

BEAUMONT-CHERRY VALLEY WATER DISTRICT

CONTRACT DOCUMENTS

FOR

PIPELINE RELOCATION PROJECT

for

BEAUMONT MASTER DRAINAGE PLAN LINE 16



Beaumont-Cherry Valley Water District

Attn: **Mark Swanson**

560 Magnolia Avenue

Beaumont, CA 92223

mark.swanson@bcvwd.org

Signature:

Mark Swanson, Senior Engineer
Beaumont-Cherry Valley Water District

KEY DATES (Subject to change at discretion of District):

Issue Date:	September 10, 2021
Bid Opening Date:	September 30, 2021, 3:00 pm
District Project Manager:	Mark Swanson

**BEAUMONT-CHERRY VALLEY WATER DISTRICT
PIPELINE RELOCATION PROJECT
for
BEAUMONT MDP LINE 16**

CONTRACT DOCUMENTS

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PROJECT COST ESTIMATE SUMMARY

PROJECT COST ESTIMATE for the PIPELINE RELOCATION PROJECT for BEAUMONT MDP LINE 16

LICENSING REQUIREMENTS. Bidders shall be licensed in accordance with provisions of Chapter 9, Division 3, of the Business and Professional Code of the State of California on the date and time of submittal of the bid documents and shall maintain such license until final acceptance of the work. Required classifications are: Class A, General Engineering and/or C-34, Pipeline Contractor. Bidders shall have verifiable experience in similar work. Bidders and their sub-contractors shall also be registered to perform public work pursuant to Section 4104 of the public contract code with the State of California, Department of Industrial Relations.

The District cannot award a public works contract to any contractor or subcontractor whose company appears on the ineligible contractor's list published by the Labor Commission, per Labor Code, Section 1777.1.

PROJECT ADMINISTRATION. All questions relative to this project prior to the opening of bids shall be directed to:

Mark Swanson
Beaumont-Cherry Valley Water District
560 Magnolia Avenue
Beaumont, CA 92223
Telephone: (951) 845-9581
Fax: (951) 845-0159

The Owner reserves the right to reject any or all Bids, to waive any informality or irregularity in any Bid and to make awards in the interest of the Owner, including award to other than the lowest bidder. The Owner reserves the right to have performed the entire Work defined by the Contract Documents or such parts of said Work as the Owner may elect, to combine various alternative bids and bid items within a Bid, and to accept or reject one or more separately scheduled bid items within a Bid. The Owner further reserves the right to withhold issuance of the Notice to Proceed, after execution of the Contract Agreement, for the period not to exceed fifteen (15) days after the date the Contract Agreement is executed. No additional payment will be made to the successful Bidder on account of such withholding.

NON-MANDATORY PRE-BID CONFERENCE. A **non-mandatory** pre-bid conference with representatives of prospective bidders will be held at the Beaumont-Cherry Valley Water District offices, 560 Magnolia Avenue, Beaumont, California at 2:00 pm. on September 22, 2021. Prospective bidders are invited to present any relevant questions at the pre-bid conference, but insofar as practicable, questions should be prepared in written form and sent to Beaumont-Cherry Valley Water District so as to arrive not later than September 22, 2021 at 2:00 pm. The District will allow formal Requests for Information to be submitted in written form until September 23, 2021 at 2:00 pm, and the District will formally respond to written RFIs by September 27, 2021 at 2:00 pm.

INSTRUCTIONS TO BIDDERS

GENERAL. Sealed bids will be received only at Beaumont-Cherry Valley Water District (Owner), 560 Magnolia Avenue, Beaumont, California, 92223, Telephone (951) 845-9581 for the construction of the Work entitled:

PIPELINE RELOCATION PROJECT for BEAUMONT MDP LINE 16

FORM OF PROPOSAL. Each proposal shall be enclosed in a sealed envelope bearing the name of the bidder and name of the project. Bidders must comply with and agree to all instructions and requirements in the Notice Inviting Bids and the Instructions to Bidders, including post-bidding procedures.

DELIVERY OF PROPOSAL. The bid proposal shall be delivered by the time and to the place stipulated in the Notice Inviting Bids. It is the bidder's sole responsibility to see that his proposal is received in proper time. Any proposal received after the scheduled closing time for receipt of proposals will be returned to the bidder unopened.

WITHDRAWAL OF PROPOSAL. The proposal may be withdrawn by the bidder by means of a written request, signed by the bidder or his properly authorized representative. Such written request must be delivered to the place stipulated in the Notice Inviting Bids for receipt of proposals prior to the scheduled closing time for receipt of proposals.

OPENING OF PROPOSALS. The proposals will be publicly opened and read at the time and place stipulated in the Notice Inviting Bids.

MODIFICATIONS AND ALTERNATIVE PROPOSALS. Unauthorized conditions, limitations, or provisos attached to a proposal will render it informal and may cause its rejection. The completed proposal forms shall be without interlineations, alterations, or erasures. Alternative proposals will not be considered unless called for. Oral, telegraphic, or telephone proposals or modifications will not be considered.

DISCREPANCIES IN PROPOSALS. In the event there is more than one bid item in a bidding schedule, the bidder shall furnish a price for all bid items in the schedule, and failure to do so will render the proposal incomplete and may cause its rejection. In the event there are unit price bid items in a bidding schedule and the "amount" indicated for a unit price bid item does not equal the product of the unit price and quantity, the unit price shall govern and the amount will be corrected accordingly. In the event there is more than one bid item in a bidding schedule and the total indicated for the schedule does not agree with the sum of the prices bid on the individual items, the prices bid on the individual items shall govern and the total for the schedule will be corrected accordingly.

CHANGES IN CONTRACT DOCUMENTS. Changes to Contract Documents, Plans and Specifications will be made by written addendum only. Oral statements by the Owner or Engineer are not changes to the project and shall not be the basis for preparing a bid.

BIDDER'S EXAMINATION OF SITE. Before submitting a proposal, the bidder shall carefully examine the Plans, Specifications, and other Contract Documents, and he may visit the site of the work. It shall be the Contractor's responsibility to make all examinations, inspections, field studies and measurements necessary for his own determination of the character of conditions that will be encountered in the work and to fully determine all related cost factors. It will be assumed that the bidder is familiar with existing site conditions and that he has a clear understanding of the requirements of the contract regarding the furnishing of materials and performance of work.

Bidders will have the opportunity to examine the Project Site at the pre-bid conference on September 22, 2021, as discussed in the "Notice Inviting Bids." Bidders may also obtain assistance in inspecting the site by contacting Mark Swanson or Knute Dahlstrom by telephone at (951) 845-9581.

COMPETENCY OF BIDDERS. In selecting the lowest responsible bidder, consideration will be given not only to the financial standing but also to the general competency of the bidder for the performance of the work covered by the proposal. To this end, each proposal shall be supported by a statement of the bidder's experience as of recent date on the form entitled "INFORMATION REQUIRED OF BIDDER," found herein. No proposal for the work will be accepted from a Contractor who is not licensed in accordance with applicable state law at the date of Bid opening.

Each bidder shall submit with the bid a statement setting forth his experience and business standing. Along with this statement each bidder shall include: a list of three similar projects completed within the last 5 years showing total project costs, when constructed, and the names, telephone numbers, and addresses of the owners; and, a summary of the qualifications of the Contractor's proposed Project Manager that highlights this individual's experience and skills relevant to the needs of this project. The Contractor shall not assign to the project an individual to whom the Owner expresses a reasonable objection and shall remove from the project any individual the Owner rejects with or without specific cause.

DISQUALIFICATION OF BIDDERS. More than one proposal from an individual, firm, partnership, corporation, or association under the same or different names will not be considered. Reasonable grounds for believing that any bidder is interested in more than one proposal for the work contemplated will cause the rejection of all proposals in which such bidder is interested. If there is reason for believing that collusion exists among the bidders, all bids will be rejected and none of the participants in such collusion will be considered in future proposals.

RETURN OF PROPOSAL GUARANTEE. Within 10 working days after award of the contract, the Owner will return the proposal guarantees accompanying such of the proposals as are not considered in making the award. All other proposal guarantees will be held until the contract has been finally executed. They will then be returned to the respective bidders whose proposals they accompany.

"INFORMATION REQUIRED OF BIDDER," found herein, also will be a determining factor in arriving at an award. Any such award will be made within the period specified in the Notice Inviting Bids. Any such award will be for the total of the lump sum bid items, unit price bid items if any, with or without inclusion of any number of additive bid items or options contained in each separate bidding schedule at the Owner's discretion.

EXECUTION OF CONTRACT. The bidder to whom award is made shall execute a written contract with the Owner on the form of agreement provided, shall secure all insurance and shall furnish all certificates and bonds required by the Specifications within 10 working days after receipt of the contract and/or Notice of Award from the Owner. Failure or refusal to enter into a contract as herein provided or to conform to any of the stipulated requirements in connection therewith shall be just cause for annulment of the award and the forfeiture of the proposal guarantee. If the successful bidder refuses or fails to execute the contract, the Owner may award the contract to the second lowest responsible bidder. If the second lowest responsible bidder refuses or fails to execute the contract, the Owner may award the contract to the third lowest responsible bidder. On the failure or refusal of such second or third lowest bidder to execute the contract, such bidders' guarantees shall be likewise forfeited to the Owner.

PAYMENT RETENTION. Notice is hereby given, to the successful bidder who is awarded the contract, of a 10% retention on all partial payments which will be paid to the Contractor thirty-five (35) days after the Notice of Completion is recorded.

ADDENDA. Full consideration shall be given to all Addenda in the preparation of Bids, as Addenda form a part of the Contract Documents. Bidders shall verify the number of Addenda issued, if any, and acknowledge the receipt of all Addenda in the Bid. Failure to so acknowledge may cause the Bid to be rejected. Addenda may modify previously issued Addenda. No Addendum will be issued after the second day preceding the date set for receipt of bids.

AWARD. Bids will be publicly opened and read aloud at BCVWD offices. Award of the Contract or the rejection of Bids will be made within sixty (60) calendar days from the date of bid opening.

- A. Award of a contract, if it be awarded, will be based primarily on the lowest overall cost to the Owner, and will be made to a responsible bidder whose proposal complies with all the requirements prescribed. Evaluation of the bidder's experience and additional information requested on the form "INFORMATION REQUIRED OF BIDDER," found herein, also will be a determining factor in arriving at an award. Any such award will be made within the period specified in the Notice Inviting Bids. Any such award will be for the total of the lump sum bid items, unit price bid items if any, with or without inclusion of any number of additive bid items or options contained in each separate bidding schedule at the Owner's discretion.
- B. By submitting a Bid, each Bidder agrees and consents that the Owner, in determining the successful Bidder and his eligibility for the award, may ascertain and consider the Bidder's experience and facilities, conduct and performance under other contracts, financial condition, reputation in the industry, and other factors which could affect the Bidder's performance of the Work.
- C. After all Contract contingencies are satisfied and the Notice of Award is issued, the successful Bidder shall execute the Contract Agreement within ten (10) days (not including Sundays and holidays) after the date of the Notice of Award. The contract time is hereby established as consecutive working days from the date of receipt of the Notice to Proceed. Bidder shall furnish Proof of Insurance as required herein, and the Contract Agreement shall be executed in the form provided by the Owner.
- D. If a Bidder receiving a Notice of Award fails or refuses to execute the Contract Agreement within the stated time limit or fails or refuses to furnish Proof of Insurance as required herein, the Owner may annul the award and issue an award to the next lowest responsive responsible Bidder or may reject all Bids.
- E. A corporation receiving the award shall furnish evidence of its corporate existence and evidence that the person signing the contract agreement for the corporation is duly authorized to do so.
- F. The Contractor shall start the work within ten (10) calendar days after the date of the Notice to Proceed.

BONDS AND INSURANCE. The successful Bidder shall furnish to the Owner evidence of insurance ensuring the payment of all obligations arising from the Work in accordance with the Contract Documents. Sureties, Insurance, and Bonds shall comply with the requirements in the General Conditions. Bonds and Insurance certificates shall be delivered to the Owner at the time and place the Contract Agreement is executed. Bonds shall conform exactly to the forms included in the Contract Forms and shall be acceptable to the owner and funding agencies.

SEPARATE BID PRICE FOR EXCAVATION SAFETY MEASURES. If it is necessary for the Contractor to perform an excavation of five (5) feet or more in depth to complete this project, then the requirements of Sections 6705 and 6707 of the California Labor Code apply to this Project. Accordingly, each Bidder shall state in the Bid the lump sum bid price for providing shoring, sheeting, bracing, and other safety measures for all excavations five (5) feet or more in depth. Before any Work is commenced, the Contractor shall secure and pay for the excavation permit required by the California Division of Occupational Safety and Health, and shall furnish the Owner with a copy thereof prior to commencing any excavation. The Contractor shall conform to Labor Code Section 6705 by submitting a detailed plan showing the design of shoring, bracing, sloping, or other provisions to be made for worker protection from the hazard of caving ground during the excavation of such trench or trenches or during the pipe installation therein. This plan must be prepared for all trenches five (5) feet or more in depth and submitted to the Owner for record purposes only and not for review or approval prior to excavation. If the plan varies from the shoring system standards established by the Construction Safety orders, the plan shall be prepared by a registered civil or structural Engineer at the Contractor's expense.

The Contract Documents show subsurface conditions or otherwise hidden conditions as they are supposed or believed by the Engineer to exist; but it is not intended or to be inferred that the conditions as shown thereon constitute a representation that such conditions actually exist. Except as otherwise specifically provided in the Contract Documents, the Owner, the Engineer, and their consultants shall not be liable for any loss sustained by the Contractor as a result of any variance to such conditions as shown on the Contract Documents or the actual conditions revealed or otherwise discovered during the progress of the Work.

GEOTECHNICAL INVESTIGATION. Geotechnical investigations at the site of the Work has been performed. The report summarizing these findings can be reviewed at the District's office during normal working hours. The foregoing investigation describes the nature of the material at the locations specified and any conclusions drawn by Bidders therefrom concerning the general nature of soils shall be the Bidder's responsibility. The geotechnical investigations are provided for information only and no claims for extra work or damages will be considered if it is found during construction that the actual soil or material conditions vary from those indicated. Refer also to Article 5.11, "Changed Conditions" of Section 01000, "General Conditions".

QUANTITIES. The amount of work to be done or materials to be furnished under the Contract, as shown in the Bid Documents, are estimates and are not to be taken as an expressed or an implied statement that the actual amount of the work or materials will correspond to the estimate. The District reserves the right to increase or decrease or to entirely eliminate items from the work or materials to be furnished if any such action is found to be desirable or expedient. Bidder is cautioned against the unbalancing of its bid by prorating its overhead only into one or two items when there are a number of items listed in a schedule.

BID FORM

NAME OF BIDDER: _____

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:

**BEAUMONT-CHERRY VALLEY WATER DISTRICT
PIPELINE RELOCATION PROJECT
for
BEAUMONT MDP LINE 16**

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 BASE BID TOTAL BID PRICE:

BASE BID	BID PRICE (IN WRITTEN FORM)	BID PRICE (IN NUMBERS)
BID SCHEDULE I PIPELINE 1		
TOTAL BID PRICE (SCHEDULE I)		

In case of discrepancy between the written price and the numerical price, the written price shall prevail.

Name of Bidder _____

Signature _____

Name and Title _____

Dated _____

BID SCHEDULE I

PIPELINE RELOCATION PROJECT for MDP LINE 16

ITEM NO.	DESCRIPTION OF ITEMS	EST. QUANTITY	UNIT	UNIT PRICE (FIGURES)	TOTAL AMOUNT
101	Furnish project insurance, and project permits (not to exceed two percent (2%) of the Total Bid Price).	1	L.S.		
102	Mobilization / Demobilization including project sanitary facilities, and closeout and cleanup (not to exceed three percent (3%) of total bid price).	1	L.S.		
103	State required line item for California Code Sections 6705 and 6707, excavation safety measures.	1	L.S.		
104	Furnish and implement traffic control, in accordance with Contractor prepared traffic control plans including, furnishing all signs, delineators, arrow boards, and flagmen in accordance with said plans.	1	L.S.		
105	Saw cut, remove, and dispose of existing AC paving and base as required prior to trenching, provide temporary asphalt pavement patch as required at end of each day.	1425	L.F.		
106	Install District furnished 8" cement mortar lined potable ductile iron pipe, Class 350 to an average depth of 4.25 feet below existing roadway, including installation of restrained joints as shown on the Pipeline Relocation Plan for Beaumont MDP Line 16, installation of Contractor furnished backfill material (or native material, if suitable) and compaction per BCVWD Standard Plate 6-1.	548	L.F.		
106A	Additive Bid Item: Install District furnished 8" cement mortar lined potable ductile iron pipe, Class 350 to an average depth of 4.25 feet below existing roadway, including installation of restrained joints as shown on the Pipeline Relocation Plan for Beaumont MDP Line 16, installation of Contractor furnished Class II Base for backfill material and compaction per BCVWD Standard Plate 6-1 (the incremental cost difference over Bid Item No. 106).	548	L.F.		

BID SCHEDULE I (Continued)

ITEM NO.	DESCRIPTION OF ITEMS	EST. QUANTITY	UNIT	UNIT PRICE (FIGURES)	TOTAL AMOUNT
107	Install District furnished 12" cement mortar lined potable ductile iron pipe, Class 350 to an average depth of 4.25 feet below existing roadway, including installation of restrained joints as shown on the Pipeline Relocation Plan for Beaumont MDP Line 16, installation of Contractor furnished backfill material (or native material, if suitable) and compaction per BCVWD Standard Plate 6-1.	660	L.F.		
107A	Additive Bid Item: Install District furnished 8" cement mortar lined potable ductile iron pipe, Class 350 to an average depth of 4.25 feet below existing roadway, including installation of restrained joints as shown on the Pipeline Relocation Plan for Beaumont MDP Line, installation of Contractor furnished Class II Base for backfill material and compaction per BCVWD Standard Plate 6-1 (the incremental cost difference over Bid Item No. 107).	660	L.F.		
108	Install District furnished 6" cement mortar lined potable ductile iron pipe, Class 350 to an average depth of 4.25 feet below existing roadway, including installation of restrained joints as shown on the Pipeline Relocation Plan for Beaumont MDP Line 16, installation of Contractor furnished backfill material (or native material, if suitable) and compaction per BCVWD Standard Plate 6-1.	158	L.F.		
108A	Additive Bid Item: Install District furnished 8" cement mortar lined potable ductile iron pipe, Class 350 to an average depth of 4.25 feet below existing roadway, including installation of restrained joints as shown on the Pipeline Relocation Plan for Beaumont MDP Line 16, installation of Contractor furnished Class II Base for backfill material and compaction per BCVWD Standard Plate 6-1 (the incremental cost difference over Bid Item No. 108).	158	L.F.		
109	Install 2" riser and test plate for disinfection and testing. Remove test plate at end of chlorination and testing process. Remove riser and plug test location.	10	EA		

BID SCHEDULE I (Continued)

ITEM NO.	DESCRIPTION OF ITEMS	EST. QUANTITY	UNIT	UNIT PRICE (FIGURES)	TOTAL AMOUNT
110	Once testing and disinfection is complete and new waterline is in service, abandon in place the existing pipelines and plug severed pipe ends with 3' minimum Class "C" concrete plug.	1	L.S.		
111	Install District furnished 1" water service saddle, corporation stop, service lateral piping, angle meter stop per BCVWD Standard Plate 6-3. Once testing and disinfection is complete, remove existing meter and install new District furnished meter and connect to new service lateral.	14	EA		
112	Install District furnished valves, fittings, and appurtenances at Pipeline 1 - Station 10+00 per Construction Drawings Detail A on Sheet 2 and BCVWD Standard Plates 2, 6-1, and 9.	1	EA		
112A	Additive Bid Item: Install District furnished valves, fittings, and appurtenances at Pipeline 1 - Station 10+00 per Construction Drawings Detail A Alternative on Sheet 2 and BCVWD Standard Plates 2, 6-1, and 9 (the incremental cost difference over Bid Item No. 108).	1	EA		
113	Install District furnished valves, fittings, thrust block, and appurtenances at Pipeline 1 - Station 10+40± (Grand Ave. Sta 31+57±) per Construction Drawings Detail B on Sheet 2 and BCVWD Standard Plates 2, 6-1, 11-1 and 11-2.	1	EA		
114	Install District furnished valves, fittings, and appurtenances at Pipeline 1 - Station 10+58± (Grand Ave. 37+00±) per Construction Drawings Detail C on Sheet 2 and BCVWD Standard Plates 2, 6-1, and 9.	1	EA		
115	Install District furnished valves, fittings, and appurtenances at Pipeline 1 - Station 14+76± (Grand Ave. 36+34±) per Construction Drawings Detail I on Sheet 5 and BCVWD Standard Plates 2, 6-1, and 9.	1	EA		
116	Install District furnished valves, fittings, and appurtenances at Station Pipeline 2 - 10+00 (Grand Ave. Sta. 49+47±) per Construction Drawings Detail D on Sheet 3 and BCVWD Standard Plates 2, 6-1, and 9.	1	EA		

BID SCHEDULE I (Continued)

ITEM NO.	DESCRIPTION OF ITEMS	EST. QUANTITY	UNIT	UNIT PRICE (FIGURES)	TOTAL AMOUNT
117	Install District furnished valves, fittings, and appurtenances at Pipeline 2 - Station 11+81± (Grand Ave. Sta. 51+24±) per Construction Drawings Detail E on Sheet 3 and BCVWD Standard Plates 2, 6-1, and 9.	1	EA		
118	Install District furnished valves, fittings, and appurtenances at Pipeline 3 - Station 10+00 (Grand Ave. Sta. 62+52±) per Construction Drawings Detail F on Sheet 3 and BCVWD Standard Plates 2, 6-1, and 9.	1	EA		
119	Install District furnished valves, fittings, thrust block, and appurtenances at Pipeline 3 - Station 12+37± (Grand Ave. Sta. 64+81±) per Construction Drawings Detail K on Sheet 5 and BCVWD Standard Plates 2, 6-1 and 9.	1	EA		
120	Remove existing 6" water line (limits as indicated on Sheet 3 of the Construction Drawings).	55	L.F.		
121	Install District furnished valves, fittings, and appurtenances at Pipeline 4 - Station 10+00 (Noble Street Sta. 10+58±) per Construction Drawings Detail G on Sheet 4 and BCVWD Standard Plates 2, 6-2, and 9.	1	EA		
122	Install District furnished valves, fittings, thrust block, and appurtenances at Pipeline 4 - Station 12+42± (Noble Street Sta. 12+95±) per Construction Drawings Detail H on Sheet 4 and BCVWD Standard Plates 2, 6-1, and 9.	1	EA		
123	Install District furnished valves, fittings, and appurtenances at Station 10+00 (Grand Avenue west of Martin Ln) per Construction Drawings Detail J on Sheet 5 and BCVWD Standard Plates 1, 2, and 9.	1	EA		
124	Install 4" Blow-off assembly per BCVWD Standard Plate 3-1.	1	EA		

BID SCHEDULE I (Continued)

ITEM NO.	DESCRIPTION OF ITEMS	EST. QUANTITY	UNIT	UNIT PRICE (FIGURES)	TOTAL AMOUNT
125	Disinfect all potable water pipelines per requirements set forth in Special Requirements and per AWWA Standard Specifications and flush and disinfect test water and assist District Staff with bacteriological testing.	1	L.S.		
126	Pressure test and hydrostatic leak test all potable water pipelines per requirements set forth in Special Requirements, District Specifications, and in accordance with AWWA Best Practices.	1	L.S.		
127	Furnish all labor and materials necessary to install 4" of depth Type A Hot Mix Asphalt Pavement and minimum 6" Class II Base per BCVWD Standard Plate 6-1.	1425	L.F.		
128	Export of all excavated native material to the District's Noble Creek Recharge Facilities – Phase II, located generally at the northwest corner of Beaumont Avenue and Brookside Avenue.	1	L.S.		
TOTAL BID SCHEDULE I PRICE (Bid Items 101 Through 128)					

In case of discrepancy between the unit price and the item cost set forth for a unit basis item, the unit price shall prevail and, shall be utilized as the basis for determining the lowest responsive, responsible bidder. However, if the amount set forth as a unit price is ambiguous, unintelligible or uncertain for any cause, or is omitted, or is the same amount as the entry in the "Item Cost" column, then the amount set forth in the "Item Cost" column for the item shall prevail and shall be divided by the estimated quantity for the item and the price thus obtained shall be the unit price. Final payment shall be determined by the Engineer from measured quantities of work performed based upon the unit price.

In case of discrepancy between the written price and the numerical price, the written price shall prevail.

The undersigned agrees that this Bid Form constitutes a firm offer to the District for Bid Schedule I which cannot be withdrawn for the number of calendar days indicated in the Notice Inviting Bids from and after the bid opening, or until a Contract for the Work is fully executed by the District. The District reserves the right to award any and all combinations of Bid Schedule I and/or parts thereof.

The Contract duration shall commence on the date stated in the District's Notice to Proceed, and shall be completed by the Contractor in the time specified in the Contract Documents. In no case shall the Contractor commence construction prior to the date stated in the District's Notice to Proceed.

Bidder certifies that it is licensed in accordance with the law providing for the registration of Contractors, License No. _____, Expiration Date _____, class of license _____. If the bidder is a joint venture, each member of the joint venture must include the above information.

The undersigned acknowledges receipt, understanding and full consideration of the following addenda to the Contract Documents and information required of bidders.

1. Addenda No. _____ thru _____
2. Information Required of Bidders:
 - a. Executed General Information
 - b. Executed List of Sub Contractors
 - c. Executed Non-Collusion Affidavit form
 - d. Completed Iran Contracting Act Form

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

Name of Bidder _____

Signature _____

Name and Title _____

Dated _____

KNOW ALL MEN BY THESE PRESENTS, that we (Contractor), _____ as Bidder and Principal, and _____ as Surety, are held firmly bound unto the BEAUMONT-CHERRY VALLEY WATER DISTRICT, situated in Riverside County, California, hereinafter called the Owner, in the penal sum of _____ dollars, \$_____, for the payment of which sum, well and truly to be made, we bind ourselves, and our successors and assigns, jointly and severally, firmly by these presents.

The condition of this obligation is that whereas Bidder has submitted the accompanying bid dated _____, 20____, for PIPELINE RELOCATION PROJECT for BEAUMONT MDP LINE 16 for Owner.

NOW THEREFORE, (1) if the Bidder shall not withdraw said bid within thirty days after the opening of the same, and (2) shall within ten days after the award of the contract furnish the required certificates of insurance and enter into a written contract with the Owner in accordance with the bid as accepted, and (3) if the Bidder shall give the required bonds with good and sufficient sureties for the faithful performance and proper fulfillment of said contract and for the protection of laborers and material men, or (4) in the event of the withdrawal of said bid within the periods specified, or the failure to enter into said contract, if the Bidder shall within thirty days after request by the Owner pay the Owner the difference between the amount specified in said bid and the amount for which the Owner may procure the required Work or supplies, if the latter amount be in excess of the former, then the above obligations shall be void and of no effect, otherwise they remain in full force and effect.

In the event suit is brought upon this bond by the Owner and judgment is recovered, the Surety shall pay all costs incurred by the Owner in such suit, including reasonable attorney's fee, to be fixed by the court.

For value received, the Surety hereby stipulates and agrees that the obligation of said Surety and its bond shall in no way be impaired or affected by any bid errors or by an extension of time within which the Owner may accept such bid, and said Surety hereby waives notice of any such extension.

IN WITNESS WHEREOF, Bidder and Surety have duly and fully executed this instrument this _____ day of _____, 20____.

PRINCIPAL:

SURETY:

Name _____

Name _____

By _____
(Authorized Representative, Written Signature)

By _____
(Authorized Representative, Written Signature)

(Authorized Representative, Typed or Printed Name)

(Authorized Representative, Typed or Printed Name)

Title _____
[Individual, Partner, Corporate Officer (Title)]

Title _____
[Individual, Partner, Corporate Officer (Title)]

Attest: (If Corporation)

Attest: (If Corporation)

By _____

By _____

Title _____

Title _____

(Corporate Seal)

(Corporate Seal)

NOTE: Both Principal and Surety signatures must be notarized. A copy of the power of attorney to local representatives of the bonding company must be attached hereto.

NOTARY FOR PRINCIPAL

STATE OF _____)
COUNTY OF _____)

On _____, 20____, before me,
_____ a Notary Public,
personally appeared _____
() personally known to me or () 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.
Witness my hand and official seal.

Signature of Notary

(Notary Seal)

NOTARY FOR SURETY

STATE OF _____)
COUNTY OF _____)

On _____, 20____, before me,
_____ a Notary Public,
personally appeared _____
() personally known to me or () 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.
Witness my hand and official seal.

Signature of Notary

(Notary Seal)

NOTE: If Notary elects to attach an acknowledgment form, Notary shall use the Notary Acknowledgment form attached at the end of this section (Bidding Documents), or, alternatively, Notary may use a California All-Purpose Acknowledgment form, provided Notary completes the entire form, both the required and optional portions.

IMPORTANT: Surety companies executing Bonds must possess a certificate of authority from the California Insurance Commissioner authorizing them to write Surety insurance defined in Section 105 of the California Insurance Code and, if the work or project is financed, in whole or in part, with federal grant or loan funds, said Surety companies must also appear on the Treasury Department's most current list (Circular 570 as amended).

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 _____

INFORMATION REQUIRED OF BIDDER

**PIPELINE RELOCATION PROJECT
for
BEAUMONT MDP LINE 16**

GENERAL INFORMATION

The bidder shall furnish the following information. Additional sheets may be attached if necessary.

1. Contractor's Name and Address: _____

2. Type of Firm: Individual ___
(Check one) Partnership ___
Corporation ___

3. Telephone: _____

4. Contractor's license: Classification _____ No. _____

5. Names and titles of all owners/officers of the firm:

_____	_____
_____	_____
_____	_____
_____	_____

6. Number of years as a contractor in construction work of this type: _____

7. Answer the three (3) questions below and submit a brief description of the character of the work previously executed as required in the Instructions to Bidders as well as the locations of the major projects, giving the year in which it was done, the manner of its execution, name, telephone number, and address of owner, overall cost when constructed, and such other information as will tend to show ability to prosecute vigorously the work required by this Specification. Attach additional sheets if necessary.

1. Have you or any of your subcontractors been determined to have committed any serious or willful violations of Part 1 (commencing with Section 6300) of Division 5 of the Labor Code during the past five (5) years? _____ If yes, explain.

2. What are the most recent workers' compensation experience modification factors for your firm and each of the proposed subcontractors?

3. Have you and each of the proposed subcontractor(s) adopted injury prevention programs under Section 3201.4 or 6401.7 of the California Labor Code?

8. Person who inspected site of the proposed work for your firm:

Name: _____ Date of Inspection: _____

9. Proposed Project Manager

Name: _____

Qualifications: _____

10. NOTE: If required by the Owner, the bidder shall furnish a notarized financial statement, references, resume of superintendent, and other information sufficiently comprehensive to permit an appraisal of his current financial condition.

INFORMATION REQUIRED OF BIDDER

**PIPELINE RELOCATION PROJECT
for
BEAUMONT MDP LINE 16**

LIST OF SUBCONTRACTORS

The bidder shall list below the name and business address of each subcontractor who will perform work under this contract in excess of one-half percent of the total bid price and shall also list the portion of the work which will be done by such subcontractor. After opening proposals, no changes or substitutions will be allowed without the written approval of the Owner.

Aggregate total of all subcontractors shall not exceed fifty percent (50%) of the total contract price.

1. Subcontractor's Name & Address:

Work to be performed:

2. Subcontractor's Name & Address:

Work to be performed:

3. Subcontractor's Name & Address:

Work to be performed:

4. Subcontractor's Name & Address:

Work to be performed:

5. Subcontractor's Name & Address:

Work to be performed:

6. Subcontractor's Name & Address:

Work to be performed:

7. Subcontractor's Name & Address:

Work to be performed:

8. Subcontractor's Name & Address:

Work to be performed:

Note: Attach additional sheets if required.

INFORMATION REQUIRED OF BIDDER

**PIPELINE RELOCATION PROJECT
for
BEAUMONT MDP LINE 16**

NON-COLLUSION AFFIDAVIT

STATE OF CALIFORNIA

COUNTY OF _____



NON-COLLUSION AFFIDAVIT

_____, being first duly sworn, deposes and says that
(Name of Affiant)

he/she is _____ of _____
(Title) (Name of Bidder)

the party making the foregoing bid; that the bid is not made in the interest of, or on behalf of, any undisclosed person, partnership, company, association, organization, or corporation; that the bid is genuine and not collusive or sham; that the bidder has not directly or indirectly induced or solicited any other bidder to put in a false or sham bid, and has not directly or indirectly colluded, conspired, connived, or agreed with any bidder or anyone else to put in a sham bid, or that anyone shall refrain from bidding; that 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 any other bidder, or to fix any overhead, profit or cost element of the bid price, or of that of any other bidder, or to secure any advantage against the public body awarding the contract of anyone interested in the proposed contract; that all statements contained in the bid are true; and, further, that 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, or paid, and will not pay, any fee to any corporation, partnership, company association, organization, bid depository, or to any member or agent thereof to effectuate a collusive or sham bid.

(Signature)

(Typed Name)

State of _____ }
County of _____ } ss.

Subscribed and sworn to (or affirmed) before me on this _____ day of _____, 20____, by _____, proved to me on the basis of satisfactory evidence to be the person/persons who appeared before me.

(SEAL)

Notary Public

Commission Expires: _____

BEAUMONT-CHERRY VALLEY WATER DISTRICT

**PIPELINE RELOCATION PROJECT
for
BEAUMONT MDP LINE 16**

DRAFT CONTRACT FOR PUBLIC WORKS

(CONTRACTOR WILL BE REQUIRED TO EXECUTE CONTRACT)

BEAUMONT-CHERRY VALLEY WATER DISTRICT

CONTRACT FOR PUBLIC WORKS

1. Parties and Date

This Contract is entered into this ____ day of _____, 2021, between the BEAUMONT-CHERRY VALLEY WATER DISTRICT, a California Irrigation (Special) District ("District"), and _____ ("Contractor"), for the Work described as follows: Pipeline Relocation Project for Beaumont MDP Line 16.

2. Consideration

In consideration of the mutual covenants hereinafter contained, District and Contractor agree to comply with the terms of this Contract and to faithfully perform their duties hereunder.

3. Duties of Contractor

3.1 Contractor agrees to furnish all labor, tools, and equipment necessary to complete the work hereinafter described. Contractor hereby guarantees that all work to be performed by it hereunder will be performed in a good and workmanlike manner. The Work to be performed by Contractor is described on the Construction Drawings and Specifications included herein attached hereto and by this reference incorporated herein. Pursuant to Public Contract Code Section 3300, Contractor shall possess an active and current Contractor's License, Class A or C-57, which shall be maintained throughout the term of this Contract.

3.2 Contractor shall complete all work required herein on or before **December 31, 2021**.

3.3 Contractor shall furnish District with labor ~~and material~~ releases from all subcontractors performing work on, ~~or furnishing materials for~~, the job prior to final payment by District.

3.4 **(Section 3.4)** Contractor shall furnish a performance bond in the amount of the full contract price, a payment bond in the amount of 50% of the full contract price, and a maintenance bond in the amount of the full contract price issued in forms consistent with industry standards by United States Treasury authorized bonding companies as approved by District, prior to commencement of the Work. Bonds shall be furnished on the forms attached at the back of this Contract, if Additive Bid Item is exercised. Contractor hereby guarantees that all materials and workmanship furnished by him under the Contract will meet fully all requirements thereof as to quality or workmanship and of materials furnished by him. Contractor hereby agrees to replace all materials and pay for all installation costs made necessary by defects in materials or workmanship supplied by him that become evident within twelve (12) months after the date of final payment and to pay for all

work necessary to remove, restore, and replace the materials to full serviceability and to full compliance with the requirements of the Contract, including the test requirements for any part of the materials furnished hereunder which, during said twelve (12) month period, are found to be deficient with respect to any provision of the Contract. Contractor also agrees and does hereby hold District harmless from claims of any kind which may arise from injury or damage due to said defects. Contractor shall replace all defective materials promptly upon receipt of written orders for same from District. If Contractor fails to replace all defective materials promptly, District may secure the service of others to do this work, and Contractor and his surety shall be liable to District for the cost, including removal and replacement thereof. The guarantees, indemnifications and agreements set forth above shall continue to be secured following completion of the project by Contractor providing a maintenance bond in the amount of 100% of the full contract price on a form commonly used in the industry and acceptable to the District, and for this purpose said bond shall remain in force for a period of one (1) year after the date of the final payment.

3.5 Copies of the prevailing rate of per diem wages for each craft, classification or type of worker needed to execute this Contract are available to interested parties upon request. If the total amount of this Contract is \$1,000 or more, Contractor agrees to pay such prevailing rates to each workman needed to execute the work required under this Contract and further agrees to comply with the penalty provisions of Section 1775 of the Labor Code in the event of its failure to pay prevailing rates. Pursuant to Section 1727 of the Labor Code, all wages and penalties withheld for failure of Contractor to pay such per diem wages shall be transferred by District to the State Labor Commissioner for disbursement, should Contractor fail to bring suit for recovery within ninety (90) days after completion of the Contract or acceptance of the work.

3.6 Contractor shall pay travel subsistence payments to each workman needed to execute the work, as such travel and subsistence payments are defined in the applicable collective bargaining agreements filed in accordance with Section 1773.8 of the Labor Code.

3.7 When Contractor employs workmen in an apprenticeable craft or trade, Contractor shall comply with the provisions of Section 1777.5 of the Labor Code with respect to the employment of properly registered apprentices upon public works. The primary responsibility for compliance with said section for all apprenticeable occupations shall be with Contractor.

3.8 Contractor is advised that eight (8) hours labor constitutes a legal day's work. Pursuant to Section 1813 of the Labor Code, Contractor shall forfeit a penalty of \$25.00 per worker for each day that each worker is permitted to work more than eight (8) hours in any one calendar day and forty (40) hours in any one calendar week, except when payment for overtime is made at not less than one and one-half (1-1/2) times the basic rate for that worker.

3.9 In accordance with the requirements of Labor Code Section 1776, Contractor shall keep accurate payroll records on forms provided by the Division of Labor Standards Enforcement,

or keep payroll records containing the same information required by such forms, and shall make any such records available for inspection.

3.10 Contractor shall keep himself fully informed of all laws and regulations in any manner affecting the performance of the Contract work, and shall indemnify District and District's agents against any liability arising from violation of any such law or regulation.

3.11 Contractor shall at its own expense maintain at least the following insurance coverages throughout the performance of this Contract:

(a) Worker's compensation insurance coverages for all persons employed or to be employed in the performance of this Contract, which insurance shall at all times be maintained in strict accordance with the requirements of the current California Worker's Compensation Insurance Laws.

(b) General commercial liability insurance coverage of at least \$2,000,000 per occurrence and \$2,000,000 general aggregate insuring Contractor and naming District as an additional insured for all claims for bodily injury, personal injury and property damage, arising out of or in connection with any operations under this Contract.

(c) Automobile liability insurance coverage with a limit of liability of \$1,000,000 per accident Combined Single Limit.

(d) Course of construction insurance with a limit of liability equal to the full contract amount, unless waived in writing by District.

Prior to commencement of any work under this Contract, Contractor shall obtain and furnish to District a Certificate of Insurance as to each type of insurance required, which certificate shall be on the form provided to Contractor by District.

3.12 Contractor shall be responsible for all loss and damage which may arise out of the nature of the work agreed to herein, or from the action of the elements, or from any unforeseen difficulties which may arise or be encountered in the prosecution of the work until same is fully completed and accepted by District. However, Contractor shall be responsible for damage proximately caused by an act of God within the meaning of Section 4150 of the Government Code only to the extent of five percent (5%) of the contract amount.

3.13 Contractor shall indemnify and hold harmless District, its agents and employees, from and against all claims, damages, losses and expenses, including attorney's fees, arising out of or resulting from performance of work under this Contract and which are attributable to bodily injury, sickness, disease or death, or to injury to or destruction of tangible property, including the loss of use resulting therefrom, caused in whole or in part by any negligent or willful act or omission of the Contractor or anyone directly or indirectly employed by him or for whose acts he may be liable.

3.14 Contractor shall be responsible for securing and paying for all permits and licenses necessary to perform the work described herein.

3.15 If the work entails trenching of five (5) feet or more in depth, Contractor shall make adequate provisions for shoring, bracing, sloping, or other protection from the hazard of caving ground.

3.16 As required by Public Contract Code Section 7104, Contractor shall promptly, and prior to disturbance of conditions, notify District of (a) any material discovered in excavation that Contractor believes to be a hazardous waste that is required to be removed to a Class I, Class II, or Class III disposal site; (b) subsurface or latent physical conditions at the site differing from those indicated by District; and (c) unknown physical conditions of an unusual nature at the site, significantly different from those ordinarily encountered in such contract work. Upon notification, District will promptly investigate the conditions to determine whether a change order is appropriate. In the event of a dispute, Contractor shall not be excused from any scheduled completion date but will retain all rights provided by the Contract or by law for resolving the dispute.

4. District's Responsibilities

4.1 As consideration for performance of the work required herein, District agrees to pay Contractor the total contract amount of [REDACTED], (\$ [REDACTED]), provided that such amount shall be subject to adjustment pursuant to written change orders signed in advance by District.

4.2 Contractor shall submit progress payment invoices to District at the end of each calendar month during the term of the Contract. All progress payment invoices shall be subject to approval by the District prior to payment by the District. Such progress payment invoices shall be made in accordance with Section 20104.50 of the California Public Contract Code, requiring District to make a determination of suitability of the payment request within seven (7) days of receipt of such request and further requiring District to make payment on properly submitted progress payment invoices within thirty (30) days in order to avoid interest payments to the Contractor upon such amounts.

4.3 When the Contractor determines that he has completed the work required herein, Contractor shall so notify District in writing and shall furnish all labor and material releases required by Section 3.3 of this Contract. District shall thereupon inspect the work and, if acceptable, shall pay to Contractor the contract price, less any amount which District may be authorized or directed by law to retain. Payment of retention proceeds due to Contractor shall be made no later than sixty (60) calendar days after such final acceptance by District, in accordance with Section 7107 of the California Public Contract Code. Contractor is hereby alerted to provisions of Section 7107 of the California Public Contract Code, requiring Contractor to pay each of its subcontractors from whom retention has been withheld, each subcontractor's share of the retention received, within ten (10) calendar days from the time that all or any portion of such retention proceeds are received by Contractor from District. District will allow Contractor to substitute qualified securities, deposited with District or a qualified escrow agent, in lieu of contract retentions in accordance with provisions of California Public Contract Code, Section 22300. The escrow agreement used in such instance shall be substantially similar to that
Draft Contract for Public Works

form set out in Section 22300 of the Public Contract Code. District will provide this form to the Contractor upon request.

4.4 To the extent required by Section 4215 of the Government Code, District shall compensate Contractor for the costs of locating and repairing damage to underground utility facilities not due to the failure of Contractor to exercise reasonable care, and removing or relocating underground utility facilities not indicated in the construction drawings and for equipment necessarily idled during such work. Contractor shall not be assessed liquidated damages for delay caused by failure of District to provide for removal or relocation of such utility facilities.

5. Contractual Relationship

It is expressly agreed that Contractor is an independent contractor, and neither Contractor nor any of its employees shall be deemed employees of District. Contractor shall have full supervision over all workers on the job, including equipment, drivers, and operators, and neither District nor any of District's agents shall be held responsible for any action of Contractor under this Contract. Should any question arise regarding the meaning or import of any of the provisions of this Contract or written or oral instructions from District, the matter shall be referred to District's General Manager, whose decision shall be binding upon Contractor.

6. Assignment Forbidden

Contractor shall not assign or transfer this Contract or any right, title or interest herein without the prior written consent of District. If contractor attempts an assignment of this Contract or any right or interest herein, District may, at its option, terminate and revoke the Contract and shall thereupon be relieved from any and all obligations to Contractor or his assignee or transferee.

7. Time of Essence

Time is of the essence in the performance of this Contract. Contractor will be assessed liquidated damages in the amount of \$500.00 per calendar day for each day of unauthorized delay in completing performance.

8. Termination

This Contract may be terminated by District at any time by giving Contractor seven (7) days advance written notice. In the event of termination by District for any reason other than the fault of the Contractor, District shall pay Contractor for all work performed up to that time as provided herein. In the event of breach of the Contract by Contractor, District may terminate the Contract immediately without notice, may reduce payment to the Contractor in the amount necessary to offset District's resulting damages, and may pursue any other available recourse against Contractor.

9. Dispute Resolution

Any separate demand by Contractor for the payment of money or damages shall be resolved in accordance with Public Contract Code Sections 20104 et seq., if they apply. Copies of those sections are available upon request and by this reference are incorporated herein.

10. Attorney's Fees and Costs

If any action is necessary to enforce or interpret the terms of this Contract, the prevailing party shall be entitled to recover from the losing party attorney's fees in an amount determined to be reasonable by the court, together with costs and necessary disbursements.

11. Notices

Any notice required to be given under the terms of this Contract shall be sufficient and complete upon depositing the same in the United States mail, with postage prepaid and addressed as follows:

<u>DISTRICT</u>	<u>Contractor</u>
Beaumont-Cherry Valley Water	_____
District	_____
P.O. Box 2037	_____
560 Magnolia Avenue	_____
Beaumont, CA 9223	_____

12. Counterparts

This Contract shall be executed in two (2) counterparts, each of which shall constitute an original.

13. Certification of License

Contractor certifies that as of the date of execution of this contract, Contractor has a current contractor's license of the classification indicated below Contractor's signature hereto.

IN WITNESS WHEREOF, each of the parties has caused this Contract to be executed on the day and year first above written.

ATTEST:

(Contractor)

By: _____

Title: _____

Contractor's License Number & Classification

Secretary

BEAUMONT-CHERRY VALLEY
WATER DISTRICT

ATTEST:

By: _____

Daniel K. Jagers
General Manager

Andy Ramirez
Secretary to the Board

CERTIFICATION

LABOR CODE – SECTION 1861

I, the undersigned Contractor, am aware of the provisions of Section 3700 et seq. of the Labor Code which requires every employer to be insured against liability for Worker's Compensation or to undertake self-insurance in accordance with the provisions of the Code, and I, the undersigned Contractor, agree to and will comply with such provisions before commencing the performance of the work of this Contract.

Contractor

By: _____

Title: _____

**PAYMENT BOND
(LABOR AND MATERIALS)**

KNOW ALL PERSONS BY THESE PRESENTS that:

WHEREAS the Beaumont-Cherry Valley Water District ("District"), State of California, has awarded to _____

(Name and address of Contractor) ("Principal")

a contract (the "Contract") for the Work described as follows:

CONSTRUCTION OF PIPELINE RELOCATION PROJECT for BEAUMONT MDP LINE 16
(Project name)

WHEREAS, under the terms of the Contract, the Principal is required before entering upon the performance of the Work, to file a good and sufficient payment Bond with the District to secure the claims to which reference is made in Title 3 (commencing with Section 9000) of Part 6 of Division 4 of the Civil Code.

NOW, THEREFORE, we, the undersigned Principal, and _____

(Name and address of Surety)

("Surety") a duly admitted surety insurer under the laws of the State of California, as Surety, are held and firmly bound unto the District and all contractors, subcontractors, laborers, material suppliers, and other persons employed in the performance of the Contract and referred to in Title 3 (commencing with Section 9000) of Part 6 of Division 4 of the Civil Code in the penal sum of _____

Dollars (\$ _____), for materials furnished or labor thereon of any kind, or for amounts due under the Unemployment Insurance Act with respect to this Work or labor, that the Surety will pay the same in an amount not exceeding the amount hereinabove set forth, and also in case suit is brought upon this Bond, will pay, in addition to the face amount thereof, costs and reasonable expenses and fees, including reasonable attorneys' fees, incurred by District in successfully enforcing this obligation, to be awarded and fixed by the court, and to be taxed as costs and to be included in the judgment therein rendered.

It is hereby expressly stipulated and agreed that this Bond shall inure to the benefit of any and all persons, companies, and corporations entitled to file claims under Title 3 (commencing with Section 9000) of Part 6 of Division 4 of the Civil Code, so as to give a right of action to them or their assigns in any suit brought upon this Bond.

Upon expiration of the time within which the California Labor Commissioner may serve a civil wage and penalty assessment against the principal, any of its subcontractors, or both the principal and its subcontractors pursuant to Labor Code Section 1741, and upon expiration of the time within which a joint labor management committee may commence an action against the principal, any of its subcontractors, or both the principal and its subcontractors pursuant to Labor Code Section 1771.2, if the condition of this Bond be fully performed, then this obligation shall become null and void; otherwise, it shall be and remain in full force and effect.

The Surety hereby stipulates and agrees that no change, extension of time, alteration, or addition to the terms of the Contract or the Specifications accompanying the same shall in any manner affect its obligations on this Bond, and it does hereby waive notice of any such change, extension, alteration, or addition.

IN WITNESS WHEREOF, two (2) identical counterparts of this instrument, each of which shall for all purposes be deemed an original hereof, have been duly executed by Principal and Surety, on the date set forth below, the name of each corporate party being hereto affixed and these presents duly signed by its undersigned representative(s) pursuant to authority of its governing body.

Dated: _____

“Principal”

“Surety”

By: _____
Its

By: _____
Its

By: _____
Its

By: _____
Its

(Seal)

(Seal)

*Note: This Bond must be executed in duplicate and dated, all signatures must be notarized, and evidence of the authority of any person signing as attorney-in-fact must be attached. **DATE OF BOND MUST NOT BE BEFORE DATE OF CONTRACT.** Surety companies executing Bonds must appear on the Treasury Department’s most current list (Circular 570 as amended) and be authorized to transact business in the State where the project is located.*

FAITHFUL PERFORMANCE BOND

KNOW ALL PERSONS BY THESE PRESENTS that:

WHEREAS the Beaumont-Cherry Valley Water District ("District"), has awarded to _____

("Principal")

(Name and address of Contractor)

a contract (the "Contract") for the Work described as follows:

PIPELINE RELOCATION PROJECT for BEAUMONT MDP LINE 16

(Project name)

WHEREAS, Principal is required under the terms of the Contract to furnish a Bond for the faithful performance of the Contract.

NOW, THEREFORE, we, the undersigned Principal, and _____

(Name and address of Surety)

("Surety") a duly admitted surety insurer under the laws of the State of California, as Surety, are held and firmly bound unto the District in the penal sum of _____

_____ Dollars (\$ _____), this amount being not less than the total Contract Price, in 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, successors executors and administrators, jointly and severally, firmly by these presents.

THE CONDITION OF THIS OBLIGATION IS SUCH THAT, if the hereby bounded Principal, his, her 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 provisions in the Contract and any alteration thereof made as therein provided, on the Principal's part, to be kept and performed at the time and in the manner therein specified, and in all respects according to their true intent and meaning, and shall indemnify and save harmless the District, its officers, agents and employees, as therein stipulated, 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 therefor, there shall be included costs and reasonable expenses and fees, including reasonable attorneys' fees, incurred by District in successfully enforcing such obligation, all to be taxed as costs and included in any judgment rendered. Surety hereby waives any statute of limitations as it applies to an action on this Bond.

The Surety hereby stipulates and agrees that no change, extension of time, alteration or addition to the terms of the Contract or of the Work to be performed thereunder or the specifications accompanying the same shall in anywise affect its obligations under this Bond, and it does hereby waive notice of any such change, extension of time, alteration or addition to the terms of the Contract or to the Work or to the specifications. Surety hereby waives the

provisions of California Civil Code Sections 2845 and 2849. The District is the principal beneficiary of this Bond and has all rights of a party hereto.

IN WITNESS WHEREOF, two (2) identical counterparts of this instrument, each of which shall for all purposes be deemed an original hereof, have been duly executed by Principal and Surety, on the date set forth below, the name of each corporate party being hereto affixed and these presents duly signed by its undersigned representative(s) pursuant to authority of its governing body.

Dated: _____

“Principal”

“Surety”

By: _____
Its

By: _____
Its

By: _____
Its

By: _____
Its

(Seal)

(Seal)

*Note: This Bond must be executed in duplicate and dated, all signatures must be notarized, and evidence of the authority of any person signing as attorney-in-fact must be attached. **DATE OF BOND MUST NOT BE BEFORE DATE OF CONTRACT.** Surety companies executing Bonds must appear on the Treasury Department’s most current list (Circular 570 as amended) and be authorized to transact business in the State where the project is located.*

NOTICE OF AWARD

TO:

- _____
- _____
- _____

OWNER: _____ Beaumont-Cherry Valley Water District _____

PROJECT TITLE: _____ PIPELINE RELOCATION PROJECT for BEAUMONT MDP LINE 16 _____

The Owner has considered the bid submitted by you dated _____, 20__ for the above-described work in response to its Notice Inviting Bids and in accordance with the BIDDING PROVISIONS.

You are hereby notified that your bid has been accepted in the total base amount of \$ _____ including the following schedules and bid items: **[MUST MATCH NIB AND INST. TO BIDDERS]**

Bidding Schedule for the PIPELINE RELOCATION PROJECT for BEAUMONT MDP LINE 16

Pursuant to the Notice Inviting Bids, you are required to execute the Agreement and furnish the required bonds and certification of Insurance with endorsements within ten (10) work days from the date of this Notice to you.

If you fail to execute said Agreement and furnish said bonds and certification of Insurance and endorsements within ten (10) days from the date of this Notice, Owner will be entitled to consider all of your rights arising out of Owner's acceptance of your bid to be abandoned and your Proposal Guarantee to be forfeited. Owner will be entitled to such other rights as may be granted by law.

A Pre-Construction Conference is proposed at _____ office on _____, 20__, at _____.

PLEASE CONFIRM THIS DATE AND TIME.

You are required to return an acknowledged copy of this Notice of Award to Owner.

Dated this _____ day of _____, 20__.

By: _____

Title: _____

ACCEPTANCE OF NOTICE

Receipt of the foregoing Notice of Award is hereby acknowledged.

By Contractor: _____

this _____ day of _____ 20____.

By: _____

Title: _____

NOTICE TO PROCEED

TO: _____

DATE: _____

PROJECT: Beaumont-Cherry Valley Water District
PIPELINE RELOCATION PROJECT
for BEAUMONT MDP LINE 16

You are hereby notified to commence Work in accordance with the Agreement dated _____, 20____, and you shall achieve Final Completion of the Work no later than 120 calendar days from the District's Notice of Award date of _____. The date of completion of all Work is therefore _____, or sooner.

The Contract provides for an assessment of the sum of \$500 per day as liquidated damages for each consecutive calendar day after the above-established Contract completion date that the Work remains incomplete.

Beaumont-Cherry Valley Water District
Owner

Daniel Jagers
By

General Manager
Title

ACCEPTANCE OF NOTICE

Receipt of the above Notice to Proceed is hereby acknowledged by _____, this the ____ day of _____, 20____.

By: _____

Title: _____

Project # _____

Beaumont-Cherry Valley Water District
560 Magnolia Avenue
Beaumont, CA 92223
(951) 845-9581

PARTIAL PAYMENT ESTIMATE # _____

Name of Contractor: _____

Name of Owner: _____

Beaumont-Cherry Valley Water District

Date of Completion:

Original _____

Revised _____

Amount of Contract:

Original _____

Revised _____

Dates of Estimate:

From _____

To _____

Description of Job:

PIPELINE RELOCATION PROJECT for
BEAUMONT MDP LINE 16

Item #	Contract Items				This Period		Total to Date	
	Description	Quantity	Unit Price	Total	Quantity	Amount	Quantity	Amount

Project # _____

Amount	This Period	Total To Date
Amount Earned		
Amount Retained		
Previous Payments		
Amount Due		

Estimated Percentage of Job Completed _____

Is Contractor's Construction Progress on Schedule? _____ [] Yes [] No

I hereby certify that I have carefully inspected the work and as a result of my inspection and to the best of my knowledge and belief, the quantities shown in this estimate are correct and have not been shown in previous estimates and the work has been performed in accordance with the contract documents.

DATE: _____

Name of Contractor

BY: _____

Title

BEAUMONT-CHERRY VALLEY WATER DISTRICT

BY: _____
Engineer

BY: _____
Inspector

C.O. NO. _____

PAGE 1 OF 2

CONTRACT CHANGE ORDER NO. _____

CONTRACT for the PIPELINE RELOCATION PROJECT for BEAUMONT MDP LINE 16 DATED _____
BY AND BETWEEN Beaumont-Cherry Valley Water District (OWNER),
AND _____ (CONTRACTOR),
is hereby directed to make the following change(s) in Contract Work:

ITEM NO.	DESCRIPTION OF CHANGE	DECREASE \$	INCREASE \$

Total DECREASE in Contract Amount _____

Total INCREASE in Contract Amount _____

Net change in Contract Amount _____

Contract Amount Prior to Change _____

Contract Amount Adjusted for Change _____

CONTRACT CHANGE ORDER NO. _____

PAGE 2 OF 2

By reason of Change Order No. _____, time of completion shall be adjusted as follows:

_____ Working Days. Adjusted Contract Completion Date shall be _____.

All provisions of the Contract shall apply hereto, and shall become effective when fully executed (signed and dated) by both parties.

Recommended by (Engineer) _____ Date: _____

Accepted by (Contractor) _____ Date: _____

Approved by (Owner) _____ Date: _____

Remarks _____

UNCONDITIONAL WAIVER AND RELEASE UPON FINAL PAYMENT

TO: Beaumont-Cherry Valley Water District
(District)

Work Order No. _____

Contract Dated _____, 20 ____

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

Identifying Information:

Name of Claimant:

Name of Customer:

Job Location:

Owner:

Unconditional Waiver and Release

This document waives and releases lien, stop payment notice, and payment bond rights the claimant has for all labor and service provided, and equipment and material delivered, to the customer on this job. Rights based upon labor or service provided, or equipment or material delivered, pursuant to a written change order that has been fully executed by the parties prior to the date that this document is signed by the claimant, are waived and released by this document, unless listed as an Exception below. The claimant has been paid in full.

Exceptions:

This document does not affect the following:

Disputed claims for extras in the amount of: \$

Signature:

Claimant's Signature:

Claimant's Title:

Date of Signature:

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 Riverside)

On _____, before me, _____,
(insert name and title of the officer)

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 _____

(Seal)

NOTICE OF COMPLETION

To: Riverside County Assessor-County Clerk-Recorder Date: _____, 20____
2720 Gateway Drive
Riverside, California 92507 Work Order No.: _____

Owner: Beaumont-Cherry Valley Water District Date of Completion: _____
560 Magnolia Avenue
Beaumont, California 92223

OWNER'S ESTATE OF INTEREST:

Easement _____ Fee Title _____ Encroachment Permit _____

Other (describe) _____

CONTRACTOR:

Name: _____

Address: _____

TITLE OF PROJECT: _____

DESCRIPTION OF PROJECT: PIPELINE RELOCATION PROJECT for BEAUMONT MDP LINE 16

DESCRIPTION OF SITE (LOCATION): _____

ASSESSOR'S PARCEL NUMBER: _____

Final payment will be made to the above contractor no sooner than thirty-five (35) days from the recording date of this Notice of Completion, except where otherwise provided for by law.

I certify under penalty of perjury, under the laws of the State of California, that the foregoing is true and correct.

Executed on _____, 20__ at _____, California.

BEAUMONT-CHERRY VALLEY WATER DISTRICT

By: _____

Printed Name: _____

Title: _____

ESCROW AGREEMENT FOR SECURITY DEPOSITS IN LIEU OF RETENTION

PIPELINE RELOCATION PROJECT for BEAUMONT MDP LINE 16

This Escrow Agreement is made and entered into by and between _____
Beaumont-Cherry Valley Water District whose address is _____
560 Magnolia Avenue, Beaumont, CA 92223 hereinafter called "Owner,"
_____ whose address is _____
_____ hereinafter called "Contractor",
and _____ whose address is _____
_____ hereinafter called "Escrow Agent."

For the consideration hereinafter set forth, the Owner, Contractor, and Escrow Agent agree as follows:

(1) Pursuant to Section 22300 of the Public Contract Code of the State of California, Contractor has the option to deposit securities with an Escrow Agent as a substitute for retention earnings required to be withheld by Owner pursuant to the Construction Contract entered into between the Owner and Contractor for _____ dated (hereinafter referred to as the "Contract"). Alternatively, on written request of the Contractor, the Owner shall make payments of the retention earnings directly to the Escrow Agent. When Contractor deposits the securities as a substitute for Contract earnings, the Escrow Agent shall notify the Owner within ten (10) days of the deposit. The market value of the securities at the time of the substitution shall be at least equal to the cash amount then required to be withheld as retention under the terms of the Contract between the Owner and Contractor. Securities shall be held in the name of _____, and shall designate the Contractor as the beneficial Owner.

(2) The Owner shall make progress payments to the Contractor for such funds which otherwise would be withheld from progress payments pursuant to the Contract provisions, provided that the Escrow Agent holds securities in the form and amount specified above.

(3) When the Owner makes payment of retentions earned directly to the Escrow Agent, the Escrow Agent shall hold them for the benefit of the Contractor until such time as the escrow created under this Contract is terminated. The Contractor may direct the investment of the payments into securities. All terms and conditions of this agreement and the rights and responsibilities of the parties shall be equally applicable and binding when the Owner pays the Escrow Agent directly.

(4) Contractor shall be responsible for paying all fees for the expenses incurred by Escrow Agent in administering the escrow account and all expenses of Owner. These expenses and payment terms shall be determined by the Owner, Contractor and Escrow Agent.

(5) The interest earned on the securities or the money market accounts held in escrow and all interest earned on that interest shall be for the sole account of Contractor and shall be subject to withdrawal by the Contractor at any time and from time to time without notice to the Owner.

(6) Contractor shall have the right to withdraw all or any part of the principal in the Escrow Account only by written notice to Escrow Agent accompanied by written authorization from the Owner to the Escrow Agent that Owner consents to the withdrawal of the amount sought to be withdrawn by Contractor.

(7) The Owner shall have a right to draw upon the securities in the event of default by the Contractor. Upon seven (7) days written notice to the Escrow Agent from the Owner of the default, the Escrow Agent shall immediately convert the securities to cash and shall distribute the cash as instructed by the Owner.

(8) Upon receipt of written notification from the Owner certifying that the Contract is final and complete, and that the Contractor has complied with all requirements and procedures applicable to the Contract, Escrow Agent shall release to Contractor all securities and interest on deposit less escrow fees and charges of the Escrow Account. The escrow shall be closed immediately upon disbursement of all moneys and securities on deposit and payments of fees and charges.

(9) Escrow Agent shall rely on the written notifications from the Owner and the Contractor pursuant to Sections (5) to (8), inclusive, of this agreement and the Owner and Contractor shall hold Escrow Agent harmless from Escrow Agent's release and disbursement of the securities and interest as set forth above.

(10) The names of the persons who are authorized to give written notice or to receive written notice on behalf of the Owner and on behalf of Contractor in connection with the foregoing, and exemplars of their respective signatures are as follows:

On behalf of Owner:

Title

Name

Signature

Address

On behalf of Escrow Agent:

Title

Name

Signature

Address

On behalf of Contractor:

Title

Name

Signature

Address

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

ATTEST:

By:

Signature

Title

CERTIFICATE OF CONTRACTOR

I, _____,
certify that I am a/the _____ [designate sole proprietor, partner in
partnership, or specify corporate office, e.g., secretary] in the entity named as Contractor in the
foregoing Contract.

I hereby expressly certify that the name of the entity to which I am associated is

_____; that this entity is in good standing and has complied with all applicable laws and regulations,
and that I have been expressly authorized by the proper parties in this entity to execute this contract
on behalf of the above-named entity.

Signature

ATTEST:

Name: _____
(Please Type)

Title: _____

CONDITIONAL WAIVER AND RELEASE UPON PROGRESS PAYMENT

Description of Contract:

**PIPELINE RELOCATION PROJECT
for
BEAUMONT MDP LINE 16**

FOR THE BEAUMONT-CHERRY VALLEY WATER DISTRICT

NOTICE: THIS DOCUMENT WAIVES THE CLAIMANT'S LIEN, STOP PAYMENT NOTICE, AND PAYMENT BOND RIGHTS EFFECTIVE ON RECEIPT OF PAYMENT. A PERSON SHOULD NOT RELY ON THIS DOCUMENT UNLESS SATISFIED THAT THE CLAIMANT HAS RECEIVED PAYMENT.

Identifying Information:

Name of Claimant:

Name of Customer:

Job Location:

Owner:

Through Date:

Conditional Waiver and Release

This document waives and releases lien, stop payment notice, and payment bond rights the claimant has for labor and service provided, and equipment and material delivered, to the customer on this job through the Through Date of this document. Rights based upon labor or service provided, or equipment or material delivered, pursuant to a written change order that has been fully executed by the parties prior to the date that this document is signed by the claimant, are waived and released by this document, unless listed as an Exception below. This document is effective only on the claimant's receipt of payment from the financial institution on which the following check is drawn:

Maker of Check:

Amount of Check: \$

Check Payable to:

Exceptions:

This document does not affect any of the following:

(1) Retentions.

(2) Extras for which the claimant has not received payment.

(3) The following progress payments for which the claimant has previously given a conditional

PIPELINE RELOCATION PROJECT
for BEAUMONT MDP LINE 16
September 30, 2021

Conditional Waiver and Release
Upon Progress Payment R-1

waiver and release but has not received payment:

Date(s) of waiver and release:

Amount(s) of unpaid progress payment(s): \$

(4) Contract rights, including (A) a right based on rescission, abandonment, or breach of contract, and (B) the right to recover compensation for work not compensated by the payment.

Signature:

Claimant's Signature:

Claimant's Title:

Date of Signature:

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 Riverside)

On _____, before me, _____,
(insert name and title of the officer)

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 _____ **(Seal)**

CERTIFICATE OF INSURANCE

Description of Contract:

**PIPELINE RELOCATION PROJECT
for
BEAUMONT MDP LINE 16**

FOR THE BEAUMONT-CHERRY VALLEY WATER DISTRICT

Type of Insurance: Workers' Compensation Insurance and Employers' Liability Insurance

THIS IS TO CERTIFY that the following policy has been issued by the below-stated company in conformance with the requirements of Section 2.5 of the General Conditions and is in force at this time.

The Company will give at least thirty (30) days written notice by certified mail to the Owner and Engineer/Architect prior to any material change or cancellation of said policy.

POLICY NO./EXPIRATION DATE

LIMITS OF LIABILITY

A. WORKERS' COMPENSATION

Statutory Limits Under the Laws of the State of California

B. EMPLOYERS' LIABILITY

Each Employee Each Accident

Bodily Injury by Accident

\$ _____ \$ _____

Bodily Injury by Disease

\$ _____ \$ _____

Named Insured (Contractor)

Insurance Company

Street Number

Street Number

City and State

City and State

By: _____

(Company Representative)

State of _____)
) ss.
County of _____)

On _____, 20____, before me,
_____, 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 (Notary Seal)

Insurance Company Agent for Service
of Process in California:

_____ Name	_____ Agency
_____ Street Number	_____ Street Number
_____ City and State	_____ City and State
_____ Telephone Number	_____ Telephone Number

This certificate or verification of insurance is not an insurance policy and does not amend, extend,
or alter the coverage afforded by the policies listed herein. Notwithstanding any requirement, term,
or condition of any contract or other document with respect to which this certificate or verification of
insurance may be issued or may pertain, the insurance afforded by the policies described herein is
subject to all the terms, exclusions, and conditions of such policies.

*NOTICE: No substitution or revision to the above certificate form will be accepted, unless
otherwise specified by the Owner in its sole discretion. If the insurance called for is provided by
more than one insurance company, a separate certificate in the exact above form shall be provided
for each insurance company.*

PIPELINE RELOCATION PROJECT
for BEAUMONT MDP LINE 16
September 30, 2021

Certificate of Insurance
for Workers Compensation S-2

INSURANCE ENDORSEMENT for WORKERS' COMPENSATION

Description of Contract:

**PIPELINE RELOCATION PROJECT
for
BEAUMONT MDP LINE 16**

FOR THE BEAUMONT-CHERRY VALLEY WATER DISTRICT

Type of Insurance: Workers' Compensation Insurance and Employers' Liability Insurance

This endorsement forms a part of Policy No. _____.

ENDORSEMENT

It is agreed that with respect to such insurance as is afforded by the policy, the Company waives any right of subrogation it may acquire against the Owner, the Engineer/Architect, the Owner's Representative, and their consultants, and each of their directors, officers, agents, and employees by reason of any payment made on account of injury, including death resulting therefrom, sustained by any employee of the insured, arising out of the performance of the above-referenced Contract.

This endorsement does not increase the Company's total limits of liability.

Named Insured (Contractor)

Insurance Company

Street Number

Street Number

City and State

City and State

By: _____
(Company Representative)
(See Notice on Page S-4)

State of _____)
) ss.
County of _____)

On _____, 20____, before me,
_____, 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

(Notary Seal)

NOTICE: No substitution or revision to the above endorsement form will be accepted, unless otherwise specified by the Owner in its sole discretion. If the insurance called for is provided by more than one policy, a separate endorsement in the exact above form shall be provided for each policy.

CERTIFICATE OF INSURANCE

Description of Contract:

**PIPELINE RELOCATION PROJECT
for
BEAUMONT MDP LINE 16**

FOR THE BEAUMONT-CHERRY VALLEY WATER DISTRICT

Type of Insurance: Liability Insurance

THIS IS TO CERTIFY that the following policies have been issued by the below-stated company in conformance with the requirements of Section 2.5 of the General Conditions and are in force at this time. The policy shall be an occurrence policy with a deductible not to exceed \$5,000.

POLICY NUMBER EXPIRATION DATE		LIMITS OF LIABILITY (thousands)	
		Occurrence	Aggregate
_____	A. GENERAL LIABILITY		
	Bodily Injury, Personal Injury, and Property Damage Combined	\$ _____	\$ _____
_____	B. EXCESS GENERAL LIABILITY	\$ _____	\$ _____
_____	C. AUTOMOBILE LIABILITY		
	Bodily Injury and Property Damage Combined	\$ _____	\$ _____
_____	D. EXCESS AUTOMOBILE LIABILITY	\$ _____	\$ _____

The following types of coverage are included in said policies (indicate by "X" in space):

A. GENERAL LIABILITY

- Comprehensive FormYES ___ NO ___
- Premises-OperationsYES ___ NO ___
- Explosion and Collapse HazardYES ___ NO ___
- Underground HazardYES ___ NO ___
- Products/Completed Operations HazardYES ___ NO ___
- Contractual InsuranceYES ___ NO ___
- Broad Form Property Damage, Including
 - Completed OperationsYES ___ NO ___
 - Independent Contractors.....YES ___ NO ___
 - Personal InjuryYES ___ NO ___

B. EXCESS GENERAL LIABILITY

- Umbrella Form.....YES ___ NO ___
- Other Than Umbrella Form.....YES ___ NO ___

If other than Umbrella Form, please explain below:

C. AUTOMOBILE LIABILITY

- Comprehensive Form Including Loading and Unloading.....YES ___ NO ___
- OwnedYES ___ NO ___
- Hired.....YES ___ NO ___
- Non-OwnedYES ___ NO ___

D. EXCESS AUTOMOBILE LIABILITY

- Umbrella Form.....YES ___ NO ___
- Other Than Umbrella Form.....YES ___ NO ___

If other than Umbrella Form, please explain below:

This certificate or verification of insurance is not an insurance policy and does not amend, extend, or alter the coverage afforded by the policies listed herein. However, the insurance provided shall meet the requirements of the Contract Documents and include coverage as specified in this certificate. The Company will give at least thirty (30) days written notice by certified mail to the Owner and the Engineer/Architect prior to any material change or cancellation of said policies.

Named Insured (Contractor)

Insurance Company

Street Number

Street Number

City and State

City and State

By: _____

(Company Representative)
(See Notice on Page T-4)

State of _____)
County of _____) ss.

On _____, 20____, before me,
_____, 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 (Notary Seal)

Insurance Company Agent for Service
of Process in California:

_____ Name	_____ Agency
_____ Street Number	_____ Street Number
_____ City and State	_____ City and State
_____ Telephone	_____ Telephone

This certificate or verification of insurance is not an insurance policy and does not amend, extend,
or alter the coverage afforded by the policies listed herein. Notwithstanding any requirement, term,
or condition of any contract or other document with respect to which this certificate or verification of
insurance may be issued or may pertain, the insurance afforded by the policies described herein is
subject to all the terms, exclusions, and conditions of such policies.

Insurers must be authorized to do business and have an agent for service of process in California
and have an "A" policyholder's rating and a financial rating of at least Class VI in accordance with
the most current Best's Rating.

**NOTICE: No substitution or revision to the above certificate form will be accepted, unless
otherwise specified by the Owner in its sole discretion. If the insurance called for is
provided by more than one insurance company, a separate certificate in the exact above
form shall be provided for each insurance company.**

INSURANCE ENDORSEMENT

Description of Contract:

**PIPELINE RELOCATION PROJECT
for
BEAUMONT MDP LINE 16**

FOR THE BEAUMONT-CHERRY VALLEY WATER DISTRICT

Type of Insurance: Liability Insurance

This endorsement forms a part of Policy No. _____.

ENDORSEMENT

The Owner, the Engineer/Architect, the Owner's Representative, and their consultants, and each of their directors, officers, agents, and employees are included as additional insured under said policies but only while acting in their capacity as such and only as respects operations of the named insured, his contractors, any subcontractor, any supplier, anyone directly or indirectly employed by any of them, or anyone for whose acts any of them may be liable in the performance of the above-referenced contract. This insurance shall not apply if the loss or damage is ultimately determined to be the result of the sole and exclusive negligence (including any connected with the preparation or approval of maps, drawings, opinions, reports, surveys, designs, or specifications) of one or more of the aforesaid additional insured. The insurance afforded to these additional insured is primary insurance. If the additional insured have other insurance which might be applicable to any loss, the amount of this insurance shall not be reduced or prorated by the existence of such other insurance.

The Contractual Liability Insurance afforded is sufficiently broad to insure all of the matters set forth in the article entitled "Indemnity" in the General Provisions of the above-referenced contract except those matters set forth in the third paragraph thereof.

This endorsement does not increase the Company's total limits of liability.

Named Insured (Contractor)

Insurance Company

Street Number

Street Number

City and State

City and State

By: _____
(Company Representative)
(See Notice on Page T-6)

State of _____)
County of _____) ss.

On _____, 20____, before me, _____, 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 (Notary Seal)

Insurers must be authorized to do business and have an agent for service of process in California and have an "A" policyholder's rating and a financial rating of at least Class VII in accordance with the most current Best's Rating.

NOTICE: No substitution or revision to the above endorsement form will be accepted, unless otherwise specified by the Owner in its sole discretion. If the insurance called for is provided by more than one policy, a separate endorsement in the exact above form shall be provided for each policy.

CERTIFICATE OF INSURANCE

Description of Contract:

**PIPELINE RELOCATION PROJECT
for
BEAUMONT MDP LINE 16**

FOR THE BEAUMONT-CHERRY VALLEY WATER DISTRICT

Type of Insurance: Builders' Risk "All Risk" Insurance

THIS IS TO CERTIFY that the following policy has been issued by the below-stated company in conformance with the requirements of Sections 2.5 of the General Conditions and is in force at this time:

<u>POLICY NUMBER</u> _____	<u>EXPIRATION DATE</u> _____	<u>LIMITS OF LIABILITY</u> \$ _____ (Not Less Than Contract Amt)
	Deductible: (Not Sooner Than Contract Completion Date)	\$ _____ (Not More Than \$5,000)

This certificate or verification of insurance is not an insurance policy and does not amend, extend, or alter the coverage afforded by the policies listed herein. Notwithstanding any requirement, term, or condition of any contract or other document with respect to which this certificate or verification of insurance may be issued or may pertain, the insurance afforded by the policies described herein is subject to all the terms, exclusions, and conditions of such policies.

The Company will give at least thirty (30) days written notice by certified mail to the Owner and the Engineer/Architect prior to any material change or cancellation of said policy.

Named Insured (Contractor)

Insurance Company

Street Number

Street Number

City and State

City and State

By: _____
(Company Representative)
(See Notice on Page U-2)

State of _____)
County of _____) ss.

On _____, 20____, before me, _____, 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

(Notary Seal)

Insurance Company Agent for Service
of Process in California:

Name

Agency

Street Number

Street Number

City and State

City and State

Telephone

Telephone

This certificate or verification of insurance is not an insurance policy and does not amend, extend, or alter the coverage afforded by the policies listed herein. Notwithstanding any requirement, term, or condition of any contract or other document with respect to which this certificate or verification of insurance may be issued or may pertain, the insurance afforded by the policies described herein is subject to all the terms, exclusions, and conditions of such policies.

Insurers must be authorized to do business and have an agent for service of process in California and have an "A" policyholder's rating and a financial rating of at least Class VI in accordance with the most current Best's Rating.

NOTICE: No substitution or revision to the above certificate form will be accepted, unless otherwise specified by the Owner in its sole discretion. If the insurance called for is provided by more than one insurance company, a separate certificate in the exact above form shall be provided for each insurance company.

INSURANCE ENDORSEMENT

Description of Contract:

**PIPELINE RELOCATION PROJECT
for
BEAUMONT MDP LINE 16**

FOR THE BEAUMONT-CHERRY VALLEY WATER DISTRICT

Type of Insurance: Builders' Risk "All Risk" Insurance

This endorsement forms a part of Policy No. _____

ENDORSEMENT

The Owner, the Engineer/Architect, the Owner's Representative, and their consultants, and each of their directors, officers, agents, and employees are included as additional insured under said policy but only while acting in their capacity as such with respect to the above-referenced contract.

The insurance afforded to these additional insured is primary insurance. If the additional insured have other insurance which might be applicable to any loss, the amount of this insurance shall not be reduced or prorated by the existence of such other insurance.

This endorsement does not increase the Company's total limits of liability.

Named Insured (Contractor)

Insurance Company

Street Number

Street Number

City and State

City and State

By: _____
(Company Representative)
(See Notice on Page U-4)

State of _____)
) ss.
County of _____)

On _____, 20____, before me,
_____, 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

(Notary Seal)

Insurers must be authorized to do business and have an agent for service of process in California
and have an "A" policyholder's rating and a financial rating of at least Class VI in accordance with
the most current Best's Rating.

**NOTICE: No substitution or revision to the above endorsement form will be accepted,
unless otherwise specified by the Owner in its sole discretion. If the insurance called for is
provided by more than one policy, a separate endorsement in the exact above form shall be
provided for each policy.**

IRAN CONTRACTING ACT CERTIFICATION

(Public Contract Code sections 2202-2208)

Pursuant to the Iran Contract Act of 2010 (Public Contract Code 2200-2208), Vendors/Bidders are ineligible to bid on or submit a proposal for any contract with a public entity for goods or services of one million dollars (\$1,000,000) or more if the Vendor/Bidder engages in investment activities in Iran.

For bids \$1,000,000 or more, bidders must certify that it is not on the list of ineligible vendors prohibited from doing business with the State of California and shall complete the Iran Contract Act Certification attached and submit with their proposal at the time of bid. Failure to do so may deem your bid non-responsive.

IRAN CONTRACTING ACT CERTIFICATION

Pursuant to the Iran Contract Act of 2010 (Public Contract Code 2200-2208), Vendors/Bidders are ineligible to bid on or submit a proposal for any contract with a public entity for goods or services of one million dollars (\$1,000,000) or more if the Vendor/Bidder engages in investment activities in Iran.

MUST BE SUBMITTED WITH BID PROPOSAL IF BID AMOUNT IS \$1,000,000 OR MORE

Prior to bidding on, submitting a proposal, or executing a contract or renewal for a public entity 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 \$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. (Pub. Cont. Code § 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 certify (or declare) under penalty of perjury under the laws of the State of California that the foregoing is true and correct.

<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>

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>

PUBLIC WORKS CONTRACTOR REGISTRATION
(Pursuant to SB 854)

This project is subject to compliance monitoring and enforcement by the Department of Industrial Relations.

Pursuant to Section 1771.1 of the Labor Code, **no contractor or subcontractor** shall be qualified to bid on, be listed in a bid proposal pursuant to Section 4104 of the Public Contract Code, or engage in the performance of any contract for public work unless currently registered to perform public work pursuant to Section 1725.5 of the Labor Code. It shall not be a violation of this section for an unregistered contractor to submit a bid that is authorized by Section 7029.1 of the Business and Professions Code or by Sections 10164 or 20103.5 of the Public Contract Code, provided the contractor is registered to perform public work pursuant to Section 1725.5 at the time the contract is awarded.

BIDDERS AND THEIR SUBCONTRACTORS (listed on the Designation of Subcontractors List C-05) are to provide an extract (pdf) at time of bid showing active registration from the Public Works Contractor Registration online registration at <https://efiling.dir.ca.gov/PWCR/Search>

**SUBMIT BIDDER & SUBCONTRACTORS CONTRACTOR REGISTRATION
EXTRACTS WITH BID PROPOSAL**

Example:

Legal Name	Registration Number	County	City	Registration Date	Expiration Date
Contractors Name	0000000000	RIVERSIDE	Temecula	06/01/2015	06/30/2016

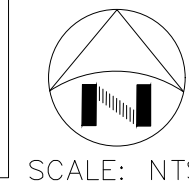
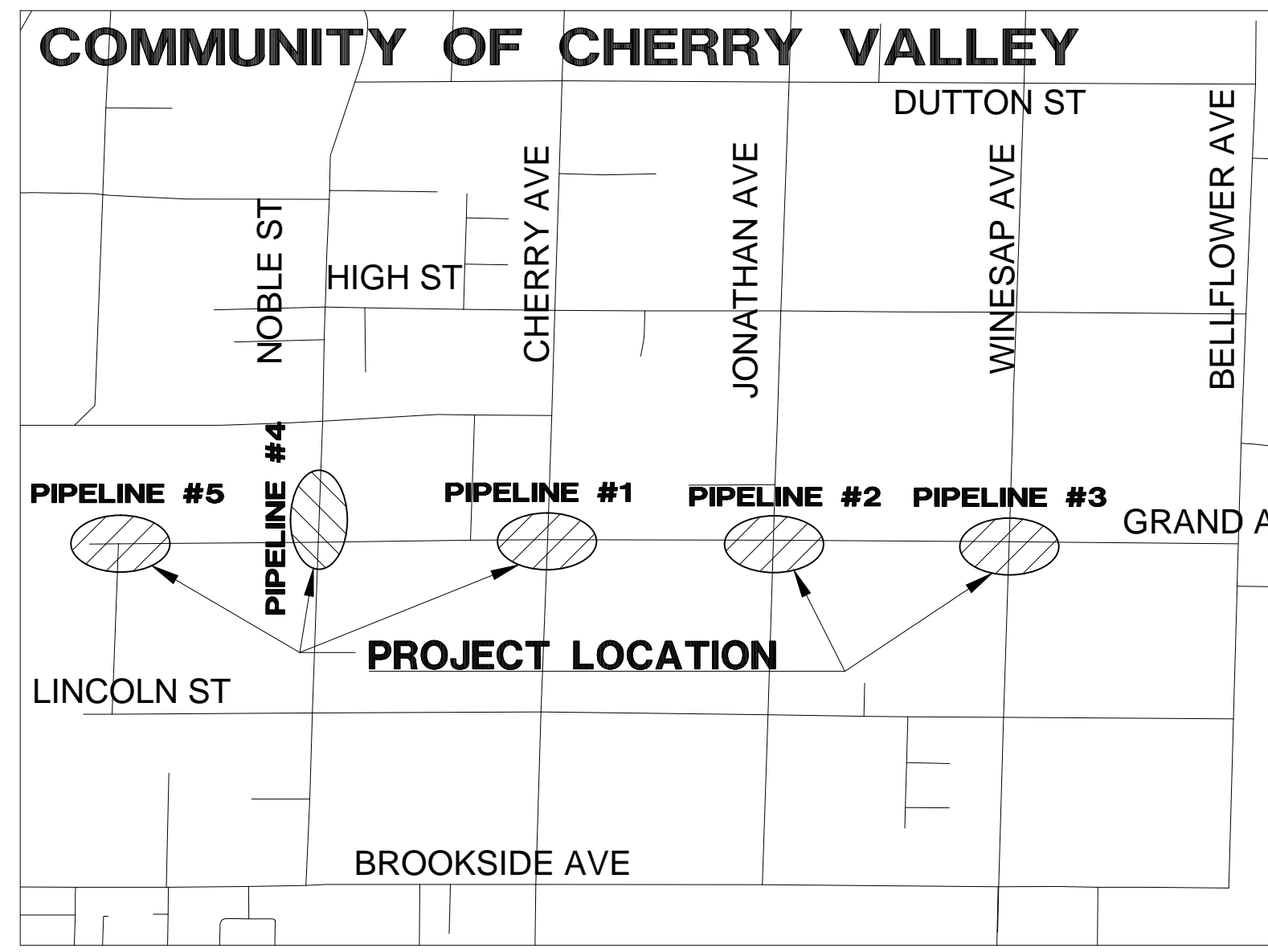
BEAUMONT-CHERRY VALLEY WATER DISTRICT

**PIPELINE RELOCATION PROJECT
for
BEAUMONT MDP LINE 16**

APPENDIX A

CONSTRUCTION PLANS

BEAUMONT-CHERRY VALLEY WATER DISTRICT PIPELINE RELOCATION PLAN FOR BEAUMONT MASTER DRAINAGE PLAN LINE 16 3040 PRESSURE ZONE



LEGEND

EXISTING WATER (#=DIAMETER)	--- W# ---
PROPOSED WATER (#=DIAMETER)	--- W# ---
EXISTING METER	
FIRE HYDRANT	
EXISTING SERVICE LATERAL	---
EXISTING R/W	---
EXISTING PL	---
CENTERLINE	---
EXISTING SEWER	---

ABBREVIATIONS

BEAUMONT-CHERRY VALLEY WATER DISTRICT.....	BCVWD
DUCTILE IRON PIPE.....	DIP
EXISTING.....	EX
NOT TO SCALE.....	NTS
PROPOSED.....	PROP
STATION.....	STA
STEEL.....	STL
PROTECT IN PLACE.....	PIP
FLANGED.....	FLG'D
MECHANICAL JOINT.....	MJ
PLAIN END.....	PE

GENERAL NOTES

- ALL WORK SHOWN ON THESE PLANS SHALL BE PERFORMED IN ACCORDANCE WITH THE "DISTRICT STANDARDS FOR THE FURNISHING OF MATERIALS AND THE CONSTRUCTION OF WATER AND RECYCLED WATER FACILITIES AND PREPARATION OF WATER SYSTEM PLANS," LATEST REVISION, AND THE ADOPTED ADDENDUMS THERETO.
- WORK SHALL BE PERFORMED BY A CONTRACTOR LICENSED IN THE STATE OF CALIFORNIA, EXPERIENCED IN WATER UTILITY CONSTRUCTION.
- UNLESS OTHERWISE INDICATED, ALL PIPES SHALL BE CEMENT MORTAR LINED DUCTILE IRON PIPE, MINIMUM PRESSURE CLASS 350, WITH PUSH-ON JOINTS. ALL PIPES SHALL BE INSTALLED WITH TRACER WIRE AND WITH POLYETHYLENE ENCASEMENT. TRACER WIRE SHALL BE 14-GAUGE, INSULATED (BLUE COLOR) SOLID COPPER WIRE.
- FOR SEPARATION REQUIREMENTS BETWEEN WATER AND RECYCLED WATER, STORM DRAINS, AND SEWER LINES, SEE STATE OF CALIFORNIA CODE OF REGULATIONS, TITLE 22, SECTION 64572.
- CONTRACTOR SHALL CONTACT UNDERGROUND SERVICE ALERT OF SOUTHERN CALIFORNIA (TELEPHONE 811 / 800-227-2600) FOR LOCATION OF ALL UNDERGROUND UTILITIES TWO WORKING DAYS PRIOR TO COMMENCING WORK.
- CONTRACTOR SHALL OBTAIN NECESSARY PERMITS FROM CITY OF BEAUMONT AND/OR RIVERSIDE COUNTY, AS APPROPRIATE, PRIOR TO CONSTRUCTION.
- CONTRACTOR SHALL NOTIFY THE DISTRICT AT (951) 845-9581 TWO WORKING DAYS PRIOR TO COMMENCING WORK ON THE WATER UTILITY INSTALLATION. CONTRACTOR SHALL NOTIFY DISTRICT BY PRECEDING WEDNESDAY AT 4:00 P.M. PRIOR TO WORKING DURING THE WEEKEND. CANCELLATIONS SHALL BE NOTIFIED TO THE DISTRICT BY PRECEDING FRIDAY AT 3:00 P.M.
- NO EXISTING DISTRIBUTION SYSTEM VALVE SHALL BE OPERATED BY THE CONTRACTOR. DISTRICT PERSONNEL WILL OPERATE ALL NECESSARY VALVES.
- NO DEVIATIONS FROM THESE PLANS SHALL BE PERMITTED WITHOUT THE APPROVAL OF THE DISTRICT.
- EXISTING WATER MAINS SHALL NOT BE TAKEN OUT OF SERVICE FOR MORE THAN 4 HOURS. CONTRACTOR SHALL NOTIFY ALL WATER USERS AFFECTED BY THE SHUTDOWN A MINIMUM OF 48 HOURS PRIOR TO THE ACTUAL SHUTDOWN. INDICATE THE DATE AND PRECISE HOURS THAT THE MAIN WILL BE TAKEN OUT OF SERVICE.
- CONTRACTOR SHALL CONFORM TO THE STREET EXCAVATION REPLACEMENT STANDARDS OF THE CITY OF BEAUMONT.
- CONTRACTOR SHALL NOTIFY THE DISTRICT AT (951) 845-9581 TWO WORKING DAYS PRIOR TO PLACEMENT OF CONCRETE FOR SIDEWALKS.
- CONTRACTOR TO INSTALL MINIMUM 1" COPPER, TYPE K, SERVICE LATERALS IN ACCORDANCE WITH DISTRICT SPECIFICATIONS SHOWN ON DISTRICT STANDARD PLATE 6-2, PLATE 6-3, AND PLATE 12. ALL COPPER SERVICES SHALL BE INSTALLED WITH TAPE WRAP AND WITH POLYETHYLENE ENCASEMENT.
- CONTRACTOR SHALL COORDINATE ALL RECONNECTS WITH DISTRICT PERSONNEL PRIOR TO ANY CONNECTIONS OR RETIREMENTS OF ANY DISTRICT FACILITIES.
- CONTRACTOR SHALL BEAR ALL COSTS FOR THE CORRECTION OR REMOVAL AND REPLACEMENT OF DEFECTIVE WORK, AND ALL ADDITIONAL DIRECT AND INDIRECT COSTS THE CITY, COUNTY, OR DISTRICT MAY INCUR ON ACCOUNT OF DEFECTIVE WORK, INCLUDING THE COSTS OF ADDITIONAL ADMINISTRATIVE, PROFESSIONAL CONSULTANT, INSPECTION, TESTING, AND OTHER SERVICES.
- ALL PIPE SHALL BE HYDRO TESTED, DISINFECTED AND APPROVED PRIOR TO FINAL CONNECTION TO EXISTING WATER LINES.
- ALL MATERIALS SHALL BE OF DOMESTIC ORIGIN AND NOT OF FOREIGN MANUFACTURE.
- CONTRACTOR SHALL FURNISH TO THE DISTRICT COPIES OF ALL SOIL COMPACTION TEST REPORTS FOR THE INSTALLED WATER MAINS TWO (2) WORKING DAYS PRIOR TO HYDRO TESTING OF PIPELINES.
- CONTRACTOR SHALL FURNISH DISTRICT WITH PROJECT SPECIFIC MATERIALS OF CONSTRUCTION SUBMITTALS (IN PDF FORMAT) FOR REVIEW APPROVAL PRIOR TO COMMENCING CONSTRUCTION.
- CONTRACTOR SHALL KEEP AND MAINTAIN AT THE JOB SITE ONE (1) SET OF RECORD DRAWINGS. CONTRACTOR SHALL MARK ON DRAWINGS ALL CHANGES IN PROJECT CONDITIONS, LOCATIONS, CONFIGURATIONS AND ANY DEVIATIONS WHICH MAY VARY FROM THE DRAWINGS. THESE MASTER RECORD DRAWINGS SHALL BE MAINTAINED AND UP TO DATE DURING THE PROGRESS OF WORK. RECORD DRAWINGS SHALL BE ACCESSIBLE TO THE DISTRICT AT ALL TIMES DURING CONSTRUCTION AND A COPY OF SAID RECORD DRAWINGS SHALL BE DELIVERED TO THE DISTRICT UPON COMPLETION OF THE WORK.

GENERAL CONSTRUCTION & NOTES

- ALL PIPELINES SHALL BE FULLY RESTRAINED WITH RESTRAINED JOINT GASKETS PER BCVWD STANDARD SPECIFICATIONS.
- INSTALL CLASS II AGGREGATE BASE (FURNISHED BY DISTRICT) FROM TOP OF PIPE ZONE TO GROUND SURFACE ALONG ALL NEW AND EXISTING PIPELINE TRENCHES PER BCVWD PLATE 6-1 AND 6-2, OR AS APPROVED BY THE COUNTY OF RIVERSIDE IN LOCATIONS WHERE NATIVE MATERIAL IS NOT SUITABLE FOR PROPER BACKFILL AND COMPACTION.
- DISINFECT ALL POTABLE WATER SERVICE PIPING AND APPURTENANCES (PER AWWA STANDARD)
- ALL STREET CENTERLINE STATIONING FROM BEAUMONT MDP LINE 16, STAGE 50 RECHARGE BASIN FEEDER PLANS
- ALL PIPELINE STATIONING ALONG CENTERLINE OF PIPE, UNLESS OTHERWISE NOTED.

DISTRICT ENGINEER'S NOTICE TO CONTRACTOR(S)

THE EXISTENCE AND LOCATION OF ANY UNDERGROUND UTILITIES OR STRUCTURES SHOWN ON THESE PLANS ARE OBTAINED BY A SEARCH OF AVAILABLE RECORDS. TO THE BEST OF OUR KNOWLEDGE THERE ARE NO EXISTING UTILITIES EXCEPT THOSE SHOWN ON THESE PLANS. THE CONTRACTOR IS REQUIRED TO TAKE ALL PRECAUTIONARY MEASURES TO PROTECT THE UTILITIES SHOWN, AND ANY OTHER LINES OR STRUCTURES NOT SHOWN ON THESE PLANS, AND IS REQUIRED FOR THE PROTECTION OF, AND ANY DAMAGE TO THESE LINES OR STRUCTURES.

IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO NOTIFY THE OWNER OF ALL UTILITIES OR STRUCTURES CONCERNED BEFORE STARTING WORK.

THE ENGINEER PREPARING THESE PLANS WILL NOT BE RESPONSIBLE FOR/OR LIABLE FOR UNAUTHORIZED CHANGES TO OR USES OF THESE PLANS. ALL CHANGES TO THE PLANS MUST BE IN WRITING AND MUST BE APPROVED BY THE PREPARER OF THESE PLANS.

QUANTITIES SHOWN HEREON ARE PROVIDED FOR BIDDING PURPOSES ONLY. CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING ALL QUANTITIES PRIOR TO BIDDING FOR CONSTRUCTION.

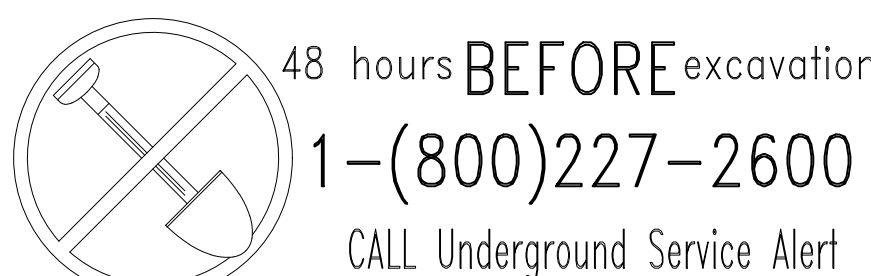
CONSTRUCTION NOTES	QTY	UNIT
(1) PROTECT IN PLACE	-	-
(2) INSTALL 8" DIP (CLASS 350) WITH POLYETHYLENE ENCASEMENT AND BEDDING PER BCVWD PLATE 6-1 (36" MIN COVER)	548	LF
(3) INSTALL 8" - 45' FLG'D X MJ ELBOW, WITH EBAA IRON SERIES 1100 RESTRAINT	3	EA
(4) INSTALL 8" FLG'D TEE	1	EA
(5) INSTALL 8" FLG'D X MJ ADAPTER	4	EA
(6) INSTALL 8" GATE VALVE	4	EA
(7) INSTALL 8" X 4" FLG'D REDUCER	1	EA
(8) INSTALL 8" TRANSITION FLEX COUPLING FROM 8.60" - 9.06" (ROMAC LONG BARREL) AND TIES PER BCVWD PLATE 9	2	EA
(9) INSTALL 4" FLG'D GATE VALVE	2	EA
(10) INSTALL 4" TRANSITION FLEX COUPLING FROM 4.5" - 4.81" (ROMAC LONG BARREL) AND TIES PER BCVWD PLATE 9	2	EA
(11) DISINFECT ALL POTABLE WATER SERVICE PIPING AND APPURTENANCES (PER AWWA STANDARD)	-	-
(12) ABANDON IN PLACE EXISTING PIPELINE AND PLUG SEVERED PIPE ENDS WITH 3" MINIMUM CLASS "C" CONCRETE PLUG (EACH END)	-	-
(13) INSTALL DISTRICT FURNISHED 1" SERVICE SADDLE, CORPORATION STOP, AND SERVICE LATERAL PIPING PER BCVWD STANDARD PLATE 6-3. ONCE TESTING AND DISINFECTION IS COMPLETE, REMOVE EXISTING METER AND INSTALL NEW DISTRICT FURNISHED METER AND CONNECT TO NEW SERVICE LATERAL.	14	EA
(14) INSTALL RESTRAINED JOINTS (FIELD-LOK 350 GASKETS, MEGA LUGS (IF MECHANICAL JOINT) OR DISTRICT APPROVED EQUAL)	28	EA
(15) INSTALL THRUST BLOCK PER BCVWD PLATE 11-1 AND 11-2 (ASSUME SOIL BEARING PRESSURE OF 1500 LB/SF)	0.10	CY
(16) INSTALL 2" RISER AND TEST PLATE FOR DISINFECTION AND TESTING. REMOVE TEST PLATE AT END OF CHLORINATION AND TESTING PROCESS. REMOVE RISER AND PLUG TEST LOCATION.	10	EA
(17) INSTALL 8" - 45' MJ ELBOW, WITH EBAA IRON SERIES 1100 RESTRAINT	4	EA
(18) INSTALL 12" DIP (CLASS 350) WITH POLYETHYLENE ENCASEMENT AND BEDDING PER BCVWD PLATE 6-1 (36" MIN COVER)	660	LF
(19) INSTALL 12" - 45' FLG'D X MJ ELBOW, WITH EBAA IRON SERIES 1100 RESTRAINT	5	EA
(20) INSTALL 12" - 45' MJ ELBOW, WITH EBAA IRON SERIES 1100 RESTRAINT	7	EA
(21) INSTALL 12" X 6" FLG'D REDUCER	4	EA
(22) INSTALL 12" - FLG'D X MJ ADAPTER	1	EA
(23) INSTALL 6" TRANSITION FLEX COUPLING FROM 6.60" - 6.91" (ROMAC LONG BARREL) AND TIES PER BCVWD PLATE 9	3	EA
(24) INSTALL 6" X 36" (LONG) FLG'D X PE STL SPOOL	3	EA
(25) REMOVE EXISTING 6" PIPELINE (LIMITS AS INDICATED)	55	LF
(26) INSTALL 12" X 10" FLG'D REDUCER	2	EA
(27) INSTALL 10" TRANSITION FLEX COUPLING FROM 10.89" - 11.40" (ROMAC LONG BARREL) AND TIES PER BCVWD PLATE 9	2	EA
(28) INSTALL 10" X 36" (LONG) FLG'D X PE STL SPOOL	2	EA
(29) INSTALL 4" X 36" (LONG) FLG'D X PE STL SPOOL	2	EA
(30) INSTALL 16" D.I. FLG'D CROSS	1	EA
(31) INSTALL 16" BUTTERFLY VALVE	2	EA
(32) INSTALL 16" X 36" (LONG) FLG'D X PE STL SPOOL	2	EA
(33) INSTALL 16" TRANSITION COUPLING AND TIES PER BCVWD PLATE 9. (ROMAC LONG BARREL, 16.00" - 16.40" GASKET)	2	EA
(34) INSTALL 16" X 8" FLG'D REDUCER	2	EA
(35) INSTALL 6" DIP (CLASS 350) WITH POLYETHYLENE ENCASEMENT AND BEDDING PER BCVWD PLATE 6-1 (36" MIN. COVER)	158	LF
(36) INSTALL 6" - FLG'D TEE	1	EA
(37) INSTALL 6" X 4" FLG'D ECCENTRIC REDUCER	1	EA
(39) INSTALL 6" GATE VALVE PER BCVWD PLATE 2	1	EA
(40) INSTALL 6" FLG'D X MJ ADAPTER	2	EA
(41) INSTALL 8" X 24" (LONG) FLG'D X PE STL SPOOL	2	EA
(42) INSTALL 4" BLOWOFF ASSEMBLY PER BCVWD PLATE 3-1	1	EA
(43) INSTALL 12" GATE VALVE PER BCVWD PALTE 2	1	EA
(44) COMPLETE ALL TRENCH EXCAVATION, BACKFILL, AND PAVEMENT REPAIR PER BCVWD PLATE 6-1	-	-
(45) INSTALL 8" X 24" (LONG) FLG'D X PE DI SPOOL	1	EA
(46) INSTALL 6" TRANSITION FLEX COUPLING FROM 6.60" - 6.91" x 7.15" - 7.35" (ROMAC LONG BARREL)	1	EA
(47) INSTALL 6" X 36" (LONG) FLG'D X PE DI SPOOL	1	EA

SHEET No.	DESCRIPTION
1	TITLE, SHEET INDEX, VICINITY MAP, AND CONSTRUCTION NOTES
2	PIPELINE 1: STA.: 10+00 - STA.: 15+48± (GRAND AVE STA.: 31+57± - STA.: 37+00±)
3	PIPELINE 2: STA.: 10+00 - STA.: 11+81± (GRAND AVE STA.: 49+47± - STA.: 51+24±) PIPELINE 3: STA.: 10+00 - STA.: 12+37± (GRAND AVE STA.: 62+52± - STA.: 64+81±)
4	PIPELINE 4: STA.: 10+00 - STA.: 12+42± (NOBLE ST STA.: 10+58± - STA.: 12+95±) PLATE 6-1
5	CHERRY AVENUE CUT-IN TEE DETAIL AND GRAND AVENUE - WEST OF MARTIN LANE

SHEET INDEX

NOTE:
WORK CONTAINED WITHIN THESE PLANS SHALL NOT COMMENCE UNTIL AN ENCROACHMENT PERMIT HAS BEEN ISSUED.

BENCHMARK: NAVD88 DATUM
Z-17350
FD 1/2" IR W/ RCFC TS CAP
FL
EL. 2816.73



BEAUMONT-CHERRY VALLEY WATER DISTRICT
ENGINEERING
TRANSMISSION & DISTRIBUTION
09-23-2021
PRINT DATE

SYM	REVISIONS	DATE	BY
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BEAUMONT-CHERRY VALLEY WATER DISTRICT

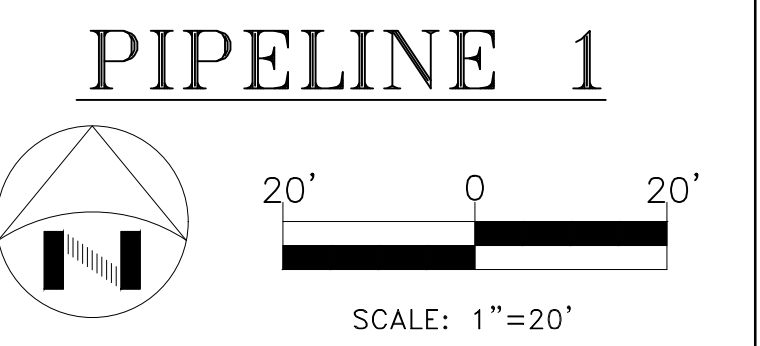
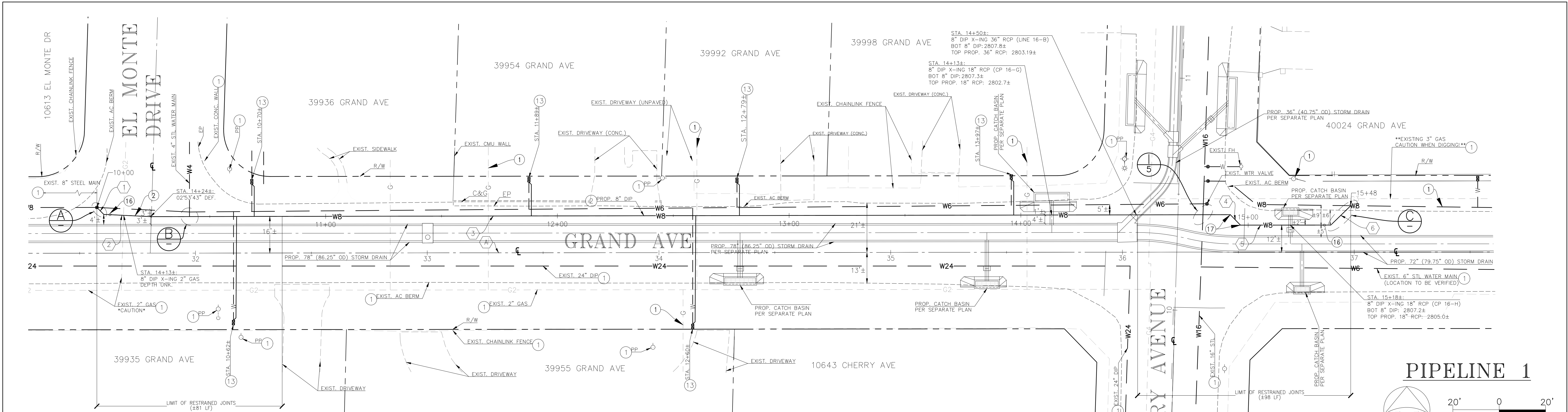
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APPROVED BY _____
REGISTERED ENGINEER No. _____ DATE _____

SCALE AS NOTED	BCVWD PIPELINE RELOCATION PLAN TITLE, SHEET INDEX, VICINITY MAP, AND CONSTRUCTION NOTES	SHEET 1 OF 5 SHEETS
FIELD BOOK N/A		FILE No.
DESIGN DAB		
DRAWN DAB		
CHECKED MBS		

PZ 3040

RECID COUNTY OVERSIGHT ENGINEER REGISTRATION # DATE SIGNED
 APPROVED AS TO COMPLIANCE WITH APPLICABLE COUNTY STANDARDS AND PRACTICES (TRANSPORTATION DEPARTMENT ONLY - ROW/DF/ST/E)



- CONSTRUCTION NOTES**
- PROTECT IN PLACE
 - INSTALL 8" DIP (CLASS 350) WITH POLYETHYLENE ENCASEMENT AND BEDDING PER BCVWD PLATE 6-1 (36" MIN COVER)
 - INSTALL 8" - 45' FLG'D X MJ ELBOW, WITH EBAA IRON SERIES 1100 RESTRAINT
 - INSTALL 8" FLG'D TEE
 - INSTALL 8" FLG'D X MJ ADAPTER
 - INSTALL 8" GATE VALVE
 - INSTALL 8" X 4" FLG'D REDUCER
 - INSTALL 8" TRANSITION FLEX COUPLING FROM 8.60" - 9.60" (ROMAC LONG BARREL) AND TIES PER BCVWD PLATE 9.
 - INSTALL 4" FLG'D GATE VALVE
 - INSTALL 4" TRANSITION FLEX COUPLING FROM 3.80" - 4.05" (ROMAC LONG BARREL) AND TIES PER BCVWD PLATE 9
 - DISINFECT ALL POTABLE WATER SERVICE PIPING AND APPURTENANCES (PER AWWA STANDARD)
 - ABANDON IN PLACE EXISTING PIPELINE AND PLUG SEVERED PIPE ENDS WITH 3" MINIMUM CLASS "C" CONCRETE PLUG
 - INSTALL DISTRICT FURNISHED 1" SERVICE SADDLE, CORPORATION STOP, AND SERVICE LATERAL PIPING PER BCVWD STANDARD PLATE 6-3. ONCE TESTING AND DISINFECTION IS COMPLETE, REMOVE EXISTING METER AND INSTALL NEW DISTRICT FURNISHED METER AND CONNECT TO NEW SERVICE LATERAL.
 - INSTALL RESTRAINED JOINTS (FIELD-LOK 350 GASKETS, MEGA LUGS (IF MECHANICAL JOINT) OR DISTRICT APPROVED EQUAL)
 - INSTALL THRUST BLOCK PER BCVWD PLATE 11-1 AND 11-2 (ASSUME SOIL BEARING PRESSURE OF 1500 LB/SF)
 - INSTALL 2" RISER AND TEST PLATE FOR DISINFECTION AND TESTING. REMOVE TEST PLATE AT END OF CHLORINATION AND TESTING PROCESS. REMOVE RISER AND PLUG TEST LOCATION.
 - INSTALL 8" - 45' MJ ELBOW, WITH EBAA IRON SERIES 1100 RESTRAINT
 - INSTALL 4" X 36" (LONG) FLG'D X PE STL SPOOL
 - INSTALL 8" X 24" (LONG) FLG'D X PE STL SPOOL
 - INSTALL 8" X 24" (LONG) FLG'D X PE DI SPOOL

LINE/CURVE DATA TABLE

	BEARING/DELTA	RADIUS	LENGTH(±) (LF)
1	N 45°01'55" W	-	4
2	N 87°12'33" W	-	20
3	N 89°53'44" E	-	466
4	N 44°15'53" W	-	6
5	N 89°58'17" E	-	39
6	N 45°44'07" E	-	12
GRAND AVENUE CENTERLINE DATA TABLE			
A	N 89°56'57" E	-	632

- GENERAL CONSTRUCTION & NOTES**
- ALL PIPELINES SHALL BE FULLY RESTRAINED WITH RESTRAINED JOINT GASKETS PER BCVWD STANDARD SPECIFICATIONS.
 - FURNISH AND INSTALL CLASS II AGGREGATE BASE FROM TOP OF PIPE ZONE TO GROUND SURFACE ALONG ALL NEW AND EXISTING PIPELINE TRENCHES PER BCVWD PLATE 6-1 AND 6-2, OR AS APPROVED BY THE COUNTY OF RIVERSIDE IN LOCATIONS WHERE NATIVE MATERIAL IS NOT SUITABLE FOR PROPER BACKFILL AND COMPACTION.
 - DISINFECT ALL POTABLE WATER SERVICE PIPING AND APPURTENANCES (PER AWWA STANDARD)
 - ALL STREET CENTERLINE STATIONING FROM BEAUMONT MDP LINE 16, STAGE 50 RECHARGE BASIN FEEDER PLANS.
 - ALL PIPELINE STATIONING ALONG CENTERLINE OF PIPE, UNLESS OTHERWISE NOTED.

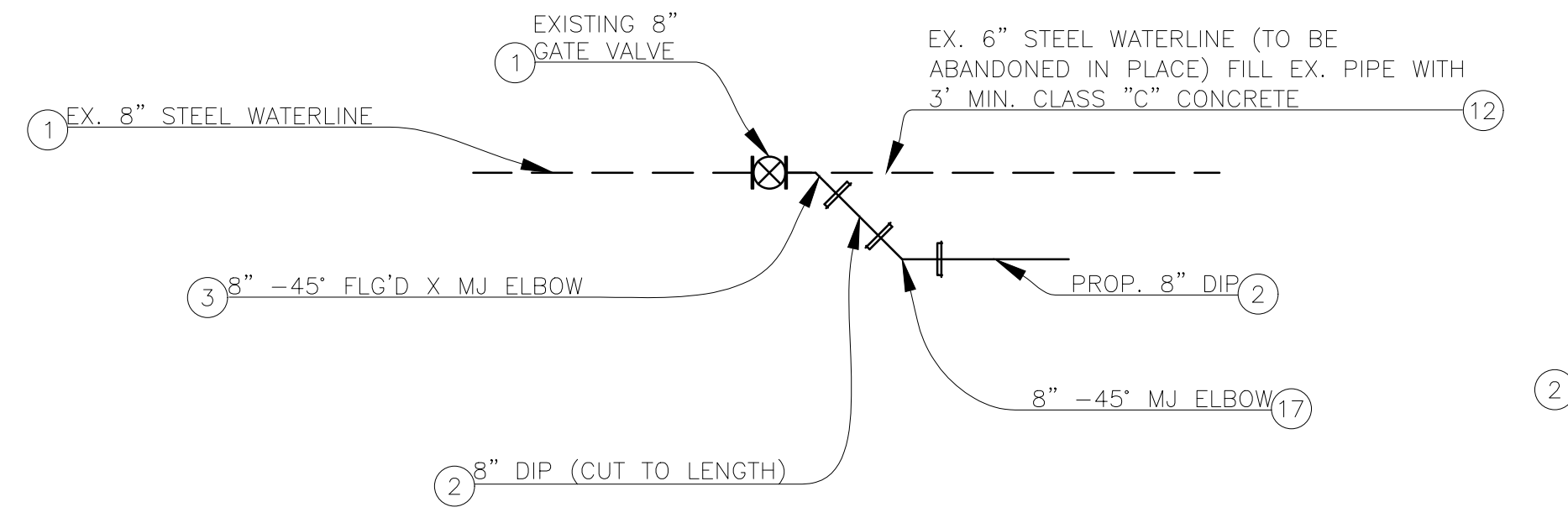
NOTE:
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48 hours BEFORE excavation
1-(800)227-2600
CALL Underground Service Alert

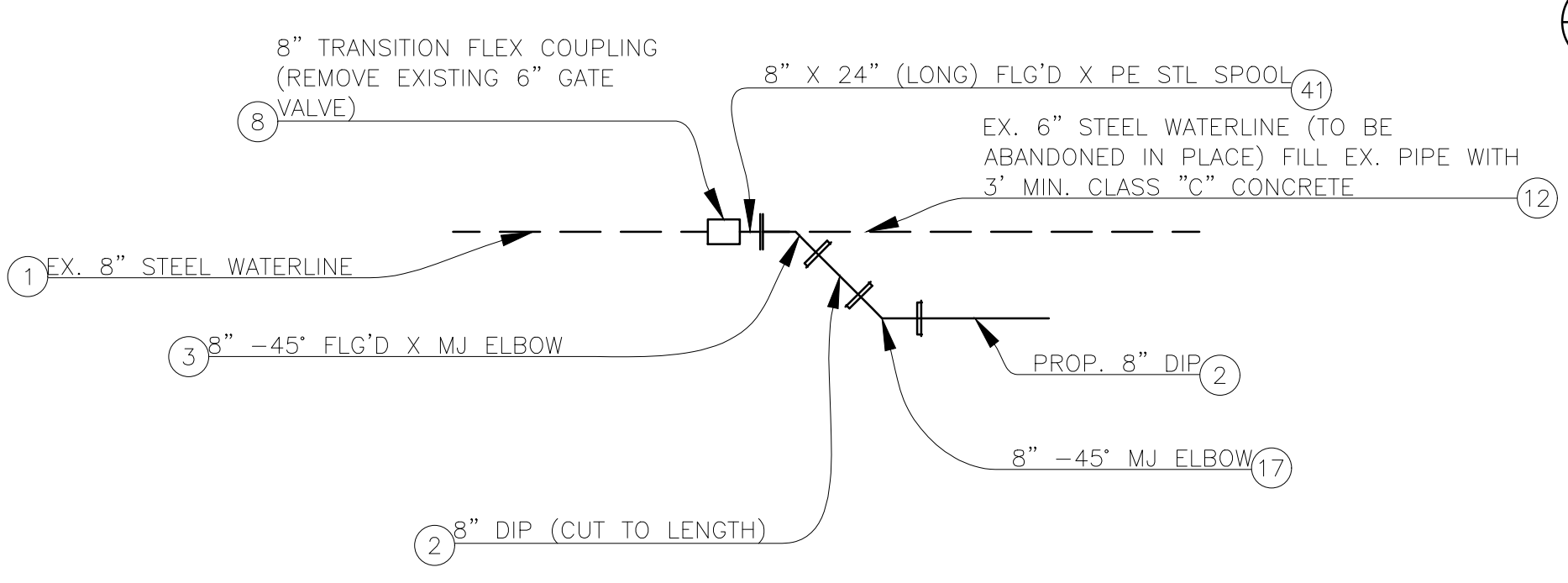
BEAUMONT-CHERRY VALLEY WATER DISTRICT
BENCHMARK: NAVD88 DATUM Z-17350
FD 1/2" IR W/ RCFC TS CAP FL
EL. 2816.73

BEAUMONT-CHERRY VALLEY WATER DISTRICT
ENGINEERING
TRANSMISSION & DISTRIBUTION
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SYMBOLS

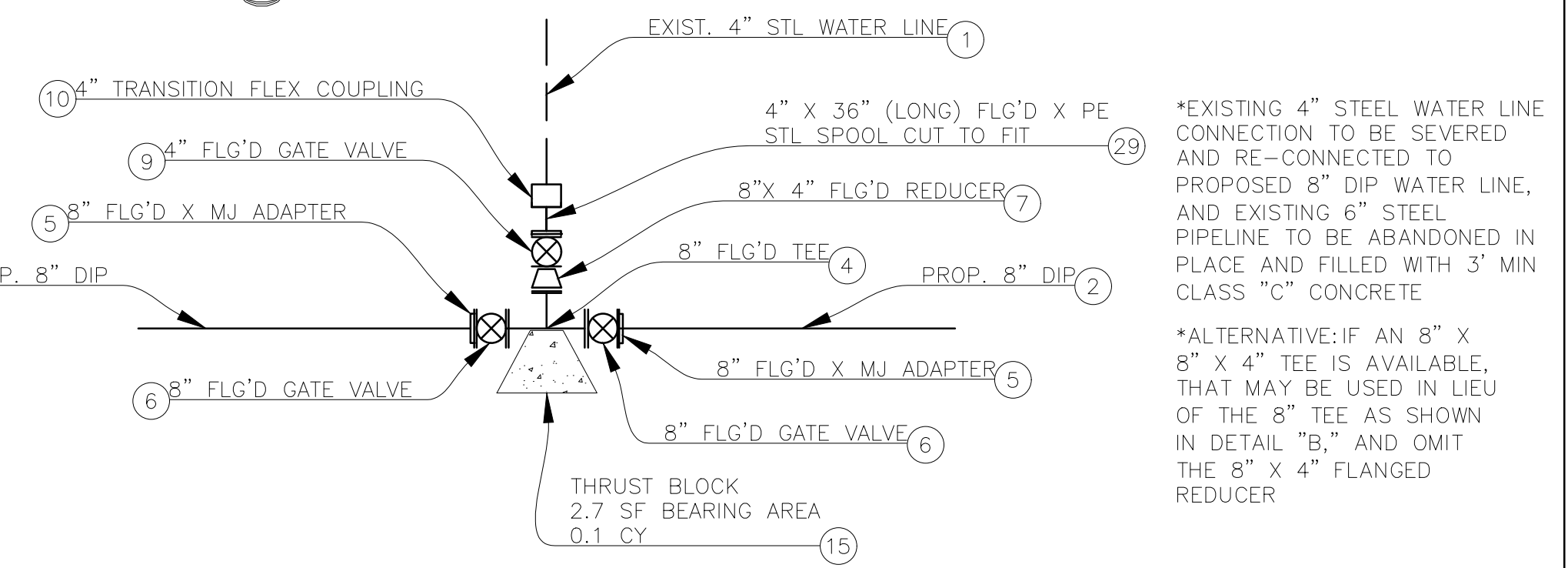


DETAIL "A"
GRAND AVE WESTERN TIE-IN AT EL MONTE DRIVE
NOT TO SCALE

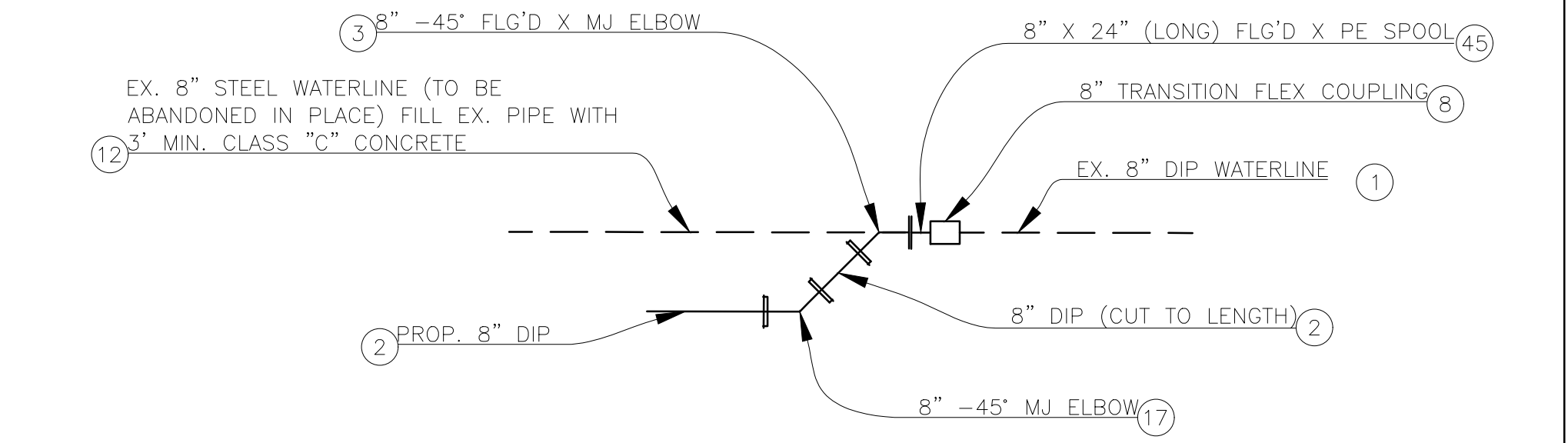


DETAIL "A" (ALTERNATIVE)
GRAND AVE WESTERN TIE-IN AT EL MONTE DRIVE
NOT TO SCALE

*CONTRACTOR TO CONFIRM SIZE OF EXISTING GATE VALVE AT THE INTERSECTION OF EL MONTE DRIVE. IF 6" DETAIL A (ALTERNATIVE) IS TO BE USED FOR THE PROPOSED CONNECTION.



DETAIL "B"
TIE-IN TO EXISTING 4" STEEL WATER MAIN
NOT TO SCALE



DETAIL "C"
GRAND AVE EASTERN TIE-IN AT CHERRY AVE
NOT TO SCALE



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APPROVED BY _____
REGISTERED ENGINEER No. _____ DATE _____

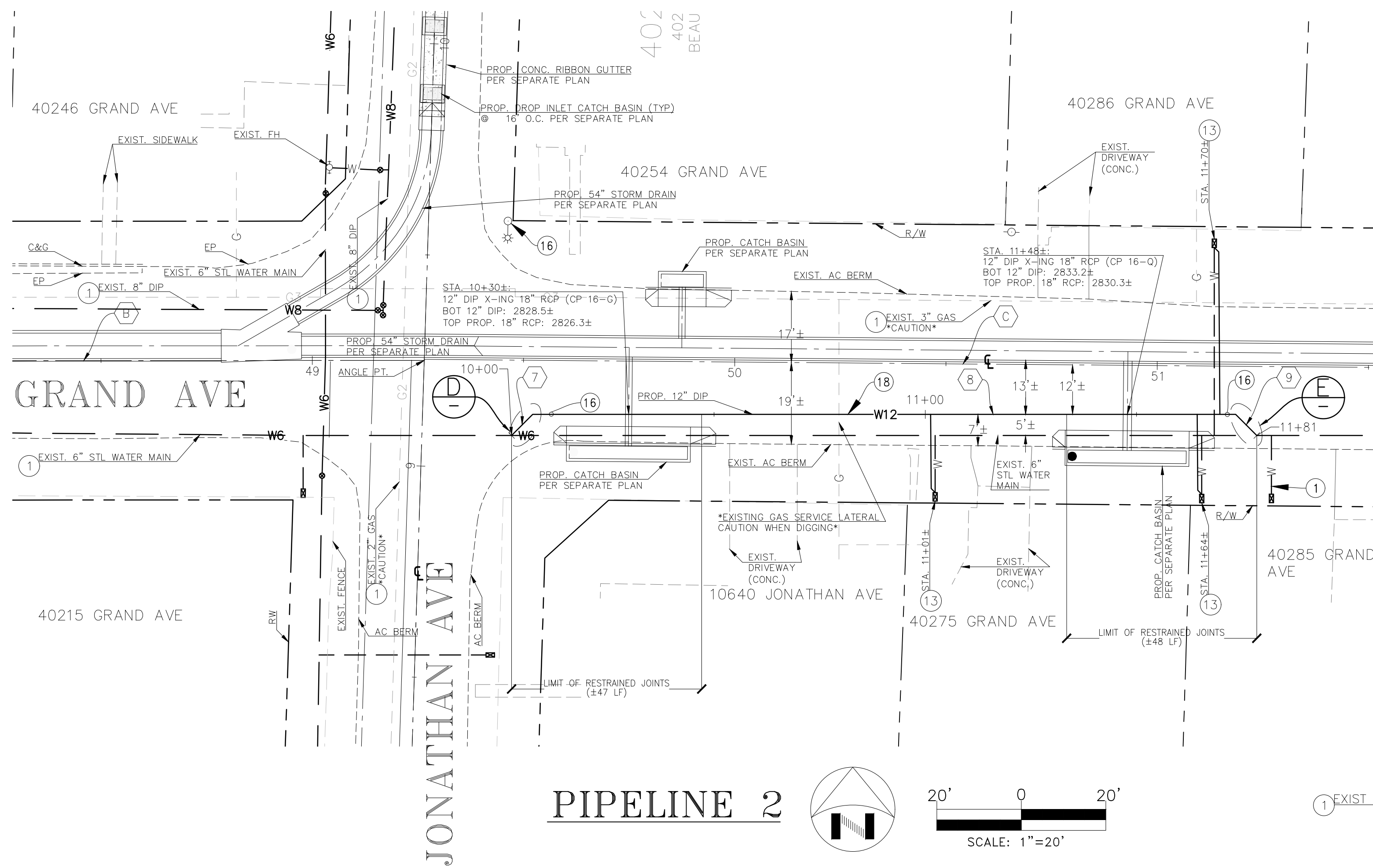
SCALE AS NOTED

FIELD BOOK	N/A
DESIGN	DAB
DRAWN	DAB
CHECKED	MBS

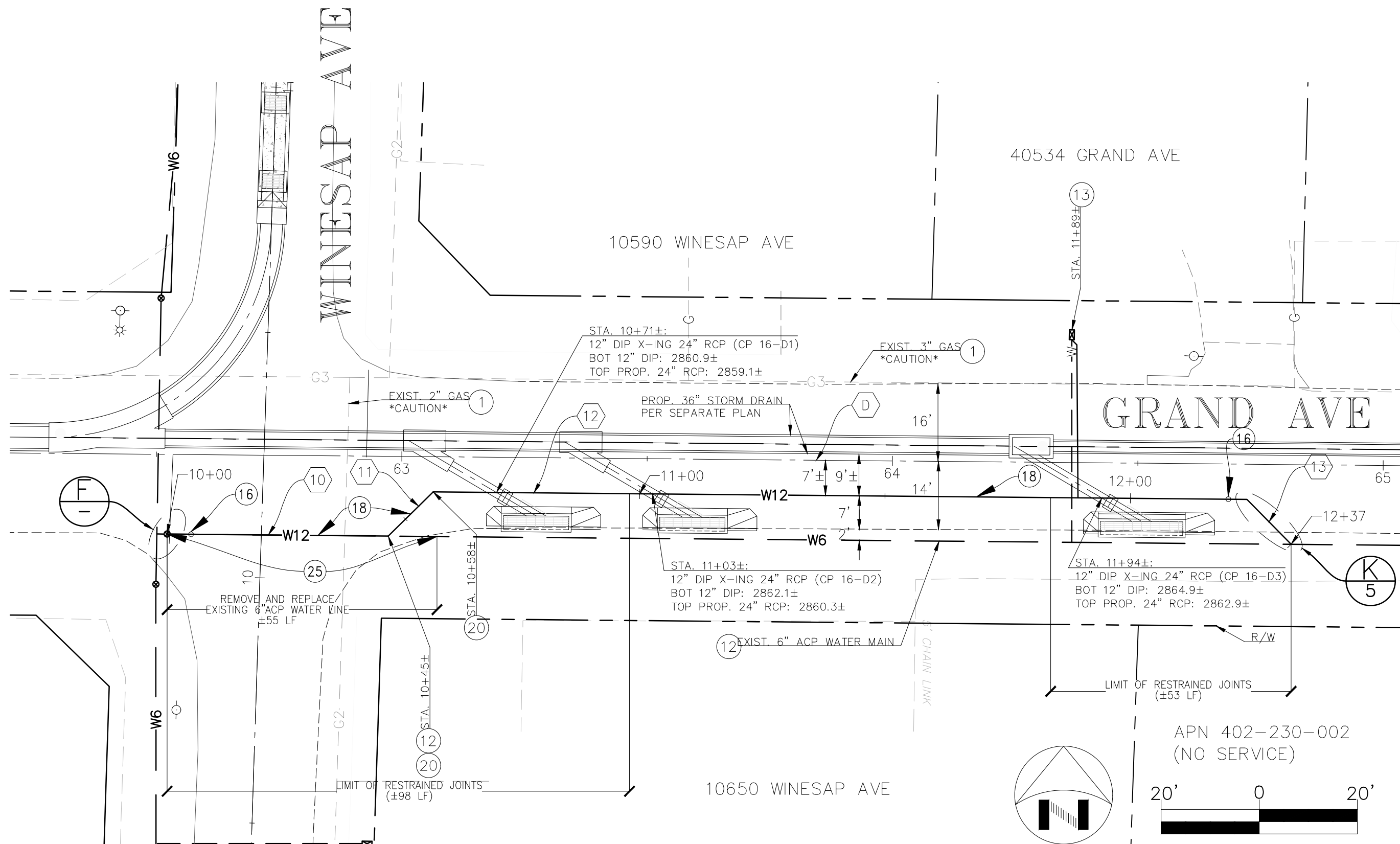
BCVWD
PIPELINE RELOCATION PLAN
PIPELINE 1: STA.: 10+00 - STA.: 15+48±
(GRAND AVE STA.: 31+57± - STA.: 37+00±)

PZ 3040

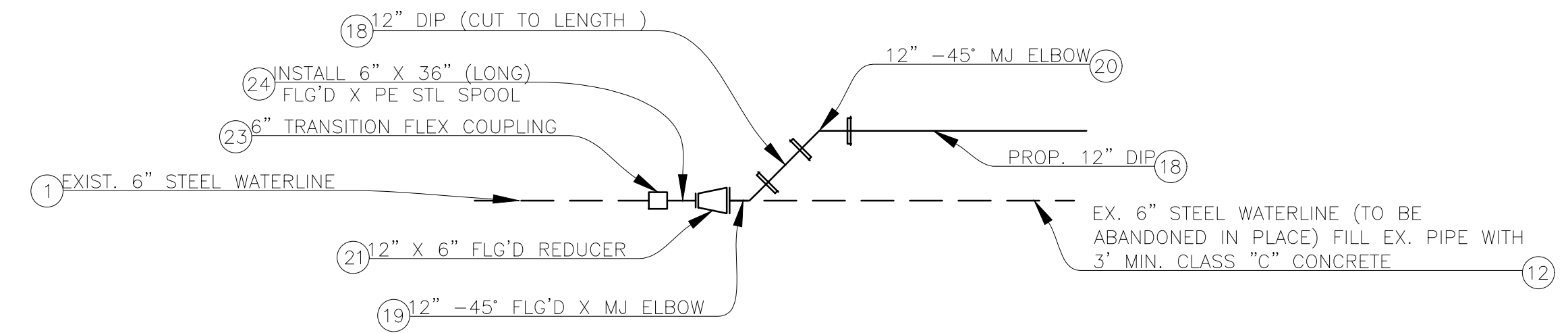
SHEET
2
OF 5 SHEETS
FILE No.



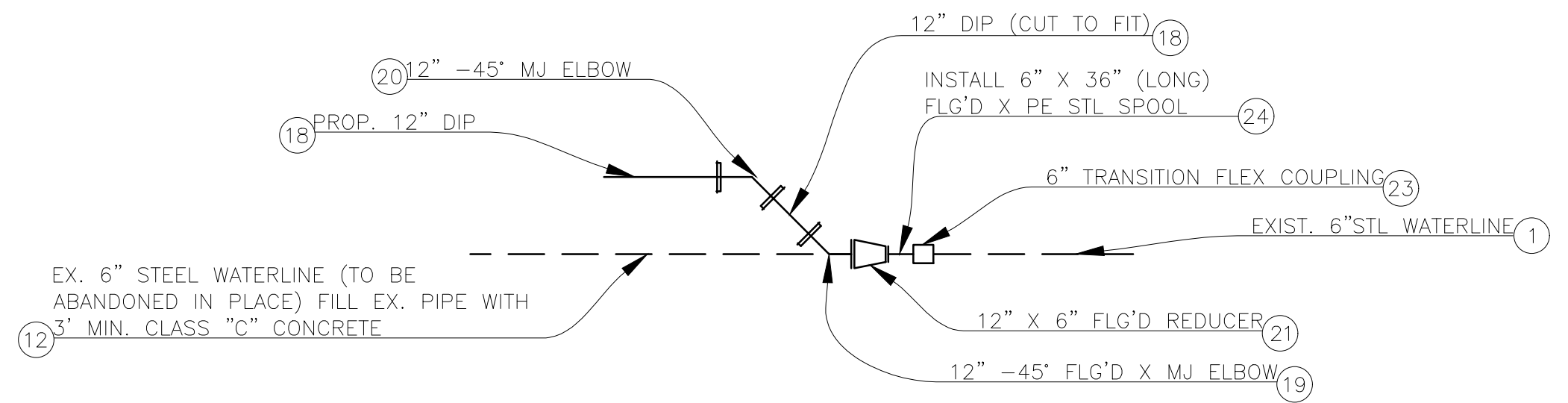
PIPELINE 2
 SCALE: 1"=20'



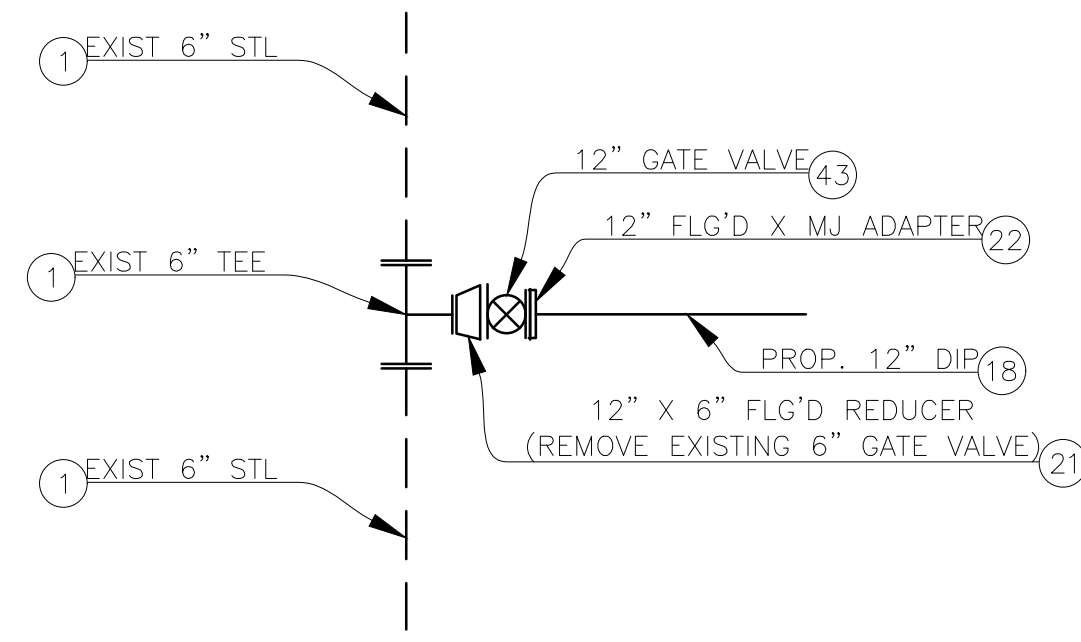
PIPELINE 3
 SCALE: 1"=20'



DETAIL "D"
 PIPELINE 2 WESTERN TIE-IN AT JONATHAN AVE
 NOT TO SCALE



DETAIL "E"
 12" DIP TIE-IN TO EXISTING 6" STEEL WATER MAIN
 NOT TO SCALE



DETAIL "F"
 TIE-IN TO EXISTING 6" STEEL WATER MAIN
 NOT TO SCALE

*CONTRACTOR TO COORDINATE WITH DISTRICT FIELD STAFF TO SHUT DOWN EXISTING 6" LINE IN WINESAP AVENUE USING VALVES AT THE NORTHWEST AND SOUTHWEST CORNERS OF GRAND AVENUE AND WINESAP AVENUE.

LINE/CURVE DATA TABLE			
	BEARING/Delta	RADIUS	LENGTH(±) (LF)
7	N 45°00'00" E	-	7
8	N 90°00'00" E	-	166
9	N 45°00'00" W	-	7
10	N 89°28'40" W	-	45
11	N 45°31'20" E	-	13
12	N 89°28'40" W	-	166
13	N 44°28'40" W	-	13
GRAND AVENUE CENTERLINE DATA TABLE			
B	N 89°58'17" E	-	98
C	N 89°30'55" W	-	225
D	N 89°28'53" W	-	284

CONSTRUCTION NOTES	
1	PROTECT IN PLACE
11	DISINFECT ALL POTABLE WATER SERVICE PIPING AND APPURTENANCES (PER AWWA STANDARD)
12	ABANDON IN PLACE EXISTING PIPELINE AND PLUG SEVERED PIPE ENDS WITH 3" MINIMUM CLASS "C" CONCRETE PLUG
13	INSTALL DISTRICT FURNISHED 1" SERVICE SADDLE, CORPORATION STOP, AND SERVICE LATERAL PIPING PER BCVWD STANDARD PLATE 6-3. ONCE TESTING AND DISINFECTION IS COMPLETE, REMOVE EXISTING METER AND INSTALL NEW DISTRICT FURNISHED METER AND CONNECT TO NEW SERVICE LATERAL
14	INSTALL RESTRAINED JOINTS (FIELD-LOK 350 GASKETS, MEGA LUGS (IF MECHANICAL JOINT) OR DISTRICT APPROVED EQUAL)
16	INSTALL 2" RISER AND TEST PLATE FOR DISINFECTION AND TESTING. REMOVE TEST PLATE AT END OF CHLORINATION AND TESTING PROCESS. REMOVE RISER AND PLUG TEST LOCATION.
18	INSTALL 12" DIP (CLASS 350) WITH POLYETHYLENE ENCASEMENT AND BEDDING PER BCVWD PLATE 6-1 (36" MIN COVER)
19	INSTALL 12" - 45° FLG'D X MJ ELBOW, WITH EBAA IRON SERIES 1100 RESTRAINT
20	INSTALL 12" - 45° MJ ELBOW, WITH EBAA IRON SERIES 1100 RESTRAINT
21	INSTALL 12" X 6" FLG'D REDUCER
22	INSTALL 12" - FLG'D X MJ ADAPTER
23	INSTALL 6" TRANSITION FLEX COUPLING FROM 6.60" - 6.91" (ROMAC LONG BARREL) AND TIES PER BCVWD PLATE 9
24	INSTALL 6" X 36" (LONG) FLG'D X PE STL SPOOL
25	REMOVE EXISTING 6" PIPELINE (LIMITS AS INDICATED)
43	INSTALL 12" GATE VALVE PER BCVWD PLATE 2

GENERAL CONSTRUCTION & NOTES

- ALL PIPELINES SHALL BE FULLY RESTRAINED WITH RESTRAINED JOINT GASKETS PER BCVWD STANDARD SPECIFICATIONS.
- INSTALL CLASS II AGGREGATE BASE (FURNISHED BY DISTRICT) FROM TOP OF PIPE ZONE TO GROUND SURFACE ALONG ALL NEW AND EXISTING PIPELINE TRENCHES PER BCVWD PLATE 6-1 AND 6-2, OR AS APPROVED BY THE COUNTY OF RIVERSIDE IN LOCATIONS WHERE NATIVE MATERIAL IS NOT SUITABLE FOR PROPER BACKFILL AND COMPACTION.
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- ALL STREET CENTERLINE STATIONING FROM BEAUMONT MDP LINE 16, STAGE 50 RECHARGE BASIN FEEDER PLANS.
- ALL PIPELINE STATIONING ALONG CENTERLINE OF PIPE, UNLESS OTHERWISE NOTED.

NOTE:
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BENCHMARK: NAVD88 DATUM Z-17350
 FD 1/2" IR W/ RCFC TS CAP FL
 EL. 2816.73

48 hours BEFORE excavation
 1-(800)227-2600
 CALL Underground Service Alert

BEAUMONT-CHERRY VALLEY WATER DISTRICT
 ENGINEERING
 TRANSMISSION & DISTRIBUTION
 09-23-2021
 SYM

NO.	REVISIONS	DATE	BY



BEAUMONT-CHERRY VALLEY WATER DISTRICT

560 Magnolia Ave. • Beaumont, CA. 92223 • 951-845-9581

APPROVED BY _____
 REGISTERED ENGINEER No. _____ DATE _____

SCALE	AS NOTED
FIELD BOOK	N/A
DESIGN	DAB
DRAWN	DAB
CHECKED	MBS

BCVWD
 PIPELINE RELOCATION PLAN
 PIPELINE 2: STA.: 10+00 - STA.: 11+81±
 (GRAND AVE STA.: 49+47± - STA.: 51+24±)
 PIPELINE 3: STA.: 10+00 - STA.: 12+37±
 (GRAND AVE STA.: 62+52± - STA.: 64+81±)

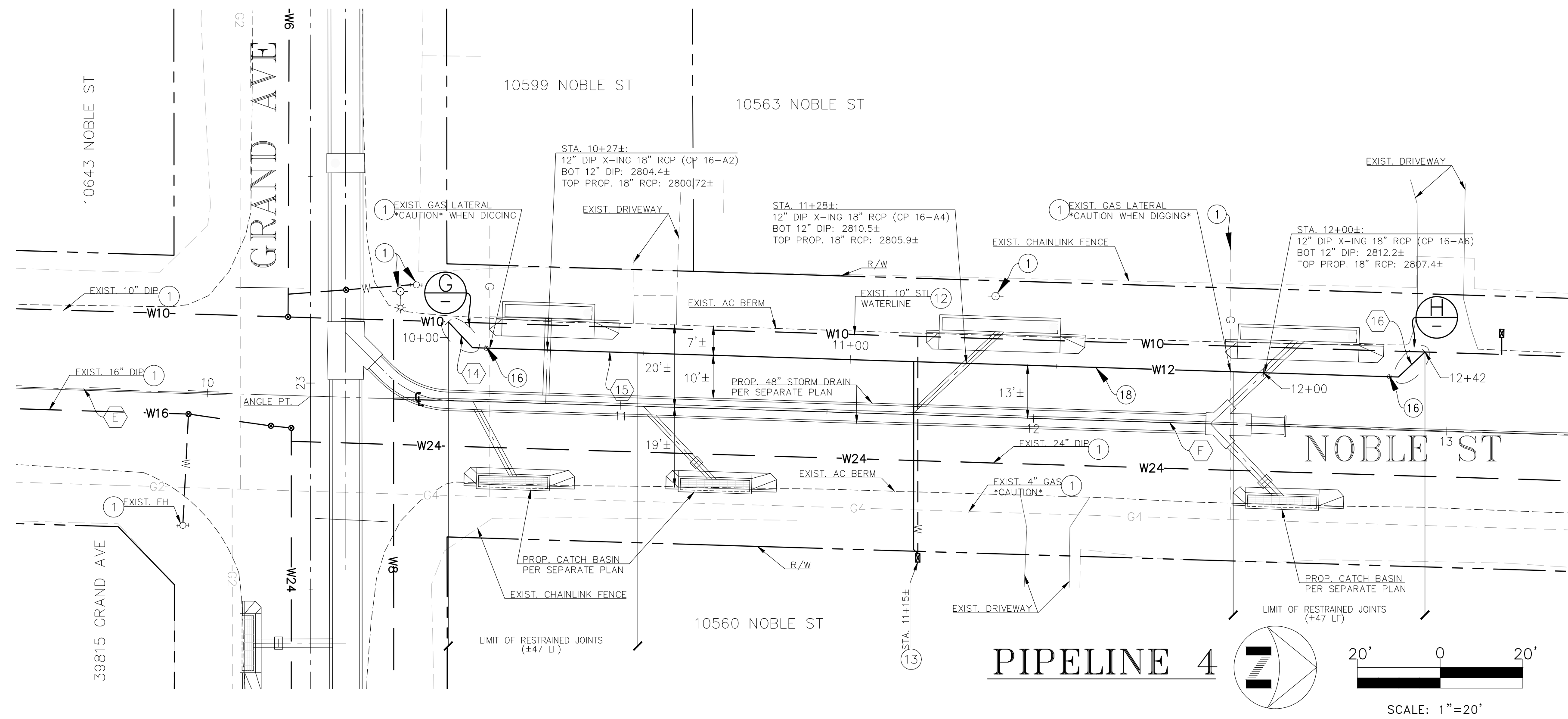
PZ 3040

SHEET

3

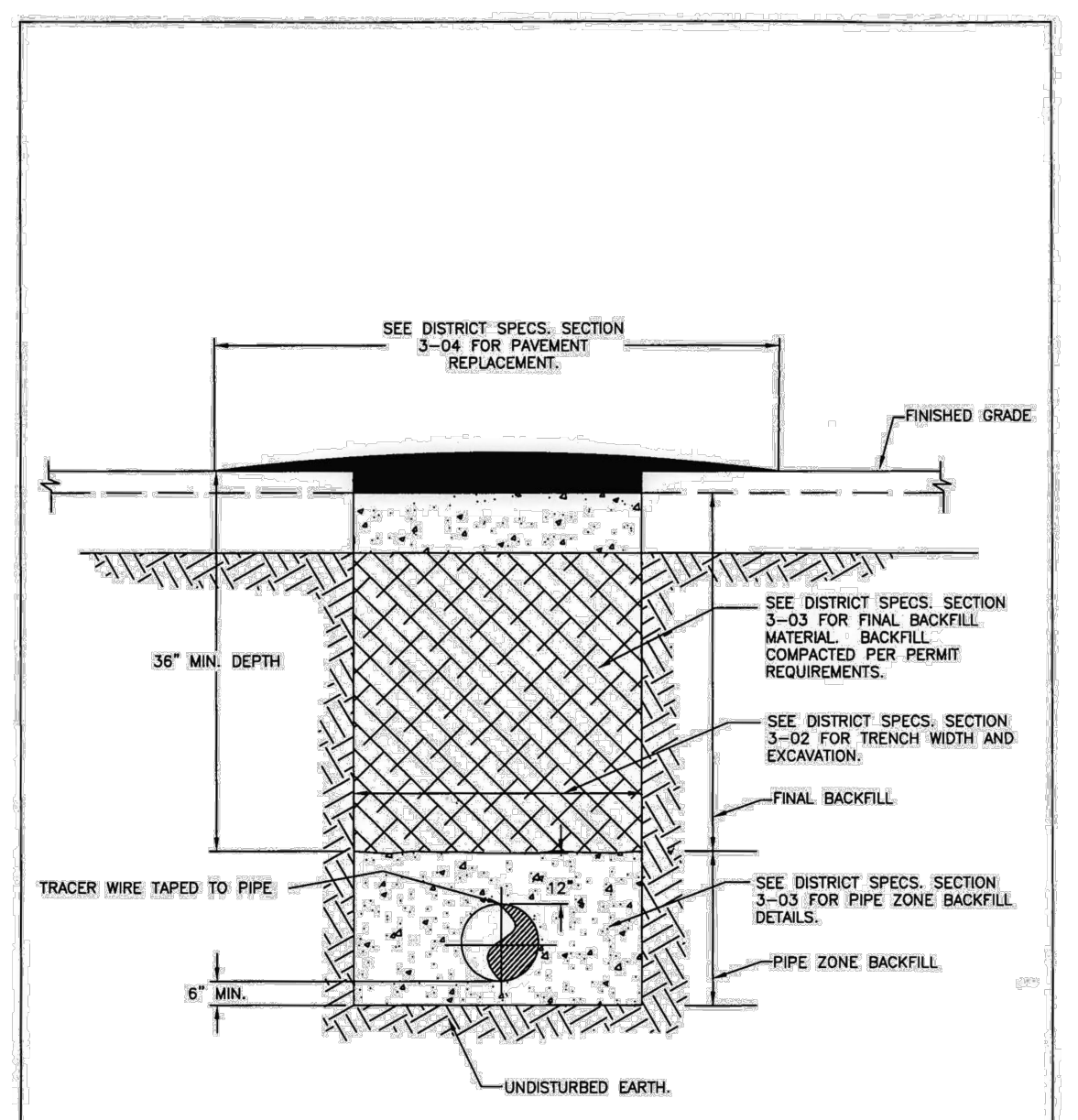
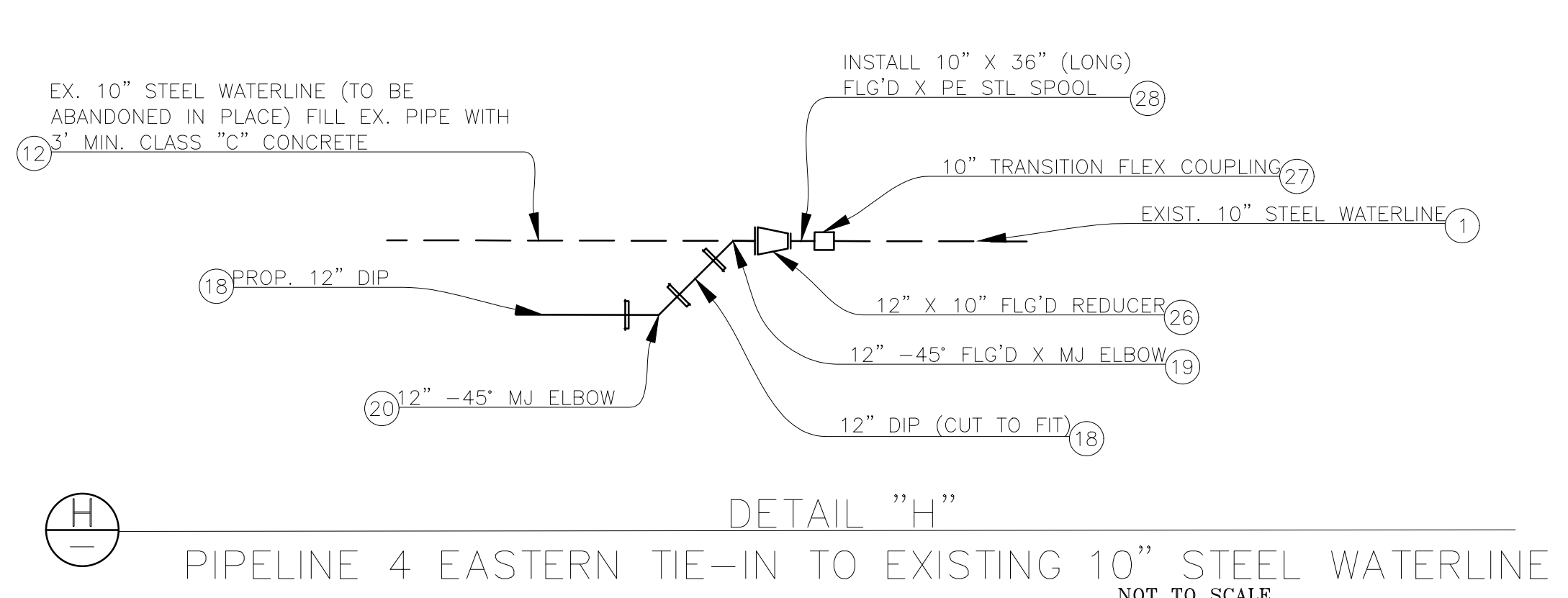
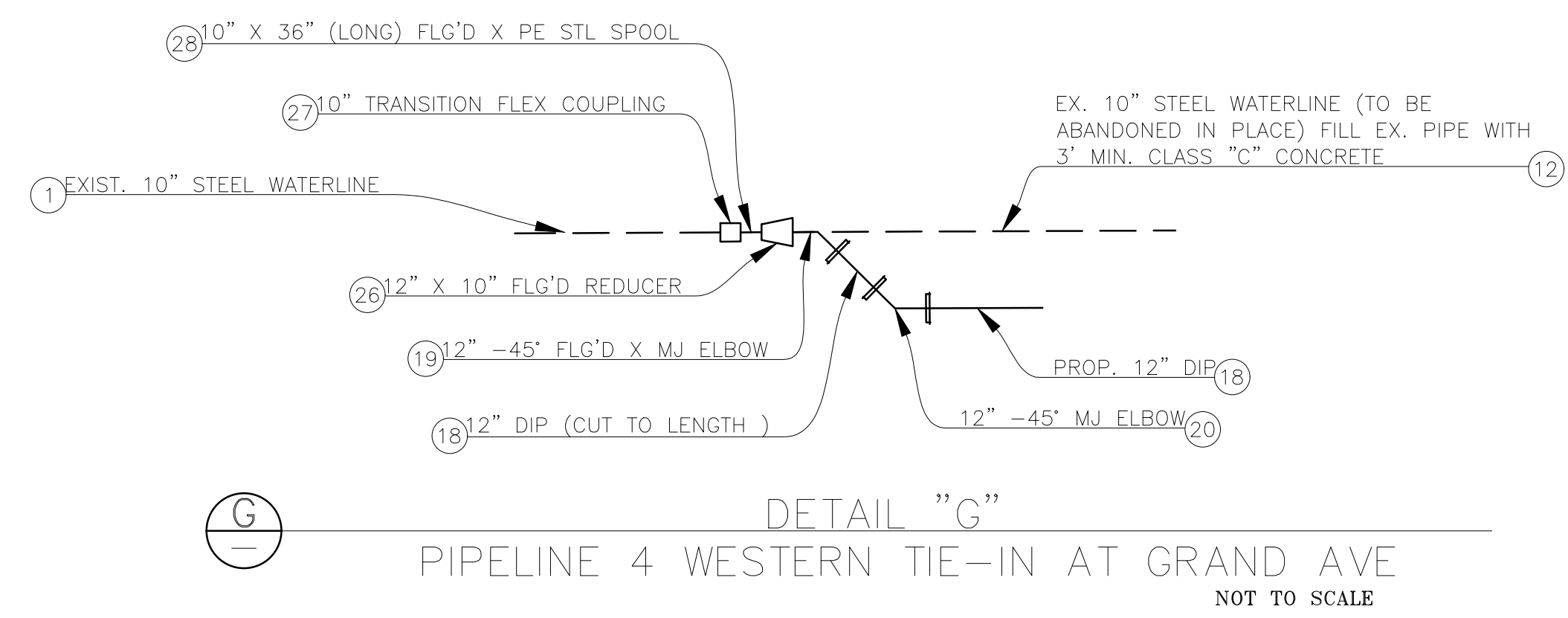
OF 5 SHEETS

FILE No.



- CONSTRUCTION NOTES**
- 1 PROTECT IN PLACE
 - 11 DISINFECT ALL POTABLE WATER SERVICE PIPING AND APPURTENANCES (PER AWWA STANDARD)
 - 12 ABANDON IN PLACE EXISTING PIPELINE AND PLUG SEVERED PIPE ENDS WITH 3" MINIMUM CLASS "C" CONCRETE PLUG
 - 13 INSTALL DISTRICT FURNISHED 1" SERVICE SADDLE, CORPORATION STOP, AND SERVICE LATERAL PIPING PER BCVWD STANDARD PLATE 6-3. ONCE TESTING AND DISINFECTION IS COMPLETE, REMOVE EXISTING METER AND INSTALL NEW DISTRICT FURNISHED METER AND CONNECT TO NEW SERVICE LATERAL
 - 14 INSTALL RESTRAINED JOINTS (FIELD-LOK 350 GASKETS, MEGA LUGS (IF MECHANICAL JOINT) OR DISTRICT APPROVED EQUAL)
 - 16 INSTALL 2" RISER AND TEST PLATE FOR DISINFECTION AND TESTING. REMOVE TEST PLATE AT END OF CHLORINATION AND TESTING PROCESS. REMOVE RISER AND PLUG TEST LOCATION.
 - 18 INSTALL 12" DIP (CLASS 350) WITH POLYETHYLENE ENCASEMENT AND BEDDING PER BCVWD PLATE 6-1 (36" MIN COVER)
 - 19 INSTALL 12" - 45' FLG'D X MJ ELBOW, WITH EBAA IRON SERIES 1100 RESTRAINT
 - 20 INSTALL 12" - 45' MJ ELBOW, WITH EBAA IRON SERIES 1100 RESTRAINT
 - 26 INSTALL 12" X 10" FLG'D REDUCER
 - 27 INSTALL 10" TRANSITION FLEX COUPLING FROM 10.89" - 11.40" (ROMAC LONG BARREL) AND TIES PER BCVWD PLATE 9.
 - 28 INSTALL 10" X 36" (LONG) FLG'D X PE STL SPOOL

- GENERAL CONSTRUCTION & NOTES**
1. ALL PIPELINES SHALL BE FULLY RESTRAINED WITH RESTRAINED JOINT GASKETS PER BCVWD STANDARD SPECIFICATIONS.
 2. INSTALL CLASS II AGGREGATE BASE (FURNISHED BY DISTRICT) FROM TOP OF PIPE ZONE TO GROUND SURFACE ALONG ALL NEW AND EXISTING PIPELINE TRENCHES PER BCVWD PLATE 6-1 AND 6-2, OR AS APPROVED BY THE COUNTY OF RIVERSIDE IN LOCATIONS WHERE NATIVE MATERIAL IS NOT SUITABLE FOR PROPER BACKFILL AND COMPACTION.
 3. DISINFECT ALL POTABLE WATER SERVICE PIPING AND APPURTENANCES (PER AWWA STANDARD)
 4. ALL STREET CENTERLINE STATIONING FROM BEAUMONT MDP LINE 16, STAGE 50 RECHARGE BASIN FEEDER PLANS.
 5. ALL PIPELINE STATIONING ALONG CENTERLINE OF PIPE, UNLESS OTHERWISE NOTED.



LINE/CURVE DATA TABLE			
	BEARING/DELTA	RADIUS	LENGTH(±) (LF)
14	N 46°46' 01" E	-	9
15	N 01°48'55" E	-	166
16	N 43°13'59" W	-	6
NOBLE STREET CENTERLINE DATA TABLE			
E	N 01°46'39" E	-	71
F	N 01°45'26" E	-	305

NOTE:
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48 hours BEFORE excavation
 1-(800)227-2600
 CALL Underground Service Alert

BENCHMARK: NAVD88 DATUM Z-17350
FD 1/2" IR W/ RCFC TS CAP
FL EL. 2816.73
BEAUMONT-CHERRY VALLEY WATER DISTRICT
ENGINEERING
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PRINT DATE

SYM	REVISIONS	DATE	BY



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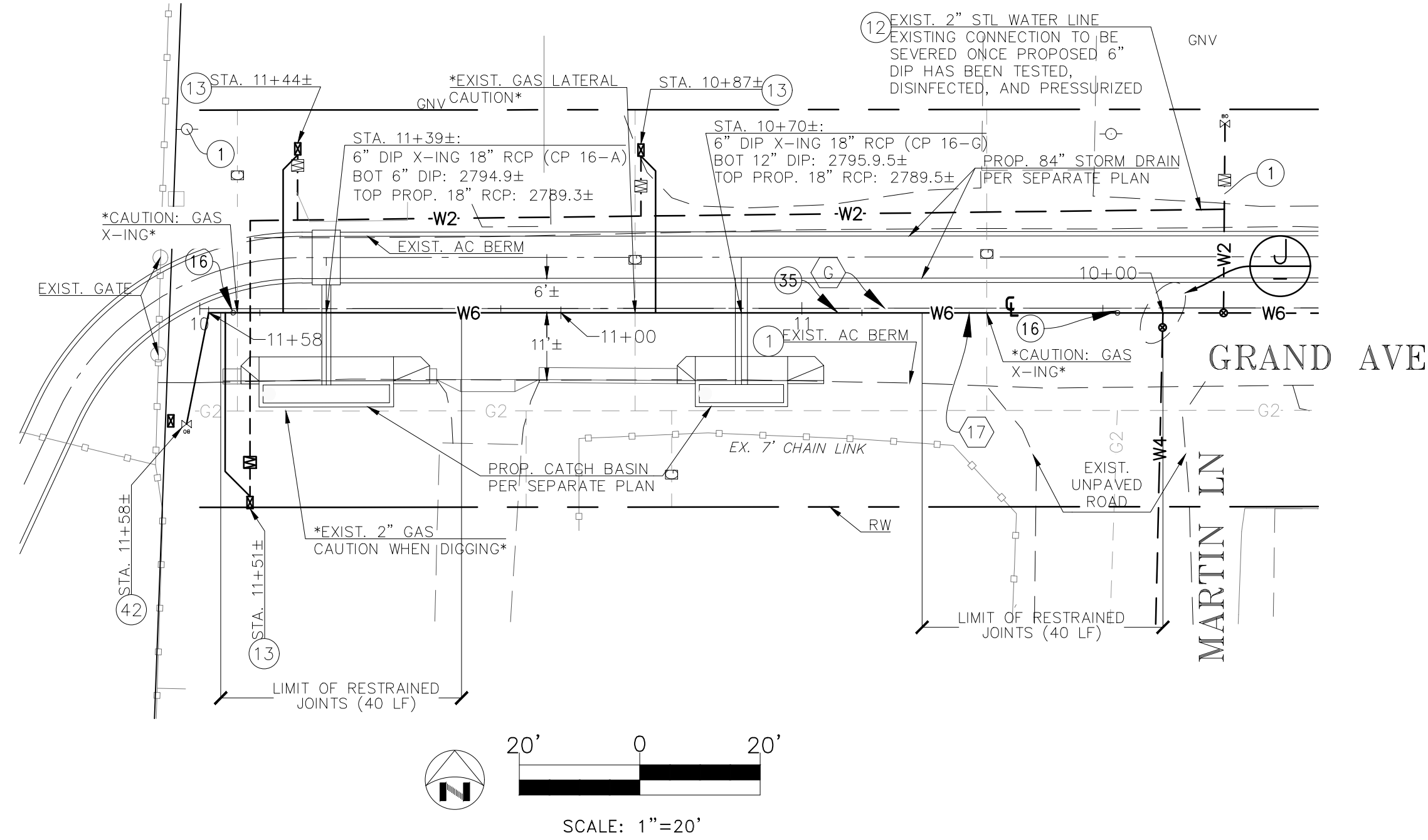
APPROVED BY _____
 REGISTERED ENGINEER No. _____ DATE _____

SCALE	AS NOTED
FIELD BOOK	N/A
DESIGN	DAB
DRAWN	DAB
CHECKED	MBS

BCVWD
 PIPELINE RELOCATION PLAN
PIPELINE 4: STA.: 10+00 - STA.: 12+42±
 (NOBLE ST STA.: 10+58± - STA.: 12+95±)
PLATE 6-1

PZ 3040
 SHEET
4
 OF 5 SHEETS
 FILE No.

RECD COUNTY OVERSIGHT ENGINEER REGISTRATION # DATE SIGNED
 APPROVED AS TO COMPLIANCE WITH APPLICABLE COUNTY STANDARDS AND PRACTICES (TRANSPORTATION DEPARTMENT ONLY - ROW/OFFSITE)



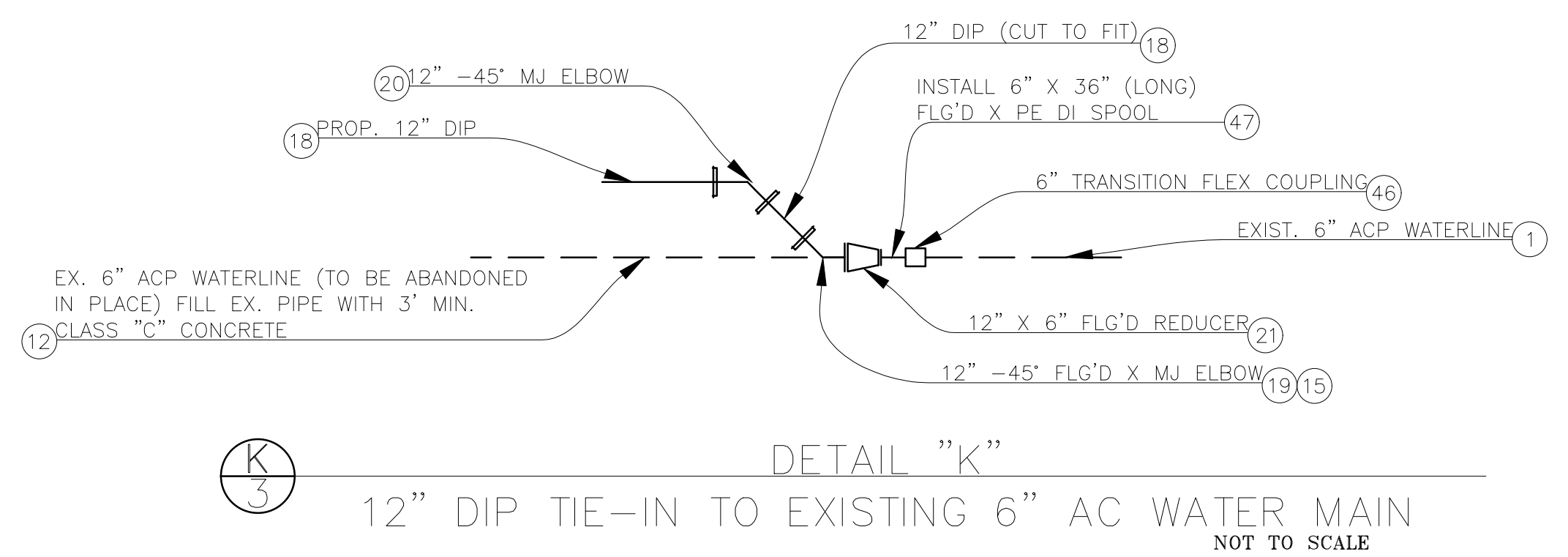
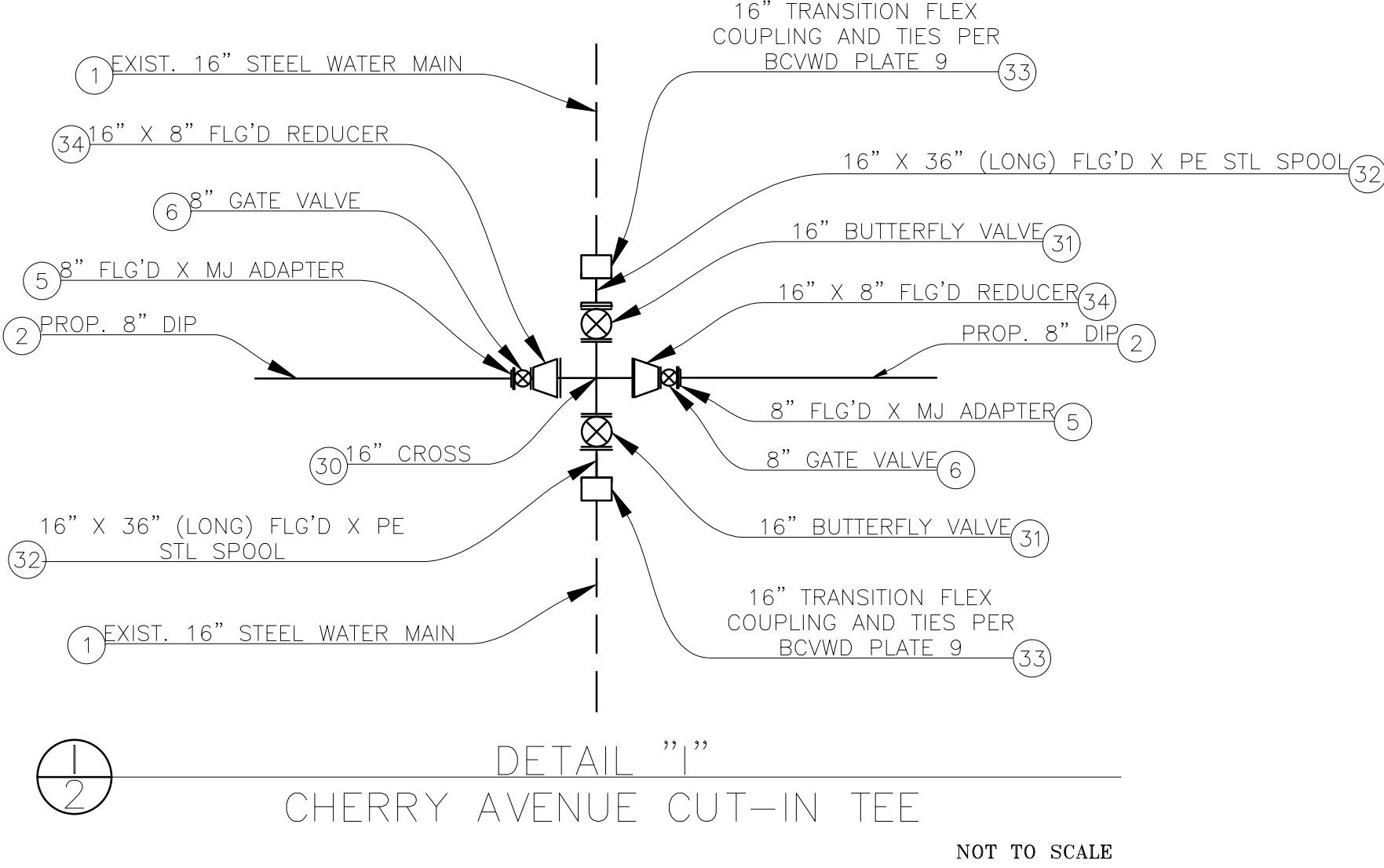
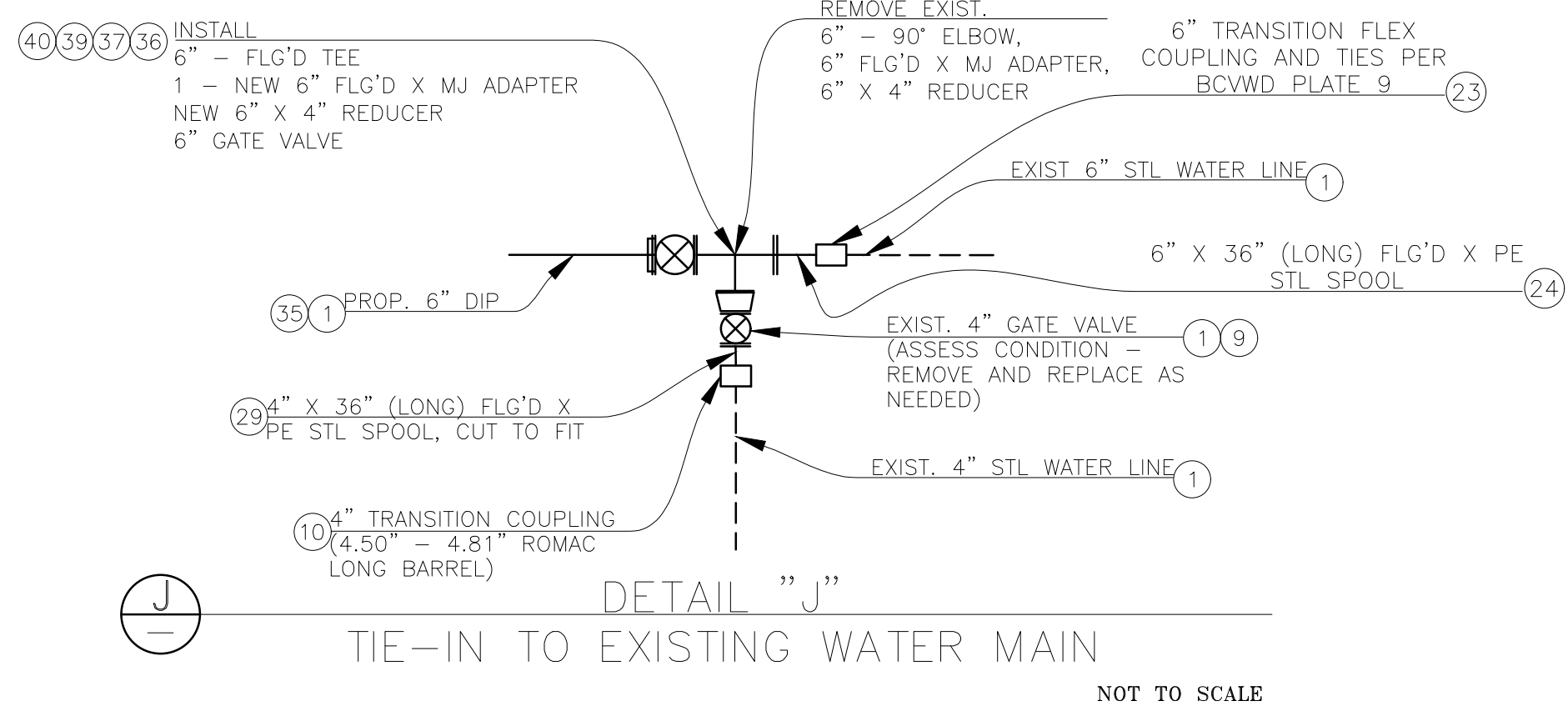
LINE/CURVE DATA TABLE		
BEARING/DELTA	RADIUS	LENGTH(±) (LF)
(17) N 90°00'00" E	-	158
GRAND AVENUE CENTERLINE DATA TABLE		
(6) N 90°00'00" E	-	186

GENERAL CONSTRUCTION & NOTES

- ALL PIPELINES SHALL BE FULLY RESTRAINED WITH RESTRAINED JOINT GASKETS PER BCVWD STANDARD SPECIFICATIONS.
- INSTALL CLASS II AGGREGATE BASE (FURNISHED BY DISTRICT) FROM TOP OF PIPE ZONE TO GROUND SURFACE ALONG ALL NEW AND EXISTING PIPELINE TRENCHES PER BCVWD PLATE 6-1 AND 6-2, OR AS APPROVED BY THE COUNTY OF RIVERSIDE IN LOCATIONS WHERE NATIVE MATERIAL IS NOT SUITABLE FOR PROPER BACKFILL AND COMPACTION.
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CONSTRUCTION NOTES

- PROTECT IN PLACE
- INSTALL 8" DIP (CLASS 350) WITH POLYETHYLENE ENCASUREMENT AND BEDDING PER BCVWD PLATE 6-1 (36" MIN COVER)
- INSTALL 8" FLG'D X MJ ADAPTER
- INSTALL 8" GATE VALVE
- INSTALL 4" GATE VALVE PER BCVWD PLATE 2
- INSTALL 4" TRANSITION FLEX COUPLING FROM 4.50 - 4.81 (ROMAC LONG BARREL)
- DISINFECT ALL POTABLE WATER SERVICE PIPING AND APPURTENANCES (PER AWWA STANDARD)
- ABANDON IN PLACE EXISTING PIPELINE AND PLUG SERVED PIPE ENDS WITH 3" MINIMUM CLASS "C" CONCRETE PLUG (EACH END)
- INSTALL DISTRICT FURNISHED 1" SERVICE SADDLE, CORPORATION STOP, AND SERVICE LATERAL PIPING PER BCVWD STANDARD PLATE 6-3. ONCE TESTING AND DISINFECTION IS COMPLETE, REMOVE EXISTING METER AND INSTALL NEW DISTRICT FURNISHED METER AND CONNECT TO NEW SERVICE LATERAL.
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- INSTALL 2" RISER AND TEST PLATE FOR DISINFECTION AND TESTING. REMOVE TEST PLATE AT END OF CHLORINATION AND TESTING PROCESS. REMOVE RISER AND PLUG TEST LOCATION.
- INSTALL 6" TRANSITION FLEX COUPLING FROM 6.60" - 6.91" (ROMAC LONG BARREL) AND TIES PER BCVWD PLATE 9
- INSTALL 6" X 36" (LONG) FLG'D X PE STL SPOOL
- INSTALL 4" X 36" (LENGTH) FLG'D X PE STL SPOOL (CUT TO FIT).
- INSTALL 16" D.I. FLG'D CROSS
- INSTALL 16" BUTTERFLY VALVE
- INSTALL 16" X 36" (LONG) FLG'D X PE STL SPOOL
- INSTALL 16" TRANSITION COUPLING AND TIES PER BCVWD PLATE 9. (ROMAC LONG BARREL, 16.00" - 16.40" GASKET)
- INSTALL 16" X 8" FLG'D REDUCER
- INSTALL 6" DIP (CLASS 350) WITH POLYETHYLENE ENCASUREMENT AND BEDDING PER BCVWD PLATE 6-1 (36" MIN. COVER)
- INSTALL 6" - FLG'D TEE
- INSTALL 6" X 4" FLG'D ECCENTRIC REDUCER
- INSTALL 6" GATE VALVE PER BCVWD PLATE 2
- INSTALL 6" FLG'D X MJ ADAPTER
- INSTALL 4" BLOWOFF ASSEMBLY PER BCVWD PLATE 3-1
- INSTALL 6" TRANSITION FLEX COUPLING FROM 6.60" - 6.91" x 7.15" - 7.35" (ROMAC LONG BARREL)
- INSTALL 6" X 36" (LONG) FLG'D X PE DI SPOOL



NOTE:
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SYM	REVISIONS	DATE	BY



BEAUMONT-CHERRY VALLEY WATER DISTRICT
 560 Magnolia Ave. • Beaumont, CA. 92223 • 951-845-9581

APPROVED BY _____
 REGISTERED ENGINEER No. _____ DATE _____

SCALE	AS NOTED
FIELD BOOK	N/A
DESIGN	DAB
DRAWN	DAB
CHECKED	MBS

BCVWD
 PIPELINE RELOCATION PLAN
 CHERRY AVENUE CUT-IN TEE DETAIL
 AND GRAND AVENUE - WEST OF
 MARTIN LANE

PZ 3040

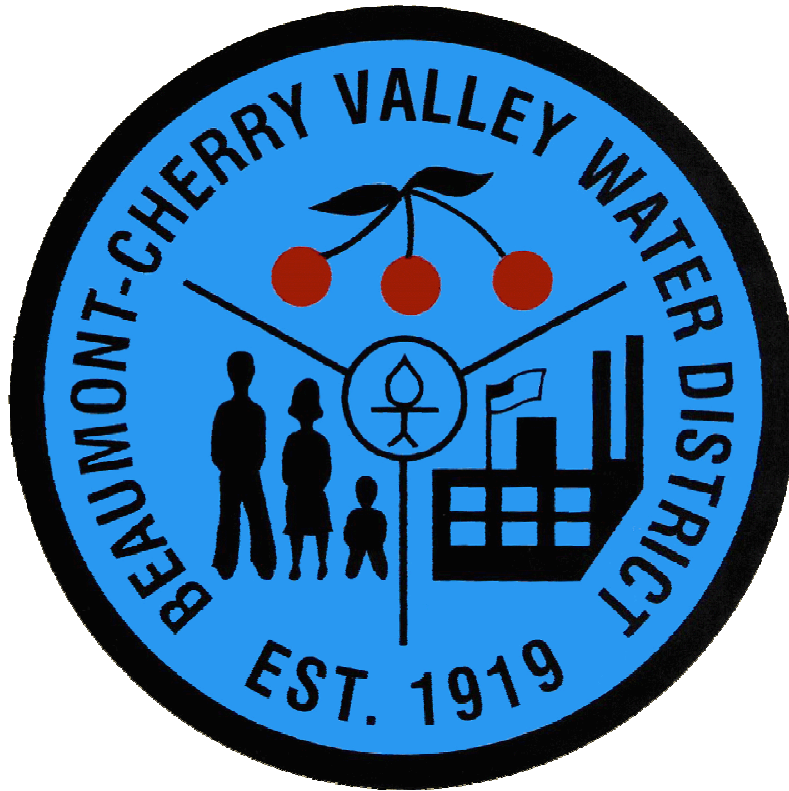
SHEET
5
 OF 5 SHEETS
 FILE No.

BEAUMONT-CHERRY VALLEY WATER DISTRICT

PIPELINE RELOCATION PROJECT for BEAUMONT MDP LINE 16

APPENDIX B

STANDARD DRAWINGS



**DISTRICT STANDARDS FOR THE
FURNISHING OF MATERIALS AND
CONSTRUCTION OF
WATER AND RECYCLED WATER FACILITIES
AND
PREPARATION OF WATER SYSTEM PLANS**

**BEAUMONT CHERRY VALLEY WATER DISTRICT
560 MAGNOLIA AVENUE
P.O. BOX 2037
BEAUMONT, CA 92223**

(951) 845-9581

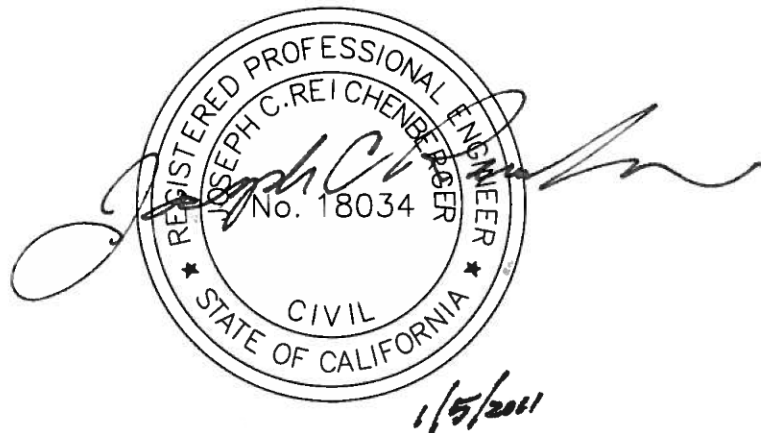
**1
January 2011**

REGISTERED ENGINEER'S STAMP

District Standards for the
Furnishing of Materials and
Construction of Water and Recycled Water Facilities
And
Preparation of Water System Plans

Dated
January 2011

These specifications have been prepared by or under the direction of the following
registered engineer.

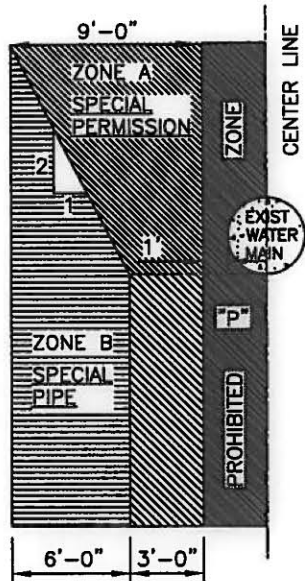


24. Contractor shall furnish to the District electronic files in AutoCAD format of the signed and approved "Record Drawings" and GIS digital data definition tables, per District standards, prior to final acceptance of the work.
25. Contractor shall furnish to the District copies of all soil compaction test reports for the installed recycled water mains prior to final acceptance of the work.
26. Contractor shall furnish to the District intersect tie plates in accordance with District Standard Plate No. D-2 for all valve locations prior to final acceptance of the work.

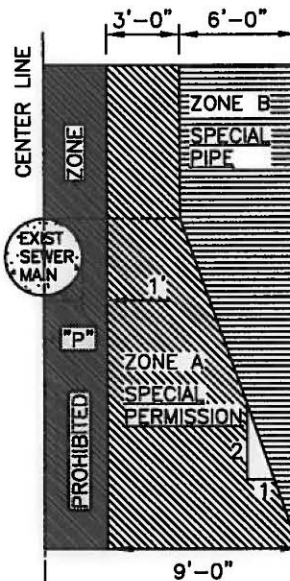
CONSTRUCTION NOTES

POTABLE AND RECYCLED WATER

1. All mechanical fittings to be restrained.
2. All hydrant tees shall be mechanical joint X flange outlet.
3. All joints to be restrained shall be with U. S. Pipe, "Field-Lok 350", mega lugs (if mechanical joint), McWane, Sure Stop 350 gaskets, or District approved equal.
4. All hydrant, drain, and blow-off laterals shall have restrained joints.
5. Install restrained joints (two pipe lengths) before and after all tees, crosses, and elbows (horizontal and vertical), as a minimum.
6. All proposed 4 inch blow-off and air vacuum valve assemblies at interface connections are temporary.
7. Domestic water line shall be minimum Pressure Class 200 DIP under storm drain crossings. A 20' length of DIP shall be centered under storm drain such that no water main joints are within 4' of the outside diameter of the storm drain. The vertical clear separation shall be minimum 1 foot.



NEW SEWER MAIN

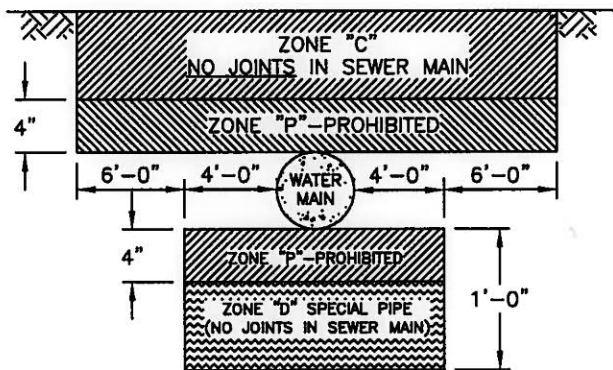


NEW WATER MAIN

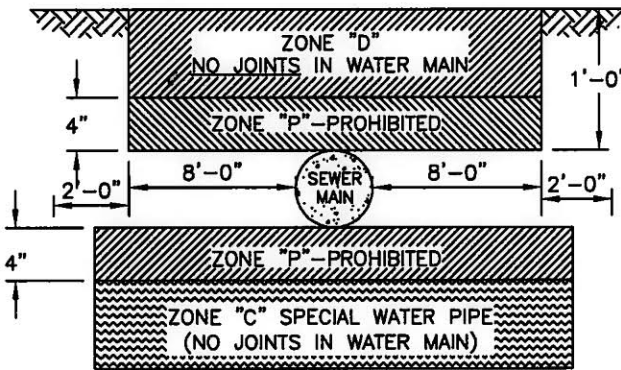
NOTE:

ZONES IDENTICAL ON EITHER SIDE OF CENTER LINES.
 ZONES "P" IS A PROHIBITED ZONE SECTION 64630 (e) (2) CALIFORNIA CODE OF REGULATIONS, TITLE 22 (CURRENT); OR SECTION 64572 (a) CALIFORNIA CODE OF REGULATIONS, TITLE 22 (PROPOSED).
 DIMENSIONS ARE FROM OUTSIDE OF WATER MAIN TO OUTSIDE OF SEWER.

PARALLEL CONSTRUCTION



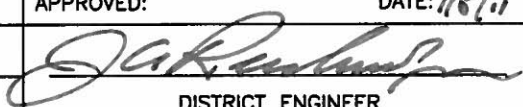
NEW SEWER MAIN



NEW WATER MAIN

CROSSINGS

NOT TO SCALE

REVISED	PREPARED BY: PARSONS	DATE: 08/06
03/10	APPROVED:	DATE: 11/5/11
 DISTRICT ENGINEER		

BEAUMONT CHERRY VALLEY WATER DISTRICT	
WATER-SEWER SEPARATION REQUIREMENTS	PLATE D4-1

BEAUMONT CHERRY VALLEY WATER DISTRICT

WATER - SEWER SEPARATION REQUIREMENTS

Appropriate alternative construction criteria for two different cases in which the regulatory criteria for sanitary sewer main and water main separation cannot be met are shown in District Standard Plate No. D4-1.

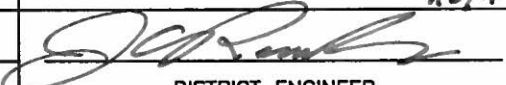
- Case 1 – New sanitary sewer main and a new or existing water main; alternative construction criteria apply to the sanitary sewer main.
- Case 2 – New water main and an existing sanitary sewer main; alternative construction criteria may apply to either or both the water main and sanitary sewer main.

Case 1: New Sanitary Sewer Main Installation

ZONE SPECIAL CONSTRUCTION REQUIRED FOR SEWER

- A. Sewer lines will not be permitted in this zone without prior written approval from the Health Department and Beaumont Cherry Valley Water District.
- B. If the water main does not meet the class 2 Zone B requirements given below, the sewer should be constructed of one of the following:
1. High-density-polyethylene (HDPE) pipe with fusion welded joints (per AWWA C906);
 2. Spirally-reinforced HDPE pipe with gasketed joints (per ASTM F-894);
 3. Extra strength vitrified clay pipe with compression joints;
 4. Class 4000, Type II, asbestos-cement pipe with rubber gasket joints;
 5. PVC sewer pipe with rubber ring joints (per ASTM D3034) or equivalent;
 6. Cast or ductile iron pipe with compression joints; or
 7. Reinforced concrete pressure pipe with compression joints (per AWWA C302).
- C. If the water main crossing below the sanitary sewer main does not meet the requirements for Case 2 Zone C, the sanitary sewer main should have no joints within ten feet from either side of the water main (in Zone C) and should be constructed of one of the following:
1. A continuous section of ductile iron pipe with hot dip bituminous coating; or
 2. One of the Zone D options 1, 3, 4, or 5 below.
- D. If the water main crossing above the sanitary sewer main does not meet the Case 2 Zone D requirements, the sanitary sewer main should have no joints within four feet from either side of the water main (in Zone D) and be constructed of one of the following:
1. HDPE pipe with fusion-welded joints (per AWWA C906)
 2. Ductile iron pipe with hot dip bituminous coating and mechanical joints (gasketed, bolter joints);
 3. A continuous section of Class 200 (DR 14 per AWWA C900) PVC pipe or equivalent, centered over the pipe being crossed; or
 4. A continuous section of reinforced concrete pressure pipe (per AWWA C302) centered over the pipe being crossed; or
 5. Any sanitary sewer main within a continuous sleeve.

NOT TO SCALE

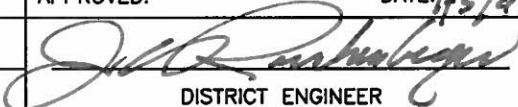
REVISED	PREPARED BY: PARSONS	DATE: 08/06	BEAUMONT CHERRY VALLEY WATER DISTRICT	
12/10	APPROVED:	DATE: 1/5/11	WATER-SEWER SEPARATION REQUIREMENTS	
	 DISTRICT ENGINEER		PLATE D4-2	

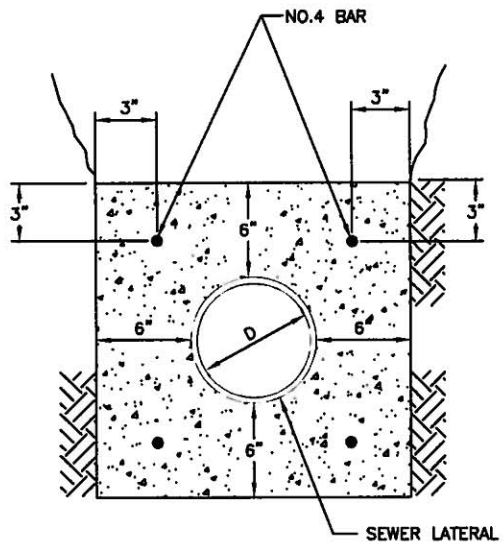
Case 2: Special Construction Required for Water Main

ZONE SPECIAL CONSTRUCTION REQUIRED FOR SEWER

- A. No water mains shall be constructed without prior written authorization from the Health Department.
- B. If the sewer does not meet the Case 1 Zone B requirements given above, the water main shall be constructed of one of the following:
 - 1. Ductile iron pipe with hot dip bituminous coating.
 - 2. Dipped and wrapped one-fourth-inch-thick welded steel pipe.
- C. If the sewer crossing above the water main does not meet the Class 1 Zone C requirements given above, the water main should have no joints within ten feet from either side of the sewer main (in Zone C) and be constructed of one of the following:
 - Ductile iron pipe with hot dip bituminous coating.
 - Dipped and wrapped one-fourth-inch-thick welded steel pipe.
- D. If the sanitary sewer main crossing below the water main does not meet the requirements for Case 1 Zone D, the water main should have no joints within eight feet from either side of the sanitary sewer main (in Zone D) and should be constructed as for Zone C.

NOT TO SCALE

REVISD	PREPARED BY: PARSONS	DATE: 08/06	BEAUMONT CHERRY VALLEY WATER DISTRICT	
12/10	APPROVED:	DATE: 1/5/11		
 DISTRICT ENGINEER			WATER-SEWER SEPARATION REQUIREMENTS	PLATE D4-3




HOUSE LATERALS:

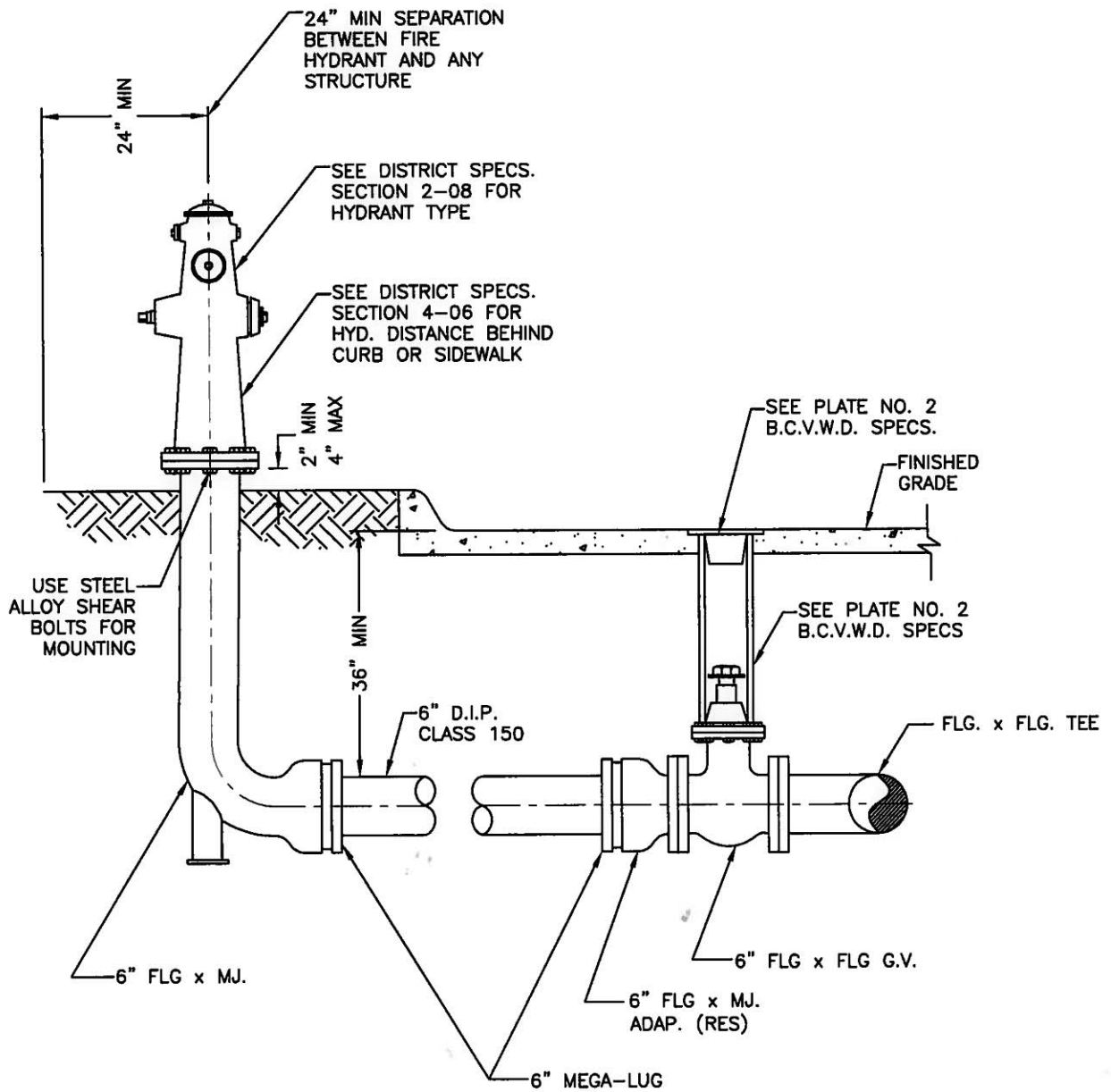
THE SPECIAL CONSTRUCTION REQUIREMENTS SHALL APPLY TO SEWER HOUSE LATERALS THAT CROSS ABOVE A WATER MAIN, BUT NOT TO THOSE SEWER HOUSE LATERALS THAT CROSS BELOW A WATER MAIN.

CONCRETE SHALL HAVE A 28-DAY COMPRESSIVE STRENGTH OF 3000 PSI.

CONCRETE ENCASEMENT SHALL EXTEND 10' BEYOND WATER SERVICE ON BOTH SIDES.

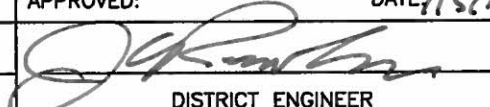
NOT TO SCALE

REVISD	PREPARED BY: PARSONS	DATE: 08/06	BEAUMONT CHERRY VALLEY WATER DISTRICT	
12/10	APPROVED:	DATE: 1/5/11		
	 DISTRICT ENGINEER		HOUSE WATER AND SEWER LATERAL CROSSINGS	PLATE D4-4

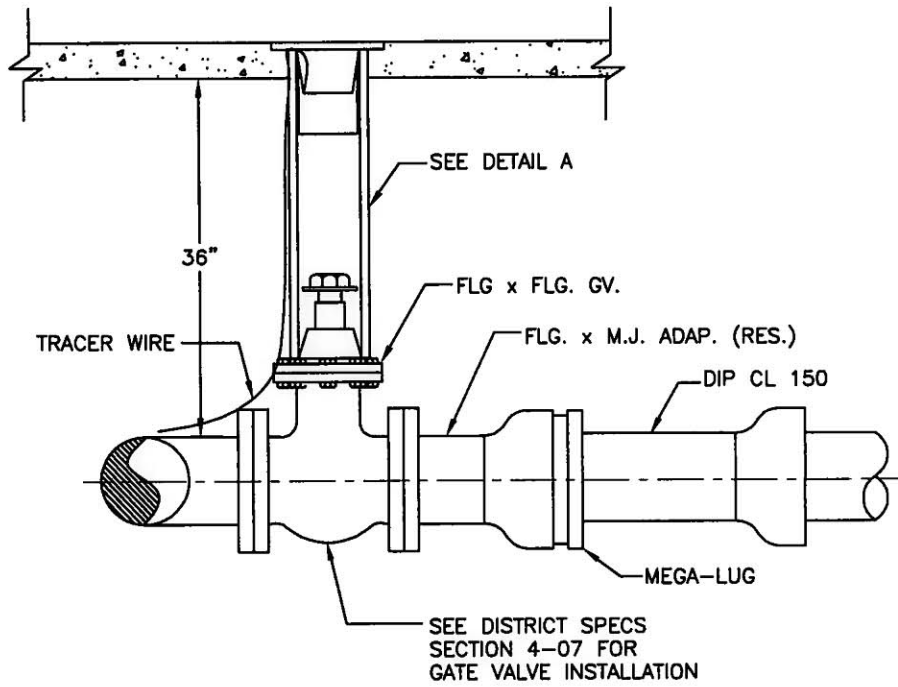


NOTE:
SHEAR BOLTS SHALL BE USED EVEN IF BREAK AWAY SPOOLS ARE USED ON TOP OF BURY.

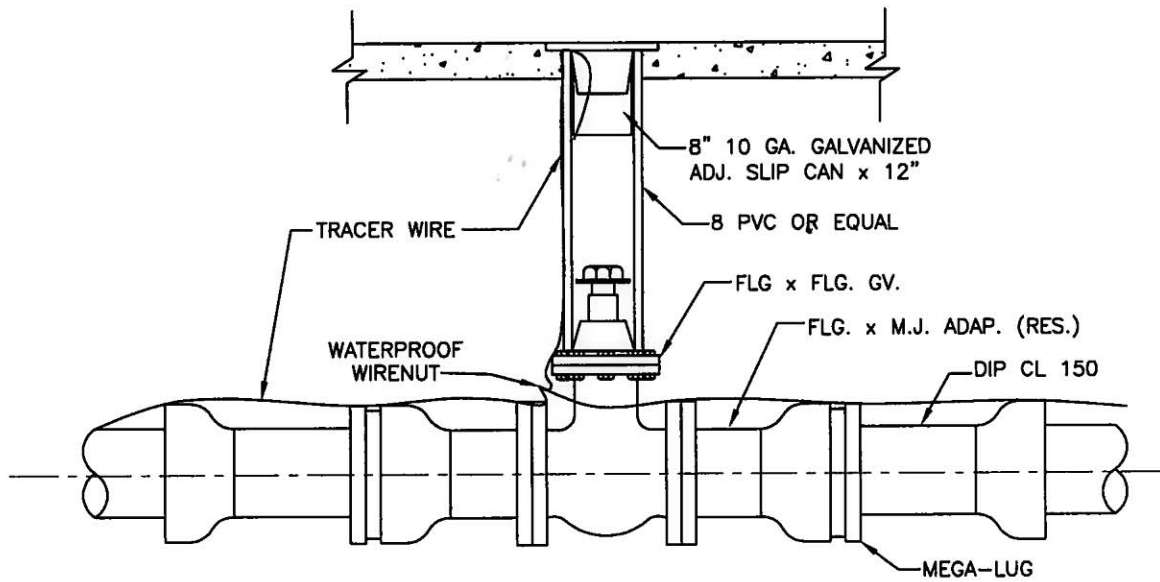
NOT TO SCALE

REVISED	PREPARED BY: PARSONS	DATE: 08/06	BEAUMONT CHERRY VALLEY WATER DISTRICT	
12/10	APPROVED:	DATE: 1/12/11		
	 DISTRICT ENGINEER		STANDARD FIRE HYDRANT	PLATE 1

FILE: X:\BCVWD_Projects\District_Projects\Standards\Plates

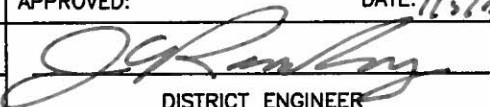


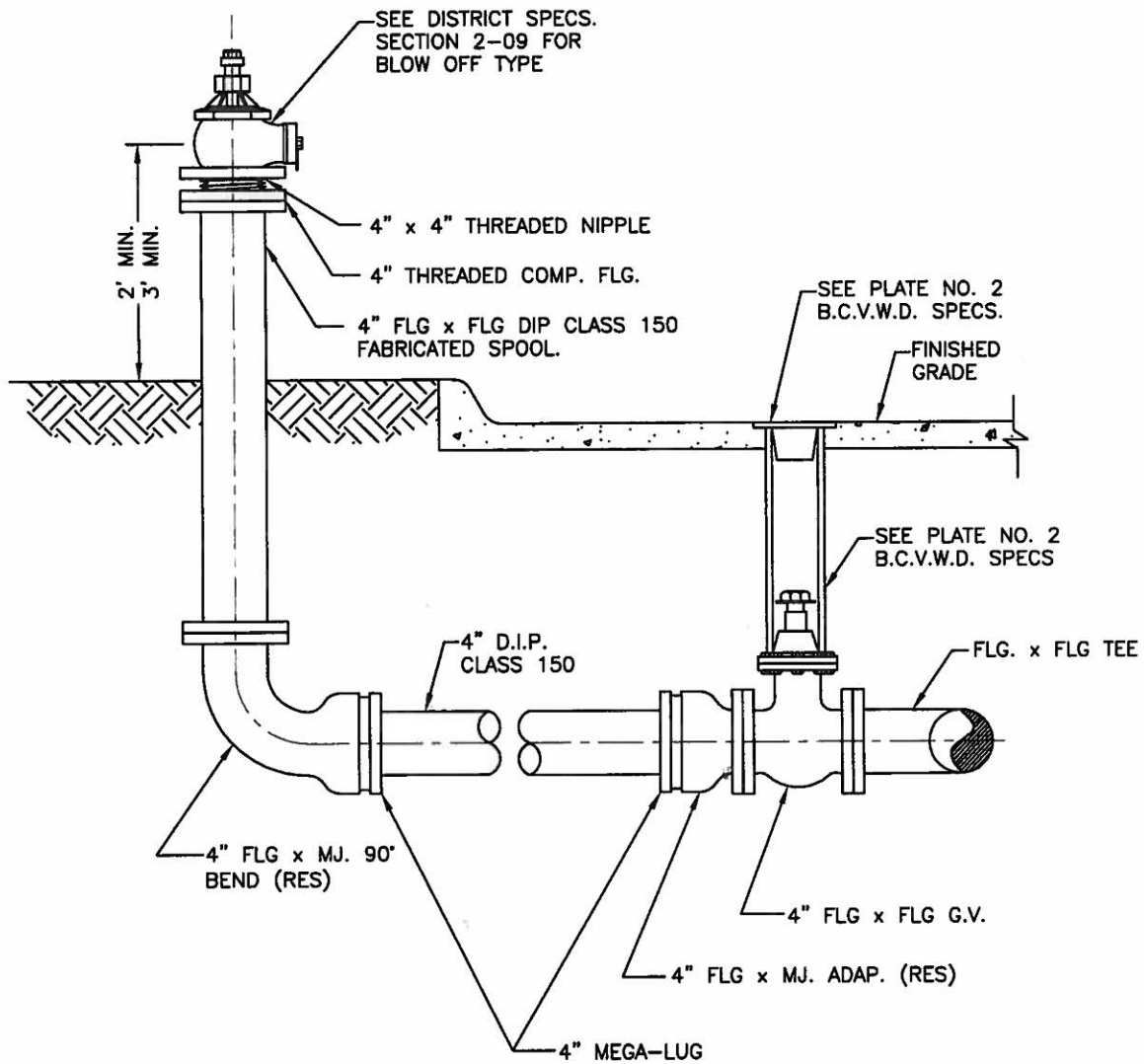
DETAIL B--(LATERAL VALVE)



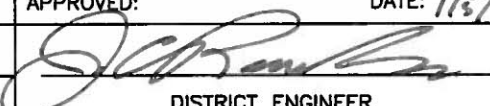
DETAIL-A (IN LINE VALVE)

NOT TO SCALE

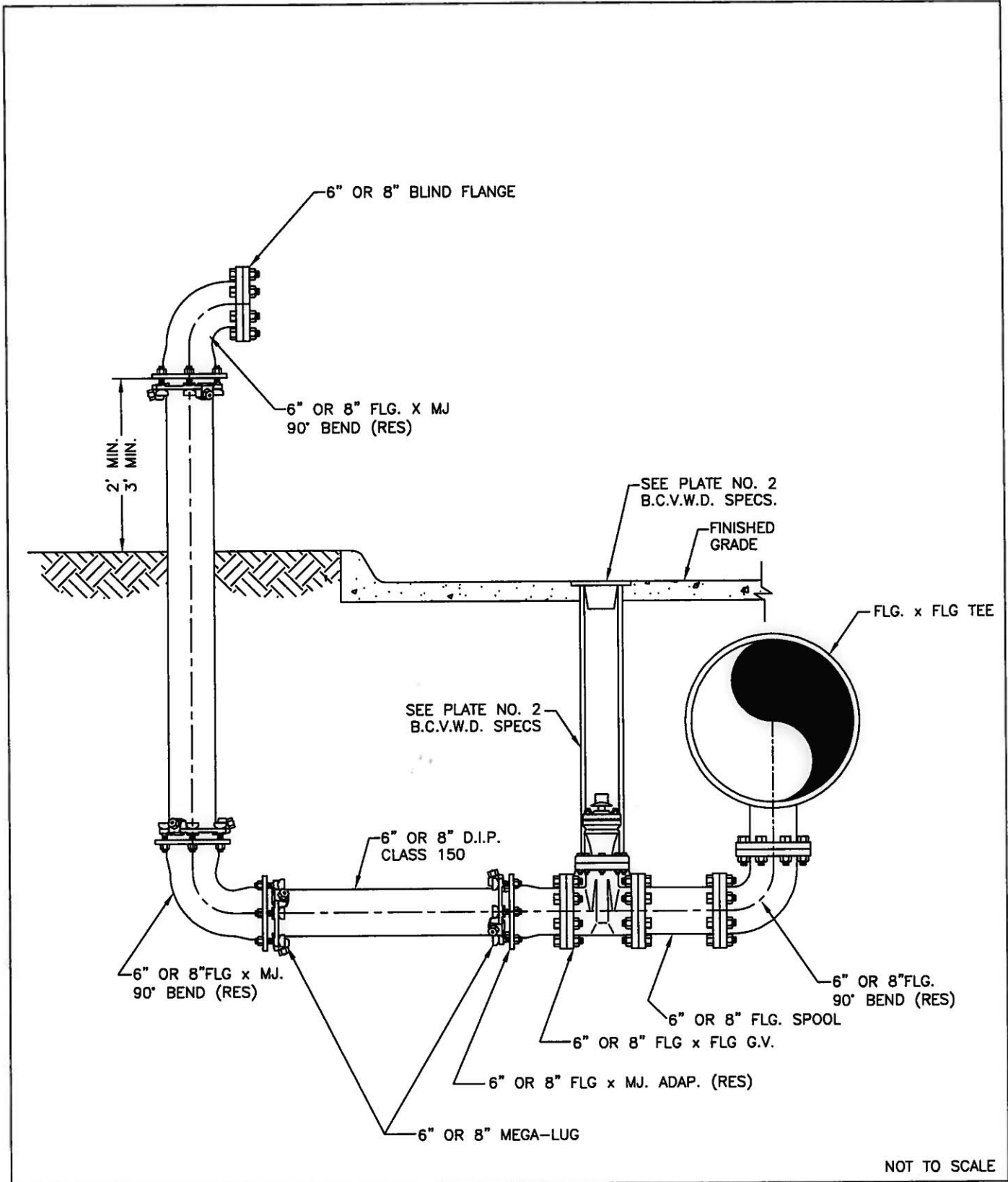
REVISED	PREPARED BY: PARSONS	DATE: 08/06	BEAUMONT CHERRY VALLEY WATER DISTRICT	
12/10	APPROVED:	DATE: 11/5/10		
	 DISTRICT ENGINEER		GATE VALVE/VALVE CAN INSTALLATION	PLATE 2



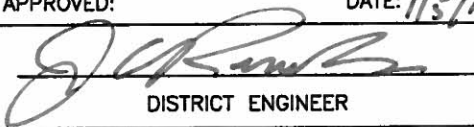
NOT TO SCALE

REVISED	PREPARED BY: PARSONS	DATE: 08/06	BEAUMONT CHERRY VALLEY WATER DISTRICT	
12/10	APPROVED:	DATE: 11/5/10		
	 DISTRICT ENGINEER		4-INCH BLOWOFF DETAIL	PLATE 3-1

FILE: X:\BCVWD_Projects\District_Projects\Standards\Plates

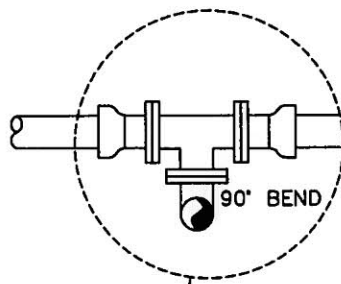
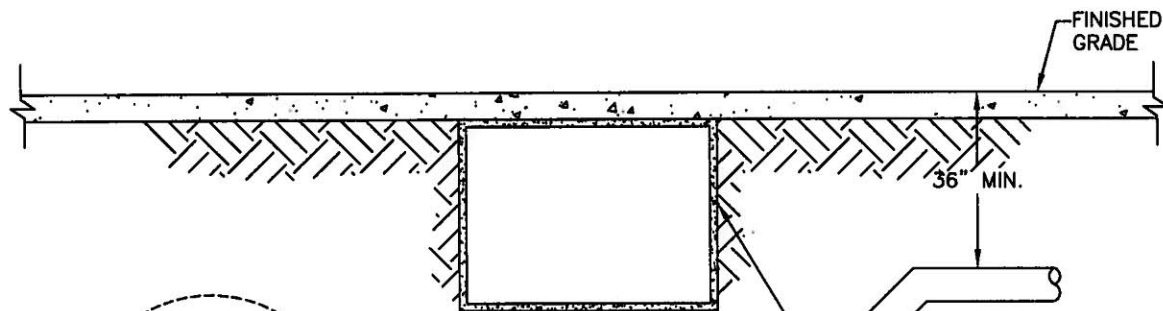


NOT TO SCALE

REVISED	PREPARED BY: PARSONS	DATE: 08/06
12/10	APPROVED:	DATE: 1/5/11
	 DISTRICT ENGINEER	

BEAUMONT CHERRY VALLEY WATER DISTRICT	
6 & 8-INCH BLOWOFF DETAIL	PLATE 3-2

FILE: X:\BCVWD_Projects\District_Projects\Standards\Plates

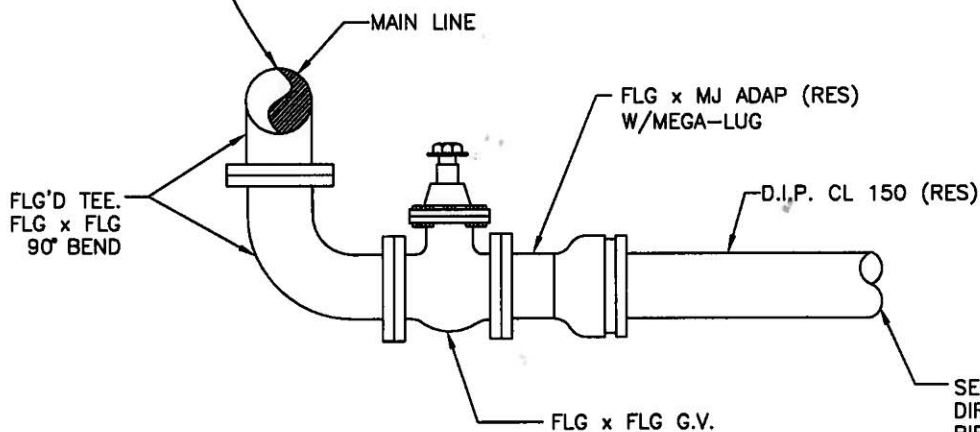


MAIN LINE

DRAINS TO BE INSTALLED AT LOWEST POINT.

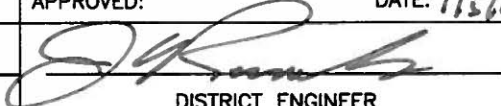
WHEN CROSSING UNDER WASHES, BOX CULVERT, STORM DRAINS, ETC. DRAIN ASSBLY'S ARE REQUIRED

DRAIN-SIZE	
P-SIZE	D-SIZE
<12"	4"
12"-18"	6"
18"<	8"



NOTE: NO WATER MAIN JOINTS UNDER STORM DRAIN FACILITIES ARE ALLOWED.

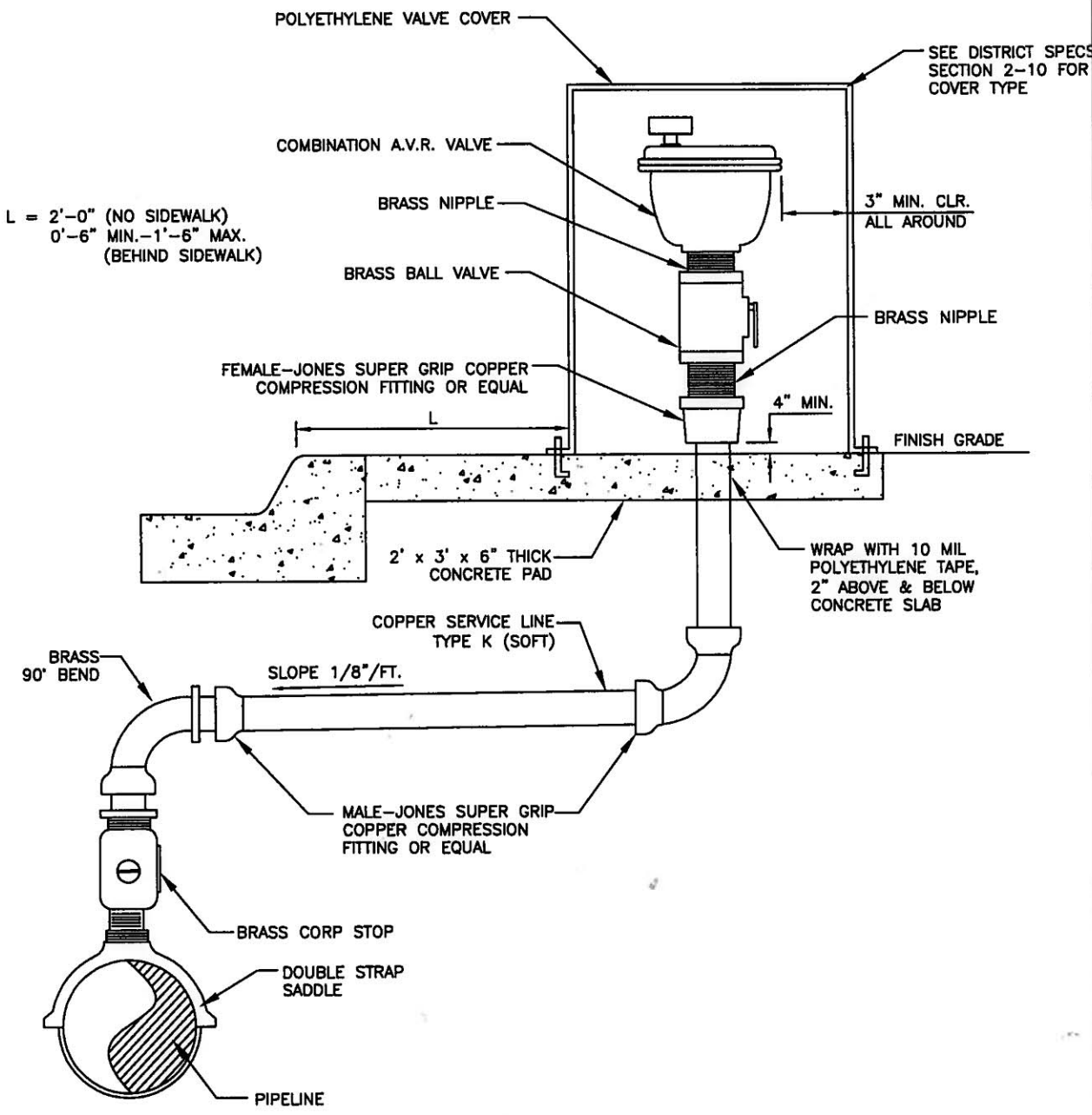
NOT TO SCALE

REVISED	PREPARED BY: PARSONS	DATE: 08/06
12/10	APPROVED:	DATE: 1/5/11
 DISTRICT ENGINEER		

BEAUMONT CHERRY VALLEY
WATER DISTRICT

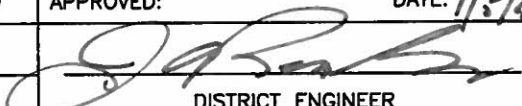
DRAIN DETAIL

PLATE
4



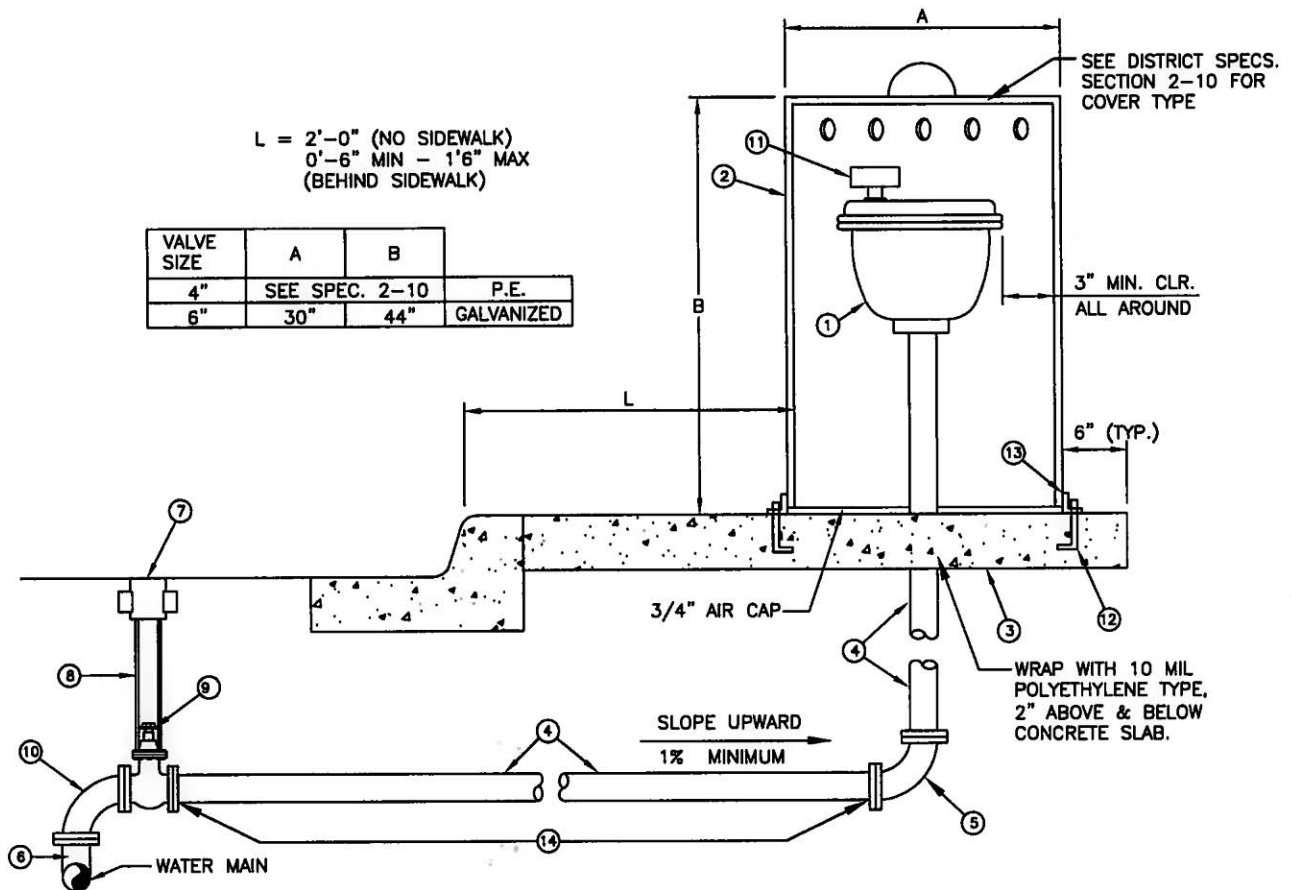
NOTE:
 COLOR SHALL BE DETERMINED BY THE DISTRICT.

NOT TO SCALE

REVISED	PREPARED BY: PARSONS	DATE: 08/06	BEAUMONT CHERRY VALLEY WATER DISTRICT	
12/10	APPROVED:	DATE: 11/5/14		
 DISTRICT ENGINEER			2" COMBINATION AIR-VAC ASSEMBLY DETAIL	PLATE 5-1

L = 2'-0" (NO SIDEWALK)
 0'-6" MIN - 1'6" MAX
 (BEHIND SIDEWALK)

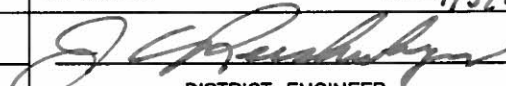
VALVE SIZE	A	B	
4"	SEE SPEC. 2-10		P.E.
6"	30"	44"	GALVANIZED

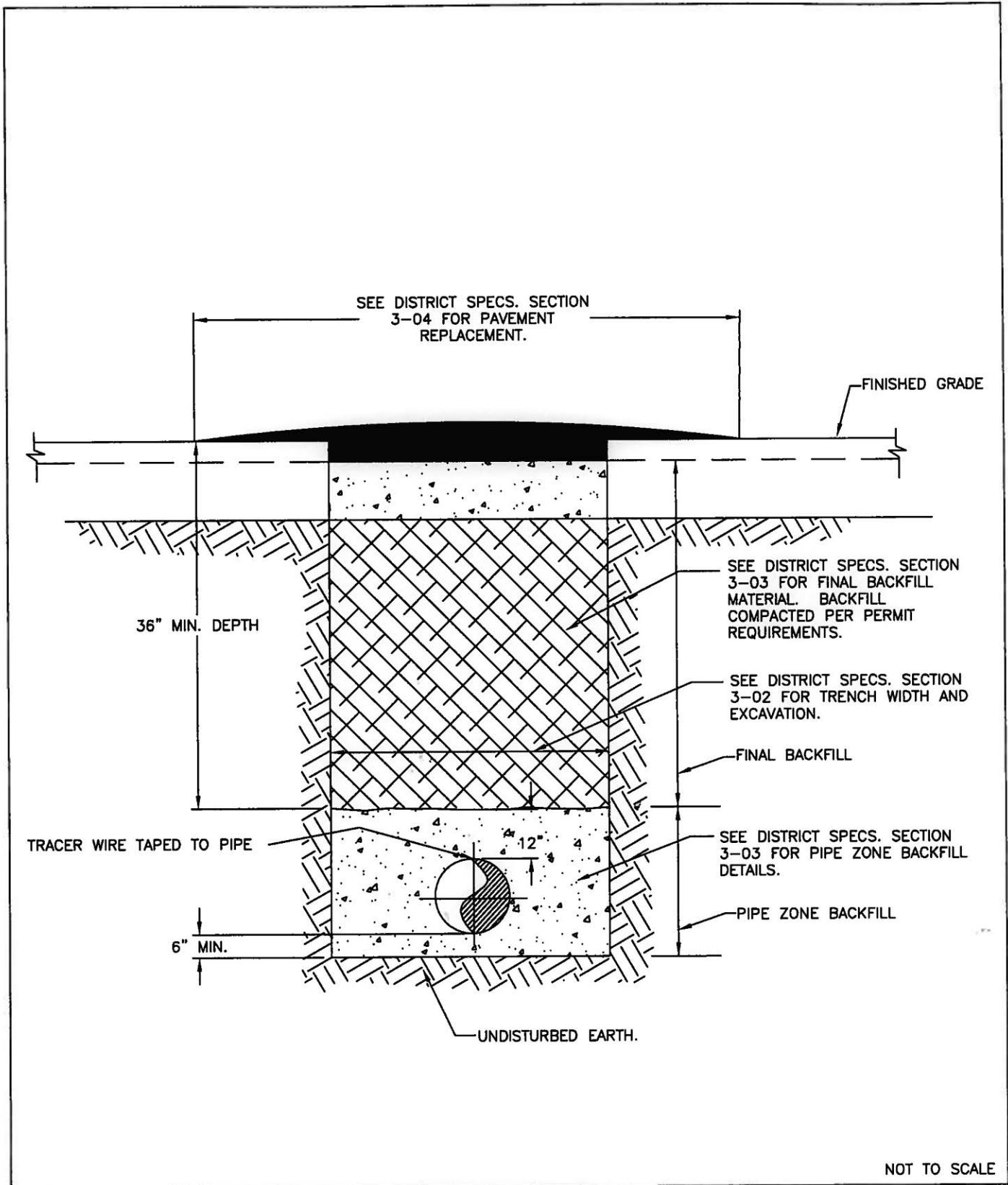


DETAIL NOTES:

- ① COMBINATION AIR/VACUUM VALVE. SEE DISTRICT STANDARDS
- ② ENCLOSURE
- ③ 6" THICK CONCRETE PAD
- ④ DUCTILE IRON PIPE. ALL JOINTS RESTRAINED.
- ⑤ 90° BEND FLANGED OR M.J. (RES).
- ⑥ FLANGED TEE w/FLG. X M.J. ADPT
- ⑦ VALVE BOX ASSEMBLY PER DISTRICT STANDARD PLATE NO. 2
- ⑧ NOT USED
- ⑨ RESILIENT SEAT GATE VALVE, FLANGED
- ⑩ 90° BEND FLANGED OR M.J. (RES).
- ⑪ THREADED PRE-FAB PVC SCREEN OUTLET WITH RIGID STAINLESS STEEL SCREEN
- ⑫ 4-5/8" X 3" ANCHOR BOLTS CAST IN PLACE OR REDHEAD (EQUALLY SPACED) (FOR 6" BLOWOFFS ONLY)
- ⑬ 4-2"x2"x1 1/2"x1/4" L-CLIPS
- ⑭ FLG x MJ ADAPTERS (RES).

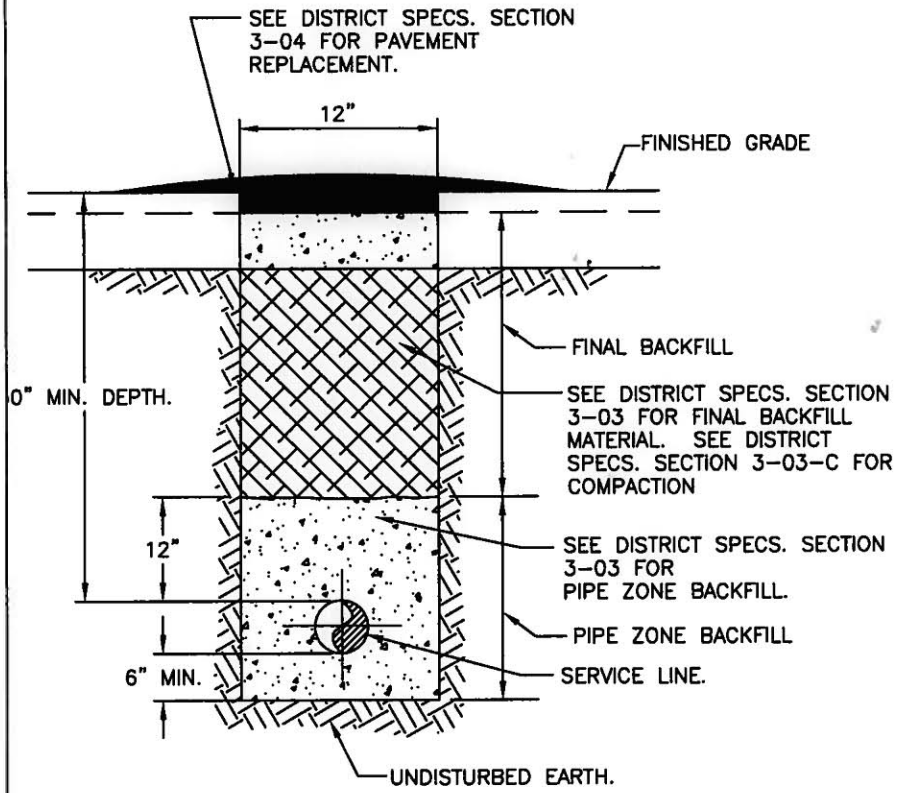
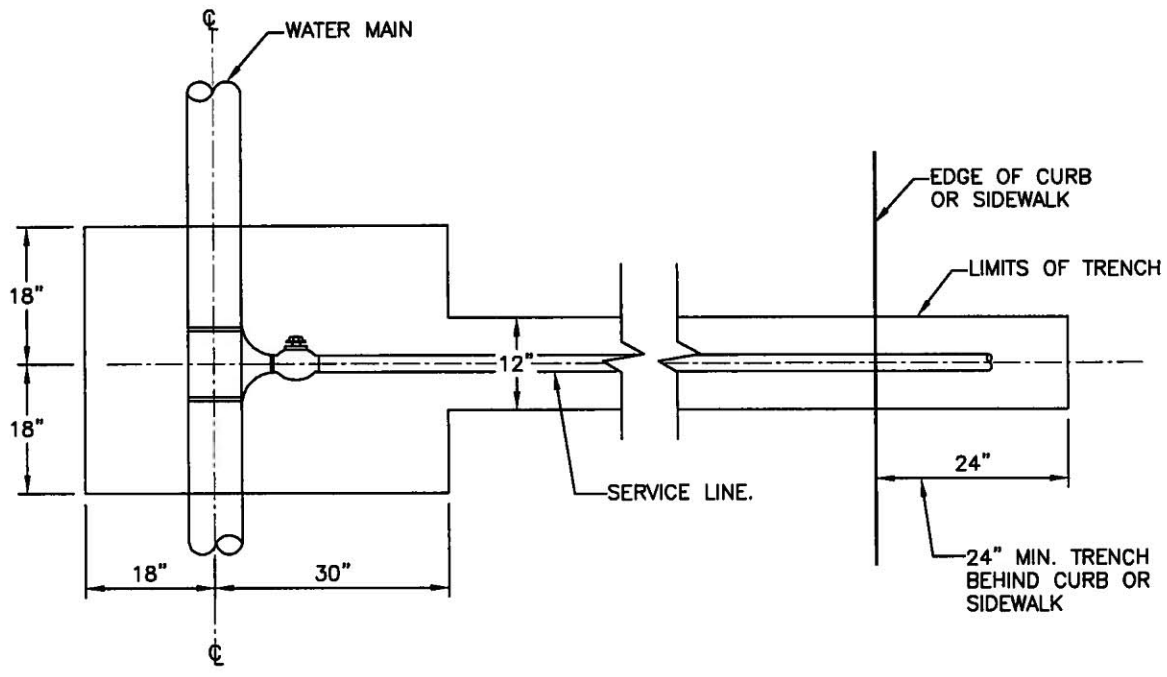
NOT TO SCALE

REVISED	PREPARED BY: PARSONS	DATE: 08/06	BEAUMONT CHERRY VALLEY WATER DISTRICT	
12/10	APPROVED:	DATE: 1/5/11		
 DISTRICT ENGINEER			4" & 6" COMBINATION AIR-VAC ASSEMBLY DETAIL	PLATE 5-2

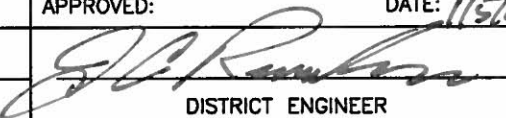


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12/10	APPROVED:	DATE: 1/5/11		
			TRENCH DETAIL	PLATE 6-1
	DISTRICT ENGINEER			

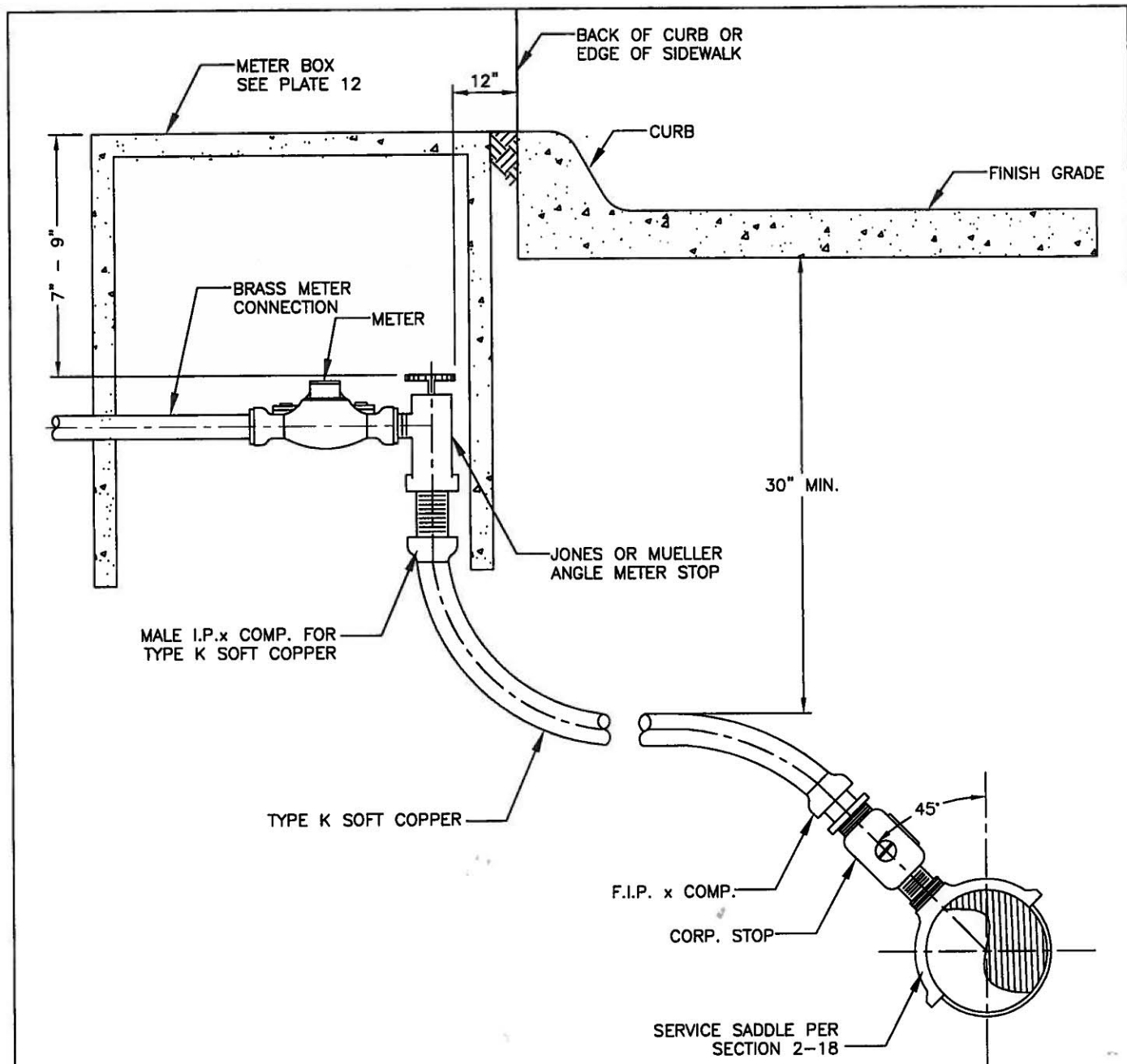
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REVISED	PREPARED BY: PARSONS	DATE: 08/06	BEAUMONT CHERRY VALLEY WATER DISTRICT	
12/10	APPROVED:	DATE: 11/5/11		
 DISTRICT ENGINEER			SERVICE TRENCH DETAIL	PLATE 6-2

FILE: X:\BCVWD_Projects\District_Projects\Standards\Plates



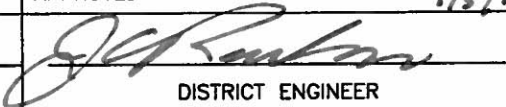
NOTES:

NO INTERMEDIATE COUPLINGS ARE ALLOWED BETWEEN CORPORATION STOP AND ANGLE METER STOP.

MINIMUM SPACING BETWEEN ANY 2 ADJACENT SADDLES ON THE MAIN LINE SHALL BE 18".

SERVICE LINE SHALL BE FREE OF KINKS AND COUPLINGS. ALL SERVICES WITH KINKS OR COUPLINGS SHALL BE REMOVED FROM CORPORATION STOP AT THE MAIN.

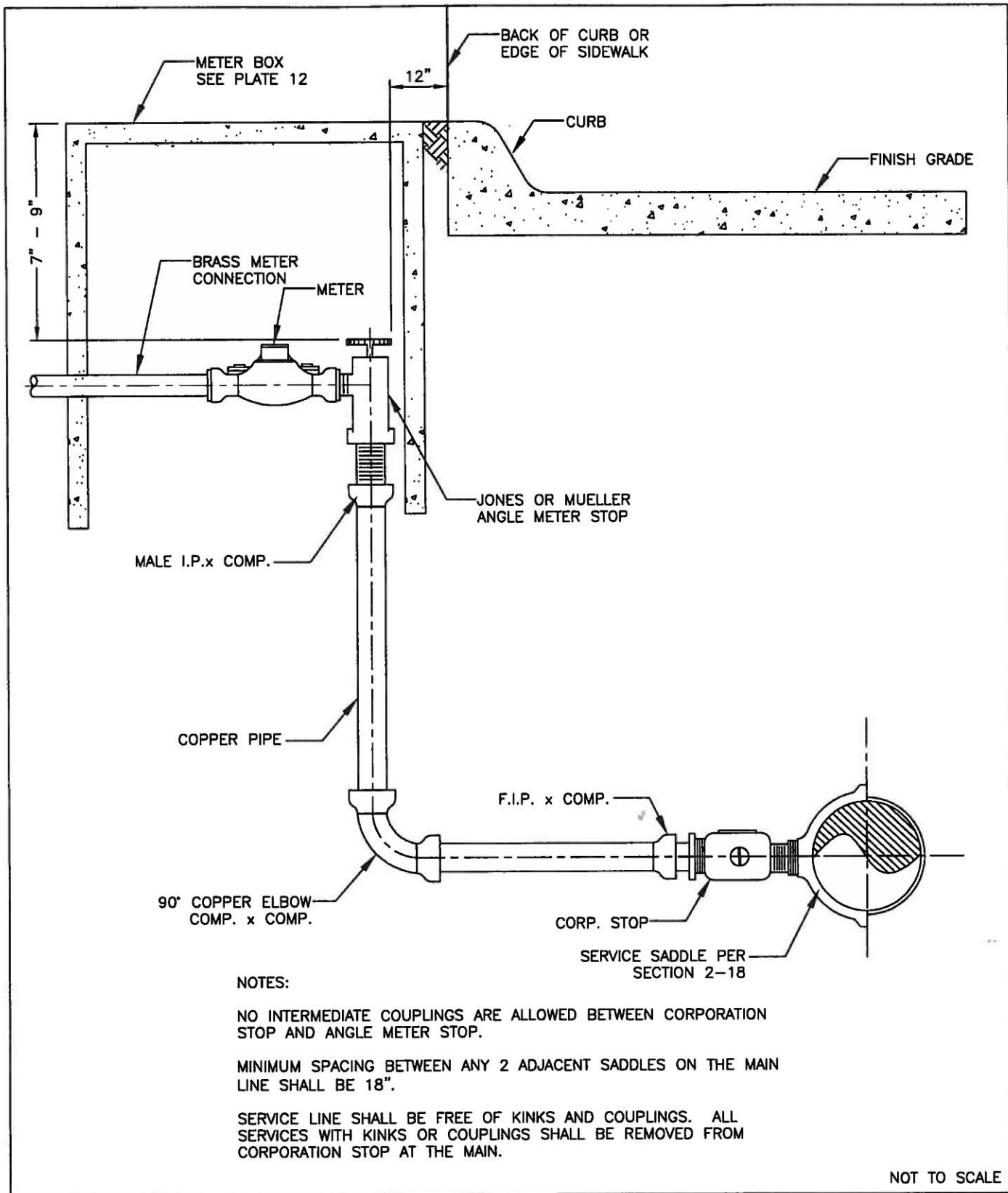
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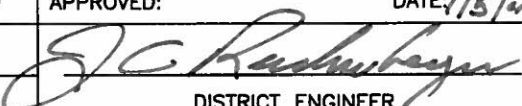
REVISED	PREPARED BY: PARSONS	DATE: 08/06
12/10	APPROVED:	DATE: 1/5/11
		
DISTRICT ENGINEER		

BEAUMONT CHERRY VALLEY
WATER DISTRICT

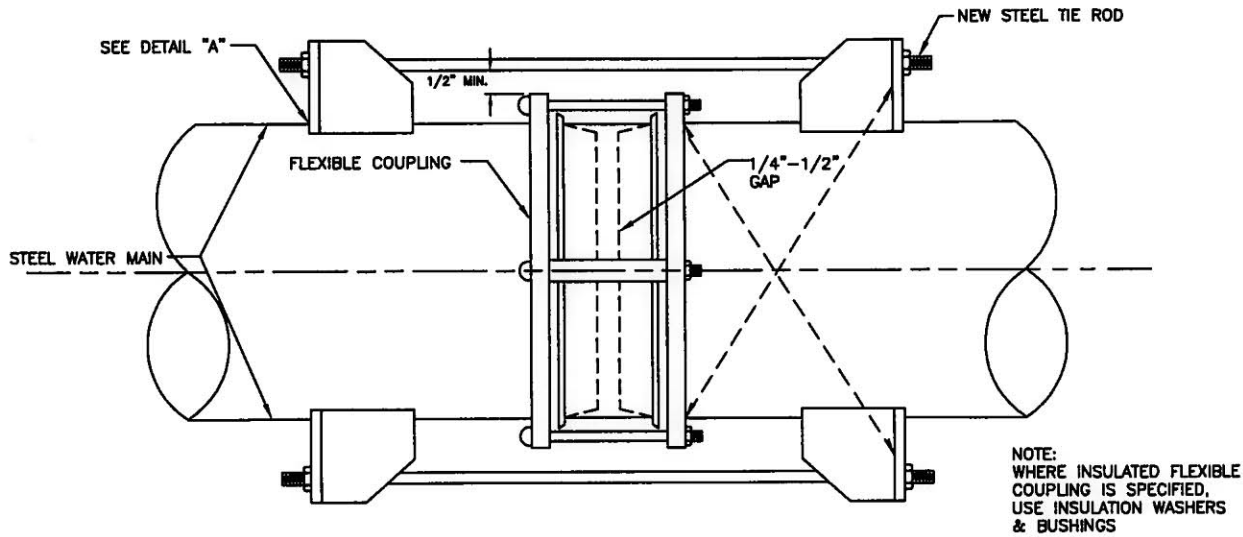
1" SERVICE LINE DETAIL

PLATE
6-3



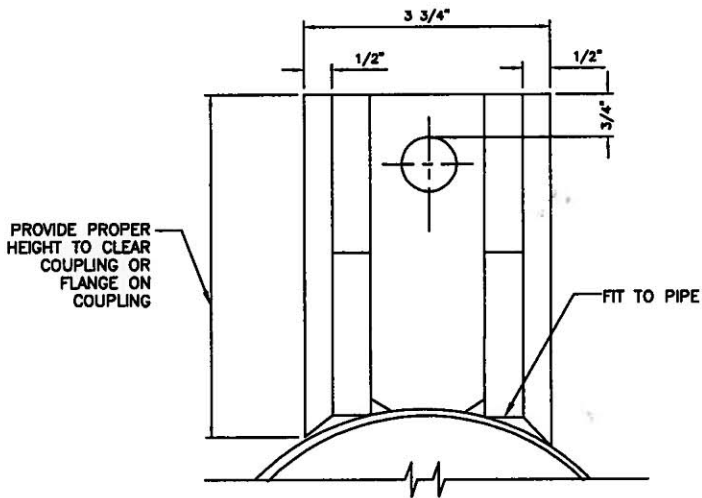
REVISED	PREPARED BY: PARSONS	DATE: 08/06
12/10	APPROVED:	DATE: 1/5/11
 DISTRICT ENGINEER		

BEAUMONT CHERRY VALLEY WATER DISTRICT	
2" SERVICE LINE DETAIL	PLATE 6-4

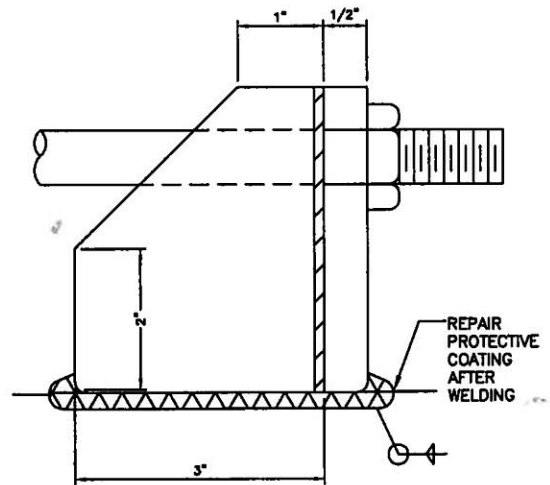


PLAN VIEW

NOTE:
WHERE INSULATED FLEXIBLE
COUPLING IS SPECIFIED,
USE INSULATION WASHERS
& BUSHINGS

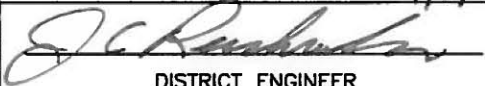


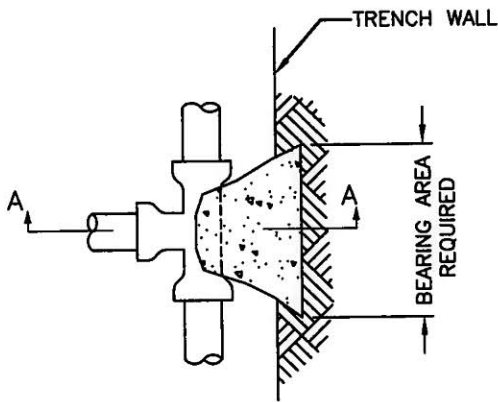
DETAIL "A"



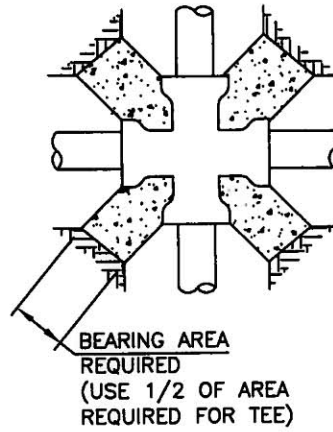
- NOTE:
1. INSTALL TIES ALONG THE HORIZONTAL AXIS OF PIPELINE.
 2. CONTRACTOR TO FURNISH COAL TAR ENAMEL AND PAINT ALL EXPOSED SURFACES.
 3. HARNESS LUG DESIGN SHALL BE PER AWWA M-11.

NOT TO SCALE

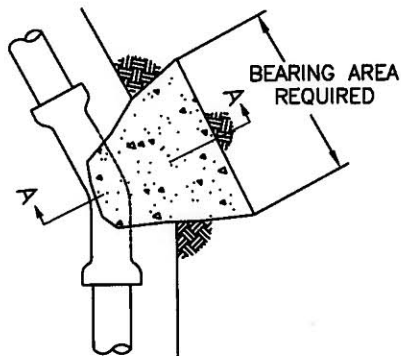
REVISED	PREPARED BY: PARSONS	DATE: 08/06	BEAUMONT CHERRY VALLEY WATER DISTRICT	
12/10	APPROVED:	DATE: 11/5/11		
	 DISTRICT ENGINEER		FLEXIBLE COUPLING TIE DETAILS	PLATE 9



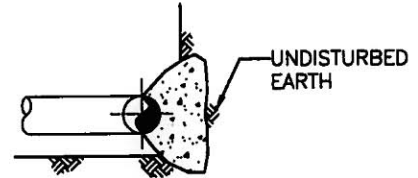
TEE



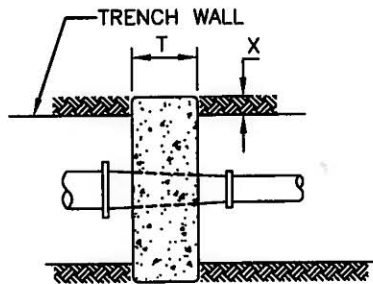
CROSS



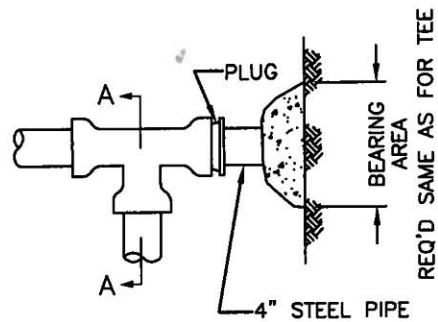
HORIZONTAL ELBOW



SECTION A




REDUCER



TEE WITH PLUG

NOTE:
FOR THRUST BLOCK SIZES SEE PLATE NO. 11-2.

NOT TO SCALE

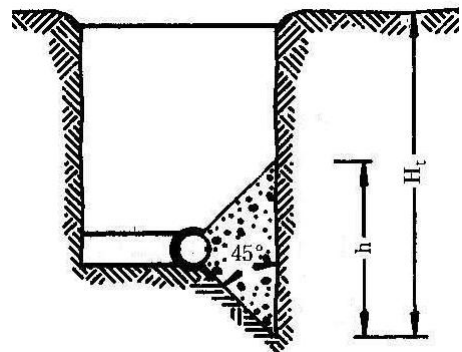
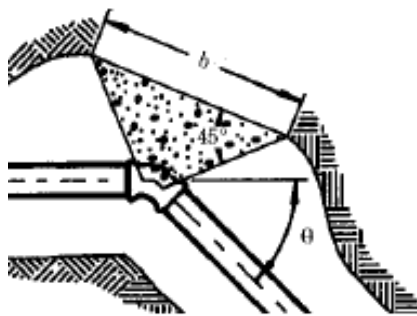
REVISED	PREPARED BY: PARSONS	DATE: 08/06	BEAUMONT CHERRY VALLEY WATER DISTRICT	
12/10	APPROVED:	DATE: 1/13/11		
 DISTRICT ENGINEER			THRUST BLOCK DETAILS	PLATE 11-1

**Beaumont Cherry Valley Water District
THRUST BLOCK SIZE FOR
HORIZONTAL PRESSURES
(BASED ON 2500 LB/SQ.FT. BEARING PRESSURE)**

PIPE DIA	PIPE CLASS	PRES psi	Area in Square Feet				
			Tee	90° Bend	45° Bend	22½° Bend	11¼° Bend
6	150	150	3.4	4.8	2.6	1.3	0.7
		225	5.0	7.1	3.9	2.0	1.0
8	150	150	5.8	8.2	4.4	2.3	1.1
		225	7.7	10.9	5.9	3.0	1.5
10	150	150	8.7	12.3	6.7	3.4	1.7
		225	13.1	18.5	10.0	5.1	2.6
12	150	150	12.3	17.4	9.4	4.8	2.4
		225	18.5	26.1	14.1	7.2	3.6
14	150	150	16.5	23.4	12.7	6.5	3.2
		225	24.8	35.1	19.0	9.7	4.9

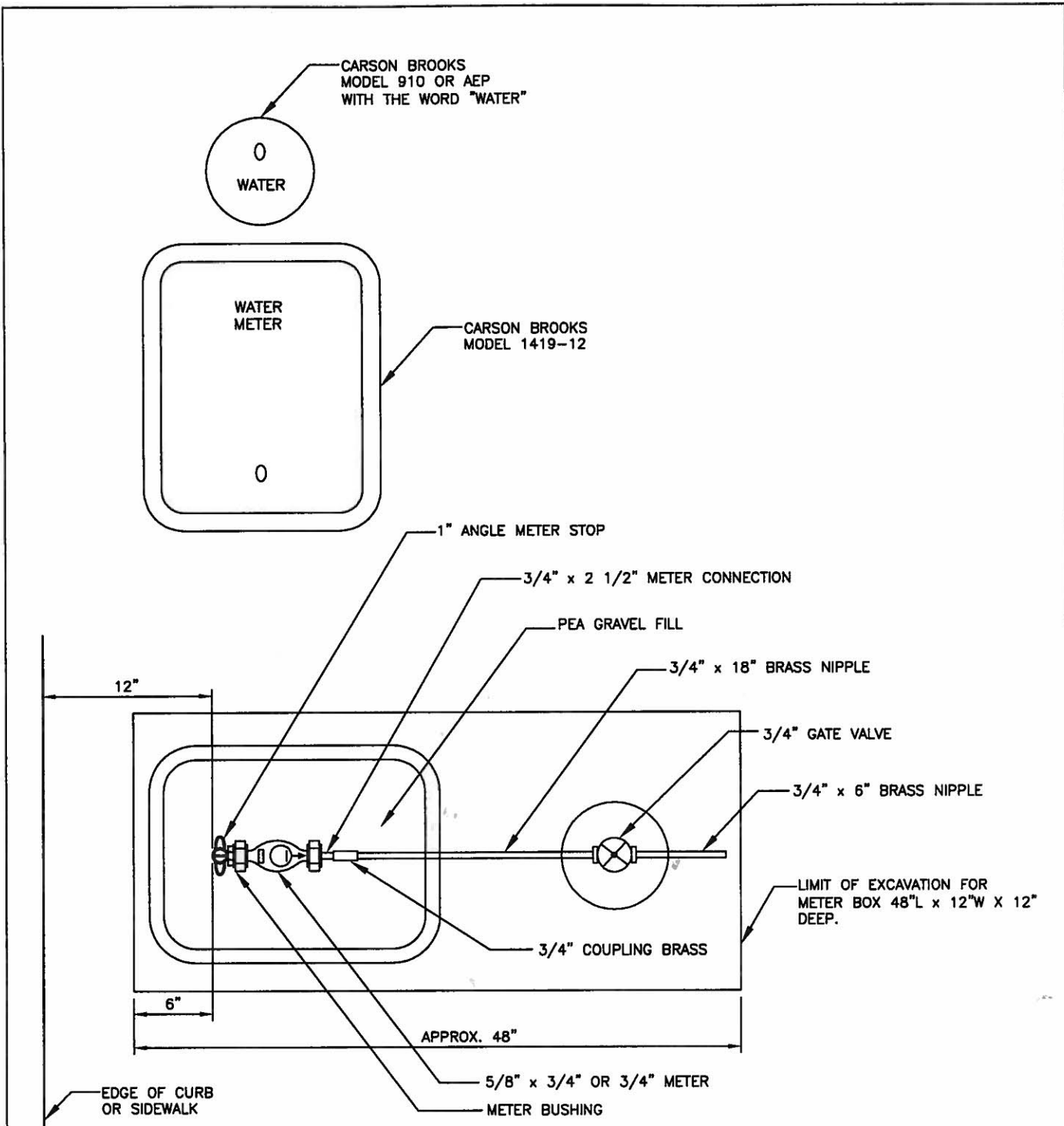
REDUCERS

Reducer Size	Pipe Class	Pressure (psi)	Dimensions		
			b	h	t
8 X 6	150	150	14"	2' - 2"	12"
		225	18"	2' - 6"	12"
10 X 8	150	150	16"	2' - 4"	12"
		225	20"	2' - 10"	12"
12 X 10	150	150	18"	2 - 6"	12"
		225	20"	3' - 4"	12"
14 X 12	150	150	18"	2 - 10"	12"
		225	22"	3' - 6"	12"



General criteria for bearing block design:

1. Bearing surface should, where possible, be placed against undisturbed soil. Where it is not possible, the fill between the bearing surface and undisturbed soil must be compacted to at least 90% Standard Proctor density.
2. Block height (h) should be equal to or less than one-half the total depth to the bottom of the block, (H_T), but not less than the pipe diameter (D).
3. Block height (h) should be chosen such that the calculated block width (b) varies between one and two times the height.
4. For bearing capacities less than 2500 LB/SQ.FT. a proportional increase in bearing area will be required. Provide supporting geotechnical report.



NOTE:
 5/8" x 3/4" & 3/4" METER INSTALLATIONS FOR THIS SIZE BOX ONLY.
 LARGER METERS 1" 1220-12, 1 1/2" & 2" 1730-12 BOXES.

NOT TO SCALE

REVISD	PREPARED BY: PARSONS	DATE: 08/06	BEAUMONT CHERRY VALLEY WATER DISTRICT	
12/10	APPROVED:	DATE: 1/5/11		
	<i>J.C. R...</i>		METER BOX INSTALLATION	PLATE 12
	DISTRICT ENGINEER			

BEAUMONT-CHERRY VALLEY WATER DISTRICT

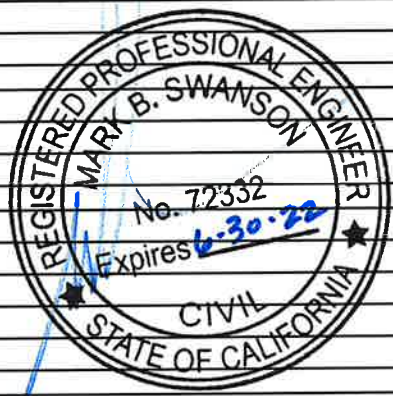
PIPELINE RELOCATION PROJECT for BEAUMONT MDP LINE 16

APPENDIX C

ENGINEER'S ESTIMATE

BEAUMONT-CHERRY VALLEY WATER DISTRICT
PIPELINE CONSTRUCTION COST ESTIMATE - DIP Construction Cost
 Pipeline Relocation Project for Beaumont MDP Line 16

ITEM NO.	DESCRIPTION	QTY	UNIT	ENGINEER'S ESTIMATE	
				UNIT PRICE	TOTAL
1	Mobilization				
1.1	Mobilization	1	L.S.	\$1,800.00	\$1,800.00
1.2	Bonds/Insurance	1	L.S.	\$2,700.00	\$2,700.00
1.3	Schedule of Values	1	L.S.	\$1,200.00	\$1,200.00
1.4	Preliminary Project Schedule	1	L.S.	\$1,000.00	\$1,000.00
1.5	Demobilization	1	L.S.	\$1,200.00	\$1,200.00
				Sub Total:	\$7,900.00
2	Dust Control				
2.1	Dust Control	1	L.S.	\$3,000.00	\$4,000.00
				Sub Total:	\$4,000.00
3	SWPPP				
3.1	Erosion Control Plan	1	L.S.	\$1,500.00	\$1,500.00
3.2	Install Initial BMPS	1	L.S.	\$1,200.00	\$1,200.00
3.3	Maintain BMPS	1	L.S.	\$500.00	\$500.00
				Sub Total:	\$3,200.00
4	Traffic Control				
4.1	Furnish and Implement Traffic Control	1	L.S.	\$4,000.00	\$4,000.00
				Sub Total:	\$4,000.00
5	Potable Water Pipeline				
5.1	Installation of 6" Potable Water Pipeline (DIP) - Including export of native material, installation of Contractor furnished backfill and compaction	160	L.F.	\$ 85.00	\$13,600.00
5.2	Installation of 8" Potable Water Pipeline (DIP) - Including export of native material, installation of Contractor furnished backfill and compaction	550	L.F.	\$ 95.00	\$52,250.00
5.3	Installation of 12" Potable Water Pipeline (DIP) - Including export of native material, installation of Contractor furnished backfill and compaction	660	L.F.	\$ 110.00	\$72,600.00
5.4	Pressure Testing and Hydrostatic Leak Test	5	L.S.	\$ 1,800.00	\$9,000.00
5.9	Relocate Existing Service	14	EA	\$ 2,000.00	\$28,000.00
5.10	Connection to Existing System	10	EA	\$ 8,000.00	\$80,000.00
5.11	Disinfection of new waterline	5	L.S.	\$ 2,250.00	\$11,250.00
				Sub Total:	\$266,700.00
6	Pavement Removal Repair and Replacement				
6.1	Saw cut/remove AC paving and base, temporary pavement (at end of each work day)	1370	LF	\$15.00	\$20,550.00
				Sub Total:	\$20,550.00
7	Field Inspection/Engineering Support (NOT A PART)				
8	Contract Administration (NOT A PART)				
SUBTOTAL ENGINEERS ESTIMATE (CONSTRUCTION)					\$306,350.00
CONSTRUCTION CONTINGENCY (15%) (CONSTRUCTION)					\$45,952.50
TOTAL PIPELINE CONSTRUCTION ESTIMATE AND CONTINGENCIES^{1,2}					\$352,302.50



- Contractor's labor cost for work related to pipeline construction (at prevailing wage) only. Contractor is responsible for the following materials: sand, base, pavement, slurry.
- District to provide all pipeline materials and appurtenances.

BEAUMONT-CHERRY VALLEY WATER DISTRICT

PIPELINE RELOCATION PROJECT for BEAUMONT MDP LINE 16

GENERAL CONDITIONS

SECTION 01000 - GENERAL CONDITIONS

SECTION 1 DEFINITIONS AND ABBREVIATIONS

1.1 Definitions

Written or graphic instruments issued prior to execution of the Contract which modify or interpret the Contract Documents. Whenever the terms herein defined occur in these Specifications or other related documents, they shall have the meanings given.

- a. Bid. The offer or proposal of the Bidder submitted in the prescribed form setting forth the prices for the Work to be performed.
- b. Bidder. Any person, firm, corporation or organization submitting a Bid or Proposal for the Work.
- c. Bonds. Bid, performance, and payment bonds and other instruments of security furnished by the Contractor and its sureties in accordance with the Contract Documents.
- d. Change Order. A written order to the Contractor signed by the Owner ordering and authorizing an addition, deletion, or revision in the Work, or an adjustment in the Contract Price or the Contract Time.
- e. Contract or Contract Documents. The word "Agreement", "Contract" or "Contract Documents" shall collectively mean all of the documents comprising this Contract, identified in the bid package Table of Contents, and provided to Contractor for purposes of bidding this project, including the written Contract executed by the Owner and the Contractor for the performance of Work, the Notice Inviting Bids, Instructions to Bidders, Bid/Proposal, Information Required of Bidder, Specifications, Drawings, General Conditions, Special Conditions, Basic/Technical Specifications, California State Requirements, Appendices, all addenda issued by the Owner prior to the opening of bids, approved change orders, and any and all other documents referenced in any of the foregoing, all of which are hereby incorporated in and made part of this Contract.
- f. Contract Price. The total not-to-exceed amount payable to the Contractor under the Contract Documents.
- g. Contract Time. The number of consecutive calendar days for completion of the Work, or the date upon which the Work shall be completed and ready for use by the Owner, as stated in the executed Contract .
- h. Contractor. The word "Contractor" shall mean the party entering into contract with the Owner for performance of the work called for in these specifications and shown on the drawings, including the Contractor's authorized agents.

Contractor shall at all times be represented on the Work in person or by a duly designated agent or superintendent. Contractor shall hold a valid Contractor's License in accordance with the provisions of Division 3, Chapter 9 of the Business and Professions Code of the State of California, and any amendments thereto.

- i. Day and Days. The term day shall mean calendar day, the term days shall mean consecutive calendar days, and the term working days shall mean consecutive calendar days excluding Saturdays, Sundays, and legal holidays, unless otherwise stated or specified.
- j. District. The District refers to the Beaumont-Cherry Valley Water District and shall mean the same as Owner.
- k. Drawings. The words "Drawings" or "Contract Drawings" shall mean those drawings accompanying the Specifications which show the location, nature, extent, and form of the work, together with applicable details.
- l. Engineer. The word "Engineer" shall mean the individual or firm authorized by the Owner to oversee the execution of this Contract, acting either directly or through properly authorized agents, each agent acting only within the scope of authority delegated to such agent.
- m. Field Order. A Field Order is a written order issued by the Owner to the Contractor which clarifies or interprets the Contract Documents pursuant to Section 3.2, or orders minor changes or alterations in the Work.
- n. Inspector. The Inspector is the authorized agent of the Owner, limited in each case to the duties entrusted to the Inspector by the Owner. The term Inspector applies to all Inspectors appointed by the Owner.
- o. Modification. A Modification is a written amendment to the Contract Agreement signed by both parties, a Change Order, or a Field Order.
- p. Notice of Award. The written notice by the Owner to the Contractor that the Contractor is the successful Bidder and that, upon compliance with the conditions precedent to be fulfilled by the Contractor within the stated time, the Owner will execute the Contract.
- q. Notice to Construct. The written notice by the Owner to the Contractor authorizing the Contractor to begin the physical installation of the particular material or equipment covered by such notice.
- r. Notice to Proceed. The written notice by the Owner to the Contractor authorizing Contractor to proceed with the Work and establishing the date of commencement of the Work.
- s. Owner. The word "Owner" shall mean the Owner named in the Contract Documents, and shall also mean the District.
- t. Project. The Project is the total construction designed for or by the Owner for which the Work is performed or constructed pursuant to the Contract Documents.
- u. Shop Drawings. All drawings, diagrams, illustrations, schedules, performance charts, brochures, and other data which are prepared by the Contractor or any Subcontractor, manufacturer, supplier, or distributor and which illustrate the equipment, material, or some portion of the Work.

- v. Samples. Samples are physical examples furnished by the Contractor to illustrate materials, equipment, or workmanship, and to establish standards by which the Work will be judged.
- w. Specifications. The word "Specifications" shall mean the General and Special Conditions of the Contract and the Basic/Technical Specifications of the Contract, together with all appendices, addenda and change orders issued with respect thereto.
- x. Subcontractor. The word "Subcontractor" shall mean any person, firm, or corporation entering into agreement with the Contractor for performance of any part of the Contractor's obligation under the Contract.
- y. Supplier. Any person, firm, corporation, or organization who supplies materials or equipment for the Work, including that fabricated to a special design, and may also be a Subcontractor or a Sub-subcontractor.
- z. Surety. The term Surety is the person, firm, corporation, or organization that joins with the Contractor in assuming the liability for the faithful performance of the Work and for the payment of all obligations pertaining to the Work in accordance with the Contract Documents by issuing the Bonds required by the Contract Documents or by law.
- aa. Work. The term Work includes all labor, materials, equipment, and incidentals necessary to produce the construction required by the Contract Documents and any and all obligations, duties, and responsibilities necessary to the successful completion of the construction assigned to or undertaken by the Contractor under the Contract Documents.

The Owner may at any time during Work, by written order, make such changes as found necessary in the character, quality, or quantity of the Work to be furnished.

1.2 ABBREVIATIONS OF REFERENCE STANDARDS

Wherever the following abbreviations are used they shall have the meanings indicated:

AASHTO	American Association of the State Highway and Transportation Officials
ACI	American Concrete Institute
AGA	American Gas Association
AI	The Asphalt Institute
AIA	American Institute of Architects
AISC.....	American Institute of Steel Construction
AISI	American Iron and Steel Institute
ANSI.....	American National Standards Institute
API	American Petroleum Institute
ASA.....	American Standards Association, Inc.
APWA	American Public Works Association
ASCE	American Society of Civil Engineers
ASHRAE	American Society of Heating, Refrigerating, and Air Conditioning Engineers
ASME.....	American Society of Mechanical Engineers
ASTM	American Society for Testing Materials
AWS.....	American Welding Society
AWWA	American Water Works Association

CAL/OSHA.....	State of California Occupational Safety and Health Administration
CBC	California Building Code
CFR.....	Code of Federal Regulations
CLFMII	Chain Link Fencing Manufacturers Institute
CRSI	Concrete Reinforcement Steel Institute
CS	Commercial Standard, US Department of Commerce
CSBL.....	Contractor's State License Board
DIPRA.....	Ductile Iron Pipe Research Association
FedSpec.....	Federal Specification
Greenbook	Refer to SSPWC
HI	Hydraulic Institute
IEEE.....	Institute of Electrical and Electronics Engineers
IPCEA	Insulated Power Cable Engineer's Association
ISO.....	Insurance Services Office
MIL.....	Military Specification (leading symbol)
NACE	National Association of Corrosion Engineers
NEC	National Electrical Code
NEMA.....	National Electrical Manufacturer's Association
NFPA	National Fire Protection Association
NSF.....	National Sanitation Foundation
OSHA.....	Occupational Safety and Health Administration, US Department of Labor
PCA.....	Portland Cement Association
SCE.....	Southern California Edison
SSPC	Steel Structure Painting Council
SSPWC.....	Standard Specifications for Public Works Construction (Greenbook)
Title 8	Industrial Relations, California Administrative Code, Chapter 4, Division of Industrial Safety, Safety Orders
Title 19	Public Safety, California Administrative Code, State Fire Marshal
Title 22	Environmental Health, California Administrative Code, Chapter 3, Division 4, Water Reclamation Criteria
Title 24	California Administrative Code, Electrical Safety Orders
UFC.....	Uniform Fire Code, International Conference of Building Officials
UPC	Uniform Plumbing Code, International Conference of Building Officials
U/L	Underwriter's Laboratories, Inc.

All references to specifications shall mean the latest edition thereof.

GENERAL CONDITIONS

SECTION 2 BONDS, INSURANCE, AND INDEMNIFICATIONS REQUIRED OF THE CONTRACTOR

2.1 FAITHFUL PERFORMANCE BOND

The Contractor shall secure from a corporate surety or sureties satisfactory to the Owner, a bond in the amount stated in the Notice Inviting Bids to guarantee faithful performance of the Contract, including warranty obligations. Bond surety shall be rated "A" or better by Bests Rating Guide and shall be listed in the most current version of Federal Register, Circular 570, showing adequate underwriting limitation. The performance bond shall be maintained in full force and effect for not less than the term of this Contract plus the warranty period specified in Section 2.4, below.

2.2 LABOR AND MATERIALS BOND

The Contractor shall secure from a corporate surety or sureties satisfactory to the Owner, a bond in the amount stated in the Notice Inviting Bids to guarantee payment of claims of laborers and materialmen under the Contract. Bond surety shall be rated "A" or better by Bests Rating Guide and shall be listed in the Federal Register, Circular 570, showing adequate underwriting limitation.

2.3 ADDITIONAL SURETY

If during the life of the faithful performance bond, any of the sureties named in said bond become insufficient, in the opinion of the Owner, Owner may require the Contractor to furnish additional sufficient sureties within five (5) calendar days of receipt of written order to do so. In the event the Contractor fails or neglects to furnish additional sureties, when ordered, within the prescribed time period, the Owner may suspend the work or terminate the Contract, and the Contractor shall have no claim for damages.

2.4 MAINTENANCE AND GUARANTEE

(a) The Contractor shall guarantee the entire Work constructed under the Contract to be free of defects in materials and workmanship for the period stated in the Special Conditions following the date of acceptance of the Work by the Owner's governing body. The Contractor shall agree to make, at its own expense, any repairs or replacements made necessary by defects in materials and workmanship which become evident within said guarantee period. The Contractor shall further agree to indemnify and save harmless the Owner and Engineer, and their officers, agents, and employees against and from all claims and liability arising from damage and injury due to said defects. The Contractor shall make all repairs and replacements promptly upon receipt of a written order from the Engineer or Owner. If the Contractor fails to make the repairs and replacements promptly, the Owner may do the work and the Contractor and its surety shall be liable to the Owner for the cost of such work.

(b) The Guarantee and conditions specified in Subpart 2.4(a) shall be secured by the required performance bond

(c) Specific guarantees for periods longer than one year may be specified in the Special Conditions for certain items or portions of the Work.

2.5 INSURANCE

(a) The Contractor shall procure and maintain for the duration of the work and services, insurance against claims for injuries to persons or damage to property which may arise from or in connection with the performance of the Work hereunder by the Contractor, its Subcontractors, agents, representatives or employees.

(b) Minimum Scope of Insurance. Coverage shall be at least as broad as:

- (1) Insurance Services Office (ISO) Commercial General Liability coverage.
- (2) Insurance Services Office (ISO) Automobile Liability coverage, code 1 (any auto).
- (3) Worker's Compensation Insurance as required by the Labor Code of the State of California and Employers Liability insurance.
- (4) Builder's Risk Insurance (All Risk Coverage).

(c) Minimum Limits of Insurance. Contractor shall maintain limits no less than:

- (1) Commercial General Liability. \$2,000,000 combined single limit per occurrence for bodily injury, personal injury and property damage.
- (2) Automobile Liability. \$1,000,000 combined single limit per accident for bodily injury and property damage.
- (3) Workers' Compensation and Employer's Liability Insurance. Workers' Compensation limits as required by the Labor Code of the State of California and Employer's Liability in the amount of, at least, \$1,000,000 per accident, for bodily injury and disease.
- (4) Builder's Risk Insurance (all Risk Coverage). The Contractor shall procure and maintain Builder's Risk Insurance (all Risk Coverage) on a one hundred (100%) percent completed value basis for the benefit of the Owner, the Contractor, and subcontractors as their interest may appear.
- (5) Public Liability - \$1,000,000 for one person injured in one accident or occurrence; \$3,000,000 for more than one person injured in one accident or occurrence.
- (6) Property Damage - \$1,000,000 per occurrence, \$1,000,000 aggregate limit.

(d) Deductibles and Self-insured Retention. Any deductibles of self-insured retention must be declared to and approved by the District. At the option of the District, either the insurer shall reduce or eliminate such deductibles or self-insured retention as respects the District, its officers, officials, employees, agents or volunteers; or the Contractor shall procure a bond

guaranteeing payment of losses and related investigations, claims administration and defense expense.

(e) Unless waived in writing by Owner's Risk Manager, the Contractor shall maintain or cause to be maintained, until the Work is accepted by the Owner, Builders' Risk "All-Risk" Completed Value Insurance coverage upon the entire Work and including completed Work, Work in progress, and materials and equipment in transit or storage for the Work, to the full value thereof. This insurance shall include the interests of the Owner, the Contractor, and the Subcontractors and Sub-subcontractors in the Work. Such insurance may have a deductible clause with a maximum Five Thousand Dollar (\$5,000) deductible unless otherwise stated in the Special Conditions. Any insured loss is to be adjusted with the Owner and made payable to the Owner as trustee for the insureds as their interests may appear. The Owner and the Contractor waive all rights against each other for damages caused by fire or other perils to the extent covered by insurance provided under this subparagraph, except such rights as they may have to the proceeds of such insurance held by the Owner as trustee. The Contractor shall require similar waivers by Subcontractors and Sub-subcontractors. If after such loss no other special agreement is made, replacement of damaged Work may be covered by an appropriate Change Order.

(f) Other Insurance Provisions. All of the above policies of insurance shall be primary insurance and shall name the District and County of Riverside and their officers, officials, employees, agents or volunteers as additional insureds. The insurer shall waive all rights of subrogation and contribution it may have against the District, its officers, officials, employees, agents or volunteers and their respective insurers. All or said policies of insurance shall provide that said insurance may not be amended or canceled without prior written notice by registered mail to the District. In the event any of said policies of insurance are canceled, the Contractor shall, prior to the cancellation date, submit new evidence of insurance in conformance with Section 2.5(a) to the District's Contract Officer. No work or services under this Agreement shall commence until the Contractor has provided the District with Certificates of Insurance and required endorsements, or appropriate insurance binders evidencing the above insurance coverages and said Certificates of Insurance and endorsements or binders are approved by the District.

(g) The Contractor agrees that the provisions of Section 2.5 shall not be construed as limiting in any way the extent to which the Contractor may be held responsible for the payment of damages to any persons or property resulting from the Contractor's activities or the activities of any person or persons for which the Contractor is otherwise responsible. The insurance obligations under this Contract shall be: (1) all the insurance coverage and/or limits carried by or available to the Contractor; or (2) the minimum insurance coverage requirements and/or limits shown in this Contract; whichever is greater. Any insurance proceeds in excess of or broader than the minimum required coverage and/or minimum required limits, which are applicable to a given loss, shall be available to the District. No representation is made that the minimum insurance requirements of this Contract are sufficient to cover the obligations of the Contractor under this Contract.

(h) The insurance required by this Contract shall be satisfactory only if issued by insurers authorized to do business in California, rated "A" or better in the most recent edition of A. M. Best Rating Guide and only if they are of a financial category Class VII or better, unless such requirements are waived in writing by the District due to unique circumstance.

2.6 INDEMNIFICATION

(a) To the maximum extent permitted by law, Contractor agrees to indemnify, defend and pay actual attorneys' fees and costs, and hold the District, its officers, officials, employees, agents and/or volunteers ("District Parties") harmless against, any and all actions, suits, claims for damages to persons or property, losses, costs, penalties, obligations, stop notices, errors, omissions and/or liabilities (herein "claims or liabilities") that may be asserted or claimed by any person, firm or entity, arising out of or in connection with the performance of the Work or services of the Contractor, its owners, agents, contractors, employees, or invitees ("Contractor Parties"), provided for herein, or arising from the acts or omissions of any of the Contractor Parties hereunder, or arising from performance of or failure to perform any term, provision, covenant or condition of this Agreement by any of the Contractor Parties, whether or not there is concurrent passive or active negligence on the part of any of the District Parties, but excluding such claims or liabilities arising from the sole negligence or willful misconduct of any of the District Parties, and in connection therewith:

(b) Contractor will defend every action or actions filed in connection with any such claims or liabilities and will pay all costs and expenses, including legal costs and actual attorney's fees incurred in connection therewith;

(c) Contractor will promptly pay any judgment rendered against any of the District Parties for any such claims or liabilities arising out of or in connection with the performance of or failure to perform such work or services of the Contractor hereunder; and Contractor, agrees to save and hold the District Parties harmless therefrom;

(d) In the event any of the District Parties are made a party to any action or proceeding filed or prosecuted against the Contractor for such damages or other claims arising out of or in connection with performance of or failure to perform the work or services of the Contractor hereunder, Contractor agrees to pay to such District Parties any and all costs and expenses incurred by the District, its officers, officials, employees, agents or volunteers in such action or proceeding, including but not limited, to legal costs and actual attorneys' fees. Owner may withhold payment of any sums owed to Contractor pending Contractor's compliance with the defense and indemnity obligations set forth in this Section.

2.7 [reserved]

2.8 RESPONSIBILITY FOR WORK

(a) Contractor shall be responsible for and shall bear any and all risk of loss or damage to Work in progress, all materials delivered to the site and all materials and equipment until completion and acceptance of the Work, unless such loss or damage results from the sole active negligence of Owner, or its representatives.

(b) As provided in Section 7105 of the California Public Contract Code, the Contractor shall not be responsible for the cost of repairing or restoring damage to the Work, determined to have been approximately caused by an act of God, in excess of five percent (5%) of the contract price, provided, that the work damaged was built in accordance with accepted and applicable building standards and the plans and specifications as set forth in this Contract.

The Contractor shall obtain insurance to indemnify the Owner for any damage to the Work caused by an act of God if the premium of said insurance coverage is called for as a separate bid item in the bid documents.

Unless waived by Owner's Risk manager, Contractor's All Risk Insurance shall be provided covering value of the work and all materials and equipment to be incorporated therein while at the site and during inland transit insuring to the replacement value, subject to a deductible not to exceed \$5,000 for any single loss. This insurance shall also contain an insurer's waiver of subrogation against the Owner. This insurance shall specifically cover losses due to earthquake and flooding.

(c) As provided in Section 7105 of the California Public Contract Code, the term "Acts of God" shall include only the following occurrences or conditions and effects: earthquakes in excess of a magnitude of 3.5 on the Richter Scale and tidal waves.

(d) Pursuant to the provisions of, and subject to limitations in, Section 7105 of the Public Contract Code the Owner reserves the right to make changes in this Contract in the course of construction to bring the completed improvements into compliance within environmental requirements or standards established by State or Federal statutes and regulations enacted after this Contract has been awarded or entered into. In such cases, the Contractor shall be paid for the changes in accordance with the provisions of the Contract governing payments for changes in the Work, or if such relevant provisions are not set forth in this Contract, payment shall be as agreed to by the parties pursuant to procedures under this Contract. The Owner further reserves the right to terminate the contract pursuant to provisions provided herein for environmental considerations as may be allowed under Section 7105.

2.9 LOSS OF USE INSURANCE

The Owner may purchase and maintain such insurance as will insure the Owner against loss of use of the Owner's property due to fire or other hazards or perils, however caused.

2.10 NONLIMITATION OF INDEMNITY AGREEMENTS

The indemnification obligations of the Contractor under the Contract Documents shall not be limited in any way by any limitation on the amount or type of damages, compensation or benefits payable by or for the Contractor or any Subcontractor or Subcontractor of any tier under workmen's compensation acts, disability benefit acts, or other employee benefit acts.

GENERAL CONDITIONS

SECTION 3 PERMITS AND LAW OBSERVANCES

3.1 PERMITS AND LICENSES

The County of Riverside will require that the Contractor secure an encroachment permit for all work performed within the public right-of-way. Work in the public right-of-way shall be done in accordance with the requirements of the permit(s) issued in addition to the requirements of the Contract Documents, Plans and Specifications.

The County of Riverside will require, among other things, that the Contractor submit and obtain approval of a comprehensive traffic control plan as a condition of permit approval. This traffic control plan will be submitted to the County sufficiently in advance of construction to allow 15 working days for County review. It is anticipated that while a large scale plan will be sufficient for the majority of the Project, a detailed plan at a smaller scale will be required at major intersections and possibly at other locations that have traffic control issues. Street closures may be considered in certain parts of the Project. The County of Riverside also require the Contractor to procure a Business License, a Work Permit, and a hauling permit.

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 or latent act or omission is filed within four years of the date of the alleged violation, or otherwise as provided by law. 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, or otherwise as provided by law. Any questions concerning a contractor may be referred to the Registrar, Contractors' State License Board, P.O. Box 26000, Sacramento, California 95826.

The Contractor shall be solely responsible for applying for and acquiring any and all additional permits or licenses, or meeting any and all additional requirements, necessary for the proper conduct of the Work, or to fulfill any and all requirements included within new or previously acquired permits or licenses supplied by the District. Any and all costs associated with the acquisition of additional permits or licenses, or for meeting any and all additional requirements by agencies having jurisdiction over the Work, shall be the sole responsibility of the Contractor, shall be deemed to be included in the bid price for the Work, and no additional compensation shall be made therefor.

3.2 LAWS AND REGULATIONS

The Contractor shall observe and comply with all Federal, State, and local laws, ordinances, codes, orders, and regulations which in any manner affect those engaged or employed on the work, the materials used in the work, or the conduct of the Work. The Contractor shall observe and comply with the District Confined Space Policy included at the end of these Specifications in the Appendix. If any discrepancy or inconsistency should be discovered in this Contract in relation to any such law, ordinance, code, order, or regulation, the Contractor shall report the same in writing to the Engineer. The Contractor shall indemnify, defend, and save harmless the Owner and Engineer, and their officers, agents, and employees against all claims and/or liability arising from violation of any such law, ordinance, code, order, or regulation, whether by Contractor or by Contractor's employees or subcontractors. Any

particular law or regulation specified or referred to elsewhere in these Specifications shall not in any way limit the obligation of the Contractor to comply with all other provisions of Federal, State, and local laws and regulations.

3.3 SALES AND USE TAXES

The Contractor shall pay all sales and use taxes assessed by Federal, State, or local authorities on materials furnished by the Contractor in performance of the work. All such costs shall be included in the bid price.

3.4 PATENTS AND COPYRIGHTS

The Contractor shall indemnify, defend, and save harmless the Owner and Engineer and their officers, agents, and employees against all claims and/or liability arising from the use of any patented or copyrighted design, device, material, or process by the Contractor or any of its Subcontractors in the performance of the Work.

3.5 LABOR DISCRIMINATION

No discrimination shall be made in the employment of persons upon the Work by the Contractor or by any Subcontractor because of the race, color, sex, or religion of such persons, and there shall be full compliance with the provision of applicable Federal and State laws in this regard.

3.6 PUBLIC SAFETY AND CONVENIENCE

(a) The Contractor shall at all times perform the Work so as to assure the least possible obstruction to traffic and inconveniences to the general public and adequate protection of persons and property in the vicinity of the Work. No street shall be closed to the public without first obtaining permission of the Engineer and proper governmental authority. Where excavation is being performed in primary streets or highways, one lane in each direction shall be kept open to traffic at all times unless otherwise provided or shown. Toe boards shall be provided to retain excavated material if required by the Engineer or the agency having jurisdiction over the street or highway. Fire hydrants on or adjacent to the work shall be kept accessible to fire-fighting equipment at all times. Temporary provisions shall be made by the Contractor to assure the use of sidewalks and the proper functioning of all gutters, sewer inlets, and other drainage facilities.

(b) The Contractor shall provide adequate barricades, signs, warning lights, watchmen, and flagmen as required, in the opinion of the Engineer and agency having jurisdiction, to protect the Work and the safety of the public. Warning lights using inflammable liquids will not be permitted; only electrically-operated warning lights will be approved for use. Warning lights shall be kept burning from sunset to sunrise, and barricades shall be painted to increase their visibility at night. If required by the approved traffic control plan, there shall be a flagman with radio communication at each end of the Project.

During adverse weather conditions, the Contractor shall maintain the jobsite in a safe condition to the satisfaction of the Engineer and the agency having jurisdiction. Failure to comply within two (2) hours of any notification may result in the agency having jurisdiction correcting the situation and all costs for such work shall be borne by the Contractor.

3.7 STATE WAGE DETERMINATIONS

(a) Contractor acknowledges that this Contract is subject to the provisions of Division 2, Part 7, Chapter 1 (commencing with Section 1720) of the California Labor Code relating to public works, and agrees to be bound by all the provisions thereof as though set forth in full herein. Contractor shall pay not less than the prevailing rate of per diem wages as determined by the Director of the California Department of Industrial Relations.

This is a public work and requires the payment of prevailing wages for the work or craft in which the worker is employed for any public work done under the Contract by Contractor or by any Subcontractor pursuant to Section 1771 of the Labor Code. Pursuant to the provisions of Section 1773 of the Labor Code, the District has obtained the general prevailing rate of per diem wages and the general rate for holiday and overtime work in this locality for each craft, classification, or type of workman needed to execute this Contract from the Director of the Department of Industrial Relations. These rates are on file with the District or may be obtained at <http://www.dir.ca.gov/OPRL/DPreWageDetermination.htm>.

(b) The Contractor shall, as a penalty to the Owner, forfeit one hundred (\$200.00) dollars for each calendar day, or portion thereof, for each worker paid less than the specified prevailing rates for such work or craft in which such worker is employed, whether paid by the Contractor or by any of Contractor's Subcontractors.

(c) In accordance with the provisions of Section 3700 of the California Labor Code, the Contractor shall secure the payment of workers compensation to it employees.

3.8 APPRENTICES ON PUBLIC WORKS

Contractor shall comply with and be bound by the provisions of Labor Code Sections 1777.5, 1777.6 and 1777.7 and California Code of Regulations Title 8, Section 200, *et seq.* concerning the employment of apprentices on public works projects. The Contractor shall be responsible for compliance with these Sections for all apprenticeable occupations. Before commencing Work on this Project, the Contractor shall provide the District with a copy of the information submitted to any applicable apprenticeship program. Within sixty (60) Days after concluding Work, Contractor and each of its Subcontractors shall submit to the District a verified statement of the journeyman and apprentice hours performed under this Contract.

3.9 OVERTIME REQUIREMENTS

Contractor agrees to comply with the provisions of California Labor Code Section 1813 concerning penalties for workers who work excess hours. The Contractor shall, as a penalty to the District, forfeit twenty-five dollars (\$25) for each worker employed in the execution of the contract by the Contractor or by any subcontractor for each calendar day during which such worker is required or permitted to work more than 8 hours in any one calendar day and 40 hours in any one calendar week in violation of the provisions of Division 2, Part 7, Chapter 1, Article 3 of the California Labor Code.

3.10 PROTECTION OF WORKERS IN TRENCH EXCAVATION

As required by Section 6705 of the California Labor Code and in addition thereto, whenever work under the Contract involves trench excavation five (5') feet or more in depth, the Contractor shall submit for acceptance, in advance of excavation, a detailed plan showing the design of shoring, bracing, sloping, or other provisions to be made for worker protection

from the hazard of caving ground during the excavation. If such plan varies from the shoring system standards established by the Construction Safety Orders of the Division of Industrial Safety, the plan shall be prepared by a registered civil or structural engineer. Nothing in this section shall be deemed to allow the use of a shoring, sloping or other protective system less effective than that required by the Construction Safety Orders. Nothing in this section shall be construed to impose tort liability on the Owner, Engineer, or any of their officers, agents or employees. Prior to start of construction, the Contractor shall submit a copy of its annual OSHA excavation permit from the Division of Industrial Safety.

3.11 NOTICE OF COMPLETION

Following final acceptance by the District, and in accordance with Civil Code Section 9200, et seq., within fifteen (15) calendar days after date of acceptance of the Work by the Owner's Board of Directors at the regular meeting held on the third Wednesday of each month, the Owner will file, in the County Recorder's office, a Notice of Completion of the work, or such other notice required or permitted by law as deemed necessary by the District following completion, acceptance, or cessation of the Work.

3.12 CONCRETE FORMS, FALSEWORK, AND SHORING

The Contractor shall comply fully with the requirements of Section 1717 of the Construction Safety Orders, State of California, Department of Industrial Relations, regarding the design of concrete forms, falsework and shoring, and the inspection of same prior to placement of concrete. Where Section 1717 requires the services of a registered civil engineer in the State of California to approve design calculations and working drawings of the falsework or shoring system, or to inspect such system prior to placement of concrete, the Contractor shall employ a registered civil engineer for these purposes.

3.13 FEDERAL SAFETY AND HEALTH REGULATIONS

(a) As applicable, contractors and subcontractors shall comply with the provisions of the Safety and Health Regulations for Construction, promulgated by the Secretary of Labor under Section 107 of the "Contract Work Hours and Safety Standards Act", as set forth in Title 29, CFR.

(b) As applicable, contractors and subcontractors shall comply with the provisions of the Occupational Safety and Health Standards, promulgated by the Secretary of Labor under the "Occupational Safety and Health Act of 1970," as set forth in Title 29, CFR. Where an individual State act on occupational safety and health standard has been approved by Federal authority, then the provisions of said State act shall control.

3.14 POTHOLING AND LOCATING EXISTING UNDERGROUND UTILITIES

(a) The Contractor shall pothole and locate the existing underground utilities prior to submitting shop drawings for the pipeline construction. The Contractor shall be responsible for coordinating the potholing with the Owner to obtain the necessary survey information regarding the locations of the existing facilities. The Engineer will not review any of the pipeline shop drawings until the potholing is completed. No extension of time or additional compensation will be made for delays caused by the failure of the Contractor to complete the potholing in a timely manner.

(b) The Contractor shall notify Underground Service Alert or other regional notification center at least 48 hours in advance of any construction or potholing and make arrangements for the existing utilities to be marked by the affected utility companies.

(c) The Contractor shall, as required by Sections 4216 and 4217 of the California Government Code, contact the regional notification center, USA, telephone 1 (800) 422-4133, or other applicable telephone number, at least five (5) working days prior to commencing excavation in areas containing subsurface installations or structures.

(d) All costs incurred in exposing and locating the existing utilities including all labor (except the survey services outlined above), tools, equipment for excavation, backfill and restoring existing surface improvements, shall be included in the price bid for potholing and locating existing underground utilities. The Contractor shall bear the cost of repairing or replacing any existing utility damaged by his potholing work.

3.15 STORMWATER POLLUTION PREVENTION REQUIREMENTS

(a) The Contractor shall abide by the conditions of the Regional Water Quality Control Board, General Construction Activity Storm Water Permit. The Contractor shall be responsible for implementation of the SWPPP in the event that the construction project is greater than one (1) acre in disturbance, or otherwise as provided by law. Contractors on projects that require SWPPP preparation shall develop their own SWPPP and apply for a Waste Discharge Identification Number (WDID) by filing a Notice of Intent (NOI), with accompanying fees, with the State Water Resources Control Board. The Contractor's SWPPP shall be kept on-site for the duration of construction.

(b) In addition to the requirements under Section 3.15 (a) above, the Contractor shall satisfy the storm water pollution prevention requirements of any and all permits required for the proper completion of the Work, whether included with the Contract Documents or not. All fees or deposits necessary for preparation, submittal, or otherwise satisfying the requirements of these permits shall be the sole responsibility of the Contractor, shall be deemed to be included in the bid price for the Work, and no additional compensation shall be made therefor.

GENERAL CONDITIONS

SECTION 4 SPECIFICATIONS, DRAWINGS, AND RELATED DATA

4.1 CONTRACT DOCUMENTS, SPECIFICATIONS AND DRAWINGS

The intent of the Contract Documents, Specifications and Drawings is that the Contractor furnish all plant, labor, materials, equipment, and services, except as may be specifically noted otherwise, which are required or necessary to fully complete the Work.

4.2 SPECIFICATIONS AND DRAWINGS COMPLEMENTARY

The Contract Documents, including Specifications and Drawings, are complementary, and what is called for in one shall be as binding as if called for in both.

4.3 DISCREPANCIES IN SPECIFICATIONS AND DRAWINGS

Any discrepancies, errors, or omissions found in the Specifications or Drawings shall be promptly reported to the Engineer who will issue a correction in writing. The Contractor shall not take advantage of any such discrepancies, errors, or omissions, but shall comply with any corrective measures regarding the same prescribed by the Engineer.

4.4 PRECEDENCE BETWEEN SPECIFICATIONS AND DRAWINGS

It is the intent of the Contract Documents to provide the District with complete and fully operational facilities as indicated and specified. All information conveyed by the Contract Documents shall be construed to that effect, and shall be performed to that effect.

To the fullest extent reasonably possible, all provisions of the Contract Documents shall apply to performance of the Work; provided, however, that in resolving conflicts, errors, omissions, or discrepancies in any of the Contract Documents, the order of precedence shall be as follows. The first listed reference shall have the highest precedence.

1. Permits;
2. Change Orders;
3. Addenda;
4. Contract;
5. Notice Inviting Bids;
6. Instructions to Bidders;
7. General Conditions;
8. Special Conditions;
9. Drawings and Specifications;
10. Basic/Technical Specifications and District Standard Drawings;
11. District Standards Specifications and Drawings;
12. Current Standard Specifications for Public Works Construction ("Greenbook"); and
13. Referenced Standard Specifications and Drawings.

Note: The more stringent terms, requirements, or conditions shall apply in the event of any conflict between the sections of the Specifications.

4.5 STANDARD SPECIFICATIONS

References made to Standard Specifications shall mean the latest edition of the Standard Specifications for Public Works Construction (SSPWC), together with supplements, as published by Building News, Inc., 3055 Overland Avenue, Los Angeles, Ca. 90034. Provisions for measurement and payment will not apply. SSPWC requirements shall govern if requirements are not provided in the Project Contract Documents, Specifications or Drawings.

4.6 DISTRICT STANDARD SPECIFICATIONS

District Standard Specifications for the Design and Processing, Furnishing of Materials and Construction of Water and Recycled Water Facilities Preparation of Water System Plans are available at the District Office. These District Standard Specifications shall be used as called out and as applicable in the Work.

4.7 SHOP DRAWINGS

Wherever called for in these specifications or on the Drawings, or where required by the Engineer, the Contractor shall furnish to the Engineer for review, shop drawings in sufficient copies as specified in Section 01300, "Submittals" or as mutually agreed upon at the pre-construction conference.

4.8 REFERENCE TO STANDARDS OR PUBLICATIONS

Any reference made in the Specifications or Drawings to any specification, standard, or publication or any organization shall, in the absence of a specific designation to the contrary, be understood to refer to the latest edition of the specification, standard, or publication in effect as of the date of advertising the work, unless otherwise stated.

4.9 REFERENCE TO PROPRIETARY PRODUCTS

Where references to proprietary products appear in the Specifications or Drawings, whether or not followed by the words "or equal", it is for the purpose of establishing an acceptable standard of quality or design. Unless a substitute is expressly prohibited, the Contractor may request approval of a substitute for any such proprietary product. Such approval will not normally be given by the Engineer prior to award of a contract. A request for substitution must be in writing and must include descriptive literature, specifications, latest reports or samples, as appropriate, to enable the Engineer to determine the acceptability of the product proposed for substitution.

4.10 SPECIFICATIONS AND DRAWINGS FURNISHED TO CONTRACTOR

The Owner will furnish to the Contractor five (5) sets of Specifications together with reduced drawings, if any, and five (5) sets of full-scale Drawings. Additional quantities of Specifications and Drawings will be furnished at reproduction cost.

4.11 RECORD DRAWINGS

(a) Except where otherwise provided, the Contractor shall maintain, on the jobsite, a set of full-size reproducible Contract drawings, or a set of full-size blue-line or blackline prints. On these shall be marked all as-built conditions, locations, configurations, and other details

which may vary from the details represented on the original drawings. This master record of as-built conditions, including all revisions made necessary by addenda, change orders, and the like shall be maintained up-to-date during the progress of the Work.

(b) In the case of those drawings which depict the detail requirement for equipment to be assembled and wired in the factory, such as motor control centers and the like, the record drawings shall be updated by indicating those portions which are superseded by final shop drawings, and by including a reference note describing the shop drawings by manufacturer, drawing and revision numbers, and date.

(c) Upon completion of the Work and prior to final acceptance, the complete set of contract drawings, marked up to show as-built conditions, shall be delivered to the Owner.

(d) Up to date record drawings shall be reviewed by the Owner prior to issuance of progress payments.

GENERAL CONDITIONS

SECTION 5 RESPONSIBILITIES AND RIGHTS OF THE OWNER AND CONTRACTOR

5.1 OWNER'S AUTHORITY

The Owner shall have the authority to enforce compliance with the Contract Documents. On all questions relating to quantities, the acceptability of materials, equipment, or Work, the adequacy of the performance of the Work, and the interpretation of the Drawings and Specifications, the decision of the Owner is final and binding and shall be precedent to any payment under the Contract Agreement unless otherwise provided in the Contract Documents. The Owner shall have the authority to stop the Work or any part thereof as may be necessary to ensure the proper execution of the Work, to disapprove of or reject Work which is defective, to require the uncovering and inspection or testing of Work as provided in Section 6.8(b). The Owner shall not be liable for the results of any ruling, interpretation or decision rendered or request, demand, instruction, or order issued in good faith. The Contractor shall promptly comply with all lawful requests, demands, instructions and orders from the Owner.

5.2 ENGINEER'S AUTHORITY

(a) The Engineer will decide all questions which may arise as to the quality and acceptability of materials and equipment furnished, work performed, rate of progress of the Work, interpretation of the Specifications and Drawings, and all questions as to the acceptable fulfillment of the Contract by the Contractor.

(b) Any difference which may arise between the Contractor and any other contractors also under the surveillance of the Engineer will be arbitrated by the Engineer; however, the Engineer will not arbitrate disputes between the Contractor and its subcontractors.

5.3 DAILY REPORTS

If required by the Engineer, the Contractor shall review and sign a daily report indicating manpower, major equipment, subcontractors, etc., involved in the performance of the Work. The daily report shall be prepared by the Engineer and submitted to the Contractor at the conclusion of each work day.

5.4 RIGHTS-OF-WAY

(a) Lands or rights-of-way for the Work to be constructed under the Contract will be provided by the Owner as shown on the Drawings. Nothing contained in the Specifications or Drawings shall be interpreted as giving the Contractor exclusive occupancy of the lands or rights-of-way provided. Any additional lands or rights-of-way required for construction operations shall be provided by the Contractor at its own expense.

(b) The Contractor shall not do any work that would affect any oil, gas, sewer, or water pipeline, any cable tv, telephone, or electric transmission line, fence, or any other structure, nor enter upon the rights-of-way involved until notified by the Engineer that the Owner has secured authority therefor from the proper party. After authority has been obtained, the Contractor shall give said party due notice of its intention to begin work and

shall give said party convenient access to every facility for removing, shoring supporting, or otherwise protecting such pipeline, transmission line, ditch, fence, or structure and for replacing same. The Contractor shall not be entitled to any extension of time or extra compensation on account of any postponement, interference, or delay caused by any such pipeline, transmission line, fence, or structure being on the line of the work, except as provided in this Section 5.4.

5.5 CONSTRUCTION INTERFERENCES

(a) As used in this section, the word "utility" shall be understood to include tracks, overhead or underground wires, cables, pipelines, conduits, ducts, sewers, or storm drains. As used in this section, the term "service connection" shall be understood to mean all or any portion of a pipeline (including sewer house laterals), conduit, wire cable or duct, including meter, between a utility distribution line and an individual customer, or customers when served by a single service connection. As used in this section, the term "construction interference" shall be understood to include any utility or service connection within the limits of excavation or over-excavation required for the work under the Contract as shown or ordered by the Engineer, or any utility or service connection located in the space which will be required by any of the work under the Contract.

(b) In the event any utility or service connection is required to be disturbed or removed to permit construction of a pipeline or other structure under the Contract, such disturbance or removal shall be done only with the approval of the Engineer and following notification to the Owner of the interfering utility or service connection. Any such utility or service connection removed or otherwise disturbed shall be reconstructed as promptly as possible in its original or other authorized location in a condition at least as good as prior to such removal or disturbance, subject to the inspection of the Owner of same.

(c) In case it should be necessary to relocate or temporarily maintain the property of any public utility or any other property, and it is understood that the cost of such relocation or temporary maintenance is not required to be borne by the owner of the utility or property, the Contractor shall bear all expenses incidental to the removal or temporary maintenance of such property in a manner satisfactory to said owner. It is understood that in such cases, the utility or property owner has the option of doing such work with his or her own forces, or permitting the work to be performed by the Contractor.

(d) The Contractor shall be responsible for determining in advance the location, elevation, alignment and pipe type and size of all existing pipelines to which connections are to be made. Potholing to determine location will be allowed only after providing the District with three (3) day's advance notice. The Contractor is required to contact Underground Service Alert (USA) at 1-800-227-2600 or 1-800-422-4133, or any successor regional notification center, for mark-out of all utilities in the area of the Work.

(e) The Contractor shall provide and install suitable safeguards, and shall be responsible for the care and protection of all existing utilities and service connections, or other above-ground or below ground facilities or structures which may be encountered in or near the area of work.

(f) It shall be the responsibility of the Contractor to notify each agency or jurisdiction and utility company and to make arrangements for location of facilities prior to beginning construction. During the performance of the Work under this Contract, the owner of any utility affected by the Work shall have the right to enter when necessary upon any portion of the Work for the purpose of maintaining service and of making changes in or repairs to said utility.

(g) The Drawings show the approximate positions of known utilities in the immediate vicinity of the work, but the Owner does not guarantee that all existing utilities are shown. Service connections normally are not shown on the Drawings. The Contractor, before commencing any excavation, shall ascertain from records or otherwise, the existence, horizontal, and vertical position, and ownership of all existing utilities and service connections. If the Contractor discovers any utility in the line of the Work which is not shown on the Drawings, Contractor shall immediately notify the Engineer of the existence of same. The Owner will not be liable for any consequences arising as a result of a service connection being incorrectly located in the field by the agency having jurisdiction over said service connection.

(h) All costs involved in removing, relocating, protecting, supporting, repairing, maintaining, or replacing a main or trunkline utility facility which actually constitutes a construction interference, when said utility is not shown with reasonable accuracy as an interference or is omitted from the Drawings, will be paid for by the Owner as extra work. Any resulting delay will be deemed to be an excusable delay and shall not count against Contractor's total allowed work days. Contractor shall not be entitled to compensation resulting from any such delay, except as otherwise may be required by law. The Owner's obligation to repair damage to such a facility and to provide extra work days to Contractor shall not extend to damage resulting from the failure of the Contractor to use reasonable care.

(i) All costs involved in removing, relocating, protecting, supporting, repairing, maintaining, or replacing any utility or service connection other than those described in Subsection (e) herein shall be borne by the Contractor.

(j) The Contractor shall not be assessed liquidated damages for failure to complete the Work on time to the extent that such delay was caused by failure of the Owner or of the agency having jurisdiction over the utility or service connection to authorize or otherwise provide for its removal, relocation, protection, support, repair, maintenance, or replacement.

(k) The Owner reserves the right, upon determination of the actual position of existing utilities and service connections, to make changes in alignment or grade of the Owner's pipelines when, by so doing, the necessity for relocation of existing utilities or service connections will be avoided. Such changes will be ordered in writing by the Engineer. Where applicable, adjustment in the Contract price will be made based on the unit prices stated in the Bidding Schedule. Where unit prices in the Bidding Schedule are not applicable, adjustment in Contract price will be in accordance with Section 7.2.

5.6 PROTECTION OF LANDSCAPING

(a) The Contractor shall be responsible for the protection of all the trees, shrubs, fences, and other landscape items adjacent to or within the work area, unless specific removals are indicated on the Plans.

(b) In the event of damage to landscape items, including the thickness of topsoil, the Contractor shall replace the damaged items in kind, in a manner satisfactory to the District.

(c) When pipelines are proposed within planted or otherwise improved areas in public or private easements, the Contractor shall restore such areas to original condition after completion of the Work.

(d) When pipelines are proposed within unimproved areas, the ground surface shall be dressed smooth to the contour of the original ground and left in a neat, presentable condition, free of cleared vegetation, rubbish and other construction wastes. Rocks and clumps that cannot be readily covered by spreading shall be hauled away and disposed of by the Contractor.

(e) Unimproved areas disturbed during construction of the pipeline shall be hydro seeded in accordance with these Specifications.

5.7 LINES, GRADES AND CONSTRUCTION STAKING

(a) The Engineer will set permanent benchmarks, as appropriate, near or on the site of the Work, will set permanent points establishing the location of major structures, and will set alignment and grade stakes for all buried pressurized pipelines larger than six (6") inches in diameter. The Contractor shall furnish all other lines and grades required for proper execution of the work.

(b) The Contractor(s) shall schedule with the Owner for construction staking with sufficient lead-time to allow scheduling with the Owner's surveyor. The District shall furnish one set of construction stakes.

(c) The Contractor shall preserve all benchmarks, stakes, and other survey marks, and in case of their removal or destruction, shall be liable for the cost of their replacement.

5.8 LEGAL ADDRESS OF CONTRACTOR

The address given in the form entitled Information Required of Bidder is hereby designated as the place to which all notices, letters, and other communications to the Contractor will be mailed or delivered. The mailing or delivering to said address of any notice, letter, or other communication shall be deemed sufficient service thereof upon the Contractor. The date of such service shall be the date of such mailing or delivery. Said address may be changed at any time by a written notice signed by the Contractor and delivered to the Engineer.

5.9 CONTRACTOR'S SUPERINTENDENT

A qualified English speaking superintendent, acceptable to the Engineer, shall superintend the Work and shall provide competent supervision of the Work until its completion. The superintendent shall not be replaced without ten (10) days' written notice to the Owner except under extraordinary circumstances. The superintendent shall have full authority to act

on behalf of the Contractor, and all directions given by the Engineer to the superintendent shall be considered given to the Contractor. If the superintendent is not present on a part of the Work where the Engineer desires to give instructions, such instructions may be given by the Engineer to the foreman in charge of the particular work to which the instructions apply. Such instructions given to a foreman likewise shall be considered given to the Contractor. Such instructions given by the Engineer to the superintendent or to a foreman when they concern items of substantial importance will be confirmed in writing. All instructions and directions given by the Engineer will be limited to matters properly falling within the Engineer's authority as specified in Section 5.2.

5.10 CHANGES IN WORK

The Owner reserves the right to make such alterations, deviations, additions to or omissions from the Plans and Specifications, including the right to increase or decrease the quantity of any Item or portion of the Work or to omit any Item or portion of the Work, as may be deemed by the Engineer to be necessary or advisable and to require such extra work as may be determined by the Engineer to be required for the proper completion or construction of the whole work contemplated.

5.11 CHANGED CONDITIONS

The Contract Documents show subsurface conditions or otherwise hidden conditions as they are supposed or believed by the Engineer to exist; but it is not intended or to be inferred that the conditions as shown thereon constitute a representation that such conditions actually exist. Except as otherwise specifically provided in the Contract Documents, the Owner, the Engineer, and their consultants shall not be liable for any loss sustained by the Contractor as a result of any variance to such conditions as shown on the Contract Documents or the actual conditions revealed or otherwise discovered during the progress of the Work.

(a) Contractor shall advise Owner as soon as reasonably practicable, upon gaining knowledge of changed conditions, events, or accumulation of events which may affect the scope and cost of the Project, and of any proposed or necessary changes, additions or deletions to the Work described herein.

(b) The Contractor shall notify the Owner of the following work site conditions, promptly upon their discovery and before they are disturbed:

(1) Subsurface or latent physical conditions differing materially from those represented in the Contract Documents, and

(2) Unknown physical conditions of an unusual nature differing materially from those ordinarily encountered and generally recognized as inherent in the character of work being performed.

5.12 PROTESTS

If the Contractor considers any required work to be outside the requirements of the Contract, or if Contractor considers any order, instruction, or decision of the Engineer or of any inspector to be unfair, Contractor shall, immediately upon receipt of such order, instruction, or decision, ask for a written confirmation of the same, whereupon the Contractor shall proceed without delay to perform the work or to conform to the order, instruction, or decision; but, unless the Contractor finds such order, instruction, or decision satisfactory, Contractor

shall within ten (10) calendar days after receipt of same, file a written protest with the Engineer, stating clearly and in detail Contractor's objections and the reasons therefore. Except for such protests or objections as are made of record on the manner specified and within the time stated herein, the Contractor hereby waives all grounds for protests or objections to the orders, instructions, or decisions of the Engineer and hereby agrees that, as to all matters not included in such protest, the orders, instructions, and decisions of the Engineer shall be considered final and binding. All orders, instructions, and decisions of the Engineer will be limited to matters properly falling within the Engineer's authority as specified in Section 5.2.

5.13 ASSIGNMENT FORBIDDEN

The Contractor shall not assign, sublet, sell, transfer, or otherwise dispose of the Contract or any interest therein or portion thereof, or any right, title, or interest therein, or obligations thereunder, without the prior, written consent of the Owner. If the Contractor violates this provision, the Contract may be terminated at the option of the Owner. In such event, the Owner shall be relieved of all liability and obligations to the Contractor and to Contractor's assignee or transferee, growing out of such termination.

5.14 SUBCONTRACTS

(a) Total cost of all subcontractors' work shall not exceed fifty percent (50%) of the total Contract price. The Contractor shall perform not less than fifty percent _____ (50%) percent of the work with his own forces (i.e., without subcontracting). The fifty percent (50%) requirement shall be understood to refer to work, the value of which totals not less than fifty percent (50%) of the Contract price.

(b) In the Engineer's discretion, subcontracts may be permitted to such extent as permitted by law and shall be shown to be necessary or advantageous to the Contractor in the prosecution of the Work and without injury to the Owner's interests. The sub-subcontracting of work by a subcontractor shall be subject to the same limitations as an original subcontract. Each subcontractor shall be properly licensed for the type of work which they are to perform.

(c) A copy of each subcontract shall be filed promptly with the Engineer upon the Engineer's request. Each subcontract shall contain a reference to the Agreement between the Owner and the Contractor, and the terms of that Agreement shall be made a part of each subcontract insofar as applicable to the work covered thereby. To the extent permitted by law, each subcontract shall provide for termination of same by the Contractor upon written order of the Engineer, if, in the Engineer's opinion, the subcontractor fails to comply with the requirements of the prime contract insofar as the same may be applicable to the Work.

(d) The Contractor shall be responsible to the Owner and Engineer for the acts and omissions of Contractor's employees, agents, and subcontractors. Nothing contained in this Section shall create any contractual relationship between any subcontractor and the Owner or Engineer or relieve the Contractor of any liability or obligation under the Contract.

5.15 SUSPENSION OF WORK

The Engineer acting on behalf of the Owner may, by written notice to the Contractor, suspend the work in whole or in part for such period or periods as deemed necessary, due to unsuitable weather, delay in delivery of Owner-furnished equipment or materials, or such other conditions as are considered unfavorable for prosecution of the Work, or for failure on the part of the Contractor to carry out the provisions of the Contract, or to provide materials or workmanship meeting the requirements of the Specifications. Suspended work shall be resumed by the Contractor within ten (10) calendar days of receipt from the Engineer of written notice to proceed. The Contractor shall have no claim for damages alleged to have been suffered by reason of any suspension of the Work without termination of the Contract, and Contractor shall receive no additional compensation because of any such suspension.

5.16 TERMINATION OF CONTRACT BY OWNER (CONTRACTOR NOT AT FAULT)

The Owner may terminate the Contract upon ten (10) calendar days written notice to the Contractor, if it is found that reasons beyond the control of either the Owner or Contractor make it impossible or against the Owner's interests to complete the Work. In such a case, the Contractor shall have no claims against the Owner except: (1) for the value of Work performed up to the date the Contract is terminated, and (2) for the documented cost of materials and equipment on hand, in transit, or on definite commitment, as of the date the Contract is terminated, which would be needed in the Work and which meet the requirements of the Specifications. The value of work performed and the cost of materials and equipment delivered to the site, as mentioned above, shall be determined by the Engineer in accordance with the procedure prescribed for the making of the final estimate and payment as described in Part 7.12.

5.17 TERMINATION OF CONTRACT BY OWNER (CONTRACTOR AT FAULT)

(a) The Owner may terminate the Contract upon ten (10) calendar days written notice to the Contractor in the event of any default by the Contractor. It shall be considered a default by the Contractor whenever Contractor shall: (1) declare bankruptcy, become insolvent, or assign assets for the benefit of creditors, (2) disregard or violate important provisions of the Contract Documents or Engineer's instructions, or fail to prosecute the Work according to the approved progress schedule, or (3) fail to provide a qualified superintendent, competent and sufficient workers, or subcontractors, or materials or equipment meeting the requirements of the Specifications and Drawings.

(b) In the event the Contract is terminated in accordance with subsection (a) herein, the Owner may take possession of the Work and of all materials, tools, equipment, and property of the Contractor, which have been provided in connection with the Work, and may complete the Work by whatever method or means Owner may select. The cost of completing the Work shall be deducted from the balance which would have been due the Contractor had the Contract not been terminated and the Work completed in accordance with the Drawings and Specifications. If such cost exceeds the balance which would have been due, the Contractor shall pay the excess amount to the Owner. If such cost is less than the balance which would have been due, the Contractor shall not have claim to the difference except to such extent as may be necessary, in the opinion of the Engineer, to reimburse the Contractor or the Contractor's sureties for any expense properly incurred for materials, tools, equipment, property, and labor, devoted to the prosecution of the Work, of which the Owner shall have received the benefit. In computing such expenses, as it relates to equipment and property, the salvage value at completion of the Work shall be deducted from the depreciated

value at the time the Contract was terminated, and the difference shall be considered as an expense.

5.18 TERMINATION OF CONTRACT BY CONTRACTOR

The Contractor may terminate the Contract upon ten (10) calendar days written notice to the Owner, whenever: (1) the entire work has been suspended in accordance with Section 5.15 for sixty (60) consecutive calendar days through no fault or negligence of the Contractor, and notice to resume work or to terminate the Contract has not been received from the Owner within this time period, or (2) the Owner should fail to pay the Contractor any substantial sums due in accordance with the terms of the Contract and within the time limits prescribed. In the event of such termination, the Contractor shall have no claims against the Owner except for those claims specifically enumerated in Section 5.14 and determined in accordance with that section.

5.19 RISK OF LOSS

Owner shall be under no obligation to protect Contractor's work, equipment, materials and/or facilities. Contractor shall bear all risk of loss or damage hereto by whatever cause, whether arising during the execution or the non-execution of the Work, until the Work is accepted by the Owner. Contractor shall rebuild, repair, restore, and replace, and make good all injuries or damages to, any portion of that which it is to improve, provide, or complete hereunder occasioned by any cause whatsoever, including natural causes or events, before completion and acceptance by Owner and shall bear all expense thereof; excepting only damages in excess of five percent (5%) of the contracted amount resulting from "Acts of God" as provided for and defined in Section 7105 of the Public Contract Code. The "Acts of God" exception shall not apply to contracts financed by revenue bonds.

5.20 RIGHT TO OCCUPY COMPLETED PORTIONS OF WORK

The Owner may wish to occupy or place in service portions of the completed Work before final completion of the Work and shall be at liberty to do so, but such occupancy or placing in service of any completed portion of the Work shall not void the Contract nor relieve the Contractor of its responsibility of protection and care of all Work until final completion and acceptance of the entire Work, provided, however, that expense directly attributable to operation and placing in service the portions of the Work shall not be chargeable to the Contractor.

5.21 FAILURE TO COMPLY

If the Contractor should refuse or neglect to comply with the provisions of the Contract or the orders of the Engineer, the Owner may have such provision or orders carried out by others at the expense of the Contractor.

5.22 COOPERATION WITH OTHERS

During the work by the Contractor, installation or construction by other contractors or utilities may be required. The Contractor shall coordinate and cooperate fully with said utility or contractor. If installations by a utility company are required, the Contractor shall conduct the Work to allow for the orderly and timely installation, and shall be responsible for notifying the Engineer and/or utility company sufficiently in advance as required for the desired installation date.

GENERAL CONDITIONS

SECTION 6 MATERIALS, WORKMANSHIP, SITE MAINTENANCE AND SAFETY

6.1 SAFEGUARDING OF EQUIPMENT, MATERIALS, AND WORK

(a) The Contractor shall properly safeguard all equipment, materials, and work against loss, damage, malicious mischief, or tampering by unauthorized persons until acceptance of the work by the Owner. Locked and covered storage or continuous surveillance by a watchman shall be provided if required to accomplish this purpose.

(b) All materials for use in the work shall be stored by the Contractor in such a manner as to prevent damage from exposure to the elements, admixture of foreign materials, or from any other cause. The Contractor shall be entirely responsible for damage or loss by weather or other causes. The Globally Harmonized Systems Safety Data Sheets (GHS SDS) for all products to be used in the work shall be kept on-site by the Contractor, and the material manufacturer's recommendations for proper storage of its products shall be strictly followed.

6.2 STORAGE OF MATERIALS

Materials shall not be stored on District property without the written permission of the District. The Contractor shall be responsible to provide its own storage area or property. Materials for use on the work shall be stored on private property only as allowed by law and with the written permission of the property owner, and a copy of such permission shall be provided to the District. In addition, a release letter signed by said property owner and stating that materials are no longer stored on the property and that Contractor has restored the area to original condition is required prior to the filing of the Notice of Completion.

6.3 NEW MATERIALS AND EQUIPMENT

(a) Unless otherwise specified, shown, or permitted by the Engineer, all materials and equipment incorporated in the work shall be new and of current manufacture. The Engineer may request the Contractor to furnish the manufacturer's certificates to this effect. All equipment, material and supplies shall be produced in a good and workmanlike manner. Materials to be used within the scope of work on the project shall be those listed in these specifications, those called out on the Approved Plans, and those specified in the District's Standard Specifications. When the quality of a material, process, or article is not specifically set forth in the Plans, or the Specifications, the best available quality of the material, process, or article shall be provided.

(b) Materials delivered to the job site which are not listed in these specifications, called out on the Plans, or specified in the District's Standard Specifications, which are damaged, or which are not approved by or are otherwise unacceptable to the District shall be rejected and immediately removed from the job site. Job-specific approval of materials not listed in these specifications, called out on the Plans, or specified in the District's Standard Specifications is solely at the discretion of the District, and materials so approved shall not be construed as approved for general use.

6.4 SUBSTITUTIONS

The Contractor may offer as substitution any material, process, or article substantially equal or better in every respect to that so indicated or specified; provided, however, that if the material, process, or article offered by the Contractor is not, in the opinion of the District, substantially equal or better in every respect to that specified, then the Contractor must furnish the material, process, or article specified or one that in the opinion of the District is substantially equal or better.

6.5 TITLE TO MATERIALS FOUND ON THE WORK

The Owner reserves the right to retain title to all soils, stone, sand, gravel, and other materials developed and obtained from excavations and from other operations connected with the Work. Unless otherwise specified in the Special Conditions, neither the Contractor nor any subcontractor shall have any right, title, or interest in or to any such materials. The Contractor will be permitted to use in the Work, without charge, any such materials which meet the requirements of the Specifications and Drawings.

6.6 CHARACTER OF WORKERS

None but skilled workers shall be employed on work requiring special qualifications. When required in writing by the Engineer, the Contractor or any subcontractor shall discharge any person who is, in the opinion of the Engineer, incompetent, disorderly, or otherwise unsatisfactory, and shall not again employ such discharged person on the Work except with the consent of the Engineer. Such discharge shall not be the basis of any claim for damages against the Owner or any of Owner's agents.

6.7 CONTRACTOR'S RESPONSIBILITY FOR JOB SAFETY

(a) The Contractor shall designate a responsible member of his organization at the site whose duty shall be the prevention of hazards and accidents. This person shall be the Contractor's Superintendent unless otherwise designated in writing by the Contractor to the Owner. The Contractor will be solely and completely responsible for conditions of the job site, including safety of all persons and property during performance of the Work. This requirement shall apply continuously and not be limited to normal working hours until final acceptance of the Work. The Contractor's duty to preserve safety shall include, but not be limited to, the erection and maintenance of temporary fences; bridges, railings, and barriers; placement of guards, placement, maintenance, and operation of sufficient lights and signals; and all other precautions necessary to maintain safety in the vicinity of all Work.

(b) Any duty on the part of Engineer or any Owner agent or representative to monitor and review the technical conformance of works in progress shall not be construed to include the review of the adequacy of the Contractor's construction procedures or safety measures. Nothing herein shall relieve Contractor of its sole and complete responsibility for safety conditions on the job site and with respect to its related operations and work. Furthermore, Engineer and other Owner representatives do not claim to be, and shall not be required to be, expert in all phases of Contractor's operations involving potential risk to the safety of anyone resulting from Contractor's operations, workers' actions, or equipment failure or misapplication or inadequacy of equipment; and, they shall not have actual or implied responsibility to police Contractor's compliance with the law.

(c) All aspects of job safety, with respect to Contractor's employees, subcontractors, suppliers or agents, and the public safety affected by Contractor's operations, shall be the sole and total responsibility of the Contractor. The Owner's project relationship may or may not include direct on-site observation of the Contractor's work. Continuous presence of any of the Owner's representatives shall not be an obligation under this Contract and shall not be expected. The Engineer, or any other Owner's representatives are only to be observers for the purpose of ascertaining that the completed works in progress conform with the Drawings and Specifications. Owner's representatives shall not be responsible for construction procedures or safety. Furthermore, no special training or knowledge in construction procedures, especially in the specific area of safety engineering or safety practices, shall be required or expected of Engineer or Owner's other representatives with regard to operations, workers, or equipment for which they are not directly responsible. The Engineer and other Owner representatives at the work site shall not be in charge of the Work or safety procedures and they shall not be empowered to stop the Work. ADVISORY NOTICES OR RECOMMENDATIONS ARISING FROM THE PROVISIONS OF THIS SECTION DO NOT CARRY ENFORCEMENT AUTHORITY AND ANY ACTIONS OF THE CONTRACTOR PURSUANT THERETO SHALL BE THE RESULT OF ITS PRUDENT EVALUATION OF THE SITUATION AT HAND.

6.8 INSPECTION AND TESTING

(a) All materials furnished and all work performed under the Contract shall be subject to inspection by the Engineer. The Contractor shall be held strictly to the true intent of the Specifications and Drawings in regard to quality of materials, workmanship, and diligent execution of the Contract. Such inspection may include mill, plant, shop, or field inspection as required. The Engineer shall be permitted access to all parts of the work, including plants where materials or equipment are manufactured or fabricated, and Engineer shall be furnished with such materials, information, and assistance by the Contractor and his subcontractors and suppliers as is required to make a complete and detailed inspection.

(b) Work done in the absence of prescribed inspection may be required to be removed and replaced under the proper inspection, and the entire cost of removal and replacement, including the cost of all materials which may be furnished by the Owner and used in the work thus removed, shall be borne by the Contractor, regardless of whether the work removed is found to be defective or not. Work covered up without the authority of the Engineer, shall, upon order of the Engineer, be uncovered to the extent required, and the Contractor shall similarly bear the entire cost of performing all the work and furnishing all the materials necessary for the removal of the covering and its subsequent replacement, as directed and approved by the Engineer.

(c) The cost of inspection required by the Owner will be paid by the Owner, except that the cost of inspection required by the Owner during periods of overtime work, as defined in Section 7.4, shall be paid by the Contractor. All inspection fees imposed by agencies other than the Owner shall be paid by the Contractor.

(d) The Engineer will make, or have made, such tests as deemed necessary to assure that the work is being accomplished in accordance with the requirements of the Contract. Unless otherwise specified in the Special Conditions, the cost of such testing will be borne by the Owner. In the event such tests reveal non-compliance with the requirements of the Contract, the Contractor shall bear the cost of such corrective measures deemed necessary by the Engineer, as well as the cost of subsequent retesting. It is understood and

agreed that the making of tests shall not constitute an acceptance of any portion of the work nor relieve the Contractor from compliance with the terms of the Contract.

6.9 DEFECTIVE EQUIPMENT, MATERIALS, OR WORK

(a) Inspection of the Work shall not relieve the Contractor of any of his obligations under the Contract. Even though equipment, materials, or work required to be provided under the Contract have been inspected, accepted, and estimated for payment, the Contractor shall, at Contractor's own expense, replace or repair any such equipment, materials, or work found to be defective or otherwise not to comply with the requirements of the Contract up to the end of the maintenance and guarantee period as provided in Section 2.

(b) Any equipment or materials brought upon the job site by the Contractor and subsequently rejected by the Engineer as not complying with the requirements of the Contract shall be removed immediately by the Contractor to a satisfactory distance from the job site.

(c) If the Contractor shall fail to repair or replace unsatisfactory equipment, materials, or work, or to remove unsatisfactory equipment or materials from the jobsite, within ten (10) calendar days after being ordered to do so by the Engineer, the Engineer, acting on behalf of the Owner, may make the ordered repairs or remove the condemned equipment or materials, and the Owner will deduct the cost thereof from any monies due or to become due the Contractor.

6.10 CONTRACTOR'S UTILITIES

(a) Unless otherwise specified in the Special Conditions, the Owner will furnish, without charge, reasonable quantities of water required by the Contractor in performance of the Work under the Contract and used in accordance with the District's Rules and Regulations. However, the Contractor shall provide the facilities necessary to convey the water from the Owner-designated source to the points of use. All water used on the Project shall be obtained from District's sources using a construction meter. The construction meter and service connection shall be obtained from the District. The Contractor shall make arrangements with the District for payment of the deposit and installation of the meter. Damage caused to the meter will be charged to the Contractor.

(b) The Contractor shall provide and maintain such sanitary accommodations for the use of its employees, the Engineer, and those subcontractors as may be necessary to comply with the requirements of State and local health departments. Sanitary accommodations shall include toilet and wash-up facilities, and the availability of cool drinking water readily available to workers. Contractor shall install construction lighting when Work is performed at night or under deficient daylight conditions to ensure correct performance and to provide for inspection and safe working conditions.

(c) The Contractor shall provide its own telephone, internet, and all electric power required in performance of the Work under the Contract and shall pay all installation charges and monthly bills in connection therewith.

6.11 RUBBISH CONTROL

During the progress of the Work, the Contractor shall keep the site of the work and other areas used by Contractor in a neat and clean condition and free from any accumulation of waste, debris, or rubbish. The Contractor shall conduct cleaning and disposal operations to comply with local ordinances and anti-pollution laws.

6.12 DUST CONTROL

The Contractor shall at all times conduct the Work so as to avoid unnecessary dust. Contractor shall provide adequate equipment and water as determined by the Engineer to be necessary.

6.13 EROSION CONTROL

The Contractor shall anticipate and correct any erosion (and/or sediment) problem arising from its operations. The Contractor shall provide suitable drainage and shall erect such temporary structures as are necessary to protect the Work or materials from damage. The Contractor shall rebuild, repair, restore, and make good all injuries, losses, or damages to any portion of the Work or the materials occasioned by any cause before the acceptance of the Work by District and shall bear the expense thereof.

6.14 NOISE CONTROL

Contractor shall comply with OSHA requirements and local noise ordinances as to allowable noise levels during construction. All internal combustion engines in vehicles and construction equipment shall be equipped with effective mufflers to produce a maximum of 70 dBA at 50 feet from the source, or 65 dBA at the property line, whichever is less, or such lower level as required by law. Noise disturbance to adjoining property owners shall be minimized.

6.15 AIR POLLUTION CONTROL

Contractor shall comply with all laws, ordinances, rules, regulations, and orders pertaining to air pollution.

6.16 CLEANING UP

The Contractor shall promptly remove from the vicinity of the completed work all rubbish, unused materials, concrete forms, equipment, and temporary structures used during construction. Additional cleanup work if provided in the Special Conditions, shall be performed by the Contractor. Upon completion of the Work, and before making application for acceptance of the Work, the Contractor shall clean all rights-of-way, streets, borrow pits, and all other grounds occupied in connection with the Work. All rubbish, excess materials, temporary structures and equipment shall be removed. All parts of the Work shall be left in a neat and presentable condition, as determined by the Engineer, prior to acceptance of the Work by District.

6.17 REMOVING OBSTRUCTIONS AND MAINTENANCE OF EXISTING IMPROVEMENTS

When the Work hereunder involves performance upon Owner's property, and when the proper completion of the Work requires their temporary or permanent removal, the Contractor shall, at his own expense, remove, and without delay, temporarily or permanently replace or relocate in a workmanlike manner and to the satisfaction of the Owner and of any other person or agency having jurisdiction, all water pipes, gas pipes, drainage lines, irrigation lines, sewer lines, pipelines, conduits, culverts, roads, driveways, fences, bridges, railroad tracks, wires, poles, towers, retaining walls, buildings, curbs, gutters, concrete walks, trees, shrubs, lawns, and all other improvements of whatsoever character not required by law to be removed by the Owner. All such improvements temporarily removed shall be maintained until permanently replaced, all at the Contractor's expense.

Where the Work is to be constructed in or adjacent to areas which have been improved by lawns, trees, shrubs, or gardens, the Contractor shall remove such trees or plants as may be necessary for the prosecution of the Work and give them proper care and attention until the Work has been satisfactorily completed, after which the Contractor shall replace them in as nearly the original condition and location as is reasonably possible. Where it is necessary to deposit the excavated materials on lawns during the process of construction, the Contractor shall first lay burlap or canvas on the lawn to prevent contact between the excavated material and the lawn.

Unless otherwise indicated on the Drawings, General or Special Conditions, or unless otherwise cared for by the owner of a public utility or franchise, all water, gas, oil, or irrigation lines, lighting, power, or telephone conduits or wire, or sewer lines, structures, house connections in place, and all other surface or subsurface structures or lines shall be maintained by the Contractor and shall not be disturbed, disconnected, damaged by him during the progress of the Work. Should the Contractor in the performance of the Work disturb, disconnect, or damage any of the above, he shall, unless indicated otherwise, repair or replace with similar materials or as required by the agency having jurisdiction. All expenses, of whatever nature, arising from such disturbance, or in the replacement or repair thereof, shall be borne by the Contractor.

6.18 FIRE PREVENTION

The Contractor's Safety Officer shall inspect the entire Work and site, including storage areas, at frequent intervals to verify that fire prevention measures are constantly enforced.

6.19 FIRE EXTINGUISHERS AND HOSES

The Contractor shall furnish and maintain fully charged fire extinguishers of the appropriate type, supplements with temporary fire hoses wherever an adequate water supply exists, at the places where burning, welding or other operations that may cause a fire are being performed.

6.20 FLAMMABLE OR TOXIC MATERIALS

Only a working supply of flammable or toxic materials shall be permitted in or on any of the permanent structures and improvements, and shall be removed therefrom at the end of each day's operations. The Contractor shall store flammable or toxic materials and waste separate from the Work and stored materials for the Work in a manner that prevents spontaneous

combustion or dispersion, and none shall be placed in any sewer or drain piping nor buried on the Owner's property.

6.21 PUBLIC SAFETY AND TRAFFIC CONTROL

(a) The Contractor shall submit a traffic control plan to the Jurisdictional Agency (County of Riverside) and shall obtain approval of the traffic control plan by the appropriate County prior to starting the Work.

(b) The Contractor shall at all times conduct operations in a manner causing the minimum obstruction and inconvenience to public traffic. The Contractor shall not interfere with the normal operation of public transit vehicles unless otherwise authorized. Open trenches and excavations shall be provided with adequate barricades in accordance with the approved traffic control plan or the requirements of the agency of jurisdiction. At night, lights shall mark all open work and obstructions. The Contractor shall install and maintain all signs, lights, flares, barricades, traffic plates, railings, runways, stairs, bridges and other equipment necessary to safeguard the public. Safety instructions received from governmental authorities shall be followed, but compliance with such instructions shall not diminish the Contractor's responsibility or liability for accidents to workers or damage or injury to persons or property.

(c) In accordance with generally accepted construction practices, the Contractor shall be solely and completely responsible for conditions of the job site, including safety of all persons and property during performance of the work, and the Contractor shall fully comply with all state, federal, and other laws, rules, regulations, and orders relating to the safety of workers, invitees, and others.

(d) The right of the District to conduct construction review or observation of the Contractor's performance does not include review or observation of the adequacy of the Contractor's safety measures in, on, or near the construction site.

(e) The Contractor shall take immediate action to correct any condition adversely affecting public safety.

(f) The Contractor shall protect against damage to traffic loops. The Contractor shall take immediate action to replace or repair any traffic loop damage by the Contractor's work.

6.22 HAZARDOUS WASTE AND UNKNOWN PHYSICAL CONDITIONS

If conditions listed below are found during construction, or if any other conditions are found during construction that may be detrimental to the District's facilities being constructed, or to the health and safety of the public, the Contractor shall promptly notify the District.

(a) Material that the Contractor or Engineer believes may be hazardous waste, as defined in Section 25117 of the Health and Safety Code, and is thus required to be removed to a Class I, Class II, or Class III disposal site in accordance with the provisions of existing law. If such material is discovered, Contractor shall immediately cease work and shall not disturb the job site except as required to protect public safety.

(b) Subsurface or latent physical conditions at the site differing from those indicated.

(c) 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 in the Contract.

(d) The Contractor shall promptly inform the District of any such conditions found during construction. The District shall investigate the conditions, and if it finds that the conditions do materially differ from those shown or expected, or do involve material that may be hazardous waste, Contractor shall cease work in the impacted area.

GENERAL CONDITIONS

SECTION 7 PROJECT SCHEDULE AND PAYMENT PROVISIONS

7.1 BREAKDOWN OF CONTRACT PRICE

Prior to execution of Contract, if requested by the Engineer, the Contractor shall submit a detailed price breakdown (Schedule of Values) of any or all bid items for the Work. Such Schedule of Values price breakdown shall include quantities, unit prices, and any other information required, in sufficient detail, to enable it to be used by the Engineer in preparing monthly progress estimates. The Contractor shall use the price breakdown form bound with the Specifications if one is included.

7.2 CHANGE ORDERS

(a) Contractor's attention is directed to Section 5.11 of these General Conditions regarding "Changed Conditions" and its responsibility for notification of the Owner.

(b) The Owner may, as the need arises, order changes in the Work through additions, deletions, or modifications, without invalidating the Contract. Such changes will be effected through written change orders delivered to the Contractor describing the change required in the Work, together with any adjustment in Contract price or time of completion as hereinafter provided. No such change shall constitute the basis of claims for damages or anticipated profits; however, the Engineer will make reasonable allowance for the value of any Work, materials, or equipment furnished and subsequently rendered useless because of such change. Any adjustment in Contract price resulting from a change order will be considered in computing subsequent monthly payments due the Contractor. Any work performed in accordance with a change order shall be subject to all provisions of the original Contract, and the Contractor's sureties shall be bound thereby to the same degree as under the original Contract. The Contractor will not receive payment for extra work performed unless such extra work is ordered in writing.

(c) Any adjustment in Contract price shall be based on unit price bid items or additive and deductive bid items submitted by the Contractor in the original bid on the Work where such bid items are applicable.

(d) If the original bid prices are not applicable and the Owner and Contractor are unable to agree upon a lump sum or unit price prior to executing the change order, the adjustment in Contract price shall be made on a cost-plus basis. In such an event, the following items will be included as the direct costs:

- Materials and supplies
- Labor (including foremen's wages)
- Workers' Compensation Insurance
- Unemployment contributions paid to the State
- Social security taxes paid to the Federal Government
- Labor union health and welfare, pension, vacation-holiday,

and apprenticeship fund contributions

Reasonable value for use of equipment for actual time of use

In addition to the direct costs enumerated above, the Owner will pay to the Contractor for said extra work a percentage of said direct costs to compensate for the following profit and overhead items:

Profit

General expenses

All insurance except workers' compensation insurance

Excise taxes

Property taxes

License and inspection fees

Bond premiums

All other items of expense not specifically enumerated above

Said percentage will be fifteen percent (15%) of said direct costs provided the Contractor itself actually performs the extra work. In the event the extra work is performed by a subcontractor, the percentage paid to the Contractor will be twenty percent (20%) of the subcontractor's direct costs. The twenty percent (20%) will include allowance for profit and overhead costs for both the Contractor and subcontractor. In the event the extra work is performed through more than one subcontractor in succession, said percentage will not exceed twenty-five (25%) percent.

(e) When work is being performed on a cost-plus basis, the Contractor shall submit written reports as directed by the Engineer, showing all items of direct cost, as defined in Section 7.2 (d), which enter into the work. If required by the Engineer, the Contractor shall furnish books, vouchers, invoices, and other records to substantiate the direct cost items in said reports.

(f) Any changes in or extra work performed hereunder shall be subject to all of the provisions of the Contract and considered a part thereof, and the Contractor's sureties shall be bound with reference thereto as under the original Contract.

7.3 WORKDAY

(a) The Contractor's working hours shall be limited to the hours between 7:00 a.m. and 4:00 p.m., Monday through Friday, excluding recognized holidays. Deviation from normal working hours will not be allowed without prior consent of the District, and the County of Riverside and/or City of Beaumont (Jurisdictional Agency) if required by law.

(b) In the event work is allowed by the District and, if applicable, the County of Riverside (Jurisdictional Agency), outside of the normal working hours, at the for the benefit of the Contractor, inspection service fees may be levied against the Contractor at a rate of 1-1/2 times the regular hourly rate, including travel time where applicable.

(c) The above charge may also be levied if inspection services are deemed necessary by the Engineer as a matter of public safety or to otherwise insure the quality of the Work.

(d) If work is done at night, the Contractor shall provide adequate light for proper prosecution of the Work, for the safety of the workers and the public, and for proper inspection.

7.4 OVERTIME WORK

Except as otherwise provided in this section, the Contractor shall receive no additional compensation for overtime work (work performed in excess of 40 hours in any one calendar week, or work performed on a Saturday, Sunday, or legal holiday) even though such overtime work may be required under emergency conditions and may be ordered by the Engineer in writing. Additional compensation will be paid the Contractor for overtime work only in the event extra work is ordered by the Engineer and the change order specifically authorizes the use of overtime work and then only to such extent as overtime wages are regularly being paid by the Contractor for overtime work of a similar nature in the same locality. Nothing herein shall affect the Contractor's payment obligations under the Labor Code.

7.5 EXTENSION OF TIME

(a) The Contractor may be entitled to an extension of Contract time: (1) if the Work has been suspended by the Owner in whole or in part, or (2) where weather or other circumstances occur which delay progress and which are clearly beyond the control of the Contractor, provided that in either case the Contractor is not at fault and is not negligent under the terms of the Contract, and/or otherwise as provided in the Contract. The extension of time allowed shall be as determined by the Engineer.

(b) To receive consideration, a request for extension of time must be made in writing to the Engineer stating the reason for said request and such request must be received by the Engineer within ten (10) calendar days following the end of the delay -causing condition.

7.6 LIQUIDATED DAMAGES

(a) The Contractor shall pay to the Owner the amount specified in the Special Conditions, not as a penalty but as liquidated damages, if the Contractor fails to complete the Work within the time required by the Contract. The period for which said damages shall be paid shall be the number of calendar days from the agreed date of completion as contained in the Contract, or from the date of termination of any extension of time approved by the Engineer, to the date the Engineer certifies completion of the Work to the Owner as provided in Section 7.11(a). The Owner may deduct the amount of said damages from any monies due or to become due the Contractor.

(b) The liquidated damage amount is fixed and agreed upon by and between the Contractor and the Owner because of the impracticability and extreme difficulty of fixing and ascertaining the actual damages the Owner would sustain; and said amount is agreed to be the amount of damages which the Owner would sustain.

(c) All times specified in the Contract Documents are hereby declared to be of the essence in this Contract.

7.7 PROJECT SCHEDULES

Within thirty (30) calendar days of Notice to Proceed (or within forty-five (45) days of Notice of Award), or at such times as may be required by the Engineer, the Contractor shall submit project schedules showing the order in which Contractor proposes to carry on the Work and the dates when the various parts are to be begun and completed. Schedules shall be subject to the approval of the Engineer and if in the Engineer's opinion a schedule submitted is inadequate to secure the completion of the Work in the time agreed upon or is otherwise not in accordance with the Specifications, the Engineer may require the Contractor to submit a new schedule which will assure timely completion of the Work.

7.8 MONTHLY ESTIMATES AND PAYMENTS

(a) On a prescribed day each month as determined in the preconstruction conference, the Engineer will prepare and certify to the Owner an estimate of the cumulative amount and value of work performed by the Contractor up to that date. Except as may otherwise be provided in the Special Conditions, said amount will include fifty percent (50%) of the value of all acceptable materials and equipment delivered and retained at the site of the Work. Said value will be based on certified copies of invoices delivered by the Contractor to the Engineer. To this figure will be added all amounts due or paid the Contractor for performance of extra work in accordance with change orders. The Contractor shall have up to date as-built Drawings that have been reviewed prior to payment. In accordance with Public Contract Code Section 9203, five percent (5%) of any progress payment will be withheld as retention. In accordance with Public Contract Code Section 22300, and at the request and expense of the Contractor, satisfactory securities equivalent to the amount withheld may be deposited with the District or with a State or federally chartered bank as escrow agent, which shall then pay such moneys to the Contractor. Upon satisfactory completion of the Work, the securities shall be returned to the Contractor. Alternatively, the Contractor may request that the District make payments of earned retentions directly to an escrow agent at the Contractor's expense. No such substitutions shall be accepted until all related documents are approved by the District's Attorney.

Further deductions will be made for: (1) amounts due the Owner for equipment or materials furnished or services rendered; (2) amounts due the Owner under the terms of the Contract; (3) amounts of any stop notices filed with the Owner; (4) accrued amount of liquidated damages; and (5) amounts required to be deducted by Federal, State, or local governmental authority. From the balance thus determined will be deducted the amount of all previous payments, and the remainder shall constitute the monthly payment due the Contractor. Within thirty (30) calendar days after receipt of the Engineer's estimate of the monthly payment due the Contractor, the Owner will pay the undisputed amount found due.

(b) No monthly payment shall be construed as an acceptance of the work or of any portion of the work, nor shall the making of such payment preclude the Owner from demanding and recovering from the Contractor such damages as it may sustain by reason of the Contractor's failure to comply with the requirements of the Contract.

7.9 UNPAID CLAIMS

Pursuant to Section 9350, et seq., of the California Civil Code, upon or before completion of Work agreed to be performed or at any time prior to the expiration of the period within which claims may be filed for record, certain persons claiming to have performed labor or furnished material, supplies, or services toward the performance of this Contract may file with the

Owner a verified statement of such claim, stating in general terms the kind of labor and materials and the name of the person to or for whom the same was performed or furnished or both, together with a statement that the same has not been paid. If so, or if any person brings any action against the Owner or against any officer thereof to enforce such claim, the Owner shall withhold from the money under its control so much of said money due or to become due to the Contractor under this Contract as shall be sufficient to satisfy and discharge the amount claimed and potential attorney's fees and costs of suit, but in no event less than 125% of the amount claimed. However, if the Owner in its discretion permits the Contractor to file such additional bond as is authorized by Section 9364 of the Civil Code in a penal sum equal to 125% of the amount of the claim, the Owner shall not thereafter withhold said money on account of the claim.

7.10 INCREASE, DECREASE AND ELIMINATION OF CONTRACT ITEMS

(a) When changes increase or decrease estimated quantities of any bid item of work by twenty-five percent (25%) or less, payment will be made for the quantity of work of said item performed at the Contract unit price therefor and no additional adjustment compensation will be allowed. Should the total quantity of any bid item of work required under the Contract exceed the Engineer's Estimate by more than twenty-five (25%) percent, then at the option of the Engineer, the work in excess of one hundred and twenty-five (125%) percent of such Estimate shall be processed as a change order, as a new procurement, or otherwise as permitted by law.

(b) Should the total quantity of any bid item of work required under the Contract be less than seventy-five percent (75%) of the Engineer's estimate, the quantity of said item performed will be paid for by adjusting the Contract unit price, or otherwise as permitted by law, at the option of the Engineer.

(c) Should any Contract item of work be eliminated in its entirety, no compensation will be made in any case for loss of anticipated profits.

7.11 ACCEPTANCE

(a) The Contractor shall notify the Engineer, by written notice, of the completion of the Work, whereupon the Engineer shall promptly, by personal inspection, verify the actual completion of the Work in accordance with the terms of the Contract, and, if all Work is found to have been properly performed, shall thereupon recommend acceptance to the Owner. The following items of work shall be completed prior to final acceptance by District:

(b) The Project has been completed in accordance with the Plans and Specifications.

(c) Final inspection has been performed by District. Any "punch list" items generated by preliminary inspection shall have been completed.

(d) Record drawings reflecting any changes to the Project have been submitted to the Engineer in accordance with the Specifications.

(e) All aspects of the Contract have been completed to the satisfaction of the District.

(f) Neither the acceptance by the Owner or its Engineer or any of its employees, nor any order, measurements, or certificates by the Engineer, nor any payment of money by the Owner or any of its officers, nor any payment for or acceptance of the whole or any part of

the Work by the Engineer or the Owner, nor any extension of time, nor any possession taken by the Owner or its employees, shall operate as a waiver of any portion of this Contract or any obligation of the Contractor, or of any power herein provided; nor shall any waiver of any breach of this Contract be held to be a waiver of any other subsequent breach.

7.12 FINAL ESTIMATE AND PAYMENT

(a) The Engineer shall, as soon as practicable after the final acceptance of the Work done under this Contract, make a final estimate of the amount of work done thereunder and the value thereof.

(b) Such final estimate shall be signed by the Engineer, and after approval, the Owner shall pay or cause to be paid to the Contractor in the manner provided by law and this Contract, the entire sum so found to be due hereunder, after deducting therefrom all previous payments and such other lawful amounts as the terms of this Contract prescribe.

(c) The District shall withhold final payment until at least thirty-five (35) days after recordation of the Notice of Completion, or recordation of a notice of acceptance or cessation, but not later than the period permitted by Public Contract Code Section 7107.

(d) The final payment may be deferred until satisfactory, unconditional labor and releases have been delivered by Contractor to the Engineer.

7.13 CLAIMS AND DISPUTES

In the event of any dispute or controversy with the District over any matter whatsoever, the Contractor shall not cause any delay or cessation in or of the Work, but shall proceed with the performance of the Work in dispute. The Contractor shall retain any and all rights provided that pertain to the resolution of disputes and protests between the parties. The disputed Work will be categorized as an "unresolved dispute" and payment, if any, shall be as later determined by mutual agreement or a court of law. The Contractor shall keep accurate, detailed records of all disputed Work, claims and other disputed matter.

All claims arising out of or related to the Contract Documents or this Project, and the consideration and payment of such claims, are subject to the Government Claims Act (Government Code Section 810 et seq.) with regard to filing claims. All such claims are also subject to Public Contract Code Section 9204 and Public Contract Code Section 20104, et seq. (Article 1.5), where applicable, and as set forth below. This Contract hereby incorporates those provisions as through fully set forth herein. Thus, the Contractor or any subcontractor must file a claim in accordance with the Government Claims Act as a prerequisite to filing a construction claim in compliance with Section 9204 and Article 1.5 (if applicable), and must then adhere to Section 9204 and Article 1.5 (as applicable), pursuant to the definition of "claim" as individually defined therein.

As referenced above, the parties to this Contract are subject to the provisions of Article 1.5 (commencing with Section 20104) of Chapter 1 of Part 3 of the Public Contract Code, which requires compliance with the following procedures to resolve any claim by the Contractor of \$375,000 or less regarding an extension of time, a change order, extra work, or any other disputed amount:

1. The claim shall be in writing and include the documents necessary to substantiate the claim. Claims must be filed on or before the date of final payment. Nothing

in this subdivision is intended to extend the time limit or supersede notice requirements otherwise provided by contract for the filing of claims.

2. (a) For claims of less than fifty thousand dollars (\$50,000), the Owner shall respond in writing to any written claim within 45 days of receipt of the claim, or may request, in writing, within 30 days of receipt of the claim, any additional documentation supporting the claim or relating to defenses or claims the Owner may have against the Contractor.

(b) If additional information is thereafter required, it shall be requested and provided pursuant to this subdivision, upon mutual agreement of the Owner and the Contractor.

(c) The Owner's written response to the claim, as further documented, shall be submitted to the Contractor within 15 days after receipt of the further documentation or within a period of time no greater than that taken by the Contractor in producing the additional information, whichever is greater.

3. (a) For claims of over fifty thousand dollars (\$50,000) and less than or equal to three hundred seventy-five thousand dollars (\$375,000), the Owner shall respond in writing to all written claims within 60 days of receipt of the claim, or may request, in writing, within 30 days of receipt of the claim, any additional documentation supporting the claim or relating to defenses or claims the Owner may have against the Contractor.

(b) If additional information is thereafter required, it shall be requested and provided pursuant to this subdivision, upon mutual agreement of the Owner and the Contractor.

(c) The Owner's written response to the claim, as further documented, shall be submitted to the Contractor within 30 days after receipt of the further documentation, or within a period of time no greater than that taken by the Contractor in producing the additional information or requested documentation, whichever is greater.

4. If the Contractor disputes the Owner's written response, or the Owner fails to respond within the time prescribed, the Contractor may so notify the Owner, in writing, either within 15 days of receipt of the Owner's response or within 15 days of Owner's failure to respond within the time prescribed, respectively, and demand an informal conference to meet and confer for settlement of the issues in dispute. Upon a demand, the Owner shall schedule a meet and confer conference within 30 days for settlement of the dispute.

5. If following the meet and confer conference the claim or any portion remains in dispute, the Contractor may file a claim pursuant to Chapter 1 (commencing with Section 900) and Chapter 2 (commencing with Section 910) of Part 3 of Division 3.6 of Title 1 of the Government Code. For purposes of those provisions, the running of the period of time within which a claim must be filed shall be tolled from the time the Contractor submits his or her written claim pursuant to subdivision (a) until the time the claim is denied, including any period of time utilized by the meet and confer conference.

If after the foregoing procedures are completed a civil action is filed, the action shall be subject to the mediation and arbitration provisions required by Section 20104.4 of the Public Contract Code.

BEAUMONT-CHERRY VALLEY WATER DISTRICT

PIPELINE RELOCATION PROJECT for BEAUMONT MDP LINE 16

SPECIAL REQUIREMENTS

**BEAUMONT-CHERRY VALLEY WATER DISTRICT
PIPELINE RELOCATION PROJECT for BEAUMONT MDP LINE 16**

SPECIAL REQUIREMENTS

These Special Requirements set forth requirements for work related to the replacement of Beaumont-Cherry Valley Water District water facilities (i.e. pipelines and appurtenances).

SR-01 Contract Documents, Specifications, and Drawings The Contractor shall recognize and acknowledge the condition that Bid Schedule I shall include all work activities necessary to install the new pipeline, water services, fire hydrants, and appurtenances identified on the Contract Plans (Construction drawings) and abandon existing pipelines, blow offs, and associated water services being replaced and that there will be no additional compensation from the Owner for the completion of said work.

SR-02 District Standard Specifications Work shall be completed in accordance with the Beaumont-Cherry Valley Water District "District Standards for the Furnishing of Materials and Construction of Water and Recycled Water Facilities and Preparation of Water System Plans." Copies of said standards are available at the District website: www.bcvwd.org and specific referenced Standard Drawings are included at the back of this specification.

SR-03 Contract Drawings

The following Beaumont-Cherry Valley Water District Drawings are made a part of these Contract Documents:

**Beaumont-Cherry Valley Water District Construction Drawings (24" x 36")
Titled: Pipeline Relocation Plan for Beaumont Master Drainage Plan Line 16**

<u>Title</u>	<u>Sheet No.</u>
Title, Sheet Index, Vicinity Map, and Construction Notes	1
Pipeline 1: Sta.: 10+00 – Sta.: 15+48± (Grand Ave Sta.: 31+57± – Sta.: 37+00±)	2
Pipeline 2: Sta.: 10+00 – Sta.: 11+81± (Grand Ave Sta.: 49+47± – Sta.: 51+24±)	3
Pipeline 3: Sta.: 10+00 – Sta.: 15+48± (Grand Ave Sta.: 62+52± – Sta.: 64+81±)	4
Pipeline 4: Sta.: 10+00 – Sta.: 12+42± (Noble St. Sta.: 10+58± – Sta.: 12+95±)	5
Cherry Avenue Cut-In Tee Detail and Grand Avenue – West of Martin Lane	5

Beaumont-Cherry Valley Water District Standard Drawings (8-1/2" x 11")
(Bound at the Back of these Technical Provisions)

<u>Title</u>	<u>Plate No.</u>
Water Sewer Separation Requirements	Plate D4-1, D4-2, D4-3, and D4-4
Standard Fire Hydrant	Plate 1
Gate Valve/Valve Can Installation	Plate 2
Trench Detail	Plate 6-1
Service Trench Detail	Plate 6-2
1" Service Line Detail	Plate 6-3
2" Service Line Detail	Plate 6-4
Flexible Coupling Tie Details	Plate 9
Thrust Block Details	Plate 11-1 to 11-2
Meter Box Installation	Plate 12

SR-04 Special Work Requirements At the end of every workday, the Contractor shall completely backfill and compact all open pipeline and water service trenches. No trench shall be left open after work hours without special approval of the District and the County of Riverside.

SR-05 Scope of Work Under these Specifications the Contractor shall furnish all labor and equipment to complete Construction of the Pipeline Relocation Project for Beaumont MDP Line 16 in accordance with the Contract Documents (plans and specifications). Work generally consists of installing District furnished materials and appurtenances necessary to construct new pipeline, new cut in tee assemblies, valves, and appurtenances (as shown on the Drawings), service saddles, corporation stops, and service lateral runs to existing water meter locations installed behind existing curb and gutter, and test and disinfect said pipeline and service installations. Work shall include installation of new District furnished water meters and connection of those meters to customer service lines (from the back of meter to each residence). Said pipeline points of connections and water meter locations are further described hereafter and as shown on the Construction Drawings.

A brief scope description of work to perform as shown on the contract drawings is as follows:

NOTE: Quantities provided below are approximate. Bidders are responsible to verify actual quantities from the detailed design drawings to accurately calculate quantity take-offs.

General Description of the Pipeline Relocation Project for Beaumont MDP Line 16 work activities:

- Prepare and submit to District a City of Beaumont approved traffic control plan and encroachment permit for project pipeline replacement.
- Install approximately **548 linear feet** of District furnished 8" ductile iron pipeline materials and appurtenances as shown on the Construction Drawings, install new cut in points of connection with temporary bulkheads and test risers, pressure and leak test and disinfect said new pipeline.
- Install approximately **660 linear feet** of District furnished 12" ductile iron pipeline materials and appurtenances as shown on the Construction Drawings, install new cut in points of connection with temporary bulkheads and test risers, pressure and leak test and disinfect

said new pipeline.

- Install approximately **158 linear feet** of District furnished 6" ductile iron pipeline materials and appurtenances as shown on the Construction Drawings, install new cut in points of connection with temporary bulkheads and test risers, pressure and leak test and disinfect said new pipeline.
- Install District furnished 1" service saddle(s) and corporation stop(s) per BCVWD Standard Drawing 6-1 for new service lateral locations as shown on the Construction Drawings.
- Install District furnished, 1" water service lateral(s) and new angle meter stop(s) on new pipeline per Standard Drawings 6-1, 6-2 and 6-3 (excluding meter(s) initially). Upon completion and testing of new water main, abandon existing water main services and disconnect existing service and angle meter stop from existing water meter and connect new service and new angle meter stop to new District furnished water meter. Said meters are located in behind curb and gutter, and/or in right of way. Contractor shall connect new meters to existing customer service line (i.e. customer piping).
- After the new water laterals are installed and service is restored to the water meter, abandon the existing service lateral(s).
- Relocate existing water service(s) if necessary, including all coordination of said relocation with BCVWD.
- Disinfect all potable water pipelines, appurtenances, and water service piping and appurtenances (per AWWA Standard).
- Provide Water District customer notifications (letters and door-hangers) detailing water pipeline installation and replacement water service installation.
- Some meter boxes and lids may be damaged and require replacement. Said items will be furnished by the District on an as needed basis and shall be replaced as needed in accordance with District Standards.
- Once new water line facilities are installed, Contractor shall abandon all existing water lines in place as indicated on the construction drawings and insert a 3 foot minimum concrete plug on the end of all open abandoned water pipelines and appurtenances such as existing blow off assemblies.
- Contractor shall coordinate all work and connection activities with District to ensure disruption of water service to each connection is minimized.

SR-06 Water Pipeline Installation and Water Service Connections The Contractor shall notify the District one (1) week in advance of the planned water pipeline and water service installation work and also provide forty-eight (48) hour and twenty-four (24) hour advance confirmation of when the work will be performed.

Contractor shall be responsible for dewatering, de-chlorination, and disposal of all water from all points of connection locations and all testing/flushing activities. Discharge of all water must abide by the District's NPDES permit which limits total residual chlorine to a maximum concentration of 0.1 mg/l.

Contractor shall also protect existing water pipelines and residential and commercial services from contamination during water service installation and connection procedures. Contractor shall disinfect all water pipelines, new water services and appurtenances, pipeline closure materials (tie-in materials) and the existing pipeline at connection points per AWWA Section C- 651. All costs associated with connections to existing water pipelines shall be included in the appropriate bid item.

Sequence of Disinfection for New Water Pipeline and Service Laterals, Facilities, and Appurtenances: The new pipeline and water service laterals, facilities, and appurtenances shall be disinfected only after all of the new water pipeline, fire hydrants, service lateral, and appurtenances are installed and pressure tested.

- **EXISTING WATER SERVICE LATERALS MUST BE KEPT IN SERVICE UNTIL NEW DOMESTIC WATER SERVICE LATERALS ARE INSTALLED AND CONNECTED TO THE EXISTING SERVICE.**

SR-07 Reference to District's Standard Drawings and Detailed Provisions Any and all referenced "District Standards for the Furnishing of Materials and Construction of Water and Recycled Water Facilities and Preparation of Water Plans" shall be considered part of the contract drawings and specifications. All referenced Standard Drawings and Standards of the District are available from the District upon request or on the District's website at www.bcvwd.org. The Contractor shall not be entitled to any compensation due to referenced documents not included in the Specifications and Contract Drawings.

SR-08 Construction Soils Compaction Tests Upon Contractor's request, the District's consultant will provide soil/compaction testing for the project. However, any cost of re-compaction due to the Contractor's negligence will be at the Contractor's expense. A forty-eight (48) hour notice is required for soil services.

SR-09 Coordination It shall be the Contractor's responsibility to coordinate his activities with any other contractors performing work in the project area and to cooperate with all other contractors within reasonable and professional norms so that all construction may be completed in a timely manner. In the event a scheduling conflict arises between contractors performing work on the job site and if both parties are unable to reach an agreement, the County of Riverside and/or the District shall be the final authority in resolving said scheduling conflict. No additional compensation will be allowed due to conflicts with other construction in the area.

SR-10 Existing Underground Utilities and Potholing for Existing Utilities Unless otherwise indicated on the plans or directly by the utility owner, all utilities shall be protected in place and service maintained as part of the project work. The existing and proposed water pipeline alignments, water service lateral alignments and known utilities are plotted on the plan view of the plans. Contractor shall notify USA (Dig alert) of identified project area, and pothole all existing utilities and points of connection, and protect in place all points of connections, water service crossings and utilities affected by the proposed water pipeline and water service lateral installations.

The Contractor is responsible for performing exploratory excavations (potholing) along the alignment of the project to confirm location of existing utilities and to establish water service lateral installation requirements to existing pipelines and water meters. **The Contractor is hereby granted permission to use vacuum excavation on BCVWD facilities. Vacuum excavations may not be used on any other facilities unless written permission is obtained from the owner of the facility in accordance with State Law 4216.** The Contractor shall field survey the elevation and location of utilities, including tie-in points, and verify no conflict exists between existing utilities and new water service laterals. All associated costs with potholing shall be included in the unit bid price of water service laterals stated in the Bid Schedule and no additional compensation will be allowed.

SR-11 Provisions for Securing of Trenches and Continuous access All trenches within the street right-of-way must be backfilled at the end of each workday per typical County of Riverside Encroachment Permit requirements. The Contractor will be required to provide complete unobstructed access to each resident's driveway at the end of every workday. The Contractor will be required to provide complete unobstructed access for emergency vehicles at all times during construction.

The Contractor will be responsible for notifying the residents seventy-two (72) hours in advance that construction activities will occur in front of their residence and that their driveways may be blocked for short durations by these construction activities.

The cost of securing trenches and providing continuous access shall be included in the Contractor's bid and no additional compensation will be allowed.

SR-12 Preservation of Existing Improvements, Restoration of Work Site and Disposal of Spoil and Waste Materials

- A. Contractor shall perform his operations so that existing improvements (including roads and other paved surfaces adjacent to or in the vicinity of the work site) are not damaged. Contractor shall repair and restore any disturbed or damaged private or public improvements, which results from his operations (except that which is specifically a part of the Contract Work) to the satisfaction of the District, or the agency having jurisdiction over said improvements, all at the Contractor's expense.
- B. All work sites shall be restored to pre-job conditions and shall meet the requirements of the District and property owner.
- C. Contractor shall be responsible for the proper disposal of all waste materials resulting from his operations, including rubbish, packaging materials, discarded equipment parts, and damaged construction materials, in a manner and at locations suitable to the District and all health and other regulatory agencies.
- D. Contractor shall be responsible for the proper disposal of all excavated soils resulting from the placement of the proposed pipeline, service laterals, and appurtenances.

SR-13 Valve Cans After the street improvements have been completed, valve cans over the new and or existing valves shall be replaced as necessary (with District furnished materials) to match the new pavement section (where applicable) in accordance with the City of Beaumont's recently completed and/or new pavement rehabilitation projects.

SR-14 Owner Furnished, Contractor Installed Items The District will furnish the following item(s) to be installed by the Contractor for water meter boxes that require replacement:

- Connection fittings and appurtenances for Details A (or A Alternative as determined by the District), B, and C as shown on Sheet 2 of the Construction Drawings.
- Connection fittings and appurtenances for Details D, E, and F as shown on Sheet 3 of the Construction Drawings.
- Connection fittings and appurtenances for Details G and H as shown on Sheet 4 of the Construction Drawings.

- Connection fittings and appurtenances for Details I and J as shown on Sheet 5 of the Construction Drawings.
- 6" Class 350 Ductile Iron Pipe, regular and restrained joint gaskets and appurtenances
- 6" Class 350 Ductile Iron flanged and mechanical joint fittings, restrained joint gaskets and/or EBAA Iron Series 1100 restraint systems and all gaskets, bolts and necessary appurtenances
- 8" Class 350 Ductile Iron Pipe, regular and restrained joint gaskets and appurtenances
- 8" Class 350 Ductile Iron flanged and mechanical joint fittings, restrained joint gaskets and/or EBAA Iron Series 1100 restraint systems and all gaskets, bolts and necessary appurtenances
- 12" Class 350 Ductile Iron Pipe, regular and restrained joint gaskets and appurtenances
- 12" Class 350 Ductile Iron flanged and mechanical joint fittings, restrained joint gaskets and/or EBAA Iron Series 1100 restraint systems and all gaskets, bolts and necessary appurtenances
- Fire hydrants and fire hydrant laterals
- All water meter service saddles, corporation stops, service line copper and polypropylene sleeves, angle meter stops, and appurtenances
- All water meters and AMR Radios
- All water meter box lids (as required)

The Contractor shall coordinate delivery of all materials and appurtenances with District staff and shall also request water meter boxes, lids, and meters a minimum of 48 hours prior to the time they are needed for installation and the District will deliver said items to the project site. The Contractor shall complete a Meter Change-Out Form provided by the District which identifies existing replaced meter information together with new meter and automatic read radio unit information (i.e. serial numbers, sizes, existing and new meter reads, etc.).

SR-15 Records of Construction Contractor shall keep and maintain, at the job site, one record set of Construction Drawings.

SR-16 Protection of Buried Metal Appurtenances All metal appurtenances including water service laterals shall be taped or polyethylene encased.

SR-17 Local Conditions The Contractor shall assess, by personal investigation, local conditions affecting the work. Neither the information contained in this section nor that derived from any maps or plats, or from the District or employees shall act to relieve the Contractor of any responsibility herein or from fulfilling any and all of the terms and requirements of this Contract. The Contractor shall protect existing curbs and gutters in place or remove and replace sections of said concrete curb and gutter (as necessary) to install the new water service lateral piping in accordance with City of Beaumont requirements.

Nuisance water, such as rainfall, irrigation water, or local surface runoff may occur within construction areas during the period of construction under this Contract. The Contractor, by submitting his bid, will be held responsible for having investigated the risks arising from such water and shall take all due measures to prevent delays in progress of the work caused by such waters. All costs associated with coordination of work with regards to local conditions, including nuisance water, shall be included in the bid and no additional compensation will be allowed.

The cost of this Work, including permits and retention of licensed subcontractors, shall be included in the appropriate bid item and no additional compensation will be allowed.

SR-18 Shutdown Requirements, Work Restrictions and Operations Coordination

Contractor shall coordinate the shutdown operation of existing systems with the District. No work shall be performed without 2 week prior notice followed by forty-eight (48) hour prior and twenty-four (24) hour confirmation notices to the District. No shutdown work shall be done without a District representative present.

SR-19 Utility Service Lines There may be existing individual utility services and service crossings such as water, sewer, gas, electric, telephone and cable TV. The Contractor shall pothole and locate all individual utility services prior to construction

SR-20 Customer Notification Door-Hanger Contractor shall place door- hanger notices for every Customer prior to construction. The door-hanger shall be double sided; one side for English language and the other side for Spanish language. The Contractor shall provide contact information for questions and a brief description of the water service lateral installation work and temporary breaks of service during said work activities.

BEAUMONT-CHERRY VALLEY WATER DISTRICT

PIPELINE RELOCATION PROJECT for BEAUMONT MDP LINE 16

BASIC/TECHNICAL SPECIFICATIONS

SECTION 01014

WORK RESTRICTIONS AND CONSTRUCTION SEQUENCE

PART 1 - GENERAL

1.01 GENERAL REQUIREMENTS

- A. Portions of the Work to be provided will be restricted to specific calendar days, as well as to specific hours of each working day, to comply with various operational, construction, permitting, or regulatory considerations associated with the project. The Contractor shall schedule his/her Work at all times to conform to these restrictions. At no time shall the Contractor allow Work to be performed within a restricted time period, without written approval from the Owner, or the regulatory agency having jurisdiction over the schedule restriction. All fines or other monetary or non-monetary compensation associated with, or in direct or indirect compensation of, violation of any and all Work schedule restrictions shall be the sole responsibility of the Contractor, and no additional compensation shall be provided or allowed for such occurrences. Failure of the Contractor to meet the identified Work schedule restrictions shall be subject to Liquidated Damages for all work performed outside the identified Work schedule restriction until such Work is completed and accepted by the District and any agency having jurisdiction over the Work. The costs associated with the access and scheduling restrictions listed herein shall be included in the bid price of the Work, and no additional compensation shall be provided for Work associated with the schedule restriction requirements.
- B. All existing pipelines are currently in service. Contractor shall be responsible for dewatering/evacuation of all fluids and gases from the existing facilities, and all other work associated with making connections to the existing facilities within the specified shutdown limitations. Contractor shall provide all labor, equipment, and material necessary for dewatering existing pipelines and facilities. Contractor shall properly dispose of all dewatering fluids and gases, including, but not limited to, monitoring, dechlorination, and trucking. Dechlorinated test water and dewatering water may be discharged to the existing ravine southerly of the reservoir site, provided that the discharge rate to the ravine does not exceed 100 gpm. Contractor shall provide temporary portable storage tanks as necessary to store discharge water onsite in order to not exceed the 100 gpm maximum discharge rate.

PART 2 - PRODUCTS

(NONE THIS SECTION)

PART 3 - EXECUTION

3.01 CONSTRUCTION SCHEDULE RESTRICTIONS

A. Proposed Pipeline

All pipelines required to be constructed:

Pipeline 1: Sta.: 10+00 – Sta.: 15+48±
(Grand Ave Sta.: 31+57± – Sta.: 37+00±)

Pipeline 2: Sta.: 10+00 – Sta.: 11+81±
(Grand Ave Sta.: 49+47± – Sta.: 51+24±)

Pipeline 3: Sta.: 10+00 – Sta.: 15+48±
(Grand Ave Sta.: 62+52± – Sta.: 64+81±)

Pipeline 4: Sta.: 10+00 – Sta.: 12+42±
(Noble St. Sta.: 10+58± – Sta.: 12+95±)

Grand Avenue – West of Martin Lane

In order to be considered completed, pipelines shall be constructed, disinfected, and pressure tested, trenches backfilled, and pavement over pipe repaired.

B. Holidays

Contractor shall not perform any work on District holidays unless special permission is requested by Contractor and obtained from District, both in writing. Said holidays are as follows:

New Years Day – January 1
Martin Luther King Day – Third Monday in January
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 and the Day After – Fourth Thursday and Friday in November
Christmas Day – December 25

3.02 CONSTRUCTION RESTRICTIONS

A. Existing Water Pipeline

The existing water pipelines as indicated on the Construction Drawings shall not be removed from service until the new pipeline is constructed, tested, disinfected,

and accepted by the District. After the new water pipelines are accepted, the existing waterline shall be connected to the new waterline, or abandoned in place as indicated on the Construction Drawings.

3.03 CONSTRUCTION SEQUENCE

The project shall generally be constructed in the following sequence. Certain items may be constructed simultaneously provided all construction and scheduling restrictions outlined above are adhered to. The work sequence and restrictions presented herein do not include all items affecting completion of the work, but are intended to describe some of the critical events necessary to minimize disruption of the existing facilities and to ensure cooperation with other scheduled work. It is the Contractor's responsibility to identify any additional constraints for completion of the work, and keep the existing systems and facilities fully operational at all times.

1. Contractor shall install new water mains and test and disinfect said water mains.
2. Shut down existing water mains to be done during a period of low demand [night or winter] and shall be scheduled and coordinated with District staff.
3. Contractor shall shut down existing water line, de-energize and drain, then make connection between new and existing waterlines.
4. Contractor shall re-energize and test final connections.
5. Contractor shall remove all existing pipeline materials and appurtenances in locations shown on Construction Drawings.
6. Contractor to over excavate and re-compact area where existing water mains have been removed. Final sequencing activity and construction schedule shall be reviewed and approved by the District prior to the removal of any existing pipeline.

Prior to commencing work, Contractor shall submit for District's approval a detailed project schedule with narrative descriptions for his proposed sequence of work. The project schedule shall be provided in accordance with Specification Section 01300, Contractor Submittals, and as specified herein. The schedule shall show all construction activities and sub-activities, address all work restrictions and constraints, and include critical events that may impact the operation of existing facilities. Contractor shall indicate required shutdowns of existing facilities or interruptions of existing operations on his Progress Schedule. All existing waterlines shall remain in service until such time that the newly constructed waterlines have been identified as complete by the District.

END OF SECTION

SECTION 01300

CONTRACTOR SUBMITTALS TECHNICAL SPECIFICATIONS

PART 1 - GENERAL

1.01 Description

This Section covers requirements for submittals and forms a part of all other Sections in which submittals are specified or required. This Section also covers Contractor's Requests for Information and Requests for Change.

Submittal Requirements Included in this Section

- A. Contractor's Construction Schedule
- B. Record Drawings

Contractor Requests Included in this Section

- A. Requests for Information
- B. Requests for Change

1.02 CPM Progress Schedule

Contractor shall submit to Owner a CPM progress schedule to demonstrate the Contractor is sequencing work activities in accordance with the Contract Documents constraints and to assist the Owner in planning the Owner's inspection and operation activities.

- A. Within thirty (30) days of Notice to Proceed (or within forty five (45) days of Notice of Award), Contractor shall submit a Critical Path Method (CPM) analysis for construction progress control, prepared on 11" x 17" charts. All construction activities and procurement shall be indicated in a time scaled format and a calendar shall be shown on all sheets along the entire sheet length. Each activity arrow or node shall be plotted so that the beginning and ending dates of said activity can be determined graphically by comparison with the calendar scale. All activities shall be shown using the symbols that clearly distinguish between critical path activities, non-critical activities, and free float for each non-critical activity. All non-critical path activities shall show estimated performance time and free float time in scaled form.
- B. The duration estimate indicated for each activity shall be computed in working days and shall be shown on the construction schedule in calendar days. It shall represent the single best estimate considering the scope of the work and resources planned for the activity. Except for certain non-labor activities, such as curing concrete or delivering materials, activity duration shall not exceed ten (10) working days (fourteen (14) calendar days), nor be less than one (1) working day unless otherwise accepted by Owner.

- C. Contractor shall revise and resubmit the CPM progress schedule monthly, flagging all slippages and missed mile posts. Contractor shall attach a narrative description of proposed corrective actions to the resubmitted CPM progress schedule, including the following minimum information for each activity and critical path item:
1. Date of initial shop drawing submittal, as applicable.
 2. Engineers time for review of shop drawings.
 3. Ordering dates for long lead time items.
 4. Dates for materials onsite.
 5. Early start work dates.
 6. Early finish work dates.
 7. Late start work dates.
 8. Late finish work dates.
 9. Date of initial submittal of operation and maintenance manuals.
 10. Date of final submittal of operation and maintenance manuals.
 11. Testing and cleanup.
 12. Final completion.

Contractor shall modify any portions of the construction schedule that become infeasible due to activities behind schedule or for any other valid reason. Any activity that cannot be completed by its original latest completion date shall be deemed to be behind schedule.

- D. The CPM progress schedule must be submitted to the Owner before the monthly progress payment is made. Scheduling and completion of the project in a timely manner and per Contract completion time, is solely the Contractor's responsibility. The CPM schedules submitted to the Owner shall not modify or revise any Contract provisions presented in the Contract Documents.
- E. Although the Owner may provide commentary relative to the Contractor's CPM schedule, the schedule (and related schedule updates) will not be "approved". The Owner will utilize the Contractor's schedules strictly for scheduling of necessary inspection and operations staff and for identifying any apparent conflicts, errors, or misunderstandings of Contract Document requirements by Contractor.
- F. The scheduling and work progress is the total responsibility of the Contractor, and work shall be performed to meet the Contract Completion Times or Dates specified in the Contract Documents.

1.03 Record Drawing Submittal

- A. Contractor shall keep and maintain at the jobsite one (1) set of record drawings. Contractor shall mark on drawings all changes in project conditions, locations, configurations, and any deviations which may vary from the details represented on the original Contract Drawings, including, but not limited to, buried or concealed construction and utility features which are revealed during the course of construction. Contractor shall record the horizontal and vertical location of all

buried utilities that differ from the locations indicated, or which were not indicated on the Contract Drawings.

Said record drawings shall be supplemented by detailed sketches as necessary to indicate the work actually constructed. These master record drawings of Contractor's representation of as-built conditions, including all revisions made necessary by addenda, change orders, and the like, shall be maintained up-to-date during the progress of the work. Record drawings shall be accessible to Owner at all times during the construction period and shall be delivered to Owner upon completion of the work.

- B. Payments pursuant to partial payment will not be made if the record drawings are not kept current, and if the record drawings, showing all variations between the work as actually constructed and as originally shown on the Contract Drawings or other Contract Documents, have not been inspected by Owner.
- C. Final payment will not be acted upon until Contractor has prepared and delivered complete, current record drawings and PDF copy of said record drawings to Owner. Said record drawings which must reflect all completed work, may be in the form of a set of prints with carefully plotted information overlaid in colored pencil.

1.04 Contractor's Requests for Information (RFIs)

Contractor may submit a Request for Information when it is necessary to obtain information or clarification regarding: requirements of Contract Documents, interpretation of Contract Documents, or apparent errors or omissions in Contract Documents. An RFI may also be submitted to state the Contractor's concern related to the omission or misapplication of a product, or to call to Owner's attention a superior product based on the Contractor's expertise. Contractor is expected to use the RFI form attached to this Specification. Contractor is not responsible for the Owner's costs associated with evaluating and responding to an RFI; however, Owner will not review Contractor's RFIs that are in fact Requests for Changes (RFCs), as determined by Owner. In such cases, Contractor will be required to resubmit on the appropriate RFC form. See Part 1.09 herein. Contractor shall allow Owner up to thirty (30) working days to respond to Contractor's RFIs. As such, Contractor is expected to thoroughly review all applicable portions of the Contract Documents for which the work is contemplated well in advance of Contractor commencing the actual work. This will allow Contractor sufficient time to prepare the necessary RFIs and will allow Owner sufficient time to evaluate and prepare responses to same.

Within one week of receiving an RFI response from Owner, Contractor is required to notify Owner (in writing) if there are any cost or schedule impacts associated with Owner's response. Said notification shall be submitted as a Request for Change Order. All Requests for Change Order shall be submitted with proper justification and supporting documents, as determined by Owner. If no such advisement is made by Contractor, it will be understood that Contractor understands and accepts Owner's response, and that there are no cost or schedule impacts to the Contractor associated with same (even if the RFI response constitutes a change to the Contractor's scope of work).

1.05 Contractor's Requests for Change (RFCs)

Contractor may submit a Request for Change when Contractor proposes a change in the Contract requirements. All change requests shall be submitted on the RFC form attached to this Specification. As shown therein, Contractor is required to fully describe the benefit(s) to the Owner, benefit(s) to the Contractor, the cost and/or schedule impact(s) associated with the requested change, along with whether or not Contractor proposes or requires a Contract Change Order for implementing the change. Except for as described in Part 1.08 herein, any Contractor RFC that is submitted on the RFI form will be returned without review.

As noted on the RFC form, it is understood that certain RFCs can be responded to promptly, with minimal expenditures required by Owner. It is also understood that other RFCs require significant expenditures by Owner in order to properly evaluate and respond to Contractor's RFC. For those RFCs that fall in the latter category, Owner will provide an estimate (time and money) to Contractor as an initial response to RFC. Contractor may then elect to have Owner proceed with evaluating Contractor's RFC (with estimated value deducted from Contractor's Contract with Owner), or elect to withdraw Contractor's RFC.

1.06 Submission in Electronic Media Format

In addition to providing paper (i.e. hard) copies, all documents (RFIs, RFCs, Submittals, Change Order Requests, etc.) shall be submitted electronically.

A. General

Provide all information in searchable portable document file (PDF) format; PC compatible using Windows operating system as utilized by the Owner. All information provided shall be consolidated to one PDF in the latest version of Adobe Acrobat, with a Table of Contents and bookmarks for each major section (for each submittal). When required below (or if required otherwise by Owner), documents shall also be provided electronically in Word format. If document exceeds the size in which Owner can receive by email (generally larger than 5 MB to 10 MB), the document shall be uploaded to an Owner approved Contractor FTP site (if available), or saved onto a CD and transmitted to Owner.

Contractors using other software shall be required to provide to the Engineer conclusive evidence of 100 percent data transfer capability.

B. RFIs, RFCs, Correspondence, and Change Order Requests

Provide electronic submission in Word and PDF format, plus one (1) hard copy. If required by Owner, provide one (1) CD (copy) containing the entire document with attachments.

SAMPLE
CONTRACTOR'S REQUEST FOR INFORMATION (RFI) # _____

To (Engineer):	
From (Contractor):	
Subject:	
Reference: Construction Drawing:	Specification (Section and Page):
REQUEST	
Information is requested as follows:	
Information Requested By (Name):	Date:
Response Requested By (Date):	
Received by Krieger & Stewart (Date):	
RESPONSE	
Response to Information Request:	
Response By (Name):	Date:

Final Distribution:

Page ___ of ___

SAMPLE
CONTRACTOR'S REQUEST FOR CHANGE (RFC) # _____

To (Engineer):	
From (Contractor):	
Subject:	
Reference: Construction Drawing:	Specification (Section and Page):
REQUEST	
The following change is requested:	
Change Requested By (Name):	Date:
Response Requested By (Date):	
Received by Krieger & Stewart (Date):	
Benefit to Owner:	
Benefit to Contractor:	
Cost and/or Schedule Impact:	
Change Order Required or Proposed? <input type="checkbox"/> YES <input type="checkbox"/> NO	
RESPONSE	
Response to Change Request: ⁽¹⁾	

RESPONSE (Continued)

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Response By (Name):

Date:

- (1) It is understood that certain RFCs can be responded to promptly, with minimal expenditures required by Owner. It is also understood that other RFCs require significant expenditures by Owner in order to properly evaluate and respond to Contractor's RFC. For those RFCs that fall in the latter category, Owner will provide an estimate (time and money) to Contractor as an initial response to RFC. Contractor may then elect to have Owner proceed with evaluating Contractor's RFC (with estimated value deducted from Contractor's Contract with Owner), or elect to withdraw Contractor's RFC.

Final Distribution:

END OF SECTION

SECTION 02300

BASIC EARTHWORK SPECIFICATIONS

PART 1 - GENERAL

1.01 Scope

Contractor shall furnish all labor, materials, equipment, and perform all operations necessary for earthwork construction including excavating, filling, backfilling, compacting, and grading specified or reasonably required. All debris or material unsuitable for construction shall be removed from site.

Adequate drainage shall be provided at all times and accumulation of water in excavated areas shall be prevented. All work shall be protected by pumping, ditching, and other measures required for the removal or exclusion of water. Any work damaged by the effects of rain runoff or other weather conditions during any phase of construction shall be reconstructed to conform to the specified requirements. Contractor shall not pass equipment over or alongside facilities that are not protected by ample fill material, properly compacted.

Unless otherwise specified or herein modified, all earthwork shall conform to Section 300 of the Standard Specifications for Public Works Construction, published by Building News, Inc., Los Angeles, California, latest edition, hereinafter "Standard Specifications". References in the Standard Specifications to Measurement and Payment shall not apply.

1.02 Protection of Existing Work

Before beginning any cutting or demolition work for removals, Contractor shall carefully survey the existing work and examine the drawings and Specifications to determine the extent of the work. Contractor shall take all necessary precautions to insure against damage to existing work to remain in place or to be reused and any damage to such work shall be repaired or replaced as approved by Owner at no additional cost to Owner. Contractor shall carefully coordinate the work of this section with all other work and construct and maintain shoring, bracing, and supports as required. Contractor shall insure that structural elements are not overloaded and be responsible for increasing structural supports or adding new supports as may be required as a result of any cutting, removal, or demolition work performed under any part of this Contract.

1.03 Grade Control

Initial bench marks, lines, and grades will be furnished by Owner. Subsequent control stakes as may be required shall be placed and maintained by Contractor. Bench marks, monuments, and other reference points, if unnecessarily disturbed or destroyed by Contractor, will be restored by Owner at Contractor's expense.

PART 2 - PRODUCTS

(NONE THIS SECTION)

PART 3 - EXECUTION

3.01 Clearing and Grubbing

Except as otherwise specified, indicated areas should be cleaned and grubbed conforming to Section 300-1 of the Standard Specifications. All removed materials shall be disposed off-site in a location approved by Owner. Bituminous pavement to be removed shall be saw cut to clean, straight lines.

3.02 Field Compaction Tests

Where reference is made to relative compaction, it shall be deemed to mean ASTM D1557, latest, using ten-pound hammer at 18-inch drop.

Cost of all compaction tests having relative compaction less than specified shall be borne by Contractor. Cost of all compaction tests having relative compaction greater than specified will be borne by Owner. Owner will select soil testing engineer.

3.03 Materials to be Excavated

Materials to be excavated shall be non-classified and shall include all materials encountered in excavating and grading operations hereunder. Materials shall be excavated to the depth and extent specified.

3.04 Excavation

Contractor shall excavate to the elevations and dimensions indicated, plus ample space for construction operations and inspection of facilities. All facilities to be constructed shall bear on undisturbed natural ground or material compacted to the relative compaction specified which shall not be less than 90% relative compaction. If so ordered in writing by Owner, Contractor shall perform additional excavation beyond limits originally specified. Concrete shall not be placed in any excavation which has not been approved by Owner. Care shall be taken not to disturb the excavation prepared for concrete and excess material shall not be removed to make grade until just before concrete is to be placed. This work shall conform to Sections 300-2 and 300-3 of the Standard Specifications unless otherwise specified.

3.05 Fill and Backfill

Fill and backfill shall not be placed until all work to be concealed has been inspected and approved by Owner. No fill or backfill material shall be deposited against concrete structures until the concrete has developed its design strength unless authorized by Owner.

Fill and backfill around structures shall be placed in uniform horizontal layers not exceeding 12 inches in loose thickness before compaction and shall be brought up uniformly on all sides of the structure. Regardless of the specified depth of the layers of material to be compacted, Contractor shall place the material at depths required to obtain the specified relative compaction. Each layer of material shall be moistened as required and thoroughly tamped, rolled, or otherwise compacted to the relative compaction specified.

Fill and backfill shall be made with clean, unclassified material excavated from site as approved by Owner. Unless permitted otherwise, said material shall consist of loose earth or sand free from stones, clods, or other deleterious materials larger than 8 inches in greatest dimension.

Whenever permitted by Owner, rock may be placed in certain fills. Rock fragments or boulders up to 24 inches in greatest dimension may be utilized provided that the specified degree of compaction is obtained in the fill material surrounding the rock. The rock fragments or boulders shall be placed in rows on the fill surface so that they are not in contact with one another and fill material shall be placed between and over the rows of rock fragments or boulders and compacted with a sheeps foot or other suitable rollers. Ample water and compactive effort shall be applied so that the resulting fill is free of uncompacted material surrounding the rock. The rows of rock fragments or boulders shall be as specified with regard to spacing and location within any fill; however, subsequent rows shall be staggered so that one row does not lie directly over another row.

3.06 Finish Grading

Upon completion of construction, Contractor shall bring to finish grade all portions of site affected by contract work. Grading shall be to the finish grade elevations specified. Contractor shall dispose of excess material as directed by Owner.

END OF SECTION

SECTION 02700

BASIC PAVING SPECIFICATIONS

PART 1 - GENERAL

1.01 General

Contractor shall furnish all labor, materials, and equipment and perform all operations necessary for construction of pavement surfacing and resurfacing in all areas of construction as specified by the Owner or as shown by the Drawings. Drawings shall consist of construction drawings, standard drawings, and clarifying diagrams or sketches.

Whenever pavement surfacing or resurfacing is to be constructed in rights-of-way not under jurisdiction of the Owner (public highways, thoroughfares, streets), it shall be constructed in accordance with permits issued by the agency having jurisdiction (State, County, City).

Whenever pavement surfacing or resurfacing is to be constructed in rights-of-way over which the Owner has jurisdiction (pumping plants, reservoirs, service yards, access roads), it shall be constructed in accordance with the specifications.

Whenever the words "Standard Specifications" are used herein, they shall mean the Standard Specifications for Public Works Construction as published by Building News, Inc., Los Angeles, California, latest edition. The Standard Specifications shall augment, not supersede, these specifications. As used herein, the Standard Specifications shall not apply to measurement, payment, schedule, delays, or extra work.

1.02 New Pavement Surfacing

New pavement surfacing shall be asphalt concrete or Portland cement concrete placed on a prepared surface in accordance with the specifications and in conformance with the lines, grades, and dimensions as specified in the Drawings.

PART 2 – PRODUCTS

2.01 Aggregate Base

Aggregate base material shall consist of crushed aggregate base conforming to requirements of Subsection 200-2.2 of the Standard Specifications.

2.02 Asphalt Concrete Pavement

A. General

Asphalt concrete pavement shall be furnished, placed, and compacted at the locations and thicknesses specified.

B. Materials

1. Asphalt

Asphalt to be mixed with mineral aggregate shall conform to Subsection 203-6.2.1 of the Standard Specifications. The asphalt grade shall be PG 64-10, unless specified otherwise.

2. Aggregate

Aggregate shall conform to the requirements in Subsection 203-6.2.2 of the Standard Specifications. Coarse aggregate shall be crushed rock.

The grading of combined aggregates and percentage asphalt shall be in accordance with Subsection 203-6.3 of the Standard Specifications. Unless otherwise specified the following asphalt concrete mixtures shall be used:

All asphalt concrete, except overlays:

Base Course (2-1/2" to 3" thick) B-PG64-10

Top Course (1" to 1-1/2" thick) C2-PG54-10

Overlays (2" maximum, leveling courses and overlaps) D2-PG64-10

PART 3 – EXECUTION

3.01 Subgrade Preparation

Subgrade shall be brought to proper grade, prepared, and compacted in conformance with the requirements of Subsection 301-1 of the Standard Specifications. All organic material shall be removed and discarded at legal disposal site(s), at Contractor's expense. The top 12 inches of such subgrade material shall be scarified, cultivated and then compacted to not less than 95 percent relative compaction (ASTM D1557).

3.02 Aggregate Base

A. General

Aggregate base material shall be furnished, placed, and compacted at the locations and thickness as specified in the Contract Documents.

B. Placement of Aggregate Base

Aggregate base material shall be spread and compacted in conformance with the requirements of Subsection 301-2.3 of the Standard Specifications. Aggregate base material shall be compacted to a relative compaction of not less than 95 percent (ASTM D1557).

3.03 Placement of Asphalt Concrete

A. General

All construction methods shall conform to the requirements of Subsection 302-5 of the Standard Specifications. All paving shall be placed in two (2) lifts. Along all pavement edges, which will not abut existing concrete paving, building foundations, curbs, gutters, or other similar structures, a 2 inch x 4 inch "true heart" redwood header shall be placed unless specified otherwise. Redwood header shall be staked every 4' and 4" from the ends of each segment with 1-1/2" wide by 12" long by 1/4" thick hot dipped galvanized steel stakes. Set top of stakes at 1/4" below the top of header. Provide 1/4" diameter hot dipped galvanized lag screws for connecting the header to the metal stakes.

B. Weed Killer

Weed killer shall be "Oust XP Herbicide" and "Hyvar X Herbicide", as manufactured by Du Pont, or equal. The weed killer mixture shall be applied at the rate of 100 gallons per acre. Unless specified otherwise, the mixture applied shall consist of 8 ounces of Oust XP and 12 pounds of Hyvar X per 100 gallons of water. Contractor shall mix and apply the weed killer according to the manufacturer's printed instructions.

Apply the weed killer mixture after the sub-grade has been completed and just prior to placing the aggregate base course. The time lapse between soil treatment and placing of aggregate base course shall be the practicable minimum. After the soil treatment has been made, the area shall be thoroughly sprinkled so as to distribute the chemical through the first two or three inches (2" or 3") of the sub-grade.

C. Prime Coat

A prime coat consisting of grade SC-250 liquid asphalt shall be applied at a rate between 0.10 and 0.25 gallons per square yard. Grade SC-70 liquid asphalt may be used when approved by the Owner. Unless otherwise specified prime coat shall be required on all aggregate base material or untreated subgrade on which asphalt concrete pavement is to be directly placed. The prime coat shall be allowed to cure 24 hours and any excessively oily areas shall be blotted with sand in preparation for application of asphalt concrete.

D. Tack Coat

A tack coat shall be required at all joints, overlays and overlaps. Tack coat shall conform to the requirements of Subsection 302-5.4 of the Standard Specifications and shall be Grade SS-1h emulsified asphalt. Tack coat shall be applied at approximate rates of 0.05 gallon per square yard for leveling courses and overlays, and 0.10 gallon per square yard for asphalt concrete roll berms and dikes.

E. Geotextile Fabric

Geotextile fabric shall conform to the requirements in Subsections 213 and 302-7 of the Standard Specifications. Geotextile fabric shall be placed such that wrinkles large enough to cause laps do not occur. Geotextile fabric shall be placed in accordance with manufacturer's recommendations.

F. Fog Seal Coat

A seal coat shall be applied to surface of all asphalt concrete no sooner than 24 hours nor later than 14 days after placement. Seal coat shall consist of an emulsion paving asphalt (Grade SS-1h) conforming to test requirements of Subsection 203-3.2 of the Standard Specifications. Seal coat shall be applied to provide a coverage of 0.10 gallon per square yard. Seal coat shall not be applied when weather conditions are unsuitable or when atmospheric temperature is below 40°F. Seal coat shall be applied to only one traffic lane at a time and the entire width of the lane shall be covered in one operation. The cut off of asphaltic emulsion shall be made on building paper or similar suitable material spread over the surface. Traffic shall not be allowed on seal coat until emulsion breaks and seal coat is sticky to the touch and will not be picked up by traveling vehicles.

G. Rolling

Unless specified otherwise, at least 2 operational steel drum pavement rollers shall be present during all paving operations.

3.04 Temporary Surfacing

Unless permanent pavement is to be placed immediately, temporary surfacing 2 inches thick, or as otherwise specified, shall be placed and properly maintained as determined by the Owner until the permanent pavement is placed at locations specified. In any event, in paved streets where immediate access is required to provide for public or private use, Contractor shall place and maintain said temporary pavement. Temporary pavement shall be placed at all locations which are not barricaded and are open to traffic. When Contractor delays the placing or repairing of temporary pavement, Owner reserves the right to have such pavement placed or repaired at Contractor's expense.

Temporary resurfacing shall conform to Subsection 306-1.5.1 of the Standard Specifications and shall be placed as soon as trench backfill is 95% compacted and shall remain in place until permanent resurfacing is placed. Prior to permanent resurfacing, temporary resurfacing shall be removed and discarded at legal disposal site(s) at Contractor's expense. The cost of furnishing, placing, maintaining, removing and disposing of temporary resurfacing shall be included in the Contractor's bid price for related work if no bid item is specifically called out in the bid sheets.

At the end of each day, temporary striping shall be placed complying with the Drawings and State, County, or City requirements. Temporary striping shall conform with Section 214 of the Standard Specifications.

3.05 Permanent Resurfacing

Unless otherwise specified, all permanent resurfacing shall be 1" or greater in thickness than the original surfacing removed. Contractor shall remove all loose pieces of existing pavement prior to placing any pavement. Said pavement shall be replaced in accordance with requirements of the agency (Riverside County) having jurisdiction over the roadway.

3.06 Portland Cement Concrete Pavement

A. General

Portland cement concrete shall comply with the Basic Concrete Specifications unless specified otherwise. Construction methods shall comply with Subsection 302-6 of the Standard Specifications. Portland cement concrete shall be furnished and placed at the locations and thicknesses specified.

B. Concrete Design Mix

All concrete shall be 560-C-3250 concrete in accordance with Subsection 201-1.1.2 of the Standard Specifications. Design mix shall be approved by the Owner prior to purchase or placing of concrete.

C. Reinforcement

Replacement concrete pavement shall have equal or better reinforcement than original concrete pavement. Reinforcement shall be provided whenever and wherever specified. Grade 60 reinforcing steel shall be used unless specified otherwise.

D. Admixtures

Admixtures shall conform to Subsection 201-1.2.4 of the Standard Specifications. Unless otherwise specified, concrete mixtures shall have air entrainment of 5% \pm 1%.

E. Placing Concrete

Concrete shall be placed on an aggregate base sufficiently dampened to ensure that no moisture will be absorbed from the newly placed concrete. Concrete shall be placed on the aggregate base to specified uniform depth.

F. Finishing

Concrete shall be distributed uniformly between forms as soon as it is placed, struck off, and tamped. Tamping shall continue until concrete is thoroughly consolidated into the specified cross-section and sufficient mortar for finishing purposes has been brought to the surface. After tamping, surface of concrete shall be floated and finished. Where the concrete placed is to abut existing concrete surfaces, it shall be finished to match existing concrete as nearly as practical. Vat black or other approved pigments shall be added to concrete to obtain required result. Edges which do not abut existing concrete shall be

rounded to a 1/2 inch radius. Upon completion of final finishing, work surface shall be free of any unevenness greater than 1/8 inch when checked with a 10-foot straightedge placed on the surface.

G. Curing

Pavement shall be cured by a pigmented sealing compound method. Curing shall commence as soon as free water leaves the concrete surface but no later than 3 hours following initial placement of concrete upon aggregate base. Curing compound shall be applied to the entire surface by spraying at the rate of one gallon per 200 square feet. All curing compounds shall be approved by the Owner. Curing compound shall conform to the requirements of Subsection 201-4 of the Standard Specifications.

H. Temporary Striping

At the end of each day, temporary striping shall be placed complying with the Drawings and State, County, or City requirements. Temporary striping shall conform with Section 214 of the Standard Specifications.

3.07 Pavement Removal

Pavement removal in trenches shall be limited to the maximum trench width as shown by the standard drawings plus a reasonable allowance for sloping sides of trench as required by appropriate safety standards or as otherwise specified.

Pavement shall be removed to clean straight lines. Pavement edges shall be saw cut unless an acceptable alternative method is permitted. Contractor shall discard all removed pavement at legal disposal site(s) at Contractor's expense. Removal and disposal of materials shall conform to the requirements of Subsection 300-1.3 of the Standard Specifications.

3.08 Finishing Pavement Surfaces

A. General

Upon completion of all construction operations the entire roadway area or newly surfaced areas shall be finished, cleaned, and left in a neat, presentable condition.

B. Shoulders

The shoulders around paved surfaces shall be trimmed and shaped to produce a smooth uniform cross section. Shoulders shall be finished, graded, and compacted so as to match the finish grade of the newly paved surfacing. Excess earth, debris, or other waste material shall be removed and discarded at legal disposal site(s) at Contractor's expense.

C. Paved Surfaces

All finished paved surfaces shall be clean of all dirt, debris, and foreign material. All manholes, boxes, and covers, shall be raised to finished grade. All curbs, gutters, and cross gutters shall be broomed clean and flushed with water to insure proper drainage. All street signs and striping shall comply with the construction drawings, specifications, and Section 214 of the Standard Specifications.

D. Survey Monuments

Prior to construction, Contractor shall have a registered civil engineer or licensed land surveyor set at least 4 ties for each monument within the construction area. After construction, Contractor shall have the same civil engineer or licensed land surveyor use the aforementioned ties to replace any monuments which have been disturbed or destroyed. Contractor shall file a corner record for all replaced monuments. Contractor shall also place monument wells in compliance with City or County standards over all monuments in the construction area.

END OF SECTION

SECTION 15020

PIPELINE TECHNICAL SPECIFICATIONS

PART 1 – GENERAL

1.01 Scope

Contractor shall furnish all equipment and labor and perform all operations necessary to construct pipelines and appurtenances as specified by the District and as shown by the Drawings. Drawings shall consist of construction drawings, installation drawings, laying drawings, standard drawings, detailed drawings, layout drawings, fabrication drawings, shop drawings, and clarifying diagrams or sketches.

The Work shall consist of all traffic control (including furnishing and installing all barricades, signs, delineators, arrow boards, and flagmen); all utility location and verification (excavating, exposing, and verifying locations, depths, and dimensions of utility facilities); all pavement removal and disposal; all earthwork (including trenching, shoring, dewatering if required, bedding, backfilling, and compacting); maintenance of all existing water service connections during construction through the use of bypass or high-lines where required; furnishing and installing all pipe, fittings, appurtenances, and making all related connections; protecting in place or removing and replacing all existing utilities and public and private improvements; removing and replacing all asphalt and Portland cement concrete pavement; pavement striping and restriping as required; disinfecting and testing all pipelines; disposing of excess soil and rock material; and restoring all areas and improvements to pre-construction conditions.

Contractor shall, upon completion of pipeline construction and appurtenances required herein, initially operate all components of the Work installed or furnished and installed by him, and make any additional adjustments, corrections, repairs, replacements, and reconstructions necessary to provide the District with complete, correctly operating pipelines and appurtenances.

1.02 Survey Monuments and Construction Stakes

Contractor shall not disturb or destroy any existing monuments or benchmarks. If any survey monuments or benchmarks need to be removed and replaced, Contractor shall have all necessary services performed by a licensed land surveyor. If Contractor fails to comply, the District will have said services performed at Contractor's expense.

Before removing any monuments in preparation for construction, Contractor shall have a licensed land surveyor set at least four ties for each monument to be removed and replaced; after construction Contractor shall have the same registered civil engineer or licensed land surveyor replace each monument using the aforementioned ties and file a corner record for each replaced monument.

Unless specified otherwise, Contractor shall use construction stakes and cut sheets for pipeline construction and the District will use them for construction inspection. All construction stakes shall be set by a registered civil engineer or licensed land surveyor.

The District must approve cut sheets before actual construction. Contractor shall protect

all construction stakes set for construction and he shall restore any construction stakes destroyed or disturbed.

1.03 Traffic Control

Contractor shall prepare, submit, and provide traffic control drawings for construction. Said traffic control drawings shall be approved by the District and agencies having jurisdiction over highways, thoroughfares, and streets prior to starting construction.

Traffic control requirements may be modified by the District or said agencies as conditions warrant. Throughout the Work, Contractor shall inspect traffic control equipment (signs, barricades, arrowboards, and delineators) and shall maintain same in accordance with said traffic control drawings.

All construction signing, lighting, and barricading shall comply with State of California, Department of Transportation "Manual on Uniform Traffic Control Devices", 2014, rev. 6, and MUTCD California Supplement".

1.04 Underground Utilities (Subsurface Installations)

Where underground utility facilities (conductors or conduits for water, gas, sewer, telephone, electric power, cable television, or other utilities) are shown on construction drawings, Contractor shall assume that service facilities (services or laterals for water, gas, sewer, telephone, electric power, cable television, or other utilities) extend from each utility facility to each parcel or property whether or not service facilities are shown.

At least two working days but no more than fourteen calendar days before commencing any excavation on the Work, Contractor shall request Underground Service Alert and non-member companies or utilities to mark or otherwise indicate the locations of their subsurface facilities including, but not limited to, structures including vaults, main conductors or conduits, and service connections or facilities.

Contractor shall comply with applicable laws pertaining to subsurface installations, especially with respect to excavations and permits. Contractor shall specifically comply with applicable provisions of Sections 4215 through 4216.9 of the Government Code. Contractor shall take all actions necessary to maintain a valid inquiry identification number during the Work.

At least ten days in advance, or 1,000 feet minimum ahead of pipeline trenching, Contractor shall excavate, expose, and determine ("pothole") the exact locations, depths, and dimensions of each and every potential interference, including, but not limited to, all facilities shown specifically (depth and location) on construction drawings, or which have been marked by their respective District/Utility purveyor.

Upon learning of the existence or location of any utility facility omitted from or shown incorrectly on construction drawings, or improperly marked or otherwise indicated, Contractor shall immediately notify the District, providing full details as to depth, location, size, and function. Contractor shall immediately notify utility having jurisdiction over facility.

Contractor shall not interrupt or disturb any utility facility without written permission from the Utility or written order from the District. Where protection is required to ensure integrity of utility facilities located as shown on construction drawings or visible to Contractor or marked or otherwise indicated as stated herein, Contractor shall, unless otherwise provided, furnish and place all necessary protection at his expense.

Contractor is advised that the District has no knowledge or information about trench backfill conditions of utility facilities adjacent to or parallel with pipeline being constructed pursuant to these Specifications; therefore, Contractor shall protect against adjacent or parallel trench backfill failure. If adjacent or parallel trench fails, Contractor shall, at his expense, remove and replace said backfill material in accordance with trench backfill requirements herein and remove and replace asphalt concrete pavement and any other improvements damaged in connection therewith.

1.05 Storage of Equipment and Materials

Contractor shall not store equipment or materials on private or public property without written permission from property owner(s) approving such use.

Contractor shall not park equipment or store materials in public right-of-way except while performing Work. Contractor shall remove equipment from public right-of-way and place it in Contractor's storage or construction yard by the end of each work day. Contractor shall keep materials in Contractor's storage or construction yard until they are needed for the Work.

Storage site or construction yard shall be completely fenced prior to moving any equipment or materials onto site or into yard. Contractor shall control dust in construction yard at all times, from establishing construction yard through construction, and until all Work has been completed and Contractor has moved all equipment, materials, and fencing from site.

PART 2 – PRODUCTS

2.01 Construction Materials

(NONE THIS SECTION)

2.02 Bedding and Backfill

A. Sand Used For Bedding

Bedding for pipe shall consist of plant manufactured clean sand having a sand equivalent of not less than 30, and shall be approved by the District.

B. Backfill in Pipe Zone

Backfill in pipe zone (up to 12" over pipe) shall consist of plant manufactured clean sand having a sand equivalent of not less than 30, and shall be approved by the District. Sand material to be furnished by the Contractor.

C. Backfill Above Pipe Zone

Backfill above pipe zone to bottom of asphalt within City and/or County right-of-way shall be Class 2 base. Contractor to furnish Class 2 Base for backfill if native material is not suitable for final backfill.

D. Imported Backfill Material

Whenever excavated material is unsuitable as backfill material and Contractor is unable to process or screen such material for backfill material or whenever excavated material is insufficient to accomplish backfill and Contractor must secure additional material, Contractor shall import such material and the material and its source shall be approved by the District.

Unless specified otherwise, imported backfill material shall be commercially processed and it shall be selected, clean, loose earth, sand, or gravel (1 inch maximum size). Said material shall be granular and it shall be free of clay, silt, and fine sand. It shall be suitable for compaction with minimum effort.

E. Backfill Completion

Where pavement is not required, trench backfill shall be brought to grade of existing surface and dressed to provide firm, stable, and even surface without ruts or irregularities. It shall conform with grades of existing surface. Where pavement is required, trench backfill shall be brought to subgrade for pavement structure. Pavement shall then be placed in accordance with paving requirements.

2.03 Ductile Iron Pipe

A. Scope

Ductile iron pipe and fittings shall conform with applicable provisions of AWWA C104, C105, C110, C111, C115, C150, C151, and C153, latest, as modified herein, by the Drawings, or by the District.

All ductile iron pipe shall be manufactured by organizations which have had not less than ten years successful experience in the manufacture of the type of pipe specified. The District shall approve manufacturer's product before its use.

B. Data to be Submitted by Contractor

~~Contractor shall furnish three copies of an Affidavit of Compliance in accordance with Section 51-5, AWWA C151, latest. Contractor shall also furnish certifications, three copies each, of the following:~~

~~1. Material Certification~~

~~_____ a. Grade of iron (chemical requirements)~~

~~_____ b. Flanges~~

~~_____ c. Nuts and bolts~~

- ~~_____~~ d. ~~Flange gaskets~~
- ~~_____~~ e. ~~Rubber Gaskets~~
- ~~_____~~ f. ~~NSF 61 Certification~~
- ~~_____~~ g. ~~Polyethylene wrap compliance with AWWA C105~~

~~2. _____~~ Manufacturing Certification

- ~~_____~~ a. ~~Hydrostatic Test Reports~~
- ~~_____~~ b. ~~Tensile Test Reports~~
- ~~_____~~ c. ~~Impact Test Reports~~

Unless specified otherwise, Contractor shall furnish detailed installation or laying drawings showing pipe, fittings, appurtenances, station, and elevation for each fitting, and each change in alignment or slope. Contractor shall submit the installation or laying drawings to the District for acceptance in all cases in time sufficient to allow review and acceptance as hereinafter specified and to accommodate the Contractor's construction schedule.

Installation or laying drawings shall be submitted in triplicate. District will return one (1) set of drawings to Contractor within fifteen (15) days marked either "Accepted", "Rejected", "Revise and Resubmit", "Submit Specified Item", or "Furnish as Corrected". In the last case, all revisions will be clearly shown on the returned set of drawings which shall be considered the accepted drawings and only drawings or prints so corrected shall be used for installation. Contractor shall furnish District three (3) sets of all accepted drawings.

C. Pipe

All pipe shall be ductile iron and shall conform with AWWA C151 (ANSI A21.5, and applicable portions of ASTM A536, Grade 60-42-10), latest, as modified herein by the Drawings, or by the District.

1. Pipe, including standard, random, and special short lengths, shall be Class 350 minimum, unless shown otherwise on the Drawings, and, unless specified otherwise, shall have restrained push on joints. Minimum pipe wall thickness shall be as noted by the construction drawings or specified by the District; it shall not be less than noted by the standard drawings. Pipe wall thickness shall be increased if necessary to accommodate threads or grooves or if required for extremely shallow (less than 2.5 feet) or excessively deep (more than 14 feet) pipeline cover. 90 percent of all pipe of any specific class and size, excluding special short lengths, shall be furnished in standard lengths. The remaining 10 percent may be furnished in random lengths.
2. Standard lengths shall have nominal lengths of 18 feet up to 36 inches in diameter and 20 feet above 36 inches in diameter, plus or minus 1 inch. Random lengths of pipe may be up to 2 feet shorter than standard lengths. Special short lengths shall only be furnished where needed to accommodate specified fittings.

3. Pipe shall have an interior cement mortar lining in accordance with AWWA C104 (ANSI A21.4), latest. Said lining shall be full thickness throughout pipe except for bell which shall be cleaned and lightly sprayed or brushed with an asphaltic or bituminous coating in accordance with AWWA C151 (ANSI A21.51). The interior cement mortar lining shall be moisture cured for at least two days before shipment. To prevent moisture loss during the curing period, ends of pipe shall be kept closed with plastic caps or covers which shall remain in place until installation.

Steam curing may be substituted for moisture curing, providing one hour of steam curing is equivalent to six hours moisture curing and ambient vapor is maintained at relative humidity of 85 percent with temperature ranging between 110 degrees Fahrenheit and 150 degrees Fahrenheit for minimum steam curing period of six hours, after which exterior coating may be applied. The lining shall then be cured for another twelve hours before shipment. Other methods of curing the cement mortar lining may be used providing they are acceptable to the District.

Temperature and shrinkage cracks in cement mortar lining less than 1/16 inch in width or 24 inches in length need not be repaired. Cracks wider than 1/16 inch or longer than 24 inches shall be repaired unless it can be demonstrated to the satisfaction of the District that the cracks will heal autogenously under continuous soaking in water.

4. Pipe shall have an exterior asphaltic or bituminous coating in accordance with AWWA C151 (ANSI A21.51), latest.
5. All pipe shall be furnished with rubber gasketed push-on type joints unless mechanical joints or flanged joints are otherwise specified or permitted. All joints shall be restrained. All joints shall comply with AWWA C111 (ANSI A21.11), latest, as approved by the District.
6. Rubber gaskets shall conform to AWWA C111 (ANSI A21.11) latest.
7. Each pipe shall be marked with the weight, class, or nominal thickness and casting period. The manufacturer's mark, year in which pipe was produced, and the letters "DI" or "ductile" shall be cast or stamped on the pipe. All required markings shall be clear and legible and all cast marks shall be on or within 2 feet of bell ends.

8. Where restrained joints are required, they shall be accomplished with boltless restrained joint gaskets or components. Restrained joints shall be ductile iron in accordance with applicable provisions of AWWA C111 and C151 (ANSI A21.11 and A21.51, respectively), latest, except as to manufacturer's proprietary dimensions.

Each restrained joint for pipe 4 inches through 12 inches shall consist of a gasket system where stainless steel locking segments molded within the gasket provide restraint for pipe joints or fitting joints.

Each restrained joint for pipe 14 inches through 24 inches shall consist of a gasket system where stainless steel locking segments molded within the gasket provide restraint for pipe joints or fitting joints, or, alternatively, a boltless restrained push-on joint system where ductile iron locking segments inserted through slots in the bell face provide positive axial lock between the bell interior surface and the spigot retainer weldment or gripper ring.

Each restrained joint for pipe 27 inches and larger shall consist of a boltless restrained push-on joint system where ductile iron locking segments inserted through slots in the bell face provide positive axial lock between the bell interior surface and the spigot retainer weldment or gripper ring.

All restraining components must make full contact around the circumference of the pipe, even if it has deflected. Field cut kits shall be composed of full ring gripper rings with serrated edges and shall be compatible with the pipe joints and fitting joints.

D. Fittings

All fittings shall be ductile iron except where fabricated cement mortar lined and cement mortar coated welded steel pipe fittings are specifically permitted or specified. Fabricated cement mortar lined and cement mortar coated fittings shall be flanged and they shall conform with the cement mortar lined and cement mortar coated welded steel pipe fittings specified herein.

Ductile iron fittings shall conform with AWWA C110, C111, and C153 (ANSI A21.10, A21.11, and A21.53, respectively), latest. Unless specified otherwise, fittings shall be push-on joint and comply with AWWA C111 (ANSI A21.11).

Fittings shall have an asphaltic outside coating in accordance with AWWA C110 or C153 (ANSI A21.10 or A21.53), latest, and cement mortar lining in accordance with AWWA C104 (ANSI A21.4), latest. Fittings shall have standard lining thickness and shall be seal coated with asphaltic material or other approved material. The lining process must produce a dense, compacted lining that shall be bonded to the interior of the fitting and have a smooth surface.

Where restrained joints are required, they shall be accomplished with boltless restrained joint gaskets or components and shall comply with all requirements of

Section 2.03.C.8. Restrained joint fittings shall be of same joint design as the restrained joint pipe. Restrained joints shall be ductile iron in accordance with applicable provisions of AWWA C110 and C153 (ANSI A21.10 and A21.53), latest, except as to manufacturer's proprietary dimensions.

E. Testing

All pipe, including standard, random, and special short lengths, furnished shall be tested in the United States in accordance with AWWA C151, latest.

F. ~~Inspection~~

~~The District shall at all times have the right to inspect all activities associated with manufacturing and materials during the course of manufacture. Manufacturer shall furnish the District reasonable facility for obtaining such information as he may desire regarding the progress and manner of the associated manufacturing activities and the character and quality of materials used.~~

G. Loading, Transporting, and Unloading

After the pipe has been tested in accordance with Part 2, Section 2.03, Item E above, it shall be loaded on rubber-tired vehicles, and adequately supported and chocked to prevent any damage during transportation, and delivered to the Work site. During loading, unloading, and stringing operations, pipe and fittings shall be moved with care to prevent damage thereto. Unloading shall be accomplished in a workmanlike manner as directed by the manufacturer. Under no circumstances are pipe and fittings to be dropped or bumped in handling.

H. Defective or Damaged Material

Pipe and fittings shall be carefully inspected for defects. Any pipe found to be defective in workmanship or materials or so damaged as to make repair and use impossible shall be rejected and removed from the Work site.

In the event that pipe is damaged, damaged portions may be removed, as approved by the District, and discarded. Remaining sound portions may be used with ductile iron fittings. Contractor shall be responsible for any and all damage to material and he shall stand the expense of repairing or replacing same. Contractor shall take proper precautions to assure that rubber gaskets are protected from oxidation or undue deterioration.

2.04 Welded Steel Pipe (Cement Mortar Lined and Cement Mortar Coated)

A. Scope

The use of welded steel pipe shall be limited to connections into existing piping where attachment to, or modification of, existing welded steel pipe is required. Short specials and fittings of steel pipe shall be used in connections where identified on the Drawings. Welded steel pipe shall not be used for the replacement water lines.

All welded steel pipe and specials shall conform with applicable provisions of AWWA C200, C205, C206, C207, and C208, latest, and applicable portions of M11 "Steel Pipe Manual", latest, as modified herein, by the Drawings, or by the District.

All welded steel pipe shall be manufactured by organizations with at least ten years successful experience in manufacturing, fabricating, lining, and coating the type of pipe specified. District shall approve manufacturer's methods, equipment, facilities, and operations before performance of any work and manufacturer's completed product before its use.

Standard or special pipe sections and standard or special connections, outlets, and fittings may be manufactured at a single plant, or they may be manufactured at two separate plants (Plant 1: manufacturing of standard sections of lined, coated, and cured steel pipe consisting of steel pipe cylinder formation and lining, coating, and curing; Plant 2: fabricating special pipe sections and standard or special connections, outlets, and fittings using standard sections of manufactured lined, coated, and cured steel pipe). Special pipe sections and standard or special connections, outlets, and fittings fabricated at a separate manufacturing plant shall be comprised of standard pipe cylinders that have been formed, lined, coated, and cured at a single manufacturing plant. The separate manufacturing plant shall use facilities and methods for lining and coating repair and curing equal to the facilities and methods of the manufacturer of the standard sections of lined, coated, and cured steel pipe.

~~B. Data to be Submitted by Contractor~~

~~Contractor shall furnish three copies of an affidavit of compliance in accordance with Section 1.12, AWWA C200, latest, and Section 1.7 AWWA C205, latest. Contractor shall also furnish certifications, three copies each, of the following:~~

~~1. Material Certification~~

- ~~a. Steel Skelp~~
- ~~b. Flanges~~
- ~~c. Nuts and Bolts~~
- ~~d. Flange Gaskets~~
- ~~e. Rubber Gaskets~~

~~2. Manufacturing Certification~~

- ~~a. Pipe Mill Reports~~
- ~~b. Production Weld Test Reports~~
- ~~c. Hydrostatic Test Reports~~
- ~~d. Outlet Reinforcement Calculations*~~
- ~~e. Pipe Wall Thickness Calculations*~~

~~* If not shown by the Drawings.~~

Unless specified otherwise, Contractor shall furnish detailed layout and shop or fabrication drawings showing pipe, lining, coating, reinforcement, joints, fittings, appurtenances, and station and elevation for each fitting and outlet and for each pipe joint at each change in pipe class, alignment, or slope. Contractor shall

submit detailed layout and shop or fabrication drawings to the District for acceptance in all cases in time sufficient to allow review and acceptance as hereinafter specified and to accommodate the Contractor's construction schedule.

Installation or laying drawings shall be submitted in triplicate. District will return one (1) set of drawings to Contractor within fifteen (15) days marked either "Accepted", "Rejected", "Revise and Resubmit", "Submit Specified Item", or "Furnish as Corrected". In the last case, all revisions will be clearly shown on the returned set of drawings which shall be considered the accepted drawings and only drawings or prints so corrected shall be used for installation. Contractor shall furnish District five (5) sets of all accepted drawings.

Revisions shown on the shop drawings shall be considered changes necessary to meet the requirements of these Specifications and shall not be taken as the basis of claims for extra charges. Contractor shall accept such revisions or submit others for acceptance. When delays are caused by resubmissions of shop drawings, Contractor shall not be entitled to any damages or extensions of time for such delays.

The District's acceptance of detailed layout ~~and shop or fabrication~~ drawings shall apply only to general arrangement and general compliance and not to specific details and dimensions and their correctness and compatibility. ~~Contractor shall correct any misfits due to any errors in the detailed shop or fabrication drawings. Any fabrication in advance of receipt of detailed layout and shop or fabrication drawings marked "Accepted" or "Furnish as Corrected" shall be at Contractor's risk.~~ Contractor shall furnish the District five sets of all accepted layout ~~and shop or fabrication~~ drawings.

C. Pipe and Fittings

All pipe and fittings furnished shall conform with applicable provisions of AWWA C200, C205, C206, C207, and C208, latest, and applicable portions of AWWA M11, "Steel Pipe Manual", latest, as modified herein, by the Drawings, or by the District.

1. Pipe and fittings shall be Class 150 minimum. Minimum steel cylinder thickness shall be as noted by the construction drawings or specified by the District; it shall not be less than 10 gage or as noted by the standard drawings. All pipe and fittings shall be machine cement mortar lined and machine cement mortar coated.
2. Curved alignment by use of pulled joints will be permitted. Maximum pull permitted from normal closure on one side of joint shall not exceed 1/2 inch for 8 inch pipe or smaller, 3/4 inch for 10 inch through 21 inch pipe, and 1 inch for 24 inch pipe and larger. Maximum joint deflections shall not exceed manufacturer's recommendation or 3 degrees; the more restrictive or lesser deflection shall apply.
3. Where greater curvature is required, Contractor may use fabricated bends as specified by the construction drawings or ordered by the

District. For the purpose of reducing angular deflections at pipe joints, Contractor may use pipe sections of less than standard length. Closing courses and short sections of pipe shall be fabricated and installed by Contractor as found necessary in the field.

~~4. All fittings shall be shop fabricated unless the construction drawings indicate that fittings may be field fabricated, Contractor describes methods of fabrication, and the District specifically approves field fabrication. All fittings shall be fabricated from individual pipe sections, welded together, and lined and coated as described hereafter.~~

5. Lining of Fittings

a. The application of cement mortar lining to miters, angles, bends, reducers, and other special sections, the shape of which precludes application by the machine spinning process, shall be accomplished by mechanical placement, pneumatic placement, or hand application and finished to produce a smooth, dense surface.

b. If the interior of the fitting has not been previously machine lined, wire-fabric reinforcement or ribbon-mesh reinforcement shall be applied to the interior of fittings larger than 24 inches and shall be secured at frequent intervals by tack welding to pipe, by clips or by wire. Repaired areas of machine applied linings at miters, pipe ends, outlets, and other cuts made in the lining for fabrication of the fittings need not be reinforced if the width of the repair area does not exceed 12 inches. Repairs for widths exceeding 6 inches shall be bonded to the steel and adjacent faces of the lining with an approved bonding agent.

Immediately after lining has been completed, pipe and fittings shall be water cured without being disturbed for at least one day before applying the exterior coating, if such a coating is specified. If cement mortar coating is not specified, the lining shall be kept moist for four days before shipment. In either case, the lining shall be cured for at least four days before shipment. To prevent moisture loss during the curing period, ends of the pipe sections shall be kept closed with plastic end caps or covers which will remain in place until time of installation. The date of lining and class of pipe shall be plainly marked on the inside of each fitting.

6. Coatings of Fittings

Mortar coating for pipe bends and other special sections not adaptable to the application of spiral-wire coating reinforcement shall be reinforced with wire fabric or ribbon mesh. The wire fabric or ribbon mesh shall be applied over the surface of the pipe to be coated, and may be held away from the pipe shell with self-furring mesh, furring clips, or an equivalent method. The application of the mortar coating shall be by mechanical or pneumatic means to the specified thickness, except that hand application may be substituted for all specials. After the outside coating has been

applied, the pipe and fittings shall be kept continually moist by continuous spraying for at least four days. Provisions shall be made to protect the coating from erosion during sprinkling. The date of coating and class of pipe shall be plainly marked on the inside of each fitting.

D. Pipe Joints

Unless specified otherwise, joints shall conform to the following types. Joints shall be as specified on the construction drawings or by the District. All joints shall be continuity bonded.

1. Rubber Gasket Joints

All rubber gasket joints shall conform with AWWA C200, latest.

2. Flanged Joints

All flanges 4 inches through 12 inches shall conform with AWWA C207, latest, Class E (ring) or ANSI B16.5 Class 150. All flanges larger than 12 inches shall conform with AWWA C207, latest, Class E (ring). All flange bolts shall be standard hex head machine and conform with ASTM A325. All flange nuts shall be heavy hex cold pressed semi-finished steel and conform with ASTM A194-2, 2H.

All flanges shall be fully welded to pipe on both faces, one pass minimum on the inside, and two passes minimum on the outside. Pipe linings shall extend to mating faces of flanges. Bolt threads shall be lubricated with an approved anti-seize compound. Flanges together with bolts and nuts, shall be, once installed, coated with an approved bitumastic material.

3. Swedged Lap Welded Joints

Bell ends shall be formed integrally with pipe cylinders, being swedged out by machine. Bell ends shall be designed and fabricated to withstand design pressure of class of pipe specified and to permit spigot ends (plain end) to enter belled ends approximately 1 inch with clearance of approximately 1/32 inch.

4. Banded Lap Welded Joints

Where lap welded joints are required and swedged lap welded joints cannot be fabricated, belled ends shall be formed by welding steel bands to outside circumferences of plain ends of pipe. Bell ends shall be designed and fabricated to withstand design pressure of class of pipe specified and to permit spigot ends (plain ends) to enter belled ends approximately 1 inch with a clearance of approximately 1/32 inch.

5. Sleeve Couplings

Where sleeve couplings are required, they shall conform with the construction drawings. Pipe coatings at pipe ends shall be held back 12 inches and pipe shall have weld seams ground flush within 12 inches from pipe ends, unless specified otherwise. For above ground applications, pipe ends and sleeve couplings shall be painted. For below ground applications, pipe ends and sleeve couplings shall be coated with an approved bitumastic material. An approved bitumastic coating shall be substituted for mortar coating within 12 inches of pipe ends. After joints have been coupled, sleeve couplings shall be coated with an approved bitumastic material.

6. Cut-to-Fit Joints

Where cut-to-fit joints are required, they shall conform with the standard drawings and the construction drawings. Pipe coatings at cut-to-fit joints shall be held back as required to permit construction of joints; pipe coatings shall thereafter be added in the field. Field applied pipe coatings shall match manufactured pipe coatings. Contractor shall provide, at his expense, cut-to-fit joints, in addition to those specified, if necessary to accommodate his work and schedule.

7. Shop Testing of Joints and Joint Ends

Every pipe section, standard, or special, shall be hydrostatically tested after joint ends have been completely shop formed and attached in place by welding, as applicable, or dye check tested provided pipe cylinders had been previously hydrostatically tested.

E. Cement Mortar Lining and Cement Mortar Coating

1. General

Cement mortar lining and cement mortar coating shall conform with AWWA C205, latest.

2. Surface Preparation

Prior to lining and coating, pipe shall be cleaned of all loose mill scale, moisture, rust, sand, dust, oil, grease, and other deleterious or objectionable matter both inside and outside.

3. Cement Mortar Lining

a. Mortar

Mortar shall consist of one part Portland cement to three parts (by weight) clean, sharp sand. Unless specified otherwise, cement used for cement mortar shall conform with ASTM C-150, latest, Type II. Sand shall consist of clean, inert, sharp, durable material,

maximum grain size being no more than one-half specified minimum lining thickness. Mortar shall be thoroughly mixed and made workable with clear, potable water. All cement mortar shall develop a minimum compressive strength of 2,600 psi minimum at seven days and 4,500 psi minimum at twenty-eight days.

b. Application and Treatment

Cement mortar shall be applied to interior surfaces of pipe with equipment specifically designed for that purpose. Said equipment shall have a retracting feed line that will provide uniform cement mortar distribution throughout pipe length. Pipe shall be slowly rotated in horizontal position while cement mortar is being applied. Each end shall be provided with suitable end dam during spinning operation to control lining thickness and provide square-finished lining end.

Following application of mortar, pipe shall be rotated at sufficient speed to compact lining mortar. Said speed shall be maintained until all excess water has been forced to lining surface. During the spinning operation, surplus water shall be expelled from pipe by blower or other suitable means. Peripheral speed and spinning time shall be sufficient to obtain dense, well compacted lining with smooth surface free from defects. Minimum lining thickness shall be as shown by the standard drawings.

Immediately after lining has been completed, pipe shall be water cured without being disturbed for at least one day. Moisture loss shall be prevented during the curing period.

4. Cement Mortar Coating

a. Mortar

Mortar shall consist of one part Portland cement to three parts (by weight) clean, sharp sand. Materials for cement mortar coating shall be the same as materials for cement mortar lining. All cement mortar shall develop a minimum compressive strength of 2,600 psi minimum at seven days and 4,500 psi minimum at twenty-eight days.

b. Application and Treatment

After pipe interior has been lined, cement mortar shall be applied to outside of pipe through fixed nozzles to form an even, dense, and tightly adhering coating. During coating operation, pipe shall be rotated and moved beneath said fixed nozzles to obtain uniform coating free from defects. Minimum coating thickness shall be as shown by the standard drawings.

Cement mortar coating shall be reinforced with spirally wound steel (reinforcing) wire embedded midway within coating. Reinforcing wire shall be bright basic wire comprised of low carbon, open hearth steel, unannealed after the last draw, with an approximate ultimate tensile strength of 80,000 psi. Said wire shall be No. 14 gage minimum and it shall be placed at a pitch of 1-1/2 inch maximum in the middle third of the coating.

Immediately after coating has been completed, each end of each section shall be cleansed to bare metal and cement mortar shall be troweled and shaped suitable for joint being used. All exposed bare metal shall be cleaned and coated and painted for protection against corrosion. Completed pipe shall then be water cured for at least four days without being disturbed.

~~_____~~ F. Manufacturing Inspection

~~_____~~ ~~The District shall at all times have the right to inspect Work and materials during the course of manufacture. Manufacturer shall furnish the District reasonable facility for obtaining such information as it may desire regarding progress and manner of work and character and quality of materials used.~~

G. Loading, Transporting, and Unloading Pipe and Fittings

After pipe and fittings have been manufactured as set forth above, they shall be braced at the plant with wooden struts of adequate size to protect against excessive deflection. Each set of struts (two struts minimum to a set) shall be nailed together at right angles as a unit. Wooden wedges may be used to accomplish proper tight fit for the struts. Bracing shall be located 1 foot in from each end of each pipe section for pipe 24 inches and smaller, and additionally at mid point for pipe 30 inches and larger.

After the struts have been installed, pipe shall be loaded on rubber-tired vehicles, adequately supported and choked to prevent damage during transportation, and delivered to Work site. All bracing shall remain in place until each pipe section has been bedded and backfilled to at least 1 foot above the top of the pipe for pipe 24 inches and larger.

Plastic end caps or covers shall be placed over the ends of pipe following installation of braces to prevent moisture loss during loading, transporting, unloading, and installing; they shall remain in place until installation. If the plastic and caps or covers are damaged (perforated), they shall be replaced immediately.

During loading, unloading, and stringing operations, pipe and fittings shall be moved with care to prevent damage thereto. They shall be moved with nylon chokers or straps of sufficient width, placed at third points (one-third length of pipe from each end), to prevent damage to exterior coating, and they shall be handled in such manner to prevent damage to interior lining. Steel slings shall not be used.

Unloading shall be accomplished in a workmanlike manner by Contractor and every precaution shall be taken to prevent damage to pipe and fittings. Under no circumstances are pipe sections to be dropped or bumped in handling. Any pipe section that becomes damaged shall be repaired if possible and, if not possible in the opinion of the District, it shall be replaced with an undamaged pipe section. When strung, pipe shall be adequately supported and chocked to avoid movement until it is installed. It shall also be placed to avoid damage during construction.

PART 3 – EXECUTION

3.01 General

A. Pipelines and Appurtenances

Pipelines and appurtenances shall be constructed in accordance with these Specifications and the Drawings and as specified by the District.

B. Valves and Appurtenances

Pipeline valves at pipeline intersections shall be connected directly to pipeline intersection fittings (cross or tee) and, unless specified otherwise, all mainline or side outlet valves shall be located 3 feet minimum from any curb face. Pipeline valves shall not be placed under curb or gutter or in parkway unless approved by the District.

All appurtenances, including but not limited to air valve installations, blow-off installations, and related facilities, such as fire hydrants, fire services, and water services, shall not be installed within 3 feet of curb returns, curb depressions, and driveway approaches, or in inaccessible locations or locations where interferences may restrict facility operation, unless permitted otherwise by the District.

Unless specified otherwise, air valve installations shall be constructed at all pipeline high spots and blow-off installations shall be constructed at all pipeline low spots. Contractor shall construct, at his expense, air valve installations and blow-off installations in addition to those specified, if necessary to accommodate his work and schedule.

C. Pipeline Length

All pipeline lengths noted by the construction drawings or otherwise specified or referenced shall mean net horizontal constructed lengths and said lengths shall extend through all fittings and appurtenances including bends, outlets, tees, flanges, and valves. Contractor shall provide all pipe necessary to accommodate any vertical alignment of the pipeline and said pipe shall be represented by the net horizontal constructed length.

D. Pipeline Alignment

All pipelines shall be constructed with no basic variation in horizontal alignment as shown by the Drawings or as specified by the District. Pipelines shall be constructed parallel with centerlines of streets or rights-of-way and appurtenances shall be constructed perpendicular thereto unless the construction drawings specify otherwise. Pipelines may be constructed by the use of pulled joints, short joints, bevels, bends, and elbows, provided pipelines are constructed as specified.

In all non-critical areas and subject to the District's approval, pipelines may be constructed at variance with vertical alignment as shown by the construction drawings by the use of pulled joints, short joints, bevels, bends, and elbows provided pipelines are constructed as specified at pipeline connections and underground interferences, and where pipeline cover is limited. The District will not approve any variation in vertical alignment until it has determined that proposed alignment is proper and modifications are in order. The costs provided in the bidding schedule for base pipeline installation shall include any costs associated with adjusting the pipeline vertical alignment up to 1 foot upwards or downwards.

E. Pipeline Tolerances

With regard to vertical alignment, pipelines shall be constructed so that actual flow line elevations, measured at pipe joints, are within 0.1 foot of design flow line elevations. Pipelines, when installed, shall have continuous slope upgrade or downgrade, corresponding with design slope, without any high spots.

With regard to horizontal alignment, pipelines shall be constructed so that actual pipeline centerlines, measured at pipe joints, are within 0.1 foot of design pipeline centerlines. Pipelines, when installed, shall closely follow specified horizontal alignment.

Pipeline construction shall conform with construction drawings and layout, shop, fabrication, installation, or laying drawings (design drawings which show flow line elevations and pipeline centerlines) in accordance with the above specified tolerances. Contractor shall make or assist the District in making all necessary measurements, as determined by the District, to confirm or verify compliance with construction tolerances.

F. Pipeline Cover

Pipeline cover as shown by the construction drawings is hereby defined as design cover over pipeline. If field conditions determined during construction staking show that pipe grade changes are required to provide design cover, Contractor shall, at his expense, make required changes in pipeline grade and construct pipeline accordingly.

Pipeline cover from top of pipe to ground surface over pipeline shall not be less than 36 inches. Where future ground surface elevation over pipeline has been established and where actual ground surface is greater, pipeline cover shall be

referenced to future (established) ground surface elevation, not actual ground surface elevation.

3.02 Trench Excavation

A. General

Unless specified otherwise, pipelines and appurtenances shall be installed in open trench excavations to the depth and in the direction specified by the construction drawings. Excavation for trenches shall include removal of all material of any nature as required for installation of pipe, fittings, or appurtenances and shall include blasting, either sloping or shoring, and all necessary dewatering, if any, all at Contractor's expense.

Contractor is advised that unsuitable earth may be encountered during trenching operations. Where such material is encountered, Contractor shall, at his expense, remove such material, discard it at legal disposal site(s), and thereafter replace it with approved backfill material.

All excavated materials not required or suitable for backfill shall be removed at the direction of the District.

Excavation behind all fittings requiring thrust blocks shall not be machine dug, but shall be hand dug to keep the trench wall solid and undisturbed.

B. Excavation Safety Drawings

Before excavating any earth or soil to a depth of five (5) feet or more, Contractor shall, pursuant to Labor Code Section 6705, submit to the District detailed drawings (hereafter referred to as excavation safety drawings) showing design of shoring, bracing, sloping, or other provisions to be made for worker, individual, or property protection. Said excavation safety drawings shall comply with OSHA Construction Safety Orders (Cal/OSHA or Federal OSHA, whichever is applicable at time of construction) and shall be prepared and certified by a registered civil or structural engineer, engaged by Contractor at his expense, who shall affix his signature and seal to each sheet of said excavation safety drawings. Contractor shall not excavate until the District has received and acknowledged properly certified excavation safety drawings. Contractor shall comply with all other applicable requirements of Labor Code Section 6705 and, as therein provided, no requirements of that Section shall be construed to impose tort liability on District or District's representatives, including District's Engineer.

C. Trench and Bell Hole Sloping or Shoring

Trenches and bell holes shall be adequately sloped or shored so that earth will not slide or settle into trench, so that all existing improvements and utilities (above and below ground) will be fully protected from damage, and so that workers and individuals are protected from injury. At minimum, Contractor shall keep toe of trench spoil at least 5 feet from top of trench. Contractor shall assume full responsibility for all damages caused by inadequate sloping or shoring. Contractor shall make all necessary repairs or perform all reconstruction

at his expense and he shall bear all other expenses resulting from such damages.

D. Trench Length, Width, and Depth

Unless specified otherwise, trenches shall be excavated not more than 1,000 feet in advance of pipe laying and open trenches shall be properly barricaded and signed as required for individual and property protection. Trenches shall not be excavated or left open nights, weekends, or holidays.

Unless specified otherwise, all pipeline trenches within pipe zone shall, wherever possible, have vertical sides and minimum widths as specified on the standard drawings, however, trenches shall be sloped or shored as required for worker, individual, and property protection.

Whenever maximum allowable trench width, as shown by the Drawings, is exceeded for any reason, the District may, at its discretion, require Contractor, at his expense, to cradle pipe (Class B Portland cement concrete) or to provide higher class bedding to support pipe as required to limit load on pipe to allowable supporting strength. The District shall approve method of support prior to its use.

Trenches shall be excavated to depths specified by or shown on construction drawings or as otherwise directed by the District. If trench excavation is carried below grade without direction or permission, Contractor shall, at his expense, refill trench to proper grade with moist clean sand, sand and gravel, or other suitable material as approved by the District, tamped in place to 90 percent relative compaction minimum. Excess excavated material shall be incorporated in backfill or discarded at legal disposal site(s) by Contractor at his expense.

E. Excavated Materials

All material excavated from trench shall be placed for minimum obstruction to traffic (automobile and pedestrian). Gutters shall be kept clear and other provisions shall be made for street or road drainage. Excess excavated material, including material rejected by the District for use as backfill, shall be discarded at legal disposal site(s) by Contractor at his expense.

If pipe, fittings, or appurtenances belonging to the District are uncovered or removed during excavation, they shall be salvaged and deposited as directed by the District. If the District determines that certain materials need not be salvaged, said materials shall be discarded at legal disposal site(s) by Contractor at his expense.

F. Blasting

Blasting for excavation will not be permitted for this project.

3.03 Trench Bedding

A. General

Trenches shall have flat bottoms conforming with grades to which pipe is to be laid. Trench bottoms shall be uniform and provide firm and uniform bearing for installed pipeline.

Pipe shall be laid on 4" or 6" bedding sand (see Standard Drawings) so that pipe barrel bears evenly on trench bottom. Bell holes shall be excavated in trench bottom and sides as necessary to permit satisfactory construction and inspection of pipe joints.

B. Unsuitable Soil

Where unstable soil consisting of loose, soft, spongy, or organic earth is encountered, it shall be removed from trench bottom to depth determined in field by the District and trench shall be refilled to proper grade with moist clean sand, sand and gravel, or other suitable material as approved by the District, tamped in place to 90 percent relative compaction minimum. Trench bottom shall be graded flat and prepared to provide firm and uniform bearing for pipe.

Where unyielding soil consisting of rock, rocky earth, or cemented earth is encountered, it shall be removed from trench bottom to at least 9 inches below grade and trench shall be refilled to proper grade with moist clean sand, sand and gravel, or other suitable material as approved by the District, tamped in place to 90 percent relative compaction minimum. Trench bottom shall be graded flat and prepared to provide firm and uniform bearing for pipe.

Unless specified otherwise, Contractor shall, at his expense, remove unsuitable soil, replace it with suitable soil, and discard unsuitable soil at legal disposal site(s). Contractor shall not deposit or store unsuitable soil on private or public property without written permission of property District(s) and without applicable governmental permits pertaining to earthwork, including compaction, and the environment.

3.04 Trench Backfill

A. General

In addition to meeting backfill requirements specified herein, Contractor shall also comply with backfill requirements established through permits issued by jurisdictions (State, County, City) having control over rights-of-way in which construction is taking place. Whenever the separate requirements conflict with one another, the more stringent shall apply. Backfill shall not commence without prior approval of the District.

Backfill material shall be either select excavated material, screened or washed if necessary, or commercially processed material. Backfill material shall meet separate specific requirements for backfill within pipe zone and backfill above

pipe zone. Backfill material meeting pipe zone requirements may be used for above pipe zone backfill material but not the reverse.

After sheeting, shoring, or shields have been removed, all backfill material including pipe zone backfill material shall be compacted to 90 percent relative compaction minimum except that the upper 12 inches of backfill material shall be compacted to 95 percent relative compaction minimum, as verified by field compaction tests. Relative compaction shall be based on maximum dry density determined in accordance with ASTM D-1557, latest. The District will specify where (number & location) compaction tests are to be taken.

Unless specified otherwise, the District will have all necessary compaction tests performed by soils engineer of its choosing. Contractor shall notify the District and Geotechnical Inspector when any segment of backfill has been compacted and is ready for compaction testing and the Geotechnical Inspector will then have such tests performed. The results shall be provided to the District.

Unless determined otherwise, compaction tests will be taken along the pipeline, in the pipe zone, above the pipe zone, and at ground surface or subgrade at 200 foot intervals maximum and along all service runs and fire hydrant runs. Contractor shall furnish all equipment (including shoring), labor, and materials needed for compaction testing. Compaction testing shall be completed and accepted by the District prior to hydrostatic and leakage testing of pipelines and appurtenances.

Within highways, thoroughfares, and streets, Contractor shall, at the end of each work day and by 5:00 PM, unless permitted otherwise, completely backfill trenches with material sufficiently compacted to support traffic. Contractor shall then place 2 inch minimum thickness temporary asphalt concrete pavement over trench; it shall be compacted, rolled smooth with a steel wheeled pavement roller and placed flush with adjacent pavement. Contractor shall maintain and repair backfilled and paved areas to prevent potholes or pavement failures. Highways, thoroughfares, and streets shall be completely open to traffic at night (after 5:00 PM), on weekends, on holidays, and whenever Contractor is not actively working in specific area.

Contractor shall not excavate trenches or install pipe in highways, thoroughfares, and streets on weekends and holidays. Holidays include union holidays, District holidays, and County and municipal holidays. Contractor shall not leave any excavation open overnight or on weekends or holidays.

B. Backfill Within Pipe Zone

Unless specified otherwise, plant manufactured sand with an SE of 30 or greater shall be used in the pipe zone.

Initial backfilling shall be performed as soon as possible after pipe has been laid. Loose, moist backfill material shall be placed in trench simultaneously on each side of pipe to a depth not greater than pipe centerline (springline) or 12 inches (loose measurement), whichever is less, and it shall then be tamped under pipe

so that all voids are eliminated and material is compacted to 90 percent relative compaction minimum.

Subsequent backfilling shall be performed immediately following initial backfilling. Loose, moist backfill material shall continue to be placed in trench simultaneously on each side of pipe in lifts not exceeding 12 inches in thickness (loose measurement), with each lift being tamped, until the pipe has been covered by at least 12 inches of well compacted material. Alternatively, backfill material may be densified by water settlement until the pipe has been covered by at least 12 inches of well densified material. Backfilled material shall be tamped or settled to 90 percent relative compaction minimum.

Regardless of compaction or densification technique, care in backfilling shall be exercised to avoid any damage to pipe, fittings, and appurtenances, to avoid any damage to persons or property, and to achieve relative compaction of backfilled material of at least 90 percent minimum.

C. Backfill Above Pipe Zone

Backfill material shall consist of either Class 2 base (within City/County right-of-way), or moist clean loose earth, sand, gravel, or rock free of clay and silt as well as deleterious material (outside of City/County right-of-way). From the top of selected backfill in the pipe zone to within 1 foot of ground surface or pavement subgrade, backfill material shall be free of material exceeding 8 inches in greatest dimension. It shall also be compacted to 90 percent relative compaction minimum. Within 1 foot of ground surface or pavement subgrade, backfill material shall be free of material exceeding 2 inches within City or County right-of-way in greatest dimension and it shall be compacted to 95 percent relative compaction minimum. Rocks shall be mixed with suitable soil to eliminate voids; they shall not be nested. Backfill material shall be well graded.

Backfill material shall be placed in lifts not exceeding 12 inches in thickness (loose measurement) and each lift shall be compacted to 90 percent relative compaction minimum by hand tampers, pneumatic tampers, or mechanical compactors except that the upper 12 inches of backfill shall be compacted with mechanical compactors or compaction equipment, excluding stompers, to 95 percent relative compaction. Alternatively and except for the upper 12 inches of backfill, sandy, granular soils may be densified by water settlement. Trench to be backfilled by water settlement shall be diked at suitable intervals not exceeding 100 feet. Impounded water shall be of sufficient depth so that earth pushed or shoveled into trench will at all times fall into water, becoming completely saturated. If necessary, jetting may augment flooding. Backfill densified by water settlement shall be densified to 90 percent relative compaction minimum. Contractor shall use mechanical compactors or compaction equipment, excluding stompers, to achieve required compaction if required densification is not achieved by water settlement.

3.05 Ductile Iron Pipe Installation

Pipe manufacturer, fitting manufacturer, and material supplier, in addition to the District and the District's representatives, shall have access to the Work during installation.

Contractor shall use assistance provided by either manufacturer or supplier where required for proper installation of pipe, fittings, or materials; however, Contractor shall limit role of either manufacturer or supplier to advisory service.

All pipe shall be laid true to line and grade and at the locations shown by the construction drawings or as specified. Pipe shall be installed in accordance with applicable provisions of AWWA C600, latest, applicable provisions of Ductile Iron Pipe Research Association "Guide for the Installation of Ductile Iron Pipe", latest, and manufacturer's directions. Bell ends shall be placed uphill unless otherwise permitted.

After pipe has been set in trench, exterior of spigot and interior of bell shall be thoroughly cleaned. Lubricant recommended by pipe manufacturer and as approved by the District shall be applied to rubber gasket. Lubricant shall be water soluble, nontoxic, shall impart no objectionable taste or odor to the water, shall have no deteriorating effects on the rubber gaskets, and shall not support growth of bacteria. Excess lubricant shall be removed. Pipe ends shall be aligned, and spigot shall be pulled into bell with come-along devices, or hoists with chains and slings, unless permitted otherwise. If either the pry bar or the backhoe bucket method is permitted, a timber header shall be placed between the pipe and the pry bar or backhoe bucket before the spigot is pushed into bell.

Curved alignment by use of pulled joints will be permitted. Maximum joint deflection shall be 3 degrees. For purposes of reducing angular deflections at pipe joints, Contractor may install pipe sections of less than standard length. Deflections shown on the drawings that are greater than 3 degrees shall be made using two or more joints with a spool section of piping less than the standard length.

Whenever cutting of pipe is required, it shall be done with a special cutting tool specifically made for cutting and machining ductile iron pipe. Cut ends and rough edges shall be ground smooth and beveled for push-on joints.

All ductile iron pipe, fittings, and appurtenances shall be encased with 8 mil (0.2 mm) thick minimum polyethylene tube lapped 1 foot minimum, and valves and fittings shall be wrapped with polyethylene tube or with polyethylene sheets lapped 1 foot minimum. Polyethylene tube and polyethylene sheets shall be secured in place with suitable adhesive tape. All polyethylene tube and polyethylene sheet encasements shall be installed in accordance with AWWA C105, latest.

As Work progresses, a pipe cleaning tool as approved by the District shall be drawn through pipe to remove dirt, rocks, or other foreign material. At the end of each day's work, all openings in the pipeline shall be plugged with watertight expandable plugs or approved equal.

3.06 Welded Steel Pipe

A. Pipe Installation

Pipe manufacturer, fitting manufacturer, and material supplier, in addition to the District and the District's representative, shall have access to the Work during installation. Contractor shall use assistance provided by either manufacturer or supplier where required for proper installation of pipe, fittings, or materials;

however, Contractor shall limit role of either manufacturer or supplier to advisory service.

Contractor shall not move pipe using dozer blades, backhoe buckets, or the like (sharp metal surfaces). Contractor shall use nylon chokers or straps, not steel slings, in moving, placing, or setting pipe. Nylon chokers or straps shall be placed at third points (one-third length of pipe from each end).

All out-of-round pipe shall be rejected and removed from the Work site immediately, upon District approval. Rejected pipe shall be replaced immediately. Contractor shall not use hammers, bars, wrenches, or other tools to modify pipe ends to accommodate installation.

All pipe ends shall be secured with plastic covers. Said plastic covers shall be left in place until pipe is prepared for installation. If any plastic covers are damaged or destroyed before pipe has been installed, they shall be immediately replaced.

All pipe and fittings shall be laid true to line and grade and at the locations shown by the construction drawings or as specified. Pipe and fittings shall be installed in accordance with applicable sections of AWWA M11, "Steel Pipe Manual". Bell ends shall be placed uphill unless otherwise permitted.

All flanges shall be fully welded to pipe on both faces, one pass minimum on the inside and two passes minimum on the outside. Pipe linings shall extend to mating faces of flanges and pipe coatings shall extend to backs of flanges, tapered as necessary for installation of bolts and nuts. All exposed steel shall be field coated with an approved bitumastic material.

Special care shall be taken to avoid damaging lining or coating during lowering of pipe into trench and making of field joints. Unless specified otherwise, field joints shall be bell and spigot rubber gasket joints, continuity bonded (two evenly spaced bonding clips per joint minimum). Flanged joints, welded joints, and mechanical joints may be required for particular applications.

After pipe has been set in trench, exterior of spigot and interior of bell shall be thoroughly cleaned. Lubricant as recommended by pipe manufacturer and as approved by the District shall be applied to rubber gasket, and said gasket shall then be snapped into place and excess lubricant removed. Lubricant shall be water soluble, nontoxic, shall impart no objectionable taste or odor to water, shall have no deteriorating effects on the rubber gaskets, and shall not support the growth of bacteria.

Before inserting spigots into bells, to make joints, bells shall be hand mortared with quick setting non-shrink commercial grout mixed with an approved bonding agent. Once spigots have been inserted into bells, joints shall be gauged to ensure that gaskets have been properly seated.

For pipe 24 inches and larger, Contractor shall relieve (equalize) gaskets before laying to prevent gaskets from being tight on one side of pipe and slack on the other side, and adversely affecting seal. Contractor shall lift gaskets with a round

blunt tool (like the shaft of a screwdriver) and roll it around the circumference of the spigot end at least once and preferably twice.

For pipe less than 24 inches in diameter, sufficient quantities of moist cement mortar shall be placed on interior joining ends of pipe to completely fill space between respective mortar linings. Moist mortar shall be placed only after respective mortar linings have been properly wetted. Moist mortar shall not be placed against dry mortar linings. Excess mortar shall be removed by drawing an approved pipe cleaning tool through the pipe after joints have been made (pipe sections have been joined). For fully welded joints, pipe sections shall be pulled together and restrained with come-along devices, or hoists with chains and slings, and mortar shall be allowed to set for twenty minutes before welding joint. Once joint has been pulled closed and cleaning tool has been drawn through pipe sections, pipe alignment shall not be adjusted, nor shall pipe be bounced or hammered. Come-along devices, or hoists with chains and slings, shall be removed only after joint has been fully welded.

For pipe 24 inches in diameter and larger, cement mortar shall be placed on interior joining ends from inside pipe after it has been set. Moist mortar shall be applied only after mortar linings have been properly wetted. Moist mortar shall not be placed against dry mortar linings. Excess mortar and debris shall be removed by hand or by other means acceptable to and approved by the District.

For cement mortar coated pipe, joint exteriors shall be coated with cement mortar utilizing a joint diaper. Said diaper shall be furnished by pipe manufacturer and shall be centered over joint and securely fastened to pipe. Cement mortar joint mix consisting of one part Portland cement to two parts (by weight) clean, sharp sand, shall contain just enough water to allow mix to be poured into diaper and flow around circumference of joint. Said mix shall be allowed to set prior to backfilling around joint.

Joints shall be completed to provide continuous interior lining and exterior coating. Field lining and coating must equal or exceed shop lining and coating when completed with respect to strength, uniformity, and density and there shall be no voids between lining or coating and steel cylinder.

If cement mortar lining has to be removed, Contractor shall scribe, chisel, and remove the lining using appropriate tools. If cement mortar coating has to be removed, Contractor shall first scribe, then saw cut said coating 3/4 of its thickness, and then remove coating using a chisel driven by a hammer, chipping gun, or other suitable tool. Impact shall be applied parallel with pipe barrel, not perpendicular thereto.

At the end of each day's work, all openings in the pipeline shall be plugged with watertight, expandable plugs or approved equal. Said plugs shall be secured in place so that they cannot be removed by children or animals.

B. Field Welding

Whenever field welding is required, Contractor shall attach welding machine ground to pipe only with clamps or other means acceptable to the District unless an alternative means is specified.

Unless specified otherwise, field welded or thrust restrained joints shall consist of flanged joints or fully welded joints. All flanges shall be fully welded to pipe on both faces, one pass minimum on the inside and two passes minimum on the outside. Welded joints shall be made with pipe having ends belled for welding, or alternatively, ends belled for rubber gasket joints, provided pipe manufacturer furnished filler rods of proper diameter, length, and curvature are installed in accordance with pipe manufacturer's recommendations, as approved by District. Belled ends shall not be deformed to accomplish fully welded joints. Full welds for all joints shall be accomplished with two welding passes (beads) minimum.

C. Field Cement Mortar Lining and Cement Mortar Coating

Whenever field cement mortar lining and cement mortar coating is permitted by the District for either repair or fabrication, Contractor shall comply with the following procedures:

1. Cement Mortar Lining

- a. Contractor shall square the edge of the remaining lining, leaving no feather edge, and shall clean metal surfaces with a stiff wire brush.
- b. Contractor shall apply approved bonding agent to both steel area and edges of adjacent lining. Cement mortar shall then be applied to the area being patched and worked and finished with a trowel until smooth. Contractor shall brush on approved curing compound over the surface of the patch to prevent rapid evaporation of moisture. Otherwise, Contractor shall keep the patched mortar moist by covering it with wet burlap. The pipe shall not be moved until the cement mortar achieves its initial set, not less than three hours.
- c. Cement mortar shall consist of not less than one part cement to three parts sand, thoroughly mixed before any water addition. Cement mortar may be approved commercial, packaged dry mortar mix. Cement mortar shall be mixed separately for each area to be patched. Quantity of water shall be just sufficient so that when mortar is firmly compressed into a ball, it will hold its shape without slump.

2. Cement Mortar Coating

- a. Exterior coating which requires removal around the complete circumference of the pipe shall be repaired by:

1. Removing the coating by chipping with a hammer or chisel, squaring the edges to accept repair patch.
2. Wrapping the area with 2 x 4 x 14 GA self-furring wire mesh or an approved stucco netting and guniting the area being patched.

or

Wrapping the mesh as above and hand troweling mortar onto the area being patched.

3. Applying an approved curing compound to the patched area.
 4. Avoiding movement and protecting the pipe until the cement mortar achieves its initial set, not less than three hours.
- b. Exterior coating that does not extend around the entire circumference of the pipe shall be repaired by:
1. Removing the coating by chipping with a hammer and chisel, squaring the edges to accept repair patch.
 2. Applying by brush an approved bonding agent to both the steel area and the edges of the remaining coating.
 3. Applying cement mortar to the area being patched and thoroughly compacting it, with finished patch mounding up above and overlapping (at least 1 inch on all sides) the surrounding coating.
 4. Applying an approved curing compound to the patched area. If the repair patch is made on pipe in the ditch, it shall be covered with wet burlap, heavy cloth, or similar material, and dirt shall be placed around and over the patched area by hand before proceeding with placing backfill material.
- c. The cement mortar mix proportions shall be the same as for lining repair.
- d. If the area to be patched exceeds over half of the pipe circumference, 2 x 4 x 14 GA self-furring wire mesh or an approved stucco netting shall be attached to the pipe prior to the application of the cement mortar.

3. Installation of Repaired Pipe

After the repaired area has achieved initial set, not less than six hours, the pipe section can be installed, providing the patched area of the coating is backfilled with water saturated or wetted soil.

3.07 Services

A. Service Taps

Service taps shall be on line with meter boxes which shall be perpendicular to mains. Service and other taps shall be made not closer than 12 inches to a bell, coupling, joint, fitting, or other service. Service taps will be permitted only where complete services are to be installed. Under no circumstances will Contractor be allowed to tap existing mains which are in service. Contractor shall tap existing mains only when said mains are out of service and only when specifically permitted by the District.

1. Ductile Iron Pipe Mains

Service outlets on mains shall be accomplished with double strap bronze service saddles with iron pipe threads.

2. Welded Steel Pipe Mains

Service taps shall be made with couplings welded to the pipe, either during pipe fabrication or field construction, as shown by the standard drawings. Tapping shall be accomplished with a shell cutter. Care shall be exercised to minimize damage to linings and coatings. Damaged linings and coatings shall be repaired or replaced.

3. Testing and Disinfection

Service taps used for testing and disinfection shall comply with service tap requirements for ductile iron or welded steel pipe, whichever is applicable. Unless specified otherwise, they shall be made at top of pipe. Once testing and disinfection have been completed, they shall be plugged. Plug threads shall be wrapped with Teflon tape and plugged tap shall then be coated with approved bitumastic material.

B. Services Extensions

In addition to a service tap, each service shall include a corporation stop, service pipe, a meter stop, a meter box, and all other materials specified by the standard drawings. Unless specified otherwise, service piping shall be continuous from corporation stop to meter stop; it shall not be spliced.

C. Meter Boxes

Meter boxes shall be equal to and interchangeable with those shown on the standard drawings and shall be installed as shown on the standard drawings. They shall be set true to line and grade and shall be flush with concrete curbs and sidewalks.

Meter boxes shall be installed whenever services are installed (if required in the Construction Drawings), even prior to construction of street improvements including concrete curbs and sidewalks. Meter boxes shall be brought to grade upon construction of concrete curbs and sidewalks.

D. Meter Installation

Except as otherwise indicated on the construction drawings or as specified by the District, all meters shall be installed by the District following application for service in accordance with the District's regulations governing water service and any amendments thereto.

3.08 Field Hydrostatic Test and Leakage Test

A. Hydrostatic Test

Upon completion of pipeline construction and at least seven days after last concrete thrust device has been placed, pipelines and appurtenances constituting the Work shall be filled with water for twenty-four hours minimum. During filling, Contractor shall see that all air valves are open and operating. After pipelines have been completely filled, they shall be allowed to stand for twelve hours minimum under slight pressure for sufficient time to permit all air to escape. During that same period, Contractor shall examine all fittings, flanges, handholes, and connections for leaks. If any leaks are found, they shall be eliminated.

Test pressures shall be 225 psi and maintained for four hours minimum. Test sections will be selected which give, as nearly as possible, constant pressure throughout section being tested. Normally test pressures will be measured at lowest elevations.

B. Leakage Test

After pressure test has been satisfactorily completed, pipelines and appurtenances shall be tested for leakage at pressure equal to the pressure class of pipe. Contractor shall test pipelines and appurtenances in test sections as designated by the District and required pressures shall be maintained for two hours minimum during which time leakage shall be accurately measured.

Measured leakage shall not exceed the limits set by the following formula unless otherwise specified by the construction drawings.

$$L = \frac{ND(P)^{1/2}}{5000}$$

L is the allowable leakage in gallons per hour for section of pipeline being tested; N is the number of joints (rubber gasket, flanged, or mechanical joints, not swedged or banded lap welded joints) where leakage could occur in the section of pipeline being tested; D is the nominal diameter (inches) of the pipeline being

tested; and P is the weighted average test pressure (psi gauge) within the section of pipeline being tested during the leakage test.

C. General Requirements

1. Required test pressures shall be applied by pump connected to pipeline sections being tested. The District shall approve pump connections to pipeline before testing begins. As part of the Work, and unless specified otherwise, Contractor shall install, at his expense, top outlets (service taps) required for testing.

Contractor shall provide calibrated meters for measurement of leakage, and all pumps, piping, fittings, bulkheads, plugs, valves, gages, power equipment, and manpower necessary for conducting all tests required, all at his expense. Contractor shall furnish the District three copies of all records of all tests performed.

2. Unless specified otherwise, Contractor shall test against test plates for pipelines 12 inches and smaller. Contractor shall not remove said test plates until pipelines have been tested, disinfected, and accepted by the District.
3. Contractor, at his expense, shall locate and repair leaks or other defects which may develop or become apparent during test. Contractor shall excavate, including removal of backfill already placed, and make all repairs necessary for required water tightness, and then replace all excavated material, after which Contractor shall retest repaired pipeline section. Pipeline sections shall be repeatedly repaired and tested until they meet requirements set forth herein.
4. Pipe manufacturer and fitting manufacturer shall have free access to the Work during testing. Any improper act on the part of Contractor which the pipe and fitting manufacturer may observe shall be reported to the District. Pipe and fitting manufacturer shall be free to observe and verify all tests.
5. After completed pipeline and appurtenances or test sections have successfully met test requirements to the satisfaction of the District, the entire pipeline or each test section shall be filled or shall remain filled with water until completion of the Work, unless otherwise ordered by the District.

3.09 Conductor Casings and Carrier Pipes

Wherever required, conductor casings shall be installed. Said casings shall be comprised of either welded steel pipe or reinforced concrete pipe, as specified. Conductor casings shall be bored and jacked into place unless open trench installations are permitted; conductor casings shall not be sluiced or jetted into place. Conductor casings shall be bored and jacked into place from one direction only.

Conductor casings shall be installed to the lines, grades, and depths specified. Unless specified otherwise, Contractor will be permitted a tolerance from horizontal alignment and from vertical alignment of 0.5 percent of conductor length but no more than 1 foot maximum regardless of conductor length.

Unless specified otherwise, methods and equipment used shall be as selected by Contractor and as approved by the District. Said approval shall not relieve Contractor of any responsibility with regard to conductor casing construction. Conductor casings shall have minimum inside diameters at least 12 inches larger than maximum outside diameters of carrier pipes.

Prior to any boring and jacking operations, Contractor shall submit to the District a construction plan consisting of a schedule of operations, details of methods of construction, types of equipment to be used, details of boring and jacking pit including lengths, widths and depths, and shoring and bracing. Said construction plan shall be approved as to sufficiency by the District before any construction is commenced.

Boring and receiving pits shall be shored in accordance with OSHA standards. A 6 foot high chain link fence shall be erected around said pits and said pits shall be protected with Type K barriers. Barriers shall be placed to direct traffic around the pits.

Prior to constructing pits, Contractor shall excavate both sides of each crossing to determine exact locations of facilities to be crossed (horizontal and vertical). Contractor shall adjust casing locations to accommodate crossings based on Contractor's field measurements.

Contractor shall schedule his operation to prevent pits from being open on weekends or holidays. Contractor shall provide traffic control around the pits in accordance with Contractor's approved traffic control drawings.

Contractor shall take all necessary precautions to prevent subsidence of or lifting of existing roadbeds, roadways, and pavements during or following installation of conductor casings. Material excavated during boring and jacking operations shall be removed carefully so as to avoid caving. Voids created during boring and jacking shall be grouted with an approved grout from within the casing once the casing has been installed. Couplings shall be welded to steel casing to permit grouting. Following grouting, threaded plugs shall be inserted into said couplings.

After conductor casing has been constructed, carrier pipe shall be equipped with approved plastic or steel casing insulators of uniform size and spacing and then installed in conductor casing in accordance with aforementioned construction plan as approved by the District. Annulus between conductor casing and carrier pipe shall be filled with sand and the ends shall be capped with plastic or steel end seals or plugged with brick and mortar. Weepholes shall be placed in the bottoms of the end seals or brick and mortar plugs.

Contractor shall backfill boring and jacking pits with material specified for pipeline backfill. Said backfill material shall be compacted to the relative compaction specified which shall be not less than 90%. Contractor shall remove conductor casing and carrier pipe remnants, shoring materials, asphalt, concrete and all other Work related debris. Contractor shall restore paved surfaces.

3.10 Miscellaneous Requirements

A. Connections to Existing Watermains

The District will make all connections to existing watermains except where otherwise specified. Where a gate valve is required but not specified, the District will install gate valve but will not guarantee it against field hydrostatic and leakage test.

To safeguard against failure of the District's valve, Contractor shall install a test plate for the aforementioned test and, after satisfactory test, remove said test plate and replace it with a 1/8 inch thick minimum ring gasket. The use of any other test appurtenances shall be as approved by the District.

B. Field Painting

Contractor shall field paint all aboveground, bare, or exposed piping and appurtenances in accordance with the applicable specifications and drawings.

END OF SECTION 15020