



**ADDENDUM NO. 1
TO THE**

**Manchester Avenue Potable Water Pipeline Replacement Project
for Olivenhain Municipal Water District**

June 7, 2021

The following addendum shall be made part of the Bidding Opportunity. **The deadline for submitting proposals REMAINS UNCHANGED at 2:00 p.m. Thursday June 24, 2021 at 1966 Olivenhain Road, Encinitas, CA 92024.**

ADDENDUM SECTION 1 – PRE-BID QUESTIONS

1. Q: Since this project is a combination of night work and daytime work, will establishing control, tying out of monuments and staking be allowed to be performed for the whole project during daytime hours?
A: It will depend on your planned traffic impacts and will be subject to the City of Encinitas' approval. If the staking will require the closure of lanes, etc. as shown in the preliminary TCP for those nighttime phases, then, yes, the work will need to be done at night.

ADDENDUM SECTION 2 – REVISIONS

1. Bid Schedule – **REMOVE** Bid Schedule
REPLACE with Base Bid and Add Alternate - Bid Schedule – Amended
2. Section 00810 Special Provisions – **REMOVE** Special Provisions
REPLACE with Section 00810 Special Provisions – Amended
3. Section 01150 Measurement and Payment – **REMOVE** Measurement and Payment
REPLACE with Section 01150 Measurement and Payment – Amended
4. Section 01305 Work Restrictions – **REMOVE** Work Restrictions
REPLACE with Section 01305 Work Restrictions – Amended
5. Section 02743 AC Paving – **REMOVE** AC Paving
REPLACE with Section 02743 AC Paving – Amended
6. **ADD** Sheet 4 – Amended

END OF ADDENDUM NO. 1

Attachments: Base Bid and Add Alternate- Bid Schedule – Amended
Section 00810 Special Provisions – Amended
Section 01150 Measurement and Payment – Amended
Section 01305 Work Restrictions – Amended
Section 02743 AC Paving – Amended
Sheet 4 – Amended

June 7, 2021

MANCHESTER AVE. POTABLE WATER PIPELINE REPLACEMENT PROJECT

ADDENDUM NO. 1

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APPROVED:

OLIVENHAIN MUNICIPAL WATER DISTRICT



Jason P. Hubbard, P.E.
Engineering Manager

June 7, 2021

MANCHESTER AVE. POTABLE WATER PIPELINE REPLACEMENT PROJECT

ADDENDUM NO. 1

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BASE BID - BID SCHEDULE – AMENDED
For
MANCHESTER AVENUE POTABLE WATER PIPELINE REPLACEMENT PROJECT

Item	Description	Quantity	Unit	Unit Cost	Total Amount
1	Mobilization, Demobilization, Bonds, Permits, Insurance, & Cleanup ¹	1	LS	\$ _____	\$ _____
2	Excavation Support Systems	1	LS	\$ _____	\$ _____
3	Traffic Control (Day Work)	1	LS	\$ _____	\$ _____
4	Traffic Control (Night Work)	1	LS	\$ _____	\$ _____
5	Storm Water Pollution Prevention	1	LS	\$ _____	\$ _____
6	Potholing	1	LS	\$ _____	\$ _____
7	Dewatering	1	LS	\$ _____	\$ _____
8	Install New 12-inch PVC	1860	LF	\$ _____	\$ _____
8a	12-inch PVC	1860	LF	\$ _____	\$ _____
9	Install New 10-inch PVC	15	LF	\$ _____	\$ _____
9a	10-inch PVC	15	LF	\$ _____	\$ _____
10	Install New 8-inch PVC	1010	LF	\$ _____	\$ _____
10a	8-inch PVC	1010	LF	\$ _____	\$ _____
11	Install New 6-inch PVC	450	LF	\$ _____	\$ _____
11a	6-inch PVC	450	LF	\$ _____	\$ _____
12	Install 18-inch PVC Casing with 12-inch PVC Carrier Pipe	12	LF	\$ _____	\$ _____
12a	18-inch PVC	12	LF	\$ _____	\$ _____
13	Install 12-inch Occlude Valve	1	EA	\$ _____	\$ _____

14	Install 12-inch RWGV	17	EA	\$ _____	\$ _____
15	Install 10-inch RWGV	1	EA	\$ _____	\$ _____
16	Install 8-inch RWGV	5	EA	\$ _____	\$ _____
17	Install 6-inch RWGV	14	EA	\$ _____	\$ _____
18	Install 2-inch Blow Off Assembly per Std Dwg A-1.2	11	EA	\$ _____	\$ _____
19	Install 2-inch Manual Air Release Assembly per Std Dwg A-2.2	12	EA	\$ _____	\$ _____
20	Install 6-inch Fire Hydrant/Fire Service Reconnection	10	EA	\$ _____	\$ _____
21	Install Fire Hydrant Assembly with relocated fire hydrant per Std Dwg C-1.2	3	EA	\$ _____	\$ _____
22	Install Fire Service Assembly with relocated RPDC per Std Dwg C-3.1	1	EA	\$ _____	\$ _____
23	Install 1-inch Water Service Reconnection per Std Dwg B-1.1 and Plan Detail	18	EA	\$ _____	\$ _____
24	Install 1.5-inch Water Service Reconnection per Std Dwg B-1.2 and Plan Detail	2	EA	\$ _____	\$ _____
25	Install 2-inch Water Service Reconnection per Std Dwg B-1.2 and Plan Detail	3	EA	\$ _____	\$ _____
26	Install 1-inch Water Service with relocated meter per Std Dwg B-1.1	8	EA	\$ _____	\$ _____
27	Install 1-inch Water Service per Std Dwg B-1.1 and RBPB per Std Dwg C-2.1 with relocated meter and assembly	2	EA	\$ _____	\$ _____
28	Connection 10+01.25	1	LS	\$ _____	\$ _____
29	Connection 15+01.50	1	LS	\$ _____	\$ _____
30	Connection 20+06.25	1	LS	\$ _____	\$ _____

31	Connection 22+39.26	1	LS	\$ _____	\$ _____
32	Connection 22+57.23	1	LS	\$ _____	\$ _____
33	Connection 28+76.25	1	LS	\$ _____	\$ _____
34	Connection 50+67.00	1	LS	\$ _____	\$ _____
35	Connection 51+01.86	1	LS	\$ _____	\$ _____
36	Connection 63+73.02	1	LS	\$ _____	\$ _____
37	Pipeline and Facility Abandonment	1	LS	\$ _____	\$ _____
38	Remove and Replace Concrete Drainage Channel	1	LS	\$ _____	\$ _____
39	Remove and Replace Median Concrete Curb	1	LS	\$ _____	\$ _____
40	Cathodic Protection	1	LS	\$ _____	\$ _____
41	Site Restoration	1	LS	\$ _____	\$ _____
42	Potholing Not Shown on Plans	20	EA	\$ _____	\$ _____
43	Allowance for Unsuitable Material	50	CY	\$ _____	\$ _____
44	Replace Traffic Loops	12	EA	\$ _____	\$ _____
45	Base Pavement Asphalt Concrete	7,500	SF	\$ _____	\$ _____
46	Base Pavement Asphalt Concrete (Asphalt greater than or equal to 10- inches)	2,000	SF	\$ _____	\$ _____
47	Final Pavement Asphalt Concrete	18,685	SF	\$ _____	\$ _____
48	Rubber Polymer Modified Slurry	11,500	SY	\$ _____	\$ _____
49	Restriping	1	LS	\$ _____	\$ _____

TOTAL AMOUNT OF BASE BID - BID SCHEDULE

\$ _____

TOTAL AMOUNT OF BASE BID - BID SCHEDULE (IN WORDS)

**ADD ALTERNATE - BID SCHEDULE – AMENDED
For
MANCHESTER AVENUE POTABLE WATER PIPELINE REPLACEMENT PROJECT**

Item	Description	Quantity	Unit	Unit Cost	Total Amount
1	Install Temporary Traffic Control Cameras at the Encinitas Blvd./Manchester Ave. Intersection	1	LS	\$ _____	\$ _____

TOTAL AMOUNT OF ADD ALTERNATE - BID SCHEDULE*

\$ _____

TOTAL AMOUNT OF BASE BID - BID SCHEDULE (IN WORDS)*

Amounts shall be shown in both words and figures, where indicated. In case of discrepancy, the amount shown in words will govern.

The above prices shall include all labor, materials, removal, overhead, profit, insurance, and incidentals required to complete the work.

¹Mobilization is limited to 8% of the total bid price for Base Bid - Bid Schedule.

*Basis for the award shall be based on the total Base Bid price; all other bid items, additive alternates, or schedules, regardless of order or priority, may be awarded at the District's discretion.

Note: By submission of this Bid, the Contractor acknowledges the two year guarantee as outlined in Section 5-14 of the General Provisions and has included said expenses as a part of this Bid.

SECTION 00810 – SPECIAL PROVISIONS – AMENDED

1.01 DEFINITIONS

Whenever the following terms occur in the Contract Documents, the meaning shall be interpreted as follows:

ATTORNEY FOR Owner – Alfred E. Smith, Nossaman LLP, 777 South Figueroa Street, 34th Floor, Los Angeles, CA 90017, (213) 612-7831

BOARD OF DIRECTORS - Board of Directors of the Olivenhain Municipal Water District.

CONTRACT TIME – The number of consecutive days stated in the contract documents commencing from the date of the notice of award, for completion of the Work.

DATE OF AWARD OF CONTRACT - The date of the District Resolution (formal action of the Board of Directors of the District) awarding the Contract.

DISTRICT - Olivenhain Municipal Water District (OMWD), 1966 Olivenhain Road, Encinitas, California 92024, (760) 753-6466.

DISTRICT'S REPRESENTATIVE - The Owner's Representative.

DRAWINGS or PLANS – Construction drawings entitled, “**MANCHESTER AVENUE POTABLE WATER PIPELINE REPLACEMENT PROJECT**” and referenced Standard Drawings or Regional Standard Drawings.

ENGINEER / DESIGN ENGINEER – Hoch Consulting, APC, 804 Pier View Way, Suite 100, Oceanside, CA, 92054, 858-431-9767, and all subconsultants.

OWNER - Olivenhain Municipal Water District (OMWD), 1966 Olivenhain Road, Encinitas, California 92024, Tel: (760) 753-6466; Fax: (760) 753-1578.

OWNER'S REPRESENTATIVE - The person or engineering/architectural firm authorized by the District to represent it during the performance of the work and until final acceptance. The Owner's Representative is referred to throughout the Contract Documents as if singular in number and masculine in gender. The Owner's Representative means the Owner's Representative and his assistants.

PUBLIC WORKS SPECIFICATIONS - Standard Specifications for Public Works Construction 2006 Edition by APWA/AGC, the "GREENBOOK" with 2019 Errata.

REGIONAL STANDARD DRAWINGS – Standard Drawings for Agencies in the San Diego Region as recommended by the Regional Standards Committee and published by the San Diego County Department of Public Works, October 2018.

SPECIAL PROVISIONS - Section 00810 of the specifications.

SPECIFICATIONS - Division 1 to 17 of the technical specifications contained in these Contract Documents, and those technical specifications contained in the Drawings.

STANDARD DRAWINGS - Drawings A-1.1 through G-15 of the Olivenhain Municipal Water District, Standard Specifications and Drawings for the Construction of Water, Recycled Water, and Sewer Facilities, dated December 2017, with revisions.

STANDARD SPECIFICATIONS - Divisions 1 through 16 of the Olivenhain Municipal Water District, Standard Specifications and Drawings for the Construction of Water, Recycled Water, and Sewer Facilities, dated February 2017, with revisions.

STATE STANDARD SPECIFICATIONS - State of California, Department of Transportation, Standard Specifications, 2018, with revisions; Caltrans.

STATE STANDARD PLANS - State of California, Department of Transportation, Standard Plans, 2018, with revisions; Caltrans.

WATER AUTHORITY – San Diego County Water Authority

Whenever the following terms appear in the State Standard Specifications or Public Works Specifications, the meaning shall be interpreted as follows:

AGENCY, BOARD or DEPARTMENT - The Owner.

ENGINEER - The Owner's Representative.

1.02 TERMS

Command type sentences used in the Contract Documents refer to and are directed to the Contractor.

1.03 ABBREVIATIONS

Interpret abbreviations used on the Drawings and in the Specifications as explained on the Drawings.

1.04 MARKING AND ADDRESSING BID ENVELOPE

Bids shall be made on the Bid Form and Bid Bond included within the Contract Documents. Complete and include the Bid Form Checklist together with the completed Bid Form and Bid Bond when submitting a bid. Seal the Contract Documents with the filled out bid in an envelope marked and addressed as follows:

BID FOR CONSTRUCTION OF:

MANCHESTER AVENUE POTABLE WATER PIPELINE REPLACEMENT PROJECT

OLIVENHAIN MUNICIPAL WATER DISTRICT
Attention: Jason P. Hubbard, Engineering Manager
1966 Olivenhain Road
Encinitas, California 92024

1.05 AWARD OF CONTRACT OR REJECTION OF BIDS

Within a period of 90 calendar days after the opening of bids, the District will accept or reject the bids.

1.06 CONTRACTOR'S LICENSING REQUIREMENTS

The District has determined the license classification necessary to bid and perform the subject contract. In no case shall this contract be awarded to a specialty contractor whose classification constitutes less than a majority of the portion of the work of this contract, all work to be performed outside of the contractor's license specialty, except work specifically authorized by District, shall be performed by a licensed subcontractor in compliance with the Subletting and Subcontractor Fair Practices Act commencing with Section 4100 et seq., of the Public Contract Code. See Business and Professions Code Section 7059.

The Contractor's license classification required for this project is a California State Contractor's License Class A.

It is the District's intent that "plans", as used in Public Contract Code Section 3300, is defined as the construction Contract Documents, which include both the Drawings and the Specifications

1.07 TIME FOR COMPLETION AND FORFEITURE DUE TO DELAY

The work shall be completed within TWO-HUNDRED AND FORTY (240) CALENDAR DAYS, from and after the date of the Notice to Proceed.

The Contractor will not be permitted to begin work until the agreement, bonds or substitutes, insurance certificates and endorsements are acceptable to the District and Attorney for Owner. This period of time is set forth in Paragraph 3-2 Execution of Contract in the General Provisions. Time is of the essence in this contract.

The Contractor shall complete all work in its entirety as specified in the Contract Documents within this time period. Time of completion shall also include time for all submittals and coordination required to satisfy the requirements of these Contract Documents.

The Contractor agrees that the work shall be prosecuted regularly, diligently, and uninterruptedly and at such rate of progress as will insure full completion thereof within the Time for completion stated above. It is expressly understood and agreed, by and between Contractor and Owner that the Time for completion is reasonable for the completion of the WORK, taking into consideration the average climatic range, usual industrial conditions prevailing in this locality, and lead time required to procure equipment.

Pursuant to Government Code 53069.85, forfeiture for each day completion is delayed beyond the time allowed will be at the rate of \$2,500.00 per day, except as noted below.

1.08 PERMITS

The Contractor shall obtain all required permits and provide copies of all permits to the District's Representative prior to starting work. The Contractor shall comply with the ordinances, directives, and regulations of the respective agencies with jurisdiction over the

area of the work including but not limited to the City of Encinitas, the City of Carlsbad, the County of San Diego, the Olivenhain Municipal Water District, the North County Transit District, and the San Diego County Air Pollution Control District's permits for construction and operation of diesel generators. The Contractor shall comply with the ordinances, directives, and regulations of the respective agencies with jurisdiction over the area of the work. All work not specifically covered in the required permits shall conform to the requirements of these Specifications. The cost of all permits and plan check review shall be borne by the Contractor and included in the Contractor's bid.

The Contractor shall be responsible for developing haul routes for the importing or exporting of materials or equipment for the project and obtaining all required permits from the affected agencies of jurisdiction. The Contractor shall provide copies of all permits to the District's Representative prior to starting work. The Contractor shall comply with the ordinances, directives, and regulations of the respective agencies with jurisdiction over the area of the work. All costs for transport fees, dump fees, plan or haul route reviews, permits, and related incidentals shall be borne by the Contractor and included in the Contractor's bid.

The Contractor shall be responsible for securing approved traffic control permits for all jurisdictional agencies where work is to occur or where traffic control measures will be placed at no cost to the District.

1.09 USE OF ASBESTOS PRODUCTS NOT PERMITTED

The intent of the Contract Documents is to provide asbestos-free components throughout the project in accordance with the recent Environment Protection Agency stated policy seeking a ban on the use of all products containing asbestos. Where the Contract Documents or the referenced specifications, standards, codes, or tests refer to products containing asbestos, the Contractor shall provide acceptable alternatives under those documents, or in the absence of such referenced alternatives, he shall submit a proposed substitute to the District's Representative for review and acceptance.

1.10 ASBESTOS CEMENT PIPE REMOVAL AND DISPOSAL

If asbestos cement (AC) pipe must be cut and handled in the field to accomplish the work, the Contractor is solely responsible for and shall take all appropriate precautions for protecting against threats to health and safety of the work force and general public arising out of construction involving asbestos. The Contractor shall comply with all applicable regulations for the handling, cutting, shaping, installation and disposal of asbestos. AC pipe to be disposed shall be properly manifested, prepared for transport following criteria of County of San Diego Department of Public Works, Solid Waste Division, and delivered to a landfill permitted for disposal of non-friable asbestos containing materials. The completed Generator copy (yellow) manifest shall be returned to the District's Representative. All cost for disposal of the AC pipe shall be included in the Contractor's bid.

1.11 ABATEMENT OF AIR POLLUTION

- A. Comply with all applicable Federal, State, County, and City laws and regulations concerning the prevention and control of air pollution.

- B. Conduct construction activities and equipment in a manner so as to minimize atmospheric emissions or discharges of air contaminants. Equipment or vehicles that show excessive emissions of exhaust gases shall not be operated on the site.

1.12 NOISE CONTROL REQUIREMENTS

- A. The Contractor shall comply with all local sound control and noise level rules, regulations and ordinances which apply to any work performed pursuant to the Contract.
 - 1. The Contractor shall familiarize themselves with the City of Encinitas Title 30 Zoning Performance Standards applicable to night work and day work.
- B. Each internal combustion engine, used for any purpose on the job or related to the job, shall be equipped with a muffler of a type recommended by the manufacturer. No internal combustion engine shall be operated on the project without said muffler.
- C. Noise level requirements shall apply to all equipment on the job or related to the job, including but not limited to trucks and transient equipment that may or may not be owned by the Contractor. The use of loud sound signals shall be avoided in favor of light warnings except those required by safety for the protection of personnel.
 - 1. Each vehicle equipped with a back-up alarm shall use a white noise back-up alarm Brigade BBS-97 or equal at all times.
 - 2. The Contractor shall utilize hydraulically assisted tailgates on all dump style trucks to prevent slamming noises during all night work operations including off-site staging areas.

1.13 AMOUNT OF LIABILITY INSURANCE

- A. Employer's Liability Insurance:
 - 1. Bodily injury coverage by accident shall be for not less than \$1,000,000 for each employee and \$1,000,000 for each accident.
 - 2. Bodily injury coverage by disease shall be for not less than \$1,000,000 for each employee and \$1,000,000 for each disease.
- B. General Liability:

Bodily injury, personal injury, and property damage coverage shall be in a combined single limit of not less than \$1,000,000 for each occurrence and \$1,000,000 aggregate.
- C. Automobile Liability:

Bodily injury and property damage coverage shall be in a combined single limit of not less than \$1,000,000 for each occurrence.
- D. Builder's Risk Insurance:

Builder's risk insurance shall be provided for the full contract amount.

E. Earthquake and Tidal Wave Insurance:

Earthquake and Tidal Wave Insurance is not required for this project.

F. Additional Insured:

In addition to the additional insureds required for Liability insurance in the General Provisions, 8-3 LIABILITY INSURANCE, and 8-4 BUILDER'S RISK "ALL RISK" INSURANCE, the OWNER and each of its directors, officers, employees, and agents and its Design Engineer shall be named as additional insureds for all Liability insurance and Builders' Risk Insurance provided herein.

1.14 USE OF THE STANDARD DRAWINGS

Where the Drawings or Specifications make reference to the Standard Drawings, construct the item in accordance with the details and materials as specified in the Contract Documents. For items not included in the Standard Drawings that are part of the Contract Documents, construct the item in accordance with the latest edition of the Olivenhain Municipal Water District, Standard Specifications and Drawings for the Construction of Water, Recycled Water, and Sewer Facilities. These District Standard Drawings and Standard Specifications are available for purchase at the office of the District or available online.

1.15 CONSTRUCTION SCHEDULE AND BID BREAKDOWN

The Contractor shall conform to the requirements of Article 6-3 Contractor's CONSTRUCTION SCHEDULE AND COST BREAKDOWN of the General Provisions within 15 days after the date of award of contract. Submit to the District's Representative a construction progress schedule and bid breakdown in bar chart form. Divide each lump sum bid item into its major elements of work and show separately labor, materials and equipment costs. The District's Representative will use this cost breakdown as a basis for the monthly progress estimate and payment. The schedule shall specifically include and identify the construction sequence requirements defined on the plans.

1.16 STORMWATER POLLUTION PREVENTION

A. The Contractor is responsible for Implementation, Maintenance, Inspection, Monitoring and Construction/Installation of all Best Management Practices (BMPs) required by the Storm Water Pollution Prevention Plan (SWPPP), Construction General Permit (CGP), and the Erosion Control Plan for the purpose of preventing the discharge of pollutants from the construction site throughout the duration of the project. The Contractor is to provide all labor, materials and equipment to perform all work necessary to accomplish the work described below and per the Plans, Specifications and Special Provisions listed in the Bid Documents and References herein. A copy of the SWPPP must be submitted to the District seven (7) days in advance of any mobilization and/or construction at the project location. A copy of the SWPPP must also be kept on the project site at all times.

a. The District has preliminarily calculated 0.5-acre of soil disturbance from activities related to the installation of improvements indicated on the Contract Plans. The Contractor shall perform their own analysis and include disturbances from their staging operations.

- b. If the Contractors total activities exceed 1-acre of soil disturbance, the Contractor shall notify the District. The Contractor shall provide the required documents for submission of a Notice of Intent with the State Water Resources Control Board at no-cost to the District. The District will file application and pay permit fees.
- B. The Contractor shall comply with all local ordinances, County of San Diego Ordinance No. 9424, National Pollutant Discharge Elimination Permit Number CAS 0108758 and State Water Resources Control Board NPDES Permit No. CAS000002. The Contractor shall install and maintain Best Management Practices (BMPs) to the Maximum Extent Practicable (MEP) to prevent or reduce pollutant discharges to local storm drain/storm water conveyance systems and/or receiving waters from construction activities. The Contractor shall manage the Work to prevent or reduce pollutant discharges to local storm drain/storm water conveyance systems and/or receiving waters. BMPs to be implemented are detailed in the County of San Diego "Stormwater Standards Manual" and shall be applied to the project.
- C. Contractor is advised that there is a high potential for "run-on" flows due to curb outlets from higher elevation developments to the West and shall provide all protections necessary.
- D. SCOPE OF WORK
 - 1. The Contractor shall provide the services of a Qualified SWPPP Developer (QSD) to develop a SWPPP in compliance with the CGP. The name of the QSD, together with their qualifications and certifications, shall be submitted to the District as a formal submittal. In the event that the Project does not qualify for a SWPPP, the Contractor shall develop a Water Quality Control Plan (WQCP), Erosion Control Plan (ECP), or other storm water quality control document required by the jurisdictional agency.
 - 2. The Contractor shall provide the services of a Qualified Stormwater Practitioner (QSP) and will be responsible for adhering to and implementing the monitoring requirements set forth in the SWPPP and the CGP and/or the storm water quality control document required by the jurisdictional agency. The name of the QSP, together with their qualifications and certifications, shall be submitted to the District as a formal submittal.
 - 3. The SWPPP shall remain within the project limits at all times during the duration of the project or at a location approved by the District. The Contractor shall make the SWPPP available at all times per the requirements of the CGP.
 - 4. The Contractor shall monitor the National Oceanic Atmospheric Administration (NOAA) website at www.noaa.gov for the current weather conditions on a daily basis. Contractor shall inform the District of any potential rain and/or storm conditions.
 - 5. The Contractor's QSP shall perform all of the required inspections, reporting and maintenance according to the appropriate sections and attachments per the CGP. Inspections and reporting shall continue for the duration of the project.
 - 6. Inspection reports shall be kept on site in the SWPPP binder.

Each report must be accompanied with appropriate pictures to adequately document the effectiveness of installed BMPs and SWPPP practices.

E. DELIVERABLES

1. After the construction project is complete, the Contractor shall deliver hardcopies of all inspections reports, an electronic copy of all pictures, and any miscellaneous SWPPP documents to the District.
2. The delivery of the required reports and pictures to the District shall be within 14 days of project completion.

F. NON-COMPLIANCE

1. Should the Contractor not perform all required inspections per the CGP and SWPPP as determined by the District's SWPPP Manager, the site shall be deemed to be out of compliance. The Contractor will have 48 hours, upon notification by the District, to generate the proper reports and return the project back in compliance of the CGP. If after the 48 hour time frame the project is still considered out of compliance, the District may take any actions necessary to return the project back in compliance with the requirements of the CGP and SWPPP. Any and all costs expended by the District to bring the project back in compliance as determined by the SWPPP Manager, in his/her sole discretion, shall be charged to the Contractor.
2. Should the Contractor not install all required BMPs per the CGP and SWPPP as determined by the District's SWPPP Manager, the site shall be deemed to be out of compliance. The Contractor will have 48 hours, upon notification by the District, to install or repair any BMPs necessary to keep the project in compliance with the CGP. If after the 48 hour time frame, the project is still considered out of compliance, the District may take any actions necessary to return the project back into compliance with the requirements of the CGP and SWPPP. Any and all costs expended by the District to bring the project back in compliance as determined by the SWPPP Manager, in his/her sole discretion, shall be charged to the Contractor.
3. If the District receives any non-compliance notifications or fines from Governing Municipalities and/or the State, the Contractor shall indemnify and defend the District. Any and all costs resulting from a violation and/or fine will be borne by the Contractor to include District staff, legal, and consulting costs at the Contractor's sole expense.
4. The District and the District's SWPPP Manager will be onsite, throughout the duration of the project, to monitor and verify that all reporting and BMP Implementation is being performed per the requirements of the CGP.
5. If at any time the site is deemed to be out of compliance as determined by the SWPPP Manager, in his/her sole discretion, the District reserves the right to stop all construction activities. The site will remain inactive until the Contractor performs all the necessary actions to return the project back in compliance with the requirements of the CGP and SWPPP.
6. There will not be any days given to the Contractor for an extension of the contract for the time the site is deemed to be out of compliance. The Contractor is solely responsible for

maintaining all of the necessary BMPs at all times and ensure the project meets all of the CGP and SWPPP requirements.

G. IMPLEMENTATION OF BMPs

1. The Contractor shall be responsible to protect the site at all times per the requirements of the CGP and the project SWPPP.
2. The Contractor shall be responsible to protect but is not limited to the following:
 - A. Stockpiles (Soil, Asphalt, Concrete, Sand, Gravel and other material)
 - B. Concrete Washouts
 - C. Trash Containers and Dumpsters
 - D. Slopes and Disturbed areas
 - E. Equipment and Vehicles
 - F. Bagged and Boxed materials
 - G. Liquid and Hazardous materials
 - H. Portable Toilets and Storage Facilities
3. The Contractor shall install, implement and maintain the BMPs to the Maximum Extent Practical (MEP) to prevent or reduce pollutant discharges to local storm drain, storm drain conveyance systems and/or receiving waters from construction activities. BMPs are to be installed per the California Stormwater Quality Association (CASQA) BMP Handbook (2015) and shall be applied to but not limited to the following:
 - A. Erosion Control on Slopes
 - B. Erosion Control on Flat areas; or BMPs to desilt runoff from flat areas
 - C. Runoff Velocity Reduction
 - D. Sediment Control
 - E. Offsite Sediment Tracking Control
 - F. Materials Management
 - G. Stockpile Management
 - H. Waste Management
 - I. Vehicle and Equipment Management
 - J. Temporary Soil Stabilization
 - K. Storm Drain Inlet Protection
 - L. Wind Erosion Control
 - M. De-watering an Hydrostatic Operations
 - N. Materials Pollution Control
 - O. Water Conservation
 - P. Structure Painting and Construction
 - Q. Paving Operations
 - R. Planned Construction Operations
 - S. Downstream Erosion Control
 - T. Prevention of Non-Storm Water Discharges

U. Protection of Ground Water

4. BMPs are to be installed by qualified personnel only. The Contractor's QSP is responsible to inspect all BMPs for proper installation per the CGP, CASQA BMP Handbook, Erosion Control Plan, and the SWPPP.
5. The Contractor shall inform the District of any BMP failures, malfunctions, breeches and/or discharges during the course of construction. The Contractor will be responsible for the repair and cleanup of any breach and or discharge caused or related to their work at no additional cost to the District.
6. The Contractor shall be responsible for maintaining proper dust control during the course of construction per the Air Quality Management District (AQMD) standards.
7. All entrances and exits of work and storage areas shall be inspected on a daily basis. Any dirt, dust, or debris leaving the project site will be the sole responsibility of the Contractor to correct immediately upon occurrence.
8. All slopes and stockpiles that have been inactive for 14 days or in the event of a rain storm shall be properly protected per the requirements of the CGP and SWPPP.
9. Contractor shall be responsible to implement Post Construction BMPs for permanent control of erosion from slopes and required vegetation areas. These BMPs shall include but are not limited to:
 - A. BMPs and Landscaping shown on the erosion control and project plans
 - B. Structures to convey runoff safely from slopes and walls
 - C. Vegetation or alternative stabilization of all disturbed slopes
 - D. Re-vegetation of any natural drainage systems to the MEP

H. COMPLIANCE CERTIFICATION

1. An officer or other authorized representative of the Contractor shall certify that the site is and/or was in full compliance with the CGP during construction activities.

I. TERMINATION

1. At the end of the project, the Contractor shall be responsible for removal of all temporary BMP measures, all construction related materials, equipment, trash/litter/debris, portable toilets, stockpiles of materials and any trash and concrete washout containers. The Contractor is responsible to re-install, plant, repair or replenish, any vegetation, landscaping or permanent structure damaged or disturbed during the course of construction of which is not called out or listed on the bid documents and plans.

J. TRAINING

1. Prior to the commencement of construction, all personnel that will be on site shall go through a formal SWPPP training provided by the District. This training will take place at a mutually agreed upon location and will last for 1 hour. Additional training shall take place at a minimum of once a month as determined by the Owner's Representative throughout the course of construction.

K. REFERENCES

1. State Water Resources Control Board (SWRCB) Construction General Permit (CGP) Order No. 2012-0006-DWQ National Pollutant Discharge Elimination System (NPDES) General Permit No. CAS0109266, Waste Discharge Requirements for Discharges of Storm Water Runoff Associated with Construction Activity.
2. California Stormwater Quality Association, CASQA Construction BMP Handbook/Portal.
3. San Diego County Ordinance No. 9424 (*Watershed Protection, Stormwater Management and Discharge Control*)

1.17 ACCESS OF DISTRICT'S REPRESENTATIVE TO CONFINED SPACES IN STRUCTURES UNDER CONSTRUCTION

- A. The Contractor shall be aware that some or all portions of the work may be designated as a PERMIT REQUIRED CONFINED SPACE. The Contractor is required to provide the Owner with a copy of the Contractor's Confined Space Program for Owner's review and acceptance prior to beginning work. Contractor's Confined Space Program shall be in compliance with Cal-OSHA's Confined Space regulatory requirements. The Contractor is required to perform all work in accordance with Cal-OSHA Confined Space requirements and Title 8, Subchapter 20 "*Tunnel Safety Orders*".
- B. The Contractor shall provide the following assistance to the personnel of the District's Representative when said personnel must enter confined spaces in structures under construction or structures which have not been accepted by the District.
 1. Training program for the personnel of the District's Representative relevant to the specific structures being entered.
 2. Testing equipment and personnel to operate said equipment for testing the atmosphere in the confined spaces for oxygen deficiency, explosive gases, and toxic gases.
 3. Authorized competent person to stand by each confined space while entrants are inside the space.
 4. Safety equipment (breathing apparatus, harnesses, and rescue equipment) in good working order.
 5. Communication equipment.
 6. Access equipment (hoists and ladders).

- 7. Signs.
- 8. Alarm system.
- 9. Ventilation system.
- C. The Contractor shall identify confined spaces on the project, mark them with warning signs per CAL/OSHA requirements, and notify the District's Representative that these structures now exist.

1.18 PROTECTION OF EXISTING UTILITIES

The Contractor shall coordinate their efforts with the District and shall take every precaution to protect all existing utilities and structures at the project site. The Contractor shall be responsible for all Underground Service Alert notification and mark outs prior to the beginning of work.

1.19 COORDINATION WITH DISTRICT OPERATIONS

- A. The Contractor shall coordinate all work with the District sufficiently ahead of time so as to not interfere with the District's operation of their system. The Contractor shall submit a detailed sequence of work to the District for all work in accordance with Section 01043 and 01305. This proposed sequence of work shall be reviewed with the District prior to construction for consistency with the Sequence of Work as described in these Contract Documents and the District's required operation and shut-down plan.
- B. The District will operate all existing valves. Therefore, the Contractor must coordinate connection work with District operations. Once the pipelines have been isolated, the Contractor shall dechlorinate and drain all lines. At its sole discretion, the District may use its own forces to dechlorinate and drain lines at above ground facilities only. The management of water drained into a trench, regardless of the origin or cause of the water, shall be the sole responsibility of the Contractor.

1.20 PRE-CONSTRUCTION CONFERENCE AND PROGRESS MEETINGS

A Pre-Construction Conference shall be scheduled prior to start of project as described in Section 01039. The District, the Contractor, and the District's Construction Manager shall be present. The Contractor's detailed sequence of work and a list of labor, material and equipment rates for additional work shall be established and maintained throughout the project. Contractor shall identify all personnel assigned to the project and a complete set of approved submittal data for use by inspection personnel. Contractor shall have a designated representative for this project.

During performance of the Work, the Contractor shall attend regular weekly meetings as described in Specification Section 01039.

1.21 HOURS OF WORK

Hours of work shall be Monday through Friday 9:00 A.M. to 3:30 P.M. for daytime work and Monday through Thursday 8:00 P.M. to 6:00 A.M. for nighttime work for the specific areas of work shown on the Plans. Friday, Saturday, and Sunday work outside the Hours of Work will

only be allowed with prior written approval by the Owner. Overtime and shift work may be established as short-term procedure by Contractor with written notice to and advanced written permission from Owner. **Absolutely no equipment shall be started or warmed up prior to 7:00 AM or after 5:00 PM for daytime work.** No work other than overtime and shift work approved by Owner shall be done outside of the daytime or nighttime work as described above for those limits of work described in the Contract Plans, nor on weekends, or District recognized holidays, except such work as is necessary for the proper care and protection of the work already performed, except in case of emergency, and as specified herein. The District recognized holidays are as follows:

New Year's Day	Friday, January 1, 2021
Martin Luther King Day	Monday, January 18, 2021
Presidents' Day	Monday, February 15, 2021
Memorial Day	Monday, May 31, 2021
Independence Day	Monday, July 5, 2021
Labor Day	Monday, September 6, 2021
Veterans Day	Thursday, November 11, 2021
Thanksgiving Day	Thursday, November 25, 2021
Day after Thanksgiving	Friday, November 26, 2021
Christmas Day	Friday, December 24, 2021
New Year's Day	Friday, December 31, 2021
Martin Luther King Day	Monday, January 17, 2022
Presidents' Day	Monday, February 21, 2022

1.22 CONSTRUCTION SURVEYS

A. LAND MONUMENTS

The Contractor shall notify the District and the District's Representative of any existing Federal, State, City, County, and private land monuments encountered. All monuments shall be preserved, or if necessary to be destroyed during performance of the Work, shall be replaced by a licensed surveyor under contract to the Contractor. Appropriate record of survey drawings shall be filed with the City of Encinitas and County of San Diego for all replaced monuments. When government monuments are encountered, the Contractor shall notify the District's Representative at least two (2) weeks in advance of the proposed construction and provide for surveying of the existing monument before it is disturbed or destroyed.

B. CONSTRUCTION STAKING

1. The Contractor shall furnish construction staking to execute the work as described in the Contract Documents. Preserve all construction stakes, reference points, and other survey points. In case of their loss or destruction, the Contractor shall be liable for their replacement. If the field survey stakes are not available for review by the District's Representative, the work may not proceed.
2. The Contractor's surveyor will establish the following minimum points along the pipeline alignment: one offset stake for line, station and grade at all angle points, beginning and ending of curves and points along the centerline of pipe with a maximum distance of 25.00 feet between stakes for pipeline to be constructed by open trench construction.

Additional stakes may be requested for clarification of construction at the request of the District's Representative at no additional cost to the District.

1.23 GEOTECHNICAL WORK

A. SUBSURFACE INVESTIGATIONS

Soil borings were performed in the project vicinity. See Appendix B.

1. The Contractor may make independent subsurface, soil, or geotechnical investigations of the project site in order to satisfy himself of the subsurface conditions that may be encountered. No additional compensation will be made for such investigations.
2. Bidders shall make their own independent evaluation of the rippability of rock and include all costs associated with the proper equipment to excavate, remove and dispose of rock in their bid. Blasting will only be permitted upon the approval of the District if a benefit to the District and the project can be demonstrated.

B. CONSTRUCTION TESTING

1. The Owner shall furnish compaction testing for all bedding, backfill, and soil compaction testing.
2. The Owner shall furnish all materials testing and special inspections called for in the Contract Documents.
3. When any work is determined to be unsatisfactory, faulty or defective, or does not conform to the requirements of the Contract Documents, the costs incurred by the Owner for additional tests or inspections shall be reimbursed by the Contractor. Said costs shall be paid by the Owner and deducted from progress payments to the Contractor.

1.24 CONSTRUCTION WATER

- A. The Contractor shall obtain and pay for a construction water meter from the District and shall be responsible for all high lines and other temporary equipment and facilities necessary to provide adequate construction water to the project site. The Contractor shall coordinate the locations of water supply with the District. The following conditions must also be met:
 1. Excess water must be available in the pipeline at the connection point.
 2. The contractor shall submit a construction water service connection plan a minimum of two weeks prior to the need for water. This plan shall indicate all piping, valves, and other materials necessary to connect to District owned piping at designated blow-off, air vacuum, and air release structures located within the project site. Do not install piping, meter, or valves until the District's Representative has approved the water service plan.
 3. Accurately measure all water use and submit meter readings to the District's Representative when the meter is installed, at the end of each month and when the meter is removed.

4. Securely lock the installed valve in the closed position at the end of each workday and during all times of inactivity. Avoid wasting water and prevent unauthorized use. Do not use water from the District on any other project.
5. Coordinate all use of water, flushing of pipelines and filling of pipelines with the District's representative. All requests for use of water and for increases or decreases in quantity shall be made in writing to the District's Representative two working days in advance.

1.25 POWER AND LIGHTING

- A. The Contractor shall provide all power required for construction operations, and shall provide and maintain all temporary power facilities required to perform the work in a safe and satisfactory manner. All electrical facilities shall conform to the requirements of the of the requirements of Title 8, Industrial Relations, Subchapter 5, Electrical Safety Orders, of the California Code of Regulation; and Subpart K of the OSHA Safety and Health Standards for Construction.
- B. The Contractor shall provide adequate light for work conducted at night or under low light conditions to provide adequate facilities for inspection and safe working conditions and to insure proper work.
- C. Temporary connections for electricity shall be subject to approval of the District's Representative and the power company representative. Remove temporary electrical connections in like manner prior to final acceptance of the work.

1.26 CONTRACTOR STAGING AND LAYDOWN AREA

For use of roadway right-of-way areas, Contractor shall apply for and obtain City of Encinitas approval for use. For any private property to be used by the Contractor, the Contractor shall coordinate with the property owner, obtain written permission from the property owner for use of the area, coordinate with any resource or permitting agency that may have jurisdiction over the area, obtain and pay for any permits or agreements and provide any environmental mitigation required, and pay any fees or rental charges required for use of the area. Staging areas shall be delineated with perimeter fencing, shall be secure, shall implement all required BMP's, and shall adhere to all noise and dust requirements. The Contractor shall be responsible for returning all areas used to their original conditions. At least 14 days prior to moving onto any site, the Contractor shall submit to the District Representative a copy of the written permission letter from the Property Owner of that area, and a description of any permits and mitigation actions that are required for use of the area. Submittals shall be in accordance with Standard Specification Section 01300. All requests for the use of privately-owned land must be submitted to the Owner for written approval by the District's General Manager prior to its use. The Owner may deny use of any privately owned property for this project in its sole discretion.

1.27 DUST CONTROL AND CLEANUP

- A. Throughout all phases of construction, including suspension of work, and until final acceptance of the project, the Contractor shall keep the work site clean and free from rubbish and debris. The Contractor shall also abate dust nuisance by cleaning or sweeping and sprinkling with water or other means as necessary, in accordance with the San Diego Air Pollution Control District's regulations. The use of water resulting in mud on public streets

and/or private property will not be permitted as a substitute for cleaning, sweeping, or other methods. Every day, and as required by the project inspector, the Contractor shall furnish and operate a motorized, self-loaded sweeper with water spray nozzles to keep paved areas affected by the work acceptably clean and dust free.

- B. The Contractor shall keep the premises free at all times from accumulations of waste materials and rubbish. Contractor shall provide adequate trash receptacles about the site, and shall promptly empty the containers when filled. Wastes shall not be buried or burned on the site or disposed of into storm drains, sanitary sewers, streams, or waterways. All wastes shall be removed from the site and disposed of in a manner complying with local ordinances and antipollution laws. Volatile wastes shall be properly stored in covered metal containers and removed daily. Construction materials shall be neatly stacked by the Contractor when not in use. The Contractor shall promptly remove splattered concrete, asphalt, oil, paint, corrosive liquids, and cleaning solutions from surfaces to prevent marring or other damage.

1.28 SANITATION AND DRINKING WATER

- A. The Contractor shall provide toilet and wash-up facilities for his work force at the site of work. They shall comply with applicable laws, ordinances, and regulations pertaining to the public health and sanitation of dwellings and camps. The facilities shall be stored within the staging areas overnight and on weekends. The Contractor shall maintain the sanitary facilities in an acceptable condition from the beginning of work to completion and shall remove the facilities and disinfect the premises.
- B. The Contractor shall provide safe drinking water at all times at the jobsite.

1.29 SAFETY

- A. Owner and its inspectors, consultants, agents and other representatives are in no way responsible for safety and are there only to observe the work compliance with plans and specifications.
- B. The Contractor acknowledges responsibility for jobsite and acknowledges that the District, Engineer and their agents, employees, consultants and representatives will not have any such responsibility. To the fullest extent permitted by law the Contractor shall indemnify, defend and hold harmless the District, Engineer, their present companies, subsidiaries, agents, and employees from and against all claims, damages, losses and expenses, including but not limited to attorney fees and claim costs, arising out of or resulting from performance of work by the Contractor, its subcontractors, or their agents and employees, which results in damage, loss or expense is caused in whole or in part by the negligence, active or passive, of District, Engineer, their parent and subsidiary companies, as well as their agents and employees, excepting only the sole negligence of District, Engineer, their parent or subsidiary companies and their agents and employees.

1.30 INDEMNIFICATION

- A. Contractor hereby releases and agrees to indemnify, defend, hold harmless the District, Engineer, their parent and subsidiary companies, agents, employees, consultants and representatives for any and all damage to persons or property or wrongful death regardless of whether or not such claim, damage, loss or expense is caused in whole or in part by the

negligence, active or passive, of District, Engineer, their parent and subsidiary companies, as well as their agents and employees, excepting only the sole negligence of District, Engineer, their parent or subsidiary companies and their agents and employees to the fullest extent permitted by law. Such indemnification shall extend to all claims, demands, actions, or liability for injuries, death or damages occurring after completion of the project, as well as during the work's progress. Contractor further agrees that it shall accomplish the above at its own cost, expense and risk exclusive of and regardless of any applicable insurance policy or position taken by any insurance company regarding coverage.

- B. Contractor shall defend, indemnify and hold the District, Engineer, its employees, officers, or agents, harmless against any and all claims by any parties arising from, or related to, any and all damages, including legal costs and attorney's fees, resulting from interference with, interruption of, damage to, or any and all injuries which result from damage caused to subsurface installation, which is unforeseen and despite Engineer's/Architect's effort during the design process was not located, excepting only the gross negligence or willful misconduct of Engineer in providing its services.

1.31 AUDIO-VIDEO DOCUMENTATION OF PROJECT SITE

- A. A minimum of one (1) week prior to start of construction and delivery of any equipment, materials or supplies to the site, the Contractor shall provide pre-construction digital color audio-video documentation as specified herein for the purpose of establishing the surface conditions existing in all of the areas to be affected by the construction and to avoid potential construction repair disputes. The Contractor shall be responsible for repairing any damage or defect not documented as existing prior to construction.
- B. Digital color audio-video documentation shall consist of the recordation of surface features taken along the entire length of the project, including all work, storage, and staging areas and all intersecting roadways. Prior to audio-video taping of the project, all areas to be documented shall be investigated visually with notations made of items not readily visible by taping methods.
- C. Coverage of the digital color audio-video documentation shall include, but not be limited to: all existing driveways, sidewalks, curbs, streets, access roads, signs, landscaping, trees, catch basins, fences, monuments, visible utilities and all buildings located within the zone of influence. Of particular concern are any existing faults, fractures, cracks, defects or other features. Audio description shall be made simultaneously with and support the video coverage.
- D. One (1) copy of the digital color audio-video documentation shall be provided to the Owner's Representative on DVD, USB Flash Drive or other electronic data storage device suitable or transferred electronically to the Owner prior to the start of construction. Utility mark out (USA) shall be completed prior to the audio-video documentation and shall be included in the pre-construction audio-video documentation. Any project areas not fully documented shall be re-shot as directed by the Owner's Representative.
- E. Construction work shall not commence until audio-video documentation has been delivered to the Owner's Representative.

1.32 JURISDICTIONAL COORDINATION

- A. The Contractor shall coordinate construction activities with the operations of the jurisdictional agency where work is to occur, including the City of Encinitas, the City of Carlsbad, and the County of San Diego. Coordination shall include communication with the agency representative and the agency's project contractor.

1.33 MEASUREMENT AND PAYMENT

A. General:

1. The measurement and payment provisions of these Contract Documents shall govern over those of referenced standards, if any.
2. The price set forth in the Bid Form for the work shall include all costs and expenses incidental to completing the work, and payment of the price bid will be payment in full under this contract, except as provided by Article 9-1 PAYMENT FOR CHANGES IN THE WORK of the General Provisions.
3. As a condition precedent to approval of the Contractor's monthly payment application by the District's Representative, the Contractor shall attend all progress or issue resolution meetings scheduled by the District's Representative. In addition, the Contractor shall submit a monthly construction schedule properly updated and accurately showing the work completed to date and the work yet to be performed in the remaining Contract time. The Contractor agrees failure to comply with the foregoing to the satisfaction of the District's Representative shall delay the monthly progress payment to the Contractor without penalty to the District.

B. Lump Sum Work Items Listed in the Bid Schedules:

1. The lump sum prices include full compensation for furnishing the labor, materials, tools, and equipment and doing all the work involved to complete the work included in lump sum work items listed in the Bid Schedules and defined by the Contract Documents.
2. The application for payment for a lump sum payment item will be for that specific work item based on the percentage completed. The percentage complete will be based on the value of partially completed work relative to the value of the item when entirely completed and ready for service. The application for payment will be in accordance with Article 9-2 PROGRESS PAYMENTS of the General Provisions.

C. Unit Price Work Items Listed in the Bid Schedules:

1. The unit prices include full compensation for furnishing the labor, materials, tools, and equipment and doing all the work involved to complete the work included in the unit price work items listed in the Bid Schedules and defined by the Contract Documents.
2. The application for payment for a unit price payment item will be for that specific work item based on the units of work that are entirely completed and ready for service. The application for payment will be in accordance with Article 9-2 PROGRESS PAYMENTS of the General Provisions.

D. Work Items Not Listed in the Bid Schedules:

1. The General Provisions and items in the Special Provisions which are not listed in the Bid Schedules of the Bid Form are, in general, applicable to more than one listed work item, and no separate work item is provided therefor. Include the cost of work not listed but necessary to complete the project designated in the Contract Documents in the various listed work items of the Bid Form.
2. The bids for the work are intended to establish a total cost for the work in its entirety. Should the Contractor feel that the cost for the work has not been established by specific items in the Bid Form, he shall include the cost for that work in some related bid item so that his proposal for the project does reflect his total cost for completing the work in its entirety.

1.34 NOTICE OF COMPLETION

Contractor shall apply for acceptance of the work encompassed in the Base Bid – Bid Schedule. Upon substantial completion of the work encompassed in the executed Schedule, the District, at the District's sole discretion, will issue a Notice of Substantial Completion for this work.

Upon completion of all work in the Base Bid – Bid Schedule, Contractor shall apply for acceptance of the work. Upon acceptance of the work encompassed in the executed Schedule, the District, at the District's sole discretion, will issue a Notice of Completion for this work.

1.35 GUARANTEE

For all work a two-year guarantee shall be furnished by the Contractor as required in the General Provisions, Article 5-14, except that any guarantee included for materials or equipment beyond the period specified herein shall be solely the responsibility of the guarantor and not the Contractor. This guarantee period shall commence with the District's issuance of a Notice of Substantial Completion.

1.36 CONTRACTOR REGISTRATION WITH STATE OF CALIFORNIA

In accordance with requirements defined by the California State Legislature via Senate Bill 854, all contractors and subcontractors involved with public works projects shall be registered with the State Department of Industrial Relations. Registration is completed through an on-line application process and the payment of a fee to the State. The registration process requires contractors and subcontractors to provide workers' compensation coverage to its employees, hold a valid Contractors State Board License, have no delinquent unpaid wage or penalty assessments, and not be subject federal or state debarment. The registration form is located on the State Department of Industrial Relations website:

<http://www.dir.ca.gov/Public-Works/PublicWorks.html>

Prior to award of the contract, the Contractor shall submit to the District evidence of completing this registration for the prime firm and all subcontracting firms. Failure to submit the requested documentation shall be cause for delay of the project and subject to forfeiture due to delay in accordance with paragraph 1.07 of the Supplement to General Provisions.

1.37 PUBLIC NOTICE BY CONTRACTOR

- A. Contractor shall furnish and coordinate public notices to be distributed by the District at least 1 week before starting construction in the form of door hangers using a format submitted to and approved by the District. This notice shall be distributed to all:
 - 1. Residents and occupants within 300 feet of where construction work is to be performed, and;
 - 2. Schools, fire stations and businesses within 500 feet of where construction work is to be performed.

Notice format shall include, but is not limited to, project name, District's project website address and hotline number. Contractor shall provide a draft notice to District's Representative for approval a minimum of 15 calendar days prior to printing.

- B. Contractor shall furnish and coordinate public notices to be distributed by the District 72 hours in advance of shutdowns and low pressure notifications in the form of door hangers using a format submitted to and approved by the District. This notice shall be distributed to all impacted customers
- C. All costs for printing, distributing and hanging of notices shall be the District's responsibility.
- D. For all construction activity taking place on private property outside of the public right-of-way or District easement areas, Contractor shall coordinate with the property owner and the District to obtain written permission from the property owner for use of the area including the terms and conditions of use. The Contractor shall coordinate with any resource or permitting agency having jurisdiction over the area, obtain and pay for any permits for use of the area, provide any environmental mitigation required, and pay any fees or rental charges required for use of the area. Prior to accessing the private property, Contractor shall contact each owner individually a minimum of 30 days prior to commencing the Work.
- E. If the Work is delayed longer than 14 days from initial notification, the Contractor shall compensate the District to re-notify residents and occupants of the new work schedule.

For work involving the temporary closure of a marked crosswalk or sidewalk, Contractor shall post a notice of the closure at each end of the crosswalk/sidewalk not less than 7 days prior to the scheduled date of closure. In addition to any other public notice requirements, the notice shall include the project name, project logo, District's project hotline number, and estimated times and dates for closure.

1.38 ABANDONMENT OF EXISTING FACILITIES

- A. Existing facilities shall not be abandoned, broken into, or taken out of service until all new facilities have been completed and accepted by the Owner; all proposed connections are completed and accepted by the Owner; the proposed facilities are complete and in full operation.
- B. The Contractor shall submit to the Owner a detailed sequence and method of work for the abandonment of the existing facilities including, but not limited to, overview and general

sequence of work, the method and procedure for each increment of abandonment, and dates and times for the proposed work.

- C. Contractor shall remove and legally dispose any existing pipeline or subsurface structure interfering with the construction of new improvements per the Contract Documents.
- D. Remove existing thrust or anchor blocks where interfering with the proposed facilities.
- E. Voids created by the removal of abandoned facilities shall be backfilled in accordance with the Standard Specifications.

F. Pipeline Abandonment

- 1. Pipelines shown as abandoned or abandoned per the Contractors construction methods shall be plugged per the San Diego Regional Standard Drawings WP-03, including at intervals of 200 feet for pipelines 14" and smaller. Pipelines 16" and larger shall be filled along its entire length by pressured grout only.
- 2. All valves and appurtenances associated with an abandoned pipeline or as indicated in the Contract Documents shall be abandoned by removing the valve can material, concrete ring, and frame and lid in its entirety. Piping and fittings associated with an appurtenance shall be cut and removed to a depth of three (3) feet below finished grade. All piping should be capped as described elsewhere in the Contract Documents. All removals shall be legally disposed of. Any voids created by the removal of abandoned facilities shall be backfilled in accordance with the Standard Specifications.
- 3. Where steel pipe is shown on the Contract Documents to be abandoned, but indicated to still be in use as a cathodic conduit, shall have bond wires connected between any sections to be cut. Bond wires shall consist of two (2) #2 AWG wires bonded to the pipe and shall be installed and tested per the Standard Specifications. Wire shall be installed in 3" schedule 40 conduit surrounded by 12" of sand with marking tape located 12" above the conduit per the Standard Specifications.
 - A. The Contractor shall notify the District 2-weeks in advance of cutting into existing steel pipe to schedule the temporary disconnection of the existing impressed current Cathodic Protection system while work is being performed.

G. Structure Abandonment

- 1. Remove all mechanical and electrical systems and appurtenant equipment including ladders, gauges, fans, pipe supports, valves, and piping. Salvage to the Owner or legally dispose of per direction of the Owner's Representative.
- 2. Cut, remove, and legally dispose of the upper three (3) feet of all structures including frames and covers, concrete collars, grade rings, hatches, vents, and vault roofs and walls.
- 3. Break or core drill 4-inch holes into the floor of the structure. One hole per 16-square feet shall be made.

4. Inlet and outlet piping shall be plugged with concrete. Plug shall consist of a cast of 12" thick concrete.
5. Backfill structure with sand or 1-sack sand/cement slurry mix.
6. Site to be restored to existing conditions including, but not limited to, minor grading, pavement and/or concrete replacement, and landscaping/irrigation.

1.39 SITE RESTORATION

Contractor shall return all disturbed areas to pre-construction conditions including, but not limited to topographic elevations, grade and material of existing surface, slopes, curb and gutter, sidewalks, driveways, striping, seal coatings, landscaping, sod grass, fences, irrigation lines and facilities, railroad ties, District facilities, and structures.

All valve cans, whether new or existing, located within the final paving limits, shall be raised to grade per the Standard Specifications at no additional cost to the District.

1.40 TREE PROTECTION

Contractor shall protect trees in place in accordance with the Contract Documents. No tree shall be cut or trimmed without approval of a certified arborist and a District Representative. The cutting of roots greater than 2-inches in diameter shall not be allowed and hand-digging will be required.

1.41 TRAFFIC REGULATIONS

- A. The Contractor shall furnish maintenance of Traffic and Detours in accordance with these Specifications for all portions of this contract within or adjacent to public or private rights-of-way, streets and drives and replace all striping, reflectors, dots, or other traffic control materials.
- B. Traffic shall be maintained throughout the project in conformance with these Specifications and the traffic control permit. The Contractor shall furnish, construct, maintain and finally remove detours, road closures, lights, signs, barricades, fences, miscellaneous traffic devices, flagmen, and reconstruct paving and other such items and services as necessary to adequately safeguard the public from hazard and inconvenience. All such work shall be as provided in the Contract Documents herein or as directed by the Owner and shall comply with the ordinances, directives, and regulations of authorities with jurisdiction over the public or private roads in which the construction takes place, and over which detoured traffic is routed by the Contractor.
- C. It is the intent of these Specifications to provide for adequate traffic detour routing and signing to maintain a smooth and safe flow of traffic through and around the construction areas.
- D. Prior to the start of construction operations, the Contractor shall provide the fire and police departments having jurisdiction within the project area with the construction schedule giving the expected starting date, sequence of work, and time for each phase of construction completion date, and the name and direct telephone number (no voicemail) of three

responsible persons who may be contacted at any hour in the event of a condition requiring immediate correction.

- E. The Contractor shall submit traffic control permit(s) and the approved traffic control plans to the District before any Work requiring traffic control may begin.
 - 1. The Contractor shall be aware of the long lead time for jurisdictional agency permit approval and shall account for all associated costs and schedule impacts at no additional cost to the District.
- F. Traffic control warning signs, lights, and devices shall be in accordance with the Federal Highway Administration Manual on Uniform Traffic Control Devices (MUTCD), current edition.
- G. The Contractor shall include the placement of a changeable message sign in the City of Carlsbad, in the location of Calle Barcelona, beginning 14-days prior to the beginning of work and for the duration of all work.

END OF SECTION

SECTION 01150 – MEASUREMENT AND PAYMENT – AMENDED

PART 1 - GENERAL

1.1 DESCRIPTION

- A. The items described below in Paragraph 1.4 - Pay Items refer to and are the same pay items listed in the Bid Form. They constitute all of the pay items for the completion of the Work. No direct or separate payment will be made for providing miscellaneous temporary or accessory works, plant, services, Contractor's or Engineer's field offices, layout surveys, job signs, sanitary requirements, testing, safety devices, shop drawings, record drawings, water supplies, power, maintaining traffic, removal of waste, watchmen, bonds, insurance, and all other requirements of the Contract Documents. Compensation for all such services, materials, and items shall be included in the prices stipulated for the lump sum or unit price pay items listed herein.
- B. The lump sum bid prices and unit cost bid prices will be deemed to include an amount considered by the Contractor to be adequate to cover Contractor's overhead and profit for each separately identified item.

1.2 SCOPE

- A. Payment shall include all compensation to be received by the Contractor for furnishing all tools, equipment, supplies and manufactured articles and for all labor, operations and incidentals that are appurtenant to the items of Work and necessary to complete the various items of Work in accordance with the requirements of the Contract Documents. This shall include all appurtenances and the costs of compliance with the regulations of public agencies having jurisdiction, including Safety and Health Requirements of the California Division of Industrial Safety and the Occupational Safety and Health Administration of the U.S. Department of Labor (OSHA).
- B. Payment shall include all measures necessary to comply with all applicable State and Federal requirements for handling, transporting and disposal of asbestos containing materials (i.e., asbestos cement) including special handling these materials in a manner that will preclude their classification as regulated asbestos containing material and worker protection to reduce health and safety risks resulting from exposure to asbestos containing materials.

1.3 BREAKDOWN OF CONTRACT PRICE OF LUMP SUM CONTRACTS

- A. Prior to the execution of a lump sum contract, the Contractor shall submit a detailed price breakdown showing the allocated portion of the total bid price to the various items of Work. Contractor must submit a preliminary price breakdown for the review and approval of the Engineer. The Owner reserves the right to reject any breakdown submitted by the Contractor which the Owner judges insufficient to allow for the preparation of accurate monthly progress payment estimates or extra work, whether addition or deletion, similar in nature to the Work included in the Contractor's bid. The detailed price breakdown shall be listed by specification section number and shall include a separate cost item for all items of equipment or work. The price breakdown shall typically be a unit price type breakdown and shall include quantities, unit prices and total bid cost for each cost item. Where a unit price breakdown is judged

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impractical, the Owner may allow a breakdown by lump sum for certain cost items. This information will be used by the Owner in preparing monthly progress payment estimates.

1.4 PIPELINE AND APPURTENANT PAY ITEMS

- A. The following requirements, as applicable, shall apply to pipeline, valves, fire hydrants/fire services, water services, cathodic improvements, facility abandonments, and all appurtenant pay items listed in this Section (Bid Items 8 through 38 and 41), together with the additional requirements listed under each pay item. Payment shall include, but is not limited to, field surveying and staking; record of survey and replacement of monuments; pavement saw cutting; pavement hauling and disposal; excavation; notification and coordination for the de-energizing of existing steel mains prior to cutting; removal of abandoned structures and interfering pipe/fittings/valves or concrete thrust blocks from within trench excavations; cutting and plugging of abandoned pipe; subgrade preparation and compaction; surplus material disposal; conditioning of native material for backfill; imported bedding and backfill material and compaction for pipe zone and trench zone; slurry backfill where approved; recessed trench plating; installation, removal, and disposal of temporary asphalt concrete pavement; pipe and fittings; tubing; concrete thrust blocks, anchors, supports, and/or restraint devices; marking tape and tracer wire; concrete accelerate; relocation and/or protection of existing water services in conflict with new pipe installation; protection of the existing water main to maintain service to existing customers; pressure testing; disinfection and sampling (of potable water pipelines); polyethylene encasement; wax tape coating system; valve stem extensions; valve wells and covers; valve and lid grade adjustments with final paving; linings and coatings for metallic pipe; painting; temporary highlining; temporary or permanent connections to existing pipelines; dewatering and handling water from connecting pipes isolated by District forces; protection of existing District facilities, existing cathodic protection system, and existing road facilities such as sidewalks, driveways, curb and gutter, medians, signs, fencing, and light standards; removal of vegetation, landscaping, trees, or irrigation in conflict with improvements; tree root protection; tree trimming upon approval of a certified arborist; equipment or permits not included in any other bid item; working around existing utilities; coordination with the District and private property owners for access to perform work on private property; and all incidental work, complete in place, in accordance with the District Standard Specifications and Drawings and the Contract Documents. No adjustment to the Contract Price will be made for variations in trench width, pavement removal width, pavement material, or pavement thickness.

The pipeline payment shall also include, but not be limited to, furnishing all labor, materials, tools, and equipment and performing all work required for over-excavation, placement of fabric in accordance with product manufacturer's recommendations, and placement of crushed rock below the design trench subgrade elevation in accordance with the Contract Documents.

The pipeline payment shall include all labor, materials, tools, equipment and incidentals necessary to remove and replace material determined to be unsuitable by the District for use in the trench or pipe zone, including, but not limited to removal and disposal of unsuitable material, handling unsuitable or wet material, containment and clean-up of wet unsuitable material, additional shoring or

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dewatering, providing and placement of suitable backfill material, including hauling, mixing, and screening as necessary, compaction, and any schedule impacts.

1.5 PAY ITEMS – Base Bid

A. Bid Item 1 - Mobilization, Demobilization, Bonds, Permits, Insurance, & Cleanup

Payment shall include compensation for all labor, materials, tools and equipment including, but not limited to, the following principal items: obtaining and complying with permits not included in any other bid item; mobilizing labor force, equipment and construction facilities; providing Contractor field offices and storage yard; securing construction water supply; providing all temporary construction fencing and safety barriers; providing on-site sanitary facilities; obtaining groundwater discharge permits or waivers; posting OSHA requirements and establishing safety programs; daily cleanup; preparing the Schedule of Values prior to the pre-construction meeting; preconstruction/progress video and photographs; work not specified for payment in any other bid item; and all incidentals for the mobilization, demobilization, and permitting for construction of the project as described in the Contract Documents.

Payment shall also include bonds, insurance (including the City of Encinitas, City of Carlsbad, and the County of San Diego as additional insured with \$1,000,000 coverage limits), permit applications and fees for City of Encinitas, City of Carlsbad, and the County of San Diego Right-of-Way Construction Permit and incidentals thereto to construct the project in its entirety in accordance with the Contract Documents. City of Encinitas, City of Carlsbad, and the County of San Diego construction inspection fees only will be paid for by the Owner. Traffic control and right-of-way/encroachment fees are the responsibility of the Contractor. Earthquake & Tidal Wave Insurance is not required.

Payment for this item shall be limited to eight (8) percent of the total contract price.

B. Bid Item 2 – Excavation Support Systems

Payment shall include, but is not limited to, obtaining and complying with all permits and regulations of the California Occupational Safety and Health (Cal/OSHA); preparing and submitting plans by a licensed Engineer and obtaining State Division of Industrial Safety permit(s) for excavations that are 5 feet deep or greater; and all incidental work for sheeting, shields, shoring, sloping or benching of excavation side slopes, or other protective systems necessary for the support of trench excavations and for worker protection from materials or equipment that could pose a hazard by falling or rolling into excavations, including but not limited to railing and fence.

C. Bid Item 3 – Traffic Control (Day Work)

Payment shall include compensation for all labor, materials, tools, and equipment including, but not limited to the following principal items: preparation of final traffic control plans (see preliminary traffic control plans in Appendix C) for review and approval by the City of Encinitas, City of Carlsbad, and the County of San Diego; payment of all jurisdictional agency traffic control fees; implementation of traffic control devices per the approved plans for the duration of construction for all

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daytime construction activities including, but not limited to advance warning signs, changeable message signs, maintenance of detours, barricades, flagmen, control of parking, protection of cyclists and pedestrians; and all other incidental work as described in the Contract Documents.

D. Bid Item 4 – Traffic Control (Night Work)

Payment shall include compensation for all labor, materials, tools, and equipment including, but not limited to the following principal items: preparation of final traffic control plans (see preliminary traffic control plans in Appendix C) for review and approval by the City of Encinitas, City of Carlsbad, and the County of San Diego; payment of all jurisdictional agency traffic control fees; implementation of traffic control devices per the approved plans for the duration of construction for all nighttime construction activities including, but not limited to advance warning signs, changeable message signs, maintenance of detours, barricades, flagmen, control of parking, protection of cyclists and pedestrians, lights, reflectors; and all other incidental work as described in the Contract Documents.

E. Bid Item 5 – Storm Water Pollution Prevention

Payment shall include compensation for all labor, materials, tools, and equipment including but not limited to the following principal items: preparing a SWPPP, WQCP, ECP, or other storm water pollution prevention documentation in conformance with the Construction General Permit and/or jurisdictional authority (City of Encinitas) as is applicable; implementing best management practices and erosion control measures in conformance with the SWPPP documentation; placement of erosion control measures, monitoring, reporting, and any appurtenant work; and all other incidental work as described in the Contract Documents.

F. Bid Item 6 – Potholing

Payment for potholing shall include full compensation for all labor, materials, tools, equipment and incidentals for the potholing of utilities two (2) weeks in advance of propose pipeline installation that join, cross, or parallel the work (within 5 feet) prior to construction including surveying and staking, excavation, shoring, bracing, backfill, site restoration and incidental work necessary to verify the sizes, material types, elevations, inclinations and bearings of existing utilities within the work areas whether shown on the plans or located in the field in accordance with the Contract Documents. Potholing shall be conducted for the proposed pipelines, lateral piping for appurtenances. And connections. Potholing of existing utilities that parallel the proposed pipelines shall be conducted at an interval sufficient to establish their locations with respect to the centerline of the proposed construction. Payment for this bid item shall include costs for traffic control, permits and related drawings for potholing activities that are not included in any other bid item, if necessary, prepared to the satisfaction of the governing jurisdiction.

G. Bid Item 7 – Dewatering

Payment for dewatering shall include, but is not limited to, all labor, materials, tools, equipment, supplies, supervision, and incidentals required for obtaining groundwater discharge permit(s) and performing dewatering as necessary to complete the Work in accordance with the Contract Documents. Payment for this bid item shall include compliance with the Regional Water Quality Control Board (RWQCB) requirements for groundwater discharge to the environment including,

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but not limited to, sampling, volumetric measurement, temporary containment, treatment, testing for clarity and constituents as required, monitoring and reporting. This bid item shall also include the installation and destruction of groundwater monitoring wells which may be required for the project including, but not limited to, permit applications, payment of fees, and submittal of well destruction reports by the Contractor to the County of San Diego, Department of Environmental Health. If Contractor elects to discharge to a sewer, this item shall also include compliance with the Cardiff Sanitary District (CSD) and San Elijo Joint Powers Authority (SEJPA) requirements for groundwater discharge to a sewer including, but not limited to, permitting, insurance, submittals, inspection fees, sampling, volumetric measurement, temporary containment, treatment, testing for clarity and constituents as required, monitoring and reporting. Payment shall include all coordination, submittals, insurance, construction means and methods, and incidentals to comply with RWQCB, CSD and SEJPA requirements.

H. Bid Item 8 – Install New 12-inch PVC

Payment shall include all labor, materials, tools, equipment and incidentals to construct approximately 1,860 lineal feet of 12-inch diameter PVC pipeline (Station 10+01 to Station 54+85). Payment shall exclude the material price of the pipe.

I. Bid Item 8a – 12-inch PVC

Payment shall include the material price of 12-inch diameter PVC pipeline associated with Bid Item No. 8.

J. Bid Item 9 – Install New 10-inch PVC

Payment shall include all labor, materials, tools, equipment and incidentals to construct approximately 15 lineal feet of 10-inch diameter PVC pipeline (Station 22+39 to Station 22+39). Payment shall exclude the material price of the pipe.

K. Bid Item 9a – 10-inch PVC

Payment shall include the material price of 10-inch diameter PVC pipeline associated with Bid Item No. 9.

L. Bid Item 10 – Install New 8-inch PVC

Payment shall include all labor, materials, tools, equipment and incidentals to construct approximately 1,010 lineal feet of 8-inch diameter PVC pipeline (Station 22+57 to Station 64+42). Payment shall exclude the material price of the pipe.

M. Bid Item 10a – 8-inch PVC

Payment shall include the material price of 8-inch diameter PVC pipeline associated with Bid Item No. 10.

N. Bid Item 11 – Install New 6-inch PVC

Payment shall include all labor, materials, tools, equipment and incidentals to construct approximately 450 lineal feet of 6-inch diameter PVC pipeline (Station 10+23 to Station 64+42). Payment shall exclude the material price of the pipe.

O. Bid Item 11a – 6-inch PVC

Payment shall include the material price of 6-inch diameter PVC pipeline associated with Bid Item No. 11.

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P. Bid Item 12 – Install 18-inch PVC Casing with 12-inch PVC Carrier Pipe

Payment shall include compensation for all labor, materials, tools, and equipment including, but not limited to, the following principal items: furnishing and installation via trenchless pipe ramming or tunneling of PVC casing pipe of the sizes and at the locations shown on the plans; exploratory excavation for utility conflicts; removal or protection of interfering portions of existing utilities or improvements; excavation; bedding; backfill; compaction; temporary and permanent surface repair; end seals; 12-inch carrier pipe; casing spacers; sand or slurry backfill of the annular space between the casing and the carrier pipe; slurry backfill; maintaining line and grade; and all other incidental work as described in the Contract Documents. Payment shall exclude the material price of the pipe.

Q. Bid Item 12a – 18-inch PVC

Payment shall include the material price of 18-inch diameter PVC pipeline associated with Bid Item No. 12.

R. Bid Item 13 – Install 12-inch Occlude Valve

Payment shall include compensation for all labor, materials, tools, and equipment to construct approximately one (1) 12-inch occlude valve in accordance with the Contract Documents.

S. Bid Item 14 – Install 12-inch RWGV

Payment shall include compensation for all labor, materials, tools, and equipment to construct approximately seventeen (17) 12-inch resilient wedge gate valves in accordance with the Contract Documents.

T. Bid Item 15 – Install 10-inch RWGV

Payment shall include compensation for all labor, materials, tools, and equipment to construct approximately one (1) 10-inch resilient wedge gate valves in accordance with the Contract Documents.

U. Bid Item 16 – Install 8-inch RWGV

Payment shall include compensation for all labor, materials, tools, and equipment to construct approximately five (5) 8-inch resilient wedge gate valves in accordance with the Contract Documents.

V. Bid Item 17 – Install 6-inch RWGV

Payment shall include compensation for all labor, materials, tools, and equipment to construct approximately fourteen (14) 6-inch resilient wedge gate valves in accordance with the Contract Documents.

W. Bid Item 18 – Install 2-inch Blow Off Assembly per Std Dwg A-1.2

Payment shall include compensation for all labor, materials, tools, and equipment to construct approximately eleven (11) 2-inch blow off assemblies in accordance with Standard Drawing A-1.2 and the Contract Documents.

X. Bid Item 19 – Install 2-inch Manual Air Release Assembly per Std Dwg A-2.2

Payment shall include compensation for all labor, materials, tools, and equipment to construct approximately twelve (12) 2-inch manual air release assemblies in accordance with Standard Drawing A-2.2 and the Contract Documents.

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- Y. Bid Item 20 – Install 6-inch Fire Hydrant/Fire Service Reconnection
- Payment shall include compensation for all labor, materials, tools, and equipment to construct approximately ten (10) 6-inch fire hydrant or fire service reconnections in accordance with the Contract Documents including, but not limited to, potholing connection point, offset piping as needed to make connection and install 12-inches underneath an existing concrete channel; transition or repair couplings, weld tap connections where shown on the plans; excluding separate bid items for pipe and valves except pipe and fittings as needed for field adjustments.
- Z. Bid Item 21 – Install Fire Hydrant Assembly with relocated fire hydrant per Std Dwg C-1.2
- Payment shall include compensation for all labor, materials, tools, and equipment to relocate approximately three (3) new fire hydrants in accordance with Standard Drawing C-1.2 and the Contract Documents including, but not limited to, reuse and relocation of the existing fire hydrant head, painting, and the replacement of hydrant caps; offset piping as needed to install 12-inches underneath an existing concrete channel; excluding separate bid items for pipe and valves. Contractor shall use all new materials except as listed.
- AA. Bid Item 22 – Install Fire Service Assembly with relocated RPDC per Std Dwg C-3.1
- Payment shall include compensation for all labor, materials, tools, and equipment to relocate approximately one (1) new fire service assembly in accordance with Standard Drawing C-3.1 and the Contract Documents including, but not limited to, potholing the private connection point, offset piping as needed to make connection and install 12-inches underneath an existing concrete channel; transition or repair couplings, reuse and relocation of the existing reduced pressure detector check with bypass meter and valves and supports, excluding separate bid items for pipe and valves except pipe and fittings as needed for field adjustments. Contractor shall use all new materials except as listed.
- BB. Bid Item 23 – Install 1-inch Water Service Reconnection per Std Dwg B-1.1 and Plan Detail
- Payment shall include compensation for all labor, materials, tools, and equipment to reconnect approximately eighteen (18) 1-inch water services in accordance with Standard Drawing B-1.1 and the Contract Documents including, but not limited to, potholing the connection point; connection coupling; routing the copper to avoid conflict with existing utilities and water main; weld tap connections where shown on the plans; and installing anodes to the existing copper as shown on the plans.
- CC. Bid Item 24 – Install 1.5-inch Water Service Reconnection per Std Dwg B-1.2 and Plan Detail
- Payment shall include compensation for all labor, materials, tools, and equipment to reconnect approximately two (2) 1.5-inch water services in accordance with Standard Drawing B-1.2 and the Contract Documents including, but not limited to, potholing the connection point; connection coupling; routing the copper to avoid conflict with existing utilities and water main; routing the copper 12-inches underneath an existing concrete channel; and installing anodes to the existing copper as shown on the plans.

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- DD. Bid Item 25 – Install 2-inch Water Service Reconnection per Std Dwg B-1.2 and Plan Detail

Payment shall include compensation for all labor, materials, tools, and equipment to reconnect approximately three (3) 2-inch water services in accordance with Standard Drawing B-1.2 and the Contract Documents including, but not limited to, potholing the connection point; connection coupling; routing the copper to avoid conflict with existing utilities and water main; and installing anodes to the existing copper as shown on the plans.

- EE. Bid Item 26 – Install 1-inch Water Service with relocated meter per Std Dwg B-1.1

Payment shall include compensation for all labor, materials, tools, and equipment to construct approximately eight (8) new 1-inch water services in accordance with Standard Drawing B-1.1 and the Contract Documents including, but not limited to, weld tap connections where shown on the plans; routing the copper to avoid conflict with existing utilities and water main; routing the copper 12-inches underneath an existing concrete channel; relocation of the existing meter and meter box/lid; potholing the private connection point; reconnecting the private service with Schedule 40 pipe, fittings, engraved irrigation boxes, concrete thrust blocks and connection coupling. Contractor shall use all new materials except as listed.

- FF. Bid Item 27 – Install 1-inch Water Service per Std Dwg B-1.1 and RPBP per Std Dwg C-2.1 with relocated meter and assembly

Payment shall include compensation for all labor, materials, tools, and equipment to construct approximately two (2) new 1-inch water services and reduced pressure backflow preventer in accordance with Standard Drawing B-1.1 and C-2.1 and the Contract Documents including, but not limited to, routing the copper to avoid conflict with existing utilities and water main; relocation of the existing meter and meter box/lid and reduced pressure backflow preventer with ball valves; new enclosure with pad and anchorage; potholing the private connection point; reconnecting the private service with Schedule 40 pipe, fittings, engraved irrigation boxes, concrete thrust blocks, and connection coupling. Contractor shall use all new materials except as listed.

- GG. Bid Item 28 – Connection 10+01.25

Payment shall include compensation for all labor, materials, tools, and equipment to connect to existing infrastructure at Station 10+01.25 including, but not limited to, potholing connection points, temporary and permanent connections and fittings to existing or new facilities as part of contractors phasing and shutdown sequence and per plan; cut, cap, & remove existing pipe in conflict with reconnection; dewatering pipe and handling leak-by as indicated in the Contract Documents; ACP disposal; concrete thrust blocks and concrete accelerants; removal of the existing blind flange and concrete thrust block; transition or repair couplings; installation of new blind flange and separation from existing pipe during the abandonment phase; excluding separate bid items for pipe and valves except pipe and fittings as needed for field adjustments.

- HH. Bid Item 29 – Connection 15+01.50

Payment shall include compensation for all labor, materials, tools, and equipment to connect to existing infrastructure at Station 15+01.50 including, but not limited

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to, potholing connection points, temporary and permanent connections and fittings to existing or new facilities as part of contractors phasing and shutdown sequence and per plan; cut, cap, & remove existing pipe in conflict with reconnection; dewatering pipe and handling leak-by as indicated in the Contract Documents; ACP disposal; concrete thrust blocks and concrete accelerants; removal of the existing blind flange and concrete thrust block; removal of existing 2-inch blow-off; repair of adjacent curb and gutter from removals; transition or repair couplings; excluding separate bid items for pipe and valves except pipe and fittings as needed for field adjustments.

II. Bid Item 30 – Connection 20+06.25

Payment shall include compensation for all labor, materials, tools, and equipment to connect to existing infrastructure at Station 20+06.25 including, but not limited to, potholing connection points, temporary and permanent connections and fittings to existing or new facilities as part of contractors phasing and shutdown sequence and per plan; cut, cap, & remove existing pipe in conflict with reconnection; dewatering pipe and handling leak-by as indicated in the Contract Documents; ACP disposal; concrete thrust blocks and concrete accelerants; removal of the existing blind flange and concrete thrust block; removal of existing 2-inch manual air release; transition or repair couplings; excluding separate bid items for pipe and valves except pipe and fittings as needed for field adjustments.

JJ. Bid Item 31 – Connection 22+39.26

Payment shall include compensation for all labor, materials, tools, and equipment to connect to existing infrastructure at Station 22+39.26 including, but not limited to, potholing connection points, temporary and permanent connections and fittings to existing or new facilities as part of contractors phasing and shutdown sequence and per plan; offset piping as needed to make a connection; cut, cap, & remove existing pipe in conflict with reconnection; dewatering pipe and handling leak-by as indicated in the Contract Documents; ACP disposal; concrete thrust blocks and concrete accelerants; transition or repair couplings; excluding separate bid items for pipe and valves except pipe and fittings as needed for field adjustments.

KK. Bid Item 32 – Connection 22+57.23

Payment shall include compensation for all labor, materials, tools, and equipment to connect to existing infrastructure at Station 22+57.23 including, but not limited to, potholing connection points, temporary and permanent connections and fittings to existing or new facilities as part of contractors phasing and shutdown sequence and per plan; offset piping as needed to make a connection; cut, cap, & remove existing pipe in conflict with reconnection; dewatering pipe and handling leak-by as indicated in the Contract Documents; ACP disposal; concrete thrust blocks and concrete accelerants; transition or repair couplings; excluding separate bid items for pipe and valves except pipe and fittings as needed for field adjustments.

LL. Bid Item 33 – Connection 28+76.25

Payment shall include compensation for all labor, materials, tools, and equipment to connect to existing infrastructure at Station 28+60.00 including, but not limited to, potholing connection points, temporary and permanent connections and fittings to existing or new facilities as part of contractors phasing and shutdown sequence and per plan; cut, cap, & remove existing pipe in conflict with reconnection; dewatering pipe and handling leak-by as indicated in the Contract Documents;

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ACP disposal; concrete thrust blocks and concrete accelerants; transition or repair couplings and closure coupling; weld flange connection to existing steel pipe; installation of new blind flange and separation from existing pipe during the abandonment phase; excluding separate bid items for pipe and valves except pipe and fittings as needed for field adjustments.

MM. Bid Item 34 – Connection 50+67.00

Payment shall include compensation for all labor, materials, tools, and equipment to connect to existing infrastructure at Station 50+67.00 including, but not limited to, potholing connection points, temporary and permanent connections and fittings to existing or new facilities as part of contractors phasing and shutdown sequence and per plan; cut, cap, & remove existing pipe in conflict with reconnection; dewatering pipe and handling leak-by as indicated in the Contract Documents; ACP disposal; concrete thrust blocks and concrete accelerants; transition or repair couplings and closure coupling; weld flange connection to existing steel pipe; installation of new blind flange and separation from existing pipe during the abandonment phase; repair of adjacent curb and gutter if damaged during connection; excluding separate bid items for pipe and valves except pipe and fittings as needed for field adjustments.

NN. Bid Item 35 – Connection 51+01.86

Payment shall include compensation for all labor, materials, tools, and equipment to connect to existing infrastructure at Station 51+01.86 including, but not limited to, potholing connection points, temporary and permanent connections and fittings to existing or new facilities as part of contractors phasing and shutdown sequence and per plan; offset piping as needed to make a connection; cut, cap, & remove existing pipe in conflict with reconnection; dewatering pipe and handling leak-by as indicated in the Contract Documents; ACP disposal; concrete thrust blocks and concrete accelerants; transition or repair couplings; excluding separate bid items for pipe and valves except pipe and fittings as needed for field adjustments.

OO. Bid Item 36 – Connection 63+73.02

Payment shall include compensation for all labor, materials, tools, and equipment to connect to existing infrastructure at Station 63+73.02 including, but not limited to, potholing connection points, temporary and permanent connections and fittings to existing or new facilities as part of contractors phasing and shutdown sequence and per plan; offset piping as needed to make a connection; cut, cap, & remove existing pipe in conflict with reconnection; dewatering pipe and handling leak-by as indicated in the Contract Documents; ACP disposal; concrete thrust blocks and concrete accelerants; transition or repair couplings; excluding separate bid items for pipe and valves except pipe and fittings as needed for field adjustments.

PP. Bid Item 37 – Pipeline and Facility Abandonment

Payment shall include compensation for all labor, materials, tools, and equipment including, but not limited to the following principal items: slurry filling pipe abandoned in place if 16-inch or larger; installing concrete plugs; removing pipe at 200' intervals per San Diego County Standards; removing and filling valve cans; properly handling, cutting, shaping, and disposal of asbestos containing materials; and all other incidental work as described in the Contract Documents. Work shall include the disconnection of an existing 12" pipe from a 16" pipe at approximate station 17+27 and installation of a blind flange as shown on the plans.

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QQ. Bid Item 38 – Remove and Replace Concrete Drainage Channel

Payment shall include compensation for all labor, materials, tools, and equipment including, but not limited to the following principal items: removing and replacing existing concrete drainage channel in-kind (see Appendix E for the channel as-builts); managing run-on and construction water; disposal; subgrade backfill and compaction; reinforcement; bonding and curing agents; finish to match existing; and all other incidental work as described in the Contract Documents and as needed to perform the Work determined by the Contractor to install the proposed District facilities.

RR. Bid Item 39 – Remove and Replace Median Concrete Curb

Payment shall include compensation for all labor, materials, tools, and equipment including but not limited to the following principal items: removing and replacing existing median curb along Encinitas Boulevard in-kind; disposal; removal and replacement of colored concrete median if damaged; and all other incidental work as described in the Contract Documents.

SS. Bid Item 40 – Cathodic Protection

Payment shall include compensation for all labor, materials, tools, and equipment to install the Cathodic Protection system per the plans including, but not limited to the following principal items: anodes; test stations (post mounted and at-grade); exothermic connections; patching and repair of existing steel pipe; bond wires and jumper wires; Schedule 40 bond wire sleeving; coordination and scheduling for testing by the District's cathodic protection representative; abandonment of the existing cathodic protection system shown on the plans; and all other incidental work as described in the Contract Documents.

TT. Bid Item 41 – Site Restoration

Payment shall include all labor, materials, tools, and equipment necessary to restore disturbed areas to like conditions from all work such as minor asphalt patches, sidewalk, driveways, pavers, DG trails, stamped concrete, colored concrete, curbs, gutters, medians, retaining and block walls, plantings (trees/bushes), landscaping features, sod & irrigation, irrigation fittings, fencings and railing; and all other incidental work as described in the Contract Documents. Completed work shall meet the approval of the jurisdictional agency. All work to restore areas to pre-construction conditions shall be included in this Pay Item and shall be at no additional cost to the Owner.

UU. Bid Item 42– Potholing not shown on plans

Payment shall include all labor, materials, tools, equipment and incidentals necessary to locate the utility marked out in the field by Dig Alert but not shown on plans by reasonable means. Payment shall include traffic control, surveying and staking, excavation, ensuring continued operations of the utility and temporarily supporting the utility if necessary, working around the utility during pipeline installation, compaction and backfill, any schedule impacts, site restoration and incidental work necessary to verify the sizes, material types, elevations, inclinations and bearings of existing utilities within the work areas. All other potholing is included in Pay Item No. 6. Utilities located within 5-feet, center to center, are considered one (1) utility. The Owner reserves the right to vary the

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quantity of this bid Item from 0%-200% of the original bid quantity with no change in unit price

VV. Bid Item 43 – Allowance for Unsuitable Material

Payment shall include all labor, materials, tools, equipment and incidentals necessary to remove and replace material determined to be unsuitable by the District for use in the trench or pipe zone. This bid item does NOT apply to pipe subgrade which is covered under Standard Specification 02223-3.10 and overexcavation paid for under the individual Pay Items per Section 01150-1.4. Payment includes removal and disposal of unsuitable material, containment and clean-up of wet unsuitable material, additional shoring or dewatering, providing and placement of suitable backfill material, including hauling, mixing, and screening as necessary, compaction, and any schedule impacts. The Owner reserves the right to vary the quantity of this bid Item from 0%-200% of the original bid quantity with no change in unit price

WW. Bid Item 44 – Replace Traffic Loops

Payment shall include all labor, materials, tools, equipment and incidentals necessary to remove and replace traffic loops per City of Encinitas Standards within 72-hours of damage.

XX. Bid Item 45 – Base Pavement Asphalt Concrete

Payment for asphalt concrete shall include, but not be limited to, furnishing all labor, materials, tools and equipment necessary for Asphalt Concrete base paving of the trench, both class II aggregate base and asphalt concrete material per Section 02743, Appendix A, and the City of Encinitas Engineering Design Manual, complete in place, and shall include permits and traffic control not included in any other item of work; additional pavement grinding, saw cutting, removal, and disposal, removal and disposal of temporary pavement, and surface preparation not covered under another Pay Item; backfill and compaction of the class II aggregate base specified; prime and tack coat; asphalt concrete of the class and grade specified; base paving flush to adjacent surface; and all other incidental work necessary to complete this item of work in its entirety in accordance with the Contract Documents. No measurement or payment shall be made for asphalt concrete paving that is not ordered by the Owner, that extends beyond the paving limits shown or specified on the Drawings or Standard Drawings, or for paving that is required to restore existing pavements damaged by the Contractor's operations to the condition existing prior to the start of construction. Payment will not be adjusted for variations in trench width, pavement removal width, pavement material, or pavement thickness. Refer to existing asphalt thickness per Appendix D. Payment will include paving limits requirements per Section 02743. The Owner reserves the right to vary the quantity of this bid Item from 0%-200% of the original bid quantity with no change in unit price.

YY. Bid Item 46 – Base Pavement Asphalt Concrete (Asphalt greater than or equal to 10-inches)

Payment for asphalt concrete shall include, but not be limited to, furnishing all labor, materials, tools and equipment necessary for Asphalt Concrete base paving of the trench, both class II aggregate base and asphalt concrete material per Section 02743, Appendix A, and the City of Encinitas Engineering Design Manual, complete in place where the existing asphalt is greater than or equal to 10-inches,

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and shall include permits and traffic control not included in any other item of work; additional pavement grinding, saw cutting, removal, and disposal, removal and disposal of temporary pavement, and surface preparation not covered under another Pay Item; backfill and compaction of the class II aggregate base specified; prime and tack coat; asphalt concrete of the class and grade specified; base paving flush to adjacent surface; and all other incidental work necessary to complete this item of work in its entirety in accordance with the Contract Documents. No measurement or payment shall be made for asphalt concrete paving that is not ordered by the Owner, that extends beyond the paving limits shown or specified on the Drawings or Standard Drawings, or for paving that is required to restore existing pavements damaged by the Contractor's operations to the condition existing prior to the start of construction. Payment will not be adjusted for variations in trench width, pavement removal width, pavement material, or pavement thickness. Refer to existing asphalt thickness per Appendix D. Payment will include paving limits requirements per Section 02743. The Owner reserves the right to vary the quantity of this bid Item from 0%-200% of the original bid quantity with no change in unit price.

ZZ. Bid Item 47 – Final Pavement Asphalt Concrete

Payment for asphalt concrete shall include, but not be limited to, furnishing all labor, materials, tools and equipment necessary for Asphalt Concrete for the final trench overlay per Section 02743, Appendix A, and the City of Encinitas Engineering Design Manual, complete in place, and shall include permits and traffic control not included in any other item of work; additional pavement grinding, saw cutting, removal, and disposal, removal and disposal of temporary pavement, and surface preparation; tack coat; asphalt concrete of the class and grade specified; pavement reinforcement membrane; grind and cap flush to adjacent surface; raising to grade all valves (District or other utility owners) within the area of the overlay; and all other incidental work necessary to complete this item of work in its entirety in accordance with the Contract Documents. No measurement or payment shall be made for asphalt concrete paving that is not ordered by the Owner, that extends beyond the paving limits shown or specified on the Drawings or Standard Drawings, or for paving that is required to restore existing pavements damaged by the Contractor's operations to the condition existing prior to the start of construction. Payment will not be adjusted for variations in trench width, pavement removal width, pavement material, or pavement thickness. Payment will include paving limits requirements per Section 02743. The Owner reserves the right to vary the quantity of this bid Item from 0%-200% of the original bid quantity with no change in unit price.

AAA. Bid Item 48 – Rubber Polymer Modified Slurry

Payment for slurry seal work shall include, but not be limited to, furnishing all labor, materials, tools and equipment necessary for the application of Rubber Polymer Modified Slurry for the full lane width impacted by final overlay work coinciding with pipeline work parallel to the roadway and approximately 6-feet wide centered on final overlay work coinciding with pipeline work perpendicular to the roadway, complete in place, and shall include permits and traffic control not included in any other item of work; application of herbicide; crack cleaning; crack sealing; protection of impacted utility/valve lids/covers; slurry seal; curing and protection; and all other incidental work necessary to complete this item of work in its entirety in accordance with the Contract Documents. Work shall also include the areas

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where asphalt concrete improvements have been made outside the roadway including private property, the full intersection of Encinitas Boulevard and Manchester Avenue, and curb to curb from the intersection of Encinitas Boulevard and Manchester Avenue approximately 325-feet north to join the limits of slurry placed from a previous project just north of the Olivenhain Platz shopping center. No measurement or payment shall be made for slurry seal that is not ordered by the Owner, or that extends beyond the limits shown or specified on the Drawings or Standard Drawings, or for slurry seal that is required to restore existing pavements damaged by the Contractor's operations to the condition existing prior to the start of construction. The Owner reserves the right to vary the quantity of this bid Item from 0%-200% of the original bid quantity with no change in unit price.

BBB. Bid Item 49 – Restriping

Payment for restriping shall include, but not be limited to, furnishing all labor, materials, tools and equipment necessary for the application of pavement striping and markings and thermoplastic crosswalk striping per City of Encinitas Standards, complete in place, and shall include permits and traffic control not included in any other item of work; removal of existing striping; temporary striping; pavement striping, markings, and raised markers; and all other incidental work necessary to complete this item of work in its entirety in accordance with the Contract Documents. Pavement striping and marker removal shall be per City of Encinitas Standards. No measurement or payment shall be made for striping that is not ordered by the Owner, or that extends beyond the limits shown or specified on the Drawings or Standard Drawings, or for striping that is required to restore existing pavements damaged by the Contractor's operations to the condition existing prior to the start of construction.

1.6 PAY ITEMS – Add Alternate Bid

A. Bid Item 1 - Install Temporary Traffic Control Cameras at the Encinitas Blvd./Manchester Ave. Intersection

Payment shall include compensation for all labor, materials, tools and equipment to install a fully integrated Temporary Traffic Control Camera System at the Encinitas Blvd./Manchester Ave. Intersection to manage the flow of traffic at standard volumes under a construction situation during the course of the Work prior to the cutting of traffic loops. Work shall include, but not limited to, installing a system fully compatible with the existing City of Encinitas equipment, all coordination with City staff for the submittal, approval, installation, and removal process, field connections, equipment support during its use, all mobilization, permits, and traffic control associated with the Work, and all other incidental work as described in the Contract Documents.

END OF SECTION

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PART 1P - GENERAL

1.01 SUMMARY

- A. Section includes: Requirements for sequencing and scheduling the Work affected by existing site and distribution pipelines, work restrictions, and coordination between construction operations and District operations.

1.02 SUBMITTALS

- A. Baseline Schedule with MOP tasks.
- B. Method of Procedure (MOP) Form.
- C. Method of Procedure (MOP) Log.
- D. Progress Schedule with MOP tasks.

1.03 GENERAL CONSTRAINTS ON SEQUENCE AND SCHEDULING OF WORK

- A. Perform abandoned pipe Work per plan and as specified in OMWD Standard Specification Section 02050 – Demolition and Section 00810 – Special Provisions.
- B. Water projects:
 - 1. The existing potable water distribution pipelines in the project area are the Owner's sole source of existing drinking water conveyance to customers.
 - 2. Conduct Work such that the Owner's ability to meet its customer's demands for drinking water shall not be impaired or reduced in terms of the required quantity or quality of treated water. Do not reduce conveyance capacity below levels sufficient to meet demands for water throughout the contract time.
- C. Work sequence and constraints:
 - 1. Utilize description of critical events in work sequence in this Section as a guideline for scheduling and undertaking the Work.
 - 2. Work sequence and constraints presented do not include all items affecting completion of the Work but are intended to describe critical events necessary to minimize disruption of the existing facilities and to ensure compliance with National Pollutant Discharge Elimination System, permit requirements.

1.04 SHUTDOWN AND CONSTRUCTION CONSTRAINTS

- A. Night Work
 - 1. A majority of work will occur in high-traffic areas and a busy intersection. The Contractor shall assume that night work will be required for portions of

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work in the areas described by phases 01 through 14, 20, and 21, in the preliminary traffic control plans as provided in Appendix C.

B. General shutdown constraints:

1. Proposed shutdowns of bus stops require the approval of the jurisdictional authority, which, if required, shall be procured by the Contractor at no additional cost to the Owner. The Contractor shall provide all necessary mitigation measures required by the jurisdictional authority at no additional cost to the Owner.
2. Shutdown rectifiers as necessary to perform work. Coordinate with OMWD and SDWD a minimum of 14 calendar days in advance of rectifier shutdown. Work to be performed by OMWD staff only.
3. Execute the Work while the existing potable water pipelines are in operation, unless otherwise permitted by Owner.
4. The Contractor shall expect nuisance water from existing valves which do not properly seal, as identified in this Section. The Contractor shall prepare for dewatering activities in accordance with the anticipated valve leakage flowrates, as identified in this Section. Payment for handling leak-by shall be included in the individual connection bid items per Section 01150.
5. Some activities may be accomplished without a shutdown. Contractor shall submit details for identified work for approval by Owner.
6. Apply to activities of construction regardless of process or work area.
7. Activities that disrupt utilities operations must comply with these shutdown constraints.
8. Organize work to be completed in a minimum number of shutdowns.
9. Provide thorough advanced planning, including having required equipment, materials, and labor on hand at time of shutdown. Owner to verify materials prior to scheduling Work.
10. Where required to minimize interruptions while complying with specified sequencing constraints, provide temporary pumping, power, lighting, controls, instrumentation, and safety devices at no additional cost to the Owner.
11. Final determination of the permitting of shutdowns will be the sole judgment of the Owner.
12. Scheduled shutdowns are not guaranteed and may be subject to cancellation by the Owner at any time due to system operational status, including but not limited to, shutdowns already initiated and in progress. Cancelling of a scheduled shutdown is at the sole discretion of the Owner and is at no additional cost to the Owner.

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13. At a minimum, the following facilities must be in service in order to proceed with a scheduled shutdown.
 - a. All utility crossings and connections shall be potholes prior to Phase I.
 - b. All project pipelines shall be installed, tested and accepted as part of Phase I work before proceeding to Phase II work including shutdowns and interconnections.
 - c. All project interconnections and shutdowns as part of Phase II work shall be completed, tested and accepted before proceeding to Phase III work for pipeline abandonments and demolition.
 - d. All project abandonments and demolition included in Phase III work, including surface restoration shall be completed, tested and accepted before proceeding to project punch list, closeout, and demobilization.

C. Shutdown activities:

1. Coordination with Owner: Coordinate with all project stakeholders for each shutdown including but not limited to OMWD, SDWD, City of Encinitas, and the North County Transit District. Traffic impacts may also affect the City of Carlsbad and the County of San Diego.
2. Scheduling:
 - a. Perform between the hours of 10 p.m. and 5 a.m. or as otherwise approved by Owner. Water service may be shut down at 9 p.m. to facilitate the draining of pipelines at the sole discretion of the Owner.
 - b. Customers affected by the shutdown shall be back in service for water by 6 a.m.
3. Unplanned shutdowns due to emergencies are not defined in this Section.

D. Dewatering of pipelines and disposal:

1. The Owner may use its own forces to dechlorinate and drain lines at above ground facilities only. The management of water drained into a trench, regardless of the origin or cause of the water, shall be the sole responsibility of the Contractor.
2. When the Owner has turned the project pipelines over to the Contractor for modification or temporary use, the Contractor is responsible for all costs and procedures required to dewater and dispose of the water in accordance with OMWD Standard Specification 02140 – Dewatering.
 - a. Costs for dewatering, disposal of water, permits, BMPs, and preparation of surfaces for the Work are Contractor's responsibility.
 - 1) Includes tipping fees for the removal and disposal of the grit/debris.

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- 2) Include permit fees for disposal of water.
- b. Dewatering of grit/debris to meet landfill requirements is the responsibility of the Contractor.
- c. Contractor shall provide adequate time in schedules for draining and cleanup of dewatered pipelines and trenches.

1.05 METHOD OF PROCEDURE (MOP)

- A. MOP Instructions: See Appendix A, this Section.
- B. Prepare MOP for the following conditions:
 1. Shutdowns, diversions, and tie-ins to existing utilities.
 2. Start-up activities.
 3. Power interruption.
 4. Switch over between temporary and permanent facilities, equipment, and piping.
- C. Other Work not specifically listed may require MOPs as determined necessary by the Contractor, Owner, or Engineer.
- D. Submit Baseline Schedule.
- E. Submit MOP Log at construction progress meetings. Contractor to provide.
- F. No consideration will be given to claims of additional time and cost associated to preparing MOPs required by the Owner and Engineer to complete this work in a manner that facilitates proper sequence of work and compliance with effluent discharge criteria.
- G. Where required to minimize interruptions while complying with specified sequencing constraints, provide temporary pumping, power, lighting, controls, instrumentation, and safety devices.

1.06 OPERATIONS AND MAINTENANCE ACCESS

- A. Provide safe, continuous access to Owner's assets and facilities for operations personnel.

1.07 UTILITIES

- A. Prior to excavation, provide advance notice to and utilize services of Underground Services Alert (U.S.A.) for location and marking of underground utilities operated by utility agencies other than the Owner.

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- B. Maintain electrical, telephone, water, gas, sanitary facilities, and other utilities within existing facilities in service. Provide temporary utilities when necessary.
- C. New utilities were designed using existing As-Built record drawings.
 - 1. Limited field verification of utilities locations was performed during design per Appendix D. Contractor shall field-verify the horizontal and vertical location of all existing buried utilities before proceeding with construction.
 - 2. Services crossed or located nearby by new utilities may require relocation and possible shutdowns.
 - 3. Pipe alignments are as indicated on the Plans.

1.08 WORK SEQUENCE

Outline work sequence for Owner's review and approval. The proposed methodology to complete this project is focused around a phased planning approach that will provide logistical and technical means to execute the project successfully.

The proposed methodology utilizes a three-phased approach for construction. Phase I of the approach consists of the installation of the new parallel PVC pipeline and valving system without disruption to the existing pipeline system, Phase II entails isolated shutdowns and pipeline interconnections (tie-ins) between the new and existing pipeline systems at strategically planned locations, and Phase III involves the abandonment and/or demolition of existing piping and project closeout activities.

Utilizing independent 'Means and Methods', the Contractor shall seek to optimize construction costs by grouping similar work items including pipeline construction, tie-ins, testing and inspection, disinfection, and abandonments into a linear and logical construction timeline. Project guidelines and standards set in place by the Owner are stated as follows:

- 1. Minimize the use of inline occlude valves and/or line stops, per plan that will be subsequently abandoned.
- 2. Limit each affected customer to one mainline shutdown per meter, unless otherwise approved by Owner. A single 15-minute shutdown to switch over service from the existing service to the new service is excluded from this limit.
- 3. Limit the amount of work and plan the shutdowns so they can be accomplished in 7-hour shutdown window during nighttime work hours, as approved by Owner and as described in this Section.

This following draft sequence of work is included for informational purposes only:

- B. Phase I – Installation of Pipelines - the activities of Phase I shall include installation of the new water mains, installation of water services, and Phase II preparatory work throughout all proposed Project pipeline corridors as described further below.
 - 1. **Installation of Water Mains** – The Contractor shall construct new water mains per plan. All mainline installations will be made using conventional open trench

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and backfill/compaction methods, except for the proposed trenchless installation alignment under the existing box culvert. Contractor shall submit a detailed work plan for the trenchless installation of pipe underneath the existing box culvert. All 6-inch and greater laterals shall be installed within 10-feet of tie-in locations. Upon approval from the Owner, the Contractor may be allowed to shift the location of a 6-inch lateral up to 4-feet to facilitate a connection. Disinfection and testing/inspection of the new pipelines will be required before the Contractor can proceed to future shutdowns or phases of work. Unless otherwise noted, during water main installation existing service laterals shall be modified to accommodate mainline construction with maximum shutdown duration of 1 hour per lateral. Work includes backfill, compaction, and permanent/temporary asphalt.

2. **Installation of water services** – The Contractor shall construct new service connections up to the existing service reconnection point, without reconnecting. The existing meters will be reconnected to the new service connections during Phase II of the Project, after the tie-ins have been performed and accepted for each shutdown area.
3. **Phase II Preparatory Work** – the Contractor shall expose the proposed tie-in locations on existing mains for future shutdown and tie-in shall be provided prior to all shutdowns. While base asphalt concrete (AC) can be installed over the majority of open pipe trench, the use of temporary steel plates in areas requiring future access over tie-in connections is acceptable. Steel plates shall be installed flush with the adjacent pavement and set a minimum of 12-inch beyond the trench line or excavation and secured in a safe manner. Contractor shall post signs indicating “steel plates ahead” where steel plates are present. Contractor is responsible for designing and installing shoring systems for excavations to remain open until backfilling at the end of Phase II. Shoring systems shall be installed at the end of each working day or when prep work is completed to prevent cave-ins at no additional cost to the Owner.

C. Phase II – Pipeline Interconnections (Tie-Ins)

The activities of Phase II shall include a sequenced isolated shutdown and tie-in plan to existing distribution water mains. The existing water main will remain energized to allow for service reconnections. Sequence the installation of the inline occlude valve, cut-in valves and/or tapping sleeve and valve combinations to occur during Phase II. Shutdowns require the use of existing valves that are known to leak. The Contractor shall provide dewatering for leaking valves at 200% of the leak rates identified herein at no additional cost to the Owner. The proposed sequencing combines the proposed shutdowns by geographic regions of the project area to minimize customers taken out of service. The following outlines the sequence of events related to the proposed tie-in connections and disconnect locations, as illustrated per Plan. All restraints and concrete thrust blocks shall be in place and shall have 70% of their 28-day strength prior to pressurization of the lines. This is anticipated to require higher-strength concrete and concrete admixtures to be utilized, which shall be provided at no additional cost to the Owner. It is also anticipated that pipeline connections will need to be preassembled prior to installation to facilitate timely installation. All materials shall be on hand a minimum of five days before the shutdown, and all preparatory work (e.g. pipeline assemblies)

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shall be prepared and checked off by the Owner a minimum of 72-hours prior to shutdown.

1. **Pre-Shutdown Activities** - Prior to the Shutdowns, Occlude Valve 1 shall be installed (per Plan) to provide flow isolation for shutdowns. Occlude Valve No. 1 is proposed to be installed on the existing 12-inch steel pipeline north of Rosemont Lane, per Plan.
2. **Shutdown No. 1** – The Contractor shall perform the tasks identified in this Section and as further described herein within a 7-hour shutdown during nighttime work hours, as approved by the Owner. Tie-in's shall be grouped to minimize impacts to customers. If multiple tie-ins cannot be completed within one 7-hour shutdown, the Contractor shall propose an alternate sequence for consideration. The end result of Shutdown No. 1 will provide a completed tie-in connection at the Project's northern and eastern limits along with the central portion of the new mainline. Shutdown No. 1 plans to utilize Existing Valves GV-F12-061, GV-F12-025, GV-F12-034, and Occlude Valve OCC1 and includes tie-in locations (excluding services and appurtenances) as are further described below:

- a. Valve Isolation Details

Existing Valve GV-F12-061: Located at the northern edge of the Project alignment. Existing Valve GV-F12-061 leaks an estimated 20+ gpm.

Existing Valve GV-F12-025: Located west of existing 12-inch main at the intersection of Manchester Ave/ Rancho Santa Fe Rd and Encinitas Blvd/ S. Rancho Santa Fe Rd next to the Seven-Eleven parking lot, per Plan. Existing Valve GV-F12-025 leaks an estimated 20+ gpm.

Existing Valve GV-F12-034: Located in the parking lot of Rancho Professional Plaza and is proposed to be used to isolate flows in the existing 10-inch asbestos cement (AC) pipeline that runs west to east from Candy Lane to Manchester Avenue. Existing Valve GV-F12-034 leaks an estimated 10-15 gpm.

Occlude Valve OCC1: Installed between Phase I and Phase II and proposed to isolate flows in Manchester Avenue for the southern portion of pipeline during Shutdown No. 1.

- b. Tie-In Details

The first tie-in during Shutdown No. 1 is located at the northernmost Project tie-in connection to the existing 12-inch steel pipeline in Rancho Santa Fe Road. Subsequent to the tie-in, the new westerly valve feeding the new line at Sta 28+60.00 shall remain closed until such time as the new line is ready to be placed in operation. See Detail B, sheet 10.

The second tie-in location for Shutdown No. 1 will include a tie-in at the existing 8-inch PVC pipeline, east of the Pancake House, at the Rancho

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Santa Fe Plaza per Plan at Sta 63+73.20. The existing 8/6-inch lateral shall be capped and restrained to maintain service in the existing water main.

The third tie-in location for Shutdown No. 1 will include a tie-in at the existing 10-inch AC pipeline near Rancho Professional Plaza, per Plan. See Detail F, sheet 10. The existing 10-inch lateral shall be capped and restrained to maintain service in the existing water main.

The fourth tie-in location for Shutdown No. 1 will occur at the existing 8-inch PVC pipeline, south of the Pancake House at the Rancho Santa Fe Plaza, per Plan. See Detail F, sheet 10. If this tie-in cannot occur without cutting the existing 12-inch main, then work must be performed under Shutdown No. 5 or 6.

3. **Shutdown No. 2** - The Contractor shall perform the tasks identified in this Section and as further described herein within one 7-hour shutdown during nighttime work hours, as approved by the Owner. Shutdown No. 2 will connect the new north-south 12-inch distribution piping into service with tie-in connections occurring at locations at the southern project limits in Manchester Avenue, per Plan. Shutdown No. 2 plans to utilize Existing Valves GVF13-002 and Occlude Valve OCC1 and includes four tie-in locations (excluding services and appurtenances) as are further described below:

- a. **Valve Isolation Details**

Occlude Valve OCC1: Installed between Phase I and Phase II and proposed to isolate flows in Manchester Avenue for the southern portion of pipeline during Shutdown No. 1.

Existing Valve GV-F13-002: Located at the southern edge of the Project alignment. Existing Valve GV-F13-002 leaks an estimated 10+ gpm.

- b. **Tie-In Details**

The tie-in location for Shutdown No. 2 will occur at the southernmost portion of the Project alignment on Manchester Avenue, per Plan. Subsequent to the tie-in, the new northerly valve feeding the new line at Sta 10+01.25 shall remain closed until such time as the new line is ready to be placed in operation. See Detail A, sheet 10.

4. **Shutdown No. 3** - The Contractor shall perform the tasks identified in this Section and as further described herein within a 7-hour shutdown during nighttime work hours, as approved by the Owner. Tie-in's shall be grouped to minimize impacts to customers. If multiple tie-ins cannot be completed within one 7-hour shutdown, the Contractor shall propose an alternate sequence for consideration. Shutdown No. 3 will tie in the new 12-inch PVC pipe with the existing 16-inch CMLC pipe, isolate the CMLC pipe from the existing water main, and energize the new PVC pipe (exclusive of the western portion).

- a. **Valve Isolation Details**

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Occlude Valve OCC1: Installed between Phase I and Phase II and proposed to isolate flows in Manchester Avenue for the southern portion of pipeline during Shutdown No. 1.

Existing Valve GVF13-002: Located at the southern edge of the Project alignment. Existing Valve GVF13-002 leaks an estimated 10+ gpm.

b. Tie-In Details

The first tie-in location for Shutdown No. 3 will be to the existing 16-inch steel line south of Rosemont Lane. See Detail E, sheet 10.

The second tie-in connection for Shutdown No. 3 will be to the existing 16-inch steel line north of Rosemont Lane. See Detail E, sheet 10.

At a third location, in line with Rosemont Lane, the existing Steel Pipe is required to be disassembled and a blind flange installed to isolate the new system from the old system. See Construction Note No. 6 on sheet 5. The existing 8-inch lateral shall be capped and restrained to maintain service in the existing water main.

5. **Shutdown No. 4** – The Contractor shall perform the tasks identified in this Section and as further described herein within a 7-hour shutdown during nighttime work hours, as approved by the Owner. Tie-in's shall be grouped to minimize impacts to customers. If multiple tie-ins cannot be completed within one 7-hour shutdown, the Contractor shall propose an alternate sequence for consideration. Shutdown No. 4 will connect the western portion of new PVC piping to the existing system, replace two valves at via del Cerrito, and energize the remaining new PVC piping.

a. Valve Isolation Details

Existing Valve GV-F12-025: Located west of existing 12-inch main at the intersection of Manchester Ave/ Rancho Santa Fe Rd and Encinitas Blvd/ S. Rancho Santa Fe Rd next to the Seven-Eleven parking lot, per plan. Existing Valve GV-F12-025 leaks an estimated 20+ gpm.

Existing Valve GVF12-034: Located in the parking lot of Rancho Professional Plaza and is proposed to be used to isolate flows in the existing 10-inch asbestos cement (AC) pipeline that runs west to east from Candy Lane to Manchester Avenue. Existing Valve GV-F12-034 leaks an estimated 10-15 gpm.

Existing Valve GV-F12-022: Located on Candy Lane. Existing Valve GV-F12-022 leaks an estimated 10-15 gpm.

Existing Valve GV-F12-027: Located on Candy Lane. Existing Valve GV-F12-027 leaks an estimated 10-15 gpm.

Existing Valve GV-F12-013: Located at Via Del Cerrito and Encinitas Boulevard. Valve is not known to leak.

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b. Tie-In Details

The first tie-in location for Shutdown No. 4 is to the existing 12-inch steel pipeline at the western edge of the Project alignment in Encinitas Blvd., West of Candy Lane, per Plan. See Detail C, sheet 10.

The second tie-in location for Shutdown No. 4 is to an existing 8-inch ACP in Encinitas Blvd, in line with Candy Lane. See Detail B, sheet 11. The existing 8-inch lateral shall be capped and restrained to maintain service in the existing water main.

6. **Meter and Service Reconnection, Part 1** – Between Shutdown No. 4 and Shutdown No. 5, the Contractor shall connect all meters and services that can be isolated from the existing and new mains. All meters and services that can be isolated from the existing and new mains shall be reconnected. This is anticipated to include all reconnections except potentially for those at Sta. 12+55.55, 22+39.30, 26+17.18, 26+24.18, 58+61.54, 61+34.00, 62+75.57, and 63+73.20, for which field shutoff valves could not be confirmed or were not in the typical location. These reconnections may have already occurred under a previous shutdown where conducive. Contractor to field verify shutoff valves for all potential reconnections and reconnect all feasible services and laterals in this phase. All existing laterals shall be capped and restrained to maintain service in the existing water. The Contractor shall perform the tasks identified in this Section and as further described herein within a 7-hour shutdown during nighttime work hours, as approved by the Owner. Tie-in's shall be grouped to minimize impacts to customers. If multiple tie-ins cannot be completed within one 7-hour shutdown, the Contractor shall propose an alternate sequence for consideration.

7. **Shutdown No. 5** – The Contractor shall perform the tasks identified in this Section and as further described hereinabove within a one 7-hour shutdown during nighttime work off peak hours, as approved by the Owner. Tie-in's shall be grouped to minimize impacts to customers. If multiple tie-ins cannot be completed within one 7-hour shutdown, the Contractor shall propose an alternate sequence for consideration. Shutdown No. 5 will reconnect a fire service and hydrant to the new piping and deenergize the southern portion of the old piping.

a. Valve Isolation Details

Occlude Valve OCC1: Installed between Phase I and Phase II and proposed to isolate flows in Manchester Avenue for the southern portion of pipeline during Shutdown No. 5.

Existing Valve GV-F13-002: Located at the southern edge of the Project alignment. Existing Valve GV-F13-002 leaks an estimated 10+ gpm.

b. Tie-In Details

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The tie-in location for Shutdown No. 5 will be the connection to the existing 6-inch PVC water line north of Denk Lane. The existing 6-inch lateral shall be capped and restrained to maintain service in the existing water main.

8. **Shutdown No. 6** – The Contractor shall perform the tasks identified in this Section and as further described herein within a 7-hour shutdown during nighttime work hours, as approved by the Owner. Tie-in's shall be grouped to minimize impacts to customers. If multiple tie-ins cannot be completed within one 7-hour shutdown, the Contractor shall propose an alternate sequence for consideration. Shutdown No. 6 will complete the tie-in connections occurring at the eastern Project limit, per Plan.

a. Valve Isolation Details

Existing Valve GV-F12-025: Located west of existing 12-inch main at the intersection of Manchester Ave/ Rancho Santa Fe Rd and Encinitas Blvd/ S. Rancho Santa Fe Rd next to the Seven-Eleven parking lot, per plan. Existing Valve GV-F12-025 leaks an estimated 20+ gpm.

Existing Valve GV-F12-034: Located in the parking lot of Rancho Professional Plaza and is proposed to be used to isolate flows in the existing 10-inch asbestos cement (AC) pipeline that runs west to east from Candy Lane to Manchester Avenue. Existing Valve GV-F12-034 leaks an estimated 10-15 gpm.

New Valve from Shutdown 1: Located on the existing 12-inch line at the northern terminus of the project at Sta 28+60.00.

b. Tie-In Details

Tie-in to all remaining services not connected to as part of the Meter and service reconnection - Phase I. Shutdown may not be required for this work.

- D. Phase III – Existing Waterline Abandonments/ Demo, paving, site restoration, and Project Close-out

The activities of Phase III will include disconnections, capping/plugging existing watermain, abandonments, and miscellaneous pipeline removals or salvaged items. Disconnects and abandonments will be conducted at locations as shown on the Drawings. For the locations where customers may be put out of service twice due to a disconnection, Contractor shall sequence that work during Phase II, while the customer is offline/on a temporary highline. Some Phase III work may be required during a shutdown and shall be done during Phase II. Otherwise, Phase III work shall be performed after Phase II work unless the Contractor receives written authorization from the Owner in advance.

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PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION (NOT USED)

END OF SECTION

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APPENDIX A “Method of Procedure” (MOP) Instructions and Forms

Definition and Purpose

“Method of Procedure” (MOP) is a detailed document submitted by the Contractor to request process shutdown(s), utility tie-in(s), work in areas that may risk unanticipated outages, or flow diversions to accommodate site construction activities during a project. Such activities may include (but are not limited to) new tie-ins to utilities or structures, mechanical modifications to process piping or equipment, demolition, bulkhead installation, and cleaning processes.

The MOP provides a detailed plan to the Owner and Engineer that describes specific aspects of the work including purpose, time of execution, and anticipated impacts on treatment processes. The MOP also includes contingency measures and provisions for rapid closure in the event that shutdown or work progress difficulties are encountered. Information from relevant trades associated with the requested shutdown, diversion, or tie-in is also included.

The Owner should use the information within the MOP to define operational procedures and methods to safely and successfully assist the Contractor.

MOP Process Summary

WHO	STEP	TIMING
Contractor	1. Identify MOPs needed on MOP Log and Baseline Schedule.	7 days prior to Preconstruction Scheduling Meeting
Contractor, Owner, Engineer	2. Pre-MOP Meeting.	More than 28 days prior to work
Contractor	3. Submits MOP.	No later than 28 days prior to work
Owner	4. Reviews MOP.	
Owner	5. MOP finalized.	7 days prior to work
Contractor	6. Complete Readiness Checklist.	5 days prior to work
Contractor	7. Complete Safety Checklist.	Just prior to commencing work
Contractor	8. Complete Work.	
Contractor	9. Update MOP Log and Progress Schedules.	Monthly

SECTION 01305 – WORK RESTRICTIONS – AMENDED

MOP Process Detail

STEP 1. Identifies MOPs needed on MOP Log and Baseline Schedule.

Contractor submits a preliminary list of anticipated project MOPs on MOP Log. MOPs identified but not limited to those shutdowns, diversions, or tie-ins described in the Contract Documents. Incorporate MOPs as tasks in Baseline Schedule. Date scheduled MOPs to coincide with the appropriate construction activities.

STEP 2. Pre-MOP Meeting.

Contractor requests a Pre-MOP Meeting with the Owner and Engineer to discuss the nature of the shutdown, diversion, or tie-in, and to gather the information necessary to complete the MOP Form. The pre-MOP meeting may be waived by the Owner or Engineer if the work is deemed to be minor.

STEP 3. Submits MOP.

Contractor completes the MOP Form and submit 3 copies for approval to the Owner's Project Manager (OPM).

STEP 4. Reviews MOP.

OPM distributes MOP Form for review by the Owner's Construction Coordinator, O&M Representative, and Engineer's Project Representative. Review MOP Form for completeness, accuracy, compliance with both the construction schedule, constraints defined in contract documents, and to ensure that the requested work does not negatively impact plant operations or other concurrent project activities. Additional information may be requested to better understand the nature of and method for completing the Work.

STEP 5. MOP finalized.

Once the MOP is agreed to by all parties, the MOP will be finalized by signature. Copies are distributed to the Owner, Engineer, and Contractor.

STEP 6. Complete Readiness Checklist.

Contractor verifies everything is ready for the work.

STEP 7. Complete Safety Checklist.

Contractor ensures safety.

STEP 8. Complete work.

Contractor complete work.

STEP 9. Update MOP Log and Progress Schedules.

Contractor updates MOP Log weekly and distributes at the regularly scheduled construction progress meetings.

SECTION 01305 – WORK RESTRICTIONS – AMENDED

METHOD OF PROCEDURE (MOP) FORM

Owner: _____	Date: _____
Contractor: _____	Owner Project No.: _____
Project Name: _____	Submittal No.: _____
Submittal Title: _____	Spec/Dwg. Reference: _____

MOP #	Task Title (<i>Provide <10 word title</i>):	Submittal Date: (<i>No later than 28 days prior to work</i>)
SCHEDULE OF WORK ACTIVITY START: (<i>Date/Time</i>) END: (<i>Date/Time</i>)		
REQUESTOR:		
PRIMARY POINT OF CONTACT:		PHONE/PAGER:
SECONDARY POINT OF CONTACT:		PHONE/PAGER:
NOTIFY	<input type="checkbox"/> Control Room, Phone	<input type="checkbox"/> Security, Phone
BUILDING:		LOCATION OF WORK FLOOR/LEVEL:
DESCRIPTION OF WORK: (<i>Provide sufficient details on process isolation, work sequencing, and safety (i.e., control of significant hazards unique to the work) to demonstrate an understanding of the work and how it will be completed within the constraints, and its impact on the processes and facility.</i>)		
Task Summary: _____		
Processes Affected: _____		
Trades Affected: _____		
WORK PLAN:		
Work Sequencing: _____		
Process Isolation: _____		
Spill Prevention Plan: _____		
Contingency Plans: _____		
CRITICAL EQUIPMENT/TOOLS: (<i>pumps and discharge hoses with correct fittings, blind flanges and pipe plugs, no-hub fittings, properly sized electrical service components, generators, portable lighting, chlorine for potable water pipe breaks, etc.</i>)		
<input type="checkbox"/>	Acoustic Ceiling/or Walls Access	<input type="checkbox"/> Excavation Permit
<input type="checkbox"/>	Chemical Use Approval	<input type="checkbox"/> Fire Sprinkler Impairment
<input type="checkbox"/>	Confined Space Permit	<input type="checkbox"/> Flammable Materials
<input type="checkbox"/>	Critical Lift Plan	<input type="checkbox"/> Flush / Discharge
<input type="checkbox"/>	Energized Electrical Work	<input type="checkbox"/> High Pressure Test
<input type="checkbox"/>	Elect. Panel Schedules	<input type="checkbox"/> Hot Work/Open Flame
<input type="checkbox"/>		<input type="checkbox"/> Lock Out/Tag Out
<input type="checkbox"/>		<input type="checkbox"/> Life Safety Systems
<input type="checkbox"/>		<input type="checkbox"/> Roof Protocol
<input type="checkbox"/>		<input type="checkbox"/> Work After Dark

SECTION 01305 – WORK RESTRICTIONS – AMENDED

EXISTING SERVICE(S) AT RISK:					
<input type="checkbox"/>	Breathing Air	<input type="checkbox"/>	Elect Normal	<input type="checkbox"/>	Process Access
<input type="checkbox"/>	Chemical Distribution	<input type="checkbox"/>	Fire Protection	<input type="checkbox"/>	Safety Showers
<input type="checkbox"/>	City Water	<input type="checkbox"/>	HVAC	<input type="checkbox"/>	SCADA
<input type="checkbox"/>	Communication	<input type="checkbox"/>	Inert Gas	<input type="checkbox"/>	Security
<input type="checkbox"/>	Domestic Drain	<input type="checkbox"/>	Instrument - Air	<input type="checkbox"/>	Solvent Drain
<input type="checkbox"/>	Elect-Bus Duct	<input type="checkbox"/>	Life Safety System	<input type="checkbox"/>	Specialty Gases
<input type="checkbox"/>	Elect Emergency	<input type="checkbox"/>	Natural Gas	<input type="checkbox"/>	Storm Drain
REVIEWER'S INSTRUCTIONS / COMMENTS:					
<input type="checkbox"/>	PREJOB BRIEFING MUST BE COMPLETED PRIOR TO COMMENCING WORK:				
	Full Name (printed)		Signature		Phone
Submitted By					
System Owner					
Reviewer (if needed)					
Reviewer (if needed)					
Reviewer (if needed)					
Reviewer (if needed)					

SECTION 01305 – WORK RESTRICTIONS – AMENDED

READINESS CHECKLIST **(5 days prior to work)**

Checklist provided as a guide but is not all inclusive.

1. Confirm all parts and materials are on site: _____
2. Review work plan: _____
3. Review contingency plan: _____

SECTION 01305 – WORK RESTRICTIONS – AMENDED

SAFETY CHECKLIST (Just prior to commencing work)

Checklist provided as a guide but is not all inclusive.

1. Location awareness:
 - a. Emergency exits: _____
 - b. Emergency shower and eyewash: _____
 - c. Telephones and phone numbers: _____
 - d. Shut-off valve: _____
 - e. Electrical disconnects: _____
2. Inspect work area:
 - a. Take time to survey the area you are working in. Ensure that what you want to do will work. Do you have enough clearance? Is your footing secure? Do you have adequate lighting and ventilation? Are surrounding utilities out of the way for you to perform your work?
3. SDS (Safety Data Sheets):
 - a. Understand the chemicals and substances in the area you are working in by reading the SDS.
4. Lockout/Tagout Procedure:
 - a. Lockout/tagout energy sources before beginning work.
 - b. Make sure all valves associated with the work are locked out and tagged out on each side of the penetration.
 - c. Make sure the lines are depressurized.
5. Overhead work:
 - a. Use appropriate personal protective equipment; i.e., safety harness, lifeline, etc.
 - b. Select appropriate tie-off points; i.e., structurally adequate, not a pipe or conduit, etc.
 - c. Spotter assigned and in position.
 - d. Pipe rack access; i.e., check design capacity, protective decking or scaffolding in place, exposed valves or electrical switches identified and protected.
6. Safety equipment:
 - a. Shepherd's hook.
 - b. ARC flash protection.
 - c. Fire extinguisher.
 - d. Other: _____.
7. Accidents:
 - a. Should accidents occur, do not shut off and do not attempt to correct the situation, unless you are absolutely positive that your action will correct the problem and not adversely affect other people or equipment.
8. Review process start-up documents:
 - a. In the event the system is shutdown, the Control Center should have a working knowledge of the process start-up procedures in order to deal effectively with unforeseen events.
9. Evacuation procedures:
 - a. Do not obstruct evacuation routes.
 - b. Take time to survey the area for evacuation routes.

SECTION 01305 – WORK RESTRICTIONS – AMENDED

Method of Procedure (MOP) Log
Sample

MOP Number	Task Title	Date Requested	Date Approved	Date Work Planned	Work Completed (yes/no)
001					
002					
003					

END OF SECTION

SECTION 02743 – ASPHALT CONCRETE PAVING – AMENDED

PART 1 - GENERAL

1.1 DESCRIPTION

This Section describes the requirements for materials, testing and placement of aggregate base; asphalt concrete paving and overlays; slurry seal; seal coat for miscellaneous areas; pavement striping, markers and markings and all incidental work.

1.2 RELATED WORK SPECIFIED ELSEWHERE

- A. Standard Specification Section 01300: Record Drawings and Submittals
- B. Section 01545: Protection of Work and Property
- C. Standard Specification Section 02223: Trenching, Backfilling, and Compacting

1.3 DEFINITIONS

Whenever the terms “Public Works Specifications”, “Standard Specifications” or “Greenbook” are used in this Section, the meaning shall be interpreted as Standard Specifications for Public Works Construction by APWA/AGC, The “Greenbook”, latest edition with Regional Supplement Amendments.

Whenever the term “State Standard Specifications” or “Caltrans Standard Specifications” are used in this Section, the meaning shall be interpreted as the Standard Specifications of the State of California, Department of Transportation, latest edition.

1.4 SUBMITTALS

- A. Submit shop drawings in accordance with the Section 01300.
- B. For all paving and sealing work within City of Encinitas public streets, submittals shall be subject to the written approval of the City through the project submittal process.
- C. Mix design of all bituminous mixtures (asphalt concrete, slurry seal, seal coat for miscellaneous areas).
- D. Submit report from a testing laboratory verifying that aggregate material is asbestos-free and conforms to the specified gradations and other physical characteristics specified herein. Submit test results a minimum of 20 working days prior to placement of aggregate base materials.
- E. Delivery tickets for each load of aggregates, aggregate base, asphalt concrete, slurry seal.
- F. For work in or adjacent to private driveways, describe the method of protection of existing pavements from damage by the Contractor’s activities.
- G. Comply with the submittal requirements contained in referenced specifications.

SECTION 02743 – ASPHALT CONCRETE PAVING – AMENDED

- H. At the pre-construction meeting, the Contractor shall submit Certificates of Compliance for all Aggregate Base, Asphalt Concrete mixtures, Slurry Seal (including Rubber Polymer Modified), Traffic Loop Wire and Sealant, and materials for pavement striping, markings and markers.
- I. Prior to the time of delivery of each shipment of any materials to be used in the project, the Contractor shall deliver to the Owner certified copies of all the test results as required by these specifications for those materials to be used (emulsified asphalt, mineral filler, aggregate, etc.). The test reports shall indicate the name of the materials supplier, type and grade of materials to be delivered, date and point of delivery, quantity to be delivered, delivery ticket number, purchase order number and the results of the specified tests. The test reports shall be signed by an authorized representative of the material testing agency and shall certify that the product delivered conforms to these specifications. In addition, the Owner will select three samples of the materials shipped for conformance testing. The testing for these samples shall be provided at no cost to the Contractor, except if the material samples fail any of the tests. In this case, the Contractor shall bear the cost of the testing of those failed samples. No material from that shipment shall be utilized or employed in the performance of the work until certified test reports and samples of the material have been furnished to, checked by and approved by the Owner's Representative. Cost of all testing shall be included in the bid item for the appurtenant item of work and no additional compensation will be made therefor.

1.5 TESTING FOR COMPACTION

- A. The Owner or its testing firm will provide testing for compaction as described herein.
- B. Determine the density of soil in place by the sand cone method, ASTM D1556.
- C. Determine laboratory moisture-density relations of soils by ASTM D1557.
- D. Determine the relative density of cohesionless soils by ASTM D4253 and D4254.
- E. Sample backfill materials by ASTM D75.
- F. "Relative compaction" is the ratio, expressed as a percentage, of the in-place dry density to the laboratory maximum dry density for soils and aggregate. "Relative compaction" of asphalt concrete is the ratio, expressed as a percentage, of the in-place density to the laboratory maximum density per ASTM D2041.
- G. Compaction shall be deemed to comply with the Specifications when no more than one test of any three consecutive tests falls below the specified relative compaction. The one test shall be no more than three percentage points below the specified compaction. The Contractor shall pay the costs of any retesting of work not conforming to the Specifications.

1.6 PAVEMENT CONSTRUCTION IN PUBLIC RIGHT OF WAY

SECTION 02743 – ASPHALT CONCRETE PAVING – AMENDED

The following requirements shall supplement the San Diego Regional Standards for pavement restoration and shall govern other requirements of this Section.

- A. For work within County of San Diego jurisdiction, comply with the Department of Public Works pavement cut policies and conform to the County of San Diego, Department of Public Works Special Provisions or excavation permits.
- B. Paving or sealing operations in public streets in the City of Encinitas shall comply with the permit requirements of the City.
- C. Paving of the trench excavations shall be in accordance with details provided on the approved Drawings and the jurisdictional agency.

1.7 PAVEMENT CONSTRUCTION IN PRIVATE STREETS AND DRIVEWAYS

Paving or sealing operations in private driveways shall conform to the details provided on the approved Drawings and as specified herein to match existing conditions in asphalt gradation and seal coat type.

PART 2 - PRODUCTS

2.1 AGGREGATE BASE

Aggregate base shall be Crushed Aggregate Base that conforms to Greenbook Section 200-2.2 or Class 2 Aggregate Base (not recycled base) per the gradation and quality requirements of Section 26-1.02A of the Caltrans Standard Specifications.

Recycled base (made of reclaimed asphalt concrete, Portland cement concrete, lean concrete base, cement treated base, etc.) shall not be used. Furthermore, crushed miscellaneous base as called out in Greenbook Section 200-2.4 shall not be used.

2.2 ASPHALT CONCRETE

A. GENERAL

- 1. Materials shall meet the requirements and approval of the City of Encinitas.
- 2. Asphalt concrete for public streets, unless designated otherwise, shall conform to C1-PG 64-10 per Greenbook Section 203-6 and the additional requirements of this Section.
- 3. Where specified, Asphalt Concrete for public streets shall conform to C1-PG 64-28M per the requirements of this Section.
- 4. Asphalt concrete for private streets, driveways and parking lots shall conform to C2-PG 64-10 per Greenbook Section 203-6.
- 5. Thickness of the new pavement shall be equal to the thickness of the existing pavement plus 1 inch for existing asphalt thickness less than 10-inches.

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Thickness of the new pavement shall be equal to the thickness of the existing pavement for existing asphalt equal to and greater than 10-inches.

6. Control of Materials: Materials to be incorporated in the work shall be manufactured, handled and used in a satisfactory manner.
7. Job Mix Formula: The Contractor shall furnish the Owner's Representative with the Job Mix Formula (JMF) for the asphalt concrete no later than two weeks prior to placement of the material. The JMF shall indicate the percentage passing each specified sieve size and the percent asphalt to be used for each asphalt concrete mixture to be incorporated in the work. The JMF (gradation) with allowable tolerance for a single test shall be used for job control. Single test variation tolerance is shown below. In no event shall there be more than 2 percent passing the No. 200 sieve.

JOB MIX FORMULA GRADING TOLERANCE (SINGLE TEST)	
<u>Sieve Size</u>	<u>Percent</u>
No. 4 or larger	+6
No. 30	+5
No. 200	+2
Asphalt, % by weight of dry aggregate	+0.3

8. Samples: The Owner shall have the right to obtain samples of all such materials to be used in the work and to test such samples for the purpose of determining specification compliance. The Owner reserves the right to obtain said samples at the point of delivery and/or at the point of manufacture. The Owner shall also have the right to inspect sources of materials to be used for the work to determine acceptability of procedures used by the materials supplier.

B. MATERIALS

1. Only materials conforming to these specifications shall be incorporated in the work.
2. Asphalt: The asphalt to be mixed with the mineral aggregate shall be PG64-10 conforming to Greenbook Section 203-6 for all streets as specified on the Drawings.

The amount of liquid asphalt, by weight of dry aggregate, shall be within the range of percentages of the total mixed material as shown in Greenbook Table 203-6.4.3 (A) for Class C1 grading, or Table 400-4.3 (C) for Type III

SECTION 02743 – ASPHALT CONCRETE PAVING – AMENDED

Class C2 grading. The actual amount will be determined through a complete asphalt concrete mix design and laboratory testing performed on materials intended for use on the project.

The allowable tolerance in percentage of asphalt content from that percentage specified shall be +/- 0.3 percent.

The asphalt content of the asphalt mixture shall be determined by extraction tests in accordance with California Test 379 or ASTM D2172.

3. Aggregate: Aggregate for asphalt concrete shall conform to Greenbook Section 203-6.3.2 except as modified herein.

Coarse aggregate used in the production of all Hot Mix Asphalt (HMA), excluding RAP, must be mined only from a hard rock- blasted quarry. All coarse aggregates used in the production of Hot Mix Asphalt shall also have a minimum Durability Index (California Test 229) of 35.

Coarse aggregate is material retained on the No. 4 sieve. Fine aggregate is material passing the No. 4 sieve.

Blending sand shall be clean, hard and sound material either naturally occurring sand or crushed fines which will readily accept asphalt coating.

Tests shall be performed on the material retained on the No. 8 sieve from each bin and shall not be a combined or averaged result.

Each test specimen shall be prepared by hand shaking for 30 seconds, a single loading of the entire sample on a 12-inch diameter, No. 4 sieve nested on top of a 12-inch diameter, No. 8 sieve.

Where a coarse aggregate bin contains material which will pass a 3/8-inch sieve and be retained on a No. 8 sieve, the test specimen weight and wash water volume specified for 1/2-inch maximum will be used.

Where a coarse aggregate bin contains material which will pass the maximum size specified and be retained on a 3/8-inch sieve, the test specimen weight and volume of wash water specified for a 1-inch x No. 4 aggregate size will be used.

The Cleanness Value of the test sample from each of the bins shall be separately computed and reported.

4. Mineral Filler: Mineral filler shall conform to Greenbook Section 203-6.3.3. The amount of mineral filler to be used shall conform to the requirements of the combined aggregate grading. The method of adding the mineral filler shall be such that the aggregate is uniformly coated and the mineral filler is uniformly distributed without loss or waste within the material prior to adding the asphalt to the mixture.

SECTION 02743 – ASPHALT CONCRETE PAVING – AMENDED

5. Anti-Strip Agents: When aggregate is found to be subject to stripping via prescribed test procedures, dry hydrated lime conforming to the requirements of ASTM C207, or Type N Portland Cement conforming to applicable requirements, or other approved anti-strip agents shall be added.
6. Combined Aggregates: The combined aggregates sampled after all processing, except the adding of asphalt and mineral filler, shall conform to the following requirements:
 - a. The ratio of the percentage of aggregate by weight passing the No. 30 sieve to that passing the No. 8 sieve shall not exceed 65 percent in all dense graded asphalt concrete mixes.
 - b. At least 80 percent by weight of the aggregate retained on the No. 8 sieve shall consist of particles which have at least one rough, angular surface produced by crushing.
7. Composition and Grading: The grading of the combined aggregates shall conform to Greenbook Section 203-6.4.3 for Class C1 (Type III C2 for Section 400-4.3) Asphalt Concrete.
8. Additional Requirements:

The aggregate and mix to be incorporated into the work must also meet the following requirements:

INDIVIDUAL TEST REQUIREMENTS	
<u>Test</u>	<u>Results</u>
Loss in L.A. Rattler, California Test 211 (after 500 revolutions)	45% max.
Sand Equivalent, California Test 217	50 min.
Stabilometer Value, California Test 366	35 min.
Swell, California Test 305	0.030" max.
Moisture Vapor Susceptibility, California Test 307	25 min.
Air Voids Content (mix)	3% - 5%
Index of Retained Strength, ASTM D1075	60% min.

2.3 TYPE C1-PG 64-28M MODIFIED ASPHALT CONCRETE

A. GENERAL

SECTION 02743 – ASPHALT CONCRETE PAVING – AMENDED

Asphalt Concrete shall consist of Type C1-PG 64-28M as defined herein and shall be used in paving and overlays where specified on the Drawings.

B. MATERIALS

1. Aggregate: Aggregate used in Type C1-PG 64-28M Asphalt Concrete shall conform to the requirements for aggregate specified in Paragraph 2.2 of this Section.
2. Asphalt Binder: Polymer modified asphalt binder shall be PG 64-28M and shall conform to the following:

<u>Property</u>	<u>Test Method</u>	<u>Min</u>	<u>Max</u>
Dynamic Shear, 64 °C, G*/Sinλ, KPa	ASTM D7175 AASHTO T315	1.00	--
Viscosity at 135 °C, Pa-s	ASTM D4402 AASHTO T316	--	3
Flash Point COC, ° C	ASTM D92 AASHTO T 48	230	--
Solubility, wt. %	ASTM D2042 AASHTO T44	97.5	--
Max. Mass Loss, %		--	1.00

TESTS ON RTFO RESIDUE			
<u>Property</u>	<u>Test Method</u>	<u>Min</u>	<u>Max</u>
Dynamic Shear, 64 °C, G*/Sinλ, KPa	ASTM D7175 AASHTO T315	2.20	--
Dynamic Shear at 64 C°, Max Phase Angle (δ), °	ASTM D7175 AASHTO T315	--	80
Elastic Recovery, 25 °C, %		75	--

The asphalt content of the asphalt mixture shall be determined by extraction tests in accordance with California Test 379 or ASTM D2172.

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TEST ON P.A.V. RESIDUE @ 100 °C			
<u>Property</u>	<u>Test Method</u>	<u>Min</u>	<u>Max</u>
Dynamic Shear, 22 °C, G*Sinλ, KPa	ASTM D7175 AASHTO T315	--	5,000
BBR Max S-Value, -18 °C, S, MPa	ASTM D 6648 AASHTO T313	--	300
Min m-Value, -18 °C	ASTM D6648 AASHTO T313	0.300	--

2.4 PAVEMENT REINFORCEMENT MEMBRANE

Pavement reinforcement membrane shall be per City of Encinitas standards.

2.5 SLURRY SEAL

Slurry seal shall be Rubber Polymer Modified Slurry (RPMS) as described in this Section.

2.6 EMULSION AGGREGATE SLURRY (EAS)

Not used

2.7 RUBBER POLYMER MODIFIED SLURRY (RPMS)

A. GENERAL

This work shall consist of preparation of existing surfaces to receive RPMS, mixing asphaltic emulsions, aggregate, set-control additives, specially produced and graded crumb rubber, and water and spreading the mixture on the pavement in accordance the Caltrans State Standard Specifications dated 2018, with revisions and with these specifications. State Standard Specifications shall supersede.

B. MATERIALS

Materials for RPMS immediately prior to mixing shall conform to the following requirements:

1. Asphaltic Emulsion. Asphaltic Emulsion shall be quick setting Type CQS-1h grade conforming to the requirements of these special provisions. Quick Setting CQS-1h Asphaltic Emulsions shall conform to the following requirements when tested in accordance with the specified test method:

<u>Test</u>		<u>Requirements</u>
Residue from Distillation	AASHTO T59 ASTM D244	60% minimum
Penetration at 77°F (25°C)	AASHTO T49 ASTM D2397	40%-90%

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In addition, quick setting Type CQS-1h Asphaltic Emulsion shall test Positive for Particle Charge when tested in accordance with AASHTO T59. If the Particle Charge Test result is inconclusive the Asphaltic Emulsion shall meet a pH requirement of 6.7 minimum.

2. Aggregate. The mineral aggregate used shall be the type and grade specified for Type II RPMS surfacing. The aggregate shall be manufactured crushed stone such as granite, slag, limestone, chat, or other high quality aggregate, or combination thereof. Aggregate shall consist of rock dust except that 100 percent of any aggregate or combination of aggregates, larger than the No. 50 sieve size, used in the mix shall be obtained by crushing rock. The material shall be free from vegetable matter and other deleterious substances. All aggregate shall be free of caked lumps, and oversized particles.
3. Quality Tests. The percentage composition by weight of the aggregate shall conform to the following gradings when determined by California Test 202, modified by California Test 105 when there is a difference in specific gravity of 0.20 or more between blends of different aggregates.

TYPE II RPMS GRADATION		
<u>Sieve Size</u>	<u>Percent Passing</u>	<u>Stockpile Tolerance</u>
No. 3/8	100	5%
No. 4	90-100	5%
No. 8	65-90	5%
No. 16	45-70	5%
No. 30	30-50	5%
No. 50	18-36	4%
No. 100	10-24	3%
No. 200	5-15	2%

The job mix (target) gradation shall be within the gradation band for the Type II RPMS. After the target gradation has been submitted, the percent passing each sieve shall not vary by more than the stockpile tolerance.

The aggregate shall also conform to the following requirements:

<u>Test</u>	<u>California Test</u>	<u>Requirements</u>
Sand Equivalent	217	45 min.
Durability Index	229	55 min.

The aggregate will be accepted at the job location or stockpile. The stockpile shall be accepted based on five gradation tests according to California Test 202, modified by California Test 105 when there is a difference in specific

SECTION 02743 – ASPHALT CONCRETE PAVING – AMENDED

gravity of 0.2 or more between blends of different aggregates. If the average of the five tests is within the gradation tolerance, then the material will be accepted. If the test shows the material to be out of gradation tolerances, the Contractor shall be given the choice to either remove the material or blend other aggregates with the stockpile material to bring it into specifications. Materials used in blending must meet the quality test before blending and must be blended in a manner to produce consistent gradation.

When the results of either the Aggregate Grading or the Sand Equivalent test do not conform to the requirements specified, the aggregate shall be removed. No single aggregate grading or sand equivalent tests shall represent more than 300 tons or one day's production, whichever is smaller.

4. Water. Water shall be potable and of such quality that the asphalt will not separate from the emulsion before the slurry seal is in place in the work. If necessary for workability, a set-control agent that will not adversely affect the RPMS material may be used. Pre-wetting of streets will not be required unless streets are subject to high temperatures and/or dust.
5. Crumb Rubber. Crumb rubber shall be ambient granulated or ground from whole passenger and/or truck tires only. Uncuring or devulcanized rubber shall not be acceptable and shall not be used. Rubber tire buffing from either recapping or manufacturing processes shall not be used as a supplement to the crumb rubber mixture.

In order to remove steel and fabric, an initial separation stage which subjects the rubber to freezing temperatures may be used. The crumb rubber shall not be elongated or hair-like in shape and individual particles shall not be greater than 1/20 of an inch in length. The crumb rubber shall be free of contaminants including fiber, metal and mineral matter to the following tolerances:

- a. The fiber content shall be less than 0.30% by weight.
- b. The crumb rubber shall be free of metal particles. Metal imbedded in rubber particles shall not be allowed. The amount of mineral contaminants allowed shall not exceed 0.10% by weight.
- c. The crumb rubber shall be dry with a moisture content of less than 0.75%.

SECTION 02743 – ASPHALT CONCRETE PAVING – AMENDED

CRUMB RUBBER CHEMICAL PROPERTIES	
<u>Property</u>	<u>Specification Limits</u>
Specific Gravity, ASTM D1817	1.15 +/- .05
Percent Carbon Black, ASTM D297	35.0 Maximum
Percent of Rubber Hydrocarbon, ASTM D297	55.0 Maximum
Percent Ash, ASTM D297	6.0 Maximum
Percent of Acetone Extract, ASTM D297	10.0 Maximum
Percent of Chloroform Extract, ASTM D297	3.0 Maximum
Percent Natural Rubber, ASTM D297	40 Minimum

CRUMB RUBBER GRADATION REQUIREMENTS (ASTM D1511 or C136)	
<u>Sieve Size</u>	<u>Percent Passing</u>
No. 30	100
No. 40	90-100
No. 50	75-85
No. 100	25-35
No. 200	0-10

6. Properties. The Polymer additive shall be SBR Latex or approved equal, which is added at a minimum of 2.0 percent by weight of the asphaltic emulsion.
7. Carbon Black. The carbon black solution shall be non-ionic in charge and liquid in form. The carbon black shall be compatible with the emulsion system, polymers and additives being used.

<u>Property</u>	<u>Tolerances</u>
Total Solids	40-44
% Black by Weight	35-37
Type Black	Medium Furnace Color
Type Dispersing	Non-ionic

8. Mineral Filler. Portland Cement, hydrated lime, limestone dust, fly ash or other approved filler meeting the requirements of ASTM D242 shall be used if required by the mix design and may be used to facilitate set times as

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needed. Any cement used shall be considered as part of the dry aggregate weight for mix design purposes.

9. Additive. Additives may be used to accelerate or retard the break-set of the RPMS. The use of additives shall be in quantities specified in the mix design.
10. Laboratory Evaluation. Before work begins, the Contractor shall submit a mix design covering the specific materials to be used on the project. The design shall be performed by a laboratory that has at least two years' experience in designing RPMS. After the mix design has been approved, no substitution will be permitted unless approved by the Owner's Representative.
11. Mix Design. The proposed RPMS mix design shall verify compatibility of the aggregate, emulsion, mineral filler, set-control additive and rubber blend. Recommend tests and values are as follows:

<u>Test</u>	<u>Description</u>	<u>Specification</u>
ISSA T-106	Slurry Seal Consistency	Pass
ISSA TB-109	Excess Asphalt	50 grams per square foot maximum
ISSA TB-100 (Type II)	Wet Track Abrasion	60 grams per square foot maximum
ISSA TB-113	Mixing Time	Controllable to 150 seconds minimum
ISSA TB-114	Wet Stripping	Pass

The Mixing Time test shall be done at the highest temperatures expected during construction. The original lab report shall be signed by the laboratory that performed the mix design and shall show the results of tests on individual materials. The report shall clearly show the proportions of aggregate, mineral filler (minimum and maximum), water (minimum and maximum), additive(s) (usage), asphaltic emulsion and asphalt rubber blend based on the dry weight of the aggregate.

All of the component materials used in the mix design shall be representatives of the materials proposed by the Contractor to be used on the project. The percentage of each individual material required shall be shown in the laboratory report. Adjustments may be required during the construction, based on field conditions.

The component materials shall be within the following limits:

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Residual Asphalt Type II	7.5%-13.5% Based on dry weight of aggregate
Crumb Rubber	The crumb rubber will be added to the Rubberized Slurry mix at a rate of 5% by volume to the asphalt cement.
Polymer	Polymer Additive shall be added at 2% of finished emulsion.
Carbon Black	Carbon Black shall be added at 1.3% to 2% of the finished emulsion
Mineral Filler	0.5%-2.0% (if required by mix design). Based on dry weight of aggregate.
Additives	As needed.
Water	As needed to achieve proper mix consistency. (Total mix liquids should not exceed the loose aggregate voids).

C. PRODUCTION AND APPLICATION

1. Proportioning. Aggregates, asphaltic emulsion, water, polymers, additives, including set-control agent, if used, and crumb rubber shall be proportioned by volume utilizing the mix design approved by the Owner's Representative. 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, prior to the other materials of the mixture, in a manner that will result in a uniform and homogeneous blend.
2. The complete mixture, after addition of water and any set-control agent used, shall be such that the mixture has proper workability, and (a) will permit traffic flow, without pilot-car-assisted traffic slurry seal within one hour after placement (at 78°F) without the occurrence of bleeding separation or other distress, and (b) will prevent development of bleeding, excessive raveling, separation or other distress within 7 calendar days after placing the rubberized asphalt surfacing.
3. Spread rate for Type II RPMS shall be placed at 13.33 pounds per square yard based on dry aggregate weight.
4. Asphaltic emulsion shall be added at a rate within the following ranges of percent by weight of the dry aggregate. The exact weight will be determined by the mix design and the asphalt solids content of the asphaltic emulsion furnished.

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<u>Type of Aggregate</u>	<u>Asphaltic Emulsion, % of Dry Aggregate Wt.</u>
Type II	14-17
<p>5. Pneumatic rolling is required on all streets receiving RPMS. Rolling will commence as soon as the RPMS has set sufficiently to prevent any material from adhering to tires. The RPMS surface shall be rolled by two to five coverages, or as directed by the Owner's Representative. Pneumatic rollers shall be operated at a minimum tire pressure of 60 psi.</p> <p>6. Aggregate shall be proportioned by a belt feeder operated with an adjustable cutoff gate. The height of the gate opening shall be readily determinable. The emulsion shall be introduced into the mixer by a positive-displacement pump. Water shall be introduced into the mixer through an adjustable pugmill bar (Pugmill process is acceptable for RPMS). Water volume shall be displayed by an electric digital meter registering in gallons delivered.</p> <p>7. The bitumen ratio, (pounds of asphalt per 100 pounds of dry aggregates), shall not vary more than 1.5 pounds of asphalt above or 0.6 pound asphalt below the amount designated by the mix design and approved by the Owner's Representative.</p> <p>8. The aggregate belt feeder shall deliver aggregate to the pugmill mixed with such volumetric consistency that the deviation for any individual aggregate delivery rate check-run shall be within 2 percent of the mathematical average of 3 runs of at least 300 gallons each in duration.</p> <p>9. Each Rubberized Slurry surfacing unit shall be designed to store and deliver the various required materials to a twin-shafted, multi-paddle pugmill in the following manner.</p> <p>10. Each Rubberized Slurry surfacing unit shall be equipped with a computer controlled automatic sequencing system that initiates each material delivery at the precise moment necessary to ensure proper proportioning.</p> <p>11. Each Rubberized Slurry surfacing unit shall be equipped with independent storage capabilities for the aggregate, emulsion, crumb rubber, polymer, set-control additives and the carbon black.</p> <p>12. The polymer additive and the carbon black shall be delivered to the mixer in the relative proportions required by means of a common shaft, dual pump system. The polymer additive and the carbon black flow rates shall be independently adjustable by means of diaphragm valves and shall be sequenced through the computer controlled automatic sequencing system. The polymer additive and the carbon black shall be blended and mixed prior to their introduction into the pugmill. Introduction into the twin-shafted pugmill shall be done through an injection system, which delivers the blended</p>	

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material to the apex of each mixing shaft immediately prior to the introduction of the asphalt emulsion. The polymer additive and the carbon black delivery system shall each be equipped with digital electronic flow metering devices that can read in gallons per minute.

13. The crumb rubber delivery system shall be equipped with an air suspension unit designed to prevent clumping or bridging of the rubber material. The air discharges shall be sequenced to avoid over-suspension of the rubber. The rubber shall be delivered to the pugmill by a hydraulically driven auger and shall be initiated through the computer controlled auto-sequencing system.
14. The rubberized asphalt slurry surfacing shall be mixed in a continuous, twin shaft, multi-paddle pugmill mixer. The pugmill shall be equipped with a hydraulically controlled steel pugmill gate for positive discharge operations. No dripping slurry shall be allowed.
15. The emulsion shall be introduced into the mixer by a positive displacement pump. The emulsion storage shall be equipped with a device which will automatically shut down the power to the emulsion pump and aggregate belt feeder when the level of stored emulsion is lowered to within two inches of the suction line.
16. A temperature-indicating device shall be installed in the emulsion storage tank at the pump suction level.
17. 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.
18. The aggregate feeder shall be directly connected to the drive on the emulsion pump. The drive shaft of the aggregate feeder shall be equipped with an electronic digital belt. The belt delivering the aggregate to the pugmill shall be equipped with a device to monitor the depth of the aggregate being delivered to the pugmill. The device for monitoring depth of aggregate shall automatically shut down the power to the aggregate belt feeder whenever the depth of the aggregate is less than 70 percent of the target depth of flow. An additional device shall monitor movement of the aggregate belt by detecting revolutions of the belt feeder. The devices for monitoring no flow or belt movement, as the case may be, shall automatically shut down the power to the aggregate belt when the aggregate belt movement is interrupted.
19. To avoid shutdown caused by normal fluctuations in delivery rates, a delay of three seconds between sensing less than desirable storage levels of aggregate or emulsion shall be permitted.
20. Water delivery shall be adjusted through a diaphragm valve. Water flow rate shall be electronically displayed through a digital meter.
21. The mixer unit shall not be operated unless all electronic display and revolution counters are in good working condition and functioning and all

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metal guards are in place. All indicators required by these specifications shall be operational at all times.

22. The RPMS mixture shall be spread by means of a controlled spreader box. The spreader box shall be capable of spreading 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 shall be equipped with reversible motor-driven augers when placing the RPMS. Rear flexible strike-off blades 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 surfacing coat. Flexible drags, to be attached to the rear of the spreader box, shall be provided as directed by the Owner's Representative. All drags and strike-off blades (rubbers) shall be cleaned daily if problems with cleanliness and longitudinal scouring occur. The spreader box shall be clean, free of all slurry and emulsion, at the start of each workday.

2.8 ASPHALT RUBBER CRACK SEALANT

A. GENERAL

Crack sealant shall be applied to all cracks in existing paving that are 1/4-inch in width or wider in areas to receive a paving overlay or slurry seal.

B. MATERIALS

1. The crack sealant shall consist of a mixture of paving grade asphalt and vulcanized granulated crumb rubber. The mixture shall contain not less than 25% granulated reclaimed rubber, by weight. Rubber gradation shall conform to the following requirements:

<u>Sieve Size</u>	<u>Percent Passing</u>
No. 8	100
No. 10	98-100
No. 30	--
No. 40	0-10

The sealant shall conform to the following requirements:

Cone Penetration, 77 °F, 0.1 mm, ASTM D5329	40 max.
Softening Point, °F, ASTM D36	175 min.
Resilience, 77 °F, % Rebound, ASTM D5329	30 min.

The sealant shall be capable of being melted and applied to cracks at temperatures below 400 °F. When heated, the material shall readily penetrate cracks 1/4-inch in width or wider.

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Modifiers may be used to facilitate blending.

2. Control of Materials: Each lot of sealant shipped to the job site shall be accompanied by a Certificate of Compliance as provided in Section 6-1.07 of the State Standard Specifications (2010 edition), and shall be accompanied by storage instructions, heating instructions, and caution instructions.
3. Accelerator or Retardant: The retardant shall be the type stated in the job mix formula and shall be approved by the Owner's Representative before use. The amount of accelerator to be included in the mixture shall be that amount necessary to ensure the applied crack seal can support vehicular traffic within four (4) hours after the last application.

2.9 PRIME COAT

All areas to be paved shall receive a prime coat of SC 250 liquid asphalt conforming to Greenbook Section 203-2.

2.10 TACK COAT

Tack coat shall consist of SS-1h emulsified asphalt per Greenbook Section 203-3.4.2 shall be applied in conformance with the applicable requirements of the Greenbook to all exposed asphalt surfaces and gutter front face.

2.11 TRAFFIC STRIPING, PAVEMENT MARKINGS AND RAISED MARKERS

A. GENERAL

1. New Striping and Legends: Materials (paint and thermoplastic), equipment, mixing (paint), surface preparation, application and tolerances, shall conform to Sections 84-1 and 84-3 of the State of California, Department of Transportation's Standard Specifications (2010 edition) except as modified herein.
2. Pavement markers shall conform to Section 85 of the State of California, Department of Transportation's Standard Specifications (2010 edition).
3. All details and dimensions for pavement markings shall conform to City approved stencils.
4. All details and dimensions for traffic striping shall conform to the least edition of the State of California, Department of Transportation's Traffic Design Manual and Maintenance Manual.
5. Contractor must obtain City approval from the City's Traffic Engineer on the striping layout prior to applying and permanent striping.
6. All traffic stripes and pavement markings shall be reflectorized. The Contractor shall apply two coats on all traffic striping.

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7. The Contractor shall be responsible to mark and/or document the types and limits of existing striping, pavement markings and pavement markers in a manner adequate to ensure their replacement in original location, alignment, color size, and/or type. Control of alignment and layout shall be the responsibility of the Contractor and subject to approval by the Owner's Representative. Raised markings for fire hydrants shall be replaced in kind at all locations.

B. MATERIALS

1. Paint: Traffic line paint shall be rapid dry paint and shall contain reflective material conforming to Section 84-1 and 84-3 of the Caltrans Standard Specifications. Paint shall comply with all application of local air pollution control regulations.
2. Glass spheres for traffic paint shall conform to State Material Specifications 751-80-34.
3. Samples of traffic striping and pavement marking materials shall be submitted to the Owner's Representative at least two weeks prior to application.
4. Markers: Pavement marker height shall be 0.70-inch minimum. "Low profile" type markers will not be acceptable. Markers shall be of the type and colored to match the existing pavement markers.

PART 3 - EXECUTION

3.1 GENERAL

- A. Comply with the ordinances, directives, and regulations of the respective agencies having jurisdiction over the area of the work. Pavement removal and replacement shall be in accordance with Greenbook Section 302-5, these Specifications and the issued permit.
- B. Pavements shall be protected from damage by the Contractor's operations by the use of trench plates, protective mats, rubber-tired equipment, and/or reduced payloads for exported or imported materials. The Contractor shall submit the proposed method for the protection of pavements prior to mobilization onto the site, shall document the existing pavement conditions by video and inform the Owner of distressed pavement areas that exist prior to mobilization, and shall not commence excavation activities until the method of pavement protection is accepted, in writing, by the Owner. Acceptance by the Owner does not relieve the Contractor from the responsibility to implement measures to protect existing pavements from damage, and pavements that are damaged because of the Contractor's failure to implement reasonable measures for their protection, in the sole opinion of the Owner, shall be replaced by the Contractor at no additional expense to the Owner.

3.2 PAVEMENT REMOVAL

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- A. Initially cut asphalt concrete pavement with a pavement saw, hydrohammer, or pneumatic pavement cutter at the limits of the excavation and remove the pavement regardless of the thickness. After backfilling the excavation, saw cut asphalt concrete pavement to a minimum depth of 2 inches at a point not less than 12 inches outside the limits of the excavation or the previous pavement cut, whichever is greater, and remove the additional pavement.
- B. Saw cut concrete pavement, including cross gutters, curbs and gutters, sidewalks, and driveways, to a minimum depth of 1-1/2 inches and 12 inches beyond the edge of the excavation and remove the pavement. The concrete pavement may initially be cut at the limits of the excavation by other methods prior to removal and then saw cut after backfilling the excavation. If the saw cut falls within 3 feet of a concrete joint or pavement edge, remove the concrete to the joint or edge.
- C. Make arrangements for and dispose of the removed pavement.
- D. Pavement saw cuts shall be straight along both sides of trenches, parallel to the pipeline alignment, and provide clean, solid, vertical faces free from loose material. Saw cut and remove damaged or disturbed adjoining pavement. Final pavement saw cuts shall be parallel to the roadway centerline or lane striping or perpendicular to same.
- E. Removed pavements shall be taken to a local Class C or Class D Recycling Facility. The Contractor shall provide the Owner with a report that documents the place of disposal and the amount of recycled material that was diverted to the facility.

3.3 PREPARATION OF SUBGRADE

- A. Compact the top 12 inches of subgrade to 95 percent relative compaction. Remove all soft material disclosed by the compacting and replace with suitable material and recompact.
- B. The finished subgrade shall be within a tolerance of +/-0.08-foot and shall be smooth and free from irregularities and at the specified relative compaction. The subgrade shall be considered to extend over the full width of the base course.

3.4 PLACING AGGREGATE BASE

- A. Place aggregate base course to a thickness of 6 inches or to the standards of the agency having jurisdiction over the area of the work in accordance with Greenbook Section 301-2. Compact to 95 percent relative compaction.
- B. Apply water uniformly throughout the material and prior to placement and compaction to provide moisture for obtaining the specified compaction.
- C. Compaction and rolling shall begin at the outer edges of the surfacing and continue toward the center. Compact each layer to the specified relative compaction before placing the next layer.

3.5 APPLYING PRIME COAT

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Apply prime coat to the compacted surface of the aggregate base course per Greenbook Section 302-5.3.

3.6 APPLYING TACK COAT

Apply tack coat to all exposed asphalt or concrete surfaces, including gutter front face, to receive asphalt concrete pavement per Greenbook Section 302-5.4.

3.7 SURFACE PREPARATION OF AREAS TO RECEIVE PAVING OVERLAY OR SLURRY SEAL

- A. Prior to the placement of crack sealant, asphalt concrete pavement or slurry seal, the Contractor shall have a company or person who is licensed by the State of California in herbicide application apply herbicide to all cracks and lips of gutter which have vegetation in them. The herbicide shall consist of Roundup or approved equal with a color dye in it on all cracks and lips of gutter on streets to receive overlay or slurry seal. In addition, apply the approved herbicide along the entire stretch between the lip of gutter and pavement on all streets to receive overlay or slurry seal. The herbicide shall be applied in accordance with the manufacturer's recommendations and at least ten (10) working days prior to crack sealing.
- B. At least five (5) working days after application of the herbicide, the Contractor shall remove all dead vegetation from the cracks and between the lip of gutter and pavement of all streets.
- C. Existing pavement markers shall be removed from areas to receive slurry seal or paving overlays and disposed of.
- D. Cracks of 3/8-inch or greater in width shall be cleaned and sealed with a rubberized crack sealant conforming to the requirements of this Section. Cracks shall be cleaned to a minimum depth of 3/4-inches prior to the crack sealant application to provide an intact bonding surface which is free from all dust, moisture or other contaminants. Cracks shall be cleaned by blast-cleaning or by hand methods and then cleaned with high pressure air jets to remove all residue and foreign materials. Exposed surfaces shall be dry at the time the crack sealant is applied.
- E. Rubberized crack sealant shall be heated and placed in conformance with the manufacturer's written instructions. Joint sealant materials shall not be placed when the pavement surface temperature is below 50°F.
- F. The Contractor shall sweep and clean the existing pavement surface prior to application of the SS-1h tack coat for asphalt concrete overlay or prior to application of slurry seal.

3.8 PLACING ASPHALT CONCRETE PAVING

- A. Producing, hauling, placing, compacting, and finishing of asphalt concrete shall conform to Greenbook Section 302-5.
- B. Place asphalt concrete to a total thickness of 6 inches or 1 inch thicker than adjacent pavement section, whichever is greater or to the standards of the agency having jurisdiction over the area of the work and as further described herein.

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In private streets parking lots or driveways, place asphalt concrete to a total thickness of 3 inches or 1 inch thicker than the adjacent pavement section, whichever is greater.

- C. New asphalt concrete shall be placed against existing asphalt concrete along neat, solid surfaces of pavement saw cuts. Placement of new asphalt concrete along a previous saw cut which has been roughened by cold milling or otherwise surface shall not be permitted.
- D. Compact until roller marks are eliminated and minimum relative compaction of 95 percent has been attained per ASTM D2041.
- E. Backfill, compaction, and the permanent paving, except for the final asphalt surface course, shall be complete at all times to a point not to exceed 420 feet behind pipelaying unless otherwise specified or approved by the Owner.
- F. After the base course of asphalt concrete pavement has been completed, place temporary striping in the same configuration as the existing permanent striping so that traffic can be returned to normal patterns. This striping shall be considered temporary and is the Contractor's responsibility to place and maintain. Paint applied shall not be "marking" or "survey" paint and shall be applied by a professional striping contractor per Section 2.11 and in accordance to City of Encinitas standards. Temporary striping shall be placed as soon as possible, but no later than 12-hours after paving has been completed in the area where striping needs to be replaced, regardless of the day, at no additional cost to the Owner. If the day of temporary striping falls on a non-work day, the temporary striping shall be completed in accordance to direction from the City of Encinitas traffic department and subject to permit conditions. In no case, shall additional payment be entitled to the contractor for complying with the temporary striping conditions issued by the City for completion of the Work.
- G. The final asphalt surface course shall be 1-1/2 inches thick and shall extend 12 inches beyond the trench width per the City of Encinitas standards. A pavement reinforcement membrane shall be placed underneath the final asphalt surface course per the manufacturers' recommendations and in accordance with the City of Encinitas standards. Do not place final surface course until all pipelines and appurtenances have been installed and tested within the roadway or as directed by the Owner's Representative to maintain traffic safety.

3.9 PLACING TYPE C1-PG 64-28M ASPHALT CONCRETE

- A. Not Used.
- B. Asphalt paving machines shall be furnished with a minimum of two screed operators and one machine operator.
- C. When the compacted thickness of any individual asphalt layer to be placed is 0.09 foot or less, the 3/8-inch maximum grading shall be used. When the compacted thickness being placed is between 0.09 foot and 0.17 foot, the 1/2-inch maximum, medium grading shall be used.

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- D. Prior to spreading Type C1-PG64-28M asphalt concrete, SS-1h tack coat shall be furnished and applied uniformly to the pavement to be surfaced and to contact surfaces of all cold pavement joints, curbs, and gutters. If paving asphalt is furnished, it shall be applied at a temperature between 285°F and 350°F.
- E. Asphalt concrete shall be spread with a self-propelled spreader ready for compaction without further shaping, unless otherwise specified.
- F. The compaction after rolling shall be 95 percent of the density obtained with the California Kneading Compactor per California Test 304.

The field density of compacted asphalt concrete shall be determined by:

- 1. A properly calibrated nuclear asphalt testing device in the field, or
- 2. ASTM D1188 when slabs or cores are taken for laboratory testing. Zinc stearate may be substituted for paraffin.

In case of dispute, Method 2 above shall be used.

- G. At road connections and private drives, additional asphalt concrete surfacing material shall be placed and hand-raked, if necessary, and compacted to form smooth, tapered connections. The edges of asphalt concrete shall be feathered so as to provide a smooth transition on the shoulder areas and next to concrete gutters and cross-gutters.
- H. The completed surfacing shall be true to grade and cross sections, of uniform smoothness and texture, compacted firmly, and free from depressions, humps or irregularities.
- I. Shoulders or median borders adjacent to a lane being paved shall be surfaced prior to opening the lane to traffic.
- J. Asphalt concrete surfacing shall be placed on all existing surfacing, including curve widening, chain control lanes, turnouts, left turn pockets, and public and private road connections shown on the plans, unless otherwise directed by the Owner's Representative.
- K. Asphalt concrete surfacing shall be placed from edge of pavement to edge of pavement of the traveled way each work shift. At the end of each work shift, the ends of the asphalt concrete surfacing on all lanes and shoulders shall match. Additional asphalt concrete shall be placed along the transverse edge at the end of each lane between adjacent lanes, hand raked, and compacted to form temporary conforms. Kraft paper, or other approved bond breaker, may be placed under the conform tapers to facilitate the removal of the taper when paving operations resume.
- L. In the event placement of asphalt concrete dike is not completed within the time specified in this contract, the Owner may suspend or cease paving operations until such time as all required placement of asphalt concrete dike is completed to the satisfaction of the Owner's Representative.

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3.10 PLACING RUBBER POLYMER MODIFIED SLURRY

- A. Producing, hauling, placing, and inspection of Rubber Polymer Modified Slurry shall conform to Caltrans State Standard Specifications dated 2018, with revisions.
- B. Contractor shall remove all thermoplastic markings or striping in conflict with the limits of Rubber Polymer Modified Slurry prior to application. Any markings or striping removed prior to the slurry application shall be replaced within the timeframe required by the City of Encinitas at no additional cost.

3.11 APPLYING PAVEMENT STRIPING, MARKINGS AND RAISED MARKERS

- A. Two coats of striping paint shall be applied for all street striping. The first coat shall be applied a minimum of seven days after paving is complete. The second coat shall be applied seven days after the first coat is applied. The maximum thickness of the two coats combined shall not be greater than 18 mils when completely dried.
- B. All crosswalks, legends and stop bars shall be thermoplastic. **At each intersection the contractor shall be responsible for applying thermoplastic to all crosswalks in that intersection including those in the intersection which are on side streets that will not receive overlay.**
- C. Pavement marking shall commence a minimum of seven days after the overlay is complete. Any new pavement overlay must receive immediate temporary markings (i.e., temporary tabs, etc.) as directed by the Owner's Representative after any portion of the overlay work is completed. All temporary striping and/or markings shall be maintained by the Contractor until the permanent striping is done.
- D. The Contractor shall remove any temporary tabs remaining at the application of the second coat of paint.
- E. Pavement Markers: After the application of all pavement striping and markings, install markers on new paved surfaces and existing surfaces that were damaged by construction. Use markers that match the color or combination of colors of the existing markers within the area of work. Install markers along the alignment and match spacing of the existing.
- F. Hydrant Markers: Install a blue reflective marker opposite each new or relocated fire hydrant. Place the marker on the pavement and locate 6 inches off the centerline of the traffic striping or pavement markers and towards the hydrant. Where existing fire hydrants have been relocated or removed from service, dislodge the existing blue marker from the pavement and dispose.

3.12. TRAFFIC CONTROL

- A. Contractor shall be responsible for maintaining safe traffic operation through the work area. Traffic control shall conform to City of Encinitas requirements.

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- B. In addition to access restrictions required by the City of Encinitas approved traffic control plans, the following restrictions shall also apply:
1. Access to fires hydrants shall be maintained at all times.
 2. If it is necessary to restrict access to roadside properties, the Contractor shall first obtain written authorization from the Owner's Representative and the City of Encinitas Engineer. Upon approval, Contractor shall notify affected property owners a minimum of 72 hours prior to the restriction. Access to all properties shall be restored after the work is completed or at the close of the working day, whichever is first. Restricted access shall not exceed 1 hour for work adjacent to businesses that are open and adjacent to residences at any time of day. This restricted access limit does not apply during night work adjacent to businesses that are closed.
 3. The Contractor shall exercise care to prevent public traffic from tracking or smearing freshly painted areas. The Owner's Representative shall have the option of requiring the Contractor to remove, by wet sandblast method, and repaint all tracked or smeared areas at Contractor's expense.

3.13. PAVING AND SLURRY LIMITS

- A. Contractor shall backfill and base pave with hot mix all open trenches and trenches paved with temporary asphalt every Thursday night for all open trenches and work within Phase 01 through 14, 20, and 21 of the Preliminary Traffic Control Plans (See Appendix C). All base paving shall be flush with the adjacent pavement and not be left low for the final cap paving. A recessed trench plate at the end of the pipeline installation may be allowed with written permission from the City of Encinitas.
- B. Contractor shall place slurry seal to the full width of the lane impacted by the final paving for the pipeline trench parallel to the lane, including the limits of final paving. For pipeline trenches perpendicular to the lane or greater than 15-degrees to the direction of the lane, place slurry seal one foot outside the limits of final paving.
- C. No measurement or payment shall be made for paving (base or final) or slurry seal that is not ordered by the Owner, or that extends beyond the limits shown or specified on the Drawings or Standard Drawings, or that is required to restore existing pavements damaged by the Contractor's operations to the condition existing prior to the start of construction.

END OF SECTION

SHUTDOWN 1 - CLOSE GV F12-061, F12-025 & F12-034 + OCC1, TIE IN DETAIL B SHEET 10. CLOSE WESTERN VALVE AT TIE IN LOCATION BUT OPEN SOUTHERN VALVE TO RE-ENERGIZE THE EXISTING MAIN. AT STA 28+60.00, OPEN GV F12-061, F12-025 & F12-034 + OCC1. WESTERN VALVE AT CROSS AT STATION 27+09.53 IN THE INTERSECTION TO BE CLOSED; ALL OTHER VALVES AT STA 27+09.52 TO REMAIN OPEN.

SHUTDOWN 2 - CLOSE OCC01, GV F13-002, TIE IN DETAIL A, SHEET 10. CLOSE NORTHERN VALVE AT STA 10+01.25 BUT LEAVE EXISTING MAIN ENERGIZED. OPEN OCC01, GV-F13-002.

SHUTDOWN 3 - CLOSE OCC01, GV-F13-002, TIE IN DETAIL E SHEET 10, CUT AND WELD NEW FLANGE ON STEEL PIPE @ STA. 17+25. BLIND FLANGE. OPEN NEW GV AT STA 28+60.00 (SHUTDOWN 1) AND STA 10+01.25 (SHUTDOWN 2) TO ENERGIZE THE NEW MAIN IN MANCHESTER, RANCHO SANTA FE, AND S. RANCHO SANTA FE. OPEN OCC01; THE EXISTING MAIN WILL REMAIN ENERGIZED. WESTERN VALVE AT CROSS AT STA 27+09.52 IN THE INTERSECTION TO REMAIN CLOSED; ALL OTHER VALVES AT STA 27+09.52 TO REMAIN OPEN.

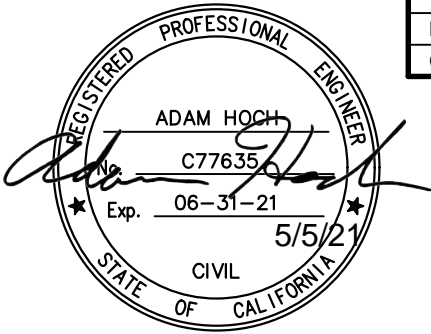
SHUTDOWN 4 - CLOSE GV F12-025, F12-022, F12-027, & F12-034 AND F12-013, TIE-IN DETAIL C ON SHEET 10 AND DETAIL B ON SHEET 11. OPEN GV F12-013 AT VIA DEL CERRITO AND WESTERN VALVE AT INTERSECTION. ALL EXISTING AND NEW WATER MAINS WILL BE ENERGIZED.

METER AND SERVICE RECONNECTION - PHASE I. ALL METERS AND SERVICES THAT CAN BE ISOLATED FROM THE EXISTING AND NEW MAINS SHALL BE RECONNECTED. THIS IS ANTICIPATED TO INCLUDE ALL RECONNECTIONS EXCEPT POTENTIALLY FOR THOSE AT STA. 12+55.55, 22+39.30, 26+17.18, 26+24.18, 58+61.54, 61+34.00, 62+75.57, AND 63+73.20, FOR WHICH FIELD SHUTOFF VALVES COULD NOT BE CONFIRMED OR WERE NOT IN THE TYPICAL LOCATION. CONTRACTOR TO FIELD VERIFY SHUTOFF VALVES FOR ALL POTENTIAL RECONNECTIONS AND RECONNECT ALL FEASIBLE SERVICES AND LATERALS IN THIS PHASE.

SHUTDOWN 5 - CLOSE OCC01, GV-F13-002, TIE IN STA. 12+55.55. OCC01 AND GV-F13-002 TO REMAIN CLOSED.

SHUTDOWN 6 - IF NECESSARY, CLOSE GV-F12-025 AND F12-034, & THE SOUTHERN MOST VALVE INSTALLED AS PART OF SHUTDOWN 1 AT STA 28+60.00, TIE-IN TO ALL REMAINING SERVICES NOT CONNECTED TO AS PART OF THE METER AND SERVICE RECONNECTION - PHASE I. AFTER ALL TIE-INS ARE COMPLETED, ALL GATE VALVES CLOSED AS PART OF THIS SHUTDOWN WILL REMAIN CLOSED. ADDITIONALLY, CLOSE EASTERN MOST VALVE AT STA 50+83.20 INSTALLED AS PART OF SHUTDOWN 4. ALL NEW PIPELINE WILL BE ENERGIZED. ALL PIPELINES TO BE ABANDONED WILL BE DE-ENERGIZED.

ENCINITAS BLVD AND VIA DEL CERRITO VALVING (NOT SHOWN). OWNER SHALL ISOLATE THE EX 12" LINE VIA THE 12" GATE VALVE (GV F12-013) DURING THE SHUTDOWN.



PLANS	BY	DATE
DESIGNED	RR	12/07/20
CHECKED	AH	12/07/20

Amended

LEGEND:

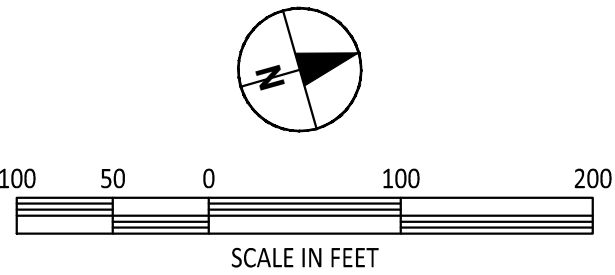
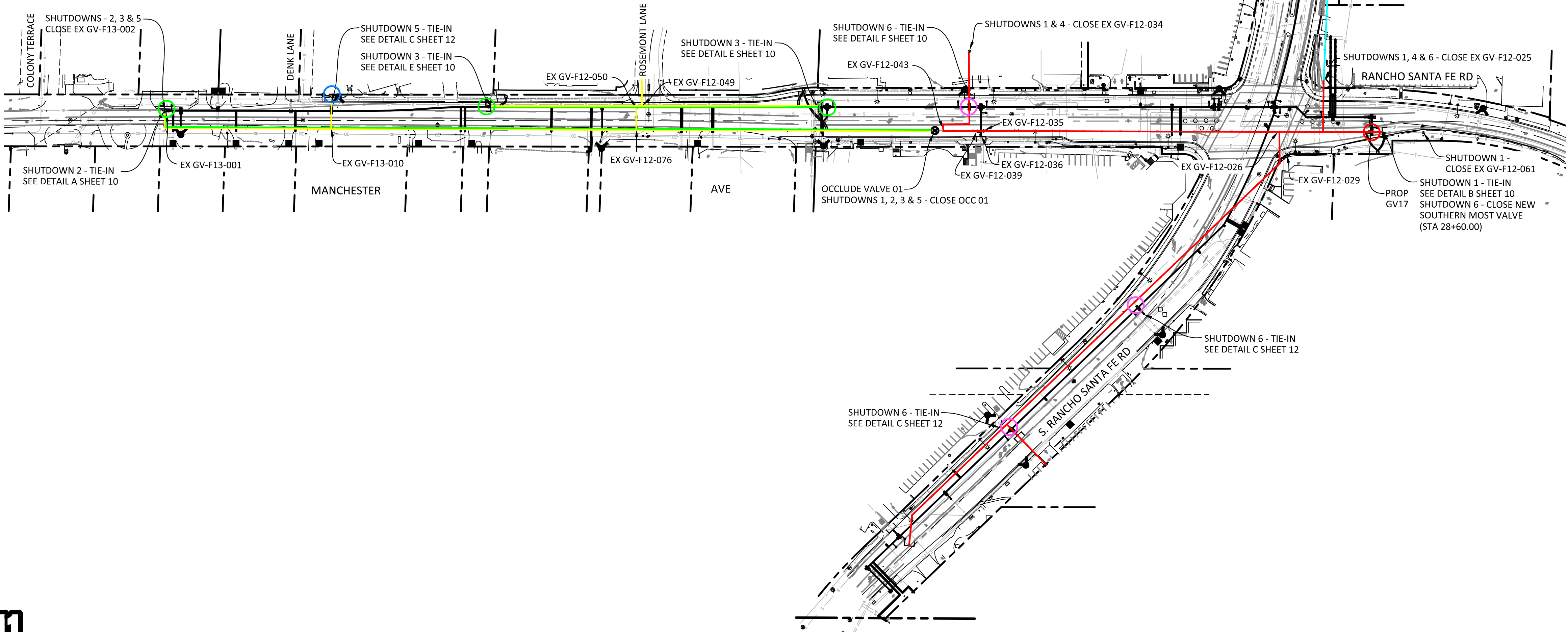
- EX FIRE HYDRANT LOCATION
- EX WATER METER LOCATION
- PROPOSED WATERLINE ALIGNMENT
- INDICATES CONNECTION POINT TO EXISTING WATER PIPELINE

EX GV-F12-026 VALVE ASSET NUMBER PER OMWD

- OCCLUDE INSERT VALVE
- SHUTDOWN 1
- SHUTDOWN 2
- SHUTDOWN 3
- SHUTDOWN 4
- SHUTDOWN 5
- SHUTDOWN 6

PHASING NOTES:

- THE DISTRICT SHALL PERFORM ALL LIVE VALVE ACTUATIONS.
- PRIOR TO SHUTDOWN/TRANSFER OF SERVICES, CONTRACTOR SHALL PROVIDE A MINIMUM OF 2 WEEKS NOTICE TO OWNER TO PERFORM PRELIMINARY SHUTDOWN TO CONFIRM LIMITS OF REQUIRED HIGHLINING.
- CONTRACTOR SHALL OUTLINE THE PROPOSED WORK SEQUENCE FOR OWNER'S REVIEW AND APPROVAL.
- UTILIZING INDEPENDENT MEANS AND METHODS, THE CONTRACTOR SHALL SEEK TO OPTIMIZE CONSTRUCTION COSTS BY GROUPING SIMILAR WORK ITEMS, INCLUDING PIPELINE CONSTRUCTION, TIE-INS, TESTING AND INSPECTION, DISINFECTION, AND ABANDONMENTS INTO A LINEAR AND LOGICAL CONSTRUCTION TIMELINE. PROJECT GUIDELINES AND STANDARDS SET IN PLACE BY THE OWNER ARE STATED AS FOLLOWS:
 - MINIMIZE THE USE OF INLINE OCCLUDE VALVES AND/OR LINE STOPS, PER PLAN THAT WOULD BE SUBSEQUENTLY ABANDONED.
 - LIMIT EACH AFFECTED CUSTOMER TO ONE MAINLINE SHUTDOWN PER METER, UNLESS OTHERWISE APPROVED BY OWNER.
 - LIMIT THE AMOUNT OF WORK AND PLAN THE SHUTDOWNS SO THEY CAN BE ACCOMPLISHED IN A 7-HOUR SHUTDOWN WINDOW DURING NIGHT TIME WORK HOURS, AS APPROVED BY OWNER.
- COMPLY WITH ALL WORK RESTRICTION REQUIREMENTS OF SECTION 01305 UNLESS OTHERWISE DIRECTED BY OWNER.
- SHUT-DOWN PHASE IDENTIFICATION PER SECTION 01305. CONTRACTOR SHALL FIELD VERIFY ISOLATION VALVE LOCATIONS PRIOR TO COMMENCING WORK AND COMPLY WITH ALL REQUIREMENTS OF SECTION 01350.



REVISIONS	BY	APPROVED	DATE	COORDINATE INDEX
				317 N. 1698 E.
				CONST. COMPL.
				FIELD REVISIONS

MANCHESTER AVE POTABLE WATER
PIPELINE REPLACEMENT PROJECT
CONSTRUCTION PHASING PLAN

SCALE: HOR: 1" = 100'	VERT. NONE
W.A. RS11810	R.S. 11810
SHEET 04 OF 12 SHEETS	