CITY OF LAKEPORT

Over 100 years of community, pride, progress, and service

ADDENDUM NO. 2
2024 WATER & SEWER MAIN REPLACEMENT PROJECT
Bid No. 23-05

Issue Date: April 23, 2024

The following revisions are hereby made to the above referenced project:

1. Replace base bid schedule with attached BID SCHEDULE Addendum 2. (3 pages)

   - Revisions indicated in red. There are no changes to Alternate A bid schedule.

2. Amend Section 700-5.4 - **Bid Item 4** as follows:

700-5.4 BID ITEM 4 – WATER POLLUTION CONTROL PROGRAM (WPCP)

A. Scope of Work
   1. Prepare SWPPP by QSD.
   2. Obtain permit coverage under the State Construction General Permit.
   3. Implement SWPPP by QSP.
   4. Provide copies of all required monitoring reports to City Engineer on a weekly basis.
   5. Terminate Construction General Permit coverage following completion of construction in coordination with City.
   6. Removal of BMPs at catch basins shall be under City supervision.

B. Payment
   1. Lump Sum
   2. 50% on Implementation
   3. Remainder based percentage of completion by contract time.
   4. Includes all costs of performing dewatering operations in accordance with Attachment J of the Construction General Permit.
   5. Installation of permanent dewatering points paid as a separate item.

3. Amend **Bid Item 80** to ABANDON EXISTING SEWER MANHOLE

4. Add **Bid Item 89** - REMOVE EXISTING SEWER MANHOLE

700-5.89 BID ITEM 89 - REMOVE EXISTING SEWER MANHOLE

A. Scope of Work

1. Remove frame and grate. Salvage, protect and deliver to City Corporation Yard
2. Remove risers, cone taper, barrels and base.
3. Backfill to surface with Class 2 aggregate base.
4. Install HMA paving. Minimum paving around manhole shall be 10-foot by 10-foot or greater if pavement damaged during construction.

B. Payment

1. Paid per each unit constructed including all costs associated with the work.
2. Includes all incidentals necessary to complete in place.
3. Includes HMA paving.

5. Amend Standard Specification Section 7-8.6 Water Pollution Control as follows:

***7-8.6.1 General**. This item shall consist of preparation, implementation and compliance with a storm water pollution prevention plan (SWPPP) for the project, ~~if applicable.~~*

***7-8.6.2 Storm Water Pollution Prevention Plan (SWPPP) Preparation**. CONTRACTOR shall submit to the engineer a completed and signed SWPPP at the preconstruction conference. The plan may utilize the practices recommended in the latest edition of the California Storm Water Best Management Practices Handbook, available from California Stormwater Quality Association (CSQA), and online at http://www.cabmphandbooks.net/ . The plan shall be consistent with the Construction General Permit (CGP), issued by the State Water Resources Control Board., ~~Control City Council~~. Permit coverage shall be obtained by the Contractor through submittal of the Notice of Intent (NOI), and receipt of a Waste Discharger Identification Number (WDID). The plan shall include Dewatering Requirements consistent with Attachment J of the CGP. If construction will occur between October 15 and April 15 (considered as the rainy season per City Ordinance), a wet weather erosion control plan must be submitted. Additionally, Best Management Practices (BMPs) implemented during the AGENCY's rainy season shall include but not be limited to those appropriate for wet weather conditions.*

6. Replace the first sentence of paragraph 5, **Section 9-3.2** Partial and Final Payment of the Standard Specification with:

On not later than the thirtieth of the month, the City shall, after deducting previous payments made, pay to the Contractor ninety-five (95) percent of the amount of the invoice.

7. Quantity breakdown per street is attached for reference (1 page)

8. Table indicating manhole sizes and drops is attached (2 pages)

9. Bid date remains the same.

Questions and clarifications:

1. Please clarify how the project determines the low bidder; The Base Bid or Base Bid plus Alternate.

   A. *The project will be awarded on Base Bid*

2. Is there a soils report available for the project?

   A. *No*

3. Will the city allow the water trench clean spoils to be disposed of at the City location where the sewer spoils are disposed?

   A. *Clean soil will be accepted at the City Recycle yard on Hwy 175.*

4. Please clarify the type of sewer pipe being removed when trenching for the new sewer main?

   A. *Existing sewer pipe consists of PVC, AC, and Clay. AC pipe will be the contractor's responsibility to dispose of. Bidders can also reference the 2008 Master Sewer Plan: 2008-City-of-Lakeport-Master-Sewer-Plan-8282009121716AM.pdf (revize.com). Existing pipe types are noted on page 135. The City makes no guarantee of the accuracy of the information.*

5. Special Provision Order of work;1). Lakeport Blvd states to construct 6" water service at station 709+25 to tie in?? Please clarify this does not indicate on the plans at this station.

   A. *Modify **Section 700-4.1.iv** as follow:*
      To accommodate upcoming City projects, the following work at the following locations shall be completed prior to initiating other work:
      1. *Both sewer and water on Martin Street between Main and Forbes shall be performed, tested and the Main Street portion paved.*
      2. *Install sanitary sewer work from existing Lakeport Blvd. pump station across Main Street and east on K Street. Pave Main Street portion.*
      3. *Install all water infrastructure on Lakeport Boulevard.*

6. Plan sheets note #2 "sewer" indicates to replace all sewer lateral cleanouts on all sewer laterals. The plans do not provide for all these locations. If the existing cleanout is in concrete are we paid by the contract unit price for the concrete flatwork replacement?

   A. *Yes. To clarify, all replaced sewer laterals shall be installed with cleanouts, regardless of whether cleanouts exist on the existing laterals*.

7. Bid item #87-88 have 0 quantity. Please provide quantity for these items.

   A. *These bid items are relevant only to the bid alternate. See bid alternate schedule for quantities.*

8. Bid Item # 71--8” x 160’ cured in place liner. Can PVC thermoform liner be installed as in past projects for Lakeport?

   A. Yes

9. The concrete C&G/SW Valley Gutter; on Martin between Forbes and Main and Lakeport Blvd. Can this work be completed during the Day?

   A. Yes, they can detour down Konocti Ave.

10. Please clarify the Curb and Gutter replacement is based on Residential per standard 205.

    A. Yes, it is standard curb and gutter detail 205.

11. Where restrained joints are required on all fittings, can the thrust block be eliminated?

    A. Thrust blocks are required per detail, including where restrained joints are installed.

12. Bid item # 84 – Trench Over Excavation; Since the item is based on (LF) please clarify the depth of over excavation below the pipeline design trench invert. Clarify if the filter fabric is place at the bottom of the trench and then the drain rock is place?

    A. See revised Standard Detail 222 (5 pages)

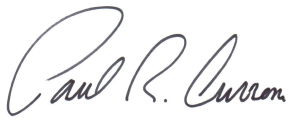
13. Lakeport Blvd/Bevins St notes to T-Cut paving for all trenches from sta 700+40 - 708+40. AT station 704+61 the notes changes not to t-cut the paving. Please clarify the stationing for T-cut and no T-cut.

    A. The T-cut limits on Lakeport Boulevard are from 700+40 to 704+61. The remainer of the trench is paved with the modified non-T cut paving.

All questions regarding this project shall be transmitted in writing as indicated in the bid documents.

Please indicate receipt of this addendum on the proposal at the location indicated. Failure to do so may cause rejection of your bid. There are 15 total pages in this addendum.

Approved:



Paul Curren, City Engineer

BID SCHEDULE (Continued)

2024 WATER & SEWER MAIN REPLACEMENT
BID NO. 23-05
IN THE CITY OF LAKEPORT, CALIFORNIA

The Contractor shall be responsible for calculating and providing unit prices for the bid schedule. The bid schedule shall include all costs for services, labor, materials, equipment, and installation associated with completing the work in place per the plans, specifications and details.

2024 WATER & SEWER MAIN REPLACEMENT					
BID NO. 23-05					
Addendum 2- Base Bid (Project Awarded on Base Bid)					
Item	**Description**	**Unit**	**Quantity**	**Unit Price**	**Extension**
1	Mobilization	LS	---	---	
2	Traffic & Pedestrian Control	LS	---	---	
3	Construction Staking	LS	---	---	
4	Water Pollution Control Program (WPCP)	LS	---	---	
5	Sheeting and Shoring	LS	---	---	
6	Replace Pavement Markings	LS	---	---	
7	Remove and Replace Curb & Gutter	LF	842		
8	Remove and Replace Sidewalk	SF	2,387		
9	Remove and Replace Valley Gutter	LF	380		
10	Remove and Replace Bus Pad	SF	110		
11	Remove and Replace HMA Curb	LF	35		
12	3" Paving Beyond Normal Trench Paving	SF	5,000		
13	Additional T-Cut Paving	LF	2,409		
14	Install New Water Main with 4" C900 PVC	LF	118		
15	Install New Water Main with 6" C900 PVC	LF	1,894		
16	Install New Water Main with 8" C900 PVC	LF	3,530		
17	Install New Water Main with 10" C900 PVC	LF	4,811		
18	Install Cutoff Dams	EA	79		
19	Tunnel under Storm Drain on Lakeshore (~Sta 221)	LS	1		
20	Tunnel under Storm Drain on Martin (~Sta 625)	LS	1		
21	Jack and Bore 16" Steel Casing on Martin (~Sta 616+50)	LS	1		
22	Jack and Bore 16" Steel Casing on Martin (~Sta 624+75)	LS	1		
23	Tie In to Existing Water Main	EA	31		
24	4" Gate Valve	EA	1		
25	6" Gate Valve	EA	54		
26	8" Gate Valve	EA	15		
27	10" Gate Valve	EA	35		

28	2" Blowoff Valve	EA	2		
29	6" Cross Connection	EA	2		
30	8"x8"x6"x6" Cross Connection	EA	2		
31	10"x10"x8"x6" Cross Connection	EA	1		
32	6" Tee Connection & Thrust Block	EA	4		
33	6"x4"x6" Tee Connection & Thrust Block	EA	1		
34	8" Tee Connection & Thrust Block	EA	1		
35	8"x8"x6" Tee Connection & Thrust Block	EA	9		
36	10" Tee Connection & Thrust Block	EA	5		
37	10"x10"x6" Tee Connection & Thrust Block	EA	20		
38	10"x6"x10" Tee Connection & Thrust Block	EA	4		
39	10"x10"x8" Tee Connection & Thrust Block	EA	4		
40	8"x8"x10" Tee Connection & Thrust Block	EA	1		
41	4" through 10" Bends/Fittings & Thrust Blocks	EA	57		
42	6"x4" Reducer Fitting	EA	7		
43	8"x4" Reducer Fitting	EA	1		
44	8"x6" Reducer Fitting	EA	6		
45	10"x8" Reducer Fitting	EA	2		
46	6" End Cap	EA	2		
47	6"x2" Tapped Cap	EA	1		
48	10"x1" Tapped Cap	EA	1		
49	Disconnect, Cap, & Abandon Existing Water Main	EA	28		
50	Install Air/Vacuum Assembly	EA	3		
51	Connect to Existing Water Valve	EA	4		
52	Abandon Existing Valve	EA	72		
53	Remove & Replace Existing Fire Hydrant	EA	9		
54	Install New Fire Hydrant	EA	12		
55	Remove Existing Fire Hydrant	EA	2		
56	Water Main Lowering per City Standard 528	EA	15		
57	Connect to Existing Fire Hydrant	EA	1		
58	Cap & Remove Existing Water Service	EA	1		
59	Install 3/4" Water Service Line	LF	35		
60	Replace 1" Water Service Line	LF	1,534		
61	Replace 2" Water Service Line	LF	293		
62	3/4" Water Service - Sampling Station	EA	2		
63	1" Water Service - Single Meter	EA	67		
64	2" Water Service - Single Meter	EA	6		
65	2" Water Service - Double Meter	EA	5		
66	2" Water Service - Double and Single Meter	EA	4		
67	2" Water Service - Two Double Meters	EA	3		
68	4" Water Service - Single 4" Meter	EA	1		

69	Remove & Replace Sewer Main - 8" PVC	LF	3,092		
70	Remove & Replace Sewer Main - 10" PVC	LF	1,936		
71	8" Cured In Place Pipe (CIPP) Liner	LF	160		
72	Remove & Replace or New 4" Sewer Lateral	LF	795		
73	Remove & Replace or New 6" Sewer Lateral	LF	541		
74	Install New 8" Sewer Lateral (PVC)	LF	90		
75	Install New 4" Sewer Cleanout	EA	34		
76	Install New 6" Sewer Cleanout	EA	14		
77	Connect to Existing Sanitary Sewer Lift Station	LS	1		
78	Connect to (E) Sewer Main (Calder Connection)	EA	19		
79	Remove and Replace Sewer Manhole	EA	21		
80	Abandon Existing Sewer Manhole	EA	1		
81	Install New Sewer Manhole	EA	4		
82	Remove and Replace 6" Storm Drain Pipe	LF	128		
83	Remove and Replace 12" Storm Drain Pipe	LF	46		
84	Trench Over-Excavation	LF	1,257		
85	Install Dewatering Well Point	EA	12		
86	Connect to (E) SS Mainline for 4" or 6" Lateral	EA	5		
87	Protect Rock Wall @ 315 Fairview Way	LS	0		
88	Connect New Lateral to Existing Sewer Main	EA	0		
89	Remove Existing Sewer Manhole	EA	2		
				Total Base Bid	

Base Bid Schedule Total: $_____

Base Bid Schedule Total (in words):

_____

_____

_____ _____

(Company Name of Bidder) **(Date)**

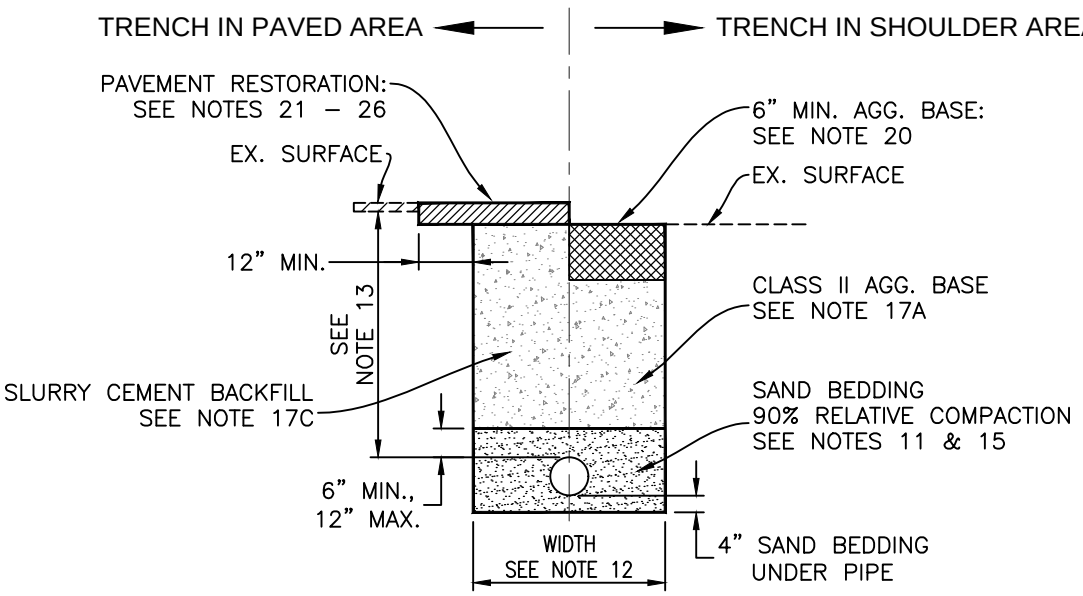
2024 Water & Sewer Main Replacement

Estimated Quantities by Street

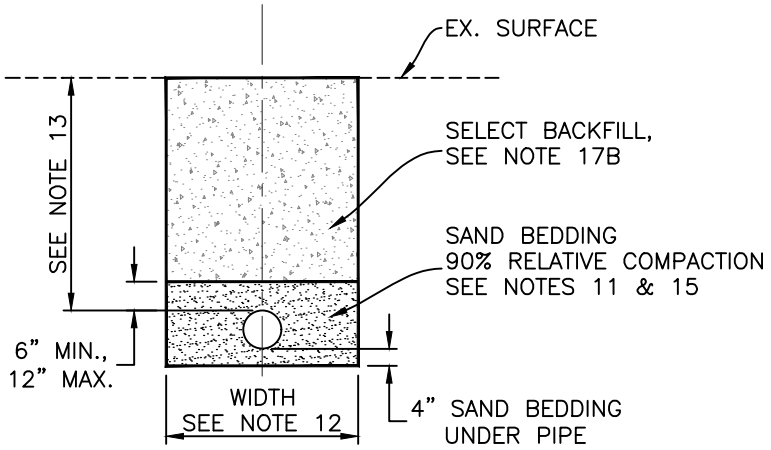
STREET			LAKESHORE, SAYRE, & JONES		FAIRVIEW		10TH & TUNIS	ARMSTRONG	MARTIN		LAKEPORT BOULEVARD & FORBES		K STREET	**PROJECT**
Item	Description	Unit	Water Quantity	Sewer Quantity	Water Quantity	Sewer Quantity	Water Quantity	Water Quantity	Water Quantity	Sewer Quantity	Water Quantity	Sewer Quantity	Sewer Quantity	Total Quantity
1	Mobilization	LS	1											1
2	Traffic Control	LS	1											1
3	Construction Surveying	LS	1											1
4	Water Pollution Control Program	LS	1											1
5	Sheeting and Shoring	LS	1											1
6	Replace Pavement Markings	LS	1											1
7	Remove and Replace Curb & Gutter	LF	248	18	90		10		166	125	215	55	5	932
8	Remove and Replace Sidewalk	SF	470		325		40		738	394	600	120	25	2712
9	Remove and Replace Valley Gutter	LF	64		10		35		146		75	60		390
10	Remove and Replace Bus Pad Concrete	SF							0	110				110
11	Remove and Replace HMA Curb	LF	0		0				18	12	5			35
12	3" Paving Beyond Normal Trench Paving	SF	0		0									5000
13	Additional T-cut Paving	LF	1394	43							533	439		2409
14	Install New Water Main with 4" C900 PVC	LF	4							57	57			118
15	Install New Water Main with 6" C900 PVC	LF	715		99		590	9	444		136			1993
16	Install New Water Main with 8" C900 PVC	LF	2424		1347			978	48		80			4877
17	Install New Water Main with 10" C900 PVC	LF							2815		1996			4811
18	Install Cutoff Dams in Pipe Trench	EA	16		11		3	13	12	10	11	13	1	90
19	Tunnel under Storm Drain on Lakeshore (~Sta 221)	LS	1		0									1
20	Tunnel under Storm Drain on Martin (~Sta 625)	LS							1					1
21	Jack and Bore 16" Steel Casing on Martin (~Sta 616+50)	LS							1					1
22	Jack and Bore 16" Steel Casing on Martin (~Sta 624+75)	LS								1				1
23	Tie In to Existing Water Main	EA	8		2		6		12		5			33
24	4" Gate Valve	EA									1			1
25	6" Gate Valve	EA	17		4		11	2	18		6			58
26	8" Gate Valve	EA	7		3		4		1		3			18
27	10" Gate Valve	EA							23		12			35
28	2" Blowoff Valve	EA					1		1					2
29	6" Cross Connection	EA	1				1							2
30	8"x8"x6"x6" Cross Connection	EA					2							2
31	10"x10"x8"x6" Cross Connection	EA							1					1
32	6" Tee Connection & Thrust Block	EA	1				2		1					4
33	6"x4"x6" Tee Connection & Thrust Block	EA	1											1
34	8" Tee Connection & Thrust Block	EA	1		1									2
35	8"x8"x6" Tee Connection & Thrust Block	EA	6		4			2			1			13
36	10" Tee Connection & Thrust Block	EA							5					5
37	10"x10"x6" Tee Connection & Thurst Block	EA							12		8			20
38	10"x6"x10" Tee Connection & Thurst Block	EA							4					4
39	10"x10"x8" Tee Connection & Thrust Block	EA							2		2			4
40	8"x8"x10" Tee Connection & Thrust Block	EA									1			1
41	4" through 10" Bends/Fittings & Thrust Blocks	EA	8		3		2	4	29		14			60
42	6"x4" Reducer Fitting	EA	3		0				3		1			7
43	8"x4" Reducer Fitting	EA							1					1
44	8"x6" Reducer Fitting	EA	3		2			2			1			8
45	10"x8" Reducer Fitting	EA							2					2
46	6" End Cap	EA					1				1			2
47	6"x2" Tapped Cap	EA									1			1
48	10"x1" Tapped Cap	EA							1					1
49	Disconnect, Cap, & Abandon Existing Water Main	EA	5		2		1	2	15		5			30
50	Install Air/Vacuum Assembly	EA	1		0			1			1			3
51	Connect to Existing Water Valve	EA	1		0			2	1					4
52	Abandon Existing Valve	EA	16		5				38		18			77
53	Remove & Replace Existing Fire Hydrant	EA	3		3				4		2			12
54	Install New Fire Hydrant	EA	4		1		2	2	2		2			13
55	Remove Existing Fire Hydrant	EA	1								1			2
56	Water Main Lowering per City Standard 528	EA	8		0		1	1	5					15
57	Connect to Existing Fire Hydrant	EA							1					1
58	Cap & Remove Existing Water Service	EA							1					1
59	Install 3/4" Water Service Line	LF			5		8				27			40
60	Replace 1" Water Service Line	LF	716		490		67	163	504		84			2024
61	Replace 2" Water Service Line	LF	43		18				82		168			311
62	3/4" Water Service - Sampling Station	EA					1				1			2
63	1" Water Service - Single Meter	EA	28		26		5	6	19		9			93
64	2" W/S Service - Single Meter	EA	1						1		4			6
65	2" W/S Service - Double Meter	EA	1		4				3		1			9
66	2" W/S Service - Double and Single Meter	EA	0						3		1			4
67	2" W/S Service - Two Double Meters	EA	0								3			3
68	4" W/S Service - Single 4" Meter	EA							1					1
69	Remove & Replace Sewer Main - 8" PVC	LF								510		2346	236	3092
70	Remove & Replace Sewer Main - 10" PVC	LF								1936				1936
71	8" Cured In Place Pipe (CIPP) Liner	LF								160				160
72	Remove & Replace 4" Sewer Lateral	LF		79		18				503		213		813
73	Remove & Replace 6" Sewer Lateral	LF		11						353		177		541
74	Install New 8" Sewer Lateral (PVC)	LF								52		38		90
75	Install New 4" Sewer Cleanout	EA		3		1				22		9		35
76	Install New 6" Sewer Cleanout	EA		1						6		7		14
77	Connect to Existing Sanitary Sewer Lift Station	LS												1
78	Connect to (E) Sewer Main (Calder Connection)	EA								11		8		19
79	Remove and Replace Sewer Manhole	EA								11		9	1	21
80	Abandon Existing Sewer Manhole	EA								1				1
81	Install New Sewer Manhole	EA								2		1	1	4
82	Remove and Replace 6" Stormdrain Pipe	LF								128				128
83	Remove and Replace 12" Stormdrain Pipe	LF								46				46
84	Trench Over-Excavation	LF												1257
85	Install Dewatering Well Point	EA												12
86	Connect to (E) SS Mainline for 4" or 6" Lateral	EA		4		1								5
87	Protect Rock Wall @ 315 Fairview Way	LS			1									1
88	Connect New Lateral to Existing Sewer Main	EA				1								1
89	Remove Existing Sewer Manhole	EA								1		1		2

SSMH TABLE - MARTIN STREET				
STATION	NUMBER	TYPE	INSIDE DROP	SSMH DIAMETER SIZE
602+50.00	1M	REMOVE AND REPLACE	NO	48"
603+85.85	2M	REMOVE AND REPLACE	NO	48"
606+36.74	3M	EXISTING TO REMAIN	-	-
606+66.96	4M	REMOVE AND REPLACE	YES (1)	60"
606+87.69	5M	ABANDON	-	-
609+06.79	6M	REMOVE AND REPLACE	NO	60"
611+86.34	7M	REMOVE AND REPLACE	NO	60"
614+54.03	8M	REMOVE AND REPLACE	NO	60"
616+68.89	9M	REMOVE AND REPLACE	NO	60"
617+71.79	10M	REMOVE AND REPLACE	NO	60"
617+72.65	11M	REMOVE	-	-
620+21.79	12M	NEW	NO	48"
623+25.10	13M	REMOVE AND REPLACE	NO	48"
623+99.32	14M	REMOVE AND REPLACE	NO	60"
625+95.32	15M	NEW	NO	60"
628+52.00	16M	REMOVE AND REPLACE	NO	60"

SSMH TABLE - LAKEPORT BLVD				
STATION	NUMBER	TYPE	INSIDE DROP	SSMH DIAMETER SIZE
700+50.00	1L	REMOVE AND REPLACE	NO	48"
702+82.46	2L	REMOVE AND REPLACE	NO	48"
705+79.61	3L	REMOVE AND REPLACE	NO	48"
708+81.74	4L	REMOVE	-	-
708+91.03	5L	NEW	NO	48"
712+14.49	6L	REMOVE AND REPLACE	NO	48"
715+45.28	7L	REMOVE AND REPLACE	NO	60"
715+45.61	8L	REMOVE AND REPLACE	NO	60"
718+77.90	9L	REMOVE AND REPLACE	YES (1)	60"
720+93.41	10L	REMOVE AND REPLACE	YES (1)	60"
732+95.28	11L	REMOVE AND REPLACE	NO	60"
745+18.12	1K	NEW	NO	48"
747+12.96	2K	REMOVE AND REPLACE	NO	48"



DETAIL 'A': TRENCH IN ROADWAY, SHOULDER OR DRIVEWAY AREAS



DETAIL 'B': TRENCH OUTSIDE ROADWAY, SHOULDER OR DRIVEWAY AREAS

TRENCH MATERIAL REQUIREMENTS

1. SAND SLURRY OR CONTROLLED LOW STRENGTH MATERIALS (CLSM)
   - A. CONTAINS A MINIMUM OF 94 LBS AND MAXIMUM OF 188 LBS OF CEMENTATEOUS MATERIAL
   - B. COMPRESSIVE STRENGTH BETWEEN 75 AND 150 PSI AT 28 DAYS
   - C. AIR ENTRAINMENT ADDITIVES FOR WORKABILITY
   - D. PROVIDE MIX DESIGN WITH TEST RESULTS

2. AGGREGATE BASE
   - A. 3/4" INCH CLASS 2 AGGREGATE BASE PER CALTRANS SECTION 26 OF THE 2010 CALTRANS STANDARD SPECIFICATIONS.
   - B. MINIMUM DRY UNIT WEIGHT BASED ON ASTM D1557 OF 125 PCF.
   - C. PROVIDE CERTIFICATE OF COMPLIANCE WITH TEST RESULTS

(Continued on Sheet 2)

CITY OF LAKEPORT INCORPORATED APRIL 30, 1888	STANDARD TRENCH DETAIL TRENCH BACKFILL				STD. NO. 222
SCALE: NONE	DRAWN: MPW	CHK: PRC	APPVD: Paul R. Curran		DATE: FEB 2024

3. SAND BEDDING
   A. FREE FROM CLAY OR ORGANIC MATERIAL
   B. MEET THE FOLLOWING GRADING REQUIREMENT:

SIEVE SIZE	PERCENT PASSING
1/2"	100
NO. 4	90 – 100
NO. 200	0 – 5

   C. PROVIDE CERTIFICATE OF COMPLIANCE

4. SELECT BACKFILL
   A. FREE OF CONTAMINANTS, ORGANICS AND OTHER DELETERIOUS MATERIAL
   B. NO ROCKS GREATER THAN 6 INCHES
   C. PRIOR APPROVAL BY CITY ENGINEER TO ASSURE PROPOSED BACKFILL FIT FOR PURPOSE. OBTAIN WRITTEN APPROVAL PRIOR TO USE.

5. HOT MIX ASPHALT (HMA)
   A. COMPLY WITH CALTRANS STANDARD SPECIFICATIONS, SECTION 39, 2010 OR 2015.
   B. ½ INCH TYPE A GRADING FOR ALL LIFTS
   C. PG 64–16 BINDER
   D. PROVIDE JOB MIX FORMULA ON CEM 3511 AND 3512 FORMS

6. CONCRETE (PCC)
   A. 4000 PSI AT 28 DAYS
   B. 3 INCH MAXIMUM SLUMP
   C. 1 INCH MAXIMUM COMBINED GRADATION
   D. COMPLY WITH CALTRANS STANDARD SPECIFICATIONS SECTION 90 FOR MATERIALS QUALITY, EITHER 2010 OR 2015 EDITION.
   E. PROVIDE MIX DESIGN WITH TEST RESULTS

TRENCH CONSTRUCTION REQUIREMENTS

7. CONTRACTOR RESPONSIBLE FOR COORDINATION WITH PRIVATE SOILS ENGINEER AND CITY INSPECTOR 48 HOURS PRIOR TO EXCAVATION AND SUBSEQUENT WORK.
8. ALL TRENCH EDGES SHALL EITHER BE SAWCUT OR COLD PLANED.
9. DAMAGED EDGES SHALL BE RESAWCUT TO PROVIDE SQUARE EDGES AND LAYOUT IMMEDIATELY PRIOR TO PAVING.
10. NO SOLID BLOCKING PERMISSIBLE BENEATH PIPE.
11. SAND BEDDING SHALL BE PLACED, COMPACTED AND SHAPED PRIOR TO PLACING PIPE. FOR SAND BEDDING USED ON HDPE PIPE, SAND SHALL BE HAND TAMPED INTO CORRUGATION VOIDS USING A SHOVEL HANDLE OR OTHER IMPLEMENT
12. MINIMUM TRENCH WIDTHS SHALL BE AS FOLLOWS WITH PIPES CENTERED IN TRENCH:

PIPE TYPE & USE	BACKFILL TYPE	TRENCH WIDTH (MINIMUM)
Miscellaneous electrical, irrigation, communication & PVC pipe (excludes HDPE) 6" or less inside diameter	Sand Slurry /CLSM	Outside of pipe or conduit plus 6", 12" minimum.
Water lines, sanitary sewer, and storm drain pipes 6" to 24" diameter	Sand Slurry /CLSM	Outside of pipe or conduit plus 12"; plus 18" minimum for HDPE
Water lines, sanitary sewer, and storm drain pipes greater than 24" up to 48" diameter	Sand Slurry /CLSM	Outside of pipe plus 24" for all pipe types
	Aggregate Base	Outside of pipe plus 36" for all pipe types
	Native Soils	Outside of pipe plus 48" for all pipe types
Sanitary sewer and storm drain pipes greater than 48" diameter	Sand Slurry /CLSM	Outside of pipe plus 24" for all pipe types
	Aggregate Base	Outside of pipe plus 48" for all pipe types
	Native Soils	Outside of pipe plus 48" for all pipe types

(Continued on Sheet 3)

STANDARD TRENCH NOTES

STD. NO. 222

SCALE: NONE | DRAWN: MPW | CHK: PRC | APPVD: Paul R. Curran | DATE: FEB 2024

13. MINIMUM DEPTHS TO TOP OF PIPE FROM SURFACE:

PIPE TYPE & USE	MINIMUM DEPTH
Communication conduits and sleeves with 24 volts or less, irrigation water, sewer and other pipes or conduits.	24 INCHES
Communication conduits and sleeves with voltages greater than 24 volts	30 INCHES
Water service lines	30 INCHES
All water line mains	36 INCHES

14. SAND SLURRY OR OTHER CITY ENGINEER PRE-APPROVED MATERIAL CUT OFF DAMS SHALL BE PLACED IN PERMEABLE BACKFILL TO PREVENT WATER MIGRATION. SAND SLURRY DAMS SHALL BE CONSTRUCTED SUCH THAT THERE IS A MINIMUM OF 12 INCHES (MAXIMUM OF 30 INCHES) OF SAND SLURRY DIVIDING THE SAND BEDDING. CUT OFF DAMS SHALL BE PLACED EVERY 100 FEET FOR TRENCH SLOPES OF 2 % TO 5% AND EVERY 50 FEET FOR TRENCH SLOPES ABOVE 5%. TRENCH SLOPES LESS THAN 2% DO NOT REQUIRE CUT OFF DAMS.

BACKFILL COMPACTION AND TESTING REQUIREMENTS

15. SAND BEDDING SHALL BE COMPACTED USING A VIBRAPLATE TYPE COMPACTOR. SAND BEDDING SHALL BE FULLY WETTED BUT NOT FLOODED PRIOR TO COMPACTION. 90% RELATIVE COMPACTION REQUIRED.

16. NO JETTING ALLOWED FOR ANY BACKFILL OR BEDDING TYPE.

17. COMPACTION TESTING REQUIREMENTS:
    A. UNDER UNPAVED SHOULDERS: 95% RELATIVE COMPACTION FROM BEDDING TO SURFACE FOR ALL MATERIAL TYPES.
    B. UNIMPROVED AREAS: 90% RELATIVE COMPACTION TO WITHIN 12 INCHES OF SURFACE. 85% RELATIVE COMPACTION IN TOP 12 INCHES OF LANDSCAPE AREAS, 90% FOR OTHER AREAS.
    C. UNDER ROADWAY AREAS: SAND SLURRY REQUIRES CONSOLIDATION BUT NOT COMPACTION. NO COMPACTION TESTING REQUIRED.

18. AGGREGATE BASE AND SELECT BACKFILL REQUIRES CONTINUOUS MONITORING AND TESTING BY A SOILS ENGINEER HIRED BY THE DEVELOPER OR CONTRACTOR.

19. TRENCH COMPACTION TESTING DETAILS
    A. LABORATORY DENSITY: ASTM D1557 (DRY) OR CTM216G (WET)
    B. FIELD DENSITY: ASTM D6398
    C. ONE TEST FOR EACH 200 LINEAL FEET OF TRENCH FOR EACH VERTICAL 12 INCHES OF TRENCH DEPTH OR PORTION THEREOF. 3 TEST LOCATIONS PER LIFT MINIMUM.
    D. PROVIDE TEST RESULTS PRIOR TO HMA PAVING.

PAVEMENT RESTORATION

20. UNPAVED SHOULDERS SHALL HAVE AN AGGREGATE BASE MINIMUM THICKNESS OF 6 INCHES.

21. CONCRETE STREETS SHALL BE REPLACED TO MATCH THE EXISTING THICKNESS PLUS 1 INCH. CONCRETE SHALL BE 4000 PSI. PLACE 18 INCH LONG X 5/8 INCH DIAMETER REBAR DOWELS AT 24 INCH ON CENTER ALONG ALL EDGES. PROTECT CONCRETE AFTER PLACEMENT WITH 1 INCH MINIMUM STEEL PLATES FOR A MINIMUM OF 10 CALENDAR DAYS. PROVIDE COARSE BROOM FINISH PERPENDICULAR TO TRAFFIC.

22. WHERE EXISTING STREET IS CONCRETE OVERLAID WITH ASPHALT, THE CONCRETE SECTION SHALL BE REPLACED TO MATCH THE EXISTING THICKNESS PLUS 1 INCH. CONCRETE SHALL BE 4000 PSI. PLACE 18 INCH LONG X 5/8 INCH DIAMETER REBAR DOWELS AT 24 INCH ON CENTER ALONG ALL EDGES. PROTECT CONCRETE AFTER PLACEMENT WITH 1 INCH MINIMUM STEEL PLATES FOR A MINIMUM OF 10 CALENDAR DAYS PRIOR TO PAVING. HMA PAVING THICKNESS SHALL MATCH EXISTING ASPHALT THICKNESS.

(Continued on Sheet 4)

STANDARD TRENCH NOTES

STD. NO. 222

SCALE: NONE | DRAWN: MPW | CHK: PRC | APPVD: Paul R. Curran | DATE: FEB 2024

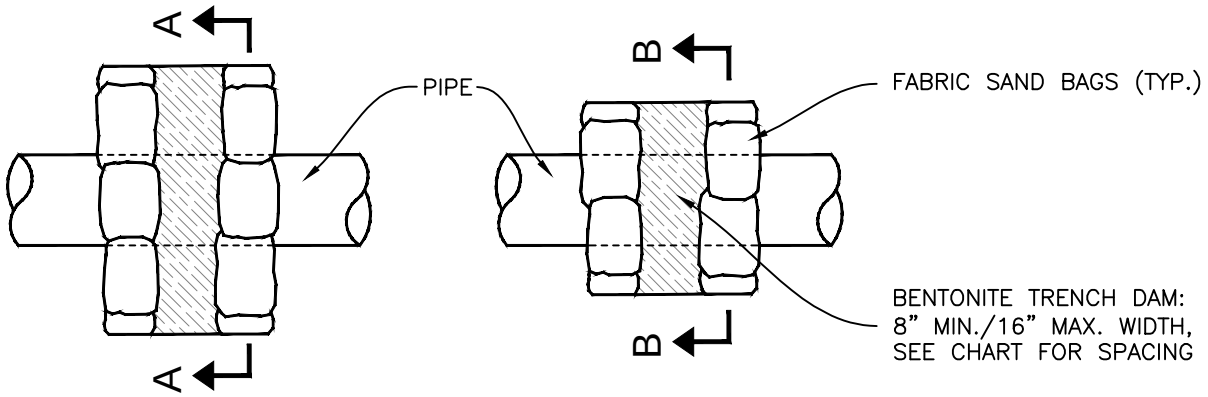
23. FINAL TRENCH PAVING IS REQUIRED TO BE EXPANDED TO A PAINTED LINE STRIPE, EXISTING PAVEMENT PATCH, LIP OF GUTTER OR EDGE OF PAVEMENT WHERE SUCH STREET FEATURE IS WITHIN 3 FEET OF THE FINAL SAWCUT.

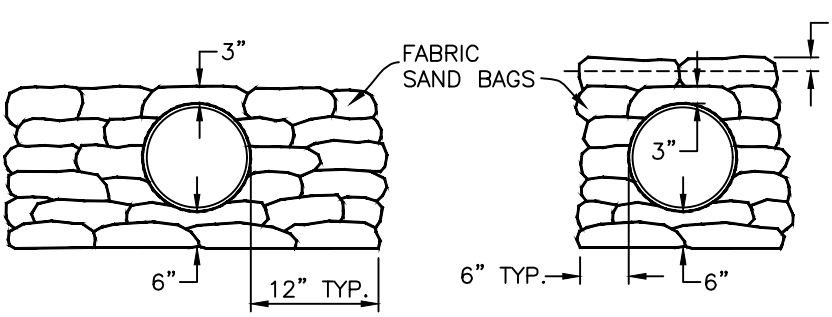
24. PERMANENT PAVING MUST BE COMPLETED WITHIN 30 DAYS. HMA OR CUTBACK (1 INCH MINIMUM THICKNESS) SHALL BE PLACED AS A TEMPORARY SURFACE IN ROADWAY AREAS AND SHALL BE MAINTAINED UNTIL PERMANENT PAVING IS COMPLETED. AT THE SOLE DISCRETION OF THE CITY ENGINEER, TRENCH PLATES MAY BE USED FOR UP TO 2 WEEKS. TRENCH PLATES SHALL HAVE A SKID RESISTANT SURFACE, SHALL BE PLACED SUCH THAT THERE IS NO ROCKING OR MOVEMENT, AND SECURED WITH 24–INCH WIDE TAPERED TEMPORARY PAVING ON ALL SIDES OF THE PLATE TO PROVIDE A SMOOTH TRANSITION. ALL TEMPORARY PAVING INCLUDING STEEL PLATE TRANSITIONS SHALL BE MAINTAINED DAILY, INCLUDING WEEKENDS AND HOLIDAYS.

25. PERMANENT HMA PAVING SHALL BE A MINIMUM OF 3 INCHES THICKNESS OR MATCH THE EXISTING PAVEMENT THICKNESS (WHICHEVER IS GREATER). HMA TO BE PLACE IN LIFTS NOT TO EXCEED 3 INCHES. INSTALL PER 2010 CALTRANS STANDARD SPECIFICATION SECTION 39 INCLUDING TACK COAT PROVISIONS.

26. COMPACT HMA TO MINIMUM OF 90% OF CTM 309. IF TOTAL SQUARE FOOTAGE IS OVER 2000 SF, PROVIDE CORE TEST RESULTS AND CTM 309 FOR EACH 750 SQUARE FEET OF SURFACE AREA PRIOR TO PROJECT ACCEPTANCE.

27. TRENCH DAMS, IF REQUIRED, SHALL CONFORM TO THE FOLLOWING REQUIREMENTS AND DETAIL. THE TRENCH DAM SHALL CONSIST OF A BENTONITE TYPE MATERIAL SUCH AS AQUABLOK POND SEAL OR EQUIVALENT.





SECTION A–A

METHOD 'A'

(W/BASE ROCK BACKFILL)

SECTION B–B

METHOD 'B'

(W/CLSM BACKFILL)

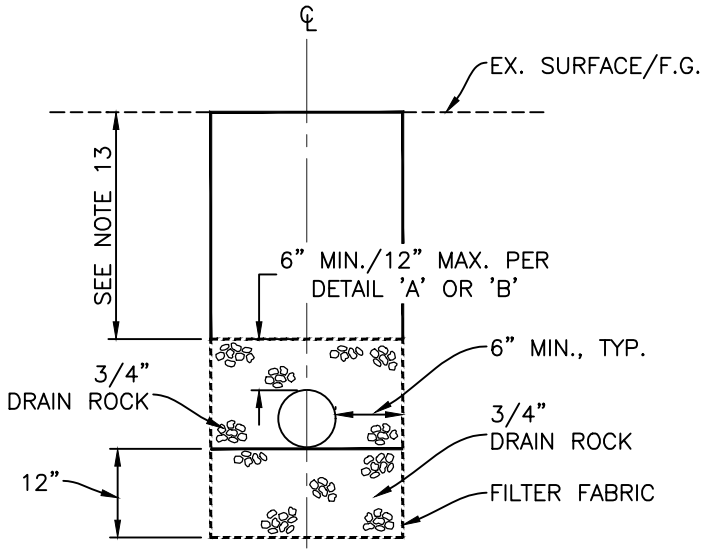
TRENCH DAM SPACING CHART	
PIPE SLOPE	MAX. DISTANCE
<2%	300 FT
2 – 4%	200 FT
4 – 8%	100 FT
>8%	50 FT

DETAIL 'C' - TRENCH DAM

STANDARD TRENCH NOTES
BENTONITE TRENCH DAM DETAIL

STD. NO. 222

SCALE: NONE | DRAWN: MPW | CHK: PRC | APPVD: Paul R. Curran | DATE: FEB 2024



NOTES:

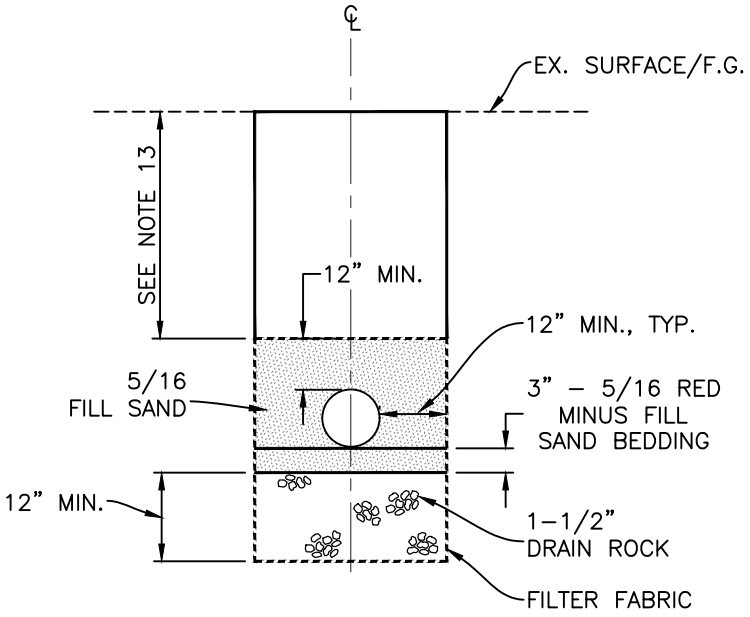
A) TRENCH DEPTH VARIES – EXCAVATE 12" BELOW PIPE. ENGINEER MAY WANT LESS OR MORE DEPENDING ON CONDITIONS.

B) INSTALL FILTER FABRIC @ BOTTOM OF EXCAVATION.

C) 3/4" DRAIN ROCK 6' MIN., 12" MAX. ABOVE THE TOP OF PIPE.

D) NO COMPACTION REQUIRED ON 3/4" DRAIN ROCK.

METHOD 'A' - FILTER FABRIC W/3/4" DRAIN ROCK



NOTES:

A) INSTALL FILTER FABRIC @ BOTTOM OF TRENCH.

B) PLACE 1–1/2" DRAIN ROCK.

C) PLACE FILTER FABRIC OVER TOP OF DRAIN ROCK.

D) PLACE & COMPACT 3" LAYER OF 5/16" FILL SAND BEDDING.

E) PLACE 5/16" FILL SAND OVER PIPE.

METHOD 'B' - 1-1/2" DRAIN ROCK

DETAIL 'D'
INSTALLING PIPE IN WET CONDITIONS

STD. NO. 222

SCALE: NONE | DRAWN: MPW | CHK: PRC | APPVD: Paul R. Curran | DATE: FEB 2024