



SEASIDE COUNTY SANITATION DISTRICT

440 HARCOURT AVENUE SEASIDE, CA 93955

REGULAR MEETING

Board of Directors

Tuesday, February 11, 2020, 9:30 AM

City of Seaside Conference Room

1. **CALL TO ORDER**

2. **ROLL CALL**

BOARD OF DIRECTORS

Jerry Blackwelder

Pat Lintell

Alissa Kispersky

Chair

First Vice Chair

Second Vice Chair

3. **REVIEW OF AGENDA**

If there are any items that arose after the 72-hour posting deadline, this is the point in the meeting where a vote may be taken to add the item to the agenda. (A 2/3-majority vote is required).

4. **PUBLIC COMMENT**

Members of the public wishing to address the Seaside County Sanitation District on matters within the jurisdiction of the Board, but not on this agenda, may do so during Public Comment period for up to three minutes. Public Comments on specific agenda items are heard under that item. For the public record, please state your name.

5. **CONSENT AGENDA**

A. APPROVAL OF MINUTES FROM THE JANUARY 14, 2020 REGULAR MEETING.

PURPOSE: To review and approve the minutes from the January 14, 2020 Regular Meeting.

RECOMMENDATION: That the minutes be reviewed and approved.

B. APPROVAL OF DECEMBER 2019 EXPENDITURE REPORT FOR SEASIDE COUNTY SANITATION DISTRICT.

PURPOSE: Approval of expenditures for December 2019 for the Seaside County Sanitation District in the amount of \$86,944.96.

RECOMMENDATION: Approve expenditures for December 2019. Total expenditures were \$86,944.96. A drawdown in the amount of \$183,195.52 for November and December 2019 expenditures is being requested. November expenditures in the amount of \$96,250.56 were approved on January 14, 2020.

C. RECEIVE SEASIDE COUNTY SANITATION DISTRICT OPERATIONS REPORT FOR JANUARY 2020.

PURPOSE: RECEIVE SEASIDE COUNTY SANITATION DISTRICT OPERATIONS REPORT FOR JANUARY 2020.

RECOMMENDATION: ACCEPT REPORTS. THIS ITEM IS PRESENTED FOR INFORMATION ONLY.

6. NEW BUSINESS

A. RECEIVE REPORT ON THE AUDIT OF THE SEWER SYSTEM MANAGEMENT PLAN AND AMEND THE CONTRACT WITH CAUSEY CONSULTING TO PROVIDE PROFESSIONAL SERVICES TO PERFORM THE OUTLINED REVISIONS FOR AN ADDITIONAL AMOUNT NOT TO EXCEED \$24,085 AND TO APPROPRIATE THE FUNDS.

PURPOSE: The purpose of this item is for the District Board to receive a report on the audit of the Seaside County Sanitation District (SCSD) Sewer System Management Plan (SSMP) and to authorize an amendment with Causey Consulting to perform the recommended updates to the SSMP.

In accordance with Title 14, California Code of Regulations, Section 15378 the proposed project is Categorically Exempt from the California Environmental Quality Act (CEQA).

RECOMMENDATION: It is recommended that the Board receive a report on the audit of the SCSD, direct staff to revise the SSMP, and to amend the contract with Causey Consulting to provide professional services to perform the recommended revisions outlined within the audit report for an additional amount not to exceed \$24,085. It is recommended to allocate funds from District reserves to "SSMP Update" (Acct# 952-8820-8194) to fund the amendment.

B. APPROVAL OF A CONSTRUCTION CONTRACT WITH MONTEREY PENINSULA ENGINEERING, INCORPORATED FOR AN AMOUNT NOT TO EXCEED ONE MILLION THREE HUNDRED SIXTY-EIGHT THOUSAND ONE HUNDRED EIGHTY DOLLARS (\$1,368,180) FOR THE CANYON DEL REY CMP SEWER MAIN REPLACEMENT PROJECT

PURPOSE: The purpose of this item is for the District's Board to consider approval of a Construction Contract Agreement with Monterey Peninsula Engineering, Incorporated to provide all labor, material, equipment, and services necessary to complete the Canyon Del Rey CMP Sewer Main Replacement Project.

RECOMMENDATION: It is recommended that the Board adopt a resolution approving the Construction Contract Agreement with Monterey Peninsula Engineering, Incorporated for an amount not to exceed One Million Three Hundred Sixty-Eight Thousand One Hundred Eighty Dollars (\$1,368,180) to provide all labor, material, equipment, and services necessary to construct the Canyon Del Rey CMP Sewer Main Replacement Project and authorizing the District Manager to execute the Construction Contract Agreement.

C. APPROVAL OF AN AMENDMENT TO A DESIGN PROFESSIONAL SERVICES AGREEMENT WITH INFRASTRUCTURE ENGINEERING CORPORATION (IEC) FOR AN AMOUNT NOT TO EXCEED TWENTY-TWO THOUSAND SEVEN HUNDRED DOLLARS (\$22,700) FOR THE CANYON DEL REY CMP SEWER MAIN REPLACEMENT PROJECT

PURPOSE: The purpose of this item is for the District's Board to consider approval of an amendment to the Design Professional Services Agreement with Infrastructure Engineering Corporation (IEC) to provide additional professional engineering and technical services for engineering support during construction of the Canyon Del Rey CMP Sewer Main Replacement Project.

RECOMMENDATION: It is recommended that the Board adopt a resolution approving an amendment to the Design Professional Services Agreement with Infrastructure Engineering Corporation (IEC) for an amount not to exceed Twenty-Two Thousand Seven Hundred Dollars (\$22,700) to provide additional professional engineering and technical services for engineering support during construction for the Canyon Del Rey CMP Sewer Main Replacement Project and authorizing the District Manager to execute the Amendment.

D. APPROVAL OF AN AMENDMENT TO A PROFESSIONAL SERVICES AGREEMENT WITH HARRIS & ASSOCIATES FOR AN AMOUNT NOT TO EXCEED ONE HUNDRED THIRTY-ONE THOUSAND SIX HUNDRED DOLLARS (\$131,600) FOR CONTINUATION OF CAPITAL IMPROVEMENT PROGRAM (CIP) MANAGEMENT AND SUPPORT

PURPOSE: The purpose of this item is for the District's Board to consider amending an agreement with Harris & Associates to provide professional services in continued support of the District's Capital Improvement Program (CIP) to perform construction management and inspection services during construction of the Canyon Del Rey CMP Sewer Main Replacement Project.

RECOMMENDATION: It is recommended that the Board adopt a resolution approving an amendment to the Professional Services Agreement with Harris & Associates for an amount not to exceed One Hundred Thirty-One Thousand Six Hundred Dollars (\$131,600) to provide professional services in continued support of the District's Capital Improvement Program (CIP) to perform construction management and inspection services during construction of the Canyon Del Rey CMP Sewer Main Replacement Project and authorizing the District Manager to execute the Amendment.

7. CORRESPONDENCE

A. PUMP STATION 19: LETTER'S TO BUSINESS OWNERS

8. STAFF REPORTS

Staff reports include items for which verbal reports/presentations will be provided. If a specific Seaside County Sanitation District presentation is planned, it will be listed and information included with the Agenda. Brief oral reports may be provided for items arising after the Agenda was prepared. The Board may wish to ask questions or discuss a staff report, but no action is appropriate other than referral to staff, or request that a matter be set as a future Agenda item.

9. BOARD MEMBERS COMMENTS

10. ADJOURNMENT

Next Regularly Scheduled Meeting:
March 10, 2020
Seaside City Hall
9:30 AM

In compliance with the Americans with Disabilities Act (ADA), the Seaside County Sanitation District (SCSD) does not discriminate against persons with disabilities. SCSD's meetings are held at an accessible facility. Any person with a disability who requires a modification or accommodation to be able to participate in this meeting is asked to contact the office of the District Clerk at cityclerk@ci.seaside.ca.us 831-899-6707, no fewer than two business days prior to the meeting to allow for reasonable arrangements. Agenda related writings or documents provided to the SCSD Board of Directors are available for public inspection during the meeting or may be requested from the office of the District Clerk. This agenda is posted in compliance with California Government Code Section 54954.2(a) or Section 54956. Agenda related writings or documents provided to the Board are available for public inspection during the meeting or may be requested from the office of the District Clerk.



DRAFT MINUTES
SEASIDE COUNTY SANITATION DISTRICT
Tuesday, January 14, 2020 9:30 AM
REGULAR MEETING
Seaside Conference Room

1. CALL TO ORDER

Chair Blackwelder called the meeting to order at 9:30 AM.

2. ROLL CALL

PRESENT: Kispersky, Lintell, Blackwelder

3. ELECTION OF OFFICERS 2020

Board decided to leave the officers the same as the previous year for this 2020 calendar year. Jerry Blackwelder, Chair; Pat Lintell, First Vice Chair; Alissa Kispersky, Second Vice Chair.

4. REVIEW OF AGENDA

No changes were made.

5. PUBLIC COMMENT

There were no requests to speak.

6. CONSENT AGENDA

On motion by First Vice Chair Pat Lintell and seconded by Second Vice Chair Alissa Kispersky and passed by the following vote the Seaside County Sanitation District Approved Consent Agenda with the exception of Item C which was pulled by Second Vice Chair Kispersky and Item D which was pulled by Chair Blackwelder.

RESULT:	<i>Approved</i>
AYES:	<i>Jerry Blackwelder, Pat Lintell, Alissa Kispersky</i>
NOES:	<i>None</i>

**A. APPROVAL OF MINUTES FROM THE DECEMBER 10, 2019
REGULAR MEETING.**

Action: Approved

**B. APPROVAL OF NOVEMBER 2019 EXPENDITURE REPORT FOR SEASIDE
COUNTY SANITATION DISTRICT.**

Action: Approved

**C. RECEIVE SEASIDE COUNTY SANITATION DISTRICT OPERATIONS REPORT
FOR DECEMBER 2019.**

Second Vice Chair Alissa Kispersky had questions on this item that were answered by Acting District Engineer, Scott Ottmar.

On motion by Second Vice Chair Alissa Kispersky and seconded by First Vice Chair Pat Lintell and

passed by the following vote the Seaside County Sanitation District Approved Seaside County Sanitation District Operations Report for December 2019 as presented.

RESULT: **Approved**

AYES: Jerry Blackwelder, Pat Lintell, Alissa Kispersky

NOES: None

D. APPROVE AN INFRASTRUCTURE AGREEMENT WITH DBO DEVELOPMENT NO. 30 FOR SOUTH OF TIOGA DEVELOPMENT-SAND CITY.

Chair Jerry Blackwelder recused himself before the item was heard. Scott Ottmar, Acting District Engineer, spoke on the item. There were questions by Second Vice Chair Alissa Kispersky that were answered by Mr. Ottmar.

On motion by Second Vice Chair Alissa Kispersky and seconded by First Vice Chair Pat Lintell and passed by the following vote the Seaside County Sanitation District Approved an infrastructure agreement with DBO Development No. 30 for South of Tioga Development-Sand City.

RESULT: **Approved**

AYES: Pat Lintell, Alissa Kispersky

NOES: None

ABSTAIN: Jerry Blackwelder

7. STAFF REPORTS

Scott Ottmar, Acting District Engineer, gave a brief update on the Capital Improvement Programs.

8. BOARD MEMBERS COMMENTS

First Vice Chair Pat Lintell asked what is the estimated time for the Rosita liftstation. Question was answered by Mr. Ottmar.

9. ADJOURNMENT

On motion, the meeting was adjourned at 9:47 AM.

Respectfully Submitted,

Rosa Salcedo, District Clerk

Jerry Blackwelder, Chair



**SEASIDE COUNTY SANITATION DISTRICT
STAFF REPORT**

Item No.: 5.B.

TO: Seaside County Sanitation District

FROM: Craig Malin, District Manager

BY: Kimberly Drabner, Finance Director

DATE: February 11, 2020

SUBJECT: APPROVAL OF DECEMBER 2019 EXPENDITURE REPORT FOR SEASIDE COUNTY SANITATION DISTRICT.

PURPOSE

Approval of expenditures for December 2019 for the Seaside County Sanitation District in the amount of \$86,944.96.

RECOMMENDATION

Approve expenditures for December 2019. Total expenditures were \$86,944.96. A drawdown in the amount of \$183,195.52 for November and December 2019 expenditures is being requested. November expenditures in the amount of \$96,250.56 were approved on January 14, 2020.

BACKGROUND

The expenditure report for December 2019 is attached. The local cash balance as of December 31, 2019 was \$425,961.64. The cash balance with the county as of December 31, 2019 was \$7,951,657.08.

FISCAL IMPACT

No fiscal impact.

ATTACHMENTS

1. DEC 19 expenditure spreadsheet
-

2. EFT Form 2-11-20

Reviewed for Submission to the
Board by:



Craig Malin, District Manager

**Seaside County Sanitation District
Year-to-Date 2019-2020 Expenses
DECEMBER 2019**

Authorized for Payment by the Board of Directors

ACCOUNT NUMBER	DESCRIPTION	TOTAL CHARGES YTD	TOTAL BILLED YTD	TOTAL DUE
951-8810-0001	SALARIES	9,614.23	7,982.81	1,631.42
951-8810-0002	OVERTIME	1.46	1.46	-
951-8810-0006	WORKERS COMPENSATION	808.00	-	808.00
951-8810-0009	SICK LEAVE PAYOFF	-	-	-
951-8810-0010	MANAGEMENT LEAVE PAYOFF	245.52	245.52	-
951-8810-0012	VACATION\COMP TIME PAYOFF	122.74	122.74	-
951-8810-0016	DEFERRED COMPENSATION	127.23	103.40	23.83
951-8810-0017	PARS-ARS 457	-	-	-
951-8810-0020	PART-TIME HOURLY WAGES	-	-	-
951-8810-0030	PERS PENSION OB BOND	268.00	-	268.00
951-8810-0031	PERS PENSION	4,381.49	826.66	3,554.83
951-8810-0032	PARS PENSION	689.41	562.51	126.90
951-8810-0033	LIUNA PENSION	-	-	-
951-8810-0041	MEDICAL INSURANCE	2,036.60	1,626.37	410.23
951-8810-0051	DENTAL INSURANCE-GUARDIAN	143.98	116.55	27.43
951-8810-0061	VISION INSURANCE	14.31	11.70	2.61
951-8810-0071	LTD	25.74	20.65	5.09
951-8810-0081	LIFE INSURANCE	24.51	19.69	4.82
951-8810-0092	MEDICARE TAX	139.46	117.70	21.76
951-8810-1022	LEGAL SERVICES	5,046.53	2,680.31	2,366.22
951-8810-1025	CITY AUDIT	4,125.00	-	4,125.00
951-8810-1029	TRAINING AND EDUCATION	1,858.67	1,423.00	435.67
951-8810-1030	CONSULTANT	8,741.25	5,328.75	3,412.50
951-8810-1033	FITNESS PROGRAM	20.93	20.93	-
951-8810-1040	PROPERTY TAX ADMIN FEES	-	-	-
951-8810-1041	STATE WASTE DISCHARGE FEE	-	-	-
951-8810-1045	WASTE DISCHARGE FEE	2,625.00	-	2,625.00
951-8810-2063	PUBLISHING & LEGAL ADVERTISING	75.00	75.00	-
951-8810-3092	STATIONARY SUPPLIES	44.07	-	44.07
951-8810-3095	DEPARTMENT CONSUMABLES	108.82	-	108.82
951-8810-4121	MEETINGS AND TRAVEL	-	-	-
951-8810-4122	DUES AND MEMBERSHIPS	1,651.00	1,651.00	-
951-8810-5132	TELEPHONE	919.08	765.90	153.18
951-8810-6141	EMPLOYEE AUTO REIMBURSEMENT	-	-	-
951-8810-9196	IMPACT FEES	24,342.37	24,342.37	-
951-8810-9395	VEHICLE MAINTENANCE	9,750.00	-	9,750.00
951-8810-9396	LIABILITY INSURANCE	-	-	-
951-8810-9397	COMPUTER SYSTEM	-	-	-
951-8810-9398	CENTRAL SERVICE CHARGES	-	-	-

**Seaside County Sanitation District
Year-to-Date 2019-2020 Expenses
DECEMBER 2019**

Authorized for Payment by the Board of Directors

ACCOUNT NUMBER	DESCRIPTION	TOTAL CHARGES YTD	TOTAL BILLED YTD	TOTAL DUE
951-8820-0001	SALARIES	84,752.75	67,374.20	17,378.55
951-8820-0002	OVERTIME	6,215.88	5,297.46	918.42
951-8820-0006	WORKERS COMPENSATION	11,096.00	-	11,096.00
951-8820-0012	VACATION\COMP TIME PAYOFF	-	-	-
951-8820-0016	DEFERRED COMPENSATION	786.55	607.56	178.99
951-8820-0030	PERS PENSION OB BOND	54.37	-	54.37
951-8820-0031	PERS PENSION	636.50	6,413.19	(5,776.69)
951-8820-0032	PARS PENSION	35,111.44	167.99	34,943.45
951-8820-0033	LIUNA PENSION	227.50	1,058.42	(830.92)
951-8820-0041	MEDICAL INSURANCE	1,266.59	8,854.05	(7,587.46)
951-8820-0042	MEDICAL INSURANCE-LIUNA H&W	12,860.00	-	12,860.00
951-8820-0051	DENTAL INSURANCE-GARDIAN	-	597.53	(597.53)
951-8820-0061	VISION INSURANCE	802.60	64.23	738.37
951-8820-0071	LTD	82.40	116.48	(34.08)
951-8820-0081	LIFE INSURANCE	155.12	93.95	61.17
951-8820-0090	EMPLOYEE ASSISTANCE PROGRAM	126.52	-	126.52
951-8820-0092	MEDICARE TAX	-	985.24	(985.24)
951-8820-0094	PW-LABOR COST ADJUSTMENT	1,227.85	-	1,227.85
951-8820-1029	TRAINING AND EDUCATION	-	300.00	(300.00)
951-8820-1030	CONSULTANT	300.00	-	300.00
951-8820-1033	FITNESS PROGRAM	-	27.00	(27.00)
951-8820-2044	COPY MACHINE MAINTENANCE	33.75	-	33.75
951-8820-2049	UNIFORM SERVICE / LAUNDRY	-	913.92	(913.92)
951-8820-2052	RADIO REPAIR	1,110.07	-	1,110.07
951-8820-2068	REFUSE DISPOSAL	-	22.94	(22.94)
951-8820-2073	SUBCONTRACTED WORK	89.26	16,777.69	(16,688.43)
951-8820-2074	SUBCONTRACT - GREASE PROGRAM	16,857.69	-	16,857.69
951-8820-3095	DEPARTMENT CONSUMABLES	-	2,591.55	(2,591.55)
951-8820-3097	SAFETY EQUIPMENT	4,763.18	360.51	4,402.67
951-8820-3102	COMPUTER SUPPLIES	360.51	-	360.51
951-8820-4121	MEETINGS AND TRAVEL	-	4,600.00	(4,600.00)
951-8820-4122	DUES AND MEMBERSHIPS	4,900.00	4,312.85	587.15
951-8820-4124	MAIL SERVICES	4,312.85	-	4,312.85
951-8820-5131	GAS AND ELECTRIC	-	2,820.10	(2,820.10)
951-8820-5132	TELEPHONE	3,625.57	-	3,625.57
951-8820-8187	DEPARTMENT EQUIPMENT	-	7,319.29	(7,319.29)
951-8820-8198	FOG PROGRAM	7,319.29	-	7,319.29
951-8820-9602	PRINCIPAL	-	583.59	(583.59)
951-8820-9605	INTEREST EXPENSE	583.59	45.35	538.24
951-8820-9607	LEASE - SEWER TRUCK	45.35	-	45.35
951-8820-9999	INTERFUND TRANSFERS OUT	-	382,902.15	(382,902.15)
		277,653.58	563,252.26	(285,598.68)

**Seaside County Sanitation District
Year-to-Date 2019-2020 Expenses
DECEMBER 2019**

Authorized for Payment by the Board of Directors

ACCOUNT NUMBER	DESCRIPTION	TOTAL CHARGES YTD	TOTAL BILLED YTD	TOTAL DUE
952-8820-8194	SEWER SYSTEM MNGT PLAN UPDATE	-	4,600.00	(4,600.00)
952-8820-8195	GRAPHIC INFORMATION SYSTEM	9,571.15	-	9,571.15
952-8820-9605	INTEREST EXPENSE	-	4,128.92	(4,128.92)
952-8820-9606	OTHER DEBT SERVICE FEES	4,128.92	-	4,128.92
		13,700.07	8,728.92	4,971.15
953-8820-0016	DEFERRED COMPENSATION	-	29.87	(29.87)
953-8820-0031	PERS PENSION	37.65	156.00	(118.35)
953-8820-0032	PARS PENSION	859.12	108.68	750.44
953-8820-0041	MEDICAL INSURANCE-NON LIUNA	137.38	268.16	(130.78)
953-8820-0051	DENTAL INSURANCE	348.83	9.15	339.68
953-8820-0061	VISION INSURANCE	19.32	2.04	17.28
953-8820-0071	LTD	2.56	2.40	0.16
953-8820-0081	LIFE INSURANCE	5.08	2.52	2.56
953-8820-0092	MEDICARE TAX	5.32	22.53	(17.21)
953-8820-1030	CONSULTANT	28.13	-	28.13
953-8820-9201	DEL MONTE LIFT STATION UPGRADE	-	432.04	(432.04)
953-8820-9202	ROSITA LIFT STATION UPGRADE	547.25	-	547.25
953-8820-9203	ANGELUS WAY SEWER MAIN UPGRADE	-	-	-
953-8820-9204	DEL REY PARK SEWR MAIN UPGRADE	-	39,552.58	(39,552.58)
953-8820-9205	DEL MONTE BL SEWR MAIN UPGRADE	394,104.58	14,254.60	379,849.98
953-8820-9206	MILITARY LIFT STATN REPLACEMNT	18,485.65	-	18,485.65
953-8820-9214	DEL MONTE SWR MAIN REPLACEMENT	-	13,595.08	(13,595.08)
953-8820-9215	ROOT INTRUSION SWR MAIN RPLC	21,427.27	-	21,427.27
953-8820-9218	SEWER LINE REPLACEMENTS	-	11,882.25	(11,882.25)
953-8820-9314	HIGHWAY 1 SEWER LINE CLEANING	11,882.25	-	11,882.25
		447,890.39	80,317.90	367,572.49
954-8810-2090	INSURANCE	-	58,218.00	(58,218.00)
954-8810-9398	CENTRAL SERVICE CHARGES	58,218.00	-	58,218.00
		58,218.00	58,218.00	-
			951-1009	(285,598.68)
			952-1009	4,971.15
			953-1009	367,572.49
			954-1009	-
DECEMBER 2019 DRAWDOWN				86,944.96

COUNTY OF MONTEREY - AUTHORIZATION of ELECTRONIC FUNDS TRANSFER

DEBIT : COUNTY OF MONTEREY
 Account Number : Wells Fargo Bank
 Account Name : Monterey County Treasurer

CREDIT : CITY OF SEASIDE PUBLIC INTEREST CHECKING

Pay to Bank : **RABOBANK**
 1658 FREMONT BLVD., SEASIDE, CA 93955

Account No. 9782713643
 Routing No. 122238420
 Customer Name: CITY OF SEASIDE
 Amount : \$ **183,195.52**

AUTHORIZED SIGNATURES: 1 _____
 2 _____
 3 _____

AUDITOR : ENTER AMOUNT AUTHORIZED FOR TRANSFER AND SIGN FORM

TREASURER : PROCESS TRANSFER, ENTER DATE OF TRANSFER, SIGN FORM AND RETURN TO AUDITOR

AUDITOR		TREASURER	
Hilda Castro	_____	_____	_____
Deputy Auditor	Date	Deputy Treasurer	Date of Transfer

For Auditor-Controller Office use only

Period _____	JV Number _____
Budget Yr. _____	Date _____
	Total _____

DESCRIPTION	AT	FD	BU	ORG	ACCT	REP	CT	DEBIT	CREDIT
Special District Exp.		603			2530				
Cash		603			1001				

Kimberly Drabner, Finance Director / Administrative Services (831) 899-6718; SCSD

Expenses for November and December 2019.

Prepared By: Hilda Castro	Date: _____		
Approved By: _____	Date: _____	Keyed By: _____	Date: _____



**SEASIDE COUNTY SANITATION DISTRICT
STAFF REPORT**

Item No.: 5.C.

TO: Seaside County Sanitation District

FROM: Craig Malin, District Manager

BY: Billy Thomas, Junior Engineer
Scott Ottmar, Senior Engineer

DATE: February 11, 2020

**SUBJECT: RECEIVE SEASIDE COUNTY SANITATION DISTRICT
OPERATIONS REPORT FOR JANUARY 2020.**

PURPOSE

RECEIVE SEASIDE COUNTY SANITATION DISTRICT OPERATIONS REPORT FOR JANUARY 2020.

RECOMMENDATION

ACCEPT REPORTS. THIS ITEM IS PRESENTED FOR INFORMATION ONLY.

BACKGROUND

ATTACHED IS THE SEASIDE COUNTY SANITATION DISTRICT OPERATIONS REPORT AND FLUSH MAP FOR JANUARY 2020.

FISCAL IMPACT

THERE IS NO FISCAL IMPACT ASSOCIATED WITH THIS ITEM.

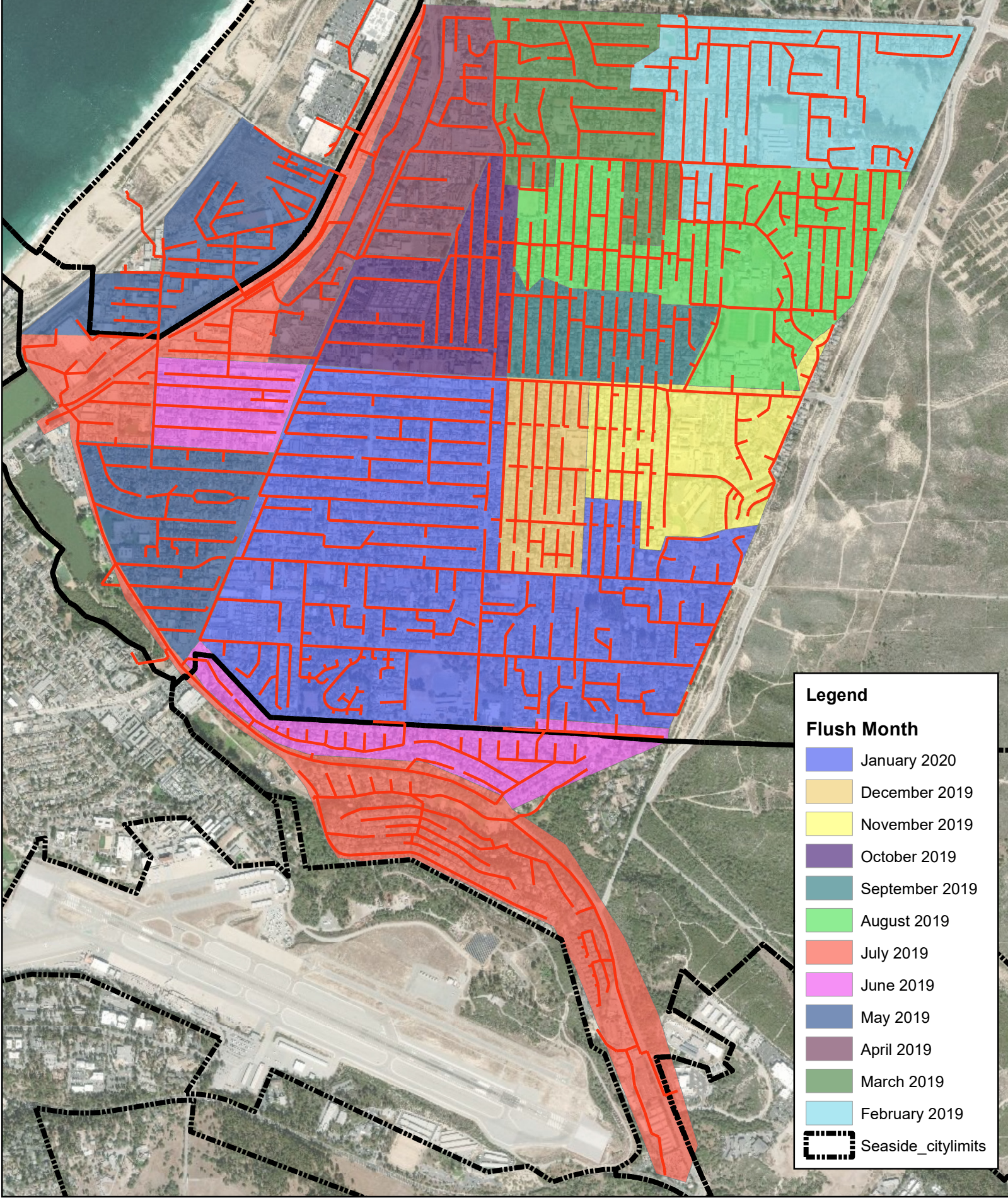
ATTACHMENTS

1. Flush Map_January_19-20
 2. Monthly Sanitation Report January_19-20
-

Reviewed for Submission to the
Board by:



Craig Malin, District Manager

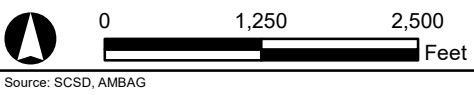


Legend

Flush Month

- January 2020
- December 2019
- November 2019
- October 2019
- September 2019
- August 2019
- July 2019
- June 2019
- May 2019
- April 2019
- March 2019
- February 2019

Seaside_citylimits



Source: SCSD, AMBAG

SEASIDE COUNTY SANITATION DISTRICT

Flush Map

Seaside County Sanitation District Operations Report

Fiscal Year 2019/2020 Month of January

	Del Rey Oaks (42,240)		Sand City (26,400)		Seaside (316,800)		District Totals (385,440 ft.)	
	Month	YTD	Month	YTD	Month	YTD	Month	YTD
Maintenance								
Mainline Rodded	0	0	0	0	0	0	0	0
Main Line Jetted	0	20,252	0	567	87,400	204,091	87,400	224,910
Main Line Video	0	0	0	0	0	0	0	0
Main Lines Treated for Grease Control (Jet Power II)	262	1,418	177	2,129	4,822	30,185	5,261	33,732
Stoppages								
Main Line	0	0	0	0	0	6	0	6
Laterals	0	2	1	1	2	10	3	13

Sewer Repairs

None

Sewers Video

None

Stoppage Locations

Del Rey Oaks

None

Sand City

None

Seaside

1761 Luzern St - Lateral
1424 Contra Costa - Lateral

Overflow Locations

Del Rey Oaks

None

Sand City

None

Seaside

1870 Ord Grove - Lateral



**SEASIDE COUNTY SANITATION DISTRICT
STAFF REPORT**

Item No.: 6.A.

TO: Seaside County Sanitation District

FROM: Craig Malin, District Manager

BY: Scott Ottmar, Senior Engineer
Misty Bradshaw, Associate Engineer

DATE: February 11, 2020

**SUBJECT: RECEIVE REPORT ON THE AUDIT OF THE SEWER SYSTEM
MANAGEMENT PLAN AND AMEND THE CONTRACT WITH
CAUSEY CONSULTING TO PROVIDE PROFESSIONAL SERVICES
TO PERFORM THE OUTLINED REVISIONS FOR AN ADDITIONAL
AMOUNT NOT TO EXCEED \$24,085 AND TO APPROPRIATE THE
FUNDS.**

PURPOSE

The purpose of this item is for the District Board to receive a report on the audit of the Seaside County Sanitation District (SCSD) Sewer System Management Plan (SSMP) and to authorize an amendment with Causey Consulting to perform the recommended updates to the SSMP.

In accordance with Title 14, California Code of Regulations, Section 15378 the proposed project is Categorically Exempt from the California Environmental Quality Act (CEQA).

RECOMMENDATION

It is recommended that the Board receive a report on the audit of the SCSD, direct staff to revise the SSMP, and to amend the contract with Causey Consulting to provide professional services to perform the recommended revisions outlined within the audit report for an additional amount not to exceed \$24,085. It is recommended to allocate funds from District reserves to "SSMP Update" (Acct# 952-8820-8194) to fund the amendment.

BACKGROUND

In 2006 the State Water Resources Control Board (SWRCB) adopted Order No. 2006-0003-DWQ, "General Waste Discharge Requirements (GWDR) for Sanitary Sewer Systems." The GWDR was amended by the Executive Director of the SWRCB in 2008 by WQ 2008-0002-EXEC. These Orders (herein referred to SSSWDR Orders) require agencies that own or operate collection systems greater than one mile in length to prepare a SSMP and every two years audit their SSMP. The SSMP was last audited in August of 2017, so an audit of the SSMP was required in 2019.

The SSSWDR Orders require sanitary sewer agencies to prepare and maintain an SSMP in order to facilitate proper funding and management of the sanitary sewer system and minimize sewer spills. The SSMP is required to contain the following eleven elements:

1. Goals
2. Organization
3. Legal Authority
4. Operation and Maintenance Program
5. Fats, Oils, and Grease Control Program
6. Overflow Emergency Response Plan
7. Design and Performance Provisions
8. System Evaluation and Capacity Assurance Plan
9. Monitoring, Measurement, and Program Modifications
10. SSMP Program Audits
11. Communication Plan

In order to perform an independent evaluation of the effectiveness and implementation of the SSMP, the District retained Causey Consulting to complete the audit of the SSMP. Causey Consulting provided the District with the Internal Audit Report, dated January 15, 2020, (attached) which assesses each of the eleven elements' compliance with the requirements of the SSSWDR and the District's effectiveness to implement the SSMP over the course of the past two years. The audit report finds the SCSD has been substantially effective in implementation of the SSMP and is in varying degrees of compliance with the SSSWDR. The District is in full compliance with two (2) out of the eleven subsections (Elements) of SSSWDR, in substantial or partial compliance with six (6) and in marginal compliance with three (3) of the eleven subsections.

The audit outlined the effectiveness of the operation and maintenance activities. The District has developed a very effective grease control program, which has resulted in a reduction of operational stoppages and sewage overflows. The trends appear to outline an emphasis on quality and quantity in sewer line cleaning which lead to the significant reduction in overflows during the audit period. The single greatest weakness in the sewer program relates to the condition assessment of all sewer assets by both CCTV and annual assessments of both lift stations and force mains. SCSD had included the definition of a full CCTV program for the pipes in 2017 Audit Report but had not

completed that effort during the current audit period as expected. SCSD has recently purchased CCTV equipment and now must define a CCTV program that includes both pipeline condition assessment as well as a cleaning program QA/QC procedure. With SCSD being proactive in funding upgraded equipment, the efficiency and effectiveness of the maintenance program will continue to improve.

The findings and recommendations outlined within the report provide general and element specific recommendations for improvement. In general, the size of the existing SSMP document, while compliant, is not user friendly and difficult for staff and field crews to utilize to its full potential. Many of the audit findings provide recommendations of how to streamline the existing document by consolidating items, utilizing hyperlinks on the City website, and eliminating non-required documents and procedures.

A detailed description of the compliance status for each of the eleven (11) elements described above can be found in the attached SSMP Audit Report. After careful review of the audit report and the recommendations contained within, District staff have determined an overhaul of the Sewer System Management Plan is appropriate and will enable staff to demonstrate compliance and focus resources to the most important tasks of operating and maintaining the sewer system. For items not associated with updating of the SSMP, District Staff will address as part of their standard procedures, including updating the record keeping and volume estimation procedures to be in line with the new SSMP following the updates, implement the CCTV assessment program, update the FOG program, and consider preparing a revised sewer collection system master plan to be in line with the most recent implementation schedule.

At the request of the District, Causey Consulting submitted a proposal, dated January 29, 2020 for an amendment to the professional services agreement for the 2019 Audit of the SSMP. The scope of work is to perform updates to the District's SSMP to meet Waste Discharge Regulations. Based on Causey Consulting's experience with the District's SSMP and his qualifications outlined in the original RFP, staff reviewed the proposal and determined that Causey Consulting is the most qualified consultant to perform the revision to the SSMP.

It is recommended that the Board accept the report on the audit of the SCSD, direct staff to revise the SSMP, and to amend the contract with Causey Consulting to provide professional services to perform the recommended revisions outlined within the audit report for an amendment amount not to exceed \$24,085.

ENVIRONMENTAL COMPLIANCE

In accordance with Title 14, California Code of Regulations, Section 15378 the proposed project is Categorically Exempt from the California Environmental Quality Act (CEQA) as it is not a project and is defined as an administrative maintenance activity

having no significant effect on the environment.

FISCAL IMPACT

The proposed amendment is for an amount not to exceed twenty-four thousand eighty five dollars (\$24,085). Funds will be appropriated from available District reserves to "SSMP Update" (Act # 952-8820-8194).

The total contract value for Causey Consulting's Professional Services Agreement for Audit and Updating the SSMP, including this amendment, is for a total amount not to exceed \$42,085.

ATTACHMENTS

1. Audit Report
 2. Draft Amendment #2
 3. Resolution
-

Reviewed for Submission to the
Board by:



Craig Malin, District Manager



**Seaside County Sanitation District
Sewer System Management Plan
Internal Audit Report
January 15, 2020
WDID: 3SSO10334**

Audit Period: 8/3/17 to 8/2/19

**Prepared By:
Causey Consulting
Walnut Creek, California 94598**



CERTIFICATION

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations

Scott Ottmar, P.E.
Acting District Engineer
Seaside County Sanitation District

Acronyms Used in the Audit Report

CCTV	Closed Circuit Television
CIP	Capital Improvement Program
CIWQS	California Integrated Water Quality System
CMMS	Computerized Maintenance Management System
DS	Data Submitter
EOP	Emergency Operations Procedure
FOG	Fats, Oils and Grease
FSE	Food Services Establishment
GIS	Geographic Information System
LRO	Legally Responsible Official
M1W	Monterey One Water (formerly Monterey Water Pollution Control Agency)
MRP	Monitoring and Reporting Program
MWPCA	Monterey Water Pollution Control Agency – see M1W
OERP	Overflow Emergency Response Plan
PS/FM	Pump Station/Force Main
R&R	Renewal and Replacement
RWQCB3	Regional Water Quality Control Board, Region 3
SCSD	Seaside County Sanitation District operated by City of Seaside staff
SMP	Sewer Master Plan
SOP	Standard Operating Procedure
SSMP	Sewer System Management Plan
SSO	Sanitary Sewer Overflow

SSORP	Sanitary Sewer Overflow Response Plan
SWRCB	State Water Resources Control Board
TAC	Technical Advisory Committee
WDID	Waste Discharge Identification Number 3SSO10334
WDR	Sanitary Sewer Waste Discharge Requirements
WQMP	Water Quality Monitoring Plan

I. SSMP Audit

This internal audit (audit) reviews the Seaside County Sanitation District (SCSD) Sewer System Management Plan Revision 2 dated September 9, 2014 (SSMP) by the Wallace Group and approved by the District Board on September 9, 2014. The SCSD is a separate California special sanitation district managed by a three member Board of Directors appointed from the three cities in the SCSD service area. In addition, by Board agreement, the staffing of SCSD is provided by the City of Seaside. SCSD operates as a separate enterprise fund providing sewage collection services to the member agencies. SCSD owns or manages 73.8 miles of gravity sewer pipe, 0.5 miles of force mains and four sewage lift stations that are maintained by contract with Monterey One Water (M1W). The service area includes the three separate government agencies described in Table 1: Service Area Information from Wikipedia on November 10, 2019.

Table 1: SCSD Service Area Information

Topic/City	Del Rey Oaks	Sand City	Seaside	Total SCSD Service Area
Population	1,684 (2016 est)	383 (2016 est)	33,930 (2018 est)	35,997
Service Area, sq. mi	0.48	2.92	9.38	12.78
Incorporation date	9/3/53	5/31/60	10/13/54	1957
Elevation, Feet	82	72	33	33

The audit covers the period of August 3, 2017 to August 2, 2019. The audit is intended to meet State Water Resources Control Board (SWRCB) 2006 waste discharge requirements (WDR), State Water Board Order No. 2006-0003-DWQ, Section D13(x) for agencies that own or operate more than one mile of sanitary sewer collection systems discharging to a publicly owned treatment plant. In addition, the SWRCB also revised the Monitoring and Reporting Plan (MRP) requirements in September 9, 2013 in order number WQ 2013-0058-EXEC. This audit assesses the current state of compliance with WDR and the MRP provisions including effectiveness of the sewer program implementation, identifies "deficiencies" found in the SSMP along with recommendations for corrective actions to remedy those deficiencies. In addition, the audit also included a review of record keeping procedures supporting the certified overflow reports in the California Integrated Water Quality System (CIWQS) database.

Causey Consulting performed the audit on behalf of SCSD through evaluation of SSMP documentation provided by SCSD, review of the August 2, 2017 SSMP Internal Audit Report and deficiencies (See Attachment 2) by the Wallace Group, publicly available data sources such as the SCSD website and the CIWQS site using the SCSD Waste Discharge Identification Number (WDID) 3SSO10334, documents provided by SCSD and meetings and interviews with City, SCSD and M1W staff involved in the implementation of the SCSD SSMP and the SCSD sanitary sewer collection system program. The Table 1 lists the interviews conducted during the audit and Attachment 1 provides the schedule of the interviews.

Table 2: SSMP Audit Participants Interviewed

Participant	Role	Agency
Rick Reidl	District Engineer/City Engineer	City/SCSD
Dave Fortune	Maintenance & Utilities Superintendent	City/SCSD
Scott Ottmar	Senior Engineer	City/SCSD
Misty Bradshaw	Associate Engineer	City/SCSD
Leslie Llantero	Assistant Engineer (FOG)	City/SCSD
Roy Tilly	Utility Sr. Maintenance Worker	City/SCSD
Travis Edwards	Utility Sr. Maintenance Worker	City/SCSD
Lesley Milton-Rerig	Assistant City Manager/District Clerk	City/SCSD
Jacque Tulua	Administrative Assistant	City/SCSD
Jasmine Dolan	Administrative Assistant	City/SCSD
Rosa Salcido	Executive Assistant	City/SCSD
Ed Pastrano	Field O&M Supervisor for SCSD Lift Stations	M1W

II. Audit Schedule

This audit was authorized pursuant to an agreement between SCSD and Causey Consulting dated April 25, 2019. The WDR requires audits of an agency SSMP at least every two years from the original adoption date of the SSMP by the District Board of Directors. The original SSMP was adopted by the SCSD Board on August 11, 2009. The audit included a review of the 2014 SSMP Parts 1 and 2, all SSMP appendices and other ancillary documents provided by SCSD Staff or available on the City and District websites. The audit began with a May 25th document request to SCSD staff for relevant documents supporting the SSMP and the sewer program through the audit period. This was followed by a kick-off conference call on August 20th with the project sponsors to assure understanding of the project scope and goals, discussion of regulatory requirements and future revisions to the WDR, discussion of the interview processes, presentation of historical performance and overflow summaries, discussion of the general form of the Audit Report and the schedule for completion of the audit. Finally, onsite interviews above were conducted at the City of Seaside Public Works Department trailer on September 25th and 26th. Subsequently, a draft of the Audit Report was provided to the staff for review and comment, a meeting was held to discuss the comments and a final Audit Report was delivered to SCSD on January 15, 2020.

III. Historical Performance Results

This following two section of the Audit Report provides an historical presentations of sewer program operations and maintenance results and sewer overflow performance results certified in the State CIWQS system. In addition, Section III-C provides overflow history during the two year audit period.

III-A: Sewer System Performance Results

This section provides historical fiscal year results of the sewer system operation and maintenance taken from the monthly sewer operations reports to the Board of Directors. The SCSD system contains 73.8 miles or 389,664 linear feet of gravity sewer pipes and approximately 2640 linear feet of force mains from the four lift stations. There currently is no defined maintenance program for these pressure mains and therefore no performance results to report.

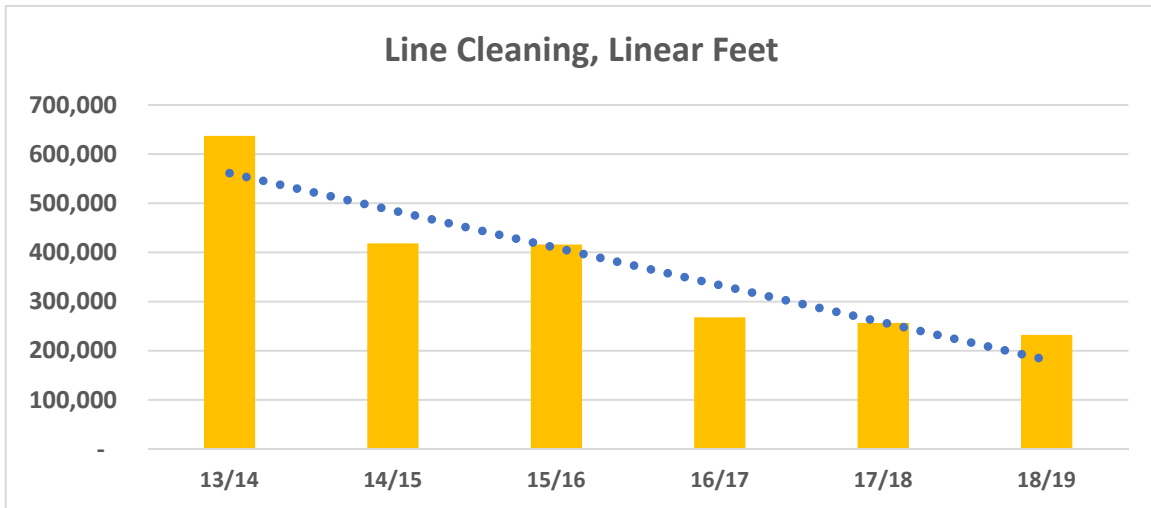


Figure 1: Summary of Historical Line Cleaning

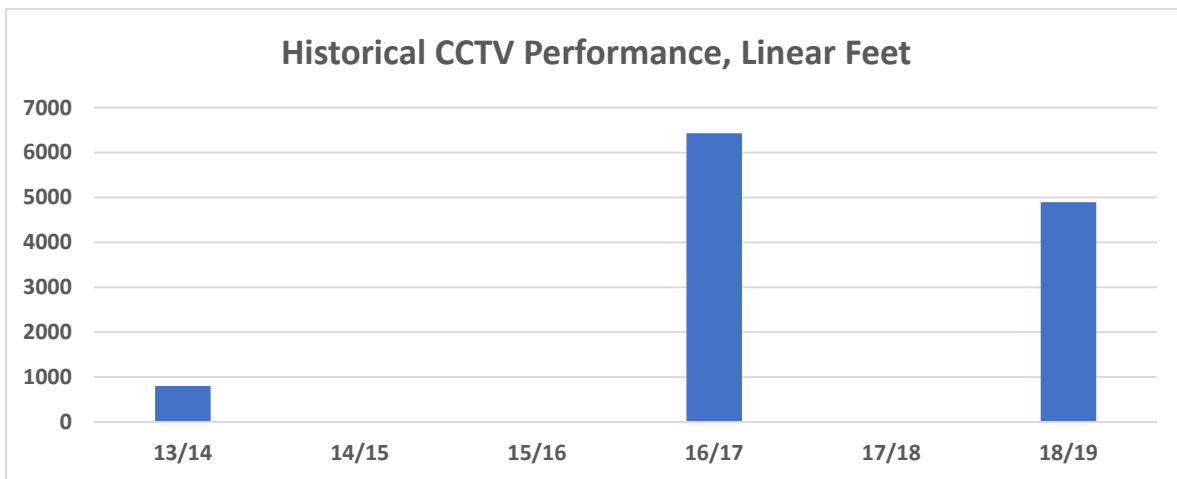


Figure 2: Historical Summary of Closed Circuit Television Assessments

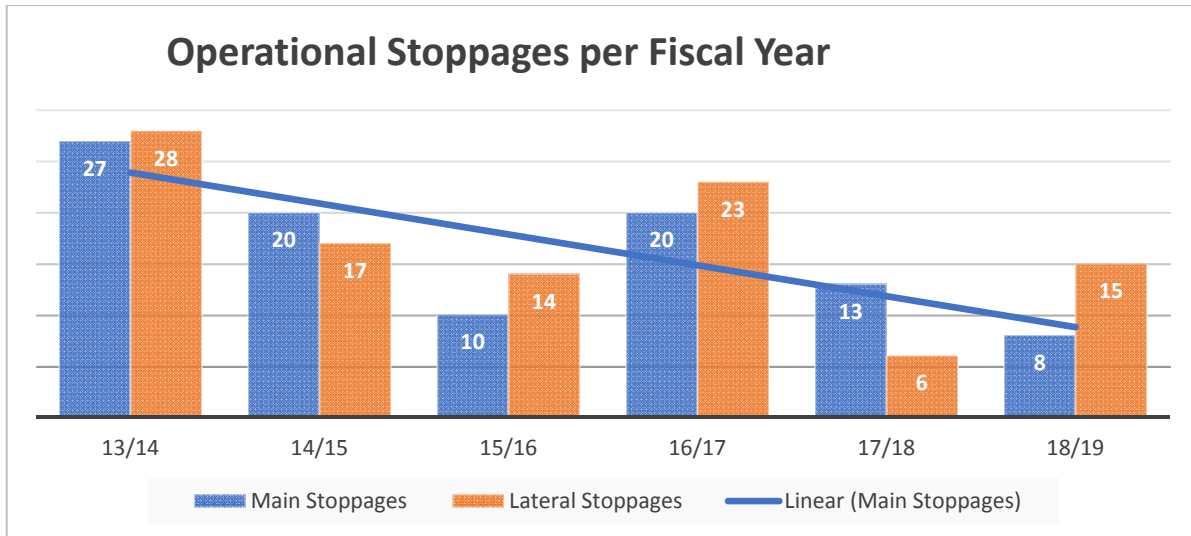


Figure 3: Summary of Collection System Blockages

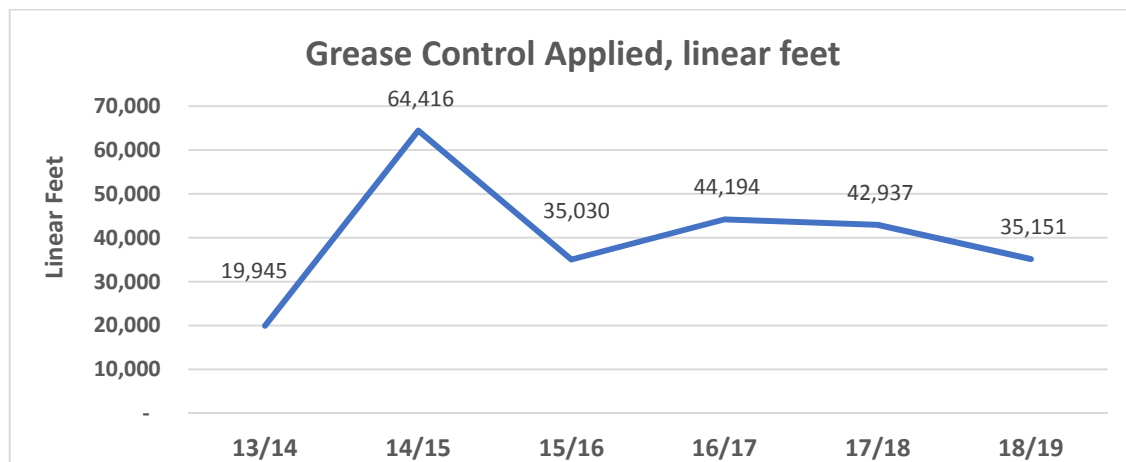


Figure 4: Summary of Historical Grease Control Applied

III-B. Historical Sanitary Sewer Overflow Performance Results

The following graphs provide calendar year historical summary of SCSD sanitary sewer overflow records from the State CIWQS certified overflow events database for each of the calendar years since the required reporting of all overflows to the SWRCB in 2007.

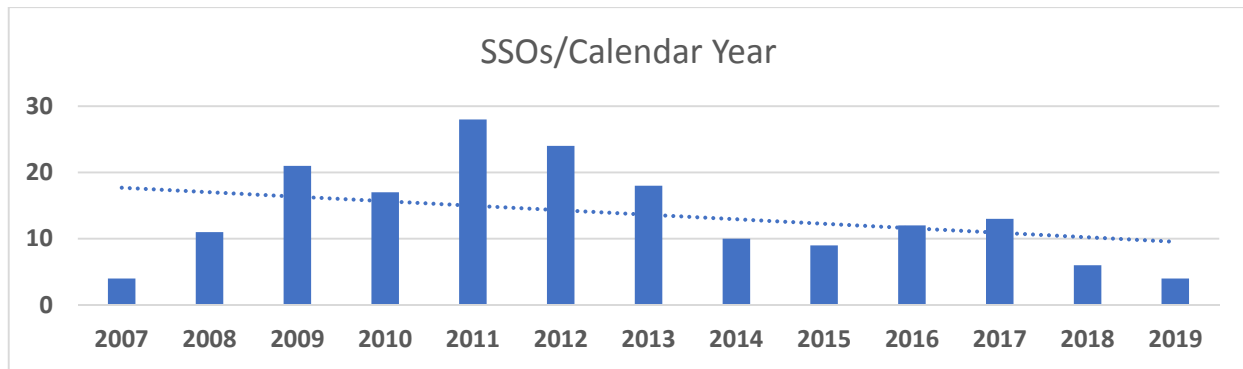


Figure 5: Summary of Sewage Overflow Events

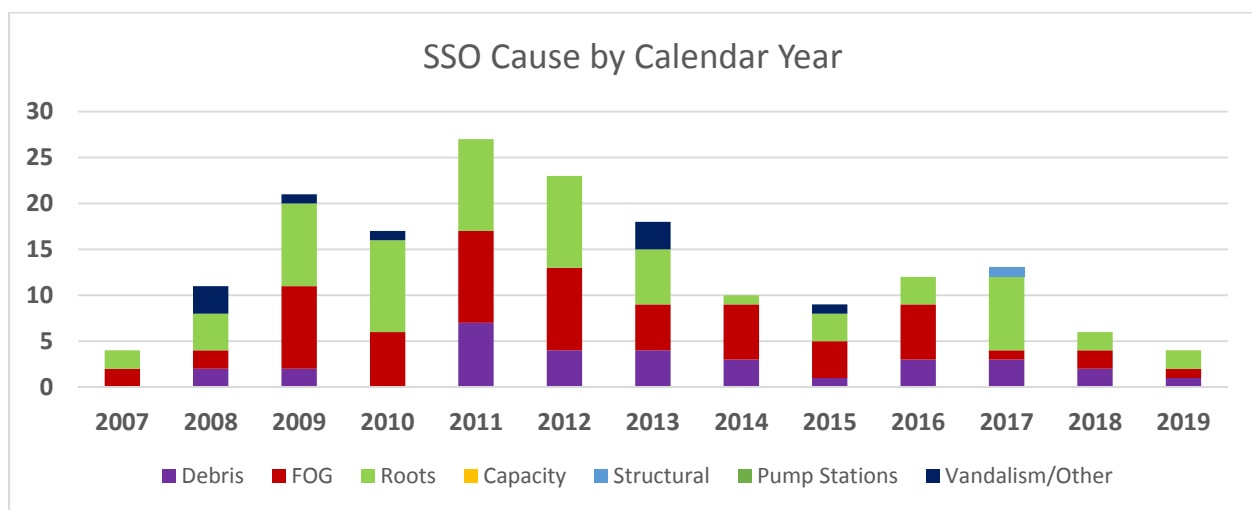


Figure 6: Summary of Causes of Sewage Overflow Causes

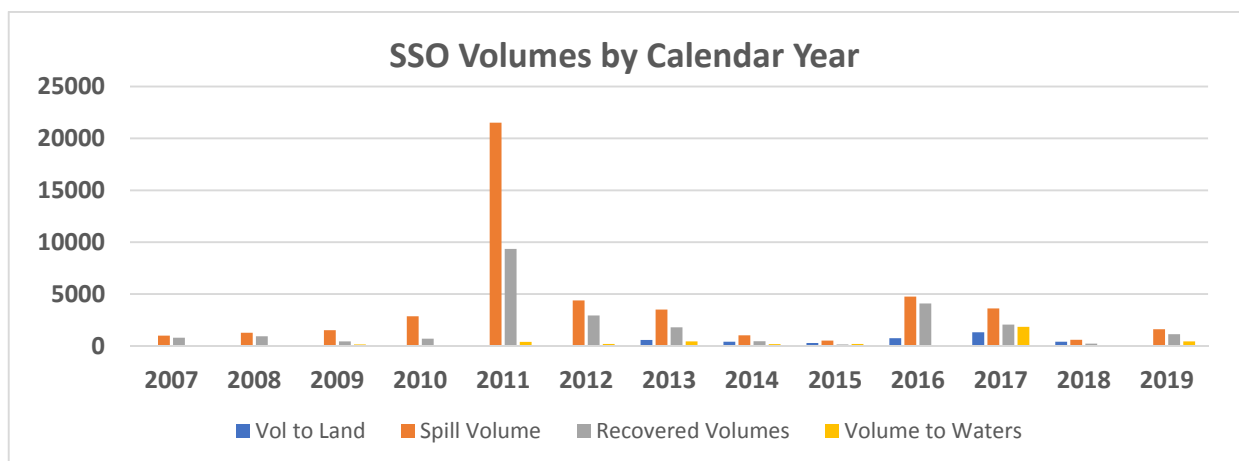


Figure 7: Summary of Spill, Recovered and to Water Overflow Volumes

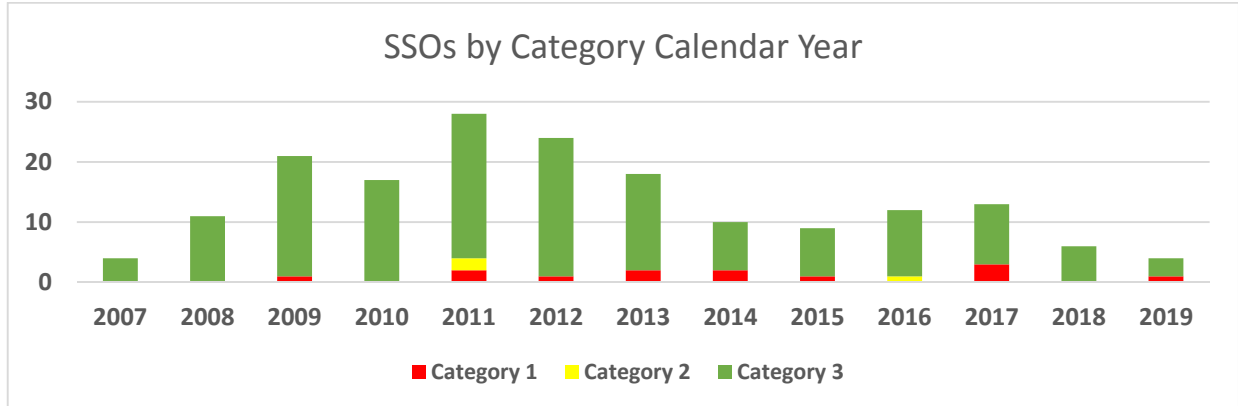


Figure 8: Summary by Year of State Overflow Categories

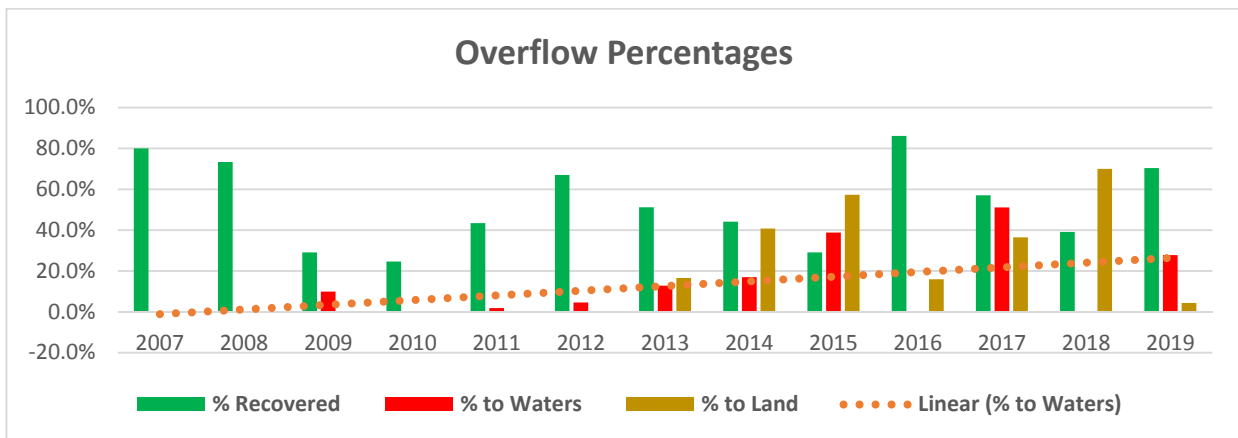


Figure 9: Summary of Overflow Locations per Year

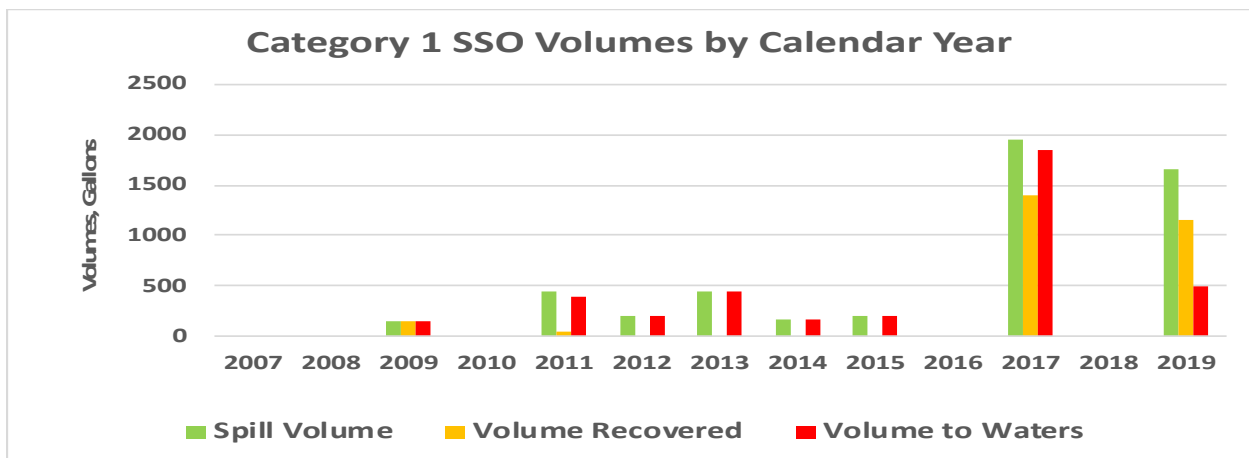


Figure 10: Summary of Category 1 Spill Volumes

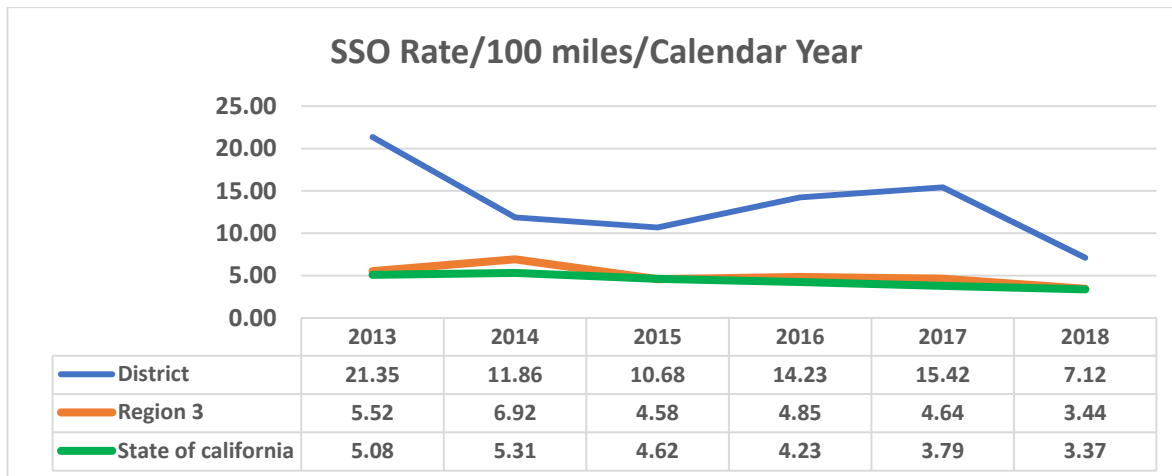


Figure 11: Comparison of SSO Rate to State and Regional Board SSO Rates

III-C. Audit Period SSO Results

Table 2: Audit Period Performance Results*

<u>Sewer Overflow Metric</u>	<u>8/2/17 to 8/1/18</u>	<u>8/2/18 to 8/1/19</u>	<u>Total Audit Period</u>
Category 1	1	2	3
Category 2	0	0	0
Category 3	5	6	11
SSO, each	6	8	14
Spill Volume, gallons	1971	2600	4571
Volume recovered, gallons	1551	1975	3526
Volume to Waters, gallons	1400	500	1900
Percent recovered	78	75	77
Percent to waters	71	19	41
SCSD SSO Rate	8.07	10.76	9.42
Region 2 SSO Rate	4.86	5.44	4.89
State SSO Rate	3.34	3.43	3.07

*CIWQS Database for WDID 3SSO10334

IV. SSMP Findings

The purpose of the Audit is to evaluate the effectiveness of the District's SSMP and sanitary sewer program, to identify the strengths and areas for improvement (deficiencies). The information identified below should be used to inform revisions and to evaluate program effectiveness to the 2014 SSMP. The findings and recommendations are broken into two categories, General and Element Specific. The general section deals with the entire SSMP and the support of that document by staff. The Element specific findings and recommendations

provide not only an assessment of necessary changes to the WDR Element but also a ranking of each SSMP Element as to its compliance with the WDR Section D13 stated requirements as well as regulatory expectations stated since 2006. While some of the recommendations exceed the WDR requirements, their inclusions are recommended as a result of presentations and statements by the SWRCB Office of Enforcement and settlement agreements from litigation and enforcement actions against sanitary sewer systems across the State. In addition, many of these recommendations include information that would be requested by the State prior to a field inspection or enforcement actions. It is hoped that the inclusion of this additional information should reduce potential enforcement liability and expensive settlement requirements if SCSD is involved in any litigation or enforcement action.

IV-1: General Findings and Recommendations

The following general findings and recommendations apply to the entire SSMP and all appendices and are intended to assist SCSD in revising and streamlining the SSMP to improve use and availability for the Board, staff, the public and regulators.

<u>General Findings</u>	<u>General Recommendations</u>
F1. The size of the SSMP, while compliant, is not user friendly or lead to regular use by staff and field crews.	R1. Streamline the SSMP and hyperlink most appendices from the SSMP and from the webpage if determined to be a critical supporting document.
F2. The SSMP contains many appendices and documents that are not required by the WDR.	R2. Eliminate non-required documents and hyperlinking remaining critical supporting documents (references) from webpage and document or submit to SWRCB per MRP Section 8(iv).
F3. The 2014 SSMP revisions did not follow the WDR format outline as stated in WDR Section 13.	R3. Assure that the SSMP follows the WDR and includes responses to all sub Element requirements.
F4. Element SSMP Change Logs were updated but do not include specific sections changed or all required approvals.	R4. At least annually update change log for changes in contacts or policies or procedures – assure that Log includes specific section or appendices modified and includes full approvals by staff or board.
F5. SSMP Change Logs included in each Element and not in a single form.	R5. Remove and consolidate all change logs into a single change log. Log should be regularly updated for significant changes to SCSD policies and procedures, contacts, planning or regulations between Board adoptions.
F6. References to MRWPCA need to be revised.	R6. Revise to Monterey One Water (M1W) throughout.
F7. Several new critical supporting documents completed but not included in the proper Element or in the change log.	R7. Assure change logs and Element narratives are updated and modified when completed for new information.
F8. Not all critical support documents(references) available on SSMP webpage as required by MRP Section 8(iv). They are only included in hardcopy in the SSMP as an appendix to each individual	R8. Add separate reference section at the end of each element to identify the reference(s), provide hyperlink and help manage critical supporting documents that must be available electronically.

Elements.	
F9. SSMP specifies unnecessary annual actions and activities for staff related to the SSMP– most of which are not being completed.	R9. Include only actions and activities that are necessary to satisfy the WRD and MRP; create separate checklist of actions and activates to assure timely tracking and completion -
F10. Contact information and data throughout dated from 2014 and not updated since.	R10. Update all contact information to current and add dates to the tables for the information at least annually.
F11. Board adoption records attached to Introduction as required but includes several minute actions from original SSMP development that are not required.	R11. Attach minute actions or adoption resolutions for SSMP readoption in an SSMP appendix; remove Board actions for intermediate completion of Elements developed in 2007, only include Board adoption documents of full SSMP.
F12. Emergency operating procedures (EOP) are too broad and conflict with OERP and are in many cases duplicative and are not available or trained on with staff.	R12. Eliminate EOPs or revise as SOPs removing much of the overlapping and multiple stated procedures.
F13. SSMP contains almost all critical supporting documents in hard copy.	R13. Hyperlink most from SSMP or from the SSMP webpage or send hardcopies to SWRCB as required by MRP Section 8(iv).
F14. Table and charts do not have reference dates included for ease of management and updating.	R14. Add dates of preparation on all charts and tables especially contact tables.

IV-2: Specific Element Findings and Recommendations

The specific findings and recommendations below follow the SSMP Elements stated in the WDR Section D13 in no particular priority. Each of the 2014 Draft SSMP Revision 2 Elements and supporting comments were evaluated against the WDR Section D13 requirements utilizing the following sufficiency ranking system and considering both the findings and the associated document narratives and supporting information:

- *Complies (C) – complies with all WDR objectives (2 each)*
- *Substantially Complies (SC) – complies mostly with all WDR objectives (4 each)*
- *Partially Complies (PC) – complies with basic WDR objectives (7 each)*
- *Marginal Compliance (MC) – complies minimally with basic objectives of the WDR (4 each)*
- *Does Not Comply – does not comply with WDR objectives (none)*

Finding	Recommendations
Element: Cover Page	Sufficiency Ranking: PC
F15. Cover page, missing basic agency information	R15. Add cover page with all agency logos, original adoption date of SSMP, revision adoption dates and CIWQS WDID.
Element: Table of Contents	Sufficiency Ranking: PC
F16. Complete revision required after streamlining of	R16. Update and create hyperlinks into the revised

SSMP.	SSMP Elements referenced.
Element: Acronyms and Abbreviations	Sufficiency Ranking: SC
F17. Not a complete listing of acronyms.	R17. Update and add missing acronyms
Element: Executive Summary	Sufficiency Ranking: MC
F18. Redundant information to remainder of the document. F19. Conflicting information with SSMP Elements especially Goals Element.	R18. Streamline and reduce information R19. Remove entirely and move important information to Introduction.
Element: Introduction	Sufficiency Ranking: MP
F20. Introduction does not properly describe assets under management in the SCSD sewer system. F21. Good basic member agency information. F22. Appendix 0A hardcopy unnecessary F23. Table 0-1 outdated F24. Asset tables outdated. F25. Pipe information should not combine both gravity and pressure. F26. Good service area map included.	R20. Remove references to 2011 Master Plan and Rate Study R21. Expand asset information to include City demographics, pipe material, lift stations and force main asset tables. Some now in Element 4 move here. R22. Remove and hyperlink all regulatory documents in Appendix 0A to the SCSD webpage. R23. Retain and revise Table 0-1 with current populations, service area size, and incorporation dates. R24. Asset tables should be updated with improvements since 2014 and completion dates for all projects in the CIP lists. R25. Create separate tables for asset information – move Tables 4-1 & 4-2 here. Add pump station and force main table and also expand size table for specific pipe sizes not ranges..
Element: I. Goals	Sufficiency Ranking: C
F27. Very limited number of goals – F28. Goals not consistent with goals stated in the Executive Summary or on the SCSD SSMP webpage.	R26. Create and conform around a single set of goals for the sewer operations supported by proper performance metrics in Element 9– see sample list in Attachment 3.
Element: II. Organization	Sufficiency Ranking: SC
F29. Element very out of date. F30. Figure 2-1 does not include PS/FM chain of communications. F31. Tables 2.1 and 2.2 out of date. F32. No statement of City staff role in managing SCSD sanitary sewer system facility. F33. Table 2-2 not required. F34. Organization charts outdated. F35. Exhibit 2B1 very outdated. F36. No identification of District designated LRO or DS positions. F37. No discussion of force main operations, maintenance or regular condition assessment. F38. Service contractors not discussed or included on organization charts. F39. No discussion of service contractors F40. Table 2A-1 Governing Board not required	R27. Complete update required. R28. Annually update and add changes to the Change Log especially contact information. R29. Consider adding simple table of responsibilities for all SSMP related Elements and appendices to replace Table 2.2 or update to current if to remain – see attachment 4. R30. Expand Figure 2-1 to include response requirements for pump station emergency response R31. Add discussion of City staffing for SCSD sewer program. R32. Add District organization chart as a figure in this Element rather than in appendix. R33. Add narrative description of each classification working in the sewer program and include designated classifications that are LROs or DS. R34. Add additional narratives on force mains O&M, etc. R35. Add discussion of service providers like City staff, M1W and Greenline, etc., to narratives and organization charts. R36. Remove Table 2A-1
Element: III. Legal Authority	Sufficiency Ranking: PC

F41. Table 3.1 not required or useful. F42. SSMP does not require the inclusion of all District ordinances. F43. Appendix 3A to 3Q no longer appropriate since new District Code completed. F44. New District Code not included in the Element narrative or Change Log for this Element	R37. Revise for consolidated District code; remove all references to previous ordinances. R38. Complete revision required; replace with a simple table of the WDR requirements and the associated District code section that applies. R39. Create hyperlink in the reference section and from the SSMP webpage to the new District Code and remove all old ordinances R40. Change Log should include the new District Code adoption date and approval authority.
Element: IV. O&M Program Sufficiency Ranking: PC	
F45. No change log changes since 2014. F46. Tables 4-1 & 4-2 sewer asset info tables outdated and do not agree with CIWQS annual collection questionnaire information. F47. Excellent storm system information. F48. Figure 4.1 not required. F49. Figure 4.2 excellent. F50. Tables 4.1 and 4.2 require updating to be consistent with CIWQS data of 73.8 miles of gravity pipe. F51. No table of force main asset information. F52. Manhole, lamp hole information dated and not consistent with increased sewer miles stated above. F53. Table 4-3 should provide additional asset info. F54. Limited asset information of lift stations. F55. No force main asset information for lines. F56. Retain storm drain info and Figure 4.3 in future. F57. Section 4.3.1 CCTV not implemented as stated. No CCTV Inspection program currently. F58. Section 4.4 and Table 4-4 outdated. F59. Section 4.5 does not discuss WDR, EOP, SSMP, OERP, WQMP or field exercise training. F60. No formal training program developed as stated. F61. Section 4.5.1 outdated. F62. Appendix 4D missing MWPCA Agreement as stated. F63. No Appendix 4-A program definition. F64. Sewer Cleaning narrative not consistent with CIWQS operation performance statements - 53.2 miles vs 73.8 F65. Appendix B forms not required in the SSMP. F66. Appendix 4C good. F67. Appendix 4E unnecessary. F68. Appendix 4F not current, F69. Appendix 4G outdated. F70. Appendix 4H not required. F71. Appendix 4I dated and does not include date of preparation of list.	R41. Change log should reflect changes in policies and procedures since 2014 along with asset improvements or additions. R42. Assure consistency between SSMP and Annual Collections Questionnaire in CIWQS. R43. Eliminate Figure 4.1 and replace with table of pipe ages from CIWQS in Introduction. Update Tables 4.1 and 4.2 to 73.8 miles and move to the Introduction Section of SSMP or conform CIWQS data; add reference dates for table. Move Figure 4.2 to Introduction Section with asset information. R44. Update appurtenances numbers below pipe tables. R45. Add tables of historical line maintenance, CCTV and high frequency maintenance results for at least five years. R46. Revise CCTV program information and define condition assessment program and include. R47. Completely revise Section 4.4 and Table 4-4 to current approved CIP for both short and long term capital; remove references to CCTV inspections program. R48. Revise Section 4.5 to include specific WDR and SSMP related training at least annually. R49. Remove list of SOPs especially ones never completed in Table 4.5. R50. Remove App 4B R51. Retain high frequency information from 4C R52. Develop a formal sewer related training matrix for all sewer and emergency response employee classifications. R53. Revise Section 4.5.1 for additional engineering staffing. Appendix 4A remove and discuss in narrative. R54. Hyperlink MWPCA Agreement remove Appendix 4D. R55. Remove Appendix 4E R56. Remove Appendix 4F in favor of simple table of CIP program for 5 and 10 years in future. Update and extend into future for 10 years from 19/20. R57. Remove Appendix 4H and just list BMPs actually used by staff not planned to be completed.

	R58. Update and add date of preparation to 4I if to be retained; update annually and indicate in change log.
Element: V. Design Sufficiency Ranking: SC	
F72. Green Book reference currently to 2009 edition. F73. SCSD requests for proposal states, “most current” Green Book. F74. Appendix 5A not required to be included.	R59. Establish process for regular updates of Green Book or just say most current version; adopt by resolution. R60. Conform narratives to actual use of the Green Book standards as most current version not 2009. R61. Hyperlink Green Book from SSMP and website – critical supporting document.
Element: VI. OERP Sufficiency Ranking: MC	
F75. Procedural conflicts exist between EOPs and OERP. F76. EOPs all overlap and not consecutive included in the appendices. F77. SCSD procedures in OERP and EOPs not followed in the field. F78. Section 6.3 not being followed and requires complete revision. F79. Emergency response roles for force mains and lift stations not properly defined. F80. No lift station or force main emergency response contingency plans available. F81. OERP or EOP or flow charts missing steps and responsibilities for lift station or force main emergency responses. F82 SCSD overflow file documentation does not comply with OERP or EOP requirements or use forms in EOPs nor provide adequate support for CIWQS certified reports. F83. SCSD support file not approved and/or signed off by the LRO. F84. No current direction or procedure for a properly documented overflow file. F85. EOP-7 WQMP through but does not include maps of water bodies in service area. F86. EOP-7 missing chain of custody form. F87. EOP-09 Training not followed.	R62. Create a single emergency response document (OERP) and place in appendix for ease of removal and use by emergency response personnel replacing Section 6.3 and the cumbersome EOPs. R63. Prepare lift station and force main contingency plans coordinated with M1W. Define responses and roles for emergency response to pump stations and force mains events for SCSD and M1W. R64. Require staff to follow/utilize specific forms or modify procedures to use current forms with additional direction. R66. Require final overflow file to be approved by the LRO prior to completion. R67. Consider use of a SCSD specific overflow file checklist (Attachment 5) to assure all required supporting documents are in the final approved support file for each CIWQS certified report. R68. Include all forms used in the WQMP. R69. Place WQMP in its own appendix so can be removed and placed in response vehicles. R70. WQMP needs to have map identifying all water bodies in the service area so proper sampling requirements are met based upon beneficial uses. R71. Revise training requirements to include SSMP, OERP, WQMP and field exercises regularly – create training matrix by employee classification.
Element: VII. FOG Program Sufficiency Ranking: PC	
F88. Webpage has hyperlink to Clogbusters with good information. F89. Figure 7.1 outdated. F90. FOG outreach program description dates to 13/14. F91. Appendix 7C not required F92. Section 7.4 outdated. F93. Table 7-1 to 7.3 no longer applicable. F94. Section 7.7 list of hot spots not required. F95. Appendix 7A not required. F96. Appendix 7B not required.	R72. Recommend addition of no wipes in pipes info on webpage. R73. Update and add reference date to Figure 7-1. R74. Update outreach program. R75. Remove or hyperlink. R76. Revision 7.4 for District Code and additions of M1W ordinance. R77. Revise Table 7-1 to 7.3 or preferably refer to Element 3. R78. Remove Appendix 7C. R79. Appendix 7A either remove or hyperlink from

F97. Appendix 7D not required. F98. Appendix 7E not required	webpage. R80. Refer legal authority to Element 3. R81. Appendix 7B & C documents should be hyperlinked or on FOG webpage. R82. Update and add outreach materials to FOG webpage. R83. App 7D and 7E remove or add to SSMP webpage b hyperlink.
Element: VIII. SHECAP	
F99. Change log missing updated information and 2017 Rate Studies. F100. 2011 Sewer Master Plan and Capacity Study outdated and not being pursued as stated. F101. Element narratives outdated for activity since 2014 – check 2017 Audit F102. Capital program administration confusing and has many conflicting documents and plans with no explanation or updates to SSMP explaining changes or updates. F103. Element does not contain completed CIP information since 2011. F104. Section 8.2.9 Rate Study outdated and not required but if stated must be on webpage or hyperlinked. F105. 2017 Rate Study critical supporting document and not described or added to change log. F106. CIP ended in 2013/14 and dated 2008. F107. No long term capital program beyond 18/19 for five to ten years into the future.. F108. CIP on webpage updated beyond 18/19 but not in SSMP. F109. Projects not stated as capacity related or R&R. F110. Sewer Master Plan update scheduled for 21/22. F111. District CIP webpage not consistent with SSMP. F112. Capital program behind schedule and updates not described in the Element or in the change log. F113. Section 8.3 design criteria dates to 2009 with no changes. F114. Section 8.4 & 8.5 outdated	Sufficiency Ranking: MC R84. Consider updating Master Plan earlier in CIP. R85. Complete revision of this Element necessary for current state of capital program. R86. Make regular updates following project completion at least annually. Assure that regular CIP updating is provided either in the SSMP change log or in the audits reports. R87. Consider updating lift station information. R88. Identify changes made in the SSMP change log. R89. Sections 8.3 to 8.5 require substantial updating.
Element: IX. Monitoring, Measurement and Modification	
F1154. Table 9.1 nonresponsive to requirements – no define metrics supporting goals in Element 1. F116. Section 9.3 duplicative and nonresponsive. F117. MRWPCA TAC narrative out of date. Section 9.4 not complied with on the CCTV Program starting in 2014. F118. Section 9.6 not being followed and in conflict with Element 10 Program Audits. F119. All tables and graphs in Section 9.6 dated to only 2013 and not regularly updated since.	Sufficiency Ranking: MC R90. Remove 9.1 and replace with appropriate metrics to support Goals in Element 1. R91. Eliminate 9.3. Update TAC information in Section 9.3.11. R92. Establish, define and implement SCSD CCTV assessment program for all assets – pipes, manholes, lift stations and force mains. R93. Remove statement of annual reviews in 9.6 of SSMP if not to be done. R94. Bring current all performance results and track

F120. Metrics do not support goals stated in three separate places. F121. Appendix 9A not required and very dated.	results at least annually – add maintenance metrics. R95. Consider preparation of annual collection system report for the Board of Directors using defined metrics and narratives accomplished during previous fiscal year. R96. Remove 9A in favor of updated metric tables and graphs only. Add WDID reference for readers want info in 9A currently.
Element: X. SSMP Audit Sufficiency Ranking: C	
F122. Change log not updated for 2017 and 2015 Audit Report and corrective actions completion from 2017. F123. Section 10.2 says every two years from “2015” – See Development Guide page 72 – not consistent with SSMP Section 9.5 F124. Biannual audits have been completed and provide proper review and deficiency findings. F125. SSMP Data & Records Request Appendix 10A form not utilized. F126. Only 2013 Audit Report in the SSMP and not online. F127. 2017 Audit Report completed but not publicly available on webpage or submitted to Board or included in SSMP appendix.. F128. Deficiency list did not include “plan and schedule for revisions” – see status of deficiencies in Attachment 2. Not all deficiencies resolved or completed during audit period. F129. Table 10.2 not required but not updated since 2013. F130. Recommended “quarterly or semiannual reviews and revisions not being conducted. F131. Appendix 10B does not include stated documents or recent 2015 and 2017 Audit Reports.	R97. Assure updating of change log upon acceptance of an audit report adding any corrective actions directed and made. R98. Revise 10.2 to say from “original SSMP adoption date” and revise Section 9.5. R99. Delete SSMP Data & Records request if not to be used – replace with SSMP Checklist including an Element ranking system as above. R100. Consider adding all audit reports to new SSMP appendix for ease of retrieval. R101. Present audit reports to Board and place on SSMP webpage upon acceptance. R102. Establish plan, schedules and responsible persons for all identified corrective actions (deficiencies) and complete prior to next audit.. R103. Remove Table 10.2 as not required especially if Audit Report attached in appendices. R104. Retain only biannual SSMP review statements that will be conducted. R105. Revise 10A to SSMP Checklist with proper ranking system and only completed as the first step in the biannual audit to inform interviews. R106. Develop tickler file to assure completion of action items in SSMP and audit report.
Element: XI. Communications Plan Sufficiency Ranking: PC	
F132. Table 11-1 References only City website and not SCSD F133. Appendix 11A dated materials back to 2011. F134. Section 11.2.2 states audit reports presented to Board – reports not found on previous agendas. F135. Excellent monthly collections operations reports provided to Board. F136. Section 11.3 outdated. F. Appendix 11A outdated and could be hyperlinked and deleted in hard copy. – all webpages have been replaced. F137. District claim form in Appendix 11A not referenced or referred to in SSMP. F138. Relationship between City and SCSD not properly stated in Element 11.	R107. Include direct SCSD link to District webpage. R108. Update and hyperlink documents from webpage. R109. Assure all audit reports presented on Board agendas. R110. Replace all web screen shots with simple hyperlinks to two or three webpages and remove hard copies. R111. Consider development of an annual collection system report for the Board including updates of all performance metrics. R112. Remove Appendix 11A or move to OERP. R113. Add information that City staff provides SCSD staffing.
Element: Appendices Sufficiency Ranking: C	
F139. All appendices are included at the end of each Element.	R114. Limit formal appendices to only major documents like OERP, WQMP, Adoption

	documents, Change Log and audit reports not with each element.
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V. SSMP Effectiveness

The SCSD operation and maintenance program has traditionally cleaned the entire system annually (Figure 1) and has developed a very effective grease control program (Figure 4) of approximately 10% of the entire collection system. This later program has resulted in both a reduction of operational stoppages (Figure 3) and sewage overflow. The single greatest weakness in the sewer program relates to the condition assessment of all sewer assets by both CCTV and annual assessments of both lift stations and force mains. SCSD had included the definition of a full CCTV program for the pipes in 2017 Audit Report but had not completed that effort during the current audit period as expected. SCSD has recently purchased CCTV equipment and now must define a CCTV program that includes both pipeline condition assessment as well as a cleaning program QA/QC procedure. The CCTV program definition should enhance both the cleaning frequencies as well as informing the priority program for capital renewal and replacement not previously included in the CIP project definitions. These result will also be important to the evaluation of staffing levels current and future especially if the challenges to hiring and retention continue at SCSD. One additional area for possible improvement deals with the clarification of responsibilities between SCSD and M1W on force mains and development of a pump station force main inspection and assessment program

The WDR requires that the internal audit evaluate the effectiveness of the SSMP and the sanitary sewer program implementation as defined in the SSMP. SCSD has depended on the services of consultants to define and describe SCSDs sanitary sewer program in the past. The 2014 SSMP is comprehensive and contains critically supporting documents all in hard copy which has created a document that is not user friendly and of limited value to staff. It however does not properly mirror field actions and activities. The SSMP also contains an extensive list of staff required annual reviews and evaluations that are not being supported by the staff available in the sewer system operations and should be removed if not to be completed as stated.

The actual sewer program in the field however has been effective in reducing the numbers (Figure 5), volumes (Figure 7) and comparative SSO rate per 100 miles per year (Figure 11) of sewage overflows since the inception of reporting in the State database in 2007. Figure 6, Historical Causes of SSO does not reveal any one specific cause that should be evaluated and shows a significant reduction in overflows during the audit period. Interestingly the overflow trends in the figures appear to have come from an emphasis on quality and quantity in line cleaning annually especially in the past three fiscal years even without a comprehensive pipeline condition assessment program to visually confirm the quality of the cleaning operations. This is probably due to the underlying staff commitment to proactive maintenance, customer satisfaction and response and the continuing commitment to grease control as shown in Figure 4.

The SSO Rate/100 miles per year has dropped from a high of 21+ to 7+ over the last twelve years. SCSDs SSO rate however is still above the RWQCB3 and State rates. This is not a surprise because SCSD has less than 100 miles of lines. The trend in the reduction of the SSO rate is a very positive indicator of the results of the sewer program. However, the trend in

overflows reaching water of the state (Figure 9) appears to be increasing which suggests the need for more timely response, additional staffing, additional training on spill response or some combination of these areas. From across the State and collection system enforcement and litigation actions, it appears that an SSO Rate of 3.0 or lower is considered by some to be a well performing sewer system emergency response operation. For small agencies with less than 100 miles of pipe, it is difficult to directly compare them to larger systems because the divisor for the small agency becomes a decimal and not a whole number. This means that for SCSD any more than 2 overflows per year places them above the artificial target SSO rate, while an agency with 500 miles of pipe could experience 15 annual events and still report an SSO Rate below 3.0 per 100 miles per year. The fact that SCSDs SSO Rate is trending down is a positive indicator of program effectiveness and commitment to meeting the WDR goals and the SCSD goals.

During the SSMP audit period the SCSD staff has been very effective with the operations and maintenance program resulting in very low incidents of sewage overflows. 78.5% of the overflows have been at the Category 3 level and therefore very small and not impacting waters of the US while experiencing three Category 1 overflows. Total spill volume of 4571 gallons remains very small compared to total sewage discharged to the SCSD sewer system over the audit period. Of particular note is the fact that SCSD staff was able to recover 3526 or 77% of the spilled volumes from the 14 overflow events. All of these numbers are significantly below the SCSD experience in the years prior to the audit period.

SCSD has recently been experiencing challenges in recruiting and retaining collection system employees resulting in two current unfilled positions. This has a significant impact on both cleaning and condition assessment of the sewer program. This issue needs further evaluation and consideration of alternative means to continue to accomplish the desired level of collection operations and maintenance program if positions cannot be filled.

On the other hand, SCSD has been able to expand the technical staff, which will have a positive impact on the future prosecution of the capital program for sanitary sewers. Additionally, the District has also hired outside professional project support assistance for the design and construction management of capital replacement projects. This should enhance completion of the delayed capital program. Finally, it is SCSDs intentions, when a full complement of staff are available, to define and pursue an in house condition assessment program having recently purchased CCTV equipment to support this activity. The Board has also been proactive in funding upgraded equipment in the sewer maintenance operations which has increased the efficiency and effectiveness of the maintenance program.

As far as the 2014 SSMP is concerned, while compliant, it contains much information and many attachments that can be eliminated or hyperlinked from the SSMP and from the SSMP webpage to significantly reduce the size and use of future SSMPs. SCSD needs to determine what are critical supporting documents and hyperlink only those. This change alone will reduce the size of the SSMP by two-thirds and make it much more user friendly for management and the field staff. In addition, reducing the number of appendices to five or six at the end of the SSMP and by placing documents like the OERP and the WQMP in separate appendices and be separated and available to emergency response personnel in the field. In addition, revisions to the SSMP must remove many if not all of the annual requirements for the management and the annual reviews

especially if the staff is not able to comply with these stated actions. The SSMP Change Log must be used to assist the public, regulators and other interested parties to understand changes in SCSD policies, procedures and staffing made between Board considerations of the SSMP at least every five years. The findings and recommendations above are intended to assist SCSD in streamlining and establishing an SSMP that not only meets the regulatory requirements but also is useful for management and staff to understand SCSD policies for meeting the WDR requirements but does not require staff attention to unnecessary reviews and evaluations.

Finally, the review of the overflow record keeping and documentation of CIWQS certified reports needs improvement and more management oversight at the end of an overflow event. Current documentation does not follow the SCSD OERP or the EOP procedures nor is the final file complete or approved by the LRO upon completion. SCSD documentation should follow the procedures used in the field and must include SCSD forms that are to be used in documenting the overflow event. This process can be much more effective by the development of an SSO Document Checklist that identifies and states all records expected to be included in a properly documented supporting file. Of particular importance are the needs for enhanced start time documentation and spill and recovered volume calculations and associated assumptions leading to the certified statements in CIWQS. These two areas should be discussed and used as training during debrief and failure analysis of all overflow events.

VI. District Sewer System Program Strengths

During the interviews conducted of staff and outside consultants, the following sewer program strengths during the audit period were identified and are listed in no particular order.

- A. Improved management and board commitments to sanitary sewer system program.
- B. Purchase of CCTV equipment for the condition assessment program for the future.
- C. Replacement of major cleaning equipment at end of useful life
- D. New generator available at lift station 19.
- E. Emergency response shed completed with necessary response equipment.
- F. Strong, professional, long term dedicated collections staff that work well together
- G. Staff training both in house and outside available as needed.
- H. SSMP generally complete but much information outdated
- I. SSMP contains all identified hard copy critical supporting documents as required
- J. Updated sewer rate study completed in January 2017.
- K. Hiring outside professional support for capital program
- L. Additional engineering staff support for collections system capital program
- M. Improved communication and coordination with other City departments
- N. Regular meetings and training with M1W regarding lift station operations and joint outreach.
- O. Effective grease control program.
- P. All overflow events were certified well in advance of required deadlines.

VII. District Opportunities for Improvement/Deficiencies

The following list, in no priority order, were determined from the interviews and from the review of documents and information provided by staff of SCSD as program opportunities for improvement in the sewer program.

1. Challenges filling two vacant positions
2. Ability to hire and retain collections employees
3. Consideration of outside cleaning support for inability to find staff
4. No collection system new employee defined orientation program
5. No comprehensive training matrix by classification for collection system operations.
6. Staff responsibilities split across many public works functions
7. SSMP not user friendly, seldom used by staff
8. Lack of condition assessment program for sewer system, lift stations and force mains
9. No defined condition assessment program or prioritization process for projects
10. Capital program progress and funding behind schedule
11. Field crews have limited input to capital project priorities.
12. Prioritization processes for capital project selection not well documented or understood
13. No computerized work order system purely paper system currently
14. Emergency response roles for lift stations and force mains not well understood.
15. District EOPs not proactively used or even fully available to field staff
16. EOPs long, duplicative, outdated and staff not regularly training on them OERP and EOPs not being utilized or followed by field staff.
17. Enhanced overflow event documentation required especially for start times and all volumes associated with a spill event. Greater emphasis on volume estimation and overflow reporting training needed.
18. Photos taken of only Category 1 spills
19. No agency specific water quality monitoring program as required by MRP Section D.
20. No annual performance reports provided to Board
21. Not all Audit Reports presented to the Board of Directors.
22. No customer complaint or overflow post event follow-up with impacted complainants
23. No overflow event debrief or failure analysis evaluations
24. Potential growth in the service area including impacts on staffing requirements in the future
25. Addition of portions of Fort Ord presents additional challenges for the future O&M program
26. Consider FOG permitting program to reduce SSOs related to FOG
27. No force main condition assessment or regular maintenance program or field inspection – no clear responsibility for maintenance and emergency response responsibilities
28. No lift station emergency response and contingency plans as expected by WDR and regulators
29. Station 20 generator issues and concerns.

VIII. Corrective Actions

The following corrective actions are necessary as a result of the findings and recommendations from the internal audit. These actions require further evaluation and scheduling and should be resolved prior to the next internal audit if at all possible. Each corrective action should be assigned to a responsible person along with an estimated completion schedule for the action. Final statements of completion and a description of the final disposition should be included in

the final report or in the next internal audit. All modifications resulting to the SSMP should also be stated in the SSMP Change Log upon completion.

- A. 2014 SSMP Revision 2 is not frequently used and contains annual actions and activities that are not being accomplished. Some activities are not required by the WDR. The SSMP is generally compliant with the regulations.
Corrective Action: During preparation of five year SSMP revision, streamline and reduce SSMP size by hyperlinking only critical supporting documents and adding expanded narratives, graphs and tables to explain status of sewer program. Remove any annual or other review and update requirements that will not be properly accomplished and documented by staff.
- B. Sewer program effectiveness may be jeopardized by inability to hire and retain collection system employee positions.
Corrective Action: Evaluate methods or programs to assure continued program performance either by improved hiring and retention or by utilizing service contractors. Establish a well-defined new employee orientation and annual training program matrix for sewer collection system workers and emergency response employees.
- C. Current EOPs and the OERP (Element 6) conflict with actual field operations and emergency response activities.
Corrective Action: Eliminate the EOPs and prepare a single, stand-alone OERP to describe City response actions and activities during and following an event and train at least annually including field response exercises. Assure staff utilizes only proper SCSD forms for overflow documentation from the OERP.
- D. Current overflow record keeping documentation of CIWQS certified reports and form utilization not being followed or properly documented or approved upon completion of the event.
Corrective Action: Develop an agency specific SSO Overflow Checklist (See attached) to coordinate and assure complete supporting documentation of an overflow event. Require LRO approval and certification of the final overflow event file.
- E. Limited and inconsistent implementation of CCTV and condition assessments of pipeline and force main infrastructure necessary to assure effectiveness and efficiency of maintenance activities and proper capital program prioritization based upon asset needs.
Corrective Action: Define and conduct regular CCTV and condition assessment program for sewer collection system assets (gravity, pressure and lift station) based upon risk and consequence factors and for capital program prioritization. Develop regular QA/QC evaluation of pipeline cleaning efforts.
- F. Currently there is no FOG permitting program for food service establishments in the SCSD service area.
Corrective Action: Prepare a written District standard operating procedure and implement an FSE permitting program with annual permits funded from FSE fees and charges.

- G. SCSD 2011 Sewer Master Plan is old and outdate and behind the implementation schedule.
Corrective Action: Consider authorization of a revised sewer collection system master plan earlier than 2022 along with a full supporting baseline pipe system CCTV assessment.
- H. Lack of clear documented emergency response contingency plans for lift station or force main emergency response. Roles and responsibilities not well defined.
Corrective Action: Prepare separate lift station emergency response contingency plans for each station and force main overflow events similar to M1W pump station contingency plans. Clarify roles and responsibilities between SCSD and M1W for both maintenance and emergency response especially related to force mains.
- I. Current use of a paper recordkeeping systems makes evaluation of maintenance system operations difficult and ineffective.
Corrective Action: Consider the acquisition of a small computerized maintenance management system for both work order management and customer complaint management to demonstrate effective recordkeeping as required by the WDR and MRP.
- J. Current procedures for photographing of only Category 1 overflows does not provide proper documentation of the other categories of overflows which can be as environmentally damaging as Category 1 overflows.
Corrective Action: Modify emergency response procedures to require photographs or video evidence (photographer, dates, photo direction, etc.) of all overflow events, signs placed to protect the public, overflow sampling locations and cleanup activities. File in the approved overflow file
- K. While the SCSD Board receives regular monthly collection system maintenance reports, there is not regular reporting of final fiscal year performance results or audit report action items for corrective actions from the Audit Reports.
Corrective Action: Consider the preparation of an Annual Collection System Performance Summary Report to the Board of Directors. Assure that all Audit Reports and Corrective Action activities are included on regular Board agendas.
- L. Previous biannual audit deficiencies not clearly evaluated or completed. SSMP Change Logs not consistently updated.
Corrective Action: Establish process, assign responsible parties and create schedule for review and completion of the corrective actions identified herein. Assure regular updates to the SSMP Change Log between SSMP Board adoptions.

IX. Conclusions

While the SCSD 2014 SSMP Revision 2 is technically complete and included a comprehensive and aggressive description of the SCSD sewer program including critical supporting documents, it does appear that it has committed SCSD to procedures not being followed in the field and to

many annual actions that are not required by the regulations and/or do not bring operational value to the sewer program. The size of the document is cumbersome and not used by the staff responsible for the implementation of the sewer program. SCSD has been effective in reducing both the numbers and volumes of sewage overflows as a result of a long standing and very committed work force. Those efforts have recently been impacted by the inability to retain and recruit staff for the sewer operations. This is not true of the technical support for sewers as both additional staff and outside professional support have been added to expand the scope and results of the current and future sewer capital program. These changes should improve the prosecution of the capital improvement program projects,

In addition, the next revision of the SSMP should include the recommendations identified in Section V A. to C. for a complete and well documented SSMP. The actions and revisions described in the Audit Report should result in a fully compliant and user friendly plan that includes information expected by regulators and which can help reduce liability for enforcement or legal actions.

Finally, the staff should develop a schedule and assign responsibility for the completion of each of the correction action items along with regular reporting and documentation of the activities to complete the action items until complete or a determination is made to not implement the corrective action.

Attachment 1: Audit Schedule

	Wednesday	Thursday
	9/25/19	9/26/19
8:00	Dave Fortune	Travis Edwards. Roy Tilley
8:30		
9:00	Rosa Salcedo; Leslie	Jacque Tulva
9:30	Milton-Rerig	
10:00	SSO Record Keeping Evaluation	Scott Ottmar; Misty Bradshaw
10:30		
11:00		
11:30		
12:00		
12:30		
1:00		Edward Pestrano, M1W
1:30	Rick Riedl	
2:00		
2:30		
3:00	CIWQS Data Training	
3:30		
4:00		
4:30		

Attachment 2: 2017 Deficiencies Status

Element	2017 Audit Recommendation	Current Status	Comments
1	Revise the Goal Section in the next 5 year SSMP Update	In progress	Several CIP projects are in design or construction. Goals will be evaluated once firm construction costs are understood.
2	Continue to update the Organization Section and keep CIWQS current	Completed	Org Chart updated.
3	Continue to update the Legal Authority Section when there are future updates to District Ordinances.	Completed	Ordinance 20 & 21 uploaded to website.
4	Update and implement the deficient portions of the Operations and Maintenance Program Section by the end of 2017.	In progress	Maintenance crews and engineering staff continually monitor SSOs and adjust O&M as needed.
6	Consider training every 2 years in tandem with the SSMP Audit.	In progress	Staff receives frequent training on safety throughout the year as part of weekly tail gate meetings. Staff recently receive training on SSO response/reporting , volume estimation and bypass procedures.
7	Revise the FOG Program section with MRWPCA FOG Inspection results in 2017.		
8	Provide annual updates on the status of CIP in the SSMP		SCSD has issued contracts for upgrades to the Del Monte, Rosita, and Military lift stations. SCSD is in design for sewer main replacements within Canyon Del Rey and Del Monte Boulevard.
9	Develop a plan to implement goals/commitments and evaluate O&M activities by the end of 2017. Document these activities.	In progress	O&M activities are reviewed presented at each monthly board meeting. Specifically, the length of lines jetted and the number and location of SSO are reported monthly.
10	Conduct next SSMP Audit prior to August 2, 2019.	In progress	
11	Continue to advocate for the return of a Collection System Satellite Agency meeting with MRWPCA	In progress	Staff currently meets with representatives of Monterey 1 Water (formerly MRWPCA) on a quarterly basis.
2017 Audit Report Deficiency Recommendations			
2	Revise this section when new staff is assigned responsibilities that would require inclusion in this section.	Compliant	Org chart has been updated
3	Upload Ordinance 20 and 21 to the District website.	In progress	Completed 9/19/19
4	Deficient sections of the O&M Program to be created and documented in the next SSMP revision include:		
4	Implement a formal plan and schedule that documents manhole inspections.	In progress	District recently purchased video inspection van and equipment. Next step is to train staff to NASSCO MACP, LACP, PACP standards in Nov, 2019 and begin manhole inspections along with inspections of sewer mains. To be incorporated into CCTV program
4	Develop a formal Rehabilitation and Replacement (R&R) plan that incorporates CCTV sewer line condition assessments and future manhole inspection data. Include the proposed short- and long-term CIP completion schedule from the 2011 SMP.	Not started	See immediately above
4	Develop procedures specific to SCSD O&M activities and train on these procedures annually. Maintain documentation of this training.	In progress	See Audit Recommendations #6. Staff has received recent training on SSO reporting and volume estimation.
4	Develop a plan to incorporate and train new staff as current staff nears retirement to insure SCSD "institutional knowledge" is maintained and there is adequate staffing to maintain compliance with requirements found in the SSWDRs.	In progress	Difficulty recruiting new staff. Cross training has started.
6	Consider training every 2 years in tandem with the SSMP Audit.		See Audit Recommendations #6. Staff has received recent training on SSO reporting and volume estimation.
7	Re-start FOG inspections which was accomplished by hiring MRWPCA in January 2017.		Started inspections in late 2017. Approx 50 completed through 2018. Goal is to use in house staff to complete inspections
8	Track and update projects identified in the CIP project plan and schedule into annual updates to the SSMP.		See Audit recommendations #8 response.
10	Schedule future SSMP Audits and revise the SSMP with the dates of future audits which are to be conducted.	in progress	
11	Continue to advocate for the return of a Collection System Satellite Agency meeting with MRWPCA.	done	Staff meets quarterly with M1W.
Change Log	Completely deficient no updates since 9/9/2014 to any Elements of the SSMP.		Suggest revisions to SSMP. Incorporate new methods to track changes.

Attachment 3: Sample SSMP Goals

Possible Goals for Sanitary Sewer Management Plans Element 1

1. To properly manage, operate, and maintain all portions of the agency's wastewater collection system.
2. Provide adequate capacity to convey the peak wastewater flows associated with the design storm event. Adequate capacity, for the purposes of this SSMP, is defined as the capacity to convey the peak wastewater flows that are associated with the design storm event.
3. Prevent or minimize the frequency of SSOs.
4. Reduce the number of SSOs and to achieve the greatest reasonable reduction in SSOs.
5. To mitigate the impacts that are associated with any SSO that may occur.
6. Eliminate or minimize preventable SSOs.
7. Minimize and mitigate the adverse impacts of SSOs that may occur despite best efforts.
8. Minimize the frequency of SSOs
9. Reduce, prevent, and mitigate the impacts of SSOs
10. To meet all applicable regulatory notification and reporting requirements.
11. To provide adequate capacity to convey the peak wastewater flows.
12. To measure progress through performance measures so the plan can be adjusted as needed.
13. To Protect public health and safety, and the environment.
14. Prevent unnecessary property damage.
15. Provide a safe work environment for employees and contractors.
16. To effectively identify and remedy design, construction, and operational deficiencies.
17. To perform all operation and maintenance activities in a safe manner.
18. Prevent adverse impacts to waters of the U.S., and their beneficial uses.
19. Ensure corrective action is taken in a timely manner.
20. Ensure compliance with current regulatory requirements.
21. Document and define procedures to address SSO prevention and response.
22. Prepare for emergencies.
23. Be a part of the community and be a responsive public agency.
24. Involve employees in the strategic planning process for the Collection System.
25. Effectively plan system expansion to meet the capacity needs of the agency served.

26. Set high, yet achievable standards for the construction of new infrastructure.
27. Cost effectively minimize infiltration/ inflow (I/I).
28. Maintain and improve the condition and performance of the agency's wastewater collection system.
29. Understand the condition of and maintain infrastructure to maximize the life of the collection system.
30. Properly operate and maintain the collection system to minimize financial impacts on customers.
31. Responsibly manage, operate, and maintain all parts of the wastewater collection
32. Adhere to the components of the SSMP.
33. Provide adequate capacity to.
34. Be available and responsive to the needs of the public and work cooperatively with local, state and federal agencies to reduce, mitigate the impacts of, and properly report SSOs.
35. Identify, prioritize and continuously renew and replace sewer system facilities to maintain reliability.
36. Implement regular, proactive maintenance of the system to remove roots, debris, and fats, oils and grease (FOG) in areas prone to blockages that may cause sewer backups or SSOs.
37. Uphold high standards and specifications on newly constructed and/or rehabilitated public and private sewers.

Attachment 4: Sample Table of Responsibilities

Table 2-1 List of Responsible Staff for SSMP

SSMP Element	Responsible City Official	Phone Number	Email Address
Introduction			
I – Goal			
II – Organization			
III – Legal Authority			
IV – O&M Program			
V – Design & Performance Provisions			
VI – Overflow Emergency Response Program			
VII – FOG Control Program			
VIII – System Evaluation and Capacity Assurance Plan			
IX – Monitoring, Measurement, and Program Modifications			
X – SSMP Program Audits			
XI – Communication			
App A – SSMP Change Log			
App B – SSMP Adoption Documents			
App C – Audit Reports			

Attachment 5: Sample SSO File Checklist

SSO Event Checklist

Date of SSO _____ SSO Location/Name _____
 CIWQS Event ID # _____ Category? ☐ 1 ☐ 2 ☐ 3 OES# _____
 Property Damage? ☐ Yes ☐ No Service Request # _____

☐ Effort made to contain and return a portion to the sanitary sewer ☐ Pictures/video taken of overflow ☐ Pictures taken of affected/unaffected area ☐ If Property Damage, start that process ☐ Pictures taken of containment efforts ☐ If Cat 1 >1000 gals OES Control # _____ ☐ Impacted waters identified? ☐ No impacted waters? ☐ Field Report Form Complete (includes fields for all required fields in CIWQS, and a sketch of SSO) ☐ Volume Estimation Worksheet Done ☐ Start Time Determination Form Done ☐ Initial review of Forms is complete (ensure consistency with dates, times, volumes, and other data) ☐ Review of pics and vids (label/date) ☐ Start Folder for all documentation for this SSO event. Put everything in it (SR, Field Reports, Worksheets/Forms, follow-up work orders, notes, pics, drawings, etc. CIWQS print outs and emails) ☐ Failure Analysis ☐ TV to determine cause ☐ Review Asset History ☐ Determine next steps to prevent recurrence ☐ Document findings and next steps on Field Report ☐ Submit Draft in CIWQS w/in 3 business days (for Cat 1 and 2 only) ☐ Print CIWQS Draft Hard Copy and email ☐ Review CIWQS, Field Reports, Worksheets, CMMS, and any other documentation to ensure data is consistent ie dates, times, volumes, cause, follow-up action etc. ☐ Submit Ready to Certify in CIWQS (with sufficient time for LRO review) ☐ Print CIWQS Ready to Certify and email ☐ Hand Folder to LRO	☐ LRO review folder and CIWQS verify accurate and consistent data ☐ Certify in CIWQS (w/in 15 Calendar days for 1 & 2, 30 days after the month for Cat 3) ☐ Print Certified CIWQS and email ☐ Any changes? Change in CIWQS and hard copies and explain changes, print our current version ☐ Move completed folder to SSO Binder For 50, 000 Gallons or larger ☐ Follow Water Quality Monitoring and Sampling procedures ☐ Map of where samples were taken ☐ Sampling results ☐ Write Technical Report ☐ Attach to CIWQS ☐ Add to SSO Folder/Binder If any changes are made to SSMP ☐ Update SSMP and link on CIWQS to SSMP ☐ Add to SSMP Change Log ☐ If change is substantive, re-certify SSMP
--	--

CONTRACT AMENDMENT #2
2019 SANITARY SEWER MANAGEMENT PLAN AUDIT
SEASIDE COUNTY SANITATION DISTRICT

Date: January 29, 2020

Change Requested by: X SCSD Consultant

Contract Date

Project Name

April 25, 2019

2019 SANITARY SEWER MANAGEMENT PLAN AUDIT

To (Consultant): Causey Consulting, 733 Cree Court, Walnut Creek, Ca 94598

You are directed to make the following changes to the Contract Documents or amend the following described work not included in the contract documents for this project.

The purpose of this addendum is to provide additional professional services related to the project named above. The contract terms and conditions shall not be modified except for as stated herein.

MODIFY the following text in **Section 2, "Services."**

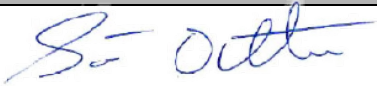
Consultant shall perform the tasks described and set forth in Exhibit A, and Exhibit A1 attached hereto and incorporated herein as though set forth in full. Consultant shall complete the tasks according to the schedule of performance and Scope of Work which is also set forth in Exhibit A, and Exhibit A1.

MODIFY the following text in **Section 21, "Contents of Request for Proposal and Proposal."**

Consultant is bound by the contents of City's Request for Proposal, Exhibit "C" hereto and incorporated herein by this reference, and the contents of the proposal submitted by the Consultant, Exhibit A and Exhibit A1, hereto.

Original Contract Amount	Previous CCO Total (Not including this CCO)	This CCO Total	Revised Contract Amount
\$18,450.00	\$0.00	\$24,085	\$42,535
Original Contract Time	Original Completion Date	CCO Days To Date (Including This CCO)	Revised Completion Date
8 months	December 31, 2019	485	April 30, 2021

CONTRACT AMENDMENT #2
2019 SANITARY SEWER MANAGEMENT PLAN AUDIT
SEASIDE COUNTY SANITATION DISTRICT

SUBMITTED BY:		
	Scott Ottmar Acting District Engineer	January 29, 2020
Signature	Name and Title	Date
DISTRICT APPROVAL BY:		
	Craig Malin District Manager	
Signature	Name and Title	Date

CONSULTANT ACCEPTANCE BY:		
	Paul Causey Causey Consulting	
Signature	Name and Title	Date



Causey Consulting
733 Cree Court
Walnut Creek, CA 94598
925-323-6520
causeywc@comcast.net
January 29, 2020

Mr. Scott Ottmar,
Interim City Engineer
Seaside County Sanitation District
440 Harcourt Avenue
Seaside, CA 93955

Transmitted Electronically

Subject: Seaside County Sanitation District Sewer System Management Plan
Proposal for SSMP Revisions

Dear Mr. Ottmar:

Causey Consulting is please to submit the attached proposal to assist the Seaside County Sanitation District (SCSD) with its Sewer System Management Plan (SSMP) revisions to the SSMP. Attached you will find our detailed cost proposal and assumptions for the work. We propose to provide the District with revisions to the SSMP, an update to the District Overflow Emergency Response Plan (OERP) and a new Water Quality Monitoring Plan (WQMP). Our proposal however does not include the preparation of District pump station emergency response and contingency plans as stated in the earlier Internal Audi Report.

We propose to do the work on a time and material basis to a maximum compensation limit as stated in the Proposal for Services spreadsheet which includes all work through presentation of a final sealed copy of the Board adopted SSMP. We will bill the District monthly during our estimated four-month project completion timeline. This assumes timely District responses to our document requests shortly following a notice to proceed and comments on the draft documents.

During the review of the current District SSMP online in preparation of the current proposal, we note that the SSMP format does not comply with Section D13 of the State Waste Discharge Regulations (WDR) and therefore will require complete reformatting. We propose to utilize our model SSMP previously used in numerous other agencies across the State. This will result in a lower overall cost for the revisions and should assure the District of an SSMP that follows the format detailed in the WDR.

Causey Consulting has fifty years of municipal and special district experience in water and sewer system management and operations. Thirty-four years were spent working directly for public agencies including the management of four separate special districts. Since 2004, we have provided full time, direct regulatory, management and operational assistance services to over eighty municipal and special district agencies solely as relates to sanitary sewer collection systems and their compliance with the 2006 WDR. We have also conducted training, SSMP and SSO audits, staffing assessments and collection system litigation support.

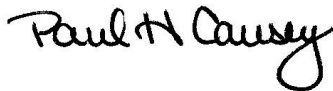


*Causey Consulting
733 Cree Court
Walnut Creek, CA 94598
925-323-6520
causeywc@comcast.net
January 29, 2020*

We believe that our substantial collection system experience makes our firm uniquely qualified for this current assignment with the District. We will be supported in this project by Humphrey Consulting for the OERP and WQMP document preparation. Mr. Humphrey has forty years of specific collection system experience as both a general manager of two special wastewater district and as a consultant to almost forty municipal agencies since forming his practice. We have worked very successfully together on several sanitary sewer collection system support projects and he has been directly responsible for several WQMP documents.

Please review the attached proposal, assumptions and let us know if you have any questions or comments on the proposal. You can reach me by phone at 925-323-6520 or by email at causeywc@comcast.net. We are prepared to begin work immediately upon a notice to proceed from the District and currently have ample availability to timely complete the work outlined. Again, thank you for the opportunity to provide our assistance to the District and we look forward to your positive response to the attached proposal.

Very truly yours,



Paul H. Causey, P.E.
Causey Consulting

Attachments: Proposal for Services dated January 29, 2020
SSMP Revisions Scope of Work Assumptions dated January 29, 2020

Exhibit A1

Seaside County Sanitation District Proposal for Services Collection System Sanitary Sewer Management Plan Causey Consulting January 29, 2020

Task Number	Task Description	Professional Hours	Professional Hours \$210	Admin Support Hours	Admin Support \$75/hr	Misc Charges	Total Cost Task	Total Cost Project
1	Prepare revisions to SCSD SSMP							
	Prepare/transmit Infrastructure EXCEL file	1	210	0	0	0		
	Submit document request	1	210	0	0	0		
	Configure SSMP Model	2	420	0	0	0		
	Update OERP model	2	420	1	75	0		
	Update WQMP model	2	420	0	0	0		
	Update SSMP model with infrastructure data	2	420	4	300	0		
	Confirm Element 1 Goals	2	420	0	0	0		
	Task subtotal	10	\$ 2,100	5	\$ 375	0	\$2,475	
2	Prepare draft revisions to SCSD SSMP							
	Review documents provided by staff	4	840	0	0	0		
	Prepare El. 2 org chart; prepare reporting flow chart	4	840	2	150	0		
	Update legal authorities table/review Sewer Code	4	840	0	0	0		
	Meet with Staff regarding OERP forms/WQMP Plan	4	840	0	0	0		
	Prepare draft SSMP	16	3360	4	300	100		
	Prepare draft OERP and reporting forms	12	2520	6	450	100		
	Prepare draft WQMP	8	1680	2	150	1000		
	Insert performance results from Audit to Element IX	2	420	0	0			
	Submit draft SSMP revisions for staff review	2	420	0	0			
	Task subtotal	56	\$ 11,760	14	\$ 1,050	1200	\$14,010	
3	Attend Meeting with staff to receive draft comments							
	Attend Meeting with staff to receive comments on Draft	4	840	0	0	0		
	Prepare/submit action items from meeting	1	210	0	0	0		
	Task subtotal	5	\$1,050	0	\$ -	\$0	\$1,050	
4	Prepare District Board ready SSMP draft							
	Update staff draft for changes and comments	6	1260	3	225	0		
	QA/QC final District Board Draft	2	420	1	75	0		
	Submit District Board draft electronically to staff	2	420	0	0	0		
	Prepare Board PowerPoint	2	420	0	0	0		
	Attend SCSD Board Meeting	3	630	0	0	0		
	Task subtotal	15	\$3,150	4	\$ 300	0	\$3,450	
5	Submit final sealed SSMP							
	Revise and seal upon Board adoption	1	210	1	75	0		
	Submit final sealed SSMP - 1 hardcopy, one .pdf of all documents prepared	1	210	0	0	175		
	Prepare list of supporting documents; scheduled events	1	210	0	0	0		
	Task subtotal	3	\$630	1	\$ 75	\$175	\$880	
6	Project Management							
	Contract management	2	420	0	0	0		
	Prepare and submit monthly billings (4 each)	5	1050	0	0	0		
	Travel Expenses (3 meetings at SCSD, 750 miles)	12	1200	0	0	750		
	Task subtotal	7	\$1,470	0	\$ -	\$750	\$2,220	
	Total Project	96	\$ 20,160	24	\$ 1,800	\$ 2,125	\$ 24,085	\$ 24,085

**Seaside County Sanitation District
Sewer System Management Plan Revisions
Causey Consulting
January 29, 2020**

Scope of Work Assumptions

1. General

- a. All time will be billed on a time and materials basis at the following rates:
 - i. Professional \$210.00/hour
 - ii. Administrative time \$75.00/hour
 - iii. Travel time at \$100 per hour to/from SCSD.
 - iv. Miscellaneous expenses at actual cost plus 10%.
 - v. Mileage shall be charged at the most current IRS mileage rate.
- b. Consultant is providing best professional judgement not providing legal conformance with WDR regulations. Only District Legal Counsel or environmental lawyer can assure that the revised and adopted SSMP complies with all collection system regulatory requirements. The attached proposal does not include time for separate meetings with either of the above legal representatives.
- c. All documents submitted to the SCSD will be provided electronically in WORD format until the final Board adopted SSMP. SCSD shall be responsible for circulation and all hard copies of any documents used by the Board or staff.
- d. SCSD to provide all comments in redline of submitted drafts.
- e. SCSD shall be responsible for all SCSD Committee or Board consideration and adoption actions and activities.
- f. Consultant to provide a single PowerPoint presentation for the adoption and approval of the SSMP and associated documents.
- g. SCSD to provide contact information for the treatment agency and any satellite agencies to the SCSD collection system.
- h. SCSD to be responsible for all required certifications in CIWQS as relates to the activities associated with the project scope.
- i. Submittal schedules to be mutually agreed to throughout the project and will depend in part on the receipt of information requested from the SCSD staff.
- j. All requested meetings will be coordinated as much as possible to limit trips to SCSD.

2. SSMP Revisions

- a. Revisions to be prepared utilizing Consultants model SSMP, OERP and WQMP.
- b. SCSD will provide infrastructure data, collection system service area map, service area waterway maps, current organization chart as stated below and background data in either EXCEL or WORD format.
- c. Consultant to provide one electronic copy of the draft SSMP and one copy of the Council ready document for review and adoption.
- d. Consultant provide a final sealed hardcopy of the SSMP, OERP and WQMP and a final .pdf of the documents following Board adoption.

- e. Consultant to participate in up to three onsite meetings with SCSD staff during preparation of the draft and final SSMP revisions,
- f. SCSD to provide electronic copies of all previous SCSD Board SSMP adoption documents to be appended to the appendices the revised SSMP.
- g. SCSD to be responsible for LRO certification of the Board adopted SSMP in the CIWQS system.
- h. SCSD shall be responsible for placement of the adopted SSMP and all reference documents on the SCSD website or submitted to the State Water Resources Control Board pursuant to MRP Section C.8(iv).
- i. Consultant proposal does not include preparation of pump station emergency response contingency plans.

RESOLUTION NO. 2020- XX (SCSD)

**A RESOLUTION OF THE SEASIDE COUNTY SANITATION DISTRICT
RECEIVE REPORT ON THE AUDIT OF THE SEWER SYSTEM MANAGEMENT
PLAN AND AMEND THE CONTRACT WITH CAUSEY CONSULTING TO PROVIDE
PROFESSIONAL SERVICES TO PERFORM THE OUTLINED REVISIONS FOR AN
ADDITIONAL AMOUNT NOT TO EXCEED \$24,085 AND TO APROPRIATE THE
FUNDS.**

WHEREAS, IN 2006, The State Water Resource Control Board adopted and Order for the General Waste Discharge Requirements for Sanitary Sewer Systems, which requires agencies that cwn and operate collections systems greater than one mile in length to prepare a Sanitary Sewer Management Plan (SSMP) and audit every two years; and

WHEREAS, the District entered into a contract with Causey Consulting to provide professional services to Audit the SSMP; and

WHEREAS, the findings and recommendations of the audit are presented in the Internal Audit Report dated January 15, 2020, recommend an update to the existing SSMP to address the recommendations; and

WHEREAS, Causey Consulting provided a proposal for an amendment to update the SSMP for an amount not to exceed \$24,085; and

WHEREAS, due to the familiarity with SCSD's SSMP, District staff has determined that Causey Consulting would be the most qualified firm, and the proposed scope of work and budget are reasonable; and

WHEREAS, in accordance with Title 14, California Code of Regulations, Section 15378 the proposed project is Categorically Exempt from the California Environmental Quality Act (CEQA) as it is not a project and is defined as an administrative maintenance activity having no significant effect on the environment; and

WHEREAS, as of June 30, 2019, District maintained reserves of \$8,743,471.

NOW THEREFORE, BE IT RESOLVED, that the Seaside County Sanitation District approves a budget amendment increase of \$24,085 for the SSMP Update" (Acct# 952-8820-8194) from the District Reserves and authorize Finance to make the necessary budget adjustments; and

NOW THEREFORE, BE IT FURTHER RESOLVED, that the Seaside County Sanitation District authorizes the District Manager to execute an amendment to the professional services agreement with Causey Consulting for an amount not-to-exceed of twenty-four thousand eighty-five dollars (\$24,085).

PASSED AND ADOPTED at a special meeting of the Seaside County Sanitation District
duly held on the 11th day of February 2020, by the following vote:

AYES:	Board Members:
NOES:	Board Members:
ABSENT:	Board Members:
ABSTAIN:	Board Members:

Jerry Blackwelder, Chair

Seaside County Sanitation District

ATTEST:

Lesley Milton-Rerig, District Clerk

Seaside County Sanitation District



**SEASIDE COUNTY SANITATION DISTRICT
STAFF REPORT**

Item No.: 6.B.

TO: Seaside County Sanitation District

FROM: Craig Malin, District Manager

BY: Scott Ottmar, Senior Engineer

DATE: February 11, 2020

SUBJECT: APPROVAL OF A CONSTRUCTION CONTRACT WITH MONTEREY PENINSULA ENGINEERING, INCORPORATED FOR AN AMOUNT NOT TO EXCEED ONE MILLION THREE HUNDRED SIXTY-EIGHT THOUSAND ONE HUNDRED EIGHTY DOLLARS (\$1,368,180) FOR THE CANYON DEL REY CMP SEWER MAIN REPLACEMENT PROJECT

PURPOSE

The purpose of this item is for the District's Board to consider approval of a Construction Contract Agreement with Monterey Peninsula Engineering, Incorporated to provide all labor, material, equipment, and services necessary to complete the Canyon Del Rey CMP Sewer Main Replacement Project.

RECOMMENDATION

It is recommended that the Board adopt a resolution approving the Construction Contract Agreement with Monterey Peninsula Engineering, Incorporated for an amount not to exceed One Million Three Hundred Sixty-Eight Thousand One Hundred Eighty Dollars (\$1,368,180) to provide all labor, material, equipment, and services necessary to construct the Canyon Del Rey CMP Sewer Main Replacement Project and authorizing the District Manager to execute the Construction Contract Agreement.

BACKGROUND

The Canyon Del Rey CMP (Corrugated Metal Pipe) Sewer Main Replacement Project proposes to replace three (3) existing sewer main segments due to poor physical conditions. The Project includes proposed replacement of approximately 810 feet of existing 12-inch diameter sewer main in Canyon Del Rey Boulevard (State Route 218)

from Hilby Avenue to Harcourt Avenue. The segment near Harcourt Avenue, approximately 285 feet, will be upsized to a 15-inch diameter sewer main to provide sufficient capacity for future flow conditions.

The District held a public bid opening on Thursday, April 11, 2019 and one (1) Bid was received for an amount of \$1,499,380. District staff determined the bid amount to be cost prohibitive and higher than expected due to a variety of factors, including an extremely competitive bidding climate, rising construction prices, impacted schedules, construction difficulties, risk, and other factors. At the request of District staff to identify opportunities to reduce the construction cost, Infrastructure Engineering Corporation (IEC) revised their original Construction Contract Documents to include trenchless construction alternatives for the Canyon Del Rey CMP Sewer Main Replacement Project (REBID) and included two (2) separate Bid Forms; 1) traditional open-cut construction methodology utilizing a parallel alignment (Bid Form "A") and 2) trenchless pipe bursting technology (Bid Form "B").

The revised Construction Contract Documents for the Canyon Del Rey CMP Sewer Main Replacement Project (REBID) were finalized on November 22, 2019. The Project was posted on the City of Seaside's website, advertised, and solicited for a period of eight (8) weeks commencing on November 26, 2019 in the Monterey County Weekly. Two (2) non-mandatory pre-bidding conferences and site visits were conducted on December 11, 2019 and January 8, 2020, respectively. In addition to participation by District and consulting engineers, five (5) contractors attended the non-mandatory pre-bidding conferences and site visits.

On January 23, 2020, the District publicly received and opened bids for the Canyon Del Rey CMP Sewer Main Replacement Project. Four (4) bids were received from the following contractors: (1) Bay Pacific Pipelines, Incorporated, (2) K.J. Woods Construction, Incorporated, (3) Monterey Peninsula Engineering, Incorporated, and (4) Mountain Cascade, Incorporated. Initially, the apparent low responsive and responsible bid was from Bay Pacific Pipelines, Incorporated, but in a written request dated January 24, 2020, Bay Pacific Pipelines, Incorporated requested relief from their Bid due to an error(s) in their calculations citing Public Contract Code Section 5103. With that, the lowest responsive and responsible bid was from Monterey Peninsula Engineering, Incorporated in the amount of One Million Three Hundred Sixty-Eight Thousand One Hundred Eighty Dollars (\$1,368,180). This Bid was within Bid Form "A", which utilizes traditional open-cut construction via parallel alignment. As a result of the revised Construction Contract Documents and rebid, the lowest responsive and responsible bid was \$131,200 less than that from the first public bid opening on April 11, 2019 at the City of Seaside's City Hall.

It is recommended the Board adopt the attached resolution approving a Construction Contract Agreement with Monterey Peninsula Engineering, Incorporated and authorize the District Manager to execute the Construction Contract Agreement.

ENVIRONMENTAL COMPLIANCE:

In accordance with Title 14, California Code of Regulations (CCR, Title 14), Chapter 3 "CEQA Guidelines," Article 20, Section 15378, the proposed action is a project as defined by the California Environmental Quality Act (CEQA). Specifically, the Canyon Del Rey CMP Sewer Main Replacement and Del Monte Boulevard Sewer Main Replacement is considered a "Project" under CEQA Statute 21065, because the Project is an activity, which may cause either a direct physical change in the environment, or a reasonably foreseeable indirect physical change in the environment, and is directly undertaken by a public agency and it is supported through assistance from one or more public agencies.

A combined Initial Study Mitigated Negative Declaration (IS/MND) was completed in March 2019 for the Del Monte Boulevard Sewer Replacement Project and Canyon Del Rey Boulevard Sewer Replacement Project. A Notice of Intent was filed with the Monterey County Recorder on March 21, 2019. A Mitigated Negative Declaration was prepared consisting of the Initial Study, all comments received during the public review period, and a Mitigation Monitoring and Reporting Program. The District approved the IS/MND at its November 12, 2019 regularly scheduled meeting and a Notice of Determination filed on November 14, 2019.

FISCAL IMPACT

The proposed Construction Contract Agreement with Monterey Peninsula Engineering, Incorporated (MPE) is a not-to-exceed amount of One Million Three Hundred Sixty-Eight Thousand One Hundred Eighty Dollars (\$1,368,180). It is appropriate to establish a contingency equal to 10% of the Construction Contract Agreement for \$136,818.

The Fiscal Year 2019/2020 Budget for Canyon Del Rey CMP Sewer Main Replacement Project (Sewer Line Replacements (953-8820-9218)) is \$1,320,000. There have been charges associated with project management, design, and re-design, resulting in a project balance of approximately \$1,260,000 as of January 2020.

The combined fiscal impact for the Construction Contract Agreement with Monterey Peninsula Engineering, Incorporated (MPE), with a 10% contingency, the Engineering Support During Construction (ESDC) services with Infrastructure Engineering Corporation (IEC), and the Construction Management and Inspection Services with Harris & Associates, requires an additional \$399,298 resulting in a proposed revised budget of \$1,659,298. As of June 30, 2019, there are available cash assets of \$8,743,471. Based upon the lowest responsive and responsible bid and the available

assets, it is recommended to amend the FY 2019/2020 budget for the Canyon Del Rey CMP Sewer Main Replacement Project (Sewer Line Replacements (953-8820-9218)) to \$1,659,298 and authorize the District manager to execute an Agreement with Monterey Peninsula Engineering, Incorporated (MPE), for an amount not-to-exceed One Million Three Hundred Sixty-Eight Thousand One Hundred Eighty Dollars (\$1,368,180) and amendments up to One Hundred Thirty-Six Thousand Eight Hundred Eighteen Dollars (\$136,818).

ATTACHMENTS

1. Resolution
 2. Contract
 3. Letter of bid withdraw
-

Reviewed for Submission to the
Board by:

A handwritten signature in blue ink, appearing to be 'Craig Malin', written over a horizontal line.

Craig Malin, District Manager

RESOLUTION NO. 2020-XX

A RESOLUTION OF THE SEASIDE COUNTY SANITATION DISTRICT APPROVING A CONSTRUCTION CONTRACT AGREEMENT WITH MONTEREY PENINSULA ENGINEERING, INCORPORATED (MPE) FOR AN AMOUNT NOT TO EXCEED ONE MILLION THREE HUNDRED SIXTY-EIGHT THOUSAND ONE HUNDRED EIGHTY DOLLARS (\$1,368,180) FOR THE CANYON DEL REY CMP SEWER MAIN REPLACEMENT PROJECT

WHEREAS, the fiscal year 2019/2020 adopted CIP budget allocated funds of \$1,320,000 for the Canyon Del Rey CMP Sewer Main Replacement Project, hereinafter referred to as the “Project”; and

WHEREAS, on November 26, 2019, the District advertised the Project for a period of eight (8) weeks; and

WHEREAS, on January 23, 2020, the District held a public bid opening for construction of the Project; and

WHEREAS, the District received four (4) bids in the amounts (with allowances) of \$1,160,500 (Bay Pacific Pipelines), \$1,370,680 (Monterey Peninsula Engineering, Incorporated), \$1,438,000 (K.J. Woods Construction, Incorporated), and \$1,832,780 (Mountain Cascade, Incorporated); and

WHEREAS, on January 24, 2020, in accordance with Public Contract Code Section 5103 and as described within the bid documents, Bay Pacific Pipelines submitted a letter by certified mail to withdraw their bid; and

WHEREAS, per Public Contract Code Section 5103 the District may award the contract to the next lowest bidder; and

WHEREAS, the District desires to retain Monterey Peninsula Engineering, Incorporated and Monterey Peninsula Engineering, Incorporated agrees to render all labor, material, equipment, and services necessary to complete the Canyon Del Rey CMP Sewer Main Replacement Project; and

WHEREAS, the District has determined that the Bid is responsible, responsive, reasonable, and within the approved CIP Scope of Work and Budget for said Project(s);

WHEREAS, the District has determined that the project budget, including construction management services and design support during construction is One Million six hundred fifty-nine thousand two hundred ninety-eight dollars (\$1,659,298); and

WHEREAS, as of June 30, 2019, District maintained reserves of \$8,743,471.

WHEREAS, in accordance with Title 14, California Code of Regulations (CCR, Title 14), Chapter 3 “CEQA Guidelines,” Article 20, Section 15378, the proposed action is a project as defined by the California Environmental Quality Act (CEQA); and

WHEREAS, a combined Initial Study (IS) and Environmental Checklist was completed in March 2019 for the Del Monte Boulevard Sewer Replacement Project and Canyon Del Rey Boulevard Sewer Replacement Project; and

WHEREAS, a Mitigated Negative Declaration (MND) was prepared consisting of the Initial Study, all comments received during the public review period, and a Mitigation Monitoring and Reporting Program; and

WHEREAS, the District approved the IS/MND at its November 12, 2019 regularly scheduled meeting and a Notice of Determination filed on November 14, 2019.

NOW THEREFORE, BE IT RESOLVED, that the District approves a budget amendment increase of \$399,298 for the Canyon Del Rey CMP Sewer Main Replacement Project (953-8820-9218) from the District Reserves for a total fiscal year 2019/2020 budget of One Million six hundred fifty-nine thousand two hundred ninety-eight dollars (\$1,659,298) and directs the District Finance Manager to make appropriate budget adjustments; and

NOW THEREFORE, BE IT FURTHER RESOLVED that the Seaside County Sanitation District authorizes the District Manager to execute a construction contract agreement with Monterey Peninsula Engineering, Incorporated for an amount not-to-exceed One Million Three Hundred Sixty-Eight Thousand One Hundred Eighty Dollars (\$1,368,180) to provide all labor, material, equipment, and services necessary to complete the Canyon Del Rey CMP Sewer Main Replacement Project.

PASSED AND ADOPTED at a regular meeting of the Seaside County Sanitation District duly held on the 11th day of February 2020, by the following vote:

AYES: Board Members:
NOES: Board Members:
ABSENT: Board Members:
ABSTAIN: Board Members:

Gerry Blackwelder, Chair
Seaside County Sanitation District

ATTEST:

Lesley Milton-Rerig, District Clerk
Seaside County Sanitation District

DOCUMENT 00 52 00

AGREEMENT FORMS

THIS CONTRACT AGREEMENT, made this _____ day of _____, 2020, by and between the SEASIDE COUNTY SANITATION DISTRICT hereinafter called "Owner" and _____, hereinafter called "Contractor".

WITNESSETH

WHEREAS, Owner has caused Volume I, Project Manual (Procurement and Contracting Requirements, Contracting Forms, Project Forms, Conditions of the Contract and Specification Documents), and Volume II (Drawings), and other Contract Documents to be prepared and issued to bidder for certain Work described as the **CANYON DEL REY CMP SEWER MAIN REPLACEMENT PROJECT**, and

WHEREAS, Contractor has offered to perform the proposed Work in accordance with the terms of the Contract Documents, and

NOW, THEREFORE, in consideration of the mutual covenants and agreements of the parties herein contained and to be performed, Contractor hereby agrees to complete the Work at the price and on the terms and conditions herein contained, and Owner hereby employs the Contractor and agrees to pay him the Contract Price provided herein for the full and complete performance of the Work, pursuant to the terms, conditions and covenants set forth in this Contract Agreement and other Contract Documents referenced below.

The Contract Documents incorporated into this Contract Agreement by this reference and made a part thereof are set forth in the following exhibit parts and include, in addition to this Contract Agreement, the following:

- a. Volume I: Project Manual consisting of: Procurement and Contracting Requirements (Documents 00 11 16 – 00 73 00) and Specifications (Divisions 01 through 35), issued December, 2019.
- b. Volume II: Drawings (as listed in Drawing G-1) issued December, 2019.
- c. Addendum (a) No. 1, issued January 16, 2020 (b) No.2 issued January 21, 2020.
- d. The Contractor's Bid
- e. The Contractor's Bid Security
- f. The Owner's Notice of Award

- g. The Owner's Notice to Proceed
- h. The Bonds issued by Contractor's Surety
- i. All Modifications issued after the date of this Contract Agreement

IN WITNESS WHEREOF, this Contract Agreement has been executed in duplicate on the day and year first above written.

Seaside County Sanitation District

Owner

Contractor

License No. _____

By: _____ *

Signature

By: _____

Signature

Title

Title

END OF SECTION 00 52 00



Seaside County Sanitation District

CONTRACT DOCUMENTS
for the

Canyon Del Rey CMP Sewer Main Replacement
Project No. 953-8820-9205

December 2019

A handwritten signature in blue ink, appearing to read "Scott Ottmar".

Scott Ottmar, P.E., District Engineer
Seaside County Sanitation District

A handwritten signature in blue ink, appearing to read "Dolores Salgado".

Dolores Salgado, P.E., Engineer
Infrastructure Engineering Corporation



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VOLUME I – PROJECT MANUAL

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INVITATION TO BID

I. RECEIPT AND OPENING OF BIDS.

- A. Sealed Bids will be received by the SEASIDE COUNTY SANITATION DISTRICT (Agency), District Engineer – Administrative Services, located at Agency Hall, 440 Harcourt Avenue, Seaside, CA 93955, **until 3:00 P.M. on January 23rd, 2020** at which time all bids will be publicly opened and read aloud for the construction of the Project entitled:

CANYON DEL REY CMP SEWER MAIN REPLACEMENT PROJECT

- B. The work includes, but is not limited to, furnishing any and all labor, services, material, tools, equipment, supplies, transportation, utilities, skills, and all other items and facilities necessary for the construction completion of the **CANYON DEL REY CMP SEWER MAIN REPLACEMENT PROJECT**; and to construct said Work of the Project within a **contract time of one-hundred and eight (108) consecutive calendar days for final completion.**

II. INQUIRIES ABOUT THE PROJECT AND SECURING BID DOCUMENTS:

- A. The SEASIDE COUNTY SANITATION DISTRICT will be the Owner of the Project. Technical inquiries about the Project shall be directed to:

Dolores Salgado - Engineer
Telephone No.: 661-529-2190 (office)
Telephone No.: 661-748-3893 (Cell)
Email: dsalgado@iecorporation.com

Copies of the Bid Documents will be available to download for free on the City's website: <https://www.ci.seaside.ca.us/Bids.aspx>. To the extent required by section 20103.7 of the Public Contract Code, upon request from a contractor plan room service, the Owner shall provide an electronic copy of the Contract Documents at no charge to the contractor plan room.

- B. The Contract Documents, **dated December 2019**, for this project consist of two (2) volumes: Volume I - Project Manual, which contains Procurement Requirements, Contracting Requirements and Specification documents; and Volume II - Project Drawings.
- C. It is the responsibility of each prospective bidder to download and print all Bid Documents for review and to verify the completeness of Bid Documents before submitting a bid. Any Addenda will be posted on the City's website. It is the responsibility of each prospective bidder to check the website and contractor plan room on a daily basis through the close of bids for any applicable addenda or updates. The Owner does not assume any liability or responsibility based on any

defective or incomplete copying, excerpting, scanning, faxing, downloading or printing of the Bid Documents. Information on the website or the contractor plan room may change without notice to prospective bidders. The Contract Documents shall supersede any information posted or transmitted by the contractor's plan room.

- III. **CONTRACT TIME.** The Contract Time for **Substantial Completion** of all the Work is established at **seventy-eight (78) consecutive calendar days** beginning with the date of the Notification to Proceed (NTP) from the Owner.

The Contract Time for **Final Completion** is established at **thirty (30) consecutive calendar days** following and beginning with the date of certification of Substantial Completion of the Work.

- IV. **LIQUIDATED DAMAGES.** The fixed liquidated damages amount is hereby established as one thousand and six-hundred dollars (\$1,600.00) for each calendar day of unauthorized delay in substantial completion and final completion of the Work. The liquidated damages for final completion will not be cumulative to those for substantial completion.

- V. **BIDS.** Bidders must comply with and agree to all instructions and requirements in this Notice and in the Instructions to Bidders, including post-bidding procedures.

- A. All Bids shall be submitted on the prescribed Bid Forms. Sealed bids shall be addressed to "SEASIDE COUNTY SANITATION DISTRICT," and labeled "**Bid for Construction CANYON DEL REY CMP SEWER MAIN REPLACEMENT PROJECT**".
- B. The prospective bidder may submit a bid for **Bid Schedule A** or **Bid Schedule B** or both Bid Schedule A and Bid Schedule B. However, the Owner reserves the right to select the lowest bid of either Bid Schedule A or Bid Schedule B. Each Bid must be accompanied by the prescribed bid security in an amount equal to 10 percent of the total amount of the Bid, including the aggregate of all separate bid items and schedules covered by the Bid.
- C. Requests for interpretation of the Contract Documents shall be submitted in writing to the Engineer not later than the 10th day preceding the date set for the receipt of Bids.
- D. The Owner reserves the right to revise the Contract Documents prior to the Bid submission date. Revisions, if any, shall be made by written Addenda. All Addenda issued by the Owner shall be included in the Bid and made part of the Contract Documents. Pursuant to Public Contract Code Section 4104.5, if the Owner issues an Addendum which includes material changes to the Project less than 72 hours prior to the deadline for submission of Bids, the Owner will extend the deadline for submission of Bids. The Owner may determine, in its sole discretion, whether an Addendum warrants postponement of the Bid submission date. Any Addenda will be posted on the City's website and the contractor's plan room. Please Note: Bidders are responsible for ensuring that they have received any and all Addenda. The

Bidder shall acknowledge the Addenda via the contractor's plan room prior to bidding. Failure to acknowledge all Addenda may be sufficient cause for rejecting the Bid.

- E. No Bid or bid security may be withdrawn for ninety (90) calendar days after the date Bids are received.
- F. If the Contract is awarded, the Owner will give the successful Bidder a Notice of Award within ninety (90) calendar days of the opening bids. The successful Bidder shall execute the Contract within ten (10) working days after the date of the Notice of Award.
- G. The successful Bidder shall furnish a Performance Bond and a Payment Bond, each in an amount equal to the Contract Price before execution of the Contract Agreement.
- H. The successful Bidder shall furnish insurance in accordance with the Contract Documents before execution of the Contract Agreement.
- I. The Owner may withhold issuance of the Notice to Proceed for a period not to exceed thirty (30) calendar days after the date the Contract Agreement is executed.
- J. The Contractor shall start the Work within ten (10) working days after the date of the Notice to Proceed.
- K. Two **non-mandatory** pre-bidding conferences will be held:
 - i. **Wednesday, December 11, 2019** at 10:00 A.M. local time
 - ii. **Wednesday, January 8, 2020** at 10:00 A.M. local time

Both will be held at the City of Seaside's Engineering Modular Trailers located at 440 Harcourt Avenue, Seaside CA 93955, to answer bidders' questions regarding the Contract Documents. Bidders are not required to attend the pre-bidding conference. Any changes, additions, or deletions resulting from this pre-bidding conference will be addressed in an addendum to the Contract Documents.

A site-visit tour will be conducted immediately following the pre-bidding conferences starting from the Engineering Modular Trailers. Bidders are not required to attend the site-visit tour.

VI. APPROVAL. This Notice is approved and authorized by the Board of Directors of the SEASIDE COUNTY SANITATION DISTRICT.

Date

Scott Ottmar, P.E., District Engineer
SEASIDE COUNTY SANITATION DISTRICT

END OF SECTION 00 11 16

DOCUMENT 00 21 13

INSTRUCTIONS TO BIDDERS

IB-01 GENERAL. The Contract Documents will be available for examination without charge, and copies may be secured in accordance with the Notice Inviting Bids. Terms used in the Bidding Requirements shall have the meanings defined in the Conditions of the Contract.

IB-02 EXAMINATION BY BIDDERS. At his own expense and prior to submitting his Bid, each Bidder shall (a) examine the Contract Documents, (b) visit the site and determine the local conditions which in any way affect the performance of the Work including the prevailing wages and other pertaining cost factors, (c) familiarize himself with all Federal, State and local laws, ordinances, permits, rules, regulations and codes affecting the performance of the Work including the cost of permits and licenses required for the Work, (d) make such surveys and investigations, including investigation of subsurface or latent physical conditions at the site or where Work is to be performed, as he may deem necessary for performance of the Work at his Bid price within the terms of the Contract Documents, (e) determine the character, quality, and quantities of the Work to be performed and the materials and equipment to be provided, and (f) correlate his observations, investigations, and determinations with the requirements of the Contract Documents. The Contract Documents show and describe the existing conditions, as they are believed to exist, and the surveys, investigations, and other data which have been used in the design of the Work. Neither the Owner nor the Engineer shall be liable for any loss sustained by the Contractor resulting from any variance between the conditions and design data given in the Contract Documents and the actual conditions revealed during the Bidder's examination or during the progress of the Work. The submission of a Bid shall be incontrovertible evidence that the Bidder has complied with all the requirements of this Article IB-02.

IB-03 QUALIFICATIONS OF BIDDERS.

- A. Bidders on this work shall possess, at the time of the Bid of the Contract, a valid Class A Contractor's license issued by the California Contractor's State License Board. All Subcontractors desiring to bid on this Work shall similarly possess a license appropriate for the work they will be performing.
- B. No person, organization, or corporation is allowed to make, submit, or be interested in more than one (1) Bid for the Work of this Contract unless in a sub-contractual relationship with respect to the Bids or unless Alternative Bids are required. A person, organization, or corporation submitting sub-proposals or quoting prices on materials to Bidders is not prevented from submitting a Bid for the entire Work.
- C. The Owner may require any Bidder to furnish a written statement as to the Bidder's experience, financial responsibility, technical ability, equipment, and references. Bidders shall be experienced, to the satisfaction of the Owner, in the construction of work of the type and magnitude described in these Contract Documents, and shall have a proven history of successfully undertaking such Work.

IB-04 PREPARATION AND SUBMISSION OF BIDS.

- A. Bids shall be submitted on the Bid Forms bound herein, or exact duplicates. The use of substitute Bid Forms other than clear and exact photocopies of those provided by the Owner will not be permitted. In addition, Bidders shall fill in all blank spaces (including inserting "N/A" where applicable), and initial all interlineations, alterations, or erasures to the Bid Forms. All bid items and statements shall be properly filled out in accordance with these Instructions, the Invitation to Bid, General Provisions, and **Section 01010** of these Specifications. Numbers shall be stated both in words and in figures where so indicated, and the signatures of all persons signing shall be in longhand. Where there is a conflict in the words and the figures, the words will govern. Deviations in the Bid Forms may result in the Bid being deemed non-responsive.
- B. Prices, wording, and notations must be in **blue or black ink or typewritten**. No erasures will be permitted. Mistakes may be crossed out and corrections typed or written in ink adjacent thereto and must be initialed in ink by the person or persons signing the Bid.
- C. Each Bidder shall submit its Bid in strict conformity with the requirements of the Contract Documents. Unauthorized additions, modifications, revisions, conditions, limitations, exclusions or provisions attached to a Bid may render it non-responsive and may cause its rejection. Bidders shall not delete, modify, or supplement the printed matter on the Bid Forms, or make substitutions thereon. Oral, telephonic and electronic modifications will not be considered.
- D. Each Bid shall be accompanied by the prescribed Bid Security and other required documents.
- E. Delivery of Bids shall comply with the Notice Inviting Bids as to place, date, and time. Bids and Bid Security shall be enclosed in a sealed opaque envelope bearing the title of the Work and the name of the Bidder.
- F. In the event that the Bidder is a joint venture, there shall be submitted with the Bid, certifications signed by authorized officers of each of the parties to the joint venture naming the individual who shall be the agent of the joint venture, shall sign all necessary documents for the joint venture, and should the joint venture be the successful Bidder shall act in all matters relative to the Contract resulting there-from for the joint venture.

IB-05 WITHDRAWAL OF BIDS. Any bid may be withdrawn via the contractor's plan room, incurring no penalty, at any time prior to the scheduled closing time for receipt of bids. Requests to withdraw bids shall be worded so as not to reveal the amount of the original bid. Withdrawn bids may be resubmitted until the time and day set for the receipt of bids, provided that resubmitted bids are in conformance with the instructions herein.

Bids may be withdrawn after bid opening only by providing written notice to Owner within time indicated on the Invitation to Bid and in compliance with Public Contract Code Section 5100 et seq., or as otherwise may be allowed with the consent of the Owner.

IB-06 BID SECURITY. Each Bid shall be accompanied by a Bid Security in the form of a certified check, a bank cashier's check, or a Surety Bid Bond. Checks or Bid Bond shall be made payable to the SEASIDE COUNTY SANITATION DISTRICT. The Bid Bond and surety there on shall comply with the requirements for Bonds in the General Conditions. The Bid Security will be held by the Owner as a guarantee that the Bidder, if awarded the Contract, will enter into the Contract Agreement in good faith and furnish the required Bonds and proof of Insurance. Each Bidder hereby agrees that, in case of his refusal or failure to execute the Contract Agreement if awarded to him and to furnish the Bonds within the time required by the Contract Documents, the Bid Security and the moneys represented thereby shall remain the property of the Owner as compensation for damages the Owner may suffer by reason of such failure or refusal, not exceeding the amount of the Bid Security. Any Bid not accompanied by a Bid Security may be rejected. The Bid Security shall be in an amount not less than that stated in the Invitation to Bid. Bid Bonds shall be in the exact form shown in the Bidding Requirements.

IB-07 INTERPRETATIONS.

- A. Should any Bidder find discrepancies in or omissions from the Contract Documents, or if there should be doubt as to the true meaning of any part thereof, the Bidder shall at once submit a written request for correction, clarification, or interpretation. Such requests shall be submitted not later than the time stated in the Invitation to Bid.
- B. If the Owner or the Engineer determines the Contract Documents require changes, correction, clarification, or interpretation prior to the receipt of Bids, an appropriate Addendum will be issued.
- C. The Owner, the Engineer, and their officers, employees, and agents will not be responsible for any changes, instructions, clarifications, interpretations, or other information pertaining to the Contract Documents given to Bidders during the bidding period in any manner other than written Addendum.

IB-08 REQUESTS FOR SUBSTITUTIONS OR EQUALS. References in the Contract Documents to any material, item of equipment, or type of construction by manufacturer's name, make, catalog number, or other proprietary identification shall be interpreted as establishing a standard of quality and shall not be construed as limiting competition. Bids shall be based on the products or types of construction so referred to and identified in the Contract Documents, or on substitute or equal items approved by the Owner or the Engineer prior to the receipt of Bids. Bidders wishing to propose substitute or equal materials, equipment items, or types of construction shall submit a written request fully and technically describing each proposed item and its intended use. Manufacturers and suppliers may informally seek approval of their products directly from the Owner or the Engineer. Bidders will be notified of approved substitute or equal items by Addendum

only. All such requests shall be submitted within the time limit stated in the Invitation to Bid and in the Supplementary Conditions

IB-09 SUBCONTRACTOR LIST. Each Bidder shall list in the spaces provided in the Bid Form: (1) the name and business address of each Subcontractor proposed to perform or render service for a portion of the Work, or to specially fabricate and install a portion of the Work, if the value of such subcontracted portion **exceeds one-half of one percent (0.5%)** of the Bidder's total aggregate Bid amount, and (2) the portion of the Work to be performed by each proposed Subcontractor. Only one (1) Subcontractor shall be listed for each portion of the Work so defined by the Bidder. Proposed Subcontractors must be licensed according to the State and jurisdiction where the Work is located. No change may be made to the listing after receipt of Bids without the written consent of the Owner. **The bidder shall furnish and install with his own forces work amounting to not less than fifty percent (50%) of the total amount bid for this project and must submit a listing when requested of the actual subcontract amount to confirm compliance prior to award of the Bids.**

IB-10 ADDENDA.

- A. Full consideration shall be given to all Addenda in the preparation of Bids, as Addenda form a part of the Contract Documents. Bidders shall verify the number of Addenda issued, if any, and acknowledge the receipt of all Addenda in the Bid. Failure to so acknowledge may cause the Bid to be rejected.
- B. The Owner or the Engineer may issue Addenda to advise Bidders of changed requirements. Such Addenda may modify previously issued Addenda.
- C. No Addendum will be issued after the time stated in the Invitation to Bid.

IB-11 AWARD.

- A. Award of the Contract or the rejection of Bids will be made during the time period stated in the Invitation to Bid that Bidders may not withdraw Bids.
- B. Bidders may elect to submit a bid solely for **Bid Schedule A** or solely for **Bid Schedule B**, or submit a bid for ***BOTH*** Bid Schedule A and Bid Schedule B. The Owner shall award the Contract to the lowest responsible Bidder submitting a responsive Bid. The lowest Bid will be determined on the basis of the Total Bid Price for ***EITHER Bid Schedule A or Bid Schedule B.***
- C. The Owner may reject any Bid which, in its opinion when compared to other Bids received or to the Owner's internal estimates, does not accurately reflect the cost to perform the Work. The Owner may reject as non-responsive any Bid which unevenly weights or allocates costs, including but not limited to overhead and profit to one or more particular bid items.

- D. After all Contract contingencies are satisfied and the Notice of Award is issued, the successful Bidder shall execute the Contract Agreement within the time limit stated in the Invitation to Bid and shall furnish the Bonds and Proof of Insurance as required herein. The Contract Agreement shall be executed in the form stipulated by the Owner. A copy of the required form is included in the Contracting Forms Section of Volume I of the Contract Documents.
- E. If a Bidder receiving a Notice of Award fails or refuses to execute the Contract Agreement within the stated time limit or fails or refuses to furnish the Bonds and proof of Insurance as required herein, the Owner may annul the award and declare the Bid Security forfeited, and may issue an award to the next lowest responsive responsible Bidder or may reject all Bids and re-advertise the project.
- F. A corporation receiving the award shall furnish evidence of its corporate existence and evidence that the office signing the Contract Agreement and Bonds for the corporation is duly authorized to do so.

IB-12 BONDS.

- A. The successful Bidder shall furnish to the Owner a Performance Bond ensuring the performance of the Work in accordance with the Contract Documents and a Payment Bond ensuring the payment of all obligations arising from the Work. Sureties and Bonds shall comply with the requirements in the General Conditions and Supplementary Conditions. Bonds shall be delivered to the Owner at the time and place the Contract Agreement is executed unless otherwise provided in the Contract Documents or otherwise approved in writing by the Owner. Bonds shall conform exactly to the forms included in the Contracting Forms Section of Volume I of the Contract Documents.
- B. Failure to execute the bonds within the time specified shall allow the Owner to consider that the Bidder has abandoned the Contract, in which case the check or bidder's bond accompanying the proposal shall be the property of the Owner.
- C. The Performance and Payment Bond(s) may be either a single bond or a separate Performance Bond and a Separate Payment (labor and materials) Bond. If a single bond is used, it must be in the amount of two hundred percent (200%) of the Total Bid, and if separate Bonds are used, each must be for one hundred percent (100%) of the Total Bid. The Bond covering payment must comply with Section 3248 of the California Civil Code.
- D. All bonds and endorsements thereto to be submitted pursuant to the terms of the Contract Documents shall be written and issued by a company having a minimum of a "A" rating and of adequate financial category as rated by the current edition of Best's Key Rating Guide as published by A. M. Best Company, Oldwick, New Jersey 08858.

- IB-13 RIGHTS RESERVED. The Owner reserves the right to reject any or all Bids, to waive any informality or irregularity in any Bid, to have performed the entire Work defined by the Contract Documents or such parts of said Work as the Owner may elect, to combine various alternative bids and bid items within a Bid, and to accept or reject one or more separately scheduled bid items within a Bid. The Owner further reserves the right to withhold issuance of the Notice to Proceed, after execution of the Contract Agreement, for the period of time stated in the Invitation to Bid and no additional payment will be made to the successful Bidder on account of such withholding.
- IB-14 LOCAL WAGE RATES. The Contractor shall obtain the current Prevailing Rate Determination for per diem wages, including wages for overtime and holiday work, for each craft or type of workman needed in the execution of the Work as determined by the Director of Industrial Relations of the State of California pursuant to California Labor Code, Sections 1170, 1773 and 1773.1. Said Determination is periodically modified and updated by the Director of Industrial Relations. The wage rates set forth in said Determination and any subsequent updates issued by the Director of Industrial Relations shall be the minimum wage rates paid to workmen employed for the Work. Copies of the Prevailing Wage Determination shall be posted at the jobsite by the successful bidding Contractor, and thereafter Contractor shall be responsible for obtaining and posting all applicable current updates to said Prevailing Rate Determination as the Work progresses. Any changes in the Prevailing Rate Determination during the course of the Work, however, shall not affect the Contract Price.
- IB-15 SEPARATE BID PRICES FOR EXCAVATION SAFETY MEASURES. The requirements of Sections 6705 and 6707 of the California Labor Code apply to this Project. Accordingly, each Bidder shall state in the Bid the lump sum bid price or prices for providing shoring, sheeting, bracing, and other safety measures for all excavations 5 feet or more in depth. Before any work is commenced, the Contractor shall secure and pay for the excavation permit required by the California Division of Occupational Safety and Health, and shall furnish the Owner with a copy thereof prior to commencing any excavation.

END SECTION 00 21 13

DOCUMENT 00 41 00

BID FORM

Seaside County Sanitation District
District Engineer – Administrative Services
440 Harcourt Avenue
Seaside, CA 93955

Gentlemen:

The undersigned hereby proposes to perform all work for which a contract may be awarded him and to furnish any and all plant, labor, services, material, tools, equipment, supplies, transportation, utilities, and all other items and facilities necessary therefor as provided in the Contract Documents, and to do everything required therein for the construction of the **CANYON DEL REY CMP MAIN SEWER REPLACEMENT PROJECT** as specifically set forth in the Contract Documents:

Volume I Procurement Requirements, Contracting Requirements, Specification Documents, Appendices

Volume II Drawings

and undersigned further proposes and agrees that, if this Bid is accepted, undersigned will contract in the form and manner stipulated to perform all the work called for by Drawings, Specifications, and other Contract Documents, and to complete all such work to accomplish **Substantial Completion** in strict conformity therewith within the time limit of **seventy-eight (78)** consecutive calendar days from the Notice to Proceed, and to complete all such work to accomplish **Final Completion** in strict conformity therewith within the time limit of **thirty (30)** consecutive days from the certification of Substantial Completion, and that undersigned will accept as full payment therefor the fixed price set forth in the following Bid Schedule forming a part hereof.

A Cashiers check or Certified check or Bid Bond properly made payable to Seaside County Sanitation District, hereinafter designated as the Owner, for the sum of _____ Dollars (\$ _____), which amount is not less than ten percent (10%) of the total amount of this Bid, is attached hereto and is given as a guarantee that the undersigned will execute the Contract Agreement and furnish the required bonds and certificates if awarded the Contract. The undersigned acknowledges and agrees that if the undersigned fails to execute the Contract Agreement or fails to furnish the required bonds and certificates within the time provided in the Contract Documents, the proceeds of all Bid Security shall be forfeited to the Owner and any Bid Bond surety's liability to the Owner for forfeiture of the face amount of the Bond shall be considered as established.

It is understood and agreed that:

1. The undersigned has carefully examined all the Contract Documents including all additions, deletions, modifications, appendices and addenda as prepared prior to the date of bid opening.

2. The undersigned has by investigation of the site of the Work and otherwise satisfied himself as to the nature and location of the Work and has fully informed himself as to all conditions and matters which can in any way affect the Work or the cost thereof;
3. The undersigned fully understands the scope of the Work and has checked carefully all words and figures inserted in this Bid and he further understands that the Owner will in no way be responsible for any errors or omissions in the preparation of this Bid;
4. The undersigned will execute the Contract Agreement and furnish the required **Performance and Payment Bonds and proof of insurance coverage within ten (10) days (not including Sundays and holidays) after notice to him of acceptance of his Bid by the Owner.** The undersigned agrees that this bid may not be withdrawn for a period of sixty (60) days after the date set for the opening thereof, unless otherwise required by law. The undersigned Bidder further agrees that if he withdraws his Bid within said period of time, the undersigned shall be liable to the Owner under the Bid Security provisions of the Contract Documents, or the undersigned and his surety shall be liable under the Bid Bond, as the case may be. The attached Bid Bond or checks will be returned after the successful Bidder has executed the Contract Agreement and has furnished to the Owner all required additional bonds and proofs of insurance coverage.
5. The undersigned Bidder further agrees that if undersigned shall fail to complete the Work within the Contract Time and any authorized extension thereof, undersigned shall pay liquidated damages to the Owner in the amount stated in the Invitation to Bid for each calendar day of unauthorized delay in completion of the Work until the Work is completed.
6. The undersigned hereby certifies that this proposal is genuine, is not a sham or collusive, and is not made in the interest of, or on the behalf of, any persons not herein named; that the undersigned has not directly or indirectly induced or solicited any other Bidder, person, or entity to submit a sham Bid or to refrain from bidding; and that the undersigned has not in any manner sought by collusion to secure for undersigned an advantage over any other Bidder.
7. In conformance with current statutory requirements of Section 1860, et seq., of the Labor Code of the State of California, the undersigned confirms the following as his certification:

“I am aware of the provisions of Section 3700 of the Labor Code which require every employer to be insured against liability for worker’s compensation or to undertake self-insurance in accordance with the provisions before commencing the performance of the work of this contract.”
8. In compliance with the provisions of Sections 4100 through 4107 of the Government Code of the State of California, and any amendments thereof, the undersigned Bidder has set forth below the name and the location of the place of business of each Subcontractor who will perform work or labor or render service to the Contractor in

or about the construction of the Work to be performed under the Contract Documents in which this Bid is responsive, and where the portion of the Work which will be done by each Subcontractor for each subcontract is in excess of one-half of one percent (0.5%) of the Total Base Bid. The undersigned Bidder understands that if undersigned fails to specify a Subcontractor for any portion of the Work, undersigned shall be deemed to have agreed to perform such portion himself/herself and that undersigned shall not be permitted to sublet or subcontract that portion of the Work except in cases of public emergency or necessity, and then only after a finding is reduced to writing as a public record of the Owner setting forth the facts constituting the emergency or necessity. It is further understood and agreed that the aggregate total of all subcontracts shall not exceed fifty percent (50%) of total contract price in accordance with the provisions of Instructions to Bidders.

9. Nondiscrimination in Employment. The undersigned hereby states that he _____ previously performed work subject to the provisions of the President's Executive Order No. 11246 relative to nondiscrimination in employment.

NOTE: Bidder shall insert "has" or "has not" as applicable in the above statement.

10. Receipt is hereby acknowledged of addenda number(s) _____ through _____;
11. The undersigned, as bidder, declares that our valid California Contractor's license number is _____, Class _____ and that the representations made in this Bid are made under penalty of perjury.

NOW: In compliance with the Invitation to Bid and all the provisions hereinbefore stipulated, the undersigned, with full cognizance thereof, hereby proposes to perform the entire Work for the prices set forth in the attached Schedule(s) upon which award of contract is made.

Individual Contractor Name: _____

Address: _____

Partnership Name: _____

Business Address: _____

By: _____, Partner

Other Partners: _____

Corporation Name: _____

Business Address: _____

By: _____, President

_____, Secretary

Organized under the laws of the State of _____

Date: _____ Contractor: _____

(Seal) By: _____

BID SCHEDULES
For
CANYON DEL REY CMP SEWER MAIN REPLACEMENT PROJECT

BID SCHEDULE A – INSTALL PARALLEL SEWER MAIN				
Bid Item	Item Description	Estimated Qty and Unit	Unit Price (Figures)	Unit Price Extension or Lump Sum (Figure)
A1.	MOBILIZATION, BONDS, PERMITS, CLEANUP AND DEMOBILIZATION (maximum 8%)	LS	N/A	\$ _____
A2.	TEMPORARY EROSION CONTROL/STORM WATER POLLUTION CONTROL PLAN (WPCP)	LS	N/A	\$ _____
A3.	SHEETING, SHORING, AND BRACING	LS	N/A	\$ _____
A4	DEWATERING, TREATMENT OF GROUNDWATER, AND LEGAL DISPOSAL	LS	N/A	\$ _____
A5.	TEMPORARY SEWER BYPASS SYSTEM	LS	N/A	\$ _____
A6.	CCTV INSPECTION	LS	N/A	\$ _____
A7.	CONSTRUCT 12-INCH GRAVITY SEWER MAIN	586 LF	\$ _____	\$ _____
A8.	CONSTRUCT 15-INCH GRAVITY SEWER MAIN	282 LF	\$ _____	\$ _____
A9.	CONSTRUCT NEW 5-FT DIAMETER SEWER MANHOLE NO. A10-44, A10-45	2 EA	\$ _____	\$ _____
A10.	CONSTRUCT NEW 4-FT DIAMETER SEWER MANHOLE NO. A10-46	1 EA	\$ _____	\$ _____
A11.	CONSTRUCT NEW 4-FT DIAMETER SEWER DROP MANHOLE NO. A10-47	1 EA	\$ _____	\$ _____
A12.	CONSTRUCT SEWER LATERAL RECONNECTION	LS	\$ _____	\$ _____

BID SCHEDULE A – INSTALL PARALLEL SEWER MAIN				
Bid Item	Item Description	Estimated Qty and Unit	Unit Price (Figures)	Unit Price Extension or Lump Sum (Figure)
A13.	REHABILITATE AND RECHANNEL SEWER MANHOLE NO. A10-7	LS	N/A	\$ _____
A14.	REMOVE EXISTING BRICK MANHOLE NO. A10-14 AND CONSTRUCT NEW 5-FT DIAMETER MANHOLE NO. A10-14	LS	N/A	\$ _____
A15.	ABANDON EXISTING 12-IN DIAMETER SEWER PIPE AND MANHOLE NO. A10-9 AND A10-10	810 LF	\$ _____	\$ _____
A16.	OVEREXCAVATION OF UNSUITABLE MATERIAL AND ROCK REFILL	50 CY	\$ _____	\$ _____
A17.	TRAFFIC CONTROL, FLAGGING, AND TRENCH PLATES	LS	N/A	\$ _____
A18.	PAVEMENT STRIPING AND MARKINGS	LS	N/A	\$ _____
A19.	UTILITY POTHOLE	LS	N/A	\$ _____
A20.	REPLACE TRAFFIC DETECTION LOOPS	LS	\$ _____	\$ _____
A21.	INSTALL ADS ECHO	LS	N/A	\$ _____
A22.	RECORD DRAWINGS (REDLINED AS-BUILTS), COMPLETE AT	LS	N/A	\$ 2,500
Subtotal Base Bid Schedule A, Items No. A1 through A22, inclusive (Figures)				\$ _____
ADDITIONS FOR ADDITIONAL SCOPE NOT INCLUDED IN THE CONTRACT DOCUMENTS				
A23.	ALLOWANCE FOR CONTROLLED LOW-STRENGTH MATERIAL (CLSM)	10 CY	\$ _____	\$ _____
Subtotal Additions, Item No. A23, inclusive (Figures)				\$ _____
Total Base Bid Schedule A and Additions, Items No. A1 through A23 in words				
is: _____				

END BID SCHEDULE A

BID SCHEDULE B – INSTALL SEWER MAIN USING PIPE BURSTING				
Bid Item	Item Description	Estimated Quantity and Unit	Unit Price (Figures)	Unit Price Extension or Lump Sum (Figure)
B1.	MOBILIZATION, BONDS, PERMITS, CLEANUP AND DEMOBILIZATION (maximum 8%)	LS	N/A	\$ _____
B2.	TEMPORARY EROSION CONTROL/STORM WATER POLLUTION CONTROL PLAN (WPCP)	LS	N/A	\$ _____
B3.	SHEETING, SHORING, AND BRACING	LS	N/A	\$ _____
B4	DEWATERING, TREATMENT OF GROUNDWATER, AND LEGAL DISPOSAL	LS	N/A	\$ _____
B5.	TEMPORARY SEWER BYPASS SYSTEM	LS	N/A	\$ _____
B6.	CCTV INSPECTION	LS	N/A	\$ _____
B7.	PIPE BURST EXIST 12-INCH CMP SEWER MAIN WITH 12-INCH HDPE SEWER MAIN	525 LF	\$ _____	\$ _____
B8.	PIPE BURST EXIST 12-INCH CMP SEWER MAIN WITH 16-INCH HDPE SEWER MAIN	285 LF	\$ _____	\$ _____
B9.	CONSTRUCT SEWER LATERAL RECONNECTION	LS	\$ _____	\$ _____
B10.	REHABILITATE AND EPOXY LINE SEWER MANHOLE NO. A10-7, A10-9, A10-10	LS	N/A	\$ _____
B11.	REMOVE EXISTING BRICK MANHOLE NO. A10-14 AND CONSTRUCT NEW 5-FT DIAMETER MANHOLE NO. A10-14	LS	N/A	\$ _____
B12.	OVEREXCAVATION OF UNSUITABLE MATERIAL AND ROCK REFILL	50 CY	\$ _____	\$ _____
B13.	TRAFFIC CONTROL, FLAGGING, AND TRENCH PLATES	LS	N/A	\$ _____

BID SCHEDULE B – INSTALL SEWER MAIN USING PIPE BURSTING				
Bid Item	Item Description	Estimated Quantity and Unit	Unit Price (Figures)	Unit Price Extension or Lump Sum (Figure)
B14.	PAVEMENT STRIPING AND MARKINGS	LS	N/A	\$ _____
B15.	UTILITY POTHOLE	LS	N/A	\$ _____
B16.	INSTALL ADS ECHO	LS	N/A	
B17.	RECORD DRAWINGS (REDLINED AS-BUILTS), COMPLETE AT	LS	N/A	\$ 2,500
Subtotal Base Bid Schedule B, Items No. B1 through B17, inclusive (Figures)				\$ _____
ADDITIONS FOR ADDITIONAL SCOPE NOT INCLUDED IN THE CONTRACT DOCUMENTS				
B18.	ALLOWANCE FOR AC SURFACE REPAIR AFTER PIPE BURSTING	600 SF	\$ _____	\$ _____
B19.	ALLOWANCE FOR SAG REPAIR AFTER PIPE BURSTING	200 LF	\$ _____	\$ _____
Subtotal Additions, Item No. B18 through B19, inclusive (Figures)				\$ _____
Total Base Bid Schedule B and Additions, Items No. B1 through B19 in words is: _____				

END BID SCHEDULE B

LIST OF MATERIAL AND EQUIPMENT MANUFACTURERS

The undersigned Bidder understands and agrees that the Owner may consider this bid incomplete unless the bidder names a manufacturer for each item of equipment or material in the following list. Not more than one (1) manufacturer shall be named for each item of equipment or material. The undersigned Bidder hereby agrees that, after submission of this Bid, he will not make any change in the following list of manufacturers and will not award a contract or agreement of any kind to a manufacturer not listed below for the listed items of equipment or material unless such change, award, or agreement is first approved in writing by the Owner according to the provisions of the Contract Documents pertaining to substitutions and equals. The manufacturers named below produce the listed items of equipment or material that comply with the requirements of the Contract Documents, and the undersigned Bidder will furnish and install the complying equipment or material of the manufacturer respectively named in the following list. If the Owner determines that any listed manufacturer does not produce equipment or material that complies with the Contract Documents, the Contractor will be required to furnish such equipment and/or material from a different approved manufacturer at no increase in cost to the Owner.

SCHEDULE OF MANUFACTURERS

Item Description	Manufacturer

LIST OF SUBCONTRACTORS

The Bidder is required to furnish the following information for each Subcontractor performing more than one-half of one percent (0.5%) of the Total Base Bid. Do not list alternative subcontractors for the same work.

Address and Name Under Which Subcontractor Licensed	License Number	Tele. No. of Office, Mill or Shop	Specific Description of Subcontract
_____	_____	_____ _____ _____	_____ _____ _____ _____
_____	_____	_____ _____ _____	_____ _____ _____ _____
_____	_____	_____ _____ _____	_____ _____ _____ _____
_____	_____	_____ _____ _____	_____ _____ _____ _____
_____	_____	_____ _____ _____	_____ _____ _____ _____
_____	_____	_____ _____ _____	_____ _____ _____ _____
_____	_____	_____ _____ _____	_____ _____ _____ _____
_____	_____	_____ _____ _____	_____ _____ _____ _____
_____	_____	_____ _____ _____	_____ _____ _____ _____
_____	_____	_____ _____ _____	_____ _____ _____ _____

CONTRACTOR'S LICENSING STATEMENT

The undersigned is licensed in accordance with the laws of the State of California providing for the registration of Contractors.

Contractor's License Number: _____

Name of Individual Contractor (Print or Type): _____

Signature of Owner: _____

Business Address and Telephone Number: _____

Name of Firm: _____

Business Address and Telephone Number: _____

Signature, title, and address of members signing on behalf of the partnership: _____

Name: _____ Title _____

Address _____

Name _____ Title _____

Address _____

Name _____ Title _____

Address _____

Or

Name of Corporation _____

Business Address and Telephone Number _____

Corporation organized under the laws of the State of _____

Signature of President of Corporation

Signature of Secretary of Corporation

The following outline is a record of the undersigned Bidder's experience in construction of a type similar in magnitude and character to that contemplated under this Contract. The Bidder shall include in his outline the number, size, types and final costs of all similar type projects constructed in the past three (3) years. The Bidder shall also provide the name and telephone number of the responsible individual for the project owner (agency or entity) for whom the work was performed. If the work was performed as a subcontractor, do not reference the general contractor. The Bidder shall also provide the name, work resume and qualifications for the individual who will be the job superintendent during the performance of this contract. The Bidder shall not reassign the designated superintendent without prior approval of the Owner. Additional numbered pages outlining this portion of the Bid may be attached to this Bid.

[illegible]

The following outline is a list of principal equipment that the undersigned Bidder owns and has available for use on construction of the **CANYON DEL REY CMP SEWER MAIN REPLACEMENT PROJECT**

[illegible]

Packet Page 100

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DOCUMENT 00 43 13

BID SECURITY FORM

(Check to accompany Bid)

(Note: The following form shall be used in case check accompanies Bid :)

Accompanying this proposal is a *(Certified) *(Cashier's) check payable to the order of SEASIDE COUNTY SANITATION DISTRICT, hereinafter referred to as "Owner," for _____ Dollars (\$ _____), this amount being not less than ten percent (10%) of the total amount of the Bid. The proceeds of this check shall become the property of said Owner provided this proposal shall be accepted by the said Owner through action of its legally constituted contracting authorities and the undersigned shall fail to execute a contract and furnish the required Performance and Payment Bonds and proof of insurance coverage within the stipulated time; otherwise, the check shall be returned to the undersigned. The proceeds of this check shall also become the property of the Owner if the undersigned shall withdraw his bid within the period of sixty (60) days after the date set for the opening thereof, unless otherwise required by law, and notwithstanding the award of the Contract to another Bidder.

Bidder

* Delete the inapplicable word

(NOTE: If the Bidder desires to use a guaranty bond instead of a check, the Bid Guaranty Bond Form in Document 00 43 15 of the following page shall be executed -- the sum of this bond shall be not less than 10 percent of the total amount of this Bid.)

END SECTION 00 43 13

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BID GUARANTY BOND FORM

KNOW ALL MEN BY THESE PRESENTS:

THAT _____, hereinafter called Principal, and _____, hereinafter called the Surety, are jointly and severally held and firmly bound unto the **SEASIDE COUNTY SANITATION DISTRICT**, hereinafter called Owner, in the penal sum of not less than ten percent (10%) of the total amount of the Bid of Principal for the Work of constructing the **CANYON DEL REY CMP SEWER MAIN REPLACEMENT PROJECT**. This sum not to exceed _____ Dollars (\$ _____) lawful money of the United States of America, for the payment whereof unto Owner, Principal and Surety jointly and severally bind themselves forever firmly by these presents, except said penal sum shall not exceed ten percent (10%) of the total amount Bid by Principal for Work which is awarded to Principal by the Owner.

WHEREAS, Principal is herewith submitting a Bid for the Work entitled **SEASIDE COUNTY SANITATION DISTRICT, CANYON DEL REY CMP SEWER MAIN REPLACEMENT PROJECT**

NOW, THEREFORE, the condition of this obligation is such that if Principal is awarded a contract for the Work, and if Principal within the time specified in the Invitation to Bid enters into, executes and delivers to Owner an agreement in the form provided herewith, and if Principal within the time specified in the Bid gives to Owner the performance bond and the payment bond on the forms provided herewith, then this obligation shall be void. If, however, Principal shall fail or refuse to furnish, execute and deliver to Owner said agreement in the time stated in the Bid or should fail or refuse to furnish Performance Bond and Payment Bond in the time stated in the Bid, then Principal and Surety shall forfeit to Owner the penal sum hereof.

AND IT IS HEREBY DECLARED AND AGREED that Surety shall be liable under this obligation as Principal, and that nothing of any kind or nature whatsoever that will not discharge Principal shall operate as a release of liability of Surety.

IT IS HEREBY FURTHER DECLARED AND AGREED that this obligation shall be binding upon and inure to the benefit of Principal, Surety and Owner and their respective heirs, executors, administrators, successors and assigns.

SIGNED AND SEALED THIS ____ day of _____, 2020.

Principal

By: _____
Signature

Surety

By: _____
Signature (Attach Notarial
Acknowledgement of Surety)

(Surety's Mailing Address)

(NOTE: The standard printed bond form of any bonding company acceptable to the Owner may be used in lieu of the foregoing approved sample bond form provided the security stipulations protecting the Owner are not in any way reduced by use of the Surety Company's printed standard form.)

END OF SECTION 00 43 15

DOCUMENT 00 51 00

NOTICE OF AWARD

Date: _____

To: _____

Project Description:

CANYON DEL REY CMP SEWER MAIN REPLACEMENT PROJECT

The Owner has considered the Bid submitted by you for the above-described Work in response to its Advertisement for Bids dated _____, 2020 and Information for Bidders.

You are hereby notified that your Bid has been accepted for items in the amount of _____.

You are required by the Invitation to Bid to execute the Agreement and furnish the required Contractor's Performance Bond, Payment Bond and Certificates of Insurance before execution of the Contract Agreement.

If you fail to execute said Contract Agreement and to furnish said Bonds within ten (10) working days from the date of this Notice, said Owner will be entitled to consider all your rights arising out of the Owner's acceptance of your Bid as abandoned and as a forfeiture of your Bid Bond. The Owner will be entitled to such other rights as may be granted by law.

You are required to return an acknowledged copy of this Notice of Award to the Owner.
Dated this _____ day of _____ 2020.

SEASIDE COUNTY SANITATION DISTRICT
Owner

By: _____

Title: _____

ACCEPTANCE OF NOTICE OF AWARD

Receipt of the above Notice of Award is hereby acknowledged by:

_____ ,

This _____ day of _____ 2020.

By: _____

Title: _____

END OF SECTION 00 51 00

DOCUMENT 00 52 00

AGREEMENT FORMS

THIS CONTRACT AGREEMENT, made this _____ day of _____, 2020, by and between the SEASIDE COUNTY SANITATION DISTRICT hereinafter called "Owner" and _____, hereinafter called "Contractor".

WITNESSETH

WHEREAS, Owner has caused Volume I, Project Manual (Procurement and Contracting Requirements, Contracting Forms, Project Forms, Conditions of the Contract and Specification Documents), and Volume II (Drawings), and other Contract Documents to be prepared and issued to bidder for certain Work described as the **CANYON DEL REY CMP SEWER MAIN REPLACEMENT PROJECT**, and

WHEREAS, Contractor has offered to perform the proposed Work in accordance with the terms of the Contract Documents, and

NOW, THEREFORE, in consideration of the mutual covenants and agreements of the parties herein contained and to be performed, Contractor hereby agrees to complete the Work at the price and on the terms and conditions herein contained, and Owner hereby employs the Contractor and agrees to pay him the Contract Price provided herein for the full and complete performance of the Work, pursuant to the terms, conditions and covenants set forth in this Contract Agreement and other Contract Documents referenced below.

The Contract Documents incorporated into this Contract Agreement by this reference and made a part thereof are set forth in the following exhibit parts and include, in addition to this Contract Agreement, the following:

- a. Volume I: Project Manual consisting of: Procurement and Contracting Requirements (Documents 00 11 16 – 00 73 00) and Specifications (Divisions 01 through 35), issued _____.
- b. Volume II: Drawings (as listed in Drawing G-1) issued _____
- c. Addendum (a) No. __, issued _____, 20__
- d. The Contractor's Bid
- e. The Contractor's Bid Security
- f. The Owner's Notice of Award

- g. The Owner's Notice to Proceed
- h. The Bonds issued by Contractor's Surety
- i. All Modifications issued after the date of this Contract Agreement

IN WITNESS WHEREOF, this Contract Agreement has been executed in duplicate on the day and year first above written.

Seaside County Sanitation District

Owner

Contractor

License No. _____

By: _____ *

Signature

By: _____

Signature

Title

Title

END OF SECTION 00 52 00

DOCUMENT 00 55 00

NOTICE TO PROCEED

To: _____

Date: _____

Project: **CANYON DEL REY CMP
SEWER MAIN
REPLACEMENT PROJECT**

You are hereby notified to commence Work in accordance with the Agreement dated _____, 2020, on or before _____, 2020, and you are to achieve Substantial Completion of the Work within seventy-eight (78) consecutive calendar days thereafter, and furthermore achieve Final Completion of the Work within thirty (30) calendar days following and beginning with Certification of Substantial Completion. The date of Substantial Completion of all Work is therefore _____, 2020.

SEASIDE COUNTY SANITATION DISTRICT
(Owner)

By: _____

Title: _____

ACCEPTANCE OF NOTICE

Receipt of the above Notice to
Proceed is hereby acknowledged by:

This __ day of _____ 2020

By: _____

Title: _____

END OF SECTION 00 55 00

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DOCUMENT 00 61 13.13

PERFORMANCE BOND

KNOW ALL MEN BY THESE PRESENTS:

THAT _____, hereinafter called Principal, and _____, hereinafter called Surety, are jointly and severally held and firmly bound into the SEASIDE COUNTY SANITATION DISTRICT, hereinafter called Owner, in the penal sum of _____ Dollars (\$_____) lawful money of the United States, for the payment whereof unto, the Principal and Surety jointly and severally bind themselves forever firmly by these presents.

WHEREAS, Owner has awarded to Principal the construction of the **CANYON DEL REY CMP SEWER MAIN REPLACEMENT PROJECT** and

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

NOW, THEREFORE, the condition of this obligation is such that if Principal shall faithfully perform the covenants, conditions and agreements in the Contract and any changes made as therein provided and shall indemnify and save harmless Owner, its officers and agents as therein stipulated, then this obligation shall become null and void; otherwise, it shall remain in full force and virtue, and Principal and Surety, in the event suit is brought on this bond, will pay to Owner such reasonable attorney's fees as shall be fixed by the Court.

As a condition precedent to the satisfactory completion of the Contract, the above obligation shall hold good for a period of one (1) year after the completion of the Work and its acceptance by Owner, during which time if Principal shall fail to make full, complete, and satisfactory repair and replacements and totally protect the Owner from loss or damage made evident during the period of one (1) year from the date of acceptance of the Work, and resulting from or caused by defective materials or faulty workmanship, the above obligation in penal sum thereof shall remain in full force and effect. However, nothing in this paragraph to the contrary notwithstanding, the obligation of Surety hereunder shall continue so long as any obligation of Principal remains.

AND Surety, for value received, hereby stipulates and agrees that no change, extension of time, alteration or addition to the terms of the Contract, the Work to be performed there-under, or to the Contract Documents (including the Specifications and Drawings included therein) shall in any way affect its obligations on this bond, and it does hereby waive notice of any such change, extension of time, alteration or addition to the terms of the Contract, the Work or to the Contract Documents (including the Specifications and Drawings included therein).

AND IT IS HEREBY DECLARED AND AGREED that this obligation shall be binding upon and inure to the benefit of Principal, Surety and Owner and their respective heirs, executors, administrators, successors and assigns.

SIGNED AND SEALED THIS ____ day of _____ 2020.

Principal

By: _____
Signature

Surety

By: _____
Signature

(Surety's Mailing Address)

(Telephone Number)

(Attach Notarial Acknowledgement of Surety)

Approved as to form this _____ day of _____, 2020

Attorney for Owner

NOTE: The principal amount of this bond shall not be less than 100 percent of the total Contract Price.

END OF SECTION 00 61 13.13

DOCUMENT 00 61 13.16

PAYMENT BOND FORM

KNOW ALL MEN BY THESE PRESENTS;

THAT _____, hereinafter called Principal, and _____ hereinafter called Surety, are jointly and severally held and firmly bound unto the SEASIDE COUNTY SANITATION DISTRICT, hereinafter called Owner, in the penal sum of _____ Dollars (\$ _____) lawful money of the United States, for the payment whereof unto Owner, the Principal and Surety jointly and severally bind themselves forever firmly by these presents.

WHEREAS, Owner has awarded to Principal the construction of the **CANYON DEL REY CMP SEWER MAIN REPLACEMENT PROJECT** and

WHEREAS, said Principal is required to furnish a Payment Bond in connection with said Contract.

NOW, THEREFORE, the conditions of this obligation is such that if said Principal or any of his Subcontractors, heirs, executors, administrators, successors, or assigns shall fail to pay any of the persons named in Civil Code Section 3181, or amounts due under the Unemployment Insurance Code with respect to work or labor performed by any such claimant, or for any amounts required to be deducted, withheld, and paid over to the Franchise Tax Board from the Wages of employees of the contractor and his subcontractors pursuant to Section 18806 of the Revenue and Taxation Code, with respect to such work and labor, Surety will pay the same in or to an amount not exceeding the amount hereinabove set forth, and also will pay in case suit is brought upon this bond, such reasonable attorney's fee as shall be fixed by the court.

This bond shall inure to the benefit of any and all persons, companies, and corporations entitled to file claims under Section 3181 of the California Civil Code, so as to give a right of action to them or their assigns in any suit brought upon this bond.

AND Surety, for value received, hereby stipulates and agrees that no change, extension of time, alteration or addition to the terms of the Contract, the Work to be performed there-under, or to the Contract Documents (including the Specifications and Drawings included therein) shall in any way affect its obligations on this bond, and it does hereby waive notice of any such change, extension of time, alteration or addition to the terms of the Contract, the Work or to the Contract Documents (including the Specifications and Drawings included therein).

AND IT IS HEREBY DECLARED AND AGREED that this obligation shall be binding upon and inure to the benefit of Principal, Surety and Owner and their respective heirs, executors, administrators, successors and assigns.

SIGNED AND SEALED THIS ____ day of _____ 2020.

Principal

By: _____
Signature

Surety

By: _____
Signature

(Surety's Mailing Address)

(Telephone Number)

(Attach Notarial Acknowledgement of Surety)

Approved as to form this _____ day of _____, 2020.

Attorney for Owner

NOTE: The principal amount of this bond shall not be less than 100 percent of the total Contract Price.

END OF SECTION

00 61 13.16

DOCUMENT 00 62 16

CERTIFICATE OF WORKER'S COMPENSATION INSURANCE FORM

Execute the following form as required by the California Labor Code, Sections 1860 and 1861:

I am aware of the provisions of Section 3700 of the Labor Code, which require every employer to be insured against liability for worker's compensation or to undertake self-insurance in accordance with the provisions of that code, and I will comply with such provisions before commencing the performance of the Work of this Contract.

Date: _____

Contractor

By: _____
Signature

Title

Attest:

By: _____
Signature

Title

END OF DOCUMENT 00 62 16

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DOCUMENT 00 72 00
GENERAL CONDITIONS
TABLE OF CONTENTS

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GENERAL CONDITIONS

ARTICLE 1 - DEFINITIONS

- 1.1 Terms used in the Contract Documents are defined in the “Glossary, Water and Wastewater Control Engineering” prepared by the Joint Editorial Board representing the American Public Health Association, American Society of Civil Engineers, American Water Works Association and the Water Pollution Control Federation, recent Edition, and are further defined herein. The terms shall have the meanings described that shall be applicable to both the singular and plural thereof.
- 1.2 **Addenda:** Written or graphic instruments issued prior to execution of the Contract Agreement that modify or interpret the Contract Documents.
- 1.3 **Bid:** The offer or proposal of the Bidder submitted in the prescribed form setting forth the prices for the Work to be performed.
- 1.4 **Bidder:** Any person, firm, corporation or organization submitting a Bid or Proposal for the Work.
- 1.5 **Bonds:** Bid, performance, and payment bonds and other instruments of security furnished by the Contractor and his surety in accordance with the Contract Documents.
- 1.6 **Change Order:** A written order to the Contractor signed by the Owner ordering and authorizing an addition, deletion, or revision in the Work, or an adjustment in the Contract Price or the Contract Time.
- 1.7 **Contract Agreement:** The Contract Documents form the Contract Agreement. The Contract Agreement represents the entire and integrated agreement between the parties hereto and supersedes all prior negotiations, representations, or agreements, either written or oral. The Contract Agreement may be amended or modified after execution only by a Modification. References herein to the Contract or the Agreement shall be understood to mean and refer to the Contract Agreement.
- 1.8 **Contract:** The Contract is the entire legal agreement between the Contractor and the Owner with respect to the Work of the Project as set forth exclusively and completely in the Contract Agreement and the additional Contract Documents.
- 1.9 **Contract Documents:** The Contract Documents consist of the Contract Agreement, the notices, instructions and forms issued to Bidders in the Procurement and Contracting Requirements for the submittal of Bids, the Contractor’s Bid, the Bid security, the Notice of Award, the Notice to Proceed, the Notice to Construct if any, the Conditions of the Contract (General, Supplementary, and other Conditions), the Bonds, the Drawings, the Specifications, all Addenda, and all Modifications.

- 1.10 **Contract Price:** The total moneys payable to the Contractor under the Contract Documents.
- 1.11 **Contract Time:** The number of consecutive calendar days for completion of the Work, or the date upon which the Work shall be completed and ready for use by the Owner, as stated in the executed Contract Agreement.
- 1.12 **Contractor:** The Contractor is the person, firm, corporation, or organization identified as such in the Contract Agreement and is referred to throughout the Contract Documents as if singular in number and masculine in gender. The term Contractor means the Contractor or his authorized representative.
- 1.13 **Day and Days:** The term day shall mean calendar day, the term days shall mean consecutive calendar days, and the term working days shall mean consecutive calendar days excluding Saturdays, Sundays, and legal holidays, unless otherwise stated or specified.
- 1.14 **Drawings:** The Drawings or exact reproductions thereof which show the scope and character of the Work to be performed and which have been approved by the Owner, and are referred to in the Contract Documents. The terms Drawing, plan, and plans have the same meaning as the term Drawings unless otherwise stated or specified.
- 1.15 **Engineer:** The term Engineer shall mean the person or firm appointed by the Owner to undertake the duties and powers assigned to the Engineer by these Specifications acting directly or through authorized representatives. The term Engineer is referred to throughout the Contract Documents as if singular in number and masculine in gender, and means the Engineer or his authorized representative, including the Engineer's employees, agents, and consultants.
- 1.16 **Field Order:** A Field Order is a written order issued by the Owner to the Contractor that clarifies or interprets the Contract Documents pursuant to **Paragraph 3.2**, or orders minor changes or alterations in the Work pursuant to **Paragraph 16.6**.
- 1.17 **Inspector:** The Inspector is the authorized agent of the Owner, limited in each case to the duties entrusted to him by the Owner. The term Inspector applies to all Inspectors appointed by the Owner.
- 1.18 **Modification:** A Modification is a written amendment to the Contract Agreement signed by both parties, a Change Order, or a Field Order.
- 1.19 **Notice of Award:** The written notice by the Owner to the Contractor that the Contractor is the successful Bidder and that, upon compliance with the conditions precedent to be fulfilled by the Contractor within the stated time, the Owner will execute the Contract Agreement.

- 1.20 **Notice to Construct:** The written notice by the Owner to the Contractor authorizing the Contractor to begin the physical installation of the particular material or equipment covered by such notice.
- 1.21 **Notice to Proceed:** The written notice by the Owner to the Contractor authorizing him to proceed with the Work and establishing the date of commencement of the Work.
- 1.22 **Owner:** The Owner is the public or quasi-public body or authority, corporation, organization, association, partnership, or individual for whom the Work is to be performed or constructed and is referred to throughout the Contract Documents as if singular in number and masculine in gender. The term Owner means the Owner or his authorized representative, and includes the Owner's employees, agents, and consultants.
- 1.23 **Project:** The Project is the total construction designed for or by the Owner of which the Work performed or constructed under the Contract Documents may be the whole or a part.
- 1.24 **Shop Drawings:** All drawings, diagrams, illustrations, schedules, performance charts, brochures, and other data which are prepared by the Contractor or any Subcontractor, manufacturer, supplier, or distributor and which illustrate the equipment, material, or some portion of the Work.
- 1.25 **Samples:** Samples are physical examples furnished by the Contractor to illustrate materials, equipment, or workmanship, and to establish standards by which the Work will be judged.
- 1.26 **Specifications:** The Specifications include the Procurement and Contracting Requirements, the General Requirements and the Divisions and Sections of the Specifications.
- 1.27 **Subcontractor and Sub-subcontractor:** The terms Subcontractor and Sub-subcontractor are referred to throughout the Contract Documents as if each were singular in number and masculine in gender, and means a Subcontractor or Sub-subcontractor or an authorized representative thereof. A Subcontractor is a person, firm, corporation, or organization that has a direct contract with the Contractor to perform any of the Work at the site. A Sub-subcontractor is a person, firm, corporation, or organization that has a direct or indirect contract with a Subcontractor to perform any of the Work at the site.
- 1.28 **Supplier:** Any person, firm, corporation, or organization that supplies materials or equipment for the Work, including that fabricated to a special design, and may also be a Subcontractor or a Sub-subcontractor.
- 1.29 **Surety:** The term Surety is the person, firm, corporation, or organization that joins with the Contractor in assuming the liability for the faithful performance of the Work and for the payment of all obligations pertaining to the Work in accordance

with the Contract Documents by issuing the Bonds required by the Contract Documents or by law.

- 1.30 **Work:** The term Work includes all labor, materials, equipment, and incidentals necessary to produce the construction required by the Contract Documents and any and all obligations, duties, and responsibilities necessary to the successful completion of the construction assigned to or undertaken by the Contractor under the Contract Documents.

ARTICLE 2 - PRELIMINARY MATTERS

- 2.1 **Award:** The award of the Contract Agreement, if it is awarded, will be to the lowest responsible Bidder whose qualifications indicate the award will be in the best interest of the Owner and who's Bid complies with all the prescribed requirements. No Notice of Award will be given until the Owner has concluded such investigations as he deems necessary to establish the responsibility, qualifications, and financial ability of the Bidders to do the Work in accordance with the Contract Documents to the satisfaction of the Owner within the time prescribed. The Owner reserves the right to reject the Bid of any Bidder who does not pass such investigation to the Owner's satisfaction. In analyzing Bids, the Owner may take into consideration alternatives and unit prices, if requested by the Bid forms. If the Contract Agreement is awarded, the Owner will give the successful Bidder a Notice of Award within the time period prescribed in Invitation to Bid after the opening of the Bids and no Bidder may withdraw his Bid for a period of time as prescribed in the Invitation to Bid after the date set for the receipt of Bids unless other time periods are stated in the Bidding Requirements or elsewhere in the Contract Documents.
- 2.2 **Execution of Contract Agreement:** At least two (2) counterparts of the Contract Agreement and such other Contract Documents as practicable shall be suitably identified as agreed by the parties and signed by the Owner and the Contractor. The Contract Agreement shall be executed within the time period prescribed in the Invitation to Bid of the Notice of Award unless otherwise provided in the Bidding Requirements or elsewhere in the Contract Documents. The Owner and the Contractor shall each receive an executed counterpart of the Contract Documents. The Contract Agreement shall be executed in the form adopted or directed by the Owner.
- 2.3 **Delivery of Bonds:** Simultaneously with the execution of the Contract Agreement, the Contractor shall deliver to the Owner the required Bonds.
- 2.4 **Forfeiture of Bid Security:** Failure of the successful Bidder to whom a Notice of Award is tendered to execute the Contract Agreement and deliver the Bonds and other documents required of him at the time of execution within the time limit provided in the Contract Documents shall be just-cause for the Owner to annul the Notice of Award and declare the Bid and any security therefore forfeited.

- 2.5 **Copies of Documents:** The Owner will furnish to the Contractor up to ten (10) copies of the Specifications and Drawings as are reasonably necessary for the execution of the Work. Upon request, additional copies will be furnished at the cost of reproduction and handling.
- 2.6 **Progress Schedule:** Simultaneously with the execution of the Contract Agreement, the Contractor shall submit to the Owner for review and acceptance an estimated progress schedule in chart form indicating the date that each part or branch of the Work will be started and completed including, where applicable, the continuance of operations as provided in **Paragraph 12.10**, and indicating a schedule of the required submittals including shop drawings, samples, lists of materials and equipment, equipment data, and instruction manuals. The schedule shall conform to the Work and the Contract Time, shall be subdivided and coordinated to the schedule of values, and shall be subject to such revisions the Owner may require for acceptance. The version of the initial progress schedule accepted by the Owner shall become the 'As-Planned Schedule'. The Contractor shall clearly indicate his estimated progress payments for each month in the progress schedule for the Owner's information. The Contractor shall revise the As-Planned Schedule at monthly intervals and in the same form as the original As-Planned Schedule and concurrent with the time periods covered by applications for progress payments. Each revised schedule shall indicate the Work actually accomplished during the time period and the schedule for the performance of the remaining Work. Each revised schedule shall be submitted to the Owner for review and acceptance simultaneously with the Contractor's application for progress payment for the same time period, and shall be subject to such revisions the Owner may require for acceptance. The Owner's acceptance of revised progress schedules will be a condition precedent to the approval of the Contractor's applications for progress payments. Review and acceptance of the As-Planned Schedule or revisions thereto will neither impose on the Owner responsibility for the progress of the Work nor relieve the Contractor from full responsibility therefore. The chart form of progress schedule shall be a critical path type of schedule giving the estimated date that each part, branch or portion of the Work will be started and completed. Schedules shall conform to the Work and time set forth in the Contract Agreement. Monthly updates of the entire critical path schedule shall be submitted to the Owner.
- 2.7 **Schedule of Values:** Simultaneously with the execution of the Contract Agreement, the Contractor shall submit a schedule of values as required by **Paragraph 20.1** for use in progress payments. When directed by the Owner, the Contractor shall submit to the Owner for approval a revised schedule of values coordinated to the revised progress schedules required under **Paragraph 2.6** and pertinent requirements of Supplementary Conditions.
- 2.8 **Insurance:** Before execution of the Contract Agreement, the Contractor shall deliver to the Owner the certificates and proof of insurance as required by **Article 6**.

- 2.9 ***Pre-construction Conference:*** Before the Work is started, a conference will be held to review the progress schedule and the schedule of values, to establish procedures for handling the required submittals and for processing applications for payment, and to establish a working understanding between the parties as to the Project and the Work. Present at the conference shall be the Owner, the Engineer, and the Contractor and his/her Superintendent.
- 2.10 ***Verification:*** Before undertaking the Work, the Contractor shall carefully study and compare the Contract Documents for any discrepancies, inconsistencies, ambiguities, conflicts, or other errors in them or between the Contract Documents and the site conditions, and check and verify all figures, dimensions, and quantities shown thereon and all field measurements and actual site conditions, and shall bear all costs for any error in the Work resulting from his/her failure to so compare and verify. The Contractor shall at once report in writing to the Owner any error which he may discover and shall not perform or construct any of the Work affected thereby until an interpretation or clarification has been issued pursuant to **Paragraph 3.2**. The Contractor assumes full responsibility for having familiarized himself/herself with the nature and extent of the Contract Documents, the Work, locality, and local conditions that may in any manner affect the Work to be done, and represents that he/she has visited the site and correlated his/her observations with the requirements of the Contract Documents.
- 2.11 **Qualifications of Subcontractors and Suppliers:**
- 2.11.1 ***Listing:*** Within time after the opening of Bids as stipulated in the Bid Proposal, unless another time or method is required in the Contract Documents or by law, the apparent low Bidder shall submit to the Owner for acceptance a list of the names and addresses of Subcontractors without change from those which may be listed in the Bid Form and which are proposed to be employed in the performance of the Work, and including the persons and organizations who are to supply the principal items of materials and equipment, as may be contained in the Forms of Bid, and to the extent specified or required by the Owner. The list shall comply with the limitation on subcontracting provided in **Paragraph 10.2** unless the limitation is waived in whole or in part by the Owner. Prior to the Notice of Award, the Owner will notify the apparent low Bidder in writing if the Owner, after due investigation, has reasonable objection to any Subcontractor, person or organization on such list. The failure of the Owner to make objection to any Subcontractor, person or organization on the list prior to the Notice of Award shall constitute an acceptance of such Subcontractor, person or organization. Acceptance of any such Subcontractor, person or organization shall not constitute a waiver of any right of the Owner to reject defective Work. The listing of Subcontractors shall be submitted with the Bid as required by the Instructions to Bidders and the Bid Form.

2.11.2 **Revision of Listing:** If, prior to the Notice of Award, the Owner has reasonable objection to and refuses to accept any Subcontractor, person or organization on such list, or if such list is rejected by the Owner because of proposed subcontracting in excess of the limitation provided in **Paragraph 10.2**, the apparent low Bidder may, prior to the Notice of Award (a) submit an acceptable substitute Subcontractor, person or organization without an increase in his Bid price or (b) submit a revised list complying with **Paragraph 10.2** or such waiver thereof the Owner may elect to issue, subject to all the preceding requirements of this subparagraph, with no increase in his Bid price or (c) withdraw his Bid and forfeit his Bid security. If, after the Notice of Award, the Owner refuses to accept any Subcontractor, person or organization on such list, the Contractor shall submit an acceptable substitute and the Contract Price will be increased or decreased by the proven difference in cost occasioned by such substitution and an appropriate Addendum or Change Order will be issued. No change or revision shall be made to the list accepted by the Owner nor shall any other Subcontractor, person, or organization not named in the accepted list be employed on or for the Work without the issuance of an appropriate Modification and at no additional cost to the Owner.

2.12 **Starting the Work:** The Contractor shall start the Work not later than the date stated in the Notice to Proceed, which date will be the first day of the Contract Time. Unless otherwise provided in the Procurement and Contracting Requirements, the date so stated for the Work to start will be the fifteenth day from the date of the Notice to Proceed. The Owner reserves the right to delay issuance of the Notice to Proceed for a period not to exceed thirty (30) after the date the Contract Agreement is executed, unless otherwise provided in the Procurement and Contracting Requirements, and no additional payment will be made to the Contractor on account of such delay.

ARTICLE 3 - INTENT AND INTERPRETATION OF CONTRACT DOCUMENTS

3.1 **Intent of the Contract Documents:** The Contract Documents are complementary and what is called for by one is as binding as if called for by all. Any Work that may be reasonably inferred from the Drawings or Specifications as being required to produce the intended result shall be provided by the Contractor whether or not it is specifically called for. The Contractor shall furnish and pay for all labor, supervision, materials, equipment, transportation, construction equipment and machinery, tools, appliances, water, fuel, power, energy, light, heat, utilities, telephone and communications, temporary and sanitary facilities, storage, protection, safety provisions, and all other facilities, services, and incidentals of any nature whatsoever necessary for the satisfactory and acceptable execution, testing, initial operation, and completion of the Work in accordance with the Contract Documents, ready for use, occupancy or operation by the Owner.

- 3.2 ***Interpretations:*** Written clarifications or interpretations necessary for the proper execution or progress of the Work, in the form of drawings, or otherwise, will be issued with reasonable promptness by the Owner and in accordance with any schedule agreed upon. Such clarifications or interpretations shall be consistent with or reasonably inferable from the intent of the Contract Documents and shall become a part thereof, and may be effected by Field Order. If the Contractor believes that a written clarification or interpretation entitles him to an increase in the Contract Price or an extension of the Contract Time, he may make a claim therefore as provided in **Paragraph 16.4**.
- 3.3 ***Organization of Drawings and Specifications:*** Except where a particular item or type of equipment is specified or otherwise required to be assembled of various components under the coordination and responsibility of one manufacturer or supplier (sometimes referred to or specified as unit responsibility), the organization of the Specifications into Division, Sections, Articles, and paragraphs, the listing of Work included and not included in the various Sections of the Specifications, and the arrangement of the Drawings shall not control the Contractor in dividing the Work among Subcontractors nor establish the extent of Work to be performed by a trade.
- 3.3.1 ***Drawings:*** Scale dimensions on Drawings shall govern where figured dimensions are not indicated. Figured dimensions on Drawings shall govern over scale dimensions, and detailed Drawings shall govern over general Drawings.
- 3.3.2 ***Specification Titling and Arrangement:*** The Article and paragraph titles and other identifications of subject matter in the Specifications are intended as an aid in locating and recognizing various requirements. Except where titling forms a part of the text, such as the beginning words of a sentence or establishes the subject of an Article or paragraph, the titles are subordinate to and do not define, limit, or otherwise restrict the Specification text. Underlining or capitalizing or words in the text does not signify or mean that such words convey special or unique meanings having precedence over any other part of the Contract Documents. The Specification text shall govern over titling and shall be understood to be and interpreted as a whole. The order of Articles, paragraphs, and subparagraphs is established by the alpha-numeric or similar system employed in the text.
- 3.3.3 ***Specification Language:*** Words and phrases requiring an action or performance, such as perform, provide, install, furnish, erect, connect, test, operate, and adjust, shall be understood to include the meaning of the phrase “The Contractor shall” unless otherwise specified. The requirements of the Drawings and Specifications apply to all Work of the same type, kind, and class even though the word “all” may not be stated. The usage and meaning of various words and phrases employed in the

Specifications and herein are as follows, and shall be understood to apply to the future, present, and past tenses according to the context.

- 3.3.3.1 **References to Drawings:** The words indicated, shown, detailed, noted, scheduled, illustrated, and words of like import shall mean that reference is made to the Drawings, unless stated otherwise.
- 3.3.3.2 **Directives:** The words directed, direction, designated, selected, and words and phrases of like import shall mean that the direction, designation, selection, or like action of the Owner is intended, unless stated otherwise.
- 3.3.3.3 **Submittals:** The words submit, submittal, submission, and words of like import shall be understood to include the meaning of the phrase “Submit to the Owner for approval”, unless stated otherwise.
- 3.3.3.4 **Equals and Approvals:** The words equal, approved equal, equivalent, and words and phrases of like import shall be understood to be followed by the expression “in the opinion of the Owner” unless stated otherwise. The words approval, acceptable, acceptance, satisfaction, and words of like import shall mean that the approval, acceptance, or satisfaction of the Owner is intended, unless stated otherwise.
- 3.3.3.5 **Perform:** The word perform shall mean that the Contractor shall perform all operations required to complete the mentioned action or Work in accordance with the intent of the Contract Documents.
- 3.3.3.6 **Provide:** The word provide shall mean that the Contractor shall furnish and install the mentioned Work, complete in place, connected, and ready for use by the Owner in accordance with the intent of the Contract Documents, except the words providing and provided may mean “contingent upon” and the phrase “as provided in” may mean “in accordance with” where such is the context.
- 3.3.3.7 **Required:** The word required and words of like import shall mean “as required to complete the Work” and “as required by the Owner” according to the context, unless stated otherwise.
- 3.3.3.8 **Technical Words:** Work, materials, or equipment described in words, which so applied, have a well-known trade or technical meaning shall be deemed to refer to such recognized meanings.

- 3.4 ***Reference or Standard Specifications:*** Specifying in the Contract Documents by reference to standard or reference type specification documents or to another part of the Contract Documents shall have the same force and effect as if the document or portion referred to were exactly repeated at the place where reference is made. In case of conflict between any applicable code, law, ordinance, rule, regulation, or order and the referenced standard or reference specification documents, the Contractor shall conform to the most restrictive requirement provided such conformance is lawful. Standard or reference specification documents incorporated into the Contract Documents by reference shall be those in effect on the day that the Contract Documents are approved by the Owner, unless otherwise specified. The Contractor, Subcontractors, Sub-subcontractors, and suppliers of materials and equipment for the Work shall be fully familiar with the referenced documents. Abbreviations specified to indicate or identify standard or reference specification documents, such as ASTM, ANSI, AWWA, and ASME, shall be interpreted according to their well-known technical and trade meanings and usage.

ARTICLE 4 - TIME

- 4.1 ***Time Limits:*** All time limits stated in the Contract Documents are of the essence of the Contract Agreement.
- 4.2 ***Time of Performance:*** The Contractor shall construct and complete the Work, including final clean up, final inspection, and final acceptance of the Work, within the Contract Time. Substantial Completion and Final Completion shall be attained within the time period specified in **Paragraph 1.11**, Contract Time. It is expressly understood and agreed, by and between the Owner and the Contractor, that the Contract Time for the completion of the Work is a reasonable time, taking into consideration the average climatic and economic conditions and other factors prevailing in the locality of the Work. It is further agreed that local average climatic conditions may result in up to thirty (30) calendar days per year in which outside work is not feasible. A request for an extension of Contract time based upon lost working days due to climatic conditions will not be considered for approval unless all of the following three conditions are met: (1) the number of such lost working days exceeds thirty (30) per year, (2) the Contractor's work schedule requires the performance of outside work on each such day, (3) such outside work is on the Critical Path as shown on the schedule in effect at that time.
- 4.3 ***Extension of Contract Time:*** When it is not possible to complete the Work within the contract time, or the contract time extended, the Contractor shall request a time extension and the Owner will grant it if the Owner wishes to keep the Contract in effect. In granting a time extension, the Owner will specify the type of delay responsible for the required time extension. There are three (3) types of delay:
- A. **Authorized Delays** due to extra work or Contract Change Orders where such work is on the critical path of the Project. For this type of delay, the extension is granted without prejudice or penalty to the Contractor. The Contractor shall not be entitled to additional contract time or related impact

costs unless the as-planned completion date, as latest revised, is delayed beyond the contract completion date in effect at the time of the delay.

- B. **Authorized Delays** due to events and acts of God beyond control of the Contractor that delay work on the critical path. These events include, but are not limited to, damage to the plant by flood, fire, wind, tidal wave, or earthquake; delays due to strikes, epidemic, quarantine restrictions, freight embargoes, acts of war or national emergency, acts of the public enemy, acts of the government, or rainfall, where more than thirty (30) working days are lost due to rain, within a time span of one (1) year. Time extensions for delays in this category will be non-compensable and will be granted without prejudice or penalty to the Contractor.
- C. **Unauthorized delays** due to lack of diligence on the part of the Contractor, his/her subcontractors or supplier, or simply the Contractor's inability to overcome job site difficulties in a timely fashion. In granting the time extension for this category of delay, the Owner may assess the Contractor for costs accruing to the Owner, by virtue of the delay, for additional engineering, consulting, or professional services, tests, inspections, administration, and other incidental and overhead expenses and loss of revenue up to the amount of the fixed liquidated damage per calendar day specified in the Invitation to Bid.

4.4 **Delays and Liquidated Damages:**

- A. If a time extension is granted due to unauthorized delays, it shall be understood and agreed that the Owner will suffer damage solely by reason of delays and, it being impractical and infeasible to determine the amount of actual damage, it is agreed that the Contractor shall pay to the Owner, as fixed and liquidated damages and not as a penalty, the amount stated in the Procurement and Contracting Requirements, unless otherwise provided or agreed by the parties, for each calendar day of delay until the Work is completed and accepted; and the Contractor and his surety shall be liable for the amount thereof.
- B. The Contractor shall, within ten (10) days from the beginning of any delay, notify the Owner in writing of the cause of the delay, whereupon the Owner will ascertain the facts and the extent and category of the delay and determine whether or not the Owner wishes to extend the time for completing the Work.

4.5 **Working Hours:** Normal working hours are considered to be the standard, single 8-hour shift, five (5) days per week, Monday through Friday.

ARTICLE 5 - LANDS, CONDITIONS, AND LAYOUT

- 5.1 **Land and Rights-of-Way:** The Owner will furnish and pay for the land, easements, and rights-of-way (ROW) for the Work. The Contractor shall obtain consents from the property owners, make all necessary arrangements, and pay all costs for

additional land areas or access required by him/her outside the limits of the land, easements, and ROW furnished by the Owner, without liability to the Owner.

- 5.2 ***Data Furnished By Owner:*** Upon written request, the Owner will furnish to the Contractor a copy of all available boundary surveys and subsurface investigations. Before delivery the Contractor shall sign a release, which releases the Owner from any liability regarding any difference that might exist between the information furnished by the Owner and actual site conditions.
- 5.3 ***Subsurface Conditions:*** The Owner has conducted subsurface investigations for the Work by borings, samples, tests, analysis, or otherwise, a report of such investigation will be available for examination by the Contractor. Neither the Owner nor the Engineer warrant or guarantee the accuracy or adequacy of such report or any data, statements, opinions, recommendations, or conclusions therein, nor shall the Owner or the Engineer be responsible or liable for any loss sustained by the Contractor because of any variance between the conditions indicated in or deduced by the Contractor from such report or the Contract Documents and the actual conditions encountered in the Work. The Contractor shall make such subsurface investigations as he may be required to establish the true nature of the subsurface conditions affecting the Work, the difficulties that may be encountered, and the dewatering or other operations that may be required to complete the Work.

5.4 Laying Out The Work:

- 5.4.1 **Surveys:** Property and boundary surveys will be established by the Owner, and the Contractor shall furnish to the Owner such assistance and materials as the Owner may require. The Contractor shall carefully preserve all survey stakes, reference points, benchmarks, and monuments. Should any stakes, points, or benches be removed or destroyed by any act of the Contractor or his/her employees, they may be reset at the Contractor's expense. Any expense incurred in replacing permanent monuments that the Contractor may have failed to preserve shall be borne by the Contractor unless the removal of the monuments is required by the Contract Documents.
- 5.4.2 **Lines and Grades, Setting Stakes:** The Contractor shall give at least five (5) working days' notice in writing when he will require the services of the Owner for laying out any portion of the Work. The Owner will set a baseline and benchmark near the beginning of the project site(s) to be used for the horizontal and vertical control of construction. The Contractor shall conduct all surveys necessary to complete the project by working from these reference points. The Owner will use these points to check the Work. The Contractor shall preserve all stakes set for lines, grades, or measurements of the Work in their proper places until authorized to move them by the Owner. Any expense incurred in replacing said stakes that the Contractor may have failed to preserve shall be borne by the Contractor.
- 5.4.3 **Preparation:** Prior to any request for base line and grade stakes, the Contractor shall have all utility lines located and marked in the field and shall have all rights-of-way cleared, graded, and ready for construction activities. The term "grade stakes" shall be taken to mean the "benchmark" mentioned in **Subparagraph 5.4.2**.
- 5.4.4 **Contractor's Verification:** The Contractor shall verify the locations and elevations of the base lines and grades set by the Owner. Not less than three consecutive points set on the same line, slope, or grade shall be used together in order that any variation from a straight line or grade can be detected. If any such variation is found, the Contractor shall report it in writing to the Owner. In the absence of such report, the Contractor shall be responsible for any error in the Work resulting from such variations and shall bear the costs of corrective Work.

ARTICLE 6 - BONDS, INSURANCE AND INDEMNITY

- 6.1 **Bonds:** The Contractor shall furnish performance and payment Bonds for the faithful performance and payment of all his/her obligations under the Contract Documents. Each Bond shall be in penal sums at least equal to the Contract Price unless otherwise stated in the Bidding Requirements, and in such form and with

such sureties as are acceptable to the Owner. Prior to execution of the Contract Agreement the Owner may require the Contractor to furnish other Bonds in such form and with such sureties as the Owner may require. Sureties, to be acceptable to the Owner, shall be legally authorized to do business in the State and jurisdiction where the Work is to be constructed, and be named in the current list of "Surety Companies Acceptable On Federal Bonds" as published by the United States Treasury Department, and their Bonds will be limited to such amounts as would be acceptable to said Treasury Department. The performance bond shall remain in full force and effect for the entire guarantee period as provided in **Paragraphs 19.1 and 19.2**. If such Bonds are required by written instructions given prior to the opening of Bids, the premiums shall be paid by the Contractor; if subsequent thereto, they will be paid by the Owner. If at any time a surety on any such Bond is declared bankrupt or loses its right to do business in the State or jurisdiction in which the Work is to be performed or is removed from the list of Surety Companies Acceptable on Federal Bonds, the Contractor, within ten (10) days after notice by the Owner to do so, shall substitute an acceptable Bond or Bonds in such form and sum and signed by such other surety or sureties as may be satisfactory to the Owner. The premium on such Bond or Bonds shall be paid by the Contractor. No further payments shall be deemed due nor shall be made to the Contractor until the new surety or sureties shall have furnished an acceptable Bond or Bonds to the Owner.

- 6.2 ***Workers' Compensation Insurance:*** By his/her signature hereunder, the Contractor certifies that he/she is aware of the provisions of Section 3700 of the California Labor Code which require every employer to be insured against liability for workers' compensation or to undertake self-insurance in accordance with the provisions of that code, and he/she will comply with such provisions before commencing the performance of the work of this agreement.
- 6.3 ***Indemnification:*** To the fullest extent permitted by law, the Contractor shall indemnify and hold harmless and defend the Owner, its directors, officers, employees, or authorized volunteers, and each of them from and against the following:
- A. Any and all claims, demands, causes of action, damages, costs, expenses, losses or liabilities, in law or in equity, of every kind or nature whatsoever for, but not limited to, injury to or death of any person including the Owner and/or Contractor, or any directors, officers, employees, or authorized volunteers of the Owner or Contractor, and damages to or destruction of property of any person, including but not limited to, the Owner and/or Contractor or their directors, officers, employees, or authorized volunteers, arising out of or in any manner directly or indirectly connected with the work to be performed under this agreement, however caused, regardless of any negligence of the Owner or its directors, officers, employees, or authorized volunteers, except the sole negligence or willful misconduct or active negligence of the Owner or its directors, officers, employees, or authorized volunteers.

- B. Any and all actions, proceedings, damages, costs, expenses, penalties or liabilities, in law or equity, of every kind or nature whatsoever, arising out of, resulting from, or on account of the violation of any governmental law or regulation, compliance with which is the responsibility of Contractor.
- C. Any and all losses, expenses, damages (including damages to the work itself), attorneys' fees, and other costs, including all costs of defense, which any of them may incur with respect to the failure, neglect, or refusal of Contractor to faithfully perform the work and all of the Contractor's obligations under the agreement. Such costs, expenses, and damages shall include all costs, including attorneys' fees, incurred by the indemnified parties in any lawsuit to which they are a party.

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

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

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

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

- 6.4 Commercial General Liability and Automobile Liability Insurance - The Contractor shall provide and maintain the following commercial general liability and automobile liability insurance:

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

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

6.4.2 **Limits:** The Contractor shall maintain limits no less than the following:

1. General Liability. One million dollars (\$1,000,000) per occurrence for bodily injury, personal injury and property damage. If Commercial General Liability Insurance or other form with a general aggregate limit or products-completed operations aggregate limit is used, either the general aggregate limit shall apply separately to the project/location (with the ISO CG 2503, or ISO CG 2504, or insurer's equivalent endorsement provided to the Owner) or the general aggregate limit and products-completed operations aggregate limit shall be three million dollars (\$3,000,000).
2. **Automobile Liability:** One million dollars (\$1,000,000) for bodily injury and property damage each accident limit.

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

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

5. Each insurance policy required by this agreement shall state, or be endorsed to state, that coverage shall not be canceled by the insurance carrier or the Contractor, except after thirty (30) days (10 days for non-payment of premium) prior written notice by U.S. mail has been given to the Owner.
6. ***Additional Named Insureds and Subrogation Waivers:*** The Owner, and such other persons or organizations as the Owner may designate shall be named as Additional Named Insureds. Exclusions in said insurance policies are subject to the approval of the Owner. No insurance policies shall exclude coverage for claims against the Contractor by any additional named insured for payment of damages or injury to persons or property resulting from Contractor's operations or the operations of any Subcontractor or Sub-subcontractor under him. All required insurance policies shall waive all insurer or Contractor subrogation rights against the Owner.

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

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

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

All of the insurance shall be provided on policy forms and through companies satisfactory to the Owner.

- 6.5 ***Deductibles and Self-Insured Retentions:*** Any deductible or self-insured retention must be declared to and approved by the Owner. At the option of the Owner, the insurer shall either reduce or eliminate such deductibles or self-insured retentions.
- 6.6 ***Acceptability of Insurers:*** Insurance is to be placed with insurers having a current A.M. Best rating of no less than A: VII or equivalent or as otherwise approved by the Owner.
- 6.7 ***Workers' Compensation and Employer's Liability Insurance:*** The Contractor and all sub-contractors shall insure (or be a qualified self-insured) under the applicable laws relating to workers' compensation insurance, all of their employees working on or about the construction site, in accordance with the "Workers' Compensation and Insurance Act", Division IV of the Labor Code of the State of California and

any Acts amendatory thereof. The Contractor shall provide employer's liability insurance with limits of no less than \$1,000,000 each accident, \$1,000,000 disease policy limit, and \$1,000,000 disease each employee.

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

The Contractor shall provide and maintain builder's risk insurance (or installation floater) covering all risks of direct physical loss, damage or destruction to the work in the amount specified in the **Paragraph 6.4**, to insure against such losses until final acceptance of the work by the Owner. Such insurance shall insure at least against the perils of fire and extended coverage, theft, vandalism and malicious mischief, and collapse. The Owner, its directors, officers, employees, and authorized volunteers shall be named insureds on any such policy. The making of progress payments to the Contractor shall not be construed as creating an insurable interest by or for the Owner or be construed as relieving the Contractor or his/her subcontractors of responsibility for loss from any direct physical loss, damage or destruction occurring prior to final acceptance of the work by the Owner.

The Contractor shall waive all rights of subrogation against the Owner, its directors, officers, employees, or authorized volunteers.

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

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

- 6.10 ***Continuation of Coverage:*** If any of the required coverage expire during the term of this agreement, the Contractor shall deliver the renewal certificate(s) including the general liability additional insured endorsement and evidence of waiver of rights of subrogation against the Owner (if builder's risk insurance is applicable) to the Owner at least ten (10) days prior to the expiration date.
- 6.11 ***Subcontractors:*** In the event that the Contractor employs other contractors (subcontractors) as part of the work covered by this agreement, it shall be the Contractor's responsibility to require and confirm that each subcontractor meets the minimum insurance requirements specified above.

ARTICLE 7 - SUPERVISION AND SUPERINTENDENCE

- 7.1 **Contractor's Supervision:** The Contractor shall supervise and direct the Work efficiently and with his/her best skill and attention. The Contractor shall be solely responsible for means, methods, techniques, procedures, and sequences of construction. The Contractor shall coordinate all parts of the Work and shall be responsible to see that the finished Work complies accurately with the Contract Documents.
- 7.2 **Superintendent:** The Contractor shall keep on the Work at all times during its progress a competent resident Superintendent satisfactory to the Owner, who shall not be replaced without ten (10) days' written notice to the Owner except under extraordinary circumstances. The Superintendent shall be the Contractor's representative at the site and shall have the authority to act on behalf of the Contractor. All communications, instructions, and directions given to the Superintendent shall be as binding as if given to the Contractor. Whenever the Contractor or the Superintendent is not present on a part of the Work where the Owner wishes to give orders or directions, the orders or directions shall be received and obeyed by the foreman in charge of that part of the Work the same as if the order or direction had been given to the Contractor or the Superintendent. Any order or direction given by the Owner not otherwise required to be in writing will be given or confirmed in writing upon request of the Contractor.

ARTICLE 8 - CONSTRUCTION PROCEDURES AND PROTECTION

- 8.1 **Contractor's Plant and Equipment:** The Contractor shall furnish modern plant and equipment as necessary to perform the Work in a manner satisfactory to the Owner and in accordance with the Contract Documents, types and designs that comply with the requirements of **Paragraph 9.3** and with the requirements prescribed by laws, ordinances, codes, rules, regulations, and orders pertaining to wind and seismic forces at the place of the Project. Construction equipment or machinery that at any time produces unsatisfactory results shall be promptly repaired or replaced by the Contractor and as the Owner may require.
- 8.2 **Use of Site:** The Contractor shall confine his equipment, the storage of materials and equipment, and the operations of those directly and indirectly employed by him to areas permitted by law, ordinances, permits, and the Contract Documents, and shall not unreasonably encumber the site with materials and equipment. Nothing in the Contract Documents shall grant to the Contractor exclusive occupancy of the site of the Work and Project.
- 8.3 **Overloading:** No part of the Work or new and existing structures, scaffolding, shoring, sheeting, construction machinery and equipment, or other permanent and temporary facilities shall be loaded with weights or subjected to stresses or pressures that endanger any of them. The Contractor shall bear the cost of correcting damage caused by overloading or excessive stresses or pressures.

- 8.4 ***Use of Explosives:*** The Contractor shall comply with all laws, ordinances, regulations, codes, and orders governing the transportation, storage, and use of explosives, shall exercise extreme care not to endanger life or property, and shall be responsible for all injury or damage resulting from the use of explosives for or on the Work. No blasting shall be done in the vicinity of existing structures above or below the ground without the prior written consent of the owner thereof.
- 8.5 ***Cutting and Patching:*** The Contractor shall perform all cutting, fitting, or patching of the Work that may be required to make its several parts fit together properly and satisfactorily, and shall not endanger any Work, structures, adjacent property, workmen, or the public by cutting, excavating, or otherwise altering the Work or any part of it. The Contractor shall restore all such cut or patched Work and improvements as approved by the Owner.
- 8.6 ***Verification of Installed Work:*** The Contractor shall correct all defects in installed Work of the Contract before subsequent related or connected Work is applied or installed. Where the Contract Documents require a material or item of equipment to be applied or installed under the supervision, inspection, or direction of the supplier or manufacturer, or his/her representative, the supplier, manufacturer, or his/her representative shall inspect the applicable installed Work and issue a letter to the Owner stating the corrections required to or approval of the installed Work before his/her material or equipment is installed or applied.
- 8.7 ***Manufacturers' Instructions:*** Unless otherwise provided in the Contract Documents, the Contractor shall store, apply, install, erect, connect, use, clean, condition, and operate manufactured articles, materials, and equipment in accordance with the various manufacturers' instructions including those in the instruction manuals required in **Paragraph 12.7** and other instructions required in **Paragraph 12.8**. The Contractor shall compare the requirements of the various manufacturers' instructions with the requirements of the Contract Documents, shall promptly notify the Owner in writing of any difference between such requirements, and shall not proceed with any of the Work affected by such differences until an interpretation or clarification is issued pursuant to **Paragraph 3.2**. The Contractor shall bear all costs for any error in the Work resulting from his/her failure to so compare the various requirements and notify the Owner of any such differences.
- 8.8 ***Public Convenience:*** The Contractor shall at all times so conduct his operations as to ensure the least possible obstruction and inconvenience to traffic and the general public and the residents in the vicinity of the Work, to protect persons and property, and to preserve access to driveways, house, and buildings. The Contractor shall have under construction no greater amount of Work than he/she can properly perform with due regard to the rights of the public, and shall not create any public nuisance. No road, street, or highway shall be closed to the public except with the permission of the proper authorities. Where existing streets are not available as detours, the Contractor shall permit traffic to safely pass through the Work with as little delay and inconvenience as possible, unless otherwise authorized by the Owner. When a section of new surfacing, paving, or a traffic structure intended for

public use has been completed, it shall be opened for use at the request of the Owner. The Contractor shall furnish competent flagmen whose sole duty shall be the directing of traffic through or around the Work when ordered by the Owner, required by public authorities having jurisdiction, or required by law. At no time shall the Contractor prevent free access to fire hydrants, water and gas main valves, manholes or vaults, or other utility facilities. The Contractor shall make temporary provisions to ensure the use of walkways and sidewalks and the proper functioning of gutters, sewer and storm drain inlets, and ditches, which shall not be obstructed.

- 8.9 ***Protection:*** The Contractor shall take all precautions and furnish and maintain protection to prevent damage, injury, or loss to all employees and workers on the Work and all other persons who may be affected thereby; all the Work and all materials and equipment to be incorporated therein, whether in storage on or off the site, under the care, custody or control of the Contractor or any of his/her Subcontractors or Sub-subcontractors; and other improvements and property at the site or where Work is to be performed including buildings, trees and plants, pole lines, fences, guard rails, guide posts, culvert and project markers, signs, structures, conduits, pipe lines, and improvements within or adjacent to streets, rights-of-way, or easements, except those items required to be removed by the Contractor in the Contract Documents. The Contractor's protection shall include all the safety precautions required under Article 13 and other necessary forms of protection, and the notification of the owners of utilities and adjacent property.

- 8.9.1 ***Utilities and Substructure:*** The indication of the type and approximate location of existing utilities and substructures in the Contract Documents represents a diligent search of known records, but the accuracy and completeness of such indications are not warranted by the Owner or the Engineer and utility structures and services not so indicated may exist. Before commencing any excavations, the Contractor shall investigate, determine the actual locations, and protect the indicated utilities and structures, shall determine the existence, position, and ownership of other utilities and substructures in the site or where the Work is to be performed by communication with such owners, search of records, or otherwise, and shall protect all such utilities and substructures.

- 8.9.2 ***Maintenance of Facilities:*** Unless otherwise provided in the Contract Documents or unless otherwise cared for by the owner thereof, all water, gas, oil, or irrigation lines, all lighting, power, communication, or telephone conduits, all sewer and drainage lines and house connection lines, sprinkling systems, and other subsurface structures of any nature along the Work shall be maintained by the Contractor at his/her expense, and shall not be disturbed, disconnected, or damaged by him/her during the progress of the Work. The Contractor shall install temporary pipes of adequate size to carry off sewage from any sewer facilities cut off by construction operations. Installation of temporary pipes shall be made immediately upon cutting of the existing facility, and no sewage shall be allowed to flow from any severed facility upon the ground surface or in

the trench excavation. Pipe used in temporary sewers may be clay, metal, concrete, or composition. Before completion of Work, the Contractor shall replace all severed connections and restore to operating order the existing sanitary facilities with matching materials and construction.

- 8.9.3 **Restoration and Repair:** Except for those improvements and facilities required to be permanently removed by the Contract Documents, the Contractor shall make satisfactory and acceptable arrangements with the appropriate owners and, at his/her expense, shall repair and restore all improvements, structures, property, utilities, and facilities disturbed, disconnected, or damaged as a result or consequent of his/her Work or the operations of those for whom he/she is responsible or liable, including that caused by trespass of any of them with or without his/her knowledge or consent, or by the transporting of workers, materials, or equipment to or from the site.

8.10 **Utilities:**

- 8.10.1 **Water Supply:** The Contractor shall not draw water from any fire hydrant or service, nor operate any valve or control of any water system without the written permission of the owner thereof, and a copy of each written permission shall be filed with the Owner.
- 8.10.2 **Temporary Utility Interruptions:** If the temporary interruption of utility services is necessary for the prosecution of the Work, the Contractor shall make all arrangements with the utility owners and pay all fees and charges levied by them for the interruptions, and shall notify the affected users at least twenty four hours in advance of the probable duration of interruption unless such notice is given by the appropriate utility Owner.
- 8.10.3 **Temporary Removal or Maintenance:** If it should be necessary to move or temporarily maintain the property of any public utility or other property, the cost of which because of the terms of any franchise or for any other reason must be borne by the owner thereof, such owner will, upon proper application by the Contractor, be notified by the Owner to move or temporarily maintain such property until after the expiration of the time required for the Work. The Owner, public authorities having jurisdiction, and the owners of public utilities and franchises shall have access to any street, alley, right-of-way, or easement for the purpose of maintaining or of making repairs or changes in property made necessary by the Work.

ARTICLE 9 - LABOR, MATERIALS, AND EQUIPMENT

- 9.1 **Workers:** The Contractor shall at all times enforce strict discipline and good order among his employees and those of any Subcontractor or Sub-subcontractor, and

shall not employ on the Work any unfit person or anyone not skilled and experienced in the assigned task. All Superintendents and foremen shall be English-speaking. Any Superintendent, foreman, laborer, or other person employed on the Work who fails or refuses to perform the Work in the manner required by the Contract Documents shall be discharged immediately and such person shall not again be employed on the Work. When required in writing by the Owner, the Contractor, Subcontractor, or Sub-subcontractor shall discharge any person who is, in the opinion of the Owner, incompetent, unfaithful, disorderly, or otherwise unsatisfactory. Such discharge shall not be the basis of any claim for compensation or damages against the Owner or the Engineer.

- 9.2 **Workmanship:** The quality of workmanship produced by skilled, knowledgeable, and experienced journeymen mechanics and artisans is required for the Work. Particular attention shall be given to the appearance and finish of exposed Work. The decision of the Owner with regard to the quality and adequacy of workmanship shall be final and binding.
- 9.3 **Materials and Equipment:** All materials and equipment incorporated in the Work shall be new unless otherwise specified. Materials and equipment not covered by detailed requirements in the Contract Documents shall be of the best commercial quality, suitable for the purpose intended, and approved by the Owner prior to use in the Work. The Contractor shall provide proper storage facilities and exercise such measures as will ensure the preservation of the required quality and fitness of all materials and equipment. Materials or equipment not conforming to the requirements of the Contract Documents shall be rejected and immediately removed from the site of the Work. Materials, supplies, or equipment to be incorporated into the Work shall not be purchased by the Contractor or any Subcontractor or Sub-subcontractor subject to a chattel mortgage or under a conditional sale contract or other agreement by which an interest is retained by the seller.
- 9.3.1 **Plurality of Terms:** Where materials or equipment are referred to in the singular number, it is intended unless otherwise limited that such references shall be applied to as much material or equipment as is required to complete the Work.
- 9.3.2 **Optional Materials:** Where any material or equipment item is specified by two or more manufacturer's name or proprietary identifications, the Contractor may provide any one of the materials or equipment so specified. Only one brand, kind, or make of material or equipment shall be used for each specific purpose throughout the Work notwithstanding that similar material or equipment of two (2) or more manufacturers may be specified for the same purpose.
- 9.3.3 **Space Requirements and Arrangement:** The Contractor shall ensure that the materials and equipment to be furnished fit the space available, and shall make the necessary field measurements to ascertain space

requirements including those for connections. If material or equipment requiring arrangement or connections different from those required by the Contract Documents is approved by the Owner, the Contractor shall bear all costs for installing the material or equipment and for changes to adjoining or related Work the Owner may require.

9.3.4 ***Materials Furnished By Owner:*** Material or equipment to be furnished by the Owner will be supplied in accordance with the Specifications.

9.4 ***Substitutions and Equals:*** References in the Contract Documents to any material, item of equipment, or type of construction by manufacturer's name, make, catalog number, or other proprietary identification shall be interpreted as establishing a standard of quality. If the Contractor wishes to furnish or use a proposed substitute or equal material, item of equipment, or type of construction, Contractor shall make written application to the Owner for approval, certifying in writing that the proposed substitute or equal will perform adequately the duties imposed by the general design, be similar and of equal substance to that specified, and be suited to the same use and capable of performing the same function as that specified, and stating all variations in costs pertaining to the application. No proposed substitute or equal shall be ordered or installed without the written approval of the Owner, and it shall be understood and agreed that the decision of the Owner in this matter shall be final and binding.

Prior to the receipt of Bids, requests for consideration of proposed substitute or equal materials or equipment shall comply with the Bidding Requirements. After receipt of Bids, if the Contractor should wish to propose a substitute or equal item for any specified by brand or trade name, **within five (5) days after issuance of the Notice of Award**, Contractor shall in writing notify the Owner of his/her intent to do so and at this time submit to the Owner an itemized list of the item or items Contractor proposes setting forth the various manufacturers' names and such other information Contractor has available. Unless this notification is given within the time stated, the Contractor shall provide only the items specified by brand or trade name. If notification is so given the Owner, **within thirty-five (35) days after issuance of the Notice of Award**, the Contractor shall supply data to the Owner to substantiate the proposed substitution or equal. The Owner will then decide whether the proposed substitution or equal is in fact equal in quality and utility to the specified trade or brand name items. It is agreed that the decision of the Owner in this matter shall be final.

9.4.1 ***Use of Approved Substitutions or Equals:*** The Contractor's use of approved substitutions or equals shall in no way relieve the Contractor from compliance with the Contract Documents. The Contractor shall bear all extra expense resulting from providing or using approved substitutions or equals where they affect the adjoining or related Work, including the expense of required engineering, redesigning, drafting, and permits where necessary, whether the Owner's approval is given before or after receipt of Bids.

- 9.4.2 ***Unauthorized Substitutions:*** If substitute materials or equipment are installed without the Owner's approval, the Contractor shall remove the unauthorized materials or equipment and install those required by the Contract Documents at his expense.

ARTICLE 10 - SUBCONTRACTORS

- 10.1 ***Responsibility for Subcontractors:*** The Contractor shall be fully responsible for all acts and omissions of his Subcontractors, Sub-subcontractors, and of persons directly or indirectly employed by them and of persons for whose acts any of them may be liable to the same extent that he is responsible for the acts and omissions of persons directly employed by him/her. Under these Contract Documents, no Subcontractor or Sub-subcontractor will be recognized as such, and all persons and organizations engaged by the Contractor for the furnishing or installing of any part of the Work, either at the site or elsewhere, are considered as and agreed to be employees of the Contractor except with regard to insurance as provided in Article 6 and except with regard to payment as provided in Article 20. Nothing in the Contract Documents shall create any contractual relationship between any Subcontractor, Sub-subcontractor, or any person directly or indirectly employed by them, and the Owner and the Engineer.
- 10.2 ***Extent of Subcontracting:*** It is the Owner's intent that the Work shall be performed and constructed by a Contractor who is staffed and equipped to construct the major portion of the Work with his/her own directly employed personnel and with the minimum feasible subcontracting. Subcontracting may be permitted by the Owner to such extent as is shown to be necessary or advantageous to the Contractor without injury to the intent and interests of the Owner. Under these Contract Documents, the limitation on subcontracting is to be not more than fifty percent (50%) of the value of the Work. Any Bid proposing subcontracting in excess of this limit is subject to rejection at the discretion of the Owner.
- 10.3 ***Sub-contractual Relations:*** All Work performed for the Contractor by a Subcontractor shall be pursuant to an appropriate agreement between the Contractor (and where appropriate between Subcontractor and Sub-subcontractor) which shall contain provisions that: (a) protect and preserve the rights of the Owner and the Engineer with respect to the Work to be performed under the subcontract so that the Subcontracting thereof will not prejudice such rights; (b) require that such Work be performed in accordance with the requirements of the Contract Documents; (c) require under each subcontract to which the Contractor is a party the submission to the Contractor of applications for payment and claims for additional costs, extension of time, damages for delay or otherwise with respect to the subcontracted portions of the Work (via any Subcontractor or Sub-subcontractor where appropriate) in sufficient time that the Contractor may apply for payment in accordance with Article 20 and comply in accordance with the Contract Documents for like claims by the Contractor upon the Owner; (d) waive all rights the contracting parties may have against one another for damages

caused by fire or other perils covered by the property insurance except such rights as they may have to the proceeds of such insurance held by the Owner as trustee as provided in **Paragraph 6.8**; and (e) obligate each Subcontractor specifically to consent to the provisions of this paragraph.

ARTICLE 11 - LAWS AND REGULATIONS

- 11.1 **Governing Law:** The Contract Documents shall be governed by the law of the place where the Project is located.
- 11.2 **Compliance:** The Contractor shall inform himself of all laws, ordinances, codes, rules and regulations in any manner affecting those employed on the Work, or the materials used in the Work, or in any way affecting the conduct of the Work, and of all orders and decrees of bodies or tribunals having any jurisdiction or authority over the Work. He/She shall at all times himself/herself give all notices and observe and comply with, and shall require all his/her agents, employees, Subcontractors and Sub-subcontractors to observe and comply with all such applicable laws, ordinances, rules, regulations, orders, and decrees in effect or which may become effective before completion and acceptance of the Work; and shall protect and indemnify the Owner and the Engineer against any claim of liability arising from or based upon the violation of any such law, ordinance, code, rule, regulation, order, or decree, whether by himself, his/her employees, or his/her Subcontractors or Sub-subcontractors, or any other person or organization employed for or upon the Work. If the Contractor observes that any requirement of the Contract Documents is at variance with such laws, ordinances, codes, rules, regulations, orders, or decrees, he shall promptly notify the Owner in writing and shall not proceed with any Work affected by such variance without the Owner's written instructions or the issuance of an appropriate Modification.
- 11.3 **Permits, Fees, and Taxes:** Unless otherwise provided in the Contract Documents, the Contractor shall secure and pay for all permits, governmental fees, and licenses necessary for the execution and completion of the Work. The Contractor shall pay all sales, consumer, use, and other taxes required by law including all taxes properly assessed against his equipment or property used in connection with the Work.
- 11.4 **Provisions of Law Deemed Inserted:** Each and every provision of law required by law to be inserted in the Contract Documents shall be deemed to be inserted and the Contract Documents shall be read and enforced as though it were included. If through mistake or otherwise any such provision is not inserted, or is not correctly inserted, then upon application of either party to the Contract Agreement the Contract Documents will be physically amended to make such insertion or correction and an appropriate Modification will be issued.

ARTICLE 12 - SUBMITTALS

12.1 **General:** Unless otherwise specified or directed by the Owner, the Contractor shall submit to the Owner for his review and approval all shop drawings, samples, materials lists, equipment data, instruction manuals, record documents, manufacturers' equipment manuals, and other submittals required by the Contract Documents and herein, or subsequently as covered by Modifications. Submittals and their contents shall be properly prepared, identified, and transmitted as provided herein or as the Owner may otherwise direct. Except for record documents and instructional manuals for operation and maintenance, submittal shall be approved before the material or equipment covered by the submittal is delivered to the site. The Progress Schedule required under **Paragraph 2.6** shall be coordinated to this requirement.

12.1.1 **Deviations:** At the time of the submission, the Contractor shall give notice in writing in the submittal of any deviation from the requirements of the Contract Documents. The deviations shall be clearly indicated or described including all other changes required to correlate the Work. The Contractor shall state in writing all variation in costs occasioned by the deviations and his assumption of the cost of all related changes if the deviation is approved.

12.1.2 **Schedule of Submittals:** The Progress Schedule required under **Paragraph 2.6** shall allow not less than fifteen (15) working days for the review of submittals, not including the time necessary for delivery or mailing, and shall cause no delay in the Work or the work of any other contractor. Extension of the Contract Time will not be granted because of the Contractor's failure to make timely and correctly prepared and presented submittals with allowance for the checking and review periods.

12.1.3 **Method of Submittal:** The Contractor shall deliver submittals by means of dated, signed, and sequence numbered transmittals on the Owner provided forms, identifying as to initial or re-submittal status, and fully describing the submittal contents. Equipment which is specified in one section of the Specifications shall not be combined in a single submittal with equipment specified in other Sections of the Specifications. Submittals are not acceptable directly from Subcontractors, suppliers, or manufacturers. In each transmittal the Contractor shall state the Owner's Project Number and Name, Name and Address of Contractor, Name and Address of Subcontractor, Manufacturer, Supplier or Distributor as applicable, Plan Reference(s) and Specification Section(s), Article(s), and paragraph(s) to which the submittal pertains; accompanying data sheets, catalogs, and brochures shall be identified in the same manner. Where several types or models are contained in the literature the Contractor shall delete non-applicable portions or specifically indicate which portions are intended and applicable. Submittal transmittals shall fully index all items submitted.

1. Incomplete Submittals, including those not correctly transmitted, not correctly titled and identified, or not bearing the Contractor's review and approval stamp, shall be returned to the Contractor without review.
2. Interrelated Submittals: Except where the preparation of a submittal is dependent upon the approval of a prior submittal, all submittals pertaining to the same class or portion of the Work shall be submitted simultaneously.

12.1.4 ***Contractor's Review and Approval:*** Every submittal of shop drawings, samples, materials lists, equipment data, instruction manuals, and other submittals upon which the proper execution of the Work is dependent shall bear the Contractor's review and approval stamp certifying that the Contractor (a) has reviewed, checked, and approved the submittal and has coordinated the contents with the requirements of the Work and the Contract Documents including related Work, (b) has determined and verified all quantities, field measurements, field construction criteria, materials, equipment, catalog numbers, and similar data, or will do so, and (c) states the Work covered by the submittal is recommended by the Contractor and the Contractor's guarantee will fully apply thereto. The Contractor's stamp shall be dated and signed by the Contractor in every case. It is expected that the Contractor will prepare his submittals in such a manner that he/she is able to obtain a submittal approval by the second submission. The Owner reserves the right to deduct moneys from the amounts due to Contractor to cover the cost of the Engineer's review time beyond the second submission.

12.1.5 ***Corrections and Re-submittals:*** The Contractor shall make all required corrections and shall resubmit the required number of corrected submittals until approved. The Contractor shall direct specific attention in writing to revisions other than the corrections called for on previous submittals, and shall state in writing all variations in costs and his assumption of the cost of related changes the same as is required for deviations in **Subparagraph 12.1.1**. Identify each re-submittal with number of the original submittal followed by consecutive letters starting with "A" for first re-submittal, "B" for second re-submittal, etc.

12.1.6 ***Checking of Returned Submittal:*** The Contractor shall check submittals returned to him/her for correction and ascertain if the corrections result in extra cost to him/her above that included under the Contract Documents, and shall give written notice to the Owner within five (5) days if, in his/her opinion, such extra cost results from corrections. By failing to so notify the Owner or by starting any Work covered by a submittal, the Contractor waives all claims for extra costs resulting from required corrections.

12.1.7 ***Review and Approval:*** Submittals will be reviewed with reasonable promptness, but only for conformance with the design concept of the

Project and with the information given in the Contract Documents. The approval of a separate item as such will not indicate approval of the assembly in which the item functions. The approval of submittals shall not relieve the Contractor of responsibility for any deviation from the requirements of the Contract Documents or for any revision in re-submittals unless the Contractor has given notice in writing of the deviation or revision at the time of submission or resubmission and written approval has been given to the specific deviation or revision, nor shall any approval relieve the Contractor of responsibility for errors or omissions in the submittals or for the accuracy of dimensions and quantities, the adequacy of connections, and the proper and acceptable fitting, execution, and completion of the Work.

- 12.1.8 Incomplete Submittals, including those not correctly transmitted, not correctly titled and identified, or not bearing the Contractor's review and approval stamp, will be returned to the Contractor without review.
- 12.1.9 **Conformance:** No Work represented by required submittals shall be purchased or commenced until the applicable submittal has been approved. Work shall conform to the approved submittals and all other requirements of the Contract Documents unless subsequently revised by an appropriate Modification, in which case the Contractor shall prepare and submit revised submittals as may be required. The Contractor shall not proceed with any related Work which may be affected by the Work covered under submittals until the applicable submittals have been approved, particularly where piping, machinery, and equipment and the required arrangements and clearances are involved.
- 12.1.10 **Interrelated Submittals:** Except where the preparation of a submittal is dependent upon the approval of a prior submittal, all submittals pertaining to the same class or portion of the Work shall be submitted simultaneously.
- 12.2 **Shop Drawings:** Each submittal shall be complete with respect to dimensions, design criteria, materials, connections, bases, foundations, anchors, and the like, and shall be accompanied by technical and performance data as necessary to fully illustrate the information in the shop drawings. Unless otherwise specified, each submittal shall include six (6) sets of black-line printed copies or, at the option of the Owner, one (1) set of reproducible copies and two (2) sets of black-line printed copies. At least two (2) sets, one for Owner and one for the Engineer, shall be submitted folded to 8 ½-inch by 11-inch size. Three (3) sets of printed copies or the reproducible set, as applicable, will be returned to the Contractor marked to show the required corrections or approval.
- 12.3 **Samples:** Unless otherwise specified, each submittal shall include two (2) sets of samples. One (1) set of approved samples and all disapproved samples will be returned to the Contractor. Samples of value retained by the Owner will be returned

to the Contractor after completion of the Work if the Contractor's first transmittal for the sample requests its return. Approved samples of manufactured items returned to the Contractor may be installed in the Work if the location is recorded and the samples bear temporary identification as such. Required number of submittals and samples shall be as specified in Section 01 33 00, Submittal Procedures.

- 12.4 **Materials Furnished Under Standard Specifications:** For materials specified by reference to standard or reference specifications, the Contractor shall prepare and submit for approval a list of such materials by manufacturer's names and identifications to the extent requested by the Owner.
- 12.5 **Material Lists:** Submittal copies shall be neatly bound with sturdy labeled covers complying with **Subparagraph 12.7.3**, and shall have an index listing the contents. Loose submittals will be returned un-reviewed. For each item listed, the Contractor shall include the manufacturer's name and address, trade or brand name, local supplier's name and address, catalog numbers and cuts, brochures, terms and conditions of manufacturer's guarantee and warranty, other information to fully describe the item, and supplementary information as may be required for approval. Cuts, brochures, and data shall be marked to indicate the items proposed and the intended use. Unless otherwise specified, each submittal shall include six (6) bound copies, three (3) of which will be returned to the Contractor marked to show the required corrections or approval.
- 12.6 **Equipment Data:** The Contractor shall submit complete technical and catalog data for every item of mechanical and electrical equipment and machinery to be incorporated in the Work, including components. Submittal copies shall be bound, indexed, and contain information as required in **Paragraph 12.5** for submittal of materials lists and shall further include specific information on performance and operating curves and data, ratings, capacities, characteristics, efficiencies, and other data to fully illustrate and describe the items as may be specified or required for approval. Data shall be submitted in sets covering complete systems or functioning units. Unless otherwise specified, each initial submittal shall include six (6) bound copies, three (3) of which will be returned to the Contractor marked to show the required corrections or approval.
- 12.7 **Instruction Manuals:** The Contractor shall obtain data from the various manufacturers and submit instruction manuals covering all mechanical equipment and machinery installed in the Work.
- 12.7.1 **Contents:** Each manual shall have an index listing the contents. Information in the manuals shall include not less than (a) general, introduction and overall equipment description, purpose, functions, and simplified theory of operation, (b) specifications, (c) installation instructions, procedures, sequences, and precautions, including tolerances for level, horizontal, and vertical alignment, (d) grouting requirements including grout spaces and materials, (e) list showing lubricants for each

item of mechanical equipment, approximate quantities needed per year, and recommended lubrication intervals; where possible, types of lubricants shall be consolidated with equipment manufacturers' approval to minimize the number of different lubricants required for plant maintenance, (f) startup and beginning operation procedures, (g) operational procedures, (h) shut down procedures, (i) short and long term inactivation procedures, (j) maintenance, calibration, and repair instruction, (k) parts lists and spare parts recommendations, (l) lists of all special tools, instruments, accessories, and special lifting and handling devices required for periodic maintenance, repair, adjustment, and calibration, (m) wiring diagrams and detailed circuit operations, (n) performance curve and data , and (o) other information as may be specified or required for approval.

12.7.2 **Format and Organization:**

- a. Use drawings and pictorials to illustrate the printed text as necessary to fully present the information.
- b. Where information covers a family of similar items of equipment, identify the applicable portions by heavy weighted arrows, boxes or circles, or strike-out the inapplicable information. Non-conforming data are not acceptable and will be returned for rework and re-submittal.
- c. Contractor shall incorporate into books all Manufacturers' Equipment Manuals including those specified in pertinent Sections of the Specifications. These books shall be organized by Equipment Class in same manner and sequence as the Specifications, i.e. Mechanical, Electrical, Instrumentation, etc. Book size and quantity shall be sufficient for inclusion of all data, and be of type and quality hereinafter specified in **Subparagraph 12.7.3**.
- d. Within each book of manuals, provide a Table of Contents for that book. If more than one book is necessary for a Class of Equipment, place a complete Table of Contents for that Class of Equipment within each book of that Class.
- e. In addition, an overall Index of Contents shall be prepared in ten (10) sets and submitted separately to the Owner for his insertion in his Operation and Maintenance Manuals.
- f. When a manufacturer's manual exceeds one inch in thickness and is bound as specified in **Subparagraph 12.7.3** it need not be rebound within another book, but the Overall Index shall refer to it by title and indicate that it is bound separately.

12.7.3 **Manual Binding:**

- a. Bind all books in sturdy hard covers fastened to provide full view of contents on each page, and ease of making content additions or replacements. No book shall be more than four inches thick. Manuals less than one inch thick shall be bound in substantial three-ring loose leaf binders; others shall have covers secured by operable locking-bars to permit full view opening with contents bound by hinged interfacing pairs of three-ring binding posts, Model S70468-12 by McBee, Springfield, MO., or Model 745483 by Inter-City, St. Louis, Mo., or equal.
- b. Permanently label face of cover and bound edge of each book "MANUFACTURERS' INSTRUCTION MANUAL," and indicate Class of Equipment, i.e., Mechanical, Electrical, Instrumentation, etc. or name specific equipment if a single unit is contained. Where more than one (1) book is needed for a Class of Equipment or a single specific equipment unit, number books consecutively BOOK I, BOOK II, etc.
- c. If more than one (1) Class of Equipment is contained in a book, separate each class with a tabbed stiff divider insert page.
- d. Prior to purchase or delivery, submit samples of each intended type of binder and obtain approval from the Owner.

12.7.4 **Manual Submittals:** Submittals shall include two (2) copies of each manual, one of which will be returned to the Contractor marked to show the required corrections or approval. When approved, the Contractor shall deliver ten (10) copies to the Owner unless otherwise specified. Required number of submittals and samples shall be as specified in Section 01 33 00.

12.8 **Manufacturers' Instructions:** In addition to the instructions submitted under **Paragraph 12.7**, the Contractor shall submit manufacturers' instructions to the extent specified or requested by the Owner for his determination of their adequacy and approval. When approved, the Contractor shall distribute copies to all those involved with the instructions.

12.9 **Tools, Accessories, Spare Parts, and Maintenance Materials:** The Contractor shall furnish and deliver all special tools, instruments, accessories, spare parts, and maintenance materials required by the Contract Documents, and shall furnish and deliver the special tools, instruments, accessories, and special lifting and handling devices shown in the instruction manuals approved under **Paragraph 12.7**. Unless otherwise specified or directed by the Owner, the items shall be delivered to the Owner, with the Contractor's written transmittal accompanying each shipment, in the manufacturers' original containers labeled to describe the contents and the

equipment for which it is furnished. The Contractor shall deliver a copy of each transmittal to the Engineer for record purposes.

12.10 ***Continuance of Operations:*** The Contractor shall arrange and schedule the Work in such manner as to ensure that all existing utility, treatment or disposal operations and facilities are maintained in operation and in no way disrupted or disabled as a result of the Work. The Contractor shall submit for approval a written plan and description of the proposed schedule, methods, and facilities to be employed in conforming to this requirement.

12.11 ***Record Drawings and Specifications:*** The Contractor shall maintain one record copy of all Drawings, Specifications, Addenda, Modifications, approved submittals, correspondence, and transmittals at the site in good order and readily available to the Owner, the Engineer, and the Inspector. The Record Drawings shall be clearly and correctly marked and the Record Specifications annotated by the Contractor to show all changes made during the construction process at the time the changed Work is installed. No such changes shall be made in the Work unless previously authorized by a Modification or by specific approval of deviations or revisions in submittals.

12.11.1 ***Buried and Concealed Work:*** The Contractor shall record the precise location of all piping, conduits, ducts, cables, and like Work that is buried, embedded in concrete or masonry, or concealed in wood or metal-framed walls and structures at the time such Work is installed and prior to concealment. Each feature of the concealed Work, such as the beginning and end of straight runs, radius center point of curved runs, angles, connections, plugged tees or other fittings for future connections, and like items shall be accurately located by not less than two (2) dimensions to permanent structures. The depth below finish grade, slab, or paving shall be noted for buried pipe, conduit, or ducts at the beginning and end of straight grade runs and at all grade change points, excepting sewer or drain lines run between manholes. Should the Contractor fail to record such buried or concealed Work, he shall uncover the unrecorded Work to the extent required by the Owner and shall satisfactorily restore and reconstruct the removed Work with no change in the Contract Price or the Contract Time.

12.11.2 ***Delivery:*** Upon completion and prior to Final Inspection of the Work, the Contractor shall submit the Record Drawings and Specifications to the Owner for review, and shall make such revisions or corrections as may be necessary for them to be a true, complete, and accurate record of the Work in the opinion of the Owner. When approved, the Contractor shall deliver the Record Drawings and Specifications to the Owner.

12.12 ***Revision of Submittals:*** Whenever a Modification causes a change to the information contained in previously approved submittals; the Contractor shall submit information and data corresponding to the changed requirements for

approval. After completion of the operational test required in **Paragraph 17.4**, the Contractor shall submit revised or additional information and data for the instruction manuals and equipment data as the Owner may require. Revision submittals shall be submitted following the procedures required for previously approved submittals.

ARTICLE 13 - SAFETY PRECAUTIONS AND EMERGENCIES

- 13.1 ***Contractor's Responsibility for Safety:*** The Contractor shall be responsible for initiating, maintaining and supervising all safety precautions and programs in connection with the Work. This requirement will apply continuously twenty-four hours a day every day until final acceptance of the Work and shall not be limited to normal working hours. The duties of the Owner, Engineer and Inspector do not include review of the adequacy of the Contractor's safety measures in, on, or about the site and vicinity.
- 13.2 ***Safety Officer:*** The Contractor shall designate a responsible member of his/her organization at the site whose duty shall be the prevention of hazards and accidents. This person shall be the Contractor's Superintendent unless otherwise designated in writing by the Contractor to the Owner.
- 13.3 ***Safety Measures:*** The Contractor shall comply with all laws, ordinances, codes, rules, regulations and lawful orders of any public authority having jurisdiction for the safety of persons or property or to protect them from damage, injury or loss. The Contractor shall comply with the "Manual of Accident Prevention in Construction" published by the Associated General Contractors of America, Inc., including the recommendations for safe construction methods and the requirements for the guarding of machinery and equipment therein, to the extent that the provisions of the manual are not in conflict with applicable laws, ordinances, rules, regulations, and orders. The Contractor shall maintain copies of all documents mentioned or referenced in this paragraph readily available at the site until the Work is completed. In the event the Contractor fails to observe any of the necessary safety provisions, the Owner may order the necessary work done by others, and all such necessary work shall be done at the expense of the Contractor.
- 13.4 ***Warnings and Barricades:*** The Contractor shall provide and maintain barricades, guards, temporary bridges and walkways, watchmen, nightlights and danger signals illuminated from sunset to sunrise, and all other necessary appliances and safeguards to protect the Work, life, property, the public, excavations, equipment, and materials. Barricades shall be of substantial construction and shall be painted such as to increase their visibility at night. Suitable warning signs shall be so placed and illuminated at night as to show in advance where construction, barricades, or detours exist. Guardrails shall be provided for bridges and walkways over or adjoining excavations, shafts, and other openings and locations where injury may occur.

- 13.5 **Fire Prevention:** The Contractor's Safety Officer shall inspect the entire Work and site, including storage areas, at frequent intervals to verify that fire prevention measures are constantly enforced.
- 13.5.1 **Fire Extinguishers and Hoses:** The Contractor shall furnish and maintain fully charged fire extinguishers of the appropriate type, supplements with temporary fire hoses wherever an adequate water supply exists, at the places where burning, welding or other operations that may cause a fire are being performed.
- 13.5.2 **Flammable or Toxic Materials:** Only a working supply of flammable or toxic materials shall be permitted in or on any of the permanent structures and improvements, and shall be removed at the end of each day's operations. The Contractor shall store flammable or toxic materials and waste separate from the Work and stored materials for the Work in a manner that prevents spontaneous combustion or dispersion, and none shall be placed in any sewer or drain piping nor buried on the Owner's property.
- 13.6 **Safety Helmets, Clothing, and Equipment:** The Contractor shall not permit any person for whom he/she is responsible or liable to enter or remain on the site of the Work unless the person is equipped with and wearing a safety helmet and other protective clothing and safety equipment conforming to the requirements of **Paragraph 13.3**, and shall discharge from the site all persons not so equipped. The Contractor shall post conspicuous signs at appropriate locations warning the public and persons engaged upon the Work of this requirement. The Contractor shall furnish for their temporary use such safety helmets, protective clothing, and safety equipment as the Owner, the Engineer, or their representatives may request of him.
- 13.7 **Hazardous Areas:** The Contractor shall not permit or allow any person or persons to enter any pipe or space containing hazardous or noxious substances or gases, or where there is an insufficient amount of oxygen to sustain life and consciousness, or any other hazardous area unless equipped with lawful and appropriate safety equipment and life-supporting apparatus, and unless those entering are continually monitored and guarded by and in communication with other persons outside the space or area who are equipped in the same way, can give an alarm to others for assistance, and initiate immediate rescue operations in the event of mishap.
- 13.8 **Emergencies:**
- 13.8.1 **Work During an Emergency:** The Contractor shall perform any and all operations and shall furnish any materials and equipment necessary during an emergency endangering life or property and, in all cases, shall notify the Owner of the emergency as soon as practicable, but shall not wait for instruction before proceeding to properly protect both life and property. Any additional compensation or extension of Contract Time

claimed by the Contractor on account of an emergency shall be applied for as provided in **Paragraph 16.4**.

- 13.8.2 ***Representatives for Emergencies:*** The Contractor shall file with the Owner a written list giving the names, addresses, and telephone numbers of at least two (2) of his representatives who can be contacted at any time in case of emergency. The representatives shall be fully authorized and equipped to correct unsafe or inconvenient conditions on short notice. The Contractor shall promptly notify the Owner of all changes in the listing.

ARTICLE 14 - SEPARATE CONTRACTS

- 14.1 ***Award of Separate Contracts:*** The Owner reserves the right to award other contracts in connection with other portions of the Project. When separate contracts are awarded for different portions of the Project, "the Contractor" in the contract documents in each case shall be the contractor who signs each separate contract. The Contractor shall not cause any unnecessary hindrance or delay to any other contractor working on the Project. If the performance of any contract for the Project is likely to be interfered with by the simultaneous execution of some other separate contract or contracts, the Owner will decide which contractor may proceed. The Owner shall not be responsible for any damages suffered or extra costs incurred by the Contractor resulting directly or indirectly from the award or performance or attempted performance of any other separate contract or contracts on the Project, or caused by any decision or omission of the Owner respecting the order of precedence in the performance of the separate contracts awarded for completion of the Project. Any costs caused by defective or ill-timed work shall be borne by the contractor responsible therefore.
- 14.2 ***Mutual Responsibility of Contractors:*** The Contractor shall cooperate with other contractors with regard to storage of materials and execution of their work, and shall coordinate with them with respect to construction scheduling and sequence of operations, all subject to the approval of the Owner. The Contractor shall properly connect his/her Work to the work of separate contractors, and shall inspect the work of other contractors affecting his/her Work and promptly report to the Owner in writing any irregularities or defects in the separate contract work which renders it unsuitable for reception or connection of his/her Work. Failure of the Contractor to inspect and report shall constitute an acceptance of the other contractor's work as fit and proper to receive his Work, except as defects that may develop in the other separate contractor's work after the execution of the Contractor's Work.

Each Contractor shall monitor the schedule and progress of each other Contractor whose work affects his own work, and shall be responsible for giving timely notice to the Owner of potential problems of interface so that the Owner can mitigate the issue.

- 14.3 ***Cutting and Patching Under Separate Contracts:*** The Contractor shall be responsible for any cutting, fitting and patching that may be required to complete his/her Work except as otherwise specifically provided in the Contract Documents. The Contractor shall not endanger any work of any other contractor by cutting, excavating, or otherwise altering any work and shall not cut or alter the work of any other contractor except with the written consent of the Owner.
- 14.4 ***Claims between Separate Contractors:*** Should the Contractor cause damage to the work or property of any separate contractor on the Project, the Contractor shall, upon due notice, settle with such other contractor by agreement or arbitration, if he/she will so settle. If such separate contractor sues the Owner or initiates an arbitration proceeding on account of any damage alleged to have been so sustained, the Owner will notify the Contractor who shall defend such proceedings at the Contractor's expense, and if any judgment or award against the Owner arises therefrom the Contractor shall pay or satisfy it and shall, as provided in **Paragraph 20.12**, pay the Owner for all attorneys' fees, court or arbitration costs, and additional administrative, professional, consultant, inspection, testing, and other service costs which the Owner has incurred.

ARTICLE 15 - OWNER'S AND ENGINEER'S STATUS DURING CONSTRUCTION

- 15.1 ***Authority of the Owner:*** The Owner shall have the authority to enforce compliance with the Contract Documents. On all questions relating to quantities, the acceptability of materials, equipment, or Work, the adequacy of the performance of the Work, and the interpretation of the Drawings and Specifications, the decision of the Owner is final and binding and shall be precedent to any payment under the Contract Agreement unless otherwise provided in the Contract Documents. The Owner shall have the authority to stop the Work or any part thereof as may be necessary to ensure the proper execution of the Work, to disapprove of or reject Work which is defective, to require the uncovering and inspection or testing of Work as provided in **Paragraph 17.5**, to require re-examination of Work as provided in **Paragraph 18.4**, to issue interpretations and clarifications as provided in **Paragraph 3.2**, to order minor changes or alterations in the Work as provided in **Paragraph 16.6**, and other authority as provided elsewhere in the Contract Documents. The Owner shall not be liable for the results of any ruling, interpretation or decision rendered or request, demand, instruction, or order issued by him in good faith. The Contractor shall promptly comply with request, demands, instructions, and orders from the Owner.
- 15.2 ***Engineer's Observation of the Work:*** The Engineer will make periodic observations of the progress and quality of the executed Work and will determine, in general, if the Work is proceeding in accordance with the Contract Documents. The Engineer will not be required to make exhaustive or continuous observations to check the quality or quantity of the Work. Neither observations by the Engineer nor inspections, tests, or approvals by persons other than the Contractor shall relieve the Contractor from his obligations to perform and construct the Work in

accordance with the requirements of the Contract Documents. The Owner will inform the Contractor in writing of other duties of the Engineer under the Contract Documents, if any.

- 15.3 ***Limitations on Responsibility:*** The Owner and the Engineer will not be responsible for construction means, methods, techniques, procedures, sequences, or the safety precautions and programs incident thereto, or for the acts or omissions of the Contractor or any Subcontractor, Sub-subcontractor, or any of their agents or employees, or any other persons performing any of the Work, or for the Contractor's failure to perform and construct the Work in accordance with the Contract Documents. Neither the Engineer's authority to act under the Contract Documents nor any decision made by Engineer in good faith either to exercise or not exercise such authority shall give rise to any duty or responsibility of the Engineer to the Contractor, any Subcontractor or Sub-subcontractor, any of their agents or employees or any other person performing any of the Work, nor shall anything in the Contract Documents create any contractual relationship between any of them and the Engineer.
- 15.4 ***Protests:*** If the Contractor considers any Work requested or ordered of him/her to be outside the requirements of the Contract Documents, or considers any request, demand, instruction, order, ruling, or decision of the Owner to be unfair, he shall, within ten days after any such request, demand, instruction, orders, ruling, or decision is made or given, file a written protest with the Owner stating clearly and in detail his objections and the reasons therefore. Except for written protests as are made of record in the manner and within the time stated herein, the Contractor shall be deemed to have waived and does hereby waive all grounds for protests or objections to such request, demands, instruction, orders, ruling, or decisions. The Owner will issue a written decision regarding each protest so filed with reasonable promptness.

ARTICLE 16 - CHANGES IN THE WORK

- 16.1 ***Change Orders:*** Without invalidating the Contract Agreement and without notice to sureties or insurers, the Owner may, at any time or from time to time, order additions, deletions, or revisions in the Work; these will be authorized by Change Order. The Contractor shall comply promptly with the requirements of all executed Change Orders. The Work involved in Change Orders shall be executed under the applicable conditions and requirements of the Contract Documents. If any Change Order causes an increase or decrease in the Contract Price or an extension or shortening of the Contract Time, an equitable adjustment will be made and included in the Change Order. Additional or extra Work performed by the Contractor without authorization of a Change Order will not entitle the Contractor to an increase in the Contract Price or an extension of the Contract Time, except as provided in **Subparagraph 13.8.1** for emergencies and in **Paragraph 18.4** for the re-examination of Work. Change Orders are authorized and become effective only when signed by the Owner or Owner's representative, who will be identified by

name in writing to the Contractor. No other agents of the Owner, other than those persons so identified, are authorized to execute Change orders or to otherwise obligate the Owner to costs or time extensions beyond those contained in the original Bid Documents or the Contract. The Owner will not be obligated for payments or time extensions not authorized by a properly executed Change Order as described above.

16.2 Valuation of Change Orders:

Whenever corrections, alterations, or modifications of the work under this Contract are required by the Owner and increase the amount of work to be done, such added work shall be known as extra work; and when such corrections, alterations, or modifications decrease the amount of work to be done, such subtracted work shall be known as work omitted.

The difference in cost of the work affected by such change will be added to or deducted from the amount of said Contract price, as the case may be, by a fair and reasonable valuation, which shall be determined in one or more of the following ways as directed by the Owner:

- A. By unit prices accepted by the Owner and stated in the Contract Documents;
- B. By unit prices subsequently fixed by agreement between the parties;
- C. By an acceptable lump sum proposal from the Contractor; or
- D. By Force Account, when directed in writing and administered by the Owner through its agents or representatives.

When required by the Owner, the Contractor shall submit, in the form prescribed by the Owner, an itemized breakdown with supporting data of the quantities and prices used in computing the value of any change that may be ordered.

The Owner will review the Contractor's proposal for the change and negotiate an equitable adjustment with the Contractor. After there is an agreement, the Owner will prepare and process the Change Order. All Change Orders must be approved by the Owner in writing before the work can be authorized and the Change Order executed.

The prices agreed upon and any agreed upon adjustment in Contract Time shall be incorporated in the written order issued by the Owner, which shall be written so as to indicate an acceptance on the part of the Contractor as evidenced by its signature. By signature of the Change Order, the Contractor acknowledges that the adjustments to cost and time contained in the Change Order are in full satisfaction and accord, payment in full, and so waives any right to claim any further cost and time impacts at any time during and after completion of the Contract for the changes encompassed by the Change Order.

16.2.1 Negotiated Change Orders:

Under the methods described in **Paragraphs 16.2B and 16.2C** above, the Contractor shall submit substantiating documentation with an itemized breakdown of Contractor and subcontractor direct costs, including labor, material, equipment rentals, engineering, shop drawing preparations, and approved services, pertaining to such ordered work in the form and detail acceptable to the Owner. The direct costs shall include only the payroll cost for workers and foremen, including wages and fringe benefits as established by negotiated labor agreements or state prevailing wages. To the actual payroll cost will be added a labor surcharge which shall be the actual costs of taxes and insurance. Such labor surcharge shall constitute full compensation for all payments imposed by State and Federal laws and for all other payments made to, or on behalf of, the workmen, other than actual payroll cost and subsistence and travel allowances. No other fixed labor burdens will be considered, unless approved in writing by the Owner.

Other direct costs include the cost of materials used and equipment delivered and installed in such work as substantiated by appropriate documents; the cost of construction machinery and equipment based on fair rental or ownership values acceptable to the Owner as described in **Subparagraph 16.2.2**, "Force Account Payment"; and the cost of incidentals directly related to such work. The direct costs shall not include any labor or office costs pertaining to the Contractor's managers or superintendents, its office and office facilities, or anyone not directly employed on such work, nor the cost of small tools as all such indirect costs form a part of the Contractor's overhead expense.

Under the method described in **Paragraphs 16.2B and 16.2C**, the maximum percentage which will be allowed for the Contractor's combined overhead and profit will be:

- A. For work by its own organization, the Contractor may add the following percentages:
 - 1. Direct Labor 15 percent
 - 2. Materials 15 percent
 - 3. Equipment (owned or rented) 15 percent
- B. For all such work performed by a subcontractor, an additional markup of 5 percent will be added to the total cost of said extra work including all markups specified in this **Subparagraph 16.2.1**. Said additional 5 percent markup shall reimburse the Contractor for additional administrative costs, and no other additional payment will be made by reason of performance of the extra work by a subcontractor.

- C. To the total of the actual costs and fees allowed hereunder, not more than 2 percent shall be added for additional bond and insurance other than labor insurance.

The above costs represent the maximum limits which will be allowed, and they include the Contractor's and all subcontractors' indirect home office expenses and all costs for cost proposal preparation.

When both additions and credits are involved in any one change, the combined overhead and profit shall be figured on the basis of the net increase, if any, for each area of work, i.e. direct labor, materials, equipment, and subcontractors. The amount of credit to be allowed by the Contractor to the Owner for any such change which results in a net decrease in cost will be the amount of the actual net decrease and a credit in accordance with the markups allowed under the use of the method described in **Subparagraph 16.2.2**, "Force Account Payment". The Contractor shall not claim for anticipated profits on work that may be omitted.

16.2.2 **Force Account Payment:**

If either the amount of work or payment for a Change Order cannot be determined or agreed upon beforehand, the Owner may direct by written Change Order or Field Order that the work be done on a force account basis. The term "force account" shall be understood to mean that payment for the work will be done on a time and expense basis, that is, on an accounting of the Contractor's forces, materials, equipment, and other items of cost as required and used to do the work. For the work performed, payment will be made for the documented actual cost of the following:

- A. Direct labor cost for workers, including foremen, who are directly assigned to the force account work: Direct labor cost is the actual payroll cost, including wages and fringe benefits as established by negotiated labor agreements or state prevailing wages. To the actual payroll cost will be added a labor surcharge which shall be the actual costs of taxes and insurance. Such labor surcharge shall constitute full compensation for all payments imposed by State and Federal laws and for all other payments made to, or on behalf of, the workmen, other than actual payroll cost and subsistence and travel allowances. No other fixed labor burdens will be considered, unless approved in writing by the Owner.
- B. Material delivered and used on the designated work, including sales tax, if paid for by the Contractor or its subcontractor.
- C. Equipment rental, including necessary transportation for items having a value in excess of \$1,000.00.
- D. Additional bond.

E. Additional insurance, other than labor insurance.

To the preceding costs, there shall be added the following fees for the Contractor, subcontractor, or sub-subcontractor actually performing the work:

- A. A fixed fee not to exceed 15 percent of the cost of Item A above, and 15 percent of the costs of Items B and C above.
- B. To the total of the actual costs and fees allowed in items A, B, and C above, not more than 2 percent shall be added for additional bond and insurance as the cost of Items D and E above.

For all such work performed by forces other than the Contractor's organization, the Contractor shall reach agreement with such other forces as to the distribution of the payment made by the Owner for such work. No additional payment therefore will be made by the Owner by reason of the performance of the work by a subcontractor or other forces.

The added fixed fees shall be considered to be full compensation, covering the cost of general supervision, overhead, profit, and any other general expense. The above fixed fees represent the maximum limits which will be allowed, and they include the Contractor's and all subcontractors' indirect home office expenses and all costs for cost proposal preparation and record keeping.

The Owner reserves the right to furnish such materials and equipment as it deems expedient and the Contractor shall have no claim for profit or added fees on the cost of such materials and equipment.

For equipment under Item c above, rental or equivalent rental cost will be allowed for only those days or hours during which the equipment is in actual use. Payment shall be based on actual rental and transportation invoices but shall not exceed the monthly rate in the SS Caltrans "Labor Surcharge and Equipment Rental Rates" publication. The rental cost allowed for equipment will, in all cases, be understood to cover all fuel, supplies, repairs, ownership, and incidental costs and no further allowances will be made for those items, unless specific agreement to that effect is made. For Contractor owned equipment, costs shall be based on either actual cost accounting records or the SS Caltrans "Labor Surcharge and Equipment Rental Rates" publication. Hourly rates shall be determined by dividing the monthly rate by 176 hours.

Prior to the commencement of force account work, the Contractor shall notify the Owner of its intent to begin work. Labor, equipment, and materials furnished on force account work shall be recorded daily by the Contractor upon report sheets approved by the Owner. The reports, if found to be correct, shall be signed by both the Contractor and Owner, and a copy of which shall be furnished to the Owner no later than the

working day following the performance of said work. The Daily Report sheet shall thereafter be considered the true record of force account work provided. If the Owner does not agree with the labor, equipment, and/or materials listed on the Contractor's daily force account report, the Contractor and Owner shall sign-off on the items on which they are in agreement. The Owner shall then review the items of disagreement and will advise the Contractor, in writing, of its determination. If the Contractor disagrees with this determination, it shall have the right to file a claim in accordance with the General Conditions in **Paragraph 16.4** of this Contract. The Contractor shall maintain its records in such a manner as to provide a clear distinction between the direct costs of work paid for on a force account basis and the costs of other operations.

To receive partial payments and final payment for force account work, the Contractor shall submit, in a manner approved by the Owner, detailed and complete documented verification of the Contractor's and any of its subcontractor's actual costs involved in the force account pursuant to the pertinent Change Order or Field Order. Such costs shall be submitted within thirty (30) days after said work has been performed.

The force account invoice shall itemize the materials used and shall cover the direct costs of labor and the charges for equipment rental, whether furnished by the Contractor, subcontractor, or other forces. The invoice shall be in a form acceptable to the Owner and shall provide names or identifications and classifications of workers, the hourly rate of pay and hours worked, and also the size, type, and identification number of equipment and hours operated. Material charges shall be substantiated by valid copies of vendor's invoices.

When both additions and credits are involved in any one change, the combined overhead and profit shall be figured on the basis of the net increase, if any. The amount of credit to be allowed by the Contractor to the Owner for any such change which results in a net decrease in cost will be the amount of the actual net decrease and a credit in accordance with the markups allowed under the use of the method described in this Section. The Contractor shall not claim for anticipated profits on work that may be omitted.

- 16.3 **Notice to Sureties:** The Contractor shall notify his sureties and the carriers of the insurance furnished and maintained by him/her of any changes affecting the general scope of the Work or change in the Contract Price, and the amount of the applicable Bonds and the coverage of the insurance shall be adjusted accordingly. The Contractor shall furnish proof of such adjustments to the Owner.
- 16.4 **Contractor's Claims:** If the Contractor wishes to make a claim for a change in the Contract Price or the Contract Time, the Contractor shall give the Owner written notice thereof within 5 working days after the occurrence of the event giving rise to such claim. This notice shall be given by the contractor before proceeding to

execute the Work covered by the claim except in an emergency endangering life or property. No such claim shall be valid unless so made. Any change in the Contract Price or the Contract Time resulting from a claim that is approved by the Owner will be authorized by Change Order.

- 16.5 ***Adjustment of Unit Prices:*** If unit prices are stated in the Contract Documents or subsequently agreed upon, and if the quantities originally contemplated are so changed (by the lesser of \$5,000 or 20 percent quantity change) in a proposed Change Order that application of the agreed unit prices to the quantities of Work proposed will create a hardship on the Owner or the Contractor, the applicable unit prices will be equitably adjusted to prevent such hardship by negotiation or by force account. Any equitable adjustment increase shall only apply to the unit quantities greater than 120 percent of the original quantities of the Work. Any equitable adjustment decrease shall apply to all quantities encountered.
- 16.6 ***Minor Changes:*** The Owner may issue written Field Orders or other written orders that authorize minor changes or alterations in the Work consistent with the overall intent of the Contract Documents that do not involve an adjustment in the Contract Price or an extension of the Contract Time. Such orders shall be binding on the Contractor and he shall carry out such orders promptly. If the Contractor believes any minor change or alteration ordered by the Owner entitles him to an increase in the Contract Price or an extension of the Contract Time, he may make a claim therefore as provided in **Paragraph 16.4**.
- 16.7 ***Information Revisions Caused By Change Orders:*** As provided in **Paragraph 12.12**, whenever a Change Order or other Modification causes a change in the information contained in previously approved submittals, the Contractor shall include in the itemized breakdown required of him under **Paragraph 16.2** all costs for preparing and submitting revised information and submittals corresponding to the changed requirements. If the Change Order or other modification(s) causes no change in such information or submittals, the Contractor shall so certify in writing in his itemized breakdown.

ARTICLE 17 - ACCESS, INSPECTIONS, AND TESTS

- 17.1 ***Access to the Work and Records:*** The Owner, the Engineer, the Inspector, and the representatives of any Federal, State, or other public body or authority having jurisdiction of the Project shall have, at all times and for any purpose, immediate access to the Work and the premises used by the Contractor for the Work and shall have access to the places where materials or equipment are being fabricated, manufactured, or produced for the Work. To the extent requested by the Owner, the Contractor shall furnish access to the purchase orders and records, invoices, bills of lading, payroll records, and other documents and records pertaining to the Work, or shall furnish certified true copies thereof at his expense.

- 17.2 **Inspection:** The Owner will furnish inspection of the Work at no cost to the Contractor except as provided in **Paragraphs 4.3, 14.4, 17.5, 17.6, 18.1, and 21.2**, and except for inspections required to be furnished and paid for by the Contractor elsewhere in the Contract Documents. All Work shall be performed and constructed under the inspection of the Inspector unless waived in writing by the Owner in each case or exempted wholly or in part from inspection elsewhere in the Contract Documents. Any Work requiring such inspection that is performed or constructed in the absence of the Inspector shall be considered defective and is subject to rejection. Inspection of any material or equipment at the factory or shop will not constitute an acceptance. The Inspector is authorized to suspend any part or all of the Work, by notice to the Contractor confirmed in writing, when a question arises as to whether the materials or equipment being installed or the methods or workmanship being used comply with the Contract Documents until such question is decided by the Owner. The Inspector is not authorized to accept or reject any Work, to modify or change any requirement of the Contract Documents, to advise or instruct the Contractor or his/her employees as to the prosecution of the Work, to perform any duty or service for the Contractor, or relieve the Contractor of the obligation to fulfill any conditions and requirements of the Contract Documents. The Contractor shall give written notice to the Owner at least ten working days in advance of the performance of any part of the Work requiring special inspection by someone other than the Inspector and shall state the probable duration of the required special inspection. The Special Inspector is authorized to reject work that does not meet the Contract Documents. Such rejection shall be confirmed by the Owner in writing.
- 17.3 **Testing:** All Work, materials, and equipment to be performed and constructed by the Contractor are subject to testing for compliance with the Contract Documents and shall be tested when required by the Contract Documents. The Contractor shall give the Owner timely written notice of the dates and times that testing is to be performed at the site or the place of manufacture or fabrication. All tests are subject to the observation of the Engineer and approval of the Owner and shall be performed as directed by the Owner unless otherwise provided in the Contract Documents. Materials or equipment required to be tested prior to installation shall not be installed until the Owner has approved the test results and the tested material or equipment in writing.
- 17.3.1 **Contractor's Testing Agency:** If materials or equipment are required to be tested by a testing laboratory or agency employed by the Contractor, the testing laboratory or agency shall be satisfactory to and approved by the Owner. The Contractor shall deliver five certified copies of each test report to the Owner unless otherwise specified.
- 17.3.2 **Test Samples:** The Contractor, at his/her expense, shall furnish samples of materials to be tested in sufficient time before use to allow for testing and to cause no delay in the Work.

- 17.3.3 **Test Costs:** The Contractor shall bear all testing costs, unless otherwise provided in the Contract Documents.
- 17.4 **Operational Tests:** After the Work is completed and as one of the precedents to final inspection, the Contractor shall perform operational tests as required by the Contract Documents and as required to demonstrate to the Owner the correct and proper operation of the various facilities forming a part of the Work including but not limited to the correct sequences of operation and the satisfactory performance of all components. The Contractor shall repair, replace, adjust, or otherwise correct the improper operation of any system or component and all faulty or defective Work as the Owner may require for his approval. Based upon the operational test results, the Contractor shall prepare and submit revised or additional information and data for the previously approved submittals as required by the Owner and as provided in **Paragraph 12.12**.
- 17.5 **Uncovering of Work:** Any Work that is covered by the Contractor before required inspections or tests are performed or approvals are given shall be uncovered by the Contractor to the extent directed by the Owner, and the Contractor shall bear all the expense for uncovering, exposure, inspection, testing, and of satisfactory reconstruction.
- 17.6 **Inspections, Tests, and Approvals Required By Others:** If the laws, ordinances, rules, regulations, or orders of any public body or authority having jurisdiction require any Work to be specifically inspected, tested, or approved by someone other than the Contractor, the Owner, or the Inspector, the Contractor shall give all required notices and make all required arrangements therefore and shall deliver to the Owner certificates of inspection, testing, or approval issued by the applicable public bodies or authorities having jurisdiction. The cost of all such inspections, tests, and approvals shall be borne by the Contractor unless otherwise provided in the Contract Documents.

ARTICLE 18 - DEFECTIVE WORK

- 18.1 **Correction of Defective Work:** All Work, material, or equipment that is unsatisfactory, faulty, incomplete, or does not conform to the Contract Documents, or does not meet the requirements of any inspection, test, or approval is defective. If the Work or any part thereof is found to be defective, whether or not manufactured, fabricated, installed, completed, or overlooked and accepted by the Owner, the Contractor shall, promptly and in accordance with the written instructions of the Owner and within the reasonable time limits stated therein, either correct such defective Work or, if it has been rejected by the Owner, remove it from the site and replace it with non-defective and conforming Work. The Contractor shall bear all costs for the correction or removal and replacement of defective Work and all additional direct and indirect costs the Owner may incur on account of defective Work including the costs of additional administrative, professional, consultant, inspection, testing, and other services. If such additional costs are

incurred by the Owner prior to the making of final payment, a Change Order will be issued to effect a reduction in the Contract Price in the amount of the Owner's additional costs; otherwise, the Contractor shall pay the amount to the Owner in accordance with **Paragraph 20.12**. The Contractor shall also bear all costs of making good all Work and the work and property of separate contractors, the Owner, and others that is destroyed or damaged by his correction or removal and replacement of his defective Work.

- 18.2 ***Owner's Right to Correct Defective Work:*** If the Contractor fails to correct or remove and replace defective Work in accordance with the requirements of **Paragraph 18.1**, the Owner may correct or remove and replace it without prejudice to any other remedy the Owner may have, and the Owner may store the removed materials or equipment at the expense of the Contractor. If the Contractor does not pay the cost of such removal and storage within ten days thereafter, the Owner may upon ten additional days' written notice sell such removed Work at auction or private sale and shall account for the net proceeds or deficit thereof, after deducting all expenses the Owner may incur from such removal, storage, or sale. If the Owner corrects or removes and replaces defective Work prior to the making of final payment, one or more Change Orders will be issued to effect appropriate reductions in the Contract Price for all costs and expenses incurred by the Owner in the correction or removal and replacement of defective Work, adjusted to account for the net proceeds or deficit of said auction or sale, if any, and all additional costs the Owner may incur on account of defective Work as provided in **Paragraph 18.1**; otherwise, the Contractor shall pay to the Owner the amount of all such costs and expenses incurred by the Owner adjusted to account for the net proceeds or deficit of said auction or sale, if any, in accordance with **Paragraph 20.12**.
- 18.3 ***Owner's Right to Accept Defective Work:*** The Owner may accept defective Work instead of requiring its correction or removal and replacement. In such case, if acceptance occurs prior to the making of final payment, a Change Order will be issued incorporating the necessary revisions in the Contract Documents, including appropriate reduction in the Contract Price covering the value of such accepted defective Work and the additional costs the Owner may incur on account of such defective Work as provided in **Paragraph 18.1**; or, if the acceptance occurs after the making of final payment, the amount that would have been the reduction in the Contract Price prior to the making of the final payment shall be paid by the Contractor to the Owner in accordance with **Paragraph 20.12**.
- 18.4 ***Re-Examination of Work:*** If the Owner, at any time prior to the final acceptance of the Work, orders reexamination of Work completed, including the uncovering, removing, exposing, dismantling, inspecting, or testing of Work covered by such order, the Contractor shall promptly comply with the order. If the Work so re-examined is defective, the Contractor shall correct or remove and replace it with non-defective and conforming Work in accordance with all the provisions of **Paragraph 18.1** and also shall bear the cost of the satisfactory reconstruction of the Work. If the Work so re-examined is not defective or if any defective or deficient condition discovered was caused by a separate contractor employed on the Project,

the Contractor shall satisfactorily reconstruct the Work as ordered by the Owner and, if claim is made as provided in **Paragraph 16.4**, a Change Order will be issued to compensate the Contractor for his Work under such order, valued as provided in **Paragraph 16.2**, and to effect an appropriate adjustment of the Contract Time.

ARTICLE 19 - GUARANTEES AND WARRANTIES

- 19.1 **Contractor's Guarantee:** The Contractor shall warrant and guarantee the entire Work and all parts thereof, including that performed and constructed by Subcontractors, Sub-subcontractors, and others employed directly or indirectly on and for the Work, against faulty or defective materials, equipment, or workmanship for a period of one year from the date of the Owner's written final acceptance of the Work or such longer period of time as may be prescribed by law or by the terms of any special guarantee or warranty required by the Contract Documents.
- 19.2 **Bonds and Insurance:** The performance bond and the public liability and property damage insurance required of the Contractor in Article 6 shall remain in full force and effect for the entire time of the Contractor's guarantee.
- 19.3 **Corrections during Guarantee Period:** The Contractor's correction of defective Work during the guarantee period shall be in accordance with all the provisions of **Paragraph 18.1**, or the Owner may correct or accept it as provided in **Paragraphs 18.2 and 18.3**.
- 19.4 **Guarantee of Work on Property of Others:** The Contractor's guarantee shall cover and include any of the Work installed on property not owned by the Owner, whether public or private, and shall include the repair of damage to improvements and existing conditions on such other property caused by settlement or otherwise resulting from the Contractor's operations unless the owner of such other property shall in writing release the Owner from liability and responsibility for Work or damage on such other property.
- 19.5 **Manufacturers' Warranties:** As a precedent to final inspection, the Contractor shall deliver to the Owner all the manufacturers' warranties required by the Contract Documents, with the Owner named as beneficiary. In addition, for all equipment and machinery bearing a manufacturer's warranty that extends for a longer period of time than the Contractor's guarantee, the Contractor shall secure and deliver the warranties to the Owner in the same manner.

ARTICLE 20 - PAYMENTS AND COMPLETION

- 20.1 **Schedule of Values:** The Contractor shall submit to the Owner for approval, in the form directed by or acceptable to the Owner, a complete schedule of the values of the various portions of the Work, including quantities and unit prices if required by the Owner, aggregating the Contract Price (except in cases and to the extent that accepted unit prices form the basis for payment). The schedule shall subdivide the

Work into component parts in sufficient detail to serve as the basis for progress payments during construction and to coordinate with the progress schedule required under **Paragraph 2.6**, and shall be supported by such data to substantiate its correctness as the Owner may require. Each item in the schedule of values shall include its proper share of overhead and profit. An unbalanced breakdown providing for overpayment to the Contractor on items of Work that will be performed first will not be approved. The Schedule of Values, when approved by the Owner, shall be used only as a basis for the Contractor's applications for payment and not for additions to or deductions from the Contract Price.

- 20.2 **Contractor's Certification:** All applications for payment shall contain the Contractor's certification that all his/her labor for the period for which payment is claimed has been paid, including all amounts to the account of such labor lawfully required to be allocated, withheld, or set aside, and that he/she has assured himself/herself and represents that all labor on the account of Subcontractors or Sub-subcontractors for which payment amounts are claimed has also been paid.
- 20.3 **Contractor's Warranty of Title:** The Contractor warrants and guarantees that title to all Work, materials and equipment covered by an application for payment, whether incorporated in the Work or not, will have passed to the Owner prior to the making of the application for payment, free and clear of all liens, claims, security interests or encumbrances (hereafter in these General Conditions referred to as "liens"); and that no Work, materials or equipment covered by an application for payment will have been acquired by the Contractor or by any other person performing the Work at the site or furnishing materials and equipment for the Work, subject to an agreement under which an interest therein or encumbrance thereon is retained by the seller or otherwise imposed by the Contractor or such other person.
- 20.4 **Progress Payments:** Unless otherwise provided in the Contract Documents, the Contractor shall submit to the Owner for review and approval an itemized progress payment application in the form required by the Owner, filled out and signed by the Contractor. The application shall be supported by such data as the Owner may require substantiating the Contractor's right to payment, and Contractor shall provide conditional and unconditional mechanic's lien waivers and releases which comply with the requirements of Civil Code Section 3262 and which are signed by all subcontractors, sub-subcontractors, material suppliers and others that have performed work on or furnished equipment or materials to the job as reflected in the Contractor's application. Any progress payment application not accompanied by the revised progress schedule required of the Contractor in **Paragraph 2.6** or by the additional documentation required by this paragraph will be rejected and returned to the Contractor. The payment for the Progress Payment will be made within thirty (30) calendar days from Owner's approval date.
- 20.4.1 **Progress Payment for Materials and Equipment:** If an application requests payment on account of imperishable materials or equipment not incorporated in the Work but delivered and suitable stored at the site, or at some other location approved by the Owner and agreed to in writing,

the application shall be accompanied by such bills of sale, data, and other procedures satisfactory to the Owner as will establish the Owner's title to such materials or equipment or otherwise protect the Owner's interest including applicable liability and property insurance and transportation to the site. Payment on account of such materials or equipment will not include any amount for the Contractor's overhead or profit or relieve the Contractor of his obligation to protect and install such materials or equipment in accordance with the Contract Documents and for the restoration of damaged or defective Work.

20.4.2 ***Basis of Progress Payments:*** Unless otherwise provided in the Contract Agreement or subsequently agreed by the parties, progress payments will be in an amount equal to 90 percent of the value of the Work performed and the value of materials and equipment delivered and stored as provided in **Subparagraph 20.4.1** less the aggregate of previous progress payments.

20.4.3 ***Approval of Progress Payments:*** The Owner will either indicate in writing his approval of payment or return the application to the Contractor indicating in writing his reasons for refusing to approve payment. With respect to disapproved applications, the Contractor may make the necessary corrections and resubmit the application. Unless otherwise provided or agreed by the parties, the Owner will approve or return an application within ten (10) days after receipt, and the Owner will, within thirty (30) days after his approval of an application for payment, pay the Contractor the amount so approved.

20.5 **Withholding of Payments:**

20.5.1 ***Right to Withhold:*** The Owner may refuse to approve any such payment, or, because of subsequently discovered evidence or the results of subsequent inspection or tests, nullify any such payment previously approved to such extent as may be necessary in the opinion of the Owner to protect the Owner from loss because: (a) the Work is defective; (b) third party claims have been filed or there is reasonable evidence indicating probable filing of such claims; (c) the Contract Price has been reduced because of modifications; (d) of the Contractor's failure to make payment properly to Subcontractors or for labor, materials, or equipment; (e) of damage to another contractor or to the property of others caused by the Contractor; (f) of reasonable doubt that the Work can be completed for the unpaid balance of the Contract Price; (g) of reasonable indication that the Work will not be completed within the Contract Time; (h) of the Contractor's neglect or unsatisfactory prosecution of the Work including failure to clean up; (i) the Owner has been required to correct defective Work as provided in **Paragraph 18.2** or to finish the Work as provided in **Paragraph 21.2**; (j) of insurance premium costs the Owner has incurred by the Contractor's failure to maintain the insurance required of him; (k)

of reasonable doubt as to the Contractor's warranty of title required under **Paragraph 20.3**; (l) of payments due the Owner from the Contractor; or (m) of provisions of law that enable or require the Owner to withhold such payments in whole or in part. When the grounds for withholding payments are removed, payment will be made for amounts withheld because of them to the extent the Contractor is entitled to payment.

20.5.2 ***Owner's Right to Apply Withheld Payments:*** The Owner may, but is not obligated to the Contractor, his/her surety or sureties, or any third party, to apply the amounts withheld pursuant to **Subparagraph 20.5.1** to the payment of any and all claims which are grounds for such withholding. In so doing, the Owner shall be deemed the agent of the Contractor and any payments so made by the Owner shall be considered as a payment made under the Contract Agreement by the Owner to the Contractor and the Owner shall not be liable to the Contractor for such payment made in good faith. Such payment by the Owner may be made without prior judicial determination of the Claim(s). The Owner will render to the Contractor a proper accounting of such funds disbursed on behalf of the Contractor.

20.6 ***Payments to Subcontractors:*** The Contractor shall pay each Subcontractor, upon receipt of payment from the Owner, an amount equal to the percentage of completion allowed to the Contractor on account of such Subcontractor's Work, less the percentage retained from payments to the Contractor. The Contractor shall also require each Subcontractor to make similar payments to his/her Sub-subcontractors. If the Owner refuses or fails to approve an application for payment for any cause which is the fault of the Contractor and not the fault of a particular Subcontractor, the Contractor shall pay that Subcontractor on demand, made at any time after the Owner's approval for payment should otherwise have been issued, for his/her Work to the extent completed less the retained percentage. The Contractor shall pay each Subcontractor a just share of any insurance moneys received by the Contractor under **Paragraph 6.8**, and he shall require each Subcontractor to make similar payment to his Sub-subcontractors. Neither the Owner nor the Engineer shall have any obligation to pay or to see to the payment of any moneys to any Subcontractor or Sub-subcontractor except as may otherwise be required by law.

20.7 ***Final Inspection and Acceptance:*** Upon written notice from the Contractor that the entire Work required by the Contract Documents is complete and that all submittals required of him/her are made, and after the Contractor has delivered the Bonds, Certificates of Inspection, proof of insurance, guarantees, warranties, releases, and other documents, all as required by the Contract Documents or by law, a Post-construction Conference will be held to review the Work and resolve any unsettled matters. Present at the conference shall be the Owner, the Engineer, the Inspector, the Contractor, and the Superintendent. Following this conference, Engineer will make a final inspection with the Owner and the Contractor, and the Owner will notify the Contractor in writing of any particulars in which this inspection reveals that the Work is defective, and will also notify the Contractor in

writing of any deficiencies in the submittals and other documents required of him. The Contractor promptly shall make such corrections as are necessary to remedy all defects or deficiencies. After the Contractor has completed any such corrections to the satisfaction of the Owner, the Owner will issue a written Final Acceptance of the Work and file any notice of completion required by law or otherwise.

- 20.8 ***Application for Final Payment:*** After issuance of the Owner's Final Written Acceptance, the Contractor may make application for Final Payment following the procedure for Progress Payments. Neither the final payment nor the remaining retained percentage shall become due unless the application for final payment is accompanied by such supporting data as the Owner may require, together with complete and legally effective releases or waivers, satisfactory to the Owner, of all liens arising out of the Contract Documents and the labor and services performed and the materials and equipment furnished there-under. In lieu thereof and as approved by the Owner, the Contractor may furnish receipts or releases in full; an affidavit of the Contractor that the releases and receipts include all labor, services, material and equipment for which a lien could be filed, and that all payrolls, material and equipment bills, and other indebtedness connected with the Work for which the Owner or his/her property might in any way be responsible, have been paid or otherwise satisfied; and consent of Surety, if any, to final payment. If any Subcontractor, Sub-subcontractor, or supplier fails or refuses to furnish a release or receipt in full, the Contractor may furnish a Bond satisfactory to the Owner to indemnify him/her against any such lien. If any such lien remains unsatisfied after all payments are made, the Contractor or his/her surety shall pay to the Owner all moneys the Owner may be compelled to pay in discharging such lien, including all costs and reasonable attorneys' fees.
- 20.9 ***Approval of Final Payment:*** The Owner will, within ten (10) days after the Contractor has fulfilled and satisfied all the requirements of **Paragraph 20.8**, indicate in writing his approval of payment or will return the application to the Contractor, indicating in writing his reasons for refusing to approve Final Payment, in which case the Contractor shall make the necessary corrections and resubmit the application. The Owner, within thirty-five (35) days after his approval of the application for Final Payment, will pay the Contractor the amount so approved unless a longer period of time is prescribed by law or required for the lawful filing and publishing of Notice of Completion.
- 20.10 ***Continuing Obligation of the Contractor:*** The Contractor's obligation to perform and complete the Work in accordance with the Contract Documents is and shall be absolute. Neither the observation during construction and Final Inspection of the Work by the Owner and the Engineer, nor any payment by the Owner to the Contractor under the Contract Documents, nor any use or occupancy of the Work or any part thereof by the Owner, nor any act of acceptance by the Owner nor any failure to do so, nor any correction of defective Work by the Owner shall constitute acceptance of Work not in accordance with the Contract Documents.

- 20.11 ***Waiver of Claims.***: The making and acceptance of Final Payment shall constitute: (a) a waiver of all claims by the Owner against the Contractor except those arising from unsettled liens, from faulty or defective Work appearing after Final Acceptance of the Work by the Owner, from failure of the Work to comply with the requirements of the Contract Documents, or from the terms of any special guarantees or warranties required by the Contract Documents, or from the terms of any special guarantees or warranties required by the Contract Documents, and (b) a waiver of all claims by the Contractor against the Owner except those previously made in writing and still unsettled. However, any payment, final or otherwise, shall not release the Contractor or his sureties from any obligations under the Contract Documents or the Performance Bond and Payment Bond.
- 20.12 ***Contractor's Payment to Owner:*** The Contractor shall pay to the Owner all moneys so required of him/her under the provisions of the Contract Documents. If any such payments are required prior to final payment, an appropriate Change Order will be issued and, as provided in **Subparagraph 20.5.1**, the amount of such payments may be withheld from payments due the Contractor. If the payments then or thereafter due the Contractor are insufficient to cover any payments due the Owner from the Contractor, or if the amount of such payment due the Owner is determined after the making of final payment, the difference in the amounts of the payments or the amount so determined shall be paid by the Contractor to the Owner. The obligation of the Contractor to pay the moneys due the Owner from him/her shall specifically bind the Contractor's sureties, assigns, executors, administrators, and heirs to his/her obligation to so pay the Owner.
- 20.13 ***Interest:*** Any moneys not paid when due to either party under this Contract Agreement shall bear interest at the maximum legal rate in force at the place of the Project.
- 20.14 ***Non-receipt of Payment:*** The Contractor shall notify the Owner in writing of any approved progress payment not received by him/her within five (5) days after the date the payment should properly have been paid to him/her. In the absence of such written notice in each case, the Contractor hereby agrees and waives his/her right under **Paragraph 21.5** to terminate the Contract Agreement or stop the Work on account of nonpayment by the Owner and further waives his/her right under **Paragraph 20.13** to interest on the amount of any such payment not received by him.

ARTICLE 21 - SUSPENSION AND TERMINATION

- 21.1 ***Suspension of Work:*** The Owner, at any time and without cause, may suspend the Work or any part thereof by notice in writing to the Contractor. Unless otherwise provided in the Contract Documents, the Contractor shall have no claim for damages or compensation on account of such suspension unless he/she makes a claim therefore as provided in **Paragraph 16.4**, but the Contractor will be allowed an extension of the Contract Time to complete the Work and an appropriate Change

Order will be issued. The Contractor shall resume the Work when so notified in writing by the Owner.

- 21.2 ***Suspension of Contract Agreement:*** If the Contractor abandons the Work, or if he/she is adjudged a bankrupt or insolvent, or if he/she makes a general assignment for the benefit of his/her creditors, or if a trustee or receiver is appointed for the Contractor or for any of his/her property, or if he/she files a petition to take advantage of any debtor's act or to reorganize under bankruptcy or similar laws, or if he/she persistently fails to supply sufficient skilled superintendence and workmen or suitable materials or equipment, or if he/she persistently fails to make prompt payments to Subcontractors or for labor, materials or equipment, or if he/she disregards laws, ordinances, rules, regulations or orders of any public body having jurisdiction, or if he/she disregards the authority of the Owner, or neglects to prosecute the Work in accordance with the Contract Documents including requirements of the progress schedule, or if he/she fails to promptly comply with the requirements of any Change Order, or if he/she assigns this Contract Agreement otherwise than herein provided, or if the Owner at any time is of the opinion that the performance of the Work is unnecessarily or unreasonably delayed or that the Contractor is willfully violating any of the provisions of the Contract Documents or is executing the same in bad faith, or if the Work is not fully completed within the Contract Time and any authorized extensions thereof, or if the Owner is of the opinion that the Work cannot be completed for the unpaid balance of the Contract Price or will not be completed within the Contract Time, or if the Contractor otherwise violates any provisions of the Contract Documents, then the Owner may, without prejudice to any other right or remedy and by means of written notice to the Contractor and his/her surety, instruct the Contractor to discontinue all Work or any part thereof under the Contract Agreement or terminate the services of the Contractor. The Contractor, under a written instruction to discontinue, shall not resume any of the Work except by written notice from the Owner. In either such case, the Owner may take possession of the Work and Project and of all materials, equipment, plant, tools, supplies, construction machinery and equipment, and property of every kind thereon owned and furnished by the Contractor for the purpose of the Work, and finish the Work by whatever method the Owner may deem expedient. The Contractor shall not be entitled to receive any further payment after the date of said written notice from the Owner unless instructed in writing by the Owner to resume any part of the Work, or until the Work is finished by the Owner if the Owner so elects. If the unpaid balance of the Contract Price exceeds the direct and indirect costs to the Owner of finishing the Work, including compensation for additional administrative, consultant, professional, testing, and inspection services, such excess will be paid to the Contractor. If such costs to the Owner exceed such unpaid balance, the Contractor, in accordance with **Paragraph 20.12**, shall pay the difference to the Owner.
- 21.3 ***Contractor's Continuing Liability:*** When the Contractor's services have been discontinued or terminated as provided in **Paragraph 21.2**, said discontinuance or termination shall not affect any rights of the Owner against the Contractor, then

existing or which may thereafter accrue. Any retention or payment of moneys by the Owner due the Contractor will not release the Contractor from liability.

- 21.4 ***Termination of Contract Agreement:*** Upon seven (7) days after written notice to the Contractor, the Owner may, without cause and without prejudice to any other right or remedy, elect to abandon the Work and terminate the Contract Agreement. In such case, the Contractor will be paid for all Work satisfactorily executed and any proven expense sustained plus a reasonable profit.
- 21.5 ***Stopping Work or Termination by Contractor:*** If, through no fault, act, or omission of the Contractor or a Subcontractor or Sub-subcontractor or their agents or employees or any other person performing any of the Work under a contract with the Contractor, the Work is suspended for a period of more than ninety days by the Owner (except as provided in **Paragraph 23.7** for Federal hindrance) or under an order of any court or other public authority having jurisdiction, or the Owner fails to act on any application for progress payment within thirty (30) days after it is submitted or the Owner fails to pay the Contractor any progress payment sum approved by the Owner within forty-five (45) days of its approval, or the Owner fails to pay the Contractor any sum awarded by arbitrators within sixty (60) days of its approval and presentation, then the Contractor may, upon ten (10) days after written notice to the Owner, terminate the Contract Agreement and recover from the Owner payment for all Work satisfactorily executed and for any proven loss sustained upon any materials, equipment, tools, and construction equipment and machinery, including reasonable profit and damages. In addition and in lieu of terminating the Contract Agreement, if the Owner has failed to act on an application for progress payment or has failed to make any progress payment as aforesaid, the Contractor may, upon ten days' written notice to the Owner, stop the Work until he/she has been paid all amounts then correctly due him/her, in which event and upon resumption of the Work, an appropriate Change Order will be issued for adjusting the Contract Price or extending the Contract Time, or both, to compensate for the costs and delays attributable to such stoppage of the Work.

ARTICLE 22 - ARBITRATION

- 22.1 ***Basis of Arbitration:*** When agreed to by both parties in advance, Claims, disputes, and other matters in question arising out of or relating to the contract or the breach thereof, unless otherwise settled and except for claims which have been waived by the making or acceptance of final payment as provided by **Paragraphs 20.8 and 20.11**, may be decided by arbitration in accordance with the Construction Industry Arbitration Rules of the American Arbitration Association then pertaining. The results of the arbitration must be made in writing and must include the following:
- a. Legal "findings of fact" established by the arbitrators;
 - b. Specific breakdown of dollar amounts allocated to each issue under arbitration;

- c. The arbitrator's conclusions of law;
- d. A summary of the evidence; and
- e. Reasons underlying the arbitrator's award.

These preceding items must be made available in the arbitrated settlement. The award rendered by the arbitrators shall be final and judgments may be entered upon it in accordance with applicable law in any court having jurisdiction thereof.

- 22.2 ***Request to Arbitrate:*** Written notice of a request for arbitration shall be filed with the other party to the contract. Requests for arbitration shall be made by (a) the Contractor within thirty (30) days after the date the Owner issues a decision upon a protest filed in accordance with **Paragraph 15.4** when the demand is based upon the filed protest, and if not so made, the Contractor agrees that the decision of the Owner is final and binding upon him, or (b) either party with respect to demands not based upon filed protests within a reasonable time after the claim, dispute, or other matter in question has arisen, and in no event after the date when institution of legal or equitable proceedings based on such claim, dispute, or other matter in question would be barred by the applicable statute of limitations.
- 22.3 ***Continuance of Work:*** The Contractor shall carry on the Work and maintain the Progress Schedule during any arbitration proceedings unless otherwise agreed by him and the Owner in writing.

ARTICLE 23 - MISCELLANEOUS PROVISIONS

- 23.1 ***Successors and Assigns:*** The Owner and the Contractor each binds himself/herself, his/her partners, successors, assigns and legal representatives to the other party hereto and to the partners, successors, assigns and legal representatives of such other party in respect to all covenants, agreements and obligations contained in the Contract Documents. Neither party to the Contract Agreement shall assign the Contract Agreement or sublet it as a whole without the written consent of the other, nor shall the Contractor assign any moneys due or to become due to him/her hereunder without the previous written consent of the Owner.
- 23.2 ***Written Notice:*** Written notice shall be deemed to have been duly served if delivered in person to the individual or member of the firm or to an officer of the corporation for whom it was intended, or if delivered at or sent by registered or certified mail to the last business address known to him/her who gives the notice, or delivered to the Project Superintendent. The address given in the Contractor's Bid on which the Contract Agreement is founded is hereby designated as the place to which all notices, letters, and other communications to the Contractor shall be mailed or delivered, except that said address may be changed by the Contractor by notifying the Owner in writing. This shall not preclude the service of any notice, letter or other communication upon the Contractor personally.

- 23.3 **Communications:** The Owner will issue all communications to the Contractor and the Contractor shall deliver all communications to the Owner unless otherwise provided in the Contract Documents or directed by the Owner.
- 23.4 **Claims for Damages:** Should the Owner or the Contractor suffer injury or damage to its person or property because of any error, omission or act of the other or of any of his employees or agents or others for whose acts he is legally liable, claim shall be made in writing to the other party within a reasonable time of the first observance of such injury or damage.
- 23.5 **Rights and Remedies:** The duties and obligations imposed by the Contract Documents and the rights and remedies available there-under and, in particular but without limitation, the warranties, guarantees and obligations imposed upon the Contractor by **Paragraph 6.4** and by **Paragraphs 6.3, 19.1, and 20.3** and the rights and remedies available to the Owner and the Engineer there-under, shall be in addition to and not a limitation of any otherwise imposed or available by law, by special guarantee or warranty, or by other provisions of the Contract Documents.
- 23.6 **Royalties and Patents:** Unless otherwise specifically stipulated elsewhere in the Contract Documents, the Contractor shall pay all royalties and license fees and assume all costs and expenses incident to the use of any invention, composition, process device, article, appliance, or design which is the subject of patent rights, copyrights, or other legal rights of ownership held by others. The Contractor shall indemnify and hold harmless the Owner and the Engineer and anyone directly or indirectly employed by either of them from and against all claims, damages, losses and expenses, including attorneys' fees, arising out of any infringement of such rights during or after completion of the Work, and shall defend all such claims in connection with any alleged infringement of such rights.
- 23.7 **Federal Hindrance:** In entering into this Contract Agreement, it is clearly understood by all parties hereto that conditions may subsequently arise resulting from, connected with, or growing out of any war in which the United States may be engaged, or any national emergency or condition created directly or indirectly by or for the national defense or national interests, and which are entirely beyond the control of either party, that may hinder, delay or render impossible the performance of this Contract Agreement in accordance with its terms and conditions. It is therefore mutually understood and agreed, anything herein contained to the contrary notwithstanding, that in the event the Contractor shall be prevented from performing the Work or any part thereof by reasons of the conditions above stated, the Contractor shall notify the Owner in writing of his/her inability to perform, stating in full the reason therefore and the probable duration of such inability. If required, he/she shall also submit proof or evidence in support of his/her claim of inability to perform. If it shall appear to the satisfaction of the Owner that the cause of inability to perform arose after the Contract Agreement was entered into and is beyond the control of the Contractor, the Owner may, (a) if lawfully within its power, remove the cause which prevents performance; or (b) suspend this Contract Agreement until the cause of inability to perform is removed;

or (c) with the consent of the contractor, renegotiate or amend this Contract Agreement by extending the time of performance or by making the changes in the character of the Work, or in the materials or equipment required in order to enable performance of the Work; or (d) waive performance of that part of the Work which is impossible or supply substitute materials for those unavailable, and where this remedy is resorted to, the payment due the Contractor will be reduced to the extent of the Work not required to be performed based so far as is practicable upon unit prices bid, by an appropriate Change Order. If none of the foregoing procedures are adopted by the Owner within thirty (30) days after the Owner is satisfied and so finds that the contractor is unable to perform for the reasons above stated, then either party hereto may, without incurring any liability, elect to declare this Contract Agreement terminated upon the ground of impossibility of performance. Upon such termination, the Contractor will be paid as provided in **Paragraph 21.4** for termination of the Contract Agreement.

- 23.8 ***Oral Agreements:*** No oral order, objection, claim or notice by any party to the others shall affect or modify any of the terms or obligations contained in any of the Contract Documents, and none of the provisions of the Contract Documents shall be held to be waived or modified by reason of any act whatsoever, other than by a definitely agreed waiver or modification thereof in writing, and no evidence shall be introduced in any proceeding of any other waiver or modification.
- 23.9 ***Work in Jurisdiction of Others:*** Where any of the Work is adjacent to or crosses highways, railroads, streets, utilities, property, rights-of-way, or easements under the jurisdiction of Federal, State, County, City or other public agency, public utility, or private entity from whom the Owner has not obtained permits, the Contractor shall secure written permission from the proper authority and furnish bonds and insurance and pay all fees and charges as the proper authority may require for permission before executing such Work. A copy of each written permission shall be filed with the Owner before such Work is begun. The Contractor shall repair or replace all existing construction damaged in the execution of the Work to the satisfaction of the proper authority, and shall furnish to the Owner a release from the proper authority prior to Final Inspection of the Work.
- 23.10 ***Cash Allowances:*** The Contractor shall include in his Bid and the Contract Price the cash allowances stated in the Contract Documents. These stated allowances represent the net cost estimate of the materials and equipment delivered and unloaded at the site, and all applicable taxes. The Contractor's handling costs on the site, labor, installation costs, overhead, profit and other expenses contemplated for the cash allowance material and equipment shall be included in the Contract Price since they are not included in the cash allowance estimates. The Contractor shall purchase the cash allowance materials and equipment as directed by the Owner on the basis of the lowest responsive bid of at least three (3) competitive bids. If the actual cost of the materials and equipment approved by the Owner delivered and unloaded at the site and all applicable taxes is more or less than the cash allowance estimates, the Contract Price will be adjusted accordingly via Change Order.

- 23.11 ***Ownership of Documents and Models:*** All Drawings, Specifications and copies thereof furnished to or obtained by the Contractor, and all models pertaining to the Work are the property of the Owner or the Engineer as they may agree. These documents and models shall not be used on any other project. All documents and models, with the exception of one contract set of Drawings and Specifications to be retained by the Contractor, shall be returned to the Owner or the Engineer on request and as directed, prior to Final Acceptance of the Work.
- 23.12 ***Use of Completed Portions:*** The Owner shall have the right, upon written notice to the Contractor, to take possession or occupancy of and use any completed or partially completed portions of the Work, notwithstanding that the time for completing the entire Work or such portions may not have expired. However, such taking possession or occupancy and use shall not be deemed a waiver of any requirement of the Contract Documents or a waiver or acceptance of any Work not completed in accordance with the Contract Documents. If such prior possession, occupancy, or use increases the cost of or delays the completion of uncompleted Work or causes repair or refinishing of completed Work, the Contractor shall be entitled to such extra compensation or extension of time, or both, as agreed by the Owner and an appropriate Change Order will be issued. The Contractor will not be required to perform housekeeping obligations in or bear utility costs for buildings or structures to the extent so occupied or used by Owner. If the Owner takes possession of and places any of the machinery or equipment of the Work into continuing operation consonant with its intended final service or purpose and for his beneficial use, the period of the Contractor's guarantee, solely with respect to such machinery or equipment, shall begin on the first day of such beneficial use by the Owner and the Owner will bear the utility and maintenance costs for such beneficial use. Prior to the Owner taking possession, occupancy, or use of any portion of the Work, but not as a condition or precedent to the Owner's right thereto, the Owner and the Contractor shall jointly inspect and determine the condition and completeness of the involved portions of the Work, shall agree upon appropriate procedures and other pertinent matters including the payment or apportioning of utility costs, and shall execute a memorandum recording the inspection determination and the procedures and matters agreed. Such possession, occupancy, or use by the Owner under this paragraph shall not entitle the Contractor to claim or receive payment of any amounts retained or withheld by the Owner pursuant to **Subparagraphs 20.4.2 and 20.5.1** unless otherwise agreed by the parties.
- 23.13 ***Cleaning Up.*** The Contractor shall at all times during the Work keep the site and premises, adjoining property, and public property free from accumulations of waste materials, rubbish, and other debris resulting from the Work, and at the completion of the Work shall remove all waste materials, rubbish and debris from and about the site and premises as well as all tools, construction equipment and machinery, and surplus materials, and shall leave the site and premises clean and ready for occupancy by the Owner. The Contractor shall restore to their original condition those portions of the site not designated for alteration by the Contract Documents. Paved walkways, parking areas, and roadways shall be swept and broomed clean. Cleaning up operations shall include the removal and disposal of earth that is

contaminated and the filling of resulting excavations with sound compacted earth as directed and approved by the Owner. Contamination includes: (1) the earth in areas used for disposal of waste concrete, mortar, plaster, masonry, and like materials; (2) areas in which washing out concrete and plaster mixers or washing of tools and like cleaning operations have been performed; (3) areas that have been oiled, paved, or chemically treated; and (4) areas where waste oils, solvents, paints, solutions, or similar materials of a penetrating nature have been incorporated into the soil. The Owner will determine the contaminated earth areas. No waste material shall be buried or disposed of on the Owner's property unless so permitted in the Contract Documents or approved in writing by the Owner. Before the Contractor applies for Final Inspection and Acceptance of the Work, all items of Work shall be complete, ready to operate, and in a clean condition as determined by the Owner.

- 23.14 ***Owner's Right To Clean Up:*** If the Contractor fails to satisfactorily clean up or if a dispute arises between the Contractor and any separate contractor as to their responsibility for cleaning up, the Owner may clean up and charge the cost thereof to the Contractor for his failure, or to the several contractors as the Owner shall determine to be just.
- 23.15 ***Certificates:*** Each certificate required under the Contract Documents shall be signed by the individual, office(s), or agent(s) lawfully authorized to execute the certificate, and such authority shall be cited in the certificate by title, description, or other acceptable evidence. All certificates shall be sworn and notarized as to the correctness and validity of the contents, and duplicate copies shall be notarized to be true copies.
- 23.16 ***Attorney's Fees and Venue:*** If either party becomes involved in litigation or arbitration arising out of this Contract or the performance thereof, the court shall award reasonable costs and expenses, including attorney's fees, to the prevailing contracting party. Any such action shall be initiated in the County of Monterey, California, unless otherwise mutually agreed by the parties.
- 23.17 ***Entire Agreement:*** This Contract and the documents referenced herein constitute the entire agreement between the contracting parties relating to the Work of the Project to be provided by Contractor. No other proposals, conversations, bids, memoranda, negotiations, agreements, promises, representations, or other forms of communication shall vary or alter the terms of this Contract except by written modification as provided herein.
- 23.18 ***Assignment of Antitrust Actions to Awarding Body:*** In entering into a public works contract or a subcontract to supply goods, services, or materials pursuant to a public works contract, the Contractor or subcontractor offers and agrees to assign to the awarding body all rights, title, and interest in and to all causes of action it may have under Section 4 of the Clayton Act (15 U.S.C. Sec. 15) or under the Cartwright Act (Chapter 2 commencing with Section 16700 of Part 2 of Division 7 of the Business and Professions Code), arising from purchases of goods, services, or materials pursuant to the public works contract or the subcontract. This

assignment shall be made and become effective at the time the awarding body tenders Final Payment to the Contractor, without further acknowledgment by the parties. See also Section 4552 for related requirements for those who submit bids.

END OF SECTION 00 72 00

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SUPPLEMENTARY CONDITIONS

SC-01 MODIFICATION OF THE GENERAL CONDITIONS

- A. **General:** These Supplementary Conditions form a part of and modify the preceding General Conditions. Provisions and requirements of the General Conditions not so modified shall remain in full force and effect.
- B. **Modifications:** The Articles, paragraphs, and subparagraphs mentioned are those of the General Conditions.
1. **Paragraph 1.15 – Engineer:** Under these Contract Documents, the Engineer is Dolores Salgado, P.E. acting through its authorized representative.
 2. **Paragraph 1.22 – Owner:** Under these Contract Documents, the Owner is SEASIDE COUNTY SANITATION DISTRICT (SCSD).
 3. **Paragraph 1.26 – Specifications:** Under these Contract Documents, the specifications shall include,
 - a. Volume I-Project Manual, Technical Specifications (Divisions 1 thru 17)
 - b. State of California Department of Transportation Standard Specifications
 - c. Standard Specifications for Public Works Construction (Greenbook), 2009 Edition
 4. **ADD Paragraph 1.31 – Construction Manager:** Under these Contract Documents, the Construction Manager is the Owner or the Owner's Representative.
 5. **ADD Paragraph 3.5** "Any discrepancies or omissions found in the Contract Documents shall be reported to the Engineer immediately. The Engineer will clarify discrepancies or omissions in writing, within a reasonable time. If a bidder is unable to receive clarification prior to the time that bids are due, the bidder shall bid the most stringent requirement. In resolving inconsistencies among two or more sections of the Contract Documents, precedence shall be given in the following order:
 1. Permits from other agencies as may be required by law
 2. Change orders
 3. Contract Agreement
 4. Addenda
 5. Contractor's bid (bid form)
 6. Invitation to Bid
 7. Instruction to Bidders

8. General Conditions
 9. Supplementary Conditions
 10. California Department of Transportation Plans and Specifications
 11. Technical Specifications
 12. Drawings:
 - a. Figures dimensions govern
 - b. Detail drawings govern over general drawings
 - c. Addenda/change order drawings govern over contract drawings
 - d. Contract drawings govern over standard drawings
 13. Owner's Standard Element 5
 14. Greenbook Standard Specifications for Public Works Construction and its Supplement Amendments, the 2009 edition.
6. **Paragraph 4.5 - Working Hours:** Delete the text in entirety and replace with the following: "Working Hours: Normal working hours are considered to occur within the time frame of 8:00 AM to 5:00 PM, five (5) days per week, Monday through Friday. Additional time at the end of this period will be considered on a case-by-case basis. Earlier starting time will not be permitted except in the case of an emergency or other Owner approved reason."
7. **Paragraph 5.4 – Laying Out the Work:** For this Work, the Owner will not establish property, easement, or right-of-way boundary surveys. Furthermore, the Owner will not provide or set a bench-line or benchmark for any portion of the Work. In performing the Work, the Contractor shall conduct such surveys as necessary to tie the new work into existing facilities and complete the Work as shown on the Drawings.
8. **Paragraph 6.4.3.6 – Additional Named Insureds and Subrogation Waivers:** **Infrastructure Engineering Corporation** shall be named as Additional Named Insureds in all insurance policies required by Article 6 of the General Conditions and shall also be named as certificate holders.
9. Article 23 - Miscellaneous Provisions. Add the following:
- 23.18 Assignment of Antitrust Actions to Awarding Body:** In entering into a public works contract or a subcontract to supply goods, services, or materials pursuant to a public works contract, the Contractor or subcontractor offers and agrees to assign to the awarding body all rights, title, and interest in and to all causes of action it may have under Section 4 of the Clayton Act (15 U.S.C. Sec. 15) or under the Cartwright Act (Chapter 2 commencing with Section 16700 of Part 2 of Division 7 of the Business and Professions Code), arising from purchases of goods, services, or materials pursuant to the public works contract or the subcontract. This assignment shall be made and become effective at the time the awarding body tenders final payment to the Contractor, without further acknowledgment by the parties. See also Section 4552 for related requirements for those who submit bids.

SC-02 ADDITIONAL CONDITIONS: The following Conditions of the Contract form a part of the General Conditions and Supplementary Conditions.

A. California State Codes:

1. The Contractor shall obtain from the Director of the Department of Industrial Relations the general prevailing rate or per diem wages and the general prevailing rate for holiday and overtime work in the locality in which the public work is to be performed for each craft, classification or type of worker needed to execute the Contract. The Contractor and all Subcontractors shall comply with all requirements and provisions of Sections 1775 and 1776 of the California Labor Code. The Contractor shall forfeit as a penalty to the Owner \$25.00 for each calendar day, or portion thereof, for each worker paid less than stipulated prevailing rates for Work done under the Contract Agreement by him/her, or any Subcontractor under him/her, in violation of the provisions of the California Labor Code. Copies of these wage determinations shall be posted and maintained at the job site by the successful bidding Contractor, and thereafter Contractor shall be responsible for obtaining and posting all applicable updates to said Prevailing Rate Determinations. Any changes in the Prevailing Rate Determinations during the course of the Work, however, shall not affect the Contract Price.
 - a. Subject to the provisions of Sections 1810 to 1815, both inclusive, of the California Labor Code, the time of service of any laborer, worker, or mechanic employed on the Work shall be limited and restricted to eight hours during any one calendar day, except as otherwise provided in said sections, and the Contractor shall forfeit as a penalty to the Owner \$25.00 for each laborer, worker, or mechanic employed in the execution of the Work by him/her or any Subcontractor under him/her for each calendar day during which such laborer, worker, or mechanic is required or permitted to labor more than eight hours in violation of the provisions of the California Labor Code.
 - b. The Contractor shall make travel and subsistence payments to each worker needed to execute the Work in accordance with the requirements of Section 1773.8 of the California Labor Code.
 - c. The Contractor shall conform to all the requirements of Sections 1777.5 and 1777.6 of the California Labor Code concerning the employment of apprentices by the Contractor or any Subcontractor under him/her.
 - d. Each Contractor and subcontractor shall keep an accurate payroll record, showing the name, address, social security number, work classification, straight time and overtime hours worked each day and week, and the actual per diem wages paid to each journeyman, apprentice, worker, or other employee employed by him or her in connection with the public work. The payroll records shall be certified and shall be available for inspection at all reasonable hours at the principal office of the Contractor under certain specified conditions and shall be submitted to the Owner upon request.

2. The California Construction Safety Orders in effect during the Work shall apply continuously until final acceptance of the Work.
3. In compliance with California Government Code Section 4100 et seq., each Bidder shall state in his/her Bid the name and business address of each Subcontractor who will perform work or labor or render service to the Contractor in or about the construction of the Work in an amount in excess of one-half of one percent (0.5%) of the total Bid amount, and the portion of the Work which will be done by each Subcontractor. Each portion of the Work shall be performed by an organization equipped and experienced to do the Work in the particular field, and no portion of the Work shall be reserved by the Bidder or the Contractor to him(her)self unless he/she is so equipped and experienced. Not more than one Subcontractor shall be listed for the same portion of the Work. If a particular portion of the Work would be modified by an Alternative Bid or work unit bid item required by the Bid, the Bidder shall separately identify such portions of the Work and list the Subcontractors appropriately where they differ from those listed for the basic Work. The substitution of Subcontractors shall comply with California Government Code Section 4107. Requirements of General Conditions Paragraphs 2.11 and 10.2 shall also govern, except where differing in which instances these requirements shall govern.

B. Security Substitutions for Moneys Withheld to Ensure Contractor's Performance: The Contractor, at his request and expense, will be permitted to substitute equivalent securities for any moneys withheld to ensure performance as follows, and in accordance with Section 4590 Chapter 13 of Division 5 of Title 1 and with amended Section 14402.5, each of the State of California Government Code. The term satisfactory completion of the contract in Section 4590 of the California Government Code shall mean the time the Owner has issued written final acceptance of the Work and filed a Notice of Completion required by law.

At the Contractor's request, securities equivalent to the monetary amount withheld shall be deposited with the Owner, or with state or federally chartered bank as the escrow agent, who shall pay such moneys to the Contractor upon satisfactory completion of the Contract. Securities eligible for this investment shall include those listed Section 16430 of the State of California Government Code or bank or savings and loan certificates of deposit. The Contractor shall be the beneficial owner of any securities substituted for moneys withheld and shall receive any interest thereon. Any escrow agreement entered into pursuant to these conditions shall contain as a minimum, the following provisions:

1. The amount and type of securities to be deposited;
2. The terms and conditions of conversion to cash in case of the default of the Contractor; and
3. The termination of the escrow upon completion of the Contract.

The Contractor shall pay all costs and fees associated with the escrow or deposit.

END OF DOCUMENT 00 73 00

TECHNICAL SPECIFICATIONS

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SECTION 01010 – SUMMARY OF WORK

PART 1 – GENERAL

1.1 PROJECT LOCATION

The project is located in Seaside, California 93955 along Canyon Del Rey Blvd between Harcourt Ave and Hilby Ave as shown on the vicinity and location maps provided on the Drawings.

The Contractor shall be fully responsible for reviewing televised footage of the interior of the existing sewer main in advance of preparing their bid. The Owner contracted Liberty Pipelines in May 2019 and videos and reports are available.

1.2 WORK COVERED BY CONTRACT DOCUMENTS

- A. The Contractor shall furnish all labor, materials, supplies, transportation, services, incidentals, equipment, and all other things necessary, including fuel, power, water, and essential communications in order to complete the work in its entirety in accordance with the Drawings and Specifications contained herein to the satisfaction of the Owner. Work shall be complete, and all work, materials, and services not expressly indicated or called for in the Contract Documents which may be necessary for the complete and proper construction of the work in good faith shall be provided by the Contractor as though originally so indicated, at no increase in cost to the Owner. Additional compensation will not be made for provision of access or for maintaining ingress/egress paths and transporting all materials, equipment, labor, supplies, or anything else needed to complete the work. Additional compensation will not be made for provision of additional work area, storage sites, or access that may be necessary for proper completion of the work in accordance with the Contract Documents. The Work includes, but is not necessarily limited to, the following:
1. Groundwater will be encountered. The cost of permitting, dewatering, water control and legal disposal, treatment, sampling, testing, monitoring, additional shoring, and all other related work, shall be considered as part of the bid and no further compensation shall be made.
 2. Trench excavations will encounter loose to dense sandy materials with in-situ soils excavatable with conventional earthwork equipment. Soil information is provided in **Appendix A** “Geotechnical Design Report”. Design and erection of bracing and shoring systems shall support the expected unstable trench walls and shall be designed and erected as needed to prevent sloughing of roadway pavement sections and sloughing of utilities into open excavations, and all work shall be considered as part of the various items of work and no further compensation shall be made therefor. The Contractor shall be fully responsible for designing and supporting shoring systems for open trenches and utility support systems for existing utilities to whatever extent is required to avoid sloughing or caving of such facilities. All damage as a result of sloughing of existing pavement or utilities shall be repaired in-kind and shall be considered as part of the bid and no further compensation shall be made therefor.
 3. Completion of all pavement resurfacing of trenches per Section 01170 and Section 02510 and Caltrans’ Encroachment Permit requirements provided in **Appendix F**.

SECTION 01010 – SUMMARY OF WORK

4. Obtaining all permits and conforming to permit requirements as necessary to complete the Work.
5. Completing all site restoration, pavement striping, markings, concrete curb, gutter, and sidewalk repairs damaged during sewer lateral reinstatements, replacing damaged traffic detection loops, and other improvements to return damaged or disturbed areas back to original condition or better.

PART 2 – MEASUREMENT AND PAYMENT

Payment for each bid item shall be included in the contract unit price or lump sum price as shown in the bidder's proposal. Payment for each bid item shall include full compensation for all labor, materials, tools, equipment, supplies, transportation, subcontracts, and incidentals necessary to complete the work in its entirety and no additional compensation will be allowed. This includes the cost of work not specifically listed in the bid schedule or summary of bid items but is necessary to complete the project as described and shown on the Contract Drawings and as specified in the Contract Documents. Work for which no separate description has been provided will be considered a subsidiary obligation of the Contractor, and the cost therefore shall be included in the applicable contract price for the item in the Schedule of Values to which the work applies. Described herein are the major work categories that generally describe the work to be completed. There is no guarantee that the work listed is an all-inclusive list of work to be completed. Rather it is an attempt to list general categories of work contained in the Contract Documents for review and comparative purposes. The Contractor shall be responsible for making their own Schedule of Values that will be a comprehensive list of the Contractor's items of work to be completed. All measurements of work done will be made by the Owner or the Owner's authorized representative.

BID SCHEDULE A – INSTALL PARALLEL SEWER MAIN

2.1 BID ITEM NO. A1 – MOBILIZATION, BONDS, PERMITS, CLEANUP AND DEMOBILIZATION (LUMP SUM)

Payment for Mobilization, Bonds, Permits, Cleanup and Demobilization shall be made at the contract lump sum price complete and in accordance with the Contract Documents, and as directed by the Owner. The contract price shall include, but is not limited to, the following principal items: obtaining all permits, insurance, and bonds; mobilizing labor force, equipment and construction facilities onto the site; providing necessary storage, parking, and staging areas; obtaining construction water supply from the water purveyor and paying for meter deposits; providing all temporary piping and equipment to get water from meter to site as needed; providing on-site sanitary facilities; preparing written plans for worksite safety, confined space entry, and emergency and first aid procedures with all personnel trained in each one of the aforementioned plans; performing all training; performing project site cleanup; and demobilizing labor force, construction equipment and facilities. This bid item shall also include all development and submittal of any required Confined Space Programs as required to complete the work in accordance with Cal-OSHA requirements. Payment for this bid item shall also include taking photos and preparing video record, including all required copies and labeling, of the existing site conditions prior to the start of construction and when construction is complete, and submitting them in accordance with the General Conditions. Payment for this bid item will include mobilization and demobilization for each phase of work as described herein under sequence of work. Payment for this bid item shall be limited to 8 percent of the total contract price. No more than four percent of the mobilization shall be paid for initial project mobilization. Two percent shall be reserved for demobilization.

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The remaining two percent shall be dedicated to mobilization between the different phases of work as indicated in this section.

2.2 BID ITEM NO. A2 – TEMPORARY EROSION CONTROL/STORM WATER POLLUTION CONTROL PLAN (WPCP) (LUMP SUM)

Payment for Temporary Erosion Control/Storm Water Pollution Control Program (WPCP) shall be made at the contract lump sum price, complete and in accordance with the Contract Documents, and as directed by the Owner. The contract price for work under this item shall include, but not be limited to, furnishing all labor, material, tools, and equipment and performing all work required for establishing, maintaining, operating, and providing all reporting for a complete site erosion control and storm water pollution control plan to be implemented throughout construction. This includes, but is not limited to preparation of all required plans and regulatory agency submittals, the operation and protection of the site drainage systems, sampling, monitoring, reporting, desilting basins and risers, fiber rolls, erosion control blankets, silt fences, gravel bags, berms, stabilized construction entrances, or other measures as described in the Contractor's project-specific storm water pollution control plan and as necessary to provide a complete erosion control program in complete compliance with all applicable State Water Resources Control Board (SWRCB) and all other jurisdictional requirements.

2.3 BID ITEM NO. A3 - SHEETING, SHORING, AND BRACING (LUMP SUM)

Payment for Sheet piling, Shoring, and Bracing, or equivalent, shall be paid for at the contract lump sum price, complete, in accordance with the Contract Documents, and as directed by the Owner. Payment shall include full compensation for furnishing all labor, materials, tools and equipment, and doing all work involved in providing work, material, and worker protection for the entire project. The Contractor shall perform geotechnical investigations, as needed, to be satisfied of existing soil conditions. This bid item shall include trench shoring sufficient so as not to cause damage to adjacent paving or facilities, including sloughing or undermining the existing roadway pavement sections. Damage to adjacent paving or facilities, beyond the trench limits shown on the Drawings due to insufficient trench shoring methods shall be the responsibility of the Contractor and no additional payment methods shall be made thereof. Payment shall also include the cost of preparation and submittal of designs, plans, calculations, sketches, or drawings by a Professional Engineer registered in the State of California in strict accordance with the State of California's Department of Transportation Trenching and Shoring Manual and obtaining the required permit from the State Division of Industrial Safety and all other jurisdictional requirements.

2.4 BID ITEM NO. A4 – DEWATERING, TREATMENT OF GROUNDWATER, AND LEGAL DISPOSAL (LUMP SUM)

Payment for Dewatering, Treatment of Groundwater, and Legal Disposal shall be made at the contract lump sum price, complete in place, and in accordance with the Contract Documents, and as directed by the Owner. Payment for this bid item shall include, but is not limited to, all labor, materials, tools, equipment, supplies, supervision, and incidentals required for obtaining a groundwater discharge permit and performing dewatering, including monitoring, as necessary to complete all phases and elements of the Work in accordance with the Contract Documents. Payment for this bid item shall include compliance with the appropriate regulatory and jurisdictional agency for groundwater discharge to the existing public sewer system including, but not limited to, temporary storage of discharge, treatment, solids settling, monitoring, disposal of waste, and reporting requirements, including, but not limited to, quantity, frequency, quality,

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clarity, and discharge location. Payment shall include all coordination, discharge fees, application fees, initial submittals and resubmittals, insurance, communication, and construction means and methods to comply with the appropriate regulatory and jurisdictional agency permit requirements.

2.5 BID ITEM NO. A5 – TEMPORARY SEWER BYPASS SYSTEM (LUMP SUM)

Payment for Temporary Sewer Bypass System shall be made at the contract lump sum price, complete in place, and in accordance with the Contract Documents, and as directed by the Owner. Payment for establishing and maintaining the sewage bypass system shall include the preparation of a bypass plan to be submitted by the Contractor to the Owner for review and approval. The Contract price for work under this item shall include, but is not limited to, furnishing all labor, materials, incidentals, and equipment for the following principal items:

- A. Construct, establish, operate, and maintain temporary bypass systems as required to construct the sewer pipeline, lateral extensions, manholes, connections, and all other work included in the Contract Documents. Contractor shall maintain sewer service at all times during construction, in accordance with the approved phasing and bypass plan, Section 01170, and other requirements of these specifications.
- B. Complete all excavation, trenching, backfill, compaction, and trench resurfacing for temporary bypass systems.
- C. Furnish and install all pipe, fittings, pumps, back-up pumps, fuel, and generators; compliance with all noise ordinances and regulations; disconnection, moving, and reconnection of bypass equipment if necessary; and removal of all equipment at job completion.
- D. Provide redundant pipe, pumps, and equipment that can operate as a back-up system if needed.
- E. Establish and provide a sewage spill prevention plan and emergency response plan to the Owner for approval per Contract Documents.
- F. Provide bypass operations and a maintenance program continuously during the period that bypassing is necessary to complete the Work.
- G. Provide all means necessary to protect all existing utilities, pipes, manholes, and laterals and all other components of the existing sewer system while furnishing, installing, and maintaining the temporary bypass equipment.
- H. Restore all flows to original paths/directions or to the new system once bypass operations are no longer necessary.

2.6 BID ITEM NO. A6 – CCTV INSPECTION (LUMP SUM)

Payment for CCTV Inspection shall be made at the contract lump sum price for all new and existing sewer mains televised in accordance with the Contract Documents, and as directed by the Owner. The contract price for work under this item shall include, but is not limited to, furnishing all labor, materials, incidentals, and equipment for televising new sewer mains upon their installation, and existing sewer mains to determine the location of existing service laterals. Payment for this bid

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item shall include all mobilization necessary for televising different portions of the sewer system; pipeline cleaning; video equipment; lighting; documentation in audio, written and digital video disc (DVD) formats; and inspection reports. Traffic control and/or temporary bypassing of sewer flows, not included in any other bid item, and considered necessary for the execution of this bid item, shall be included in this bid item.

2.7 BID ITEM NO. 7 – CONSTRUCT 12-INCH DIAMETER GRAVITY SEWER MAIN (UNIT PRICE)

Payment for Construct 12-inch Diameter Gravity Sewer Main shall be made at the contract unit price for the length of sewer main actually installed by the Contractor, complete in place, and in accordance with the Contract Documents, and as directed by the Owner. Measurement of installed pipeline shall be made to the nearest foot along its centerline projection onto a horizontal plane. Payment for this bid item shall include, but is not limited to, all labor, materials, tools, equipment, supplies, supervision, and incidentals required to furnish and install all pipe, fittings, adapters, tracer tape, and all other appurtenances, piping components, and hardware in accordance with the Contract Documents. This bid item shall include saw cutting, trenching, excavation, removal of existing pavement section and legal disposal, pipe bedding and subgrade preparation, backfilling, compaction, geotextiles, exporting and disposal of excavated materials, imported materials, and cleanup. The contract price for work under this item shall include, but not be limited to, furnishing all labor, material, tools, and equipment and performing all work required to restore the trench pavement and as described in the Contract Documents, in strict accordance with the Caltrans Encroachment Permit requirements, including but not limited to hot mix asphalt, cold planning and grinding, overlays, transporting the removed pavement to a local C&D Recycling Facility, compaction, testing, sealers and incidentals, and all other work necessary to complete this item of work as shown on the Drawings, and described in the Contract Documents. This bid item shall include bedding and subgrade preparation with a 12-inch layer of 3/4-inch crushed rock underlain with geotextile, including removing and legally disposing overexcavated materials, replacement and compaction of 3/4-inch crushed rock as shown on the Drawings. Contractor shall not overexcavate beyond the 12-inch subgrade preparation limits and depths shown in the Drawings without prior written approval and will not be compensated unless approval was granted by the Owner in advance of performing overexcavation. This work shall also include the protection of existing utilities/facilities, testing of new facilities, and all other work necessary to provide a complete and operating sewer main in accordance with the Contract Documents.

2.8 BID ITEM NO. 8 – CONSTRUCT 15-INCH DIAMETER GRAVITY SEWER MAIN (UNIT PRICE)

Payment for Construct 15-inch Diameter Gravity Sewer Main shall be made at the contract unit price for the length of sewer main actually installed by the Contractor, complete in place, and in accordance with the Contract Documents, and as directed by the Owner. Measurement of installed pipeline shall be made to the nearest foot along its centerline projection onto a horizontal plane. Payment for this bid item shall include, but is not limited to, all labor, materials, tools, equipment, supplies, supervision, and incidentals required to furnish and install all pipe, fittings, adapters, tracer tape, and all other appurtenances, piping components, and hardware in accordance with the Contract Documents. This bid item shall include saw cutting, trenching, excavation, removal of existing pavement section and legal disposal, pipe bedding and subgrade preparation, backfilling, compaction, geotextiles, exporting and disposal of excavated materials, imported materials, and cleanup. The contract price for work under this item shall include, but not be limited to, furnishing all labor, material, tools, and equipment and performing all work required to restore the trench

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pavement and as described in the Contract Documents, in strict accordance with the Caltrans Encroachment Permit requirements, including but not limited to hot mix asphalt, cold planning and grinding, overlays, transporting the removed pavement to a local C&D Recycling Facility, compaction, testing, sealers and incidentals, and all other work necessary to complete this item of work as shown on the Drawings, and described in the Contract Documents. This bid item shall include bedding and subgrade preparation with a 12-inch layer of 3/4-inch crushed rock underlain with geotextile, including removing and legally disposing overexcavated materials, replacement and compaction of 3/4-inch crushed rock as shown on the Drawings. Contractor shall not overexcavate beyond the 12-inch subgrade preparation limits and depths shown in the Drawings without prior written approval and will not be compensated unless approval was granted by the Owner in advance of performing overexcavation. This work shall also include the protection of existing utilities/facilities, testing of new facilities, and all other work necessary to provide a complete and operating sewer main in accordance with the Contract Documents.

2.9 BID ITEM NO. A9 – CONSTRUCT NEW 5-FT DIAMETER SEWER MANHOLE NO. A10-44, A10-45 (UNIT PRICE)

Payment for Construct New 5-foot Diameter Sewer Manhole No. A10-44, A10-45 shall be made at the contract unit price complete, in accordance with the Contract Documents and as directed by the Owner. The Contract Price for work under this item shall include but is not limited to furnishing all labor, material, tools, and equipment and performing all work required to construct new manhole pursuant to all standards and in accordance with the Contract Documents. This includes but is not limited to all earthwork, excavation, bedding, backfilling, compaction, exporting and disposal of excavated materials, imported materials, and cleanup. The contract price for work under this item shall include, but not be limited to, furnishing all labor, material, tools, and equipment and performing all work required to restore the pavement and as described in the Contract Documents, in strict accordance with the Caltrans Encroachment Permit requirements, including but not limited to hot mix asphalt, cold planning and grinding, overlays, transporting the removed pavement to a local C&D Recycling Facility, compaction, testing, sealers and incidentals, and all other work necessary to complete this item of work as shown on the Drawings, and described in the Contract Documents. This bid item shall include bedding and subgrade preparation with a 12-inch layer of 3/4-inch crushed rock underlain with geotextile, including removing and legally disposing overexcavated materials, replacement and compaction of 3/4-inch crushed rock as shown on the Drawings. Contractor shall not overexcavate beyond the 12-inch subgrade preparation limits and depths shown in the Drawings without prior written approval and will not be compensated unless approval was granted by the Owner in advance of performing overexcavation. Payment shall also include all pre-cast concrete manhole sections, cast-in-place concrete bases, interior coatings and linings, waterproofing exterior, frames and lids, pipe, couplings, watertight seals, testing, inspection, and all other work necessary to complete the work as described within the Contract Documents.

2.10 BID ITEM NO. A10 – CONSTRUCT NEW 4-FT DIAMETER SEWER MANHOLE NO. A10-46 (UNIT PRICE)

Payment for Construct New 4-foot Diameter Sewer Manhole No. A10-46 shall be made at the contract unit price complete, in accordance with the Contract Documents and as directed by the Owner. The Contract Price for work under this item shall include but is not limited to furnishing all labor, material, tools, and equipment and performing all work required to construct new manhole pursuant to all standards and in accordance with the Contract Documents. This includes but is not limited to all earthwork, excavation, bedding, backfilling, compaction, exporting and disposal of excavated materials, imported materials, and cleanup. The contract price for work under this item

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shall include, but not be limited to, furnishing all labor, material, tools, and equipment and performing all work required to restore the pavement and as described in the Contract Documents, in strict accordance with the Caltrans Encroachment Permit requirements, including but not limited to hot mix asphalt, cold planning and grinding, overlays, transporting the removed pavement to a local C&D Recycling Facility, compaction, testing, sealers and incidentals, and all other work necessary to complete this item of work as shown on the Drawings, and described in the Contract Documents. This bid item shall include bedding and subgrade preparation with a 12-inch layer of 3/4-inch crushed rock underlain with geotextile, including removing and legally disposing overexcavated materials, replacement and compaction of 3/4-inch crushed rock as shown on the Drawings. Contractor shall not overexcavate beyond the 12-inch subgrade preparation limits and depths shown in the Drawings without prior written approval and will not be compensated unless approval was granted by the Owner in advance of performing overexcavation. Payment shall also include all pre-cast concrete manhole sections, cast-in-place concrete bases, interior coatings and linings, waterproofing exterior, frames and lids, pipe, couplings, watertight seals, testing, inspection, and all other work necessary to complete the work as described within the Contract Documents.

2.11 BID ITEM NO. A11 – CONSTRUCT NEW 4-FT DIAMETER SEWER DROP MANHOLE NO. A10-47 (UNIT PRICE)

Payment for Construct New 4-foot Diameter Sewer Drop Manhole No. A10-45 shall be made at the contract unit price complete, in accordance with the Contract Documents and as directed by the Owner. The Contract Price for work under this item shall include but is not limited to furnishing all labor, material, tools, and equipment and performing all work required to construct new manhole pursuant to all standards and in accordance with the Contract Documents. This includes but is not limited to all earthwork, excavation, bedding, backfilling, compaction, exporting and disposal of excavated materials, imported materials, and cleanup. The contract price for work under this item shall include, but not be limited to, furnishing all labor, material, tools, and equipment and performing all work required to restore the pavement and as described in the Contract Documents, in strict accordance with the Caltrans Encroachment Permit requirements, including but not limited to hot mix asphalt, cold planning and grinding, overlays, transporting the removed pavement to a local C&D Recycling Facility, compaction, testing, sealers and incidentals, and all other work necessary to complete this item of work as shown on the Drawings, and described in the Contract Documents. This bid item shall include bedding and subgrade preparation with a 12-inch layer of 3/4-inch crushed rock underlain with geotextile, including removing and legally disposing overexcavated materials, replacement and compaction of 3/4-inch crushed rock as shown on the Drawings. Contractor shall not overexcavate beyond the 12-inch subgrade preparation limits and depths shown in the Drawings without prior written approval and will not be compensated unless approval was granted by the Owner in advance of performing overexcavation. Payment shall also include all pre-cast concrete manhole sections, cast-in-place concrete bases, interior coatings and linings, waterproofing exterior, frames and lids, drops, pipe, couplings, watertight seals, testing, inspection, and all other work necessary to complete the work as described within the Contract Documents.

2.12 BID ITEM NO. A12 – CONSTRUCT SEWER LATERAL RECONNECTION (LUMP SUM)

Payment for Construct Sewer Lateral Reconnection shall be made at the contract lump sum price for the existing sewer service laterals to be extended and reconnected to the new sewer main, complete in place and regardless of length, diameter, or depth of the sewer lateral, and in accordance with the Contract Documents and as directed by the Owner. Payment for this bid item

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shall include, but not be limited to, all labor, materials, tools, equipment, supplies, supervision, and incidentals required to furnish and install all pipe, fittings, adapters, cleanouts, and all other appurtenances, piping components, and hardware in accordance with the Contract Documents. This shall also include the protection of existing utilities/facilities, testing of new facilities, and all other work necessary to comply with the Contract Documents. This bid item shall include all excavation, pipe bedding, backfilling, compaction, exporting and disposal of excavated materials, imported materials, and cleanup. The contract price for work under this item shall include, but not be limited to, furnishing all labor, material, tools, and equipment and performing all work required to remove and replace concrete curb, gutters, and sidewalks, and remove and replace the pavement as described in the Contract Documents, in strict accordance with the Caltrans Encroachment Permit requirements, including but not limited to hot mix asphalt, cold planning and grinding, overlays, transporting the removed pavement to a local C&D Recycling Facility, compaction, testing, sealers and incidentals, and all other work necessary to complete this item of work as shown on the Drawings, and described in the Contract Documents. This bid item shall include all necessary coordination with the Owner for work that is to occur outside of the public right-of-way as specified in Section 01039. Payment shall include the Contractor's field verification of existing conditions sufficiently ahead of time to allow for design revisions if actual conditions differ than what is shown on the Drawings.

2.13 BID ITEM NO. A13 – REHABILITATE AND RECHANNEL SEWER MANHOLE NO. A10-7 (LUMP SUM)

Payment for Rehabilitate and Rechannel Sewer Manhole No. A10-7 shall be made at the Contract lump sum price, complete in place, and in accordance with the Contract Documents, and as directed by the Owner. The contract price for work under this item shall include, but not be limited to, furnishing all labor, material, tools, and equipment and performing all work required for the remodeling, coating, and lining of existing sewer manhole including manhole and concrete rehabilitation, manhole modifications, core drilling, manhole adapters, fittings, rechanneling, interior lining system per Section 09801, and all other work as described in the Contract Documents.

2.14 BID ITEM NO. A14 – REMOVE EXISTING BRICK MANHOLE NO. A10-14 AND CONSTRUCT NEW 5-FT DIAMETER MANHOLE NO. A10-14 (LUMP SUM)

Payment for Remove Existing Brick Manhole No. A10-14 and Construct new 5-ft Diameter Manhole No. A10-14 shall be made at the contract lump sum price, complete in place, and in accordance with the Contract Documents, and as directed by the Owner. Payment for this bid item shall include, but not be limited to, all labor, materials, tools, equipment, supplies, supervision, and incidentals required to remove and dispose of existing sewer manhole including frame and cover, cone, shaft and manhole base as specified in the Contract Documents. The Contract Price for work under this item shall include but is not limited to furnishing all labor, material, tools, and equipment and performing all work required to construct new manhole pursuant to all standards and in accordance with the Contract Documents. This includes but is not limited to all earthwork, excavation, bedding, backfilling, compaction, exporting and disposal of excavated materials, imported materials, and cleanup. The contract price for work under this item shall include, but not be limited to, furnishing all labor, material, tools, and equipment and performing all work required to restore the pavement and as described in the Contract Documents, in strict accordance with the Caltrans Encroachment Permit requirements, including but not limited to hot mix asphalt, cold planning and grinding, overlays, transporting the removed pavement to a local C&D Recycling Facility, compaction, testing, sealers and incidentals, and all other work necessary to complete this

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item of work as shown on the Drawings, and described in the Contract Documents. This bid item shall include bedding and subgrade preparation with a 12-inch layer of 3/4-inch crushed rock underlain with geotextile, including removing and legally disposing overexcavated materials, replacement and compaction of 3/4-inch crushed rock as shown on the Drawings. Contractor shall not overexcavate beyond the 12-inch subgrade preparation limits and depths shown in the Drawings without prior written approval and will not be compensated unless approval was granted by the Owner in advance of performing overexcavation. Payment shall also include all pre-cast concrete manhole sections, cast-in-place concrete bases, interior coatings and linings, waterproofing exterior, frames and lids, pipe, couplings, watertight seals, testing, inspection, and all other work necessary to complete the work as described within the Contract Documents.

2.15 BID ITEM NO. A15 – ABANDON EXISTING 12-IN DIAMETER SEWER PIPE AND MANHOLE NO. A10-9 AND A10-10 (UNIT PRICE)

Payment for Abandon Existing 12-in Diameter Sewer Pipe and Manhole No. A10-9 and A10-10 shall be made at the contract unit price, complete in place, and in accordance with the Contract Documents, and as directed by the Owner. Payment for this bid item shall include, but not be limited to, all labor, materials, tools, equipment, supplies, supervision, and incidentals required to abandon in-place portions of the existing sewer system including existing sewer mains and manholes as specified in the Contract Documents. The contract price for work under this item shall include, but not be limited to, furnishing all labor, material, tools, and equipment and performing all work required to restore the pavement and as described in the Contract Documents, in strict accordance with the Caltrans Encroachment Permit requirements, including but not limited to hot mix asphalt, cold planning and grinding, overlays, transporting the removed pavement to a local C&D Recycling Facility, compaction, testing, sealers and incidentals, and all other work necessary to complete this item of work as shown on the Drawings, and described in the Contract Documents.

2.16 BID ITEM NO. A16 – OVEREXCAVATION OF UNSUITABLE MATERIALS AND ROCK REFILL (UNIT PRICE)

Payment for Overexcavation of Unsuitable Materials and Rock Refill shall be made at the contract unit price, complete in place, in accordance with the Contract Documents, and as directed by the Owner. The contract price for work under this item shall include but not be limited to furnishing all labor, materials, tools, and equipment and performing all work required for overexcavation including removing and legally disposing overexcavated materials, replacement and compaction of 3/4-inch crushed rock and geotextile, as described within the Contract Documents and as directed by the Owner. This item shall only be required when directed by the Engineer and includes up to 3-feet of overexcavation beyond the bedding and subgrade preparation included in other bid item, or elsewhere in the Contract Documents. Contractor shall not overexcavate the trench without prior written approval and shall not be compensated unless approval was granted in writing by the Owner in advance of performing overexcavation.

The Owner reserves the right to vary quantities plus or minus 100% using the bid unit price to accommodate conditions encountered in the field. These adjustments are considered to be within the original contract scope and as such will not be considered as a basis for extra work, extra cost, or extra time.

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2.17 BID ITEM NO. A17 – TRAFFIC CONTROL, FLAGGING, AND TRENCH PLATES (LUMP SUM)

Payment for Traffic Control, Flagging, and Trench Plates will be paid for at the contract lump sum price complete, in accordance with the Contract Documents, and as directed by the Owner. The contract price for work under this item shall include, but not be limited to, submitting and obtaining approval of traffic control plans by Caltrans District 5, furnishing all labor, material, tools, and equipment and performing all work to obtain a traffic control permit, the implementation of the traffic control plans and all traffic control measures the entire duration of the project, including, but not limited to, flagging, signage, boards, temporary striping and markings, traffic delineators, permit fees, all work necessary to erect, take down, and store materials, and all other items required to provide traffic control for work, including, but not limited to, pipelines, connection work, and all other work requiring traffic control as shown on the Drawings, and described in the Contract Documents.

The contract price for work under this item shall include, but not be limited to, recessed trench plating, complete and in accordance with the Contract Documents, and as directed by the Owner. The contract price for work under this item shall include, but not be limited to, furnishing all labor, material, tools, and equipment and performing all work required for recessed trench plating as described in the Contract Documents. This price also includes the cost of grinding the area for the trench plates at the end of each shift and having the road surface and trench plate completely level when the lanes are open to traffic.

2.18 BID ITEM NO. A18 – PAVEMENT STRIPING AND MARKINGS (LUMP SUM)

Payment for Pavement Striping and Markings shall be made at the contract lump sum price complete, and in place, in accordance with the Contract Documents, and as directed by the Owner. The contract price for work under this item shall include but not be limited to furnishing all labor, materials, tools, and equipment and performing all work required for replacement of all existing pavement striping, signs, legend, and markers that are disturbed, damaged, or removed during construction.

2.19 BID ITEM NO. A19 – UTILITY POTHoles (LUMP SUM)

Payment for Utility Potholes shall be made at the contract lump sum price complete, and in place, in accordance with the Contract Documents, and as directed by the Owner. The work shall include, but not be limited to, furnishing all labor, material, tools, and equipment and performing all work required for potholing all utilities of unknown elevation and utilities within five (5) feet on either side of the centerline of the proposed pipeline, including exposing the limits, both depth and width, of concrete encasements, conduit banks, and all other work necessary to complete this work as described in the Contract Documents.

2.20 BID ITEM NO. A20 – REPLACE TRAFFIC DETECTION LOOPS (LUMP SUM)

Payment for Replace Traffic Detection Loops shall be paid for at the contract lump sum price, complete and in accordance with the Contract Documents, and as directed by the Owner. The contract price for work under this items shall include, but not be limited to, furnishing all labor, material, tools, and equipment and performing all work required for restoration of the traffic detection loops, replacing damaged traffic detection loops, testing of traffic signal loops, coordination with Caltrans District 5, and all other work necessary to complete this item of work

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as shown on the Drawings, and described in the Contract Documents. The contract price for work under this item shall include, but not be limited to, furnishing all labor, material, tools, and equipment and performing all work required to restore the pavement and as described in the Contract Documents, in strict accordance with the Caltrans Encroachment Permit requirements, including but not limited to hot mix asphalt, cold planning and grinding, overlays, transporting the removed pavement to a local C&D Recycling Facility, compaction, testing, sealers and incidentals, and all other work necessary to complete this item of work as shown on the Drawings, and described in the Contract Documents.

The Owner reserves the right to vary quantities plus or minus 100% using the bid unit price to accommodate conditions encountered in the field. These adjustments are considered to be within the original contract scope and as such will not be considered as a basis for extra work, extra cost, or extra time.

2.21 BID ITEM NO. A21 – INSTALL ADS ECHO (LUMP SUM)

Payment for Install ADS Echo shall be paid for at the contract lump sum price, complete and in accordance with the Contract Documents, and as directed by the Owner. The contract price for work under this items shall include, but not be limited to, furnishing all labor, material, tools, and equipment, testing, programming, and performing all work required for mounting and providing a fully-functioning ADS Echo system inside a manhole using the Wall Mount Bracket and Bar as directed by the Owner and per manufacturers recommendations and installation instructions.

The Owner reserves the right to vary quantities plus or minus 100% using the bid unit price to accommodate conditions encountered in the field. These adjustments are considered to be within the original contract scope and as such will not be considered as a basis for extra work, extra cost, or extra time.

2.22 BID ITEM NO. A22 – RECORD DRAWINGS (LUMP SUM)

Payment for Record Drawings shall be paid for at the contract lump sum price, complete and in accordance with the Contract Documents, and as directed by the Owner. The contract price for work under this item shall include, but not be limited to, furnishing all labor, material, tools, and equipment and performing all work required for maintaining and submitting the project record drawings at the end of the project, and all other work necessary to complete this item of work as shown on the Drawings, and described in the Contract Documents. These record drawings must be reviewed monthly with the Owner to receive payment for any work.

ADDITIONS FOR ADDITIONAL SCOPE NOT INCLUDED IN THE CONTRACT DOCUMENTS

Additional Bid Items listed below are included by the Owner to perform work not presently identified in the Contract Documents. These bid items may be encountered, and therefore are included as original contract scope without specific locations for the work provided. The Contractor is obligated to accomplish the work identified by the bid item within the original contract duration regardless of where these items are encountered. The Contractor will not be entitled to an extension of time or an adjustment in contract price beyond that allowed by the bid item price. The Contractor will be required to revise his schedule by adding activities to reflect these authorized bid items. This updated schedule will be required on the next schedule update after the Contractor receives written authorization to proceed with the work. The Contractor will not be entitled to additional time or compensation for indirect impact costs regardless of where the work is

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encountered. The Contractor will not receive impact or other indirect costs for work associated with these bid items.

Payment for Additional Bid Items will be made only when authorized by the Owner. Payment for all additional bid items is subject to the retention provisions of the contract.

When the Owner's use of the Bid Item found in this section of the contract exceeds 200% of the Bid Item quantity, the Contractor or Owner may request that the Unit Price be renegotiated for only those quantities in excess of the 200%. This provision is to prevail over any conflicting general condition provision for these bid items. In the event that the Owner and Contractor are unable to agree on a new Unit Price for the excess quantities, the Owner may direct the Contractor to proceed at the Owner's determined unit price and the Contractor shall be entitled to reserve his right to dispute the Owner's unilateral determination.

Additional Bid Items will be used to analyze the bids and determine contract award. However, the Contractor is not authorized to collect for any work done under these bid items until authorized in writing by the Owner, and the Owner is not obligated to authorize any of these bid items.

The Additional Bid Items for work not included on the contract documents, but included in the Contract Scope are as follows:

2.23 ADDITION NO. A23 – ALLOWANCE FOR CONTROLLED LOW-STRENGTH MATERIAL (CLSM)

Measurement for this Bid Item shall be the actual volume in cubic yards needed to fill voids beyond 10% of the geometric volume of CLSM calculated to fill the 12-inch diameter gravity sewer main and the associated manholes as specified in Bid Item No. A15. Payment for work under this Bid Item shall be made only to the extent that such work is specifically authorized in advance by the Owner. The Owner reserves the right to vary the quantity from 0% to 200% of that quantity specified in the Bid Schedule. This item is considered as incidental to the Contract and may be adjusted or deleted entirely.

BID SCHEDULE B – INSTALL SEWER MAIN USING PIPE BURSTING

2.24 BID ITEM NO. B1 – MOBILIZATION, BONDS, PERMITS, CLEANUP AND DEMOBILIZATION (LUMP SUM)

Payment for Mobilization, Bonds, Permits, Cleanup and Demobilization shall be made at the contract lump sum price complete and in accordance with the Contract Documents, and as directed by the Owner. The contract price shall include, but is not limited to, the following principal items: obtaining all permits, insurance, and bonds; mobilizing labor force, equipment and construction facilities onto the site; providing necessary storage, parking, and staging areas; obtaining construction water supply from the water purveyor and paying for meter deposits; providing all temporary piping and equipment to get water from meter to site as needed; providing on-site sanitary facilities; preparing written plans for worksite safety, confined space entry, and emergency and first aid procedures with all personnel trained in each one of the aforementioned plans; performing all training; performing project site cleanup; and demobilizing labor force, construction equipment and facilities. This bid item shall also include all development and submittal of any required Confined Space Programs as required to complete the work in accordance with Cal-OSHA requirements. Payment for this bid item shall also include taking photos and preparing video record, including all required copies and labeling, of the existing site conditions prior to the start

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of construction and when construction is complete, and submitting them in accordance with the General Conditions. Payment for this bid item will include mobilization and demobilization for each phase of work as described herein under sequence of work. Payment for this bid item shall be limited to 8 percent of the total contract price. No more than four percent of the mobilization shall be paid for initial project mobilization. Two percent shall be reserved for demobilization. The remaining two percent shall be dedicated to mobilization between the different phases of work as indicated in this section.

2.25 BID ITEM NO. B2 – TEMPORARY EROSION CONTROL/STORM WATER POLLUTION CONTROL PLAN (WPCP) (LUMP SUM)

Payment for Temporary Erosion Control/Storm Water Pollution Control Program (WPCP) shall be made at the contract lump sum price, complete and in accordance with the Contract Documents, and as directed by the Owner. The contract price for work under this item shall include, but not be limited to, furnishing all labor, material, tools, and equipment and performing all work required for establishing, maintaining, operating, and providing all reporting for a complete site erosion control and storm water pollution control plan to be implemented throughout construction. This includes, but is not limited to preparation of all required plans and regulatory agency submittals, the operation and protection of the site drainage systems, sampling, monitoring, reporting, desilting basins and risers, fiber rolls, erosion control blankets, silt fences, gravel bags, berms, stabilized construction entrances, or other measures as described in the Contractor's project-specific storm water pollution control plan and as necessary to provide a complete erosion control program in complete compliance with all applicable State Water Resources Control Board (SWRCB) and all other jurisdictional requirements.

2.26 BID ITEM NO. B3 - SHEETING, SHORING, AND BRACING (LUMP SUM)

Payment for Sheet piling, Shoring, and Bracing, or equivalent, shall be paid for at the contract lump sum price, complete, in accordance with the Contract Documents, and as directed by the Owner. Payment shall include full compensation for furnishing all labor, materials, tools and equipment, and doing all work involved in providing work, material, and worker protection for the entire project. The Contractor shall perform geotechnical investigations, as needed, to be satisfied of existing soil conditions. This bid item shall include trench shoring sufficient so as not to cause damage to adjacent paving or facilities, including sloughing or undermining the existing roadway pavement sections. Damage to adjacent paving or facilities, beyond the trench limits shown on the Drawings due to insufficient trench shoring methods shall be the responsibility of the Contractor and no additional payment methods shall be made thereof. Payment shall also include the cost of preparation and submittal of designs, plans, calculations, sketches, or drawings by a Professional Engineer registered in the State of California in strict accordance with the State of California's Department of Transportation Trenching and Shoring Manual and obtaining the required permit from the State Division of Industrial Safety and all other jurisdictional requirements.

2.27 BID ITEM NO. B4 – DEWATERING, TREATMENT OF GROUNDWATER, AND LEGAL DISPOSAL (LUMP SUM)

Payment for Dewatering, Treatment of Groundwater, and Legal Disposal shall be made at the contract lump sum price, complete in place, and in accordance with the Contract Documents, and as directed by the Owner. Payment for this bid item shall include, but is not limited to, all labor, materials, tools, equipment, supplies, supervision, and incidentals required for obtaining a groundwater discharge permit and performing dewatering, including monitoring, as necessary to

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complete all phases and elements of the Work in accordance with the Contract Documents. Payment for this bid item shall include compliance with the appropriate regulatory and jurisdictional agency for groundwater discharge to the existing public sewer system including, but not limited to, temporary storage of discharge, treatment, solids settling, monitoring, disposal of waste, and reporting requirements, including, but not limited to, quantity, frequency, quality, clarity, and discharge location. Payment shall include all coordination, discharge fees, application fees, initial submittals and resubmittals, insurance, communication, and construction means and methods to comply with the appropriate regulatory and jurisdictional agency permit requirements.

2.28 BID ITEM NO. B5 – TEMPORARY SEWER BYPASS SYSTEM (LUMP SUM)

Payment for Temporary Sewer Bypass System shall be made at the contract lump sum price, complete in place, and in accordance with the Contract Documents, and as directed by the Owner. Payment for establishing and maintaining the sewage bypass system shall include the preparation of a bypass plan to be submitted by the Contractor to the Owner for review and approval. The Contract price for work under this item shall include, but is not limited to, furnishing all labor, materials, incidentals, and equipment for the following principal items:

- A. Construct, establish, operate, and maintain temporary bypass systems as required to construct the sewer pipeline, lateral extensions, manholes, connections, and all other work included in the Contract Documents. Contractor shall maintain sewer service at all times during construction, in accordance with the approved phasing and bypass plan, Section 02960, and other requirements of these specifications.
- B. Complete all excavation, trenching, backfill, compaction, and trench resurfacing for temporary bypass systems.
- C. Furnish and install all pipe, fittings, pumps, back-up pumps, fuel, and generators; compliance with all noise ordinances and regulations; disconnection, moving, and reconnection of bypass equipment if necessary; and removal of all equipment at job completion.
- D. Provide redundant pipe, pumps, and equipment that can operate as a back-up system if needed.
- E. Establish and provide a sewage spill prevention plan and emergency response plan to the Owner for approval per Contract Documents.
- F. Provide bypass operations and a maintenance program continuously during the period that bypassing is necessary to complete the Work.
- G. Provide all means necessary to protect all existing utilities, pipes, manholes, and laterals and all other components of the existing sewer system while furnishing, installing, and maintaining the temporary bypass equipment.
- H. Restore all flows to original paths/directions or to the new system once bypass operations are no longer necessary.

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2.29 BID ITEM NO. B6 – CCTV INSPECTION (LUMP SUM)

Payment for CCTV Inspection shall be made at the contract lump sum price for all new and existing sewer mains televised in accordance with the Contract Documents, and as directed by the Owner. The contract price for work under this item shall include, but is not limited to, furnishing all labor, materials, incidentals, and equipment for televising new sewer mains upon their installation, and existing sewer mains to determine the location of existing service laterals. Payment for this bid item shall include all mobilization necessary for televising different portions of the sewer system; pipeline cleaning; video equipment; lighting; documentation in audio, written and digital video disc (DVD) formats; and inspection reports. Traffic control and/or temporary bypassing of sewer flows, not included in any other bid item, and considered necessary for the execution of this bid item, shall be included in this bid item.

2.30 BID ITEM NO. B7 – PIPE BURST EXIST 12-INCH CMP SEWER MAIN WITH 12-INCH HDPE SEWER MAIN (UNIT PRICE)

Payment for Pipe Burst Existing 12-inch CMP Sewer Main with 12-inch HDPE Sewer Main shall be made at the contract unit price for the length of sewer main actually installed by the Contractor, complete in place, and in accordance with the Contract Documents, and as directed by the Owner. Measurement of installed pipeline shall be made to the nearest foot along its centerline projection onto a horizontal plane. This bid item will be measured for the actual horizontal length, in linear feet, of pipe installed measured from centerline of manhole, or structure, to centerline of manhole, or structure. No measurement will be made or included for surplus pipe (wastage) remaining because of Contractor's need to cut standard lengths to fit field conditions. Measurement for payment does not signify that the new pipe is accepted. These bid items include but are not limited to preliminary cleaning, excavating access shafts/trenches and air gaps, demolition and removal of pavement surfaces, repair of laterals if damaged by pipe bursting operations, bursting existing pipe, installing new pipe materials, pipe removal, electrofusion couplings concrete manhole base and wall reconstruction, removal of manhole base concrete overpour, connecting and grouting pipe ends in manhole, backfilling and compacting access shafts/trenches and air gaps, temporary pavement or sidewalk patch, final pavement repair, compaction testing of both backfill materials and asphalt, pipe connections, final cleaning and pipe testing, and mandrel test including furnishing all equipment, materials and personnel associated therewith, and all incidentals required by these Specifications and Drawings. These unit prices shall constitute full payment furnishing all labor, materials, tools, equipment, and incidentals required for doing all the work involved in the pipe bursting installation, as shown on the Plans and specified in these Specifications, complete in place and no additional compensation will be allowed therefore.

2.31 BID ITEM NO. B8 – PIPE BURST EXIST 12-INCH CMP SEWER MAIN WITH 16-INCH HDPE SEWER MAIN (UNIT PRICE)

Payment for Pipe Burst Existing 12-inch CMP Sewer Main with 16-inch HDPE Sewer Main shall be made at the contract unit price for the length of sewer main actually installed by the Contractor, complete in place, and in accordance with the Contract Documents, and as directed by the Owner. Measurement of installed pipeline shall be made to the nearest foot along its centerline projection onto a horizontal plane. This bid item will be measured for the actual horizontal length, in linear feet, of pipe installed measured from centerline of manhole, or structure, to centerline of manhole, or structure. No measurement will be made or included for surplus pipe (wastage) remaining because of Contractor's need to cut standard lengths to fit field conditions. Measurement for payment does not signify that the new pipe is accepted. These bid items include but are not limited

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to preliminary cleaning, excavating access shafts/trenches and air gaps, demolition and removal of pavement surfaces, repair of laterals if damaged by pipe bursting operations, bursting existing pipe, installing new pipe materials, pipe removal, electrofusion couplings concrete manhole base and wall reconstruction, removal of manhole base concrete overpour, connecting and grouting pipe ends in manhole, backfilling and compacting access shafts/trenches and air gaps, temporary pavement or sidewalk patch, final pavement repair, compaction testing of both backfill materials and asphalt, pipe connections, final cleaning and pipe testing, and mandrel test including furnishing all equipment, materials and personnel associated therewith, and all incidentals required by these Specifications and Drawings. These unit prices shall constitute full payment furnishing all labor, materials, tools, equipment, and incidentals required for doing all the work involved in the pipe bursting installation, as shown on the Plans and specified in these Specifications, complete in place and no additional compensation will be allowed therefore.

2.32 BID ITEM NO. B9 – CONSTRUCT SEWER LATERAL RECONNECTION (LUMP SUM)

Payment for Construct Sewer Lateral Reconnection shall be made at the contract lump sum price for the existing sewer service laterals to be extended and reconnected to the new sewer main, complete in place and regardless of length, diameter, or depth of the sewer lateral, and in accordance with the Contract Documents and as directed by the Owner. Payment for this bid item shall include, but not be limited to, all labor, materials, tools, equipment, supplies, supervision, and incidentals required to furnish and install all pipe, fittings, adapters, cleanouts, and all other appurtenances, piping components, and hardware in accordance with the Contract Documents. This shall also include the protection of existing utilities/facilities, testing of new facilities, and all other work necessary to comply with the Contract Documents. This bid item shall include all excavation, pipe bedding, backfilling, compaction, exporting and disposal of excavated materials, imported materials, and cleanup. The contract price for work under this item shall include, but not be limited to, furnishing all labor, material, tools, and equipment and performing all work required to remove and replace concrete curb, gutters, and sidewalks, and remove and replace the pavement as described in the Contract Documents, in strict accordance with the Caltrans Encroachment Permit requirements, including but not limited to hot mix asphalt, cold planning and grinding, overlays, transporting the removed pavement to a local C&D Recycling Facility, compaction, testing, sealers and incidentals, and all other work necessary to complete this item of work as shown on the Drawings, and described in the Contract Documents. This bid item shall include all necessary coordination with the Owner for work that is to occur outside of the public right-of-way as specified in Section 01039. Payment shall include the Contractor's field verification of existing conditions sufficiently ahead of time to allow for design revisions if actual conditions differ than what is shown on the Drawings.

2.33 BID ITEM NO. B10 – REHABILITATE AND EPOXY LINE SEWER MANHOLE NO. A10-7, A10-9, A10-10 (LUMP SUM)

Payment for Rehabilitate and Epoxy Line Sewer Manhole No. A10-7, A10-9, A10-10 shall be made at the Contract lump sum price, complete in place, and in accordance with the Contract Documents, and as directed by the Owner. The contract price for work under this item shall include, but not be limited to, furnishing all labor, material, tools, and equipment and performing all work required for the remodeling, coating, and lining of existing sewer manhole including manhole and concrete rehabilitation, manhole modifications, core drilling, manhole adapters, fittings, rechanneling, interior lining system per Section 09801, and all other work as described in the Contract Documents.

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2.34 BID ITEM NO. B11 – REMOVE EXISTING BRICK MANHOLE NO. A10-14 AND CONSTRUCT NEW 5-FT DIAMETER MANHOLE NO. A10-14 (LUMP SUM)

Payment for Remove Existing Brick Manhole No. A10-14 and Construct new 5-ft Diameter Manhole No. A10-14 shall be made at the contract lump sum price, complete in place, and in accordance with the Contract Documents, and as directed by the Owner. Payment for this bid item shall include, but not be limited to, all labor, materials, tools, equipment, supplies, supervision, and incidentals required to remove and dispose of existing sewer manhole including frame and cover, cone, shaft and manhole base as specified in the Contract Documents. The Contract Price for work under this item shall include but is not limited to furnishing all labor, material, tools, and equipment and performing all work required to construct new manhole pursuant to all standards and in accordance with the Contract Documents. This includes but is not limited to all earthwork, excavation, bedding, backfilling, compaction, exporting and disposal of excavated materials, imported materials, and cleanup. The contract price for work under this item shall include, but not be limited to, furnishing all labor, material, tools, and equipment and performing all work required to restore the pavement and as described in the Contract Documents, in strict accordance with the Caltrans Encroachment Permit requirements, including but not limited to hot mix asphalt, cold planning and grinding, overlays, transporting the removed pavement to a local C&D Recycling Facility, compaction, testing, sealers and incidentals, and all other work necessary to complete this item of work as shown on the Drawings, and described in the Contract Documents. This bid item shall include bedding and subgrade preparation with a 12-inch layer of 3/4-inch crushed rock underlain with geotextile, including removing and legally disposing overexcavated materials, replacement and compaction of 3/4-inch crushed rock as shown on the Drawings. Contractor shall not overexcavate beyond the 12-inch subgrade preparation limits and depths shown in the Drawings without prior written approval and will not be compensated unless approval was granted by the Owner in advance of performing overexcavation. Payment shall also include all pre-cast concrete manhole sections, cast-in-place concrete bases, interior coatings and linings, waterproofing exterior, frames and lids, pipe, couplings, watertight seals, testing, inspection, and all other work necessary to complete the work as described within the Contract Documents.

2.35 BID ITEM NO. B12 – OVEREXCAVATION OF UNSUITABLE MATERIALS AND ROCK REFILL (UNIT PRICE)

Payment for Overexcavation of Unsuitable Materials and Rock Refill shall be made at the contract unit price, complete in place, in accordance with the Contract Documents, and as directed by the Owner. The contract price for work under this item shall include but not be limited to furnishing all labor, materials, tools, and equipment and performing all work required for overexcavation including removing and legally disposing overexcavated materials, replacement and compaction of 3/4-inch crushed rock and geotextile, as described within the Contract Documents and as directed by the Owner. This item shall only be required when directed by the Engineer and includes up to 3-feet of overexcavation beyond the bedding and subgrade preparation included in other bid item, or elsewhere in the Contract Documents. Contractor shall not overexcavate the trench without prior written approval and shall not be compensated unless approval was granted in writing by the Owner in advance of performing overexcavation.

The Owner reserves the right to vary quantities plus or minus 100% using the bid unit price to accommodate conditions encountered in the field. These adjustments are considered to be within the original contract scope and as such will not be considered as a basis for extra work, extra cost, or extra time.

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2.36 BID ITEM NO. B13 – TRAFFIC CONTROL, FLAGGING, AND TRENCH PLATES (LUMP SUM)

Payment for Traffic Control, Flagging, and Trench Plates will be paid for at the contract lump sum price complete, in accordance with the Contract Documents, and as directed by the Owner. The contract price for work under this item shall include, but not be limited to, submitting and obtaining approval of traffic control plans by Caltrans District 5, furnishing all labor, material, tools, and equipment and performing all work to obtain a traffic control permit, the implementation of the traffic control plans and all traffic control measures the entire duration of the project, including, but not limited to, flagging, signage, boards, temporary striping and markings, traffic delineators, permit fees, all work necessary to erect, take down, and store materials, and all other items required to provide traffic control for work, including, but not limited to, pipelines, connection work, and all other work requiring traffic control as shown on the Drawings, and described in the Contract Documents.

The contract price for work under this item shall include, but not be limited to, recessed trench plating, complete and in accordance with the Contract Documents, and as directed by the Owner. The contract price for work under this item shall include, but not be limited to, furnishing all labor, material, tools, and equipment and performing all work required for recessed trench plating as described in the Contract Documents. This price also includes the cost of grinding the area for the trench plates at the end of each shift and having the road surface and trench plate completely level when the lanes are open to traffic.

2.37 BID ITEM NO. B14 – PAVEMENT STRIPING AND MARKINGS (LUMP SUM)

Payment for Pavement Striping and Markings shall be made at the contract lump sum price complete, and in place, in accordance with the Contract Documents, and as directed by the Owner. The contract price for work under this item shall include but not be limited to furnishing all labor, materials, tools, and equipment and performing all work required for replacement of all existing pavement striping, signs, legend, and markers that are disturbed, damaged, or removed during construction.

2.38 BID ITEM NO. B15 – UTILITY POTHoles (LUMP SUM)

Payment for Utility Potholes shall be made at the contract lump sum price complete, and in place, in accordance with the Contract Documents, and as directed by the Owner. The work shall include, but not be limited to, furnishing all labor, material, tools, and equipment and performing all work required for potholing all utilities of unknown elevation and utilities within five (5) feet on either side of the centerline of the proposed pipeline, including exposing the limits, both depth and width, of concrete encasements, conduit banks, and all other work necessary to complete this work as described in the Contract Documents.

2.39 BID ITEM NO. B16 – INSTALL ADS ECHO (LUMP SUM)

Payment for Install ADS Echo shall be paid for at the contract lump sum price, complete and in accordance with the Contract Documents, and as directed by the Owner. The contract price for work under this items shall include, but not be limited to, furnishing all labor, material, tools, and equipment, testing, programming, and performing all work required for mounting and providing a

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fully-functioning ADS Echo system inside a manhole using the Wall Mount Bracket and Bar as directed by the Owner and per manufacturers recommendations and installation instructions.

The Owner reserves the right to vary quantities plus or minus 100% using the bid unit price to accommodate conditions encountered in the field. These adjustments are considered to be within the original contract scope and as such will not be considered as a basis for extra work, extra cost, or extra time.

2.40 BID ITEM NO. B17 – RECORD DRAWINGS (LUMP SUM)

Payment for Record Drawings shall be paid for at the contract lump sum price, complete and in accordance with the Contract Documents, and as directed by the Owner. The contract price for work under this item shall include, but not be limited to, furnishing all labor, material, tools, and equipment and performing all work required for maintaining and submitting the project record drawings at the end of the project, and all other work necessary to complete this item of work as shown on the Drawings, and described in the Contract Documents. These record drawings must be reviewed monthly with the Owner to receive payment for any work.

ADDITIONS FOR ADDITIONAL SCOPE NOT INCLUDED IN THE CONTRACT DOCUMENTS

Additional Bid Items listed below are included by the Owner to perform work not presently identified in the Contract Documents. These bid items may be encountered, and therefore are included as original contract scope without specific locations for the work provided. The Contractor is obligated to accomplish the work identified by the bid item within the original contract duration regardless of where these items are encountered. The Contractor will not be entitled to an extension of time or an adjustment in contract price beyond that allowed by the bid item price. The Contractor will be required to revise his schedule by adding activities to reflect these authorized bid items. This updated schedule will be required on the next schedule update after the Contractor receives written authorization to proceed with the work. The Contractor will not be entitled to additional time or compensation for indirect impact costs regardless of where the work is encountered. The Contractor will not receive impact or other indirect costs for work associated with these bid items.

Payment for Additional Bid Items will be made only when authorized by the Owner. Payment for all additional bid items is subject to the retention provisions of the contract.

When the Owner's use of the Bid Item found in this section of the contract exceeds 200% of the Bid Item quantity, the Contractor or Owner may request that the Unit Price be renegotiated for only those quantities in excess of the 200%. This provision is to prevail over any conflicting general condition provision for these bid items. In the event that the Owner and Contractor are unable to agree on a new Unit Price for the excess quantities, the Owner may direct the Contractor to proceed at the Owner's determined unit price and the Contractor shall be entitled to reserve his right to dispute the Owner's unilateral determination.

Additional Bid Items will be used to analyze the bids and determine contract award. However, the Contractor is not authorized to collect for any work done under these bid items until authorized in writing by the Owner, and the Owner is not obligated to authorize any of these bid items.

The Additional Bid Items for work not included on the contract documents, but included in the Contract Scope are as follows:

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2.41 BID ITEM B18 – ALLOWANCE FOR AC SURFACE REPAIR AFTER PIPE BURSTING (UNIT PRICE - REVOCABLE IF NOT USED)

Measurement and payment for this item shall be per square feet (SF) of AC surface upheaval repair. This bid item includes replacing AC surface due to upheaval, which includes saw cutting, grinding and surface demolition; removal and proper disposal of asphalt, and asphalt containing reinforcing fabric, preparation of base course, prime coat and final asphalt concrete placing, compaction and joining, pavement markings reference development and other submittals, placement of temporary markings, removal of temporary markings, cleaning prior to final markings, restoration of final traffic stripes and markings, resetting survey monuments, vehicle detectors, restoration of speed humps and markings, and other surface features disturbed by the work; including furnishing all equipment, materials and personnel associated therewith, and in accordance with the Contract Documents. The Owner or Engineer during construction operations will make the determination if/where AC surface upheaval repair will be required.

The Owner reserves the right to vary the quantity from 0% to 200% of that quantity specified in the Bid Schedule. This item is considered as incidental to the Contract and may be adjusted or deleted entirely.

2.9 BID ITEM B19 – ALLOWANCE FOR SAG REPAIR AFTER PIPE BURSTING (UNIT PRICE - REVOCABLE IF NOT USED)

Measurement and payment for this item shall be per linear feet (LF). The work shall include, but not be limited to, full compensation for sag repair after pipe bursting including surveying, all site clearing, excavation, sawcutting, grinding, removal and disposal of above/below grade concrete slab if present, removal and disposal of asphalt containing reinforcing fabric, spoil disposal, installation of bedding to remove sag, backfill, compaction, all testing, cleaning, temporary fencing, temporary plating, temporary paving, monument restoration, surface restoration of all public and private improvements including asphalt paving, reinforcing fabric if any, concrete paving, driveways, landscaping/irrigation, striping, pavement markers, and all incidentals required by these Specifications and Drawings and no additional compensation will be allowed therefor. The Owner or Engineer during construction operations will make the determination if/where sag repair will be required.

The Owner reserves the right to vary the quantity from 0% to 200% of that quantity specified in the Bid Schedule. This item is considered as incidental to the Contract and may be adjusted or deleted entirely.

PART 3 – EXECUTION

3.1 SEQUENCE OF WORK

Prior to mobilization and beginning any work, the Contractor shall submit a detailed, written work plan and schedule which describes the Contractor's proposed work schedule and sequence of major tasks and event milestones to complete the project in general accordance with the sequence of work as described herein and described in the Contract Documents. A critical path shall be identified on the schedule, include milestones for substantial completion and final completion. The Contractor shall be required to leave the project site in nice, orderly condition, with trench places recessed and secured in place on July 3rd to accommodate the City's planned 4th of July Celebration on July 4th

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at Laguna Grande Park. The Contractor shall include this event in their written work plan and schedule. The Contractor shall provide the Owner with a written schedule showing, at minimum, with begin and end dates, the following sequence of work:

- A. Contractor shall provide the Owner with a copy of an approved dewatering discharge permit granting the Contractor approval to discharge the groundwater into the existing public sewer system.
- B. Contractor shall pothole all existing utilities as required on the Drawings. Contractor shall field locate all existing sewer laterals, four (4) are shown on the Drawings and the approximate locations are provided on the Drawings. Contractor's Potholing Report shall be approved by the Owner confirming the design prior to Submittals.
- C. Contractor shall execute the work per the Contract Documents and as approved by the Owner. Contractor shall survey installed work for Record Drawings and receive approval by the Owner of completed installation prior to backfilling.
- D. Contractor shall complete final inspections and receive final approval from the Owner prior to acceptance of this portion of the work.

****END OF SECTION****

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SECTION 01039 – COORDINATION AND MEETINGS

PART 1 – GENERAL

1.1 WORK OF THIS SECTION

The work of this section shall include, but not be limited to, the requirements for coordination and meetings required for the Project, and as described in the Contract Documents, and as requested by the Owner.

1.2 COORDINATION AND PROJECT CONDITIONS

The Contractor shall coordinate scheduling, submittals, and Work of the various sections of the Project to ensure efficient and orderly sequence of installation of interdependent construction elements and with provisions for accommodating items to be installed later.

1.3 PRECONSTRUCTION MEETING

- A. The Owner will schedule a Preconstruction meeting after contract award. The Owner, Engineer, Construction Manager, Construction Observer, Contractor, Superintendent, Foreman, and Representatives from subcontractors shall be present.
- B. The Owner will distribute an agenda and the Engineer shall record minutes and distribute copies after meeting to participants and those affected by decisions made.
- C. The Contractor's detailed sequence of work, project schedule, schedule of values, and a list of labor, material and equipment rates for additional work shall be provided at the preconstruction meeting and maintained throughout the project.
- D. 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.

1.4 PROGRESS MEETINGS

- A. The Construction Manager shall schedule and administer meetings throughout progress of the Work at a maximum interval of every two weeks.
- B. The Construction Manager will make arrangements for meetings, prepare agenda with copies for participants, and preside at meetings.
- C. Attendance Required: Job superintendent, major Subcontractors and suppliers, Owner, Engineer, as appropriate to agenda topics for each meeting.
- D. The scheduled progress meetings will include, but is not limited to the following agenda items:
 - 1. Review minutes of previous meetings.
 - 2. Review of Work progress.
 - 3. Field observations, problems, and decisions.
 - 4. Identification of problems which impede planned progress.
 - 5. Review of submittals schedule and status of submittals.
 - 6. Review of off-site fabrication and delivery schedules.
 - 7. Maintenance of progress schedule.

SECTION 01039 – COORDINATION AND MEETINGS

8. Corrective measures to regain projected schedules.
 9. Planned progress during succeeding work period.
 10. Coordination of projected progress.
 11. Maintenance of quality and work standards.
 12. Effect of proposed changes on progress schedule and coordination.
 13. Jobsite safety.
 14. Other business relating to Work.
- E. The Owner's Representative will record minutes and distribute copies after meeting to participants and those affected by decisions made.

1.5 COORDINATION WITH OWNER/CONSTRUCTION MANAGER

- A. The Contractor shall notify the Owner/Construction Manager at least 72 hours before start of construction.
- B. The Contractor shall submit written details and reasons for proposed deviations from Contract Documents. Do not deviate from Contract Documents until written authorization is received.
- C. The Contractor shall coordinate with the Owner/Construction Manager a minimum of 7 calendar days prior to connecting to existing facilities. Connections shall not be made without Owner and/or Owner's Representative present unless such absence is specifically identified in writing prior to work.
- D. The Contractor shall coordinate all work with the Owner sufficiently ahead of time so as to not interfere with the Owner's operation of their system.
- E. The Contractor shall submit a detailed schedule to the Owner/Construction Manager in accordance with Section 01310 indicating specific work tasks and durations for all work that is to occur outside of the public right-of-way. The Contractor shall comply with work hour restrictions and notification requirements required by the property owner and approved by the Owner/Construction Manager.

1.6 COORDINATION WITH UTILITIES

- A. The Contractor shall protect all existing underground utilities unless noted otherwise on the drawings. The Contractor shall coordinate with all utilities affected by the project to mark-out their locations for potholing and notify utilities of progress during construction, so utility field personnel are available when required.
- B. Support or relocation of existing Utility Company facilities to accommodate Contractor's means and methods of conducting the Work shall be coordinated directly with the Utility Company. All costs associated with support or relocation shall be borne by the Contractor.
- C. All demolition of existing facilities or portions thereof shall be coordinated and performed by the Contractor. All costs associated with abandonment or demolition shall be borne by the Contractor.

SECTION 01039 – COORDINATION AND MEETINGS

PART 2 – MATERIALS (NOT USED)

PART 3 – EXECUTION (NOT USED)

****END OF SECTION****

SECTION 01039 – COORDINATION AND MEETINGS

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SECTION 01045 – CUTTING AND PATCHING

PART 1 – GENERAL

1.1 WORK OF THIS SECTION

The work of this section shall include, but not be limited to, furnishing all labor, materials, tools, and equipment for all cutting and patching, which includes the cutting and patching of nominally completed and previously existing concrete, steel, wood and miscellaneous metal structures, piping and pavement, in order to accommodate the coordination of Work, or the installation of other facilities or structures or to uncover other facilities and structures for access or inspection, or to obtain samples for testing, or for similar purposes, as necessary to construct the work in accordance with the Contract Documents, and as directed by the Owner.

1.2 REQUIREMENTS OF STRUCTURAL WORK

- A. Structural Work shall not be cut and patched in a manner resulting in a reduction of load-carrying capacity or load/deflection ratio.
- B. Prior to cutting-and-patching the following categories of Work, the Contractor shall obtain the Engineer's approval to proceed, and said approval shall be performed in consultation with the Owner:
 - 1. Structural steel
 - 2. Miscellaneous structural metals, including equipment supports, stair systems and similar categories of work
 - 3. Structural concrete
 - 4. Foundation construction
 - 5. Timber and primary wood framing
 - 6. Bearing and retaining walls
 - 7. Structural decking
 - 8. Exterior curtain wall construction
 - 9. Pressurized piping, vessels and equipment

1.3 OPERATIONAL AND SAFETY LIMITATIONS

- A. The Contractor shall not cut-and-patch operational elements and safety-related components in a manner resulting in a reduction of capacities to perform in the manner intended or resulting in decreased operational life, increased maintenance, or decreased safety.
- B. Prior to cutting-and-patching the following categories of Work, the Contractor shall obtain the Engineer's approval to proceed:
 - 1. Sheeting, shoring and cross bracing

SECTION 01045 – CUTTING AND PATCHING

2. Operating systems and equipment
3. Water, moisture, vapor, air and smoke barriers, membranes and flashings
4. Noise and vibration control elements and systems
5. Control, communication, conveying and electrical wiring systems

1.4 VISUAL REQUIREMENTS

- A. The Contractor shall not cut-and-patch Work which is exposed on the exterior or exposed in occupied spaces in a manner resulting in a reduction of visual qualities or resulting in substantial evidence of the cut-and-patch Work, both as judged solely by the Engineer. The Contractor shall remove and replace Work judged by the Engineer to have been cut-and-patched in a visually unsatisfactory manner.

1.5 APPROVALS

- A. Where prior approval of cutting-and-patching is required, the Contractor shall submit the request 15 working days in advance of time the Work will be performed. The request should include a description of why cutting-and-patching cannot reasonably be avoided, how it will be performed, how structural elements (if any) will be reinforced, products to be used, firms and tradesmen to perform the Work, approximate dates of the Work, and anticipated results in terms of structural, operational, and visual variations from the original Work.
- B. The Contractor shall also request approval to proceed prior to starting Work of this Section.

PART 2 – MATERIALS

2.1 MATERIALS USED IN CUTTING-AND-PATCHING

- A. Except as otherwise indicated, the Contractor shall provide materials for cutting-and-patching which will result in equal-or-better Work than the Work being cut-and-patched in terms of performance characteristics and including visual effects where applicable. The Contractor shall use materials identical to the original materials where feasible.
- B. Materials shall comply with the requirements of the technical specifications or Standard Specifications wherever applicable.

PART 3 – EXECUTION

3.1 PREPARATION

- A. The Contractor shall provide adequate temporary support for the Work to be cut to prevent failure.
- B. The Contractor shall provide adequate protection of other Work during cutting-and-patching.

SECTION 01045 – CUTTING AND PATCHING

3.2 INSTALLATION

- A. The Contractor shall employ skilled tradesmen to perform cutting-and-patching. Except as otherwise indicated, the Contractor shall proceed with cutting-and-patching at the earliest feasible time and perform the Work promptly.
- B. The Contractor shall use methods least likely to damage the Work to be retained and Work adjoining.
 - 1. In general, where physical cutting action is required, the Contractor shall cut the Work with sawing and grinding tools, not with hammering and chopping tools. Openings through concrete Work shall be core drilled.
 - 2. Comply with the requirements of technical specifications wherever applicable.
 - 3. Comply with the requirements of other applicable Specification sections where cutting-and-patching requires excavating and backfilling.
- C. The Contractor shall patch with seams which are as invisible as possible and comply with specified tolerances for the Work.
- D. The Contractor shall restore exposed seams of patched area; and, where necessary, extend finish restoration onto retained Work adjoining, in a manner which will eliminate evidence of patching.

****END OF SECTION****

SECTION 01045 – CUTTING AND PATCHING

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SECTION 01047 – CONNECTIONS TO EXISTING FACILITIES

PART 1 – GENERAL

1.1 WORK OF THIS SECTION

The work of this Section shall include, but not be limited to, furnishing all labor, materials, tools, and equipment for connecting to existing facilities, as necessary to complete the Project, and in accordance with the Contract Documents, and as directed by the Owner.

- A. Contractor shall perform all construction necessary to complete connections and tie-ins to existing facilities under Owner supervision, including respective Utility Owners.
- B. Keep existing facilities in operation, unless otherwise specifically permitted in these Specifications or approved by the Owner.
- C. Contractor shall perform all construction activities so as to avoid interference with operations of the facility and the work of others.
- D. Contractor shall provide a pothole report that locates, and field verifies all existing piping, structures and equipment affected by the work. All potholing shall be performed by the Contractor at no additional cost to the Owner. Delays in the work, as a result of insufficient potholing, will be solely the Contractor's responsibility. No time extensions will be allowed for work that is delayed as a result of insufficient potholing and field verification.

1.2 RELATED WORK SPECIFIED ELSEWHERE

The Work of the following Sections also applies to the Work of this Section. Other Sections, not referenced below, shall also apply to the extent required for proper performance of this Work.

- A. Section 02222 – Protect Existing Underground Utilities

1.3 SEQUENCING AND OPERATIONS

- A. Insofar as possible, all equipment shall be tested and in operating condition before the final tie-ins are made to connect equipment to the existing facility.
- B. Contractor shall carefully coordinate all work and schedules and shall provide Owner 10 day written notice before shutdowns or by-passes are required. Contractor shall meet all requirements of the Owner and the requirements of other affected utility agencies.

1.4 SUBMITTALS

- A. Submit detailed schedule of proposed disconnections of services and reconnections, listing sequence and durations of all activities including shutdowns and tie-ins. The detailed schedule must be submitted by the Contractor and approved by the Owner prior to the "Request for Shutdown" being submitted.

PART 2 – MATERIALS (NOT USED)

PART 3 – EXECUTION (NOT USED)

****END OF SECTION****

SECTION 01047 – CONNECTIONS TO EXISTING FACILITIES

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SECTION 01060 - PERMITS AND REGULATORY REQUIREMENTS

PART 1 – GENERAL

1.1 WORK OF THIS SECTION

The work of this Section shall include, but not be limited to, furnishing all labor, materials, tools, and equipment for obtaining all permits and fulfilling regulatory requirements, as necessary to complete the Project, and in accordance with the Contract Documents, and as directed by the Owner.

- A. The Contractor shall obtain and comply with all regulatory and permit requirements, including, but not limited to the following:
 - 1. Permit(s) required for dewatering discharges from local jurisdiction. Contractor shall refer to Section 02140 and **Appendix C** for Monterey One Water Ordinance No. 2008-01 and Groundwater Discharging Permit Application for discharging into the public sewer system.
 - 2. State of California, Department of Transportation (Caltrans District 5) encroachment permit included in **Appendix F**.
 - 3. Comply with Environmental Document requirements included in **Appendix G**.
 - 4. Storm Water Pollution Control Plan (WPCP), including all applicable requirements of the local jurisdictional agency requirements and the National Pollutant Discharge Elimination System (NPDES) permit(s) issued by the Regional Water Quality Control Board.

1.2 RELATED WORK SPECIFIED ELSEWHERE

The Work of the following Sections also applies to the Work of this Section. Other Sections, not referenced below, shall also apply to the extent required for proper performance of this Work.

- A. Section 01300 – Submittals
- B. Section 02140 – Dewatering
- C. Appendices

1.3 GENERAL

The Contractor shall be responsible for obtaining all local, state, or federal permits required to perform the work. The Contractor shall provide a copy of the permit to the Owner prior to performing the Work requiring the permit.

PART 2 – PRODUCTS (NOT USED)

SECTION 01060 - PERMITS AND REGULATORY REQUIREMENTS

PART 3 – EXECUTION

3.1 STORM WATER POLLUTION CONTROL PLAN (WPCP) PREPARATION AND IMPLEMENTATION

- A. The Contractor shall implement the Storm Water Pollution Control Plan (WPCP) included in accordance with the National Pollution Discharge Elimination System (NPDES) based on the Contractor's construction activities to ensure compliance with the General Permit. The WPCP shall be kept on file with any amendments and made available upon request of the Owner, Caltrans, the Regional Water Quality Control Board or the State Water Resources Control Board.
- B. Contractor shall conduct an inspection of the construction site prior to anticipated storm events, after storm events and monthly between April and October to identify areas contributing to a discharge of storm water associated with construction activity and to evaluate whether the control practices to control pollutant loadings identified in the WPCP are adequate and properly implemented in accordance with the General Permit or whether additional control practices are needed. During extended storm events, inspections shall be conducted once every 24 hours.
- C. The Contractor shall notify the State Water Resources Control Board that all state and local requirements have been met in accordance with special provisions of the General Permit when construction is complete, or ownership has been transferred. If the Contractor does not notify the State Water Resources Control Board that construction activity has been completed, then the Contractor will continue to be invoiced for the annual fee.
- D. Amendments or changes to the WPCP shall be performed by the Contractor and are a requirement of the Contract Documents. The cost for implementing and maintaining the General Permit conditions and WPCP and BMP requirements shall be included in the cost of the construction; no additional compensations shall be given to meet or amend the WPCP.

3.2 JOB SAFETY

- A. Contractor acknowledges responsibility for job-site safety and acknowledges that the Engineer will not have any such responsibility. To the fullest extent permitted by law, the Contractor shall indemnify, defend and hold harmless Owner, Engineer, their parent 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 to persons or property including 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 Owner, Engineer, their parent and subsidiary companies, as well as their agents and employees, excepting only the sole negligence of Owner, Engineer, their parent or subsidiary companies and their agents and employees.
- B. All necessary machinery guards, railings, and other protective devices shall be provided as specified and/or required by the State of California Division of Industrial Safety and the Occupational Safety and Health Administration. It is assumed that all fabricators, electrical

SECTION 01060 - PERMITS AND REGULATORY REQUIREMENTS

and machinery manufacturers and other equipment suppliers are conversant with such regulations and they shall be responsible for the industrial safety aspects of such equipment. All equipment shall comply with all rules and regulations of the Safety Orders of the State of California Division of Industrial Safety and all local building, plumbing, and electrical codes and ordinances. Safety guards shall be easily removed to permit inspection, removal and repair of the moving parts.

- C. The Contractor shall have the appropriate equipment and trained personnel to enter confined spaces when necessary. The owner shall be provided with the Contractor's confined space policy and, any and all, applicable certifications and permitting in conformance with Occupational Safety and Health Administration regulations.

3.3 ENVIRONMENTAL COMPLIANCE REQUIREMENTS

- A. The following requirements are intended to supplement the Mitigation Measures required of the Contractor by the Mitigated Negative Declaration (MND). Wherever there may exist a conflict between the MND and these requirements, the MND shall govern.
- B. The Owner will retain a qualified project biologist who shall be present at the pre-construction meeting and shall perform construction related surveys and monitoring activities as detailed in this Specification. The biologist will inform the Contractor of the sensitive species and habitats which require protection and preservation. The Owner will also retain other environmental services as detailed below.
- C. The Owner shall retain a qualified project archaeologist meeting the Secretary of the Interior's standards for professional practice in archaeology who shall be present at the pre-construction meeting and shall perform construction monitoring activities and other related duties as detailed in this Specification. The archaeologist will inform the Contractor of the types of resources that may be encountered and that require avoidance and protection. The monitor will also be responsible for completing a daily log addressing construction activities, personnel on site and results of the monitoring, and for completing a final report summarizing the results of the monitoring effort and further recommendations for submittal to the corresponding Information Center of the California Historic Resources Information System.
- D. The Contractor shall coordinate with the Owner, project biologist, and other agents of the Owner during the course of construction and shall comply with all direction of the Owner in relation to the environmental compliance requirements. This will include a requirement to adhere to direction of the project biologist(s) and archaeological monitor(s) retained by the Owner. The Contractor shall provide access for the Owner, project biologist, and all other agents of the Owner to the site as required to perform surveys and monitoring activities. The Contractor shall provide the Owner with at least ten (10) working day notice prior to site mobilization so that the required surveys can be scheduled and performed. The Contractor shall not begin any construction related activities at the site until the required surveys have been performed and direction has been provided from the Owner that the Contractor may occupy the site. The Contractor shall comply with all limitations and mitigation required as a result of the site surveys.

SECTION 01060 - PERMITS AND REGULATORY REQUIREMENTS

E. Construction Lighting

No work shall be performed outside of normal working hours unless approved in writing by the Owner. If such work is approved, all construction-related night lighting used by the Contractor will be of low illumination, shielded, and directed downwards and away from adjacent areas. The Contractor shall modify or remove any lighting, or cease night work, as directed by the Owner, if the lighting does not meet the requirements of the Owner.

F. Noise Limits

1. The Contractor shall comply with applicable local noise ordinances and regulations specifying sound control, including the County and City Ordinances, and all other jurisdictions where haul routes may pass through. Measures to reduce construction related noise to the maximum extent feasible shall include, but not be limited to, the following:
 - a. If construction activity outside of normal working hours is approved by the Owner, the Contractor shall also obtain approval from the City of Seaside and all other jurisdictional agencies affected so respective noise regulations are always followed.
 - b. If night work is approved, the Contractor shall furnish, erect, install, arrange, and maintain noise mitigation measures, including, but not limited to, sound barriers and hotel accommodations for residents. The City of Seaside shall be the final authority in determining the necessary noise mitigation measures, which may arise from resident's complaints and noise mitigation measures shall be provided at no additional cost to the Owner.
 - c. If night work is approved, the Contractor shall submit Night-Time Noise Reduction Plan, which meets the requirements set forth in the adopted IS/MND.
2. Construction noise shall not exceed the "Noise Standards" set forth in Table 3-3 of Chapter 17.30.60 of the Seaside Municipal Code.
3. The Contractor shall maintain all construction equipment with properly outfitted and maintained manufacturer-recommended noise-reduction devices.

****END OF SECTION****

SECTION 01150 – MEASUREMENT AND PAYMENT

PART 1 – GENERAL

1.1 WORK OF THIS SECTION

Measurement and payment for bid items listed in the proposal shall be based upon use of a lump sum or unit price method. Extra work or changes in the work shall be accomplished as provided in the General Conditions.

1.2 RELATED WORK SPECIFIED ELSEWHERE

The Work of the following Sections also applies to the Work of this Section. Other Sections, not referenced below, shall also apply to the extent required for proper performance of this Work.

- A. General Conditions
- B. Section 01010 – Summary of Work
- C. Section 01170 – Special Technical Provisions

1.3 PAYMENT

A. Payment for Unit Price Items

Payment for a unit price bid item shall be based upon the amount shown in the Bid Schedule multiplied by the total quantity measurement of the item and shall be full compensation for furnishing all labor, transportation, materials, equipment, tools and appurtenances required for construction of the item complete in place in accordance with the Contract Documents, and as requested by the Owner.

B. Payment for Lump Sum Items

Payment for lump sum bid items shall be based upon the amount shown in the Bid Schedule and shall be full compensation for furnishing all labor, transportation, materials, equipment, tools and appurtenances required for construction of the item complete, in-place, in accordance with the Contract Documents, and as requested by the Owner. Progress Payment will be based upon measurement of work completed as described in Section 2 of this Specification.

C. Work Not Listed in the Bid Schedule

Costs for related work and appurtenances which are required and/or implied by the General Conditions, Technical Specifications, Special Technical Provisions and Drawings and are not listed as a separate bid item, but are necessary to complete the Project shall be included in the appropriate bid item or items within the proposal.

SECTION 01150 – MEASUREMENT AND PAYMENT

PART 2 – MATERIALS

2.1 GENERAL (MEASUREMENT)

Measurement for unit price quantities shall be based upon the appropriate bid item in the proposal. The actual quantity of measurement shall be as constructed by the Contractor in-place in conformance with the Drawings and Specifications.

2.2 LINEAR MEASUREMENTS

Pipeline and related facility measurements shall be made horizontally along the centerline of the pipeline and related facilities through tees, bends, valves, fittings, and as shown on the Drawings for its limits or as otherwise specified in the Special Technical Provisions.

2.3 AREA MEASUREMENTS

Measurement for bid items involving area units shall be based upon the surface area measured in acres, square yards, square feet, or as indicated in the bid item.

2.4 VOLUME MEASUREMENTS

Measurement for bid items involving volume units shall be based upon the volume measured in cubic yards, tons, or as indicated in the bid item.

2.5 UNIT MEASUREMENTS

Measurement for bid items involving units of the item shall be based upon the number of units counted as indicated in the bid item.

2.6 LUMP SUM MEASUREMENT

Lump sum items shall include all labor, delivery, materials, equipment and testing services as required by these Specifications for the complete installation of the bid items described in Section 01010. No separate payment shall be made for items not included by the Contractor in the total contract Bid Price as described in Part 3 herein.

PART 3 – EXECUTION

3.1 GENERAL

- A. This Section covers methods of measurement and payment for items of work under this Contract. The total Bid Price shall cover all work required by the Contract Documents. All costs in connection with the proper and successful completion of the work, including furnishing all materials, equipment, tools and incidentals; and performing all necessary labor and supervision to fully complete the work, shall be included in the unit (linear, area, volume) and lump sum prices bid. All work not specifically set forth as a pay item in the Bid Form shall be considered a subsidiary obligation of Contractor and all costs in connection therewith shall be included in the prices bid.

SECTION 01150 – MEASUREMENT AND PAYMENT

3.2 ESTIMATED QUANTITIES

- A. All estimated quantities stipulated in the Bid Form or other Contract Documents are approximate and are to be used only (a) as a basis for estimating the probable cost of the work and (b) for the purpose of comparing the bids submitted for the work. The actual amounts of work done and materials furnished under unit price items may differ from the estimated quantities. The basis of payment for work and materials will be the actual amount of work done and actual materials furnished. Contractor agrees that he will make no claim for damages, anticipated profits, or otherwise, on account of any difference between the amounts of work actually performed and materials actually furnished, and the estimated amounts therefor.

****END OF SECTION****

SECTION 01150 – MEASUREMENT AND PAYMENT

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SECTION 01300 – SUBMITTALS

PART 1 – GENERAL

1.1 WORK OF THIS SECTION

- A. The work of this Section specifies the general methods and requirements of submissions applicable to shop drawings and product data and samples. Detailed submittal requirements are specified within each technical specification section.
- B. All submittals shall be complete, clearly typed, and legible. Incomplete submittals shall be returned without review comments and no time extensions shall be granted.

1.2 RELATED WORK SPECIFIED ELSEWHERE

The Work of the following Sections also applies to the Work of this Section. Other Sections, not referenced below, shall also apply to the extent required for proper performance of this Work.

- A. General Conditions, Article 12

1.3 SHOP DRAWINGS, PRODUCT DATA, SAMPLES

A. Shop Drawings

- 1. Shop drawings, as defined in the General Conditions, and as specified in individual work Sections include, but are not necessarily limited to, custom-prepared data such as fabrication and erection/installation (working) drawings, schedule information, setting diagrams, actual shop work manufacturing instructions, custom templates, coordination drawings, and test reports, including, but not limited to certifications, as applicable to the Work.
- 2. All shop drawings submitted by subcontractors for approval shall be sent directly to the Contractor for checking. The Contractor shall be responsible for their submission at the proper time so as to prevent delays in delivery of materials.
- 3. The Contractor shall check all subcontractors' shop drawings regarding measurements, size of members, materials, and details to satisfy him that they conform to the intent of the Contract Documents. Shop drawings found to be inaccurate or otherwise in error shall be returned to the subcontractors for correction before submission thereof.
- 4. All details on shop drawings submitted for approval shall clearly show the relationship of the various parts of the work. Where correct fabrication depends on field measurements, such measurements shall be made and noted on the drawings prior to being submitted for approval.

B. Product Data

- 1. Product data as specified in individual Sections, include, but are not necessarily limited to, standard prepared data for manufactured products, such as the manufacturer's product specification and installation instructions, availability of colors and patterns, manufacturer's printed statements of compliances and applicability, roughing-in diagrams and templates, catalog cuts, product

SECTION 01300 – SUBMITTALS

photographs, production or quality control inspection and test reports and certifications, mill reports, and printed product warranties, as applicable to the Work.

2. Product data shall include provisions for labeling all lockout points.

1.4 CONTRACTOR'S RESPONSIBILITIES

- A. The Contractor shall review shop drawings, product data and samples, including those by subcontractors, prior to submission to determine and verify the following:
 1. Field measurements
 2. Field construction criteria
 3. Catalog numbers and similar data
 4. Conformance with the Specifications
- B. Each shop drawing, sample and product data submitted shall be accompanied by the submittal transmittal included in the Construction Forms Section including the Contractor's certification signature. Shop drawings and product data sheets 11-in x 17-in and smaller shall be bound together in an orderly fashion and bear the above Certification Statement on the cover sheet. The cover sheet shall fully describe the packaged data and include a listing of all items within the package. Provide to the Owner a copy of each submittal transmittal sheet for shop drawings, product data and samples at the time of submittal of said drawings, product data and samples to the Owner.
- C. Notify the Owner in writing, at the time of submittal, of any deviations in the submittals from the requirements of the Contract Documents.
- D. The review and approval of shop drawings, samples or product data by the Owner shall not relieve the Contractor from his responsibility with regard to the fulfillment of the terms of the Contract. All risks of error and omission are assumed by the Contractor and the Owner will have no responsibility therefore.
- E. No portion of the work requiring a shop drawing, sample, or product data shall be started nor shall any materials be fabricated or installed prior to the approval or qualified approval of such item. Fabrication performed, materials purchased or on-site construction accomplished which does not conform to approved shop drawings and data shall be at the Contractor's risk. The Owner will not be liable for any expense or delay due to corrections or remedies required to accomplish conformity.
- F. Project work, materials, fabrication, and installation shall conform to approved shop drawings, applicable samples, and product data.

SECTION 01300 – SUBMITTALS

1.5 SUBMISSION REQUIREMENTS

- A. Make submittals promptly in accordance with approved schedule, and in such sequence as to cause no delay in the Work or in the work of any other Contractor.
- B. All submittals shall be sufficiently in advance of construction requirements to provide no less than 21 calendar days for review from the time the Owner receives them. No less than 30 calendar days will be required for major equipment that requires review by more than one engineering discipline.
- C. Number of submittals required shall be six (6) copies of all shop drawings and product data, where three (3) approved will be returned to Contractor.
- D. Submittals shall be typed, legible, and complete with the following:
 - 1. The date of submission and the dates of any previous submissions.
 - 2. The Project title and number.
 - 3. Contractor identification.
 - 4. The names of:
 - a. Contractor
 - b. Supplier
 - c. Manufacturer
 - 5. Identification of the product, with the specification section number, page and paragraph(s); Drawing number, detail, or corresponding reference.
 - 6. Field dimensions, clearly identified as such.
 - 7. Relation to adjacent or critical features of the Work or materials.
 - 8. Applicable standards, such as ASTM or Federal Specification numbers.
 - 9. Identification of deviations from Contract Documents.
 - 10. Identification of revisions on resubmittals.
 - 11. A blank space sized for Owner and engineer stamps.
 - 12. Bear the Contractor's Certification Statement on the cover sheet.

1.6 REVIEW OF SHOP DRAWINGS, PRODUCT DATA, WORKING DRAWINGS AND SAMPLES

- A. The Owner's review is for general conformance with the design concept and Contract Documents. Markings or comments shall not be construed as relieving the Contractor from compliance with the Contract Documents or from departures there from. The Contractor remains responsible for details and accuracy, for coordinating the work with all other

SECTION 01300 – SUBMITTALS

associated work and trades, for selecting fabrication processes, for techniques of assembly, and for performing work in a safe manner.

B. The review of shop drawings, data, and samples will be general. They shall not be construed:

1. As permitting any departure from the Contract requirements;
2. As relieving the Contractor of responsibility for any errors, including details, dimensions, and materials;
3. As approving departures from details furnished by the Owner, except as otherwise provided herein.

C. If the shop drawings, data or samples as submitted describe variations and show a departure from the Contract requirements, which Owner finds to be in the interest of the Owner and to be so minor as not to involve a change in Contract Price or time for performance, the Owner may return the reviewed drawings without noting an exception.

D. Submittals will be returned to the Contractor under one of the following codes.

Code 1 - "NO EXCEPTIONS TAKEN" is assigned when there are no notations or comments on the submittal. When returned under this code the Contractor may release the equipment and/or material for manufacture.

Code 2 - "MAKE CORRECTIONS NOTED/CONFIRM". This combination of codes is assigned when a confirmation of the notations and comments is required by the Contractor. The Contractor may release the equipment or material for manufacture; however, all notations and comments must be incorporated into the final product. This confirmation is to address the omissions and nonconforming items that were noted.

Code 3 - "MAKE CORRECTIONS NOTED/RESUBMIT". This combination of codes is assigned when notations and comments are extensive enough to require a resubmittal of the package. The Contractor may release the equipment or material for manufacture; however, all notations and comments must be incorporated into the final product. This resubmittal is to address all comments, omissions and non-conforming items that were noted.

Code 4 - "AMEND/RESUBMIT". This combination of codes is assigned when the submittal is in noncompliance with the Contract Documents and must be corrected and the entire package resubmitted. This code generally means that the equipment or material cannot be released for manufacture unless the Contractor takes full responsibility for providing the submitted items in accordance with Contract Documents.

Code 5 - "REJECTED" is assigned when the submittal does not meet the intent of the Contract Documents. The Contractor must resubmit the entire package revised to bring the submittal into conformance. It may be necessary to resubmit using a different manufacturer/vendor to meet the Contract Documents.

Code 6 - "COMMENTS ATTACHED" is assigned where there are comments attached to the returned submittal which provide additional data to aid the Contractor.

SECTION 01300 – SUBMITTALS

Code 7 - "FOR YOUR INFORMATION" is assigned when the package provides information of a general nature that may or may not require a response.

Codes 1 through 5 designate the status of the reviewed submittal with Code 6 showing there has been an attachment of additional data.

Code 7 is used as may be necessary.

- E. Resubmittals will be handled in the same manner as first submittals with a duration of 21 calendar days. On resubmittals the Contractor shall direct specific attention, in writing on the letter of transmittal and on resubmitted shop drawings by use of revision triangles or other similar methods, to revisions other than the corrections requested by the Owner, on previous submissions. Any such revisions which are not clearly identified shall be made at the risk of the Contractor. The Contractor shall make corrections to any work done because of this type revision that is not in accordance to the Contract Documents as may be required by the Owner.
- F. The Owner reserves the right to deduct moneys from the amounts due to Contractor to cover the cost of the Engineer's review time beyond the second submission.
- G. Partial submittals may not be reviewed. The Owner will be the only judge as to the completeness of a submittal. Submittals not complete will be returned to the Contractor and will be considered "Rejected" until resubmitted. The Owner may at his option provide a list or mark the submittal directing the Contractor to the areas that are incomplete.

1.7 DISTRIBUTION

The Owner shall distribute reproductions of approved shop drawings and copies of approved product data and samples, where required, to the job site file and elsewhere as directed by the Owner. Number of copies shall be six (6).

1.8 PROFESSIONAL ENGINEER (P.E.) CERTIFICATION FORM

If specifically required in other Sections of these Specifications, the Contractor shall submit a P.E. Certification for each item required completely filled in and stamped. The P.E. Certification Form is included hereinafter as Sheet 01300-6.

1.9 GENERAL PROCEDURES FOR SUBMITTALS

Coordination of Submittal Times: Prepare and transmit each submittal sufficiently in advance of performing the related work or other applicable activities, or within the time specified in the individual work sections, of the Specifications, so that the installation will not be delayed by processing times including disapproval and resubmittal (if required), coordination with other submittals, testing, purchasing, fabrication, delivery and similar sequenced activities. No extension of time will be authorized because of the Contractor's failure to transmit submittals sufficiently in advance of the Work.

PART 2 – PRODUCTS (NOT USED)

PART 3 – EXECUTION (NOT USED)

SECTION 01300 – SUBMITTALS

****END OF SECTION****

SECTION 01300 – SUBMITTALS

P.E. CERTIFICATION FORM

The undersigned hereby certifies that he/she is a Professional Engineer registered in the State of California and that he/she has been employed by (Name of Contractor) _____

to design _____
in accordance with Specification Section _____ for the (Name of Project) _____

The undersigned further certifies that he/she has performed the design of the _____

that said design is in conformance with all applicable local, state and federal codes, rules, and regulations, and that his/her signature and P.E. stamp have been affixed to all calculations and drawings used in, and resulting from, the design.

The undersigned hereby agrees to make all original design drawings and calculations available to the (Insert Name of Owner) _____

_____ or Owner's
representative with seven (7) days following written request therefore by the Owner.

P.E. Name

Signature

Address

Contractor's Name

Signature

Title

Address

SECTION 01300 – SUBMITTALS

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SECTION 01310 – CONSTRUCTION PROGRESS SCHEDULES

PART 1 – GENERAL

1.1 WORK OF THIS SECTION

The work of this Section specifies the general methods and requirements of submissions applicable to the construction schedule, which conforms to the requirements below and the General Conditions, and in accordance with the Contract Documents, and as directed by the Owner.

1.2 RELATED WORK SPECIFIED ELSEWHERE

The Work of the following Sections also applies to the Work of this Section. Other Sections, not referenced below, shall also apply to the extent required for proper performance of this Work.

- A. General Conditions
- B. Section 01010 – Summary of Work
- C. Section 01300 – Submittals
- D. Section 01370 – Schedule of Values

1.3 FORMAT

- A. Prepare network analysis system using the critical path method, as outlined in The Associated General Contractors of America (AGC) publication "The Use of CPM in Construction - A Manual for General Contractors".
- B. Sheet Size: 24-inches by 36-inches.
- C. Time Scale: Indicate first date in each work week.
- D. Organization:
 - 1. Group Shop Drawing submittals and reviews into a separate sub-schedule.
 - 2. Group product deliveries into a separate sub-schedule.
 - 3. Group construction work into a separate sub-schedule by activity.
 - 4. Group critical activities which dictate the rate of progress into a separate sub-schedule.

1.4 CONTENT

- A. Show the complete sequence of construction by activity, with dates for the beginning and completion of each element of construction.
- B. Arrange construction Work into logically grouped activities.
- C. Provide sub-schedules for each stage of Work identified in the Bid Schedule.

SECTION 01310 – CONSTRUCTION PROGRESS SCHEDULES

- D. Provide sub-schedules to define critical portions of the entire Schedule.
- E. Show accumulated percentage of completion of each item, and total percentage of Work completed, as of the first day of each month.
- F. Provide separate schedule of submittal dates for shop drawings, product data, factory and field testing dates, and dates reviewed submittals will be required from the Engineer.
- G. Indicate delivery dates for any Owner furnished items.
- H. Coordinate content with Schedule of Values specified in Section 01370 – Schedule of Values.

1.5 REVISIONS TO SCHEDULES

- A. Indicate progress of each activity to date of submittal, and projected completion date of each activity.
- B. Identify activities modified since previous submittal, major changes in scope, and other identifiable changes.
- C. Provide narrative report to define problem areas, anticipated delays, and impact on Schedule. Report the corrective action taken or proposed and its effect including the effect of changes on schedules of separate contractors, if any.

1.6 CONTRACTOR SUBMITTALS

- A. Submit initial Schedules within 10 days after date of Notice to Proceed. After review from Owner and/or Engineer, resubmit a revised Schedule within ten days thereafter. Submit schedule in both printed and electronic forms.
- B. Submit revised Progress Schedules every month with progress payment, or as directed by the Owner.
- C. Attach a letter of transmittal to each submittal and include the following information in the letter:
 - 1. A listing of items which have changed since the last submittal.
 - 2. Discussion of problems causing delays, anticipated length of delays, and proposed solutions.
 - 3. Schedule narrative including the following:
 - a. Critical Path
 - b. Activities started, in progress and completed
 - c. Description of logic changes from previous update
 - d. Current problems
 - e. Milestone status
 - f. Potential problem areas

SECTION 01310 – CONSTRUCTION PROGRESS SCHEDULES

1.7 DISTRIBUTION

- A. Distribute copies of reviewed Schedules to project site file, Subcontractors, suppliers, and other concerned parties.
- B. Instruct recipients to promptly report, in writing, problems anticipated by projections indicated in Schedules.

PART 2 – MATERIALS (NOT USED)

PART 3 – EXECUTION (NOT USED)

****END OF SECTION****

SECTION 01310 – CONSTRUCTION PROGRESS SCHEDULES

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SECTION 01370 – SCHEDULE OF VALUES

PART 1 – GENERAL

1.1 WORK OF THIS SECTION

The Schedule of Values is an itemized list of the value or cost of each Bid Item of work and the associated time of expenditures. It shall be used as the basis for submitting progress payments and projecting future payment schedule.

1.2 RELATED WORK SPECIFIED ELSEWHERE

- A. General Conditions – Article 20.1 Schedule of Values
- B. Section 01039 – Coordination and Meetings

1.3 PREPARATION

- A. Schedule of Values shall be based on bid items and anticipated units completed each month.
- B. Schedule of Values shall be prepared on 8-1/2-inch by 11-inch white paper.
- C. The sum of the individual values shown on the Schedule of Values must equal the total Contract Price.
- D. Schedule shall show the purchase and delivery costs for materials and equipment that the Contractor anticipates he may request payment for prior to their installation.

1.4 CONTRACTOR SUBMITTAL

- A. A tentative schedule of values shall be submitted prior to or at the pre-construction meeting in accordance with Section 01039.
- B. The Contractor and Owner's Representative shall meet and jointly review the preliminary schedule of values and make any adjustments in value allocation if, in the opinion of the Owner's Representative, these are necessary to establish fair and reasonable allocation of values for the major Work components. **Front end loading will not be permitted.** This review and any necessary revisions or reallocation of the schedule of values shall be completed within 10 working days from the date of the Notice to Proceed.
- C. Submit three copies of monthly updates of the schedule of values to the Engineer with request for project payments.

PART 2 – MATERIALS (NOT USED)

PART 3 – EXECUTION (NOT USED)

****END OF SECTION****

SECTION 01370 – SCHEDULE OF VALUES

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SECTION 01380 – CONSTRUCTION VIDEO AND PHOTOGRAPHS

PART 1 – GENERAL

1.1 WORK OF THIS SECTION

The work of this Section shall include, but not be limited to, furnishing all labor, materials, tools, and equipment to provide the preconstruction and post-construction videos and photographs, as necessary in accordance with the Contract Documents, and as directed by the Owner.

1.2 RELATED WORK SPECIFIED ELSEWHERE

The Work of the following Sections also applies to the Work of this Section. Other Sections, not referenced below, shall also apply to the extent required for proper performance of this Work.

- A. Section 01300 – Submittals
- B. Section 01680 – Closed Circuit Television (CCTV) Inspections

1.3 SUBMITTALS

- A. Submit video and photographs as specified and according to Section 01300 no later than fifteen (15) days after issuance of Notice to Proceed, and no construction work shall commence prior to the Owner's acceptance of the videos.

1.4 PROCEDURES

- A. After construction staking and all utility mark-out have been completed, and prior to any construction, the Contractor shall video pre-existing site conditions with audio included and shall photograph the entire project site prior to construction. The Contractor shall also video and photograph the project site upon completion of the Work at the timeframe approved by the Owner.
- B. The Contractor shall retain a professional photographer and/or videographer to perform the specified services or provide evidence to the Owner of staff's capabilities to perform some, or all, of the services specified, including example work products. The Owner shall have the final determination in approving the project photographer.
- C. The Contractor shall notify the Owner seven calendar days in advance and coordinate the scheduling of the video recording so that a representative of the Owner may accompany the Contractor during the video recording. The Contractor shall obtain the Owner's approval prior to taking the first series of photographs and/or videos of each specified type. The Owner shall be present during all photographing and video recording of site conditions unless written approval is provided by the Owner.
- D. The Contractor shall present the Owner with a report detailing the existing conditions along the Project and within working, staging, and stockpile areas at the completion of the survey. The report shall include the following as a minimum:
 - 1. One copy of the video and photographs.
 - 2. One copy of each "potential problem area" photograph.

SECTION 01380 – CONSTRUCTION VIDEO AND PHOTOGRAPHS

3. Redlined plans showing areas of damaged paving or other damaged surface improvements. Shall the Contractor fail to submit redline areas on the Drawings as part of their preconstruction survey submittal, cost associated with replacement or repair, at the respective agencies request, shall be borne by the Contractor.
 4. Written summary of “potential problem areas” and the Contractor’s recommendations to address these problem areas.
- E. Documentation (including report) of existing conditions shall be completed within 15 days of the Notice to Proceed. The Contractor will not be allowed to begin excavation or dewatering activities until the final report has been submitted and accepted by the Owner. The Contractor will not be granted contract extensions due to failure to provide said report within said timeline.
- F. If a dispute arises in an area where the site conditions were not documented clearly by video or photographs, the disputed area shall be completely restored by the Contractor to the extent and satisfaction of the Owner.

PART 2 – MATERIALS

2.1 VIDEO RECORDING EQUIPMENT

- A. The Contractor’s video capability, equipment, and operators shall conform to the following minimum criteria:
1. High resolution and clarity provided by a process such as utilizing DVD format. VHS or similar recording media will not be accepted.
 2. Video shall be automatically dated and timed.
 3. The video camera shall be equipped with a zoom lens.
 4. The system shall have cataloging and storage capacity.
 5. The system shall have on and off-road mobility.
 6. The video operator subcontracted or provided by the Contractor shall have at least one (1) year of professional industrial televising experience.

2.2 PHOTOGRAPHIC EQUIPMENT

- A. The Contractor’s photographic capability, equipment, and operators shall conform to the following minimum criteria:
1. The camera shall be a single lens reflex type and shall utilize digital media.
 2. The camera shall utilize an automatic focus, f-stop, and flash system with manual override to promote quality photography.

SECTION 01380 – CONSTRUCTION VIDEO AND PHOTOGRAPHS

3. The camera shall be capable of imprinting an inalterable date on the film.
4. The photographer subcontracted or provided by the Contractor shall have at least one (1) year of professional industrial photographic experience.

PART 3 – EXECUTION

3.1 VIDEO RECORDING OF SITE CONDITIONS

- A. The Contractor shall video record all existing surface conditions within the project limits prior to the start of any construction activities. Areas and features that shall be video recorded include the following:
 1. Right-of-way, easements and adjacent properties.
 2. Utility valve wells, vaults, pedestals, poles and markings.
 3. Pavements, striping and signs.
 4. Fences, sidewalk, driveways, median, curb, and gutter conditions.
 5. Landscaping, planting, and irrigation conditions.
 6. Safety conditions.
 7. All other existing structures, facilities, or areas designated by the Owner.
 8. The Contractor's Staging Area
- B. The Contractor shall make all arrangements for video recording, including coordination with the Owner.

3.2 PHOTOGRAPHS

- A. General
 1. The Contractor shall take sufficient photographs, and as directed by the Owner, of the project site to document the conditions existing prior to and subsequent to construction. The Contractor shall take photographs of the same general Project aspects as described for video recording in this Section. All photographs shall be imprinted with an unalterable date designation.
 2. The Contractor shall furnish one set of color prints of the preconstruction photographs to the Owner and shall make other photographs available for review in settling any disputes that may arise.
 3. The Owner may, at its option, take additional photographs that may be used to settle disputes, but will not be required to make these photographs available to the Contractor.

SECTION 01380 – CONSTRUCTION VIDEO AND PHOTOGRAPHS

- B. All photographs shall be taken in the presence of the Owner.
- C. The Contractor shall make all arrangements for photographing including coordination with the Owner.
- D. Prints
 - 1. Provide high-quality 4-inch by 6-inch minimum print size, standard weight, satin finish prints on Kodak or equal photographic paper. All photographs shall be imprinted with an unalterable date designation.
 - 2. Place the following information on the back of each print:
 - a. Project title.
 - b. Date taken.
 - c. Photograph number.
 - d. Description of view shown in photograph.
 - e. Names of any persons in the view.
 - f. Photographer's name and current contact information.

****END OF SECTION****

SECTION 01400 – QUALITY CONTROL

PART 1 - GENERAL

1.1 WORK OF THIS SECTION

Specific quality control requirements for the Work are indicated throughout the Contract Documents. The requirements of this section are primarily related to performance of the Work beyond furnishing of manufactured products. The term “Quality Control” includes inspection, sampling and testing, and associated requirements.

1.2 INSPECTION AT PLACE OF MANUFACTURE

- A. Unless otherwise indicated, all products, material and equipment shall be subject to inspection by the Owner and/or Engineer at the place of manufacture.
- B. The presence of the Owner and/or Engineer at the place of manufacture, however, shall not relieve the Contractor of the responsibility for furnishing products, material, and equipment which comply with all the requirements of the Contract Documents. Compliance is a duty of the Contractor and said duty shall not be avoided by any act or omission on the part of the Owner and/or Engineer.

1.3 SAMPLING AND TESTING

- A. Unless otherwise indicated, all sampling and testing shall be in accordance with the methods prescribed in the current standards of the ASTM, as applicable to the class and nature of the article or materials considered; however, the Owner reserves the right to use any generally-accepted system of sampling and testing, which in the opinion of the Engineer will ensure the Owner that the quality of the workmanship is in full compliance with the Contract Documents.
- B. Any waiver by the Owner of any specific testing or other quality assurance measures, whether or not such waiver is accompanied by a guarantee of substantial performance as a relief from the specified testing or other quality assurance requirements as originally specified, and whether or not such guarantee is accompanied by a performance bond to assure execution of any necessary corrective or remedial Work, shall not be construed as a waiver of any requirements of the Contract Documents.
- C. Notwithstanding the existence of such a waiver, the Owner and/or Engineer reserves the right to make independent investigations and tests, and failure of any portion of the Work to meet any of the requirements of the Contract Documents, shall be reasonable cause for the Owner and/or Engineer to require removal or correction and reconstruction of any such Work in accordance with the General Conditions. In addition, any costs for retests shall be borne by the Contractor.

1.4 INSPECTION AND TESTING LABORATORY SERVICE

- A. Inspection and testing laboratory service shall comply with the following:
 - 1. Contractor shall pay for all inspection and testing laboratory services, and shall appoint, employ, and pay for services of an independent firm to perform inspection and testing, and shall obtain prior approval of such firm by the Owner.

SECTION 01400 – QUALITY CONTROL

2. The Contractor shall cooperate with the independent firm and furnish samples of materials, design mix data, equipment, tools, storage, access, and provide assistance as requested and required to evaluate conformance with the Contract Documents.
3. The Contractor shall notify the Owner's Representative 24 hours prior to the expected time for operations that require inspection and laboratory testing services, unless additional notification time is specified elsewhere for specialty inspection.
4. Retesting required due to non-conformance to specified requirements shall be performed by the same independent firm as instructed by the Owner and/or Engineer. The Contractor shall bear all costs of such retesting at no additional cost to the Owner.
5. The Contractor shall also pay for the mobilization costs for testing or inspection personnel in the event that the Contractor's work is not ready for such testing or inspection upon arrival of testing or inspection personnel.
6. For samples and tests required for Contractor's use, the Contractor shall make arrangements with an independent firm for payment and scheduling of testing. The cost of sampling and testing for the Contractor's use shall be included in the Contract Price.

PART 2 - MATERIALS (NOT USED)

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Inspection: The Contractor shall inspect materials or equipment upon the arrival on the job site and immediately prior to installation and reject damaged and defective items.
- B. Measurements: The Contractor shall verify measurements and dimensions of the Work, as an integral step of starting each installation.
- C. Manufacturer's Instructions: Where installations include manufactured products, the Contractor shall comply with the manufacturer's applicable instructions and recommendations for installation, to whatever extent these are more explicit or more stringent than applicable requirements indicated in the Contract Documents.

****END OF SECTION****

SECTION 01410 – TESTING LABORATORY SERVICES

PART 1 – GENERAL

1.1 WORK OF THIS SECTION

The work of this Section shall include, but not be limited to, furnishing all labor, materials, tools, and equipment for employing services of an independent testing laboratory or agency, as necessary to complete the Project, in accordance with the Contract Documents, and as directed by the Owner. This Section includes:

- A. Selection and payment.
- B. Quality assurance.
- C. Agency responsibilities.
- D. Agency reports.
- E. Limits on testing authority.
- F. Contractor responsibilities.
- G. Schedule of tests.

1.2 RELATED SECTIONS

- A. Section 01300 – Submittals
- B. Section 01700 – Contract Closeout

1.3 REFERENCES

- A. ASTM C802 – Practice for Conducting an Interlaboratory Test Program to Determine the Precision of Test Methods for Construction.
- B. ASTM C1021 – Practice for Laboratories Engaged in the Testing of Building Sealants.
- C. ASTM C1077 – Practice for Laboratories Testing Concrete and Concrete Aggregates for Use in Construction and Criteria for Laboratory Evaluation.
- D. ASTM D3740 – Practice for Evaluation of Agencies Engaged in Testing and/or Inspection of Soil and Rock as Used in Engineering Design and Construction.
- E. ASTM E329 – Practice for Use in the Evaluation of Inspection and Testing Agencies as Used in Construction.
- F. ASTM E543 – Practice for Determining the Qualifications of Nondestructive Testing Agencies.
- G. ASTM E548 – Practice for Preparation of Criteria for Use in the Evaluation of Testing Laboratories and Inspection Bodies.

SECTION 01410 – TESTING LABORATORY SERVICES

- H. ASTM E699 – Practice for Criteria for Evaluation of Agencies Involved in Testing, Quality Assurance, and Evaluating Building Components in Accordance with Test Methods Promulgated by ASTM Committee E6.

1.4 SELECTION AND PAYMENT

- A. The Contractor shall employ and pay for services of an independent testing agency or laboratory to perform specified testing. The Contractor shall be responsible for the cost of additional testing necessitated by the initial failure of the Contractor's work.
- B. Employment of testing agency or laboratory in no way relieves Contractor of obligation to perform work in accordance with requirements of Contract Documents.

1.5 QUALITY ASSURANCE

- A. Comply with requirements of ASTM C802, ASTM C1021, ASTM C1077, ASTM C1093, ASTM D3740, ASTM E329, ASTM E543, ASTM E548, and ASTM E699.
- B. Laboratory: Authorized to operate in State in which Project is located.
- C. Laboratory Staff: Maintain a full time registered Engineer or qualified specialist on staff to review services.
- D. Testing Equipment: Calibrated at reasonable intervals with devices of an accuracy traceable to either National Bureau of Standards or accepted values of natural physical constants.

1.6 TESTING RESPONSIBILITIES

- A. Test samples of mixes submitted by Contractor as requested by the Owner.
- B. Provide qualified personnel at site. Cooperate with Owners Representative and Contractor in performance of services.
- C. Perform specified sampling and testing of Products in accordance with specified standards.
- D. Ascertain compliance of materials and mixes with requirements of Contract Documents.
- E. Promptly notify Owner and Contractor of observed irregularities or non-conformance of Work or Products.
- F. Attend preconstruction meetings and progress meetings.

1.7 TESTING REPORTS

- A. After each test, submit copy of report to Owner and Contractor.
- B. Include:

SECTION 01410 – TESTING LABORATORY SERVICES

1. Date issued.
2. Project title and number.
3. Name of inspector.
4. Date and time of sampling or inspection.
5. Identification of product and specifications section.
6. Location in the Project.
7. Type of inspection or test.
8. Date of test.
9. Results of tests.
10. Conformance with Contract Documents.

1.8 LIMITS ON TESTING AUTHORITY

- A. Agency or laboratory may not release, revoke, alter, or enlarge on requirements of Contract Documents.
- B. Agency or laboratory may not approve or accept any portion of the Work.
- C. Agency or laboratory may not assume any duties of Contractor.
- D. Agency or laboratory has no authority to stop the Work.

1.9 CONTRACTOR RESPONSIBILITIES

- A. Deliver to agency or laboratory at designed location, adequate samples of materials proposed to be used which require testing, along with proposed mix designs.
- B. Cooperate with laboratory or testing personnel and provide safe access to the Work for testing or procurement of samples.
- C. Provide incidental labor and facilities:
 1. To provide safe access to Work to be tested.
 2. To obtain and handle samples at the site or at source of Products to be tested.
 3. To facilitate tests.
 4. To provide storage and curing of test samples if requested.
- D. Notify Owner 24 hours prior to expected time for operations requiring testing services.
- E. Arrange with testing laboratory or testing agency and pay for additional samples and tests required by Contractor beyond specified requirements.

1.10 SCHEDULE OF TESTS

Individual Specifications Sections: Tests required and standards for testing.

PART 2 – PRODUCTS (NOT USED)

PART 3 – EXECUTION (NOT USED)

****END OF SECTION****

SECTION 01410 – TESTING LABORATORY SERVICES

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SECTION 01570 - TRAFFIC REGULATIONS

PART 1 – GENERAL

1.1 WORK OF THIS SECTION

The work of this Section shall include, but not be limited to, furnishing all labor, materials, tools, and equipment for obtaining and providing traffic control permits, notifications, mobilization, temporary signs, barriers, lights, flagging personnel, striping, markings, and demobilization and removal, as necessary to complete the Project, in accordance with the Contract Documents, and as directed by the Owner and Caltrans.

1.2 RELATED SECTIONS

The Work of the following Sections also applies to the Work of this Section. Other Sections, not referenced below, shall also apply to the extent required for proper performance of this Work.

- A. Section 01010 – Summary of Work
- B. Section 01039 – Coordination and Meetings
- C. Section 01300 – Submittals
- D. Section 02750 – Traffic Striping and Pavement Markers

1.3 CONSTRUCTION IN PUBLIC ROADWAYS

- A. Contractor shall submit the traffic control plans for all work impacting the public Right-of-Way (ROW) or adjacent to the public ROW. Contractor shall submit encroachment permits to State of California Department of Transportation, Caltrans District 5 and the City of Seaside, supplemented with Traffic Control Plan(s) (TCPs) for each separate portion or phase of the project. The TCP is not valid until plans and a permit are approved and issued.
- B. Traffic Control Plans shall be per the latest editions of the California Manual on Uniform Traffic Control Devices (California MUTCD or CA MUTCD) Standards. Contractor shall provide signs, signals, barricades, flares, lights and all other equipment, service and personnel required to regulate and protect all traffic, and warn of hazards. All such work shall conform to requirements of the jurisdiction. Remove temporary equipment and facilities when no longer required, restore grounds to original, or to specified conditions.
- C. If approved in advance by the jurisdiction, all night work will require written approval. Lane closures, road closures, and traffic signal modifications associated with overnight construction activities will require warning signs to be placed at least one week in advance of starting construction.
- D. All open trenches shall be covered with a recessed, traffic bearing non-skid plates during nonworking hours according to this Section.

SECTION 01570 - TRAFFIC REGULATIONS

PART 2 – MATERIALS

2.1 GENERAL

- A. Traffic shall be maintained throughout the project in conformance with these Contract Documents. 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.
- B. It is the intent of this Section to provide for adequate traffic detour routing and signing to maintain a smooth and safe flow of traffic through and around the construction areas.
- C. Prior to the start of construction operations, the Contractor shall provide the fire and police departments of jurisdiction with the construction schedule clearly providing the expected starting date, sequence of work, and timing for each phase of construction completion date, and the name and telephone number of three responsible persons who may be contacted at any hour in the event of a condition requiring immediate correction. Depending on the project location, notification may be required to be given to Waste Management, all School Districts, Transit Agencies, United States Postal Service, or any other agency that will be affected by the construction operations.

2.2 SIGNS, SIGNALS, BARRICADES AND DEVICES

- A. Traffic control warning signs, lights, and devices shall conform to the most recent edition of the California Manual on Uniform Traffic Control Devices (California MUTCD).
- B. All signs and barricades shall be illuminated or reflectorized when they are used during hours of darkness. All delineators, cones, barricades or posts used in the diversion of traffic shall be provided with flashers or other satisfactory illumination if in place during darkness. Internally or externally illuminated signs shall be used where there is significant interference from extraneous light sources and reflectorized signs will not be effective. External light sources shall be properly shielded to protect drivers from glare.
- C. The signing, barricading, and diverting of traffic shall be subject to the Contractor's approved TCPs and ROW Permit. The Contractor shall maintain a 24-hour emergency service to remove, install, relocate and maintain warning devices and shall furnish to the Owner and Police Department names and telephone numbers of three persons responsible for this emergency service. In the event these persons do not promptly respond when notified by the Owner, the Owner reserves the right to call other forces to accomplish such required emergency service, and the Contractor will be held responsible for any and all costs incurred by the Owner.

2.3 TRAFFIC CONTROL

- A. Prior to the start of each work day, the Contractor shall perform all necessary work incidental to and commensurate with the proper signing, detouring, barricading, etc.,

SECTION 01570 - TRAFFIC REGULATIONS

heretofore and hereinafter specified, that is required for that particular day's schedule of operations. No construction shall be permitted until such signing and detouring operations have been completed.

2.4 BLOCKING OF DRIVEWAYS

- A. The Contractor shall inform all property owners seventy-two (72) hours prior to blocking their driveways with any pipe installation activities or other construction of the work. After working hours, the trench shall be backfilled and access to all driveways restored. If requested by the property owners during work hours, the Contractor shall provide access over the trench from any driveway previously blocked. Ingress and egress from businesses shall be provided at all times.

PART 3 – EXECUTION

3.1 TRAFFIC CONTROL DEVICE MAINTENANCE

- A. All traffic control devices shall be maintained 24 hours per day, 7 days a week, by the Contractor.

3.2 CONSTRUCTION PARKING CONTROLS

- A. Control vehicular parking to prevent interference with public traffic and parking, access by emergency vehicles, access to property, and Owner's operations.
- B. Monitor parking of construction personnel's vehicles located onsite. Maintain vehicular access to, through, and from parking areas.
- C. Prevent parking on or adjacent to access roads or in non-designated areas.

3.3 FLAG PERSONS

- A. Per CA MUTCD, provide trained and equipped flag persons to regulate traffic when construction operations or traffic encroach on public traffic lanes, or as required by local jurisdictions.

3.4 TRAFFIC CONTROL

- A. If construction is to be performed in phases, all work shall be completed in each phase prior to beginning work on the next phase. Equipment, material, or debris shall not be stored or remain in the public right-of-way without prior approval by the Owner.
 - 1. Travel lanes shall be twelve (12) feet wide, minimum. If a bike lane will be closed, travel lane shall be fourteen (14) feet wide, minimum.
 - 2. The Contractor shall maintain cross traffic and turning movements at the intersections, unless approved by the Owner.
 - 3. Trenches shall be backfilled or trench-plated at the end of each work day. Trenches left open during non-working hours are allowed only at the stopping-starting point. Trench plates shall be recessed by grinding the pavement down on

SECTION 01570 - TRAFFIC REGULATIONS

either side of the trench. The grinding depth shall be as deep as necessary to ensure the top of the trench plate is flush with the adjacent finish surface.

- a. Trench plates shall be pinned using approved non-obtrusive material such as #4 rebar, or equivalent diameter steel rod, with a minimum length of 12-inches shall be used to secure all trench plates to the pavement or soil to eliminate lateral movement.
 - b. Wedges or other non-asphaltic devices shall be used for leveling as required to eliminate rocking of the plates. Compacted temporary asphalt shall be used to fill all gaps between the plates and existing pavement surfaces.
 - c. Minimum thickness of plates shall be 1" in streets, alleys, driveways, and parking lanes. For trench widths over 4', plate thickness shall be at least 1-1/4" and center supports shall be used based on an engineering analysis provided by the Contractor and approved by the Owner. Steel plates less than 1" in thickness may only be used in non-vehicular areas.
 - d. Plates shall extend a minimum of 12" beyond the trench and have a non-skid surface.
 - e. Plates shall be removed the following day, or as approved by the Owner and the trench paved with permanent or temporary asphalt. Plates shall not be left over a weekend without approval of the Owner.
 - f. Plates shall be checked at least twice per day by the Contractor to make sure they are secure.
 - g. If more than one plate is used to cover a trench opening, the plates shall be welded together at abutting joints or as approved by the Owner. In no case shall more than three (3) standard length plates be allowed in one location.
 - h. Warning signs reading "STEEL PLATES AHEAD" shall be placed for on-coming vehicular and pedestrian traffic as directed by the Engineer.
 - i. Contractor shall submit a drawing and written description of the method to completely install and remove the recessed trench plates per the Specifications. The recessed plate submittal will include, but not be limited to, plate size, thickness and load capacity, non-skid material, pinning mechanism, bracing system, including shoring system for trench walls, length of plate outside of trench line, typical warning signage and welding method, temporary hot mix AC upon removal, and grinding and final AC paving.
4. The Contractor shall repair or replace traffic control devices (including traffic signs, striping, pavement markers, pavement markings, legends, curb markings, traffic signal equipment, etc.) damaged or removed and not designated for removal. Repairs and replacements shall be equal to existing improvements.
 5. The Contractor may use the parking lane while working next to the curb. The Contractor shall contact parking enforcement and post "Tow-Away/No Parking" signs forty-eight (48) hours in advance for temporary parking removal. Signs shall indicate specific days, dates, and times of restrictions. Contractor shall call the City of Seaside to validate posting. If the Contractor plans to reserve parking spaces adjacent to work area for Contractor vehicle(s), these spaces shall be included in with the ROW permit/TCP. Any metered parking spaces will be at the Contractor's expense.
 6. The Contractor shall provide for a safe four (4) foot wide pedestrian walkway

SECTION 01570 - TRAFFIC REGULATIONS

along entire length of construction area meeting all ADA requirements.

7. Access to private property shall be maintained to the greatest extent practicable. The Contractor shall minimize the time duration that a driveway must be closed and shall minimize inconvenience to driveway users. When no other alternative exists, and a driveway or pedestrian access must be closed, the Contractor shall notify the property owner or occupant a minimum of three (3) working days prior to closure and shall explain to the property owner or occupant when the closure shall start and duration of the closure. Any pedestrian closures shall be included in the TCP. The Owner shall approve the format of the notice prior to its issuance.
 8. The Contractor shall post signs notifying the public a minimum of five (5) working days prior to closure of streets.
 9. The Contractor shall maintain full width of all traffic lanes of the existing roadway during non-working hours and on Saturday, Sunday, designated holidays, and when construction operations are not actively in progress on working days. The Contractor shall keep the streets and areas adjacent to the construction area clean. A truck-mounted power broom with a water applicator shall be used to sweep streets.
 10. Traffic signals shall remain fully actuated at all times, unless approved by the Owner or permitting agency. If traffic signal loop detectors are rendered inoperative by the proposed work for more than three (3) days, video detection shall be used to provide activation.
 - a. Inductive traffic loops which are removed during construction, or are damaged, shall be replaced in kind by the Contractor from the nearest pull box, all in accordance with approximate provisions of Section 86-5 Detectors of the State Standard Specifications (except measurement and payment).
 - b. Loop detectors shall be replaced within three (3) working days of completion of underground work.
 11. Any magnetometers in the streets damaged during the course of construction shall be replaced in full up to the pull box. Temporary splices during construction are permitted.
- B. The Owner and permitting agency will observe these traffic control measures in operation and reserves the right to make or request changes as field conditions warrant. If changes are requested and as directed in writing by the Owner or permitting agency, the Contractor shall call the Caltrans Traffic Engineering Department and shall make an appointment to request a revision to the permit and TCPs. Such changes shall supersede the original TCP Permit.
- C. Prior to bid, the Contractor shall contact City of Seaside and Caltrans to receive all of the relevant costs for all permit fees. These costs include all costs for signs, barricades, lights, and any other traffic control devices which may be required by the Owner and permitting agency. All costs for traffic requirements shall be considered as part of the various items of work of this Contract and no additional payments will be made thereof.

SECTION 01570 - TRAFFIC REGULATIONS

3.5 FLARES AND LIGHTS

- A. Use flares and lights during hours of low visibility to delineate traffic lanes and to guide traffic.

3.6 TRAFFIC SIGNS AND SIGNALS

- A. Install traffic signs and signals at approaches to site and on site, at crossroads, detours, parking areas, and elsewhere as needed to direct construction and affected public traffic.
- B. Install and operate traffic control to direct and maintain orderly flow of traffic in areas under Contractor's control, and areas affected by Contractor's operations.
- C. Relocate as work progresses, to maintain effective traffic control.
- D. Work that disturbs normal traffic signal timing operations or detection shall be coordinated with the City of Seaside and Caltrans 72 hours prior to commencing work.
- E. All traffic control devices shall be removed from view or covered when not in use.

3.7 REMOVAL

- A. Remove equipment and devices when no longer required.
- B. Repair damage caused by installation.
- C. The Contractor shall obtain verification from the Owner and Caltrans that the complete traffic control system has been satisfactorily removed and that all necessary repairs have been successfully completed.

****END OF SECTION****

SECTION 01600 – MATERIALS AND EQUIPMENT

PART 1 – GENERAL

1.1 WORK OF THIS SECTION

The work of this Section shall include, but not be limited to, furnishing all labor, materials, tools, and equipment for materials and equipment, as necessary to complete the Project, in accordance with the Contract Documents, and as directed by the Owner.

- A. Contractor shall make all arrangements for transportation, delivery and handling of equipment and materials required for prosecution and completion of the Work.
- B. Shipments of materials to Contractor or Subcontractors shall be delivered to the site only during regular working hours. Shipments shall be addressed and consigned to the proper party giving name of Project, street number and city. Shipments shall not be delivered to Owner except where otherwise directed.
- C. If necessary to move stored materials and equipment during construction, Contractor shall move, or cause to be moved, materials and equipment without any additional compensation.

1.2 RELATED WORK SPECIFIED ELSEWHERE

The Work of the following Sections also applies to the Work of this Section. Other Sections, not referenced below, shall also apply to the extent required for proper performance of this Work.

- A. Section 01060 – Permits and Regulatory Requirements
- B. Section 01300 – Submittals

1.3 PRODUCTS

Do not use materials and equipment removed from existing premises, except as specifically permitted by the Contract Documents.

1.4 DELIVERY

- A. Arrange deliveries of products in accord with construction schedules and in ample time to facilitate inspection prior to installation.
- B. Coordinate deliveries to avoid conflict with Work and conditions at site and to accommodate the following:
 - 1. Work of Owner.
 - 2. Limitations of storage space.
 - 3. Availability of equipment and personnel for handling products.
 - 4. Owner's use of premises.
- C. Do not have products delivered to project site until related Shop Drawings have been approved by the Engineer.

SECTION 01600 – MATERIALS AND EQUIPMENT

- D. Do not have products delivered to site until required storage facilities have been provided.
- E. Have products delivered to site in manufacturer's original, unopened, labeled containers. Keep Owner's Representative informed of delivery of all equipment to be incorporated in the Work.
- F. Partial deliveries of component parts of equipment shall be clearly marked to identify the equipment, to permit easy accumulation of parts and to facilitate assembly.
- G. Immediately on delivery, inspect shipment to assure:
 - 1. Product complies with requirements of Contract Documents and reviewed submittals.
 - 2. Quantities are correct.
 - 3. Containers and packages are intact, labels are legible.
 - 4. Products are properly protected and undamaged.

1.5 PRODUCT HANDLING

- A. Provide equipment and personnel necessary to handle products, including those provided by Owner, by methods to prevent soiling or damage to products or packaging.
- B. Provide additional protection during handling as necessary to prevent scraping, marring or otherwise damaging products or surrounding surfaces.
- C. Handle products by methods to prevent bending or overstressing.
- D. Lift heavy components only at designated lifting points.
- E. Materials and equipment shall at all times be handled in a safe manner and as recommended by manufacturer or supplier so that no damage will occur to them. Do not drop, roll or skid products off delivery vehicles. Hand carry or use suitable materials handling equipment.

1.6 PRODUCT STORAGE

- A. Store and protect materials in accordance with manufacturer's recommendations and requirements of the Contract Documents.
- B. After inspection of shipment, manufacturer's product containers shall not be opened until time of installation.
- C. Contractor shall make all arrangements and provisions necessary for the storage of materials and equipment. All excavated materials, construction equipment, and materials and equipment to be incorporated into the Work shall be placed so as not to injure any part of the Work or existing facilities, and so that free access can be maintained at all times to all parts of the Work and to all public utility installations in the vicinity of the Work. Materials and equipment shall be kept neatly and compactly stored in locations that will cause a minimum of inconvenience to the Owner, other contractors, public travel, adjoining

SECTION 01600 – MATERIALS AND EQUIPMENT

owners, tenants and occupants. Arrange storage in a manner to provide easy access for inspection.

- D. Areas available on the construction site for storage of materials and equipment shall be within the project site or at other sites approved by the Construction Manager. A storage and stockpiling area plan shall be submitted to the Owner for review prior to beginning work or mobilizing on site. Products shall not be stored inside structures being constructed.
- E. Materials and equipment shall be stored to facilitate inspection and to ensure preservation of the quality and fitness of the Work, including proper protection against damage by freezing and moisture.
 - 1. Arrange storage to provide access for inspection and inventory control.
 - a. Periodically inspect to ensure products are undamaged and are maintained under required conditions.
 - b. Maintain an inventory of materials stored to facilitate inspection and estimate progress payments for materials delivered but not yet installed.
 - 2. Store products within temperature and humidity ranges in accordance with manufacturer's written instructions, with seals and labels intact and legible. Store sensitive products in weather-tight enclosures.
- F. Protect products against moisture, temperature extremes, dust, debris, tampering, vandalism, ultraviolet radiation, or damage from improper handling, storage or exposure. Protect exposed metals from rust and corrosion even if they will be sandblasted or otherwise cleaned before painting.
- G. Products that are subject to damage by moisture, freezing, ultraviolet (UV) exposure, or other effects of the elements shall be stored in facilities or containers which will provide the necessary protection from exposure to environmental conditions in order to avoid damage. This may include covered storage and/or interior storage in buildings as warranted for the materials or equipment.
- H. For exterior storage of fabricated products, place on sloped supports above ground. Cover products subject to deterioration with impervious sheet covering; provide ventilation to avoid condensation.
- I. Store loose granular materials on solid surfaces in a well-drained area; prevent mixing with foreign matter.
- J. If necessary to relocate stored materials and equipment prior to or during construction, Contractor shall move materials and equipment without any additional compensation.
- K. Products stored on-site are done so at the full risk of the Contractor. The Owner takes no responsibility for the cost of stolen or vandalized products that have been stored on-site.

1.7 PRODUCT OPTIONS

- A. Products Specified by Reference Standards or by Description Only: Any Product meeting those standards or description.

SECTION 01600 – MATERIALS AND EQUIPMENT

- B. Products Specified by Naming One or More Manufacturers: Products of manufacturers named and meeting specifications, no options or substitutions allowed.
- C. Products Specified by Naming One or More Manufacturers with a Provision for Substitutions: Submit a request for substitution for any manufacturer not named in accordance with the following article.

1.8 SUBSTITUTIONS

- A. Owner will consider requests for Substitutions within the time frame discussed elsewhere in the Contract Documents.
- B. Substitutions may be considered when a Product becomes unavailable through no fault of the Contractor.
- C. Document each request with complete data substantiating compliance of proposed Substitution with Contract Documents.
- D. A request constitutes a representation that the Contractor:
 - 1. Has investigated proposed Product and determined that it meets or exceeds the quality level of the specified Product.
 - 2. Will provide the same warranty for the Substitution as for the specified Product.
 - 3. Will coordinate installation and make changes to other Work which may be required for the Work to be complete with no additional cost to Owner.
 - 4. Waives claims for additional costs or time extension which may subsequently become apparent.
 - 5. Will reimburse Owner for review or redesign services associated with re-approval by authorities.
- E. Substitutions will not be considered when they are indicated or implied on shop drawing or product data submittals, without separate written request, or when acceptance will require revision to the Contract Documents.
- F. Substitution Submittal Procedure:
 - 1. Submit three copies of request for Substitution to the Owner for consideration. Limit each request to one proposed Substitution.
 - 2. Submit shop drawings, product data, and certified test results attesting to the proposed Product equivalence. Burden of proof is on the Contractor.
 - 3. The Owner shall have sole discretion and will notify Contractor in writing of decision to accept or reject request.

SECTION 01600 – MATERIALS AND EQUIPMENT

- G. Substitutions will not be considered for equipment, material or methods not designated as allowing "Approved Equal" or "Or Equal" unless said equipment or material is no longer available.
- H. The burden of proof as to the quality and suitability of such alternative equipment, products, or other materials shall be upon the Contractor.
- I. The Contractor, at their sole expense, shall furnish all data concerning items it has offered as equivalent to those specified. The Contractor shall provide all materials or data, and all information as required by the Owner, to demonstrate that the quality, strength, physical, chemical, or other characteristics, including durability, finish, efficiency, dimensions, service, and suitability are such that the items will fulfill their intended function. Installation and use of a substitute item shall not be made until approved by the Owner. If a substitute offered by the Contractor is found not to be equivalent to the specified material, the Contractor shall furnish and install the specified material.

1.9 EQUIPMENT

- A. All equipment stored and/or used on-site must be registered and follow state and federal regulations. As an example, registrations include but are not limited to those required by the Air Pollution Control District.
- B. Any infractions administered during construction will be passed on to the Contractor, who will be obligated to pay any associated fines without compensation from the Owner.
- C. The Contractor takes full responsibility for the equipment used during construction and/or otherwise stored on-site. The Owner takes no responsibility for equipment stored on-site or on District property.

PART 2 – MATERIALS (NOT USED)

PART 3 – EXECUTION (NOT USED)

****END OF SECTION****

SECTION 01600 – MATERIALS AND EQUIPMENT

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SECTION 01680 – CLOSED-CIRCUIT TELEVISION (CCTV) INSPECTIONS

PART 1 – GENERAL

1.1 WORK OF THIS SECTION

This work of this section describes the requirements and procedures for closed-circuit television (CCTV) inspection of newly constructed and rehabilitated water and sewer mains. CCTV inspections shall be performed in each segment of the project prior to final paving of that segment as described in Section 02510, as necessary to complete the Project, in accordance with the Contract Documents, and as directed by the Owner.

1.2 REQUIREMENTS PRIOR TO TESTING

- A. CCTV inspections on newly constructed sewer mains and any new or existing sewer laterals affected by construction shall be conducted after utilities have been installed and backfill compaction has been certified, but prior to final pavement.
- B. The Contractor shall notify the Owner three (3) working days in advance of the anticipated date of televising so that the Owner may observe CCTV inspection operations. Schedule shall also include time for pre-cleaning operations, when necessary.

1.3 QUALITY ASSURANCE

The Contractor shall perform CCTV inspection of all new gravity sewer pipe to determine if the work is true to design grade without excessive sags or high points or ovality, to verify that all service connections have been reinstated, and to determine the locations of existing service connections prior to and in conjunction with potholing to verify existing service connection depths at the start of construction where noted on the plans.

1.4 SUBMITTALS

A digital recording of all sewer mains shall be made with software that encodes breaks, laterals, etc. with Pipeline Assessment & Certification Program (PACP) Standard Codes. Written summaries and digital copies of video inspections shall be submitted to the Owner within seventy-two (72) hours of completing the inspection. A signed cover letter shall transmit the video information and shall note all pipe defects and major anomalies observed in the inspection.

PART 2 – MATERIALS

2.1 CCTV EQUIPMENT

The Contractor shall furnish all equipment and materials required for inspection. Equipment shall be in accordance with SSPWC Section 500, and as noted below:

- A. The video equipment utilized shall be specifically designed and constructed to be operative in one hundred percent (100%) humidity conditions. Lighting for the camera shall minimize reflective glare. Lighting and camera quality shall be suitable to provide a clear, continuously in-focus picture of the entire inside periphery of the pipe for all conditions encountered during the inspection. A reflector in front of the camera may be required to enhance lighting in large diameter pipe.

SECTION 01680 – CLOSED-CIRCUIT TELEVISION (CCTV) INSPECTIONS

- B. Video equipment utilized for inspection of sewer mains shall be certified for domestic sewer main inspection.
- C. CCTV inspections shall be recorded onto high-quality DVD, color format. The capacity of the video shall be adequate to record inspection of at least one (1) complete pipe segment. Recording of a single segment shall not extend to more than one (1) video.

PART 3 – EXECUTION

3.1 CLEANING

Before conducting CCTV inspections, flush mains with water to remove dirt and debris that could hinder and/or delay the inspection.

3.2 CCTV PROCEDURES

Procedures for CCTV inspections shall be in accordance with SSPWC Section 500, and as noted below:

- A. The camera operator shall slow or stop the camera at potential or actual imperfections in the new main to obtain a high-quality video image. Each location where a potential obstruction or structural deficiency exists shall be identified with accurate distance measurements above ground from the manhole or access point.

3.3 CCTV INSPECTION

- A. Structural cracking, excessively deflected joints, protruding joint sealing material, corrosion, evidence of reverse slope by ponding of water or dips in sewer pipe alignment and any other defect revealed by the CCTV inspection shall be repaired to the satisfaction of the Owner at the Contractor's expense.
- B. After defects in the pipe lining or joints are repaired, another video shall be taken of the repaired section and submitted for approval by the Owner. The cost of repeat CCTV inspection due to work not conforming to the Contract Documents shall be paid for by the Contractor.

3.4 DOCUMENTATION

Documentation of CCTV inspections shall be in accordance with SSPWC Section 500, and as noted below:

- A. Audio and written documentation shall accompany all video submitted to the Owner.
- B. Voice recording shall be used on the video and shall contain brief informative comments on unusual conditions, type and size of connection and fitting, collapsed sections, the presence of scale and corrosion, location and description of each defect, and other significant data.

SECTION 01680 – CLOSED-CIRCUIT TELEVISION (CCTV) INSPECTIONS

- C. The Contractor shall prepare an inspection report which shall be a complete written log of pipe conditions, indexed to the footage counter. The Contractor shall turn over the original video and written reports to the Owner at completion of the inspection.

****END OF SECTION****

SECTION 01680 – CLOSED-CIRCUIT TELEVISION (CCTV) INSPECTIONS

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SECTION 01700 – CONTRACT CLOSE-OUT

PART 1 – GENERAL

1.1 WORK OF THIS SECTION

This work of this section specifies the requirements for contract close-out by the Contractor including procedures, final cleaning, and record documents, as necessary to complete the Project, in accordance with the Contract Documents, and as directed by the Owner.

1.2 RELATED SECTIONS

The Work of the following Sections also applies to the Work of this Section. Other Sections, not referenced below, shall also apply to the extent required for proper performance of this Work.

- A. Section 01300 – Submittals

1.3 CLOSEOUT PROCEDURES

- A. The Contractor shall submit written certification that Contract Documents have been reviewed, Work has been inspected, and that Work is complete in accordance with Contract Documents and ready for Engineer's review.
- B. The Contractor shall provide submittals to the Engineer and Owner that are required by governing or other authorities.
- C. The Contractor shall submit billing for the final Progress Payment identifying total adjusted Contract Sum, previous payments, and sum remaining due.

1.4 FINAL CLEANING

- A. The Contractor shall execute final cleaning prior to final project assessment in accordance with the General Conditions and the Specifications.
- B. The Contractor shall clean site; sweep paved areas, rake clean landscaped surfaces.
- C. The Contractor shall remove waste and surplus materials, rubbish, and construction facilities from the site.

1.5 PROJECT RECORD DOCUMENTS

- A. The Contractor shall maintain one set of the following record documents on site; record actual revisions to the Work:
 - 1. Drawings.
 - 2. Specifications.
 - 3. Addenda.
 - 4. Change Orders and other modifications to the Contract.

SECTION 01700 – CONTRACT CLOSE-OUT

5. Reviewed shop drawings, product data, and samples.
- B. The Contractor shall ensure that entries are complete and accurate enabling future reference by the Owner.
- C. The Contractor shall store record documents separate from documents used for construction.
- D. The Contractor shall record information concurrent with construction progress. Information will be reviewed for completeness by the Engineer prior to recommending monthly progress payment.
- E. The Contractor shall legibly mark record drawings and shop drawings to record actual construction including:
 1. Measured horizontal and vertical locations of underground utilities and appurtenances referenced to permanent surface improvements.
 2. Field changes of dimensions and details.
 3. Details not on original Contract Drawings.
- F. The Contractor shall submit aforementioned documents to the Owner with the billing for final Progress Payment.

PART 2 – MATERIALS (NOT USED)

PART 3 – EXECUTION (NOT USED)

****END OF SECTION****

SECTION 02050 – DEMOLITION

PART 1 – GENERAL

1.1 WORK OF THIS SECTION

The work of this Section shall include, but not be limited to, furnishing all materials, equipment and labor necessary to perform and complete removal of the structures or piping indicated to be abandoned or removed.

1.2 RELATED WORK SPECIFIED ELSEWHERE

The Work of the following Sections also applies to the Work of this Section. Other Sections, not referenced below, shall also apply to the extent required for proper performance of this Work

- A. Section 01045 - Cutting and Patching
- B. Section 01700 - Contract Closeout

1.3 Contractor Submittals

- A. Before completion of the work, the Contractor shall submit an Affidavit of Legal Disposal attesting to the lawful removal of all removed materials.

PART 2 – MATERIALS (NOT USED)

PART 3 – EXECUTION

3.1 GENERAL

- A. Structures shall be demolished and removed in compliance with SSPWC subsection 306-5 and the requirements indicated herein. All voids created by the removal of conduits and structures shall be backfilled and compacted to 95% relative compaction.

3.2 POLLUTION CONTROL

- A. Water sprinkling, temporary enclosures, chutes, and other suitable methods shall be used for dust suppression in compliance with the General Conditions.
- B. Water shall not be used when it creates hazardous or objectionable conditions such as flooding, erosion, sedimentation, or pollution.

3.3 PROTECTION

- A. Safe passage of persons around the area of demolition shall be provided. Operations shall be conducted to prevent injury to people and damage to adjacent buildings, structures, and other facilities in compliance with the General Conditions.
- B. Interior and exterior shoring, bracing, or supports shall be provided to prevent movement, settlement or collapse of structures to be demolished.

SECTION 02050 – DEMOLITION

- C. Existing landscaping materials, structures, and appurtenances which are not to be demolished shall be protected and maintained as necessary and in accordance with the General Conditions.
- D. Unless otherwise indicated, the Contractor shall protect and maintain all utilities in the proximity of the facilities to be demolished.

3.4 ABANDONMENT OF EXISTING SEWER FACILITIES

- A. Existing sewers shall not be abandoned, broken into, or taken out of service until all new sewers and manholes have been completed and accepted by the Owner; and all proposed connections are completed and accepted by the Owner; and the proposed sewer pipeline is completed and in full operation; or by-pass pumping systems are installed, tested, and functioning as required for the intended purpose. The Contractor shall submit to the Owner, for approval, a detailed sequence and method of work for abandonment of existing sewer system and connection of the new sewer to the existing sewer. The submittal shall include an overview and general sequence of work; time and dates for each increment of abandonment; method and procedure for each increment of abandonment; and method of by-passing flow over new manhole shelves.
- B. Where the abandonment of existing sewer pipe is called for on the Drawings or is required for construction, abandonment shall include, but not limited to, the following:
 - 1. Flush existing pipeline to clean the pipe and remove all wastewater.
 - 2. Cut and plug each section of existing pipe on all sides of existing manholes or where specifically shown on the Drawings.
 - 3. Fill the abandoned sewers pipelines where specified on the Drawings with controlled low strength material (CLSM) with minimum 28-day compressive strength of 150 psi. CLSM shall be a fluid workable mixture of aggregate, cement, and water with cement complying with ASTM C150. Water and aggregate shall be clean, free of organic material, or other deleterious substances.
 - 4. Remove and legally dispose of sections of existing pipe as necessary to construct the new work or perform abandonment.
 - 5. Plugging shall consist of casting a concrete plug not less than 12 inches thick in pipe penetrations that are to be abandoned.
- C. Where the abandonment of existing manholes is called for on the Drawings or is required for construction, abandonment shall include, but not limited to, the following:
 - 1. Remove the upper 3-feet of the manhole, including all existing frame and covers, concrete collars, grade rings, and cones, and backfill with controlled low strength material (CLSM) with minimum 28-day compressive strength of 150 psi. CLSM shall be a fluid workable mixture of aggregate, cement, and water with cement complying with ASTM C150. Water and aggregate shall be clean, free of organic material, or other deleterious substances.
 - 2. Inlet and outlet piping shall be plugged with concrete as specified above.

SECTION 02050 – DEMOLITION

3. Voids created by the removal of sewers, manholes, or structures shall be filled with select fill and compacted in accordance with the Specifications.
- D. The Contractor shall provide temporary seals, enclosures, forced ventilation or other devices as may be necessary to prevent odor nuisance during construction. Sewers shall be open to the atmosphere only for a reasonable time necessary for construction.
- E. The Contractor shall provide all necessary means to allow for the existing sewer facilities to be abandoned, removed, and legally disposed of as specified without the leakage of raw sewage. Any leaks, spills, or illegal disposal of raw sewage resulting from the Contractor's operations shall be the sole responsibility of the Contractor and all fines, and clean-up and mitigation efforts shall be performed and paid for by the Contractor at no additional cost to the Owner.

3.5 DISPOSAL OF NON-FRIABLE ASBESTOS

- A. If non-friable asbestos cement pipe (ACP) is identified, the Contractor shall employ adequate care to maintain the pipe in a non-friable condition. Removal of ACP shall be in whole sections where possible. Cutting or breaking of ACP to facilitate removal shall be in compliance with California Regulations, Title 8, Section 5208. At a minimum, the Contractor shall follow the following requirements for ACP that is to be cut or broken:
 1. The Contractor shall evacuate the area of unauthorized and untrained personnel, post warning signs, and provide a demarcation zone and adequate barriers to keep unauthorized personnel out of the area.
 2. The Contractor shall provide personal protective equipment consisting at least of a respirator and disposable clothing to asbestos accredited workers performing the cutting or breaking of ACP. Respiratory protection shall be in accordance with the requirements of California Regulations, Title 8, Section 5414.
 3. The area to be cut or broken shall be adequately wetted with amended water to reduce fiber emission. The method employed by the Contractor shall minimize fiber release. Power saw cutting will not be allowed. All related debris from the cutting or breaking of ACP shall be considered friable. The Contractor shall dispose of friable material in accordance with California Regulations Title 22.
 4. All waste generated, and ACP shall be wrapped in 6 mil polyethylene sheeting or bags and shall be properly transported and disposed of.
- B. The Contractor is responsible for all ACP removal and associated contamination. For disposal of non-friable ACP, the Contractor shall comply with state and federal regulations.
- C. Payment for disposal of non-friable asbestos-containing materials shall be included in the Bid price per linear foot of new pipeline and no separate payment will be allowed.

3.6 DISPOSAL OF FRIABLE ASBESTOS

- A. Friable asbestos-containing material is defined as material that can be crumbled, pulverized, or reduced to powder by hand pressure. All friable asbestos-containing

SECTION 02050 – DEMOLITION

materials shall be considered as hazardous waste and shall be transported by a licensed hazardous waste hauler. Procedures for handling friable asbestos-containing material shall conform to applicable regulations. Friable asbestos containing materials shall be disposed of at an approved hazardous waste landfill.

- B. Upon discovery of friable asbestos, the Contractor shall immediately notify the Owner.
- C. Payment for the disposal of friable asbestos-containing materials shall be in accordance with SSPWC Subsection 3-2.2.3.

3.7 PATCHING AND REPAIRING

- A. The Contractor shall provide patching, replacing, repairing, and refinishing of damaged areas involved in demolition as necessary to match the existing adjacent surfaces and in compliance with Section 01045 - Cutting and Patching.
- B. The Contractor shall repair all damages caused to adjacent facilities by demolition, and such costs shall be considered included in the unit or lump sum prices bid and no additional compensation shall be made.

3.8 CLEANING

- A. During and upon completion of work, the Contractor shall promptly remove unused tools and equipment, surplus materials, rubbish, debris, and dust and shall leave areas affected by the work in a clean condition in accordance with Section 01700 - Contract Closeout.
- B. The Contractor shall clean adjacent structures and facilities of dust, dirt, and debris caused by demolition and return adjacent areas to condition existing prior to start of work.
- C. The Contractor shall clean and sweep the affected portions of roads, streets, sidewalks and passageways daily.

****END OF SECTION****

SECTION 02140 – DEWATERING

PART 1 – GENERAL

1.1 WORK OF THIS SECTION

The work of this Section shall include, but not be limited to, furnishing all labor, materials, tools, and equipment for dewatering and fulfilling regulatory requirements, as necessary to complete the Project, in accordance with the Contract Documents, and as directed by the Owner.

- A. The Contractor shall perform site dewatering necessary to lower and control groundwater levels and hydrostatic pressures to allow excavation and construction to be performed under drained and stable conditions. This Section includes materials, installation, maintenance, operation, and removal of temporary dewatering systems.
- B. Dewatering operations shall be adequate to ensure the integrity of the finished project. The responsibility for conducting the dewatering operation in a manner which will protect adjacent structures and facilities rests solely with the Contractor. The cost of repairing any damage to adjacent structures and restoration of facilities shall be the responsibility of the Contractor.
- C. The Contractor shall, at all times, maintain sufficient pumping equipment for immediate use on the project site, including standby pumps to use in case other pumps become inoperable. No water from excavations shall be disposed to the lagoon, storm drain or sewer without notification to the Owner, approval from proper jurisdiction, and without obtaining and complying with all permits. All permits for disposal of water from excavations shall be obtained and all fees shall be paid by the Contractor in accordance with the Contract Documents.
- D. At no time shall the Contractor allow hydrostatic pressures to influence the pipe, pipe bedding, or manholes, or allow any installed underground work to shift prior to being completely backfilled. If temporarily anchoring the newly installed work, including pipelines, is necessary by the Contractor, it shall be the Contractor's full responsibility to submit all calculations and design an anchoring system to prevent hydrostatic uplift or shifting of the new work due to high groundwater. Anchoring systems shall be approved by the Owner in advance of the work.
- E. Discharging into the Existing Sewer System

1. Monterey One Water (M1W)

- a. Contact: Cory Miyabara, Senior Source Control Inspector
5 Harris Court, Bldg D
Monterey, CA 93940
Phone: (831) 833-6162
Email: cory@my1water.org
- b. Contractor shall prepare and submit a report to M1W, including, but not limited to:
 - i. Business Name

SECTION 02140 – DEWATERING

- ii. Billing Address
 - iii. Contact Name/Email
 - iv. Phone Number
 - v. Location of Discharge
 - vi. Dates of Discharge
 - vii. Total Discharge in Gallons
- c. When discharging over 25,000 gallons per day into the sewer system, the Contractor shall complete “Monterey One Water Groundwater Discharge Permit Application” included in **Appendix C**.
 - d. When discharging less than 25,000 gallons per day into the sewer system, at minimum, the Contractor shall provide solids settling, install an accurate flow meter, record daily discharge volumes, and any other items required by Monterey One Water Senior Inspector, as requested.
 - e. The Contractor shall refer to the “Groundwater Chemical Analysis” provided in **Appendix B**. Preliminary determination indicates that the Total Toxic Organics (TTO) of the groundwater does not exceed 1.0 mg/L therefore pretreatment beyond solids settling is not required prior to discharging groundwater into the sewer system. Shall the TTO exceed M1W Ordinance, all pretreatment shall be paid for by the Contractor and shall be in accordance with M1W requirements and all costs associated shall be borne by the Contractor in accordance with the Contract Documents.

2. Seaside County Sanitation District (Owner)

- a. Contact: Rick Riedl, District Engineer
440 Harcourt Avenue
Seaside, CA 93955
Phone: (831) 899-6700
Email: RRiedl@ci.seaside.ca.us
- b. When discharging into the public sewer system, the Contractor shall provide the Owner the rate of discharge, the total volume of water to be discharged daily, the proposed discharge points, and discharge plan in advance of all discharging activities. The Contractor shall be fully responsible for verifying the capacity of the sewer system and under no circumstances shall the Contractor exceed the maximum d/D values allowed by the Owner and shall control the flows to prevent surcharging the existing sewer system.

SECTION 02140 – DEWATERING

Gravity Pipe Percent Full Criteria	
Pipe Diameter	Maximum Allowed d/D
10-inches and smaller	0.67
12-inch to 24-inch	0.80
27 inches and larger	0.90

- c. The Contractor shall be fully responsible for providing all equipment and tanks necessary to comply with the rate of discharge pre-approved by the Owner and all costs associated shall be borne by the Contractor in accordance with the Contract Documents.

F. Discharging into the existing storm drain system shall not be allowed.

1.2 RELATED WORK SPECIFIED ELSEWHERE

The Work of the following Sections also applies to the Work of this Section. Other Sections, not referenced below, shall also apply to the extent required for proper performance of this Work.

- A. Section 01300 – Submittals
- B. Section 01060 – Permits and Regulatory Requirements
- C. Section 02221 – Trenching, Backfill and Compaction
- D. Appendices

1.3 CONTRACTOR SUBMITTALS

- A. The following shall be submitted in compliance with Section 01300 – Submittals:
 1. Before starting excavation, the Contractor shall submit Shop Drawings including a detailed plan, schedule, and description of the dewatering of excavations. The Shop Drawings shall include: the proposed type of dewatering system; the arrangement, location, and depths of system components; a complete description of the equipment and instrumentation to be used, with installation, operation and maintenance procedures; a description of the Contractor's means and methods for measuring groundwater levels and piezometric water levels; and the methods for disposal of dewatering effluent and flow meters to be used for measuring the discharged flows.
 2. Before starting excavation, the Contractor shall submit copies of well installation permits where such are required by the County of Monterey Health Department.
 3. Before starting excavating, the Contractor shall obtain and submit copies of written approval by the Monterey One Water agency when discharging into the public sewer system.
 4. The Contractor shall submit copies of well destruction permits as applicable in accordance with County of Monterey requirements.

SECTION 02140 – DEWATERING

5. Contractor shall submit calculations for temporary anchors for the pipeline. Calculations shall be signed by a Civil Engineer registered in the State of California.

B. The Contractor shall submit a daily report that includes the following information:

1. Groundwater levels and piezometric water levels in observation wells (if any).
2. Changes in elevation of reference points as stated in subparagraph 1.5C to detect settlement in adjacent structures.
3. The average dewatering flow rate and total gallons of water discharged per day.
4. Water quality testing results as required by permitting agency.

1.4 QUALITY ASSURANCE

- A. The Contractor shall conduct a demonstration of its proposed system and shall provide verification that adequate personnel, materials and equipment are available.
- B. The Contractor shall maintain adequate control to ensure that the stability of excavated and constructed slopes is not adversely affected by water, that erosion is controlled, and that flooding of excavations or damage to structures does not occur.
- C. Where critical structures or facilities exist immediately adjacent to areas of proposed dewatering, the Contractor shall establish reference points and shall observe the reference points at frequent intervals to detect any settlement which may occur. The interval shall be determined based on recommendations of the Engineer and the nature of the critical structure or facility and distance from the excavation, except that the minimum frequency shall be twice per working day (once at the beginning of the work day and once at the conclusion of the work day).

PART 2 – MATERIALS

2.1 MATERIALS AND EQUIPMENT

- A. Dewatering, where indicated, includes well points, sump pumps, temporary pipelines for water disposal, rock or gravel placement, observation wells, and other means including standby pumping equipment maintained on the jobsite continuously.
- B. The Contractor shall provide piezometers for monitoring groundwater levels or other instruments and measuring devices, as required.
- C. The Contractor shall install a flow metering device approved by the permitting agency. Flow metering devices shall be installed per manufacture's recommendations and be installed in such a manner to provide the highest degree of accuracy.

SECTION 02140 – DEWATERING

PART 3 – EXECUTION

3.1 GENERAL REQUIREMENTS

- A. The Contractor shall be responsible for compliance with regulatory permits and Owner requirements for any discharge of groundwater to the sanitary sewer. Before starting dewatering operations, the Contractor shall obtain authorization, as required, for the disposal of groundwater.
- B. The Contractor shall comply with the requirements of the County of Monterey Health Department for the installation and/or destruction of borings and wells including, but not limited to permit applications, payment of fees and submittal of a well destruction reports.
- C. The Contractor shall install and maintain an adequate system to lower and control the groundwater to allow excavation, construction of structures, and placement of fill materials to be performed under fully drained and stable conditions.
- D. The system shall be placed into operation before excavation below groundwater level is started. The system shall be operated continuously until drains, sewers and structures have been constructed, fill materials have been placed, and dewatering is no longer required.
- E. Sufficient dewatering equipment shall be installed to pre-drain the water-bearing strata to below the bottom of foundations, drains, sewers, and other excavations.
- F. The hydrostatic head in water-bearing strata below foundations, drains, sewers, water pipelines and other excavations shall be reduced to ensure that the water level is at minimum **three (3) feet below** the excavation surface at all times. Dewatering shall at all times be conducted to preserve the undisturbed bearing capacity of the subgrade soils at proposed bottom of excavation.
- G. Flotation of structures and facilities shall be prevented by maintaining a positive and continuous removal of water or Owner-approved temporary anchoring system.
- H. If foundation soils are disturbed or loosened by the upward seepage of water or an uncontrolled flow of water, the affected areas shall be excavated and replaced with drain rock at no additional cost to the Owner.
- I. If well points or wells are used, they shall be adequately spaced to provide the necessary dewatering and shall be sand-packed and/or other means shall be used to prevent pumping of fine sands or silts from the subsurface. A continuous check shall be maintained to ensure that the subsurface soil is not being removed by the dewatering operation.
- J. Water and debris shall be disposed of in a legal and suitable manner in compliance with permit requirements and state and federal requirements, without damage to adjacent property. No water shall be drained into work built or under construction. Before disposal, water shall be treated in accordance with permit requirements. Before disposal, water shall be filtered to remove sand and fine-sized soil particles.

SECTION 02140 – DEWATERING

- K. The release of groundwater to its original level shall be performed in a manner that avoids disturbance of natural foundation soils, prevents disturbance of compacted backfill, and prevents flotation or movement of structures.
- L. The site shall be graded to facilitate drainage and runoff shall be diverted from the excavation. Surface runoff shall be collected in shallow ditches around the perimeter of the excavation, drained to sumps, and pumped or drained by gravity away from the excavation.

****END OF SECTION****

SECTION 02160 – EXCAVATION SUPPORT SYSTEMS

PART 1 – GENERAL

1.1 WORK OF THIS SECTION

- A. The Work of this Section includes support of temporary open excavations by means of sheet pilings, soldier piles and lagging, structural steel walls and struts, liner plates, and timber. The Contractor shall be responsible for the design and selection of methods in conformance with the design criteria as specified herein.
- B. The Work of this Section applies to temporary excavation support systems for demolition, and installation of buried pipelines, and boring and receiving shaft or pits as necessary to complete the Project, in accordance with the Contract Documents, and as directed by the Owner.
- C. The Contractor shall employ the services of a Civil or Structural engineer registered in the State of California for the preparation of the submittals required in this Section for the design, installation, and removal of the temporary shoring systems. Based on the geotechnical investigations (**See Appendix A**) conducted during design, the soil conditions along this Project are predominantly loose to medium dense, poorly graded sand and silty sand.
- D. The Contractor shall conduct investigations to be satisfied of the existing soil conditions and all cost associated with such investigations shall be included in contract bid price and no additional payment shall be made therefor. The temporary excavation support system shall be adequately designed, installed, and removed in such a manner to avoid sloughing, caving, or collapse of the trench or damage of any utilities, existing paving, roadway base or subgrade materials and all damage caused by inadequate shoring systems shall be repaired at the Contractor's expense.

1.2 RELATED WORK SPECIFIED ELSEWHERE

The Work of the following Sections also applies to the Work of this Section. Other Sections, not referenced below, shall also apply to the extent required for proper performance of this Work.

- A. Section 01300 – Submittals
- B. Section 02140 – Dewatering
- C. Appendices

1.3 STANDARDS AND REGULATIONS

- A. Caltrans "Trenching and Shoring Manual"
- B. Cal/OSHA Title 8 regulations
 - a. Chapter 3.2, Article 2, Section 341 of the California Occupational Safety and Health Regulations (Cal/OSHA).

SECTION 02160 – EXCAVATION SUPPORT SYSTEMS

- b. Chapter 4, Subchapter 4, Construction Safety Orders, Article 6, Excavations, Trenches, Earthwork, Section 1542, Shafts.
- C. Except as otherwise indicated, the current editions of the following apply to the Work of this Section:
 - 1. ASTM A 36 Structural Steel
 - 2. ASTM A 328 Steel Sheet Piling
 - 3. AWS D1.1 Structural Welding Code-Steel
 - 4. UBC Chap. 25 Wood.
 - 5. WCLIB Grading Rules
 - 6. WWPA Grading Rules
 - 7. AISC Manual of Steel Construction
 - 8. AASHTO, Section on Steel Tunnel Liner Plate

1.4 CONTRACTOR SUBMITTALS

- A. The following shall be submitted in compliance with Section 01300 –Submittals:
 - 1. The proposed excavation support system for each construction component where excavation support systems will be used.
 - 2. Arrangement and details for each excavation support system, supporting design calculations, construction methods to be used for the installation of each system, and all submittals shall be approved and signed by a Civil or Structural Engineer registered in the State of California.
 - 3. Soldier pile installation methods, connection details, bracing preloading, and jacking procedures.
 - 4. Depths below the main excavation bottom elevation to which the support system will be installed.
 - 5. Elevations of ground surface, struts, and shores, as applicable.
 - 6. Permissible depth to which excavation may be carried before supports must be installed and preloaded.
 - 7. Full excavation depth load to be carried by various support system members.
 - 8. Bracing loads for various stages of excavation, bracing removal, and concrete placement.
 - 9. Preloads as required.

SECTION 02160 – EXCAVATION SUPPORT SYSTEMS

10. Proposed sequence of strut and shore removal as applicable and as related to concrete placement and backfilling operations.
- B. The above Shop Drawings shall be coordinated with other shop drawing submittals for work specified elsewhere in which support of excavation is required.
- C. The proposed method of installing sheet piling shall include sequence of installation, template, and equipment description.
- D. The Contractor shall submit a contingency plan for alternative procedures to be implemented if the excavation support system is found to perform unfavorably.

1.5 QUALITY ASSURANCE

- A. Support of excavation shall be designed, and Shop Drawings and calculations signed, by a Professional Engineer, licensed to practice in the State of California and experienced in the design of excavation support systems. All design drawings and calculations shall be checked and initialed by a checker.

1.6 DESIGN CRITERIA

- A. Shop Drawings with supporting calculations for the various excavation support systems shall be prepared in accordance with the following criteria:
 1. Design the excavation support system and all components to support the earth pressures, unrelieved hydrostatic pressures, utility loads, equipment, traffic, and construction loads including impact, and other surcharge loads in such manner as will allow the safe and expeditious construction of the permanent structures, to minimize ground movement or settlement, and to prevent damage to or movement of adjacent buildings, structures, roadways and utilities.
 2. Design support members to resist the maximum loads expected to occur during the excavation and support removal stages.
 3. Maximum vertical center-to-center spacing of supports shall be 16 feet between top 2 support levels and 12 feet below second support level unless otherwise approved. If decking beams are not required, install the uppermost bracing tier at a vertical distance of not more than 6 feet below the top of excavation.
 4. Where water flows from the face of excavation, the maximum height of unsupported excavation shall not exceed 15 inches.
 5. In running sand and silt, provide positive means for securing timber lagging to the soldier piles to avoid shifting or falling off of the lagging, and positive means for containing such material behind lagging.
 6. Review of the Contractor's Shop Drawings and methods of construction by the Owner does not relieve the Contractor of responsibility for the adequacy of the excavation support systems.

SECTION 02160 – EXCAVATION SUPPORT SYSTEMS

7. No portion of the excavation support system's vertical face shall be permitted to penetrate the design lines as indicated on the Drawings for the permanent concrete structure to be constructed within the excavation.
 8. Vertical support capacity shall be provided for wall systems and internal bracing elements, for loads due to vertical force components of tieback anchors, the weight of the structural systems themselves, and live load on any portion of the system.
- B. Timber Support Systems and Members:
1. Bases for determination of minimum allowable working stress: UBC Chapter 25.
 2. The minimum thickness of timber lagging between soldier piles spaced 5 to 7 feet center-to-center shall be 3 inches for excavations up to 25 feet in depth, and 4 inches for excavations deeper than 25 feet. Contractor's shop drawings, design, and calculations shall indicate thickness required for actual site conditions and system used.
 3. For other conditions and types of lagging, design calculations shall be submitted.

1.7 PROJECT CONDITIONS

- A. Utility agencies shall be notified, and caution exercised while exposing utility facilities by hand or other methods approved by utility owner.
- B. If existing utility facilities interfere with the proposed method of support, the method shall be modified in a manner that will protect the facility and accommodate the proposed Work. Shop Drawings shall be revised and resubmitted along with design calculations required to account for the modified support method and to show the actual location of the existing utilities.
- C. Provisions shall be made for contingencies as follows:
1. Monitor performance of support system components, for both vertical and horizontal movement, at regular intervals not to exceed 3 days.
 2. Provide contingency plan for alternative procedures to be implemented if unfavorable performance is evidenced.
 3. Keep on hand materials and equipment necessary to implement contingency plan.
- D. Elements of the support system shall not be spliced unless approved by the Owner.

PART 2 – MATERIALS

2.1 MATERIALS

- A. Steel sheet piling shall be continuous interlocking type ASTM A328 of appropriate shape and provided with at least one 2-1/2-inch-diameter handling hole on the centerline of the web located at least 6 inches from each end of the sheet pile.

SECTION 02160 – EXCAVATION SUPPORT SYSTEMS

- B. Fabricated connections and accessories, steel H-piles, WF shapes, and other structural steel shall conform to the requirements of ASTM A36, unless otherwise approved.
- C. Concrete:
 - 1. For encasement of steel soldier piles below the final level of excavation, 2,500 psi shall be used.
 - 2. For encasement of soldier piles above the final level of excavation, lean concrete shall be used, the strength of which shall be adequate to protect the excavated faces of the augured hole.
- D. Wood lagging shall be dimension lumber with minimum allowable stress of 1,100 psi.
 - 1. The stress grade of the lagging shall be in conformance with the allowable stresses of the UBC, Chapter 25.
 - 2. Lumber shall be grade marked by WWPA or WCLIB with species and grade conforming to those shown on approved Shop Drawings.

PART 3 – EXECUTION

3.1 GENERAL

- A. The support system shall be adequately designed to avoid sloughing, caving, or collapse of the trench or damage of existing paving. The support system shall extend the main excavation bottom elevation to a depth adequate to prevent lateral movement and to adequately support applied vertical loads. In areas where additional excavation is required below the main excavation subgrade provisions shall be made to prevent movement of main excavation supports. Damage to existing utilities during installation of excavation support system shall be avoided.
- B. Water control measures shall be provided in accordance with the requirements specified in Section 02140 – Dewatering.

3.2 SOLDIER PILES

- A. Soldier piles shall be installed by pre-boring or other approved pre-excavation methods to tip elevation shown on approved Shop Drawings. Prevent pre-bored or other pre-excavated holes from collapsing.
- B. Pre-bored hole shall be filled with lean concrete from bottom of hole to subgrade dependent upon analysis of vertical support requirements.
- C. Remaining pile length shall be filled with lean concrete, completely encasing the pile.
- D. Concrete shall be placed from the bottom of the hole upwards by means of a flexible pipe connected to a hopper.

SECTION 02160 – EXCAVATION SUPPORT SYSTEMS

3.3 SHEETING AND LAGGING

- A. Sheeting and lagging shall be installed with no gap between the boards unless specifically approved. As installation progresses, the voids between the excavation face and the lagging or sheeting shall be backfilled with sand or soil and rammed into place. Materials such as hay or burlap shall be used where necessary to allow drainage of groundwater without loss of soil or packing material. If gaps in the lagging are allowed, the gap width between lagging boards shall be limited to 1/2 inch maximum.
- B. If unstable material is encountered, suitable measures shall be taken to retain it in place or to otherwise prevent soil displacement.
- C. Extend lagging down to final subgrade.
- D. A sufficient quantity of material shall be on hand for sheeting, shoring, bracing, and other operations for protection of work and for use in case of accident or emergency.

3.4 STEEL SHEET PILING

- A. Steel sheet piling may be used only where existing subsurface conditions are suitable for installation of sheet piling to the full depth of penetration required and to proper alignment and plumb as specified herein without damage to the sheet piling or rupture of its interlocks. The use of steel sheet piling will not be permitted where sheeting would be required to penetrate boulders, rock or other materials which may prevent the proper installation of sheet piling.
- B. Steel sheet piling shall be installed in plumb position with each pile interlocked with adjoining piles for its entire length so as to form a continuous diaphragm throughout the length of each run of wall, bearing tightly against original ground. Install sheeting to depth required for design. Exercise care during installation so that interlocking members can be extracted, if required, without injury to adjacent ground. The installation equipment shall be suitable to the type and nature of the subsurface materials anticipated to be encountered. The equipment and methods of installation, cutting, and splicing shall conform to the approved Shop Drawings.
- C. Liner plate shall be installed to proper line and grade and dimensions which will enable final liner to be placed in accordance with tolerances specified by the Engineer. Annular void, if present by method of ground support shall be filled with tunnel grout as specified by the Engineer.

3.5 INTERNAL BRACING SUPPORT SYSTEM

- A. All bracing support members shall be installed and maintained in tight contact with each other and with the surface being supported.
- B. Bracing members shall be preloaded by jacking the struts and shores in accordance with loads, methods, procedures, and sequence as described on the approved Shop Drawings. Coordinate excavation work with bracing installation and preloading. Use steel shims and steel wedges welded or bolted in place to maintain the preloading force in the bracing after release of the jacking equipment pressure. Use procedures so as to produce uniform

SECTION 02160 – EXCAVATION SUPPORT SYSTEMS

bracing member loading without appreciable eccentricities, overstressing, or support member distortion.

- C. Struts shall be provided with intermediate bracing as needed to enable them to carry their maximum design load without distortion or buckling. Provide diagonal bracing as necessary to maintain the stability of the system. Web stiffeners, plates, or angles shall be provided as needed to prevent rotation, crippling, or buckling of connectors at points of bearing between structural steel members. Allow for eccentricities resulting from field fabrication and assembly.
- D. Excavations shall be to a depth no more than 2 feet below the elevation of the support member about to be placed. The support member shall be installed and preloaded immediately after installation and prior to continuing excavation.

3.6 REMOVAL OF SUPPORT SYSTEMS

- A. Where removal is required wholly or in part, such removal shall be performed in a manner that will not disturb or damage adjacent new or existing construction or utilities. Fill all voids immediately with lean concrete, or other approved means.
- B. All elements of support systems shall be removed to a minimum depth of 6 feet below final ground surface. However, when a structure poured against the sheeting system extends above the 6-foot limit, removal of the sheeting system shall be to the top of the structure.
- C. All damage to property resulting from removal shall be promptly repaired at no additional cost to the Owner. The Owner shall be the sole judge as to the extent and determination of the materials and methods for repair.

****END OF SECTION****

SECTION 02160 – EXCAVATION SUPPORT SYSTEMS

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SECTION 02221 – TRENCHING, BACKFILL AND COMPACTION

PART 1 – GENERAL

1.1 WORK OF THIS SECTION

The work of this Section shall include, but not be limited to, furnishing all labor, materials, equipment and incidentals necessary to complete all trenching for pipelines and appurtenances, including trenching, excavation, legal disposal of excavated material, importing material, compaction, and restoration of trench surfaces, as necessary to complete the Project, in accordance with the Contract Documents, and as directed by the Owner.

- A. Excavation shall extend to the minimum width and depth shown on the Drawings as specified, and shall provide suitable room for installing pipe, structures and appurtenances. Excavation beyond the limits shown in the Drawings shall be approved by the Owner.
- B. The Contractor shall furnish and place all sheeting, bracing, and supports and shall remove from the excavation all materials which the Owner may deem unsuitable for backfilling. The bottom of the excavation shall be firm, dry, and in all respects, acceptable by the Soils Engineer. If the bottom of the excavation is wet or conditions warrant, the Contractor may be directed to overexcavate beyond the limits shown on the Drawings and backfill with $\frac{3}{4}$ -inch diameter rock, directly on the bottom of the trench immediately after excavation has reached the proper depth and before the bottom of the trench has become softened or disturbed by any cause whatsoever. The length of any open trench in any given working day shall not exceed two lengths of pipe. All excavation shall be made in open trenches.
- C. All excavation, trenching, and related sheeting, bracing, etc. shall comply with the requirements of Cal/OSHA Title 8 regulations and Caltrans requirements. Where conflict between Cal/OSHA regulations and Caltrans exists, the more stringent requirements shall apply.
- D. Wherever the requirement for a percent compaction is referred to herein shall mean “at least that percent of maximum density as determined by ASTM D1557, Method D”.
- E. Prior to the start of work the Contractor is required to submit the proposed method of backfilling and compaction to the Owner’s Representative for review.

1.2 RELATED WORK SPECIFIED ELSEWHERE

- A. Section 01060 – Permits and Regulatory Requirements
- B. Section 01300 – Submittals
- C. Section 01400 – Quality Control
- D. Section 01570 – Traffic Regulations
- E. Section 02140 – Dewatering
- F. Section 02160 – Excavation Support Systems

SECTION 02221 – TRENCHING, BACKFILL AND COMPACTION

G. Section 02510 – Asphalt Concrete Pavement

H. Appendices

1.3 SUBMITTALS

A. Submit shop drawings in accordance with Section 01300.

B. Submit a report from a testing laboratory verifying that imported material is asbestos/free and conforms to the specified gradations or characteristics.

C. Submit copies of fully executed excavation, encroachment, and traffic control permits.

D. Submit mix design and test results for controlled-low strength material.

1.4 REFERENCES

A. American Society for Testing and Materials (ASTM)

1. ASTM C33 – Specification for Concrete Aggregate.

2. ASTM C143 – Test Method for Slump of Portland Cement.

3. ASTM C150 – Standard Specification for Portland Cement.

4. ASTM D1557 – Test Methods for Moisture-Density Relations of Soil and Soil-Aggregate Mixtures Using 10 lb Rammer and 18-inch Drop.

PART 2 – MATERIALS

2.1 PIPE ZONE MATERIAL

For all non-pressure pipe, clean crushed rock stone free of organic matter, certified to contain less than 1% asbestos by weight or volume or volume and shall conform to the following gradation:

U. S. Standard Percent Passing	Sieve Size By Weight
25mm (1")	100
19mm (3/4")	90-100
12.5mm (1/2")	30-60
9.5mm (3/8")	0-20
4.75mm (No. 4)	0-5
2.36mm (No. 8)	----

In addition, crushed rock for use within the pipe zone shall meet or exceed the following requirements for resistance to abrasion or impact as measured using ASTM Test Method C 131, Test Sample Grading B:

100 Revolutions:	15% Maximum Loss by Weight
500 Revolutions:	52% Maximum Loss by Weight

SECTION 02221 – TRENCHING, BACKFILL AND COMPACTION

2.2 NATIVE MATERIAL FOR TRENCH ZONE

Native earth backfill used above the pipe zone shall be excavated fine grained materials or loose soil free of asbestos, organic matter, roots, debris, rocks larger than 3-inches in diameter, clods, clay balls, broken pavement, and other deleterious materials. Coarser materials shall be well distributed throughout the finer material. Backfill materials that are obtained from trench excavated materials to the extent such material is available, shall be either screened directly into the trench or screened during the trenching operation. If screened during trenching, the material shall be maintained free of unscreened material during the handling and backfilling process. Hand selecting of rocks from earth as it is placed into the trench will not be permitted in lieu of the specified screening. Under no circumstances will native earth backfill be allowed or used in the pipe base or pipe zone areas. Large rock from the project site can be crushed by the Contractor for the trench zone.

If crushed and screened materials are used from the project site, the gradation shall conform to State Standard Specifications Section 19-3, "Structure Backfill".

2.3 IMPORTED MATERIAL FOR TRENCH ZONE

Imported material, if used for trench backfill, should not contain rocks or lumps greater than 3-inches in maximum dimension or organic debris or contaminated materials. All imported material for the trench zone shall conform to the State Standard Specifications Section 19-3, "Structure Backfill" and shall be non-expansive and have a Plasticity Index less than 15 percent and Liquid Limit of 30 percent or less.

2.4 MATERIAL FOR STRUCTURAL BACKFILL

Per Caltrans District 5 permit requirements, the 30-inches beneath the paved surfaces shall be backfilled with excavatable controlled low strength material (CLSM) with minimum 28-day compressive strength of 150 psi. CLSM shall be a fluid workable mixture of aggregate, cement, and water with cement complying with ASTM C150. Water and aggregate shall be clean, free of organic material, or other deleterious substances.

Other than the 30-inches below the paved surfaces, structural backfill shall conform to paragraphs 2.2 and 2.3.

2.5 MATERIAL FOR PIPE BEDDING AND SUBGRADE PREPARATION (FOUNDATION STABILIZATION)

Subgrade material shall consist of clean $\frac{3}{4}$ -inch crushed or natural rock. Subgrade material shall be compacted with a manual vibratory compaction plate by making a minimum of three passes until a firm non-yielding surface.

2.6 ROCK REFILL FOR OVEREXCAVATION

- A. The Contractor shall not overexcavate beyond the 12-inch layer of bedding and subgrade layer without the Owner's written approval. Where unsuitable material is encountered beyond the subgrade preparation to stabilize the foundation, the Contractor shall overexcavate as directed by the Owner to competent material, as determined by the Soils

SECTION 02221 – TRENCHING, BACKFILL AND COMPACTION

Engineer. Shall the Contractor overexcavate without prior written approval by the Owner, the Contract shall backfill the overexcavation with ¾-inch rock according to this Section at their own expense. Rock refill shall conform to paragraph 2.5.

2.7 CEMENT SLURRY

- A. The cement slurry shall consist of Portland cement, fine aggregate, water and at the Contractor's option, fly ash.
- B. The 28-day compressive strength of the cement slurry shall be a minimum of 100 psi. This shall be verified by compressive tests in conformance with ASTM C39.
- C. The concrete slurry mix design shall meet the following requirements:

Minimum Cementitious Content	188 lbs/cy
Maximum Slump	5-inches ± 1-inch
Maximum Total Volumetric Air	4%
- D. The amount of cementitious material is required irrespective of slurry strength.
- E. No calcium chlorides are permitted.
- F. The cement slurry shall be of a consistency to be worked around pipes with little effort.
- G. Portland cement, aggregate, and water used for cement slurry shall be per Section 03300 - Cast-in-Place Concrete
- H. Fly Ash
 - a. Fly ash shall conform to ASTM C618, Class F.
 - b. Fly ash may be used as a substitute for Portland cement up to a maximum for 20% of the total weight of cementitious material used, at the Contractor's option.
 - c. Separate storage bins shall be provided for the fly ash. The storage bins shall provide ready access for the purpose of inspection and sampling.
 - d. All fly ash used in individual structures shall be from the same source and of the same class in combination with the same resource and type of Portland cement.

2.8 FILTER FABRIC

Filter fabric shall be manufactured from polyester, nylon, or polypropylene. Material shall be of non-woven construction and shall meet the following requirements:

- A. Grab tensile strength (ASTM D 4632): 100 lbs minimum for a 1" raveled strip.
- B. Weight (ASTM D 3776): 4.5 oz./yd²

SECTION 02221 – TRENCHING, BACKFILL AND COMPACTION

- C. Apparent opening size (ASTM D 4751): 0.006"

PART 3 – EXECUTION

3.1 TEST PITS/UTILITY POTHOLING

- A. The Contractor shall excavate test pits for locations of all existing, connection points, utilities and services located within 5-feet horizontally and vertically of the proposed pipeline prior to the preparation and approval of shop drawings. The Contractor shall also determine the outside dimension of the utility, depths and widths of duct banks, and where necessary for making connections, shall also determine existing joint types, bearings, and inclinations of utility. Existing utilities to be potholed will be determined from those identified on the Drawings and those which are marked out in the field.
- B. Test pits shall be backfilled as soon as the desired information has been obtained. The backfilled surface shall be maintained in a satisfactory condition for travel until resurfaced as specified. Contractor shall meet Caltrans' temporary and permanent resurfacing requirements.
- C. The Contractor shall set an offset nail for each utility potholed with a horizontal and vertical distance to the top of the utility.
- D. The Contractor shall notify the Owner immediately of any utility conflicts with the proposed pipeline.

3.2 COMPACTION REQUIREMENTS

Unless otherwise shown on the Drawings or the Geotechnical Report, otherwise described in the Specifications or required by the agency having jurisdiction over the area of the work, relative compaction in pipe trenches shall be a minimum as follows:

- A. Pipe bedding – 95% relative compaction.
- B. Pipe zone - 95% relative compaction.
- C. Backfill above pipe zone not beneath paving - 95% relative compaction.
- D. Backfill above pipe zone in paved areas - 95% relative compaction.

3.3 SHEETING, SHORING, AND BRACING OF TRENCHES

See Section 02160 – Excavation Support Systems

3.4 DEWATERING

See Section 02140 – Dewatering

SECTION 02221 – TRENCHING, BACKFILL AND COMPACTION

3.5 MATERIAL REPLACEMENT

Remove and replace any trenching and backfilling material which does not meet the Specifications, at the no additional cost to the Owner.

3.6 TRENCH EXCAVATION

- A. Trench or substructure excavation shall include material of every description and of whatever substance encountered, including rock and boulders. Pavement shall be cut with a saw, wheel or pneumatic chisel along straight lines before excavating.
- B. The Contractor shall strip, salvage, and stockpile topsoil from grassed areas crossed by trenches. Salvaged topsoil shall be stockpiled separately and shall not be stockpiled in piles greater than 3-feet high.
- C. While excavating and backfilling is in progress, traffic shall be maintained, and all utilities and other property protected as provided in the General Conditions and this Section.
- D. Trenches shall be excavated to the depth indicated on the Drawings, and in widths sufficient for laying the pipe, bracing, and for pumping and dewatering facilities. The bottom of the excavations shall be firm and dry and, in all respects, acceptable to the Owner. Trench width shall be as shown on the Drawings.
- E. Excavation shall be accomplished by methods which preserve the undisturbed state of subgrade soils. The trench may be excavated by machinery to, or just below the designated subgrade, provided that material remaining in the bottom of the trench is no more than slightly disturbed. Subgrade soils which become soft, loose, “quick”, or otherwise unsatisfactory as a result of inadequate excavation, dewatering or other construction methods shall be removed and replaced with rock refill per this Section and as required by the Owner at the Contractor’s expense.
- F. Clay and organic silt soils are particularly susceptible to disturbance due to construction operations. When excavation is to end in such soils, the Contractor shall use a smooth-edge bucket to excavate the last one foot of depth.
- G. Where pipe is to be laid in screened gravel, the trench may be excavated by machinery to the normal depth of the pipe provided that the material remaining in the bottom of the trench is no more than slightly disturbed.
- H. Where the pipe is to be laid directly on the trench bottom, final excavation at the bottom of the trench shall be performed manually, providing a flat-bottom true to grade upon undisturbed material. Bell holes shall be made as required.
- I. The existing pavement shall be scored to approximately one-fourth its thickness by saw-cutting along a straight line and shall be broken out to provide clean, solid, vertical faces, free of loose material.
- J. Perform all excavation regardless of the type, nature, or condition of the material encountered to accomplish the construction. Do not operate excavation equipment within

SECTION 02221 – TRENCHING, BACKFILL AND COMPACTION

5 feet of existing structures or newly completed construction. Excavate with hand tools in these areas.

- K. Construct trenches in rock by removing rock to a minimum of 6 inches below bottom of pipe and backfilling with imported sand.

3.7 EXCAVATION BELOW GRADE AND REFILL

- A. Whatever the nature of unsuitable material encountered or the groundwater conditions, trench drainage shall be complete and effective.
- B. If the Contractor excavates below grade through error or for the Contractor's own convenience, or through failure to properly dewater the trench, or disturbs the subgrade before dewatering is sufficiently complete, the Contractor may be directed by the Owner to excavate beyond the subgrade preparation as set forth in the following paragraph, in which case the Work of excavating below grade and furnishing and placing the refill shall be performed at the Contractor's own expense.
- C. If the material at the level of trench bottom consists of fine sand, sand and silt or soft earth which may work into the screened gravel notwithstanding effective drainage, the subgrade material shall be removed to the extent directed and the excavation refilled with a 12-in layer of ¾-inch rock, or a mixture graded from course sand to the fine pea stone, as approved by the Owner, to form a filter layer preserving the voids in the gravel bed of the pipe. The composition and gradation of gravel shall be approved by the Owner prior to placement. Screened gravel shall then be placed in 6-inch layers thoroughly compacted up to the normal grade of the pipe.
- D. If the trench bottom beyond the subgrade preparation is determined to be unsuitable and the Contractor is directed by the Owner to overexcavate and refill with rock material, the cost for the required work shall be as included in the Bid Schedule. No work shall be performed until approved by the Owner.

3.8 OVEREXCAVATION

After the required excavation has been completed, the Engineer will inspect the exposed subgrade to determine if excavation beyond the 12-inches of subgrade preparation to stabilize the foundation, as shown on the Drawings, is required to achieve a competent surface on which to compact backfill. It is the intent that additional excavation be conducted in all areas within the influence of the pipeline where unacceptable materials such as soft, spongy or deleterious materials exist at the exposed grade.

3.9 TRENCH BACKFILLING

- A. As soon as practicable after the pipe has been laid and jointed, backfilling shall begin and thereafter be executed expeditiously. Pipe zone material shall be placed up to 12-inches over the pipe. Material shall be placed in lifts 8-inches or less in loose thickness, moisture conditioned to near optimum moisture content. Water jetting shall not be allowed.
- B. For non-pressure pipe installation using crushed rock in the pipe zone, or in areas of

SECTION 02221 – TRENCHING, BACKFILL AND COMPACTION

suspected high groundwater, filter fabric shall be wrapped around the pipe zone to separate the pipe zone material from the trench zone material. Filter fabric shall secure with an 11-gauge pin or approved equal.

- C. Where the pipes are laid outside of the street pavement, the ground shall be restored to its original level and condition. Where the pipes are laid in streets, the remainder of the trench shall be backfilled as shown on the Drawings, meeting or exceeding governing agency requirements.
- D. To prevent longitudinal movement of the pipe, dumping backfill material into the trench and then spreading will not be permitted until selected material or screened gravel in the pipe zone have been placed and compacted to a level of 1-foot over the pipe.
- E. Backfill shall be brought up evenly on all sides. Each layer of backfill material shall be thoroughly compacted by rolling, tamping, or vibrating with mechanical compacting equipment or hand tamping, to required compaction. The Contractor shall ensure that pipe haunching provides the specified compaction to the pipe springline. If rolling is employed, it shall be by use of a suitable roller or tractor, being careful to compact the fill throughout the full width of the trench.
- F. If water restrictions are in force, the Contractor shall obtain water elsewhere, or compact the backfill by other approved methods at no additional cost to the Owner.
- G. Where other methods are not practicable, compaction shall be by use of hand or pneumatic ramming with tools weighing at least 20 lbs. The material being spread out and compacted in layers not over 6-inches thick. If necessary, sprinkling shall be employed in conjunction with rolling or ramming.
- H. Subject to the approval of the Owner, fragments of ledge and boulders smaller than 3-inches may be used in trench backfill providing that the quantity in the opinion of the Owner, is not excessive. Rock fragments shall not be placed until the pipe has at least 2 feet of earth cover. Small stones and rocks shall be placed in thin layers alternating with earth to ensure that all voids are completely filled. Fill shall not be dropped into the trench in a manner to damage the pipe.
- I. Bituminous paving shall not be placed in backfill. Frozen material shall not be used under any circumstances.
- J. All road surfaces shall be watered down and mechanically broomed immediately after backfilling and at the completion of the work day. Dust control measures shall be employed at all times.

3.10 CEMENT SLURRY BACKFILL

- A. Cement slurry backfill shall be supplied where indicated on the Drawings to the grade and extent shown.
- B. Approval from the Owner must be obtained in writing prior to using cement slurry to backfill areas not indicated on the Drawings.

SECTION 02221 – TRENCHING, BACKFILL AND COMPACTION

- C. The slurry backfill shall be placed in lifts, continuously, unless approved by Owner.
- D. Consolidate slurry as required to obtain a solid mass with no significant voids.
- E. Wet cure slurry for 48 hours before continuing work on the slurry. Wet cure shall consist of maintaining a damp surface on the slurry and covering with a translucent vapor barrier. Top and seal all splices of vapor barrier.

3.11 MECHANICAL COMPACTION OR HAND TAMPING

Place backfill materials in uniform layers of the indicated thickness. Compact each layer to the required minimum relative compaction at the optimum moisture content. Do not use heavy duty compaction equipment with an overall weight in excess of 125 pounds until backfill has been completed to a depth of 2 feet over the top of pipe. Do not use high impact hammer type equipment except where the pipe manufacturer guarantees in writing that such equipment will not damage the pipe.

3.12 SLOPE PROTECTION

Prepare and seed all open ground within the easement or working area disturbed by the construction, not otherwise protected from erosion as indicated in the drawings, or as determined by the Owner's Representative. After final clean-up, cultivate areas to be seeded to break up any compaction resulting from grading operations.

3.13 REQUIREMENTS FOR STEEL PLATES FOR OPEN TRENCHES

See Section 01570 – Traffic Regulations

****END OF SECTION****

SECTION 02221 – TRENCHING, BACKFILL AND COMPACTION

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SECTION 02222 – PROTECTING EXISTING UNDERGROUND UTILITIES

PART 1 – GENERAL

1.1 WORK OF THIS SECTION

The work of this Section shall include, but not be limited to, furnishing all labor, materials, tools, and equipment for protecting existing underground utilities, as necessary to complete the Project, in accordance with the Contract Documents, and as directed by the Owner.

1.2 RELATED WORK SPECIFIED ELSEWHERE

The Work of the following Sections also applies to the Work of this Section. Other Sections, not referenced below, shall also apply to the extent required for proper performance of this Work.

- A. Section 01047 – Connections to Existing Facilities
- B. Section 02221 – Trenching, Backfilling, and Compaction

PART 2 – MATERIALS

2.1 REPLACEMENT IN KIND

- A. Except as indicated or as specifically authorized by the Engineer, the Contractor shall reconstruct utilities with new material of the same size, type, and quality as that removed.

PART 3 – EXECUTION

3.1 GENERAL

- A. The Contractor shall call USA Dig Alert at 811 a minimum of two working days prior to excavation. The Contractor shall locate and mark out Caltrans-owned underground utilities at no expense to the Owner.
- B. Replace in kind street improvements, such as curbs and gutters; fences; signs; paved surfaces; etc, that are cut, removed, damaged, or otherwise disturbed by the construction.
- C. Where utilities are parallel to or cross the pipeline trench but do not conflict with the permanent work to be constructed, follow the procedures given below and as indicated on the Drawings. Notify the utility owner a minimum of 72 hours in advance of the crossing construction and coordinate the construction schedule with the utility owner's requirements. For utility crossings not shown on the Drawings, Contractor shall immediately notify the Engineer who will promptly investigate the conditions.
- D. Determine the true location and depth of utilities and service connections which may be affected by or affect the work. Determine the type, material, and condition of these utilities. In order to provide sufficient lead time to resolve unforeseen conflicts, order materials and take appropriate measures to ensure that there is no delay in work.

3.2 PROCEDURES

- A. Protect in Place: Protect utilities in place, unless abandoned, and maintain the utility in service, unless otherwise specified.

SECTION 02222 – PROTECTING EXISTING UNDERGROUND UTILITIES

- B. Cut and Plug Ends: Cut abandoned utility lines, fill with concrete two feet into line and plug the ends with brick and mortar or concrete plug. Dispose of the cut pipe as unsuitable material.
- C. Remove and Reconstruct: If the Contractor encounters an existing lateral or utility that is noted on the Drawings for removal and reconstruction, then the Contractor shall remove the utility and, after passage, reconstruct it and extend it, if necessary, with new materials. Provide temporary service for the disconnected utility, prior to permanent repair. This requirement does not apply to existing franchise owned utilities for which utility agency requirements for said removal and reconstruction shall govern.

3.3 COMPACTION

- A. Utilities Protected in Place: Backfill and compact under and around the utility so that no voids are left. Where utilities are concrete encased, use the alternative construction method (sand slurry) for backfill around the utility.
- B. Alternative Construction –Sand slurry consisting of two sacks (188 pounds) of Portland cement per cubic yard of sand and sufficient moisture for workability may be required for backfill to aid in reducing compaction difficulties. Submit specific methods and procedures for the review of the Engineer prior to construction.

3.4 ADJACENT PARALLEL UTILITIES

- A. Protect existing parallel utilities from any disturbances and repair the lines and associated appurtenances if they are damaged in any way. All costs incurred for protection of utilities or any costs incurred due to the presence of the lines, whether or not they lie within the new construction, shall be borne in full by the Contractor.

****END OF SECTION****

SECTION 02345 - PIPE BURSTING

PART 1 – GENERAL

1.1 WORK OF THIS SECTION

- A. This specification covers the work necessary to furnish and install, complete and in place, high density polyethylene pipe (HDPE) pipe by the pipe bursting method of all diameters necessary, as shown on the drawings and specified herein.
- B. The Contractor shall provide all materials, labor, equipment, and services necessary for bypass pumping and/or diversion of sewage flows, installation of the pipe, reconnection of lateral sewers, and CCTV inspection and testing of the completed pipe system.

1.2 RELATED WORK SPECIFIED ELSEWHERE

The Work of the following Sections also applies to the Work of this Section. Other Sections, not referenced below, shall also apply to the extent required for proper performance of this Work.

- A. Section 01680 – Closed-Circuit Television (CCTV) Inspections
- B. Section 02221 – Trenching, Backfill and Compaction
- C. Section 02645 - High Density Polyethylene Pipe (HDPE)
- D. Section 02960 - Temporary Bypass Pumping

1.3 EXPERIENCE REQUIREMENTS

Contractor shall have a minimum of five (5) pipe bursting projects of similar diameter, length, soil type and installation conditions successfully completed within the last 3 years.

The Contractor shall furnish a manufacturer's certificate affidavit of compliance for all HDPE pipe and fittings furnished confirming that the materials supplied fully conform to the requirements specified herein.

The Contractor shall perform trial fusion welds and submit samples to the Engineer for review prior to installation of the pipe. Full penetration welds shall provide a homogeneous material across the cross section of the weld. The fusion machine employed for the trial welds shall be the same machine to be utilized for the installation work.

Fusion equipment shall be operated only by technicians who have been certified by the pipe manufacturer or supplier and who have a minimum of three (3) years of experience fusion welding 12-inch or larger diameter HDPE pipelines. The technician's experience shall be documented in the bid submittal.

1.4 SUBMITTALS

The Contractor shall submit catalog cuts, specifications, dimensioned drawings, the proposed diameters of bursting head and expander to be used for each pipe size manufacturer's

SECTION 02345 - PIPE BURSTING

recommendation for installation, installation details and sketches, and other pertinent information for the HDPE pipe installation work. All materials provided shall be fully in accordance with the requirements of the reference specifications specified herein.

The Contractor shall submit detail drawings and a written description of the construction procedure, sequence to bypass sewage flow, install pipe, and reconnect lateral sewers.

The Contractor shall submit Pre- and Post-CCTV Inspection videos of all sanitary sewer mains within the scope of work. See Section 01680 – Closed-Circuit Television (CCTV) Inspections.

The Contractor shall submit a copy of the technician's certification(s) for the operation of the fusion equipment.

Submit debanding process and equipment for use in removing the internal bead for the newly joined HDPE pipe sections.

1.5 QUALITY ASSURANCE

Quality assurance procedures shall be performed by the pipe manufacturer fully in accordance with the requirements of this specification. The certification shall include certified laboratory data confirming that said tests have been performed on a sample of the pipe to be provided under this contract, or pipe from that production run, and that satisfactory results were obtained.

Fusion joining and other procedures necessary for correct assembly of the pipe shall be done only by personnel trained in those skills and have three years of experience in fusion joining, to the satisfaction of the Engineer and the pipe manufacturer/supplier.

Only those tools designed for the aforementioned procedures, and approved by the pipe manufacturer or supplier and the Engineer, shall be used for assembly of pipe fittings to ensure proper installation. The heater plate shall be equipped with suitable means to measure the temperature of plate surfaces and to assure uniform heating such as thermometers or pyrometers.

Pipe insertion equipment shall be operated only by technicians who have a minimum of three years of experience in the installation of the pipe as specified herein. The technician's experience shall be documented in the bid submittal.

The Contractor shall videotape the installed pipe after existing services have been reconnected and manhole work has been completed. The original television inspection videotape shall be provided to the Engineer for approval.

The Contractor and/or Subcontractor performing the pipe bursting work, if applicable, shall provide to the Owner a warranty to be in force and effect for a period of one (1) year from the date of final project acceptance by the Owner. The warranty shall require the Contractor and/or Subcontractor to repair or replace the pipe should leakage, separation, collapse or other failure result from faulty materials or installation as determined by the Owner or Engineer.

SECTION 02345 - PIPE BURSTING

1.6 DELIVERY, STORAGE, AND HANDLING

The Contractor shall exercise special care during the unloading, handling, and storage of all polyethylene pipe to ensure that the pipe is not cut, gouged, scored or otherwise damaged. Any pipe segment which has cuts in the pipe wall exceeding 10 percent of the wall thickness shall be cut out and removed from the site at the Contractor's cost. The pipe shall be stored so that it is not deformed axially or circumferentially.

All pipe without an ultraviolet inhibitor shall not be stored uncovered outside.

PART 2 – MATERIALS

2.1 GENERAL

Piping used for pipe bursting shall be High Density Polyethylene (HDPE) pipe as specified in Section 02645-High Density Polyethylene (HDPE).

Joints: pipe shall be joined by butt fusion welding, as specified in Section 02645-HIGH DENSITY POLYETHYLENE (HDPE) PIPE.

Field connections required for pipeline installed between manholes shall be made with electrofusion couplings as specified in Section 02645-HIGH DENSITY POLYETHYLENE (HDPE) PIPE

2.2 LATERAL RECONNECTIONS

All active sewer laterals shall be reconnected to the main line by use of electrofusion saddles. Lateral connections to sanitary sewer mains 12 inch in diameter (nominal) or smaller shall be with an electrofusion "wye" type saddle, manufactured by Central Plastics or approved equal. Lateral connections to sanitary sewer mains greater than 12 inch in diameter (nominal) may be with a "tee" type saddle if the "wye" type electrofusion saddle is not available.

PART 3 - EXECUTION

3.1 GENERAL

All work shall be performed and supervised by personnel experienced in the installation of the pipe by pipe bursting method as specified herein.

Installation guidelines from the pipe supplier shall be followed for all installations.

The Contractor shall protect facilities from damage by forces generated by the pipe bursting equipment. Adjacent utilities shall be identified by means of USA verification and/or potholing prior to work. The Contractor shall be responsible for repairing adjacent utilities damaged by the construction.

For PG&E and CalAm facilities that have 3-foot clearances or less from the pipe to be burst, a utility owner representative must be notified prior to bursting operations. The Contractor shall make arrangements with the utility companies when their presence is required.

SECTION 02345 - PIPE BURSTING

3.2 HIGH DENSITY POLYETHYLENE PIPE JOINING

Sections of polyethylene pipe shall be joined into continuous lengths on the job site above ground. The joining method shall be the butt fusion method and shall be performed in strict accordance with the pipe manufacturer's recommendations and per Section 02645, HIGH DENSITY POLYETHYLENE (HDPE) PIPE.

The inside weld bead shall be removed by cutting the bead away without scoring the inside wall of the pipe.

3.3 PIPE INSTALLATION

Pipe Bursting Shafts: Pipe Bursting Shafts shall be use for bursting head insertion/receiving pits, lateral disconnection and reconnecting and air gap separation from existing utilities. They shall also be used to remove corrugated metal pipe (CMP) debris as required to allow continued progress of the bursting head. These shafts shall be prepared and backfilled in accordance with Section 02221, Trenching, Backfilling, and Compaction and the Standard Trench Section Detail. All shafts shall be adequately shored and braced, to insure safe work areas in accordance with Section 02160, Excavation Support Systems.

When not indicated in the Contract Documents, the locations for the Pipe Bursting Shafts are to be determined by the Contractor and approved by the Owner. In considering locations for shafts, the Contractor shall consider the size of the existing sewer and new pipe, locations of obstructions and services, locations of manholes, pulling distances, traffic conditions, and locations of utilities.

Some Pipe Bursting Shafts are shown in locations where access to the bursting head may be required to remove CMP debris which would prevent the safe progress of the bursting head and possible damage to the new HDPE pipe installation. These shafts may or may not be required depending on the difficulty of bursting the existing pipe.

Shafts for insertion pits shall have a maximum slope of 2.5:1 entry slope and shall be shaped to permit as long a radius in the new pipe as feasible. This radius shall not be less than 35 times the outside diameter at pipe. If existing manholes are destroyed or damaged while constructing the insertion/receiving pits, they shall be reconstructed and/or repaired at no cost to the Owner.

The Contractor shall backfill all points where the new pipe has been exposed, such as shafts, outside of manholes, lateral connections, critical utility crossings, etc. The backfill material shall be compacted according to the surface restoration required as outlined in these Standard Specifications.

The Contract shall excavate to provide air gaps at utility crossings for existing utilities with less than 2'-0" clearance to the outside diameter of the new sewer pipe. All loose soil shall be removed from the excavation prior to backfilling.

The Contractor shall physically disconnect all laterals from the existing main prior to pipe bursting.

The pipe will be installed in a manner so the pipe curve radius is never less than the pipe manufacturer's recommended minimum bending radius.

SECTION 02345 - PIPE BURSTING

The Contractor shall install the pipe by utilizing static bursting or cone cracking methods. The use of hydraulic or pneumatic bursting devices must be approved by the Owner. The void created by the bursting device shall be sufficient in size to accommodate the pipe which shall be installed immediately after the void has been formed.

The bursting head shall be specially modified for cutting thin gage corrugated metal pipe. It shall have an elongated, multiple roller cutter-type assembly to prevent the existing pipe from bunching up as it is cut apart and prevent the new HDPE pipe from being gouged.

Where pipe is installed by pulling in tension, the recommended Safe Pulling Force, according to the pipe supplier, shall not be exceeded.

The Contractor may utilize existing manholes where practical. Manhole inverts and bottoms shall be removed to permit access for installation equipment and the larger proposed pipe. Structural damage to manholes during pulling operations shall be repaired at no extra cost. Pipe bursting through a manhole shall not be allowed unless approved by the Engineer.

The Contractor shall anchor the pipe to concrete structures or manholes after the pipe has been installed along the length of sewer replaced. The Contractor shall use a water stop or flange adapter, as supplied by the pipe manufacturer that is firmly seated perpendicular to the pipe axis, around the pipe exterior and cast into the structure base or near the structure wall center. The structure or manhole connection shall be made after adequate time has been allowed for the pipe to relax from the applied tension forces, as specified herein.

Lateral Reconnection: The Contractor shall be responsible for disconnecting and reconnecting all live laterals to the main pipe. Capped/abandoned laterals shall not be reconnected to the new main.

3.4 STRESS AND STRAIN RELIEF OF HDPE PIPE AFTER PULLING OPERATIONS

The Contractor shall allow the pipe to return to its original length and shape in the unstressed state prior to trimming the excess pipe in the manholes. The pipe manufacturer's recommendations shall be followed regarding the relief and normalization of stress and strain due to temporary stretching or elongation after pulling operations are completed. Contractor shall consider temperature and pulling time required when calculating required time for stress and strain relief. Time allowed for stress and strain relief shall be not less than 24 hours without a specific recommendation otherwise from the pipe manufacturer.

The Contractor shall allow a minimum of six (6) hours to elapse after pipe bursting mainlines prior to connecting permanent lateral connections to the new main, in order to allow the pipe to relax from the applied tension forces. The Contractor shall provide temporary lateral connections and or bypassing as required to prevent overflows from side sewers.

3.5 PIPE TESTING

All tests shall be completed and approved prior to placing of permanent resurfacing.

Testing of pipe shall be in conformance with the requirements as stated on the Approved Drawings and in accordance with the Owner's requirements.

SECTION 02345 - PIPE BURSTING

After completion of construction of the pipeline and prior to final pavement restoration, the Contractor shall inspect all new pipelines for obstructions and shall clean all new lines using the Wayne sewer ball method or other approved method. The Contractor shall inspect the new lines by television camera in accordance with Section 01680, Closed-Circuit Television (CCTV) Inspections and submit logs and videos to the Owner. Television inspection shall be witnessed by the Owner or its appointed delegate.

Any lines showing unacceptable pipe construction such as offset joints $>1/2''$ or deformed pipe shape (ovality $>7\%$ of pipe diameter) will be rejected and contractor will be required to repair those deficiencies at no additional cost to the Owner.

If it is determined by the Owner or its appointed delegate that there is a sag or hump in the installed piping after completion of pipe bursting and repair is required, then the Contractor shall repair the sag for the length directed by the Owner. The sag repair shall be performed in accordance with these Specifications and would require excavation down to the new pipe and correcting the vertical alignment of the pipe with bedding and backfill material as required in Section 02221 – Trenching, Backfill and Compaction.

If the sag is in a location of a previous existing sag, then the sag repair shall be paid at the unit price per foot of actual footage repaired.

If the sag is in a location where there was not a previous existing sag, then the Contractor shall repair the sag at no additional cost to the Owner.

*****END OF SECTION*****

SECTION 02378 – GEOTEXTILES

PART 1 - GENERAL

1.1 WORK OF THIS SECTION

The work of this Section shall include, but not be limited to, furnishing all labor, materials, tools, and equipment for geotextiles, as necessary to complete the Project, in accordance with the Contract Documents, and as directed by the Owner.

1.2 RELATED WORK SPECIFIED ELSEWHERE

The Work of the following Sections also applies to the Work of this Section. Other Sections, not referenced below, shall also apply to the extent required for proper performance of this Work.

- A. Section 01300 – Submittals
- B. Section 02221 – Trenching, Backfilling, and Compaction

1.3 REFERENCE SPECIFICATIONS, CODES AND STANDARDS

- A. Except as otherwise indicated, the current editions of the following apply to the work of this section.

ASTM D 3786	Standard Test Method for Hydraulic Bursting Strength of Knitted Goods and Nonwoven Fabrics - Diaphragm Bursting Strength Tester Method
ASTM D 3787	Standard Test Method for Bursting Strength of Knitted Goods – Constant-Rate-of-Traversal (CRT) Ball Burst Test
ASTM D 4355	Standard Test Method for Deterioration of Geotextiles from Exposure to Ultraviolet Light and Water (Xenon-Arc Type Apparatus)
ASTM D 4491	Standard Test Method for Water Permeability of Geotextiles by Permittivity
ASTM D 4533	Test Method for Trapezoid Tearing Strength of Geotextiles
ASTM D 4632	Standard Test Method for Grab Breaking Load and Elongation of Geotextiles
ASTM D 4751	Test Method for Determining the Apparent Opening Size of a Geotextile
ASTM D 4833	Standard Test Method for Index Puncture Resistance of Geotextiles, Geomembranes, and Related Products
ASTM D 4884	Standard Test Method for Seam Strength of Sewn Geotextiles
ASTM D 4886	Standard Test Method for Abrasion Resistance of Geotextiles (Sand Paper/Sliding Block Method)
ASTM D6193	Standard Practice for Stitches and Seams

1.4 DEFINITIONS

- A. The following definitions apply to the Work of this Section:
 - 1. Fabric: Geotextile, a permeable geosynthetic comprised solely of textiles.

SECTION 02378 – GEOTEXTILES

2. Minimum Average Roll Value (MinARV): Minimum of series of average roll values representative of geotextile provided.
3. Maximum Average Roll Value (MaxARV): Maximum of series of average roll values representative of geotextile provided.
4. Nondestructive Sample: Sample representative of finished geotextile, prepared for testing without destruction of geotextile.
5. Overlap: Distance measured perpendicular from overlapping edge of one sheet to underlying edge of adjacent sheet.
6. Seam Efficiency: Ratio of tensile strength across seam to strength of intact geotextile, when tested according to ASTM D 4884.

1.5 SUBMITTALS

- A. The following shall be submitted in compliance with Section 01300:
 1. Manufacturer material specifications and product literature.
 2. Installation drawings showing geotextile sheet layout, location of seams, direction of overlap, and sewn seams.
 3. Description of proposed method of geotextile deployment, sewing equipment, sewing methods, and provisions for holding geotextile temporarily in place until permanently secured.
- B. Sampling and Test Compliance: Sampling and test compliance shall be in accordance with SSPWC Subsection 213-1.3.
- C. Certifications: A manufacturer's certificate shall be provided to the Engineer in accordance with SSPWC Subsection 213-1.3.

1.6 PROTECTION AND IDENTIFICATION

- A. Protection and identification shall be in accordance with SSPWC Section 213-2.3.

1.7 STORAGE AND HANDLING

- A. Storage and handling shall comply with SSPWC Section 213-1.4 and as indicated herein.

PART 2 - PRODUCTS

2.1 WOVEN GEOTEXTILE

- A. Woven geotextiles shall comply with SSPWC Section 213-2.1 and manufacturer's guidelines for type shown on Drawings.
- B. The unseamed sheet width shall be a minimum of six-feet (6').

SECTION 02378 – GEOTEXTILES

- C. The nominal weight per square yard shall be per each geotextile type as shown on the Drawings or approved equal.
- D. Physical properties of woven geotextiles shall conform to type as shown on the Drawings or approved equal.
- E. Manufacturers: Mirafi, Contech, or approved equal.

2.2 NONWOVEN GEOTEXTILE

- A. Nonwoven geotextiles shall comply with SSPWC Section 213-2.
- B. The minimum unseamed sheet width shall be six-feet (6').
- C. The nominal weight per square yard shall be per each geotextile type as shown on the Drawings or approved equal.
- D. Physical properties of non-woven geotextiles shall conform to type as shown on the Drawings or approved equal.
- E. Manufacturers: Mirafi, Contech, or approved equal.

2.3 SEWING THREAD

- A. Sewing thread shall be polypropylene, polyester, or Kevlar thread with durability equal to or greater than durability of geotextile sewn.

2.4 SECURING PINS

- A. Securing pins shall be steel rods or bars conforming to the following requirements:
 - 1. Three sixteenth-inch (3/16") diameter.
 - 2. Pointed at one end; head on other end sufficiently large to retain washer.
 - 3. Minimum length: twelve-inches (12").
- B. Steel washers for securing pins shall conform to the following requirements:
 - 1. Outside diameter: not less than 1.5-inches.
 - 2. Inside diameter: one fourth-inch (1/4").
 - 3. Thickness: one eighth-inch (1/8").
- C. Steel wire staples shall conform to the following requirements:
 - 1. U-shaped.
 - 2. 10-gauge.

SECTION 02378 – GEOTEXTILES

3. Minimum six-inches (6”) long.

PART 3 - EXECUTION

3.1 GENERAL

- A. The Contractor shall notify the Engineer before geotextiles are placed. The Contractor shall not place geotextiles before obtaining the Engineer’s approval of the underlying materials.
- B. Geotextiles shall be placed free of tension, folds, wrinkles, or creases.

3.2 GEOTEXTILES FOR SUBGRADE ENHANCEMENT

- A. Geotextiles for subgrade enhancement shall be placed in accordance with SSPWC Subsection 300-10.1.

3.3 REPAIRING GEOTEXTILE

- A. The Contractor shall repair or replace torn, punctured, flawed, deteriorated, or otherwise damaged geotextile. The Contractor shall repair damaged geotextile by placing patch of undamaged geotextile over damaged area plus at least eighteen-inches (18”) in all directions beyond damaged area. The Contractor shall remove interfering material as necessary to expose damaged geotextile for repair. The Contractor shall sew patches or secure them with pins and washers, or by other means approved by Engineer.

3.4 REPLACING CONTAMINATED GEOTEXTILE

- A. The Contractor shall protect geotextile from contamination that would interfere, in Engineer’s opinion, with its intended function. The Contractor shall remove and replace contaminated geotextile with clean geotextile.

****END OF SECTION****

SECTION 02510 – ASPHALT CONCRETE PAVEMENT

PART 1 – GENERAL

1.1 WORK OF THIS SECTION

This section includes materials, testing, and installation of asphalt concrete pavements including cold planning and asphalt concrete overlay, aggregate base course, tack coat, seal coat, as necessary to complete the Project, in accordance with the Contract Documents, and as directed by the Owner. Where this Section and the State of California, Department of Transportation Standard Specifications and Standard Drawings conflict, the more stringent shall apply unless otherwise approved in writing by Caltrans District 5.

1.2 RELATED WORK SPECIFIED ELSEWHERE

The Work of the following Sections also applies to the Work of this Section. Other Sections, not referenced below, shall also apply to the extent required for proper performance of this Work.

- A. Section 01300 – Submittals
- B. Section 01400 – Quality Control
- C. Section 02221 – Trenching, Backfilling, and Compaction

1.3 REFERENCE STANDARDS

- A. State of California, Department of Transportation Standard Specifications and Standard Drawings

1.4 SUBMITTALS

- A. Submit shop drawings in accordance with Section 01300.
- B. Submit asphalt concrete mix design as prepared by an accredited testing laboratory and signed by a Civil Engineer registered in the State of California. Show the following various amounts of asphalt binder in conformance with California Test Method 367.
 - 1. Gradation of the aggregate in the asphaltic concrete proposed for the development.
 - 2. Hveen Stability results
 - 3. Percent air voids
 - 4. Unit weights (lbs/cf)
 - 5. Whether or not the test samples exhibit signs of flushing
- C. Submittal for asphalt concrete mix design shall include final recommendation for percentage of asphalt binder to be used in the mix proposed for paving.

SECTION 02510 – ASPHALT CONCRETE PAVEMENT

- D. New mix design shall be submitted when suppliers change, or when properties of the asphalt concrete change significantly as determined by the Owner or Caltrans District 5.
- E. Submit delivery ticket for each load of asphalt concrete and aggregate base materials.
- F. Submit test results from a testing laboratory for aggregate base stating that the materials are asbestos-free and conform to the specified gradations and characteristics. Submit test results a minimum of 20 working days prior to placement of aggregate base materials.
- G. Submit report from a testing laboratory verifying that aggregate material is asbestos-free and conforms to the specified gradations.

1.5 TESTING FOR COMPACTION

- A. The following test methods or test standards shall apply to the work.
 - 1. Density of soil in place by the sand cone method, ASTM D 1556, or by nuclear methods, ASTM D 2922 and D 3017.
 - 2. Laboratory moisture-density relations of soils, ASTM D 1557.
 - 3. Relative density of cohesionless soils in accordance with ASTM D 4253 and D 4254.
 - 4. Sampling of backfill materials in accordance with ASTM D 75.
- B. “Relative compaction” of asphalt concrete is the ratio, expressed as a percentage, of the in-place density to the laboratory Hveem density.
- C. Compaction shall be deemed to comply with the Specifications when no more than one test of any five consecutive tests falls below the specified relative compaction and the one test is no more than two percentage points below the specified relative compaction. The Contractor shall pay the costs of any retesting of work not conforming to the Specifications.

1.6 PAVEMENT

- A. Asphalt concrete, aggregate base, and pavement subgrade to a depth below the bottom of the asphalt concrete layer as specified on the Drawings shall be compacted to at least 95% relative compaction.
- B. The compacted thickness of each lift of asphalt concrete shall not exceed 2 inches. Asphalt may be installed in two lifts in lieu of grinding and paving.
- C. The finish course of asphalt concrete shall be placed with a spreader box and shall be flush with the existing pavement.
- D. All damage to existing pavement shall be repaired by cold milling to a depth of 2 inches and placing an asphalt concrete overlay flush with the existing pavement.

SECTION 02510 – ASPHALT CONCRETE PAVEMENT

- E. Hot mix asphalt resurfacing shall be sealed with emulsified asphalt and covered with sand.

1.7 PAVING SEQUENCE AND LIMITS

Final paving operations shall be performed in upon completion of pipeline installation and testing and trench backfill and pavement subgrade compaction and testing. Once commenced, final paving operations shall be continuous.

PART 2 - MATERIALS

2.1 ASPHALT CONCRETE

- A. Asphalt concrete shall conform to the provisions of the State Standard Specifications. Asphalt concrete shall Type B and shall conform to the provisions of Section 39, “Asphalt Concrete,” of the State Standard Specifications and this Section.
- B. Aggregate for Type B asphalt concrete shall confirm to the requirements for ½-inch or ¾-inch maximum-medium grading conforming to the provisions of Section 39-2.02 “Aggregate” of the State Standard Specifications.
- C. Asphalt shall be AR-4000 and shall conform to the provisions of Section 92, “Asphalts,” of the State Standard Specifications and these special provisions.

2.2 AGGREGATE BASE

- A. Aggregate base shall be Class 2 and shall conform to the provisions in Section 26, “Aggregate Bases,” of the State Standard Specifications and this Section.
- B. Aggregate shall be clean and free from organic matter and other deleterious substances.

2.3 TACK COAT

- A. Tack coat shall comply with the requirements for asphaltic emulsion in Section 94, “Asphaltic Emulsion,” quick-setting type, Grade CQS1h.

2.4 SEAL COAT

- A. Seal coat shall consist of spreading a seal coat material to the existing pavement. Seal coat shall conform to the provisions in Section 37-1, “Seal Coats.” Of the State Standard Specifications.
- B. Asphaltic emulsion shall be quick-setting type, Grade CQS1h, and shall conform to the provisions in Section 94, “Asphaltic Emulsions,” of the State Standard Specifications.

PART 3 – EXECUTION

3.1 PERMIT REQUIREMENTS

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

SECTION 02510 – ASPHALT CONCRETE PAVEMENT

with the more stringent criteria of these Specifications and jurisdictional agency or permit requirements.

3.2 COLD PLANNING AND OVERLAY

The existing asphalt concrete pavement shall be milled as shown on the Drawings. Following planning, temporary asphalt cold patch shall be placed at edges of all cuts in the planed area adjacent to the travelled way. The patch shall be ramped and intended to better allow vehicles to cross the transition. This shall be a temporary measure and shall be removed immediately prior to overlay. Immediately following the milling process the Contractor shall have all milled material removed from the job site and disposed of. The milled section shall be cleaned of all loose material. Power-brooming shall be supplemented by hand-brooming when necessary, until the surface is free of deleterious material. Each street shall be swept immediately after the cold milling operation has been completed. **Streets shall not be washed to the extent that debris may enter the storm drain system.** All streets, gutters and local depression areas of catch basins shall be kept free of dirt, rocks or other debris at all times. During cold milling operations all catch basin inlets shall be covered with a fabric which shall allow the passage of water but shall not allow debris to enter storm drain. The longitudinal surface deviation of the finished cold planed surface shall not exceed 1/4" inch in 10 feet. Hand-operated cold mill equipment may be required in areas not accessible to self-propelled machinery. Contractor shall take the necessary precautionary measures to avoid damaging concrete gutters, sidewalks, and other existing improvements. Shall damage occur, the Contractor shall replace entire damaged areas at no additional cost to the Owner. Areas of asphalt concrete removal shall be marked in the field with white paint by the Owner or Caltrans District 5 and as shown on the Drawings.

3.3 PREPARATION OF SUBGRADE

Remove all soft, wet or yielding material and replace with suitable material and recompact. 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 compacted over the full width of the area to receive aggregate base or full depth paving.

3.4 PLACING AGGREGATE BASE COURSE

Place aggregate base course in layers not exceeding 6 inches in loose thickness and to a total compacted thickness that matches existing.

3.5 COMPACTION OF AGGREGATE BASE AND LEVELING COURSES

Compaction and rolling shall begin at the outer edges of the surfacing and continue toward the center. Apply water uniformly throughout the material to provide moisture for obtaining the specified compaction. Compact each layer to not less than 95% relative compaction before placing the next layer.

3.6 PLACING TACK COAT

Apply tack coat to concrete surfaces where it will be in contact with the asphalt concrete paving or where new asphalt concrete will be in contact with existing asphalt concrete, and all surfaces cold-planned and prepared for overlay application rates. Application shall conform to Section 39, "Asphalt Concrete," of the State Standard Specifications.

SECTION 02510 – ASPHALT CONCRETE PAVEMENT

3.7 COMPACTION OF ASPHALT CONCRETE PAVING

Compact until roller marks are eliminated and a density of 95% of the Hveem density has been attained per ASTM D 2041.

3.8 APPLYING SEAL COAT

Contractor shall clean pavement surface to be sealed and spray the areas with suitable sterilant chemical. All surface cracks one-half inch (1/2") or wider in width shall be cleaned and filled with asphalt concrete. Cracks one-eighth inch (1/8") to one-half inch (1/2") wide shall be cleaned and filled with crack filler. Cracks smaller than one-eighth inch (1/8") in width shall be cleaned and filled with multiple coats of sealer. The pavement surface shall be clean and free from dirt, oil and grease deposits.

No seal coating work shall be performed when the ambient temperature is below 55 degrees Fahrenheit or above 110 degrees Fahrenheit or within 24 hours of a rainfall, prior or post.

When ambient temperatures are over 80 degrees Fahrenheit or the pavement is excessively aged or porous, the surface shall be sprayed with a mist of water in an amount that will leave the surface damp, but with no visible puddles of water. This procedure is not required if a tack coat is applied.

The seal coat material shall be applied in two applications at a rate of 50 gallons per 1,000 square feet. The seal coat material shall be diluted using water in an amount not to exceed 20 percent of the total volume. Seal coat material shall be homogeneous prior to spreading, with no visible separation of solids and liquids.

Seal coat material shall be applied using a truck-mounted tank or wheeled container in continuous parallel lines and spread by means of brooms or rubber-faced squeegees either by hand or machine and in such a manner as to eliminate all ridges, lap marks, and air pockets. Any valve boxes, manhole covers, etc. shall be protected and kept free of seal coat material. The surface after the primary application shall be uniformly smooth and show no evidence of coarse or uneven texture. As soon as the primary application is dry to the touch and will not scuff when walked on, another application shall be made. After the second application, the surface shall be allowed at least twenty-four (24) hours for complete curing.

The Contractor shall exercise care to prevent seal coat material from being deposited on other than specified surfaces and shall remove seal coat material from surfaces not designated to be sealed.

Curbs, gutters, other adjoining improvements shall be carefully protected from the emulsion, and any such improvements spattered or touched with emulsion shall be carefully cleaned. Immediately after the application of asphaltic emulsion, a cover coat of sand shall be spread at the rate of 6 to 12 pounds per square yard. After the sand has been spread, any piles, ridges, or uneven distribution shall be spread by means of brooms to maintain an even layer over the surface. Five days after the seal coat has been applied, the surface shall again be cleaned by means of brooms and any excess sand shall be picked up and removed from the job, including from the street gutters.

****END OF SECTION****

SECTION 02510 – ASPHALT CONCRETE PAVEMENT

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SECTION 02645 - HIGH DENSITY POLYETHYLENE (HDPE) PIPE

PART 1 - GENERAL

1.1 WORK OF THIS SECTION

- A. The Contractor shall furnish and install high-density polyethylene pipe (HDPE) and all appurtenances as specified, complete in place, as shown on the plans, as specified in this Section and in the Section specifically associated with the installation method to be used.
- B. HDPE pipe and fittings specified herein shall be used only in association with pipe bursting, and pipe reaming construction methods, unless otherwise indicated in the Drawings or approved by the Owner.

1.2 RELATED WORK SPECIFIED ELSEWHERE

The Work of the following Sections also applies to the Work of this Section. Other Sections, not referenced below, shall also apply to the extent required for proper performance of this Work.

- A. Section 02345 – Pipe Bursting

1.3 REFERENCE SPECIFICATIONS

- A. Commercial Standards:
 - 1. ASTM D 638 Test Method for Tensile Properties of Plastics
 - 2. ASTM D 696 Test Method for Coefficient of Linear Thermal Expansion of Plastics
 - 3. ASTM D 746 Test Method for Brittleness Temperature of Plastics and Elastomers by Impact
 - 4. ASTM D 1238 Test Method for Melt Flow Rates of Thermoplastics by Extrusion Plastometer
 - 5. ASTM D 1248 Specification for Polyethylene Plastics Molding and Extrusion Materials
 - 6. ASTM D 1505 Test Method for Density of Plastics by the Density-Gradient Technique
 - 7. ASTM D 1525 Test Method for Vicat Softening Temperature of Plastics
 - 8. ASTM D 1693 Test Method for Environmental Stress-Cracking of Ethylene Plastics
 - 9. ASTM D 2240 Test Method for Rubber Property - Durometer Hardness
 - 10. ASTM D 2837 Test Method for Obtaining Hydrostatic Design Basis for Thermoplastic Pipe Materials
 - 11. ASTM D 3350 Specification for Polyethylene Plastics Pipe and Fittings Materials
 - 12. ASTM F 585 Practice for Insertion of Flexible Polyethylene Pipe into Existing Sewers

SECTION 02645 - HIGH DENSITY POLYETHYLENE (HDPE) PIPE

13. ASTM F 714 Specification for Polyethylene (PE) Plastic Pipe (SDR-PR) Based on Outside Diameter
14. PLASTICS PIPE Renewing Sewers with Polyolefin Pipe Industry (PPI)

1.4 SUBMITTALS

- A. Submittals for items specified herein shall be submitted by the Contractor and shall be in accordance with Section 01300, Submittals. Submittals shall be provided to confirm that materials to be used comply with information specified herein.
- B. Submit list of pipe and fittings to be used, which includes the following information, where applicable:
 1. List of Pipe Fittings to be used
 2. Manufacturer(s)
 3. Model Number, if applicable
 4. Size and Schedule
 5. Material
 6. Pressure Rating
 7. Catalog Data
 8. Drawings
- C. Certificates and Compliance. Certificates of compliance shall be provided for all products and materials proposed to be used under this Section as specified in the referenced standards.
- D. Submit the following:
 1. The Contractor shall submit a copy of the technician's certification for the operation of the fusion equipment.
 2. The Contractor shall perform trial fusion welds and submit samples to the Engineer for review prior to installation of the pipe. Full penetration welds shall provide a homogeneous material across the cross section of the weld. The fusion machine employed for the trial welds shall be the same machine to be utilized for the installation work.
 3. Fusion equipment shall be operated only by technicians who have been certified by the pipe manufacturer or supplier and who have a minimum of three (3) years of experience fusion welding 16-inch or larger diameter HDPE pipelines.
- E. All expenses incurred in making samples for certification of tests shall be borne by the Contractor.

SECTION 02645 - HIGH DENSITY POLYETHYLENE (HDPE) PIPE

1.5 QUALITY ASSURANCE

- A. Except as modified in this Section, all materials used in the manufacture or installation of the pipe shall be tested in accordance with the requirements of these Specifications.

1.6 DELIVERY, STORAGE, AND HANDLING

- A. The Contractor shall exercise special care during the unloading, handling, and storage of all polyethylene pipe to ensure that the pipe is not cut, gouged, scored or otherwise damaged. Any pipe segment which has cuts in the pipe wall exceeding 10 percent of the wall thickness shall be cut out and removed from the site at the Contractor's cost. The pipe shall be stored so that it is not deformed axially or circumferentially.
- B. All pipe without an ultraviolet inhibitor shall not be stored uncovered outside.

PART 2 - MATERIAL

2.1 GENERAL

- A. Referenced pipe sizes are nominal pipe diameters for DR 17 DIPS, and shall conform to the following.

Pipe Nominal Diameter, Inch	Inside Diameter, Inch	Outside Diameter, Inch
12	11.56	13.20
16	15.23	17.40

2.2 PIPING MATERIALS

- A. Pipe and fittings shall be high density, high molecular weight polyethylene with a cell classification of 345434D, as defined in ASTM D 3350. In addition, the material shall be listed by the Plastic Pipe Institute with a designation of PE 4710 and shall be classified as a Type III, Class C, Category 5, Grade P34 material, as defined in ASTM D 1248.
- B. Pipe Color (inside and outside) shall be grey.
- C. Fittings shall be of the same material and class as the pipe. Identification of pipe and fittings shall be in accordance with ASTM D 3350. Pipe and fittings shall be made from virgin material. No rework compound, except that obtained from the manufacturers own production of the same formulation, shall be used. Pipe and fittings shall be homogeneous throughout and shall be free of visible cracks, holes, foreign material, blisters, or other deleterious faults.
- D. Dimensions of pipe and fittings shall be in accordance with ASTM F 714. Pipe and fittings shall be at minimum SDR 17 for gravity sewer mains. Cast iron/ ductile iron outside diameter shall be provided where required in the Contract Documents. Pipe and fittings shall have a minimum pressure rating of one hundred (100) psi at seventy three and four-tenth degrees Fahrenheit (73.4°F).

SECTION 02645 - HIGH DENSITY POLYETHYLENE (HDPE) PIPE

E. The physical properties of the pipe and fittings material shall be as follows:

PROPERTY	TEST METHOD	VALUE
Density	ASTM D 1505	0.955 gm/cc
Melt Index	ASTM D 1238	0.14 gm/10 min
Environmental Stress-Cracking Resistance ^a	ASTM D 1693	> 5,000 hr > 800 hr
Tensile Strength, Yield ^b	ASTM D 638	3,200 psi
Elongation at Break ^c	ASTM D 638	> 750 percent
Vicat Softening Temperature	ASTM D 1525	257° F
Brittleness Temperature	ASTM D 746	< -180° F
Flexural Modulus	ASTM D 3350	125,000 psi
Modulus of Elasticity	ASTM D 638	105,000 psi
Hardness	ASTM D 2240	65 Shore D
Coefficient of Linear Thermal Expansion ^d	ASTM D 696	8.3x10 ⁻⁵ in/in/°F 1.2x10 ⁻⁴ in/in/°F
Long Term Strength ^e	ASTM D 2837	1,600 psi 800 psi

a - Condition A, B & C @ 0°F; Compressed Ring @ 50°F

b - Type IV specimen

c - Type IV specimen

d - Molded specimen; Extruded pipe

e - @ 73°F; @ 140°F

2.3 MARKINGS

- A. Pipe materials shall be legibly marked by the pipe manufacturer. The following shall be printed on the pipe:
1. Name and trademark of manufacturer.
 2. Nominal pipe size.
 3. Dimension Ratio (DR).
 4. The letters PE followed by the polyethylene grade per ASTM D1248, followed by the Hydrostatic Design Basis in hundreds of psi.
 5. Manufacturing Standard Reference.
 6. A production code from which the date and place of manufacture can be determined.

2.4 JOINTS

- A. Joints in HDPE pipe shall be made using thermal butt-fusion welding equipment designed for the specific purpose of permanently connecting HDPE pipes. This equipment shall be capable of squarely facing the pipe ends to be joined, properly heating each pipe end to the temperature range specified by the pipe manufacturer, and applying and sustaining the appropriate pressure, as recommended by the pipe manufacturer. Test joints may be requested at the Inspector's discretion to ensure the quality of the joints.

SECTION 02645 - HIGH DENSITY POLYETHYLENE (HDPE) PIPE

- B. Datalogger equipment for recording butt-fusion weld information is not required.
- C. Fusion equipment shall be operated by technicians who have been certified by a major gas public utility or the manufacturer of the fusion equipment for operation of such equipment. A copy of the technician's certification shall be provided to the Owner prior to the start of the work. Furthermore, all technicians performing butt-fusion welding on this project shall have a minimum of three (3) years' experience operating the same equipment used hereon.
- D. Butt-fusion welding equipment shall be as follows, or approved equal:
 - 1. McElroy No. 412 Hydraulic Fusion Machine, McElroy Manufacturing, Tulsa, Oklahoma.

2.5 FITTINGS

- A. The Contractor shall provide fabricated fittings where required. Fabricated fittings shall be of the same material as, and shall have a minimum pressure rating equal to, the pipeline material. If the fitting is in-line with the pipeline (i.e., a flange adapter), then the I.D. of the fitting shall be the same as the pipe. If the fitting is off-line (i.e., a tee), then the fitting shall have an I.D. in accordance with the plans. Unless otherwise required, all fittings shall be butt-fusion welded or flanged.
- B. Terminations to pipe or fittings made of other pipe materials shall be made by using flanges. Flanges shall consist of flange adapters butt-fusion welded to the HDPE pipe end, ductile iron back-up rings with a pressure rating of at least one-hundred and fifty (150) pounds per square inch (psi), Type 316 stainless steel bolts, nuts and washers, and one eighth (1/8) inch thick, black-reinforced rubber gaskets. In no case shall threaded fittings or adapters be used to connect HDPE materials.

2.6 FIELD CLOSURE (ELECTROFUSION) COUPLINGS

- A. Field closure couplings shall be electrofusion couplings designed and manufactured in accordance with ASTM F-1055 for use with pipe conforming to ASTM D2513/3035, -714 and with Butt fittings conforming to ASTM D3261 as applicable.
- B. Electrofusion couplings shall be produced from a pre-blended virgin resin that has a PPI listing of PE3408 which complies with ASTM D3350 and shall tested in accordance with AWWA C906 specification.
- C. The electrofusion coupling shall have the following features:
 - 1. Engineered for use on HDPE pipe
 - 2. Dual electrofusion coils
 - 3. Pressure rated for 200 psi for water
 - 4. NSF listed Resin
 - 5. Meets AWWA C906

SECTION 02645 - HIGH DENSITY POLYETHYLENE (HDPE) PIPE

2.7 SIDE SEWER (LATERAL) CONNECTIONS

- A. Side sewers to be connected to an HDPE sewer main line shall be connected by use of electrofusion saddles.
- B. Lateral connections to sanitary sewer mains 12 inch in diameter (nominal) or smaller shall be with an electrofusion “wye” type saddle, manufactured by Central Plastics or approved equal.
- C. Lateral connections to sanitary sewer mains greater than 12 inch in diameter (nominal) may be with a “tee” type saddle if the “wye” type electrofusion saddle is not available.

PART 3 - EXECUTION

3.1 GENERAL

- A. Sewer pipelines shall be constructed in compliance with the requirements of this Section and the Owner’s Standards.
- B. Work shall meet or exceed the requirements of these Specifications.
- C. **HANDLING AND STORAGE**
 - 1. The Contractor shall inspect each pipe and fitting prior to butt-fusion welding and again prior to installation. Any damaged pipe or fittings shall be replaced by the Contractor.
 - 2. Prior to butt-fusion welding or installation, each pipe or fitting shall be thoroughly cleaned and shall be kept clean. The material used to clean the pipe and fittings shall be as recommended by the pipe manufacturer.

3.2 BUTT-FUSION WELDING

- A. Butt-fusion welds shall be performed in accordance with manufacturer’s instructions. The butt-fusion welding procedures are summarized below:
 - 1. Clean each pipe end with a clean cotton cloth to remove dirt, oil, grease and other foreign materials.
 - 2. Square (face) the mating surfaces of each of the pipes to be fused.
 - 3. Bring the two (2) pipe ends together and adjust the pipe locations to ensure proper alignment.
 - 4. Verify that the surface temperature of the heater plate is between three hundred seventy five degrees Fahrenheit (375°F) to four hundred degrees Fahrenheit (400°F) and then clean the heater surface with a clean cotton cloth.
 - 5. Insert the heater plate between the pipe ends, bring the ends into firm contact with the heater plate without applying pressure and achieve a proper melt pattern.
 - 6. After achieving the proper melt bead, remove the heater plate and quickly examine the pipe ends for complete melt.

SECTION 02645 - HIGH DENSITY POLYETHYLENE (HDPE) PIPE

7. Once complete melt has been accomplished, rapidly bring the pipe ends together and apply pressure as recommended by the pipe manufacturer.
 8. Hold the pressure constant and at the proper level throughout the cooling period, for the minimum time period recommended by the pipe manufacturer or as necessary to achieve proper cooling.
- B. For main sewer installations, the Contractor shall remove the internal melt bead from the welded joint. Bead removal shall be accomplished in a manner that does not score or gouge the pipe.
- C. Where pipe laydown area available prevents feasibility of debearing all joints, then the Owner may allow non-debearing of some joints as required. In no instance will less than 200 feet between internal beads be allowed.

3.3 INSTALLATION

All pipe bursting procedures that require the use of HDPE pipe shall be executed as listed in Section 02345, Pipe Bursting.

3.4 PIPE DEFLECTION

- A. Horizontal curves shall be installed by forced bending of the pipe. Minimum curvature radius requirements for HDPE pipe are shown on the table below. All designs of curvilinear sewers are subject to approval by the Owner.

HDPE	
Pipe DR	Minimum Curve Radius
≤ 9	20 times pipe O.D.
> 9 - 13.5	25 times pipe O.D.
> 13.5- 21	27 times pipe O.D.
> 21	30 times pipe O.D.
Fitting or flange present in bend	100 times pipe O.D.

3.5 FIELD COUPLINGS

- A. Fittings/joints that are to be assembled after pipe bursting or directional drilling has been completed shall be butt fused where accessible. Electrofusion couplings shall be used as specified herein.

3.6 TESTING

- A. Testing of installed HDPE piping shall be in accordance with the requirements stated in the Approved Drawings and the Owner's requirements.

END OF SECTION

SECTION 02645 - HIGH DENSITY POLYETHYLENE (HDPE) PIPE

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SECTION 02750 – TRAFFIC STRIPING AND PAVEMENT MARKINGS

PART 1 – GENERAL

1.1 WORK OF THIS SECTION

The work of this Section shall include, but not be limited to, furnishing all labor, materials, tools, and equipment for traffic striping and pavement markings, as necessary to complete the Project, in accordance with the Contract Documents, and as directed by the Owner and Caltrans.

- A. Traffic striping shall be thermoplastic and shall conform to Section 84 “Markings” of the State Standard Specifications, Caltrans Traffic Manual, and this Section.
- B. Pavement markers shall conform to Section 81-3 “Pavement Markers” of the State Standard Specifications.

1.2 RELATED WORK SPECIFIED ELSEWHERE

The Work of the following Sections also applies to the Work of this Section. Other Sections, not referenced below, shall also apply to the extent required for proper performance of this Work.

- A. Section 01300 – Submittals
- B. Section 01570 – Traffic Regulations

PART 2 – MATERIALS

2.1 GENERAL

- A. Manufacturer’s warranties, guaranties, and instruction sheets for materials used in the work shall be submitted to the Owner in accordance with Section 01300.
- B. Except where noted, all traffic striping and markings shall be rapid dry water borne paint per State Specification PTWB-01R2.
- C. Pavement markers shall be packaged in a way that prevents damage. Protect pavement markers from moisture during shipment to the job site and when stored at the job site. Each package must be marked with:
 - 1. Manufacturer's name
 - 2. Type
 - 3. Color
 - 4. Quantity
 - 5. Lot number
 - 6. Date of manufacture

PART 3 – EXECUTION

3.1 LAYOUT ALIGNMENT AND SPOTTING

- A. The Contractor shall replace all striping in kind, unless otherwise directed in this Section or as directed by the Owner or Caltrans. Raised Pavement Markers shall be installed in

SECTION 02750 – TRAFFIC STRIPING AND PAVEMENT MARKINGS

kind.

- B. If any existing legends, limit lines, crosswalks, arrows, or lane line extensions are partially removed, marked, or otherwise damaged, the Contractor shall refresh and/or restripe the entire legend, limit line, crosswalk, arrow, or lane line extension to its original, or better, condition.
- C. The Contractor shall establish the control points to reinstall new striping and Raised Pavement Markers and approval shall be granted by Caltrans.
- D. The Contractor shall submit a detailed field layout of new striping according to the control points established.
- E. No detailed field layout of traffic striping shall be performed by the Contractor before establishment of the necessary control points. The Contractor shall establish all traffic striping between these points by string line or another method of providing striping that will vary less than 1/2 inch in 50 feet from the specified alignment. Straight stripes deviating more than 1/2 inch in 50 feet shall be obliterated by grinding, and the markings corrected at no additional cost to the Owner.

3.2 APPLICATION OF PAINT

- A. The Contractor's attention is directed to State Standard Specification Section 84 for application and application equipment for all material used for traffic striping and pavement markers.
- B. Seven days shall elapse between the application of a bituminous seal coat and the permanent traffic striping and markings. All new striping shall have two (2) coats of paint. The first coat of paint shall be done immediately upon approval of striping layout by the Engineer. The second coat shall be applied seven (7) days after the first coat is applied. The paint shall not bleed, curl or discolor when applied to bituminous surfaces. If bleeding or discoloring occurs, the unsatisfactory areas shall be given an additional third coat of paint. Payment shall be initiated for the individual bid items when the second coat of paint is applied. No additional payment shall be made if a third coat of paint is required due to bleeding or discoloring.
- C. All thermoplastic pavement markings and striping shall be applied only after 7 calendar days after completing the paving portion of the project.
- D. The Owner and Caltrans shall approve the striping layout prior to installation by the Contractor. All striping and pavement markings are subject to removal and replacement, at the Contractor's expense, to the satisfaction of the Owner if the layout is not approved prior to installation.

3.3 TEMPORARY PAVEMENT MARKERS (REMOVABLE TABS)

- A. Contractor shall install removable traffic tabs every 25 feet when any permanent striping is removed, destroyed or covered due to construction activities. Temporary removable traffic tabs shall be installed at locations where a stop bar or crosswalk is removed, destroyed or covered due to the construction activities. The Contractor shall maintain all tabs until

SECTION 02750 – TRAFFIC STRIPING AND PAVEMENT MARKINGS

permanent striping is installed and/or replaced. The Contractor shall remove all temporary traffic tabs, so as not to disturb or destroy the asphalt concrete or slurry seal, during the course of placing the permanent striping and legends.

- B. Temporary removable tabs shall be placed in accordance with the manufacturer's instructions. Temporary pavement markers shall be cemented to the surfacing with the adhesive recommended by the manufacturer, except epoxy adhesive shall not be used to place temporary pavement markers in areas where removal of the markers will be required.
- C. Pavement striping, legends and markers which conflict with any traffic pattern shall be removed by grinding as determined by the Owner and Caltrans.
- D. Epoxy adhesives shall not be used in the placement of removable-type pavement tabs. Temporary pavement markers shall not be placed without the approval of the Owner and Caltrans and pre-approval of the Contractor's detailed layout plan.
- E. Temporary removable tabs shall be Temporary Overlay Markers (TOMs) supplied by Plexco LLC, Davidson Traffic Control Products, or Traffic Safety Supply Company, or approved equal.

3.4 PREPARATION OF EXISTING SURFACES

- A. If it is determined that new striping conflicts with existing striping, the Contractor shall provide a wet grinding machine with sufficient capacity to completely remove all existing or temporary traffic striping or markings within the area as indicated by the Engineer, that conflict with the striping plan, or are contrary to the Traffic Manual, or that may be confusing to the public. The surface produced by grinding the existing or temporary traffic striping or markings on pavement shall not exceed variations from a uniform plane more than 1/8-inch in 10-feet when measured parallel to the centerline of the street or more than 1/4- inch in 10-feet when measured perpendicular to the centerline of the street. The use of any equipment that leaves ridges, indentations or other objectionable marks in the pavement shall be discontinued, and the Contractor shall furnish equipment capable of providing acceptable surface. This equipment shall meet all requirements of the air pollution district having jurisdiction. Removal of striping by high velocity water jet may be permitted when there is neither potential of the water and detritus from the high velocity water jetting to damage vehicles or private property nor to flow from the street into any storm drain or water course and when approved by the Engineer. All water from high velocity water jet striping removal shall be vacuumed from the pavement immediately after the water jetting and shall not be allowed to flow in the gutter, enter the storm drain system or to leave the pavement surface. Surface variation limitations for high velocity water jet striping removal shall be the same as for grinding.

3.5 RAISED PAVEMENT MARKERS AND BLUE FIRE HYDRANT MARKERS

- A. Fire hydrant markers shall be placed in accordance with utility owner's requirements.
- B. Types of Markers - Raised pavement markers provided under this Section shall conform to Drawing Number A20A of the State Standard Plans.

SECTION 02750 – TRAFFIC STRIPING AND PAVEMENT MARKINGS

- C. Raised pavement markers shall be cemented to the pavement using adhesive conforming to Section 81-3.02D “Hot Melt Bituminous Adhesive” or Section 81-3.02E “Epoxy Adhesive” of the State Standard Specifications.
- D. Cleaning and Clearing - All roadway surfaces upon which raised pavement markers are applied shall be cleaned and cleared so as to provide a surface free of dirt, dust, and debris prior to the application of adhesive and pavement marker.
- E. New pavement markers shall not be placed until any required new traffic stripes are in place.
- F. The Contractor shall place and maintain temporary lane markers (Removable Tabs) to separate traffic lanes after new pavement has been placed until permanent striping can be placed on the pavement.
- G. Temporary lane markers (Removable Tabs) are considered as part of the cost of the various items of work and no additional payment will be made for this item.
- H. The Owner and Caltrans shall approve the layout prior to installation by the Contractor. All raised pavement markers and blue fire hydrant markers are subject to removal and replacement, at the Contractor’s expense, to the satisfaction of the Owner and Caltrans, if the layout is not approved prior to installation.

****END OF SECTION****

SECTION 02760 – MANHOLE REHABILITATION

PART 1 – GENERAL

1.1 WORK OF THIS SECTION

- A. The work of this Section shall include, but not be limited to, furnishing all labor, materials, tools, and equipment for rehabilitation of existing sewer manholes, as necessary to complete the Project, in accordance with the Contract Documents, and as directed by the Owner. The rehabilitation work that may be deemed as necessary work shall include, but not necessarily be limited to:
1. Remove frame and cover per plan
 2. Remove and re-channel base and shelf
 3. Remove existing linings
 4. Remove ladder rungs
 5. Perform all surface preparation
 6. Install new ladder rungs
 7. Stop leakage by grouting
 8. Perform concrete rehabilitation
 9. Repair manhole shelf
 10. Apply new manhole protective lining
 11. Remove and legally dispose of all waste generated by the rehabilitation work

1.2 RELATED SECTIONS

The Work of the following Sections also applies to the Work of this Section. Other Sections, not referenced below, shall also apply to the extent required for proper performance of this Work.

- A. Section 01300 – Submittals
- B. Section 03740 – Concrete Rehabilitation
- C. Section 09801 – Manhole Protective Lining

1.3 CONTRACTOR SUBMITTALS

- A. Submittals shall be made in accordance with the requirements set forth in Section 01300.
- B. Technical data for materials which document compliance with the requirements of this section shall be submitted by the Contractor.

SECTION 02760 – MANHOLE REHABILITATION

- C. The Contractor shall provide written installation recommendations from the manufacturer for each of the products to be used for manhole rehabilitation work.
- D. The Contractor shall submit a schedule and detailed plan of surface preparation procedures including abrasives or chemicals to be used and the time of day and week that the surface preparation work is to take place.
- E. If abrasive blasting is selected as the surface preparation technique, the Contractor shall submit data sheets, technical information and performance information for the abrasive material. Refer to other requirements for abrasive blasting in Part 3 of this Specification Section.
- F. The Contractor shall submit a plan to prevent all waste and debris generated by the rehabilitation work from entering existing sewer flows.

1.4 QUALITY ASSURANCE

- A. All materials shall be delivered to the jobsite in the original unopened containers except for the manhole protective lining. No materials shall be used until the Owner's Representative has physically inspected the contents and obtained necessary data from the containers or labels. Materials exceeding the storage life recommended by the manufacturer will be rejected. In the case of the manhole protective lining, the storage life shall be no more than one year from the date of delivery from the manufacturer to the Contractor. This date shall be verified with a copy of the invoice showing purchase and delivery dates.
- B. All products to be used in the work covered by this section or other sections related to manhole rehabilitation shall be delivered, stored, and handled in accordance with the product manufacturer's written recommendations.

1.5 SAFETY AND HEALTH REGULATIONS

- A. General: The Contractor shall perform all work in accordance with the requirements of Cal/OSHA Title 8 regulations, related to working in sewer systems, and the applicable requirements of regulatory agencies having jurisdiction, as well as manufacturer's printed instructions and appropriate technical bulletins and manuals. In accordance with these standards, the Contractor shall provide and require use of personal protective lifesaving equipment for persons working in or about the project site. Safety and health recommendations provided herein are guidelines only. The Contractor shall be fully responsible for performing all Work in accordance with all local, State, and Federal regulations including those set forth by OSHA, RCRA and the EPA and any other applicable authorities. Protective coating materials are to be handled according to their material safety data sheets.
- B. Head and Face Protection and Respiratory Devices: Equipment provided by the Contractor shall include protective helmets which shall be worn by all persons while in the vicinity of the Work. Workers engaged in or near the work during any blasting operations shall wear Cal/OSHA Title 8 approved eye and face protection devices and air purifying, half mask or mouthpiece respirators. Barrier creams shall be used on any exposed areas of skin.

SECTION 02760 – MANHOLE REHABILITATION

- C. Ventilation: Where ventilation is used to control hazardous exposure, all equipment shall be explosion-proof. Forced air ventilation shall be provided by the Contractor and shall reduce the concentration of air contaminant to a safe limit. Air circulation and exhausting of solvent vapors shall be continued until coatings have fully cured.
- D. Sound Levels: Whenever the occupational noise exposure exceeds maximum allowable sound levels, the Contractor shall implement, furnish and require the use of approved ear protective devices.
- E. Illumination: Adequate illumination shall be provided by the Contractor while Work is in progress which may require explosion-proof lights, scaffolding and electrical equipment. Whenever required by the Owner, the Contractor shall provide additional illumination to cover all areas to be inspected. The level of illumination for inspection purposes shall be as stated by Cal/OSHA Title 8 and other regulatory applications for night-time construction.
- F. Temporary Ladders and Scaffolding: All temporary ladders and scaffolding shall be provided by the Contractor and shall conform to applicable safety requirements. They shall be erected where requested by the Owner to facilitate inspection and shall be moved by the Contractor to locations as requested by the Owner.

PART 2 – MATERIALS

2.1 CONCRETE REHABILITATION

- A. Concrete surfaces of existing manholes shall be repaired using methods and materials as specified in Section 03740 – Concrete Rehabilitation.

2.2 MANHOLE PROTECTIVE LINING

- A. Existing manholes shall be lined with a protective coating using methods and materials as specified in Section 09801 – Manhole Protective Lining.

2.3 MANHOLE SHELF

- A. Where determined necessary by the Owner, the Contractor shall rebuild the existing manhole shelf to original and proposed dimensions using concrete repair materials as specified in Section 03740 – Concrete Rehabilitation.

2.4 LEAK REPAIR

- A. After surface preparation and prior to concrete repair, the Contractor shall apply a water stop as specified in Section 03740 to stop all leaks in existing manholes as determined necessary by the Owner.

2.5 JOINT SEALANT

- A. The joint sealant shall be a one-component, gun grade, polyurethane-base material. It shall be suitable for horizontal, vertical, and overhead joints. The sealant shall cure under the influence of atmospheric moisture to form an elastomeric substance.

SECTION 02760 – MANHOLE REHABILITATION

B. Joint sealant shall meet the following standards:

1. Final cure: 4-7 days
2. Tensile stress: 200 psi minimum
3. Tear strength at 21 days: 50 lb/in
4. Adhesion in Peel: 20 lb minimum

PART 3 – EXECUTION

3.1 LIMITS OF REHABILITATION

- A. All concrete surfaces of manhole shafts shall receive rehabilitation and protective lining. The lining shall extend from the bottom of the manhole frame and cover down to the invert of the existing inlet/outlet sewers with a minimum of 1-inch overlap at inlet/outlet sewers.

3.2 SURFACE PREPARATION

- A. Surface Preparation: All surfaces receiving the protective lining shall be made free of oils, grease, water, incompatible existing coatings, waxes, form release, curing compounds, efflorescence, sealers, salts and other contaminants that may inhibit bonding to the substrate or lining performance. High pressure water blasting (minimum 5,000 psi at a minimum of 5 gallons per minute) shall be used for surface preparation. Other methods such as high-pressure water jetting (refer to NACE Standard No. 5/SSPC SP-12), abrasive blasting, detergent water cleaning, hot water blasting, shot blasting, grinding, or scarifying may also be used, but only if the protective lining manufacturer certifies in writing that the surface preparation procedure is acceptable and recommended for use with their product. All sand, generated waste, and/or debris resulting from surface preparation must be immediately removed and legally disposed of by the Contractor. After surface preparation operations, the concrete surfaces shall be tested to verify that the pH is between 6 and 9 prior to applying the coating, or additional cleaning or conditioning shall be performed to achieve the specified pH.
- B. If abrasive blasting is selected as the surface preparation technique, the Contractor shall contain abrasives to prevent intrusion into the atmosphere, traveled way, or into the existing sewer system.
- C. All concrete or mortar that is damaged by chemical exposure or is otherwise considered unsuitable, in the opinion of the Owner's Representative, to receive bonding agents, patching material, or new lining material shall be removed to expose durable, intact concrete.
- D. The Contractor shall remove any existing coatings prior to application of the new protective coating. Applicator is to maintain strict adherence to applicable NACE and SSPC recommendations with regard to proper surface preparation.
- E. The manufacturers of all materials used for manhole rehabilitation, including the protective lining manufacturer, shall provide written certification stating that their products are mutually compatible.

SECTION 02760 – MANHOLE REHABILITATION

- F. The Contractor shall stop infiltration and/or leaks prior to applying protective linings.
- G. The Contractor shall remove all existing steps from the interior of the manholes requiring rehabilitation. The Contractor shall core drill to remove the existing steps, anchors, and hardware to a depth of one-half inch. The voids that remain after removal of the steps shall be repaired using methods and materials in accordance with Section 03740 – Concrete Rehabilitation. The Contractor may submit an alternative procedure for removal of the existing steps, anchors, and hardware in accordance with Section 01300 for the Owner's consideration for approval, but such procedure shall demonstrate equivalency with the requirements described herein.

3.3 MANHOLE CONDITIONS AND CRITERIA

- A. The condition of manholes and repair criteria are herein defined and shall be verified by the Contractor in the presence of the Owner's Representative prior to manhole rehabilitation work.
 - 1. Condition 1 is for surfaces with little evidence of deterioration. The depth of any discontinuity in the surface must not be greater than 1/5". Under these conditions a water blast as described in this Section and a coating of 125 mils minimum per Section 09801 is required. The Contractor may use concrete to smooth the surface discontinuities and maintain the 125-mil coating or use extra coating in place of concrete but not in excess of 200 mils.
 - 2. Condition 2 is for deteriorated surfaces from 1/5" to 1/2". Condition 2 manholes require a skim coating of concrete to smooth out the surface to the original diameter per Section 03740 followed by a coating of 125 mils per Section 09801.
 - 3. Condition 3 is for severe deterioration requiring 1/2" and greater thickness of concrete repair. The manhole must be rebuilt to original diameter per Section 03740 prior to applying the coating to a thickness of 125 mils per Section 09801.

3.4 ACCESS AND PERMITS

- A. The Contractor shall furnish all equipment, tools, materials, and labor necessary to provide access to all manholes including access for completing the work and for inspection by the Owner's Representatives.
- B. The Contractor shall procure all permits required by applicable regulations and necessary for the performance of the work prior to the start of work, including, but not limited to, Cal/OSHA Title 8 regulations.

****END OF SECTION****

SECTION 02760 – MANHOLE REHABILITATION

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SECTION 02960 – TEMPORARY BYPASS PUMPING

PART 1 – GENERAL

1.1 WORK OF THIS SECTION

The work of this Section shall include, but not be limited to, furnishing all labor, materials, tools, and equipment for a complete sewer bypassing system, as necessary to complete the Project, in accordance with the Contract Documents, and as directed by the Owner. Contractor shall be fully responsible for,

- A. Developing a sewer bypassing plan
- B. Demonstrating “proof” testing in the field
- C. Developing a spill prevention and emergency response plan
- D. Submitting and obtaining approval from the Owner for the sewer bypassing plan and the spill prevention and emergency response plan
- E. Implementing the bypassing and spill prevention and emergency response plan.
- F. Providing bypassing in accordance with the approved plans throughout the duration of the Work.

1.2 RELATED WORK SPECIFIED ELSEWHERE

The Work of the following Sections also applies to the Work of this Section. Other Sections, not referenced below, shall also apply to the extent required for proper performance of this Work.

- A. Section 01300 – Submittals
- B. Section 01500 – Construction Facilities and Temporary Controls
- C. Section 02222 – Protect Existing Underground Utilities

1.3 SUBMITTALS

- A. All submittals required by this Section shall be provided to the Owner for approval within 15 days of receiving the Notice to Proceed. No construction activities related to bypassing shall begin prior to the approval of the required submittals by the Owner. Approval of the Contractor’s Bypassing and Spill Prevention and Emergency Response Plan in no way relieves the Contractor of the responsibility to maintain sewage service or provide sewer bypassing at all times during construction and to prevent any spills.
- B. Bypassing Plan
 - 1. The Contractor shall design the sewer bypass system to handle the flows for all sewer mains and service laterals. Any alternative to maintaining flows in existing sewer lines or laterals shall be submitted to the Owner for approval.
 - 2. The Contractor shall develop and submit to the Owner, for review and approval, a

SECTION 02960 – TEMPORARY BYPASS PUMPING

written bypassing plan including sequence of work outlining how sewage flows will be maintained and bypassed during construction. The bypassing plan shall include, but not be limited to:

- a. A primary and 100% redundant backup pumping system, each capable of handling the peak flow of the system, which shall be on site and available 24 hours a day.
- b. A flow monitoring plan describing the method of monitoring and showing the location of upstream and downstream monitoring units for all of the construction locations.
- c. Bypassing of service laterals as necessary to ensure uninterrupted sewer service is maintained during normal business hours. Exception may be requested in writing by the Contractor for the Laguna Grande Park restroom facilities.
- d. The bypassing plan shall be developed in conjunction with the traffic control plans in order to minimize the impact to the community.

C. Spill Prevention and Emergency Response Plan

1. The Contractor shall develop and submit to the Owner, for review and approval, a written Spill Prevention and Emergency Response Plan. The Spill Prevention and Emergency Response Plan shall be developed to prevent and respond to any construction related sewage spills. The plan shall include, but not be limited to:
 - a. Identification of all nearby waterways, channels, catch basins and entrances to underground storm drains
 - b. Furnishing of all the necessary materials, supplies, tools equipment, labor and other services to prevent sewage from coming into contact with these areas.
 - c. Arrangements for an emergency response unit comprised of emergency response equipment and trained personnel to be immediately dispatched to the Site in the event of sewage spill(s).
 - d. An emergency notification procedure, which includes an emergency response roster with telephone numbers and arrangements for backup personnel and equipment and an emergency notification roster of designated Owner representatives.
 - e. Direct phone numbers (no voicemail) for 3 Contractor representatives who shall be accessible and available at all times to respond immediately to any construction related emergency.

1.4 RESPONSIBILITIES OF CONTRACTOR

The Contractor shall observe and comply with all Federal, State, and local laws, ordinances, codes,

SECTION 02960 – TEMPORARY BYPASS PUMPING

orders, and regulations which in any manner affect the conduct of the work, specifically as it relates to sewage and prevention of sewage spills. The Contractor shall be fully responsible for preventing sewage spills, containing any sewage spills, recovery and legal disposal of any spilled sewage, paying any and all fines, incurring and handling any penalties, claims, or liability arising from negligently causing or allowing a sewage spill, failure to prevent a sewage spill, or any violation of any law, ordinance, code, order, or regulation as a result of the spillage.

PART 2 – MATERIALS

2.1 GENERAL

- A. All equipment and tools used for sewer bypassing shall be designed to prevent any and all sewage leaks or spills.
- B. All equipment used as part of the bypassing system shall not cause a significant noise impact to the community in accordance with local noise ordinances. If noise complaints from residents occur due to the Contractor's activities, the Contractor shall immediately replace the noise generating equipment or reduce the noise generated with mitigating devices to the satisfaction of the Owner.

2.2 PUMPING EQUIPMENT

- A. The pumps piping shall be sized to fit in manholes or other confined areas necessary to successfully complete the sewer bypassing. The Contractor shall ensure all equipment used for bypassing will operate under the conditions required and the Contractor will be responsible for all costs associated with changes to the bypassing system due to inappropriate equipment or non-conformance with the Contract Documents.
- B. The pumps shall be specifically intended for use with raw sewage and shall be capable of passing a 3-inch diameter solid.
- C. Total noise of any equipment used by the Contractor as part of the bypassing system shall be under 68 dba as measured standing thirty (30) feet from the equipment.
- D. Flow rates shall conform to those outlined in the Contract Drawings.

PART 3 – EXECUTION

3.1 GENERAL

- A. The Contractor shall observe and comply with the Owner policy of "ZERO SPILLS".
- B. The Contractor shall exercise care not to damage existing public and private improvements, interrupt existing services and/or facility operations which may cause a sewage spill. In the event that the Contractor damages an existing utility or interrupts an existing service which causes a sewage spill, the Contractor shall immediately notify the Owner. The Contractor shall request and obtain from the Owner an emergency roster of the designated Owner representatives with their respective telephone numbers, pager numbers, and cellular phone numbers. The Contractor shall take all measures necessary to prevent further damage or service interruption, and to control, contain and clean up the resultant

SECTION 02960 – TEMPORARY BYPASS PUMPING

impacts of the damage, service interruption and any resulting sewage spill(s).

- C. The Contractor shall continuously monitor the flow levels downstream and upstream of the construction location to detect any possible failure that may cause a sewage backup and spill. The Contractor shall include the means and methods of monitoring the flow in their Sewer Bypassing Plan.

3.2 SEWAGE SPILLS

- A. In case of sewage spill, the Contractor shall act immediately, without instructions from the Owner, to control the spill and take all appropriate steps to contain it in accordance with their Spill Response Plan. Under no circumstances shall the Contractor delay controlling and clean-up of the sewage spill in an attempt to determine the cause.
- B. The Contractor shall immediately notify the Owner representatives of the sewage spill(s) and all remedial actions taken.
- C. The Contractor shall, within 24 hours from the occurrence of the spill, submit to the Owner a draft written report describing the following information related to the spill: the location on a current Thomas Bros. guide map; the nature and volume; the date and time; the duration; the cause; the type of remedial and/or preventive actions taken; and the water body impacted and results of any necessary monitoring. The Owner will review the draft report, and if revisions are required, the Contractor shall make those revisions and submit the final report to the Owner within 24 hours of the receipt of comments. If the Contractor believes the spill was a result of an event out of their control, the burden of proof shall be on the Contractor and the Owner shall make the final determination, additional compensation for handling the spill shall be submitted to the Owner as a construction claim. The Contractor shall assure the validity, accuracy, and correctness of the claim under penalty of perjury. The Owner may institute further corrective actions, as deemed necessary, to fully comply with existing law, ordinance, code, order or regulation. The Contractor shall be responsible for all costs incurred for the corrective actions.
- D. It shall be the Contractor's responsibility to assure that all field forces, including Subcontractors, know and obey all safety and emergency procedures, including the Spill Response Plan, to be maintained and followed at the Site.

3.3 SEWER BYPASSING

- A. The Contractor shall provide temporary means to maintain and handle the sewage flow in the existing system as required to complete the necessary construction.
- B. The Contractor shall size the bypass system to handle the peak flow of the system. The Contractor shall provide a redundant, identically sized, one-hundred percent (100%) backup bypass system. The Contractor shall utilize the backup system to mitigate any additional wet weather flows, perform the necessary maintenance and repairs on the primary bypass system, and exercise and ensure the operability of the backup system. Each pump, including the backup pumps, shall be a complete unit with its own suction and discharge piping. The Contractor shall operate the backup bypass system for a minimum of twenty-five percent (25%) of the time on a weekly basis. The backup bypass system shall be fully installed and operationally ready at all times.

SECTION 02960 – TEMPORARY BYPASS PUMPING

- C. Prior to the full operation of the bypass system, the Contractor shall demonstrate, to the satisfaction of the Owner, that both the primary and backup bypass systems are fully functional and adequate, and shall certify the same, in writing, in a manner acceptable to the Owner.
- D. The Contractor shall provide all equipment necessary to minimize the noise generated by the bypassing operations. Noise levels from the complete bypassing system shall not exceed the levels allowable under the local jurisdictional codes and requirements.
- E. Where a manhole base is to be remodeled, the portion to be remodeled shall be removed to a minimum depth of 3 inches to permit construction of new channels and/or shelves. Sewer flows in new and remodeled manholes shall be controlled across the manhole in such a manner that sewage does not flow over concrete channels until they have cured for 24 hours or for the duration specified by the concrete material manufacturer. The controls shall prevent backup of sewage upstream from the manhole.
- F. The Contractor shall continuously (while in use) monitor the operation of the bypass system and all impacted facilities. The Contractor shall submit, as part of their bypass plan, their system monitoring procedure and frequency. The Contractor shall maintain a log of the monitoring in a manner acceptable to the Owner.
- G. The Contractor shall continuously monitor the flow levels downstream and upstream of the bypass to detect any possible failure that may cause a sewage backup and/or spill. The Contractor shall include the means and methods of monitoring the flow in their Bypassing Plan. The Contractor shall provide flow monitoring data to the Owner on a weekly basis in a format acceptable to the Owner.
- H. The Contractor shall routinely inspect and maintain the bypass system, including the backup system. The Contractor shall submit as part of their Bypassing Plan their maintenance procedures and frequency. The Contractor shall maintain a log of all pertinent inspection, maintenance and repair records in a manner acceptable to the Owner.

****END OF SECTION****

SECTION 02960 – TEMPORARY BYPASS PUMPING

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SECTION 03300 - CAST-IN-PLACE CONCRETE

PART 1 – GENERAL

1.1 WORK OF THIS SECTION

The work of this Section shall include, but not be limited to, furnishing all labor, materials, tools, and equipment for cast-in-place concrete, including formwork, reinforcement, concrete materials, mix design, placement procedures, and finishes, as necessary to complete the Project, in accordance with the Contract Documents, and as directed by the Owner.

1.2 RELATED WORK SPECIFIED ELSEWHERE

The Work of the following Sections also applies to the Work of this Section. Other Sections, not referenced below, shall also apply to the extent required for proper performance of this Work.

A. Section 01300 – Submittals

1.3 REFERENCE SPECIFICATIONS, CODES, AND STANDARDS

A. The following standards have been referenced in this Section:

1. ASTM C33 Concrete Aggregates
2. ASTM C94 Ready-Mixed Concrete
3. ASTM C150 Portland Cement
4. ASTM C494 Chemical Admixtures for Concrete
5. ASTM A615 Deformed and Plain Billet-Steel Bars for Concrete Reinforcement
6. ASTM C881 Epoxy-Resin-Base Bonding Systems for Concrete
7. ASTM A1064 Carbon-Steel Wire and Welded Wire Reinforcement, Plain and Deformed, for Concrete
8. Concrete Reinforcing Steel Institute – “Recommended Practice for Placing Reinforcing Bars”
9. Concrete Reinforcing Steel Institute – “Manual of Standard Practice”
10. COE CRD C621 Packaged Dry, Hydraulic-Cement Grout (Nonshrinkable)

1.4 SUBMITTALS

Delivery Tickets: Where ready-mix concrete is used, the Contractor shall furnish delivery tickets at the time of delivery for each load of concrete. Each ticket shall show the state certified

SECTION 03300 - CAST-IN-PLACE CONCRETE

equipment used for measuring and the total quantities, by weight, or cement, sand, each class of aggregate, admixtures, and the amounts of water in the aggregate added at the batching plant, and the amount allowed to be added at the site for the specific design mix. In addition, each ticket shall state the mix number, total yield in cubic yards, and the time of day, to the nearest minute, corresponding to the times when the batch was dispatched, when it left the plant, when it arrived at the site, when unloading began, and when unloading was finished.

PART 2 – PRODUCTS

2.1 CONCRETE

- A. All Portland cement concrete shall conform to the provisions of Section 201 of the SSPWC, except as herein modified.
- B. Portland cement concrete shall be composed of Portland cement, fine aggregate, coarse aggregate, and water proportioned and mixed to produce a smooth dense workable mixture. It can of the ready-mix variety as produced by any reliable ready-mix concrete firm.
- C. Portland cement, including Portland cement used in precast products, shall be Type II & V conforming to ASTM C150.
- D. In certain circumstances, rapid-setting concrete may be required. Accelerating admixtures shall conform to ASTM C494 and may be used in the concrete mix as permitted by the Owner. Calcium chloride shall not be used in concrete.
- E. Ready-mixed concrete shall be delivered to the site of the Work, and discharge shall be completed within one hour after the addition of the cement to the aggregates. Each batch of ready-mixed concrete delivered at the job site shall be accompanied by a delivery ticket furnished to the Owner.
- F. Concrete mix design shall conform to ASTM C94. Use classes of concrete as described in the following table:

Class	Type of Work	28-Day Compressive Strength (in psi)	Minimum Cement Content (in lbs. Per CY)
A (560-C-3250) *	Concrete for encasements, plugs, slope protection	3,000	564 (6 sack)
B (450-C-2000) *	Concrete for anchors, manhole cover ring, cutoff walls, cradles and miscellaneous unreinforced concrete	2,000	470 (5 sack)
C (650-CW-4000) *	Concrete for thrust blocks, manhole bases, all reinforced structures, piers, and vaults, and precast manhole and vault sections	4,000	677 (7 sack)

*concrete class per SS PWC

SECTION 03300 - CAST-IN-PLACE CONCRETE

2.2 REINFORCING STEEL

- A. Reinforcement shall conform to ASTM A615, Grade 40.
- B. Fabricate reinforcing steel in accordance with the current edition of the Manual of Standard Practice, published by the Concrete Reinforcing Steel Institute. Bend reinforcing steel cold.
- C. Deliver reinforcing steel to the site bundled and tagged with identifying tags.
- D. Concrete blocks (dobies), used to support and position reinforcement steel, shall have the same or higher compressive strength as specified for the concrete in which it is located. Wire ties shall be embedded in concrete block bar supports.

2.3 WELDED WIRE FABRIC

- A. Welded wire fabric shall conform to ASTM A1064.

2.4 TIE WIRE

- A. Tie wire shall be 16-gage minimum, black soft annealed.

2.5 BAR SUPPORTS

- A. Bar supports in beams and slabs exposed to view after form stripping shall be galvanized or plastic coated. Use concrete supports for reinforcing in concrete placed on grade.

2.6 FORMS

- A. Forms shall be accurately constructed of clean lumber and shall be of sufficient strength and rigidity to hold the concrete and to withstand the necessary pressure and tamping without deflection from the prescribed lines.
- B. The surface of forms against which concrete is placed shall be smooth and free from irregularities, dents, sags, or holes. The surface shall leave uniform marks conforming to the general lines of the structure.

2.7 CURING MATERIALS

- A. All curing compounds shall be white pigmented, and resin based. Sodium silicate compounds shall not be allowed. Water based curing compounds shall be Hunt Process Corporation or equal.

2.8 BONDING AGENT

- A. The epoxy bonding agent shall be an epoxy-resin-based product intended for bonding new concrete to hardened concrete and shall conform to ASTM C881. The bonding agent shall be Sikadur 32 Hi-Mod Epoxy Adhesive, as manufactured by Sika Corporation; Concresive Liquid (LPL), as manufactured by Master Builders; BurkEpoxy MV as manufactured by The Burke Company; or approved equal.

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2.9 GROUT

- A. Cement Grout: Cement grout shall be composed of one-part cement, three parts sand, and the minimum amount of water necessary to obtain the desired consistency. Where needed to match the color of adjacent concrete, white Portland cement shall be blended with regular cement as needed. The minimum compressive strength at 28-days shall be 4,000 psi.
- B. Non-Shrink Grout:
 - 1. Non-shrink grout shall be prepackaged, inorganic, non-gas-liberating, non-metallic, cement-based grout requiring only the addition of water. Manufacturer's instructions shall be printed on each bag or other container in which the materials are packaged. The specific formulation for each class of non-shrink grout specified herein shall be that recommended by the manufacturer for the particular application.
 - 2. Class A non-shrink grouts shall have a minimum 28-day compressive strength of 5,000 psi; shall have no shrinkage (zero percent) and a maximum 4.0 percent expansion in the plastic state when tested in accordance with ASTM C827; and shall have no shrinkage (zero percent) and a maximum of 0.2 percent expansion in the hardened state when tested in accordance with CRD C621.
 - 3. Application: Class A non-shrink grout shall be used for the repair of all holes and defects in concrete members which are water bearing or in contact with soil or other fill material, grouting under all equipment base plates, and at locations where grout is specified on the Drawings.

2.10 MORTAR

- A. Cement mortar shall consist of a mixture of Portland cement, sand and water. One part cement and two parts sand shall first be combined, and then thoroughly mixed with the required amount of water.

2.11 EPOXY MORTAR

- A. Epoxy mortar shall be a two-component, cement-based product specifically designed for structurally repairing damaged concrete surfaces. The repair mortar shall exhibit the properties of high compressive and bond strengths and low shrinkage. A medium-slump repair mortar shall be used on horizontal surfaces, and a non-sag, low-slump repair mortar shall be used on vertical or overhead surfaces. The prepared mortar shall wet the contact surface and provide adhesion, or a bonding agent shall be applied prior to placement. SikaTop 122 or approved equal.

SECTION 03300 - CAST-IN-PLACE CONCRETE

PART 3 – EXECUTION

3.1 FORM WORK

- A. The Contractor shall notify the Owner a minimum of one working day before the placement of concrete to enable the Owner to check the form lines, grades, and other required items for approval before placement of concrete.
- B. Unless otherwise indicated on the plans, all exposed sharp edges shall be chamfered with at least 3/4- by 3/4-inch triangular fillets.
- C. Before placing concrete, the form surface shall be clean and coated with form oil of high penetrating qualities.
- D. The forms shall be braced to provide sufficient strength and rigidity to hold the concrete and to withstand the necessary fluid pressure and consolidation pressures without deflection from the prescribed lines.

3.2 REINFORCEMENT

- A. Place reinforcing steel in accordance with the current edition of “Recommended Practice for Placing Reinforcing Bars”, published by the Concrete Reinforcing Steel Institute.
- B. All reinforcing steel shall be of the required sizes and shapes and placed where shown on the drawings or prescribed by the Owner.
- C. Do not straighten or bend reinforcing steel in a manner that will injure the material. All steel shall be cold bent - do not use heat. Do not use bars with bends not shown on the drawings.
- D. All bars shall be free from rust, scale, oil, or any other coating which would reduce or destroy the bond between concrete and steel.
- E. Position reinforcement steel in accordance with the drawings and secure by using annealed wire ties or clips at intersections and support by concrete or metal supports, spacers, or metal hangers. Do not place metal clips or supports in contact with the forms. Bend tie wires away from the forms in order to provide the specific concrete coverage. Bars, additional to those shown on the drawings, which may be found necessary or desirable by the Contractor for the purpose of securing reinforcement in position, shall be provided and paid for by the Contractor.
- F. Place reinforcement a minimum of 2-inches clear of any metal pipe or fittings.
- G. The reinforcement shall be so secured in position that it will not be displaced during the placement of concrete.
- H. All reinforcing steel and wire mesh shall be completely encased in concrete.
- I. Reinforcing steel shall not be welded unless specifically required by the Drawings or otherwise directed by the Owner.

SECTION 03300 - CAST-IN-PLACE CONCRETE

- J. Secure reinforcing dowels in place prior to placing concrete. Do not press dowels into the concrete after the concrete has been placed.
- K. Minimum lap for all reinforcement shall be 40 bar diameters.
- L. Place additional reinforcement around the pipe or opening as indicated in the Drawings.
- M. Wire mesh reinforcement is to be rolled flat before being placed in the form. Support and tie wire mesh to prevent movement during concrete placement.
- N. Extend welded wire fabric to within 2-inches of edges of the slab. Lap splices at least 1-1/2 courses of fabric and a minimum of 6-inches. Tie laps and splices securely at ends and at least every 24-inches with 16-gage black annealed steel wire. Pull the fabric into position as the concrete is placed by means of hooks, and work concrete under the steel to ensure that it is at the proper distance above the bottom of the slab.

3.3 EMBEDDED ITEMS

- A. All embedded bolts, dowels, anchors, and other embedded items shall be held correctly in place in the forms before concrete is placed.

3.4 EMBEDMENT OF DRILLED REINFORCING STEEL DOWELS TO EXISTING STRUCTURES

A. Hole Preparation:

1. The hole diameter shall be as recommended by the epoxy manufacturer but shall be no larger than 1/4-inch greater than the diameter of the outer surface of the reinforcing bar deformations.
2. The depth of the hole shall be as recommended by the epoxy manufacturer to fully develop the bar but shall not be less than 12 bar diameters, unless noted otherwise.
3. The hole shall be drilled by methods which do not interfere with the proper bonding of epoxy.
4. Existing reinforcing steel in the vicinity of proposed holes shall be located prior to drilling. The location of holes to be drilled shall be adjusted to avoid drilling through or nicking any existing reinforcing bars.
5. The hole shall be blown clean with clean, dry compressed air to remove all dust and loose particles.
6. Epoxy shall be injected into the hole through a tube placed to the bottom of the hole. The tube shall be withdrawn as epoxy is placed but kept immersed to prevent formation of air pockets. The hole shall be filled to a depth that insures that excess material will be expelled from the hole during dowel placement.

SECTION 03300 - CAST-IN-PLACE CONCRETE

- B. Dowels shall be twisted during insertion into the partially filled hole so as to guarantee full wetting of the bar surface with epoxy. The bar shall be inserted slowly enough to avoid developing air pockets.
- C. Adhesive for concrete shall be Hilti RE 500-SD or approved equal.
- D. Drilled reinforcing dowels shall only be used where specifically detailed on the Drawings or when permitted by the Owner.

3.5 MIXING AND PLACING CONCRETE

- A. No concrete shall be placed except in the presence of duly authorized representative of the Owner. The Contractor shall notify the Owner in writing at least 24 hours in advance of placement of any concrete. Concrete which upon or before placing is found not to conform to the requirements specified herein shall be rejected and immediately removed from the Work. Concrete which is not placed in accordance with these Specifications, or which is of inferior quality, shall be removed and replaced by and at the expense of the Contractor.
- B. All concrete shall be placed in the forms by mechanical means before taking its initial set.
- C. No concrete shall be placed in water except with permission of the Owner.
- D. As the concrete is placed in the forms, or in excavations to be filled with concrete, it shall be thoroughly settled and compacted throughout the entire layer, which is being consolidated, into a dense, homogenous mass, filling all corners and angles, thoroughly embedding the reinforcement, eliminating rock pockets, by internal vibration and tamping bars.
- E. Concrete shall not be dropped through reinforcement steel or into any deep form, nor shall concrete be placed in any form in such a manner as to leave accumulation of mortar on the form surfaces above the placed concrete. In such cases, some means such as the use of hoppers and, if necessary, vertical ducts of canvas, rubber, or metal shall be used for placing concrete in the forms in a manner that it may reach the place of final deposit without separation. In no case shall the free fall of concrete exceed 8 feet below the ends of ducts, chutes, or buggies.
- F. All concrete surfaces upon which or against which the concrete is to be placed, and to which new concrete is to adhere, shall be roughened, thoroughly cleaned, wet, and grouted before the concrete is deposited.
- G. The temperature of concrete when it is being placed shall be not more than 90 degrees F nor less than 55 degrees F for sections less than 12 inches thick nor less than 50 degrees F for all other sections. The Contractor shall employ effective means as necessary to maintain the temperature of the concrete, as it is placed, below 90 degrees F at no additional cost to the Owner.
- H. Where the Owner allows casting new concrete against old concrete, an epoxy adhesive bonding agent shall be applied to the old surfaces according to the manufacturer's written recommendations.

SECTION 03300 - CAST-IN-PLACE CONCRETE

3.6 CONCRETE FINISHING

- A. Immediately upon the removal forms, all voids shall be reamed with suitable toothed reamers, so as to leave the surfaces of the holes clean and rough, and neatly filled with dry-packed cement grout.
- B. The surfaces of concrete to be permanently exposed to view must be smooth, free from projections, and thoroughly filled.
- C. Exposed surfaces of concrete not finished against forms, such as horizontal or sloping surfaces, shall be screened to a uniform surface and worked with suitable tools to a smooth finish.

3.7 PROTECTION AND CURING OF CONCRETE

- A. All concrete shall be cured for not less than 7 days. No material shall be deposited against concrete structures until the concrete has reached its designated compressive strength in accordance with this Standard Specification.
- B. The Contractor shall protect all concrete against damage, including damage due to rain. Exposed surfaces of new concrete shall be protected from the direct rays of the sun and from frost by being kept damp for at least two weeks after the concrete has been placed, or by using Hunt Process White Pigmented Concrete Curing Compound or approved equal.

3.8 GROUTING PROCEDURES

- A. Prepackaged Grouts: All mixing, surface preparation, handling, placing, consolidation, curing, and other means of execution for prepackaged grouts shall be done according to the instructions and recommendations of the manufacturer.
- B. Base concrete must have attained its design strength before grout is placed, unless authorized by the Owner.
- C. Grout shall be placed in such a manner, for the consistency necessary for each application, so as to assure that the space to be grouted is completely filled.

3.9 MANHOLE BASE

- A. Excavation for the manhole base shall be in accordance with the Section 02221.
- B. 3/4-inch crushed rock shall be used for the manhole bedding. Crushed rock shall extend a minimum 1-foot beyond the outside edge of the concrete manhole base. A 12-inch thick base of 3/4-inch crushed rock shall be placed prior to the placement of concrete for all installations.
- C. Manhole bases shall be poured in place against undisturbed soil with Class C concrete having 3/4-inch maximum size aggregate and a slump of not greater than 2-inches. The manhole base shall be poured as one monolithic pour. Limitations for site-mixed and ready mixed concrete set forth in this Section. Manhole base shall be poured under observation of

SECTION 03300 - CAST-IN-PLACE CONCRETE

the Owner.

- D. Invert elevations of connecting sewers may vary depending upon sizes. The crown elevation of all pipes shall be the same.
- E. The invert of the manhole base shall be formed so as to provide smooth channels conforming in size and shape to the lower portions of the inlet and outlet pipes. The channel shall vary uniformly in size and shape from inlet to outlet, and a shelf shall be constructed higher than the pipe as indicated on the drawings. The manhole base shall extend a minimum of 8-inches below the bottom of the lowest pipe.
- F. All transitions shall be smooth and of the proper radius to give an uninterrupted transition of flow.
- G. The concrete base shall be shaped with a wood float and shall receive a hard steel trowel finish before the concrete sets.
- H. A sand collar water stop fitting shall be cast into the concrete base where pipe connections are shown on the Drawings.
- I. Unless approved otherwise by the Owner in advance, the bases shall be set, with a minimum of 24-hours cure time, before the manhole construction is continued.
- J. Manhole bases that exhibit defects in the concrete surface shall be rejected and reinstalled at no additional cost to the Owner.

****END OF SECTION****

SECTION 03300 - CAST-IN-PLACE CONCRETE

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SECTION 03315 – GROUT

PART 1 – GENERAL

1.1 WORK OF THIS SECTION

The work of this Section shall include, but not be limited to, furnishing all labor, materials, tools, and equipment for materials for grout in accordance with the provisions of this Section and shall form, mix, place, cure, repair, finish, and do all other work as required to produce finished grout, as necessary to complete the Project, in accordance with the Contract Documents, and as directed by the Owner. The following type of grout shall be covered in this Section:

1. Non-Shrink Grout: This type of grout is to be used wherever grout is shown in the Contract Documents, unless another type is specifically referenced.
2. Cement Grout

1.2 RELATED WORK SPECIFIED ELSEWHERE

The Work of the following Sections also applies to the Work of this Section. Other Sections, not referenced below, shall also apply to the extent required for proper performance of this Work.

- A. Section 01300 – Submittals

1.3 REFERENCE SPECIFICATIONS, CODES, AND STANDARDS

- A. Commercial Standards:

CRD-C 621 Corps of Engineers Specification for Non-Shrink Grout

ASTM C 109 Test Method for Compressive Strength of Hydraulic Cement Mortars (Using 2-in or 50-mm Cube Specimens)

ASTM C 531 Test Method for Linear Shrinkage and Coefficient of Thermal Expansion of Chemical- Resistant Mortars, Grouts, and Monolithic Surfaces

ASTM C 579 Test Methods for Compressive Strength of Chemical-Resistant Mortars and Monolithic Surfaces

ASTM C 827 Test Method for Early Volume Change of Cementitious Mixtures

1.4 Contractor SUBMITTALS

- A. The Contractor shall submit certified test results verifying the compressive strength, shrinkage, and expansion requirements specified herein; and manufacturer's literature containing instructions and recommendations on the mixing, handling, placement and appropriate uses for each type of non-shrink and epoxy grout used in the work.

SECTION 03315 – GROUT

1.5 QUALITY ASSURANCE

A. Field Tests:

1. Compression test specimens will be taken during construction from the first placement of each type of grout, and at intervals thereafter as selected by the Owner's Representative to insure continued compliance with these specifications.
2. Compression tests and fabrication of specimens for cement grout and non-shrink grout will be performed as specified in ASTM C 109 at intervals during construction as selected by the Owner's Representative. A set of three specimens will be made for testing at 7 days, 28 days, and each additional time period as appropriate.
3. All grout, already placed, which fails to meet the requirements of these specifications, is subject to removal and replacement at the cost of the Contractor.
4. The cost of all laboratory tests on grout will be borne by the Owner, but the Contractor shall assist the Owner in obtaining specimens for testing. However, the Contractor shall be charged for the cost of any additional tests and investigation on work performed which does not meet the specifications. The Contractor shall supply all materials necessary for fabricating the test specimens.

PART 2 – MATERIALS

2.1 CEMENT GROUT

- A. Cement Grout: Cement grout shall be composed of one-part cement, three parts sand, and the minimum amount of water necessary to obtain the desired consistency. Where needed to match the color of adjacent concrete, white Portland cement shall be blended with regular cement as needed. The minimum compressive strength at 28 days shall be 4,000 psi.

2.2 PREPACKAGED GROUTS

A. Non-Shrink Grout:

1. Non-shrink grout shall be prepackaged, inorganic, non-gas-liberating, non-metallic, cement-based grout requiring only the addition of water. Manufacturer's instructions shall be printed on each bag or other container in which the materials are packaged. The specific formulation for each class of non-shrink grout specified herein shall be that recommended by the manufacturer for the particular application.
2. Class A non-shrink grouts shall have a minimum 28-day compressive strength of 5,000 psi; shall have no shrinkage (0.0 percent) and a maximum 4.0 percent expansion in the plastic state when tested in accordance with ASTM C827; and shall have no shrinkage (0.0 percent) and a maximum of 0.2 percent expansion in the hardened state when tested in accordance with CRD C 621.

SECTION 03315 – GROUT

3. Class B non-shrink grouts shall have a minimum 28-day compressive strength of 5,000 psi and shall meet the requirements of CRD C 621.
4. Application:
 - a. Class A non-shrink grout shall be used for the repair of all holes and defects in concrete members which are water bearing or in contact with soil or other fill material, grouting under all equipment base plates, and at locations where grout is specified in the contract documents; except, for those applications for Class B non-shrink grout and epoxy grout specified herein. Class A non-shrink grout may be used in place of Class B non-shrink grout for all applications.
 - b. Class B non-shrink grout shall be used for the repair of all holes and defects in concrete members which are not water-bearing and not in contact with soil or other fill material, and grouting under all base plates for structural steel members.

2.3 CURING MATERIALS (NOT USED)

2.4 CONSISTENCY

- A. The consistency of grouts shall be that necessary to completely fill the space to be grouted for the particular application. Dry pack consistency is such that the grout is plastic and moldable but will not flow. Where “dry pack” is called for in the Contract Documents, it shall mean a grout of that consistency; the type of grout to be used shall be as specified herein for the particular application.
- B. The slump for topping grout and concrete fill shall be adjusted to match placement and finishing conditions but shall not exceed 4 inches.

2.5 MEASUREMENT OF INGREDIENTS

- A. Measurements for cement grout shall be made accurately by volume using containers. Shovel measurement shall not be allowed
- B. Prepackaged grouts shall have ingredients measured by means recommended by the manufacturer.

PART 3 – EXECUTION

3.1 GENERAL

- A. All surface preparation, curing, and protection of cement grout shall be as recommended by the manufacturer. The finish of the grout surface shall match that of the adjacent concrete.
- B. The manufacturer of Class A non-shrink grout shall provide on-site technical assistance upon request.
- C. Base concrete must have attained its design strength before grout is placed, unless authorized by the Engineer.

SECTION 03315 – GROUT

3.2 GROUTING PROCEDURES

- A. Prepackaged Grouts: All mixing, surface preparation, handling, placing, consolidation, curing, and other means of execution for prepackaged grouts shall be done according to the instructions and recommendations of the manufacturer.

3.3 CONSOLIDATION

- A. Grout shall be placed in such a manner, for the consistency necessary for each application, so as to assure that the space to be grouted is completely filled.

****END OF SECTION****

SECTION 03480 - PRECAST CONCRETE MANHOLES

PART 1 -- GENERAL

1.1 WORK OF THIS SECTION

The work of this Section shall include, but not be limited to, furnishing all labor, materials, tools, and equipment for precast concrete manholes and related appurtenances, as necessary to complete the Project, in accordance with the Contract Documents, and as directed by the Owner.

1.2 RELATED SECTIONS

The Work of the following Sections also applies to the Work of this Section. Other Sections, not referenced below, shall also apply to the extent required for proper performance of this Work.

- A. Section 01300 – Submittals
- B. Section 02140 – Dewatering
- C. Section 02221 – Trenching, Backfill and Compaction
- D. Section 09801 – Manhole Protective Lining

1.3 REFERENCE SPECIFICATIONS, CODES, AND STANDARDS

- A. Except as otherwise indicated, the current editions of the following apply to the Work of this Section:

ASTM A 48	Specification for Gray Iron Castings
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ASTM C 478	Specification for Precast Reinforced Concrete Manhole Sections
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1.4 SHOP DRAWINGS AND SAMPLES

- A. The following shall be submitted in compliance with Section 01300:
 - 1. Design calculations and detailed drawings of manhole component sections.
 - 2. Shop drawings of cast iron frames and covers, and all appurtenances.

1.5 INSPECTION

- A. After installation, the Contractor shall demonstrate to the Owner that all manholes have been properly installed, level, with tight joints, and at the correct elevations.

PART 2 - PRODUCTS

2.1 MANHOLE SECTIONS

- A. Precast concrete manhole risers, grade rings, tops, cones, and base sections (where specifically accepted by the Owner) shall be designed and constructed in accordance with the requirements of ASTM C 478 and the Drawings.

SECTION 03480 - PRECAST CONCRETE MANHOLES

- B. Manhole components shall be designed for H-20 highway loads and soil conditions.
- C. Precast reinforced concrete manhole risers and tops shall be constructed of Class C concrete with Type II and Type V cement.
- D. Mortar for joining manhole sections shall consist of 1-part cement to 2-1/2 parts of sand by volume.
- E. Minimum wall thickness 5 inches for 48 inch diameter manholes and 6 inches for 60 inch diameter manholes.
- F. Manhole sections shall be cast without steps.
- G. Precast reinforced concrete manholes shall be manufactured by Jensen Precast or approved equal.

2.2 MANHOLE PROTECTIVE LININGS

- A. Interior concrete surfaces of new manhole shafts shall be lined with liner material per Section 09801.
- B. All existing precast manholes to remain in service as indicated on the Drawings shall be rehabilitated and lined in accordance with Section 09801.

2.3 FRAMES AND COVERS

- A. Manhole frames and covers shall be three-piece and shall be made of ductile iron conforming to ASTM A536, Class 400, or cast-iron conforming to ASTM A48, Class 30. Casting shall be smooth, clean, and free from blisters, blowholes, and shrinkage. Frames and covers shall be of the traffic type, designed for H-20 loading. Manholes outside of paved right-of-way shall be equipped with locking covers.
- B. Manhole frame and cover shall have 1/8" x 1/2" neoprene gasket used for water tight seal.
- C. Each manhole cover shall be ground or otherwise finished so that it will fit in its frame without rocking. Frames and covers shall be matchmarked in sets before shipping to the site.

2.4 CONCRETE BASE

- A. Concrete bases shall be as specified in Section 03300 or as approved by the Owner.
- B. Precast concrete bases will not be accepted.
- C. Sand collar water stop fitting shall be watertight ring-type seal matching the material of the connecting pipe per manufacture's recommendations.

SECTION 03480 - PRECAST CONCRETE MANHOLES

2.5 JOINT SEALING COMPOUND

- A. Joint sealing compound for manhole joints shall be a pre-formed, cold-applied, ready-to-use butyl sealant. Ez-Stik Premium, Pro-Stik, or approved equal.
- B. Where groundwater is present or possible under wet weather conditions, or as directed by the Owner, a hydrophilic waterstop shall be used for the joint sealing compound. Sika Swellstop Waterstop, or approved equal.

2.6 GROUT AND MORTAR

- A. Cement grout, non-shrink grout, and cement mortar for grade joints, patching the manhole interior, and setting manhole frames per the Section 03300.

2.7 EXTERIOR WATERPROOFING

- A. The exterior buried surfaces of all new manholes and bases shall be coated with a waterproofing agent consisting of a coal tar emulsion. The waterproofing shall be Carboline Bitumastic No. 300M, or Owner approved equal. The Waterproofing shall be applied with no less than two (2) separate coats to achieve a total dry film thickness of 25 to 35 mils. All surfaces shall be prepared, and waterproofing shall be applied in accordance with the manufacturer's written instructions and recommendations.

2.8 MANUFACTURERS

- A. Products shall be manufactured by one of the following (or approved equal):
 - 1. Manhole Sections: Ameron, Associated Concrete Products
 - 2. Frames and Covers: Alhambra, South Bay Foundry.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Precast concrete manholes shall be installed in strict conformance with the manufacturer's written instructions with backfill, compaction, bedding, and trench requirements set forth in Section 02221.
- B. Two passes of joint sealing compound shall be required at each manhole joint to make a watertight seal between manhole units, including at the manhole base, but excluding grade rings. Excess joint sealant shall be trimmed flush with the interior of the manhole. Precast grade rings shall be set in a bed of mortar or grout at least 1/2-inch thick. Manhole sections shall be set perfectly plumb.
- C. Minor defects, precast manhole step holes, and joint gaps shall be patched with grout or mortar for a smooth finish.
- D. It is the intent of these specifications that manholes and appurtenances be watertight and free from infiltration. The adequacy of manholes and appurtenances as to watertightness shall be determined by the Owner and, if required, shall be tested.

SECTION 03480 - PRECAST CONCRETE MANHOLES

- E. Manhole sections that exhibit defects in the concrete surface shall be rejected and replaced at no additional cost to the Owner.
- F. Finish Elevation of Manhole Covers
 - a. Precast sections shall be assembled so that the cover conforms to the elevation determined by the manhole location as follows but limited to a maximum of 18- inches from the top of the manhole cone to the bottom of the ring and cover, unless otherwise instructed by the Owner.
 - i. In Paved Areas: Top of cover shall be flush with the paving surface.
 - ii. In Shoulder Areas: Top of cover shall be flush with existing surface where it is in traveled way or shoulder and 0.1-foot above existing surface where outside limits of traveled way but not in the existing roadside ditch.
 - iii. In Roadside Ditch or Unpaved Open Areas: Top of cover shall be a minimum of 6-inches above the ground surface and surrounded with a concrete collar, per VWD Standard Drawings. In special instances, as designated by the District Engineer or their designee or as shown on the Approved Plans, the top of the cover shall be flush with the surrounding ground surface and within square concrete pad 2-feet larger than the manhole in open areas.
- G. Sealing Before Completion: In order to prevent accidental use of the new sewer before completion and acceptance, the inlet to existing tie-in manholes shall be sealed with block and mortar or plugs approved by the Owner. Plugs shall be removed at the time of final inspection or as directed by Owner.
- H. Block and mortar bulkheads shall be installed at the downstream end of all unused stub channels over 5-feet long to prevent the creation of a septic condition resulting from ponding of sewage and debris in the unused channels, and until such time as the manhole stub is connected and normal sewage flow can occur. A plug shall be required for all downstream stubs.
- I. New connections to existing manholes wherein stubs have not been provided shall be made by core drilling through the base, as directed by the Owner.
- J. Grade Rings: Class B concrete rings shall be cast around manhole frames that are flush with the surface. The ring shall be placed after final grading or paving together with final cleanup.
- K. Manhole Frame and Cover: The manhole frame shall be secured to grade ring with grout or mortar and a cement mortar fillet. Where the frame sets directly on the grade ring, a butyl sealant shall be applied. After the frames are securely set, the frames and the covers shall be cleaned and scraped free of foreign materials and shall be ground or otherwise finished as needed so the cover fits in its frame without rocking.

SECTION 03480 - PRECAST CONCRETE MANHOLES

3.2 LEAKAGE TEST FOR SEWER MANHOLES

- A. Testing shall be done in accordance with Owner's requirements stated on the Drawings. All inlets and outlets to the manhole shall be plugged to prevent leakage. Bolt down lids shall be required in unpaved areas.

3.3 INSPECTION

- A. Upon request, the Contractor shall provide the Owner's Representative with ladder or other safe and adequate means for inspection access.

****END OF SECTION****

SECTION 03480 - PRECAST CONCRETE MANHOLES

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SECTION 03740 – CONCRETE REHABILITATION

PART 1 - GENERAL

1.1 WORK OF THIS SECTION

The Contractor shall perform all concrete rehabilitation work necessary to provide an acceptable substrate for the protective lining or to fill voids, structurally reinforce and/or rebuild surfaces, etc. as determined necessary by the Owner. In addition, the Contractor shall perform all related work including surface preparation, corrosion protection, priming, finishing and curing of the rehabilitation work.

1.2 RELATED SECTIONS

The Work of the following Sections also applies to the Work of this Section. Other Sections, not referenced below, shall also apply to the extent required for proper performance of this Work.

- A. Section 01300 – Submittals
- B. Section 02760 – Manhole Rehabilitation
- C. Section 09801 – Manhole Protective Lining

1.3 REFERENCE SPECIFICATIONS, CODES, AND STANDARDS

- A. Except as otherwise indicated, the current editions of the following apply to the Work of this Section:
 - 1. References herein to “SSPC Specifications” or “SSPC” shall mean the published standards of SSPC, the Society for Protective Coatings.
 - 2. References herein to “NACE” shall mean the published standards of the National Association of Corrosion Engineers.
 - 3. SSPC (Society for Protective Coatings)
 - 4. NACE (National Association of Corrosion Engineers)
 - 5. ASTM (American Society for Testing and Materials)
 - a. ASTM C109 – Test Method for Compressive Strength of Hydraulic Cement Mortars
 - b. ASTM C882 – Test Method for Bond Strength of Epoxy-Resin Systems Used with Concrete
 - c. ASTM C496 – Standard Test Method for Splitting Tensile Strength of Cylindrical Concrete Specimens
 - d. ASTM C88 – Standard Test Method for Soundness of Aggregates by Use of Sodium Sulfate or Magnesium Sulfate
 - e. ASTM D638 – Tensile Properties of Plastics
 - f. ASTM D790 – Flexural Properties of Unreinforced and Reinforced Plastics
 - g. ASTM D695 – Compressive Properties of Rigid Plastics

SECTION 03740 – CONCRETE REHABILITATION

- h. ASTM D4541 – Pull-off Strength of Coatings Using a Portable Adhesion Tester
 - i. ASTM D2584 – Volatile Matter Content
 - j. ASTM D2240 – Durometer Hardness, Type D
 - k. ASTM D543 – Resistance of Plastics to Chemical Reagents
 - l. ASTM C579 – Compressive Strength of Chemically Setting Silicate and Silica Chemical Resistant Mortars
6. American Concrete Institute (ACI)
- a. ACI 506.2 – Specifications for Material, Proportioning, and Application of Shotcrete
7. SSPWC 210-2.3.3 – Chemical resistance testing published in the Standard Specifications for Public Works Construction, most recent edition

1.4 CONTRACTOR SUBMITTALS

- A. Submittals shall be made in accordance with the requirements stated in Section 01300.
- B. Technical Data: The Contractor shall submit technical data for materials which document compliance with the requirements of this section.
- C. Installation Recommendations: The Contractor shall provide written installation recommendations from the manufacturer for each of the products to be used in the work covered by this section of the specifications including application, cure time, and surface preparation procedures which permit optimum bond strength with coatings. Specific procedures for the application of an epoxy coating shall be included.
- D. The Contractor shall provide certification of compatibility from all product manufacturers of protective linings, concrete rehabilitation products, grouts, sealants, or other materials used in the manhole rehabilitation process.
- E. The Contractor shall provide Material Safety and Data Sheets and Technical Data Sheets for all compounds utilized in Concrete Rehabilitation.
- F. The Contractor shall provide a written warranty from all manufacturers against defects of materials for a period of one (1) year following Owner acceptance of the installation.
- G. See specification section 02760 – Manhole Rehabilitation for abrasive blasting submittal requirements.

1.5 QUALITY ASSURANCE

- A. Packaging: The Contractor shall store all products to be used in their original, unopened packaging displaying the manufacturer's name, labels, product identification and batch numbers as applicable. Damaged material must be removed from the site immediately.
- B. All products to be used in the work covered by this Section shall be delivered, stored, and handled in accordance with the product manufacturer's written recommendations.

SECTION 03740 – CONCRETE REHABILITATION

PART 2—PRODUCTS

2.1 GENERAL

- A. All products proposed for use for all rehabilitation and protective lining work covered in these Contract Documents shall be compatible and be manufactured from the same company or a statement shall be provided from the concrete patch material and protective lining manufacturers certifying their products are mutually compatible with the other products used for this work.

2.2 BONDING AGENT

- A. Bonding agent shall be a solvent-free, moisture-tolerant, epoxy-modified, cementitious product specifically formulated as a bonding agent containing an anti-corrosion agent that is compatible with the concrete patch material and manhole protective lining material.
- B. The need for a bonding agent shall be based on the requirements of the concrete patch manufacturer. If it is determined that a bonding agent is not required, the concrete patch manufacturer shall submit a certification to the Owner stating such prior to installation of the project.
- C. Bonding agent material shall meet the following requirements (@ 73 degrees F and 50 percent relative humidity):
 - 1. Work Life 45 - 120 minutes
 - 2. Compressive Strength 6,000 psi @ 7 days
 - 3. Bonding Strength (ASTM C 882) 2,500 psi @ 14 days (moist cure)
- D. All bonding agents for concrete shall conform to the following requirements:
 - 1. Bonding agent shall have a coat window (time until the repair mortar is required to be placed) of at least 8 hours at 68 degrees F.
 - 2. The bonding agent shall not create a vapor barrier.
- E. If the bonding agent is not manufactured by the same company as the protective lining and concrete mortar manufacturer, all manufacturers must certify in writing that their products are compatible. Concrete mortar manufacturer shall certify in writing that the bonding agent used for the project is in accordance with their recommendations for this application and for use with the concrete patch mortar materials.
- F. The manufacturer of the bonding agent shall be approved by the District prior to use.

2.3 CONCRETE PATCH MORTAR

- A. Concrete repair materials shall be used to fill voids, structurally reinforce and/or rebuild surfaces as determined necessary by the Owner and the protective lining applicator.

SECTION 03740 – CONCRETE REHABILITATION

- B. Patch material shall be either of the following and shall be on the written approved list of patch materials provided by the manhole protective lining manufacturer:
1. 100-percent solids, solvent-free epoxy grout specifically formulated for epoxy top coating compatibility that meets the performance requirements specified herein and that has corrosion inhibitor properties and is recommended by the manufacturer for use in sewer manhole repairs. The epoxy grout manufacturer shall provide instructions for trowel or spray application and for epoxy top coating procedures.
 2. Factory blended, rapid setting, high early strength, non-shrink and non-sag repair mortar that is specifically formulated to be suitable for epoxy top coating. Repair mortar shall have corrosion inhibitor properties and shall be recommended by the manufacturer for use in sewer manhole repairs.
- C. Patch material shall meet the following minimum requirements (@ 73 degrees F and 50 percent relative humidity):
- | | |
|-------------------------------|---------------------|
| Work Life | 15 minutes minimum |
| Compressive Strength | 4,000 psi @ 7 days |
| Bonding Strength (ASTM C 882) | 2,200 psi @ 28 days |
- D. The patch material shall be designed for vertical and overhead applications.
- E. The patch material shall be capable of meeting the minimum and maximum application thicknesses required for rebuilding or repairing the manholes and specified in the Contract Documents.
- F. Repair mortar applicators shall be trained to properly apply the mortar according to manufacturer's recommendations.

2.4 LEAK REPAIR

- A. Leak repair shall be achieved by use of a Portland cement mortar waterstop. The waterstop shall be a blend of selected Portland cements and specially graded aggregates. The materials shall be non-combustible, either before or after cure. The materials shall be supplied in a factory-proportioned unit. The Portland cement mortar shall not produce a vapor barrier.
- B. Leak repair material shall meet the following requirements.
1. Compressive Strength (ASTM C109)

1 day 4,200 psi min
7 days 6,800 psi min
 2. Splitting Tensile Strength (ASTM C496)

1 day 600 psi min

SECTION 03740 – CONCRETE REHABILITATION

7 days 700 psi min

3. Sulfate Resistance Test (ASTM C88): no deterioration

- C. Portland cement mortar water stop shall be SikaSet Plug as manufactured by Sika Corporation or approved equal. If the leak repair material is not manufactured by the same company as the protective lining and concrete patch material manufacturer, all manufacturers must certify in writing that their products are compatible.

PART 3 - EXECUTION

3.1 SURFACE PREPARATION

- A. Remove all loose material to expose sound concrete at the repair area. Steel brush any exposed reinforcing steel to remove any protective lining or loose material. The surface shall be clean and have an open texture surface by blast cleaning (including sand blasting) or equivalent mechanical means. The surface shall be saturated surface dry, but with no standing water.

3.2 BONDING AGENT APPLICATION

- A. The bonding agent material shall be applied, stored, handled, and transported in strict accordance with the manufacturer's written recommendations.
- B. Mix manufacturer's pre-measured components for bonding agent as recommended by manufacturer. Mix only the quantity of materials that can be applied within the specified pot life of the product. Do not apply bonding agent of any batch after the recommend pot life has elapsed.
- C. The bonding agent slurry shall be worked into the substrate surface with a stiff bristle brush or broom. Work slurry into all surface irregularities to achieve complete coverage.
- D. Apply patch material to bonding agent wet-on-wet or within the manufacturer's recommended open time for bonding agent.

3.3 PATCH MATERIAL APPLICATION

- A. The concrete patch material shall be applied, stored, handled, and transported in strict accordance with the manufacturer's written recommendations.
- B. Mix manufacturer's pre-measured components of patch material as recommended by manufacturer. Mix only the quantity of materials that can be applied within the specified pot life of the product. If patch material is being extended with fine aggregate, mix the aggregate into the material as recommended by manufacturer.
- C. The Contractor shall apply the patch material into the substrate and around any exposed reinforcing bars. The patch material shall be consolidated eliminating any voids. It shall be built-up from the edges of the repair area towards the center. After filling, consolidate patch material and screed surface to match original shape of member as close as possible.

SECTION 03740 – CONCRETE REHABILITATION

- D. The vertical face of the wall or column shall be cleaned of any fins or burrs on the surface.
- E. The patch material finish shall be “broom finish”
- F. The thickness of the patch shall be in accordance with the minimum and maximum allowable thickness limits as recommended by manufacturer.

3.4 LEAK REPAIR APPLICATION

- A. Prepare surface and apply materials per the manufacturer’s written instructions.
- B. Adhere to all limitations and precautions for the instant setting of Portland cement water stop systems stated in the manufacturers technical data sheet and literature.
- C. Do not apply material if it is raining or snowing or if such conditions appear to be imminent. Minimum application temperature is 40 degrees Fahrenheit.
- D. Precautions should be taken to avoid damage to any surface near the work zone due to mixing and handling of the specified material.

3.5 CURING

- A. After the repair is completed, the Contractor shall be responsible for maintaining a humid environment to allow for proper curing of all surfaces. If necessary, the Contractor shall cover the surface with polyethylene sheet to trap moisture to the surface.
- B. Cure all repair surfaces as specified by the patch material and protective lining manufacturers to ensure compatibility and long-term lining performance.

****END OF SECTION****

SECTION 05120 – MISCELLANEOUS METALWORK

PART 1 – GENERAL

1.1 WORK OF THIS SECTION

The work of this Section shall include, but not be limited to, furnishing all labor, materials, tools, and equipment for miscellaneous metalwork and appurtenances, as necessary to complete the Project, in accordance with the Contract Documents, and as directed by the Owner.

1.2 RELATED WORK SPECIFIED ELSEWHERE

The Work of the following Sections also applies to the Work of this Section. Other Sections, not referenced below, shall also apply to the extent required for proper performance of this Work.

A. Section 01300 – Submittals

B. Section 03315 – Grout

1.3 REFERENCE SPECIFICATIONS, CODES, AND STANDARDS

A. Codes: All codes, as referenced herein, are specified in Section 01090 – Reference Standards.

B. Federal Specifications:

MIL-G-18015 A (3) (Ships) Aluminum Planks (6063-T6)
MIL-A-907E Antiseize Thread Compound, High Temperature

C. Government Standards:

Cal OSHA Occupational Safety and Health Administration

D. Trade Standards:

Aluminum Association (AA) publications, as referenced herein.

E. Commercial Standards:

AA-M32C22A41	Aluminum Assn
AISC	Specifications and Commentary
AISI	Design of Light Gauge, Cold-Formed Steel Structural Members
ASTM A 36	Specification for Structural Steel
ASTM A 48	Specification for Gray Iron Castings
ASTM A 53	Specification for Pipe, Steel, Black and Hot-Dipped, Zinc-Coated Welded and Seamless
ASTM A 123	Specification for Zinc (Hot-Dip Galvanized) Coatings on Iron and Steel Products
ASTM A 125	Specification for Steel Springs, Helical, Heat Treated
ASTM A 153	Specification for Zinc Coating (Hot-Dip) on Iron and Steel Hardware
ASTM A 307	Specification for Carbon Steel Bolts and Studs, 60,000 psi Tensile

SECTION 05120 – MISCELLANEOUS METALWORK

ASTM A 500	Specification for Cold-Formed Welded and Seamless Carbon Steel Tubing in Rounds and Shapes
ASTM A 563	Specification for Carbon and Alloy Steel Nuts
ASTM A 575	Specifications for Steel Bars, Carbon, Merchant Quality, M-Grades
ASTM A 786	Specification for Rolled Steel Floor Plates
ASTM B 98	Specification for Copper-Silicon Alloy Rod, Bar, and Shapes
ASTM B 438	Specification for Sintered Bronze Bearings (Oil-Impregnated)
ANSI/AWS D1.1	Structural Welding Code - Steel
ANSI/AWS D1.2	Structural Welding Code - Aluminum
ANSI/AWS QC1	Specification for Qualification and Certification of Welding Inspectors
NFPA 101	Life Safety Code
NAAMM	Metal Stairs Manual

F. I.C.B.O. Evaluation Reports:

ER-5279	Simpson SET Adhesive Anchor Systems
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1.4 CONTRACTOR SUBMITTALS

- A. Shop Drawings: Shop drawings of all miscellaneous metalwork shall be submitted to the Engineer for review in accordance with Section 01300 – Submittals.
- B. Calculations: Engineering calculations shall be submitted for review. Engineering calculations shall include (but not be limited to) ladders, guardrail posts, railings, handrail brackets, brackets, support flanges, and fasteners or anchors.

1.5 QUALITY ASSURANCE

- A. All weld procedures and welder qualification shall be available in the Contractor's field office for review by the Owner's Representative.
- B. All welding shall be inspected by a Contractor-provided inspector qualified in accordance with AWS requirements and approved by the Owner's Representative.

PART 2 – MATERIALS

2.1 GENERAL REQUIREMENTS

- A. Steel:
 - 1. Shapes, Plates, Bars ASTM A 36
 - 2. Pipe, Pipe Columns, Bollards ASTM A 53, Type E or S, Grade B Standard weight unless noted otherwise
 - 3. Tubes ASTM A 500 Grade B

SECTION 05120 – MISCELLANEOUS METALWORK

- B. Stainless Steel: Unless otherwise indicated, stainless steel metalwork and bolts shall be of Type 316 stainless steel and shall not be galvanized. Where anaerobic conditions are noted, Type 304 stainless steel shall be used.

2.2 BOLTS AND ANCHORS

- A. Standard Service Bolts (Not Buried or Submerged): Except where otherwise indicated, all bolts, anchor bolts, and nuts shall be ASTM A307 Grade B Carbon steel cadmium-plated.
- B. Buried or Submerged Bolts: All bolts, anchor bolts, nuts, and washers which are buried, submerged, or below the top of the wall inside any hydraulic structure shall be Type 316 stainless steel conforming to ASTM A 193 for bolts and to ASTM A 194 for nuts. All threads on stainless steel bolts shall be formed by means of rolling, not cutting or grinding. All threads on stainless steel bolts shall be protected with an antiseize lubricant suitable for submerged stainless-steel bolts, to meet government specification MIL-A-907E.
 - 1. Antiseize lubricant shall be classified as acceptable for potable water use by the NSF.
- C. Bolt Requirements:
 - 1. The nuts shall be capable of developing the full strength of the bolts. Threads shall be Coarse Thread Series conforming to the requirements of the American Standard for Screw Threads. All bolts and cap screws shall have hexagon heads and nuts shall be Heavy Hexagon Series.
 - 2. The length of all bolts shall be such that after joints are made up, each bolt shall extend through the entire nut a minimum of 1/2-inch.
- D. Expansion Anchors: Material and Installation shall conform to ICBO ER-4627. Expansion anchors shall be Hilti "Kwik-Bolt II" or ICBO approved equal. Lead caulking anchors will not be permitted. Size shall be as indicated. Expansion type anchors shall be 304 stainless steel. Expansion anchors may only be used where specifically detailed. Expansion type anchors shall not be used unless approved by the Engineer.

PART 3 – EXECUTION

3.1 WELDING

- A. Method: All welding shall be by the metal-arc method or gas-shielded arc method as described in the American Welding Society's "Welding Handbook" as supplemented by other pertinent standards of the AWS. Qualification of welders shall be in accordance with the AWS Standards governing same.
- B. Quality: In assembly and during welding, the component parts shall be adequately clamped, supported and restrained to minimize distortion and for control of dimensions. Weld reinforcement shall be as indicated by the AWS Code. Upon completion of welding, all weld splatter, flux, slag, and burrs left by attachments shall be removed. Welds shall be repaired to produce a workmanlike appearance, with uniform weld contours and dimensions. All sharp corners of material to be painted or coated shall be ground to a minimum of 1/32-inch on the flat.

SECTION 05120 – MISCELLANEOUS METALWORK

- C. Aluminum: All exposed welds shall be ground smooth and flush and shall be polished and anodized. Discoloration of exposed aluminum surfaces, whether or not due to welding, shall constitute a basis for rejection of the entire assembly.

3.2 CRAFTSMANSHIP

- A. All work shall be performed by craftsmen experienced in the fabrication of architectural metal work. Exposed surfaces shall be free from defects or other surface blemishes. All dimensions and conditions shall be verified in the field in advance. All joints, junctions, miters, and butting sections shall be precision-fitted, with no gaps occurring between sections, and all surfaces shall be flush and aligned.

3.3 DRILLED ANCHORS

- A. Drilled anchors and reinforcing bars shall be installed in strict accordance with the applicable I.C.B.O. Evaluation Report and manufacturer's instructions. Holes shall be roughened with a brush on a power drill, cleaned and dry. Drilled anchors shall not be installed until the concrete has reached the specified 28-day compressive strength. Adhesive anchors shall not be loaded until the adhesive has reached its indicated strength in accordance with the manufacturer's instructions.

****END OF SECTION****

SECTION 09801 – MANHOLE PROTECTIVE LINING

PART 1 - GENERAL

1.1 WORK OF THIS SECTION

The work of this Section shall include, but not be limited to, furnishing all labor, materials, tools, and equipment for manhole protective linings complete in place, as necessary to complete the Project, in accordance with the Contract Documents, and as directed by the Owner. This protective lining shall be used for all interior surfaces of the manholes. The protective lining shall be Zebron Polyurethane or Owner approved equal.

1. The term “paint,” “coatings,” “linings,” or “finishes” as used herein, shall include all surface treatments, emulsions, enamels, paints, epoxy resins, and all other protective linings, excepting galvanizing or anodizing, whether used as a pretreatment, primer, intermediate coat, or finish coat.
2. The term “DFT” means minimum dry film thickness.

1.2 RELATED SECTIONS

The Work of the following Sections also applies to the Work of this Section. Other Sections, not referenced below, shall also apply to the extent required for proper performance of this Work.

- A. Section 01300 – Submittals
- B. Section 03480 – Precast Concrete Manholes
- C. Section 02760 – Manhole Rehabilitation
- D. Section 03740 – Concrete Rehabilitation

1.3 REFERENCE SPECIFICATIONS, CODES, AND STANDARDS

- A. Except as otherwise indicated, the current editions of the following apply to the Work of this Section:
 1. References herein to “SSPC Specifications” or “SSPC” shall mean the published standards of SSPC, the Society for Protective Coatings.
 2. References herein to “NACE” shall mean the published standards of the National Association of Corrosion Engineers.
 3. NACE (National Association of Corrosion Engineers)
 - a. NACE Publication 6D-173, “A Manual for Painter Safety”
 - b. NACE Publication TPC2, Coatings and Linings for Immersion Service: Chapter 1 Safety, Chapter 2 Surface Preparation, Chapter 3 Curing, and Chapter 4 Inspection.
 - c. NACE RP0892 – Standard Recommended Practice, Lining over Concrete in Immersion Service.

SECTION 09801 – MANHOLE PROTECTIVE LINING

- d. NACE RP0188 – Discontinuity (Holiday) Testing of New Protective Coatings on Conductive Substrates.
- e. NACE RP0288 – Standard Recommended Practice, Inspection of Lining on Steel and Concrete.
- 4. ASTM (American Society for Testing and Materials)
 - a. ASTM B499 - Standard Test Method for Measurement of Coating Thicknesses by the Magnetic Method: Nonmagnetic Coatings on Magnetic Basis Metals.
 - b. ASTM C109 – Compressive Strength Hydraulic Cement Mortars.
 - c. ASTM C579 – Compressive Strength of Chemically Setting Silicate and Silica Chemical Resistant Mortars.
 - d. ASTM C794 – L.R. Standard Test Method for Adhesion-in-Peel of Elastometric Joint Sealants (Modified for field conditions).
 - e. ASTM D543 – Resistance of Plastics to Chemical Reagents.
 - f. ASTM D638 – Tensile Properties of Plastics
 - g. ASTM D695 – Compressive Properties of Rigid Plastic
 - h. ASTM D790 – Flexural Properties of Unreinforced and Reinforced Plastics.
 - i. ASTM D2240 – Durometer Hardness, Type D
 - j. ASTM D2369 – Standard Test Method for Volatile Content of Coatings.
 - k. ASTM D2584 – Volatile Matter Content
 - l. ASTM D4138 – L.R. Standard Test Methods for Measurement Dry Film Thickness of Protective Coating Systems by Destructive Means.
 - m. ASTM D4262 – L.R. Standard Test Method of pH of Chemically cleaned or Acid Etched Concrete Surfaces.
 - n. ASTM D4414 – L.R. Standard Practice for Measurement - Wet Film Thickness by Notched Gages.
 - o. ASTM D4541 – L.R. Standard Method for Pull-Off Strength of Coatings using Portable Adhesion Testers.
 - p. ASTM G D4787 – L.R. Standard Practice for Continuity Verification of Liquid or Sheet Linings Applied to Concrete Substrates.

SECTION 09801 – MANHOLE PROTECTIVE LINING

- q. ASTM D5162 – L.R. Standard Practice for Discontinuity Testing of Nonconductive Protective Coating on Metallic Substrates.
- r. ASTM E337 – L.R. Standard Practice Test Method for Measuring Humidity with a Psychrometer.
- 5. International Concrete Repair Institute (ICRI)
 - a. ICRI No. 03732 – Selecting and Specifying Concrete Surface Preparation for Sealers, Coatings, and Polymer Overlays
 - b. ICRI No. 03733 – Guide for Selecting and Specifying Materials for Repair of Concrete Surfaces
- 6. Regulations
 - a. OSHA 1910.144 – Safety Color Code for Marking Physical Hazards
 - b. Cal/OSHA Title 8 regulations for confined entrance and safety when working in sewers
- 7. American Concrete Institute (ACI)
 - a. ACI506.2.77 – Specifications for Materials, Proportioning, and Application of Shotcrete.
- 8. SSPWC 210-2.3.3 – Chemical resistance testing

1.4 CONTRACTOR SUBMITTALS

- A. Submittals shall be furnished in accordance with Section 01300 - Submittals unless indicated otherwise below.
- B. Submittals shall include the following information:
 - 1. Protective Lining Materials List: Six copies of the protective lining materials list showing the Manufacturer and the protective lining number. The list shall be submitted before or at the time of submittal of samples.
 - 2. Manufacturer's Information: The Contractor shall provide the following data:
 - a. Technical data sheet for each product proposed, including ASTM test results indicating the product conforms to and is suitable for its intended use per the Contract Documents. Data shall include curing requirements and duration.
 - b. Detailed sequence of work for protective lining work.
 - c. Shop Drawings: Show locations and extent of coating. Including details for substrate joints and cracks, penetrations, inside and outside corners, tie-ins with adjoining coatings, if any, and other termination conditions.

SECTION 09801 – MANHOLE PROTECTIVE LINING

- d. Technical and performance information that demonstrates compliance with the system performance and material requirements.
- e. Protective lining manufacturer's instructions and recommendations on surface preparation and application.
- f. Proposed application techniques including proof of the acceptability of the proposed technique for each product used.
- g. Certification that product can withstand typical movement from H-20 traffic loads on manhole frame and cover.
- h. Certification of compatibility from all product manufacturers of protective linings, concrete rehabilitation products, grouts, sealants, or other materials used in the manhole rehabilitation process.
- i. Material Safety Data Sheet for each product used.
- j. Sample (6 inches by 6 inches) of cured membrane applied to concrete at the specified thickness, to be retained by the Owner.
- k. Material and Installation Warranty as specified below.
- l. Statement from manufacturer that they have reviewed the Contract Documents and that they certify that their product, as specified herein, is recommended and appropriate for this application.
- m. Copy of ISO 9001 Certification from manufacturer.
- n. Applicator Qualifications:
 - i. Manufacturer certification that Applicator has been trained and approved in the handling, mixing, and application of the products to be used.
 - ii. Certification by the protective lining manufacturer that the equipment to be used for applying the products has been approved and Applicator personnel have been trained and certified for proper use of the equipment.
 - iii. Experience and references of projects for contractor and lining applicator shall be in accordance with the Instructions to Bidders in these Contract Documents. Contractor shall submit the following for the proposed Applicator, a minimum of three projects that involved application of the lining in sewer manholes within the last five years, with contact for each project.
 - iv. Proof of any necessary federal, state, or local permits or licenses necessary for the project.

SECTION 09801 – MANHOLE PROTECTIVE LINING

- o. Design details for any additional ancillary systems and equipment to be used in site and surface preparation, application and testing.
- 3. Joint sealant: submit copies of the manufacturer's literature, including: product data sheets and material safety data sheets (MSDS).
- 4. Inspection records of shop or field-applied protective linings and linings for buried or submerged items shall be submitted within 15 days after the work has been accepted.
- 5. The Contractor shall submit a detailed plan identifying the Contractor's means and methods to capture and remove debris and extraneous materials during the manhole rehabilitation and coating work and to prevent any debris or materials from entering the sewage system. The detailed plan shall be submitted to the Owner for approval prior to the start of any work.

1.5 SPECIAL CORRECTION OF DEFECTS REQUIREMENTS

- A. Warranty Inspection: The warranty period for the coating material specified herein shall be for a one (1) year period and shall include a 1-year product warranty from protective lining manufacturer and 1-year installation guarantee by the Contractor and lining applicator. A warranty inspection may be conducted during the eleventh month following acceptance of the project. The Contractor shall attend this inspection set up by the Owner. The Contractor shall be responsible for the repair of any defects in the protective lining which may develop during the warranty period. Defects shall be repaired to the satisfaction of the Owner at the Contractor's expense and without cost to the Owner. The Owner may, by written notice to the Contractor, reschedule the warranty inspection to another date within the 1-year warranty period, or may cancel the warranty inspection altogether. If the Owner conducts either visual or other tests, the Contractor and manufacturer's representative will be notified if any defects are found. The defects shall be corrected within a two-month period. The warranty can be either in the form of a certificate stating the warranty covers all materials and installation for the warranty period or a bond for the entire amount of the coating work for this period of time.

1.6 SERVICES OF MANUFACTURER

- A. The Contractor shall require the Protective Lining Manufacturer to furnish the following services:
 - 1. Manufacturer shall provide certification that the Contractor's applicator is either a licensed applicator for the specified product or has been trained and qualified by the manufacturer to apply their product.
 - 2. The on-call chemist(s) interfacing with the production personnel shall be available to the Owner and the Contractor for technical support during the construction phase and warranty period. The Manufacturer shall, if directed by the Owner through a contract provision, provide on-site technical support on a fee basis.
 - 3. All coating product(s) manufactured and marketed by the same company (no toll blending).

SECTION 09801 – MANHOLE PROTECTIVE LINING

1.7 QUALITY ASSURANCE

- A. The Protective Lining Applicator shall initiate and enforce quality control procedures consistent with applicable ASTM, NACE, and SSPC standards and the manufacturer's recommendations.
- B. The Protective Lining Applicator shall conform to all local, State, and Federal regulations including those set forth by OSHA, RCRA, the EPA and any other applicable authorities.
- C. The Owner shall observe daily operations, procedures, and final product to evaluate conformance with the specifications and recommendations of the Protective Lining Manufacturer.
- D. For further inspection and testing details, see Section 3.4.
- E. The Contractor shall furnish inspection devices in good working condition through final acceptance of linings to demonstrate that protective linings are installed in accordance with these specifications and the manufacturer's written instructions. The following inspection equipment (or Owner approved equal) shall be used, as necessary and as directed by the Owner, for performing quality control testing for compliance with the requirements of these Contract Documents:
 - 1. Sling psychrometer
 - 2. Surface temperature thermometer
 - 3. Ambient temperature thermometer
 - 4. Psychrometric charts for determining relative humidity and dew point
 - 5. High range wet and dry film thickness
 - 6. Micrometer
 - 7. Durometer, A Scale
 - 8. Sample cans
 - 9. Inspection glass (30 power minimum)
 - 10. High voltage holiday detector (capability to 16,000 Volts)
 - 11. Portable Adhesion tester

1.8 DELIVERY, STORAGE, AND HANDLING

- A. All materials shall be stored, handled, and transported according to their material safety data sheets and the manufacturer's written recommendations.

SECTION 09801 – MANHOLE PROTECTIVE LINING

1.9 SAFETY AND HEALTH REGULATIONS

- A. General: The Contractor shall perform all work in accordance with the requirements of Cal/OSHA Title 8 regulations, related to working in sewer systems, and the applicable requirements of regulatory agencies having jurisdiction, as well as manufacturer's printed instructions and appropriate technical bulletins and manuals. In accordance with these standards, the Contractor shall provide and require use of personal protective lifesaving equipment for persons working in or about the project site. Safety and health recommendations provided herein are guidelines only. The Contractor shall be fully responsible for performing all Work in accordance with all local, State, and Federal regulations including those set forth by OSHA, RCRA and the EPA and any other applicable authorities. Protective coating materials are to be handled according to their material safety data sheets.
- B. Head and Face Protection and Respiratory Devices: Equipment provided by the Contractor shall include protective helmets which shall be worn by all persons while in the vicinity of the Work. Workers engaged in or near the work during any blasting operations shall wear Cal/OSHA Title 8 approved eye and face protection devices and air purifying, half mask or mouthpiece respirators. Barrier creams shall be used on any exposed areas of skin.
- C. Ventilation: Where ventilation is used to control hazardous exposure, all equipment shall be explosion-proof. Forced air ventilation shall be provided by the Contractor and shall reduce the concentration of air contaminant to a safe limit. Air circulation and exhausting of solvent vapors shall be continued until coatings have fully cured.
- D. Sound Levels: Whenever the occupational noise exposure exceeds maximum allowable sound levels, the Contractor shall implement, furnish and require the use of approved ear protective devices.
- E. Illumination: Adequate illumination shall be provided by the Contractor while Work is in progress which may require explosion-proof lights, scaffolding and electrical equipment. Whenever required by the Owner, the Contractor shall provide additional illumination to cover all areas to be inspected. The level of illumination for inspection purposes shall be as stated by Cal/OSHA Title 8 and other regulatory applications for night-time construction.
- F. Temporary Ladders and Scaffolding: All temporary ladders and scaffolding shall be provided by the Contractor and shall conform to applicable safety requirements. They shall be erected where requested by the Owner to facilitate inspection and shall be moved by the Contractor to locations as requested by the Owner.

PART 2 - PRODUCTS

2.1 PROTECTIVE LINING

- A. Prior to application of the polyurethane topcoat, all surfaces shall receive a 1 – 3 mil thickness of 100% solids non-solvented, moisture-tolerant, low temperature cure, epoxy primer as is manufactured by Zebron Corporation, or approved equal.

Zebron Corporation
P. O. Box 2874

SECTION 09801 – MANHOLE PROTECTIVE LINING

Newport Beach, CA 92659

Tel: 1-800-824-4214; Fax: 1-714-632-6647

- B. The primer materials shall be 100% solids, moisture tolerant epoxy capable of spray application to 1-3 mils thickness in one continuous coat.
- C. The lining material shall be a plural-component, 3 - 1 mix ratio, 100% solid, non-solvented hybrid polyurethane coating with a shore “D” hardness of 57 at 77 degrees Fahrenheit such as Zebron #386 as manufactured by Zebron Corporation or approved equal. The material shall be the high-build type capable of application thickness, as specified, without runs or sags and shall be capable of passing ASTM D-1737 for flexibility using cylinder mandrel of 0.5 inch (12.7 millimeter). The flash point of the fluid mixture shall be 450 degrees Fahrenheit.

The coating material shall meet the following resistive specifications:

Solution - Concentration

Acetic Acid - 5%

Sulfuric Acid - 20%

Sodium Hydroxide -
5%

Ammonium Hydroxide -

5% Nitric Acid - 1%

Ferric Acid -

1% Soap -

0.1%

Detergent (Linear Alkyl Benzyl Sulfonate or LAS) -

0.1% Bacteriological - BOD not less than 700 PPM

Petroleum Oils and Greases -

N/A Vegetable and Animal

Oils - N/A

Volumetric percentages of concentrated C.P. grade reagents

The material shall have evidence of passing the “Pickle Jar Test” as is noted in section 207-15.3 Chemical Resistance, in the SSPWC. The material shall also meet the requirements specified in Section 500-2.4, and the table 500-2.4.10(A), in the SSPWC. The color shall be white or cream. The complete coating shall be impermeable to sewer gases and liquids and nonconductive to bacterial or fungus growth. The lining shall be capable of repair at any time during its life.

PART 3 - EXECUTION

3.1 GENERAL

- A. The sewer system shall remain operable during rehabilitation and protective lining work.

SECTION 09801 – MANHOLE PROTECTIVE LINING

3.2 SURFACE PREPARATION

- A. The Contractor shall prepare all surfaces of existing manholes to receive protective linings using the materials and methods specified in Section 02760 – Manhole Rehabilitation.
- B. The Contractor shall prepare the surfaces of manhole frames and protective linings to receive joint sealants per manufacturer's recommendations.

3.3 APPLICATION OF PROTECTIVE COATING

- A. Application procedures shall conform to the recommendations of the protective lining manufacturer including material handling; mixing; curing requirements; environmental controls during application and curing; safety; and application equipment.
- B. The polyurethane lining application shall take place after the gunite/mortar has cured for a minimum of 1 hour at 55 degrees Fahrenheit.
- C. The polyurethane application, the vault surfaces shall be primed with the epoxy primer to a thickness of 1 – 3 mils. The polyurethane lining is installed immediately after the epoxy primer application or up to 24 hours after the epoxy primer application. The polyurethane lining shall be applied to a minimum 125 mil thickness.
- D. Protective coating must be applied by a Certified Applicator of the protective coating manufacturer and according to manufacturer specifications.
- E. Installation of the protective coating shall not commence until the concrete substrate has been properly cleaned, prepared and cured in accordance with these Section 02760 – Manhole Rehabilitation and 03740 – Concrete Rehabilitation.
- F. The temperature of the surface to be coated should be maintained between 40 deg F and 120 deg F during application. Prior to and during application, care should be taken to avoid exposure of direct sunlight or other intense heat source to the structure being coated. Where varying surface temperatures do exist, apply the coating when the temperature is falling versus rising (i.e. late afternoon into evening vs. morning into afternoon).
- G. Application of the lining shall not take place when exposed to rain, fog or high winds. It is the Contractor's responsibility to ensure protection of the work for the above-mentioned conditions.
- H. The minimum DFT shall be 125 mils. If the Contractor chooses to install the coating thicker than this minimum DFT, it will be done at the Contractor's sole expense, with no additional compensation provided by the Owner, and only within recommendations and instructions from the coating manufacturer.
- I. During the application, the Contractor shall take wet gauge film thickness readings as required to ensure correct lining thickness. The polyurethane lining shall be uniform in color, fully cured, and free of pinholes, surface imperfections, and blisters. All areas in question shall be removed and reworked and patched at no additional cost to the Owner.
- J. The Contractor shall notch the concrete directly below the manhole frame to a depth and width of 1/4-inch with a grinding wheel. The coating shall be applied to the manhole wall

SECTION 09801 – MANHOLE PROTECTIVE LINING

and into the notch in one continuous sheet in order to provide a continuous coating from manhole frame to manhole wall. The coating shall extend down to cover the manhole shelf in its entirety and to overlap joints in the inlet/outlet sewer pipe penetrations.

- K. The spray equipment shall be specifically designed to accurately ratio and apply the specified protective coating materials and shall be maintained in proper working order. The protective coating material must be spray applied by a Certified Applicator of the protective coating manufacturer.
- L. Subsequent top coating or additional coats of the protective coating shall be within the allowable time frame as required by manufacturer.

3.4 INSPECTION

- A. The Owner shall observe daily operations, procedures, and final product to ensure adherence to the specifications and recommendations of the Protective Lining Manufacturer. The Owner will observe completed surface preparation before coating. The Owner will observe spark testing and pull testing. A visual inspection will be performed upon completion. Any deficiencies in the finished coating shall be marked and repaired in strict accordance with the Manufacturer's recommendations. Inspection and repair shall continue until final acceptance of linings at no additional cost to the Owner.
- B. During application, a wet film thickness gage, such as those available through Paul N. Gardner Company, Inc. meeting ASTM D4414 – Standard Practice for Measurement of Wet Film Thickness of Organic Coatings by Notched Gages, shall be used to ensure a monolithic coating and uniform thickness during application.
- C. After the protective coating has set hard to the touch, it shall be inspected with high-voltage holiday detection equipment. Surfaces shall first be dried. An induced holiday shall then be made on to the coated concrete surface and shall serve to determine the minimum/maximum voltage to be used to test the coating for holidays at that particular area. The spark tester shall be initially set at 100 volts per 1 mil (25 microns) of film thickness applied but may be adjusted as necessary to detect the induced holiday (refer to NACE RPO188-99). The cured polyurethane lining shall be spark tested for pinholes with a spark tester set at 15,000 volts minimum. All pinholes shall be repaired as specified. All detected holidays shall be marked and repaired in strict accordance with manufacturer's recommendations at no additional cost to the Owner.
- D. Bond strength of the protective coating to the substrate shall be measured in accordance with ASTM D4541. Any areas detected to have inadequate bond strength shall be evaluated by the Owner. Further bond tests may be required by the Owner on structures that have inadequate bond strength to determine the extent of potentially deficient bonded area. A minimum of three three (3) 3/4-inch dollies shall be affixed to the lined surface at the cone area, mid section and at the bottom of the structure selected for testing by Owner. A minimum of three or 10% of the lined manholes, whichever is greater, shall be tested. The adhesive used to attach the dollies to the liner shall be rapid setting with tensile strengths in excess of the liner material and permitted to cure in accordance with manufacturer recommendations. The lining material and dollies shall be adequately prepared to receive the adhesive. The coating shall be scored around the dolly through to the substrate. Failure of the dolly adhesive shall require re-testing. Two of the three adhesion pulls shall exceed 200 psi or concrete failure with more than 50% of the

SECTION 09801 – MANHOLE PROTECTIVE LINING

subsurface adhered to the coating. If one of the three dollies fail, an additional location shall be tested in the same structure. If two of the four dollies tested fail, the unadhered coating shall be removed and replaced at the Contractor's expense. If a structure fails the adhesion test, one additional structure or 10% of the initial number of structures selected for testing, whichever is greater, shall be tested at the discretion of the Engineer. Additional tests and repairs shall be made by the Applicator and in strict accordance with manufacturer's recommendations at no additional cost to the Owner. Applicator shall provide all testing equipment required to determine bond strength. Applicator shall repair any coating damaged during bond strength testing at no additional cost to the Owner.

3.5 REPAIR METHODS

- A. All pinholes in the protective lining shall be highlighted with black indelible ink for the purpose of identifying them for the repair process. Using the pinholes as a center point, the area 6 inches around the pinhole must be abraded with a 60-grit paper or "equivalent". Abraded surfaces are then cleaned, primed and top coated Zebon #385 hand mix, or approved equal. Blisters, uncured lining, and surface imperfections shall be completely removed, and the areas recoated with epoxy primer and polyurethane lining to a point 6-inches beyond the repair areas at minimum thickness of 100 mils. Where imperfections exceed an area of one square-foot, the Contractor shall repair as stated above using the Zebon #386 spray applied polyurethane or approved equal.

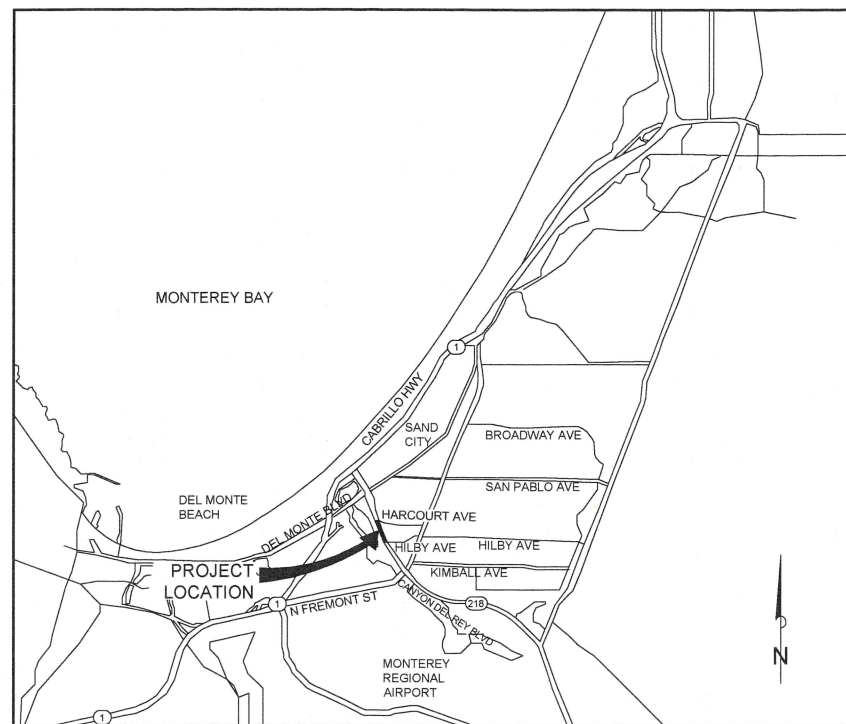
****END OF SECTION****

SECTION 09801 – MANHOLE PROTECTIVE LINING

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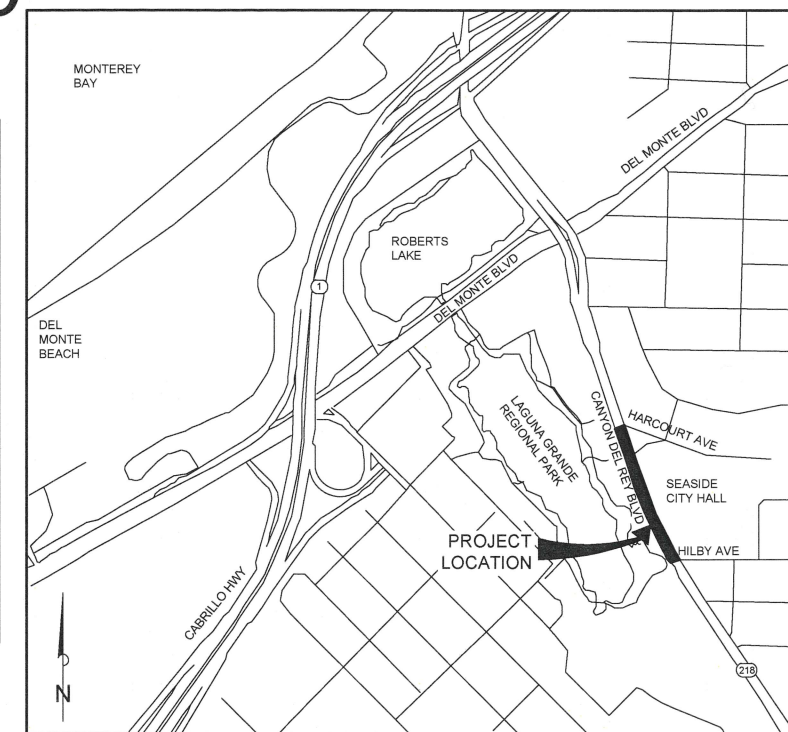


SEASIDE COUNTY SANITATION DISTRICT PLANS FOR THE CONSTRUCTION OF CANYON DEL REY CMP SEWER MAIN REPLACEMENT PROJECT No. 953-8820-9205 DECEMBER 2019



VICINITY MAP
NTS

DRAWING INDEX		
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6	BID SCHEDULE A - PARALLEL ALIGNMENT- DETAILS AND CONNECTIONS	CD-1
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LOCATION MAP
NTS

DECLARATION OF ENGINEER OF WORK:

I HEREBY DECLARE THAT THE DESIGN OF THE IMPROVEMENTS AS SHOWN ON THESE PLANS COMPLIES WITH PROFESSIONAL ENGINEERING STANDARDS AND PRACTICES. AS THE ENGINEER IN RESPONSIBLE CHARGE OF THE DESIGN OF THESE IMPROVEMENTS, I ASSUME FULL RESPONSIBLE CHARGE FOR SUCH DESIGN. I UNDERSTAND AND ACKNOWLEDGE THAT THE PLAN CHECK OF THESE PLANS BY THE SEASIDE COUNTY SANITATION DISTRICT IS A REVIEW FOR THE LIMITED PURPOSE OF ENSURING THE PLANS COMPLY WITH CITY PROCEDURES AND OTHER APPLICABLE POLICIES AND ORDINANCES. THE PLAN CHECK IS NOT A DETERMINATION OF THE TECHNICAL ADEQUACY OF THE DESIGN OF THE IMPROVEMENTS. SUCH PLAN CHECK DOES NOT, THEREFORE, RELIEVE ME OF MY RESPONSIBILITY FOR THE DESIGN OF THESE IMPROVEMENTS.

AS ENGINEER OF WORK, I AGREE TO INDEMNIFY AND SAVE THE SEASIDE SANITATION COUNTY, ITS OFFICERS, AGENTS, AND EMPLOYEES HARMLESS FROM ANY AND ALL LIABILITY, CLAIMS, DAMAGES, OR INJURIES TO ANY PERSON OR PROPERTY WHICH MIGHT ARISE FROM THE NEGLIGENCE, ACTS, ERRORS OR OMISSIONS OF THE ENGINEER OF WORK, MY EMPLOYEES, AGENTS, OR CONSULTANTS.

ENGINEER

C067536
LICENSE No.

11/05/2019
DATE

BENCHMARK:

Description:
CALTRANS BRASS DISK
Location:
NORTHWEST CORNER OF HIGHWAY 218 & FRANCIS STREET
Record From:
CALTRANS R/W MAPS
Elev:
37.08'
Datum:
NAVD-88

DESIGNED BY: DM	 1401 Commercial Way, Suite 100 Bakersfield, California 93309 T 661.529.2190 www.iecorporation.com	
DRAWN BY: DM		
CHECKED BY: RW		
DATE 11/05/2019		

DATE	REVISIONS
SEASIDE COUNTY SANITATION DISTRICT 440 HARDCOURT AVE. CA. 93955 (408) 899-6230	
SHEET TITLE: TITLE SHEET	PROJECT No. 953-8820-9205
PROJECT TITLE: CANYON DEL REY CMP SEWER MAIN REPLACEMENT PROJECT	SHEET 1
APPROVED BY: SCOTT OTTMAR, DISTRICT ENGINEER DATE 11/24/19	DRAWING FILE No. G-1
EXPIRATION DATE: 9/30/20	R.C.E. No. 80086

<u>GEOTECHNICAL REPORT</u>	<u>SURVEY BY:</u>
GEOTECHNICAL DESIGN REPORT	MONTEREY BAY ENGINEERS, INC.
CANYON DEL REY SEWER LINE REPLACEMENT	607 CHARLES AVE, SUITE B
CE&G DOCUMENT NO.: 180560.001	SEASIDE, CA 93955
SEASIDE, CA	(831) 899-7899
DATE: AUGUST 13, 2018	CONTACT: ARNIE LOPEZ
PREPARED BY: CAL ENGINEERING & GEOLOGY	
6455 ALMADEN	
EXPRESSWAY, SUITE 100	<u>BASIS OF BEARINGS</u>
SAN JOSE, CA 95120	CALTRANS R/W MAP
(408) 440-4542	S 18° 18' 00" E
CONTACT: DAN PELUSO	

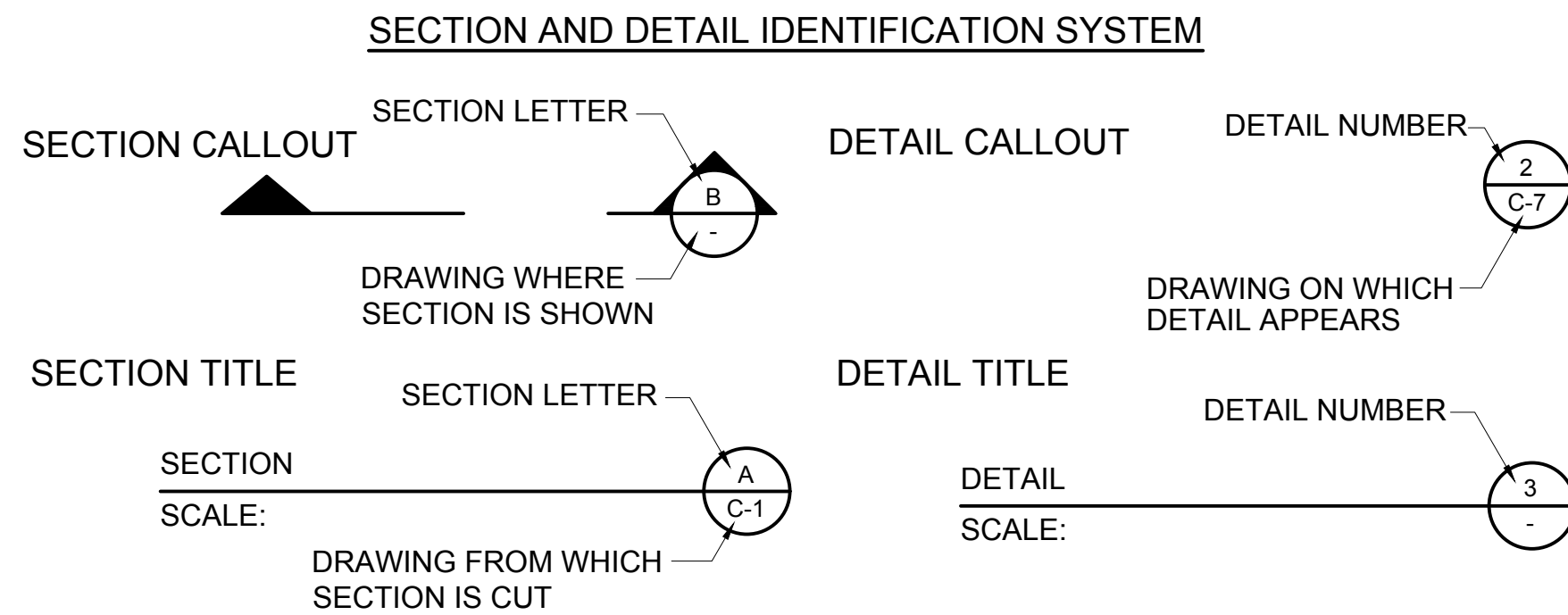
SURVEY BY:

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SEASIDE, CA 93955
(831) 899-7899
CONTACT: ARNIE LOPEZ

CALTRANS R/W MAP
S 18° 18' 00" E

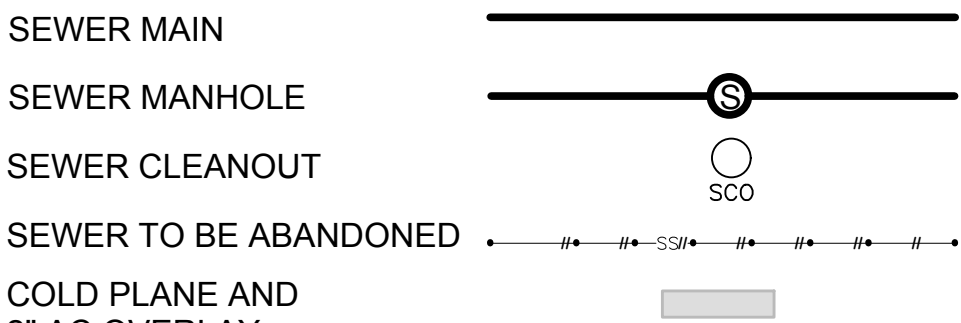
CALTRANS R/W MAP
S 18° 18' 00" E



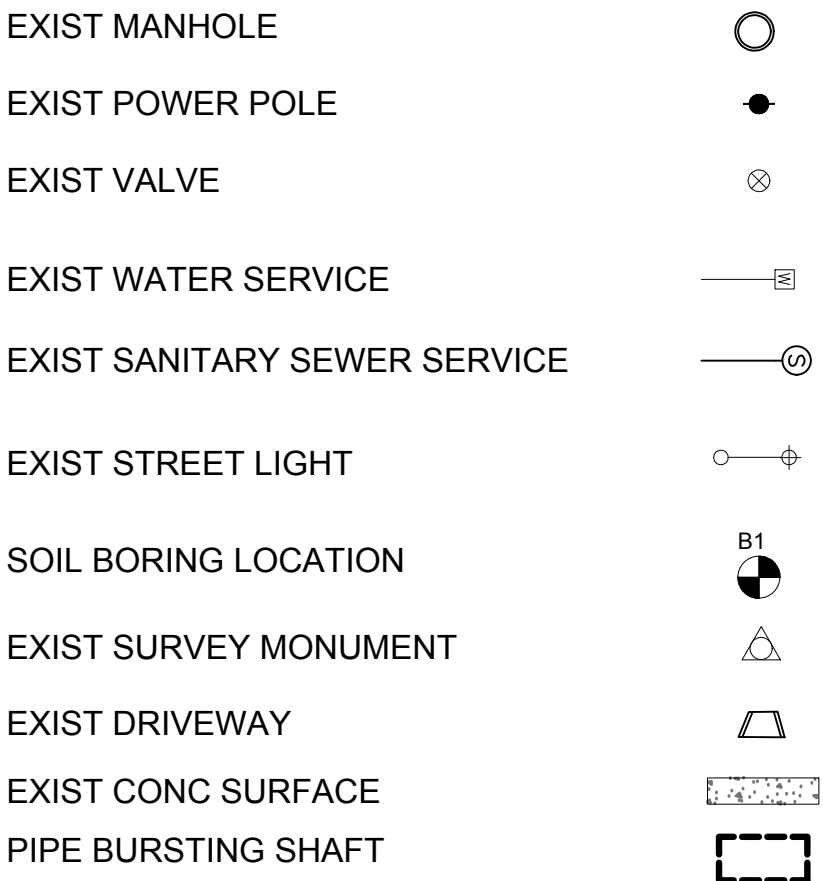
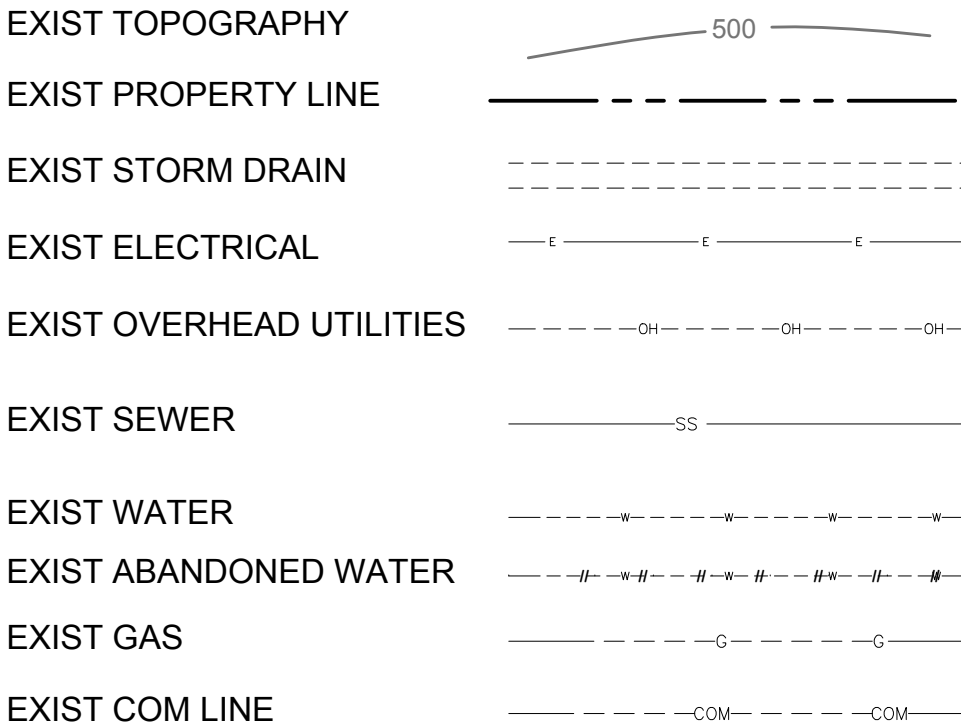
LEGEND

	AGGREGATE BASE	MH	MANHOLE
ABD	ABANDONED	MID	MIDDLE
AC	ASPHALT CONCRETE	MIN	MINIMUM
ACI	AMERICAN CONCRETE INSTITUTE	N	NORTH
ANG	ANGLE	NO	NUMBER
ANSI	AMERICAN NATIONAL STANDARDS INSTITUTE	NTS	NOT TO SCALE
APP'D	APPROVED	OC	ON CENTER
APPROX	APPROXIMATE	OD	OUTSIDE DIAMETER
ASTM	AMERICAN SOCIETY OF TESTING AND MATERIALS	OFF	OFFSET
		OH	OVERHEAD
AWWA	AMERICAN WATER WORKS ASSOCIATION	OSHA	OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION
B	BORING	PAVE	PAVEMENT
BC	BEGIN CURVE	PCC	PORTLAND CEMENT CONCRETE
CA	CALIFORNIA	PE	PLAIN END
CATV	CABLE TELEVISION	PERIM	PERIMETER
C.I.		PL	PROPERTY LINE
CLR	CLEAR, CLEARANCE	PP	POWER POLE
CMP	CORRUGATED METAL PIPE	PROP	PROPOSED
CO	CLEAN OUT	PSI	POUNDS PER SQUARE INCH
COM	COMMUNICATION	PT	POINT
CONC	CONCRETE	PUE	PUBLIC UTILITY EASEMENT
CY	CUBIC YARDS	PVC	POLYVINYL CHLORIDE
DEFL	DEFL	RAD	RADIUS
DET	DETAIL	RC	RELATIVE COMPACTION
DIA	DIAMETER	RCP	REINFORCED CONCRETE PIPE
DR	DIMENSION RATIO	REINF	REINFORCED
DV	DETECTOR VALVE	ROW	RIGHT-OF-WAY
DWG(S)	DRAWINGS	S	SLOPE, SOUTH
E	EAST	SD	STORM DRAIN
EA	EACH	SDR	STANDARD DIMENSION RATIO
EC	END CURVE	SF	SQUARE FEET
ELEC	ELECTRIC	SHT	SHEET
EL	ELEVATION	SO	SQUARE
ESMT	EASEMENT	SSPWC	STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION
EX or EXIST	EXISTING	ST	STREET
FOC	FACE OF CURB	STA	STATION
FG	FINISH GRADE	STD	STANDARD
FL	FLOW LINE	SWR	SEWER
FT (OR ")	FEET	TB	THRUST BLOCK
G	GAS	TBD	TO BE DETERMINED
GB	GRADE BREAK	TC	TOP OF CURB
gpm	GALLONS PER MINUTE	TEL	TELEPHONE
GWT	GROUND WATER TABLE	TEMP	TEMPORARY
H, HORIZ	HORIZONTAL	TOP	TOP OF PIPE
HMA	HOT MIX ASPHALT	TSV	TRAFFIC SIGNAL VAULT
HP	HIGH PRESSURE	TYP	TYPICAL
HPG	HIGH PRESSURE GAS	UNK	UNKNOWN
HT	HEIGHT	UG	UNDERGROUND
ID	INSIDE DIAMETER	VERT	VERTICAL
IE	INVERT ELEVATION	W, WTR	WATER
IN (OR ")	INCHES	WM	WATER METER
L	LENGTH, OR LEFT	WV	WATER VALVE
LF	LINEAR FEET	WWF	WET WEATHER FLOW
MAX	MAXIMUM		
MFG	MANUFACTURER		

SYMBOL



SYMBOL



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

CONSTRUCTION CONTRACTOR AGREES THAT IN ACCORDANCE WITH GENERALLY ACCEPTED CONSTRUCTION PRACTICES, CONSTRUCTION CONTRACTOR WILL BE REQUIRED TO ASSUME SOLE AND COMPLETE RESPONSIBILITY FOR JOB SITE CONDITIONS DURING THE COURSE OF CONSTRUCTION OF THE PROJECT, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY; THAT THIS REQUIREMENT SHALL BE MADE TO APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS, AND CONSTRUCTION CONTRACTOR FURTHER AGREES TO DEFEND, INDEMNIFY AND HOLD DESIGN PROFESSIONAL HARMLESS FROM ANY AND ALL LIABILITY, REAL OR ALLEGED, IN CONNECTION WITH THE PERFORMANCE OF WORK ON THIS PROJECT, EXCEPTING LIABILITY ARISING FROM THE SOLE NEGLIGENCE OF DESIGN PROFESSIONAL.

Description:
CALTRANS BRASS DISK

Location:
NORTHWEST CORNER OF HIGHWAY 218 & FRANCIS STREET

Record From: CALTRANS R/W MAPS
Elev: 37.08' Datum: NAVD-88

DATE		REVISIONS	
		SEASIDE COUNTY SANITATION DISTRICT	
		440 HARCOURT AVE. CA. 93955 (408) 899-6230	
SHEET STATUS:		LEGEND AND ABBREVIATIONS	PROJECT No. 953-8820-9205
SHEET STATUS: ☐ PRELIMINARY ☐ SEMI-FINAL ☐ FINAL ☐ OTHER		PROJECT TITLE:	SHEET
SCALE: AS SHOWN		CANYON DEL REY CMP SEWER MAIN REPLACEMENT PROJECT	2
			DRAWING FILE No. G-2

WORK TO BE DONE

ALL WORK SHALL BE IN ACCORDANCE WITH THE CONTRACT DOCUMENTS, DRAWINGS AND SPECIFICATIONS. DISTRICT STANDARDS ELEMENT 5, CALIFORNIA DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS AND PLANS, AND THE STANDARD SPECIFICATIONS AND PLANS FOR PUBLIC WORKS CONSTRUCTION (2009 EDITION).

CONSTRUCT NEW GRAVITY SEWER AND MANHOLES, RECONNECT/EXTEND SEWER LATERALS; AND REPLACE, ABANDON, OR REMOVE PORTIONS OF AN EXISTING GRAVITY SEWER, IN ACCORDANCE WITH SECTION 01010.

GENERAL NOTES

1. THE CONTRACTOR SHALL NOTIFY THE DISTRICT'S INSPECTOR 48 HOURS PRIOR TO STARTING WORK SO THAT INSPECTION MAY BE PROVIDED.

2. ALL CONTRACTORS WORKING IN THE PUBLIC RIGHTS-OF-WAY SHALL OBTAIN A SEPARATE ENCROACHMENT PERMIT OR EXCAVATION PERMIT FROM THE APPROPRIATE AGENCY. INSPECTION OF ALL WORK IS REQUIRED. FORTY-EIGHT (48) HOURS ADVANCE NOTICE IS REQUIRED FOR INSPECTION. NO WORK SHALL BE PERFORMED IN THE PUBLIC RIGHT-OF-WAY ON SATURDAYS, SUNDAYS OR LEGAL HOLIDAYS WITHOUT THE WRITTEN PERMISSION OF THE DISTRICT.

3. MAINTAINING EXISTING DRIVEWAYS OPEN AND ACCESSIBLE DURING CONSTRUCTION AT ALL TIMES SHALL BE AS FOLLOWS:

1.THE CONTRACTOR WILL BE ALLOWED TO CLOSE THE LAGUNA GRANDE PARK PARKING LOT LOCATED BETWEEN STA 15+00 AND STA 17+50

2.THE CONTRACTOR SHALL PREPARE AND SUBMIT THE LANGUAGE AND LOCATIONS FOR SIGNAGE ADVISING PARK VISITORS OR PARKING LOT CLOSURES 10-DAYS IN ADVANCE TO THE CITY OF SEASIDE FOR APPROVAL

3.THE CONTRACTOR SHALL POST APPROVED SIGNAGE FIVE CALENDAR SAYS IN ADVANCE OF CLOSING THE PARKING LOT.

4. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO MAINTAIN AT ALL TIMES ON THE JOB SITE A CURRENT AND ACCURATE "AS-BUILT" RECORD OF ALL IMPROVEMENTS INSTALLED UNDER THIS CONTRACT AND PROVIDE SAID RECORD TO THE ENGINEER AT THE COMPLETION OF THE CONTRACT. ANY PROPOSED CHANGES TO THE APPROVED DRAWINGS MUST BE REVIEWED AND APPROVED IN WRITING BY THE DISTRICT PRIOR TO THE INSTALLATION OF SUCH CHANGES AND THE CHANGES SHALL BE "AS-BUILT" ONTO THE DRAWINGS.

5. UNLESS NOTED OTHERWISE, ALL CONTRACTOR ACTIVITIES SHALL BE CONFINED TO PUBLIC RIGHT-OF-WAY. THE CONTRACTOR SHALL MAINTAIN ACCESS TO ALL PRIVATE DRIVEWAYS, COMMERCIAL DRIVEWAYS, AND SHALL NOT INTERRUPT MAIL OR GARBAGE SERVICES.

6. CONTRACTOR SHALL PROTECT IN PLACE ALL EXISTING LANDSCAPING, IRRIGATION, AND ALL SURFACE IMPROVEMENTS WHERE POSSIBLE. ALL LANDSCAPING AND ALL SURFACE IMPROVEMENTS DAMAGED OR DISTURBED BY CONSTRUCTION ACTIVITIES SHALL BE REPLACED BY THE CONTRACTOR AND ALL COSTS SHALL BE INCLUDED IN BID.

7. IT IS THE CONTRACTOR'S RESPONSIBILITY TO NOTIFY UNDERGROUND SERVICE ALERT USA (811) FOR MARK OUT OF EXISTING UTILITIES A MINIMUM OF 2 WORKING DAYS PRIOR TO ANY WORK OR EXCAVATION.

8. ALL EXISTING UTILITIES INDICATED ON THE DRAWINGS ARE SHOWN DIAGRAMMATICALLY AND ARE DERIVED FROM AVAILABLE RECORDS. THE CONTRACTOR SHALL POTHOLE AND VERIFY THE SIZE, MATERIAL, HORIZONTAL AND VERTICAL LOCATION, BEARING AND INCLINATION, TYPE OF MATERIAL, ACTUAL DIMENSIONS, TYPES OF JOINTS, AND ALL PERTINENT PHYSICAL DATA OF ALL EXISTING UTILITIES PRIOR TO ANY DEMOLITION WORK AND PRIOR TO INSTALLATION OF NEW WORK. POTHOLING/EXPLORATORY EXCAVATIONS SHALL BE DONE WELL IN ADVANCE SO AS NOT TO DELAY WORK. CONSEQUENCES OF CONTRACTOR'S FAILURE TO POTHOLE AND PROVIDE INFORMATION TO DISTRICT SHALL BE THE CONTRACTOR'S FULL RESPONSIBILITY AND LIABILITY.

9. THE CONTRACTOR SHALL BE HELD RESPONSIBLE FOR ALL COSTS, REPAIRS, AND REPLACEMENT OF ANY AND ALL DAMAGE TO ANY SUBSTRUCTURE, UTILITY, OR IMPROVEMENT (WHETHER INDICATED ON THESE DRAWINGS OR DISCLOSED DURING THE WORK) AS MAY BE CAUSED BY THE CONSTRUCTION ACTIVITIES. AT THE COMPLETION OF THE CONTRACT WORK, THE CONTRACTOR SHALL LEAVE ALL UTILITIES AND IMPROVEMENTS IN A CONDITION THAT IS EQUAL TO OR BETTER THAN EXISTING, AND TO THE SATISFACTION OF THE ENGINEER AND THE DISTRICT.

10. WHEN CROSSING UNDER UTILITIES, THE CONTRACTOR SHALL PROVIDE A METHOD OF SUPPORT OF THE UTILITY TO THE SATISFACTION OF THE ENGINEER AND THE OWNER OF THE EXISTING UTILITY. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO PROVIDE EVERY MEASURE NECESSARY TO PROTECT THE UTILITY. DAMAGE DUE TO THE CONTRACTOR'S OPERATION SHALL BE REPAIRED AS DESCRIBED IN THE CONTRACT DOCUMENTS AND TO THE SATISFACTION OF THE ENGINEER AND DISTRICT.

11. PROVIDE 2-SACK CEMENT SAND SLURRY BACKFILL BETWEEN EXISTING UTILITIES AND NEW SEWERS THAT HAVE 12 INCHES OR LESS VERTICAL SEPARATION.

GENERAL NOTES (CONTD)

12. UTILITY SERVICES WHICH ARE DAMAGED DURING CONSTRUCTION SHALL BE REPLACED IN THEIR ENTIRETY, AS DIRECTED BY THE UTILITY OWNER AND BY THE DISTRICT. SEWER LATERALS OR WYES DAMAGED OR MODIFIED DURING CONSTRUCTION SHALL BE REPLACED IN THEIR ENTIRETY, AS DIRECTED BY THE DISTRICT.

13. THE CONTRACTOR SHALL DESIGN, CONSTRUCT, AND MAINTAIN ALL SAFETY DEVICES INCLUDING SHORING, AND SHALL BE SOLELY RESPONSIBLE FOR CONFORMING TO ALL LOCAL, STATE, AND FEDERAL SAFETY AND HEALTH STANDARDS, LAWS, AND REGULATIONS. THE CONTRACTOR SHALL ASSUME SOLE AND COMPLETE RESPONSIBILITY FOR JOB SITE CONDITIONS DURING THE COURSE OF CONSTRUCTION, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY. THIS REQUIREMENT SHALL APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS.

14. NEITHER THE ENGINEER NOR THE DISTRICT SHALL BE RESPONSIBLE FOR THE ENFORCEMENT OF SAFETY STANDARDS. CONTRACTOR ACKNOWLEDGES CONTINUOUS RESPONSIBILITY FOR JOBSITE SAFETY THROUGHOUT THE DURATION OF THE PROJECT. SAID RESPONSIBILITY SHALL BE CONTINUOUS AND NOT BE LIMITED TO NORMAL WORKING HOURS. BY ACCEPTING THIS CONTRACT, CONTRACTOR HEREBY RELEASES AND AGREES TO INDEMNIFY, DEFEND, HOLD HARMLESS THE OWNER, ENGINEER (HEREINAFTER INFRASTRUCTURE ENGINEERING CORPORATION OR IEC) THEIR PARENT OR SUBSIDIARY COMPANIES, AGENTS, EMPLOYEES, CONSULTANTS AND REPRESENTATIVE 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 OWNER, ENGINEER, THEIR PARENT AND SUBSIDIARY COMPANIES AND THEIR AGENTS AND EMPLOYEES, EXCEPTING ONLY THE SOLE NEGLIGENCE OF OWNER, 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.

15. THE CONTRACTOR'S EQUIPMENT SHALL NOT USE OR BLOCK TRAFFIC LANES DURING CONSTRUCTION ACTIVITY UNLESS APPROVED BY CALTRANS DISTRICT 5 WITH TRAFFIC CONTROL PLANS PREPARED BY CONTRACTOR. TRUCK OPERATIONS IN AND OUT OF THE SITE CONSTRUCTION AND STAGING AREAS SHALL BE CONTROLLED AS REQUIRED BY THE LOCAL AGENCY HAVING JURISDICTION PRIOR TO THE START OF WORK. AT THE END OF THE WORKING DAY, STREETS SHALL BE SWEPT AND CLEANED OF DIRT AND CONSTRUCTION DEBRIS TO THE SATISFACTION OF THE DISTRICT INSPECTOR.

GENERAL SEWER NOTES

1. EXISTING SEWER MAINS AND SERVICES SHALL BE KEPT IN SERVICE AT ALL TIMES. THE CONTRACTOR SHALL IMPLEMENT ALL MEANS NECESSARY, TO INCLUDE BYPASS PUMPING, TO MAINTAIN SEWER SERVICE. SUBMIT PROPOSED PLAN TO THE ENGINEER FOR REVIEW PER THE SPECIFICATIONS.

2. INSPECTION OF SEWER MAINS WITH VIDEO EQUIPMENT: A DIGITAL RECORDING OF ALL SEWER MAINS SHALL BE MADE WITH SOFTWARE THAT ENCODES BREAKS, LATERALS, ETC. WITH PIPELINE ASSESSMENT AND CERTIFICATION PROGRAM (PACP) STANDARD CODES. WRITTEN SUMMARIES AND DIGITAL COPIES OF VIDEO INSPECTIONS SHALL BE SUBMITTED TO THE DISTRICT ENGINEER WITH SEVENTY-TWO (72) HOURS OF COMPLETING THE INSPECTION. A SIGNED COVER LETTER SHALL TRANSMIT THE VIDEO INFORMATION AND SHALL NOTE ALL PIPE DEFECTS AND MAJOR ANOMALIES OBSERVED IN THE INSPECTION.

3. ACCEPTANCE TESTING OF SEWER MAINS AND APPURTENANCES: MANHOLES SHALL BE NEGATIVE PRESSURE TESTED IN ACCORDANCE WITH ASTM C1244 PRIOR TO BACKFILLING. SEWER MAINS SHALL BE AIR PRESSURE TESTED IN ACCORDANCE WITH APPLICABLE PORTIONS OF ASTM C828 AND ASTM C924 AND MANUFACTURER'S REQUIREMENTS. PLASTIC PIPE MAINS SHALL BE TESTED WITH A NINETY-FIVE (95) PERCENT MANDREL IN ACCORDANCE WITH ASTM D2122 TO ENSURE PIPE ROUNDNESS REQUIREMENTS ARE MET. ALL TEST RESULTS SHALL BE RECORDED AND SUBMITTED TO THE DISTRICT ENGINEER FOR REVIEW AND APPROVAL. SECTIONS OF PIPING FAILING TESTING SHALL BE REMOVED AND REPLACES TO THE SATISFACTION OF THE DISTRICT ENGINEER.

4. NO DISCHARGING TO STORM DRAINS. ALL WATER DISCHARGE TO SEWER FROM CLEANING, VIDEOTAPE, AND OTHER ACTIVITIES SHALL COMPLY WITH MONTEREY ONE WATER REQUIREMENTS AND MONTEREY COUNTY CENTRAL COAST RWQCB REGULATIONS, PER SECTION 01060.

5. ALL SEWER LINES SHALL COMPLY WITH ALL TESTING, CLEANING, AND VIDEO RECORDING REQUIREMENTS, PRIOR TO CONNECTION TO THE DISTRICT'S SEWER SYSTEM. NO TIE-IN CONNECTIONS WILL BE DONE UNTIL THE DISTRICT HAS ACCEPTED THE NEW LINE.

6. AN INFILTRATION TEST SHALL BE PERFORMED ON ALL SEWER LINES LAID IN GROUNDWATER, PER SECTION 306-1.4.3 OF THE SSPWC.

GENERAL SEWER NOTES (CONTD)

7. UPON ACCEPTANCE OF A SEWER LINE, THE CONTRACTOR SHALL PROTECT THE LINE FROM FOREIGN MATERIAL BY INSTALLING PLYWOOD OVER THE MANHOLE BASE UNTIL ALL GRADING, PAVING, AND MANHOLE RAISING IS COMPLETE AND ACCEPTED BY THE DISTRICT.

8. UNLESS OTHERWISE SHOWN, SEWER LATERALS SHALL BE RUN PERPENDICULAR TO THE MAIN. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO LOCATE AND RECONNECT ALL SEWER LATERALS. LOCATIONS AS SHOWN ON THE PLANS ARE APPROXIMATE ONLY. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO LOCATE THE IMPROVEMENTS THAT WILL BE AFFECTED BY LATERAL REPLACEMENTS. ALL IMPROVEMENTS DISTURBED BY CONTRACTOR SHALL BE REPLACED IN KIND TO ORIGINAL OR BETTER CONDITION, AND TO THE SATISFACTION OF THE ENGINEER AND DISTRICT.

9. FOR ABANDONMENTS SHOWN, CONTRACTOR SHALL REFER TO SPECIFICATION SECTION 02050.

10. REMODELING EXISTING SEWER FACILITIES SHALL CONFORM TO THE DRAWINGS, SSPWC SECTION 306-6 AND DWG CD-1 THROUGH DWG CD-3.

11. ALL DISTANCES SHOWN ALONG THE CENTERLINE OF PIPE ARE HORIZONTAL DISTANCES. ALL PIPE LENGTHS ARE SHOWN ON THE PROFILE. UNLESS OTHERWISE NOTED, ALL DIAMETERS OF EXISTING AND PROPOSED MANHOLES ARE INSIDE DIAMETERS.

12. NEW PIPE CONNECTIONS TO EXISTING MANHOLES SHALL BE ACCOMPLISHED BY CORE DRILLING THROUGH THE MANHOLE WALL AND GROUTING IN PLACE NEW MANHOLE ADAPTER FITTINGS. JACK HAMMERING OF THE MANHOLE WALLS WILL NOT BE ALLOWED. CONNECTIONS TO NEW MANHOLES SHALL BE ACCOMPLISHED USING MANHOLE ADAPTERS CAST INTEGRALLY WITH THE MANHOLE BASE.

GENERAL NOTES-CALTRANS DISTRICT 5

1. WORK IN CALTRANS' RIGHT-OF-WAY SHALL BE DONE IN ACCORDANCE WITH THE DRAWINGS AND SPECIFICATIONS, THE LATEST EDITION OF THE "STANDARD PLANS" AND THE "STANDARD SPECIFICATIONS" ISSUED BY THE CALIFORNIA DEPARTMENT OF TRANSPORTATION, INCLUDING THE STANDARD SPECIAL PROVISIONS, AND THE ENCROACHMENT PERMIT INCLUDED IN APPENDIX A OF THE CONTRACT DOCUMENTS.

2. THE CONTRACTOR SHALL NOTIFY CALTRANS DISTRICT 5 INSPECTOR 48 HOURS PRIOR TO STARTING WORK SO THAT INSPECTION MAY BE PROVIDED (TELEPHONE NUMBER: 831-601-1585).

3. CONTRACTOR SHALL REFER TO THE TRAFFIC CONTROL PLANS INCLUDED IN THE CONTRACT DOCUMENTS AND SUBMIT ANY REVISIONS AND/OR AMENDMENTS TO CALTRANS. FINAL TRAFFIC CONTROL PLANS SHALL BE APPROVED PRIOR TO THE START OF ANY WORK.

4. NO OPEN TRENCHES SHALL BE PERMITTED OVERNIGHT WITHOUT THE WRITTEN APPROVAL FROM CALTRANS.

5. THE CONTRACTOR SHALL REPLACE IN KIND, TO ORIGINAL OR BETTER CONDITION, ANY TRAFFIC SENSORS, SIGNING, STRIPING, RAISED PAVEMENT MARKERS AND ALL OTHER TRAFFIC CONTROL DEVICES DAMAGED DURING CONSTRUCTION.

6. ANY SURVEY MONUMENTATION OR BENCH MARK WHICH IS DISTURBED SHALL BE REESTABLISHED AND REPLACED BY A CURRENTLY LICENSED CALIFORNIA CIVIL ENGINEER REGISTERED PRIOR TO DECEMBER 31, 1981 OR A CURRENTLY LICENSED CALIFORNIA LAND SURVEYOR. A CORNER RECORDED, OR A RECORD OF SURVEY SHALL BE FILED AS REQUIRED BY THE LAND SURVEYORS ACT. CONTRACTOR IS FOREWARNED THAT NO MONUMENTATION HAS BEEN SHOWN ON THE PLANS; AND LOCATING, FIELD VERIFYING, PROTECTING, AND REPLACING MONUMENTATION SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR.

7. ALL UNDERGROUND SEWER LATERALS SHALL BE INSTALLED BEFORE CONSTRUCTION OF CURBS, CROSS GUTTERS, OR SURFACING OF THE STREETS AND SHALL BE MARKED FOR EASY LOCATION. THE ENGINEER OF WORK SHALL CERTIFY ALL IMPROVEMENTS TO WITHIN 0.1 FEET OF THE DESIGN.

8. EXCAVATION, TRENCHING, BACKFILLING, AND COMPACTING SHALL BE DONE IN ACCORDANCE WITH SECTION 02221, APPENDIX A, AND THE TRENCH DETAIL SHOWN IN THE DRAWINGS.

9. PAVEMENT SECTIONS SHOWN ARE TO BE VERIFIED BY "R" VALUE TESTS (TEST METHOD NO. CALIFORNIA 301) AND PAVEMENT DESIGN REPORT, TO BE SUBMITTED BY SOILS ENGINEER AFTER UNDERGROUND UTILITIES CONSTRUCTION IS COMPLETE, FOR APPROVAL.

10. TRAFFIC CONTROL SHALL BE IN ACCORDANCE WITH THE CURRENT STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION TRAFFIC CONTROL MANUAL AND SUPPLEMENTS (CALTRANS TRAFFIC CONTROL MANUAL); TRAFFIC CONTROL WARNING SIGNS, LIGHTS, AND DEVICES SHALL CONFORM TO THE 2014 CALIFORNIA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (CALIFORNIA MUTCD 2014, REV 3, INCLUDING REV. 1 AND 2 OF THE FHWA'S MUTCD 2009), DEPARTMENT OF TRANSPORTATION, DIVISION OF TRAFFIC OPERATIONS.

GENERAL NOTES-CALTRANS DISTRICT 5 (CONTD)

11. ALL EXISTING IMPROVEMENTS INCLUDING CURB AND GUTTERS, SIDEWALKS, ASPHALT CONCRETE OR PCC PAVING, WHICH ARE BEING JOINED OR MATCHED IN CONNECTION WITH THIS PROJECT, SHALL BE JOINED OR MATCHED IN A MANNER SATISFACTORY TO CALTRANS' STANDARDS, INCLUDING NECESSARY SAW-CUTTING, REMOVAL, REPLACEMENT, AND CAPPING.

12. DAMAGED, GOUGED, BROKEN, OR GRAFFITI MARKED SECTIONS OF CURBS, GUTTERS, OR SIDEWALKS SHALL BE REMOVED AND REPLACED. PATCHING OF SIDEWALK SHALL NOT PERMITTED. A MINIMUM REPLACEMENT SECTION IS TO BE AT LEAST EQUAL TO SCORE MARK (5 FEET X 5 FEET). FOR SIDEWALKS EXCEEDING 5 FEET WIDTH, REPLACEMENT IS TO BE FULL WIDTH SQUARED TO THE NEXT SCORE MARK.

13. STRIPING SHALL BE DONE BY THE CONTRACTOR AT THE CONTRACTOR'S EXPENSE, UNLESS OTHERWISE DIRECTED. TRAFFIC STRIPES AND PAVEMENT MARKINGS SHALL NOT BE APPLIED OVER EXISTING STRIPES THAT ARE TO BE REMOVED. EXISTING STRIPES SHALL BE FIRST REMOVED BY SANDBLASTING BEFORE ANY NEW APPLICATION.

14. REFLECTIVE PAVEMENT MARKERS SHALL BE INSTALLED BY CONTRACTOR ON PERMANENT STRIPING. PROTECTING AND/OR REPLACING ALL STREET SIGNS SHOWN OR NOT SHOWN ON THE DRAWINGS SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. SIGN SPECIFICATIONS AND INSTALLATION SHALL BE IN ACCORDANCE WITH THE STATE OF CALIFORNIA, DEPARTMENT OF TRANSPORTATION SPECIFICATION FOR REGULATORY, WARNING AND GUIDE SIGNS.

15. ALL SEWER MANHOLES SHALL BE RAISED TO GRADE WITHIN 48 HOURS AFTER PAVEMENT HAS BEEN PLACED. THIS INCLUDES MANHOLES ON THE EXISTING SYSTEM AND ON ALL NEW MANHOLES.

16. CONTRACTOR SHALL INSTALL A 3 INCH MINIMUM WIDTH COLOR CODED DETECTOR TAPE MARKED "SEWER" IN 1-½ INCH BLACK LETTERS SHALL BE PLACED ON THE COMPACTED AND GRADED BEDDING MATERIAL ONE FOOT ABOVE AND CENTERED OVER THE SEWER MAIN PRIOR TO BACKFILLING THE TRENCH.

17. CALTRANS DISTRICT 5 LANE CLOSURE HOURS ALONG CANYON DEL REY BLVD (STATE ROUTE 218) ARE AS FOLLOWS:

1. LANE CLOSURE HOURS MONDAY THROUGH THURSDAY ARE BETWEEN 9:00 AM TO 3:00 PM. ALTERNATELY, NIGHTTIME, WITH PRIOR APPROVAL ARE BETWEEN 7:00 PM AND 6:00 AM.

2. LANE CLOSURE HOURS FRIDAY ARE BETWEEN 9:00 AM TO 1:00 PM. ALTERNATELY, NIGHTTIME, WITH PRIOR APPROVAL ARE BETWEEN 12:00 AM TO 6:00AM.

CONTRACTOR MAY CHOOSE TO CONDUCT WORK DURING THE NIGHTTIME HOURS, HOWEVER NO ADDITIONAL COMPENSATION WILL BE MADE FOR WORK OUTSIDE OD THE OWNER'S NORMAL BUSINESS HOURS. THE CONTRACTOR MUST OBTAIN WRITTEN APPROVAL FROM THE DISTRICT FOR NIGHTTIME. WORK SHALL INCLUDE IMPLEMENTATION OF THE MITIGATION MEASURES SET FORTH IN THE ADOPTED INITIAL STUDY/MITIGATED NEGATIVE DECLARATION (IS/MND) PROVIDED IN APPENDIX G.

DESIGNED BY:

DM

DRAWN BY:

DM

CHECKED BY:

RW

Infrastructure

ENGINEERING CORPORATION

PREPARED UNDER THE DIRECT SUPERVISION OF:

1401 Commercial Way, Suite 100
Bakersfield, California 93309
T 661.529.2190
www.iecorporation.com

11/05/2019
DATE

REGISTERED PROFESSIONAL ENGINEER
EXPIRES CALGROED
No. C067536
CIVIL
STATE OF CALIFORNIA

BENCHMARK:

Description:

CALTRANS BRASS DISK

Location:

NORTHWEST CORNER OF HIGHWAY 218 & FRANCIS STREET

Record From:

CALTRANS R/W MAPS

Elev:

37.08'

Datum:

NAVD-88

DATE

REVISIONS

SEASIDE COUNTY
SANITATION DISTRICT

440 HARCOURT AVE. CA. 93955 (408) 899-6230

SHEET TITLE:

GENERAL NOTES

PROJECT No.

953-8820-9205

SHEET STATUS:

☐ PRELIMINARY

☐ SEMI-FINAL

☐ FINAL

☐ OTHER

SCALE:

AS SHOWN

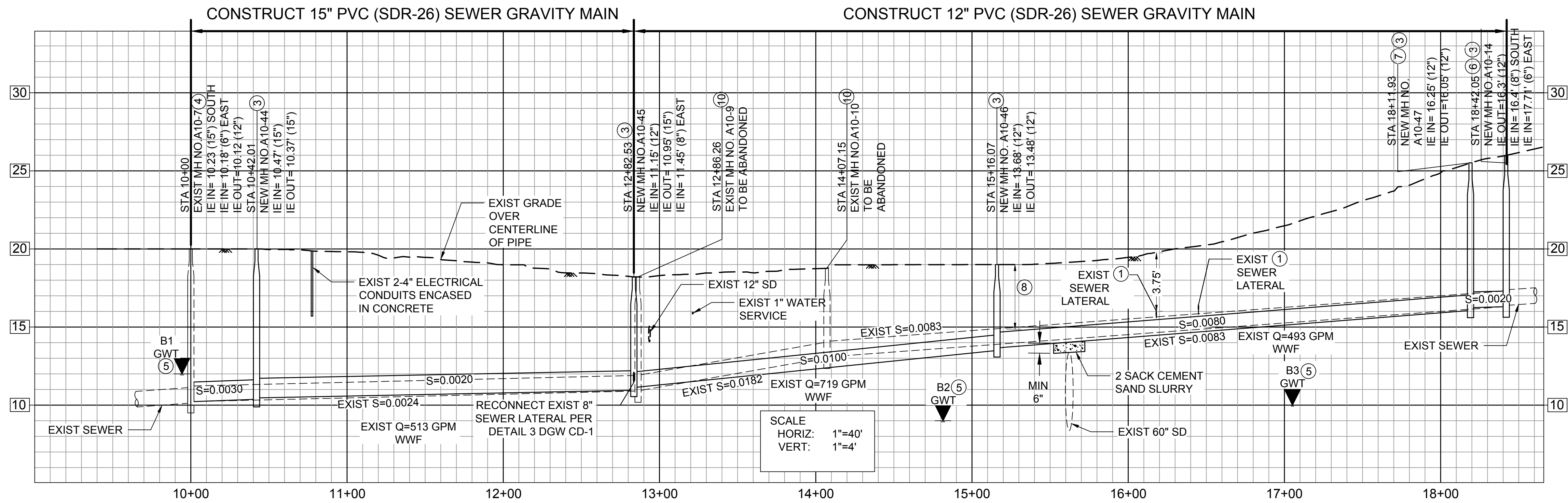
PROJECT TITLE:

CANYON DEL REY CMP SEWER MAIN REPLACEMENT PROJECT

DRAWING FILE No.

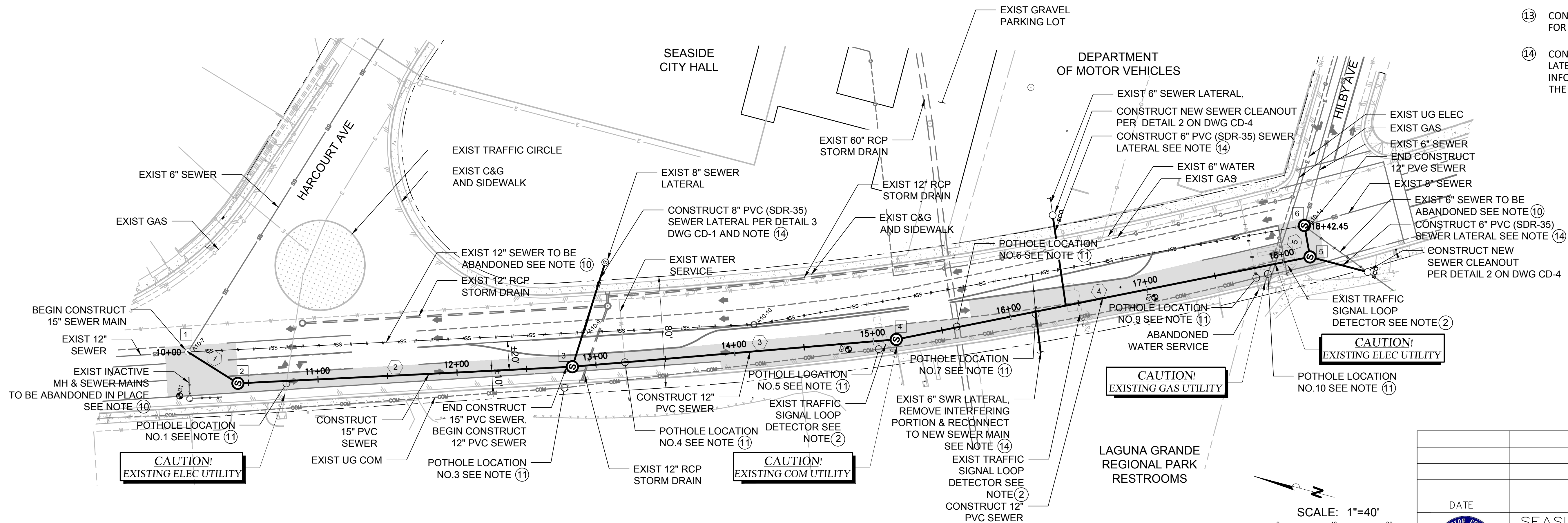
G-3

Packet Page 384



CONSTRUCTION NOTES

- 1 RECONNECT EXISTING SEWER LATERAL PER STANDARD DETAIL 3 ON DWG CD-2 AND DETAIL 1 ON DWG CD-3.
- 2 REINSTALL AND REPAIR TRAFFIC SIGNAL LOOP DETECTOR PER SPECIFICATIONS, AND AS DIRECTED BY CALTRANS DISTRICT 5.
- 3 CONSTRUCT NEW MH PER DETAIL 3 ON DWG CD-4 WITH EPOXY LINING AND BITUMASTIC EXTERIOR COATING PER SPECIFICATIONS SECTION 09801.
- 4 REHABILITATE, RECHANNEL, AND EPOXY LINE EXIST SEWER MH PER DETAIL 1 ON DWG CD-1 AND SPECIFICATIONS SECTION 02760 AND 09801.
- 5 GROUNDWATER ELEVATIONS OBTAINED AT SPECIFIC TIME AND LOCATIONS OF BORINGS IS FOR CONTRACTOR'S REFERENCE ONLY. CONTRACTOR IS WELCOME TO MAKE THEIR OWN INVESTIGATIONS TO SATISFY THEMSELVES AS TO THE SURFACE CONDITIONS.
- 6 REMOVE EXISTING BRICK MANHOLE AND CONCRETE BASE AND CONSTRUCT NEW MH PER DETAIL 2 ON DWG CD-1.
- 7 CONSTRUCT NEW PRECAST CONCRETE DROP SEWER MH PER DETAIL 1 ON DWG CD-3.
- 8 MINIMUM COVER OVER SEWER SHALL BE 42-INCHES.
- 9 CONTRACTOR SHALL POTHOLE AND FIELD VERIFY ALL UTILITIES, SEE GENERAL NOTES DWG G-3.
- 10 ABANDON PER SPECIFICATION SECTION 02050 AND GENERAL SEWER NOTES ON DWG G-3. CONTRACTOR SHALL REMOVE ALL EXIST PIPE THAT INTERFERES WITH NEW CONSTRUCTION.
- 11 POTHOLE LOCATION: THE CONTRACTOR SHALL USE THE INFORMATION IN APPENDIX E AS GUIDE ONLY WHEN MAKING THIS CONNECTION. THE CONTRACTOR SHALL SUBMIT PLANS ON THEIR PROPOSED METHOD TO SUPPORT AND PROTECT ALL UTILITIES DURING CONSTRUCTION.
- 12 CONTRACTOR SHALL REFER TO SPECIFICATIONS SECTION 02140 FOR DEWATERING.
- 13 CONTRACTOR SHALL REFER TO SPECIFICATIONS SECTION 02960 FOR SEWER BYPASSING.
- 14 CONTRACTOR SHALL LOCATE AND VERIFY EXIST SEWER LATERALS DEPTH, SIZE, LOCATIONS, AND SUBMIT INFORMATION TO THE DISTRICT IN ADVANCE OF PERFORMING THE WORK.



MANHOLE TABLE				
NO	STATION	NORTHING	EASTING	DESCRIPTION
1	10+00	7382.56	4843.36	4' DIA MH No. A10-7
2	10+42.01	7322.08	4830.69	5' DIA MH No. A10-44
3	12+82.53	7092.72	4903.10	5' DIA MH No. A10-45
4	15+16.07	6872.56	4981.03	4' DIA MH No. A10-46
5	18+19.15	6600.03	5113.65	4' DIA MH No. A10-47
6	18+42.05	6609.66	5134.42	5' DIA MH No. A10-14

DATA TABLE					
	Δ/BEARING	R	L	T	DESCRIPTION
1	S17°21'06"W	-	42.01'	-	15" PVC SEWER
2	S17°31'12"E	-	240.52'	-	15" PVC SEWER
3	S19°29'33"E	-	233.54'	-	12" PVC SEWER
4	S25°56'57"E	-	303.08'	-	12" PVC SEWER
5	N65°07'45"E	-	22.90'	-	12" PVC SEWER

DESIGNED BY:
DM

DRAWN BY:
DM

CHECKED BY:
RW

Infrastructure
ENGINEERING CORPORATION
1401 Commercial Way, Suite 100
Bakersfield, California 93309
T 661.529.2190
www.iecorporation.com

PREPARED UNDER THE
DIRECT SUPERVISION
OF:
11/05/2019
DATE

REGISTERED PROFESSIONAL ENGINEER
DAVID J. SALCEDO
No. 0067536
CIVIL
STATE OF CALIFORNIA

CANYON DEL REY BLVD (SR-218)

BENCHMARK:
Description:
CALTRANS BRASS DISK
Location:
NORTHWEST CORNER OF HIGHWAY 218 & FRANCIS STREET

Record From: CALTRANS R/W MAPS
Elev: 37.08'
Datum: NAVD-88

DATE: 11/05/2019

SEASIDE COUNTY
SANITATION DISTRICT

REVISIONS
440 HARCOURT AVE. CA. 93955 (408) 899-6230

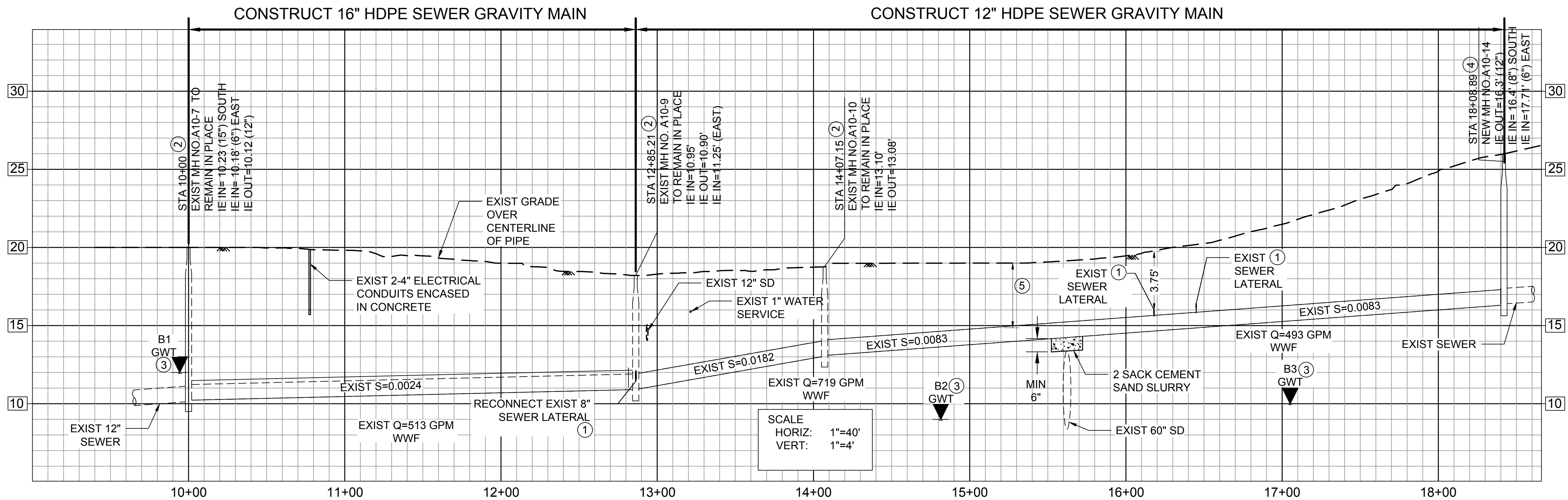
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PROJECT TITLE: CANYON DEL REY CMP SEWER MAIN REPLACEMENT PROJECT

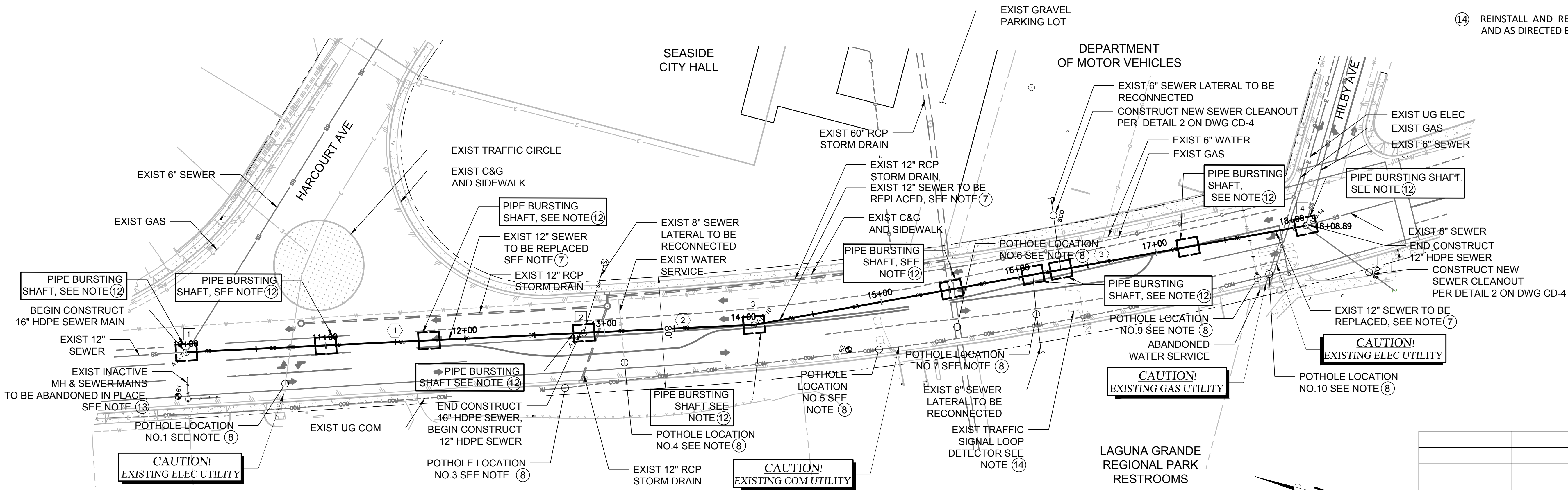
PROJECT No: 953-8820-9205

SHEET: 4

DRAWING FILE No: C-1



- CONSTRUCTION NOTES**
- 1 RECONNECT EXISTING SEWER LATERAL PER STANDARD DETAIL 3 ON DWG CD-3 AND DETAIL 1 ON DWG CD-4.
 - 2 REHABILITATE AND EPOXY LINE EXIST SEWER MH PER SPECIFICATIONS SECTION 02760.
 - 3 GROUNDWATER ELEVATIONS OBTAINED AT SPECIFIC TIME AND LOCATIONS OF BORINGS IS FOR CONTRACTOR'S REFERENCE ONLY. CONTRACTOR IS WELCOME TO MAKE THEIR OWN INVESTIGATIONS TO SATISFY THEMSELVES AS TO THE SURFACE CONDITIONS.
 - 4 REMOVE EXISTING BRICK MANHOLE AND CONCRETE BASE AND CONSTRUCT NEW MH PER DETAIL 3 ON DWG CD-4 AND SPECIFICATIONS SECTION 03480.
 - 5 MINIMUM COVER OVER SEWER SHALL BE 42-INCHES.
 - 6 CONTRACTOR SHALL POTHOLE AND FIELD VERIFY ALL UTILITIES, SEE GENERAL NOTES DWG G-3.
 - 7 REPLACE USING PIPE BURSTING PER SPECIFICATIONS SECTIONS 02345 AND 02645.
 - 8 POTHOLE LOCATION: THE CONTRACTOR SHALL USE THE INFORMATION IN APPENDIX E AS GUIDE ONLY WHEN MAKING THIS CONNECTION. THE CONTRACTOR SHALL SUBMIT PLANS ON THEIR PROPOSED METHOD TO SUPPORT AND PROTECT ALL UTILITIES DURING CONSTRUCTION.
 - 9 CONTRACTOR SHALL REFER TO SPECIFICATIONS SECTION 02140 FOR DEWATERING.
 - 10 CONTRACTOR SHALL REFER TO SPECIFICATIONS SECTION 02960 FOR SEWER BYPASSING.
 - 11 CONTRACTOR SHALL LOCATE AND VERIFY EXIST SEWER LATERALS DEPTH, SIZE, LOCATIONS, AND SUBMIT INFORMATION TO THE DISTRICT IN ADVANCE OF PERFORMING THE WORK.
 - 12 PIPE BURSTING SHAFTS ARE SHOWN AT LOCATIONS FOR LAUNCHING AND RECEIVING THE BURSTING HEAD, LATERAL DISCONNECTION AND RECONNECTION AND AIR GAP LOCATIONS FOR PIPE BURSTING SHAFTS ARE SHOWN WHERE IT MAY BE REQUIRED TO RETRIEVE CMP DEBRIS WHICH PREVENTS BURSTING HEAD PROGRESS.
 - 13 ABANDON PER SPECIFICATION SECTION 02050 AND GENERAL SEWER NOTES ON DWG G-3. CONTRACTOR SHALL REMOVE ALL EXIST PIPE THAT INTERFERES WITH NEW CONSTRUCTION.
 - 14 REINSTALL AND REPAIR TRAFFIC SIGNAL LOOP DETECTOR PER SPECIFICATIONS, AND AS DIRECTED BY CALTRANS DISTRICT 5.



MANHOLE TABLE				
NO	STATION	NORTHING	EASTING	DESCRIPTION
1	10+00	7362.56	4843.36	4' DIA MH No. A10-7
2	12+85.21	7090.53	4929.05	4' DIA MH No. A10-9
3	14+07.15	6974.15	4965.47	4' DIA MH No. A10-10
4	18+08.89	6609.66	5134.42	5' DIA MH No. A10-14

DATA TABLE				
NO	△/BEARING	R	L	T
1	S17°29'07"E	-	285.21'	-
2	S17°22'43"E	-	121.94'	-
3	S24°52'07"E	-	401.74'	-

PIPE SIZE TABLE				
PIPE SIZE	AVG OD	MIN WALL	AVG ID	WEIGHT (LB/FT)
12"	13.200"	0.776"	11.555"	13.30
16"	17.400"	1.024"	15.229"	23.13

DESIGNED BY:
DM

DRAWN BY:
DM

CHECKED BY:
RW

1401 Commercial Way, Suite 100
Bakersfield, California 93309
T 661.529.2190
www.iecorporation.com

PREPARED UNDER THE
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DATE

CANYON DEL REY BLVD (SR-218)

BENCHMARK:
Description:
CALTRANS BRASS DISK
Location:
NORTHWEST CORNER OF HIGHWAY 218 & FRANCIS STREET
Record From:
CALTRANS R/W MAPS
Elev:
37.08'
Datum:
NAVD-88

SCALE: 1"=40'
0 40 80 Feet

DATE

REVISIONS

SEASIDE COUNTY SANITATION DISTRICT
440 HARCOURT AVE. CA. 93955 (408) 899-6230

SHEET STATUS:
☐ PRELIMINARY
☐ SEMI-FINAL
☐ FINAL
☐ OTHER

SCALE:
1"=40' HORIZ
1"=4' VERT

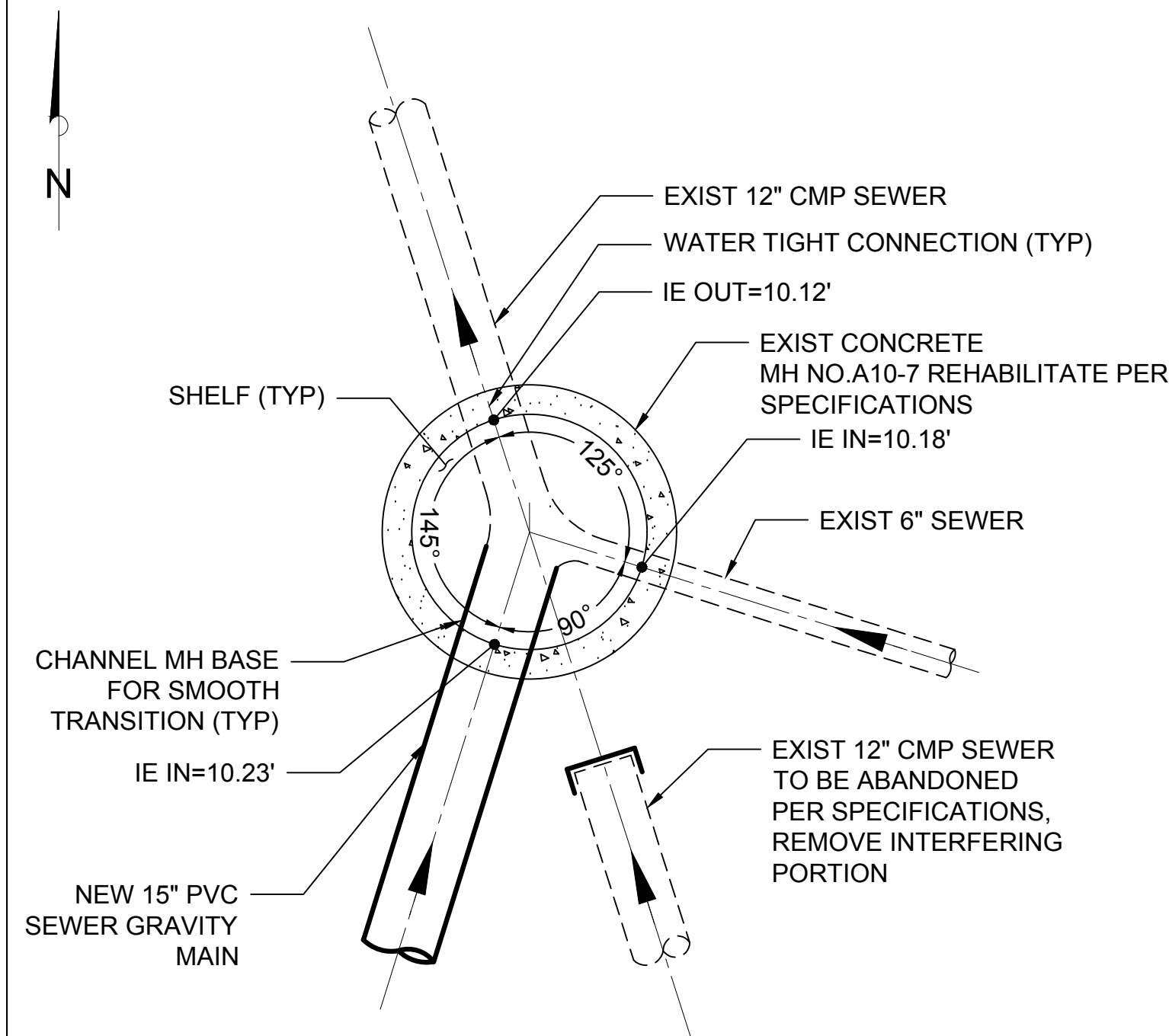
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PROJECT TITLE:
CANYON DEL REY CMP SEWER MAIN REPLACEMENT PROJECT

PROJECT No.
953-8820-9205

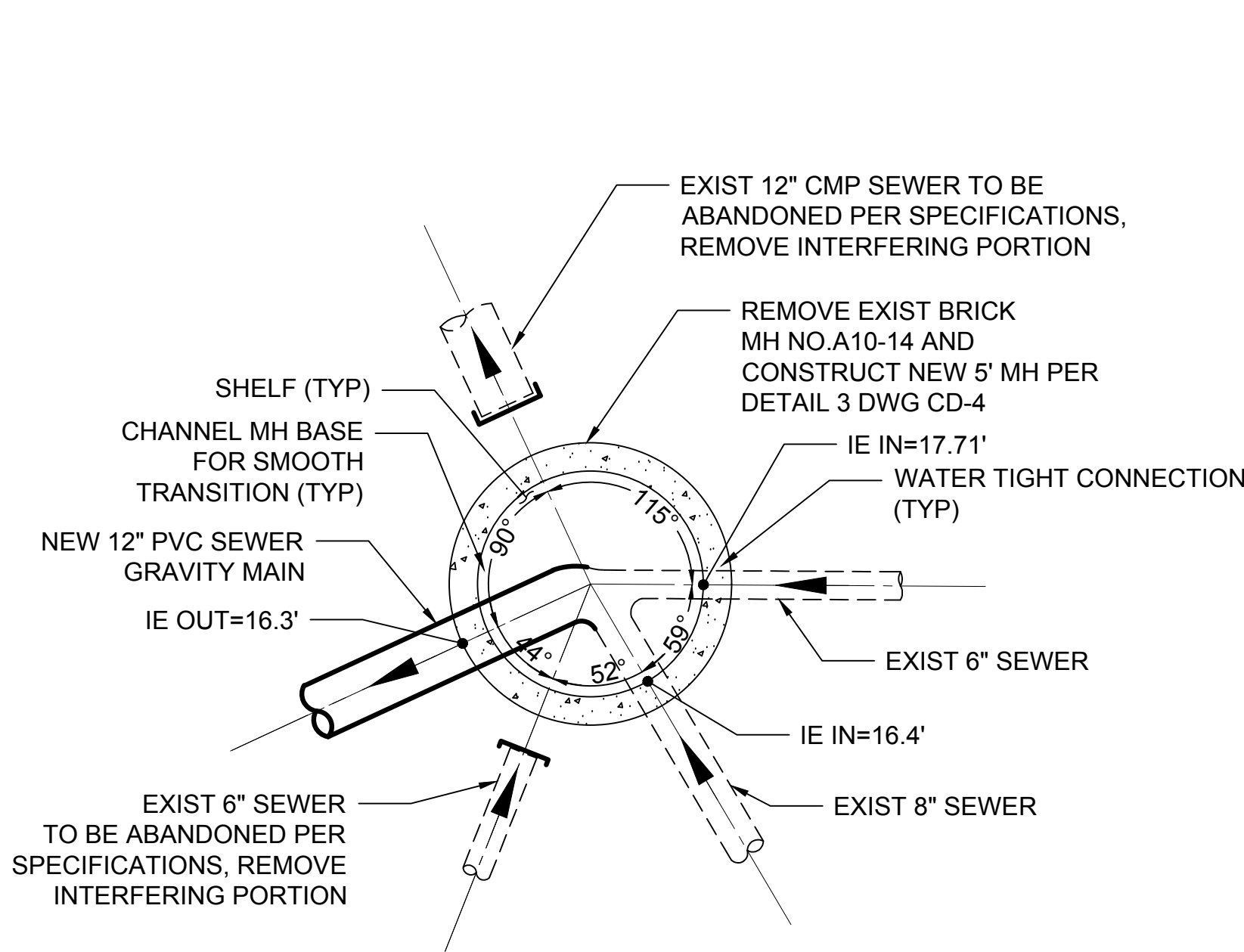
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DRAWING FILE No.
C-2



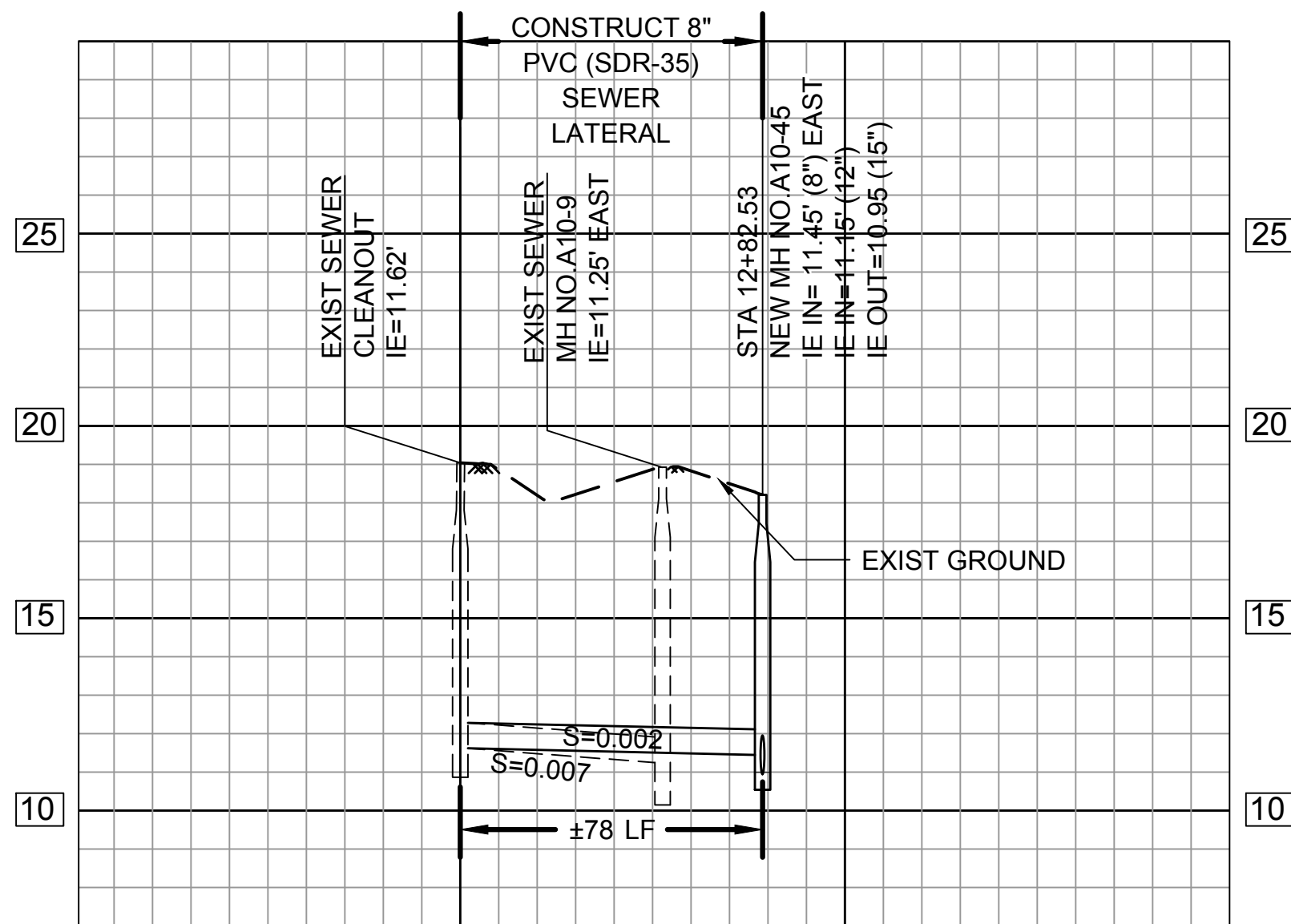
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SCALE:NTS

1



MANHOLE NO. A10-14 STA 18+42.05
SCALE:NTS

2



RECONNECT EXIST 8" DIAMETER SEWER LATERAL
AT STA 12+82.53

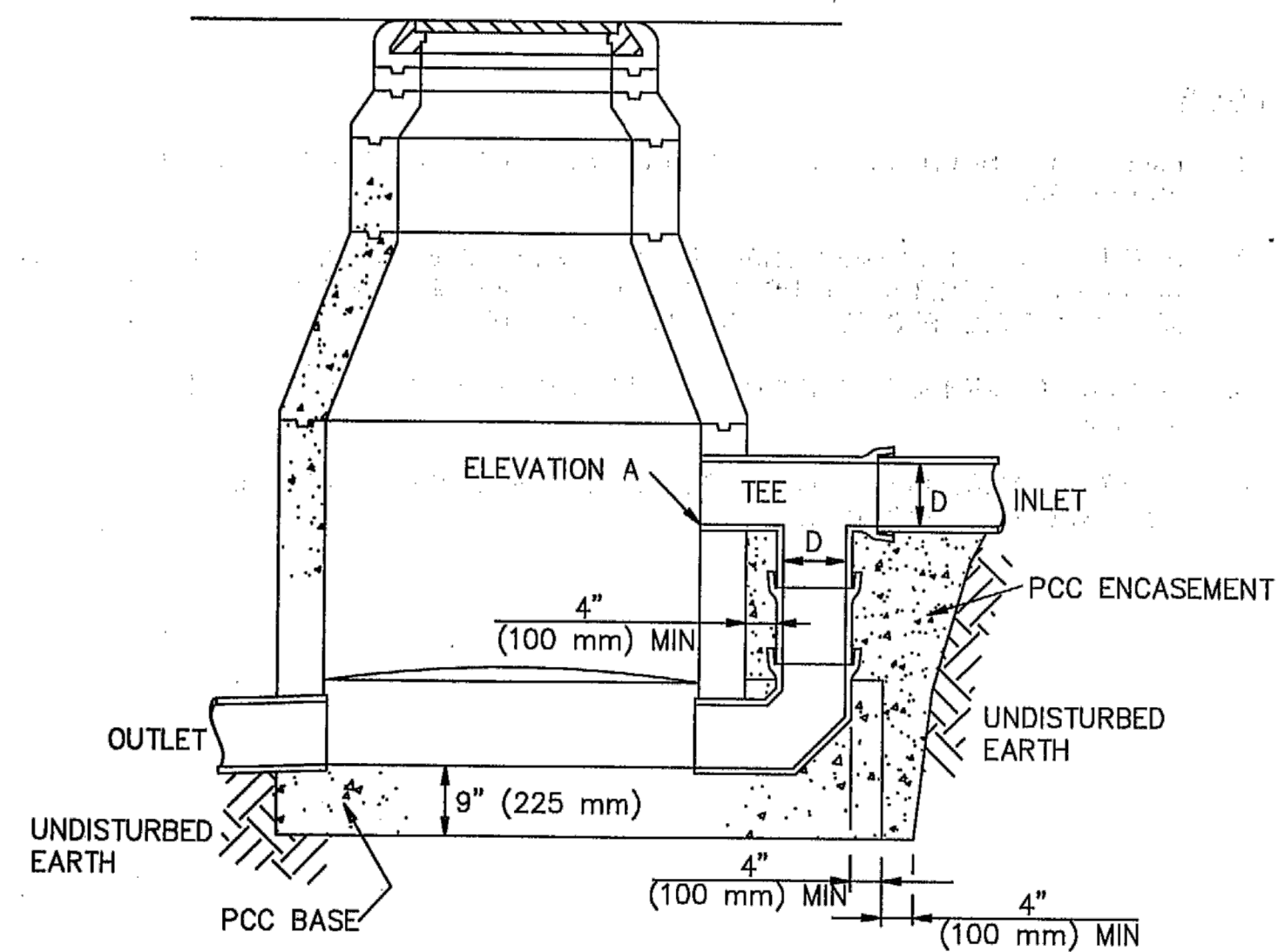
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VERT: 1"=4'

3

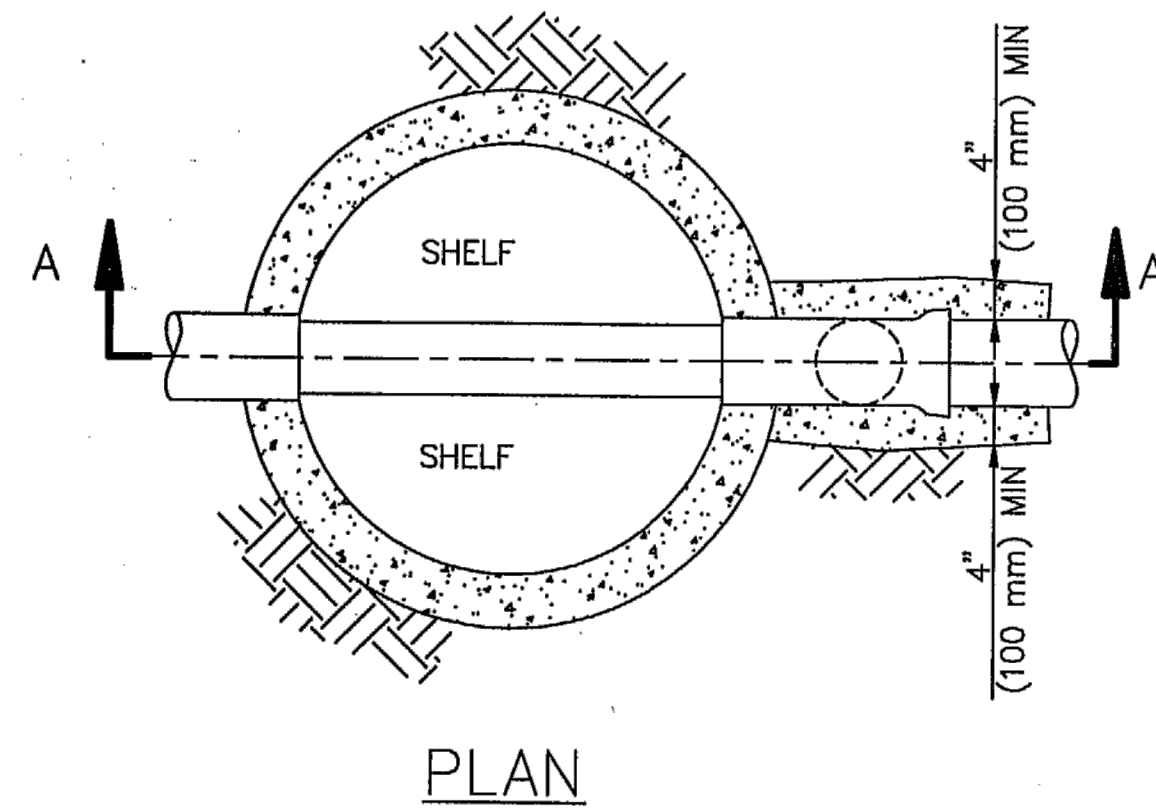
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DRAWN BY:			
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RW			
1401 Commercial Way, Suite 100 Bakersfield, California 93309 T 661.529.2190 www.iecorporation.com		11/05/2019	DATE

BENCHMARK:
Description: CALTRANS BRASS DISK
Location: NORTHWEST CORNER OF HIGHWAY 218 & FRANCIS STREET
Record From: CALTRANS R/W MAPS
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DATE	REVISIONS	
	SEASIDE COUNTY SANITATION DISTRICT 440 HARCOURT AVE. CA. 93955 (408) 899-6230	
	SHEET TITLE: BID SCHEDULE A-PARALLEL ALIGNMENT- DETAILS AND CONNECTIONS	PROJECT No. 953-8820-9205
	PROJECT TITLE: CANYON DEL REY CMP SEWER MAIN REPLACEMENT PROJECT	SHEET 6 DRAWING FILE No. CD-1
SHEET STATUS: ☐ PRELIMINARY ☐ SEMI-FINAL ☐ FINAL ☐ OTHER		
SCALE: AS SHOWN		



SECTION A-A



PLAN

STANDARD PLANS FOR PUBLIC WORKS CONSTRUCTION	
PROMULGATED BY THE PUBLIC WORKS STANDARDS INC. GREENBOOK COMMITTEE 1993 REV. 2005, 2009	STANDARD PLAN 202-2 SHEET 1 OF 2
USE WITH STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION	

NOTES:

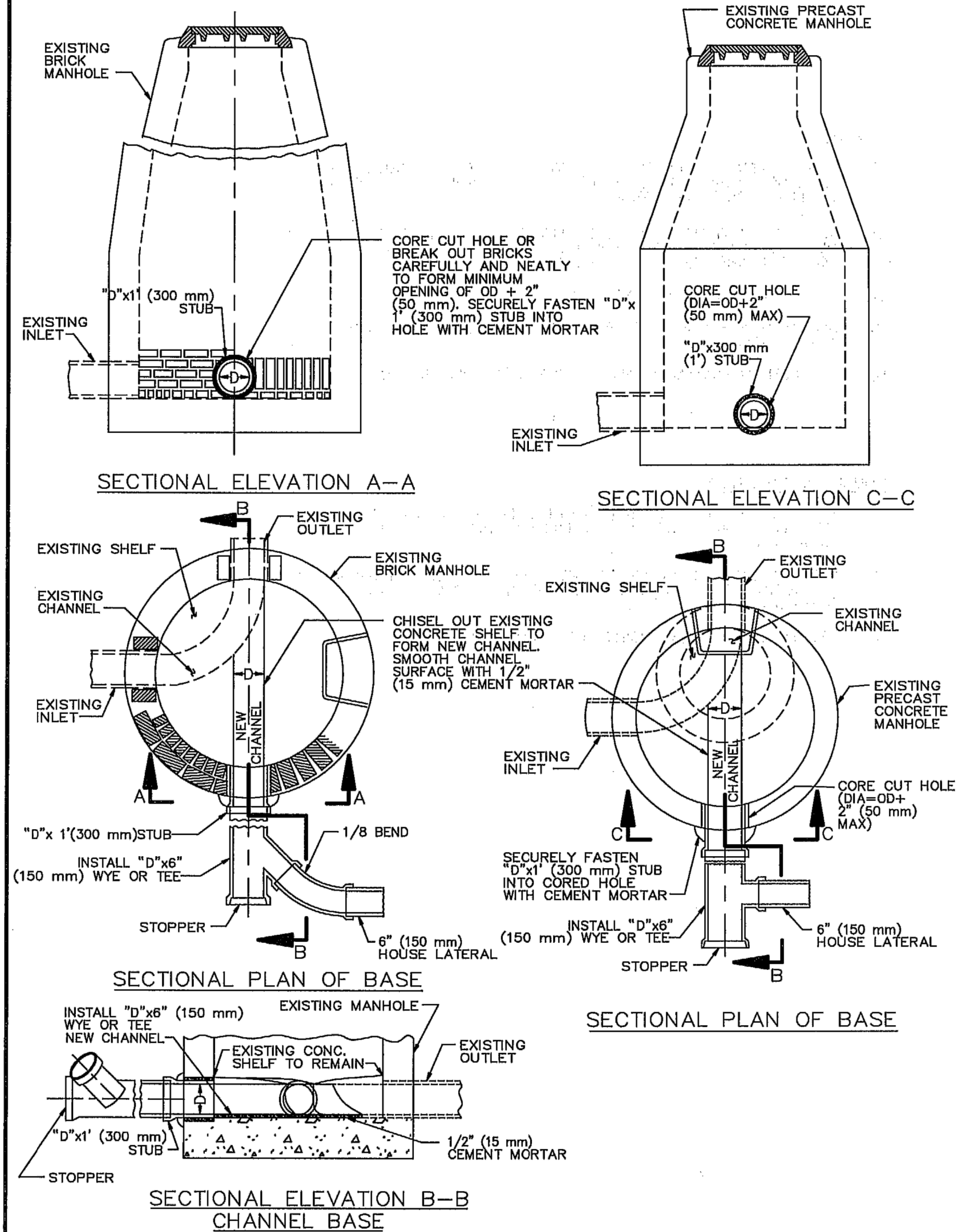
- EXCEPT AS SHOWN ON THIS PLAN, MANHOLES SHALL CONFORM TO SPPWC 200 OR 203.
- PIPE FOR THE DROP INLET SHALL BE THE SAME MATERIAL AS THE SEWER UNLESS APPROVED ADAPTERS ARE USED. IF SO, THE PIPE MAY BE VCP, ABS SOLID WALL, ABS COMPOSITE, PVC PLASTIC, OR POLYETHYLENE.
- FOR BRICK MANHOLES, A BRICK ARCH IS ALSO REQUIRED OVER THE UPPER INLET PIPE.
- IF TWO OR MORE DROP INLETS ARE REQUIRED IN A SINGLE MANHOLE, EACH SHALL BE CONSTRUCTED SEPARATELY.

STANDARD PLANS FOR PUBLIC WORKS CONSTRUCTION	
DROP SEWER MANHOLE	STANDARD PLAN 202-2 SHEET 2 OF 2

DROP SEWER MANHOLE

SCALE:NTS

DESIGNED BY: DM	1401 Commercial Way, Suite 100 Bakersfield, California 93309 T 661.529.2190 www.iescorporation.com	
DRAWN BY: DM		
CHECKED BY: RW		
DATE 11/05/2019		



SECTIONAL ELEVATION A-A

SECTIONAL ELEVATION C-C

SECTIONAL PLAN OF BASE

SECTIONAL PLAN OF BASE

STANDARD PLANS FOR PUBLIC WORKS CONSTRUCTION	
PROMULGATED BY THE PUBLIC WORKS STANDARDS INC. GREENBOOK COMMITTEE 1993 REV. 1996, 2009	STANDARD PLAN 208-2 SHEET 1 OF 2
USE WITH STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION	

NOTES:

- INVERT ELEVATION OF "D" x 1" (300 mm) STUB AT THE INSIDE FACE OF MANHOLE TO BE 0.10' (30 mm) HIGHER THAN EXISTING OUTLET INVERT ELEVATION.
- THE CORE CUT HOLE SHALL BE MADE WITH EQUIPMENT SPECIALLY DESIGNED TO CUT A SMOOTH HOLE WITHOUT SPALLING OR DAMAGE TO THE REINFORCING STEEL OR STRUCTURE.
- "D" TO BE 8" (200 mm) MINIMUM.
- ALL WORK SHALL BE UNCOVERED AND CONVENIENT FOR THE INSPECTION.
- ALL CEMENT MORTAR SHALL BE CLASS "D" PER SSPWC 201-5.1.

HOUSE LATERAL NOTES:

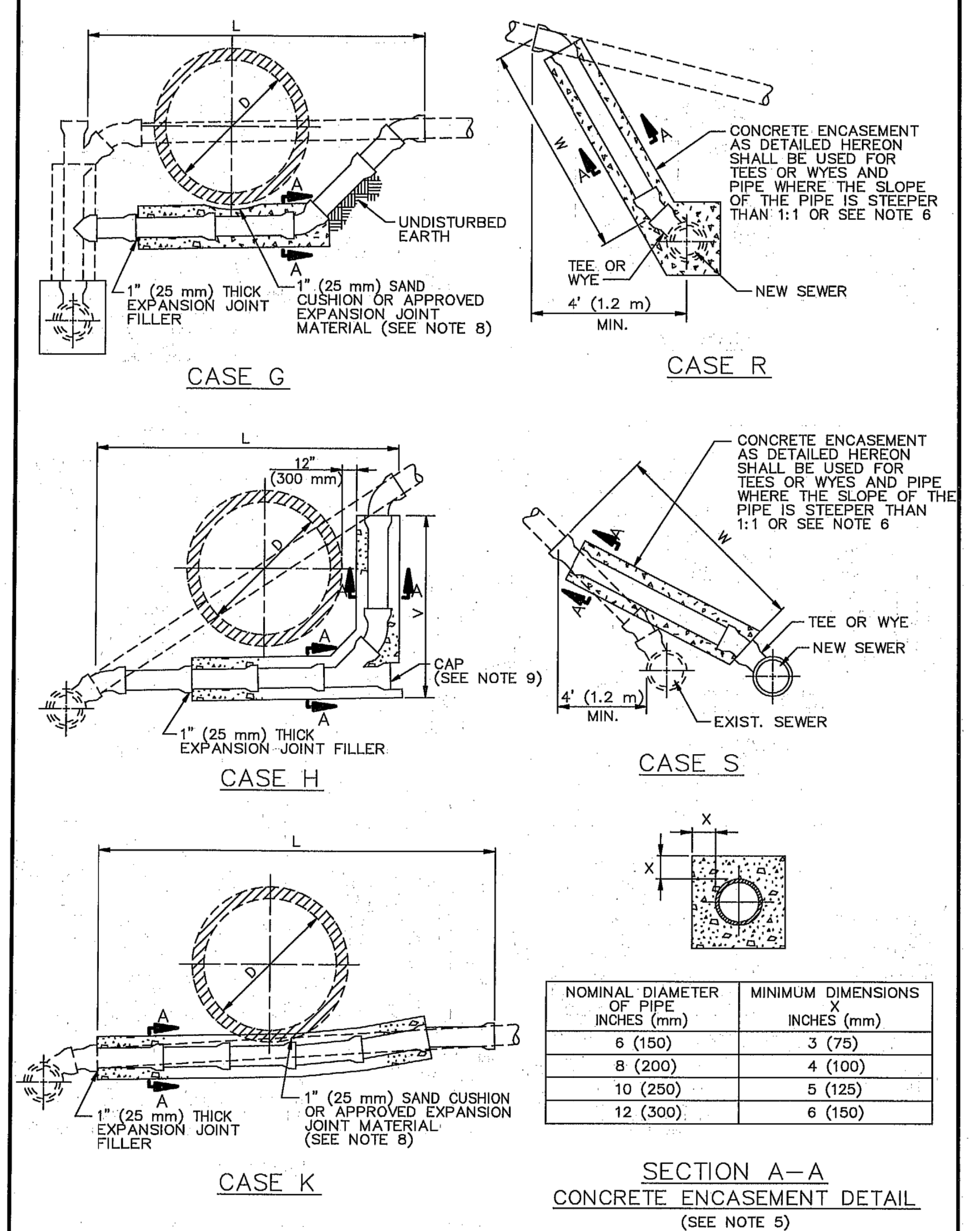
- WYE SHALL BE LAID WITH 1/8" (3 mm) RISE PER 1" (300 mm) AND 6" (150 mm) SPUR AT 45° FROM HORIZONTAL UNLESS OTHERWISE NOTED ON PLANS.
- "D" x 4" (100 mm) WYE OR TEE AND 4" (100 mm) HOUSE LATERAL MAY BE SUBSTITUTED FOR "D" x 6" (150 mm) WYE OR TEE AND 6" (150 mm) HOUSE LATERAL.
- USE TYPE "D" OR "G" JOINTS PER SSPWC 208-2.

STANDARD PLANS FOR PUBLIC WORKS CONSTRUCTION	
BREAKING INTO EXISTING MANHOLES	STANDARD PLAN 208-2 SHEET 2 OF 2

BREAKING INTO EXISTING MANHOLES

SCALE:NTS

BENCHMARK: Description: CALTRANS BRASS DISK	Location: NORTHWEST CORNER OF HIGHWAY 218 & FRANCIS STREET
Record From: CALTRANS R/W MAPS	Datum: NAVD-88



SECTION A-A

CONCRETE ENCASEMENT DETAIL
(SEE NOTE 5)

STANDARD PLANS FOR PUBLIC WORKS CONSTRUCTION	
HOUSE CONNECTION REMODELING	STANDARD PLAN 223-2 SHEET 2 OF 3

SEWER LATERAL REMODELING

SCALE:NTS

DATE	REVISIONS
	SEASIDE COUNTY SANITATION DISTRICT 440 HARCOURT AVE. CA. 93955 (408) 899-6230
SHEET STATUS: ☐ PRELIMINARY ☐ SEMI-FINAL ☐ FINAL ☐ OTHER	PROJECT TITLE: CANYON DEL REY CMP SEWER MAIN REPLACEMENT PROJECT
SCALE: AS SHOWN	PROJECT No. 953-8820-9205
	SHEET 8
	DRAWING FILE No. CD-3

NOTES

- EXCEPT AS OTHERWISE INDICATED HEREON OR ON THE PLANS, ALL HOUSE CONNECTION REMODELING SHALL CONFORM TO THE APPLICABLE PORTIONS OF SPPWC 222, HOUSE CONNECTION SEWER.
- SEE PROJECT PLANS FOR VALUES OF D, L, V, AND W. (DIMENSION L IS THE HORIZONTAL LENGTH OF THE HOUSE CONNECTION REMODELING).
- EXISTING SEWERS ARE INDICATED BY DASHED LINES. HOUSE CONNECTION SEWERS TO BE CONSTRUCTED ARE INDICATED BY SOLID LINES AND SHALL BE OF THE SAME MATERIAL AS THE EXISTING SEWER. THE CONTRACTOR MAY CONSTRUCT THE SEWER WITH OTHER MATERIALS ALLOWED BY SPPWC 222 PROVIDED APPROVED ADAPTORS ARE UTILIZED.
- 1/16 (22.5") OR 1/8 (45") BENDS SHALL BE USED TO REMODEL OR CONSTRUCT ANY SEWER ON A CURVE OR AT ANY CHANGE IN ALIGNMENT. WHERE PHYSICAL OR GEOMETRIC LIMITATIONS PRECLUDE THE USE OF 1/16 (22.5") OR 1/8 (45") BENDS, THE CONTRACTOR SHALL SUBMIT TO THE ENGINEER FOR APPROVAL THE PROPOSED METHOD OF REMODELING OR CONSTRUCTION.
- ALL HOUSE CONNECTION SEWERS TO BE CONSTRUCTED UNDER A PROPOSED CONDUIT SHALL BE ENCASED IN CONCRETE AS SHOWN HEREON. WHEN THE HOUSE CONNECTION SEWER SLOPE EXCEEDS 1:1 THE CONTRACTOR MAY, AT ITS OPTION, PLACE A CIRCULAR CROSS SECTION WITH MINIMUM COVER EQUAL TO DIMENSION "X" AS SHOWN ON SECTION A-A HEREON IN LIEU OF A SQUARE CROSS SECTION OF CONCRETE. BEDDING AND ENCASEMENT SHALL BE CLASS 450-C-2000 (250-C-14) AND SHALL EXTEND TO THE FIRST PIPE JOINT AT LEAST 1' (300 mm) BEYOND THE OD OF EACH SIDE OF THE PROPOSED CONDUIT.
- FOR CASE R AND S, WHEN THE SLOPE OF THE PIPE EXCEEDS 1:1, THE CONTRACTOR MAY, AT ITS OPTION, CONSTRUCT A CHIMNEY CONFORMING TO SPPWC 220 ON THE NEW SEWER IN LIEU OF CONSTRUCTING THE ENCASEMENT SHOWN HEREON.
- FOR CASES E AND F, SADDLES SHALL BE CONNECTED EITHER TO THE LENGTH OF PIPE CONTAINING THE EXISTING TEE OR WYE OR TO THE ADJACENT DOWNSTREAM PIPE LENGTH.
- CONDUITS TO BE INSTALLED OVER OR WITHIN 1" (25 mm) OF ANY CONCRETE ENCASEMENT OR STRUCTURE, WHETHER EXISTING OR TO BE PLACED IN CONFORMITY WITH THE REQUIREMENTS HEREIN, SHALL BE INSTALLED ON A 1" (25 mm) SAND CUSHION OR APPROVED EXPANSION JOINT MATERIAL. CONCRETE ENCASEMENT INSTALLED PURSUANT TO THIS STANDARD PLAN SHALL BE SEPARATED FROM EXISTING CONDUIT WITH 1" (25 mm) THICK EXPANSION JOINT MATERIAL.
- THOSE PORTIONS OF AN ABANDONED PIPE LOCATED BENEATH OR WITHIN 6" (150 mm) OF A RELOCATED HOUSE CONNECTION SEWER SHALL BE REMOVED. THE EXCAVATION SHALL BE REFILLED TO THE GRADE OF THE NEW PIPE INVERT WITH CLASS 100-E-100 (60-E-0.7) CONCRETE. THE CONTRACTOR MAY, AT ITS OPTION, SUBSTITUTE MECHANICALLY COMPACTED BACKFILL IN LIEU OF THE CLASS 100-E-100 (60-E-0.7) CONCRETE. THOSE PORTIONS OF ABANDONED PIPE NOT REMOVED SHALL BE SEALED. WHERE CAPS ARE USED, THEY SHALL BE SEALED BY FILLING THE SPACE ABOVE THE CAP WITH SAND AND A 1" (25 mm) THICK COATING OF TYPE "F" MORTAR.
- SUPPORT WALLS SHALL CONFORM TO SPPWC 224.
- WHEN INDICATED ON THE PLANS OR THE SPECIAL PROVISIONS, A CLEANOUT SHALL BE CONSTRUCTED IN CONJUNCTION WITH CASE E AS FOLLOWS:
 - SUBSTITUTE A "Y" FOR THE 45° BEND.
 - PLACE A 45° BEND ON THE UPPER END OF THE "Y".
 - CAP TOP OF 45° BEND WITH A CAP AND SEAL WITH 1" (25 mm) THICK TYPE "F" MORTAR AROUND THE CIRCUMFERENCE OF THE CAP.

STANDARD PLANS FOR PUBLIC WORKS CONSTRUCTION

HOUSE CONNECTION REMODELING

STANDARD PLAN

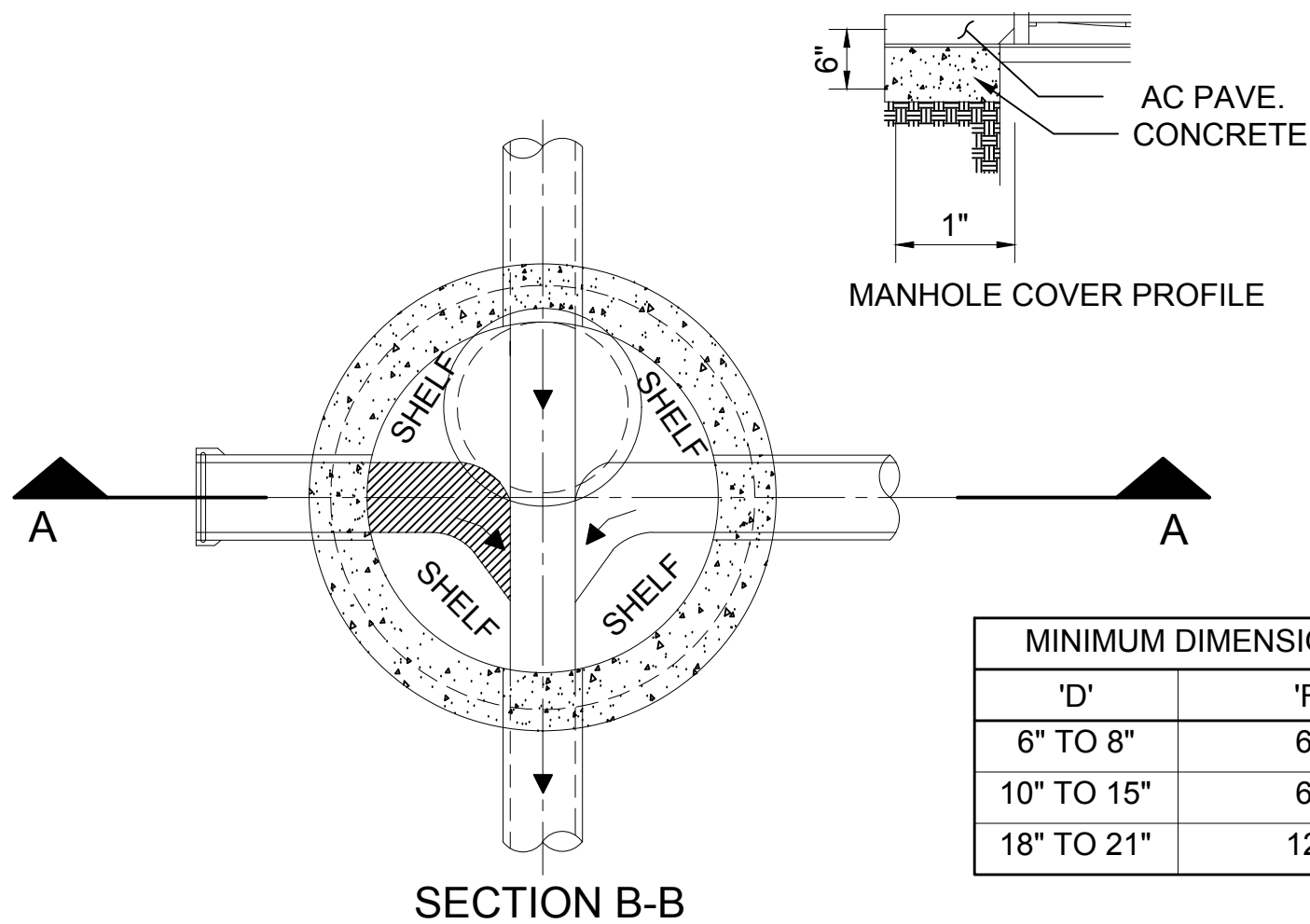
223-2

SHEET 3 OF 3

SEWER LATERAL REMODELING NOTES

SCALE:NTS

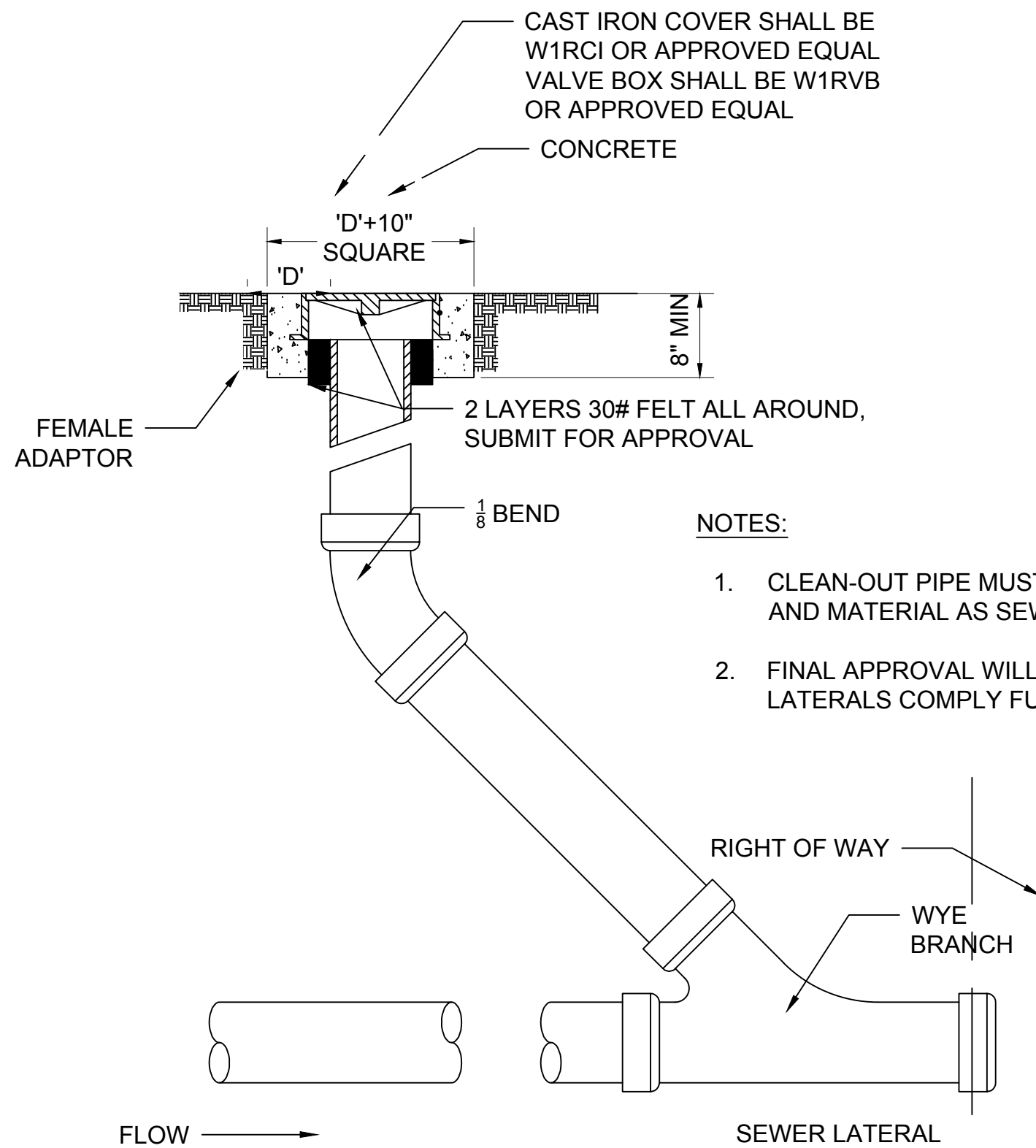
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SECTION B-B

MINIMUM DIMENSIONS (ALL MH TYPES)			
'D'	'F'	'G'	
6" TO 8"	6"	4"	
10" TO 15"	6"	4"	
18" TO 21"	12"	4"	

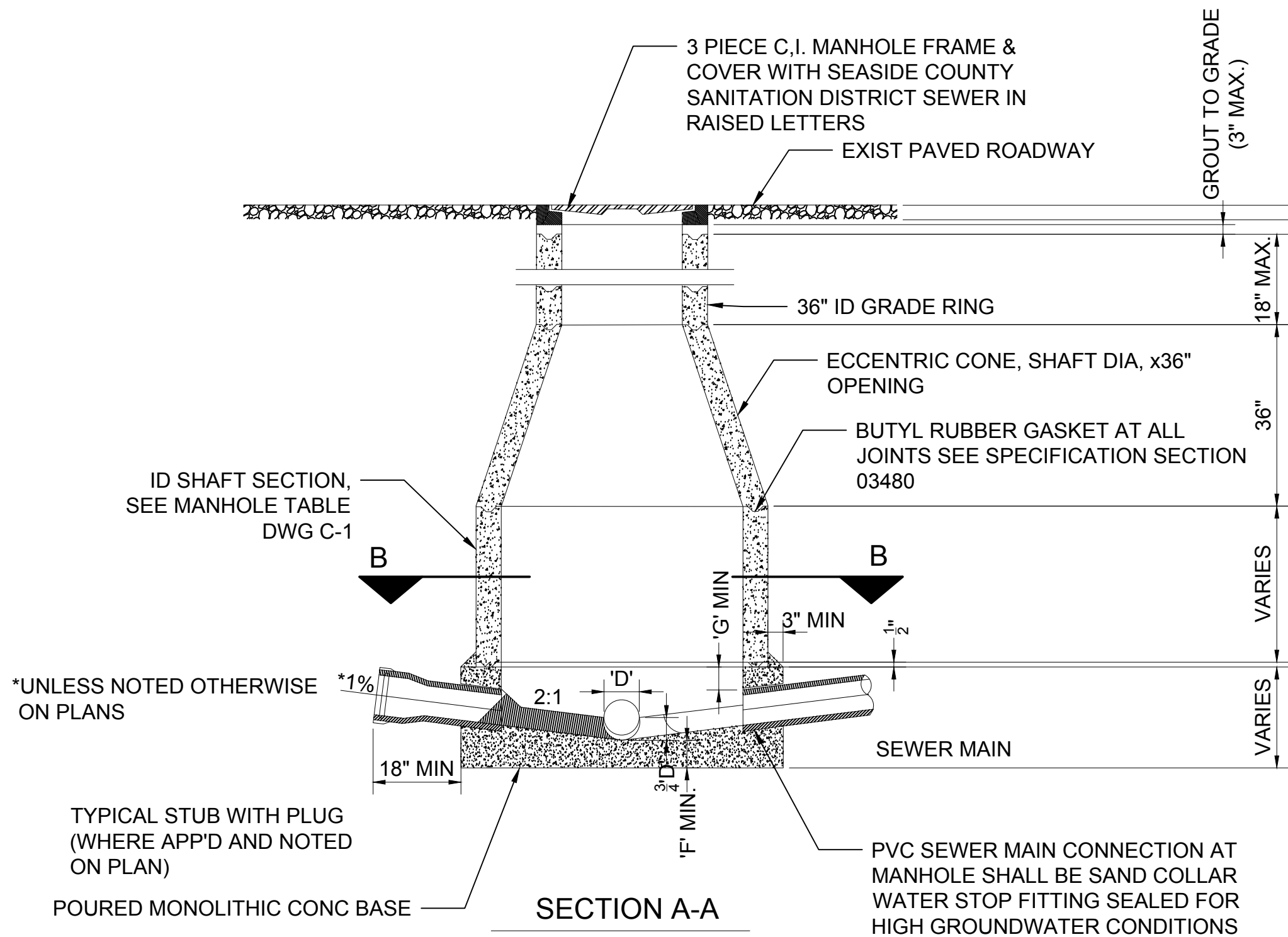
DESIGNED BY: DM	1401 Commercial Way, Suite 100 Bakersfield, California 93309 T 661.529.2190 www.iecorporation.com	PREPARED UNDER THE DIRECT SUPERVISION OF:	
DRAWN BY: DM			
CHECKED BY: RW			
		11/05/2019 DATE	



SEWER CLEANOUT

SCALE:NTS

2



*UNLESS NOTED OTHERWISE
ON PLANS

TYPICAL STUB WITH PLUG
(WHERE APP'D AND NOTED
ON PLAN)

POURED MONOLITHIC CONC BASE

SECTION A-A

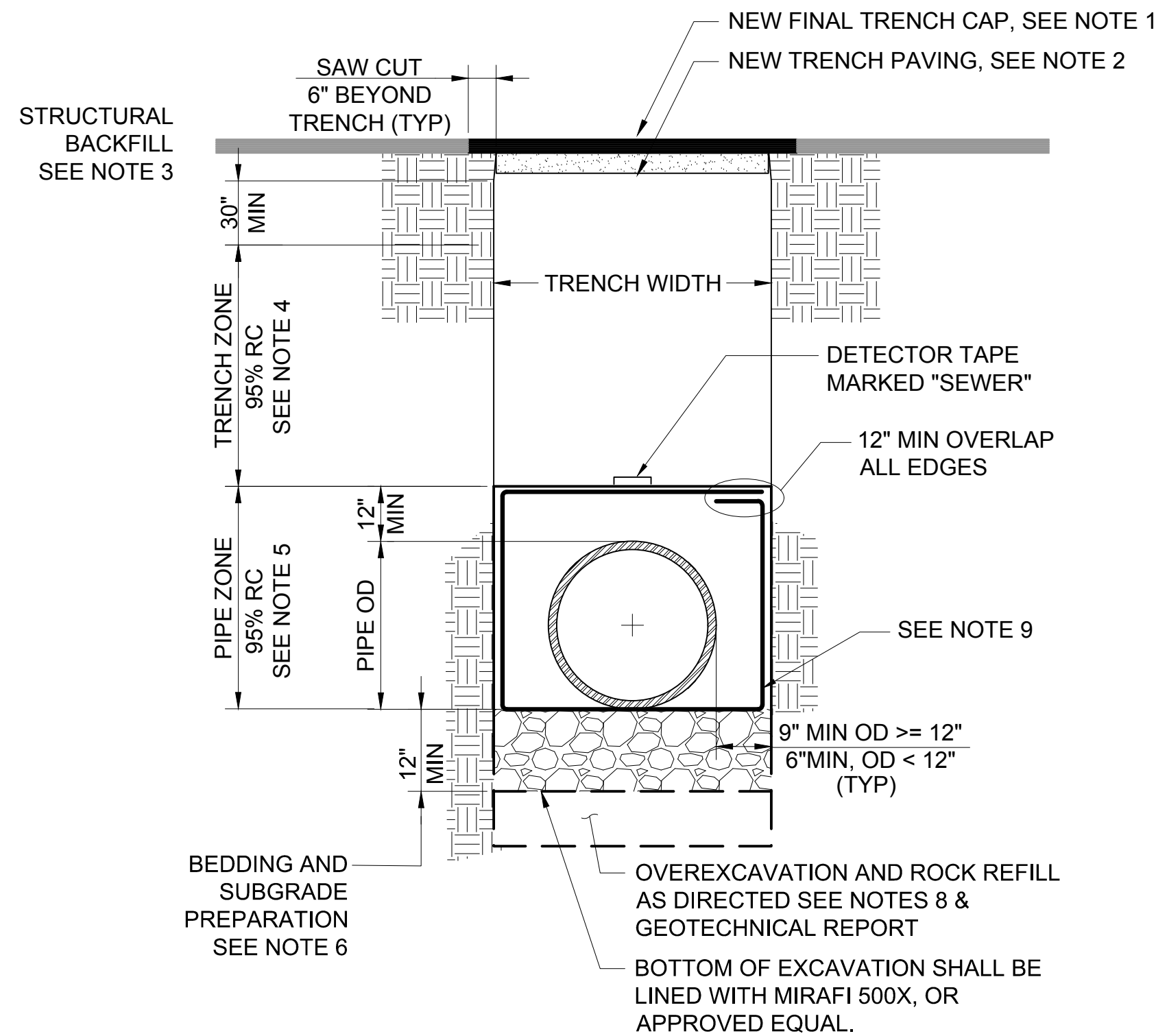
NOTES:

- ALL PIPE AND FITTINGS IN DROP CONNECTION SHALL BE THE SAME SIZE AND MATERIAL AS MAIN LINE UNLESS OTHERWISE SHOWN ON THE PLANS.
- BITUMASTIC SHALL BE USED ON ALL MANHOLE JOINTS, EXCLUDING GRADE RINGS.
- BEDDING AND SUBGRADE PREPARATION SHALL MATCH PIPELINE.
- NO MANHOLE STEPS.

NEW PRECAST CONCRETE MANHOLE

SCALE:NTS

3



NOTES:

- NEW FINAL TRENCH CAP 2.0-2.5 INCHES HMA, GRIND AND OVERLAY LIMITS PER ENCROACHMENT PERMIT PROVISIONS AND AS SHOWN ON DWG C-1.
- NEW TRENCH PAVEMENT. EXISTING PAVEMENT DEPTH PLUS 1.0 INCH. (TRENCH CAP PLUS TRENCH PAVEMENT=7" MAX. DEPTH) MINIMUM 3 FEET TRENCH PAVEMENT WIDTH.
- STRUCTURAL BACKFILL SHALL BE CONTROLLED LOW-STRENGTH MATERIAL IN ACCORDANCE WITH SECTION 02221.
- TRENCH ZONE SHALL BE NATIVE OR IMPORTED MATERIAL IN ACCORDANCE WITH SECTION 02221.
- PIPE ZONE SHALL BE CLEAN CRUSHED ROCK STONE IN ACCORDANCE WITH SECTION 02221.
- BEDDING AND SUBGRADE MATERIAL SHALL BE 3/4-INCH ROCK IN ACCORDANCE WITH SECTION 02221.
- WHERE GROUNDWATER IS ENCOUNTERED IN THE TRENCH, EXTEND THE PIPE ZONE UP TO THE SUBMERGED PORTION OF TRENCH ZONE.
- WHERE UNSUITABLE SOILS ARE ENCOUNTERED BEYOND THE SUBGRADE PREPARATION, OVEREXCAVATE TO COMPETENT MATERIAL (AS DETERMINED BY SOILS ENGINEER) AND REPLACE WITH ROCK REFILL IN ACCORDANCE WITH SECTION 02221.
- PIPE ZONE SHALL BE ENVELOPED WITH MIRAFI 140N GEOTEXTILE OR APPROVED EQUAL.

TYPICAL TRENCH DETAIL

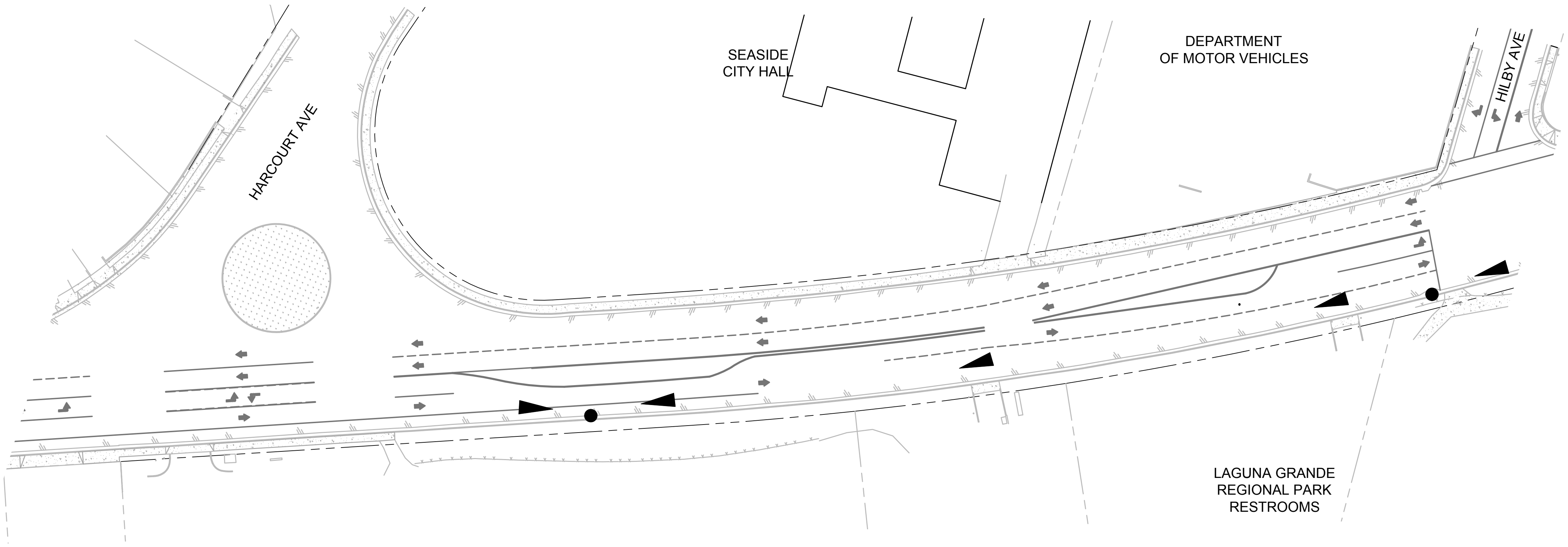
SCALE:NTS

4

BENCHMARK:

Description:	CALTRANS BRASS DISK
Location:	NORTHWEST CORNER OF HIGHWAY 218 & FRANCIS STREET
Record From:	CALTRANS R/W MAPS
Elev:	37.08'
Datum:	NAVD-88

DATE	REVISIONS
	SEASIDE COUNTY SANITATION DISTRICT 440 HARCOURT AVE. CA. 93955 (408) 899-6230
	SHEET TITLE: STANDARD DETAILS
	PROJECT TITLE: CANYON DEL REY CMP SEWER MAIN REPLACEMENT PROJECT
SHEET STATUS: ☐ PRELIMINARY ☐ SEMI-FINAL ☐ FINAL ☐ OTHER	PROJECT No. 953-8820-9205
SCALE: AS SHOWN	SHEET 9
	DRAWING FILE No. CD-4



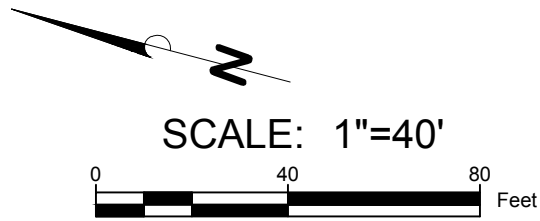
CANYON DEL REY BLVD (SR-218)

NOTES

- 1 THE INFORMATION ON THIS SITE PLAN IS INTENDED TO BE USED AS A GUIDELINE FOR THE CONTRACTOR AND SUBCONTRACTOR TO INSTALL WATER POLLUTION CONTROL DEVICES AT GENERAL LOCATIONS THROUGHOUT THE PROJECT SITE.
- 2 INLET PROTECTION REQUIRED AT ALL STORM DRAINS RECEIVING RUNOFF FROM DISTURBED SOIL AREAS, CONTRACTOR SHALL SUBMIT FOR APPROVAL.
- 3 CONTRACTOR TO UPDATE/REVISE SHEET AS NECESSARY.
- 4 THE INFORMATION ON THIS SITE PLAN IS ACCURATE FOR WATER POLLUTION CONTROL PURPOSES ONLY.
- 5 CONTRACTOR SHALL CLEANUP THE SITE DAILY PER SECTION 02050, THIS SHALL INCLUDE DAILY SWEEPING, REMOVING MATERIALS AND OTHER TRASH AND DEBRIS FROM THE CONSTRUCTION SITE. CONTRACTOR SHALL PERFORM AT MINIMUM DAILY OR MORE FREQUENT AS NEEDED, OR DIRECTED BY THE DISTRICT.

LEGEND

- STORM DRAINS AFFECTED BY CONSTRUCTION
- ▲ SURFACE FLOW TO STORM DRAIN ARROWS



SCALE: 1"=40'

0 40 80 Feet

BENCHMARK:

Description: CALTRANS BRASS DISK
Location: NORTHWEST CORNER OF HIGHWAY 218 & FRANCIS STREET
Record From: CALTRANS R/W MAP
Elev: 37.08' Datum: NAVD-88

DATE	REVISIONS	
	SEASIDE COUNTY SANITATION DISTRICT 440 HARCOURT AVE. CA. 93955 (408) 899-6230	
	SHEET TITLE: WATER POLLUTION CONTROL SITE PLAN	PROJECT No. 953-8820-9205
	SHEET STATUS: ☐ PRELIMINARY ☐ SEMI-FINAL ☐ FINAL ☐ OTHER	SHEET 10
SCALE: 1"=40' HORIZ	PROJECT TITLE: CANYON DEL REY CMP SEWER MAIN REPLACEMENT PROJECT	
		DRAWING FILE No. WPCP-1

DESIGNED BY:
DM

DRAWN BY:
DM

CHECKED BY:
RW



1401 Commercial Way, Suite 100
Bakersfield, California 93309
T 661.529.2190
www.iecorporation.com

PREPARED UNDER THE
DIRECT SUPERVISION
OF:



11/05/2019
DATE

- - WORK ZONE
- - DIRECTION OF TRAFFIC
- - PORTABLE TRAFFIC SIGN
- - PORTABLE TUBULAR DELINEATORS @ 15' SPACING MAX.
- - TYPE III BARRICADE
- - FLAGGER
- - ARROW BOARD

Legend:

- PORTABLE TRAFFIC SIGN
- PORTABLE TUBULAR DELINEATORS @ 15' SPACING MAX.
- TYPE III BARRICADE
- FLAGGER
- ARROW BOARD

Diagram Labels:

- HARCOURT AVE
- CANYON DEL REY BLVD (SR 218)
- 245' MERGE TAPER
- R3-2, SC9 (CA)
- R4-7A
- W20-1
- W11-1, W16-1
- W1-4(R)
- W4-2(L)
- C20(CA) L
- W20-1
- HILBY AVE
- Stationing: 12+00, 14+00, 15+00, 16+00, 17+00, 18+42.45

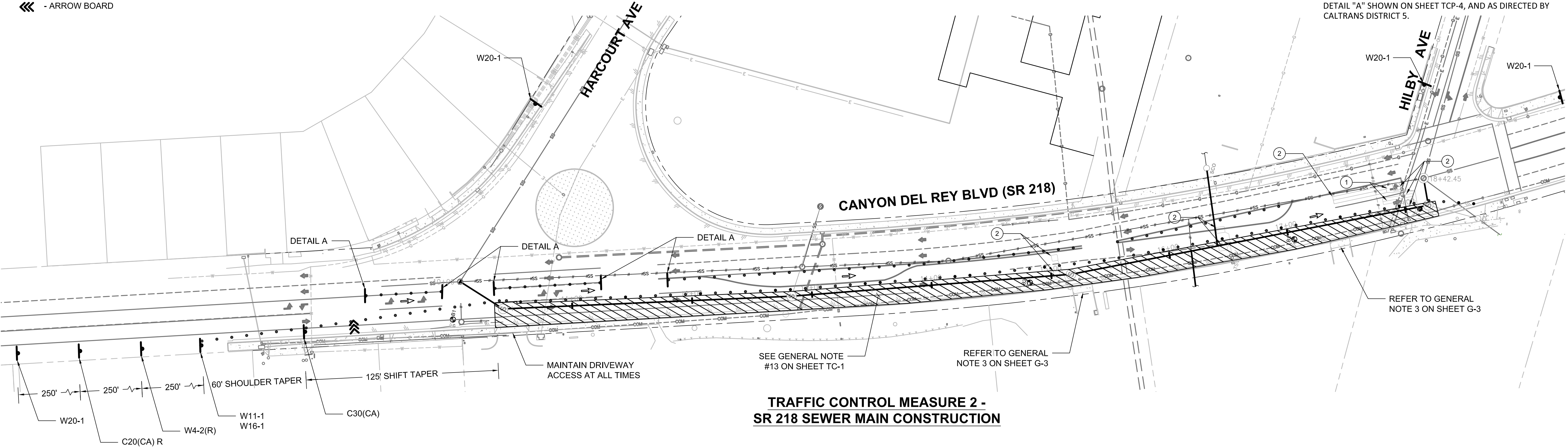
LEGEND

- WORK ZONE
- DIRECTION OF TRAFFIC
- PORTABLE TRAFFIC SIGN
- PORTABLE TUBULAR DELINEATORS @ 15' SPACING MAX.
- TYPE III BARRICADE
- FLAGGER
- ARROW BOARD

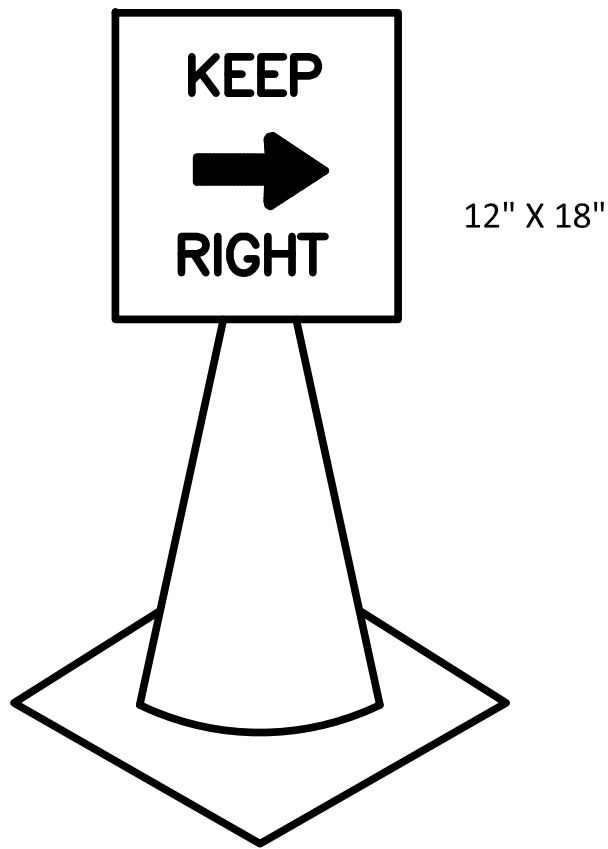
* REFER TO SHEET TC-1 FOR GENERAL NOTES.

PROJECT NOTES (THIS SHEET)

- FURNISH AND INSTALL VIDEO DETECTION CAMERA FOR SOUTHBOUND TRAFFIC. DETECTION CAMERA SHALL BE CONNECTED TO THE SIGNAL CONTROLLER AND SHALL BE FULLY FUNCTIONAL PRIOR TO COMMENCEMENT OF CONSTRUCTION WORK. TEMPORARY DETECTION CAMERAS SHALL BE REMOVED AFTER CONSTRUCTION WORK AND TRAFFIC SIGNAL AND DETECTION LOOPS SHALL REVERT TO NORMAL OPERATIONS.
- REPAIR/REPLACE TRAFFIC SIGNAL LOOP DETECTOR PER DETAIL "A" SHOWN ON SHEET TCP-4, AND AS DIRECTED BY CALTRANS DISTRICT 5.



TRAFFIC CONTROL MEASURE 2 -
SR 218 SEWER MAIN CONSTRUCTION



DETAIL A

SIGN LEGEND

 C30(CA)	 R9-11A(L)	 W4-2(R)	 C20(CA) R
 M4-10 (L)	 SC3 (CA)	 W4-2 (L)	 C20(CA) L
 R3-2	 SC9 (CA)	 W11-1	
 R3-7(L)	 W1-4 (R)	 W16-1	
 R4-7A		 W20-1	
 R9-9			

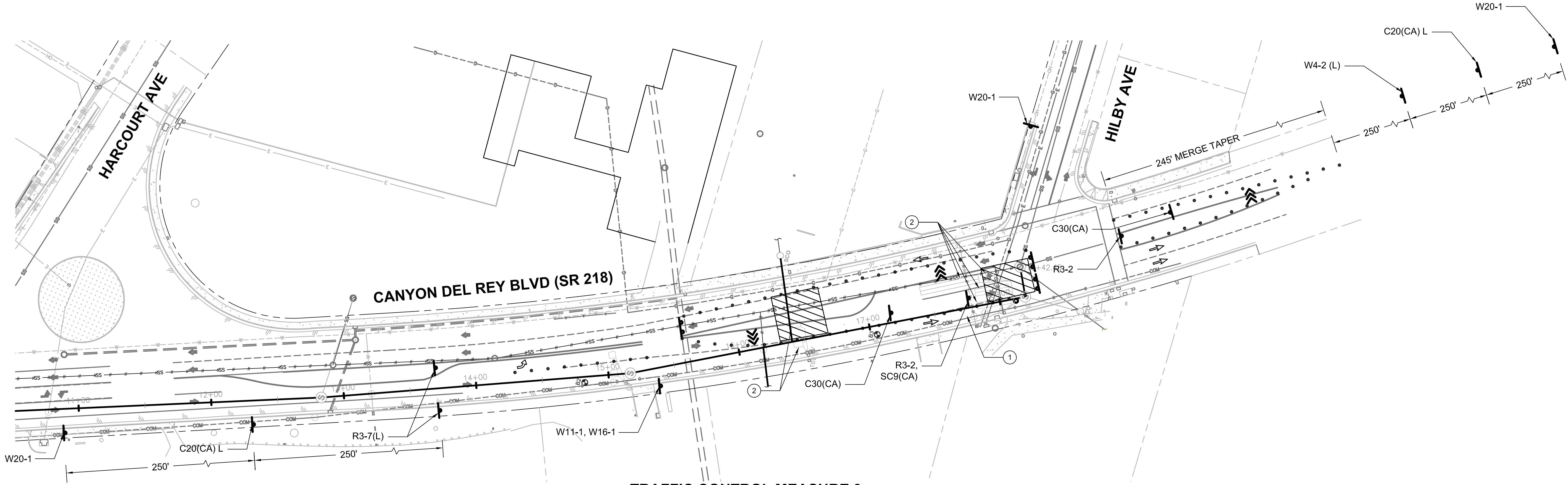
BENCHMARK:
Description: CALTRANS BRASS DISK
Location: NORTHWEST CORNER OF HIGHWAY 218 & FRANCIS STREET
Record From: CALTRANS R/W MAPS
Elev: 37.08'
Datum: NAVD-88

SCALE: 1"=40'
0 40 80 Feet

DESIGNED BY: CL	 220 Montgomery St, Suite 346 San Francisco, CA 94104	
DRAWN BY: FF		
CHECKED BY: SK		
PREPARED UNDER THE DIRECT SUPERVISION OF: 11/05/2019 DATE		

DATE	REVISIONS
	SEASIDE COUNTY SANITATION DISTRICT 440 HARCOURT AVE. CA. 93955 (408) 899-6230
SHEET STATUS: ☐ PRELIMINARY ☐ SEMI-FINAL ☐ FINAL ☐ OTHER	SHEET TITLE: BID SCHEDULE A-TRAFFIC CONTROL-MEASURE 2 CANYON DEL REY SEWER MAIN
SCALE: 1"=40'	PROJECT TITLE: CANYON DEL REY CMP SEWER MAIN REPLACEMENT PROJECT
	PROJECT No. 953-8820-9205
	SHEET 12
	DRAWING FILE No. TC-2

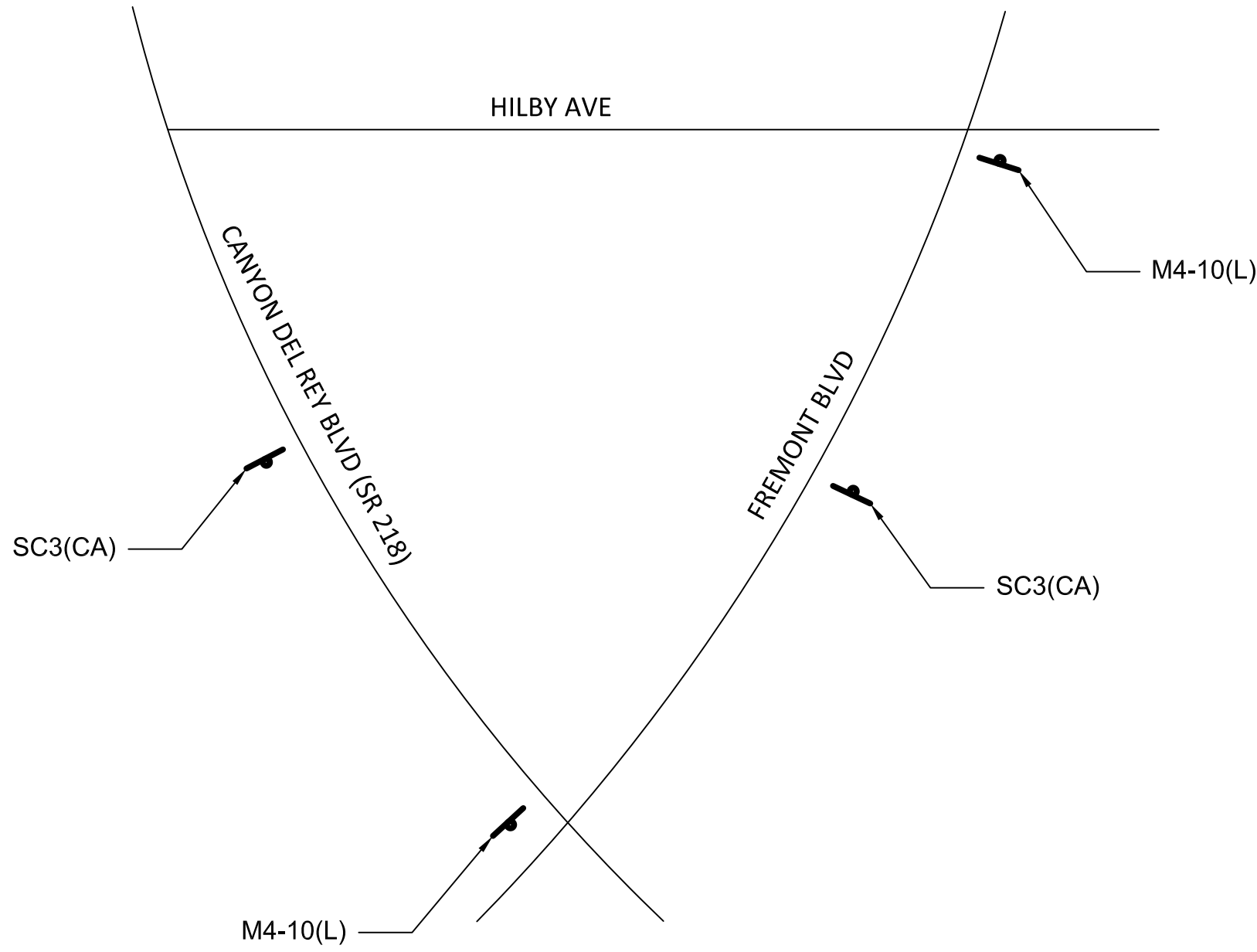
* REFER TO SHEET TC-1 FOR GENERAL NOTES.
REFER TO SHEET TC-2 FOR SIGN LEGEND.



TRAFFIC CONTROL MEASURE 3 -
STA 16+50 AND HILBY AVE LATERAL CONNECTIONS

PROJECT NOTES (THIS SHEET)

- ① FURNISH AND INSTALL VIDEO DETECTION CAMERA FOR SOUTHBOUND TRAFFIC. DETECTION CAMERA SHALL BE CONNECTED TO THE SIGNAL CONTROLLER AND SHALL BE FULLY FUNCTIONAL PRIOR TO COMMENCEMENT OF CONSTRUCTION WORK. TEMPORARY DETECTION CAMERAS SHALL BE REMOVED AFTER CONSTRUCTION WORK AND TRAFFIC SIGNAL AND DETECTION LOOPS SHALL REVERT TO NORMAL OPERATIONS.
- ② REPAIR/REPLACE TRAFFIC SIGNAL LOOP DETECTOR PER DETAIL "A" SHOWN ON SHEET TCP-4, AND AS DIRECTED BY CALTRANS DISTRICT 5.



MEASURE 3 - DETOUR MAP
NTS

LEGEND

- WORK ZONE
- DIRECTION OF TRAFFIC
- PORTABLE TRAFFIC SIGN
- PORTABLE TUBULAR DELINEATORS @ 15' SPACING MAX.
- TYPE III BARRICADE
- FLAGGER
- ARROW BOARD

DESIGNED BY:
CL

DRAWN BY:
FF

CHECKED BY:
SK

220 Montgomery St, Suite 346
San Francisco, CA 94104

PREPARED UNDER THE
DIRECT SUPERVISION
OF:

11/05/2019
DATE

BENCHMARK:
Description:
CALTRANS BRASS DISK
Location:
NORTHWEST CORNER OF HIGHWAY 218 & FRANCIS STREET

Record From: CALTRANS R/W MAPS
Elev: 37.08'
Datum: NAVD-88

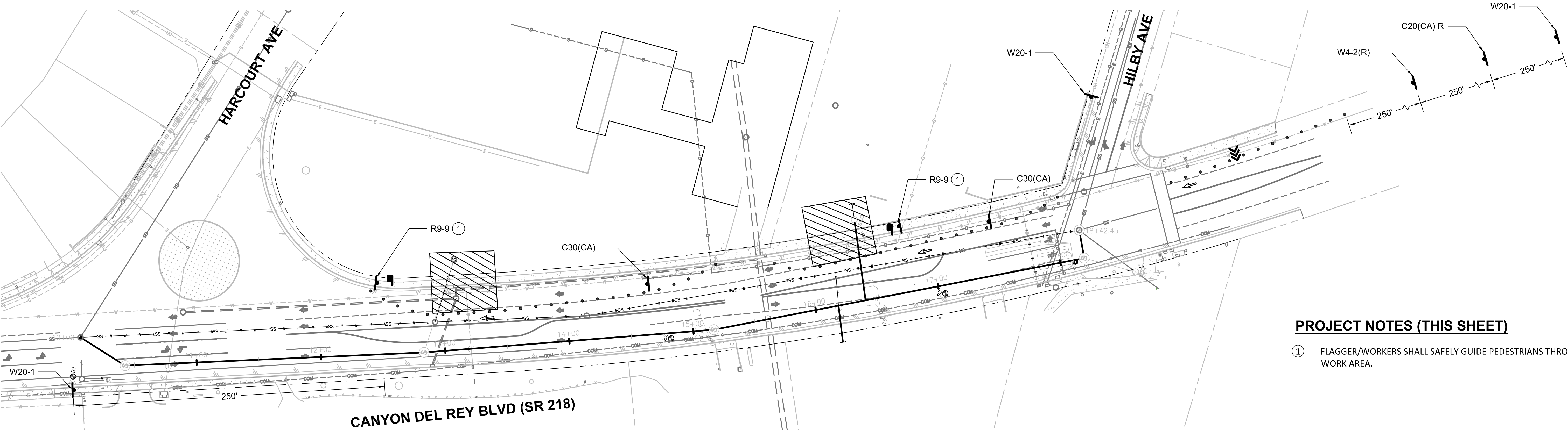
SCALE: 1"=40'

DATE	REVISIONS	
	SEASIDE COUNTY SANITATION DISTRICT 440 HARCOURT AVE. CA. 93955 (408) 899-6230	
SHEET STATUS: ☐ PRELIMINARY ☐ SEMI-FINAL ☐ FINAL ☐ OTHER	SHEET TITLE: BID SCHEDULE A-TRAFFIC CONTROL- MEASURE 3 CANYON DEL REY SEWER CENTER CONNECTION	PROJECT No. 953-8820-9205
SCALE: 1"=40'	CANYON DEL REY CMP SEWER MAIN REPLACEMENT PROJECT	SHEET 13
		DRAWING FILE No. TC-3

LEGEND

- WORK ZONE
- DIRECTION OF TRAFFIC
- PORTABLE TRAFFIC SIGN
- PORTABLE TUBULAR DELINEATORS @ 15' SPACING MAX.
- TYPE III BARRICADE
- FLAGGER
- ARROW BOARD

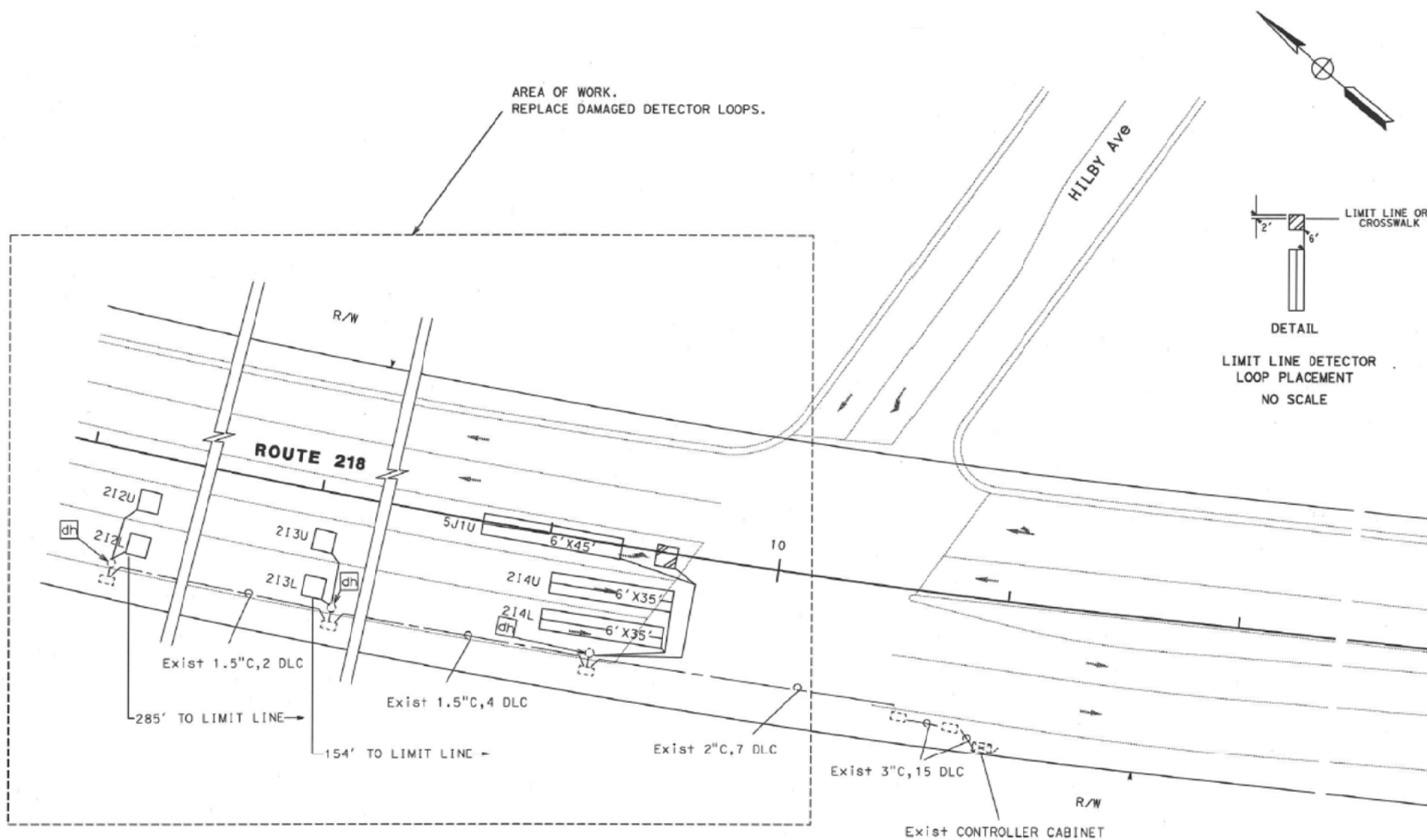
* REFER TO SHEET TC-1 FOR GENERAL NOTES.
REFER TO SHEET TC-2 FOR SIGN LEGEND.



PROJECT NOTES (THIS SHEET)

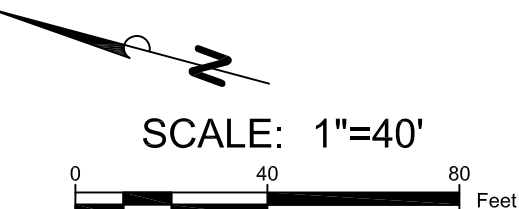
- ① FLAGGER/WORKERS SHALL SAFELY GUIDE PEDESTRIANS THROUGH WORK AREA.

TRAFFIC CONTROL MEASURE 4 -
STA 15+00 AND STA 16+50 LATERAL CONNECTIONS



DETAIL "A"

BENCHMARK:
Description: CALTRANS BRASS DISK
Location: NORTHWEST CORNER OF HIGHWAY 218 & FRANCIS STREET
Record From: CALTRANS R/W MAPS
Elev: 37.08'
Datum: NAVD-88



DESIGNED BY: CL
DRAWN BY: FF
CHECKED BY: SK

220 Montgomery St, Suite 346
San Francisco, CA 94104

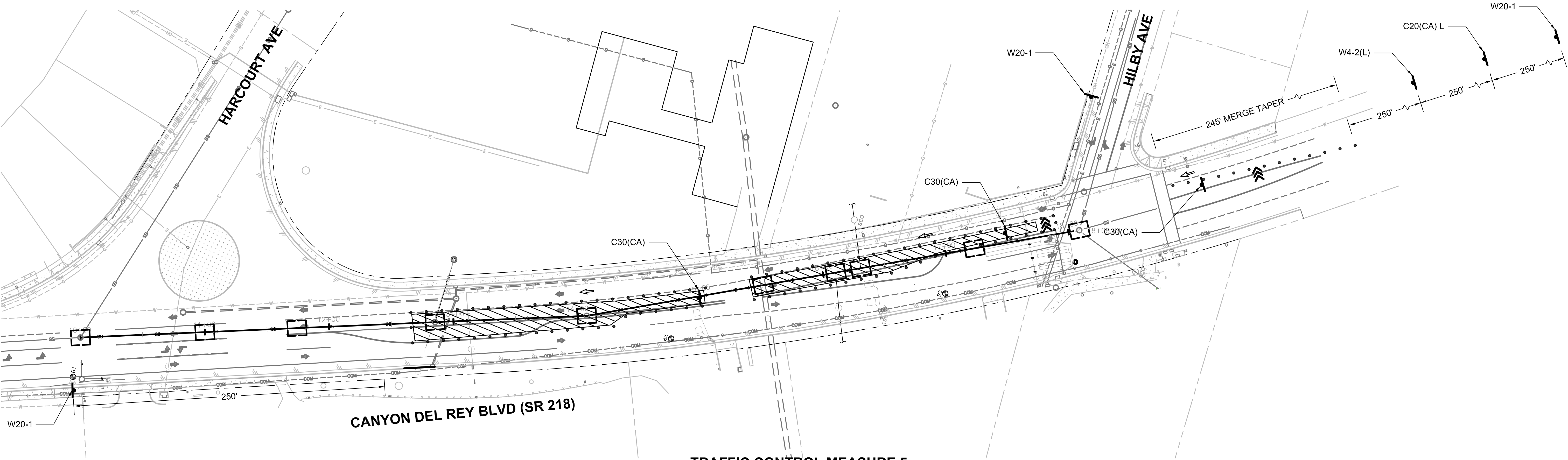
PREPARED UNDER THE
DIRECT SUPERVISION
OF:
11/05/2019
DATE

DATE		REVISIONS	
		SEASIDE COUNTY SANITATION DISTRICT 440 HARCOURT AVE. CA. 93955 (408) 899-6230	
SHEET STATUS: ☐ PRELIMINARY ☐ SEMI-FINAL ☐ FINAL ☐ OTHER		SHEET TITLE: BID SCHEDULE A-TRAFFIC CONTROL- MEASURE 4 CANYON DEL REY EAST CONNECTION	PROJECT No. 953-8820-9205
SCALE: 1"=40'		PROJECT TITLE: CANYON DEL REY CMP SEWER MAIN REPLACEMENT PROJECT	SHEET 14 DRAWING FILE No. TC-4

LEGEND

- WORK ZONE
- DIRECTION OF TRAFFIC
- PORTABLE TRAFFIC SIGN
- PORTABLE TUBULAR DELINEATORS @ 15' SPACING MAX.
- TYPE III BARRICADE
- FLAGGER
- ARROW BOARD

* REFER TO SHEET TC-1 FOR GENERAL NOTES.
REFER TO SHEET TC-2 FOR SIGN LEGEND.



TRAFFIC CONTROL MEASURE 5 -
STA 12+70 AND STA 16+50 PIPE BURSTING

DESIGNED BY:
CL

DRAWN BY:
FF

CHECKED BY:
SK

220 Montgomery St, Suite 346
San Francisco, CA 94104

PREPARED UNDER THE
DIRECT SUPERVISION
OF:

11/05/2019
DATE

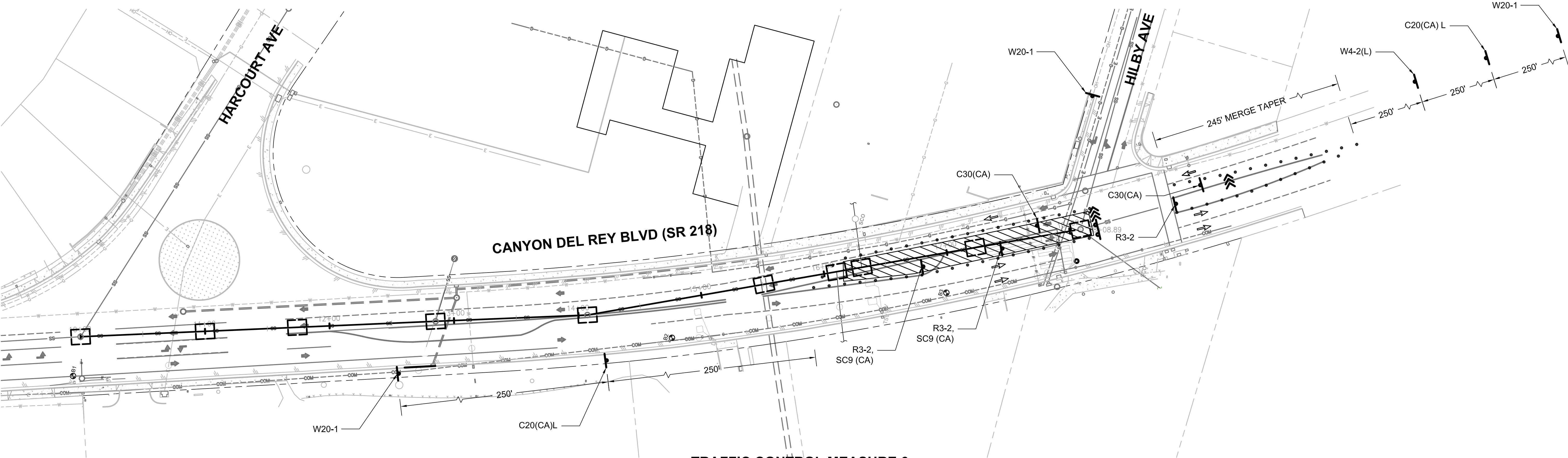
BENCHMARK:
Description: CALTRANS BRASS DISK
Location: NORTHWEST CORNER OF HIGHWAY 218 & FRANCIS STREET

Record From: CALTRANS R/W MAPS
Elev: 37.08'
Datum: NAVD-88

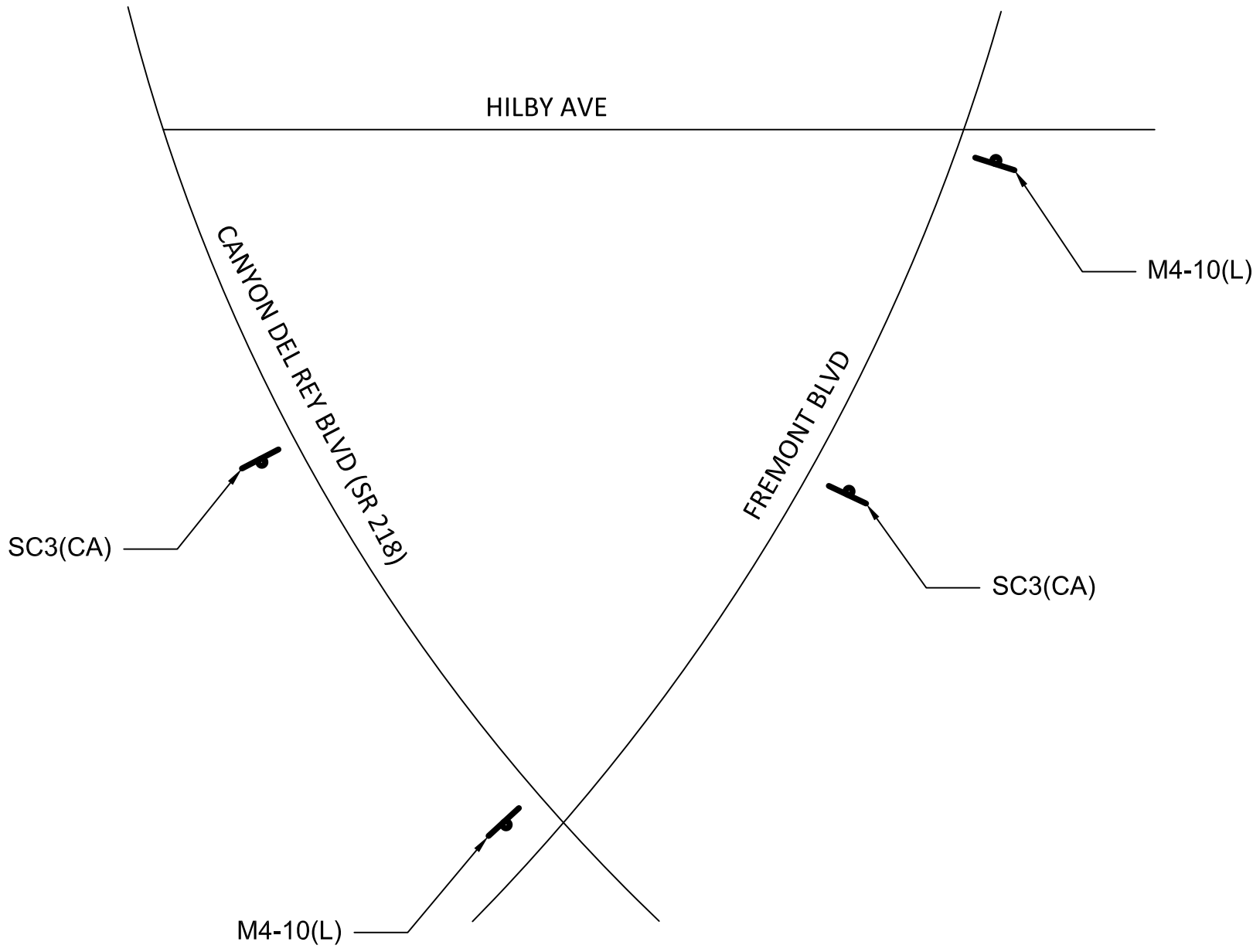
SCALE: 1"=40'

DATE	REVISIONS	
	SEASIDE COUNTY SANITATION DISTRICT 440 HARCOURT AVE. CA. 93955 (408) 899-6230	
SHEET STATUS: ☐ PRELIMINARY ☐ SEMI-FINAL ☐ FINAL ☐ OTHER	SHEET TITLE: BID SCHEDULE B-TRAFFIC CONTROL- MEASURE 5 CANYON DEL REY WEST PIPE BURSTING	PROJECT No. 953-8820-9205
SCALE: 1"=40'	PROJECT TITLE: CANYON DEL REY CMP SEWER MAIN REPLACEMENT PROJECT	SHEET 15
		DRAWING FILE No. TC-5

* REFER TO SHEET TC-1 FOR GENERAL NOTES.
REFER TO SHEET TC-2 FOR SIGN LEGEND.



TRAFFIC CONTROL MEASURE 6 -
STA 16+50 AND STA 18+50 PIPE BURSTING



MEASURE 6 - DETOUR MAP
NTS

LEGEND

- WORK ZONE
- DIRECTION OF TRAFFIC
- PORTABLE TRAFFIC SIGN
- PORTABLE TUBULAR DELINEATORS @ 15' SPACING MAX.
- TYPE III BARRICADE
- FLAGGER
- ARROW BOARD

BENCHMARK:
Description: CALTRANS BRASS DISK
Location: NORTHWEST CORNER OF HIGHWAY 218 & FRANCIS STREET
Record From: CALTRANS R/W MAPS
Elev: 37.08' Datum: NAVD-88

SCALE: 1"=40'
0 40 80 Feet

DATE	REVISIONS
	SEASIDE COUNTY SANITATION DISTRICT 440 HARCOURT AVE. CA. 93955 (408) 899-6230
SHEET STATUS: ☐ PRELIMINARY ☐ SEMI-FINAL ☐ FINAL ☐ OTHER	SHEET TITLE: BID SCHEDULE B-TRAFFIC CONTROL- MEASURE 6 CANYON DEL REY EAST PIPE BURSTING
PROJECT TITLE: CANYON DEL REY CMP SEWER MAIN REPLACEMENT PROJECT	PROJECT No. 953-8820-9205
SCALE: 1"=40'	SHEET 16
	DRAWING FILE No. TC-6

DESIGNED BY:
CL

DRAWN BY:
FF

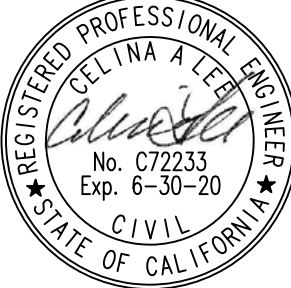
CHECKED BY:
SK



Consulting Group
220 Montgomery St, Suite 346
San Francisco, CA 94104

PREPARED UNDER THE
DIRECT SUPERVISION
OF:

11/05/2019
DATE



ADDENDUM NO. 1
TO THE CONTRACT DOCUMENTS FOR
CANYON DEL REY CMP SEWER MAIN REPLACEMENT PROJECT
JANUARY 16, 2020

TO: ALL PLANHOLDERS
FROM: SEASIDE COUNTY SANITATION DISTRICT

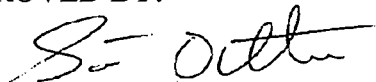
The following modifications, additions, and/or deletions are made part of the CONTRACT DOCUMENTS for the construction of the CANYON DEL REY CMP SEWER MAIN REPLACEMENT PROJECT, issued fully and completely as if same were set forth therein.

Each Bidder shall acknowledge receipt and acceptance of this Addendum No. 1 by completing the space provided in Volume I, Project Manual, Section 004100 Bid Form, Page 004100-3, Item 10. Bidder shall submit the signed acknowledgment page with their bid.



Sincerely,
SEASIDE COUNTY SANITATION DISTRICT

APPROVED BY:



Scott Ottmar, P. E., Acting District Engineer



Dolores Salgado, P.E., Engineer

DATE: January 17, 2020

1. VOLUME I – PROJECT MANUAL, BID FORM 00 41 00

- a. Modify bid items A21 and B16 by replacing:

Bid Form page 00 41 00-6 with page 00 41 00-6A

Bid Form page 00 41 00-8 with page 00 41 00-6A

2. VOLUME I – PROJECT MANUAL, TECHNICAL SPECIFICATIONS, SECTION 01010 – SUMMARY OF WORK

- a. Modify Paragraph 2.21 and 2.39 to read:

Payment for Install ADS Echo shall be paid for at the contract ~~lump-sum~~ unit price, complete and in accordance with the Contract Documents, and as directed by the Owner. The contract price for work under this items shall include, but not be limited to, furnishing all labor, material, tools, and equipment, testing, programming, and performing all work required for mounting and providing a fully-functioning ADS Echo system inside a manhole using the Wall Mount Bracket and Bar as directed by the Owner and per manufacturers recommendations and installation instructions.

The Owner reserves the right to vary quantities plus or minus 100% using the bid unit price to accommodate conditions encountered in the field. These adjustments are considered to be within the original contract scope and as such will not be considered as a basis for extra work, extra cost, or extra time.

3. VOLUME I – PROJECT MANUAL, TECHNICAL SPECIFICATIONS, DIVISION 2, SECTION 02345 – PIPE BURSTING

- a. Modify Paragraph 3.5, Page 6 to read:

3.5 PIPE TESTING

All tests shall be completed and approved prior to placing of permanent resurfacing.

Testing of pipe shall be in conformance with the requirements as stated on the Approved Drawings and in accordance with the Owner's requirements.

After completion of construction of the pipeline and prior to final pavement restoration, the Contractor shall inspect all new pipelines for obstructions and shall clean all new lines using the Wayne sewer ball method or other approved method. The Contractor shall inspect the new lines by television camera in accordance with Section 01680, Closed-Circuit Television (CCTV) Inspections and submit logs and videos to the Owner. Television inspection shall be witnessed by the Owner or its appointed delegate.

Any lines showing unacceptable pipe construction such as offset joints >1/2" or deformed pipe shape (ovality >7% of pipe diameter) or deviation from line and grades shown in the Approved Drawings will be rejected and contractor will be required to repair those deficiencies at no additional cost to the Owner.

If it is determined by the Owner or its appointed delegate that there is a sag or hump in the installed piping after completion of pipe bursting and repair is required, then the Contractor shall repair the sag or hump for the length directed by the Owner. The sag repair shall be performed in accordance with these Specifications and would require excavation down to the new pipe and correcting the vertical alignment of the pipe with bedding and backfill material as required in Section 02221 – Trenching, Backfill and Compaction.

If the sag is in a location of a previous existing sag, then the sag repair shall be paid at the unit price per foot of actual footage repaired.

If the sag or hump is in a location where there was not a previous existing sag, then the Contractor shall repair the sag or hump at no additional cost to the Owner.

4. VOLUME II – CONSTRUCTION DRAWINGS

- a. Replace drawing C-2 with C-2A attached.

ADDENDUM NO. 1 ATTACHMENTS

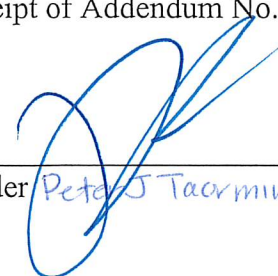
1. Bid Form 00 441 00A, pages 6 and 8
2. Approved Drawing C-2A

END OF ADDENDUM NO. 1

BIDDER'S ACKNOWLEDGMENT

Receipt of Addendum No. 1 is hereby acknowledged:

Bidder

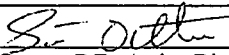
 Peter J. Tacorma, Manager

Date

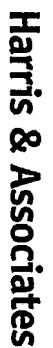
1/23/20

QUESTIONS AND ANSWERS RELATING TO
CANYON DEL REY CMP SEWER MAIN REPLACEMENT PROJECT
January 15, 2020

DATE: January 17, 2020

APPROVED BY: 
Scott Ottmar, P.E., Acting District Engineer

Question No.	Question	Response
1	Can the District provide sewer flow rates?	Peak Wet Weather Flows are 467 gallons per minute.
2	If the bursting head veers upward and off line and grade due to existing sandy soil conditions, will the District require excavation and realignment of the sewer main? What bid item is this worked included?	Bidders shall review the geotechnical report and become familiar with existing conditions at the project site. Bidders shall include costs, as necessary, to install the sewer main to line and grades shown in the Approved Drawings and in accordance with Technical Specification Section 02345.
3	What is the engineer's estimate for the project?	\$990,000



Packet Page 403

Name	Agency	Email Address	Best Contact Phone
SPDNE SCHARNICK	RAIN FOR RENT	SSCHARNICK@RAINFORRENT.COM	(559) 240-0920
Fara Osborn	Rain for Rent	e.osborn@rainforrent.com	555-304-7561
DARLENE Hughes	Pacific Underground	dhughes@pacificunderground.com	408-977-1655
JE COOPER	Bay Pacific P/D	BayPacificPrimes@yahoo.com	415-8976938
MILEE MEISNER	MOUNTAIN CASCADE INC	ESTIMATING@MOUNTAINCASCAD	925-344-1332
Conor Leo	KSWoods Construction Inc.	office@kswoods.com	415-7590506

ADDENDUM NO. 2
TO THE CONTRACT DOCUMENTS FOR
CANYON DEL REY CMP SEWER MAIN REPLACEMENT PROJECT
JANUARY 21, 2020

TO: ALL PLANHOLDERS
FROM: SEASIDE COUNTY SANITATION DISTRICT

The following modifications, additions, and/or deletions are made part of the CONTRACT DOCUMENTS for the construction of the CANYON DEL REY CMP SEWER MAIN REPLACEMENT PROJECT, issued fully and completely as if same were set forth therein.

Each Bidder shall acknowledge receipt and acceptance of this Addendum No. 2 by completing the space provided in Volume I, Project Manual, Section 004100 Bid Form, Page 004100-3, Item 10. Bidder shall submit the signed acknowledgment page with their bid.



A handwritten signature in cursive script, appearing to read "Dolores Salgado".

Dolores Salgado, P.E., Engineer

Sincerely,

SEASIDE COUNTY SANITATION DISTRICT

APPROVED BY:

A handwritten signature in cursive script, appearing to read "Scott Ottmar".

Scott Ottmar, P. E., Acting District Engineer

DATE: January 21, 2020

After completion of construction of the pipeline and prior to final pavement restoration, the Contractor shall inspect all new pipelines for obstructions and shall clean all new lines using the Wayne sewer ball method or other approved method. The Contractor shall inspect the new lines by television camera in accordance with Section 01680, Closed-Circuit Television (CCTV) Inspections and submit logs and videos to the Owner. Television inspection shall be witnessed by the Owner or its appointed delegate.

Any lines showing unacceptable pipe construction such as offset joints $>1/2''$ or deformed pipe shape (ovality $>7\%$ of pipe diameter) will be rejected and contractor will be required to repair those deficiencies at no additional cost to the Owner.

If it is determined by the Owner or its appointed delegate that there is a sag or hump in the installed piping after completion of pipe bursting and repair is required, then the Contractor shall repair the sag or hump for the length directed by the Owner to the line and grades shown in the Approved Drawings. The sag repair shall be performed in accordance with these Specifications and would require excavation down to the new pipe and correcting the vertical alignment of the pipe with bedding and backfill material as required in Section 02221 – Trenching, Backfill and Compaction.

If the sag is in a location of a previous existing sag, then the sag repair shall be paid at the unit price per foot of actual footage repaired.

If the sag is in a location where there was not a previous existing sag, then the Contractor shall repair the sag at no additional cost to the Owner.

If the bursting head veers upwards from the sewer line and grade shown in the Approved Plans due to reasons out of the Contractor's ability to control the alignment, then the repair shall be paid at the unit price per foot of actual footage repaired. The District shall determine if the deviation was due to reasons out of the Contractor's control.

If the bursting head veers upwards from the sewer line and grade shown on the Approved Plans due to poor workmanship, unsuitable equipment, or other reasons within the Contractor's control, then the Contractor shall repair the sewer at no additional cost to the Owner.

The Contractor shall not proceed with bursting operations in the absence of the District's inspector who shall make such determinations. Shall the Contractor proceed without the District's representative present, deviations from line and grade shall be repaired at the Contractor's expense.

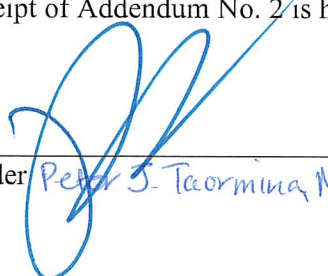
ADDENDUM NO. 2 ATTACHMENTS

1. Bid Form 00 441 00, page 8B

END OF ADDENDUM NO. 2

BIDDER'S ACKNOWLEDGMENT

Receipt of Addendum No. 2 is hereby acknowledged:


Bidder Peter J. Taormina, Manager Date 1/23/2020

DOCUMENT 00 41 00

BID FORM

Seaside County Sanitation District
District Engineer – Administrative Services
440 Harcourt Avenue
Seaside, CA 93955

Gentlemen:

The undersigned hereby proposes to perform all work for which a contract may be awarded him and to furnish any and all plant, labor, services, material, tools, equipment, supplies, transportation, utilities, and all other items and facilities necessary therefor as provided in the Contract Documents, and to do everything required therein for the construction of the **CANYON DEL REY CMP MAIN SEWER REPLACEMENT PROJECT** as specifically set forth in the Contract Documents:

Volume I Procurement Requirements, Contracting Requirements, Specification Documents, Appendices

Volume II Drawings

and undersigned further proposes and agrees that, if this Bid is accepted, undersigned will contract in the form and manner stipulated to perform all the work called for by Drawings, Specifications, and other Contract Documents, and to complete all such work to accomplish **Substantial Completion** in strict conformity therewith within the time limit of **seventy-eight (78)** consecutive calendar days from the Notice to Proceed, and to complete all such work to accomplish **Final Completion** in strict conformity therewith within the time limit of **thirty (30)** consecutive days from the certification of Substantial Completion, and that undersigned will accept as full payment therefor the fixed price set forth in the following Bid Schedule forming a part hereof.

A Cashiers check or Certified check or Bid Bond properly made payable to Seaside County Sanitation District, hereinafter designated as the Owner, for the sum of _____ Dollars (\$ _____), which amount is not less than ten percent (10%) of the total amount of this Bid, is attached hereto and is given as a guarantee that the undersigned will execute the Contract Agreement and furnish the required bonds and certificates if awarded the Contract. The undersigned acknowledges and agrees that if the undersigned fails to execute the Contract Agreement or fails to furnish the required bonds and certificates within the time provided in the Contract Documents, the proceeds of all Bid Security shall be forfeited to the Owner and any Bid Bond surety's liability to the Owner for forfeiture of the face amount of the Bond shall be considered as established.

It is understood and agreed that:

1. The undersigned has carefully examined all the Contract Documents including all additions, deletions, modifications, appendices and addenda as prepared prior to the date of bid opening.

or about the construction of the Work to be performed under the Contract Documents in which this Bid is responsive, and where the portion of the Work which will be done by each Subcontractor for each subcontract is in excess of one-half of one percent (0.5%) of the Total Base Bid. The undersigned Bidder understands that if undersigned fails to specify a Subcontractor for any portion of the Work, undersigned shall be deemed to have agreed to perform such portion himself/herself and that undersigned shall not be permitted to sublet or subcontract that portion of the Work except in cases of public emergency or necessity, and then only after a finding is reduced to writing as a public record of the Owner setting forth the facts constituting the emergency or necessity. It is further understood and agreed that the aggregate total of all subcontracts shall not exceed fifty percent (50%) of total contract price in accordance with the provisions of Instructions to Bidders.

9. Nondiscrimination in Employment. The undersigned hereby states that he has previously performed work subject to the provisions of the President's Executive Order No. 11246 relative to nondiscrimination in employment.

NOTE: Bidder shall insert "has" or "has not" as applicable in the above statement.

10. Receipt is hereby acknowledged of addenda number(s) 1 through 2;

11. The undersigned, as bidder, declares that our valid California Contractor's license number is 972425, Class A,B, Haz and that the representations made in this Bid are made under penalty of perjury.

NOW: In compliance with the Invitation to Bid and all the provisions hereinbefore stipulated, the undersigned, with full cognizance thereof, hereby proposes to perform the entire Work for the prices set forth in the attached Schedule(s) upon which award of contract is made.

BID SCHEDULES

For

CANYON DEL REY CMP SEWER MAIN REPLACEMENT PROJECT

BID SCHEDULE A – INSTALL PARALLEL SEWER MAIN				
Bid Item	Item Description	Estimated Qty and Unit	Unit Price (Figures)	Unit Price Extension or Lump Sum (Figure)
A1.	MOBILIZATION, BONDS, PERMITS, CLEANUP AND DEMOBILIZATION (maximum 8%)	LS	N/A	\$ <u>30,000-</u>
A2.	TEMPORARY EROSION CONTROL/STORM WATER POLLUTION CONTROL PLAN (WPCP)	LS	N/A	\$ <u>25,000-</u>
A3.	SHEETING, SHORING, AND BRACING	LS	N/A	\$ <u>200,000-</u>
A4	DEWATERING, TREATMENT OF GROUNDWATER, AND LEGAL DISPOSAL	LS	N/A	\$ <u>36,000-</u>
A5.	TEMPORARY SEWER BYPASS SYSTEM	LS	N/A	\$ <u>30,000-</u>
A6.	CCTV INSPECTION	LS	N/A	\$ <u>10,000-</u>
A7.	CONSTRUCT 12-INCH GRAVITY SEWER MAIN	586 LF	\$ <u>575-</u>	\$ <u>336,950-</u>
A8.	CONSTRUCT 15-INCH GRAVITY SEWER MAIN	282 LF	\$ <u>640-</u>	\$ <u>180,480-</u>
A9.	CONSTRUCT NEW 5-FT DIAMETER SEWER MANHOLE NO. A10-44, A10-45	2 EA	\$ <u>19,000-</u>	\$ <u>38,000-</u>
A10.	CONSTRUCT NEW 4-FT DIAMETER SEWER MANHOLE NO. A10-46	1 EA	\$ <u>25,000-</u>	\$ <u>25,000-</u>
A11.	CONSTRUCT NEW 4-FT DIAMETER SEWER DROP MANHOLE NO. A10-47	1 EA	\$ <u>15,000-</u>	\$ <u>15,000-</u>
A12.	CONSTRUCT SEWER LATERAL RECONNECTION	LS	\$ <u>81,000-</u>	\$ <u>81,000-</u>

RO: 09-28-17

Bid Form

00 41 00 - 5

P:\Projects\SCSD (0211)\0001 Canyon Del Rey CMP Sewer Line Replacement\Specs\Final Rebid Submittal\3.00 41 00_Bid Form.docx

ADDENDUM NO. 1 - ATTACHMENT 1 (PAGE 1 OF 2)

BID SCHEDULE A – INSTALL PARALLEL SEWER MAIN				
Bid Item	Item Description	Estimated Qty and Unit	Unit Price (Figures)	Unit Price Extension or Lump Sum (Figure)
A13.	REHABILITATE AND RECHANNEL SEWER MANHOLE NO. A10-7	LS	N/A	\$ <u>10,000-</u>
A14.	REMOVE EXISTING BRICK MANHOLE NO. A10-14 AND CONSTRUCT NEW 5-FT DIAMETER MANHOLE NO. A10-14	LS	N/A	\$ <u>29,000-</u>
A15.	ABANDON EXISTING 12-IN DIAMETER SEWER PIPE AND MANHOLE NO. A10-9 AND A10-10	810 LF	\$ <u>25-</u>	\$ <u>20,250-</u>
A16.	OVEREXCAVATION OF UNSUITABLE MATERIAL AND ROCK REFILL	50 CY	\$ <u>320-</u>	\$ <u>16,000-</u>
A17.	TRAFFIC CONTROL, FLAGGING, AND TRENCH PLATES	LS	N/A	\$ <u>150,000-</u>
A18.	PAVEMENT STRIPING AND MARKINGS	LS	N/A	\$ <u>65,000-</u>
A19.	UTILITY POTHOLE	LS	N/A	\$ <u>46,000-</u>
A20.	REPLACE TRAFFIC DETECTION LOOPS	LS	\$ <u>13,000-</u>	\$ <u>13,000-</u>
A21.	INSTALL ADS ECHO	1 EA	\$ <u>9,000-</u>	\$ <u>9,000-</u>
A22.	RECORD DRAWINGS (REDLINED AS-BUILTS), COMPLETE AT	LS	N/A	\$ 2,500
Subtotal Base Bid Schedule A, Items No. A1 through A22, inclusive (Figures)				\$ <u>1,368,120</u>
ADDITIONS FOR ADDITIONAL SCOPE NOT INCLUDED IN THE CONTRACT DOCUMENTS				
A23.	ALLOWANCE FOR CONTROLLED LOW-STRENGTH MATERIAL (CLSM)	10 CY	\$ <u>250-</u> \$ 125	\$ <u>2,500-</u> \$ 1,250-
Subtotal Additions, Item No. A23, inclusive (Figures)				\$ <u>1,250- 2,500-</u>
Total Base Bid Schedule A and Additions, Items No. A1 through A23 in words				
is: <u>One Million, three hundred thousand, six hundred & Eighty & 700</u>				

END BID SCHEDULE A

BID SCHEDULE B – INSTALL SEWER MAIN USING PIPE BURSTING				
Bid Item	Item Description	Estimated Quantity and Unit	Unit Price (Figures)	Unit Price Extension or Lump Sum (Figure)
B1.	MOBILIZATION, BONDS, PERMITS, CLEANUP AND DEMOBILIZATION (maximum 8%)	LS	N/A	\$ _____
B2.	TEMPORARY EROSION CONTROL/STORM WATER POLLUTION CONTROL PLAN (WPCP)	LS	N/A	\$ _____
B3.	SHEETING, SHORING, AND BRACING	LS	N/A	\$ _____
B4.	DEWATERING, TREATMENT OF GROUNDWATER, AND LEGAL DISPOSAL	LS	N/A	\$ _____
B5.	TEMPORARY SEWER BYPASS SYSTEM	LS	N/A	\$ _____
B6.	CCTV INSPECTION	LS	N/A	\$ _____
B7.	PIPE BURST EXIST 12-INCH CMP SEWER MAIN WITH 12-INCH HDPE SEWER MAIN	525 LF	\$ _____	\$ _____
B8.	PIPE BURST EXIST 12-INCH CMP SEWER MAIN WITH 16-INCH HDPE SEWER MAIN	285 LF	\$ _____	\$ _____
B9.	CONSTRUCT SEWER LATERAL RECONNECTION	LS	\$ _____	\$ _____
B10.	REHABILITATE AND EPOXY LINE SEWER MANHOLE NO. A10-7, A10-9, A10-10	LS	N/A	\$ _____
B11.	REMOVE EXISTING BRICK MANHOLE NO. A10-14 AND CONSTRUCT NEW 5-FT DIAMETER MANHOLE NO. A10-14	LS	N/A	\$ _____
B12.	OVEREXCAVATION OF UNSUITABLE MATERIAL AND ROCK REFILL	50 CY	\$ _____	\$ _____
B13.	TRAFFIC CONTROL, FLAGGING, AND TRENCH PLATES	LS	N/A	\$ _____

BID SCHEDULE B – INSTALL SEWER MAIN USING PIPE BURSTING				
Bid Item	Item Description	Estimated Quantity and Unit	Unit Price (Figures)	Unit Price Extension or Lump Sum (Figure)
B14.	PAVEMENT STRIPING AND MARKINGS	LS	N/A	\$ _____
B15.	UTILITY POTHoles	LS	N/A	\$ _____
B16.	INSTALL ADS ECHO	1 EA	\$ _____	\$ _____
B17.	RECORD DRAWINGS (REDLINED AS-BUILTS), COMPLETE AT	LS	N/A	\$ 2,500
Subtotal Base Bid Schedule B, Items No. B1 through B17, inclusive (Figures)				\$ _____
ADDITIONS FOR ADDITIONAL SCOPE NOT INCLUDED IN THE CONTRACT DOCUMENTS				
B18.	ALLOWANCE FOR AC SURFACE REPAIR AFTER PIPE BURSTING	600 SF	\$ _____	\$ _____
B19.	ALLOWANCE FOR REPAIR AFTER PIPE BURSTING	200 LF	\$ _____	\$ _____
Subtotal Additions, Item No. B18 through B19, inclusive (Figures)				\$ _____
Total Base Bid Schedule B and Additions, Items No. B1 through B19 in words				
is: _____				

END BID SCHEDULE B

LIST OF MATERIAL AND EQUIPMENT MANUFACTURERS

The undersigned Bidder understands and agrees that the Owner may consider this bid incomplete unless the bidder names a manufacturer for each item of equipment or material in the following list. Not more than one (1) manufacturer shall be named for each item of equipment or material. The undersigned Bidder hereby agrees that, after submission of this Bid, he will not make any change in the following list of manufacturers and will not award a contract or agreement of any kind to a manufacturer not listed below for the listed items of equipment or material unless such change, award, or agreement is first approved in writing by the Owner according to the provisions of the Contract Documents pertaining to substitutions and equals. The manufacturers named below produce the listed items of equipment or material that comply with the requirements of the Contract Documents, and the undersigned Bidder will furnish and install the complying equipment or material of the manufacturer respectively named in the following list. If the Owner determines that any listed manufacturer does not produce equipment or material that complies with the Contract Documents, the Contractor will be required to furnish such equipment and/or material from a different approved manufacturer at no increase in cost to the Owner.

SCHEDULE OF MANUFACTURERS

Item Description	Manufacturer
ADS Echo monitoring solution	ADS

CONTRACTOR'S LICENSING STATEMENT

The undersigned is licensed in accordance with the laws of the State of California providing for the registration of Contractors.

Contractor's License Number: 972425

Name of Individual Contractor (Print or Type): _____

Signature of Owner: _____

Business Address and Telephone Number: _____

Name of Firm: Monterey Peninsula Engineering

Business Address and Telephone Number: 192 Healy Avenue, Marina, CA 93933, (831)384-4081

Signature, title, and address of members signing on behalf of the partnership: _____

Name: _____ Title Peter J. Taormina, Manager

Address Same as above

Name _____ Title _____

Address _____

Name _____ Title _____

Address _____

Or

Name of Corporation _____

Business Address and Telephone Number _____

Corporation organized under the laws of the State of _____

Signature of President of Corporation

Signature of Secretary of Corporation

	MONTEREY PENINSULA ENGINEERING	AS OF			
	JOB INVENTORY LIST - 2008-2018	30-Jan-19			
YEAR	JOB NAME	Customer	Contact Person	Phone #	FINAL/CONTRACT
2010	APTOS TRANSMISSION MAIN RELOCATION PROJECT	COUNTY OF SANTA CRUZ	HDR--RON PERKINS	916-817-4700	\$5,930,000.00
2011	ROAD REHABILITATION PROJECT	CITY OF HOLLISTER	DAVID RUBCIC	831-636-4340	\$1,296,439.33
2012	LA MESA CLIFFS	CLARK BUILDERS GROUP	ALLEN BRANDT	831-583-2726	\$2,003,534.00
	HUCKLEBERRY HILL WATER STORAGE TANK	PEBBLE BEACH COMM SVCS DIST.	MIKE NICCUM	831-647-5604	\$1,078,780.00
	RECONSTRUCTION OF WASTEWATER PUMP STATION 11 & FORCE MAIN REPLACEMENT	CITY OF PACIFIC GROVE	MIKE ZIMMER	831-648-5722	\$1,799,309.00
	URBAN RUNOFF DIVERSION - PHASE 3	CITY OF PACIFIC GROVE	MIKE ZIMMER	831-648-5722	combined with above project
2013	OCEAN STREET SEWER	CITY OF SANTA CRUZ	STEVE WOLFMAN	831-420-5428	\$1,145,797.00
	2013 SEASIDE MAIN REPLACEMENTS PHASE 1 M1314	CALIFORNIA AMERICAN WATER	GARY HOFSEHER	831-646-3253	\$1,045,596.00
	RESERVATION ROAD IMPROVEMENTS PROJECT	CITY OF MARINA	EDRIE DE LOS SANTOS	831-884-1212	\$2,034,637.00
2014	DAVIS ROAD CLASS II BIKEWAY PROJECT 14-869465	MONTEREY COUNTY RESOURCE MANG AG	JONATHAN PASCUA	831-755-8963	\$921,212.00
	MONTEREY SANITARY SEWER REPAIRS	CITY OF MONTEREY	LORI LYNN WILLIAMSON	831-242-8746	\$2,129,946.00
	SANITARY SEWER MANHOLE PIPELINE REPAIR REHABILITATION	SOUTHWEST PIPELINE	RON BOLGER	310-329-8717	\$1,237,250.00
	OLYMPIA MUTUAL WATER CONSOLIDATION PROJECT	SAN LORENZO VALLEY WATER DIST.	ROB MENZIES	831-430-4615	\$1,408,595.00
	OAK RIDGE/ VIA DEL SOL	AROMAS WATER DISTRICT OFFICE	VICKI MORRIS	831-726-3155	\$1,768,390.00
	SPRINGHILL SUITES - MARINA	COVENANT CONSTRUCTION	ORVILLE WILLIAMS	659-351-5868	\$2,246,000.00
	TEST SLANT WELL-CIVIL WORK PROJECT	CAL AM	DOUGLAS A FRASER	831-236-4494	\$661,400.00
	CAPITAL PROJECTS PHASE 7 FOR WASTEWATER COLLECTION SYSTEM	CITY OF PACIFIC GROVE	DANIEL GHO	831-648-5722	\$1,039,921.00
	REGIONAL WATER SYSTEM INTERTIES NO 2,3 & 4 - HWY 9	SAN LORENZO VALLEY WATER DIST.	RICK ROGERS	831-338-2153	\$5,733,682.00
2015	CALIFORNIA CENTRAL COAST VETERANS CEMETARY	THE STATE OF CALIFORNIA	GORDON TESSMAN	559-896-1443	\$1,280,000.00
	SALINAS SOURCE WATER-IND WASTEWATER DIV PROJECT	MRWPCA	JENNIFER GONZALEZ	831-883-6172	\$1,165,000.00
	2015 MAIN REPLACEMENT PROJECT	CAL AMERICAN WATER	GARY HOFSEHER	(831) 646-3253	\$936,074.00
	2014 STREETS PROJECT PHASE II	CITY OF CARMEL	SHARON FRIEDRICHSEN	620-2000	\$641,120.00
	LODGE AREA UTILITY IMPROVEMENT PROJECT	PEBBLE BEACH COMM SERVICES	NICK BECKER	(831) 647-5605	\$2,026,610.00
	SAN LORENZO RIVER PARKWAY PHASE II PROJECT	CITY OF SANTA CRUZ	JOSHUA SPANGRUD	831-420-5160	\$304,298.50
	WEST HILL WATER TREATMENT PLANT - (BART)	SAN BENITO COUNTY WATER DISTRICT	DEAN BAILEY/JOHN WEST	(916) 924-0344	\$1,646,000.00
	WELL NO. 4 PUMP STATION	SPRECKELS WATER COMPANY	WILLIAM GUSTAVSON	530-661-0109	\$343,920.00
	VARIOUS ADA CURB RAMPS AND STORM DRAIN UPGRADE PROJECTS	CITY OF MONTEREY	MARYN MILLER	831-242-8773	\$288,756.00
2016	KING ELEMENTARY SCHOOL ELECTRICAL SERVICE REPLACEMENT	MPUSD	LOU BARTLETT	831-649-4642	\$925,000.00
	ALIANZA WATER TANK	PVUSD	ADAM LINT	831-786-2380	\$1,170,000.00
	OAK CANYON BOOSTER STATION REHABILITATION PROJECT	CITY OF MORGAN HILL	DAVID GITTLESON	408-778-6480	\$1,592,000.00
	CLARK AND COSKY LIFT STATION IMPROVEMENTS	MCWD	PATRICK BREEN	831-883-5951	\$1,192,325.00
	DEL MONTE BLVD PAVEMENT REHABILITATION	CITY OF SEASIDE	LESLIE LLANTERO	831-899-6700	\$343,852.80
	2016 STREET PROJECTS	CITY OF CARMEL BY THE SEA	SHARON FRIEDRICHSEN	831-620-2009	\$1,121,938.00
	LOVERS POINT WATERSHED STORM DRAINAGE & SANITARY SEWER IMPROVEMENTS	CITY OF PACIFIC GROVE	DANIEL GHO	831-648-5722	\$3,549,020.00
	8TH & INTER-GARRISON ROUNDABOUT CSUMB	CSUMB	REYOLA CARLISLE	831-582-3506	\$2,398,000.00
	GWTP RELOCATION FORT ORD	US ARMY	ROBERT LUFFLAND	619-372-9125	\$3,647,750.00
	EAST DUNNE AVENUE WATER MAIN PROJECT	CITY OF MORGAN HILL	DAVID GITTLESON	408-778-6480	\$1,475,400.00
	DEL MONTE BLVD & BEACH RD IMPROVEMENT PROJECT	CITY OF MARINA	EDRIE DE LOS SANTOS	831-884-1212	\$1,952,845.50
2017	W BROADWAY URBAN VILLAGE INFRASTRUCTURE IMPROVEMENTS	CITY OF SEASIDE	LESLIE LLANTERO	831-899-6832	\$5,999,895.00
	MPWSP MONTEREY PUMP STATION - LUZERN AT HILBY	CAL AM	CHRIS COOK	831-646-3241	\$2,839,200.00
	PUMP STATION 13 VALVE REPLACEMENT AND UPGRADES	MONTEREY ONE WATER	JERRY VALLADAO	831-646-3241	\$1,198,018.57
	N SEASIDE & CARMEL VALLEY WATER MAIN REPLACEMENTS	CAL AM	LESLEY SILVA	831-646-3225	\$2,092,600.01
	7TH AVE PARKING LOT IMPROVEMENTS	CSUMB	PAMELA LAPHAM	831-5824277	\$3,800,000.00
	HIGHLAND AVE SEWER UPGRADE	CITY OF MORGAN HILL	VICKY ROSSI	(408) 310-4182	\$547,900.00
	HILBY AVE PAVEMENT RESTORATION AND CURB RAMP INSTALL	CAL AM	JAY DREWRY	619-446-4777	\$1,481,784.90
	SALINAS YARD IMPROVEMENTS	RYDER TRUCK RENTAL	ANDRES CARVALLO	305-500-5645	\$859,450.00
	HIGH MEADOWS & UPPER RANCHO FIESTA BOOSTER PUMP STATION IMPROV	CAL AM	LESLEY SILVA	831-646-3225	\$686,200.00
	ROBERT DOWN RELOCATABLE CLASSROOM PROJECT	PACIFIC GROVE UNIFIED SCHOOL DISTRICT	MATT KELLY	831-646-6510	\$185,000.00
	EAST LAUREL & ST EDWARDS TRAFFIC IMPROVEMENT PROJECT	CITY OF SALINAS	MARCO BECERRA	831-758-7433	\$879,029.00
	MAIN AVE & MADRONE PIPELINE RESTORATION PROJECT	SANTA CLARA VALLEY WATER DISTRICT	JOEL JENKINS	408-265-2600	\$9,946,650.00
	PASEO DEL LAS ROSAS APARTMENTS	ZUMWALT CONSTRUCTION	ROBERT L MCKNIGHT	559-252-1000	\$1,906,750.00
2018	CITYWIDE ADA RAMPS & STREET RECONSTRUCTION PHASE 6	CITY OF MONTEREY	THOMAS KORMAN	(831) 646-3921	\$1,404,249.35
	FY 2017-18 PAVEMENT REHAB CARMEL	CITY OF CARMEL BY THE SEA	SHERMAN LOW	831-624-2110	\$1,981,820.00
	4TH ST INFRASTRUCTURE IMPROVEMENT PROJECT	CITY OF HOLLISTER	DAVID RUBCIC	831-636-4340	\$2,201,266.25
	FARMWORKER HOUSING WASTEWATER SERVICE EXTENSION PROJECT	MONTEREY ONE WATER	ALISON IMAMURA	831-372-3367	\$1,586,400.00
	RECYCLED WATER PUMP STATION IMPROVEMENTS, PROJECT NO 18-PW-	SOUTH CNTY REG WASTEWATER AUTHORITY	SAEID VIZIRY	408-848-0480	\$2,580,000.00
	ADULT SCHOOL PORTABLE PROJECT PGUSD (DEMO, SITEWORK)	PGUSD	MATT KELLY	831-654-6510	\$291,000.00
	FIRST STREET WATER UTILITY IMPROVEMENTS	CITY OF GILROY	GIRUM AWOKE	408-846-0260	\$5,451,990.00
	CASTROVILLE PUMP STATION VFD AND PLC INSTALLATION	MONTEREY ONE WATER	JENNIFER GONZALEZ	831-883-6172	\$132,930.00
	REPLACEMENT OF US INLET & OUTLET PIPE	CITY OF SANTA CRUZ	TAYLOR RONNE	831-420-5186	\$639,100.00
	MANN PACKING GONZALES FACILITY (ASK PETER FOR CONTRACT DOCS)	MANN PACKING	JOE TORQUATO	831-801-9984	\$1,228,400.00
	2018 KING CITY STREET PROJECT	CITY OF KING CITY	OCTAVIO HURTADO	831-386-5927	\$475,250.50
	CITYWIDE ADA RAMPS AND STREET RECONST PHASE 7	CITY OF MONTEREY	SARAH SOUTH	831-242-8724	\$1,475,505.00
	MARINA HS NEW GYM	AVILA CONSTRUCTION	MIKE AVILA	831-372-5580	\$604,000.00
	SANITARY SEWER MAIN REPLACEMENT 14TH ST BTWN LIGHTHOUSE AVE	CITY OF PACIFIC GROVE	DANIEL GHO	831-648-5722	\$550,880.00
	SEWER MAIN IMPROVEMENTS THROUGH MONARCH BUTTERFLY SANCTU	CITY OF PACIFIC GROVE	DANIEL GHO	831-648-5722	\$181,250.00
	STREET REHABILITATION CARLTON DRIVE OVERLAY	CITY OF DEL REY OAKS	DANIAL PICK	831-394-8511	\$142,815.00
	EQUIP WELL 7	CITY OF GONZALES	PATRICK DOBBINS	408-710-9866	\$917,740.00
	BACKLUSH BASIN EXPANSION PROJECT	MTRY PEN WATER MANAGEMENT DISTRICT	MAUREEN HAMILTON	831-658-5622	\$419,500.00
	CASANOVA OAK KNOLL PARK IMPROVEMENTS	CITY OF MONTEREY	JEFF KREBS	831-646-3877	\$224,289.00
	WATERFRONT PARKING LOT IMPROVEMENTS	CITY OF MONTEREY	LORI LYNN WILLIAMSON	831-242-8746	\$1,876,710.00
	RECLAMATION STORAGE FACILITIES IMPROVEMENT PROJECT	PEBBLE BEACH COMMUNITY SERVICES DIST	VINOD BADANI	510-652-1164	\$924,000.00

James B. Bruno

Position:

Vice President – Operations / Principal

Jim has nearly 35 years of experience in the construction industry, primarily as a general engineering contractor. He is responsible for field operations including the coordination and supervision of MPE's grading, paving, and underground construction activities. He uniquely qualified, having both hands-on and management experience. Jim is also in charge of hiring, construction equipment acquisition, and field safety.

Professional License:

State of California, Contractors State License #641871

Mike Barthel

Project Manager

Mike joined MPE in 1999. He is a project manager and estimator and is responsible for activities related to engineering, estimating and subcontract management and correspondence. A graduate of Cal Poly Construction Management, San Luis Obispo, he has over 40 years of construction project management experience and specializes in providing service to our private clients.

The following outline is a list of principal equipment that the undersigned Bidder owns and has available for use on construction of the **CANYON DEL REY CMP SEWER MAIN REPLACEMENT PROJECT**

This image shows a single sheet of white paper with horizontal blue or grey ruling lines. The lines are evenly spaced and run across the width of the page. There are approximately 20 lines visible. The paper appears to be a standard notebook page or a sheet of stationery. There is no handwriting or other markings on the page.

RO: 09-28-17

P:\Projects\SCSD (0211)\0001 Canyon Del Rey CMP Sewer Line Replacement\Specs\Final Rebid Submittal\3.00 41 00_Bid Form.docx

Monterey Peninsula Engineering--Sample Listing of Equipment

00 500 GAL WTR TRLR	97 PETERBLT 6x6 W/T	JD 135C RTS EXCAVATOR	SKYTRAK 4x4 FORKLIFT	TRENCH PAVER
02 FORD F350 FLATBED	98 TRAILMAX T-12-UT	BOBCAT T190 LOADER	DYNAPAC CC1200 ROLLER	GENIE LIGHT TWR
03 PETERBLT SERV TRUCK	98 TRAILMAX TD-42-T	MOXY DUMP TRUCK	BOMAG BW11RH RT ROLLER	TARGET PAK 10 SAW
04 FORD F350 SERV BODY	99 18' FORM TRAILER	BOMAG BW 213D-3 COMP	IR 130 BW AIR COMP	LINCOLN WELDER
04 FORD F750 WATER TRK	99 ALLCO END DUMP TRLR	TAKEUCHI TL140 LOADER	JD 225D LC EXCAVATOR	HOSE REEL & TRAILER
05 FORD F350 FLATBED	99 FORD 800 20' FLATBED	BOBCAT T180 LOADER	JD 210K 4x4 SKIP LOADER	BOBCAT AUGER 15H
05 FORD F450 FLATBED	99 FORD F350 FLATBED	CAT CB534D VIB ROLLER	CAT 335FLCR EXCAVATOR	D6 DOZER RAKE
05 FORD F550 MECH TRUCK	99 FORD F550 FLATBED	KOBELCO SK25SR-2 EXC	BOBCAT T770 LOADER	B-180 ASPHALT CUTTER
05 FORD F650 BOBTAIL	99 PETERBLT TRACTOR	STANLEY HS6000 SHKR	BOMAG BW120AD-4 ROLL	SWEEPSTER MODEL LH
05 FORD F750 WATER TRK	FUEL TANK TRAILER	52x10 OFFICE TRAILER	JD 744J WHEEL LOADER	CLS ACCUBEAM6 LASER
06 ALLIANCE M2106 SWEEP	CAT D6M LGP DOZER	69 40' TRLR IN YARD	BOBCAT S650 LOADER	24" COMPACTION WHEEL
06 FORD F350 4x4 SRV BDY	KOMATSU D41E-6 DOZER	EAGLE CRUSHING PLANT	CAT 305.5E EXCAVATOR	BITCH POT
06 FREIGHTLNR 2000 GAL WT	BOMAG BW120AD-4 ROLL	AMMANN T16 ROLLER	JD 644K WHEEL LOADER	20' EQ STORAGE SHED
06 GMC 6500 BOBTAIL	KOBELCO SK220	69 40' STORAGE TRLR	HYD THUMB FOR 1280	AC. L MODEL 12' DISK
07 FREIGHTLINER FUEL TRK	MOXY MT30X ATD	CAT 140H BLADE	8' MANHOLE BOX	ELSA10 AIR PACK(A&B)
08 CHEVY C6500 FLATBED	KOMATSU D155AX DOZER	SHIELDS, 8x20 & 4x20	1 3/4 GRUNDOMAT	12' TILT TRAILER
08 FORD F350 MECH TRK	CAT 980C LOADER	CASE 590 SUPER B/H	READ RB40B SCREEN	WACKER DPU4045H #1
08 FORD F350 SERV BODY	BITELLI SF100T4 GRINDER	CAT 966D LOADER	GRUNDOMAT 1-3/4"	CLS ACCUBEAM6 LASER
08 FORD F450 4x4 SRV BDY	KOMATSU D32E-1 DOZER	CAT 623E SCRAPER	SP DUAL SLOPE LASER	B/H COMPACTION WHEEL
08 FORD F550 FLATBED	IR 185 COMPRESSOR	VIBROMAX 602BD	K RAIL LIFTALL 8500	LINCOLN G9 WELDER
08 FORD F550 FLATBED	KOBELCO SK220 EXCAVATOR	CASE 570XLT LDR/SCRPR	18" COMPACTION WHEEL	ROOF ARROW ON #133
08 INTL 4300SBA FLATBED	INGERSOL AIR COMPRESSOR	BLAWKNOX PF5510 PAVR	MANGUARD 8.5-8 W/LEG	DTCHWHCH TILT TRAILER
08 PETERBLT 4000 GAL WT	JCB 930 2WD FORKLIFT	HYSTER RC150 FORKLFT	36" COMPACTION WHEEL	CLEMCO SAND BLASTER
08 PETERBLT TRANSFER	CASE 590SN 4WD B/H	BOMAG BW213PDB	BLADE LASER ON #399	CGM 929 GAS DETECTOR
09 FORD F550 FLATBED	BOBCAT 963 LOADER	CAT 623B SCRAPER	SOLAR MESSAGE BOARD	BLADE LASER ON #3415
09 FORD F750 BOBTAIL	98 STAND 8x20 M0248 MOBILE OFF	DTCHWMTCH 8020 TRNCHR	WACKER DPU4045H #2	ROOF ARROW ON #119
09 PETERBLT 4600 GAL WT	CASE 590 SM BACKHOE	CAT 950E LOADER	SOLAR ARROW BOARD	CGM 929 GAS DETECTOR
10 500 GAK WTR TRLR	CAT CB-634D ROLLER	CAT 140G BLADE	BOBCAT SWEEPER ATTCH	SP SLOPE LASER #1
10 FORD F450 4x4 SRV BDY	CASE 590 SUPER M B/H	BITELLI SF100 GRINDR	KENT KF9 BREAKER	SP LASER RECEIVER #1
11 500 GAL WTR TRLR	BOMAG BW135AD ROLLER	CAT 350L EXCAVATOR	BLADE LASER ON #360	WALTER 153N STEAMER
11 FORD F350 SERV BODY	10X32 M03610 MOBILE OFF	KOMATSU D65E DOZER	GRUNDOMAT 2"	METROTECH LOCATOR
11 KW T800 SUPER 10	LAY-MOR SWEEPER	BOMAG BW213D-2 COMP	SOLAR SIGN BOARD	GW TT200T-MS TACKER
11 KW T800 SUPER 10	CAT 615C SCRAPER	JCB 940 4x4 FORKLIFT	ARI-HETRA LIFT SYS	TRX HB1000 Breaker
11 Redi Haul 16' TRAILER	KOBELCO SK45SR EXC	CAT 815B COMPACTOR	SOLAR ARROW BOARD	GEN EYE CAMERA SYS
12 FORD F450 SERV BODY	CASE 570 MXT LDR/SCRPR	BARCUMILL RAYCO 100B	BOBCAT SWEEPER ATTCH	WALK BEHIND CONC SAW
13 CAT CT660 TRANSPORT	CAT 140M BLADE	HITACHI ZX85 EXCAVATOR	DIAMOND SLURRY SEALR	STANLEY MB356 BREAKER
13 FORD F550 4x4 MECH TR	CASE 590SM 4WD B/H	CASE 590 SN 4WD B/H	BLADE LASER ON #3420	1 3/4 GRUNDOMAT
15 18' PIPE TRAILER	MOXY MT30 ATD	VOGELE SUPER 700 PAVER	BOBCAT PLANER	2003 1000 GAL MUD HOG
15 20' PIPE TRAILER	BOMAG BW90AD ROLLER	IR P-185W AIR COMP	BOBCAT 3570 BREAKER	BOBCAT BLADE ATTACH
15 CAT CT660 TRANSPORT	CASE 570 LDR/SCRPR	CASE 1221E LOADER	BOBCAT SWEEPER ATTCH	ASPHALT ZIPPER AZ480
15 FORD F350 SERV BODY	BOMAG BW900-2 ROLLER	LINCOLN AC PICK UP	80' STACKING CONVEYOR	ASPHALT ZIPPER AZ360
16 FORD F350 SERV BODY	DYNAPAC CC122 ROLLER	CAT CB434D ROLLER	ALLIED 770B BREAKER	TEREX LIGHT TOWER
16 FORD F450 FLATBED	LEROI Q125DJE AIR COMP	JD 14 544K WHEEL LOADER	3 TON BRIDGE CRANE	MAGNUM LIGHT TOWER
17 ALUMA 10' TRAILER	CASE 590 BACKHOE	BOBCAT T590 LOADER	30x60 CONVEYOR	SPOOL TRALER
18 DIAMOND DUMP TRAILER	CASE 590 SUPER M B/H	CAT 328D LCR EXCAVATOR	R&D TRENCH PAVER	DIAMOND TACKER POT
2010 INTERSTATE TRAILER	HITACHI ZX135 EXCAVATOR	BOBCAT S630 LOADER	MILLER CURBER 6" Auger	MIKASA PLATE COMPACT
90 PETERBLT TRACTOR	JD 225C LC RTS EXCAVATR	BOBCAT S770 LOADER	HASCO CNCRTE CRUNCHER	8 x 11 GRIZZLY
94 750 GAL WTR TRLR	JD 06 644J WHEEL LOADER	CASE 590 SN 4WD B/H	06 WACKER DPU 5045H	6 x 7.5 GRIZZLY
95 DOVE TAIL TRAILER 1835	CASE 570 MXT LDR/SCRPR	CAT D6NXL DOZER	McMILLEN AUGER X2450	ABI HVR 60 SHEET DRIVER
97 2 AXL TRASH TRAILER	BOMAG 815-2 PRO-PAVER	KOBELCO SK35SR-5 EXCAV	1000 GAL JACOB MUD HOG	JRB FORK CLAMP ATTACH
97 500 GAL WTR TRLR	IR SD40PDB COMPACTOR	KOBELCO SK70SR-2 EXCAV	24" COMPACTION WHEEL	36" COMPACTION WHEEL
97 COZAD 60T TRAILER	IR COMPRESSOR	IR P185 AIR COMP	SOLAR MESSAGE BOARD	BOBCAT BRUSH CUTTER
97 FORD 5YD DUMP	CAT 950F LOADER	BOBCAT S750 LOADER	30x60 CONVEYOR	BOBCAT BREAKER ATTACH
97 MEGA WATER TOWER	JD 4310 4x4 UTL TRACTOR	BOMAG BW80AD% ROLLER	GENIE LIGHT TWR	

DOCUMENT 00 43 13

BID SECURITY FORM

(Check to accompany Bid)

(Note: The following form shall be used in case check accompanies Bid :)

Accompanying this proposal is a *(Certified) *(Cashier's) check payable to the order of SEASIDE COUNTY SANITATION DISTRICT, hereinafter referred to as "Owner," for _____ Dollars (\$ _____), this amount being not less than ten percent (10%) of the total amount of the Bid. The proceeds of this check shall become the property of said Owner provided this proposal shall be accepted by the said Owner through action of its legally constituted contracting authorities and the undersigned shall fail to execute a contract and furnish the required Performance and Payment Bonds and proof of insurance coverage within the stipulated time; otherwise, the check shall be returned to the undersigned. The proceeds of this check shall also become the property of the Owner if the undersigned shall withdraw his bid within the period of sixty (60) days after the date set for the opening thereof, unless otherwise required by law, and notwithstanding the award of the Contract to another Bidder.

Bidder

* Delete the inapplicable word

(NOTE: If the Bidder desires to use a guaranty bond instead of a check, the Bid Guaranty Bond Form in Document 00 43 15 of the following page shall be executed -- the sum of this bond shall be not less than 10 percent of the total amount of this Bid.)

END SECTION 00 43 13

DOCUMENT 00 43 15

BID GUARANTY BOND FORM

KNOW ALL MEN BY THESE PRESENTS:

THAT MONTEREY PENINSULA ENGINEERING, hereinafter called Principal, and THE CONTINENTAL INSURANCE COMPANY, hereinafter called the Surety, are jointly and severally held and firmly bound unto the **SEASIDE COUNTY SANITATION DISTRICT**, hereinafter called Owner, in the penal sum of not less than ten percent (10%) of the total amount of the Bid of Principal for the Work of constructing the **CANYON DEL REY CMP SEWER MAIN REPLACEMENT PROJECT**. This sum not to exceed Ten Percent of Total Amount Bid Dollars (\$ 10% of Total Amount Bid) lawful money of the United States of America, for the payment whereof unto Owner, Principal and Surety jointly and severally bind themselves forever firmly by these presents, except said penal sum shall not exceed ten percent (10%) of the total amount Bid by Principal for Work which is awarded to Principal by the Owner.

WHEREAS, Principal is herewith submitting a Bid for the Work entitled **SEASIDE COUNTY SANITATION DISTRICT, CANYON DEL REY CMP SEWER MAIN REPLACEMENT PROJECT**

NOW, THEREFORE, the condition of this obligation is such that if Principal is awarded a contract for the Work, and if Principal within the time specified in the Invitation to Bid enters into, executes and delivers to Owner an agreement in the form provided herewith, and if Principal within the time specified in the Bid gives to Owner the performance bond and the payment bond on the forms provided herewith, then this obligation shall be void. If, however, Principal shall fail or refuse to furnish, execute and deliver to Owner said agreement in the time stated in the Bid or should fail or refuse to furnish Performance Bond and Payment Bond in the time stated in the Bid, then Principal and Surety shall forfeit to Owner the penal sum hereof.

AND IT IS HEREBY DECLARED AND AGREED that Surety shall be liable under this obligation as Principal, and that nothing of any kind or nature whatsoever that will not discharge Principal shall operate as a release of liability of Surety.

IT IS HEREBY FURTHER DECLARED AND AGREED that this obligation shall be binding upon and inure to the benefit of Principal, Surety and Owner and their respective heirs, executors, administrators, successors and assigns.

SIGNED AND SEALED THIS 21st day of January, 2020.

MONTEREY PENINSULA ENGINEERING

Principal

By:

Signature

Peter J. Taormina, Manager

THE CONTINENTAL INSURANCE COMPANY

Surety

By:

Signature (Attach Notarial
Acknowledgement of Surety)

Donna Garcia,
Attorney-in-Fact

CNA Center, 333 South Wabash
Chicago, IL 60685

(Surety's Mailing Address)

(NOTE: The standard printed bond form of any bonding company acceptable to the Owner may be used in lieu of the foregoing approved sample bond form provided the security stipulations protecting the Owner are not in any way reduced by use of the Surety Company's printed standard form.)

END OF SECTION 00 43 15

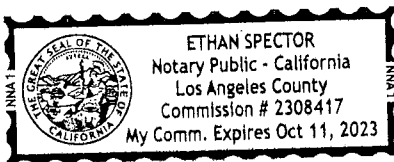
CALIFORNIA ALL-PURPOSE ACKNOWLEDGMENT

A Notary Public or other officer completing this certificate verifies only the identity of the individual who signed the document to which this certificate is attached, and not the truthfulness, accuracy, or validity of that document.

State of California

County of Los Angeles

On JAN 21 2020 before me, Ethan Spector, Notary Public, personally appeared Donna Garcia who proved to me on the basis of satisfactory evidence to be the person(s) whose name(s) is/~~are~~ subscribed to the within instrument and acknowledged to me that ~~he~~/she/~~they~~ executed the same in ~~his~~/her/~~their~~ authorized capacity(ies), and that by ~~his~~/her/~~their~~ signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.



I certify under PENALTY OF PERJURY under the laws of the State of California that the foregoing paragraph is true and correct.

WITNESS my hand and official seal.

Signature _____

A handwritten signature in black ink, appearing to be 'E Spector', written over a horizontal line.

Signature of Notary Public

POWER OF ATTORNEY APPOINTING INDIVIDUAL ATTORNEY-IN-FACT

Know All Men By These Presents, That The Continental Insurance Company, a Pennsylvania insurance company, is a duly organized and existing insurance company having its principal office in the City of Chicago, and State of Illinois, and that it does by virtue of the signature and seal herein affixed hereby make, constitute and appoint

Tracy Aston, Tom Branigan, Edward C Spector, Lisa K Crail, Simone Gerhard, B Aleman, K D Wapato, April Martinez, Samantha Fazzini, Marina Tapia, Donna Garcia, Rosa E Rivas, Individually

of Los Angeles, CA, its true and lawful Attorney(s)-in-Fact with full power and authority hereby conferred to sign, seal and execute for and on its behalf bonds, undertakings and other obligatory instruments of similar nature

- In Unlimited Amounts -

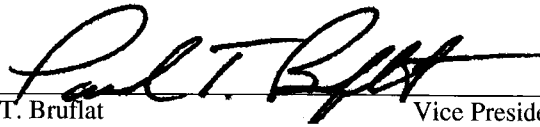
and to bind them thereby as fully and to the same extent as if such instruments were signed by a duly authorized officer of the insurance company and all the acts of said Attorney, pursuant to the authority hereby given is hereby ratified and confirmed.

This Power of Attorney is made and executed pursuant to and by authority of the By-Law and Resolutions, printed on the reverse hereof, duly adopted, as indicated, by the Board of Directors of the insurance company.

In Witness Whereof, The Continental Insurance Company has caused these presents to be signed by its Vice President and its corporate seal to be hereto affixed on this 13th day of February, 2019.



The Continental Insurance Company

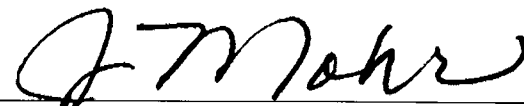

Paul T. Bruflat Vice President

State of South Dakota, County of Minnehaha, ss:

On this 13th day of February, 2019, before me personally came Paul T. Bruflat to me known, who, being by me duly sworn, did depose and say: that he resides in the City of Sioux Falls, State of South Dakota; that he is a Vice President of The Continental Insurance Company, a Pennsylvania insurance company, described in and which executed the above instrument; that he knows the seal of said insurance company; that the seal affixed to the said instrument is such corporate seal; that it was so affixed pursuant to authority given by the Board of Directors of said insurance company and that he signed his name thereto pursuant to like authority, and acknowledges same to be the act and deed of said insurance company.



My Commission Expires June 23, 2021


J. Mohr Notary Public

CERTIFICATE

I, D. Johnson, Assistant Secretary of The Continental Insurance Company, a Pennsylvania insurance company, do hereby certify that the Power of Attorney herein above set forth is still in force, and further certify that the By-Law and Resolution of the Board of Directors of the insurance company printed on the reverse hereof is still in force. In testimony whereof I have hereunto subscribed my name and affixed the seal of the said insurance company this _____ day of _____, **JAN 31 2020**.



The Continental Insurance Company


D. Johnson Assistant Secretary

Form F6850-4/2012

DOCUMENT 00 55 00

NOTICE TO PROCEED

To: _____

Date: _____

Project: **CANYON DEL REY CMP
SEWER MAIN
REPLACEMENT PROJECT**

You are hereby notified to commence Work in accordance with the Agreement dated _____, 2020, on or before _____, 2020, and you are to achieve Substantial Completion of the Work within seventy-eight (78) consecutive calendar days thereafter, and furthermore achieve Final Completion of the Work within thirty (30) calendar days following and beginning with Certification of Substantial Completion. The date of Substantial Completion of all Work is therefore _____, 2020.

SEASIDE COUNTY SANITATION DISTRICT
(Owner)

By: _____

Title: _____

ACCEPTANCE OF NOTICE

Receipt of the above Notice to
Proceed is hereby acknowledged by:

This __ day of _____ 2020

By: _____

Title: _____

END OF SECTION 00 55 00

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DOCUMENT 00 61 13.13

PERFORMANCE BOND

KNOW ALL MEN BY THESE PRESENTS:

THAT _____, hereinafter called Principal, and _____, hereinafter called Surety, are jointly and severally held and firmly bound into the SEASIDE COUNTY SANITATION DISTRICT, hereinafter called Owner, in the penal sum of _____ Dollars (\$_____) lawful money of the United States, for the payment whereof unto, the Principal and Surety jointly and severally bind themselves forever firmly by these presents.

WHEREAS, Owner has awarded to Principal the construction of the **CANYON DEL REY CMP SEWER MAIN REPLACEMENT PROJECT** and

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

NOW, THEREFORE, the condition of this obligation is such that if Principal shall faithfully perform the covenants, conditions and agreements in the Contract and any changes made as therein provided and shall indemnify and save harmless Owner, its officers and agents as therein stipulated, then this obligation shall become null and void; otherwise, it shall remain in full force and virtue, and Principal and Surety, in the event suit is brought on this bond, will pay to Owner such reasonable attorney's fees as shall be fixed by the Court.

As a condition precedent to the satisfactory completion of the Contract, the above obligation shall hold good for a period of one (1) year after the completion of the Work and its acceptance by Owner, during which time if Principal shall fail to make full, complete, and satisfactory repair and replacements and totally protect the Owner from loss or damage made evident during the period of one (1) year from the date of acceptance of the Work, and resulting from or caused by defective materials or faulty workmanship, the above obligation in penal sum thereof shall remain in full force and effect. However, nothing in this paragraph to the contrary notwithstanding, the obligation of Surety hereunder shall continue so long as any obligation of Principal remains.

AND Surety, for value received, hereby stipulates and agrees that no change, extension of time, alteration or addition to the terms of the Contract, the Work to be performed there-under, or to the Contract Documents (including the Specifications and Drawings included therein) shall in any way affect its obligations on this bond, and it does hereby waive notice of any such change, extension of time, alteration or addition to the terms of the Contract, the Work or to the Contract Documents (including the Specifications and Drawings included therein).

AND IT IS HEREBY DECLARED AND AGREED that this obligation shall be binding upon and inure to the benefit of Principal, Surety and Owner and their respective heirs, executors, administrators, successors and assigns.

SIGNED AND SEALED THIS ___ day of _____ 2020.

Principal

By: _____
Signature

Surety

By: _____
Signature

(Surety's Mailing Address)

(Telephone Number)

(Attach Notarial Acknowledgement of Surety)

Approved as to form this _____ day of _____, 2020

Attorney for Owner

NOTE: The principal amount of this bond shall not be less than 100 percent of the total Contract Price.

END OF SECTION 00 61 13.13

DOCUMENT 00 61 13.16

PAYMENT BOND FORM

KNOW ALL MEN BY THESE PRESENTS;

THAT _____, hereinafter called Principal, and _____ hereinafter called Surety, are jointly and severally held and firmly bound unto the SEASIDE COUNTY SANITATION DISTRICT, hereinafter called Owner, in the penal sum of _____ Dollars (\$ _____) lawful money of the United States, for the payment whereof unto Owner, the Principal and Surety jointly and severally bind themselves forever firmly by these presents.

WHEREAS, Owner has awarded to Principal the construction of the **CANYON DEL REY CMP SEWER MAIN REPLACEMENT PROJECT** and

WHEREAS, said Principal is required to furnish a Payment Bond in connection with said Contract.

NOW, THEREFORE, the conditions of this obligation is such that if said Principal or any of his Subcontractors, heirs, executors, administrators, successors, or assigns shall fail to pay any of the persons named in Civil Code Section 3181, or amounts due under the Unemployment Insurance Code with respect to work or labor performed by any such claimant, or for any amounts required to be deducted, withheld, and paid over to the Franchise Tax Board from the Wages of employees of the contractor and his subcontractors pursuant to Section 18806 of the Revenue and Taxation Code, with respect to such work and labor, Surety will pay the same in or to an amount not exceeding the amount hereinabove set forth, and also will pay in case suit is brought upon this bond, such reasonable attorney's fee as shall be fixed by the court.

This bond shall inure to the benefit of any and all persons, companies, and corporations entitled to file claims under Section 3181 of the California Civil Code, so as to give a right of action to them or their assigns in any suit brought upon this bond.

AND Surety, for value received, hereby stipulates and agrees that no change, extension of time, alteration or addition to the terms of the Contract, the Work to be performed there-under, or to the Contract Documents (including the Specifications and Drawings included therein) shall in any way affect its obligations on this bond, and it does hereby waive notice of any such change, extension of time, alteration or addition to the terms of the Contract, the Work or to the Contract Documents (including the Specifications and Drawings included therein).

AND IT IS HEREBY DECLARED AND AGREED that this obligation shall be binding upon and inure to the benefit of Principal, Surety and Owner and their respective heirs, executors, administrators, successors and assigns.

SIGNED AND SEALED THIS ____ day of _____ 2020.

Principal

By: _____
Signature

Surety

By: _____
Signature

(Surety's Mailing Address)

(Telephone Number)

(Attach Notarial Acknowledgement of Surety)

Approved as to form this _____ day of _____, 2020.

Attorney for Owner

NOTE: The principal amount of this bond shall not be less than 100 percent of the total Contract Price.

END OF SECTION

00 61 13.16

DOCUMENT 00 62 16

CERTIFICATE OF WORKER'S COMPENSATION INSURANCE FORM

Execute the following form as required by the California Labor Code, Sections 1860 and 1861:

I am aware of the provisions of Section 3700 of the Labor Code, which require every employer to be insured against liability for worker's compensation or to undertake self-insurance in accordance with the provisions of that code, and I will comply with such provisions before commencing the performance of the Work of this Contract.

Date: _____

Contractor

By: _____
Signature

Title

Attest:

By: _____
Signature

Title

END OF DOCUMENT 00 62 16

BAY PACIFIC PIPELINES INC.

Cal. Contrs. License No. 524020

P.O. Box 1162, Novato, CA 94948-1162 * Tel (415) 897-6958 * Fax (415) 897-1409

E-mail: baypacificpipelines@yahoo.com

January 24, 2020

Via: E-mail & CERTIFIED MAIL

Scott Ottmar, P.E.
District Engineer
Seaside County Sanitation District
Agency Hall
440 Harcourt Avenue
Seaside, CA 93955

Ref: Canyon Del Rey CMP Sewer Main Replacement Project
Bid Date: 1/23/2020, 3:00 p.m.

Dear Mr. Ottmar:

In accordance with Section 5100 et seq. of the Public Contract Code and Invitation to Bid from the specifications, Bay Pacific Pipelines requests relief from its bid because of an error in our bid calculations. Accordingly, Bay Pacific respectfully asks to have its bid withdrawn and bid security returned pursuant to Public Contract Code Section 5103.

The reason for this request is that during the calculation of our bid we inadvertently failed to include the cost of equipment rental for pipe bursting operations, which would have substantially increased our bid price by approximately \$100,000.00 +or-.

Accordingly, all of the requirements under Public Contract Code Section 5103 have been met. There was a mistake in our bid, which made the bid materially different from what we had intended it to be, and the mistake was not an error in judgement or to carelessness in inspecting the site of the work, or in reading the plans or specifications. This notice is given within five working days of the date of the bid.

We apologize for any inconvenience resulting from our mistake. We understand and agree that, if our request for relief is approved, we will not be able to participate in further bidding on this project.

Please feel free to call me if you have any questions or if you need further information. Thank you for your review and consideration of our request.

Sincerely,


Eugene Carew, Vice-President
Bay Pacific Pipelines Inc.



**SEASIDE COUNTY SANITATION DISTRICT
STAFF REPORT**

Item No.: 6.C.

TO: Seaside County Sanitation District

FROM: Craig Malin, District Manager

BY: Scott Ottmar, Senior Engineer

DATE: February 11, 2020

SUBJECT: APPROVAL OF AN AMENDMENT TO A DESIGN PROFESSIONAL SERVICES AGREEMENT WITH INFRASTRUCTURE ENGINEERING CORPORATION (IEC) FOR AN AMOUNT NOT TO EXCEED TWENTY-TWO THOUSAND SEVEN HUNDRED DOLLARS (\$22,700) FOR THE CANYON DEL REY CMP SEWER MAIN REPLACEMENT PROJECT

PURPOSE

The purpose of this item is for the District's Board to consider approval of an amendment to the Design Professional Services Agreement with Infrastructure Engineering Corporation (IEC) to provide additional professional engineering and technical services for engineering support during construction of the Canyon Del Rey CMP Sewer Main Replacement Project.

RECOMMENDATION

It is recommended that the Board adopt a resolution approving an amendment to the Design Professional Services Agreement with Infrastructure Engineering Corporation (IEC) for an amount not to exceed Twenty-Two Thousand Seven Hundred Dollars (\$22,700) to provide additional professional engineering and technical services for engineering support during construction for the Canyon Del Rey CMP Sewer Main Replacement Project and authorizing the District Manager to execute the Amendment.

BACKGROUND

The Canyon Del Rey CMP (Corrugated Metal Pipe) Sewer Main Replacement Project proposes to replace three (3) existing sewer main segments due to poor physical conditions. The Project includes proposed replacement of approximately 810 feet of

existing 12-inch diameter sewer main in Canyon Del Rey Boulevard (State Route 218) from Hilby Avenue to Harcourt Avenue. The segment near Harcourt Avenue, approximately 285 feet, will be upsized to a 15-inch diameter sewer main to provide sufficient capacity for future flow conditions.

The District held a public bid opening on Thursday, April 11, 2019 and one (1) Bid was received for an amount of \$1,499,380. District staff determined the bid amount to be cost prohibitive and higher than expected due to a variety of factors, including an extremely competitive bidding climate, rising construction prices, impacted schedules, construction difficulties, risk, and other factors. At the request of District staff to identify opportunities to reduce the construction cost, Infrastructure Engineering Corporation (IEC) revised their original Construction Contract Documents to include trenchless construction alternatives for the Canyon Del Rey CMP Sewer Main Replacement Project (REBID) and included two (2) separate Bid Forms; 1) traditional open-cut construction methodology utilizing a parallel alignment (Bid Form "A") and 2) trenchless pipe bursting technology (Bid Form "B").

The revised Construction Contract Documents for the Canyon Del Rey CMP Sewer Main Replacement Project (REBID) were finalized on November 22, 2019. The Project was posted on the City of Seaside's website, advertised, and solicited for a period of eight (8) weeks commencing on November 26, 2019 in the Monterey County Weekly. Two (2) non-mandatory pre-bidding conferences and site visits were conducted on December 11, 2019 and January 8, 2020, respectively. In addition to participation by District and consulting engineers, five (5) contractors attended the non-mandatory pre-bidding conferences and site visits.

On January 23, 2020, the District publicly received and opened bids for the Canyon Del Rey CMP Sewer Main Replacement Project. Four (4) bids were received from the following contractors: (1) Bay Pacific Pipelines, Incorporated, (2) K.J. Woods Construction, Incorporated, (3) Monterey Peninsula Engineering, Incorporated, and (4) Mountain Cascade, Incorporated. Initially, the apparent low responsive and responsible bid was from Bay Pacific Pipelines, Incorporated, but in a written request dated January 24, 2020, Bay Pacific Pipelines, Incorporated requested relief from their Bid due to an error(s) in their calculations citing Public Contract Code Section 5103. With that, the lowest responsive and responsible bid was from Monterey Peninsula Engineering, Incorporated in the amount of One Million Three Hundred Sixty-Eight Thousand One Hundred Eighty Dollars (\$1,368,180). This Bid was within Bid Form "A", which utilizes traditional open-cut construction via parallel alignment.

As a result of the revised Construction Contract Documents and rebid, the lowest responsive and responsible bid was \$131,200 less than that from the first public bid opening on April 11, 2019 at the City of Seaside's City Hall.

It is recommended the Board adopt the attached resolution approving an Amendment

to Professional Design Services Agreement with Infrastructure Engineering Corporation (IEC) for engineering support during construction and authorize the District Manager to execute the Amendment.

ENVIRONMENTAL COMPLIANCE:

In accordance with Title 14, California Code of Regulations (CCR, Title 14), Chapter 3 "CEQA Guidelines," Article 20, Section 15378, the proposed action is a project as defined by the California Environmental Quality Act (CEQA). Specifically, the Canyon Del Rey CMP Sewer Main Replacement and Del Monte Boulevard Sewer Main Replacement is considered a "Project" under CEQA Statute 21065, because the Project is an activity, which may cause either a direct physical change in the environment, or a reasonably foreseeable indirect physical change in the environment, and is directly undertaken by a public agency and it is supported through assistance from one or more public agencies.

A combined Initial Study Mitigated Negative Declaration (IS/MND) was completed in March 2019 for the Del Monte Boulevard Sewer Replacement Project and Canyon Del Rey Boulevard Sewer Replacement Project. A Notice of Intent was filed with the Monterey County Recorder on March 21, 2019. A Mitigated Negative Declaration was prepared consisting of the Initial Study, all comments received during the public review period, and a Mitigation Monitoring and Reporting Program. The District approved the IS/MND at its November 12, 2019 regularly scheduled meeting and a Notice of Determination filed on November 14, 2019.

FISCAL IMPACT

The proposed Amendment to the Professional Design Services Agreement with Infrastructure Engineering Corporation (IEC) is a not-to-exceed amount of Twenty-Two Thousand Seven Hundred Dollars (\$22,700).

The Fiscal Year 2019/2020 Budget for Canyon Del Rey CMP Sewer Main Replacement Project (Sewer Line Replacements (953-8820-9218)) is \$1,320,000. There have been charges associated with project management, design, and re-design, resulting in a project balance of approximately \$1,260,000 as of January 2020.

The combined fiscal impact for the Construction Contract Agreement with Monterey Peninsula Engineering, Incorporated (MPE), with a 10% contingency, the Engineering Support During Construction (ESDC) services with Infrastructure Engineering Corporation (IEC), and the Construction Management and Inspection Services with Harris & Associates, requires an additional \$399,298 resulting in a proposed revised budget of \$1,659,298. As of June 30, 2019, there are available cash assets of \$8,743,471. Based upon the lowest responsive and responsible bid and the available assets, it is recommended to amend the FY 2019/2020 budget for the Canyon Del Rey

CMP Sewer Main Replacement Project (Sewer Line Replacements (953-8820-9218)) to \$1,659,298 and authorize the District manager to execute an Amendment with Infrastructure Engineering Corporation (IEC) for an amount not to exceed of Twenty-Two Thousand Seven Hundred Dollars (\$22,700).

ATTACHMENTS

1. Resolution No. 2020-XX Amendment to Agreement (IEC)2020-02-11
 2. Signed Contract Amend No3
-

Reviewed for Submission to the
Board by:



Craig Malin, District Manager

RESOLUTION NO. 2020-XX (SCSD)

**A RESOLUTION OF THE SEASIDE COUNTY SANITATION DISTRICT
AMENDING A PROFESSIONAL DESIGN SERVICES AGREEMENT WITH
INFRASTRUCTURE ENGINEERING CORPORATION (IEC) IN THE AMOUNT OF
TWENTY-TWO THOUSAND SEVEN HUNDRED DOLLARS (\$22,700) TO PROVIDE
ENGINEERING SERVICES DURING CONSTRUCTION FOR THE CANYON DEL REY
CMP SEWER MAIN REPLACEMENT PROJECT**

WHEREAS, the Seaside County Sanitation District (“District”) has a Capital Improvement Program (CIP) that includes projects for implementation within the fiscal year 2017/2018; and

WHEREAS, the District has determined that it is in the public interest to proceed with the CIP Project No. 18 “Canyon Del Rey CMP Sewer Line Replacement Project”, hereinafter described as the “Project”; and

WHEREAS, the District has determined that the Project requires professional and technical services; and

WHEREAS, Infrastructure Engineering Corporation (IEC) is on the District’s approved list of Design Consultants to perform professional and technical services for implementation of the CIP for the District; and

WHEREAS, on February 2, 2020, Infrastructure Engineering Corporation (IEC) submitted a Proposal for performing the additional professional engineering services in support of the Project; and

WHEREAS, the District has determined that the proposed Scope of Work and Budget are reasonable and within the approved CIP Scope of Work and Budget for the Project.

NOW THEREFORE, BE IT RESOLVED, that the Seaside County Sanitation District authorizes the District Manager to execute the amendment to the Professional Design Services Agreement with Infrastructure Engineering Corporation (IEC) for an amount not-to-exceed Twenty-Two Thousand Seven Hundred Dollars (\$22,700) to provide additional professional and technical services as described in the amendment attached for the Canyon Del Rey CMP Sewer Main Replacement Project.

PASSED AND ADOPTED at a regular meeting of the Seaside County Sanitation District duly held on the 11th day of February 2020, by the following vote:

AYES:	Board Members:
NOES:	Board Members:
ABSENT:	Board Members:
ABSTAIN:	Board Members:

Jerry Blackwelder, Chair
Seaside County Sanitation District

ATTEST:

Lesley Milton-Rerig, District Clerk
Seaside County Sanitation District

CONTRACT AMENDMENT #3
CANYON DEL REY BOULEVARD SEWER MAIN REPLACEMENT
Seaside County Sanitation District

Date: February 5, 2020

Change Requested by: X District Consultant

Contract Date

April 10, 2018

Project Name

Canyon Del Rey Boulevard Sewer Line Replacement

To (Consultant): Infrastructure Engineering Corporation (IEC), 1737 North First Street, Suite 210,
San Jose, CA 95112

You are directed to make the following changes to the Contract Documents or amend the following described work not included in the contract documents for this project.

The purpose of this addendum is to provide additional professional services related to the project named above. The contract terms and conditions shall not be modified except for as stated herein.

MODIFY the following text in **Section 2, "Services."**

Consultant shall perform the tasks described and set forth in Exhibit A, A1, A2 and A3 attached hereto and incorporated herein as though set forth in full. Consultant shall complete the tasks according to the schedule of performance which is also set forth in Exhibit A and Exhibit A1.

MODIFY the following text in **Section 22, "Contents of Request for Proposal and Proposal."**

Consultant is bound by the contents of City's Request for Proposal, Exhibit "C" hereto and incorporated herein by this reference, and the contents of the proposal submitted by the Consultant, Exhibit A, A1, A2 and A3 hereto. In the event of conflict, the requirements of the Agency's Request for Proposal and this Agreement shall take precedence over those contained in the Consultant's proposals.

Original Contract Amount	Previous CCO Total (Not including this CCO)	This CCO Total	Revised Contract Amount
\$118,900.00	\$25,200	\$22,700	\$166,800
Original Contract Time	Original Completion Date	CCO Days To Date (Including This CCO)	Revised Completion Date
356	May 8, 2019	730	May 8, 2021

CONTRACT AMENDMENT #3
CANYON DEL REY BOULEVARD SEWER MAIN REPLACEMENT
Seaside County Sanitation District

SUBMITTED BY:		
	Scott Ottmar Acting District Engineer	February 5, 2020
Signature	Name and Title	Date
CITY APPROVAL BY:		
	Craig Malin District Manager	
Signature	Name and Title	Date
CONSULTANT ACCEPTANCE BY:		
	Robert Weber President & Principal-In-Charge	2-6-2020
Signature	Name and Title	Date



Infrastructure Engineering Corporation

February 2, 2020

Mr. Jason Caprio, PE
Seaside County Sanitation District
440 Harcourt Avenue
Seaside, CA 93955

**REFERENCE: PROPOSAL FOR CONSTRUCTION PHASE SERVICES FOR THE CANYON
DEL REY CMP SEWER MAIN REPLACEMENT PROJECT**

Dear Mr. Caprio:

IEC is very pleased to submit our proposal in response to your request for Construction Phase Services for the Canyon Del Rey CMP Sewer Main Replacement Project.

Scope of Work

1. IEC will attend two (2) meetings during construction including the pre-construction meeting and one coordination meeting. IEC will summarize discussion topics related to design and provide the District with meeting minutes and/or action items.
2. IEC will respond to contractor's request for information (RFIs) with 5-working days of receipt. IEC included five (5) RFIs.
3. IEC will respond to contractor submittals in accordance with the contract documents. IEC prepared a preliminary submittal log and included twenty-seven (27) submittals.
4. IEC included two (2) design revisions.
5. IEC will prepare record drawings/as-builts from the contractor's redlines.

Fee Proposal

IEC will execute this Scope of Work on a time and materials fee, not to exceed basis.

TASK	DESCRIPTION	Title	Principal QA/QC R.Weber	Project Manager D.Salgado	Engineer II D.Mulato	Word Processor	Subtask Labor- Hours	Subtask Labor Cost	Direct Cost	Subcontract (Standard 10% markup)	Total Cost
		Rate	\$260	\$235	\$150	\$100					
TASK 1	CONSTRUCTION PHASE SERVICES										\$22,700
	Pre-Construction Meeting	2	4			2	8	\$1,700	\$200		\$1,900
	Coordination Meeting	2	2			2	6	\$1,200	\$200		\$1,400
	RFI's (5 total)		2	8			10	\$1,700			\$1,700
	Submittals (27 total)		8	60			68	\$10,900		\$2,200 ¹	\$13,100
	Design Changes (2 total)		2	16			18	\$2,900			\$2,900
	Record Drawings		2	8			10	\$1,700			\$1,700
	Task Subtotal - Hours	4	20	92	4	120					
	Task Subtotal - Costs		\$1,040	\$4,700	\$13,800	\$400		\$20,100	\$400	\$2,200	\$22,700

Subconsultants:

¹ CHS (Traffic Control)

Please feel free to contact the undersigned if you have questions or require additional information.

Sincerely,

Robert S. Weber, PE, Principal-in-Charge
858.583.6193
rweber@iecorporation.com

Dolores Salgado, PE, Project Manager
661.529.2190
dsalgado@iecorporation



**SEASIDE COUNTY SANITATION DISTRICT
STAFF REPORT**

Item No.: 6.D.

TO: Seaside County Sanitation District

FROM: Craig Malin, District Manager

BY: Scott Ottmar, Senior Engineer

DATE: February 11, 2020

SUBJECT: APPROVAL OF AN AMENDMENT TO A PROFESSIONAL SERVICES AGREEMENT WITH HARRIS & ASSOCIATES FOR AN AMOUNT NOT TO EXCEED ONE HUNDRED THIRTY-ONE THOUSAND SIX HUNDRED DOLLARS (\$131,600) FOR CONTINUATION OF CAPITAL IMPROVEMENT PROGRAM (CIP) MANAGEMENT AND SUPPORT

PURPOSE

The purpose of this item is for the District's Board to consider amending an agreement with Harris & Associates to provide professional services in continued support of the District's Capital Improvement Program (CIP) to perform construction management and inspection services during construction of the Canyon Del Rey CMP Sewer Main Replacement Project.

RECOMMENDATION

It is recommended that the Board adopt a resolution approving an amendment to the Professional Services Agreement with Harris & Associates for an amount not to exceed One Hundred Thirty-One Thousand Six Hundred Dollars (\$131,600) to provide professional services in continued support of the District's Capital Improvement Program (CIP) to perform construction management and inspection services during construction of the Canyon Del Rey CMP Sewer Main Replacement Project and authorizing the District Manager to execute the Amendment.

BACKGROUND

The Canyon Del Rey CMP (Corrugated Metal Pipe) Sewer Main Replacement Project proposes to replace three (3) existing sewer main segments due to poor physical

conditions. The Project includes proposed replacement of approximately 810 feet of existing 12-inch diameter sewer main in Canyon Del Rey Boulevard (State Route 218) from Hilby Avenue to Harcourt Avenue. The segment near Harcourt Avenue, approximately 285 feet, will be upsized to a 15-inch diameter sewer main to provide sufficient capacity for future flow conditions.

The District held a public bid opening on Thursday, April 11, 2019 and one (1) Bid was received for an amount of \$1,499,380. District staff determined the bid amount to be cost prohibitive and higher than expected due to a variety of factors, including an extremely competitive bidding climate, rising construction prices, impacted schedules, construction difficulties, risk, and other factors. At the request of District staff to identify opportunities to reduce the construction cost, Infrastructure Engineering Corporation (IEC) revised their original Construction Contract Documents to include trenchless construction alternatives for the Canyon Del Rey CMP Sewer Main Replacement Project (REBID) and included two (2) separate Bid Forms; 1) traditional open-cut construction methodology utilizing a parallel alignment (Bid Form "A") and 2) trenchless pipe bursting technology (Bid Form "B").

The revised Construction Contract Documents for the Canyon Del Rey CMP Sewer Main Replacement Project (REBID) were finalized on November 22, 2019. The Project was posted on the City of Seaside's website, advertised, and solicited for a period of eight (8) weeks commencing on November 26, 2019 in the Monterey County Weekly. Two (2) non-mandatory pre-bidding conferences and site visits were conducted on December 11, 2019 and January 8, 2020, respectively. In addition to participation by District and consulting engineers, five (5) contractors attended the non-mandatory pre-bidding conferences and site visits.

On January 23, 2020, the District publicly received and opened bids for the Canyon Del Rey CMP Sewer Main Replacement Project. Four (4) bids were received from the following contractors: (1) Bay Pacific Pipelines, Incorporated, (2) K.J. Woods Construction, Incorporated, (3) Monterey Peninsula Engineering, Incorporated, and (4) Mountain Cascade, Incorporated. Initially, the apparent low responsive and responsible bid was from Bay Pacific Pipelines, Incorporated, but in a written request dated January 24, 2020, Bay Pacific Pipelines, Incorporated requested relief from their Bid due to an error(s) in their calculations citing Public Contract Code Section 5103. With that, the lowest responsive and responsible bid was from Monterey Peninsula Engineering, Incorporated in the amount of One Million Three Hundred Sixty-Eight Thousand One Hundred Eighty Dollars (\$1,368,180). This Bid was within Bid Form "A", which utilizes traditional open-cut construction via parallel alignment.

As a result of the revised Construction Contract Documents and rebid, the lowest responsive and responsible bid was \$131,200 less than that from the first public bid opening on April 11, 2019 at the City of Seaside's City Hall.

It is recommended the Board adopt the attached resolution approving an Amendment to a Professional Services Agreement with Harris & Associates for construction management and inspection services and authorize the District Manager to execute the Amendment.

ENVIRONMENTAL COMPLIANCE:

In accordance with Title 14, California Code of Regulations (CCR, Title 14), Chapter 3 "CEQA Guidelines," Article 20, Section 15378, the proposed action is a project as defined by the California Environmental Quality Act (CEQA). Specifically, the Canyon Del Rey CMP Sewer Main Replacement and Del Monte Boulevard Sewer Main Replacement is considered a "Project" under CEQA Statute 21065, because the Project is an activity, which may cause either a direct physical change in the environment, or a reasonably foreseeable indirect physical change in the environment, and is directly undertaken by a public agency and it is supported through assistance from one or more public agencies.

A combined Initial Study Mitigated Negative Declaration (IS/MND) was completed in March 2019 for the Del Monte Boulevard Sewer Replacement Project and Canyon Del Rey Boulevard Sewer Replacement Project. A Notice of Intent was filed with the Monterey County Recorder on March 21, 2019. A Mitigated Negative Declaration was prepared consisting of the Initial Study, all comments received during the public review period, and a Mitigation Monitoring and Reporting Program. The District approved the IS/MND at its November 12, 2019 regularly scheduled meeting and a Notice of Determination was filed on November 14, 2019.

FISCAL IMPACT

The proposed Amendment to the Professional Services Agreement with Harris & Associates is a not-to-exceed amount of One Hundred Thirty-One Thousand Six Hundred Dollars (\$131,600).

The Fiscal Year 2019/2020 Budget for Canyon Del Rey CMP Sewer Main Replacement Project (Sewer Line Replacements (953-8820-9218)) is \$1,320,000. There have been charges associated with project management, design, and re-design, resulting in a project balance of approximately \$1,260,000 as of January 2020.

The combined fiscal impact for the Construction Contract Agreement with Monterey Peninsula Engineering, Incorporated (MPE), with a 10% contingency, the Engineering Support During Construction (ESDC) services with Infrastructure Engineering Corporation (IEC), and the Construction Management and Inspection Services with Harris & Associates, requires an additional \$399,298 resulting in a proposed revised budget of \$1,659,298. As of December 31st, 2019, there are available cash assets of \$7,503,114.49. Based upon the lowest responsive and responsible bid and the

available assets, it is recommended to amend the FY 2019/2020 budget for the Canyon Del Rey CMP Sewer Main Replacement Project (Sewer Line Replacements (953-8820-9218)) to \$1,659,298 and authorize the District manager to execute an Amendment with Harris & Associates for an amount not to exceed of One Hundred Thirty-One Thousand Six Hundred Dollars (\$131,600).

ATTACHMENTS

1. Resolution
 2. Contract Amendment
-

Reviewed for Submission to the
Board by:



Craig Malin, District Manager

RESOLUTION NO. 2020-XX (SCSD)

**A RESOLUTION OF THE SEASIDE COUNTY SANITATION DISTRICT
AMENDING A PROFESSIONAL SERVICES AGREEMENT WITH HARRIS &
ASSOCIATES IN THE AMOUNT OF ONE HUNDRED THIRTY-ONE THOUSAND SIX
HUNDRED DOLLARS (\$131,600) TO PROVIDE CONSTRUCTION MANAGEMENT AND
INSPECTION SERVICES FOR THE CANYON DEL REY CMP SEWER MAIN
REPLACEMENT PROJECT**

WHEREAS, the Seaside County Sanitation District (“District”) has a Capital Improvement Program (CIP) that includes projects for implementation within the fiscal year 2019/2020; and

WHEREAS, the District has determined that it is in the public interest to proceed with the CIP Project No. 18 “Canyon Del Rey CMP Sewer Line Replacement Project”, hereinafter described as the “Project”; and

WHEREAS, on May 9, 2017, the District’s Board adopted a resolution awarding a Professional Services Agreement to Harris and Associates to provide professional project management services for the implementation of the Capital Improvement Program; and

WHEREAS, it is necessary for the District to retain Construction Management and Inspection Services throughout the duration of the Project; and

WHEREAS, on February 5, 2020, Harris & Associates submitted a Proposal for performing the additional professional services in support of the Project; and

WHEREAS, the District has determined that the proposed Scope of Work and Budget are reasonable and within the approved CIP Scope of Work and Budget for the Project.

NOW THEREFORE, BE IT RESOLVED, that the Seaside County Sanitation District authorizes the District Manager to execute the amendment to the Professional Services Agreement with Harris & Associates for an amount not-to-exceed One Hundred Thirty-One Thousand Six Hundred Dollars (\$131,600) to provide construction management and inspection services as described in the amendment attached for the Canyon Del Rey CMP Sewer Main Replacement Project.

PASSED AND ADOPTED at a regular meeting of the Seaside County Sanitation District duly held on the 11th day of February 2020, by the following vote:

AYES:	Board Members:
NOES:	Board Members:
ABSENT:	Board Members:
ABSTAIN:	Board Members:

Jerry Blackwelder, Chair
Seaside County Sanitation District

ATTEST:

Lesley Milton-Rerig, District Clerk
Seaside County Sanitation District

CONTRACT AMENDMENT #10
CAPITAL IMPROVEMENTS PROJECTS MANAGEMENT
Seaside County Sanitation District

Date: February 5, 2020

Change Requested by: X District Consultant

Contract Date

May 30, 2017

Project Name

Capital Improvements Projects Management

To (Consultant): Harris & Associates, 2 Salinas Street, Suite B, Salinas, CA 93901

You are directed to make the following changes to the Contract Documents or amend the following described work not included in the contract documents for this project.

The purpose of this addendum is to provide additional professional services related to the project named above. The contract terms and conditions shall not be modified except for as stated herein.

MODIFY the following text in **Section 2, "Services."**

Consultant shall perform the tasks described and set forth in Exhibit A, Exhibit A1, Exhibit A2, Exhibit A3, Exhibit A4, Exhibit A5, Exhibit A6 attached hereto and incorporated herein as though set forth in full. Consultant shall complete the tasks according to the schedule of performance which is also set forth in Exhibit A, Exhibit A1, Exhibit A2, Exhibit A3, Exhibit A4, Exhibit A5, Exhibit A6, Exhibit A7, Exhibit A8, Exhibit A9 and Exhibit A10.

MODIFY the following text in **Section 21, "Contents of Request for Proposal and Proposal."**

Consultant is bound by the contents of City's Request for Proposal, Exhibit "C" hereto and incorporated herein by this reference, and the contents of the proposal submitted by the Consultant, Exhibit A, Exhibit A1, Exhibit A2, Exhibit A3, Exhibit A4, Exhibit A5, Exhibit A6, Exhibit A7, Exhibit A8, Exhibit A9 and Exhibit A10 hereto.

Original Contract Amount	Previous CCO Total (Not including this CCO)	This CCO Total	Revised Contract Amount
\$41,880.00	\$618,411	\$131,600.00	\$791,891.00
Original Contract Time	Original Completion Date	CCO Days To Date (Including This CCO)	Revised Completion Date
36 Months	June 30, 2020	0	June 30, 2021

CONTRACT AMENDMENT #10
CAPITAL IMPROVEMENTS PROJECTS MANAGEMENT
Seaside County Sanitation District

SUBMITTED BY:		
	Scott Ottmar Acting District Engineer	February 5, 2020
Signature	Name and Title	Date
CITY APPROVAL BY:		
	Craig Malin District Manager	
Signature	Name and Title	Date

CONSULTANT ACCEPTANCE BY:		
	Frank S. Lopez Senior Director, Engineering Services	2/7/2020
Signature	Name and Title	Date



February 5, 2020

Scott Ottmar, PE
District Engineer
Seaside County Sanitation District
440 Harcourt Avenue
Seaside, CA 93955

Scope and Fee to Provide Construction Management, Inspection and Materials Testing Services for the Canyon Del Rey CMP Sewer Main Replacement Project

Dear Scott:

The District is in the process of awarding a construction contract for the Canyon Del Rey CMP Sewer Main Replacement project. This proposal is to assist the District with providing Construction Management, Inspection and Materials Testing Services for this project.

The following includes our scope of services and corresponding level of effort.

SCOPE OF SERVICES

Harris agrees to provide Public Works Construction Inspection Services for Developer's on-site and off-site work and Permit Work within the City of Soledad's Public Right-of-Way as set forth below:

Task Description	Our Approach	Deliverables
1.0 Project Management		
1.1 Project Coordination and Meetings	Our Project Manager, Jason Caprio, will continue to meet with the District on a regular bases and will coordinate with the contractor, design consultant and CM Team. Jason will also be involved with the Pre Construction Phase. Management of this contract and submittal of project invoices for services rendered.	N/A
1.2 Monthly Progress Reports	A brief progress report will accompany each monthly Harris invoice. It will discuss budget and schedule status, issues resolved and unresolved, and "next steps."	Monthly progress report.

Exhibit A-10

Task Description	Our Approach	Deliverables
2.0 Construction Management		
2.1 Preconstruction	Construction management team members will conduct the preconstruction meeting and coordinate with the selected contractor.	Meeting notes.
2.2 Construction Management and Inspection Services	Project Administration including preparation of progress pay estimates, preparation of contract change orders, and documentation of construction progress, daily quality control inspection and measurement and tracking of quantities of work completed. Provide daily construction inspection. Record information related to: work performance; instruction given/received; construction activities in process, completed, started, etc.; deficiencies noted; problems encountered and resolution notification, actions taken; and notes/notations/redlines of field changes. Serve as general field liaison between Contractor and District staff. Assist District in maintaining good relations with residents and businesses in the surrounding neighborhoods. Perform final inspection; including recommendation and scheduling with appropriate stakeholders. Harris will prepare, distribute, and inspect corrections for the final punch list for completion and acceptance.	Progress reports, daily diaries, quantity records, resolution notifications.
2.3 Materials Testing	We have teamed with Pacific Crest Engineering to provide Materials Testing Services for the Trench Backfill. We allocated an allowance for their effort.	Material Testing Reports
2.4 Project Closeout	Oversee completion of As-built drawings, preparation of final Pay Estimate. Provide a final report. The report will include all Daily Inspection Reports, documentation for testing of installed facilities, photos and redline plan review.	As-Built drawings and inspection binder.

PROJECT SCHEDULE

Based on the latest schedule provided the design engineer and the contract documents, it is our understanding construction of this project will span approximately 78 consecutive days for substantial completion and 108 consecutive days for construction. Construction is expected to begin on March 10, 2020; we have based on our level of effort on this schedule.

PROPOSED FEES

The proposed fee for the subject Scope of Work is \$131,600, which includes materials testing services. For a detailed breakdown on Scope of Services, personnel categories, and estimated labor hours, please see the attached Fee Breakdown.

We look forward to working with the District on this important project.

Sincerely,
Harris & Associates, Inc.



Frank S. Lopez, PE, QSD, CFM
Senior Director
(831) 233-9242 ■ Frank.Lopez@WeAreHarris.com

Enclosures:

- (1) Attachment 1: Level of Effort

Exhibit A-10

Seaside County Sanitation District - Can yon Del Rey CMP Sewer Main Replacement

February 5, 2020

Project Schedule		2020			
		Mar	Apr	May	Jun
Calendar days		31	30	31	30
Work days		22	22	20	22
Hrs		176	176	160	176
Pre-Construction					
Construction					
Closeout					

Estimated Fees								
Positions	Name	Rate					Hours	Fee
Project Manager	Caprio	\$210.00	12	12	12	12	48	\$ 10,080.00
Construction Management	Seanez	\$185.00	44	44	40	44	172	\$ 31,820.00
Inspector (Prevailing Wage)	Seanez	\$185.00	132	132	120	24	408	\$ 75,480.00
Construction Admin	Blackwell	\$100.00	8	8	8	8	32	\$ 3,200.00
Monthly Subtotal			196	196	180	88	660	
			Total Harris Fee					\$ 120,580.00
Materials Testing	<i>Pacific Crest</i>	As-needed						\$ 10,000.00
			10% Sub Markup					\$ 1,000.00
			Total ODC's					\$ 11,000.00

Total Estimated Fee \$ 131,600.00

Notes and Assumptions:

Fees are based on a preliminary construction schedule provide by the Design Consultant

Fees are based on 2hrs for CM and 6hrs for inspection per day

Holidays include New Year's Day, Martin Luther King Day, Presidents Day, Memorial Day; Independence Day; Labor Day; Thanksgiving (2 days) and Christmas

Should actual schedule require more or less construction management services than proposed, adjustments to this estimate will be required.

Overtime, weather, holidays and potential time extensions or delays will result in additional construction management efforts.



SEASIDE COUNTY SANITATION DISTRICT

440 HARCOURT AVENUE * SEASIDE, CALIFORNIA 93955

Telephone (831) 899-6825 Fax (831) 899-6211

BOARD MEMEBERS

January 27, 2020

Jerry Blackwelder
Chair

City of Sand City
1 Sylvan Park
Sand City, CA 93955
(831) 394-3054

Ernest Edwards
Embassy Suites
1441 Canyon Del Rey
Seaside, Ca 93955

Pat Lintell

First Vice Chair

City of Del Rey Oaks
650 Canyon Del Rey
Del Rey Oaks, CA 93940
(831) 394-8511

Re: Excessive Grease Accumulation in Lift Station 19

Dear Mr. Edwards;

On January 15, 2019, maintenance personnel from the Seaside County Sanitation District (SCSD) discovered a blockage at lift station 19 caused by Fats, Oils and Grease (FOG). In response, Monterey One Water, maintenance subcontractor to SCSD, was notified to implement remediation of FOG to insure reliable operation of the lift station.

Alissa Kispersky
Second Vice Chair

City of Seaside
440 Harcourt Ave
Seaside, CA 93955
(831) 899-6700

You are receiving this letter because your facility generates FOG. As part of our proactive measures to prevent sewer spill or blockages, we are requesting that you provide the following documentation;

DISTRICT STAFF

1. Provide the previous 12 Months of grease interceptor maintenance records.

Craig Malin

District Manager
440 Harcourt Avenue
Seaside, CA 93955
(831) 899-6203

Please provide a written response by February 21, 2020. Failure to meet this deadline may result in additional actions by the SCSD.

Scott Ottmar

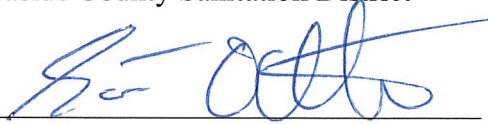
Acting District Engineer
440 Harcourt Avenue
Seaside, CA 93955
(831) 899-6825

Your assistance in this matter is greatly appreciated and will assist the SCSD in meeting the State regulatory requirements. Please contact Scott Ottmar, Acting District Engineer, at (831) 899-6825 to discuss any questions or comments.

Sincerely,
Seaside County Sanitation District

Michael Whilden

Legal Counsel
Office of the County
Counsel
168 West Alisal Street
Third Floor
Salinas, CA 93901
(831) 755-5045



Scott Ottmar, Acting District Engineer

Cc:
Craig Malin, District Manager, SCSD

Lesley Milton

District Clerk
440 Harcourt Ave
Seaside, CA 93955
(831) 899-6707



SEASIDE COUNTY SANITATION DISTRICT

440 HARCOURT AVENUE * SEASIDE, CALIFORNIA 93955

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Sand City, CA 93955
(831) 394-3054*

Pat Lintell

First Vice Chair

*City of Del Rey Oaks
650 Canyon Del Rey
Del Rey Oaks, CA 93940
(831) 394-8511*

Alissa Kispersky

Second Vice Chair

*City of Seaside
440 Harcourt Ave
Seaside, CA 93955
(831) 899-6700*

DISTRICT STAFF

Craig Malin

*District Manager
440 Harcourt Avenue
Seaside, CA 93955
(831) 899-6203*

Scott Ottmar

*Acting District Engineer
440 Harcourt Avenue
Seaside, CA 93955
(831) 899-6825*

Michael Whilden

*Legal Counsel
Office of the County
Counsel
168 West Alisal Street
Third Floor
Salinas, CA 93901
(831) 755-5045*

Lesley Milton

*District Clerk
440 Harcourt Ave
Seaside, CA 93955
(831) 899-6707*

January 27, 2020

Chris Cook

Chili's Restaurant
1349 Canyon Del Rey
Seaside, Ca 93955

Re: Excessive Grease Accumulation in Lift Station 19

Dear Mr. Cook;

On January 15, 2019, maintenance personnel from the Seaside County Sanitation District (SCSD) discovered a blockage at lift station 19 caused by Fats, Oils and Grease (FOG). In response, Monterey One Water, maintenance subcontractor to SCSD, was notified to implement remediation of FOG to insure reliable operation of the lift station.

You are receiving this letter because your facility generates FOG. As part of our proactive measures to prevent sewer spill or blockages, we are requesting that you provide the following documentation;

1. Provide the previous 12 Months of grease interceptor maintenance records.

Please provide a written response by February 21, 2020. Failure to meet this deadline may result in additional actions by the SCSD.

Your assistance in this matter is greatly appreciated and will assist the SCSD in meeting the State regulatory requirements. Please contact Scott Ottmar, Acting District Engineer, at (831) 899-6825 to discuss any questions or comments.

Sincerely,

Seaside County Sanitation District

Scott Ottmar, Acting District Engineer

Cc:

Craig Malin, District Manager, SCSD



SEASIDE COUNTY SANITATION DISTRICT

440 HARCOURT AVENUE * SEASIDE, CALIFORNIA 93955

Telephone (831) 899-6825 Fax (831) 899-6211

BOARD MEMEBERS

January 27, 2020

Jerry Blackwelder
Chair

*City of Sand City
1 Sylvan Park
Sand City, CA 93955
(831) 394-3054*

Robert Barb
Googie Grill
1520 Del Monte Avenue
Seaside, Ca 93955

Pat Lintell

First Vice Chair

*City of Del Rey Oaks
650 Canyon Del Rey
Del Rey Oaks, CA 93940
(831) 394-8511*

Alissa Kispersky
Second Vice Chair

*City of Seaside
440 Harcourt Ave
Seaside, CA 93955
(831) 899-6700*

Re: Excessive Grease Accumulation in Lift Station 19

Dear Mr. Barb;

On January 15, 2019, maintenance personnel from the Seaside County Sanitation District (SCSD) discovered a blockage at lift station 19 caused by Fats, Oils and Grease (FOG). In response, Monterey One Water, maintenance subcontractor to SCSD, was notified to implement remediation of FOG to insure reliable operation of the lift station.

You are receiving this letter because your facility generates FOG. As part of our proactive measures to prevent sewer spill or blockages, we are requesting that you provide the following documentation;

DISTRICT STAFF

Craig Malin

*District Manager
440 Harcourt Avenue
Seaside, CA 93955
(831) 899-6203*

Scott Ottmar

*Acting District Engineer
440 Harcourt Avenue
Seaside, CA 93955
(831) 899-6825*

Michael Whilden

*Legal Counsel
Office of the County
Counsel
168 West Alisal Street
Third Floor
Salinas, CA 93901
(831) 755-5045*

1. Provide the previous 12 Months of grease interceptor maintenance records.

Please provide a written response by February 21, 2020. Failure to meet this deadline may result in additional actions by the SCSD.

Your assistance in this matter is greatly appreciated and will assist the SCSD in meeting the State regulatory requirements. Please contact Scott Ottmar, Acting District Engineer, at (831) 899-6825 to discuss any questions or comments.

Sincerely,
Seaside County Sanitation District

Scott Ottmar, Acting District Engineer

Cc:
Craig Malin, District Manager, SCSD

Lesley Milton

*District Clerk
440 Harcourt Ave
Seaside, CA 93955
(831) 899-6707*