

DIVISION FIVE  
SPECIAL PROVISIONS & TECHNICAL SPECIFICATIONS  
FOR  
SEISMIC RETROFIT PHASE II

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## **SECTION 500. DESCRIPTION OF WORK**

The Contractor shall furnish, in accordance with the Soquel Creek Water District (SCWD) Standard Specifications and Standard Plans, these Special Provisions, and the Contract Documents, all labor, materials, tools, and equipment and perform all work required in:

- Installation of EBAA Iron “Flex-Tend®” flexible expansion joints at two (2) above ground water storage tanks.
- Installation of piping, valves, and related appurtenances to connect flexible expansion joints to tanks, overflow pipes and existing water systems.
- Tie-in to existing water system at Pringle tank.
- Tie-in to existing water system at Larkin Valley tank.
- Abandonment of existing water main connections.
- Paving and fog seal.
- Catch basin and storm drain repair at Pringle tank site.
- All other incidental work.

The tank seismic retrofit project involves installation of flexible couplings at two tank sites: Pringle tank located in Soquel, and Larkin Valley tank located in Watsonville. Both projects are located in Santa Cruz County.

## **SECTION 501. SPECIFICATIONS & PLANS**

The Contractor shall perform the work specified herein in accordance with the SCWD Standard Specifications and Standard Plans adopted by the Board of Directors on August 2, 1994, Standard Specifications and Standard Plans of the California Department of Transportation and Standard Specifications & Standard Plans of the County of Santa Cruz, California.

SCWD Standard Specifications and Standard Plans are available for purchase at the SCWD Office for an additional \$25 per set. (For more information, please call 831-475-8500.)

In case of conflict between the SCWD Standard Specifications and Standard Plans and these special provisions, the special provisions shall take precedence and be used in lieu of such conflicting portions.

## **SECTION 502. CHECKLIST FOR BIDDERS**

- Bid Opening is scheduled for May 29, 2007 at 2:00 PM in the SCWD Board Room, 5180 Soquel Drive, Soquel, CA 95073.
- **DO NOT REMOVE BID DOCUMENTS FROM THESE BOUND SPECIFICATIONS.** Unbound bid documents will result in immediate disqualification.
- **SIGN & INCLUDE ALL ADDENDUM(S) WITH THE BID DOCUMENTS.** Bid Documents with missing addendums will result in immediate disqualification.
- Include a bidder's bond, certified check, or cashier's check for the amount equal to 10% of the bid amount.
- Complete and Fill-Out the Yellow Sheets and Proposal in the Bid Documents. The lowest competitive bidder shall complete the green sheets after the project has been awarded.

If you have any questions, please contact the Engineering Department at 831-475-8500.

## **SECTION 503. BEGINNING OF WORK, TIME OF COMPLETION AND LIQUIDATED DAMAGES**

It is estimated that a maximum of 30 days shall pass from the date sealed bids are opened until the "Notice to Proceed" is issued.

The Contractor shall return the executed contract accompanied by bonds and insurance certificates following the award of the contract. The District shall issue a letter and Purchase Order authorizing the Contractor to begin construction. The Contractor shall begin work per the Start Date set on the "Notice to Proceed," unless the District has approved a time extension. The District may delay the start of work due to such factors as inclement weather, material availability, and other unforeseen factors.

### ***SECTION 503.1 CONTRACT TIME OF COMPLETION***

Contract Time of Completion shall be **20-working** days following the effective date of the Notice to Proceed. **NOTE: 20-working days have been allotted for completion of the project; however, each tank may be out of service for a period of no more than three (3) days. Work at Pringle tank site shall be completed first, with all paving and pipe work completed by July 13, 2007.**

The Contractor shall not perform work before 8:00 AM or after 5:00 PM each workday except for emergencies as defined in the SCWD Standard Specifications and Standard Plans. The Contractor shall not work on Saturdays, Sundays or holidays. For the purposes of this section the word "work" shall mean all noise producing activities including but not limited to starting of trucks or equipment, haulage, erection, construction, demolition, and transiting the access roads.

The Contractor shall be responsible for supplying power necessary to complete all work.

**SECTION 503.2 LIQUIDATED DAMAGES**

The District shall enforce Liquidated Damages per Section 108.09, "Assessment of Damages for Delay" of SCWD Standard Specifications if the Contractor fails to complete the in the time specified herewith.

<b>SCHEDULE OF LIQUIDATED DAMAGES</b>		
<b>ORIGINAL AMOUNT OF CONTRACT</b>		<b>PER DIEM AMOUNT OF LIQUIDATED DAMAGES</b>
<b>FOR MORE THAN</b>	<b>UP TO AND INCLUDING</b>	
\$0.00	\$100,000.00	\$250.00
\$100,000.00	\$500,000.00	\$500.00
\$500,000.00	\$1,000,000.00	\$750.00
\$1,000,000.00	\$2,000,000.00	\$1,000.00
OVER \$2,000,000.00		AS SPECIFIED

The Contractor should refer to Division One, Sections 101-108, "General Conditions," of the SCWD Specifications for additional provisions.

**SECTION 503.3 PRE-BID MEETING**

All parties interested in submitting a bid shall attend a mandatory pre-bid meeting to be held May 22, 2007 at 10:00 AM.

**SECTION 503.4 PRECONSTRUCTION CONFERENCE**

The Contractor shall meet with the District at the District Office following award of contract, but prior to commencement of site work. The Contractor shall furnish to the District at the preconstruction meeting the following items:

- A list of names, titles, addresses and telephone numbers of the Contractor's personnel related to the project. Emergency and after-hours telephone numbers are to be included.
- A construction schedule setting forth the sequence in which construction will proceed. The schedule shall be a time-scale critical

path type. Refer to Section 106.06, "Schedule" of SCWD Standard Specifications.

- Material submittals (5 copies minimum) per Section 107.10, "Submittals" of SCWD Standard Specifications.
- A general notice describing the construction project and the expected impact on nearby residences. The Contractor shall also outline the Contractors' willingness to minimize inconveniences to local residences. The Contractor shall deliver (not mail) the notice to local businesses and residents in the area 5 days prior to the Start of Construction. The Contractor shall include on the notice the Contractor's telephone number and the contact person's name. The Contractor shall submit the notice to the District for approval prior to distribution.

### ***SECTION 503.5 PUBLIC MEETING***

The Contractor shall, if requested by the District, attend a public meeting prior to the start of construction. The time commitment for the public meeting shall be no more than 2 hours.

### ***SECTION 503.6 SUPERINTENDENCE***

The Contractor shall have on the job site at all times a competent superintendent/foreman with proper authority to represent the Contractor in his/her absence and all direction given by the District shall be as binding as given to the Contractor.

The Contractor should refer to SCWD Specification 106.05, "Superintendence" for further information regarding superintendence.

### ***SECTION 503.7 INSURANCE REQUIREMENTS***

The Contractor shall provide and maintain the following commercial general liability and automobile liability insurance:

#### **Coverage**

Coverage for commercial general liability and automobile liability insurance shall be at least as broad as the following:

1. Insurance Services Office (ISO) Commercial General Liability Coverage (Occurrence Form CG 0001)
2. Insurance Services Office (ISO) Business Auto Coverage (Form CA 0001), covering Symbol 1 (any auto)

#### **Limits**

The Contractor shall maintain limits no less than the following:

1. General Liability - One million dollars (\$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 or products-completed operations aggregate limit is used, either the general aggregate limit shall apply separately to the project/location (with the ISO CG 2503, or ISO CG 2504, or insurer's equivalent endorsement provided to the Soquel Creek Water District) or the general aggregate limit and products-completed operations aggregate limit shall be twice the required occurrence limit.
2. Automobile Liability - One million dollars (\$1,000,000) for bodily injury and property damage each accident limit.

### **Required Provisions**

The general liability and automobile liability policies are to contain, or be endorsed to contain, the following provisions:

1. The Soquel Creek Water District, its directors, officers, employees, and authorized volunteers are to be given insured status (via ISO endorsement CG 2010, CG 2033, or insurer's equivalent for general liability coverage) as respects: liability arising out of activities performed by or on behalf of the Contractors; products and completed operations of the Contractor; premises owned, occupied or used by the Contractor; and automobiles owned, leased, hired or borrowed by the Contractor. The coverage shall contain no special limitations on the scope of protection afforded to the Soquel Creek Water District, its directors, officers, employees, or authorized volunteers.
2. For any claims related to this project, the Contractor's insurance shall be primary insurance as respects the Soquel Creek Water District, its directors, officers, employees, or authorized volunteers. Any insurance, self-insurance, or other coverage maintained by the Soquel Creek Water District, its directors, officers, employees, or authorized volunteers shall not contribute to it.
3. Any failure to comply with reporting or other provisions of the policies including breaches of warranties shall not affect coverage provided to the Soquel Creek Water District, its directors, officers, employees, or authorized volunteers.

4. The Contractor's insurance shall apply separately to each insured against whom claim is made or suit is brought, except with respect to the limits of the insurer's liability.
5. Each insurance policy required by this agreement shall state, or be endorsed to state, that the insurance carrier or the Contractor shall not cancel coverage, except after thirty (30) days (10 days for non-payment of premium) prior written notice by U.S. mail has been given to the Soquel Creek Water District.

Such liability insurance shall indemnify the Contractor and his/her sub-contractors against loss from liability imposed by law upon, or assumed under contract by, the Contractor or his/her sub-contractors for damages on account of such bodily injury (including death), property damage, personal injury, completed operations, and products liability.

The general liability policy shall cover bodily injury and property damage liability, owned and non-owned equipment, blanket contractual liability, completed operations liability, explosion, collapse, underground excavation, and removal of lateral support.

The automobile liability policy shall cover all owned, non-owned, and hired automobiles.

All of the insurance shall be provided on policy forms and through companies satisfactory to the Soquel Creek Water District.

#### **Deductibles and Self-Insured Retentions**

Any deductible or self-insured retention must be declared to and approved by the Soquel Creek Water District. At the option of the Soquel Creek Water District, the insurer shall either reduce or eliminate such deductibles or self-insured retentions.

#### **Acceptability of Insurers**

Insurance is to be placed with insurers having a current A.M. Best rating of no less than A:VII or equivalent or as otherwise approved by the Soquel Creek Water District.

#### **Workers' Compensation and Employer's Liability Insurance**

The Contractor and all sub-contractors shall insure (or be a qualified self-insured) under the applicable laws relating to workers' compensation insurance, all of their employees working on or about the construction site, in accordance with the "Workers' Compensation and Insurance Act", Division IV of the Labor Code of the State of California and any Acts amendatory thereof. The Contractor shall provide employer's liability insurance with limits of no

less than \$1,000,000 each accident, \$1,000,000 disease policy limit, and \$1,000,000 disease each employee.

### **Responsibility for Work**

Until the completion and final acceptance by the Soquel Creek Water District of all the work under and implied by this agreement, the work shall be under the Contractor's responsible care and charge. The Contractor shall rebuild, repair, restore and make good all injuries, damages, re-erections, and repairs occasioned or rendered necessary by causes of any nature whatsoever.

The Contractor shall provide and maintain builder's risk insurance (or installation floater) covering all risks of direct physical loss, damage or destruction to the work in the amount specified in the General Conditions, to insure against such losses until final acceptance of the work by the Soquel Creek Water District. Such insurance shall insure at least against the perils of fire and extended coverage, theft, vandalism and malicious mischief, and collapse. The Soquel Creek Water District, its directors, officers, employees, and authorized volunteers shall be named insured on any such policy. The making of progress payments to the Contractor shall not be construed as creating an insurable interest by or for the Soquel Creek Water District or be construed as relieving the Contractor or his/her subcontractors of responsibility for loss from any direct physical loss, damage or destruction occurring prior to final acceptance of the work by the Soquel Creek Water District.

The Contractor shall waive all rights of subrogation against the Soquel Creek Water District, its directors, officers, employees, or authorized volunteers.

### **Evidences of Insurance**

Prior to execution of the agreement, the Contractor shall file with the Soquel Creek Water District a certificate of insurance (Acord Form 25-S or equivalent) signed by the insurer's representative evidencing the coverage required by this agreement. Such evidence shall include an additional insured endorsement signed by the insurer's representative and evidence of waiver of rights of subrogation against the Soquel Creek Water District (if builder's risk insurance is applicable). Such evidence shall also include confirmation that coverage includes or has been modified to include Required Provisions 1-5.

The Contractor shall, upon demand of the Soquel Creek Water District, deliver to the Soquel Creek Water District such policy or policies of insurance and the receipts for payment of premiums thereon.

### **Continuation of Coverage**

If any of the required coverages expire during the term of this agreement, the Contractor shall deliver the renewal certificate(s) including the general liability additional insured endorsement and evidence of waiver of rights of subrogation against the Soquel Creek Water District (if builder's risk insurance

is applicable) to the Soquel Creek Water District at least ten (10) days prior to the expiration date.

### **Sub-Contractors**

In the event that the Contractor employs other contractors (sub-contractors) as part of the work covered by this agreement, it shall be the Contractor's responsibility to require and confirm that each sub-contractor meets the minimum insurance requirements specified above.

### ***SECTION 503.8 HOLD HARMLESS AND INDEMNIFICATION***

To the fullest extent permitted by law, Contractor shall indemnify and hold harmless and defend Soquel Creek Water District, its directors, officers, employees, or authorized volunteers, and each of them from and against:

- a. Any and all claims, demands, causes of action, damages, costs, expenses, losses or liabilities, in law or in equity, of every kind or nature whatsoever for, but not limited to, injury to or death of any person including Soquel Creek Water District and/or Contractor, or any directors, officers, employees, or authorized volunteers of Soquel Creek Water District or Contractor, and damages to or destruction of property of any person, including but not limited to, Soquel Creek Water District and/or Contractor or their directors, officers, employees, or authorized volunteers, arising out of or in any manner directly or indirectly connected with the work to be performed under this agreement, however caused, regardless of any negligence of Soquel Creek Water District or its directors, officers, employees, or authorized volunteers, except the sole negligence or willful misconduct or active negligence of Soquel Creek Water District or its directors, officers, employees, or authorized volunteers;
- b. Any and all actions, proceedings, damages, costs, expenses, 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;
- c. Any and all losses, expenses, damages (including damages to the work itself), attorneys' 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 the Contractor's obligations under the agreement. Such costs, expenses, and damages shall include all costs, including attorneys' fees, incurred by the indemnified parties in any lawsuit to which they are a party.

Contractor shall defend, at Contractor's own cost, expense and risk, any and all such aforesaid suits, actions, or other legal proceedings of every kind that may be brought or instituted against Soquel Creek Water District or its directors, officers, employees, or authorized volunteers.

Contractor shall pay and satisfy any judgment, award or decree that may be rendered against Soquel Creek Water District or its directors, officers, employees, or authorized volunteers, in any and all such suits, actions, or other legal proceedings.

Contractor shall reimburse Soquel Creek Water District or its directors, officers, employees, or authorized volunteers, for any and all legal expenses and costs incurred by each of them in connection therewith or in enforcing the indemnity herein provided.

Contractor's obligation to indemnify shall not be restricted to insurance proceeds, if any, received by the Soquel Creek Water District, or its directors, officers, employees, or authorized volunteers.

## **SECTION 504. GENERAL CONSTRUCTION**

### ***SECTION 504.1 REFERENCED SPECIFICATIONS***

The Contractor shall perform the work specified herein in accordance with Soquel Creek Water District Standard Specifications and Plans, adopted by the Board of Directors on August 2, 1994, periodic updates that have been approved by the Chief Engineer and posted on the District web site, applicable provisions of the State of California Standard Specifications (CALTRANS) current edition, and the current edition of the County of Santa Cruz Design Criteria Manual when applicable.

### ***SECTION 504.2 ORDER OF WORK***

The District reserves the right to determine, in sequential order of priority, the order of work. Pringle tank site work shall be completed first with all paving completed by July 13, 2007.

### ***SECTION 504.3 EXISTING CONDITIONS***

Existing utilities, structures and natural features, where known, have been indicated at their approximate locations on the Contract Plans. The locations of such features are intended only as an aid and in no way relieves the Contractor of the responsibility of determining and verifying the size and locations of all potential conflicts which might be encountered in the performance of the work, whether indicated on the plans or not.

The Contractor shall restore drainage patterns and facilities to pre-existing conditions.

#### ***SECTION 504.4 DUST SUPPRESSION***

The Contractor shall implement a dust suppression plan if requested by the District Engineer. If a mechanical broom sweeper is used, it shall be equipped with water nozzles to minimize dust. At the end of each workday, the Contractor shall clean construction debris from the roadway.

#### **Measurement and Payment**

The Contractor shall include all costs associated with “Dust Suppression” in the contract unit or lump sum prices for other items of work. The District will not consider any additional compensation.

#### ***SECTION 504.5 PROTECTION OF PROPERTY & MATERIAL***

##### **Description**

The Contractor shall contact each property owner having access along project corridor with a District approved letter (submitted to and approved by the District) and shall keep area residents informed of the plan of operation throughout the course of this contract.

The Contractor's attention is called to the proximity of private residences adjacent to the work site. The Contractor shall conduct operations with due care to avoid upsetting area residents. The Contractor shall work with the District to appease all reasonable requests from area residents. The District's Chief Engineer will determine what requests from area residents are reasonable.

The Contractor shall protect the road surface and shall restore said surface to an equivalent or better condition upon completion of all work. The Contractor shall make any interim repairs or maintenance that may be requested by the District Engineer or Inspector during the course of work.

The Contractor shall replace traffic striping and pavement markings destroyed or damaged during construction with temporary striping or markings acc.

The Contractor shall protect in place or remove and replace all existing utilities and public or private improvements (whether they are specifically noted on the Contract Plans or not) including but not limited to all berms, curbs, gutters, walkways, sidewalks, driveways, trail-ways, storm drains, landscaping materials, landscape irrigation, landscape electrical systems,

walls and fences in place. The Contractor shall correct or replace any damaged utilities or improvements as part of the contract work. No additional compensation will be considered.

The Contractor shall not disturb existing survey monuments or benchmarks. The Contractor shall contact a registered civil engineer or land surveyor to remove or replace monuments. The Contractor shall ensure monument ties be established prior to removal.

The Contractor shall replace complete concrete panels or between existing concrete joints during replacement of any concrete work. The Contractor shall replace colored concrete with colored concrete to match when concrete is removed.

#### **Measurement and Payment**

The Contractor shall include, in the contract unit or lump sum prices for other items of work, all costs associated with "Protection of Property and Materials." The District will not consider any additional compensation.

### ***SECTION 504.6 SAFETY PLAN***

#### **Description**

In carrying out his/her work, the Contractor shall at all times exercise all necessary precautions for the safety of employees appropriate to the nature of the work and the conditions under which the work is to be performed, and be in compliance with all applicable federal, state and local statutory and regulatory requirements including California Department of Industrial Relations (Cal/OSHA) regulations; and the U.S. Department of Transportation Omnibus Transportation Employee Testing Act. The Contractor shall prepare a Safety Plan in accordance with the provisions of Section 202.03.02, "Safety Plan" of SCWD Standard Specifications. The Contractor shall include in the Safety Plan provisions for handling hazardous and toxic materials, and the protection of all persons having access, authorized or not, to the work site. Such plan shall be submitted to and accepted by SCWD prior to starting excavation.

#### **Measurement and Payment**

The Contractor shall include all costs associated with "Safety Plan" in the contract unit or lump sum prices for other items of work. The District will not consider any additional compensation.

## ***SECTION 504.7 UTILITIES***

### **Description**

Existing utility locations shown on Contract Plans are based on field survey and records furnished by utility companies.

The Contractor shall verify sewer invert elevations prior to the start of construction. In locations where the water main crosses over the existing sewer main, the Contractor shall ensure a minimum vertical clearance of one foot exists between pipes.

The Contractor shall contact Underground Service Alert and nonmember companies or utilities at least two (2) working days prior to excavating any segment of the work. The Contractor shall be prepared to produce USA ticket number at the request of the District.

The Contractor shall provide utility offsets after the first marking has occurred. The Contractor shall deliver one copy of offset markings to the District no later than seven days after first marking occurred.

The Contractor shall excavate, expose, and determine ("Pothole") the location and depth of each potential interference at least two (2) days in advance. Changes or delays caused by the Contractor's failure to perform "Potholing" and interference location work shall not be eligible for extra work, compensation, or time extension.

The Contractor shall immediately notify the District Engineer in writing, upon learning of the existence or location of any utility facility omitted from or shown incorrectly on the Contract Plans, or improperly marked or otherwise indicated. The Contractor shall provide full details as to depth, location, size, and function of the utility.

The Contractor shall not interrupt or disturb any utility facility without authority from the utility or order from the District. The Contractor shall furnish and place the necessary protection around the utility when protection is called for on the Contract Plans, visible to the Contractor, or marked as such. The Contractor shall install the utility protection at no additional expense to the District.

The proposed project will be constructed adjacent to existing utilities. The District has no information about the depth or compaction of trench backfill for said utilities. The Contractor shall remove and replace the failing trench backfill, compact the new backfill to 95% Relative Compaction, remove and replace any asphalt concrete pavement and other existing improvements, as required at no additional expense to the District.

The Contractor shall construct pipelines to avoid existing utilities. The Contractor shall increase cover to a maximum of 60 inches for the distance required to eliminate high spots if the minimum pipeline cover conflicts with an existing utility.

## **SECTION 505. CONSTRUCTION**

### ***SECTION 505.1 GENERAL REQUIREMENTS***

The tank seismic retrofit project involves installation of flexible couplings at two tank sites: the Pringle tank and the Larkin Valley tank. Both projects are located in Santa Cruz County.

Installation of couplings will require coordination with District operations staff to facilitate shut down of the system at each tank. Under no circumstances shall the Contractor operate any valve or other District equipment. Work shall be prosecuted diligently to minimize disruption of service to District customers. **NOTE: 20-working days have been allotted for completion of the project; however, each tank may be out of service for a period of no more than three (3) days.**

Installation of flexible couplings shall be in accordance with these specifications, District Standard Specifications, and manufacturer's guidelines for installation.

The Contractor shall be responsible for and take necessary steps to verify existing materials and locations of underground pipes, valves, and equipment.

The contractor shall investigate existing conditions through pot holing of areas of proposed construction and provide allowance for one half day of pot holing at each site in bid provided.

The Contractor shall coordinate with the District Engineer to determine exact layout and configuration/placement of flexible couplings, valves, tie-ins, and all other materials prior to commencement of work or ordering of any materials.

The Contractor shall provide a shop drawing showing proposed layout dimensions, materials to be used and steps to be taken to facilitate installation.

## ***SECTION 505.2 DEMOLITION***

The Contractor shall abandon and remove existing piping, valves, pipe stands, concrete, and other materials and properly dispose of removed materials.

The Contractor shall be responsible for proper debris handling, transportation, disposal, and documentation in accordance with Federal, State, and local requirements.

The Contractor is notified that demolition may be conducted in stages as some materials may be left in place during tie-in to the existing system. Adequate provision shall be made for this condition.

## ***SECTION 505.3 FLEXIBLE CONNECTOR INSTALLATION***

The Contractor shall pothole connection/tie-in points of existing buried pipes to verify size and determine depth for proposed layout and installation.

The Contractor shall install EBAA "Flex-Tend®" connectors or approved substitute. Units shall be installed per the manufacturer's recommendations. Flexible ball joint connectors shall allow movement on one or both sides of the connector without transferring a stress or moment to either. Coupling units shall allow for a maximum expansion of 8 inches.

The Contractor shall furnish and install all pipes, fittings, bolts, nuts, gaskets, and related appurtenances as required for a complete flexible connection installation.

Contractor shall supply submittals per SCWD Section 107.10, "Submittals" for proposed flexible coupling units and all other materials to be used during construction.

The Contractor shall field coat all buried nuts, bolts, flanges, and other exposed ferrous metal with a liberal coat of bitumastic type material, a minimum of one hour prior to backfilling buried materials.

The Contractor shall ensure the correct lay length is provided, as recommended by the manufacturer or as directed by the District Engineer. Failure to install the unit with the correct lay length may require removal and reinstallation of the unit by the Contractor.

Prior to system shut down, the Contractor shall have pre-assembled and have ready for installation valves, piping, or other materials to reduce the time of disruption of service.

#### ***SECTION 505.4 PIPE INSTALLATION***

The Contractor shall install CL50 ductile iron pipe at all locations.

Pipe shall be installed in lengths and at locations provided below:

- Install approximately 20 lineal feet of 8" diameter pipe at the Pringle tank site.
- Install approximately 10 lineal feet of 6" diameter pipe at the Pringle tank site for overflow pipe connection.
- Install approximately 20 lineal feet of 12" diameter pipe at the Larkin Valley tank site.

#### ***SECTION 505.5 TRENCHING, BACKFILL, AND PAVING***

The Contractor shall install a sand envelope around all underground piping, per SCWD Standard Plans S-14 and S-15. The envelope shall include a minimum 4-inches of sand bedding with 12-inches of sand cover compacted to 95% RC.

The Contractor shall saw-cut the pavement to produce a straight vertical face for pavement areas to be demolished.

The Contractor shall provide trenching, bedding, and backfill for buried piping in conformance with SCWD Specifications Section 309, "Bedding, backfill and aggregate bases".

The Contractor shall provide replacement paving to match existing with a minimum of 3" Type B asphalt concrete over 9" Class II aggregate base.

The Contractor shall apply a fog seal in accordance with Section 311, "Fog Seal" of the Soquel Creek Water District Standard Specifications to all new paving. The Contractor shall apply fog seal SS-1 oil at the rate of 0.05 gallons per square yard. The extents of the fog seal shall be to one foot from the outer most edges of the repaved area.

#### **Measurement and Payment**

The Contractor shall include all costs associated with "Construction" in the contract unit or lump sum prices for other items of work. The District will not consider any additional compensation.

## **SECTION 506. CONCRETE WORK**

### **Description**

The Contractor shall refer to Section 308, "Concrete Structures" of SCWD Specifications for direction of repaving trench areas within existing concrete surfaces.

### **Measurement and Payment**

The Contractor shall include all costs associated with "Concrete Work" in the contract unit or lump sum prices for other items of work. The District will not consider any additional compensation.

## **SECTION 507. DISTRIBUTION PIPING AND APPURTENANCES**

### ***SECTION 507.1 GENERAL***

The Contractor shall supply materials in accordance with the published Standard Specifications and Standard Plans of the Soquel Creek Water District and the American Water Works Association (AWWA).

### ***SECTION 507.2 PIPING***

The Contractor shall install class 50 6-inch, 8-inch & 12-inch Ductile Iron pipe as distribution pipeline material. The Contractor shall provide material conforming to the requirements of AWWA C900 or substitute approved by the District Engineer in writing.

### ***SECTION 507.3 FITTINGS***

The Contractor shall furnish ductile iron fittings in accordance with AWWA C110 and C153.

### ***SECTION 507.4 GATE VALVES***

The Contractor shall furnish gate valves in accordance with AWWA C509 and Section 307.02, "Gate Valves" of SCWD Standard Specifications for District approved materials and installation requirements. The Contractor shall refer to SCWD Standard Plan S-6, "Buried Valve Assembly" for graphical illustrations.

### ***SECTION 507.5 THRUST RESTRAINTS***

#### **Pipe Restraints**

The Contractor shall install Field Lok restraint harnesses bridging the push-on bell for thrust restraint. The Contractor shall use EBAA Iron

Megalug® Series 1700 or approved substitute subject to prior written approval by the District Engineer.

### **Fittings**

The Contractor shall install Mechanical Joint (MJ) fittings and replace the follower gland with a Series 1100 Megalug® Mechanical Joint Restraint thrust restraining follower gland assembly or approved substitute subject to prior written approval by the District Engineer. The Contractor shall refer to Section 304, “Thrust Restraint” of SCWD Standard Specifications for District approved materials and installation requirements.

### **PCC Thrust Blocks**

The Contractor shall install Portland Concrete Cement (PCC) thrust blocks only to restrain fittings on existing pipelines. The Contractor shall refer to SCWD Standard Plan S-7, “Thrust Block Details” for graphical illustrations.

## ***SECTION 507.6 INSTALLATION***

### **General**

The Contractor shall inspect pipe and accessories, prior to installation, for damage and defects in materials. The Contractor shall reject damaged and defective materials, mark as such, and remove items from the job site at no additional expense to the District.

The Contractor shall perform subsurface exploration regarding existing utility locations/depths and soil conditions. The Contractor shall expose all utilities at locations where proposed improvements are shown to cross, at all proposed connections, and at intervals not to exceed 250 LF along parallel utilities. The Contractor shall perform exploration in advance of construction operations such that the final location of the proposed improvements may be adjusted prior to construction.

The Contractor shall not be eligible for extra work, compensation, or time extensions caused by the Contractor’s failure to perform “Potholing” and interference location work.

The Contractor shall use appropriate fittings to adjust for depth conflicts between the proposed main with other existing utilities. In locations where the water main crosses over the existing sewer main, the Contractor shall ensure a minimum vertical clearance of one foot exists between pipes.

The Contractor shall construct pipelines to have a continuous upgrade or downgrade in order to minimize high spots. The Contractor shall install air and vacuum release valves when specified on the Contract Plans.

The Contractor shall perform main line pressure testing prior to connecting to any existing District main unless noted on Contract Plans. The District will not allow water use of any kind until mains, services, and fire hydrants have passed pressure testing, and have been chlorinated, flushed, and a bacteriological report has been approved in writing by the District Engineer.

The District shall operate existing valves for the Contractor. Under no circumstances shall the Contractor operate existing system valves.

The Contractor shall raise valve boxes, install extensions, and remove disinfection points to allow the District to activate the system.

#### **Locator Wire**

The Contractor shall install a minimum of 12-gauge THW or THWN copper locating wire, continuous for the entire length of pipe laid. The Contractor shall secure the wire to the pipe by tape at intervals not greater than 12 feet. The Contractor shall install the locator wire in accordance with Section 301.05.06, "Locator Wire" of SCWD Standard Specifications.

#### **Bitumastic Coating**

The Contractor shall field coat all buried nuts, bolts, flanges, and other exposed ferrous metal with a liberal coat of bitumastic type material.

#### **Restrained Pipe Minimum**

The Contractor shall install, as a minimum, 40 LF of restrained pipe on each side of a restrained fitting or joint. Areas that require additional restrained piping will be shown on the Contract Documents or referenced in other sections of these Special Provisions.

### ***SECTION 507.7 AS-BUILT DRAWINGS***

#### **General**

The Contractor shall provide a complete set of As-Built drawings at project completion. As-Built drawings shall include vertical and horizontal location to the nearest foot. As-Built drawings shall show locations of all valves, reductions, and any deviation from design plans.

#### **Measurement and Payment**

The Contractor shall include all costs associated with "As-Built Drawings" in the contract unit or lump sum prices for other items of work. The District will not consider any additional compensation.

## ***SECTION 507.8 TESTING AND DISINFECTION***

### **Hydrostatic Pressure & Leakage Testing**

The Contractor shall refer to Section, 301.05.07, "Hydrostatic Testing" of SCWD Standard Specifications.

The Contractor shall perform pressure testing in compliance with District requirements. The District Inspector shall be present during pressure testing. The Contractor shall notify the District two (2) days in advance of any pressure tests. Test pressure shall be a minimum of 150 psi or 150% of the service pressure for the pipeline, whichever is greater.

The Contractor shall perform all work necessary to locate and repair leaks to allowable levels as stated in Section 301.05.01(a), "Allowable Leakage" of SCWD Standard Specifications. Contractor shall perform repair work at no additional expense to the District. The Contractor shall also correct other defects discovered during such work. Thereafter, the Contractor shall repeat the pressure test until the pipelines meet specified requirements.

### **Chlorination and Bacteriological Testing**

The District shall perform all disinfection procedures. The Contractor shall assist the District as necessary including, but not limited to, providing adequate size piping to the nearest discharge location, labor assistance, and water trucks.

Bacteriological testing shall occur no sooner than 24 hours after pipeline has been flushed of chlorinated water. The District shall take samples. The District laboratory will not accept samples after noon on Thursday of any workweek.

The Contractor shall perform the work necessary to clean the line of any debris or foreign material if the water sample fails the bacteriological test at no additional expense to the District. Thereafter, the Contractor shall provide assistance required for repeated testing, until the pipelines meet specified requirements.

The Contractor shall assist the District in dechlorination of chlorinated water discharged into local streams and storm drains. The District shall furnish all dechlorination equipment and chemicals.

The Contractor shall refer to Section, 301.05.08, "Disinfection" of the SCWD Specifications for further information.

### **Measurement and Payment**

The Contractor shall include all costs associated with “Distribution Piping and Appurtenances” in the contract unit or lump sum prices.

Payment for pipeline installation shall include all related gate valves, fittings, and appurtenances, and abandonment of mains and isolation valves as shown on the Contract Plans. The District will not consider any additional compensation.

## **SECTION 508. CONNECTIONS TO EXISTING MAINS**

### ***SECTION 508.1 GENERAL***

The Contractor shall notify the District three (3) working days in advance of shutdowns.

The District shall notify surrounding customers affected by the shutdown and operate all valves.

The Contractor shall perform connections per SCWD Standard Specifications and Standard Plans, these Special Provisions, and Contract Plans.

The Contractor shall also refer to Section 206.05, “Tie-Ins” of SCWD Standard Specifications and the Contract Documents for additional guidelines.

### **Measurement and Payment**

The Contractor shall include all costs associated with “Connections to Existing Mains” in the contract unit prices.

The District will not consider any additional compensation.

## **SECTION 509. ABANDONMENTS**

### ***SECTION 509.1 GENERAL***

The Contractor shall perform abandonments as shown on the Contract Plans following the installation of all replacement piping.

Abandonments shall include, and not be limited to, water mains, services, valves, and fittings. Work includes, but is not limited to, cutting and capping of abandoned mains.

The Contractor shall perform abandonments in accordance with Section 206.08, "Abandonment" of SCWD Standard Specifications.

The Contractor shall restore pavement to pre-existing condition or better when abandoned main is in existing AC paved area. The Contractor shall remove and replace existing concrete from joint to joint when abandoned main is in PCC area. The Contractor shall provide dowels between new concrete and existing concrete area.

#### **Measurement and Payment**

The Contractor shall include all costs associated with "Abandonments" in the contract unit prices for pipeline installation. The District will not consider any additional compensation.

## **SECTION 510. APPENDIX**

- A-1 Product Data Sheet, 0306-5-L, "Flex-Tend®" Flexible Expansion Joint, EBAA Iron Sales, Inc.
- A-2 Product Data Sheet, 0905-3-A, "Flex-Tend® Force Balanced" Flexible Expansion Joint, EBAA Iron Sales, Inc.
- B-1 Tank Seismic Retrofit Phase II – Cover Sheet
- B-2 Tank Seismic Retrofit Phase II – Pringle Lane Tank
- B-3 Tank Seismic Retrofit Phase II – Larkin Valley Tank