



WEST COUNTY WASTEWATER

**Basin 7 Pipe Replacement:
California Avenue**

PROJECT NO. 21CS210

October 01, 2021

Approved for Construction

Angela Andrews, Capital Portfolio Manager

SECTION 00 01 10 TABLE OF CONTENTS

Division 00: Procurement and Contracting Requirements

00 01 10	Table of Contents
00 01 15	List of Drawings
00 11 16	Invitation to Bid
00 21 13	Instructions to Bidders
00 41 43	Schedule of Bid (Bid Form)

00 43 00 Procurement Form Supplements

00 43 13	Bid Security Form (Bidder's Bond)
00 43 33	Bidder's Statement of Equipment and Materials Suppliers
00 43 34	Major Equipment Manufacturer Substitutions
00 43 36	Bidder's Statement of Subcontractors
00 43 93	Bid Submittal Checklist

00 45 00 Representations and Certifications

00 45 10	Instructions to Awardees
00 45 13	Bidder's Statement of Qualifications
00 45 16	Certificate Regarding Completion Time
00 45 17	Contractor Safety Acknowledgement
00 45 18	Certificate Regarding Inspection of Contract Documents and Site
00 45 19	Non-Collusion Declaration
00 45 26	Worker's Compensation Certification

00 52 00 Contract Forms

00 52 10	Instructions to Awardees
00 52 13	Contract

00 61 00 Bond Forms

00 61 13	Performance Bond
00 61 14	Payment Bond

00 72 00 General Conditions

00 72 01	Authority of the Engineer and Contractor's Appeal Procedure
00 72 02	Intent of the Contract
00 72 03	Discovery of Errors, Omissions, or Discrepancies in the Contract
00 72 04	Subcontracts, Subcontractors, and Records Access
00 72 05	Assignment
00 72 06	Waiver of Contract Provisions
00 72 07	Delivery of Notice
00 72 08	Indemnity
00 72 09	Patent Indemnity
00 72 10	Warranty
00 72 11	Differing Site Conditions
00 72 12	Changes and Extra Work

00 72 13	Independent Contractor, Superintendent, and Employees
00 72 14	Contractor's Plant, Construction Equipment, and Facilities
00 72 15	Equipment, Materials, and/or Products, Substitution of Specific Items
00 72 16	Contractor-Furnished Drawings and Data
00 72 17	Standards and Codes
00 72 18	Safety
00 72 19	Public Access and Safety; Protection of Property
00 72 20	Laws and Regulations
00 72 21	Permits
00 72 22	Records and Accounts
00 72 23	Testing
00 72 24	Publications
00 72 26	Access to Work Areas
00 72 27	Illumination
00 72 28	Inspection and Sample Specimens
00 72 29	Progress
00 72 31	Responsibility for Work; Precautions; Security
00 72 32	Storage of Materials and Equipment
00 72 33	Use of Completed Portions of the Work
00 72 34	Cleaning Up
00 72 35	Progress, Completion, Delays, and Extensions of Time
00 72 36	Termination of Right to Proceed
00 72 37	Optional Termination
00 72 38	Suspension
00 72 39	Measurement and Payment
00 72 40	Progress Payments
00 72 41	Final Payment and Release
00 72 42	Liquidated Damages
00 72 43	Night and Weekend Work
00 72 44	Intoxicating Liquors and Drugs
00 72 45	Meetings
00 72 46	Liens and Stop Notice
00 72 47	No Waiver
00 72 48	Quality of Equipment, Material, Products, and/or Workmanship
00 72 49	West County Wastewater Ownership of Project Materials and Salvage
00 72 51	Provisions Required by Law Deemed Inserted
00 72 52	Conflict or Inconsistency
00 72 53	Utility and Other Existing Facilities
00 72 54	Surveys, Lines, and Grades
00 72 55	Contract Documents and Record Drawings
00 72 56	Contaminated Soil/Materials
00 72 59	Storm Water Pollution Prevention

00 73 00 Supplementary Conditions

- 00 73 01 Insurance Coverage Requirements
- 00 73 02 Preconstruction Conference
- 00 73 03 Surveys
- 00 73 04 Progress Schedule and Holidays
- 00 73 05 Responsibility
- 00 73 06 Conflicts, Errors, Discrepancies
- 00 73 07 Clean up and Restoration
- 00 73 08 Commencement, Prosecution, and Completion
- 00 73 09 Existing Utilities and Sewerage Facilities
- 00 73 10 Inspection by Others
- 00 73 11 Salvaged Material
- 00 73 12 Disposal of Material
- 00 73 13 Potential Hazards and Safety
- 00 73 14 Explosive
- 00 73 15 Dust Control
- 00 73 16 Fire Prevention
- 00 73 17 Air Pollution
- 00 73 18 Title to Materials Found
- 00 73 19 Final Acceptance
- 00 73 20 Attorneys' Fees
- 00 73 21 Amount of Liquidated Damages
- 00 73 22 Percentage of Progress Payments to be Retained
- 00 73 23 Amount of Minimum Progress Payment
- 00 73 24 Retention for Repairs
- 00 73 25 Connections to Existing Facilities
- 00 73 26 Certification of Labor Charges
- 00 73 27 Sole Source Items
- 00 73 28 Partial Payment for Materials and Equipment Delivered
- 00 73 29 Maintaining Existing Utilities
- 00 73 30 Permits, Easements and Agreements
- 00 73 31 Parking and Employee Identification
- 00 73 32 Work During Disputes and Litigation
- 00 73 33 Submittals
- 00 73 34 Extensions of Time for Delay Due to Inclement Weather
- 00 73 35 Erosion Control
- 00 73 36 Standard Details
- 00 73 37 Drawings and Project Manual
- 00 73 38 Initial Start-up and Operation of Facilities
- 00 73 39 Responsibility for Spare Parts & Special Tools
- 00 73 40 Manuals, Operating Instructions and Affidavits
- 00 73 41 Record Plans
- 00 73 42 Joint Survey to Establish Preconstruction Conditions
- 00 73 43 Construction Constraints
- 00 73 44 Traffic Control

00 73 45	Work Hours
00 73 46	Federal, State and Local Requirements
00 73 47	Apprentices
00 73 48	Labor, Wages and Wage Determinations

Division 01: General Requirements

01 11 00	Work Covered by Contract Documents
01 51 10	Temporary Facilities
01 51 11	Water Supply and Electric Power
01 51 12	Compressed Air
01 51 13	Contractor's Field Office
01 51 14	Portable Sanitary Facilities
01 51 15	Staging Area
01 71 13	Mobilization
01 89 13	Site Preparation

Division 02: Existing Conditions

02 41 00	Demolition
02 82 00	Asbestos Remediation (NOT USED)
02 83 00	Lead Remediation (NOT USED)

Division 03: Concrete

03 11 00	Concrete Formwork
----------	-------------------

Division 31: Earthwork

31 00 00	Earthwork
31 11 00	Site Clearing and Grubbing

Division 32: Exterior Improvements

32 01 13	Slurry Seal
32 12 16	Asphalt Pavement
32 12 17	Asphalt Pavement Coating & Crack Fillers
32 12 73	Asphalt Sealant

Division 33: Utilities

33 05 31	Installation of PVC C-900
33 05 33	Installation of HDPE SDR-17
33 05 41	Installation of Vitrified Clay Pipe (VCP)
33 31 00	Sewer Pipe & Structures

Attachments:

WCWD Basin 7 California Avenue Project Drawings:

DWG

NO. TITLE

G-01	Cover Sheet
G-02	Pollution Prevention Plan
G-03	Title Sheet and Index of Drawings
C-17	Plan and Profile Sheet: California Avenue
C-18	Plan and Profile Sheet: 19 th Street
C-19	Plan and Profile Sheet: Alfreda Boulevard
C-20	Plan and Profile Sheet: 20 th Street
C-21	Plan and Profile Sheet: Wicox Avenue
C-22	Plan and Profile Sheet: 23 rd Street
C-23	Plan and Profile Sheet: Stanford Avenue
SD-1	Standard Details
SD-2	Standard Details

SECTION 00 01 15
LIST OF DRAWINGS & ATTACHMENTS

WCWD Basin 7 California Avenue Project Drawings:

DWG

NO. TITLE

G-01	Cover Sheet
G-02	Pollution Prevention Plan
G-03	Title Sheet and Index of Drawings
C-17	Plan and Profile Sheet: California Avenue
C-18	Plan and Profile Sheet: 19 th Street
C-19	Plan and Profile Sheet: Alfreda Boulevard
C-20	Plan and Profile Sheet: 20 th Street
C-21	Plan and Profile Sheet: Wicox Avenue
C-22	Plan and Profile Sheet: 23 rd Street
C-23	Plan and Profile Sheet: Stanford Avenue
SD-1	Standard Details
SD-2	Standard Details

**NOTICE TO CONTRACTORS
INVITING SEALED BIDS
WEST COUNTY WASTEWATER
Basin 7 Pipe Replacement: California Ave**

DISTRICT PROJECT NO. 21CS210

ENGINEER'S ESTIMATE = \$1,354,408

PLEASE TAKE NOTICE THAT the Board of West County Wastewater (the "District"), Richmond, California, invites and will receive sealed bids for furnishing all labor, equipment, materials and services specified for the construction of West County Wastewater Project No. **21CS210** Basin 7 Pipe Replacement: California Ave, in conformance with the approved Contract Documents (the "Project").

The work covered by this contract will be performed along California Ave., between 17th St. and 21st St.; along 19th St., between Alfreda Blvd and California Ave.; along Alfreda Blvd., between 19th St. and 20th St.; along 20th St., between Wilcox St. and Alfreda Blvd.; along Wilcox Ave. between 20th St. and 23rd St.; along 23rd St., between Wilcox Ave. and Costa Ave.; and along Stanford Ave., between 15th St and 17th St. The work includes, but is not limited to, the following:

1. Obtaining all necessary permits prior to starting the work, unless otherwise instructed by District staff.
2. Providing all necessary materials, supplies, equipment, services and personnel, to adequately carry out or complete the project.
3. Performing work site cleanup duties, including, but not limited to removing all debris and placing materials, supplies and equipment in an organized manner, prior to leaving the site, each day.
4. All other work as shown and specified in the Contract Documents.

The engineer's estimate is **\$1,354,408**.

A mandatory pre-bid site walk will be held onsite at the intersection of California Ave. and 21st Street, San Pablo, CA 94806. Two separate dates are available: October 13, 2021 at 10:30 a.m., or October 14, 2021 at 10:30 a.m. (please attend just one of these site walks.)

Bid opening date: The District will receive sealed bids at the reception area prior to **02:00 P.M., local time, November 1, 2021** at 2910 Hilltop Drive, Richmond, CA 94806. At the deadline, accepted bids will be publicly opened.

Contract Documents are on file and may be examined without charge at the District's Administrative Offices, 2910 Hilltop Drive, Richmond, CA 94806.

Inquiries regarding further information about the Project may be directed to Keith Reynolds Jr., at kreynolds@wcwd.org or (510) 812-8269.

Copies of the Contract Documents may be obtained at the District's Administrative Offices. The Contract Documents may be obtained for a nonrefundable fee of \$50.00 if picked up, or \$60.00 if requested by mail. Payment must be made at the time that the documents are obtained. Make check and/or money order payable to "West County Wastewater District". Credit cards are also accepted.

In accordance with Labor Code section 1725.5, all participating contractors and subcontractors must be registered with the Public Works Contractor Registration program established by the Department of Industrial Relations.

Prospective bidders are directed to the Disadvantaged Business Enterprise (DBE) requirements for bidders as detailed in Section 00 45 27. "Contractors are required to post subcontractor solicitations for a minimum of thirty (30) calendar days before the bid opening date."

Please take notice that, pursuant to Part 7, Chapter 1, Article 2, and Section 1770 et. seq. of the Labor Code of the State of California, the successful bidding contractor and its subcontractors shall pay their labor forces not less than the general prevailing rate of per diem wages as determined by the Director of Industrial Relations, and travel and subsistence pay as such are defined in applicable collective bargaining agreements filed in accordance with Sections 1773.1 and 1773.8 of the Labor Code, for work needed and performed on this Project. Those determinations in effect at the time of publishing this notice are on file at the District's Administrative Offices and may be examined there, and copies of the determinations are available to any interested party on request. The successful bidding contractor shall, pursuant to Section 1773.2 of the Labor Code, post and maintain a copy of the wages' determinations at the project site throughout the duration of the work.

Please take notice that, if the higher of (a) the Engineer's Estimate for the Project or (b) the actual awarded bid amount (not including budget contingencies) exceeds \$1 million, the Project will be subject to the Project Stabilization Labor Agreement for the West County Wastewater District, effective January 1, 2021 ("PSLA"). If the Project is subject to the PSLA, Contractor and all of its subcontractors of all tiers shall be bound by the PSLA by signing the Agreement to be Bound that is attached as Attachment A to the PSLA and must return all signed copies to the District.

The only bids that will be considered must be signed by the prime contractor who proposes to undertake the work and who is properly licensed in accordance with the Contractor's License Law as provided beginning at Section 7000 of the Business and Professions Code of the State of California. The valid license(s) required for the work as follows: follows: Class A (General Engineering Contractor) Class C-34 (Pipeline Contractor.) or Class C-42 (Sanitation System Contractor.) Each bid must be submitted on the forms furnished within the Contract Documents and must be accompanied by a certified or cashier's check or bidder's bond for an amount not less than ten percent of the aggregate total bid.

The Contractor may substitute securities for any funds withheld to ensure performance under this Contract pursuant to Section 22300 of the California Public Contract Code.

The District's Board of Directors reserves the right to reject any or all bids for the work and waive any non-material irregularity in bids received. Dated July 2, 2021 at Richmond, California.

SECTION 00 21 13

INSTRUCTIONS TO BIDDERS

Subsection

1. Preparation and Submission of Proposals
2. Examination of Documents and Explanation to Bidders
3. Site Inspection and Conditions
4. West County Wastewater's Modification of the Documents
5. Registration of Contractors
6. Schedule of Bid
7. Comparison of Proposals
8. Bidder's Statement of Equipment/Material Manufacturers and Suppliers and Statement of Subcontractors
9. Qualification of Bidders
10. Certification of Completion Requirements
11. Proposal Security
12. Bidder's Modification and Withdrawal of Proposals
13. Substitutions
14. Proposal Opening and Award of Contract
15. Relief of Bidders
16. Bonds and Insurance Policies
17. Nondiscrimination in Employment
18. Agreement to Assign (Bidders)
19. Plans and Specifications to Successful Bidders
20. Not Used
21. Bid Protests

Subsection 1. PREPARATION AND SUBMISSION OF PROPOSALS

Proposals shall be submitted on the forms provided. All proposal forms shall be properly executed and all blank spaces shall be filled in. Failure to comply with this requirement may be cause for rejection of the proposal.

The quantities included in the bid proposal are estimates of the work to be completed. West County Wastewater may add work of the same nature to this Contract if the addition is in the best interests of West County Wastewater.

Partial or incomplete proposals will not be considered. Proposals shall be in strict conformity with the approved Contract Documents for Project No. **21CS210**, Basin 7 Pipe Replacement: California Ave, and any Addenda thereto.

The bidder shall submit its proposal prior to the stated closing time. Any proposal received after the stated closing time for receipt of proposals will be marked as to date and time received and returned unopened.

Each proposal shall show the full legal name and business address of the bidder, including street address if it differs from its mailing address, and shall be signed with the usual signature of the person or persons authorized to bind the bidder and shall be dated. Proposals by a partnership or joint venture shall list the full names and addresses of all partners or joint venturers. The state of incorporation shall be stated in and the corporate seal shall be affixed to the proposal to which a corporation is a party as a bidder. The name of each signatory shall be typed or otherwise clearly imprinted below each signature. When requested by West County Wastewater, satisfactory evidence of the authority of any signatory on behalf of the bidder shall be furnished.

The preparation of a proposal shall be by and at the expense of the bidder. The bid submitted must not contain any erasure, interlineation or other corrections unless each correction is suitably authenticated by affixing in the margin immediately opposite the correction the signature or signatures of the person or persons submitting the bid.

Changes in or additions to the bid form, recapitulation of the work bid upon, alternative bids or any other modifications of the bid form which are not specifically called for in the Contract Documents may result in rejection of the bid by West County Wastewater, as not being responsive to the Invitation to Bid. No oral or telephonic modification of any bid submitted will be considered.

Each proposal shall be enclosed in a sealed envelope distinctly marked "Proposal" and bearing West County Wastewater's Project Number, title as given, and the name and address of the bidder.

Proposals shall either be delivered in accordance with Section 00 11 16 Invitation to Bid, or mailed addressed to West County Wastewater, 2910 Hilltop Drive, Richmond, California 94806, Attention: Keith Reynolds Jr. Proposals may be delivered in person to: West County Wastewater, 2910 Hilltop Drive, Richmond, California, during normal business hours, being 08:00 a.m. to 12:00 p.m. and from 01:00 p.m. to 05:00 p.m., Monday through Friday.

Proposals shall be firm for sixty calendar days from and after the stated closing time, or until a Contract is fully executed by West County Wastewater and a bidder, whichever is earlier.

In response to the Invitation to Bid, Section 00 11 16, dated and in accordance with the accompanying Instructions to Bidders, Section 00 21 13, the undersigned hereby proposes to West County Wastewater, to furnish all labor, technical and professional services, supervision, materials, and equipment (other than materials and equipment specified as furnished by West County Wastewater), and to perform all operations necessary and required for construction of West County Wastewater Project No. **21CS210**, Basin 7 Pipe Replacement: California Ave., in accordance with the provisions of Sections 00 01 10 through 02 83 00, Technical Specifications and Contract Documents, inclusive of West County Wastewater's Contract Documents for West County Wastewater Project No. **21CS210**, and any Addenda thereto, and at the prices stated opposite the respective items set forth in Section 00 41 43, Schedule of Bid, attached hereto.

This Proposal constitutes a firm offer to West County Wastewater which cannot be withdrawn for sixty (60) calendar days from the date set for opening of proposals, or until a contract is fully executed by West County Wastewater, whichever is earlier.

It is the intent of West County Wastewater to provide a safe working environment under normal conditions. BECAUSE OF POTENTIALLY HAZARDOUS CONDITIONS SUCH AS POTENTIALLY EXPLOSIVE ATMOSPHERES AND POSSIBLE EXPOSURE TO PATHOGENS, SPECIALIZED EQUIPMENT MAY BE NECESSARY AND STRICT CONFORMANCE WITH SAFETY REGULATIONS WILL BE REQUIRED. THE CONTRACTOR IS HEREBY INFORMED THAT THE MAJORITY OF THE WORK ON THIS PROJECT IS TO BE PERFORMED UNDERWATER AND COULD BE PHYSICALLY DANGEROUS TO WORKERS. THE CONTRACTOR SHALL CAREFULLY INSTRUCT ALL PERSONNEL WORKING ON THIS PROJECT AS TO POTENTIAL DANGERS, WHICH COULD BE POTENTIALLY HAZARDOUS TO WORKERS' HEALTH, AND SHALL PROVIDE SUCH NECESSARY SAFETY EQUIPMENT AND INSTRUCTIONS AS ARE NECESSARY TO PREVENT INJURY TO PERSONNEL AND DAMAGE TO PROPERTY. ALL UNDERWATER WORKERS WILL PROVE PROOF OF THE CORRECT LICENSES AND/OR CERTIFICATIONS FOR THE WORK THEY WILL BE UNDERTAKING. This material should be formally submitted to the prior to the start of work. Workers found to lack proper licenses and/or certifications will not be permitted to work on the project. Attention is further directed to Section 00 72 20, Laws and Regulations.

The undersigned Bidder hereby certifies that it has examined and is fully familiar with all of the provisions of the Contract Documents and any Addenda thereto, has carefully checked all of the words and figures shown on its Schedule of Bid, Section 00 41 13; has carefully reviewed the accuracy of all statements in this Proposal and attachments hereto; and understands and agrees that West County Wastewater will not be responsible for any errors or omissions on the part of the undersigned in preparing this Proposal.

The undersigned Bidder has, by careful examination of the Contract Documents and any Addenda thereto, where applicable, and by examination of the actual site conditions, satisfied itself as to the nature and location of all work, the general and local conditions to be encountered in the performance of any work, the requirements of the Contract, and all other matters which can in any way affect the work or the cost thereof.

The basis of award will be the lowest total bid submitted by a contractor found to be responsive and responsible. Failure to provide three qualified client references for completed public contracts for

construction work of a similar size and nature (Ref: Client References), or a contractor with an EMR rating in excess of 1.1 will cause the contractor to be judged non responsible and his bid rejected.

If awarded the Contract, the undersigned agrees to execute and deliver to West County Wastewater within ten (10) calendar days after receipt of West County Wastewater's Notice of Award, the Contract and the necessary Performance Bond, Payment Bond, Construction Schedule and policies of insurance in accordance with the Contract Documents.

Attached hereto and by this reference incorporated herein and made a part of this Proposal are the following forms from the Contract Documents, which have been completed and executed by the undersigned Bidder:

Section 00 21 13	Instructions to Bidders
Section 00 41 43	Schedule of Bid
Section 00 43 13	Bid Security Form (Bidder's Bond)
Section 00 43 33	Bidder's Statement of Equipment/Materials Suppliers
Section 00 43 34	Major Equipment Manufacturer Substitutions
Section 00 43 36	Bidder's Statement of Subcontractors
Section 00 45 13	Bidder's Statement of Qualifications
Section 00 45 16	Certificate Regarding Completion Time
Section 00 45 17	Contractor Safety Acknowledgement
Section 00 45 18	Certificate Regarding Inspection of Contract Documents and Site
Section 00 45 19	Non-Collusion Declaration
Section 00 45 26	Workers' Compensation Certification

The undersigned Bidder acknowledges receipt, understanding and full consideration of the following Addenda to the Contract Documents: Addenda No(s). _____.

There is enclosed herewith a proposal security in the form of a Bidder's Bond in favor of, or a certified check, or a cashier's check payable to West County Wastewater in an amount not less than ten (10) percent of the amount of the Proposal total as set forth in the Schedule of Bid, Section 00 41 13, which shall be and remain the property of West County Wastewater in the event of failure of the undersigned to execute and deliver the Contract and to furnish the necessary bonds and certificates and endorsements of insurance in accordance with the Procurement Form Supplements, Section 00 43 00, Representations and Certifications, Section 00 45 00, Contract Forms, Section 00 52 00 and Bond

Forms, Section 00 61 00 of the Contract Documents. It is further understood by the undersigned that such failure will cause substantial injury to West County Wastewater, including delay in its construction program, which is not easily reduced to monetary terms; and it is, therefore, agreed that the amount of the Bidder's Proposal security is to be considered as liquidated damages for such injury and will be retained by West County Wastewater in the event of such a failure.

The undersigned Bidder certifies that it is now licensed in accordance with the provisions of the Contractor's License Law of the State of California, and the number of said license is _____, and the classification of said license is _____, and the said license expires _____. The undersigned Bidder certifies that it is now registered with the Public Works Contractor Registration program established by the Department of Industrial Relations, in accordance with SB 854, and the number of said registration is _____, and the said registration expires _____. The undersigned Bidder certifies that its subcontractor(s) is/are now licensed in accordance with the provisions of the Contractor's License Law of the State of California, and the number of said license is _____, and the classification of said license is _____, and the said license(s) expire(s) _____. The undersigned Bidder certifies that its subcontractor(s) is/are now registered with the Public Works Contractor Registration program established by the Department of Industrial Relations, in accordance with SB 854, and the number of said registration(s) is/are _____, _____, and the said registration(s) expire(s) _____, _____.

BIDDER:

Company Name,

Business Address

By _____

Authorized Signature

Type or Print Name

Title

Dated _____

Corporate Seal, State of Incorporation:
(if Bidder is a Corporation)

Subsection 2. EXAMINATION OF DOCUMENTS AND EXPLANATION TO BIDDERS

Any bidder planning to submit a proposal is responsible for examining with appropriate care the complete Contract Documents, including all Addenda, and is also responsible for being informed with respect to all conditions which might in any way affect the cost or the performance of any work. Failure to do so will be at the sole risk of the bidder, and no relief can be given for errors or omissions by the bidder.

All questions relative to the Contract Documents shall be in writing, submitted in compliance with the timeline provided in Section 00 11 16 and shall be directed to Keith Reynolds Jr., West County Wastewater, 2910 Hilltop Drive, Richmond, California 94806. Questions may also be sent via e-mail to Keith Reynolds Jr., kreynolds@wcwd.org.

Should the bidder find discrepancies in or omissions from the Contract Documents, or should the intent or meaning of the documents appear unclear or contain patent ambiguities, the bidder shall at once notify West County Wastewater of such findings. Questions received less than five calendar days prior to the date for opening of the bids may not be answered. The bidder making such request shall be solely responsible for its timely receipt by West County Wastewater. Replies to such findings may be made in the form of addenda which will be issued simultaneously to all persons who have obtained a copy of the Contract Documents from West County Wastewater. Only questions answered by formal written addenda will be binding.

The bidder confirms it has familiarized itself with the Contract Documents and has found them fit and sufficient for the purpose of preparing its bid. By submission of its bid, the successful bidder agrees that it has familiarized itself with the provisions of Section 00 72 03, Discovery of Errors, Omissions, or Discrepancies in the Contract.

Copies of the Contract Documents, where applicable, are available for examination without charge during normal business hours (08:00 a.m. to 12:00 p.m. and 01:00 p.m. to 05:00 p.m., Monday through Friday) at:

West County Wastewater
2910 Hilltop Drive
Richmond, California 94806

At the time each bidder obtains a copy of the documents, it shall designate the email address to which written addenda are to be sent, the facsimile number to which faxed addenda are to be sent and the telephone number to which telephonic notices are to be made.

Subsection 3. SITE INSPECTION AND CONDITIONS

It is the intent of West County Wastewater to provide a safe working environment under normal conditions. BECAUSE OF POTENTIALLY HAZARDOUS CONDITIONS SUCH AS POTENTIALLY EXPLOSIVE ATMOSPHERES AND POSSIBLE EXPOSURE TO PATHOGENS, SPECIALIZED EQUIPMENT MAY BE NECESSARY AND STRICT CONFORMANCE WITH SAFETY REGULATIONS WILL BE REQUIRED. THE CONTRACTOR IS HEREBY INFORMED THAT THE MAJORITY OF THE WORK ON THIS PROJECT IS TO BE PERFORMED UNDERWATER AND COULD BE PHYSICALLY DANGEROUS TO WORKERS. THE CONTRACTOR SHALL CAREFULLY INSTRUCT ALL PERSONNEL WORKING ON THIS PROJECT AS TO POTENTIAL DANGERS, WHICH COULD BE POTENTIALLY HAZARDOUS TO WORKERS' HEALTH, AND SHALL PROVIDE SUCH NECESSARY SAFETY EQUIPMENT AND INSTRUCTIONS AS ARE NECESSARY TO PREVENT INJURY TO PERSONNEL AND DAMAGE TO PROPERTY. ALL UNDERWATER WORKERS WILL PROVE PROOF OF THE CORRECT LICENSES AND/OR CERTIFICATIONS FOR THE WORK THEY WILL BE UNDERTAKING. This material should be formally submitted to the prior to the start of work. Workers found to lack proper licenses and/or certifications will not be permitted to work on the project. Attention is further directed to Section 00 72 20, Laws and Regulations.

In addition to examination of the Contract Documents, each prospective bidder shall become fully informed regarding all existing and expected conditions and matters which could affect any work or performance of any work in any way, and especially the cost of performing any work. The project may be visited and conditions discussed at the pre-bid conference set forth in Section 00 11 16, Invitation to Bid.

The records of this effort are not part of the Contract, and are made available for inspection solely for the convenience of the prospective bidders. Neither West County Wastewater nor Engineer assumes any responsibility for the sufficiency or accuracy of the investigations made and there is no representation, warranty, or guarantee that the conditions indicated in the report are correct or representative. The prospective bidder may, upon written request, inspect this report at West County Wastewater's Administrative Offices.

Any failure to fully investigate the sites or the foregoing conditions shall not relieve the bidder from responsibility for estimating properly the difficulty or cost of successfully performing any work. Neither West County Wastewater nor any of its representatives or agents assumes any responsibility for any understanding or representation made by West County Wastewater or any of its representatives or agents prior to the execution of a Contract pursuant to the Contract Documents.

Subsection 4. WEST COUNTY WASTEWATER'S MODIFICATION OF THE DOCUMENTS

West County Wastewater may modify any provision or part of the document at any time prior to three calendar days before closing time, provided that the closing time set forth in Section 00 11 16, Invitation to Bid, may be extended by West County Wastewater at any time prior to said closing time. Such revisions, if any, will be in the form of addenda which will be issued as set forth in Section 00 21 13, Subsection 2, Examination of Documents and Explanation to Bidders.

Addenda issued during the time of bidding shall become a part of the documents furnished bidders for the preparation of bids, shall be covered in the bids and shall be made a part of the Contract. Each bid shall include a specific acknowledgment in the space provided for receipt of all Addenda issued during the bidding period. Failure to so acknowledge may result in the bid being rejected as non-responsive. Failure of any bidder to receive such addenda shall not be grounds for non-compliance with the terms of the instructions.

Subsection 5. REGISTRATION OF CONTRACTORS

All bidders shall be licensed under the provisions of Chapter 9, Division 3, or the Business and Professions Code of the State of California to do the type of work contemplated in the project and shall be skilled and regularly engaged in the general class or type of work called for under the Contract.

In accordance with SB 854, all participating contractors and subcontractors must be registered with the Public Works Contractor Registration program established by the Department of Industrial Relations. Each bidder shall set forth in its proposal the number, and date of expiration.

Subsection 6. SCHEDULE OF BID

Bids shall be prepared on the forms contained in Section 00 41 43, Schedule of Bid. The Total Base Bid shall constitute full compensation for furnishing all materials and doing all work indicated on the drawings or herein specified.

Bidders are advised that a potential exists for the performance of extra work and furnishing of materials by the Contractor which is required for the proper completion of the work or construction of the whole of the project as originally contemplated.

Subsection 7. COMPARISON OF PROPOSALS

Proposals will be compared on the basis of the Total Base Bid stated in Section 00 41 43, Schedule of Bid.

For the purpose of initial evaluation of bids, the following will be utilized in resolving arithmetic discrepancies found on the face of the bidding schedule as submitted by bidders:

- a. In case of discrepancy between unit price and extended price, the unit price will govern and will be used to correct the extension of unit prices.
- b. Apparent errors in addition of lump-sum and extended prices will be corrected.
- c. If no monetary symbol (\$ or ¢) is entered with a unit price, lump sum, or extension, a dollar sign (\$) will be assumed to be the bidder's intent.

Unless the bid is corrected for arithmetic errors as discussed above, then in the event that there is a discrepancy in the proposal between the lump-sum price or extended unit price written in words and indicated in figures, the price written in words shall govern.

West County Wastewater agrees to examine and consider each bid submitted in consideration of the bidder's agreements, as herein above set forth and as set forth in the proposal forms.

Any proposal which, in the opinion of West County Wastewater, is so unbalanced between the various Contract items as to be detrimental to the best interests of West County Wastewater, will be rejected.

Subsection 8. BIDDER'S STATEMENT OF EQUIPMENT/MATERIAL MANUFACTURERS AND SUPPLIERS AND STATEMENT OF SUBCONTRACTORS

In the form entitled Bidder's Statement of Equipment/Material Manufacturers and Suppliers, provided within Section 00 43 33, each bidder must submit the name of each person, company, or firm who will, off the job site, specially fabricate and/or provide materials or equipment proposed to be furnished under the bid.

In the form entitled Bidder's Statement of Subcontractors, provided within Section 00 43 36, the bidder shall submit the name and location of the place of business of each subcontractor who will perform work or labor or render service to the prime contractor in or about the construction of the work or improvement, or a subcontractor licensed by the State of California who under subcontract to the prime contractor specially fabricates and installs a portion of the work or improvement according to detailed drawings contained in the Plans Specifications, in an amount in excess of one-half of one percent of the proposal total or five thousand dollars, whichever is greater, as set forth in the Schedule of Bid, Section 00 41 43. The prime contractor shall indicate the portion which will be done by each such contractor for each such portion as its defined by the subcontractor in its bid.

Failure to list subcontractors in the Bidder's Statement of Subcontractors Section 00 43 36 is an express statement by the bidder that it will perform that portion of the work with its own forces. Any request for substitution of a listed subcontractor must be made as provided in the Public Contract Code Section 4107. The prime contractor may not substitute any person or subcontractor for a listed subcontractor without first obtaining written permission of the West County Wastewater's Board of Directors.

Subsection 9. QUALIFICATION OF BIDDERS

Each bidder shall examine the site and submit with its proposal a financial responsibility, technical ability, and experience statement, substantially in the form included as Section 00 45 13, Bidder's Statement of Financial Responsibility, Technical Ability, and Experience.

If bidder is a corporation, it shall submit its state of incorporation in addition to its business address; if a partnership or joint venture, full names of all partners or joint venturers shall be given in the form included in the Proposal, Section 00 52 00.

West County Wastewater expressly reserves the right to reject any proposal if it determines that the bidder's business and technical organization, financial resources, plant and equipment to be used in performing work, or lack of successful experience in performing work, or lack of successful experience in performing work of similar type and magnitude, is such that it is not in the West County Wastewater's best interest to accept the bidder's proposal.

Contractors or subcontractors who have been determined to have violated any public work laws as set forth in Labor Code Section 1777.7 shall be denied the privilege to bid the work as provided therein.

Subsection 10. CERTIFICATION OF COMPLETION REQUIREMENTS

Each bidder shall submit, as part of its proposal, a completed and executed certificate pertaining to the acceptability of the construction time frame as set forth in Section 00 45 16, Certificate Regarding Completion Time.

The Contract time for this work shall be deemed to start five (5) calendar days from the date of the Notice to Proceed. **At the time of Bid, the Contractor must submit a detailed construction phasing schedule in accordance with Section 00 45 16, certificate REGARDING COMPLETION TIME. Notice to Proceed will not be issued until a reasonable construction schedule is submitted to West County Wastewater.**

Subsection 11. PROPOSAL SECURITY

No proposal will be considered unless it is accompanied by proposal security in the form of a certified check or a cashier's check, payable to the order of West County Wastewater, for a sum not less than ten percent of the proposal total as set forth in the Schedule of Bid, Section 00 41 43, or a bidder's bond in the same amount executed as surety by a corporation acceptable to West County Wastewater and authorized to issue such surety bond in the State of California. Such bond shall be in substantial conformity with the form included as Section 00 43 13, Bidder's Bond. Payment of the proposal security in cash is not acceptable.

Within fifteen calendar days after execution of the Contract pursuant to the Contract Documents, and in any event not later than seventy calendar days after the proposal opening, West County Wastewater will return to each bidder the proposal security which accompanied its proposal, except such security which may have been forfeited in accordance with the provisions of the Contract Documents.

Subsection 12. BIDDER'S MODIFICATION AND WITHDRAWAL OF PROPOSALS

A bidder may, without prejudice to itself, modify or withdraw its proposal by written request, provided that the request is received by West County Wastewater prior to the closing time, at the place where the proposals are to be opened. Following withdrawal of its proposal, the bidder may submit a new proposal, provided that such new proposal is received prior to the stated bid opening date as provided in Section 00 11 16, Invitation to Bid.

Subsection 13. SUBSTITUTIONS

Proposals for substitution of materials, methods, and alternatives thereto not specified in the Specifications shall be submitted in writing to West County Wastewater. Failure to submit requests for substitutions will be considered as evidence that the work will be accomplished with materials and by methods specified and in a manner approved by West County Wastewater.

Subsection 14. PROPOSAL OPENING AND AWARD OF CONTRACT

Proposals will be kept unopened until the time stated for opening of proposals. At such time, the contents of the proposal will be made public. No responsibility shall attach to West County Wastewater or any of its officers, employees, or representatives for the premature opening of a proposal. All bidders or their authorized representatives are invited to be present at the proposal opening.

If award is made, it will be based on the lowest responsive, responsible bid whose base bid is the lowest.

The right is reserved, as the interest of West County Wastewater may require, to reject any or all proposals and to waive any informality in proposals received.

Within sixty days after the time of opening of the bids, West County Wastewater will act either to accept a bid, to reject all bids or with the consent of the bidders and their sureties to extend the time in which West County Wastewater may act. The acceptance of a bid will be evidenced by a Notice of Award of Contract in writing, delivered in person or by certified mail to the bidder whose bid is accepted. No other act of West County Wastewater will constitute acceptance of a bid. The Award of Contract shall obligate the bidder whose bid is accepted to furnish performance and payment bonds and evidences of insurance, and to execute the Agreement in the form set forth in the Contract Documents. The Contract will require the completion of the Work according to the Contract Documents.

The Agreement shall be executed by the successful bidder and returned, together with the Contract bonds and evidences of insurance, within the specified time period after receiving written Notice of Award of the Contract. Time is of the essence in this regard. After execution by the owner, one copy of the Agreement shall be returned to Contractor.

The failure of any bidder to whom West County Wastewater may award the Contract, as aforesaid to sign and return to West County Wastewater, the Contract together with the required Performance Bond, Payment Bond, and insurance certificates and endorsements the specified time period, shall entitle West County Wastewater to declare a breach of Contract by such bidder, to award the Contract to another bidder in accordance with the provisions of the Contract Documents, and to declare a forfeiture of the bidder's proposal security accompanying its proposal.

In the event of such failure, West County Wastewater will suffer damage, the amount of which is difficult, if not impossible, to ascertain, and West County Wastewater shall therefore be entitled to retain the amount of such cashier or certified check, submitted by the bidder as proposal security, or to enforce the provisions of the Bidder's Bond in the amount thereof, as liquidated damages for such breach of Contract, as provided by applicable law.

Subsection 15. RELIEF OF BIDDERS

Should a bidder claim a mistake was made in its bid, the bidder shall give West County Wastewater written notice within five calendar days after proposal opening of the alleged mistake, and detail in

said notice the circumstances under which the mistake occurred all in accordance with Public Contract Code, Section 5103. Final determination of relief of bidders shall be made by West County Wastewater's Board. Should West County Wastewater's Board accept the bidder's claim for relief, the bidder will be released from all obligations and further requirements and its proposal security will be returned as applicable.

Subsection 16. BONDS AND INSURANCE POLICIES

All bids or bids shall be accompanied by a cashier's or certified check payable to the order of the West County Wastewater amounting to ten percent (10%) of the bid, or by a bond in said amount and payable to said West County Wastewater signed by the bidder and a corporate surety. Said check shall be forfeited or said bond shall become payable to said Owner in case the bidder depositing same does not, within ten (10) days after written notice that the contract has been awarded to him: (a) enter into a contract with the Owner, and (b) furnish certificates of insurance, a bond of faithful performance and a payment bond as described in the Specifications.

The bidder to whom the contract award is made shall, at the time of execution of the Contract, furnish to West County Wastewater a Performance Bond and a Payment Bond, executed as surety by a corporation acceptable to West County Wastewater and authorized to issue such surety bonds in the State of California. Such bonds shall be substantially in the form included in Section 00 61 13, Performance Bond and Section 00 61 14, Payment Bond. Such Performance Bond and Payment Bond shall be for one hundred percent of the proposal total as set forth in the Schedule of Bid, Section 00 41 43. The entire cost of these bonds shall be borne by the successful bidder.

If the surety on any bond furnished by the Contractor is declared bankrupt, or becomes insolvent, or its right to do business is terminated, or it ceases to meet the requirements of the above paragraph, the Contractor shall, within five calendar days thereafter, notify West County Wastewater and substitute another bond and surety, both of which must be acceptable to West County Wastewater.

Subsection 17. NONDISCRIMINATION IN EMPLOYMENT

Contracts for work under this Proposal will obligate the Contractor and subcontractors not to discriminate in employment practices.

Subsection 18. AGREEMENT TO ASSIGN (BIDDERS)

The bidder's attention is directed to the provisions of Government Code, Section 4552, which requires that in submitting a bid to a public purchasing body, bidders offer to assign all rights arising from violations of antitrust regulations to the public entity if the bid is accepted. In pertinent part, Government Code, Section 4552, reads as follows:

In submitting a bid to a public purchasing body, the bidder offers and agrees that if the bid is accepted, it will assign to the purchasing body all rights, title, and interest in and to causes of action it may have under Section 4 of the Clayton Act (15 U.S.C. Sec 15) or under the Cartwright Act (Chapter 2 [commencing with Section 16700] of Part 2 of Division 7 of the Business and Professions Code), arising from the purchase of goods, materials, or services by the bidder for sale to the purchasing body pursuant to the bid. Such assignment shall be made and become effective at the time the purchasing body tenders final payment to the bidder.

Subsection 19. PLANS AND SPECIFICATIONS TO SUCCESSFUL BIDDERS

The bidder to whom award is made may obtain four (4) sets of Plans and Specifications for the work at no extra costs. Additional sets may be purchased at \$50.00 per set. It is the Contractor's responsibility to provide its own set(s) of conformed Plans and Specifications.

Subsection 20. NOT USED

Subsection 21. BID PROTESTS

Any Bid Protest of the proposed award of Contract to the Bidder with the lowest responsive bid must be submitted in writing to West County Wastewater, no later than 5:00 pm on the fifth business day following the date of the bid opening. All Bid Protests shall comply with the following procedures:

1. The initial Bid Protest must contain a complete statement of the basis for the Protest.
2. The Bid Protest must state the facts and refer to the specific portions of the document or the specific statutes that form the basis for the Bid Protest. The Bid Protest must include the name, address and telephone number of the the person representing the protesting party.
3. The party filing the Bid Protest must concurrently transmit a copy of the initial protest to the bidder deemed the lowest bidder.
4. The party filing the protest must have submitted a Bid on the project. A subcontractor of a party filing a bid on the project may not submit a Bid Protest.
5. The procedure and time limits set forth in this Subsection are mandatory and are the Bidder's sole and exclusive remedy in the event of a Bid Protest. The bidder's failure to fully comply with these procedures shall constitute a waiver of any right to further pursue the Bid Protest, including the filing of a challenge of the award pursuant to the California Public Contracts Code, the filing of a claim pursuant to the California Governemtn Code, or filing of any other legal proceedings.
6. West County Wastewater shall review all timely Bid Protests prior to formal award of the Contract. West County Wastewater shall not be required hold an administrative hearing to consider a timely Bid Protest, but may do so at the discretion of the General Manager.
7. These Bid Protest procedures shall not limit West County Wastewater's Board of Directors' ability to reject all bids.

END OF SECTION 00 21 13

SECTION 00 41 43 SCHEDULE OF BID

Schedule of Prices for Construction of Project No. 21CS210, Basin 7 Pipe Replacement: California Ave.

The undersigned bidder hereby offers, in the amount stated below, to furnish all labor, materials, equipment and tools, for the execution of the work. The undersigned bidder hereby agrees to enter into a Contract for Project No. 21CS210, if this offer is accepted by the West County Wastewater.

Item No.	Description	Quantity	Unit	Unit/LS Price	Amount
1.	Mobilization and demobilization, as described and specified, per lump sum (LS.)	LS	LS		
2.	Replace three thousand seven hundred and fifty six (3,756) LF of underground 8" HDPE pipe, using pipe bursting methods, per lineal foot (LF.)	3,756	LF		
3.	Replace twelve (12) manholes, per each (EA.)	12	EA		
4.	Reconnect seventy eight (78) laterals, per each (EA.)	78	EA		
5.	Additive Alternate #1 (May be deleted by District – Do not include in the total base bid price shown on the last page of Section 00 41 43) + Replace five (5) manholes, per each (EA.)	5	EA		
6.	Additive Alternate #2 (May be deleted by District – Do not include in the total base bid price shown on the last page of Section 00 41 43) + Reconnect ten (10) laterals, per each (EA.)	10	EA		

Item No.	Description	Quantity	Unit	Unit/LS Price	Amount
7.	Additive Alternate #3 (May be deleted by District – Do not include in the total base bid price shown on the last page of Section 00 41 43) + Open Cut per (1,000) LF of trench, per lineal foot (LF)	1,000	LF		

Total Base Bid (**Items 1, 2, 3 & 4 ONLY**) all work incidental thereto and connected therewith):

(Enter Bid Numerically) \$ _____

Total Base Bid in Words: _____ dollars
and _____ cents

Total Add Alternates, Bid (**Items 5, 6 & 7 ONLY**) all work incidental thereto and connected therewith):

(Enter Bid Numerically) \$ _____

Total Add Alternates Bid in Words: _____ dollars
and _____ cents

In case of discrepancy between words and figures, the words shall prevail. The basis of contract award shall be the lowest responsive responsible base bid total.

Signed: _____
Bidder

(continued on next page)

References

Provide a minimum of three (3) client references. To be considered responsive to this requirement references must be for successfully completed underwater work of a similar nature with a construction value of \$50,000 or greater. The work must have been performed for a Public Sector entity within California in the last 10 years under a public construction contract. References for which the bidder was a subcontractor on a public contract and the subcontract meets the criteria are to provide the public client's contact information not the general contractor's contract information.

Provide the designated client contact name, title, organization, address, telephone number, and a description of the project that was completed, with a filed notice of completion, under that client's overall direction. Failure to provide three (3) references which meet the qualifying criteria listed above may result in the bidder being disqualified for contract award.

1. Client Name: _____ Pass: ___ Fail: ___

Client Address: _____

Project Name: _____

Project Description: _____

Project Value: _____ Year Completed: _____

Client Contact: _____

Telephone Number: _____ Email: _____

2. Client Name: _____ Pass: ___ Fail: ___

Client Address: _____

Project Name: _____

Project Description: _____

Project Value: _____ Year Completed: _____

Client Contact: _____

Telephone Number: _____ Email: _____

3. Client Name: _____ Pass: ___ Fail: ___

Client Address: _____

Project Name: _____

Project Description: _____

Project Value: _____ Year Completed: _____

Client Contact: _____

Telephone Number: _____ Email: _____

GROUP 00 43 00

PROCUREMENT FORM SUPPLEMENTS

Section

- 00 43 13 Bid Security Form (Bidder's Bond)
- 00 43 33 Bidder's Statement of Equipment and Material Suppliers
- 00 43 34 Major Equipment Manufacturer Substitutions
- 00 43 36 Bidder's Statement of Subcontractors
- 00 43 93 Bid Submittal Checklist

SECTION 00 43 13
BID SECURITY FORM
(Bidder's Bond)

We, _____ as Principal, _____ and as Surety, are firmly held and bound unto the West County Wastewater, a municipal district organized and existing under the laws of the state of California, sometimes referred to as WCW, in the sum of \$_____ (which is a sum not less than ten percent of the amount of the accompanying Proposal total) for the payment of which we bind ourselves, our heirs, executors, administrators, successors, and assigns jointly and severally, firmly by these presents.

THE CONDITION OF THIS OBLIGATION IS SUCH THAT, WHEREAS, the Principal has submitted to West County Wastewater the accompanying proposal under a public Notice to Contractors inviting sealed bids for West County Wastewater Project No. **21CS210**, Basin 7 Pipe Replacement: California Ave., in San Pablo, Contra Costa County, California.

NOW, THEREFORE, if the accompanying Proposal of the Principal is accepted and award be made by West County Wastewater to the Principal; and if the Principal withdraws said Proposal within the period specified in said Proposal during which period said Proposal cannot be withdrawn, or if the Principal shall fail, refuse, or neglect for any reason whatsoever within ten calendar days after receipt from West County Wastewater's of Notice of Award of the Contract to enter into the Contract with West County Wastewater in accordance with the Principal's proposal and the Instructions to Bidders, Section 00 21 13, for said Project, and to give bonds with good and sufficient surety, and to furnish the policies of insurance as stated in said proposal and the Instructions to Bidders for said Project, then the sum guaranteed by this Bond is forfeited to the West County Wastewater.

It is agreed between Principal and Surety that such failure or neglect would result in substantial injury to West County Wastewater which is not easily reduced to monetary terms; and it is, therefore, agreed that the amount of the Bidder's Proposal security is to be considered by Principal and Surety as liquidated damages for such injury. In the event suit is brought upon this Bond by West County Wastewater and judgment is recovered, the Surety or Sureties shall pay all costs incurred by West County Wastewater in such suit, including attorneys' fees to be fixed by the court.

Dated _____,

Principal (Authorized Signature)

Business Address

In the presence of:

Business Address

SEAL

Surety (Authorized Signature)

Business Address
of Local Representative

In the presence of:

Business Address of Home Office
of Surety Company

SEAL

SECTION 00 43 33
BIDDER'S STATEMENT OF EQUIPMENT AND MATERIAL SUPPLIERS

The Contractor shall indicate opposite each item of equipment or material listed below, the name of the manufacturer or supplier of the equipment or material proposed to be furnished under the Bid as listed below or for any items exceeding five thousand dollars in value. Failure to comply with this requirement may render the proposal non-responsive and cause its rejection. Awarding of a contract under this Bid Proposal will not imply approval by West County Wastewater of the manufacturers or suppliers listed by the Contractor. West County Wastewater retains the right to reject the equipment or material listed by the Contractor if, in its discretion, the equipment or material does not comply with the Specifications.

The Contractor will not be allowed to propose changes or substitutions in the equipment and materials to be supplied or the manufacturer or supplier of said materials after the opening of the Bid Proposal without first having received written approval of West County Wastewater.

Equipment and/or
Material Description

Name of Supplier, Fabricator,
or Manufacturer, Location of Corporate Headquarters

Signed _____
Bidder

SECTION 00 43 34

Any Manufacturer, including those not listed as an acceptable manufacturer, may be listed as a substitution.

The Bidder understands that after a contract is awarded, the Owner may, at his sole discretion, select items of any Manufacturer listed in the following substitute tabulation. If awarded the contract, the Bidder agrees to furnish and install any substitutions listed for the price indicated. The BASE BID will then be adjusted accordingly.

The Engineer may require detailed information to be submitted for preliminary evaluation of a substitute Manufacturer. This information could include equipment technical and performance details and other information deemed necessary by the Engineer and/or as described in the contract specification.

If a contract includes items of equipment of any Manufacturer which may require any modification or deviation from the plans, the undersigned agrees to prepare and submit detailed drawings to the Engineer showing all modifications in structures, piping, electrical and mechanical work, required to adapt the plans to the equipment selected. The Bidder further understands that the Engineer will review said detailed drawings of modifications and either approve them or indicate thereon changes necessary to comply with the project requirements. Detailed drawings which are not approved will be revised, then resubmitted to the Engineer for approval. If it is determined by the Engineer that the substitute equipment is not approved, then the original base bid equipment must be provided. The prices listed in the following tabulation are "installed" prices and take into consideration any changes that may be required.

SUBSTITUTION

Equipment Item

Manufacturer

Add (Deduct)
From Base Bid

SECTION 00 43 36
BIDDER'S STATEMENT OF SUBCONTRACTORS

In accordance with the requirements of Section 00 21 13, Subsection 8, Instructions to Bidders, the undersigned Bidder submits herewith a list of subcontractors whom it proposes to employ on the work, with the proper firm name and business address of each, and the portion of the work to be done by each with the understanding that failure to name such subcontractors shall be witness that it shall have agreed to perform such portion of the work itself and that it shall not subcontract said portion of the work, and that such subcontracted work listed herein will not be performed by others, without first obtaining written permission of West County Wastewater's Board of Directors pursuant to provisions of Section 4107 of the Public Contract Code.

Subcontractor Name	CSLB Lic. No. & DIR Reg. No.	Business Address	Description of Work to be Done	% of Project

Signed: _____
Bidder

SECTION 00 43 93
BID SUBMITTAL CHECKLIST

<u>Item #</u>	<u>Description</u>	<u>Item Completed</u>
1	Complete the Addenda Acknowledgement section listed on page 5 of the <u>Instructions to Bidders</u> , Section 00 21 13 <i>(leave the line blank if no addendum has been issued)</i>	<input type="checkbox"/>
2	Complete the CSLB, DIR and Bidder's information sections listed on page 5 of the <u>Instructions to Bidders</u> , Section 00 21 13	<input type="checkbox"/>
3	Complete the <u>Schedule of Bid</u> Section, Section 00 41 43	<input type="checkbox"/>
4	Complete the sections shown in the <u>Bid Security Form (Bidder's Bond)</u> Section, Section 00 43 13 and provide the bid bond	<input type="checkbox"/>
5	Complete the section shown in the <u>Bidder's Statement of Equipment / Materials Suppliers</u> Section, Section 00 43 33	<input type="checkbox"/>
6	Complete the section shown in the <u>Major Equipment Manufacturer Substitutions</u> Section, Section 00 43 34 <i>(leave the lines blank if no substitutions are being proposed)</i>	<input type="checkbox"/>
7	Complete the section shown in the <u>Bidder's Statement of Subcontractors</u> Section, Section 00 43 36 <i>(leave the lines blank if no subcontractors will be utilized)</i>	<input type="checkbox"/>
8	Complete the section shown in the <u>Bidder's Statement of Qualifications</u> Section, Section 00 45 13	<input type="checkbox"/>
9	Complete the section shown in the <u>Certificate Regarding Completion Time</u> Section, Section 00 45 16	<input type="checkbox"/>
10	Complete the section shown in the <u>Contractor Safety Acknowledgment</u> Section, Section 00 45 17	<input type="checkbox"/>
11	Complete the section shown in the <u>Certificate Regarding Inspection of Contract Documents and Site</u> Section, Section 00 45 18	<input type="checkbox"/>
12	Complete the section shown in the <u>Non-collusion Declaration</u> Section, Section 00 45 19	<input type="checkbox"/>
13	Complete the section shown in the <u>Workers' Compensation Certification</u> Section, Section 00 45 26	<input type="checkbox"/>

GROUP 00 45 00
REPRESENTATIONS AND CERTIFICATIONS

Section

- 00 45 10 Instructions to Awardees
- 00 45 13 Bidder's Statement of Qualifications
- 00 45 16 Certificate Regarding Completion Time
- 00 45 17 Contractor Safety Acknowledgement
- 00 45 18 Certificate Regarding Inspection of Contract Documents and Site
- 00 45 19 Non-Collusion Declaration
- 00 45 26 Workers' Compensation Certification

SECTION 00 45 10
INSTRUCTIONS TO AWARDEE

A. Award and Execution of Contract

The successful bidder will be notified in writing by West County Wastewater's of Award of Contract within Sixty (60) calendar days after opening of proposals. Accompanying West County Wastewater's Notice of Award will be the Contract, in duplicate, which the successful bidder will be required to sign and return together with the Performance Bond, Payment Bond, and the required number of copies of insurance certificates and endorsements to West County Wastewater within fourteen (14) calendar days following receipt of such Notice of Award. West County Wastewater will promptly determine whether such Contract, bonds, and insurance certificates and endorsements are as required by the Contract Documents, and upon such determination will forward a fully signed copy of the Contract to the successful bidder. West County Wastewater may issue a Notice to Proceed at any time prior to forwarding the Contract. No work shall be performed at the site prior to the date set forth in the Notice to Proceed. The failure of any bidder to whom West County Wastewater may award the Contract, as aforesaid to sign and return to West County Wastewater, the Contract together with the required Performance Bond, Payment Bond, and insurance certificates and endorsements within the specified time period, shall entitle West County Wastewater to declare a breach of Contract by such bidder, to award the Contract to another bidder in accordance with the provisions of the Contract Documents, and to declare a forfeiture of the bidder's proposal security accompanying its proposal.

B. Bonds and Insurance Policies

The Bidder to whom the contract award is made shall, at the time of execution of the Contract, furnish to West County Wastewater a Performance Bond and a Payment Bond, executed as surety by a corporation acceptable to West County Wastewater and authorized to issue such Surety Bonds in the state of California. Such bonds shall be substantially in the form included in Sections 00 61 13 and 00 61 14 respectively, of the Contract Documents. Such Performance Bond and Payment Bond shall be for one hundred percent of the Proposal total as set forth in the Schedule of Bid, Section 00 41 43. The entire cost of these bonds shall be borne by the successful Bidder.

If the Surety on any bond furnished by the Contractor is declared bankrupt, or becomes insolvent, or its right to do business is terminated, or it ceases to meet the requirements of the above paragraph, the Contractor shall, within five calendar days thereafter, notify West County Wastewater and substitute another bond and surety, both of which must be acceptable to West County Wastewater.

The successful Bidder shall at the time of execution of the Contract deliver to West County Wastewater one copy of policies of insurance obtained in accordance with the requirements of the Contract Documents.

C. Workers' Compensation Statement

The Bidder to whom the Contract Award is made shall, at the time of execution of the Contract, furnish to West County Wastewater a statement certifying compliance with the workers' compensation provision of the California Labor Code. Such certification shall be substantially in the form included in Section 00 45 26 of the Contract Documents.

SECTION 00 45 13
BIDDER'S STATEMENT OF QUALIFICATIONS

The undersigned Bidder submits, as a part of its Bid, the following statements as to its qualifications. The Bidder certifies that all statements and information set forth below are true and accurate.

A. The Bidder has been engaged in the contracting business under its present business name for _____ years.

B. Experience in work of a nature similar in type and magnitude to that set forth in the Contract Documents extends over a period of _____ years.

C. The Bidder, as prime contractor, has satisfactorily completed all contracts awarded to it, except as follows: (Name any and all exceptions and reasons therefore. Bidder shall attach and designate additional pages if necessary.)

D. The undersigned Bidder submits herewith a statement of its financial responsibility and hereby authorizes the below named banks, companies, and institutions to release financial status information to West County Wastewater for the sole purpose of evaluating financial responsibility in conjunction with the proposal submitted for this Project.

Bank, Surety Company,
or Other Institution

Branch of Office
Address

E. If your firm has had a contract terminated in the last five (5) years, describe such incident on a separate sheet signed by a firm principal. If not, please provide as part of the bid submission package, a letter, signed by a firm principal, stating your firm has NOT had a contract terminated in the last five (5) years. Termination for default is defined as notice to stop performance due to the Contractor's non-performance or poor performance and the issue of performance was either (a) not litigated due to inaction on the part of the Contractor or (b) litigated and such litigation determined that the Contractor was in default. Submit full details of the terms for default including the other party's name, address, and phone number. Present the Contractor's position on the matter. The Wastewater will evaluate the facts and may, at its sole discretion, reject the bid on the grounds of the past experience. If the firm has not experienced any such termination for default or early termination in the past five (5) years, your firm must clearly also make this indication.

F. The undersigned Bidder submits below a statement describing work similar in character to that anticipated in the proposed contract, which it has previously completed. Work described will be for jobs involving sewer replacement and pipe bursting, and construction with contract amounts over \$100,000. All experience listed shall have occurred in the last five years. Failure to complete this section, as required, may result in the bid being rejected as non-responsive. It is the intent of West County Wastewater to evaluate the responsiveness of the Contractor's bid in part based on whether the proposal and information set forth below reflect substantial experience in successful completion of work of the nature and magnitude of this project.

BIDDERS AND SUBCONTRACTOR'S QUALIFYING EXPERIENCE

Project Name & Description	Contract Amount	Performed For			Year Performed
		Organization	Contact Name	Telephone and E-mail Address	

Signed: _____
Bidder

SECTION 00 45 15

ESCROW AGREEMENT FOR SECURITY DEPOSITS IN LIEU OF
RETENTION

This Escrow Agreement is made and entered into by and between West County Wastewater, whose address is 2910 Hilltop Drive, Richmond, California, hereinafter called "District," and

whose address is _____,
hereinafter called "Contractor," and _____,
whose address is _____,
hereinafter called "Escrow Agent." For the consideration hereinafter set forth, the District, Contractor, and Escrow Agent agree as follows:

1. Pursuant to Section 22300 of the Public Contract Code of the State of California, the Contractor has the option to deposit securities with the Escrow Agent as a substitute for retention earnings required to be withheld by West County Wastewater pursuant to the Construction Contract entered into between West County Wastewater and the Contractor for Project No. **21CS210, Basin 7 Pipe Replacement: California Ave**, in the amount of (\$ _____) dated _____ (hereinafter referred to as the "Contract"). When the Contractor deposits the securities as a substitute for the Contract earnings, the Escrow Agent shall notify West County Wastewater within ten 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 West County Wastewater and the Contractor. Securities shall be held in the name of _____ and shall designate the Contractor as the beneficial owner.
2. West County Wastewater 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 hold securities in the form and amount specified above.
3. Alternatively, West County Wastewater may make payments directly to the Escrow Agent in the amount of retention for the benefit of West County Wastewater until such time as the escrow created hereunder is terminated.
4. The Contractor shall be responsible for paying all fees for the expenses incurred by the Escrow Agent in administering the escrow account. These expenses and payment terms shall be determined by the Contractor and the 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 the Contractor and shall be subject to withdrawal by the Contractor at any time and from time to time without notice to West County Wastewater.

6. The Contractor shall have the right to withdraw all or any part of the principal in the Escrow Account only by written notice to the Escrow Agent accompanied by written authorization from West County Wastewater to the Escrow Agent that West County Wastewater consents to the withdrawal of the amount sought to be withdrawn by the Contractor.
7. West County Wastewater shall have a right to draw upon the securities in the event of default by the Contractor. Upon seven days written notice to the Escrow Agent from West County Wastewater of the default, the Escrow Agent shall immediately convert the securities to cash and shall distribute the cash as instructed by West County Wastewater.
8. Upon receipt of written notification from West County Wastewater certifying that the Contract is final and complete, and that the Contractor has complied with all requirements and procedures applicable to the Contract, the Escrow Agent shall release to the 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 monies and securities on deposit and payments of fees and charges.
9. The Escrow Agent shall rely on the written notifications from West County Wastewater and the Contractor pursuant to Sections 4 and 6, inclusive, of this Agreement and West County Wastewater and the Contractor shall hold the Escrow Agent harmless from the 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 West County Wastewater and on behalf of the Contractor in connection with the foregoing, and exemplars of their respective signatures are as follows:

On behalf of West County Wastewater:

Title

Name

Signature

Address

On behalf of the Contractor:

Title

Name

Signature

Address

On behalf of the Escrow Agent:

Title

Name

Signature

Address

At the time the Escrow Agent Account is opened, West County Wastewater and the Contractor shall deliver to the Escrow Agent a fully executed counterpart of this Agreement.

IN WITNESS WHEREOF, the parties have executed this Agreement by their proper officers on the date first set forth above.

West County Wastewater:

Contractor:

Title

Title

Name

Name

Signature

Signature

SECTION 00 45 16

CERTIFICATE REGARDING COMPLETION TIME

I, _____, am the duly authorized representative of _____, Contractor, which is submitting a Proposal to which this Certificate is attached for Project No. **21CS210**, Basin 7 Pipe Replacement: California Ave.

I have the authority to bind _____. Contractor, as to all matters regarding the proposal to which this Certificate is attached.

I hereby certify that I, or Contractor's duly authorized representative have evaluated the required construction completion within One hundred twenty five (125) calendar days from the start date listed on the Notice to Proceed, and that the Contractor's bid contained in this proposal document reflects completing the work within this time frame. The Contract time for this work shall be deemed to start five (5) calendar days from the date of the Notice to Proceed.

I am also aware that in order for my bid to be considered responsive, West County Wastewater requires a detailed construction phasing schedule at the time of Bid. Notice to Proceed will not be issued until a reasonable construction schedule is submitted to West County Wastewater.

By: _____
Contractor

Dated: _____

SECTION 00 45 17

CONTRACTOR SAFETY ACKNOWLEDGMENT

PROJECT No. 21CS210

PROJECT NAME: Basin 7 Pipe Replacement: California Ave

The Contractor shall be fully responsible for all safety requirements in accordance with State of California Construction Safety Orders (CAL OSHA), and all other safety laws, regulations, specifications, and guidelines required by any other local or federal District.

I have read the above and the CAL OSHA's Construction Safety Orders and understand the safety considerations applicable to this project.

ACKNOWLEDGED BY: Contractor's Name _____

Date: _____

Signature: _____

SECTION 00 45 18

CERTIFICATE REGARDING INSPECTION OF CONTRACT DOCUMENTS AND SITE

I, _____, am the duly authorized representative of _____, Contractor, which is submitting a Proposal to which this Certificate is attached for Project No. **21CS210**, Basin 7 Pipe Replacement: California Ave.

I have the authority to bind _____, Contractor, as to all matters regarding the Proposal to which this Certificate is attached.

1. I hereby certify that I, or Contractor's duly authorized representative, have examined the Contract Documents pertinent to Project No. **21CS210**, including the Instructions to Bidders, General Conditions, Supplementary Conditions, and Technical Specifications.

2. I further certify that I, or Contractor's authorized representative, have examined the site pertinent to Project No. **21CS210**, and have examined existing and expected conditions and matters which could affect any work or performance of any work in any way, especially the cost of performing any work.

Contractor

By: _____

Dated: _____

SECTION 00 45 19
NONCOLLUSION DECLARATION

State of California)
) ss.
County of _____)

, being first duly sworn, deposes and says that he or she is
of , 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.

Acknowledged By:

Company Name

Signature

Title

Date

**SECTION 00 45 26
WORKERS' COMPENSATION CERTIFICATION**

(AS REQUIRED BY SECTION 1861 OF THE CALIFORNIA LABOR CODE)

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 the Labor Code, and I will comply with such provisions before commencing the performance of the work of this Contract.

Contractor: _____

By: _____

Title: _____

Date: _____

END OF GROUP 00 45 00

GROUP 00 52 00 CONTRACT FORMS

Section

00 52 10 Instructions to Awardees

00 52 13 Contract

**SECTION 00 52 10
INSTRUCTIONS TO THE AWARDEE**

Award and Execution of Contract

The successful bidder will be notified in writing by West County Wastewater's of Award of Contract within Sixty (60) calendar days after opening of proposals. Accompanying West County Wastewater's Notice of Award will be the Contract, in duplicate, which the successful bidder will be required to sign and return together with the Performance Bond, Payment Bond, and the required number of copies of insurance certificates and endorsements to West County Wastewater within fourteen (14) calendar days following receipt of such Notice of Award. West County Wastewater will promptly determine whether such Contract, bonds, and insurance certificates and endorsements are as required by the Contract Documents, and upon such determination will forward a fully signed copy of the Contract to the successful bidder. West County Wastewater may issue a Notice to Proceed at any time prior to forwarding the Contract. No work shall be performed at the site prior to the date set forth in the Notice to Proceed. The failure of any bidder to whom West County Wastewater may award the Contract, as aforesaid to sign and return to West County Wastewater, the Contract together with the required Performance Bond, Payment Bond, and insurance certificates and endorsements within the specified time period, shall entitle West County Wastewater to declare a breach of Contract by such bidder, to award the Contract to another bidder in accordance with the provisions of the Contract Documents, and to declare a forfeiture of the bidder's proposal security accompanying its proposal.

Bonds and Insurance Policies

The Bidder to whom the contract award is made shall, at the time of execution of the Contract, furnish to West County Wastewater a Performance Bond and a Payment Bond, executed as surety by a corporation acceptable to West County Wastewater and authorized to issue such Surety Bonds in the state of California. Such bonds shall be substantially in the form included in Sections 00 61 13 and 00 61 14 respectively, of the Contract Documents. Such Performance Bond and Payment Bond shall be for one hundred percent of the Proposal total as set forth in the Schedule of Bid, Section 00 41 43. The entire cost of these bonds shall be borne by the successful Bidder.

If the Surety on any bond furnished by the Contractor is declared bankrupt, or becomes insolvent, or its right to do business is terminated, or it ceases to meet the requirements of the above paragraph, the Contractor shall, within five calendar days thereafter, notify West County Wastewater and substitute another bond and surety, both of which must be acceptable to West County Wastewater.

The successful Bidder shall at the time of execution of the Contract deliver to West County Wastewater one copy of policies of insurance obtained in accordance with the requirements of the Contract Documents.

Workers' Compensation Statement

The Bidder to whom the Contract Award is made shall, at the time of execution of the Contract, furnish to West County Wastewater a statement certifying compliance with the workers' compensation provision of the California Labor Code. Such certification shall be substantially in the form included in Section 00 45 26 of the Contract Documents.

SECTION 00 52 13
CONTRACT

This Contract is entered into as of this (_____) day of (_____), 20__, by and between West County Wastewater, a public entity, organized, and existing under the laws of the state of California, and _____, sometimes referred to as the Contractor.

The parties agree as follows:

A. The Contractor, for and in consideration of the payment to be made to the Contractor as hereinafter provided, shall furnish all plant labor, technical and professional services, supervision, materials, and equipment other than such materials and equipment as may be specified to be furnished by West County Wastewater, and perform all operations necessary and required to construct Project No. **21CS210**, Basin 7 Pipe Replacement: California Ave., in San Pablo, CA, Contra Costa County, California, in strict conformity with the terms and conditions of this Contract, which includes the following:

1. The Contractor's proposal dated _____, in response to West County Wastewater's Notice to Contractors advertised on _____ and _____, relating to West County Wastewater's Contract Documents for Project No. **21CS210**, as such Proposal is on file at the office of the West County Wastewater, 2910 Hilltop Drive, Richmond, California.
2. Sections 00 01 10 through 33 31 00 of the Specifications, and the Scope of Work, inclusive of West County Wastewater's Contract Documents for Project No. **21CS210**, and Addenda No(s)._____, thereto, and the Notice of Award from West County Wastewater to the Contractor dated _____ all as filed in said office of the West County Wastewater.

Such Proposal, Contract Documents: Sections 00 01 10 through 33 31 00, the Technical Specifications, the Contract Documents, and all Addenda, and said Notice of Award are by this reference incorporated herein and made a part of the Contract, provided, that if any conflict exists between such Proposal and the other provisions of the Contract, the other provisions of the Contract shall govern unless otherwise mutually agreed in writing by the parties hereto. All Contract Documents shall be construed in accordance with the laws of the State of California.

B. Time of Performance: Time is of the essence in the performance of this Contract. The Contractor shall begin work as provided in the General and Special Conditions of the Project Manual and once work is started, it shall be diligently prosecuted to completion on or before the expiration of the time hereinafter stated:

Bid Item Completion Required Within:

ALL: The Contract time for this work shall be deemed to start five (5) calendar days from the date of the Notice to Proceed. The Contractor shall complete the work within **sixty (60)** calendar days. It is further agreed by the parties to the Contract that in case all work called for under the Contract, in all parts and requirements, is not finished or completed on or before the expiration dates or intermediate milestones herein set forth, the Contractor may be assessed liquidated damages specified under Section 00 72 42, Liquidated Damages of the Contract Documents.

C. West County Wastewater, in consideration of the Contractor's performance in accordance with the Contract, will pay to Contractor compensation based upon the prices set forth in the Contractor's Proposal and computed and paid for in accordance with the measurement and payment provisions of Section 00 72 39, Measurement and Payment of the Contract Documents.

D. No oral agreement or conversation with any representative or employee of West County Wastewater either before or after the execution of the Contract, shall affect or modify any of the terms or obligations herein contained. This Contract constitutes the entire agreement between the parties hereto and no changes, alterations, or modifications hereof shall be effective unless in writing and signed by the parties hereto.

E. Contractors are required by law to be licensed and regulated by the Contractor's State License Board. Any questions concerning a contractor may be referred to the Registrar, Contractor's State License Board, 9835 Goethe Road, PO Box 26000 Sacramento, CA 95826.

F. West County Wastewater shall pay the Contractor for completion of the work in accordance with the Contract Documents, the not-to-exceed Contract price of _____ Dollars (\$ _____) in accordance with the amounts set forth in Section 00 41 43, Schedule of Bid, and based on the total base and any additive bid prices named in the aforementioned Schedule of Bid, in addition to the contingency amount approved by the Board of Directors.

G. Reference is hereby made to the provisions for payment of minimum per diem wages contained in Section 00 11 16, Invitation to Bid. In accordance with said provisions, the Contractor and each subcontractor engaged in the work shall pay each respective employee thereof an amount not less than the per diem wages established by the Department of Industrial Relations. Copies of the prevailing rate of per diem wages are on file at the West County Wastewater Administrative Offices and shall be made available to any interested party on request.

H. Bidders shall promptly notify West County Wastewater, in writing, of all the classifications of labor not listed in the prevailing wage determinations but necessary for the performance of the Work, before bids are submitted.

Dated: _____

CONTRACTOR: _____

Company Name

By: _____

Title: _____

WEST COUNTY

WASTEWATER: _____

By: _____

Title: General Manager _____

ATTEST: _____

Vice-President of the Board

I hereby approve the form of the foregoing Contract this _____ day of
_____, 20____.

Board Attorney

Addendum A
AGREEMENT TO BE BOUND

Date: _____

West County Wastewater
2910 Hilltop Dr.
Richmond, CA 94806
Attn: Angela Andrews

Re: West County Wastewater District Project Stabilization Labor Agreement
Agreement to be Bound

Dear West County Wastewater:

The undersigned confirms that it agrees to be a party to and bound by the West County Wastewater District Project Stabilization Labor Agreement ("Agreement") as such Agreement may, from time to time, be amended by the parties or interpreted pursuant to its terms.

By executing this Agreement to be Bound, the undersigned subscribes to, adopts and agrees to be bound by the written terms of the legally established trust fund documents as set forth in Section 9.1 of the Agreement, as they may from time to time be amended, specifying the detailed basis upon which contributions are to be made into, and benefits made out of, such trust funds, and ratifies and accepts the trustees appointed by the parties to such trust funds. The undersigned agrees to execute a separate subscription agreement(s) for such trust funds when such trust fund(s) require(s) such document(s).

The obligation to be a party to and bound by the Agreement shall extend solely to all work covered by the Agreement undertaken by the undersigned. The undersigned shall require all of its subcontractors, of whatever tier, to become similarly bound for all their work within the scope of the Agreement by signing an identical Agreement to be Bound.

This letter shall constitute a subscription agreement, to the extent of the terms of the letter.

CONTRACTOR/SUBCONTRACTOR: _____

California Contractor State License No. or Motor Carrier (CA) Permit No.: _____

Name of Authorized Person (print): _____

Signature of Authorized Person: _____

Title of Authorized Person: _____

Telephone Number of Authorized Person: _____

Address of Authorized Person: _____

State Public Works Registration Number: _____

Project Stabilization Labor Agreement
for the West County Wastewater District

GROUP 00 61 00
BOND FORMS

Section

00 61 13 Performance Bond

00 61 14 Payment Bond

SECTION 00 61 13
PERFORMANCE BOND

We, _____, as

Principal, and, _____, as

Surety, are jointly and severally held and bound unto the West County Wastewater, organized and existing under the laws of the state of California, in the sum of

_____ dollars (\$ _____) for the payment of which we jointly and severally bind ourselves, our heirs, executors, administrators and assigns, and successors and assigns, firmly by these presents.

THE CONDITIONS OF THIS BOND ARE SUCH THAT, WHEREAS, on the _____ day of _____, the said _____, Principal herein, executed a certain Contract with West County Wastewater, by the terms, conditions, and provisions of which Contract the said

_____,
Principal herein agrees to construct the Basin 7 Pipe Replacement: California Ave, in San Pablo, CA, Contra Costa County, California, all as set forth in said Contract, which Contract as so executed is attached hereto, and by reference is incorporated herein and made a part hereof as fully for all purposes as if here set forth at length.

NOW, THEREFORE, if the Principal herein shall faithfully and truly observe and comply with the terms, conditions, and provisions of said Contract in all respects, and shall well and truly and fully do and perform all matters and things undertaken to be performed under said Contract, upon the terms set forth therein, and within the time prescribed therein, and shall indemnify West County Wastewater against any direct or indirect damages that shall be claimed for injuries to persons or property during the course of any work performed by or on behalf of Principal under said Contract, and until all work under said Contract is accepted and for an additional period of one year after completion and acceptance of said work by West County Wastewater and shall pay all laborers, mechanics, subcontractors, material, men, and all persons who shall supply such Contractor or subcontractor with services or supplies for carrying on such work, and shall perform said Contract according to laws, and shall complete in a satisfactory manner all repairs or replacements resulting from or caused by defective materials and/or faulty workmanship in the prosecution of the work during the one-year warranty period, then this obligation shall be void, otherwise it shall remain in full force and effect. No prepayment or delay in payment and no change, extension, addition, or alteration of any provision of said Contract agreed to between the Principal and West County Wastewater, and no forbearance on the part of West County Wastewater, shall operate to relieve any surety from liability on this Bond, and consent to make such changes, extension, additions, and alterations without further notice to or consent by any Surety is hereby given.

In the event suit is brought upon this bond by West County Wastewater and judgment is entered in its favor, the Surety or Sureties shall pay all costs incurred by West County Wastewater in such suit, including attorneys' fees to be fixed by the court.

Date _____

Company Name _____

Principal (Authorized Signature) _____

Business Address _____

City _____ State _____

SEE NEXT PAGE FOR ACKNOWLEDGMENT OF PRINCIPAL'S SIGNATURE

[THE REMAINDER OF THIS PAGE HAS BEEN LEFT INTENTIONALLY BLANK]

ACKNOWLEDGMENT OF PRINCIPAL'S 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 _____)

On _____ before me _____, a Notary
(Date) _____ (Printed Name of Notary Public)

Public, personally appeared _____
Name(s) of Signer(s) _____

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.

Place Notary Seal Above

Signature _____
Signature of Notary Public

*This Section is OPTIONAL
completing this information can
deter alteration of the document or
fraudulent reattachment of this form
to an unintended document*

**Description of Attached Document
Title or Type of Document:**

Document Date _____

Number of Pages _____

Signer(s) other than named within

**Capacity(ies) Claimed by Signer(s):
Signer's Name:** _____

CORPORATE OFFICER

Title(s) _____

PARTNER

Limited General

INDIVIDUAL

ATTORNEY-IN-FACT

TRUSTEE

GUARDIAN / CONSERVATOR

OTHER

Describe _____

**SIGNER IS
REPRESENTING:**

Name of Person(s) or Entity(ies)

Date _____

Company Name _____

Surety (Authorized Signature)

Business Address

City State

SEE NEXT PAGE FOR ACKNOWLEDGMENT OF SURETY'S SIGNATURE

[THE REMAINDER OF THIS PAGE HAS BEEN LEFT INTENTIONALLY BLANK]

ACKNOWLEDGMENT OF SURETY'S 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 _____)

On _____ before me _____, a Notary
(Date) _____ (Printed Name of Notary Public)

Public, personally appeared _____
Name(s) of Signer(s)

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 _____
Place Notary Seal Above

Signature of Notary Public

*This Section is OPTIONAL
completing this information can
deter alteration of the document or
fraudulent reattachment of this
form to an unintended document*

**Description of Attached Document
Title or Type of Document:**

Document

Date _____

Number of Pages _____

Signer(s) other than named within

Capacity(ies) Claimed by

Signer(s):

Signer's Name: _____

CORPORATE OFFICER

_____ **Title(s)**

PARTNER

Limited **General**

INDIVIDUAL

ATTORNEY-IN-FACT

TRUSTEE

GUARDIAN / CONSERVATOR

OTHER

Describe _____

**SIGNER IS
REPRESENTING:**

Name of Person(s) or Entity(ies)

SECTION 00 61 14
PAYMENT BOND

We, _____, as

Principal, and _____, as

Surety, are jointly and severally bound unto the West County Wastewater, organized and existing under the laws of the State of California, in the sum of

_____ dollars (_____)

for the payment of which we jointly and severally bind ourselves, our heirs, executors, administrators and assigns, and successors and assigns, firmly by these presents.

THE CONDITION OF THIS BOND IS SUCH THAT, WHEREAS, on the _____ day of _____, 20____, the said _____

_____, Principal herein, executed a certain Contract with West County Wastewater, by the terms, conditions, and provisions of which Contract the said _____,

_____, Principal herein agrees to construct the Basin 7 Pipe Replacement: California Ave. in San Pablo, CA, Contra Costa County, California, all as set forth in said Contract, which Contract as so executed is attached hereto, and by reference is incorporated herein and made a part hereof as fully for all purposes as if here set forth at length.

AND WHEREAS, said Contractor is required by the provisions of Chapter 7, Title 15, Sections 3247 though 3252, California Civil Code, to furnish a bond in connection with said Contract, as hereinafter set forth.

THE CONDITIONS OF THIS OBLIGATION ARE SUCH, that if said Contractor, its heirs, executors, administrators, successors, or assigns, or subcontractors, shall fail to pay any of the persons named in Sections 3110, 3111, and 3112 of the California Civil Code, or amounts due under the Unemployment Insurance Code with respect to work or labor performed by any such claimant, or for any amount required to be deducted, withheld, and paid over to the California Franchise Tax Board from the wages and employees of the Contractor and its subcontractors pursuant to Section 18806 of the California Revenue and Taxation Code, with respect to such Contract and warranty work and labor that the surety or sureties will pay for the same, in an amount not exceeding the sum specified in this Bond, and also, in case suit is brought upon the bond, a reasonable attorney's fee, to be fixed by the court.

This Bond shall inure to the benefit of any and all of the persons name in Sections 3110, 3111, and 3112 of the California Civil Code as to give a right of action to such persons or their assigns in any

suit brought upon this Bond in accordance with said Sections 3247 though 3252 of the California Civil Code.

In the event suit is brought upon this Bond and judgment is recovered, the Surety shall pay all costs incurred by West County Wastewater in such suit, including reasonable attorney's fees to be fixed by the court.

No prepayment or delay in payment and no change, extension, addition, or alternation of any provision of said Contract agreed to between the Contractor and West County Wastewater, and no forbearance on the part of West County Wastewater, shall operate to relieve any Surety from liability of this Bond, and consent to make such changes, extensions, additions, and alternations without further notice to or consent by such Surety is hereby given.

Date _____

Company Name

Principal (Authorized Signature)

Business Address

City State

SEE NEXT PAGE FOR ACKNOWLEDGMENT OF PRINCIPAL'S SIGNATURE

[THE REMAINDER OF THIS PAGE HAS BEEN LEFT INTENTIONALLY BLANK]

ACKNOWLEDGMENT OF PRINCIPAL'S 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 _____)

On _____ before me _____, a Notary
(Date) (Printed Name of Notary Public)

Public, personally appeared _____
Name(s) of Signer(s)

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.

Place Notary Seal Above

Signature _____
Signature of Notary Public

*This Section is OPTIONAL
completing this information can
deter alteration of the document or
fraudulent reattachment of this form
to an unintended document*

Description of Attached Document
Title or Type of Document:

Document Date _____

Number of Pages _____

Signer(s) other than named within

Capacity(ies) Claimed by Signer(s):
Signer's Name: _____

CORPORATE OFFICER

Title(s) _____

PARTNER

Limited General

INDIVIDUAL

ATTORNEY-IN-FACT

TRUSTEE

GUARDIAN / CONSERVATOR

OTHER

Describe _____

**SIGNER IS
REPRESENTING:**

Name of Person(s) or Entity(ies)

Date _____

Company Name _____

Surety (Authorized Signature)

Business Address

City State

SEE NEXT PAGE FOR ACKNOWLEDGMENT OF SURETY'S SIGNATURE

[THE REMAINDER OF THIS PAGE HAS BEEN LEFT INTENTIONALLY BLANK]

ACKNOWLEDGMENT OF SURETY'S 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 _____)

On _____ before me _____, a Notary
(Date) (Printed Name of Notary Public)

Public, personally appeared _____
Name(s) of Signer(s)

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.

Place Notary Seal Above

Signature _____
Signature of Notary Public

*This Section is OPTIONAL
completing this information can
deter alteration of the document or
fraudulent reattachment of this form
to an unintended document*

Description of Attached Document
Title or Type of Document:

Document Date _____

Number of Pages _____

Signer(s) other than named within

Capacity(ies) Claimed by Signer(s):
Signer's Name: _____

CORPORATE OFFICER

Title(s) _____

PARTNER

Limited General

INDIVIDUAL

ATTORNEY-IN-FACT

TRUSTEE

GUARDIAN / CONSERVATOR

OTHER

Describe _____

**SIGNER IS
REPRESENTING:**

Name of Person(s) or Entity(ies)

END OF GROUP 00 61 00

SECTION 00 72 00

GENERAL CONDITIONS

<u>Section</u>	<u>Title</u>
00 72 01	Authority of the Engineer and Contractor's Appeal Procedure
00 72 02	Intent of the Contract
00 72 03	Discovery of Errors, Omissions, or Discrepancies in the Contract
00 72 04	Subcontracts, Subcontractors, and Records Access
00 72 05	Assignment
00 72 06	Waiver of Contract Provisions
00 72 07	Delivery of Notice
00 72 08	Indemnity
00 72 09	Patent Indemnity
00 72 10	Warranty
00 72 11	Differing Site Conditions
00 72 12	Changes and Extra Work
00 72 13	Independent Contractor, Superintendent, and Employees
00 72 14	Contractor's Plant, Construction Equipment, and Facilities
00 72 15	Equipment, Materials, and/or Products, Substitution of Specific Items and Trade Names, Workers' Skills
00 72 16	Contractor-Furnished Documents and Data
00 72 17	Standards and Codes
00 72 18	Safety
00 72 19	Public Access and Safety; Protection of Property
00 72 20	Laws and Regulations
00 72 21	Permits
00 72 22	Records and Accounts
00 72 23	Testing
00 72 24	Publications
00 72 26	Access to Work Areas
00 72 27	Illumination
00 72 28	Inspection and Sample Specimens

<u>Section</u>	<u>Title</u>
00 72 29	Progress
00 72 31	Responsibility for Work; Precautions; Security
00 72 32	Storage of Materials and Equipment
00 72 33	Use of Completed Portions of the Work
00 72 34	Cleaning Up
00 72 35	Progress, Completion, Delays, and Extensions of Time
00 72 36	Termination of Right to Proceed
00 72 37	Optional Termination
00 72 38	Suspension
00 72 39	Measurement and Payment
00 72 40	Progress Payments
00 72 41	Final Payment and Release
00 72 42	Liquidated Damages
00 72 43	Night and Weekend Work
00 72 44	Intoxicating Liquors and Drugs
00 72 45	Meetings
00 72 46	Liens and Stop Notice
00 72 47	No Waiver
00 72 48	Quality of Equipment, Material, Products, and/or Workmanship
00 72 49	West County Wastewater's Ownership of Project Materials and Salvage
00 72 51	Provisions Required by Law Deemed Inserted
00 72 52	Conflict or Inconsistency
00 72 53	Utility and Other Existing Facilities
00 72 54	Surveys, Lines, and Grades
00 72 55	Contract Documents and Record Drawings
00 72 56	Contaminated Soil/Materials
00 72 59	Storm Water Pollution Prevention

GENERAL CONDITIONS

00 72 01 AUTHORITY OF THE ENGINEER AND CONTRACTOR'S APPEAL PROCEDURE

A. Authority of the Engineer

1. The "Engineer" is the Infrastructure and Planning Department Manager of West County Wastewater or the Engineer's duly authorized representative during the life of the Contract. The engineer will observe the work in progress on behalf of West County Wastewater. All questions and requests of the Contractor regarding compensation (including additional compensation), interpretation of the Contract, instructions, or extensions of time, shall be submitted in writing to the Engineer for determination.
2. The Engineer may determine the amount, quality, acceptability, and fitness of all work, materials, and equipment required by the Contract.
3. The Engineer will decide all questions which may arise as to the quality or acceptability of materials furnished and work performed and as to the manner of performance and rate of progress of the work, and the Engineer's decision will be final.
4. The Engineer will decide all questions which may arise as to the coordination and interpretation of the plans and specifications, and the Engineer's decision will be final.
5. The Engineer will decide all questions as to the acceptable fulfillment of the Contract by the Contractor, and the Engineer's decision will be final.
6. The Engineer will decide all questions as to measurement and payment, and the Engineer's decision will be final.
7. The Engineer may reject defective work and materials whenever such rejection may be necessary to assure execution of the Contract in accordance with the intent of the Contract Documents .
8. The Engineer will determine all amounts owing to the Contractor.
9. The Engineer will prepare/issue contract change orders for all authorized changes or approved extra work in the Contract.
10. The Engineer will monitor project schedules and enforce project schedule requirements, and take such measures as may be necessary to maintain overall project schedules.
11. The Engineer may enforce and to make effective such decisions and orders which the Contractor fails to carry out promptly.
12. All determinations and instructions of the Engineer, whether in response to a question or otherwise, will be final unless the Contractor files a written protest with the Engineer as set forth in this Section.

B. Contractor's Responsibilities and Appeal Procedure

1. The Contractor shall be solely responsible for requesting instructions or interpretations as required by the Contract, and any costs and expenses, including attorneys' fees, arising from its failure to do so shall be borne by the Contractor.
2. The Contractor shall proceed without delay to perform the work as directed, instructed, determined, or decided by the Engineer and shall comply promptly with such directions, instructions, determinations, or

decisions. If the Contractor has any objection thereto, the Contractor may, no later than ten calendar days after receiving any such directions, instructions, determinations, or decisions, require that any such direction, instruction, determination, or decision be put in writing. No later than ten calendar days after receipt of any such written determination, the Contractor may file a written protest with the Engineer stating clearly and in detail the Contractor's objections, the reasons therefor, and the nature and amount of additional compensation or extension of time, if any, to which the Contractor contends it will be entitled thereby. The Contractor shall perform the work that the Contractor may contend as being outside the scope of the Contract while the Contractor's protest is being considered. However, unless the Contractor has been ordered by West County Wastewater pursuant to Section 00 72 12.E., Request for Additional Compensation, to perform changes or extra work, Contractor will not be entitled to additional compensation. The Contractor shall prepare daily cost records and obtain an acknowledgment by the Engineer in accordance with 00 72 12C, Cost Plus Change Orders.

3. The Engineer will issue a decision upon each protest. If the Engineer determines that the facts support the protest, the Contract will be modified accordingly, in writing. If the Engineer determines that the facts do not support the protest, the request for modification, the Engineer will deny the request. The Engineer will provide its determination to the Contractor and that determination will be final and conclusive. the Contractor shall at all times proceed with the work in accordance with the direction, instruction, determination, or decision of the Engineer. Unless the Contractor follows the requirements of this Section 00 72 01, the Contractor will be deemed to have waived all grounds for protest of direction, instruction, determination, or decision and all claims for additional compensation, extensions of time, or damages resulting therefrom for which protest could have been made under this Section 00 72 01, and Contractor will also be deemed to have accepted the direction, instruction, determination, or decision.
4. If the Contractor has outstanding claim issues upon acceptance of the contract work by West County Wastewater, the Contractor shall, no later than 30 calendar days after the date of acceptance, submit to the Engineer a written statement of all claims it maintains exist arising under or by virtue of the Contract. No claim will be considered that is not clearly identified in the written statement of claims, and no claim will be recognized for which a notice or protest is not prosecuted as provided in Sections 00 72 11, Differing Site Conditions; 00 72 12, Changes and Extra Work; 00 72 42, Liquidated Damages; and 00 72 53, Utility and Other Existing Facilities within these General Conditions.
 - a. Claims filed by the Contractor must be presented in sufficient detail to enable the Engineer to ascertain each claim's basis and amount. The Engineer will review and consider each claim; however, the Contractor must furnish, within a reasonable time, such further information and details as Engineer requests to ascertain the facts or contentions underlying the Contractor's claim. If the Contractor fails to submit such requested information and details for a claim, that failure will be sufficient to permit West County Wastewater to deny that claim.
 - b. Upon final determination of all claims, the Engineer will prepare and issue a final payment in the entire sum found due on the claims.

00 72 02

INTENT OF THE CONTRACT

- A. All obligations of West County Wastewater and the Contractor are fully set forth and described in the Contract. All parts of the Contract are intended to be correlative and complementary, and any work required by one part and not mentioned in another part must be performed to the same extent and purpose as though required by all parts.
- B. The organization of the Contract Documents into sections, parts, and subsections and the arrangement of the contract plans shall not necessarily control the Contractor in dividing any work among any of its subcontractors or in establishing the extent of work to be performed by any trade or craft. The headings or titles of any article, section, subsection, paragraph, provision, or part of the Contract will not limit or restrict the content, meaning, or effect of such article, section, subsection, paragraph, provision, or part. Titles assigned to the various sections and subsections do not necessarily limit the scope of the topic, but are assigned solely to designate a central theme which may be further addressed by either volumes, parts, sections, or subsections for particular applications. The absence of a reference in any one to other such sections, parts, or subsections will not waive the requirements otherwise applicable to the work in its entirety. All sections of the Specifications and Project Documents are interdependent and applicable to the Project as a whole.

- C. Where the words "as shown," "as detailed," "as indicated," or similar words are used in the Contract, such references relate to the Project Documents unless the context clearly indicates a different meaning. Where the words "required," "approved," "determined," "acceptable," "favorably reviewed," "reviewed," "selected," "directed," "equivalent," "equal," "satisfactory," or similar words are used in the Contract, action by the Engineer or West County Wastewater is indicated unless the context indicates otherwise, and the Contractor shall perform all work in accordance therewith. Such action, or failure to act, will not relieve the Contractor of its contractual responsibilities for performing the Contract.
- D. The Contractor shall perform the work in accordance with the terms of the Contract. The Specifications and all notes on the Project Documents are directed to the Contractor and Contractor shall perform all work even though phrases such as "the Contractor shall" or "shall be done by the Contractor" are omitted. Where portions of the work are described in general terms, but not in complete detail, the Contractor shall perform the work utilizing skilled trade persons and high quality material. Unless otherwise specified such as deep excavation/shoring, traffic control, or detail design where a registered professional engineer shall be required, the Contractor shall furnish all labor, materials, tools, equipment, and incidentals and do all the work involved in executing the Contract in a timely, satisfactory, and workmanlike manner.
- E. The misplacement, addition, or omission of a word or character does not change the intent of any part of the Contract from that set forth in the Contract as a whole.
- F. The masculine/feminine pronoun may be used to designate who performs the work and for other purposes and, in all cases, applies equally to all persons. The word "Contractor" as used in the Contract applies to the General Contractor. If the Contractor is a partnership or joint venture, the members of the partnership or joint venture will be jointly and severally liable notwithstanding any agreement as between themselves to the contrary.

00 72 03 DISCOVERY OF ERRORS, OMISSIONS, OR DISCREPANCIES IN THE CONTRACT

- A. By execution of the Contract, the Contractor agrees that no request for additional compensation, and/or claim under Government Code Section 900 et seq. will be made against West County Wastewater for any damages in excess of the aggregate sum of \$50,000 or five percent (5%) of the construction costs (whichever is greater) for alleged damage that it or its subcontractors may suffer due to the inadequacy of the Contractor's bid on account of any alleged errors, omissions, or other deficiencies in the Contract Documents supplied to it by West County Wastewater. This limitation will not apply to claims for compensation for extra work authorized by West County Wastewater pursuant to Section 00 72 12, Changes and Extra Work, and Section 00 72 11, Differing Site Conditions.
- B. If the Contractor discovers any errors, omissions, discrepancies, or conflicts in the Contract, it shall immediately so inform the Engineer in writing. The Engineer will promptly clarify such matters by issuing addenda or change orders. The Engineer's failure or delay to act upon such a notice will not constitute a waiver of any right afforded West County Wastewater or the Engineer in the Contract Documents or constitute an implied approval. Any work affected by such discoveries that the Contractor performs before it receives authorization by West County Wastewater to perform the work shall be at the Contractor's risk.

00 72 04 SUBCONTRACTS, SUBCONTRACTORS, AND RECORDS ACCESS

- A. By written agreement, if legally required for validity, the Contractor shall require each subcontractor, to the extent of the work to be performed by the subcontractor, to be bound to the Contractor by the terms of the Contract, and to assume toward the Contractor all of the obligations and responsibilities which the Contractor, by this contract, assumes toward West County Wastewater. Such agreements must preserve and protect the rights of West County Wastewater under the Contract with respect to the work to be performed by the subcontractors so that the subcontractors will not prejudice such rights. Where appropriate, the Contractor shall require such subcontractor to enter into similar agreements with its subcontractors, and for each tier thereafter. The Contractor shall make available to each proposed subcontractor, prior to execution of the subcontract, copies of the Contract Documents for which the subcontractor will be bound by this paragraph of this subsection and identify to the subcontractor any terms and conditions of the proposed subcontract which may be at variance with the Contract.

1. Each subcontractor shall make copies of these Contract Documents, including, but not limited to, the above specific provisions, available to its sub-subcontractors and for each tier thereafter.
2. The Contractor shall give its personal attention to the fulfillment of the Contract and shall keep the work under its control in accordance with the Contract.

B. Neither Contractor nor any subcontractor may enter into any subcontract and the Contractor shall not substitute any person as subcontractor in place of a subcontractor listed in its bid without West County Wastewater's prior written consent. West County Wastewater, at its discretion, may consent to a subcontractor substitution as provided by law. No subcontract may relieve the Contractor of any of its liabilities or obligations under the Contract; the Contractor shall be fully responsible to West County Wastewater for the acts and omissions of its subcontractors at any tier and of persons either directly or indirectly employed by subcontractors in the performance of the Contract. The Contractor shall assure that each subcontractor at any tier fully complies with the provisions of the applicable Workers' Compensation Act or any similar law having application to subcontractor's employees.

C. Unless otherwise provided in the Contract, the Contractor shall at its expense, upon request of the Engineer, furnish the Engineer with one (1) copy of all of its purchase orders and subcontracts, all applicable Documents and specifications, bills of lading, and data, at all tiers, provided that only the prices thereon may be deleted. The Contractor shall ensure that all subcontracts at all tiers contain a provision for furnishing the Contractor with copies of the subcontracts and purchase orders, with the prices thereon deleted. The Contractor shall include Section 00 52 13, Contract, in all subcontracts at all tiers. Failure of the Contractor or any of its subcontractors at any tier to comply with this provision will be considered as grounds for termination of the Contract at the Contractor's expense in accordance with Section 00 72 36, Termination of Right To Proceed.

D. Nothing contained in the Contract creates any contractual relationship between any subcontractor and West County Wastewater.

E. The Contractor shall at all times be responsible for the safety of its subcontractors' employees at any tier and for its subcontractors' plant and equipment at any tier; and Contractor's method of prosecuting the work and shall ensure the compliance, by all subcontractors' employees at any tier, with all local, state, and federal safety regulations and West County Wastewater's Safety Requirements as may be applicable to the performance of the work.

F. The Contractor shall at all times be responsible for the adequacy, efficiency, and sufficiency of its subcontractor at any tier or persons employed by the subcontractors. All workers shall have sufficient knowledge, skill and experience to properly perform the work assigned to them.

G. When a portion of the work subcontracted by the Contractor is not being prosecuted in a manner satisfactory to West County Wastewater, the Contractor shall cause that subcontractor's forces to be removed immediately upon the request of the Engineer and that subcontractor's forces may not again be employed on the work.

00 72 05

ASSIGNMENT

A. The Contractor, its heirs, executors, administrators, or successors may not assign any performance of work under this Contract without the prior written consent of West County Wastewater. West County Wastewater will not provide consent for any proposed assignment that would, by any instrument, relieve the original Contractor or its Surety of their obligations under the Contract.

B. The Contractor may assign monies due or to become due it under the Contract, to the extent permitted by law. West County Wastewater will recognize such an assignment if Contractor provides written notice of the assignment to the Engineer no later than ten calendar days before a payment is due. Any assignment of monies will be subject to all proper set-offs in favor of West County Wastewater and to all deductions provided for in the Contract. All monies withheld, whether assigned or not, will be subject to being used by West County Wastewater for the completion of the work in the event that the Contractor should be in default or for the payment of claims or liens against the work from any source.

00 72 06

WAIVER OF CONTRACT PROVISIONS

A. None of the provisions of the Contract shall be considered waived by West County Wastewater unless such waiver is expressly given in writing by the Engineer. No such waiver shall be a waiver of any past or future default, breach, or modification of any of the terms, provisions, conditions, or covenants of the Contract unless expressly set forth in such waiver.

00 72 07

DELIVERY OF NOTICE

A. The Engineer or West County Wastewater may deliver any written notice under this Contract to the Contractor in person to the Contractor's authorized representative or may mail the notice to the address last given in writing by the Contractor.

B. The Contractor shall mail or deliver to West County Wastewater's authorized representative on this Contract any written notice under this Contract. West County Wastewater's will identify its authorized representative in its award letter.

00 72 08

INDEMNITY

A. The Contractor shall indemnify, defend, and hold harmless West County Wastewater, its officers, directors, employees, representatives, and agents and each of them, from and against any and all suits, actions, legal or administrative proceedings, claims, demands, damages, consequential damages, liabilities, interest, attorneys' fees and costs, and expenses of whatsoever kind or nature whether arising before or after Final Acceptance and in any manner, whether or not well founded in fact or in law and, directly or indirectly caused, occasioned, or contributed to in whole or in part, or claimed to be caused, occasioned, or contributed to in whole or in part, by reason of any act, omission, fault, or negligence whether active or passive of the Contractor or of anyone acting under the Contractor's direction, control, or on the Contractor's behalf in connection with or incident to performance of the Contract. Without limiting the generality of the previous sentence, Contractor's indemnity obligations under this Section 00 72 08 include injury to or death of any person or persons and damage to any property, regardless of where located, including without limitation the property of West County Wastewater, the Contractor's employees, and all other persons. The Contractor's indemnity and hold-harmless obligations set forth in this Section 00 72 08 are not applicable to any liability caused by the active negligence or willful misconduct of West County Wastewater, its officers, directors, employees, representatives, or agents.

B. The Contractor shall include in each agreement with each of its subcontractors at all tiers a provision requiring that the subcontractor indemnify and hold harmless West County Wastewater, its officers, directors, employees, representatives, and agents and each of them, from and against claims, damages, losses, and expenses including, but not limited to, attorneys' fees arising out of or resulting from the performance of the subcontractor's work under the Contract, provided that such claim, damage, loss, or expense is attributable to bodily injury, sickness, disease or death, or to injury to or destruction of property, including loss of use resulting therefrom, to the extent such loss or injury is caused in whole or in part by the negligent acts or omissions of the Subcontractor, anyone directly or indirectly employed by the Subcontractor, or anyone for whose acts the Subcontractor may be liable. The Subcontractor's indemnity and hold-harmless obligations set forth in this Section 00 72 08 are not applicable to any liability caused by the active negligence or willful misconduct of West County Wastewater, its officers, directors, employees, or agents.

00 72 09

PATENT INDEMNITY

A. The Contractor shall pay all licenses, copyrights, fees, and royalties and assume all costs incident to the use and performance of the work, or the incorporation in the work, of any invention, design, process, product, or device which is the subject of patent rights or copyrights held by others. The Contractor shall indemnify, defend, and save harmless West County Wastewater, its officers, directors, employees, representatives, and agents, and each of them, from and against all claims, losses, costs, damages, consequential damages, and expenses, including attorneys' fees, incurred by West County Wastewater, its officers, directors, employees, representatives, and agents as a result of or in connection with any claims or actions based upon infringement or alleged infringement of any patent and/or copyright and arising out of the use of the materials, equipment, and/or products furnished under the Contract by the Contractor, or out of the processes or actions employed by, or on behalf of, the Contractor in connection with the performance of the Contract. The Contractor shall, at its

expense, promptly defend against any such claim or action whether or not well founded in fact or in law, provided that West County Wastewater shall have notified the Contractor upon becoming aware of such claims or actions, and provided further that the Contractor's aforementioned obligations shall not apply to equipment, materials, and/or products furnished or specified by West County Wastewater. The Contractor may, in order to avoid such claims or actions, substitute at its expense non-infringing equipment, materials, and/or products, or to modify at its expense such infringing equipment, materials, and/or products so they become non-infringing, provided that such substituted and modified equipment, materials, and/or products meet all the requirements and are subject to all the provisions of the Contract.

00 72 10 WARRANTY

- A. The Contractor represents that the work performed pursuant to the Contract will be of the quality specified or of the highest quality if no quality is specified, and will conform to the Specifications, Drawings, samples, and all other parts of the Contract. The Contractor warrants all equipment, material, products, and workmanship furnished and all work performed under the Contract against defects for a period of one year after final acceptance regardless of whether the same were furnished or performed by the Contractor or by any of its subcontractors or suppliers of any tier.
- B. The Contractor shall make, at its own expense, all repairs and/or replacements made necessary by defects in the equipment, materials, and/or products and in the workmanship provided by the Contractor or any of its subcontractors that become evident within the warranty period.
- C. The Contractor shall, upon receipt of written notice from West County Wastewater of any breach of warranty during the applicable warranty period, redesign, repair or replace the affected item, and the Contractor shall perform such tests as West County Wastewater may require to verify that such redesign, repair, and replacement comply with the requirements of the Contract. West County Wastewater may operate and use such equipment, materials, and/or products until they can, without damage to West County Wastewater, be taken out of service for correction or replacement by the Contractor. The Contractor warrants all redesigned, repaired, or replaced work against defective design, equipment, materials, products, and workmanship for a period of one year from and after the date of satisfactory completion of such redesigned, repaired, or replaced work. West County Wastewater may require that the Contractor perform such repair or replacement work.
- D. West County Wastewater also reserves the right to make such repairs or replacements, if, within seven calendar days after mailing a notice in writing to the Contractor and Surety, the Contractor does not make or undertake with due diligence the aforesaid repairs or replacements and Surety within seven calendar days after mailing a notice in writing of such failure of the Contractor neglects to make or undertake with due diligence the aforesaid repairs or replacements itself, provided, however, that in the case of an emergency where in the opinion of West County Wastewater delay would cause hazard to health or serious loss or damage, repair may be made without notice being sent to the Contractor or Surety, and the Contractor shall pay the cost of the repair.
- E. All costs including workforce and materials incidental to such redesign, repair, replacement, and testing, including the removal, replacement, and reinstallation of equipment necessary to gain access, and all other costs incurred as the result of a breach of warranty shall be borne by the Contractor whether performed by West County Wastewater or the Contractor.
- F. Nothing in this section may be construed to limit, relieve, or release the Contractor's, any subcontractor's, and any equipment, materials, and/or products suppliers', and any other service providers' liability to West County Wastewater for damages sustained as the result of latent defects in the workmanship, equipment, materials, and/or products done and/or furnished by the Contractor, its subcontractors, suppliers and/or other service providers.
- G. The Performance Bond shall extend for a period of one year after West County Wastewater's acceptance of the Contract and shall cover the Contractor's obligations resulting from the warranty requirements specified in this Contract.

00 72 11 DIFFERING SITE CONDITIONS

- A. The Contractor shall promptly, and before the following conditions are disturbed, notify the Engineer in writing of any:
 1. Material that the Contractor believes may be hazardous waste, as defined in Section 25117 of the Health and Safety Code, that is required to be removed to a Class I, Class II, or Class III disposal site in accordance with provisions of existing law.
 2. Subsurface or latent physical conditions at the site differing materially from those indicated in the Contract Documents .
 3. Unknown physical conditions at the site of any unusual nature, differing materially from those ordinarily encountered and generally recognized as inherent in work of the character provided for in the Contract.
- B. If Contractor disturbs or covers differing site conditions as described in Subsection A of this section before Contractor notifies the Engineer of or before the Engineer has had the opportunity to investigate the conditions, Contractor will waive any and all rights to recover additional compensation for increases in the Contractor's cost of, or receive an extension of the time required for, performance of any part of work impacted by such differing site conditions.
- C. If Contractor determines that materially differing site conditions may be the basis for a request for additional compensation, the Contractor must follow the requirements of Section 00 72 12, Changes and Extra Work, Subsection E.
- D. The Engineer will promptly investigate all claimed differing site conditions, and if the Engineer finds that the conditions: (1) are materially differing site conditions, or that they do involve hazardous waste: and (2) cause a decrease or increase in the Contractor's cost of, or the time required for, performance of any part of the work, the Engineer will issue a change order in accordance with Section 00 72 12, Changes and Extra Work.
- E. If a dispute arises between West County Wastewater and the Contractor as to whether site conditions materially differ, or involve hazardous waste, or cause a decrease or increase in the Contractor's cost of, or time required for, performance of any part of the work, the Contractor will not receive an extension of time to meet any scheduled completion date provided for by the Contract, and Contractor shall proceed with all work to be performed under the Contract. If such a dispute arises, the Contractor retains any and all rights provided either by Contract or by law which pertain to the resolution of disputes and protests between the Parties.

00 72 12 CHANGES AND EXTRA WORK

- A. General
 1. The Engineer may, without invalidating the Contract and without notice to the Contractor's sureties, order changes in the work or extra work and/or furnish materials which may be required for the proper completion of the work or construction of the whole of the Project. The Contractor shall perform the work when so ordered. Any such change or request must be authorized in writing by the Engineer, provided that in the event of an emergency, which the Engineer determines endangers life or property, any work required by reason of such an emergency shall be performed in accordance with oral orders from the Engineer, which will be confirmed in writing as soon as practicable. Any such authorization by the Engineer, whether written or oral, may be accompanied by Documents and data as are necessary to show the extent of such change or extra work.
 2. If the Engineer orders emergency work, the Contractor shall keep accurate records of its actual cost in accordance with Subsection 00 72 12.C, Cost Plus Change Orders, until such time as the Parties agree on compensation. Contractor's maintenance of such records does not require West County Wastewater to use the records as the means for determining compensation for the emergency work, and does not preclude the Parties' entry of an agreement for payment for the emergency work on a unit price or lump sum basis. Upon the determination of the compensation due to the Contractor for performing any emergency work, the Contract will be amended in writing by a Contract Change Order.

3. The Contractor shall commence and perform such changed or extra work to meet all requirements set forth in the Contractor's current Construction Schedule. If the Engineer determines that the performance of any such changes or extra work will cause any material change in that schedule, Contractor shall revise the schedule to reflect such change. Contractor shall submit a copy of the revised schedule to the Engineer.
4. If any change causes an increase or decrease in the Contractor's cost of, or any increase in the time required for, performance under the Contract, the Contract will be adjusted through a Contract Change Order. If the Parties agree on the basis of compensation as described in Subsection 00 72 12.B, Agreed Price Change Order, West County Wastewater shall issue a Contract Change Order. If the Parties do not reach agreement on the basis of compensation, the Contractor shall, upon receipt of written direction from the Engineer, proceed with the work in accordance with the provisions of Subsection 00 72 12.C, Cost Plus Change Orders.
5. West County Wastewater may engage another contractor to perform the work if such engagement is in West County Wastewater's best interest.
6. Should the Contractor, prior to opening of the bids, fail to notify West County Wastewater of patent ambiguities in the Contract Documents, the Contractor will not be eligible for an adjustment of the contract price or time extension on the basis of such ambiguities.

B. Agreed Price Change Orders

1. Unless otherwise required, the Contractor shall, no later than five calendar days after receipt of written authorization from the Engineer, submit in writing to the Engineer a proposal for accomplishing the changed or extra work. If the Contractor does not submit a proposal within the five calendar day period, the Engineer shall take into consideration Contractor's delay in submitting the proposal in evaluating any extensions of time requested by Contractor in conjunction with the changed or extra work. Contractor's proposal shall set forth any increase or decrease in cost to West County Wastewater in comparison to such cost had such change or extra work not been authorized. The proposal must state the basis of compensation for all work in connection with any such change or extra work.
2. The Contractor's proposal must contain sufficient detail to permit the Engineer to make a thorough analysis of the proposal. The Contractor's proposed basis for compensation shall be one of the following, which are listed in order of preference:
 - a. Contract unit or lump sum prices, if applicable.
 - b. New unit or lump sum prices.
 - c. Cost plus with a price ceiling.

C. Cost Plus Change Orders

1. If the Contractor does not propose the method of compensation for such work or any part thereof, or if any proposed method is not acceptable, or if a method of compensation cannot be agreed upon, the Contractor shall proceed with the work and compensation will be made on a cost plus basis as set forth below. If at any time after the Contractor commences such work the Parties agree on a method of compensation other than cost plus, compensation will be made in accordance with that agreement.
2. The Contractor shall keep accurate records of the actual cost to the Contractor for the work. The Contractor shall keep the cost records as provided in the following subsections.
3. The Contractor will be paid its direct costs for labor, materials, and equipment used in performing the work as provided in paragraphs 12.C.6a, 12.C.6b, and 12.C.6c.

4. The total of the direct costs computed as provided in paragraphs 12.C.6a, 12.C.6b, and 12.C.6c, will be marked up as specified below. A markup of thirty-three (33) percent to the cost of labor, fifteen (15) percent to the cost of materials, and fifteen (15) percent to the equipment rental.
 - a. When extra work is performed by a subcontractor, an additional markup of 5 percent will be added to the total cost of said extra work including all markups specified in this Section. This additional 5 percent markup will fully reimburse the Contractor for additional administrative costs, and West County Wastewater will not be required to pay any additional amount for performance of the extra work by a subcontractor.
5. The markups identified in this Subdivision C constitute full compensation of the Contractor for all profit and overhead costs. Such costs will include all items of expense not specifically designated below in C.6. as cost or equipment rental.
 - a. Markups include, but are not limited to, compensation for field overhead, home office overhead, profit, builder's risk insurance, general and auto liability insurance, and performance and payment bond premiums.
 - i. Home office overhead includes, but is not limited to:
 01. office rent, utilities, clerical staff, bidding and estimating, officer's salary, advertising, professional association dues, supplies, telephone, office equipment, transportation, staff consultants, and miscellaneous business expenses related to the project.
 - ii. Field overhead includes, but is not limited to:
 01. job site utility expenses (including telephone), superintendent, project engineer, office engineer, secretary and other field office staff, field office, field office equipment and supplies, portable toilet, fencing, transportation for field office staff, general project cleanup.
 - b. The total payment made as provided is deemed to be the actual costs of such work and constitutes full compensation therefor.
6. Costs for labor, materials, and equipment that are eligible for inclusion in cost plus work, are described below:
 - a. Labor - The Contractor will be paid the cost of labor for the workers (including foremen when authorized by Engineer) used in the actual and direct performance of the work. The cost of labor, whether the employer is the Contractor or subcontractor will be the sum of the following:
 - i. Actual Wages - The actual wages paid include basic pay, overtime and shift premiums, any employer payments to or on behalf of the workers for health and welfare, pension, vacation, holidays and other miscellaneous payments (e.g. administration, occupational, health and research, annuity trust fund, supplemental unemployment benefits).
 - ii. Labor Surcharge – A labor surcharge will be added to the actual wages as defined above. The allowable markup rate shall be as set forth in the California Business and Transportation Wastewater's Department of Transportation publication entitled, Labor Surcharge and Equipment Rental Rates, that is in effect on the date upon which the work is accomplished and which is made a part of the Contract. The labor surcharge will constitute full compensation for all other payments made to, or on behalf of, the workers including workers' compensation insurance with a waiver of subrogation, social security, State unemployment insurance, and Federal unemployment insurance and excluding actual wages as defined above and subsistence and travel allowance as specified below.
 - iii. Subsistence and Travel Allowance - The actual subsistence and travel allowance paid to such workers.

- b. Materials –The Contractor may be compensated for the cost of materials furnished by the Contractor for use in performing any change or extra work provided use of the materials was as specifically authorized, and the actual use was verified by the Engineer. Compensable charges will be calculated as the net cost to the Contractor delivered at the job. West County Wastewater reserves the right to furnish such materials as it deems advisable, and the Contractor will not be compensated for costs and markup on those materials.
 - i. Contractor shall document the use of all materials for extra work with copies of vendor's invoices. Such invoices shall be submitted with the related Daily Extra Work reports or, if not available for submittal with the Daily Extra Work reports, they must be properly identified and promptly transmitted to the Engineer. The vendor's invoices must be submitted to the Engineer no later than 60 days after the date of delivery of the material or within 15 days after the acceptance of the Contract in accordance with Section 00 72 41, Final Payment and Release, or West County Wastewater will establish the cost of such materials at the lowest wholesale prices at which the materials are available in the quantities required, F.O.B. at the required locations of work, less any cash or trade discounts provided.
- c. Equipment Rental - The Contractor will be paid for the use of the equipment at the rental rates listed for such equipment in the State of California Department of Transportation publication entitled Labor Surcharge and Equipment Rental Rates in effect on the date upon which the work is accomplished that is a part of the Contract, regardless of ownership and any rental or other agreement for the use of such equipment entered into by the Contractor. If it is deemed necessary by the Engineer to use equipment not listed in that said publication, the Engineer shall establish a suitable rental rate for that equipment. The Contractor may furnish any cost data which might assist the Engineer in the establishment of such rental rate.
 - i. The rental rates paid as provided above include the cost of fuel, oil, lubrication, supplies, small tools, necessary attachments, repairs and maintenance of any kind, depreciation, storage, insurance, and all incidentals.
 - ii. Individual pieces of equipment or tools not listed in the publication which have a replacement value of five hundred dollars (\$500) or less, whether or not consumed by use, will be considered to be small tools and no payment will be for that equipment or those tools.
 - iii. Rental time will not be allowed while equipment is inoperative due to breakdowns.
 - iv. Equipment on the Work - The rental time to be paid for equipment used will be the time the equipment is in operation on the extra work being performed and, in addition, the time required to move the equipment to the location of the extra work and return it to the original location or to another location requiring no more time than required to return it to its original location. Moving time will not be paid for if the equipment is used at the site of the extra work on work other than the extra work. Loading and transporting costs will be allowed, in lieu of moving time, when the equipment is moved by means other than its own power, except that no payment will be made if the equipment is used at the site of the extra work on work other than the extra work. The following shall be used in computing the rental time of equipment on the work:
 - 01. When hourly rates are listed, less than thirty (30) minutes of operation will be considered to be one-half hour of operation.
 - 02. When daily rates are listed, less than four hours of operation will be considered one-half day of operation.
 - v. Equipment not on the Work - For the use of equipment moved in on the work and used exclusively for extra work, the Contractor will be paid the rental rates listed in the State of California Department of Transportation publication entitled Labor Surcharge and

Equipment Rental Rates is in effect on the date upon which the work is performed and which is a part of the Contract, or determined as provided in this subsection, and for the cost of transporting the equipment to the location of the work and its return to its original location, all in accordance with the following provisions:

01. The Contractor and the Engineer shall agree in advance as to the original location of the equipment to be hauled to the location of the work.
02. West County Wastewater will pay the costs of loading and unloading such equipment.
03. The cost of transporting equipment shall not exceed the applicable minimum established rates of the Public Utilities Commission.
04. The rental period begins at the time the equipment is unloaded at the site of the extra work and will include each day that the equipment is at the site of the extra work, excluding Saturdays, Sundays, and West County Wastewater-observed holidays and days of temporary suspension of the work unless the equipment is used to perform the extra work on such days. The rental period terminates at the end of the day on which the Engineer directs the Contractor to discontinue the use of the equipment. The rental time to be paid per day will be in accordance with the following:

<u>Hours Equipment is in Operation</u>	Hours <u>to be Paid</u>
0.5	4.25
1.0	4.50
1.5	4.75
2.0	5.00
2.5	5.25
3.0	5.50
3.5	5.75
4.0	6.00
4.5	6.25
5.0	6.50
5.5	6.75
6.0	7.00
6.5	7.25
7.0	7.50
7.5	7.75
8.0	8.00

- ◆ The hours to be paid for equipment that is operated less than eight hours due to breakdowns will not exceed eight hours less the number of hours the equipment is inoperative due to breakdowns.
- ◆ When hourly rates are listed, less than 30 minutes of operation will be considered one-half ($\frac{1}{2}$) hour of operation.
- ◆ When daily rates are listed, payment for one-half ($\frac{1}{2}$) day will be made if the equipment is not used. If the equipment is used, payment will be made for one day.
- ◆ The minimum rental time to be paid for the entire rental period on an hourly basis will not be less than eight 8 hours or if on a daily basis not less than one day.

- ◆ If the Contractor opts to return the equipment to a location other than its original location, West County Wastewater will pay the cost of transportation in accordance with the above provisions, providing that the payment does not exceed the cost of moving the equipment to the work.
- ◆ West County Wastewater will not pay for transporting, loading, and unloading equipment if the equipment is used on the work in any other way than upon extra work.

vi. If the Contractor elects to move equipment to perform the work before the equipment is used or elects to delay the return of the equipment to its original location, West County Wastewater will not compensate the Contractor for the time the equipment is idle before and after it has been used on the extra work.

d. Bonds - The markups referred to in this subsection shall include full compensation for all additional bonding costs the Contractor may incur as a result of the extra work. No additional percentage increase will be allowed to these markups for bonding costs.

e. Contractor shall remove, repair or reconstruct defective work performed under cost plus procedures to the satisfaction of the Engineer at no additional cost to West County Wastewater.

7. The Contractor shall maintain its cost records and records of its subcontractors and special forces to provide a clear distinction between the costs of other operations and the direct costs of extra work paid for in accordance with this Section 00 72 12, Changes and Extra Work. Contractor must document its performance of extra work on a daily basis in accordance with the following:

a. The Contractor shall furnish the Engineer with completed daily extra work reports, on forms furnished by West County Wastewater, for each day's work Contractor contends is payable on an extra work basis. The daily extra work reports must itemize the materials used, the direct cost of applicable labor, and the charges for equipment used, whether furnished by the Contractor, subcontractor, or other forces. The daily extra work report itemizations for labor must provide names or identifications and classifications of all workers, the hourly rate of pay, and hours worked on extra work. Itemized equipment records must provide the size, type, and identification number of equipment and hours operated for extra work.

b. All daily extra work reports shall be signed by the Contractor or its authorized representative.

c. The Engineer will compare its records with the completed daily extra work reports furnished by the Contractor and make any necessary adjustments. When the daily extra work reports are agreed upon and signed by both parties, the reports will be the basis of payment for the work performed. These reports may be adjusted based upon later audits that may be performed by West County Wastewater.

D. The quantities set forth in Section 00 41 43, Schedule of Bid, are approximations only. If there is a variation in the estimated quantity by more than 150 percent or less than 50 percent of the bid quantity, either West County Wastewater or the Contractor may notify the other party of its intention to renegotiate the contract unit price with respect to those quantities outside of the permitted range of 50 percent below to 150 percent above the bid quantity.

1. Any estimated quantity from a maximum of 150 percent of the bid quantity to a minimum of 50 percent of the bid quantity will be paid for at the contract unit price. Such quantities will be determined by the Engineer at the Engineer's discretion in accordance with the applicable measurement provisions of the Contract using such methods as the Engineer considers appropriate for the class of work to be measured, including, but not limited to, the method of average end area computed from cross sections grid system or topographic contours. If the Engineer determines it to be necessary, prismoidal corrections, or corrections for curvature in alignment, will be employed. The planimeter shall be considered an instrument of accuracy adapted to measurement of areas. The dividing limits, lines, or planes between adjacent items or

classes or excavation, concrete, or other types of work, where not specifically set forth in the Contract, will be as determined by the Engineer.

E. Requests for Additional Compensation

1. Unless the Contractor has been ordered by West County Wastewater to perform changes or extra work pursuant to Section 00 72 12, Changes and Extra Work, West County Wastewater will not consider payment of additional compensation to the Contractor unless the Contractor follows the procedures set forth in this subsection. For the purposes of the Contract, a request for additional compensation means any request for compensation in excess of the contract amount (as amended by addenda and/or change orders) arising out of the conduct of the work and includes, but is not limited to, requests for compensation arising out of changed site conditions, delays occasioned by the owner or third parties, and such other compensation arising out of interference with the work which is not the responsibility of the Contractor.
2. Immediately upon learning of a condition, occurrence, or circumstance that potentially will give rise to a request for additional compensation the Contractor must notify the Engineer of that condition, occurrence or circumstance. If the Contractor's initial notification is oral, it must confirm the notification in writing no later than five calendar days after the oral notification. The Contractor may not proceed with the work involving a potential request for additional compensation without notifying the Engineer of the subject conditions, occurrence or circumstance unless an emergency exists or unless it is impossible to notify the Engineer without creating an unreasonable delay in the work.
3. No later than 14 calendar days after learning of such condition, occurrence or circumstance, the Contractor shall submit to the Engineer a detailed written statement setting forth the causes of extra costs, potential and/or actual incurred costs as well as engineering and technical data supporting the request for additional compensation. The Contractor shall submit sufficient data to reasonably enable the Engineer to make a thorough analysis and investigation regarding the request for additional compensation. If the Contractor cannot reasonably provide the detailed statement within the 14 calendar day period, Contractor must provide such data as it can be reasonably provide. The Contractor shall request from the Engineer, before the expiration of the five (5) calendar day period, an extension for a specific period of time in which to file the required documentation supporting the request for additional compensation.
4. Without modifying or waiving any of the Contractor's obligations set forth in paragraph 3 above, the Contractor must submit to the Engineer a detailed written statement setting forth the final costs and any supplemental engineering and technical data related to any requests for additional compensation no later than 60 days after the date of substantial completion of the work. If the Contractor determines that extraordinary circumstances exist, the date for submission of final costs and technical backup may be extended by written agreement with West County Wastewater. This statement of final costs and supplemental reporting data must be sufficiently detailed to enable the Engineer to thoroughly analyze and make a reasonable determination regarding the request for additional compensation. If the Contractor fails to immediately notify the Engineer of a condition, occurrence or circumstance that potentially will give rise to a request for additional compensation or to make reasonable efforts to provide an adequate initial submittal within the 14 calendar day period, or any extension of that period agreed to by the Engineer as set forth in paragraph 3 above, and/or failure of the Contractor to provide such statement of final costs and technical submittals within 60 days of the date of substantial completion, or by such date as that period may be extended, will be a waiver by the Contractor of any and all rights to additional compensation for such conditions, occurrences, or circumstances for which costs and other required data has not been timely submitted. The waiver by the Contractor of its rights to compensation due to failure to comply with the requirements of this General Condition shall operate as a waiver of all rights of the Contractor under the Contract, at law, and in equity to receive additional compensation whether through the Government Code claims process or otherwise.

00 72 13 INDEPENDENT CONTRACTOR, SUPERINTENDENT, AND EMPLOYEES

- A. The Contractor is an independent Contractor performing work under the Contract, maintaining complete control over its employees and all of its subcontractors. The Contractor shall perform all work in an orderly, timely, and workmanlike manner, enforce strict discipline and order among its employees, and assure strict discipline and order by its subcontractors in complying with the Contract Documents .

B. Before starting work, the Contractor shall designate in writing its authorized representative who will have the authority to represent and act for the Contractor. The Contractor shall provide a clear written definition of the scope of the authorized representative and assistant's authority to act for the Contractor, and shall specify any and all limitations of such authority. The Contractor's representative shall be present or be duly represented at the site of work at all times when work is actually in progress. When work is suspended, Contractor shall make arrangements acceptable to the Engineer for performing any emergency work that may be required. The Contractor's authorized representative must be supported by competent assistants, as necessary, and the authorized representative and its assistants must be satisfactory to the Engineer. West County Wastewater reserves the right to have the Contractor remove the authorized representative from the project and replace the representative with another person who is acceptable to the Engineer. All requirements, instructions, and other communications given to the authorized representative by the Engineer are as binding as if given to the Contractor. Before starting work, the Contractor shall give West County Wastewater a written list of the addresses and telephone numbers where the Contractor's project manager, project superintendent, and foremen can be reached during hours when the work is not in progress.

1. Contractor's authorized representative must be present or be duly represented at the Project site at all times while work is actually in progress. When work is not in progress and during periods when work is suspended, the Contractor shall make arrangements acceptable to the Engineer for one or more persons to be contacted for any emergency work which may be required.
2. The Contractor shall employ only competent and skilled workers to perform any work in numbers sufficient to carry the work to satisfactory completion within the time limits specified or required to meet approved construction schedules. The Contractor shall maintain satisfactory conduct of its employees at the jobsites.
3. Each machine or unit of equipment shall be operated by an operator competent in handling the particular make of machine or unit or equipment in use, at a speed or rate of production not to exceed that recommended by the manufacturer.

C. If any subcontractor or person employed by the Contractor appears to the Engineer to be incompetent, or be under the influence of alcohol or illegal drugs, or to act in an unsafe, disorderly, or improper manner, the Engineer may require that such person not again be employed on the work. However, nothing contained in this paragraph will shift the responsibility for supervision of persons employed by the Contractor from the Contractor or require the Engineer to take any action with regard to an employee of the Contractor or subcontractor who is subject to discipline.

D. The Contractor shall maintain labor relations in such manner and by such methods as will provide for harmony among workers. The Contractor shall assure that its subcontractors of all tiers comply with the provisions set forth in this Section. Failure of the Contractor or any of its subcontractors at any tier to comply with this provision will be grounds for termination of the Contract in accordance with Section 00 72 36, Termination of Right to Proceed.

00 72 14 CONTRACTOR'S PLANT, CONSTRUCTION EQUIPMENT, AND FACILITIES

A. The Contractor shall provide and ensure the use of, on any work, only such construction plant and equipment capable of producing the quality and quantity of work and materials required by the Contract and within the time or times specified. Before proceeding with any contract work or with erection of any facilities including but not limited to temporary structures, machinery, equipment, offices, warehouses, and camps, the Contractor shall, at its expense, furnish the Engineer with such information and Documents relative to such equipment, plant, and facilities as the Engineer may request. Upon written order of the Engineer, the Contractor shall promptly remove unsatisfactory equipment and facilities from the site and shall discontinue operation of unsatisfactory plant.

B. The Contractor shall furnish and maintain such potable water supplies and proper sanitation facilities as it determines necessary for its forces at the jobsite.

C. The Contractor shall maintain all portions of the jobsite in a neat, clean, and sanitary condition at all times. The Contractor shall furnish toilets where needed for use of its employees and shall strictly enforce their use.

1. The Contractor may not make use of West County Wastewater's existing sanitary facilities.

00 72 15 EQUIPMENT, MATERIALS, AND/OR PRODUCTS, SUBSTITUTION OF SPECIFIC ITEMS AND TRADE NAMES, WORKERS' SKILLS

- A. The work, unless otherwise permitted or approved by the Engineer, must be completed with the incorporated use of equipment, materials, and/or products where specified. Substitutions and equal alternatives will be permitted as provided in this Section; however, neither the request for substitution nor the offer of alternatives obligates West County Wastewater to assent to any such request or offer. If the Contractor fails to either submit requests for substitutions or to offer alternatives within the required times provided in this General Condition, West County

Wastewater will presume that the work will be accomplished with the trade-named equipment, materials, and/or products as identified in the Technical Specifications and/or the Project Documents.

1. Unless otherwise provided in the Contract, all equipment, materials, and/or products incorporated into the work must be new and, where not specified, must be of the highest quality of the respective kinds for the intended use, and all workmanship must meet or exceed applicable construction industry standards and practices. If equipment, materials, and/or products are designated by listing named manufacturers of particular equipment, materials, and/or products followed by the words "or equal," then the Contractor may furnish the named equipment, materials, and/or products or any equal equipment, materials, and/or products. The first-named manufacturer of particular equipment, materials, and/or products is the basis for the design shown on the Project Documents. A subsequently-named manufacturer or particular equipment, materials, and/or products has been determined to be an acceptable substitution but may require modifications in the Project's design and its ultimate construction to accommodate its use. If such subsequently-named items are selected by the Contractor for incorporation into the work, the Contractor assumes all costs required for modifications to the equipment, materials, and/or products, and Project design and construction as may be required for said items' use. The Engineer will permit substitutions for an unnamed "equal" item of material if the Contractor complies with the procedures set forth in Paragraph B of this Section. If a Contractor makes use of an unnamed "equal" product as a substitute for a specifically-named material or product, the Contractor will assume all costs required to make the necessary revisions or modifications to accommodate the use of the unnamed product.

2. Before beginning the work and no later than 35 days after award of the Contract, the Contractor shall submit a List of Materials to the Engineer for review. The List must include all items of equipment, materials, and/or products to be incorporated into the work and the names of suppliers with whom purchase orders have been placed. The names on the List must be arranged in the same order as in the specifications, and the List must contain sufficient data to identify precisely the items of equipment, materials, and/or products that the Contractor proposes to furnish. The List must include specification or Project Drawing references. Once the submission is determined to be acceptable to the Engineer, the Engineer will return it to the Contractor.
3. If the Contractor is required to furnish sample specimens of materials, the Contractor shall comply with the provisions of 00 72 28, Inspection and Sample Specimens.

- B. Substitution for equipment, materials, and/or products specified will only be permitted when the proposed unnamed "equal" product or material to be furnished is both equal in quality and utility and after the Contractor has complied with the following provisions: (1) The Engineer shall review all proposed substitutions. (2) The Engineer must approve each substitution in writing prior to its incorporation into the work. (3) Unless otherwise authorized in writing by West County Wastewater, the Contractor shall, no later than 35 days after award and prior to placing any purchase orders, but no later than 30 days before it requires approval of any such alternative item, submit to West County Wastewater sufficient data, drawings, samples, literature, or other detailed information as will demonstrate to the Engineer that the proposed substitute is equal in quality and utility to the equipment, materials and/or products specified. Contractor shall submit a side-by-side comparison of the proposed equipment specification to the contract specification.

1. Within 30 calendar days following receipt of all requested information from the Contractor, the Engineer will determine whether the proposed alternative is equal in quality and utility and meets the requirements of the Contract and will inform the Contractor in writing of this determination. The Contractor will bear the burden of substantiating the quality and utility of alternatives, and the Contractor shall furnish all

necessary information requested and required by the Engineer. The Engineer will be the sole judge as to the quality and utility of alternative equipment, materials, and/or products, and the Engineer's decision will be final. Acceptance by the Engineer of a substitution will not relieve the Contractor from complying with the requirements of the Project Documents and Specifications. Acceptance by the Engineer will not relieve the Contractor from full responsibility for the efficiency, sufficiency, and quality and performance of the substitute equipment, materials, and/or products, in the same manner and degree as equipment, materials, and/or products specified by name.

2. Failure of the Contractor to submit proposed substitutions for review in the manner described above and within the time prescribed will be sufficient cause for rejection by West County Wastewater of the proposed substitutions.
3. The Engineer is not restricted to basic issues as performance and durability in determining whether a proposed product is equal in quality and utility, but may consider any other issues that the Engineer, in its discretion, deems appropriate. Issues that may be considered in making this determination may include, but are not limited to, factors such as comparable performance, reliability, efficiency of operation, ease of operation, adaptability, ease of maintenance, capital costs, life-cycle costs, operational characteristics, costs of training personnel, maintenance history, warranties, problems created by the resulting overall warranty system, availability of qualified service, availability of parts, the history of any supplier and compatibility with existing facilities.
4. No one factor or group of factors, including such issues as savings on capital costs, will be determinative of whether the proposed product or material is equal in quality and utility. The decision of the Engineer will be based on those factors deemed by the Engineer to be relevant and any data, drawings, samples, literature, or other detailed information furnished by the Contractor with respect to the proposed substitution.
5. Each decision as to whether a product or material is equal in quality and utility will be made by the Engineer on a case-by-case basis.
6. The Contractor will pay any and all costs, including consultant costs, incurred by West County Wastewater with respect to the proposed substitution that exceed the costs inherent in the normal and reasonable review of Documents and other standard data, information, and Documents concerning any proposed substitution. The Contractor's responsibility for this cost will not depend upon whether the Engineer approves the substitution.

C. Unless otherwise provided in the Contract, the title and interest in the right to the use of all water, and the title to all soil, stone, gravel, sand, minerals, timber, and all other materials developed or obtained within the Project limits from operations by the Contractor or any of its subcontractors, of any of their representatives or employees, and the right to use or dispose of the same are reserved to West County Wastewater where located within its boundaries; and neither the Contractor nor any of its subcontractors, nor any of their representatives or employees, will have any right, title, or interest in or to any such substances or materials.

1. All material used under the Contract after it has been attached or affixed to the work or soil and after partial payment has been made therefor will become the property of West County Wastewater.
2. In the event that the Contractor or any of its subcontractors or any of their representatives or employees discovers any Indian relics or items that may possess archaeological or historical value, the Contractor shall immediately notify the Engineer and await the Engineer's decision before proceeding with any work. The Contractor will have no property right in such relics and items.
3. The Contractor shall satisfy himself as to the quantity of acceptable materials or products which may be produced or obtained at local sources, and West County Wastewater will not assume any responsibility as to the quantities or quality of acceptable materials or products available.
4. The Contractor, with the permission of the Engineer, may use in the proposed construction such stone, gravel, sand, or other material found in the excavation that the Engineer determines is suitable.

5. Existing equipment, materials, and/or products to be salvaged will shall remain the property of West County Wastewater. The Contractor shall refurbish as required any salvage to be reinstalled in the work before reinstallation. The Contractor shall carefully remove and handle other work to be salvaged to avoid damage and shall deliver such work to storage at a location designated by the Engineer.

00 72 16 CONTRACTOR-FURNISHED DOCUMENTS AND DATA

- A. No later than 30 days after receiving the Notice to Proceed (NTP), the Contractor shall submit at its own expense Shop Documents and details of all structural and reinforcing steel, equipment, electrical controls, structural fabrications, pipe, pipe joints, special pipe sections, and other appurtenances. The Engineer must find acceptable a Shop Drawing or detail before the item or items shown are manufactured or used in the work. The acceptance of Documents by the Engineer applies for general design only and will not relieve the Contractor of its responsibility for errors or omissions contained therein. Acceptance by the Engineer will not relieve the Contractor of its obligation to meet safety requirements and all other requirements of law. The Engineer will begin reviewing the Contractor's submittals only after the NTP is issued by West County Wastewater except for some unusual long lead items which may require submittals prior to issuance of the NTP.
- B. The Contractor bears full responsibility for shop drawing submittal and coordination; this responsibility may not be delegated in whole or in part to subcontractors or suppliers. Any designation of work "by others" shown on Shop Documents means that the Contractor shall be responsible for the work shown rather than the subcontractor or supplier who has prepared the Shop Drawings.
- C. Submittals must permit data to be identified with the applicable Specification paragraph. The data must clearly demonstrate compliance with the Project Documents and Specifications and must relate to the specific equipment to be furnished. Where manufacturer's standard Documents are employed, they must be clearly marked to show what portions of the data are applicable to this Project.
- D. The Engineer's review of shop-drawing submittals is primarily intended to provide for completion for West County Wastewater of a Project in full conformance with the Project Documents and Specifications, unmarred by field corrections, and within the time provided. In addition to this primary objective, shop-drawing review is secondarily intended to assist the Contractor in its procurement of equipment that will meet all requirements of the Project Documents and Specifications, will fit the structures detailed on the Project Documents, will be complete with respect to piping, electrical, and control connections, will have the proper functional characteristics, and will become an integral part of a complete operating facility. Acceptance of Shop Documents and submittals does not constitute a change to the Contract requirements.
- E. Where the Contractor is required by these Specifications to make submittals, they must be submitted to the Engineer with a letter of transmittal and in a sufficient number of copies to allow a distribution of at least one (1) copy to all parties needing a copy to carry out the provisions of the Specifications, including three (3) copies to be retained by the Engineer. The Engineer shall identify the appropriate number of such copies required at the time of the preconstruction conference.
- F. The Engineer will return the appropriate number of copies of each of the Contractor's submissions and all appurtenant data within 21 days of receipt, with one of the following notations:
 1. Resubmittal not required; correction, if any, noted.
 2. Correct and resubmit corrections noted.
- G. Returned copies of Documents marked with Notation "1" permit the Contractor to proceed with the operations covered by such returned copies, provided that such operations will be subject to the comments, if any, shown on such returned copies.
- H. The Contractor shall correct, as necessary and required, returned copies of Documents marked with Notation "2" and shall submit them in the same manner as before.
- I. When the Engineer determines that a submittal is acceptable, the Engineer will retain three copies and will return all other copies to the Contractor. When submittals are not accepted, the Engineer will retain only two

copies and will return all others to the Contractor. The Parties intend that the Contractor make a complete and acceptable submission to the Engineer at least by the second submission of data. West County Wastewater may deduct monies from payments due the Contractor to cover additional costs of the Engineer's review of submittals beyond the second submission.

- J. The Engineer's determination that a submittal is acceptable will not constitute acceptance by the Engineer of any responsibility for the accuracy, coordination, and completeness of the Shop Documents or the items of equipment represented on the Drawings. The Contractor shall be solely responsible for the accuracy, coordination, and completeness of Shop Drawings, and this responsibility will include back checking comments, corrections, and modifications from the Engineer's review before fabrication.
- K. Supplemental, specific requirements for Shop Documents and details are contained in the applicable technical sections of these Specifications.
- L. The Contractor shall provide sufficient copies of schedules and Shop Documents to the Engineer for review to provide three copies for the Engineer's files, and such additional copies as the Contractor may desire for its own office files and/or for distribution by it to subcontractors or vendors. Exceptions will be noted in specific sections of the Technical Specifications.
- M. The Contractor shall submit all Shop Documents and supporting data, catalogs, and schedules as its instruments, and the Contractor will be responsible for their accuracy and completeness. These submittals may be prepared by the Contractor, subcontractors, or suppliers, but the Contractor must ascertain, before submitting them to the Engineer, that submittals meet all of the requirements of the Contract, while conforming to structural, space, and access conditions at the point of installation. The Contractor shall check all submittals before submitting them to the Engineer.
- N. The Engineer will check and review schedules, drawings, etc., submitted by the Contractor only for general design conformance with the concept of the Project and compliance with the Contract.
- O. Shop Documents may not be used to order products' fabrication or delivery for construction or installation unless they have been submitted to and determined to be acceptable by the Engineer.
- P. Determination by the Engineer that any drawings, method of work, or any information regarding materials and equipment the Contractor proposes to furnish are acceptable will not relieve the Contractor of its responsibility for any errors therein and will not constitute an assumption of risks or liability by the Design Engineer or West County Wastewater, or any officer or employee thereof, and the Contractor shall have no recourse against West County Wastewater under the Contract on account of the failure or partial failure or inefficiency or insufficiency of any plan or method of work or material and equipment so accepted. Such acceptance shall mean merely that the Engineer has no objection to the Contractor using, upon its own full responsibility, the plan or method of work proposed or furnishing the materials and equipment proposed.

00 72 17 STANDARDS AND CODES

- A. The Contractor shall construct all work in full accordance with the requirements of local building codes, the National Board of Fire Underwriters, the Pacific Fire Rating Bureau, the State Fire Marshall, the Safety Orders issued by the Division of Industrial Safety of the State of California, and all other prevailing codes and regulations having jurisdiction over construction included in the Contract Documents .
- B. Where references are made in the Contract to the respective standards and codes in accordance with which work is to be performed or tested, the edition or revision of such standards and codes in effect on the date of the Notice to Contractors shall apply, unless otherwise specified in the Technical Specifications; references to such standards and codes is solely for technical information. Nothing in these specifications is to be construed to permit work not conforming to governing codes. In case of conflict between referenced standards and codes or between standard(s) or code(s), and the requirements of the Contract, the Engineer will determine which will govern. For purposes of bidding, it is assumed that the more restrictive one is required.

00 72 18 SAFETY

- A. The Contractor will be solely and completely responsible for conditions on the jobsite, including safety of all persons and property during performance of the work. This requirement will not be limited to normal working hours. The Contractor shall promptly and fully comply with and carry out safety requirements as prescribed by federal, state, or local laws or regulations and industry standards.
- B. The services of the Engineer in conducting review and inspection of the Contractor's performance is not intended to include review of the adequacy of the Contractor's work methods, equipment, bracing or scaffolding, or safety measures, in, on, or near the construction site.
- C. The Contractor shall take such measures as may be necessary or required to assure that the safety and health of the employees and of the public may be safeguarded.
- D. THE CONTRACTOR ACKNOWLEDGES THAT WORK ON THIS PROJECT COULD BE PHYSICALLY DANGEROUS TO WORKERS. THE CONTRACTOR SHALL CAREFULLY INSTRUCT ALL PERSONNEL WORKING ON THIS PROJECT AS TO POTENTIAL DANGERS, WHICH COULD BE POTENTIALLY HAZARDOUS TO WORKERS' HEALTH, AND SHALL PROVIDE SUCH NECESSARY SAFETY EQUIPMENT AND INSTRUCTIONS AS ARE NECESSARY TO PREVENT INJURY TO PERSONNEL AND DAMAGE TO PROPERTY. THE CONTRACTOR SHALL EXERCISE SPECIAL CARE RELATIVE TO WORK UNDERGROUND.
- E. The conveyance and treatment of raw sewage and its by-products can introduce pathogenic organisms which may cause diseases such as salmonellosis, typhoid fever, paratyphoid fever, bacillary dysentery, cholera, infectious hepatitis, polio, amoebic dysentery, and others.
- F. The Contractor shall direct and control the work assigned and shall assure that all workers on the Project understand the hazards of the work involved and the safe work procedures required for each job. The Contractor shall assure that its subcontractors of all tiers shall, without expense to West County Wastewater, comply with this safety responsibility. No work may proceed until each worker and subcontractor understands the scope of the work and all safety rules and work procedures to be followed. The Contractor may not allow a new employee or new subcontractor to begin work on West County Wastewater projects without a full and proper safety orientation.
- G. Use of alcoholic beverages and/or nonprescription drugs are strictly prohibited. Workers who use prescription drugs that interfere with workers ability to work safely are prohibited from the work site.
- H. The Contractor is advised that, in certain locations and under certain conditions, the work may take longer and may require special equipment in order to properly conform to safety regulations. In such cases, no additional compensation will be allowed the Contractor therefor.
- I. The Contractor's personnel shall wear hard hats at all times while on the project work site, except in offices or vehicles.
- J. Before starting work, the Contractor shall submit a written safety program for West County Wastewater's review. The objective of the safety program will be accident prevention. Such program shall include, but not be limited to, the following:
 - 1. An organization chart and accompanying narrative which describes the responsibility for employee and public safety of those individuals who control each phase of operations and set forth in writing the policies and procedures to be followed by all personnel. The chart shall also show the Contractor's internal lines of communication (including subcontractors) for the program.
 - 2. The designation of a competent person.
 - 3. A specific program for communication between the Contractor and West County Wastewater on safety matters. The Contractor shall also designate one person with whom official contact can be made by West County Wastewater on safety matters.

4. Evidence that the Contractor has become thoroughly familiar with the potential hazards of the work and applicable federal and state regulations. This will be in the form of a signed affidavit per Section 00 45 17 titled Contractor Safety Acknowledgment.
5. Specific safety procedures and guidelines for conduct of the work.

K. West County Wastewater's review, comment upon, and/or acceptance of the Contractor's safety program and/or plan will not negate Contractor's obligations for safety or place any responsibility upon West County Wastewater for such safety. Any review comments and/or acceptance will not limit the Contractor's obligations to undertake any action which may be necessary or required to establish and maintain safe working conditions at the site.

L. The Contractor shall promptly comply with any directive from West County Wastewater in connection with safety. West County Wastewater may stop the work if West County Wastewater reasonably believes that there is an imminent danger to safety. West County Wastewater may also require the Contractor to revise the Contractor's safety program and/or plan to eliminate future occurrences of the imminent danger. West County Wastewater's reservation of these rights to be exercised in its sole discretion and will not constitute obligations of West County Wastewater to monitor or enforce the Contractor's safety program, plan, and/or method of operation. West County Wastewater's exercise of these rights will not provide any basis for any request by the Contractor for delay damages, extra compensation, and/or additional compensation to complete the work.

M. It is the intent of West County Wastewater that the Contractor provide a safe working environment under normal conditions. **HOWEVER, BECAUSE OF POTENTIALLY HAZARDOUS CONDITIONS SUCH AS CONFINED SPACES, POTENTIALLY EXPLOSIVE ATMOSPHERES, HANDLING OF CERTAIN CHEMICALS, POSSIBLE EXPOSURE TO PATHOGENS, ETC., SPECIALIZED EQUIPMENT MAY BE NECESSARY AND STRICT CONFORMANCE WITH SAFETY REGULATIONS WILL BE REQUIRED.**

N. The Contractor shall keep adequate first aid facilities and supplies available and shall provide for instruction in first aid.

O. The Contractor shall assure that its subcontractors of all tiers shall, without expense to West County Wastewater, comply with this Section and the provisions of Section 00 72 14, Contractor's Plant, Construction Equipment, and Facilities.

00 72 19 PUBLIC ACCESS AND SAFETY; PROTECTION OF PROPERTY

- A. The design of the facilities included in this Project has been based on the concept that the structures are not accessible to and usable by the handicapped and the general public. Consequently, stairs, landings, platforms, railings, ladders, exits, and the like, for treatment facilities were designed to conform only to the requirements for industrial use by authorized persons.
- B. The Contractor will be responsible for the work and protection thereof, and for preventing injuries to persons and damage to the work and property and utilities on or about the work, until completion and final acceptance of the work. The Contractor will not be relieved of any of its responsibility because of the Engineer's discretion to give permission or directions relating to any part of the work, by any such permission or directions given, or by failure of the Engineer to give such permission or directions.
- C. The Contractor shall provide and maintain all necessary safety equipment such as fences, barriers, signs, lights, walkways, guards, and fire-prevention and fire-fighting equipment and shall take such other action as is required to fulfill its obligations under this Section.
- D. The Contractor shall conduct its operations so as not to close or obstruct any portion of any railroad, highway, road, or other property until permits therefor have been obtained from the governmental or other authorities having jurisdiction thereof. If any of the above are required to be kept open and will be damaged or rendered unsafe by the Contractor's operations, the Contractor shall, at its expense, make such repairs and provide such temporary guards, bridges, lights, and other signals as necessary or required for public safety and as will be acceptable to the governmental or other authorities having jurisdiction thereof. Fences which interfere with any work may, upon prior written approval of West County Wastewater, be removed by the Contractor but must

then be restored to their original condition prior to final acceptance. Such removal and restoration shall be performed by and at the expense of the Contractor.

E. Unless otherwise specifically provided in the Contract, the Contractor shall not perform any work that may affect any pipeline, telephone, telegraphic, or electric transmission line, irrigation ditch, or other structure, nor enter upon the rights-of-way or lands appurtenant thereto, until notified by the owners that West County Wastewater has obtained proper authority to do so from the owners of such property or improvements. Thereafter and before it begins such work, the Contractor shall give such owners convenient access and reasonable cooperation in the Contractor's removal, shoring of, support of, or otherwise protecting such lines, ditches, and structures and for replacing same.

1. The Contractor shall exercise care to prevent damage to adjacent walks, streets, culverts, and gutters; where the Contractor's equipment will pass over these obstructions, it shall place suitable planking.
2. The Contractor will not be entitled to any extension of time or any extra compensation on account of any postponement, interference, or delay caused by any such line, ditch, or structure being on or adjacent to the site of work except as provided in Section 00 72 11, Differing Site Conditions.
3. The Contractor shall preserve and protect all cultivated and planted areas, and vegetation such as trees, plants, shrubs, and grass on or adjacent to the premises, which, as determined by the Engineer, do not reasonably interfere with the performance of work. The Contractor must compensate the owner for damage to any such areas and vegetation and for unauthorized cutting of trees and vegetation, including without limitation, damage arising from the performance of its work through operation of equipment or stockpiling of materials. All costs in connection with any repairs or restoration necessary or required by reason of any such damage or unauthorized cutting shall be borne by the Contractor.

00 72 20 LAWS AND REGULATIONS

A. The Contractor shall keep itself fully informed of, and shall observe and comply with, all laws, ordinances, and regulations which in any manner affect those engaged or employed on any work, or the materials and equipment used in any work or, which in any way affect the performance of any work, and of all orders and decrees of agencies having any jurisdiction or authority over work performed under the Contract.

B. If the Contractor discovers any discrepancy or inconsistency between the Contract and any such law, ordinance, regulation, order, or decree, the Contractor shall immediately report the same in writing to West County Wastewater. The Contractor shall be responsible for compliance by its subcontractors of all tiers with the provisions of this Section.

1. The Contractor is particularly directed to Part 7, Chapter 1, Section 2, Sections 1770 et seq. of the Labor Code of the State of California. Reference is hereby made to the provisions for minimum per diem wages contained in Section 00 11 16, Invitation to Bid.

C. The Contractor and each subcontractor engaged in the work shall pay each respective employee thereof an amount not less than the general prevailing rate of per diem wages established in compliance with Section 1770 et seq. of the Labor Code of the State of California and as determined by the Director of Industrial Relations to be effective and applicable for the various crafts, trades or type of worker needed or required to execute the contracts. In accordance with Section 1770 of said Labor Code, nothing otherwise provided under Article 2 of said Code shall prohibit the payment of wage rates to any worker in excess of such prevailing rates of wages as determined by the Director of the Department of Industrial Relations. However, should the Contractor or a subcontractor have a contractual relationship with workers whereby per diem rates of wages are paid in excess of such determined prevailing rates of wages, the Contractor or subcontractor shall identify and submit a certified listing of such workers and the amounts payable prior to beginning construction operations applicable thereto in accordance with this General Condition.

1. Failure of the Contractor or any subcontractor to certify and list workers and actual wages in excess of those effective as determined by the Director of Industrial Relations will constitute an express statement by the Contractor or such subcontractor that actual wages will be as determined by the Director of

Industrial Relations and will be paid to all workers and be applicable to all work required and ordered under the Contract.

2. The possibility of labor cost increases within the periods of time established and specified for completion of the Project is one of the elements to be considered by bidding Contractors and their subcontractors. West County Wastewater will not, at any instance of increase thereof, whether initiated by contractors, subcontractors, particular bargaining agreements, Director of Industrial Relations determinations, or otherwise, consider such as the basis of a request for additional compensation to West County Wastewater for work bid as specified and shown.
 - a. The Contractor shall comply with the provisions of Article 2, Chapter 1, Part 7, Division 2 (commencing with Section 1770), of the Labor Code, and in particular, Section 1775. In accordance with Section 1775, the Contractor shall forfeit to West County Wastewater or the Division of Labor Standards, as a penalty, up to \$50 per each calendar day or portion thereof, for each worker paid less than the prevailing rates for such work or craft in which such worker is employed for any work done under the Contract by him/her or by any subcontractor under the Contractor in violation of the provisions of the Labor Code and in particular, Labor Code Sections 1770 to 1780, inclusive. The amount of the daily penalty will be as determined by the Labor Commissioner in accordance with Section 1775. In addition to such penalty and pursuant to said Section 1775, the difference between the prevailing wage rates and the amount paid to each worker for each calendar day or portion thereof for which each worker was paid less than the prevailing wage rate shall be paid to each worker by the Contractor.
 - b. Where prevailing wage determinations have been predetermined to change during the Contract (beyond expiration dates as indicated on the forms), the Contractor shall obtain such changes from the Prevailing Wage Unit, Division of Labor Statistics and Research, Department of Industrial Relations, 525 Golden Gate Avenue, San Francisco, California 94102, telephone (415) 557-0561, and deliver a copy of the same to the Engineer.
 - c. If a Contractor intends to use a craft or classification not shown on the general prevailing wage determinations, the Contractor may be required to pay the wage rate of the craft or classification most closely related to it as shown in the general determinations effective at the time of bid opening.
3. The Contractor stipulates and agrees that pursuant to the provisions of Labor Code, Sections 1810 and 1813, eight hours labor shall constitute a legal day's work, and no worker shall be required or permitted to work more than eight hours in any one calendar day and 40 hours in any one calendar week, except as provided below. Nothing in this provision may be construed to relate to wage determination or in any way affect contractual provisions related to compensation.
 - a. As a penalty, the Contractor shall forfeit to West County Wastewater or the Division of Labor Standards \$25 for each worker employed in the execution of the Contract by it or by any subcontractor, for each calendar day during which any worker is required or permitted to labor more than eight hours in any one calendar day and 40 hours in any one calendar week in violation of the provisions of the Labor Code of the State of California and in particular, Section 1810 to Section 1815 thereof, inclusive, except that work performed by employees of Contractors in excess of eight hours per day and 40 hours during any one week will be permitted upon compensation for all hours worked in excess of eight hours per day at not less than one and one-half (1-1/2) times the basic rate of pay, as provided in said Labor Code, Section 1815.
4. Payroll Records: The Contractor and subcontractor's attention is directed to the provisions of Section 1776 of the Labor Code of the State of California and to the requirements therein pertaining to the keeping, availability, and filing of accurate payroll records of all journeymen, apprentices, and other workers performing work under this Contract. The Contractor shall comply with the requirements of said section.
 - a. Prior to each monthly progress payment, the Contractor shall deliver to the Engineer copies of certified payrolls of its and all subcontractors' forces performing work at the jobsite (or sites established primarily for the work), for labor compliance purposes, and Extra/Force Account

considerations. Such records shall be kept current on an effective day or period basis and in form acceptable to the Engineer. At a minimum, the form shall include the following information:

- i. Employee identification by name.
- ii. Employee's address and social security number.
- iii. Employee's craft and classification (in accordance with Director of Industrial Relations' wage determinations).
- iv. Employee's actual per diem wages (in compliance with Section 00 11 16, Invitation to Bid, and this Section 00 72 20, Laws and Regulations).
- v. Employee's subsistence and travel allowance (as applicable).
- vi. Employee's straight time and overtime hours worked each day and week.
- vii. Itemized deductions made from employee's wages.
- viii. Apprentices and ratio of apprentices to journeymen.
- ix. Contractor's or subcontractor's firm or company name, date or period for which applicable wage rates and allowances are effective, and the employer's signature.

- b. The certified payroll records shall be kept on forms provided by the Division of Labor Standards Enforcement, or shall contain the same information as the forms provided by the Division in addition to the above-listed information.
- c. The Contractor shall inform West County Wastewater of the location of the above payroll records, including the street address, city and county, and shall, within five (5) working days, provide a notice of change of location and address.
- d. The Contractor shall have ten (10) days in which to comply subsequent to receipt of written notice specifying in what respects the Contractor must comply with the provisions of California Code of Labor Section 1776. In the event that the Contractor fails to comply within the ten-day period, the Contractor shall, as a penalty to the state or to West County Wastewater, forfeit twenty-five dollars (\$25) for each calendar day, or portion thereof, for each worker, until strict compliance is effectuated. Upon the request of the Division of Apprenticeship Standards, or the Division of Labor Standards Enforcement, these penalties shall be withheld from progress payments then due.
- e. Any copy of records made available for inspection as copies and furnished upon request to the public or any public Wastewater by West County Wastewater shall be marked or obliterated in such a manner as to prevent disclosure of an individual's name, address, and social security number.
- f. Compliance with the above provisions of 00 72 20 and California Code of Labor Section 1776 shall be the responsibility of the Contractor.

5. Apprentices: The Contractor shall comply with the provisions of Section 1777.5 and 1777.6 of the California Labor Code in regard to employment of apprentices.
6. Labor Discrimination: Attention is directed to Section 1735 of the Labor Code, which reads as follows:
 - a. No discrimination shall be made in the employment of persons upon public works because of race, religious creed, color, national origin, ancestry, physical disability, mental disability, medical condition, marital status, or sex of such persons, except as provided in Section 12940 of the

Government Code, and every contractor for public works violating this Section is subject to all the penalties imposed for violation of this Chapter.

7. As required by Section 1773.8 of the California Labor Code, the Contractor shall pay travel and subsistence payments to each worker needed to execute the work, as such travel and subsistence payments are defined in any applicable collective bargaining agreements filed in accordance with this section.
8. The Contractor shall comply with all applicable federal, state, and local laws, ordinances, rules, and regulations, and lawful orders of all authorities having jurisdiction for the safety of persons and protection of property, as more particularly described under Sections 00 72 18, Safety, Sanitary, and Medical Requirements, and 00 72 19, Public Access and Safety; Protection of Property of this document.
9. Lateral and Subjacent Support: Attention is directed to Section 832 of the Civil Code of the State of California relating to lateral and subjacent supports. Wherever structures or improvements adjacent to the excavation may be damaged by such excavation, the Contractor shall comply with this law. As provided in Labor Code, Section 6707, a separate bid item is provided for costs of shoring and bracing of excavations five feet or more in depth.
10. The Contractor shall comply with Sections 25102 through 27001 of Title 27, California Code of Regulations. The Contractor shall warn all persons at the work site of their exposure to chemicals known to the State to cause cancer or birth defects or other reproductive harm. The Contractor shall be responsible for compliance by its subcontractors with this Section.
11. The Contractor shall comply with Bay Area Air Quality Management District Regulation 11, Rule 2, as it applies to the demolition, renovation, or removal of any building elements and to the disposal of any asbestos-containing waste material.
 - a. No regulated asbestos-containing material (RACM) may be stripped or removed unless Contractor has provided at least one on-site representative and certified that that representative is familiar with the provisions of Regulation 11, Rule 2, as it pertains to demolition and renovation and the means of compliance. The representative must be present during all removal and/or stripping of RACM. Contractor shall provide evidence as required under 11-2-303.9 of the Regulation that the required training of the representative has been completed.
 - b. The Contractor shall comply with all state laws and regulations regarding asbestos and asbestos-related work, including, but not limited to, the provisions of Labor Code Sections 6501.5 through 6510.
 - c. The Contractor shall so perform its work as not to discharge into the atmosphere from any source whatsoever smoke, dust, or other air contaminants in violation of the laws, rules, and regulations of the governmental entities having jurisdiction.

D. Project Labor Stabilization Agreement

All Contracts for which the Contract Price is more than \$1,000,000 are subject to the provisions of the Project Labor Stabilization Agreement—West County Wastewater ("PLSA"), effective January 1, 2021, which is set forth fully in these General Conditions. Contractor shall comply with the provisions of the PLSA and shall execute the Agreement to be Bound by the PLSA in the form set forth in Addendum A to the PLSA.

E. Agreement to Assign (Contractors and Subcontractors)

1. The Contractor's and subcontractors' attention is directed to the provisions of Government Code, Section 4552, which requires that, in entering into a public works contract or subcontract, contractors and subcontractors agree to assign to the purchasing body all rights arising from violations of antitrust regulations. In pertinent part, Government Code, Section 4552, reads as follows:

"In submitting a bid to a public purchasing body, the bidder offers and agrees that if the bid is accepted, it will assign to the purchasing body all rights, title, and interest in and to all causes of action it may have under Section 4 of the Clayton Act (15 U.S.C. Sec. 15) or under the Cartwright Act (Chapter 2 (commencing with Section 16700) of Part 2 of Division 7 of the Business and Professions Code), arising from purchases of goods, materials, or services by the bidder for sale to the purchasing body pursuant to the bid. Such assignment shall be made and become effective at the time the purchasing body tenders final payment to the bidder."

F. The Contractor's attention is directed to the provisions of Health and Safety Code, Section 7050.5, relating to the discovery of human remains. Upon any such discovery, Contractor shall not further excavate or disturb the site. The Contractor shall immediately notify West County Wastewater and the Contra Costa County Sheriff-Coroner's Office of any such find and shall comply with all other applicable laws and regulations.

G. The Contractor's attention is directed to the provisions of Health and Safety Code, Section 7050.5 and Public Resources Code, Sections 5097.5, 5097.94, 5097.98, and 5097.99, relating to the excavation, removal, destruction, injury, and defacement of historic or prehistoric ruins, burial grounds, archeological or vertebrate paleontological sites, or any other archeological, paleontological or historical feature. The Contractor shall immediately stop work in the area of any archeological discovery and notify West County Wastewater and comply with all other laws and regulations upon discovery of any such remains in the construction site. Compensation to the Contractor, if any, for lost time or changes in construction to avoid the find will be determined in accordance with changed conditions or change order provisions of the Contract.

H. Claims and Actions Against Public Entities and Employees

1. The Contractor's and subcontractors' attention is directed to Government Code Section 900 et seq., dealing with claims and actions against public entities and employees. Nothing contained in this Contract, including but not limited to Section 00 72 12, Changes and Extra Work, Subsection E, is intended to modify or remove the requirements set forth in these Government Code sections.
2. If the Contractor intends to file a claim with West County Wastewater for compensation in excess of the Contract amount or for the return of liquidated damages, the claim must be in writing and include all Documents necessary to substantiate the claim. These Documents may include invoices, cost breakdowns, and other documentation explaining the details of how the Contractor calculated the amount claimed. The claim must be filed on or before the date of final payment. Nothing in this subdivision will extend the time limit or supersede notice requirements otherwise provided by this Contract or by law relating to requests for extra compensation or extensions of time.
3. For claims of less than fifty thousand dollars (\$50,000), West County Wastewater will 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 West County Wastewater may have against the Contractor.
 - a. If additional information is thereafter required by West County Wastewater, it shall be requested and provided by the Contractor pursuant to this subdivision within 20 days of the request from West County Wastewater or as otherwise mutually agreed upon by West County Wastewater and the Contractor.
 - b. West County Wastewater'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.
4. For claims of over fifty thousand dollars (\$50,000) and less than or equal to three hundred seventy-five thousand dollars (\$375,000), West County Wastewater 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 West County Wastewater may have against the Contractor.

- a. If additional information is, thereafter, required, it shall be requested and provided pursuant to this subdivision within 30 days of the request by West County Wastewater or otherwise mutually agreed upon by West County Wastewater and the Contractor.
- b. West County Wastewater'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.
5. If the Contractor disputes West County Wastewater's written response, or if West County Wastewater fails to respond within the time prescribed, the Contractor may so notify West County Wastewater, in writing, either within fifteen (15) days of receipt of West County Wastewater's response or within fifteen (15) days of the West County Wastewater'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, West County Wastewater shall schedule a meet and confer conference within (thirty) 30 days for settlement of the dispute.
6. 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 its written claim pursuant to paragraph 2 above until the time the said claim is denied pursuant to the procedures set forth herein, including any period of time utilized by the meet and confer conference.

00 72 21 PERMITS

A. West County Wastewater's Permits, Easements, and Agreements

1. The Contractor's attention is directed to the Project Documents and to any parcel numbers appearing thereon which relate to an easement, permit, or agreement acquired by West County Wastewater for rights-of-way and land use to perform the work and which is contained in the easements, permits, and agreements on file at the West County Wastewater Administrative Offices, identified in Section 00 11 16, Invitation to Bid of the Contract Documents .
2. All work within the various private and public properties shown containing a parcel number must be accomplished in conformance with any specific conditions, instructions, and/or requirements or the respective easement, permit, or agreement.
3. Where the conditions and/or requirements of such easements, permits, or agreements are greater than the conditions and/or requirements of West County Wastewater's Standard Specifications or supplementary conditions and/or requirements prescribed in other portions of the Contract, the conditions and/or requirements of such easements, permits, or agreements will govern.
4. West County Wastewater will, at its expense, provide the appropriate easements for the work included in the Contract. West County Wastewater-provided easements will be shown in the Contract Documents . West County Wastewater may provide additional land for working space, haul roads, and for storage of materials and equipment. If West County Wastewater provides additional land, that land will be shown in the Project Documents or Specifications. The Contractor may use portions of such easements and land as approved, for working space, haul roads, and for storage of materials and equipment. If the Contractor finds it necessary or advantageous to use any additional land for any purpose whatever, the Contractor shall, at its expense, provide for the use of such land.

B. Construction Permits and Licenses

1. The Contractor shall obtain and pay for all construction permits and licenses necessary for the performance of the Contract and shall give all public notices necessary for the lawful performance of the Contract.

2. Where West County Wastewater has secured Project right-of-way by obtaining the required permits, easements, or agreements as stated in 00 72 21A, and said permit, easement, or agreement requires a subsequent contingent construction permit, inspection, or other related requirements, the Contractor shall meet these additional requirements. The inspection fees charged by regulatory agencies for such subsequent contingent permits shall be paid by the West County Wastewater. However, if the inspection fee is charged as a result of Contractor's noncompliance with the permit requirements, such inspection fee shall be paid by the Contractor.

C. Taxes

1. The Contractor shall pay all taxes, levies, duties, and assessments of every nature due and payable by the Contractor in connection with any work under the Contract, shall make any and all payroll deductions required by law, and shall indemnify and hold harmless West County Wastewater from any liability on account of any and all such taxes, levies, duties, assessments, and deductions.

00 72 22 **RECORDS AND ACCOUNTS**

A. The Contractor shall, at its expense, keep and maintain such records and accounts in connection with the performance of the Contract, and will furnish to West County Wastewater upon request, that provide an accurate written allocation of the total amount of the price paid for the performance of the work under the Contract to the various elements of the work, as may be required by West County Wastewater for accounting purposes and for public record. Such records and accounts shall remain accessible to West County Wastewater for a period of not less than three years beyond the date of formal acceptance as provided under Section 00 72 41, Final Payment and Release.

00 72 23 **TESTING**

A. Contractor shall perform or arrange for performance of testing of materials or work as specified herein or by testing organizations approved by West County Wastewater.

1. **General.** Where the Specifications require work to be specially tested or approved, the work may be tested only in the presence of the Engineer after timely notice of its readiness for inspection and test, and the work after testing may be covered up only upon the consent of the Engineer.
 - a. The results of any tests made are for the information of the Engineer. Regardless of any test results, the Contractor is solely responsible for the quality of workmanship and materials and for compliance with the requirements of the Project Documents and Specifications.
 - b. Except as specifically required under detailed materials specifications for shop testing and inspection, all tests of materials furnished by the Contractor where tests will be made by the Engineer will be done in accordance with commonly-recognized standards of national organizations. The Contractor shall furnish such samples of all materials as required by the Engineer without charge. No material may be used unless it has been determined to be acceptable by the Engineer.
 - c. Where such inspection and testing is to be conducted by an independent laboratory or Wastewater, the sample(s) of materials to be tested will be selected by such laboratory or Wastewater, or the Engineer, not by the Contractor.
 - d. Water for curing concrete will be provided from a source approved by the Engineer and shall be furnished and disposed of by the Contractor.
 - e. All piping must be pneumatically or hydraulically tested for tightness.
 - f. Where water testing of piping is required, the Contractor shall furnish and dispose of the water which is required for testing of piping and dispose of it in accordance with applicable regulations.
2. **Costs of Testing**

- a. The Contractor shall be responsible for arranging, and shall pay for, all off-site tests of materials required. The Engineer, unless specified otherwise in Technical Specifications, may witness all off-site tests, and the Contractor shall furnish adequate notice of when tests will be made.
- b. The Contractor shall be responsible for arranging, and shall pay for, all on-site tests, except those tests specifically noted to be performed and paid for by West County Wastewater. The Engineer may witness all on-site tests performed by the Contractor, and the Contractor shall furnish adequate notice of when tests will be made.
- c. When, in the opinion of the Engineer, additional tests or inspections are required because of the manner in which the Contractor executes its work, West County Wastewater will pay for the additional tests and expenses, but the amounts paid will be deducted from the Contract price. Examples of such additional tests and inspections are: tests of materials substituted for previously-accepted materials or substituted for specified materials or retests made necessary by non-compliance of material with the requirements of the Specifications.

00 72 24 PUBLICATIONS

- A. No publications or advertisements concerning the subject matter of the Contract may be made by or on behalf of the Contractor, its subcontractors, or suppliers, without the prior written authorization of West County Wastewater.
- B. No advertising signs may be erected at the site of the work.

00 72 25 (NOT USED)

00 72 26 ACCESS TO WORK AREAS

- A. West County Wastewater and its officers, agents, employees, and any other duly authorized representatives and employees, and all duly authorized representatives of governmental agencies having jurisdiction over work areas or any part thereof shall at all reasonable times, for the purpose of determining compliance with Contract requirements, have access to the areas and the premises used by the Contractor. The Contractor shall also arrange for West County Wastewater, and its officers, agents, employees, and any other duly authorized representatives and employees, to have access at all reasonable times to all places where equipment or materials are being manufactured, produced, or fabricated for use under the Contract.
- B. The Contractor's attention is drawn to the fact that during the course of the work of this Contract, existing sewerage facilities will be used and maintained by West County Wastewater's personnel. The Contractor shall coordinate its work in such a way as to interfere as little as possible with the routine work of existing facility operation consistent with the necessity for making the connections as specified and as shown on the Project Drawings. Contractor's work force will be excluded from access to and use of existing facilities except in direct pursuit of the work of this Contract without the prior approval of the Engineer. The Contractor shall provide safe access at all times to all existing facilities for operating personnel and equipment.

00 72 27 ILLUMINATION

- A. Should any work be performed at night as provided under Section 00 72 43, Night and Weekend Work, or where daylight is shut off or obscured, the Contractor shall, at its expense, provide artificial light sufficient to permit work to be carried on efficiently, satisfactorily, and safely, and to permit thorough inspection. The Contractor shall also assure that access to the place of work is clearly illuminated. The Contractor shall install and maintain all wiring for electric light and power in accordance with all applicable standards, securely fastened in place at all points, and kept as far as possible from other electrical wires, telephone wires, signal wires, and wires used for firing blasts.

00 72 28 INSPECTION AND SAMPLE SPECIMENS

- A. Unless otherwise provided in the Contract, all equipment, materials, and work will be subject to inspection and testing by the Engineer. The Engineer may reject equipment, materials, and work not in accordance with the

Contract. Rejected work must be satisfactorily corrected; rejected equipment must be satisfactorily repaired or replaced with satisfactory equipment; and rejected material must be replaced with satisfactory material, all in accordance with the Contract. The Contractor shall promptly segregate and remove rejected materials and equipment from the premises. All such correction, repair, replacement, and removal must be performed by and at the expense of the Contractor.

B. The Engineer will perform inspections so as not to delay the work unreasonably, and the Contractor shall perform its work in such manner as not to delay inspection unreasonably. The Contractor shall give the Engineer reasonable advance notice of operations requiring special inspections or tests, and it may request inspection of a portion of any work at any time by reasonable advance notice to the Engineer. The Contractor shall, at its expense, furnish promptly all facilities, labor, and materials necessary and required for such inspection and tests.

C. The Contractor will bear any additional inspection costs resulting from its failure to have a portion of work ready for inspection at the time requested by it for inspection, or from inspection of any previously rejected portion of work where the defects requiring such rejection were caused by the Contractor. The costs may be deducted, in whole or in part, from any monies due or that may become due to the Contractor under the Contract.

D. The Contractor shall furnish the Engineer with all reasonable facilities for the Engineer's safety and convenience in inspecting work, at all times and at all places where inspection may take place. If the Engineer finds that conditions are unsafe for inspection at a particular location, the Engineer may, upon notice to the Contractor, refuse to inspect in that location until the unsafe conditions are corrected. The Contractor shall bear any additional costs resulting from the Engineer's determination, including any costs incurred to permit subsequent inspection of any portion of work covered or completed at the location before correction of the conditions, whether or not that work is found to meet Contract requirements.

E. The Engineer may inspect materials and finished articles to be incorporated into any work at the place of production, manufacture, or shipment. When the Engineer is to perform such an inspection, no such materials or finished articles may be shipped from the place of inspection or incorporated in any work prior to inspection or without the written approval of the Engineer. Equipment, materials, and work not in conformity with the Contract must be corrected or replaced with satisfactory equipment and materials by and at the expense of the Contractor so as to conform to the Contract as determined by the Engineer.

F. Inspections by the Engineer of equipment, materials, or work do not constitute acceptance by West County Wastewater of such equipment, materials or work. Any such inspections, tests or waivers will not relieve the Contractor of its responsibility for meeting the requirements of the Contract.

G. Where required in the Contract, or whenever requested by the Engineer, the Contractor shall, at its expense, promptly furnish to the Engineer sample specimens of materials to be incorporated into any work. The Contractor shall submit samples in an orderly sequence so that dependent materials or equipment can be assembled and reviewed without causing delays in the work. Samples of material from natural sources must be taken in the presence of the Engineer; otherwise, the sample will not be considered for testing. The Contractor shall tag or securely label samples and samples shall fully identified as to manufacturer, type, size or capacity, lot, and date, all as applicable and by reference to the applicable section and paragraph of the Contract. Materials for which samples are required may not be used in any work until approved in writing by the Engineer. Materials incorporated in any work must conform to such samples as the Engineer determines meet the requirements of the Contract. Samples will be returned to the Contractor only at the discretion of the Engineer.

00 72 29 PROGRESS

A. The construction plant and equipment provided by the Contractor, its labor force, and its methods and organization for handling work, must achieve the necessary quality of work and rate of progress required by the Contract.

B. If at any time during the progress of work, the Contractor's actual progress, as determined by the Engineer, is inadequate to meet the requirements of the Contract, the Engineer may notify the Contractor of such imminent or actual noncompliance with the Contract. The Contractor shall thereupon take such steps as may be necessary to improve its progress including, but not limited to, an increase in the labor force, the number of shifts, and/or

overtime operations, days of work and/or the amount of construction equipment, all without additional cost to West County Wastewater. Neither such notice by the Engineer nor the Engineer's failure to issue such notice will relieve the Contractor from its obligations to achieve the quality of work and rate or progress required by the Contract.

- C. The Contractor's failure to comply with the Engineer's instructions pursuant to the Contract may be grounds for the Engineer's determination that the Contractor is not prosecuting work with such diligence as will assure completion within the times specified. Upon such determination, West County Wastewater may terminate the Contractor's right to proceed with the performance of the Contract, or any separable part thereof, in accordance with Section 00 72 36, Termination of Right to Proceed. Such termination will be without prejudice to any other remedies available to West County Wastewater.
- D. In the event of a dispute between the Parties as to performance of the work, the interpretation of this Contract, or payment or nonpayment of work performed, the parties shall attempt to resolve the dispute. If the dispute is not resolved and West County Wastewater has not terminated the Contract in accordance with Section 00 72 36, Termination of Right to Proceed, then the Contractor shall continue the work diligently to completion and will neither rescind this Contract nor stop the progress of the work. In the event any litigation is commenced with respect to this Contract, such litigation will not suspend Contractor's obligation to continue performance of the work hereunder.

00 72 30 (NOT USED)

00 72 31 RESPONSIBILITY FOR WORK; PRECAUTIONS; SECURITY

- A. The Contractor bears all responsibility for material and skilled application of all work furnished and performed under this Contract, including any Amendments to this Contract. At the completion of this Contract, the construction must constitute a complete and operable facility. In the event an error or omission is discovered in the Contract during the course of the work, the Contractor shall promptly notify the Engineer in writing. If the Engineer determines that remedial measures are necessary requiring extra work clearly outside the scope of the Contract work, the Parties will negotiate a Change Order in accordance with Section 00 72 12, Changes and Extra Work.
 - 1. The Contractor will bear any and all risk of loss of, or damage to, any work and all materials and equipment until final acceptance under the Contract, unless such loss or damage results from the active negligence of West County Wastewater or any Act of God as defined herein.
- B. As provided in Sections 7105 California Public Contract Code, the Contractor will not bear responsibility for the cost of repairing or restoring damage to the work if the damage is determined to have been proximately caused by an Act of God, in excess of five percent of the contracted amount, provided that the work damaged was built in accordance with accepted and applicable building standards and the Project Documents and Specifications of West County Wastewater. For purposes of this section, 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. The Contractor shall promptly take all necessary precautions against any conditions created during the performance of the Contract which involve a risk of bodily harm to others or a risk of damage to work or to property, including the property of West County Wastewater. The Contractor shall inspect all work, materials, and equipment to discover any such conditions.
- C. Existing fences may enclose some or all portions of the Project site. The fences are for the protection and security of existing facilities. While it may be necessary for the Contractor to remove some of the fences for the installation of new structures, fences, and pipelines, the Contractor's operations may not reduce the present protection and security. If the present fences are removed, an equivalent temporary continuous perimeter protection shall be provided, and new fence shall be installed in the locations shown, prior to completion of the work.
- D. The Contractor may not assume that any fence or other existing enclosure about existing facilities provide appropriate security for either equipment, plant, or materials intended to be employed or incorporated in the work.

E. The Contractor shall assume all liability for its failure to comply with the foregoing regardless of any right the Engineer may have to inspect the Contractor's work.

00 72 32 STORAGE OF MATERIALS AND EQUIPMENT

A. The Contractor shall, at its expense, store all materials and equipment as specified in the Contract or, where not specified, in such a manner as to assure the preservation of their quality and fitness, and so as to facilitate prompt inspection by the Engineer.

00 72 33 USE OF COMPLETED PORTIONS OF THE WORK

A. Partial Beneficial Use. "Partial beneficial use" means the use of a portion of the Contract work by West County Wastewater before that portion of work is to be put in service and before acceptance of the Contract by West County Wastewater. The portion of the contract work is usually a system or facility which can be operated or used independently from other systems or facilities included in the Contract and is not required for the proper operation of other systems or facilities.

1. West County Wastewater may, at any time, in a written order to the Contractor (1) declare that West County Wastewater intends to use a specified part of the work, which in West County Wastewater's opinion is sufficiently complete to permit use of said work, (2) enclose a tentative list of items remaining to be completed or corrected within the area designated for partial beneficial use, and (3) fix the date of commencement of partial beneficial use.
2. The warranty period for a part of the work which is specified for partial beneficial use will start on the date which is fixed for commencement of partial beneficial use.
3. If, as a result of the Contractor's failure to comply with the provisions of the Contract, such partial beneficial use proves to be unsatisfactory to West County Wastewater, West County Wastewater may continue such use until such portion of work can, without adversely affecting West County Wastewater, be taken out of service for correction of defects, errors, omissions, or replacement of unsatisfactory materials or equipment, as necessary for such work to comply with the Contract. The time for the Contractor to complete of corrections or replacements may not exceed six months from the date of acceptance of the Contract, unless otherwise agreed in writing by the Parties.
4. The Contractor may not use any portions of the work that have been accepted for partial beneficial use nor any facilities which existed prior to the date it commenced work on the Project unless the Engineer approves such use in writing. Where the Contractor's written request is granted for the use of portions of the work located at facilities declared as being subject to partial beneficial use, the Contractor shall properly use and maintain, and upon completion of the Contractor's use and at the Contractor's expense, recondition said portions of the work or facilities to the satisfaction of West County Wastewater.

B. Substantial Completion. "Substantial completion" means construction sufficiently completed in accordance with the Contract so that West County Wastewater can occupy or utilize all portions and all systems of the work for all of the uses for which said work was intended, including seven continuous days of successful operation of the entire system.

1. When the Contractor determines that the work is substantially completed, the Contractor shall prepare and submit to West County Wastewater a list of items to be completed or corrected and request an inspection for substantial completion. The Contractor's failure to include any items on the list does not alter the Contractor's responsibility to complete all work in accordance with the Contract. If West County Wastewater determines on the basis of the inspection that all portions and all systems of the work are substantially complete, West County Wastewater will prepare a certificate of substantial completion which will: (1) establish the date of substantial completion of the work; (2) state the responsibilities of West County Wastewater and the Contractor for security, maintenance, operation, and insurance; and (3) fix the time within which the Contractor must complete the items listed in the certificate. West County Wastewater shall submit the Certificate of Substantial Completion to the Contractor.

2. Approval by West County Wastewater of a Certificate of Substantial Completion will not constitute acceptance of the work nor start the warranty period. Approval of a Certificate of Substantial Completion will fix the date for lowering the amount of liquidated damages to the value specified in the Contract for the period after substantial completion.

00 72 34 CLEANING UP

- A. The Contractor shall, at all times, keep the premises occupied by it in relation to this Contract, in a neat, clean, and safe condition and at all times provide reasonable access to the premises. The Contractor shall, at a minimum, conduct daily inspections to verify its compliance with this Section.
- B. During the progress of the work, the Contractor shall:
 1. Retain all stored items in an orderly arrangement allowing maximum access, not impeding drainage or traffic, and providing the required protection of material.
 2. Provide adequate storage of all items awaiting removal from the jobsite, observing all requirements for fire protection and protection of the environment.
 3. Remove any accumulation of scrap, debris, waste material, and other items not required for construction of this work.
 4. Dispose of existing materials and equipment to be demolished and removed and all trash such as broken concrete, wood blocking, shipping containers, etc., resulting from the contract work off the premises occupied by the Contractor, including West County Wastewater property, at the Contractor's expense. Contractor may not use West County Wastewater-leased dumpsters and other disposal containers on West County Wastewater's property except for those specifically provided by the Contractor.
 5. Maintain all excavation, embankments, haul roads, permanent access roads, Plant site, waste disposal areas, borrow areas, and all other work areas within contract work limits free from dust, as determined by the Engineer. Industry-accepted methods of dust control suitable for the area involved, such as sprinkling, chemical treatment, light bituminous treatment, or similar methods, are permitted. West County Wastewater will not make any separate payment to the Contractor for dust control.
- C. If the Contractor fails to comply with any of the foregoing provisions, West County Wastewater will transmit written notification of noncompliance to Contractor. If, the Contractor fails to comply within five days after the written notification West County Wastewater may undertake cleanup at the Contractor's expense.
- D. Upon its completion of any portion of any work, the Contractor shall promptly remove all of its equipment, temporary structures, and surplus construction and other materials not to be used at or near the same location during later stages of work. Upon completion of any work and before final inspection is made, the Contractor shall, unless otherwise specifically directed by the Engineer:
 1. Remove from the job site all plant, buildings, tools, surplus materials, equipment, forms, rubbish, scrap, debris, and waste.
 2. Hose down all paved areas on the site. Completely remove all resultant debris.
 3. Visually inspect all interior surfaces, and remove all traces of soil, waste material, smudges, and other foreign matter. Remove all traces of splashed materials from adjacent surfaces. Remove all paint droppings, spots, stains, and dirt from finished surfaces. Use only approved cleaning materials and equipment.
 4. Restore any improved area used for the Contractor's work or material storage to its condition at the time the Contractor moved onto the site or to the satisfaction of the Engineer.

5. Schedule final cleaning and improvement restoration to enable West County Wastewater to accept a completely clean and restored project.

00 72 35 PROGRESS, COMPLETION, DELAYS, AND EXTENSIONS OF TIME

- A. The time limits stated in the Contract are of the essence of the Contract. By executing the Contract, the Contractor confirms that the time limits set forth in the Contract, including interim or milestone dates, are reasonable periods for the performance of the work. The Contractor will not be entitled to extensions of time limits during the progress of the work unless it demonstrates that: (1) the delay is occasioned by an act or neglect of West County Wastewater; or (2) the delay in the completion of the work arises from unforeseeable causes beyond the control and without fault or negligence of both the Contractor and its subcontractors or suppliers. Such unforeseeable causes may include: acts of God; acts of a public enemy; acts of a governmental entity not occasioned by the Contractor's, subcontractor's or supplier's conduct; acts of another contractor in performance of a contract with West County Wastewater; fires; floods; epidemics; quarantine restrictions; freight embargoes; unusually severe weather; or other delays of subcontractors or suppliers arising from unforeseeable causes beyond the control and without the fault or negligence of both the Contractor and such subcontractors or suppliers.
- B. If the Contractor seeks an extension of time for the completion of any phase of the work, the Contractor must file with the Engineer a written request for an extension of time for the portion of the work so delayed no later than ten days after the onset of the delay, and the request must fully state the reasons for the delay. When such a request is received, the Engineer will ascertain the reasons for and the extent of such delay. If the Engineer determines that the facts justify an extension of time, the Parties will modify the Contract accordingly, in writing. The Engineer will deny any request that is determined not to justify an extension of time. The Engineer will provide the Contractor with the factual findings regarding either determination of a request for time extension. The Engineer's findings will be final unless the Contractor files a protest under Section 00 72 1, Authority of the Engineer and Contractor's Appeal Procedure. West County Wastewater will not a time extension for any portion of any delay unless the Contractor has timely made the required written request and the Engineer finds justification for the request.
- C. West County Wastewater may make changes to the work or suspend the work. Regardless of the number of such changes made by West County Wastewater, such changes or suspensions are within the contemplation of the Parties and will not be a basis for compensable delay to the Contractor.
- D. No time extensions except for a delay that:
 1. impacts the Project's critical path,
 2. consumes all available float, slack time, or schedule contingency within the construction schedule (the time between the Contractor's scheduled early completion date and the Contract completion date), and
 3. extends work beyond the Contract completion date.
- E. Float, slack time, or schedule contingency within the construction schedule is not for the exclusive use nor benefit of the West County Wastewater or the Contractor but is a resource available to both parties as needed.

00 72 36 TERMINATION OF RIGHT TO PROCEED

- A. If the Contractor refuses or fails, except in cases for which extension of time is provided, to supply enough properly skilled workers, proper equipment and proper appliances or proper materials for the work, or if it should fail to make prompt payments to subcontractors or for material or labor, or disregard laws, ordinances, or the instructions of the Engineer, or otherwise be guilty of a substantial violation of any provision of this contract, then West County Wastewater, upon certification of the Engineer that sufficient cause exists to justify such action, may without prejudice to any other right or remedy serve written notice upon the Contractor and Surety of its intention to terminate the performance of the Contractor and of the reasons for such termination. Unless Contractor ceases the cause for such intention to terminate and makes satisfactory arrangement for correction no later than seven days after West County Wastewater serves the notice, the Contractor's right to proceed with the work will terminate. If Contractor: (1) is terminated pursuant to this Section 00 72 36; (2) is

adjudged as bankrupt:(3) makes a general assignment for the benefit of its creditors; or (4) has a receiver should be appointed on account of its insolvency, West County Wastewater shall serve notice thereof upon the Surety and Contractor. No later than seven days after service of this notice by West County Wastewater, the Surety may perform the Contract. However, if the Surety does not commence performance of the Contract within the period mentioned in the preceding sentence, West County Wastewater may take possession of the premises and of all materials, tools, equipment, and appliances on the premises and finish the work by whatever method West County Wastewater may deem expedient. In that instance, the Contractor will not receive any further payment until the work is complete. If the unpaid balance of the Contract price exceeds the expense of finishing the work, including compensation for additional managerial and administrative services performed by or for West County Wastewater, West County Wastewater shall pay such excess to the Contractor. If such expense exceeds the unpaid balance, the Contractor and Surety shall pay the difference to West County Wastewater. The Engineer shall certify the expense incurred by West County Wastewater and the damage incurred through the Contractor's default. Service of any notices under this Section 00 72 36 hereunder will be complete upon the deposit of the notice in the United States mail, postage prepaid, addressed to the address of the Contractor and Surety as shown on records on file with West County Wastewater.

- B. Termination of the Contractor under this Section 0072 36 will not limit any other remedies available to West County Wastewater.
- C. Upon receipt of any written notice of termination of right to proceed, the Contractor shall, at its expense, for the work affected by the termination:
 - 1. Assist West County Wastewater in making an inventory of all materials and equipment in storage at the site, en route to the site, and on order from suppliers.
 - 2. Assign to West County Wastewater any subcontracts, supply contracts, and equipment rental agreements so designated by West County Wastewater.
 - 3. Remove from the site all construction materials, equipment, and plant listed in the inventory other than any construction materials, equipment, and plant which are designated in writing by West County Wastewater to be used by West County Wastewater in completing the work.

00 72 37 TERMINATION FOR CONVENIENCE

- A. Including, but not limited to, because of termination in the event of national emergency pursuant to Section 4410 et. seq. of the Government Code of the State of California, West County Wastewater may, at its option, cancel and terminate the Contract in whole or in part at any time by written notice of termination to the Contractor, whether or not the Contractor is in default.
- B. Upon any such cancellation and termination, the Contractor will not be entitled to assert claims for damages, including loss of anticipated profits, on account of the cancellation and termination. The Contractor's sole remedy in such event will be the payment of the Contractor by West County Wastewater in accordance with subparagraph B.2, below. Any such payment will be made subject to the survival, in full force and effect, of the provisions of the Contract which by their nature survive final acceptance under the Contract to the extent provided in such provisions.
 - 1. Upon receipt of any such notice, the Contractor shall, unless the notice requires otherwise:
 - a. Immediately discontinue work on the date and to the extent specified in the notice.
 - b. Place no further orders or subcontracts for materials, services, or facilities, other than as may be necessary or required for completion of such portion of work under the Contract that is not terminated.
 - c. Promptly make every reasonable effort to obtain cancellation upon terms satisfactory to West County Wastewater of all orders and subcontracts to the extent they relate to the performance of work terminated.

- d. Assist West County Wastewater as specifically requested, in writing, in the maintenance, protection, and disposition of property acquired by West County Wastewater under the Contract.
- 2. Upon any termination for convenience, West County Wastewater will pay the Contractor an amount determined in accordance with the following (without duplication of any item):
 - a. All amounts due and not previously paid to the Contractor for work completed in accordance with the Contract prior to the notice, and for work thereafter completed as specified in the notice.
 - b. The cost of settling and paying claims arising out of the termination of work under subcontracts or orders as provided in subparagraph B.1.c, above.
 - c. The reasonable costs incurred pursuant to subparagraph B.1.d, above.
 - d. Any other reasonable costs incidental to the termination of work.
 - e. The foregoing amounts will include a reasonable sum, under all of the circumstances, as profit for any work performed by the Contractor.

00 72 38 SUSPENSION

- A. West County Wastewater may, in its sole discretion, suspend at any time the performance of all or any portion of work to be performed under the Contract by notice in writing to the Contractor. . Upon such notice, West County Wastewater shall designate the amount and type of plant, labor, and equipment to be committed to the Project. During the period of suspension, the Contractor shall use its best efforts to utilize its plant, labor, and equipment in such a manner as to minimize costs associated with suspension.
 - 1. Upon receipt of such notice, the Contractor shall, unless the notice requires otherwise:
 - a. Immediately discontinue work on the date and to the extent specified in the notice.
 - b. Place no further orders or subcontracts for material, services, or facilities with respect to suspended work other than to the extent required in the notice.
 - c. Promptly make every reasonable effort to obtain suspension upon terms satisfactory to West County Wastewater of all orders, subcontracts, and rental agreements to the extent that they relate to the performance of the work suspended.
 - d. Unless otherwise specifically stated in the notice, the Contractor shall continue to protect and maintain the Project including those portions on which work has been suspended.
 - 2. As full compensation for a period of suspension, the Contractor will be reimbursed for the following costs, reasonably incurred, without duplication of any item, to the extent that such costs directly result from the suspension of work:
 - a. A standby charge to be paid to the Contractor during the period of suspension of work which will be sufficient to compensate the Contractor for keeping, to the extent required in the notice, its organization and equipment committed to the Project in a standby status.
 - b. All reasonable costs associated with mobilization and demobilization of the Contractor's plant, forces, and equipment.
 - c. A reasonably supported amount to reimburse the Contractor for the cost of maintaining and protecting that portion of the Project upon which work has been suspended.

- d. If, as a result of any such suspension of work, the cost to the Contractor for subsequently performing work is increased or decreased, West County Wastewater will adjust the cost of performing the remaining portion of the work.
- B. Upon its receipt of notice to resume suspended work, the Contractor shall immediately resume work on the suspended work to the extent required in the notice. The Contractor shall file with West County Wastewater any request for a time extension or compensation for costs incurred during the suspension no later than ten days after its receipt of the notice to resume work, and the Contractor shall also submit for review a revised construction schedule.

00 72 39 MEASUREMENT AND PAYMENT

- A. Where the weight of parts and items furnished by Contractor relates to measurement and payment under the Contract, unless otherwise provided in the Contract, the Engineer will decide the method to be used in determining the weight of the parts and items, such as the use of shipping weights, scale weights, manufacturers' weights, catalog weights, or computed weights. West County Wastewater will pay Contractor only on the basis of net weight which will exclude the weight of all tare, packing, blocking, shop welds, and the weight of materials which are required to be placed or applied at the site of construction, such as grout, wedges, and caulking materials. The Contractor shall, if required by the Engineer, and at its expense, furnish scales and provide assistance for weighing and measuring such materials without additional charge.
- B. Wherever the measurement and payment provisions of the Contract provide that payment for the item(s) listed therein will be made at the Contract-unit price or at Contract lump-sum price, whichever is set forth in Section 00 41 43, Schedule of Bid, payment under such provisions will fully compensate Contractor for all work referred to in the applicable provision, including but not limited to the following: all labor, supervision, tools, materials, equipment, the performance of all operations, all other direct expenses and items of overhead, general and administrative expense, and profit for the applicable Contract item.
- C. Wherever in the Contract it is provided that the Contractor shall perform certain work "at its expense" or "without charge," or that certain work "will not be paid for separately," the quoted words mean that the Contractor may not recover any additional compensation from West County Wastewater for such work. The cost of such work will, unless otherwise specified, be considered as inherently included in the payment for other items of work identified in Section 00 41 43, Schedule of Bid.

00 72 40 PROGRESS PAYMENTS

- A. Unless otherwise provided in the Specifications, West County Wastewater shall make monthly progress payments as the work proceeds. Such payments will be made in accordance with estimates of the amount and value of work satisfactorily performed by the Contractor up to the time of each estimate.
 - 1. Prior to preparation of the first estimate for a progress payment, the Contractor shall submit for review by the Engineer a detailed cost breakdown of the work under each bid item awarded. Bond and insurance costs will not be a separate item of cost for this purpose but shall be included in mobilization/demobilization.
 - 2. Partial payments for mobilization/demobilization costs will be as follows:
 - a. West County Wastewater shall pay thirty-five percent (35%) of the amount bid for mobilization/demobilization or 1.75 percent of the original contract amount, whichever is less, in each of the first two progress payments.
 - b. West County Wastewater shall pay the balance of the amount bid for mobilization/demobilization upon the completion of all work on the project.
- B. In most instances, the Contractor will not be compensated for materials and equipment delivered to the site until after they are incorporated in the work. If the Engineer determines that the progress of the work will benefit by the delivery to the site of certain materials and equipment in advance of their actual requirement, and if such materials and equipment are delivered in accordance with the following conditions, the Contractor may be paid a

portion of the cost of the materials and equipment in progress payments. The conditions for such partial payments are as follows:

1. The Contractor shall, no later than four weeks prior to the delivery of materials and equipment for which it seeks partial payment, submit a list of such materials and equipment for review by the Engineer.
2. The Engineer must review and accept shop Documents and technical data for such materials and equipment prior to delivery.
3. Upon delivery, the Contractor shall submit written evidence, satisfactory to the Engineer, that the Contractor is the unconditional owner of such materials, free from all claims, liens, and security interest, and a bill of sale or other equivalent document with warranty of title to such materials and equipment.
4. Title to the delivered material will be vested in West County Wastewater at it is delivered to the site. The Contractor shall, notwithstanding such transfer of title to West County Wastewater, be responsible for such materials and equipment until they have been completely installed, tested, and accepted.
5. Such equipment and materials must be properly stored or stockpiled to the satisfaction of the Engineer. The Contractor shall at its own cost replace any materials and equipment damaged or lost.
6. Contractor shall assure that stored or stockpiled materials are available for inspection by the Engineer.
7. If any defects are discovered in delivered material, whether caused by defective manufacture or damage occurring during delivery or storage (including storage at West County Wastewater or the construction site), the Contractor shall remove such materials and replace them with suitable material at its expense.
8. The Contractor's insurance must include coverage for such material against theft, fire, vandalism and malicious mischief.
9. The maximum portion of cost to be included in progress payments for materials and/or equipment qualifying under this section will be 75 percent of the total cost of the delivered materials and/or equipment eligible for partial payment. The payment will not exceed the bid price or assigned value for the item of work for which the material and/or equipment is furnished, and the accumulated total payment for all material delivered but not yet incorporated into the work will not exceed ten percent of the total value of the Contract.
10. In estimating progress payments, the Engineer may use the unit prices bid by the Contractor. In the event that there are no unit bid prices, or the bid unit prices do not, in the opinion of the Engineer, represent the actual value of the equipment and materials furnished, the Engineer may estimate progress payments based on prices reflecting the actual value.
11. Nothing in this subparagraph B will relieve the Contractor of its responsibility for incorporating the materials in the work in conformity with the Contract.

C. If the Engineer does not accept the initial detailed cost breakdown, the Contractor shall submit additional cost breakdowns until the Engineer determines that the cost breakdown is acceptable. The approved breakdown will then become the basis for partial payment determination. The Contractor shall make progress payment estimates and submit them to the Engineer for review and concurrence. Once West County Wastewater has agreed to the items of cost, the Contractor shall prepare a progress payment request on a form furnished by West County Wastewater and submit the request for payment. The burden of requesting payment is on the Contractor. West County Wastewater will not pay for a separate item of cost unless that item of cost is included in a progress payment request by the Contractor.

D. West County Wastewater shall retain five percent of the cumulative estimated amount of each progress payment until the final acceptance of all work under the Contract pursuant to Section 00 72 41, Final Payment and Release. The Contractor may substitute securities for any monies otherwise to be retained pursuant to Section 22300 of the California Public Contract Code. If the Contractor opts to substitute securities pursuant to Section 22300, it shall execute the Escrow Agreement for Security Deposits in Lieu of Retentions in the form contained

in Section 00 45 15, of the Contract Documents . Any payments otherwise payable under the Contract may be withheld, in whole or in part, by West County Wastewater as may be necessary to protect West County Wastewater from loss because of:

1. Defective work which is not remedied;
2. Third party claims filed or reasonable evidence indicating probable filing of such claims against the Contractor;
3. Failure of the Contractor to make payments properly to subcontractors or for labor, materials, or equipment;
4. The existence of reasonable evidence that the work cannot be completed for the unpaid balance of the contract sum;
5. Failure of the Contractor to submit an acceptable construction schedule or failure to update the schedule;
6. Damage to West County Wastewater or another contractor;
7. The existence of reasonable evidence that the work will not be completed within the time provided for in the Contract; or
8. Contractor's failure or inability to obtain or maintain insurance coverage and bonds as required by the Contract throughout the course of the job; or
9. Persistent failure to carry out the work in accordance with the Contract.
10. Failure to deliver copies of certified payrolls, as specified in this Section 00 72 20, Laws and Regulations.
11. In addition, West County Wastewater may deduct from payments otherwise due the Contractor any amounts West County Wastewater may be currently or in the future authorized to retain pursuant to federal, state, or local laws or regulations, any amounts due to West County Wastewater from the Contractor, and any other amounts which West County Wastewater is otherwise authorized to retain as specified in Section 00 73 00, Supplementary Conditions.

E. West County Wastewater will retain an amount from any payment otherwise due the Contractor in an amount not to exceed twice the value of repairs, corrections, or replacements as required by the Contract to assure that the Contractor completes such repairs, corrections, or replacements. The Contractor will receive payments of such retained amounts when the repair, correction, or replacement work is completed.

F. The Contractor may prevent withholding of additional amounts of the Progress Payment by, (1) correcting such defects in workmanship or materials as may exist, (2) curing any default existing in any of the conditions of the Contract, or (3) paying, satisfying, or discharging any claim of West County Wastewater or any other person against the Contractor arising out of or in any way connected with the work to be performed under the Contract. The Engineer may, in its sole discretion determine whether conditions exist as set forth above to justify withholding payment(s), in whole or in part, and/or whether the Contractor has properly remedied such claims, defects, or failures.

G. If the Contractor does not promptly meet its obligations under this section after its receipt of a written notice from the Engineer, West County Wastewater may discharge such obligations and deduct all costs in connection with discharging Contractor's obligations from payments(s) to the Contractor. If the amount which may be withheld from payment(s) is insufficient to meet such costs, or if any claim or charge against the Contractor is discharged by West County Wastewater after the final contract payment is made, Contractor and its Sureties shall promptly pay West County Wastewater all costs it incurred, regardless of when such claim arose or whether such claim imposed a lien upon the Project.

- H. Contractor's shall submit progress payment requests in writing on or about the 25th day of each calendar month, and West County Wastewater shall pay the Contractor within 21 days after the Engineer verifies that the request has been properly filed and submitted and is properly supported. The Contractor's progress estimates will not be required to be made by strict measurement, but may be made by measurement or by estimation or partly by one method and partly by another.
- I. Pursuant to Section 9204 of the Public Contract Code, West County Wastewater will pay interest on progress payments held over sixty (60) calendar days from the date of submission so long as the Engineer determines that Contractor's request for payment was properly filed and submitted. A request for payment may not be determined to be properly filed or submitted until West County Wastewater determines that the Record Documents are current. The date of submission for a progress payment is the date on which West County Wastewater's representative signs the progress payment request form in the space provided for the resident engineer. This signature will verify that the request has been properly filed and submitted.
- J. West County Wastewater will deem the Contractor's submission of an invoice without the proper, required accompanying submittals, or with incorrect calculations, or in a format not acceptable to West County Wastewater, as a disputed request for payment and not a properly submitted request for payment. West County Wastewater will return such invoices to the Contractor for resubmittal.
- K. The Contractor need not make a progress estimate or payment when, in the Engineer's judgment, the total value of the work performed since the last estimate amounts to less than five thousand dollars (\$5,000).
- L. All equipment, materials, and work covered by progress payments will, upon payment, become the property of West County Wastewater. However, this subdivision does not connote acceptance of any work and does not relieve the Contractor from its sole responsibility for all equipment, materials, and work upon which payments have been made, including the restoration of any damaged work until final acceptance thereof other than as provided in Section 00 72 33, Use of Completed Portions of the Work, and does not waive West County Wastewater's right to require fulfillment of all of the terms of the Contract.

00 72 41 FINAL PAYMENT AND RELEASE

- A. When the Contractor deems that its obligations under the Contract have been fulfilled, the Contractor shall, in writing, so notify the Engineer. Upon receipt of the notice, the Engineer will, in company with the Contractor, inspect the work that has been performed. If the Engineer determines that all work which, by the terms and conditions of the Contract, is to be performed, has been satisfactorily performed, the Engineer will recommend acceptance of the work. After acceptance of the work by West County Wastewater, West County Wastewater will cause to be filed in the office of the Engineer and the office of the County Recorder of Contra Costa County, in accordance with Section 4005 of the Government Code of the State of California, a notice of completion of all work under the Contract. Upon expiration of the statutory period for filing of liens and stop notices and provided no liens or stop notices have been filed, West County Wastewater will pay to the Contractor the amount remaining due after deducting from such amount all such amounts as will have been previously paid to the Contractor under the Contract, and also any amounts which, by the terms of the Contract, West County Wastewater is or may be authorized or required to reserve or retain. All prior progress payments, being estimates, will be subject to adjustment in the final payment.
- B. The Contractor is obligated to provide West County Wastewater with a release of all claims arising out of work related to undisputed contract amounts. Final payment shall be subject to the Contractor executing a release in favor of West County Wastewater, its directors, officers, representatives, agents, and employees as to all claims of and liability to the Contractor or any third party for anything done or furnished for, or in relation to, any work related to undisputed contract amounts; and for any act or omission of West County Wastewater, its directors, officers, representatives, agents and employees, respectively, or of any person relating to or affecting any work related to such final payment.
- C. Claims by the Contractor for additional compensation or damages remaining in dispute as set forth in the final payment release will be excluded from the terms of the release. West County Wastewater may withhold from the final payment up to one hundred fifty percent (150%) of the estimated value of claims by West County Wastewater or third parties against the Contractor, including but not limited to claims regarding amounts previously paid to the Contractor by West County Wastewater.

D. The release signed by the Contractor as part of the final payment shall be in substantially the following form:

Final Payment and Release

Project Name _____

West County Wastewater Project Number _____

The acceptance by Contractor of the final contract payment in the sum of \$ _____ covering undisputed contract amounts releases West County Wastewater, West County Wastewater's directors, officers, representatives, agents, and employees, respectively, from all claims of and liability to the Contractor (except as set forth below), including claims of the Contractor as the successor in interest by assignment or otherwise, to claims of laborers, mechanics, subcontractors, consultants, and material men and including claims by laborers, mechanics, subcontractors, consultants, and material men as successors in interest by assignment, or otherwise, arising out of the work performed under the Contract which are related to said undisputed Contract amounts. This Release will be effective as to all claims of the Contractor arising out of or in connection with the performance of the work under this Contract with respect to said undisputed Contract amounts, including tort claims, which are known to the Contractor or reasonably should have been known to the Contractor at the date of the signing of this Release. The Contractor's acceptance of the final contract payment described above waives all claims described herein and any entitlement by Contractor to additional payment arising out of the Contract, except as to those claims by the Contractor and their respective estimated dollar amounts listed below. The Contractor acknowledges that the amounts set forth below are good faith estimates and may be subject to reasonable modification. It is intended that this Release be construed in accordance with the limitations set forth in California Public Contract Code, Section §7100.

<u>DESCRIPTION OF DISPUTED CLAIM</u>	<u>ESTIMATED AMOUNT OF DISPUTED CLAIM</u>
_____	\$ _____
_____	_____
_____	_____
_____	_____

Signed: _____

By: _____
(typed or printed)

Title _____

Company Name: _____ Dated: _____

E. West County Wastewater may elect to issue final payments directly to subcontractors, or to issue joint check payments, payable to the Contractor and subcontractor involved. Contractor shall verify the correctness of any final payments to be made to subcontractors by West County Wastewater and shall acknowledge the same in writing to West County Wastewater no later than five days of a written request therefor from West County Wastewater. If the Contractor disputes the correctness of any final payment to be made to a subcontractor, the Contractor shall so notify West County Wastewater, in writing, of the matters in dispute and the amounts thereof. The notice must be in a writing delivered to West County Wastewater no later than five days after the date of a written request from West County Wastewater. West County Wastewater shall make such payments in accordance with estimates made by the Contractor and/or subcontractor and approved by the Engineer of the amount and value of work satisfactorily performed by the subcontractor. Amounts paid to the subcontractor will be deducted from any amounts due the Contractor under the terms of the Contract and any change or extra work orders. However, to the extent that the Contractor disputes any portion or all of the estimated payment due a subcontractor, West County Wastewater shall withhold from the payment to the subcontractor an amount not to exceed 150 percent (150%) of the disputed amount. If the entire amount due the subcontractor is disputed by the Contractor, then up to 150 percent (150%) of this entire amount may be deducted from payments to Contractor until the dispute is resolved.

F. If West County Wastewater elects to issue final payments to a subcontractor or subcontractors or to issue joint check payments, West County Wastewater may request, as part of its payment to the subcontractor or subcontractors involved, that the subcontractor or subcontractors sign a Conditional Waiver and Release Upon Final Payment to the subcontractor which shall be in substantially the following form:

Conditional Waiver and Release Upon Final Payment to Subcontractor

Upon receipt by the undersigned of a check from West County Wastewater in the sum of \$ _____ payable to _____ and when the check has been properly endorsed and has been paid by the bank upon which it is drawn, this document releases any mechanic's lien, stop notice, or bond right the undersigned has on this Contract. This release covers the final payment of the undersigned for all labor, services, equipment, or material furnished on the job, except for disputed claims for additional work described in the attached sheet, if any, in the amount of \$ ____.

Before any recipient of this document relies on it, said party should verify evidence of payment to the undersigned.

Dated: _____

Company Name

By: _____

Title: _____

00 72 42 LIQUIDATED DAMAGES

A. If the Contractor fails to complete the work in a manner satisfactory to West County Wastewater on or before the dates of completion agreed upon and fixed in this Contract or as duly extended as provided in this Contract, the Contractor, pursuant to the provisions of this Contract and California Government Code Section 53069.85, shall pay to West County Wastewater the sum set forth under Section 00 73 21, Amount of Liquidated Damages, for each calendar day of such delay. The Parties acknowledge that this daily Amount of Liquidated Damages is a reasonable estimate of future damages as of the date of this Contract, and the Parties further acknowledge that the sum specified as liquidated damages is not manifestly unreasonable under the circumstances existing at the time the Contract was made. West County Wastewater may deduct said sums from the payments due the Contractor each month. If the payments due the contractor are less than the amount of such liquidated damages, said damages shall be deducted from any other monies due or to be due the Contractor. The Contractor or its Surety shall pay the balance to West County Wastewater.

B. This liquidated damages provision is intended to apply only to the normal administrative, construction, engineering, supervision, design, redesign, operation, and other analogous costs associated with delays in projects similar to the project involved herein. This liquidated damages provision shall not apply to other damages, including consequential damages other than as specified above nor shall preclude West County Wastewater from seeking said other damages not covered by the liquidated damages provision. Specifically, this liquidated damages provision shall not apply to or include consequential damages resulting from the delay itself, as opposed to the direct-cost-type damages described above, incurred as a result of typical day-to-day project costs normally associated with on-going work. These excluded consequential and other damages shall include, but not be limited to, first- and third-party claims for torts, claims of inverse condemnation, environmental costs and claims, and/or regulatory fees or fines imposed in whole or in part due to Contractor's failure to complete the work in the manner, including time, as set forth in the Contract.

00 72 43 NIGHT AND WEEKEND WORK

A. The Contractor may be required to perform the work at night if the Engineer at any time determines that it is necessary for the progress of the work, or if emergencies arise. The Contractor shall promptly comply with any such requirements that are made in writing by the Engineer. The Contractor may be permitted to work at night if it obtains the approval of the Engineer to do so in order to maintain the required progress or protect the work from the elements. When required, ordered, or permitted to work at night, the Contractor shall provide sufficient and satisfactory lighting and other facilities for the work. For night work, the Contractor shall employ a crew

organized and prepared for regular and continuous night work. The Contractor will not be entitled to any additional payment for performing night work, and compensation for such work will be included in the Contract price.

B. The Contractor may not work on weekends except:

1. to perform usual protective work, such as pumping;
2. for work done in case of emergency threatening injury to persons or property; or
3. when, in the sole judgment of the Engineer, the work will be of advantage to the West County Wastewater.

C. Before the Contractor performs night and weekend work, it must first obtain all necessary permits from all entities having jurisdiction (for example noise ordinances) prior to starting such work.

00 72 44 INTOXICATING LIQUORS AND DRUGS

A. The Contractor may not sell and shall neither permit nor suffer the introduction or use of intoxicating liquors or non-prescribed illegal narcotics or drugs upon or about the work.

00 72 45 MEETINGS

A. **The Parties shall hold a pre-construction meeting after the award of the Contract to resolve any remaining pre-construction submittal issues as required by the Contract, and discuss various administrative items (including, but not limited to: the overall project construction schedule, the frequency of progress meetings, and the length of the look-ahead schedules). At this meeting, West County Wastewater may request that the Contractor provide it with certified payroll forms containing the classifications of workers who will be employed on the project and the wage each classification will be paid. The Contractor shall also be prepared to discuss all of the referenced items, as well as the methods of implementing the various work items.**

B. **the Project Manager will, no less often than once per month, conduct progress meetings for the purpose of discussing and resolving matters concerning the various elements of the work. The Contractor shall furnish look-ahead schedules at each of the progress meetings.**

C. **West County Wastewater may notify the Contractor regarding other meetings which the Contractor and subcontractors may be required to attend.**

D. **The time and place for the meetings described above and the names or titles of persons and subcontractors required to be present will be as directed by the Project Manager. The Contractor shall comply with these attendance requirements and shall also require, if needed, its subcontractors to comply.**

00 72 46 LIENS AND STOP NOTICE

A. If at any time any notices of lien are filed for labor performed or materials or equipment manufactured, furnished, or delivered to or for the work, the Contractor shall at its own cost and expense promptly discharge, remove, or otherwise dispose of the same. Until such discharge, removal, or disposition, the Engineer may retain from any monies payable to the Contractor an amount which, in the Engineer's sole judgment, is necessary to satisfy such liens and pay the costs and expenses, including attorneys' fees, of defending any actions brought to enforce the same or otherwise incurred in connection with the notice of lien.

B. If West County Wastewater is served with a Stop Notice as provided pursuant to Civil Code sections 9350 through 9510 before the expiration of the period for service of a Stop Notice, West County Wastewater shall, until the discharge thereof, withhold from the monies under its control as much of monies otherwise due or to become due the Contractor as is sufficient to answer the claim stated in such Stop Notice and to provide for the reasonable cost of any litigation thereunder. However, if the Engineer, in its discretion, permits Contractor to file with West County Wastewater the bond referred to in Section 9364 of the Civil Code, West County Wastewater will not withhold such moneys thereafter on account of such Stop Notice. The monies which West County Wastewater withholds will be a minimum of 125% of the face value of the Stop Notice.

00 72 47 NO WAIVER

Neither inspections by the Engineer, nor any order, measurement, approval, determination, decision, or certificate by the Engineer, nor any order by West County Wastewater for the payment of money, nor any payment for or use, occupancy, possession, or acceptance of the whole or any part of the work by West County Wastewater, nor any extension of time, nor any other act or omission of West County Wastewater or of the Engineer will be: (1) an acceptance by West County Wastewater of any defective or improper work, materials, or equipment nor operate as a waiver of any requirement or provision of the Contract; (2) a waiver by West County Wastewater of any remedy, power, or right reserved to West County Wastewater under the Contract; or (3) a waiver of any right to damages for breach of Contract. Any and all rights and/or remedies provided for in the Contract are cumulative; and, in addition to each and every other right and remedy provided for herein or by law, West County Wastewater reserves the right to seek a writ of injunction against any breach or threatened breach of the Contract by the Contractor, by its subcontractors, or by any other person or persons.

00 72 48 QUALITY OF EQUIPMENT, MATERIAL, PRODUCTS, AND/OR WORKMANSHIP

- A. The Contractor shall furnish all equipment, materials, and/or products required to complete the work, except those equipment, materials, and/or products that are designated in the Contract Documents to be furnished by West County Wastewater.
 1. Only equipment, materials, and/or products meeting the requirements of the Contract Documents may be incorporated in the work. The equipment, materials, and/or products furnished and used by Contractor must shall be new and must be manufactured, handled, and installed in a workmanlike manner to ensure a completed project in accordance with the Contract Documents . The Contractor shall deliver manufacturers' warranties, guarantees, instruction sheets, and parts lists which are furnished with certain equipment, materials, and/or products incorporated in the work to the Engineer before the Contract will be accepted.
 2. If no detailed specifications for certain equipment, materials and/or products are set forth in the Contract, the Contractor shall furnish such equipment, materials, and/or products in conformance with the latest standards, specifications, manuals or codes of an acceptable technical society, organization or association, or to the laws or regulations of any applicable governmental authority, whether such reference be specific or by implication, in effect at the time of opening of bids. In general, the work performed shall be in full conformity and harmony with the intent prescribed in Section 00 72 02, Intent of the Contract.
- B. The Engineer may disapprove or reject work, whether in place or not, which the Engineer believes to be defective, or that the Engineer believes will not produce a completed project that conforms to the Contract Documents or that will prejudice the integrity of the design concept of the completed project as a functioning whole as indicated by the Contract Documents . The Contractor shall immediately remove such equipment, materials, and/or products from the work site unless otherwise directed by the Engineer. The Contractor shall not use rejected equipment, materials, and/or products, the defects of which have been subsequently corrected, in the work unless the Engineer has approved such use in writing. If the Contractor fails to comply promptly with any order of the Engineer made under the provisions in this Article, the Engineer may cause the removal and replacement of rejected work including equipment, materials, and/or products. The Engineer may deduct the costs incurred due to the failure of the Contractor to remove and replace rejected work from any monies due or to become due the Contractor.
 1. The lack of disapproval or rejection by the Engineer of any part of the work or any of the equipment, materials, and/or products supplied in connection with that work does not create any automatic acceptance of any such part of the work or any such equipment, materials, products, and/or workmanship.

00 72 49 WEST COUNTY WASTEWATER'S OWNERSHIP OF PROJECT MATERIALS AND SALVAGE

- A. Unless otherwise provided in the Contract, West County Wastewater reserves all title and interest in the right to the use of all water, the title to all soil, stone, gravel, sand, minerals, timber, and all other materials developed or obtained within the Project limits from operations by the Contractor or any of its subcontractors, any of their representatives or employees, and the right to use or dispose of the same. Neither the Contractor nor any of its

subcontractors, nor any of their representatives or employees, shall have any right, title, or interest in or to any part of such materials or substances.

1. All material used under the Contract after it has been attached or affixed to the work or soil and for which partial payment has been made therefor will be the property of West County Wastewater.
- B. The Contractor shall satisfy itself as to the quantity of materials that meet the specifications that may be produced or obtained at local sources, and West County Wastewater is not responsible with regard to the quantities or quality of materials available.
 1. The Contractor, with the written permission of the Engineer, may use in the proposed construction such stone, gravel, sand, or other material that the Engineer determines is suitable for use as may be found at the project site.
 2. Existing items to be salvaged shall remain the property of West County Wastewater. Contractor shall refurbish as required items to be reinstalled in the work before reinstallation. Items the Contractor seeks to be salvage must be carefully removed and handled in such a manner as to avoid damage and shall be delivered to storage at a location designated by the Engineer.

00 72 50 (NOT USED)

00 72 51 PROVISIONS REQUIRED BY LAW DEEMED INSERTED

- A. Each and every provision of law and clause required by law to be inserted in the Contract is deemed to be inserted herein, and the Contract is to be read and enforced as though they were included in full herein. If through mistake or otherwise any such provision is not inserted, or is not correctly inserted, then upon the application of either party, the Contract shall be physically amended to make such insertion.

00 72 52 CONFLICT OR INCONSISTENCY

- A. Unless otherwise noted below, conflicts or inconsistencies between parts of the Contract will be resolved by the Engineer with a change order or an addendum, if necessary and if the order of precedence set forth below does not apply. Addenda and change orders bearing the most recent date prevail over addenda or change orders bearing earlier dates. Any reference to addenda-changed specifications or Documents will be considered as modified accordingly.
- B. In resolving conflicts, errors, or discrepancies, the order of precedence shall be as follows:
 1. Change Orders/Addenda (most recent in time takes precedence)
 2. Contract and Bond Forms
 3. Technical Specifications (Division 20 and above if required)
 4. Technical Specifications (Division 1 through 16 as required)
 5. Special Conditions
 6. Project Drawings
 7. General Conditions
 8. Instructions to Bidders
 9. Bid Forms
 10. Notice to Contractors

- C. Reference specifications will bear the same order of precedence as the document in which they are referenced. For example, a reference to West County Wastewater's Standard Specifications contained in the Technical Specifications will have the same order of precedence as the applicable Technical Specification. A reference to an Appendix contained in the Technical Specifications will have the same order of precedence as the applicable Technical Specification. If a reference specification is mentioned in more than one part of the Contract, the part with the highest order of precedence will govern.
- D. With reference to the Project Drawings:
 - 1. Figures govern over scaled dimensions.
 - 2. Project-specific Documents govern over general and typical drawings.
 - 3. Addenda/Change Order Documents govern over Project Drawings.
 - 4. Project Documents govern over standard drawings.
- E. The Contractor shall resolve any conflicts between the requirements contained in permits from other agencies and the Contract to the satisfaction of the Engineer. When there is a conflict between the requirement(s) as specified in the Contract and as required by other agencies, the more restrictive requirement(s) prevail.

00 72 53 UTILITY AND OTHER EXISTING FACILITIES

- A. The location of known existing utilities and pipelines are shown on the Project Documents in their approximate locations. Some of the locations include multiple conduits. The Contractor shall exercise care in avoiding damage to those facilities which are to remain in service after the completion of the construction of the facility that is the subject of the Contract, and the Contractor will be responsible to repair such facilities if they are damaged. The Contractor shall also exercise care in maintaining those pipes and facilities required for continuing operation of the existing facilities that will be abandoned until they are abandoned. Not all utilities or obstructions may be shown and the locations indicated may be inaccurate.
- B. The Contractor must discover all existing underground installations before excavating or trenching by contacting all local utilities 48 hours in advance, and by prospecting. Contractor shall notify Underground Service Alert no less than 48 hours before it commences any excavation work.
- C. When the excavation work approaches the approximate location of underground utilities, the Contractor shall determine the exact location of such utilities by careful probing or hand digging. When uncovered, the Contractor shall provide adequate protection for the existing installation.
- D. The Contractor shall exercise extreme caution in working in any area adjacent to existing sewerage facilities. The Contractor shall maintain all existing facilities in service until the new work is ready for full time operation and is placed in service. The Contractor's construction of the connections between the existing facilities and the new facilities must be at times and during periods acceptable to West County Wastewater. The Contractor shall advise the Engineer in writing of its proposed construction schedule for these connections at no later than five days before commencing work on such connections.
- E. The Contractor shall, before trenching or excavating for any pipe or structures, uncover and completely expose all piping where crossings, interferences, or connections are shown on the Project Documents to determine actual elevations. Contractor shall lay new pipelines at such grade as to clear all existing facilities which are to remain in service for any period after the construction of the pipe being laid. If the Contractor does not expose all required utilities, it may not recover any additional compensation for work necessary to avoid interferences or for repair to damaged utilities. The Contractor use extreme caution in performing excavations around underground electrical ducts and conduits to prevent injury to workers or damage to the electrical ducts or conduits.

F. Notwithstanding any other provision of this Contract between the West County Wastewater and the Contractor:

1. Except as provided below, in accordance with Section 4215 of the California Government Code, West County Wastewater shall assume the responsibility between the Parties for the timely removal, relocation, or protection of existing main or trunk line utility facilities located on the site of the construction project covered by the Contract if such utilities are not identified by West County Wastewater in the Project Documents and Specifications and made a part of the Notice to Contractors. West County Wastewater will not be responsible to indicate the presence of existing service laterals or appurtenances whenever the presence of such utilities on the site of the construction project can be inferred from the presence of other visible facilities, such as buildings, meter and junction boxes on or adjacent to the site of construction. West County Wastewater will compensate the Contractor for the costs of locating and repairing damage and removing or relocating utility facilities that are not indicated in the Project Documents and Specifications or that may be inferred from the presence of other visible facilities provided that the Contractor exercises reasonable care.
2. The owner of the utility will determine whether it will perform repairs or relocation work or will permit the Contractor to perform such repairs or relocation work at a reasonable price.
3. West County Wastewater will not assess liquidated damages upon the Contractor for delay in completing the Project when such delay was caused by the failure of West County Wastewater to show existing utilities or other existing facilities, excluding service laterals.

G. If interferences between existing utilities and proposed work occurs at locations other than those shown on the Project Drawings, the Contractor shall notify the Engineer, and the Engineer will supply a method for correcting the interference. West County Wastewater will pay the Contractor to correct interferences not shown on the Project Documents in accordance with the provisions of Section 00 72 11, Differing Site Conditions.

H. Planned utility service shutdowns of any portion of the treatment plant or collection system must be accomplished during periods of minimum use. In some cases this may require night or weekend work. The Contractor shall program its work so that service will be restored in the minimum possible time, and shall cooperate with West County Wastewater to reduce shutdowns of utility systems to a minimum. No utility interruption may occur without the prior approval of the Engineer and the utility involved.

00 72 54 SURVEYS, LINES, AND GRADES

A. The Contractor shall perform all work under the Contract to the lines and grades shown on the Project Drawings, unless directed otherwise by the Engineer.

1. The Contractor shall use three consecutive points on the same slope in order to detect any variation from a straight grade. If any discrepancy occurs, the Contractor shall immediately notify the Engineer. If this discrepancy is not reported at the time of discovery to the Engineer, the Contractor shall correct any error in the finished work at no cost to West County Wastewater.
2. West County Wastewater may make any survey to accurately measure quantities for payment to the Contractor.
3. West County Wastewater may interrupt the Contractor's work schedule in order to have lines or grades checked on any work in progress. The Contractor will not receive a time extension for such interruptions, provided that the interruptions do not exceed a reasonable amount of time under the specific circumstances involved.

00 72 55 CONTRACT DOCUMENTS AND RECORD DRAWINGS

A. The Contractor may obtain from West County Wastewater, at no extra cost, up to four copies of the Contract Documents as specified in Subsection 19 of Section 00 21 13. The Contract Documents include Section 00 01 10, Table of Contents; Section 00 01 15, List of Drawings; Section 00 11 16, Invitation to Bid; Section 00 21 13, Instructions to Bidders; Section 00 41 43 Bid Forms; Section 00 43 00, Procurement Form Supplements; Section 00 45 00, Representations and Certifications; Section 00 52 00, Contract Forms; Section 00 61 00, Bond Forms;

Section 00 72 00, General Conditions; Section 00 73 00, Supplementary Conditions; Technical Specifications; Project Drawings; and any addenda thereto.

- B. The Contractor shall keep on the work site a copy of the Contract Documents and shall at all times give the Engineer access thereto. Any Documents included in the detailed Specifications shall be regarded as part thereto and of the Contract. Anything mentioned in these Specifications and not shown on the Project Drawings, or shown on the Project Documents and not mentioned in these Specifications, will be construed as if shown or mentioned in both. The Engineer will furnish from time to time such detail drawings, plans, profiles, and information as it may consider necessary for the Contractor's guidance. The Contractor shall assure its work complies with the provisions of the Contract Documents irrespective of the inspection given the work during its progress by the Engineer. Any failure by the Contractor to observe the requirements contained in the Contract Documents will be sufficient cause for the Engineer to reject the work at any time before its acceptance.
- C. The Contractor shall maintain, at the jobsite, one record set of Project Documents in good order and clearly marked to show any deviations made from the Project Drawings, including concealed construction and utility features which are revealed during the course of construction. The Contractor shall update its marked prints at least once each week and shall make the prints available for the Engineer's review for currency before developing partial payment estimates. Upon completion of the work, the Contractor shall deliver the marked set of prints to the Engineer.
- D. For Documents that depict the detail requirement for equipment to be assembled and wired in the factory, such as motor control centers and the like, the Contractor must update the Record Documents by identifying those portions that are superseded by change order Documents or final shop drawings, and by including appropriate reference information describing the change orders by number and the shop Documents by manufacturer, drawing, and revision numbers.
- E. West County Wastewater will not approve the Contractor's requests for partial payments if the updated set of Documents is not in good order or is not kept current. West County Wastewater will not approve any request for final payment unless the Contractor delivers the complete and correct Record Documents to the Engineer.

00 72 56 CONTAMINATED SOIL/MATERIALS

- A. Contaminated soils and materials include, but not be limited to, pollutants and/or materials defined as hazardous substances or hazardous wastes under the Resource Conservation and Recovery Act (RCRA), the Comprehensive Environmental Response Compensation and Liability Act (CERCLA), the Hazardous Substances Account Act (Health and Safety Code Section 25300 and following), the Hazardous Waste Control Act (Health and Safety Code Section 25100 and following), or are defined as pollutants or contaminants under any other applicable state and federal laws and regulations. Contaminated soils and materials include, but not be limited to, friable asbestos, PCBs, petroleum products and its byproducts, and waste oil, among other substances.
- B. Contractor shall notify West County Wastewater in person or by telephone within two hours of its discovery of any contaminated soil or materials on or beneath the jobsite, including in buildings and related structures that could be impacted by the construction project as discovered by the Contractor, its personnel, agents, representatives, consultants, or any other persons working under the direction and control of the Contractor. In addition, the Contractor shall deliver written notice of the same to West County Wastewater by the Contractor no later than 24 hours after discovery. Contractor shall require that like provisions be inserted in all contracts with its subcontractors and tiers of subcontractors. Inclusion of such provisions in subcontractors does relieve the Contractor from the obligation and responsibility to assure compliance with the provisions of this general condition.
- C. The Contractor and its subcontractors must immediately cease any and all work at the location of the discovery of the contaminated soil or materials until further notice from West County Wastewater or the Engineer.
- D. If the Contract Documents specifically direct the Contractor to perform appropriate cleanup work with respect to the contaminants discovered, the Contractor shall proceed with that work. In addition, the Contractor shall notify West County Wastewater of the discovery of the contaminants as set forth above. Further, if the contaminants substantially vary from the description in the Contract Documents as to type of material, quality

of materials, level of concentration or toxicity, location, as to the materials' affect on groundwater, or vary in any other substantial manner from the description as set forth in the Contract Documents , the Contractor shall immediately cease operations and notify West County Wastewater as set forth above.

- E. All work done by the Contractor with respect to cleanup, removal, and remedial actions concerning the contaminated soils or materials must be done in compliance with the law. The Contractor shall provide all required notices to the County Environmental Health Hazard Materials Section and other appropriate governmental agencies, including the State Department of Toxic Substances Control and the Regional Water Quality Control Board-San Francisco Bay Region, among others. The Contractor or any subcontractor doing such work for the Contractor must have the appropriate certification, licenses, and permits before commencing any cleanup, removal, and/or remedial work. West County Wastewater will not be responsible for any negligence of or the violation of any laws, rules, regulations, or ordinances by the Contractor or any of the Contractor's subcontractors, agents, consultants, employees, or representatives in performing such cleanup, removal, and remedial work.
- F. If any of the cleanup, removal, containment, or remediation work substantially impacts the community, including, but not limited to, creating traffic, odor, and health issues, West County Wastewater may direct the Contractor to revise its manner of operations to reduce or eliminate the adverse effects.

00 72 57 Not used

00 72 58 Not used

00 72 59 STORM WATER POLLUTION PREVENTION

A. General

- 1. Prevention - The Contractor shall prevent the pollution of storm drain systems and creeks on or near the construction project site(s) resulting from the construction operation. The Contractor shall keep pollution out of storm drains by reducing the possibility of the accidental discharge of materials and wastes, by reducing erosion and sedimentation, and by any other action as required. The Contractor shall train all employees and subcontractors on the storm water pollution prevention requirements contained in these Specifications and ensure that all employees and subcontractors are aware of the consequences as described in subsection A.3. below. The Contractor shall include appropriate subcontract provisions to ensure that these requirements are met by all subcontractors.
- 2. Notification - If the Contractor causes or permits the spillage or overflow of any sewage, oil, or petroleum product, hazardous substance, contaminant, or waste that may result in the fluid or substance being discharged directly or indirectly into any storm drains, creeks, wetlands, or other manmade or natural waterways, the Contractor shall notify West County Wastewater as soon as possible to the extent notification can be provided without substantially impeding cleanup or other emergency measures. The Contractor shall make such notification no later than one hour after the Contractor learns of the occurrence.
- 3. Cleanup – The Contractor shall, immediately upon learning of such spillage, overflow, or discharge, the Contractor shall eliminate the cause of the spillage, overflow, or discharge and take action to minimize any damages. The Contractor shall also immediately implement a cleanup program. The cleanup, including sampling and testing required by regulatory agencies to determine the nature and level of contamination, must be performed and completed to the satisfaction of the regulatory agencies involved and West County Wastewater, at the Contractor's expense. Any fines, penalties, and/or subsequent actions imposed upon West County Wastewater and/or the Contractor by regulatory agencies related to the spillage, overflow, or discharge and any subsequent monitoring, testing, and reporting, as required by regulatory agencies, shall also be at the Contractor's expense. The Contractor shall keep a stockpile of spill cleanup materials, such as rags or absorbents, readily accessible on site. The quantity of cleanup materials are an appropriate factor in determining the risk of an occurrence of a spill, overflow or discharge.

B. Management of Nonhazardous Material and/or Waste

1. Designated Area - The Contractor shall propose designated areas of the Project site, for approval by the Engineer, suitable for material delivery, storage, and waste collection that to the maximum extent practicable are near construction entrances and away from catch basins, gutters, drainage courses, and creeks.
2. Backfill or Excavated Material - The Contractor may not allow backfill or excavated material to enter the storm drains or creeks. When rain is forecast within 24 hours or during wet weather, the Contractor may be required to cover such material with a tarpaulin and to surround the material with sand bags.
3. Street Sweeping - At least once per week or more frequently as directed by the Engineer, the Contractor shall clean and sweep roadways and on-site paved areas of all materials attributed to or involved in the work. The Contractor may not use water to flush down streets in place of street sweeping.
4. Disposal - At the end of each working day, the Contractor shall collect and properly dispose of all scrap, debris, and waste material. These materials may be stored in the Contractor's yard in stockpiles or placed in dumpsters. The Contractor shall inspect dumpsters for leaks and replace or repair any dumpsters that leak. The Contractor may not discharge onsite water from cleaning dumpsters. The Contractor shall arrange for regular waste collection before dumpsters overflow.

C. Management of Hazardous Material and/or Waste

1. Storage - The Contractor shall label and store all hazardous materials, such as pesticides, paints, thinners, solvents, and fuels, and all hazardous wastes, such as waste oil and antifreeze, in accordance with all applicable state and federal regulations. The Contractor shall store all hazardous materials and all hazardous wastes in accordance with secondary containment regulations. All such materials and wastes must be covered, as needed, to avoid the pollution of rainwater with hazardous constituents, which may require the management of collected rain water as a hazardous waste. The Contractor shall keep an accurate, up-to-date inventory, including Material Safety Data Sheets (MSDSs), of hazardous materials and hazardous wastes stored on site.
2. Usage - When rain is forecast within 24 hours or during wet weather, the Contractor shall refrain from applying chemicals in outside areas. The Contractor shall follow material manufacturer's instructions regarding use, protective equipment, ventilation, flammability, and mixing of chemicals. The Contractor shall post warning signs in areas treated with chemicals.
3. Disposal - The Contractor shall arrange for regular hazardous waste collection to comply with time limits for storage of hazardous wastes. The Contractor shall dispose of hazardous waste in accordance with Section 00 72 56, Contaminated Soil/Materials. The Contractor may not wash any spilled material into streets, gutters, storm drains, or creeks and may not bury spilled hazardous materials. The Contractor shall report any spill of hazardous materials to West County Wastewater in accordance with Section A.2 above.

D. Vehicle/Equipment Cleaning, Maintenance, and Fueling

1. General - The Contractor shall inspect vehicles and equipment arriving on site for leaking fluids and shall promptly repair any leaking vehicles and equipment. The Contractor shall use drip pans to catch leaks until it makes repairs.
 - a. The Contractor shall comply with federal, state, and city requirements for above-ground storage tanks.
2. Cleaning - The Contractor shall clean vehicles or equipment with water only in a designated, bermed area that will not allow rinse water to run off site into streets, gutters, storm drains, or creeks. The Contractor may not use soaps, solvents, degreasers, steam-cleaning equipment, or equivalent methods for this cleaning.

3. Maintenance and Fueling - The Contractor must perform maintenance and fueling of vehicles or equipment in areas that will not allow run-on of storm water or runoff of spills to storm drains and will provide for confined clean-up. Examples are working in bermed areas or utilizing drip pans. The Contractor may not contaminate the soils or groundwater with such maintenance and fueling activities.
 - a. The Contractor shall use secondary containment, such as a drip pan, to catch leaks or spills any time that vehicle or equipment fluids are dispensed, changed, or poured, and shall clean up leaks and spills of vehicle or equipment fluids immediately and dispose of the waste and cleanup materials as hazardous waste, as described in Section C.3 above.

E. Dewatering Operations

1. Sediment Control - The Contractor shall route water through a control measure, such as a sediment trap, sediment basin, or Baker tank, to remove settleable solids prior to discharging the water to a storm drain system. The Contractor shall place straw bales in front of storm drain inlets as required, and it may be required on a case-by-case basis to filter the water following the control measure. The control measure must be approved in advance by the Engineer. If the Engineer determines that the dewatering operation will not generate an appreciable amount of settleable solids, the Engineer may waive the control measure requirement.
2. Contaminated Groundwater - If the project is within an area of known groundwater contamination or if contamination is found, water from dewatering operations must be tested prior to discharge. If the water quality meets Regional Water Quality Control Board (RWQCB) standards, it may be discharged to a storm drain or creek. Otherwise, the water must be hauled off-site for proper disposal.

F. Paving or Oiling Operations

1. When rain is forecast within 24 hours or during wet weather, the Engineer may direct the Contractor not to pave or oil the street. The Engineer may direct the Contractor to protect drainage courses by using control measures, such as earth dikes, straw bales, and sand bags, to divert runoff or trap and filter sediment.
2. The Contractor shall prevent saw-cut slurry from entering catch basins and storm drains by limiting the area over which the slurry spreads.
3. The Contractor shall cover catch basins and manholes when paving or applying seal coat, tack coat, slurry seal, or fog seal.
4. The Contractor may not sweep or wash down excess sand (placed as part of a sand seal or to absorb excess oil) into gutters, storm drains, or creeks. The Contractor shall either collect the sand and return it to the stockpile or dispose of it in a trash container.

G. Concrete, Grout, and Mortar Waste Management

1. Concrete Truck/Equipment Washout - The Contractor may not wash out concrete trucks or equipment into streets, gutters, storm drains, or creeks. The Contractor shall wash out concrete trucks and equipment off-site or in a designated area on-site where the water will flow onto dirt or into a temporary pit in a dirt area. The Contractor shall allow the water to percolate into the soil and dispose of the hardened concrete in a trash container. If no suitable dirt area is available, the Contractor shall collect the wash water and remove it off site.
2. Exposed Aggregate Concrete Wash Water - The Contractor shall drain water from washing exposed aggregate concrete to a dirt area. If no suitable dirt area is available, the Contractor shall filter the wash water through straw bales or equivalent material before discharging it to a storm drain. The Contractor shall collect sweepings from exposed aggregate concrete for disposal.

H. Paint Disposal and Clean-up

1. Disposal of Unused Paint - The Contractor shall carefully use, store and dispose of paint, solvents, chemicals, and waste materials in compliance with all applicable state and federal regulations. The Contractor may not dispose of paint to sanitary sewer systems or storm drains. The Contractor shall utilize other recycling and disposal services as follows:
 - a. "Recycling Centers" and "Waste Disposals" as may be listed in the yellow pages.
 - b. Local household hazardous waste facility if appropriate.
 - i. The Contractor may dispose of small amounts of leftover latex (water-based) paint by applying the paint to the surface of an item to be discarded and allowing it to dry thoroughly, then disposing of it in a dumpster.
 - ii. The Contractor shall store these materials and conduct cleaning of painting equipment and tools in a designated area that will not allow run-on of storm water or runoff of spills. The Contractor may not allow wash water from cleaning painting equipment and tools into streets, gutters, storm drains, or creeks.
2. Disposal of Paint Clean-up Waste - The Contractor shall remove as much excess paint as possible from brushes, rollers, and equipment before starting cleanup.
 - a. The Contractor may not discharge cleaning wastes from oil-based paints, buckets, brushes or tools to the sanitary sewer system. The Contractor shall retain a certified waste hauler to recycle or to dispose of cleaning wastes from oil-based paints at the Contractor's expense.
 - b. The Contractor may discharge very small amounts of cleaning wastes from brushes, rollers, buckets, and tools contaminated with latex (water-based) paints to the sanitary sewer system provided they do not contain additives with pollutants of concern (e.g., mercury, tributyltin). Brushes, rollers, and tools containing latex paints may be washed over a sink with plenty of water. Buckets containing latex paints must first be emptied into the original can or discarded as specified in paragraph 1 above. If excessive amounts of paint or solvent are found in the wastewater discharged, the Contractor may be subject to enforcement action by West County Wastewater in accordance with West County Wastewater's Codes.
 - c. The Contractor may not discharge any of these paint clean-up wastes to storm drains, streets, gutters, or creeks.
 - d. Waste Disposal - The Contractor shall dispose of waste thinner, solvent, and sludge from the cleaning of equipment and tools as hazardous waste, as described in Subsection C.3 above. The Contractor shall dispose of excess thinners, solvents, and oil- and water-based paint as hazardous waste.
- I. Contaminated Soil - If the project is within an area of known soil contamination or evidence of soil contamination is found, the Contractor shall comply with the requirements of Section 00 72 56, Contaminated Soil/Materials.

END OF GROUP 00 72 00

SECTION 00 73 00

SUPPLEMENTARY CONDITIONS

SectionTitle

00 73 01	Insurance Coverage Requirements
00 73 02	Preconstruction Conference
00 73 03	Surveys
00 73 04	Progress Schedule and Holidays
00 73 05	Responsibility
00 73 06	Conflicts, Errors, Discrepancies
00 73 07	Clean up and Restoration
00 73 08	Commencement, Prosecution, and Completion
00 73 09	Existing Utilities and Sewerage Facilities
00 73 10	Inspection by Others
00 73 11	Salvaged Material
00 73 12	Disposal of Material
00 73 13	Potential Hazards and Safety
00 73 14	Explosive
00 73 15	Dust Control
00 73 16	Fire Prevention
00 73 17	Air Pollution
00 73 18	Title to Materials Found
00 73 19	Final Acceptance
00 73 20	Attorneys' Fees
00 73 21	Amount of Liquidated Damages
00 73 22	Percentage of Progress Payments to be Retained
00 73 23	Amount of Minimum Progress Payment
00 73 24	Retention for Repairs
00 73 25	Connections to Existing Facilities
00 73 26	Certification of Labor Charges
00 73 27	Sole Source Items
00 73 28	Partial Payment for Materials and Equipment Delivered
00 73 29	Maintaining Existing Utilities
00 73 30	Permits, Easements and Agreements
00 73 31	Parking and Employee Identification
00 73 32	Work During Disputes and Litigation
00 73 33	Submittals
00 73 34	Extensions of Time for Delay Due to Inclement Weather
00 73 35	Erosion Control
00 73 36	Standard Details
00 73 37	Drawings and Project Manual
00 73 38	Initial Start-up and Operation of Facilities
00 73 39	Responsibility for Spare Parts & Special Tools

- 00 73 40 Manuals, Operating Instructions and Affidavits
- 00 73 41 Record Plans
- 00 73 42 Joint Survey to Establish Preconstruction Conditions
- 00 73 43 Construction Constraints
- 00 73 44 Traffic Control
- 00 73 45 Work Hours
- 00 73 46 Federal, State and Local Requirements
- 00 73 47 Apprentices
- 00 73 48 Labor, Wages and Wage Determinations

00 73 01 INSURANCE COVERAGE REQUIREMENTS

A. Insurance: On or before beginning the Project, the Contractor, at its own cost and expense, shall carry, maintain for the duration of the Project, and provide proof thereof in a form that is acceptable to West County Wastewater the insurance specified in subsections (1) through (5) below with insurers and under forms of insurance satisfactory in all respects to West County Wastewater. The Contractor shall not allow any subcontractor, professional or otherwise, to commence work on any subcontract until all insurance required of the Contractor has also been obtained for said subcontractor, or until West County Wastewater has approved the insurance status of the Contractor's subcontractor.

1. Commercial General Liability: Insurance Services Office Form CG 00 01, including products and completed operations, with limits of no less than five million dollars (\$5,000,000) per occurrence for bodily injury, personal injury, and property damage. If a general aggregate limit applies, either the general aggregate limit shall apply separately to this project or the general aggregate limit shall be twice the required occurrence limit. The Contractor, at the Contractor's own cost and expense, shall maintain Commercial General Liability Insurance for the period covered by this Contract for risks associated with the Project.
2. Automobile Liability: Insurance Services Office Form Number CA 0001 covering Code 1 (any vehicle), with limits no less than five million dollars (\$5,000,000) per accident. Such coverage shall include but shall not be limited to, protection against claims arising from bodily and personal injury, including death resulting therefrom, and damage to property resulting from activities contemplated under this Contract, including the use of owned and non-owned automobiles.
3. Workers' Compensation: Worker's Compensation Insurance as required by the State of California, with statutory limits, and Employer's Liability Insurance with limits of not less than one million dollars (\$1,000,000) per accident for bodily injury or disease for any and all persons employed directly or indirectly by the Contractor. In the alternative, the Contractor may rely on a self-insurance program to meet these requirements as long as the program of self-insurance complies fully with the provisions of the California Labor Code. In such case, excess Worker's Compensation Insurance with limits of not less than five million dollar (\$5,000,000) shall be maintained. The insurer, if insurance is provided, and the Contractor, if a program of self-insurance is provided, shall waive all rights of subrogation against West County Wastewater for loss arising from worker injuries sustained under this Contract. The worker's compensation policy shall be endorsed with a waiver of subrogation in favor of West County Wastewater for all work performed by the Contractor, its employees, agents and subcontractors.
4. Builder's Risk: (Course of Construction) insurance covering all risks of loss less policy exclusions, with limits equal to the completed value of the project and no coinsurance penalty provisions.

5. **Professional Liability.** If applicable (for design/build), the Contractor, at the Contractor's own cost and expense, shall maintain for the period covered by this Contract professional liability insurance for licensed professionals performing the work in an amount not less than one million dollars (\$1,000,000) and a \$2,000,000 policy aggregate covering the licensed professionals' errors and omissions, as follows:
 - a. Any deductible shall not exceed \$5,000 per claim.
 - b. Notice of cancellation or non-renewal must be received by West County Wastewater at least thirty days prior to such change.
 - c. The following provisions shall apply if the professional liability coverages are written on a claims made form:
 - i. The retroactive date of the policy must be shown and must be before the date for the commencement of the Project.
 - ii. Insurance must be maintained and evidence of insurance must be provided for at least five years after completion of the Project if reasonably available.
 - iii. If coverage is canceled or not renewed and it is not replaced with another claims made policy form with a retroactive date as provided under 00 73 2 A.(5) (c) (i) above, the Contractor must provide extended reporting coverage on the expiring policy for a minimum of five years after completion of the Project.
 - iv. A copy of the claim reporting requirements, including any extended reporting period provisions, must be submitted to West County Wastewater prior to the commencement of the Project.
 - v. If the services involve lead based paint or asbestos identification/ remediation, the Contractors Pollution Liability.
6. **Contractor's Pollution Legal Liability** and/or Asbestos Legal Liability and/or Errors and Omissions (if project involves environmental hazards) with limits no less than \$1,000,000 per occurrence or claim, and \$2,000,000 policy aggregate.
7. Each of the following shall be included in the insurance coverage or added as an endorsement to the policy:
 - a. West County Wastewater, its subsidiary districts, its officers, employees, agents and volunteers shall be covered as additional insureds as respects each of the following:
 - i. Liability arising out of automobiles owned, leased, hired, or borrowed by or on behalf of the Contractor.

- ii. Liability arising out of work or operations performed by or on behalf of the Contractor, including materials, parts, or equipment furnished in connection with such work or operations and the insured's general supervision of or by the Contractor.
- iii. Liability arising out of premises owned, occupied or used by the Contractor.

- b. General liability coverage can be provided in the form of an endorsement to the Contractor's insurance (at least as broad as ISO Form CG 20 10, 11 85 or both CG 20 10 and CG 20 37 forms if later revisions used.).
- c. The coverage shall contain no special limitations on the scope of protection afforded to West County Wastewater, its subsidiary districts, its officers, employees, agents and volunteers.
- d. The insurance policy form shall provide coverage on an occurrence basis, and not on the basis of claims made.
- e. The insurance must cover complete contractual liability. This may be provided by amending the definition of "incidental contract" to include any written agreement.
- f. Any explosion, collapse, and underground property damage exclusion must be deleted.
- g. An endorsement must state that coverage is primary insurance and that no other insurance or self-insured retention carried by West County Wastewater will be called upon to contribute to a loss under the coverage.
- h. The policy must contain a cross liability or severability of interests clause.
- i. Any failure of the Contractor to comply with reporting provisions of the policy shall not affect coverage provided to West County Wastewater and its subsidiary districts, its officers, employees, agents and volunteers.
- j. Broad form property damage liability must be afforded. A deductible that does not exceed \$250,000 may be provided.
- k. Insurance is to be placed with California-admitted insurers, and carrier(s) must be rated "A: VII" or above in the Best's Rating Guide unless otherwise acceptable to West County Wastewater.
- l. Notice of cancellation or non-renewal must be received by West County Wastewater at least thirty days prior to such change.

- 8. Deductibles and Self-Insured Retentions. During the period covered by this Contract, upon express written authorization of West County Wastewater, the Contractor may

increase such deductibles or self-insured retentions with respect to West County Wastewater, its subsidiary districts, its officers, employees, agents and volunteers. West County Wastewater may condition approval of an increase in deductible or self-insured retention levels upon a requirement that the Contractor procure a bond guaranteeing payment of losses and related investigations, claim administration, and defense expenses that is satisfactory in all respects to each of them.

9. Notice of Reduction in Coverage. If any coverage required under 00 73 2. A. (1), (2), (3), (4), (5) or (6) of this Contract is reduced, limited, or materially affected in any other manner, at any time during the period that insurance coverage is required under this Contract, the Contractor shall provide written notice to West County Wastewater at the Contractor's earliest possible opportunity and in no case later than five days after the Contractor is notified of the change in coverage.
10. Verification of Insurance. The Contractor shall submit acceptable proof of insurance, along with all endorsements that implement the insurance coverage required by West County Wastewater. Proof of insurance may be provided by an accurate Certificate of Insurance that identifies all insurance coverage actually in force, although it may exceed the amounts or coverages required by West County Wastewater. The original Certificate of Insurance, and signed endorsements shall be provided to West County Wastewater prior to performance of the work.
11. Builder's Risk (Course of Construction) Insurance. The Contractor may submit evidence of Builder's Risk insurance in the form of Course of Construction coverage. Such coverage shall name West County Wastewater as a loss payee as their interest may appear. If the project does not involve new or major reconstruction, at the option of West County Wastewater, an Installation Floater may be acceptable. For such projects, a Property Installation Floater shall provide property damage coverage for any building, structure, machinery or equipment damaged, impaired, broken, or destroyed during the performance of the Work, including during transit, installation, and testing at the project site.
12. Any exceptions to the above requirements, limits or conditions are to be made in the sole and exclusive discretion of West County Wastewater, by and through West County Wastewater's General Manager.
13. Contractor shall require and verify that all subcontractors maintain insurance meeting all the requirements stated herein.
14. Verification of Coverage. Contractor shall furnish West County Wastewater with original certificates and amendatory endorsements, or copies of the applicable insurance language, effecting coverage required by this contract. All certificates and endorsements are to be received and approved by West County Wastewater before work commences. However, failure to obtain the required documents prior to the work beginning shall not waive the Contractor's obligation to provide them. West County Wastewater reserves the right to require complete, certified copies of all required

insurance policies, including endorsements, required by these specifications at any time.

15. Special Risks or Circumstances. West County Wastewater reserves the right to modify these requirements, including limits, based on the nature of the risk, prior experience, insurer, coverage, or other circumstances.

B. Indemnification

1. The Contractor and its sureties shall indemnify and hold harmless West County Wastewater, the Board, each member of the Board, and West County Wastewater's officers, agents and employees from all liability and claims of any kind, subject to the limitations set forth by law, including attorney's fees, arising out of or in connection with the work to be performed, including but not limited to:
 - a. Liability or claims resulting directly or indirectly from the negligence or carelessness of the Contractor or its agents in the performance of the work, or in guarding or maintaining the same, or from any improper materials, implements, or appliances used in its construction, or by or on account of any act or omission of the Contractor or its agents.
 - b. Liability or claims arising directly or indirectly from or based on the violation of any law, ordinance, regulation, order, or decree, whether by the Contractor or its agents.
 - c. Liability or claims arising directly or indirectly from the use or manufacture by the Contractor, its agents, or West County Wastewater in the performance of the work of any copyrighted or non-copyrighted composition, secret process, patented or unpatented invention, article or appliance, unless otherwise specifically stipulated in the Contract.
 - d. Liability or claims arising directly or indirectly from the breach of any warranties, whether express or implied, made to the West County Wastewater or any other parties by the Contractor or its agents.
 - e. Liability or claims arising directly or indirectly from the willful misconduct of the Contractor or its agents.
 - f. Liabilities or claims arising directly or indirectly from any breach or default of the obligations assumed herein by the Contractor.
 - g. Liabilities or claims arising directly or indirectly from injuries, sickness, disease or death of employees of Contractor or his subcontractors, suppliers, or vendors in connection with or incident to their Contract or the work to be performed hereunder.

2. Said duty to indemnify shall not be affected or in any way diminished by the fact that West County Wastewater, the Board, any member of the Board, or West County Wastewater's officers, agents or employees may have jointly caused or contributed to the liability or claim by their acts, omissions, conduct, or negligence. The indemnification obligation under this Article shall not be limited in any way by any limitation of the amount or type of damages, compensation, or benefits payable by or for the Contractor or any such subcontractor or other person or organization under the Worker's Compensation Act, Disability Benefit Act, or other employee benefit act.
3. The duty of the Contractor and its sureties to defend, indemnify and hold harmless as set forth above, shall include but not be limited to the duty to defend as set forth in Section 2778 of the California Civil Code, provided, however, that nothing herein shall be construed to require the Contractor to indemnify West County Wastewater, its subsidiary districts, its officers, employees, agents and volunteers against any responsibility for liability in contravention of Section 2782 of the California Civil Code. The duty to defend shall include but not be limited to any costs and expenses for attorney's fees, consultants, expert witnesses, court costs and all incidental and consequential damages or costs from claims or litigation.
4. The Contractor and its sureties expressly and specifically agree to waive any and all subrogation rights they may have against West County Wastewater, its subsidiary districts, officers, employees, agents and volunteers which any insurer of Contractor may acquire by virtue of the payment of any loss. Contractor agrees to obtain any endorsement that may be necessary to affect this waiver of subrogation. Indemnification and waiver of subrogation contained in this section shall remain operative and in full force and effect regardless of any termination of this Contract.

00 73 02 PRECONSTRUCTION CONFERENCE

- A. The purpose of the preconstruction conference shall be to review the Contractor's preconstruction submittals, as required by the Contract, and to execute a West County Wastewater construction permit and discuss various administrative items.
- B. At the time and place established for the preconstruction conference, the Contractor shall:
 1. Execute and secure a West County Wastewater construction permit for the work under Contract. This permit is for record purposes only, and no fee, therefore, will be charged to the Contractor.
 2. File with the West County Wastewater's written Payroll Listing of labor costs in accordance with Section 00 73 26, Certification of Labor Charges.
 3. Present the construction schedule and methods of implementing the work.

00 73 03 SURVEYS

A. The Engineer will furnish only a basic reference line, a beginning point on this line, and a bench mark from which the Contractor shall establish such other control and reference point as he may need and as will be required to properly lay out the work. Monuments for principal control points shall be set by the Contractor and shall be protected by the Contractor from disturbance. If the monuments are disturbed, any work that is governed by these monuments shall be held in abeyance until the monuments are reestablished by the Contractor. Contractor shall engage a registered civil engineer or licensed land surveyor subject to approval of the Engineer for this work. The accuracy of all the Contractor's stakes, alignments, and grades is the responsibility of the Contractor. However, the Engineer has the discretionary right to check the Contractor's stakes, alignments, and grades at any time. Where such discretion is to be exercised by the Engineer, he will notify the Contractor of his intention, stating the time at which the checking will commence. Any part of the work in progress, the results of which are predicated directly upon the Contractor's stakes, alignments, or grades to be checked, shall be held in abeyance until the Engineer has notified the Contractor that the checking has been completed.

00 73 04 PROGRESS SCHEDULE AND HOLIDAYS

A. The following are the official 2022 holidays of the West County Wastewater and work shall not be scheduled for these days:

January 1, "New Year's Day"
January 17, "Martin Luther King Day"
February 21, "President's Day"
May 30, "Memorial Day"
July 4, "Independence Day"
September 5, "Labor Day"
November 11, "Veteran's Day"
November 24, "Thanksgiving Day"
November 25, "Day After Thanksgiving"
December 26, "Christmas Day Observed"

B. Construction Progress Documentation

A Construction Project Schedule must be submitted within 15 days of Notice to Proceed, which will be used to monitor the progress throughout the project. Subsequently, monthly schedule updates must be submitted with each progress payment application. The Construction Project Schedule must include the following:

1. The Project Schedule shall be performed by a computer software program. The software program, such as: Microsoft Project, Oracle Primavera, or equal. The Contractor shall provide an electronic copy in .PDF format, as well as the original computer software format.
2. The schedule shall depict all significant construction activities, including: submittals, submittal review, all activities with a dollar value greater than one percent of the total

contract amount (or \$25,000 per task, whichever is less.) Activity durations shall be broken down such that no activity is longer than 15 working days (except for fabrication and delivery activities)

3. All activities shall have at least one predecessor and one successor (except for first and last activity.)
4. All task constraints must be "As Soon As Possible" (except for date fixed milestones beyond your control, such as a District Board Meeting.)
5. At least four milestones activities (with a duration 0) must be included, such as: 1. Notice to Proceed (NTP) 2. Work Start Date, 3. at least one activity approximately in the middle of the project, and 4. Project Completion.
6. All activities must be sorted by earliest start date.
7. Include the critical path, calculated by the computer software program utilizing the critical path method (CPM.) A manually generated critical path will not be accepted. (Refer to "The Use of CPM in Construction, a Manual for Contractors," published by the Associated General Contractors of America.)
8. The scheduled duration of each activity shall be based on the work being performed during the normal 40-hour work week with allowances made for holidays, closure days and normal weather conditions.
9. Any float or unused time, between the project's contract completion date and completion date in Project Schedule, will belong to the project and not to any of the parties to the contract.
10. In addition to the Monthly Project Schedule updates, a 3-week look ahead schedule shall be provided at each construction progress meeting.

00 73 05 RESPONSIBILITY

The Contractor shall assume responsibility for all new material and skilled application of all work furnished and performed under this Contract including any Amendments thereto. At the completion of this Contract, the construction shall constitute a complete and operable facility. In the event an error or omission is discovered in the Drawings or Specifications during the course of the work, the Engineer shall be promptly notified in writing. If the Engineer determines that remedial measures are necessary requiring extra work clearly outside the scope of the Contract work, a Change Order will be negotiated in accordance with Section 00 72 12, Changes and Extra Work.

00 73 06 CONFLICTS, ERRORS, DISCREPANCIES

In the case of conflicts errors, or discrepancies in any of the Contract Documents, the order of precedence shall be as follows:

1. Change Orders/Addenda (most recent in time takes precedence)
2. Contract and Bond Forms
3. Technical Specifications (Division 20 and above if required)
4. Technical Specifications (Division 1 through 16 as required)
5. Supplementary Conditions
6. Project Drawings
7. General Conditions
8. Instructions to Bidders
9. Bid Forms
10. Notice to Contractors

00 73 07 CLEAN UP AND RESTORATION

A. Upon completion of the work, remove from the site the equipment, all debris, unused materials, temporary construction buildings, and other miscellaneous items resulting from or used in the operations. Replace or repair any facility which has been damaged during the construction work. Restore the site as nearly as possible to its original condition.

1. Throughout the construction period, maintain the Contract working area neat and clean as described in this section.
2. Make final cleanup and restore landscaping for acceptance.
3. In addition to requirements of this section, comply with all requirements for cleaning up as described in various other sections of this Specification.

B. Quality Assurance

1. Inspection: As a minimum, conduct weekly inspections to verify that requirements of this section are being met.

- C. Cleaning Materials and Equipment: Provide all required personnel, equipment, and materials needed to maintain the work area neat and clean.
- D. Progress Cleaning- General
 - 1. Retain all stored items in an orderly arrangement allowing maximum access, not impeding drainage or traffic, and providing the required protection of material.
 - 2. Provide adequate storage for all items awaiting removal from the jobsite, observing all requirements for fire protection and protection of the environment.
 - 3. Remove any accumulation of scrap, debris, waste material, and other items not required for construction of this work.
 - 4. Mechanically clean all roadways affected by the work daily.

00 73 08 COMMENCEMENT, PROSECUTION, AND COMPLETION

The Contractor shall commence work within **five calendar days** from the date on the Notice to Proceed. Once work is started, it shall be diligently prosecuted to completion on or before the expiration of the time hereinafter stated.

Bid Item Completion Required Within:

All Items The Contract time for this project shall be deemed to start five calendar days from the date on the Notice to Proceed.

The Contractor shall coordinate the work to incorporate the project scope, as specified in Section 01 11 00, Work Covered by Contract Documents.

The Contractor shall furnish sufficient forces, construction plant, and equipment, and shall work such hours, including extra shifts and overtime operations, and shall furnish such other necessities so as to assure the prosecution of the work.

At least two working days in advance of the actual date of commencement of initial operations at the jobsite, the Contractor shall give West County Wastewater written notice of its intent to commence the work under this Contract.

At least two working days in advance of any excavation work for this Project, the Contractor shall give telephone notice of its intent to occupy the jobsite and its schedule of anticipated operations to prosecute the work to:

Underground Service Alert (USA)
Phone: (800) 642-2444

Prior to commencing any excavation work required under this Contract and, pursuant to Section 6705 of the Labor Code of the State of California, the Contractor shall submit, for West County Wastewater approval, 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 such excavations.

The Contractor shall furnish West County Wastewater with a copy of all construction permits and auxiliary agreements as may be required and as may be secured by the Contractor regarding methods and appliances specially approved by jurisdictional agencies or private parties with which West County Wastewater has acquired previous permit, easement, or agreement for the work. Such copies of Contractor-secured permits and agreements shall be delivered to the Project Manager, Keith Reynolds Jr. at kreynolds@wcwd.org and must receive approval of the Project Manager at least 14 calendar days prior to prosecution of any work covered thereunder. Failure to provide copies of permits within the required time period shall result in forfeiture of permit fee reimbursement by West County Wastwater.

Pursuant to provisions under Section 00 72 35, Progress, Completion, Delays, and Extensions of Time, the Contractor shall notify the Engineer in writing of any causes which lead to an unavoidable delay in the commencement of the work within ten calendar days after any occurrence of such delays.

At the time and place established for the preconstruction conference, the Contractor shall file with West County Wastewater the written certifications prescribed under Section 00 73 26, Certification of Labor Charges to verify charges for any extra work which may be ordered and documented in a Daily Extra Work Report in accordance with Section 00 72 12, Changes and Extra Work.

00 73 09 EXISTING UTILITIES AND SEWERAGE FACILITIES

A. Notwithstanding any other provision of this Contract between West County Wastewater and the Contractor:

1. In accordance with the provisions of Section 4215 of the California Government Code, in any contract to which West County Wastewater is a party, West County Wastewater shall assume the responsibility between the parties to the contract for the timely removal, relocation, or protection of existing utility facilities except for service laterals, and appurtenances located on the site of any construction project that are a subject of the Contract if such utilities are not identified by West County Wastwater in

the Plans and Specifications and made a part of the Invitation to Bid. West County Wastewater will compensate the Contractor for the costs of locating and repairing damage not due to the failure of the Contractor to exercise reasonable care, and removing or relocating such utility facilities which are not indicated in the Plans and Specifications with reasonable accuracy.

2. The Contractor shall not be assessed liquidated damages for delay in completion of the Project when such delay was caused by the failure of West County Wastewater or the owner of the utility to provide for removal or relocation of such utility facilities except for service laterals, and appurtenances which are not identified by West County Wastewater in the Plans.
3. Nothing herein shall be deemed to require West County Wastewater to indicate the presence of existing service laterals or appurtenances whenever the presence of such utilities on the site of the construction project can be inferred from the presence of other visible facilities, such as buildings, meter and junction boxes on or adjacent to the site of the construction; provided, however, nothing herein shall relieve West County Wastewater from identifying utility relocations in the Plans and Specifications except for service laterals, and appurtenances.
4. The owner of the utility shall have the sole discretion to perform repairs or relocation work or permit the Contractor to do such repairs or relocation work at a reasonable price.
5. The Contractor is hereby notified that existing water, gas, electrical, CATV, and telephone service laterals are not shown on the project drawings. The Contractor shall include in his bid, an allowance to locate, cross, and protect these services. Full compensation for this work along with the cost of locating, crossing and protecting main or trunk lines shall be included in the prices bid for the various contract bid items of work and no additional and no additional compensation will be allowed therefor.

B. The location of known existing utilities and pipelines are shown on the Contract Drawings in their approximate locations. Some of the locations include multiple conduits. The Contractor shall exercise care in avoiding damage to those facilities which are to remain in service subsequent to the construction of the particular new facility involved, and it will be held responsible for their repair if damaged. The Contractor shall also exercise care in maintaining those pipes and facilities required for the continuing operation of the existing facilities until such time as they can be abandoned. There is no guarantee that all utilities or obstructions are shown or that the locations indicated are accurate.

1. The Contractor shall be responsible for discovery of all existing underground installations in advance of excavating or trenching, by contacting all local utilities 48 hours in advance, and by prospecting. Contractor shall notify Underground Service Alert 48 hours prior to any excavation work.

2. When the excavation work approaches the approximate location of underground utilities, the exact location shall be determined by careful probing or hand digging. When uncovered, adequate protection shall be provided for the existing installation.
3. The Contractor shall exercise extreme caution in working in the area adjacent to existing sewerage facilities. It is essential that all the existing facilities be maintained in service until the new work is ready for full time operation, and the new work is placed in service. Construction of the connections between the existing facilities and the new facilities shall be at times and during periods acceptable to West County Wastewater. The Contractor shall advise the Engineer in writing of its proposed construction schedule for these connections at least five calendar days in advance.
4. The Contractor shall uncover and completely expose all piping where crossings, interferences, or connections are shown on the Drawings, prior to trenching or excavating for any pipe or structures, to determine actual elevations. New pipelines shall be laid to such grade as to clear all existing facilities which are to remain in service for any period subsequent to the construction of the run of pipe involved. If the Contractor does not expose all required utilities, it shall not be entitled to additional compensation for work necessary to avoid interferences or for repair to damaged utilities. Excavations around underground electrical ducts and conduits shall be performed using extreme caution to prevent injury to workers or damage to the electrical ducts or conduits.
5. If interferences occur at locations other than those shown on the Drawings, the Contractor shall notify the Engineer, and method for correcting said interference will be supplied by the Engineer. Payment for correction of interferences not shown on the Drawings will be in accordance with the provisions of section 00 72 11, Differing Site Conditions.

C. Perpendicular Crossings of Existing Utilities under Pressure: The work under this Contract includes excavations which may be perpendicular to existing high pressure utilities. The Contractor shall comply with the following provisions to protect the existing utilities:

1. The Contractor shall contact the owner of the utility pipeline and request that the approximate location be marked in the field.
2. After the location is marked, the Contractor shall hold a safety meeting with the representative of the pipeline company and the Contractor's field personnel. The approximate location of the pipeline and the procedure to be used in exposing the pipeline shall be reviewed.
3. The Contractor shall arrange for a pipeline company representative to be present when the excavation is started and while exposing the pipeline.

4. The Contractor shall perform the exploratory excavations at least five working days in advance of the time the new sewer will be installed in the area of the utility pipeline.
5. The Contractor shall not commence excavation if the field location marks are absent or if the pipeline representative is not present.
6. The Contractor shall exercise caution while excavating in the area which has been marked:
 - a. The Contractor shall thoroughly probe the area before beginning excavation with machines and during the continuance of the excavation.
 - b. When the pipeline is found by probing, the pipeline shall be completely exposed by hand throughout the limits of required excavations before excavation by machine continues.
7. The Contractor shall arrange with the owner of the utility pipeline to repair any damage done to the pipeline at no cost to West County Wastewater.

D. Parallel Excavations Near Utilities under Pressure: The work under this Contract includes excavations which may be parallel to and near existing high pressure utilities. The Contractor shall comply with the following provisions to protect the existing utilities:

1. The Contractor shall contact the owner of the utility pipeline and request that the approximate location be marked in the field.
2. After the location is marked, the Contractor shall hold a safety meeting with the representative of the pipeline company and the Contractor's field personnel. The approximate location of the pipeline, the procedures to be used in exposing the pipeline, and the schedule for exposing the pipeline shall be reviewed.
3. The Contractor shall arrange for a pipeline company representative to be present when the excavation is started and while exposing the pipeline.
4. The Contractor shall not commence excavation if the field location marks are absent or if the pipeline representative is not present.
5. The Contractor shall exercise caution while excavating in the area which has been marked.
6. The existing pipeline shall be exposed every 50 to 100 feet by the Contractor at locations where the catch point of a sloped trench would be within five feet of the centerline of the existing pipeline.

7. The Contractor shall perform the exploratory excavations at least fourteen working days in advance of the time that the new sewer will be installed in the area of the utility pipeline.
8. If the location of the existing pipeline is found by exploratory excavations to be consistently outside of the future excavation and the soil is stable, the Contractor may proceed with machine excavations:
 - a. The Contractor shall be cognizant in that the existing utility pipeline is near the excavation.
 - b. The Contractor shall take due caution while performing excavation operations.
 - c. If the utility pipeline is exposed during excavation operations, the Contractor shall contact the Engineer.
 - d. The Contractor shall stop excavating and contact the Engineer if the soil becomes unstable.
9. If through exploratory excavations, the Contractor finds the location of the existing pipeline is within the future excavation, the Contractor shall contact the Engineer.
10. The Contractor shall arrange with the owner of the utility pipeline to repair any damage done to the pipeline at no cost to West County Wastewater.

00 73 10 INSPECTION BY OTHERS

Work may be inspected at any time by appropriate federal, state, and local agencies having jurisdiction.

00 73 11 SALVAGED MATERIAL

Existing materials and equipment to be salvaged shall remain the property of West County Wastewater. Salvaged materials to be reinstalled in the work (if any) shall be refurbished as specified before reinstallation. Other material to be salvaged shall be carefully removed and handled in such a manner as to avoid damage and shall be delivered to West County Wastewater at a location within the Water Quality and Resource Recovery Plant (WQRRP) as designated by the Engineer.

00 73 12 DISPOSAL OF MATERIAL

Existing materials and equipment to be demolished, removed, and disposed of, as noted in the Drawings, and all trash such as broken concrete, wood blocking, shipping containers, etc., resulting from the Contract work shall be disposed of at the Contractor's expense.

00 73 13 POTENTIAL HAZARDS AND SAFETY

The conveyance and treatment of raw sewage and its by-products can introduce pathogenic organisms which may cause diseases such as salmonellosis, typhoid fever, paratyphoid fever, bacillary dysentery, cholera, infectious hepatitis, polio, amoebic dysentery, and others.

The Contractor is advised that, in certain locations and under certain conditions, the work may take longer and may require special equipment in order to properly conform to safety regulations. In such cases, no additional compensation will be allowed the Contractor therefor.

The Contractor's personnel shall wear hard hats at all times while on the project area.

Work under this Contract may be in areas where approved protective respiratory equipment is required pursuant to Cal/OSHA General Industrial Safety Order, Section 5144.

The Contractor shall prepare and submit its safety program for the Project work to the Engineer for the Engineer's review as required in Section 00 72 18, Safety.

The Contractor's authorized representative shall have a working knowledge of, and be responsible for, all state and federal safety regulations applicable to the Project.

00 73 14 EXPLOSIVE

The use of explosives on the work is prohibited except certain approved types of cartridge-actuated fastening tools.

00 73 15 DUST CONTROL

The Contractor, for the duration of the Contract, shall maintain all excavation, embankments, haul roads, permanent access roads, project site, waste disposal areas, borrow areas, and all other work areas within Contact work limits free from dust, as determined by the Engineer. Industry-accepted methods of dust control suitable for the area involved, such as sprinkling, chemical treatment, light bituminous treatment, or similar methods, will be permitted. No separate payment will be made to the Contractor for dust control.

00 73 16 FIRE PREVENTION

The Contractor shall not permit unauthorized fires either within or adjacent to the limits of the Project, and it shall be liable for all damage from fire due directly or indirectly to its own activities or to those of its employees or of its subcontractors or their employees. The Contractor,

at its expense, shall conform to all federal, state, and local laws and regulations pertaining to burning, fire prevention and control within or adjacent to the Project. A copy of each required permit shall be furnished to West County Wastewater.

The Contractor's forces or equipment may be required to fight fires in the vicinity, regardless of cause. West County Wastewater will not assume any responsibility for payment for fighting fire when such is ordered by government authority.

Burning or welding operations near any combustible material will require the presence of a firewatch observer equipped with a portable fire extinguisher.

00 73 17 AIR POLLUTION

The Contractor shall so perform its work as not to discharge into the atmosphere from any source whatever smoke, dust, or other air contaminants in violation of the laws, rules, and regulations of the governmental entities having jurisdiction.

00 73 18 TITLE TO MATERIALS FOUND

Unless otherwise provided in the Contract, the title and interest in the right to the use of all water, and the title to all soil, stone, gravel, sand, minerals, timber, and all other materials developed or obtained in the excavation or other operations by the Contractor or any of its subcontractors, or any of their representatives or employees, and the right to use or dispose of the same are hereby expressly reserved by West County Wastewater and neither the Contractor nor any of its subcontractors, nor any of their representatives or employees, shall have any right, title, or interest in or to any part thereof; neither shall they, nor any of them, assert or make any claim thereto. The Contractor shall as determined by West County Wastewater, be permitted to use in its work, without charge, any such materials which meet the requirements of the Contract and as to which West County Wastewater will have the right to use and consume without payment to a third party.

In the event that any Indian relics or items with archeological or historical value are discovered by the Contractor or any of its subcontractors or any of their representatives or employees, the Contractor shall immediately notify the Engineer. The Contractor shall have no property rights to such relics and items.

00 73 19 FINAL ACCEPTANCE

Whenever, as determined by the Engineer in accordance with Section 00 72 41, Final Payment and Release, the Contractor has fulfilled its obligations under the contract, the Engineer will recommend acceptance of the work. After acceptance of the work by West County Wastewater, West County Wastewater will file the Notice of Completion in accordance with Section 4005 of the Government Code. Such notice will constitute "Final Acceptance."

00 73 20 ATTORNEY'S FEES

In case any litigation is commenced with respect to this Contract, the prevailing party shall be entitled to recover from the other party, in addition to amounts found due and owing, costs of suit and reasonable expenses and fees, including reasonable attorneys' fees, incurred by the prevailing party in such litigation, all to be taxed as costs and included in any judgment rendered.

00 73 21 AMOUNT OF LIQUIDATED DAMAGES

The amount of liquidated damages for inexcusable delays to be assessed under Section 00 72 42, Liquidated Damages, shall be \$500 for each calendar day of delay beyond each of the required completion dates listed in the Contract.

00 73 22 PERCENTAGE OF PROGRESS PAYMENTS TO BE RETAINED

The percentage of estimated value to be retained under Section 00 72 40, Progress Payments, shall be five percent.

The Contractor shall be allowed to substitute securities for any monies withheld to ensure performance under this Contract pursuant to Section 22300 of the California Public Contract Code. The Contractor shall execute the Escrow Agreement for Security Deposits in Lieu of Retentions in the form contained in Section 00 45 15 of the contract Documents, if applicable.

00 73 23 AMOUNT OF MINIMUM PROGRESS PAYMENT

No progress payment will be made when, in the judgment of the Engineer, the total value of the work done since the last estimate amounts to less than \$5,000 as set forth in Section 00 72 40, Progress Payments.

00 73 24 RETENTION FOR REPAIRS

West County Wastewater will retain an amount from any payment due the Contractor equal to twice the value of repairs, corrections, or replacements as provided herein to assure that the Contractor completes such repairs, corrections, or replacements. The Contractor shall receive payments of such retained amounts as the repair, correction, or replacement work is completed.

00 73 25 CONNECTIONS TO EXISTING FACILITIES

The Contractor is required to connect to certain existing facilities as indicated on the Drawings; however, the Contractor must give five calendar days advance notice and receive prior approval of the Engineer for all such connections, whether such connections are "live" or "inactive."

The Contractor shall at all times conduct its operation so as to interfere as little as possible with existing works.

All work of connecting with, cutting into, and reconstructing existing pipes or structures shall be planned to interfere with the operation of the existing facilities for the shortest possible time

when the demands on the facilities best permit such interference, even though it may be necessary to work outside of normal working hours to meet these requirements. Before starting work which will interfere with the operation of existing facilities, the Contractor shall do all possible preparatory work and shall see that all tools, materials, and equipment are made ready and at hand. No connections shall be made without West County Wastewater's prior approval as specified herein.

The Contractor shall make such minor modifications in the work relating to existing structures as may be necessary, without additional compensation.

The Contractor shall have no claim for additional compensation by reason of delay or inconvenience in adapting its operations to meet the above requirements.

All materials and equipment associated with or to be incorporated into the work as herein specified shall be preassembled, prefabricated, precut, or otherwise prepared to the maximum practical degree. It shall be the Contractor's responsibility to fulfill all requirements of the work within the allotted shutdown periods.

00 73 26 CERTIFICATION OF LABOR CHARGES

- A. At the time and place established for the preconstruction conference in accordance with 00 73 02 Preconstruction Conference, the Contractor shall file with the Engineer the following written certifications prescribed hereunder either by state law or for West County Wastewater's use to verify charges for any Extra and/or Force Account work which may be ordered and documented in a Daily Work Report.
 1. Certificate showing the amount(s) of Workers' Compensation Insurance applicable to forces under its supervision and, in accordance with Section 1861 of the Labor Code of the State of California, endorsed thereon as follows:
 - a. "I am aware of the provisions of Section 3700 of the Labor Code of the State of California which requires every employer to be insured against liability for workers' compensation or to undertake self-insurance in accordance with such provisions before commencing the performance of the work of this Contract."
 - b. Contract title, date, and signature of Contractor.
- B. The Contractor and subcontractor's attention is directed to the provisions of Section 1776 of the Labor Code of the State of California and to the requirements thereon pertaining to the keeping, availability, and filing of accurate payroll records of all journeymen, apprentices, and other workers performing work under this Contract.
- C. Prior to each monthly progress payment, the Contractor shall deliver to the Engineer copies of certified payrolls of its and all subcontractors' forces performing work at the jobsite (or Plant sites established primarily for the work), for labor compliance purposes, and Extra/Force Account considerations. Such records shall be kept current on an effective day

or period basis and in form acceptable to the Engineer. At a minimum, the form shall include the following information:

1. Employee identification by name.
2. Employee's address and social security number.
3. Employee's craft and classification (in accordance with Director of Industrial Relations' wage determinations).
4. Employee's actual per diem wages (in compliance with Section 00 11 16 Invitation to Bid, and Section 00 72 20, Laws and Regulations).
5. Employee's subsistence and travel allowance (as applicable).
6. Contractor's or subcontractor's firm or company name, date or period for which applicable wage rates and allowances are effective, and the employer's signature.

00 73 27 SOLE SOURCE ITEMS

Some products or manufacturers may be specified as the only items allowed. Such items may have been chosen for reasons of durability or appearance. As provided in Section 00 72 15, Equipment, Materials, and/or Products, Substitution of Specific Items and Trade Names, Worker's Skills, no substitutions for these items will be reviewed by the Engineer.

00 73 28 PARTIAL PAYMENT FOR MATERIALS AND EQUIPMENT DELIVERED

Generally, the Contractor will not be compensated for materials and equipment delivered to the site until after they are incorporated in the work. If the Engineer determines that the progress of the work will benefit by the delivery to the site of certain materials and equipment in advance of their actual requirement, and if such materials and equipment are delivered in accordance with the following conditions, a portion of the cost of the materials and equipment may be included in progress payments, as specified under Section 00 72 40, Progress Payments. The conditions for such partial payments are as follows:

At least four weeks prior to the delivery of such materials and equipment, the Contractor shall submit a list of such materials and equipment for review on the acceptability for partial payments. Shop drawings and technical data for such materials and equipment must be reviewed and accepted prior to delivery. Upon delivery, the Contractor shall submit written evidence, satisfactory to the Engineer, that the Contractor is the unconditional owner of such materials, free from all claims, liens, and security interest, and a bill of sale or other equivalent document with warranty of title to such materials and equipment.

Title to the delivered material shall be vested in West County Wastewater at the time of delivery to the site. The Contractor shall, however, notwithstanding such transfer of title to West County Wastewater be absolutely responsible to West County Wastewater for such materials and equipment until the same shall have been completely installed, tested, and accepted. Such equipment and materials shall be properly stored or stockpiled to the satisfaction of the Engineer. The Contractor shall at its own cost replace any materials and equipment damaged or lost.

Stored or stockpiled materials shall be available for inspection by the Engineer or other authorized agent of West County Wastewater.

After delivery of material, if any defects are discovered, whether caused by defective manufacture or damage occurring during delivery or storage (including storage at West County Wastewater or the construction site), the materials shall be removed and replaced with suitable material at the Contractor's expense. The Contractor's insurance shall include coverage for such material against theft, fire, vandalism, and malicious mischief.

The maximum portion of cost to be included in progress payments for materials and/or equipment qualifying under this section will be seventy five percent of the total cost of the delivered materials and/or equipment eligible for such partial payment. The payment will in no case exceed the bid price or assigned value for the item of work for which the material and/or equipment are furnished and the accumulated total payment for all material delivered but not yet incorporated into the work will in no case exceed ten percent of the total value of the Contract.

For sewer pipe the payment for material delivered but not yet installed in the work shall be limited to a maximum of 1,500 linear feet or the amount of footage which the Contractor has proved capable of laying in five working days , whichever is less. In estimating progress payments, the Engineer may use the unit prices bid by the Contractor in his proposal. In the event that there are no unit bid prices, or the bid unit process do not, in the opinion of the Engineer , represent the actual value of the equipment and materials furnished, the Engineer may estimate progressive payments based on prices reflecting such actual value.

Nothing in the above conditions shall relieve the Contractor of its responsibility for incorporating the materials in the work in conformity with the Contract Documents.

00 73 29 MAINTAINING EXISTING UTILITIES

The Contractor shall provide standby power if the power supply is disconnected during business hours. Flow in the West County Wastewater's existing sewers shall not be restricted or dammed for any period of time without the approval of West County Wastewater. Any rerouting and/or bypass pumping of existing flows shall be made at the Contractor's expense. The Contractor shall submit to the Engineer for approval plans for rerouting, bypassing and/or handling of existing sewage flows during construction at least fourteen (14) days prior to such work.

00 73 30 PERMITS, EASEMENTS, AND AGREEMENTS

Attention is directed to Section 00 72 21, Permits. The Contractor will obtain all necessary permits, including an Encroachment Permit. West County Wastewater will reimburse the Contractor for the necessary permit and inspection fees. The contractor must pay re-inspection of the same item and any citation/fine/fees resulting from contractor's negligence or lack of completion.

00 73 31 PARKING AND EMPLOYEE IDENTIFICATION

Contractor vehicles shall not park in such a way as to impede traffic. Contractor vehicles shall not park in employee-designated parking spots. Contractor vehicles are permitted to park in public parking spots at West County Wastewater properties and in designated locations as agreed upon.

00 73 32 WORKING DURING DISPUTES AND LITIGATION

In the event of a dispute between the parties as to performance of the work, the interpretation of this Contract, or payment or nonpayment of work performed, parties shall attempt to resolve the dispute. If the dispute is not resolved, Contractor agrees to continue the work diligently to completion and will neither rescind this Contract nor stop the progress of the work, but will submit such controversy to determination in accordance with the terms of the Contract Documents. In the event any litigation is commenced with respect to this Contract, such litigation shall not serve to suspend Contractor's obligation to continue performance of the work.

00 73 33 SUBMITTALS

- A. Where the Contractor is required by these Contract Specifications to make submittals, they shall be made to the Engineer with a letter of transmittal and in sufficient number of copies to allow a distribution of at least one copy to all parties needing a copy to carry out the provisions of the Specifications, allowing for two copies to be retained by the Engineer.
- B. When submittals are favorably reviewed, the Engineer will retain two copies and will return all other copies to the Contractor. When submittals are not favorably reviewed, the Engineer will retain only two copies and will return all others to the Contractor.
- C. In addition to those specifically required, the Contractor shall submit drawings and information describing materials and equipment in sufficient detail to determine whether the materials and equipment conform to the specifications.
- D. Submittals shall comply with Section 00 72 16, Contractor Furnished Drawings and Data.
- E. The Contractor shall verify that the material and equipment described in each submittal conform to the requirements of the specifications and drawings.
- F. The Contractor may authorize a material or equipment supplier to deal directly with the Engineer with regard to a submittal only after it has been officially submitted by the Contractor. In all cases, however, the Contractor retains full responsibility for the accuracy and completeness of information contained in the submittals and its proper processing.
- G. Key submittal schedules shall be shown on the Construction Project Schedule. Contractor shall provide adequate time for processing and reviewing, and should anticipate the potential for re-submittals where such is likely. The date a submittal is required to maintain project schedule shall be shown on the transmittal. Unreasonable dates and dates

inconsistent with the schedule will not be accepted or honored. No allowances will be made for delays occasioned by the Contractor's failure to follow submittal requirements. In no case will there be compensation for any delay due to submittals.

H. Transmittal Form: The submittals shall be accompanied by a transmittal form. At a minimum, the transmittal form shall include the following information:

- a. Name and address of Contractor.
- b. Date and submittal/transmittal number.
- c. Project name, project number and name of Engineer to review.
- d. Item number, item description, and name of supplier.
- e. Identification of any deviations from the specified requirements.
- f. Signature of Contractor.
- g. A signature line for the Engineer to indicate approval.

00 73 34 EXTENSIONS OF TIME FOR DELAY DUE TO INCLEMENT WEATHER

Inclement weather is any weather condition or conditions resulting immediately therefrom, causing the Contractor to suspend construction operations or preventing the Contractor from proceeding with at least 75 percent of the normal labor and equipment force engaged on the work, for all project sites combined.

Should the Contractor prepare to begin work at the regular starting time at the beginning of any regular work shift on any day on which inclement weather, or the conditions resulting from the weather, or the condition of the work prevents work from beginning at the usual starting time, and the crew is dismissed as a result thereof, the Contract will not be charged for a working day whether or not conditions change thereafter during the day, and the major portion of the day could be considered to be suitable for such construction operations.

00 73 35 EROSION CONTROL

Non-paved areas disturbed during construction shall be revegetated by hydroseeding upon completion of construction to prevent soil erosion. Vegetation shall be established prior to final completion. Attention is directed to Section 00 72 59 Storm Water Pollution Prevention.

00 73 36 STANDARD DETAILS

Standard Details shall mean the West County Wastewater's Standard Details, which are available at no cost from West County Wastewater.

00 73 37 DRAWINGS AND PROJECT MANUAL

- A. The Contractor may obtain from West County Wastewater, free of charge, four copies of the Drawings and Project Contact Documents. Additional sets may be procured at cost of \$50 each.

B. The Contract Documents shall include the bidding conditions and requirements, Contract forms, conditions, Specifications, Supplements, Addenda, and clarifications thereto.

C. The Contractor shall keep on the work site a copy of the Contract Documents and Drawings and shall at all times give the Engineer access thereto. Any drawings included in the detailed Specifications shall be regarded as part thereto and of the Contract. Anything mentioned in these Specifications and not shown on the Drawings, or shown on the Drawings and not mentioned in these Specifications, shall be of like effect as though shown or mentioned in both. The Engineer will furnish from time to time such detail drawings, plans, profiles, and information as he may consider necessary for the Contractor's guidance, unless otherwise provided in the Proposal or detail Specifications. It shall be the duty of the Contractor to see that the provisions of these Specifications are complied with in detail irrespective of the inspection given the work during its progress by the authorized official or his representatives. Any failure on the part of the Contractor to observe the Specifications will be sufficient cause for the rejection of the work at any time before its acceptance. Only "favorably reviewed" Shop Drawings shall be used for construction.

D. Wherever Military Specifications (MIL), ANSI, ASTM, AASHTO, AISC, AWS, AWWA, Federal Specifications (FS), Manufacturer's Standardization Society (MSS), or other specifications are referred to in these Specifications without designation of year, the reference is to the current or revised specification effective at the time of receiving proposals.

E. In all cases where reference is made to the requirements of such organizations as American Society for Testing and Materials, copies of the requirements referred to are on file with the Design Engineer and may be seen at his office.

F. Wherever the following terms are used, the intent and meanings shall be as follows:

<u>Abbreviation</u>	<u>Stands For</u>
AASHTO	American Association of State Highway and Transportation Officials
ACI	American Concrete Institute
ABMA	American Boiler Manufacturers Association
ADC	Air Diffusion Council
AGA	American Gas Association
AGMA	American Gear Manufacturers Association
AISC	American Institute of Steel Construction
AISI	American Iron and Steel Institute
AITC	American Institute of Timber Construction
AMCA	Air Moving and Conditioning Association
ANSI	American National Standard Institute (formerly United States of American Standards Institute)
APA	American Plywood Association
API	American Petroleum Institute

AREA	American Railway Engineering Association
ASCE	American Society of Civil Engineers
ASME	American Society of Mechanical Engineers
ASTM	American Society of Testing and Materials
AWPA	American Wood Preservers Association
AWS	American Welding Society
AWWA	American Water Works Association
CAGI	Compressed Air and Gas Institute
Cal/OSHA	State of California Department of Industrial Relations, Division of Industrial Safety
CARB	California Air Resources Board
CBR	California Bearing Ratio
CISPI	Cast Iron Soil Pipe Institute
CMMA	Crane Manufacturers Association of America
CTI	Cooling Tower Institute
DFPA	Douglas Fir Plywood Association
EIA	Electronic Industries Association
EPA	U. S. Environmental Protection Wastewater
ETL	Electrical Testing Laboratory
FPS	Fluid Power Society
FS	Federal Specifications
HI	Hydraulic Institute
HMI	Hoist Manufacturers Institute
IAPMO	International Association of Plumbing and Mechanical Officials
ICBO	International Conference of Building Officials
IEEE	Institute of Electrical and Electronic Engineers
IES	Illuminating Engineering Society
IPCE	International Power Cable Engineers Association
ISA	Instrument Society of America
NBS	National Bureau of Standards
NEC	National Electric Code
NEMA	National Electrical Manufacturers Association
NFPA	National Fire Protection Association
NSF	National Sanitary Foundation
OSHA	Occupational Safety and Health Act
SMACNA	Sheet Metal and Air Conditioning Contractors National Association
SSPC	Structural Steel Painting Council
UBC	Uniform Building Code
UL	Underwriters Laboratories

00 73 38 INITIAL START-UP AND OPERATION OF FACILITIES

During the construction of this Project, use of the newly constructed facilities prior to overall acceptance may be necessary to ensure that the entire facility can be constructed. Initial lubrication of all equipment, and all lubrication and maintenance and such staff as required for

test operation shall be provided by the Contractor until West County Wastewater assumes operation. After assuming operation, West County Wastewater will supply operating personnel and will pay for electricity, chemicals and lubricants. The Contractor shall train West County Wastewater's operating personnel in the proper operation and control of the new facilities as specified herein. The Contractor shall also furnish all such mechanical and electrical workers as required to make adjustments and maintain the operating equipment until acceptance.

Maintenance of operating equipment shall include adjustments, replacements and modifications as required. The Contractor shall initially lubricate all equipment and furnish West County Wastewater with a lubricant schedule indicating the type of lubricant needed, amounts and frequency of application. Use of facilities will in no way constitute acceptance of the facilities being used. The Contractor shall notify West County Wastewater at least thirty calendar days before any West County Wastewater-furnished lubricants, fuel, chemicals, gas or power will be required for the initial operating periods.

The cost of all labor, material and equipment required to be furnished by the Contractor as part of the initial start-up operation shall be included in the lump-sum bid amounts.

00 73 39 RESPONSIBILITY FOR SPARE PARTS AND SPECIAL TOOLS

The Contractor and Vendor shall provide all spare parts required for the first year's operation. The Contractor and Vendor shall provide all special tools required to assemble, disassemble and maintain all equipment provided under this contract.

00 73 40 MANUALS, OPERATING INSTRUCTIONS AND AFFIDAVITS

- A. Manuals and Instructions. The Contractor shall deliver to the Engineer six (6) sets of acceptable manufacturer's operation and maintenance instructions covering each item of mechanical, electrical and instrumentation equipment or equipment assembly provided under this Contract. All information shall be submitted, reviewed and approved as received and prior to installation of the equipment. Submittal and review of the above information shall be handled in a manner similar to shop drawings as specified in Section 00 72 15, Contractor-Furnished Drawings and Data.
- B. Operation and maintenance instructions shall include, as a minimum, the following data for each item of mechanical, electrical and instrumentation equipment:
 1. An itemized list of all data provided.
 2. Name and location of the manufacturer, the manufacturer's local representative, the nearest suppliers and spare parts warehouse.
 3. Recommended installation, adjustment, start up, calibration and troubleshooting procedures.
 4. Recommended lubrication, lubrication intervals and an estimate of yearly quantity needed.
 5. Recommended step-by-step procedures for all modes of operation.
 6. Complete internal and connection wiring diagrams.
 7. Recommended preventative maintenance procedures and schedule.

8. Complete parts lists, by generic title and identification number, with exploded views of each assembly.
9. Recommended spare parts and special tools.
10. Disassembly, overhaul and reassembly instructions.

C. Following completion of an item, instructions and procedures shall be modified by the Contractor to reflect field changes.

D. Before final acceptance of the Project, the Contractor shall bind all six (6) sets of operation and maintenance instructions in appropriately labeled, expanding post-type binders. Each completed binder shall only contain material which can be held with the posts in the non-expanding position. A complete table of contents listing all items and their location in the set shall be included in each binder. For ready reference, the Contractor shall compile a complete list of manufacturer's local representatives for each item provided.

E. Affidavits. The Contractor shall provide field service by equipment manufacturers as a part of this Project, as required in the Technical Specifications. Equipment shall not be considered ready for operation until after the authorized factory-trained and qualified manufacturer's representative for the specific equipment has checked and adjusted the equipment and certified by written affidavit that the equipment has been properly installed, tested, adjusted, lubricated and calibrated and is ready for full time operation. Acceptable affidavits shall be submitted prior to completion of work. Affidavits shall contain the following specific wording:

“the (Name of the Equipment) has been properly installed, tested, adjusted, lubricated and is ready for full time operation. The installation has been inspected and has been found to be in conformance with our (the manufacturer's) standards and requirements.”

00 73 41 RECORD PLANS

The Contractor shall maintain, at the jobsite, one record set of contract drawings in good order and clearly marked to show any deviations which have been made from the Contract Drawings, including concealed construction and utility features which are revealed during the course of construction. Marked prints shall be updated at least once each week and shall be available to the Engineer for review as to currency prior to developing partial payment estimates. Upon completion of the work, the marked set of prints shall be delivered to the Engineer.

Requests for partial payments will not be approved if the record set of drawings is not in good order or is not kept current. Request for final payment will not be approved until the complete and correct "as-built" record drawings are delivered to the Engineer.

00 73 42 JOINT SURVEY TO ESTABLISH PRECONSTRUCTION CONDITIONS

- A. West County Wastewater intends to engage to perform preconstruction examinations and make an overall evaluation of the condition of structures, roads, and road crossings in the vicinity of the work, as applicable, which might be damaged during construction. Participation by the Contractor in the examination is required.
- B. The examination of existing buildings, structures, roads, and other improvements located in the zone of influence of the construction operations, will be performed jointly by West County Wastewater, and the Contractor, and the property owners under supervision of West County Wastewater. The scope of each examination shall include road damage, cracks in structures, settlement, leakage, and other visible signs of damage.
- C. Records of all observations will be prepared by West County Wastewater, including survey measurements, sketches, notes, photographs, and video tapes when deemed necessary.
- D. The above records, photographs and video tapes are intended for use as indisputable evidence in ascertaining the extent of any damage which may occur as a result of the Contractor's operations and are for the protection of the Contractor and West County Wastewater. They will be a means of determining whether and to what extent damage resulting from the Contractor's operations occurred during the contract work.
- E. The Contractor shall take adequate precautions to prevent damage to existing buildings, structures, detour roads, road crossings, and other improvements during the prosecution of the work.
- F. The West County Wastewater-funded joint survey does not relieve the responsibility of the Contractor to conduct any additional preconstruction surveys or any periodic or continuous monitoring of structures or improvements during construction activities which may be required because of the Contractor's construction techniques or work sequence. The Contractor shall conduct the additional preconstruction survey or construction monitoring as identified by the Contractor without additional compensation from West County Wastewater.

00 73 43 CONSTRUCTION CONSTRAINTS

It is the Contractor's responsibility to protect existing improvements, provide for safe and smooth traffic flow, minimize disruptions and noise, and ensure that the work is done with as little inconvenience to West County Wastewater and to the public as possible. The Contractor shall, at its own expense, restore any and all existing improvements equal to its preconstruction condition or better.

00 73 44 TRAFFIC CONTROL

Contractor shall coordinate with the agency having jurisdiction over the right of way. Contractor's construction vehicles shall not block or impede public access.

If the Contractor needs any traffic rerouting or restriction to facilitate its work, it shall acquire a written permit, through the offices of the City of San Pablo. No traffic restriction or rerouting shall be initiated prior to the Engineer's receipt of such permit and all conditions prescribed therefore. In accordance with Section 00 73 30 Permits, Easements and Agreements, West County Wastewater will Reimburse the Contractor for the necessary permit and fees. The Contractor must pay re-inspection of the same, and any fines as part of Contractor's negligence.

If required, the Contractor shall submit a detailed traffic plan for rerouting and/or restricting traffic to the City of San Pablo for approval before any work can be started under the Contract. The traffic plan shall show locations of flagmen, signs and barriers relative to the working area. As a minimum, the traffic plan and lane closures shall be in accordance with the State Department of Transportation (Caltrans) current standards. The Contractor shall provide three copies of the City of San Pablo -approved traffic plans to the West County Wastewater prior to the start of work.

00 73 45 WORK HOURS

Early morning, night time and weekend work will require approval from West County Wastewater.

00 73 46 FEDERAL, STATE AND LOCAL REQUIREMENTS

The Contractor shall keep fully informed of laws, ordinances, and requirements of the Federal, State of California, Contra Costa County and West County Wastewater which, in any manner, affect the performance of the work or those persons engaged therein, and of all orders and decrees of governmental bodies or officials having any authority or jurisdiction over the same. The Contractor shall observe and comply with and shall cause all its agents, employees and subcontractors to observe and comply with all such ordinances, regulations, laws, orders, and decrees.

All construction and materials, and the like, shall be furnished, installed, or constructed as the case may be, by the Contractor in full accordance with the requirements of local building codes, the National Board of Fire Underwriters, the Pacific Fire Rating Bureau, the State Fire Marshall, the Safety Orders issued by the Division of Industrial Safety of the State of California, and all other prevailing codes and regulations having jurisdiction over construction of the structure.

The Contractor's authorized representative shall have a working knowledge of, and be responsible for, all state and federal safety regulations applicable to the Project.

00 73 47 APPRENTICES

The Contractor shall comply with the provisions of Section 1777.5 and 1777.6 of the California Labor Code in regard to employment of apprentices.

00 73 48 LABOR, WAGES, AND WAGE DETERMINATIONS

Pursuant to section 1770 *et seq.* of the Labor Code of the State of California, the Director of Industrial Relations has ascertained the general prevailing rate of per diem wages and the rates for overtime and holiday work in the locality in which the work is to be performed for each craft, classification or type of worker needed to execute the contract which will be awarded to the successful bidder. Copies are on file with and available upon request from the Engineer and may also be obtained the website of the Division of Labor Statistics and Research, California Department of Industrial Relations located at www.dir.ca.gov. The successful bidder shall post a copy thereof at each job site. The requirement to pay these wage rates is further detailed in Part IV, Section E (2) of General Conditions. It shall be mandatory upon the bidder to whom the Contract is awarded, and upon any subcontractor under him to comply with all Labor Code provisions, which include, but are not limited to the payment of not less than the said specified rates to all workers employed by them in the execution of the Contract, employment of apprentices, hours of labor and debarment of contractors and subcontractors. The Federal minimum wage rates (Davis-Bacon) for this project as predetermined by the United States Secretary of Labor are set forth at the federal government website as called out below. The Federal minimum wage rates may also be examined at the offices described above where project plans, special provisions, and proposal forms may be seen. Addenda to modify the Federal minimum wage rates, if necessary, will be issued to holders of these Contract Documents. Future effective general prevailing wage rates, which have been predetermined and are on file with the California Department of Industrial Relations are referenced but not printed in the general prevailing wage rates. Attention is directed to the Federal minimum wage rate requirements included with these specifications in the supplemental conditions and also available at the federal web site Wage Determination Online (<http://www.wdol.gov>) go to the California, Contra Costa County file references. If there is a difference between the minimum wage rates predetermined by the Secretary of Labor and the general prevailing wage rates determined by the Director of the California Department of Industrial Relations for similar classifications of labor, the Contractor and subcontractors shall pay not less than the higher wage rate. The Department will not accept lower State wage rates not specifically included in the Federal minimum wage determinations. This includes "helper" (or other classifications based on hours of experience) or any other classification not appearing in the Federal wage determinations. Where Federal wage determinations do not contain the State wage rate determination otherwise available for use by the Contractor and subcontractors, the Contractor and subcontractors shall pay not less than the Federal minimum wage rate, which most closely approximates the duties of the employees in question.

END OF GROUP 00 73 00

DIVISION 01: GENERAL REQUIREMENTS

<u>SECTION</u>	<u>TITLE</u>
01 11 00	WORK COVERED BY CONTRACT DOCUMENTS
01 51 10	TEMPORARY FACILITIES
01 51 11	WATER SUPPLY AND ELECTRICAL POWER
01 51 12	COMPRESSED AIR
01 51 13	CONTRACTOR'S FIELD OFFICE
01 51 14	PORTABLE SANITARY FACILITIES
01 51 15	STAGING AREA
01 71 13	MOBILIZATION
01 89 13	SITE PREPARATION

SECTION 01 11 00
WORK COVERED BY CONTRACT DOCUMENTS

- A. Furnish all labor, materials, equipment, services, temporary controls, construction facilities, temporary facilities and all general conditions, general requirements and incidentals required to complete the Work in its entirely as described in the Contract Documents.
- B. The Work covered by the contract comprises the construction of the Basin 7 Pipe Replacement: California Ave, including all associated civil, mechanical, structural, electrical, and controls work as indicated on the Drawings and as specified. The Work includes, but is not limited to:
 1. Obtaining all necessary permits prior to starting the work, unless otherwise instructed by District staff.
 2. Providing all necessary materials, supplies, equipment, services and personnel, to adequately carry out or complete the project.
 3. Performing work site cleanup duties, including, but not limited to removing all debris and placing materials, supplies and equipment in an organized manner, prior to leaving the site, each day.
 4. All other work as shown and specified in the Contract Documents.

SECTION 01 51 10
TEMPORARY FACILITIES

The Contractor shall provide all temporary facilities required for the completion of the work.

SECTION 01 51 11
WATER SUPPLY AND ELECTRIC POWER

The Contractor shall arrange for its own services for water and electricity for the completion of the work.

SECTION 01 51 12
COMPRESSED AIR

The Contractor shall provide its own source of compressed air as may be required.

SECTION 01 51 13 CONTRACTOR'S FIELD OFFICE

The Contractor shall submit to West County Agency for approval, a site plan showing the proposed location for any contractor field office location and acquire any necessary permits. The Contractor shall make its own arrangements for phone service.

SECTION 01 51 14 PORTABLE SANITARY FACILITIES

The Contractor shall provide portable sanitary facilities for its employees. Employees of the Contractor shall not use West County Agency's Sanitary facilities.

SECTION 01 51 15 STAGING AREA

- A. The Contractor shall submit to West County Agency for approval, a site plan showing the proposed staging area location, and acquire any necessary permits. The Contractor shall make its own arrangements for phone service. The staging area shall be used for storage of construction spoils, materials, equipment and portable sanitary facilities. This area shall be maintained, secured and kept clean at all times.
- B. A security fence shall be constructed around the staging area. At completion of the work, remove fence from the site and restore the area to equal or better condition.
- C. Contractor shall not dump waste oil, rubbish, or other similar materials on the ground. Equipment leaking oil or other objectionable materials must be repaired or removed.

SECTION 01 71 13 MOBILIZATION

- A. Contractor shall Provide all materials and equipment required to accomplish the work as specified.
- B. Contractor shall Deliver all equipment and materials to project site.
- C. Contractor shall Provide any additional staging area, as required, and field office as approved by the Engineer.

SECTION 01 89 13 SITE PREPARATION

PART 1.00 - GENERAL

1.01 DESCRIPTION

- A. Perform all site preparation activities, as shown or specified, including but not limited to the following:

1. Clearing and grubbing.
2. Stripping topsoil.
3. Disposing of waste material.
4. Stockpiling reusable material.

1.02 EXISTING CONDITIONS

- A. The RFP Attachments indicate the existing conditions of the site, where known.
- B. Locations of existing underground utilities indicated in the RFP Attachments is the best information available, but with no representation that the information is complete or accurate or that lines other than shown may not be present. Refer to the heading "PROTECTION" for details of requirements of identification and locations of these utilities.
- C. All information relative to existing conditions is offered to assist the Contractor in evaluation of the Work, but with no specific representation, either expressed or implied, as to completeness or accuracy. The Contractor shall be responsible for any deductions or conclusions made on the basis of this information and that of any additional site inspections, if made.

1.03 PROTECTION

- A. Maintain in service and protect from damage all existing utilities as specified in Section 00 73 09, Existing Utilities and Sewerage Facilities and as noted on the Drawings.
- B. Before commencing any site preparation or demolition activity, contact all municipal service departments, service companies and other utilities affected, and arrange to have the lines that are within the construction area accurately located and identified with appropriate surface marks as specified in Section 00 73 09.
- C. Conduct site preparation operations to insure safety of all persons and to prevent damage to existing structures and utilities, trees, and other vegetation to be left in place, construction in progress and other property.
- D. Conduct demolition operations and remove debris off-site to suitable disposal areas in a manner to ensure maximum safety and minimum interference with operations of others, private and public. This includes, but is not limited to, the removal of existing curbs and gutters and asphalt concrete paving.
- E. Do not close or obstruct streets, walks, and other facilities occupied and used by West County Agency or the public, without prior written permission by the City as appropriate.

F. Repair all damage to streets, roads, highways, shoulders, ditches, embankments, culverts, bridges and other public or private property, regardless of location or character, which may be caused by transporting equipment, materials. At the Contractor's expense, make satisfactory and acceptable arrangements with the owner of or the agency having jurisdiction over the damaged property concerning its repair or replacement or payment of costs incurred in connection with the damage.

G. Protect existing facilities from rain or water damage during construction.

1.04 SEQUENCING AND SCHEDULING

- A. Do not place fill material over subgrade that is covered with ice or water. Stop all operations and protect existing facility when inclement weather could saturate the soil, or damage existing facility.
- B. Perform all demolition operations and remove all debris in areas scheduled for earthwork operations under the Contract prior to the start of such earthwork operations.
- C. Remove and dispose of off-site the following items: existing sewer pipe; fittings; excess soil; pavement; and concrete curb. Do not stockpile waste materials on-site.

END OF DIVISION 01
GENERAL REQUIREMENTS

DIVISION 02: EXISTING CONDITIONS

SECTION TITLE

02 41 00 DEMOLITION

02 82 00 ASBESTOS REMEDIATION (NOT USED)

02 83 00 LEAD REMEDIATION (NOT USED)

SECTION 02 41 00 **DEMOLITION**

PART 1.00 - GENERAL

1.01 WORK INCLUDED

A. Demolition of the existing roofing and portions of the existing plywood and joists at the roof.

PART 2.00 - PRODUCTS

2.01 MATERIALS

A. The materials to be salvaged, stored or removed as part of the Work of this Project are defined in the following:

- Remove and dispose of off-site the following items: excess soil; pavement; and concrete curb. Do not stockpile waste materials on-site.

B. Refer to Earthwork, Section 31 00 00 for a definition of Class V Material (suitable native material) for use on the Project.

C. Refer to Earthwork, Section 31 00 00 for criteria for Concrete Fill.

PART 3.00 – EXECUTION'

3.01 INSTRUCTIONS

A. Before commencing any site preparation or demolition activity, contact all municipal service departments, service companies and other utilities affected, and arrange to have the lines that are within the construction area accurately located and identified with appropriate surface marks.

B. Conduct demolition operations and remove debris off-site to suitable disposal areas in a manner to ensure maximum safety and minimum interference with operations of others, private and public. This includes, but is not limited to, the removal of existing curbs and gutters and asphalt concrete paving.

C. Perform all demolition operations and remove all debris in areas scheduled for earthwork operations under the Contract prior to the start of earthwork operations.

D. In general, the Contractor shall remove all debris resulting from removal / demolition work as it accumulates. Upon completion of the removal / demolition work, all materials, equipment, and rubbish of every sort shall be removed and the premises left neat and orderly.

E. All materials resulting from removal or demolition operations become the property of the Contractor. Remove and dispose of materials off-site per governing regulations and codes as the Work progresses. Do not accumulate or sell removed materials.

END OF SECTION 02 41 00

SECTION 02 82 00
ASBESTOS REMEDIATION (NOT USED)

SECTION 02 83 00
LEAD REMEDIATION (NOT USED)

END OF DIVISION 02
EXISTING CONDITIONS

DIVISION 03: CONCRETE

SECTION TITLE

03 11 00 CONCRETE FORMWORK

SECTION 03 11 00 CONCRETE FORMWORK

PART 1.00 - GENERAL

1.01 WORK INCLUDED

- A. Formwork, shoring, bracing and anchorage.
- B. Concrete reinforcement and accessories.

1.02 REFERENCES

- A. ACI 301 - Specifications of Structural Concrete for Buildings.
- B. ASTM A615 - Deformed and Plain Billet-Steel for Concrete Reinforcement.
- C. ASTM C33 - Concrete Aggregates.
- D. ASTM C94 - Ready-Mixed Concrete.
- E. ASTM C150 - Portland Cement.
- F. Caltrans Standard Specifications, 2010 Edition, Section 90.

1.03 QUALITY ASSURANCE

- A. Perform work in accordance with ACI 301.
- B. Concrete cylinder and slump sampling and testing will be performed by the District at their discretion and at no cost to the Contractor.

1.04 SUBMITTALS

- A. Submit proposed mix design for each class of concrete to the District for review prior to commencement of work, per the General Conditions.

PART 2.00 - PRODUCTS

2.01 FORM MATERIALS

- A. Conform to ACI 301.
- B. Plywood Forms: Douglas Fir B-B, Class 1, Exterior 5/8" min thick, sound undamaged sheets.
- C. Lumber: Douglas Fir species; standard grade; with grade stamp clearly visible.

2.02 CONCRETE MATERIALS

- A. Portland Cement: ASTM C150, Type 2.
- B. Fine and Coarse Aggregates: ASTM C33.
- C. Water: Clean and not detrimental to concrete.

2.03 CONCRETE MIX

- A. Mix concrete in accordance with ASTM C94.
- B. Compressive Strength at 28 Days: 3,500 psi.
- C. Maximum Aggregate Size: 1".
- D. Slump: 2 inch minimum - 4 inch maximum.
- E. Type II Cement: 564 pounds (six sacks) of Portland Cement per cubic yard concrete.

PART 3.00 – EXECUTION

3.01 FORMWORK ERECTION

- A. Verify lines, levels and measurement before proceeding with formwork.
- B. Hand trim sides and bottom of earth forms; remove loose dirt.
- C. Align form joints.
- D. Do not apply form release agent where concrete surfaces receive applied coatings which may be affected by agent.
- E. Coordinate work of other Sections in forming and setting openings, slots, recesses, chases, sleeves, bolts, anchors and other inserts.

3.02 PLACING CONCRETE

- A. Notify Engineer a minimum of two (2) working days prior to commencement of concrete operations.
- B. Transport concrete from batching plant to place of final deposit within one hour in concrete mixing trucks.
- C. Vibrate concrete so that all parts of forms are filled and so that no voids remain. Work concrete thoroughly around all reinforcement.
- D. Bring surfaces to proper grade, strike off and finish to a smooth level surface.

3.03 REMOVAL OF FORMS

- A. Curing of concrete shall be continuous for a period of seven (7) days at temperatures of 60 degrees F and above, and longer for periods at lower temperatures, as necessary.
- B. Remove forms to ensure safety of the members. In general, forms shall be kept in original state for 7 days or when the cylinder compression test exceeds 2,500 psi. The Engineer shall review 7 day compression test and inform the Contractor of the results. If specifically accepted by the Engineer, the forms may be removed earlier than 7 days after the pour.

3.04 FINISHES

- A. Trowel finish surfaces.
- B. Where concrete work is in traffic, trowel finish surface and provide a light broom finish

END OF SECTION 03 11 00

**END OF DIVISION 03
CONCRETE**

DIVISION 31: EARTHWORK

SECTION TITLE

31 00 00 Earthwork

31 11 00 Site Clearing and Grubbing

SECTION 31 00 00
EARTHWORK

PART 1.00 - GENERAL

1.01 DESCRIPTION

- A. Perform all Earthwork, as shown in the Drawings or specified herein, including but not limited to the following:
 1. Excavating.
 2. Disposing of water and excess material.
 3. Dewatering.
 4. Excavation protection.
 5. Filling and backfilling.
 6. Compacting.
 7. Grading.
 8. Stabilizing subgrade.
 9. Rock excavation.
- B. Work described herein shall be performed in accordance with referenced sections of the California Department of Transportation Standard Specifications, 2010 and the referenced sections of the District's Standard Details, except as modified herein.

1.02 QUALITY CONTROL

- A. Requirements of Regulatory Agencies: For work done on public property, comply with the requirements of governmental authorities having jurisdiction.
- B. Replacement of earth fill or backfill, where it has settled below the required finished elevations, shall be considered as a part of the required warranty work. Any repair or resurfacing constructed by the Contractor which becomes necessary by reason of such settlement shall likewise be considered as a part of such required repair work, unless the Contractor shall have obtained a statement in writing from the affected private owner or public agency releasing the District from further responsibility in connection with such repair or resurfacing.

1.03 PROJECT CONDITIONS

- A. Sequencing, Scheduling: Stop earthwork operations when inclement weather could cause incorporation of excessive water into the soil. Take appropriate measures, such as wetting down, to control blown dust and dirt, both windblown and from machine moving operations. Do not place fill over subgrade that is covered with ice or water.
- B. Inclement Weather Operations: At the end of each working day or when compaction operations are stopped due to change in weather conditions, roll and slope the surface to provide runoff. Protect the excavation with waterproof membrane if required by the Engineer to facilitate the work. Do not operate equipment over such surfaces until they are dry enough to prevent rutting and remolding of the top eight (8) inches.

PART 2.00 - PRODUCTS

2.01 MATERIALS

- A. Concrete Fill: Shall be two-sack slurry cement per ASTM C 94-81.
- B. Unsuitable Material: Defined as local pockets of material that are substantially different in character from the surrounding soil and may be unsatisfactory for use as earth fill or sub-base. Do not use such materials as backfill without approval of the Engineer.

2.02 MATERIAL DEFINITIONS

Where the definition refers to Caltrans sections, the document referenced is the 2010 edition of "Standard Specifications" for the Business and Transportation Agency, Department of Transportation of the State of California.

<u>TYPE</u>	<u>SOILS DEFINITION</u>	<u>Percent Passing</u>
Class I (drain rock)	Angular crushed rock, 3/4 inch maximum, per ASTM D448. Size No. 67. The grading requirements are as follows:	
	1"	100%
	3/4"	90-100%
	3/8"	20-55%
	No. 4	0-10%
	No. 8	0-5%

Class II Class 2 Aggregate per Caltrans 26-1.02B, 3/4" maximum.

Class III Not used.

Class IV Not used.

Class V Suitable native materials, resulting from trench excavation that is free of organic material, refuse, and shall contain no concrete, stone or clods larger than 4 inches in diameter and shall contain sufficient fines so that all voids will be filled when compacted, and shall be so constituted that compaction requirements can be met.

Topsoil

1. For Removal: A surface soil layer containing organic matter such as roots or humus, and having a weight loss of 6% or more on ignition at 600 degrees Centigrade for three hours when compared with the oven dry weight as determined by ASTM D 2216-71.

2. Project-usable: Surface soil conforming to the requirements of No. 1 above and with the following additional requirements: Selected, fertile, friable loam, stripped from the upper 12 inches; free from subsoil, heavy clay lumps, stones, roots, or other objectionable matter.

2.03 TEST REPORTS

- A. Test Reports: Six (6) copies of the latest Manufacturer's Certified Test Report for each material shall be submitted to the Engineer prior to delivery of

materials to the site. Certified Test Reports shall have been completed within the last three (3) years.

2.04 MATERIAL USE AND COMPACTION

A. Definitions:

Maximum density: The dry density at optimum moisture content per the latest edition of Caltrans Section 216.

1. In-place density: The dry density, dry unit weight, or dry unit mass as applicable per the latest edition of Caltrans Section 231.
2. Required compaction: The ratio of in-place density to maximum density, expressed as a percentage.
3. Compacted: Material at the required compaction or higher.
4. Subgrade (sub-base): The in-place compacted fill or backfill which receives subsequent construction such as an aggregate base for concrete building slabs, pavement or improved surfaces.

B. Moisture Content and Tolerance: Material to be compacted shall contain the amount of moisture to obtain the required compaction uniformly throughout its depth. Add moisture to or dry out soils or aggregates being used so that the soils or aggregates are within two percent, plus or minus, of the optimum moisture content during compaction, where indicated as optimum and at least 3 percent wet of optimum (but below that moisture content which renders the soil unworkable and uncompactable) when indicated wet of optimum in the following table.

C. Schedule: When using hand-guided compaction equipment or hand tamping tools, the maximum loose measure lift shall be four (4) inches in lieu of maximum lifts specified below when using machine compaction.

<u>APPLICATION</u>	<u>TYPE</u>	<u>MAXIMUM LIFT</u> <u>THICKNESS, IN</u> <u>INCHES --</u>	<u>LOOSE MEASURE</u> <u>COMPACTION</u>
TRENCH BACKFILL Pipe in Paved Areas:			
Top of Pipe Bedding to Asphalt Concrete	Class II	8	95 (optimum)
Pipe in Non-Paved Areas:			
Top of Pipe Bedding To Finished Grade	Class V	8	90 (optimum)
TOPSOIL	(Project useable)	4	90 (optimum)
EMBEDMENT			

Pipe Bedding	Class I	4	90 (optimum)
Foundation Stabilization	Class I	4	90 (optimum)
Beneath Manholes	Class II	8	95 (optimum)

GEOTEXTILE FABRIC

Manufacturer:

1. Phillips Supac 4NP.
2. Mirafi 140 N.

2.05 FIELD QUALITY CONTROL

- A. Refer to "DEFINITIONS" Article for the standards for test methods to be used for field quality control.
- B. The Engineer shall determine the compaction of materials placed is adequate by performing density and moisture content tests as required at no cost to the Contractor.
- C. If tests indicate that a layer has not been brought to the required compaction, The Contractor shall re-compact the area prior to placement of additional material, until the required compaction is obtained. If the layer has been covered by a subsequent operation, remove such material before re-compacting the defective layer. All additional re-compaction, removal of improperly compacted material and retesting, of re-compact material shall be at the expense of the Contractor.

PART 3.00 – EXECUTION

3.01 EXCAVATING

- A. Remove, haul and dispose of materials and obstructions encountered. Remove obstructions within the lines of construction, or that would interfere with construction. Obstructions consist of metallic, wooden or masonry debris, tree roots and similar items.
- B. Excavate to levels required for bottom of pipeline trenching, subgrade and similar items, as shown. In all cases of excavation work, excavate to the extent necessary to provide excavation protection as specified under heading "EXCAVATION PROTECTION". Provide space to permit form placing, inspection of work, support system, and other underground work adjacent to construction.
- C. Footings and foundations shall bear on firm soil capable of supporting the loadings. If satisfactory bearing capacity is not found at load-bearing elevations or subgrade, remove unsuitable materials disclosed below such elevations as defined in Part 2.00 and as directed by the Engineer. After removal of unsuitable material, place a layer of geotextile

fabric on the bottom and on the sides of the excavation to the spring line of the pipe above the bottom elevation of the structure. Fill and compact the resulting void with Class I backfill material. Such excavation, fill and compaction beyond the limits shown will be paid for by the District. However, if excavations are carried beyond the limits shown without authorization, or if unsatisfactory conditions occur due to Contractor's operations, the Contractor shall fill the voids with the appropriate material specified above, at his own expense.

- D. Place excavated material directly into fill areas, if possible. Otherwise stockpile on-site the quantity of reusable material required for this Project.
- E. Trim, level and clean excavations just prior to placement of subsequent work. Subsequent work shall not be performed until soil conditions have been reviewed.
- F. Excavate for all underground piping systems and utility lines. Trimming of trench bottom to final line and elevations, excavating for bells and bottom bedding, to extent shown, shall be performed as specified in Section 33 31 00 Sewer Pipe and Structures.
- G. Large rocks, boulders and large stones shall be removed to provide a minimum clearance of not less than six (6) inches below and on each side of all pipe, fittings and manholes.

3.02 STRIPPING TOPSOIL

- A. Haul and dispose of off-site all waste and excess material, trash, vegetative material, debris and rubble as specified in Section 2.02 shall be off-hauled and disposed of by the Contractor as part of the unit price for pipe installation. Contractor shall certify to the District that the soil is suitable or acceptable to the ultimate disposal site for the soil. Contractor to provide any tests necessary for the disposal method chosen by the contractor for the off-haul soil.

3.03 REMOVAL OF WATER

- A. At all times provide and maintain ample means and devices to promptly remove and dispose of all water entering the trench excavation during the time the trench is being prepared for the pipe laying, during the laying of the pipe, and until the installation of pipe bedding and backfill. No pipe or pipe bedding shall be placed until all water in the trench has been removed.
- B. Dispose of the water in a manner to prevent damage to adjacent property and silting of existing drains and structures. Drainage of trench water through the pipeline under construction or existing sanitary sewer is prohibited. Contractor shall be responsible for obtaining any permits necessary to discharge water to existing storm drains or creeks.
- C. When groundwater is encountered, the Contractor shall submit a dewatering plan in accordance with Section 00 72 16, Contractor Furnished Drawings and Data. The level

of detail of the dewatering plan will be at the discretion of the Engineer based upon the severity of groundwater encountered.

D. Intercept and divert all surface drainage away from excavations and incomplete areas of the work. Design and maintain the diverted drainage so as not to cause soil erosion, pounding, or overloading of permanent drainage facilities. All temporary surface water diversion systems shall be removed when no longer necessary and existing drainage facilities shall be restored to their original condition.

3.04 EXCAVATION PROTECTION

A. Plan for Shoring Excavation:

1. Before beginning any excavation or trench work that is five (5) feet or more in depth, secure a permit to perform excavation or trench work from the State of California, Division of Industrial Safety.
2. Submit a detailed plan showing proposed design for shoring, bracing, provisions to be made for worker protection from the hazard of caving ground during the excavation of any trench or trenches five (5) feet or more in depth. If such plan varies from the shoring system standards established by the Construction Safety Orders, the plan shall be prepared by a Civil Engineer registered in the State of California.
3. File a copy of the permit with the Engineer at least 24 hours before the beginning of any excavation or trench work.
4. The permit, together with a copy of approved plan for trench safety, shall be maintained on the job site at all times.
5. All compensation for costs incurred by compliance with these provisions shall be considered as included in the unit price listed in the schedule of bid and no additional compensation will be allowed therefore.

B. Sheet and Shoring:

1. Provide sheeting and shoring per requirements of the State of California, Department of Industrial Relations, Division of Occupational Safety 'Construction Safety Orders' (latest edition thereof), except as specified herein. Except where banks are cut back on a stable slope, excavation for structures and trenches shall be properly and substantially sheeted, braced, and shored, as necessary, to prevent caving or sliding, to provide protection for workmen and the work, and to provide protection for existing structures and facilities. Sheet, bracing, and shoring shall be designed and built to withstand all loads that might be caused by earth movement or pressure and shall be rigid, maintaining shape and position under all circumstances.

2. Maintain the support system in place until immediately prior to filling or backfilling operations. Remove support system in stages as filling or backfilling progresses. Parts of the support system may be left in place up to two (2) feet below new grades where indicated or accepted by the Engineer.

3.05 FILLING AND BACKFILLING

A. General:

1. Schedule filling and backfilling operations to expedite construction progress and to maintain positive site drainage. In areas designed to have utilities where fill is also required, place and compact the fill prior to placement of such utilities. Backfill after manhole bases have attained a design strength of at least 2,500 psi and in no case less than one (1) day after placing of concrete unless otherwise directed by the Engineer. Backfill after work has been inspected and approved by the Engineer. Backfill in a manner to prevent excessive pressure against or damage, including hydraulic, to adjacent work. Any resultant damage shall be corrected at the Contractor's expense.
2. Spread fill and backfill in uniform layers parallel to the finish grade elevations, filling holes and low areas first. Loose measurement of each layer shall be as specified in Part 2.00.
3. Compact each layer before succeeding layers are placed. Provide compaction equipment of type best suited to achieve the compaction specified for the type of soil used. Use particular care to prevent "bulking" of fine granular fill. Terminate all fills in true planes at correct elevations.

3.06 GRADING

- A. Grade areas to receive fills and backfills to levels indicated, as specified in Part 2.00.
- B. Remove unsuitable material, vegetation, rubbish and debris from areas to be filled.
- C. Slope earth away from top of finished manholes. Finish grades not otherwise indicated shall be uniform levels or slopes between given points or between given points and existing grades. Provide roundings at top and bottom of banks and at other breaks in grades. Finish grade to within 0.1 foot of required slopes, grades and elevations.

3.07 FOUNDATION STABILIZATION

- A. Subgrades for concrete structures and trench bottoms shall be firm, dense, and thoroughly compacted and consolidated; shall be free from mud and muck; and shall be sufficiently stable to remain firm and intact, under the feet of the workmen.

- B. When ordered by the Engineer, subgrades for concrete structures or trench bottoms which are otherwise solid, but which become mucky on top due to construction operations, shall be reinforced with a layer of geotextile fabric on the bottom and sides at least 12 inches above the unstable material and one or more layers of Class I fill material. Such over excavation and foundation stabilization work shall be to the depth ordered by the Engineer. The finished elevation of consolidated subgrades for concrete structures shall not be above subgrade elevations shown on the Drawings. Compaction shall conform to the requirements of 2.04 of this Section.
- C. All foundation stabilization work shall be performed by and at the expense of the Contractor as specified in this Section, Article 3.01.C.

END OF SECTION 31 00 00

**SECTION 31 11 00:
SITE CLEARING AND GRUBBING**

- H. Clear within the construction limits for this project as required. Remove shrubs and other vegetation, except individual items indicated to remain. Only cut trees with specific prior review by the Engineer.
- I. Cut off vegetation at ground surface. Remove downed timber, logs and other vegetation resting on or partially re-embedded in ground surface, brush, weeds, undergrowth, rubbish and other debris.
- J. Remove stumps. Remove roots, organic or metallic debris embedded in the ground, to a depth of not less than eight inches below existing ground. Do not use grubbing equipment within the drip line of trees indicated to remain.
- K. Fill depressions resulting from these operations, unless further excavation or earthwork is indicated. Use earth fill and place in horizontal layers not to exceed eight inches in loose depth. Compact each layer to density equal to the adjacent natural soil. Grade the surface to meet adjacent contours and to provide surface water drainage.
- L. Protect trees left standing against damage, including unnecessary cutting, breaking or skinning of roots, skinning and bruising of bark, smothering by stockpiling material or parking of vehicles within drip line.
- M. Coat all cut or abraded surfaces of branches, trunk or roots with an emulsified asphalt coating specially formulated for horticultural use. Temporarily cover all exposed roots with wet burlap to prevent drying out of roots and provide earth cover as soon as possible.
- N. Repair or replace trees left standing that are damaged by Contract operations, at no additional cost to the District. Employ an Engineer- approved tree surgeon to perform tree damage repair.

END OF SECTION 31 11 00

**END OF DIVISION 31
EARTHWORK**

DIVISION 32: EXTERIOR IMPROVEMENTS

SECTION TITLE

32 01 13 SLURRY SEAL

32 12 16 ASPHALT PAVEMENT

32 12 17 ASPHALT PAVEMENT COATING & CRACK FILLERS

32 12 73 ASPHALT SEALANT

SECTION 32 01 13
SLURRY SEAL

A. SLURRY SEAL

Slurry seal shall conform to the provisions in Section 37-2, "Slurry Seal," of the State of California Standard Specifications and these special provisions.

B. DESCRIPTION

This work shall consist of mixing latex emulsified asphalt, aggregate, set-control additives, and water and spreading the mixture on a surfacing or pavement where shown on the plans, as specified in these special provisions and as directed by the Engineer.

C. MATERIALS

The materials for slurry seal immediately prior to mixing shall conform to the following requirements:

Latex emulsified asphalt

Latex emulsified asphalt shall be a quickset PMCQ51h type, shall be homogeneous co-milled and show no separation after thorough mixing. The latex asphalt emulsion shall conform to the following requirements:

TEST ON EMULSION

	<u>METHOD OF TEST</u>	<u>REQUIREMENTS</u>
Viscosity, SSF, @77° F, sec	ASTM D244	15-100
Distillation Residue %, Min.		60
Torsional Recovery		20 min.

TEST ON RESIDUE FROM DISTILLATION TEST:

Penetration, 77° F, 100g, 5s	ASTM D5	40-80
Softening Point (Ring & Ball), °F	ASTM D36	120-147
Ductility, 75° F, 5CM/Min,	ASTM D113	25
Minimum		
Frass Breaking Point, °C	DIN 52012	-18
Sieve Test		0.30

QUALITY CONTROL PROGRAM The Contractor shall show sufficient evidence of the suppliers Product Quality control Program in effect during the processing of the emulsified asphalt. Such quality control testing results shall be made available to the Engineer at the preconstruction meeting. The following items shall be included in the Product quality Control Program:

1. The frequency of sampling.
2. The manner of sampling and controlling authority, (i.e. ASTM)
3. The number of samples tested per production unit.
4. The production unit size.
5. The Moving Average compilation of the five most recent subsequent tests.
6. The names of those qualified employees who will perform the sampling and testing.

The Product Quality Control Program shall remain in effect for all emulsified asphalt supplied and test results shall be supplied to the Engineer. The Contractor shall provide the Engineer with "split" samples of all samples from the production units from which emulsified asphalt is used.

Water

Water shall be of such quality that the asphalt will not separate from the emulsion before the slurry seal is in place in the work. Water shall be potable and free from harmful soluble salts.

Aggregate

The use of crushed granite or other light gray-colored aggregate will not be allowed. Aggregate shall consist of Table Mountain or other rock similar in color and nature (black), except that any aggregate or combination of aggregates shall be produced by crushing rock. The material shall be free from vegetable matter and other deleterious substances. All aggregate shall be free of caked lumps and oversize particles.

The aggregate, prior to the addition of emulsion, shall conform to the requirements of this section. Conformance with the grading requirements will be determined by California Test 202, modified by California Test 105 when there is a difference in specific gravity of 0.2 or more between blends of different aggregates.

The percentage composition by weight of the aggregate shall conform to one of the following gradings:

	<i>Percentage</i>
--	-------------------

Sieve Size	Passing
Type II	
9.5mm	100
4.75mm	90-100
2.36mm	65-90
1.18mm	45-70
600um	30-50
300um	18-30
150um	10-21
75um	5-15

No single aggregate grading test shall represent more than 500 tonne or one day's production, whichever is smaller

The aggregate shall conform to the following additional quality requirements:

<u>Tests</u>	<u>California Tests</u>	<u>Requirements</u>
Sand Equivalent	217	Type II 55 Min.
Durability Index	229	Type II 55 Min.

QUALITY CONTROL PROGRAM The Contractor shall provide evidence of the aggregate manufacturers Product Quality Control Program in effect during the processing of the aggregates. The quality control test results shall be made available to the Engineer at the pre-construction meeting. The following items shall be included in the Product Quality Control Program:

1. The frequency of sampling
2. The manner of sampling and controlling authority, (i.e. ASTM).

3. The number of samples tested per production unit.
4. The production unit size.
5. The Moving Average compilation of the five most recent grading tests. Subsequent tests shall show the results for each washed control sieve analysis test and shall include all of the specification sieves.
6. A Moving Average of the five most recent cleanliness value tests.
7. The names of those qualified employees who will perform the required testing and calculations.

The Product Quality Control Program shall remain in effect for all aggregate supplied. The test results from each production unit shall be supplied to the Engineer. The Contractor shall supply the Engineer with "split" samples of all samples from all production units from which the aggregate supply is from.

D. PROPORTIONING

Latex emulsified asphalt shall be added at the rate of the following percentages of the weight of the dry aggregate:

Type II	12 to 18
---------	----------

The exact rate will be determined by the Engineer.

At the pre-construction meeting, the Contractor shall submit a signed original laboratory report of a mix design covering the specific materials to be used on the project. This mix design shall have been performed by a laboratory capable of performing the following International Slurry Seal Association (ISSA) tests:

Test Purpose	Test Method	Specification
Slurry Seal Consistency	ISSA T106	2-3 centimeters
Wet Stripping Test	ISSA T114	Pass
Compatibility	ISSA T115	*Pass
Cohesion Test	ISSA T139	**Pass-12 Gr/Cm
Wet Track Abrasion	ISSA T100	810 grans/m ² max.

*Mixing test must pass at the maximum expected air temperature

**Using project aggregate, emulsion, set-control agents

The proposed mix designs shall provide for the spread rates specified in the “PLACING,” section of these special provisions. The County will approve, disapprove or modify the proposed mix designs.

The laboratory report shall show the results of the test on individual materials, comparing their values to those required by these special provisions. The report must clearly show the proportions of aggregate, mineral filler (minimum and maximum), water (minimum and maximum, additive(s) usage and asphalt based on the dry aggregate weights. The emulsion content to be used shall be determined from the design asphalt binder content and the asphalt solids content of the emulsion to be used.

Once the materials are approved, no substitutions will be permitted unless first tested and once again approved by the laboratory preparing the design and the Engineer.

If necessary for workability, a set-control agent, that will not adversely affect the seal, may be used.

Admixtures may be used as necessary to control the mixing and setting rates of the mixture. The admixture, the amount to be added, and the methods by which it is to be added, must be approved by the Engineer before the admixture is used.

Water, and set-control agent, if used, shall be added to ensure proper workability and permit traffic flow, without the assistance of a pilot car, on the slurry seal no more than 1 hour after placement without the occurrence of bleeding, raveling, separation or other distress within 15 days after placing the slurry seal.

If more than one kind of aggregate is used, the correct amount of each kind of aggregate to produce the required grading shall be proportioned separately in a manner that will result in a uniform and homogeneous blend.

Uniformity of distribution of asphalt shall be determined by extraction test in accordance with California Test 310. The bitumen ratio (kg of asphalt per 100 kg of dry aggregates) shall not vary more than 0.5 kg of asphalt above or 0.5 kg of asphalt below the amount approved by the Engineer. This requirement shall apply to representative sample taken from any location or operation designated by the Engineer.

The mixer-spreader trucks shall be equipped with a calibrated emulsion tank with a stick gauge or other measuring device that allows for a quick, accurate measurement of the volume. The mixer-spreader trucks shall be equipped with a water pressure system and fog type spray bar adequate for complete fogging of the surface preceding spreading equipment.

Mixer-spreader trucks shall be equipped to proportion emulsions, water, aggregate, and set-control additives by volume. The aggregate shall be proportioned using a belt feeder operated with an adjustable cutoff gate. The height of the gate opening shall be readily determinable. The emulsion shall be proportioned by a positive displacement pump. Water shall be introduced into the mixer by a meter registering in liters delivered.

Any variable rate emulsion pump, if used, shall be equipped with a means to seal the adjusting unit in its calibrated condition.

The delivery rate of aggregate and emulsion per revolution of the aggregate feeder shall be calibrated at the appropriate gate settings for each mixer-spreader truck used on the project in accordance with California Test 109.

The aggregate belt feeder shall deliver aggregate to the pugmill with such volumetric consistency that the deviation for any individual aggregate delivery rate check-run shall not exceed 2.0% of the mathematical average of three runs of at least 3 tonne in duration each. The emulsion pump shall deliver emulsion to the pugmill with such volumetric consistency that the deviation for any individual delivery rate check-run shall not exceed 2.0% of the mathematical average of three runs of at least 1900-liters in duration each.

These check runs shall be performed for each aggregate source using a vehicle scale that has been error tested in accordance with California Test 109, Part 9.

The emulsion storage located immediately before the emulsion pump shall be equipped with a device which will automatically shut down the power to the emulsion pump and aggregate belt feeder when the emulsion level is lowered sufficiently to expose the pump suction line.

A temperature-indicating device shall be installed in the emulsion storage tank at the pump suction level. The device shall indicate temperature of the emulsion and shall be accurate to 10°F.

The belt delivering the aggregate to the pugmill shall be equipped with a device to monitor the depth of aggregate being delivered to the pugmill. Said device for monitoring depth of aggregate shall automatically shut down the power to the aggregate belt feeder whenever the depth of aggregate is less than 70% of the target depth of flow. A second device shall be located where it will monitor movement of the aggregate belt by detecting revolutions of the belt feeder. The device for monitoring no flow or belt movement, as the case may be, shall automatically shut down the power to the aggregate belt when aggregate belt movement is interrupted. This second device will not be required where the aggregate delivery belt is an integral part of its drive chain.

To avoid erroneous shutdown by normal fluctuation, a delay of three seconds between sensing less than desirable storage levels of aggregate or emulsion and shutdown of the proportioning operation will be permitted.

The mixer-spreader truck shall not be operated unless all low-flow and no-flow devices and revolution counters are in good working condition and functioning. All indicators shall be visible while walking alongside the mixer/spreader truck.

The Contractor shall furnish an aggregate moisture determination for every two hours of operation or maintain the moisture content to within a maximum daily variation of +/-0.5%.

Mineral filler shall be portland cement or aluminum sulfate and shall be considered as part of the blended aggregate. Mineral filler shall be used only if necessary to improve the workability of the mixture or gradation of the aggregate.

E. EQUIPMENT

All equipment, tools and machines used in the performance of this work shall be maintained in satisfactory working order at all time.

F. SLURRY MIXING EQUIPMENT

The slurry mixing machine (5.2 m³ or larger) shall be a continuous flow mixing unit (rotating drum mixers will not be allowed) and be capable of delivering accurately at a continuous and constant rate a pre-determined proportion of aggregate, water and asphalt emulsion to the mixing chamber and to discharge the thoroughly mixed product on a continuous basis. The aggregate shall be pre-wetted immediately prior to mixing with the emulsion. The mixing unit of the mixing chamber shall be capable of thoroughly blending all ingredients together. No violent mixing shall be permitted.

Gages or approved means of measurement shall be provided on the equipment so that the proportional rates of aggregate, water and asphalt emulsion can be checked at intervals determined by the Engineer.

The mixing machine shall be equipped with an approved fines feeder that provides an accurate metering device or method to introduce a pre-determined proportion of mineral filler into the mixer at the same time and location that the aggregate is fed. The fines feeder shall be used whenever added mineral filler is a part of the aggregate blend.

There shall be a minimum of one mixing machine in good working condition as a backup on the project at all times.

G. MIXING

The slurry seal shall be mixed in continuous pugmill mixers of adequate size and power for the type of slurry seal to be placed.

All rotating and reciprocating equipment on mixer/spreader trucks shall be covered with metal guards.

Aggregate feeders shall be connected directly to the drive on the emulsion pump. The drive shaft of the aggregate feeder shall be equipped with a revolution counter reading to the nearest full revolution of the aggregate delivery belt.

H. SPREADING

The slurry mixture shall be uniformly spread by means of a controlled spreader box conforming to the following requirements:

The spreader shall be capable of spreading a traffic lane width and shall have strips of flexible rubber belting or similar material on each side of the spreader box and in contact with the pavement to positively prevent loss of slurry from the ends of the box. All spreader boxes over 2.3 meters in width shall have baffles, reversible motor driven augers, or other suitable means, to ensure uniform application on superelevated sections and should slope. The spreader shall be steerable, shall have adjustable skids and shall have an adjustable width. Spreader box skids shall be maintained in such manner as to prevent chatter (wash boarding) in the finishing mat.

The rear flexible strike-off blade(s) shall make close contact with the pavement, and shall be capable of being adjusted to the various crown shapes so as to apply a uniform seal coat.

Flexible drags, between 460-610 mm in length, to be attached to the rear of the spreader box, shall be provided. All drags and strike-off blades (rubbers) shall be cleaned or changed daily if problems with cleanliness and longitudinal scouring occur, or when directed by the Engineer.

The spreader box shall be clean, free of all slurry seal and emulsion, at the start of each shift.

At least two (2) operation spreader trucks shall be available at the job site during the spreading operation except when continuous placement type mixer-spreader trucks are used.

The mixer-spreader trucks shall have legible identification, at least 50 mm in height, located on the front and rear of the vehicle.

I. AUXILIARY EQUIPMENT

Hand squeegees, shovels and other equipment shall be provided as necessary to perform the work.

J. TREE AND SHRUB TRIMMING

Where required by the Contractor's operations, prior to placing any slurry seal on street, trees and shrubs which may be subject to having their leaves or branches broken off and falling onto the pavement or into the slurry shall be neatly trimmed. All trimming shall be performed by the Contractor and shall not exceed what is necessary to clear the Contractor's equipment.

Stub or ledge cuts shall not be left after the removal of limbs. Limbs to be removed shall be undercut to prevent breaks or tearing of the bark. Final cuts shall be made nearly flush with the parent branch or trunk leaving a callus ring.

All trimmings shall become the property of the contractor and shall be disposed of in accordance with Section 7-1.13, "Disposal of Material Outside the Highway Right-of-Way," of the Standard Specifications.

K. STREET SURFACE PREPARATION

Immediately prior to the application of the slurry seal and subject to the approval of the Engineer, the street surface shall be thoroughly cleaned of all foreign material such as, but not limited to, leaves, sand, gravel and dirt. The method of street cleaning shall be by power vacuum broom and hand broom, or flushing sufficient to provide for a bond between the existing pavement surface and the slurry seal.

All vegetation shall be removed from cracks in pavement and at the interface of pavement and gutter prior to sweeping. To facilitate the cleaning operations, the Contractor shall use a weak spray (Pramitol or its equivalent) two weeks prior to slurry operations. Flushing with water may be required in some areas.

All vegetation and debris removed from the roadway surface shall become the property of the contractor and shall be disposed of in accordance with Section 7-1.13, "Disposal of Materials Outside the Highway Right-of-Way," of the Standard specifications.

All existing temporary pavement markers and delineation shall be removed.

L. PLACING

Slurry seal shall not be placed when the existing pavement temperature is below 13°C or during unsuitable weather.

Prior to the slurry seal operations, the Contractor shall reference all manhole covers, valve covers, street monument covers, etc. so that they can be quickly found. The Contractor shall obtain the Engineer's approval of the method of referencing the utility covers prior to slurry sealing the street. If covers are not cleaned by the following day, no additional slurry seal shall be placed until the covers are cleaned.

Immediately prior to sealing operations, all surface metal utility covers (including County survey monuments) shall be adequately protected from the slurry seal using a method approved by the Engineer, so that adhesive material will not cover, seal or fill the joint between the frame and cover of the structure. Oiling of the covers shall not be allowed as a method to protect utility covers. Covers are to be cleaned of slurry material by the end of the same workday. No additional slurry seal shall be placed until the covers are cleaned.

Any costs incurred by an agency or owner resulting from the failure of the Contractor to locate and clean covers will be deducted from any monies due the Contractor.

Slurry seal shall be applied only when the atmospheric temperature is above that listed below for corresponding wind velocity as measured in accordance with Test Method Number Contra Costa County 342 (average wind velocity measured with a hand-held anemometer).

Minimum Atmospheric Temperature per Average Wind Velocity

<u>(Degrees °C)</u>	<u>(km/h)</u>
12.8	0
15.0	8
17.2	16
19.4	24
21.7	32

Slurry seal shall not be applied when raining or foggy.

The slurry seal shall be spread at the following kg of dry aggregate per square meter:

Type II --- 7.5 – 9.8 kg/m²

All through driving lanes shall be spread in full lane width pulls only. Longitudinal joints common to two driving lanes, shall be butt joints with overlaps not to exceed 80 mm. Building paper shall be placed at transverse joints over previously placed slurry seal or other suitable methods used to avoid double placement of slurry seal. Hand tools shall be available in order to remove spillage. Ridges or bumps in the finish surface will not be permitted.

Slurry mixture, to be spread in areas inaccessible to the spreader box, shall be spread by Engineer approved methods.

The mixture shall be uniform and homogeneous after spreading on the road and shall not show separation of the emulsion and aggregate after setting.

Adequate means shall be provided to protect the slurry seal from damage by traffic until such time that the mixture has cured sufficiently so that the slurry seal will not adhere to and be picked up by the tires of vehicles.

The Contractor shall have the responsibility for the inspection and supervision necessary for controlling the characteristics of the slurry seal to conform to the mix design and the spreading of the slurry seal to meet the requirements specified herein.

The County's responsibility will include all testing and inspection necessary to establish the degree to which the materials as furnished and placed meet the requirements of the approved mix design.

During slurry sealing operations, the Contractor shall provide the following:

- a. Quantity of emulsion used in each "batch,"
- b. Quantity of emulsion used daily, and
- c. Copies of all aggregate delivery tags.

If the quantity of materials being used, or the appearance of the slurry seal indicates that the mix design is not being adhered to, work shall be suspended and the Contractor shall supply the Engineer with the following samples:

- a. Slurry seal aggregate – 13.6 kg
- b. Asphalt emulsion – 4 liters
- c. Abrasion test pads – three total

Work shall not be resumed until a modified mix design is prepared by the Contractor and is approved by the Engineer or Engineer approved corrective measures are taken to ensure conformance to the approved mix design.

The surface shall be pre-wetted by fogging ahead of the slurry distributor. Water used in pre-wetting the surface shall be applied at such a rate that the entire surface is damp with no apparent flowing water in front of the slurry distributor. The slurry mixture shall be of the desired consistency when deposited on the surface and no additional elements shall be added. Total time of mixing shall not exceed four minutes.

Precautions shall be taken to ensure that aggregate stockpiles do not become contaminated with oversized rock, clay, silt or excessive amounts of moisture. The stockpile shall be kept in areas that drain readily. Segregation of the aggregate will not be permitted.

TRIAL MIXES – Trial mixes in the slurry machine shall be made before any major work is undertaken. Any of the proposed streets to be slurry sealed may be designated as the “test area” and all work completed and accepted by the Engineer within the “test area” will be paid for at the contract unit prices. Prior to trial mixing, the Contractor shall check the calibration, and calibrate, if necessary, the feed rate controls of the aggregate, emulsion, water, fines and admixtures. During trial mixing, the water, fine and admixture content shall be adjusted to obtain the consistency and setting rate desired. The proportions of aggregate and emulsion may be changed only after the submittal of a new mix design.

END OF SECTION 32 01 13

SECTION 32 12 16
ASPHALT PAVEMENT
PART 1.00 - GENERAL

1.01 DESCRIPTION

This Section specifies temporary and permanent paving consisting of aggregate base, asphaltic concrete and associated materials.

1.02 QUALITY CONTROL

A. References: This Section references the following documents. They are a part of this Section as specified and modified. In case of conflict between the requirements of this Section and those of the listed documents, the requirements of this Section shall prevail.

Reference

ASTM D1557-78	Tests for Moisture-Density Relations of Soils and Soil-Aggregate Mixtures Using 10-lb. (4.5-kg) Rammer and 18-in. (457-mm) Drop
Caltrans	Standard Specification, State of California Business and Transportation Agency, Department of Transportation, 2010

PART 2.00 - PRODUCTS

2.01 MATERIALS

A. Aggregate Base: Aggregate base shall be Class II as specified in Section 02200.

B. Asphaltic Emulsion: Asphalt emulsion for paint binder and treatment of aggregate base shall be Type SS1 or CSS1 and shall comply with Caltrans Section 94.

C. Asphalt Concrete: Aggregate shall be Type B, 1/2 inch maximum medium grading, conforming to Caltrans Section 39. Asphalt binder shall be paving asphalt, Grade AR-4000, and shall comply with Caltrans Section 92. Asphalt concrete mixing and proportioning shall comply with Caltrans Section 39.

D. Portland Cement Concrete: Portland Cement Concrete shall conform to Caltrans Section 90 Class B Concrete (6 sack/cubic yard) Concrete mix with minimum 28 days compressive strength of 3500psi.

PART 3.00 - EXECUTION

3.01 GENERAL

Construction shall conform to the details, dimensions and grades specified. Maximum variations in finished grade of paving shall be plus or minus 0.05 feet.

3.02 AGGREGATE BASE PLACEMENT

- A. Subgrade: Areas to be paved shall be graded and compacted in accordance with Section 02200 Earthwork, and as shown on the Drawings.
- B. Aggregate Base: Placing of aggregate base shall comply with Caltrans Section 26. Relative compaction below finish grade shall be a minimum of 95 percent as determined using methods set forth in ASTM D1557.

3.03 REMOVAL

- A. Temporary paving shall be placed the same day over the trench at the completion of the backfill and finish grading. Temporary pavement shall be maintained in a safe and drivable condition until permanent pavement is placed.
- B. Temporary paving shall be a minimum 2-inches thick.
- C. Temporary pavement shall be removed and disposed of off-site prior to placement of new asphalt concrete pavement.

3.04 ASPHALT CONCRETE PAVEMENT

- A. Asphalt Concrete: Placement of asphalt concrete pavement shall comply with Caltrans Section 39.
- B. Trim existing pavement to a straight line to remove any pavement which has been damaged or which is broken and unsound to provide a smooth, sound edge for joining the new pavement.
- C. Tack Coat Application: A tack coat shall be applied to all vertical surfaces of existing pavement; to curbs, gutters and construction joints against which asphalt concrete shall be placed; to pavements to be surfaced; to aggregate base; and where specified at the approximate rate of 0.05 gallons per square yard. Application shall comply with Caltrans Section 39-4.02. Immediately prior to placing asphalt concrete, additional tack coat shall be applied to areas where the tack coat has been damaged.
- D. Asphalt Concrete:
 1. Compact the asphalt concrete using an approved method as specified in Caltrans Section 39-6.

2. The finished surface of the new compacted paving shall be flush with the existing adjacent surface and shall conform to the grade and crown of the adjacent pavement.
- E. Surface Smoothness: The surface smoothness of the replaced pavement shall conform to Caltrans Section 39-6.

3.05 PAVEMENT STRIPING AND MARKING

- A. Repaint or thermoplastic (replace in kind) all traffic stripes and markings which are removed or damaged by construction.
- B. Mixing and application of painted traffic stripes and markings shall be in conformance with Caltrans Section 84-3.

3.06 PAVEMENT MARKERS

- A. Replace all pavement markers removed in kind. All pavement markers and installation shall conform to Caltrans Section 85.

3.07 PORTLAND CEMENT CONCRETE PAVEMENT

- A. Placement of Portland Cement Concrete Pavement shall conform to Caltrans Section 40. Reinforcing Steel shall match existing site with ASTM A615 Grade 60 spliced in accordance with Caltrans Section 52.

END OF SECTION 32 12 16

**SECTION 32 12 17
ASPHALT PAVEMENT COATING
& CRACK FILLERS**

PART 1.00 - GENERAL

1.03 SUMMARY

A. Section Includes:

1. Asphalt Pavement Coating
2. Asphalt Crack Fillers

1.04 REFERENCES

A. American Society of Testing and Materials (ASTM):

1. D 6
2. D 217
3. D 2939
4. D 2042

B. American Association of State Highway and Transportation Officials

1. T-45-46

Manufacturer:

- a. Reed and Graham Overkote®
- b. Or equal.

PART 2.00 - PRODUCTS

2.02 MATERIALS

E. Performance Requirements for Asphalt Pavement Coating

1. Residue at 300-400°F. Between 55 to 65%.
2. Dehydration at 100° for 96 hours. Not less than 0.6.
3. Solubility of residue in C₂HCL₃. Between 15 and 20.
4. Loss on ignition of insoluble residue. Not more than 16% maximum.
5. Cone Penetration at 77°F. Between 400 and 700 dmm.

F. Performance Requirements for Asphalt Pavement Crack Fillers

1. Residue at 300-400°F. Between 60 to 70%.
2. Flexibility for ASTM D 2939 Modified. Pass.
3. Solubility of residue in C₂HCL₃ Per ASTM 2042. Between 85 and 95.
4. Firm Set Time per ASTM 2039 (modified). Not more than 90 minutes.
5. Ash content of insoluble residue. Not less than 70%.
6. Viscosity @ 77°F, Brookfield Spindle #3, 20 RPM. Between 300 to 600 Cps.
7. Water Resistance in ASTM 2939 (Alt). Pass.

- G. Oil-Spot Sealer. Shall be a quick drying latex emulsion with suitable additives to coat and promote adhesion of the sealer to oil, grease and gasoline stained pavement.
- H. Emulsified Asphalt Binder shall conform to State of California Specifications for SS-1h Asphalt Emulsion.
- I. Sand shall be 30 mesh sand blast sand composed of clean, hard durable uncoated particles, free from lumps of clay or organic matter.
- J. Water used in all mixtures shall be fresh and potable.

PART 3.00 - EXECUTION

3.08 GENERAL

- A. Asphalt shall be thoroughly cured before application.
- B. No part of the construction involving the application of Sealer shall take place during or just prior to rainfall or freezing temperatures. Air temperature shall be at least 55° and rising.
- C. Curing time; As soon as any application is dry to the touch and won't scuff under normal walking, another application can be made.
- D. Contractor supply District with scale tags for the project with the following information:, Product, Project Name, Gallonage/Tons supplied to the project.

3.09 SURFACE PREPARATION

- A. Damaged asphalt and areas completely saturated by oil or grease should be removed and replace or repaired as required.
- B. All weeds or other vegetation growing through the asphalt concrete shall be removed and sprayed with a suitable chemical sterilant.
- C. Thoroughly clean all cracks of all foreign matter. Cracks 1/8" to a maximum of 1/2" in width shall be cleaned and filled with Crack Filler, per manufacturer's recommendations. Cracks wider than 1/2" shall be repaired with asphalt concrete. Allow Crack Filler to cure for 24 hours.
- D. The surface shall be cleaned of all foreign matter such as dust, sand, clay or grease.
 1. High pressure blowers, vacuums or sweepers shall be used to remove objectionable materials.
 2. Deposits of oil and grease shall be cleaned by scraping, burning and/or the use of detergent.
 - a. Trisodium Phosphate and a stiff brush shall be used to scrub area clean.
 - b. Pavement shall be thoroughly rinsed with water.
 - c. Seal cleaned and rinsed surface with Oil-Spot Sealant.

3.03 EQUIPMENT

- A. Mixing or agitating equipment used shall be a tank-type power mixer with a round bottom and equipped with a power driven mixer of sufficient capacity to maintain the mineral solids in complete suspension.
- B. The mixture shall be applied by the combined or individual use of rubber faced squeegees and or mechanized material spreading equipment or other suitable method approved by the inspector.

3.1 BOND COAT

- A. A tack coat consisting of One (1) part Emulsified Asphalt Binder (SS-1h) and four (4) parts water, shall be uniformly applied over the entire surface at the rate of 0.05 to 0.10 gallon per square yard.
 - 1. Sweep out any "pools" of wet binder remaining in the depressions.
 - 2. Allow bond coat to dry before applying Sealer.

3.2 APPLICATION PROCEDURES

- A. Sealer shall be mixed to a uniform free-flowing consistency. No more than fifteen percent (15% by volume) water shall be added to obtain a semi-fluid consistency.
- B. Prior to the first application of Sealer in exceptionally hot weather, dampen the surface with water. Remove any excess water to leave the surface only slightly damp.
- C. Sealer shall be applied to the area in continuous parallel lines and spread immediately by use of rubber faced squeegees and or mechanized material spreading equipment.
 - 1. Sweep out any "pools" of wet binder remaining in the depressions.
 - 2. Allow bond coat to dry before applying Sealer.

3.21 APPLICATION (NEW PAVEMENT OR SMOOTH OLD PAVEMENT)

- A. This procedure shall be used only where top of aggregate to bottom of void is less than 3/16"
 - 1. Two or more applications shall be made using a minimum of 30 gallons of undiluted Sealer per 1000 square feet of area.
 - 2. Surface shall show no evidence of coarse or uneven texture.

3.22 APPLICATION (EXCESSIVELY ROUGH PAVEMENT)

- A. This procedure is to be used on rough areas, where surface voids in the pavement are equal to or greater than 3/16" from top of exposed aggregate to bottom of void.
 - 1. First Application - Add three pounds of 30 mesh sand to each gallon of Sealer. Add water (to 15% max. by volume) to give a semi-fluid consistency.
 - 2. A total of two (2) or more applications shall be made at a rate of 40 or more gallons of undiluted sealer per 1000 sq. ft. of area. The surface shall be smooth and uniform, showing no evidence of coarse or uneven texture.

3. Final application - Final application shall be made without the addition of sand filler.

END OF SECTION 32 12 17

SECTION 32 12 73
ASPHALT SEALANT

A. CALSEAL: MODIFIED ASPHALT JOINT SEALANT:

CALSEAL modified asphalt joint sealant is a mixture of paving asphalt and ground rubber or ground rubber and polymer which confirms to the following requirements:

TEST	TEST METHOD	SPECIFICATIONS	TYPICAL RESULTS
Softening Point	ASTM D-36	180° minimum	185°
Cone Penetration @ 77°F	ASTM D-3407	30 dmm minimum	76 dmm
Resilience @ 77°F	ASTM D-3407	40% minimum	68%
Flow @ 140°F	ASTM D-3407	3 mm maximum	0 mm
Specific Gravity Expressed in LB/Gal.	ASTM D-70	9.8 LB/Gal. Maximum	9.5 LB/Gal.

CALSEAL shall be furnished premixed in containers with an inside liner of polyethylene. Packaged material shall not exceed 60 pounds in weight. Storage and heating instructions and cautions shall be supplied with each shipment.

CALSEAL shall be capable to being melted and applied to cracks and joints at temperatures below 400°F. When heated, it shall readily penetrate crack 1/4" wide or larger.

The vendor shall furnish certification that the material complies with the above requirements.

B. ASPHALT RUBBER TYPE 2 SEALANT

Crafco Asphalt Rubber Type 2 consists of a selected blend of paving grade asphalt with vulcanized granulated crumb rubber. The sealant is supplied in solid form and is easily melted and applied using sealant melter applicator units. During heating in the melting unit, the asphalt and rubber react to form a flexible adhesive compound, which when properly applied, effectively seals cracks in either asphalt or concrete highway pavements. The sealant meets all requirements of ASTM D5078. Type 2 Asphalt Rubber sealant is made from medium stiffness asphalt and provides a material suited for use in areas which seldom experience temperatures in excess of 100°F (38°C) or less than 0°F (-18°C). Crafco Asphalt Rubber Type 2 sealant contains a minimum of

22% recycled rubber by weight of asphaltic components. Asphalt Rubber Type 2 is highly adhesive and strongly bonds to pavement cracks. Due to the high rubber content, the sealant is very viscous at application temperatures and is not self-leveling.

C. SPECIFICATION CONFORMANCE:

Crafco Asphalt Rubber Type 2 meets all requirements of ASTM D5078, "Standard Specification for Crack Filler. Hot Applied, for Asphalt Concrete and Portland Cement Concrete Pavement."

<u>TEST</u>	<u>ASTM D5078 Requirements</u>
Safe Heating Temperature	400°F (204°C)
Recommended Application Temp.	350°F (177°C)
Softening Point	150°F (65.5°C) min.
Cone Penetration, 77°F (25°C)	70 max.
Cone Penetration, 39.2°F (4°C)	15 min.
Resilience, 77°F (25°C)	30% min.
Asphalt Compatibility	Pass

D. APPLICATION

Prior to use, the user must read and follow Application Instructions for Hot Applied Asphalt Rubber, Asphalt Rubber Plus, Polyflex and RoadSaver Sealants (December 1997) to verify proper product selection, heating methods, pavement preparation procedures, application geometry, usage precautions and safety procedures. These instructions are provided with each pallet of sealant.

E. PACKAGING

Packaging consists of individual boxes of sealant which are palletized into shipping units. Boxes contain a nonadherent film which permits easy removal of the sealant. Each pallet contains 72 boxes which are stacked in six layers of 12 boxes per layer. The weight of sealant in each box does not exceed 40 lbs. (18kg) and pallet weights do not exceed 2,880 lbs. (1310kg). Pallets of sealant are weighed and product is sold by the net weight of product. Sealant boxes are manufactured from double wall kraft board producing a minimum bursting test certification of 350 psi (241 N/cm²) and using water resistant adhesives. Boxes use tape closure and do not contain any staples. Boxes are labeled with the product name, part number, lot number, specification conformance, application temperatures and safety instructions. Palletized units are protected from the weather using a two mil thick plastic bag, a weather and moisture resistant cap sheet and a minimum of two layers of six month UV-protected stretch wrap. Pallets are labeled with the product part number, lot

number and net weight. Application instructions are provided with each pallet in a weather resistant enclosure.

F. WARRANTY

CRAFCO, Inc. warrants that CRAFCO sealants meet applicable ASTM, AASHTO, Federal or State specifications at time of shipment. Techniques used for the preparation of the cracks and joints prior to sealing are beyond our control as are the use and application of the sealants; therefore, Crafco shall not be responsible for improperly applied or misused sealants. Remedies against Crafco, Inc., as agreed to by Crafco, are limited to replacing nonconforming product or refund (full or partial) of purchase price from Crafco, Inc. All claims for breach of this warranty must be made within three (3) months of the date of use or twelve (12) months from the date of delivery by Crafco, Inc. whichever is earlier. There shall be not other warranties expressed or implied. For optimum performance, follow Crafco recommendations for sealant installation.

G. MANUFACTURERS:

1. ASPHALT RUBBER TYPE 2 SEALANT or Equal:

CRAFCO, INC.
6975 W. CRAFCO WAY, CHANDLER, AZ 85226
PHONE NO. 1-800-528-8242 FAX NO. (602) 961-0513

2. FOR CALSEAL or Equal:

WORLD ASPHALT
10144 WATERMAN ROAD, ELK GROVE, CA 95624
FAX No. (916) 686-2270

END OF SECTION 32 12 73

**END OF DIVISION 32
EXTERIOR IMPROVEMENTS**

DIVISION 33: UTILITIES

SECTION TITLE

33 05 31	Installation of PVC C-900
33 05 33	Installation of HDPE SDR-17
33 05 41	Installation of Vitrified Clay Pipe (VCP)
33 31 00	Sewer Pipe & Structures

SECTION 33 05 31 INSTALLATION OF PVC C-900

PART 1.00 – GENERAL

1.01 DESCRIPTION

A. Furnish and install PVC C-900 pipe and all associated mounting and connection materials as indicated and specified herein.

1.02 REFERENCES

A. American Water Works Association (AWWA): C-900: Standard for Polyvinylchloride (PVC) Pressure Pipe and Fabricated Fittings, 4 to 12-inch diameter.

PART 2.00 – PRODUCT

2.01 QUALITY ASSURANCE

A. Acceptance at site:

1. The quality of all materials shall be subject to inspection and approval by the Engineer. Materials shall be subject to rejection upon delivery on account of failure to meet specification requirements. If any material is damaged between the time of delivery and the completion of installation, it shall be repaired or replaced, if permitted by the Owner, at the expense of the Contractor.
2. Materials will be inspected for compliance with specified standards and the specifications herein. In addition, all materials shall be inspected for general appearance, dimensions and cracks.
3. Minor imperfections may be repaired, if permitted by the Owner, at the expense of the Contractor. All repairs shall be inspected before final approval by the Engineer.

PART 3.00 – EXECUTION

3.01 INSTALLATION

A. Inspection: Pipe and accessories should be inspected for defects and cleanliness prior to lowering into the trench. Any defective, damaged or unsound material should be repaired or replaced and foreign matter or dirt should be removed from the interior of the pipe and accessories before lowering into the trench.

B. Lowering Pipe and Accessories into Trench: All pipe, fittings, valves and accessories should be carefully lowered into the trench using suitable equipment in such a manner as to prevent damage to pipe and accessories. Pipe and accessories should never be dropped or dumped into the trench.

1. Caution: Heavy impact may cause a slight longitudinal indentation in the outside of the pipe and a crack on the inside. This will result in a split as soon as the pipe is placed under pressure. Any pipe that has been impacted should be examined closely for this type of damage.

C. No deflection at joint is allowed on 12-inch and smaller pipe. Pipe curvature should be accomplished by bending the pipe rather than deflecting the joints.

- D. If a pry bar or backhoe is used for any assembly, a wood plank should be placed between the pipe and the machine to prevent damage. In addition, the force applied must be steady and constant. Do not ram or hit the pipe. A come-a-long jack is recommended over a backhoe. The method of attachment to the pipe must not abrade or damage the pipe in any way. Steps must be taken during installation using these methods to maintain correct alignment of the pipe. A helper should be present in all cases to assist the operator in knowing when the reference mark is reached properly.
- E. Cutting: A square cut is essential to ensure proper assembly and/or beveling. PVC pipe can easily be cut with a fine-toothed hacksaw, handsaw or a power type saw with a steel blade or abrasive disc. (Do not use standard pipe cutters. The cutting wheel may crush or damage the pipe.) It is recommended that the pipe be marked around its entire circumference prior to cutting to ensure a square cut. Do not burn the pipe while cutting.
 - 1. Caution: Use proper personal protective equipment, such as gloves and safety glasses, when cutting PVC pipe.
- F. Beveling: Use a factory-finished beveled end as a guide to determine the angle and length of taper. The end may be beveled using a plastic pipe-beveling tool as shown, which will cut the correct taper automatically or such tools as the Stanley "Surform" No. 399, a coarse file or rasp. A portable sander or abrasive disc may also be used to bevel the pipe end. Remove all burrs and raised edges prior to assembly to avoid cutting the gasket.
- G. Reference Mark: With a pencil, crayon or permanent marker, locate the reference mark at the proper distance from the beveled end. The reference mark may also be located accurately by using a factory-marked end of the same pipe as a guide.

END OF SECTION 33 05 31

SECTION 33 05 33
INSTALLATION OF HDPE SDR-17
PART 1.00 – GENERAL

1.01 SCOPE

- A. This section specifies fusible high-density polyethylene pipe, including standards for dimensionality, inspection, quality, acceptable fusion practice, safe handling, storage and installation of the pipe by pipe bursting.
- B. Materials will be inspected for compliance with specified standards and the specifications herein. In addition, all materials shall be inspected for general appearance, dimensions and cracks.
- C. Minor imperfections may be repaired, if permitted by the District, at the expense of the Contractor. All repairs shall be inspected before final approval by the Engineer or other Representative of the District.

1.02 REQUIREMENTS

- A. This covers the work necessary to furnish and install, complete and in place, high-density polyethylene pipe (HDPE) by the pipe bursting method as shown on the drawings and specified herein. The Contractor shall provide all materials, labor, equipment and services necessary for bypass pumping and/or diversion of sewage flows, installation of HDPE pipe, reconnection of active building sewers and closed-circuit television (CCTV) inspection and testing of the completed pipe system.
- B. Contractor shall provide fusible high-density polyethylene pipe conforming to all standards and procedures. The pipe must also meet all inspection and material properties as described in this specification for installation by pipe bursting.
- C. Contractor shall be responsible for all installation processes and procedures associated with the installation by pipe bursting in accordance with this specification.

1.03 PIPE DESCRIPTION

- A. Pipe Supplier shall furnish high-density polyethylene pipe conforming to all standards and procedures, and meeting all testing and material properties as described in this specification.
- B. Pipe shall conform to the following dimensionality and general characteristics table:

<u>Pipe Description</u>	<u>Nominal Diameter (in.)</u>	<u>DR</u>	<u>Color</u>	<u>Pressure Class (psi)</u>	<u>Required Inner Diameter (in.)</u>
HDPE SDR-17	8	17		100	7.549

1.04 REFERENCE SPECIFICATIONS, CODES AND STANDARDS

- A. This section contains references to the following documents. They are a part of this section as specified and modified. Where a referenced document contains references to other standards,

those other standards are included as references under this section as if referenced directly. In the event of a conflict between the requirements of this section and those of the listed documents, the requirements of this section shall prevail.

- B. Unless otherwise specified, references to documents shall mean the documents in effect at the time of design, bid, or construction, whichever is earliest. If referenced documents have been discontinued by the issuing organization, references to those documents issued or otherwise identified by that organization or, if there are no replacement documents, the last version of the document before it was discontinued.
- C. Where document dates are given in the following listing, references to those documents shall mean the specific document version associated with that date, regardless of whether the document has been superseded by a version with a later date, discontinued or replaced.

Reference	Title
ASTM D585	Standard Guide for Insertion of Flexible Polyethylene Pipe Into Existing Sewers
ASTM D1248	Standard Specification for Polyethylene Plastics Extrusion Materials for Wire and Cable
ASTM D2657	Standard Practice for Heat Fusion Joining of Thermoplastic Pipe and Fittings
ASTM D3035	Standard Specification for Polyethylene (PE) Plastic Pipe (DR – PR) Based on Controlled Outside Diameter
ASTM D3261	Specification for Butt Heat Fusion Polyethylene (PE) Plastic Fittings for Polyethylene (PE) Plastic Pipe and Tubing
ASTM D3350	Standard Specification for Polyethylene Plastics Pipe and Fittings Materials
ASTM F714	Standard Specification for Polyethylene (PE) Plastic Pipe (SDR-PR) Based on Outside Diameter

1.05 CONTRACTOR SUBMITTALS

- A. Shop Drawings
 1. The Contractor shall submit catalog cuts, specifications, dimensioned drawings, installation details and sketches, and other pertinent information for the HDPE pipe installation work. All materials provided shall be fully in accordance with the requirements of the reference specifications specified above.
 2. The Contractor shall verify with the pipe manufacturer all connection details.
 3. The Contractor shall submit detail drawings and a written description of the construction procedure and sequence to bypass sewage flow, install pipe and reconnect building sewers.
- B. The Contractor shall furnish a certified affidavit of compliance for all HDPE pipe and fittings furnished confirming that the materials supplied fully conform to the requirements specified herein.

- C. The Contractor shall submit sewage bypass pumping and/or diversion plan for review by the Engineer at least 10 days prior to pipe installation. The sewage bypass pumping and/or diversion plan shall include an emergency response plan to be followed in the event of a failure of the bypass pumping and/or diversion system. The Contractor shall notify the Engineer 24 hours prior to commencing the bypass pumping operation. The Contractor's plan for sewage bypass pumping and/or diversion shall be satisfactory to the Engineer before the Contractor shall be allowed to commence sewage bypass pumping and/or diversion.
- D. The Contractor shall perform trial fusion welds and submit samples to the Engineer for review prior to installation of the pipe. Full penetration welds shall provide a homogenous material across the cross section of the weld. The fusion machine employed for the trial welds shall be the same machine to be utilized for the installation work.
- E. Fusion equipment shall be operated only by technicians who have been certified by the pipe or supplier and who have a minimum of two (2) years of experience fusion welding 8-inch or larger diameter pipelines. The technician's experience shall be documented in the HDPE pipe submittal.

1.06 QUALIFICATIONS OF THE CONTRACTOR AND QUALITY ASSURANCE

- A. Quality assurance procedures shall be performed by the pipe manufacturer fully in accordance with the requirements of this specification. The certification shall include certified laboratory data confirming that said tests have been performed on a sample of the pipe to be provided under this contract, or pipe from that production run and satisfactory results were obtained.
- B. Fusion joining and other procedures necessary for correct assembly of the polyethylene pipe shall be done only by personnel trained in those skills to the satisfaction of the Engineer and the pipe supplier.
- C. Only those tools designed for the aforementioned procedures, and approved by the pipe manufacturer or supplier and the Engineer, shall be used for assembly of pipe fittings to ensure proper installation. The heater plate shall be equipped with suitable means to measure the temperature of plate surfaces and to assure uniform heating such as thermometers or pyrometers.
- D. Pipe insertion equipment shall be operated only by technicians who have a minimum of three years of experience in the installation of HDPE pipe as specified herein. The technician's experience shall be documented in the HDPE pipe submittal.
- E. The Contractor shall televise the installed pipe after existing services have been reconnected and manhole work has been completed. The original television inspection video tape shall be provided to the Engineer.

1.07 WARRANTY

- A. The Contractor shall warrant the pipe bursting installation for a period of (1) year. During the Contractor warranty period, any defect which may materially affect the integrity, strength, function and/or operation of the pipe, shall be repaired at the Contractor's expense.
- B. In addition to the standard pipe warranty, the fusion services shall be warranted for one year per the fusion service provider's standard terms.

C. After a pipe section has been replaced by pipe bursting, and for a period of time up to one (1) year following completion of the project, the District may inspect all or portions of the new line. The specific locations will be selected at random by the District. If it is found that any of the pipes replaced by pipe bursting has developed abnormalities since the time of post-installation CCTV inspection, the abnormalities shall be repaired and/or replaced. As used in this document, the term "abnormalities" shall refer to any physical condition which negatively impacts the function of the sewer main or connected laterals, including groundwater infiltration, flat or reverse-grade condition, surface subsidence, out-of-roundness.

PART 2.00 – PRODUCT

2.02 GENERAL

A. The Contractor shall provide polyethylene pipe as specified. The pipe shall be made to diameter and tolerances in accordance with ASTM D3035. The minimum ratio of orthogonal diameters prior to installation shall be 0.95. All pipe shall be made from virgin grade material. The pipe shall be of the diameter and class shown or specified and shall be furnished complete and functional system.

B. Pipe materials shall be legibly marked by the pipe manufacturer. The following shall be printed on the pipe:

1. Name and trademark of manufacturer
2. Nominal pipe size
3. Dimension Ratio
4. The letters PE followed by the polyethylene grade per ASTM D1248, followed by the Hydrostatic Design Basis in hundreds of psi
5. Manufacturing Standard Reference
6. A production code from which the date and place of manufacture can be determined.

2.03 PIPE

A. Material

1. Pipe shall be high molecular weight, high-density polyethylene pipe.
2. The material shall be listed by the Plastic Pipe Institute (PPI) with a designation of PE 3408 and have minimum cell classification of 345434C, D, or E (inner wall shall be light in color) as described in ASTM D3350.
3. The pipe material shall meet the requirements for Type III, Class B or C, Category 5, Grade P34 material as described in ASTM D1248.
4. The pipe shall contain no recycled compound except that generated in the manufacturer's own plant from resin of the same specification from the same raw material pipe.
5. Pipe (excluding black colored pipe) stored outside shall not be recycled.
6. Pipe and fittings shall be made in conformance with ASTM F714 and ASTM D3261 as modified for the specified material.
7. The pipe shall be homogeneous throughout and free of visible cracks, holes, foreign inclusions or other injurious defects.
8. It shall be uniform in density and other physical properties.

B. Color

1. The inner wall shall be white, light green, light red (vitrified clay color) or natural. Black, yellow and light purple are not acceptable.

2. The outer wall shall be black, light green, white, light red (vitrified clay color) or natural. Yellow and light purple are not acceptable.
3. Both the inside and outside may be the same or different color.

C. Standard Dimension Ratio (SDR). Pipe shall conform to SDR-17.

2.04 JOINTS

A. Polyethylene pipe shall be joined by butt fusion welding, as specified in Part 3.06 herein.

2.05 BUILDING SEWER CONNECTIONS

A. Building sewers shall be connected to the main line by use of heat fused saddle as approved by the Engineer.

PART 3.00 – EXECUTION

E. The Contractor shall protect facilities from damage by forces generated by the pipe bursting equipment.

F. All work shall be performed as specified herein and supervised by personnel experienced in the installation of the pipe.

3.02 DELIVERY, STORAGE AND HANDLING OF PIPE AND MATERIALS

A. The Contractor shall transport, handle, and store pipe and fittings as recommended by manufacturer.

B. The Contractor shall exercise special care during the unloading, handling and storage of all polyethylene pipe to ensure that the pipe is not cut, gouged, scored or otherwise damaged. Any pipe segment which has cuts in the pipe wall exceeding ten (10) percent of the wall thickness shall be cut out and removed from the site at the Contractor's cost. The pipe shall be stored so that it is not deformed axially or circumferentially which may hinder pipe installation.

C. All polyethylene pipe without an ultraviolet inhibitor shall not be stored uncovered outside.

D. New pipe and fittings that are damaged before or during installation shall be repaired or replaced, as recommended by the manufacturer or required by the District. The costs of such repair or replacement shall be borne by the Contractor and be accomplished prior to proceeding with the project.

3.03 BYPASS PUMPING

A. During the execution of any work which may require or cause disruption of flow through a pipe, manhole, or other structure, the Contractor shall be responsible for the continuity of sanitary sewer service to each facility connected to the affected section of sewer line. The Contractor shall also bypass the main sewer flow around the pipe to be replaced or into adjacent sanitary sewers, if available.

- B. The Contractor shall provide bypass pumping and/or diversion when required for acceptance completion of the pipe installation. Bypass pumping shall consist of furnishing, installing, and maintaining all power, primary and standby pumps, appurtenances and bypass piping required to maintain existing flows and services. The Contractor shall submit a plan for bypass pumping and/or diversion in accordance with Paragraph 1.03C of this specification. The bypass pumping and/or diversion plan shall include an emergency response plan to be followed in the event of a failure of the bypass pumping and/or diversion system.
- C. Bypass pumping shall be done in such a manner as not to damage private or public property, or create a nuisance or public menace. The pumped sewage shall be in an enclosed hose or pipe that is adequately protected from traffic, and shall be redirected into a sanitary sewer system. Dumping or free flow of sewage on private property, gutters, streets, sidewalks, or storm drains is prohibited. The Contractor shall be liable for all cleanup, damages, and resultant fines in the event of a spill. After the work is completed, flow shall be returned to the replaced sewer and all temporary equipment removed.
- D. The Contractor shall take all necessary precautions to ensure that no private properties are subjected to a sewage backup or spill.
- E. The Contractor shall pump out or otherwise positively drain all locations, a minimum of once every 24 hours, where the building sewer is disconnected from the main sewer for more than one day. More frequent pumping shall be used in locations where wastewater flows exceed the capacity of temporary storage provided by the Contractor.

3.04 POINT REPAIR (not used)

3.05 PIPE JOINING

- A. The polyethylene pipe (HDPE) shall be assembled and joined at the site using the butt- fusion method to provide a leak proof joint. All equipment and procedures shall be used in strict compliance with the manufacturer's recommendations. Fusion shall be performed by technicians certified by a manufacturer of pipe fusion equipment.
- B. The Contractor shall cut out and replace defective fused joints in the HDPE at no additional cost to the District. Any section of the pipe with a gash, blister, abrasion, nick, scar, or other deleterious fault greater in depth than ten percent (10%) of the wall thickness (ASTM D585), shall not be used and must be removed from the site. However, a defective area of the pipe may be cut out and the joint fused in accordance with the procedures stated above.
- C. Terminal sections of pipe that are joined within the insertion pit shall be connected with, Electro Fusion Couplings. All connections shall be in conformance with the manufacturer's installation procedures.
- D. Sections of polyethylene pipe shall be joined into continuous lengths on the job site above ground. The joining method shall be the butt-fusion method and shall be performed in strict accordance with the pipe manufacturer's recommendations. Fusion equipment used in the

joining procedure shall be capable of meeting all conditions recommended by the pipe manufacturer, including, but not limited to, alignment, fusion temperature and fusion pressure. Electrofusion may be used for field closures as necessary.

- E. A fire retardant bag suitable enclosure shall be used with the heater plate to facilitate control of heating process and to protect the heater plate surfaces from dirt and other debris when not in use. The heater plate surfaces shall be cleaned regularly as needed to prevent accumulation of fusion welding residues or other substances that may result in faulty pipe joining.
- F. Butt-fusion shall conform to ASTM D2657 and pipe manufacturer's criteria for the type of joining. Joint strength shall be equal to that of the adjacent pipe.
- G. The inside and outside of pipe ends shall be cleaned with a cotton or non-synthetic cloth to remove dirt, water, grease and other foreign materials. The pipe ends shall be cut square and carefully aligned just prior to heating.
- H. After the proper melt pattern, the pipe ends shall be brought together in a firm, rapid motion applying sufficient pressure to form a pipe bead (1/8-inch to 3/16-inch in height) around and inside the entire circumference of the pipe.
- I. The inside weld bead shall be removed by cutting the bead away without scoring the inside wall of the pipe. The Contractor shall submit to the Engineer, for review as part of the submittal requirements, a de-beading process for use in removing the internal bead for the newly joined HDPE pipe sections.

3.06 PIPE INSTALLATION

- A. The Contractor shall install the pipe by utilizing a constant tension system with a hydraulic, pneumatic, or other type of bursting device that breaks apart the existing pipe. The void created by the bursting device shall be sufficient in size to accommodate the HDPE pipe which shall be installed immediately after the void has been formed.
- B. The Contractor shall utilize existing manholes where practical. Manhole inverts and bottoms shall be opened enough to permit access for installation equipment.
- C. The Contractor shall anchor the pipe to concrete structures or manholes after the pipe has been installed along the length of sewer replaced. The Contractor shall use a water stop or flange adaptor, as supplied by the manufacturer, which is firmly seated perpendicular to the pipe axis, around the pipe exterior and cast into the structure base or near the structure wall center. The structure or manhole connection shall be made a minimum of 12 hours after pipe insertion.
- D. The maximum pulling force that may be applied to any pipe shall be calculated as follows:

$$F = S * A$$

where: F = maximum pulling force on pipe (lb.)
S = maximum allowable stress (1,000 psi)

A = cross-sectional area of pipe wall (square inches)

The cross-sectional area of the pipe wall shall be calculated as follows:

$$A = (D - t) * t$$

where: D = outside diameter (in)

t = minimum wall thickness (in)

3.07 PIPE TESTING

- A. The Contractor shall successfully pressure test the installed pipe. Testing shall be in accordance with the District's standard specifications.
- B. The Contractor shall mandrel test the installed pipe. The mandrel test shall be in accordance with the District's standard specifications.

3.08 RECONNECTION OF BUILDING SEWERS

- A. The Contractor shall excavate, expose, and isolate all building sewer connections prior to replacing the existing sewer. The existing connections may be encased in mortar, concrete or reinforced concrete. There will be no additional compensation for the demolition of this concrete.
- B. The Contractor shall successfully test the installed pipe prior to reconnecting building sewers.
- C. The building sewers shall be connected by a heat fused saddle in accordance with pipe manufacturer's recommendations. Saddle connections shall be tested prior to reconnection of active building sewers.

3.09 RESTORATION

- A. Restoration of manholes
 - 1. The Contractor shall restore all manholes and associated surface areas to their original condition.
 - 2. The pipe upstream of the upstream Manhole shall be repaired and joined to sound, unbroken existing pipe. This may be done through excavation outside the Manhole or from the inside.
- B. Restoration of pits
 - 1. The Contractor shall restore all lateral, launching pits and associated surface areas to their original condition as specified in Street Cut and/or Encroachment Permits.
 - 2. Prior to backfilling lateral and launching pits the Contractor shall ensure that the new pipe is properly supported and on the required grade.

3.10 FINAL CLEANING AND TELEVISION INSPECTION

- A. Prior to final acceptance and final inspection of the pipe by the Engineer, the Contractor shall flush and clean all parts of the system by removing all accumulated construction debris, rocks, gravel, suds, silt and other foreign material from the pipe.
- B. After completion of the pipe installation, service reconnections, finish work at the manholes and final cleaning, the sewer shall be televised with a color CCTV tilt-head camera recorded in DVD format. The original DVD shall be provided to the Engineer.
- C. The District inspector shall arrange for District crew CCTV inspection of the pipe upon completion of the pipe installation and Manhole restoration.
- D. The District Inspector or other District Representative shall have access to observe and monitor operations at all times.
- E. The District will review DVDs to ensure compliance with requirements listed in this specification.

PART 4.00 – PAYMENT

4.01 PIPE INSTALLATION

- A. Payment will be made for the actual length of pipe installed. The length shall be measured from centerline of manhole to centerline of manhole. The unit price per lineal foot installed shall include all materials, labor, equipment, and supplies necessary for the complete pipe installation, CCTV inspections and re-inspections, video tapes, point repairs, flow bypass pumping and/or diversion, connection to manholes, testing, cleaning and restorations.

4.02 BUILDING SEWER RECONNECTIONS

- A. Payment will be made for the actual number of building sewers reconnected. The unit price per building sewer connected shall include all excavations, restorations, materials, labor, equipment and supplies necessary to complete the work as specified.

END OF SECTION 33 05 33

SECTION 33 05 41
INSTALLATION OF VCP (VITRIFIED CLAY PIPE)

PART 1.00 – GENERAL

1.03 DESCRIPTION

A. Furnish and install vitrified clay pipe (VCP) and all appurtenances as specified, complete and in place, as shown on the plans, as specified in this Section and in Section 2700, Sewer System Pipeline & Structures.

1.04 REFERENCES

B. Commercial Standards:

ASTM C 12	Practice for Installing Vitrified Clay Pipe Lines
ASTM C 301	Test Methods for Vitrified Clay Pipe
ASTM C 700	Specification for Vitrified Clay Pipe, Extra Strength Standard Strength and Perforated

PART 2.00 – PRODUCT

2.06 QUALITY ASSURANCE

D. Acceptance at site:

4. The quality of all materials shall be subject to inspection and approval by the Engineer. Materials shall be subject to rejection upon delivery on account of failure to meet specification requirements. If any material is damaged between the time of delivery and the completion of installation, it shall be repaired or replaced, if permitted by the Owner, at the expense of the Contractor. Individual sections of pipe may be rejected for any of the following defects:

- a. A single crack in the pipe or fitting extending through the entire thickness, regardless of the length of such cracks; a single crack which extends through one-fifth (1/5th) of the barrel thickness and is over two (2) inches long. Any surface firing crack that is more than 1/32 inch wide at its widest point.
- b. Lumps, blisters, pits, or flakes on the interior surface of a pipe or fitting.
- c. When the spigot or the bell of the pipe varies from a true circle more than three percent (3%) of its nominal diameter.
- d. Any piece broken from the spigot end that extends through the barrel.
- e. Tramp clays or other foreign matter fused to the exterior or interior surface of the pipe or fittings.

5. Materials will be inspected for compliance with specified standards and the specifications herein. In addition, all materials shall be inspected for general appearance, dimensions and cracks.
6. Minor imperfections may be repaired, if permitted by the Owner, at the expense of the Contractor. All repairs shall be inspected before final approval by the Engineer.
7. All pipe and fittings shall be true, circular, and concentric with the barrel of the pipe, on a plane at right angles to the longitudinal axis of the pipe. At no point shall the thickness of the pipe spigot be less in thickness than the shell of the main body of the pipe. Socket ends shall be square with the longitudinal axis and shall be true, circular and concentric with the barrel of the pipe.
8. Clay pipe and fittings shall be extra strength, glazed, unless otherwise shown, and shall conform to the requirements of ASTM C 700.

PART 3.00 – EXECUTION

3.11 INSTALLATION

G. Installation: Installation of the clay pipe shall be performed in accordance ASTM C 12. Pipe laying shall proceed upgrade with spigot ends pointing in the direction of flow. After a section of pipe has been lowered into the prepared trench, supported along the full length of the pipe section, and immediately before joining the pipe, the ends of the pipe to be joined shall be cleaned and the rubber gasket lubricated, all in accordance with the pipe manufacturer's written instructions. Assembly of the pipe length shall be performed in accordance with the recommendations of the manufacturer. All special tools and appliances required for joining the pipe shall be provided by the Contractor. When cutting or machining of the pipe is necessary, only tools and methods recommending in writing by the pipe manufacturer and approved by WCWD shall be utilized.

H. Inspection: Pipe and accessories should be inspected for defects and cleanliness prior to lowering into the trench. Any defective, damaged or unsound material should be repaired or replaced and foreign matter or dirt should be removed from the interior of the pipe and accessories before lowering into the trench.

I. Lowering Pipe and Accessories into Trench: All pipe, fittings and accessories should be carefully lowered into the trench using suitable equipment in such a manner as to prevent damage to pipe and accessories. Pipe and accessories should never be dropped or dumped into the trench.

2. Caution: Heavy impact may cause a slight longitudinal indentation in the outside of the pipe and a crack on the inside. This will result in a split as soon as the pipe is placed under pressure. Any pipe that has been impacted should be examined closely for this type of damage.

J. Minimum curvature radius requirements for VCP are shown on the table below. All designs of curvilinear sewers are subject to approval by WCWD.

VCP						
Nominal Pipe Diameter (inches)	Max. Allowed Deflection (Degrees)	Equation For Minimum Radius (L = Pipe Length)	R (feet)			
			4'	6'	8'	10'
4 to 12	2.4	R = 24.0(L)	96	144	192	~
15 to 24	1.8	R = 32.0(L)	128	192	256	320
27 to 36	1.2	R = 48.0(L)	192	288	384	480
39 to 48	0.9	R = 64.0(L)	256	384	512	640

K. If a pry bar or backhoe is used for any assembly, a wood plank should be placed between the pipe and the machine to prevent damage. In addition, the force applied must be steady and constant. Do not ram or hit the pipe. A come-a-long jack is recommended over a backhoe. The method of attachment to the pipe must not abrade or damage the pipe in any way. Steps must be taken during installation using these methods to maintain correct alignment of the pipe. A helper should be present in all cases to assist the operator in knowing when the reference mark is reached properly.

H. Beveling: Use a factory-finished beveled end as a guide to determine the angle and length of taper. The end may be beveled using a plastic pipe-beveling tool as shown, which will cut the correct taper automatically or such tools as the Stanley "Surform" No. 399, a coarse file or rasp. A portable sander or abrasive disc may also be used to bevel the pipe end. Remove all burrs and raised edges prior to assembly to avoid cutting the gasket.

I. Reference Mark: With a pencil, crayon or permanent marker, locate the reference mark at the proper distance from the beveled end. The reference mark may also be located accurately by using a factory-marked end of the same pipe as a guide.

J. Manholes: VCP entering and leaving manholes or other structures shall have two (2) standard joints within three (3) feet of the manhole base. One (1) joint shall be incorporated in the manhole base or installed immediately adjacent to the manhole base and there shall not be less than twelve (12) inches between the two (2) joints.

END OF SECTION 33 05 41

SECTION 33 31 00
SEWER PIPE & STRUCTURES

PART 1.00 - GENERAL

1.05 DESCRIPTION

A. Provide sewer pipelines and structures where shown on the Drawings, as specified herein, and as needed for a complete and proper installation.

B. Description: The work includes, connections to existing work, required piping and fittings, related earthwork, underground structures, concrete work and testing necessary to provide a complete, functioning system.

1. Sanitary Trunk and Main Sewer:
 - a. Vitrified Clay Pipe – High Strength (VCP-HS), Bell and Spigot (see Section 2800A).
 - b. C900 DR-14, PVC, Bell and Spigot (see Section 2800B).
 - c. High Density Polyethylene Pipe HDPE SDR-17 (see Section 2800C).
2. Sanitary Side Sewer: Minimum 4-inch in diameter
 - a. C900 DR-14, PVC, Bell and Spigot.
 - b. VCP-HS, Bell and Spigot.
 - c. PVC Schedule 80.

C. Related Work Specified in Other Sections:

1. Earthwork - Section 02200
2. Paving - Section 02500
3. Asphalt Sealant - Section 02525
4. Asphalt Pavement Coating & Crack Fillers - Section 02550
5. Concrete - Section 03001.

1.06 QUALITY CONTROL

A. Reference Specifications:

1. Site Preparation - Section 02100
2. Earthwork - Section 02200
3. Paving - Section 02500
4. Asphalt Sealant - Section 02525
5. Asphalt Pavement Coating & Crack Fillers - Section 02550
6. Concrete - Section 03001.

1.07 SUBMITTALS

A. Shop Drawings and Product Data:

1. Submittals shall include the following items according to the General Conditions:

- a. Pipe and fittings.
- b. Manholes and frames and covers.
- c. Couplings and adapters.
- d. Bonding compounds.

2. Submit shop drawings to show compliance with Contract Documents and include:

- a. Materials classification and identification.
- b. Required supports, anchorage and restraints.
- c. Special installation requirements.
- d. Deviations.

B. Test Reports: Submit copies of reports of structural integrity and performance test date in the number and as required by the General Conditions of this Section.

C. Certificates: Submit affidavits for all other materials not included in the above list certifying that materials furnished conform with the requirements of this Section, unless otherwise directed by the Engineer.

D. Manufacturer's Instructions: Submit Epoxy Bonding Compound manufacturer's detailed product application instructions in advance of the Work.

1.08 TEMPORARY SEWER SYSTEM- Not Used

1.09 TRANSPORTATION AND HANDLING

A. Arrange deliveries of products in accord with construction schedules, coordinate to avoid conflict with work and conditions at the site.

- 1. Deliver products in undamaged condition, with identifying labels intact and legible.
- 2. Immediately on delivery, inspect shipment to assure compliance with requirements of Contract Documents and approved submittals, and that products are properly protected and undamaged.

B. Provide equipment and personnel to handle products by methods to prevent damage to products.

1.10 STORAGE AND PROTECTION

A. Store products in accordance with manufacturer's instructions.

- 1. Store products subject to damage by the elements in weather tight enclosures.
- 2. Maintain temperature and humidity within the ranges required by manufacturer's instructions.

- B. Exterior Storage:
 - 1. Store fabricated products above the ground, on blocking skids, to prevent soiling or staining.
 - 2. Store loose granular materials in a well-drained area on solid surfaces to prevent mixing with foreign matter.
- C. Arrange storage in a manner to provide easy access for inspection. Make periodic inspections of stored products to assure that products are maintained under specified conditions, and free from damage.
- D. Protection after Installation:
 - 1. Provide substantial coverings as necessary to protect installed products from damage by traffic and subsequent construction operations. Remove when no longer needed.

PART 2.00 - PRODUCTS

- 2.07 PIPING MATERIALS – MAIN SEWER
 - C. Ells, tees, reducing tees, wyes, couplings, increasers, crosses, transitions and end caps shall be of the same Type and Class of materials as the pipe, or of material having equal physical and chemical properties.
- 2.08 PIPING MATERIALS – SIDE SEWER
 - D. Ells, tees, reducing tees, wyes, couplings, increasers, crosses, transitions and end caps shall be of the same Type and Class of materials as the pipe, or of material having equal physical and chemical properties.
 - E. C900 DR-14, Polyvinyl Chloride (PVC) ANSI/AWWA C900: C900 PVC pipe to be any color except BLUE color.
 - F. VCP, Vitrified Clay Pipe:
 - 1. Pipe and fittings shall conform to ASTM C700 for extra strength, unglazed vitrified clay pipe. Joints shall be bell and spigot resilient material conforming to the requirements of ASTM C425.2.

Manufacturer:

- a. Gladding McBean & Co.
- b. Or equal.

2.09 UNDERGROUND CONVEYANCE STRUCTURES

- A. Shop coat ferrous metal surfaces with "BITUMINOUS COATING", except where other equivalent types of protective coatings are manufacturer's standard. All covers shall have "WCWD" or "Sanitary Sewer" marked on them.
- B. Manhole Frame and Cover shall be cast iron conforming to ASTM A48, Class 30 and District Standard Detail Number A-7.

Manufacturer:

- a. American Dutch Foundry A-208.
- b. Phoenix Iron Works equivalent.
- c. Or equal.

- C. Underground Structure Components (Manholes)
 1. Precast concrete sections shall be inspected when delivered to the job site. Cracked or defective sections shall be rejected and removed from the job-site.
 2. Precast Materials:
 - a. Eccentric Cone, Precast Bottom and Riser Sections: ASTM C478.
 - b. Compression Elastomer Joints: ASTM C443 or Mastic Joints with Ram Nek, Kent Seal or equal.
 - c. Grade rings shall conform to District Standard Detail Number M-5.
 3. Nonshrinking Mortar:
 - a. One part portland cement, one part sand and one part shrinkage-correcting aggregate.

Manufacturer:

- (1) Master Builders "Embeco".
- (2) Sika "Kemox".
- (3) Sonneborn "Ferrolith G-DS".
- (4) Or equal.

4. Manhole Waterstops

- a. Manhole waterstops shall be manufactured of elastomeric plastic. The waterstops shall be corrosion, acid and alkali resistant and suitable for use in wastewater. The waterstop shall be used when grouting sewer line penetrations of existing manholes or installation in new manholes as shown on the Drawings.

Manufacturer:

- (1) Fenco, Concrete Manhole Adapters.
- (2) Or equal.

2.10 MISCELLANEOUS MATERIALS

A. Banded Rubber Coupling

1. Banded rubber coupling used to connect new pipe to existing pipe shall be completed by a flexible coupling consisting of a neoprene gasket and stainless steel shear ring.

Manufacturer:

- a. Fernco Pipe Connectors, Coupling Series 1055 with Sear Ring SR-18.
- b. Mission Clay Products Corp., Band Seal.
- c. Joints, Inc. "Ceramicweld" couplings.
- d. Or equal.

B. Bituminous Coating

Manufacturer:

- a. Koppers "Bitumastic 50".
- b. Tnemec "450 Heavy Tnemecol".
- c. Porter Coatings Div. of Porter Paint Co. "Tarmastic 101".
- d. Or equal.

C. Gasket Joint Lubricant

1. Contractor may, at his option, use either pipe manufacturer's recommended gasket lubricant or a hydrated bentonite gel applied per manufacturer's instructions as joint lubricant.

Manufacturer:

- a. American Colloid Co. "Volclay".
- b. Or equal.

D. Banded Rubber Coupling

1. Two-component system suitable for bonding wet or dry concrete to each other and to other materials.

Manufacturer:

- a. Copolymer Chemicals, Inc., Detroit, MI, "Crete-Tac".
- b. H. B. Fuller Co., St. Paul, MN, "BC-013-14".
- c. W. R. Grace Co., A. C. Horn Products, Chicago, IL, "Thiopoxy-63".
- d. Or equal.

E. Tracer Tape

1. Warning tape shall be 6 inches wide, green plastic coated metallic tape with the words "CAUTION BURIED SEWER LINE BELOW" printed on each side.

2. The tape shall be a minimum of 5.5 mils thick and have an aluminum foil center.
Minimum tensile strength shall be 5000 psi.

Manufacturer:

- a. Mark-line, Allen Systems Inc.
- b. Bradley Co.
- c. Line-Guard
- d. Or equal.

PART 3.00 - EXECUTION

3.12 GENERAL

The following construction methods are not intended to be completely detailed. Provide properly functioning systems per applicable referenced codes, manufacturer's instructions and standards, best accepted safe practice of the Trade and District Standard Details.

3.13 EXISTING UTILITIES AND SERVICES

- A. General: Refer to section 02100.
- B. New Connections: Make complete connections to new or existing structures and utilities. Repair damage caused as a result of Work to comply with the Contract Documents at no increase in the Contract sum.

3.14 PIPING EARTHWORK

- A. Excavation and Backfill:
 1. Perform excavating and backfilling required for the Work, per the procedures specified in Division 31, Earthwork, and the following requirements.
 2. Excavate to approximate bottoms and trim to lines and elevations in manner specified under Embedment. Embedment starts at final trimmed trench elevation and ends at 8 inches above the top of the pipe or component. Backfill starts 8 inches above pipe or component. Use manual methods of compaction of embedment and backfill materials in areas adjacent to buried construction and utilities to avoid damage or unscheduled service interruption. Limit trench width or embankment conditions to preclude excessive earth loads on installed piping system.
- B. Embedment (Bedding and Initial Backfill)
 1. Trim rough trench to subgrade and provide geotextile fabric and embedment as defined in Division 31, Earthwork, and as indicated on the Drawings for full width of the trench. Shape bedding to provide full length barrel support and to prevent point loading at pipe joints. Carefully place bedding under pipe haunches.

2. Hand-grade base to proper grade ahead of pipe laying. Base shall provide a firm, unyielding support along entire pipe length. Grade the top of the base to the bottom of the pipe ahead of pipe laying for the full width of the trench.
3. Excavate bell holes at each joint to permit proper assembly and inspection of entire joint.
4. Particular attention must be given to the area of the pipe bedding from the flow line to the centerline of the pipe to ensure that firm support is obtained to prevent any lateral movement of the pipe during the final backfilling of the pipe zone.
5. Backfill the area of the pipe bedding from the bottom of the trench to the springline of the pipe with trench bedding material. The material around the pipe shall be placed in 4-inch layers and thoroughly tamped with approved tamping sticks supplemented by "walking in" and slicing with a shovel. Backfill the area of the pipe zone from the springline to a point 8-inches above the top outside surface of the barrel of the pipe with trench bedding and backfill material.
6. When the bottom of the excavation cannot support the pipe, excavate to further depth and refill to pipe laying grade with Class I material per Section 02200.

3.15 PIPING INSTALLATION

A. General:

1. Prior to lowering pipe and fittings into trench, clean and visually inspect for apparent defects. Remove defective pipe from the site promptly. Carefully lower all pipe, fittings, etc. into the trench with suitable tools or equipment in such a manner as to prevent damage to the pipe, lining, coating, fitting or other appurtenances. Prior to and during laying of pipe, maintain excavations dry and clear of water and extraneous materials.
2. Where existing sewer pipe is embedded in an underground concrete structure, provide joints within the specified distances of exterior surface of the structure, capable of absorbing movement without leakage.
3. Clean and lubricate elastomeric joints prior to assembly. Check recessed gaskets with feeler gages.
4. During the progress of construction, protect open ends of all pipe and fittings to prevent the admission of foreign matter. Place plugs or end boards in the ends of all installed work whenever work stops. Plugs shall be commercially manufactured products. Do not remove plugs unless or until the trench is dry.

5. The new main and side sewer alignments shall be marked with metal tracer tape two feet below finished grade, centered above the pipe. The wording on the tape shall be faced to be readable from the top of the trench. Backfill on top of the tape shall be carefully placed to prevent tearing or damaging the tape. Terminate 1 foot of tape inside manhole placed under grade rings or frame of cover prior to grouting in place.

B. Construction Tolerances:

1. Install the gravity lines at design line and grade as shown on the Drawings.

C. Sanitary Side Sewers including TV Inspection required of Side Sewers:

1. The WCWD TV inspection indicates multiple side sewers will be encountered during removal and replacement of the sewer mains. The Contractor may use discussions with homeowners, TV inspection, dye testing, ferreting methods, and other methods approved by the Engineer to determine locations of live laterals. The side sewer locations shown on the Drawings are approximate and for bidding purposes only.
2. The Contractor shall TV inspect any side sewer for a minimum 100 feet from the main line or until camera cannot be pushed into side sewer from main line trench. Contractor shall record all inspections with a DVD/USB Drive record provided to District in standard AVI or MP4 format including the date and site address.
3. Reconnect active sanitary side sewers as they are encountered by the end of each work day. Connection of the new side sewer piping to exiting side sewer piping shall be completed by stainless steel banded rubber transition couplings.
4. The new side sewer shall match the existing pipe size, but tap into mainline shall not be less than 4 inches in diameter.
5. Any inactive sanitary side sewer encountered shall be cut clean and sealed with non-shrink grout at the trench wall. The Engineer and Contractor shall review TV Inspection of side sewer and confirm a side sewer is inactive before sealing operations begin.

D. Manholes:

1. Manholes shall be constructed as specified in District Standard Detail M-1.
2. Concrete work: Refer to Division 3.

3.16 FIELD QUALITY CONTROL

A. Flushing Work:

1. Provide temporary and permanent piping, equipment, and materials required for flushing work. Coordinate cleaning of connections to existing systems with the Engineer.
2. If equipment and piping systems are not properly cleaned and flushed, pay for resultant damage, necessary cleaning and flushing of systems to which connection was made, and subsequent inspection at no additional cost to the District.
3. Clean out settled debris and dirt in the manholes after the flushing operation.
4. Clean the sewer main prior to TV inspection.

B. Cleaning Gravity Lines:

1. Sanitary sewer lines shall be cleaned by means of a pneumatic sewer cleaning ball and/or hydroflushing as directed by the Engineer. The sewer ball shall be of the Wayne type or approved equal. The sewer ball shall be the appropriate size to fit flush with the inside diameter of the sewer main to be cleaned. The cleaning ball shall be introduced into the sewer at the uppermost manhole and passed down grade by a line with a sufficient head of water to carry the ball slowly along the inside of the pipe.
2. Where sewer balls will not pass through the sewer, the cleaning ball shall be removed and the obstruction removed.
3. The Contractor shall be required to remove all debris collected during the cleaning operation.
4. After cleaning the sewer main the Contractor shall thread a 1/4" nylon rope through the pipeline from manhole to manhole. Ten (10) feet of slack shall be left in each manhole and the rope shall be securely attached to the manhole.

3.17 TV INSPECTION

A. At the completion of initial cleaning, the Contractor shall arrange for the Engineer to perform a television inspection of all new sewer lines, at the District's expense. The Contractor shall follow the procedures and make any necessary repairs.

B. The District may conduct at their expense a TV inspection of the new sewer lines at the eleventh month of the warranty period. The Contractor has the option of being present during the TV inspection. The Contractor shall repair or replace at his expense any damaged sections of pipe such as leaking joints, cracked or severed pipe, sags in the line, etc., identified from the District's TV inspection by the Engineer.

C. The following observations from television inspections by the Engineer shall be considered defects in the construction of sewer pipelines and will require correction by the Contractor at no expense to the District prior to final paving:

1. Low spots (1" or greater - trunk and main lines only).
2. Joint separations (three quarters inch [3/4"] or greater opening between pipe sections).
3. Cocked joints present in straight runs or on the wrong side of pipe curves.
4. Chips in pipe ends.
5. Cracked or damaged pipe.
6. Dropped Joints.
7. Infiltration.
8. Debris or other foreign objects.
9. Other obvious deficiencies.
10. Irregular condition without logical explanation.

The District shall conduct a television inspection after repairs have been completed. The Contractor shall be responsible for the cost to the District to conduct the additional television inspection.

END OF SECTION 33 31 00

END OF DIVISION 33
UTILITIES