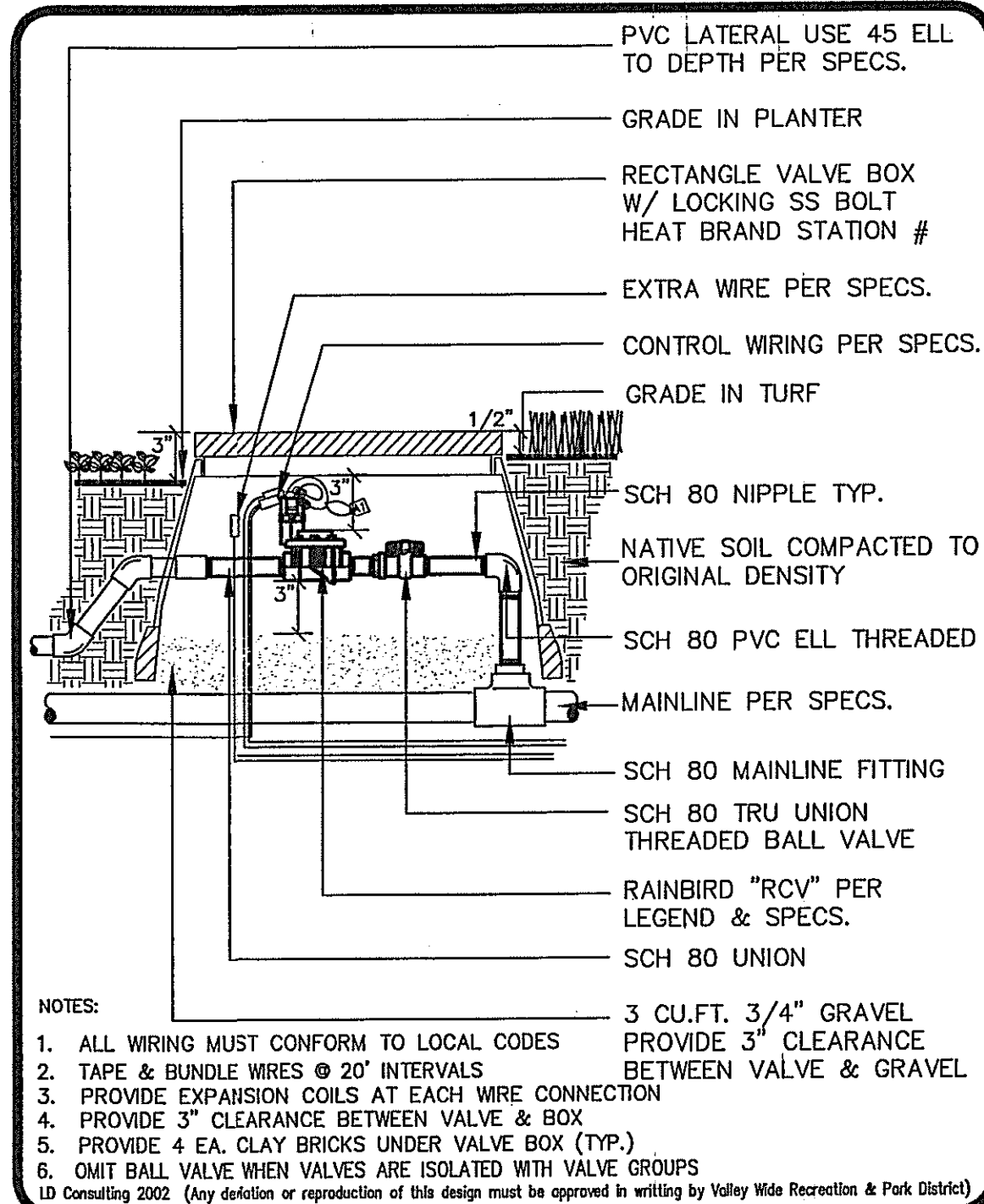




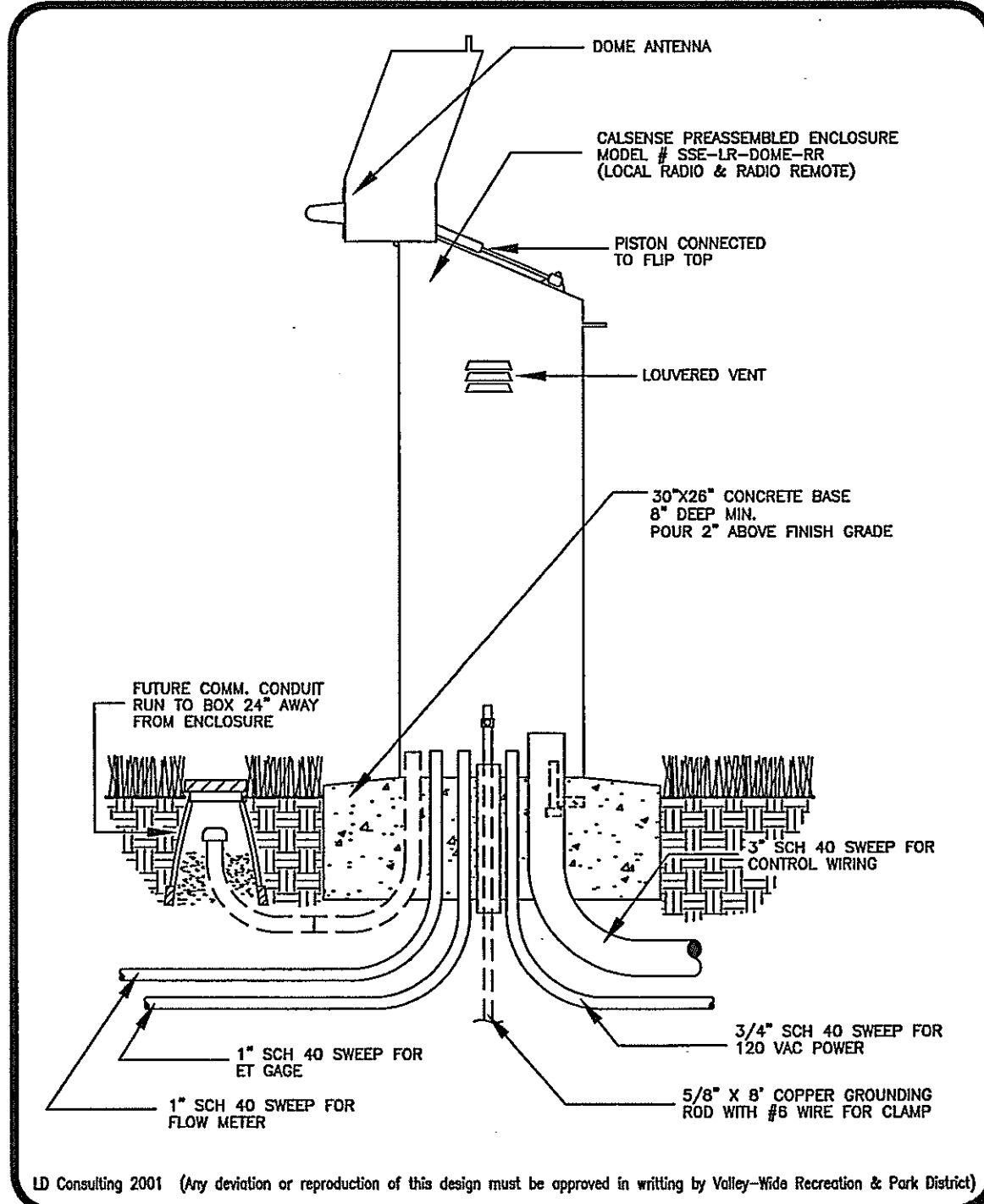
**VALLEY WIDE RECREATION**  
5/03 **SHRUB SPRAY ON RISER** IR-16



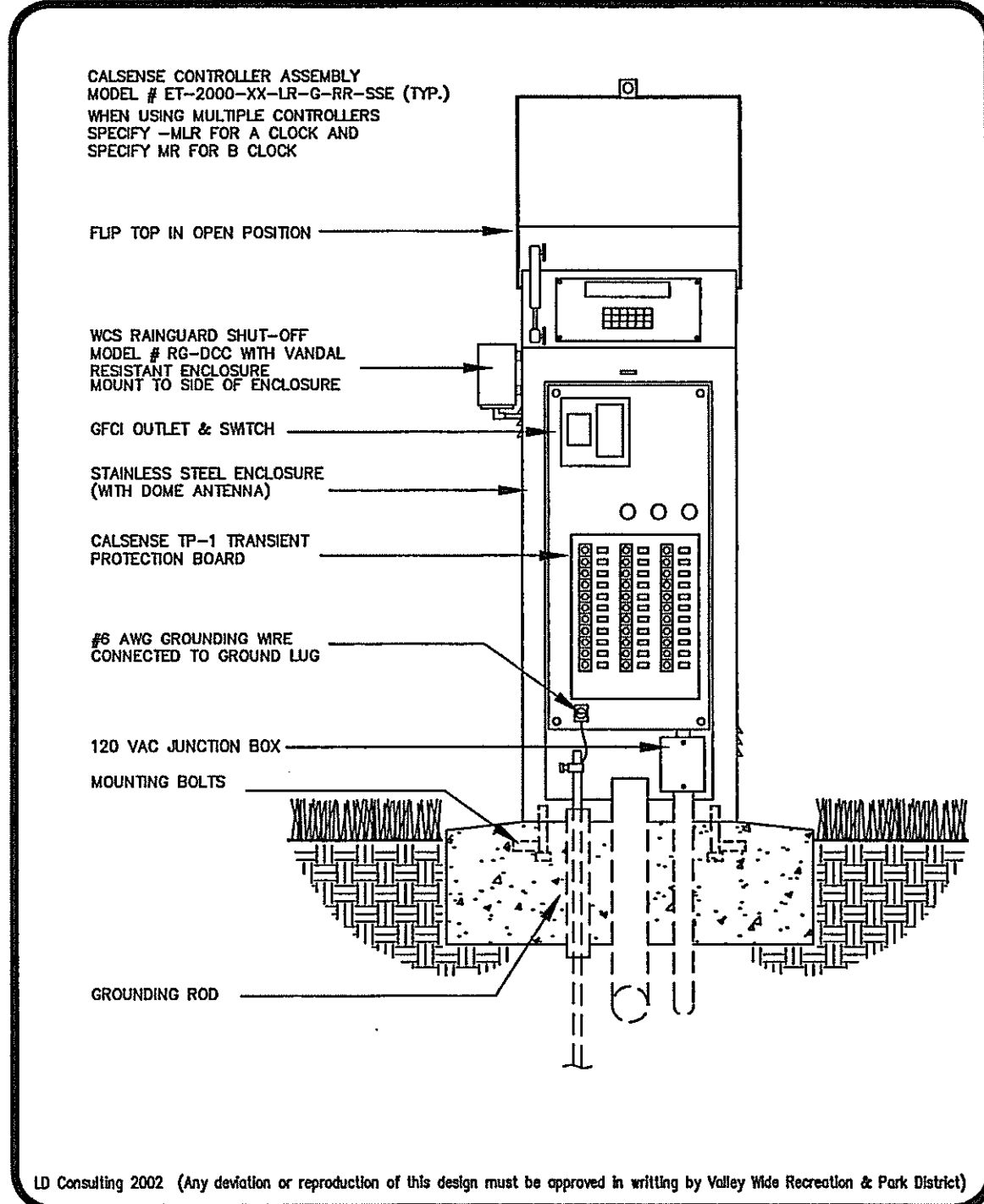
**VALLEY WIDE RECREATION**  
5/03 **QUICK COUPLER VALVE** IR-3



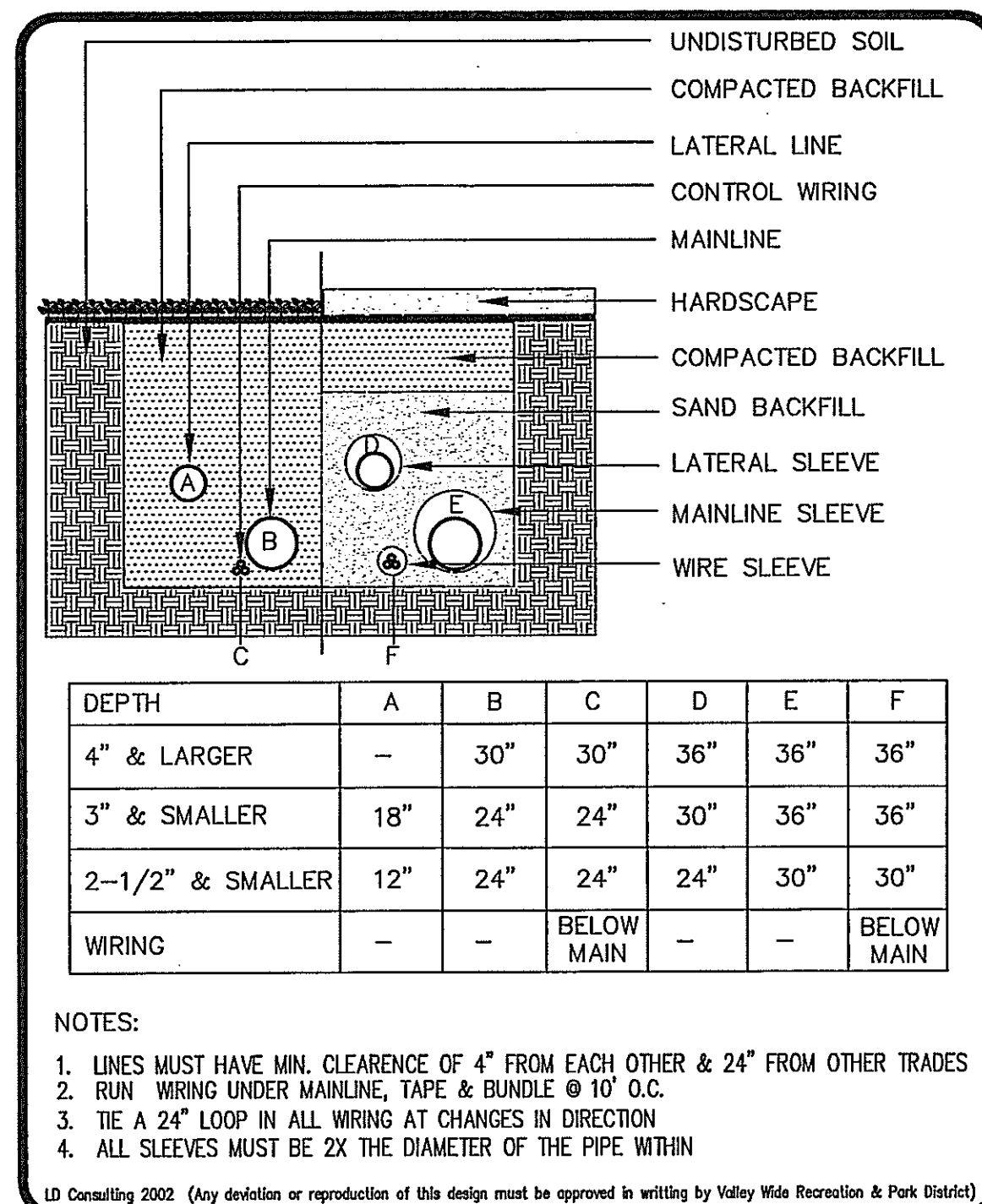
**VALLEY WIDE RECREATION**  
5/03 **REMOTE CONTROL VALVE** IR-1



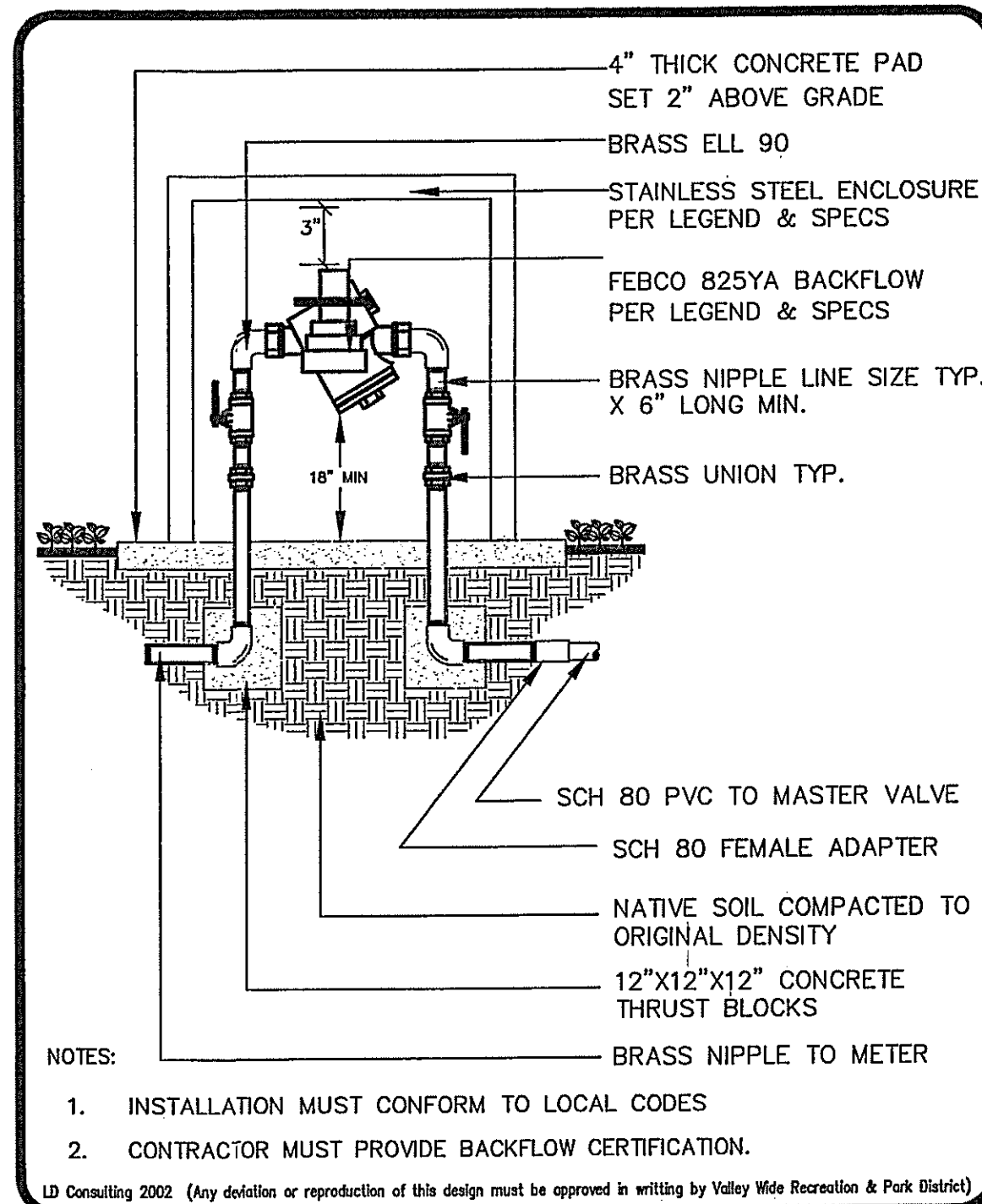
**VALLEY WIDE RECREATION**  
5/03 **PEDESTAL ASSEMBLY** IR-24



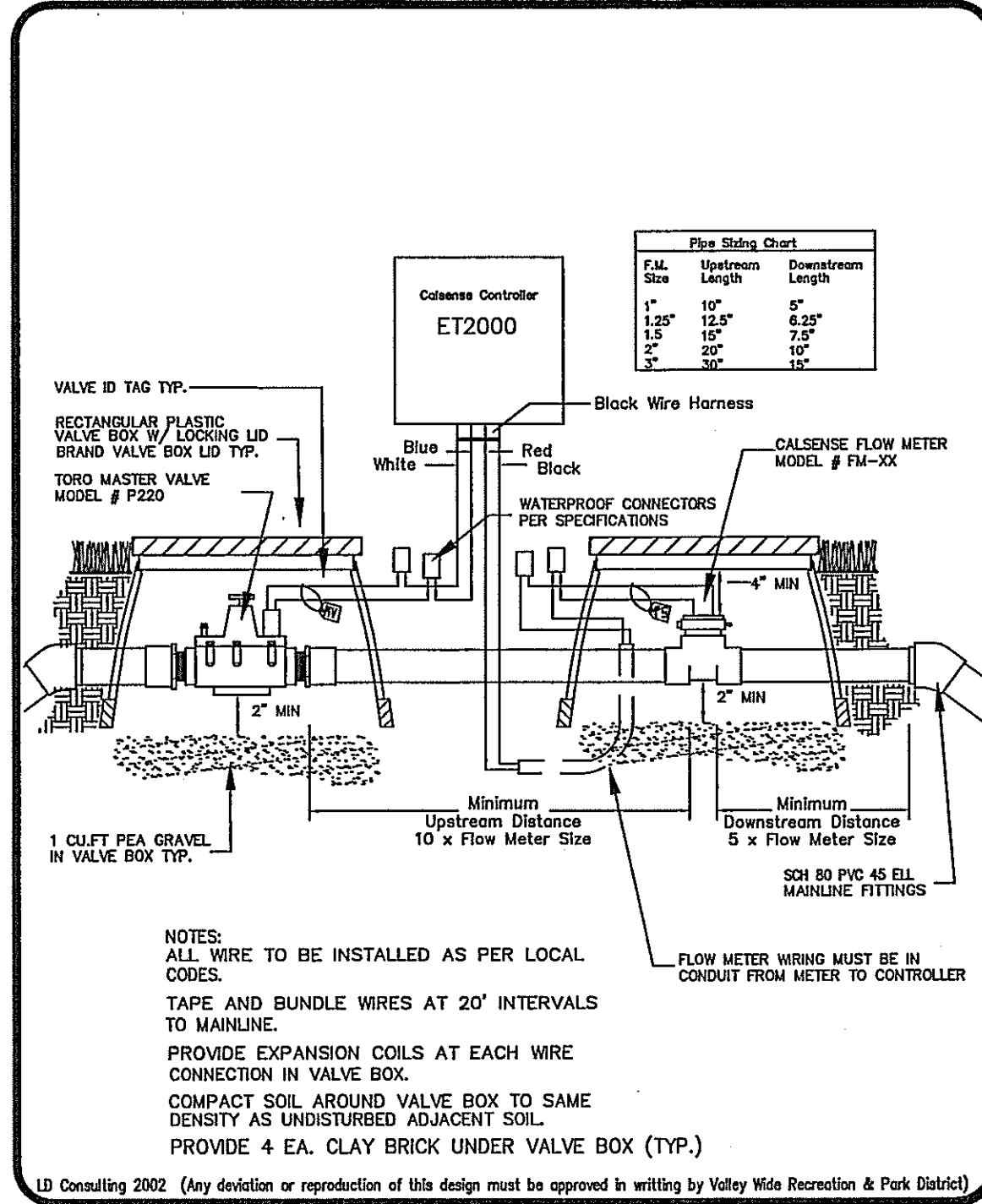
**VALLEY WIDE RECREATION**  
5/03 **PEDESTAL CONTROLLER** IR-23



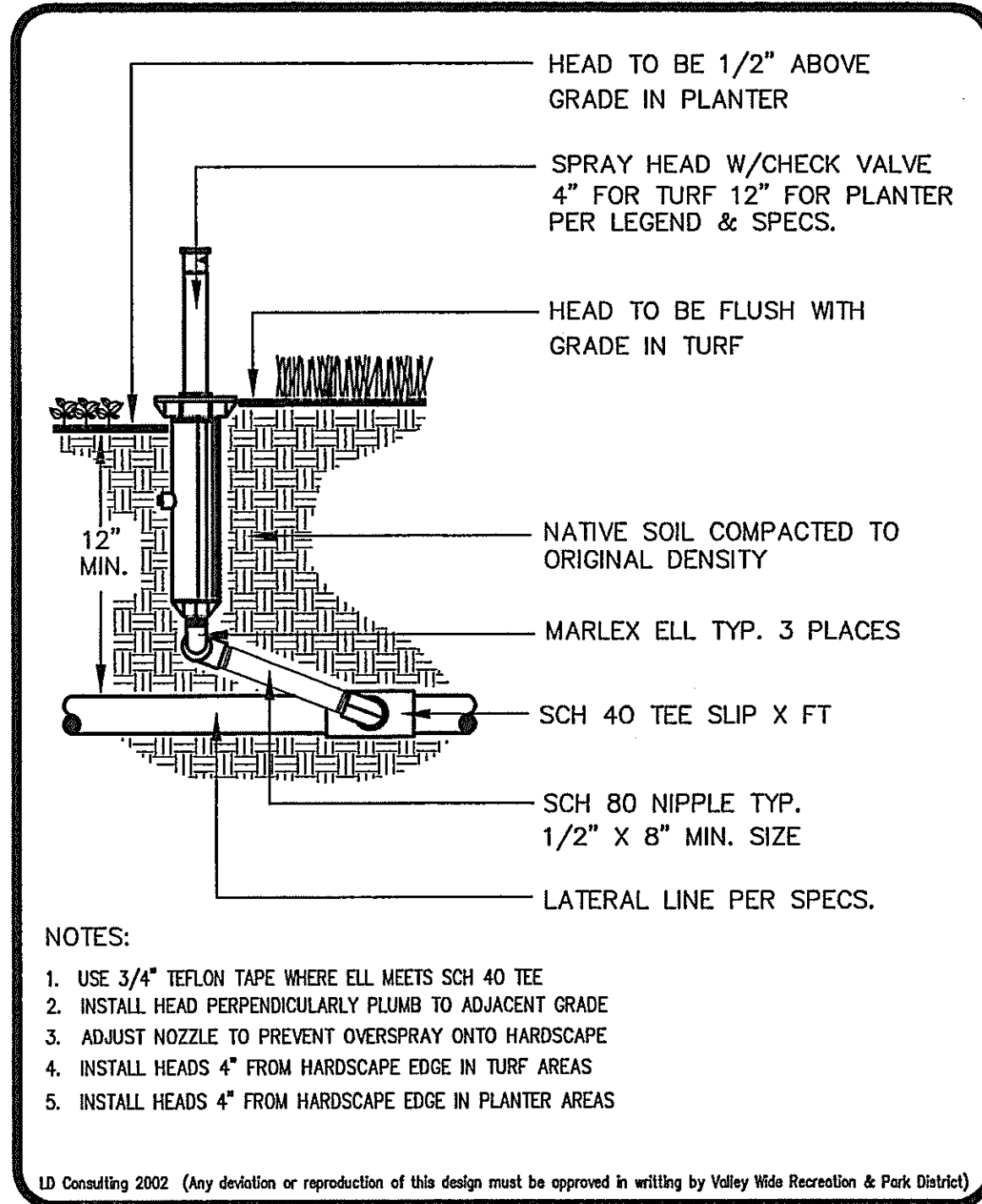
**VALLEY WIDE RECREATION**  
5/03 **PIPE & WIRE TRENCHING** IR-11



**VALLEY WIDE RECREATION**  
5/03 **BACKFLOW PREVENTER** IR-6



**VALLEY WIDE RECREATION**  
5/03 **MASTER VALVE & FLOW METER** IR-21



**VALLEY WIDE RECREATION**  
5/03 **POP-UP SPRAY HEAD** IR-17

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MARK	BY	DATE	REVISIONS	APPR. DATE	COUNTY
2	MVM	1-7-04	REVISED PER CITY PLAN CHECK COMMENTS		
3	MVM	4-26-04	REVISED PER CITY PLAN CHECK COMMENTS		
4	MVM	6-17-04	REVISED PER VALLEY-WIDE PLAN CHECK COMMENTS		

SEAL-COUNTY  
COUNTY OF RIVERSIDE  
TRANSPORTATION DEPARTMENT  
APPROVED BY:  
KHALED A. OTHMAN  
DATE

SEAL-LANDSCAPE ARCH.  
LANDSCAPE ARCHITECTURE SITE PLANNING  
6153 Fairmount Ave. Suite 260  
San Diego, CA 92120  
T 619-584-5444 F 619-584-5448  
mail@skainc.com  
R.L.A. NO. 2568  
DATE 6/22/04  
PREPARED BY: BRIAN L. KATZ

BENCHMARK: ELEV. 1339.039  
RIVERSIDE COUNTY B.M. T-49.81 2.5" BRASS DISK IN CONC. CYLINDER LOCATED AS FOLLOWS: FROM THE INT. OF RANCHO CA. RD. & FRONT ST. 1.7 MI. NW ON FRONT ST. -JEFFERSON AVE. TO THE INT. OF JEFFERSON & WINCHESTER RD. (HWY. 79) 5.5 MILES NE ON WINCH RD. (HWY. 79) TO THE INT. OF WINCH AND BENTON RD. 0.05 MI. W. ON BENTON RD. TO THE BENTONBRIGGS ROAD INT. 0.5 MI. N. ON BRIGGS RD. TO THE BRIGGS/THOMPSON RD. INT. 200' E. OF THE INT. 22' S. OF THE OIL THOMPSON RD. NEAR THE N.W. COR. OF 19' X 22' CHAIN LINK FENCE AROUND SOUTHERN CA. GAS CO. VALVES. WIRED PADDLE MARKED TO FENCE.  
SCALE: H: N.T.S. V: N.T.S.

IP #030071  
COUNTY OF RIVERSIDE  
BENTON ROAD STREETSCAPE  
TRACT 30167  
IRRIGATION DETAILS  
SHEET NO. 9 OF 16 SHTS.  
FOR: KB HOME - COASTAL  
W.O.:  
COUNTY FILE NO.

VALLEY WIDE RECREATION & PARK DISTRICT  
APPROVED  
Samuel W. Goapp  
Date: 6/22/04



SECTION 02700 IRRIGATION SYSTEMS

IRRIGATION SPECIFICATIONS GENERAL

1. General Requirements

a. Permits: Contractor shall obtain and pay for any permits required.

2. Scope Of Work

- a. The intent of the drawings and specifications is to indicate the processes required for the installation of a complete operating irrigation system without additional cost in labor and material to the Owner.
- b. The work consists of furnishing all tools, equipment, material, labor and any processes required to provide a complete operating irrigation system as specified in the drawings and specifications.
- c. Drawings are diagrammatic and must be field verified. Contractor must notify Engineer and/or Valley Wide immediately of any discrepancies prior to starting work.
- d. Due to the scale of the drawings it is not possible to show all offsets, assemblies, fittings, etc. for a complete irrigation system.
- e. Under this section the contractor shall provide all necessary assemblies, fittings, etc. to provide a complete fully automatic irrigation system as listed in drawings and specifications with no additional cost to the owner.
- f. Any extra work performed shall be approved in writing by the Owner or Owner's representative prior to the start of such work.
- g. Any unapproved work may be at the contractor's expense.
- h. If reclaimed water is used, contractor shall provide all necessary reclaimed water signage and equipment. The entire irrigation system must be in accordance to the local reclaimed water specifications and as listed in drawings.

3. Record Drawings

- a. Record accurately on one set of black and white prints denoting variation in work from original drawings.
- b. Dimension from two permanent points of reference (sidewalks, pavement, curbs, street lights, buildings) Record on as-builts daily or as work is performed. All drafting must be clearly legible and dimensions shall be no smaller than 1/4" in size
- c. Show dimensions from the following locations and depths:
  - i. Point of connection (P.O.C.).
  - ii. Backflow prevention assembly, master valve and flow sensor.
  - iii. Routing of irrigation pressure mainlines and all directional changes.
  - iv. Ball and butterfly isolation valves.
  - v. Irrigation control valves.
  - vi. Automatic controller, rain sensors and electrical conduits.
  - vii. Sleeves and pull boxes.
  - viii. Other related equipment (as directed by the Engineer).
- c. Upon completion and approval of record drawing prints, transfer all information to reproducible mylars and provide two additional blue line copies.
- d. Maintain as-built drawings on site at all times. These drawings are subject to inspection at any time.
- e. Make changes to reproducible drawings in ink (no ball-point pen). Erase or use eradicating fluid when revising drawings. Make changes in a manner equal to the original drawings.
- f. Contractor must submit as-built drawings (sepia mylars and two sets of blue lines) to the Engineer inspecting the site seven days prior to the start of the maintenance period for approval.

4. Controller Charts

- a. As-built drawings shall be approved in writing prior to preparing charts.
- b. Provide two controller charts for each controller supplied, showing the area covered by the automatic controller.
- c. The chart shall be a reduced reproduction of the as-built system. If the controller sequence is not legible when reduced, enlarge it to a size that will be legible when reduced.
- d. Charts shall be black line print with a different transparent color used to show area of coverage for each station.
- e. Completed and approved charts must be laminated with plastic 10 mil thick minimum.
- f. Charts shall be completed and approved prior to final inspection of the irrigation system.
- g. Controller access. The Engineer reserves the right to have complete access to the controller clocks for monitoring and controlling system failures. The contractor shall provide the Engineer with two sets of all keys necessary for access to the controller clocks within the designated area. The keys will then become the property of the Owner.

5. Operation and Maintenance Manuals

- a. Prepare and deliver to the Engineer, prior to the start of maintenance, all required and necessary descriptive material in complete detail and sufficient quantity properly prepared in four individually bound copies. Describe the material installed in sufficient detail to permit qualified operating personnel to understand, operate and maintain all equipment. Each manual shall include the following:
  - i. Index sheet, stating contractor's address and telephone number.
  - ii. Duration of guarantee period with guarantee forms.
  - iii. List of equipment with names and addresses of manufacturer's local representatives.
  - iv. Complete operating and maintenance instructions on all major equipment.
- b. In addition to the maintenance manuals, provide the maintenance personnel with the instructions for major equipment and show written evidence to the Engineer at the conclusion of the work that this service has been completed.

6. Spare Parts and Equipment

- a. Prior to the start of maintenance prepare and deliver to the Engineer, all required spare parts, tools and equipment. Spare parts, tools and equipment shall include but not limited to the following:
  - i. Two quick coupler keys with 3/4 inch bronze hose bit with hand wheel.
  - ii. Two quick coupler lid keys
  - iii. One valve box cover wrench or key
  - iv. Two wrenches and shrew drivers for adjustment and disassembly for each type of sprinkler head used in the irrigation system
  - v. One 5-foot tee wrench for operating isolation valves specified
  - vi. Six extra sprinkler heads of each type and size used in the irrigation system.
  - vii. Remote radio device for irrigation controller(s) if specified

7. Guarantee

- a. Provide written guarantee in form approved that all work with defects in workmanship and materials will be repaired or replaced at no cost to the Owner for a period of one year from the date of acceptance by the Owner's representative.
- b. This form shall be transferred onto the contractor's letterhead and must contain the following:  
 \*\*Name of Project\*\*  
 We hereby guarantee that the irrigation system we have furnished and installed for \*\*Name of Project\*\* 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 material or workmanship, which may develop during the period of one (1) year from the date of acceptance, and also to repair or replace any damage resulting from the repairing or replacing of such defects at no additional cost to the Owner. We shall make such repairs or replacements within a reasonable time after receipt of such written notice. In the event of our failure to make such repairs or replacements within a reasonable time after receipt of such written notice from the Owner, we authorize the Owner to proceed to have said repairs or replacements made at our expense and we will pay for the cost and charges thereon upon demand.  
 Project Name: \_\_\_\_\_  
 Owner: \_\_\_\_\_  
 Landscape Architect: \_\_\_\_\_  
 Location: \_\_\_\_\_  
 Signed: \_\_\_\_\_ Title: \_\_\_\_\_  
 Address: \_\_\_\_\_  
 Telephone: ( ) \_\_\_\_\_  
 Date of Signature: \_\_\_\_\_

8. Inspections

- a. Site inspections and notification time.
  - i. Pre-construction conference 7 days
  - ii. Pressure line installation and testing 48 hours
  - iii. Controller installation 48 hours
  - iv. Lateral line and sprinkler installation 48 hours
  - v. Coverage test 48 hours
  - vi. Final Grading 48 hours
  - vii. Weed-abatement 48 hours
  - viii. Tree & shrub observation & layout 48 hours
  - ix. Finish grade prior to hydro-seeding 48 hours
  - x. Acceptance to commence maintenance 48 hours
  - xi. Monthly maintenance walk 48 hours
  - xii. Final Inspection 7 days
- b. No field inspections will commence unless record drawings are current and available for observation upon request by the Owner's representative.

9. Irrigation System Testing

- a. Owner's representative must be notified 48 hours prior to any irrigation testing or inspections.
- b. Contractor shall perform a pressure test to all pressure lines in the presence of the Owner's representative.
- c. All pressure line must be tested under hydrostatic pressure of 130 pounds per square inch (PSI) and be proven watertight.
- d. Pressure lines must maintain pressure for a period of 2 hours. If pressure drop occurs, contractor shall replace joints and repeat test until no pressure drop is achieved.

10. Pressure Line Observation

- a. Prior to any backfilling of any trench(es) contractor shall call for field observation for verification of material, depths, clearances and warning tape by the Owner's representative.
- b. Any trenching covered that was not inspected or approved shall be made visible for observation at the cost of the Contractor.

11. Controller Testing

- a. Prior to final acceptance contractor shall provide certification from manufacture stating that controller specified on drawings has been installed per manufacturer's specifications.
- b. Contractor shall test in the presence of the Owner's representative that all control wires and extra control wires are functioning properly.
- c. Contractor shall provide sufficient manpower and/or radio device to complete such testing in a timely manner.

12. Lateral Line Testing

- a. Prior to any backfilling of any trench(es) contractor shall call for field observation for verification of material, depths and clearances by the Owner's representative.
- b. All sprinklers and assemblies shall be made visible for observation for verification that all material has been installed per plans and specifications.
- c. Any trenching covered that was not inspected or approved shall be made visible for observation at the cost of the Contractor.

13. Coverage Test

- a. Contractor shall perform a coverage test in the presence of the Owner's representative. All irrigation sprinkler systems must providing 100% head to head coverage. Any areas not receiving head to head coverage shall be corrected and retested per the Owner's representative.
- b. Contractor shall provide sufficient manpower and/or radio device to complete such testing in a timely manner.
- c. All heads must be adjusted to prevent over spray to buildings, walks, streets etc. (see adjusting the system section).
- d. No planting or hydro-seeding shall take place until coverage test as been approved in writing by the Owner's representative. Tree planting may commence upon approval from Owner's representative.

14. Final Irrigation Inspection

- a. All irrigation systems shall be tested in the presence of the Owner's representative and by under complete automatic operation and proven to be leak free irrigating designated areas per plans and specification with least amount of over spray as possible.
- b. Contractor shall provide as-built record drawings and controller charts at final irrigation inspection for approval prior to mylar transfer and laminating.
- c. All irrigation turn over items shall be turned in to the Owner's representative prior to the start of maintenance.

IRRIGATION SPECIFICATIONS MATERIALS

1. Backflow Prevention Devices

- a. Backflow prevention units shall be approved by the Foundation for Cross-Connection Control and Hydraulic Research.
- b. Backflow assemblies shall be installed using brass ells, unions and nipples.
- c. Type: Fecbo 825YA or approved equal.
- d. Backflow device enclosure shall be constructed of stainless steel #9 expanded metal with an angle iron frame. Enclosure shall have a hinge on one end that allows for removal of the enclosure for backflow service. Enclosure shall be bolted to a concrete pad using galvanized steel hardware.  
 Manufacturers: LeMeur, Strong Box, All Spec or approved equal.

2. Pressure Reducing Valves

- a. Pressure reducing valves shall be of bronze and stainless steel construction and be adjusted from 25 P.S.I. to 125 P.S.I.  
 Manufacturers: Wilkens 500HLR or approved equal.

3. Wye Strainers

- a. Wye strainer shall be bronze construction with a stainless steel screen element. Wye strainer shall have a standard filtration size of 80 mesh.  
 Manufacturers: Wilkens 100YSBR or approved equal.

4. Shut off Valves

- a. Ball Valve:
  - i. Shut off valves 2 inch and smaller shall be ball valves.
  - ii. Ball valves shall have a one-piece body constructed of 600 lb. WOG Bronze material conforming to ASTM B-584 alloy 844. Ball valve shall have a vented ball with a blowout proof system. Ball valves shall have a working pressure of not less than 150 P.S.I. and shall conform to AWWA standards.  
 Manufacturers: Nibco T-580, Nibco T-113 or approved equal.
- b. Butterfly Valves:
  - i. Shut off valves 2-1/2 inch and larger shall be butterfly valves.
  - ii. Butterfly valves shall have a one-piece body constructed of cast iron and stainless steel stem. Butterfly valves shall be equipped with Vanstone lange adapters and a 2-inch square-operating nut. Butterfly valves shall have a working pressure of not less than 150 P.S.I. and shall conform to AWWA standards. Butterfly valves shall have a ductile iron porcelain enamel coated disc.  
 Manufacturers: Nibco, Matco or approved equal.

5. Quick Coupler Valves

- a. Quick coupler valves shall have a body constructed of red brass with a wall thickness guaranteed to withstand normal working pressure of 150 P.S.I. without leakage with female threads (peening at base). Quick coupler valve shall have a hinge cover constructed of red brass with leather like vinyl cover bonded to it on such a manner that it becomes permanent type of cover. Quick couplers used with potable water shall have vinyl covers yellow in color. Quick coupler valves used for reclaimed water shall have vinyl covers purple in color with the appropriate reclaimed water warnings in English and Spanish as well as the international "Do Not Drink" symbol.  
 b. All quick coupler valves must have a schedule 80 ball valve to isolate mainline from quick coupler valve. Mainline shall be size of quick coupler valve from mainline tee to quick coupler.  
 Manufacturers: Potable Water: Rainbird 44LRC, Rainbird 33LRC or approved equal  
 Reclaimed Water: Rainbird 44NP or approved equal

6. Remote Control Valves

- a. The remote control valve shall be normally closed 24 VAC solenoid actuated globe pattern, spring-loaded diaphragm type. The valve shall be pressure rated up to 200 P.S.I. at 150 degrees F.  
 b. The valve shall have a 600-pound test fabric reinforced rubber diaphragm assembly with self-cleaning stainless steel screen.  
 c. Remote control valve body and bonnet shall be brass and the valve shall have a stainless steel control/shut-off stem and manual operator.  
 Manufacturers: Rainbird PESB-PRS, Hunter ICV-FS or approved equal.

7. Master Control Valves

- a. The master control valve shall be a switch-able normally closed or open 24 VAC solenoid actuated globe pattern, spring loaded diaphragm type. The valve shall have up to 220 P.S.I. at 150 degrees F.  
 b. The body bonnet shall be plastic and the valve shall have a stainless steel control shut-off stem and manual operator.  
 c. The valve shall have a 600-pound test fabric reinforced rubber diaphragm assembly with self-cleaning stainless steel screen.  
 Manufacturers: Toro P220 or approved equal.

8. Flow Meter


- a. Flow meter shall be constructed of a schedule 80 tee with a solid state o-ring sealed epoxy fused sensor housing and nylon impeller.  
 b. Flow meter must be installed and wired per manufacturer's specifications.  
 Manufacturer: Calsense FM

9. Rain Sensor

- a. Rain sensor shall be a heavy-duty plastic container with epoxy sealed electronics installed within a 1/8-inch thick steel enclosure. Mount sensor on controller enclosure or building eave per manufacturer's specifications. Sensor shall be wired per manufacturer's specification.  
 Manufacturer: WCS Rainguard

10. Basket Strainer

- a. Basket strainer shall be manufactured with a bronze body with an 80-mesh filtration element with a stainless steel basket.  
 Manufacturer: Hayward or approved equal.

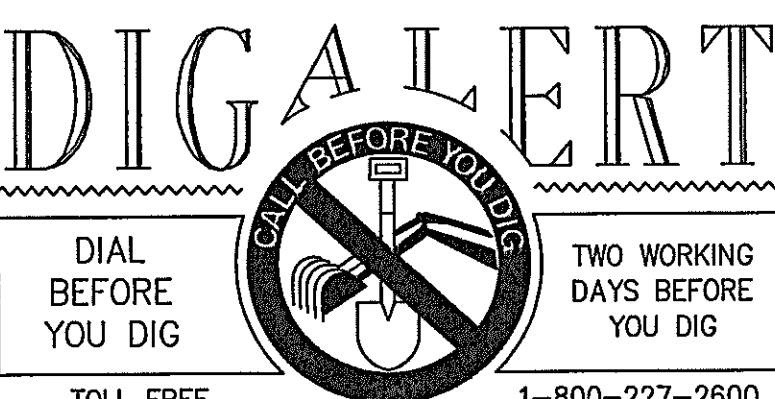


VALLEY WIDE RECREATION & PARK DISTRICT

APPROVED

Samuel W. Goepf Date: 6/22/04

**HOLD HARMLESS & INDEMNIFICATION CLAUSE**  
 CONTRACTOR AGREES TO ASSUME SOLE 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/DEVELOPER, THE COUNTY OF LOCAL JURISDICTION AND THE LANDSCAPE DESIGNER HARMLESS FROM ANY AND ALL LIABILITY REAL OR ALLEGED, IN CONNECTION WITH THE PERFORMANCE OF WORK ON THIS PROJECT, EXCEPTING FOR LIABILITY ARISING FROM SOLE NEGLIGENCE OF THE OWNER/DEVELOPER, COUNTY OF LOCAL JURISDICTION AND THE LANDSCAPE DESIGNER.



DIG ALERT

DIAL BEFORE YOU DIG

TWO WORKING DAYS BEFORE YOU DIG

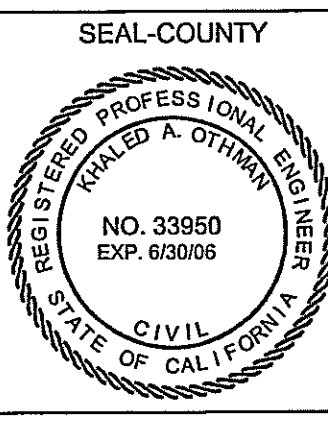
TOLL FREE 1-800-227-2600

A PUBLIC SERVICE BY UNDERGROUND SERVICE ALERT

RECOMMENDED FOR APPROVAL	
DATE CHECKED BY	
DATE	

**NOTE:**  
 WORK CONTAINED WITHIN THESE PLANS SHALL NOT COMMENCE UNTIL AN ENCROACHMENT PERMIT AND/OR A GRADING PERMIT HAS BEEN ISSUED.  
 The private engineer signing these plans is responsible for assuring the accuracy and acceptability of the design herein. In the event of discrepancies arising after county approval or during construction, the private engineer shall be responsible for determining an acceptable solution or revising the plans for approval by the county.

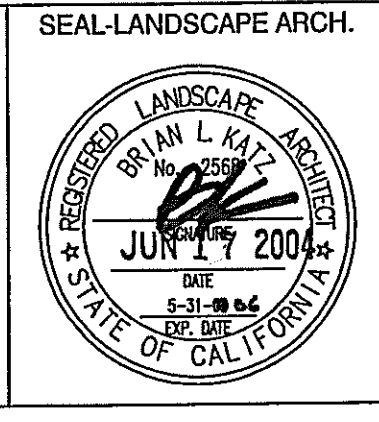
MARK	BY	DATE	REVISIONS	APPR. DATE	COUNTY
2	MVM	1-7-04	REVISED PER CITY PLAN CHECK COMMENTS		
3	MVM	4-26-04	REVISED PER CITY PLAN CHECK COMMENTS		
4	MVM	6-17-04	REVISED PER VALLEY-WIDE PLAN CHECK COMMENTS		



COUNTY OF RIVERSIDE  
 TRANSPORTATION DEPARTMENT

APPROVED BY:  
 KHALED A. OTHMAN DATE: \_\_\_\_\_

RECOMMENDED BY: WILL DAN DATE: \_\_\_\_\_



LANDSCAPE ARCHITECTURE SITE PLANNING

6153 Fairmount Ave, Suite 260  
 San Diego, CA 92120  
 T 619-584-5444 F 619-584-5448  
 mail@skinc.com

PREPARED BY: Brian L. Katz  
 R.L.A. NO. 2568  
 DATE: 6-17-04

BENCHMARK: ELEV. 1339.039  
 RIVERSIDE COUNTY B.M. T-49-81, 2.5" BRASS DISK IN CONC. CYLINDER LOCATED AS FOLLOWS: FROM THE INT. OF RANCHO CA RD. & FRONT ST. 1.7 MI. NW ON FRONT ST., JEFFERSON AVE. TO THE INT. OF JEFFERSON & WINCHESTER RD. (HWY. 79), 5.5 MILES NE ON WINCH RD. (HWY. 79) TO THE INT. OF WINCH AND BENTON RD., 0.05 MI. W. ON BENTON RD. TO THE BENTON/BRIGGS ROAD INT., 0.5 MI. N. ON BRIGGS RD. TO THE BRIGGS/THOMPSON RD. INT., 200' E. OF THE INT., 22' S. OF THE CL. THOMPSON RD. NEAR THE N.W. COR. OF 16' x 22' CHAIN LINK FENCE AROUND SOUTHERN CA. GAS CO. VALVES, WIRED PADDE MARKED TO FENCE.

SCALE: H: \_\_\_\_\_ N.T.S. V: \_\_\_\_\_ N.T.S.

IP #030071	SHEET NO.
COUNTY OF RIVERSIDE BENTON ROAD STREETSCAPE TRACT 30167 IRRIGATION NOTES	10
FOR: KB HOME - COASTAL	OF 16 SHTS.
W.O.: _____	COUNTY FILE NO.



**11. Booster Pump**

a. Booster pump shall be as manufactured by Barrett Engineered Pumps, San Diego, California (619) 232-7867. The engineer shall determine pump.

**12. Filtration Equipment**

a. Filter shall be Turbo-Clean in filter available from Amiad Filtration Systems Inc. (800) 969-4055.

Specify filter at P.O.C. and install per filter detail.

**13. Automatic Controller**

a. The controller shall operate on a minimum of 120 volts A.C. power input and shall be capable of operating up to four 5.5 VAC 24 volt A.C. remote control valves at once. The controller shall have a reset circuit breaker to protect the controller from overloading.

b. The controller shall have independent programmable stations. The controller-programming schedule shall be capable of allowing four automatic start times per day on four separate programs. Station timing shall be variable from 1 to 99 minutes. The controller must have a water budgeting function to allow increasing or decreasing of watering times for all stations at once.

c. The controller shall have a master valve/remote pump start circuit for use with a master valve to pressurize the system when the programmed cycle starts to activate a remote pump start relay to run the pump during the programmed cycle.

d. The controller shall have manual watering capabilities for single station operation at any time with out changing programmed times.

e. The controller shall have a factory installed backup program for standby operation and a backup battery to maintain the programs during power loss.

f. Install one extra 1-1/2" inch conduit to controller for future use.

Manufacturer: Calsense ET-2000. Contact Bob Moxley with Calsense (800) 572-8608.

**14. Controller Enclosure**

a. All controllers installed outside must be mounted inside a stainless steel enclosure with lockable-hinged doors.

b. The enclosure shall have one full time 120 VAC GFCI type circuit with on/off switch and pigtail connection for remote control use.

Manufacturer: Calsense SSE.

**15. Control Wiring**

a. All control wiring for connections between remote control valves and controller shall be direct burial AWG-F wire installed in accordance with manufacturer's specifications.

b. All splices shall be sealed with waterproof connectors and waterproof sealant.

Manufactures: Dri-Splice or approved equal.

c. Wiring shall be buried adjacent to mainline wherever possible and for more than one wire they shall be bundled at every ten feet using black electrical tape.

d. Expansion curl shall be provided within three feet of each connection and at all changes in direction. Provide a two-foot expansion loop for every 100 feet of run.

e. Wire size shall not be less than #14 gauge.

f. Control wires shall be black in color. If additional controllers are installed provide different color common wires for each controller.

g. Common wire shall be white in color. If additional controllers are installed provide white wire with colored stripe. Stripe to be same color as control wire color.

h. Contractor shall provide one extra wire for every five valves and two extra wires shall be provided for every valve in any isolated area and the extra wires shall extend past the last valve in a group. Extra wires shall be orange in color and looped in every valve box and made accessible for future use if needed.

i. No wire splices shall be permitted unless run is longer than 2500 feet or approved by Owner's representative.

**16. Valve Boxes**

a. Rectangular valve boxes shall be 9-1/2 inch wide by 16 inch long and 11 inch high. Round valve boxes shall be 10-inch diameter and 10 1/4 inch. All valve boxes shall be constructed of rigid polyolefin.

b. Valve boxes shall have locking covers secure with a 3/8-inch stainless steel bolt and washer.

c. Rectangle valve boxes shall be used for control valves, master control valves, pressure regulators, flow sensors, wye strainers, basket strainers ball valves, butterfly valves and pull boxes.

d. Round valve boxes shall be used for quick coupler valves.

e. All valve boxes to be green in color unless otherwise specified for use of reclaimed water. All valve boxes for reclaimed water shall be purple in color and bare the reclaimed water warnings as well as the international "Do Not Drink" symbol.

f. Heat brand all box lids with the appropriate two-inch high identification letters and/or numbers.

g. All valve boxes shall receive landscape fabric. Landscape fabric shall be constructed of 5.0 oz. weight proven polypropylene weed barrier with burst strength of 225 P.S.I. and capable of 12 gallons per minute of water flow and puncture strength of 60 lbs. Dewitt Pro, Mirfy or approved equal.

h. All valve boxes shall receive 2 cubic feet of 3/4-inch gravel per plan.

Manufactures: Carson, Brooks, or approved equal.

**17. General Piping**

a. Pressure line from point of connection to backflow prevention device shall be brass or Type K copper

b. Pressure lines 2" and smaller after backflow prevention device shall be Schedule 40 solvent weld P.V.C.

c. Pressure lines 2-1/2 inch to 3 inch after backflow prevention device shall be Class 315 solvent-weld P.V.C.

d. Pressure lines 1-1/2 inch and smaller after backflow prevention device shall be Schedule 40 solvent-weld P.V.C.

e. Pressure lines 4 inch and larger after backflow device shall be Class 200 bell and gasket P.V.C.

f. Lateral lines 1-1/2 inch and smaller shall be Schedule 40 solvent-weld P.V.C.

g. Lateral lines 2 inch and larger shall be Class 315 solvent-weld P.V.C.

h. All pipe and fittings shall bear the markings of the Manufacturer's name, nominal pipe size, pressure rating P.S.I., NSF, schedule or class and date of extrusion.

**18. Plastic Pipe**

a. Solvent weld pipe shall conform to ASTM D 1784 or D 2241 to meet the requirements of cell classification 12454B for pipe. Pipe shall be extruded of an improved P.V.C. virgin pipe compound high impact strength. Compound shall have a hydrostatic design stress rating of 2,000 P.S.I. Manufacturers: Pacific Plastics or approved equal.

b. Rubber gasket P.V.C. pipe shall conform to ASTM D-1784 Type I, Grade I 2,000 P.S.I. design stress. All pipes shall conform to commercial standards CS-256-64 and NSF testing laboratories. Rubber gaskets shall conform to ASTM 1869.

Manufactures: Pacific Plastics or approved equal.

c. Reclaimed water pipe shall conform to ASTM D1784 or D 2241 to meet the requirements of cell classification 12454B for pipe. Pipe shall be extruded of an approved P.V.C. virgin pipe compound high strength. Compound shall have a hydrostatic design stress rating of 2,000 P.S.I. Reclaimed water pipe shall be purple in color and bare the words "CAUTION - RECLAIMED WATER" printed in black letters on two sides of all pipes.

Manufactures: Pacific Plastics or approved equal.

d. Ultra Violet Resistant (U.V.R.) pipe shall conform to ASTM D 1784 or D 2241 to meet the requirements of cell classification 12454B for pipe. Pipe shall be extruded of an approved P.V.C. virgin pipe compound high strength. Compound shall have a hydrostatic design stress rating of 2,000 P.S.I. U.V.R. pipe shall be manufactured using material proven to resist corrosion by ultra-violet radiation. Pipe shall be brown in color.

9-1/2  
Manufactures: Pacific Plastics or approved equal.

**19. Fittings**

a. All pressure line fittings 3 inch and smaller shall be Schedule 80 solvent weld P.V.C. Fabricated pipe shall be from an NSF approved Type I, Grade I, P.V.C. compound conforming to ASTM D1784

Manufactures: Dura, Lasco or approved equal.

b. All pressure line fittings 4 inch and larger shall be iron ductile deep bell type constructed of grade 65-45-12 and shall be in accordance with ASTM A536. Rubber for gaskets in fittings shall be in accordance with ASTM-477. All iron ductile fittings shall have stainless steel exterior lugs to secure a joint restraint system.

Manufactures: Lemco or approved equal.

c. All lateral line fittings downstream control valve shall be Schedule 40 solvent weld P.V.C. Fabricated pipe shall be from an NSF approved Type I, Grade I, P.V.C. compound to ATTM D1784

Manufactures: Dura, Lasco or approved equal.

d. Provide primer and solvent cement for PVC solvent weld pipe and fittings of specified type by manufactures recommendations. Manufacturer: Weld-on or approved equal.

e. All fittings shall have the manufacture's name, trademark and size applicable NSF or IPS approval.

f. All threaded fittings shall have 3/4 inch teflon tape.

**20. Brass Pipe and Fittings**

a. Brass pipe shall be in accordance with American National Standard Institute and be 85 percent Schedule 40 red brass.

b. Brass fittings shall be threaded 125-pound class.

**21. Galvanized Steel Pipe and Fittings**

a. Galvanized steel pipe shall be Schedule 40 hot dipped galvanized.

b. Galvanized fittings shall be Schedule 40 hot dipped galvanized.

**22. Irrigation Heads (General)**

a. All irrigation heads shall be the size, type, and provide the same rate of precipitation with the same radius of spray, pressure and discharge in G.P.M. as listed on drawings

b. All spray head sprinklers shall have stainless steel screw adjustment for radius of spray.

c. Riser and swing joint assemblies shall be as indicated on drawings.

d. All irrigation heads shall have a factory installed check valve or have an after market check valve installed.

e. All other requirements for non-pressure lateral line pipe to be as specified in fitting specification section.

f. In no case shall the irrigation head spacing exceed the maximum manufacturer's recommendation.

g. Irrigation heads along walks, curbs, paving, etc. shall be positioned 1 inch above finish grade. Irrigation in turf areas shall be positioned 2 inches above finish grade.

h. All sprinkler heads shall be set perpendicular to finish grades.

**23. Bubblers**

a. Bubblers shall be constructed of heavy duty plastic and be pressure compensation full circle. The bubbler shall have a screen to protect it from clogging.

b. Bubblers shall be adjustable from .25 - 1.0 GPM and operate between 20-90 PSI.

Manufacturer: Rainbird 1400 Series or approved equal.

**24. Sprinkler Heads**

a. The sprinkler body, nozzle, stem and screen shall be molded out of heavy duty plastic.

b. Pop-up height shall be as listed in drawings and in no case shorter than 4 inches.

c. The sprinkler shall have an adjustment screw used for regulating flow and radius with matched precipitation rate (MPR) nozzle.

d. The sprinkler shall have a removable screen to protect it from clogging.

e. The sprinkler shall have a stainless steel spring for proper pop down.

f. The sprinkler shall be equipped with a factory installed check valve (seal-a-matic (SAM)) identified on the cap and capable of holding water up to 10 feet of elevation change.

g. The sprinkler shall be equipped with a factory installed pressure-regulating device constructed of stainless steel and heavy-duty plastic capable of maintaining a pressure of 35-70 P.S.I. to 30 P.S.I. for operation of the sprinkler.

Manufactures: Rainbird 1800-SAM, Hunter INST. or approved equal.

**25. Rotor Heads (Medium Range)**

a. All pop-up rotors shall have a rubber cover and be constructed of heavy duty plastic except for wiper seal, bearing spring and bearing washers. All rotors to have a reinforced rib design with flange encasement.

b. Pop-up height shall be as listed in drawings and in no case be shorter than 3-1/2 inches.

c. The rotor shall have a diffuser pin for regulating flow and radius.

d. The rotor shall have a screen to protect it from clogging and have a minimum inlet of 3/4 inch.

e. The rotor shall be capable of covering 16-55 feet radius at 20-60 PSI with a rate of .5 - 9.2 GPM. and be adjustable from 1-360 degrees.

Manufactures: Hunter PGP, Hunter I-20 or approved equal.

**26. Rotor Heads (Large Range)**

a. All pop-up rotors shall have a rubber cover and be constructed of heavy duty plastic except for wiper seal, bearing spring and bearing washers. The riser shall be constructed of plastic encased in a stainless steel sleeve. All rotors to have a reinforced rib design with flange encasement.

b. Pop-up height shall be as listed in drawings and in no case be shorter than 3-1/2 inches.

c. The rotor shall have a diffuser pin for regulating flow and radius.

d. The rotor shall have a screen to protect it from clogging and have a minimum inlet of 1 inch.

e. The rotor shall be capable of covering 16-55 feet radius at 40-74 PSI with a rate of 3.8 - 27.5 GPM. and be adjustable from 1-360 degrees.

Manufactures: Hunter I-25, Hunter I-40 or approved equal.

**27. Trenching and Backfilling**

a. No trenches are to be backfilled until approval from Owner's representative has been acquired.

b. Excavate trenches straight and support pipe continuously on the bottom of trench per layout indicated on drawings.

c. All lines shall have a minimum clearance of 4 inches from each other and 24 inches from any other lines from other trades.

d. Provide the minimum covers as listed below:

i. Pressure lines 4 inch and larger: 30 inches

ii. Pressure lines 3 inch and larger: 24 inches

iii. Pressure lines 2-1/2 inches and smaller: 24 inches

iv. Lateral lines: 18 inches

v. Control wiring: 24 inches

e. Fine granular soil not larger than 1/2 inch shall be for initial backfill and compacted to a density equal to undisturbed soil. Clean backfill soil not greater than 1 inch for remaining backfill.

f. No flooding shall be performed to compact trenches unless approved by the Owner's representative.

g. Sand backfill to a minimum of 3 inches shall be applied to all piping under paved areas.

h. If any settlements occur and irrigation adjustments are required the contractor shall make these adjustments with no additional cost to the Owner.

i. Contractor shall install concrete thrust blocks for all pressure lines 2 inch and larger. Thrust blocks shall be a minimum size of one cubic foot. For bell and gasket pipe a joint restraint system shall be used instead of thrust blocks per manufacturer's specifications.

**28. Flushing the System**

a. Open control valve after all piping and required assemblies have been completed to flush out the system.

b. Irrigation heads are to be installed after completion of flushing the system satisfactory to the Owner's representative.

**29. Adjusting the System**

a. The contractor shall flush and adjust all irrigation heads, control valves, pressure regulators, etc. for optimum performance.

b. All heads must be adjusted to prevent over spray to buildings, walks, streets etc.

**30. Sleeving**

a. All sleeving shall be 2 times the diameter of the pipe used. Sleeving for control wires shall be 2 inches in diameter minimum.

b. All sleeving shall have minimum a cover of 24 inches under paving.

c. All trenches for sleeving must be compacted to 95% compaction using manual or mechanical taping device.

d. Contractor shall cap and pressure test all pressure lines under paving prior to backfilling and paving.

e. Contractor shall be responsible for the installation of all sleeves required for the irrigation system not listed in the drawings.

**31. Layout**

a. Contractor shall layout irrigation mainline, valves, and sprinklers etc. for approval from the Owner's representative.

**32. Additional Miscellaneous Items**

a. All pipe above grade are to be stabilized with j-hooks at every 10 feet. J-hooks shall be #4 x 18 inch rebar painted with black epoxy paint prior to installation.

b. All assemblies requiring rebar stabilizing rods per plan and details shall be with #4 x 30 inch rebar and supported by vandal proof clamps constructed of stainless steel installed with a tool specifically designed for the process.

c. Contractor shall install metallic warning tape over all pressure supply line with a cover of 12 inches from grade. Warning tape for potable water shall be blue in color and the words, "CAUTION WATER LINE" permanently attached to tape. Warning tape for reclaimed water shall be lavender in color and the words, "CAUTION RECLAIMED WATER" permanently attached to tape. Warning tape shall be 3" wide minimum.

d. Contractor shall provide identification tags with the number labeled for each valve attached the each valve. For potable water the tags shall be yellow in color with black lettering. For reclaimed water the tags shall be lavender in color with black lettering.

e. All utilities, valve boxes, valves, sprinklers, quick couplers, etc. shall either have lavender caps or lavender colored parts as provided by the manufacturer for use a reclaimed water.

**33. Water Supply**

a. The Irrigation system shall be connected to water supply as shown on drawings. Contractor shall notify Architect immediately of any discrepancies.

b. The Contractor shall be responsible for any minor changes due to actual site conditions.

**34. Electrical Supply**

a. Contractor to coordinate final location of controller with job site Superintendent and Owner's representative.

b. Prior to installation of controller contractor to verify that all required electrical equipment is accessible for complete installation.

c. Electrical connections and equipment must be as listed in controller installation section and per manufacturer's specifications.

**35. Grades**

a. Prior to commencing any work the contractor shall carefully check all grades and verify that after all irrigation work and soil preparation completed, all grades will be per specified depth as per the landscape contractor's scope of work with a +/- 1/10.

**36. Maintenance**

a. Contractor shall have irrigation system under complete operation for a period of 7 days prior to and planting or hydro-seeding.

b. Contractor shall maintain entire irrigation system to an acceptable condition to the Owner's representative for the period of 90 days unless otherwise noted.

**37. Clean-Up**

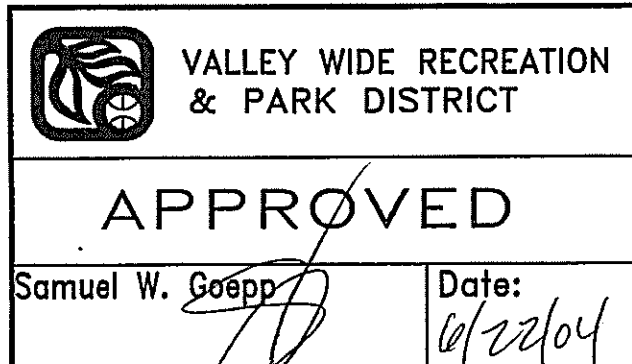
a. Clean up shall take place on a daily basis, after each portion of work has been completed and as directed by the Owner's representative. The contractor shall legally remove from site any trash or material from his scope of work.

**38. Final Approval**

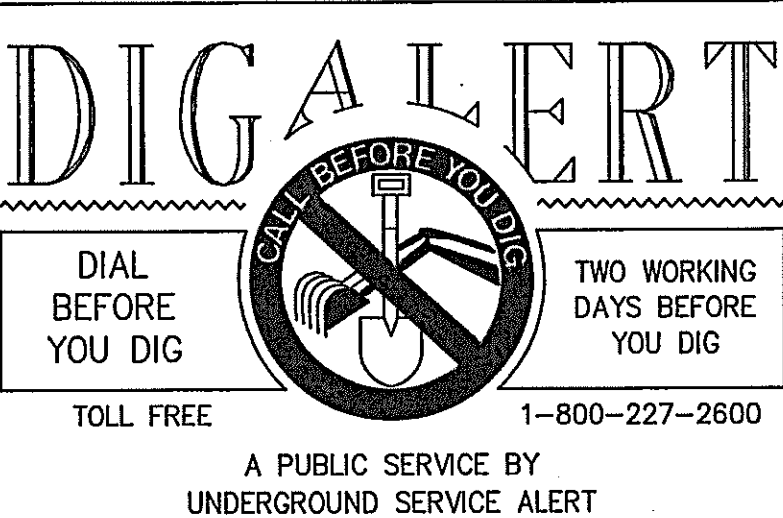
a. All irrigation shall be tested in its entirety by the Owner's representative and approved in writing before commencement of planting and hydro-seeding except for trees as directed by the Owner's representative.

b. Contractor shall provide all charts, record drawings, turn over items etc. as listed in Irrigation (general) section prior to final approval.

- END OF SECTION -



**HOLD HARMLESS & INDEMNIFICATION CLAUSE**  
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RECOMMENDED FOR APPROVAL	
DATE CHECKED BY	
DATE	

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MARK	BY	DATE	REVISIONS	APPR.	DATE
					COUNTY
2	MVM	1-7-04	REVISED PER CITY PLAN CHECK COMMENTS		
3	MVM	4-28-04	REVISED PER CITY PLAN CHECK COMMENTS		
4	MVM	6-17-04	REVISED PER VALLEY-WIDE PLAN CHECK COMMENTS		

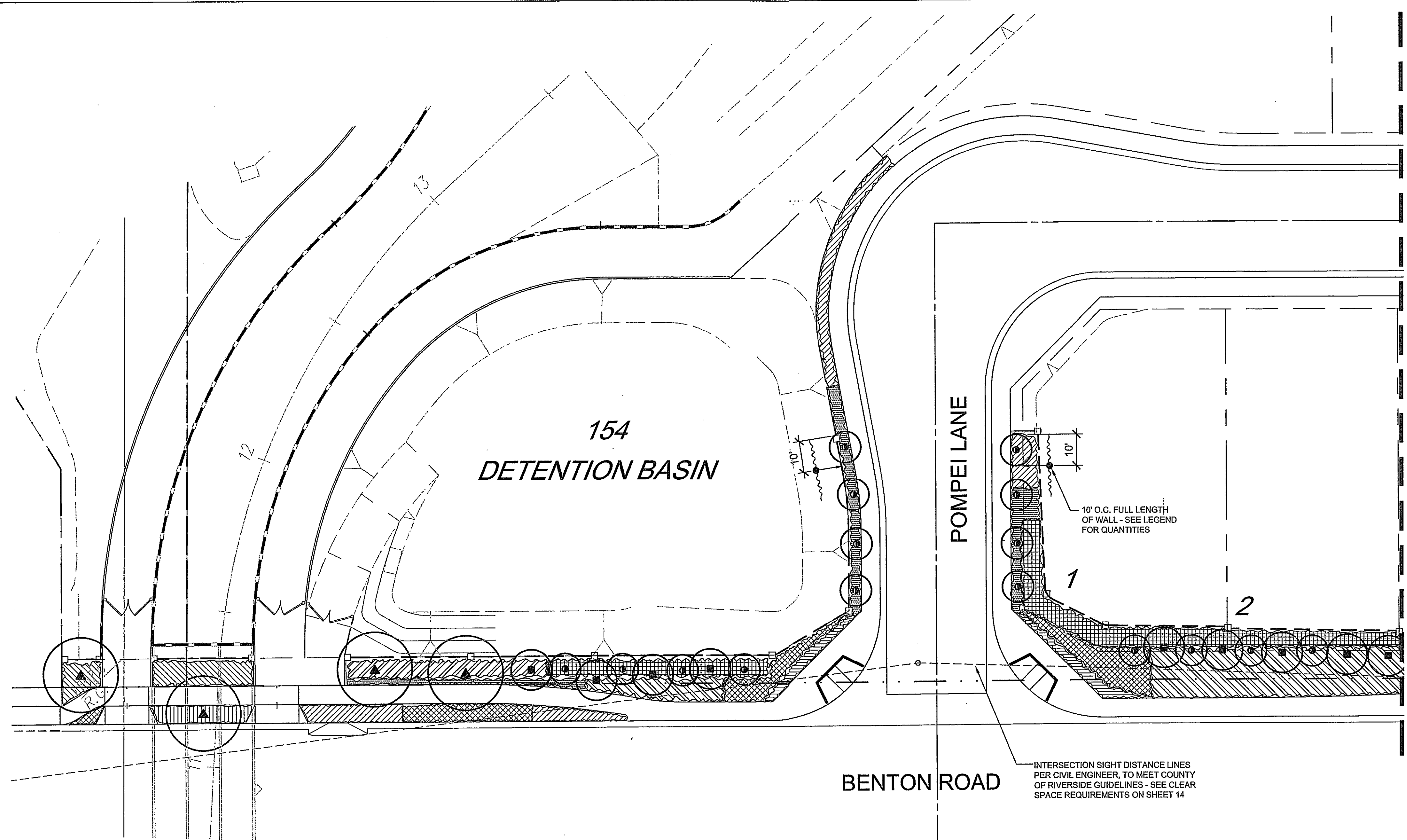
SEAL-COUNTY  
 COUNTY OF RIVERSIDE  
**TRANSPORTATION DEPARTMENT**  
 APPROVED BY:  
 KHALED A. OTHMAN  
 DATE: \_\_\_\_\_  
 RECOMMENDED BY: WILL DAN  
 DATE: \_\_\_\_\_

SEAL-LANDSCAPE ARCH.  
**SIA**  
 LANDSCAPE ARCHITECTURE  
 SITE PLANNING  
 6153 Fairmount Ave. Suite 260  
 San Diego, CA 92120  
 T 619-584-5444 F 619-584-5448  
 mail@skainc.com  
 R.L.A. NO. 2668  
 PREPARED BY: BRIAN L. KATZ  
 DATE: 6/22/04

BENCHMARK: ELEV. 1339.039  
 RIVERSIDE COUNTY B.M. T-49-81, 2.5" BRASS DISK IN CONC. CYLINDER LOCATED AS FOLLOWS: FROM THE INT. OF RANCHO CA. RD. & FRONT ST. 1.7 MI. NW ON FRONT ST.-JEFFERSON AVE. TO THE INT. OF JEFFERSON & WINCHESTER RD. (HWY. 79), 6.5 MILES NE ON WINCH RD. (HWY. 79) TO THE INT. OF WINCH AND BENTON RD., 0.05 MI. W. ON BENTON RD. TO THE BENTONBRIGGS ROAD INT., 0.5 MI. N. ON BRIGGS RD. TO THE BRIGGS/THOMPSON RD. INT., 200' E. OF THE INT., 22' S. OF THE CL. THOMPSON RD. NEAR THE N.W. COR. OF 16' x 22' CHAIN LINK FENCE AROUND SOUTHERN CA. GAS CO. VALVES. WIRED PADDLE MARKED TO FENCE.

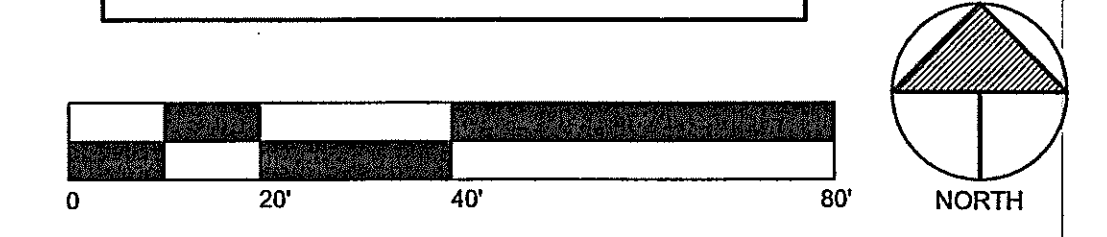
IP #030071  
 COUNTY OF RIVERSIDE  
 BENTON ROAD STREETSCAPE  
 TRACT 30167  
 IRRIGATION NOTES  
 SHEET NO. 11  
 OF 16 SHTS.  
 FOR: KB HOME - COASTAL  
 W.O.:  
 COUNTY FILE NO.



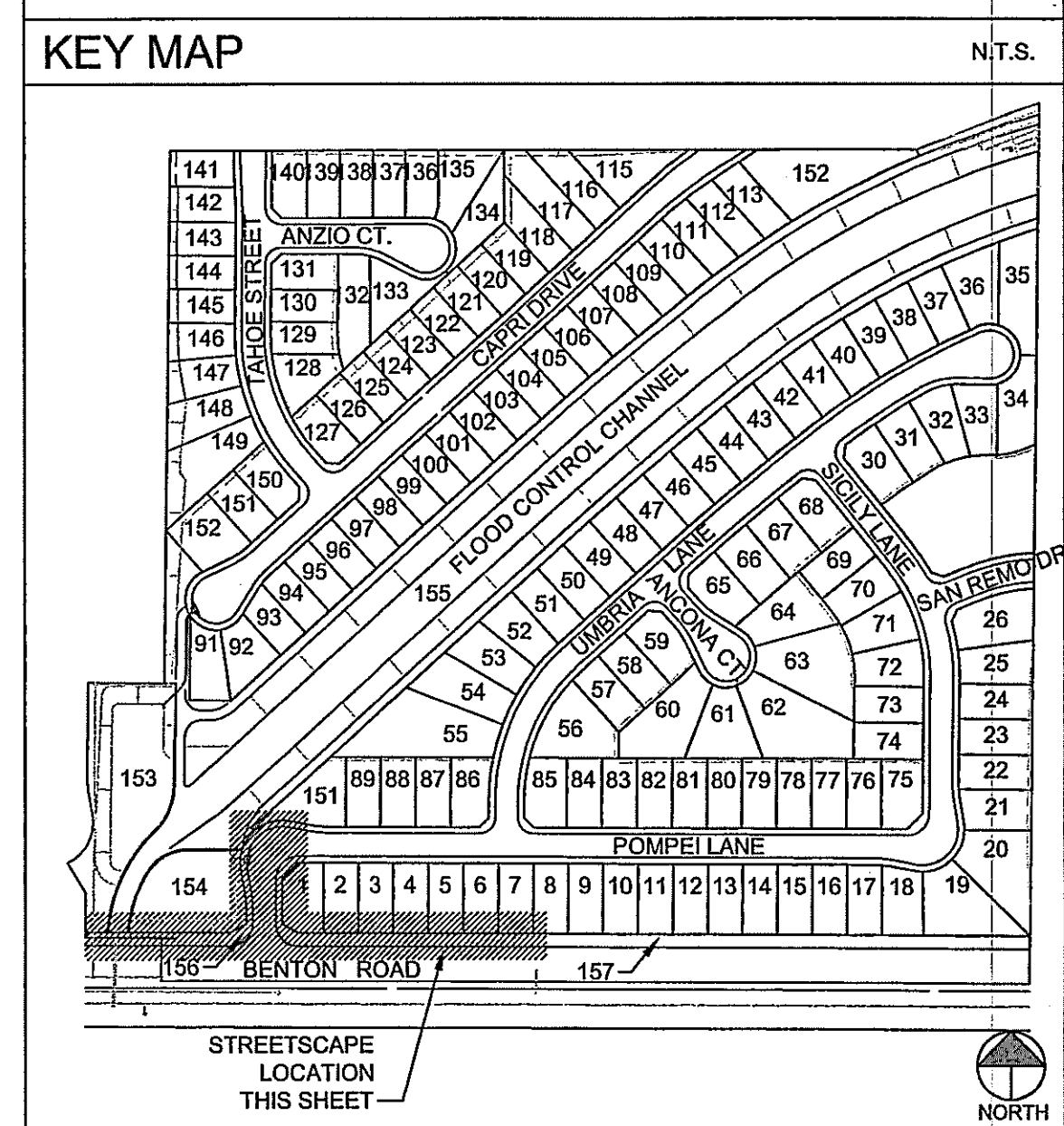
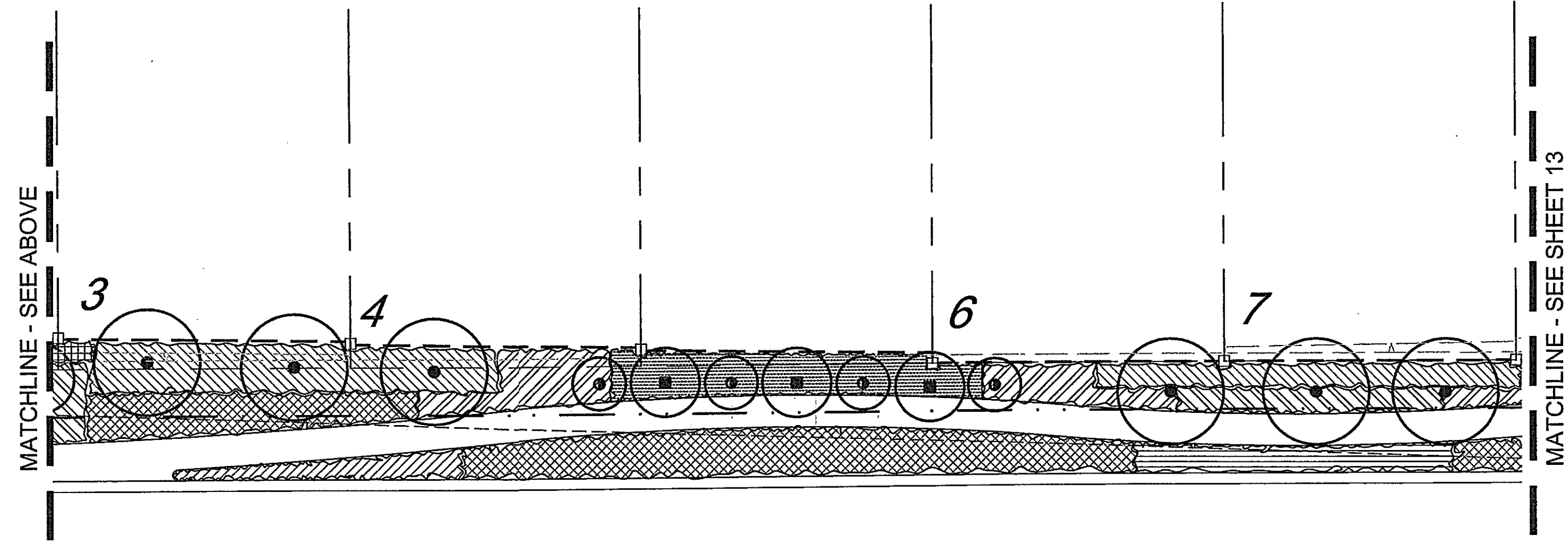


PLANT LEGEND			
SYMBOL	BOTANICAL NAME / COMMON NAME	SIZE / SPACING	QTY.
TREES (CENTER SYMBOL ONLY)			
▲	FRAXINUS O. 'RAYWOOD' / RAYWOOD ASH	24" BOX STD.	14
●	PINUS CANARIENSIS / CANARY ISLAND PINE	15 GAL.	18
■	PYRUS C. 'BRADFORD' / BRADFORD PEAR	24" BOX MATCHED STD.	12
○	LAGERSTROEMIA INDICA 'RED' / CRAPE MYRTLE VAR.	36" BOX	20
SHRUBS			
▨	TULBAGHIA VIOLACEA / SOCIETY GARLIC	1 GAL. / 30" O.C.	119
▩	HEMEROCALLIS HYBRID / EVERGREEN DAYLILY (YELLOW)	1 GAL. / 24" O.C.	368
▧	XYLOSMA C. 'COMPACTA' / XYLOSMA VAR.	5 GAL. / 42" O.C.	228
▦	PHOTINIA FRASERI / PHOTINIA	15 GAL. / 48" O.C.	107
▤	DIETES VEGETA / FORTNIGHT LILY	5 GAL. @ 36" O.C.	279
▣	COLEONEMA PULCHRUM / PINK BREATH OF HEAVEN	5 GAL. / 36" O.C.	258
▢	RHAPHIOLEPIS L. 'JACK EVANS' / INDIA HAWTHORN	5 GAL. / 36" O.C.	329
□	PHORMIUM 'MAORI QUEEN' / NEW ZEALAND FLAX	5 GAL. / 24" O.C.	908
■	ROSMARINUS O. 'TUSCAN BLUE' / ROSEMARY	5 GAL. / 30" O.C.	389
GROUNDCOVER AT FLAT AREAS (UNDER PLANT)			
NO SYMBOL	MYOPORUM PARVIFOLIUM / MYOPORUM PINK	FLATS @ 12" O.C.	-
GROUNDCOVER AT SLOPE AREAS (UNDER PLANT)			
NO SYMBOL	MYOPORUM PARVIFOLIUM / MYOPORUM PINK	FLATS @ 12" O.C.	-
VINES			
—	PARTHENOCISSUS TRICUSPIDATA / BOSTON IVY	1 GAL.	155

SEE SHEET 15 FOR PLANTING DETAILS  
SEE SHEET 16 FOR PLANTING NOTES



**HOLD HARMLESS & INDEMNIFICATION CLAUSE**  
CONTRACTOR AGREES TO ASSUME SOLE 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/DEVELOPER, THE COUNTY OF LOCAL JURISDICTION AND THE LANDSCAPE DESIGNER HARMLESS FROM ANY AND ALL LIABILITY REAL OR ALLEGED, IN CONNECTION WITH THE PERFORMANCE OF WORK ON THIS PROJECT, EXCEPTING FOR LIABILITY ARISING FROM SOLE NEGLIGENCE OF THE OWNER/DEVELOPER, COUNTY OF LOCAL JURISDICTION AND THE LANDSCAPE DESIGNER.

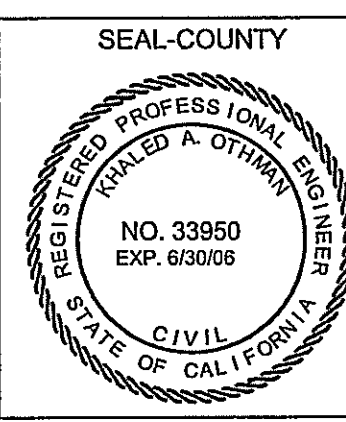


**DIGALERT**  
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TWO WORKING DAYS BEFORE YOU DIG  
TOLL FREE 1-800-227-2600  
A PUBLIC SERVICE BY UNDERGROUND SERVICE ALERT

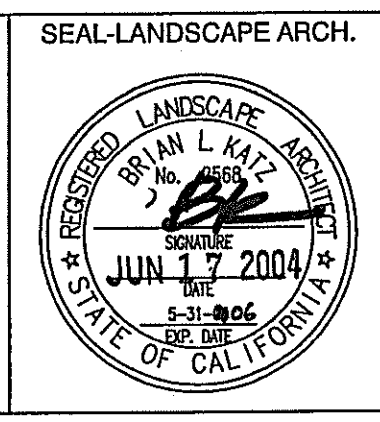
RECOMMENDED FOR APPROVAL	
DATE CHECKED BY	
DATE	

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MARK	BY	DATE	REVISIONS	APPR.	DATE
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3	MVM	4-26-04	REVISED PER CITY PLAN CHECK COMMENTS		
4	MVM	6-17-04	REVISED PER VALLEY-WIDE PLAN CHECK COMMENTS		



COUNTY OF RIVERSIDE  
TRANSPORTATION DEPARTMENT  
APPROVED BY:  
KHALED A. OTHMAN  
DATE



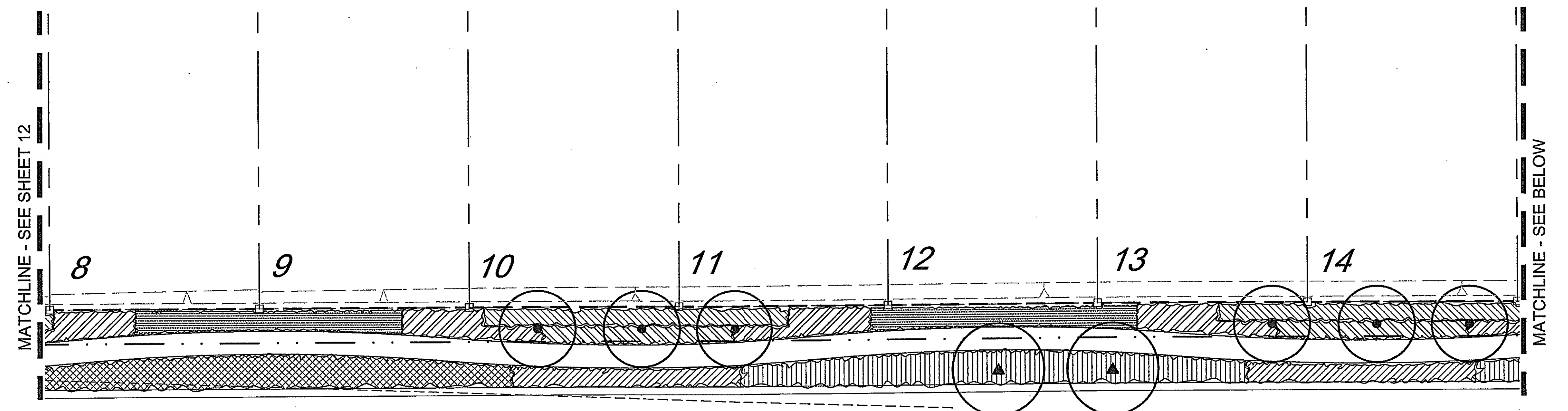
LANDSCAPE ARCHITECTURE  
SITE PLANNING  
6153 Fairmount Ave. Suite 260  
San Diego, CA 92120  
T 619-584-5444 F 619-584-5448  
mail@skalc.com  
PREPARED BY: BRIAN L. KATZ  
R.L.A. NO. 2568  
DATE: 6/17/04

BENCHMARK: ELEV. 1339.039  
RIVERSIDE COUNTY B.M. T-49-81, 2.5" BRASS DISK IN CONC. CYLINDER LOCATED AS FOLLOWS: FROM THE INT. OF RANCHO CA RD. & FRONT ST. 1.7 MI. NW ON FRONT ST. -JEFFERSON AVE. TO THE INT. OF JEFFERSON & WINCHESTER RD. (HWY. 78), 5.5 MILES NE ON WINCH RD. (HWY. 79) TO THE INT. OF WINCH AND BENTON RD., 0.05 MI. W. ON BENTON RD. TO THE BENTONBRIGGS ROAD INT., 0.5 MI. N. ON BRIGGS RD. TO THE BRIGGS/THOMPSON RD. INT., 200' E. OF THE INT., 22' S. OF THE CL. THOMPSON RD. NEAR THE N.W. COR. OF 10' x 22' CHAIN LINK FENCE AROUND SOUTHERN CAL. GAS CO. VALVES. WIRED PADDLE MARKED TO FENCE.  
SCALE: H: 1" = 20'-0" V: 1" = 20'-0"

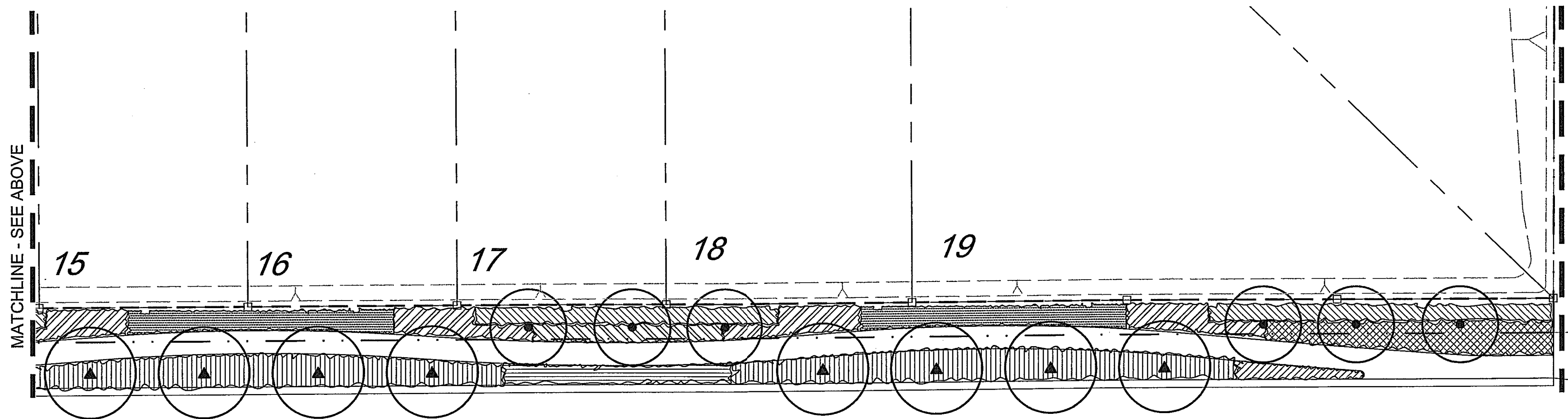
IP #030071  
COUNTY OF RIVERSIDE  
BENTON ROAD STREETScape  
TRACT 30167  
PLANTING PLAN  
SHEET NO. 12 OF 16 SHTS.  
FOR: KB HOME - COASTAL  
W.O.:  
COUNTY FILE NO.:

**APPROVED**  
VALLEY-WIDE  
6/22/04





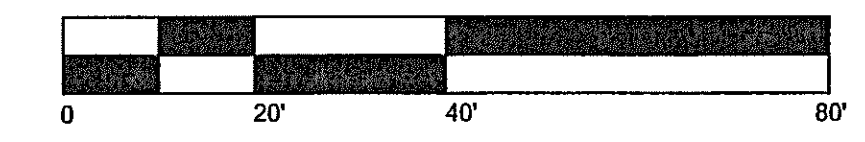
BENTON ROAD



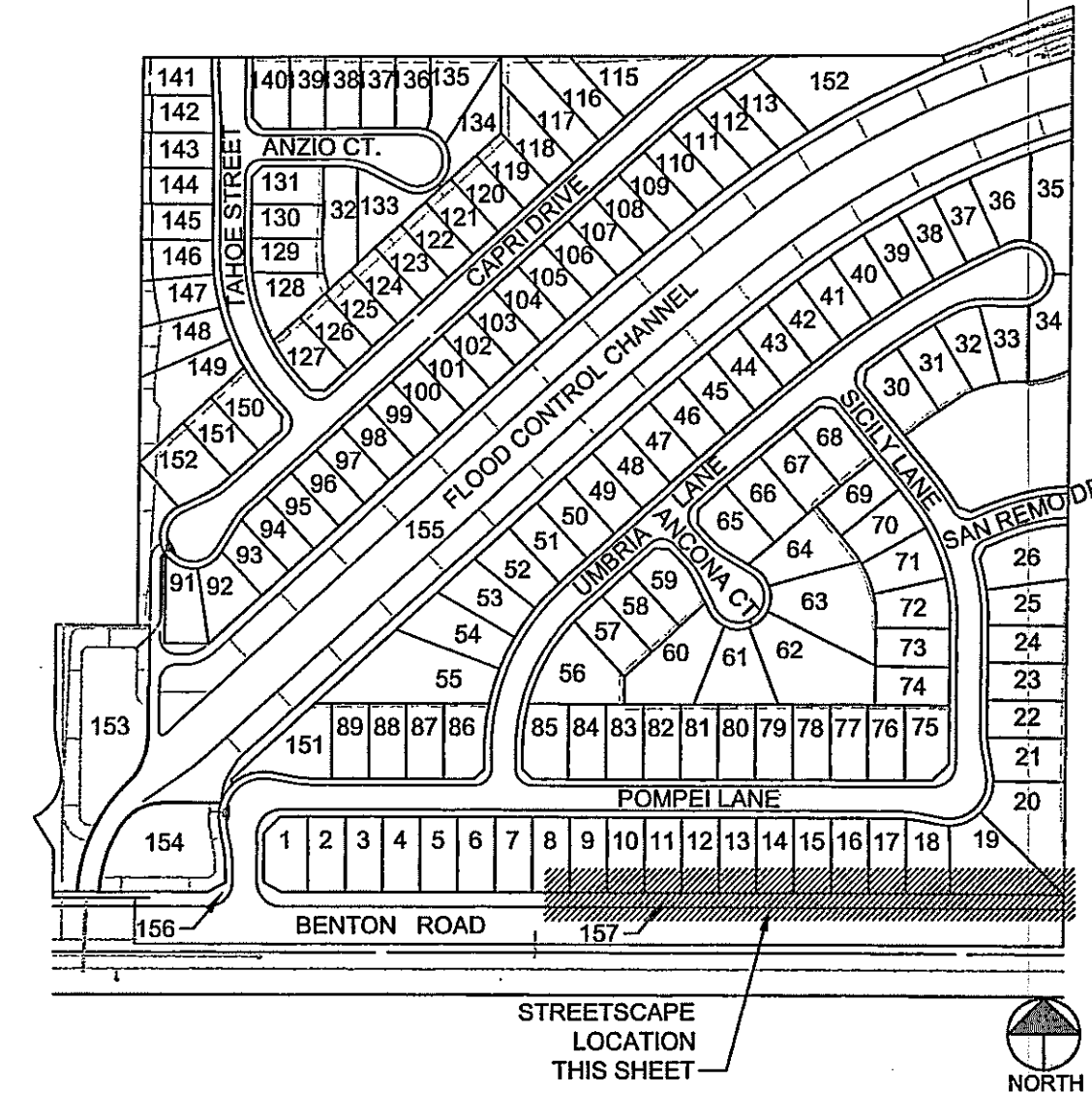
BENTON ROAD

PLANT LEGEND			
SYMBOL	BOTANICAL NAME / COMMON NAME	SIZE / SPACING	QTY.
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[Pattern]	HEMEROCALLIS HYBRID / EVERGREEN DAYLILY (YELLOW)	1 GAL. / 24" O.C.	368
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GROUND COVER AT FLAT AREAS (UNDER PLANT)			
NO SYMBOL	MYOPORUM PARVIFOLIUM / MYOPORUM PINK	FLATS @ 12" O.C.	-
GROUND COVER AT SLOPE AREAS (UNDER PLANT)			
NO SYMBOL	MYOPORUM PARVIFOLIUM / MYOPORUM PINK	FLATS @ 12" O.C.	-
VINES			
[Symbol]	PARTHENOCISSUS TRICUSPIDATA / BOSTON IVY	1 GAL.	155

SEE SHEET 15 FOR PLANTING DETAILS  
SEE SHEET 16 FOR PLANTING NOTES



KEY MAP N.T.S.



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TWO WORKING DAYS BEFORE YOU DIG  
TOLL FREE 1-800-227-2600  
A PUBLIC SERVICE BY UNDERGROUND SERVICE ALERT

RECOMMENDED FOR APPROVAL  
DATE CHECKED BY  
DATE

**APPROVED**  
6/22/04  
VALLEY-WIDE

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3	MVM	4-26-04	REVISED PER CITY PLAN CHECK COMMENTS		
4	MVM	6-17-04	REVISED PER VALLEY-WIDE PLAN CHECK COMMENTS		

SEAL-COUNTY  
REGISTERED PROFESSIONAL ENGINEER  
KHALED A. OTHMAN  
NO. 33950  
EXP. 6/30/06  
CIVIL  
STATE OF CALIFORNIA

COUNTY OF RIVERSIDE  
TRANSPORTATION DEPARTMENT  
APPROVED BY:  
KHALED A. OTHMAN  
DATE  
RECOMMENDED BY: WILL DAN  
DATE

SEAL-LANDSCAPE ARCH.  
BRIAN L. KATZ  
JUN 17 2004  
LANDSCAPE ARCHITECT  
STATE OF CALIFORNIA

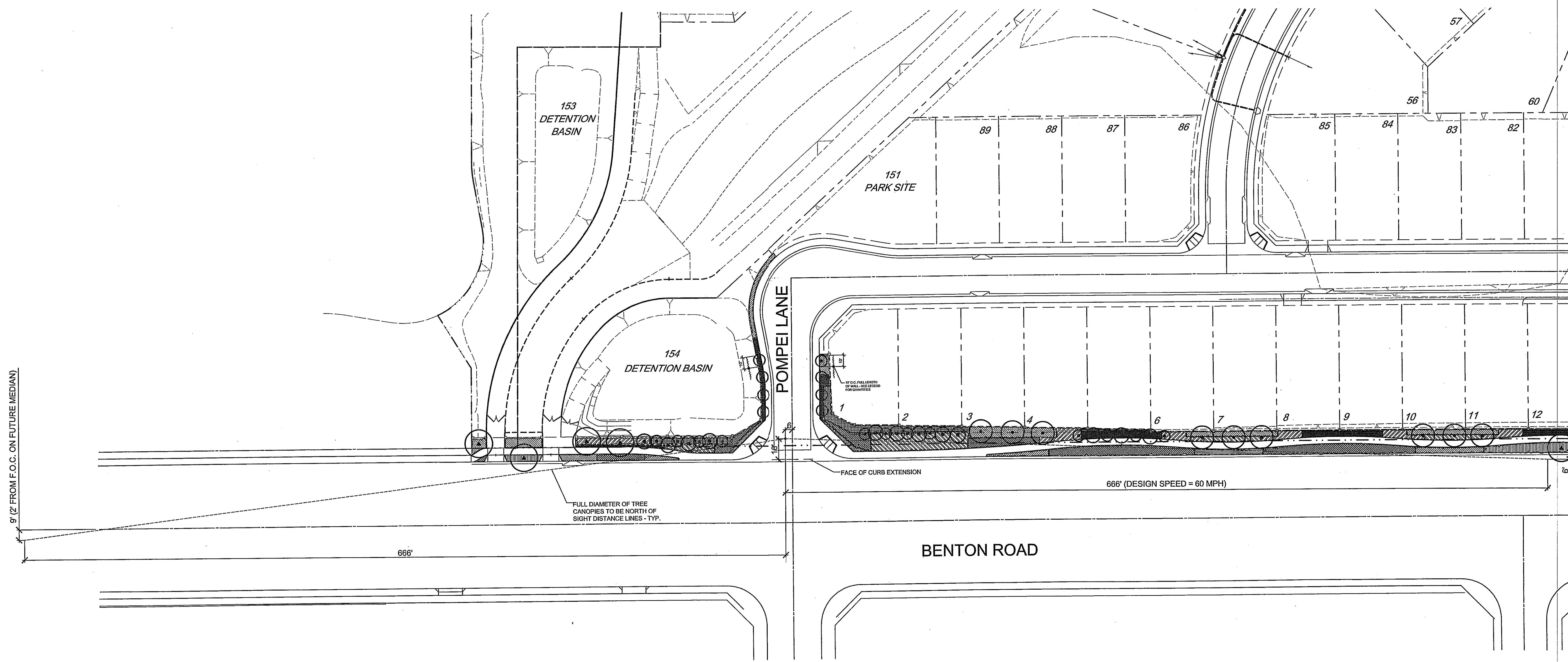
SKA  
LANDSCAPE ARCHITECTURE  
SITE PLANNING  
6153 Fairmount Ave. Suite 260  
San Diego, CA 92120  
T 619-584-5444 F 619-584-5448  
mail@skainc.com  
PREPARED BY: BRIAN L. KATZ  
R.L.A. NO. 2589  
DATE 6/22/04

BENCHMARK: ELEV. 1339.039  
RIVERSIDE COUNTY B.M. T-49-81, 2.5" BRASS DISK IN CONC. CYLINDER LOCATED AS FOLLOWS: FROM THE INT. OF RANCHO CA. RD. & FRONT ST. 1.7 MI. NW ON FRONT ST. -JEFFERSON AVE. TO THE INT. OF JEFFERSON & WINCHESTER RD. (HWY. 79), 5.5 MILES NE ON WINCH RD. (HWY. 79) TO THE INT. OF WINCH AND BENTON RD., 0.05 MI. W. ON BENTON RD. TO THE BENTONBRIGGS ROAD INT., 0.5 MI. N. ON BRIGGS RD. TO THE BRIGGS/THOMPSON RD. INT., 20' E. OF THE INT., 22' S. OF THE CL. THOMPSON RD. NEAR THE N.W. COR. OF 16' x 22' CHAIN LINK FENCE AROUND SOUTHERN CAL. GAS CO. VALVES. WIRED PADDLE MARKED TO FENCE.  
SCALE: H: 1" = 20'-0" V: 1" = 20'-0"

IP #030071  
COUNTY OF RIVERSIDE  
BENTON ROAD STREETScape  
TRACT 30167  
PLANTING PLAN  
SHEET NO. 13  
OF 16 SHTS.  
FOR: KB HOME - COASTAL  
W.O.:  
COUNTY FILE NO.



9' (2' FROM F.O.C. ON FUTURE MEDIAN)



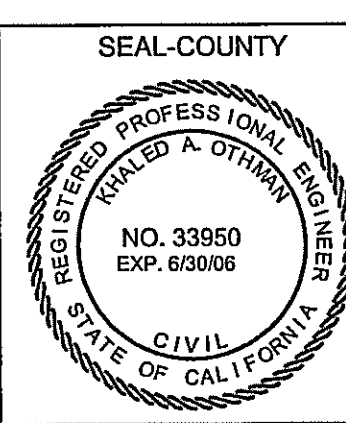
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 CALL BEFORE YOU DIG  
 DIAL BEFORE YOU DIG  
 TWO WORKING DAYS BEFORE YOU DIG  
 TOLL FREE 1-800-227-2600  
 A PUBLIC SERVICE BY UNDERGROUND SERVICE ALERT

RECOMMENDED FOR APPROVAL
DATE CHECKED BY
DATE

**APPROVED**  
 VALLEY-WIDE  
 0 20' 40' 80'  
 1" = 40 FEET  
 NORTH

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SEAL-COUNTY  
 COUNTY OF RIVERSIDE  
**TRANSPORTATION DEPARTMENT**  
 APPROVED BY:  
 KHALED A. OTHMAN  
 DATE  
 RECOMMENDED BY: WILL DAN  
 DATE

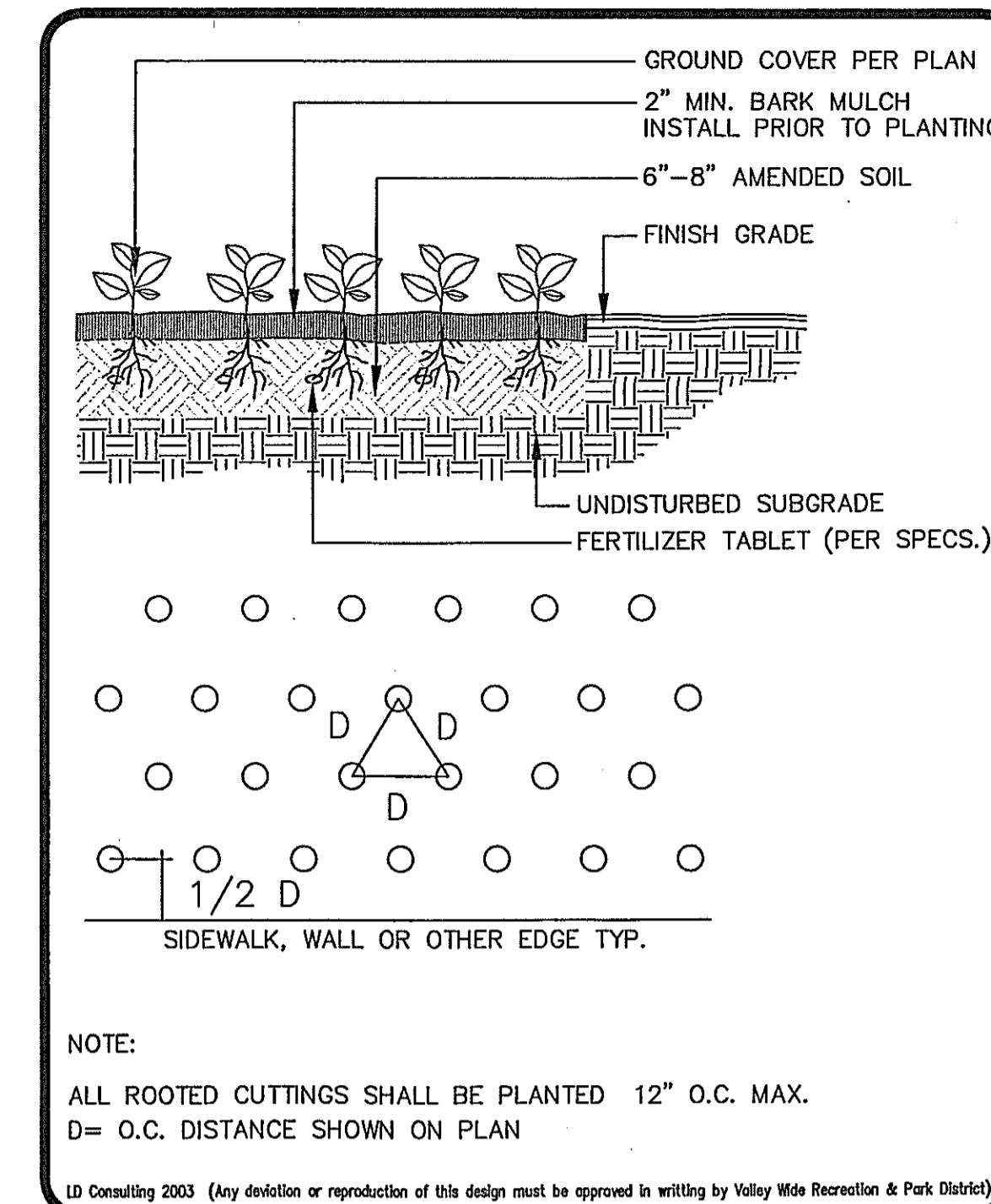


SEAL-LANDSCAPE ARCH.  
**SIA**  
 LANDSCAPE ARCHITECTURE  
 SITE PLANNING  
 6153 Fairmount Ave., Suite 260  
 San Diego, CA 92120  
 T 619-584-5444 F 619-584-5448  
 mail@skainc.com  
 R.L.A. NO. 2568  
 PREPARED BY: BRIAN L. KATZ  
 DATE: 6/22/04

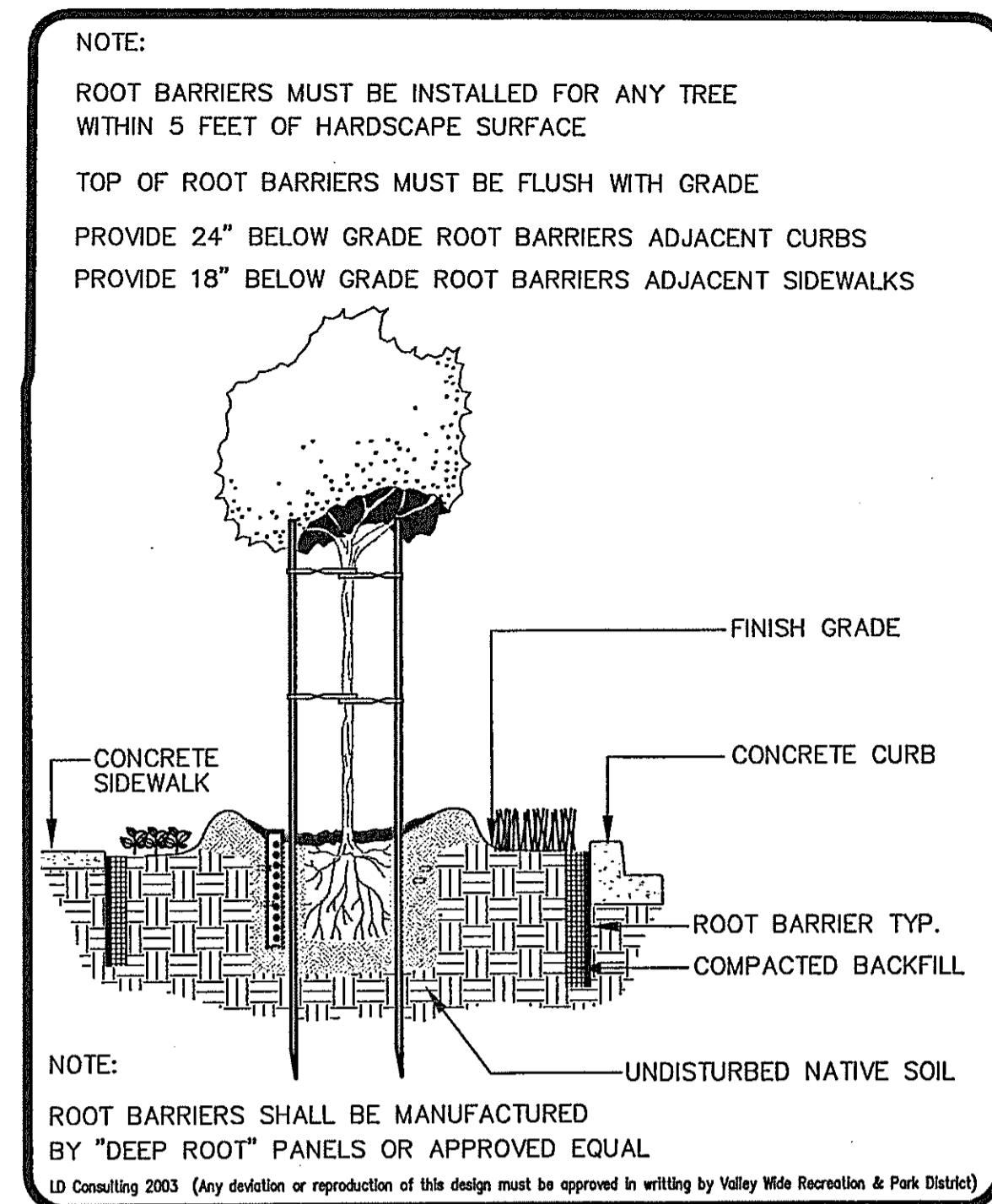
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IP #030071	SHEET NO. 14
COUNTY OF RIVERSIDE BENTON ROAD STREETScape TRACT 30167 SIGHT DISTANCE TRIANGLE DIAGRAM	OF 16 SHTS.
FOR: KB HOME - COASTAL	COUNTY FILE NO.





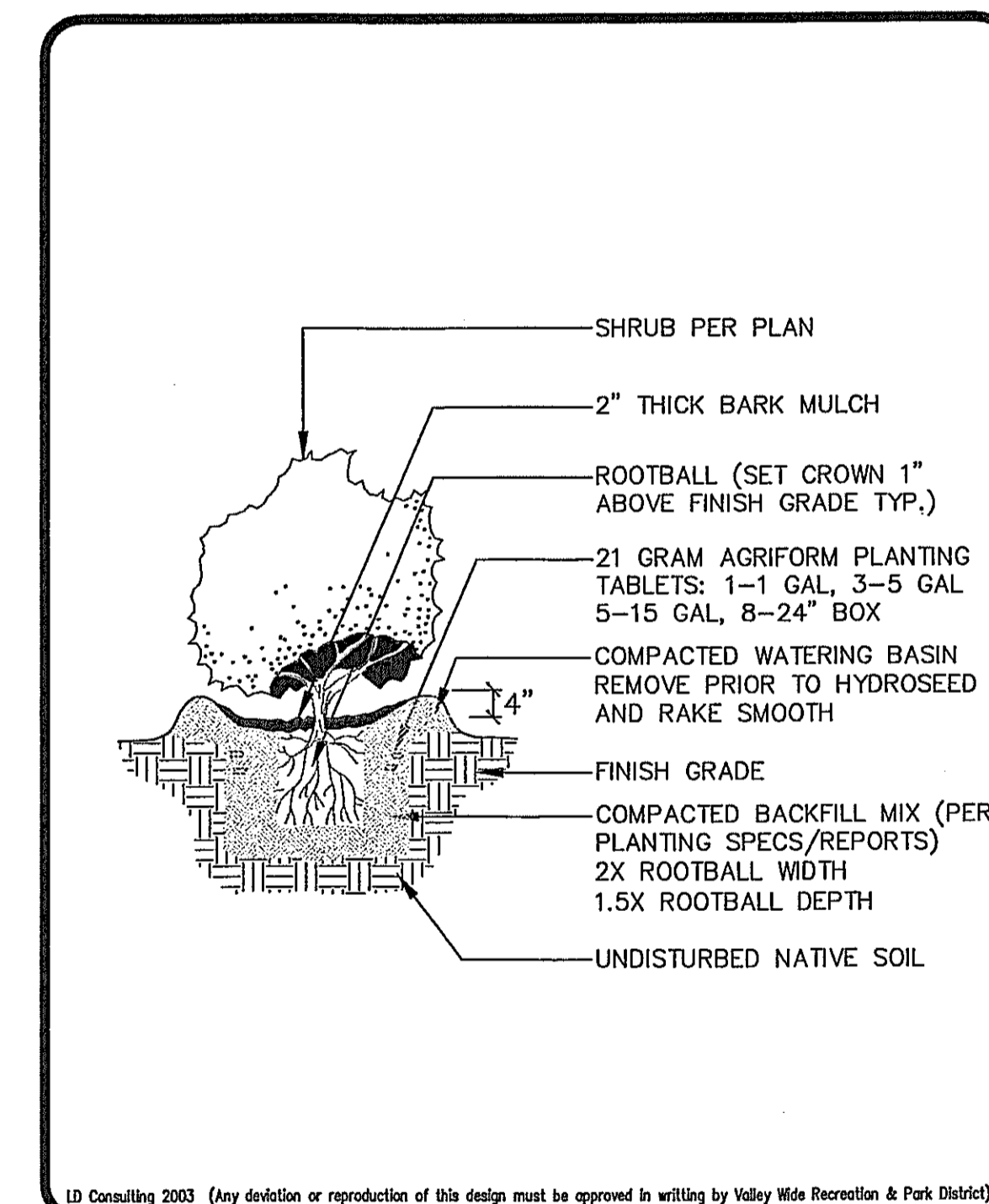

**VALLEY WIDE RECREATION**  
 5/03  
**GROUND COVER PLANTING** | PL-10




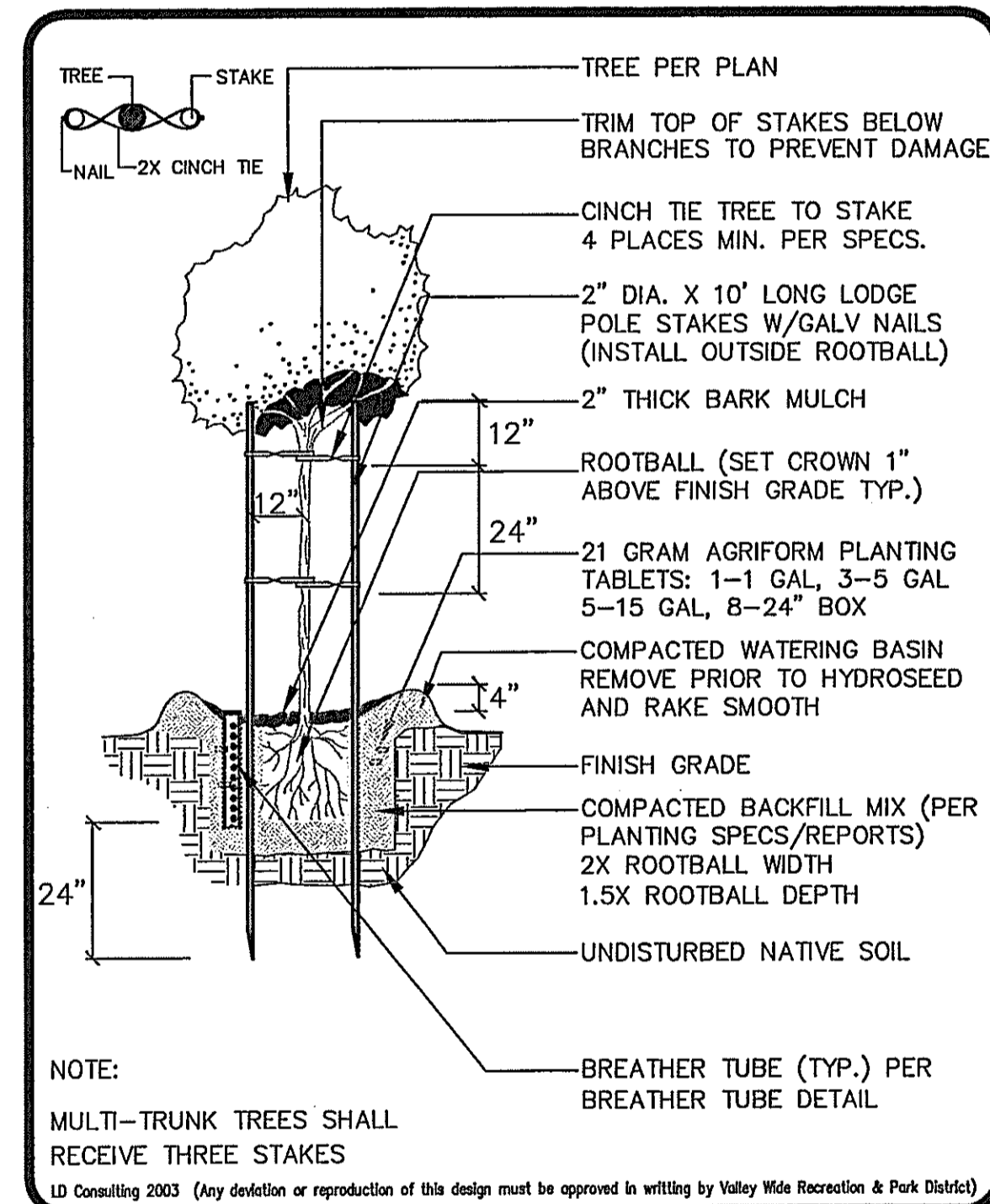

**VALLEY WIDE RECREATION**  
 5/03  
**ROOT BARRIER** | PL-9

**PLANTING NOTES**

- ALL LEVEL SHRUB AREAS PLANTED WITH FLATTED GROUND COVER SHALL BE TOP DRESSED WITH A 1" LAYER OF SHREDDED BARK MULCH. ALL OTHER LEVEL SHRUB AREAS SHALL RECEIVE A 2" LAYER. OMIT BARK MULCH LAYER IN ANNUAL COLOR PLANTING AREAS WHERE APPLICABLE. LEAVE A 12" DIAMETER AREA AROUND EACH TREE AND SHRUB MAINSTEM FREE OF BARK MULCH.
- ALL PLANTED AREAS SHALL BE RAKED CLEAN OF ALL EXTRANEUS MATERIALS. FINISH GRADES AND SURFACE DRAINAGE PATTERNS SHALL BE RESTORED TO THE APPROVED SPECIFIED GRADING PLAN AFTER TREE AND SHRUB INSTALLATION AND PRIOR TO GROUND COVER OR BARK INSTALLATION.
- ALL PLANT MATERIAL SHALL CONFORM TO NURSERYMAN'S STANDARDS FOR SIZE AND HEALTH AND SHALL BE APPROVED BY THE OWNER'S AUTHORIZED REPRESENTATIVE PRIOR TO PLANTING. THE CONTRACTOR SHALL SUBMIT PHOTOS OF ALL BOX SIZE TREES FOR APPROVAL BY THE OWNER'S AUTHORIZED REPRESENTATIVE. SHRUBS WILL BE REVIEWED ON SITE.
- ALL LANDSCAPE CONSTRUCTION INSTALLATION AND PRACTICE SHALL COMPLY WITH ALL LOCAL AND REGIONAL STANDARDS AND IF APPLICABLE, THE CLCA'S STANDARDS FOR LANDSCAPE CONSTRUCTION AND MAINTENANCE.
- ANY PLANT MATERIAL DELETIONS OR SUBSTITUTIONS SHALL BE APPROVED BY THE OWNER'S AUTHORIZED REPRESENTATIVE.
- ALL PLANT MATERIAL SHALL BE INSTALLED ACCORDING TO THE DETAILS AND NOTES SHOWN ON THESE PLANS.
- ALL TREES SHALL BE LOCATED MIN. 6' (FEET) FROM PROPERTY LINE FENCING AND WALLS, HARDSCAPE SURFACES, BUILDING EAVES AND SUBSURFACE UTILITIES INCLUDING DRAINAGE LINES, DOMESTIC SUPPLY LINES AND SEWER LINES WHEREVER POSSIBLE/ APPLICABLE. ANY TREE PLANTED WITHIN 5' (FEET) OF HARDSCAPE SURFACES SHALL RECEIVE A ROOT BARRIER (BIO-BARRIER) INSTALLED PER MANUFACTURER'S DETAILS AND SPECIFICATIONS, ADJACENT AND PARALLEL TO THE HARDSCAPE AND/OR UTILITY AND 5' BEYOND THE TREE TRUNK IN BOTH DIRECTIONS. IN CASE OF DISCREPANCIES IMMEDIATELY NOTIFY OWNER'S AUTHORIZED REPRESENTATIVE. IN ADDITION, TREES SHALL BE LOCATED MIN. 3' (FEET) FROM ALL FROM ALL FIRE HYDRANTS, MAIL BOXES, WATER METERS, AND SUBSURFACE UTILITIES INCLUDING TELEPHONE, ELECTRICAL AND CABLE TV, MIN. 8' (FEET) FROM THE DOOR SIDE OF ALL TRANSFORMER BOXES, MIN. 10' (FEET) FROM ALL EASEMENT BOUNDARIES, MIN. 10' (FEET) FROM ALL STREET LIGHTS, SIGNS AND POWER POLES. CONTRACTOR SHALL VERIFY ALL UTILITIES, EASEMENTS, HARDSCAPE AND EQUIPMENT PRIOR TO THE INSTALLATION OF TREES.
- REMOVE ALL VINE OR ESPALIER STAKES AND/OR TRELLISES AND ATTACH TO FENCE, WALL, POST OR VINE TRELLIS SHOWN ON PLAN.
- ALL PLANT BASINS SHALL RECEIVE SARVON SOIL PENETRANT. APPLY PER MANUFACTURES SPECIFICATIONS, OR AS DIRECTED IN THE AGRICULTURAL SOILS REPORT OBTAINED BY THE CONTRACTOR. SARVON AVAIL. THROUGH BUTLER'S MILL AT (619) 263-6181.
- PRIOR TO CONSTRUCTION, CONTRACTOR SHALL CONTACT LOCAL UNDERGROUND SERVICE ALERT.
- IF ANY EXISTING HARDSCAPE OR LANDSCAPE INDICATED ON THE APPROVED PLANS IS DAMAGED OR REMOVED DURING DEMOLITION OR CONSTRUCTION, IT SHALL BE REPAIRED AND/OR REPLACED IN KIND AND EQUIVALENT SIZE PER THE APPROVED PLANS.
- ALL BUILDINGS AND HARDSCAPE SHOWN ON THESE PLANS IS BASED UPON THE MOST CURRENT ARCHITECTURAL SITE PLAN RECEIVED FROM THE ARCHITECT, CIVIL ENGINEER AND/OR OWNER. LANDSCAPE CONTRACTOR SHALL VERIFY HARDSCAPE LAYOUT (INCLUDING BUILDING FOOTPRINTS, WALKWAYS, STAIRWAYS, FENCING, UTILITIES, ETC.).




**VALLEY WIDE RECREATION**  
 5/03  
**SHRUB PLANTING** | PL-5




**VALLEY WIDE RECREATION**  
 5/03  
**TREE PLANTING** | PL-3



RECOMMENDED FOR APPROVAL	DATE
CHECKED BY	DATE

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SEAL-COUNTY  
 COUNTY OF RIVERSIDE  
**TRANSPORTATION DEPARTMENT**  
 APPROVED BY:  
 KHALED A. OTHMAN  
 DATE: \_\_\_\_\_  
 RECOMMENDED BY: WILL DAN  
 DATE: \_\_\_\_\_

SEAL-LANDSCAPE ARCH.  
 LANDSCAPE ARCHITECTURE  
 SITE PLANNING  
 6153 Fairmount Ave. Suite 260  
 San Diego, CA 92120  
 T 619-584-5444 F 619-584-5448  
 mail@skainc.com  
 R.L.A. NO. 2568  
 PREPARED BY: *Brian L. Katz*  
 DATE: *6/27/04*

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IP #030071  
 COUNTY OF RIVERSIDE  
**BENTON ROAD STREETSCAPE**  
 TRACT 30167  
**PLANTING DETAILS**  
 FOR: KB HOME - COASTAL  
 W.O.: \_\_\_\_\_  
 COUNTY FILE NO.: \_\_\_\_\_


**VALLEY WIDE RECREATION & PARK DISTRICT**  
**APPROVED**  
 Samuel W. Gasp  
 Date: *6/27/04*



SECTION 02800

PLANTING

PLANTING SPECIFICATIONS GENERAL

1. General Requirements

- a. Permits: Contractor shall obtain and pay for any permits required.
- b. All irrigation shall be completed, approved and under automatic operation for a minimum of 7 days prior to any planting.

2. Scope Of Work

- a. The intent of the drawings and specifications is to indicate the processes required for the installation of a complete planting without additional cost in labor and material to the Owner.

3. Inspections

- a. Request for inspections must have 48 hour notice in advance.
- b. Contractor must be on site for all inspections.
- c. Any work not completed when inspector arrives which was requested for, shall be billed to the contractor at the current inspector's rate.
- d. Any work completed without inspection or approval shall be removed, exposed or replaced at the cost of the contractor.
- e. Contractor shall call for inspection for the following items:
  - i. Final grading
  - ii. Weed-abatement Observation
  - iii. Tree and shrub layout
  - iv. Tree and shrub planting pits
  - v. Finish grade prior to hydro-seeding
  - vi. Final Inspection

4. Submittals

- a. All submittals shall be submitted within 15 days after receipt of executed contract.
- b. Contract shall submit the follow items but not limited to:
  - i. Plant material proof of purchase with listed nurseries and material sizes for approval
  - ii. All soil amendments
  - iii. Bark mulch
  - iv. Soil report
  - v. Labels for all herbicide and fertilizers used
  - vi. Hydro-seed mix

PLANTING SPECIFICATIONS MATERIALS

1. Plant Material

- a. All plant material shall be the same as specified in the drawings.
- b. Contractor shall tag one plant from each bundle or lot with the plant name in accordance with the recommendations of the American Association of Nurserymen.
- c. All plant material shall be free of pest, plant diseases abrasions or any other objectionable disfigurements.
- d. Plant material must show vigorous habit of growth that is normal for that particular species.

2. Tree Stakes

- a. Tree stakes shall be copper maphthanate, green color impregnated lodge pole pine.
- b. Tree stake shall be 2" in diameter 10 feet long
- c. tree ties shall be V.I.T. cinch ties or approved equal four per tree typ.
- d. tree ties shall be attached to lodge poles with galvanized nails per detail.

3. Vine Ties

- a. Vine ties shall be as specified in details

4. Herbicides

- a. Contractor shall submit labels of all herbicides used prior to application for approval.
- b. Contractor shall apply pre-emergent herbicide to all areas possible as recommended by a licensed pest control consultant.

5. Concrete Mow Curb

- a. Concrete mow curb shall be 2500 PSI concrete and as specified in detail.

6. Redwood Header Board

- a. Redwood header board shall be grade A fine redwood and as specified in detail.

7. Plant Tablets

- a. Planting tablets shall be as specified in detail.

8. Soil Conditioners

- a. All soil conditioner material shall be approved prior to ordering under this section.
- b. Soil conditioners shall be based on soil report recommendations.

PLANTING SPECIFICATIONS EXECUTION

1. Installation

- a. Contractor shall clean, remove legally dispose of all weeds, grasses including roots and construction debris under this section.
- b. Contractor shall be responsible for the protection and storage of all material for the project.
- c. All grades shall be as indicated on the drawings and must be +10%.

2. Landscape Grading

- a. The contractor shall complete grading and filling as needed or remove additional dirt, rock and debris over 3/4 inch in diameter within the top 3 inches in all turf and planter areas less than 3:1.
- b. Contractor shall bring all landscaped areas to finish grade.
- c. Flow lines shall be established to existing curbs and/or sidewalks.
- d. All landscape areas shall be sloped to provide positive drainage.

3. Soil Preparation

- a. Contractor shall rotor-till amendments into all turf and planter areas 3:1 or less throughout the first 6 inches.
- b. The following application rate is for bidding purposed only and is per 1000 square feet of planting area.
  - i. 4 cubic yards of soil conditioner
  - ii. 30 lbs. of commercial fertilizer approved by the Owner's representative
  - iii. 50 lbs. of agriculture grade gypsum
  - iv. 25 lbs. soil sulfur
- c. Actual soil preparation shall be based on the soil report.
- d. Soil samples shall be taken in the presence of the Owner's representative.
- e. Contractor shall submit soil samples to an approved laboratory testing facility.
- f. Contractor shall provide one soil report for every 50,000 square feet.
- g. Soil recommendations must be separated for turf, planter, slope and plant material backfill mix.

4. Weed-abatement

- a. Weed-abatement shall not commence until complete irrigation system is under complete automatic irrigation and has been approved.
- b. Upon completion of soil preparation the contractor shall complete the following:
  - i. Irrigate all area to be planted, sodded or seeded for a period of seven days to germinate all weed seeds.
  - ii. Cut watering and apply approved weed killer per manufacture's recommendations and allow adequate time to complete kill.
  - iii. Repeat step one and two.
  - iv. Obtain approval of completed weed-abatement prior to any planting. Trees may be planted prior to weed-abatement process with the approval of the Owner's representative in writing.

5. Layout

- a. Contractor shall layout all tree and shrubs for approval from the Owner's representative prior to excavating any planting pits.
- b. Contractor shall not willfully layout any planting material where obstructions exist. The contractor shall notify the engineer to obtain direction.

6. Planting

- a. Planting shall be as shown in detail and as follows:
  - i. Excavate all planting pits to a diameter twice the size of container to be planted and 1 1/2 times the depth of container to be planted.
  - ii. Contractor shall scarify the side of planting pits if an auger is used with shovel or digging bar.
  - iii. Plant material shall be place in planting pit in a manner as not to disrupt the root ball and the crown shall be set aligned flush to grade.
  - iv. Provide 21 gram fertilizer tablets per detail.
  - v. Backfill all plant material with approved backfill mix.
  - vi. Contractor shall provide 5 gram fertilizer tablets to all rooted cuttings.

7. Percolation Test

- a. Contractor shall flood planting pits with water to test water penetration through the soil, if no penetration occurs the contractor shall auger 6 inches in diameter and 36 inches long and backfill with pea gravel, repeat water test and if water still does not penetrate the contractor shall notify the Owner's representative prior to planting.

8. Sodded Turf

- a. All sodded areas shall be semi dwarf fescue unless otherwise noted.
- b. Contractor shall evenly rake all sodded areas to level and remove all rocks 3/4 inch in diameter and larger.
- c. Contractor shall spread 16-20-0 commercial fertilizer to all sodded areas.
- d. Contractor shall lay sod immediately upon arrival.
- e. Sod must be laid along a straight line staggering each row like laying bricks and must be butted tightly together preventing any air pockets. Do not overlap edges.
- f. Sod shall be cut with a sharp knife and never pulled apart.
- g. Sod shall be rolled immediately after sod is installed.
- h. Sod must be watered thoroughly to a depth of 12 inches.
- i. Contractor shall monitor watering to prevent browning and fungus.
- j. Contractor shall take every measure possible to protect sod by providing temporary fencing if necessary at no additional cost.

9. Turf Hydro-seeding

- a. Hydro-seed seed mix shall be as indicated on the drawings.
- b. Contractor shall evenly rake all sodded areas to level and remove all rocks 3/4 inch in diameter and larger.
- c. Hydro-mix slurry shall be as follows:
  - i. Seed as specified
  - ii. Fiber 2,000 lbs. per acre
  - iii. M-Binder 100 lbs. acre
  - iv. Water 3,000 gal per acre or as required
  - v. Fertilizer/Soil Conditioner 1,100 lbs per acre
- d. Contractor shall monitor watering to prevent browning and fungus.
- e. Contractor shall take every measure possible to protect sod by providing temporary fencing if necessary at no additional cost.
- f. Hydro-mulch slurry shall be applied under high pressure evenly and provide a uniform coat an all areas specified.
- g. Sod shall be rolled immediately after sod is installed.
- h. Sod must be watered thoroughly to a depth of 12 inches.
- i. Contractor shall monitor watering to prevent browning and fungus.
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- d. Contractor shall monitor watering to prevent browning and fungus.
- e. Contractor shall take every measure possible to protect sod by providing temporary fencing if necessary at no additional cost.
- f. Hydro-mulch slurry shall be applied under high pressure evenly and provide a uniform coat an all areas specified.
- g. Overspray shall be removed immediately from sidewalks, walls or any structures.
- h. Contractor shall provide 98 percent germination to all hydro-seeded areas prior to turn over.

10. Root Barriers

- a. Root barrier shall be "Deep Root" control barrier panels # UB 24-2 or approved equal. No cylinder root barriers shall be approved.
- b. Root barriers shall be install for all trees planted within 5 feet of any landscaping.
- c. Contractor shall install root barriers per detail.

11. Jute Netting

- a. Jute netting shall be uniform plain weave, flame-retardant mesh. Geo-jute, smolder resistant or approved equal. The mesh shall be green in color.
- b. Jute shall be 48 inches wide with a weight of .97 pounds per linear yard.

12. Grades

- a. Prior to commencing any work the contractor shall carefully check all grades and verify that after all irrigation work and soil preparation completed, all grades will be per specified depth as per the landscape contractor's scope of work with a +/- 1/10.

13. Guarantee

- a. All trees 15 gallon and larger the contractor shall guaranteed for a period of one year.
- b. All trees smaller than 15 gallon and all other plant material shall be guaranteed for a period of 90 days.
- c. All plant material that is dead or dying or as directed by the engineer within the guarantee period shall be replaced at the cost of the contractor with 7 days of written notice.
- d. All replacement plant material shall be exact as specified in species and size. No substitutions shall be allowed unless written approval from the engineer is obtained.

- END OF SECTION -

SECTION 02900

MAINTENANCE SPECIFICATIONS GENERAL

1. Maintenance Duration

- a. Contractor shall maintain entire project within the contractor's scope of work until final approval for all work has been obtained to start the 90 calendar day maintenance at the contractor's expense.
- b. Contractor shall maintain all landscaped areas for a period of 90 calendar days unless otherwise noted.

2. Turf Maintenance

- a. Contractor shall mow weekly or more if needed all turf areas to a height between 3/4 inch and 2 1/2 inch depending on variety of turf.
- b. Contractor shall edge a turf areas a biweekly or more if needed.
- c. All clippings must be removed from sidewalks or adjacent areas.
- d. Contractor shall remove all excess clipping from turf areas.
- e. Contractor shall monitor watering to all turf areas and provide sufficient moisture levels to all turf area.

3. Tree and Shrub Maintenance

- a. Contractor shall remove any dead growth on all trees and shrubs as needed.
- b. No stripping of lower branches from any tree or shrub unless directed by the engineer.
- c. Trees and shrubs shall be pruned as directed by the engineer.
- d. No topping of any tree is allowed unless directed by the engineer.
- e. Contractor shall remove tree stakes when stakes are no longer needed.

4. Weed Control

- a. All tree and shrub basins and all areas must be weed free.
- b. Contractor shall apply pre-emergent herbicide where possible to prevent weeds as directed by a licensed pest control consultant.
- c. Contractor shall remove all weed from site manually or chemically

5. Rodent Control

- a. Contractor shall be responsible for maintaining a rodent free project.
- b. All measures to eradicate rodents must be as directed by a licensed pest control consultant.
- c. Contractor shall repair/replace all damaged caused by rodents under this section.

6. Fertilization

- a. Contractor shall fertilize turf, slope and planter areas every 30 calendar days with approved fertilizer at the manufacture's recommended application rate.
- b. Approved fertilizers are 15-15-15, 16-6-8 and 21-7-14

7. Maintenance General

- a. Edge groundcover as needed to maintain no growth over sidewalks, around tree and shrub basins or up walls or fences.
- b. Remove all trash weekly
- c. Test complete irrigation system biweekly.

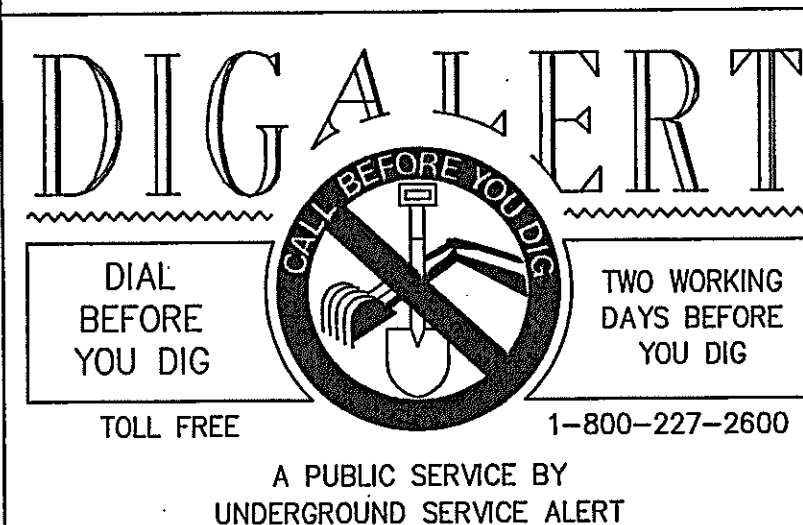
8. Clean-Up

- a. Clean up shall take place on a daily basis, after each portion of work has been completed and as directed by the Owner's representative. The contractor shall legally remove from site any trash or material from his scope of work.

9 Final Approval

- a. All landscaped shall be inspected in it's entirety by the Owner's representative upon completion of 90 calendar day maintenance and have project turn over approved in writing.
- b. Contractor shall provide all charts, record drawings, turn over items etc. prior to final turn over.

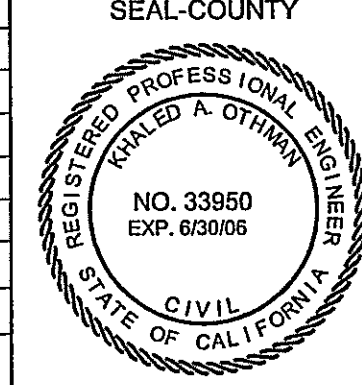
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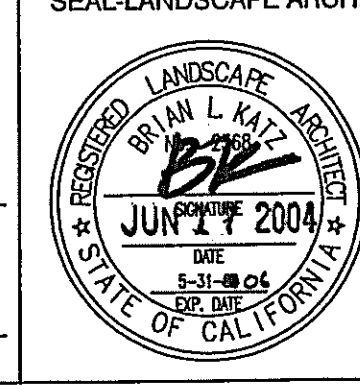
RECOMMENDED FOR APPROVAL	
DATE CHECKED BY	
DATE	

**NOTE:**  
 WORK CONTAINED WITHIN THESE PLANS SHALL NOT COMMENCE UNTIL AN ENCROACHMENT PERMIT AND/OR A GRADING PERMIT HAS BEEN ISSUED.  
 The private engineer signing these plans is responsible for assuring the accuracy and acceptability of the design hereon. In the event of discrepancies arising after county approval or during construction, the private engineer shall be responsible for determining an acceptable solution or revising the plans for approval by the county.

MARK	BY	DATE	REVISIONS	APPR. DATE	COUNTY
2	MVM	1-7-04	REVISED PER CITY PLAN CHECK COMMENTS		
3	MVM	4-26-04	REVISED PER CITY PLAN CHECK COMMENTS		
4	MVM	6-17-04	REVISED PER VALLEY-WIDE PLAN CHECK COMMENTS		



COUNTY OF RIVERSIDE  
**TRANSPORTATION DEPARTMENT**  
 APPROVED BY:  
 KHALED A. OTHMAN  
 DATE  
 RECOMMENDED BY: WILL DAN  
 DATE



LANDSCAPE ARCHITECTURE  
 SITE PLANNING  
 6153 Fairmount Ave. Suite 260  
 San Diego, CA 92120  
 T 619-584-5444 F 619-584-5448  
 mail@skainc.com  
 R.L.A. NO. 2568  
 DATE 6/27/04

BENCHMARK: ELEV. 1339.039  
 RIVERSIDE COUNTY B.M. T-49-81, 2.5" BRASS DISK IN CONC. CYLINDER LOCATED AS FOLLOWS: FROM THE INT. OF RANCHO CA. RD. & FRONT ST. 1.7 MI. NW ON FRONT ST. -JEFFERSON AVE. TO THE INT. OF JEFFERSON & WINCHESTER RD. (HWY. 79). 5.5 MILES NE ON WINCH RD. (HWY. 79) TO THE INT. OF WINCH AND BENTON RD., 0.05 MI. W. ON BENTON RD. TO THE BENTONBRIGGS ROAD INT., 0.5 MI. N. ON BRIGGS RD. TO THE BRIGGS/THOMPSON RD. INT., 200' E. OF THE INT., 22' S. OF THE CL THOMPSON RD. NEAR THE N.W. COR. OF 16' x 22' CHAIN LINK FENCE AROUND SOUTHERN CA. GAS CO. VALVES. WIRED PADDLE MARKED TO FENCE.  
 SCALE: H: N.T.S. V: N.T.S.

**VALLEY WIDE RECREATION & PARK DISTRICT**

APPROVED

Samuel W. Goepf Date: 6/27/04

---

IP #030071

**COUNTY OF RIVERSIDE**  
**BENTON ROAD STREETSCAPE**  
**TRACT 30167**  
**PLANTING NOTES**

FOR: KB HOME - COASTAL W.O.: COUNTY FILE NO.

SHEET NO. 16 OF 16 SHTS.

**HOLD HARMLESS & INDEMNIFICATION CLAUSE**  
 CONTRACTOR AGREES TO ASSUME SOLE 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/DEVELOPER, THE COUNTY OF LOCAL JURISDICTION AND THE LANDSCAPE DESIGNER 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/DEVELOPER, COUNTY OF LOCAL JURISDICTION AND THE LANDSCAPE DESIGNER.



# LANDSCAPE CONSTRUCTION DOCUMENTS

## BENTON CREEK CHANNEL FLOOD CONTROL & DETENTION BASIN

### RHEINGANS, TRACT 30167

#### County of Riverside, Ca.

#### VALLEY WIDE INSPECTION LIST

##### 1. Irrigation Inspections:

###### a. Site inspections and notification time.

- i. Pre-construction conference 7 days
- ii. Pressure line installation and testing 48 hours
- iii. Contoller installation 48 hours
- iv. Lateral line and sprinkler installation 48 hours
- v. Coverage test 48 hours
- vi. Final Inspection 7 days

b. No field inspections will commence unless record drawings are current and available for observation upon request by the Owner's representative.

##### 2. Planting Inspections:

- a. Request for inspections must have 48 hour notice in advance.
- b. Contractor must be on site for all inspections.
- c. Any work not completed when inspector arrives which was requested for, shall be billed to the contractor at the current inspector's rate
- d. Any work completed without inspection or approval shall be removed, exposed or replaced at the cost of the contractor.
- e. Contractor shall call for inspection for the following items:

- i. Final grading
- ii. Weed-abatement Observation
- iii. Tree and shrub layout
- iv. Tree and shrub planting pits
- v. Finish grade prior to hydro-seeding
- vi. Final Inspection

##### 3. Submittals:

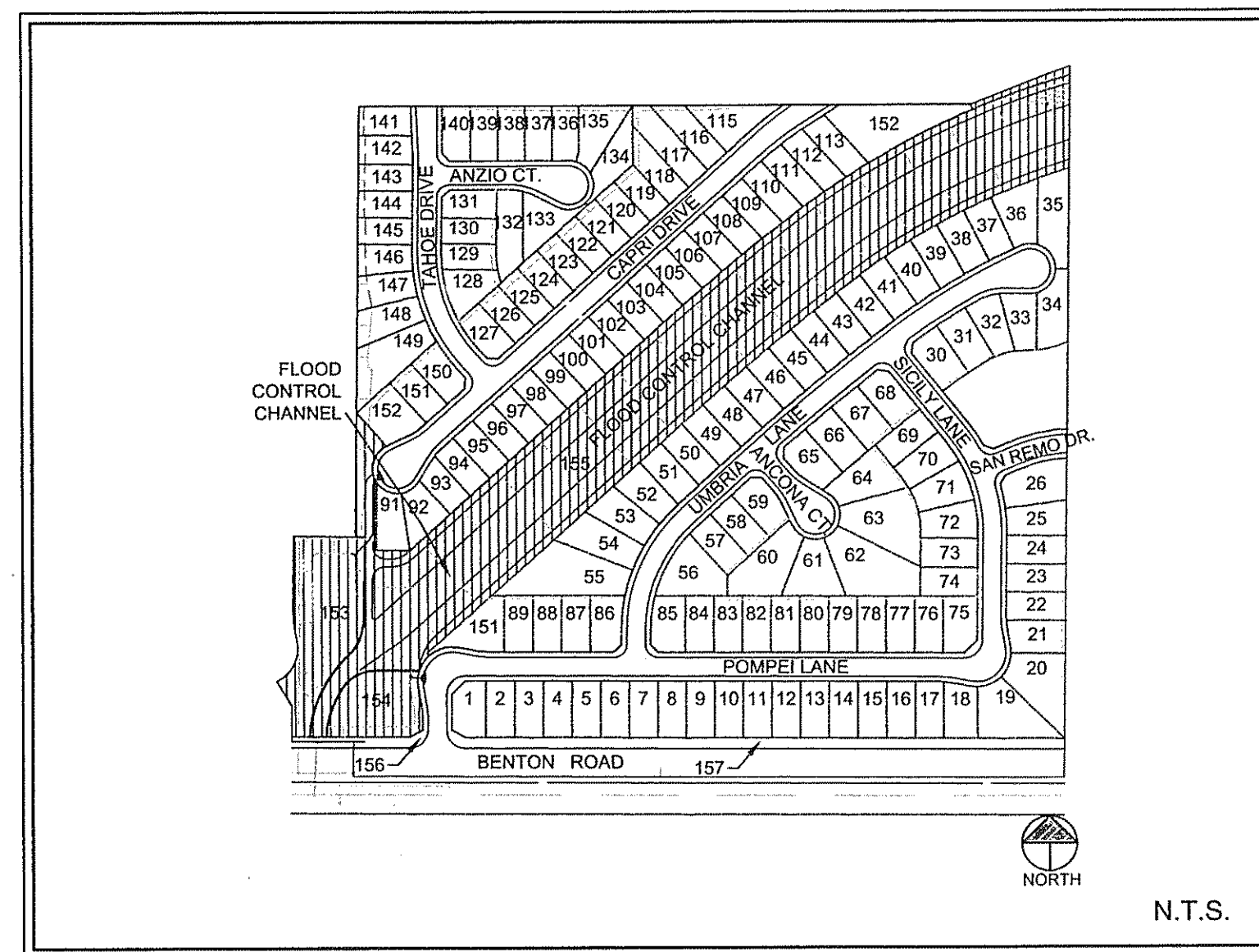
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- b. Contract shall submit the follow items but not limited to:

- i. Plant material proof of purchase with listed nurseries and material sizes for approval
- ii. All soil amendments
- iii. Bark mulch
- iv. Soil report
- v. Labels for all herbicide and fertilizers used
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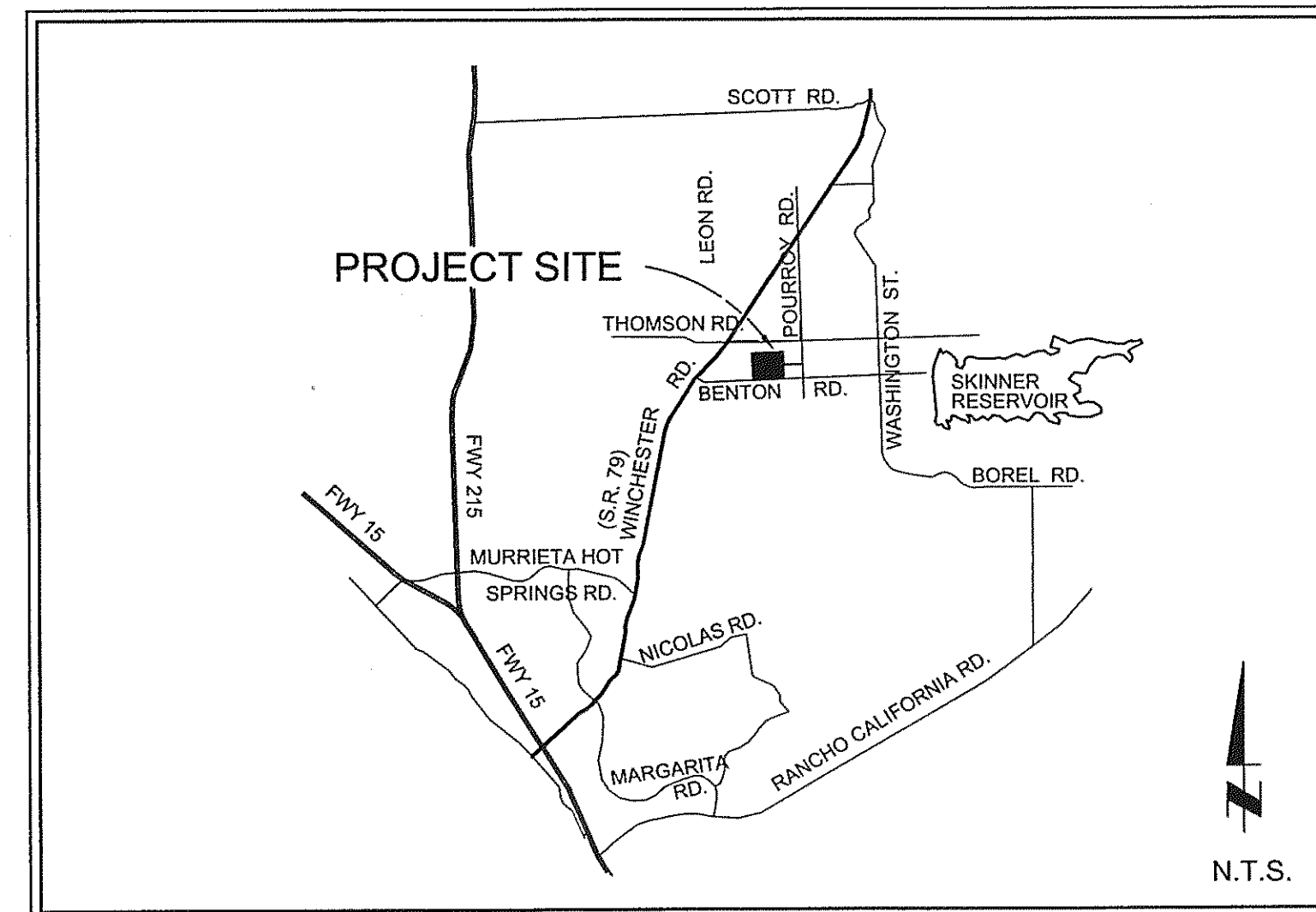
PREPARED FOR:  
KB HOME - COASTAL INC. - RIVERSIDE DIVISION  
26201 YNEZ ROAD, SUITE 104  
TEMECULA, CA 92591  
951.587.3300, FAX: 951.506.1722  
CONTACT: SCOTT HANSEN

PREPARED BY:  
SKA LANDSCAPE ARCHITECTURE, INC.  
6153 FAIRMOUNT AVE., SUITE 260  
SAN DIEGO, CA 92120  
619.584.5444, FAX 619.584.5448  
CONTACT: JOHN O'MALLEY

CLIENT/  
LANDSCAPE ARCHITECT



KEY MAP



VICINITY MAP

#### AMERICANS WITH DISABILITIES NOTES

- ALL SLOPES SHOWN ON THIS PLAN WERE DESIGNED AT OR BELOW MAXIMUMS ALLOWED BY THE AMERICANS WITH DISABILITY ACT ACCESS GUIDE (A.D.A.A.G.) IN ORDER TO ALLOW FOR CONSTRUCTION TOLERANCES. IT IS THE CONTRACTORS RESPONSIBILITY TO FAMILIARIZE THEMSELVES WITH A.D.A.A.G. AND IN THE EVENT THAT A DESIGN QUESTION SHOULD ARISE, OR A FIELD CONDITION PRESENT ITSELF THAT IS DIFFERENT THAN SHOWN ON THESE PLANS, WORK SHOULD CEASE AND THE ENGINEER BE NOTIFIED SO THAT AN ACCEPTABLE SOLUTION CAN BE DETERMINED.
- THE CONTRACTOR IS ADVISED TO CAREFULLY CHECK ALL PHASES OF WORK RELATING TO A.D.A.A.G. ACCESS FOR THIS PROJECT. SINCE THE CODE DOES NOT ALLOW FOR A CONSTRUCTION TOLERANCE, ANY CONSTRUCTION THAT EXCEEDS MAXIMUM OR MINIMUM DIMENSIONS AND SLOPES AS CALLED OUT BY A.D.A.A.G. ARE SUBJECT TO REJECTION BY THE COUNTY AND MAY BE REQUIRED TO BE REMOVED AND REPLACED.
- SINCE THE CIVIL ENGINEER OR SURVEYOR CANNOT CONTROL THE EXACT METHODS OR MEANS USED BY THE GENERAL CONTRACTOR OR THEIR SUB-CONTRACTOR DURING GRADING AND CONSTRUCTION OF THE PROJECT, THE CIVIL ENGINEER OR SURVEYOR ASSUMES NO RESPONSIBILITY FOR FINAL ACCEPTANCE OF A.D.A.A.G. RELATED ITEMS OF THIS PROJECT BY THE COUNTY, ANY OTHER AUTHORITY OR OTHER AFFECTED PARTIES.

COMPLIANCE WITH A.D.A.A.G. CONSTRUCTION REQUIREMENTS WILL BE THE SOLE RESPONSIBILITY OF THE GENERAL CONTRACTOR AND THEIR SUB-CONTRACTORS.

Landscape quantities:  
298,000 Total sq. ft. Valley-Wide LMD area

TITLE SHEET	1
IRRIGATION SYSTEMS MASTER PLAN	1a
IRRIGATION PLAN	2-3
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#### SHEET INDEX

##### HOLD HARMLESS & INDEMNIFICATION CLAUSE

CONTRACTOR AGREES TO ASSUME SOLE 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/DEVELOPER, THE COUNTY OF LOCAL JURISDICTION AND THE LANDSCAPE DESIGNER HARMLESS FROM ANY AND ALL LIABILITY REAL OR ALLEGED, IN CONNECTION WITH THE PERFORMANCE OF WORK ON THIS PROJECT, EXCEPTING FOR LIABILITY ARISING FROM SOLE NEGLIGENCE OF THE OWNER/DEVELOPER, COUNTY OF LOCAL JURISDICTION AND THE LANDSCAPE DESIGNER.

VALLEY WIDE RECREATION & PARK DISTRICT  
(909) 654-1505

**APPROVED**

Samuel W. Goepff  
Date: 10-5-04

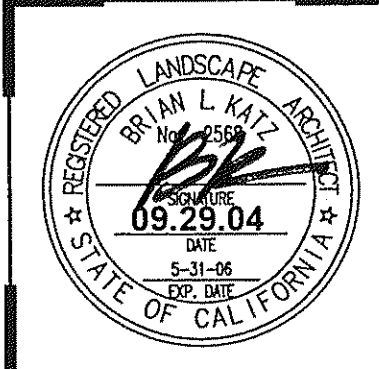
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SITE PLANNING

6153 Fairmount Ave., Suite 260  
San Diego, CA 92120  
T 619-584-5444 F 619-584-5448  
mail@skalac.com

DATE	REVISIONS	BY
9/11/03	REVISED PER VALLEY WIDE PLAN CHECK	JA
1/20/04	REVISED PER VALLEY WIDE PLAN CHECK	MM
3/8/04	COMMENTS DATED 10/29/03	MM
3/10/04	REVISED PER VALLEY WIDE PLAN CHECK	MM
4/15/04	IRRIGATION & PLANTING ADJUSTMENTS FOR COMMENT CONTROL CLARIFICATION	MM
9/1/04	REVISED PER VALLEY WIDE PLAN CHECK	MM

Benton Creek Channel  
Flood Control & Detention Basin  
RHEINGANS, tract 30167  
COUNTY OF RIVERSIDE  
KB HOME - COASTAL

TITLE SHEET



Date: 7/23/03  
Scale: N.T.S.  
Drawn by: STAFF  
Checked by: JO  
Job No: 02-065  
Sheet No: 1  
Of 14 Sheets



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IRRIGATION WATER METER + CONTROLLER EXHIBIT LEGEND	
	LOT 152 PARK, NORTH SIDE CHANNEL AND BASIN #153
	LOT 151, SOUTH SIDE CHANNEL AND BASIN #154
	BENTON ROAD STREETSCAPE
	LOT 26 PARK
	1" WATER METER & SERVICE LINE - TYP. REFER TO SEPARATE PARK PLANS FOR SPECIFIC P.O.C. EQUIPMENT REQUIREMENTS AND LOCATIONS.
	1 1/2" WATER METER & SERVICE LINE - TYP. REFER TO SEPARATE PARK PLANS FOR SPECIFIC P.O.C. EQUIPMENT REQUIREMENTS AND LOCATIONS.
	AUTOMATIC CONTROLLER - STATIONS TO BE DETERMINED
	ELECTRICAL SERVICE METER FOR IRRIGATION CONTROLLERS (120V - TYP.) PER UTILITY PLANS

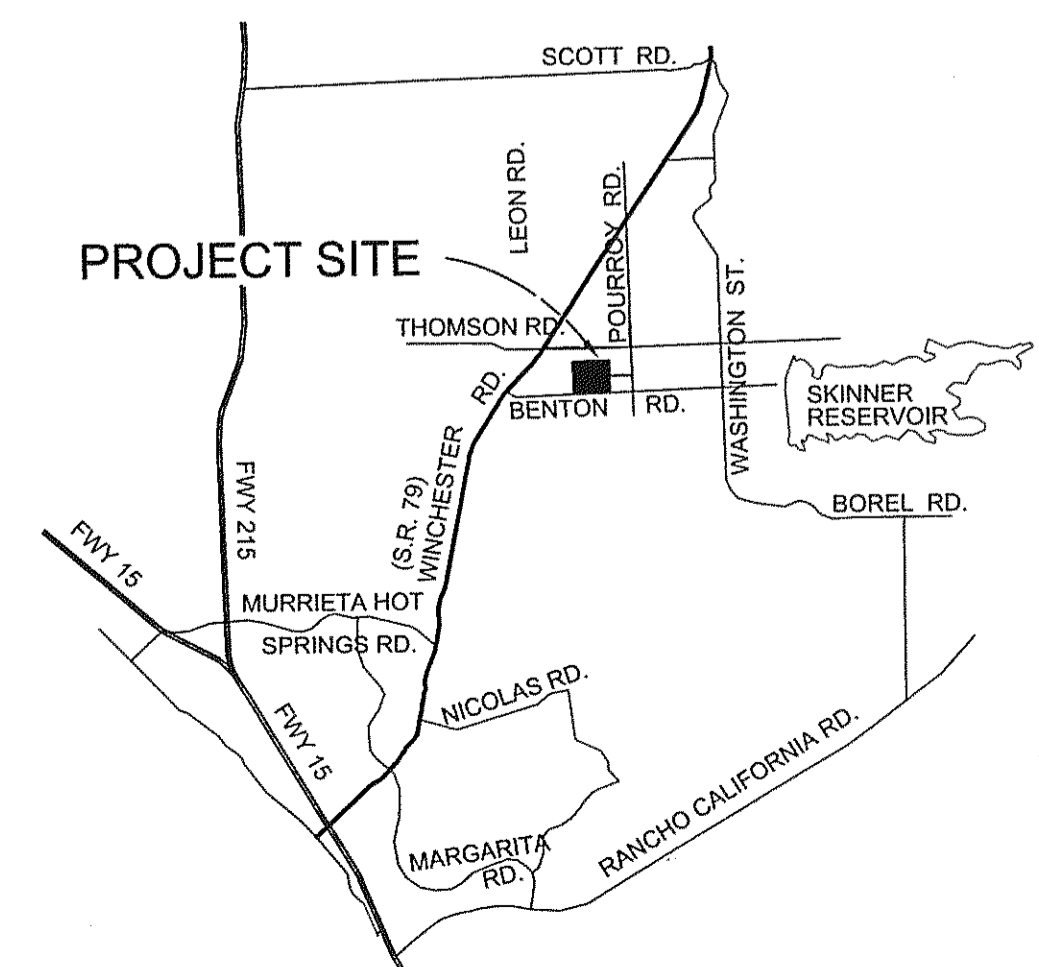
**SKA**  
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T 619-584-5444 F 619-584-5448  
moll@skainc.com

DATE	REVISIONS	BY
9/11/03	REVISED PER VALLEY WIDE PLAN CHECK COMMENTS DATED 8/21/03	JA
1/20/04	REVISED PER VALLEY WIDE PLAN CHECK COMMENTS DATED 10/29/03	MM
3/8/04	REVISED PER VALLEY WIDE PLAN CHECK COMMENTS DATED 2/27/04	MM
3/10/04	IRRIGATION CONTROLLER LOCATIONS FOR NEW SET BASIN ACCESS ROAD	MM
4/15/04	REVISED PER VALLEY WIDE PLAN CHECK COMMENTS DATED 8/24/04	MM
9/1/04	REVISED PER VALLEY WIDE PLAN CHECK COMMENTS DATED 8/24/04	MM

**HOLD HARMLESS & INDEMNIFICATION CLAUSE**  
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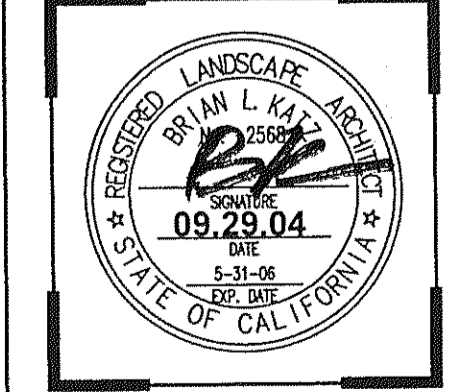
**VALLEY WIDE RECREATION & PARK DISTRICT**  
**APPROVED**  
Samuel W. Gepp Date: 10-5-04

VICINITY MAP N.T.S.



**Benton Creek Channel  
Flood Control & Detention Basin  
RHEINGANS, tract 30167  
COUNTY OF RIVERSIDE  
KB HOME - COASTAL**

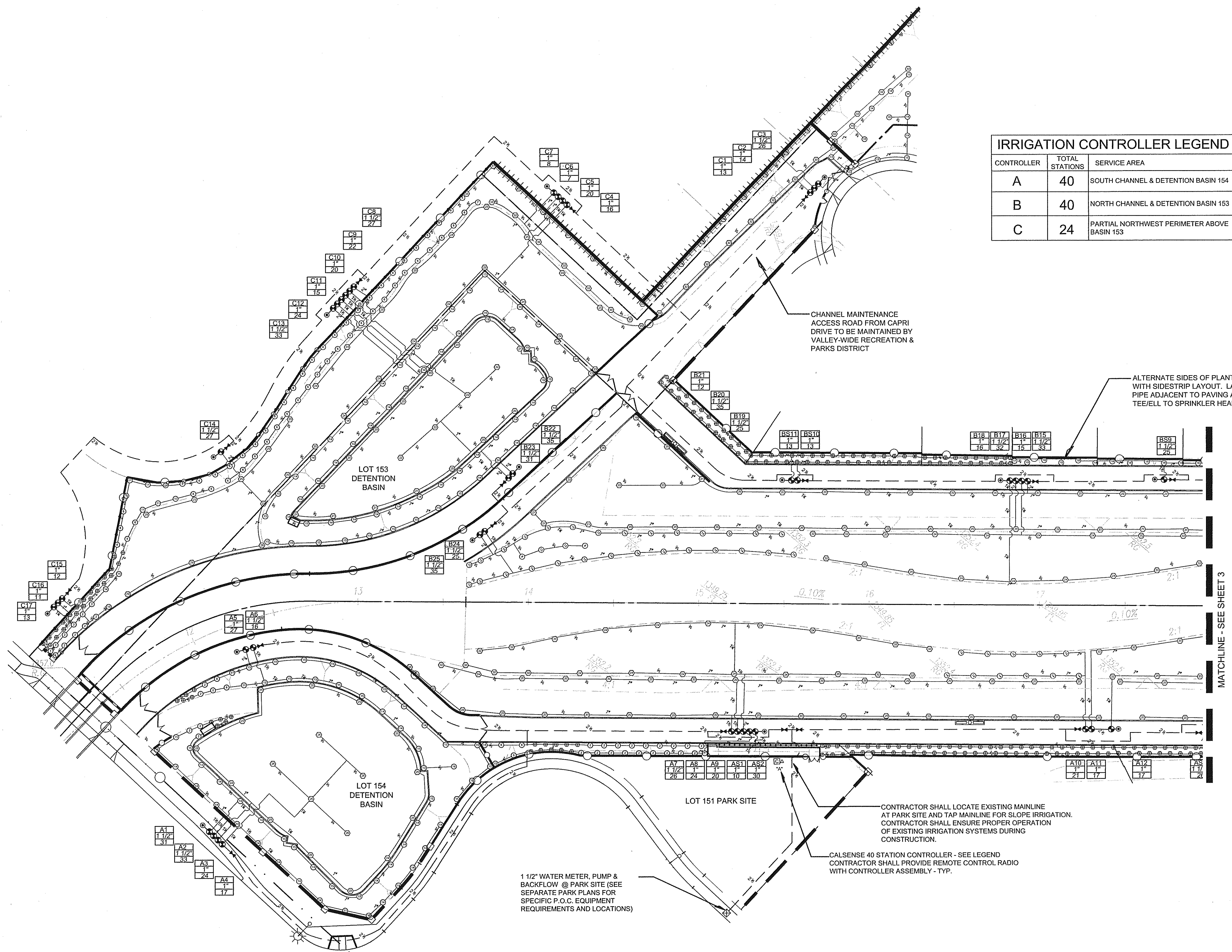
**IRRIGATION SYSTEMS  
MASTER PLAN**



Date:	7/23/03
Scale:	1"=60'-0"
Drawn by:	STAFF
Checked by:	JO
Job No:	02-065
Sheet No.	1A
Of 14 Sheets	



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CONTROLLER	TOTAL STATIONS	SERVICE AREA
A	40	SOUTH CHANNEL & DETENTION BASIN 154
B	40	NORTH CHANNEL & DETENTION BASIN 153
C	24	PARTIAL NORTHWEST PERIMETER ABOVE BASIN 153

IRRIGATION LEGEND									
SPRAY AND ROTOR EQUIPMENT									
SYMBOL	MANUF.	MODEL NUMBER	RAD	PSI	GPM	DESCRIPTION			
90 180 VAN 360					90 180 VAN 360				
⊙	HUNTER	INST-04-CV-7Q/H/F/A	6'	30	.17 .34 VAR .67	SPRAY HEAD *			
⊙	HUNTER	INST-04-CV-7Q/H/F/A	8'	30	.33 .5 VAR 1.0	SPRAY HEAD *			
⊙	HUNTER	INST-04-CV-10Q/H/F/A	10'	30	.49 .97 VAR 2.0	SPRAY HEAD *			
⊙	HUNTER	INST-04-CV-12Q/H/F/A	12'	30	.71 1.4 VAR 2.9	SPRAY HEAD *			
⊙	HUNTER	INST-04-CV-8Q/H/F/A	15'	30	.93 1.9 VAR 3.7	SPRAY HEAD *			
⊙	HUNTER	INST-04-CV-LCS-515	5x15	30	.65	END STRIP			
⊙	HUNTER	INST-04-CV-SS-530	5x30	30	1.3	SIDE STRIP			
⊙	HUNTER	PCN-10	-	30	1.0	FLOOD BUBBLER			
⊙	HUNTER	I-20-ADV/36V-.50SR	18'	45	.50 1.0 VAR 2.0	ROTOR HEAD			
⊙	HUNTER	I-20-ADV/36V-.75SR	25'	45	.75 1.5 VAR 3.0	ROTOR HEAD			
⊙	HUNTER	I-20-ADV/36V-1.0	30'	45	1.2 2.0 VAR 3.4	ROTOR HEAD			
⊙	HUNTER	I-20-ADV/36V-3.0	40'	45	2.0 3.4 VAR 7.6	ROTOR HEAD			

IRRIGATION EQUIPMENT		
SYMBOL	MANUF.	MODEL NUMBER / DESCRIPTION
⊕	RAINBIRD	PESB-PRS REMOTE CONTROL VALVE - SIZE AS NOTED
⊙	RAINBIRD	# 44LRC - QUICK COUPLING VALVE
⊕	NIBCO	T-580 SERIES BALL VALVE - LINE SIZE
** >	FEBCO	825YA - 1" BACKFLOW PREVENTER; INSTALL IN SBBC-AL "STRONG BOX" OR APPROVED EQUAL
** ⊕	CALSENSE	SCH 80 PVC FM-1.5 FLOW SENSOR W/LARC - SIZE PER MFRG.'S SPECS.
** ⊕	TORO	#P220-27-4 1" PLASTIC MASTER VALVE
** Δ	WCS	"RAINGUARD" RAIN SENSOR/SHUTOFF DEVICE; INSTALL W/VANDAL RESISTANT ENCLOSURE
⊕	CALSENSE	IRRIGATION CONTROLLER - ET-2000-XX-LR-G-RR-SSE
E		ELECTRICAL METER - TO BE INSTALLED BY CERTIFIED ELECTRICIAN (PER UTILITY PLAN BY BUTSCO)
NO SYMBOL	AMAD	CAT. NO. 3-23. 2" DISCOFILTER - PROVIDE INLINE FILTER DIRECTLY DOWNSTREAM OF BACKFLOW PREVENTER

LATERAL/MANLINE		
SYMBOL	MANUF.	MODEL NUMBER / DESCRIPTION
---	PWP	SCH 40 PVC LATERAL LINE - SIZE AS NOTED W/1/2" COVER
---	PWP	SCH 40 PVC MAINLINE - SIZE AS NOTED W/18" COVER
====	PWP	SCH 40 PVC SLEEVE - TWICE LINE SIZE CARRIED WITHIN

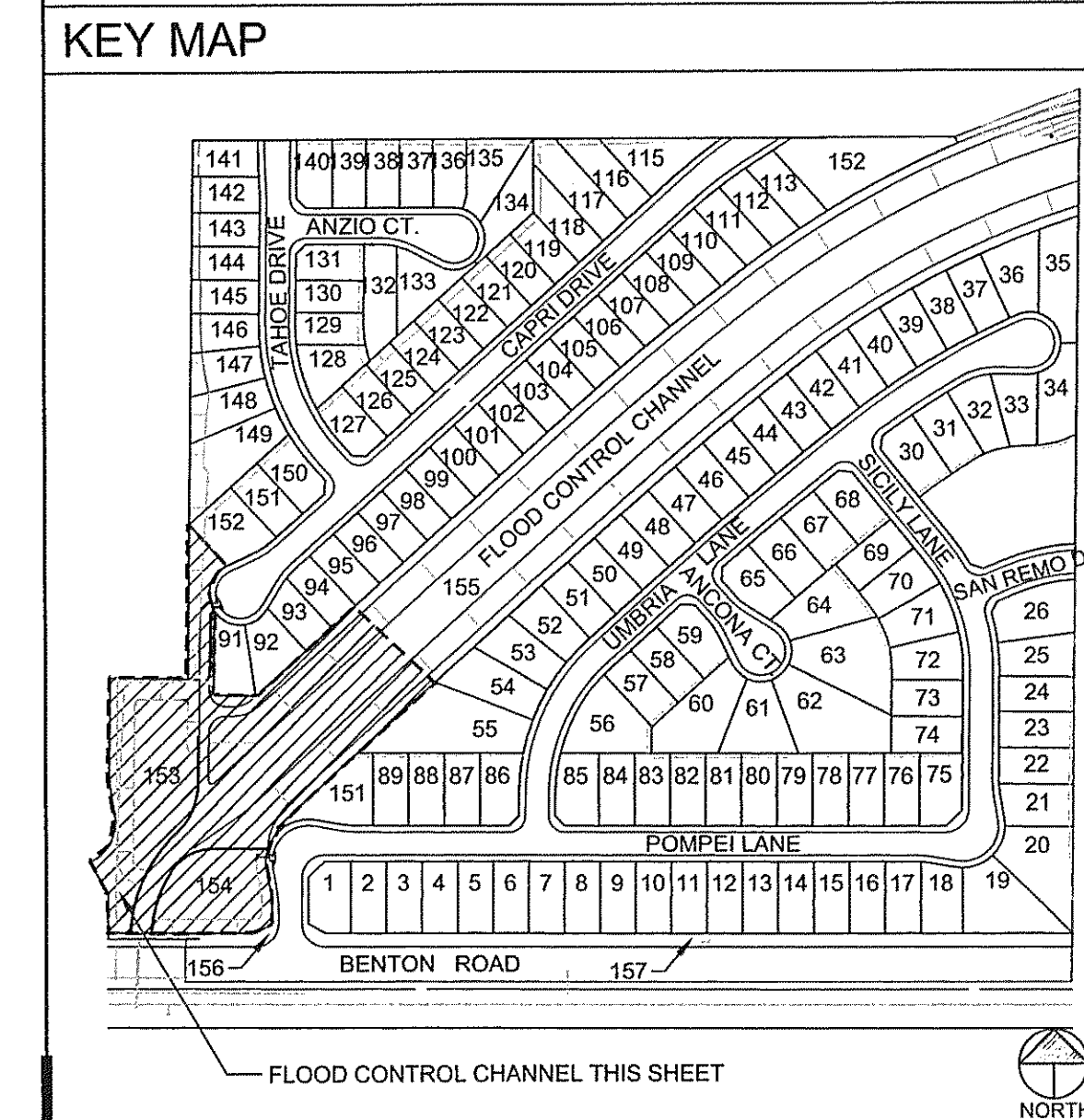
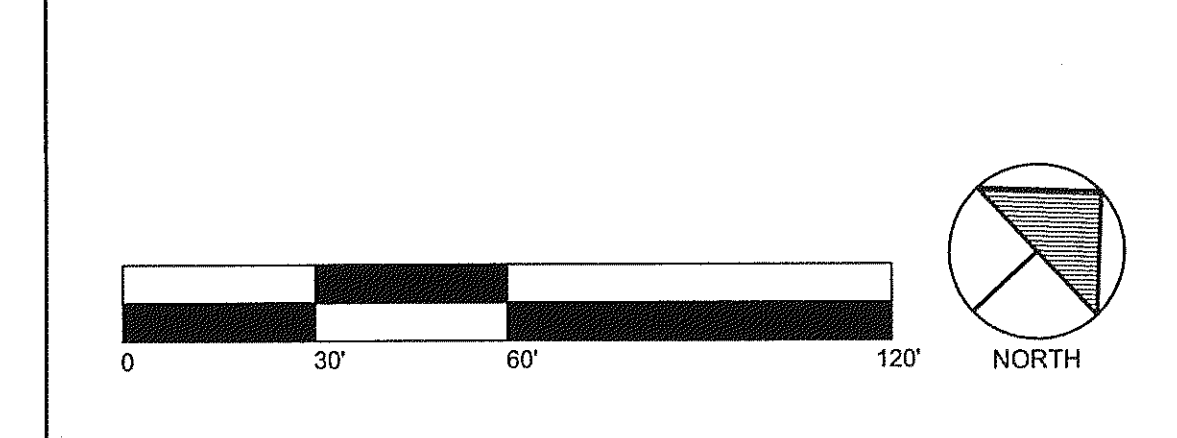
VALVE CALLOUT	
1	CONTROLLER STATION NUMBER
2"	VALVE SIZE
15	GALLONS PER MINUTE

**NOTES**

\*ALL TURF HEADS TO BE 4" POP-UP BODIES (04) MINIMUM. ALL SHRUB HEADS ADJACENT TO CURBS, WALKWAYS, DRIVEWAYS, PATHS, AND HIGH TRAFFIC WAYS TO BE 12" POP-UP BODIES (12) MINIMUM.

\*\*SEE SEPARATE PARKS PLANS FOR LOCATION INFORMATION

SEE SHEET 4 FOR IRRIGATION DETAILS & ADDITIONAL PLANTING NOTES  
SEE SHEET 5 FOR IRRIGATION GENERAL NOTES



VALLEY WIDE RECREATION & PARK DISTRICT

**APPROVED**

Samuel W. [Signature]

Date: 10-5-04

**HOLD HARMLESS & INDEMNIFICATION CLAUSE**

CONTRACTOR AGREES TO ASSUME SOLE 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/DEVELOPER, THE COUNTY OF LOCAL JURISDICTION AND THE LANDSCAPE DESIGNER HARMLESS FROM ANY AND ALL LIABILITY REAL OR ALLEGED, IN CONNECTION WITH THE PERFORMANCE OF WORK ON THIS PROJECT, EXCEPTING FOR LIABILITY ARISING FROM SOLE NEGLIGENCE OF THE OWNER/DEVELOPER, COUNTY OF LOCAL JURISDICTION AND THE LANDSCAPE DESIGNER.

**SICA**

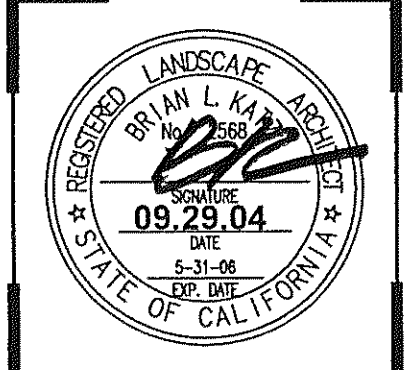
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SITE PLANNING

6153 Follmount Ave, Suite 260  
San Diego, CA 92120  
T 619-584-5444 F 619-584-5448  
mail@sicainc.com

DATE	REVISIONS	BY	JA	MM	MM	MM	MM	MM
9/11/03	REVISED PER VALLEY-WIDE PLAN CHECK							
1/20/04	COMMENTS DATED 02/03/03							
3/8/04	REVISED PER VALLEY-WIDE PLAN CHECK							
3/10/04	IRRIGATION CONTROLLER CLARIFICATION							
4/15/04	IRRIGATION & PLANTING ADJUSTMENTS FOR NEW DET. BASIN ACCESS ROAD							
9/7/04	REVISED PER VALLEY-WIDE PLAN CHECK							
9/24/04	COMMENTS DATED 02/04/04							

**Benton Creek Channel  
Flood Control & Detention Basin  
RHEINGANS, tract 30167  
COUNTY OF RIVERSIDE  
KB HOME - COASTAL**

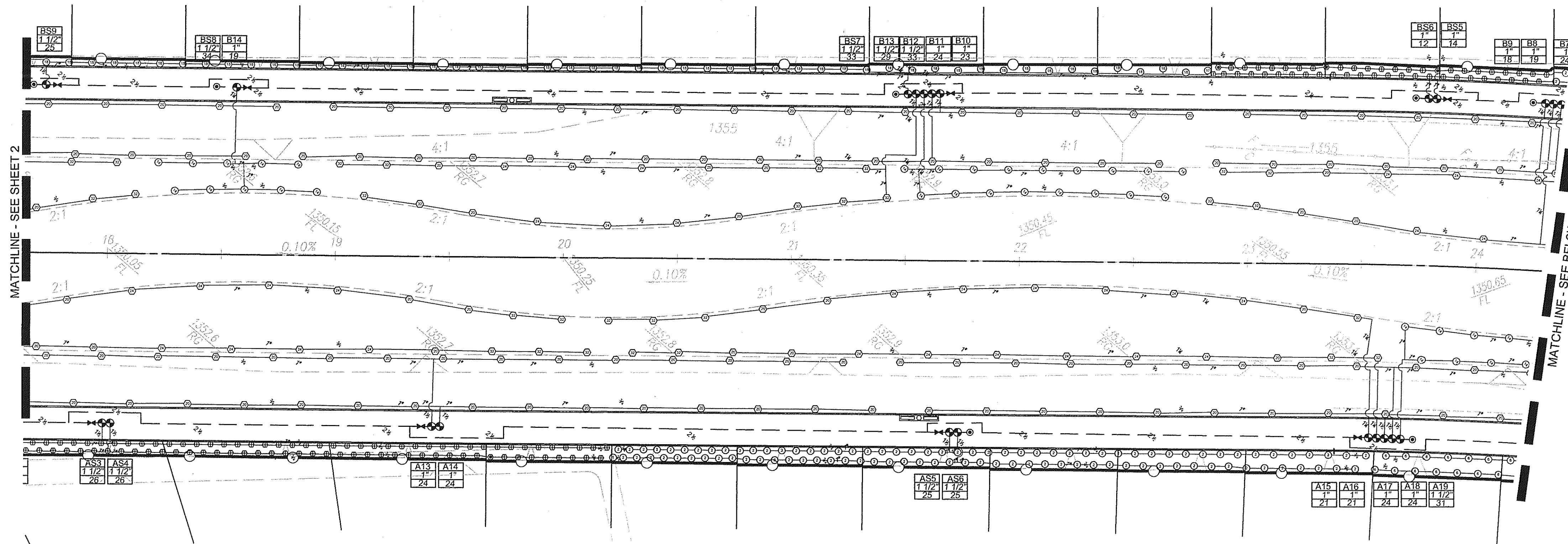
**IRRIGATION PLAN**



Date: 7/23/03  
Scale: 1"=30'-0"  
Drawn by: STAFF  
Checked by: JO  
Job No: 02-065  
Sheet No. 2  
Of 14 Sheets



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### IRRIGATION LEGEND

SPRAY AND ROTOR EQUIPMENT						
SYMBOL	MANUF.	MODEL NUMBER	RAD	PSI	GPM	DESCRIPTION
⊙	HUNTER	INST-04-CV-7Q/H/F/A	6'	30	17.34	VAR. 67 SPRAY HEAD *
⊙	HUNTER	INST-04-CV-7Q/H/F/A	8'	30	33.5	VAR. 1.0 SPRAY HEAD *
⊙	HUNTER	INST-04-CV-10Q/H/F/A	10'	30	49.97	VAR. 2.0 SPRAY HEAD *
⊙	HUNTER	INST-04-CV-12Q/H/F/A	12'	30	71.14	VAR. 2.9 SPRAY HEAD *
⊙	HUNTER	INST-04-CV-8Q/H/F/A	15'	30	93.19	VAR. 3.7 SPRAY HEAD *
⊙	HUNTER	INST-04-CV-LCS-515	5x15	30	.65	END STRIP
⊙	HUNTER	INST-04-CV-SS-530	5x30	30	1.3	SIDE STRIP
⊙	HUNTER	PCN-10	-	30	1.0	FLOOD BUBBLER
⊙	HUNTER	I-20-ADV/36V-50SR	18"	45	50.10	VAR. 2.0 ROTOR HEAD
⊙	HUNTER	I-20-ADV/36V-75SR	25"	45	75.15	VAR. 3.0 ROTOR HEAD
⊙	HUNTER	I-20-ADV/36V-1.0	30"	45	1.2	VAR. 3.4 ROTOR HEAD
⊙	HUNTER	I-20-ADV/36V-3.0	40"	45	2.0	VAR. 7.6 ROTOR HEAD

### IRRIGATION EQUIPMENT

SYMBOL	MANUF.	MODEL NUMBER / DESCRIPTION
⊕	RAINBIRD	PESB-PRS REMOTE CONTROL VALVE - SIZE AS NOTED
⊙	RAINBIRD	#44LRC - QUICK COUPLING VALVE
⊕	NIBCO	T-580 SERIES BALL VALVE - LINE SIZE
⊕	FEBCO	825YA - 1" BACKFLOW PREVENTER; INSTALL IN SBBC-AL "STRONG BOX" OR APPROVED EQUAL
⊕	CALSENSE	SCH 80 PVC FM-1.5 FLOW SENSOR W/LARC - SIZE PER MFGR. 'S' SPECS.
⊕	TORO	#P220-27-4 1" PLASTIC MASTER VALVE
⊕	WCS	"RAINGUARD" RAIN SENSOR/SHUTOFF DEVICE; INSTALL W/VANDAL RESISTANT ENCLOSURE
⊕	CALSENSE	IRRIGATION CONTROLLER - ET-2000-XX-LR-G-RR-SSE
⊕		ELECTRICAL METER - TO BE INSTALLED BY CERTIFIED ELECTRICIAN (PER UTILITY PLAN BY BUTSCO)
NO SYMBOL	AMAD	CAT. NO. 3-23, 2" DISCOFILTER - PROVIDE IN-LINE FILTER DIRECTLY DOWNSTREAM OF BACKFLOW PREVENTER

### LATERAL/MAINLINE

SYMBOL	MANUF.	MODEL NUMBER / DESCRIPTION
—	PWP	SCH 40 PVC LATERAL LINE - SIZE AS NOTED W/1/2" COVER
—	PWP	SCH 40 PVC MAINLINE - SIZE AS NOTED W/1/2" COVER
===	PWP	SCH 40 PVC SLEEVE - TWICE LINE SIZE CARRIED WITHIN

### VALVE CALLOUT

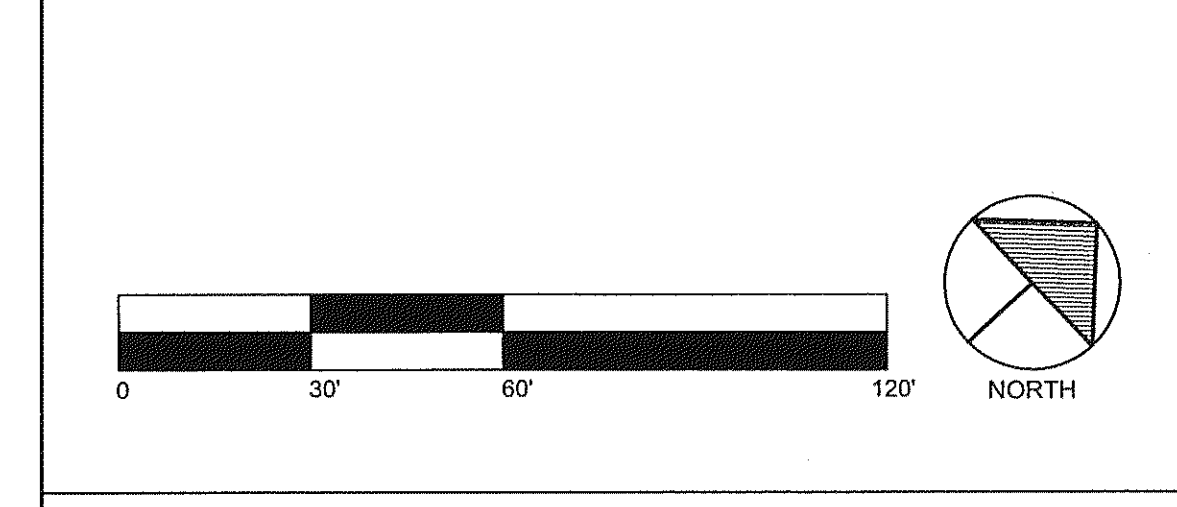
1	CONTROLLER STATION NUMBER
2"	VALVE SIZE
15	GALLONS PER MINUTE

**NOTES**

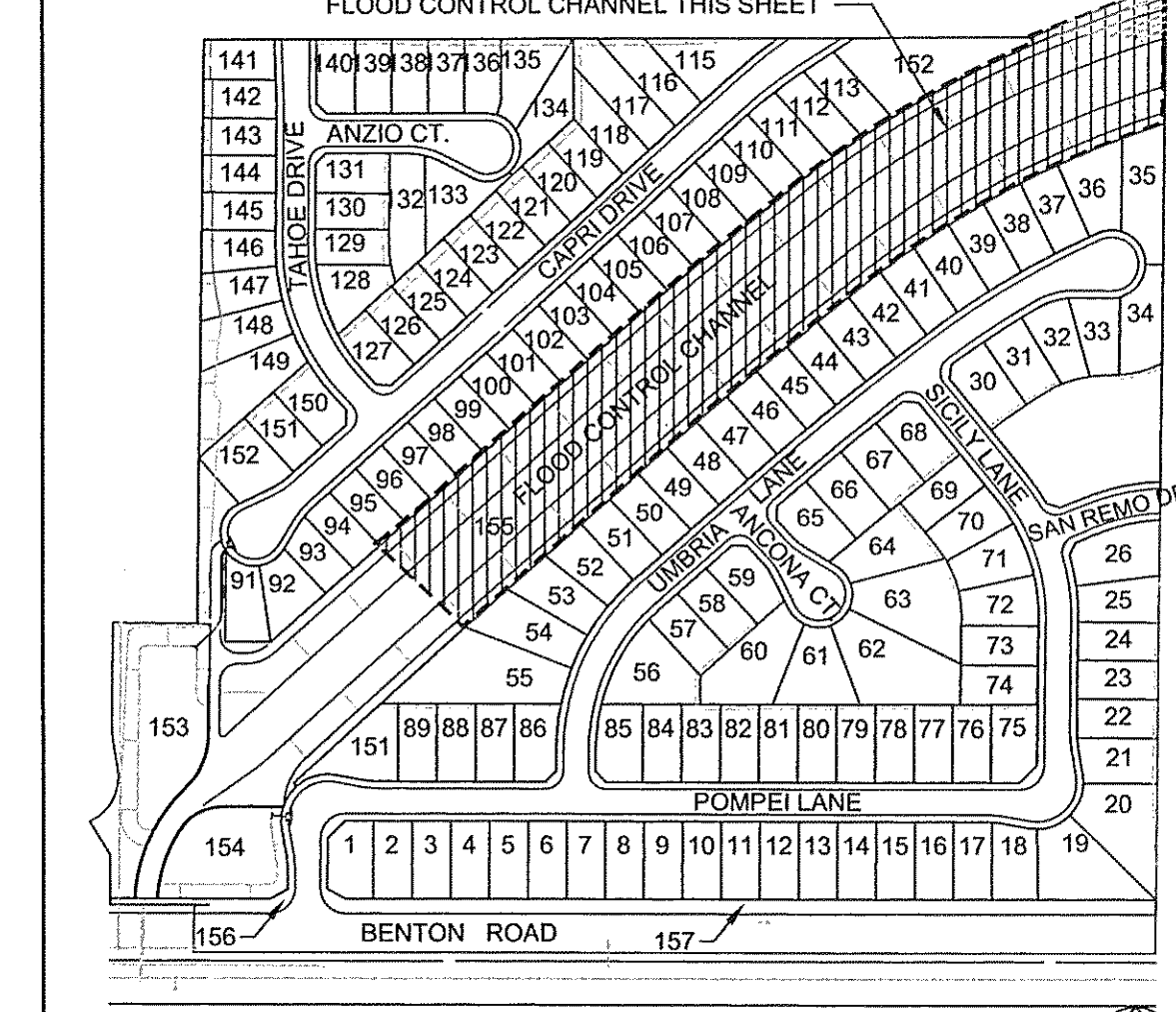
\*ALL TURF HEADS TO BE 4" POP-UP BODIES (04) MINIMUM. ALL SHRUB HEADS ADJACENT TO CURBS, WALKWAYS, DRIVEWAYS, PATHS, AND HIGH TRAFFIC WAYS TO BE 12" POP-UP BODIES (12) MINIMUM.

\*\*SEE SEPARATE PARKS PLANS FOR LOCATION INFORMATION

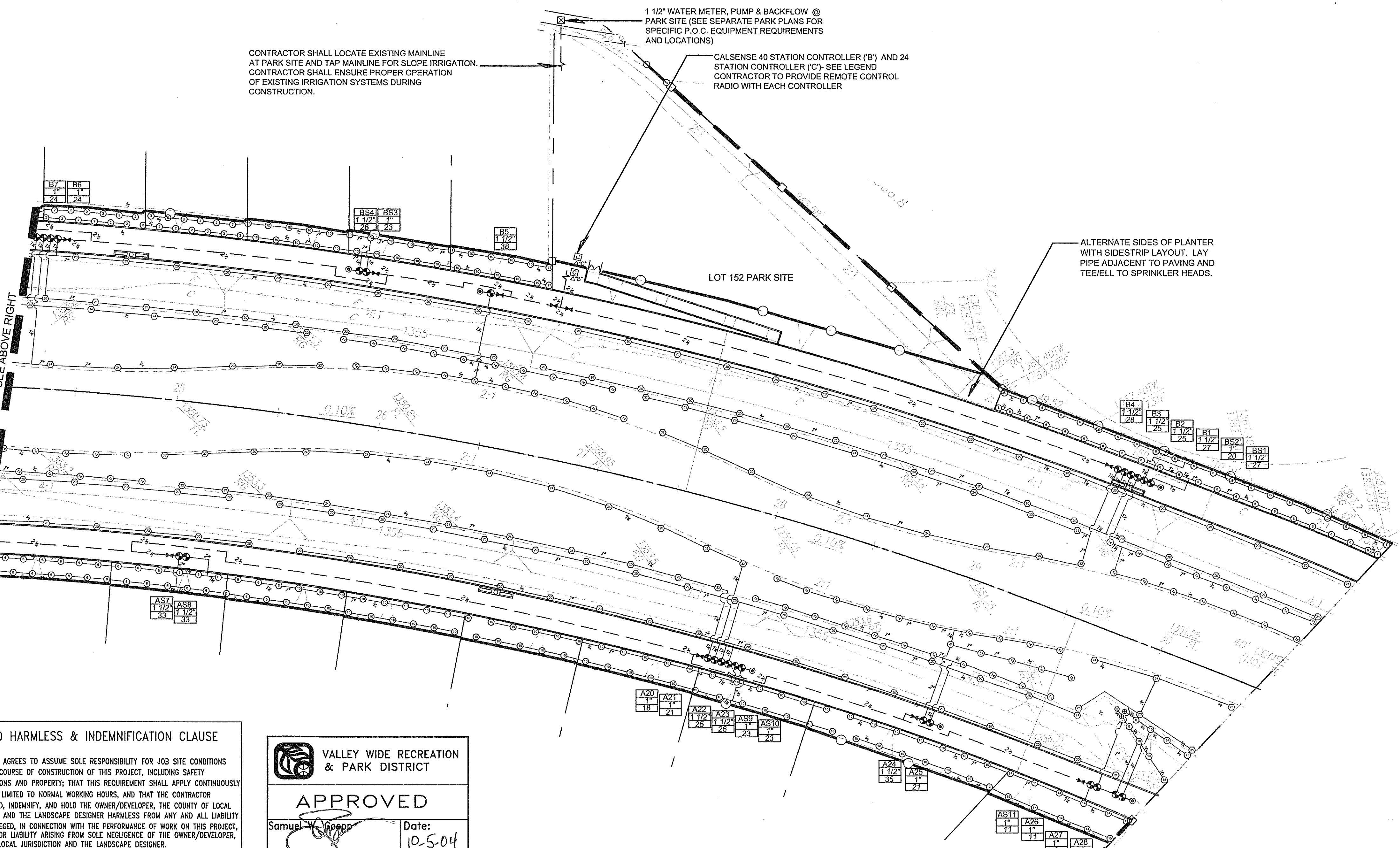
SEE SHEET 4 FOR IRRIGATION DETAILS & ADDITIONAL PLANTING NOTES  
SEE SHEET 5 FOR IRRIGATION GENERAL NOTES



### KEY MAP



Date: 7/23/03  
Scale: 1"=30'-0"  
Drawn by: STAFF  
Checked by: JO  
Job No: 02-065  
Sheet No: 3  
Of 14 Sheets



CONTRACTOR SHALL LOCATE EXISTING MAINLINE AT PARK SITE AND TAP MAINLINE FOR SLOPE IRRIGATION. CONTRACTOR SHALL ENSURE PROPER OPERATION OF EXISTING IRRIGATION SYSTEMS DURING CONSTRUCTION.

1 1/2" WATER METER, PUMP & BACKFLOW @ PARK SITE (SEE SEPARATE PARK PLANS FOR SPECIFIC P.O.C. EQUIPMENT REQUIREMENTS AND LOCATIONS)

CALSENSE 40 STATION CONTROLLER ('B') AND 24 STATION CONTROLLER ('C') - SEE LEGEND. CONTRACTOR TO PROVIDE REMOTE CONTROL RADIO WITH EACH CONTROLLER.

ALTERNATE SIDES OF PLANTER WITH SIDESTRIP LAYOUT. LAY PIPE ADJACENT TO PAVING AND TEE/FELL TO SPRINKLER HEADS.

**HOLD HARMLESS & INDEMNIFICATION CLAUSE**

CONTRACTOR AGREES TO ASSUME SOLE 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/DEVELOPER, THE COUNTY OF LOCAL JURISDICTION AND THE LANDSCAPE DESIGNER HARMLESS FROM ANY AND ALL LIABILITY REAL OR ALLEGED, IN CONNECTION WITH THE PERFORMANCE OF WORK ON THIS PROJECT, EXCEPTING FOR LIABILITY ARISING FROM SOLE NEGLIGENCE OF THE OWNER/DEVELOPER, COUNTY OF LOCAL JURISDICTION AND THE LANDSCAPE DESIGNER.

VALLEY WIDE RECREATION & PARK DISTRICT

**APPROVED**

Samuel W. Koopp Date: 10-5-04

**S A**

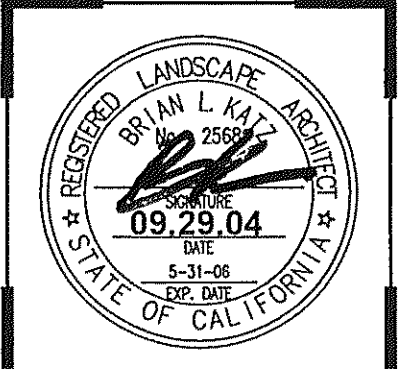
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SITE PLANNING

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T 619.584.5444 F 619.584.5448  
mail@sgainc.com

DATE	REVISIONS	BY	JA
9/11/03	REVISED PER VALLEY-WIDE PLAN CHECK		
1/20/04	REVISION COMMENTS DATED 02/21/03		
3/9/04	REVISED PER VALLEY-WIDE PLAN CHECK		
3/10/04	REVISION COMMENTS DATED 2/27/04		
4/15/04	IRRIGATION & PLANTING ADJUSTMENTS FOR NEW DET. BASIN ACCESS ROAD		
9/1/04	REVISED PER VALLEY-WIDE PLAN CHECK		

**Benton Creek Channel  
Flood Control & Detention Basin  
RHEINGANS, tract 30167  
COUNTY OF RIVERSIDE  
KB HOME - COASTAL**

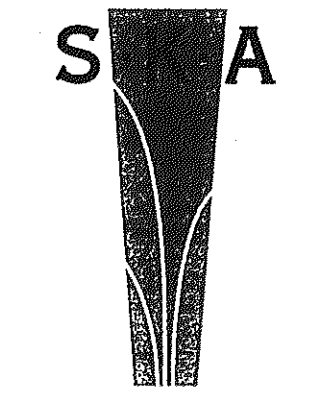
**IRRIGATION PLAN**



Date: 7/23/03  
Scale: 1"=30'-0"  
Drawn by: STAFF  
Checked by: JO  
Job No: 02-065  
Sheet No: 3  
Of 14 Sheets



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mail@skainc.com

IRRIGATION METER LEGEND	
METER	SERVICE AREA
A	NORTH CHANNEL, DETENTION BASIN 153, LOT 152 PARK SITE
B	SOUTH CHANNEL, DETENTION BASIN 154, LOT 151 PARK SITE

**RHEINGANS FLOOD CONTROL CHANNEL  
METERS 'A' AND 'B'  
IRRIGATION CONTROLLER SCHEDULING**

**PROJECT DATA**

DATE: 3/5/04  
PROJECT: RHEINGANS FLOOD CONTROL CHANNEL METERS 1 & 2  
LOCATION: RIVERSIDE, CA  
PREPARED BY: PAUL MORRISON

**E.T. DATA (INCHES)**

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEPT	OCT	NOV	DEC
MONTHLY:	2.17	2.8	4.03	5.10	5.89	6.60	7.44	6.82	5.70	4.03	2.07	1.86
DAILY:	.07	.10	.13	.17	.19	.22	.24	.22	.19	.13	.069	.06

**STATION RUN TIMES (MINUTES PER DAY)**

TURF SPRAY:	2.24	3.20	4.16	5.44	6.08	7.04	7.68	7.04	6.08	4.16	2.20	2.20
SHRUB SPRAY:	1.12	1.60	2.08	2.72	3.04	3.52	3.84	3.52	3.04	2.08	1.10	1.10
TURF ROTOR:	4.50	6.50	8.30	11.00	12.00	14.00	15.40	14.00	12.00	8.30	4.40	4.40
SHRUB ROTOR:	2.24	3.20	4.16	5.44	6.08	7.04	7.68	7.04	6.08	4.16	2.20	2.20

FREQUENCY = ONCE PER DAY

**NOTES:**

RUN TIMES FORMULA:  $\frac{ETo \times KC \times 60}{Pr \times Du} = \text{RUN TIME IN MINUTES}$

ETo = REFERENCE EVAPOTRANSPIRATION

Kc = CROP COEFFICIENT - TURF = .8  
SHRUB = .4

60 = CONVERSION FACTOR

Pr = PRECIPITATION RATE = 2"/HOUR

Du = DISTRIBUTION UNIFORMITY - SPRAY = 75%

SOIL TYPE = CLAY LOAM (ASSUMPTION)

**RHEINGANS FLOOD CONTROL CHANNEL  
METER 'A'  
PRESSURE LOSS CALCULATIONS**

METER NUMBER	#1	DATE	3/5/04
METER SIZE	1 1/2"	PROJECT	RHEINGANS CHANNEL
METER ELEVATION	1367'	JOB NUMBER	
STATIC PRESSURE	57 PSI	LOCATION	
VALVE NO. CHECKED	B25	CLIENT	
G.P.M. @ VALVE	35	CONTACT	PVM
ELEVATION @ VALVE	1363'	PREPARED BY	PVM
P.S.I. @ PUMP	90 PSI	WATER DISTRICT	VALLEY WIDE

BACKFLOW PREVENTER	12.0
WATER METER	2.7
MAINLINE	5.8
LATERAL LINES	6.3
REMOTE CONTROL VALVE	3.0
MASTER VALVE	1.7
ISOLATION VALVES	0.5
HEAD LOSS	
MISC. LOSSES	

SUBTOTAL 32.0  
x 15%

FITTING LOSSES	4.8
SUB TOTAL FROM ABOVE	32.0
REQUIRED P.S.I. @ LAST HEAD	30.0

TOTAL 66.8

STATIC P.S.I. (BOOSTED)	90.0
P.S.I. REQUIRED	66.8

RESIDUAL P.S.I. 23.2

**RHEINGANS FLOOD CONTROL CHANNEL  
METER 'B'  
PRESSURE LOSS CALCULATIONS**

METER NUMBER	#2	DATE	3/5/04
METER SIZE	1 1/2"	PROJECT	RHEINGANS CHANNEL
METER ELEVATION	1369'	JOB NUMBER	
STATIC PRESSURE	58 PSI	LOCATION	
VALVE NO. CHECKED	A24	CLIENT	
G.P.M. @ VALVE	35	CONTACT	PVM
ELEVATION @ VALVE	1363'	PREPARED BY	PVM
P.S.I. @ PUMP	90 PSI	WATER DISTRICT	VALLEY WIDE

BACKFLOW PREVENTER	12.0
WATER METER	2.7
MAINLINE	5.6
LATERAL LINES	5.3
REMOTE CONTROL VALVE	3.0
MASTER VALVE	1.7
ISOLATION VALVES	.5
HEAD LOSS	
MISC. LOSSES	

SUBTOTAL 30.8  
x 15%

FITTING LOSSES	4.6
SUB TOTAL FROM ABOVE	30.8
REQUIRED P.S.I. @ LAST HEAD	30.0

TOTAL 65.4

STATIC P.S.I. (BOOSTED)	90.0
P.S.I. REQUIRED	65.4

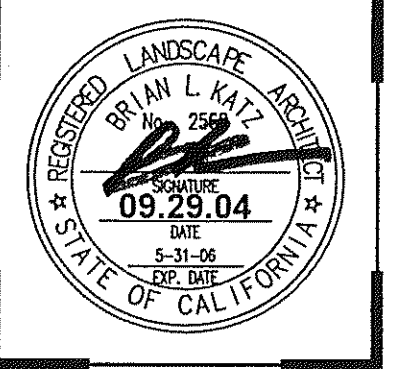
RESIDUAL P.S.I. 24.6

DATE	BY	REVISIONS
9/11/03	JA	REVISED PER VALLEY-WIDE PLAN CHECK COMMENTS DATED 8/27/03
1/20/04	MM	REVISED PER VALLEY-WIDE PLAN CHECK COMMENTS DATED 10/29/03
3/8/04	MM	REVISED PER VALLEY-WIDE PLAN CHECK COMMENTS DATED 2/27/04
3/10/04	MM	IRRIGATION CONTROLLER CLARIFICATION
4/15/04	MM	IRRIGATION & PLANTING ADJUSTMENTS FOR NEW DET. BASIN ACCESS ROAD
9/1/04	MM	REVISED PER VALLEY-WIDE PLAN CHECK COMMENTS DATED 8/24/04

Benton Creek Channel  
Flood Control & Detention Basin  
RHEINGANS, tract 30167  
COUNTY OF RIVERSIDE  
KB HOME - COASTAL

IRRIGATION METER DATA

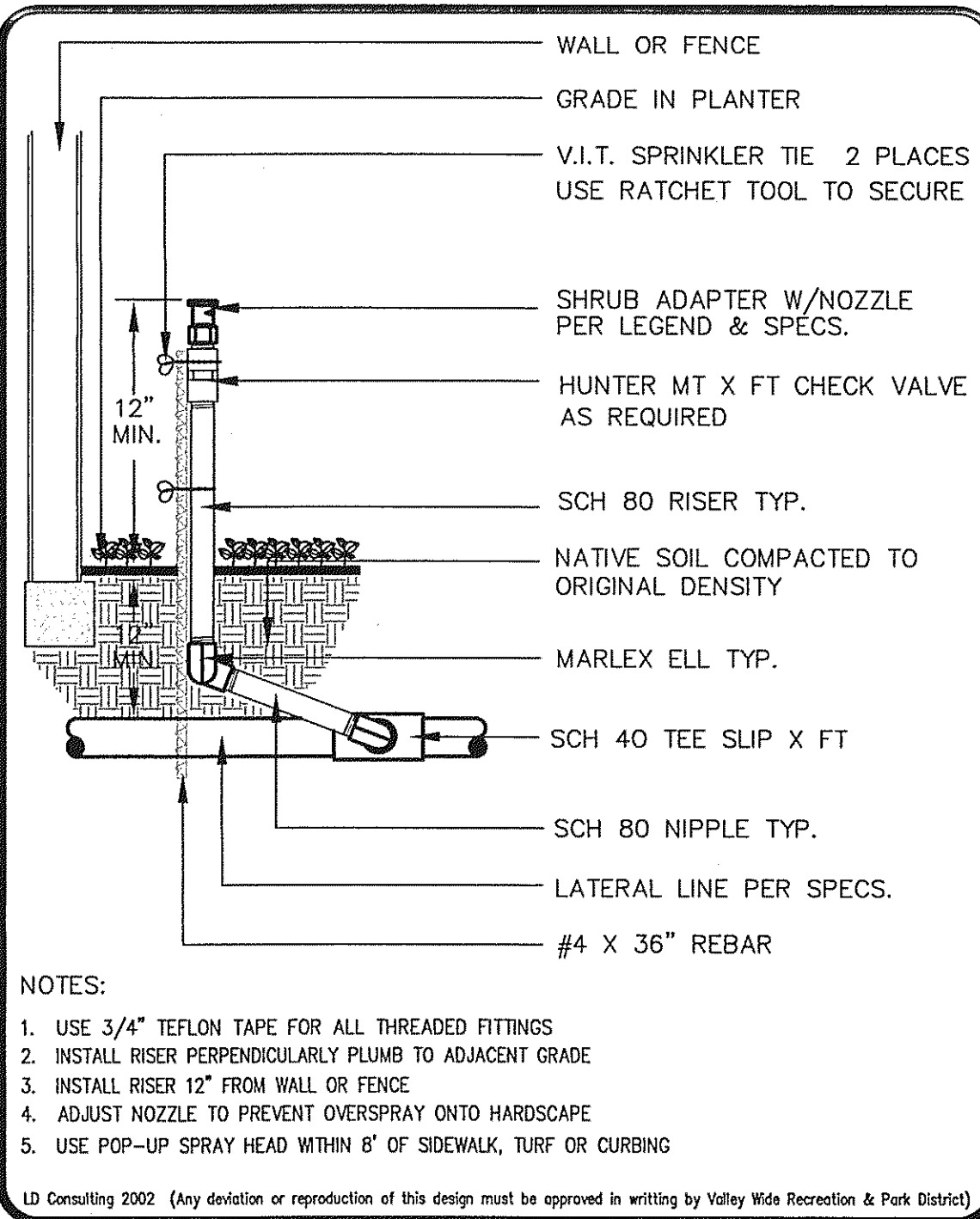
APPROVED  
10-5-04  
VALLEY WIDE



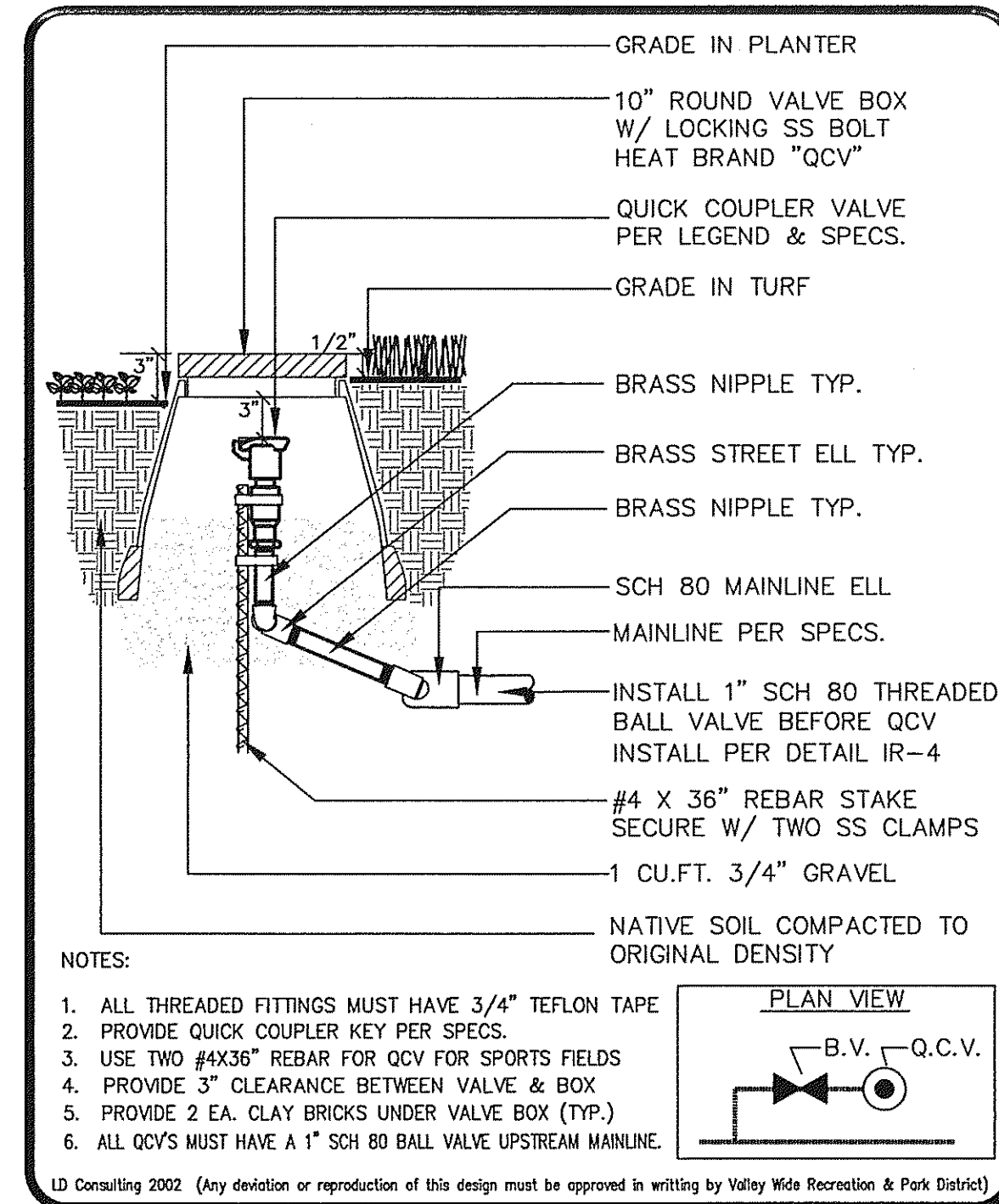
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Drawn by:	STAFF
Checked by:	JO
Job No:	02-065
Sheet No.	4
Of 14 Sheets	



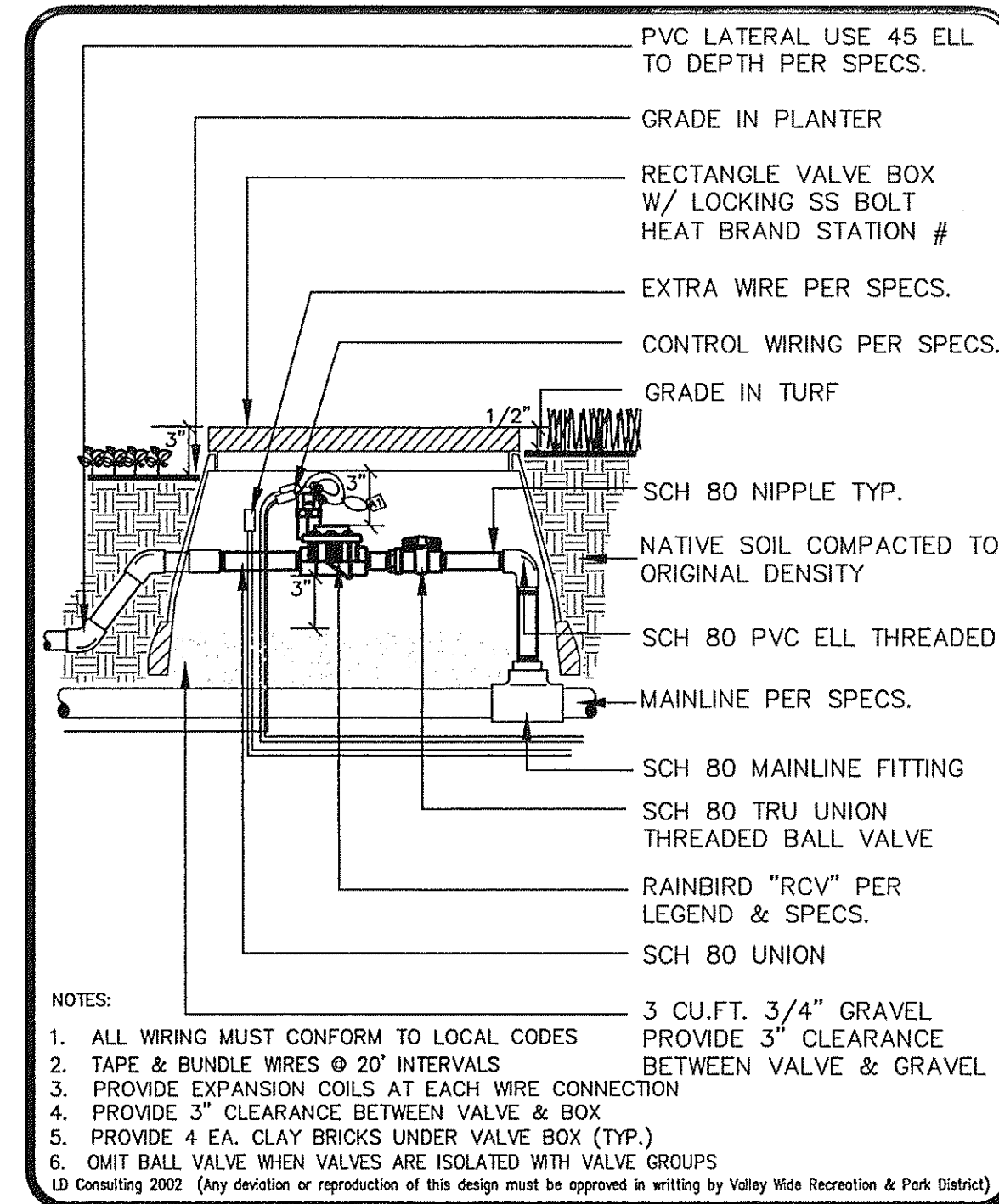
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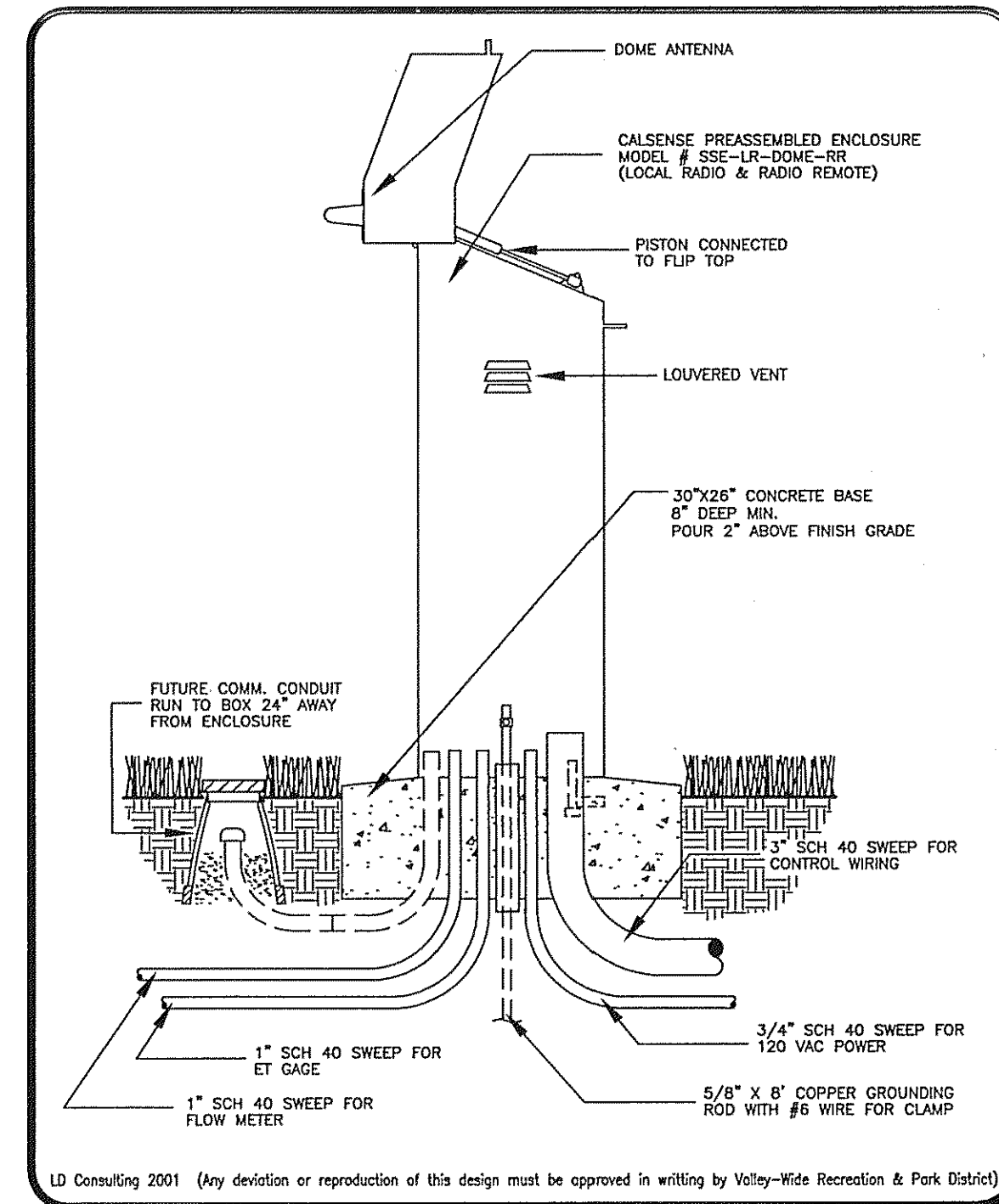
**VALLEY WIDE RECREATION**  
5/03  
**SHRUB SPRAY ON RISER** | IR-16



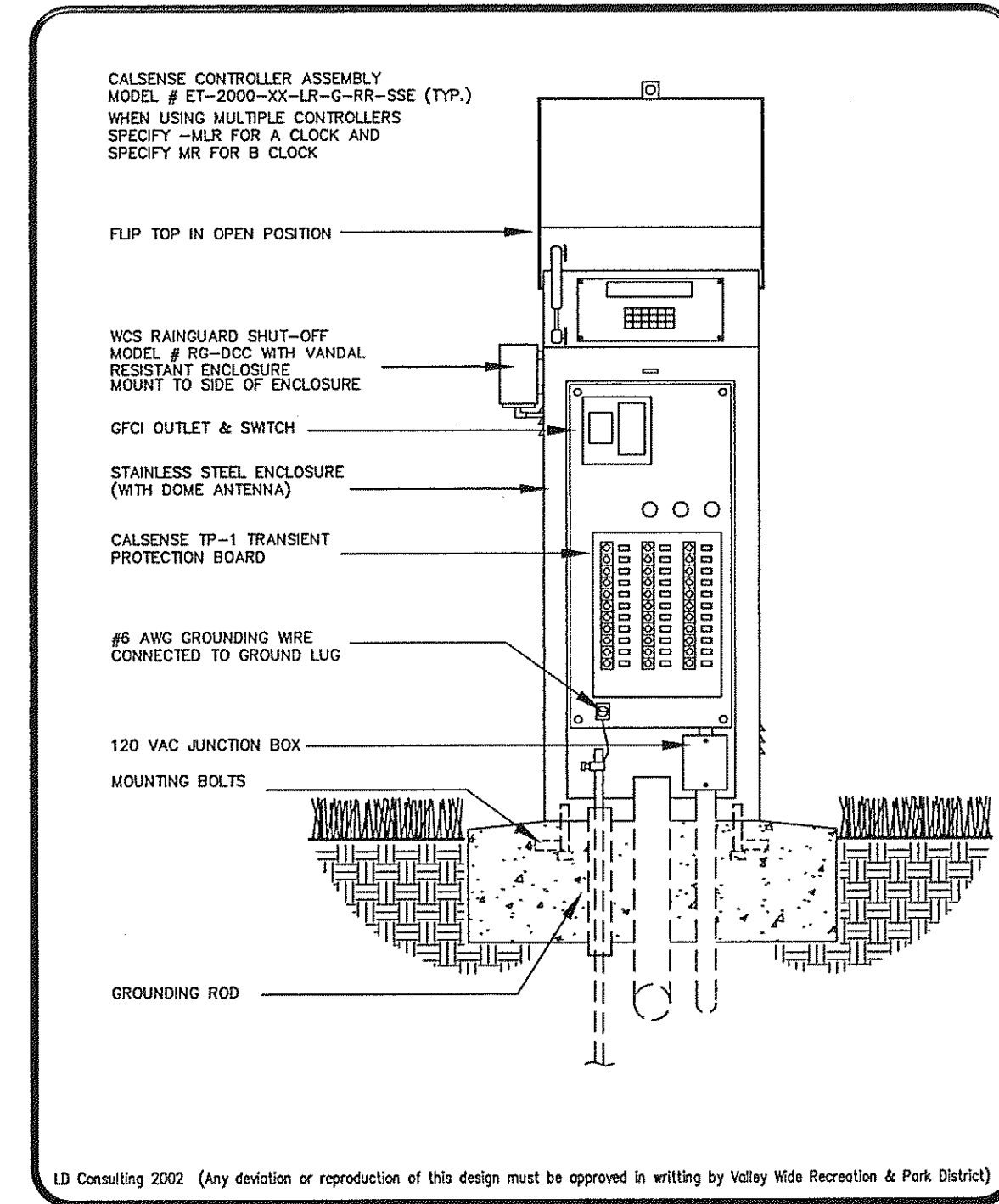
**VALLEY WIDE RECREATION**  
5/03  
**QUICK COUPLER VALVE** | IR-3



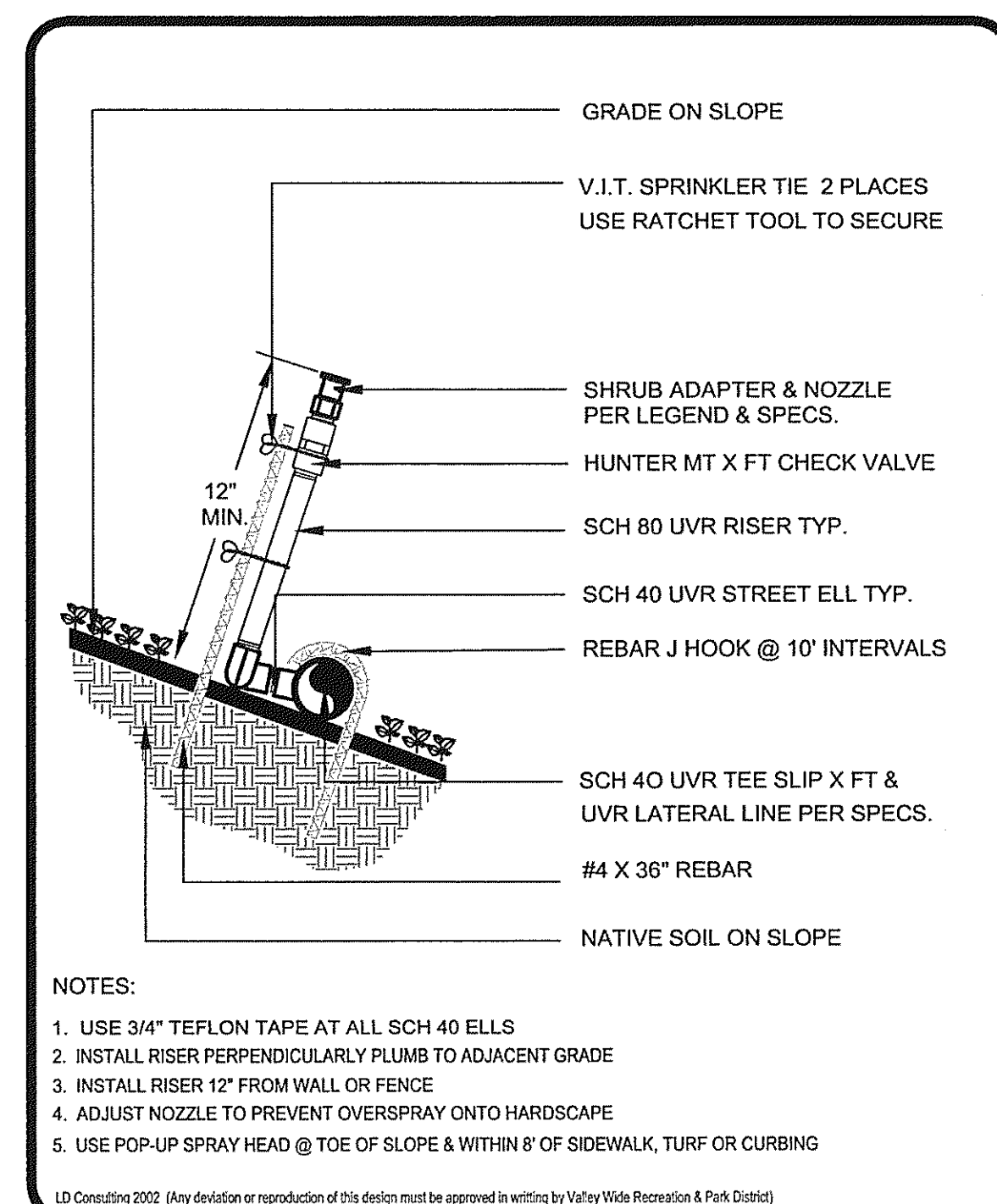
**VALLEY WIDE RECREATION**  
5/03  
**REMOTE CONTROL VALVE** | IR-1



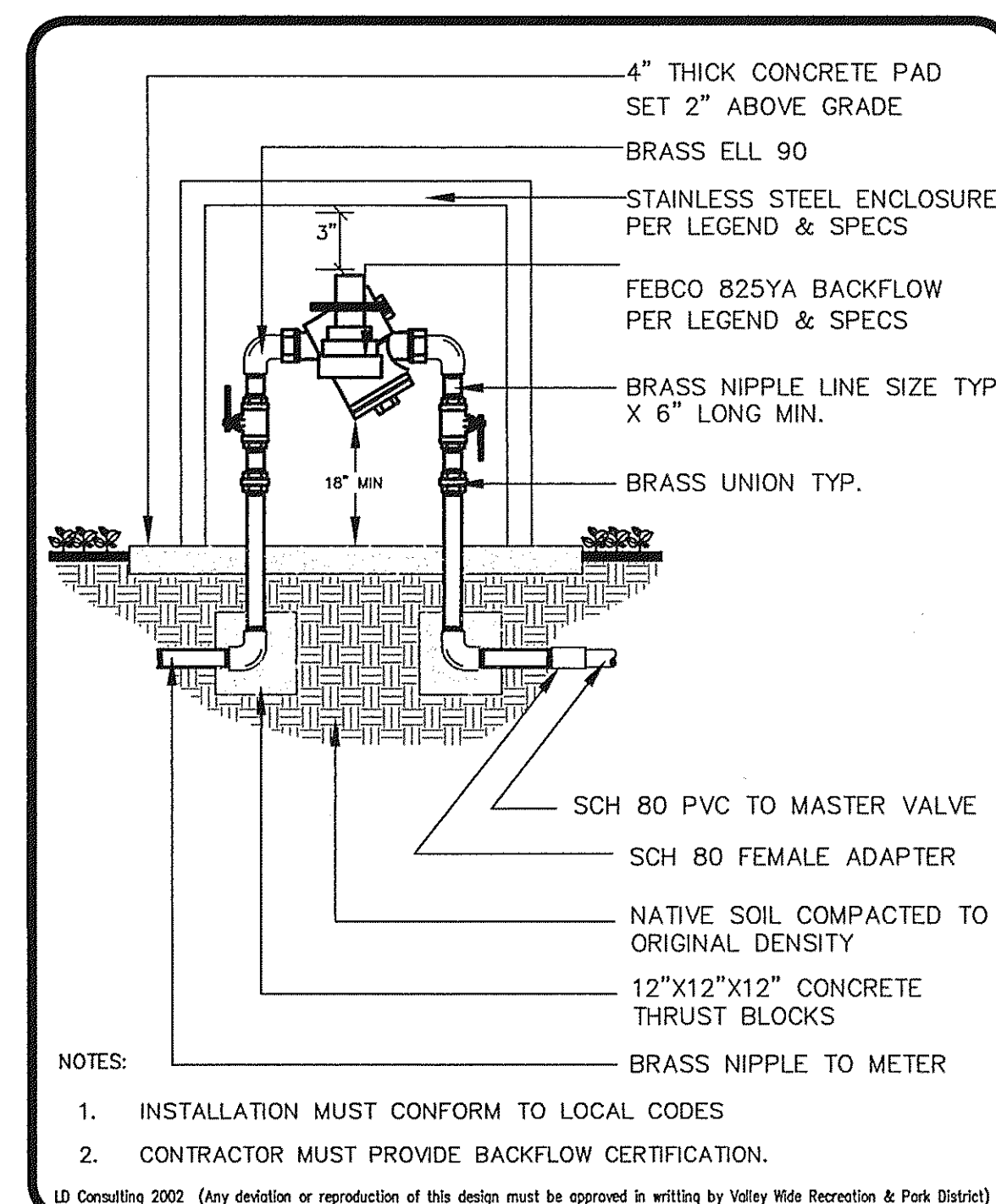
**VALLEY WIDE RECREATION**  
5/03  
**PEDESTAL ASSEMBLY** | IR-24



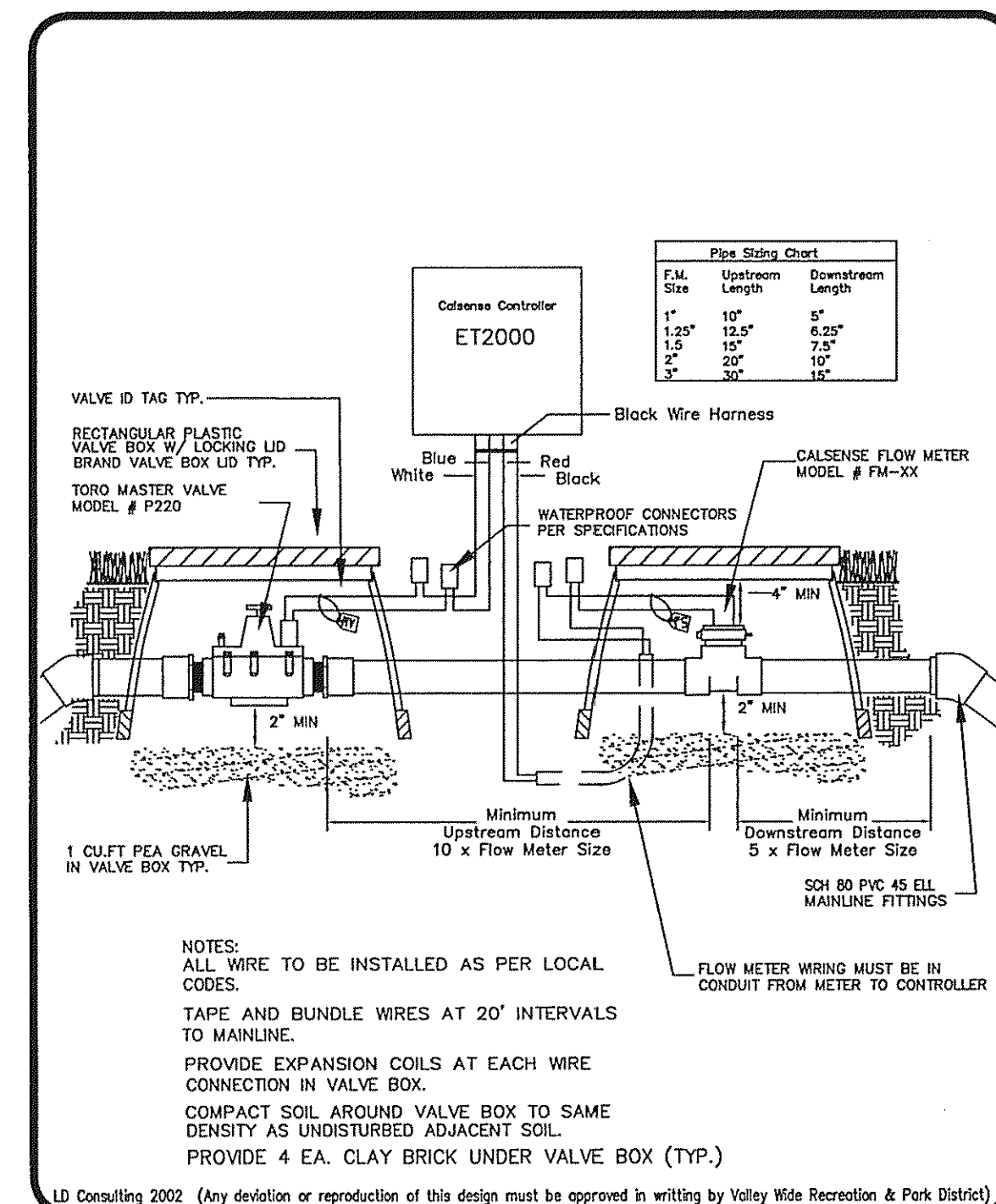
**VALLEY WIDE RECREATION**  
5/03  
**PEDESTAL CONTROLLER** | IR-23



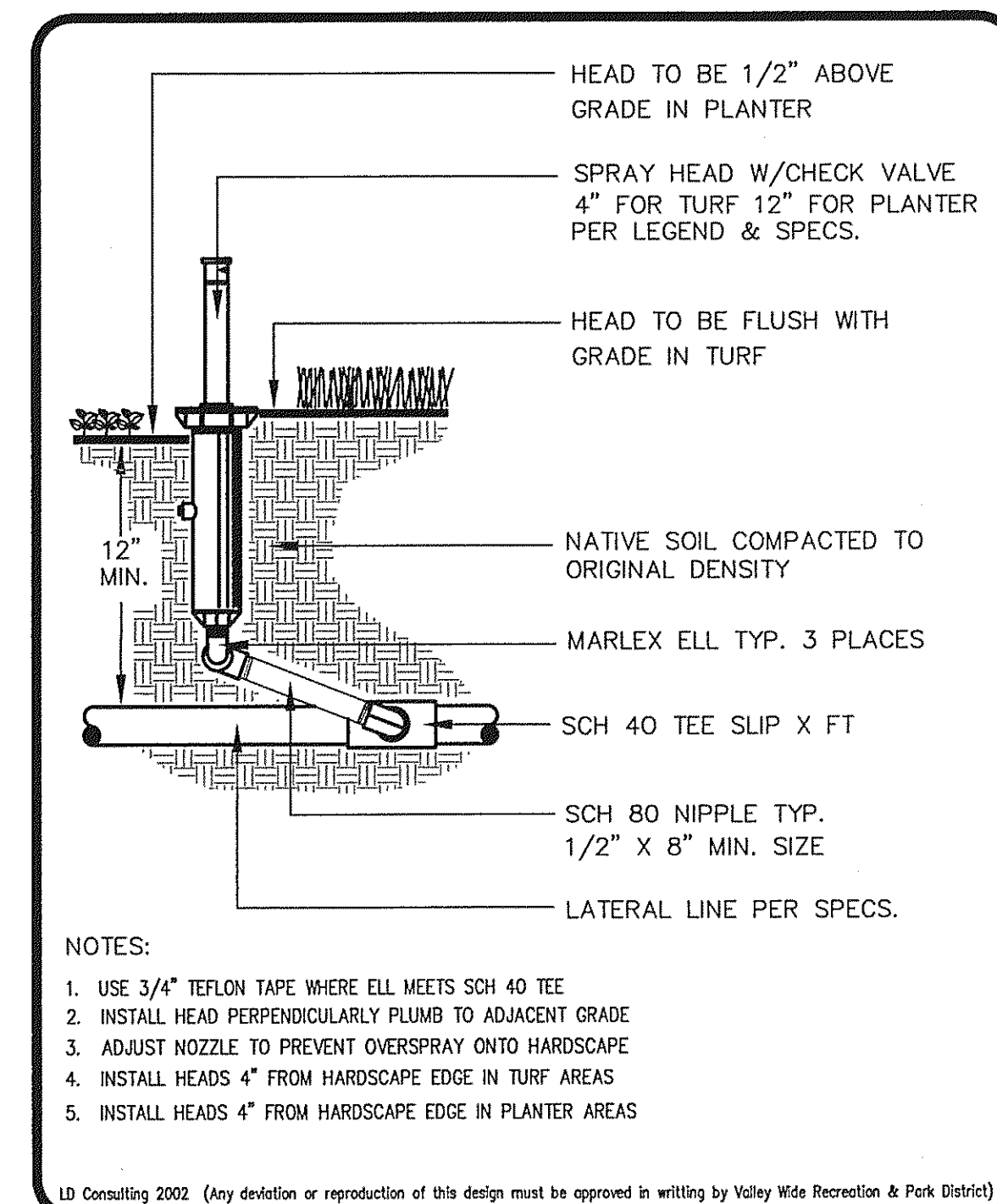
**VALLEY WIDE RECREATION**  
5/03  
**SHRUB SPRAY ON GRADE** | IR-15



**VALLEY WIDE RECREATION**  
5/03  
**BACKFLOW PREVENTER** | IR-6



**VALLEY WIDE RECREATION**  
5/03  
**MASTER VALVE & FLOW METER** | IR-21



**VALLEY WIDE RECREATION**  
5/03  
**POP-UP SPRAY HEAD** | IR-17

**HOLD HARMLESS & INDEMNIFICATION CLAUSE**  
CONTRACTOR AGREES TO ASSUME SOLE 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/DEVELOPER, THE COUNTY OF LOCAL JURISDICTION AND THE LANDSCAPE DESIGNER HARMLESS FROM ANY AND ALL LIABILITY REAL OR ALLEGED, IN CONNECTION WITH THE PERFORMANCE OF WORK ON THIS PROJECT, EXCEPTING FOR LIABILITY ARISING FROM SOLE NEGLIGENCE OF THE OWNER/DEVELOPER, COUNTY OF LOCAL JURISDICTION AND THE LANDSCAPE DESIGNER.

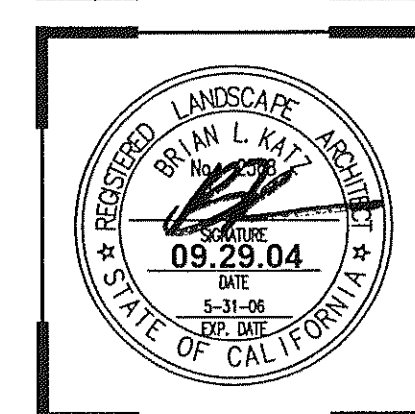
**VALLEY WIDE RECREATION & PARK DISTRICT**  
**APPROVED**  
Samuel M. Goepf  
Date: 10-5-04

**SKA**  
LANDSCAPE ARCHITECTURE  
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DATE	REVISIONS	BY
9/11/03	REVISED PER VALLEY WIDE PLAN CHECK COMMENTS DATED 10/20/03	JA
1/20/04	REVISED PER VALLEY WIDE PLAN CHECK COMMENTS DATED 10/20/03	MM
3/8/04	REVISED PER VALLEY WIDE PLAN CHECK COMMENTS DATED 2/27/04	MM
3/10/04	IRRIGATION & PLANTING ADJUSTMENTS FOR NEW DEL. BASIN ACCESS ROAD CHECK	MM
4/15/04	REVISED PER VALLEY WIDE PLAN CHECK COMMENTS DATED 2/24/04	MM
9/1/04	REVISED PER VALLEY WIDE PLAN CHECK COMMENTS DATED 2/24/04	MM

Benton Creek Channel  
Flood Control & Detention Basin  
RHEINGANS, tract 30167  
COUNTY OF RIVERSIDE  
KB HOME - COASTAL

IRRIGATION DETAILS



Date: 7/23/03  
Scale: N.T.S.  
Drawn by: STAFF  
Checked by: JO  
Job No: 02-065  
Sheet No. 5  
Of 14 Sheets



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**SECTION 02700 IRRIGATION SYSTEMS**

**IRRIGATION SPECIFICATIONS GENERAL**

**1. General Requirements**

a. Permits: Contractor shall obtain and pay for any permits required.

**2. Scope Of Work**

a. The intent of the drawings and specifications is to indicate the processes required for the installation of a complete operating irrigation system without additional cost in labor and material to the Owner.

b. The work consists of furnishing all tools, equipment, material, labor and any processes required to provide a complete operating irrigation system as specified in the drawings and specifications.

c. Drawings are diagrammatic and must be field verified. Contractor must notify Engineer and/or Valley Wide immediately of any discrepancies prior to starting work.

d. Due to the scale of the drawings it is not possible to show all offsets, assemblies, fittings, etc. for a complete irrigation system.

e. Under this section the contractor shall provide all necessary assemblies, fittings, etc. to provide a complete fully automatic irrigation system as listed in drawings and specifications with no additional cost to the owner.

f. Any extra work performed shall be approved in writing by the Owner or Owner's representative prior to the start of such work.

g. Any unapproved work may be at the contractor's expense.

h. If reclaimed water is used, contractor shall provide all necessary reclaimed water signage and equipment. The entire irrigation system must be in accordance to the local reclaimed water specifications and as listed in drawings.

**3. Record Drawings**

a. Record accurately on one set of black and white prints denoting variation in work from original drawings.

b. Dimension from two permanent points of reference (sidewalks, pavement, curbs, street lights, buildings) Record on as-builts daily or as work is performed. All drafting must be clearly legible and dimensions shall be no smaller than 1/4" in size

c. Show dimensions from the following locations and depths:

i. Point of connection (P.O.C.).

ii. Backflow prevention assembly, master valve and flow sensor.

iii. Routing of irrigation pressure mainlines and all directional changes.

iv. Ball and butterfly isolation valves.

v. Irrigation control valves.

vi. Automatic controller, rain sensors and electrical conduits.

vii. Sleeves and pull boxes.

viii. Other related equipment (as directed by the Engineer).

c. Upon completion and approval of record drawing prints, transfer all information to reproducible mylars and provide two additional blue line copies.

d. Maintain as-built drawings on site at all times. These drawings are subject to inspection at any time.

e. Make changes to reproducible drawings in ink (no ball-point pen). Erase or use eradicating fluid when revising drawings. Make changes in a manner equal to the original drawings.

f. Contractor must submit as-built drawings (sepia mylars and two sets of blue lines) to the Engineer inspecting the site seven days prior to the start of the maintenance period for approval.

**4. Controller Charts**

a. As-built drawings shall be approved in writing prior to preparing charts.

b. Provide two controller charts for each controller supplied, showing the area covered by the automatic controller.

c. The chart shall be a reduced reproduction of the as-built system. If the controller sequence is not legible when reduced, enlarge it to a size that will be legible when reduced.

d. Charts shall be black line print with a different transparent color used to show area of coverage for each station.

e. Completed and approved charts must be laminated with plastic 10 mil thick minimum.

f. Charts shall be completed and approved prior to final inspection of the irrigation system.

g. Controller access. The Engineer reserves the right to have complete access to the controller clocks for monitoring and controlling system failures. The contractor shall provide the Engineer with two sets of all keys necessary for access to the controller clocks within the designated area. The keys will then become the property of the Owner.

**5. Operation and Maintenance Manuals**

a. Prepare and deliver to the Engineer, prior to the start of maintenance, all required and necessary descriptive material in complete detail and sufficient quantity properly prepared in four individually bound copies. Describe the material installed in sufficient detail to permit qualified operating personnel to understand, operate and maintain all equipment. Each manual shall include the following:

i. Index sheet, stating contractor's address and telephone number.

ii. Duration of guarantee period with guarantee forms.

iii. List of equipment with names and addresses of manufacturer's local representatives.

iv. Complete operating and maintenance instructions on all major equipment.

b. In addition to the maintenance manuals, provide the maintenance personnel with the instructions for major equipment and show written evidence to the Engineer at the conclusion of the work that this service has been completed.

**6. Spare Parts and Equipment**

a. Prior to the start of maintenance prepare and deliver to the Engineer, all required spare parts, tools and equipment. Spare parts, tools and equipment shall include but not limited to the following:

i. Two quick coupler keys with 3/4 inch bronze hose bib with hand wheel.

ii. Two quick coupler lid keys

iii. One valve box cover wrench or key

iv. Two wrenches and shrew drivers for adjustment and disassembly for each type of sprinkler head used in the irrigation system

v. One 5-foot tee wrench for operating isolation valves specified

vi. Six extra sprinkler heads of each type and size used in the irrigation system.

vii. Remote radio device for irrigation controller(s) if specified

**7. Guarantee**

a. Provide written guarantee in form approved that all work with defects in workmanship and materials will be repaired or replaced at no cost to the Owner for a period of one year from the date of acceptance by the Owner's representative.

b. This form shall be transferred onto the contractor's letterhead and must contain the following:  
**\*\*Name of Project\*\***

We hereby guarantee that the irrigation system we have furnished and installed for **\*\*Name of Project\*\*** 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 material or workmanship, which may develop during the period of one (1) year from the date of acceptance, and also to repair or replace any damage resulting from the repairing or replacing of such defects at no additional cost to the Owner. We shall make such repairs or replacements within a reasonable time after receipt of such written notice. In the event of our failure to make such repairs or replacements within a reasonable time after receipt of such written notice from the Owner, we authorize the Owner to proceed to have said repairs or replacements made at our expense and we will pay for the cost and charges therefor upon demand.

Project Name: \_\_\_\_\_

Owner: \_\_\_\_\_

Landscape Architect: \_\_\_\_\_

Location: \_\_\_\_\_

Signed: \_\_\_\_\_ Title: \_\_\_\_\_

Address: \_\_\_\_\_

Telephone: (\_\_\_\_) \_\_\_\_\_

Date of Signature: \_\_\_\_\_

**8. Inspections**

a. Site inspections and notification time.

i. Pre-construction conference 7 days

ii. Pressure line installation and testing 48 hours

iii. Controller installation 48 hours

iv. Lateral line and sprinkler installation 48 hours

v. Coverage test 48 hours

vi. Final Grading 48 hours

vii. Weed abatement 48 hours

viii. Tree & shrub observation & layout 48 hours

ix. Finish grade prior to hydro-seeding 48 hours

x. Acceptance to commence maintenance 48 hours

xi. Monthly maintenance walk 48 hours

xii. Final Inspection 7 days

b. No field inspections will commence unless record drawings are current and available for observation upon request by the Owner's representative.

**9. Irrigation System Testing**

a. Owner's representative must be notified 48 hours prior to any irrigation testing or inspections.

b. Contractor shall perform a pressure test to all pressure lines in the presence of the Owner's representative.

c. All pressure line must be tested under hydrostatic pressure of 130 pounds per square inch (PSI) and be proven watertight.

d. Pressure lines must maintain pressure for as period of 2 hours. If pressure drop occurs, contractor shall replace joints and repeat test until no pressure drop is achieved.

**10. Pressure Line Observation**

a. Prior to any backfilling of any trench(s) contractor shall call for field observation for verification of material, depths, clearances and warning tape by the Owner's representative.

b. Any trenching covered that was not inspected or approved shall be made visible for observation at the cost of the Contractor.

**11. Controller Testing**

a. Prior to final acceptance contractor shall provide certification from manufacturer stating that controller specified on drawings has been installed per manufacturer's specifications.

b. Contractor shall test in the presence of the Owner's representative that all control wires and extra control wires are functioning properly.

c. Contractor shall provide sufficient manpower and/or radio device to complete such testing in a timely manner.

**12. Lateral Line Testing**

a. Prior to any backfilling of any trench(s) contractor shall call for field observation for verification of material, depths and clearances by the Owner's representative.

b. All sprinklers and assemblies shall be made visible for observation for verification that all material has been installed per plans and specifications.

c. Any trenching covered that was not inspected or approved shall be made visible for observation at the cost of the Contractor.

**13. Coverage Test**

a. Contractor shall perform a coverage test in the presence of the Owner's representative. All irrigation sprinkler systems must providing 100% head to head coverage. Any areas not receiving head to head coverage shall be corrected and retested per the Owner's representative.

b. Contractor shall provide sufficient manpower and/or radio device to complete such testing in a timely manner.

c. All heads must be adjusted to prevent over spray to buildings, walks, streets etc. (see adjusting the system section).

d. No planting or hydro-seeding shall take place until coverage test as been approved in writing by the Owner's representative.

Tree planting may commence upon approval from Owner's representative.

**14. Final Irrigation Inspection**

a. All irrigation systems shall be tested in the presence of the Owner's representative and by under complete automatic operation and proven to be leak free irrigating designated areas per plans and specification with least amount of over spray as possible.

b. Contractor shall provide as-built record drawings and controller charts at final irrigation inspection for approval prior to mylar transfer and laminating.

c. All irrigation turn over items shall be turned in to the Owner's representative prior to the start of maintenance.

**IRRIGATION SPECIFICATIONS MATERIALS**

**1. Backflow Prevention Devices**

a. Backflow prevention units shall be approved by the Foundation for Cross-Connection Control and Hydraulic Research.

b. Backflow assemblies shall be installed using brass ells, unions and nipples.

c. Type: Febeo 825YA or approved equal.

d. Backflow device enclosure shall be constructed of stainless steel #9 expanded metal with an angle iron frame. Enclosure shall have a hinge on one end that allows for removal of the enclosure for backflow service. Enclosure shall be bolted to a concrete pad using galvanized steel hardware.

Manufactures: LeMour, Strong Box, All Spec or approved equal.

**2. Pressure Reducing Valves**

a. Pressure reducing valves shall be of bronze and stainless steel construction and be adjusted from 25 P.S.I. to 125 P.S.I.

Manufactures: Wilkens 500HLR or approved equal.

**3. Wye Strainers**

a. Wye strainer shall be bronze construction with a stainless steel screen element. Wye strainer shall have a standard filtration size of 80 mesh.

Manufactures: Wilkens 100YSBR or approved equal.

**4. Shut off Valves**

a. Ball Valve:

i. Shut off valves 2 inch and smaller shall be ball valves.

ii. Ball valves shall have a one-piece body constructed of 600 lb. WOG Bronze material conforming to ASTM B-584 alloy #44. Ball valve shall have a vented ball with a blowout proof system. Ball valves shall have a working pressure of not less than 150 P.S.I. and shall conform to AWWA standards.

Manufactures: Nibco T-580, Nibco T-113 or approved equal.

b. Butterfly Valves:

i. Shut off valves 2-1/2 inch and larger shall be butterfly valves.

ii. Butterfly valves shall have a one-piece body constructed of cast iron and stainless steel stem. Butterfly valves shall be equipped with Vanstone lange adapters and a 2-inch square-operating nut. Butterfly valves shall have a working pressure of not less than 150 P.S.I. and shall conform to AWWA standards. Butterfly valves shall have a ductile iron porcelain enamel coated disc.

Manufactures: Nibco, Matco or approved equal.

**5. Quick Coupler Valves**

a. Quick coupler valves shall have a body constructed of red brass with a wall thickness guaranteed to withstand normal working pressure of 150 P.S.I. without leakage with female threads (penning at base). Quick coupler valve shall have a hinge cover constructed of red brass with leather like vinyl cover bonded to it on such a manner that it becomes permanent type of cover. Quick couplers used with potable water shall have vinyl covers yellow in color. Quick coupler valves used for reclaimed water shall have vinyl covers purple in color with the appropriate reclaimed water warnings in English and Spanish as well as the international "Do Not Drink" symbol.

b. All quick coupler valves must have a schedule 80 ball valve to isolate mainline from quick coupler valve. Mainline shall be size of quick coupler valve from mainline tee to quick coupler.

Manufactures: Potable Water: Rainbird 44LRC, Rainbird 33LRC or approved equal

Reclaimed Water: Rainbird 44NP or approved equal

**6. Remote Control Valves**

a. The remote control valve shall be normally closed 24 VAC solenoid actuated globe pattern, spring-loaded diaphragm type. The valve shall be pressure rated up to 200 P.S.I. at 150 degrees F.

b. The valve shall have a 600-pound test fabric reinforced rubber diaphragm assembly with self-cleaning stainless steel screen.

c. Remote control valve body and bonnet shall be brass and the valve shall have a stainless steel control/ shut-off stem and manual operator.

Manufactures: Rainbird PESB-PRS, Hunter ICV-FS or approved equal.

**7. Master Control Valves**

a. The master control valve shall be a switch-able normally closed or open 24 VAC solenoid actuated globe pattern, spring loaded diaphragm type. The valve shall have up to 220 P.S.I. at 150 degrees F. pressure rating.

b. The body bonnet shall be plastic and the valve shall have a stainless steel control shut-off stem and manual operator.

c. The valve shall have a 600-pound test fabric reinforced rubber diaphragm assembly with self-cleaning stainless steel screen.

Manufactures: Toro P220 or approved equal.

**8. Flow Meter**

a. Flow meter shall be constructed of a schedule 80 tee with a solid state o-ring sealed epoxy fused sensor housing and nylon impeller.

b. Flow meter must be installed and wired per manufacturer's specifications.

Manufacture: Calsense FM

**9. Rain Sensor**

a. Rain sensor shall be a heavy-duty plastic container with epoxy sealed electronics installed within a 1/8-inch thick steel enclosure. Mount sensor on controller enclosure or building eave per manufacturer's specifications.

Sensor shall be wired per manufacturer's specification.

Manufacture: WCS Rainguard

**10. Basket Strainer**

a. Basket strainer shall be manufactured with a bronze body with an 80-mesh filtration element with a stainless steel basket.

Manufacture: Hayward or approved equal.

**11. Booster Pump**

a. Booster pump shall be as manufactured by Barrett Engineered Pumps, San Diego, California (619) 232-7867. The engineer shall determine pump.

**12. Filtration Equipment**

a. Filter shall be Turbo-Clean in filter available from Amiad Filtration Systems Inc. (800) 969-4055.

Specify filter at P.O.C. and install per filter detail.

**13. Automatic Controller**

a. The controller shall operate on a minimum of 120 volts A.C. power input and shall be capable of operating up to four 5.5 VAC 24 volt A.C. remote control valves at once. The controller shall have a reset circuit breaker to protect the controller from overloading.

b. The controller shall have independent programmable stations. The controller-programming schedule shall be capable of allowing four automatic start times per day on four separate programs. Station timing shall be variable from 1 to 99 minutes. The controller must have a water budgeting function to allow increasing or decreasing of watering times for all stations at once.

c. The controller shall have a master valve/remote pump start circuit for use with a master valve to pressurize the system when the programmed cycle starts to activate a remote pump start relay to run the pump during the programmed cycle.

d. The controller shall have manual watering capabilities for single station operation at any time with out changing programmed times.

e. The controller shall have a factory installed backup program for standby operation and a backup battery to maintain the programs during power loss.

f. Install one extra 1-1/2" inch conduit to controller for future use.

Manufacture: Calsense ET-2000. Contact Bob Moxley with Calsense (800) 572-8608.

**14. Controller Enclosure**

a. All controllers installed outside must be mounted inside a stainless steel enclosure with lockable-hinged doors.

b. The enclosure shall have one full time 120 VAC GFCI type circuit with on/off switch and pigtail connection for remote control use.

Manufacture: Calsense SSE.

**15. Control Wiring**

a. All control wiring for connections between remote control valves and controller shall be direct burial AWG-F wire installed in accordance with manufacturer's specifications.

b. All splices shall be sealed with waterproof connectors and waterproof sealant.

Manufactures: Dri-Splice or approved equal.

c. Wiring shall be buried adjacent to mainline wherever possible and for more than one wire they shall be bundled at every ten feet using black electrical tape.

d. Expansion curl shall be provided within three feet of each connection and at all changes in direction. Provide a two-foot expansion loop for every 100 feet of run.

e. Wire size shall not be less than #14 gauge.

f. Control wires shall be black in color. If additional controllers are installed provide different color common wires for each controller.

g. Common wire shall be white in color. If additional controllers are installed provide white wire with colored stripe. Stripe to be same color as control wire color.

h. Contractor shall provide one extra wire for every five valves and two extra wires shall be provided for every valve in any isolated area and the extra wires shall extend past the last valve in a group. Extra wires shall be orange in color and looped in every valve box and made accessible for future use if needed.

i. No wire splices shall be permitted unless run is longer than 2500 feet or approved by Owner's representative.

**16. Valve Boxes**

a. Rectangular valve boxes shall be 9-1/2 inch wide by 16 inch long and 11 inch high. Round valve boxes shall be 10-inch diameter and 10 1/4 inch. All valve boxes shall be constructed of rigid polyolefin.

b. Valve boxes shall have locking covers secure with a 3/8-inch stainless steel bolt and washer.

c. Rectangle valve boxes shall be used for control valves, master control valves, pressure regulators, flow sensors, wye strainers, basket strainers ball valves, butterfly valves and pull boxes.

d. Round valve boxes shall be used for quick coupler valves.

e. All valve boxes to be green in color unless otherwise specified for use of reclaimed water. All valve boxes for reclaimed water shall be purple in color and bare the reclaimed water warnings as well as the international "Do Not Drink" symbol.

f. Heat brand all box lids with the appropriate two-inch high identification letters and/or numbers.

g. All valve boxes shall receive landscape fabric. Landscape fabric shall be constructed of 5.0 oz. weight proven polypropylene weed barrier with burst strength of 225 P.S.I. and capable of 12 gallons per minute of water flow and puncture strength of 60 lbs. Dewitt Pro, Mirfy or approved equal.

h. All valve boxes shall receive 2 cubic feet of 3/4-inch gravel per plan.

Manufactures: Carson, Brooks, or approved equal.

**17. General Piping**

a. Pressure line from point of connection to backflow prevention device shall be brass or Type K copper

b. Pressure lines 2" and smaller after backflow prevention device shall be Schedule 40 solvent weld PVC

c. Pressure lines 2-1/2 inch to 3 inch after backflow prevention device shall be Class 315 solvent-weld P.V.C.

d. Pressure lines 1-1/2 inch and smaller after backflow prevention device shall be Schedule 40 solvent-weld P.V.C.

e. Pressure lines 4 inch and larger after backflow device shall be Class 200 bell and gasket P.V.C.

f. Lateral lines 1-1/2 inch and smaller shall be Schedule 40 solvent-weld P.V.C.

g. Lateral lines 2 inch and larger shall be Class 315 solvent-weld P.V.C.

h. All pipe and fittings shall bear the markings of the manufacturer's name, nominal pipe size, pressure rating P.S.I., NSF, schedule or class and date of extrusion.

**S A**

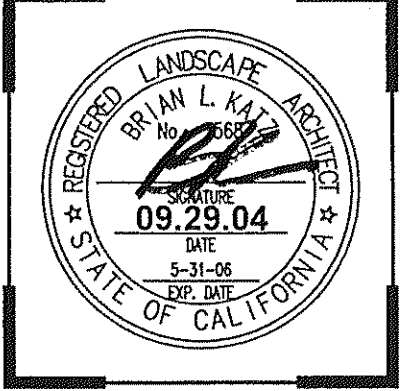
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3/10/04	IRRIGATION CONTROLLER CLARIFICATION	MM	MM
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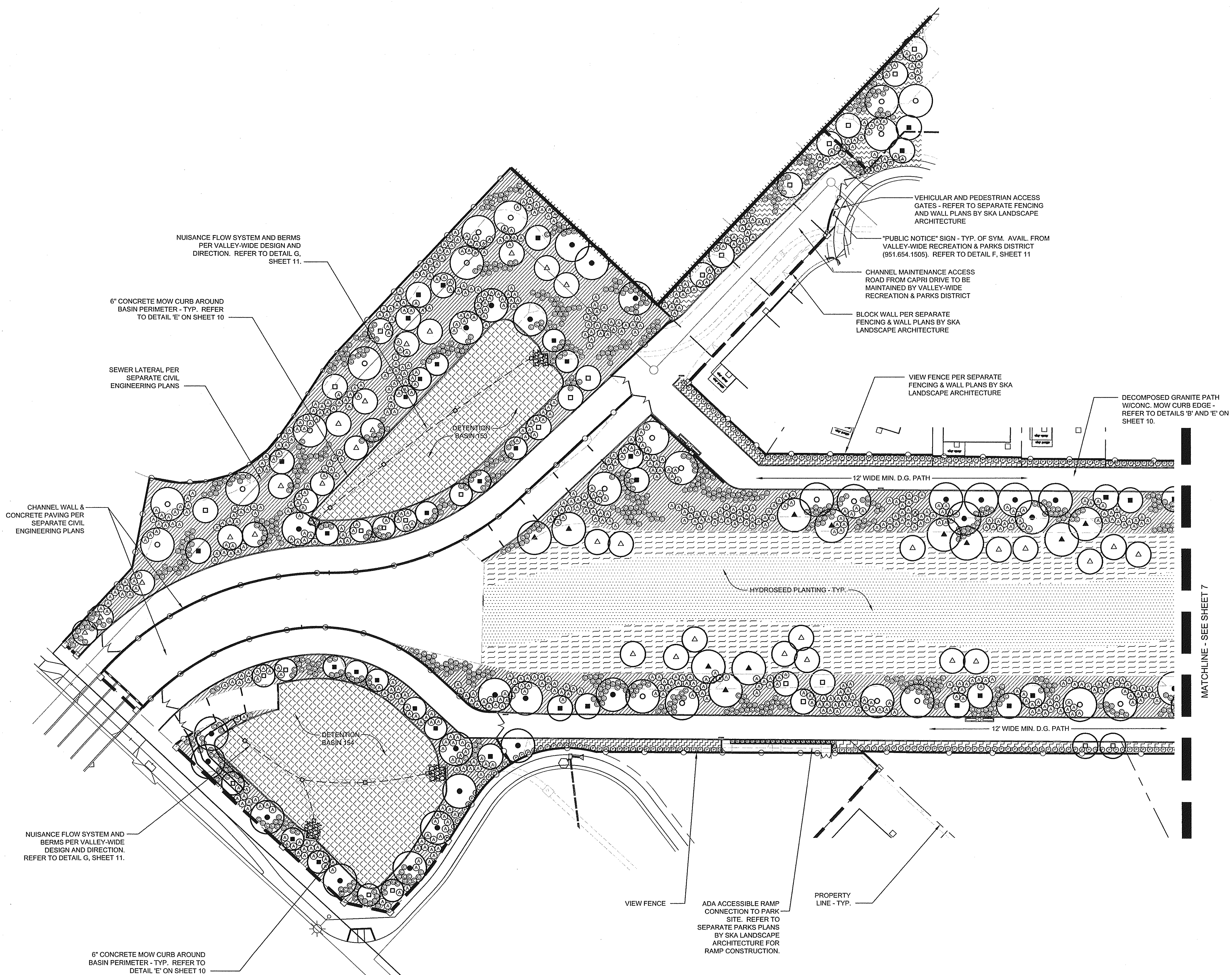
**IRRIGATION NOTES**



Date:	7/23/03
Scale:	N.T.S.
Drawn by:	STAFF
Checked by:	JO
Job No:	02-065



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SYMBOL	BOTANICAL NAME / COMMON NAME	SIZE / SPACING
TREES (CENTER SYMBOL ONLY)		
■	ALBIZIA JULBRISSIN/ MIMOSA TREE	15 GAL.
□	BRACHYCHTON POPULNEUS/ BOTTLE TREE	15 GAL.
●	LIQUIDAMBAR STYRACIFLUA 'BURGUNDY' AMERICAN SWEET GUM	15 GAL.
○	QUERCUS AGRIFOLIA/ COAST LIVE OAK	15 GAL.
▲	PLATANUS RACEMOSA/ CALIFORNIA SYCAMORE	15 GAL.
△	LAGERSTROEMIA 'TUSCARORA'	15 GAL.
SHRUBS/ GROUND COVER		
⊙	AGAPANTHUS AFRICANUS / LILY-OF-THE-NILE	5 GAL./24" O.C.
⊙	ACACIA REDOLENS	1 GAL./10' O.C.
⊙	COTONEASTER PARNEYI	5 GAL./10' O.C.
⊙	PHOTINIA X FRASERI	5 GAL. / 4' O.C.
⊙	LONICERA J. 'HALLIANA' / HALL'S HONEYSUCKLE	1 GAL. / 3' O.C.

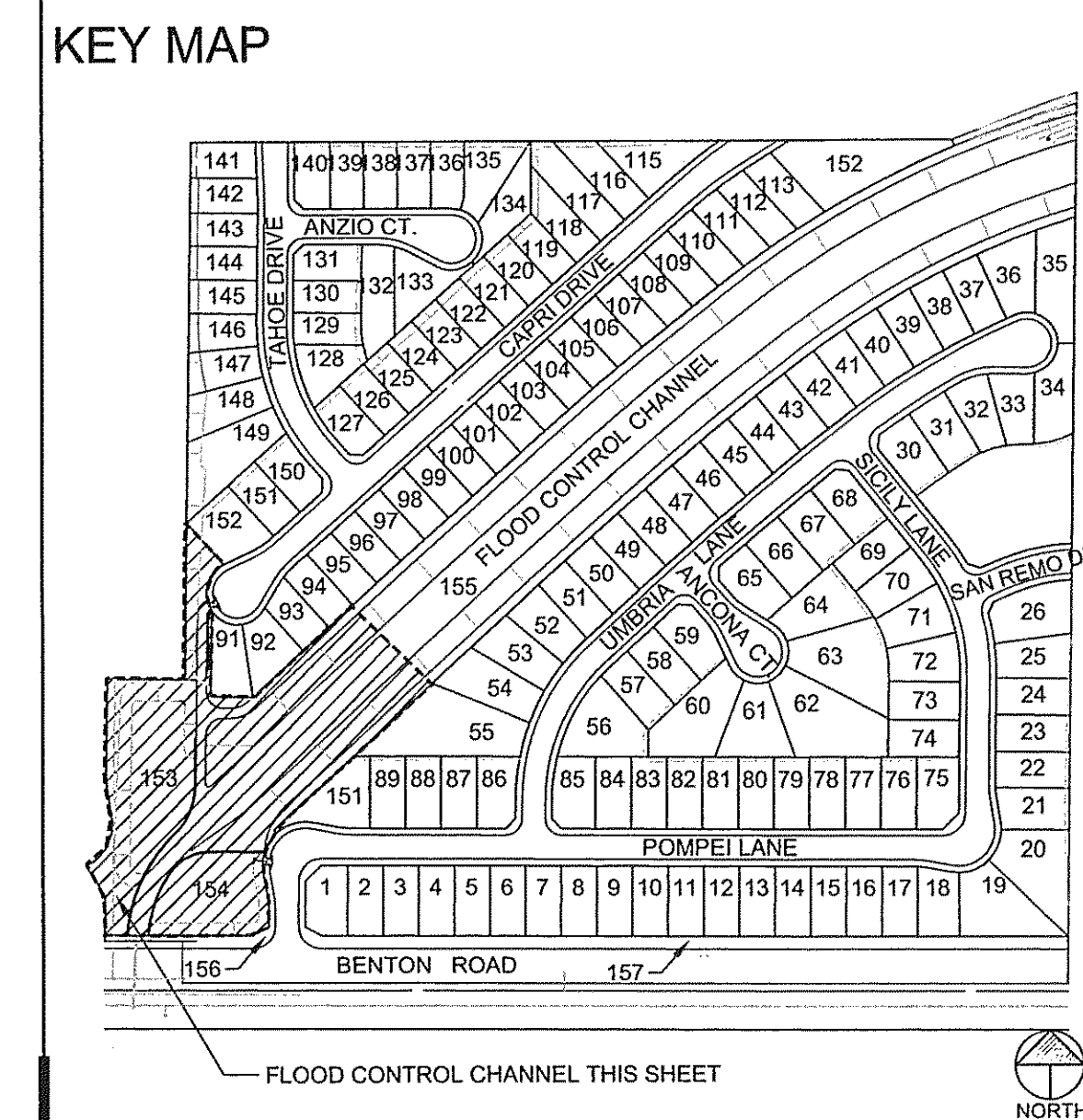
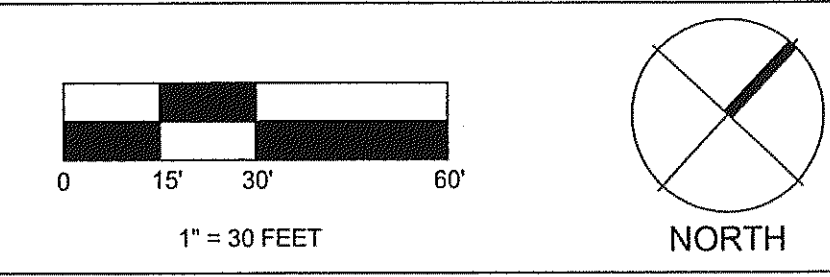
SYMBOL	HYDROSEED MIX	SEE HYDROSEED LEGEND
▨	CHANNEL NATIVE RIPARIAN SEED MIX (13' TO 33')	SEE HYDROSEED LEGEND
▨	FLOOD CONTROL CHANNEL SEED MIX (40' CONSERVATION EASEMENT)	SEE HYDROSEED LEGEND
▨	MYOPORUM P. 'PINK' / MYOPORUM	FLATS - 12" O.C.
▨	DETENTION BASIN SEED MIX	SEE HYDROSEED LEGEND

HYDROSEED LEGEND	
CHANNEL NATIVE RIPARIAN SEED MIX	
BOTANICAL NAME / COMMON NAME	LBS./ACRE
SCIRPUS CALIFONICUS/ CALIF. BULRUSH	1 LBS.
SCIRPUS ACUTUS/ HARD-STEM BULRUSH	4 LBS.
TYPHA DOMINGENSIS/ SOUTHERN CATTAIL	2 LBS.
JUNCUS MEXICANUS/ MEXICAN RUSH	2 LBS.
ARTEMISIA DOUGLASIANA/ MUGWORT	2 LBS.
DISTICHLIS SPICATA/ SALTGRASS	6 LBS.
ELEOCHARIS MACROSTACHYA/ CREEPING SPIKERUSH	2 LBS.
NASELLA PULCHRA/ PURPLE NEEDLEGRASS	8 LBS.

FLOOD CONTROL CHANNEL SEED MIX	
BOTANICAL NAME / COMMON NAME	LBS./ACRE
FESTUCA R. 'MOLATE' CALIF. NATIVE CREEPING RED	10 LBS.
SCIRPUS CALIFONICUS/ CALIF. BULRUSH	1 LBS.
SCIRPUS ACUTUS/ HARD-STEM BULRUSH	4 LBS.
TYPHA DOMINGENSIS/ SOUTHERN CATTAIL	2 LBS.
JUNCUS MEXICANUS/ MEXICAN RUSH	2 LBS.

DETENTION BASIN SEED MIX	
BOTANICAL NAME / COMMON NAME	LBS./ACRE
CYNODON DACTYLON/BERMUDA GRASS	4 LBS.
FESTUCA RUBRA - RED FESCUE	6 LBS.

- EROSION CONTROL NOTES:**
- CONTRACTOR SHALL APPLY COUNTY OF RIVERSIDE & VALLEY WIDE MAINTENANCE DISTRICT EROSION CONTROL MEASURES AS REQUIRED PRIOR TO PLANTING OF SLOPES.
  - ALL PLANTING AND IRRIGATION SHALL COMPLY WITH VALLEY WIDE STANDARDS AND COUNTY OF RIVERSIDE DISTRICT 3 STANDARDS.



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**VALLEY WIDE RECREATION & PARK DISTRICT**

**APPROVED**

Samuel V. Goapp Date: 10-5-04

**S A**

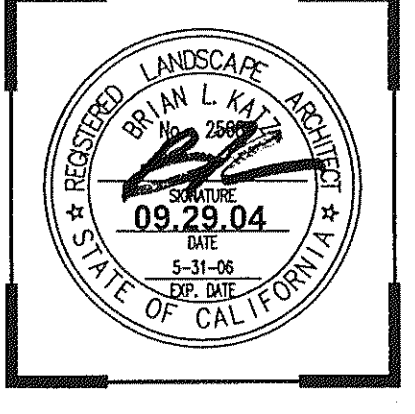
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9/1/03	REVISED PER VALLEY WIDE PLAN CHECK COMMENTS DATED 8/27/03	JA
1/20/04	REVISED PER VALLEY WIDE PLAN CHECK COMMENTS DATED 1/20/04	MM
3/8/04	REVISED PER VALLEY WIDE PLAN CHECK COMMENTS DATED 2/27/04	MM
3/10/04	IRRIGATION & PLANTING CLARIFICATIONS FOR NEW DET. BASIN ACCESS ROAD	MM
4/15/04	REVISED PER VALLEY WIDE PLAN CHECK COMMENTS DATED 02/24/04	MM
9/1/04		MM

**Benton Creek Channel  
Flood Control & Detention Basin  
RHEINGANS, tract 30167  
COUNTY OF RIVERSIDE  
KB HOME - COASTAL**

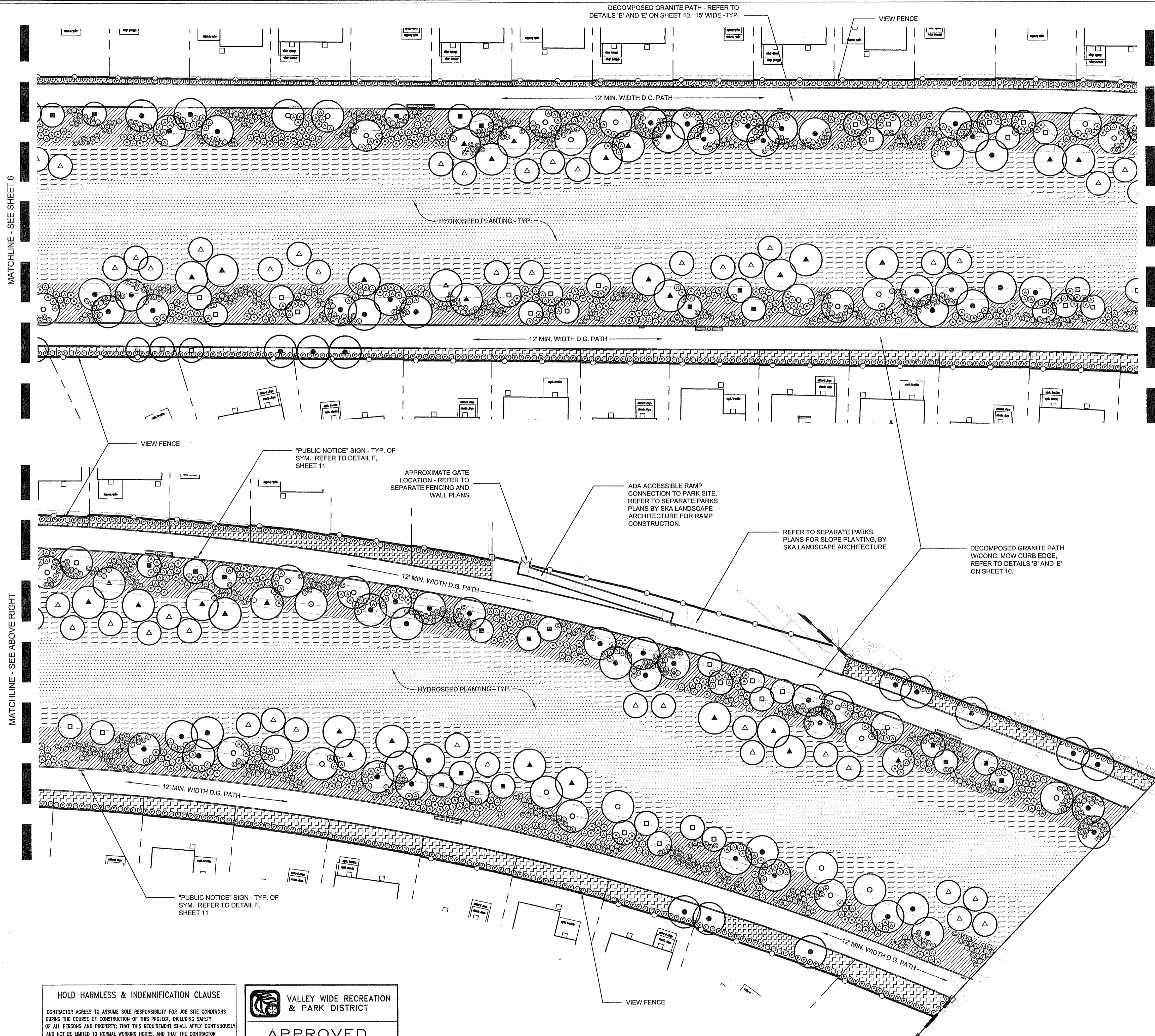
**PLANTING PLAN**



Date: 7/23/03  
Scale: 1"=30'-0"  
Drawn by: STAFF  
Checked by: JO  
Job No: 02-065  
Sheet No.  
7  
Of 14 Sheets



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### PLANT LEGEND

SYMBOL	BOTANICAL NAME / COMMON NAME	SIZE / SPACING
TREES (CENTER SYMBOL ONLY)		
■	ALBIZIA JULIBRISIN/ MIMOSA TREE	15 GAL.
□	BRACHYCHITON POPULNEUS/ BOTTLE TREE	15 GAL.
●	LIQUIDAMBAR STYRACIFLUA 'BURGUNDY' AMERICAN SWEET GUM	15 GAL.
○	QUERCUS AGRIFOLIA/ COAST LIVE OAK	15 GAL.
▲	PLATANUS RACEMOSA/ CALIFORNIA SYCAMORE	15 GAL.
△	LAGERSTROEMIA 'TUSCARORA'	15 GAL.
SHRUBS/ GROUNDCOVER		
⊙	AGAPANTHUS AFRICANUS / LILY-OF-THE-NILE	5 GAL/24" O.C.
⊙	ACACIA REDOLENS	1 GAL/10' O.C.
⊙	COTONEASTER PARNEYI	5 GAL/10' O.C.
⊙	PHOTINIA X FRASERI	5 GAL / 4' O.C.
⊙	LONICERA J. 'HALLIANA' / HALL'S HONEYSUCKLE	1 GAL / 3' O.C.
HYDROSEED MIX		
▨	CHANNEL NATIVE RIPARIAN SEED MIX (13' TO 33')	SEE HYDROSEED LEGEND
▨	FLOOD CONTROL CHANNEL SEED MIX (40' CONSERVATION EASEMENT)	SEE HYDROSEED LEGEND
▨	MYOPORUM P. 'PINK' / MYOPORUM	FLATS - 12" O.C.
▨	DETENTION BASIN SEED MIX	SEE HYDROSEED LEGEND

### HYDROSEED LEGEND

BOTANICAL NAME / COMMON NAME	LBS./ACRE
SCIRPUS CALIFONICUS/ CALIF. BULRUSH	1 LBS.
SCIRPUS ACUTUS/ HARD-STEM BULRUSH	4 LBS.
TYPHA DOMINGENSIS/ SOUTHERN CATTAIL	2 LBS.
JUNCUS MEXICANUS/ MEXICAN RUSH	2 LBS.
ARTEMISIA DOUGLASIANA/ MUGWORT	2 LBS.
DISTICHLIS SPICATA/ SALTGRASS	6 LBS.
ELEOCHARIS MACROSTACHYA/ CREEPING SPIKERUSH	2 LBS.
NASELLA PULCHRA/ PURPLE NEEDLEGRASS	8 LBS.

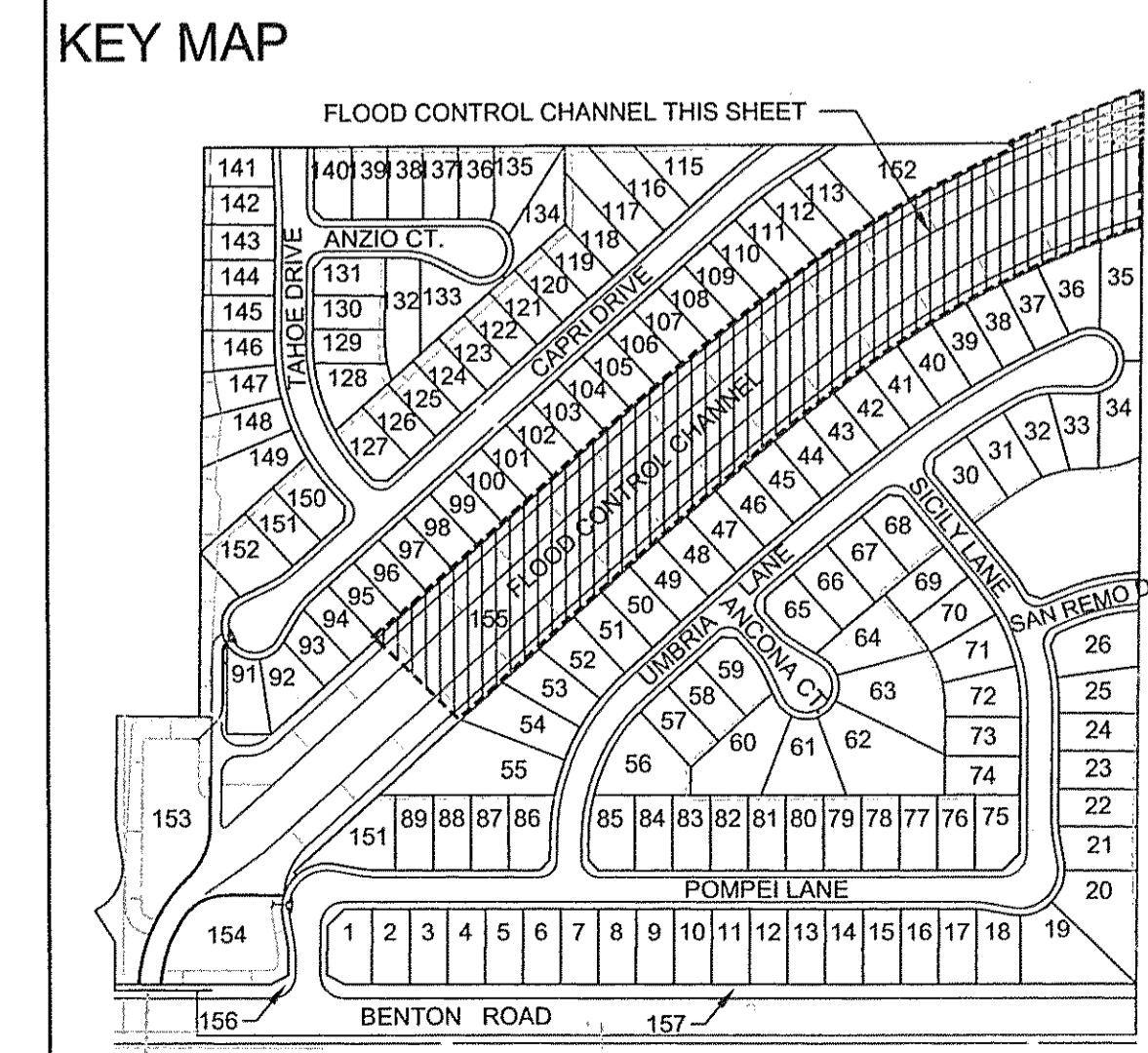
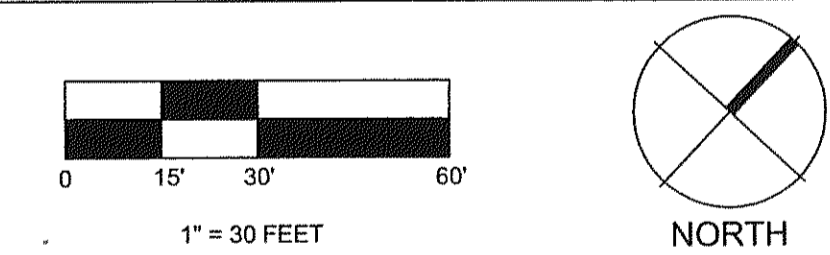
### FLOOD CONTROL CHANNEL SEED MIX

BOTANICAL NAME / COMMON NAME	LBS./ACRE
FESTUCA R. 'MOLATE' CALIF. NATIVE CREEPING RED	10 LBS.
SCIRPUS CALIFONICUS/ CALIF. BULRUSH	1 LBS.
SCIRPUS ACUTUS/ HARD-STEM BULRUSH	4 LBS.
TYPHA DOMINGENSIS/ SOUTHERN CATTAIL	2 LBS.
JUNCUS MEXICANUS/ MEXICAN RUSH	2 LBS.

### DETENTION BASIN SEED MIX

BOTANICAL NAME / COMMON NAME	LBS./ACRE
CYNODON DACTYLON/BERMUDA GRASS	4 LBS.
FESTUCA RUBRA - RED FESCUE	6 LBS.

- #### EROSION CONTROL NOTES:
- CONTRACTOR SHALL APPLY COUNTY OF RIVERSIDE & VALLEY WIDE MAINTENANCE DISTRICT EROSION CONTROL MEASURES AS REQUIRED PRIOR TO PLANTING OF SLOPES.
  - ALL PLANTING AND IRRIGATION SHALL COMPLY WITH VALLEY WIDE STANDARDS AND COUNTY OF RIVERSIDE DISTRICT 3 STANDARDS.



**HOLD HARMLESS & INDEMNIFICATION CLAUSE**

CONTRACTOR AGREES TO ASSUME SOLE 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/DEVELOPER, THE COUNTY OF LOCAL JURISDICTION AND THE LANDSCAPE DESIGNER HARMLESS FROM ANY AND ALL LIABILITY REAL OR ALLEGED, IN CONNECTION WITH THE PERFORMANCE OF WORK ON THIS PROJECT, EXCEPTING FOR LIABILITY ARISING FROM SOLE NEGLIGENCE OF THE OWNER/DEVELOPER, COUNTY OF LOCAL JURISDICTION AND THE LANDSCAPE DESIGNER.

**VALLEY WIDE RECREATION & PARK DISTRICT**

**APPROVED**

Samuel W. Soban Date: 10-5-04

**S&K**

LANDSCAPE ARCHITECTURE  
SITE PLANNING

6153 Fournount Ave. Suite 260  
San Diego, CA 92120  
T 619.584.5444 F 619.584.5448  
mail@skainc.com

DATE	REVISIONS	BY	JA	MM	MM	MM	MM	MM
9/11/03	REVISED PER VALLEY-WIDE PLAN CHECK	JA						
1/20/04	COMMENTS DATED 02/20/03	MM						
3/8/04	REVISED PER VALLEY-WIDE PLAN CHECK	MM						
3/10/04	COMMENTS DATED 2/27/04	MM						
4/15/04	IRRIGATION CONTROLLER CLARIFICATION	MM						
9/1/04	NEW DET. BASIN ACCESS ROAD CHECK	MM						
	COMMENTS DATED 08/24/04	MM						

**Benton Creek Channel  
Flood Control & Detention Basin  
RHEINGANS, tract 30167  
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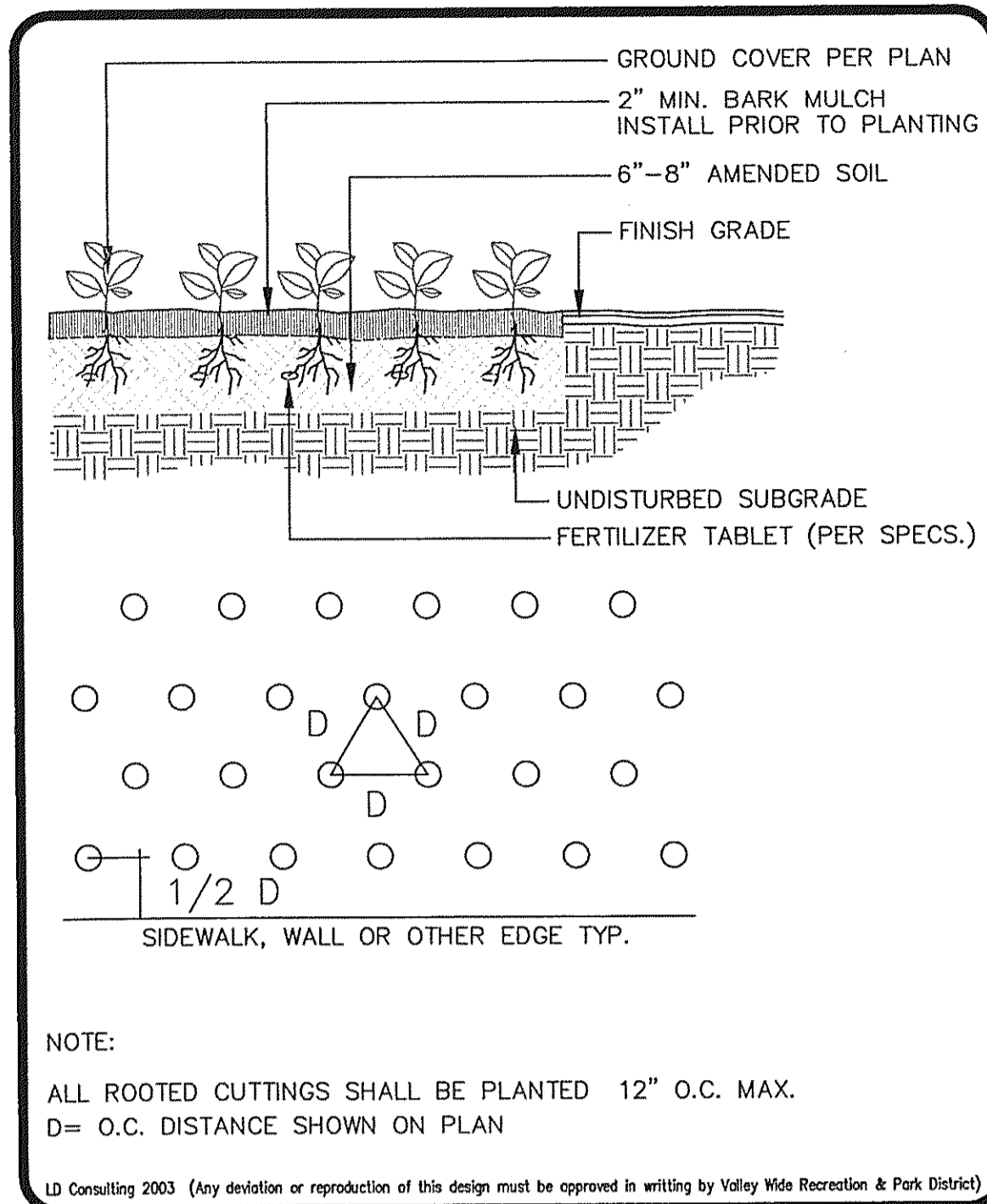
**PLANTING PLAN**

REGISTERED LANDSCAPE ARCHITECT  
BRIAN L. KAY  
No. 2527  
09.29.04  
5-31-05  
STATE OF CALIFORNIA

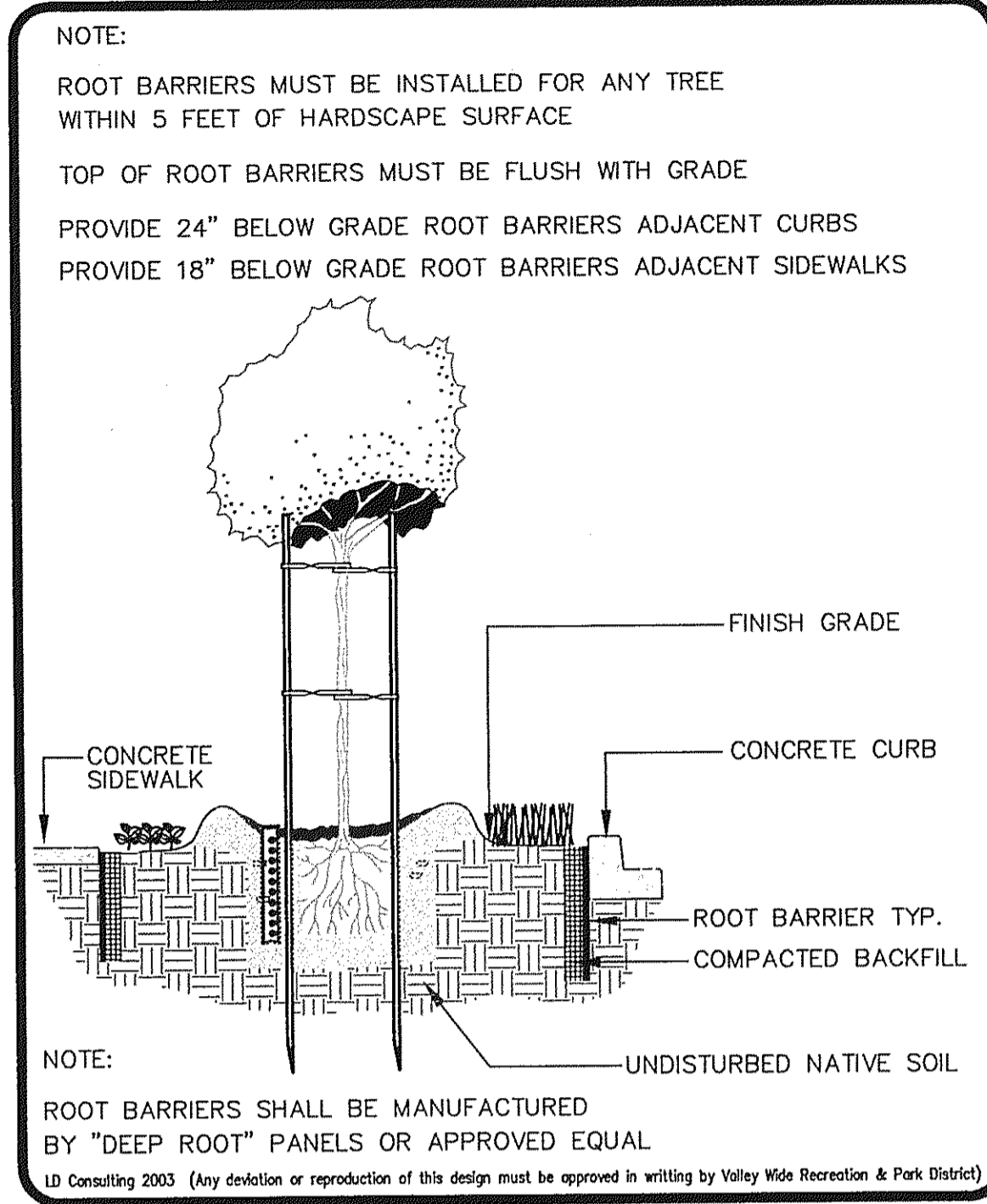
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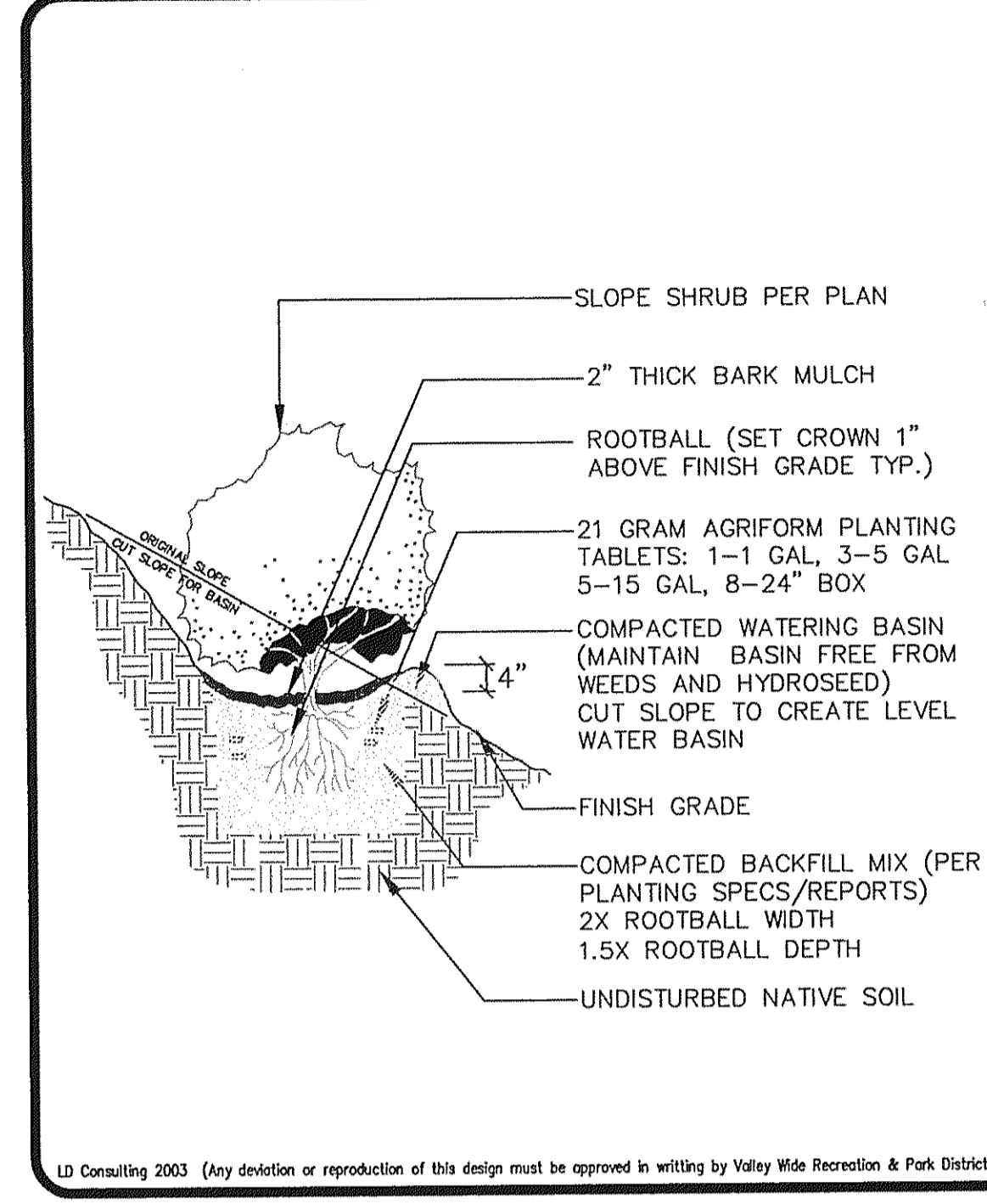
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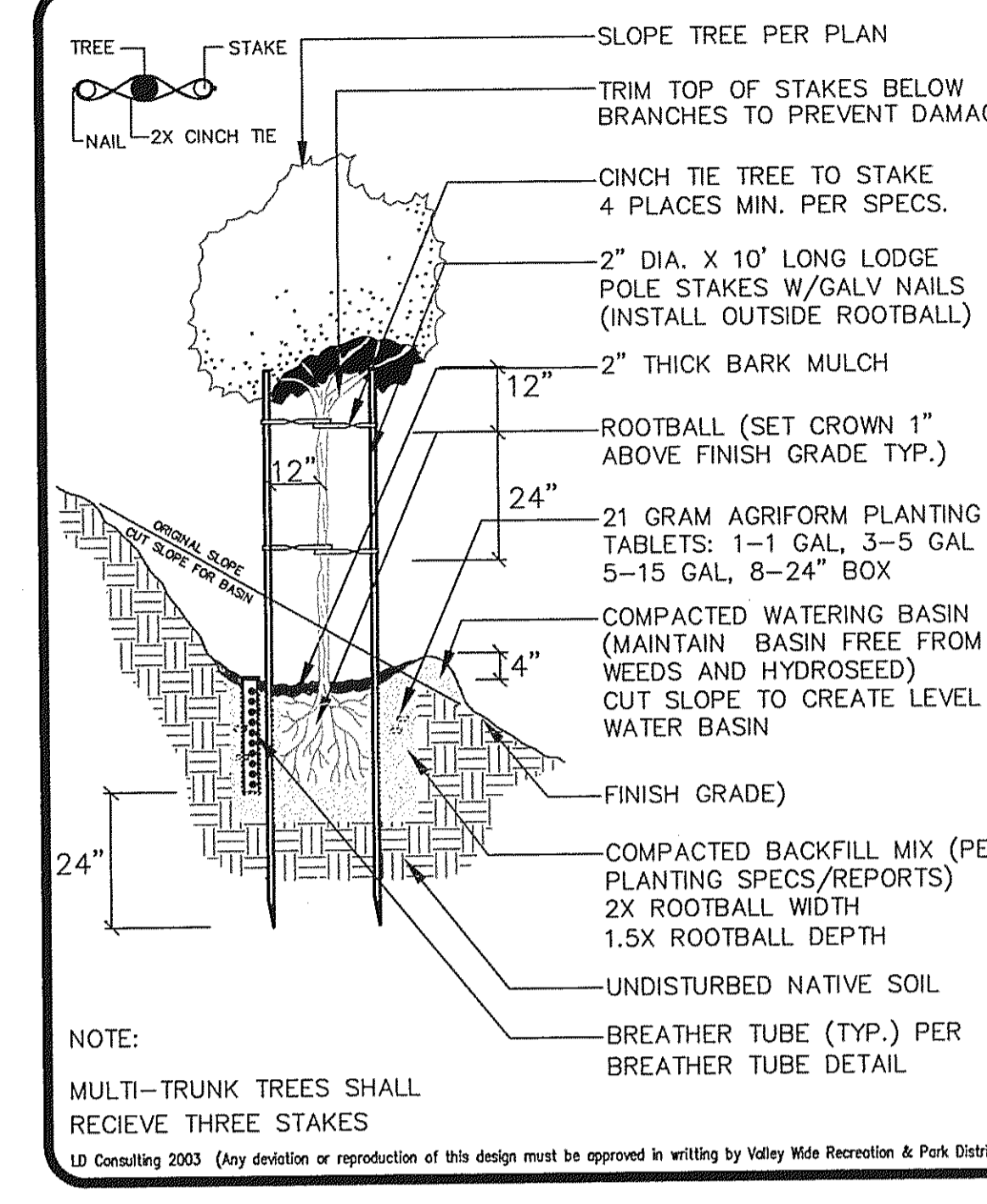
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5/03  
**GROUND COVER PLANTING** | PL-10



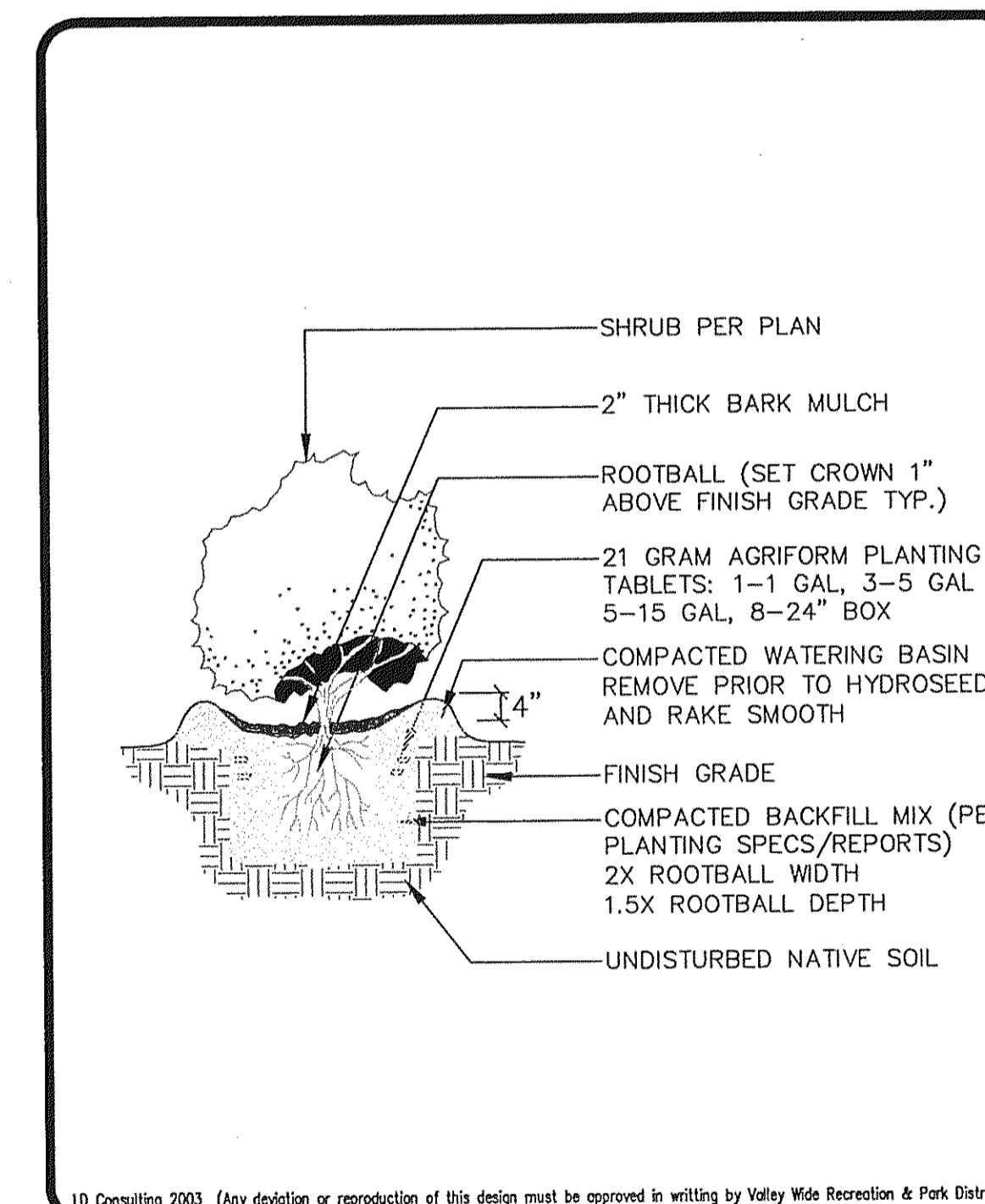
**VALLEY WIDE RECREATION**  
5/03  
**ROOT BARRIER** | PL-9



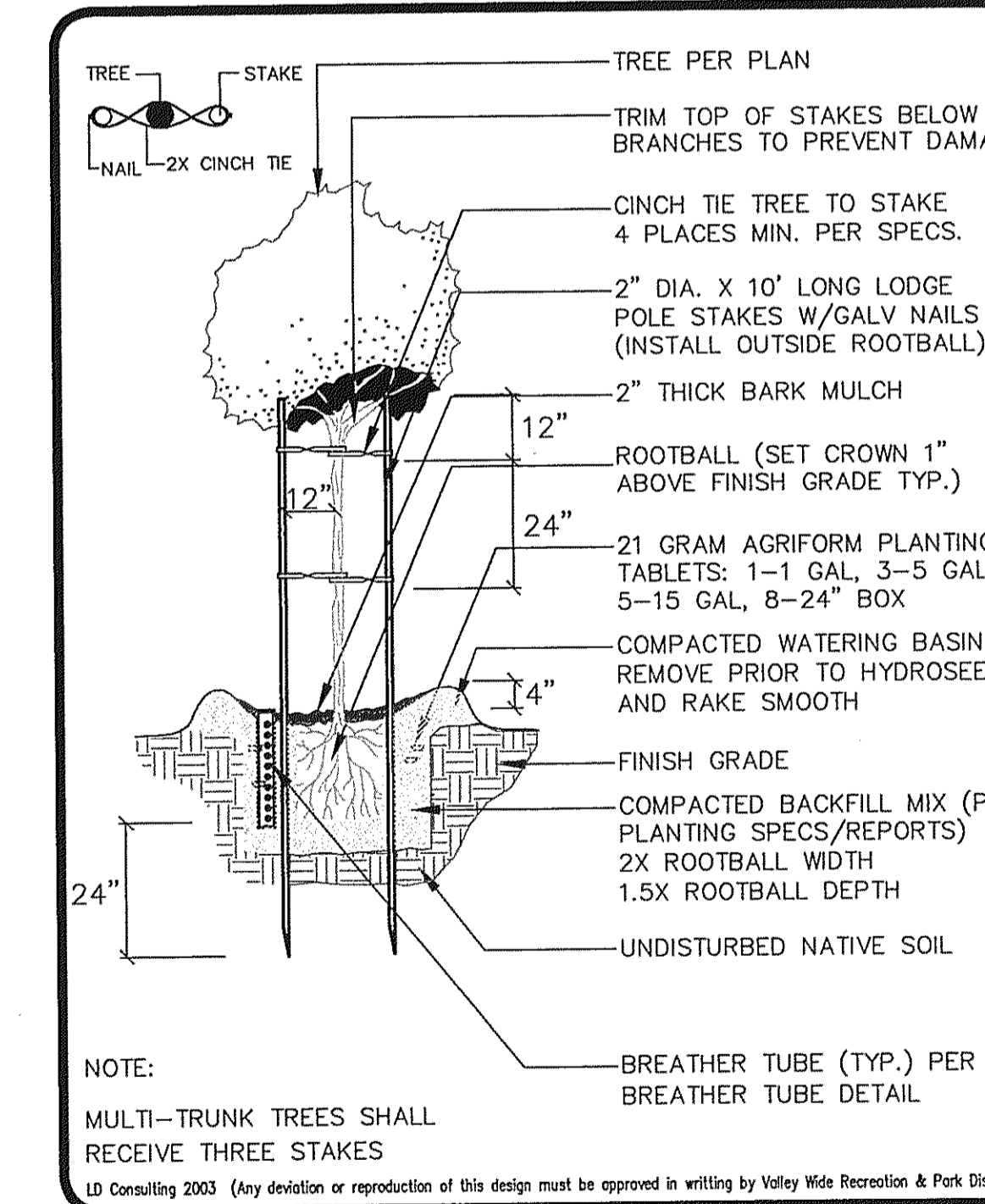
**VALLEY WIDE RECREATION**  
5/03  
**SLOPE SHRUB PLANTING** | PL-4



**VALLEY WIDE RECREATION**  
5/03  
**SLOPE TREE PLANTING** | PL-2



**VALLEY WIDE RECREATION**  
5/03  
**SHRUB PLANTING** | PL-5



**VALLEY WIDE RECREATION**  
5/03  
**TREE PLANTING** | PL-3

**PLANTING NOTES**

- ALL LEVEL SHRUB AREAS PLANTED WITH FLATTED GROUND COVER SHALL BE TOP DRESSED WITH A 1" LAYER OF SHREDDED BARK MULCH. ALL OTHER LEVEL SHRUB AREAS SHALL RECEIVE A 2" LAYER. OMIT BARK MULCH LAYER IN ANNUAL COLOR PLANTING AREAS WHERE APPLICABLE. LEAVE A 12" DIAMETER AREA AROUND EACH TREE AND SHRUB MAINSTEM FREE OF BARK MULCH.
- ALL PLANTED AREAS SHALL BE RAKED CLEAN OF ALL EXTRANEIOUS MATERIALS. FINISH GRADES AND SURFACE DRAINAGE PATTERNS SHALL BE RESTORED TO THE APPROVED SPECIFIED GRADING PLAN AFTER TREE AND SHRUB INSTALLATION AND PRIOR TO GROUND COVER OR BARK INSTALLATION.
- ALL PLANT MATERIAL SHALL CONFORM TO NURSERYMAN'S STANDARDS FOR SIZE AND HEALTH AND SHALL BE APPROVED BY THE OWNER'S AUTHORIZED REPRESENTATIVE PRIOR TO PLANTING. THE CONTRACTOR SHALL SUBMIT PHOTOS OF ALL BOX SIZE TREES FOR APPROVAL BY THE OWNER'S AUTHORIZED REPRESENTATIVE. SHRUBS WILL BE REVIEWED ON SITE.
- ALL LANDSCAPE CONSTRUCTION INSTALLATION AND PRACTICES SHALL COMPLY WITH ALL LOCAL AND REGIONAL STANDARDS AND IF APPLICABLE, THE CLCA'S STANDARDS FOR LANDSCAPE CONSTRUCTION AND MAINTENANCE.
- ANY PLANT MATERIAL DELETIONS OR SUBSTITUTIONS SHALL BE APPROVED BY THE OWNER'S AUTHORIZED REPRESENTATIVE.
- ALL PLANT MATERIAL SHALL BE INSTALLED ACCORDING TO THE DETAILS AND NOTES SHOWN ON THESE PLANS.
- ALL TREES SHALL BE LOCATED MIN. 6' (FEET) FROM PROPERTY LINE FENCING AND WALLS, HARDSCAPE SURFACES, BUILDING EAVES AND SUBSURFACE UTILITIES INCLUDING DRAINAGE LINES, DOMESTIC SUPPLY LINES AND SEWER LINES WHEREVER POSSIBLE/APPLICABLE. ANY TREE PLANTED WITHIN 5' (FEET) OF HARDSCAPE SURFACES SHALL RECEIVE A ROOT BARRIER (BIO-BARRIER) INSTALLED PER MANUFACTURER'S DETAILS AND SPECIFICATIONS, ADJACENT AND PARALLEL TO THE HARDSCAPE AND/OR UTILITY AND 5' BEYOND THE TREE TRUNK IN BOTH DIRECTIONS. IN CASE OF DISCREPANCIES IMMEDIATELY NOTIFY OWNER'S AUTHORIZED REPRESENTATIVE. IN ADDITION, TREES SHALL BE LOCATED MIN. 3' (FEET) FROM ALL FIRE HYDRANTS, MAIL BOXES, WATER METERS, AND SUBSURFACE UTILITIES INCLUDING TELEPHONE, ELECTRICAL AND CABLE TV, MIN. 8' (FEET) FROM THE DOOR SIDE OF ALL TRANSFORMER BOXES, MIN. 10' (FEET) FROM ALL EASEMENT BOUNDARIES, MIN. 10' (FEET) FROM ALL STREET LIGHTS, SIGNS AND POWER POLES. CONTRACTOR SHALL VERIFY ALL UTILITIES, EASEMENTS, HARDSCAPE AND EQUIPMENT PRIOR TO THE INSTALLATION OF TREES.
- REMOVE ALL VINE OR ESPALIER STAKES AND/OR TRELLISES AND ATTACH TO FENCE, WALL, POST OR VINE TRELLIS SHOWN ON PLAN.
- ALL PLANT BASINS SHALL RECEIVE SARVON SOIL PENETRANT. APPLY PER MANUFACTURER'S SPECIFICATIONS, OR AS DIRECTED IN THE AGRICULTURAL SOILS REPORT OBTAINED BY THE CONTRACTOR. SARVON AVAIL. THROUGH BUTLERS MILL AT (619) 263-6181.
- PRIOR TO CONSTRUCTION, CONTRACTOR SHALL CONTACT LOCAL UNDERGROUND SERVICE ALERT.
- IF ANY EXISTING HARDSCAPE OR LANDSCAPE INDICATED ON THE APPROVED PLANS IS DAMAGED OR REMOVED DURING DEMOLITION OR CONSTRUCTION, IT SHALL BE REPAIRED AND/OR REPLACED IN KIND AND EQUIVALENT SIZE PER THE APPROVED PLANS.
- ALL BUILDINGS AND HARDSCAPE SHOWN ON THESE PLANS IS BASED UPON THE MOST CURRENT ARCHITECTURAL SITE PLAN RECEIVED FROM THE ARCHITECT, CIVIL ENGINEER AND/OR OWNER. LANDSCAPE CONTRACTOR SHALL VERIFY HARDSCAPE LAYOUT (INCLUDING BUILDING FOOTPRINTS, WALKWAYS, STAIRWAYS, FENCING, UTILITIES, ETC.).

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**VALLEY WIDE RECREATION & PARK DISTRICT**

**APPROVED**

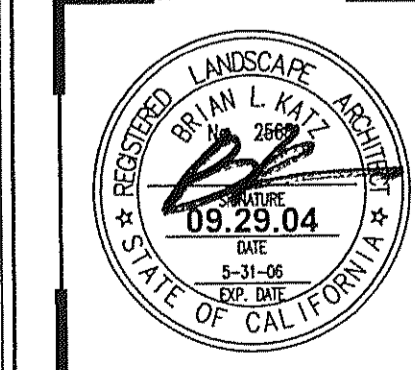
Samuel W. Goepf  
Date: 10-5-04

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3/10/04	IRRIGATION CONTROLLER CLARIFICATION	MM
4/15/04	IRRIGATION & PLANTING ADJUSTMENTS FOR NEW DESIGN	MM
9/1/04	REVISED PER VALLEY-WIDE PLAN CHECK	MM

**Benton Creek Channel  
Flood Control & Detention Basin  
RHEINGANS, tract 30167  
COUNTY OF RIVERSIDE  
KB HOME - COASTAL**

**PLANTING DETAILS**



Date: 7/23/03  
Scale:  
Drawn by: STAFF  
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Job No: 02-065  
Sheet No. 9  
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**SECTION 02800**

**PLANTING**  
**PLANTING SPECIFICATIONS GENERAL**

**1. General Requirements**

- a. Permits: Contractor shall obtain and pay for any permits required.
- b. All irrigation shall be completed, approved and under automatic operation for a minimum of 7 days prior to any planting.

**2. Scope Of Work**

- a. The intent of the drawings and specifications is to indicate the processes required for the installation of a complete planting without additional cost in labor and material to the Owner.

**3. Inspections**

- a. Request for inspections must have 48 hour notice in advance.
- b. Contractor must be on site for all inspections.
- c. Any work not completed when inspector arrives which was requested for, shall be billed to the contractor at the current inspector's rate
- d. Any work completed without inspection or approval shall be removed, exposed or replaced at the cost of the contractor.
- e. Contractor shall call for inspection for the following items:
  - i. Final grading
  - ii. Weed-abatement Observation
  - iii. Tree and shrub layout
  - iv. Tree and shrub planting pits
  - v. Finish grade prior to hydro-seeding
  - vi. Final Inspection

**4. Submittals**

- a. All submittals shall be submitted within 15 days after receipt of executed contract.
- b. Contract shall submit the follow items but not limited to:
  - i. Plant material proof of purchase with listed nurseries and material sizes for approval
  - ii. All soil amendments
  - iii. Bark mulch
  - iv. Soil report
  - v. Labels for all herbicide and fertilizers used
  - vi. Hydro-seed mix

**PLANTING SPECIFICATIONS MATERIALS**

**1. Plant Material**

- a. All plant material shall be the same as specified in the drawings.
- b. Contractor shall tag one plant from each bundle or lot with the plant name in accordance with the recommendations of the American Association of Nurserymen.
- c. All plant material shall be free of pest, plant diseases abrasions or any other objectionable disfigurements.
- d. Plant material must show vigorous habit of growth that is normal for that particular species.

**2. Tree Stakes**

- a. Tree stakes shall be copper maphthanate, green color impregnated lodge pole pine.
- b. Tree stake shall be 2" in diameter 10 feet long
- c. tree ties shall be V.I.T. cinch ties or approved equal four per tree typ.
- d. tree ties shall be attached to lodge poles with galvanized nails per detail.

**3. Vine Ties**

- a. Vine ties shall be as specified in details

**4. Herbicides**

- a. Contractor shall submit labels of all herbicides used prior to application for approval.
- b. Contractor shall apply pre-emergent herbicide to all areas possible as recommended by a licensed pest control consultant.

**5. Concrete Mow Curb**

- a. Concrete mow curb shall be 2500 PSI concrete and as specified in detail.

**6. Redwood Header Board**

- a. Redwood header board shall be grade A fine redwood and as specified in detail.

**7. Plant Tablets**

- a. Planting tablets shall be as specified in detail.

**8. Soil Conditioners**

- a. All soil conditioner material shall be approved prior to ordering under this section.
- b. Soil conditioners shall be based on soil report recommendations.

ntract

**PLANTING SPECIFICATIONS EXECUTION**

**1. Installation**

- a. Contractor shall clean, remove legally dispose of all weeds, grasses including roots and construction debris under this section.
- b. Contractor shall be responsible for the protection and storage of all material for the project.
- c. All grades shall be as indicated on the drawings and must be +10%.

**2. Landscape Grading**

- a. The contractor shall complete grading and filling as needed or remove additional dirt, rock and debris over 3/4 inch in diameter within the top 3 inches in all turf and planter areas less than 3:1.
- b. Contractor shall bring all landscaped areas to finish grade.
- c. Flow lines shall be established to existing curbs and/or sidewalks.
- d. All landscape areas shall be sloped to provide positive drainage.

**3. Soil Preparation**

- a. Contractor shall rotor-till amendments into all turf and planter areas 3:1 or less throughout the first 6 inches.
- b. The following application rate is for bidding purposed only and is per 1000 square feet of planting area.
  - i. 4 cubic yards of soil conditioner
  - ii. 30 lbs. of commercial fertilizer approved by the Owner's representative
  - iii. 50 lbs. of agriculture grade gypsum
  - iv. 25 lbs. soil sulfur
- c. Actual soil preparation shall be based on the soil report.
- d. Soil samples shall be taken in the presence of the Owner's representative.
- e. Contractor shall submit soil samples to an approved laboratory testing facility.
- f. Contractor shall provide one soil report for every 50,000 square feet.
- g. Soil recommendations must be separated for turf, planter, slope and plant material backfill mix.

**4. Weed-abatement**

- a. Weed-abatement shall not commence until complete irrigation system is under complete automatic irrigation and has been approved.
- b. Upon completion of soil preparation the contractor shall complete the following:
  - i. Irrigate all area to be planted, sodded or seeded for a period of seven days to germinate all weed seeds.
  - ii. Cut watering and apply approved weed killer per manufacturer's recommendations and allow adequate time to complete kill.
  - iii. Repeat step one and two.
  - iv. Obtain approval of completed weed-abatement prior to any planting. Trees may be planted prior to weed-abatement process with the approval of the Owner's representative in writing.

**5. Layout**

- a. Contractor shall layout all tree and shrubs for approval from the Owner's representative prior to escavating any planting pits.
- b. Contractor shall no willfully layout any planting material where obstructions exist. The contractor shall notify the engineer to obtain direction.

**6. Planting**

- a. Planting shall be as shown in detail and as follows:
  - i. Escavate all planting pits to a diameter twice the size of container to be planted and 1 1/2 times the depth of container to be planted.
  - ii. Contractor shall scarify the side of planting pits if an auger is used with shovel or digging bar.
  - iii. Plant material shall be place in planting pit in a manner as not to disrupt the root ball and the crown shall be set aligned flush to grade.
  - iv. Provide 21 gram fertilizer tablets per detail.
  - v. Backfill all plant material with approved backfill mix.
  - vi. Contractor shall provide 5 gram fertilizer tablets to all rooted cuttings.

**7. Percolation Test**

- a. Contractor shall flood planting pits with water to test water penetration through the soil, if no penetration occurs the contractor shall auger 6 inches in diameter and 36 inches long and backfill with pea gravel, repeat water test and if water still does not penetrate the contractor shall notify the Owner's representative prior to planting.

**8. Sodded Turf**

- a. All sodded areas shall be semi dwarf fescue unless otherwise noted.
- b. Contractor shall evenly rake all sodded areas to level and remove all rocks 3/4 inch in diameter and larger.
- c. Contractor shall spread 16-20-0 commercial fertilizer to all sodded areas.
- d. Contractor shall lay sod immediately upon arrival.
- e. Sod must be laid along a straight line staggering each row like laying bricks and must be butted tightly together preventing any air pockets. Do not overlap edges.
- f. Sod shall be cut with a sharp knife and never pulled apart.
- g. Sod shall be rolled immediately after sod is installed.
- h. Sod must be watered thoroughly to a depth of 12 inches.
- i. Contractor shall monitor watering to prevent browning and fungus.
- j. Contractor shall take every measure possible to protect sod by providing temporary fencing if necessary at no additional cost.

**9. Turf Hydro-seeding**

- a. Hydro-seed seed mix shall be as indicated on the drawings.
- b. Contractor shall evenly rake all sodded areas to level and remove all rocks 3/4 inch in diameter and larger.
- c. Hydro-mix slurry shall be as follows:
  - i. Seed as specified
  - ii. Fiber 2,000 lbs. per acre
  - iii. M-Binder 100 lbs. acre
  - iv. Water 3,000 gal per acre or as required
  - v. Fertilizer/Soil Conditioner 1,100 lbs per acre
- d. Contractor shall monitor watering to prevent browning and fungus.
- e. Contractor shall take every measure possible to protect sod by providing temporary fencing if necessary at no additional cost.
- f. Hydro-mulch slurry shall be applied under high pressure evenly and provide a uniform coat on all areas specified.

g. Sod shall be rolled immediately after sod is installed.

- h. Sod must be watered thoroughly to a depth of 12 inches.
- i. Contractor shall monitor watering to prevent browning and fungus.
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  - v. Fertilizer/Soil Conditioner 1,100 lbs per acre
- d. Contractor shall monitor watering to prevent browning and fungus.
- e. Contractor shall take every measure possible to protect sod by providing temporary fencing if necessary at no additional cost.
- f. Hydro-mulch slurry shall be applied under high pressure evenly and provide a uniform coat on all areas specified.
- g. Overspray shall be removed immediately from sidewalks, walls or any structures.
- h. Contractor shall provide 98 percent germination to all hydro-seeded areas prior to turn over.

**10. Root Barriers**

- a. Root barrier shall be "Deep Root" control barrier panels # UB 24-2 or approved equal. No cylinder root barriers shall be approved.
- b. Root barriers shall be install for all trees planted within 5 feet of any hardscaping.
- c. Contractor shall install root barriers per detail.

**11. Jute Netting**

- a. Jute netting shall be uniform plain weave, flame-retardant mesh. Geo-jute, smolder resistant or approved equal. The mesh shall be green in color.
- b. Jute shall be 48 inches wide with a weight of .97 pounds per linear yard.

**12. Grades**

- a. Prior to commencing any work the contractor shall carefully check all grades and verify that after all irrigation work and soil preparation completed, all grades will be per specified depth as per the landscape contractor's scope of work with a +1/10.

**13. Guarantee**

- a. All trees 15 gallon and larger the contractor shall guaranteed for a period of one year.
- b. All trees smaller than 15 gallon and all other plant material shall be guaranteed for a period of 90 days.
- c. All plant material that is dead or dying or as directed by the engineer within the guarantee period shall be replaced at the cost of the contractor with 7 days of written notice.
- d. All replacement plant material shall be exact as specified in species and size. No substitutions shall be allowed unless written approval from the engineer is obtained.

- END OF SECTION -

**SECTION 02900**

**MAINTENANCE SPECIFICATIONS GENERAL**

**1. Maintenance Duration**

- a. Contractor shall maintain entire project within the contractor's scope of work until final approval for all work has been obtained to start the 90 calendar day maintenance at the contractor's expense.

- b. Contractor shall maintain all landscaped areas for a period of 90 calendar days unless otherwise noted.

**2. Turf Maintenance**

- a. Contractor shall mow weekly or more if needed all turf areas to a height between 3/4 inch and 2 1/2 inch depending on variety of turf.
- b. Contractor shall edge a turf areas a biweekly or more if needed.
- c. All clippings must be removed from sidewalks or adjacent areas.
- d. Contractor shall remove all excess clipping from turf areas.
- e. Contractor shall monitor watering to all turf areas and provide sufficient moisture levels to all turf area.

**3. Tree and Shrub Maintenance**

- a. Contractor shall remove any dead growth on all trees and shrubs as needed.
- b. No stripping of lower branches from any tree or shrub unless directed by the engineer.
- c. Trees and shrubs shall be pruned as directed by the engineer.
- d. No topping of any tree is allowed unless directed by the engineer.
- e. Contractor shall remove tree stakes when stakes are no longer needed.

**4. Weed Control**

- a. All tree and shrub basins and all areas must be weed free.
- b. Contractor shall apply pre-emergent herbicide where possible to prevent weeds as directed by a licensed pest control consultant.
- c. Contractor shall remove all weed from site manually or chemically

**5. Rodent Control**

- a. Contractor shall be responsible for maintaining a rodent free project.
- b. All measures to eradicate rodents must be as directed by a licensed pest control consultant.
- c. Contractor shall repair/replace all damaged caused by rodents under this section.

**6. Fertilization**

- a. Contractor shall fertilize turf, slope and planter areas every 30 calendar days with approved fertilizer at the manufacture's recommended application rate.
- b. Approved fertilizers are 15-15-15, 16-6-8 and 21-7-14

**7. Maintenance General**

- a. Edge groundcover as needed to maintain no growth over sidewalks, around tree and shrub basins or up walls or fences.
- b. Remove all trash weekly
- c. Test complete irrigation system biweekly.

**8. Clean-Up**

- a. Clean up shall take place on a daily basis, after each portion of work has been completed and as directed by the Owner's representative. The contractor shall legally remove from site any trash or material from his scope of work.

**9. Final Approval**

- a. All landscaped shall be inspected in it's entirety by the Owner's representative upon completion of 90 calendar day maintenance and have project turn over approved in writing.
- b. Contractor shall provide all charts, record drawings, turn over items etc. prior to final turn over.

- END OF SECTION -

**S A**

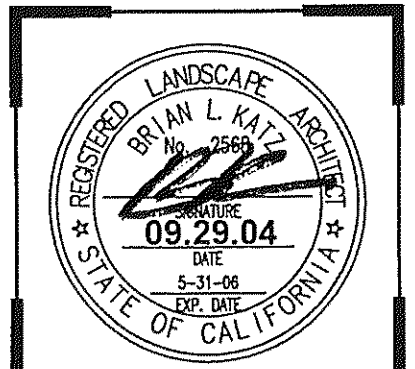
LANDSCAPE ARCHITECTURE  
SITE PLANNING

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DATE	REVISIONS	BY
9/11/03	REVISED PER VALLEY-WIDE PLAN CHECK	JA
1/20/04	REVISED PER VALLEY-WIDE PLAN CHECK COMMENTS DATED 10/28/03	MM
3/8/04	REVISED PER VALLEY-WIDE PLAN CHECK COMMENTS DATED 2/27/04	MM
3/10/04	IRRIGATION & PLANTING ADJUSTMENTS FOR NEW TREE BASINS ADJUSTED AND CHECK	MM
4/15/04	REVISED PER VALLEY-WIDE PLAN CHECK COMMENTS DATED 02/24/04	MM

**Benton Creek Channel  
 Flood Control & Detention Basin  
 RHEINGANS, tract 30167  
 COUNTY OF RIVERSIDE  
 KB HOME - COASTAL**

**PLANTING NOTES**



**HOLD HARMLESS & INDEMNIFICATION CLAUSE**  
 CONTRACTOR AGREES TO ASSUME SOLE 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/DEVELOPER, THE COUNTY OF LOCAL JURISDICTION AND THE LANDSCAPE DESIGNER HARMLESS FROM ANY AND ALL LIABILITY REAL OR ALLEGED, IN CONNECTION WITH THE PERFORMANCE OF WORK ON THIS PROJECT, EXCEPTING FOR LIABILITY ARISING FROM SOLE NEGLIGENCE OF THE OWNER/DEVELOPER, COUNTY OF LOCAL JURISDICTION AND THE LANDSCAPE DESIGNER.

**VALLEY WIDE RECREATION & PARK DISTRICT**

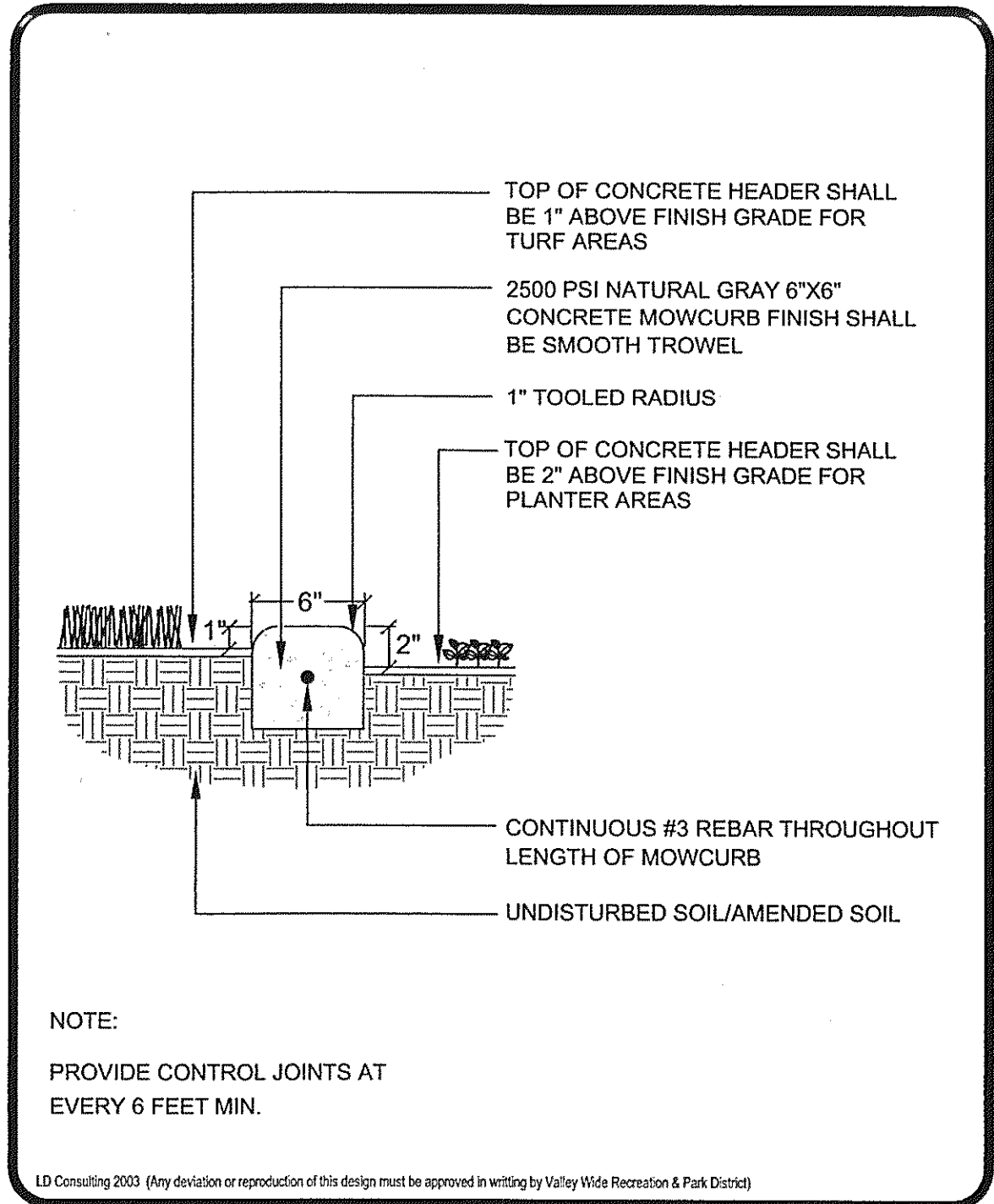
**APPROVED**

Samuel W. Goeppe Date: 10-5-04

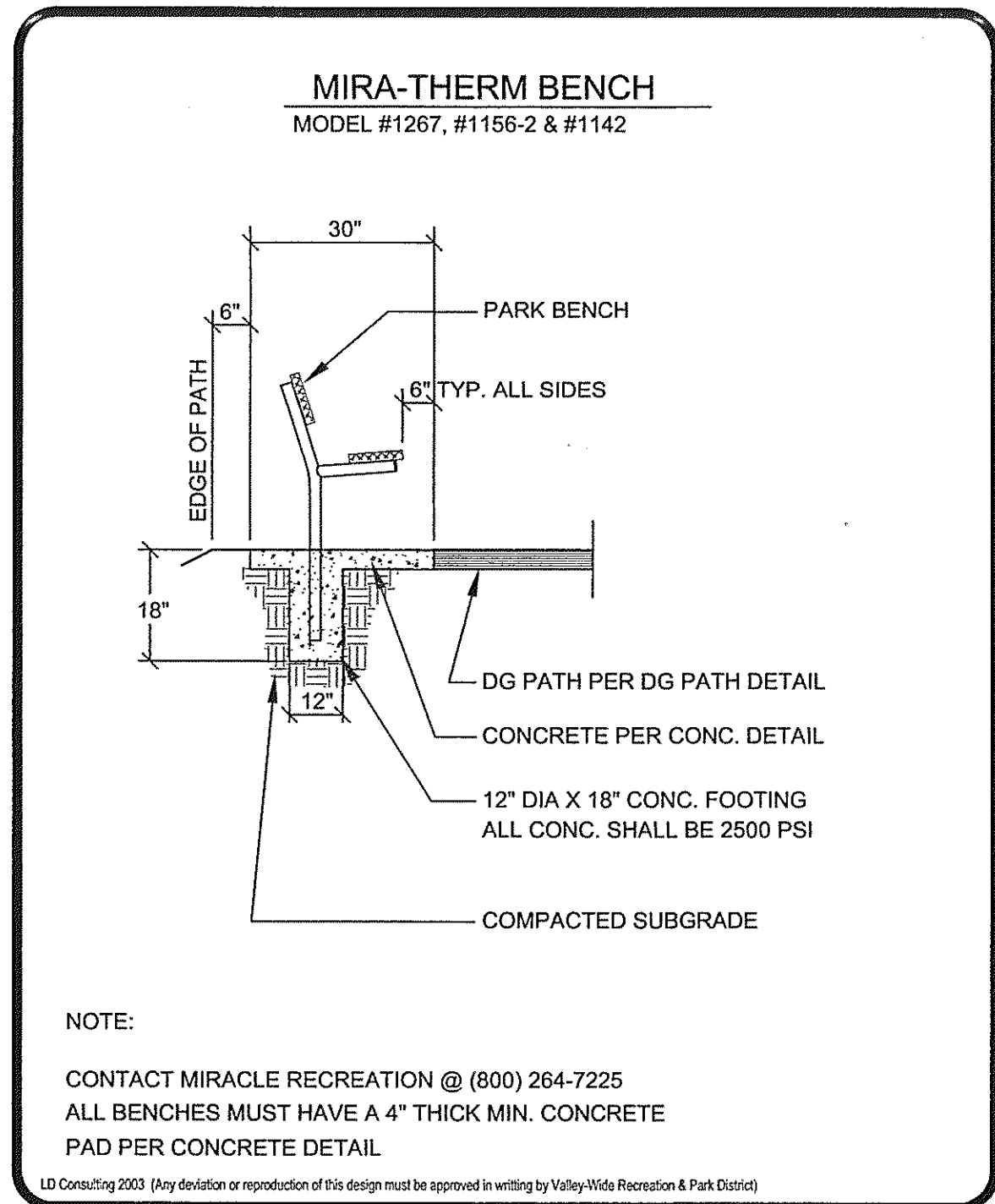
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 Drawn by: STAFF  
 Checked by: JO  
 Job No: 02-065  
 Sheet No. 10  
 Of 14 Sheets



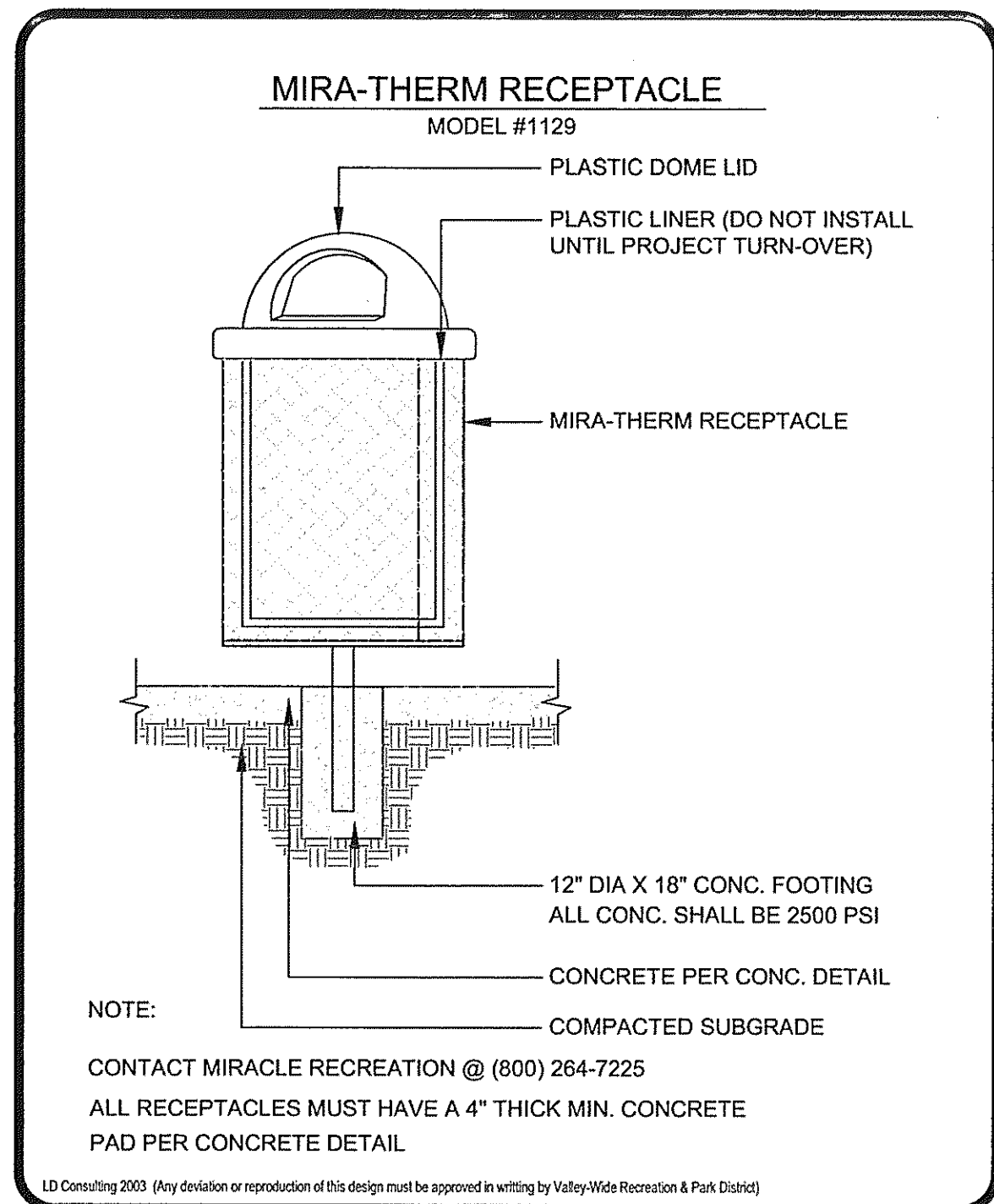
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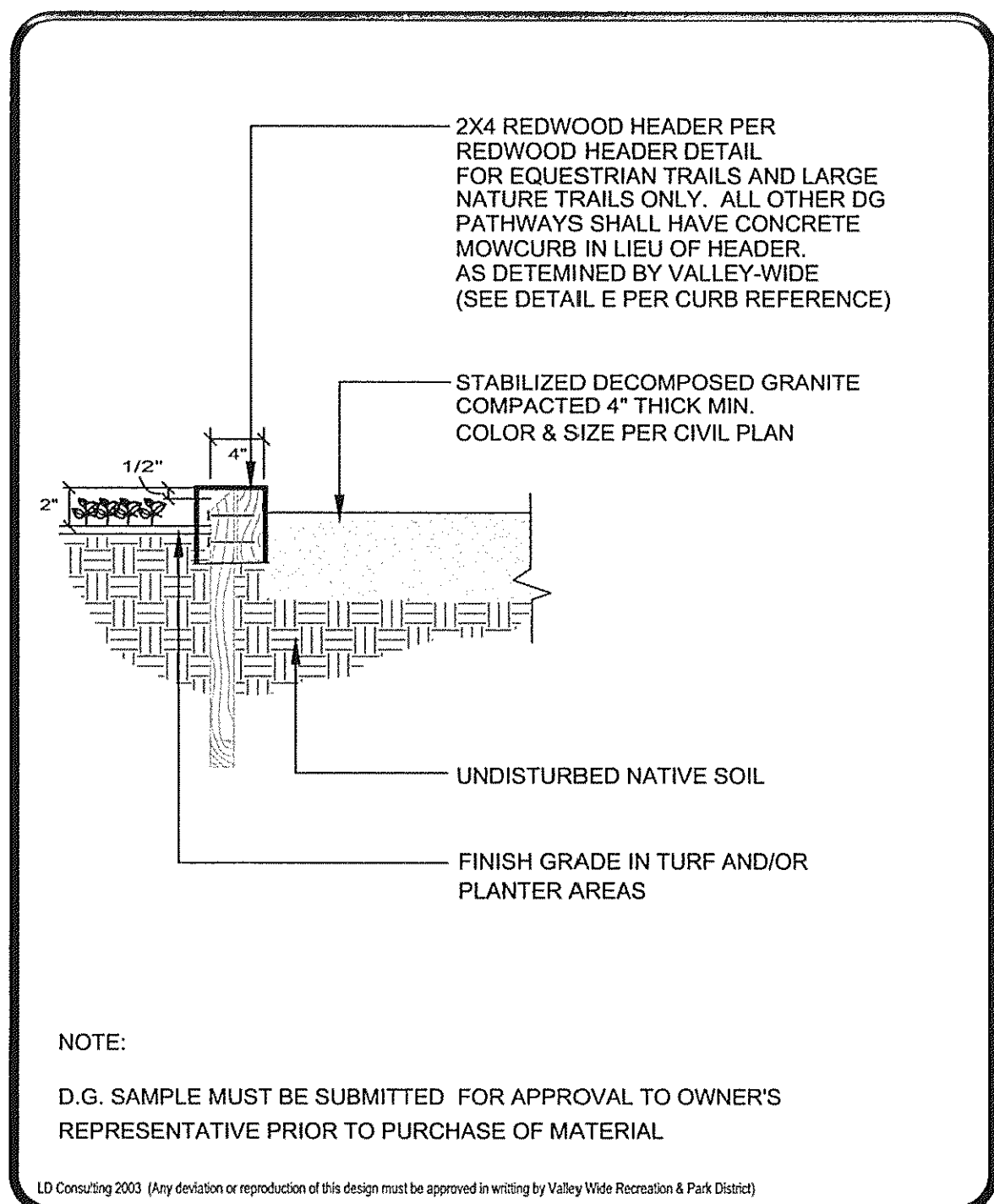
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	5/03	CONCRETE MOWCURB PL-8



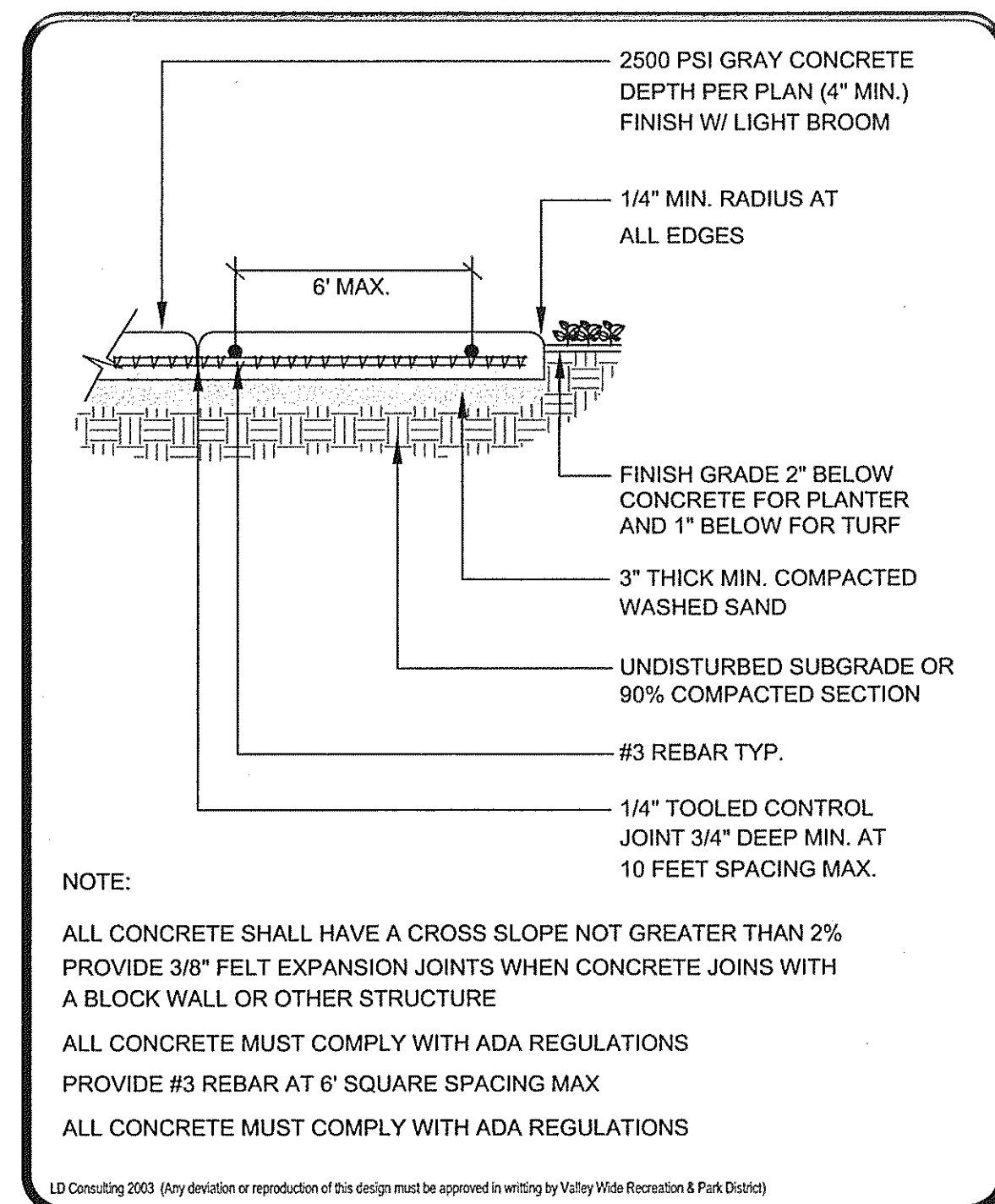
	VALLEY WIDE RECREATION	
	5/03	PARK BENCH / TABLE LC-28



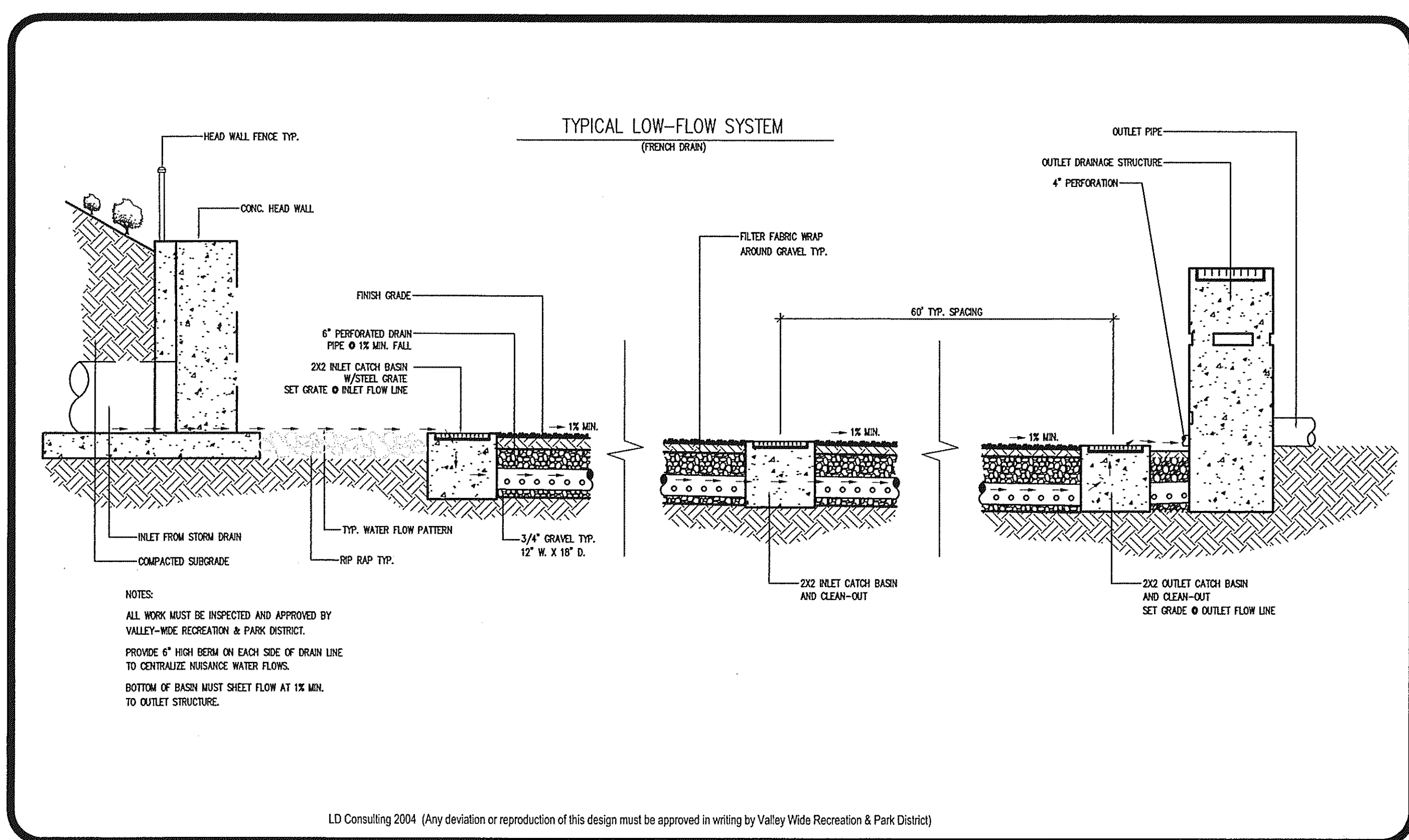
	VALLEY WIDE RECREATION	
	5/03	TRASH RECEPTACLE LC-27



	VALLEY WIDE RECREATION	
	5/03	DECOMPOSED GRANITE PATH LC-1



	VALLEY WIDE RECREATION	
	5/03	CONCRETE FLATWORK LC-2



	VALLEY WIDE RECREATION	
	8/04	NUISANCE FLOW SYSTEM LC-X

**CHANNEL NOTICE**

**PUBLIC NOTICE**  
Hours of Operation 7:00 A.M. - 8:00 P.M.

This project is within a Flood Control channel and is subject to closure during inclement weather.

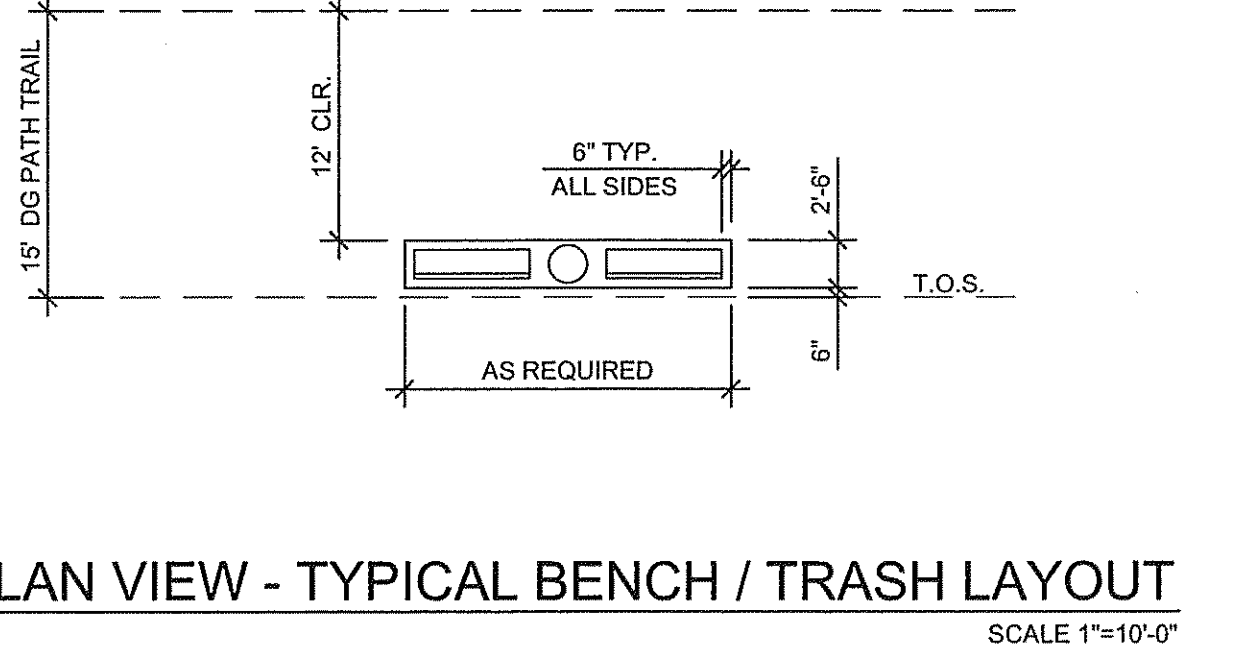
Public entrance during rainstorms is prohibited.

Public access is allowed within the nature trail only. Entry in the channel, basin or drainage areas is prohibited.

To report any vandalism contact: (951) 654-1505

LD Consulting 2004 (Any deviation or reproduction of this design must be approved in writing by Valley Wide Recreation & Park District)

	VALLEY WIDE RECREATION	
	8/04	CHANNEL SIGNAGE LC-X2



**VALLEY WIDE RECREATION & PARK DISTRICT**

**APPROVED**

Samuel W. Goebb Date: 10-5-04

**HOLD HARMLESS & INDEMNIFICATION CLAUSE**

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**SKA**

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DATE	REVISIONS	BY
9/11/03	REVISED PER VALLEY-WIDE PLAN CHECK COMMENTS DATED 8/21/03	JA
1/20/04	REVISED PER VALLEY-WIDE PLAN CHECK COMMENTS DATED 1/09/03	MM
3/8/04	REVISION COMMENTS DATED 2/27/04	MM
3/10/04	IRRIGATION CONTROL CLARIFICATION	MM
4/15/04	IRRIGATION & PLANTING ADJUSTMENTS FOR NEW DET. BASIN ACCESS ROAD	MM
9/11/04	REVISED PER VALLEY-WIDE PLAN CHECK COMMENTS DATED 8/24/04	MM

**Benton Creek Channel**  
**Flood Control & Detention Basin**  
**RHEINGANS, tract 30167**  
COUNTY OF RIVERSIDE  
KB HOME - COASTAL

**CONSTRUCTION DETAILS**

REGISTERED LANDSCAPE ARCHITECT  
BRAM L. KAY  
DATE 09.29.04  
S-31-06  
STATE OF CALIFORNIA

Date:	7/23/03
Scale:	N.T.S.
Drawn by:	STAFF
Checked by:	JO
Job No:	02-065
Sheet No.	11
	Of 14 Sheets



SECTION 02600 - CONCRETE

I. CONCRETE SPECIFICATIONS: GENERAL

1. Permits

a. Contractor shall obtain and pay for any permits required.

2. Intent

a. The intent of the drawings and specifications is to indicate the process required for the installation without additional cost in labor and material to the owner.

3. Scope of Work

a. Furnish all labor, material, equipment, tools and all necessary operations to perform and complete all construction as indicated in specifications and drawings.

4. Inspections

- a. A 48-hour notice is required for inspections.
- b. Contractor must be on site for all inspections
- c. Any non-productive inspection shall be billed to the contractor at the current inspector's rate

5. Submittals

- a. All submittals shall be submitted within 15 days after receipt of executed contract.
- b. Contractor shall submit all, but not limited to, the following items:

- i. Manufacturer specifications of material used
- ii. Manufacturer warranties
- iii. Required shop drawings

iv. Specifications for herbicide

v. Base rock

vi. Portland cement

c. Submittals for substitutions will be considered when specified material is proven unavailable.

d. All substitutions shall be approved in writing.

II. CONCRETE SPECIFICATIONS: MATERIALS

1. Cement

a. Cement shall be Portland cement standard brand type I or II in compliance with ASTM C-150.

2. Aggregates

a. Aggregates shall be aggregate hardrock in compliance with ATSM C-33. Aggregates shall be class II with a maximum of 3/8" in diameter.

3. Sand

a. Sand shall be natural, strong and durable washed, not containing more than 2% of shale, clay or other harmful material, free of impurities.

4. Water

a. Water shall be potable free from harmful levels of alkali, acid or salt.

5. Bars

a. Bars shall be Grade 40 and in compliance with ASTM A-615.

6. Welded Wire Mesh

a. Welded wire mesh shall be 6" x 6" unless otherwise noted. Welded wire mesh shall be in compliance with ASTM A-185.

7. Tie Wire

a. Tie wire shall be 16 gauge minimum, black annealed.

8. Integral Pigment

a. Integral pigment shall be iron oxide plain concrete.

9. Curing Compound

a. Curing compound shall be A.C. Horn or equal.

10. Expansion Joints

a. Expansion joints shall be asphalt impregnated fiberboard 3/8" thick minimum.

III. CONCRETE SPECIFICATION: EXECUTION

1. Subgrade Preparation

- a. Prior to placement of concrete the subgrade shall be compacted using a tamp or roller.
- b. Sub-grade shall be compacted to 95% density unless otherwise noted.

2. Sand Base

- a. Sand Base shall have a depth as specified in details.
- b. Sand Base shall be mechanically compacted to a smooth surface and watered after completion.

3. Forms

- a. Forms shall be Douglas Fir or equal with a minimum height of 3 1/2 inches. Forms shall have a smooth texture, straight upper edge.
- b. Bender board or thin planks shall be used for radius curves.
- c. Forms shall not vary from vertical grade by more than 0.02' in 10' and from horizontal alignment by more than 6". A window of fill dirt may be required to eliminate bulging when concrete is poured.
- d. All forms shall be protected in place for a period of 12 hours minimum with the exception of vertical curbs.
- e. All forms shall be clean and coated with a light oil to prevent the concrete from adhering to forms.
- f. All forms shall be held in place with steel or wood stakes as required.

4. Reinforcing

a. Bars

- i. Bars shall be as specified in drawings.
- ii. Bars shall be clean, free of rust, oil and grease.
- iii. Bars shall be secured together at intersections with 16-gauge wire.
- iv. Intersections shall be supported with pre-cast mortar blocks or other approved spacers.
- v. The bars shall be supported in a manner to support foot traffic and concrete pouring without displacement.
- vi. All bar welding shall be performed by a qualified welder in compliance with the American Welding Society's recommendations for welding reinforcing steel. (AWS D12.1) latest edition.

vii. Existing reinforcing bars, which are connected to new reinforcing bars, shall be cleaned to remove any dirt, rust, oil or grease.

b. Welded wire mesh shall be as specified and be overlapped one full mesh square and shall be held in the middle of the slab.

5. Concrete Mixing

a. Concrete mixing shall be in compliance with ASTM C-94 and shall consist of the following:

- i. 6 sacks of Portland cement per cubic yard.
- ii. 6-3/4 gallons of water per sack of cement maximum.
- b. Slump, 2 to 5 inches of concrete shall fall in globs from chute. Any soupy mixtures shall not be accepted.

c. Mixing strength for footings, curbs and flat work shall be 2,500 pounds per square inch @ 28 days.

d. Concrete mixed in a transit mixer shall be mixed for a period of 10 minutes minimum at a peripheral drum speed of 200 feet per minute.

e. Concrete color shall be standard gray unless otherwise specified.

6. Site Conditions

a. All existing trees, shrubs, groundcovers, hardscaping and structures within the limits of work specified shall be protected under this section.

7. Weather Conditions

- a. No concrete shall be poured or finished when rain is apparent.
- b. No concrete paving shall commence during rainfall or unless air temperature is 50°F and increasing unless previously approved in writing. No request will be reviewed unless contractor submits a program for cold weather pouring. Report shall be based on ACI Standards.
- c. No concrete shall be mixed or poured when the temperature is below 40°F or when conditions indicate that the temperature will fall below 40°F within 72 hours. Concrete when deposited shall have a temperature of not less than 60°F. Reinforcements, forms, and ground of which concrete will come in contact with shall be completely free of frost.

8. Pouring

a. Prior to placement of concrete, all tools and equipment used for mixing and conveying shall be cleaned. All forms must be wet and entire area where concrete will be place must be cleaned.

b. Concrete pouring shall be carried on, as a continuous operation until the areas of approved size is complete. Cut off locations shall be approved and shall never end on a driveway.

c. Concrete shall be handled as rapidly as practicable from the mixer to the place of final deposit by methods, which prevent the separation or loss of material. It shall be deposited as nearly as practicable, in its final position to avoid rehandling or flowing. Concrete shall not be dropped freely more than six feet. Concrete that has partially hardened shall not be deposited in the work. The discharge of concrete shall be started not more than 45 minutes after the introduction of mixing water. Placing of concrete shall be completed within 90 minutes of the first introduction of water into the mix. It shall not be reworked.

d. In pouring columns, walls or thin sections of considerable heights, openings in the forms, elephant trunks or other approved devices shall be used which will permit the concrete to be placed without segregation and the accumulation of hardened concrete on the forms or metal reinforcement above the level of the concrete. Such devices shall be installed so the concrete will be dropped vertically. At least two hours must elapse after depositing concrete in wall or columns before depositing concrete in heads over openings, supported beams, girders or slabs.

e. All concrete shall be thoroughly compacted using approved mechanical vibrators. Internal vibration must be by direct action in the concrete and not against forms or reinforcement. Each pour shall be vibrated until the water shows indications of rising, but not until the water has risen.

f. Along the faces of the forms, suitable tools shall be used during the pour to force large particles away from the forms and bring mortar to the surface of the forms. In addition, when approved by the owner's representative, external form vibration may be used. The responsibility for providing fully filled out, smooth, clean and properly aligned surfaces free from objectionable pockets and blemishes shall rest entirely upon the contractor.

g. Slabs shall be tamped to depress the rock and push floated with a fill float as necessary. Care shall be taken at all times so that the wet slab meets the screeds accurately and does not rise above or lower below them.

h. When the slab is indicated as being poured directly on an earth construction pad without rock fill, proceed as follows: Although the construction pad was made level within 1.10 feet, it is assumed that by the time all the excavation for footings and utility trenches is completed, the surface will be considerably disturbed. Therefore, it shall be bladed off and brought to an accurate level of slight scarifying if necessary and compacted to a smooth, true surface. This level shall be thoroughly relevelled before each day's pour and thoroughly wet down, but not flooded.

i. Cast in place concrete foundation piers shall be poured into undisturbed pier holds. Casing should be placed where walls of the pier holes show instability. Casing should be withdrawn gradually as pour proceeds. Where ground water occurs in the pier hole, it should be pumped dry before pour or concrete by tremie method.

9. Construction Joints

a. Location and details of construction joints shall be as indicated. Joints shall be made and located as not to impair strength of the structure. Review all locations of construction joints with the owner's representative before blocking out the pours.

b. Large slabs poured on grade shall be limited to 10 x 10 ft. between construction joints, or as shown on the details and as approved by the owner's representative. Pathways shall have control joints every 5 feet. In general, lines of joints shall follow column lines or permanent walls. Construction and control joints shall be tooled with a 1/2" radius edge tool on both sides of the joint. Made joints straight, true and level. Control joints shall be 1/4" wide by 3/4" deep minimum.

10. Finishing

- a. Finish shall be as specified on the details.
- b. After concrete has been troweled to a smooth finish following lines and grades shown on the drawings, one of the following finishes shall be executed:
  - i. Broom: Draw broom across the surface at 90° to direction of traffic in a continuous motion from score mark to score mark or edge to edge. The degree of texture - light, medium or heavy broom - will be specified on the drawings. Broom marks shall be neat, parallel and uniform in texture throughout.
  - ii. Washed aggregate finish: Evenly expose aggregate by water washing and brushing or other approved means to an average depth of 1/8 inch.

iii. Avoid pocketing and kicking out of aggregate.

iv. Finish shall be uniform throughout in color, texture and degree of exposure of aggregate and shall match existing work.

11. Protections

a. Concrete surfaces shall be protected from the elements, defacement and traffic during construction operations with plywood.

12. Defects

a. If any concrete work is not formed as indicated, is under-strength concrete, concrete out of line, level, plumb, or showing objectionable cracks, honeycomb, rock pockets, voids, spalling, exposed reinforcing or vandalism, it shall be repaired or removed and replaced as directed by the owner's representative. All cleaning, patching and repairs shall be subject to the owner's representative's approval and acceptance.

b. Defects in concrete work shall be repaired as directed by the owner's representative. Voids shall be chipped to a depth of at least one (1) inch or to remove all loose material with the edges perpendicular to the surface and parallel of form markings. Voids, surface irregularities, chipped areas, etc. Shall be filled by patching, gunite and/or rubbing as directed by the owner's representative and shall be done at the contractor's expense. Repaired surfaces shall duplicate the appearance of the unpatched work. Prepare a sample of a repaired condition for approval before proceeding with all of this work.

13. Grading

a. The contractor shall complete grading and filling as needed and remove all rocks and debris

b. Sub-grading preparation shall be in accordance local governing agencies.

c. Prior to commencing any work the contractor shall carefully check all grades and verify that after all irrigation work and soil preparation completed, all grades will be per specified depth as per the landscape contractor's scope of work with +/-1/10.

14. Clean-Up

a. Clean up shall take place on a daily basis, after each portion of work has been completed and as directed by the owner's representative. The contractor shall legally remove from site any trash or material from his scope of work.

15. Final Approval

a. All concrete paving shall be inspected in its entirety by the owner's representative and have project final approval in writing.

- End of Section -

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SITE PLANNING

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9/1/04		MM

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VALLEY WIDE RECREATION  
& PARK DISTRICT

**APPROVED**

Samuel W. Goepf Date: 10-5-04

Date: 7/23/03  
Scale: N.T.S.  
Drawn by: STAFF  
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**I. SCOPE OF WORK**

**A. GENERAL:**

1. CONTRACTOR SHALL PROVIDE ALL LABOR, MATERIALS, EQUIPMENT, AND INCIDENTALS TO FURNISH AND INSTALL MISCELLANEOUS METAL ITEMS CONFORMING TO THE DIMENSIONS AND DETAILS AS INDICATED ON THE DRAWINGS.
2. THIS SECTION DOES NOT INCLUDE REINFORCING STEEL FOR CONCRETE AND MASONRY OR ITEMS REQUIRED IN CONNECTION WITH IRRIGATION OR ELECTRICAL WORK.
3. CONTRACTOR SHALL SUBMIT IN TRIPLICATE, SHOP DRAWINGS SHOWING DETAILS, DIMENSIONS, SIZES OF MATERIALS, AND ALL INFORMATION AND DATA NECESSARY FOR FABRICATION OF METAL ITEMS. ONE (1) SET WILL BE RETURNED TO THE CONTRACTOR.
4. NO SEPARATE PAYMENT SHALL BE MADE OF ANY WORK PERFORMED RELATED TO MISCELLANEOUS METALS. COMPENSATION SHALL BE INCLUDED IN THE UNIT PRICE BID FOR THE VARIOUS ITEMS OF WORK AND NO ADDITIONAL PAYMENT WILL BE MADE.
5. COSTS INCURRED FOR REPAIR OR REPLACEMENT OF DEFECTIVE OR DAMAGED WORK, REJECTED MATERIALS OR WORKMANSHIP SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.

**B. WORKMANSHIP:**

1. WORKMANSHIP AND FINISH SHALL BE TO THE BEST GENERAL PRACTICE IN STEEL FABRICATING SHOPS.
2. THE USE OF PARTICULAR METHODS AND EQUIPMENT SHALL BE TO THE APPROVAL OF THE OWNER'S AUTHORIZED REPRESENTATIVE. THIS APPROVAL SHALL NOT RELIEVE THE CONTRACTOR OF THE RESPONSIBILITY FOR THE SAFETY OF SUCH METHODS AND EQUIPMENT, OR FOR CARRYING OUT THE WORK IN FULL ACCORDANCE WITH THE DRAWINGS AND SPECIFICATIONS.
3. NO FABRICATING, MACHINING, CUTTING, ASSEMBLING OR PAINTING SHALL BE DONE WITHOUT THE OWNER'S AUTHORIZED REPRESENTATIVE'S KNOWLEDGE. ANY WORK DONE OTHERWISE WILL BE SUBJECT TO REJECTION.
4. THE ACCEPTANCE OF ANY MATERIAL OR FINISHED MEMBER BY THE OWNER'S AUTHORIZED REPRESENTATIVE SHALL NOT PRECLUDE THE POSSIBILITY OF SUBSEQUENT REJECTION IF FOUND TO BE DEFECTIVE.
5. WHEN REQUESTED BY THE OWNER'S AUTHORIZED REPRESENTATIVE, CONTRACTOR SHALL FURNISH A MILL CERTIFIED REPORT CONTAINING THE RESULTS OF CHEMICAL AND PHYSICAL TESTS REQUIRED BY THE ASTM SPECIFICATION FOR THE MATERIAL BEING FABRICATED.
6. PARTS WILL BE ACCURATELY ASSEMBLED AS INDICATED ON THE DRAWINGS. MATERIALS SHALL BE CAREFULLY HANDLED TO AVOID DAMAGE. HAMMERING WHICH WILL INJURE OR DISTORT MEMBERS SHALL NOT BE PERMITTED.
7. PORTIONS OF WORK EXPOSED TO VIEW SHALL BE FINISHED NEATLY. SHEARING, FLAME CUTTING, AND CHIPPING SHALL BE DONE CAREFULLY AND ACCURATELY. ALL SHARP CORNERS AND EDGES THAT ARE MARRED, CUT OR ROUGHENED DURING ERECTION SHALL BE SLIGHTLY ROUNDED BY GRINDING OR OTHER MEANS SATISFACTORY TO THE OWNER'S AUTHORIZED REPRESENTATIVE.
8. CONTRACTOR SHALL MAKE ALL MEASUREMENTS FOR FABRICATION IN FIELD PRIOR TO STARTING WORK.
9. HORIZONTAL BARS TO TAPER WITH GRADE OR STEP WITH GRADE AS SHOWN ON THE DRAWINGS. VERTICAL BARS TO BE PLUMB.
10. GATES TO BE SELF-CLOSING.

**C. WELDING:**

1. WELDING, WELDER QUALIFICATIONS AND INSPECTION OF WELDING OPERATIONS SHALL CONFORM TO THE REQUIREMENTS OF THE AMERICAN WELDING SOCIETY AND THESE SPECIFICATIONS.
2. WELDING SHALL BE PERFORMED AT SHOP WHENEVER POSSIBLE. FIELD WELDS SHALL BE CLEANED AND TREATED WITH LEAD FREE ZINC RICH SOLDER APPLIED PER MANUFACTURER SPECIFICATIONS.
3. WELDING TO COMPLY WITH THE REQUIREMENTS OF STANDARD CODE FOR ARC AND GAS WELDING.
4. WELD TO ONLY CLEAN, RUST FREE SURFACE.
5. ALL WELDS TO BE CONTINUOUS AND FREE OF CRACKS, CRATERS, AND POROSITY. TACK WELDS ARE NOT ACCEPTABLE.
6. GRIND SMOOTH ALL EXPOSED WELDS, MATCH ADJOINING SURFACES.
7. PLUG ALL OPEN ENDS, TOPS, AND WELDS.

**D. MATERIALS:**

1. ALL MATERIALS, PRIOR TO FABRICATION, SHALL BE THOROUGHLY WIRE BRUSHED AND CLEANED OF ALL SCALE AND RUST. FINISHED MEMBERS SHALL BE FREE FROM TWISTS, BENDS OR OPENED JOINTS.
2. STEEL BARS, PLATES, AND SHAPES SHALL CONFORM TO ASTM A-36.
3. ROLLING AND CUTTING TOLERANCE, PERMISSIBLE VARIATIONS IN WEIGHT AND DIMENSIONS, DEFECTS AND IMPERFECTIONS SHALL NOT EXCEED LIMITS CONTAINED IN ASTM A-6.

**E. BOLTS, NUTS, NAILS, AND FASTENERS:**

1. BOLTS, NUTS, AND FASTENERS SHALL BE HOT DIPPED GALVANIZED, PRE-PRIMED AND SHALL CONFORM TO ASTM A-307.
2. BOLTS SHALL BE LONG ENOUGH TO EXTEND ENTIRELY THROUGH THE NUT BUT NOT MORE THAN ONE-QUARTER INCH (1/4") BEYOND. CUT ALL BOLTS FLUSH WITH NUTS, PEEN SMOOTH AND REMOVE ALL BURRS. HEADS AND NUTS OF MACHINE BOLTS AND NUTS OF CARRIAGE BOLTS SHALL HAVE WASHERS, EXCEPT AGAINST STEEL PLATES.
3. HOLES SHALL BE EITHER PUNCHED FULL SIZE, DRILLED FULL SIZE, OR SUB-PUNCHED AND REAMED. FINISH HOLES SHALL BE CYLINDRICAL, PERPENDICULAR TO THE PLANE OF THE CONNECTION AND ONE-SIXTEENTH INCH (1/16") LARGER THAN THE NOMINAL DIAMETER OF THE BOLT, FREE OF BURRS, FINES, SHARP EDGES AND HOLE IRREGULARITIES WHICH WOULD PREVENT SOLID SEATING OF THE PARTS.
4. ANCHOR BOLTS SHALL BE CAREFULLY INSTALLED TO PERMIT TRUE POSITIONING OF THE BEARING ASSEMBLIES.
5. FRAMING ANCHORS SHALL BE SIXTEEN (16) GAUGE, ZINC-COATED, CORROSION RESISTANT SHEET METAL.
6. NAILS TO BE GENERAL FRAMING COMMON OF STANDARD SIZE AND FORM, HOT DIPPED GALVANIZED OR ALUMINUM, UNLESS SPECIFICALLY NOTED. BOX NAILS WILL NOT BE ACCEPTED.

**F. GALVANIZING:**

1. GALVANIZING SHALL BE PERFORMED AFTER FABRICATION AND PRIOR TO ASSEMBLING COMPONENT PARTS. FABRICATION SHALL INCLUDE ALL OPERATIONS SUCH AS SHEARING, CUTTING, PUNCHING, FORMING, DRILLING, MILLING, BENDING, WELDING, AND RIVETING.
2. ZINC USED FOR GALVANIZING SHALL BE GRADE PRIME WESTERN CONFORMING TO ASTM B-6. ZINC COATING SHALL BE EVEN, SMOOTH AND UNIFORM THROUGHOUT. MATERIALS SHALL BE GALVANIZED BY THE HOT DIP METHOD OR ELECTRO-DEPOSITING PROCESS.
3. MINIMUM WEIGHT OF COATING SHALL CONFORM TO ASTM A-123 FOR STEEL BARS, PLATES AND SHAPES; AND ASTM A-153 FOR BOLTS AND SCREWS.
4. GALVANIZED SURFACES THAT ARE ABRADED OR DAMAGED AFTER ZINC COATING APPLICATION SHALL HAVE REPAIRING METHOD APPROVED BY OWNER'S AUTHORIZED REPRESENTATIVE.
5. ALL WORK SHALL BE PERFORMED IN CONFORMANCE WITH THE REQUIREMENTS OF THE AMERICAN GALVANIZING ASSOCIATION, AND THESE SPECIFICATIONS.

**G. TUBULAR STEEL FABRICATION:**

1. SUBMIT SHOP DRAWINGS, CLEARLY INDICATING IN DETAIL ALL METHODS OF FABRICATION AND ASSEMBLY, DIMENSIONS, SIZE, WEIGHT, AND MATERIAL, HOLES, LUGS, INSERTS, FINISHES, AND OTHER PERTINENT INFORMATION.
2. FORM EXPOSED WORK TRUE TO LINE AND LEVEL WITH ACCURATE ANGLES AND SURFACES.
3. FABRICATE ITEMS IN THE LARGEST SECTIONS PRACTICAL TO MINIMIZE WELD JOINING.
4. STEEL TUBING IN SIZES ARE SHOWN ON THE DRAWINGS, COLD ROLLED TUBULAR STEEL SHALL BE WELDED CONTINUOUS ON ALL FOUR SIDES. PANELS SHALL BE HAND SCRUBBED WITH TRICHLOROETHANE III, RCFT-17-600 AND DIPPED INTO 'BLUE GRIP' IRON PHOSPHATE ETCHING SOLUTION.

**H. PROTECTION AND CLEANUP:**

1. PROTECT ALL EXISTING WORK FROM PAINT OVERSPRAY.
2. OBTAIN FIRE PERMIT WHERE REQUIRED FOR ON SITE WELDING.
3. UPON COMPLETION OF WORK, REMOVE ALL SCRAP, DEBRIS, MATERIALS, AND TOOLS FROM SITE.

END OF SECTION

**PAINTING AND STAINING**

**I. SCOPE OF WORK**

**A. GENERAL:**

1. CONTRACTOR SHALL PROVIDE ALL LABOR, MATERIALS, EQUIPMENT AND INCIDENTALS FOR SANDING, PRIMING, PAINTING, AND STAINING OF IMPROVEMENTS AS INDICATED ON THE DRAWINGS AND SPECIFIED HEREIN.
2. CONTRACTOR SHALL BE RESPONSIBLE FOR THE LOCATION, ALIGNMENT, LAYOUT, DIMENSIONS, AND APPLICATION OF PAINT STAINS.
3. EXCEPT AS ITEMIZED ON THE BID FORM, NO SEPARATE PAYMENT WILL BE MADE FOR ANY WORK PERFORMED RELATED TO PAINTING AND STAINING. COMPENSATION SHALL BE AS INCLUDED IN THE UNIT PRICE BID FOR THE VARIOUS ITEMS OF WORK AND NO ADDITIONAL PAYMENT WILL BE MADE.
4. PLUMBING FIXTURES SHALL NOT BE USED FOR CLEANING OR DISPOSAL OF WASTE FROM PAINTING OPERATIONS.
5. COSTS INCURRED FOR REPAIR OR REPLACEMENT OF DEFECTIVE OR DAMAGED WORK, REJECTED MATERIALS, OR WORKMANSHIP SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.
6. ALL PAINT OR STAIN COLORS SHALL BE APPROVED BY THE OWNER'S AUTHORIZED REPRESENTATIVE PRIOR TO APPLICATION.

**B. MATERIALS:**

1. PAINTS AND STAINS SHALL BE OF COLORS AND TINTS AS INDICATED ON THE DRAWINGS AND SHALL BE APPLIED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS AND THESE SPECIFICATIONS. CONTRACTOR SHALL SUBMIT COLOR SAMPLES TO THE OWNER'S AUTHORIZED REPRESENTATIVE FOR APPROVAL PRIOR TO APPLYING ANY PAINT MATERIALS.
2. PAINTS AND STAINS SHALL BE HOMOGENEOUS, FREE OF CONTAMINANTS AND OF A CONSISTENCY SUITABLE FOR USE IN THE CAPACITY FOR WHICH IT IS SPECIFIED. FINISHED PAINT SHALL BE WELL GROUND AND THE PIGMENT SHALL BE PROPERLY DISPERSED IN THE VEHICLE ACCORDING TO THE REQUIREMENTS OF THE PAINT. THE DISPERSION SHALL BE OF SUCH NATURE THAT THE PIGMENT DOES NOT SETTLE APPRECIABLY, DOES NOT CAKE OR THICKEN IN THE CONTAINER OR BECOME GRANULAR OR CURDLED. PAINTS AND STAINS SHALL POSSESS PROPERTIES WHICH IN ALL RESPECTS AFFECT SATISFACTORY APPLICATION, ADHESION AND CURING. THINNING WILL NOT BE PERMITTED.
3. PAINTS AND STAINS SHALL BE DELIVERED TO THE PROJECT SITE IN NEW, UNOPENED, ROUND, AIRTIGHT CONTAINERS, APPROPRIATELY IDENTIFIED WITH THE MANUFACTURER'S NAME, DATE OF MANUFACTURE, TYPE OF MATERIAL AND LOT BATCH NUMBER.

**C. WORKMANSHIP:**

1. PAINT SHALL BE APPLIED ON THOROUGHLY DRY SURFACES AND DURING PERIODS OF FAVORABLE WEATHER.
2. SURFACES BEING COVERED SHALL BE FREE FROM MOISTURE, DUST, GREASE, OR OTHER DELETERIOUS SUBSTANCES WHICH WOULD PREVENT BONDING.
3. PAINT AND STAINING SHALL BE DONE IN A NEAT AND SKILLFUL MANNER, APPLIED BY BRUSH, ROLLER OR SPRAY METHODS. FINISHED SURFACES SHALL BE UNIFORM IN COLOR AND TEXTURE, FREE OF BRUSH MARKS, ROLLER STIPPLE TEXTURE, RUNS, OR SKIPS. EACH APPLICATION OF PAINT SHALL BE THOROUGHLY CURED AND ANY DEFECTS CORRECTED BEFORE A SUCCEEDING APPLICATION.
4. CONTRACTOR SHALL PROTECT ALL ADJACENT IMPROVEMENTS AGAINST DISFIGUREMENT, OVER-SPRAY OR SPATTERING AS A RESULT OF PAINTING OPERATIONS.

**D. PAINTING ASPHALT:**

1. TRAFFIC STRIPING AND MARKING SHALL BE APPLIED TEN (10) CALENDAR DAYS AFTER APPLICATION OF THE SEAL COAT, AT LOCATIONS AND TO THE DIMENSIONS AND SPACING INDICATED ON THE DRAWINGS. CONTRACTOR SHALL BE RESPONSIBLE FOR THE LOCATION, ALIGNMENT, LAYOUT, EQUIPMENT, DIMENSIONS, AND APPLICATION OF PAINT.
2. PAINT SHALL BE 'RAPID DRY' OR 'REGULAR DRY' IN ACCORDANCE WITH THE PROVISIONS OF SECTION 210, PAINT AND PROTECTIVE COATINGS OF THE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION. PAINT SHALL BE MIXED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS. WHEN REQUESTED, THE CONTRACTOR SHALL FURNISH THE OWNER'S AUTHORIZED REPRESENTATIVE WITH A CERTIFICATE OF COMPLIANCE STATING THAT THE MATERIAL SUBSTANTIALLY MEETS THE SPECIFICATIONS.
3. HANDICAP AREAS SHALL BE PAINTED AS DESIGNATED ON THE DRAWINGS. COLOR TO BE EQUAL TO BLUE # 15990 IN ACCORDANCE WITH FEDERAL STANDARD # 595A.

**E. PAINTING GALVANIZED SURFACES:**

1. GALVANIZED SURFACES, WHICH ARE TO BE PAINTED, SHALL BE PREPARED BY HAND-SCRAPING, BRUSHING WITH STIFF FIBER OR WIRE BRUSHES OR CLEANING WITH AN ALKALINE SOLUTION FOLLOWED BY A FRESH WATER RINSE. AFTER WASHING, SURFACES SHALL BE ROUGHENED BY ABRASIVE BLASTING. GALVANIZING SHALL NOT BE REMOVED DURING THE PREPARATION OPERATION.
2. AFTER PREPARATION, APPLY ONE (1) COAT OF ZINC OXIDE PRIMER FOLLOWED BY A VINYL WASH PRE-TREATMENT AND TWO (2) APPLICATIONS OF FINISH COAT 'RUSTOLEUM' OR EQUAL.


**F. PAINTING CONCRETE:**

1. PRIOR TO PAINTING CONCRETE SURFACES, A BRUSH COAT OR SURFACE FILM OF THIN CEMENT MORTAR SHALL BE APPLIED. WHEN THE FILM HAS SET SUFFICIENTLY THE SURFACE SHALL BE RUBBED BY HAND OR MECHANICAL MEANS NECESSARY TO REMOVE EXCESS MORTAR AND PRODUCE A SMOOTH SURFACE OF EVEN TEXTURE. FINISH SURFACES SHALL BE WASHED WITH WATER AND THEN WITH A TEN PERCENT (10%) TO FIFTEEN PERCENT (15%) MURIATIC ACID WASH. CONCRETE SURFACES SHALL BE THOROUGHLY DRY AND FREE OF DUST AT THE TIME OF PAINTING.
2. PAINT FOR CONCRETE SURFACES SHALL BE EITHER EPOXY ENAMEL TYPE OR ACRYLIC EMULSION TYPE APPLIED NOT LESS THAN TWO (2) APPLICATIONS PRODUCING A UNIFORM APPEARANCE.

**G. PAINTING WOOD SURFACES:**

1. WOOD SURFACES SHALL BE PREPARED FOR PAINTING BY REMOVING ANY FOREIGN MATTER BY WIRE BRUSHING, SCRAPING, OR SANDING. ALL SURFACES SHALL BE WIPED OR DRY BRUSHED TO REMOVE ANY DUST OR CHALKY RESIDUE RESULTING FROM PREPARATION OPERATIONS.
2. PAINT FOR WOOD SURFACES SHALL BE APPLIED IN NOT LESS THAN TWO (2) APPLICATIONS, PRODUCING A UNIFORM APPEARANCE.
3. PAINTS, STAINS OR SEALERS SHALL BE APPLIED TO WOOD SURFACES PRIOR TO ASSEMBLING.

END OF SECTION



**VALLEY WIDE RECREATION  
& PARK DISTRICT**

APPROVED

Samuel W. Goepf
Date: 10-5-04

**HOLD HARMLESS & INDEMNIFICATION CLAUSE**  
 CONTRACTOR AGREES TO ASSUME SOLE 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/DEVELOPER, THE COUNTY OF LOCAL JURISDICTION AND THE LANDSCAPE DESIGNER HARMLESS FROM ANY AND ALL LIABILITY REAL OR ALLEGED, IN CONNECTION WITH THE PERFORMANCE OF WORK ON THIS PROJECT, EXCEPTING FOR LIABILITY ARISING FROM SOLE NEGLIGENCE OF THE OWNER/DEVELOPER, COUNTY OF LOCAL JURISDICTION AND THE LANDSCAPE DESIGNER.

S A

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DATE	REVISIONS	BY	JA
9/11/03	REVISED PER VALLEY-WIDE PLAN CHECK COMMENTS DATED 09/27/03	MM	MM
1/20/04	REVISED PER VALLEY-WIDE PLAN CHECK COMMENTS DATED 10/20/03	MM	MM
3/8/04	REVISED PER VALLEY-WIDE PLAN CHECK COMMENTS DATED 2/27/04	MM	MM
3/10/04	IRRIGATION & PLANTING ADJUSTMENTS FOR NEW DET. BASIN ACCESS ROAD	MM	MM
4/15/04	REVISED PER VALLEY-WIDE PLAN CHECK COMMENTS DATED 02/24/04	MM	MM

Benton Creek Channel  
Flood Control & Detention Basin  
RHEINGANS, tract 30167  
COUNTY OF RIVERSIDE  
KB HOME - COASTAL

CONSTRUCTION NOTES

RECORDED LANDSCAPE ARCHITECTURE  
BY: SAMUEL W. GOEPF  
DATE: 09-29-04  
S-31-04  
COUNTY OF CALIFORNIA

Date: 7/23/03  
 Scale: N.T.S.  
 Drawn by: STAFF  
 Checked by: JO  
 Job No: 02-065  
 Sheet No.  
 13  
 Of 14 Sheets



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# LANDSCAPE CONSTRUCTION DOCUMENTS

## PARK SITES FOR LOTS 26, 151 & 152

# RHEINGANS, TRACT 30167

## County of Riverside, Ca.

**VALLEY WIDE INSPECTION LIST**

**1. Irrigation Inspections:**

**a. Site inspections and notification time.**

- i. Pre-construction conference 7 days
- ii. Pressure line installation and testing 48 hours
- iii. Controller installation 48 hours
- iv. Lateral line and sprinkler installation 48 hours
- v. Coverage test 48 hours
- vi. Final Inspection 7 days

b. No field inspections will commence unless record drawings are current and available for observation upon request by the Owner's representative.

**2. Planting Inspections:**

- a. Request for inspections must have 48 hour notice in advance.
- b. Contractor must be on site for all inspections.
- c. Any work not completed when inspector arrives which was requested for, shall be billed to the contractor at the current inspector's rate
- d. Any work completed without inspection or approval shall be removed, exposed or replaced at the cost of the contractor.
- e. Contractor shall call for inspection for the following items:

**i. Final grading**

- ii. Weed-abatement Observation
- iii. Tree and shrub layout
- iv. Tree and shrub planting pits
- v. Finish grade prior to hydro-seeding
- vi. Final Inspection

**3. Submittals:**

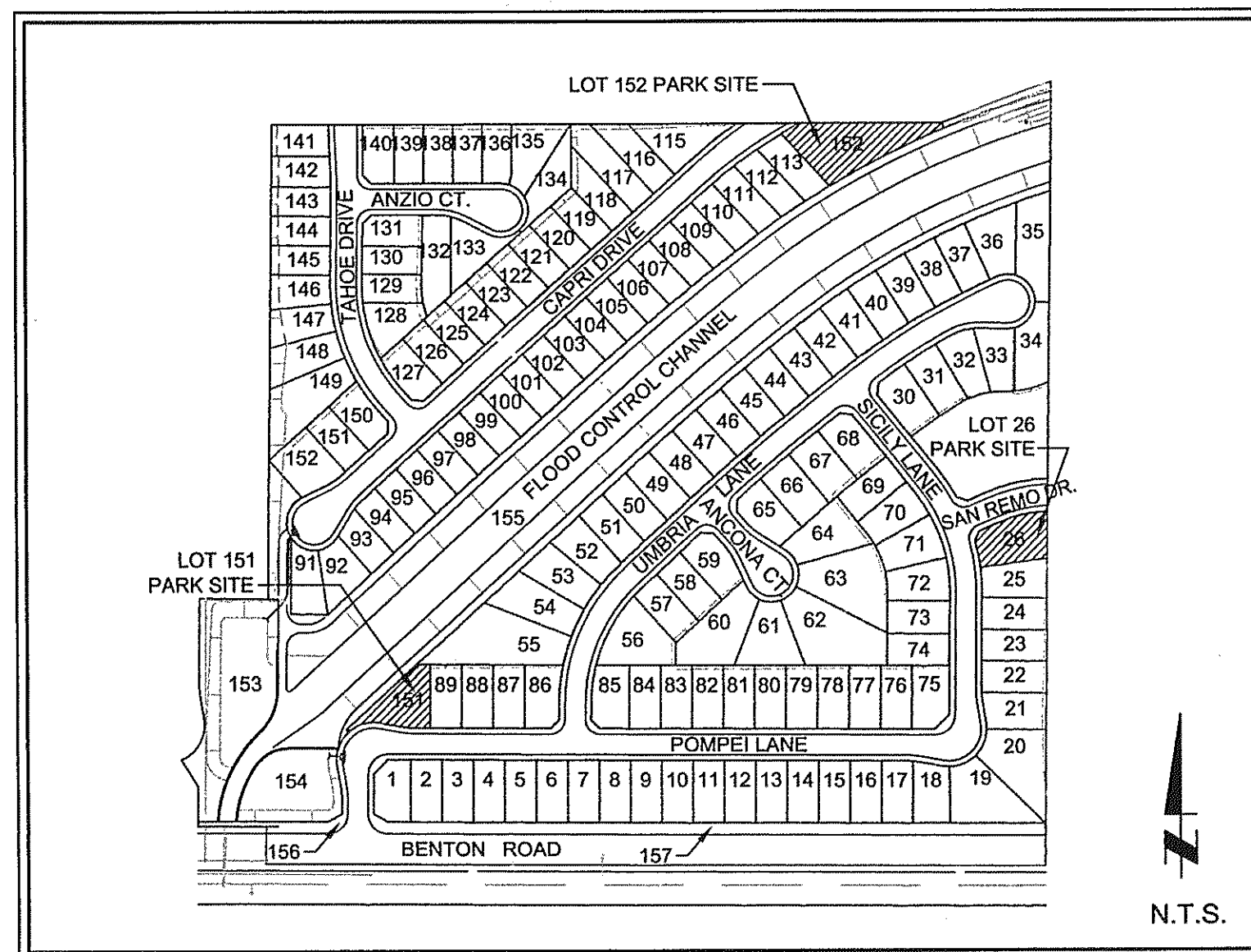
- a. All submittals shall be submitted within 15 days after receipt of executed contract.
- b. Contract shall submit the follow items but not limited to:

- i. Plant material proof of purchase with listed nurseries and material sizes for approval
- ii. All soil amendments
- iii. Bark mulch
- iv. Soil report
- v. Labels for all herbicide and fertilizers used
- vi. Hydro-seed mix

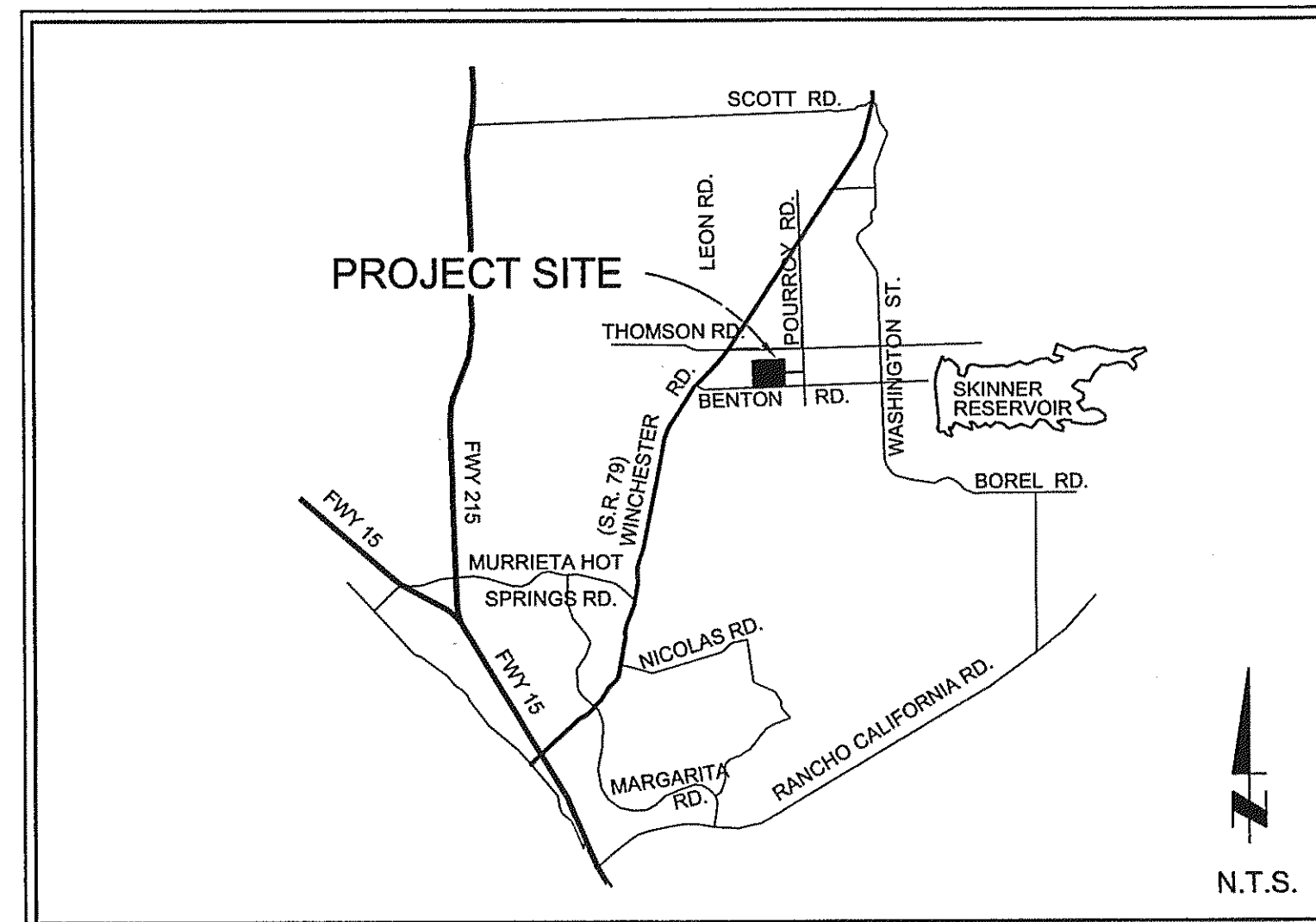
**PREPARED FOR:**  
 KB HOME - COASTAL INC. - TEMECULA DIVISION  
 26201 YNEZ ROAD, SUITE 104  
 TEMECULA, CA 92591  
 (909) 587-3300, FAX (909) 587-0562  
 CONTACT: SCOTT HANSEN

**PREPARED BY:**  
 SKA - LANDSCAPE ARCHITECTURE, INC.  
 6153 FAIRMOUNT AVE., SUITE 260  
 SAN DIEGO, CA 92120  
 (619) 584-5444, FAX (619) 584-5448  
 CONTACT: JOHN O'MALLEY / KIM TAKAKI

**CLIENT/  
 LANDSCAPE ARCHITECT**



**KEY MAP**



**VICINITY MAP**

**AMERICANS WITH DISABILITIES NOTES**

- ALL SLOPES SHOWN ON THIS PLAN WERE DESIGNED AT OR BELOW MAXIMUMS ALLOWED BY THE AMERICANS WITH DISABILITY ACT ACCESS GUIDE (A.D.A.A.G.) IN ORDER TO ALLOW FOR CONSTRUCTION TOLERANCES. IT IS THE CONTRACTORS RESPONSIBILITY TO FAMILIARIZE THEMSELVES WITH A.D.A.A.G. AND IN THE EVENT THAT A DESIGN QUESTION SHOULD ARISE, OR A FIELD CONDITION PRESENT ITSELF THAT IS DIFFERENT THAN SHOWN ON THESE PLANS, WORK SHOULD CEASE AND THE ENGINEER BE NOTIFIED SO THAT AN ACCEPTABLE SOLUTION CAN BE DETERMINED.
- THE CONTRACTOR IS ADVISED TO CAREFULLY CHECK ALL PHASES OF WORK RELATING TO A.D.A.A.G. ACCESS FOR THIS PROJECT. SINCE THE CODE DOES NOT ALLOW FOR A CONSTRUCTION TOLERANCE, ANY CONSTRUCTION THAT EXCEEDS MAXIMUM OR MINIMUM DIMENSIONS AND SLOPES AS CALLED OUT BY A.D.A.A.G. ARE SUBJECT TO REJECTION BY THE COUNTY AND MAY BE REQUIRED TO BE REMOVED AND REPLACED.
- SINCE THE CIVIL ENGINEER OR SURVEYOR CANNOT CONTROL THE EXACT METHODS OR MEANS USED BY THE GENERAL CONTRACTOR OR THEIR SUB-CONTRACTOR DURING GRADING AND CONSTRUCTION OF THE PROJECT, THE CIVIL ENGINEER OR SURVEYOR ASSUMES NO RESPONSIBILITY FOR FINAL ACCEPTANCE OF A.D.A.A.G. RELATED ITEMS OF THIS PROJECT BY THE COUNTY, ANY OTHER AUTHORITY OR OTHER AFFECTED PARTIES.

COMPLIANCE WITH A.D.A.A.G. CONSTRUCTION REQUIREMENTS WILL BE THE SOLE RESPONSIBILITY OF THE GENERAL CONTRACTOR AND THEIR SUB-CONTRACTORS.

Landscape quantities:  
 37,400 Total sq. ft. Valley-Wide LMD area

TITLE SHEET	1
CONSTRUCTION PLAN	2
CONSTRUCTION DETAILS	3-4
CONSTRUCTION NOTES	5-6
IRRIGATION PLAN	7
IRRIGATION DETAILS	8
IRRIGATION NOTES	9-10
PLANTING PLAN	11-12
PLANTING DETAILS	13
PLANTING NOTES	14

**SHEET INDEX**

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**VALLEY WIDE RECREATION & PARK DISTRICT**  
 (909) 654-1505

**APPROVED**

Samuel W. Coopp Date: 10-5-04

**S.K.A.**

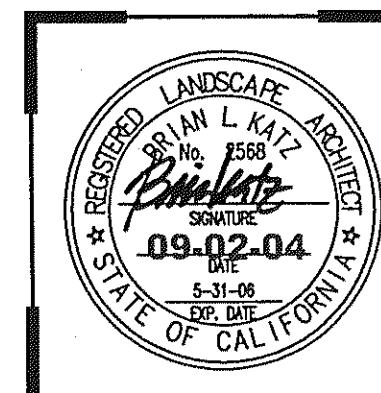
LANDSCAPE ARCHITECTURE  
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DATE	REVISIONS	BY
9/11/03	REVISED PER VALLEY-WIDE PLAN CHECK COMMENTS DATED 9/2/03	JA
1/12/04	REVISED PER VALLEY-WIDE PLAN CHECK COMMENTS DATED 12/20/03	MVM
3/8/04	REVISED PER VALLEY-WIDE PLAN CHECK COMMENTS DATED 2/27/04	MVM
3/10/04	IRRIGATION CONTROLLER CLARIFICATION	MVM
9/2/04	REVISED PER VALLEY-WIDE PLAN CHECK COMMENTS DATED 9/2/04	MVM

Community Parks  
 Lots 26, 151 & 152  
 RHEINGANS, tract 30167  
 COUNTY OF RIVERSIDE  
 KB HOME - COASTAL

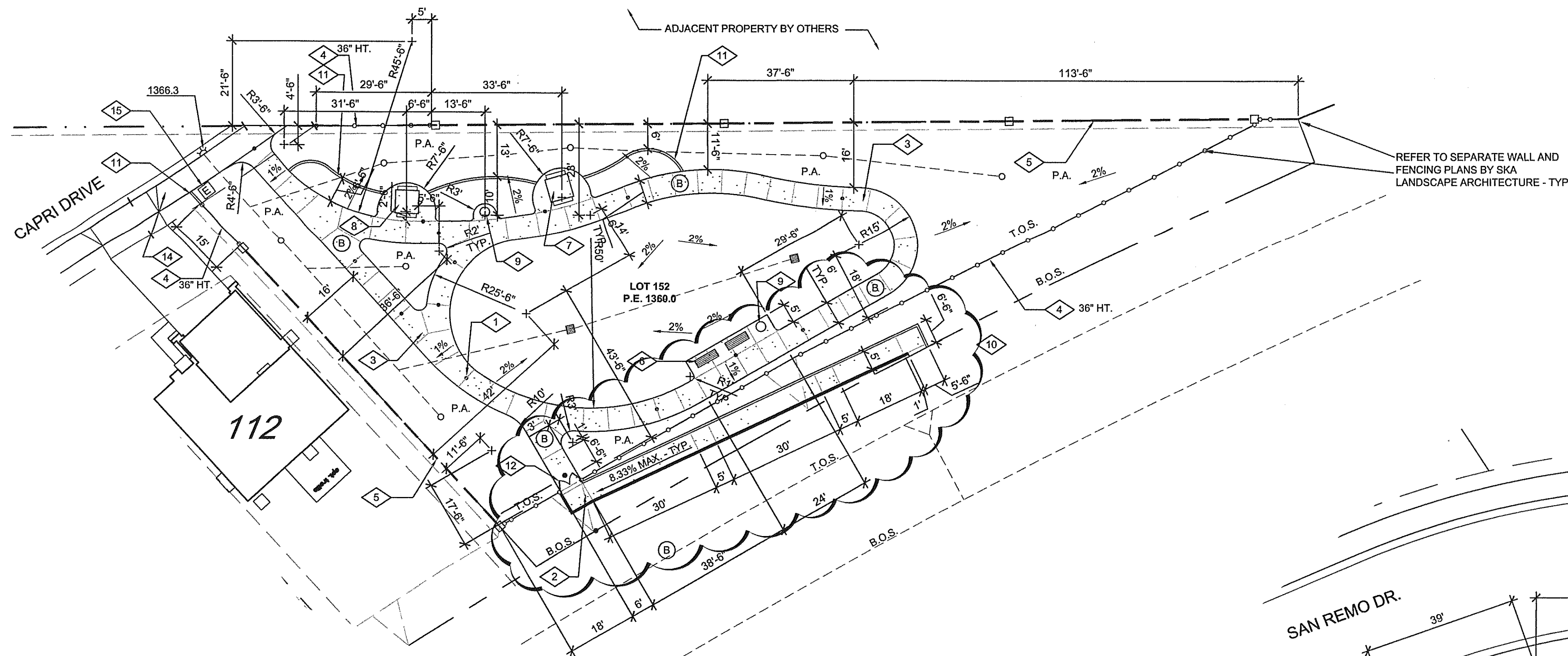
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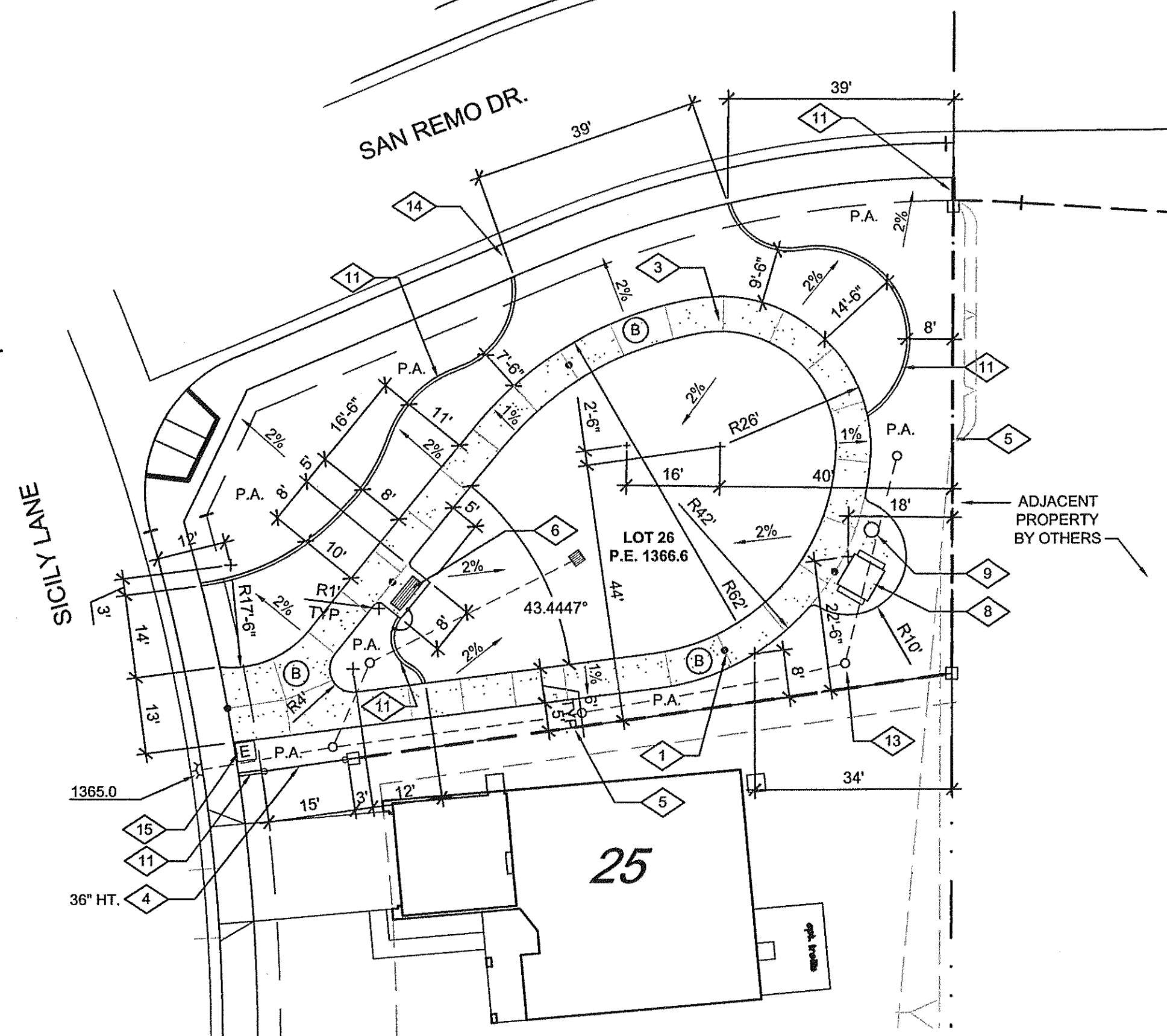
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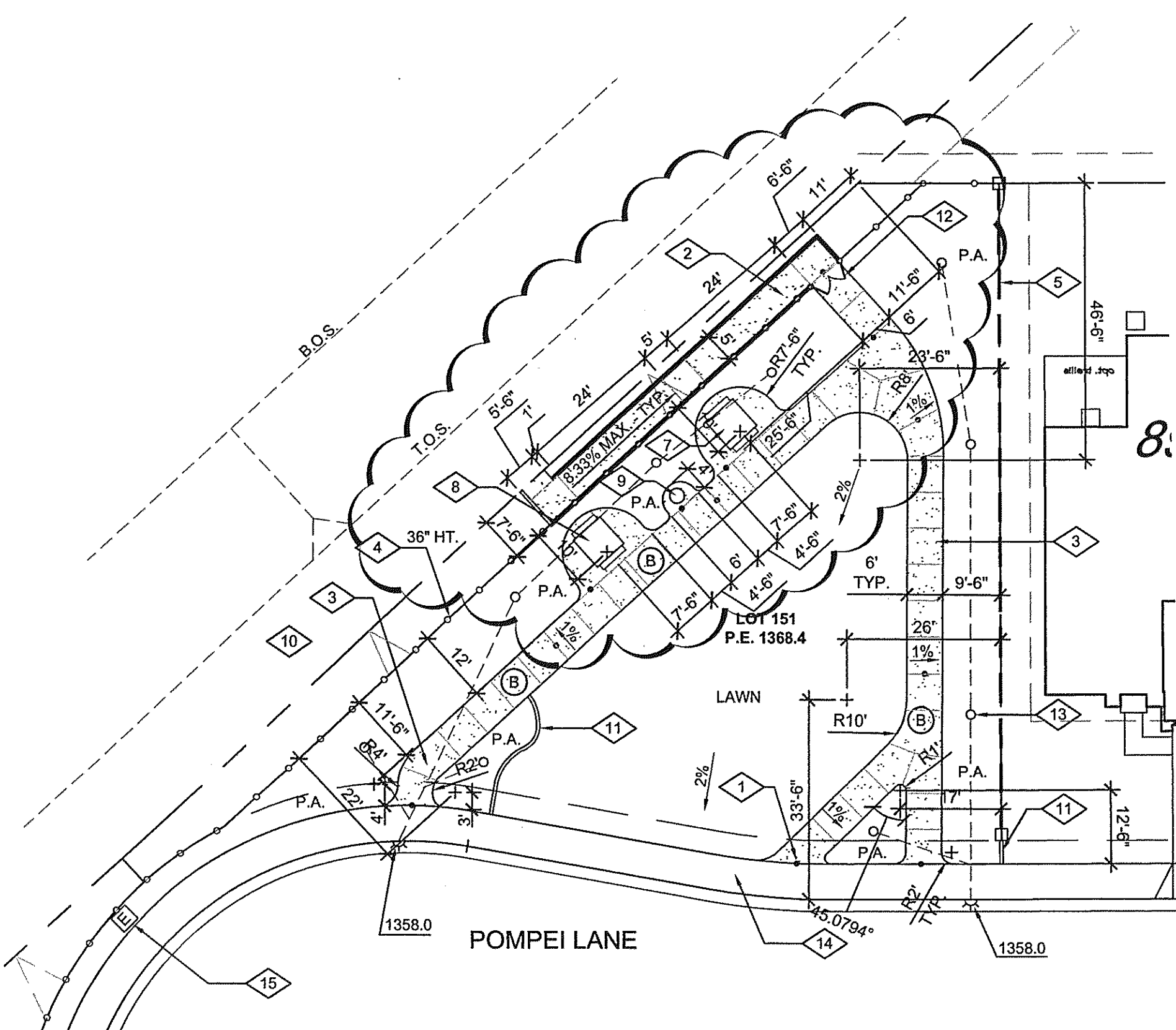
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LOT 152 PARK SITE



LOT 26 PARK SITE



LOT 151 PARK SITE

**CONSTRUCTION LEGEND**

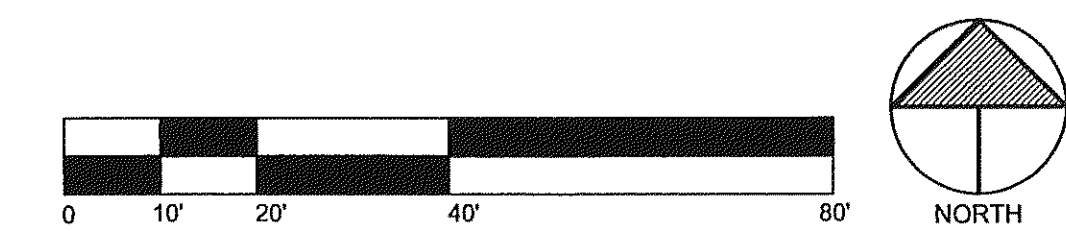
1	SCORING AND EXPANSION JOINTS - SEE DETAIL F, SHEET 3
2	ADA ACCESSIBLE CONCRETE RAMP W/CURBS AND HANDRAILS - SEE DETAILS I AND J, SHEET 4
3	CONCRETE PAVING - SEE DETAIL F, SHEET 3
4	WROUGHT IRON FENCE PER SEPARATE FENCING AND WALL PLANS
5	SPLIT FACE BLOCK WALL PER SEPARATE FENCING AND WALL PLANS
6	PARK BENCH (3); MODEL No. 1267 / COLOR GREEN AVAILABLE AT MIRACLE RECREATION (800) 523-4202. SEE DETAIL H, SHEET 3
7	PICNIC TABLE (5); MODEL No. 1156-2 / COLOR GREEN AVAILABLE AT MIRACLE RECREATION (800) 523-4202. SEE DETAIL H, SHEET 3
8	ADA ACCESSIBLE PICNIC TABLE (3); MODEL No. 1142 / COLOR GREEN AVAILABLE AT MIRACLE RECREATION (800) 523-4202. SEE DETAIL I, SHEET 3
9	TRASH RECEPTACLE (3); MODEL No. 1129 / COLOR GREEN AVAILABLE AT MIRACLE RECREATION (800) 523-4202. SEE DETAIL I, SHEET 3
10	15' WIDE DECOMPOSED GRANITE TRAIL / ACCESS ROAD PER SEPARATE CHANNEL AND DETENTION BASIN PLANS
11	CONCRETE MOWCURB - SEE DETAIL G, SHEET 3
12	WROUGHT IRON PEDESTRIAN GATE PER SEPARATE FENCING AND WALL PLANS
13	LANDSCAPE DRAINAGE - SEE DETAILS A, B & D, SHEET 3
14	CITY SIDEWALK PER CIVIL ENGINEER
15	ELECTRIC METER / PEDESTAL FOR IRRIGATION CONTROLLER - FINAL LOCATION PER UTILITY PLANS BY BUTSKO

**CONCRETE FINISH KEY**

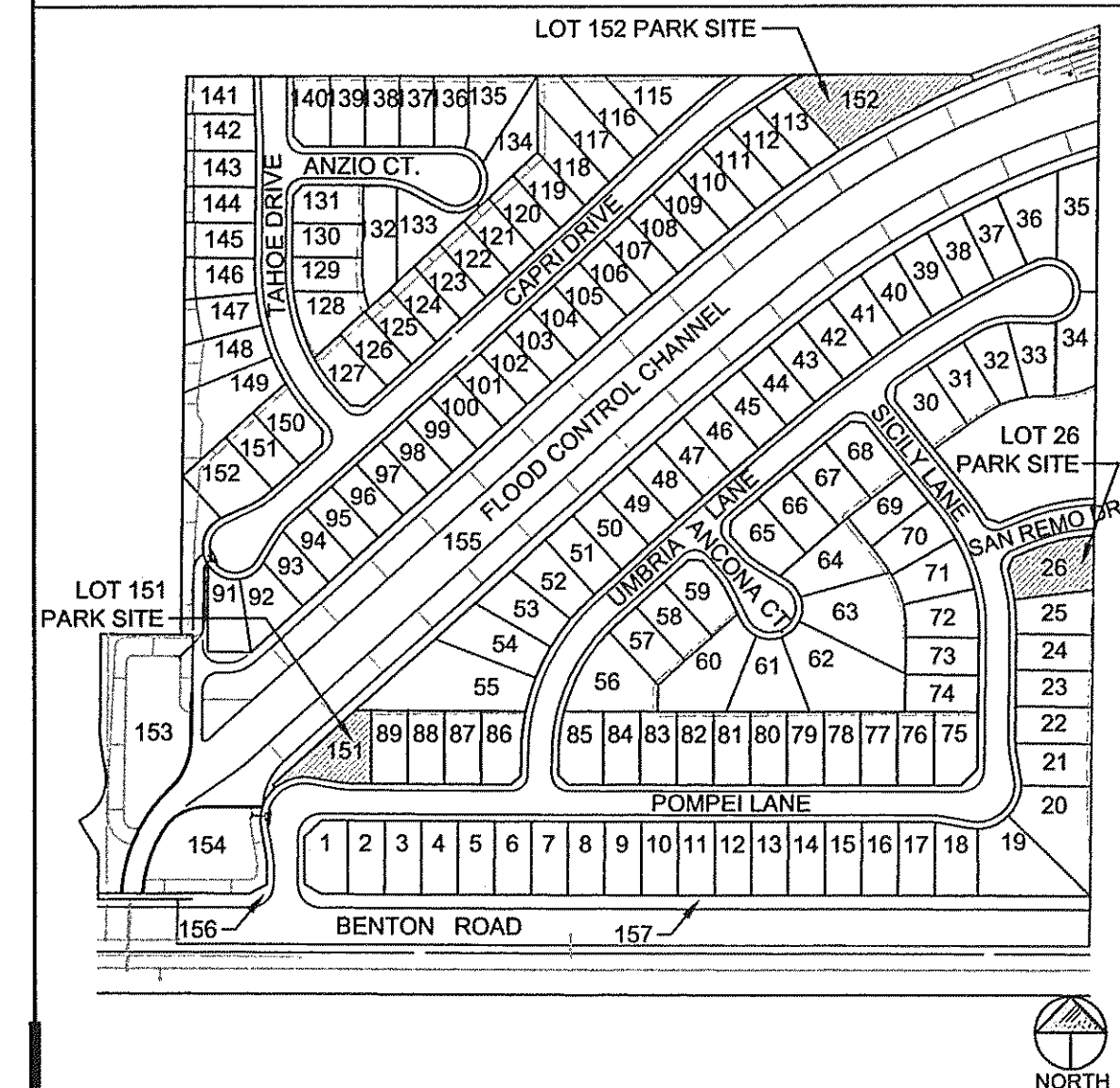
A	CONCRETE PAVING WITH NO COLOR AND ACID WASH FINISH.
B	CONCRETE PAVING WITH NO COLOR AND BROOM FINISH.

**CONSTRUCTION SYMBOLS**

CLR	CLEAR
TOS	TOP OF SLOPE
TYP	TYPICAL
R	RADIUS EQUAL
FS	FINISH SURFACE
∧	FACE OF RISER
FG	FINISH GRADE
→	EXPANSION JOINT-SEE CONSTRUCTION DETAILS
PA	PLANTING AREA
⤵	ALIGN SYMBOL



**KEY MAP**



VALLEY WIDE RECREATION & PARK DISTRICT

**APPROVED**

Samuel W. Goepf Date: 10-5-04

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SEE SHEETS 3 & 4 FOR CONSTRUCTION DETAILS  
SEE SHEETS 5 & 6 FOR CONSTRUCTION GENERAL NOTES

**S.K.A.**

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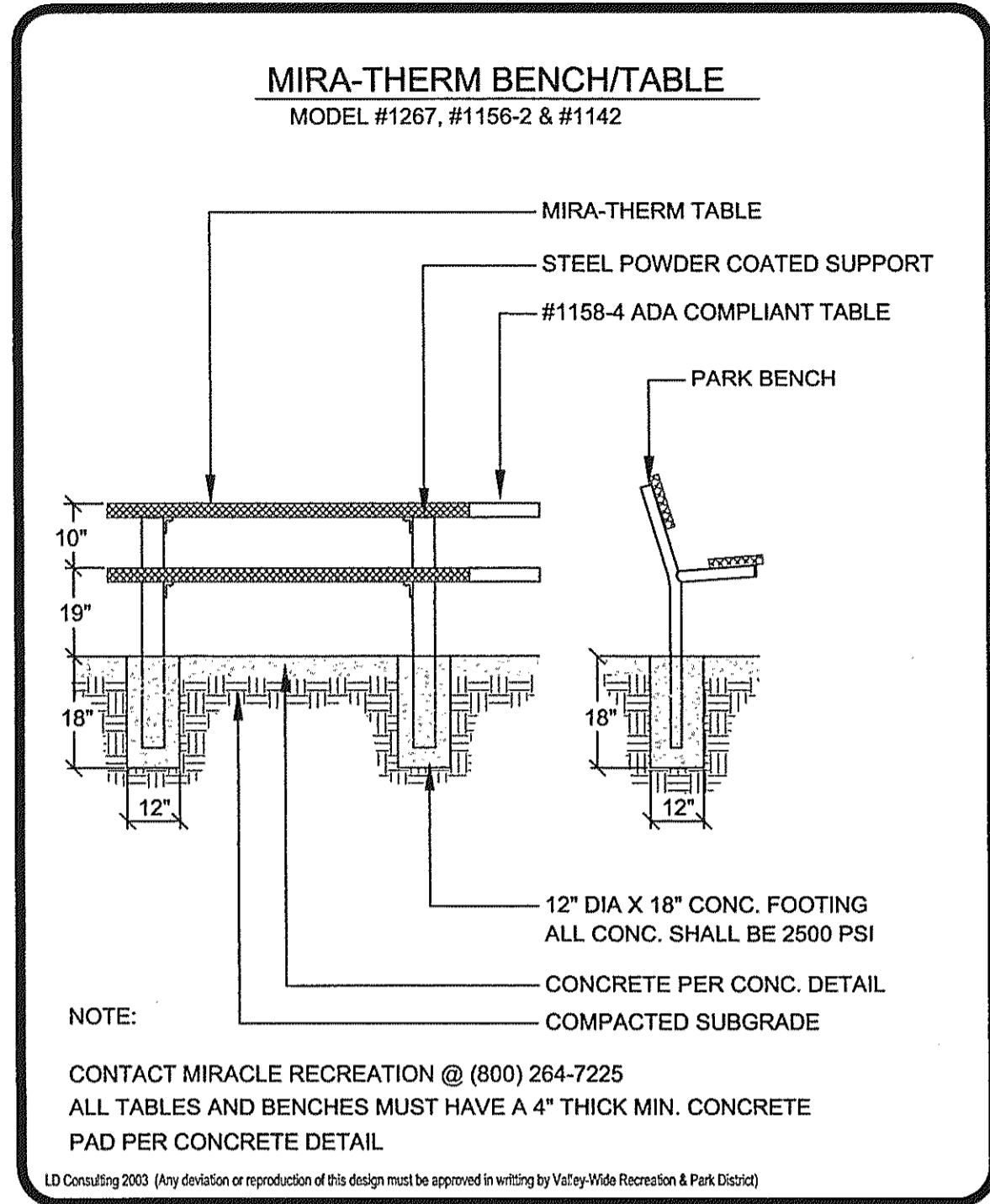
**CONSTRUCTION PLAN**

BRITTA L. KATZ  
LANDSCAPE ARCHITECTURE  
09-02-04  
STATE OF CALIFORNIA

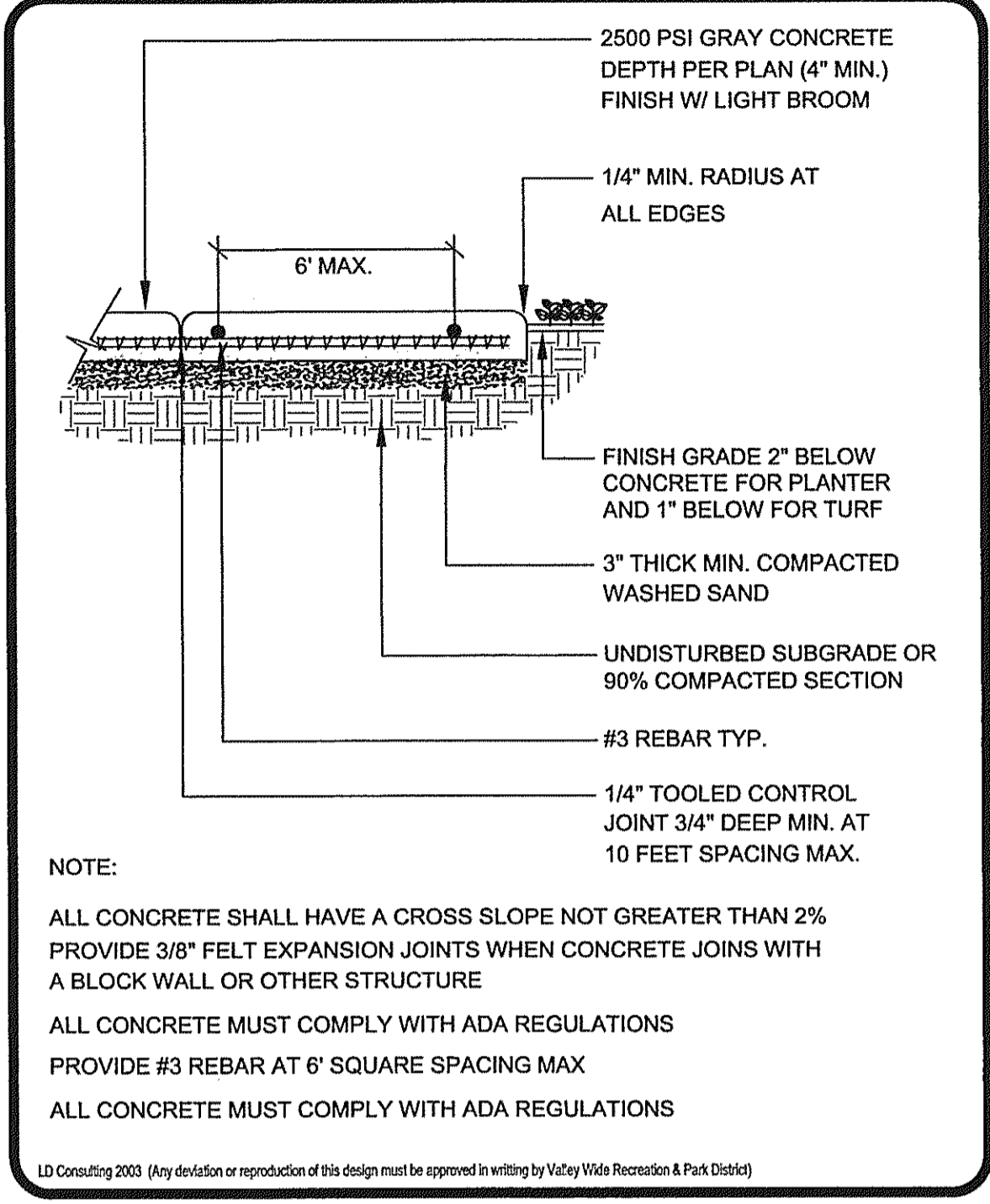
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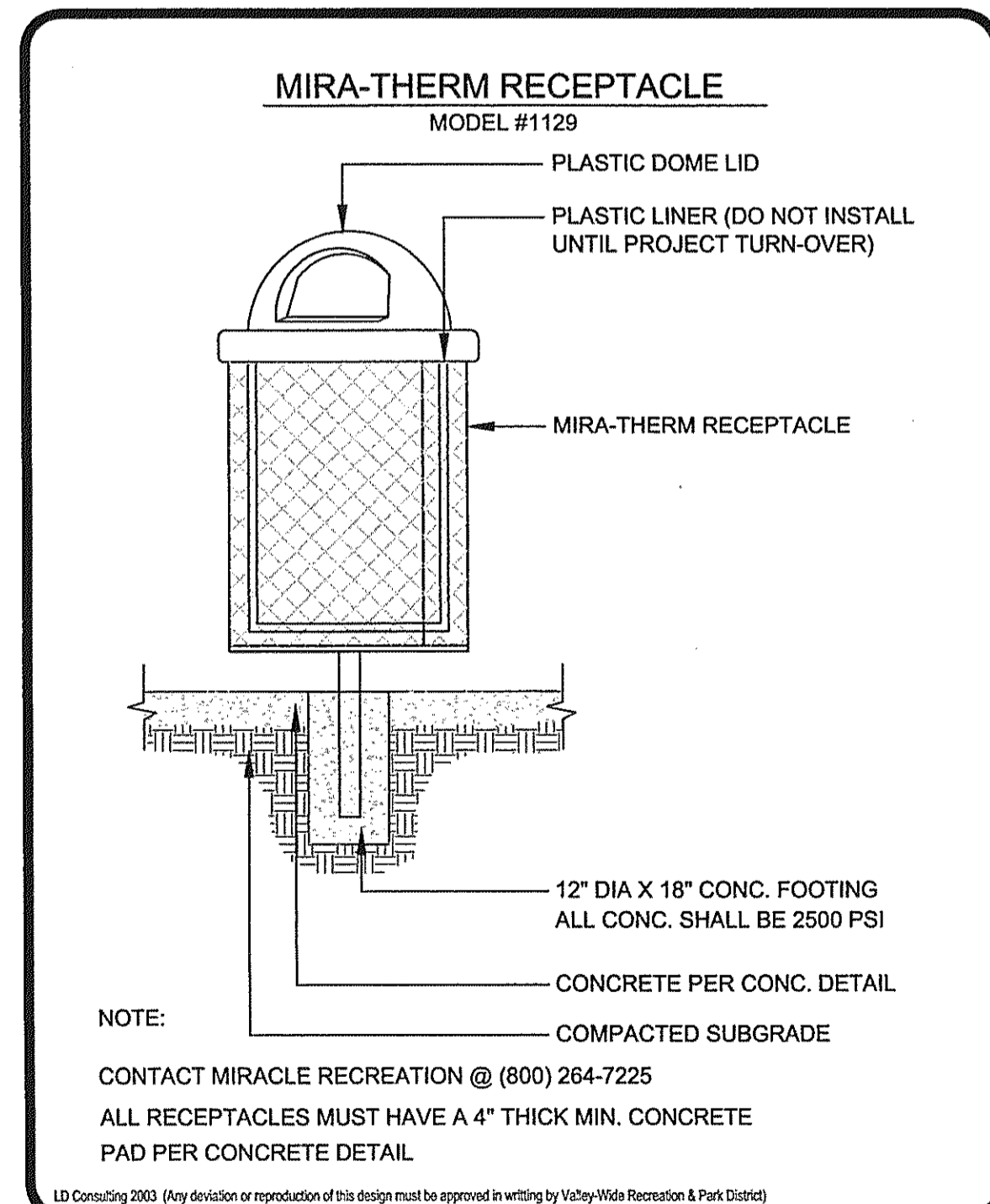
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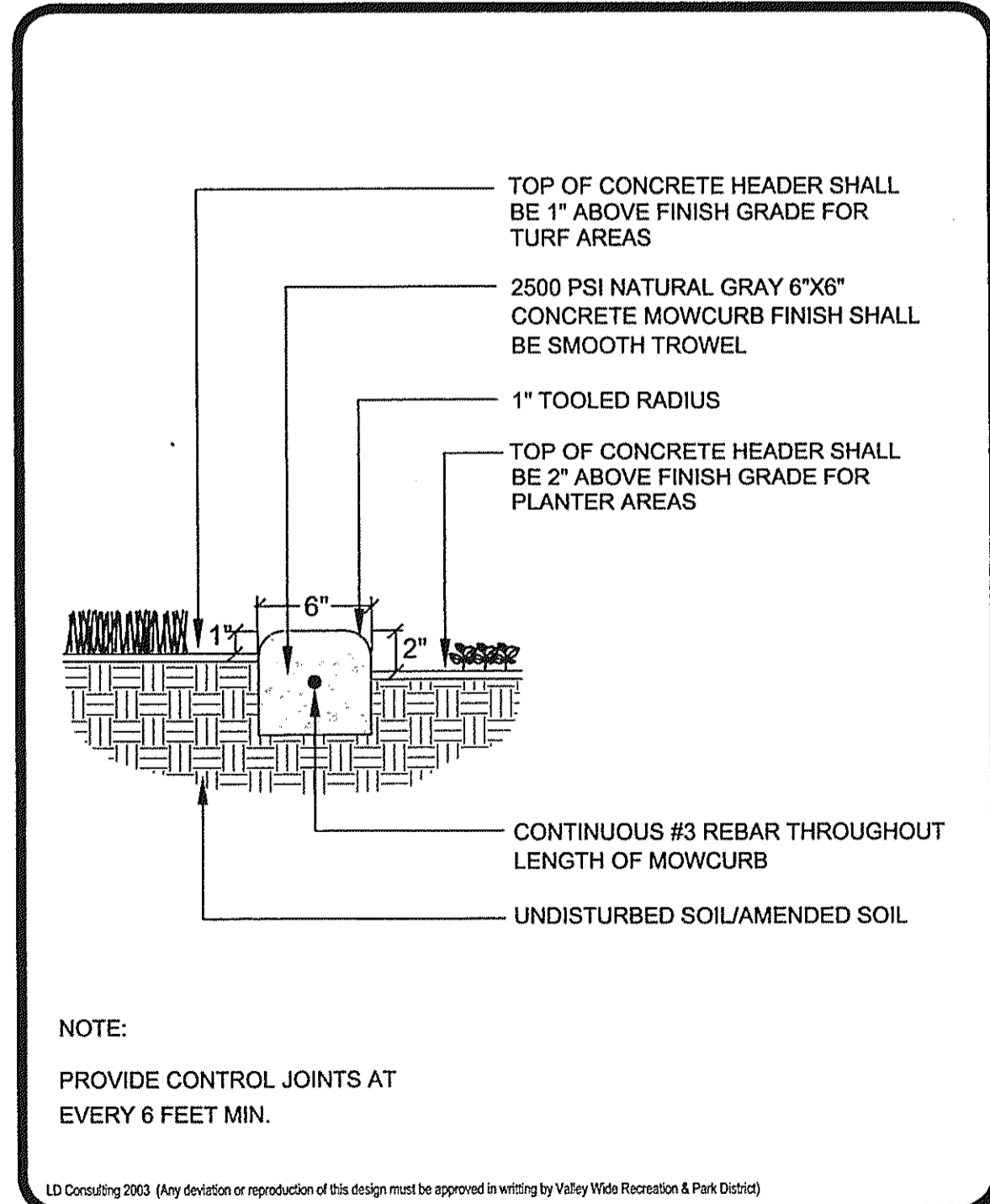
**VALLEY WIDE RECREATION**  
5/03 **PARK BENCH / TABLE** LC-28



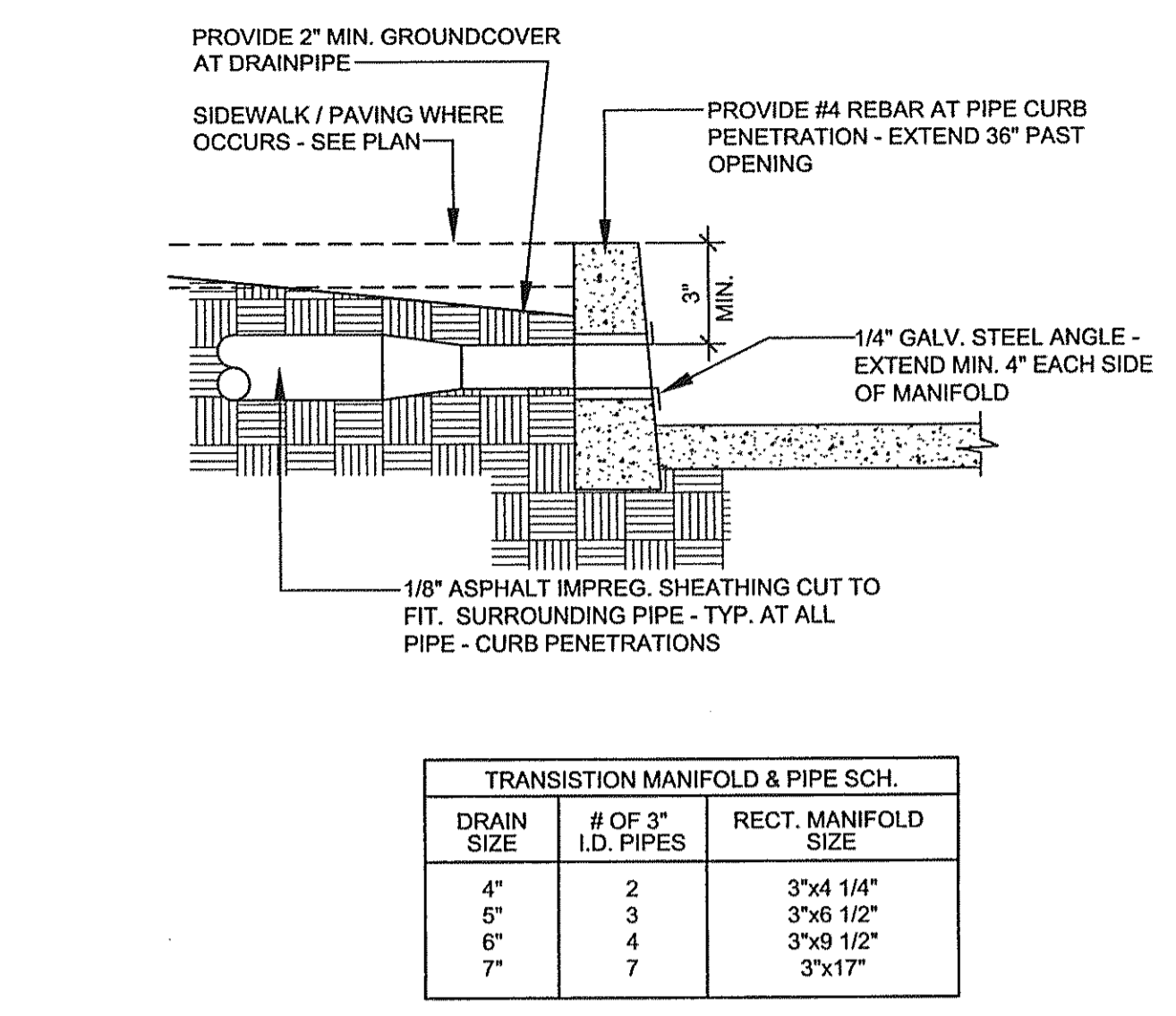
**VALLEY WIDE RECREATION**  
5/03 **CONCRETE FLATWORK** LC-2



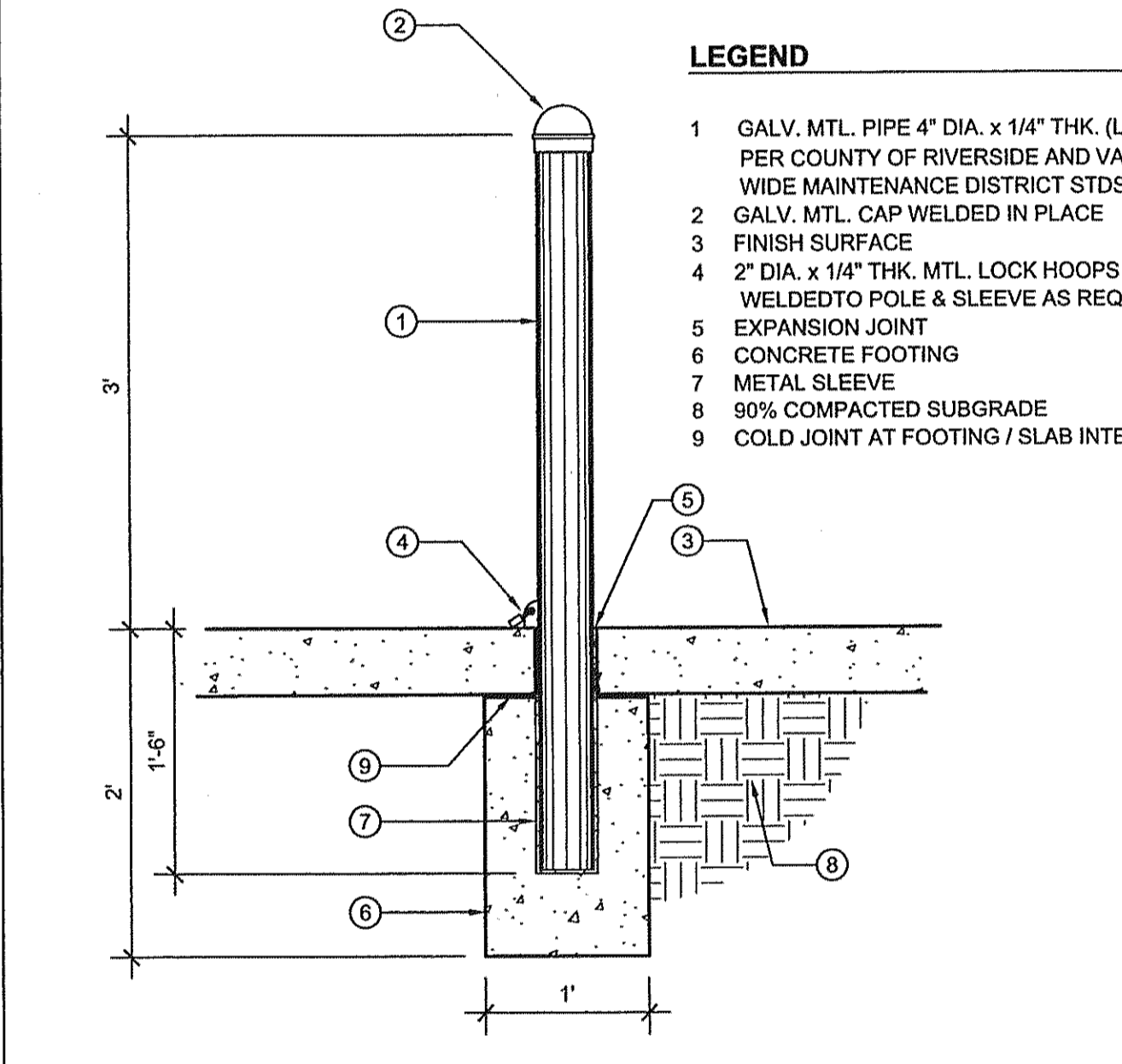
**VALLEY WIDE RECREATION**  
5/03 **TRASH RECEPTACLE** LC-27



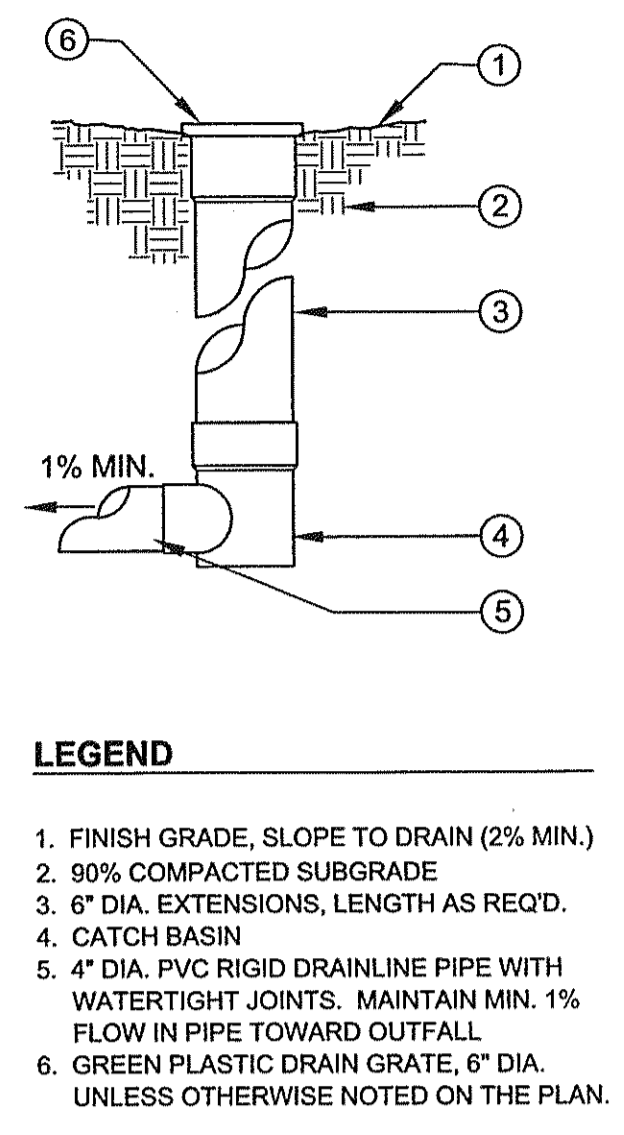
**VALLEY WIDE RECREATION**  
5/03 **CONCRETE MOWCURB** PL-8



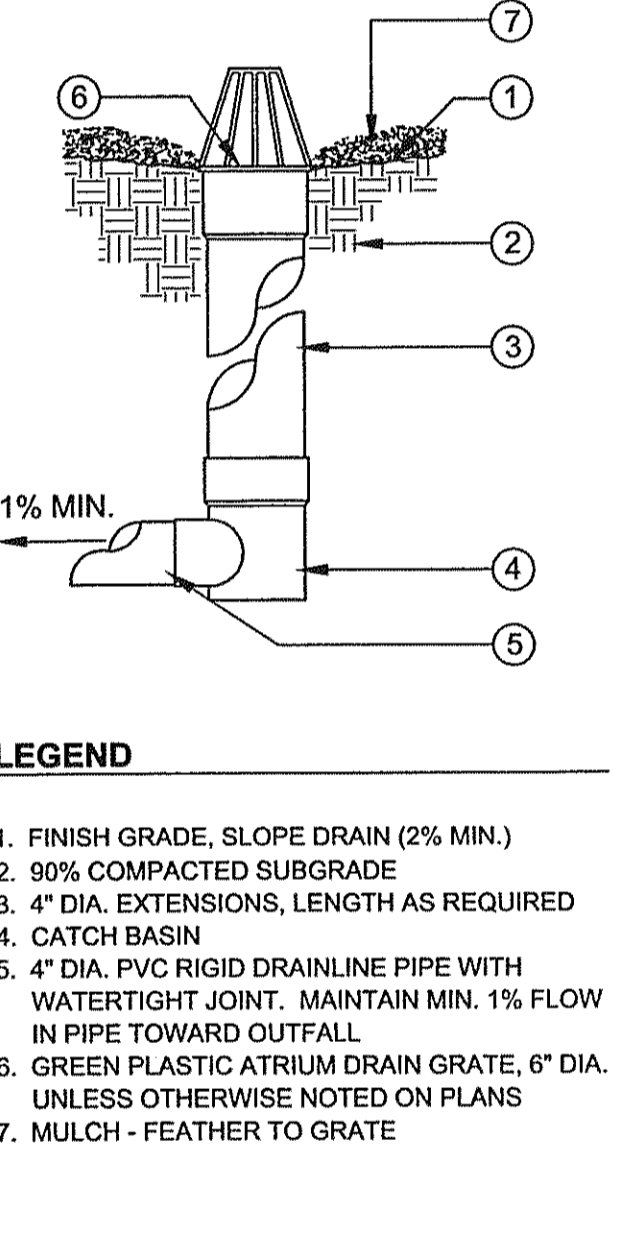
**C DRAIN AT CURB** 3/4"=1'-0"



**D REMOVABLE BOLLARD** 1"=1'-0"



**A DRAINAGE AT LAWN AREA** 1"=1'-0"



**B DRAINAGE AT SHRUB AREA** 1"=1'-0"

**VALLEY WIDE RECREATION & PARK DISTRICT**  
**APPROVED**  
Samuel W. Roopp Date: 10-5-04

**HOLD HARMLESS & INDEMNIFICATION CLAUSE**  
CONTRACTOR AGREES TO ASSUME SOLE 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/DEVELOPER, THE COUNTY OF LOCAL JURISDICTION AND THE LANDSCAPE DESIGNER HARMLESS FROM ANY AND ALL LIABILITY REAL OR ALLEGED, IN CONNECTION WITH THE PERFORMANCE OF WORK ON THIS PROJECT, EXCEPTING FOR LIABILITY ARISING FROM SOLE NEGLIGENCE OF THE OWNER/DEVELOPER, COUNTY OF LOCAL JURISDICTION AND THE LANDSCAPE DESIGNER.

**S-K-A**  
LANDSCAPE ARCHITECTURE  
SITE PLANNING  
6153 Fairmount Ave. Suite 260  
San Diego, CA 92120  
T 619-584-5444 F 619-584-5448  
mail@skalnc.com

DATE	REVISIONS	BY
9/11/03	REVISED PER VALLEY-WIDE PLAN CHECK COMMENTS DATED 8/21/03	JA
1/12/04	REVISED PER VALLEY-WIDE PLAN CHECK COMMENTS DATED 12/5/03	MVM
3/8/04	REVISED PER VALLEY-WIDE PLAN CHECK COMMENTS DATED 2/27/04	MVM
3/10/04	IRRIGATION CONTROLLER CLARIFICATION	MVM
9/2/04	REVISED PER VALLEY-WIDE PLAN CHECK COMMENTS DATED 8/24/04	MVM

**Community Parks**  
**Lots 26, 151 & 152**  
**RHEINGANS, tract 30167**  
COUNTY OF RIVERSIDE  
KB HOME - COASTAL

**CONSTRUCTION DETAILS**

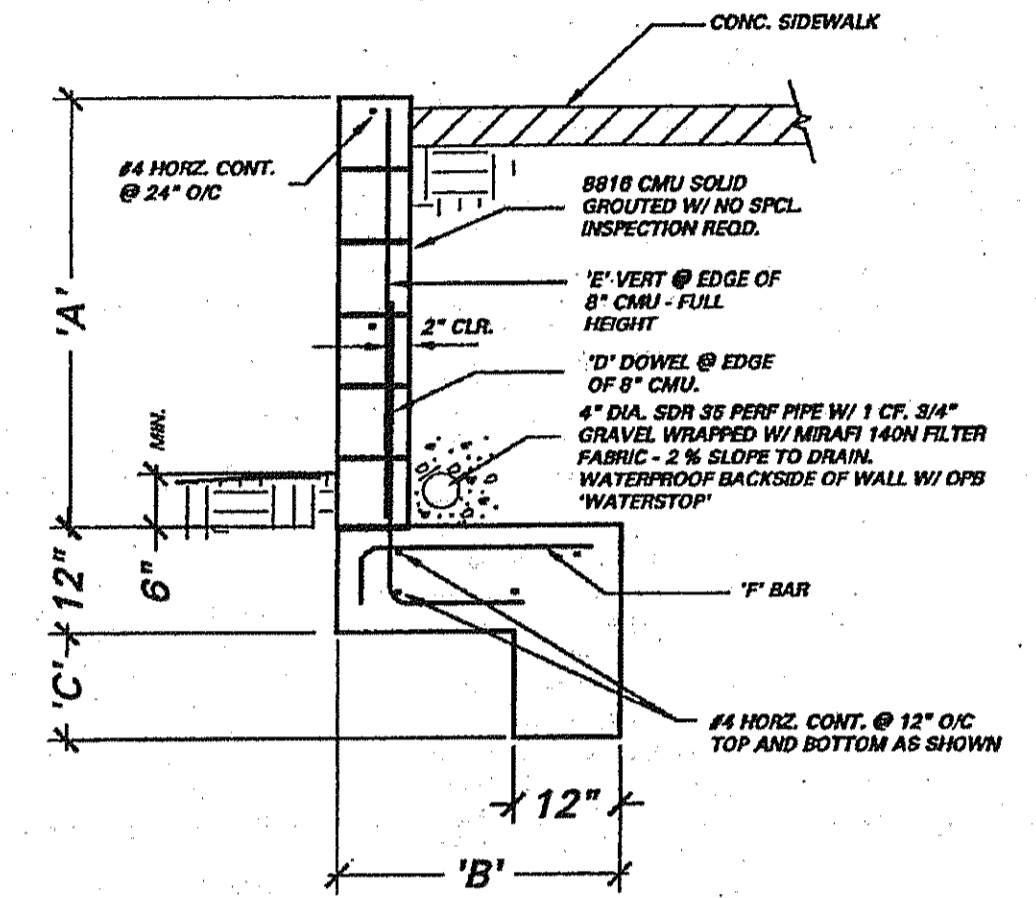
REGISTERED LANDSCAPE ARCHITECT  
BRIAN L. HAY  
2558  
09-02-04  
DATE  
5-31-04  
STATE OF CALIFORNIA

Date: 7/11/03  
Scale: N.T.S.  
Drawn by: STAFF  
Checked by: JO  
Job No: 02-065  
Sheet No. 3  
Of 14 Sheets



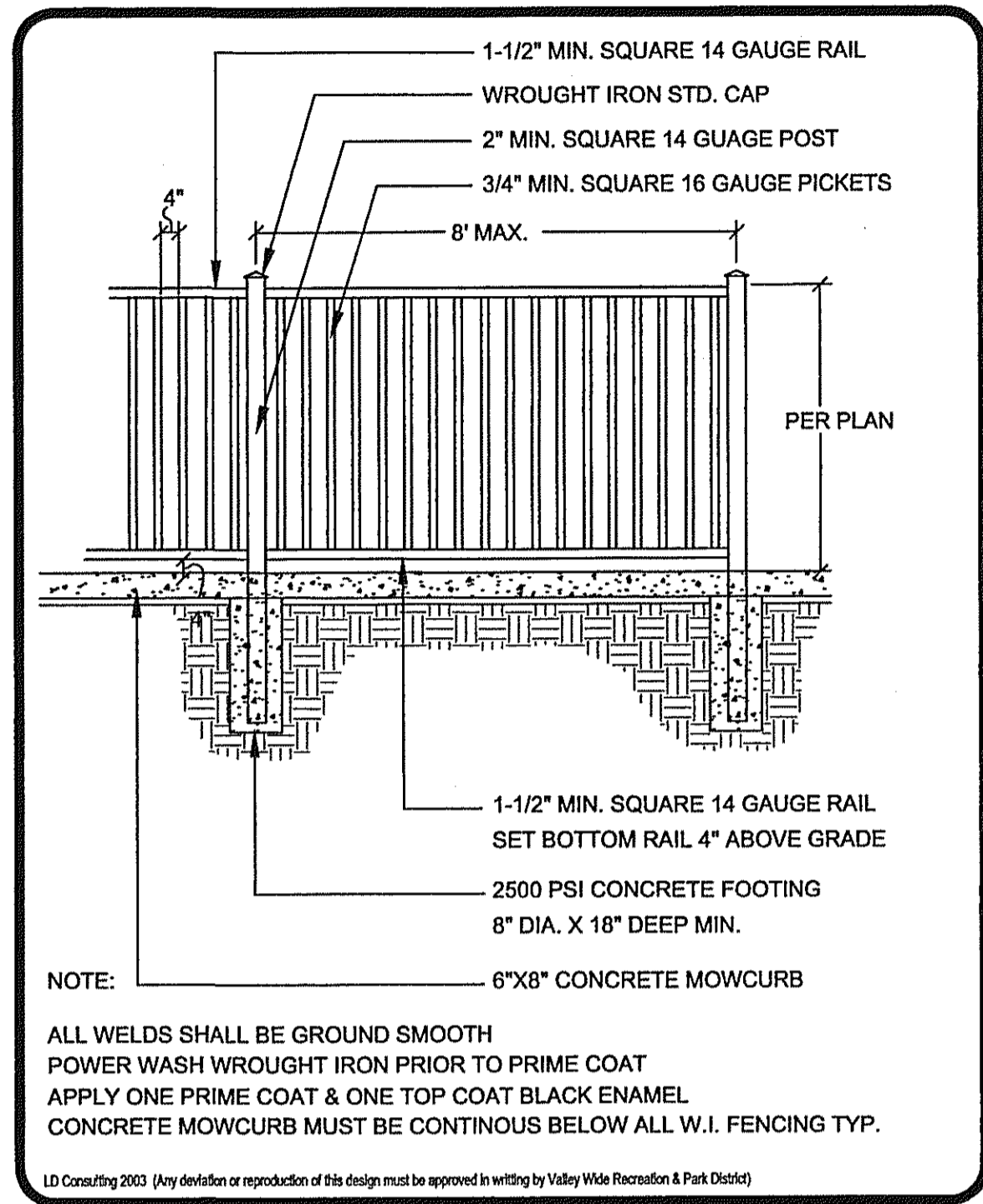
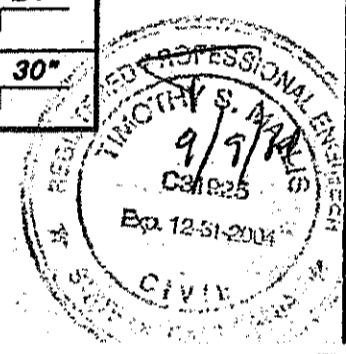
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**NOTES:**  
 17M = 1500 PSI WITH NO SPECIAL INSPECTION.  
 CONCRETE BLOCK SHALL CONFORM TO UBC STD. 21-4 & USE ODP  
 TYPE 5 MORTAR PER UBC STD. NO. 21-3.5.  
 USE ASTM A615 GRADE 60 STEEL REIN. GRADE 60 FOR #5 BARS  
 AND UP.  
 GROUT STRENGTH TO BE 3000 PSI MIN. PER UBC STD. NO. 21-12.  
 FOOTING CONCRETE: 2500 PSI MIN. @ 28 DAYS USED FOR DESIGN.  
 PROVIDE 3" MIN. CONCRETE REBAR COVER FOR ANY FOOTING CAST  
 AGAINST NATURAL SOIL.  
**FOR RETAINING WALLS:**  
 USE SELECT SAND/GRAVEL BACKFILL W/ 50-50  
 PROVIDE A ASTM C-33 3/4" GRAVEL SUBDRAIN AS SHOWN.  
 WATERPROOF BACKSIDE OF WALL W/ 60# "WATERSTOP" OR  
 EQUAL.  
 PROVIDE PROPER SHORING DURING CONSTRUCTION.



'A'	'B'	'C'	'D'	DOWEL	'E' VERT	'F' BAR
2'-0"	1'-6"	N/A	#4@16" O/C	33"	N/A	N/A
2'-8"	2'-0"	N/A	#4@16" O/C	41"	N/A	#4@16" O/C 18"
3'-4"	2'-0"	6"	#4@16" O/C	49"	N/A	#4@16" O/C 18"
4'-0"	2'-8"	6"	#4@16" O/C	33"	#4@16" O/C	#4@16" O/C 24"
4'-8"	3'-0"	6"	#4@16" O/C	33"	#4@16" O/C	#4@16" O/C 30"

**KB HOME TR. NO. 30167  
 RETAINING WALL @ SIDEWALK**

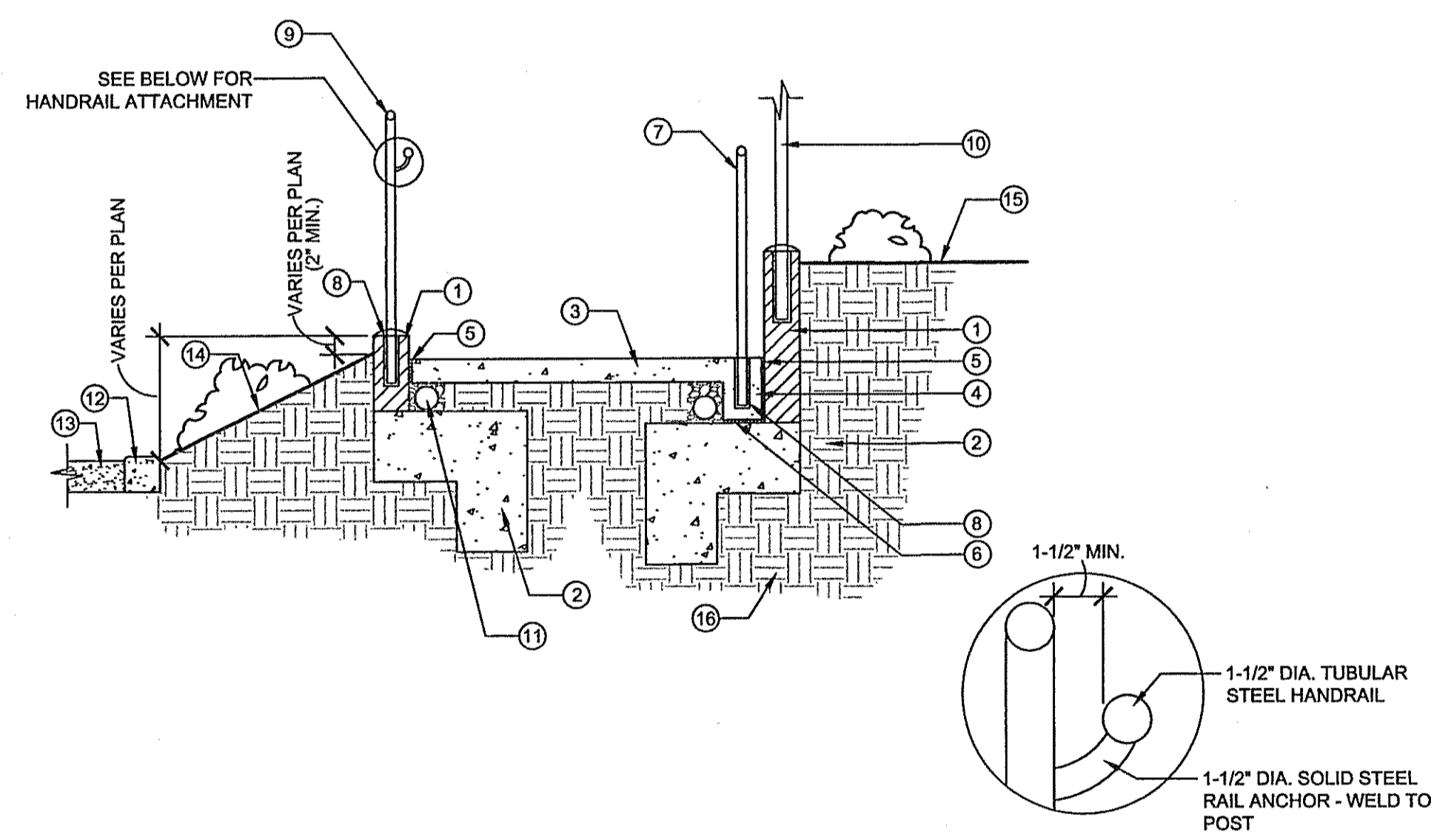


**VALLEY WIDE RECREATION**  
 5/03  
**WROUGHT IRON FENCING LC-10**

**IMPORTANT NOTE:** WROUGHT-IRON FENCING TO BE CONSTRUCTED WITH SEPARATE PLAN / PERMIT. DETAIL INCLUDED FOR REFERENCE ONLY.

**I ACCESSIBLE RAMP WITH RETAINING WALLS (CONDITION AT TOP OF RAMP)**

SCALE: 1/2" = 1'-0"



- TAN SLUMP BLOCK RETAINING WALL WITH MORTAR CAP - FINAL DIMENSIONS AND REINFORCING PER STRUCTURAL ENGINEER. SEE SEPARATE DETAIL, THIS SHEET.
- CONCRETE FOOTING - FINAL DIMENSIONS AND REINFORCING PER STRUCTURAL ENGINEER - SEE SEPARATE DETAIL, THIS SHEET
- 4" THICK CONCRETE RAMP - REFER TO SEPARATE CONCRETE PAVING DETAIL
- THICKENED EDGE TO ACCOMMODATE TUBULAR STEEL POST
- 1/4" EXPANSION JOINT W/ TEAR-OFF PLASTIC CAP AND MASTIC SEALER
- BOND BREAKING AGENT
- 1-1/2" DIA. TUBULAR STEEL POST FOR HANDRAIL - SPACE AT 4' O.C. MAX
- CORE-DRILL 3" DIA. X 8" DEEP HOLES FOR HANDRAIL POSTS - MAINTAIN 2" MIN. TO OUTSIDE EDGE OF CONCRETE. SET POST W/ "POR-ROK" OR APPROVED EQUAL & FILL VOIDS W/ SILICONE SEALANT.
- 42" HEIGHT GUARDRAIL - CONSTRUCTION TO MATCH WROUGHT-IRON FENCING W/ POSTS SPACED @ 4' O.C. MAX. - REFER TO SEPARATE DETAIL
- 2" DIA. TUBULAR STEEL FENCE POST (WHERE OCCURS) - CORE DRILL 3" X 12" DEEP HOLES AND SET POST W/ "POR-ROK" OR APPROVED EQUAL. FILL VOIDS W/ SILICONE SEALANT. REFER TO SEPARATE WROUGHT-IRON FENCING DETAIL.
- DRAIN PIPE, GRAVEL AND FILTER FABRIC PER STRUCTURAL ENGINEER - SEE SEPARATE DETAIL, THIS SHEET
- CONCRETE MOWCURB PER SEPARATE CHANNEL PLANS
- D.G. PATH PER SEPARATE CHANNEL PLANS
- 2:1 SLOPE PER CIVIL ENGINEER
- FINISH GRADE PER CIVIL ENGINEER
- 90% COMPACTED SUBGRADE OR PER SOILS REPORT

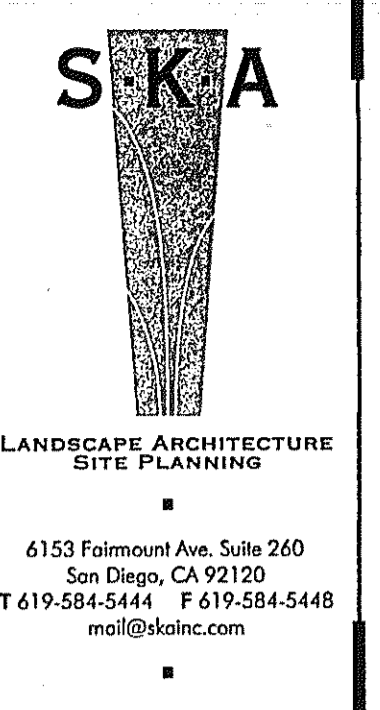
**J ACCESSIBLE RAMP WITH RETAINING WALLS (CONDITION AT MIDDLE OF RAMP)**

SCALE: 1/2" = 1'-0"

- TAN SLUMP BLOCK RETAINING WALL WITH MORTAR CAP - FINAL DIMENSIONS AND REINFORCING PER STRUCTURAL ENGINEER. SEE SEPARATE DETAIL, THIS SHEET.
- CONCRETE FOOTING - FINAL DIMENSIONS AND REINFORCING PER STRUCTURAL ENGINEER - SEE SEPARATE DETAIL, THIS SHEET
- 4" THICK CONCRETE RAMP - REFER TO SEPARATE CONCRETE PAVING DETAIL
- THICKENED EDGE TO ACCOMMODATE TUBULAR STEEL POST
- 1/4" EXPANSION JOINT W/ TEAR-OFF PLASTIC CAP AND MASTIC SEALER
- BOND BREAKING AGENT
- 1-1/2" DIA. TUBULAR STEEL POST FOR HANDRAIL - SPACE AT 4' O.C. MAX
- CORE-DRILL 3" DIA. X 8" DEEP HOLES FOR HANDRAIL POSTS - MAINTAIN 2" MIN. TO OUTSIDE EDGE OF CONCRETE. SET POST W/ "POR-ROK" OR APPROVED EQUAL & FILL VOIDS W/ SILICONE SEALANT.
- 42" HEIGHT GUARDRAIL - CONSTRUCTION TO MATCH WROUGHT-IRON FENCING W/ POSTS SPACED @ 4' O.C. MAX. - REFER TO SEPARATE DETAIL
- 2" DIA. TUBULAR STEEL FENCE POST (WHERE OCCURS) - CORE DRILL 3" X 12" DEEP HOLES AND SET POST W/ "POR-ROK" OR APPROVED EQUAL. FILL VOIDS W/ SILICONE SEALANT. REFER TO SEPARATE WROUGHT-IRON FENCING DETAIL.
- DRAIN PIPE, GRAVEL AND FILTER FABRIC PER STRUCTURAL ENGINEER - SEE SEPARATE DETAIL, THIS SHEET
- CONCRETE MOWCURB PER SEPARATE CHANNEL PLANS
- D.G. PATH PER SEPARATE CHANNEL PLANS
- 2:1 SLOPE PER CIVIL ENGINEER
- FINISH GRADE PER CIVIL ENGINEER
- 90% COMPACTED SUBGRADE OR PER SOILS REPORT

**VALLEY WIDE RECREATION & PARK DISTRICT**  
**APPROVED**  
 Samuel W. Goepfert Date: 10-5-04

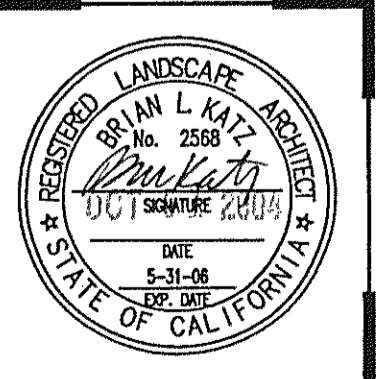
**HOLD HARMLESS & INDEMNIFICATION CLAUSE**  
 CONTRACTOR AGREES TO ASSUME SOLE RESPONSIBILITY FOR JOB SITE CONDITIONS DURING THE COURSE OF CONSTRUCTION OF THIS PROJECT, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY, THAT THIS REQUIREMENT SHALL APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS, AND THAT THE CONTRACTOR SHALL DEFEND, INDEMNIFY, AND HOLD THE OWNER/DEVELOPER, THE COUNTY OF LOCAL JURISDICTION AND THE LANDSCAPE DESIGNER HARMLESS FROM ANY AND ALL LIABILITY REAL OR ALLEGED, IN CONNECTION WITH THE PERFORMANCE OF WORK ON THIS PROJECT, EXCEPTING FOR LIABILITY ARISING FROM SOLE NEGLIGENCE OF THE OWNER/DEVELOPER, COUNTY OF LOCAL JURISDICTION AND THE LANDSCAPE DESIGNER.



DATE	REVISIONS	BY
9/1/03	REVISED PER VALLEY-WIDE PLAN CHECK COMMENTS DATED 02/10/03	JA
1/12/04	REVISED PER VALLEY-WIDE PLAN CHECK COMMENTS DATED 02/10/03	MVM
3/8/04	REVISED PER VALLEY-WIDE PLAN CHECK COMMENTS DATED 2/27/04	MVM
3/10/04	IRRIGATION CONTROLLER CLARIFICATION	MVM
9/2/04	REVISED PER VALLEY-WIDE PLAN CHECK COMMENTS DATED 02/10/03	MVM

**Community Parks**  
**Lots 26, 151 & 152**  
**RHEINGANS, tract 30167**  
 COUNTY OF RIVERSIDE  
 KB HOME - COASTAL

**CONSTRUCTION DETAILS**



Date:	7/11/03
Scale:	N.T.S.
Drawn by:	STAFF
Checked by:	JO
Job No:	02-065
Sheet No.	4



CONCRETE BLOCK MASONRY

I. SCOPE OF WORK

A. GENERAL:

- 1. CONTRACTOR SHALL PROVIDE ALL LABOR, MATERIALS AND INCIDENTALS TO CONSTRUCT CONCRETE BLOCK MASONRY STRUCTURES CONFORMING TO THE DIMENSIONS AND DETAILS AS INDICATED ON THE DRAWINGS.
2. COSTS DUE TO REPAIR OR REPLACEMENT OF DEFECTIVE OR DAMAGED WORK, REJECTED MATERIALS, OR WORKMANSHIP SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.

B. MATERIALS:

- 1. HOLLOW LOAD BEARING MASONRY UNITS SHALL BE MADE WITH SAND-GRAVEL AGGREGATE AND SHALL CONFORM TO ASTM C-90 FOR GRADE N-1 UNITS, FREE OF CRACKS OR DEFECTS. NET SIZE OF UNITS SHALL BE SHOWN ON THE DRAWINGS, AND SHALL BE OF NORMAL WEIGHT CLASSIFICATION (MINIMUM OVEN DRY WEIGHT OF CONCRETE AT 125 POUNDS PER CUBIC FOOT). MASONRY UNITS SHALL BE CURED, DRY, AND SURFACES CLEAN; DELIVERED TO THE PROJECT SITE ON PALLETS. COLOR AND TEXTURE OF UNITS SHALL BE AS INDICATED ON DETAILS AND ON THE DRAWINGS.
2. MORTAR USED IN CONCRETE BLOCK CONSTRUCTION SHALL BE ONE (1) PART PORTLAND CEMENT TO TWO AND ONE-HALF (2-1/2) TO THREE (3) PARTS OF SAND, TO WHICH ONE-QUARTER (1/4) TO ONE-HALF (1/2) PART HYDRATED LIME OR LIME PUTTY HAS BEEN ADDED. UNLESS OTHERWISE DESIGNATED ON THE DRAWINGS, MORTAR COLOR SHALL MATCH COLOR OF THE BLOCK.
3. GROUT FOR USE IN SPACES LESS THAN FOUR INCHES (4") CLEAR IN ANY DIMENSION SHALL BE PROPORTIONED BY VOLUME WITH ONE (1) PART PORTLAND CEMENT AND TWO AND ONE-QUARTER (2-1/4) TO THREE (3) PARTS SAND. FOR SPACES FOUR INCHES (4") OR LARGER IN ALL HORIZONTAL DIRECTIONS, ONE (1) PART PORTLAND CEMENT TO TWO (2) TO THREE (3) PARTS OF SAND AND ONE AND ONE-QUARTER (1-1/4) TO TWO (2) PARTS AGGREGATE, NINETY-PERCENT (90%) TO ONE-HUNDRED PERCENT (100%) PASSING THREE-EIGHTHS INCH (3/8") SIEVE SIZE.
4. WATER SHALL BE FREE OFF ANY AMOUNT OF IMPURITIES THAT WILL CAUSE ANY CHANGE IN THE TIME OF SETTING OF PORTLAND CEMENT. QUANTITY OF WATER SHALL BE THE MINIMUM REQUIRED TO PRODUCE A MIXTURE SUFFICIENTLY WORKABLE FOR THE PURPOSE INTENDED.
5. PORTLAND CEMENT, SAND, AND AGGREGATE SHALL BE IN ACCORDANCE WITH THE SPECIFICATIONS AS STATED IN THE SECTION CONCRETE.
6. REINFORCING STEEL SHALL BE GRADE 40 OR GRADE 60 BILLET STEEL CONFORMING TO ASTM A-615, DIMENSIONS OF STEEL SHALL BE MADE AS INDICATED IN THE DETAILS ON THE DRAWINGS. VARYING GRADES SHALL NOT BE USED INTERCHANGEABLY IN ANY ONE MASONRY STRUCTURE.

C. INSTALLATION:

- 1. ALL WORK SHALL BE PERFORMED IN A SKILLFUL MANNER AND IN FULL COMPLIANCE WITH APPLICABLE LOCAL BUILDING ORDINANCES, UNIFORM BUILDING CODE AND MASONRY DESIGN MANUAL.
2. ALL MASONRY WALLS SHALL BE LAID TRUE, LEVEL AND PLUMB.
3. MASONRY UNITS, DURING CONSTRUCTION, IN PARTIALLY LAID WALLS OR IN STORAGE ON THE PROJECT SITE SHALL BE PROTECTED FROM MOISTURE. CONCRETE BLOCK WHICH BECOMES WET SHALL BE PERMITTED TO DRY BEFORE COMMENCING WORK.
4. WHERE CUTTING IS NECESSARY, ALL CUTS SHALL BE NEAT AND REGULAR. UNLESS OTHERWISE INDICATED, MASONRY WALLS SHALL BE LAID UP IN STRAIGHT UNIFORM COURSES WITH REGULAR RUNNING BOND.
5. MORTAR JOINTS SHALL BE STRAIGHT, CLEAN, UNIFORM IN THICKNESS OF NOT LESS THAN THREE-EIGHTHS INCH (3/8") THICK, TOOLED TO PRODUCE A SLIGHTLY CONCAVE SURFACE, AND WELL BONDED TO BLOCK AT EDGES. BRICK JOINTS TO BE ONE-HALF INCH (1/2") TO THREE-EIGHTHS INCH (3/8") THICK WITH A MAXIMUM DEPTH OF THREE EIGHTHS INCH (3/8") RAKE.
6. CONTRACTOR SHALL PROVIDE EXPANSION JOINTS OF PRE-MOLDED FIBER MATERIAL OR STYROFOAM MATERIAL AT CORNERS AND THIRTY FEET (30') ON CENTER. MATERIAL SHALL BE A FULL CROSS SECTION OF WALL, RECESSED ONE-QUARTER INCH (1/4") FROM EXPOSED FACE OF WALL.
7. ALL BOLTS AND ANCHORS TO BE INSERTED IN THE WALL SHALL BE SOLIDLY GROUTED IN PLACE.
8. PROVIDE WEEP HOLES ON THE FIRST LAYER OF BLOCK AS REQUIRED.
9. MASON TO BE RESPONSIBLE FOR SETTING ALL W.P.O.'S, SWITCHES, AND J-BOXES FLUSH WITH STRUCTURE, AND FOR SETTING BOLTS, ANCHORS AND INSERTS FOR ATTACHMENTS BY OTHER TRADES.
10. CUT BRICK WITH POWER DRIVEN ABRASIVE SAW ONLY. CUT NEAT TRUE LINE WITHOUT CHIPS ON EXPOSED FACES; CONCEAL CUT FACES WHERE POSSIBLE. DO NOT LAY BRICKS LESS THAN ONE-QUARTER INCH (1/4") LENGTH IN EXPOSED WORK. IF ANY BRICK MUST BE REMOVED OR SHIFTED AFTER IT HAS BEEN LAID, REMOVE SETTING MORTAR, CLEAN BRICK THOROUGHLY, APPLY FRESH MORTAR AND RE-LAY.
11. SEAL BACK OF PLANTER WALLS WITH APPROVED ELASTOMERIC WATERPROOF MEMBRANE.

D. REINFORCEMENT:

- 1. REINFORCING STEEL SHALL BE PLACED AS INDICATED ON THE DRAWINGS AND AS REQUIRED BY LOCAL CODES.
2. HORIZONTAL STEEL SHALL EXTEND AND BEND INTO CORNER CORE AND SHALL BE LAID IN A COURSE OF BOND BEAM BLOCKS FILLED WITH GROUT.
3. A VERTICAL DOWEL SHALL BE PROVIDED IN THE FOUNDATION FOR EACH VERTICAL BAR. VERTICAL CELLS CONTAINING STEEL SHALL BE FILLED SOLID WITH GROUT AND THOROUGHLY RODDED.
4. REINFORCING STEEL SHALL BE INSPECTED PRIOR TO PLACING GROUT.

E. BELOW GRADE DAMP-PROOFING:

- 1. ELASTOMERIC DAMP-PROOFING MEMBRANE SHALL BE MULTICOAT 'MULSTICOAT' AS MANUFACTURED BY MULTICOAT CORPORATION OR AN APPROVED EQUAL.
2. DELIVER MATERIALS IN MANUFACTURER'S ORIGINAL UNOPENED CONTAINERS.
3. RATES AND APPLICATION METHOD SHALL BE AS RECOMMENDED BY THE MANUFACTURER.

F. GRAFFITI CONTROL:

- 1. PRODUCT SHALL BE GRAFFITI CONTROL AS MANUFACTURED BY SURE KLEAN OR AN APPROVED EQUAL.
2. DELIVER MATERIALS IN MANUFACTURER'S ORIGINAL UNOPENED CONTAINERS.
3. RATES AND APPLICATION METHOD SHALL BE AS RECOMMENDED BY THE MANUFACTURER.

G. BACKFILLING:

- 1. TRENCHES AND AREAS ADJACENT TO FOOTINGS AND FOUNDATIONS SHALL NOT BE BACKFILLED UNTIL THE WORK IS INSPECTED AND APPROVED BY THE OWNER'S AUTHORIZED REPRESENTATIVE OR LOCAL INSPECTOR.
2. TRENCHES SHALL BE COMPACTED IN ACCORDANCE WITH THE REQUIREMENTS FOR COMPACTED FILL AS SPECIFIED ON THESE PLANS.
3. TRENCHES THAT SETTLE BELOW GRADE SHALL BE REOPENED TO A DEPTH REQUIRED FOR PROPER COMPACTION, REFILLED AND COMPACTED TO INDICATED SURFACE ELEVATION, ALLOWING FOR SHRINKAGE AND SETTLEMENT.
4. COMPACTION OF BACKFILL BY PONDING AND JETTING WILL NOT BE PERMITTED. BACKFILL BEHIND ALL WALLS AND MASONRY STRUCTURES, AS REQUIRED AND AS PER DETAILS. BACKFILL IN PLANTERS TO BE TOP GRADE SANDY LOAM TOPSOIL. SWALE EARTH FOR PROPER DRAINAGE. WHERE CONCRETE SLABS OCCUR NEXT TO WALLS, BACKFILL SHALL BE COMPACTED IN ACCORDANCE WITH THE REQUIREMENTS FOR COMPACTED FILL AS SHOWN ON THESE PLANS.

H. WORKMANSHIP:

- 1. DO NOT START MASONRY IF THE HORIZONTAL OR VERTICAL ALIGNMENT OF THE FOUNDATION IS A MAXIMUM OF ONE INCH (1") IN TOTAL ERROR.
2. SPECIAL CARE SHALL BE USED TO PREVENT STAINING OF EXPOSED AND GROUT. ANY MORTAR OR GROUT WHICH COMES IN SUCH FACES SHALL BE PROMPTLY AND THOROUGHLY REMOVED BY EFFECTIVE AND APPROVED MEANS.
3. ENTIRE SITE TO BE CLEANED AND ALL DEBRIS REMOVED PRIOR TO FINAL INSPECTION.
4. EXECUTE WORK IN BEST WORKMANSHIP LIKE MANNER IN FULL COMPLIANCE WITH APPLICABLE BUILDING ORDINANCES.

END OF SECTION

WOODWORKING

I. SCOPE OF WORK

A. GENERAL:

- 1. CONTRACTOR SHALL PROVIDE ALL LABOR, MATERIALS, AND INCIDENTALS IN ORDER TO CONSTRUCT WOOD AMENITIES FORMING TO THE DIMENSIONS AND DETAILS AS INDICATED ON THE DRAWINGS.
2. SEPARATE PAYMENT SHALL BE MADE FOR WOOD MATERIALS OR CONCRETE USED IN OTHERS. COMPENSATION SHALL BE INCLUDED IN THE UNIT PRICE BID FOR THE VARIOUS ITEMS OF WORK AND NO ADDITIONAL PAYMENT WILL BE MADE.
3. COSTS INCURRED DUE TO REPAIR OR REPLACEMENT OF DEFECTIVE OR DAMAGED WORK, REJECTED MATERIALS OR WORKMANSHIP SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.
4. THE CONTRACTOR SHALL OBTAIN THE PERTINENT ENGINEERING AND/OR ARCHITECTURAL PLANS BEFORE COMMENCING WORK. THE CONTRACTOR SHALL BECOME THOROUGHLY FAMILIAR WITH THE PERTINENT ENGINEERING PLANS, ARCHITECTURAL PLANS, AND/OR SOILS REPORT PRIOR TO COMMENCING WORK. THE CONTRACTOR SHALL VERIFY THE LOCATIONS AND DIMENSIONS OF ALL EXISTING UTILITIES, STRUCTURES, AND SERVICES BEFORE COMMENCING WORK. CONTACT UNDERGROUND SERVICE ALERT (800) 422-4133.
5. THE CONTRACTOR SHALL NOTIFY THE OWNER'S AUTHORIZED REPRESENTATIVE PRIOR TO COMMENCING WORK, AND SHALL BE RESPONSIBLE FOR COORDINATING HIS WORK WITH THE OWNER, THE OWNER'S AUTHORIZED REPRESENTATIVE, OTHER CONSTRUCTION TRADE, AND GOVERNING AGENCIES.
6. FOOTINGS NEEDED TO CONSTRUCT WOODEN AMENITIES SHALL CONFORM TO THE DIMENSIONS AND DETAILS AS INDICATED ON THE DRAWINGS. CONCRETE FOR FOOTINGS SHALL BE IN ACCORDANCE WITH THE SECTION ON CONCRETE.
7. WOODWORK CONTRACTOR SHALL LOCATE AND STAKE POST LOCATIONS FOR CONCRETE AND/OR MASONRY CONTRACTOR BEFORE PAVING AND MASONRY WORK CAN BEGIN.
8. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND SITE CONDITIONS ON THE SITE PRIOR TO BEGINNING WORK. ANY DISCREPANCIES SHALL BE CALLED TO THE IMMEDIATE ATTENTION OF THE OWNER'S AUTHORIZED REPRESENTATIVE.
9. CONTRACTOR SHALL OBTAIN ALL BUILDING PERMITS AND APPROVALS. (SEE SECTION ON PLANS AND PERMITS)

B. MATERIALS:

- 1. LUMBER SHALL BE STRAIGHT; FREE FROM LARGE, LOOSE, OR UNSOUND KNOTS OR KNOT CLUSTERS, SCARS, DECAY, HOLES, INSECT DAMAGE, AND OTHER DEFECTS OR IMPERFECTIONS THAT WOULD MATERIALLY IMPAIR THE STRENGTH OR DURABILITY. SPLITS SHALL BE NO LONGER THAN THE BUTT DIMENSION. NO CRACKS WILL BE PERMITTED. NO NAILS, OR OTHER METAL SHALL BE PRESENT.
2. DOUGLAS FIR SHALL BE OF THE SPECIES "PSEUDOTSUGA MENZIESII" AND SHALL BE GRADED IN ACCORDANCE WITH THE CURRENT STANDARD GRADING AND DRESSING RULES FOR DOUGLAS FIR ADOPTED BY THE WEST COAST BUREAU OF LUMBER GRADES AND INSPECTION.
3. CEDAR, WHERE INDICATED ON THE DRAWINGS, SHALL BE OF THE SPECIES "CHAMAECYPARIS LAWSONIANA" AND SHALL CONFORM IN ALL PARTICULARS TO THE STANDARD GRADING RULES FOR WEST COAST LUMBER.
4. PLYWOOD, WHERE INDICATED ON THE DRAWINGS, SHALL CONFORM IN ALL PARTICULARS TO THE STANDARD SPECIFICATIONS FOR GRADES OF CALIFORNIA REDWOOD OF THE REDWOOD INSPECTION SERVICE.
5. PLYWOOD, WHERE INDICATED ON THE DRAWINGS, SHALL BE MANUFACTURED AND GRADED IN ACCORDANCE WITH THE RULES OF THE AMERICAN PLYWOOD ASSOCIATION AND THE LATEST PRODUCT STANDARD FOR SOFTWOOD PLYWOOD, CONSTRUCTION AND INDUSTRIAL, OF THE NATIONAL BUREAU OF STANDARDS. EACH SHEET OF PLYWOOD SHALL BE THE OFFICIAL STAMP OF A QUALITY CONTROL AGENCY STATING THE GRADE OF THE SHEET.
6. POLES, WHERE INDICATED ON THE DRAWINGS SHALL BE CUT FROM SOUND, LIVE, CLOSE GRAINED TREES, MACHINE PEELD WITH ALL BRANCH STUBS AND OVERGROWN KNOTS TRIMMED FLUSH WITH THE SURFACE.
7. HARDWARE SHALL BE IN ACCORDANCE WITH THE SECTION ON MISC. METALS.

C. TREATMENTS AND PRESERVATIVES:

- 1. TYPE OF PRESSURE TREATMENT OR PRESERVATIVE SHALL BE AS INDICATED IN THE DETAILS ON THE DRAWINGS AND SHALL CONFORM WITH THE APPLICABLE STANDARDS CONTAINED IN THE MANUAL OF RECOMMENDED PRACTICE OF THE AMERICAN WOOD PRESERVERS ASSOCIATION. CONTRACTOR SHALL FURNISH A CERTIFICATE OF COMPLIANCE FOR EACH LOAD OF PRESSURE TREATED LUMBER TO THE OWNER'S AUTHORIZED REPRESENTATIVE.
2. WHERE A PARTICULAR METHOD OF PRESSURE TREATMENT IS NOT INDICATED ON THE DRAWINGS, THE LUMBER SHALL BE CONDITIONED, SEASONED, PREPARED, AND TREATED BY THE STANDARD PENTACHLOROPHENOL WITH SIX-TENTHS (0.60) POUNDS PER CUBIC FOOT RETENTION. PENETRATION SHALL BE DETERMINED BY THE PENTOR FACTOR.
3. WHERE PRACTICAL, TREATED WOOD SHALL BE CUT TO FINAL SIZE AND TRIMMED PRIOR TO TREATMENT. IF SITE SAWING OR DRILLING IS NECESSARY, CUT SURFACES SHALL BE THOROUGHLY BRUSHED WITH TWO (2) COATS OF THE SAME KIND OF PRESERVATIVE IN CONFORMANCE WITH AWWA SPECIFICATION M-4.
4. PORTIONS OF POSTS, WHICH ARE TO BE EMBEDDED IN EARTH, SHALL BE BRUSHED BEFORE INSTALLATION WITH TWO (2) COATS OF CREOSOTE, OR APPROVED EQUAL. APPLICATIONS SHALL EXTEND ONE (1) INCH ABOVE THE FINISH GRADE. SPRAYING WILL NOT BE PERMITTED.

D. EXECUTION:

- 1. FRAMING SHALL BE TRUE AND EXACT. ALL LUMBER SHALL BE CUT AND FRAMED TO A CLOSE FIT AND SHALL HAVE AN BEARING OVER THE ENTIRE CONTACT SURFACE. SHIMMING WILL NOT BE PERMITTED.
2. LUMBER SHALL BE WELL NAILED OR BOLTED TOGETHER AS INDICATED ON THE DRAWINGS. NAILS SHALL NOT BE DRIVEN CLOSER THAN ONE-HALF (1/2) THEIR LENGTHS. CARE SHALL BE TAKEN TO AVOID HAMMER-MARKS, MOONS, OR SAW CUTS.
3. ALL CORNERS OF THE FINISHED PRODUCT SHALL BE NEATLY MITERED.
4. LUMBER SHALL BE STORED NEATLY IN PILES ON SKIDS IN SUCH A MANNER THAT THEY MAY BE READILY INSPECTED, AND SHALL BE HANDLED IN A MANNER THAT WILL AVOID INJURY OR BREAKAGE.
5. TREATED LUMBER SHALL BE HANDLED WITH ROPE SLINGS. UNDUE INJURY IN HANDLING WILL BE CAUSE FOR REJECTION.
6. ALL WOOD BEARING ON CONCRETE OR MASONRY LESS THAN FOUR FEET (4'-0") ABOVE GRADE SHALL BE PRESSURE TREATED. WOOD JOISTS OR THE BOTTOM OF WOOD FLOORS LESS THAN EIGHTEEN INCHES (18") ABOVE GRADE SHALL ALSO BE PRESSURE TREATED.
7. ALL STRUCTURAL MEMBERS (I.E. BEAMS RAFTERS, POSTS, JOISTS) TO BE DOUGLAS FIR NO. 1 OR BETTER UNLESS OTHERWISE NOTED. ALL LATH AND DECKING AS SPECIFIED.
8. ALL LUMBER TO MATCH HOUSE UNLESS OTHERWISE NOTED.

E. PLANS AND PERMITS:

- 1. ALL CONSTRUCTION SHALL BE ACCORDING TO THE CONSTRUCTION DOCUMENTS AND SHALL CONFORM TO THE REQUIREMENTS OF THE LATEST EDITION OF THE U.B.C..
2. CORRELATION OF DRAWINGS AND SPECIFICATIONS: ANY WORK NOT ACCORDING TO DRAWINGS AND SPECIFICATIONS OR ORDINANCES AND LAWS SHALL BE REMOVED.
3. DO NOT SCALE DRAWINGS. USE DIMENSIONS INDICATED.
4. ANY DISCREPANCIES IN THE DRAWINGS OR SPECIFICATIONS SHALL BE CALLED TO THE IMMEDIATE ATTENTION OF THE OWNER'S AUTHORIZED REPRESENTATIVE. FAILURE TO DO SO WILL PLACE RESPONSIBILITY ON THE CONTRACTOR.
5. PERMITS, FEES, ETC.: THE CONTRACTOR SHALL ARRANGE AND PAY FOR PERMITS FOR THEIR RESPECTIVE WORK. THE CONTRACTOR SHALL OBTAIN ALL NECESSARY PERMITS REQUIRED TO PERFORM THE WORK AS INDICATED ON THE PLANS PRIOR TO CONSTRUCTION.

F. BOLTS, NUTS, NAILS, AND FASTENERS:

- 1. BOLTS, NUTS, AND FASTENERS SHALL BE HOT DIPPED GALVANIZED AND CONFORM TO ASTM A-307.
2. BOLTS SHALL BE LONG ENOUGH TO EXTEND ENTIRELY THROUGH THE NUT BUT NOT MORE THAN ONE-QUARTER INCH (1/4") BEYOND. CUT ALL BOLTS FLUSH WITH NUTS, PEEN SMOOTH AND REMOVE ALL BURRS. HEADS AND NUTS OF MACHINE BOLTS AND NUTS OF CARRIAGE BOLTS SHALL HAVE WASHERS, EXCEPT AGAINST STEEL PLATES.
3. HOLES SHALL BE EITHER PUNCHED FULL SIZE, DRILLED FULL SIZE, OR SUB-PUNCHED AND REAMED. FINISH HOLES SHALL BE CYLINDRICAL, PERPENDICULAR TO THE PLANE OF THE CONNECTION AND ONE-SIXTEENTH INCH (1/16") LARGER THAN DIAMETER OF THE HEAD OF THE BOLT; FREE OF BURRS, FINIS, SHARP EDGES AND HOLE IRREGULARITIES WHICH WOULD PREVENT SOLID SEATING OF THE PARTS.

- 4. ANCHOR BOLTS SHALL BE CAREFULLY INSTALLED TO PERMIT TRUE POSITIONING OF THE BEARING ASSEMBLIES.
5. FRAMING ANCHORS SHALL BE SIXTEEN (16) GAUGE, ZINC-COATED, CORROSION RESISTANT SHEET METAL.
6. NAILS TO BE GENERAL FRAMING COMMON OF STANDARD SIZE AND FORM, HOT DIPPED GALVANIZED OR ALUMINUM, UNLESS SPECIFICALLY NOTED. BOX NAILS WILL NOT BE ACCEPTED.

END OF SECTION

CONCRETE

I. SCOPE OF WORK

A. GENERAL:

- 1. THIS WORK SHALL CONSIST OF FURNISHING ALL LABOR AND MATERIALS FOR ALL CONCRETE PAVING, CONCRETE FOOTINGS, AND CONCRETE SLABS AS INDICATED ON THE DRAWINGS.
2. CONCRETE SHALL CONSIST OF PORTLAND CEMENT, FINE AGGREGATE(SAND), COARSE AGGREGATE AND WATER, PROPORTIONAL AND MIXED TO ATTAIN A TWENTY-EIGHT (28) DAY COMPRESSIVE STRENGTH OF AT LEAST 2,500 POUNDS PER SQUARE INCH WITH A SLUMP NOT TO EXCEED THREE INCHES (3"). CONCRETE SHALL NOT CONTAIN REACTIVE AGGREGATE OR CALCIUM CHLORIDE.
3. ALL DIMENSIONS AND CONDITIONS, EXISTING AND PROPOSED, TO BE VERIFIED BY THE CONTRACTOR ON THE JOB SITE. CONTRACTOR TO VERIFY ALL GRADES PRIOR TO ANY CONSTRUCTION.
4. CONCRETE SHALL CHECK FOR ALL WATER GAS AND ELECTRIC LINES ARE INSTALLED PRIOR TO CONCRETE POUR. VERIFY LOCATION OF ALL PVC SLEEVES. SLEEVES SHALL BE SIZES SHOWN ON PLANS AND SHALL BE STUBBED OUT MINIMUM 12" BEYOND EDGE OF PAVING. MASON SHALL BE RESPONSIBLE THAT ALL J-BOXES ARE FLUSH INTO STRUCTURE.
5. ALL PAVING IS TO FALL FROM THE BUILDING TOWARD PLANTING AREAS OR DRAINS AT THE RATE OF 1/8" PER LINEAR FOOT MINIMUM.
6. REINFORCING STEEL SHOWN ON THE PLANS IS FOR BID PURPOSES ONLY. FINAL REINFORCING STEEL SIZES, QUANTITY AND LOCATION SHALL BE PER CIVIL, SOIL, STRUCTURAL ENGINEER AND /OR REGIONAL STANDARDS AND CODES.

B. MATERIALS:

- 1. CEMENT SHALL BE TYPE I OR TYPE II LOW ALKALI PORTLAND CEMENT CONFORMING TO ASTM C-150. CEMENT SHALL BE THE SAME BRAND AND TYPE USED THROUGHOUT THE PROJECT.
2. SAND SHALL CONSIST OF NATURAL OR MANUFACTURED GRANULAR MATERIAL, FREE OF DELETERIOUS AMOUNTS OF ORGANIC MATERIAL, MICA, LOAM, CLAY AND OTHER SUBSTANCES NOT SUITABLE FOR PORTLAND CEMENT CONCRETE. SAND SHALL BE THOROUGHLY AND UNIFORMLY WASHED.
3. COARSE AGGREGATE SHALL BE COMPOSED OF GRAVEL OR A BLENDED MIXTURE OF CRUSHED ROCK AND GRAVEL CONTAINING NOT MORE THAN FIFTY PERCENT (50%) OF CRUSHED ROCK PARTICLES HAVING ALL FACES FRACTURED AND NOT LESS THAN TWENTY-FIVE PERCENT (25%) OF AGGREGATES SHALL NOT EXCEED A DIAMETER OF THREE-QUARTERS INCH (3/4"). BLENDING SHALL PRODUCE A UNIFORM, CONSISTENT PERCENTAGE OF EACH. ROCK PRODUCTS SHALL BE CLEAN, HARD, SOUND, DURABLE, UNIFORM IN QUALITY AND FREE OF ANY DETRIMENTAL QUALITY OF SOFT, THIN, ELONGATED, OR LAMINATED PIECES, DISINTEGRATED MATERIAL, ORGANIC MATTER, OIL, ALKALI, OR OTHER DELETERIOUS SUBSTANCES.
4. HYDRATED LIME: CONFORM TO ASTM C-207, TYPE S, AND CONTAINING 95% BY WEIGHT OF CALCIUM OXIDE.
5. SLEEVES: PVC SCHEDULE 40 PIPE.

C. FORMS:

- 1. FORMS SHALL BE FREE OF WARP, SET PLUMB, AND TRUE TO LINE AND GRADE WITH UPPER EDGES FLUSH WITH SPECIFIED GRADE OF FINISHED SURFACE OF THE CONSTRUCTED IMPROVEMENT, AND NOT MORE THAN ONE-HALF INCH (1/2") LESS IN DEPTH THAN THE SPECIFIED THICKNESS OF THE EDGE OF THE CONCRETE TO BE PLACED.
2. WOODEN FORMS SHALL HAVE A NET THICKNESS OF AT LEAST ONE AND ONE-HALF INCHES (1-1/2") AND SHALL BE FREE OF IMPERFECTIONS WHICH WOULD IMPAIR THE STRENGTH OR TRULY FINISHED. EDGES AND ENDS SHALL BE SQUARE AND SHALL BE SECURED BY NAILING TO SIDE STAKES OF SUFFICIENT LENGTH AND CROSS-SECTIONAL AREA TO ADEQUATELY RESIST LATERAL DISPLACEMENT DURING THE PLACEMENT OF THE CONCRETE, SPACED NOT MORE THAN FOUR FEET (4') APART AND DRIVEN INTO THE SUBGRADE VERTICALLY TO A DEPTH NOT MORE THAN TWELVE INCHES (12"), AND SO THAT THE TOP WILL BE BELOW THE UPPER EDGE OF THE FORM. BENDERS OF THIS PLANK FORMS MAY BE USED ON CURVES.
3. WOOD FORMS SHALL BE CLEAN AND SHALL RECEIVE A COAT OF LIGHT OIL IMMEDIATELY PRIOR TO PLACING CONCRETE.
4. METAL FORMS SHALL HAVE SUFFICIENT RIGIDITY TO RESIST SPRINGING DURING PLACEMENT OF CONCRETE. FORMS SHALL BE SECURED BY MEANS OF METAL STAKES SPACED NOT MORE THAN FIVE FEET (5') APART AND DESIGNED SO AS TO BE DRIVEN BELOW THE TOP OF THE FORMS THROUGH OPENINGS, LOCKING THEM INTO POSITION.
5. FORMS SHALL BE INSPECTED PRIOR TO PLACING CONCRETE. THE OWNER'S REPRESENTATIVE IS TO BE NOTIFIED 24 HOURS PRIOR TO CONCRETE POUR IN ORDER THAT THE FORMS AND REINFORCEMENT MAY BE INSPECTED.
6. FORMS SHALL REMAIN IN PLACE FOR A MINIMUM OF TWELVE (12) HOURS AFTER CONCRETE HAS BEEN PLACED.

D. REINFORCEMENT:

- 1. REINFORCEMENT SHALL CONFORM TO THE DIMENSIONS AND DETAILS SHOWN ON THE DRAWINGS AND SHALL BE CLEANED THOROUGHLY OF ALL RUST, MILL SCALE, MORTAR, OIL, DIRT OR COATING OF ANY KIND WHICH WOULD BE LIKELY TO DESTROY OR IMPAIR THE BONDING WITH THE CONCRETE.
2. REINFORCING STEEL SHALL BE GRADE 40 OR GRADE 60 BILLET STEEL, CONFORMING TO ASTM A-615, DIMENSION OF STEEL SHALL BE AS INDICATED IN THE DETAILS ON THE DRAWINGS. VARYING GRADES SHALL NOT BE USED INTERCHANGEABLY IN ANY ONE (1) SLAB OR WALK SYSTEM.
3. WIRE MESH REINFORCEMENT SHALL CONFORM TO ASTM-185. GAUGE OF WIRE AND DIMENSION OF MESH SHALL BE AS INDICATED IN THE DETAILS ON THE DRAWINGS AND SHALL BE SO CONSTRUCTED AS TO RETAIN ORIGINAL SHAPE AND FORM DURING THE NECESSARY HANDLING AND PLACING OF CONCRETE. WIRE MESH IN WALKS SHALL NOT EXTEND THROUGH EXPANSION JOINT MATERIAL.
4. REINFORCEMENT SHALL BE ADEQUATELY AND SECURELY POSITIONED SO THAT IT WILL NOT BE DISPLACED DURING THE POUR.
5. WHERE HORIZONTAL COURSES ARE TO BE FILLED, USE METAL STOPS. USE OF PAPER STOPS WILL NOT BE PERMITTED. ALL HORIZONTAL REINFORCING STEEL SHALL BE LAID IN A COURSE OF BOND BEAM BLOCKS FILLED WITH MORTAR.
6. CUT BRICK WITH POWER DRIVEN ABRASIVE SAW ONLY. CUT NEAT TRUE LINE WITHOUT CHIPS ON EXPOSED FACES; CONCEAL CUT FACES WHERE POSSIBLE. DO NOT LAY BRICKS LESS THAN 1/4" LENGTH IN EXPOSED WORK. IF ANY BRICK MUST BE REMOVED OR SHIFTED AFTER IT HAS BEEN LAID, REMOVE SETTING MORTAR, CLEAN BRICK THOROUGHLY, APPLY FRESH MORTAR AND RE-LAY.
7. LAY MASONRY TRUE, LEVEL, AND PLUMB WITH ANGLE SQUARE IN ACCORDANCE WITH PLANS.

E. TRANSIT MIXERS:

- 1. MIXING SHALL BE COMMENCED AS SOON AS POSSIBLE AFTER THE CEMENT IS PLACED IN CONTACT WITH THE AGGREGATES BUT IN NO EVENT SHALL THE INTERVENING TIME PERIOD EXCEED THIRTY (30) MINUTES.
2. CONCRETE MIXERS SHALL BE OPERATED IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS AND SO OPERATED AS TO PROVIDE THOROUGHLY AND PROPERLY MIXED CONCRETE IN WHICH CONCRETE IN WHICH INGREDIENTS ARE UNIFORMLY INTEGRATED.
3. TRANSIT MIXERS SHALL BE OF THE TYPE, CAPACITY AND MANNER OF OPERATION OF THE MIXING AND TRANSPORTING EQUIPMENT FOR READY-MIX CONCRETE CONFORMING TO CURRENT "STANDARDS FOR OPERATION OF TRUCK MIXERS AND AGITATORS OF THE NATIONAL READY-MIXED CONCRETE ASSOCIATION" AND "THE TRUCK MIXERS AND AGITATORS STANDARDS OF THE TRUCK MIXER MANUFACTURERS BUREAU."
4. MIXING AND DELIVERY OF READY-MIXED CONCRETE SHALL CONFORM TO ASTM C-94.
5. VOLUME OF MIXING MATERIALS SHALL NOT EXCEED MANUFACTURER'S RATED CAPACITY OF THE MIXER. EACH MIX SHALL BE COMPLETELY DISCHARGED AND WASH WATER EMPTIED BEFORE SUCCEEDING LOAD IS PLACED IN DRUM.
6. ADEQUATE CONTROL OF READY-MIXED CONCRETE SHALL PROVIDE FOR ADDITIONAL WATER TO BE ADDED AND MIXED INTO THE BATCH AT THE PROJECT SITE. AMOUNT WITHHELD SHALL NOT EXCEED TWO AND ONE-HALF (2-1/2) GALLONS OF WATER PER CUBIC YARD OF MIX.
7. THE TOTAL ELAPSED TIME BETWEEN THE ADDITION OF WATER AT THE BATCH PLANT AND DISCHARGING AT THE PROJECT SITE SHALL EXCEED NINETY (90) MINUTES.
8. WHEN REQUESTED, CONTRACTOR SHALL FURNISH THE OWNER'S AUTHORIZED REPRESENTATIVE WITH A LEGIBLE CERTIFIED WEIGHMASTER'S CERTIFICATE STATING THE QUANTITY OF CEMENT, WATER, FINE AND COARSE AGGREGATES, TIME OF DEPARTURE AND DISCHARGE TIME FOR EACH BATCH DELIVERED TO THE PROJECT SITE.

END OF SECTION

F. PLACING CONCRETE:

- 1. INSTALL EMBEDDED ITEMS ACCURATELY IN THEIR PROPER LOCATIONS, SECURED AGAINST DISPLACEMENT, PRIOR TO PLACING CONCRETE.
2. CONCRETE SHALL BE PLACED ON CERTIFIED NATIVE GRADE, A COMPACTED SUBGRADE OR SUBBASE MATERIAL, AS INDICATED ON THE DRAWINGS, FREE OF ALL LOOSE AND EXTRANEOUS MATERIAL, SUFFICIENTLY DAMPENED TO ENSURE THAT NO MOISTURE WILL BE ABSORBED FROM FRESH CONCRETE.
3. CONCRETE SHALL BE DEPOSITED TO THE REQUIRED DEPTH OVER THE ENTIRE WIDTH OF THE SECTION, AVOIDING SEGREGATION OR LOSS OF INGREDIENTS.
4. CONCRETE SHALL BE CONSOLIDATED IN A MANNER THAT WILL ENCASE THE REINFORCEMENT, FILL THE FORMS, AND BRING THE SURFACE TRUE TO GRADE AND CROSS-SECTION. SURFACE SHALL BE FREE OF ANY UNEVENNESS GREATER THAN ONE-EIGHTH (1/8") INCH WHEN CHECKED WITH A TEN FOOT STRAIGHT-EDGE PLACED ON THE SURFACE. STRAIGHT-EDGE SHALL BE AVAILABLE ON THE PROJECT SITE FOR USE BY THE OWNER'S AUTHORIZED REPRESENTATIVE.
5. CONCRETE SHALL BE DISTRIBUTED UNIFORMLY AS IT IS PLACED, AND STRUCK OFF AND TAMPED BY MEANS OF AIRCONEICAL TAMPER OPERATED AT RIGHT ANGLES TO THE CENTER OF THE PAVEMENT. NUMBER OF VIBRATIONS EMPLOYED SHALL BE SUFFICIENT TO CONSOLIDATE THE CONCRETE WITHIN FIFTEEN (15) MINUTES AFTER DEPOSITING, THEN FLOATING TO A SMOOTH FLAT UNIFORM SURFACE.
6. EQUIPMENT USED SHALL NOT HAVE ANY ALUMINUM COMPONENTS COMING INTO DIRECT CONTACT WITH THE CONCRETE.
7. FINISH SURFACES OF CONCRETE PAVING SHALL BE MIN. 2" BELOW BLDG. STUCCO SCREENS.

G. FINISHING:

- 1. CONCRETE FINISHES SHALL BE INDICATED ON THE DRAWINGS.
2. FORMED EDGES SHALL BE ROUNDED TO A RADIUS OF ONE-HALF INCH (1/2"). EDGES AT EXPANSION JOINTS SHALL BE ROUNDED TO A RADIUS OF ONE-EIGHTH INCH (1/8").
3. NO ADVERTISING IMPRESSIONS, STAMP OR MARK, OF ANY DESCRIPTION WILL BE PERMITTED ON THE SURFACE OF THE CONCRETE.
4. CONCRETE SHALL NOT BE COVERED BY PLASTIC SHEETING.
5. BROOM FINISH WHERE INDICATED ON THE DRAWINGS, SHALL BE PERFORMED AFTER FINISH TROWELING BY DRAWING THE FOLLOWING BROOM TYPES ACROSS THE NARROWEST WIDTH OF THE CONCRETE OR AS INDICATED ON THE DRAWINGS.
a) LIGHT BROOM-PUSH WITH FINE OR SOFT TEXTURED BRISTLES
b) MEDIUM BROOM-PUSH WITH MEDIUM OR MEDIUM STIFF BRISTLES
c) HEAVY BROOM-PUSH WITH COARSE OR STIFF BRISTLES
6. ROCK SALT FINISH, WHERE INDICATED ON THE DRAWINGS, SHALL BE PERFORMED BY APPLYING ROCK SALT EVENLY OVER THE FINISHED SURFACE OF THE CONCRETE. SUFFICIENT TROWEL PRESSURE SHOULD BE USED SO THAT THE SALT IS EMBEDDED JUST BARELY BELOW THE SURFACE LEAVING THE TOPS OF THE CRYSTALS EXPOSED. CURE FINISHED SURFACE WITH CURING PAPER (UNLESS CONCRETE IS COLORED). REMOVE CURING PAPER AFTER FIVE (5) DAYS AND THOROUGHLY WASH THE SURFACE TO DISSOLVE THE SALT CRYSTALS.
7. COLORED CONCRETE, WHERE INDICATED ON THE DRAWINGS, SHALL BE COLORED WITH THE PROPORTIONS OF ADMIXTURE AS PER THE MANUFACTURER INDICATED ON THE DRAWINGS AND COMPLYING WITH UNIFORM BUILDING CODE STANDARD NO. 2612. COLOR SHALL BE AS INDICATED ON THE DRAWINGS. SURFACES SHALL BE FINISHED UNIFORMLY WITH THE SPECIFIED FINISH OR TEXTURE AND CURED WITH THE INDICATED COLORCURE CONCRETE SEALER TO MATCH THE COLOR. ALL BATCHING, PLACING, FINISHING, AND CURING SHALL BE IN ACCORDANCE WITH THE MANUFACTURERS TECHNICAL BULLETINS, INSTRUCTIONS, AND/OR SPECIFICATIONS.
8. RETARDANT FINISH, WHERE INDICATED ON THE DRAWINGS, SHALL BE 'EXPOSED' USING A SURFACE RETARDANT TO BE APPROVED PRIOR TO PLACING OF THE CONCRETE. RETARDANT SHALL BE APPLIED IN ACCORDANCE WITH THE MANUFACTURERS TECHNICAL BULLETINS, INSTRUCTIONS, AND/OR SPECIFICATIONS.
9. STAMPED CONCRETE, WHERE INDICATED ON THE DRAWINGS, SHALL BE PERFORMED BY APPLYING SPECIAL FORMING TOOLS WHILE THE CONCRETE IS STILL IN THE PLASTIC STAGE OF SET. DESIRED PATTERNS SHALL BE AS INDICATED ON THE DRAWINGS. CONTRACTOR SHALL BE LICENSED, TOOLED AND TRAINED BY THE BOMANITE CORPORATION OR APPROVED EQUAL.

H. JOINTS:

- 1. EXPANSION JOINTS SHALL BE AS SHOWN ON THE DRAWINGS AND AT THE CORNERS, RADIUS POINTS AND AT REGULAR INTERVALS NOT TO EXCEED TWENTY FEET (20') ON CENTER. JOINT FILLER SHALL BE A MINIMUM THICKNESS OF ONE-QUARTER INCH (1/4") AND EXTEND THE FULL DEPTH OF THE SURFACE AND SHALL BE PLACED IN CORRECT POSITION BEFORE CONCRETE IS PLACED AGAINST IT. MOLDED EXPANSION JOINT STRIP SHALL BE A STYROFOAM FILLER WITH A REMOVABLE TOP STRIP. EXPANSION JOINTS SHALL BE SEALED WITH A POLY-SULFIDE WATER-PROOF CAULKING AFTER REMOVING STYROFOAM TOP STRIP.
2. SCORED CONTROL JOINTS SHALL BE TOOLED TO A MINIMUM DEPTH OF THREE-QUARTER INCH (3/4") AND A RADIUS OF ONE-EIGHTH INCH (1/8"). CONTROL JOINTS SHALL BE AT INTERVALS NOT TO EXCEED TEN FOOT (10') INTERVALS OR AS INDICATED ON THE DRAWINGS.
3. SAW CUT JOINTS, WHERE SPECIFIED, SHALL BE SHOWN AS SHOWN ON THE DRAWINGS OR AT INTERVALS NOT TO EXCEED TEN FEET (10') ON CENTER, AND SHALL BE CUT TO A MINIMUM DEPTH OF ONE AND ONE-HALF INCH (1-1/2") AND A WIDTH NOT TO EXCEED ONE-QUARTER INCH (1/4").

I. CURING:

- 1. COMPOUND SHALL CONSIST OF A LIQUID COMPLYING WITH ASTM-C309, WHICH WHEN APPLIED TO FRESH CONCRETE BY MEANS OF A SPRAY GUN, WILL FORM AN IMPERVIOUS MEMBRANE OVER THE EXPOSED SURFACES OF THE CONCRETE.
2. CURING COMPOUND SHALL BE A BLEND OF PURE WAXES AND ALKALI-RESISTANT PIGMENTS IN A SOLVENT EMULSION, MANUFACTURED BY LM SCOFIELD, OR APPROVED EQUAL.
3. RATE OF APPLICATION SHALL BE SUCH THAT THE COMPOUND FORMS A CONTINUOUS, UNBROKEN FILM.
4. CURING SHALL COMMENCE AS SOON AS FREE WATER LEAVES THE SURFACE BUT NO LATER THAN THREE (3) HOURS FOLLOWING PLACEMENT OF THE CONCRETE.
5. SPRAYING EQUIPMENT SHALL BE OF THE FULLY ATOMIZING TYPE, EQUIPPED WITH A TANK AGITATOR OF AN APPROVED TYPE WHICH PROVIDES FOR CONTINUAL AGITATION OF THE COMPOUND DURING APPLICATION.

J. BELOW GRADE DAMP-PROOFING:

- 1. ELASTOMERIC DAMP-PROOFING MEMBRANE SHALL BE MULTICOAT 'MULSTICOAT' AS MANUFACTURED BY MULTICOAT CORPORATION OR AN APPROVED EQUAL.
2. DELIVER MATERIALS IN MANUFACTURER'S ORIGINAL UNOPENED CONTAINERS.
3. RATES AND APPLICATION METHOD SHALL BE AS RECOMMENDED BY THE MANUFACTURER.

K. GRAFFITI CONTROL:

- 1. PRODUCT SHALL BE GRAFFITI CONTROL AS MANUFACTURED BY SURE KLEAN OR AN APPROVED EQUAL.
2. DELIVER MATERIALS IN MANUFACTURER'S ORIGINAL UNOPENED CONTAINERS.
3. RATES AND APPLICATION METHOD SHALL BE AS RECOMMENDED BY THE MANUFACTURER.

L. BACKFILLING:

- 1. TRENCHES AND AREAS ADJACENT TO FOOTINGS AND FOUNDATIONS SHALL NOT BE BACKFILLED UNTIL THE WORK IS INSPECTED AND APPROVED BY THE OWNER'S AUTHORIZED REPRESENTATIVE OR LOCAL INSPECTOR.
2. TRENCHES SHALL BE COMPACTED IN ACCORDANCE WITH THE REQUIREMENTS FOR COMPACTED FILL AS SPECIFIED HEREIN.
3. TRENCHES THAT SETTLE BELOW GRADE SHALL BE REOPENED TO A DEPTH REQUIRED FOR PROPER COMPACTION, REFILLED AND COMPACTED TO INDICATED SURFACE ELEVATION, ALLOWING FOR SHRINKAGE AND SETTLEMENT.
4. COMPACTION OF BACKFILL BY PONDING AND JETTING WILL NOT BE PERMITTED EXCEPT FOR IRRIGATION AND ON-SITE DRAINAGE LINES.
5. BACKFILL BEHIND ALL WALLS AND MASONRY STRUCTURES, AS REQUIRED AND AS PER DETAILS. BACKFILL IN PLANTERS TO BE TOP GRADE SANDY LOAM TOPSOIL. SWALE EARTH FOR PROPER DRAINAGE. WHERE CONCRETE SLABS OCCUR NEXT TO WALLS, BACKFILL SHALL BE COMPACTED TO 90%.

END OF SECTION

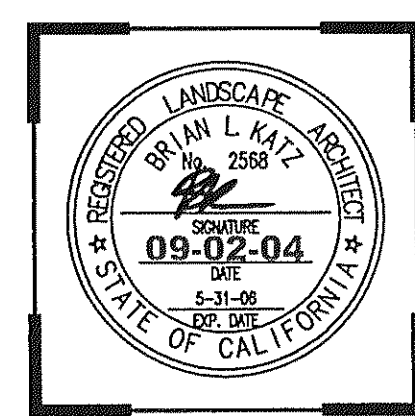
APPROVED
10-5-04
VALLEY-WIDE

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Table with columns: DATE, REVISIONS, BY, JA, M/M, M/M, M/M, M/M. Includes revision dates and initials.

Community Parks
Lots 26, 151 & 152
RHEINGANS, tract 30167
COUNTY OF RIVERSIDE
KB HOME - COASTAL

CONSTRUCTION NOTES



Date: 7/11/03
Scale: N.T.S.
Drawn by: STAFF
Checked by: JO
Job No: 02-065
Sheet No.
5
Of 14 Sheets

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PROJECT: RHEINGANS PARKS - LOT 26, LOT 151, & LOT 152

SYSTEM DESIGN PARAMETERS

Table with 4 columns: System Model Number, System Design Flow Rate, System Design Pressure, System Piping Size. Includes values for 55 PSI, 230 VAC, 1 PHASE 60 HZ, etc.

BOOSTER PUMP ASSEMBLY

- 1.1 Simplex water pressure booster system as designed and fabricated by Barrett Engineered Pumps... 1.2 Pump shall be single stage end suction close coupled centrifugal... 1.3 Electric motor shall be of the squirrel cage induction type...

23732 South Pointe Drive, Suite 2, Laguna Hills, CA 92653

RHEINGANS PARK - LOT 26 IRRIGATION CONTROLLER SCHEDULING

PROJECT DATA

DATE: 3/5/04 PROJECT: RHEINGANS PARK - LOT 26 METER #1 LOCATION: RIVERSIDE, CA PREPARED BY: PAUL MORRISON

E.T. DATA (INCHES)

Table with columns for months (JAN to DEC) and rows for MONTHLY and DAILY values.

STATION RUN TIMES (MINUTES PER DAY)

Table with columns for months and rows for TURF SPRAY, SHRUB SPRAY, TURF ROTOR, and SHRUB ROTOR.

FREQUENCY = ONCE PER DAY

NOTES:

RUN TIMES FORMULA: (Eto x Kc x 60) / (Pr x Du) = RUN TIME IN MINUTES

Eto = REFERENCE EVAPOTRANSPIRATION

Kc = CROP COEFFICIENT - TURF = .8

SHRUB = .4

60 = CONVERSION FACTOR

Pr = PRECIPITATION RATE = 2"/HOUR

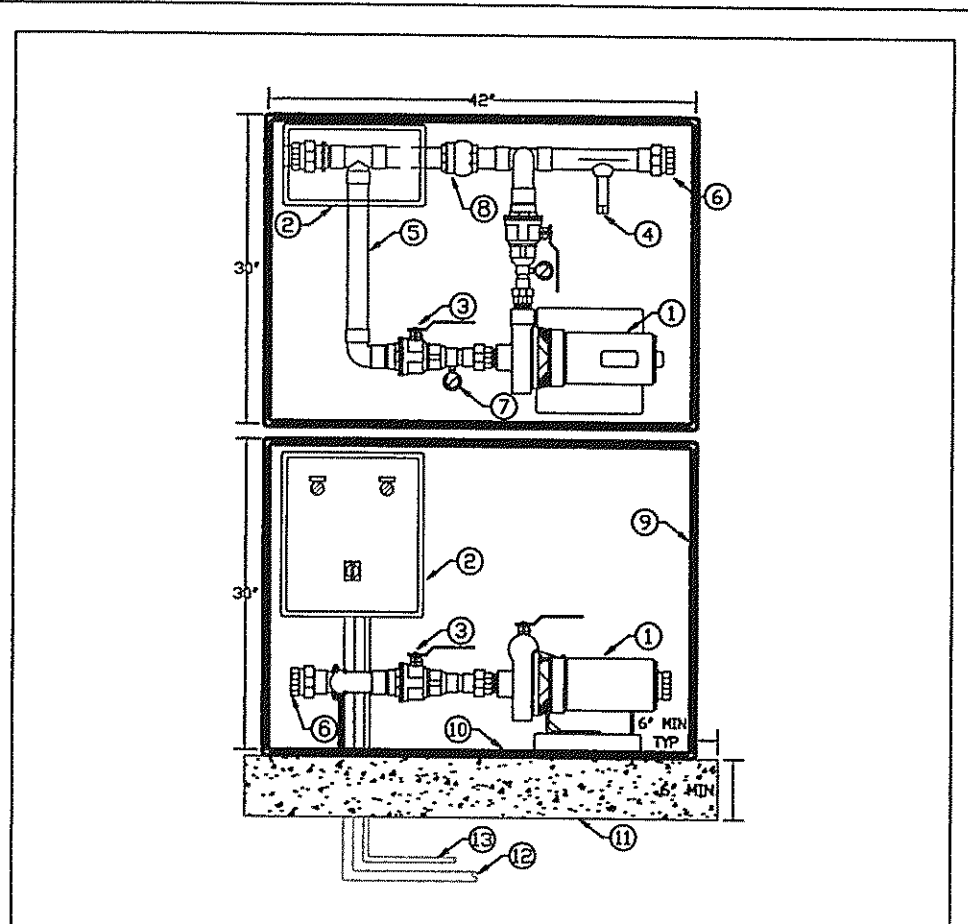
Du = DISTRIBUTION UNIFORMITY - SPRAY = 75%

SOIL TYPE = CLAY LOAM (ASSUMPTION)

RHEINGANS PARK - LOT 26 PRESSURE LOSS CALCULATIONS

Table with columns: METER NUMBER, METER SIZE, METER ELEVATION, STATIC PRESSURE, VALVE NO., G.P.M. @ VALVE, ELEVATION @ VALVE, P.S.I. @ PUMP, DATE, PROJECT, JOB NUMBER, LOCATION, CLIENT, CONTACT, PREPARED BY, WATER DISTRICT.

Table with columns: BACKFLOW PREVENTER, WATER METER, MAINLINE, LATERAL LINES, REMOTE CONTROL VALVE, MASTER VALVE, ISOLATION VALVES, HEAD LOSS, MISC. LOSSES, SUBTOTAL, FITTING LOSSES, SUB TOTAL FROM ABOVE, REQUIRED P.S.I. @ LAST HEAD, TOTAL, STATIC P.S.I. (BOOSTED), P.S.I. REQUIRED, RESIDUAL P.S.I.



- 1. CLOSE-COUPLED CENTRIFUGAL PUMP, CAST IRON BRONZE FITTED. 2. NEMA 4X SIMPLEX CONTROL PANEL FOR AUTOMATIC OPERATION. 3. BRONZE 1/4 TURN BALL VALVE. 4. BRONZE NON-ADJUSTABLE FLOW SWITCH. 5. TYPE 'L' COPPER. 6. BRONZE UNION ADAPTER. 7. PRESSURE GAUGE, LIQUID DAMPENED. 8. BRONZE DISC STYLE CHECK VALVE. 9. MARINE GRADE ALUMINUM ENCLOSURE, HINGED TOP. 10. STRUCTURAL ALUMINUM BASEPLATE. 11. 6" THICK CONCRETE PAD, ASTM C-94, ACI STD 318-83 MIX, 2500 PSI RATED. 12. MAIN POWER CONDUIT. 13. IRRIGATION CONTROLLER SIGNAL CONDUIT.

UNITED GREEN TECH SEE LOW FLOW IRRIGATION CONTROLLER SIGNAL ACTIVATED 2/2/01 SCALE: 1/8" = 1'-0" DATE: 03-12-04

METALWORKING

I. SCOPE OF WORK

A. GENERAL:

- 1. CONTRACTOR SHALL PROVIDE ALL LABOR, MATERIALS, EQUIPMENT, AND INCIDENTALS TO FURNISH AND INSTALL MISCELLANEOUS METAL ITEMS CONFORMING TO THE DIMENSIONS AND DETAILS AS INDICATED ON THE DRAWINGS. 2. THIS SECTION DOES NOT INCLUDE REINFORCING STEEL FOR CONCRETE AND MASONRY OR ITEMS REQUIRED IN CONNECTION WITH IRRIGATION OR ELECTRICAL WORK.

B. WORKMANSHIP:

- 1. WORKMANSHIP AND FINISH SHALL BE TO THE BEST GENERAL PRACTICE IN STEEL FABRICATING SHOPS. 2. THE USE OF PARTICULAR METHODS AND EQUIPMENT SHALL BE TO THE APPROVAL OF THE OWNER'S AUTHORIZED REPRESENTATIVE. 3. NO FABRICATING, MACHINING, CUTTING, ASSEMBLING OR PAINTING SHALL BE DONE WITHOUT THE OWNER'S AUTHORIZED REPRESENTATIVE'S KNOWLEDGE.

C. WELDING:

- 1. WELDING, WELDER QUALIFICATIONS AND INSPECTION OF WELDING OPERATIONS SHALL CONFORM TO THE REQUIREMENTS OF THE AMERICAN WELDING SOCIETY AND THESE SPECIFICATIONS. 2. WELDING SHALL BE PERFORMED AT SHOP WHENEVER POSSIBLE, FIELD WELDS SHALL BE CLEANED AND TREATED WITH LEAD FREE ZINC RICH SOLDER APPLIED PER MANUFACTURER SPECIFICATIONS.

D. MATERIALS:

- 1. ALL MATERIALS, PRIOR TO FABRICATION, SHALL BE THOROUGHLY WIRE BRUSHED AND CLEANED OF ALL SCALE AND RUST. 2. STEEL BARS, PLATES, AND SHAPES SHALL CONFORM TO ASTM A-36. 3. ROLLING AND CUTTING TOLERANCE, PERMISSIBLE VARIATIONS IN WEIGHT AND DIMENSIONS, DEFECTS AND IMPERFECTIONS SHALL NOT EXCEED LIMITS CONTAINED IN ASTM A-6.

E. BOLTS, NUTS, NAILS, AND FASTENERS:

- 1. BOLTS, NUTS, AND FASTENERS SHALL BE HOT DIPPED GALVANIZED, PRE-PRIMED AND SHALL CONFORM TO ASTM A-307. 2. BOLTS SHALL BE LONG ENOUGH TO EXTEND ENTIRELY THROUGH THE NUT BUT NOT MORE THAN ONE-QUARTER INCH (1/4") BEYOND. 3. HOLES SHALL BE EITHER PUNCHED FULL SIZE, DRILLED FULL SIZE, OR SUB-PUNCHED AND REAMED. FINISH HOLES SHALL BE CYLINDRICAL, PERPENDICULAR TO THE PLANE OF THE CONNECTION AND ONE-SIXTEENTH INCH (1/16") LARGER THAN THE NOMINAL DIAMETER OF THE BOLT.

F. GALVANIZING:

- 1. GALVANIZING SHALL BE PERFORMED AFTER FABRICATION AND PRIOR TO ASSEMBLING COMPONENT PARTS. FABRICATION SHALL INCLUDE ALL OPERATIONS SUCH AS SHEARING, CUTTING, PUNCHING, FORMING, DRILLING, MILLING, BENDING, WELDING, AND RIVETING. 2. ZINC USED FOR GALVANIZING SHALL BE GRADE PRIME WESTERN CONFORMING TO ASTM B-6. ZINC COATING SHALL BE EVEN, SMOOTH AND UNIFORM THROUGHOUT.

G. TUBULAR STEEL FABRICATION:

- 1. SUBMIT SHOP DRAWINGS, CLEARLY INDICATING IN DETAIL ALL METHODS OF FABRICATION AND ASSEMBLY, DIMENSIONS, SIZE, WEIGHT, AND MATERIAL, HOLES, LUGS, INSERTS, FINISHES, AND OTHER PERTINENT INFORMATION. 2. FORM EXPOSED WORK TRUE TO LINE AND LEVEL WITH ACCURATE ANGLES AND SURFACES.

H. PROTECTION AND CLEANUP:

- 1. PROTECT ALL EXISTING WORK FROM PAINT OVERSPRAY. 2. OBTAIN FIRE PERMIT WHERE REQUIRED FOR ON SITE WELDING. 3. UPON COMPLETION OF WORK, REMOVE ALL SCRAP, DEBRIS, MATERIALS, AND TOOLS FROM SITE.

END OF SECTION

PAINTING AND STAINING

I. SCOPE OF WORK

A. GENERAL:

- 1. CONTRACTOR SHALL PROVIDE ALL LABOR, MATERIALS, EQUIPMENT AND INCIDENTALS FOR SANDING, PRIMING, PAINTING, AND STAINING OF IMPROVEMENTS AS INDICATED ON THE DRAWINGS AND SPECIFIED HEREIN. 2. CONTRACTOR SHALL BE RESPONSIBLE FOR THE LOCATION, ALIGNMENT, LAYOUT, DIMENSIONS, AND APPLICATION OF PAINT STAINS.

B. MATERIALS:

- 1. PAINTS AND STAINS SHALL BE OF COLORS AND TINTS AS INDICATED ON THE DRAWINGS AND SHALL BE APPLIED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS AND THESE SPECIFICATIONS. 2. PAINTS AND STAINS SHALL BE HOMOGENEOUS, FREE OF CONTAMINANTS AND OF A CONSISTENCY SUITABLE FOR USE IN THE CAPACITY FOR WHICH IT IS SPECIFIED.

C. WORKMANSHIP:

- 1. PAINT SHALL BE APPLIED ON THOROUGHLY DRY SURFACES AND DURING PERIODS OF FAVORABLE WEATHER. 2. SURFACES BEING COVERED SHALL BE FREE FROM MOISTURE, DUST, GREASE, OR OTHER DELETERIOUS SUBSTANCES WHICH WOULD PREVENT BONDING.

D. PAINTING ASPHALT:

- 1. TRAFFIC STRIPING AND MARKING SHALL BE APPLIED TEN (10) CALENDAR DAYS AFTER APPLICATION OF THE SEAL COAT, AT LOCATIONS AND TO THE DIMENSIONS AND SPACING INDICATED ON THE DRAWINGS. 2. PAINT SHALL BE 'RAPID DRY' OR 'REGULAR DRY' IN ACCORDANCE WITH THE PROVISIONS OF SECTION 210, PAINT AND PROTECTIVE COATINGS OF THE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION.

E. PAINTING GALVANIZED SURFACES:

- 1. GALVANIZED SURFACES, WHICH ARE TO BE PAINTED, SHALL BE PREPARED BY HAND-SCRAPING, BRUSHING WITH STIFF FIBER OR WIRE BRUSHES OR CLEANING WITH AN ALKALINE SOLUTION FOLLOWED BY A FRESH WATER RINSE.

F. PAINTING CONCRETE:

- 1. PRIOR TO PAINTING CONCRETE SURFACES, A BRUSH COAT OR SURFACE FILM OF THIN CEMENT MORTAR SHALL BE APPLIED. WHEN THE FILM HAS SET SUFFICIENTLY THE SURFACE SHALL BE RUBBED BY HAND OR MECHANICAL MEANS NECESSARY TO REMOVE EXCESS MORTAR AND PRODUCE A SMOOTH SURFACE OF EVEN TEXTURE.

G. PAINTING WOOD SURFACES:

- 1. WOOD SURFACES SHALL BE PREPARED FOR PAINTING BY REMOVING ANY FOREIGN MATTER BY WIRE BRUSHING, SCRAPING, OR SANDING. ALL SURFACES SHALL BE WIPED OR DRY BRUSHED TO REMOVE ANY DUST OR CHALKY RESIDUE RESULTING FROM PREPARATION OPERATIONS.

END OF SECTION

APPROVED [Signature] 10-5-04 VALLEY-WIDE

S.K.A. LANDSCAPE ARCHITECTURE SITE PLANNING 6153 Fairmount Ave., Suite 260 San Diego, CA 92120

Table with columns: DATE, REVISIONS, COMMENTS. Includes dates 9/11/03, 1/12/04, 3/8/04, 3/10/04, 9/2/04.

Community Parks Lots 26, 151 & 152 RHEINGANS, tract 30167 COUNTY OF RIVERSIDE KB HOME - COASTAL

CONSTRUCTION NOTES, IRRIGATION METER DATA, BOOSTER PUMP SPECS



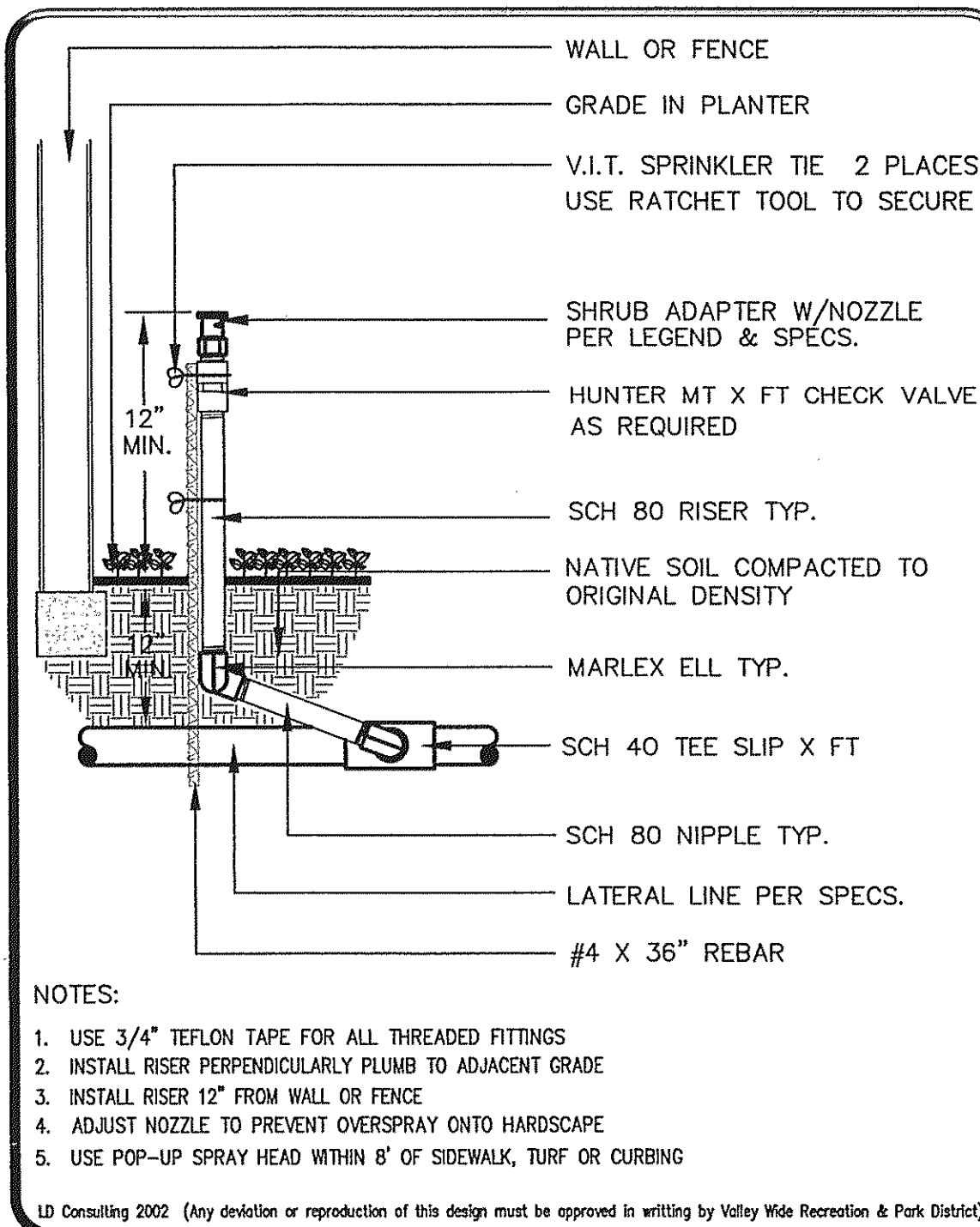
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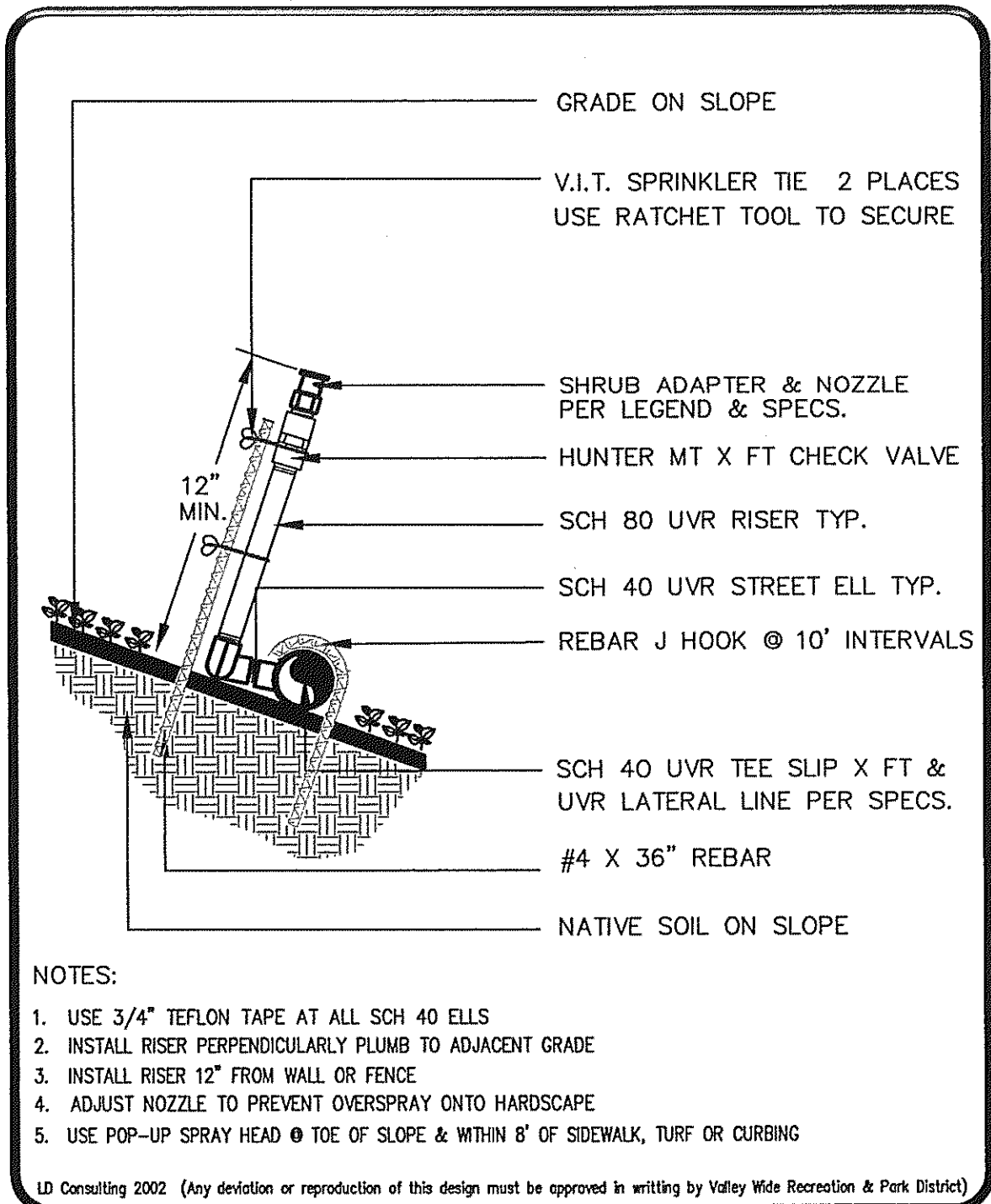




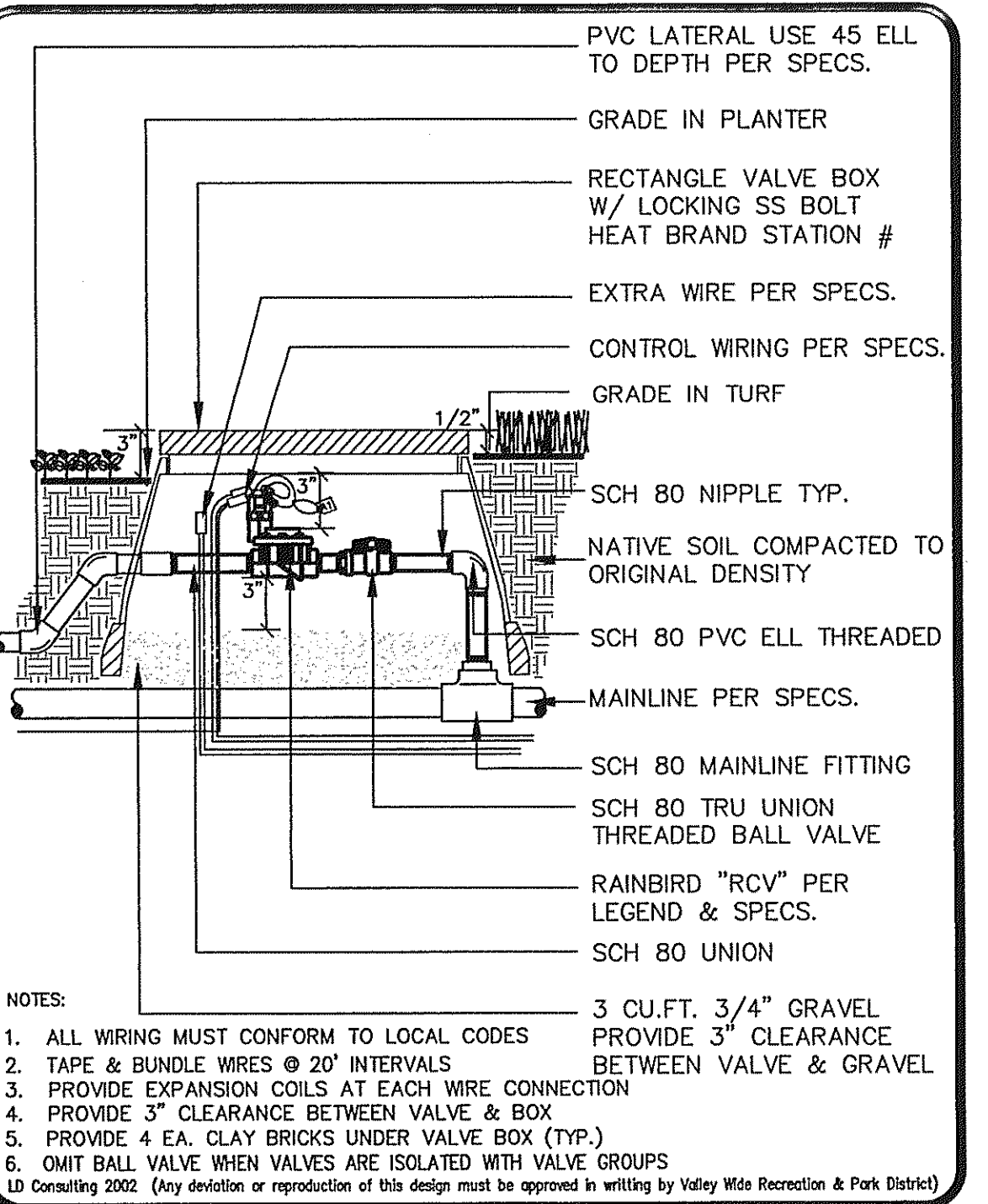
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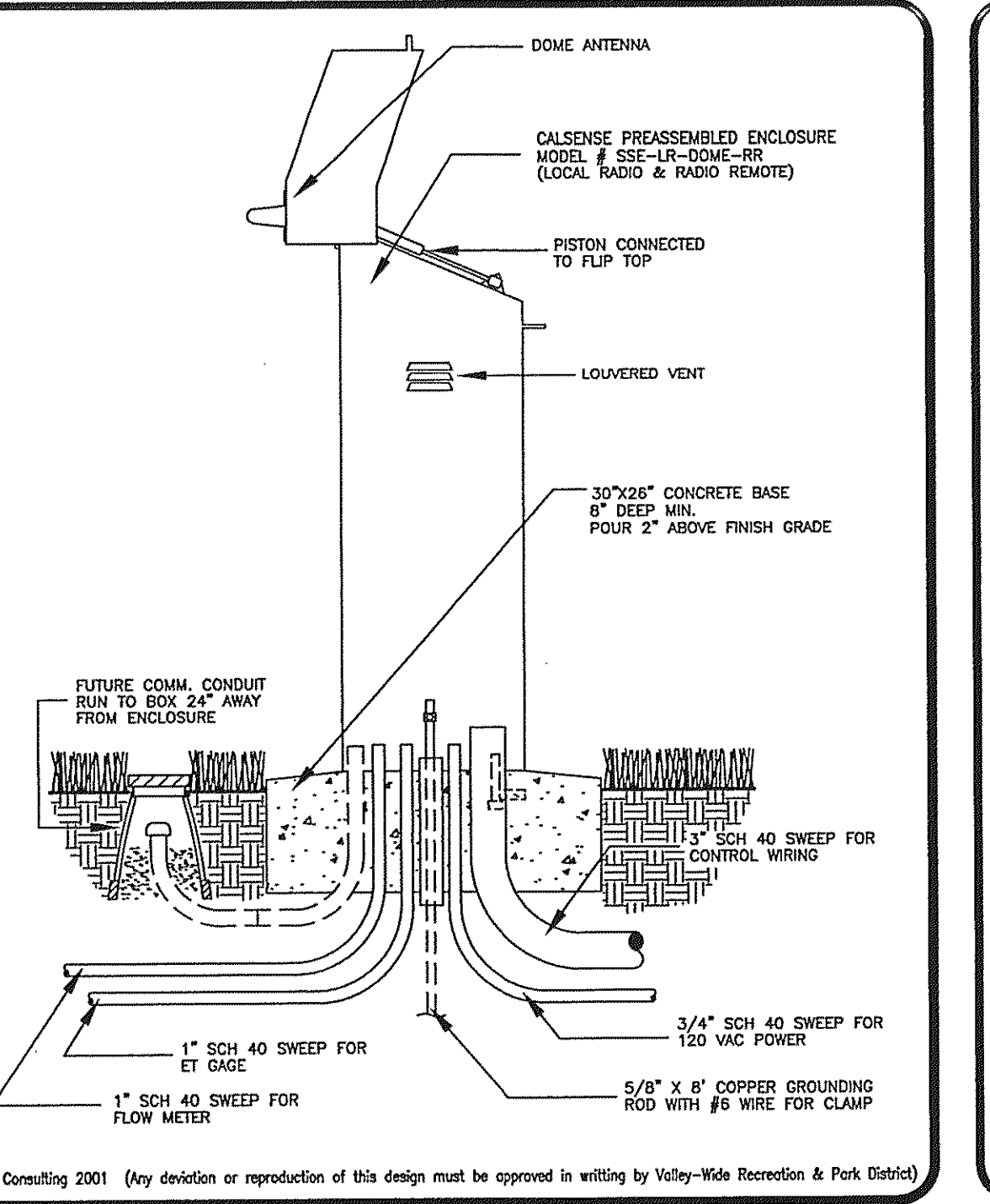
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5/03  
**SHRUB SPRAY ON RISER** IR-16



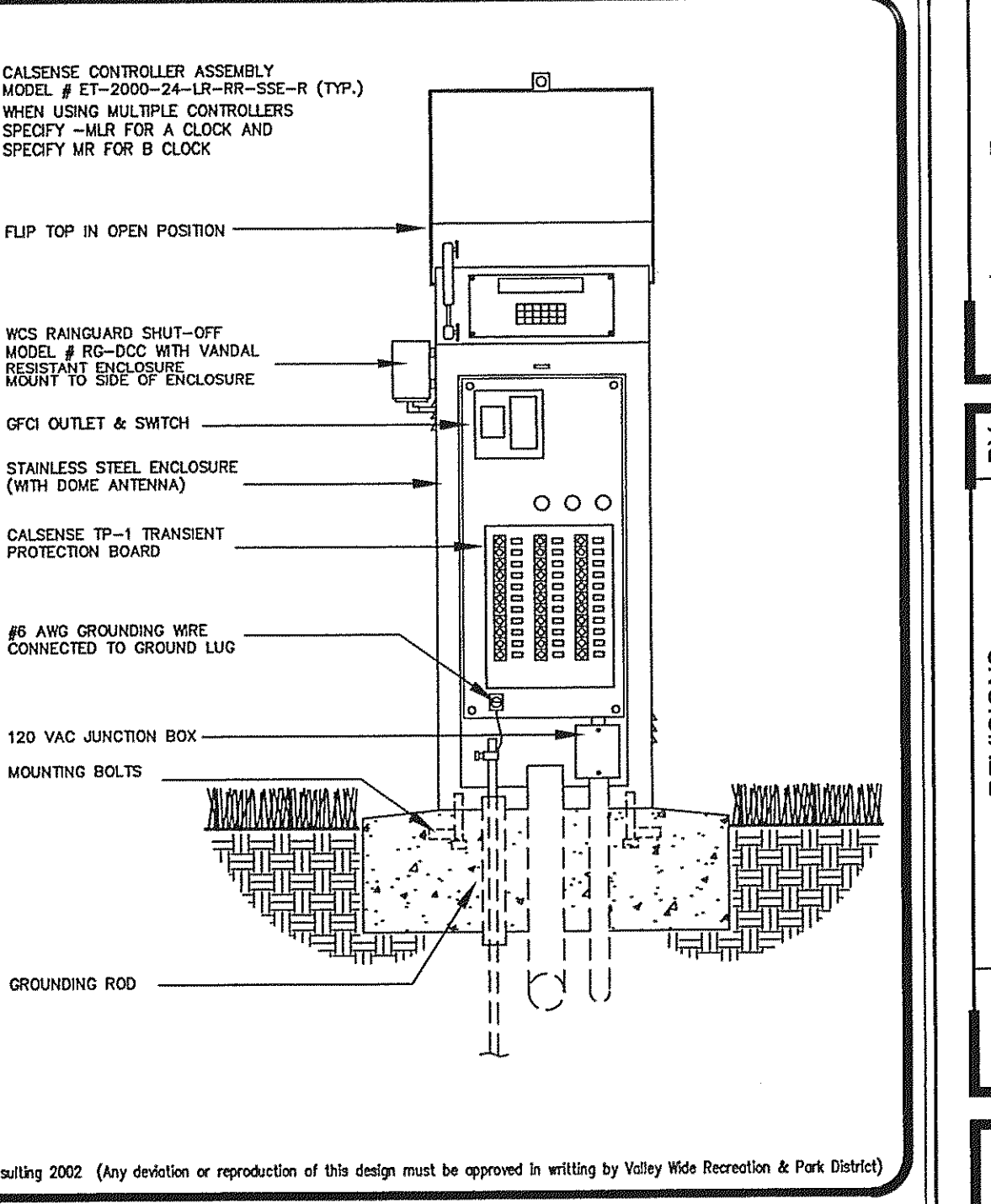
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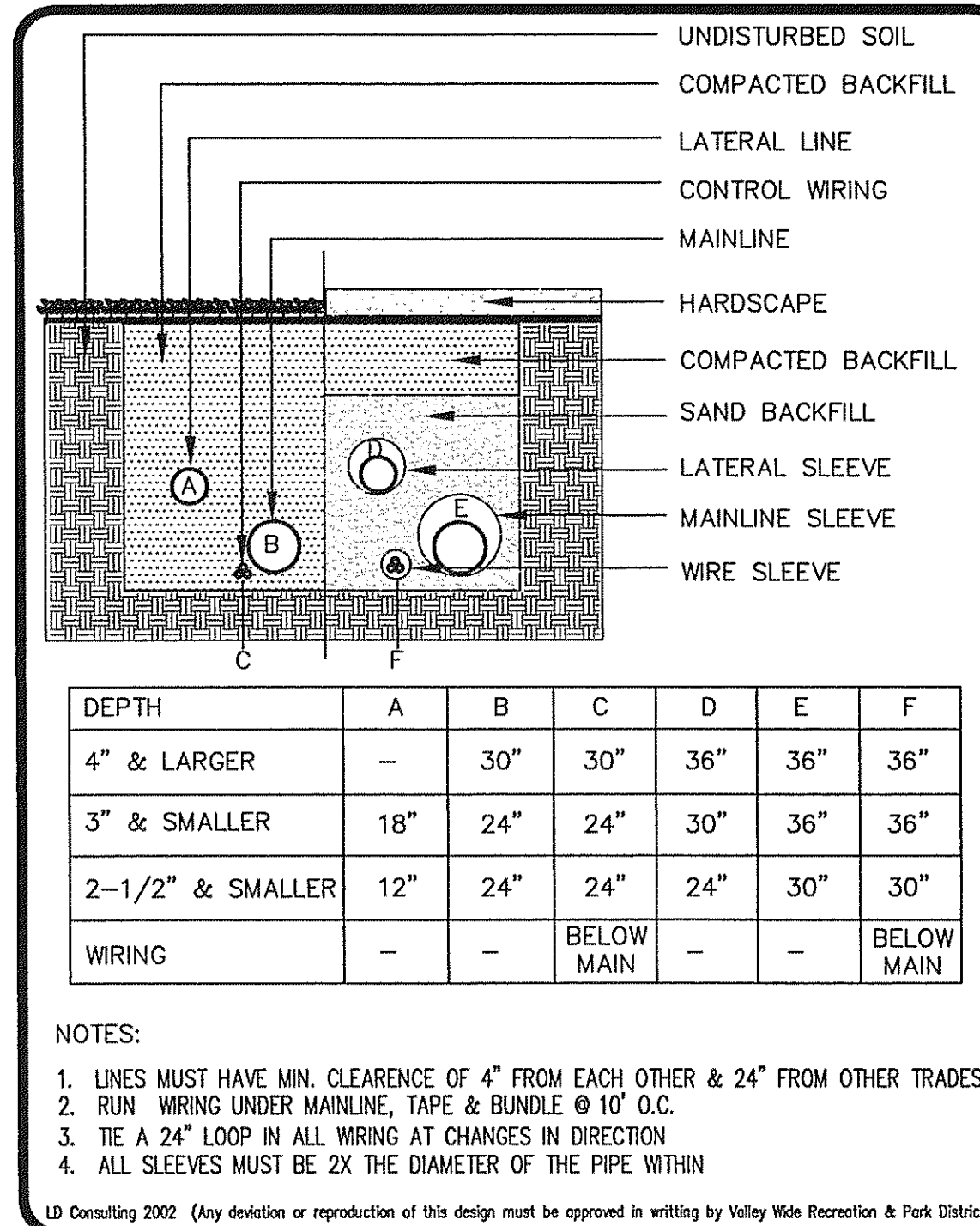
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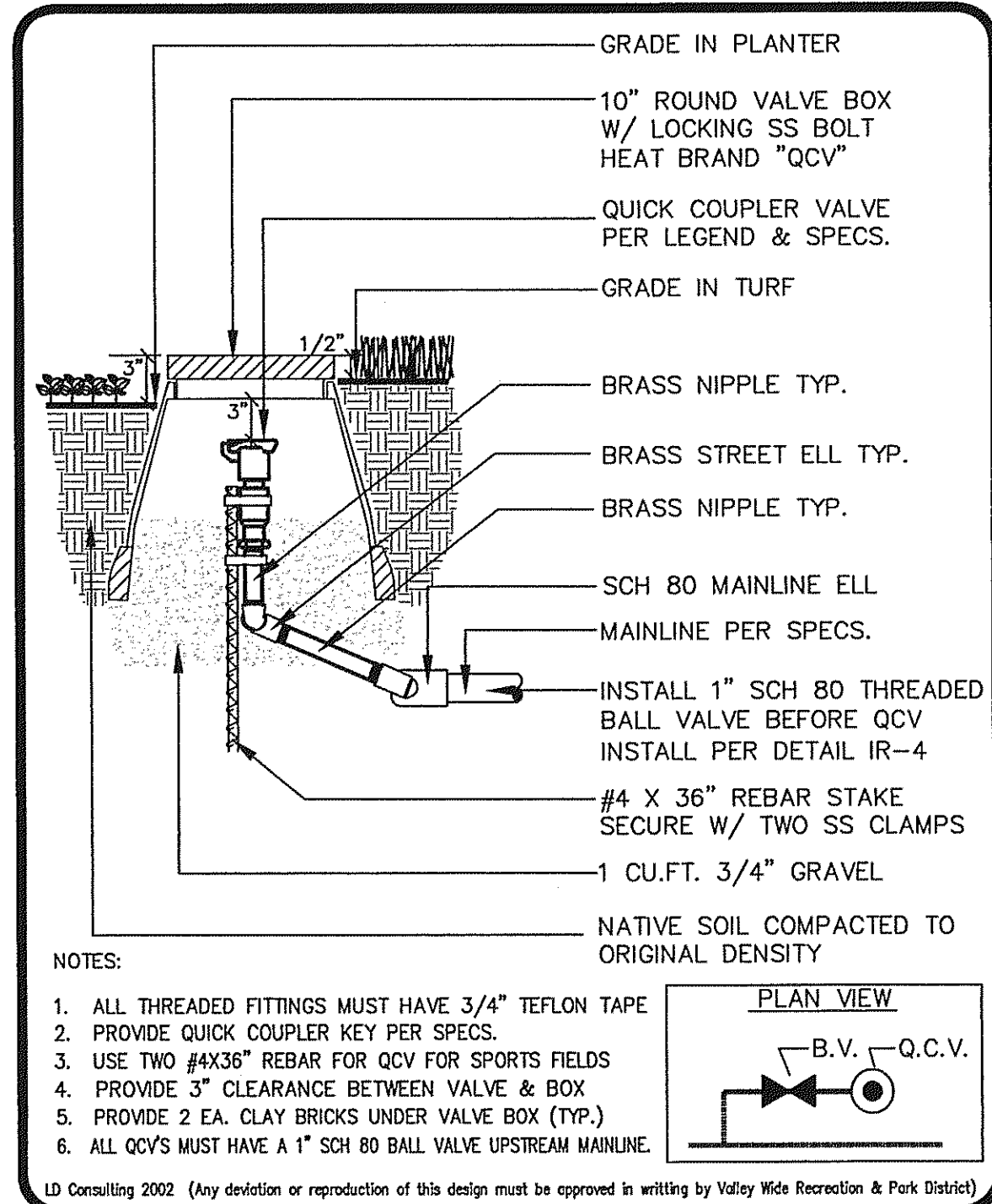
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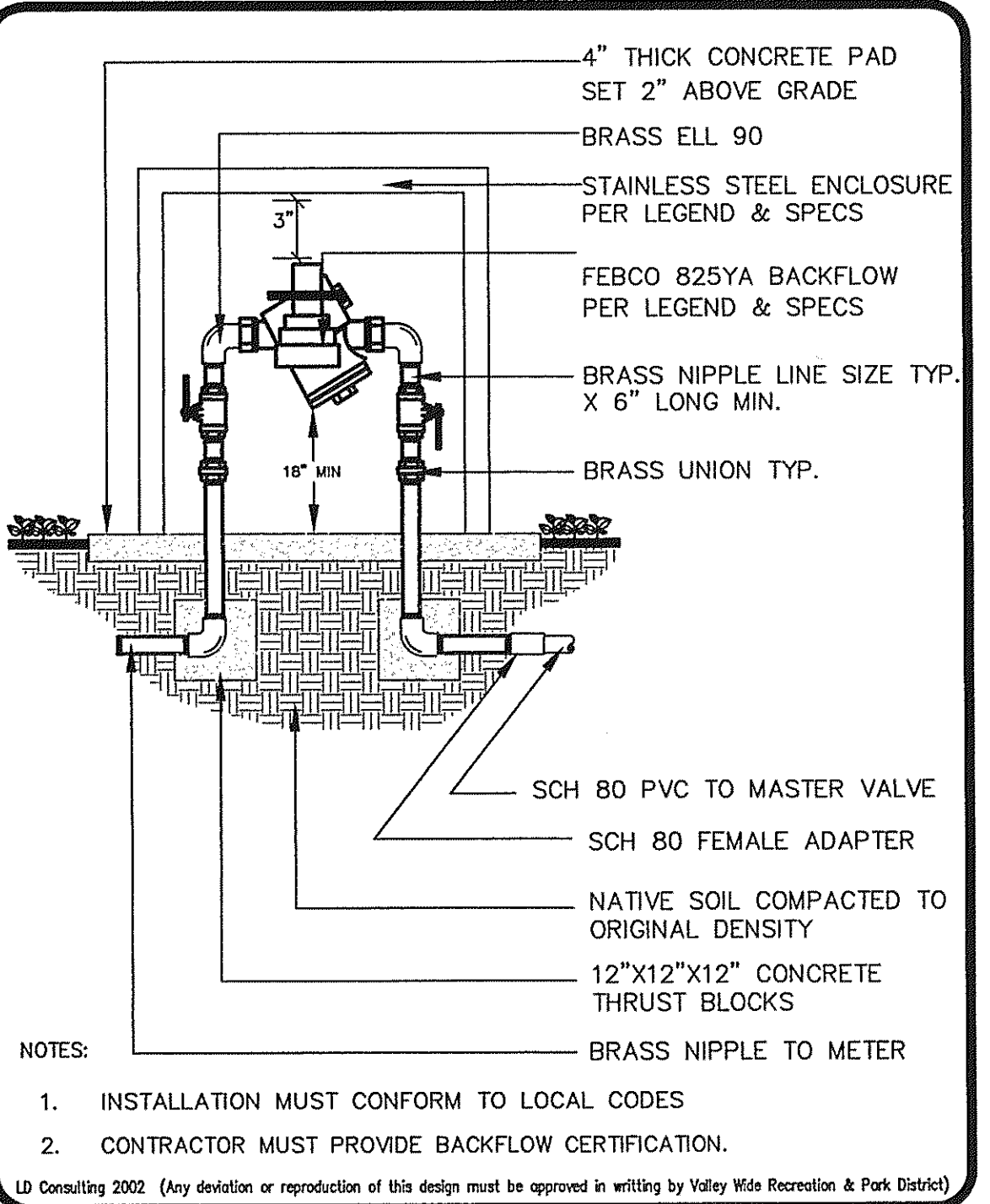
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**PEDESTAL CONTROLLER** IR-23



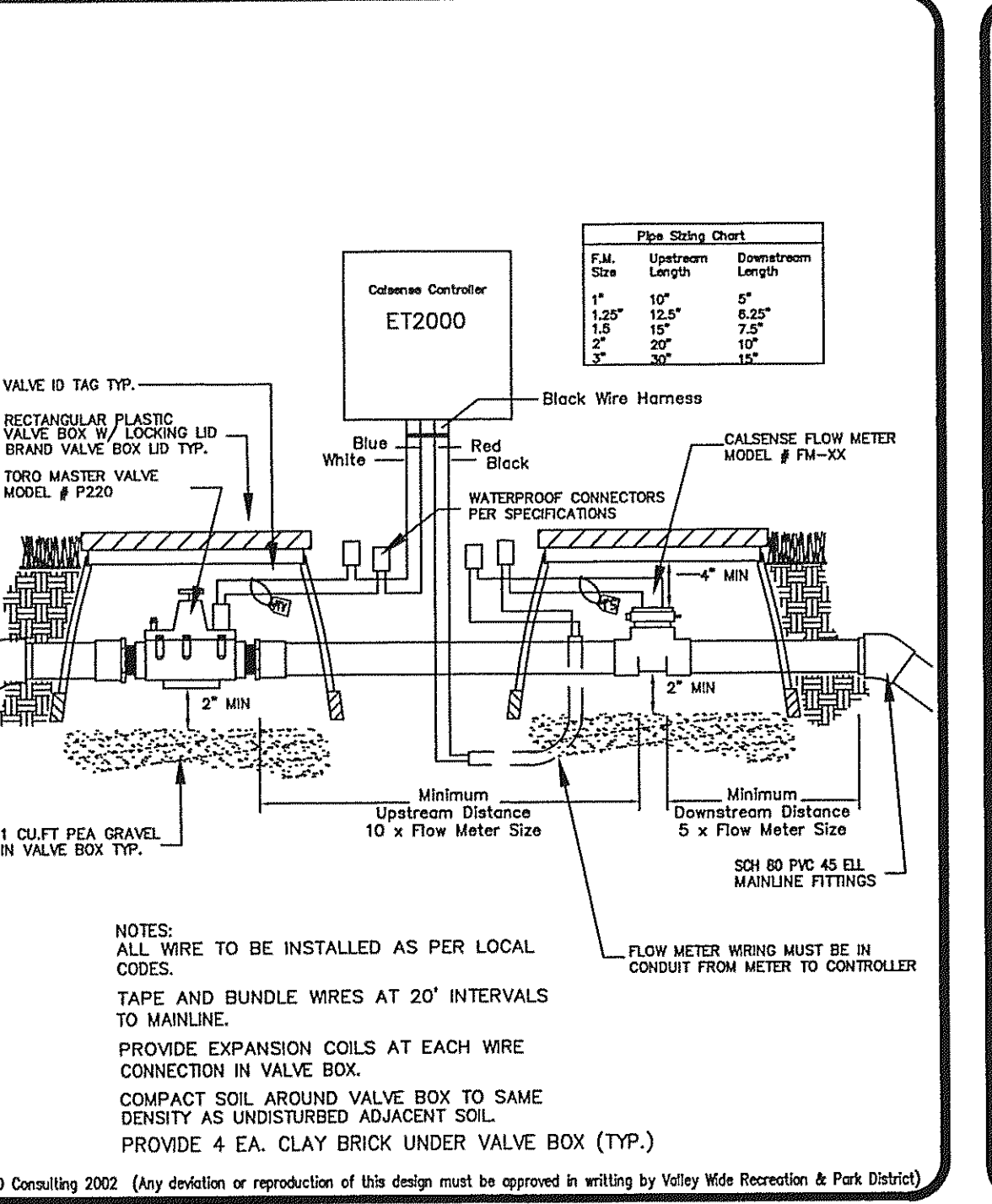
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5/03  
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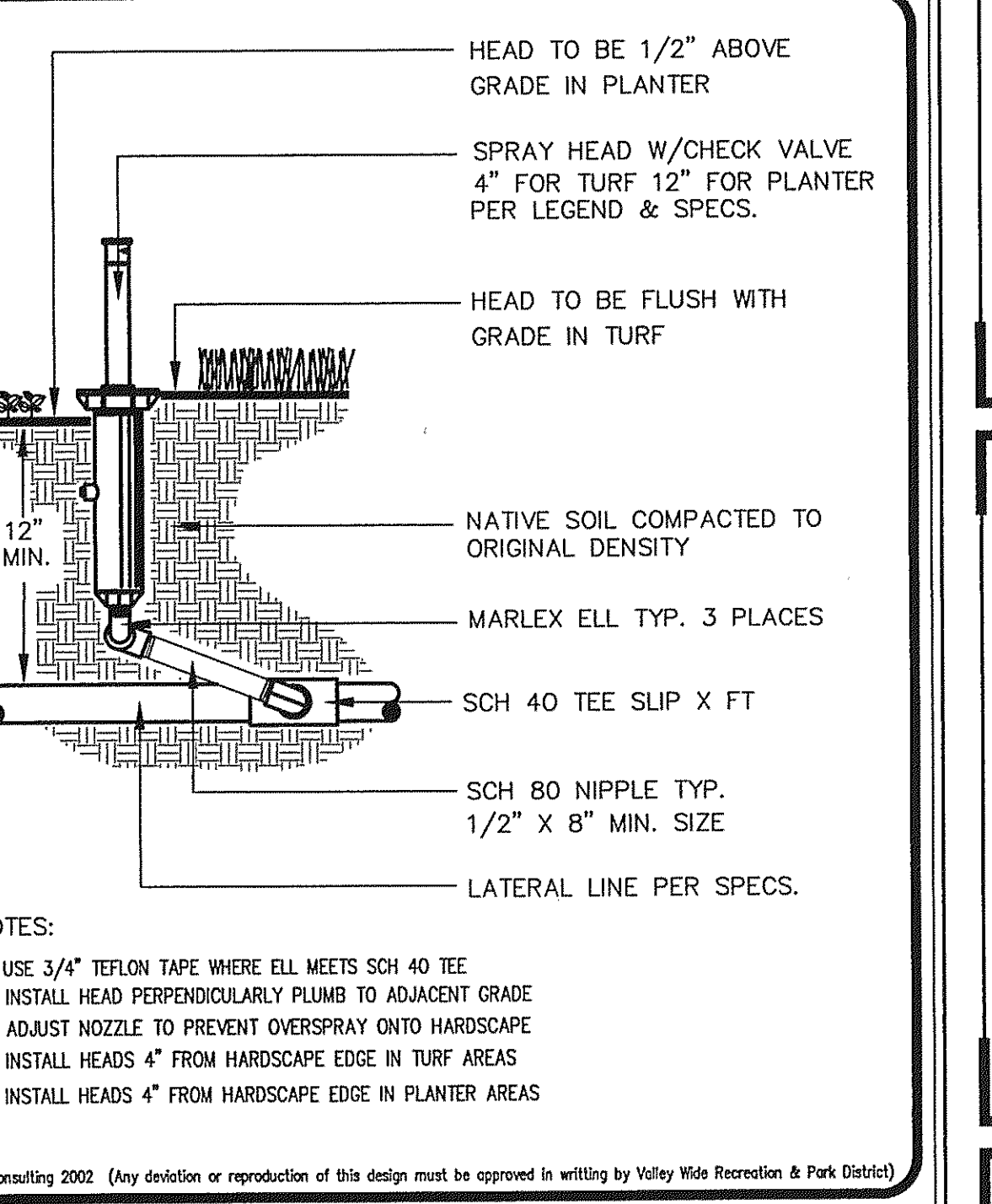
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5/03  
**QUICK COUPLER VALVE** IR-3



**VALLEY WIDE RECREATION**  
5/03  
**BACKFLOW PREVENTER** IR-6



**VALLEY WIDE RECREATION**  
5/03  
**MASTER VALVE & FLOW METER** IR-21



**VALLEY WIDE RECREATION**  
5/03  
**POP-UP SPRAY HEAD** IR-17

**HOLD HARMLESS & INDEMNIFICATION CLAUSE**  
CONTRACTOR AGREES TO ASSUME SOLE 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/DEVELOPER, THE COUNTY OF LOCAL JURISDICTION AND THE LANDSCAPE DESIGNER HARMLESS FROM ANY AND ALL LIABILITY REAL OR ALLEGED, IN CONNECTION WITH THE PERFORMANCE OF WORK ON THIS PROJECT, EXCEPT FOR LIABILITY ARISING FROM SOLE NEGLIGENCE OF THE OWNER/DEVELOPER, COUNTY OF LOCAL JURISDICTION AND THE LANDSCAPE DESIGNER.

**VALLEY WIDE RECREATION & PARK DISTRICT**  
**APPROVED**  
Samuel K. Goepp  
Date: 7-10-04

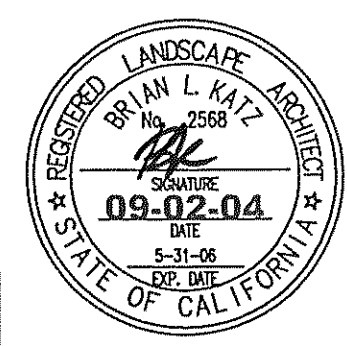
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Checked by: JO  
Job No: 02-065  
Sheet No: 8  
Of 14 Sheets

**SKA**  
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DATE	REVISIONS	BY
9/11/03	REVISED PER VALLEY-WIDE PLAN CHECK COMMENTS DATED 8/26/03	JA
11/2/04	REVISED PER VALLEY-WIDE PLAN CHECK COMMENTS DATED 10/03/04	MVM
3/8/04	REVISED PER VALLEY-WIDE PLAN CHECK COMMENTS DATED 2/27/04	MVM
3/10/04	IRRIGATION CONTROLLER CLARIFICATION	MVM
9/2/04	REVISED PER VALLEY-WIDE PLAN CHECK COMMENTS DATED 8/2/04	MVM

Community Parks  
Lots 26, 151 & 152  
RHEINGANS, tract 30167  
COUNTY OF RIVERSIDE  
KB HOME - COASTAL

IRRIGATION DETAILS





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**SECTION 02700 IRRIGATION SYSTEMS**

**IRRIGATION SPECIFICATIONS GENERAL**

**I. General Requirements**

- a. Permits: Contractor shall obtain and pay for any permits required.
- 2. Scope Of Work**
- a. The intent of the drawings and specifications is to indicate the processes required for the installation of a complete operating irrigation system without additional cost in labor and material to the Owner.
- b. The work consists of furnishing all tools, equipment, material, labor and any processes required to provide a complete operating irrigation system as specified in the drawings and specifications.
- c. Drawings are diagrammatic and must be field verified. Contractor must notify Engineer and/or Valley Wide immediately of any discrepancies prior to starting work.
- d. Due to the scale of the drawings it is not possible to show all offsets, assemblies, fittings, etc. for a complete irrigation system.
- e. Under this section the contractor shall provide all necessary assemblies, fittings, etc. to provide a complete fully automatic irrigation system as listed in drawings and specifications with no additional cost to the owner.
- f. Any extra work performed shall be approved in writing by the Owner or Owner's representative prior to the start of such work.
- g. Any unapproved work may be at the contractor's expense.
- h. If reclaimed water is used, contractor shall provide all necessary reclaimed water signage and equipment. The entire irrigation system must be in accordance to the local reclaimed water specifications and as listed in drawings.

**3. Record Drawings**

- a. Record accurately on one set of black and white prints denoting variation in work from original drawings.
- b. Dimension from two permanent points of reference (sidewalks, pavement, curbs, street lights, buildings) Record on as-built daily or as work is performed. All drafting must be clearly legible and dimensions shall be no smaller than 1/4" in size
- c. Show dimensions from the following locations and depths:
  - i. Point of connection (P.O.C).
  - ii. Backflow prevention assembly, master valve and flow sensor.
  - iii. Routing of irrigation pressure mainlines and all directional changes.
- iv. Ball and butterfly isolation valves.
- v. Irrigation control valves.
- vi. Automatic controller, rain sensors and electrical conduits.
- vii. Sleeves and pull boxes.
- viii. Other related equipment (as directed by the Engineer).

- c. Upon completion and approval of record drawing prints, transfer all information to reproducible mylars and provide two additional blue line copies.
- d. Maintain as-built drawings on site at all times. These drawings are subject to inspection at any time.
- e. Make changes to reproducible drawings in ink (no ball-point pen). Erase or use eradicating fluid when revising drawings. Make changes in a manner equal to the original drawings.
- f. Contractor must submit as-built drawings (sepia mylars and two sets of blue lines) to the Engineer inspecting the site seven days prior to the start of the maintenance period for approval.

**4. Controller Charts**

- a. As-built drawings shall be approved in writing prior to preparing charts.
- b. Provide two controller charts for each controller supplied, showing the area covered by the automatic controller.
- c. The chart shall be a reduced reproduction of the as-built system. If the controller sequence is not legible when reduced, enlarge it to a size that will be legible when reduced.
- d. Charts shall be black line print with a different transparent color used to show area of coverage for each station.
- e. Completed and approved charts must be laminated with plastic 10 mil thick minimum.
- f. Charts shall be completed and approved prior to final inspection of the irrigation system.
- g. Controller access. The Engineer reserves the right to have complete access to the controller clocks for monitoring and controlling system failures. The contractor shall provide the Engineer with two sets of all keys necessary for access to the controller clocks within the designated area. The keys will then become the property of the Owner.

**5. Operation and Maintenance Manuals**

- a. Prepare and deliver to the Engineer, prior to the start of maintenance, all required and necessary descriptive material in complete detail and sufficient quantity properly prepared in four individually bound copies. Describe the material installed in sufficient detail to permit qualified operating personnel to understand, operate and maintain all equipment. Each manual shall include the following:
  - i. Index sheet, stating contractor's address and telephone number.
  - ii. Duration of guarantee period with guarantee forms.
  - iii. List of equipment with names and addresses of manufacturer's local representatives.
  - iv. Complete operating and maintenance instructions on all major equipment.
- b. In addition to the maintenance manuals, provide the maintenance personnel with the instructions for major equipment and show written evidence to the Engineer at the conclusion of the work that this service has been completed.

**6. Spare Parts and Equipment**

- a. Prior to the start of maintenance prepare and deliver to the Engineer, all required spare parts, tools and equipment. Spare parts, tools and equipment shall include but not limited to the following:
  - i. Two quick coupler keys with 3/4 inch bronze hose bib with hand wheel.
  - ii. Two quick coupler lid keys
  - iii. One valve box cover wrench or key
  - iv. Two wrenches and shrew drivers for adjustment and disassembly for each type of sprinkler head used in the irrigation system
  - v. One 5-foot tee wrench for operating isolation valves specified
  - vi. Six extra sprinkler heads of each type and size used in the irrigation system.
  - vii. Remote radio device for irrigation controller(s) if specified

**7. Guarantee**

- a. Provide written guarantee in form approved that all work with defects in workmanship and materials will be repaired or replaced at no cost to the Owner for a period of one year from the date of acceptance by the Owner's representative.
- b. This form shall be transferred onto the contractor's letterhead and must contain the following:  
\*\*Name of Project\*\*

We hereby guarantee that the irrigation system we have furnished and installed for \*\*Name of Project\*\* 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 material or workmanship, which may develop during the period of one (1) year from the date of acceptance, and also to repair or replace any damage resulting from the repairing or replacing of such defects at no additional cost to the Owner. We shall make such repairs or replacements within a reasonable time after receipt of such written notice. In the event of our failure to make such repairs or replacements within a reasonable time after receipt of such written notice from the Owner, we authorize the Owner to proceed to have said repairs or replacements made at our expense and we will pay for the cost and charges therefor upon demand.

Project Name: \_\_\_\_\_

Owner: \_\_\_\_\_

Landscape Architect: \_\_\_\_\_

Location: \_\_\_\_\_

Signed: \_\_\_\_\_ Title: \_\_\_\_\_

Address: \_\_\_\_\_

Telephone: ( ) \_\_\_\_\_

Date of Signature: \_\_\_\_\_

**8. Inspections**

- a. Site inspections and notification time.
  - i. Pre-construction conference 7 days
  - ii. Pressure line installation and testing 48 hours
  - iii. Controller installation 48 hours
  - iv. Lateral line and sprinkler installation 48 hours
  - v. Coverage test 48 hours
  - vi. Final Grading 48 hours
  - vii. Weed-abatement 48 hours
  - viii. Tree & shrub observation & layout 48 hours
  - ix. Finish grade prior to hydro-seeding 48 hours
  - x. Acceptance to commence maintenance 48 hours
  - xi. Monthly maintenance walk 48 hours
  - xii. Final Inspection 7 days
- b. No field inspections will commence unless record drawings are current and available for observation upon request by the Owner's representative.

**9. Irrigation System Testing**

- a. Owner's representative must be notified 48 hours prior to any irrigation testing or inspections.
- b. Contractor shall perform a pressure test to all pressure lines in the presence of the Owner's representative.
- c. All pressure line must be tested under hydrostatic pressure of 130 pounds per square inch (PSI) and be proven watertight.
- d. Pressure lines must maintain pressure for as period of 2 hours. If pressure drop occurs, contractor shall replace joints and repeat test until no pressure drop is achieved.

**10. Pressure Line Observation**

- a. Prior to any backfilling of any trench(s) contractor shall call for field observation for verification of material, depths, clearances and warning tape by the Owner's representative.
- b. Any trenching covered that was not inspected or approved shall be made visible for observation at the cost of the Contractor.
- 11. Controller Testing**
- a. Prior to final acceptance contractor shall provide certification from manufacture stating that controller specified on drawings has been installed per manufacturer's specifications.
- b. Contractor shall test in the presence of the Owner's representative that all control wires and extra control wires are functioning properly.
- c. Contractor shall provide sufficient manpower and/or radio device to complete such testing in a timely manner.

**12. Lateral Line Testing**

- a. Prior to any backfilling of any trench(s) contractor shall call for field observation for verification of material, depths and clearances by the Owner's representative.
- b. All sprinklers and assemblies shall be made visible for observation for verification that all material has been installed per plans and specifications.
- c. Any trenching covered that was not inspected or approved shall be made visible for observation at the cost of the Contractor.

**13. Coverage Test**

- a. Contractor shall perform a coverage test in the presence of the Owner's representative. All irrigation sprinkler systems must providing 100% head to head coverage. Any areas not receiving head to head coverage shall be corrected and retested per the Owner's representative.
- b. Contractor shall provide sufficient manpower and/or radio device to complete such testing in a timely manner.
- c. All heads must be adjusted to prevent over spray to buildings, walks, streets etc. (see adjusting the system section).
- d. No planting or hydro-seeding shall take place until coverage test as been approved in writing by the Owner's representative.
- Tree planting may commence upon approval from Owner's representative.

**14. Final Irrigation Inspection**

- a. All irrigation systems shall be tested in the presence of the Owner's representative and by under complete automatic operation and proven to be leak free irrigating designated areas per plans and specification with least amount of over spray as possible.
- b. Contractor shall provide as-built record drawings and controller charts at final irrigation inspection for approval prior to mylar transfer and laminating.
- c. All irrigation turn over items shall be turned in to the Owner's representative prior to the start of maintenance.

**IRRIGATION SPECIFICATIONS MATERIALS**

**1. Backflow Prevention Devices**

- a. Backflow prevention units shall be approved by the Foundation for Cross-Connection Control and Hydraulic Research.
- b. Backflow assemblies shall be installed using brass ell, unions and nipples.
- c. Type: Febc0 825YA or approved equal.
- d. Backflow device enclosure shall be constructed of stainless steel #9 expanded metal with an angle iron frame. Enclosure shall have a hinge on one end that allows for removal of the enclosure for backflow service. Enclosure shall be bolted to a concrete pad using galvanized steel hardware.
- Manufactures: LeMeur, Strong Box, All Spec or approved equal.

**2. Pressure Reducing Valves**

- a. Pressure reducing valves shall be of bronze and stainless steel construction and be adjusted from 25 P.S.I. to 125 P.S.I.
- Manufactures: Wilkens 500HLR or approved equal.

**3. Wye Strainers**

- a. Wye strainer shall be bronze construction with a stainless steel screen element. Wye strainer shall have a standard filtration size of 80 mesh.
- Manufactures: Wilkens 100YSBR or approved equal.

**4. Shut off Valves**

- a. Ball Valve:
  - i. Shut off valves 2 inch and smaller shall be ball valves.
  - ii. Ball valves shall have a one-piece body constructed of 600 lb. WOG Bronze material conforming to ASTM B-584 alloy 844. Ball valve shall have a vented ball with a blowout proof system. Ball valves shall have a working pressure of not less than 150 P.S.I. and shall conform to AWWA standards.
  - Manufactures: Nibco T-580, Nibco T-113 or approved equal.

**5. Butterfly Valves:**

- i. Shut off valves 2-1/2 inch and larger shall be butterfly valves.
- ii. Butterfly valves shall have a one-piece body constructed of cast iron and stainless steel stem. Butterfly valves shall be equipped with Vanstone lange adapters and a 2-inch square-operating nut. Butterfly valves shall have a working pressure of not less than 150 P.S.I. and shall conform to AWWA standards. Butterfly valves shall have a ductile iron porcelain enamel coated disc.
- Manufactures: Nibco, Matco or approved equal.

**6. Quick Coupler Valves**

- a. Quick coupler valves shall have a body constructed of red brass with a wall thickness guaranteed to withstand normal working pressure of 150 P.S.I. without leakage with female threads (penning at base). Quick coupler valve shall have a hinge cover constructed of red brass with leather like vinyl cover bonded to it on such a manner that it becomes permanent type of cover. Quick couplers used with potable water shall have vinyl covers yellow in color. Quick coupler valves used for reclaimed water shall have vinyl covers purple in color with the appropriate reclaimed water warnings in English and Spanish as well as the international "Do Not Drink" symbol.
- b. All quick coupler valves must have a schedule 80 ball valve to isolate mainline from quick coupler valve. Mainline shall be size of quick coupler valve from mainline tee to quick coupler.
- Manufactures: Potable Water: Rainbird 44LRC, Rainbird 33LRC or approved equal  
Reclaimed Water: Rainbird 44NP or approved equal

**7. Remote Control Valves**

- a. The remote control valve shall be normally closed 24 VAC solenoid actuated globe pattern, spring-loaded diaphragm type. The valve shall be pressure rated up to 200 P.S.I. at 150 degrees F.
- b. The valve shall have a 600-pound test fabric reinforced rubber diaphragm assembly with self-cleaning stainless steel screen.
- c. Remote control valve body and bonnet shall be brass and the valve shall have a stainless steel control shut-off stem and manual operator.
- Manufactures: Rainbird PESB-PRS, Hunter ICV-FS or approved equal.

**8. Master Control Valves**

- a. The master control valve shall be a switch-able normally closed or open 24 VAC solenoid actuated globe pattern, spring loaded diaphragm type. The valve shall have up to 220 P.S.I. at 150 degrees F. pressure rating.
- b. The body bonnet shall be plastic and the valve shall have a stainless steel control shut-off stem and manual operator.
- c. The valve shall have a 600-pound test fabric reinforced rubber diaphragm assembly with self-cleaning stainless steel screen.
- Manufactures: Toro P220 or approved equal.

**9. Flow Meter**

- a. Flow meter shall be constructed of a schedule 80 tee with a solid state o-ring sealed epoxy fused sensor housing and nylon impeller.
- b. Flow meter must be installed and wired per manufacturer's specifications.
- Manufacture: Calsense FM

**10. Rain Sensor**

- a. Rain sensor shall be a heavy-duty plastic container with epoxy sealed electronics installed within a 1/8-inch thick steel enclosure. Mount sensor on controller enclosure or building eave per manufacturer's specifications. Sensor shall be wired per manufacturer's specification.
- Manufacture: WCS Rainguard
- 11. Basket Strainer**
- a. Basket strainer shall be manufactured with a bronze body with an 80-mesh filtration element with a stainless steel basket.
- Manufacture: Hayward or approved equal.

**11. Booster Pump**

- a. Booster pump shall be as manufactured by Barrett Engineered Pumps, San Diego, California (619) 232-7867. The engineer shall determine pump.

**12. Filtration Equipment**

- a. Filter shall be Turbo-Clean in filter available from Amiad Filtration Systems Inc. (800) 969-4055.
- Specify filter at P.O.C. and install per filter detail.

**13. Automatic Controller**

- a. The controller shall operate on a minimum of 120 volts A.C. power input and shall be capable of operating up to four 5.5 VAC 24 volt A.C. remote control valves at once. The controller shall have a reset circuit breaker to protect the controller from overloading.
- b. The controller shall have independent programmable stations. The controller-programming schedule shall be capable of allowing four automatic start times per day on four separate programs. Station timing shall be variable from 1 to 99 minutes. The controller must have a water budgeting function to allow increasing or decreasing of watering times for all stations at once.
- c. The controller shall have a master valve/remote pump start circuit for use with a master valve to pressurize the system when the programmed cycle starts to activate a remote pump start relay to run the pump during the programmed cycle.
- d. The controller shall have manual watering capabilities for single station operation at any time with out changing programmed times.
- e. The controller shall have a factory installed backup program for standby operation and a backup battery to maintain the programs during power loss.
- f. Install one extra 1-1/2" inch conduit to controller for future use.
- Manufacture: Calsense ET-2000. Contact Bob Moxley with Calsense (800) 572-8608.

**14. Controller Enclosure**

- a. All controllers installed outside must be mounted inside a stainless steel enclosure with lockable-hinged doors.
- b. The enclosure shall have one full time 120 VAC GFCI type circuit with on/off switch and pigtail connection for remote control use.
- Manufacture: Calsense SSE.

**15. Control Wiring**

- a. All control wiring for connections between remote control valves and controller shall be direct burial AWG-F wire installed in accordance with manufacturer's specifications.
- b. All splices shall be sealed with waterproof connectors and waterproof sealant.
- Manufactures: Dri-Splice or approved equal.
- c. Wiring shall be buried adjacent to mainline wherever possible and for more than one wire they shall be bundled at every ten feet using black electrical tape.
- d. Expansion curl shall be provided within three feet of each connection and at all changes in direction. Provide a two-foot expansion loop for every 100 feet of run.
- e. Wire size shall not be less than #14 gauge.
- f. Control wires shall be black in color. If additional controllers are installed provide different color common wires for each controller.
- g. Common wire shall be white in color. If additional controllers are installed provide white wire with colored stripe. Stripe to be same color as control wire color.
- h. Contractor shall provide one extra wire for every five valves and two extra wires shall be provided for every valve in any isolated area and the extra wires shall extend past the last valve in a group. Extra wires shall be orange in color and looped in every valve box and made accessible for future use if needed.
- i. No wire splices shall be permitted unless run is longer than 2500 feet or approved by Owner's representative.

**16. Valve Boxes**

- a. Rectangular valve boxes shall be 9-1/2 inch wide by 16 inch long and 11 inch high. Round valve boxes shall be 10-inch diameter and 10 1/4 inch. All valve boxes shall be constructed of rigid polyolefin.
- b. Valve boxes shall have locking covers secure with a 3/8-inch stainless steel bolt and washer.
- c. Rectangle valve boxes shall be used for control valves, master control valves, pressure regulators, flow sensors, wye strainers, basket strainers ball valves, butterfly valves and pull boxes.
- d. Round valve boxes shall be used for quick coupler valves.
- e. All valve boxes to be green in color unless otherwise specified for use of reclaimed water. All valve boxes for reclaimed water shall be purple in color and bare the reclaimed water warnings as well as the international "Do Not Drink" symbol.
- f. Heat brand all box lids with the appropriate two-inch high identification letters and/or numbers.
- g. All valve boxes shall receive landscape fabric. Landscape fabric shall be constructed of 5.0 oz. weight proven polypropylene weed barrier with burst strength of 225 P.S.I. and capable of 12 gallons per minute of water flow and puncture strength of 60 lbs. Dewitt Pro, Mirfy or approved equal.
- h. All valve boxes shall receive 2 cubic feet of 3/4-inch gravel per plan.
- Manufactures: Carson, Brooks, or approved equal.

**17. General Piping**

- a. Pressure line from point of connection to backflow prevention device shall be brass or Type K copper
- b. Pressure lines 2" and smaller after backflow prevention device shall be Schedule 40 solvent weld PVC
- c. Pressure lines 2-1/2 inch to 3 inch after backflow prevention device shall be Class 315 solvent-weld P.V.C.
- d. Pressure lines 1-1/2 inch and smaller after backflow prevention device shall be Schedule 40 solvent-weld P.V.C.
- e. Pressure lines 4 inch and larger after backflow device shall be Class 200 bell and gasket P.V.C.
- f. Lateral lines 1-1/2 inch and smaller shall be Schedule 40 solvent-weld P.V.C.
- g. Lateral lines 2 inch and larger shall be Class 315 solvent-weld P.V.C.
- h. All pipe and fittings shall bear the markings of the Manufacturer's name, nominal pipe size, pressure rating P.S.I., NSF, schedule or class and date of extrusion.

**HOLD HARMLESS & INDEMNIFICATION CLAUSE**  
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**VALLEY WIDE RECREATION & PARK DISTRICT**

**APPROVED**

Samuel W. Goopp Date: 10-5-04

**S.K.A.**

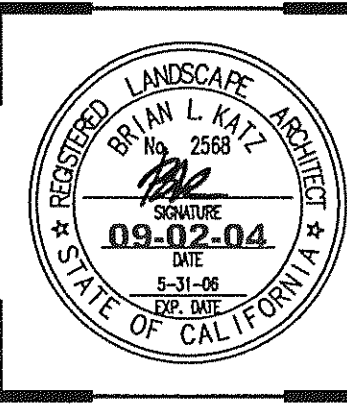
LANDSCAPE ARCHITECTURE  
SITE PLANNING

6153 Fairmount Ave. Suite 260  
San Diego, CA 92120  
T 619-584-5444 F 619-584-5448  
mll@skalnc.com

DATE	REVISIONS	BY
9/11/03	REVISED PER VALLEY-WIDE PLAN CHECK COMMENTS DATED 8/21/03	JA
1/12/04	REVISED PER VALLEY-WIDE PLAN CHECK COMMENTS DATED 12/9/03	MVM
3/8/04	REVISED PER VALLEY-WIDE PLAN CHECK COMMENTS DATED 2/27/04	MVM
3/10/04	IRRIGATION CONTROLLER CLARIFICATION	MVM
9/2/04	REVISED PER VALLEY-WIDE PLAN CHECK COMMENTS DATED 8/24/04	MVM

Community Parks  
 Lots 26, 151 & 152  
**RHEINGANS, tract 30167**  
 COUNTY OF RIVERSIDE  
 KB HOME - COASTAL

**IRRIGATION NOTES**



Date:	7/11/03
Scale:	N.T.S.
Drawn by:	STAFF
Checked by:	JO
Job No:	02-065
Sheet No.	9
Of 14 Sheets	



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**18. Plastic Pipe**

- a. Solvent weld pipe shall conform to ASTM D 1784 or D 2241 to meet the requirements of cell classification 12454B for pipe. Pipe shall be extruded of an improved P.V.C. virgin pipe compound high impact strength. Compound shall have a hydrostatic design stress rating of 2,000 P.S.I. Manufacturers: Pacific Plastics or approved equal.
- b. Rubber gasket P.V.C. pipe shall conform to ASTM D-1784 Type I, Grade 1,200 P.S.I. design stress. All pipes shall conform to commercial standards CS-256-64 and NSF testing laboratories. Rubber gaskets shall conform to ASTM 1869.  
Manufacturers: Pacific Plastics or approved equal.
- c. Reclaimed water pipe shall conform to ASTM D1784 or D 2241 to meet the requirements of cell classification 12454B for pipe. Pipe shall be extruded of an approved P.V.C. virgin pipe compound high strength. Compound shall have a hydrostatic design stress rating of 2,000 P.S.I. Reclaimed water pipe shall be purple in color and bare the words "CAUTION - RECLAIMED WATER" printed in black letters on two sides of all pipes.  
Manufacturers: Pacific Plastics or approved equal.
- d. Ultra Violet Resistant (U.V.R.) pipe shall conform to ASTM D 1784 or D 2241 to meet the requirements of cell classification 12454B for pipe. Pipe shall be extruded of an approved P.V.C. virgin pipe compound high strength. Compound shall have a hydrostatic design stress rating of 2,000 P.S.I. U.V.R. pipe shall be manufactured using material proven to resist corrosion by ultra-violet radiation. Pipe shall be brown in color.  
Manufacturers: Pacific Plastics or approved equal.

**19. Fittings**

- a. All pressure line fittings 3 inch and smaller shall be Schedule 80 solvent weld P.V.C. Fabricated pipe shall be from an NSF approved Type I, Grade I, P.V.C. compound conforming to ASTM D1784  
Manufacturers: Dura, Lasco or approved equal.
- b. All pressure line fittings 4 inch and larger shall be iron ductile deep bell type constructed of grade 65-45-12 and shall be in accordance with ASTM A536. Rubber for gaskets in fittings shall be in accordance with ASTM-477. All iron ductile fittings shall have stainless steel exterior lugs to secure a joint restraint system.  
Manufacturers: Leemco or approved equal.
- c. All lateral line fittings downstream control valve shall be Schedule 40 solvent weld P.V.C. Fabricated pipe shall be from an NSF approved Type I, Grade I, P.V.C. compound to ATTM D1784  
Manufacturers: Dura, Lasco or approved equal.
- d. Provide primer and solvent cement for PVC solvent weld pipe and fittings of specified type by manufactures recommendations.  
Manufacturer: Weld-on or approved equal.
- e. All fittings shall have the manufacture's name, trademark and size applicable NSF or IPS approval.
- f. All threaded fittings shall have 3/4 inch teflon tape.

**20. Brass Pipe and Fittings**

- a. Brass pipe shall be in accordance with American National Standard Institute and be 85 percent Schedule 40 red brass.
- b. Brass fittings shall be threaded 125-pound class.

**21. Galvanized Steel Pipe and Fittings**

- a. Galvanized steel pipe shall be Schedule 40 hot dipped galvanized.
- b. Galvanized fittings shall be Schedule 40 hot dipped galvanized.

**22. Irrigation Heads (General)**

- a. All irrigation heads shall be the size, type, and provide the same rate of precipitation with the same radius of spray, pressure and discharge in G.P.M. as listed on drawings
- b. All spray head sprinklers shall have stainless steel screw adjustment for radius of spray.
- c. Riser and swing joint assemblies shall be as indicated on drawings.
- d. All irrigation heads shall have a factory installed check valve or have an after market check valve installed.
- e. All other requirements for non-pressure lateral line pipe to be as specified in fitting specification section.
- f. In no case shall the irrigation head spacing exceed the maximum manufacturer's recommendation.

- g. Irrigation heads along walks, curbs, paving, etc. shall be positioned 1 inch above finish grade. Irrigation in turf areas shall be positioned 2 inches above finish grade.
- h. All sprinkler heads shall be set perpendicular to finish grades.

**23. Bubblers**

- a. Bubblers shall be constructed of heavy duty plastic and be pressure compensation full circle. The bubbler shall have a screen to protect it from clogging.
- b. Bubblers shall be adjustable from .25 - 1.0 GPM and operate between 20-90 PSI.  
Manufacturer: Rainbird 1400 Series or approved equal.

**24. Sprinkler Heads**

- a. The sprinkler body, nozzle, stem and screen shall be molded out of heavy duty plastic.
- b. Pop-up height shall be as listed in drawings and in no case shorter than 4 inches.
- c. The sprinkler shall have an adjustment screw used for regulating flow and radius with matched precipitation rate (MPR) nozzle.
- d. The sprinkler shall have a removable screen to protect it from clogging.
- e. The sprinkler shall have a stainless steel spring for proper pop down.
- f. The sprinkler shall be equipped with a factory installed check valve (seal-a-matic (SAM)) identified on the cap and capable of holding water up to 10 feet of elevation change.
- g. The sprinkler shall be equipped with a factory installed pressure-regulating device constructed of stainless steel and heavy-duty plastic capable of maintaining a pressure of 35-70 P.S.I. to 30 P.S.I. for operation of the sprinkler.  
Manufacturers: Rainbird 1800-SAM, Hunter INST. or approved equal.

**25. Rotor Heads (Medium Range)**

- a. All pop-up rotors shall have a rubber cover and be constructed of heavy duty plastic except for wiper seal, bearing spring and bearing washers. All rotors to have a reinforced rib design with flange encasement.
- b. Pop-up height shall be as listed in drawings and in no case be shorted than 3-1/2 inches.
- c. The rotor shall have a diffuser pin for regulating flow and radius.
- d. The rotor shall have a screen to protect it from clogging and have a minimum inlet of 3/4 inch.
- e. The rotor shall be capable of covering 16-55 feet radius at 20-60 PSI with a rate of .5 - 9.2 GPM. and be adjustable from 1-360 degrees.  
Manufacturers: Hunter PGP, Hunter I-20 or approved equal.

**26. Rotor Heads (Large Range)**

- a. All pop-up rotors shall have a rubber cover and be constructed of heavy duty plastic except for wiper seal, bearing spring and bearing washers. The riser shall be constructed of plastic encased in a stainless steel sleeve. All rotors to have a reinforced rib design with flange encasement.
- b. Pop-up height shall be as listed in drawings and in no case be shorted than 3-1/2 inches.
- c. The rotor shall have a diffuser pin for regulating flow and radius.
- d. The rotor shall have a screen to protect it from clogging and have a minimum inlet of 1 inch.
- e. The rotor shall be capable of covering 16-55 feet radius at 40-74 PSI with a rate of 3.8 - 27.5 GPM. and be adjustable from 1-360 degrees.  
Manufacturers: Hunter I-25, Hunter I-40 or approved equal.

**27. Trenching and Backfilling**

- a. No trenches are to be backfilled until approval from Owner's representative has been acquired.
- b. Excavate trenches straight and support pipe continuously on the bottom of trench per layout indicated on drawings.
- c. All lines shall have a minimum clearance of 4 inches from each other and 24 inches from any other lines from other trades.
- d. Provide the minimum covers as listed below:
  - i. Pressure lines 4 inch and larger: 30 inches
  - ii. Pressure lines 3 inch and larger: 24 inches
  - iii. Pressure lines 1/2-2 inches and smaller: 24 inches
  - iv. Lateral lines: 18 inches
  - v. Control wiring: 24 inches
- e. Fine granular soil not larger than 1/2 inch shall be for initial backfill and compacted to a density equal to undisturbed soil. Clean backfill soil not greater than 1 inch for remaining backfill.
- f. No flooding shall be performed to compact trenches unless approved by the Owner's representative.
- g. Sand backfill to a minimum of 3 inches shall be applied to all piping under paved areas.
- h. If any settlements occur and irrigation adjustments are required the contractor shall make these adjustments with no additional cost to the Owner.
- i. Contractor shall install concrete thrust blocks for all pressure lines 2 inch and larger. Thrust blocks shall be a minimum size of one cubic foot. For bell and gasket pipe a joint restraint system shall be used instead of thrust blocks per manufacture's specifications.

**28. Flushing the System**

- a. Open control valve after all piping and required assemblies have been completed to flush out the system.
- b. Irrigation heads are to be installed after completion of flushing the system satisfactory to the Owner's representative.

**29. Adjusting the System**

- a. The contractor shall flush and adjust all irrigation heads, control valves, pressure regulators, etc. for optimum performance.
- b. All heads must be adjusted to prevent over spray to buildings, walks, streets etc.

**30. Sleeving**

- a. All sleeving shall be 2 times the diameter of the pipe used. Sleeving for control wires shall be 2 inches in diameter minimum.
- b. All sleeving shall have minimum a cover of 24 inches under paving.
- c. All trenches for sleeving must be compacted to 95% compaction using manual or mechanical taping device.
- d. Contractor shall cap and pressure test all pressure lines under paving prior to backfilling and paving.
- e. Contractor shall be responsible for the installation of all sleeves required for the irrigation system not listed in the drawings.

**31. Layout**

- a. Contractor shall layout irrigation mainline, valves, and sprinklers etc. for approval from the Owner's representative.

**32. Additional Miscellaneous Items**

- a. All pipe above grade are to be stabilized with j-hooks at every 10 feet. J-hooks shall be #4 x 18 inch rebar painted with black epoxy paint prior to installation.
- b. All assemblies requiring rebar stabilizing rods per plan and details shall be with #4 x 30 inch rebar and supported by vandal proof clamps constructed of stainless steel installed with a tool specifically designed for the process.
- c. Contractor shall install metallic warning tape over all pressure supply line with a cover of 12 inches from grade. Warning tape for potable water shall be blue in color and the words, "CAUTION WATER LINE" permanently attached to tape. Warning tape for reclaimed water shall be lavender in color and the words, "CAUTION RECLAIMED WATER" permanently attached to tape. Warning tape shall be 3" wide minimum.
- d. Contractor shall provide identification tags with the number labeled for each valve attached the each valve. For potable water the tags shall be yellow in color with black lettering. For reclaimed water the tags shall be lavender in color with black lettering.
- e. All utilities, valve boxes, valves, sprinklers, quick couplers, etc. shall either have lavender caps or lavender colored parts as provided by the manufacturer for use a reclaimed water.

**33. Water Supply**

- a. The Irrigation system shall be connected to water supply as shown on drawings. Contractor shall notify Architect immediately of any discrepancies.
- b. The Contractor shall be responsible for any minor changes due to actual site conditions.

**34. Electrical Supply**

- a. Contractor to coordinate final location of controller with job site Superintendent and Owner's representative.
- b. Prior to installation of controller contractor to verify that all required electrical equipment is accessible for complete installation.
- c. Electrical connections and equipment must be as listed in controller installation section and per manufacturer's specifications.

**35. Grades**

- a. Prior to commencing any work the contractor shall carefully check all grades and verify that after all irrigation work and soil preparation completed, all grades will be per specified depth as per the landscape contractor's scope of work with a +/- 1/10.

**36. Maintenance**

- a. Contractor shall have irrigation system under complete operation for a period of 7 days prior to and planting or hydro-seeding.
- b. Contractor shall maintain entire irrigation system to an acceptable condition to the Owner's representative for the period of 90 days unless otherwise noted.

**37. Clean-Up**


- a. Clean up shall take place on a daily basis, after each portion of work has been completed and as directed by the Owner's representative. The contractor shall legally remove from site any trash or material from his scope of work.

**38. Final Approval**

- a. All irrigation shall be tested in its entirety by the Owner's representative and approved in writing before commencement of planting and hydro-seeding except for trees as directed by the Owner's representative.
- b. Contractor shall provide all charts, record drawings, turn over items etc. as listed in Irrigation (general) section prior to final approval.


- END OF SECTION -

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**VALLEY WIDE RECREATION  
& PARK DISTRICT**

APPROVED

Samuel W. Goepf  Date: 10-5-04

S·K·A

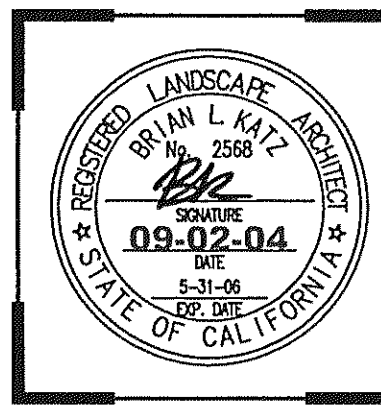
LANDSCAPE ARCHITECTURE  
SITE PLANNING

6153 Felmount Ave. Suite 260  
San Diego, CA 92120  
T 619-584-5444 F 619-584-5448  
m@skainc.com

DATE	REVISIONS	BY
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Community Parks  
 Lots 26, 151 & 152  
 RHEINGANS, tract 30167  
 COUNTY OF RIVERSIDE  
 KB HOME - COASTAL

IRRIGATION NOTES



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SAN REMO DRIVE

SICILY LANE

LOT 26 PARK SITE

LOT 26  
P.E. 1366.6

REFER TO SEPARATE FLOOD CONTROL  
CHANNEL & DETENTION BASINS PLANS BY SKA  
LANDSCAPE ARCHITECTURE FOR PLANTING  
LAYOUT ON SLOPE

REFER TO SEPARATE CHANNEL &  
DETENTION BASIN PLANS  
BY SKA LANDSCAPE ARCHITECTURE  
FOR ADJACENT PHOTINIA HEDGE -  
TYP.

POMPEI LANE

LOT 151 PARK SITE

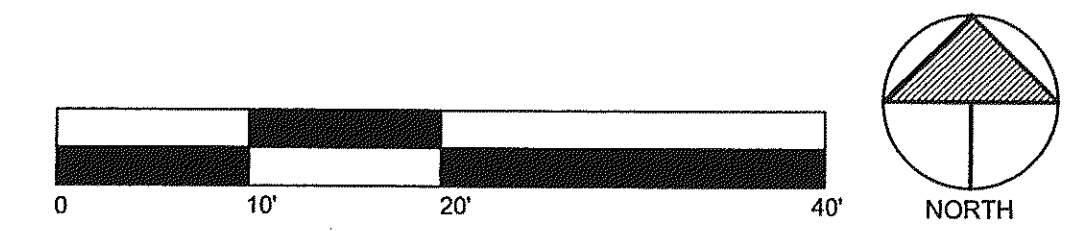
LOT 151  
P.E. 1368.4

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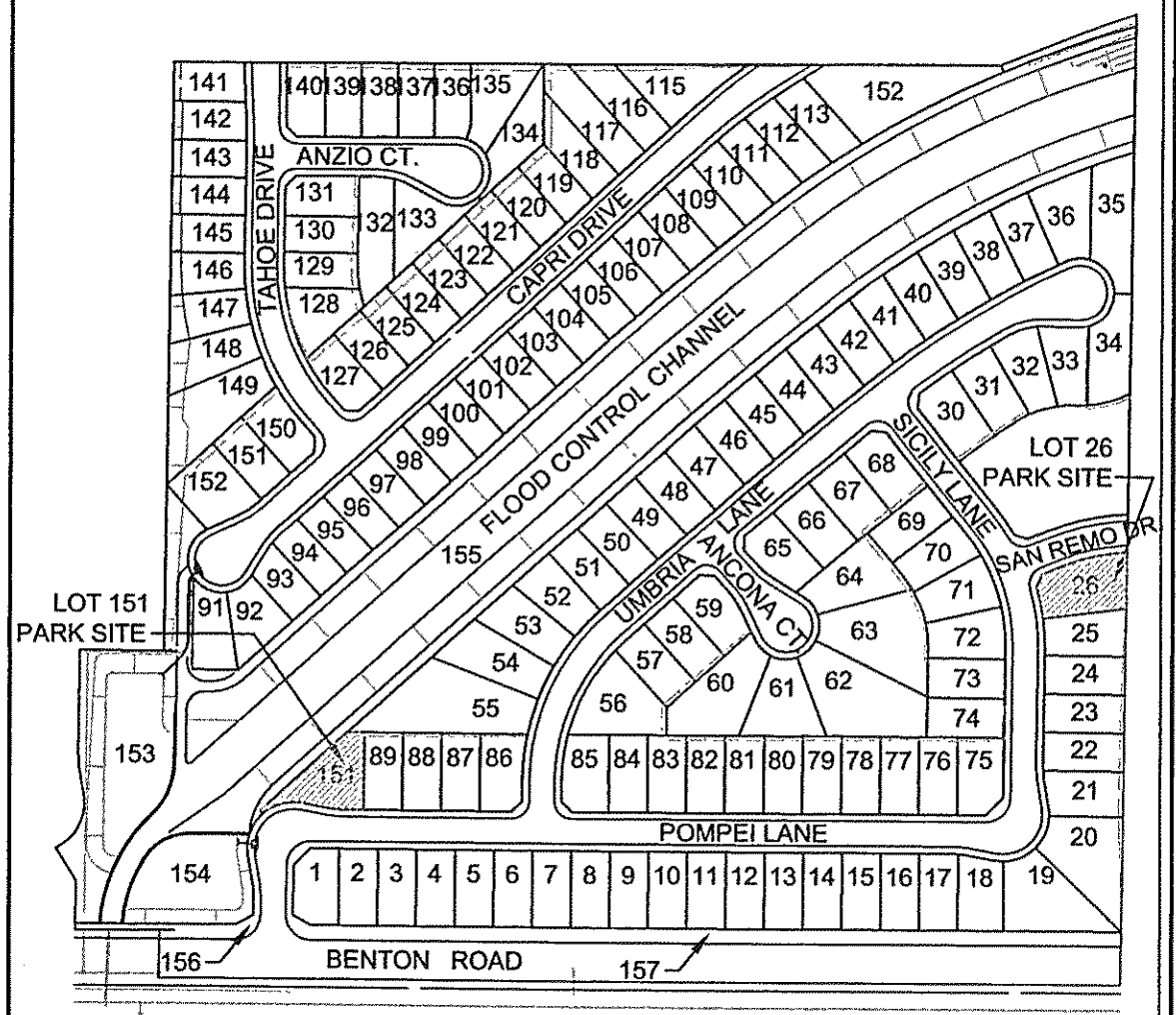
SEE SHEET 13 FOR PLANTING DETAILS &  
ADDITIONAL PLANTING NOTES  
SEE SHEET 14 FOR PLANTING GENERAL NOTES

VALLEY WIDE RECREATION  
& PARK DISTRICT  
**APPROVED**  
Samuel W. [Signature] Date: 10-5-04

PLANT LEGEND			
SYMBOL	BOTANICAL NAME / COMMON NAME	SIZE / SPACING	TOTAL QTY.
TREES (CENTER SYMBOL ONLY)			
●	BRACHYCHITON POPULNEUS / BOTTLE TREE	24" BOX	4
■	LIQUIDAMBAR S. 'BURGUNDY' / AMERICAN SWEET GUM	15 GAL.	8
■	ROBINIA 'PURPLE ROBE' / LOCUST TREE	36" BOX STD.	6
■	LAGERSTROEMIA I. 'TUSCARORA' / CRAPE MYRTLE VAR.	36" BOX (MULTI)	9
⊕	PYRUS KAWAKAMII / EVERGREEN PEAR	24" BOX STD.	5
+	PRUNUS C. 'BRIGHT 'N TIGHT' / FLOWERING PLUM (MATCHED)	24" BOX STD.	8
▲	PLATANUS A. 'YARDWOOD' / LONDON PLANE TREE (MULTI)	48" BOX	1
●	GEUERA PARVIFLORA / AUSTRALIAN WILLOW	36" BOX	3
●	CALLISTEMON VIMINALIS / WEEPING BOTTLEBRUSH	24" BOX STD.	5
SHRUBS			
⊙	ABELIA G. 'EDWARD GOUCHER' / GLOSSY ABELIA	5 GAL. / 36" O.C.	22
⊙	AGAPANTHUS AFRICANUS / LILY OF THE NILE	5 GAL. / 24" O.C.	175
⊙	DIETES VEGETA / FORTNIGHT LILY	5 GAL. / 30" O.C.	396
⊙	ESCALLONIA F. 'NEWPORT DWARF' / ESCALLONIA	5 GAL. / 24" O.C.	284
⊙	PELARGONIUM P. 'PINK' / IVY GERANIUM	1 GAL. @ 12" O.C.	-
⊙	HEMEROCALLIS HYBRID / EVERGREEN DAYLILY (ORANGE)	1 GAL. / 18" O.C.	422
⊙	NANDINA D. 'NAN' / DWARF HEAVENLY BAMBOO	5 GAL. / 24" O.C.	84
⊙	LEPTOSPERMUM 'LAEVIGATUM' / AUSTRALIAN TEA TREE	5 GAL. / 36" O.C.	39
⊙	LIGUSTRUM J. 'TEXANUM' / TEXAS PRIVET	5 GAL. / 36" O.C.	84
⊙	TULBAGHIA VIOLACEA / SOCIETY GARLIC	5 GAL. / 24" O.C.	270
⊙	MYRTUS C. 'COMPACTA' / MYRTLE	5 GAL. / 4" O.C.	64
⊙	RHAPHIOLEPIS I. 'JACK EVANS' / INDIAN HAWTHORN	5 GAL. / 36" O.C.	128
⊙	ROSMARINUS O. 'TUSCAN BLUE' / ROSEMARY	5 GAL. / 30" O.C.	108
⊙	XYLOSMA C. 'COMPACTA' / XYLOSMA VAR.	5 GAL. / 36" O.C.	136
⊙	PHORMIUM TENAX / NEW ZEALAND FLAX	5 GAL. / 36" O.C.	6
⊙	COTONEASTER D. 'LOWFAST' / EVERGREEN COTONEASTER	5 GAL. / 36" O.C.	27
⊙	SALVIA LEUCANTHA / MEXICAN BUSH SAGE	5 GAL. / 42" O.C.	17
⊙	PARTHENOCISSUS TRICUSPIDATA / BOSTON IVY	1 GAL. / 10" O.C.	65
⊙	PHOTINIA X FRASERI / PHOTINIA	5 GAL. / 4" O.C.	68
GROUND COVER			
■	MYOPORUM PARVIFOLIUM 'PINK' THROUGHOUT ALL PLANTER AREAS	FROM FLATS @ 12" O.C.	-
LAWN			
■	MARATHON III (OR EQUAL) / HYBRID FESCUE VAR.	SOD	-



KEY MAP N.T.S.

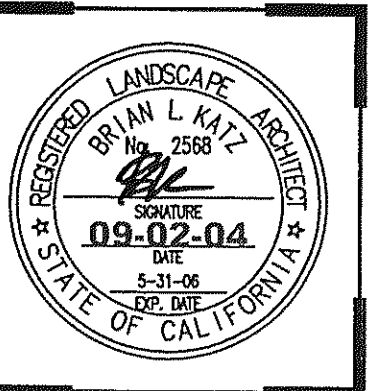


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DATE	REVISIONS	BY
9/11/03	REVISED PER VALLEY WIDE PLAN CHECK COMMENTS DATED 8/21/03	JA
11/2/04	REVISED PER VALLEY WIDE PLAN CHECK COMMENTS DATED 12/8/03	MVM
3/8/04	REVISED PER VALLEY WIDE PLAN CHECK COMMENTS DATED 2/27/04	MVM
3/10/04	IRRIGATION CONTROLLER CLARIFICATION REVISED PER VALLEY WIDE PLAN CHECK COMMENTS DATED 8/24/04	MVM
9/2/04		MVM

Community Parks  
Lots 26, 151 & 152  
RHEINGANS, tract 30167  
COUNTY OF RIVERSIDE  
KB HOME - COASTAL

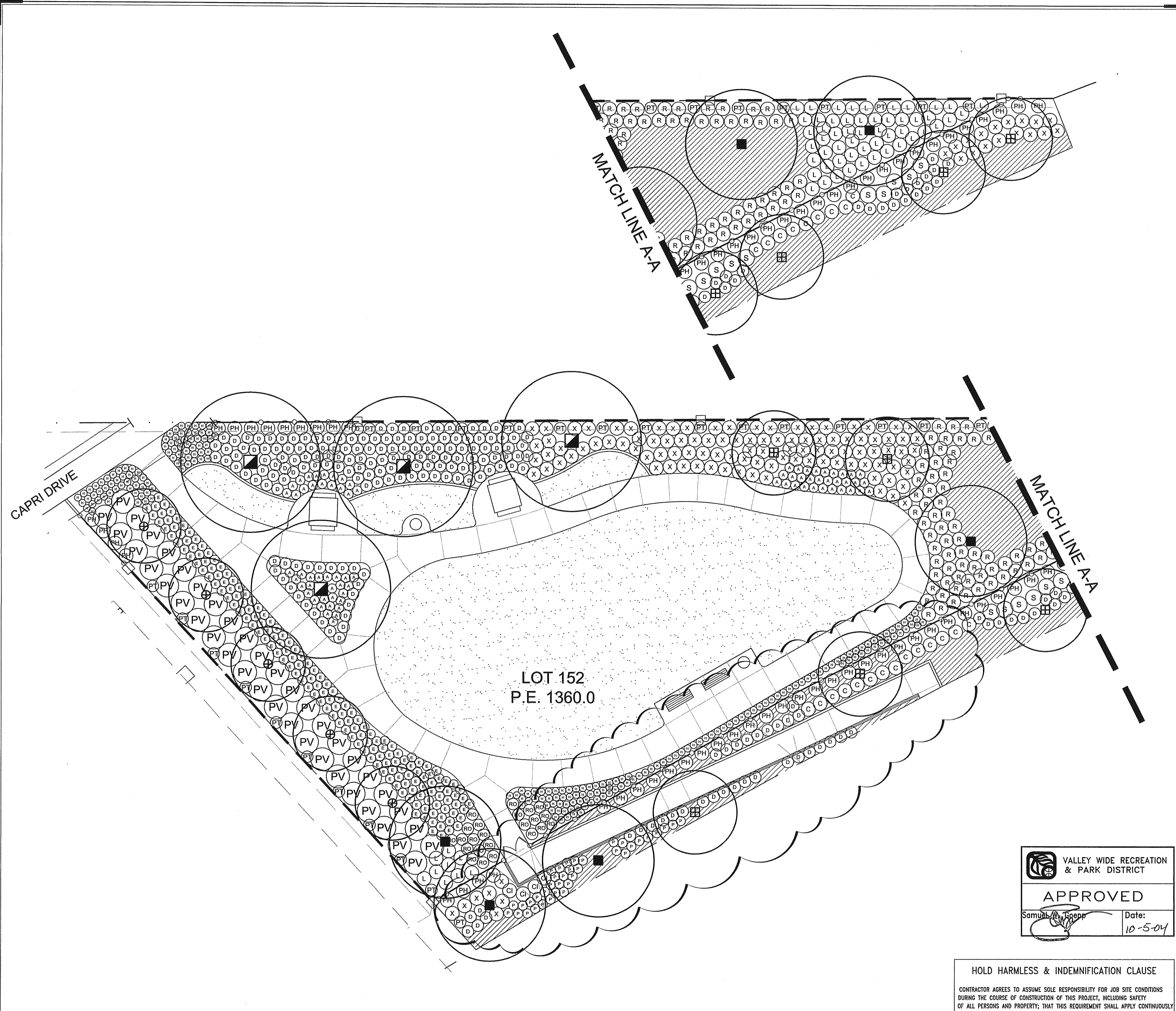
PLANTING PLAN



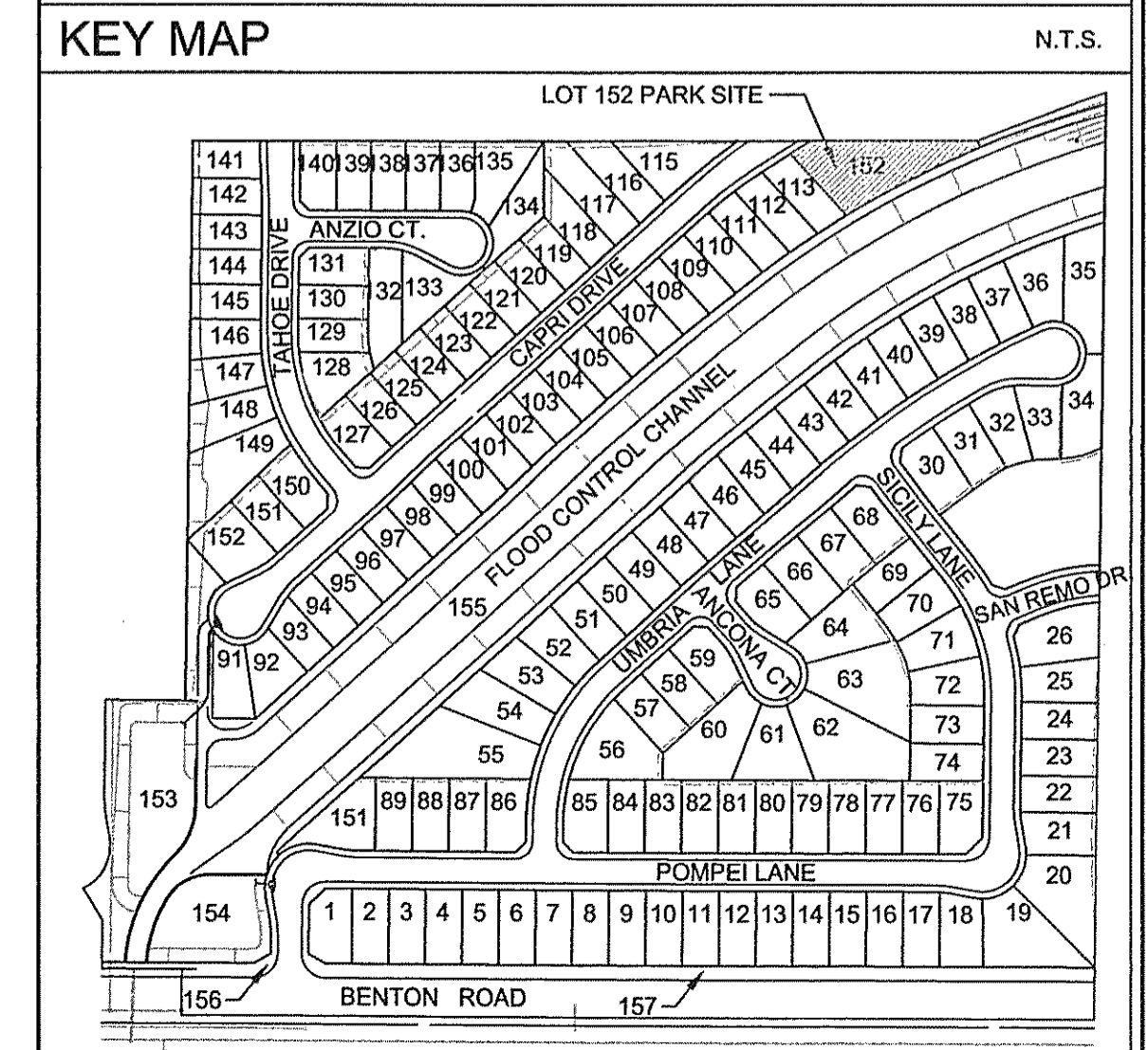
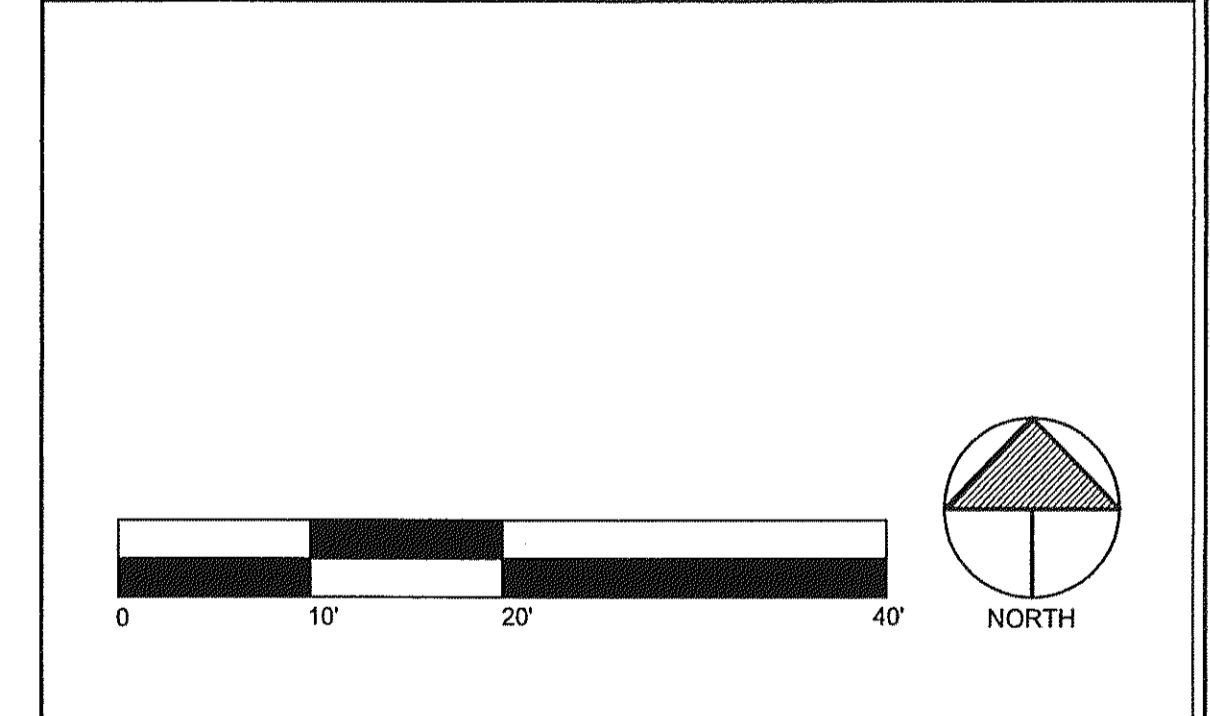
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Scale: 1"=10'-0"  
Drawn by: STAFF  
Checked by: JO  
Job No: 02-065  
Sheet No. 11



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PLANT LEGEND			
SYMBOL	BOTANICAL NAME / COMMON NAME	SIZE / SPACING	TOTAL QTY.
<b>TREES (CENTER SYMBOL ONLY)</b>			
●	BRACHYCHITON POPULNEUS / BOTTLE TREE	24" BOX	4
■	LIQUIDAMBAR S. 'BURGUNDY' / AMERICAN SWEET GUM	15 GAL.	8
■	ROBINIA 'PURPLE ROBE' / LOCUST TREE	36" BOX STD.	6
■	LAGERSTROEMIA I. 'TUSCARORA' / CRAPE MYRTLE VAR.	36" BOX (MULTI)	9
⊕	PYRUS KAWAKAMII / EVERGREEN PEAR	24" BOX STD.	5
+	PRUNUS C. 'BRIGHT 'N TIGHT' / FLOWERING PLUM (MATCHED)	24" BOX STD.	8
▲	PLATANUS A. 'YARDWOOD' / LONDON PLANE TREE (MULTI)	48" BOX	1
●	GELIERA PARVIFLORA / AUSTRALIAN WILLOW	36" BOX	3
●	CALLISTEMON VIMINALIS / WEEPING BOTTLEBRUSH	24" BOX STD.	5
<b>SHRUBS</b>			
AB	ABELIA G. 'EDWARD GOUCHER' / GLOSSY ABELIA	5 GAL. / 36" O.C.	22
C	AGAPANTHUS AFRICANUS / LILY OF THE NILE	5 GAL. / 24" O.C.	175
D	DIETES VEGETA / FORTNIGHT LILY	5 GAL. / 30" O.C.	396
E	ESCALLONIA F. 'NEWPORT DWARF' / ESCALLONIA	5 GAL. / 24" O.C.	284
⊗	PELAGONUM P. 'PINK' / IVY GERANIUM	1 GAL. @ 12" O.C.	-
G	HEMEROCALLIS HYBRID / EVERGREEN DAYLILY (ORANGE)	1 GAL. / 18" O.C.	422
I	NANDINA D. 'NAN' / DWARF HEAVENLY BAMBOO	5 GAL. / 24" O.C.	84
LP	LEPTOSPERMUM 'LAEVIGATUM' / AUSTRALIAN TEA TREE	5 GAL. / 36" O.C.	39
L	LIGUSTRUM J. 'TEXANUM' / TEXAS PRIVET	5 GAL. / 36" O.C.	84
P	TULBAGHIA VIOLACEA / SOCIETY GARLIC	5 GAL. / 24" O.C.	270
PV	MYRTUS C. 'COMPACTA' / MYRTLE	5 GAL. / 4" O.C.	64
R	RHAPHIOLEPIS I. 'JACK EVANS' / INDIAN HAWTHORN	5 GAL. / 36" O.C.	128
RO	ROSMARINUS O. 'TUSCAN BLUE' / ROSEMARY	5 GAL. / 30" O.C.	108
X	XYLOSMA C. 'COMPACTA' / XYLOSMA VAR.	5 GAL. / 36" O.C.	136
CI	PHORMIUM TENAX / NEW ZEALAND FLAX	5 GAL. / 36" O.C.	6
C	COTONEASTER D. 'LOWFAST' / EVERGREEN COTONEASTER	5 GAL. / 36" O.C.	27
S	SALVIA LEUCANTHA / MEXICAN BUSH SAGE	5 GAL. / 42" O.C.	17
PT	PARTHENOCISSUS TRICUSPIDATA / BOSTON IVY	1 GAL. / 18" O.C.	65
PH	PHOTINIA X FRASERI / PHOTINIA	5 GAL. / 4" O.C.	68
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VALLEY WIDE RECREATION & PARK DISTRICT  
**APPROVED**  
 Samuel W. Roopp Date: 10-5-04

**HOLD HARMLESS & INDEMNIFICATION CLAUSE**  
 CONTRACTOR AGREES TO ASSUME SOLE 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/DEVELOPER, THE COUNTY OF LOCAL JURISDICTION AND THE LANDSCAPE DESIGNER HARMLESS FROM ANY AND ALL LIABILITY REAL OR ALLEGED, IN CONNECTION WITH THE PERFORMANCE OF WORK ON THIS PROJECT, EXCEPTING FOR LIABILITY ARISING FROM SOLE NEGLIGENCE OF THE OWNER/DEVELOPER, COUNTY OF LOCAL JURISDICTION AND THE LANDSCAPE DESIGNER.

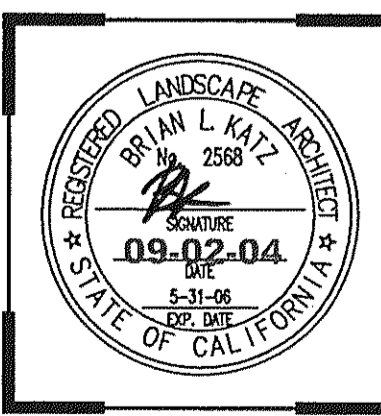
SEE SHEET 13 FOR PLANTING DETAILS & ADDITIONAL PLANTING NOTES  
 SEE SHEET 14 FOR PLANTING GENERAL NOTES

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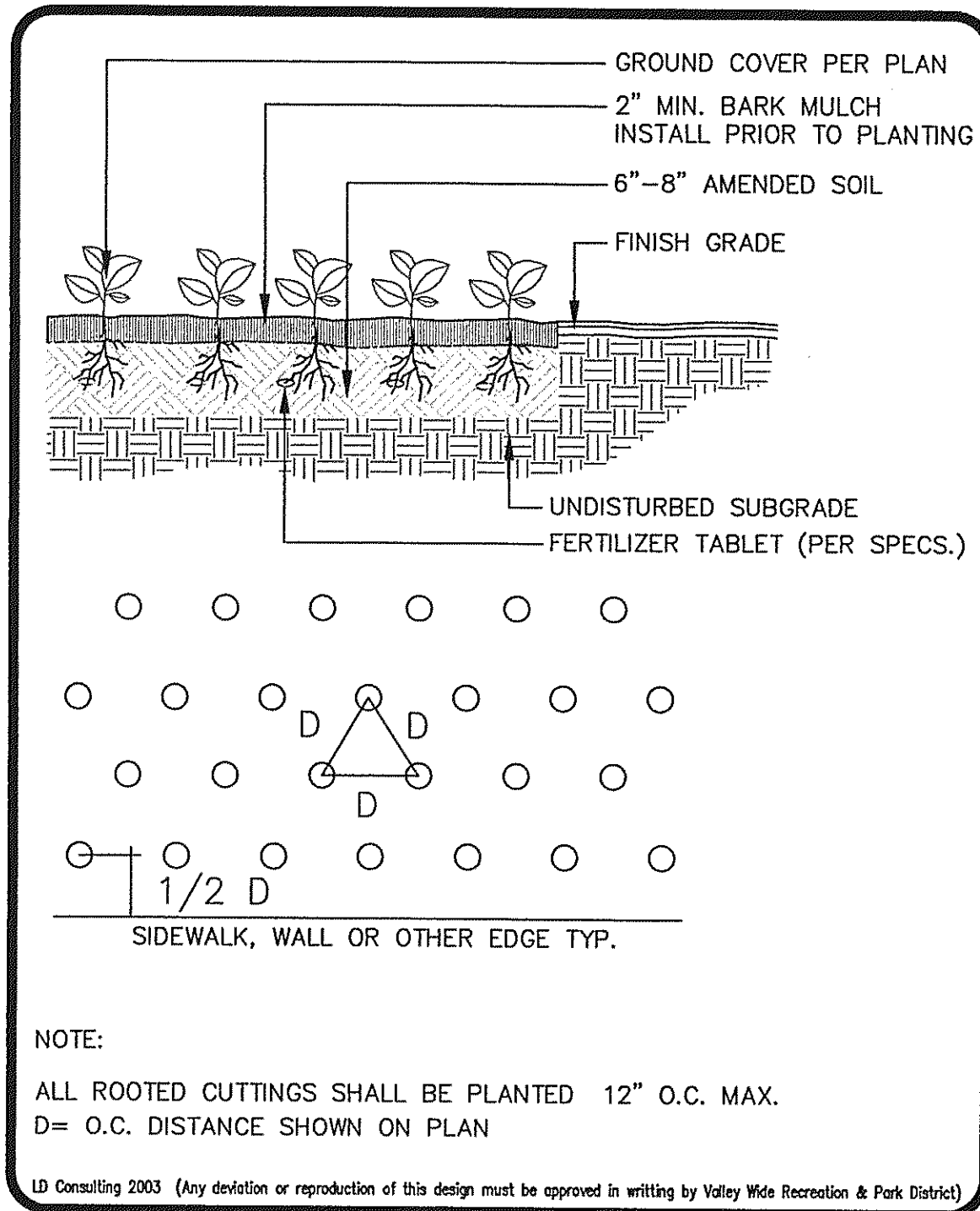
PLANTING PLAN



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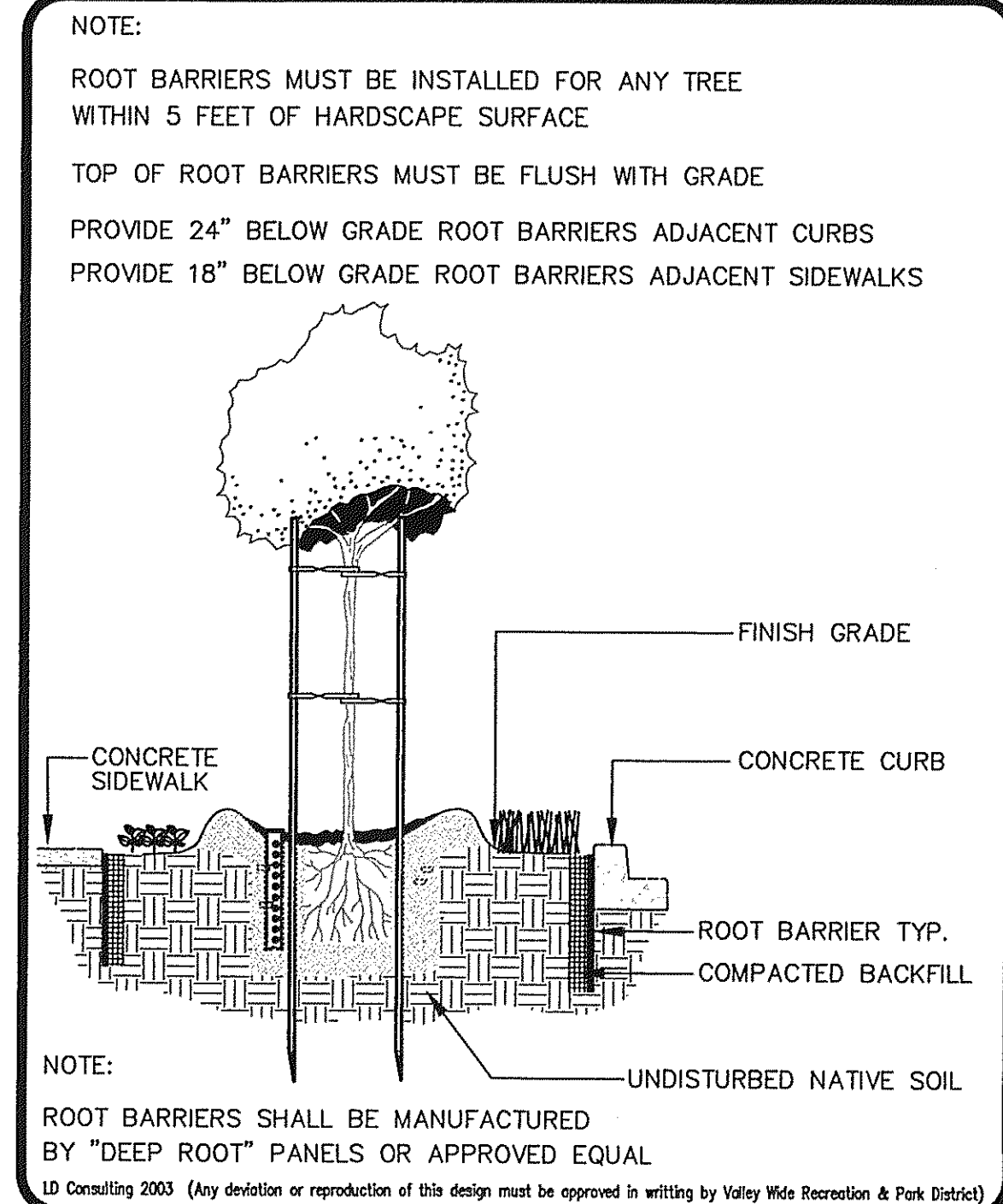
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NOTE:  
ALL ROOTED CUTTINGS SHALL BE PLANTED 12" O.C. MAX.  
D= O.C. DISTANCE SHOWN ON PLAN

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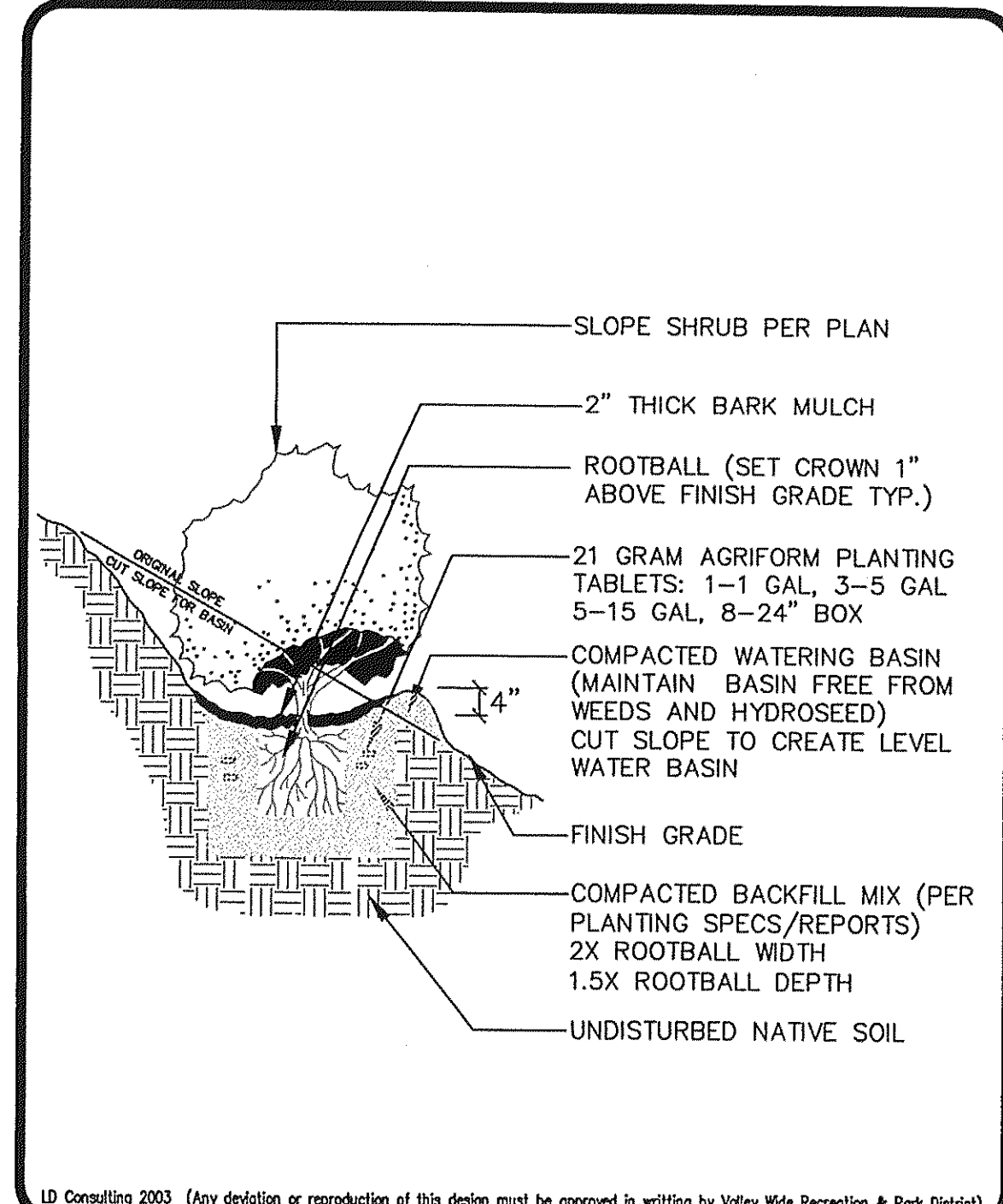
**VALLEY WIDE RECREATION**  
5/03  
**GROUND COVER PLANTING** | PL-10



NOTE:  
ROOT BARRIERS SHALL BE MANUFACTURED BY "DEEP ROOT" PANELS OR APPROVED EQUAL

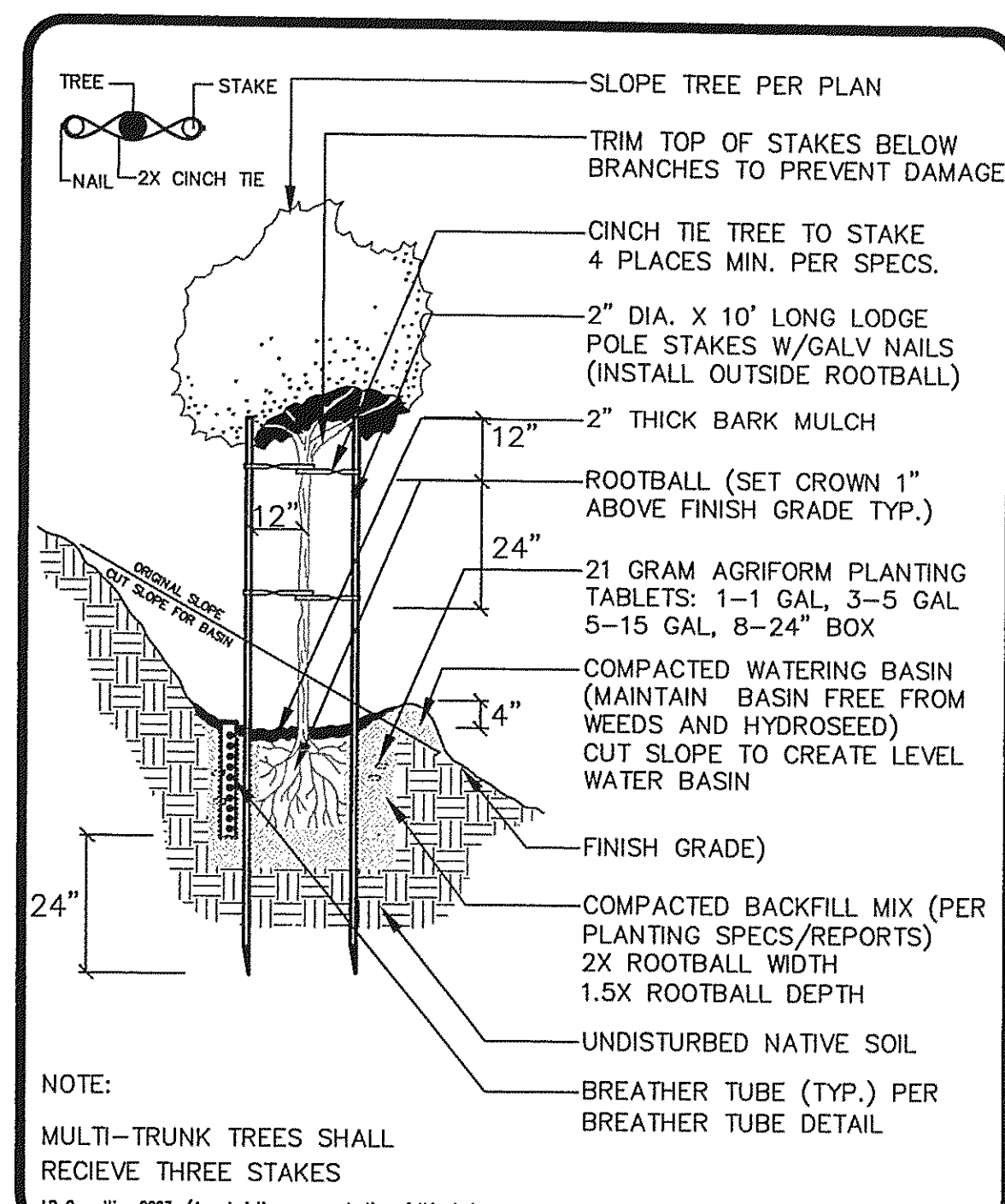
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**VALLEY WIDE RECREATION**  
5/03  
**ROOT BARRIER** | PL-9



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**VALLEY WIDE RECREATION**  
5/03  
**SLOPE SHRUB PLANTING** | PL-4



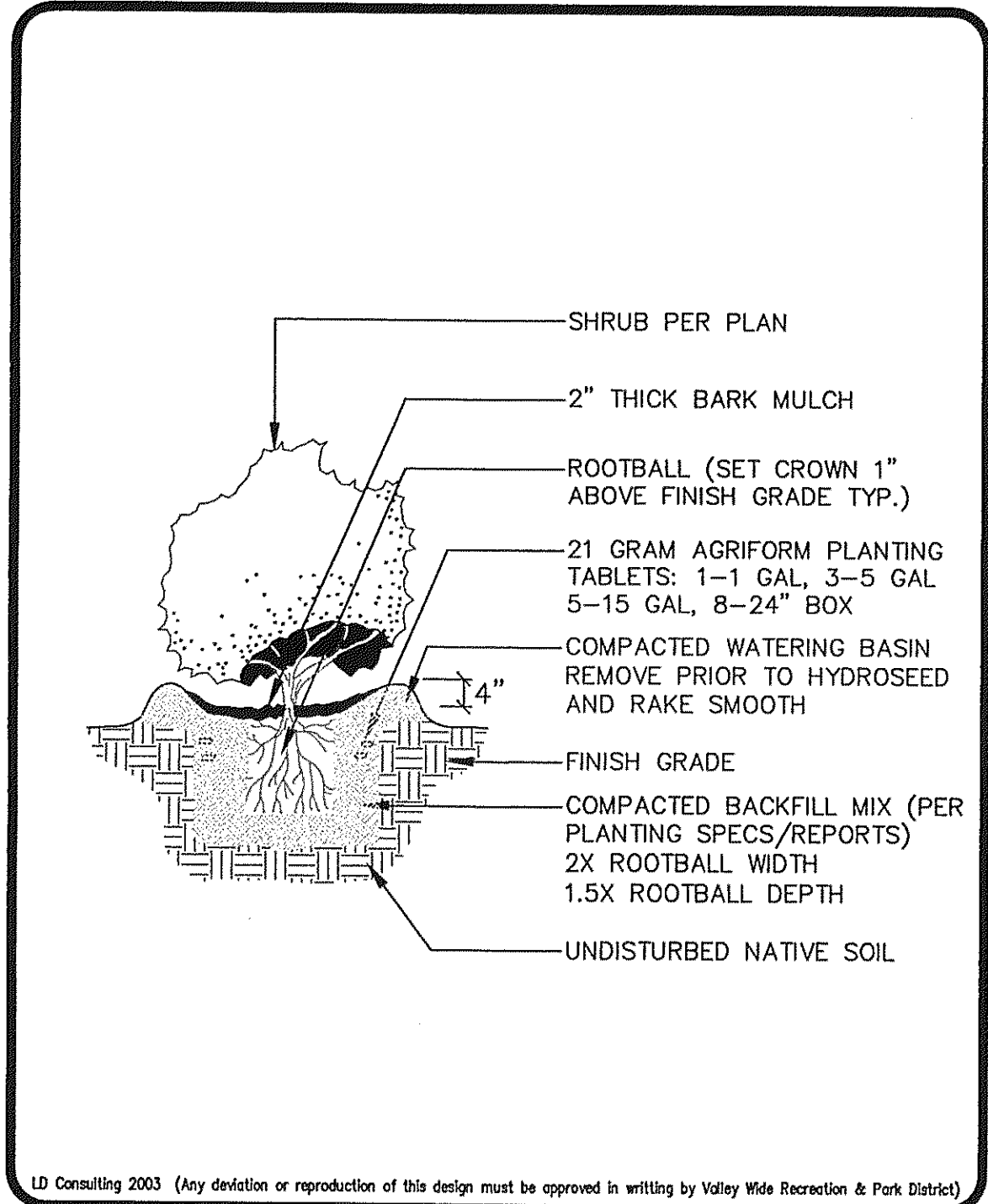
NOTE:  
MULTI-TRUNK TREES SHALL RECEIVE THREE STAKES

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**VALLEY WIDE RECREATION**  
5/03  
**SLOPE TREE PLANTING** | PL-2

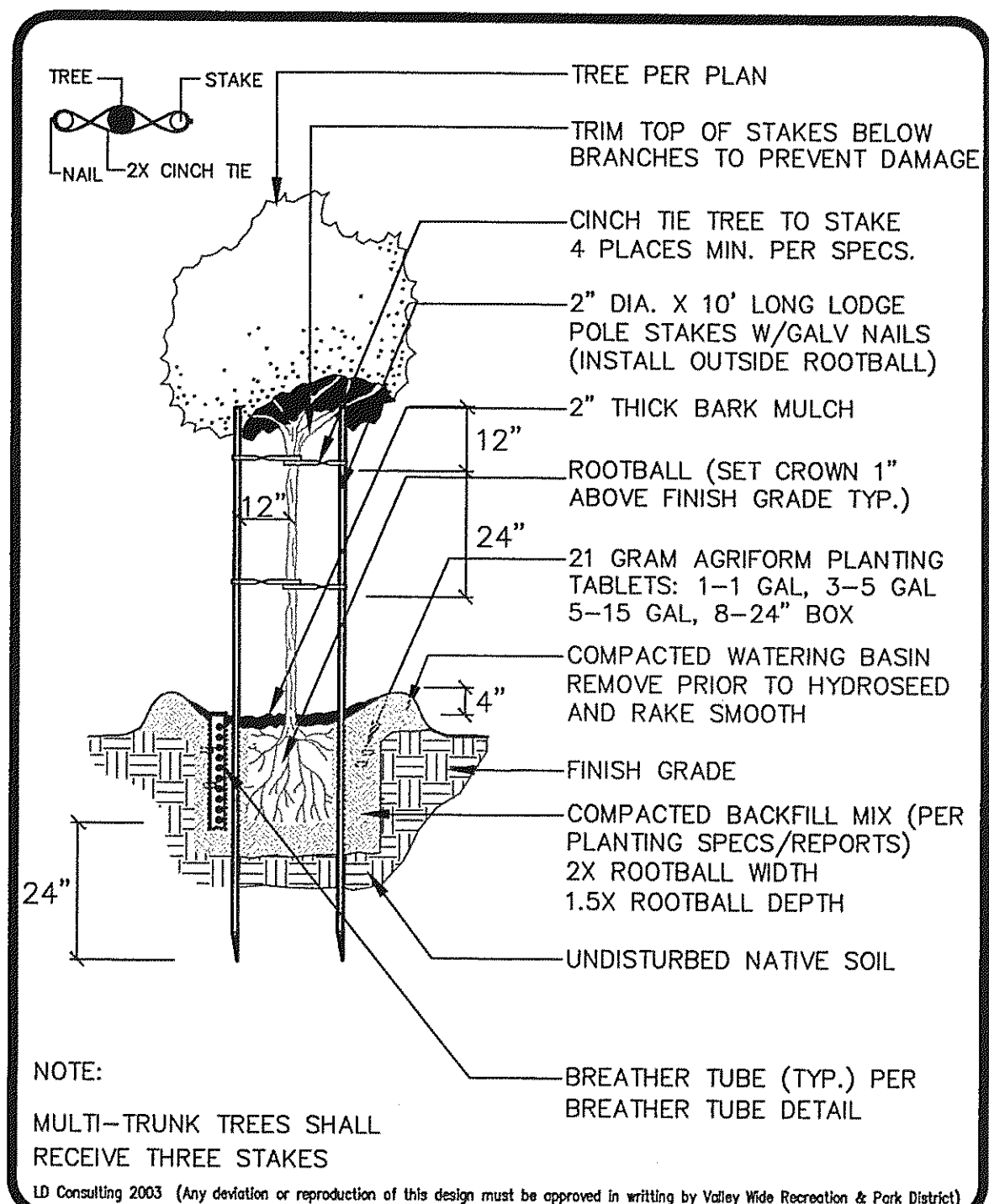
**PLANTING NOTES**

- ALL LEVEL SHRUB AREAS PLANTED WITH FLATTED GROUND COVER SHALL BE TOP DRESSED WITH A MINIMUM 2" LAYER OF APPROVED BARK MULCH. ALL OTHER LEVEL SHRUB AREAS SHALL ALSO RECEIVE A 2" LAYER. OMIT BARK MULCH LAYER IN ANNUAL COLOR PLANTING AREAS WHERE APPLICABLE. LEAVE A 12" DIAMETER AREA AROUND EACH TREE AND SHRUB MAINSTEM FREE OF BARK MULCH.
- ALL PLANTED AREAS SHALL BE RAKED CLEAN OF ALL EXTRANEIOUS MATERIALS. FINISH GRADES AND SURFACE DRAINAGE PATTERNS SHALL BE RESTORED TO THE APPROVED SPECIFIED GRADING PLAN AFTER TREE AND SHRUB INSTALLATION AND PRIOR TO GROUND COVER OR BARK INSTALLATION.
- ALL PLANT MATERIAL SHALL CONFORM TO NURSERYMAN'S STANDARDS FOR SIZE AND HEALTH AND SHALL BE APPROVED BY THE OWNER'S AUTHORIZED REPRESENTATIVE PRIOR TO PLANTING. THE CONTRACTOR SHALL SUBMIT PHOTOS OF ALL BOX SIZE TREES FOR APPROVAL BY THE OWNER'S AUTHORIZED REPRESENTATIVE. SHRUBS WILL BE REVIEWED ON SITE.
- ALL LANDSCAPE CONSTRUCTION INSTALLATION AND PRACTICES SHALL COMPLY WITH ALL LOCAL AND REGIONAL STANDARDS AND IF APPLICABLE, THE CLCA'S STANDARDS FOR LANDSCAPE CONSTRUCTION AND MAINTENANCE.
- ANY PLANT MATERIAL DELETIONS OR SUBSTITUTIONS SHALL BE APPROVED BY THE OWNER'S AUTHORIZED REPRESENTATIVE.
- ALL PLANT MATERIAL SHALL BE INSTALLED ACCORDING TO THE DETAILS AND NOTES SHOWN ON THESE PLANS.
- ALL TREES SHALL BE LOCATED MIN. 6' (FEET) FROM PROPERTY LINE FENCING AND WALLS, HARDSCAPE SURFACES, BUILDING EAVES AND SUBSURFACE UTILITIES INCLUDING DRAINAGE LINES, DOMESTIC SUPPLY LINES AND SEWER LINES WHEREVER POSSIBLE/ APPLICABLE. ANY TREE PLANTED WITHIN 5' (FEET) OF HARDSCAPE SURFACES SHALL RECEIVE A ROOT BARRIER TO 24" DEPTH (BIO-BARRIER) INSTALLED PER MANUFACTURER'S DETAILS AND SPECIFICATIONS, ADJACENT AND PARALLEL TO THE HARDSCAPE AND/OR UTILITY AND 5' BEYOND THE TREE TRUNK IN BOTH DIRECTIONS. IN CASE OF DISCREPANCIES IMMEDIATELY NOTIFY OWNER'S AUTHORIZED REPRESENTATIVE. IN ADDITION, TREES SHALL BE LOCATED MIN. 3' (FEET) FROM ALL FIRE HYDRANTS, MAIL BOXES, WATER METERS, AND SUBSURFACE UTILITIES INCLUDING TELEPHONE, ELECTRICAL AND CABLE TV, MIN. 6' (FEET) FROM THE DOOR SIDE OF ALL TRANSFORMER BOXES, MIN. 10' (FEET) FROM ALL EASEMENT BOUNDARIES, MIN. 10' (FEET) FROM ALL STREET LIGHTS, SIGNS AND POWER POLES. CONTRACTOR SHALL VERIFY ALL UTILITIES, EASEMENTS, HARDSCAPE AND EQUIPMENT PRIOR TO THE INSTALLATION OF TREES.
- REMOVE ALL VINE OR ESPALIER STAKES AND/OR TRELLISES AND ATTACH TO FENCE, WALL, POST OR VINE TRELLIS SHOWN ON PLAN.
- ALL PLANT BASINS SHALL RECEIVE SARVON SOIL PENETRANT. APPLY PER MANUFACTURES SPECIFICATIONS, OR AS DIRECTED IN THE AGRICULTURAL SOILS REPORT OBTAINED BY THE CONTRACTOR. SARVON AVAIL. THROUGH BUTLER'S MILL AT (619) 263-6181.
- PRIOR TO CONSTRUCTION, CONTRACTOR SHALL CONTACT LOCAL UNDERGROUND SERVICE ALERT.
- IF ANY EXISTING HARDSCAPE OR LANDSCAPE INDICATED ON THE APPROVED PLANS IS DAMAGED OR REMOVED DURING DEMOLITION OR CONSTRUCTION, IT SHALL BE REPAIRED AND/OR REPLACED IN KIND AND EQUIVALENT SIZE PER THE APPROVED PLANS.
- ALL BUILDINGS AND HARDSCAPE SHOWN ON THESE PLANS IS BASED UPON THE MOST CURRENT ARCHITECTURAL SITE PLAN RECEIVED FROM THE ARCHITECT, CIVIL ENGINEER AND/OR OWNER. LANDSCAPE CONTRACTOR SHALL VERIFY HARDSCAPE LAYOUT (INCLUDING BUILDING FOOTPRINTS, WALKWAYS, STAIRWAYS, FENCING, UTILITIES, ETC.).



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**VALLEY WIDE RECREATION**  
5/03  
**SHRUB PLANTING** | PL-5



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**VALLEY WIDE RECREATION**  
5/03  
**TREE PLANTING** | PL-3

**HOLD HARMLESS & INDEMNIFICATION CLAUSE**  
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**VALLEY WIDE RECREATION & PARK DISTRICT**

**APPROVED**

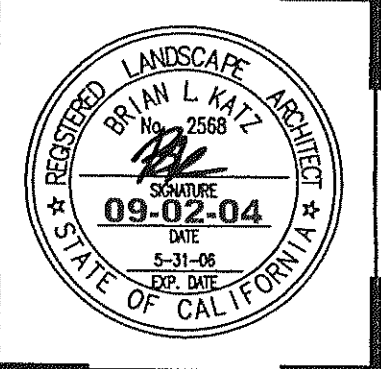
Samuel W. Goepf | Date: 10-5-04

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PLANTING DETAILS



Date: 7/11/03  
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Drawn by: STAFF  
Checked by: JO  
Job No: 02-065  
Sheet No: 13  
Of 14 Sheets



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**SECTION 02800**

**PLANTING**

**PLANTING SPECIFICATIONS GENERAL**

**1. General Requirements**

- a. Permits: Contractor shall obtain and pay for any permits required.
- b. All irrigation shall be completed, approved and under automatic operation for a minimum of 7 days prior to any planting.

**2. Scope Of Work**

- a. The intent of the drawings and specifications is to indicate the processes required for the installation of a complete planting without additional cost in labor and material to the Owner.

**3. Inspections**

- a. Request for inspections must have 48 hour notice in advance.
- b. Contractor must be on site for all inspections.
- c. Any work not completed when inspector arrives which was requested for, shall be billed to the contractor at the current inspector's rate
- d. Any work completed without inspection or approval shall be removed, exposed or replaced at the cost of the contractor.
- e. Contractor shall call for inspection for the following items:
  - i. Final grading
  - ii. Weed-abatement Observation
  - iii. Tree and shrub layout
  - iv. Tree and shrub planting pits
  - v. Finish grade prior to hydro-seeding
  - vi. Final Inspection

**4. Submittals**

- a. All submittals shall be submitted within 15 days after receipt of executed contract.
- b. Contract shall submit the follow items but not limited to:
  - i. Plant material proof of purchase with listed nurseries and material sizes for approval
  - ii. All soil amendments
  - iii. Bark mulch
  - iv. Soil report
  - v. Labels for all herbicide and fertilizers used
  - vi. Hydro-seed mix

**PLANTING SPECIFICATIONS MATERIALS**

**1. Plant Material**

- a. All plant material shall be the same as specified in the drawings.
- b. Contractor shall tag one plant from each bundle or lot with the plant name in accordance with the recommendations of the American Association of Nurserymen.
- c. All plant material shall be free of pest, plant diseases abrasions or any other objectionable disfigurements.
- d. Plant material must show vigorous habit of growth that is normal for that particular species.

**2. Tree Stakes**

- a. Tree stakes shall be copper maphthanate, green color impregnated lodge pole pine.
- b. Tree stake shall be 2" in diameter 10 feet long
- c. tree ties shall be V.I.T. cinch ties or approved equal four per tree typ.
- d. tree ties shall be attached to lodge poles with galvanized nails per detail.

**3. Vine Ties**

- a. Vine ties shall be as specified in details

**4. Herbicides**

- a. Contractor shall submit labels of all herbicides used prior to application for approval.
- b. Contractor shall apply pre-emergent herbicide to all areas possible as recommended by a licensed pest control consultant.

**5. Concrete Mow Curb**

- a. Concrete mow curb shall be 2500 PSI concrete and as specified in detail.

**6. Redwood Header Board**

- a. Redwood header board shall be grade A fine redwood and as specified in detail.

**7. Plant Tablets**

- a. Planting tablets shall be as specified in detail.

**8. Soil Conditioners**

- a. All soil conditioner material shall be approved prior to ordering under this section.
- b. Soil conditioners shall be based on soil report recommendations.

ntract

**PLANTING SPECIFICATIONS EXECUTION**

**1. Installation**

- a. Contractor shall clean, remove legally dispose of all weeds, grasses including roots and construction debris under this section.
- b. Contractor shall be responsible for the protection and storage of all material for the project.
- c. All grades shall be as indicated on the drawings and must be +/-10%.

**2. Landscape Grading**

- a. The contractor shall complete grading and filling as needed or remove additional dirt, rock and debris over 3/4 inch in diameter within the top 3 inches in all turf and planter areas less than 3:1.
- b. Contractor shall bring all landscaped areas to finish grade.
- c. Flow lines shall be established to existing curbs and/or sidewalks.
- d. All landscape areas shall be sloped to provide positive drainage.

**3. Soil Preparation**

- a. Contractor shall rotor-till amendments into all turf and planter areas 3:1 or less throughout the first 6 inches.
- b. The following application rate is for bidding purposed only and is per 1000 square feet of planting area.
  - i. 4 cubic yards of soil conditioner
  - ii. 30 lbs. of commercial fertilizer approved by the Owner's representative
  - iii. 50 lbs. of agriculture grade gypsum
  - iv. 25 lbs. soil sulfur
- c. Actual soil preparation shall be based on the soil report.
- d. Soil samples shall be taken in the presence of the Owner's representative.
- e. Contractor shall submit soil samples to an approved laboratory testing facility.
- f. Contractor shall provide one soil report for every 50,000 square feet.
- g. Soil recommendations must be separated for turf, planter, slope and plant material backfill mix.

**4. Weed-abatement**

- a. Weed-abatement shall not commence until complete irrigation system is under complete automatic irrigation and has been approved.
- b. Upon completion of soil preparation the contractor shall complete the following:
  - i. Irrigate all area to be planted, sodded or seeded for a period of seven days to germinate all weed seeds.
  - ii. Cut watering and apply approved weed killer per manufacture's recommendations and allow adequate time to complete kill.
  - iii. Repeat step one and two.
  - iv. Obtain approval of completed weed-abatement prior to any planting. Trees may be planted prior to weed-abatement process with the approval of the Owner's representative in writing.

**5. Layout**

- a. Contractor shall layout all tree and shrubs for approval from the Owner's representative prior to excavating any planting pits.
- b. Contractor shall not willfully layout any planting material where obstructions exist. The contractor shall notify the engineer to obtain direction.

**6. Planting**

- a. Planting shall be as shown in detail and as follows:
  - i. Excavate all planting pits to a diameter twice the size of container to be planted and 11/2 times the depth of container to be planted.
  - ii. Contractor shall scarify the side of planting pits if an auger is used with shovel or digging bar.
  - iii. Plant material shall be place in planting pit in a manner as not to disrupt the root ball and the crown shall be set aligned flush to grade.
  - iv. Provide 21 gram fertilizer tablets per detail.
  - v. Backfill all plant material with approved backfill mix.
  - vi. Contractor shall provide 5 gram fertilizer tablets to all rooted cuttings.

**7. Percolation Test**

- a. Contractor shall flood planting pits with water to test water penetration through the soil, if no penetration occurs the contractor shall auger 6 inches in diameter and 36 inches long and backfill with pea gravel, repeat water test and if water still does not penetrate the contractor shall notify the Owner's representative prior to planting.

**8. Sodded Turf**

- a. All sodded areas shall be semi dwarf fescue unless otherwise noted.
- b. Contractor shall evenly rake all sodded areas to level and remove all rocks 3/4 inch in diameter and larger.
- c. Contractor shall spread 16-20-0 commercial fertilizer to all sodded areas.
- d. Contractor shall lay sod immediately upon arrival.
- e. Sod must be laid along a straight line staggering each row like laying bricks and must be butted tightly together preventing any air pockets. Do not overlap edges.
- f. Sod shall be cut with a sharp knife and never pulled apart.
- g. Sod shall be rolled immediately after sod is installed.
- h. Sod must be watered thoroughly to a depth of 12 inches.
- i. Contractor shall monitor watering to prevent browning and fungus.
- j. Contractor shall take every measure possible to protect sod by providing temporary fencing if necessary at no additional cost.

**9. Turf Hydro-seeding**

- a. Hydro-seed seed mix shall be as indicated on the drawings.
- b. Contractor shall evenly rake all sodded areas to level and remove all rocks 3/4 inch in diameter and larger.
- c. Hydro-mix slurry shall be as follows:
  - i. Seed as specified
  - ii. Fiber 2,000 lbs. per acre
  - iii. M-Binder 100 lbs. acre
  - iv. Water 3,000 gal per acre or as required
  - v. Fertilizer/Soil Conditioner 1,100 lbs per acre
- d. Contractor shall monitor watering to prevent browning and fungus.
- e. Contractor shall take every measure possible to protect sod by providing temporary fencing if necessary at no additional cost.
- f. Hydro-mulch slurry shall be applied under high pressure evenly and provide a uniform coat an all areas specified.

- g. Sod shall be rolled immediately after sod is installed.

- h. Sod must be watered thoroughly to a depth of 12 inches.

- i. Contractor shall monitor watering to prevent browning and fungus.

- j. Contractor shall take every measure possible to protect sod by providing temporary fencing if necessary at no additional cost.

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  - i. Seed as specified
  - ii. Fiber 2,000 lbs. per acre
  - iii. M-Binder 100 lbs. acre
  - iv. Water 3,000 gal per acre or as required
  - v. Fertilizer/Soil Conditioner 1,100 lbs per acre
- d. Contractor shall monitor watering to prevent browning and fungus.
- e. Contractor shall take every measure possible to protect sod by providing temporary fencing if necessary at no additional cost.
- f. Hydro-mulch slurry shall be applied under high pressure evenly and provide a uniform coat an all areas specified.
- g. Overspray shall be removed immediately from sidewalks, walls or any structures.
- h. Contractor shall provide 98 percent germination to all hydro-seeded areas prior to turn over.

**10. Root Barriers**

- a. Root barrier shall be "Deep Root" control barrier panels # UB 24-2 or approved equal. No cylinder root barriers shall be approved.
- b. Root barriers shall be install for all trees planted within 5 feet of any hardscaping.
- c. Contractor shall install root barriers per detail.

**11. Jute Netting**

- a. Jute netting shall be uniform plain weave, flame-retardant mesh. Geo-jute, smolder resistant or approved equal. The mesh shall be green in color.
- b. Jute shall be 48 inches wide with a weight of .97 pounds per linear yard.

**12. Grades**

- a. Prior to commencing any work the contractor shall carefully check all grades and verify that after all irrigation work and soil preparation completed, all grades will be per specified depth as per the landscape contractor's scope of work with a +/- 1/10.

**13. Guarantee**

- a. All trees 15 gallon and larger the contractor shall guaranteed for a period of one year.
- b. All trees smaller than 15 gallon and all other plant material shall be guaranteed for a period of 90 days.
- c. All plant material that is dead or dying or as directed by the engineer within the guarantee period shall be replaced at the cost of the contractor with 7 days of written notice.
- d. All replacement plant material shall be exact as specified in species and size. No substitutions shall be allowed unless written approval from the engineer is obtained.

- END OF SECTION -

**SECTION 02900**

**MAINTENANCE SPECIFICATIONS GENERAL**

**1. Maintenance Duration**

- a. Contractor shall maintain entire project within the contractor's scope of work until final approval for all work has been obtained to start the 90 calendar day maintenance at the contractor's expense.

- b. Contractor shall maintain all landscaped areas for a period of 90 calendar days unless otherwise noted.

**2. Turf Maintenance**

- a. Contractor shall mow weekly or more if needed all turf areas to a height between 3/4 inch and 2 1/2 inch depending on variety of turf.
- b. Contractor shall edge a turf areas a biweekly or more if needed.
- c. All clippings must be removed from sidewalks or adjacent areas.
- d. Contractor shall remove all excess clipping from turf areas.
- e. Contractor shall monitor watering to all turf areas and provide sufficient moisture levels to all turf area.

**3. Tree and Shrub Maintenance**

- a. Contractor shall remove any dead growth on all trees and shrubs as needed.
- b. No stripping of lower branches from any tree or shrub unless directed by the engineer.
- c. Trees and shrubs shall be pruned as directed by the engineer.
- d. No topping of any tree is allowed unless directed by the engineer.
- e. Contractor shall remove tree stakes when stakes are no longer needed.

**4. Weed Control**

- a. All tree and shrub basins and all areas must be weed free.
- b. Contractor shall apply pre-emergent herbicide where possible to prevent weeds as directed by a licensed pest control consultant.
- c. Contractor shall remove all weed from site manually or chemically

**5. Rodent Control**

- a. Contractor shall be responsible for maintaining a rodent free project.
- b. All measures to eradicate rodents must be as directed by a licensed pest control consultant.
- c. Contractor shall repair/replace all damaged caused by rodents under this section.

**6. Fertilization**

- a. Contractor shall fertilize turf, slope and planter areas every 30 calendar days with approved fertilizer at the manufacture's recommended application rate.
- b. Approved fertilizers are 15-15-15, 16-6-8 and 21-7-14

**7. Maintenance General**

- a. Edge groundcover as needed to maintain no growth over sidewalks, around tree and shrub basins or up walls or fences.
- b. Remove all trash weekly
- c. Test complete irrigation system biweekly.

**8. Clean-Up**

- a. Clean up shall take place on a daily basis, after each portion of work has been completed and as directed by the Owner's representative. The contractor shall legally remove from site any trash or material from his scope of work.

**9 Final Approval**

- a. All landscaped shall be inspected in it's entirety by the Owner's representative upon completion of 90 calendar day maintenance and have project turn over approved in writing.
- b. Contractor shall provide all charts, record drawings, turn over items etc. prior to final turn over.

- END OF SECTION -

**S·K·A**

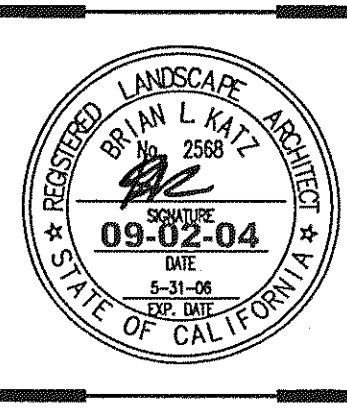
LANDSCAPE ARCHITECTURE  
SITE PLANNING

6153 Fairmount Ave., Suite 260  
San Diego, CA 92120  
T 619-584-5444 F 619-584-5448  
mail@skainc.com

DATE	REVISIONS	BY
9/11/03	REVISED PER VALLEY-WIDE PLAN CHECK COMMENTS DATED 8/27/03	JA
1/12/04	REVISED PER VALLEY-WIDE PLAN CHECK COMMENTS DATED 12/27/03	MVM
3/8/04	REVISED PER VALLEY-WIDE PLAN CHECK COMMENTS DATED 2/27/04	MVM
3/10/04	IRRIGATION CONTROLLER CLARIFICATION	MVM
9/2/04	REVISED PER VALLEY-WIDE PLAN CHECK COMMENTS DATED 8/24/04	MVM

Community Parks  
Lots 26, 151 & 152  
**RHEINGANS, tract 30167**  
COUNTY OF RIVERSIDE  
KB HOME - COASTAL

PLANTING NOTES



**HOLD HARMLESS & INDEMNIFICATION CLAUSE**  
CONTRACTOR AGREES TO ASSUME SOLE 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/DEVELOPER, THE COUNTY OF LOCAL JURISDICTION AND THE LANDSCAPE DESIGNER HARMLESS FROM ANY AND ALL LIABILITY REAL OR ALLEGED, IN CONNECTION WITH THE PERFORMANCE OF WORK ON THIS PROJECT, EXCEPTING FOR LIABILITY ARISING FROM SOLE NEGLIGENCE OF THE OWNER/DEVELOPER, COUNTY OF LOCAL JURISDICTION AND THE LANDSCAPE DESIGNER.

**VALLEY WIDE RECREATION & PARK DISTRICT**

**APPROVED**

Samuel W. Goopp Date: 10-5-04

Date:	7/11/03
Scale:	N.T.S.
Drawn by:	STAFF
Checked by:	JO
Job No:	02-065
Sheet No.	14
	Of 14 Sheets



# **SPECIFICATIONS –DETAILED PROVISIONS**

## **Section 01320 Planting**

### **CONTENTS**

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*Section 01320*  
**PLANTING**

**PART 1-PLANTING SPECIFICATIONS: GENERAL**

**1. General Requirements:**

- a. Permits: Contractor shall obtain and pay for any permits required.
- b. All irrigation shall be completed, approved and under automatic operation for a minimum of 7 days prior to any planting.

**2. Scope Of Work:**

- a. The intent of the drawings and specifications is to indicate the processes required for the installation of a complete planting without additional cost in labor and material to the Owner.

**3. Inspections:**

- a. Request for inspections must have 48 hour notice in advance.
- b. Contractor must be on site for all inspections.
- c. Any work not completed when inspector arrives which was requested for, shall be billed to the contractor at the current inspector's rate.
- d. Any work completed without inspection or approval shall be removed, exposed or replaced at the cost of the contractor.
- e. Contractor shall call for inspection for the following items:
  - i. Final grading
  - ii. Weed Abatement Observation
  - iii. Tree and shrub layout
  - iv. Tree and shrub planting pits
  - v. Finish grade prior to hydroseeding
  - vi. Final Inspection

**4. Submittals:**

- a. All submittals shall be submitted within 15 days after receipt of executed contract.
- b. Contract shall submit the follow items but not limited to:



- i. Plant material proof of purchase with listed nurseries and material sizes for approval
- ii. All soil amendments
- iii. Bark mulch
- iv. Soil report
- v. Labels for all herbicide and fertilizers used
- vi. Hydroseed mix

## **PART 2-PLANTING SPECIFICATIONS: MATERIALS**

### **1. Plant Material:**

- a. All plant material shall be the same as specified in the drawings.
- b. Contractor shall tag one plant from each bundle or lot with the plant name in accordance with the recommendations of the American Association of Nurserymen.
- c. All plant material shall be free of pest, plant diseases abrasions or any other objectionable disfigurements.
- d. Plant material must show vigorous habit of growth that is normal for that particular species.

### **2. Tree Stakes:**

- a. Tree stakes shall be copper maphthanate, green color impregnated lodge pole pine.
- b. Tree stake shall be 2" in diameter 10 feet long
- c. Tree ties shall be V.I.T. cinch ties or approved equal four per tree typ.
- d. tree ties shall be attached to lodge poles with galvanized nails per detail.

### **3. Vine Ties:**

- a. Vine ties shall be as specified in details

### **4. Herbicides:**

- a. Contractor shall submit labels of all herbicides used prior to application for approval.
- b. Contractor shall apply pre-emergent herbicide to all areas possible as recommended by a licensed pest control consultant.



5. **Concrete Mow Curb:**
  - a. Concrete mow curb shall be 2500 psi concrete and as specified in detail.
6. **Redwood Headerboard:**
  - a. Redwood headerboard shall be grade A fine redwood and as specified in detail.
7. **Plant Tablets:**
  - a. Planting tablets shall be as specified in detail.
8. **Soil Conditioners:**
  - a. All soil conditioner material shall be approved prior to ordering under this section.
  - b. Soil conditioners shall be based on soil report recommendations.

### **PART 3-PLANTING SPECIFICATIONS: EXECUTION**

1. **Installation:**
  - a. Contractor shall clean, remove and legally dispose of all weeds, grasses including roots and construction debris under this section.
  - b. Contractor shall be responsible for the protection and storage of all material for the project.
  - c. All grades shall be as indicated on the drawings and must be +/-10%.
2. **Landscape Grading:**
  - a. The contractor shall complete grading and filling as needed or remove additional dirt, rock and debris over 3/4 inch in diameter within the top 3 inches in all turf and planter areas less than 3:1.
  - b. Contractor shall bring all landscaped areas to finish grade.
  - c. Flow lines shall be established to existing curbs and/or sidewalks.
  - d. All landscape areas shall be sloped to provide positive drainage.
3. **Soil Preparation:**
  - a. Contractor shall rototill amendments into all turf and planter areas 3:1 or less throughout the first 6 inches.



- b. The following application rate is for bidding purposed only and is per 1000 square feet of planting area.
  - i. 4 cubic yards of soil conditioner
  - ii. 30 lbs. of commercial fertilizer approved by the Owner's representative
  - iii. 50 lbs. of agriculture grade gypsum
  - iv. 25 lbs. soil sulfur
- c. Actual soil preparation shall be based on the soil report.
- d. Soil samples shall be taken in the presence of the Owner's representative.
- e. Contractor shall submit soil samples to an approved laboratory testing facility.
- f. Contractor shall provide one soil report for every 50,000 square feet.
- g. Soil recommendations must be separated for turf, planter, slope and plant material backfill mix.

**4. Weed Abatement:**

- a. Weed abatement shall not commence until complete irrigation system is under complete automatic irrigation and has been approved.
- b. Upon completion of soil preparation the contractor shall complete the following:
  - i. Irrigate all areas to be planted, sodded or seeded for a period of seven days to germinate all weed seeds.
  - ii. Cut watering and apply approved weed killer per manufacture's recommendations and allow adequate time to complete kill.
  - iii. Repeat step one and two.
  - iv. Obtain approval of completed weed abatement prior to any planting. Trees may be planted prior to weed abatement process with the approval of the Owner's representative in writing.



**5. Layout:**

- a. Contractor shall layout all tree and shrubs for approval from the Owner's representative prior to excavating any planting pits.
- b. Contractor shall not willfully layout any planting material where obstructions exist. The contractor shall notify the engineer to obtain direction.

**6. Planting:**

- a. Planting shall be as shown in detail and as follows:
  - i. Excavate all planting pits to a diameter twice the size of container to be planted and 1 1/2 times the depth of container to be planted.
  - ii. Contractor shall scarify the side of planting pits if an auger is used with shovel or digging bar.
  - iii. Plant material shall be placed in planting pit in a manner as not to disrupt the root ball and the crown shall be set aligned flush to grade.
  - iv. Provide 21 gram fertilizer tablets per detail.
  - v. Backfill all plant material with approved backfill mix.
  - vi. Contractor shall provide 5 gram fertilizer tablets to all rooted cuttings.

**7. Percolation Test**

- a. Contractor shall flood planting pits with water to test water penetration through the soil, if no penetration occurs the contractor shall auger 6 inches in diameter and 36 inches long and backfill with pea gravel, repeat water test and if water still does not penetrate the contractor shall notify the Owner's representative prior to planting.

**8. Sodded Turf:**

- a. All sodded areas shall be semi dwarf fescue unless otherwise noted.
- b. Contractor shall evenly rake all sodded areas to level and remove all rocks 3/4 inch in diameter and larger.
- c. Contractor shall spread 16-20-0 commercial fertilizer to all sodded areas.



- d. Contractor shall lay sod immediately upon arrival.
- e. Sod must be laid along a straight line staggering each row like laying bricks and must be butted tightly together preventing any air pockets. Do not overlap edges.
- f. Sod shall be cut with a sharp knife and never pulled apart.
- g. Sod shall be rolled immediately after sod is installed.
- h. Sod must be watered thoroughly to a depth of 12 inches.
- i. Contractor shall monitor watering to prevent browning and fungus.
- j. Contractor shall take every measure possible to protect sod by providing temporary fencing if necessary at no additional cost.

**9. Turf Hydroseeding:**

- a. Hydroseed seed mix shall be as indicated on the drawings.
- b. Contractor shall evenly rake all sodded areas to level and remove all rocks 3/4 inch in diameter and larger.
- c. Hydromix slurry shall be as follows:
  - i. Seed as specified
  - ii. Fiber 2,000 lbs. per acre
  - iii. M-Binder 100 lbs. acre
  - iv. Water 3,000 gal per acre or as required
  - v. Fertilizer/Soil Conditioner 1,100 lbs per acre
- d. Contractor shall monitor watering to prevent browning and fungus.
- e. Contractor shall take every measure possible to protect sod by providing temporary fencing if necessary at no additional cost.
- f. Hydromulch slurry shall be applied under high pressure evenly and provide a uniform coat an all areas specified.
- g. Overspray shall be removed immediately from sidewalks, walls or any structures.
- h. Contractor shall provide 98 percent germination to all hydroseeded areas



prior to turn over.

**10. Root Barriers:**

- a. Root barrier shall be "Deep Root" control barrier panels # UB 24-2 or approved equal. No cylinder root barriers shall be approved.
- b. Root barriers shall be install for all trees planted within 5 feet of any hardscaping.
- c. Contractor shall install root barriers per detail.

**11. Jute Netting:**

- a. Jute netting shall be uniform plain weave, flame-retardant mesh. Geojute smolder resistant or approved equal. The mesh shall be green in color.
- b. Jute shall be 48 inches wide with a weight of .97 pounds per linear yard.

**12. Grades:**

- a. Prior to commencing any work the contractor shall carefully check all grades and verify that after all irrigation work and soil preparation completed, all grades will be per specified depth as per the landscape contractor's scope of work with a +- 1/10.

**13. Guarantee:**

- a. All trees 15 gallon and larger the contractor shall guaranteed for a period of one year.
- b. All trees smaller than 15 gallon and all other plant material shall be guaranteed for a period of 90 days.
- c. All plant material which is dead or dying or as directed by the engineer within the guarantee period shall be replaced at the cost of the contractor with 7 days of written notice.
- d. All replacement plant material shall be exact as specified in species and size. No substitutions shall be allowed unless written approval from the engineer is obtained.

**PART 4-PLANTING SPECIFICATIONS: MAINTENANCE**

**1. Maintenance Duration:**

- a. Contractor shall maintain entire project within the contractor's scope of work until final approval for all work has been obtained to start the 90 calendar day maintenance at the contractor's expense.



- b. Contractor shall maintain all landscaped areas for a period of 90 calendar days unless otherwise noted.

**2. Turf Maintenance:**

- a. Contractor shall mow weekly or more if needed all turf areas to a height between 3/4 inch and 2 1/2 inch depending on variety of turf.
- b. Contractor shall edge all turf areas biweekly or more if needed.
- c. All clippings must be removed from sidewalks or adjacent areas.
- d. Contractor shall remove all excess clipping from turf areas.
- e. Contractor shall monitor watering to all turf areas and provide sufficient moisture levels to all turf area.

**3. Tree and Shrub Maintenance:**

- a. Contractor shall remove any dead growth on all trees and shrubs as needed.
- b. No stripping of lower branches from any tree or shrub unless directed by the engineer.
- c. Trees and shrubs shall be pruned as directed by the engineer.
- d. No topping of any tree is allowed unless directed by the engineer.
- e. Contractor shall remove tree stakes when stakes are no longer needed.

**4. Weed Control:**

- a. All tree and shrub basins and all areas must be weed free.
- b. Contractor shall apply pre-emergent herbicide where possible to prevent weeds as directed by a licensed pest control consultant.
- c. Contractor shall remove all weeds from site manually or chemically.

**5. Rodent Control:**

- a. Contractor shall be responsible for maintaining a rodent free project.
- b. All measures to eradicate rodents must be as directed by a licensed pest control consultant.



- c. Contractor shall repair/replace all damaged caused by rodents under this section.
6. **Fertilization:**
- a. Contractor shall fertilize turf, slope and planter areas every 30 calendar days with approved fertilizer at the manufacture's recommended application rate.
  - b. Approved fertilizers are 15-15-15, 16-6-8 and 21-7-14.
7. **Maintenance General:**
- a. Edge groundcover as needed to maintain no growth over sidewalks, around tree and shrub basins or up walls or fences.
  - b. Remove all trash weekly
  - c. Test complete irrigation system biweekly.
8. **Clean-Up:**
- a. Clean up shall take place on a daily basis, after each portion of work has been completed and as directed by the Owner's representative. The contractor shall legally remove from site any trash or material from his scope of work.
9. **Final Approval:**
- a. All landscaped shall be inspected in it's entirety by the Owner's representative upon completion of 90 calendar day maintenance and have project turn over approved in writing.
  - b. Contractor shall provide all charts, record drawings, turn over items etc. prior to final turn over.

- END OF SECTION -



**Standard Specifications**  
**IRRIGATION SYSTEM**

**CONTENTS**

**PART 1- Irrigation GENERAL .....1-6**  
**PART 2-Irrigation Specifications MATERIAL .....6-18**



# ***IRRIGATION SYSTEMS***

## **PART 1-IRRIGATION SPECIFICATIONS:**

## **GENERAL**

### **1. General Requirements:**

- a. Permits: Contractor shall obtain and pay for any permits required.

### **2. Scope Of Work:**

- a. The intent of the drawings and specifications is to indicate the processes required for the installation of a complete operating irrigation system without additional cost in labor and material to the Owner.
- b. The work consists of furnishing all tools, equipment, material, labor and any processes required to provide a complete operating irrigation system as specified in the drawings and specifications.
- c. Drawings are diagrammatic and must be field verified. Contractor to notify Engineer immediately of any discrepancies prior to starting work.
- d. Due to the scale of the drawings it is not possible to show all offsets, assemblies, fittings, etc. for a complete irrigation system.
- e. Under this section the contractor shall provide all necessary assemblies, fittings, etc. to provide a complete fully automatic irrigation system as listed in drawings and specifications with no additional cost to the owner.
- f. Any extra work performed shall be approved in writing by the Owner or Owner's representative prior to the start of such work.
- g. Any unapproved work may be at the contractor's expense.
- h. If reclaimed water is used, contractor shall provide all necessary reclaimed water signage and equipment. The entire irrigation system must be in accordance to the local reclaimed water specifications and as listed in drawings.

### **3. Record Drawings:**

- a. Record accurately on one set of black and white prints denoting variation in work from original drawings.
- b. Dimension from two permanent points of reference (sidewalks, pavement, curbs, street lights, buildings) Record on as-builts daily or as work is performed. All drafting must be clearly legible and dimensions shall be no smaller than 1/4" in size
- c. Show dimensions from the following locations and depths:
  - i. Point of connection (P.O.C.).



- ii. Backflow prevention assembly, master valve and flow sensor.
  - iii. Routing of irrigation pressure mainlines and all directional changes.
  - iv. Ball and butterfly isolation valves.
  - v. Irrigation control valves.
  - vi. Automatic controller. rain sensors and electrical conduits.
  - vii. Sleeves and pull boxes.
  - viii. Other related equipment (as directed by the Engineer).
- c. Upon completion and approval of record drawing prints, transfer all information to reproducible mylars and provide two additional blue-line copies.
  - d. Maintain as-built drawings on site at all times. These drawings are subject to inspection at any time.
  - e. Make changes to reproducible drawings in ink (no ball-point pen). Erase or use eradicating fluid when revising drawings. Make changes in a manner equal to the original drawings.
  - f. Contractor must submit as-built drawings (sepia mylars and two sets of blue-lines) to the Engineer inspecting the site seven days prior to the start of the maintenance period for approval.

**4. Controller Charts:**

- a. As-built drawings shall be approved in writing prior to preparing charts.
- b. Provide two controller charts for each controller supplied, showing the area covered by the automatic controller.
- c. The chart shall be a reduced reproduction of the as-built system. If the controller sequence is not legible when reduced, enlarge it to a size that will be legible when reduced.
- d. Charts shall be blackline print with a different transparent color used to show area of coverage for each station.
- e. When completed and approved, laminate the charts with plastic 10 mil thick minimum.
- f. Charts shall be completed and approved prior to final inspection of the irrigation system.
- g. Controller access. The Engineer reserves the right to have complete access to



the controller clocks for monitoring and controlling system failures. The contractor shall provide the Engineer with two sets of all keys necessary for access to the controller clocks within the designated area. The keys will then become the property of the Owner.

**5. Operation and Maintenance Manuals:**

- a. Prepare and deliver to the Engineer, prior to the start of maintenance, all required and necessary descriptive material in complete detail and sufficient quantity properly prepared in four individually bound copies. Describe the material installed in sufficient detail to permit qualified operating personnel to understand, operate and maintain all equipment. Each manual shall include the following:
  - i. Index sheet stating contractor's address and telephone number.
  - ii. Duration of guarantee period with guarantee forms.
  - iii. List of equipment with names and addresses of manufacture's local representatives.
  - iv. Complete operating and maintenance instructions on all major equipment.
- b. In addition to the maintenance manuals, provide the maintenance personnel with the instructions for major equipment and show written evidence to the Engineer at the conclusion of the work that this service has been completed.

**6. Spare Parts and Equipment:**

- a. Prior to the start of maintenance prepare and deliver to the Engineer, all required spare parts, tools and equipment. Spare parts, tools and equipment shall include but not limited to the following:
  - i. Two quick coupler keys with 3/4 inch bronze hose bib with hand wheel.
  - ii. Two quick coupler lid keys
  - iii. One valve box cover wrench or key
  - iv. Two wrenches and shrew drivers for adjustment and disassembly for each type of sprinkler head used in the irrigation system
  - v. One 5 foot tee wrench for operating isolation valves specified
  - vi. Six extra sprinkler heads of each type and size used in the irrigation system.
  - vii. Remote radio device for irrigation controller(s) if specified

**7. Guarantee:**

- a. Provide written guarantee in form approved that all work with defects in



workmanship and materials will be repaired or replaced at no cost to the Owner for a period of one year from the date of acceptance by the Owner's representative.

- b. This form shall be transferred onto the contractor's letterhead and must contain the following :

\*\*Name of Project\*\*

We hereby guarantee that the irrigation system we have furnished and installed for \*\*Name of Project\*\* 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 material or workmanship which may develop during the period of one (1) year from the date of acceptance and also to repair or replace any damage resulting from the repairing or replacing of such defects at no additional cost to the Owner. We shall make such repairs or replacements within a reasonable time after receipt of such written notice. In the event of our failure to make such repairs or replacements within a reasonable time after receipt of such written notice from the Owner , we authorize the Owner to proceed to have said repairs or replacements made at our expense and we will pay for the cost and charges therefore upon demand.

Project Name: \_\_\_\_\_

Owner: \_\_\_\_\_

Landscape Architect: \_\_\_\_\_

Location: \_\_\_\_\_

Signed: \_\_\_\_\_ Title: \_\_\_\_\_

Address: \_\_\_\_\_

Telephone : (\_\_\_\_)\_\_\_\_\_

Date of Signature: \_\_\_\_\_

**8. Inspections:**

- a. Site inspections and notification time.

- |      |   |          |
|------|---|----------|
| i.   | Pre-construction conference             | 7 days   |
| ii.  | Pressure line installation and testing  | 48 hours |
| iii. | Controller installation                 | 48 hours |
| iv.  | Lateral line and sprinkler installation | 48 hours |
| v.   | Coverage test                           | 48 hours |
| vi.  | Final Inspection                        | 7 days   |

- b. No field inspections will commence unless record drawings are current and



available for observation upon request by the Owner's representative.

**9. Irrigation System Testing:**

- a. Owner's representative must be notified 48 hours prior to any irrigation testing or inspections.
- b. Contractor shall perform a pressure test to all pressure lines in the presence of the Owner's representative.
- c. All pressure line must be tested under hydrostatic pressure of 150 pounds per square inch (PSI) and be proven water tight.
- d. Pressure lines must maintain pressure for as period of 2 hours. If pressure drop occurs, contractor shall replace joints and repeat test until no pressure drop is achieved.

**10. Pressure Line Observation:**

- a. Prior to any backfilling of any trench(s) contractor shall call for field observation for verification of material, depths, clearances and warning tape by the Owner's representative.
- b. Any trenching covered that was not inspected or approved shall be made visible for observation at the cost of the Contractor.

**11. Controller Testing:**

- a. Prior to final acceptance contractor shall provide certification from manufacture stating that controller specified on drawings has been installed per manufacturer's specifications.
- b. Contractor shall test in the presence of the Owner's representative that all control wires and extra control wires are functioning properly.
- c. Contractor shall provide sufficient manpower and/or radio device to complete such testing in a timely manner.

**12. Lateral Line Testing:**

- a. Prior to any backfilling of any trench(s) contractor shall call for field observation for verification of material, depths and clearances by the Owner's representative.
- b. All sprinklers and assemblies shall be made visible for observation for verification that all material has been installed per plans and specifications.
- c. Any trenching covered that was not inspected or approved shall be made visible for observation at the cost of the Contractor.

**13. Coverage Test:**

- a. Contractor shall perform a coverage test in the presence of the Owner's representative. All irrigation sprinkler systems must providing 100% head to head



coverage. Any areas not receiving head to head coverage shall be corrected and retested per the Owner's representative.

- b. Contractor shall provide sufficient manpower and/or radio device to complete such testing in a timely manner.
- c. All heads must be adjusted to prevent overspray to buildings, walks, streets etc. (see adjusting the system section).
- d. No planting or hydroseeding shall take place until coverage test as been approved in writing by the Owner's representative. Tree planting may commence upon approval from Owner's representative.

**14. Final Irrigation Inspection:**

- a. All irrigation systems shall be tested in the presence of the Owner's representative and by under complete automatic operation and proven to be leak free irrigating designated areas per plans and specification with least amount of overspray as possible.
- b. Contractor shall provide as-built record drawings and controller charts at final irrigation inspection for approval prior to mylar transfer and laminating.
- c. All irrigation turn over items shall be turned in to the Owner's representative prior to the start of maintenance.

**PART 2-IRRIGATION SPECIFICATIONS: MATERIALS**

**1. Backflow Prevention Devices:**

- a. Backflow prevention units shall be approved by the Foundation for Cross-Connection Control and Hydraulic Research.
- b. Backflow assemblies shall be installed using brass ells, unions and nipples.
- c. Type: Febco 825Y, Wilkens 975XL ,Watts 909 or approved equal.
- d. Backflow device enclosure shall be constructed of stainless steel #9 expanded metal with a angle iron frame. Enclosure shall have a hinge on one end that allows for removal of the enclosure for backflow service. Enclosure shall be bolted to a concrete pad using galvanized steel hardware.

Manufactures: LeMuer, Strong Box, All Spec or approved equal.

**2. Pressure Reducing Valves:**

- a. Pressure reducing valves shall be of bronze and stainless steel construction and be adjusted from 25 P.S.I. to 125 P.S.I.

Manufactures: Wilkens 500HLR or approved equal.



**3. Wye Strainers:**

- a. Wye strainer shall be bronze construction with a stainless steel screen element. Wye strainer shall have a standard filtration size of 80 mesh.

Manufactures: Wilkens 100YSBR or approved equal.

**4. Shut off Valves:**

- a. Ball Valve:

- i. Shut off valves 2 inch and smaller shall be ball valves.
- ii. Ball valves shall have a one piece body constructed of 600 lb. WOG Bronze material conforming with ASTM B-584 alloy 844. Ball valve shall have a vented ball with a blowout proof system. Ball valves shall have a working pressure of not less than 150 P.S.I. and shall conform to AWWA standards.

Manufactures: Nibco 560, Wilkens 850 or approved equal.

- b. Butterfly Valves:

- i. Shut off valves 2 1/2 inch and larger shall be butterfly valves.
- ii. Butterfly valves shall have a one piece body constructed of cast iron and stainless steel stem. Butterfly valves shall be equipped with Vanstone large adapters and a 2 inch square operating nut. Butterfly valves shall have a working pressure of not less than 150 P.S.I. and shall conform to AWWA standards. Butterfly valves shall have a ductile iron porcelain enamel coated disc.

Manufactures: Nibco, Matco or approved equal.

**5. Quick Coupler Valves:**

- a. Quick coupler valves shall have a body constructed of red brass with a wall thickness guaranteed to withstand normal working pressure of 150 P.S.I. without leakage with female threads (pening at base). Quick coupler valve shall have a hinge cover constructed of red brass with a leather like vinyl cover bonded to it on such a manner that it becomes permanent type of cover. Quick couplers used with potable water shall have vinyl covers yellow in color. Quick coupler valves used for reclaimed water shall have vinyl covers purple in color with the appropriate reclaimed water warnings in English and Spanish as well as the international "Do Not Drink" symbol.

Manufactures: Potable Water: Rainbird 44LRC or approved equal  
Reclaimed Water: Rainbird 44NP or approved equal



**6. Remote Control Valves:**

- a. The remote control valve shall be normally closed 24 VAC solenoid actuated globe pattern, spring loaded diaphragm type. The valve shall be pressure rated up to 200 P.S.I. at 150 degrees F.
- b. The valve shall have a 600 pound test fabric reinforced rubber diaphragm assembly with self-cleaning stainless steel screen.
- c. Remote control valve body and bonnet shall be brass and the valve shall have a stainless steel control/ shut-off stem and manual operator.

Manufactures: Rainbird PESB series or approved equal.

**7. Master Control Valves:**

- a. The master control valve shall be a switchable normally closed or open 24 VAC solenoid actuated globe pattern, spring loaded diaphragm type. The valve shall have up to 200 P.S.I. at 150 degrees F. pressure rating.
- b. The body bonnet shall be brass or cast iron and the valve shall have a stainless steel control shut-off stem and manual operator.
- c. The valve shall have a 600 pound test fabric reinforced rubber diaphragm assembly with self-cleaning stainless steel screen.

Manufactures: Griswold 2000 series, Rainmaster EV-MV or approved equal.

**8. Flow Meter:**

- a. Flow meter shall be constructed of a schedule 80 tee with an solid state o-ring sealed epoxy fused sensor housing and nylon impeller.
- b. Flow meter must be installed and wired per manufacturer's specifications.

Manufactures: Data Industrial, Calsence or approved equal.

**9. Rain Sensor:**

- a. Rain sensor shall be a heavy duty plastic container with epoxy sealed electronics installed within a 1/8 inch thick steel enclosure. Mount sensor on controller enclosure or building eave per manufacturer's specifications. Sensor shall be wired per manufacturer's specification.

Manufactures: WCS Rainguard, Rainbird Raincheck or approved equal.

**10. Basket Strainer:**

- a. Basket strainer shall be manufactured with a bronze body with a 80 mesh filtration element with a stainless steel basket.

Manufactures: Hayward or approved equal.

**11. Booster Pump:**



- a. Booster pump shall be as manufactured by Barrett Engineered Pumps, San Diego, California (619) 232-7867. Pump shall be determined by the engineer.

**12. Automatic Controller:**

- a. The controller shall operate on a minimum of 120 volts A.C. power input and shall be capable of operating up to four 5.5 VAC 24 volt A.C. remote control valves at once. The controller shall have a reset circuit breaker to protect the controller from overloading.
- b. The controller shall have independent programmable stations. The controller programming schedule shall be capable of allowing four automatic start times per day on four separate programs. Station timing shall be variable from 1 to 99 minutes. The controller must have a water budgeting function to allow increasing or decreasing of watering times for all stations at once.
- c. The controller shall have a master valve/remote pump start circuit for use with a master valve to pressurize the system when the programmed cycle starts to activate a remote pump start relay to run the pump during the programmed cycle.
- d. The controller shall have manual watering capabilities for single station operation at any time with out changing programmed times.
- e. The controller shall have a factory installed backup program for standby operation and a backup battery to maintain the programs during power loss.
- f. Install one extra 1 1/2" inch conduit to controller for future use.

Manufactures: Calsence ET1 or approved equal.

**13. Controller Enclosure:**

- a. All controllers installed outside must be mounted inside a stainless steel enclosure with lockable hinged doors.
- b. The enclosure shall have one full time 120 VAC GFCI type circuit with on/off switch and pigtail connection for remote control use.

Manufactures: Lemuer, Strong Box, All Spec or approved equal.

**14. Control Wiring:**

- a. All control wiring for connections between remote control valves and controller shall be direct burial AWG-F wire installed in accordance with manufacture's specifications.
- b. All splices shall be sealed with water-proof connectors and water-proof sealant.

Manufactures: Rainbird Pen Tite, Snap Tite, Dri-Splice or approved equal.



- c. Wiring shall be buried adjacent to mainline wherever possible and for more than one wire they shall be bundled at every ten feet using black electrical tape.
- d. Expansion curl shall be provided within three feet of each connection and at all changes in direction. Provide a two foot expansion loop for every 100 feet of run.
- e. Wire size shall not be less than #14 gauge.
- f. Control wires shall be black in color. If additional controllers are installed provide different color common wires for each controller.
- g. Common wire shall be white in color. If additional controllers are installed provide white wire with colored stripe. Stripe to be same color as control wire color.
- h. Contractor shall provide one extra wire for every five valves and two extra wires shall be provided for every valve in any isolated area and the extra wires shall extend past the last valve in a group. Extra wires shall be orange in color and looped in every valve box and made accessible for future use if needed.
- i. No wire splices shall be permitted unless run is longer than 2500 feet or approved by Owner's representative.

**15. Valve Boxes:**

- a. Rectangular valve boxes shall be 9 1/2 inch wide by 16 inch long and 11 inch high. Round valve boxes shall be 10 inch diameter and 10 1/4 inch. All valve boxes shall be constructed of rigid polyolefin.
- b. Valve boxes shall have locking covers secure with a 3/8 inch stainless steel bolt and washer.
- c. Rectangle valve boxes shall be used for control valves, master control valves, pressure regulators, flow sensors, wye strainers, basket strainers ball valves, butterfly valves and pull boxes.
- d. Round valve boxes shall be used for quick coupler valves.
- e. All valve boxes to be green in color unless otherwise specified for use of reclaimed water. All valve boxes for reclaimed water shall be purple in color and bare the reclaimed water warnings as well as the international "Do Not Drink" symbol.
- f. Heat brand all box lids with the appropriate two inch high identification letters and/or numbers.
- g. All valve boxes shall receive landscape fabric. Landscape fabric shall be constructed of 5.0 oz. weight proven polypropylene weed barrier with a burst strength of 225 P.S.I. and capable of 12 gallons per minute of water



flow and a puncture strength of 60 lbs. Dewitt Pro, Mirfy or approved equal.

- h. All valve boxes shall receive 2 cubic feet of 3/4 inch gravel per plan.

Manufactures: Carson, Brooks, NDS or approved equal.

**16. General Piping:**

- a. Pressure line from point of connection to backflow prevention device shall be brass or Type K copper
- b. Pressure lines 2" and smaller after backflow prevention device shall be Schedule 40 solvent weld PVC
- c. Pressure lines 2 1/2 inch to 3 inch after backflow prevention device shall be Class 315 solvent-weld P.V.C.
- d. Pressure lines 1 1/2 inch and smaller after backflow prevention device shall be Schedule 40 solvent-weld P.V.C.
- e. Pressure lines 4 inch and larger after backflow device shall be Class 200 bell and gasket P.V.C.
- f. Lateral lines 1 1/2 inch and smaller shall be Schedule 40 solvent-weld P.V.C.
- g. Lateral lines 2 inch and larger shall be Class 315 solvent-weld P.V.C.
- h. All pipe and fittings shall bear the markings of the Manufacturer's name, nominal pipe size, pressure rating P.S.I., NSF, schedule or class and date of extrusion.

**17. Plastic Pipe:**

- a. Solvent weld pipe shall conform to ASTM D 1784 or D 2241 to meet the requirements of cell classification 12454B for pipe. Pipe shall be extruded of an improved P.V.C. virgin pipe compound high impact strength. Compound shall have a hydrostatic design stress rating of 2,000 P.S.I.

Manufactures: Pacific Plastics or approved equal.

- b. Rubber gasket P.V.C. pipe shall conform to ASTM D-1784 Type I, Grade I 2,000 P.S.I. design stress. All pipe shall conform to commercial standards CS-256-64 and NSF testing laboratories. Rubber gaskets shall conform to ASTM 1869.

Manufacturers: Pacific Plastics or approved equal.

- c. Reclaimed water pipe shall conform to ASTM D1784 or D 2241 to meet the requirements of cell classification 12454B for pipe. Pipe shall be extruded of an approved P.V.C. virgin pipe compound high strength. Compound shall have a hydrostatic design street rating of 2,000 P.S.I.



Reclaimed water pipe shall be purple in color and bare the words "CAUTION - RECLAIMED WATER" printed in black letters on two sides of all pipes.

Manufacturers: Pacific Plastics, Alertline or approved equal.

- d. Ultra Violet Resistant (U.V.R.) pipe shall conform to ASTM D 1784 or D 2241 to meet the requirements of cell classification 12454B for pipe. Pipe shall be extruded of an approved P.V.C. virgin pipe compound high strength. Compound shall have a hydrostatic design street rating of 2,000 P.S.I.. U.V.R. pipe shall be manufactured using material proven to resist corrosion by ultra-violet radiation. Pipe shall be brown in color.

Manufacturers: Pacific Plastics, Browline, Sun Stop or approved equal.

**18. Fittings:**

- a. All pressure line fittings 3 inch and smaller shall be Schedule 80 solvent weld P.V.C.. Fabricated pipe shall be from an NSF approved Type I, Grade I, P.V.C. compound conforming to ASTM D1784

Manufacturers: Dura, Lasco or approved equal.

- b. All pressure line fittings 4 inch and larger shall be iron ductile deep bell type constructed of grade 65-45-12 and shall be in accordance with ASTM A536. Rubber for gaskets in fittings shall be in accordance with ASTM-477. All iron ductile fittings shall have stainless steel exterior lugs to secure a joint restraint system.

Manufacturers: Leemco or approved equal.

- c. All lateral line fittings downstream control valve shall be Schedule 40 solvent weld P.V.C.. Fabricated pipe shall be from an NSF approved Type I, Grade I, P.V.C. compound to ATTM D1784

Manufacturers: Dura, Lasco or approved equal.

- d. Provide primer and solvent cement for PVC solvent weld pipe and fittings of specified type by manufactures recommendations.

Manufacturer: Weld-on or approved equal.

- e. All fittings shall have the manufacture's name, trademark and size applicable NSF or IPS approval.

- f. All threaded fittings shall have 3/4 inch teflon tape.

**19. Brass Pipe and Fittings**

- a. Brass pipe shall be in accordance with American National Standard Institute and be 85 percent Schedule 40 red brass.



- b. Brass fittings shall be threaded 125 pound class.

**20. Galvanized Steel Pipe and Fittings:**

- a. Galvanized steel pipe shall be Schedule 40 hot dipped galvanized.
- b. Galvanized fittings shall be Schedule 40 hot dipped galvanized.

**21. Irrigation Heads (General)**

- a. All irrigation heads shall be the size, type, and provide the same rate of precipitation with the same radius of spray, pressure and discharge in G.P.M. as listed on drawings
- b. All spray head sprinklers shall have stainless steel screw adjustment for radius of spray.
- c. Riser and swing joint assemblies shall be as indicated on drawings.
- d. All irrigation heads shall have an factory installed check valve or have an after market check valve installed.
- e. All other requirements for non-pressure lateral line pipe to be as specified in fitting specification section.
- f. In no case shall the irrigation head spacing exceed the maximum manufacturer's recommendation.
- g. Irrigation heads along walks, curbs, paving, etc. shall be positioned 1 inch above finish grade. Irrigation in turf areas shall be positioned 2 inches above finish grade.
- h. All sprinkler heads shall be set perpendicular to finish grades.

**22. Bubblers:**

- a. Bubblers shall be constructed of heavy duty plastic and be pressure compensation full circle. The bubbler shall have a screen to protect it from clogging.
- b. Bubblers shall be adjustable from .25 - 1.0 GPM and operate between 20-90 PSI.

Manufacturer: Rainbird 1400 Series or approved equal.

**23. Sprinkler Heads**

- a. The sprinkler body, nozzle, stem and screen shall be molded out of heavy duty plastic.
- b. Pop-up height shall be as listed in drawings and in no case shorter than 4 inches.



- c. The sprinkler shall have an adjustment screw used for regulating flow and radius with matched precipitation rate (MPR) nozzle.
- d. The sprinkler shall have a removable screen to protect it from clogging.
- e. The sprinkler shall have a stainless steel spring for proper pop-down.
- f. The sprinkler shall be equipped with a factory installed check valve (seal-a-matic {SAM}) identified on the cap and capable of holding water up to 10 feet of elevation change.
- g. The sprinkler shall be equipped with a factory installed pressure regulating device constructed of stainless steel and heavy duty plastic capable of maintaining a pressure of 35-70 P.S.I. to 30 P.S.I. for operation of the sprinkler.

Manufacturers: Rainbird 1800-SAM-PRS or approved equal.

**24. Rotor Heads (Medium Range):**

- a. All pop-up rotors shall have a rubber cover and be constructed of heavy duty plastic except for wiper seal, bearing spring and bearing washers. All rotors to have a reinforced rib design with flange incasement.
- b. Pop-up height shall be as listed in drawings and in no case be shorted than 3 1/2 inches.
- c. The rotor shall have a diffuser pin for regulating flow and radius.
- d. The rotor shall have a screen to protect it from clogging and have a minimum inlet of 3/4 inch.
- e. The rotor shall be capable of covering 16-55 feet radius at 20-60 PSI with a rate of .5 - 9.2 GPM. and be adjustable from 1-360 degrees.

Manufacturers: Hunter PGP, Hunter I-20, Rainbird T-Bird or approved equal.

**25. Rotor Heads (Large Range):**

- a. All pop-up rotors shall have a rubber cover and be constructed of heavy duty plastic except for wiper seal, bearing spring and bearing washers. The riser shall be constructed of plastic encased in a stainless steel sleeve. All rotors to have a reinforced rib design with flange encasement.
- b. Pop-up height shall be as listed in drawings and in no case be shorted than 3 1/2 inches.
- c. The rotor shall have a diffuser pin for regulating flow and radius.
- d. The rotor shall have a screen to protect it from clogging and have a minimum inlet of 1 inch.
- e. The rotor shall be capable of covering 16-55 feet radius at 40-74 PSI with



a rate of 3.8 - 27.5 GPM. and be adjustable from 1-360 degrees.

Manufacturers: Rainbird Falcon, Hunter I-25, Hunter I-40 or approved equal.

**26. Trenching and Backfilling:**

- a. No trenches are to be backfilled until approval from Owner's representative has been acquired.
- b. Excavate trenches straight and support pipe continuously on the bottom of trench per layout indicated on drawings.
- c. All lines shall have a minimum clearance of 4 inches from each other and 24 inches from any other lines from other trades.
- d. Provide the minimum covers as listed below:
  - i. Pressure lines 4 inch and larger 30 inches
  - ii. Pressure lines 3 inch and larger: 24 inches
  - iii. Pressure lines 2 1/2 inches and smaller: 24 inches
  - iv. Lateral lines 18 inches
  - v. Control wiring 24 inches
- e. Fine granular soil not larger than 1/2 inch shall be for initial backfill and compacted to a density equal to undisturbed soil. Clean backfill soil not greater than 1 inch for remaining backfill.
- f. No flooding shall be performed to compact trenches unless approved by the Owner's representative.
- g. Sand backfill to a minimum of 3 inches shall be applied to all piping under paved areas.
- h. If any settlements occur and irrigation adjustments are required the contractor shall make these adjustments with no additional cost to the Owner.
- i. Contractor shall install concrete thrust blocks for all pressure lines 2 inch and larger. Thrust blocks shall be a minimum size of one cubic foot. For bell and gasket pipe a joint restraint system shall be used instead of thrust blocks per manufacture's specifications.

**27. Flushing the System:**

- a. Open control valve after all piping and required assemblies have been completed to flush out the system.
- b. Irrigation heads are to be installed after completion of flushing the system



satisfactory to the Owner's representative.

**28. Adjusting the System:**

- a. The contractor shall flush and adjust all irrigation heads, control valves, pressure regulators, etc. for optimum performance.
- b. All heads must be adjusted to prevent overspray to buildings, walks, streets etc.

**29. Sleeving:**

- a. All sleeving shall be 2 times the diameter of the pipe used. Sleeving for control wires shall be 2 inches in diameter minimum.
- b. All sleeving shall have minimum a cover of 24 inches under paving
- c. All trenches for sleeving must be compacted to 95% compaction using manual or mechanical taping device.
- d. Contractor shall cap and pressure test all pressure lines under paving prior to backfilling and paving.
- e. Contractor shall be responsible for the installation of all sleeves required for the irrigation system not listed in the drawings.

**30. Layout:**

- a. Contractor shall layout irrigation mainline, valves, sprinklers etc. for approval from the Owner's representative.

**31. Additional Miscellaneous Items:**

- a. All pipe above grade are to be stabilized with j-hooks at every 10 feet. J-hooks shall be #4 x 18 inch rebar painted with black epoxy paint prior to installation.
- b. All assemblies requiring rebar stabilizing rods per plan and details shall be with #4 x 30 inch rebar and supported by vandal proof clamps constructed of stainless steel installed with a tool specifically designed for the process.
- c. Contractor shall install metallic warning tape over all pressure supply line with a cover of 12 inches from grade. Warning tape for potable water shall be blue in color and the words, "CAUTION WATER LINE" permanently attached to tape. Warning tape for reclaimed water shall be
- d. Lavender in color and the words, "CAUTION RECLAIMED WATER" permanently attached to tape. Warning tape shall be 3" wide minimum.
- e. Contractor shall provide identification tags with the number labeled for each valve attached the each valve. For potable water the tags shall be yellow in color with black lettering. For reclaimed water the tags shall be lavender in color with black lettering.



- f. All utilities, valve boxes, valves, sprinklers, quick couplers, etc. shall either have lavender caps or lavender colored parts as provided by the manufacturer for use a reclaimed water.
- 32. Water Supply:**
- a. The Irrigation system shall be connected to water supply as shown on drawings. Contractor shall notify Architect immediately of any discrepancies.
- b. The Contractor shall be responsible for any minor changes due to actual site conditions.
- 33. Electrical Supply:**
- a. Contractor to coordinate final location of controller with job site Superintendent and Owner's representative.
- b. Prior to installation of controller contractor to verify that all required electrical equipment is accessible for complete installation.
- c. Electrical connections and equipment must be as listed in controller installation section and per manufacturer's specifications.
- 34. Grades:**
- a. Prior to commencing any work the contractor shall carefully check all grades and verify that after all irrigation work and soil preparation completed, all grades will be per specified depth as per the landscape contractor's scope of work with a +- 1/10.
- 35. Maintenance:**
- a. Contractor shall have irrigation system under complete operation for a period of 7 days prior to and planting or hydroseeding.
- b. Contractor shall maintain entire irrigation system to an acceptable condition to the Owner's representative for the period of 90 days unless otherwise noted.
- 36. Clean-Up:**
- a. Clean up shall take place on a daily basis, after each portion of work has been completed and as directed by the Owner's representative. The contractor shall legally remove from site any trash or material from his scope of work.
- 37. Final Approval:**
- a. All irrigation shall be tested in it's entirety by the Owner's representative and approved in writing before commencement of planting and hydroseeding accept for trees as directed by the Owner's representative.



b. Contractor shall provide all charts, record drawings, turn over items etc. as listed in Irrigation (general) section prior to final approval.

- END OF SECTION -