

CITY OF LATHROP

Department of Public Works

DESIGN & CONSTRUCTION

Standard Details



January 2021

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Recycled Water

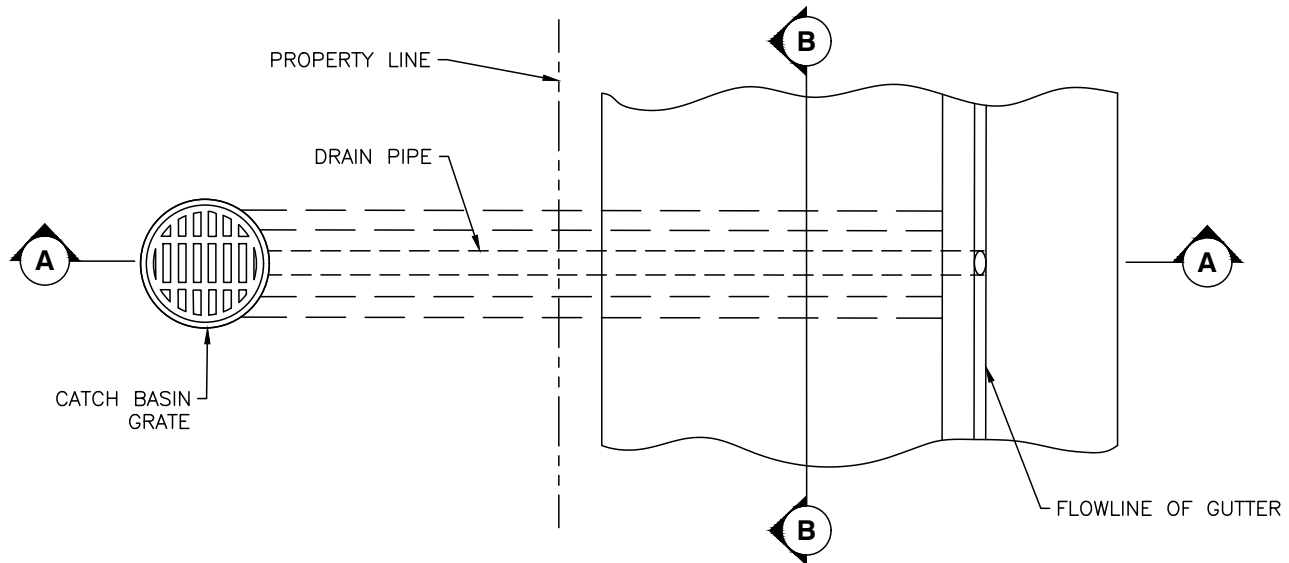
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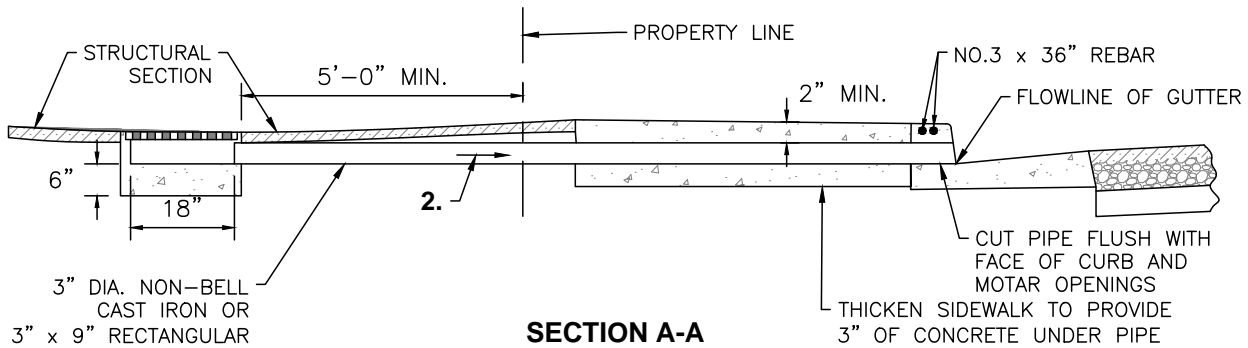
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Water

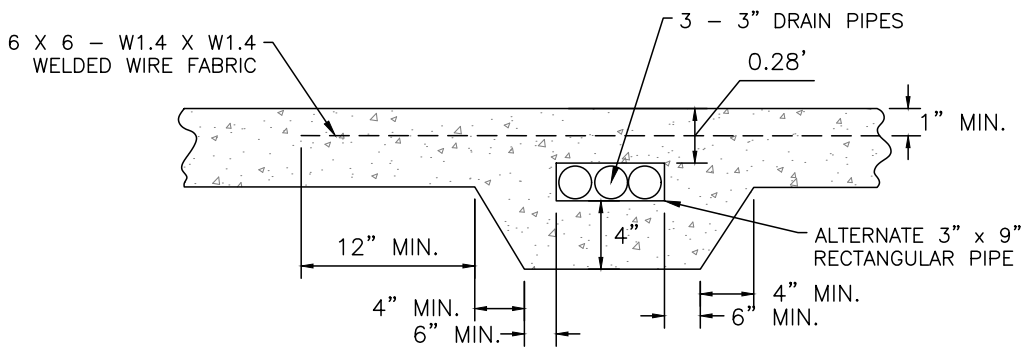
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PLAN



SECTION A-A




SECTION B-B

NOTES:

1. Property owner shall be responsible for cleaning and maintaining pipe.
2. Minimum slope to be 0.5%.
3. Through curb drain may be used only where approved by the city engineer.
4. See improvement plans for number and size of pipes.
5. Existing concrete to be removed shall be saw cut at deepscore joint.

NOT TO SCALE

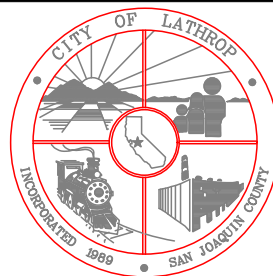
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Public Works Director

No	Revised	Date

CITY OF LATHROP
DEPARTMENT OF PUBLIC WORKS

THROUGH CURB DRAIN

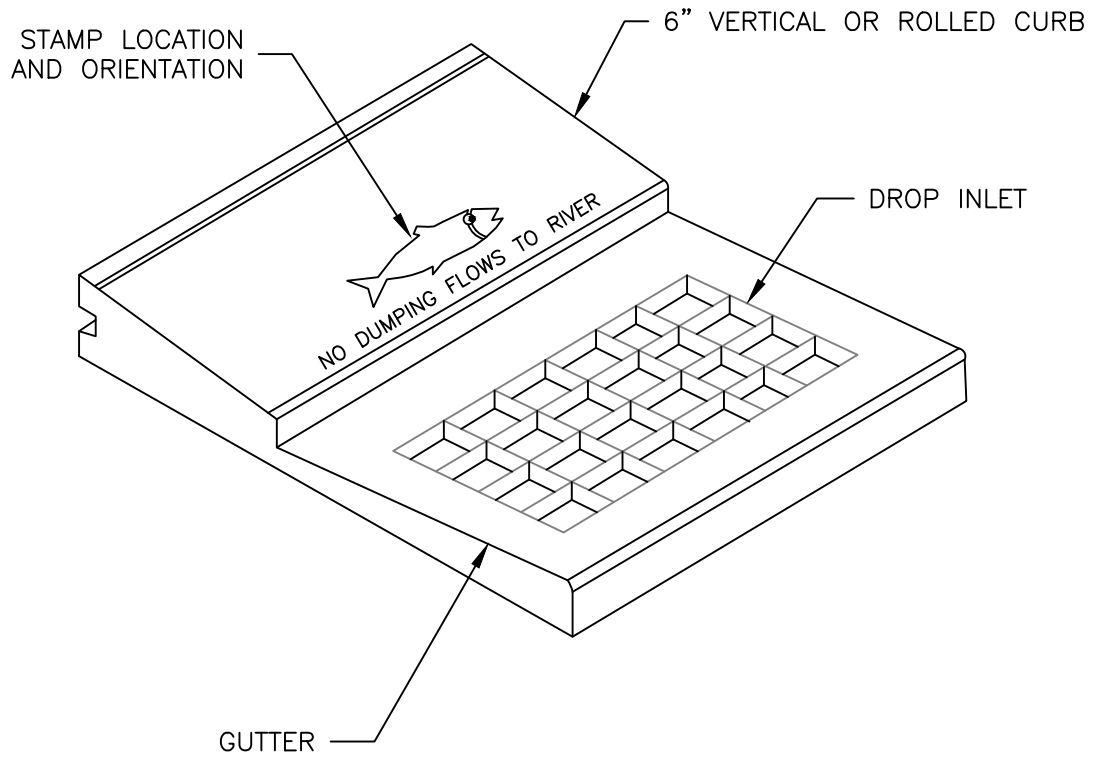


**STANDARD
DETAIL**

Date: **JANUARY 2021**

Drawing No:


D-1



NOTES:

1. Message and symbol shall be as shown or as approved by the City Engineer.
2. Letters shall be 1.5 inches (38mm) in height. The message shall be centered on the back of the inlet.
3. Concrete shall be stamped in such a way as to provide for a clear and legible image. (Approximate depth of .25 inch or 6mm).
4. Grate shall be chained to frame.
5. All stamps shall be approved by the City Engineer before being used.

NOT TO SCALE

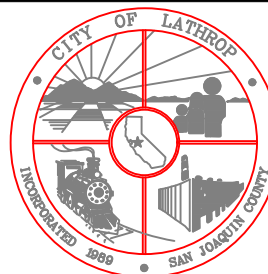
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CITY OF LATHROP
 DEPARTMENT OF PUBLIC WORKS

**STORM WATER QUALITY DROP
 INLET CONCRETE STAMP**

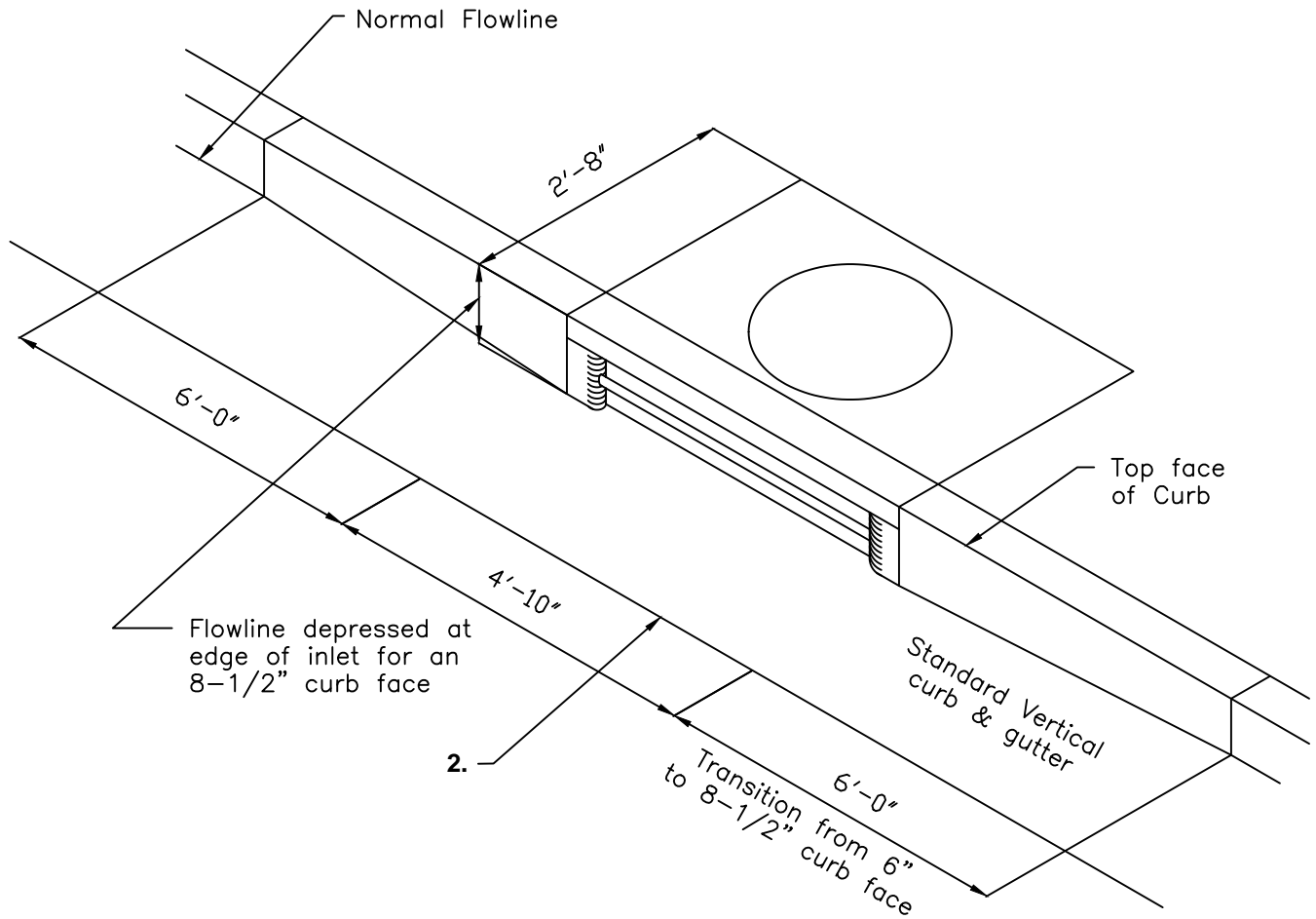


**STANDARD
 DETAIL**

Date: **JANUARY 2021**

Drawing No:


D-2



NOTES:

1. When at curb return, face of box shall be on tangent.
2. Lip of gutter shall not be depressed across face of inlet.
3. Inlet shall only be used with approval from the City Engineer. Inlet model shall be Santa Rosa Model 4A (2'x4') or approved equal with guard rod and form for flow line.
4. Inlet cover should be concrete with cast iron frame ring and NPDES logo.

NOT TO SCALE

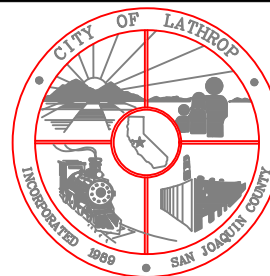
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SANTA ROSA
CURB INLET

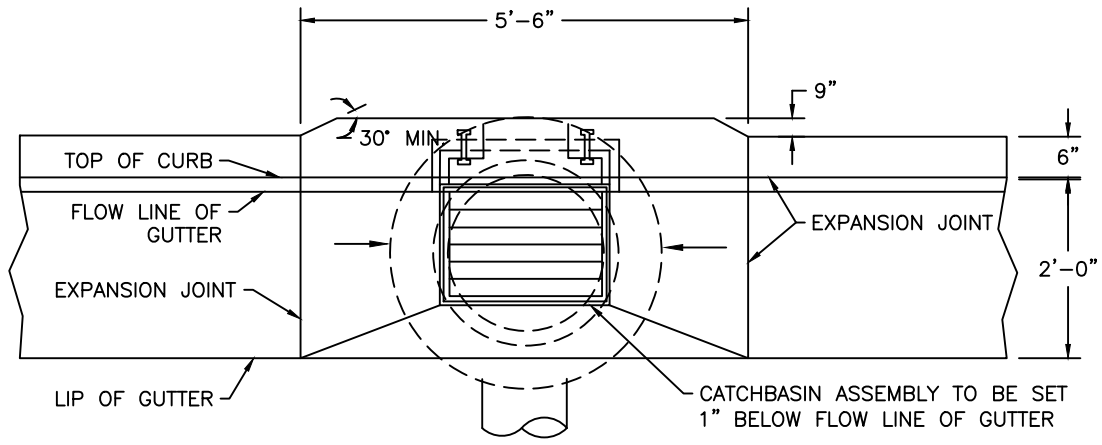


STANDARD
DETAIL

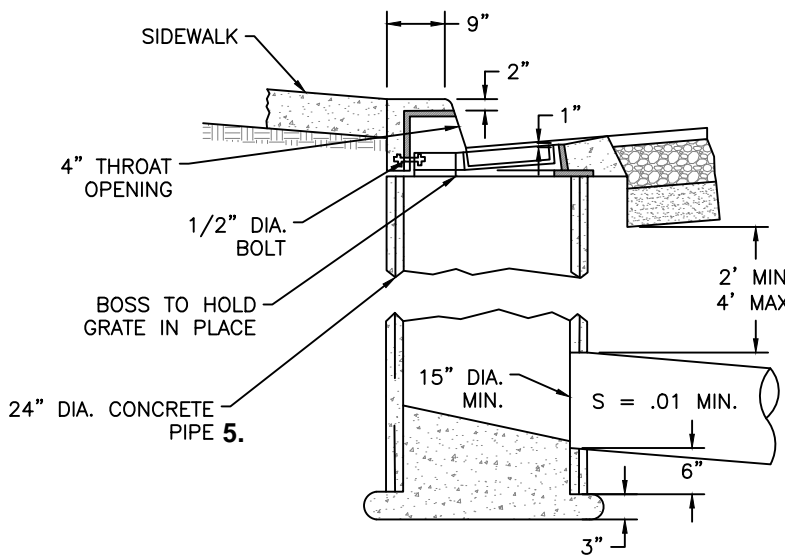
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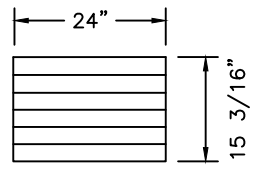
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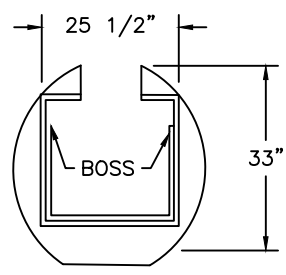
PLAN



SECTION



GRATE

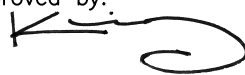


PLAN OF FRAME

NOTES:

1. All exposed steel shall be dipped with 2 coats of coal tar pitch heated to a minimum of 180° or hot dipped galvanized.
2. Grate, frame and side inlet shall conform to south bay foundry A-645 frame with either A-390 riveted or A-390-M mesh fabricated steel grate.
3. Grate shall be chained to frame.
4. Grate shall be depressed 1" below gutter profile grade.
5. 24" pipe barrel shall be class II RCP or 24"x36" class 3 non-reinforced concrete pipe.
6. For connection to city storm drain system in street right of way, minimum pipe shall be a 15" class III RCP, Polypropylene, or approved equal.

NOT TO SCALE

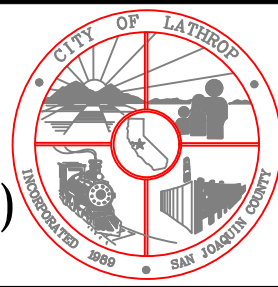
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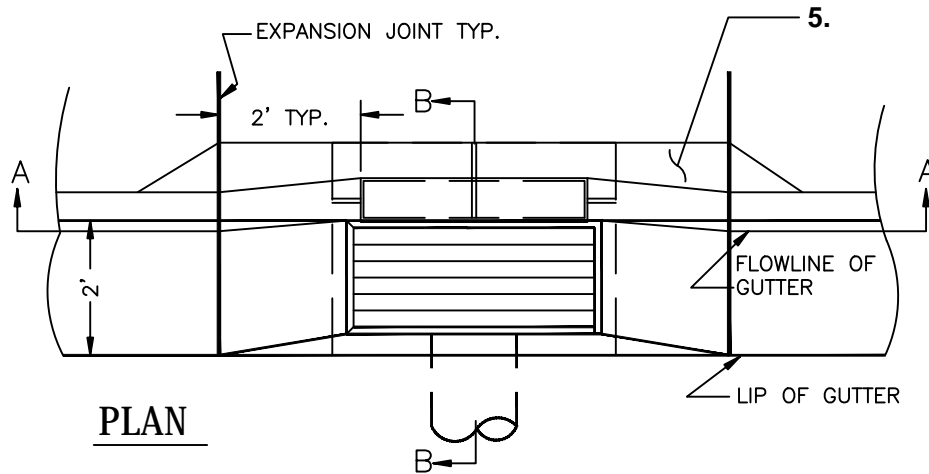
CURB INLET TYPE I
(RESIDENTIAL/ON-SITE)



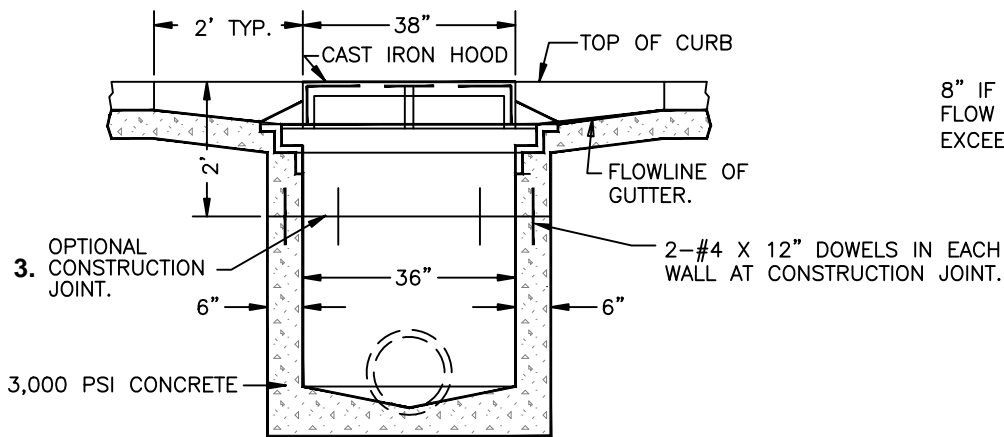
STANDARD
DETAIL

Date: **JANUARY 2021**

Drawing No:
D-4



PLAN

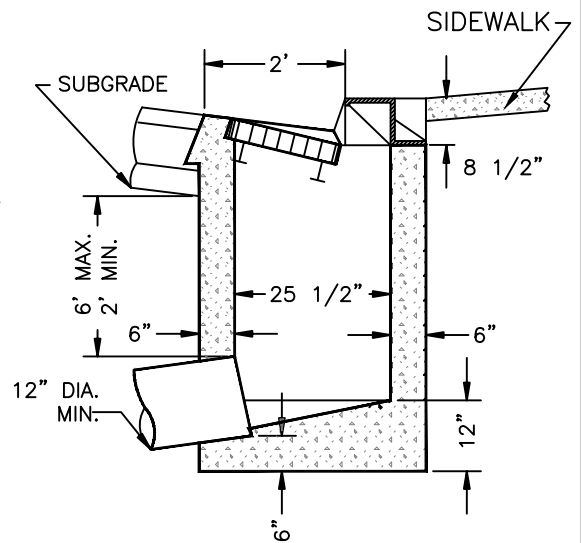


8" IF TOP OF CURB TO FLOW LINE OF PIPE EXCEEDS 4'

SECTION A-A

NOTES:

1. Use D&L product I-3560 for hood, frame, and grate or approved equal.
2. Precast concrete catchbasin may be used subject with written approval of the City Engineer.
3. Catchbasin Walls may be poured to an elevation not more than 2' below top of Curb. It shall be the responsibility of the Contractor to frame in and pour the upper 2' of the catchbasin monolithically with the Curb and Gutter.
4. All exposed steel shall be hot dip galvanized.
5. When sidewalk is not present, provide concrete apron.



SECTION B-B

NOT TO SCALE

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No	Revised	Date

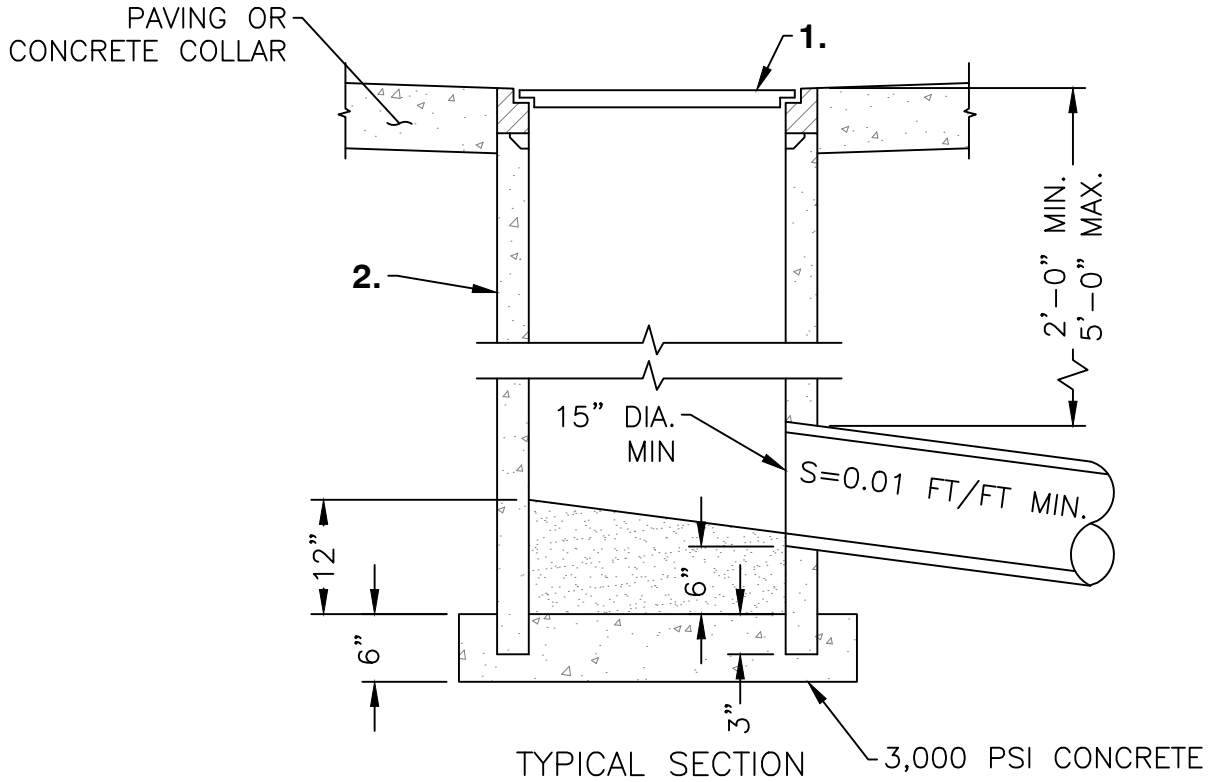
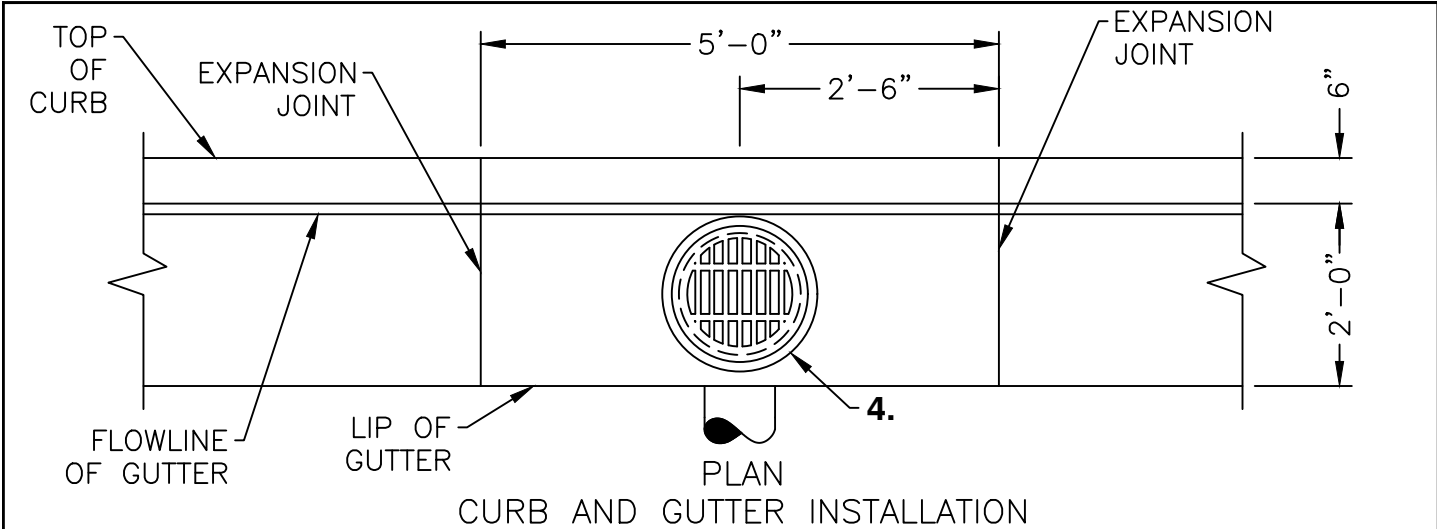
CITY OF LATHROP
DEPARTMENT OF PUBLIC WORKS

CURB INLET TYPE II
(COMMERCIAL / INDUSTRIAL)



**STANDARD
DETAIL**


Date: **JANUARY 2021**
Drawing No:
D-5



NOTES:

1. Grate and Frame shall conform to improvement Standard Detail No. D-7.
2. 18-inch Pipe barrel shall be Class III RCP or Class II non-reinforced concrete pipe as a minimum.
3. Drop Inlet may be used where approved by the City.
4. Drop Inlet assembly to be set 1 1/2-inch below flowline of gutter,
5. For connection to City Storm Drain System in street right-of-way, minimum pipe shall be 15" Class III RCP, Polypropylene, or approved equal.

NOT TO SCALE

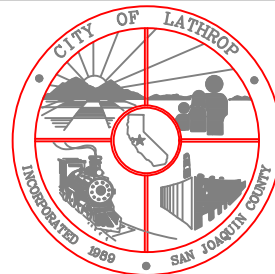
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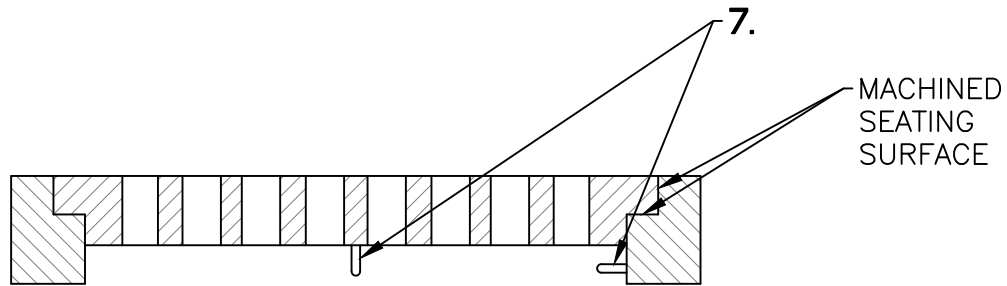
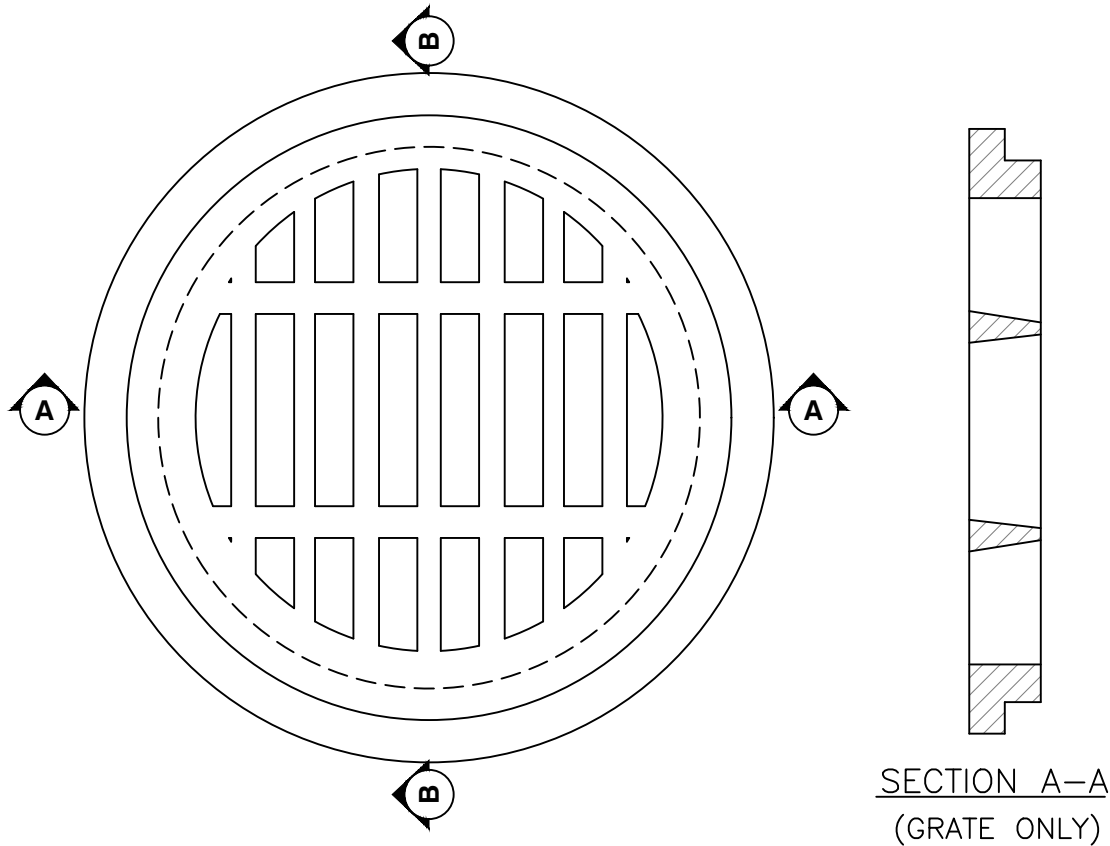
18" DROP INLET
(ON-SITE USE ONLY)



**STANDARD
DETAIL**

Date: **JANUARY 2021**

Drawing No:
D-6




SECTION A-A

NOTES:

1. Frame and grate shall be manufactured of cast iron conforming to ASTM A-48-30.
2. Frame and grate shall be HS20-44 rated.
3. Frame shall weigh approximately 65 lbs.
4. Grate shall weigh approximately 78 lbs.
5. Grate shall be chained to frame with 18" of 1/4" heat treated chain.
6. Country of origin and manufacturer shall be cast into frame and grate.
7. 1/4" x 6" U-Bolt cast into grate and frame.

NOT TO SCALE

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CITY OF LATHROP
DEPARTMENT OF PUBLIC WORKS
18" AND 24" DROP
INLET FRAME AND
GRATE

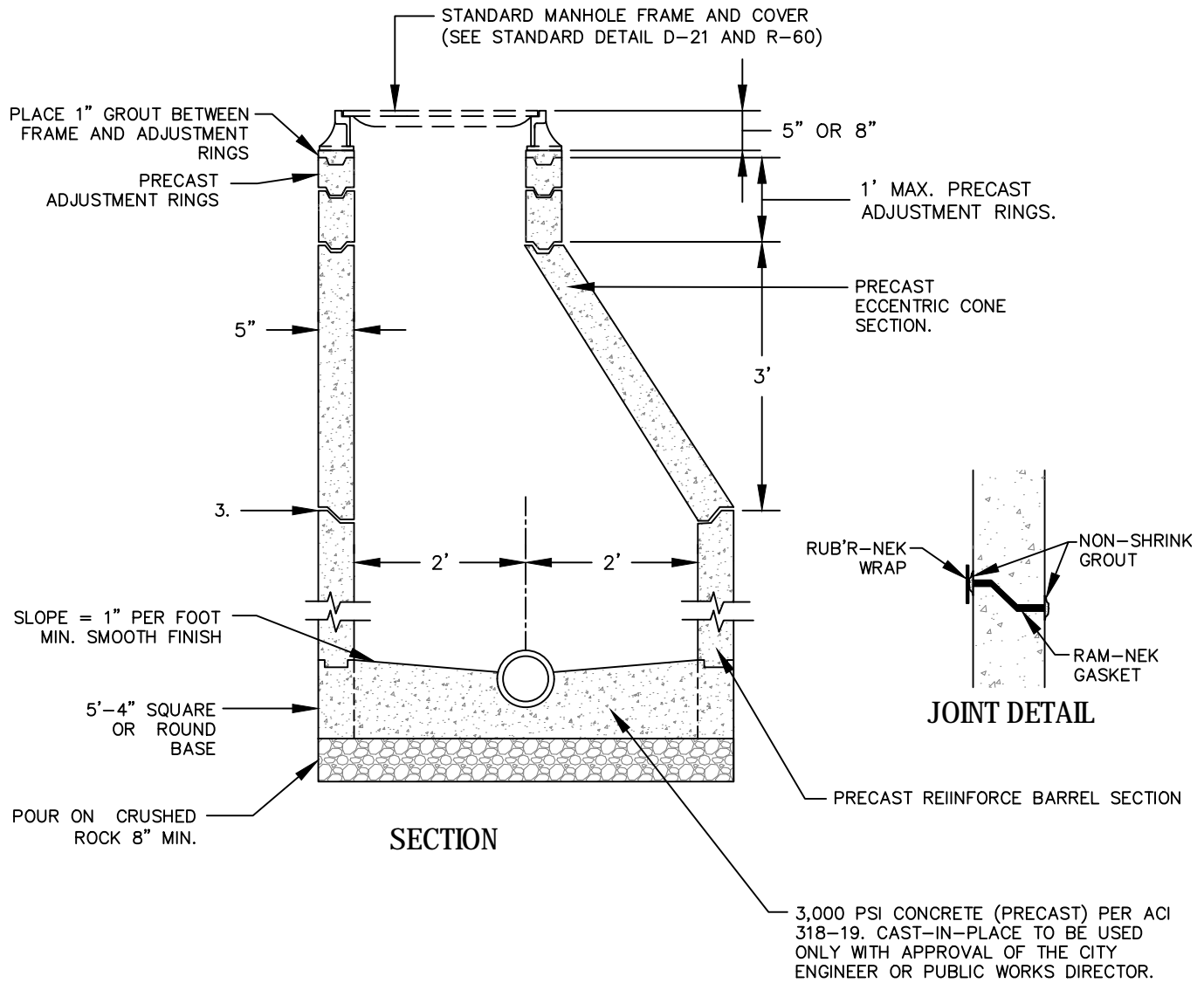


STANDARD
DETAIL

Date: **JANUARY 2021**

Drawing No:


D-7



NOTES:

1. Manhole shelf height shall be at top of pipe.
2. All joints shall be set on "Ram-Nek" gasket and bonded with non-shrink grout - interior and exterior. Wrap joint exterior with Rub'r-Nek external concrete joint wrap. See joint detail.

NOT TO SCALE

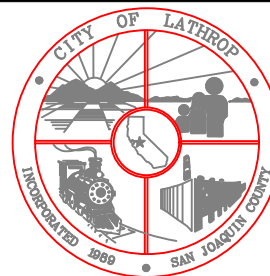
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TYPE I MANHOLE

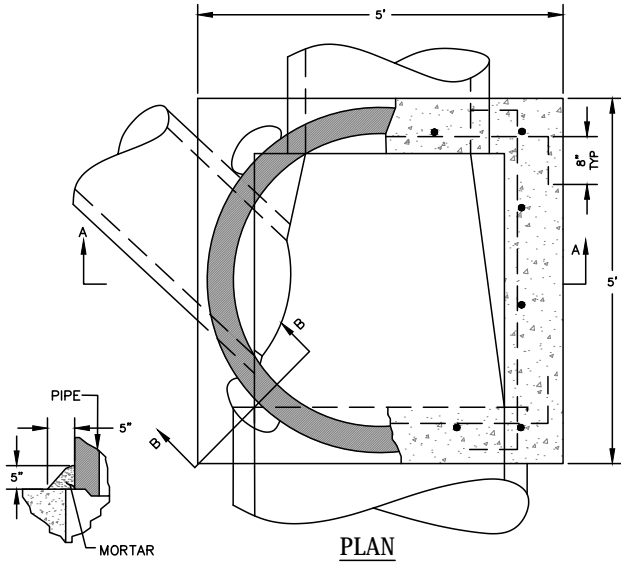


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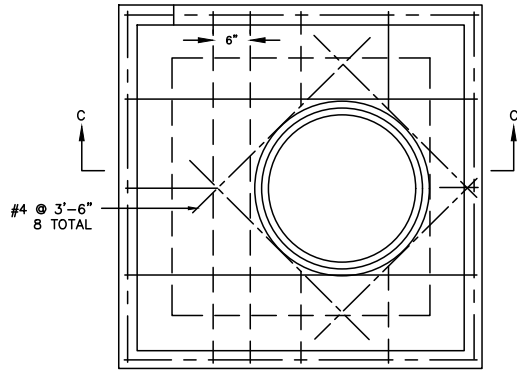
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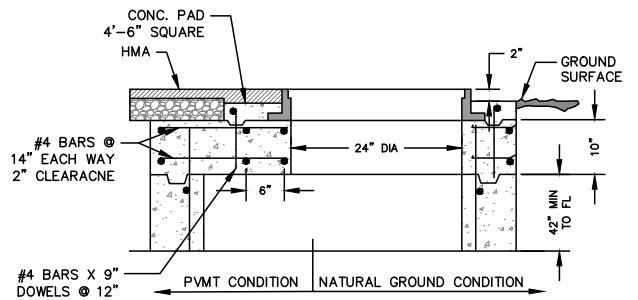


PLAN

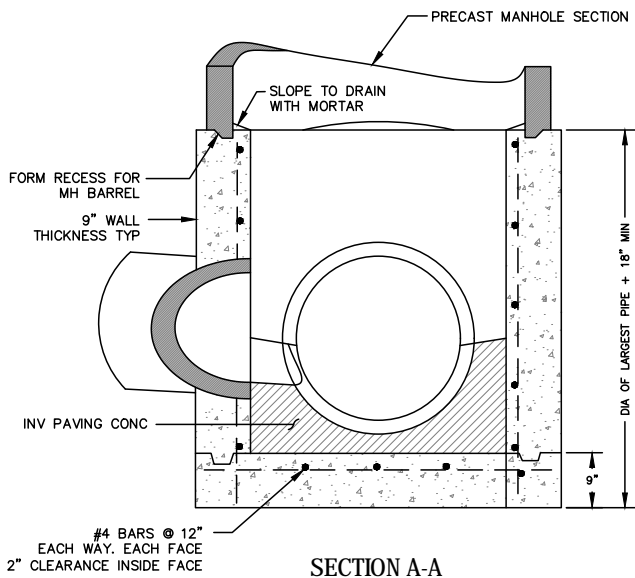
SECTION B-B



PLAN



**SECTION B-B
TOP SLAB**



SECTION A-A


NOTES

1. Construction joints are optional where shown. Other locations are subject to approval by the Public Works Department. Key dimensions are 1 1/2" x 3".
2. Inlet and outlet pipes shall not intercept a manhole base through a corner. If skew angle is too great to permit the opening to be made in a single wall use a Type III manhole base.
3. For details of manhole frame and cover, see Standard D-21 and R-60. Orient frame directly above hole.

USE TOP SLAB

1. When placing a Type C or Type J inlet opening on a Type II manhole base. The opening in the slab shall conform to inside dimensions of the inlet to be used.

NOT TO SCALE

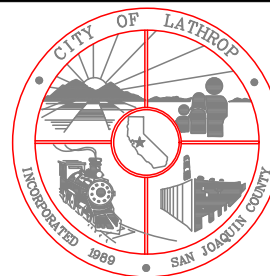
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DEPARTMENT OF PUBLIC WORKS

**TYPE II
MANHOLE**

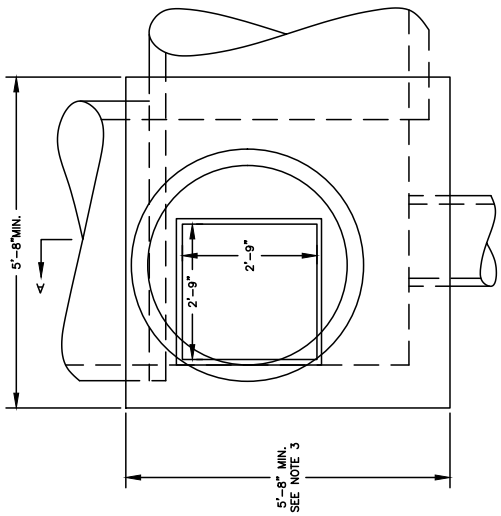


**STANDARD
DETAIL**

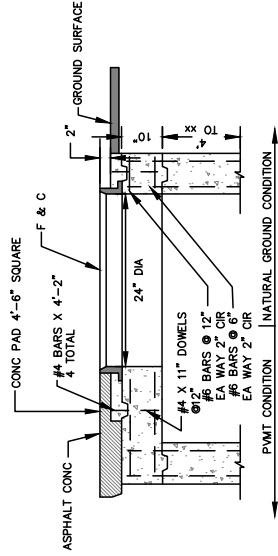
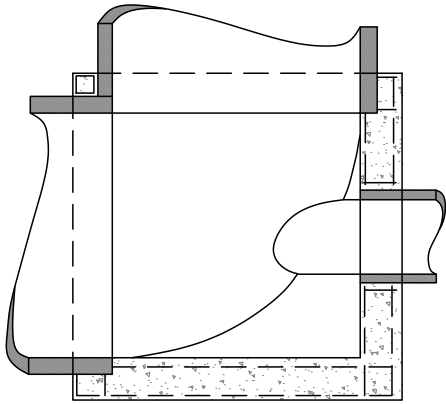
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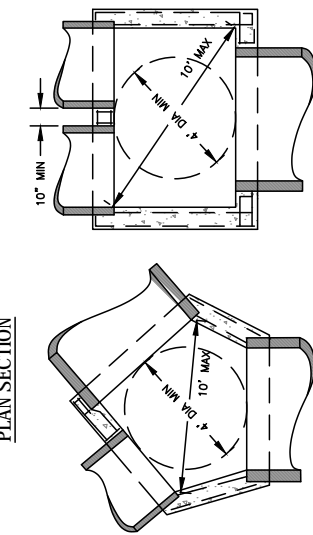
D-9



PLAN SECTION



TOP SLAB



PLAN SECTION

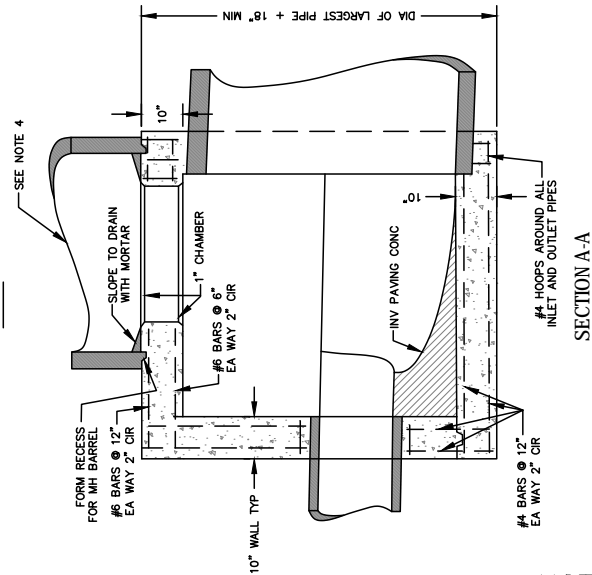
PLAN SECTION

SPECIAL APPLICATIONS OF TYPE III MANHOLE BASES

When circumstances, such as excessive skew or parallel pipe prevent the use of a standard Type III manhole bases detailed elsewhere on this plan. The walls may be lengthened or relocated to accommodate the pipes provided the following criteria are met:

1. The inside dimensions or the base shall be such that a 48 inch diameter circle will lay flat on the manhole base floor as shown.
2. The maximum distance between any two inside corners shall be 10 feet, as shown.
3. Reinforcement and floor, wall and top thickness shall remain the same as for a normal Type III manhole base.
4. No pipe shall exceed 60 inches (inside diameter).

If any one of these criteria cannot be met, a special design will be required.



SECTION A-A

1. When there is insufficient depth between the top of the manhole base and finish grade for precast manhole eccentric cone section.
2. When placing a Type C or Type J inlet opening on a Type II manhole base. The opening in the slab shall conform to inside dimensions of the inlet to be used.

USE TOP SLAB

NOTES:

1. Construction joints are optional where shown. Other locations are subject to approval by Public Works Department. Key Dimensions are 1 1/2" x 3".
2. Inlet and outlet pipes shall not intercept a manhole base through a corner. If skew angle is too great to permit the opening to be made in a single wall maybe lengthened or relocated as explained in "SPECIAL APPLICATIONS OF TYPE III MANHOLE BASES" on this detail.
3. For details of manhole frame and cover, see Standard Detail D-21 and R-60.
4. 60" barrel and above to terminate no closer than 6' from finished surface.

NOT TO SCALE

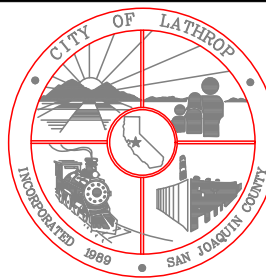
Approved by:

City Of Lathrop
Public Works Director

No	Revised	Date

CITY OF LATHROP
DEPARTMENT OF PUBLIC WORKS

TYPE III
MANHOLE

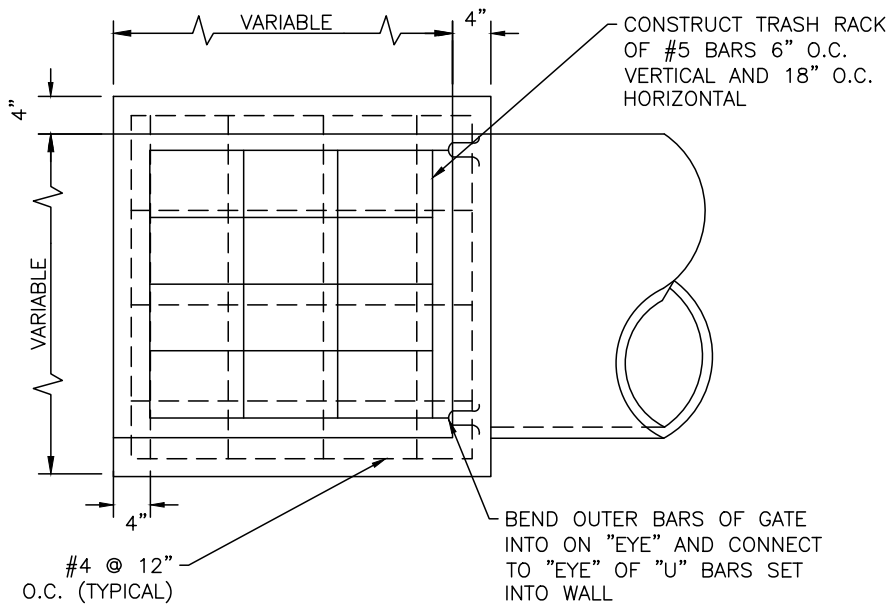


STANDARD
DETAIL

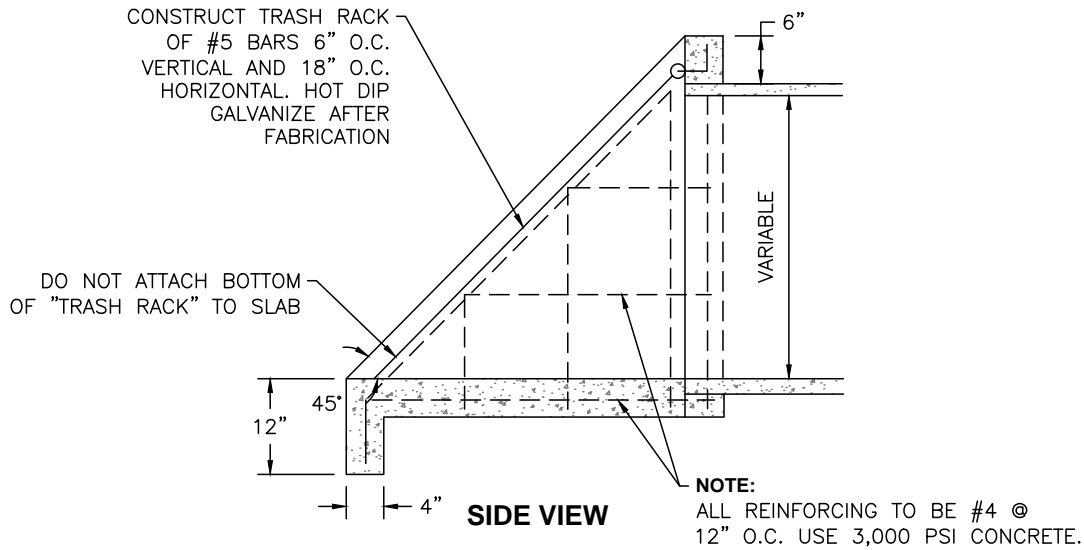
Date: **JANUARY 2021**

Drawing No:

D-10



TOP VIEW



NOT TO SCALE

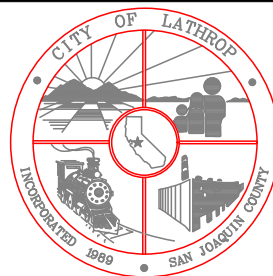
Approved by:

City Of Lathrop
Public Works Director

No	Revised	Date

CITY OF LATHROP
DEPARTMENT OF PUBLIC WORKS

**PIPE INLET STRUCTURE
AND TRASH RACK
30" PIPE AND SMALLER**



**STANDARD
DETAIL**

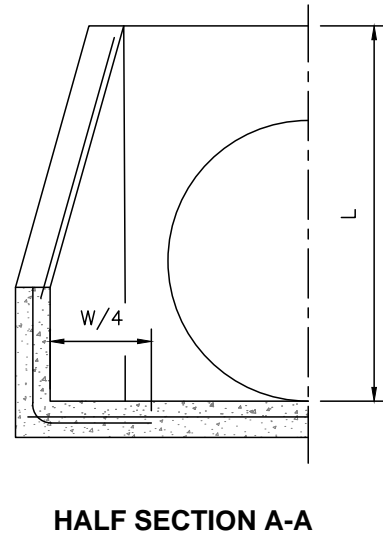
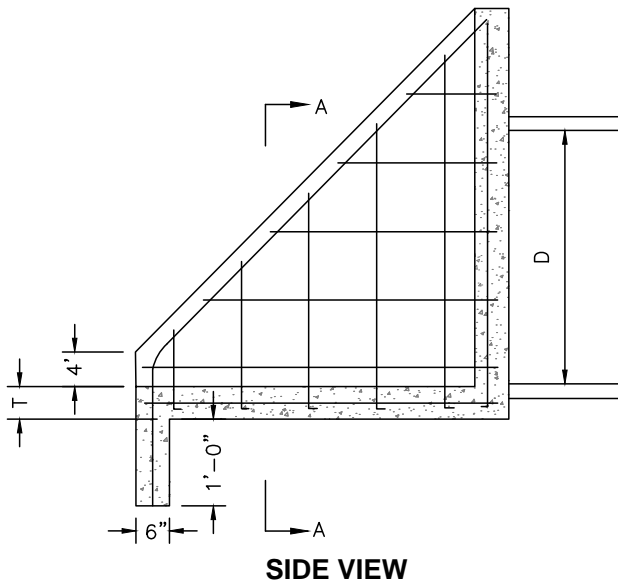
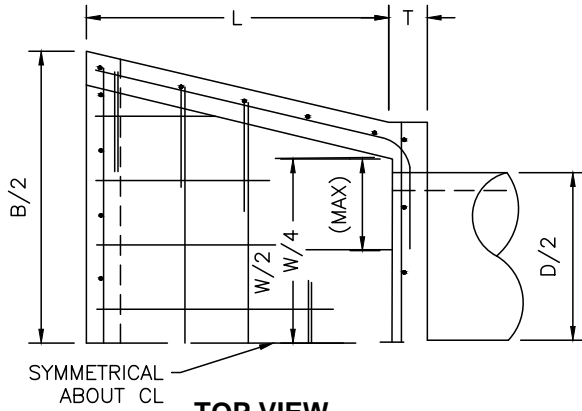
Date: **JANUARY 2021**

Drawing No:

D-11

NOTES:

1. "B" may be reduced if required by channel dimensions.
2. Reinforcing bar spacing shown is maximum spacing.
3. Use 3,000 PSI concrete.
4. Refer to standard detail D-13 for trash rack detail.



DIMENSIONING & REINFORCING

D	W	B	L	T	ALL REINFORCEMENT
33"	3'-5"	5'-3"	4'-0"	6"	#5 @ 12"
36"	3'-8"	5'-8"	4'-2"	6"	#5 @ 12"
42"	4'-4"	6'-4"	4'-8"	6"	#5 @ 12"
48"	4'-10"	7'-2"	5'-2"	8"	#6 @ 12"
54"	5'-4"	8'-0"	6'-0"	8"	#6 @ 12"
60"	6'-0"	8'-10"	6'-6"	8"	#6 @ 12"

NOT TO SCALE

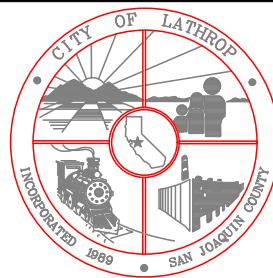
Approved by:

City Of Lathrop
Public Works Director

No	Revised	Date

CITY OF LATHROP
DEPARTMENT OF PUBLIC WORKS

PIPE INLET STRUCTURE
33" PIPE AND LARGER



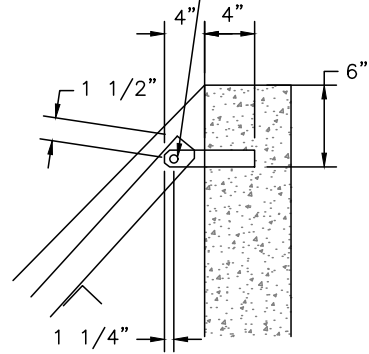
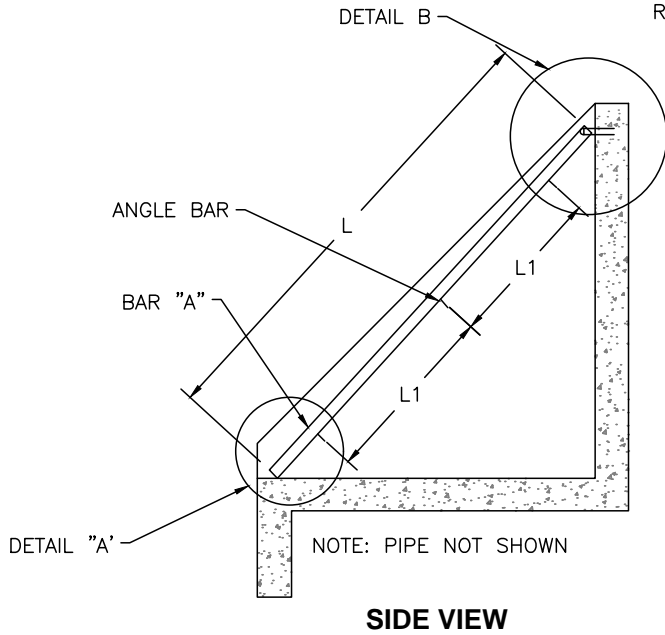
**STANDARD
DETAIL**

Date: **JANUARY 2021**

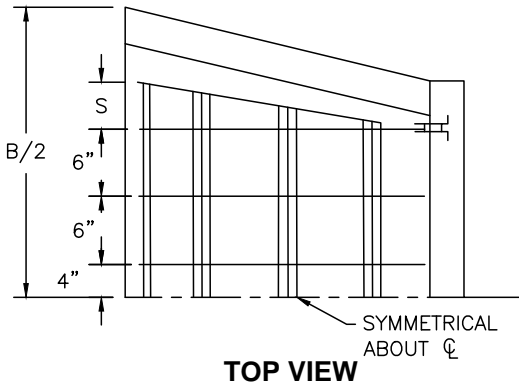
Drawing No:

D-12

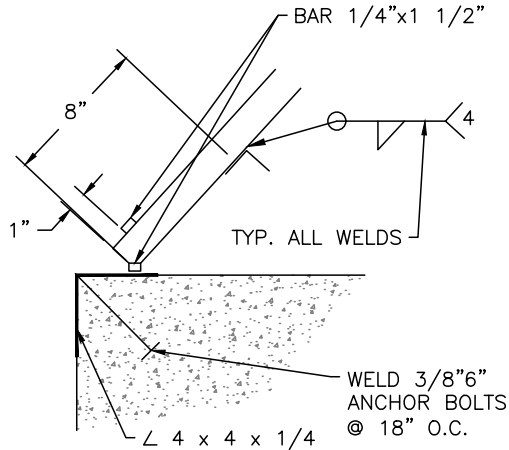
DRILL $13/16"$ Ø, CONNECT TRASH RACK TO BRACKET WITH $3/4"$ BY $2 3/4"$ HEX BOLTS WITH TWO GALVANIZED HEX NUTS EACH.



DETAIL B



TOP VIEW




DETAIL A

NOTES:

1. This trash rack may be used with pipe inlet structures.
2. Material to conform to ASTM designation A-36.
3. "S" may vary with "B", see plate on standard detail D-14.
4. All fillet welds to be $3/16"$.
5. 2 hinges required for 33, 36 & 42 inch pipes. 3 hinges required for 48, 54 & 60 inch pipes.
6. All steel shall be hot dipped galvanized after fabrication.

DIA	NUMBERS & SIZE		L	L1	S
	BAR "A"	∟ BAR			
33"	8- $3/8$ x $2 1/2$	3- 2 x $2 1/4$	5'-2"	1'-10"	8"
36"	8- $3/8$ x $2 1/2$	3- 2 x $2 1/4$	5'-5"	1'-11"	8"
42"	9- $3/8$ x $2 1/2$	3- 2 x $2 1/4$	6'-1"	2'-3"	9"
48"	9- $3/8$ x $2 1/2$	4- 2 x $2 1/4$	6'-10"	1'-9"	10"
54"	10- $3/8$ x 3	4- 3 x $3 1/4$	8'-0"	2'- $1 1/2$ "	10 $1/2$ "
60"	11- $3/8$ x $3 1/2$	4- 3 x $3 1/4$	8'-9"	2'-4"	11"

NOT TO SCALE

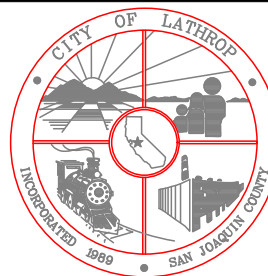
Approved by: 

City Of Lathrop
Public Works Director

No	Revised	Date

CITY OF LATHROP
DEPARTMENT OF PUBLIC WORKS

TRASH RACK
33" PIPE AND LARGER

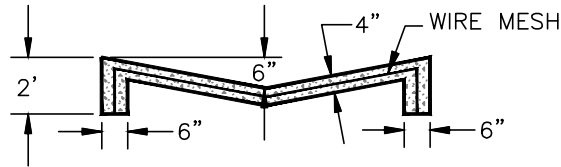


**STANDARD
DETAIL**

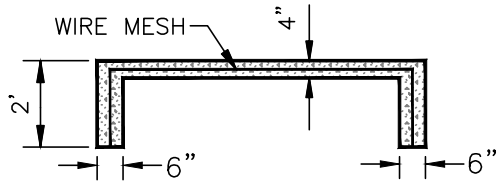
Date: **JANUARY 2021**

Drawing No:

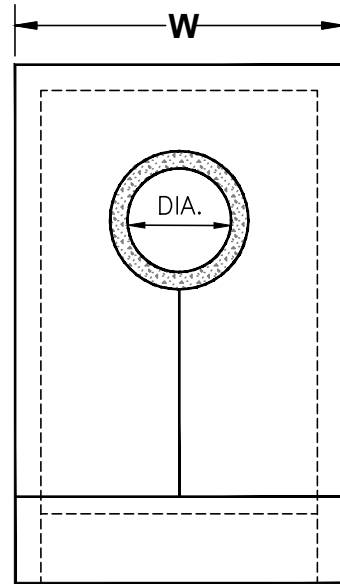
D-13



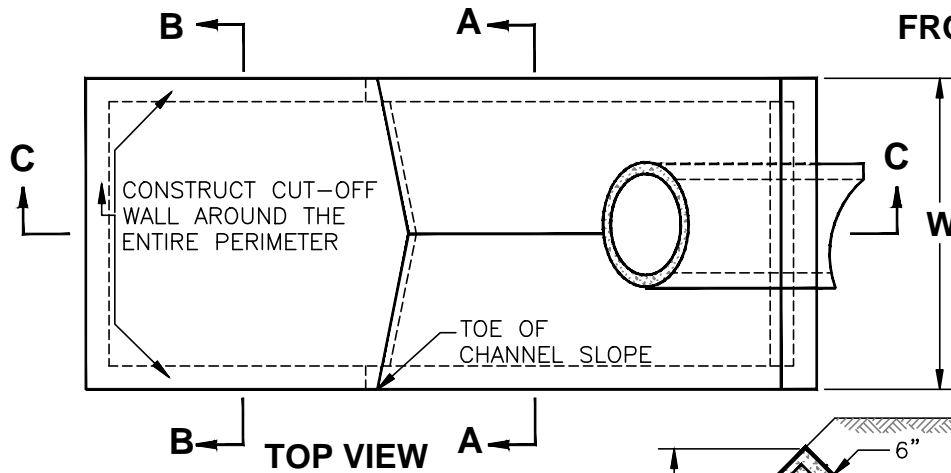
SECTION A-A



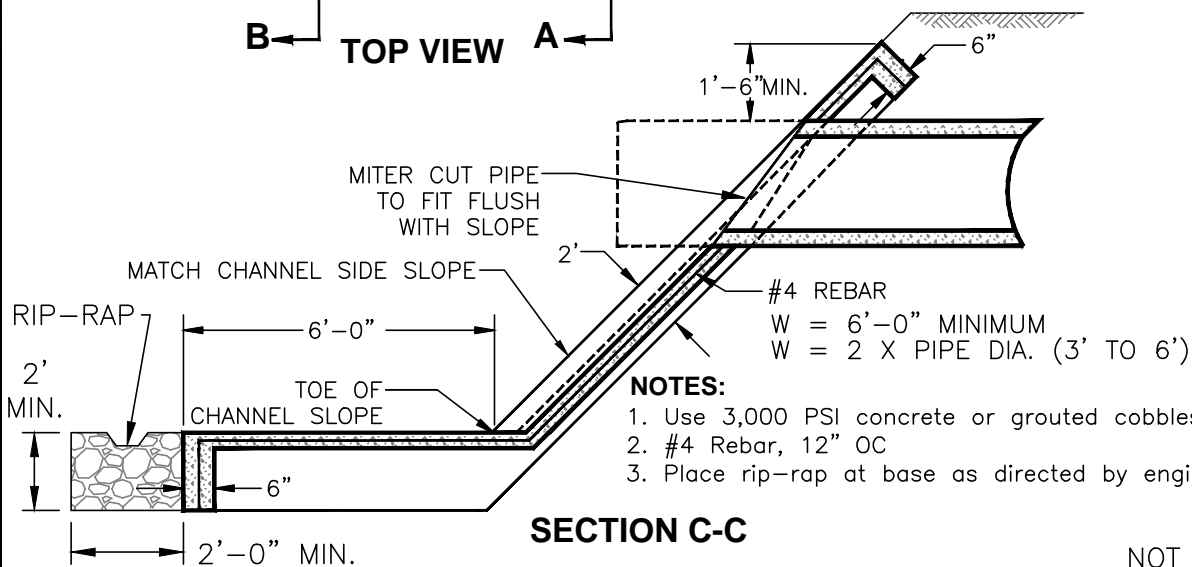
SECTION B-B



FRONT VIEW



TOP VIEW



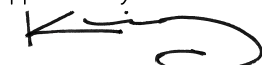
SECTION C-C

NOTES:

1. Use 3,000 PSI concrete or grouted cobbles as specified.
2. #4 Rebar, 12" OC
3. Place rip-rap at base as directed by engineer.

NOT TO SCALE

Approved by:



City Of Lathrop
Public Works Director

No	Revised	Date

CITY OF LATHROP
DEPARTMENT OF PUBLIC WORKS

**STORM DRAIN
OUTFALL**

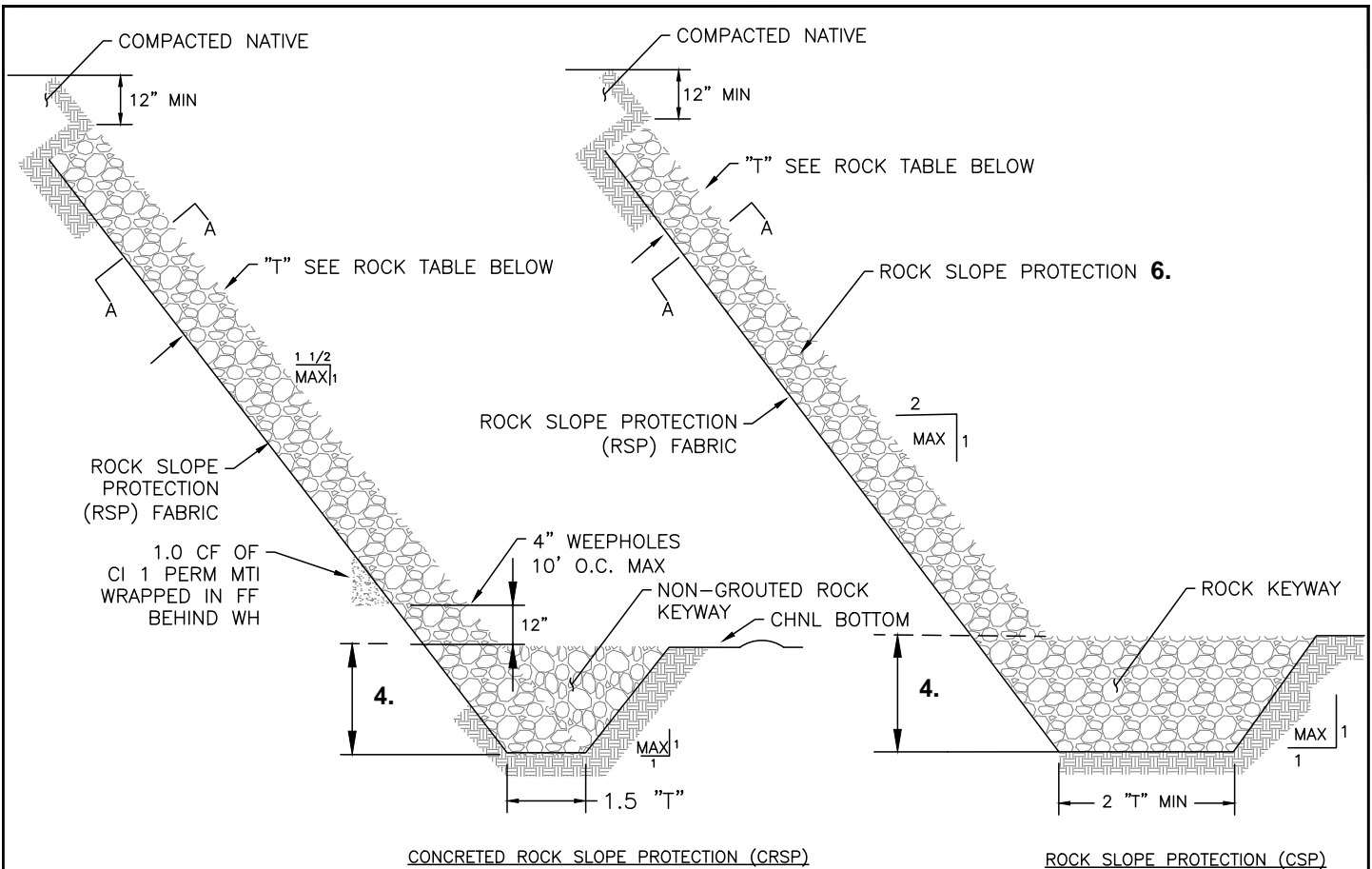


**STANDARD
DETAIL**

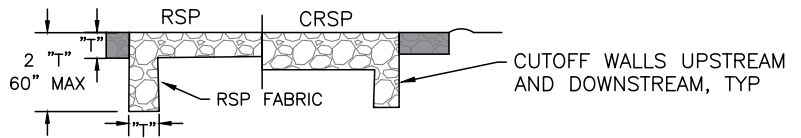
Date: **JANUARY 2021**

Drawing No:

D-14




ROCK GRADING	MIN CONC PENETRATION	"T" (ft)
1/2 TON	18	42
1/4 TON	14	32
LIGHT	10	24
FACING	8	18



NOTES:

1. All materials shown on this plan conform to section 72 of the California Department of Transportation standard specifications unless otherwise specified.
2. Side slopes and toe depth are dependent on soil and hydraulic conditions and may be varied on the basis of supporting engineering data.
3. Thickness "T" shall conform to the "rock table" as shown, unless otherwise directed by the Public Works Department.
4. Depth of keyway may vary. The 48" minimum may decrease in the event bed rock is less than 48" below channel bed and directed by the Public Works Department.
5. Concreted rock slope protection maybe required by the Public Works Department.

NOT TO SCALE

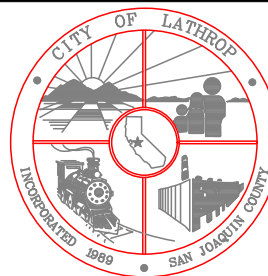
Approved by: 

City Of Lathrop
Public Works Director

No	Revised	Date

CITY OF LATHROP
DEPARTMENT OF PUBLIC WORKS

STORM DRAIN DISCHARGE
(COMMERCIAL, INDUSTRIAL AND ALL CURB CUTS)

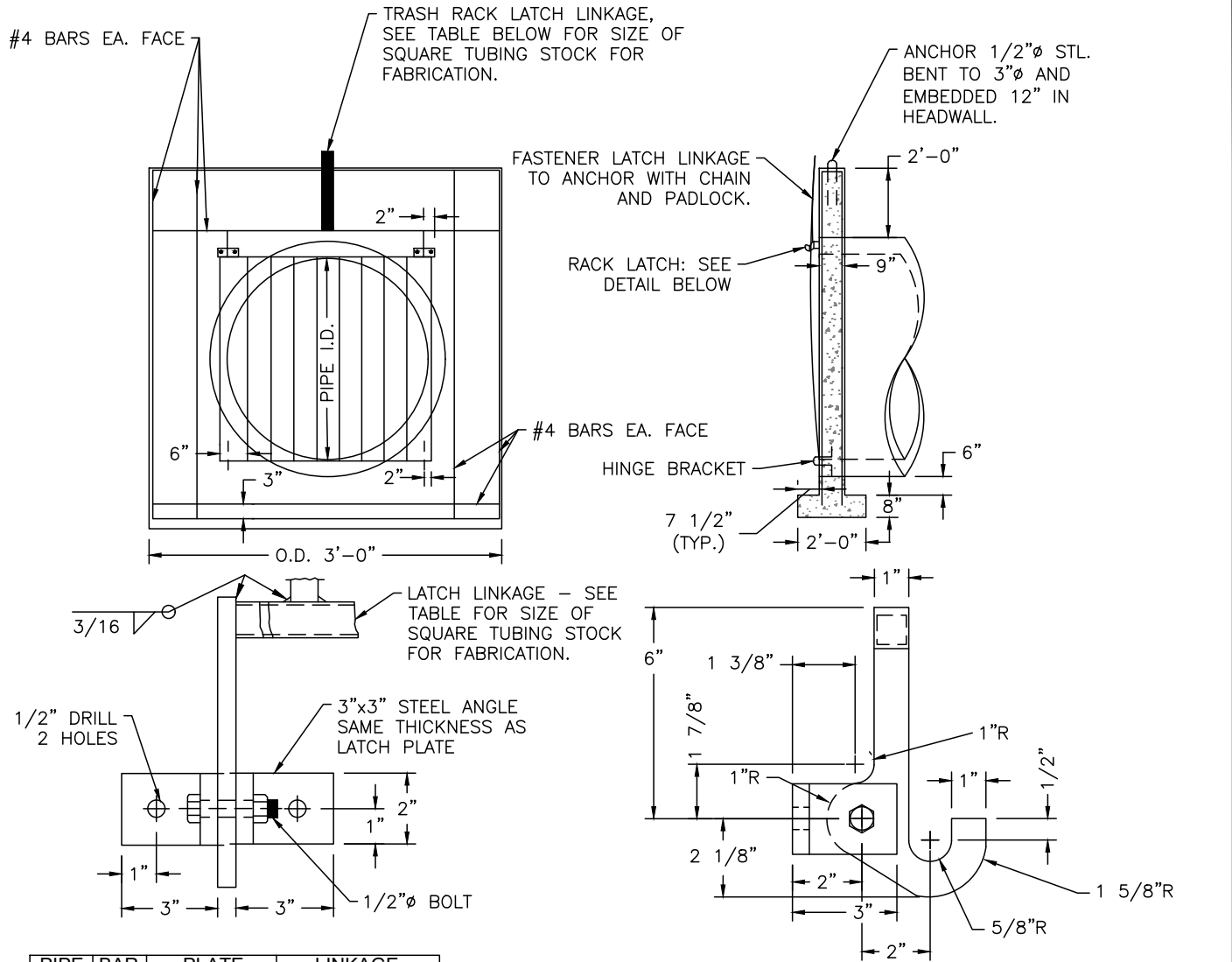


**STANDARD
DETAIL**

Date: **JANUARY 2021**

Drawing No:

D-15




PIPE SIZE	BAR SIZE	PLATE THICKNESS	LINKAGE SIZE
21"	#4	1/4"	1",.095" THK.
24"	#4	1/4"	1",.095" THK.
27"	#5	1/4"	1",.095" THK.
30"	#5	3/8"	1",.095" THK.
33"	#6	3/8"	1",.095" THK.
36"	#6	3/8"	1",.133" THK.
42"	#7	3/8"	1",.133" THK.
48"	#7	1/2"	1",.133" THK.
54"	#7	1/2"	1",.133" THK.
60"	#8	1/2"	1",.133" THK.
66"	#8	1/2"	1",.133" THK.
72"	#8	1/2"	1",.133" THK.
84"	#8	1/2"	1",.133" THK.

NOTE

1. Entire rack to be welded reinforcing steel of round bars of equal diameter with horizontal bars being 6-inch center to center.
2. Use 3,000 PSI concrete.
3. Room shall be provided downstream to lay rack flat.
4. Fasten latch bracket to headwall with galvanized 1/2-in x 6-in bolts with hex nuts, or 1/2-in expansion bolts.
5. When rack is in the closed position, the bottom rack bar shall be tight against the top of the hinge bracket so that the rack cannot be lifted off the latch.
6. Fabricate hinge bracket from #4 rebar.
7. Fabricate latch from steel plate thickness shown in table.
8. All reinforcing steel shall have 2-inch embedment except as noted.
9. Rack and exposed steel shall be hot dipped galvanized.

NOT TO SCALE

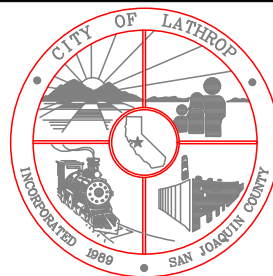
Approved by: 

City Of Lathrop
Public Works Director

No	Revised	Date

CITY OF LATHROP
DEPARTMENT OF PUBLIC WORKS

**ACCESS CONTROL
RACK PIPE OUTFALL**

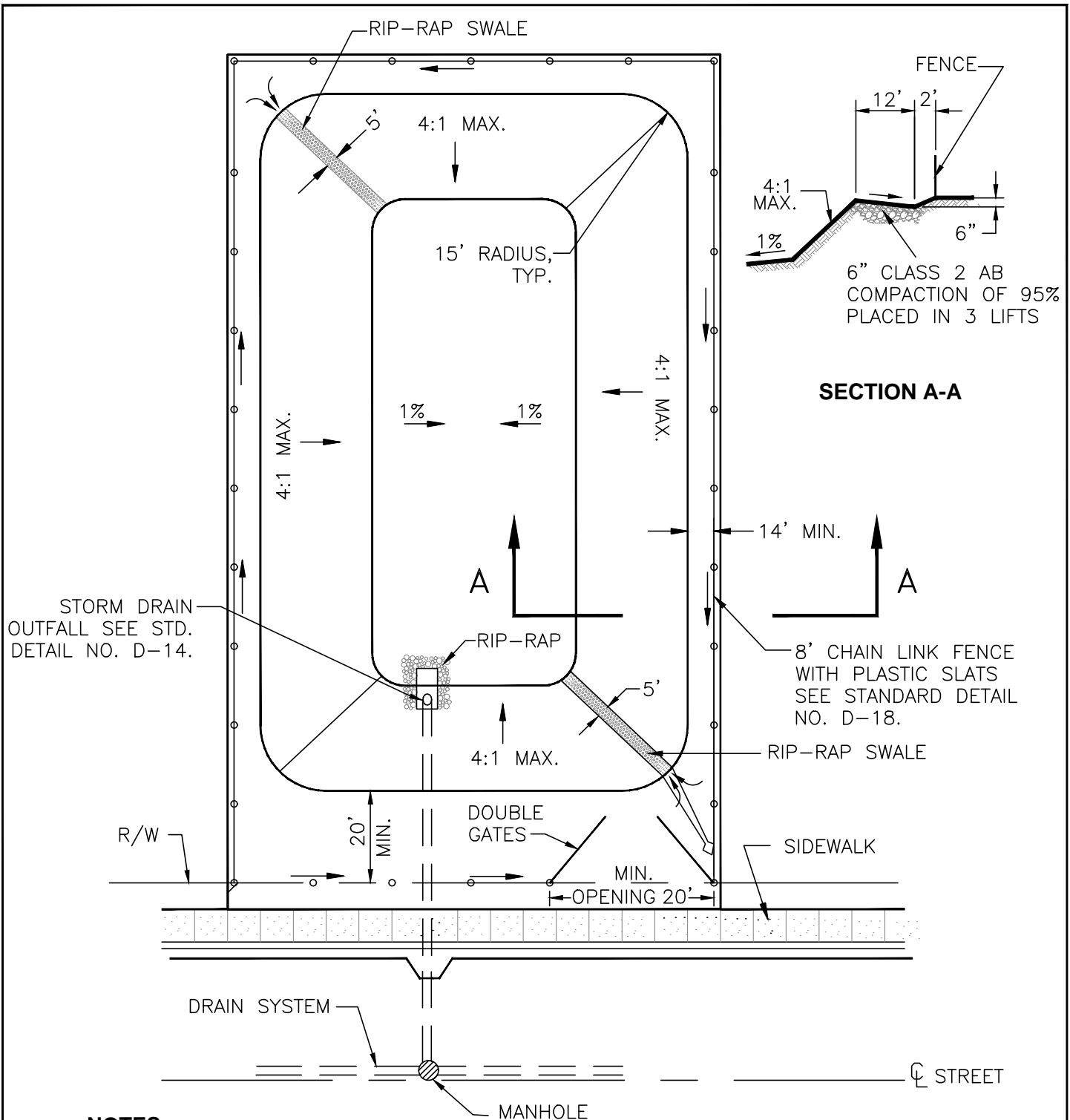


**STANDARD
DETAIL**

Date: **JANUARY 2021**

Drawing No:


D-16



NOTES:

1. Size of basin and depth to be determined by hydraulic calculation.
2. Hydroseed exposed soil with seed mix as approved by the City Engineer.

NOT TO SCALE

Approved by: 

City Of Lathrop
Public Works Director

No	Revised	Date

CITY OF LATHROP
DEPARTMENT OF PUBLIC WORKS

**STANDARD
RETENTION BASIN**



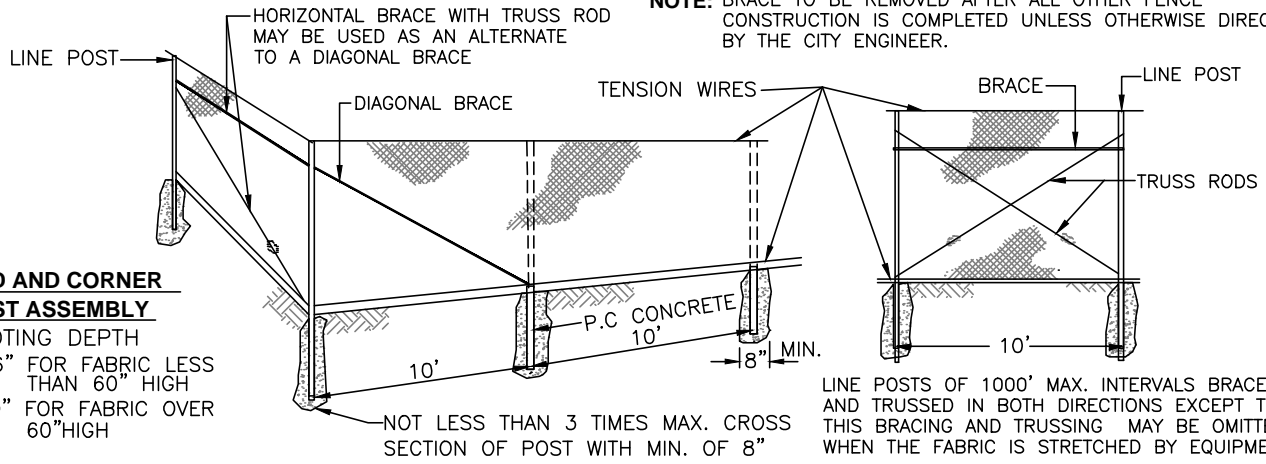
**STANDARD
DETAIL**

Date: **JANUARY 2021**

Drawing No:

D-17

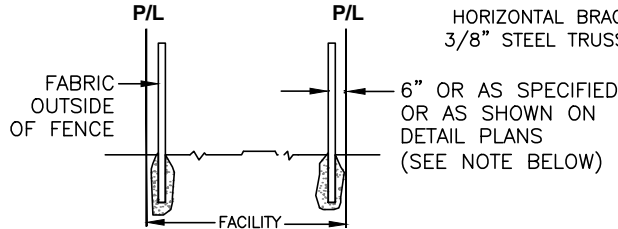
NOTE: BRACE TO BE REMOVED AFTER ALL OTHER FENCE CONSTRUCTION IS COMPLETED UNLESS OTHERWISE DIRECTED BY THE CITY ENGINEER.



END AND CORNER POST ASSEMBLY

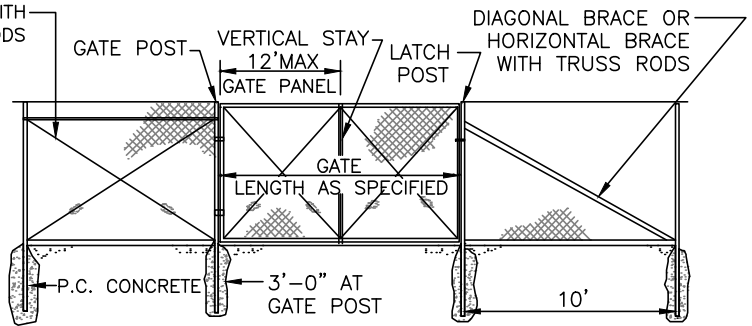
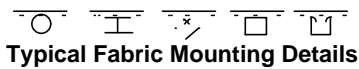
FOOTING DEPTH
2'-6" FOR FABRIC LESS THAN 60" HIGH
3'-0" FOR FABRIC OVER 60" HIGH

LINE POSTS OF 1000' MAX. INTERVALS BRACED AND TRUSSED IN BOTH DIRECTIONS EXCEPT THAT THIS BRACING AND TRUSSING MAY BE OMITTED WHEN THE FABRIC IS STRETCHED BY EQUIPMENT



NOTE: OFFSET TO BE 2'-0" AT MONUMENT LOCATIONS MEASURED AT RIGHT ANGLES TO R/W LINES. TAPER TO ACHIEVE OFFSET TO BE AT LEAST 20' LONG.

FENCE LOCATION



Type CL- 4 = 48"
Type CL- 6 = 72"

TYPICAL MEMBER DIMENSIONS (See Notes)

Fence Height	Line Posts			End, Latch & Corner Posts			Braces			
	Round (ID)	H	Roll Formed	Round (ID)	Roll Formed		Round (ID)	H	Roll Formed	
					□	□			□	□
6' and less	1 1/2"	1 7/8 x 1 5/8	1 7/8 x 1 5/8	2"	3 1/2 x 3 1/2	2 x 1 3/4	1 1/4"	1 1/2 x 1 5/16	1 5/8 x 1 1/4	1 3/4 x 1 1/4
Over 6'	2"	2 1/4 x 2	2 1/4 x 1 3/4	2 1/2"	3 1/2 x 3 1/2	2 1/2 x 2 1/2	1 1/4"	1 1/2 x 1 5/16	1 5/8 x 1 1/4	1 3/4 x 1 1/4

NOTES:

1. The above table shows examples of post and brace sections.
2. Sections shown in the tables must also comply with the strength requirements and other provisions of the Specifications.
3. Other sections which comply with the strength requirements and other of the State Standard Specifications may be used on approval of the City Engineer.
4. Options exercised shall be uniform on any one project.
5. Dimensions shown are nominal.
6. Concrete shall be 3,000 PSI.
7. Fence Fabric shall have knuckled finish on top and bottom edges.

GATE POST			
Fence Height	Gate Width	Nominal I.D.	Weight per Foot
6'-0" and Less	Up thru 6'	2 1/2"	4.95
	Over 6' thru 12'	4"	10.79
	Over 12' thru 18'	5"	14.62
	Over 18' to 24' Max.	6"	18.97
Over 6'	Up thru 6'	3"	7.58
	Over 6' thru 12'	5"	14.62
	Over 12' thru 18'	6"	18.97
	Over 18' to 24' Max.	8"	28.55

NOTE: ABOVE POST DIMENSIONS AND WEIGHTS ARE MINIMUMS. LARGER SIZES MAY BE USED ON APPROVAL OF CITY ENGINEER.

NOT TO SCALE

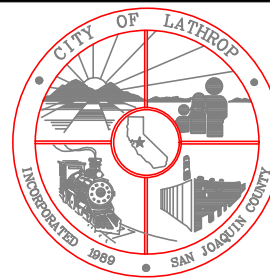
Approved by:

City Of Lathrop
Public Works Director

No	Revised	Date

CITY OF LATHROP
DEPARTMENT OF PUBLIC WORKS

CHAIN LINK FENCE

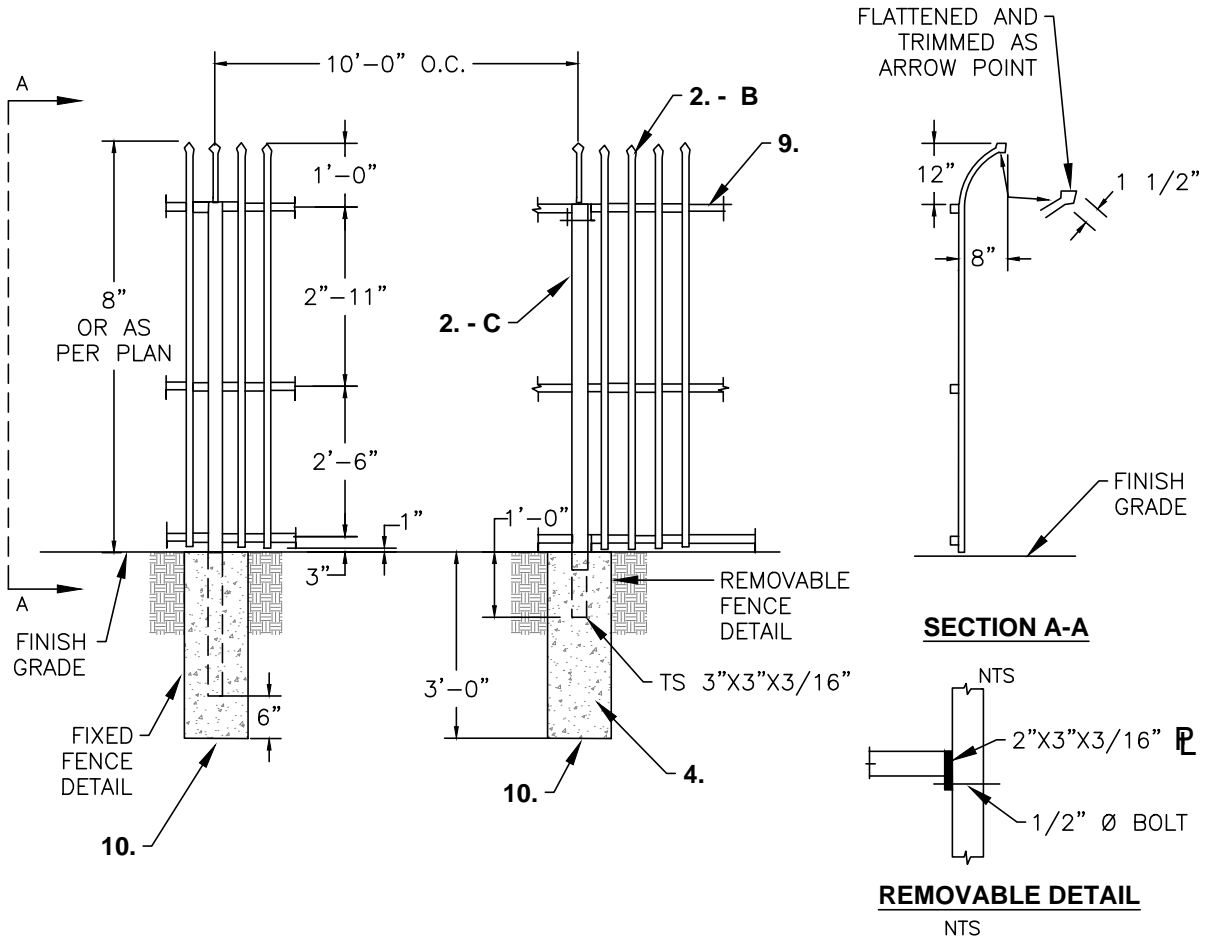


**STANDARD
DETAIL**

Date: **JANUARY 2021**

Drawing No:

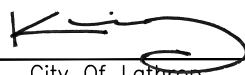
D-18



NOTES:

1. 8'-0" (eight) high commercial grade curved top sentry style wrought iron fence with double gates 20'-0" x 8'-0".
2. Sentry style fence and gate specifications:
 - A. Rail: 1 1/2" x 1 1/2" x 14 gauge.
 - B. Pickets; 3/4" x 3/4" x 16 gauge @ 4 3/4" o.c.
 - C. Posts: 2 1/2" x 2 1/2" x 11 gauge @ 10' - 0" o.c.
 - D. Gate Posts: 4" x 4" x 11 gauge.
3. All welded steel construction (unless otherwise noted).
4. 4-#4 vertical with #3 hoops at 12" o.c. (typical)
5. Weld caps on all post tubing
6. Prime and power coat fence, posts and gates black.
7. All welds shall be galvanized and properly coated.
8. Install 12" wide x 4" depth concrete band (6' from centerline of fence to each side) along fence and gate alignment.
9. TS 1 1/2"x1 1/2"x13 gauge top, mid and bottom rails.
10. 12" ø concrete pier.

NOT TO SCALE

Approved by:		
		
City Of Lathrop Public Works Director		
No	Revised	Date

CITY OF LATHROP
DEPARTMENT OF PUBLIC WORKS

**TUBULAR/ WROUGHT IRON
STEEL FENCE DETAIL**

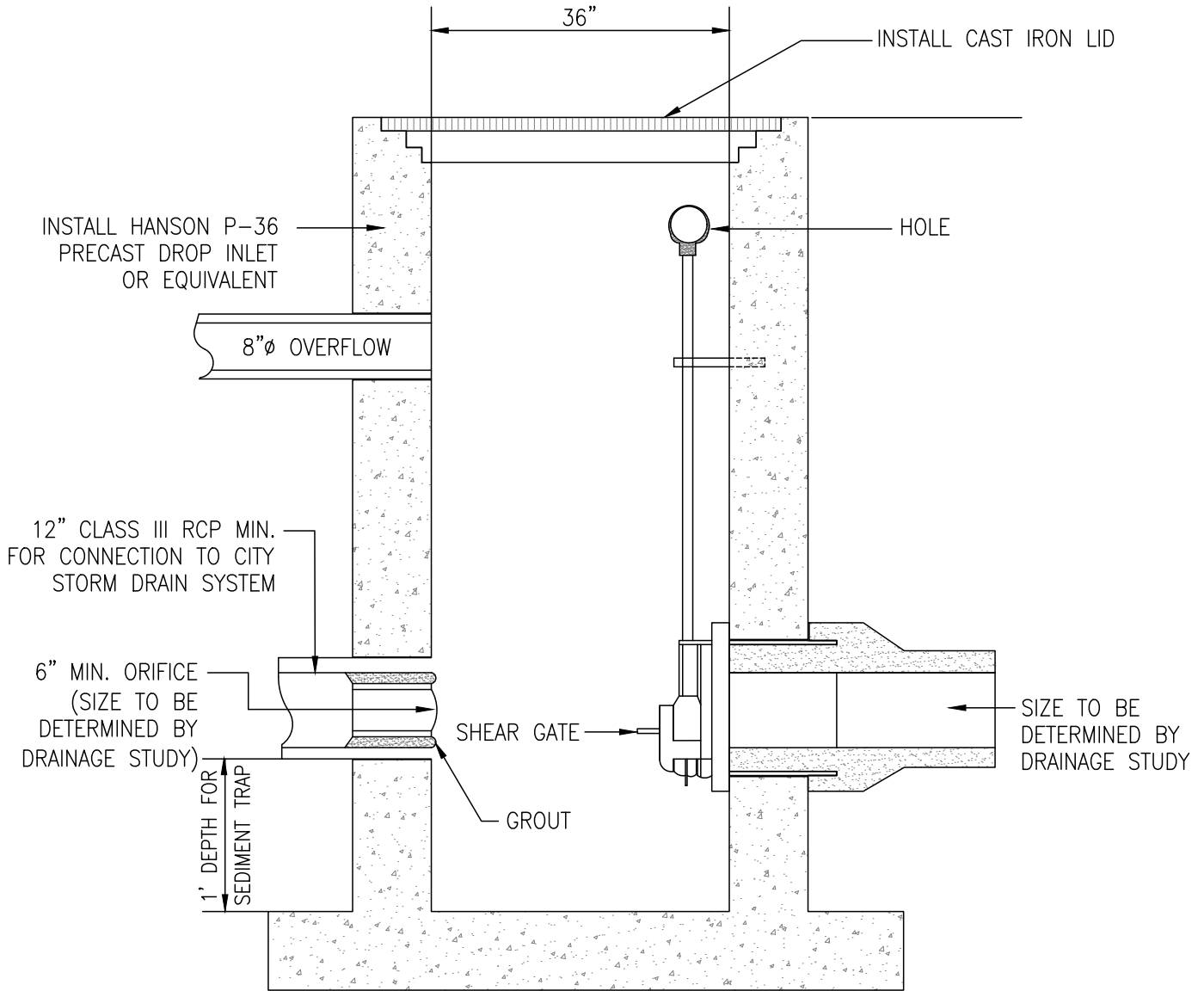


**STANDARD
DETAIL**

Date: **JANUARY 2021**

Drawing No:

D-19




NOTES:

1. The detail provides minimum sizes – See the approved drainage plans for additional details.
2. See the approved drainage plans for invert elevations for inlet, outlet, and 8" overflow.
3. Alternative Storm Control Valve and Vaults will be approved, if submitted, by the City Engineer as part of the building permit plan review.

NOT TO SCALE

Approved by:

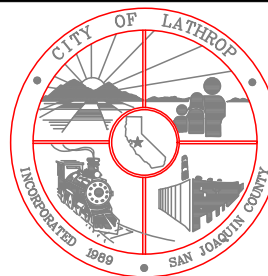


City Of Lathrop
Public Works Director

No	Revised	Date

CITY OF LATHROP
DEPARTMENT OF PUBLIC WORKS

STORM CONTROL VALVE IN VAULT
CROSSROADS INDUSTRIAL PARK
(ON-SITE ONLY)

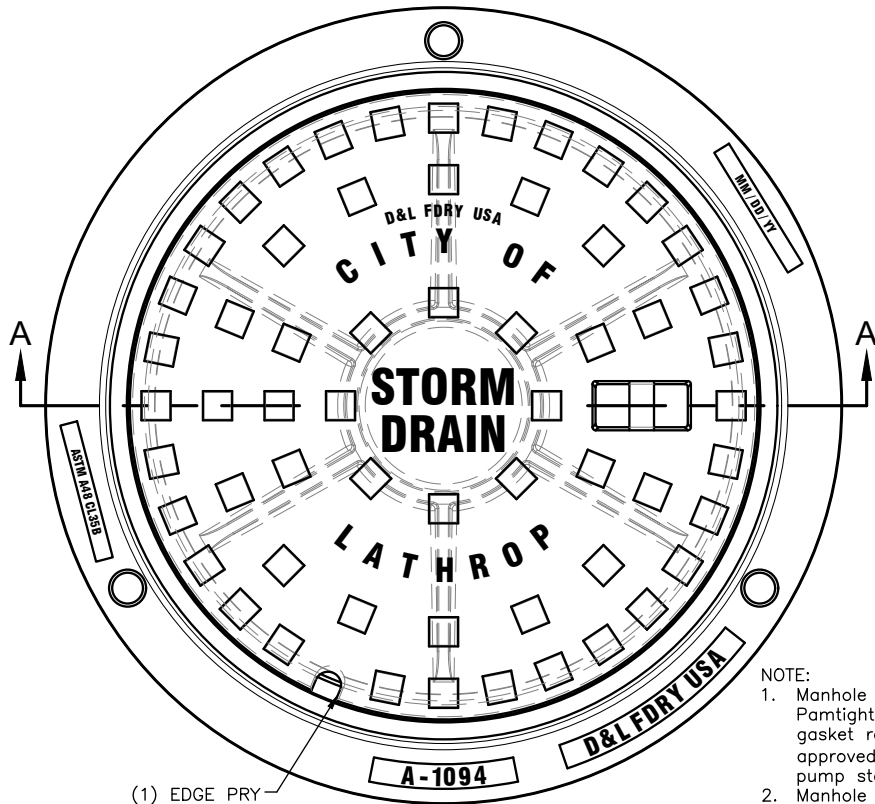


**STANDARD
DETAIL**

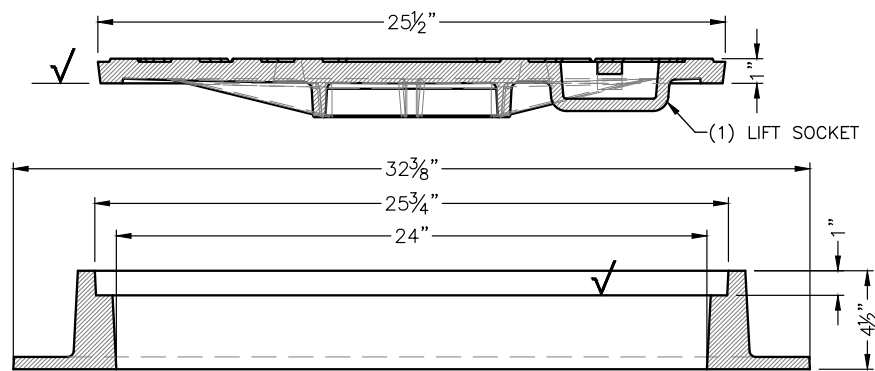
Date: **JANUARY 2021**

Drawing No:

D-20



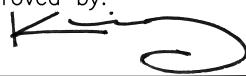
- NOTE:
1. Manhole frame and cover shall be Pamtight decking lid with Elastomer gasket rated for H2O loading or approved equal if within 500' of a pump station.
 2. Manhole cover shall have raised letters and opening in socket



SECTION A-A

D&L SUPPLY COMPANY		
	PRODUCT NUMBER	MATERIAL TYPE
COVER	A-1094	GRAY IRON: ASTM A-48 CL 35B
RING	A-1094-R1	GRAY IRON: ASTM A-48 CL 35B

NOT TO SCALE

Approved by:


CITY OF LATHROP
 DEPARTMENT OF PUBLIC WORKS



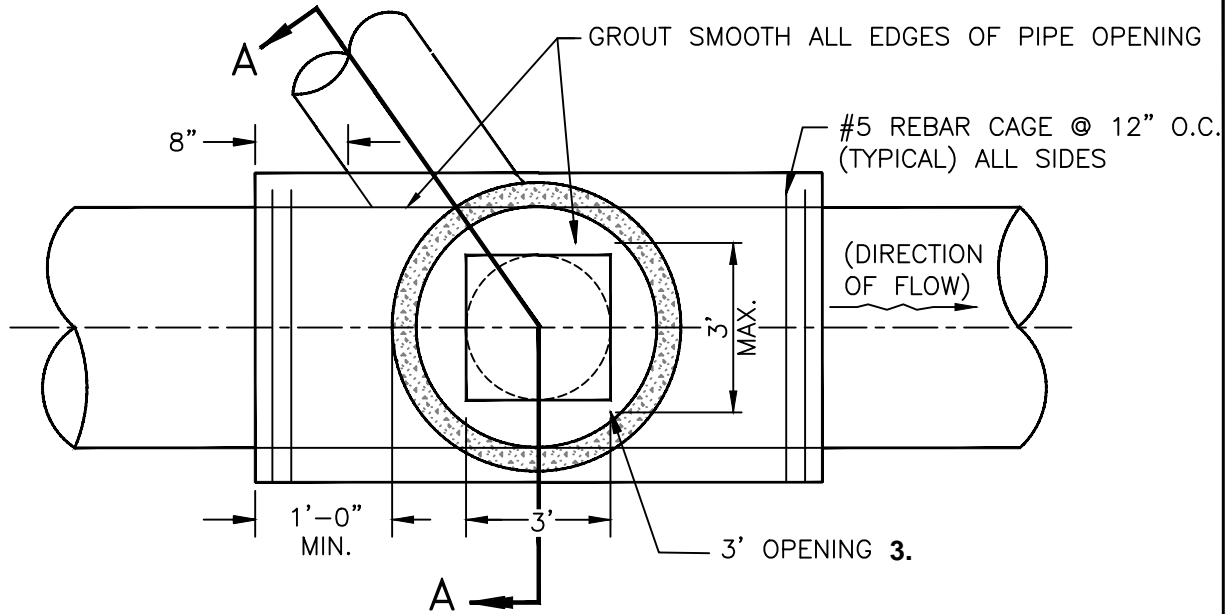
**STANDARD
 DETAIL**

**MANHOLE FRAME AND
 COVER**

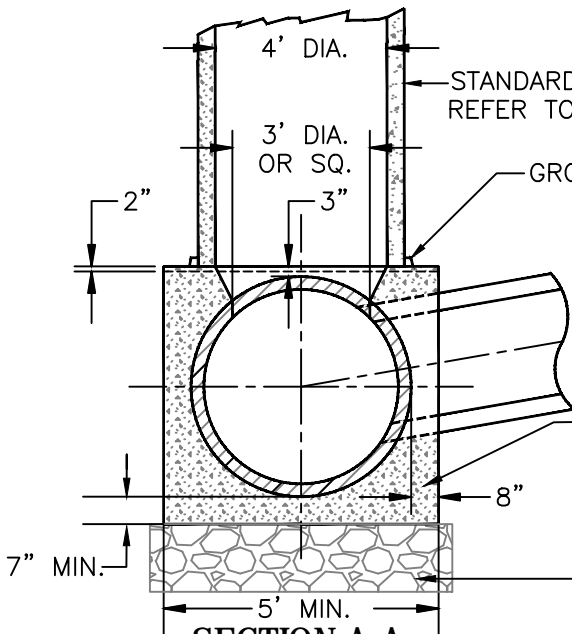
Date: **JANUARY 2021**
 Drawing No:

D-21

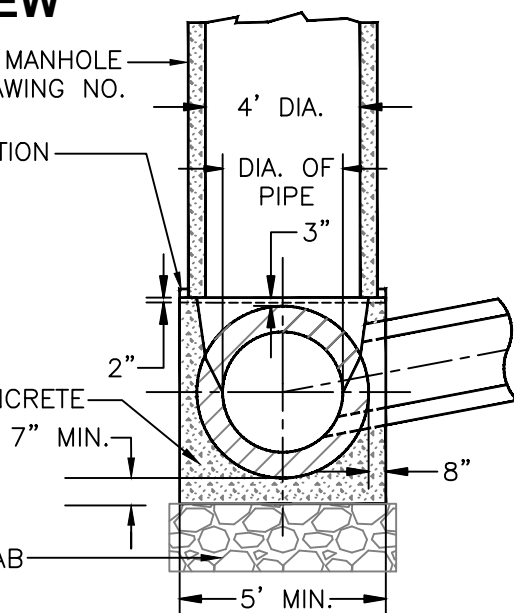
No	Revised	Date



PLAN VIEW



PIPES LARGER THAN 36" DIA.




PIPES 24" TO 36" DIA.

NOTES:

1. The foundation shall be a minimum of 5' for 44" O.D. pipe and smaller.
2. For pipe larger than 44" O.D., the foundation shall extend a minimum of 8" beyond each side of the pipe.
3. Opening to be 3' long x (I.D. of pipe) wide, up to 36" I.D. pipe. For pipes larger than 36" I.D., opening to be 36" diameter or square.

NOT TO SCALE

Approved by: 

City Of Lathrop
Public Works Director

No	Revised	Date

CITY OF LATHROP
DEPARTMENT OF PUBLIC WORKS

SADDLE - TYPE MANHOLE
FOR PIPE 24" DIA. AND
LARGER

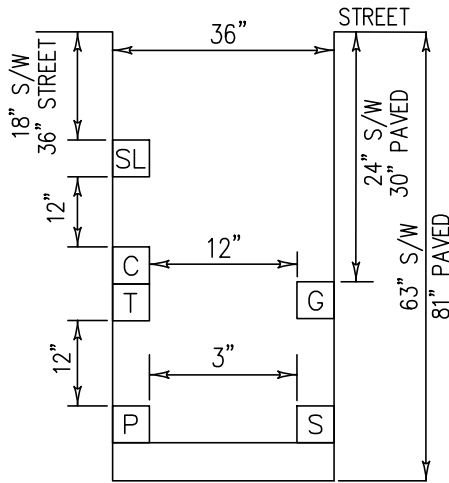


**STANDARD
DETAIL**

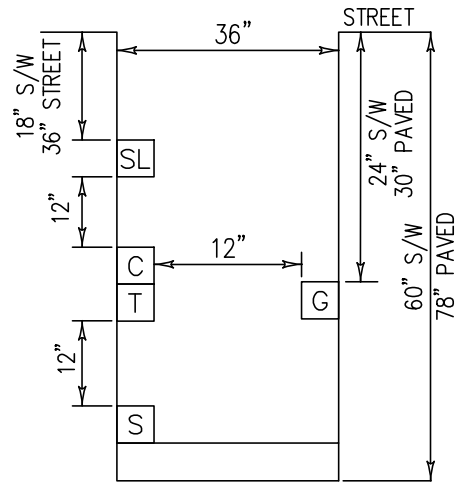
Date: **JANUARY 2021**

Drawing No:

D-22



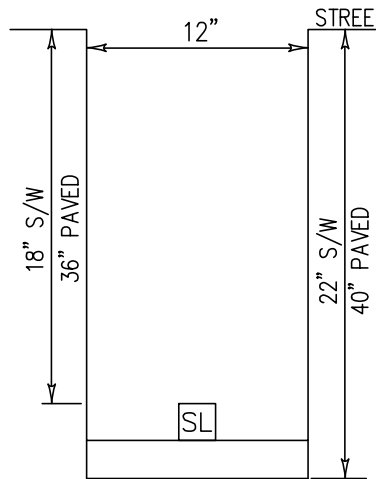
TYPICAL JOINT TRENCH SECTION WITH PRIMARY



TYPICAL JOINT TRENCH SECTION WITHOUT PRIMARY

NOTES FOR STREET LIGHT:

1. The street light trench shall be located underneath the sidewalk and flush with the back of walk.
2. Street light conduit road crossings shall be in their own trench if applicable or in a joint trench with approval of the City Engineer.
3. The street light pull box shall be located 6 inches behind the back of walk & have lockjaw security lid by Sipra Corp. or approved equal.



TYPICAL STREET LIGHT TRENCH SECTION


LEGEND

- G GAS
- P ELECTRIC PRIMARY
- S ELECTRIC SECONDARY
- T TELEPHONE
- C CATV
- SL STREET LIGHT

NOTES:

1. All existing pavement shall be neatly sawcut to line prior to trench excavation.
2. All backfill materials shall be mechanically compacted unless approved otherwise by City Engineer.
3. Sand shall be clean natural sand per Caltrans Standard Specifications, Section 19-3.025B or native material at the direction of the City Engineer.
4. Minimum 6 ton roller shall be used to compact final lift of asphalt concrete. Hand operated asphalt compaction equipment may be used on first lift of asphalt only.
5. Street light conduit may be placed at the same level as the telephone or cable T.V. conduit.
4. Asphalt in trench to be installed to a depth 1" below the existing asphalt and paved in 1 1/2" minimum, 2 1/2" maximum lifts.

NOT TO SCALE

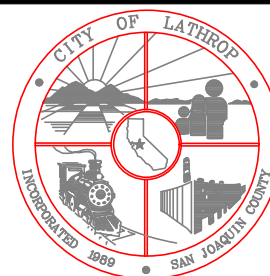
Approved by: 

City Of Lathrop
Public Works Director

No	Revised	Date

CITY OF LATHROP
DEPARTMENT OF PUBLIC WORKS

TYPICAL TRENCH SECTIONS

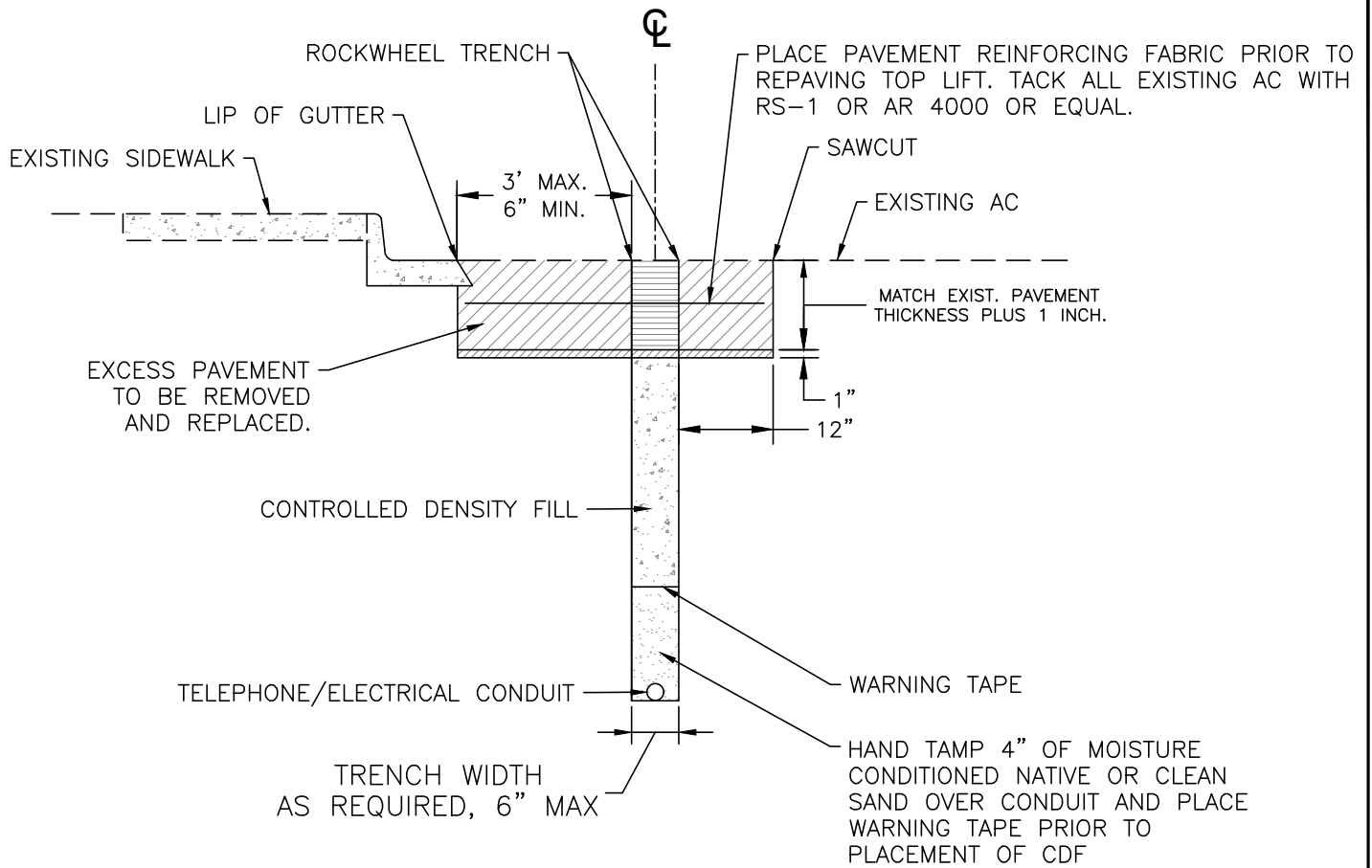


**STANDARD
DETAIL**

Date: **JANUARY 2021**

Drawing No:


E-1



NOTES:

1. Allow controlled density fill (cdf) to set a minimum of 12 hours before placing asphalt concrete in trench.

NOT TO SCALE

Approved by: 

City Of Lathrop
Public Works Director

No	Revised	Date

CITY OF LATHROP
DEPARTMENT OF PUBLIC WORKS

TRENCH BACKFILL
ROCKWHEEL TRENCH

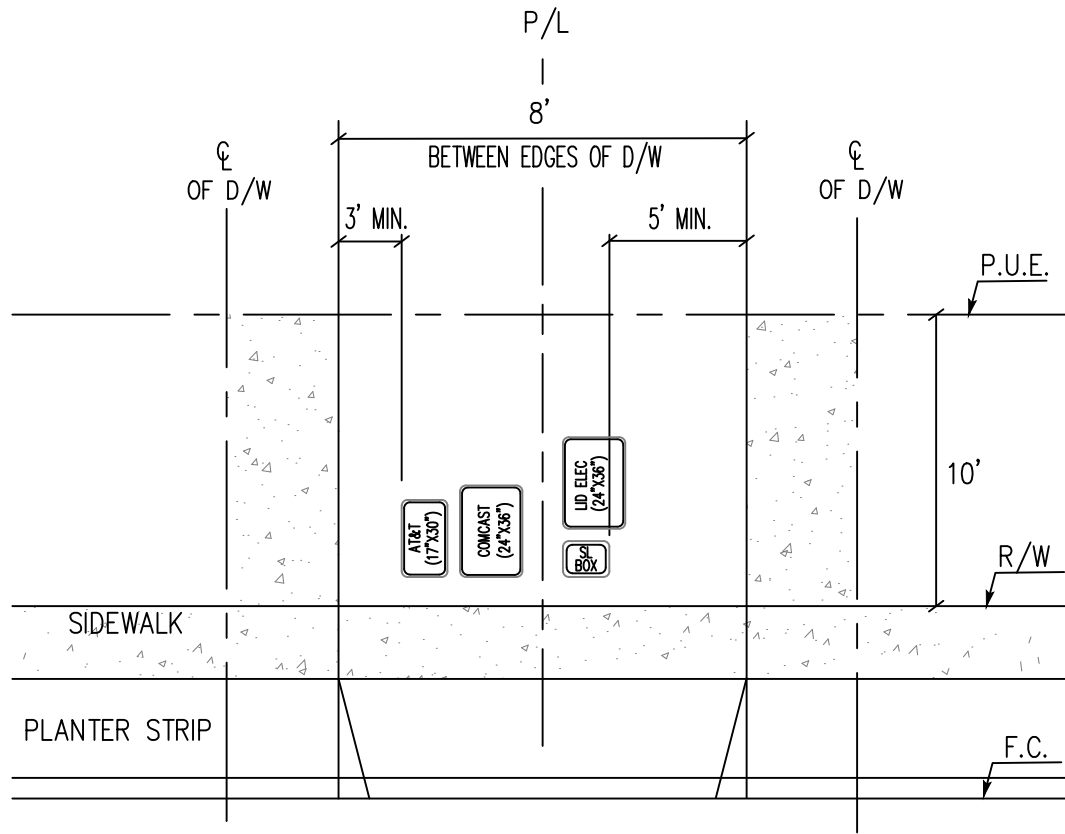


STANDARD
DETAIL

Date: **JANUARY 2021**

Drawing No:


E-2



NOTES:

Configurations are not limited to the above detail. Other configurations may be used. Contractor to verify configurations with utility companies as required prior to construction.

NOT TO SCALE

Approved by: 

City Of Lathrop
Public Works Director

No	Revised	Date

CITY OF LATHROP
DEPARTMENT OF PUBLIC WORKS

**DRY UTILITY BOX/PEDESTAL
CONFIGURATION BETWEEN EDGES
OF RESIDENTIAL DRIVEWAYS**



**STANDARD
DETAIL**

Date: **JANUARY 2021**

Drawing No:

E-3

**NORTH YORKSHIRE
WITH LIBERTY CAST ALUMINUM CROSSARM
FOR PENDANT MOUNTED LUMINARIES**

"LED" LIGHTS ONLY

SPECIFICATIONS

DESCRIPTION

THE NORTH YORKSHIRE LIGHTING POST SHALL BE CAST IRON AND STEEL CONSTRUCTION, MASSIVELY TAPERED WITH A DEEP 16 FLUTE PATTERN AND A CLASSIC TAPERED FLUTE BASE. THE POST SHALL BE SHIPPED FROM THE FACTORY AS A ONE PIECE UNIT WITH NO MULTIPLE, SLIDE OVER, OR WRAPAROUND PIECES. THE WEST LIBERTY DECORATIVE CROSSARM(S) SHALL BE ALL ALUMINUM CONSTRUCTION WITH A DECORATIVE DESIGN OF LEAVES AND ARCHED ARM(S), AND DECORATIVE SWIVEL MOUNTING ADAPTOR FOR PENDANT MOUNTED LUMINARIES.

LIGHTING POST

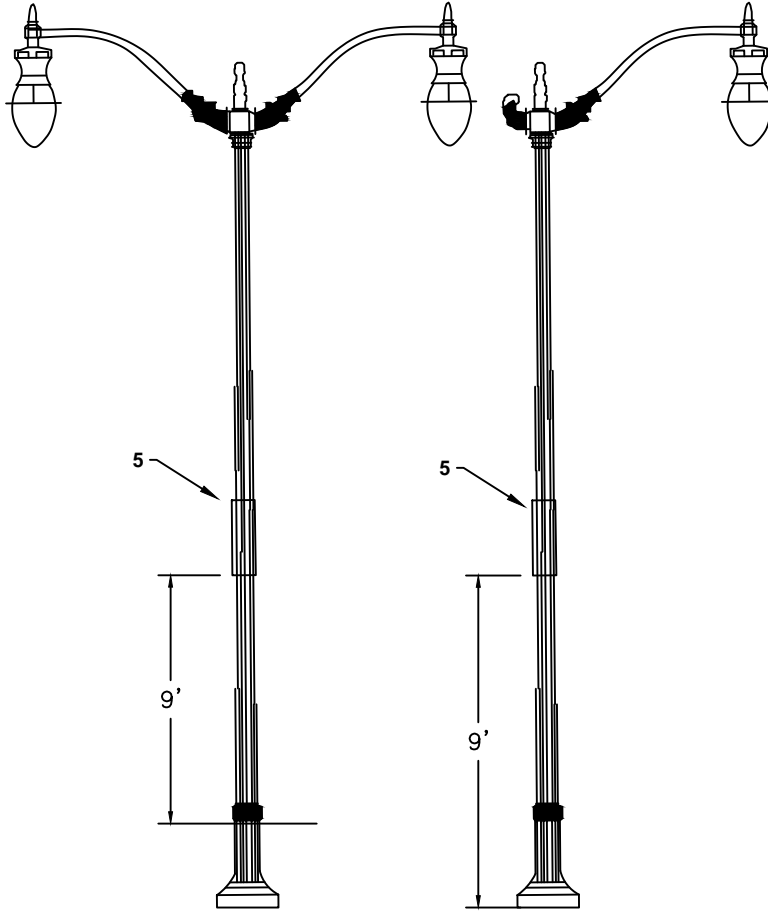
STYLE: NORTH YORKSHIRE
 HEIGHT: 18', 21', 23' OR 30'
 TENON SIZE: 3" OD BY 6" HIGH
 BASE: 20" DIAMETER
 SHAFT MATERIAL: 16 FLUTE STEEL
 BASE MATERIAL: HEAVY WALL CAST IRON, ASTM A48 CLASS 30
 FINISH: PRIME PAINTED WITH RED OXIDE PRIMER
 ANCHOR BOLTS: (4) 3/4" x 24" L TYPE HOT DIPPED GALVANIZED

CROSSARM

STYLE: NORTH YORKSHIRE
 HEIGHT: 41"
 WIDTH: 4', 6', OR 8' (FROM CENTERLINE OF POST TO CENTER LINE OF LUMINAIRE)
 MATERIAL: HEAVY WALL CAST #356 ALUMINUM ALLOY AND SCHEDULE 40 ALUMINUM PIPE
 LUMINAIRE MOUNTING: 1-1/2" NPT THREADED NIPPLE, SCHEDULE 40 ALUMINUM, FOR PENDENT MOUNTED LUMINAIRES
 SLIPFITTER: ARM(S) SLIPFIT A 3" OD BY 6" TALL TENON
 FINISH: PRIME PAINTED WITH RED OXID PRIMER AND POWDER COATED BLACK

LUMINAIRE

ESPLANADE LED STANDARD TEAR DROP GLASS OR APPROVED EQUAL.




LOCAL RESIDENTIAL AND COLLECTOR RESIDENTIAL

NOTES:

1. See improvement plans for pole height, luminaire wattage and distribution.
2. Projects requiring installation of 4 or more electroliers shall be prepared by and signed by a registered electrical engineer.
3. Electroliers along expressways and arterials shall be designed by and signed by a register electrical engineer.
4. Electrolier finish shall be cast iron and steel/powder coated black.
5. Street light numbers to be on stickers, 2" letter size reflective black on white. Place numbers on street side of pole perpendicular to street.

NOT TO SCALE

Approved by: 

City Of Lathrop
Public Works Director

No	Revised	Date

CITY OF LATHROP
 DEPARTMENT OF PUBLIC WORKS

EAST OF I-5 ONLY

ELECTROLIER

"LED" LIGHTS ONLY

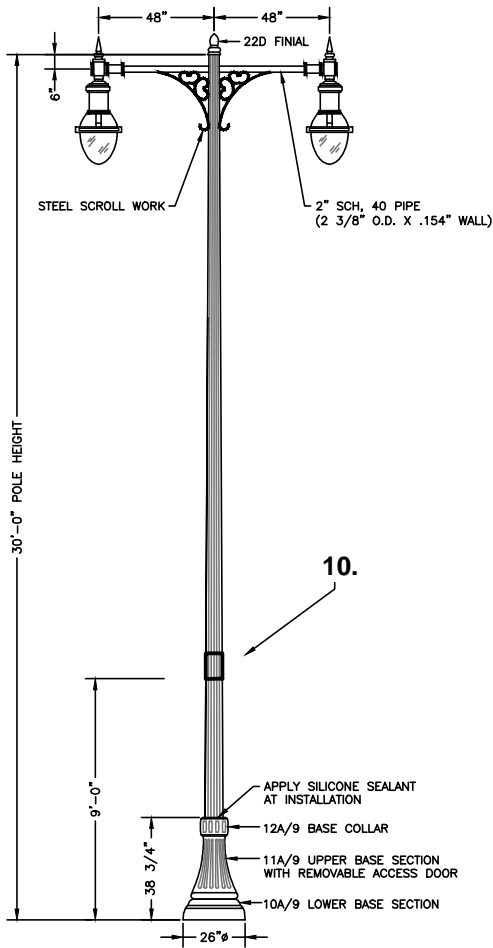


**STANDARD
DETAIL**

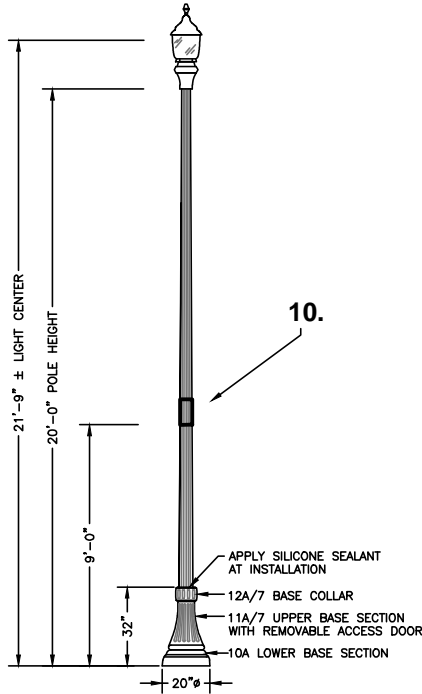
Date: **JANUARY 2021**

Drawing No:
E-4

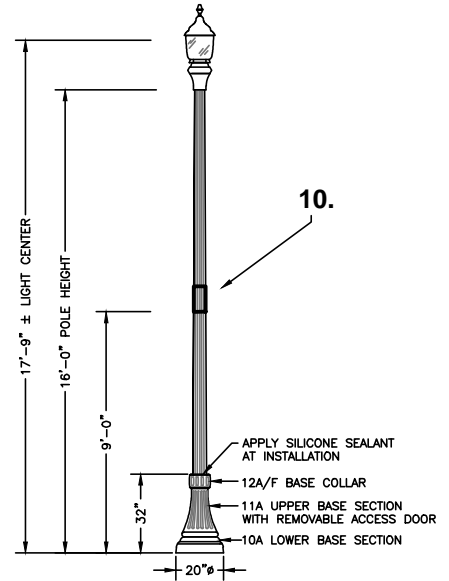
"LED" LIGHTS ONLY



7.



8.



9.

NOTES:

- See improvement plans for pole height, luminaire wattage and distribution. Lighting spacing and brightness shall meet city, PG&E and State of California standards for illumination and safety.
- Projects requiring installation of 4 or more electroliers shall be required to have plans prepared by and signed by a registered Electrical Engineer.
- Electroliers along expressways and arterials shall be required to have plans prepared by and signed by a registered Electrical Engineer.
- Electrolier finish shall be cast iron and steel, factory finish painted green-black, RAL-6012, per city standards.
- Structural design of electroliers shall be performed by licensed structural or civil engineer.
- Light poles shall be 11 ga., steel fluted tapered pole with 0.14 inches per foot taper.
- Electroliers for arterial streets shall have a light post that is 9-inches in diameter, and a Lumec Luminaire #GCM2-60J-MV-40K-3R-GY-155-FOC-PCR7-WL-RWG
- Electroliers for collector streets shall have a light post that is 7-inches in diameter, and a Lumec Luminaire #GCJ3-30J-MV-40K-3R-GY-090-FOC-PCR7-WL-RWG.
Electroliers for residential streets shall have a light post that is 5 3/4-inches in diameter, and a Lumec Luminaire #GCJ1-30J-MV-40K-2R-GY-050-FOC-PCR7-WL-RWG
- Street light numbers to be on stickers, 2" letter size reflective black on white. Place numbers on street side of pole perpendicular to street.

NOT TO SCALE

Approved by:

City Of Lathrop Public Works Director		
No	Revised	Date

CITY OF LATHROP
DEPARTMENT OF PUBLIC WORKS
WEST OF
INTERSTATE 5 ONLY
ELECTROLIER

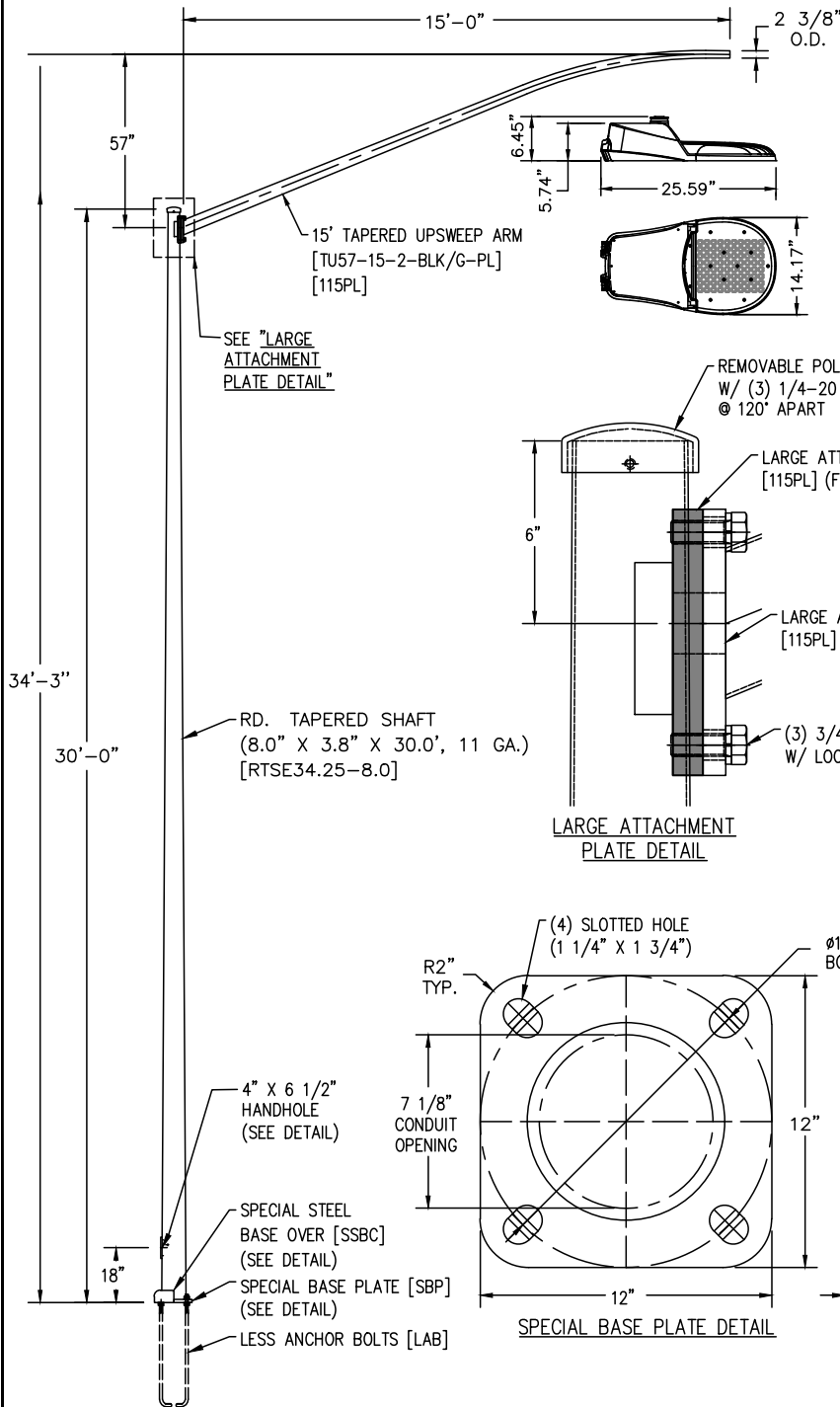


**STANDARD
DETAIL**

Date: **JANUARY 2021**

Drawing No:

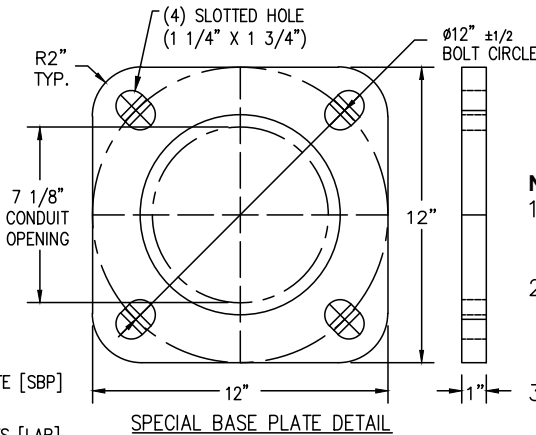
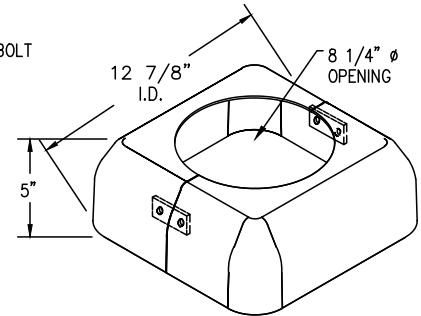
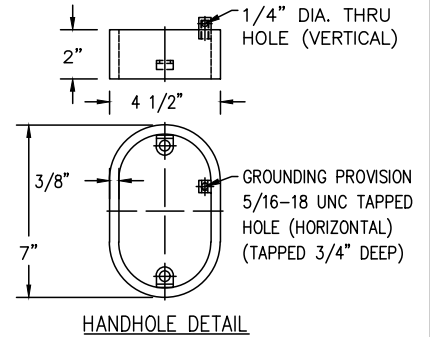
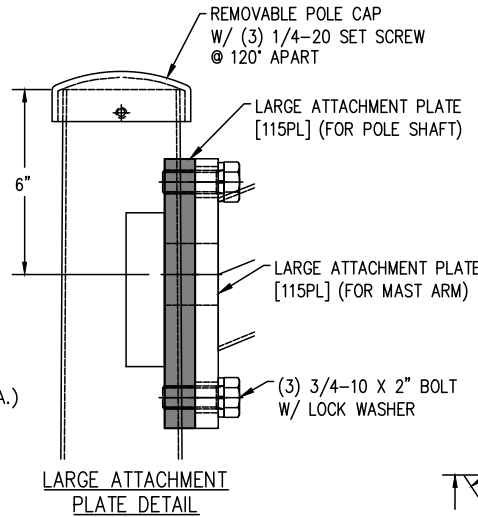
E-5



MATERIAL SPECIFICATIONS:	
POLE SHAFT:	COMM. GRADE STEEL, 55 K.S.I. MIN. YIELD
BASE PLATE:	ASTM A36, 36 K.S.I. MIN. YIELD
FINISH:	
ENTIRE STANDARD TO BE HOT DIP GALVANIZED IN ACCORDANCE WITH ASTM A123. [G]	

USE LED MODEL:


GCJ3-30J-MV-40K-3R-GY-090-FOC-PCR7-WL-RWG



NOTES:

1. See improvement plans for pole height, luminaire wattage and distribution.
2. Projects requiring installation of 4 or more electroliers shall be prepared by and signed by a registered Electrical Engineer.
3. Electroliers along expressways and arterials shall be designed by and signed by a registered Electrical Engineer.
4. Electrolier finish shall be cast iron and steel/powder coated white.
5. Street light numbers to be on stickers, 2" letter size reflective black on white. Place numbers on street side of pole perpendicular to street.

NOT TO SCALE

Approved by: 

City Of Lathrop
Public Works Director

No	Revised	Date

CITY OF LATHROP
DEPARTMENT OF PUBLIC WORKS

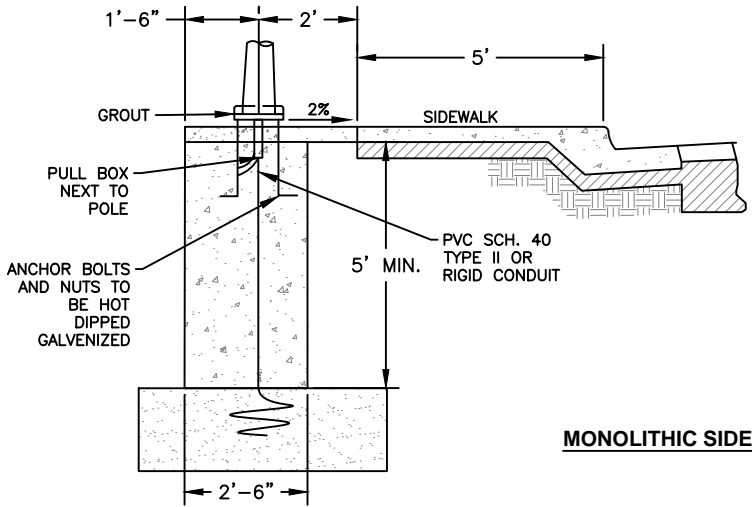
**COBRA HEAD LIGHT DETAILS FOR
COMMERCIAL AND INDUSTRIAL**



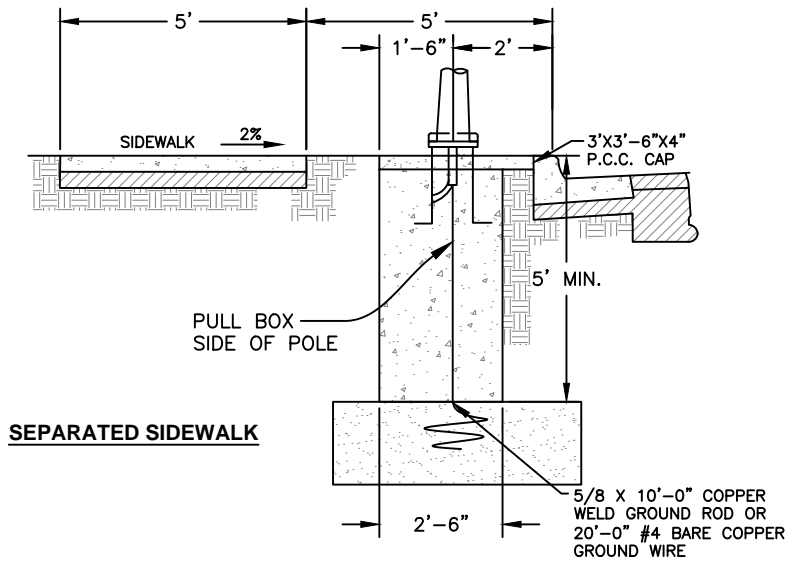
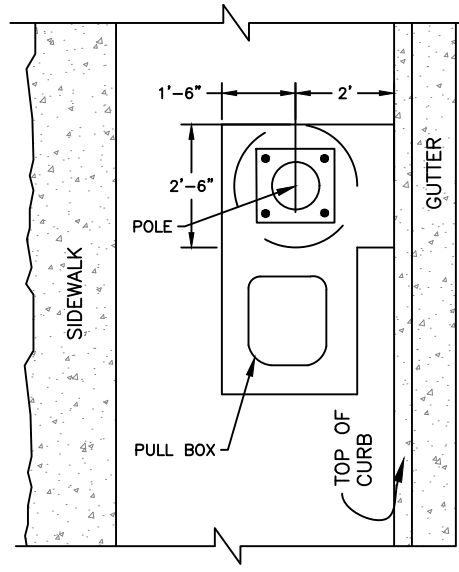
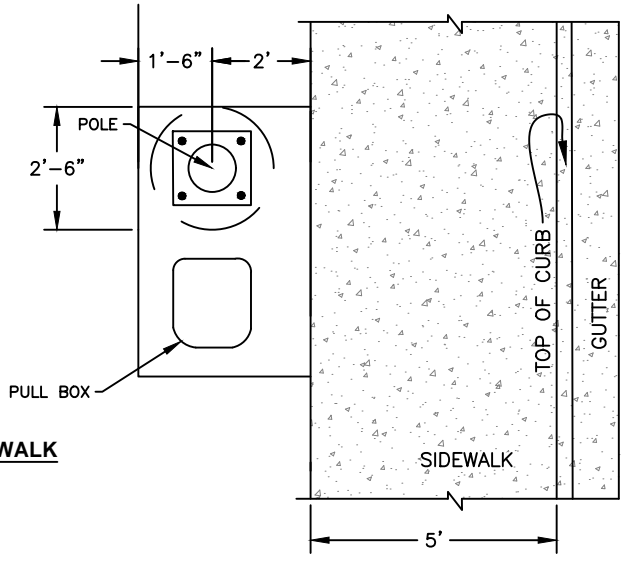
**STANDARD
DETAIL**

Date: **JANUARY 2021**

Drawing No:
E-6



MONOLITHIC SIDEWALK

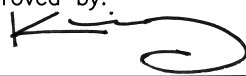


SEPARATED SIDEWALK

NOTES:

1. Secure electrolier to grounded stud.
2. 20' #4 bare copper wire ground wire or 5/8" x 10' copper weld ground rod shall be covered with 2' of soil prior to pouring base.
3. Base shall be 3,000 PSI concrete field cast.
4. Street light pull box to have lockjaw security lid by Sipra Corp. or approved equal.
5. Minimum conduit size shall be 1 1/2", minimum radius at bends shall be 18".
6. Pull boxes shall be installed down stream and incorporated into pad.
7. All connection shall be waterproof.
8. Minimum cover over conduit shall be 18" under sidewalks.
9. All wiring shall extend 30" min. into pull box, with extra slack to be coiled in box.
10. All conduits terminating in pull boxes shall have duct sealant.
11. Ground Rods shall be installed at the beginning of all runs.
12. See Standard Detail E-12 for service box detail.

NOT TO SCALE

Approved by: 

City Of Lathrop
Public Works Director

No	Revised	Date

CITY OF LATHROP
DEPARTMENT OF PUBLIC WORKS

**ELECTROLIER
BASE**

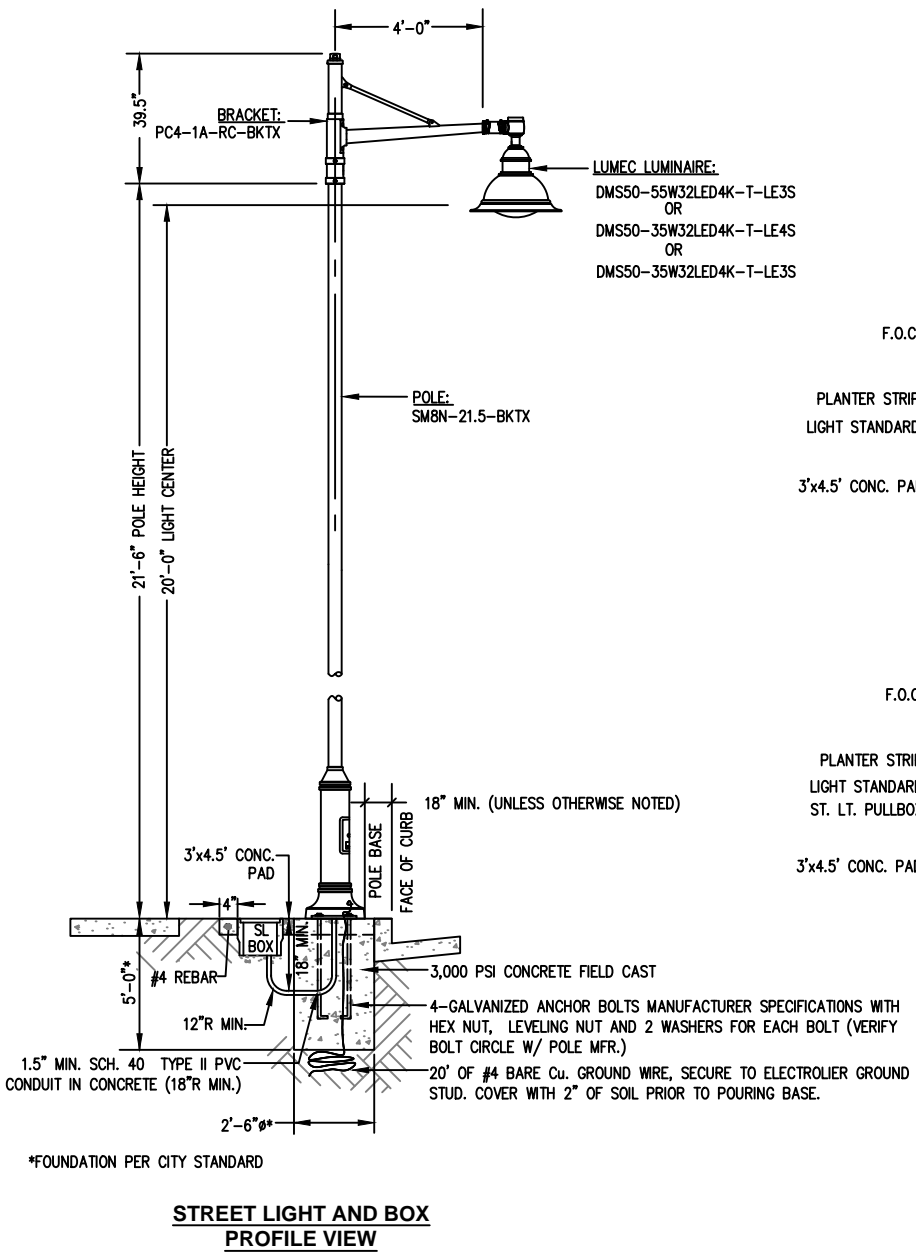


**STANDARD
DETAIL**

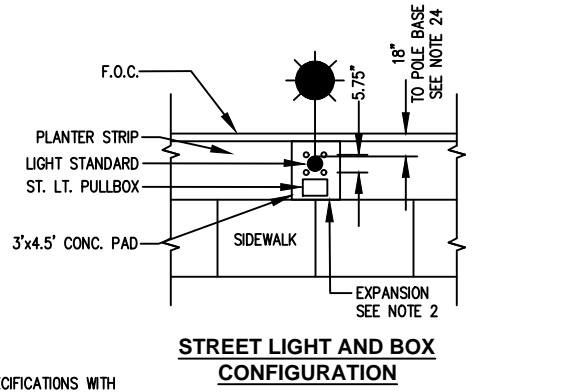
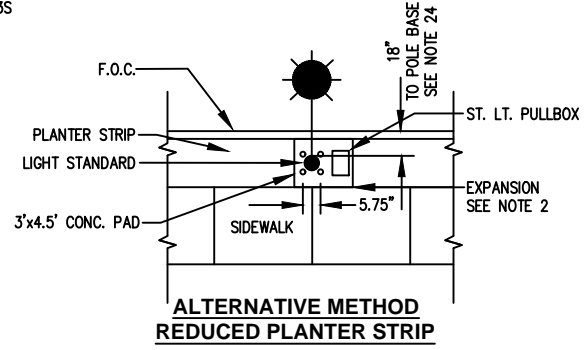
Date: **JANUARY 2021**

Drawing No:

E-7



**STREET LIGHT AND BOX
PROFILE VIEW**



NOTE:

1. If concrete pad is poured between the back of curb and front of sidewalk, then felt or other expansion material will be required.
2. See Standard Detail E-12 for service box detail.

NOT TO SCALE

Approved by: 

City Of Lathrop
Public Works Director

No	Revised	Date

CITY OF LATHROP
DEPARTMENT OF PUBLIC WORKS

**RIVER ISLANDS
ELECTROLIER DETAILS**

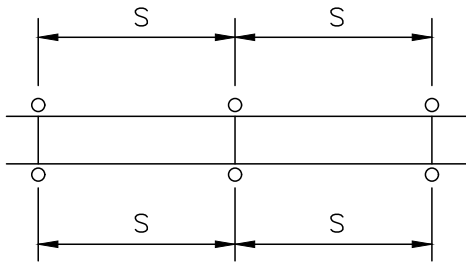


**STANDARD
DETAIL**

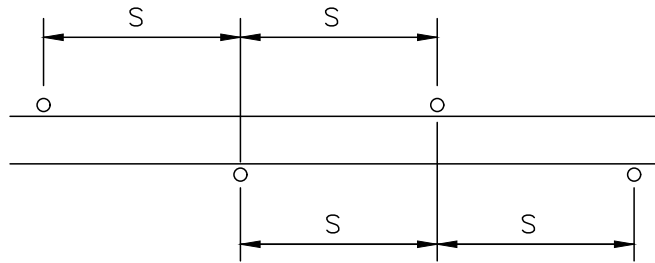
Date: **JANUARY 2021**

Drawing No:
E-8

STREET CLASSIFICATION	STREET R/W WIDTH	NORMAL MOUNTING HEIGHT	LIGHT EMITTING DIODE LAMP WATTAGE	FRONT OF LOT	BACK OF LOT
				SPACING (BOTH SIDES)	
EXPRESSWAY	128'	*	250/400	*	*
MAJOR ARTERIAL	104'	*	250	*	*
MINOR ARTERIAL	84'	*	150	*	*
SPACING (ALTERNATE SIDES)					
COLLECTOR/ INDUSTRIAL/ COMMERCIAL					
	60'	30'	150	220'	
LOCAL/COLLECTOR	64'	22'	150	190'	
RESIDENTIAL	60'	18'	100	192'	



SPACING BOTH SIDES




SPACING (ALTERNATE SIDES)

NOTES:

1. Lamp wattage shall be for light emitting diode lamp only.
2. Spacing may be adjusted to allow for driveways, street intersections, etc.
3. Light distribution pattern shall be Type III per the latest Caltrans Standard Plans unless otherwise specified on improvement plans.

*Electroliers along expressways and arterials shall be required to have plans prepared and signed by a registered Electrical Engineer.

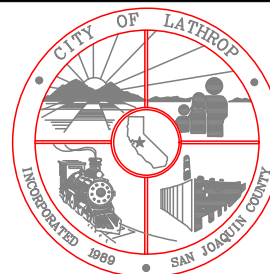
NOT TO SCALE

Approved by: 

City Of Lathrop Public Works Director		
No	Revised	Date

CITY OF LATHROP
DEPARTMENT OF PUBLIC WORKS

**STREET LIGHT POLE
SPACING GUIDE**

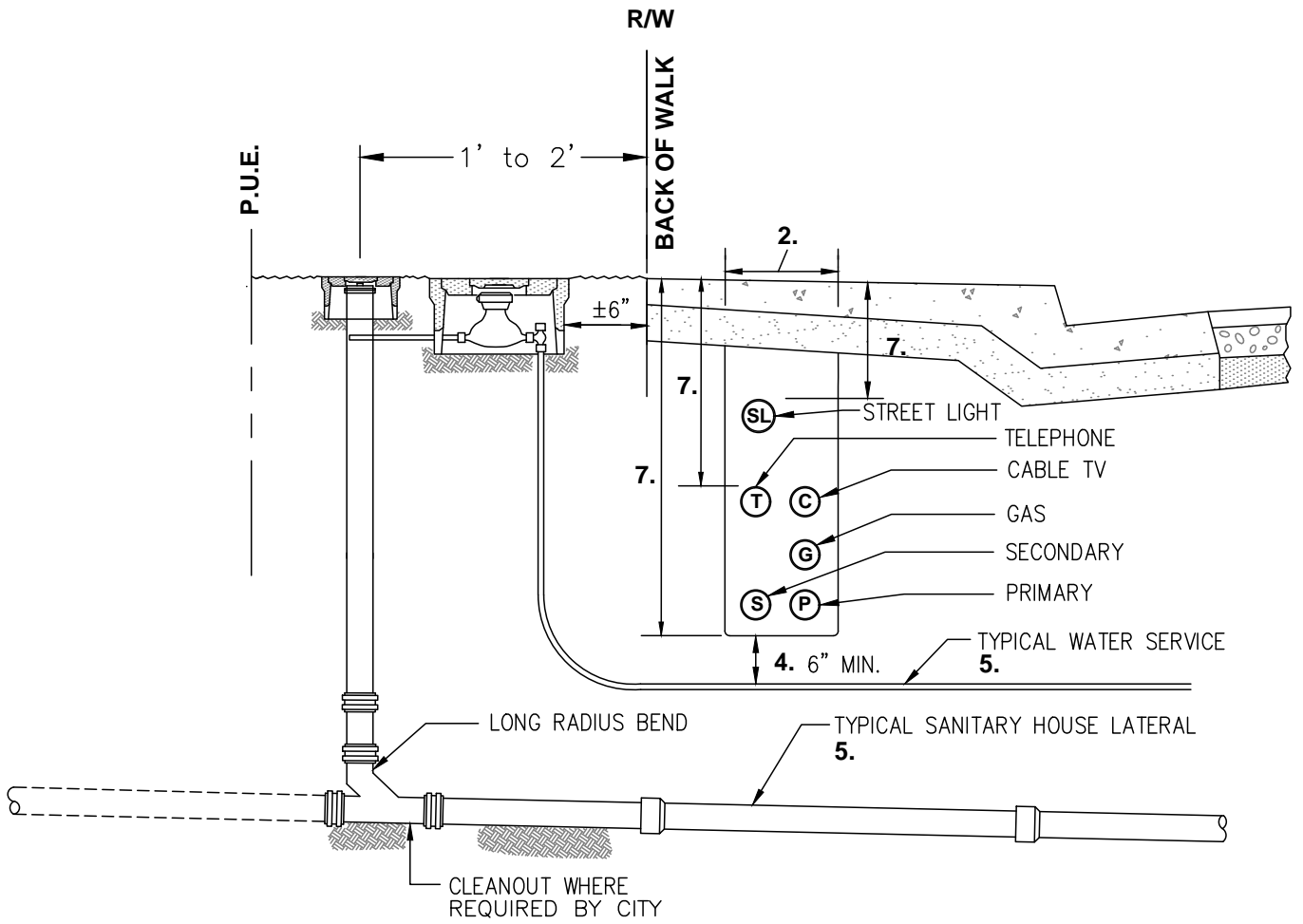


**STANDARD
DETAIL**

Date: **JANUARY 2021**

Drawing No:

E-9

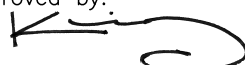


NOTES:

TYPICAL SECTION

1. © Denotes cable and / or conduit.
2. Compaction shall be per Standard Detail No. R-56
3. Utilities to be placed as per public utility company regulations.
4. All Services crossing underneath electrical lines shall have a minimum 6" clearance. Electrical lines shall have a minimum of 12" clearance if placed below service laterals.
5. Water service and Sanitary service shall have a lateral clearance of 48" minimum.
6. The location of trench shall conform to City requirements.
7. Refer to Standard Detail No. E-1 for depth requirements.
8. Tree Planting must be 5' from utilities.

NOT TO SCALE

Approved by: 

City Of Lathrop Public Works Director		
No	Revised	Date

CITY OF LATHROP
 DEPARTMENT OF PUBLIC WORKS
UNDERGROUND UTILITIES
LOCATIONS BEHIND FACE
OF CURB

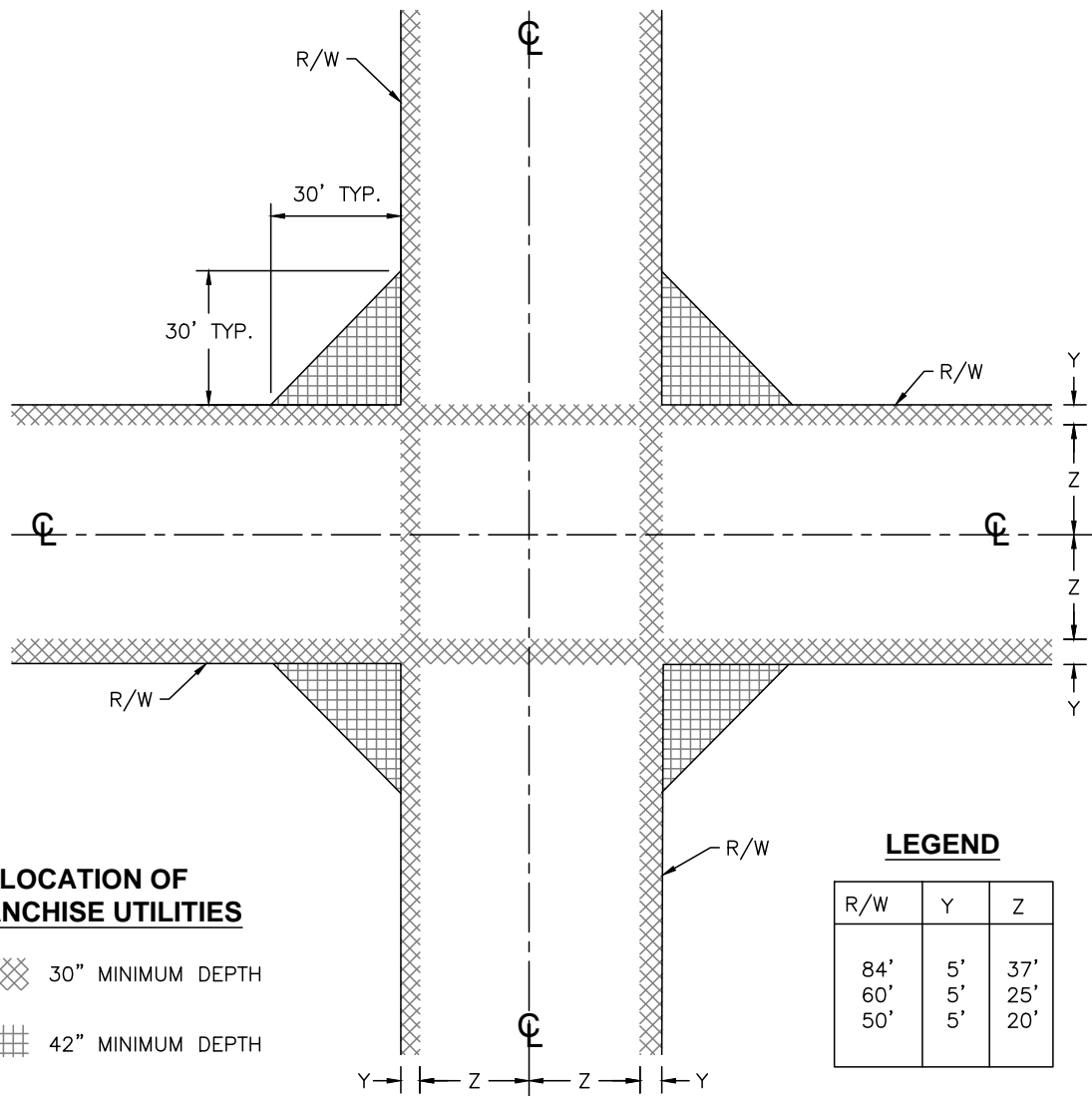


STANDARD
DETAIL

Date: **JANUARY 2021**

Drawing No:


E-10



NOTES:

1. Any deviations from the standard locations are subject to the approval of the City Engineer.
2. Franchise utilities shall include telephone, gas, electrical, television cable, etc.

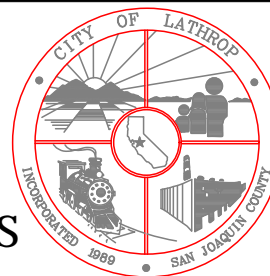
NOT TO SCALE

Approved by: 

City Of Lathrop
Public Works Director

No	Revised	Date

CITY OF LATHROP
 DEPARTMENT OF PUBLIC WORKS
UNDERGROUND UTILITIES
 LOCATIONS
 AT EXISTING INTERSECTIONS

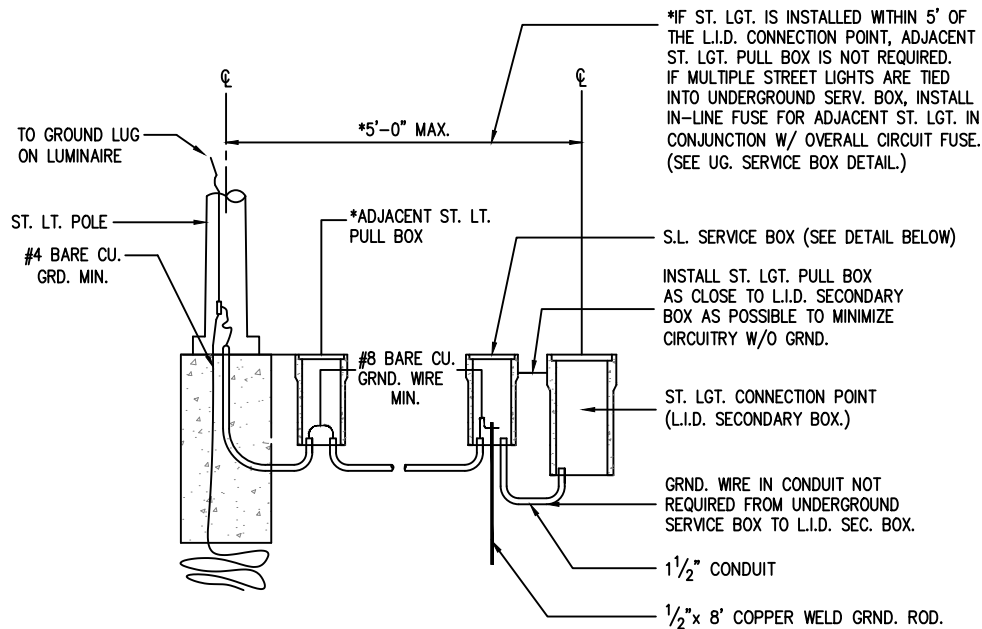


**STANDARD
DETAIL**

Date: **JANUARY 2021**

Drawing No:

E-11



GROUNDING DETAIL

NOT TO SCALE

*IF ST. LGT. IS INSTALLED WITHIN 5' OF THE L.I.D. CONNECTION POINT, ADJACENT ST. LGT. PULL BOX IS NOT REQUIRED. IF MULTIPLE STREET LIGHTS ARE TIED INTO UNDERGROUND SERV. BOX, INSTALL IN-LINE FUSE FOR ADJACENT ST. LGT. IN CONJUNCTION W/ OVERALL CIRCUIT FUSE. (SEE UG. SERVICE BOX DETAIL.)

S.L. SERVICE BOX (SEE DETAIL BELOW)

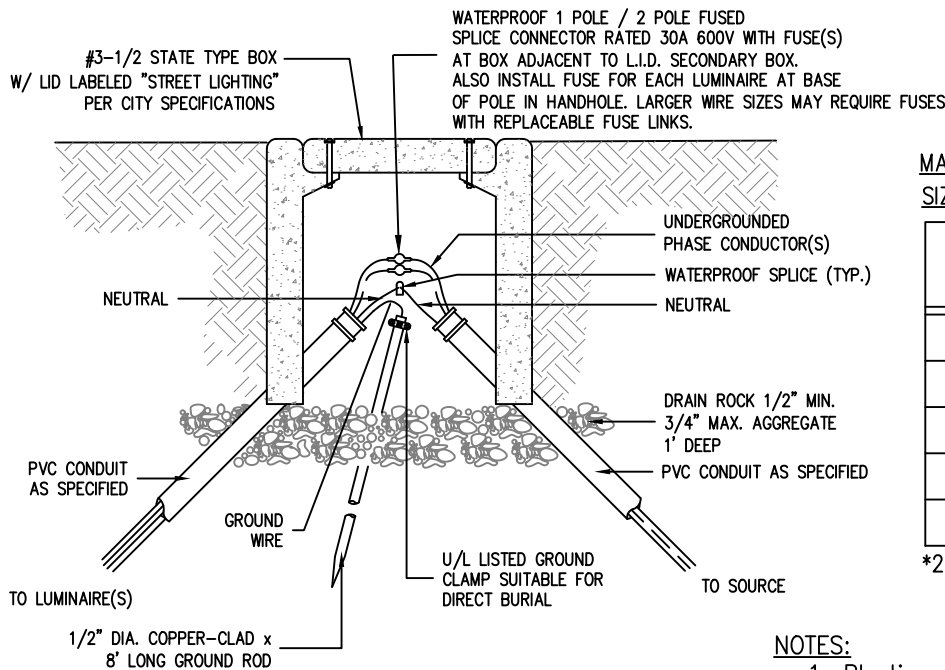
INSTALL ST. LGT. PULL BOX AS CLOSE TO L.I.D. SECONDARY BOX AS POSSIBLE TO MINIMIZE CIRCUITRY W/O GRND.

ST. LGT. CONNECTION POINT (L.I.D. SECONDARY BOX.)

GRND. WIRE IN CONDUIT NOT REQUIRED FROM UNDERGROUND SERVICE BOX TO L.I.D. SEC. BOX.

1 1/2" CONDUIT

1/2" x 8' COPPER WELD GRND. ROD.



STREETLIGHT SERVICE BOX DETAIL

NOT TO SCALE

MANUFACTURER RECOMMENDED FUSE SIZES (SLOW BLOW CHARACTERISTIC)

LED LUMINAIRE WATTAGE	SLOW BLOW FUSE RATING
35	1 AMP
55	1 AMP
70	2 AMP
2-110*	4 AMP
135	3 AMP

*2-110W ON COMMON (SAME) PHASE

NOTES:

1. Plastic sand and grout theft deterrent maybe required at the direction of the City Engineer.

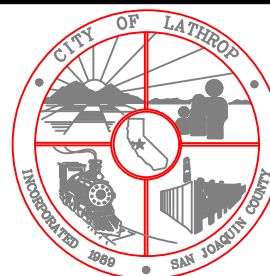
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Approved by:

City Of Lathrop Public Works Director		
No	Revised	Date

CITY OF LATHROP
DEPARTMENT OF PUBLIC WORKS

SERVICE BOX DETAILS

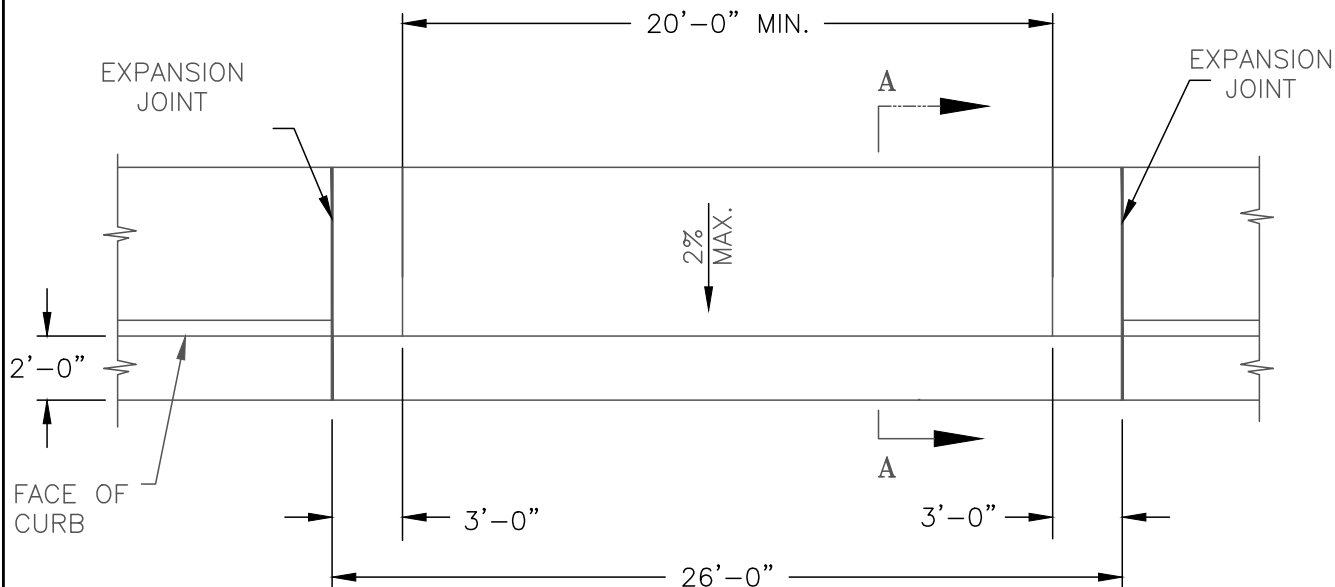


**STANDARD
DETAIL**

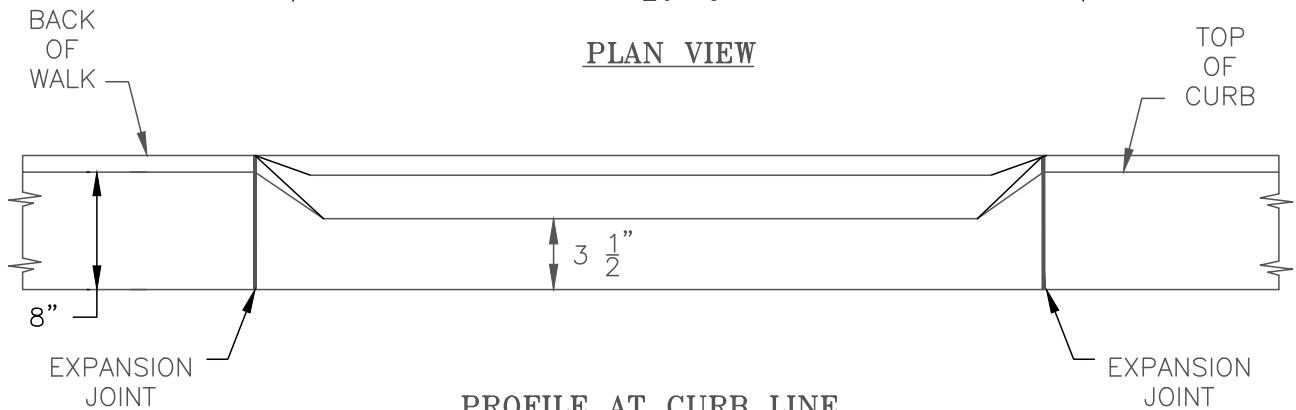
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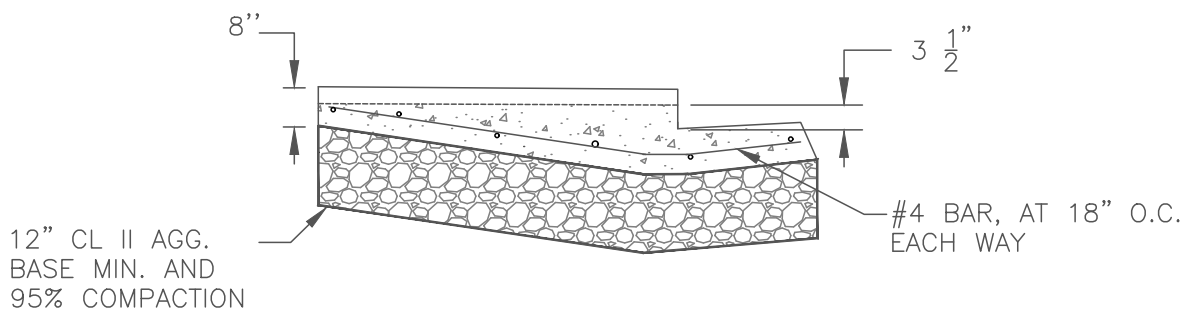
E-12



PLAN VIEW



PROFILE AT CURB LINE



SECTION A - A

NOT TO SCALE

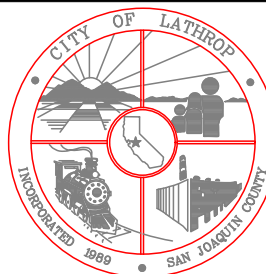
Approved by:

City Of Lathrop
Public Works Director

No	Revised	Date

CITY OF LATHROP
DEPARTMENT OF PUBLIC WORKS

**EMERGENCY
FIRE ACCESS
DRIVEWAY**

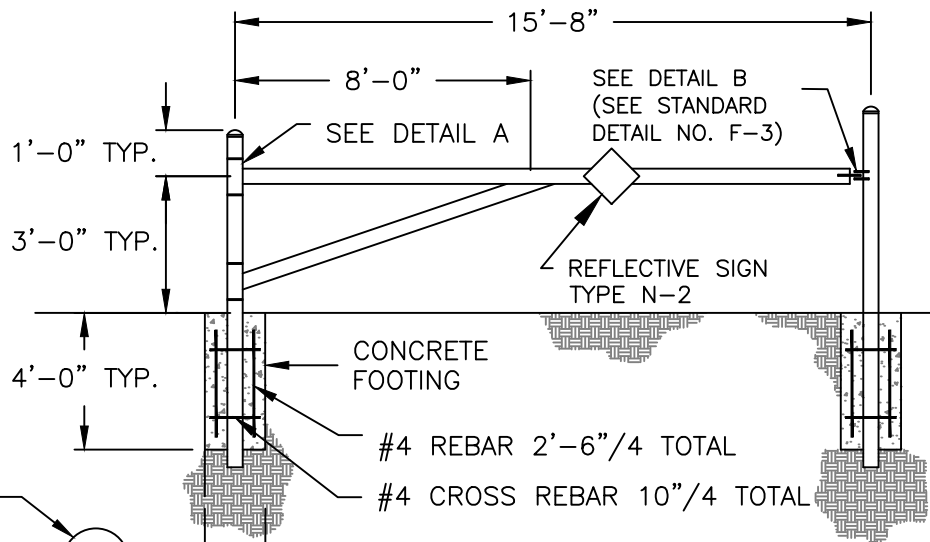


**STANDARD
DETAIL**

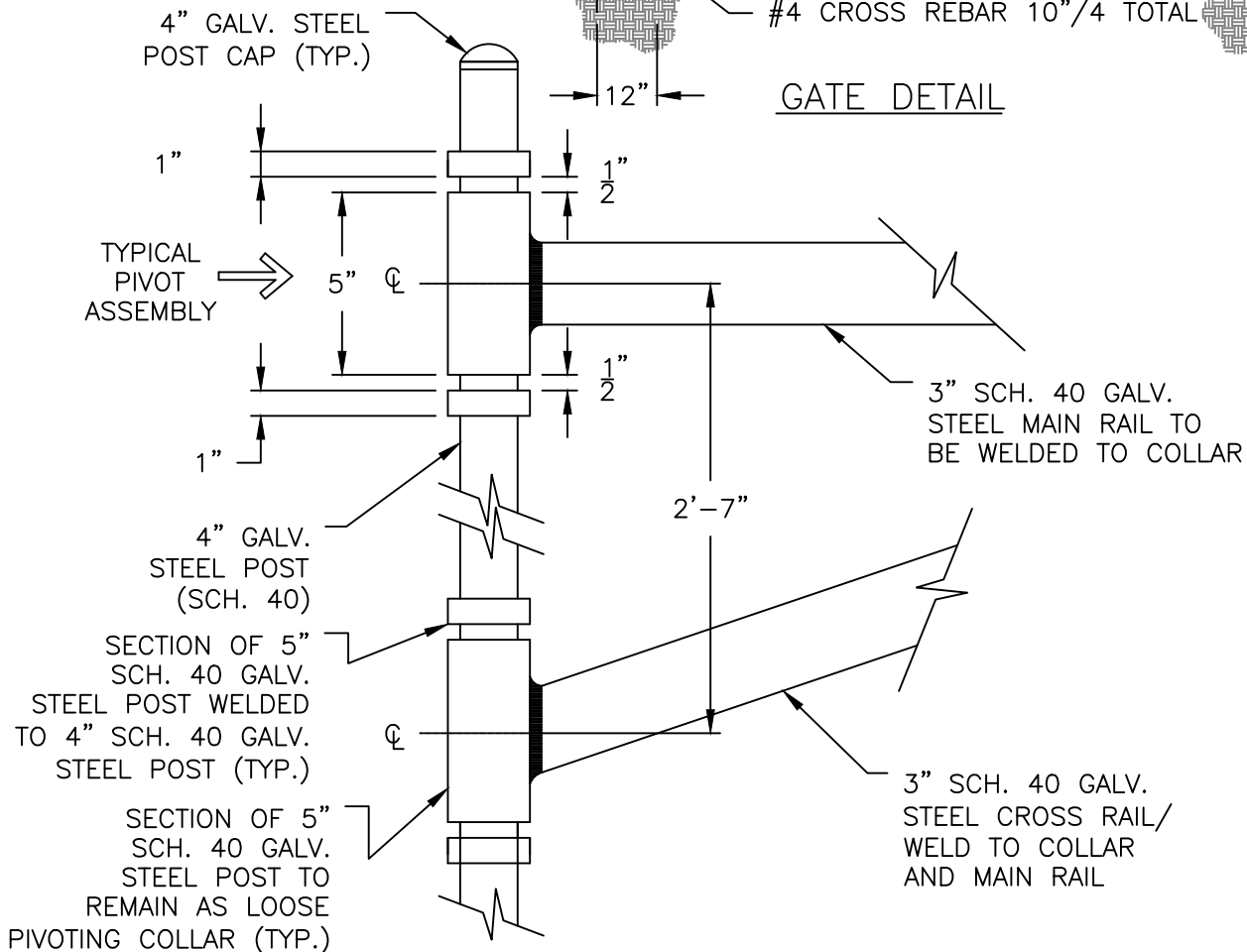
Date: **JANUARY 2021**

Drawing No:

F-1



GATE DETAIL




DETAIL A (GATE TO POST DETAIL PIVOT)

NOTE:

1. Fire road barricade shall be painted fire engine red.
2. See Caltrans detail for fire road barricade.

NOT TO SCALE

Approved by: 

City Of Lathrop
Public Works Director

No	Revised	Date

CITY OF LATHROP
DEPARTMENT OF PUBLIC WORKS

**FIRE ROAD BARRICADE
IN RURAL AREAS I**

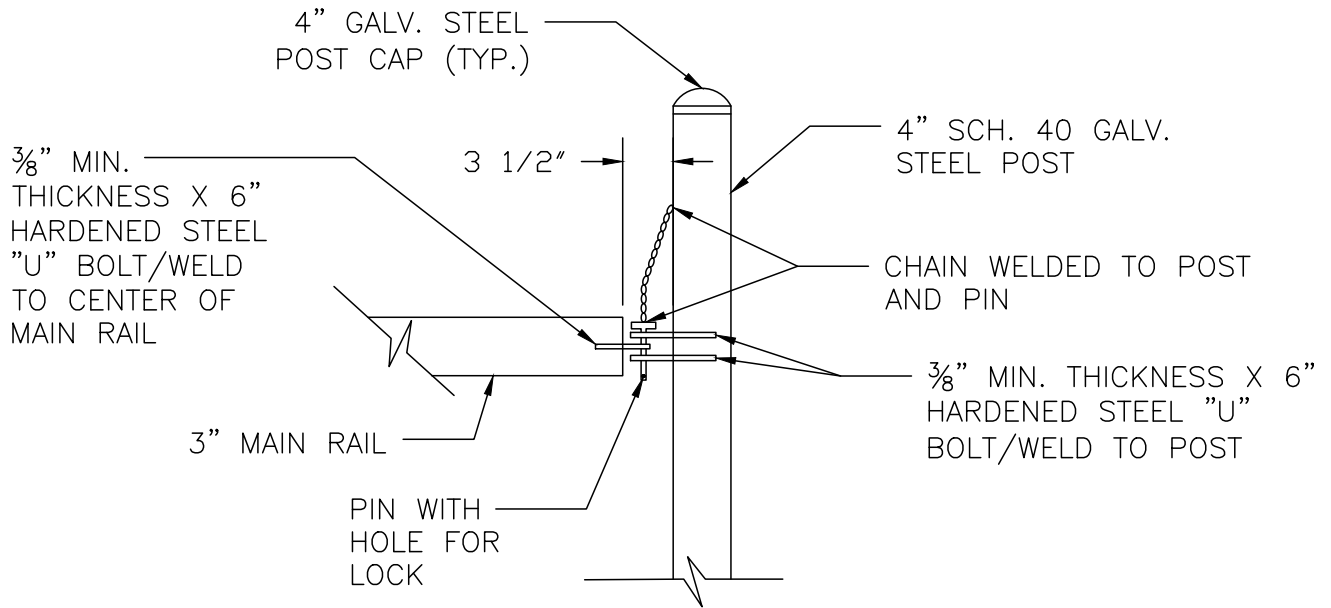


**STANDARD
DETAIL**

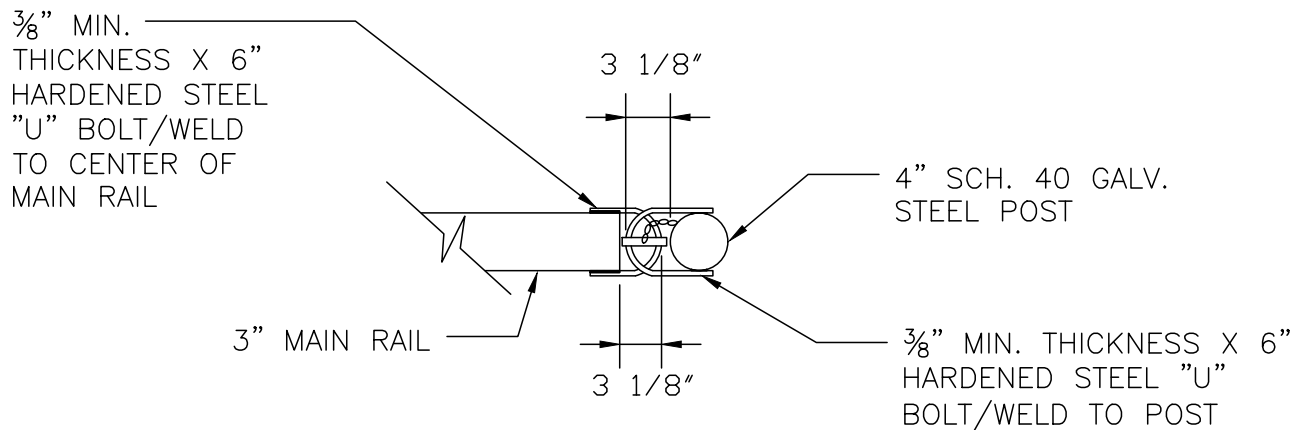
Date: **JANUARY 2021.**

Drawing No:

F-2



SIDE-VIEW



PLAN-VIEW

NOTE:

1. Locking mechanism shall be subject to the approval of the Fire Department.

NOT TO SCALE

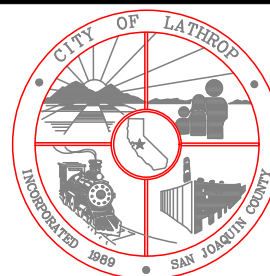
Approved by:

City Of Lathrop
Public Works Director

No	Revised	Date

CITY OF LATHROP
DEPARTMENT OF PUBLIC WORKS

**FIRE ROAD BARRICADE
IN RURAL AREAS II**

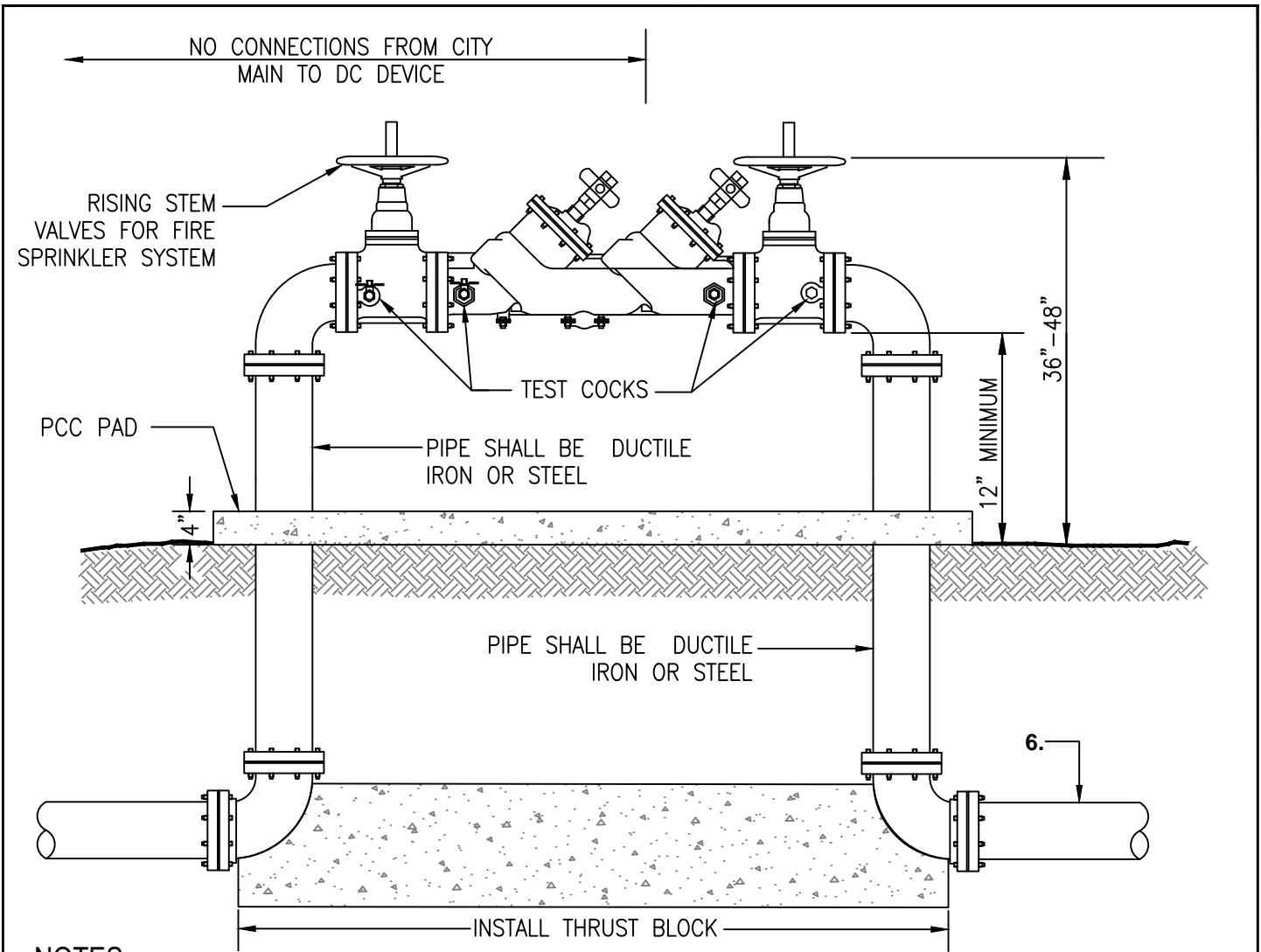


**STANDARD
DETAIL**

Date: **JANUARY 2021**

Drawing No:


F-3



NOTES:

1. Installed device shall be Febco Model LF 850 large diameter or approved equal.
2. Device shall be installed above ground.
3. Test cocks and shut-off valves must be supplied and installed as shown.
4. Discharge port must be kept clear of obstruction at all times.
5. Any deviation from the installation shown above must receive prior approval.
6. All piping and appurtenances shall be AWWA rated 200 psi for fire sprinkler systems.
7. Thrust blocks per Standard Detail No. W-2.
8. Insulation required to prevent freezing of exposed pipe shall be Polar Blanket or approved equal.
9. Valves shall be chain locked in an open position at all times.
10. All assemblies must be tested by a certified backflow prevention tester.
11. Installed device shall be painted fire engine red and screened with landscaping unless otherwise approved by City Engineer.
12. All underground ductile iron or steel pipe must be wrapped with a minimum of 10 mil. polywrap tape.
13. All bolts shall be stainless steel 316 w/ newer size on threads.
14. All assemblies must be tested by a certified backflow prevention tester and reports shall be sent to backflows@ci.lathrop.ca.us

NOT TO SCALE

Approved by: 

City Of Lathrop
Public Works Director

No	Revised	Date

CITY OF LATHROP
DEPARTMENT OF PUBLIC WORKS

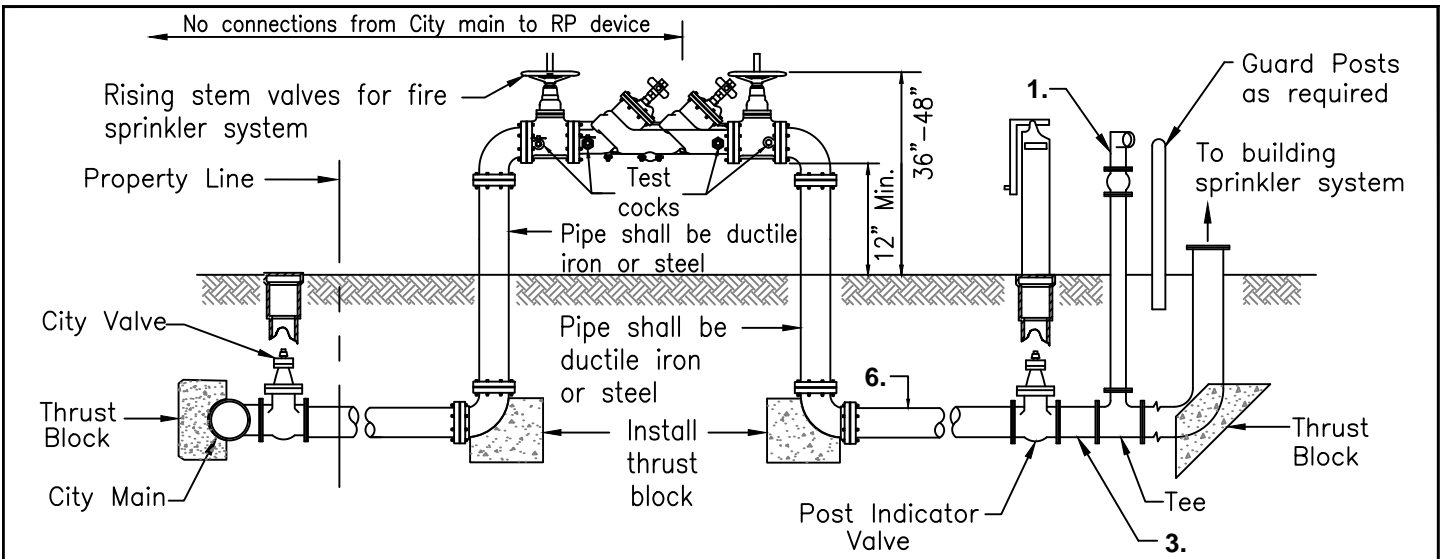
**DOUBLE CHECK VALVE
BACKFLOW DEVICE ON
FIRE LINE**



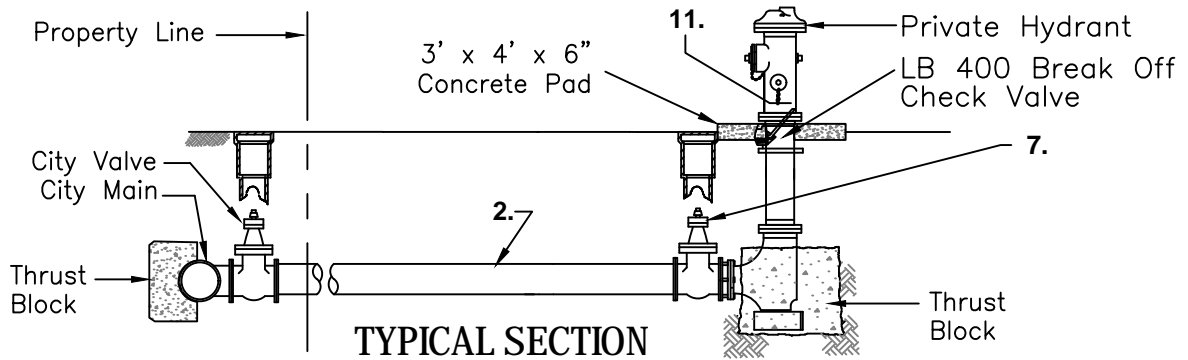
**STANDARD
DETAIL**

Date: **JANUARY 2021**

Drawing No:
F-4



**TYPICAL SECTION
PRIVATE BUILDINGS FIRE SPRINKLERS SYSTEMS**




**TYPICAL SECTION
PRIVATE FIRE HYDRANT**

NOTES:

1. Fire Dept. connection with check valve.
2. 6" Minimum ϕ pipe. Any "Dead end" main or lateral in excess of 100' and supplying fire hydrants, shall be installed on a minimum 8" diameter pipe.
3. 4" Minimum ϕ pipe.
4. All private fire systems connected to domestic water mains shall have backflow prevention as required by AWWA M-14 for Classes III, V, and VI fire systems. Plans shall be submitted to and approved by the Building Division and Fire District prior to construction. "As built" drawings shall be provided prior to acceptance by the City.
5. All fire protection systems shall be disinfected prior to connection to public water system in accordance with the City specifications.
6. On-site fire hydrant systems shall have a break off check valve installed where required by City Engineer.
7. Fire hydrant laterals greater than 100 LF, shall have an additional gate valve installed near the fire hydrant as approved by the City Engineer.
8. Fire line must pass min. 200psi, 2 hour Hydrostatic Pressure Test.
9. All underground ductile iron or steel pipe must be wrapped with a minimum 10 mil. polywrap tape.
10. Underground bolts must be Stainless Steel 316.
11. Not all components may be required that are shown in typical section.

NOT TO SCALE

Approved by: 

City Of Lathrop
Public Works Director

No	Revised	Date

CITY OF LATHROP
DEPARTMENT OF PUBLIC WORKS

FIRE SERVICE

CONNECTION DETAIL



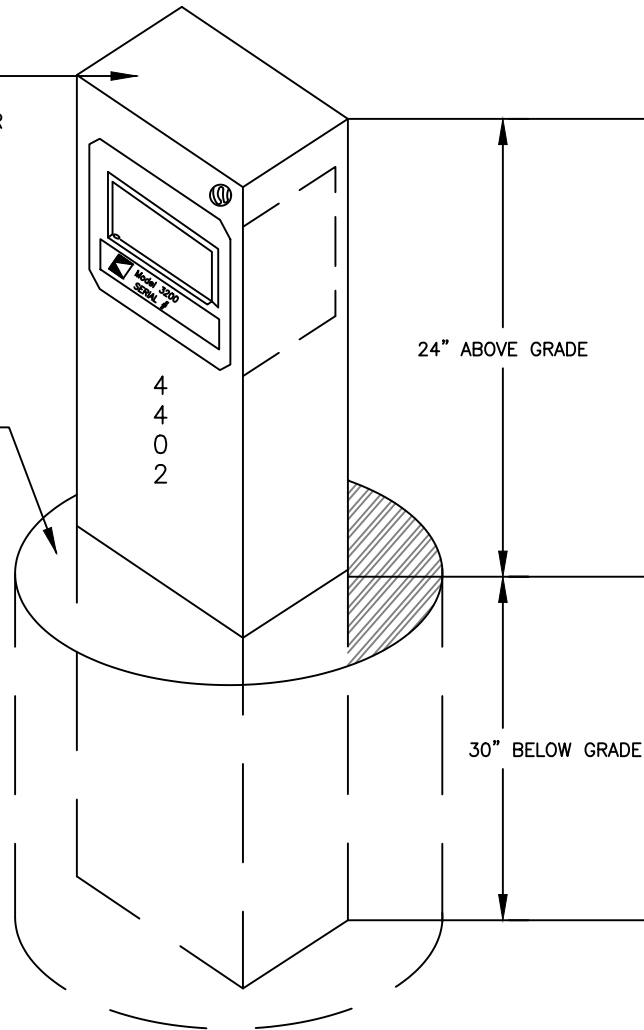
**STANDARD
DETAIL**

Date: **JANUARY 2021**

Drawing No:
F-5

APPLY TEX-COTE GRAFFITI
GUARD®, 21 st CENTURY
COATINGS GRAFF-IT-OFF®, OR
APPROVED EQUAL

DIG HOLE 12" IN DIAMETER
AND 30" DEEP



NOTES:

1. 3/16" steel 4x4 tubular constructed post, 54" in length.
2. Knox-Box to be welded in to the post, 2" below the top edge, or welded to the top of the post.
3. Knox-Box to be attached with a complete welded bead at contact point.
4. Top of post to be 24" above grade.
5. Bottom of post to be 30" below grade.
6. Post to be secured in a 12" diameter hole, filled with concrete to grade level.
7. Post to be painted black.
8. Address numbers to be placed vertically on post, starting 2" below bottom of Knox-Box.
9. Numbers to be contrasting in color to the black painted post.
10. Numbers to be 3" in height x 1 1/2" stroke.
11. Location of Knox-Box post to be within 12' of the first point of egress and visible. This location must be approved by the Fire Department and City Engineer.

NOT TO SCALE

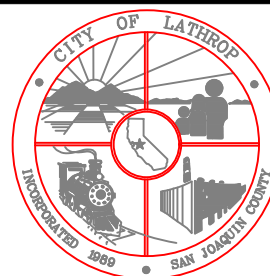
Approved by:

City Of Lathrop
Public Works Director

No	Revised	Date

CITY OF LATHROP
DEPARTMENT OF PUBLIC WORKS

KNOX-BOX



**STANDARD
DETAIL**

Date: **JANUARY 2021**

Drawing No:

F-6


CITY OF LATHROP	5/8"
_____ DRAWING TITLE	1 3/16"
_____ PROJECT TITLE	1 7/16"
NAME OF ENGINEERING FIRM ETC. BY: _____ R.C.E. _____ DATE: _____	3 1/4"
5 1/2"	

1.	CITY OF LATHROP DEPARTMENT OF PUBLIC WORKS
	APPROVED BY: _____ DATE: _____ Public Works Director
1.	CITY OF LATHROP ENGINEERING
	APPROVED BY: _____ DATE: _____ City Engineer RCE NO: _____ EXP DATE: _____
1.	LATHROP - MANTECA FIRE DISTRICT
	APPROVED BY: _____ DATE: _____ Fire Marshal
1.	CITY OF LATHROP PUBLIC WORKS DEPARTMENT
	APPROVED BY: _____ DATE: _____ O & M Superintendent
1.	CITY OF LATHROP COMMUNITY DEVELOPMENT DEPARTMENT
	APPROVED BY: _____ DATE: _____ Community Development Director
1.	CITY OF LATHROP PARKS AND RECREATION DEPARTMENT
	APPROVED BY: _____ DATE: _____ Parks and Recreation Director

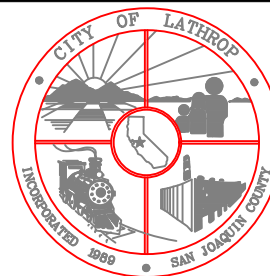
NOTES:

- To be used if applicable.

NOT TO SCALE

Approved by: 

CITY OF LATHROP
DEPARTMENT OF PUBLIC WORKS



**STANDARD
DETAIL**

No	Revised	Date

SIGNATURE BLOCKS I

Date: **JANUARY 2021**

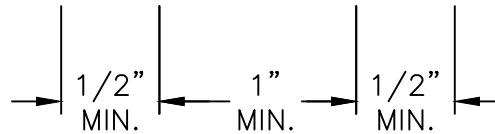
Drawing No:

G-1

TYPICAL TITLE AND APPROVAL BLOCK FOR IMPROVEMENT PLANS

REVISIONS	NO.	DESCRIPTION	CHECKED BY	CITY APPROVAL	
				APPROVED BY	DATE

1.



PLAN REVISION BLOCK

NOTE

- To be placed on all sheets which include a revision.

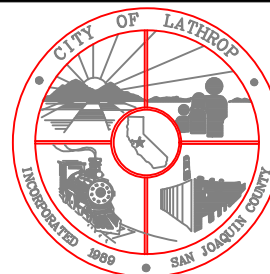
NOT TO SCALE

Approved by:

City Of Lathrop
Public Works Director

No	Revised	Date

CITY OF LATHROP
DEPARTMENT OF PUBLIC WORKS



SIGNATURE BLOCKS II

**STANDARD
DETAIL**

Date: **JANUARY 2021**







Drawing No:

G-2

DRAFTING STANDARDS

All Final Maps, Parcel maps, Records of Surveys, Improvement Plans, or Construction Drawings submitted to the City for revision and approval shall conform to and be prepared in accordance with the following standards:


1. All lettering shall be a minimum of 0.1 inches (2.5mm) height using a 0.35mm pen. Vertical or slanted lettering may be used.
2. Final Maps, etc.

Subdivision Outline		0.80mm line width
Block Outline		0.60mm line width
Lot Lines		0.50mm line width
Easement Lines		0.35mm line width
Street Center Lines		0.35mm line width
Radial Bearing Lines		0.25mm Line width
Monument Set	●	
Monument Set in Cast Iron Box	⊙ M	
Monument Found	○	
Monument Found in Cast Iron Box	⊙	

Letters, size, style, and pen

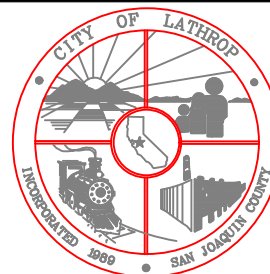
Street names	MAIN	0.175-in (4.5mm), solid, 0.50mm pen
Lot Numbers	44	0.175-in (4.5mm), solid, 0.50mm pen
Bearing, Distances, Curve Data, Coordinates, etc.	N45°E 50.00'	0.100-in (2.5mm), solid, 0.35mm pen
Adjacent Subdivisions and Lot Numbers		0.175-in (4.5mm), shadow, 0.35mm pen

NOT TO SCALE

Approved by: 		
City Of Lathrop Public Works Director		
No	Revised	Date

CITY OF LATHROP
DEPARTMENT OF PUBLIC WORKS

**DRAFTING
STANDARDS I**



**STANDARD
DETAIL**

Date: **JANUARY 2021**

Drawing No:

G-3

DESCRIPTION

TO BE CONSTRUCTED

EXISTING

SANITARY SEWER		
STORM DRAIN		
WATER LINE		
GAS LINE		
TELEPHONE		
CABLE TELEVISION		
WATER VALVE		
GAS VALVE		
S.S. SERVICE LATERAL		
S.S. CLEANOUT		
MANHOLE		
FIRE HYDRANT		
CATCH BASIN		
GAS METER		
WATER METER		
SIGN		
CURB, GUTTER AND SIDEWALK		
WHEELCHAIR RAMP		
DRIVEWAY		
CONFORM PAVEMENT		
RAILROAD		
BARRICADE		
GUARD RAIL		
FENCE		

NOT TO SCALE

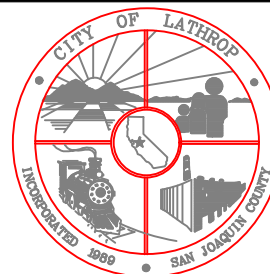
Approved by:

City Of Lathrop
Public Works Director

No	Revised	Date

CITY OF LATHROP
DEPARTMENT OF PUBLIC WORKS

DRAFTING
STANDARDS II



STANDARD
DETAIL

Date: **JANUARY 2021**

Drawing No:

G-4

DESCRIPTION

TO BE CONSTRUCTED

EXISTING

UTILITY POLE		
ELECTRICAL CONDUIT		
PULL BOX		
PULL BOX WITH DETECTOR STUB IN CONDUIT		
STREET LIGHT		
COMBINATION TRAFFIC SIGNAL WITH BACKPLATE & LUMINAIRE		
VEHICLE SIGNAL WITH AND WITHOUT BACKPLATE		
COMBINATION TRAFFIC SIGNAL, RED/AMBER/GREEN ARROW, AND BACKPLATE		
MASTARM SIGNAL WITH STREET NAME SIGN		
PROGRAMMED VISIBILITY HEAD WITH BACKPLATE		
PEDESTRIAN SIGNAL FACE		
PEDESTRIAN PUSH BUTTON AND ASSOCIATED VEHICLE PHASE	PPB Ø 6	PPB Ø 6
INDUCTIVE DETECTOR LOOP		
TRAFFIC SIGNAL CONTROLLER CABINET WITH DOOR SWING AS SHOWN		
TYPE III OR III M SERVICE CABINET WITH DOOR SWING AS SHOWN		

NOT TO SCALE

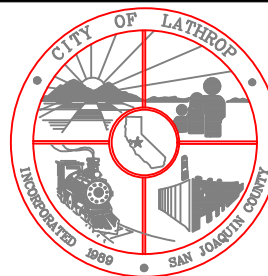
Approved by:

City Of Lathrop
Public Works Director

No	Revised	Date

CITY OF LATHROP
DEPARTMENT OF PUBLIC WORKS

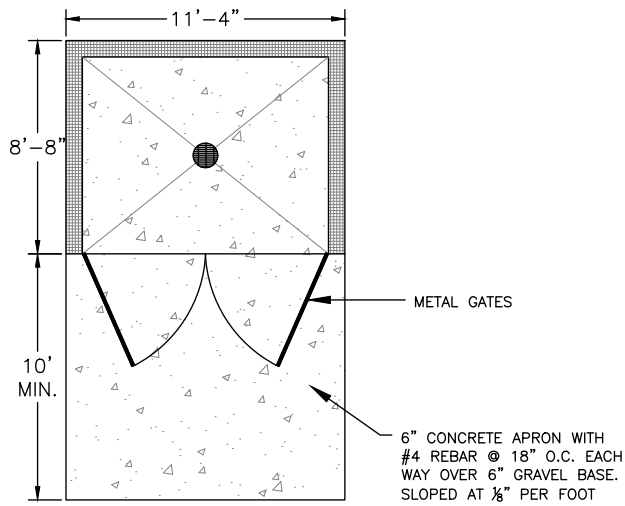
DRAFTING
STANDARDS III



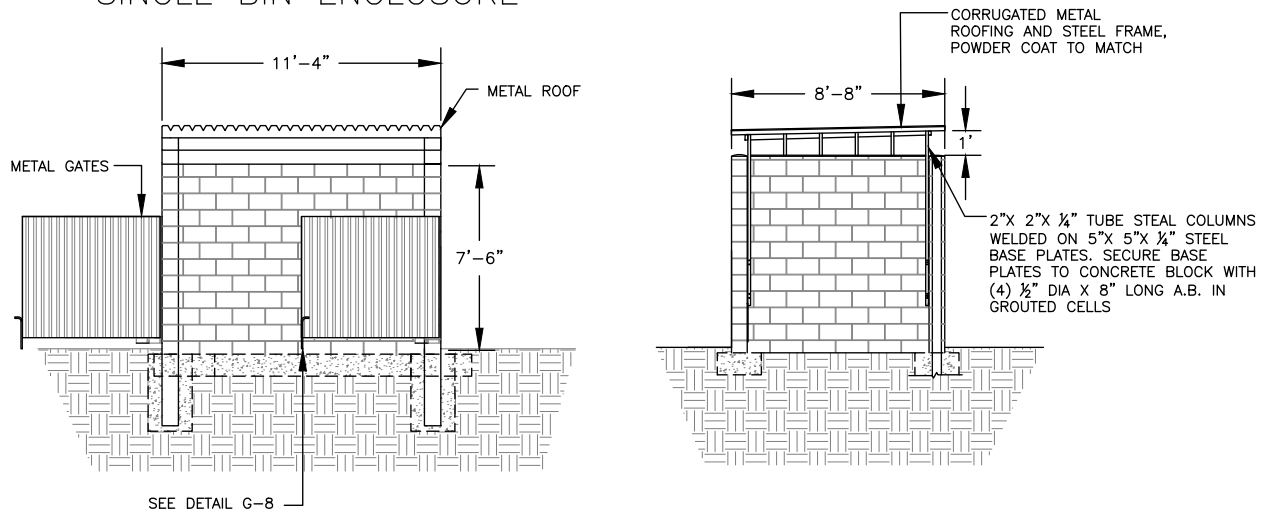
**STANDARD
DETAIL**

Date: **JANUARY 2021**

Drawing No:
G-5



SINGLE BIN ENCLOSURE



NOT TO SCALE

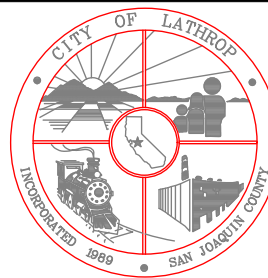
Approved by:

City Of Lathrop
Public Works Director

No	Revised	Date

CITY OF LATHROP
DEPARTMENT OF PUBLIC WORKS

**SOLID WASTE
ENCLOSURE I**

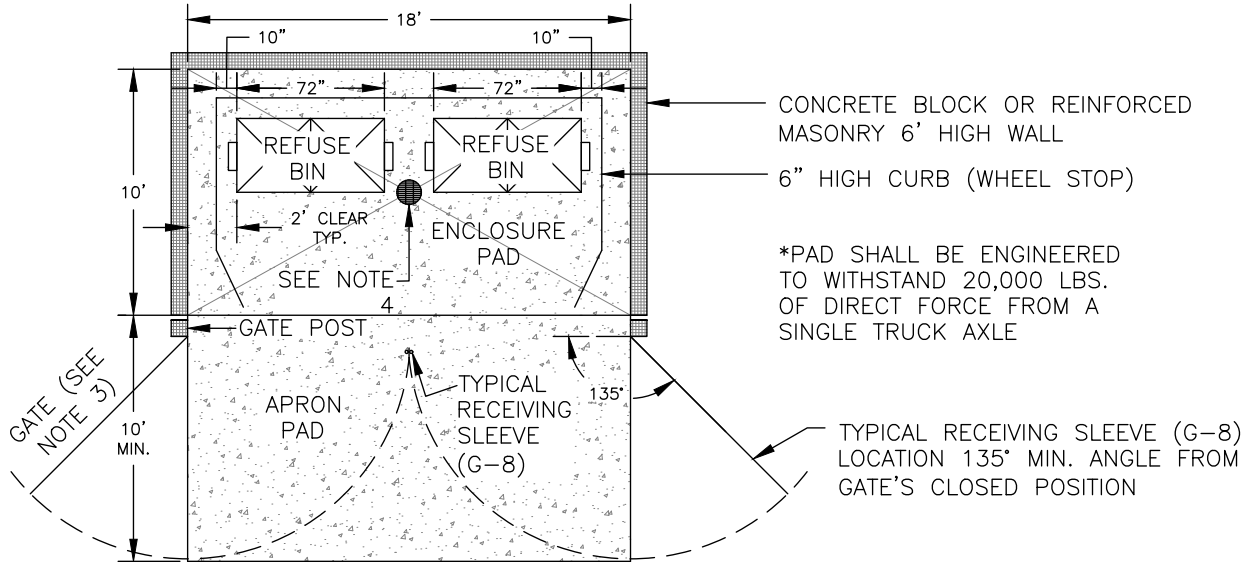


**STANDARD
DETAIL**

Date: **JANUARY 2021**

Drawing No:

G-6




DOUBLE BIN ENCLOSURE

NOTES:

1. A minimum of 32' vertical and 50' horizontal clearance over the entire approach to and from the enclosure shall be provided.
2. Gates shall be solid metal with cane boltes/sleeve (see G-8) in the open and closed position. Each gate, with a maximum total span of 16' shall swing open a min. of 135° from closed position. Hung gates shall have a 4" clearance off the finished pad or apron and surrounding curb.
3. The exterior finish of the enclosure shall comply with standard conditions of approval for commercial and industrial projects. No enclosure shall be installed behind parking spaces.
4. If use includes fats, oils, or greases, trash enclosure shall drain to an interior sewer inlet and grease interceptor. If not, trash enclosure shall be graded such that storm water flows to the exterior of the enclosure to an existing storm system or pervious surface.
5. At a minimum, all trash enclosures shall consist of three solid walls, a gate, and a roof.
6. Trash enclosure width and depth will depend on bin size and enclosure use.

NOT TO SCALE

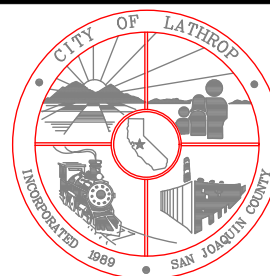
Approved by: 

City Of Lathrop
Public Works Director

No	Revised	Date

CITY OF LATHROP
DEPARTMENT OF PUBLIC WORKS

**SOLID WASTE
ENCLOSURE II**

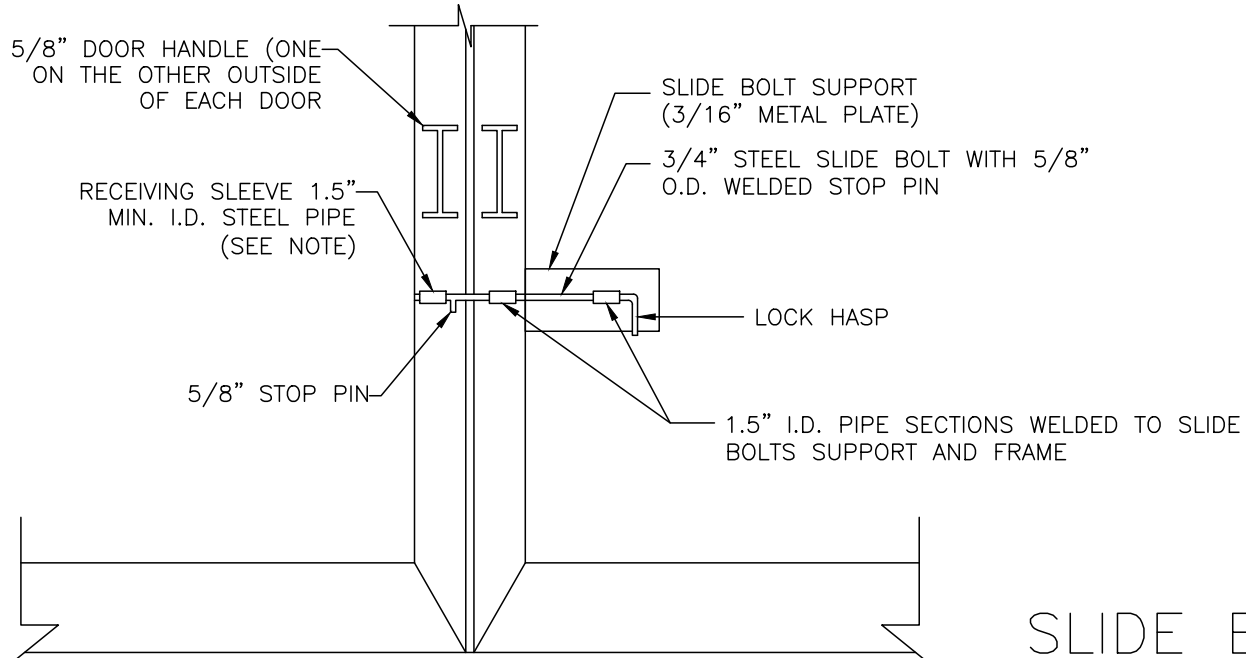


**STANDARD
DETAIL**

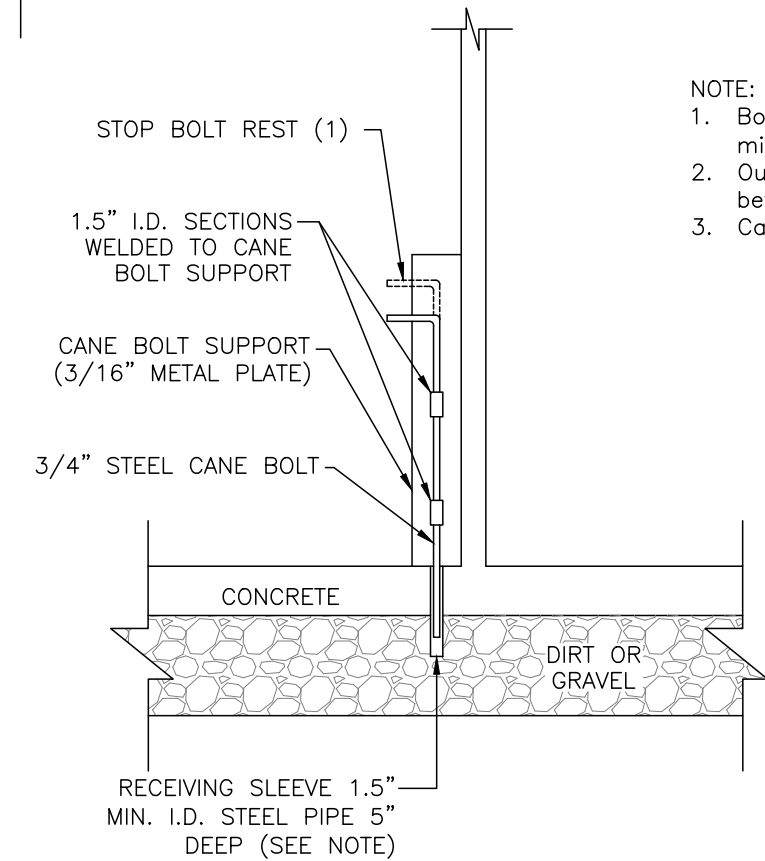
Date: **JANUARY 2021**

Drawing No:

G-7



SLIDE BOLT
DETAIL




NOTE:

1. Bolts shall be min 3/4". sleeves on pipes shall be min. 1.5" or twice the bolt diameter.
2. Outside operating range for cane bolts must be between 24" and 32" from the ground.
3. Can bolt must be mounted on the outside of door.

CANE BOLT
DETAIL

NOT TO SCALE

Approved by: 

City Of Lathrop
Public Works Director

No	Revised	Date

CITY OF LATHROP
DEPARTMENT OF PUBLIC WORKS

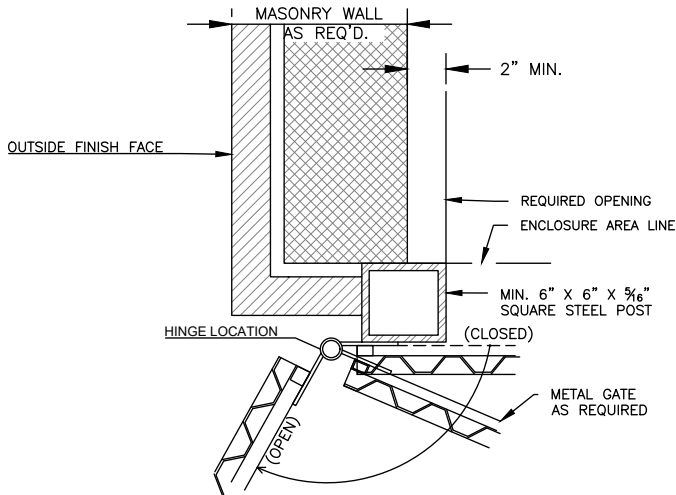
**SOLID WASTE ENCLOSURE
BOLT DETAILS**



**STANDARD
DETAIL**

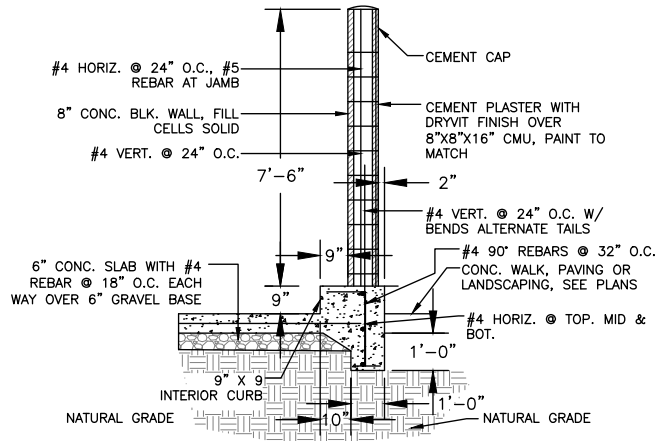
Date: **JANUARY 2021**

Drawing No:
G-8

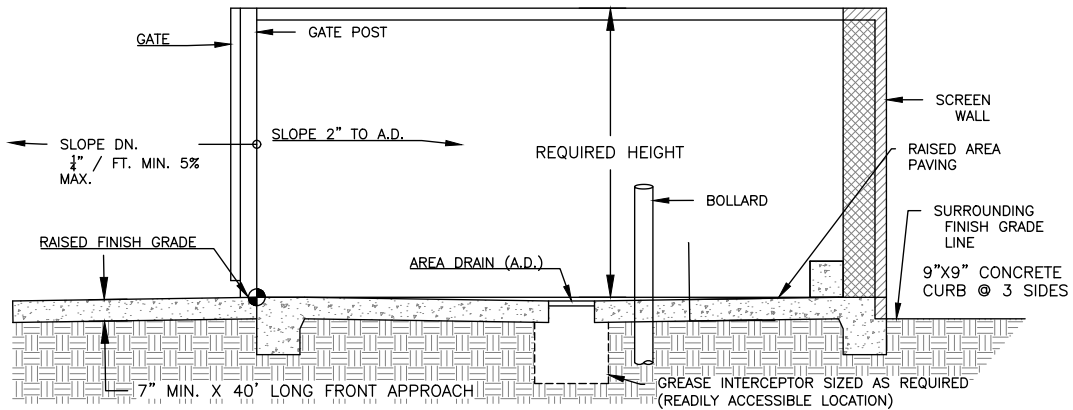


GATE POST PLAN DETAIL

SCALE: 1 1/2" = 1'-0"



WALL CROSS SECTION



ENCLOSED AREA CROSS SECTION

NOT TO SCALE

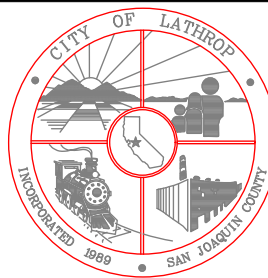
Approved by:

City Of Lathrop
Public Works Director

No	Revised	Date

CITY OF LATHROP
DEPARTMENT OF PUBLIC WORKS

**SOLID WASTE ENCLOSURE
DETAILS**

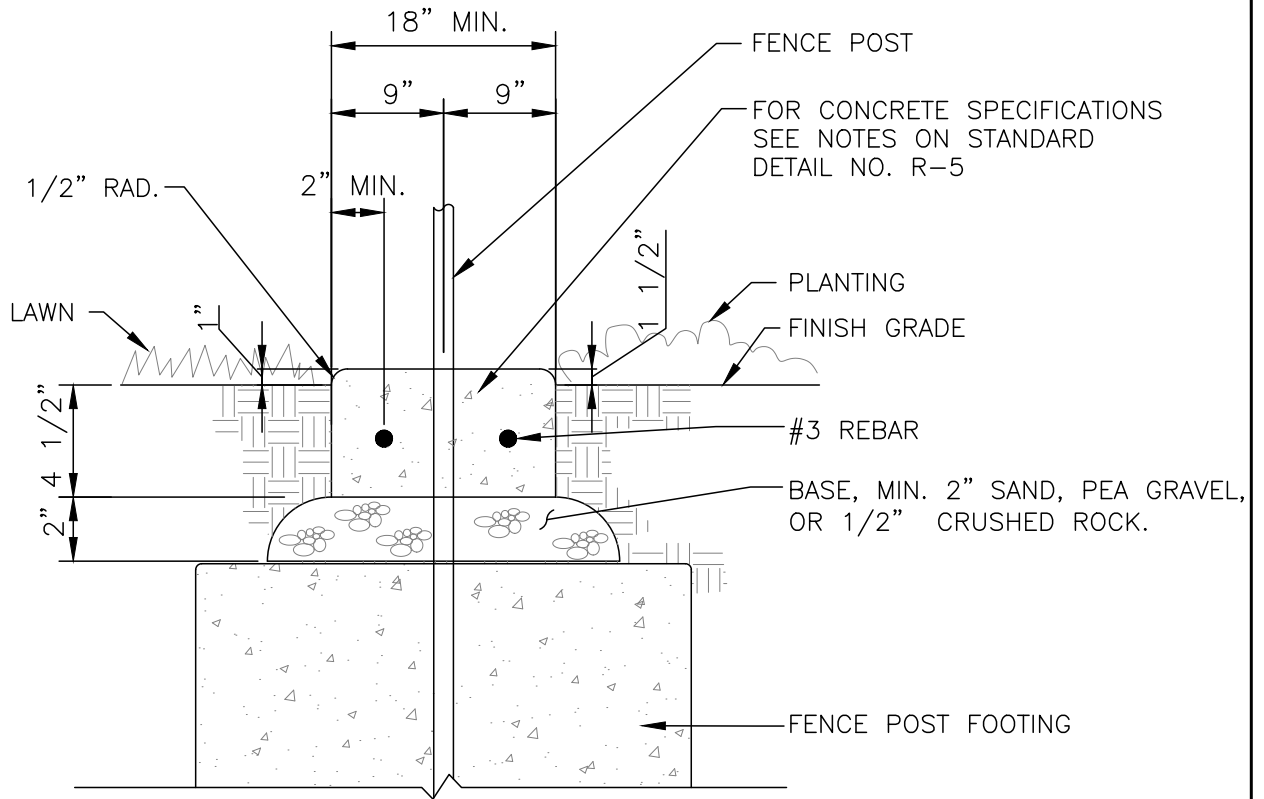


**STANDARD
DETAIL**

Date: **JANUARY 2021**

Drawing No:

G-9



CONCRETE MOW STRIP AT FENCE

NOTES:

1. Mow strips shall be required below all fencing located within turf areas.
2. Provide Score Joints at Each Fence Post (10'-0" Max. Spacing) and Expansion Joints at Every Other Fence Post (20'-0" Max. Spacing).

NOT TO SCALE

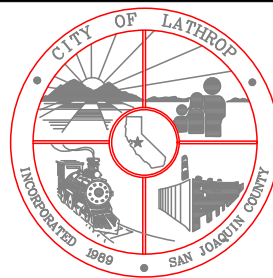
Approved by:

City Of Lathrop
Public Works Director

No	Revised	Date

CITY OF LATHROP
DEPARTMENT OF PUBLIC WORKS

**CONCRETE MOW STRIP
AT FENCE**

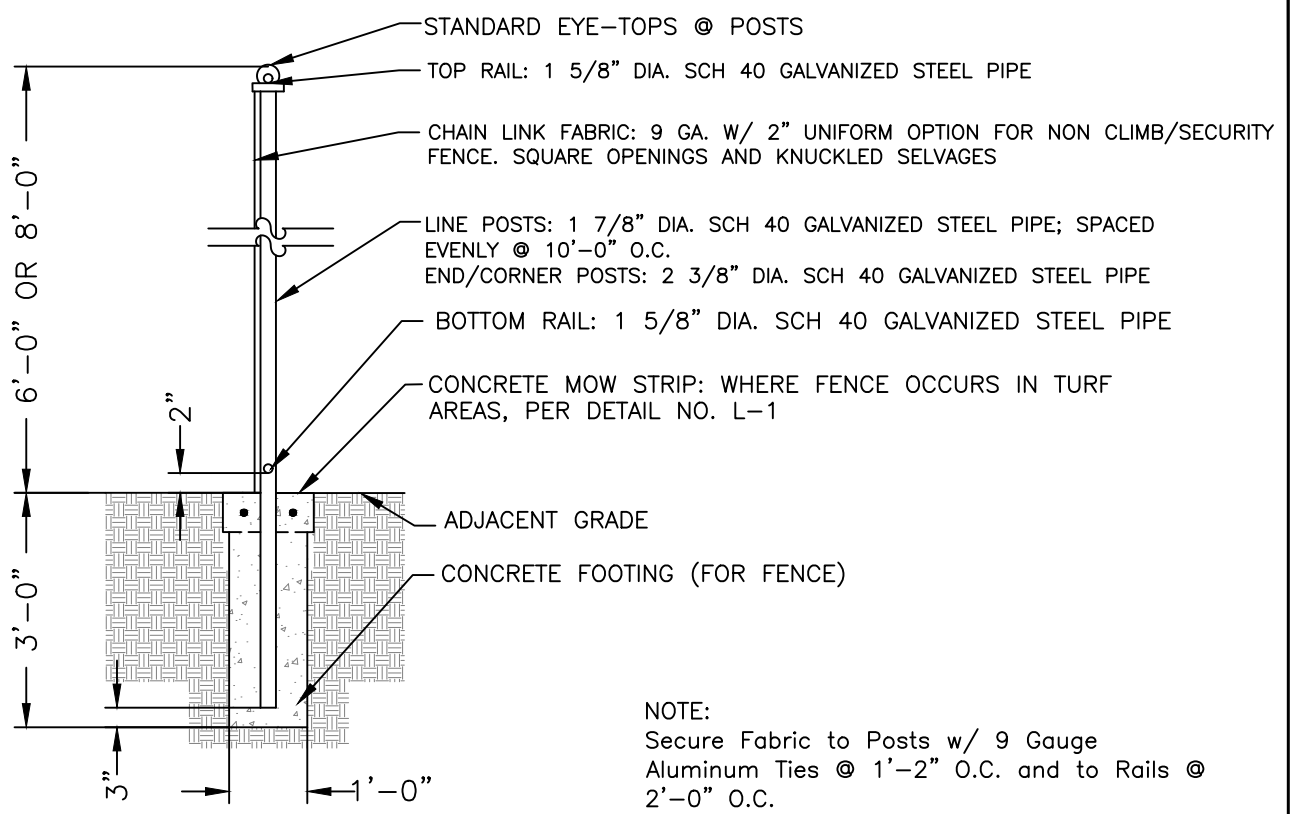


**STANDARD
DETAIL**

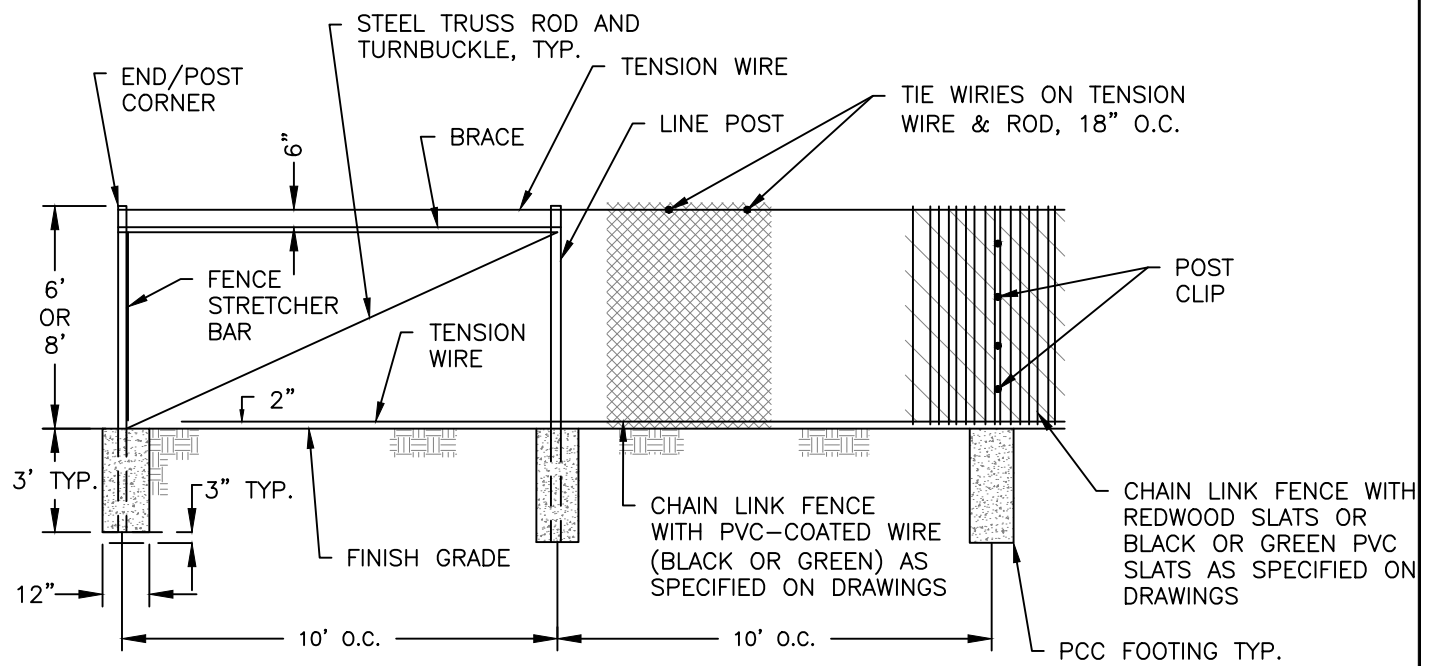
Date: **JANUARY 2021**

Drawing No:

L-1



NOTE:
 Secure Fabric to Posts w/ 9 Gauge
 Aluminum Ties @ 1'-2" O.C. and to Rails @
 2'-0" O.C.



NOT TO SCALE

Approved by: 

City Of Lathrop
Public Works Director

No	Revised	Date

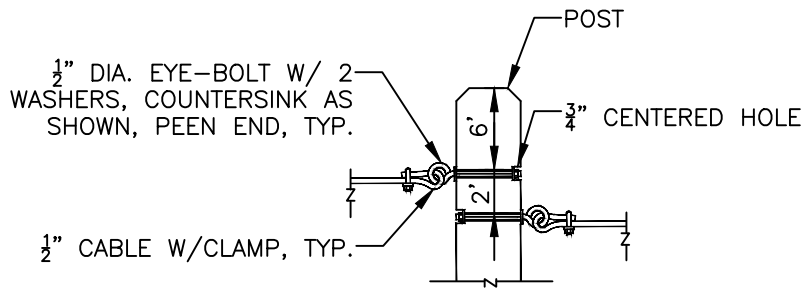
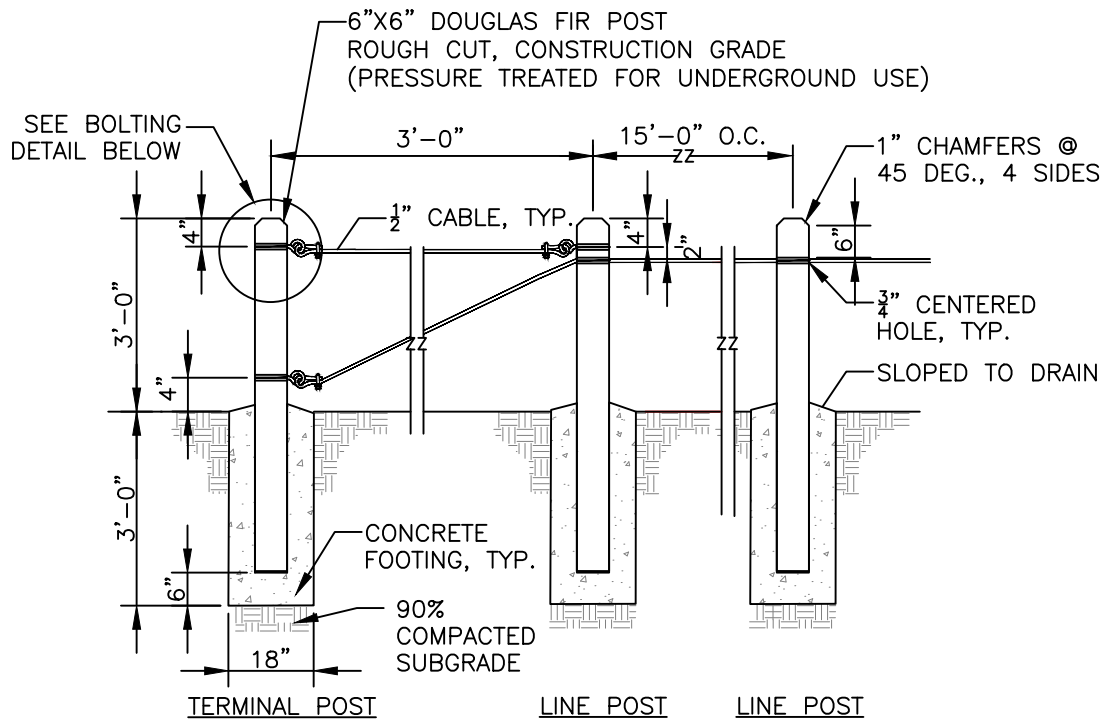
CITY OF LATHROP
 DEPARTMENT OF PUBLIC WORKS

**CHAIN LINK FENCE
 UP TO 8' HEIGHT**



**STANDARD
 DETAIL**


Date: **JANUARY 2021**
 Drawing No:
L-2



NOTES:

1. Provide concrete footing at all posts.
2. Use 3/8"x2" galvanized wire rope clips for connection and splices. All clips shall be placed with nuts facing downward.

NOT TO SCALE

Approved by: 

City Of Lathrop
Public Works Director

No	Revised	Date

CITY OF LATHROP
DEPARTMENT OF PUBLIC WORKS

POST AND CABLE FENCE

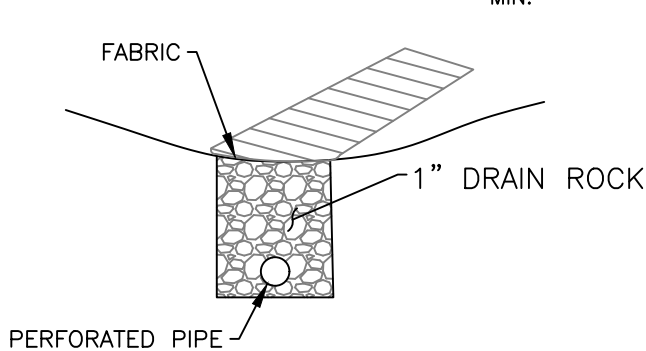
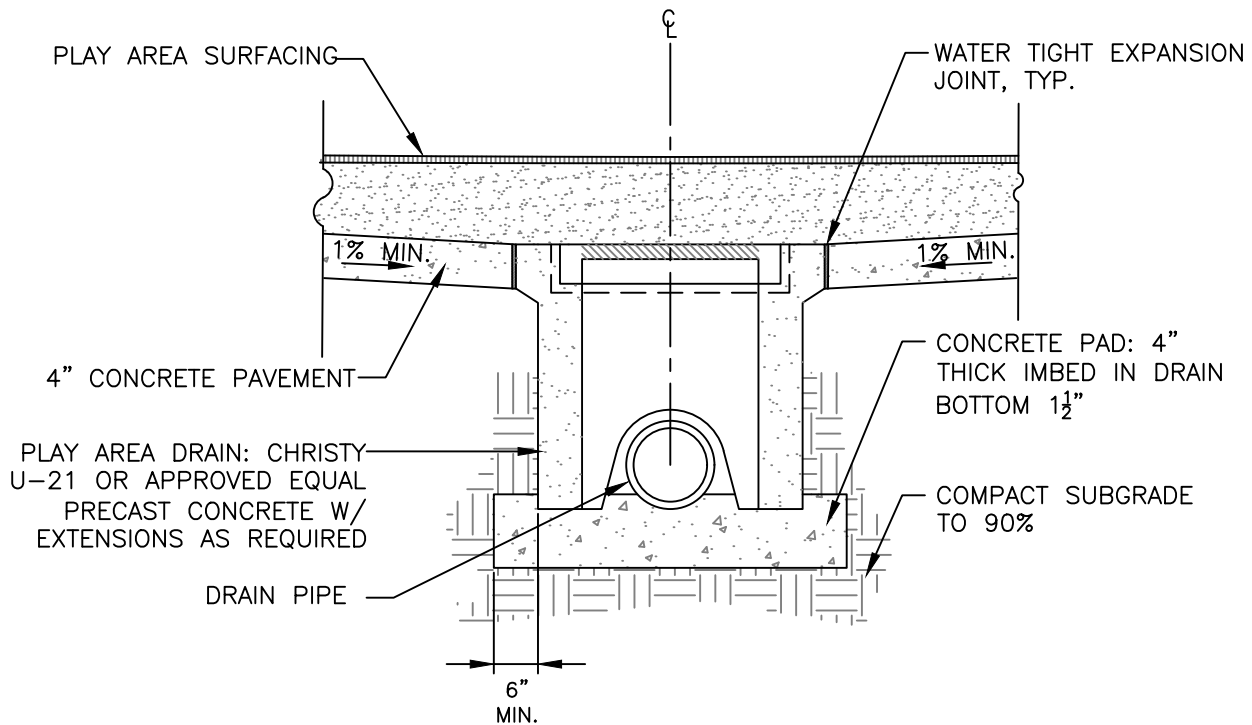


**STANDARD
DETAIL**

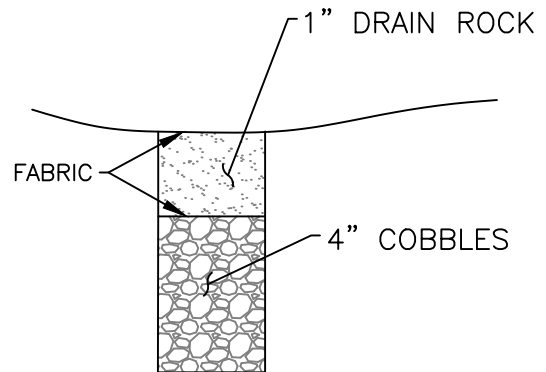
Date: **JANUARY 2021**

Drawing No:

L-3



FRENCH DRAIN
OPTION 2



OPEN BOTTOM CB WITH
ROCK DRAINAGE PIT.
OPTION 3

NOT TO SCALE

Approved by:

City Of Lathrop
Public Works Director

No	Revised	Date

CITY OF LATHROP
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**DRAIN AT PLAY AREA
SURFACING**

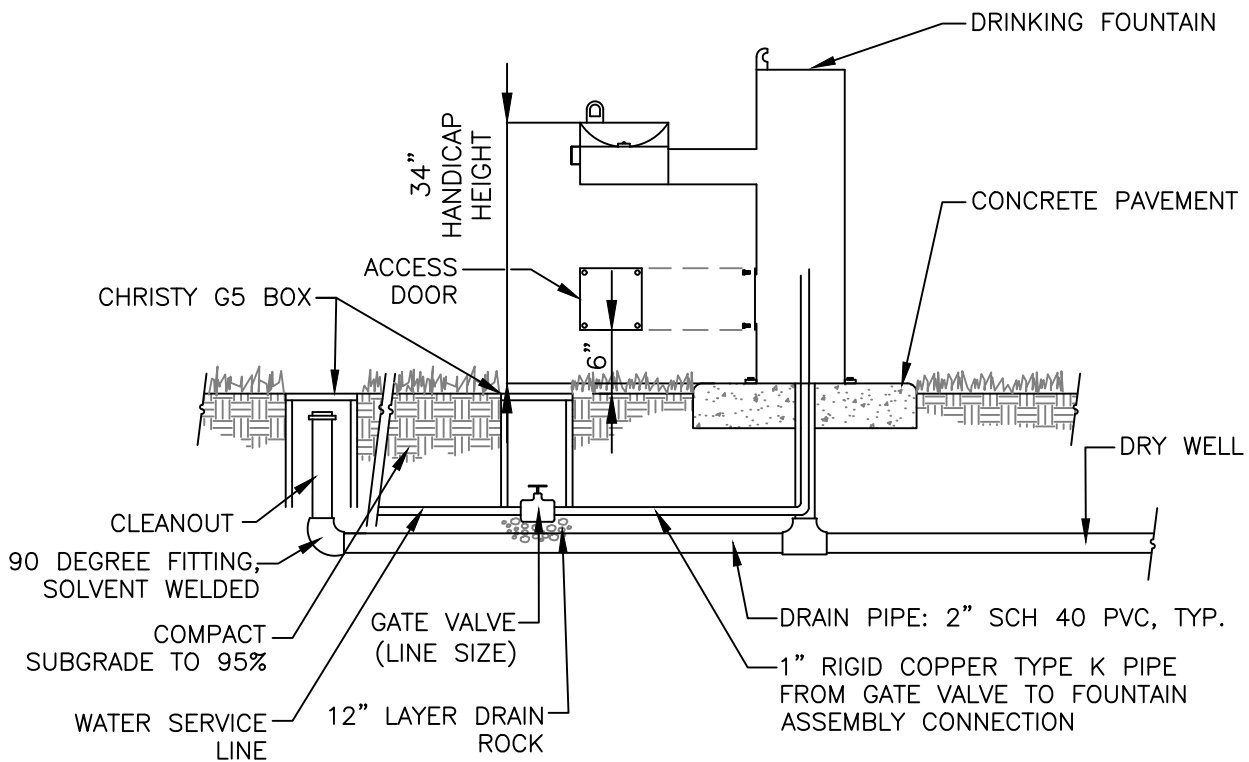
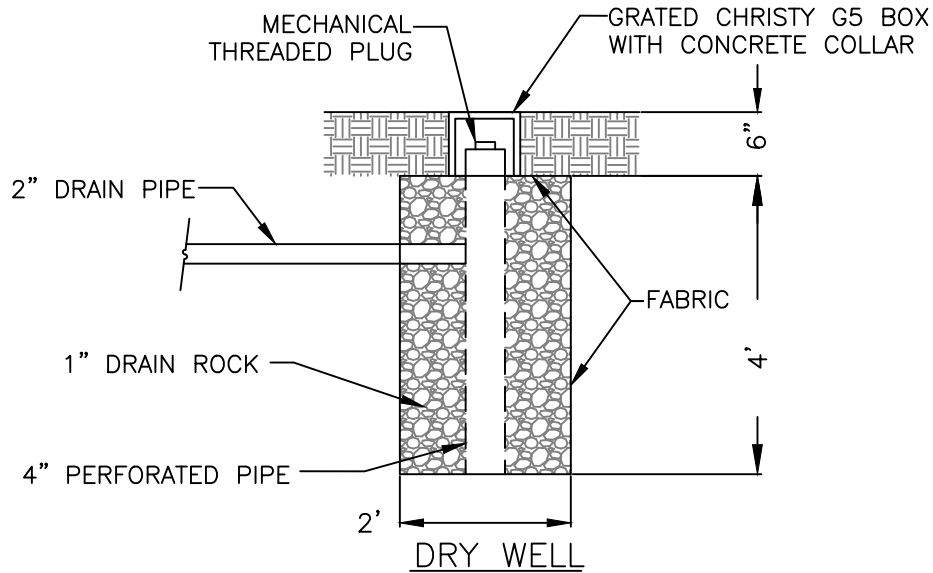


**STANDARD
DETAIL**

Date: **JANUARY 2021**

Drawing No:


L-4



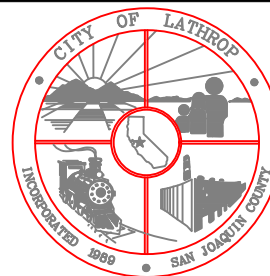
NOTES:

1. Provide 6" Clear from Back Edge of Fountain to Back Edge of Concrete Pad.
2. Drinking Fountain shall be as manufactured by Most Dependable Fountains #440 SMFA and SMSSF with optional pet fountain or approved equal.

NOT TO SCALE

Approved by: 

CITY OF LATHROP
DEPARTMENT OF PUBLIC WORKS



**STANDARD
DETAIL**

DRINKING FOUNTAIN

Date: **JANUARY 2021**

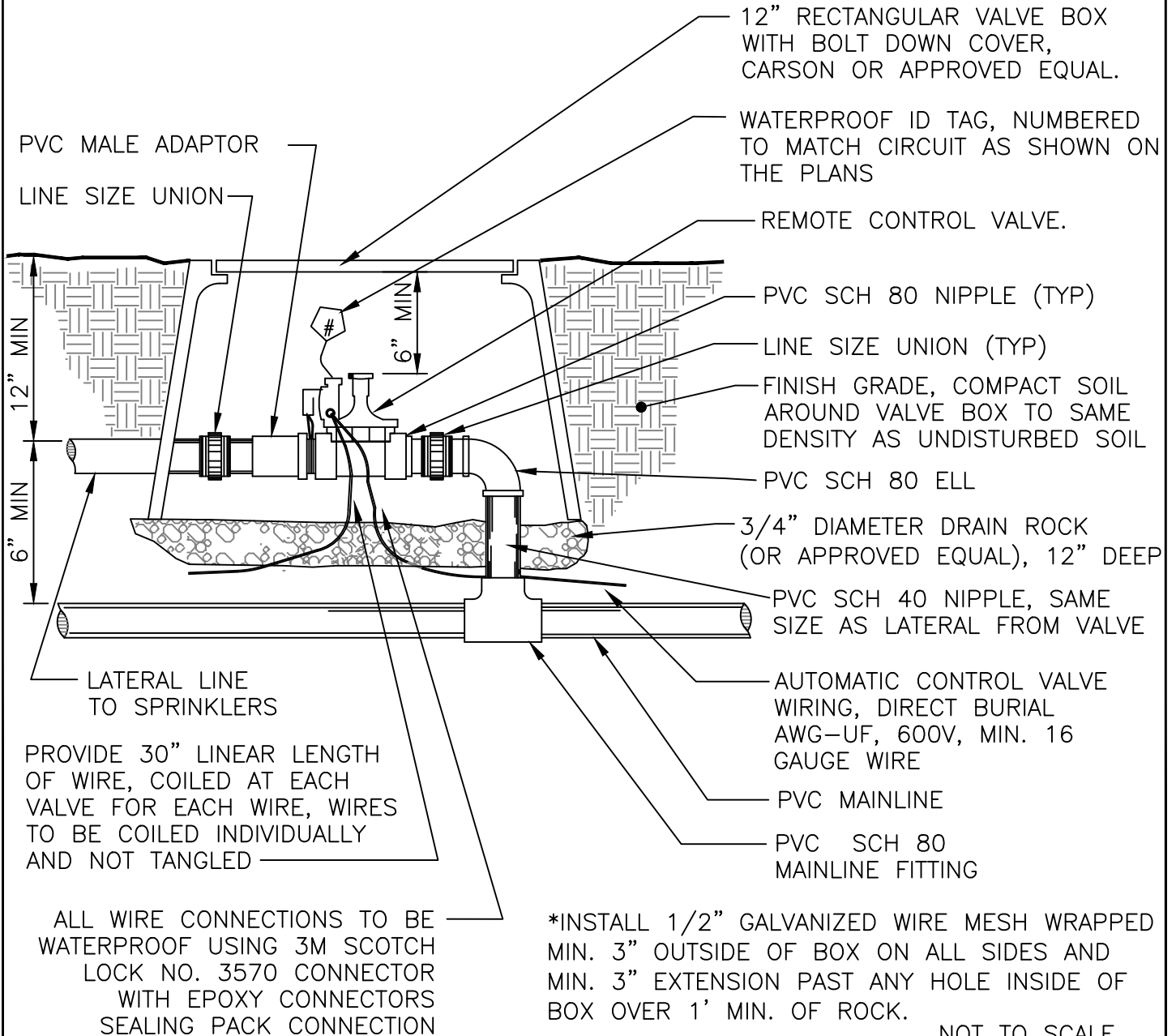
Drawing No:

L-5


No	Revised	Date

NOTES:

1. All wire shall be installed per local codes.
2. One valve for each valve box only.
3. Valve boxes to be located in shrub areas and grouped together (not in turf).
4. For irrigation, all pipes, tags and valve boxes are to be purple color (Pantone 512) with language shown on standard detail No. RW-2.
5. Heat stamp station number shown on the plans onto the lid of the valve box.
6. Heat stamp shall be 2".
7. Brand box lid with appropriate designation. Branding shall correspond with tag. All boxes shall be bolt down.



NOT TO SCALE

Approved by: 

City Of Lathrop
Public Works Director

No	Revised	Date

CITY OF LATHROP
DEPARTMENT OF PUBLIC WORKS

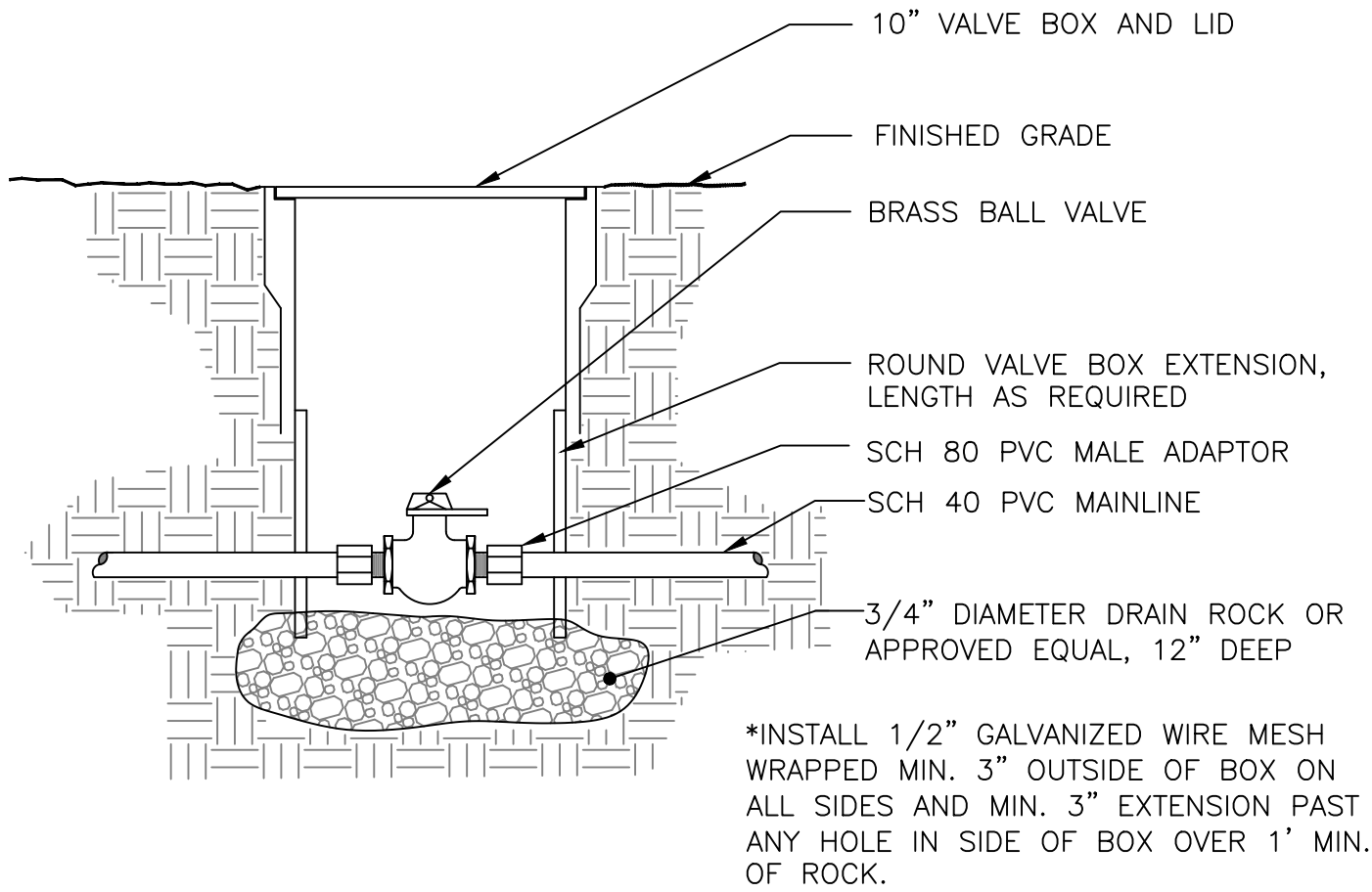
CONTROL VALVE
(TYPICAL)



**STANDARD
DETAIL**

Date: **JANUARY 2021**


Drawing No:
L-6



NOTES:

1. For irrigation, all pipes, tags, valve boxes and lids are to be purple color and marked as shown on Standard Detail RW-2.
2. Brand box lid with appropriate designation. Branding shall correspond with tag. All boxes shall be bolt down.

NOT TO SCALE

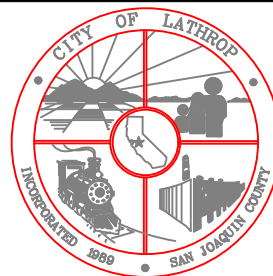
Approved by: 

City Of Lathrop
Public Works Director

No	Revised	Date

CITY OF LATHROP
DEPARTMENT OF PUBLIC WORKS

BALL VALVE



**STANDARD
DETAIL**

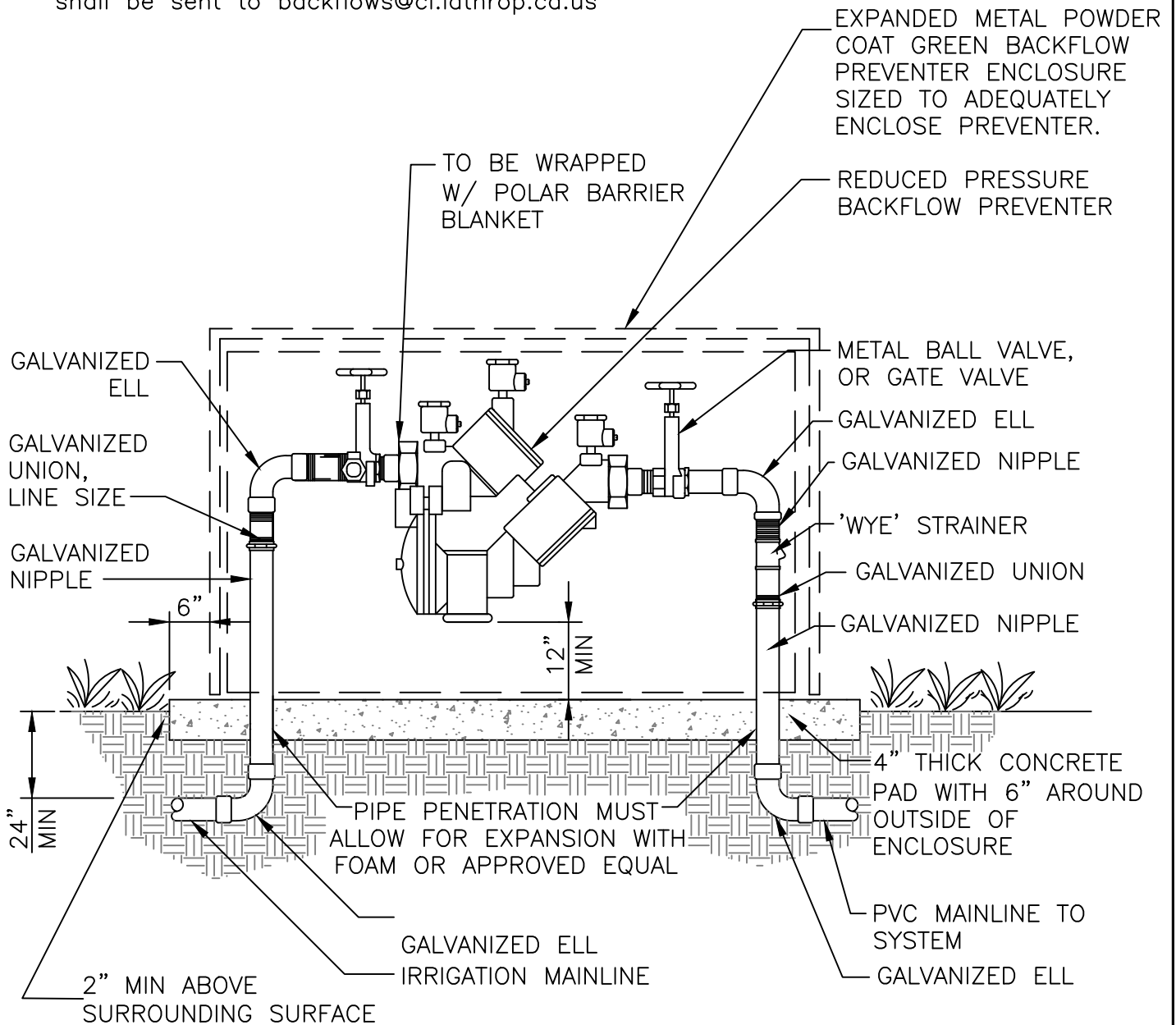
Date: **JANUARY 2021**

Drawing No:

L-7


NOTES:

1. All galvanized pipe below finish grade to receive two wraps of 20 Mil tape.
2. Backflow preventer to be located in shrub area and screened from view with shrubs.
3. For irrigation, all pipes, tags and valve boxes are to be purple color and shall have language shown on Standard Detail No. RW-2.
14. All assemblies must be tested by a certified backflow prevention tester and reports shall be sent to backflows@ci.lathrop.ca.us



USE FEBCO 825Y REDUCED PRESSURE BACKFLOW.

NOT TO SCALE

Approved by: 

City Of Lathrop
Public Works Director

No	Revised	Date

CITY OF LATHROP
DEPARTMENT OF PUBLIC WORKS

BACKFLOW PREVENTER

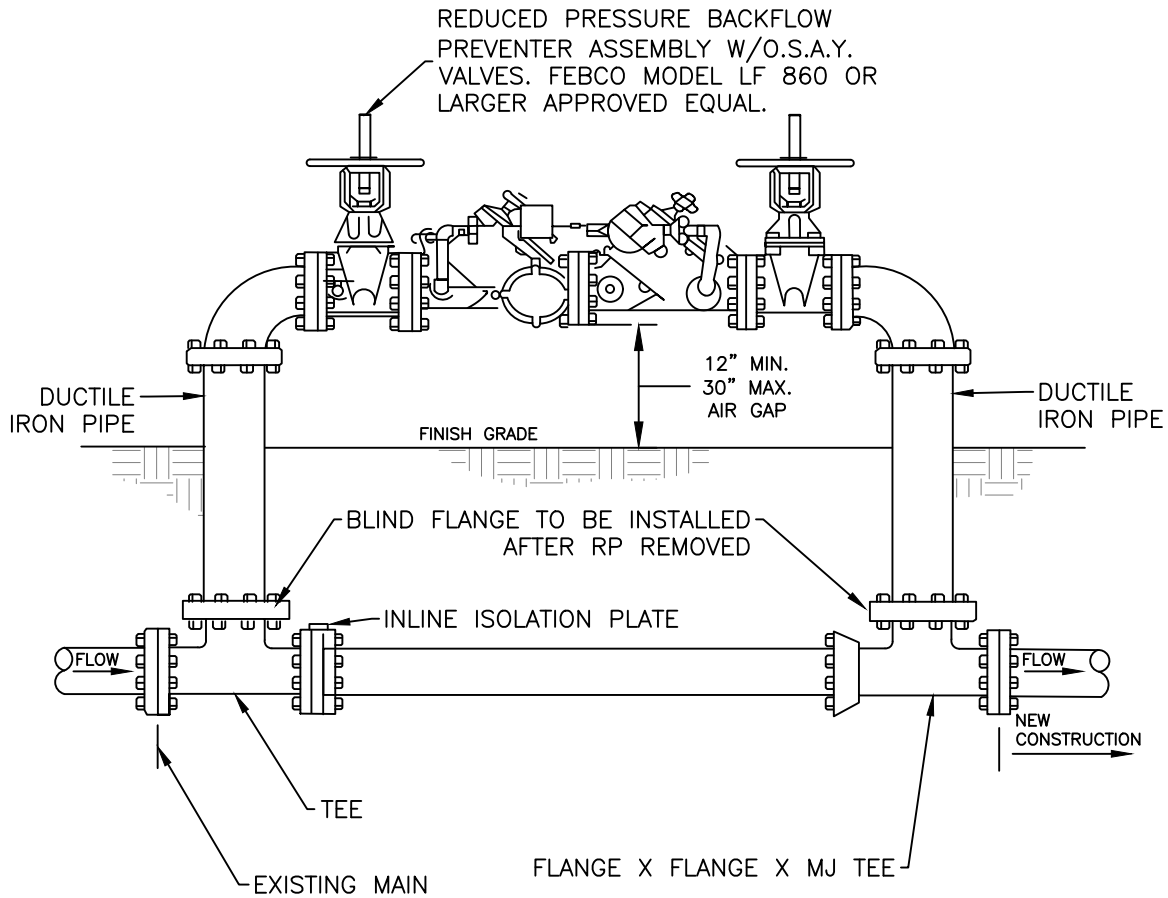


INCORPORATED 1899

**STANDARD
DETAIL**

Date: **JANUARY 2021**


Drawing No:
L-8



NOTES:

1. Installed device shall be FEBCO Model LF 860 large diameter or equal.
2. Any deviation from the installation shown above must receive prior approval
3. All piping and appurtenances shall be AWWA rated 200 psi for fire sprinkler systems.
4. All assemblies must be tested by a certified backflow prevention tester. Reports shall be sent to backflows@ci.lathrop.ca.us
5. All underground ductile iron or steel pipe must be wrapped with a minimum of 10 Mil. polywrap tape.
6. All flange bolts shall be stainless steel 316.
7. T-bolts shall be coated with Mastik.
8. For irrigation, all pipes, tags and valve boxes are to be purple color (Pantone 512) with language shown on standard detail No. RW-2.
14. All assemblies must be tested by a certified backflow prevention tester and reports shall be sent to backflows@ci.lathrop.ca.us

NOT TO SCALE

Approved by: 

City Of Lathrop
Public Works Director

No	Revised	Date

CITY OF LATHROP
 DEPARTMENT OF PUBLIC WORKS
TEMPORARY BACKFLOW PREVENTION ASSEMBLY FOR 3" OR LARGER



**STANDARD
 DETAIL**

Date: **JANUARY 2021**

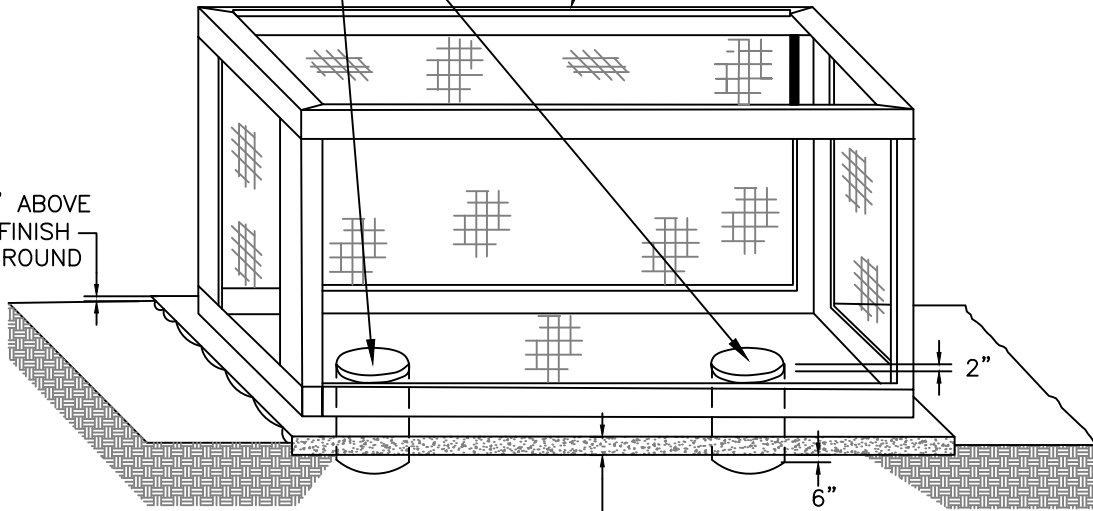
Drawing No:

L-9

PIPE PENETRATION MUST ALLOW FOR EXPANSION AND CONTRACTION WITH FOAM OR APPROVED EQUAL.

EXPANDED METAL POWDER COAT GREEN BACKFLOW PREVENTER ENCLOSURE SIZED TO ADEQUATELY ENCLOSE PREVENTER (SEE L-8).

2" ABOVE FINISH GROUND




MIN. 6" THICK CONCRETE PAD TO EXTEND 6" OUT FROM ALL SIDES OF ENCLOSURE

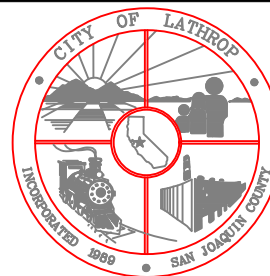
NOTES:

1. On slopes: pads shall be of sufficient thickness to extend 3" below the lowest point of the finish grade.
2. Embed corner hold-down assemblies in concrete equipment pad per manufacturer's specifications.
3. Size enclosure to provide a minimum of 6" clearance between backflow device and enclosure.

NOT TO SCALE

Approved by:


CITY OF LATHROP
 DEPARTMENT OF PUBLIC WORKS
BACKFLOW PREVENTER
ENCLOSURE



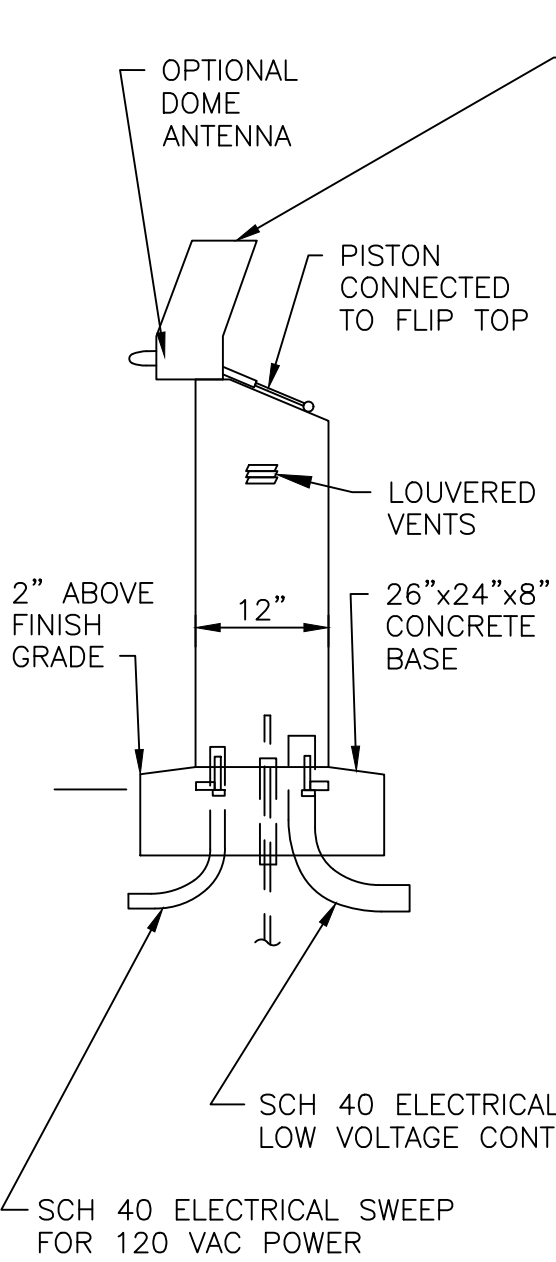
STANDARD
DETAIL

No	Revised	Date

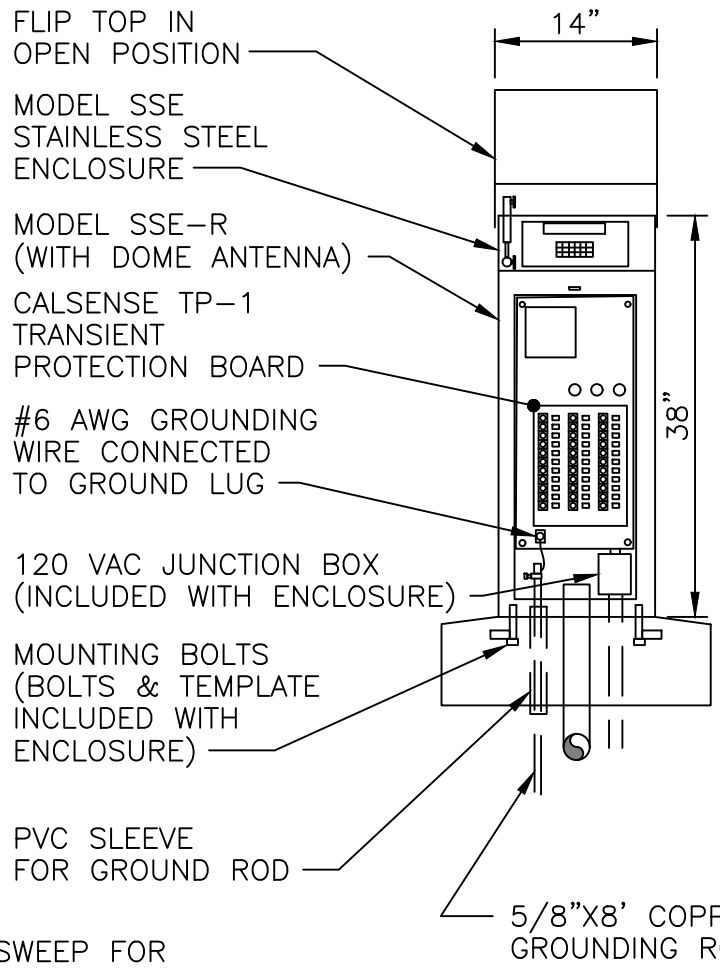
Date: **JANUARY 2021**

Drawing No:

L-10




APPLY TEX-COTE GRAFFITI GUARD®, 21st CENTURY COATINGS GRAFF-IT-OFF®, OR APPROVED EQUAL



NOTES:

1. Calsense controller CS3000 series panel mounted flush on face of enclosure at a 25° angle for easy access and viewing.
2. Provide GFI outlet with switch.
3. Shall be certified prior to acceptance.
4. Use 2-wire RCA interconnect cable system.

NOT TO SCALE

Approved by: 

City Of Lathrop
Public Works Director

No	Revised	Date

CITY OF LATHROP
DEPARTMENT OF PUBLIC WORKS

**PEDESTAL
CONTROLLER**



**STANDARD
DETAIL**

Date: **JANUARY 2021**

Drawing No:
L-11

CS3000 CONTROLLER SPECIFICATIONS

POWER

INPUT REQUIREMENT: 120VAC SINGLE PHASE, 1AMP STATION
OUTPUTS: 24VAC, 2.0AMPS MAX (SHORT PROTECTED)

PHYSICAL

HEIGHT: 16.25"
WIDTH: 14.50"
DEPTH: 7.25"
MATERIAL: 16 GAUGE, POWDER

COMMUNICATION OPTIONS

CS3-GR 3.5G CELLULAR MODEM
CS3-EN $\frac{10}{100}$ MBPS ETHERNET DEVICE
CS3-WEN 802.11B/G WIRELESS ETHERNET (WI-FI) DEVICE
CS3-SR SPREAD SPECTRUM RADIO
CS3-M-KIT WIRE-LINKABLE TO SHARE COMMUNICATION WITH MULTIPLE CONTROLLERS

OTHER OPTIONS

CS3-2W-OPT INTERFACE FOR 2-WIRE
CS3-FL FLOWSENSE™ SOFTWARE TO OPERATE MULTIPLE CONTROLLERS SHARING FLOW
CS3-W-KIT WEATHER INTERFACE FOR ET GAGE, TIPPING RAIN BUCKET, AND WIND GAGE
CS3-8ST-KIT 8-STATION CARD PLUS TERMINAL
CS3-L-KIT INTERFACE FOR FOUR LIGHT CIRCUITS

NOT TO SCALE

Approved by:



City Of Lathrop
Public Works Director

No	Revised	Date

CITY OF LATHROP
DEPARTMENT OF PUBLIC WORKS

**CS3000
CONTROLLER
SPECIFICATIONS**



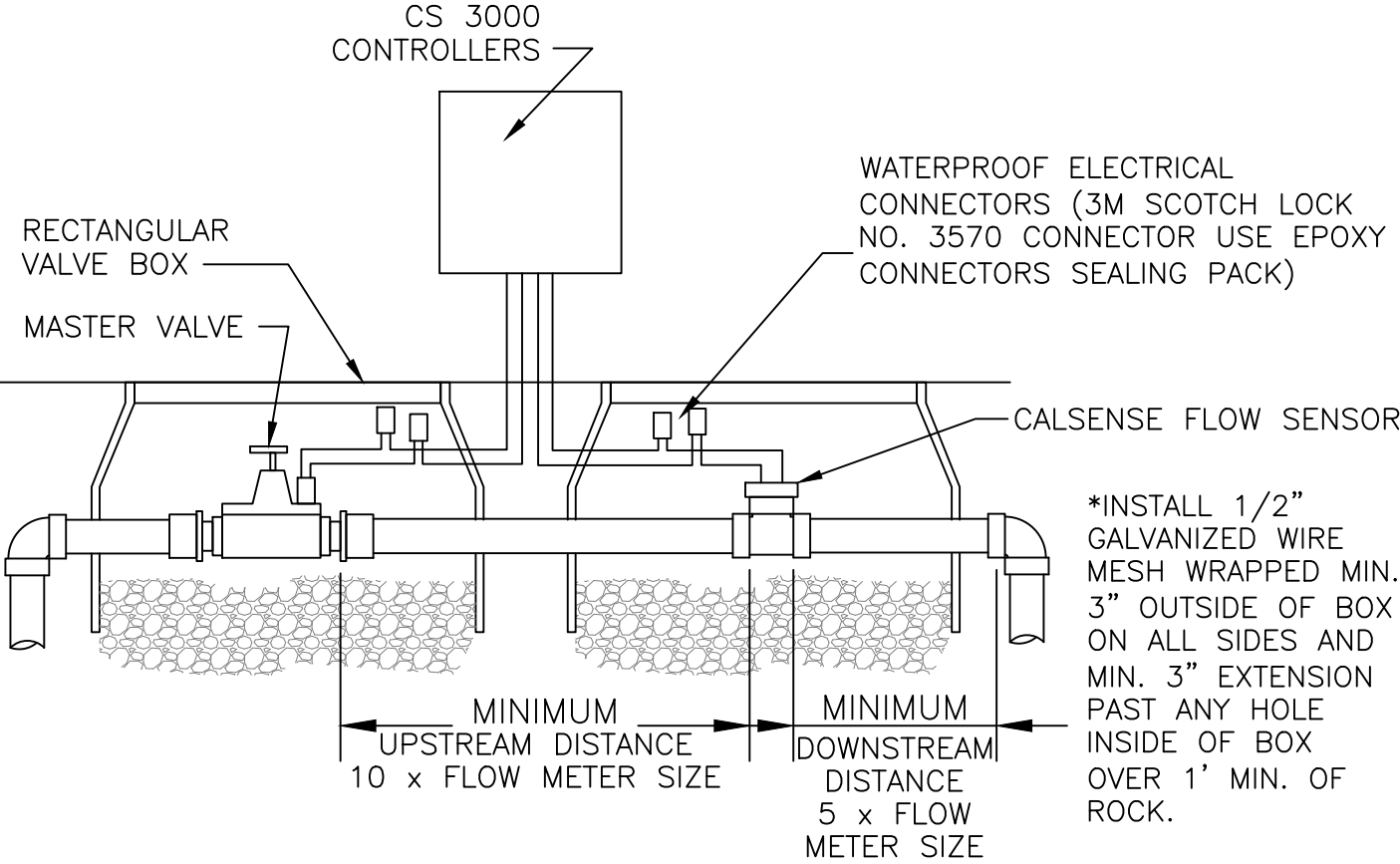
**STANDARD
DETAIL**

Date: **JANUARY 2021**

Drawing No:

L-12

PIPE SIZING CHART		
F.M. SIZE	UPSTREAM LENGTH	DOWNSTREAM LENGTH
1"	10"	5"
1.25"	12.5"	6.25"
1.5"	15"	7.5"
2"	20"	10"
3"	30"	15"



NOTES:

1. See L-11 for controller installation.
2. For irrigation, all pipes, tags and valve boxes are to be purple color with language shown on standard detail No. RW-2.
3. Use 2-wire RCA option system interconnect cable.
4. Brand box lid with appropriate designation. Branding shall correspond with tag. All boxes shall be bolt down.

NOT TO SCALE

Approved by: 

City Of Lathrop
Public Works Director

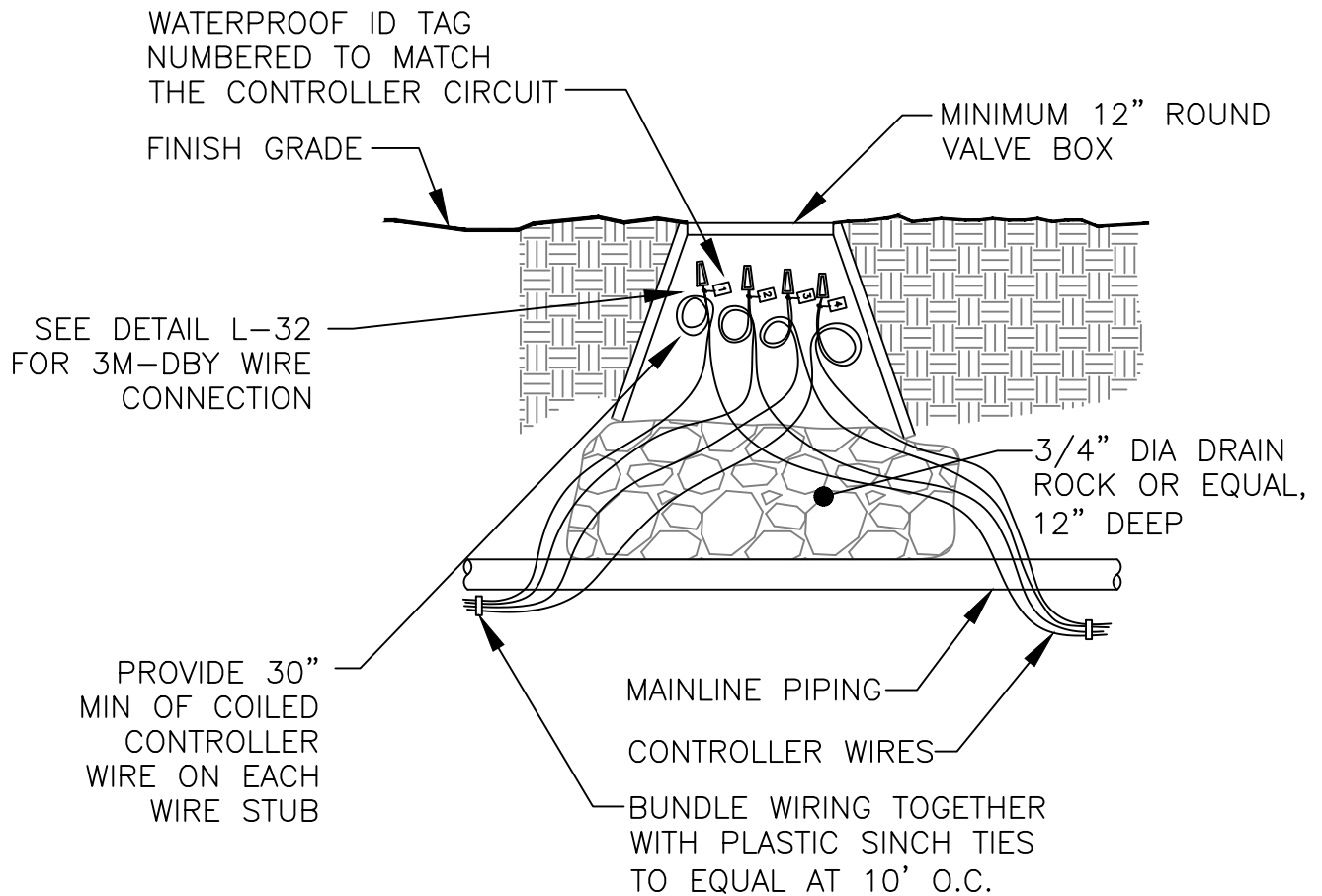
No	Revised	Date

CITY OF LATHROP
DEPARTMENT OF PUBLIC WORKS
MASTER VALVE AND
FLOW SENSORS



STANDARD
DETAIL

Date: **JANUARY 2021**
Drawing No:
L-13



*INSTALL 1/2" GALVANIZED WIRE MESH
WRAPPED MIN. 3" OUTSIDE OF BOX ON
ALL SIDES AND MIN. 3" EXTENSION PAST
ANY HOLE IN SIDE OF BOX OVER 1' MIN.
OF ROCK.

NOTE:

1. For irrigation, all pipes, tags and valve boxes are to be purple color with language shown on Standard Detail RW-2.
2. 2 wire system requires 3M epoxy connections.
3. Brand box lid with appropriate designation. Branding shall correspond with tag. All boxes shall be bolt down.

NOT TO SCALE

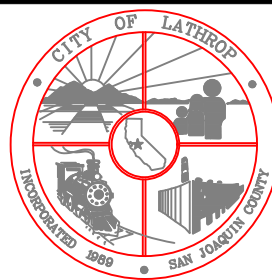
Approved by:

City Of Lathrop
Public Works Director

No	Revised	Date

CITY OF LATHROP
DEPARTMENT OF PUBLIC WORKS

CONTROL WIRE SPLICE

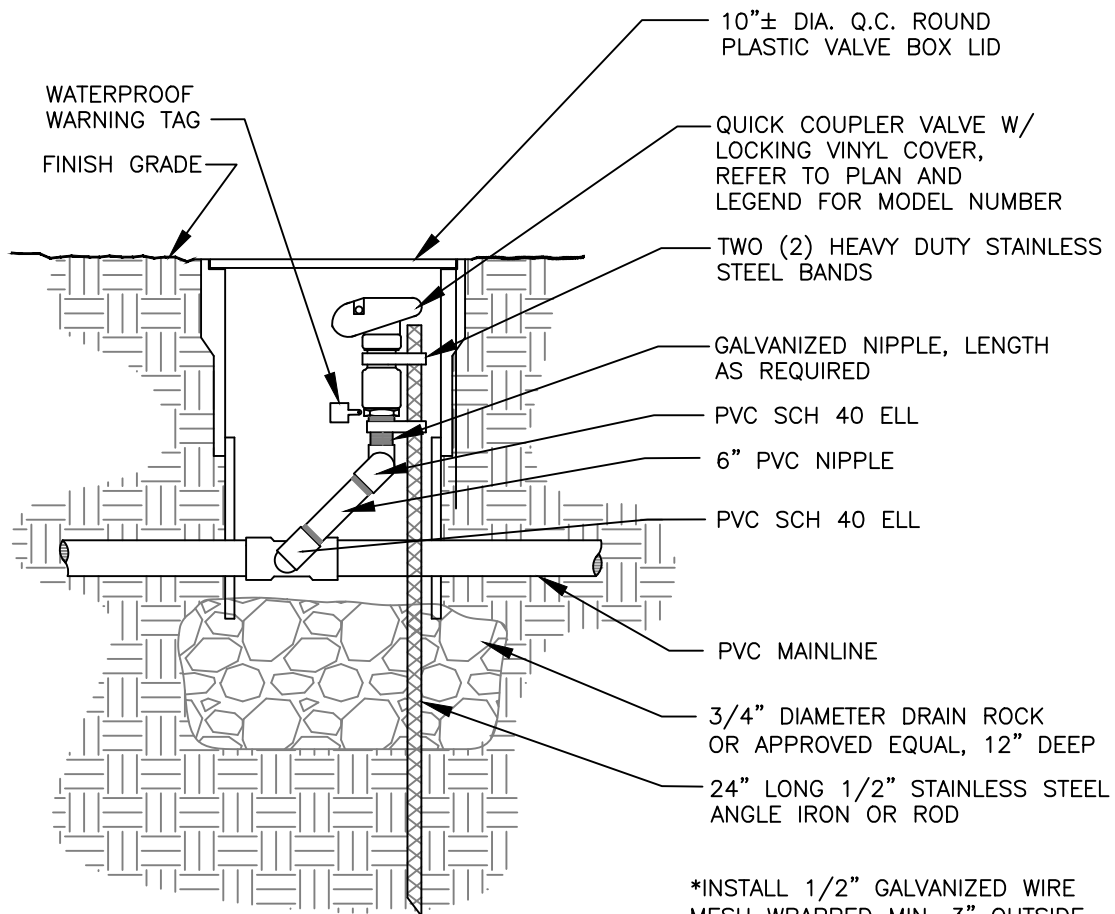


**STANDARD
DETAIL**

Date: **JANUARY 2021**

Drawing No:

L-14




*INSTALL 1/2" GALVANIZED WIRE MESH WRAPPED MIN. 3" OUTSIDE OF BOX ON ALL SIDES AND MIN. 3" EXTENSION PAST ANY HOLE IN SIDE OF BOX OVER 1' MIN. OF ROCK.

NOTES:

1. For recycled water irrigation, only quick couplers that differ from potable water quick couplers shall be allowed.
2. For irrigation, all pipes, tags and valve boxes are to be purple color with language shown on Standard Detail No. RW-2.
3. Brand box lid with appropriate designation. Branding shall correspond with tag.

NOT TO SCALE

Approved by: 

City Of Lathrop
Public Works Director

No	Revised	Date

CITY OF LATHROP
DEPARTMENT OF PUBLIC WORKS

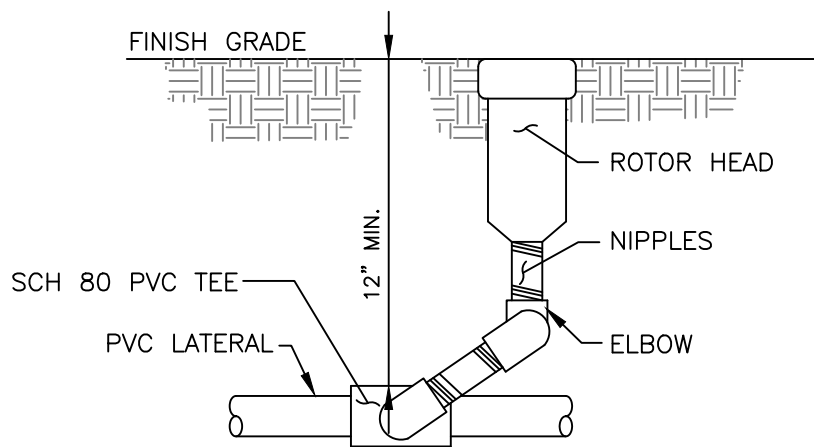
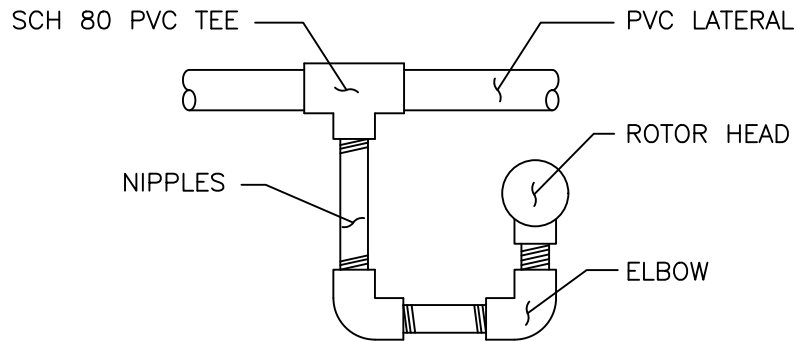
QUICK COUPLER



**STANDARD
DETAIL**

Date: **JANUARY 2021**

Drawing No:
L-15




TRIPLE SWING JOINT WITH ROTOR

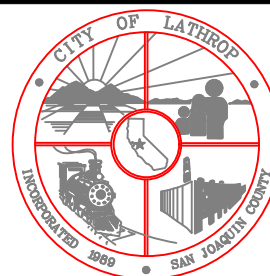
NOTE:

1. All Nipples and Joints to be Schedule 80 PVC.
2. Use Pre-manufactured swing joints, SCH 80 Rainbird or approved equal.
3. Hunter I Series Sprinklers or approved equal.

NOT TO SCALE

Approved by: 

CITY OF LATHROP
DEPARTMENT OF PUBLIC WORKS



**STANDARD
DETAIL**

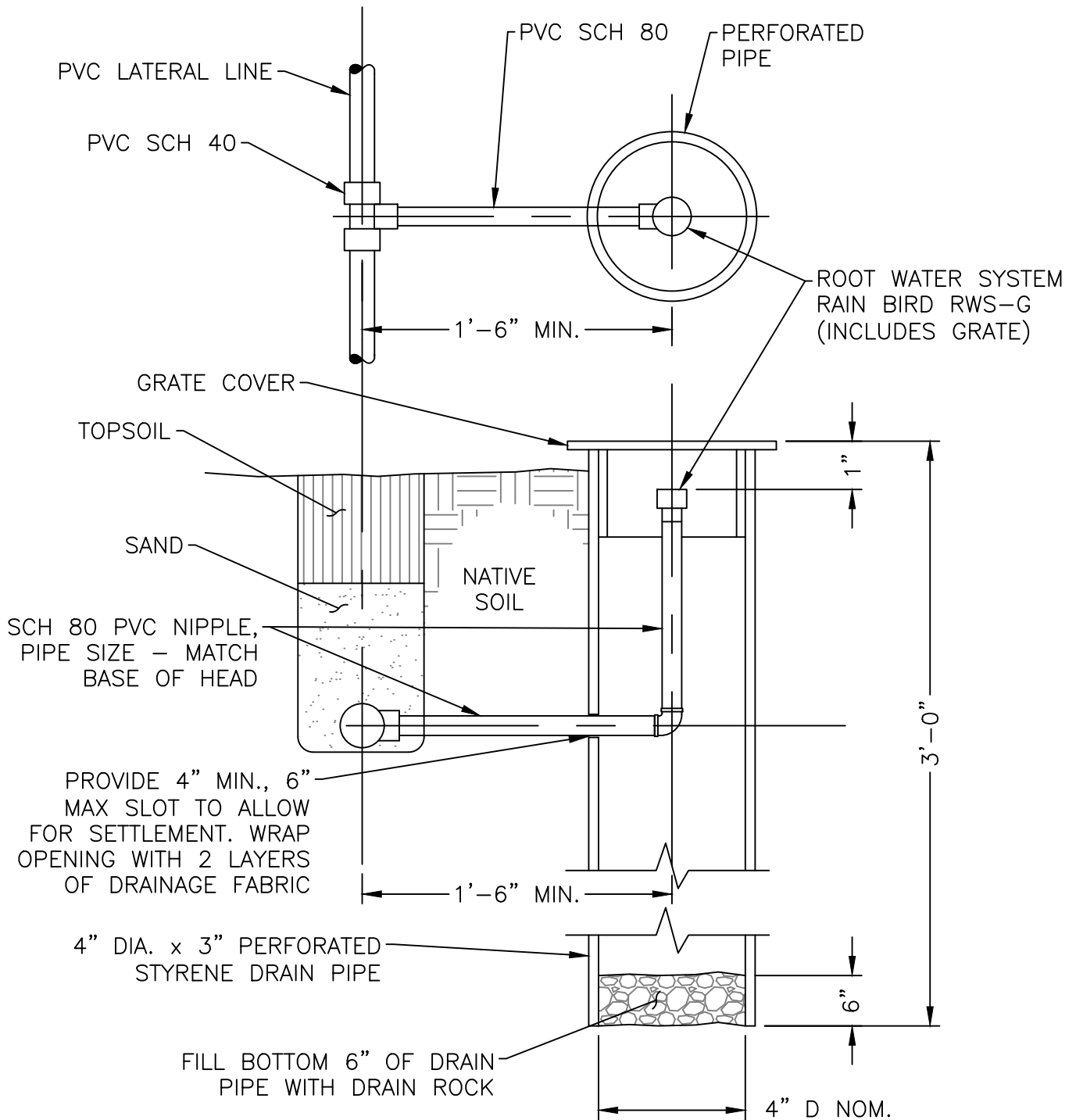
ROTOR SPRINKLERS

Date: **JANUARY 2021**

Drawing No:

L-16

No	Revised	Date




NOTE

1. For irrigation, all pipes, tags and valve boxes are to be purple color (Pantone 512).

NOT TO SCALE

Approved by:



City Of Lathrop
Public Works Director

No	Revised	Date

CITY OF LATHROP
DEPARTMENT OF PUBLIC WORKS

TREE BUBBLER

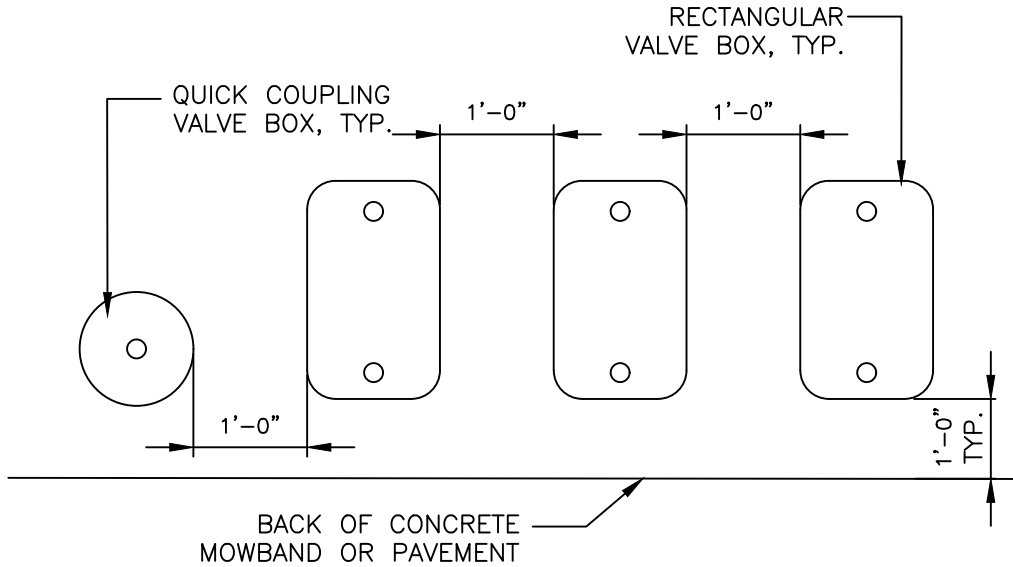


**STANDARD
DETAIL**

Date: **JANUARY 2021**

Drawing No:


L-17



Notes:

1. Center valve box over remote control valve to facilitate servicing valve.
2. Set RCV and valve box assembly in groundcover/shrub areas.
3. Set boxes parallel to each other and perpendicular to edge of adjacent paving.
4. Avoid heavily compacting soil around valve boxes to prevent collapse and deformation of valve boxes.
5. Brand box lid with appropriate designation. Branding shall correspond with tag. All boxes shall be bolt down.

NOT TO SCALE

Approved by: 

City Of Lathrop
Public Works Director

No	Revised	Date

CITY OF LATHROP
DEPARTMENT OF PUBLIC WORKS

VALVE BOX LAYOUT



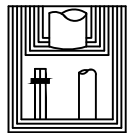
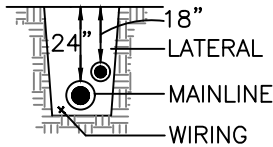
**STANDARD
DETAIL**

Date: **JANUARY 2021**

Drawing No:

L-18

MAINLINE,
LATERAL AND
WIRING

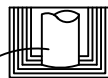
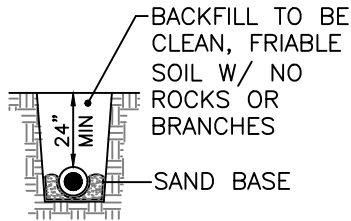


10' ON
CENTER



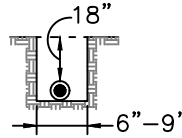
TAPE AND
BUNDLE WIRING
AT 10' INTERVALS

MAINLINE



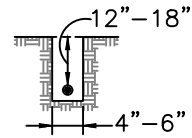
ALL MAINLINES SHALL
BE INSTALLED PER
MANUFACTURER'S
SPECIFICATIONS

PLASTIC
LATERAL



SNAKE ALL PLASTIC PIPING
IN TRENCHES FROM SIDE
TO SIDE AS SHOWN

120 VOLT
IN CONDUIT



INSTALL ALL 120
VOLT VAC WIRE
IN CONDUIT PER
LOCAL AND UBC
CODES

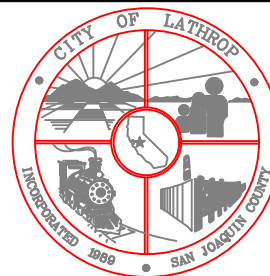
NOT TO SCALE

Approved by:

City Of Lathrop Public Works Director		
No	Revised	Date

CITY OF LATHROP
DEPARTMENT OF PUBLIC WORKS

**IRRIGATION
PIPING AND WIRING**

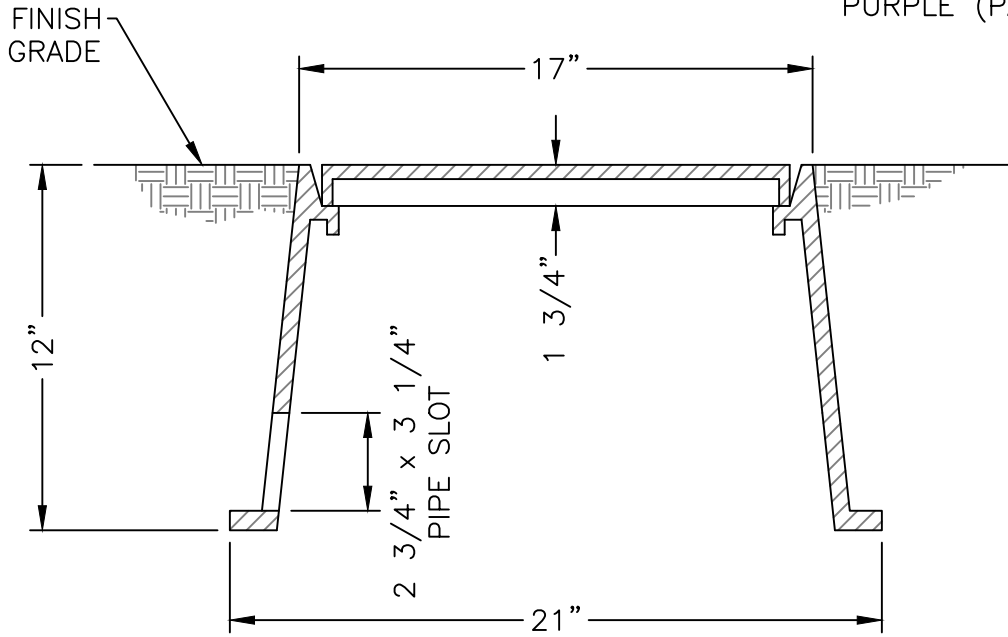
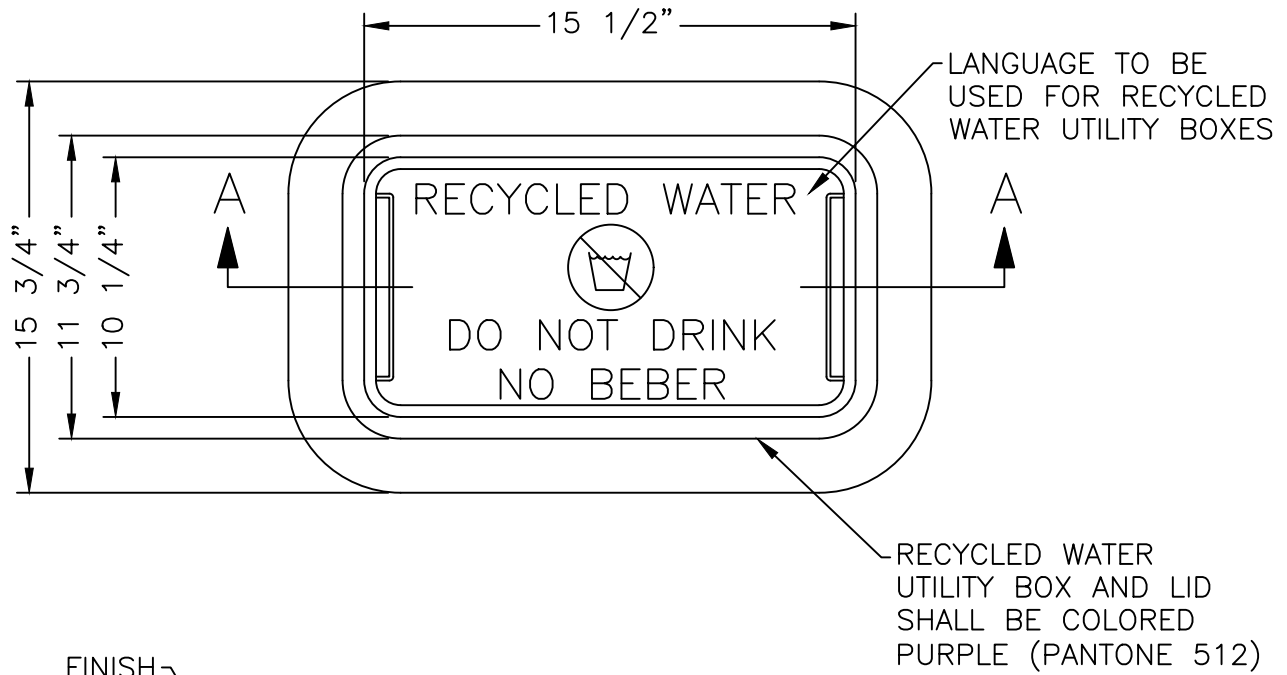


**STANDARD
DETAIL**

Date: **JANUARY 2021**

Drawing No:

L-19




SECTION A-A

NOTES:

1. Brand box lid with appropriate designation. Branding shall correspond with tag. All boxes shall be bolt down.

NOT TO SCALE

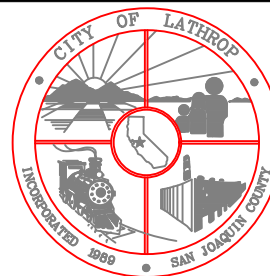
Approved by: 

City Of Lathrop
Public Works Director

No	Revised	Date

CITY OF LATHROP
DEPARTMENT OF PUBLIC WORKS

UTILITY BOX

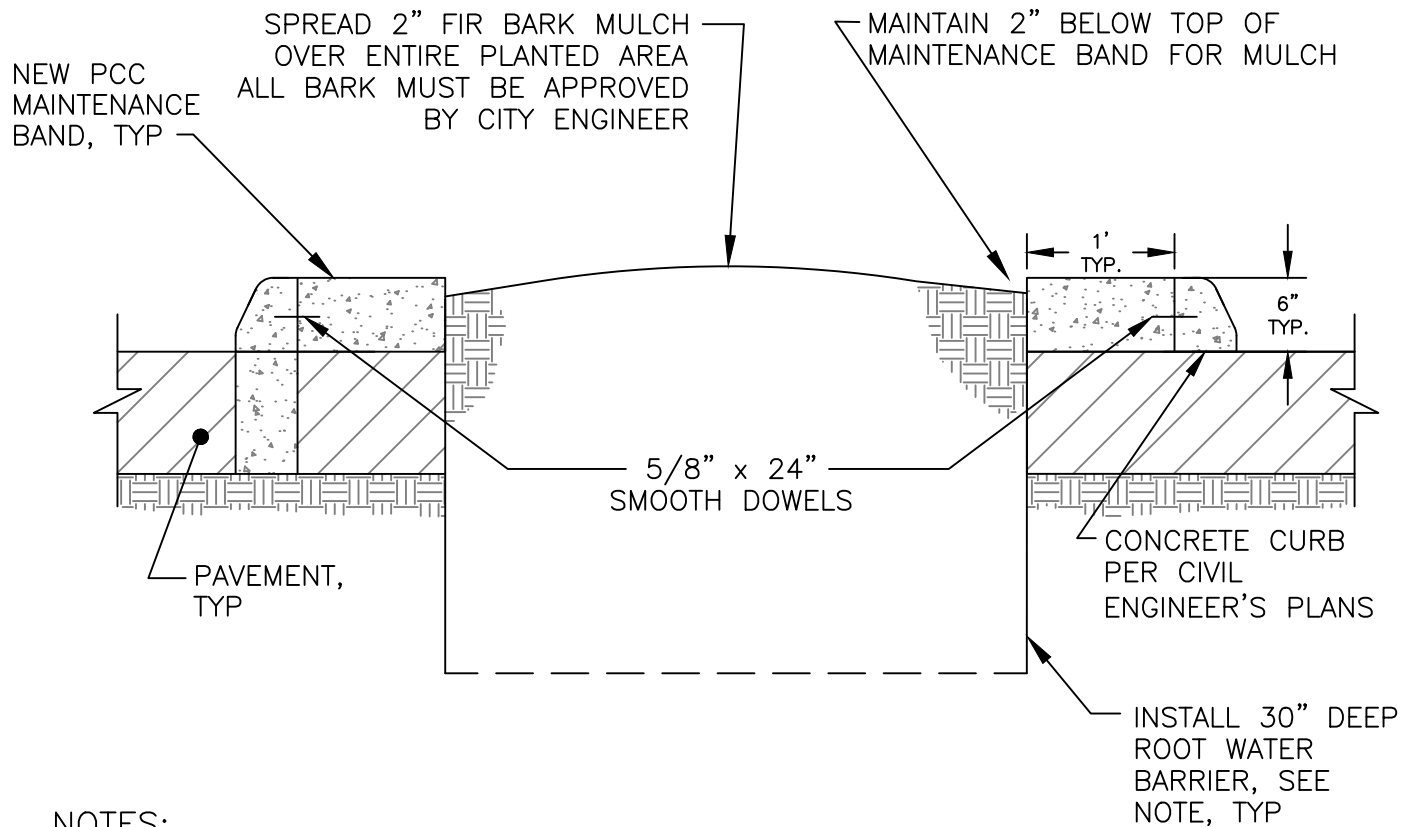


**STANDARD
DETAIL**

Date: **JANUARY 2021**

Drawing No:


L-20



NOTES:

1. Water barrier shall be "Deep Root Water Barrier", manufactured by Deep Root Corporation, or approved equal.
2. Optional extruded curb and vertical curb as specified in plans.

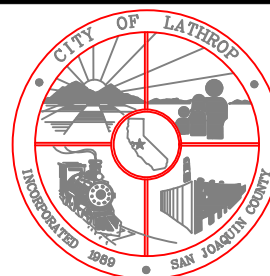
NOT TO SCALE

Approved by: 

City Of Lathrop
Public Works Director

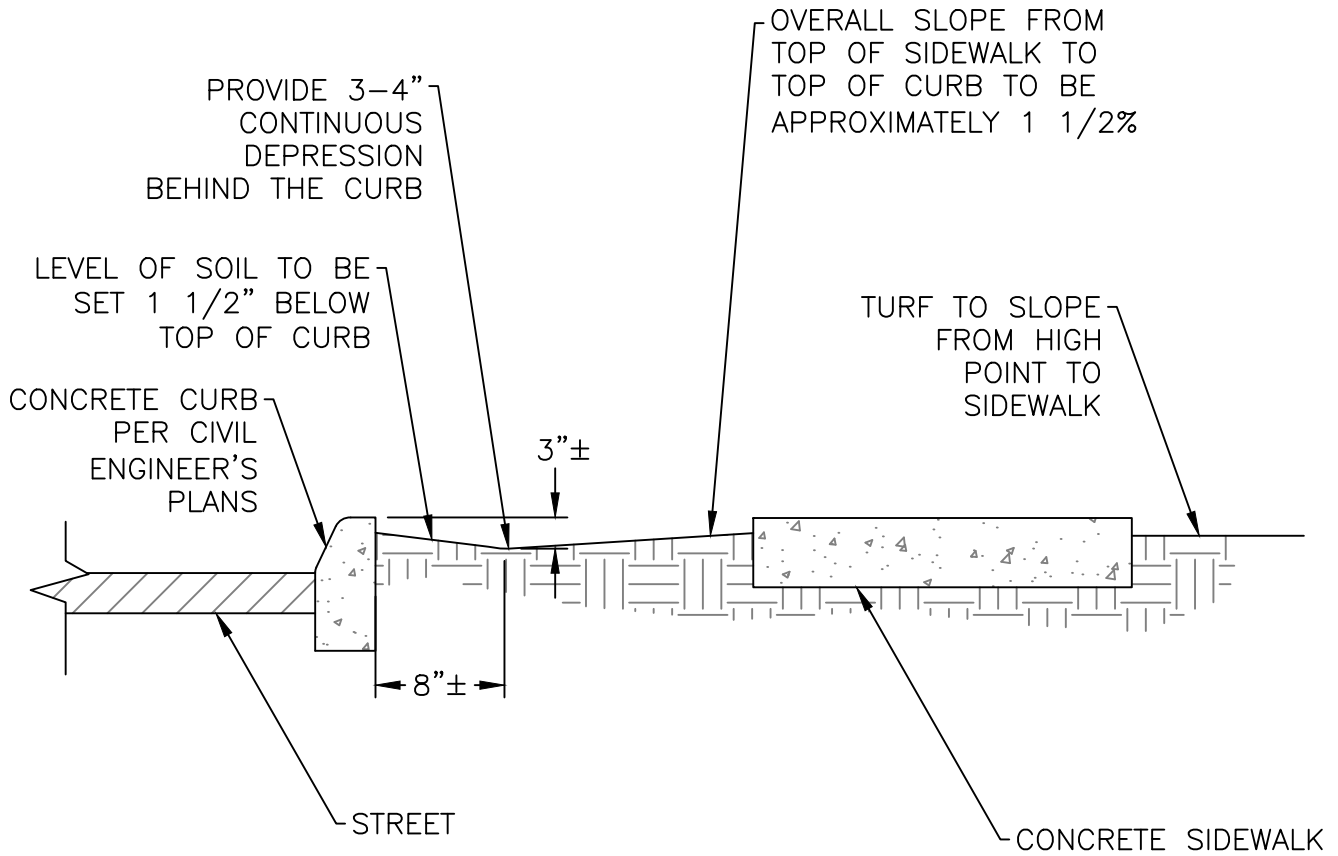
No	Revised	Date

CITY OF LATHROP
 DEPARTMENT OF PUBLIC WORKS
MEDIAN ISLAND
MAINTENANCE
BAND DETAIL
 (FOR EXISTING CURB)




STANDARD
DETAIL

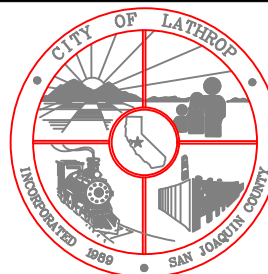
Date: **JANUARY 2021**
 Drawing No:
L-21



NOT TO SCALE

Approved by: 

CITY OF LATHROP
 DEPARTMENT OF PUBLIC WORKS
PARKWAY SWALE



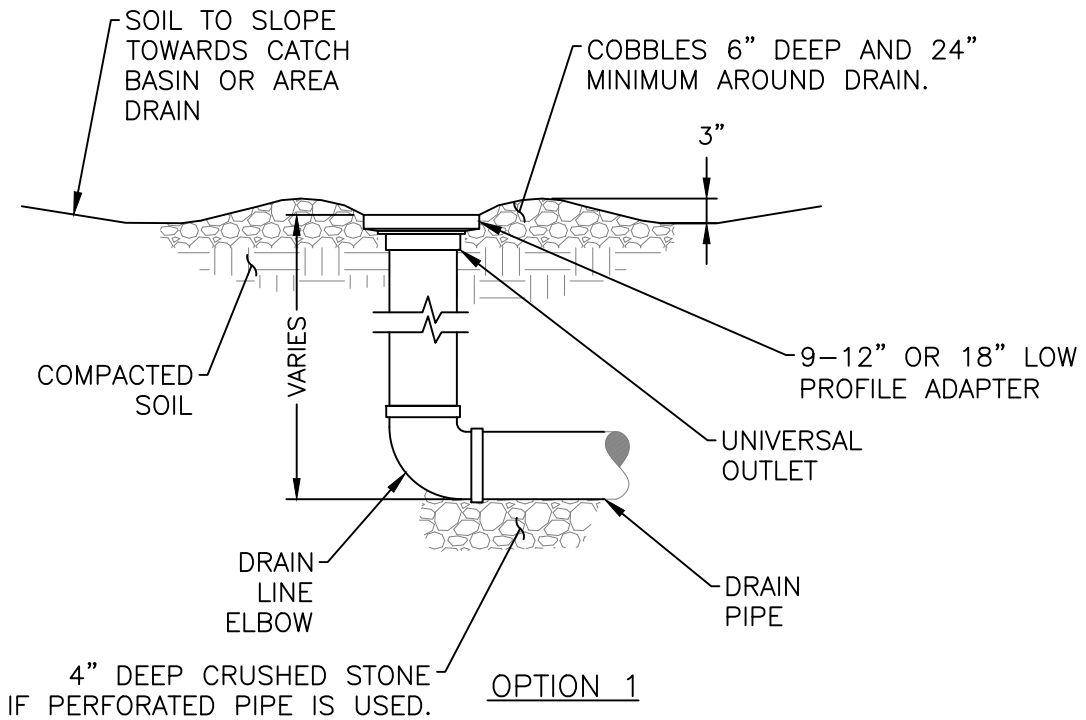
**STANDARD
 DETAIL**

No	Revised	Date

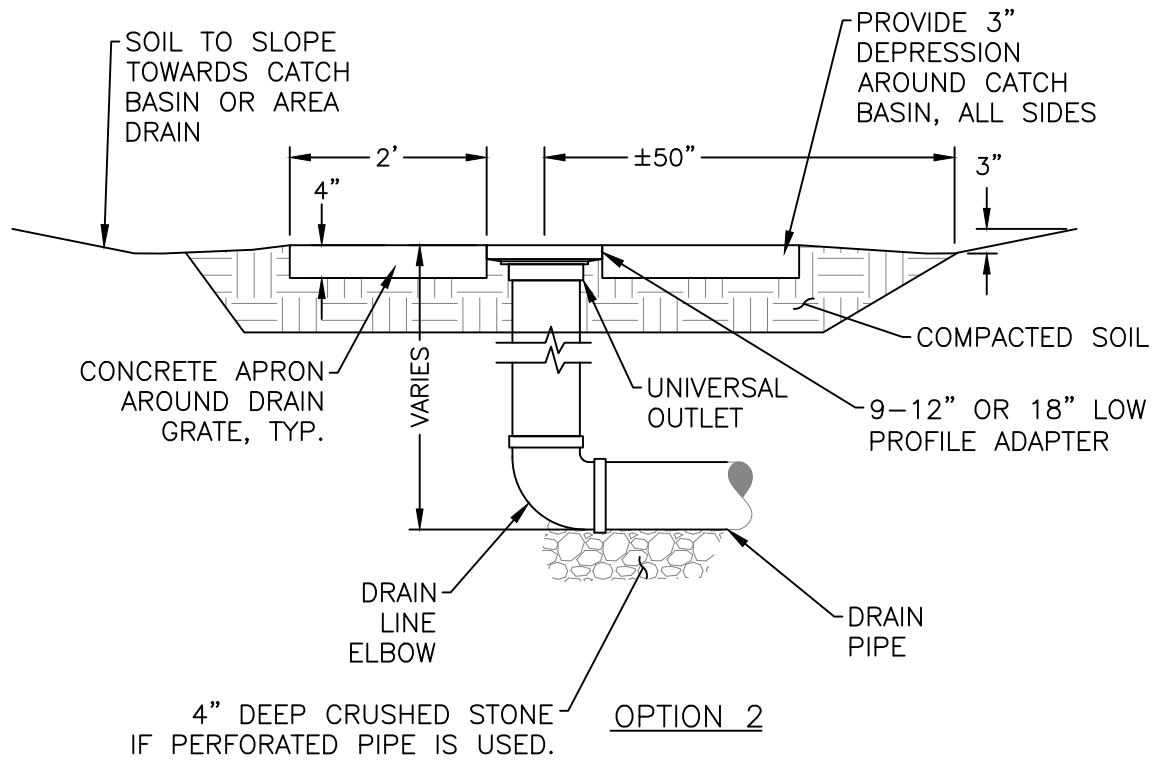
Date: **JANUARY 2021**

Drawing No:

L-22

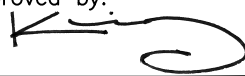


OPTION 1



OPTION 2

NOT TO SCALE

Approved by: 

City Of Lathrop
Public Works Director

No	Revised	Date

CITY OF LATHROP
DEPARTMENT OF PUBLIC WORKS

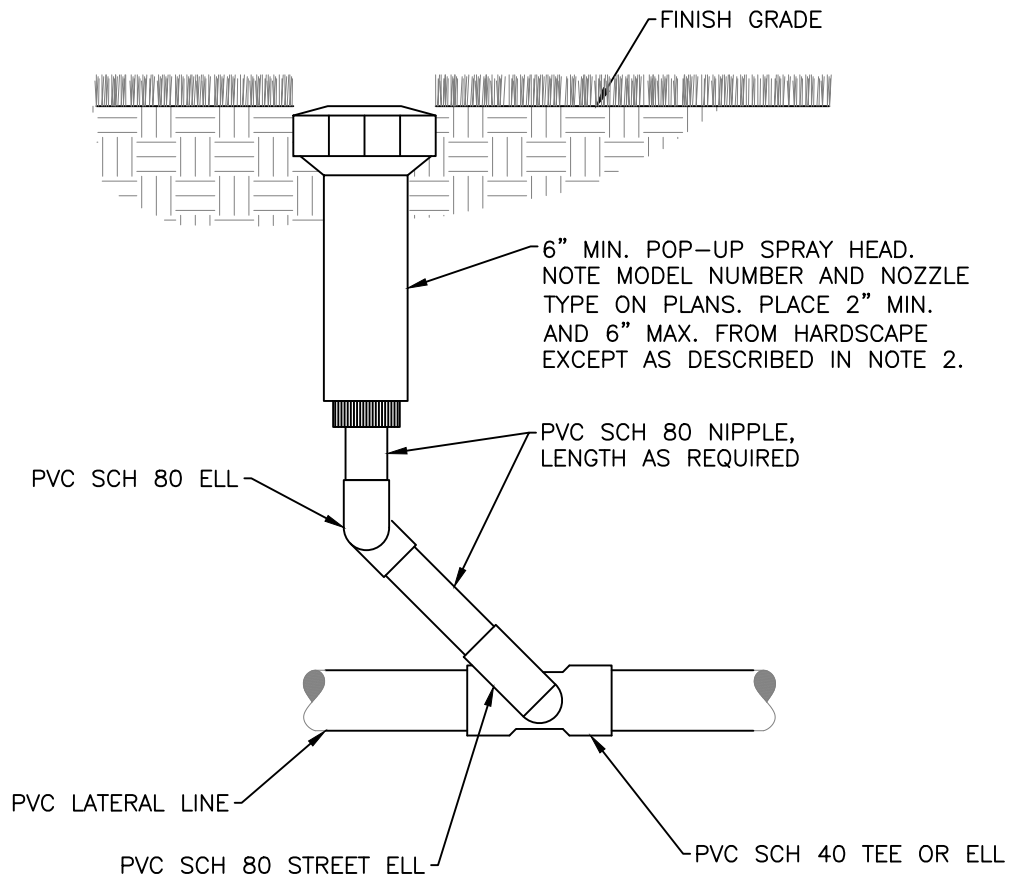
AREA DRAIN



**STANDARD
DETAIL**

Date: **JANUARY 2021**
Drawing No:

L-23




NOTE

1. For recycled water irrigation, all pipes and spray heads are to be purple color. Signs shall be posted as shown in RW-2.
2. For shrubs, install a 12-inch min, pop-up spray head.
3. For turf, install a 8-inch min. gear rotor pop-up spray head.

NOT TO SCALE

Approved by:



City Of Lathrop
Public Works Director

No	Revised	Date

CITY OF LATHROP
DEPARTMENT OF PUBLIC WORKS

**SHRUB POP-UP
SPRAY HEAD**



**STANDARD
DETAIL**

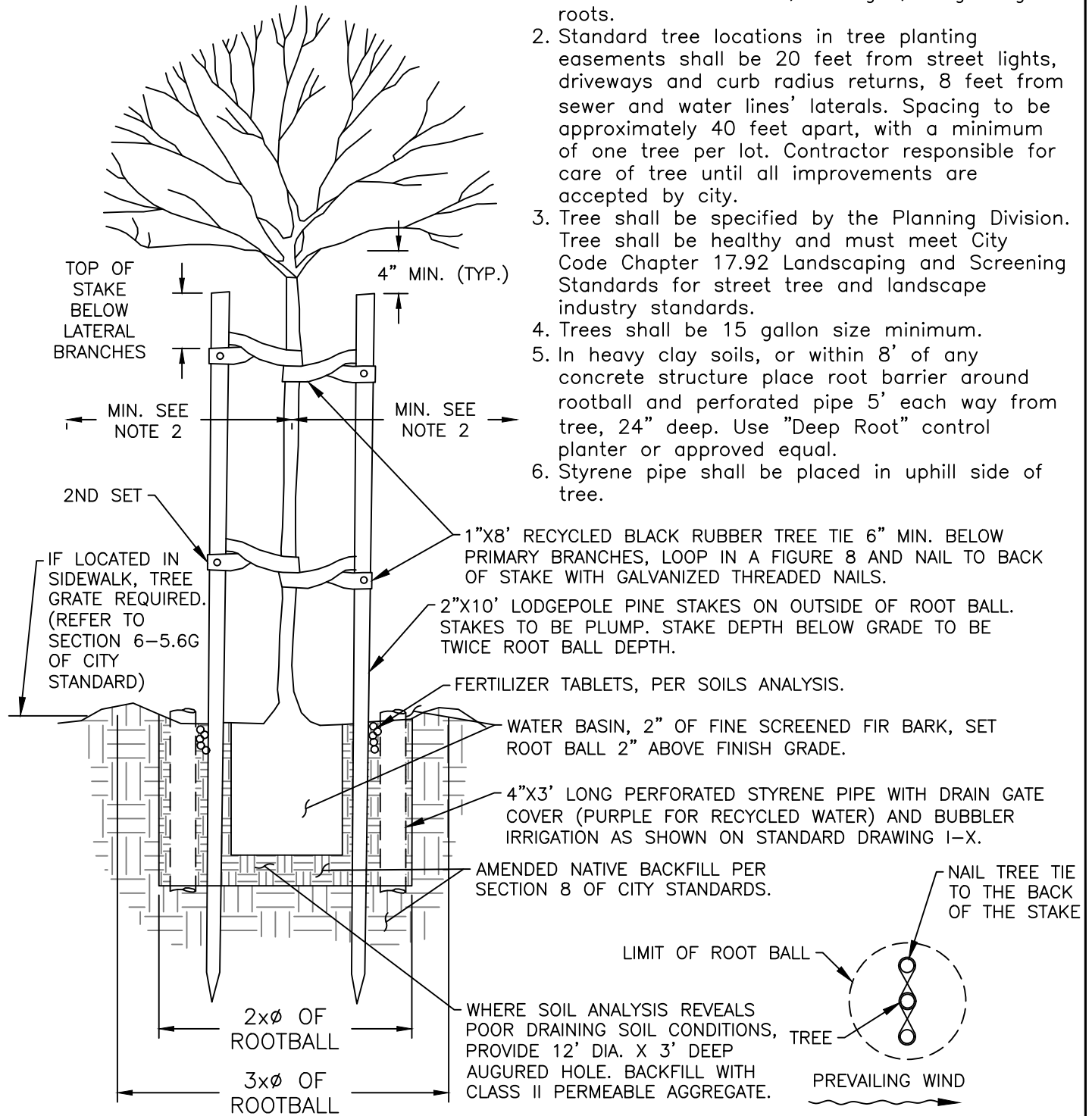
Date: **JANUARY 2021**

Drawing No:


L-24

NOTES:

1. Tree shall be free of injury and disease and shall have no circular, damaged, or girdling roots.
2. Standard tree locations in tree planting easements shall be 20 feet from street lights, driveways and curb radius returns, 8 feet from sewer and water lines' laterals. Spacing to be approximately 40 feet apart, with a minimum of one tree per lot. Contractor responsible for care of tree until all improvements are accepted by city.
3. Tree shall be specified by the Planning Division. Tree shall be healthy and must meet City Code Chapter 17.92 Landscaping and Screening Standards for street tree and landscape industry standards.
4. Trees shall be 15 gallon size minimum.
5. In heavy clay soils, or within 8' of any concrete structure place root barrier around rootball and perforated pipe 5' each way from tree, 24" deep. Use "Deep Root" control planter or approved equal.
6. Styrene pipe shall be placed in uphill side of tree.



NOT TO SCALE

Approved by: 

City Of Lathrop
Public Works Director

No	Revised	Date

CITY OF LATHROP
DEPARTMENT OF PUBLIC WORKS

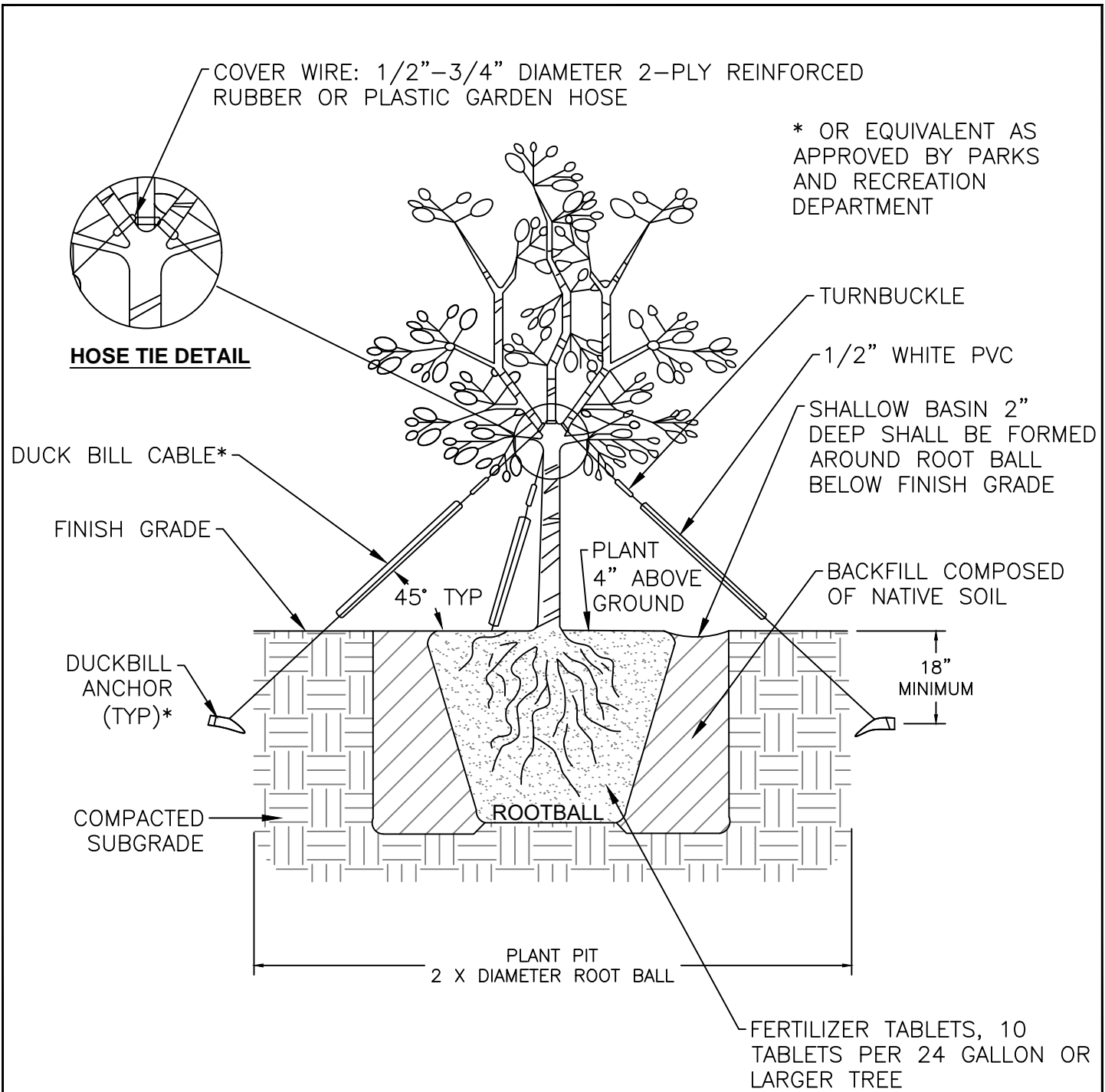
TREE PLANTING



**STANDARD
DETAIL**

Date: **JANUARY 2021**


Drawing No:
L-25



NOTE:

All 24" box trees or larger, including multi-trunk specimens, shall be guyed as shown or as directed by City.

NOT TO SCALE

Approved by: 

City Of Lathrop Public Works Director		
No	Revised	Date

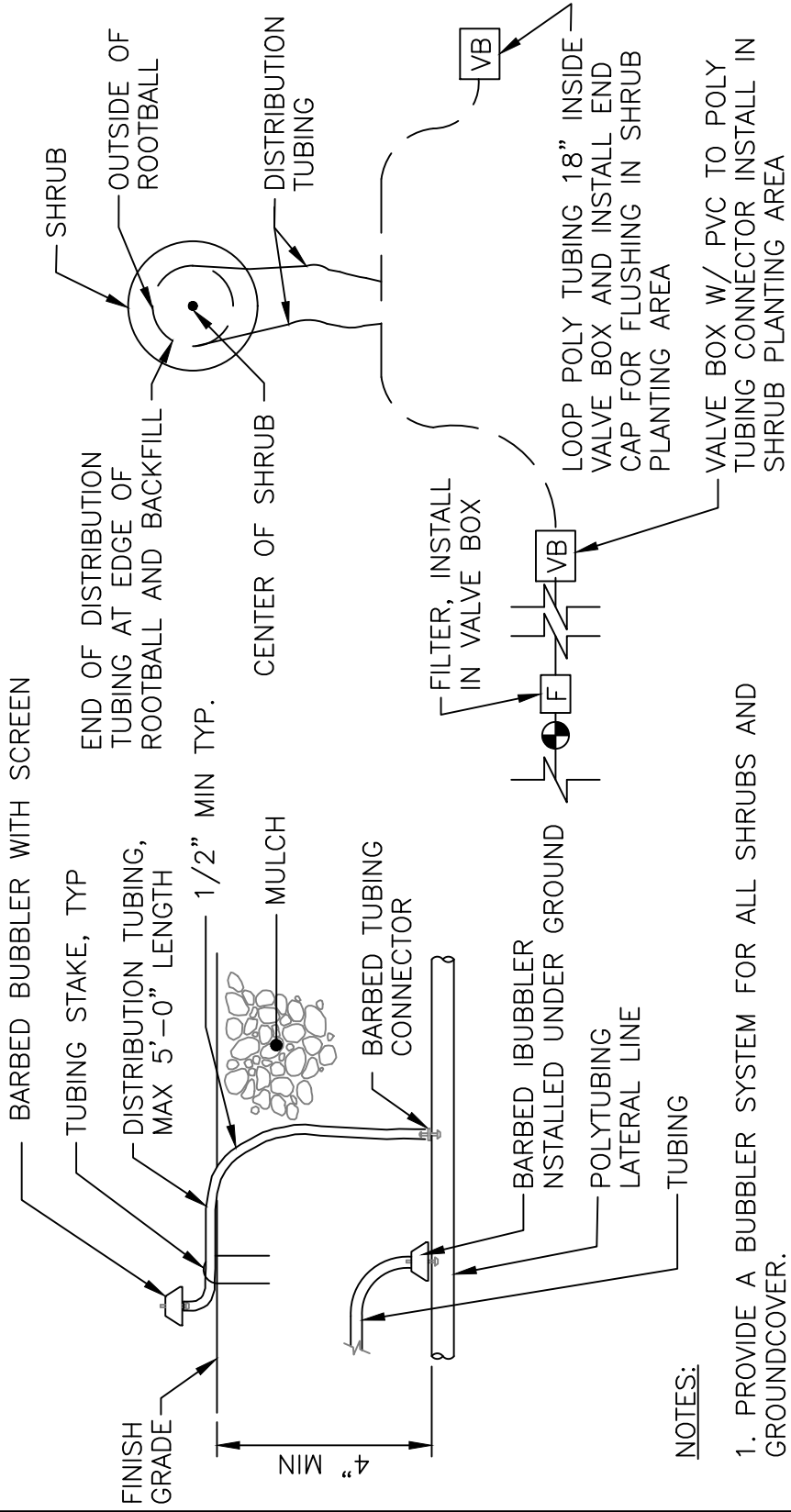
CITY OF LATHROP
DEPARTMENT OF PUBLIC WORKS
TYPICAL TREE
GUYING FOR 24" - 30" BOX



STANDARD
DETAIL

Date: **JANUARY 2021**
Drawing No:

L-26

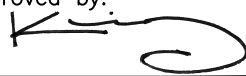


NOTES:

1. PROVIDE A BUBBLER SYSTEM FOR ALL SHRUBS AND GROUNDCOVER.
2. ACTUAL LAYOUT OF BUBBLER SYSTEM SHALL BE DETERMINED IN THE FIELD USING THE IRRIGATION DETAILS AND EMITTER SCHEDULE AS A GUIDE.
3. BUBBLER SHALL BE PRESSURE COMPENSATING.
4. FOR RECYCLED WATER IRRIGATION, ALL PIPES, TAG AND VALVE BOXES ARE TO BE PURPLE COLOR.

SCHEDULE		
PLANT TYPE	# OF EMITTERS PER PLANT	REMARKS
SHRUBS	2	EQUALLY SPACED AROUND PLANT.
GROUNDCOVERS	2	EQUALLY SPACED AROUND PLANT.

NOT TO SCALE

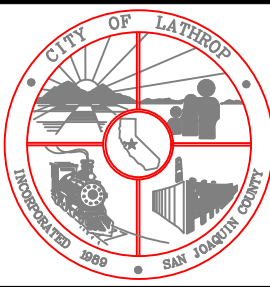
Approved by: 

City Of Lathrop
Public Works Director

No	Revised	Date

CITY OF LATHROP
DEPARTMENT OF PUBLIC WORKS

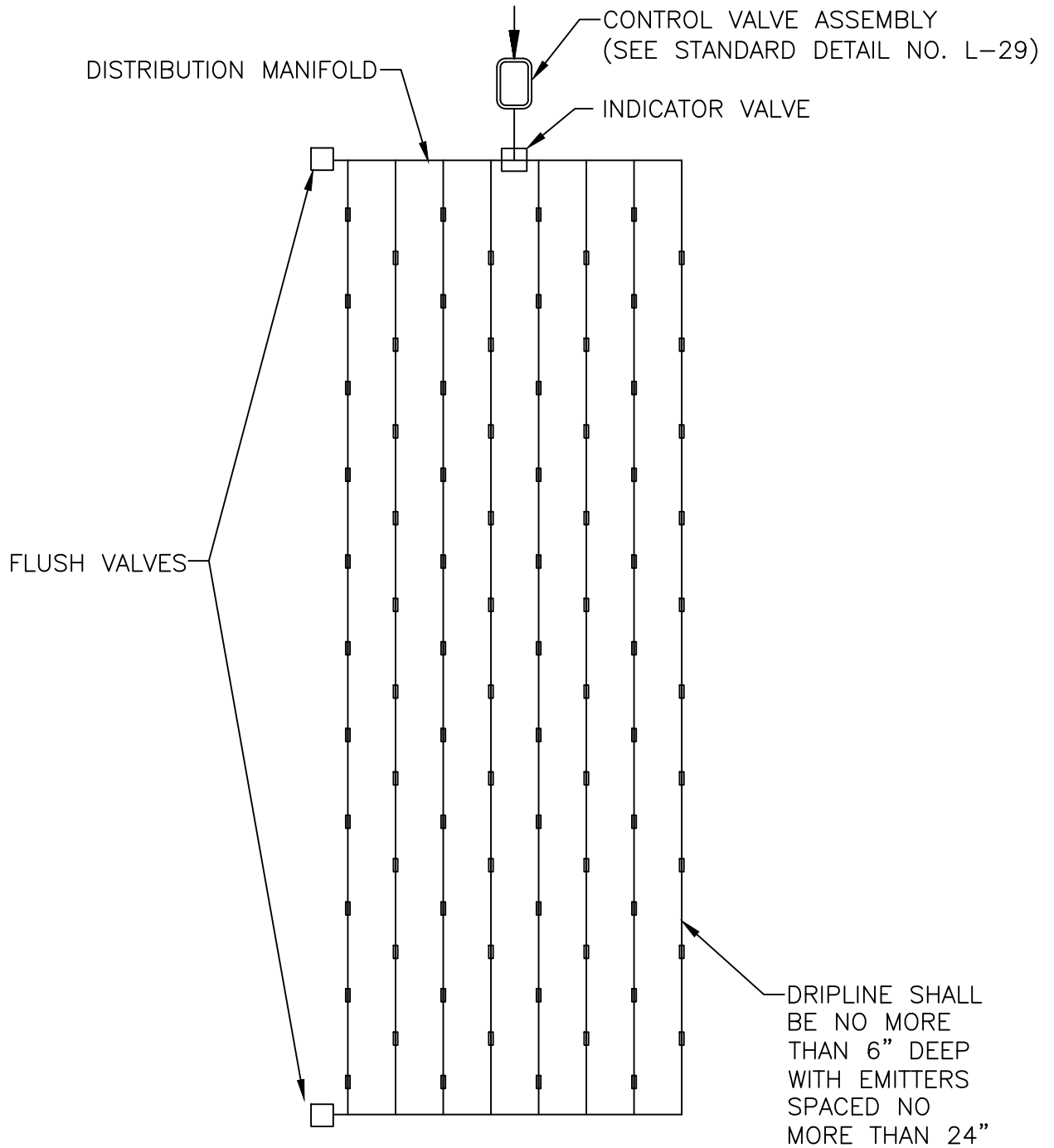
BUBBLER DETAILS



**STANDARD
DETAIL**

Date: **JANUARY 2021**

Drawing No:
L-27



NOTES:

1. Subsurface dripfield layout to be used in special case only with city engineer approval

NOT TO SCALE

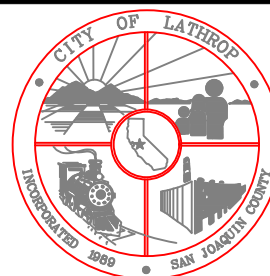
Approved by:

City Of Lathrop
Public Works Director

No	Revised	Date

CITY OF LATHROP
DEPARTMENT OF PUBLIC WORKS

**TYPICAL
SUBSURFACE
DRIPFIELD LAYOUT**

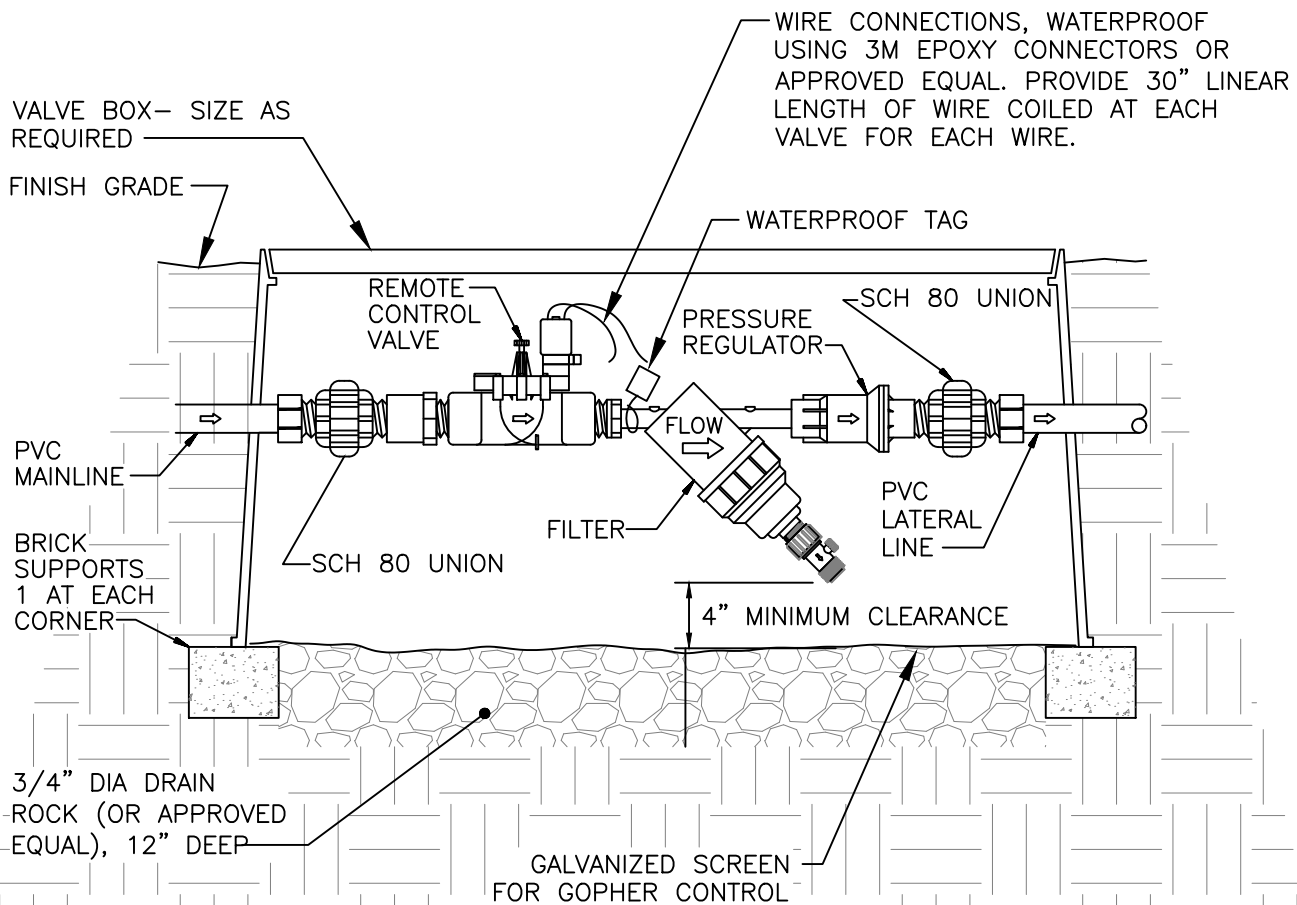


**STANDARD
DETAIL**

Date: **JANUARY 2021**

Drawing No:

L-28




*INSTALL 1/2" GALVANIZED WIRE MESH WRAPPED MIN. 3" OUTSIDE OF BOX ON ALL SIDES AND MIN. 3" EXTENSION PAST ANY HOLE IN SIDE OF BOX OVER 1' MIN. OF ROCK.

NOTES:

1. See L-6 for control valve installation notes.
2. For irrigation, all pipes, tags and valve boxes are to be purple color with language as shown on RW-2.
3. Brand box lid with appropriate designation. Branding shall correspond with tag. All boxes shall be bolt down.

NOT TO SCALE

Approved by:



City Of Lathrop
Public Works Director

No	Revised	Date

CITY OF LATHROP
DEPARTMENT OF PUBLIC WORKS

DRIP IRRIGATION CONTROL VALVE ASSEMBLY

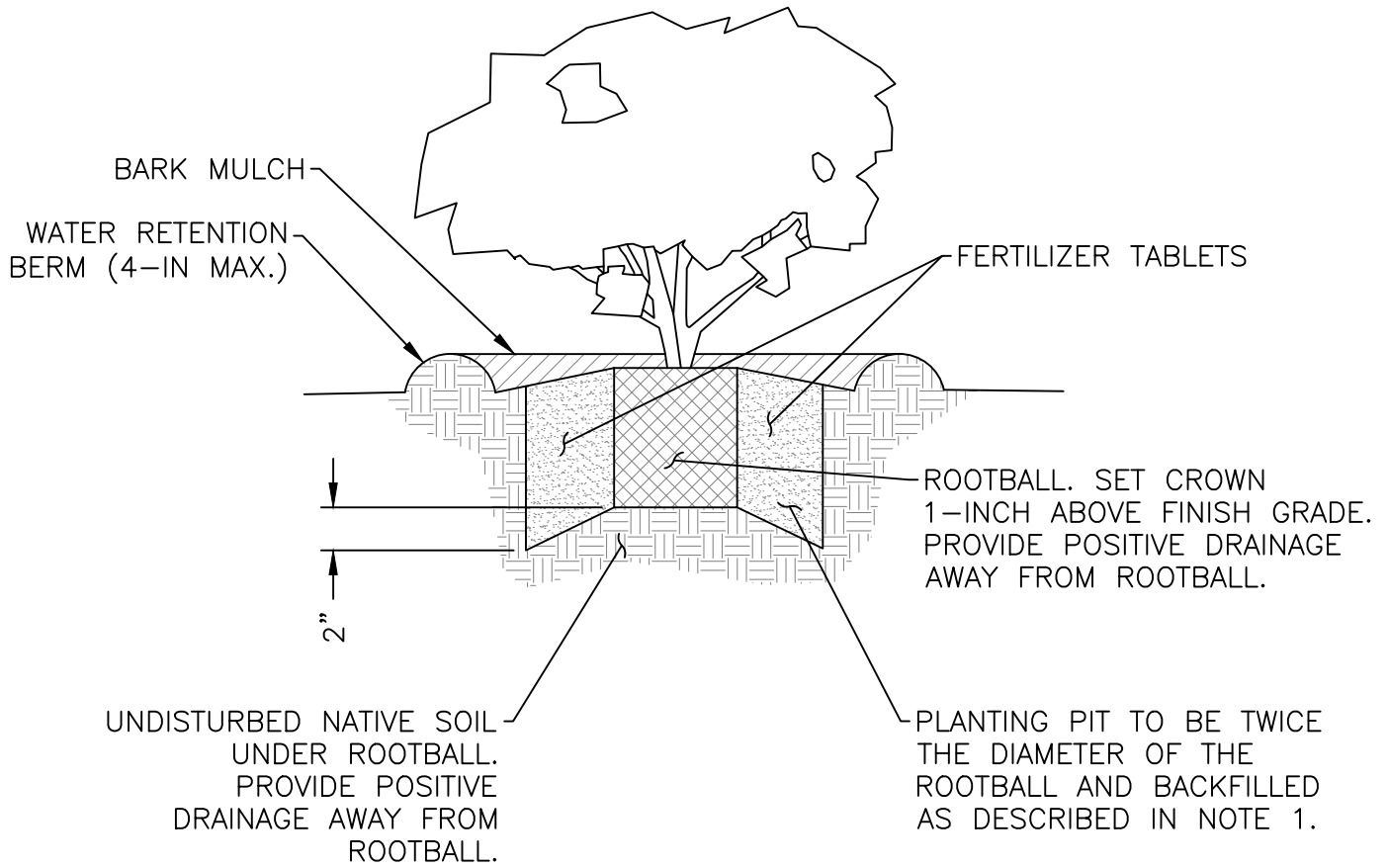


**STANDARD
DETAIL**

Date: **JANUARY 2021**

Drawing No:

L-29




NOTE

1. Organic backfill amendment to be nitrogen stabilized fir or redwood bark. install backfill in 6-inch lifts, water to settle.

1 GAL.	2 TABLETS
2 OR 5 GAL.	3 TABLETS
15 GAL.	6 TABLETS
24-IN. BOX OR LARGER	10 TABLETS

FERTILIZER

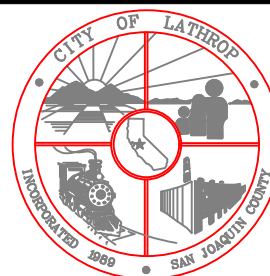
NOT TO SCALE

Approved by: 

City Of Lathrop
Public Works Director

No	Revised	Date

CITY OF LATHROP
DEPARTMENT OF PUBLIC WORKS
SHRUB PLANTING



**STANDARD
DETAIL**

Date: **JANUARY 2021**

Drawing No:

L-30

GROUND COVER – TRIANGULAR SPACE PER O.C., SPACING SHOWN ON PLANTING LEGEND, PLANTLETS TO BE SET WITH THEIR ROOTS IN AMENDED SOIL

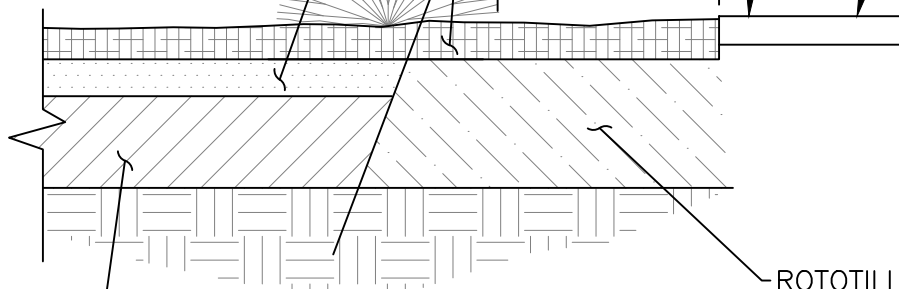
THE NEED TO PREVENT OVERGROWTH ON SIDEWALKS OR CURBS, ALL GROUND COVER MUST BE PLANTED AWAY FROM SIDEWALKS AND CURBS WITH THE EXPECTATION OF FULL GROWTH.

3" ORGANIC AMENDMENT (SEE NOTE 1)

3" BARK MULCH

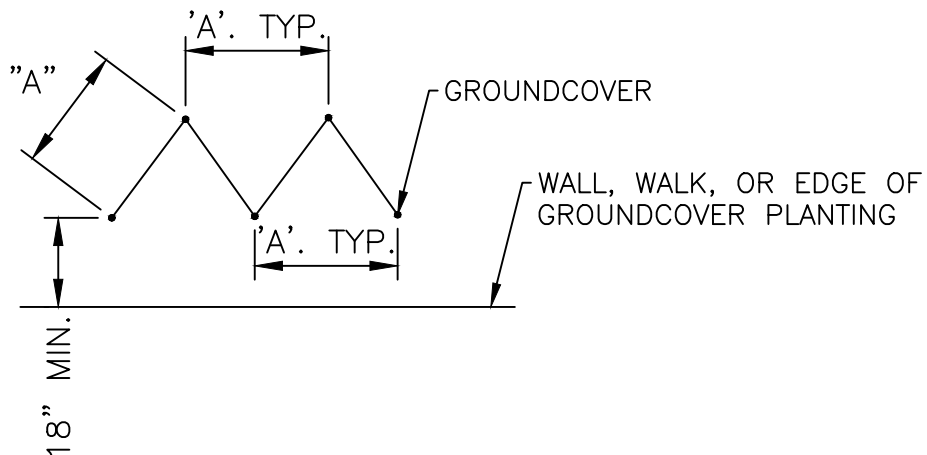
18"

SIDEWALK OR CURB



ROTOTILL ORGANIC AMENDMENT INTO SOIL

CLEAN NATIVE SOIL, FREE OF ROCKS AND DEBRIS



NOTE

1. Organic amendments shall be nitrogen
2. Stabilized fir or redwood bark to be used
3. Planting dimension 'A', per plant type. Show spacing on planting legend.

NOT TO SCALE

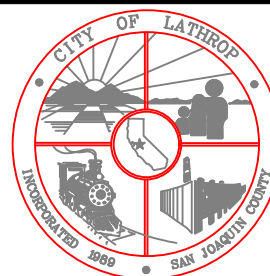
Approved by:

City Of Lathrop
Public Works Director

No	Revised	Date

CITY OF LATHROP
DEPARTMENT OF PUBLIC WORKS

**GROUND COVER
PLANTING AND SPACING**



**STANDARD
DETAIL**

Date: **JANUARY 2021**

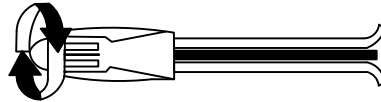
Drawing No:

L-31

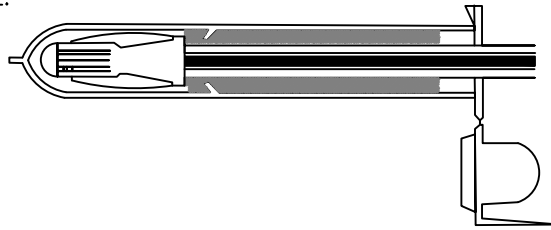
STEP 1: STRIP WIRES $\frac{1}{2}$ " FROM ENDS.



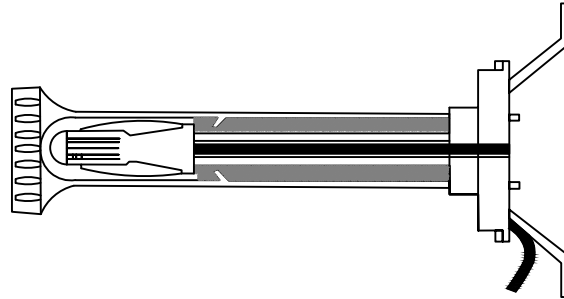
STEP 2: APPLY SCOTCHLOCK OR APPROVED EQUALLY SPRING CONNECTOR IN A CLOCKWISE DIRECTION.



STEP 3: INSERT SPLICE TO BOTTOM OF GEL-FILLED TUBE. CHECK TO MAKE SURE CONNECTOR HAS BEEN PUSHED PAST LOCKING FINGERS AND IS SEATED AT BOTTOM OF TUBE.



STEP 4: POSITION WIRES IN WIRE CHANNELS AND CLOSE INSULATOR TUBE COVER.



NOT TO SCALE

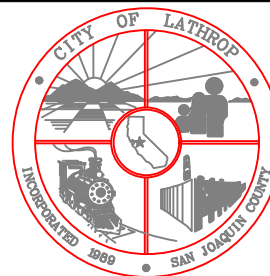
Approved by:

City Of Lathrop
Public Works Director

No	Revised	Date

CITY OF LATHROP
DEPARTMENT OF PUBLIC WORKS

**3M-DBY WIRE CONNECTION
FOR NON-2 WIRE SYSTEMS**

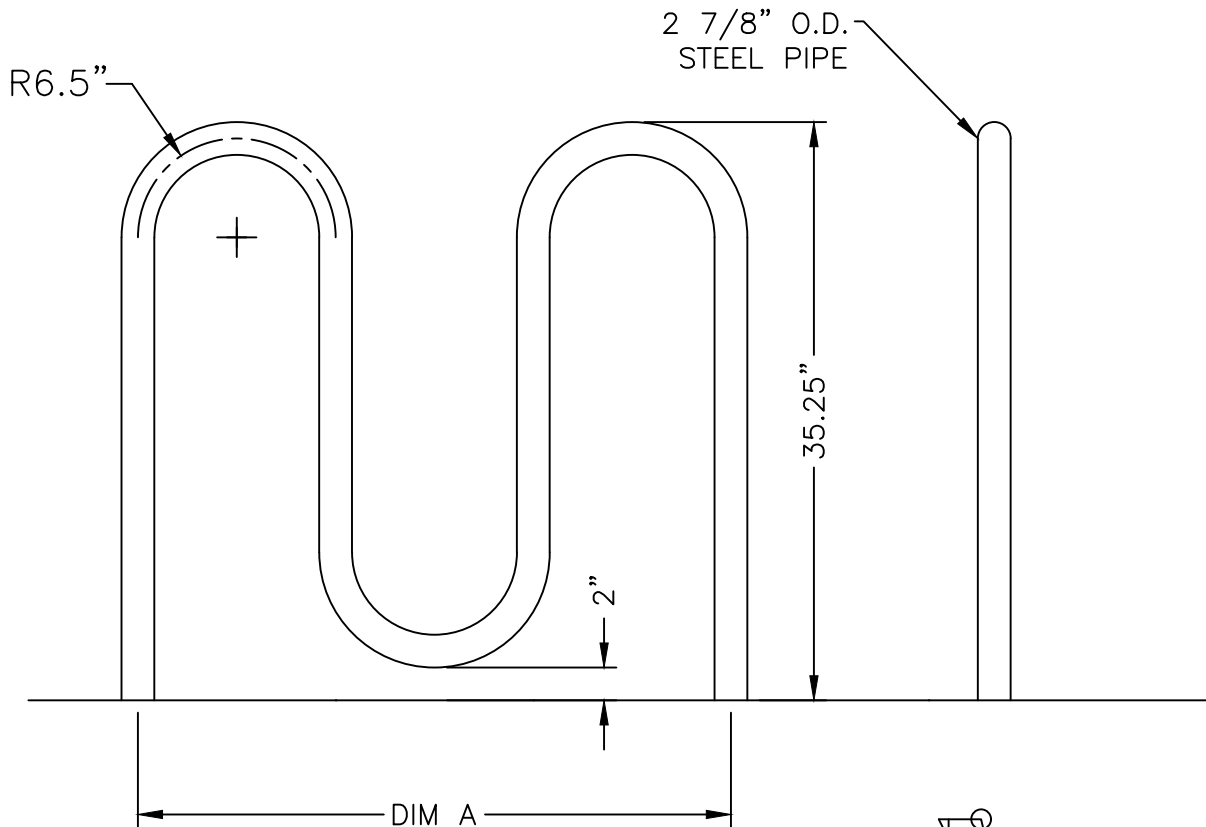


**STANDARD
DETAIL**

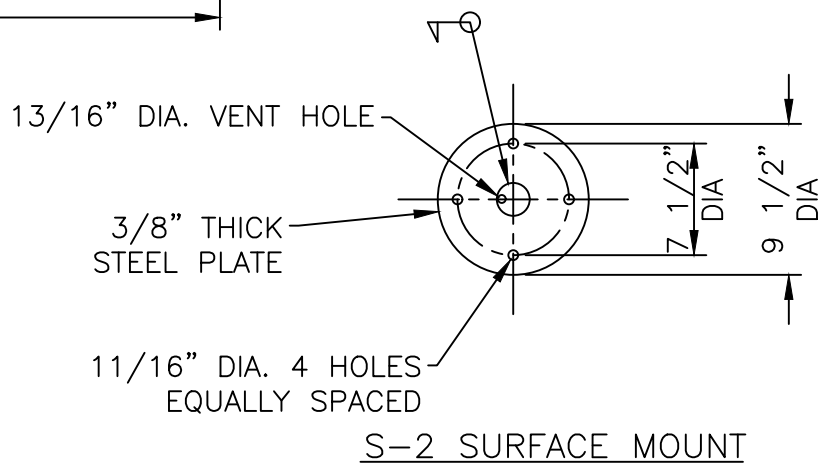
Date: **JANUARY 2021**

Drawing No:

L-32



MODEL NO.	PEAKS	DIM "A"
125-20	2	37 1/2" LG
125-30	3	62 1/2" LG
125-40	4	87 1/2" LG
125-50	25	112 1/2" LG




FINISH OPTIONS:

- RAL 6012 POWDER COATING

NOTES:

1. 1/2-in x 3 3/4-in plated expansion anchor bolts provided for option S-2.
2. finish material is stainless steel.
3. Single inverted "U" rack may be used in appropriate situations.
4. Materials can be obtained through Dumor Inc. P.O. Box 142, Mifflintown, PA. 17059-0142, 125 series or approved equal.
5. An alternate source and options is bikeparking.com tel. (888) 764-2453, Palmer Group LLC. 1728 Ocean Ave, #132, San Francisco, CA. 94112.

NOT TO SCALE

Approved by: 

City Of Lathrop
Public Works Director

No	Revised	Date

CITY OF LATHROP
DEPARTMENT OF PUBLIC WORKS

STANDARD
BIKE RACK



STANDARD
DETAIL


Date: **JANUARY 2021**

Drawing No:
L-33

Street Type	ROW ¹	Street Section ²	Median ³	Travel Lanes (#) width	Bike Lanes	Parking Lanes ⁴	Curb	Planter Strip ⁵	Sidewalk (separated)	Landscaping (off-street pathway) ⁶	Fronting Homes (Yes/No)
A	B	C	D	E	F	G	H	I	J	K	
Public Alley	20	20	0	(2) 10	0	0	0	0	0	None	No
Cul-de-sac	56	36	0	(2) 10	0	8	0.5	0	5	None	Yes
Local Residential	56	36	0	(2) 10	0	8	0.5	0	5	None	Yes
Local Industrial	60	44	0	(2) 14	0	8	0.5	0	Note ⁷	None	No
Local Commercial	65	44	0	(2) 14	0	8	0.5	0	10	None	No
Residential Collector (2-lane)	60	38	0	(2) 11	Note ⁸	8	0.5	5	(4.5)	None	Yes
Major Collector (2-lane) Undivided	64	40	0	(2) 12	Note ⁸	8	0.5	5	(4.5)	None	Yes
Major Collector (2-lane) Divided	76	52	12	(2) 12	Note ⁸	8	0.5	5	(4.5)	None	Yes
Major Collector (4-lane) Undivided	84	64	0	(4) 12	Note ⁹	8	0.5	5	(4.5)	None	Yes
Minor Arterial (2-lane)	84	40	0	(2) 12	Note ¹⁰	8	0.5	5	(5) ¹¹	None	Yes
Minor Arterial (4-lane)	97	64	0	(4) 12	Note ¹⁰	8	0.5	5	(5) ¹¹	None	Yes
Arterial (2-lane)	126	40	16	(2) 12	Note ¹⁰	0	0.5	5	(8)	(23) with off-street path	No
Arterial (4-lane)	126	68	16	(2) 12 (2) 14	Note ¹⁰	0	0.5	5	(8)	(23) with off-street path	No
Parkway (4-lane)	112	82	16	(2) 12 (2) 13	0	8	0.5	6.5	(8)	None	No
Parkway (6-lane)	156	106	16	(4) 12 (2) 13	0	8	0.5	6.5	(8)	(25) with off-street path	No

1. ROW = Minimum required Right of Way.
2. Face-of-Curb to Face-of-Curb.
3. Medians shall be landscaped unless noted otherwise.
4. Includes 2 feet of width in the gutter.
5. May be required per Specific Plan.
6. May be required per Specific Plan.
7. 7.5' Sidewalk may be required.
8. (2) 5 foot lanes when on-street bike lanes are required.
9. An additional 10 feet of ROW is required when on-street bike lanes are required.
10. (2) 6 foot lanes when on-street bike lanes are required.
11. 10' sidewalk required in retail commercial areas & pedestrian-intensive use frontages.

NOT TO SCALE

Approved by: 

City Of Lathrop
Public Works Director

No	Revised	Date

CITY OF LATHROP
DEPARTMENT OF PUBLIC WORKS

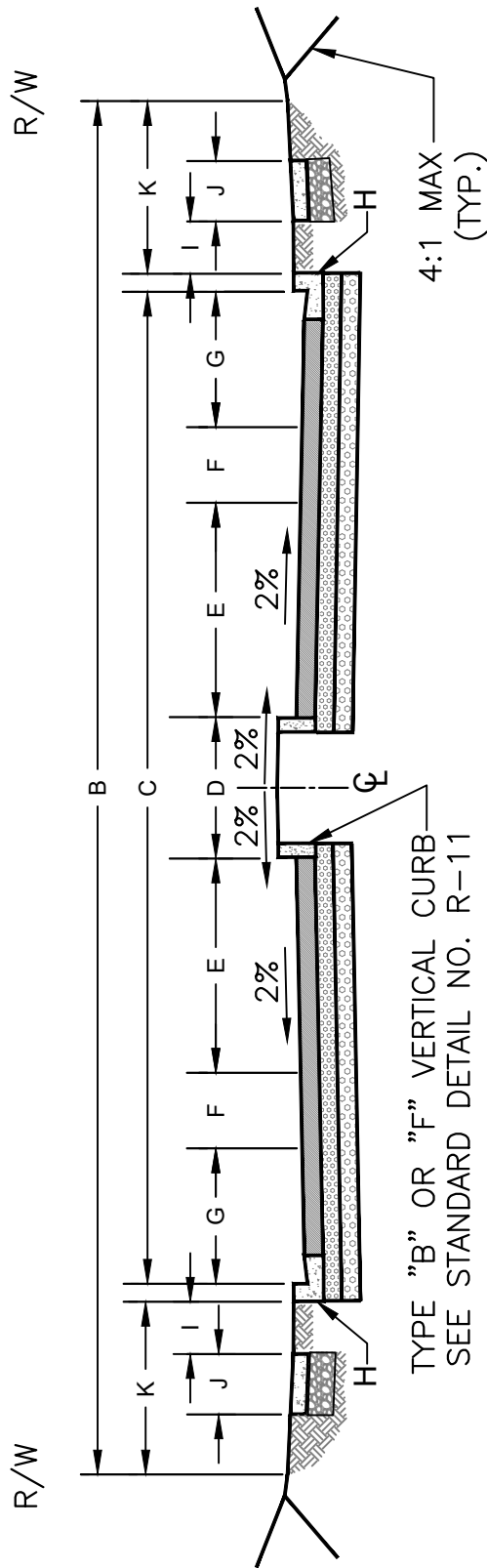
TYPICAL STREET SECTION DIMENSIONS



STANDARD DETAIL

Date: **JANUARY 2021**

Drawing No:
R-1




A-STREET TYPE

NOTES:

1. The structural section shall be determined by the roadway design standards.
2. For curb, gutter and sidewalk details, refer to Standard Details No. R-5 thru R-12. Slopes shown are typical.
3. Steeper grades to be approved by City Engineer.

NOT TO SCALE

Approved by: 

City Of Lathrop
Public Works Director

No	Revised	Date

CITY OF LATHROP
DEPARTMENT OF PUBLIC WORKS

TYPICAL STREET SECTION

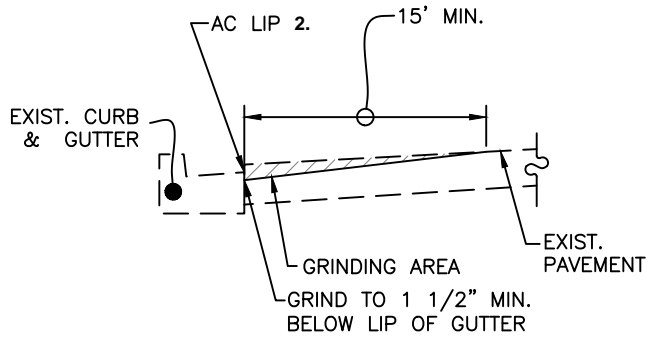


STANDARD DETAIL

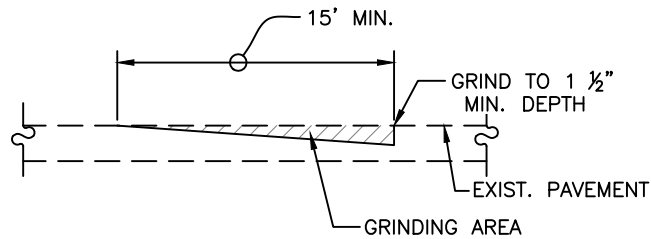
Date: **JANUARY 2021**

Drawing No:

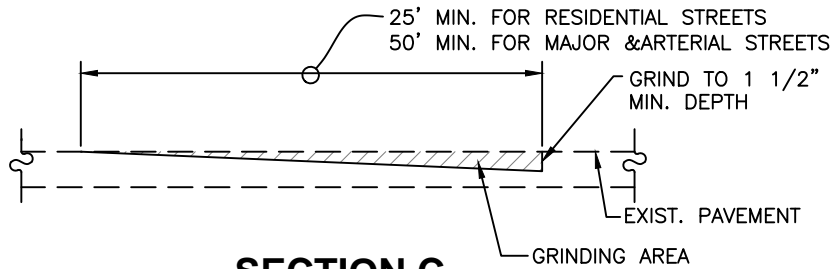
R-2



SECTION A



SECTION B




SECTION C

NOTES:

1. Place ac at gutter to 1/4" above lip.
2. At curb with no gutter, grind to 2" depth at face of curb and pave to grades specified by engineer/inspector in field.
3. Break overlay at grinding areas so that min. 1 1/2" thickness is achieved.
4. Conform and grinding areas, existing utility frames and covers shall be lowered and then raised to finish grade after paving.

NOT TO SCALE

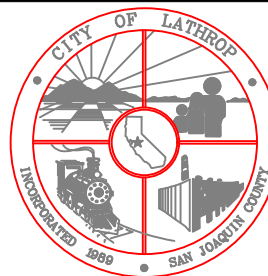
Approved by: 

City Of Lathrop
Public Works Director

No	Revised	Date

CITY OF LATHROP
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PAVEMENT OVERLAY

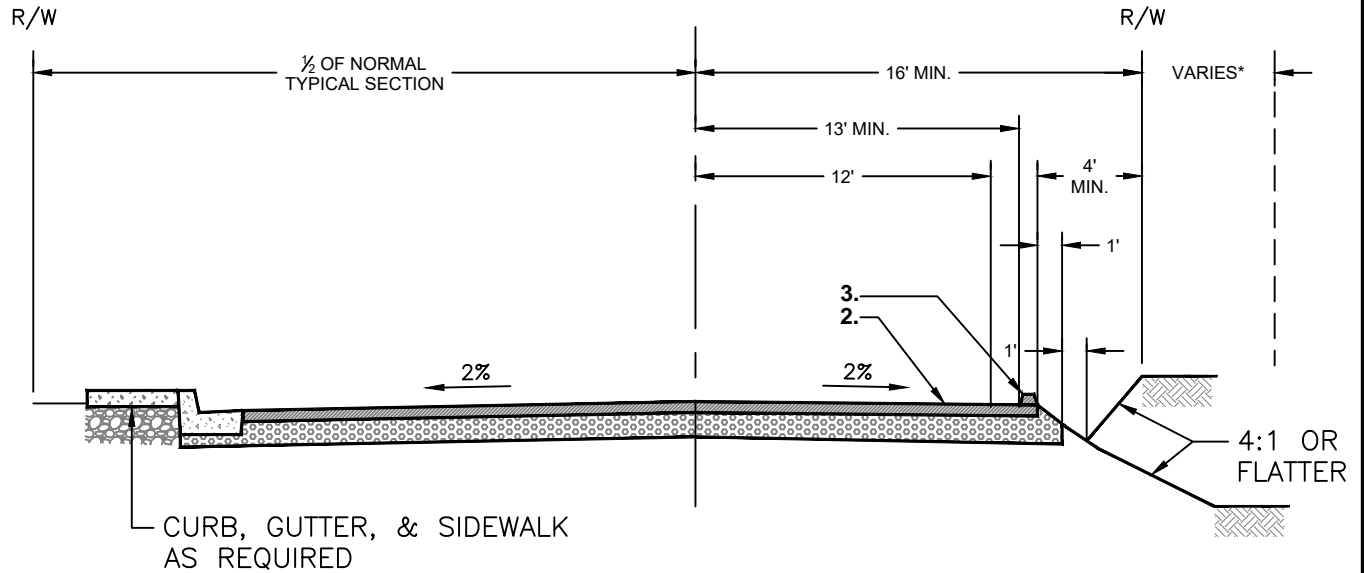


**STANDARD
DETAIL**

Date: **JANUARY 2021**

Drawing No:

R-3




TYPICAL PARTIAL WIDTH STREET

* SLOPE EASEMENT WILL BE REQUIRED ONLY IF SIDE SLOPES EXTENDS OUTSIDE THE R/W.

NOTES:

1. The 12 ft. partial width street detail is to be used only for new development on one side of a new roadway.
2. Place 4 inch white edge line.
3. Place 6" AC dike with curb cuts as needed for drainage.

NOT TO SCALE

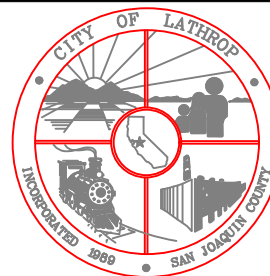
Approved by: 

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Public Works Director

No	Revised	Date

CITY OF LATHROP
DEPARTMENT OF PUBLIC WORKS

**PARTIAL WIDTH
STREET SECTION**



**STANDARD
DETAIL**

Date: **JANUARY 2021**

Drawing No:

R-4

CONCRETE CONSTRUCTION NOTES

(Typical for Standard Details No. R-5 to R-61)

1. Curb, gutter and sidewalk construction shall conform to Section 73, Standard Specifications, California Department of Transportation (Caltrans), except as modified herein.
2. Reference is made to the City of Lathrop, design guidelines for additional requirements relating to the construction of concrete curb, gutter, and sidewalk.
3. The top 6 inches of subgrade shall be compacted to a minimum relative compaction of 90% per ASTM D1557 for curb, gutter, sidewalks and residential driveways and 95% for commercial and industrial driveways.
4. All radii for rounding edges shall be 3/4" unless noted.
5. Concrete shall be 6 sack minimum and provide 3000 psi strength at 28 days. Add 1 lb. lamp black per cubic yard for all flat work including monolithic sidewalk. Adjust quantity of lamp black to match adjacent concrete for repair of existing sidewalk.
6. Concrete slump shall be per ASTM standards.
7. Expansion joints and weakened plane joints shall be installed as indicated on the plans or standard details. Construct 1/2" expansion joints at 40' maximum intervals, at ends of curb returns, at both ends of driveway, around light poles, hydrants and other fixed objects in sidewalk. Transverse weakened plane joints shall be constructed at 10' maximum intervals.
8. Curb, gutter and sidewalk shall have a light broom finish; curb and gutter parallel to the flowline. Sidewalks perpendicular to the flowline.
9. Depress the 2" high letters "I", "W", "RW", "S", "NPW" and "LFL" 1/4" deep into the top of the curb to identify service locations.
10. During construction of gutters, water shall be used to insure proper drainage along the flowline.
11. All concrete shall have an impervious membrane curing compound as per City Engineer.
12. Trees within 8' of concrete shall have a root barrier installed.
13. Stamped concrete shall have random slate pattern with 4lbs of lamp black per cubic yard.

NOT TO SCALE

Approved by:

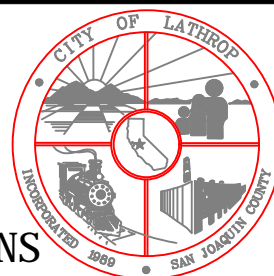


City Of Lathrop
Public Works Director

No	Revised	Date

CITY OF LATHROP
DEPARTMENT OF PUBLIC WORKS

**CONCRETE CURB, GUTTER
AND SIDEWALK
CONSTRUCTION SPECIFICATIONS**

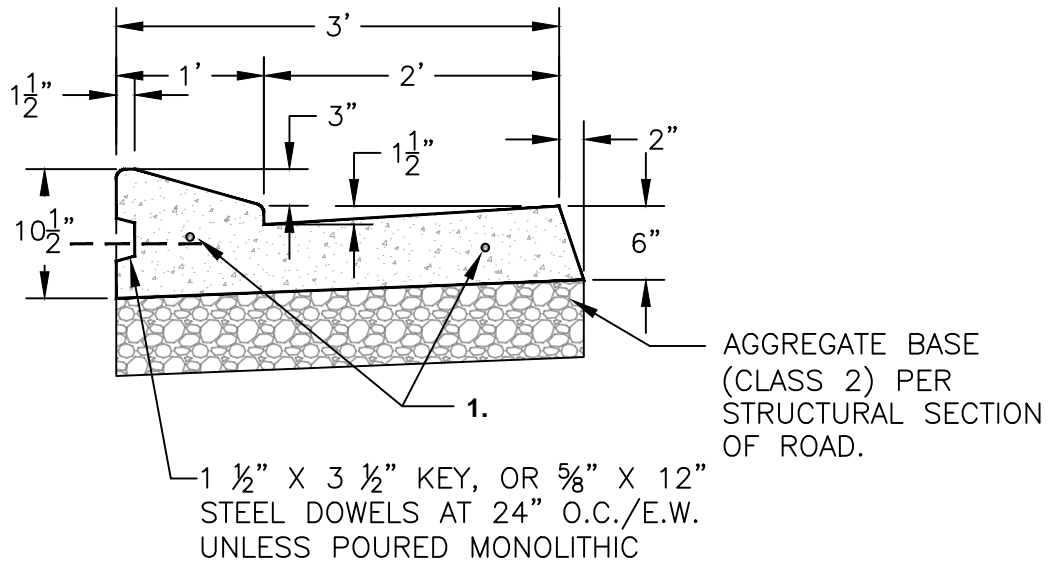


**STANDARD
DETAIL**

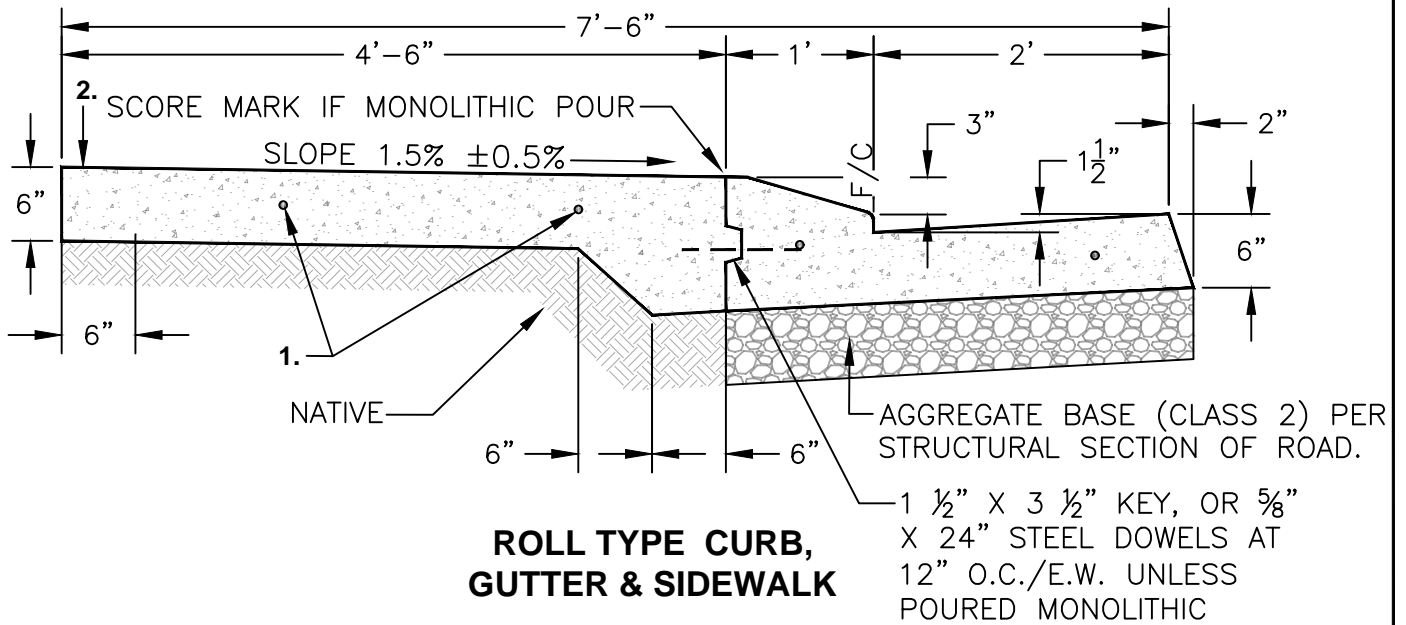
Date: **JANUARY 2021**

Drawing No:

R-5



ROLL TYPE CURB & GUTTER




ROLL TYPE CURB, GUTTER & SIDEWALK

NOTES:

1. 5/8" x 12" long steel dowels at 24" O.C./E.W., one side with plastic sleeve through all expansion and cold joints.
2. Where existing sidewalk is to be removed and replaced, sidewalk shall be removed to deep score joint.
3. See notes on Standard Detail No. R-5.

NOT TO SCALE

Approved by: 

City Of Lathrop
Public Works Director

No	Revised	Date

CITY OF LATHROP
DEPARTMENT OF PUBLIC WORKS

ROLL CURB, GUTTER AND SIDEWALK (RESIDENTIAL)

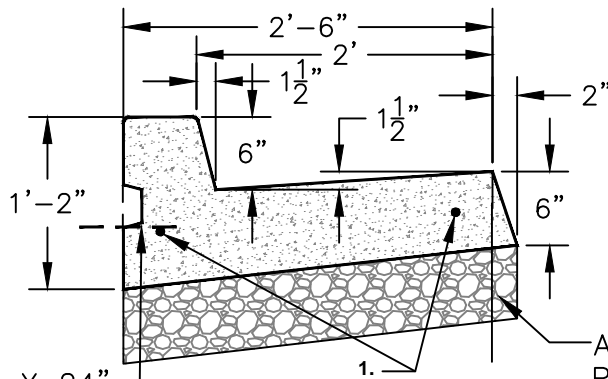


**STANDARD
DETAIL**

Date: **JANUARY 2021**

Drawing No:

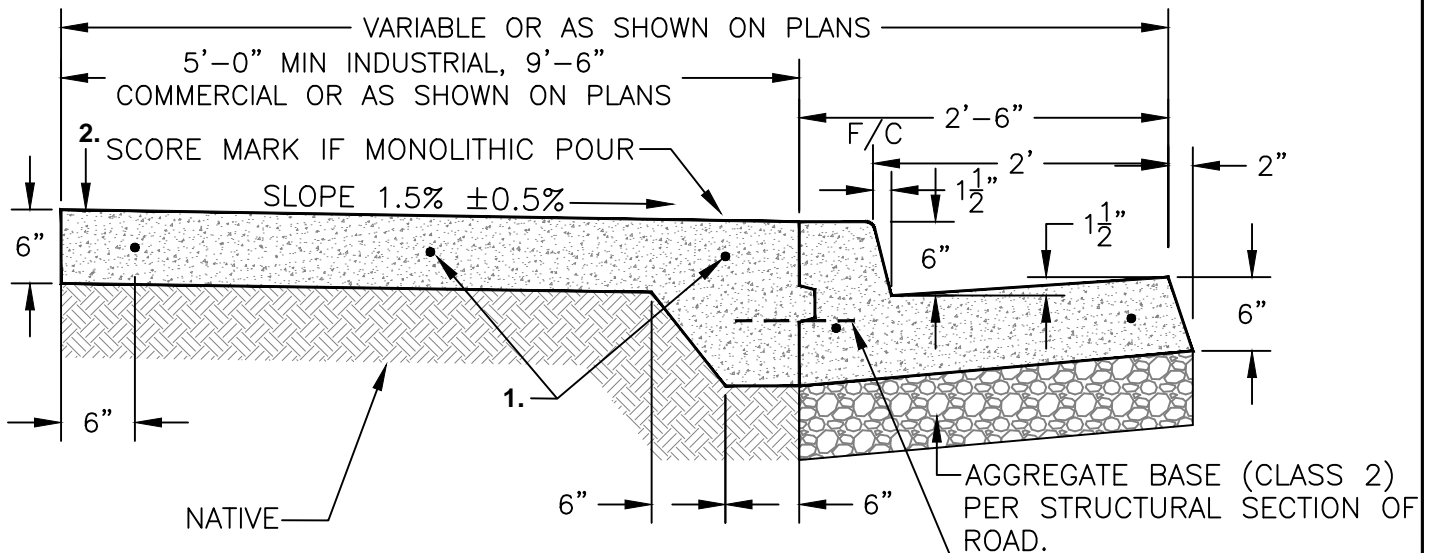
R-6



1 1/2" X 3 1/2" KEY, OR 5/8" X 24"
STEEL DOWELS AT 12" O.C./E.W.
UNLESS POURED MONOLITHIC

AGGREGATE BASE (CLASS 2)
PER STRUCTURAL SECTION
OF ROAD.

VERTICAL CURB & GUTTER



VERTICAL CURB, GUTTER & ATTACHED SIDEWALK

1 1/2" X 3 1/2" KEY, OR
5/8" X 24" STEEL DOWELS
AT 12" O.C./E.W. UNLESS
POURED MONOLITHIC

NOTES:

- 1 1/2" x 3 1/2" Key or 5/8" x 24" long steel dowels, 2 bar min. for curb and gutter, 24" O.C./E.W. for all flatwork, one side with plastic sleeve through all expansion and cold joints.
- Where existing sidewalk is to be removed and replaced, sidewalk shall be removed to deep score joint.
- See notes on Standard Detail No. R-5.

NOT TO SCALE

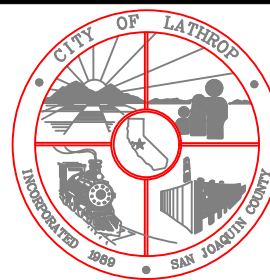
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City Of Lathrop
Public Works Director

No	Revised	Date

CITY OF LATHROP
DEPARTMENT OF PUBLIC WORKS

**VERTICAL CURB, GUTTER
AND SIDEWALK**
(COMMERCIAL, INDUSTRIAL, AND CROSSROADS)

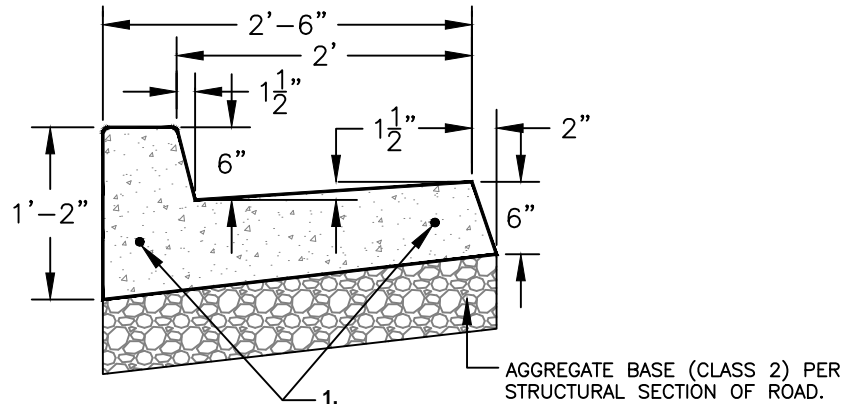


**STANDARD
DETAIL**

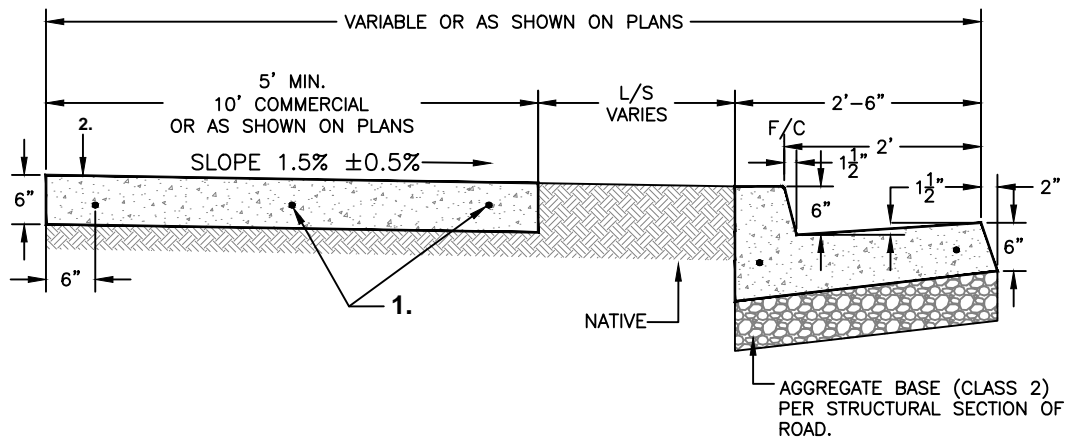
Date: **JANUARY 2021**

Drawing No:

R-7



VERTICAL CURB & GUTTER



VERTICAL CURB, GUTTER w/ DETACHED SIDEWALK

NOTES:

1. 5/8" x 24" long steel dowels, 2 bar min. for curb and gutter, 24" O.C./E.W. for all flatwork, one side with plastic sleeve through all expansion and cold joints.
2. Where existing sidewalk is to be removed and replaced, sidewalk shall be removed to deep score joint.
3. See notes on Standard Detail No. R-5.

NOT TO SCALE

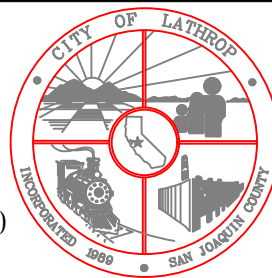
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Public Works Director

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CITY OF LATHROP
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**VERTICAL CURB, GUTTER
w/ DETACHED SIDEWALK**
(COMMERCIAL, INDUSTRIAL, AND CROSSROADS)

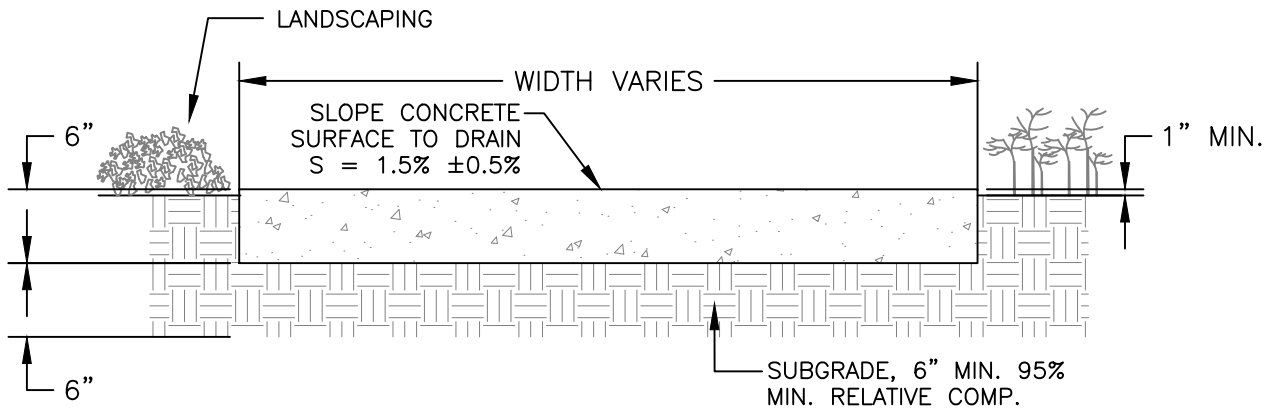


**STANDARD
DETAIL**

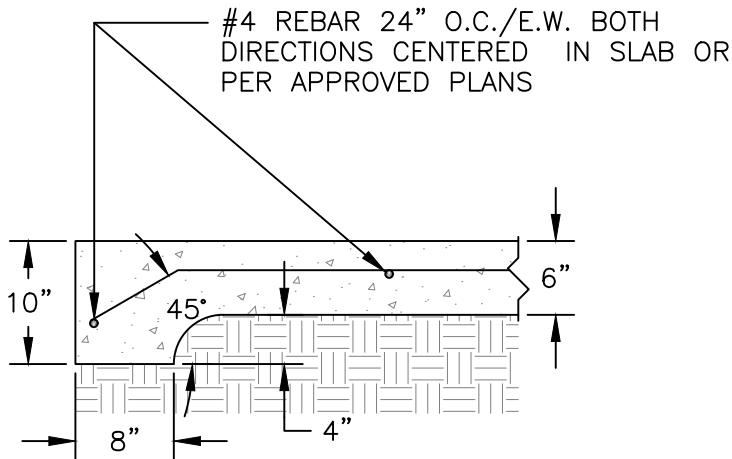
Date: **JANUARY 2021**

Drawing No:

R-8



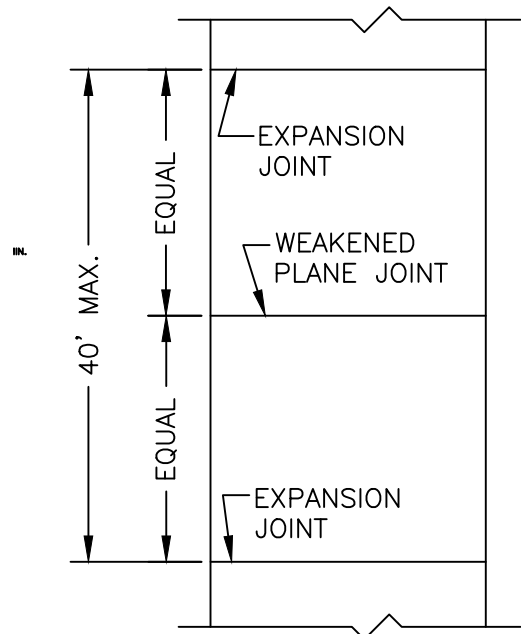
**CONCRETE PATH
(ON-SITE ONLY)**



REINFORCED CONCRETE PATH


NOTES:

1. Some concrete paths may require thicker (class II base rock) reinforced sections to accommodate heavier maintenance vehicles as designated by the City Engineer.
2. Concrete paths for vehicle traffic must be minimum 8' wide.



PLAN VIEW

NOT TO SCALE

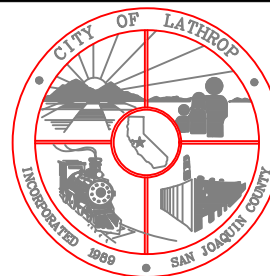
Approved by: 

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Public Works Director

No	Revised	Date

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DEPARTMENT OF PUBLIC WORKS

CONCRETE PATH

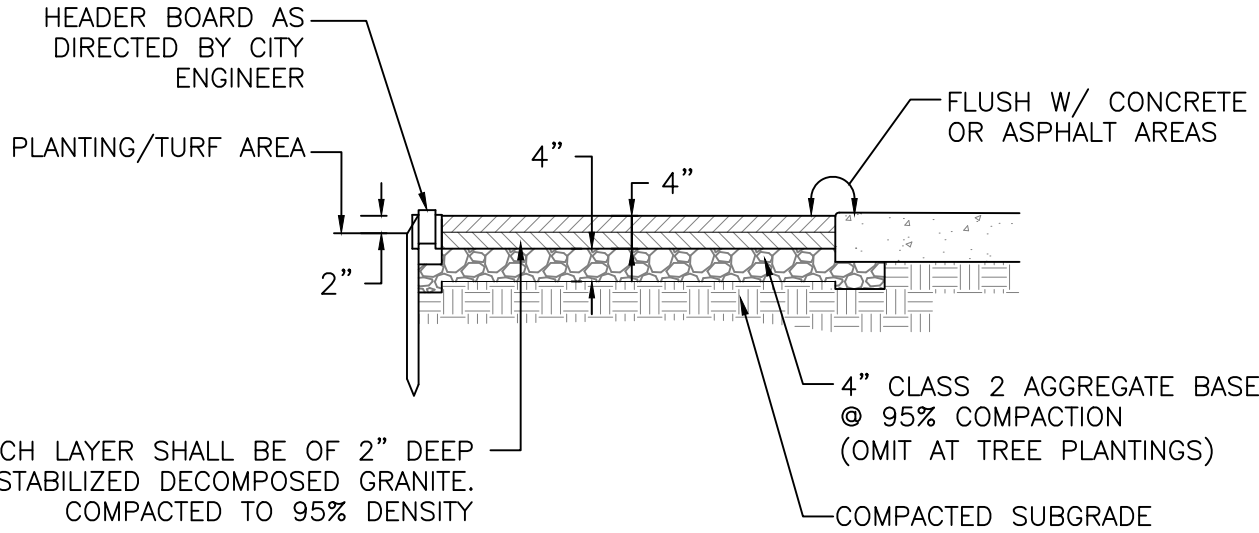


**STANDARD
DETAIL**

Date: **JANUARY 2021**

Drawing No:

R-9



EACH LAYER SHALL BE OF 2" DEEP STABILIZED DECOMPOSED GRANITE. COMPACTED TO 95% DENSITY


4" CLASS 2 AGGREGATE BASE @ 95% COMPACTION (OMIT AT TREE PLANTINGS)

COMPACTED SUBGRADE

NOTES:

1. First layer of D.G. paving shall be compacted before installation of second layer.
2. Application method and color of D.G. shall be as per plan and approved submittals.

NOT TO SCALE

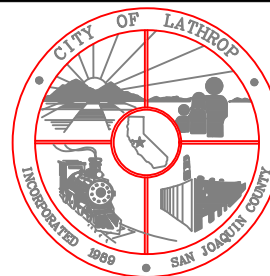
Approved by: 

City Of Lathrop
Public Works Director

No	Revised	Date

CITY OF LATHROP
DEPARTMENT OF PUBLIC WORKS

**STABILIZED DECOMPOSED
GRANITE PATH**

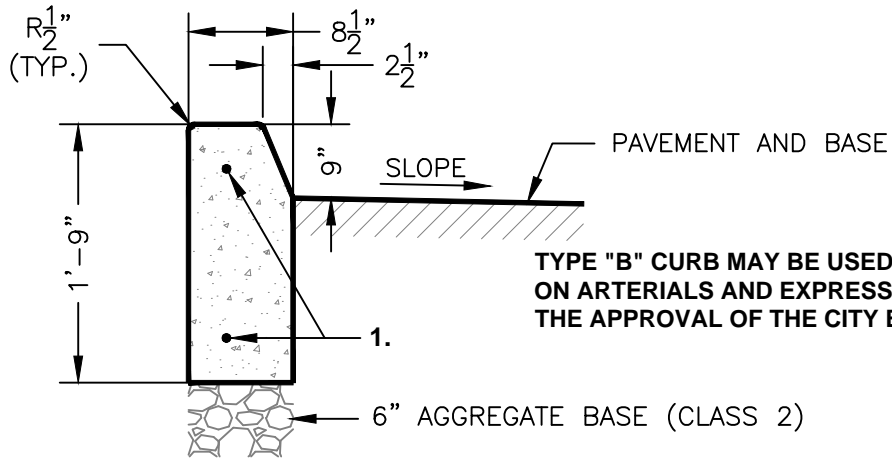


**STANDARD
DETAIL**

Date: **JANUARY 2021**

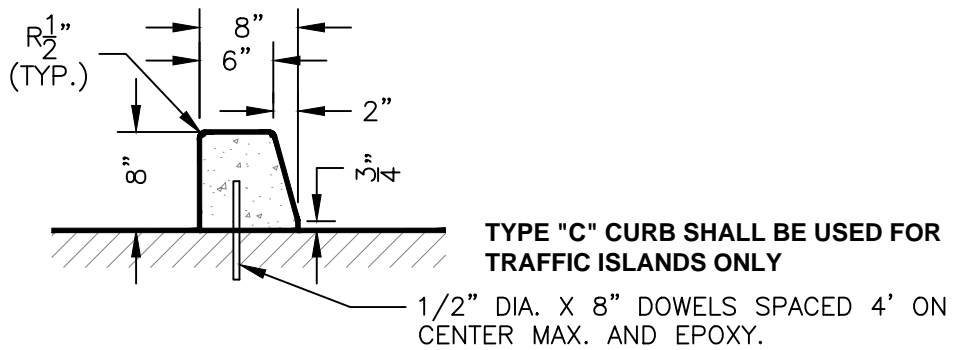
Drawing No:

R-10



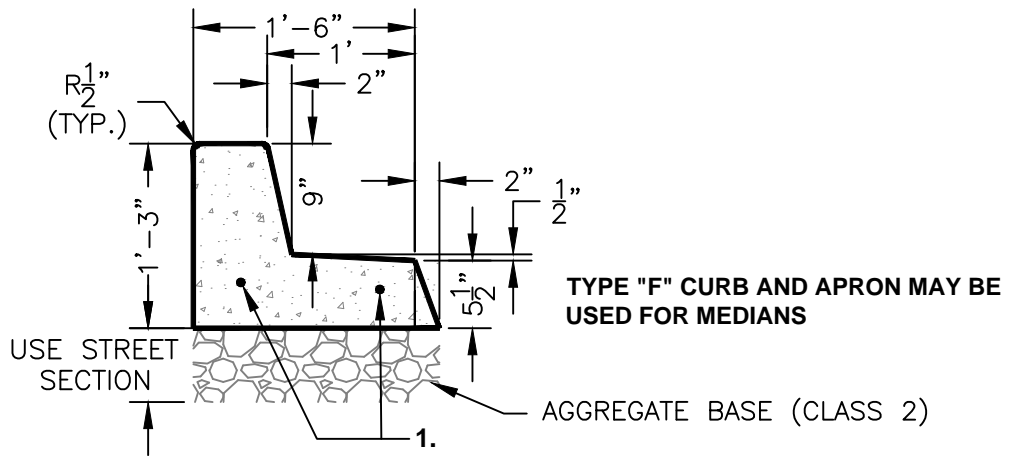
TYPE "B" CURB MAY BE USED FOR MEDIANS ON ARTERIALS AND EXPRESSWAYS WITH THE APPROVAL OF THE CITY ENGINEER

TYPE "B" VERTICAL CURB



TYPE "C" CURB SHALL BE USED FOR TRAFFIC ISLANDS ONLY

TYPE "C" CURB




TYPE "F" CURB AND APRON MAY BE USED FOR MEDIANS

TYPE "F" CURB & APRON

NOTES:

1. 5/8" x 24" long steel dowels, greased and wrapped one side through all expansion and cold joints.
2. Full structural section to extend to back of curb unless otherwise noted.
3. See notes on Standard Detail No. R-5.

NOT TO SCALE

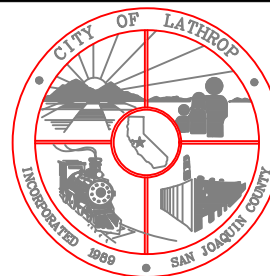
Approved by: 

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Public Works Director

No	Revised	Date

CITY OF LATHROP
DEPARTMENT OF PUBLIC WORKS

MEDIAN AND TRAFFIC ISLAND CURBS

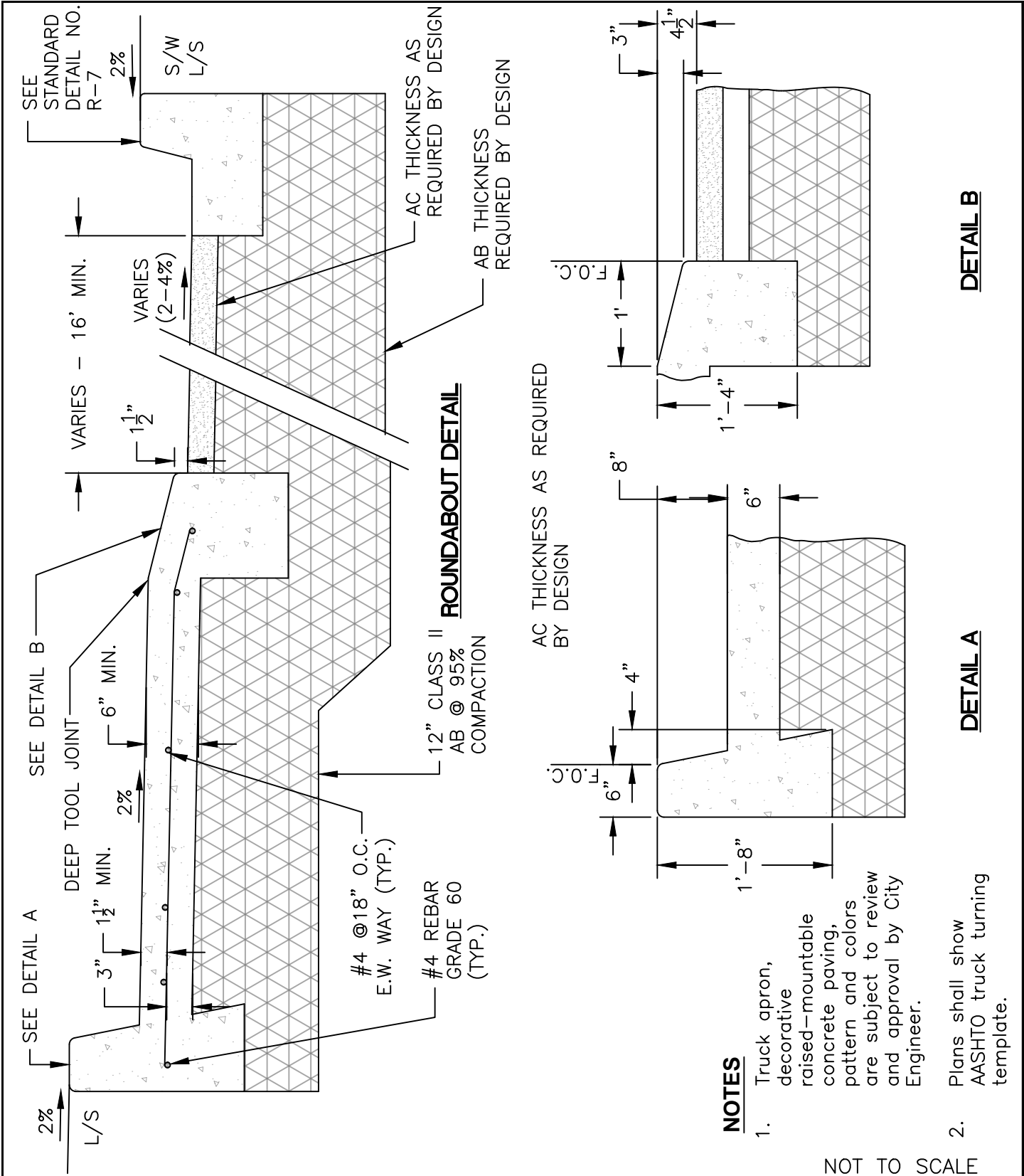


STANDARD DETAIL

Date: **JANUARY 2021**

Drawing No:

R-11



NOTES

1. Truck apron, decorative raised-mountable concrete paving, pattern and colors are subject to review and approval by City Engineer.
2. Plans shall show AASHTO truck turning template.

NOT TO SCALE

Approved by: 

City Of Lathrop
Public Works Director

No	Revised	Date

CITY OF LATHROP
DEPARTMENT OF PUBLIC WORKS

ROUNDABOUT



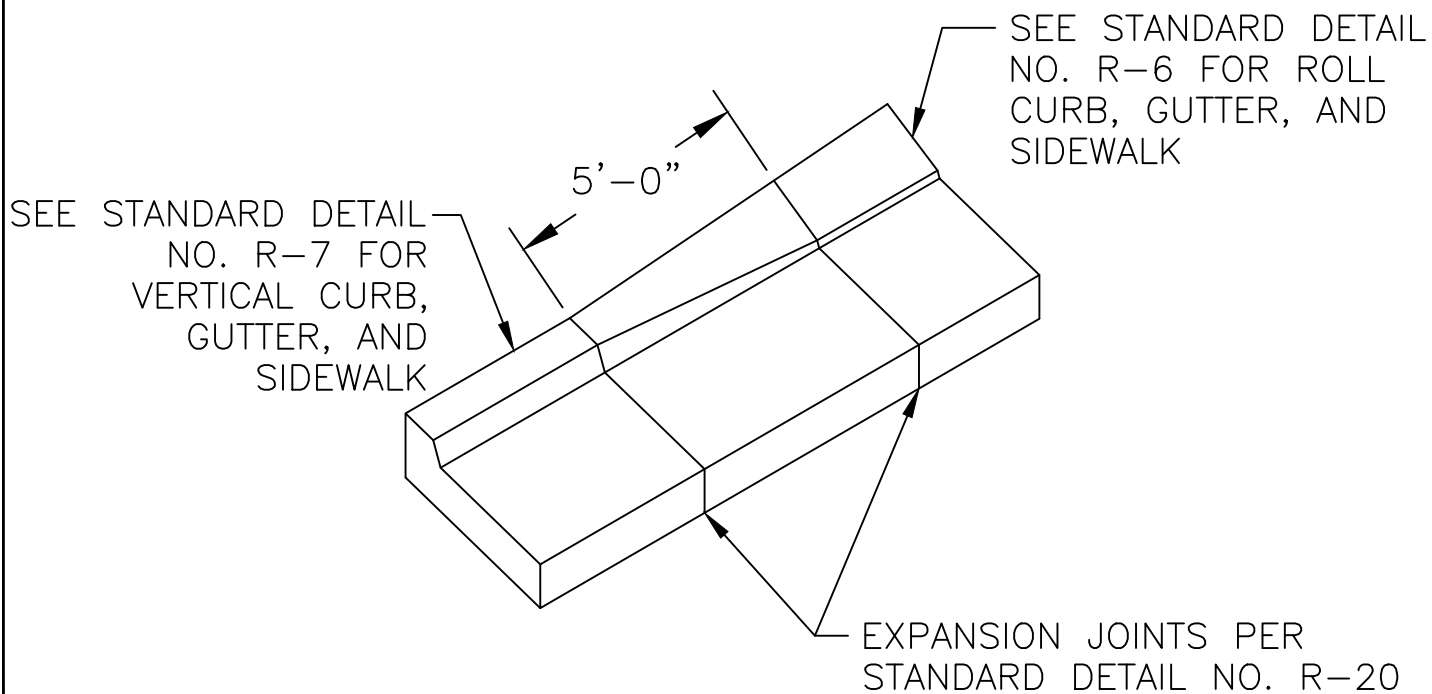
**STANDARD
DETAIL**

Date: **JANUARY 2021**

Drawing No:
R-12

DETAIL B

DETAIL A



NOT TO SCALE

Approved by:

City Of Lathrop
Public Works Director

No	Revised	Date

CITY OF LATHROP
DEPARTMENT OF PUBLIC WORKS

**CURB TRANSITION
DETAIL**



**STANDARD
DETAIL**

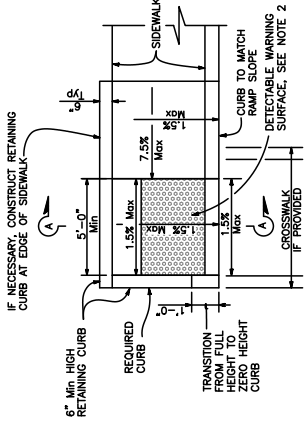
Date: **JANUARY 2021**

Drawing No:

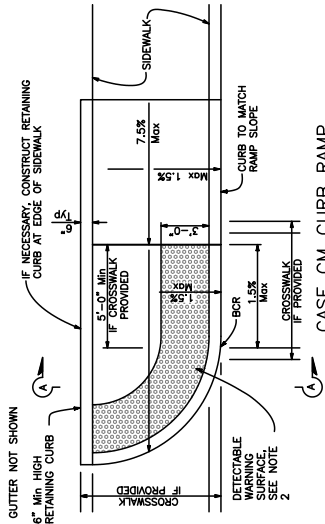
R-13

NOTES:

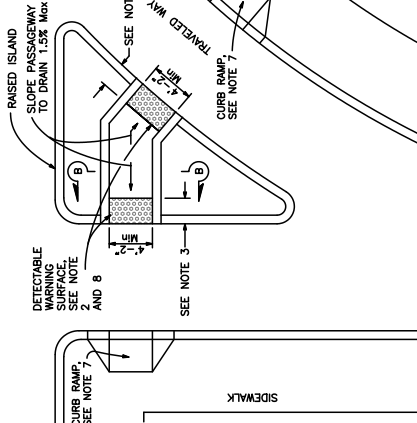
1. Sidewalk, ramp and passageway thickness, "T", shall be 3 1/2" minimum.
2. For details of detectable warning surfaces, see Standard Detail R-X.
3. Where an island passageway length is greater than or equal to 6'-0", but less than 8'-0", each detectable warning surface shall extend the full width and 2'-0" depth of the passageway length. Where an island passageway length is greater than or equal to 8'-0", each detectable warning surface shall extend the full width and 3'-0" depth of passageway length. Detectable warning surfaces shall extend the full width of the island passageway except a maximum gap 1 inch is allowed on each side.
4. The adjacent surfaces at transitions at curb ramps to walks, gutters, and streets shall be at the same level.
5. Utility pull boxes, manholes, vaults and all other utility facilities within the boundaries of the curb ramp will be relocated or adjusted to grade by the owner prior to, or in conjunction with, curb ramp construction.
6. Detectable warning surface may have to be cut to allow removal of utility covers while maintaining detectable warning width and dept.
7. For additional curb ramp details, see Standard Detail R-X.
8. The detectable warning surface will be a rectangle as shown at the face of curb, unless modified in the Project Plans.
14. Any ADA path of travel affected by construction shall have an alternate path.
15. ALL WORK SHALL CONFORM TO THE CURRENT VERSION OF THE CALTRANS STANDARD PLANS A88A AND A88B.



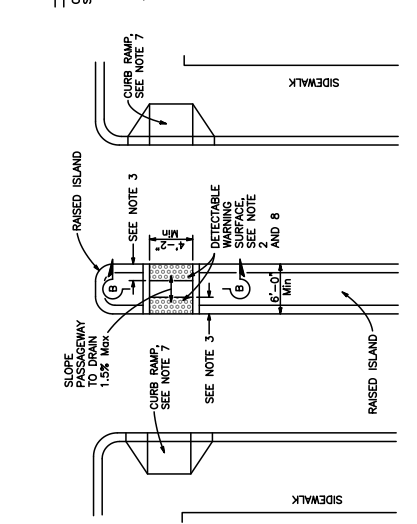
CASE CH CURB RAMP



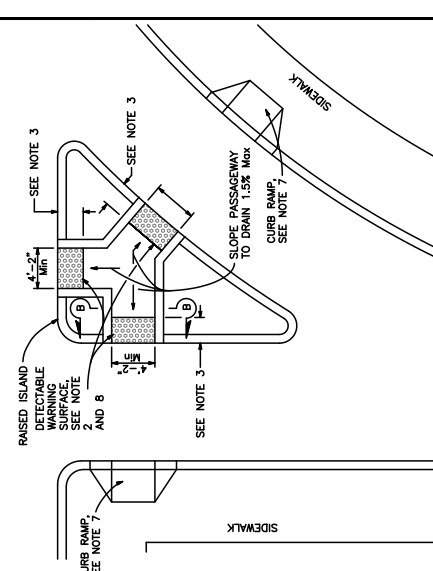
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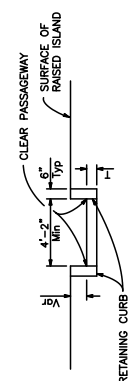
TYPE B PASSAGEWAY



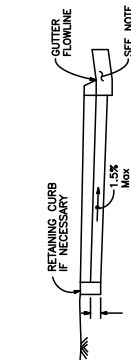
TYPE A PASSAGEWAY



TYPE C PASSAGEWAY



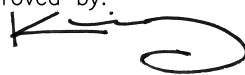
SECTION B-B



SECTION A-A

NOT TO SCALE

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION
CURB RAMP DETAILS
NO SCALE

Approved by: 

City Of Lathrop
Public Works Director

No	Revised	Date

CITY OF LATHROP
DEPARTMENT OF PUBLIC WORKS
ADA CURB RAMP AND ISLAND PASSAGEWAY DETAILS



STANDARD DETAIL

Date: **JANUARY 2021**


Drawing No: **R-15**

CURB HEIGHT	RAMP LENGTH "D"	DISTANCE "S"	SLOPE "W"
4-IN	4.6-FT	3.33-FT	4.0-FT
5-IN	5.9-FT	4.17-FT	5.0-FT
6-IN	7.2-FT	5.0-FT	6.0-FT
7-IN	8.6-FT	5.83-FT	7.0-FT
8-IN	9.9-FT	6.66-FT	8.0-FT

NOTES:

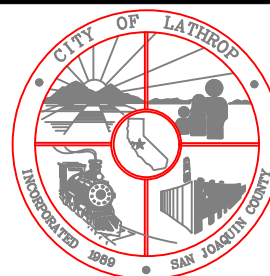
1. Handicap ramps shall be constructed at midpoint of curb returns.
2. All concrete shall be 3,000 p.s.i. minimum. 1 Pound Lamp Black required per cubic yard.
3. All concrete shall have a minimum 4" cushion of native soil at 95% relative compaction (D1557-78) on compacted sub-grade. The use of recycled A.B. shall not be allowed (unless specified by City Engineer).
4. Ramps shall have a heavy broom finish transverse to the slope of the ramp.
5. Construct deep score lines at leading edge of tactile strips.
6. Crosswalks shall be striped centered on the landing of the handicap ramp.
7. Curb ramp side slope varies uniformly to a maximum of 9% at curb to conform with longitudinal sidewalk slope adjacent to top of ramp, except in Type 'C' or 'D'.
8. Utility pull boxes, manholes, vaults, and all other utility facilities within the boundaries of the curb ramp will be relocated by others prior to, or in conjunction with, curb ramp construction.
9. Dowel curb ramps at all cold joints in existing concrete with #3 rebars 12-inch long at 36-inch intervals. drive tight fit or epoxy. Expansion joints and/or weakened plane joints shall separate curb ramps in new concrete construction.
10. All slope relative to existing street grades.
11. General notes on truncated domes:
 - A. Wheel chair curb cut ramps shall have a prefabricated detectable warning surface installed on ramp surface consisting of tile(s) with raised truncated domes conforming to the details on this standard plan and shall be in conformance with the requirements established by the department of General Services, Division of State Architect, and the American with Disabilities Act (Title 49 CFR Transportation, Part 37.9 Standards for Accessible Transportation Facilities, Appendix A, Section 4.29.2 Detectable Warnings on the Walking Surfaces) and shall be cast in place in conformance with the manufacturer's cast in place requirements.
 - B. Detectable warnings surface shall extend the full width and 3-ft depth of the ramp. The edge of the detectable warning surface nearest the street shall be between 6-inch and 8-inch from the gutter flowline. When a detectable surface edge and/or domes is cut and the resulting edge is not flush with the surface of the ramp, the edge shall be beveled or conformed with perimeter sealant at 1:2 max. Slope in accordance with the manufacturer's requirements.

NOT TO SCALE

Approved by:		
		
City Of Lathrop Public Works Director		
No	Revised	Date

CITY OF LATHROP
DEPARTMENT OF PUBLIC WORKS

HANDICAP RAMP
NOTES 1



**STANDARD
DETAIL**

Date: **JANUARY 2021**


Drawing No:

R-16

NOTES:

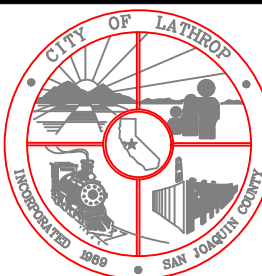
12. Manufacturer(s) warranty on truncated domes:
 Manufacturer(s) shall provide a written 5-year warranty for prefabricated detectable warning surfaces, guaranteeing replacement when there is defect in the dome shape, color fastness, sound-on-cane acoustic quality, resilience, or attachment. warranty period shall begin upon acceptance of work.
13. Truncated domes specifications:
 - A. Plastic tiles shall be "armor tile" as manufactured by Engineered Plastics Inc., or approved equal, tel (800) 682-2525. Tiles shall be a single tile, 36-in x 48-in nominal, manufactured of an epoxy polymer composite with an ultraviolet stabilized, colorfast coating employing aluminum oxide particles in the truncated cones.
 - B. Color shall be yellow.
 - C. The tile shall incorporate an in-line pattern of truncated domes; 0.20-in height, 0.90-in diameter at the base, and 0.40-in diameter at the top of the dome, spaced 2.35-in nominal as measured on a diagonal and 1.70-in nominal as measured side by side; rows shall be oriented parallel with ramp direction; domes shall be aligned throughout entire detectable surface area.
 - D. The field area shall consist of a non-slip surface with a min. of 40-90 raised points 0.045-in high, per square inch.
 - E. The tile shall be manufactured with embedment flanges, 3-in center to center, 1-in min. depth with 5/16-in diameter holes, 3 holes min. per flange. where tiles are cut, sealant shall be worked under the tile along perimeter wherever the embedment flange is removed.
14. Surface application on truncated domes:
 - A. Upon approval from the city engineer, retrofit and unique circumstances may apply to surface application on truncated domes.
 - B. Surface applied detectable tiles shall be "armor tile" manufactured without embedment flanges and the edges shall be beveled, sloped at 1:2 max. When the detectable surface edge and/or dome is cut and the resulting edge is not flush with the surface of the ramp, the edge shall be beveled of conformed with perimeter sealant at 1:2 max. slope in accordance with the manufacturer's requirement.
 - C. Adhesive: urethane electrometric adhesive by SKA corp., Uniroyal, Mapei, Bostik, or approved equal.
 - D. Fasteners: color match, corrosion resistant, flat head drive anchor; 1/4-in diameter x 3/4-in long, 12-in center to center both directions min. armor-drive by engineered plastics or approved equal.
 - E. Perimeter sealant: epoxy two component sealant by Powers, Simpson, Hilti or approved equal. aluminum gray color.

NOT TO SCALE

Approved by:		
		
City Of Lathrop Public Works Director		
No	Revised	Date

CITY OF LATHROP
DEPARTMENT OF PUBLIC WORKS

HANDICAP RAMP
NOTES 2



STANDARD
DETAIL


Date: **JANUARY 2021**

Drawing No:
R-17

NOTES:

1. As site conditions dictate, Case A through Case G curb ramps may be used for corner installations similar to those shown in Detail A and Detail B. The case of curb ramps used in Detail A do not have to be the same. Case A through Case G curb ramps also may be used at mid block locations, as site conditions dictate.
2. If distance from curb to back of sidewalk is too short to accommodate ramp and 4'-0" platform (landing) as shown in Case A, the sidewalk may be depressed longitudinally as in Case B, or C or may be widened as in Case D.
3. When ramp is located in center of curb return, crosswalk configuration must be similar to that shown for Detail B.
4. As site conditions dictate, the retaining curb side and the flared side of the Case G ramp shall be constructed in reversed position.
5. If located on a curve, the sides of the ramp need not be parallel, but the minimum width of the ramp shall be 4'-0".
6. Side slope of ramp flares vary uniformly from a maximum of 10% at curb to conform with longitudinal sidewalk slope adjacent to top of the ramp, except in Case C and Case F.
7. The curb ramp shall be outlined, as shown, with a 1'-0" wide border with 1/4" grooves approximately 3/4" on center. See grooving detail.
8. Transitions from ramps and landing to walks, gutters or streets shall be flush and free of abrupt changes.
9. Maximum slopes of adjoining gutters, the road surface immediately adjacent to the curb ramp or accessible route shall not exceed 5 percent within 4'-0" of the top and bottom of the curb ramp.
10. Curb ramps shall have a detectable warning surface that extends the full width and 3'-0" depth of the ramp. Detectable Warning Surfaces shall conform to the details on this plan and the requirements in the Special Provisions.
11. The edge of the detectable warning surface nearest the street shall be between 6" and 8" from the gutter flowline.
12. Sidewalk and ramp thickness, "T", shall be 6" minimum.
13. Utility pull boxes, manholes, vaults and all other utility facilities within the boundaries of the curb ramp will be relocated or adjusted to grade by the owner prior to, or in conjunction with, curb ramp construction.
14. For retrofit conditions, removal and replacement of curb apron will be at the Contractor's option, unless otherwise shown on project plans.
15. ALL WORK SHALL CONFORM TO THE CURRENT VERSION OF THE CALTRANS STANDARD PLANS A88A & A88B.

NOT TO SCALE

Approved by: 		
City Of Lathrop Public Works Director		
No	Revised	Date

CITY OF LATHROP
DEPARTMENT OF PUBLIC WORKS



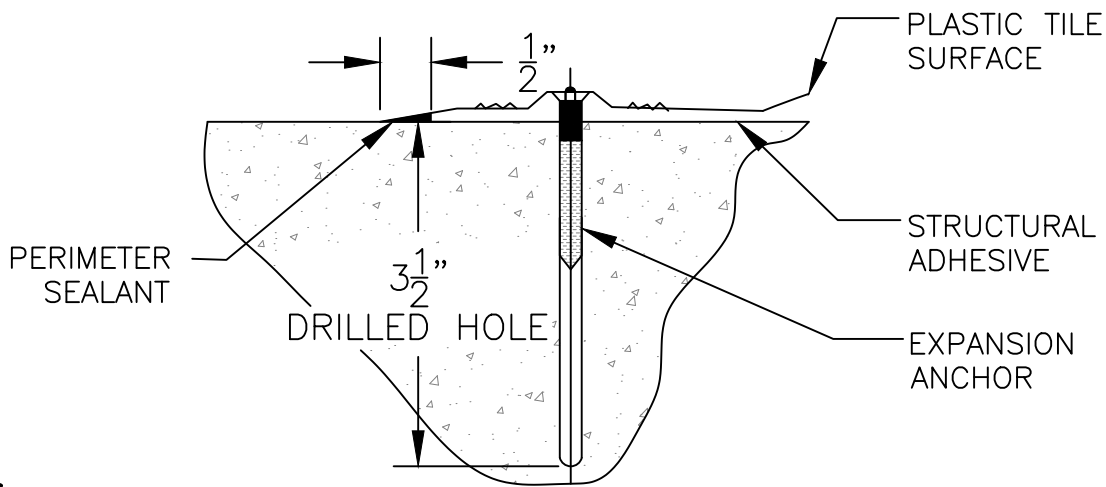
CURB RAMP DETAILS

**STANDARD
DETAIL**

Date: **JANUARY 2021**

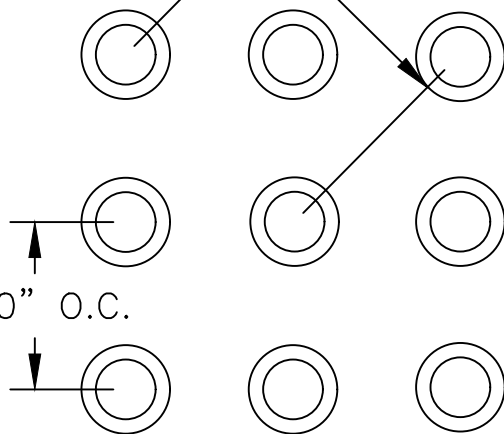
Drawing No:

R-18

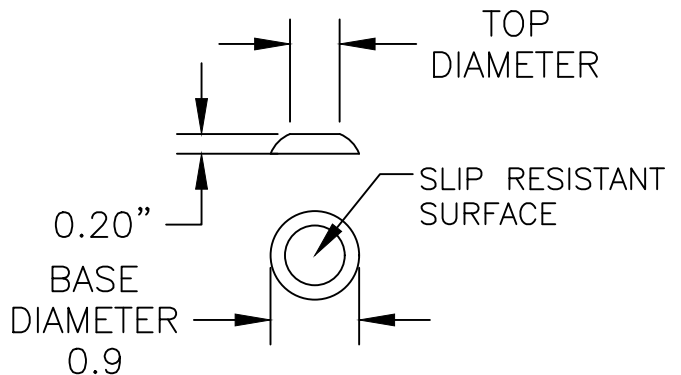


SURFACE APPLIED TILE INSTALLATION

2.40" DIAGONAL
SPACING O.C.
(TYP.)



RAISED TRUNCATED DOME PATTERN



RAISED TRUNCATED DOME

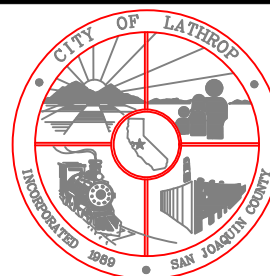
NOTES:

1. Apply sealant at perimeter of plastic tile after fastening. Tool smooth to blend tile edge with adjacent surface
2. Structural adhesive at full perimeter and through center of plastic tile each way.
3. 1/4" x 1 1/2" LG color matched expansion anchor part no. ADA-S-DASTN 12 o.c.
4. Slip resistant plastic tile surface. Plastic tiles with a min of 40 points per square inch.
5. See R-16 to R-18 for additional handicap ramp notes.

NOT TO SCALE

Approved by:

CITY OF LATHROP
DEPARTMENT OF PUBLIC WORKS



**STANDARD
DETAIL**

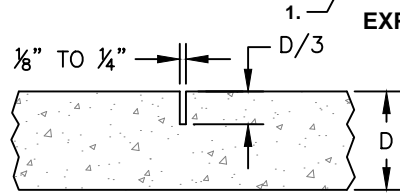
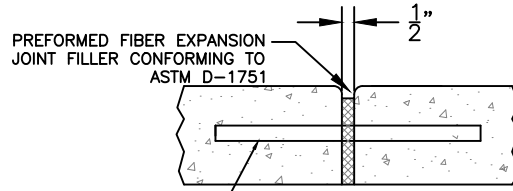
No	Revised	Date

**HANDICAP RAMP
DOME DETAILS**

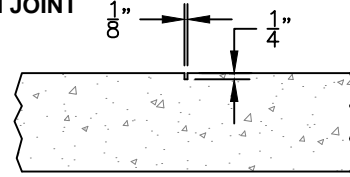
Date: **JANUARY 2021**

Drawing No:

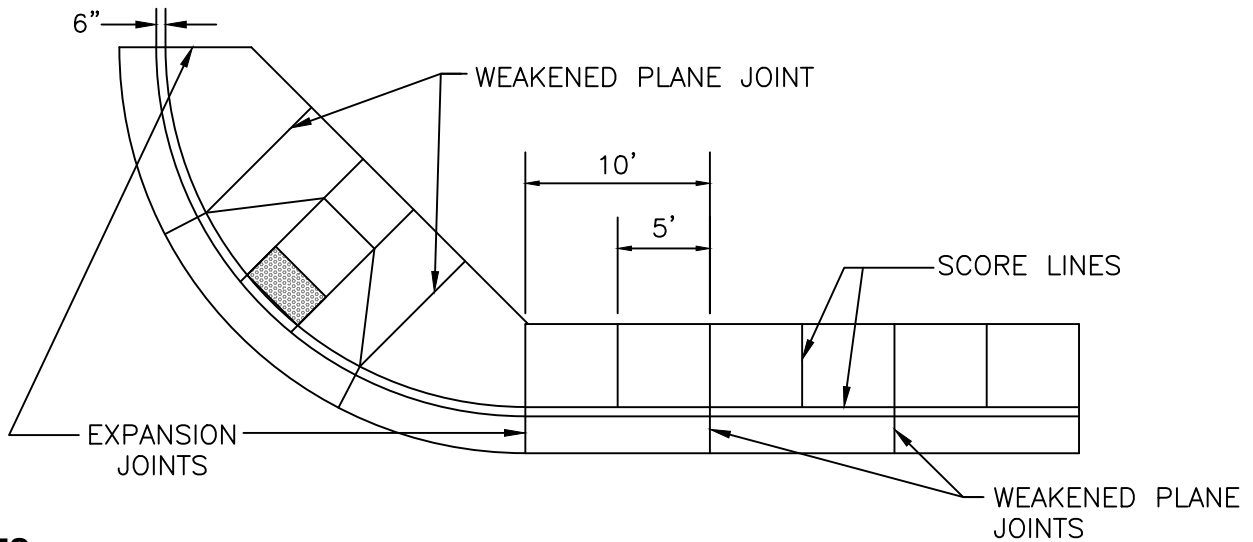
R-19



WEAKENED PLANE JOINT



SCORE LINE




NOTES:

1. 5/8" x 24" smooth steel dowels at 18" O.C./E.W., greased and wrapped one side through all expansion joints.
2. Expansion joints shall be constructed every 40' max.
3. See notes on Standard Detail No. R-5.

NOTE:

Handicap Ramp Defined – Ramp, Flare, Landing, Curb and Gutter Plan, Boarder, and Detectable Warning Surface.

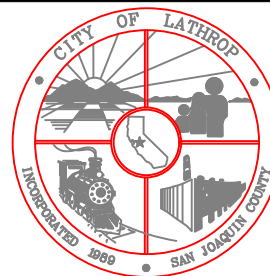
NOT TO SCALE

Approved by:


City Of Lathrop Public Works Director		
No	Revised	Date

CITY OF LATHROP
 DEPARTMENT OF PUBLIC WORKS

**EXPANSION JOINTS
 WEAKENED PLANE JOINTS
 AND SCORE LINES**

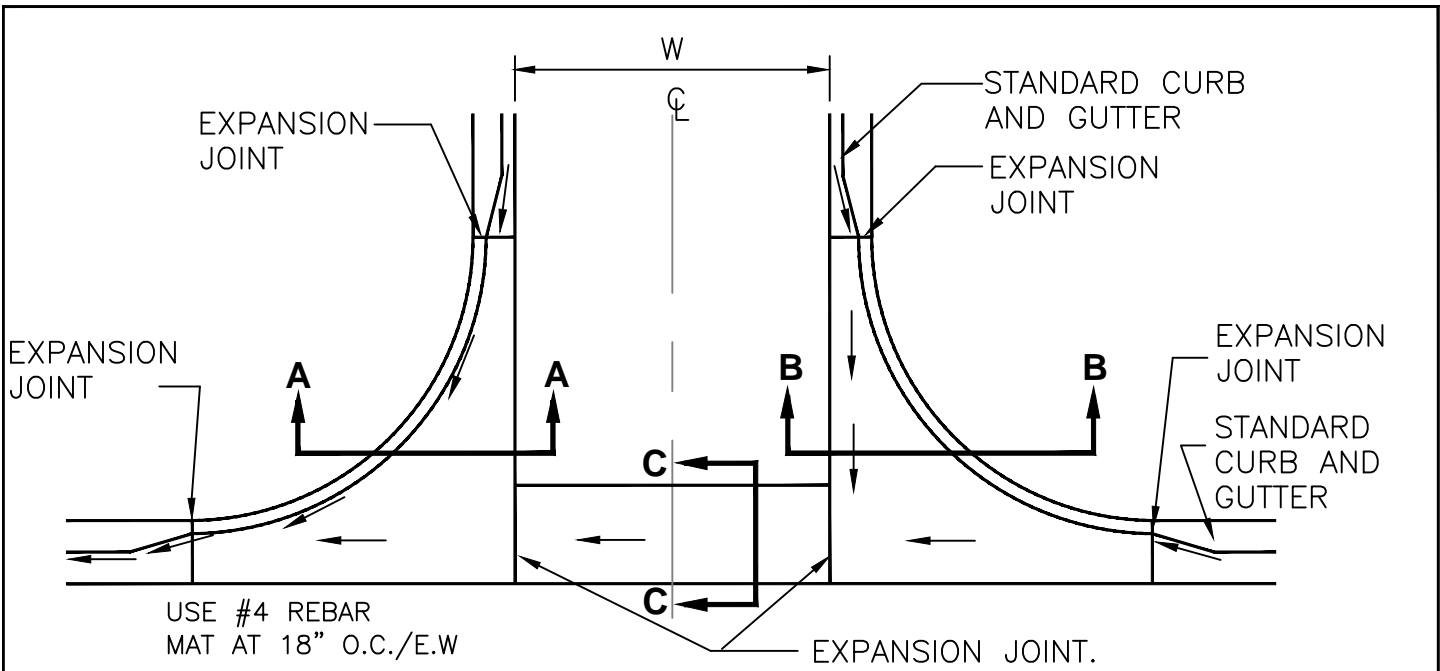


**STANDARD
 DETAIL**

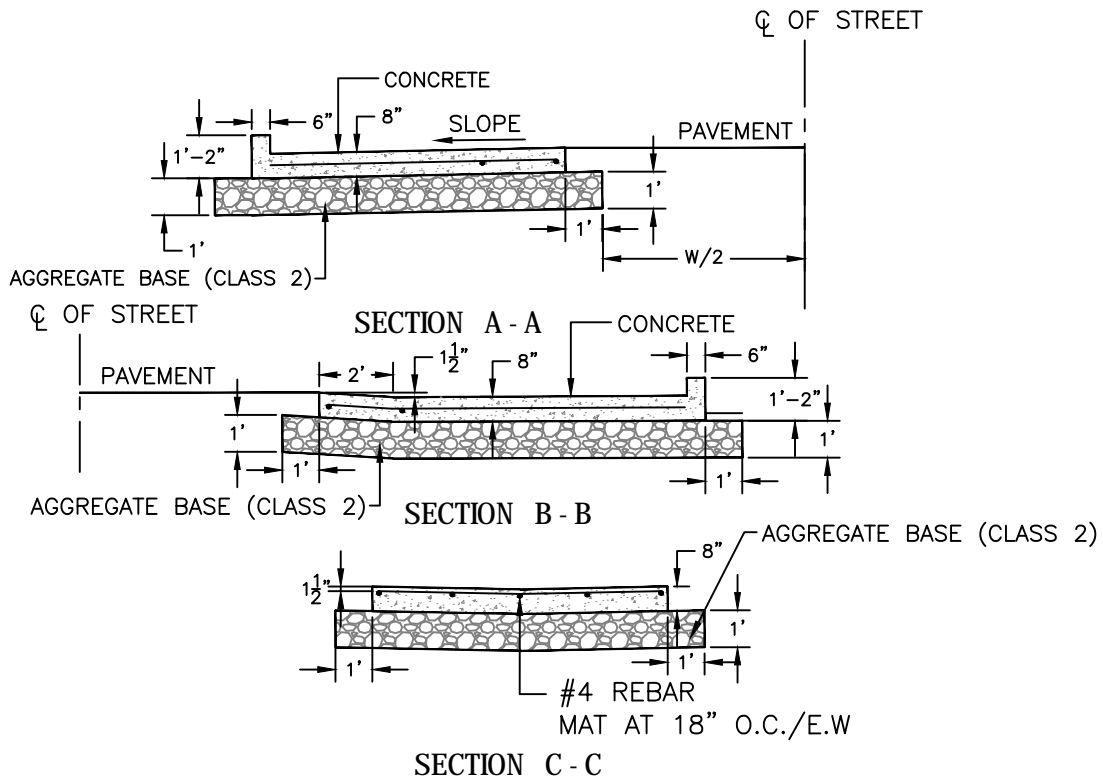
Date: **JANUARY 2021**

Drawing No:

R-20




PLAN



NOTES:

1. Concrete shall have a maximum 4" slump @ placing site.

NOT TO SCALE

Approved by: 

City Of Lathrop
Public Works Director

No	Revised	Date

CITY OF LATHROP
DEPARTMENT OF PUBLIC WORKS

**VALLEY GUTTER FOR
ON-SITE AND CUL-DE-SAC**

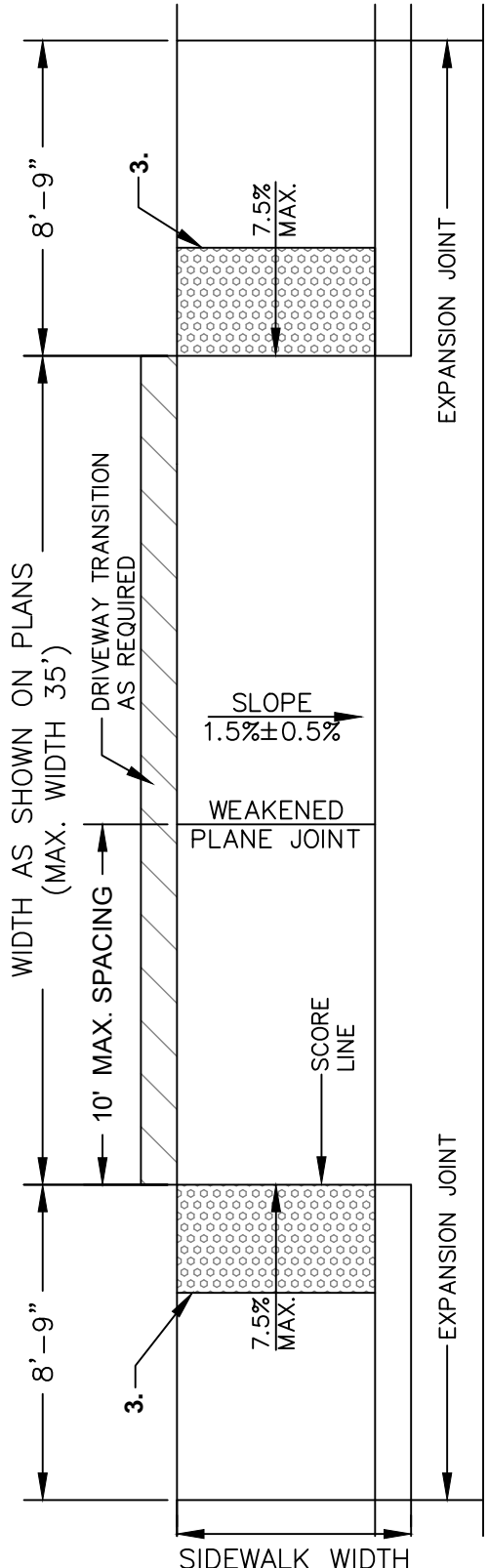


**STANDARD
DETAIL**

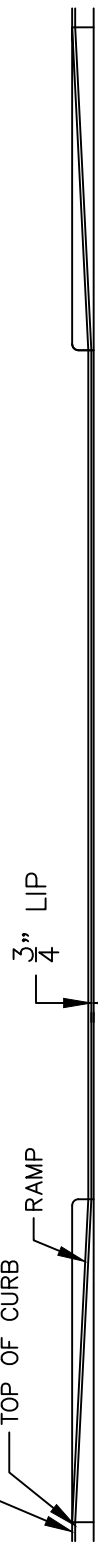
Date: **JANUARY 2021**

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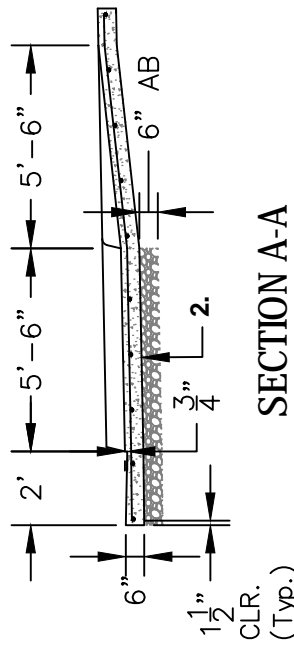
R-21



PLAN



ELEVATION



SECTION A-A

NOTES:

- #4 Reinforcing bars 18" o.c. each way. The entire width of driveway and ramp.
- Gutter pan dimensions per Standard Details.
- Detectable warning surface and warning surface details see Standard Detail No. R-15 to R-20.
- For expansion joints and doweling, see Standard Detail No. R-21.
- See notes on Standard Detail No. R-5.
- There shall be a minimum of 6" of Class 2 aggregate base rock compacted to 95% of relative compaction beneath the driveway (see Standard Detail R-5).

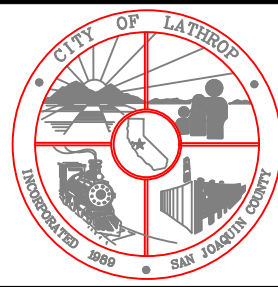
NOT TO SCALE

Approved by:

City Of Lathrop
Public Works Director

No	Revised	Date

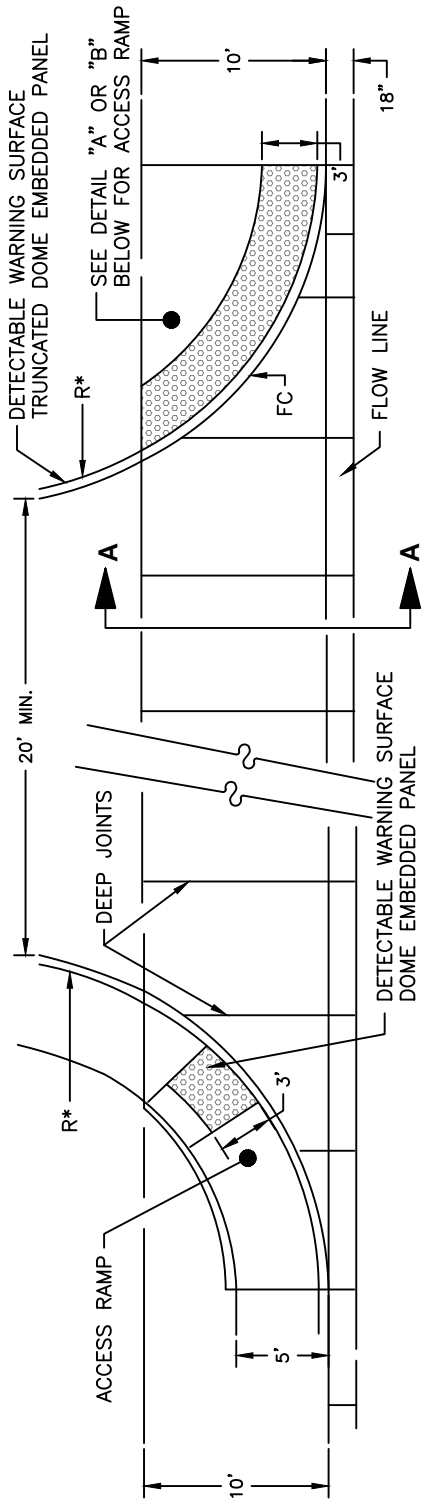
CITY OF LATHROP
DEPARTMENT OF PUBLIC WORKS
TYPICAL COMMERCIAL AND INDUSTRIAL DRIVEWAY



STANDARD DETAIL

Date: **JANUARY 2021**

Drawing No: **R-22**

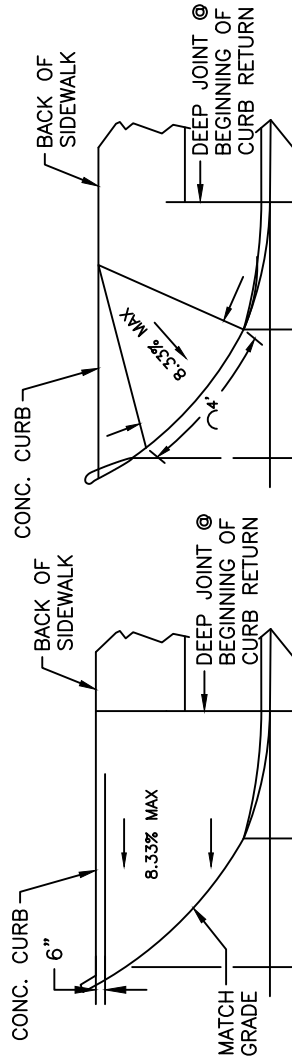


10' SIDEWALK

5' SIDEWALK

NOTES:

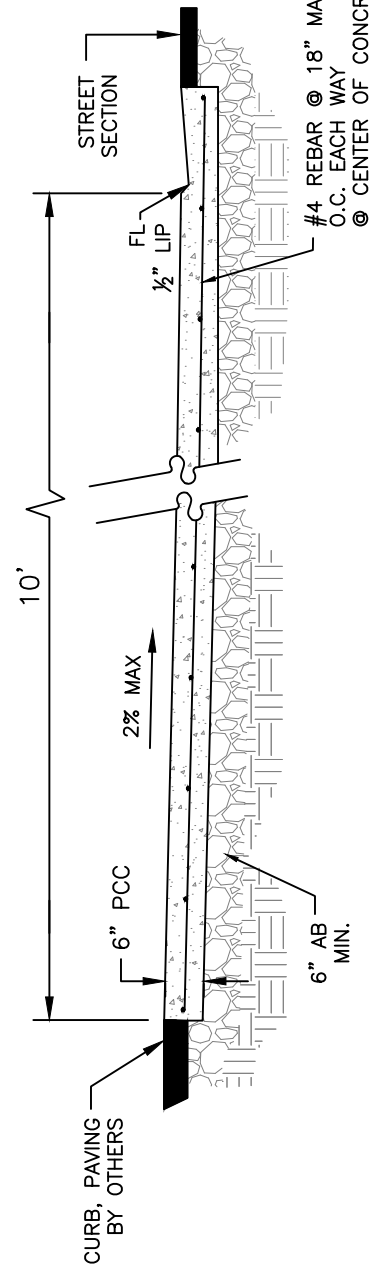
1. See caltrans curb ramp detail A88A for additional details and requirements.
2. There shall be a minimum of 6" of class 2 aggregate base rock compacted to 95% of relative compaction beneath the driveway (see standard detail R-5).
3. Recycled AB can be used with approval from city engineer.




DETAIL "B" - ACCESS RAMP

DETAIL "A" - ACCESS RAMP

* R=20' MIN. 30' MAX



NOT TO SCALE

Approved by: 

City Of Lathrop
Public Works Director

No	Revised	Date

CITY OF LATHROP
DEPARTMENT OF PUBLIC WORKS
DRIVEWAY STREET-LEVEL
INDUSTRIAL/COMMERCIAL
RADIUS CORNERS



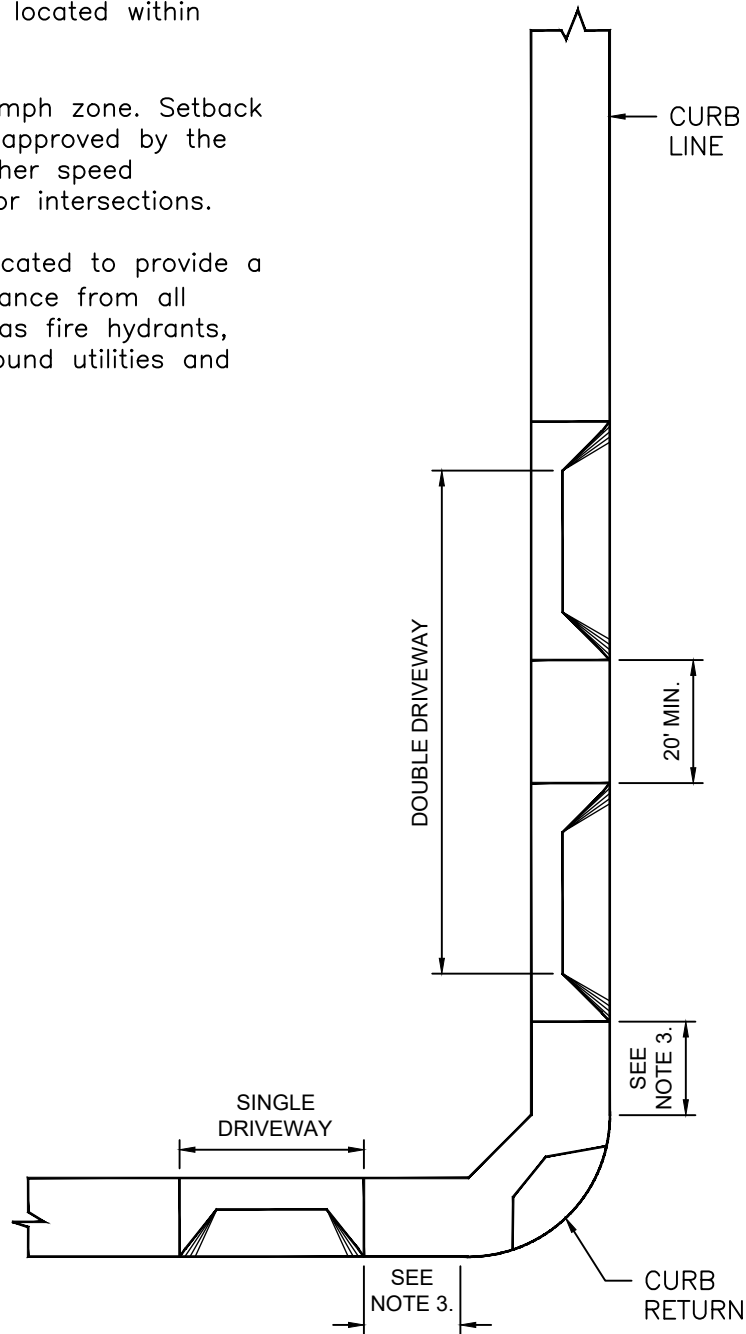
STANDARD
DETAIL

Date: **JANUARY 2021**


Drawing No:
R-23

NOTES:

1. Not more than 50% of the frontage can be in driveway openings, measured along the property line.
2. No driveway shall be located within curb return.
3. 10' minimum in 25 mph zone. Setback and locations to be approved by the City Engineer for higher speed roadways, or at major intersections.
4. Driveways shall be located to provide a minimum of 5' clearance from all appurtenances such as fire hydrants, utility poles, underground utilities and drainage inlets.



NOT TO SCALE

Approved by: 

City Of Lathrop
Public Works Director

No	Revised	Date

CITY OF LATHROP
DEPARTMENT OF PUBLIC WORKS

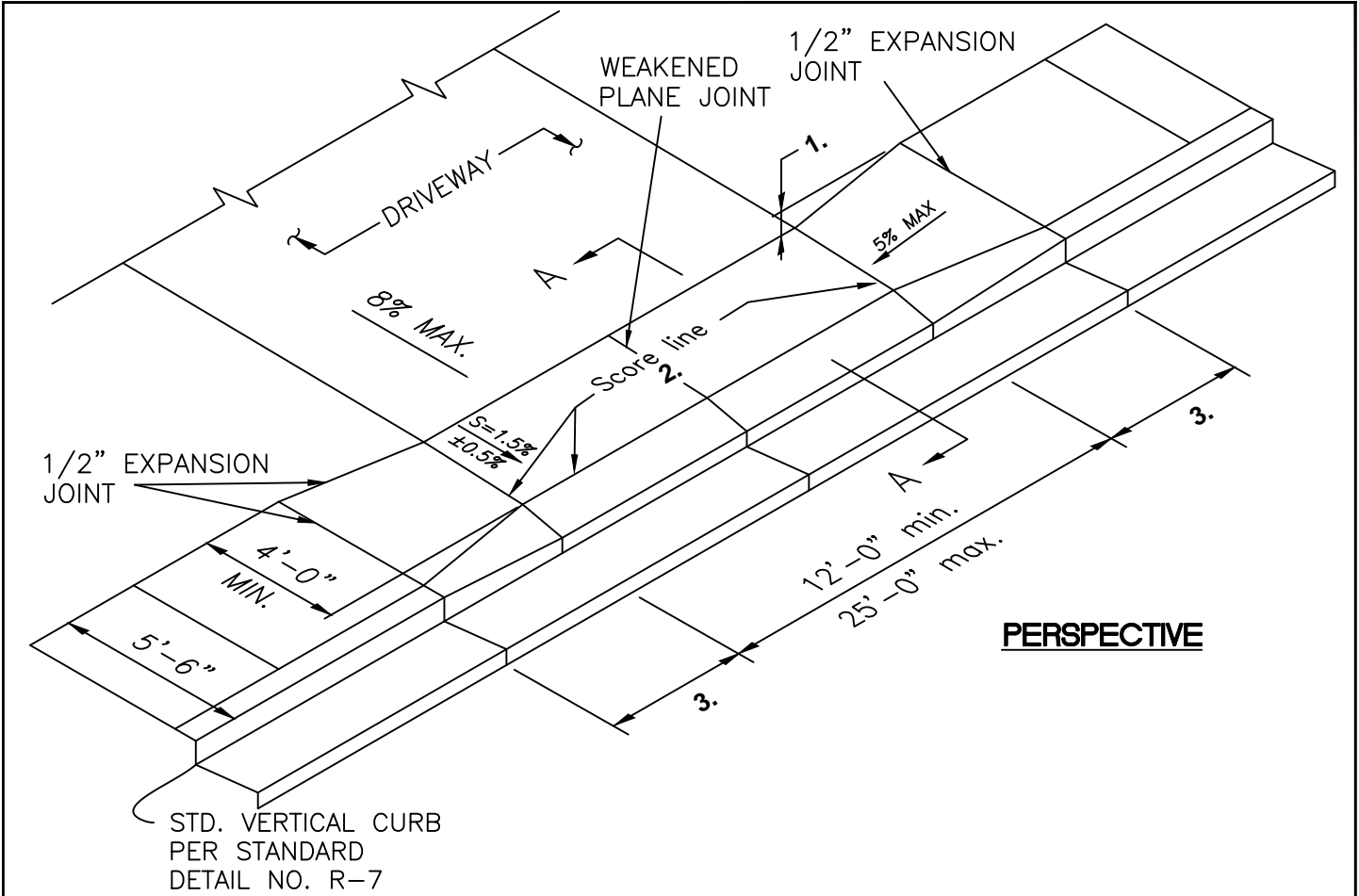
TYPICAL COMMERCIAL DRIVEWAY LOCATION



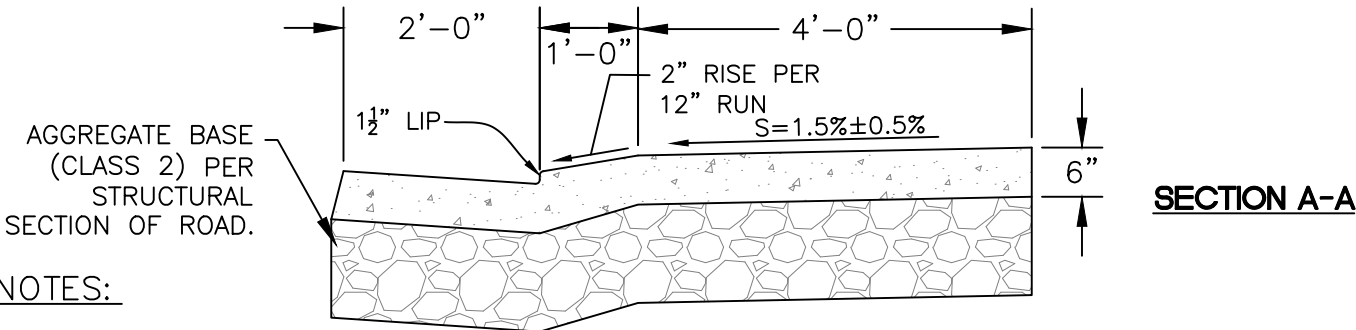
STANDARD DETAIL

Date: **JANUARY 2021**

Drawing No:
R-24



PERSPECTIVE




SECTION A-A

NOTES:

1. Depress back edge of driveway as required below back edge of normal sidewalk to meet slope constraints.
2. Back of curb score line required only in cases when it connects score marks along existing back of curb.
3. Transition distance (Typ. 3'-0") is dependent on field conditions. Increase distance if required so that max. slope in pedestrian direction of travel is 5%.
4. Driveway to be located entirely within the frontage of lot served.
5. Minimum 4' of vertical curb between adjacent driveways.
6. Score lines shall form a square pattern.
7. See notes on Standard Detail No. R-5.

NOT TO SCALE

Approved by: 

City Of Lathrop
Public Works Director

No	Revised	Date

CITY OF LATHROP
DEPARTMENT OF PUBLIC WORKS

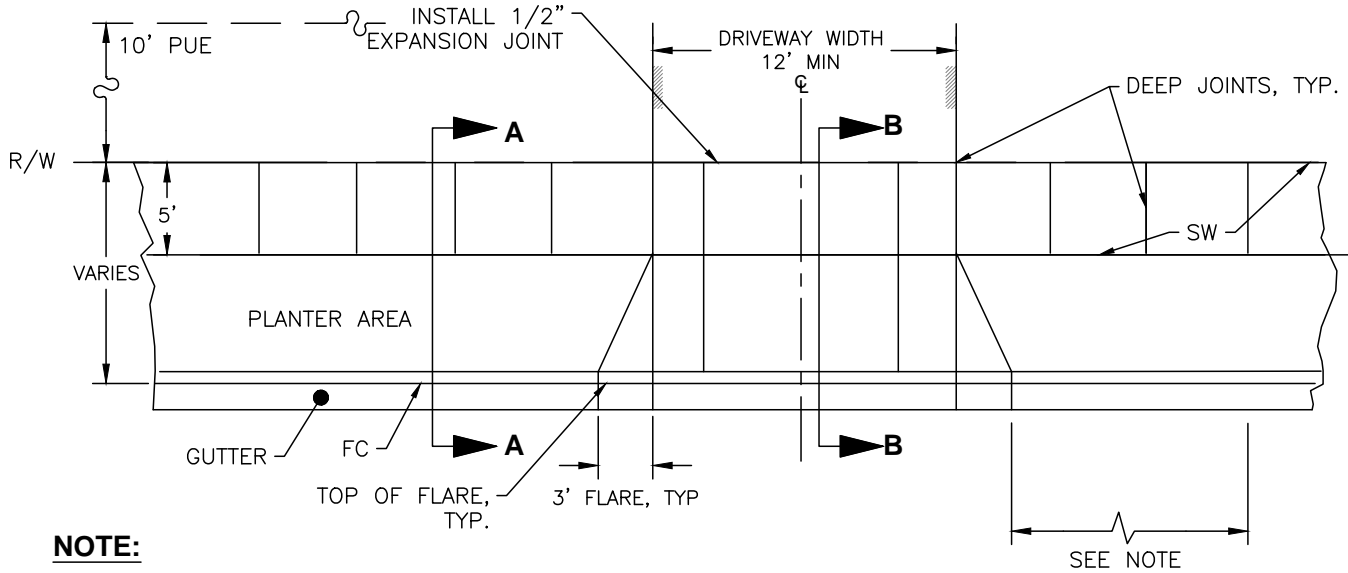
TYPICAL RESIDENTIAL DRIVEWAY AT VERTICAL CURB AND GUTTER



STANDARD DETAIL

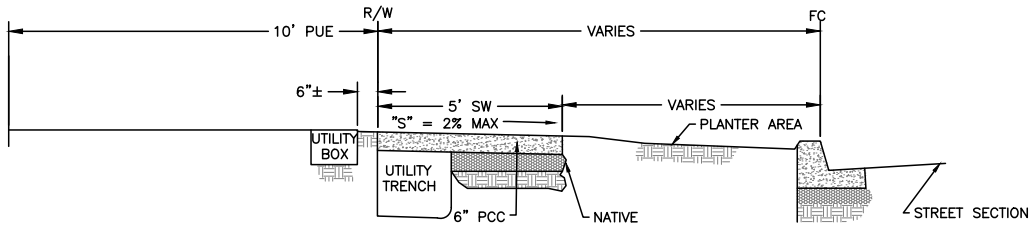
Date: **JANUARY 2021**

Drawing No:
R-25

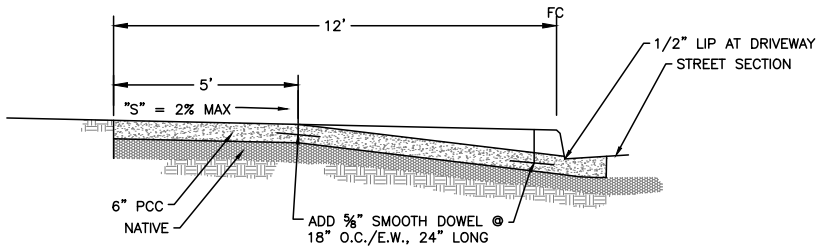


NOTE:

- Top of flare to be minimum of:
- 4' from center of fire hydrant
 - 4' from center of street Light
 - 4' from property line
 - 10' from beginning of curb return



SECTION A - A



SECTION B - B

NOT TO SCALE

Approved by:

City Of Lathrop
Public Works Director

No	Revised	Date

CITY OF LATHROP
DEPARTMENT OF PUBLIC WORKS
TYPICAL RESIDENTIAL
DRIVEWAY WITH
SEPARATED SIDEWALK

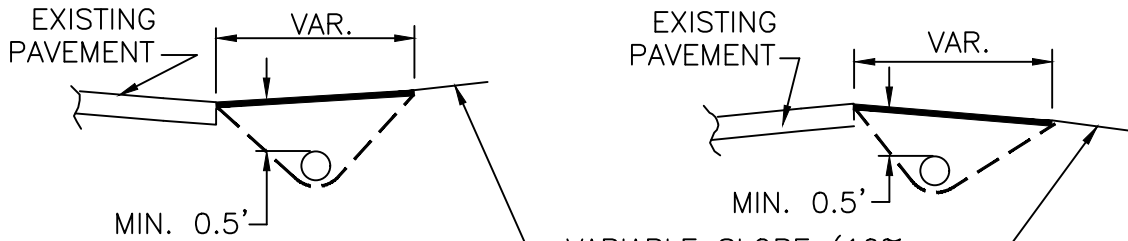


STANDARD
DETAIL

Date: **JANUARY 2021**

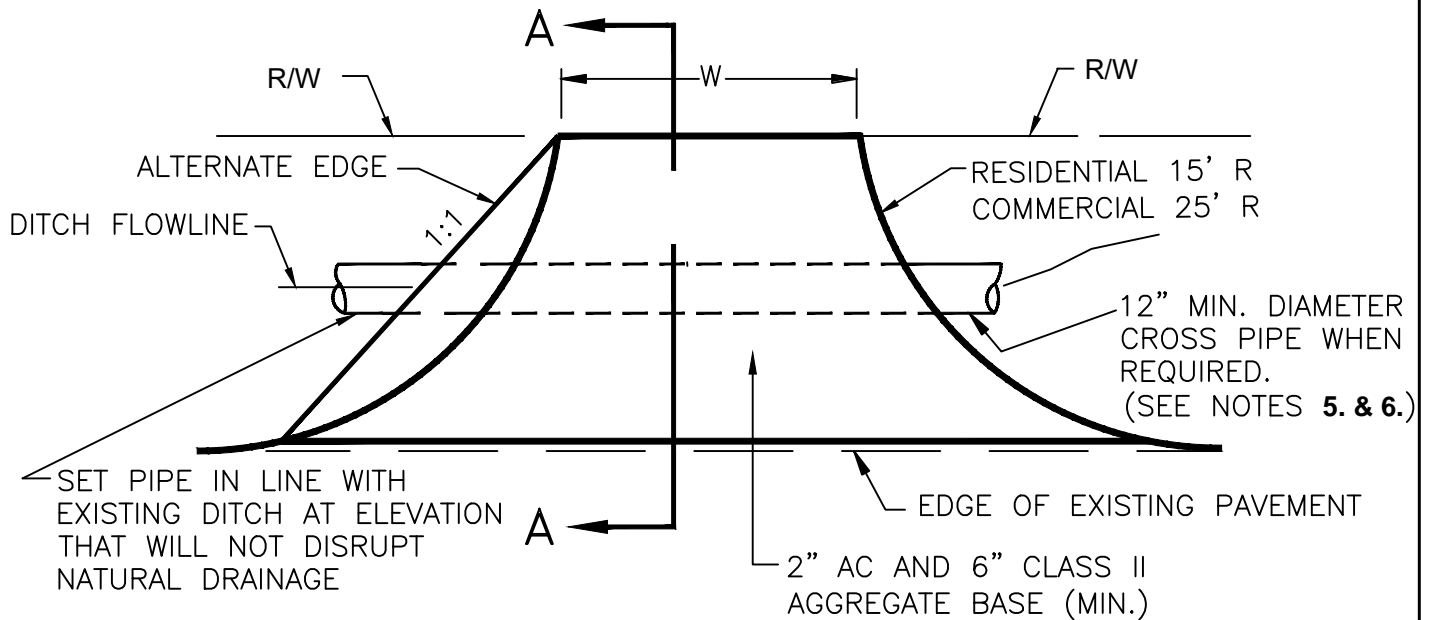
Drawing No:

R-26



VARIABLE SLOPE (10% MAX.) TO MEET EXISTING GROUND.


SECTION A-A



NOTES:

1. At an intersection, no driveway shall be placed within 10' of the curb return of the master planned R/W lines.
2. Driveways shall be at right angles to the street.
3. Circle driveways are to be no closer than 75' between centers (residential) or 80' between centers (commercial).
4. When cross pipe is used, it shall extend a minimum of 2' past the toe of fill slopes of the driveway, all fill shall be compacted to 95% relative compaction. Maximum fill slope 2:1.
5. Pipes shall be Reinforced Concrete Class III, IV, or V min. as approved by the City Engineer or 0.079" Galvanized Corrugated Steel pipe or Corrugated Polyethylene pipe per CPPA Standard Specification 100-97. The size will vary according to the hydraulic requirements.
6. The use of temporary driveways requires prior approval of the City Engineer.

NOT TO SCALE

Approved by: 

CITY OF LATHROP
DEPARTMENT OF PUBLIC WORKS



**STANDARD
DETAIL**

**TEMPORARY
DRIVEWAYS**

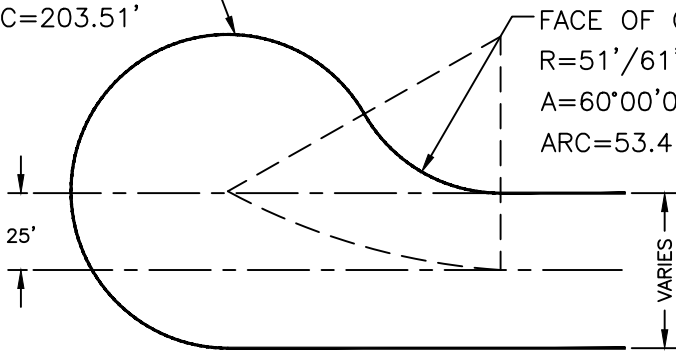
Date: **JANUARY 2021**

Drawing No:

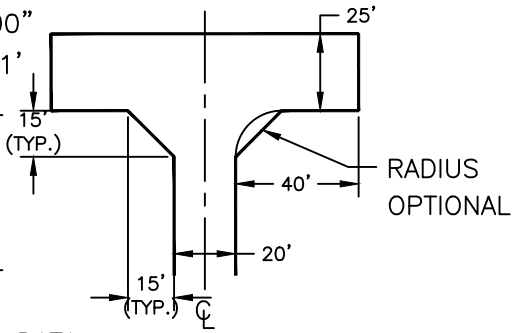
R-27

No	Revised	Date

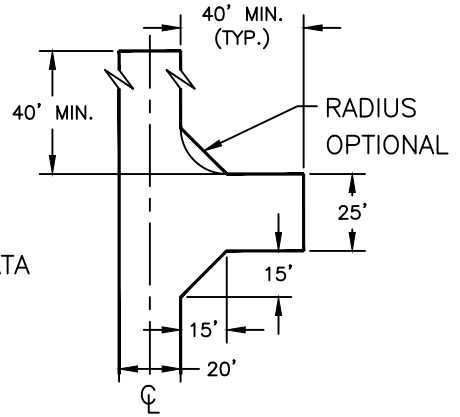
FACE OF CURB DATA
 $R=51'/61'$
 $A=228^{\circ}38'06''$
 $ARC=203.51'$



FACE OF CURB DATA
 $R=51'/61'$
 $A=60^{\circ}00'00''$
 $ARC=53.41'$

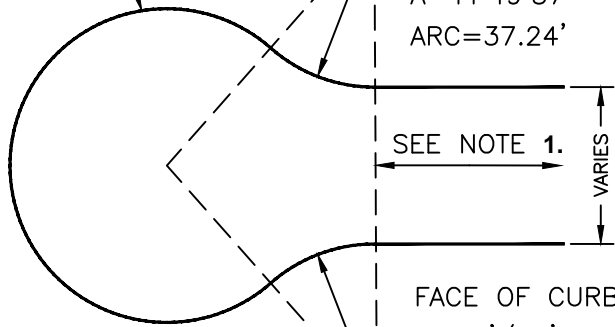


**HAMMERHEAD
 TURNAROUND**
 NOT TO SCALE



"L" TURNAROUND
 NOT TO SCALE

FACE OF CURB DATA
 $R=51'/61'$
 $A=263^{\circ}39'54''$
 $ARC=234.69'$



FACE OF CURB DATA
 $R=51'/61'$
 $A=41^{\circ}49'57''$
 $ARC=37.24'$

FACE OF CURB DATA
 $R=51'/61'$
 $A=41^{\circ}49'57''$
 $ARC=37.24'$

CUL-DE-SAC
 NOT TO SCALE

NOTES:

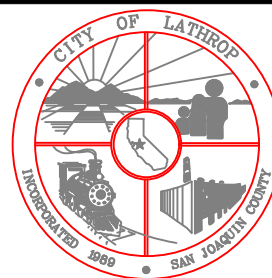
1. Except where special circumstances of design are apparent, cul-de-sacs shall not be more than 500' nor less than 150' in length and shall terminate with a turn-around radius of not less than fifty one feet (51') (the minimum requirements of the Fire District) sixty feet (61') for industrial areas.
2. Bulb may be offset to either side.

NOT TO SCALE

Approved by:

City Of Lathrop Public Works Director		
No	Revised	Date

CITY OF LATHROP
 DEPARTMENT OF PUBLIC WORKS
**TURNAROUND FOR
 RESIDENTIAL STREETS**

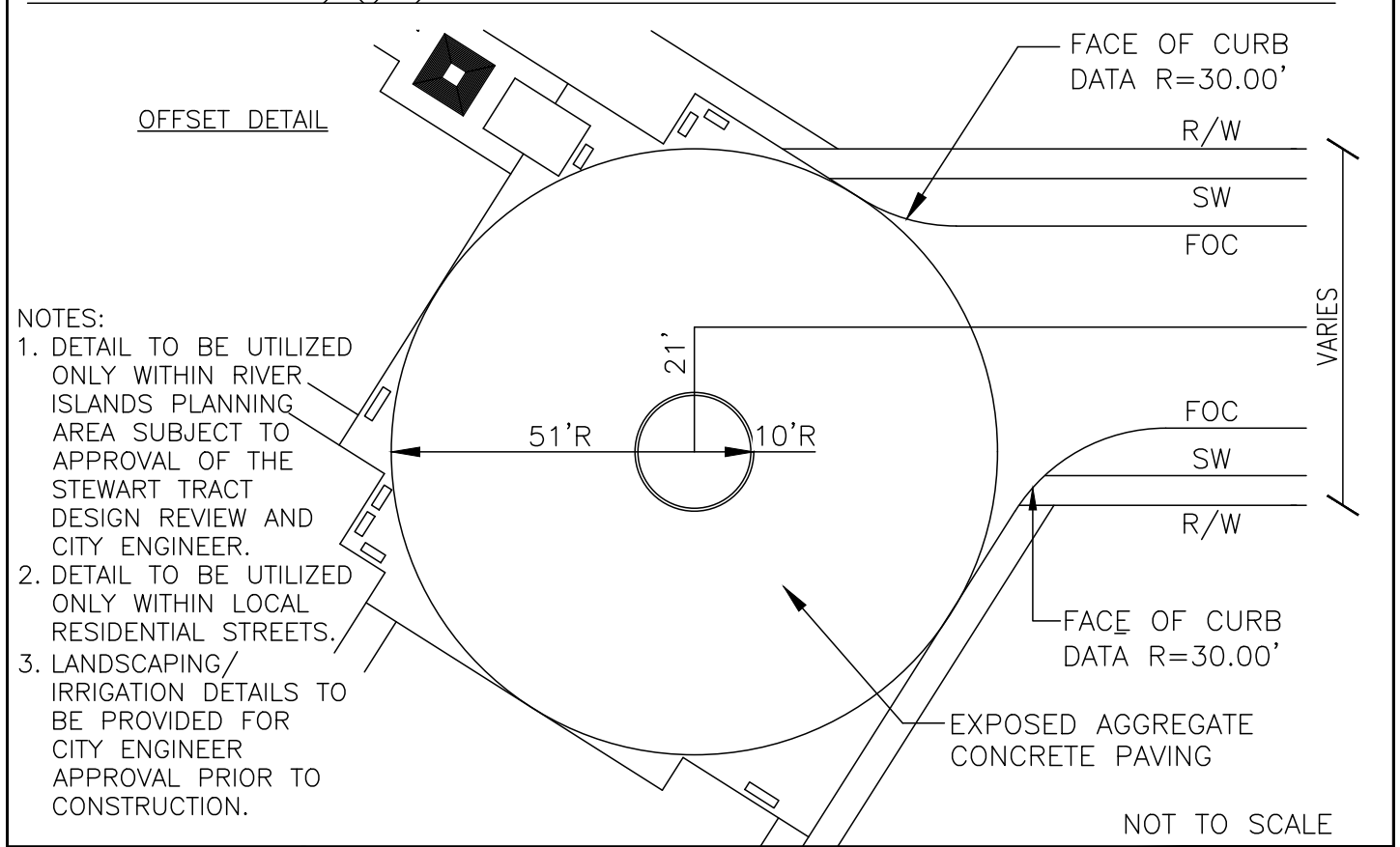
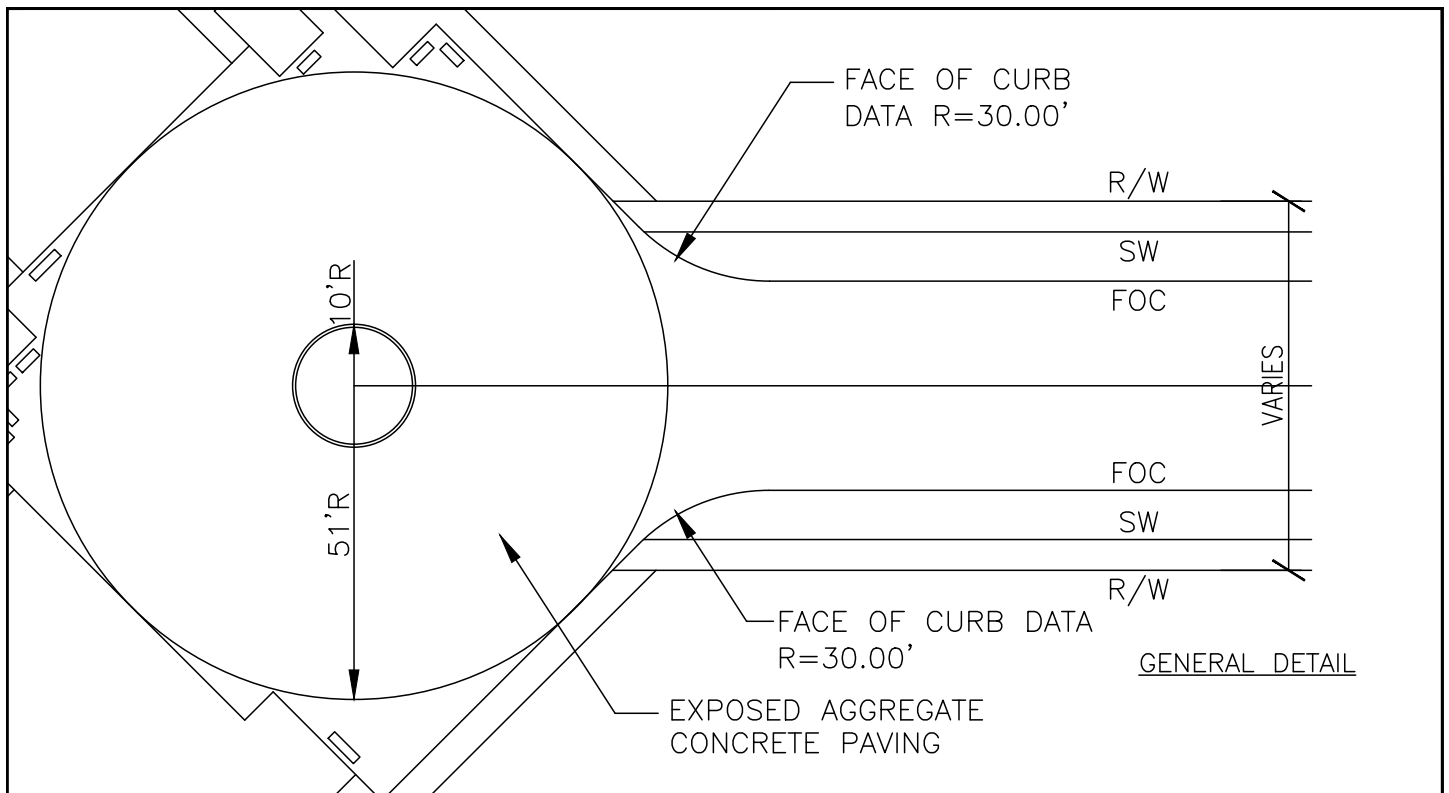


**STANDARD
 DETAIL**

Date: **JANUARY 2021**

Drawing No:

R-28



- NOTES:
1. DETAIL TO BE UTILIZED ONLY WITHIN RIVER ISLANDS PLANNING AREA SUBJECT TO APPROVAL OF THE STEWART TRACT DESIGN REVIEW AND CITY ENGINEER.
 2. DETAIL TO BE UTILIZED ONLY WITHIN LOCAL RESIDENTIAL STREETS.
 3. LANDSCAPING/ IRRIGATION DETAILS TO BE PROVIDED FOR CITY ENGINEER APPROVAL PRIOR TO CONSTRUCTION.

Approved by: 

City Of Lathrop
Public Works Director

No	Revised	Date

CITY OF LATHROP
DEPARTMENT OF PUBLIC WORKS

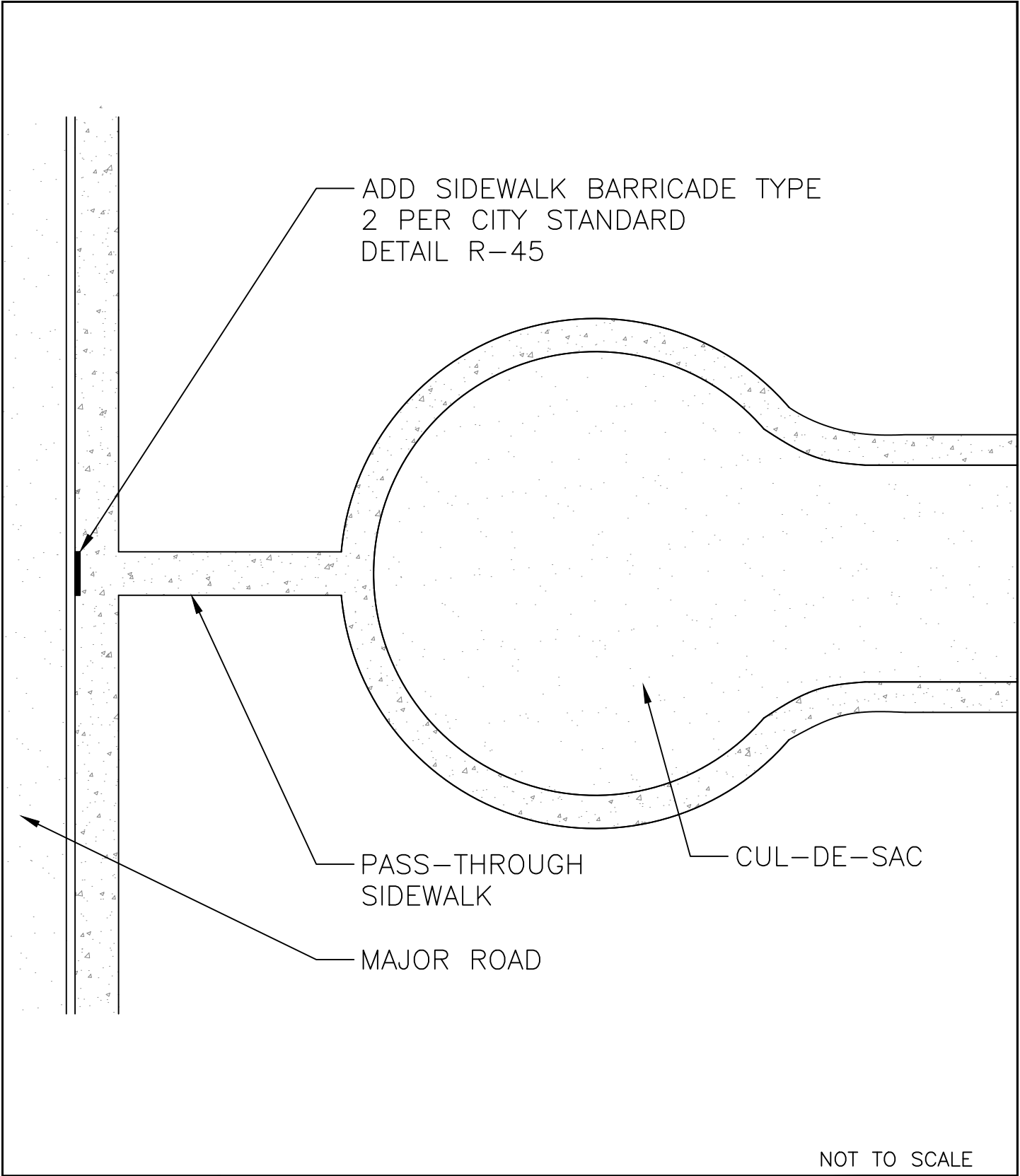
**TURNAROUND W/
PLANTING CIRCLE
CUL-DE-SAC STREETS**



**STANDARD
DETAIL**

Date: **JANUARY 2021**

Drawing No:
R-29



NOT TO SCALE

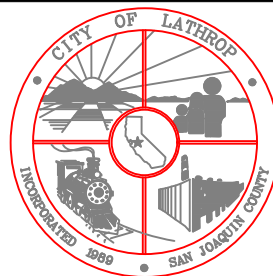
Approved by:

City Of Lathrop
Public Works Director

No	Revised	Date

CITY OF LATHROP
DEPARTMENT OF PUBLIC WORKS

**BARRICADE FOR
CUL-DE-SAC PASS-THROUGH
SIDEWALK**



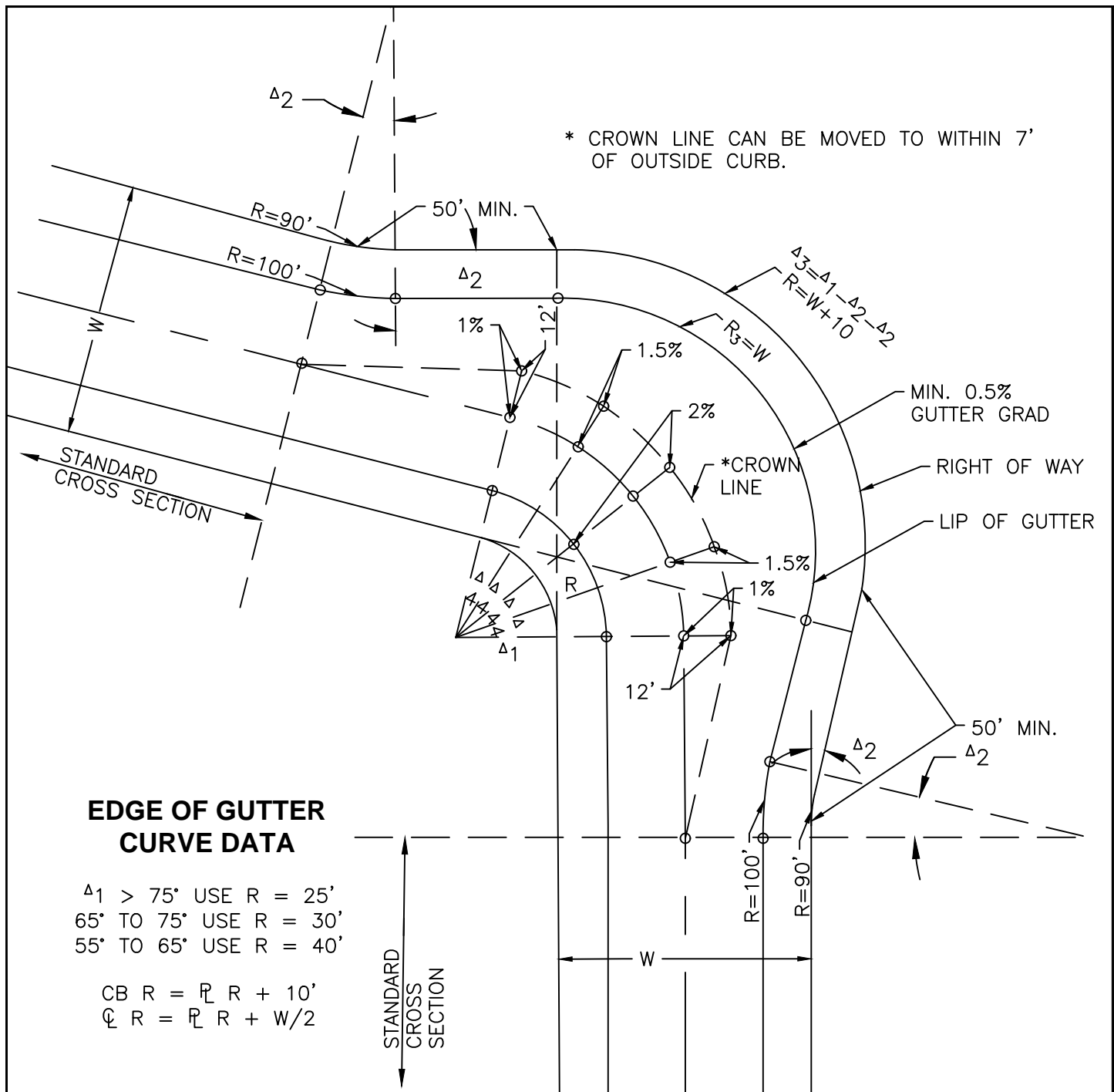
**STANDARD
DETAIL**

Date: **JANUARY 2021**

Drawing No:

R-30

* CROWN LINE CAN BE MOVED TO WITHIN 7' OF OUTSIDE CURB.



EDGE OF GUTTER CURVE DATA

$\Delta_1 > 75^\circ$ USE $R = 25'$
 65° TO 75° USE $R = 30'$
 55° TO 65° USE $R = 40'$
 $CB\ R = \frac{R}{2} R + 10'$
 $CL\ R = \frac{R}{2} R + W/2$

NOTES

1. Elevations are required where circled.
2. Limits of slope, crown line to outside gutter, maximum = 3.8% minimum = 1%.
3. All facilities (curb, gutter, sidewalk, ac dike, and edge of pavement) shall be equidistant to the property line.

NOT TO SCALE

Approved by:

City Of Lathrop Public Works Director		
No	Revised	Date

CITY OF LATHROP
DEPARTMENT OF PUBLIC WORKS

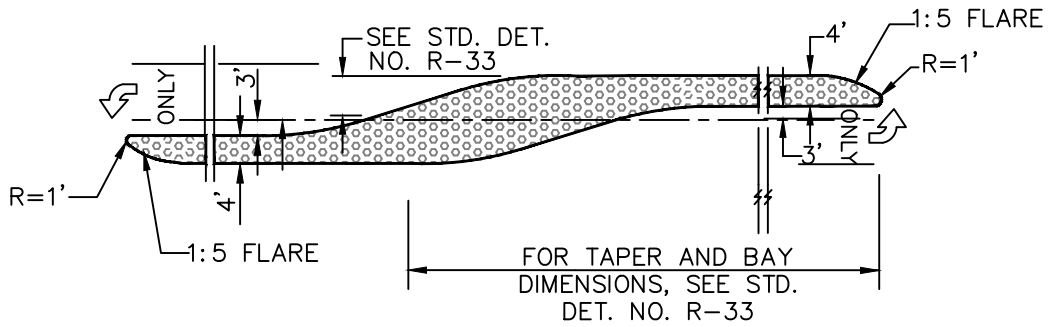
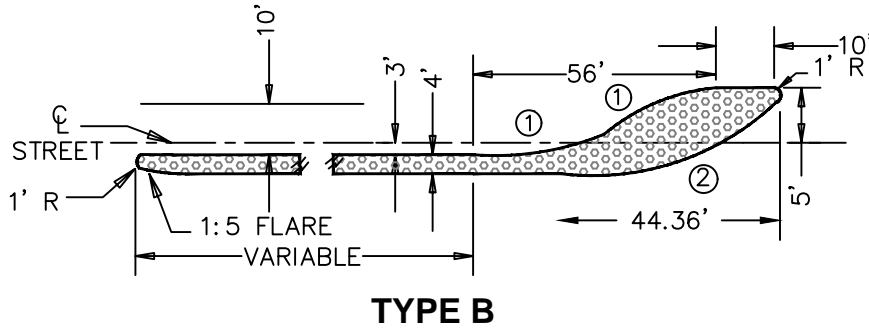
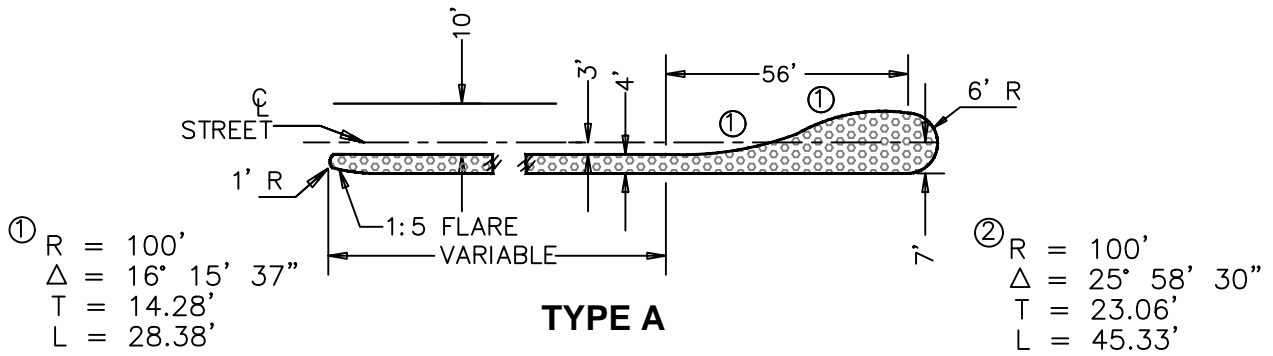
**SUPER ELEVATED
KNUCKLE**



**STANDARD
DETAIL**

Date: **JANUARY 2021**
Drawing No:

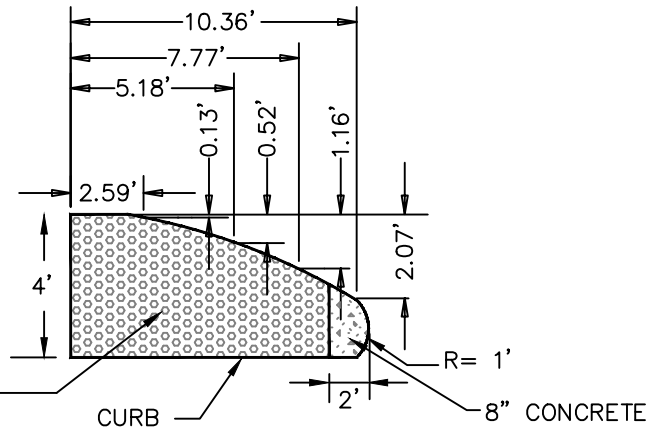
R-31



NOTES:

1. Median island surfacing shall be approved by the City Engineer except the last 2 ft. shall be 8" PCC unless otherwise specified.
2. All dimensions are to flowline of curb face.
3. See Standard Detail No. R-11 for median curb.

SEE IMPROVEMENT PLANS FOR SURFACE TREATMENT 1.



NOT TO SCALE

Approved by:

City Of Lathrop
Public Works Director

No	Revised	Date

CITY OF LATHROP
DEPARTMENT OF PUBLIC WORKS

TRAFFIC ISLAND

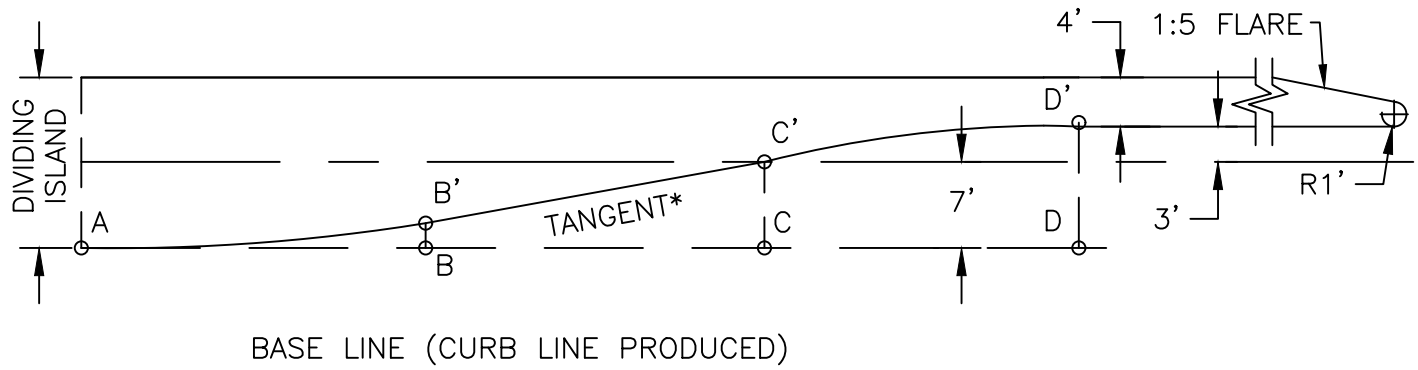


**STANDARD
DETAIL**

Date: **JANUARY 2021**

Drawing No:

R-32



DIRECTION OF TRAFFIC →

AD = LENGTH OF TAPER
 AB = BC = CD = 1/3 AD
 AB' & C' D' ARE PARABOLIC CURVES

* WHERE BASE LINE IS A CURVE, TAPER BETWEEN B' AND C' WILL NOT BE A TANGENT. USE PROPORTIONAL OFFSET FROM B' TO C'.

THE FOLLOWING TABLE GIVES OFFSET FROM A BASE LINE AT INTERVALS MEASURED FROM POINT "A".

LENGTH OF TAPER - FEET			OFFSET FROM BASE LINE		
60'	90'	120'			
			DD'=10'	DD'=11'	DD'=12'
0	0	0	0.00'	0.00'	0.00'
5.0'	7.5'	10.0'	0.16'	0.17'	0.19'
10.0'	15.0'	20.0'	0.62'	0.69'	0.75'
15.0'	22.5'	30.0'	1.41'	1.55'	1.69'
20.0'	30.0'	40.0'	2.50'	2.75'	3.00'
30.0'	45.0'	60.0'	5.00'	5.50'	6.00'
40.0'	60.0'	80.0'	7.50'	8.25'	9.00'
45.0'	67.5'	90.0'	8.59'	9.45'	10.31'
50.0'	75.0'	100.0'	9.38'	10.31'	11.25'
55.0'	82.5'	110.0'	9.84'	10.83'	11.81'
60.0'	90.0'	120.0'	10.00'	11.00'	12.00'

NOT TO SCALE

Approved by: 

City Of Lathrop
Public Works Director

No	Revised	Date

CITY OF LATHROP
 DEPARTMENT OF PUBLIC WORKS

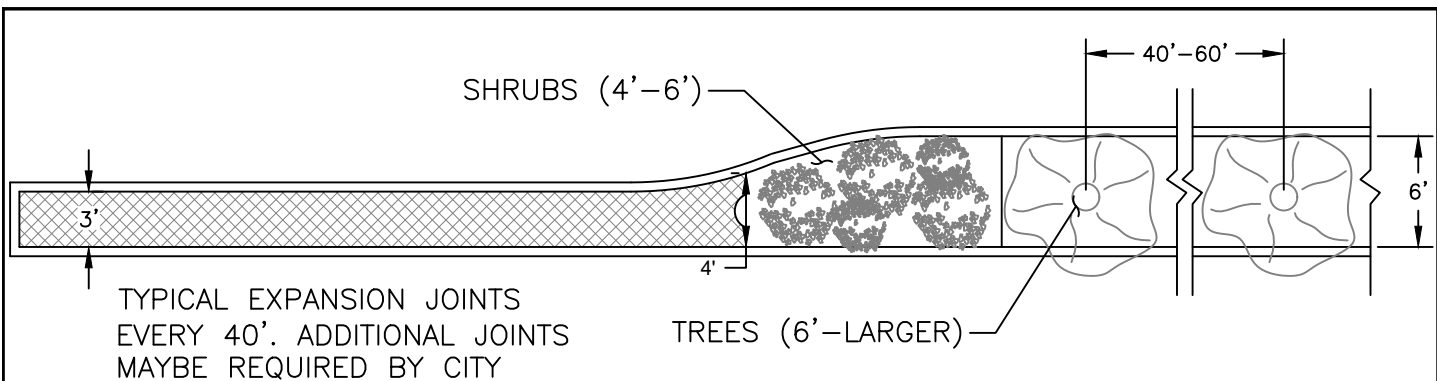
**LEFT TURN LANE
 TAPER DATA**



**STANDARD
 DETAIL**

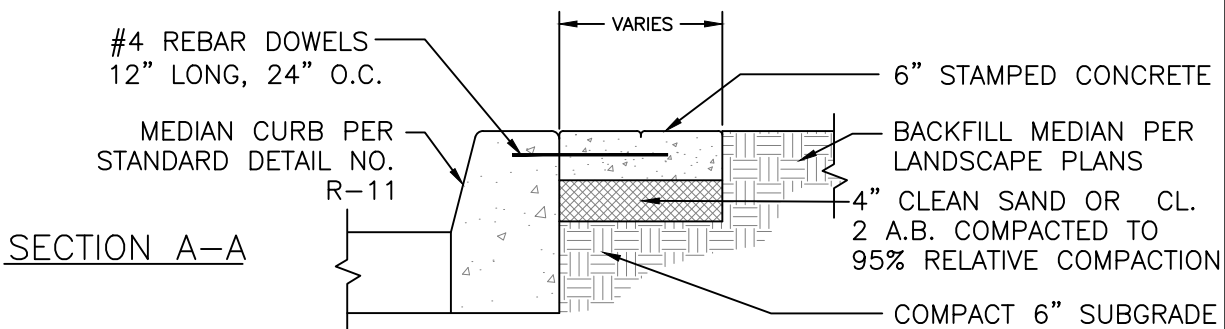
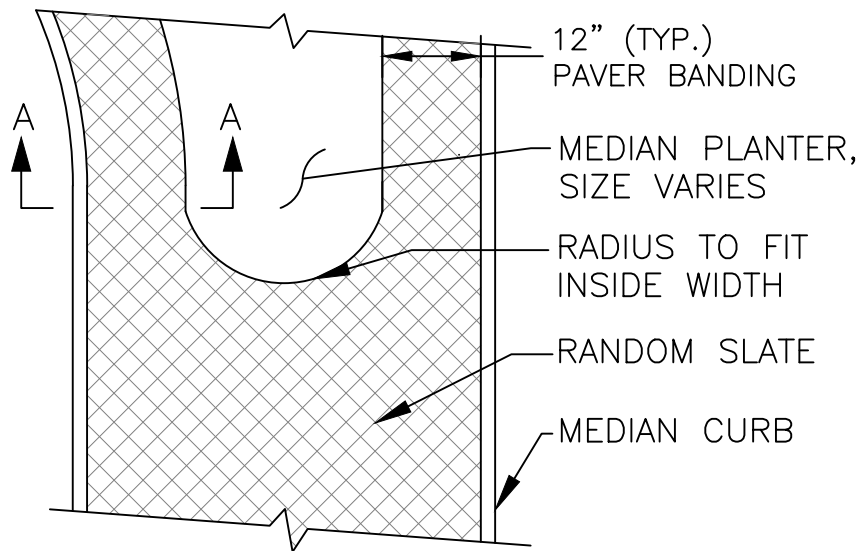
Date: **JANUARY 2021**

Drawing No:
R-33




Back of Curb Dimension Table	
4' max.	Stamped concrete
4' to 6'	Ornamental trees/bushes/shrubs
6' and Larger	All ground cover/trees/shrubs

FELT LAYOUT MAYBE REQUIRED BY CITY



NOTES:

1. See notes on Standard Detail No. R-5.
 2. Apply light broom finish to surface of walk at right angle with street. Broom finish curb and gutter parallel with street.
 3. All edges shall have 1/2" radius.
 4. Stamp pattern shall be approved by City Engineer. Sample shall be submitted prior to start of work.
 5. Stamped concrete color shall be cast-on with additional percentage of integral color as recommended by manufacturer. (4 Pounds of Lamp Black)
- NOT TO SCALE

Approved by: 

City Of Lathrop
Public Works Director

No	Revised	Date

CITY OF LATHROP
DEPARTMENT OF PUBLIC WORKS

STAMPED CONCRETE



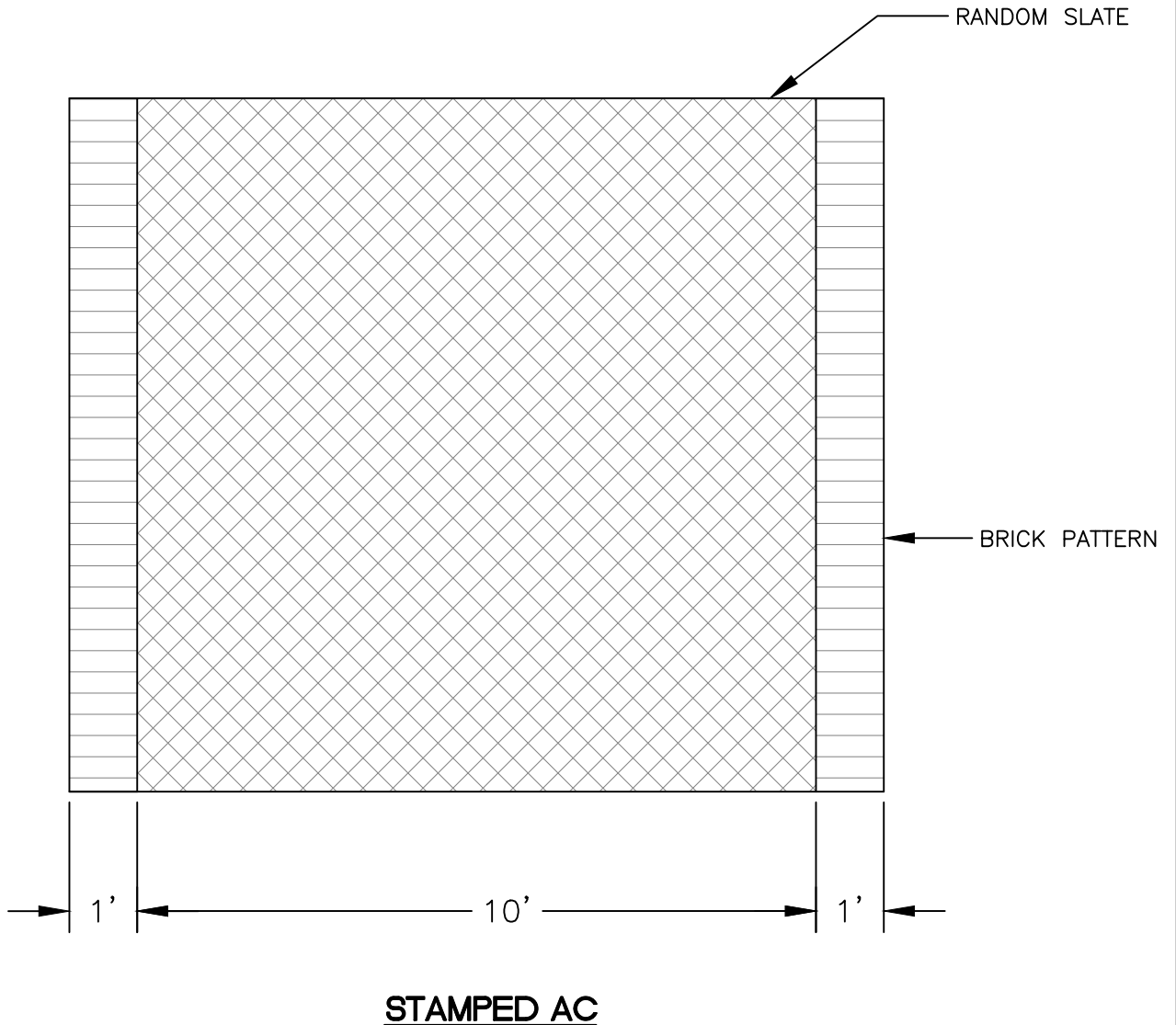
**STANDARD
DETAIL**

Date: **JANUARY 2021**


Drawing No:
R-34

NOTES:

1. Stamp pattern and color shall be approved by City Engineer.
Sample shall be submitted prior to start of work.
2. Maximum rise at joints shall be 1/4".
3. Stamped asphalt with city engineer approval.



NOT TO SCALE

Approved by: 

City Of Lathrop
Public Works Director

No	Revised	Date

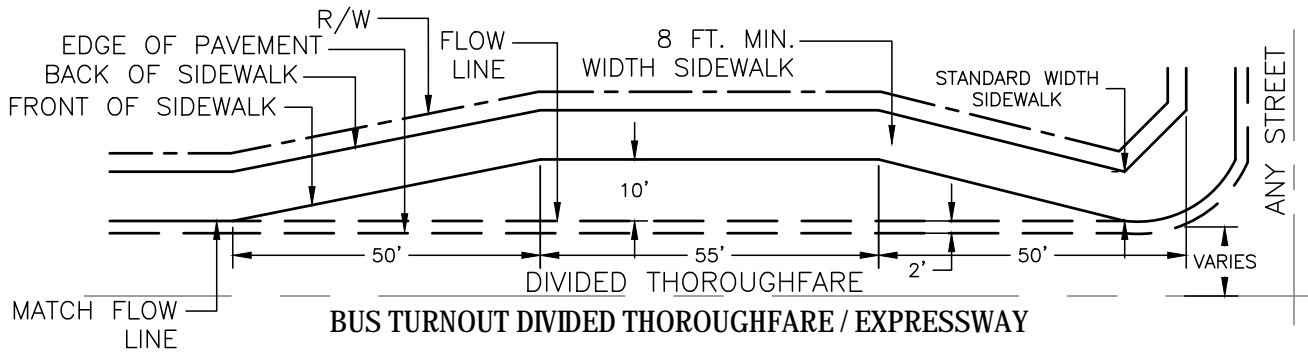
CITY OF LATHROP
DEPARTMENT OF PUBLIC WORKS

**STAMPED
ASPHALT CROSSWALK**

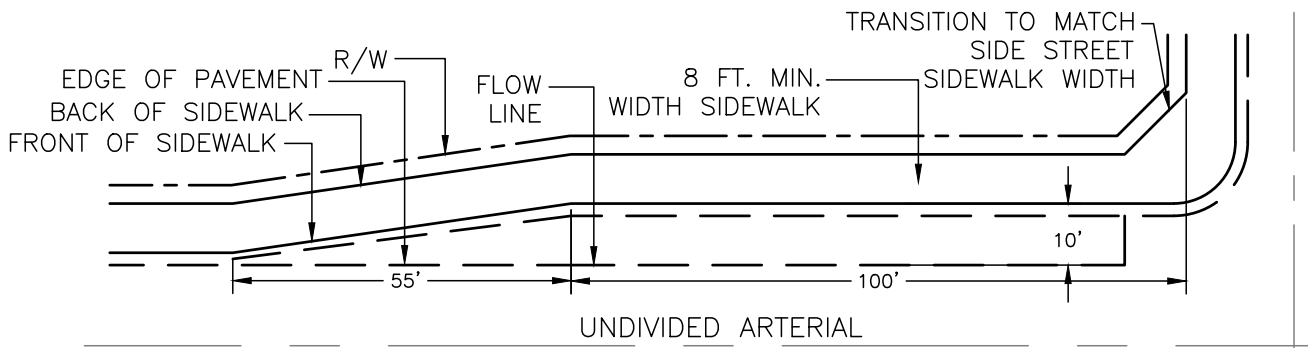


**STANDARD
DETAIL**

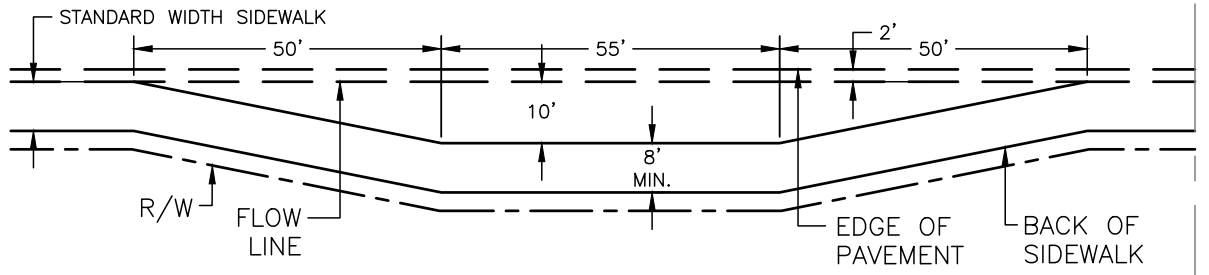
Date: **JANUARY 2021**
Drawing No:
R-35



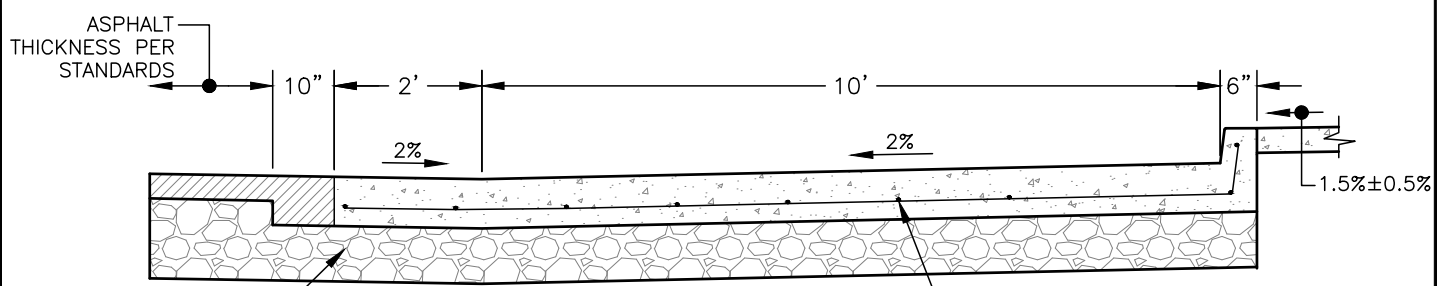
BUS TURNOUT DIVIDED THOROUGHFARE / EXPRESSWAY



BUS TURNOUT UNDIVIDED ARTERIAL

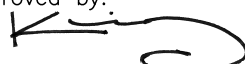


BUS TURNOUT TYPICAL MID-BLOCK



BUS TURNOUT CROSS SECTION

NOT TO SCALE

Approved by:


CITY OF LATHROP
 DEPARTMENT OF PUBLIC WORKS



**STANDARD
 DETAIL**

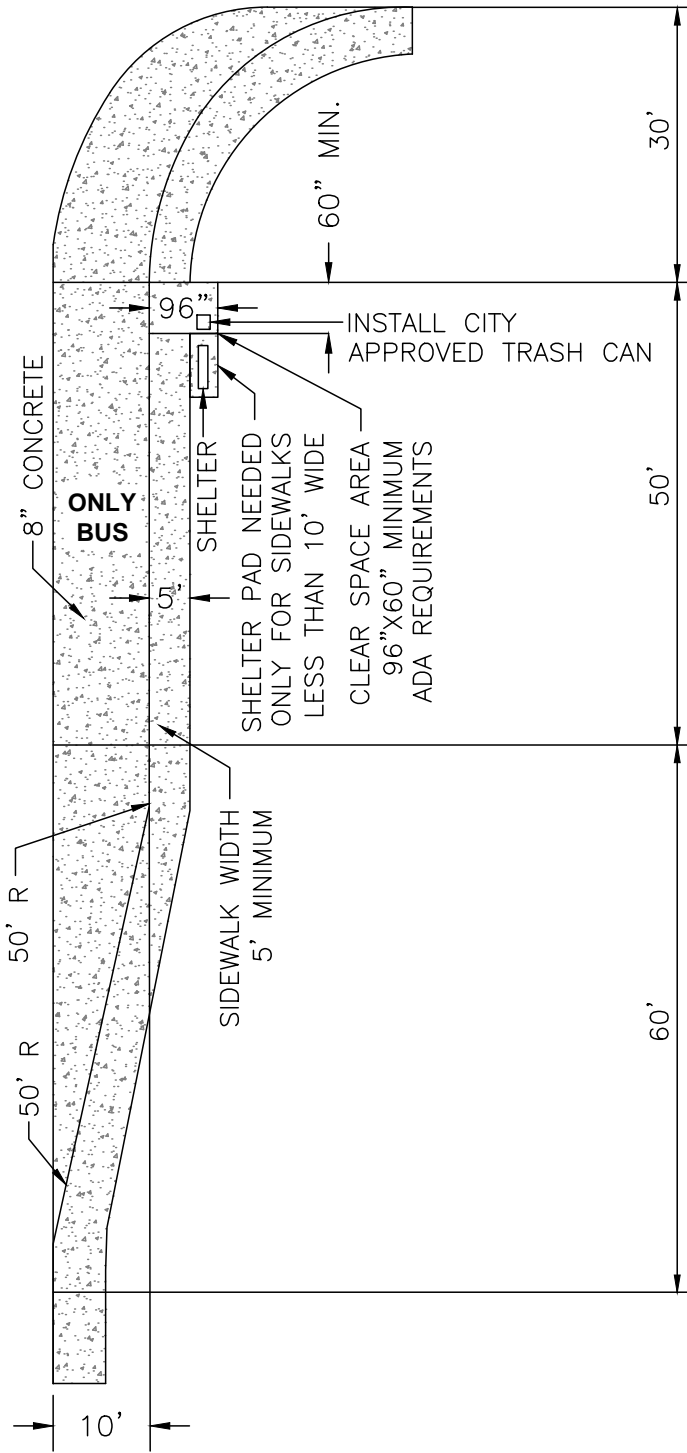
BUS TURNOUT

No	Revised	Date

Date: **JANUARY 2021**

Drawing No:

R-36




NOTES:

1. No extra shelter pad needed for sidewalks wider than 10'
2. Shelter pad and shelters must be wide enough to meet ada requirements 40"x30" clear floor area within shelter perimeter.
3. Street furniture shall be per UDC or transit agency requirements.

NOT TO SCALE

Approved by:

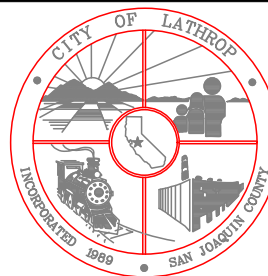


City Of Lathrop
Public Works Director

No	Revised	Date

CITY OF LATHROP
DEPARTMENT OF PUBLIC WORKS

**NEAR SIDE BUS
TURNOUT**

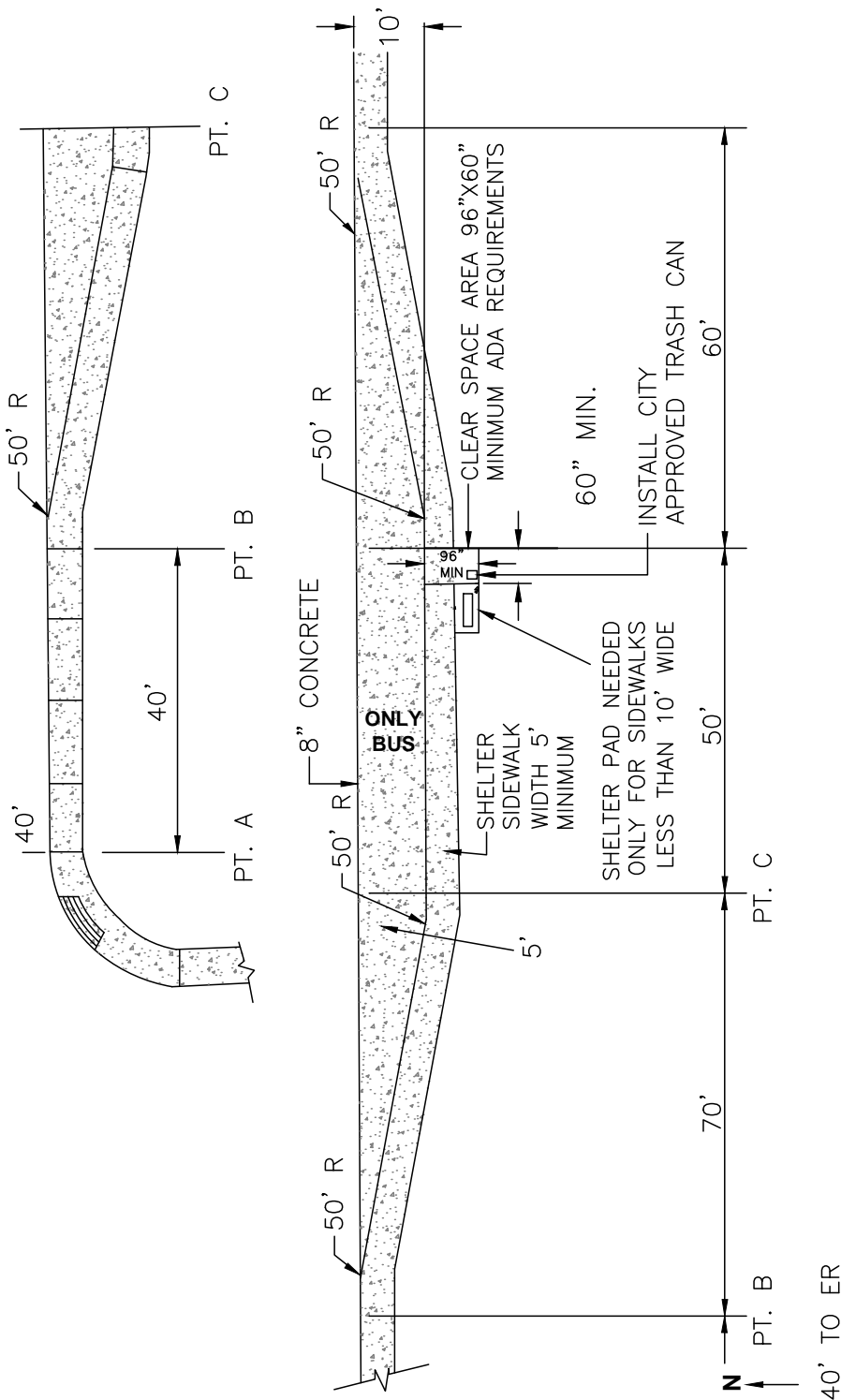


**STANDARD
DETAIL**

Date: **JANUARY 2021**

Drawing No:

R-37

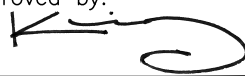


NOTES:

1. No extra shelter pad needed for sidewalks wider than 10'.
2. Shelter pad and shelters must be wide enough to meet ADA requirements 40"x30" clear floor area within shelter perimeter.
3. Street furniture shall be per UDC or transit agency requirements.

NOT TO SCALE

Approved by:

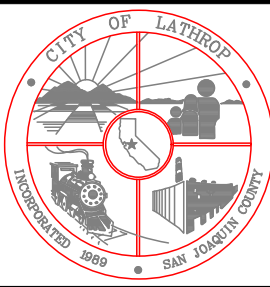


City Of Lathrop
Public Works Director

No	Revised	Date

CITY OF LATHROP
DEPARTMENT OF PUBLIC WORKS

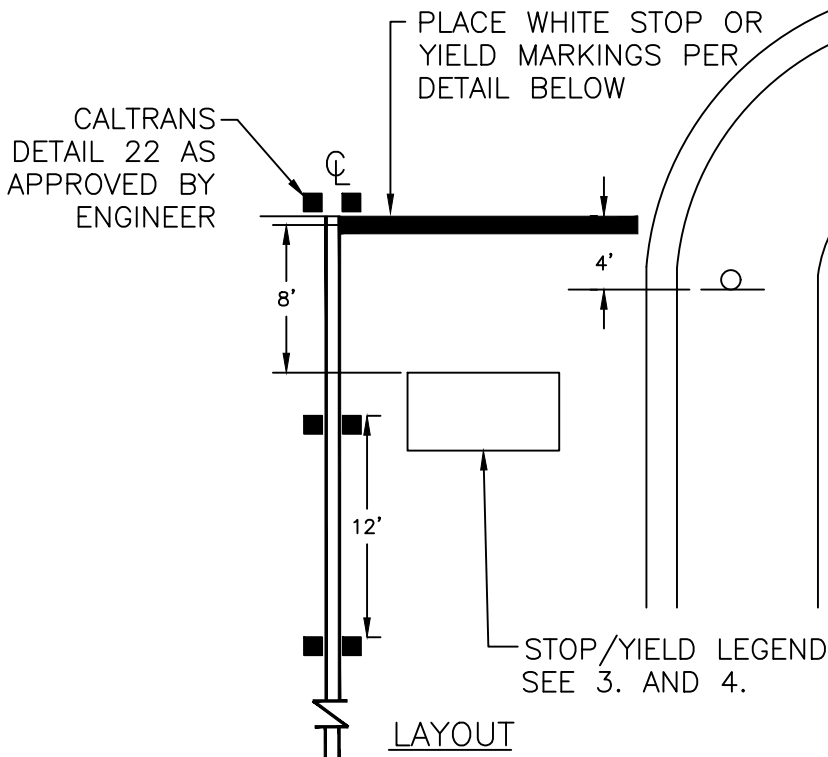
**FARSIDE BUS
TURNOUT**



**STANDARD
DETAIL**

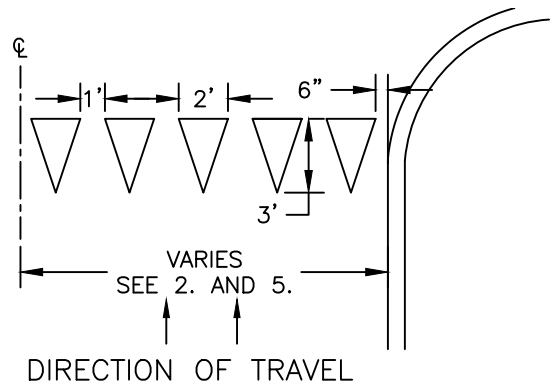
Date: **JANUARY 2021**

Drawing No:
R-38

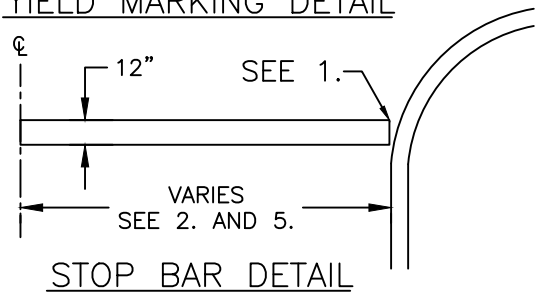


NOTES:


1. Markings are not to be placed on concrete gutter pan.
2. Markings must be placed to avoid the wheel path.
3. Stop or yield legends shall be per Caltrans Standard A24D and shall be centered in the lane.
4. Legend shall be placed at all intersections except where a local street intersects with another local street.
5. Markings extend the entire width of the lane.
6. Stop bar 24" behind crosswalk.
7. All pavement markings shall be thermoplastic.
8. No permanent markings shall be placed until the City Engineer or his representative approves the cat-tracking in the field.
9. Crosswalks within 500' of schools shall be yellow.



YIELD MARKING DETAIL



NOT TO SCALE

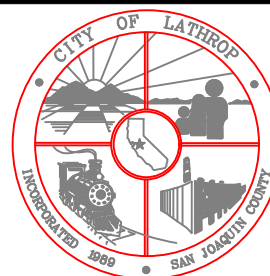
Approved by: 

City Of Lathrop
Public Works Director

No	Revised	Date

CITY OF LATHROP
DEPARTMENT OF PUBLIC WORKS

**STOP AND YIELD
STRIPING DETAILS**



**STANDARD
DETAIL**

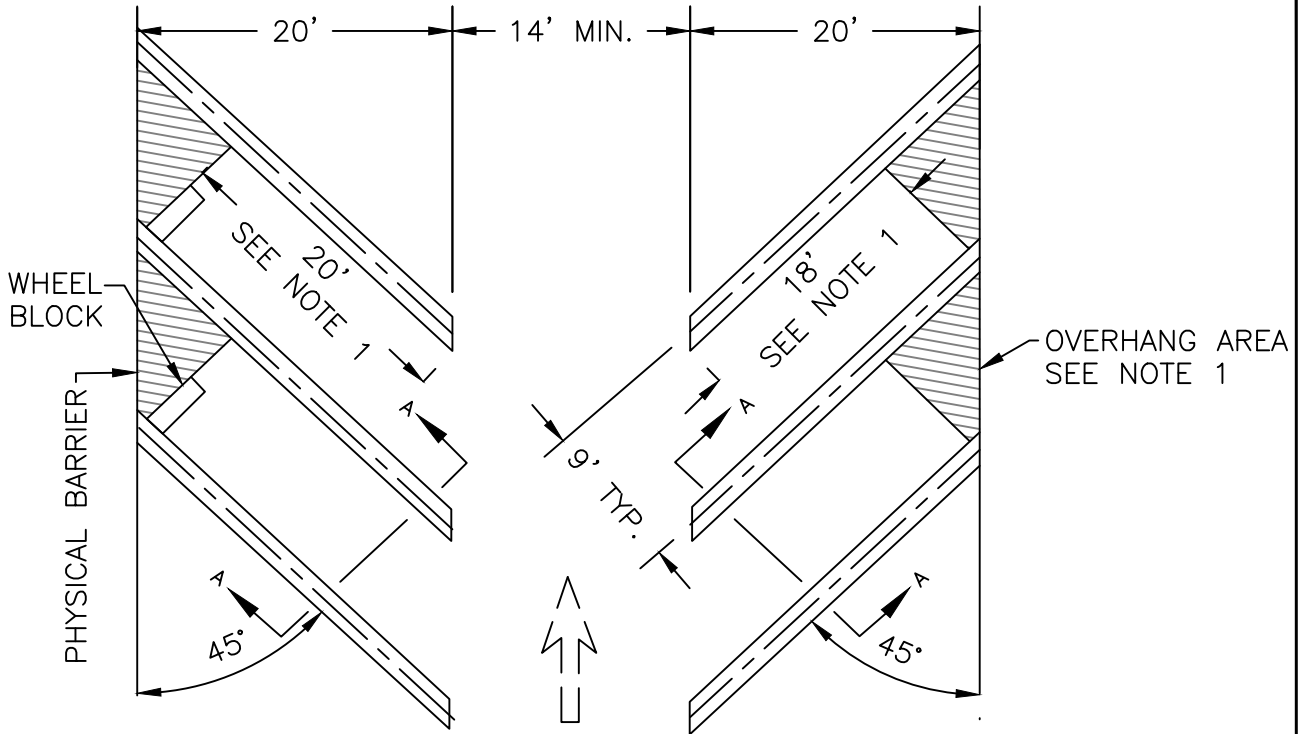
Date: **JANUARY 2021**

Drawing No:

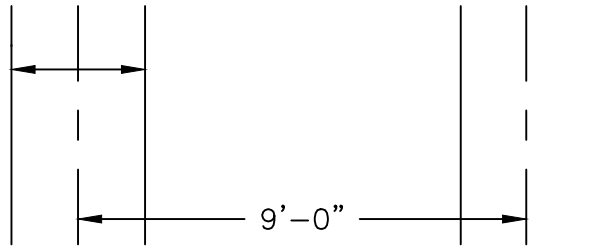
R-39

NO OVERHANG

WITH OVERHANG



4" STRIPE WHITE
THERMOPLASTIC (TYP.)




DETAIL A-A

NOTES:

1. Parking stall shall be 18' in length in cases where a 2' overhang area is as designated or available such as sidewalk, landscape and other low surfacing. Where there is a physical barrier such as a wall, tall planter or a property line, length shall be 20'.
2. Vehicles shall not be permitted to overhang planters and/or sidewalks unless they are 2' wider than required by the city of Lathrop Municipal Code. If planter and/or sidewalk widths are as required by the code, wheel-stops shall be installed. Minimum clearance required by CBC for ADA path of travel.
3. All drive aisle widths shall be widened to accommodate fire access requirements, if necessary.

NOT TO SCALE

Approved by: 

City Of Lathrop
Public Works Director

No	Revised	Date

CITY OF LATHROP
DEPARTMENT OF PUBLIC WORKS

TYPICAL 45°
PARKING STALL
LAYOUT

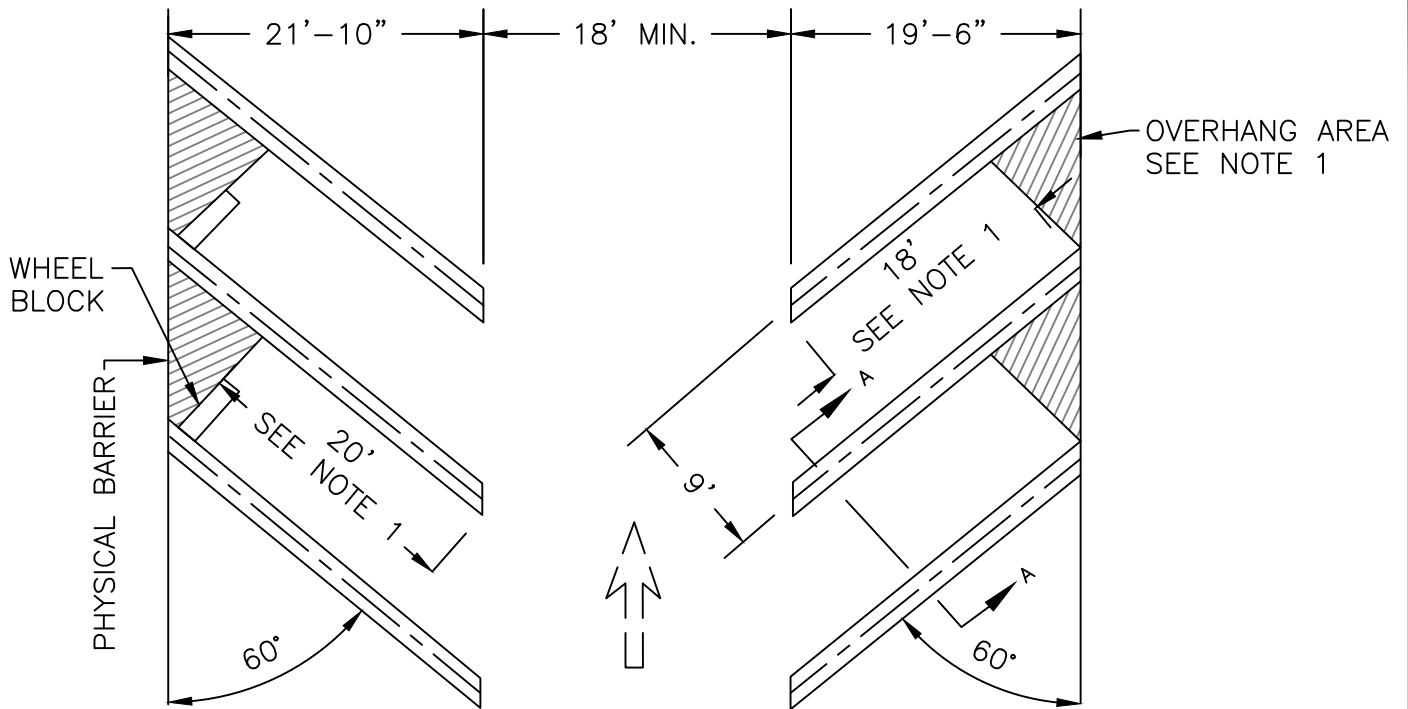


STANDARD
DETAIL

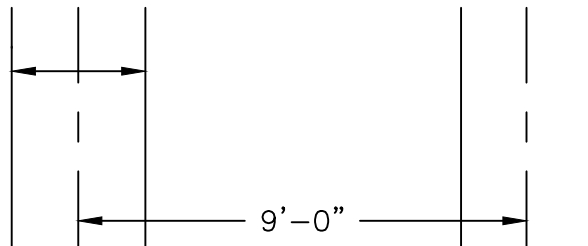
Date: **JANUARY 2021**
Drawing No:
R-40

NO OVERHANG

WITH OVERHANG



4" STRIPE WHITE
THERMOPLASTIC (TYP.)




DETAIL A-A

NOTES:

1. Parking stall shall be 18' in length in cases where a 2' overhang area is as designated or available such as sidewalk, landscape and other low surfacing. Where there is a physical barrier such as a wall, tall planter or a property line, length shall be 20'.
2. Vehicles shall not be permitted to overhang planters and/or sidewalks unless they are 2' wider than required by the city of Lathrop Municipal Code. If planter and/or sidewalk widths are as required by the code, wheel-stops shall be installed. Minimum clearance required by CBC for ADA path of travel.
3. All drive aisle widths shall be widened to accommodate fire access requirements, if necessary.

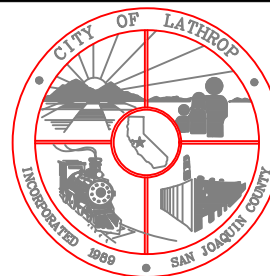
NOT TO SCALE

Approved by: 

City Of Lathrop
Public Works Director

No	Revised	Date

CITY OF LATHROP
DEPARTMENT OF PUBLIC WORKS
TYPICAL 60°
PARKING STALL
LAYOUT

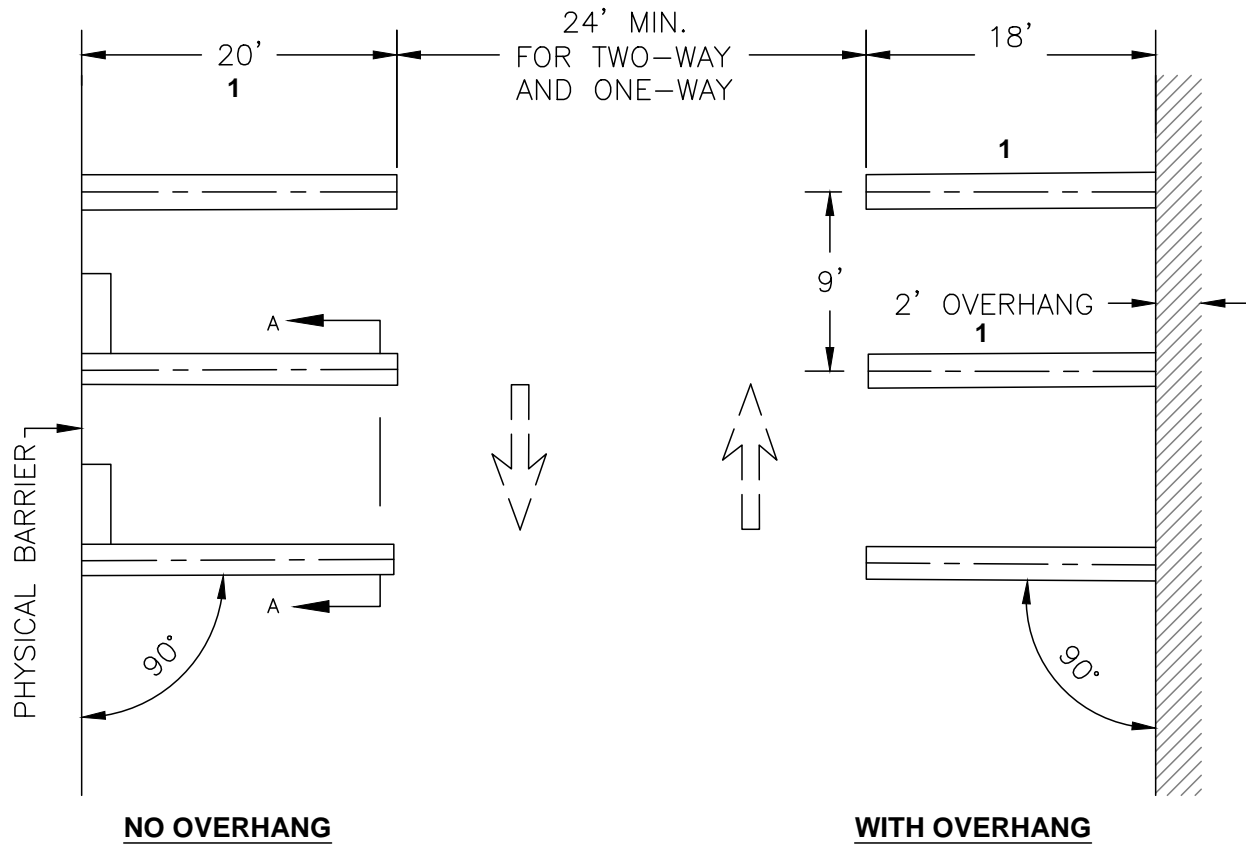


STANDARD
DETAIL

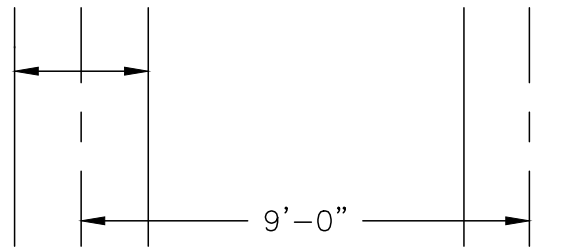
Date: **JANUARY 2021**

Drawing No:

R-41



4" STRIPE WHITE
THERMOPLASTIC (TYP.)




DETAIL A-A

NOTES:

1. Parking stall shall be 18' in length in cases where a 2' overhang area is as designated or available such as sidewalk, landscape and other low surfacing. Where there is a physical barrier such as a wall, tall planter or a property line, length shall be 20'.
2. Vehicles shall not be permitted to overhang planters and/or sidewalks unless they are 2' wider than required by the city of Lathrop Municipal Code. If planter and/or sidewalk widths are as required by the code, wheel-stops shall be installed.
3. All drive aisle widths shall be widened to accommodate fire access requirements, if necessary.

NOT TO SCALE

Approved by:

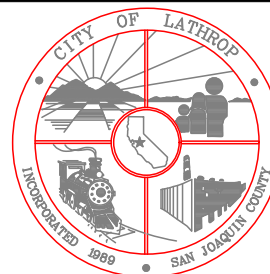


City Of Lathrop
Public Works Director

No	Revised	Date

CITY OF LATHROP
DEPARTMENT OF PUBLIC WORKS

**TYPICAL 90°
PARKING STALL
LAYOUT**

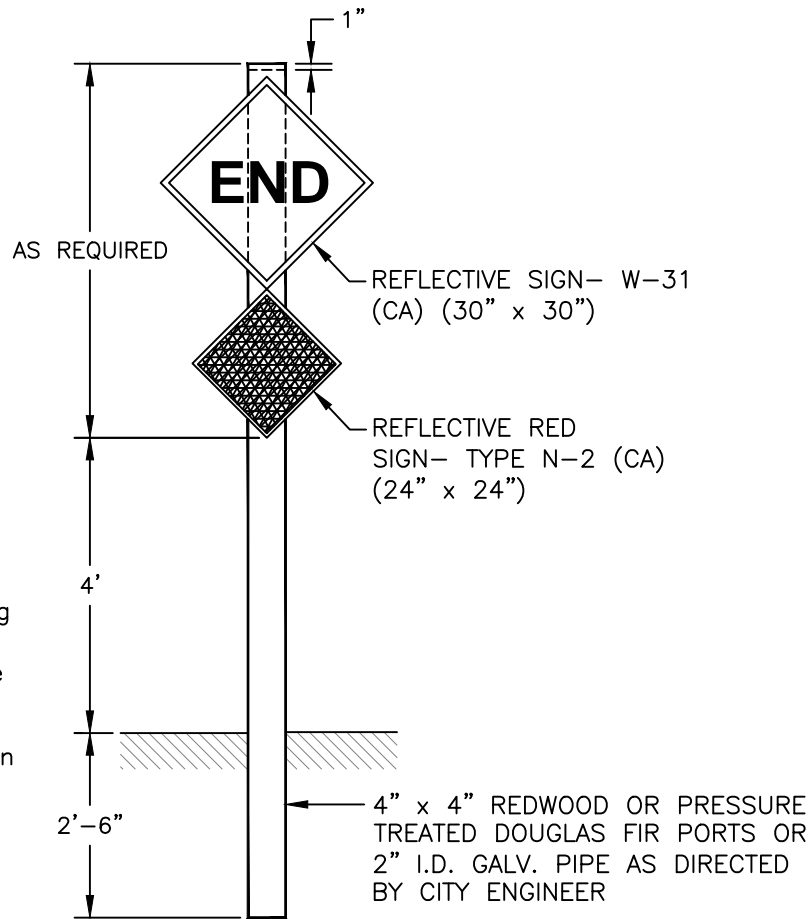
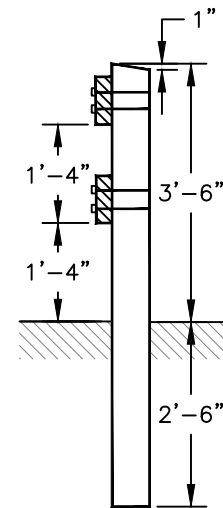
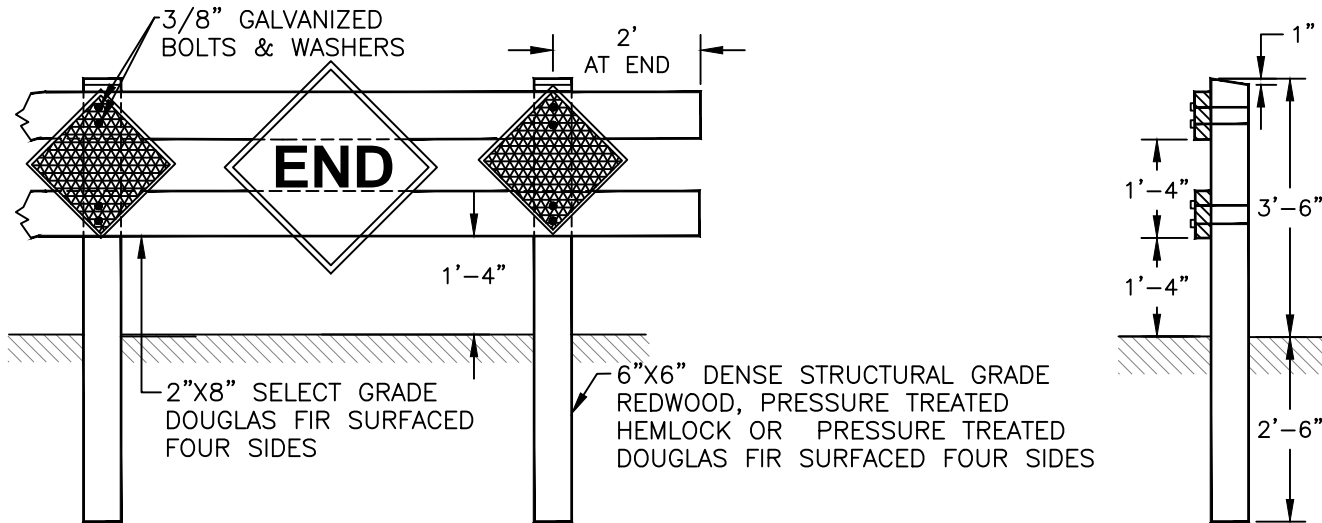


**STANDARD
DETAIL**

Date: **JANUARY 2021**

Drawing No:

R-42




NOTE:

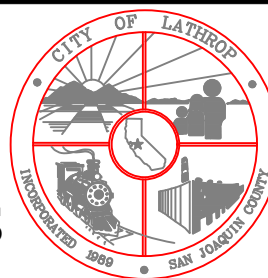
1. Type N-2 Reflector and R-26 Sign to be spaced on every other post.
2. End Sign, W-31 must line up with the center of travel lanes.
3. Barricades to be as wide as street R/W.
4. Barricades to be painted white using 2 coats of "Exterior Alkyd Resin Hi-Gloss Enamel" over a compatible primer.
5. Center post & signs to be placed in back of barricade aligns with road center line

CENTER POST & SIGNS FOR BARRICADE

NOT TO SCALE

Approved by: 

CITY OF LATHROP
DEPARTMENT OF PUBLIC WORKS



**STANDARD
DETAIL**

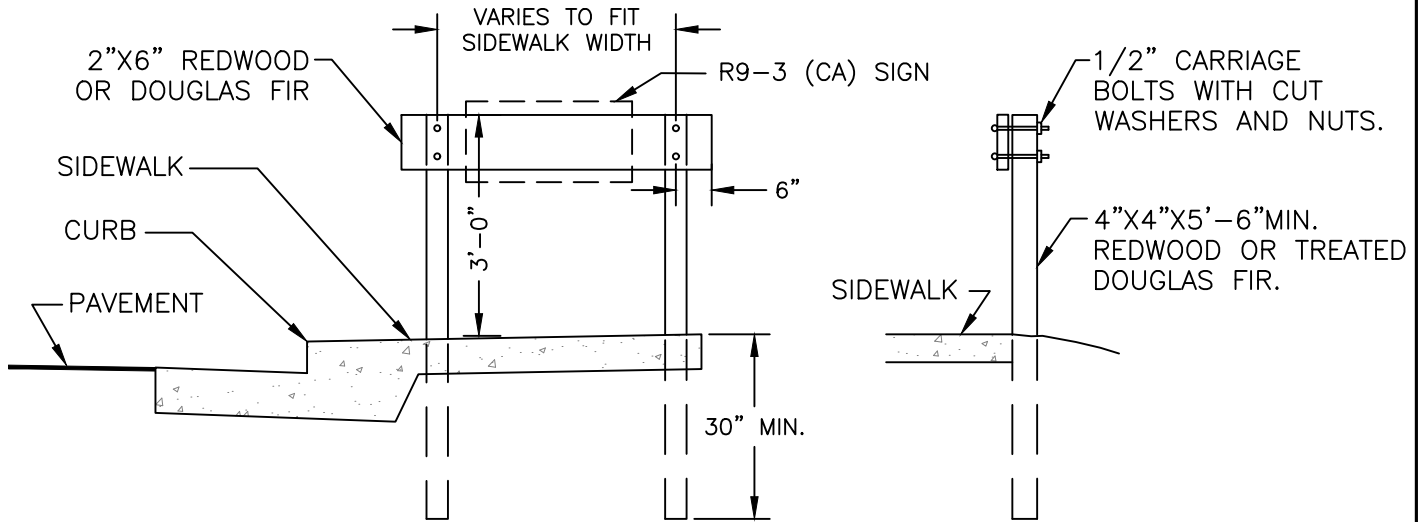
**BARRICADES FOR
TERMINATING STREETS**

Date: **JANUARY 2021**

Drawing No:

R-43


No	Revised	Date



NOTES:

1. Sidewalk barricades to be installed at each location where standard provisions can not be made for pedestrians to continue beyond the terminus of a sidewalk. Locations shall be as determined by City Engineer.
2. All exposed surfaces to be painted with two (2) coats of white paint conforming to section 91-3.02 of State Specifications.
3. In areas with planter strips the barricade need not extend to the curb.

NOT TO SCALE

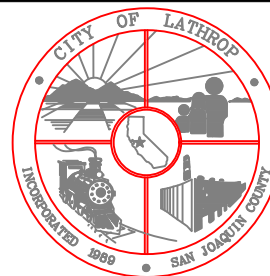
Approved by: 

City Of Lathrop
Public Works Director

No	Revised	Date

CITY OF LATHROP
DEPARTMENT OF PUBLIC WORKS

**TEMPORARY SIDEWALK
BARRICADE TYPE I**



**STANDARD
DETAIL**

Date: **JANUARY 2021**

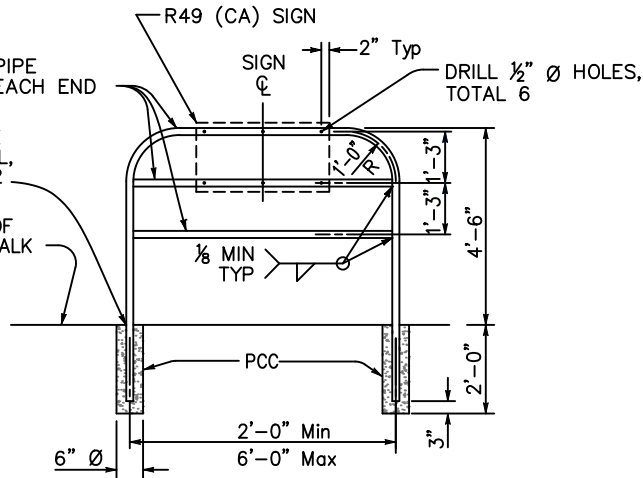
Drawing No:

R-44

1½ NPS, GALVANIZED STANDARD PIPE WITH GALVANIZING DRAIN HOLES EACH END

USE SLEEVE POST DETAIL, SEE NOTE 2

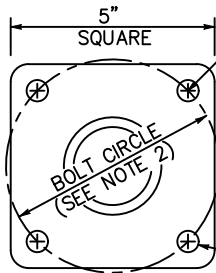
TOP OF SIDEWALK



THREADED PIPE COLLAR

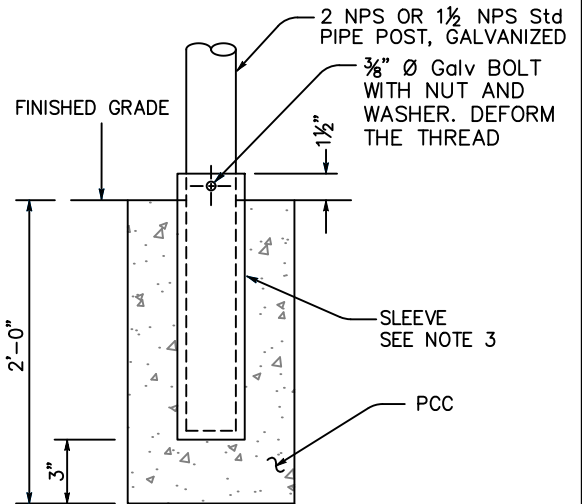
PCC SIDEWALK

ELEVATION



PLAN

POST ANCHORAGE DETAIL



SLEEVE POST DETAIL

Use unless otherwise specified or shown on plans

NOTES:

1. Pipe post to be set 1'-6" back from face of curb unless otherwise specified.
2. Where barricade posts are installed in existing concrete sidewalk, the post may be anchored to the sidewalk as shown in the "Post Anchorage Detail". Bolt circle diameter shall be 4" minimum.
3. Steel sleeve shall be constructed with an inside diameter 1/10" larger than the post's outside diameter. Wall thickness of sleeve shall be same as post or larger.
4. Contractor may submit alternative details for approval by the City Engineer.

NOT TO SCALE

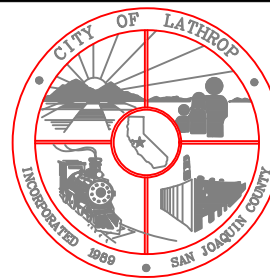
Approved by:

City Of Lathrop
Public Works Director

No	Revised	Date

CITY OF LATHROP
DEPARTMENT OF PUBLIC WORKS

SIDEWALK BARRICADE
TYPE II

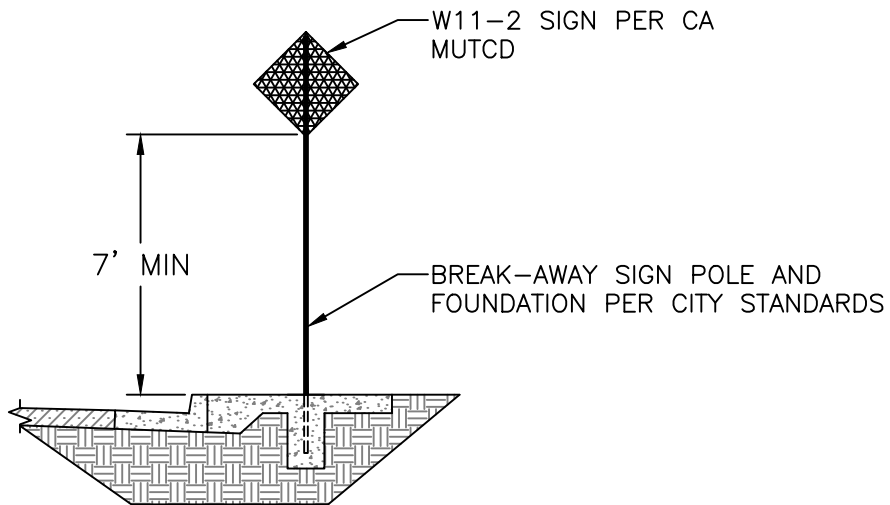
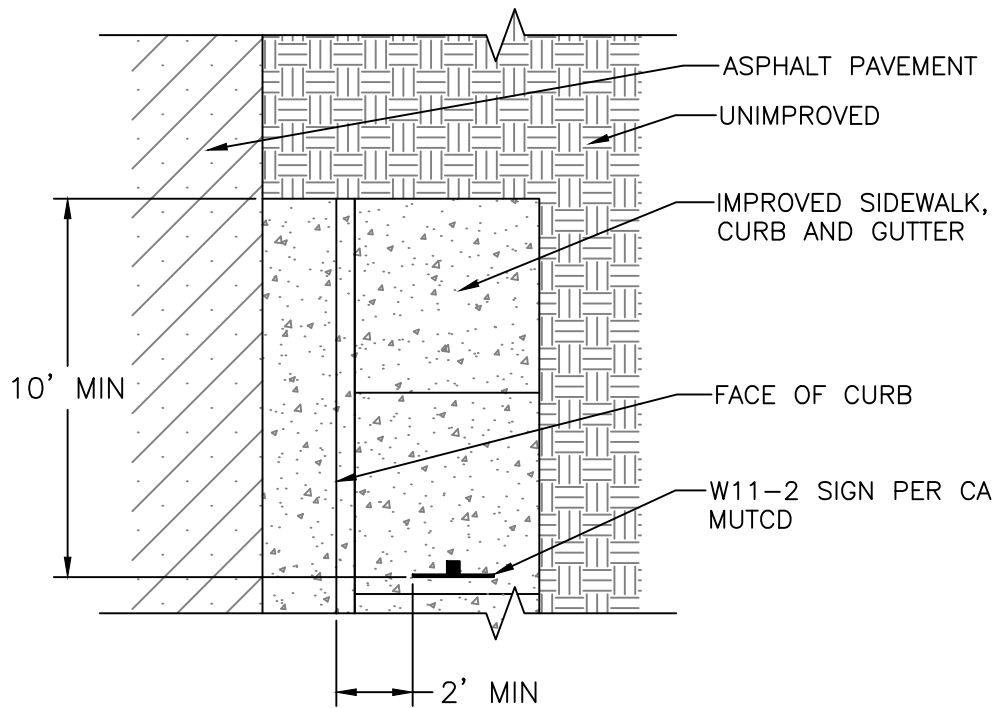


STANDARD
DETAIL

Date: **JANUARY 2021**

Drawing No:

R-45



NOT TO SCALE

Approved by:

City Of Lathrop
Public Works Director

No	Revised	Date

CITY OF LATHROP
DEPARTMENT OF PUBLIC WORKS

**SIDEWALK TRANSITION
IMPROVED TO UNIMPROVED**

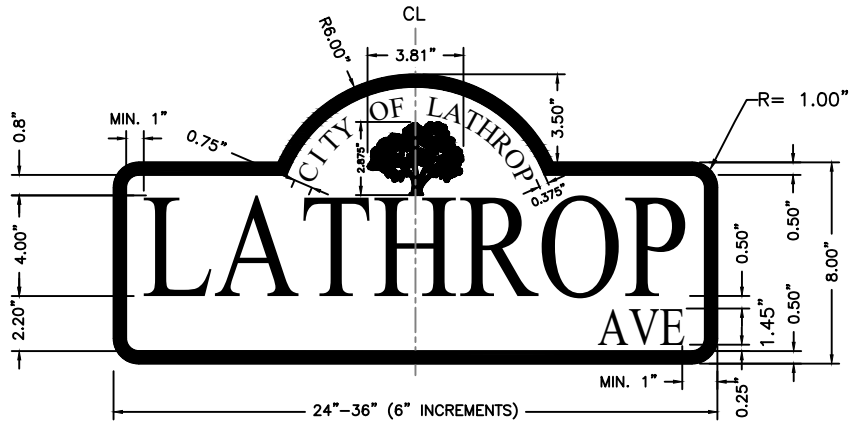


**STANDARD
DETAIL**

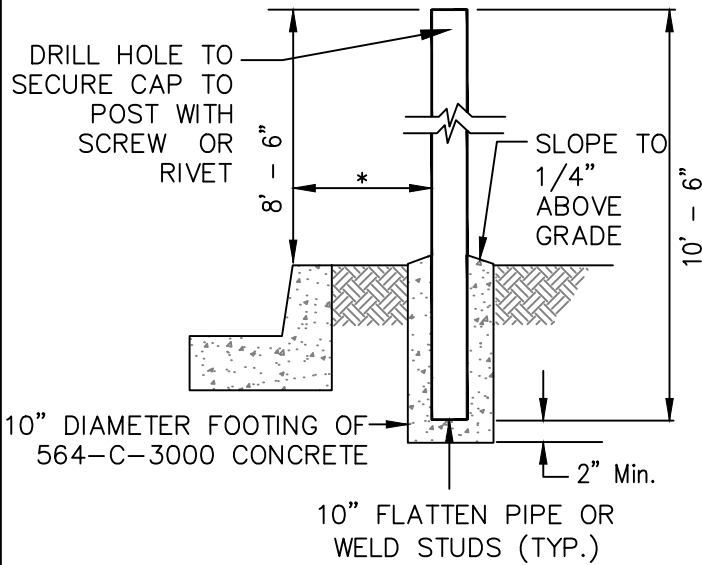
Date: **JANUARY 2021**

Drawing No:

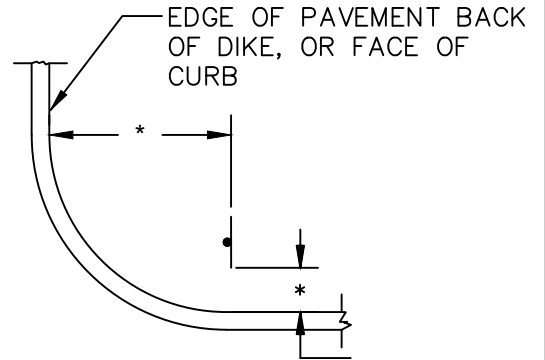
R-46



**TYPICAL STREET SIGN
(BLACK ON WHITE)**



**TYPICAL STOP AND STREET
SIGN INSTALLATION**



* OFFSET SHALL BE PER THE LATEST CMUTCD

**STOP AND STREET SIGN
LOCATION DETAIL**


NOTE:

See Section 6.5.10 in the Design and Construction Standards for Sign Location.

NOTES:

1. One street sign is required at each intersection.
2. Street names shall be per Final Map.
3. See improvement plans for location of traffic control devices.
4. The length of the street sign varies due to the length of the street name.
5. Stop signs shall be 30" except for streets which intersect arterial or parkways, then 36" stop signs shall be used. For 36" signs, use stop ahead sign with appropriate pavement markings.
6. Tex-Cote Graffiti Guard®, 21st Century Coatings Graff-It-Off®, or approved equal shall be applied to all signs.
7. All signs shall be Diamond Grade reflective.

NOT TO SCALE

Approved by: 

City Of Lathrop
Public Works Director

No	Revised	Date

CITY OF LATHROP
DEPARTMENT OF PUBLIC WORKS

**STANDARD STREET
SIGN DETAILS**

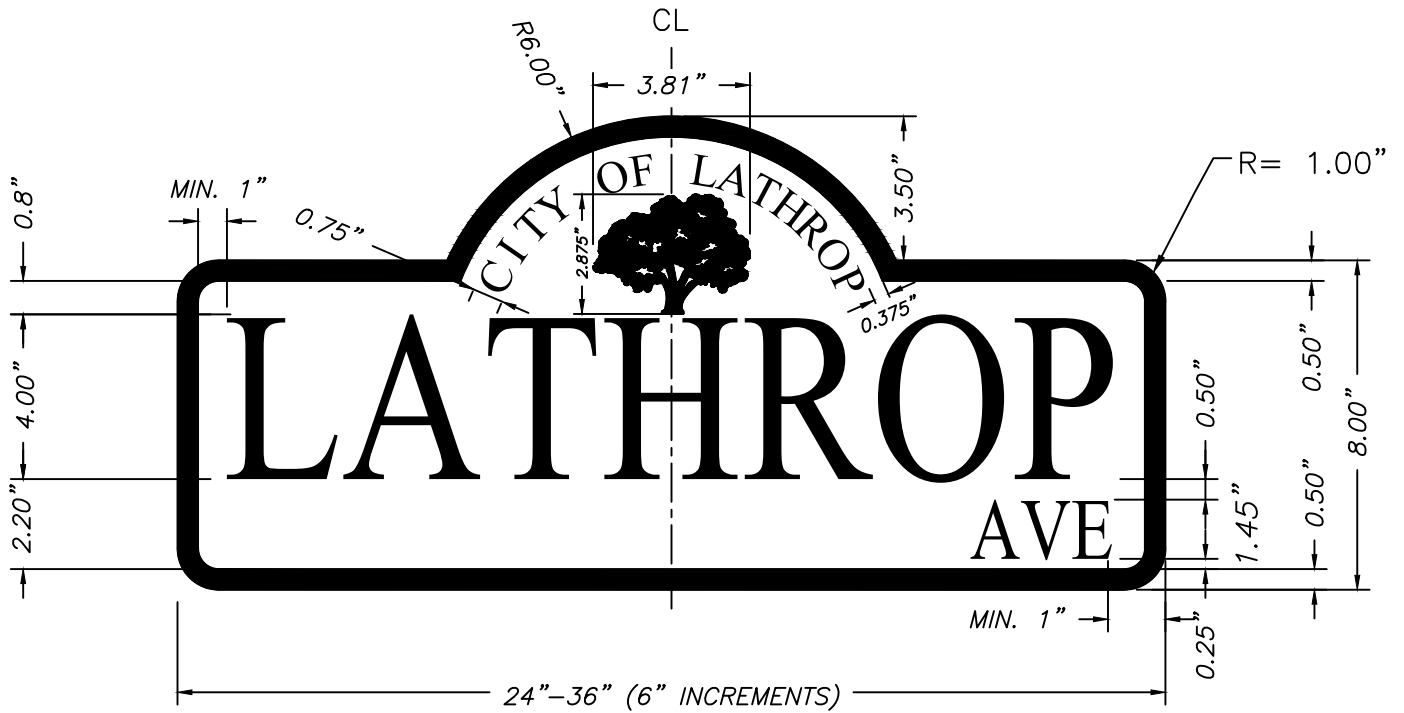


**STANDARD
DETAIL**

Date: **JANUARY 2021**

Drawing No:


R-47



- SIGN UNIT – Shall be constructed of 0.125" thick 5052H38 anodized aluminum. Sign blades shall be constructed to the dimensions of 24" – 36" long and free of sharp edges and dents.
- SHEETING – All sign blades shall be diamond engineer grade reflective sheeting. There shall be no splices. The blades shall have white background 800 series ink with black margin 1/2" in width. Letters and tree logo shall be black engineer grade. Tree to be centered in logo space. The style of the letters shall be "Times New Roman". Street type name (ie. Ave, Blvd) shall always be at outer edges of blade. Street names to be centered on blade. All letters to be capitalized. All signs shall have a 880 series clear coat finish. Signs to be double sided (faced).
- BRACKET – Sign mounting bracket shall be cantilever arm support with two (2) band-it 3/4" stainless steel straps with heavy duty buckles secured to the pole plus attached w/(2) stainless steel bolts into pole. Outermost arm support end shall reach at least to the mid-point of the blade. Each sign blade shall be mounted to bracket (cantilever arm support) with vandal-proof pinhead allen screws.

Note: For private streets the sign shall be identical to the above sign and shall meet the same criteria list above with one noted exception, the words "Private Street" shall replace the words "City of Lathrop" above the tree logo.

NOT TO SCALE

Approved by: 

CITY OF LATHROP
DIRECTOR PUBLIC WORKS

No	Revised	Date

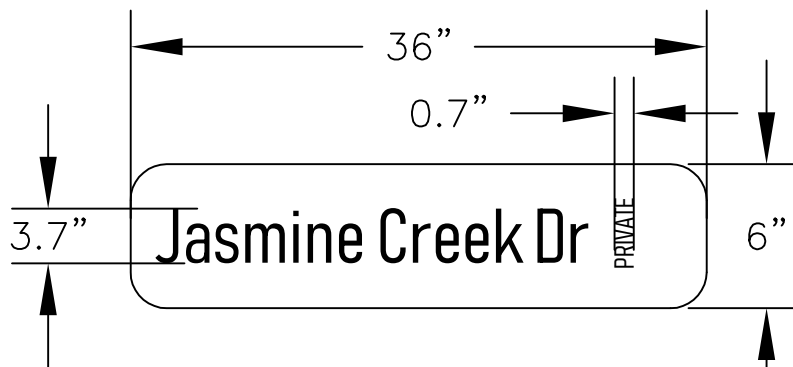
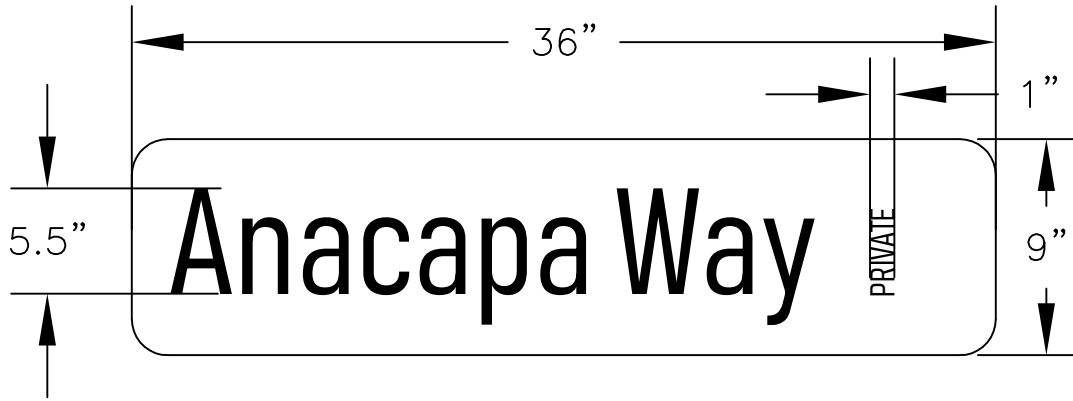
CITY OF LATHROP
DEPARTMENT OF PUBLIC WORKS

**RESIDENTIAL STREET
NAME SIGN DETAIL**



**STANDARD
DETAIL**

DATE: **JANUARY 2021**
DRAWING NO:
R-48



TEXT TO BE BLUE
 PANEL TO BE WHITE
 (TYP. FOR PRIVATE)

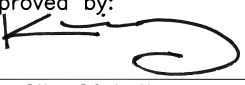


TEXT TO BE WHITE
 PANEL TO BE BLUE
 (TYP. FOR PUBLIC)

NOTES:

1. Font used: Highway Gothic "B".
2. Reflective sheeting: 3M 3930 HIP White.
3. Blue overlay: 3M 1175C ElectroCut.
4. Corner radius on sign panel: 1.5"
5. Public street signs shall have a black frame around the panel.

NOT TO SCALE

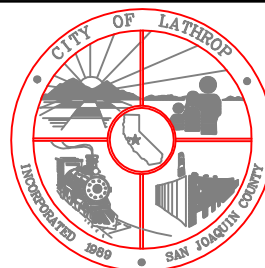
Approved by: 

City Of Lathrop
Public Works Director

No	Revised	Date

CITY OF LATHROP
 DEPARTMENT OF PUBLIC WORKS

RIVER ISLANDS
STREET SIGN DETAIL

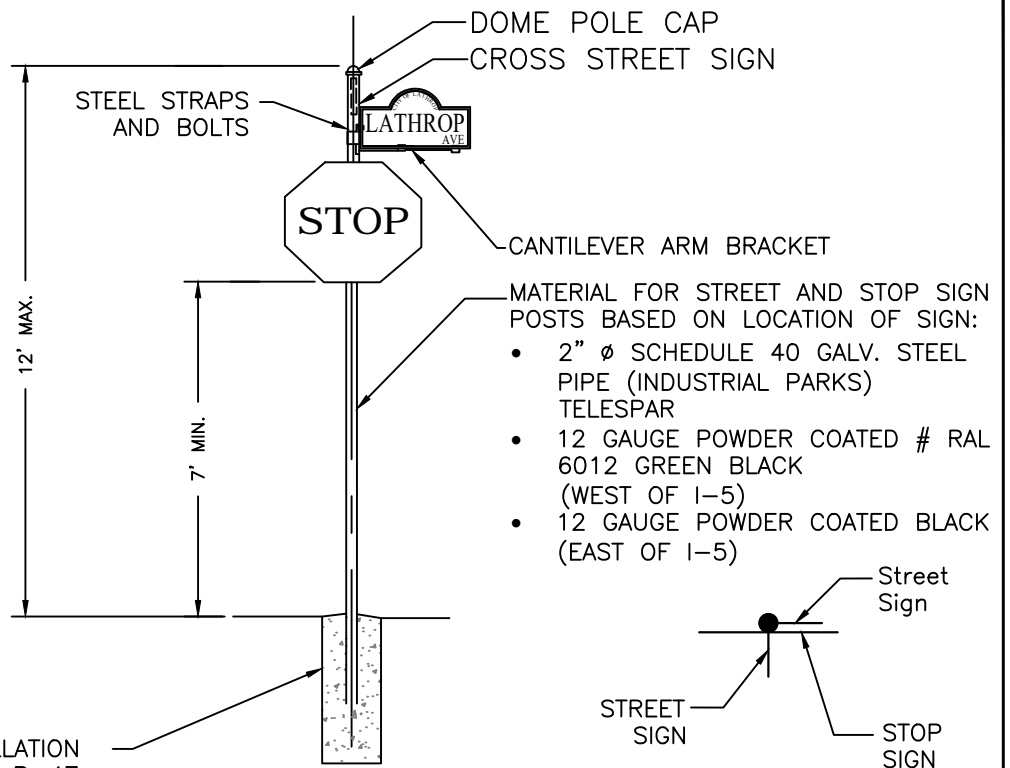


STANDARD
DETAIL

Date: **JANUARY 2021**

Drawing No:

R-48A



STREET AND STOP SIGN INSTALLATION
REFER TO DETAIL R-47


ELEVATION VIEW

PLAN VIEW

NOTES:

1. One street sign is required at each intersection.
2. See improvement plans for location of traffic control devices.
3. See Standard Drawing No. R-39 for proposed sidewalk sign locations.
4. Stop signs shall be 30" except for streets which intersect arterial or parkways, then 36" stop signs shall be used. For 36" signs, use stop ahead sign with appropriate pavements markings.
5. Graffiti Guard shall be applied to all stop signs.
6. The sign company shall obtain a computer file of the logo from the City of Lathrop and apply it to the design of the project signs.
7. The length of each street name sign shall vary depending on the length of the street name.
8. Total length of street sign shall not exceed 36". Smaller letter size may be allowed to fit within this length if found necessary.
9. Cantilever extension arm to be used on signs 30" or greater in length.
10. Refer to Standard Detail R-47 for details on typical stop and street sign installation.

NOT TO SCALE

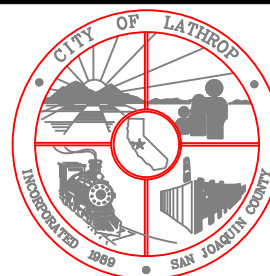
Approved by: 

CITY OF LATHROP
DIRECTOR PUBLIC WORKS

No	Revised	Date

CITY OF LATHROP
DEPARTMENT OF PUBLIC WORKS

**RESIDENTIAL
SIGN LOCATION**



**STANDARD
DETAIL**

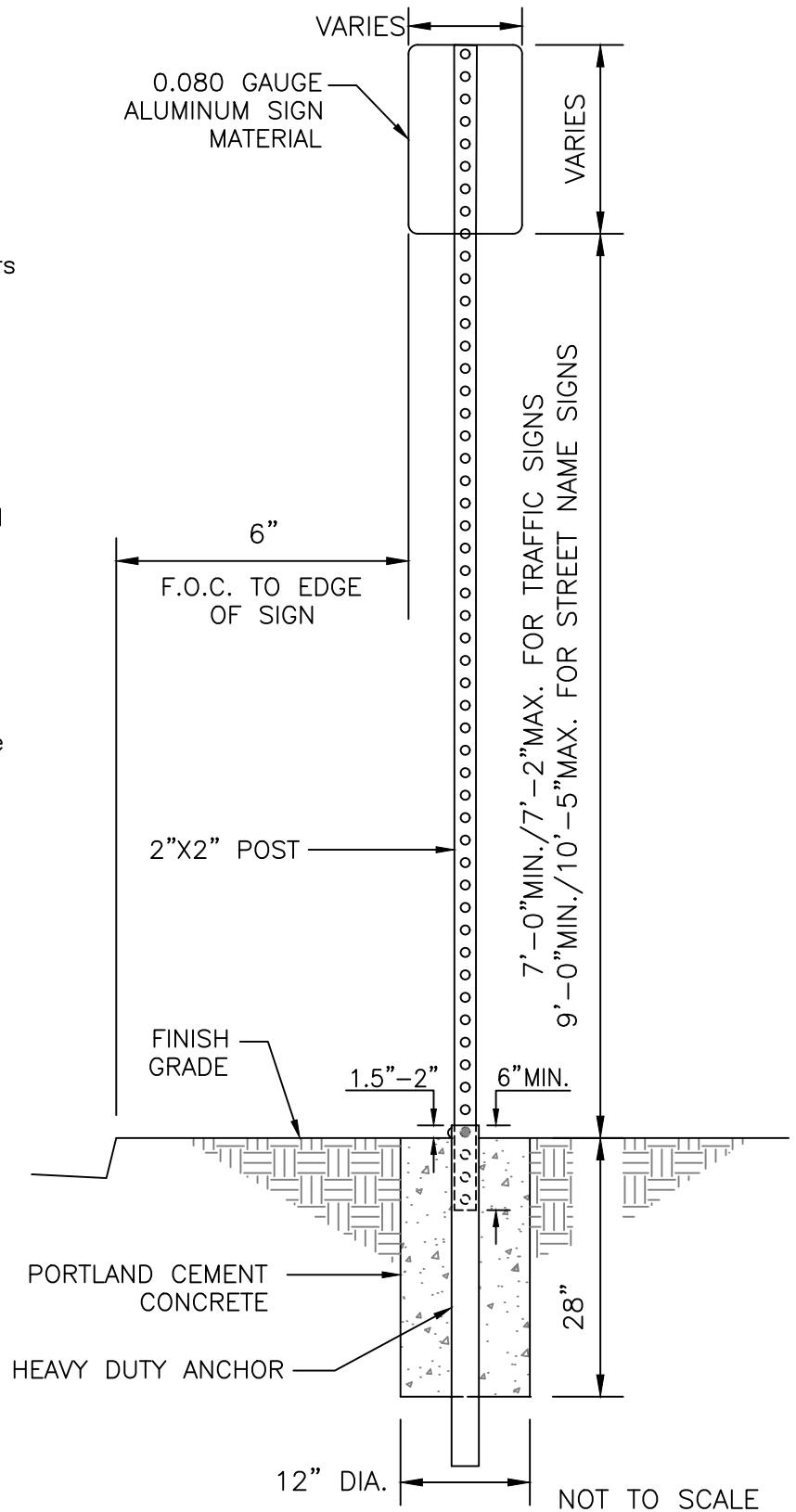
Date: **JANUARY 2021**


DRAWING NO:

R-49

NOTES

1. The sign installation shall use the Unistrut Telespar® Sign Support System with a 2", 12-gauge breakaway post, fitted Heavy Duty One-Piece Anchor and drive rivet fasteners or approved equivalent system.
2. The post shall be secured to the anchor on two sides:
1-facing oncoming traffic,
1-facing the roadway.
3. Break-away signs are to be used in special cases only and shall be reviewed by the City Engineer.
4. For concrete specification see notes on Standard Detail No. R-5.
5. Heavy duty anchor should have only one (1) hole at the top on all four sides.
6. A strip of retroreflective material may be used on regulatory and warning sign supports as determined by the City Engineer. Placement of retroreflective material shall be per the latest CA MUTCD.
7. Color Specification is Powder coated black (West of I-5).
8. Color Specification is Powder coded #RAL 6012 green black (East of I-5).



Approved by: 

City Of Lathrop
Public Works Director

No	Revised	Date

CITY OF LATHROP
DEPARTMENT OF PUBLIC WORKS

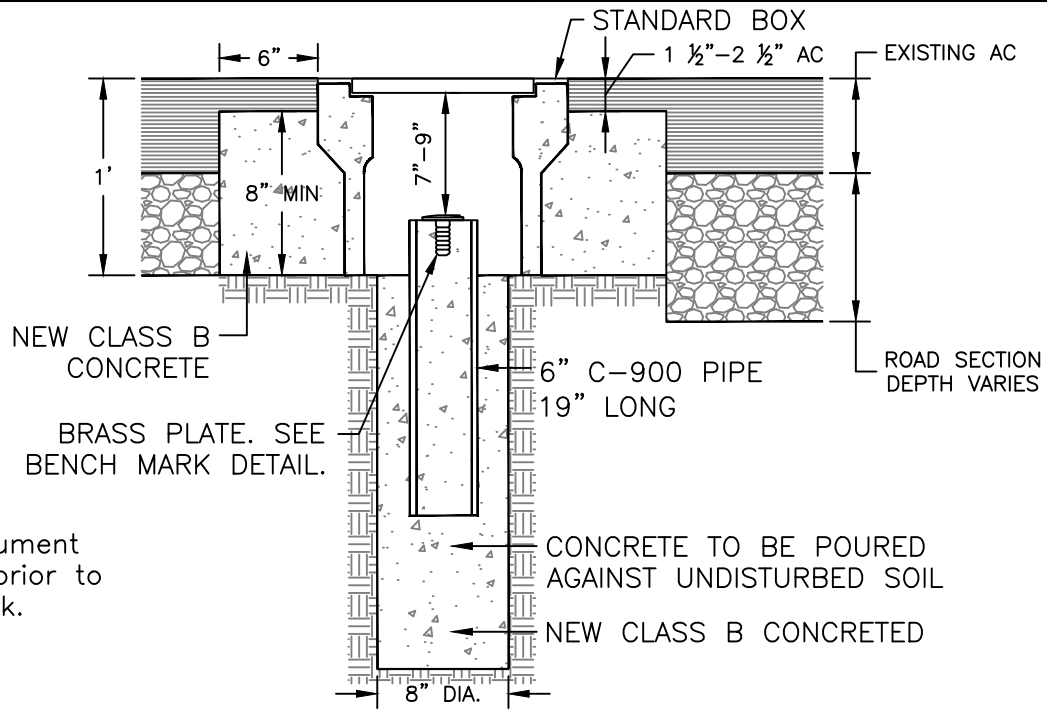
**BREAK-AWAY SIGN
INSTALLATION w/ 2X2 POLE
AND ANCHOR ASSEMBLY**



**STANDARD
DETAIL**

Date: **JANUARY 2021**

Drawing No:
R-50

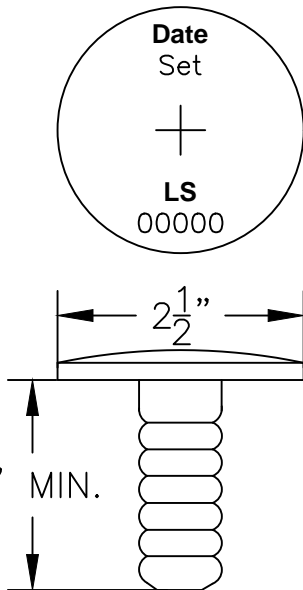


NOTE:
Survey monument report due prior to start of work.

SURVEY MONUMENT


NOTES:

1. Concrete shall be five sack Class "B" 2500 psi at 28 days; 4" max.slump; 3/4" maximum aggregate size.
2. The Brass Plate shall have the exact spot indicated by a chiseled cross or a punched hole and bear the License Number of the Engineer or Surveyor marking the survey and the date of marking. For Bench Marks, the bottom of the Brass Plate shall be flush with the top of curb. For Survey Monuments, the bottom of the Brass Plate shall be flush with the top of the cast iron pipe.
3. Monument Box shall be Christy G-5 or approved equal with marking "MONUMENT" in raised letters on cover. Brass Plate shall be Litz 9134-16 Domed survey markers or approved equal.
4. The Engineer or Surveyor shall notify the City Engineer in writing that final monuments have been placed as required by the Subdivision Map Act.
5. The Engineer or Surveyor shall provide the City Engineer with Tie Plats for each Survey Monument set. Tie plats shall show a min. of 3 tie out distances to the monument.
6. The Bench Mark shall be tied to existing City Bench Mark System and the Engineer or Surveyor shall provide the City with closed bench loop calculations.



BENCH MARK BRASS PLATE
DETAIL

NOT TO SCALE

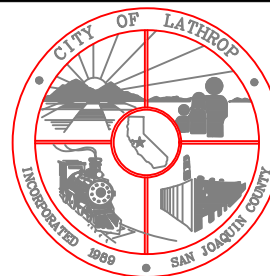
Approved by: 

City Of Lathrop
Public Works Director

No	Revised	Date

CITY OF LATHROP
DEPARTMENT OF PUBLIC WORKS

**BENCH MARK &
SURVEY MONUMENT**

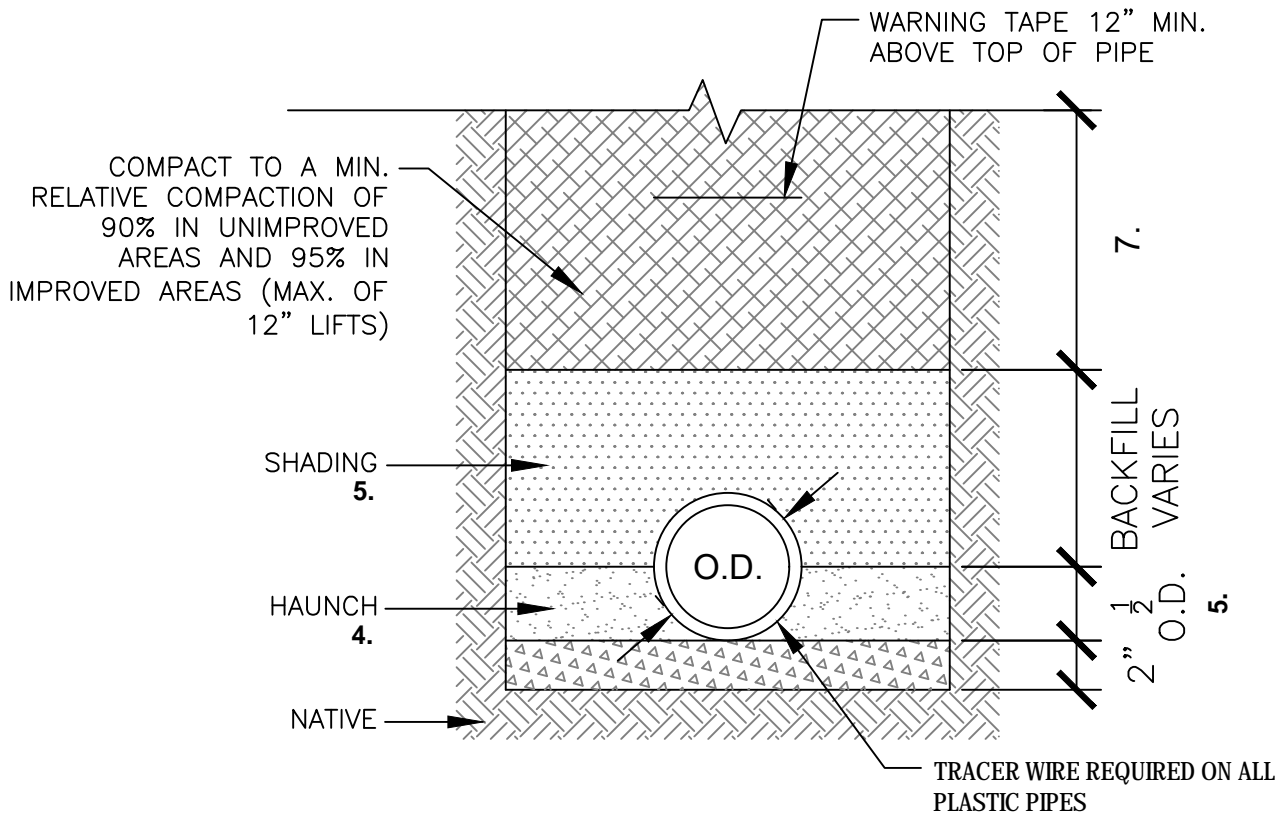


**STANDARD
DETAIL**

Date: **JANUARY 2021**

Drawing No:

R-51




FLEXIBLE OR RIGID PIPE

8. 9. and 10.

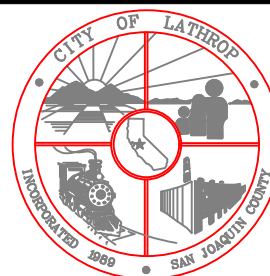
NOTES:

1. Relative compaction of materials shall be tested in accordance with ASTM D1557, D2922 and D3017.
2. Trench backfill shall be clean natural sand per Caltrans Standard Specifications Section 19-3.025B.
3. Special bedding requirements may be shown on the plans or specified in the special provisions.
4. Hand tamp moisture conditioned trench backfill to 90% relative compaction from bottom of pipe to springline of pipe at 6" maximum lifts.
5. Compact to a minimum relative compaction of 90% in maximum 12" lifts.
6. Mainline sewer lines below groundwater shall have trench dams installed every 100 ft. per Standard Detail No. R-58.
7. See Details R-54 through R-56 for details to surface.
8. Bedding, shading, and haunch for flexible pipes shall be approved by City Engineer.
9. Bedding for rigid pipes shall be at the Engineer's discretion.
10. Reinforced concrete pipe may be placed on native material if it is sandy, upon approval by City Engineer.

NOT TO SCALE

Approved by:


CITY OF LATHROP
 DEPARTMENT OF PUBLIC WORKS



**STANDARD
 DETAIL**

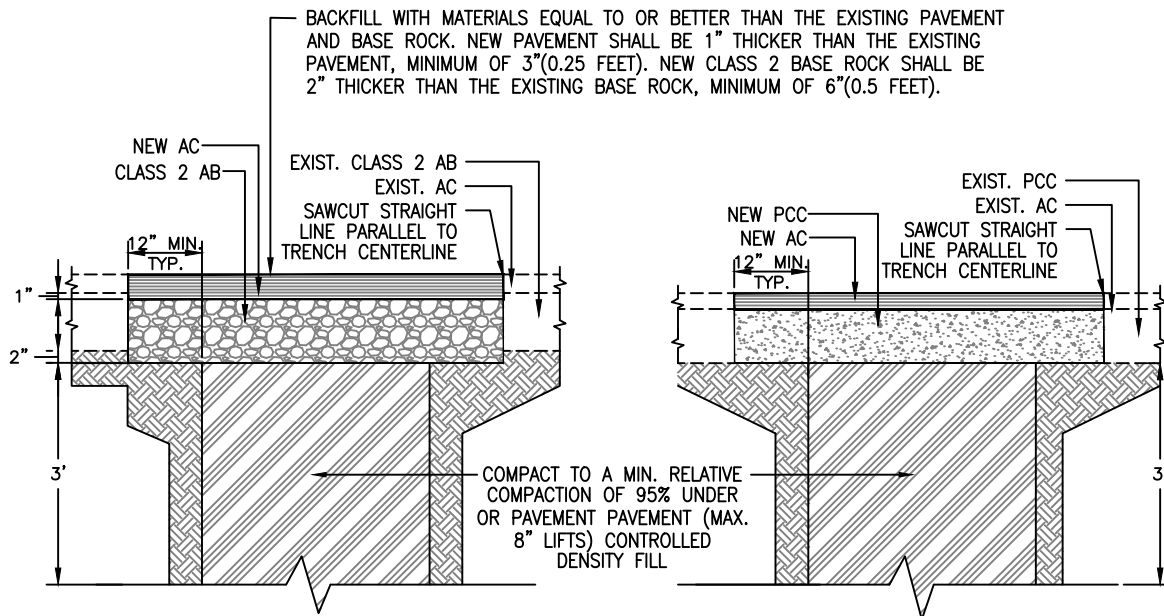
City Of Lathrop Public Works Director		
No	Revised	Date

**TRENCH BEDDING
 AND SHADING**

Date: **JANUARY 2021**

Drawing No:

R-52




NOTES:

1. Relative compaction of materials shall be tested in accordance with ASTM D1557, D2922 and D3017.
2. All existing pavement shall be neatly sawcut to line prior to trench excavation.
3. Minimum 6 ton roller shall be used to compact final lift of asphalt concrete.
4. If the edge of the trench falls within 2' of the lip of gutter, the entire pavement section shall be removed.
5. Asphalt concrete shall be placed in 1 1/2" minimum, 3" maximum lifts.
6. See Standard Detail No. R-52 for pipe bedding and shading requirements.
7. Add glass grid between top lift and second lift.

NOT TO SCALE

Approved by:



City Of Lathrop
Public Works Director

No	Revised	Date

CITY OF LATHROP
DEPARTMENT OF PUBLIC WORKS

TRENCH BACKFILL
EXISTING OR FUTURE
PAVED AREAS

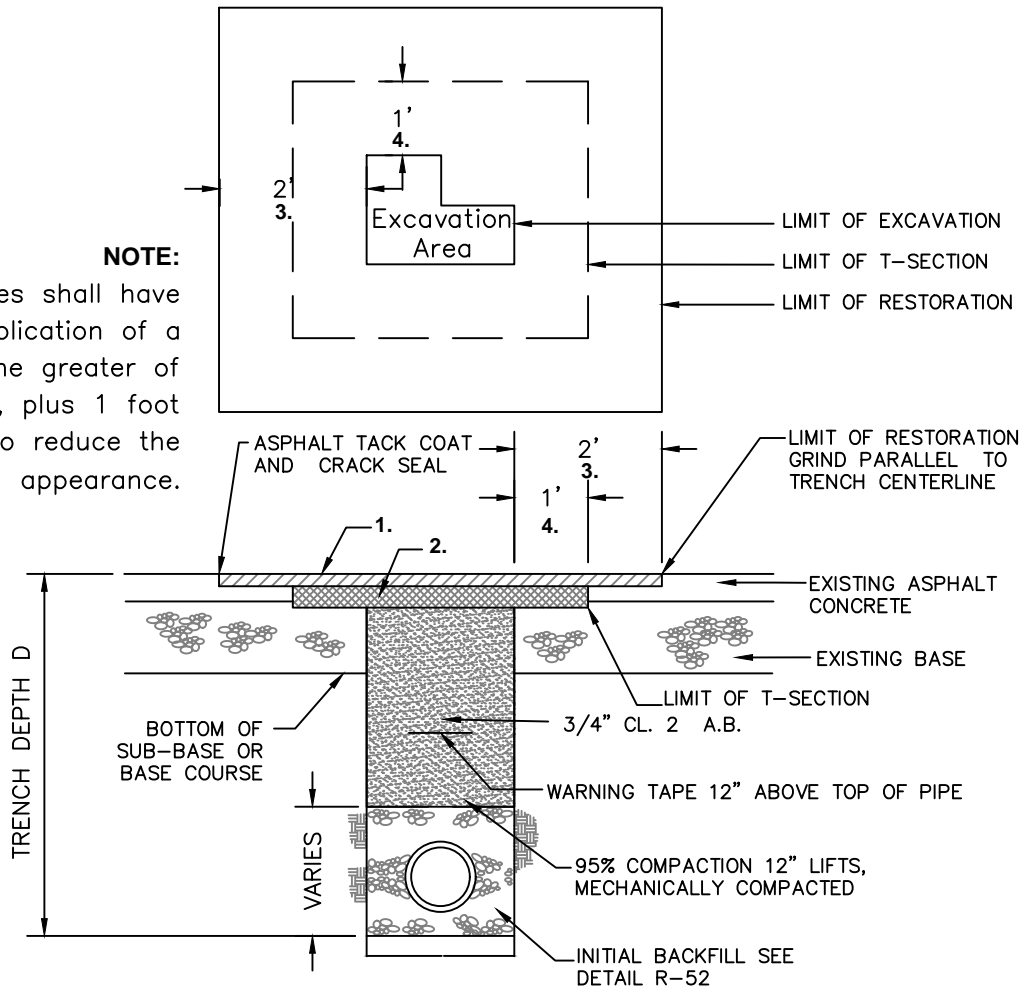


STANDARD
DETAIL

Date: **JANUARY 2021**

Drawing No:
R-53


NOTE:
 Transverse trenches shall have a slurry seal application of a minimum of the greater of the trench width, plus 1 foot or 8 feet to reduce the "Patch" appearance.



NOTES:

1. Grind and replace existing pavement a minimum depth of 2" in accordance with these standards.
2. Construct new asphalt concrete surface 2" thicker than existing section but not less than 5". Total thickness includes 2" surface course detailed in note 1.
3. Restoration width shall be 2' min.
4. T-section shall be equal to 1'.
5. Restoration and T-section limits shall be rectangular areas and limits are measured from the widest portion of the excavation.
6. Restoration area and T-section areas shall be ground out after backfill of trench is completed.
7. All trench bedding and backfill shall conform to standard detail no. R-52.

NOT TO SCALE

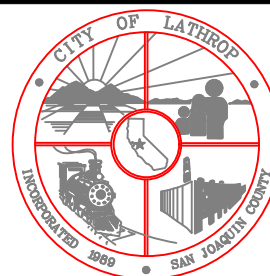
Approved by: 

City Of Lathrop
Public Works Director

No	Revised	Date

CITY OF LATHROP
 DEPARTMENT OF PUBLIC WORKS

EXCAVATION REPAIR

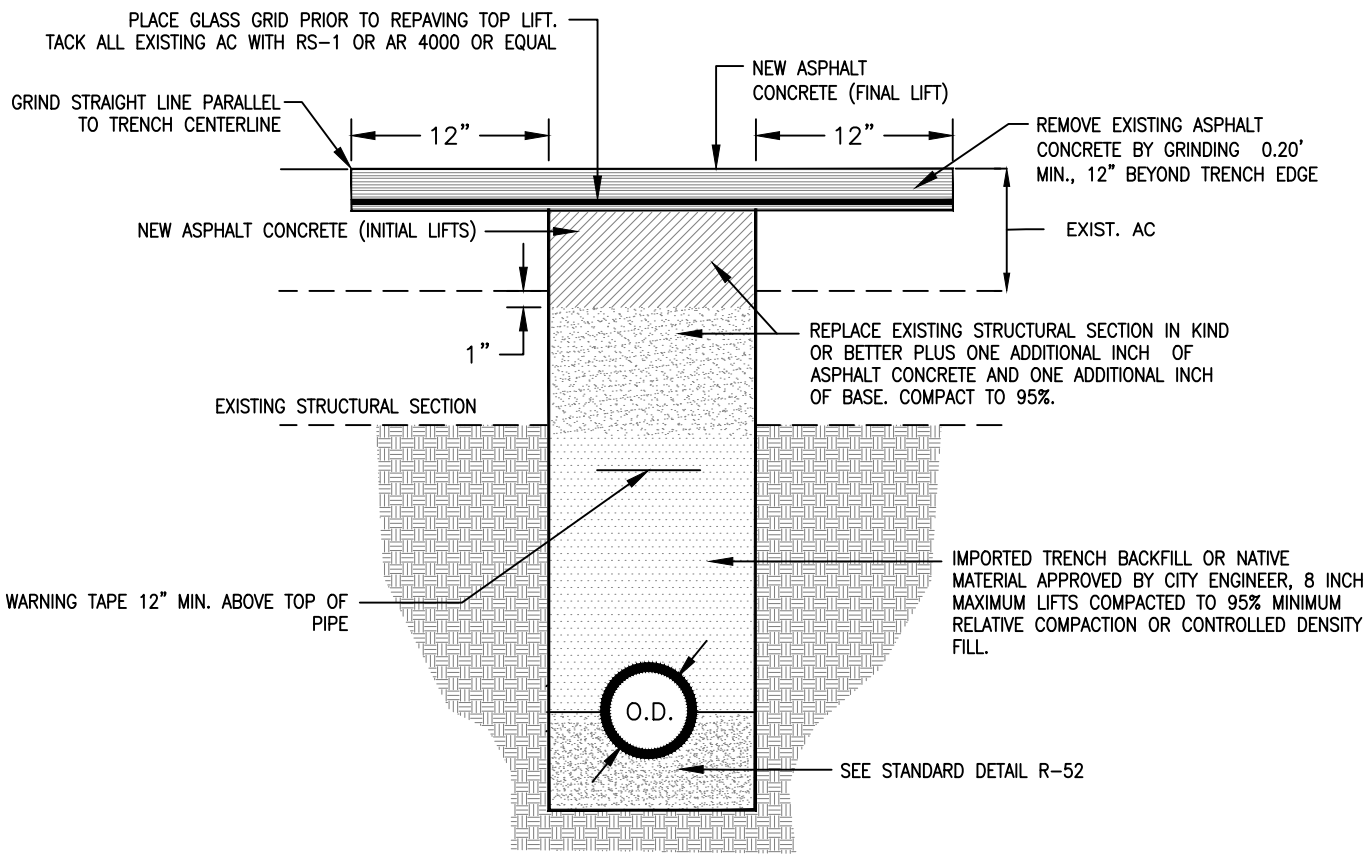


**STANDARD
 DETAIL**

Date: **JANUARY 2021**

Drawing No:

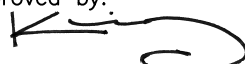
R-54



NOTES:

1. Relative compaction of materials shall be tested in accordance with ASTM D1557, D2922 and D3017.
2. All existing pavement shall be neatly sawcut to line prior to trench excavation.
3. Trench backfill shall be clean natural sand per Caltrans Standard Specifications Section 19-3.0253B or native material at the direction of the City Engineer.
4. All grinding debris to be removed immediately after asphalt grinding.
5. Method of placing pavement reinforcing fabric shall be approved by the City Engineer prior to installation.
6. Minimum 6 ton roller shall be used to compact final lift of asphalt concrete. Hand operated asphalt concrete compaction equipment may be used on first lift of asphalt only.
7. Asphalt concrete shall be placed in 1 1/2" min., 3" maximum lifts.

NOT TO SCALE

Approved by: 

City Of Lathrop Public Works Director		
No	Revised	Date

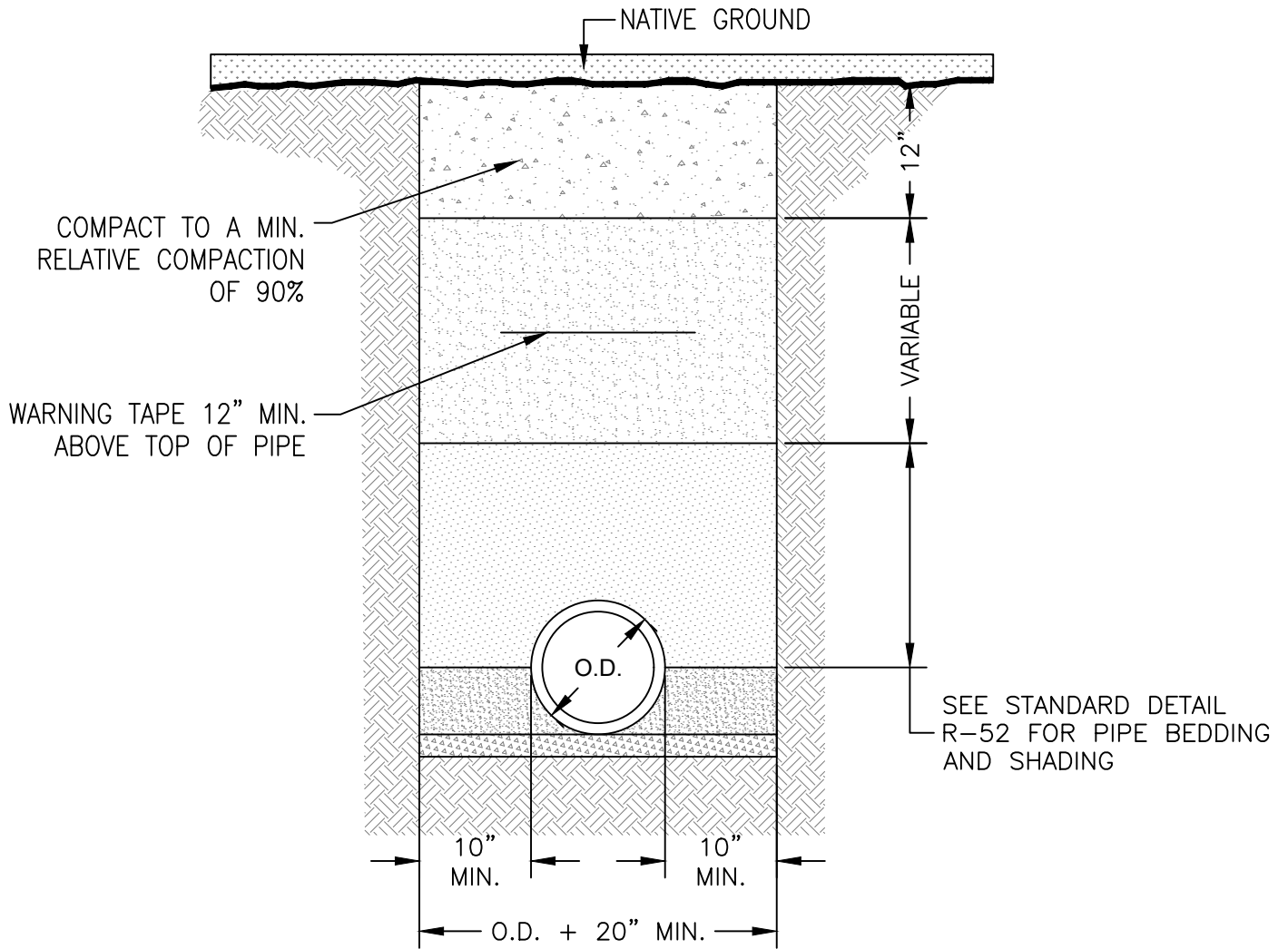
CITY OF LATHROP
DEPARTMENT OF PUBLIC WORKS

TRENCH BACKFILL
PAVING REINFORCEMENT
FABRIC



STANDARD
DETAIL

Date: **JANUARY 2021**
Drawing No:
R-55




NOTES:

1. Relative compaction of materials shall be tested in accordance with ASTM D1557, D2922 AND D3017.

NOT TO SCALE

Approved by:



City Of Lathrop
Public Works Director

No	Revised	Date

CITY OF LATHROP
DEPARTMENT OF PUBLIC WORKS

**TRENCH BACKFILL
UNIMPROVED AREAS**



**STANDARD
DETAIL**

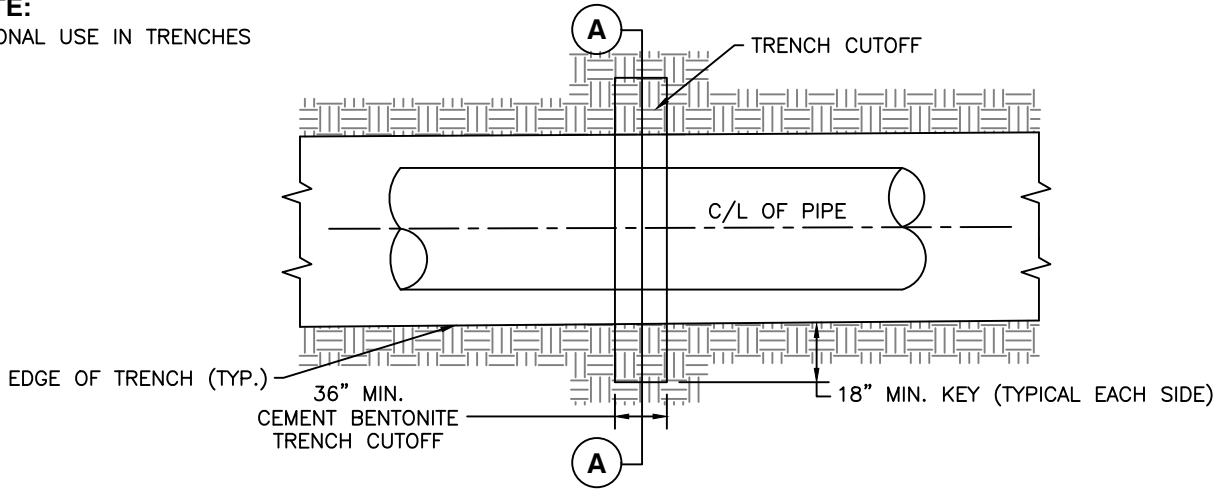
Date: **JANUARY 2021**

Drawing No:

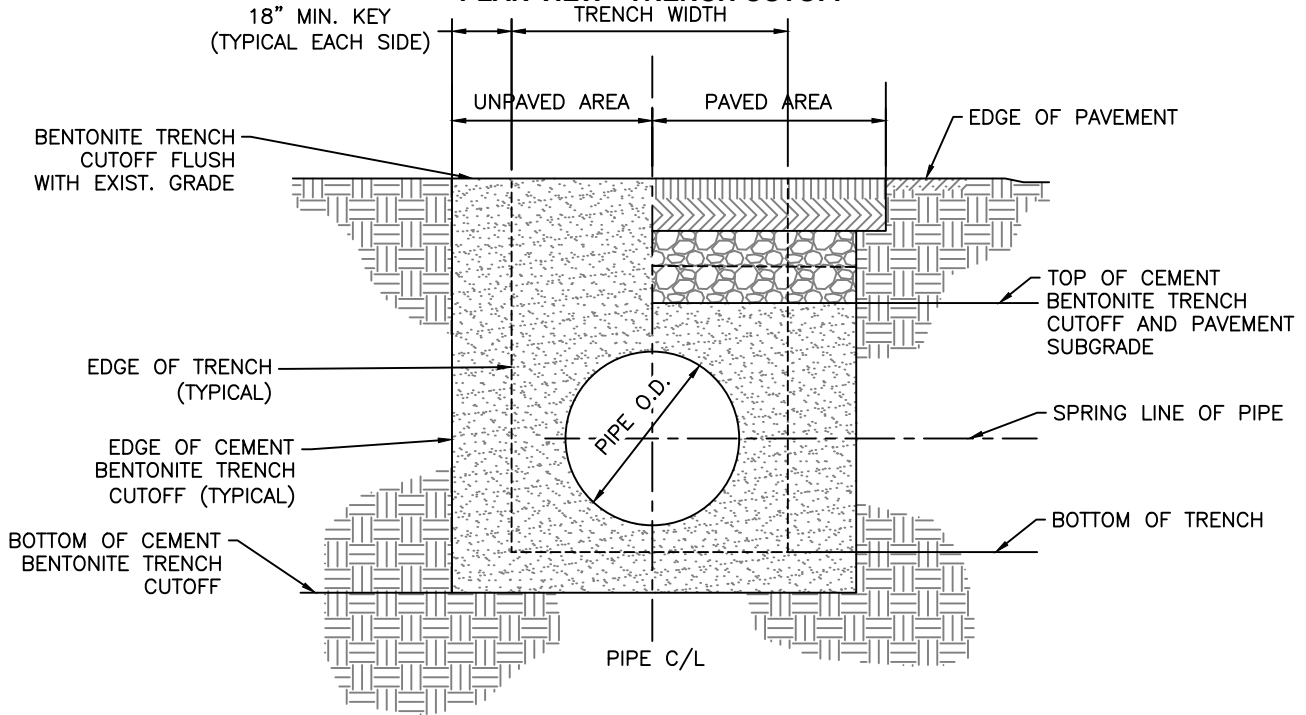
R-56

NOTE:

OPTIONAL USE IN TRENCHES



PLAN VIEW - TRENCH CUTOFF




SECTION A - A TRENCH CUTOFF

NOTES:

1. The trench cutoff shall not be placed within 5 ft. of pipe joint.
2. The trench cutoff may be placed against undisturbed earth.
3. Where overexcavation of trench is necessary, minimum dimension shown shall be from undisturbed bottom of trench to bottom of trench cutoff. Placement of drain rock or stabilization material below cutoff will not be allowed
4. Trench dams (or cut-offs) shall be placed at 100 foot intervals or as directed by the City Engineer.

NOT TO SCALE

Approved by: 

City Of Lathrop
Public Works Director

No	Revised	Date

CITY OF LATHROP
DEPARTMENT OF PUBLIC WORKS

TRENCH BACKFILL
SEWER TRENCH DAM



STANDARD
DETAIL

Date: **JANUARY 2021**


Drawing No:

R-57

NOTES:

1. A STREET ENCROACHMENT PERMIT IS REQUIRED FOR ALL WORK WITHIN THE PUBLIC RIGHT-OF-WAY.
2. ALL WORK TO BE DONE IN ACCORDANCE WITH THE PUBLIC AGENCY'S STANDARDS AND SPECIFICATIONS OR AS INDICATED IN THE STREET ENCROACHMENT PERMIT.
3. UNDERGROUND SERVICE ALERT (U.S.A.) 811/1-800-227-2600 SHALL BE NOTIFIED 48 HOURS PRIOR TO BEGINNING WORK.
4. ALL EXCAVATIONS SHALL CONFORM TO THE REQUIREMENTS OF CAL OSHA.
5. ASPHALT SHALL BE CUT THROUGH THE FULL THICKNESS OF EXISTING AC AND TO NEAT STRAIGHT LINES WITH A POWER DRIVEN SAW OR GRINDER BEFORE FINISHED ASPHALT CONCRETE IS PLACED. PAVEMENT EDGES SHALL BE CUT TO NEAT LINES PRIOR TO PAVING.
6. TRENCH BACKFILL FOR EXCAVATIONS OUTSIDE OF THE PAVED AREA MAY CONSIST OF EXISTING MATERIAL OR OTHER SUITABLE BACKFILL MATERIAL AS APPROVED BY THE INSPECTOR TO THE FINISHED GRADE. THE BEDDING MATERIAL AND DIMENSIONS SHALL BE PER THE SPECIFICATION OF THE UTILITY INSTALLING THE FACILITY. THE TRENCH BACKFILL AND BEDDING MATERIAL SHALL HAVE A MINIMUM RELATIVE COMPACTION OF 95%.
7. IF COVER IS LESS THAN 2- FEET SPECIAL DESIGN IS REQUIRED WITH APPROVAL BY THE PUBLIC AGENCY.
8. THE STRUCTURAL STREET SECTION SHALL MATCH EXISTING PAVEMENT +1" SECTION AC OR SHALL BE 4" AC ON 12" AB WHICHEVER IS GREATER CONCRETE CAP OF FULL DEPTH AC TO BE USED AS DIRECTED BY PUBLIC AGENCY.
9. STRUCTURAL BACKFILL SHALL BE CLASS 2 AGGREGATE BASE (AB) OR OTHER SUITABLE MATERIAL AS APPROVED BY THE PUBLIC AGENCY. BACKFILL SHALL BE COMPACTED TO 95% RELATIVE COMPACTION.
10. MATERIALS AND DIMENSIONS PER UTILITY OWNER AND PIPE MANUFACTURER REQUIREMENTS OR AS CONTAINED IN UTILITY SPECIFICATIONS.
11. WHEN P.C.C. PAVEMENT SECTION IS ENCOUNTERED IN THE TRENCH, THE P.C.C. PAVEMENT SECTION SHALL BE REPLACED WITH 12-IN OF DEEP LIFT ASPHALT.
12. WHERE THE EDGE OF THE TRENCH IS WITHIN 3-FT OF A GUTTER LIP OR THE EDGE OF PAVEMENT, AC PAVEMENT BETWEEN THE TRENCH CUT AND GUTTER LIP/EDGE OF PAVEMENT SHALL BE REMOVED AND REPLACED.

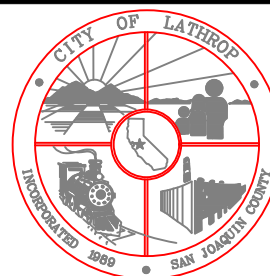
NOT TO SCALE

Approved by:


City Of Lathrop Public Works Director		
No	Revised	Date

CITY OF LATHROP
 DEPARTMENT OF PUBLIC WORKS

**STANDARD
 TRENCH DETAIL
 GENERAL NOTES**



**STANDARD
 DETAIL**

Date: **JANUARY 2021**


Drawing No:

R-58

NOTES:

1. Refer to R-53 for the detail on open trench, backfill and repair of existing streets.
2. Jetting of trenches is not allowed.
3. This detail assumes depths less than 8-feet. For depths more than 8-feet, any proposed modifications or any differing field conditions not specified herein shall require the City Engineer's written approval.
4. Class II A.B. shall be placed and compacted in 1-foot lifts maximum. All compaction shall be done with a Rex Compactor or Sheeps Foot Wheel.
5. All traffic striping removed or damaged shall be replaced and restored to its original condition and configuration per City Standards.
6. Permanent pavement shall be restored within fourteen (14) calendar days. Temporary pavement during construction shall be maintained to provide smooth ride.
7. Where the edge of the trench is within three (3) feet of a gutter lip or the edge of pavement, the ac pavement between the trench cut and gutter lip/edge of pavement shall be removed and replaced with matching pavement sections.
8. Permission to excavate or trench cut in a new or resurfaced streets will not be granted for five (5) years unless approved in writing by the City Engineer.
9. A trenched street shall be given the following conditions as directed by the City Engineer.
 - A. For residential roads, the entire width of the road for the length of trench plus 3-feet on either end of trench shall be slurry sealed.
 - B. For wide/multi-lane roads, the trench length plus 3-feet on either sides of trench for:
 - a. The affected travel lane, or
 - b. If multiple lanes are affected, those lanes, or
 - c. If the center of street, both directions to the nearest lane lines or curb to curb.
 - C. For roads that have been newly constructed or reconstructed within the last 5 years, the trench length plus 3-foot beyond the trench will be repaired as shown on R-54 and the pavement will be ground down to accept 0.15-foot of 1/2-inch type 'A' asphalt concrete and overlay:
 - a. The affected travel lane, or
 - b. If multiple lanes are affected, those lanes, or
 - c. If the center of street has been affected, then both directions to the nearest lane or curb to curb.
 - d. See R-62 for moratorium street trench repair limits.
 - d. Transverse trenches shall have a slurry seal application of a minimum of the greater of the trench width plus 1-foot or 8-feet to reduce the "patchy" appearance.

NOT TO SCALE

Approved by: 

City Of Lathrop Public Works Director		
No	Revised	Date

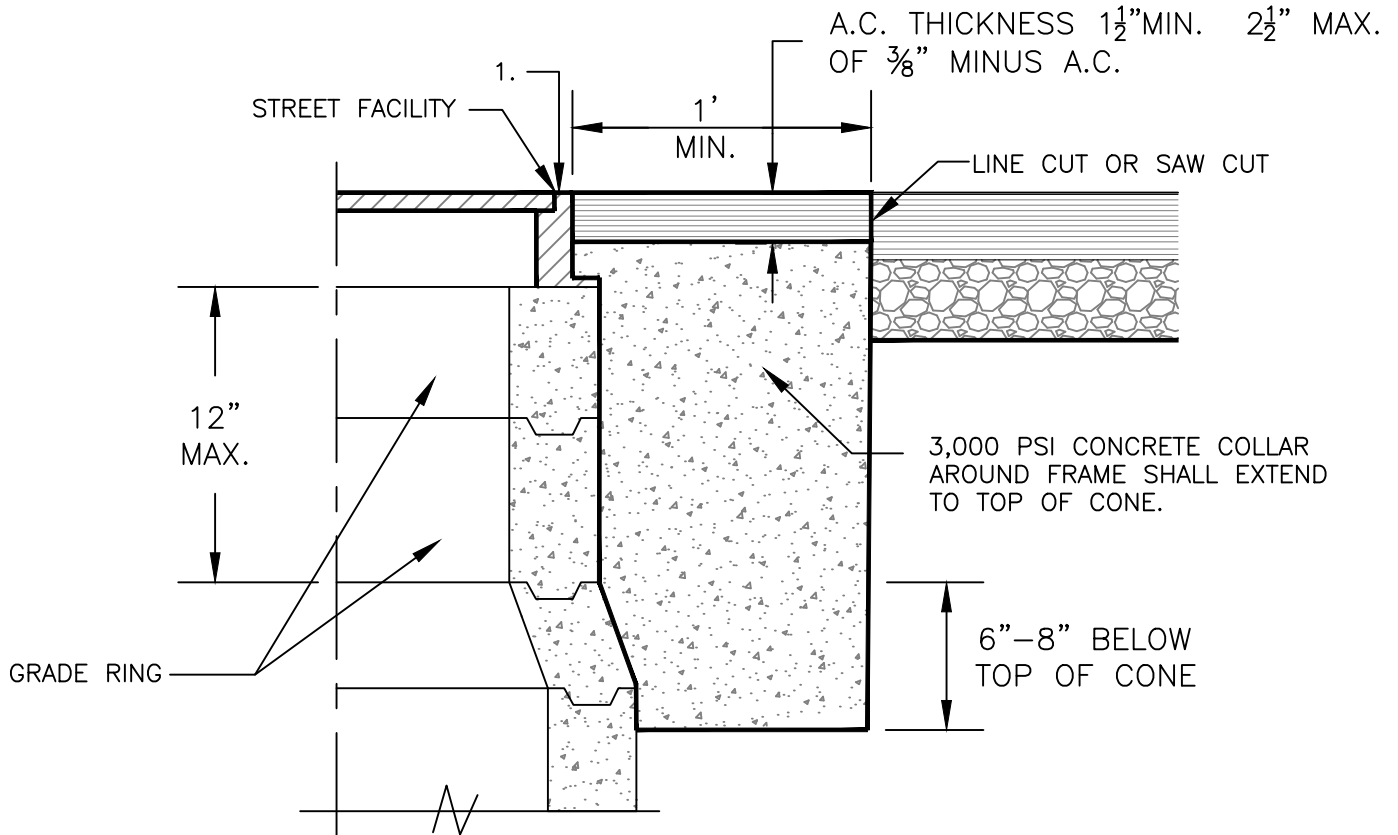
CITY OF LATHROP
 DEPARTMENT OF PUBLIC WORKS
**NOTES FOR OPEN TRENCH,
 BACKFILL AND REPAIR OF
 EXISTING STREETS**



**STANDARD
 DETAIL**

Date: **JANUARY 2021**


Drawing No:
R-59



NOTES:

1. Elevation of frame shall match finish grade of adjacent pavement down 1/8" and up 1/4" max.
2. The cone may be raised up to the 12 inch maximum height of the riser unless approved by City Engineer. The excavation shall be backfilled with Class II aggregate compacted to 95% relative compaction to the level required for the PCC collar.
3. A circular cut out is required.

NOT TO SCALE

Approved by:


CITY OF LATHROP
 DEPARTMENT OF PUBLIC WORKS



**STANDARD
 DETAIL**

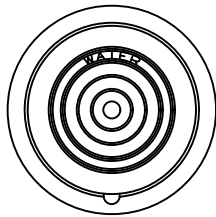
No	Revised	Date

**ADJUSTING STREET
 FACILITIES TO GRADE**

Date: **JANUARY 2021**

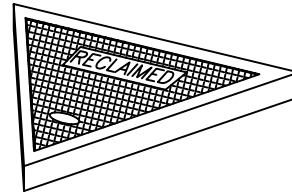
Drawing No:

R-60

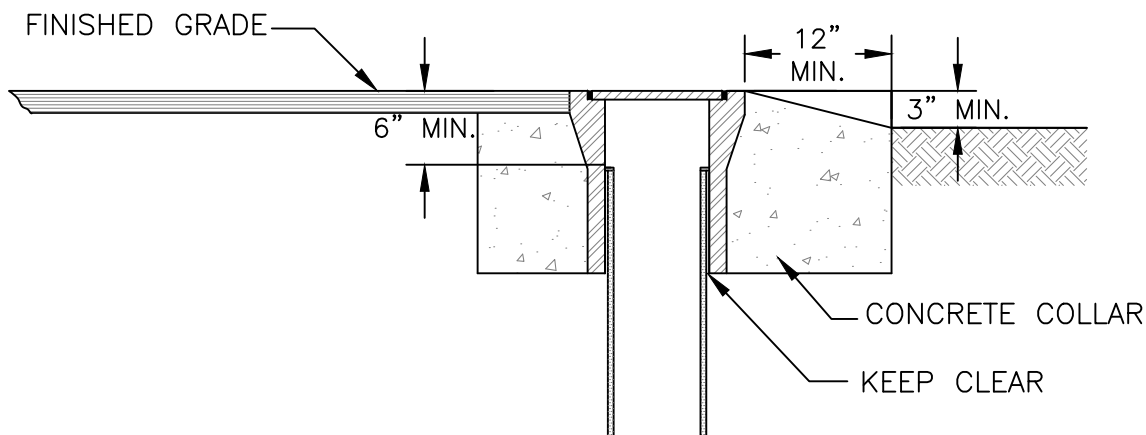


CHRISTY G5 OR G12
LID DETAIL

CHRISTY G5
LID DETAIL




CHRISTY G4
LID DETAIL



NOTES:

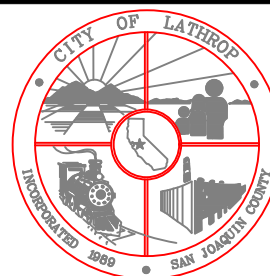
1. For concrete specifications see notes on Standard Detail No. R-5.
2. Water valve box lid shall be Christy G5 or approved equal and be marked as needed. For recycled water, valve box lid shall be Christy G4 or approved equal and be marked "reclaimed".

NOT TO SCALE

Approved by: 		
City Of Lathrop Public Works Director		
No	Revised	Date

CITY OF LATHROP
DEPARTMENT OF PUBLIC WORKS

**TYPICAL BOX
FOR IMPROVED &
UNIMPROVED AREAS**

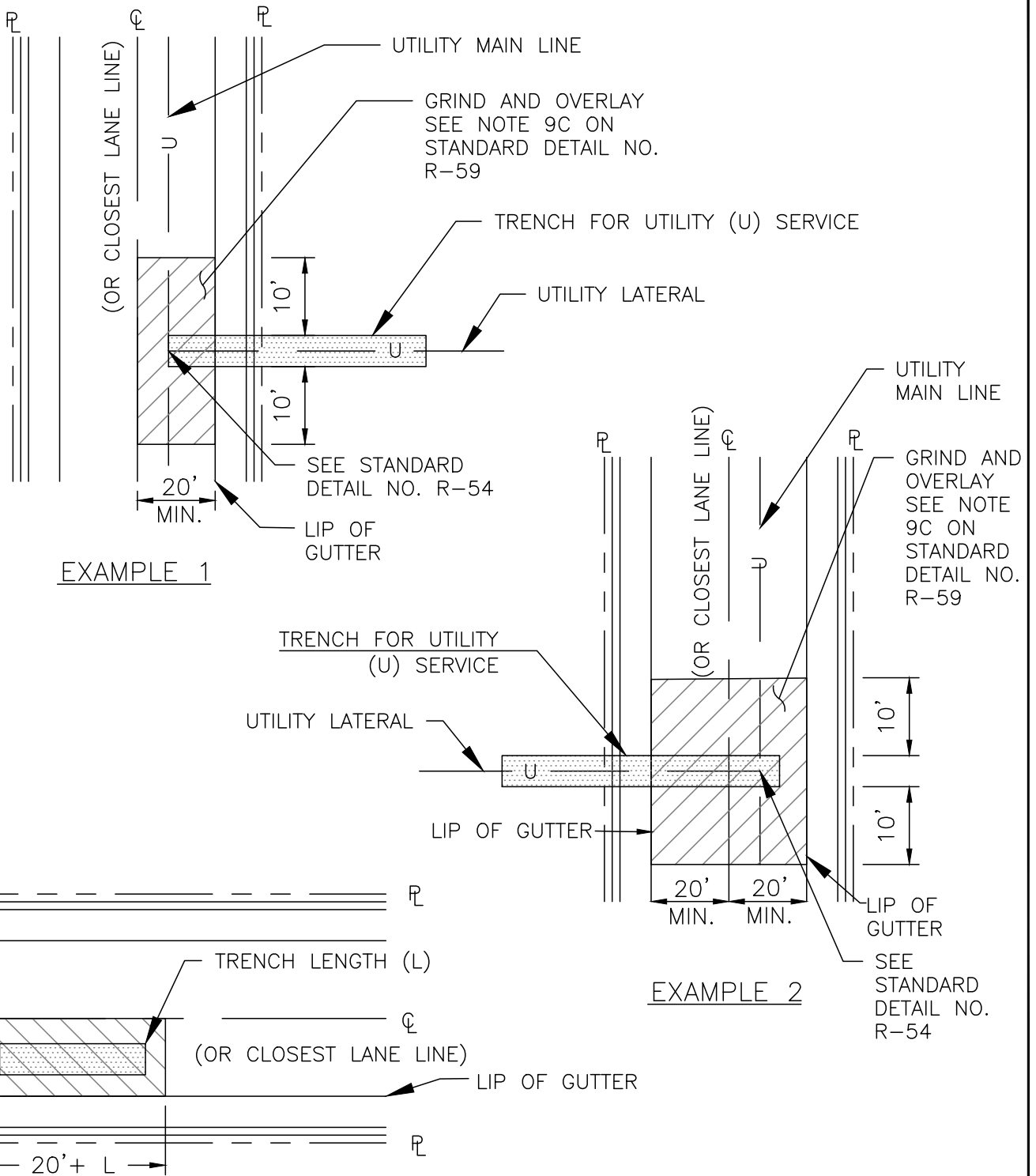


**STANDARD
DETAIL**


Date: **JANUARY 2021**

Drawing No:

R-61

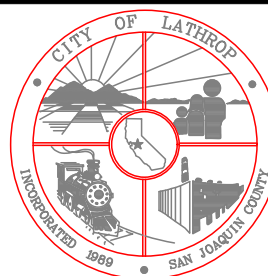


NOT TO SCALE

Approved by: 

CITY OF LATHROP
DEPARTMENT OF PUBLIC WORKS

**MORATORIUM STREET
TRENCH REPAIR LIMITS**



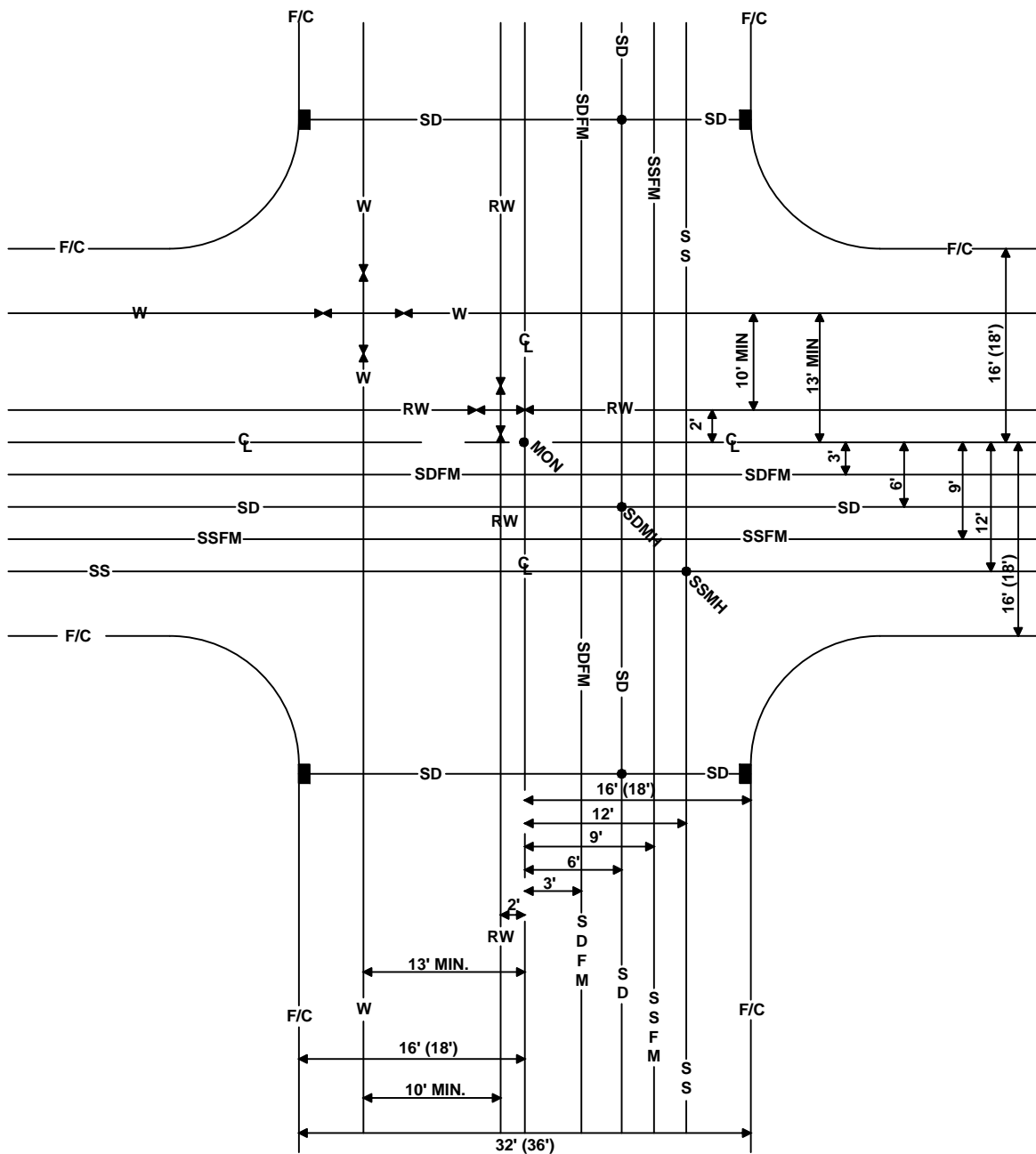
**STANDARD
DETAIL**

Date: **JANUARY 2021**

Drawing No:

R-62


No	Revised	Date



NOTES:

1. Any deviations from the standard locations shall be approved by the City Engineer.
2. Distance between RW and water is 10' minimum exterior wall to exterior wall of pipe.
3. Layout shall be adjusted as practicable so that manholes and utility vaults will not be in the wheel path.

NOT TO SCALE

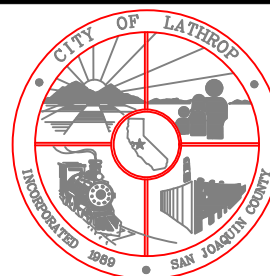
Approved by: 

City Of Lathrop
Public Works Director

No	Revised	Date

CITY OF LATHROP
DEPARTMENT OF PUBLIC WORKS

UNDERGROUND UTILITIES
LOCATIONS AT NEW DEVELOPMENTS

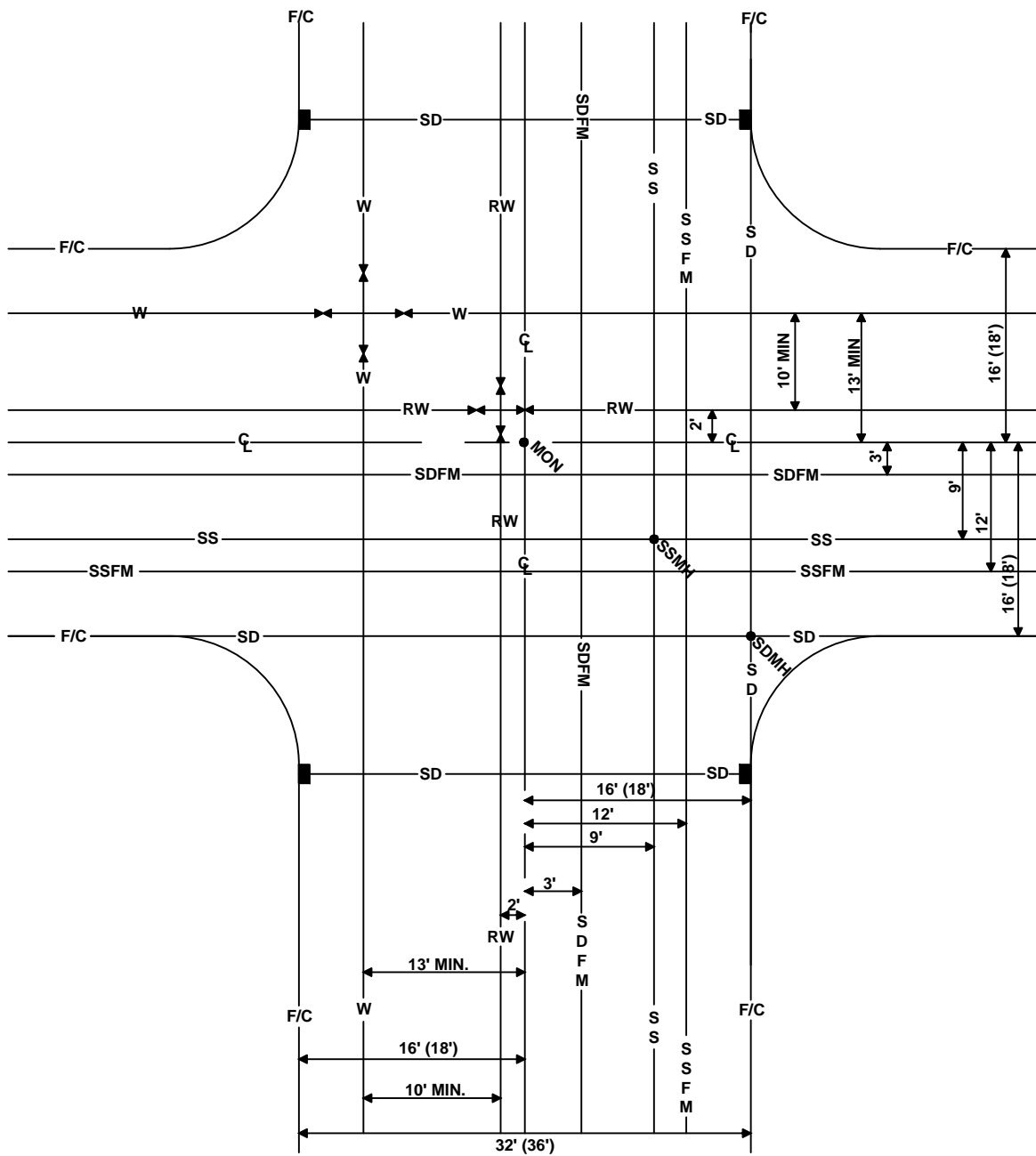


**STANDARD
DETAIL**

Date: **JANUARY 2021**

Drawing No:


R-63



NOTES:

1. Any deviations from the standard locations shall be approved by the City Engineer.
2. Distance between RW and water is 10' minimum exterior wall to exterior wall of pipe.
3. Layout shall be adjusted as practicable so that manholes and utility vaults will not be in the wheel path.

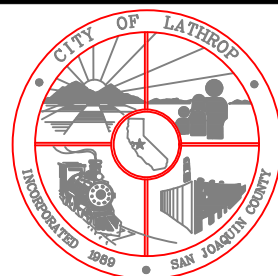
NOT TO SCALE

Approved by: 

City Of Lathrop Public Works Director		
No	Revised	Date

CITY OF LATHROP
DEPARTMENT OF PUBLIC WORKS

UNDERGROUND UTILITIES
LOCATIONS AT NEW DEVELOPMENTS
WITH SD UNDER GUTTER

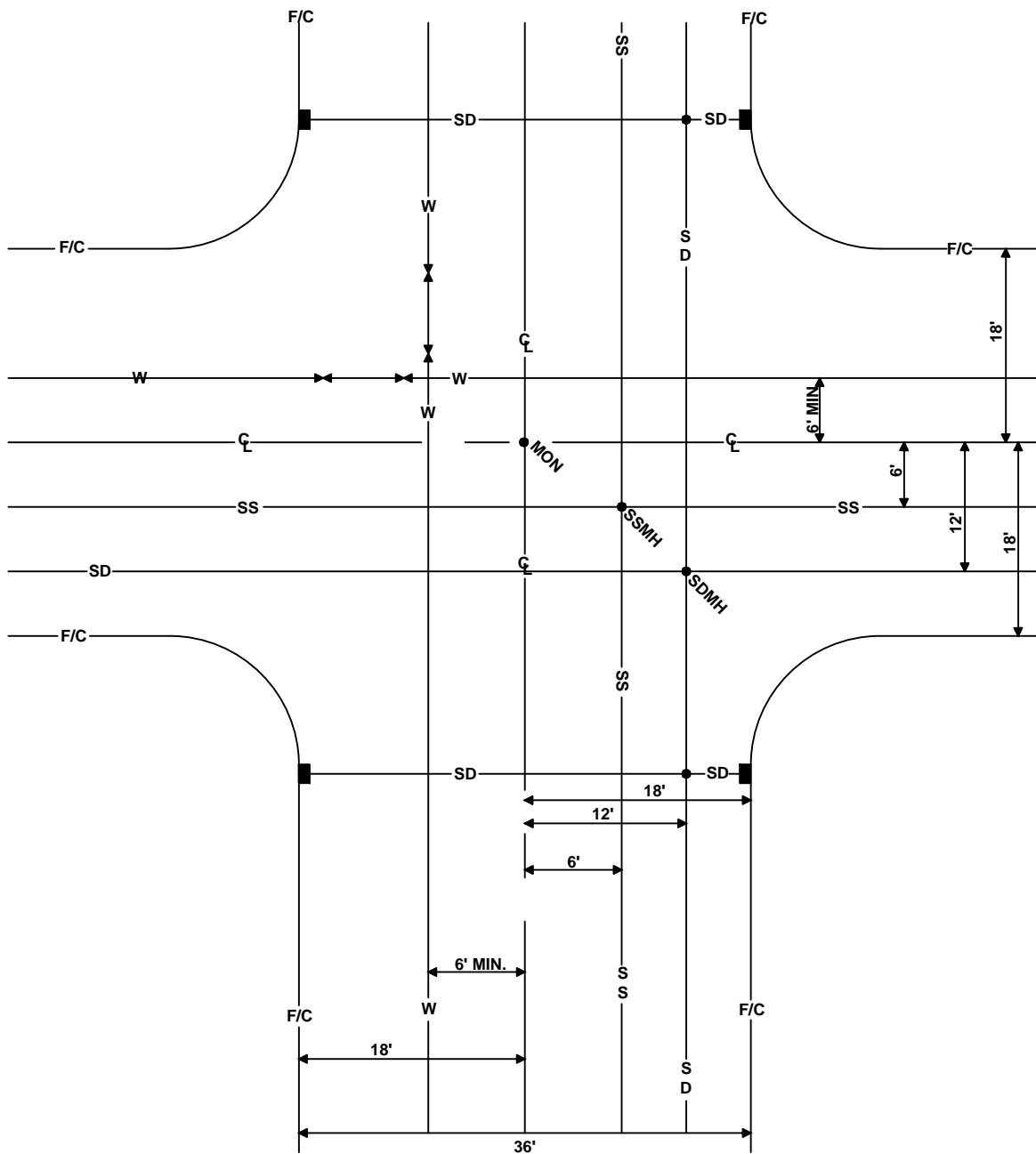


**STANDARD
DETAIL**

Date: **JANUARY 2021**

Drawing No:


R-64



NOTES:

1. Any deviations from the standard locations shall be approved by the City Engineer.
2. Layout shall be adjusted as practicable so that manholes and utility vaults will not be in the wheel path.

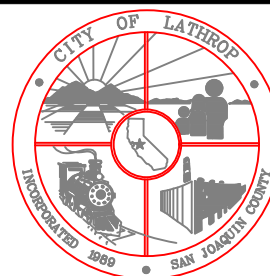
NOT TO SCALE

Approved by: 

City Of Lathrop
Public Works Director

No	Revised	Date

CITY OF LATHROP
 DEPARTMENT OF PUBLIC WORKS
 UNDERGROUND UTILITIES
 LOCATIONS AT NEW
 DEVELOPMENTS WITH UP
 TO 36' F/C TO F/C



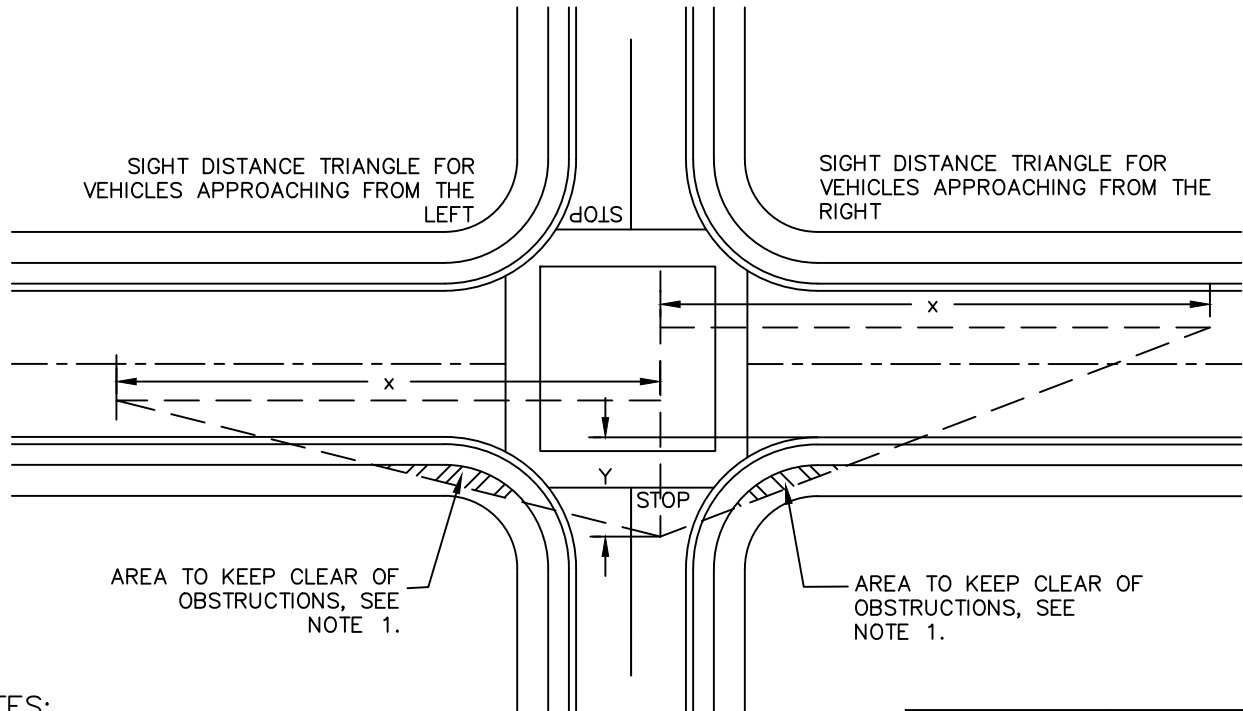
**STANDARD
 DETAIL**

Date: **JANUARY 2021**

Drawing No:

R-65

SIGHT DISTANCE TRIANGLE FOR STOP CONTROLLED INTERSECTION



NOTES:

1. All signs, hedges, shrubbery, natural growth or other obstructions to the view shall not exceed three feet above the level edge of pavement. Tree limbs in the view shall not obstruct area less than eight feet above the level edge of pavement. This applies to median areas within sight distance triangle also.
2. Uncontrolled intersections do not require crosswalks.


SPEED LIMIT ON MAJOR STREET (MPH)	LENGTH X OF TRIANGLE (FT)
25	280
30	335
35	390
40	445
45	500

LEGEND:

X horizontal length of sight distance triangle taken from the table at right.

Y section of the sight distance triangle taken back from the edge of traveled way on the major street as the greater of a fifteen foot minimum or the distance from the edge of traveled way to the stop bar plus eight feet.

NOT TO SCALE

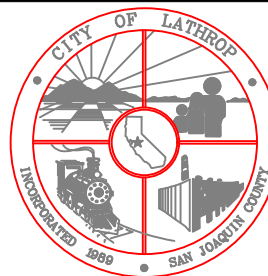
Approved by: 

City Of Lathrop
Public Works Director

No	Revised	Date

CITY OF LATHROP
DEPARTMENT OF PUBLIC WORKS

**SIGHT DISTANCE
CLEARANCES**

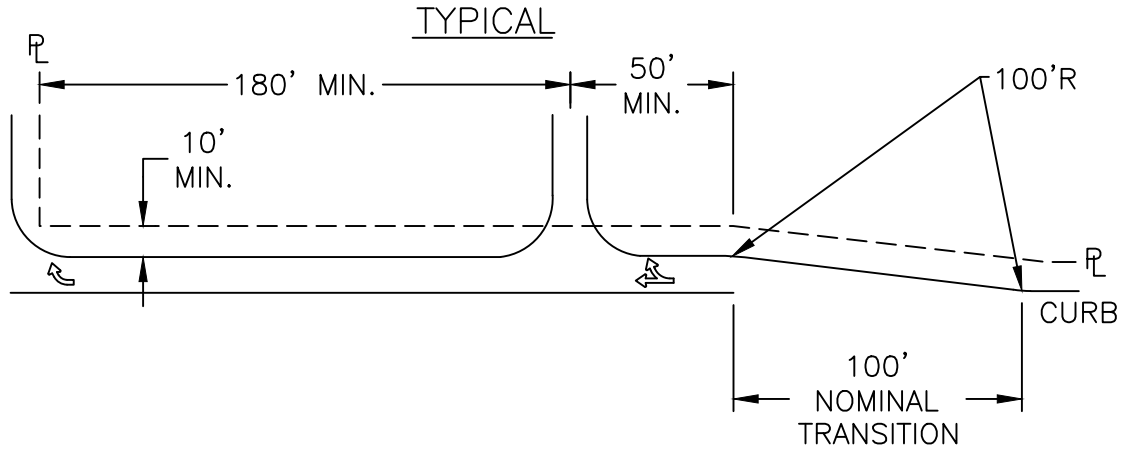
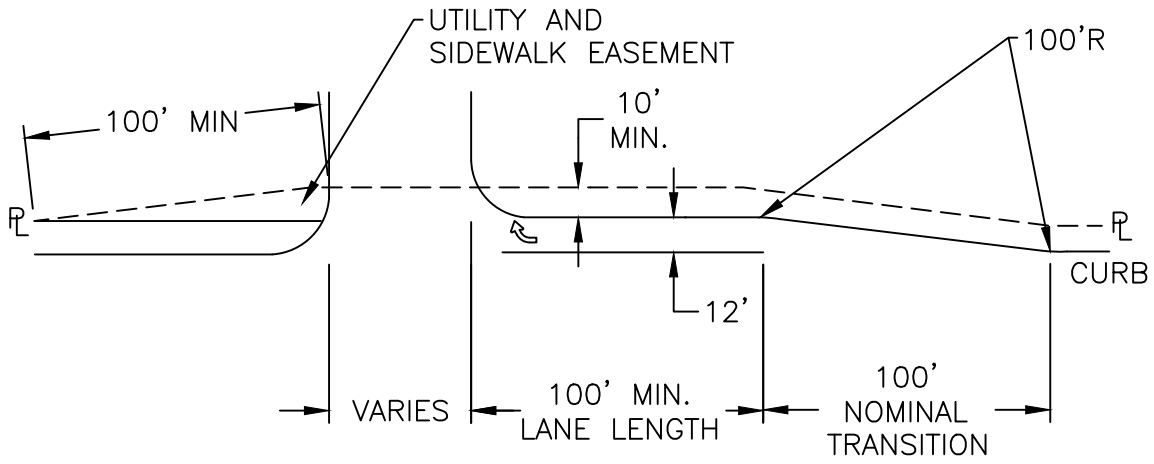


**STANDARD
DETAIL**

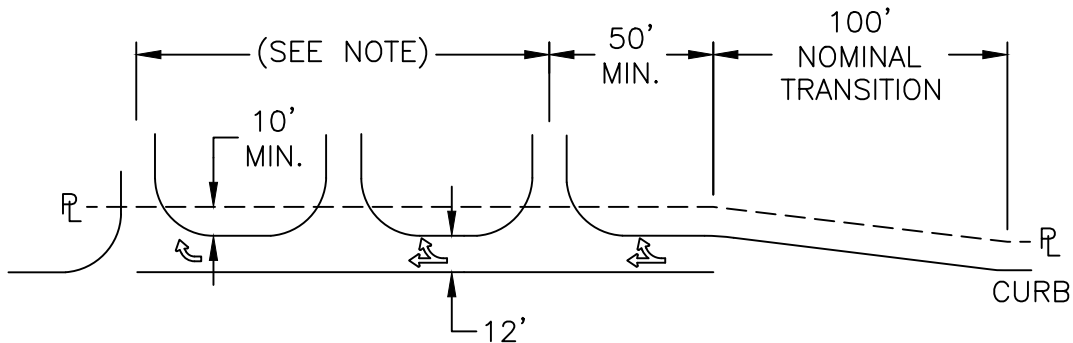
Date: **JANUARY 2021**

Drawing No:

R-66



IN INTERSECTION RIGHT TURN LANES




CONTINUOUS DECELERATION LANE

NOTE

A maximum of three driveways can be connected with a continuous deceleration lane, unless the lane is an extension of a right turn lane at an intersection. the maximum length of a combination deceleration-right turn lane is 1,320 feet.

NOT TO SCALE

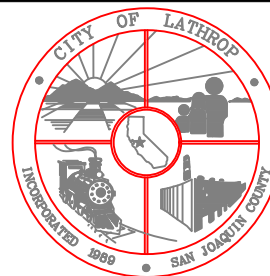
Approved by: 

City Of Lathrop
Public Works Director

No	Revised	Date

CITY OF LATHROP
DEPARTMENT OF PUBLIC WORKS

**DECELERATION LANES
FOR DRIVEWAYS**

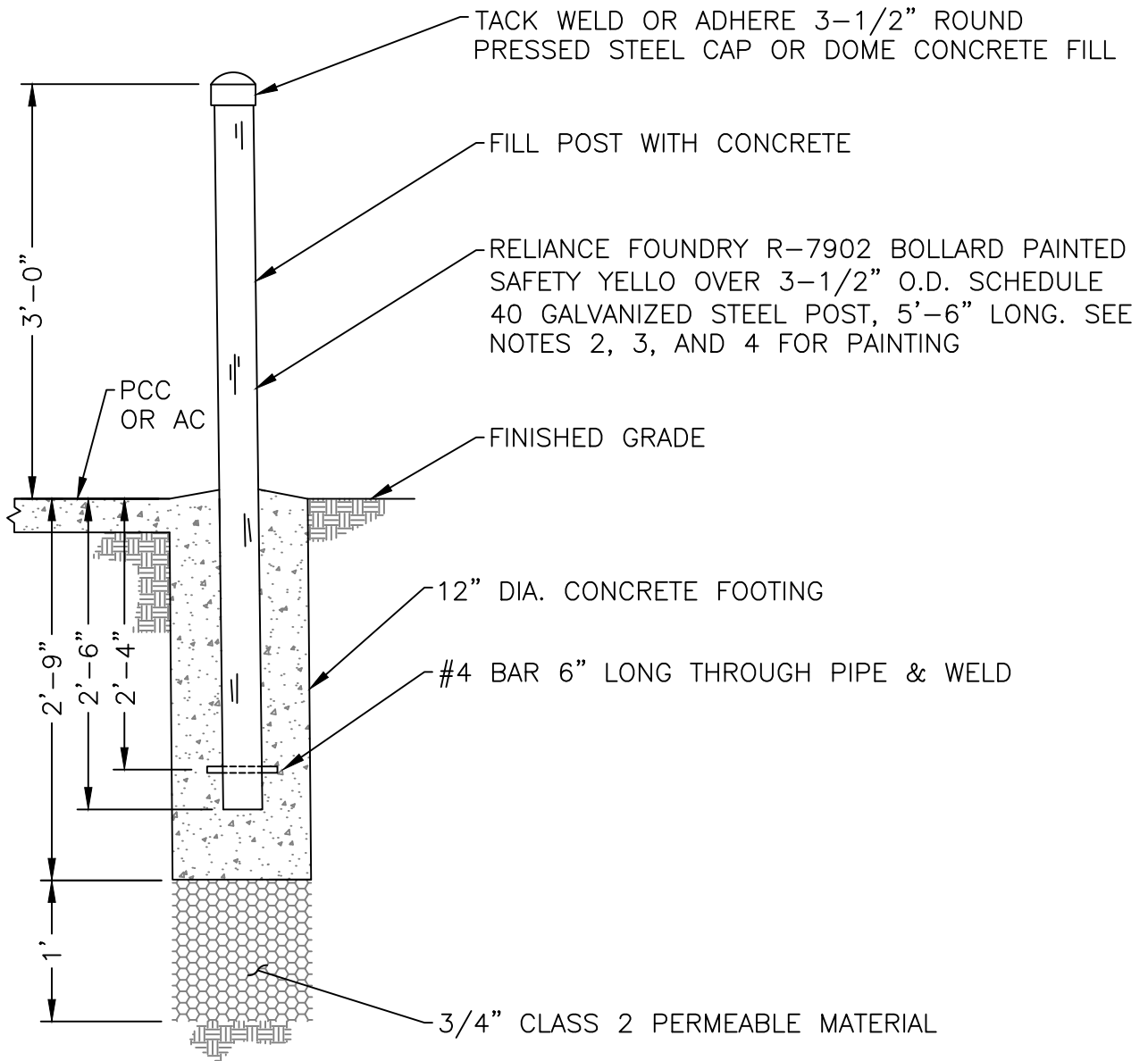


**STANDARD
DETAIL**

Date: **JANUARY 2021**

Drawing No:

R-67



NOTES:

1. Locate all underground utilities prior to excavating post footing.
2. Prime all metal with pre coat of galvanized compatible primer.
3. Apply two 3' wide strips of reflective yellow tape. Provide a 3" gap between each strip.
4. For decoration, use RAL 6012 powder coat over galvanized.

NOT TO SCALE

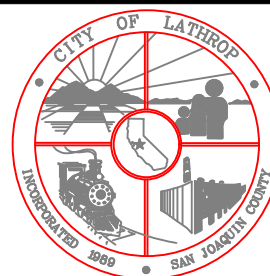
Approved by:

City Of Lathrop
Public Works Director

No	Revised	Date

CITY OF LATHROP
DEPARTMENT OF PUBLIC WORKS

FIXED BOLLARD

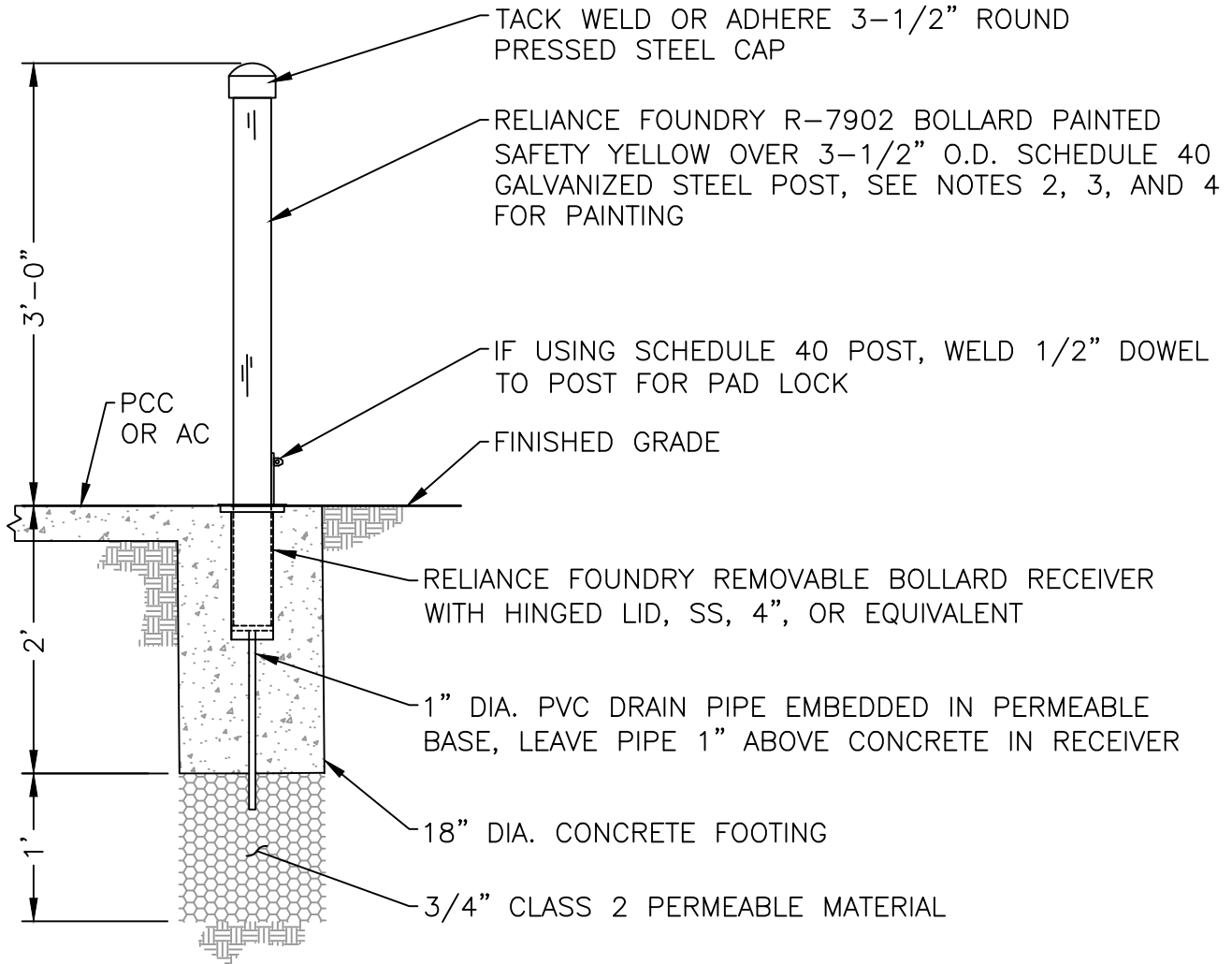


**STANDARD
DETAIL**

Date: **JANUARY 2021**

Drawing No:

R-68



NOTES:

1. Locate all underground utilities prior to excavating post footing.
2. Prime all metal with pre coat of galvanized compatible primer.
3. Apply two 3' wide strips of reflective yellow tape. Provide a 3" gap between each strip.
4. For decoration, use RAL 6012 powder coat over galvanized.

NOT TO SCALE

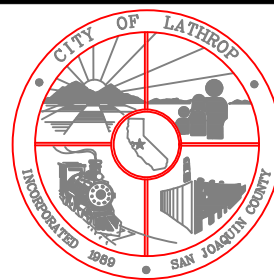
Approved by:

City Of Lathrop
Public Works Director

No	Revised	Date

CITY OF LATHROP
DEPARTMENT OF PUBLIC WORKS

**REMOVABLE
BOLLARD**

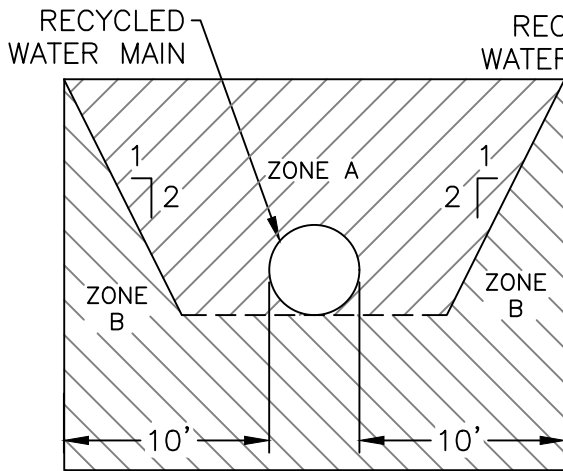


**STANDARD
DETAIL**

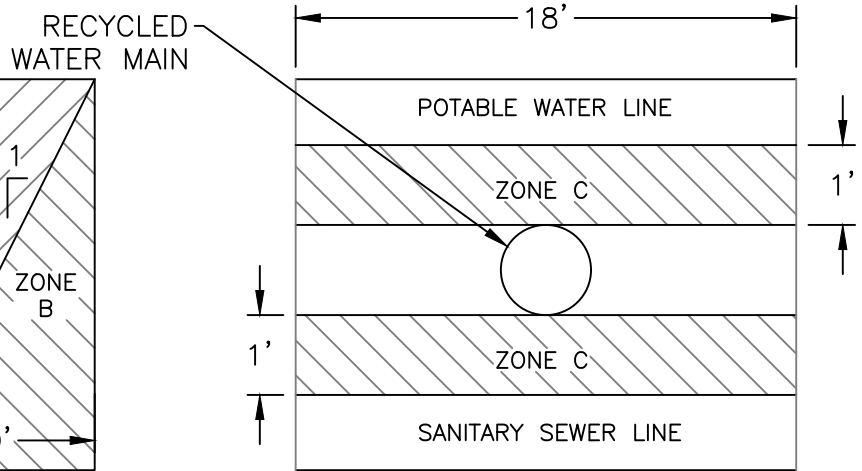
Date: **JANUARY 2021**

Drawing No:

R-69



PARALLEL CONSTRUCTION



PERPENDICULAR CONSTRUCTION


NOTE: DIMENSIONS ARE FROM OUTSIDE OF SEWER MAIN BELL TO OUTSIDE OF RECYCLED WATER (RW) LINE BELL. ALL CROSSINGS SHALL BE 90° WHERE POSSIBLE.

ZONE A/B: SEWER LINES WILL NOT BE PERMITTED IN THIS ZONE WITHOUT APPROVAL FROM THE CITY ENGINEER.

ZONE C: SEWER LINES MUST BE LOCATED A MINIMUM OF ONE (1) FOOT BELOW THE RW MAIN. NO ADAPTOR JOINTS WILL BE ALLOWED CLOSER THAN EIGHT (8) FEET TO THE RW MAIN.

NOTES: A 4-foot horizontal separation between RW main and potable water main, and between the RW main and sanitary sewer system. If a 4-foot separation is not possible, special construction methods should be considered.

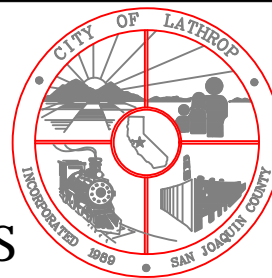
NOT TO SCALE

Approved by: 

City Of Lathrop
Public Works Director

No	Revised	Date

CITY OF LATHROP
DEPARTMENT OF PUBLIC WORKS
RECYCLED
WATER-SEWER
SEPARATION STANDARDS



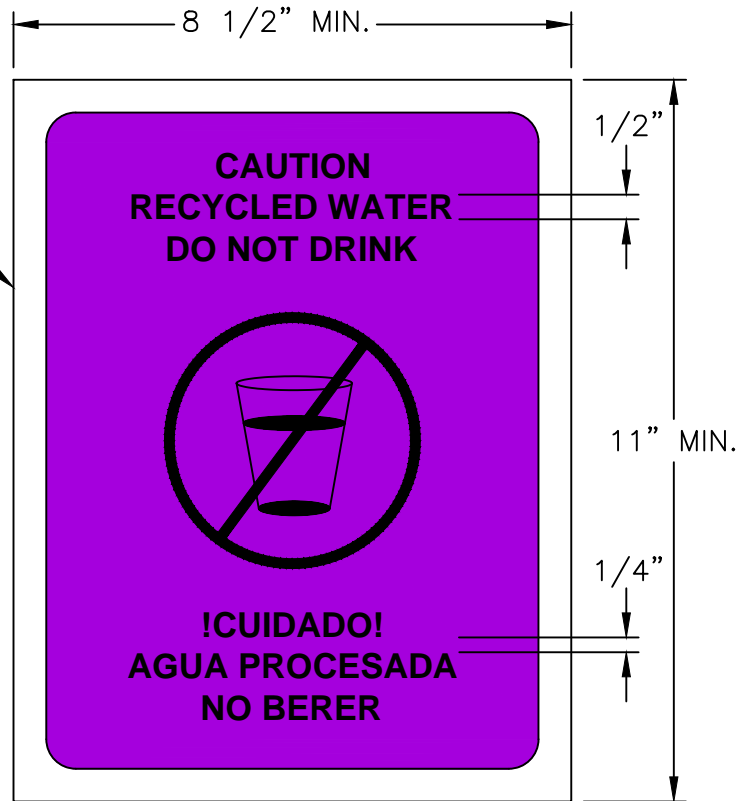
STANDARD
DETAIL

Date: **JANUARY 2021**

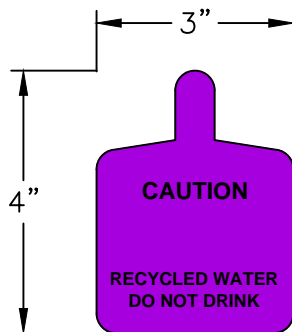
Drawing No:

RW-1

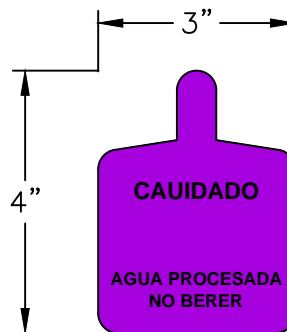
APPLY TEX-COTE GRAFFITI-
GUARD 21st CENTURY
COATINGS GRAFF-IT-OFF
OR APPROVED EQUAL
SHALL BE APPLIED TO ALL
SIGNS



NOTE:
SIGN BACKGROUND COLOR SHALL BE PURPLE
(PANTONE 512) AND TEXT SHALL BE BLACK PER
AWWA GUIDELINES.



FRONT



BACK

NOT TO SCALE

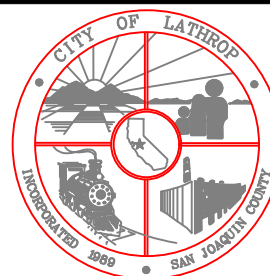
Approved by:

City Of Lathrop
Public Works Director

No	Revised	Date

CITY OF LATHROP
DEPARTMENT OF PUBLIC WORKS

**RECYCLED WATER
CAUTION SIGN AND TAG**

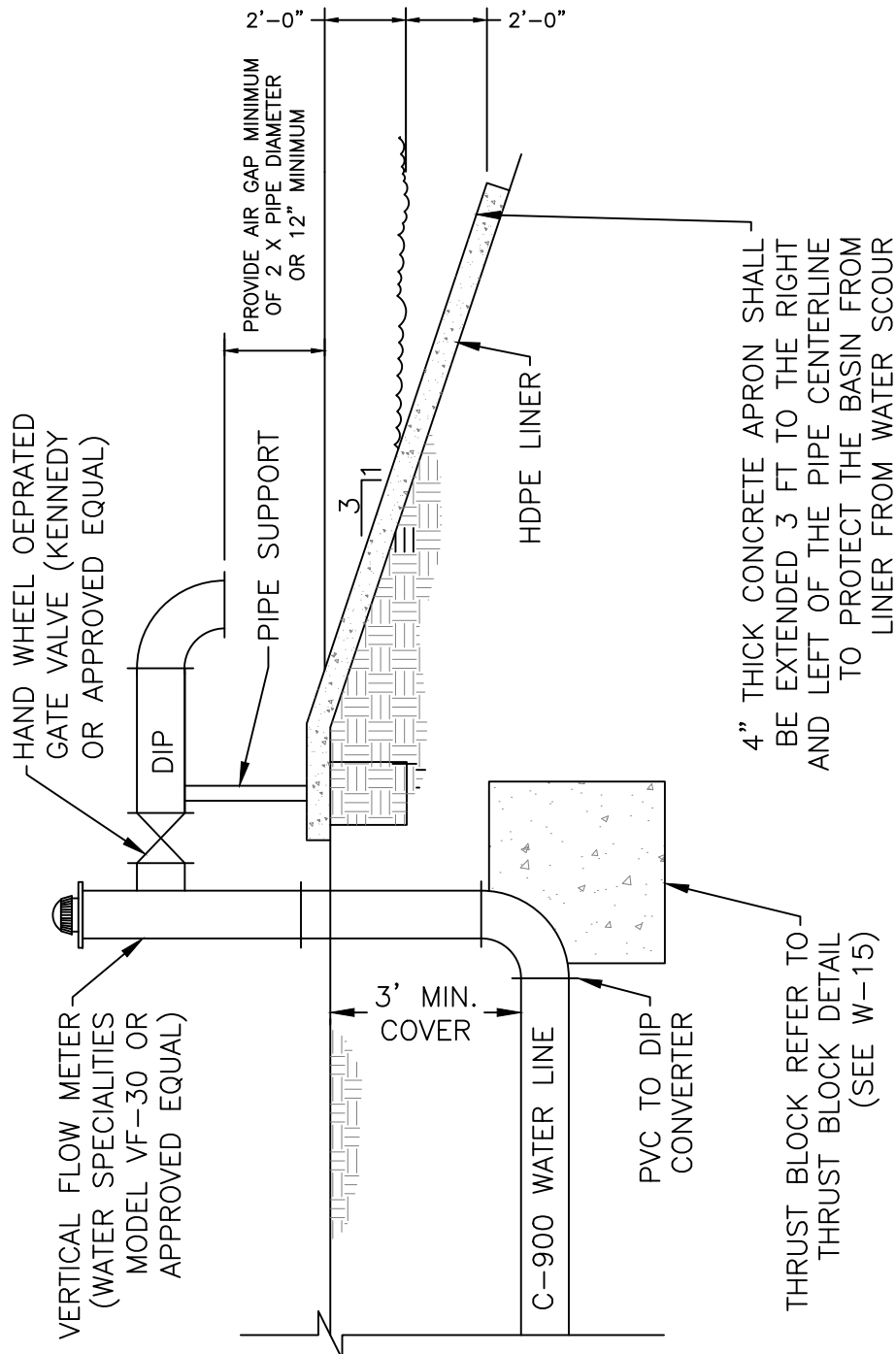


**STANDARD
DETAIL**

Date: **JANUARY 2021**

Drawing No:


RW-2



NOTE

1. Air gap measured from the top of the basin vertically to the bottom of the dip elbow.
2. Appurtenances above ground shall be painted purple conforming to AWWA C105 Specifications and Health Safety Code 116815 to indicate reclaimed water.

NOT TO SCALE

Approved by: 

City Of Lathrop
Public Works Director

No	Revised	Date

CITY OF LATHROP
DEPARTMENT OF PUBLIC WORKS

SUPPLEMENTAL
WATER SUPPLY
WITH AIR GAP TO RECYCLED
WATER STORAGE POND

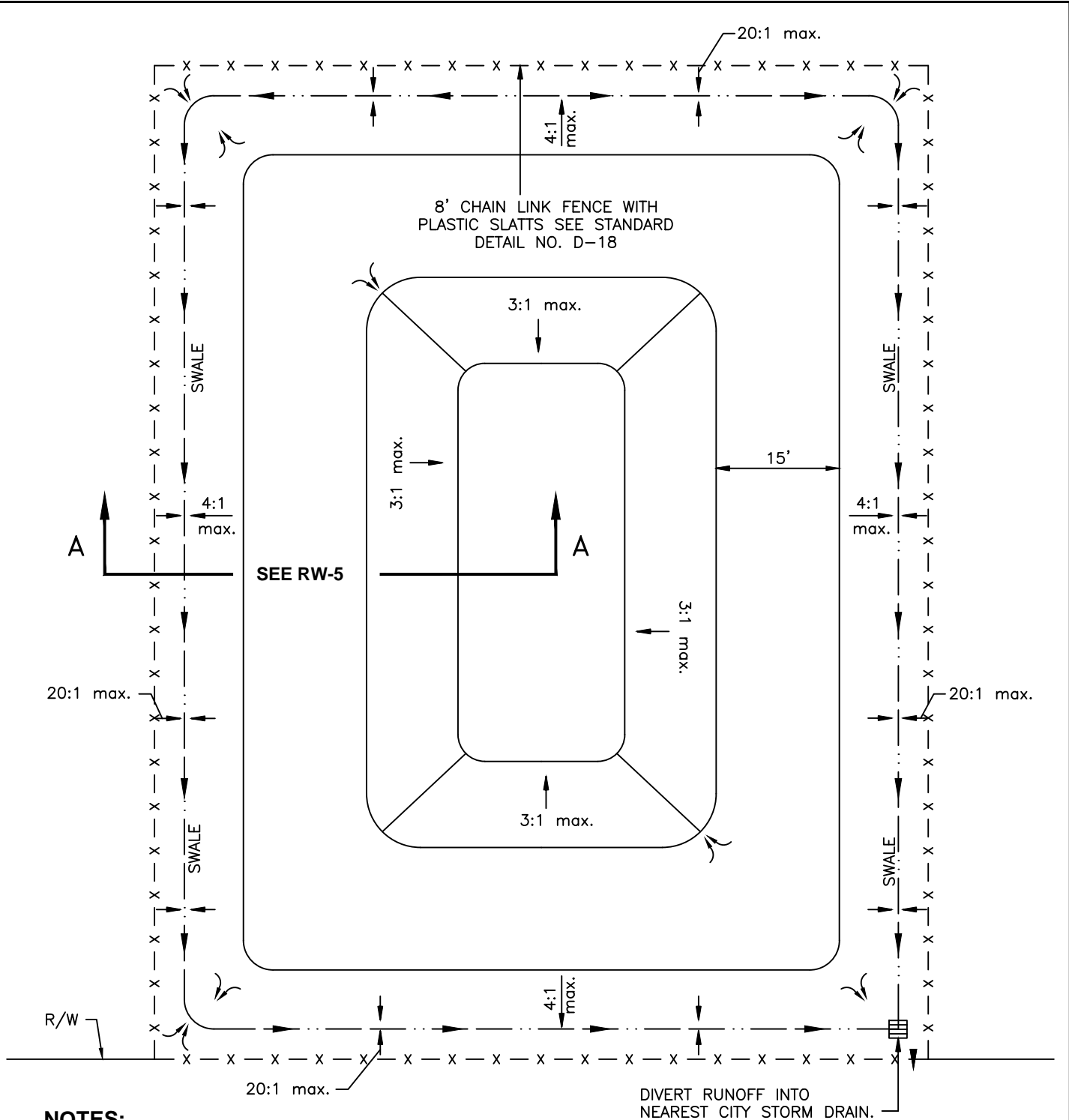


STANDARD
DETAIL

Date: **JANUARY 2021**

Drawing No:


RW-3



NOTES:

1. Size of basin and depth to be determined by Design Engineer.
2. Hydroseed exposed soil with native seed mix as approved by the City Engineer.
3. Drainage system outside of bend subject to approval by City Engineer.

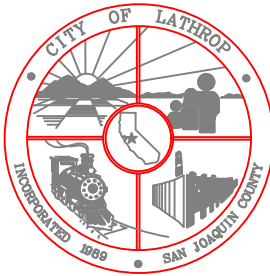
NOT TO SCALE

Approved by: 

City Of Lathrop
Public Works Director

No	Revised	Date

CITY OF LATHROP
DEPARTMENT OF PUBLIC WORKS

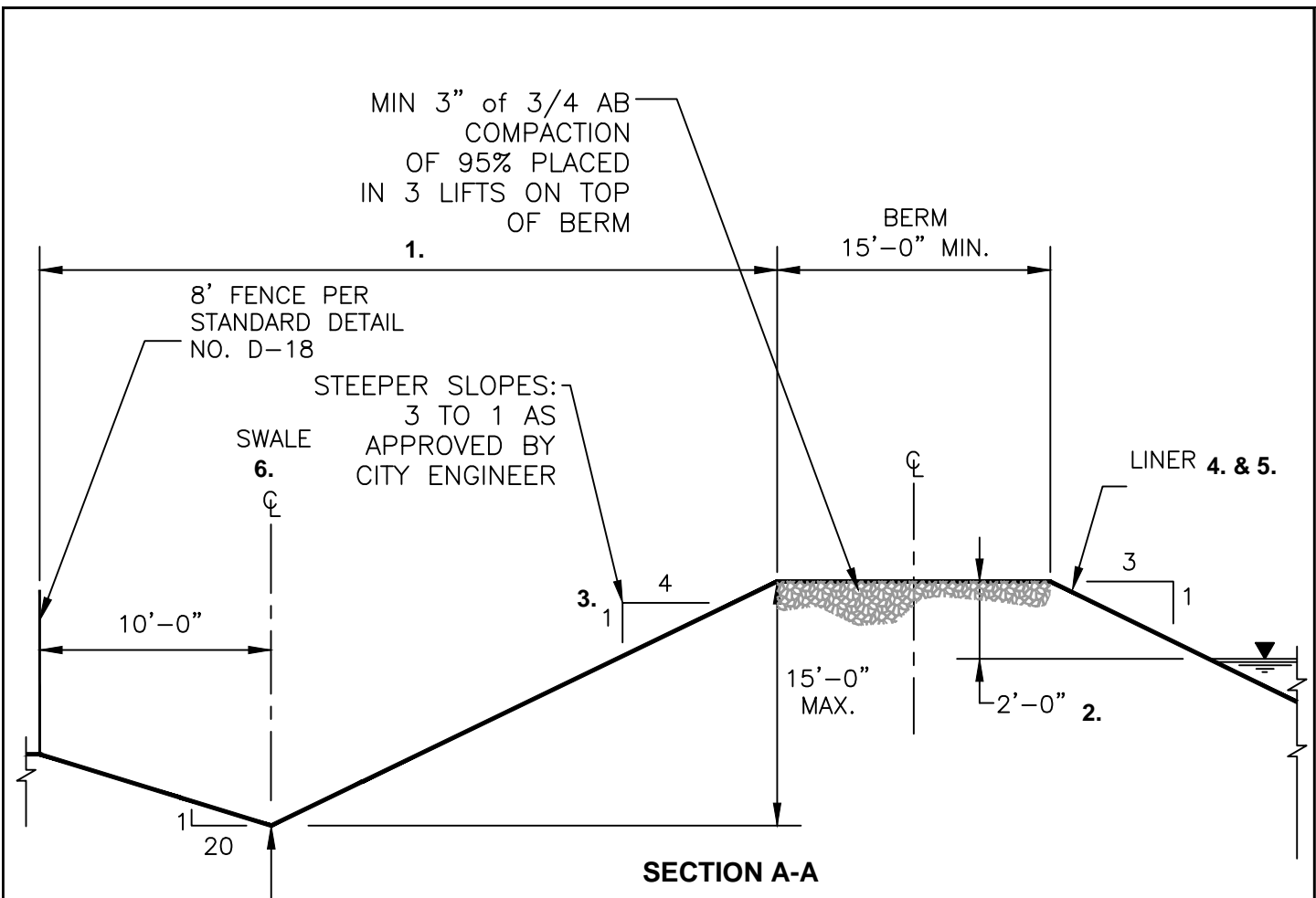


RECYCLED WATER POND

**STANDARD
DETAIL**

Date: **JANUARY 2021**
Drawing No:


RW-4



NOTES:

1. No surface mounted equipment allowed (e.g. poles, vaults, etc.) within these limits.
2. A minimum of 2 feet of freeboard during 100-year precipitation conditions shall be required.
3. The outside slope shall be hydroseeded.
4. Install 40 mil HDPE liner per requirements of standards. The liner may be installed on a 2½:1 slope with supporting recommendations from a geotechnical engineer and the manufacturer. Emergency escape stairs shall be installed at 100 ft spacing.
5. Provide a 15-foot wide access ramp from the top of the berm to pond invert with a smooth and drivable surface as approved by the City Engineer.
6. Minimal dimension of swale shown above and must be verified by engineer, based on estimated drainage and subject to approval by City Engineer.

NOT TO SCALE

Approved by: 

City Of Lathrop
Public Works Director

No	Revised	Date

CITY OF LATHROP
DEPARTMENT OF PUBLIC WORKS

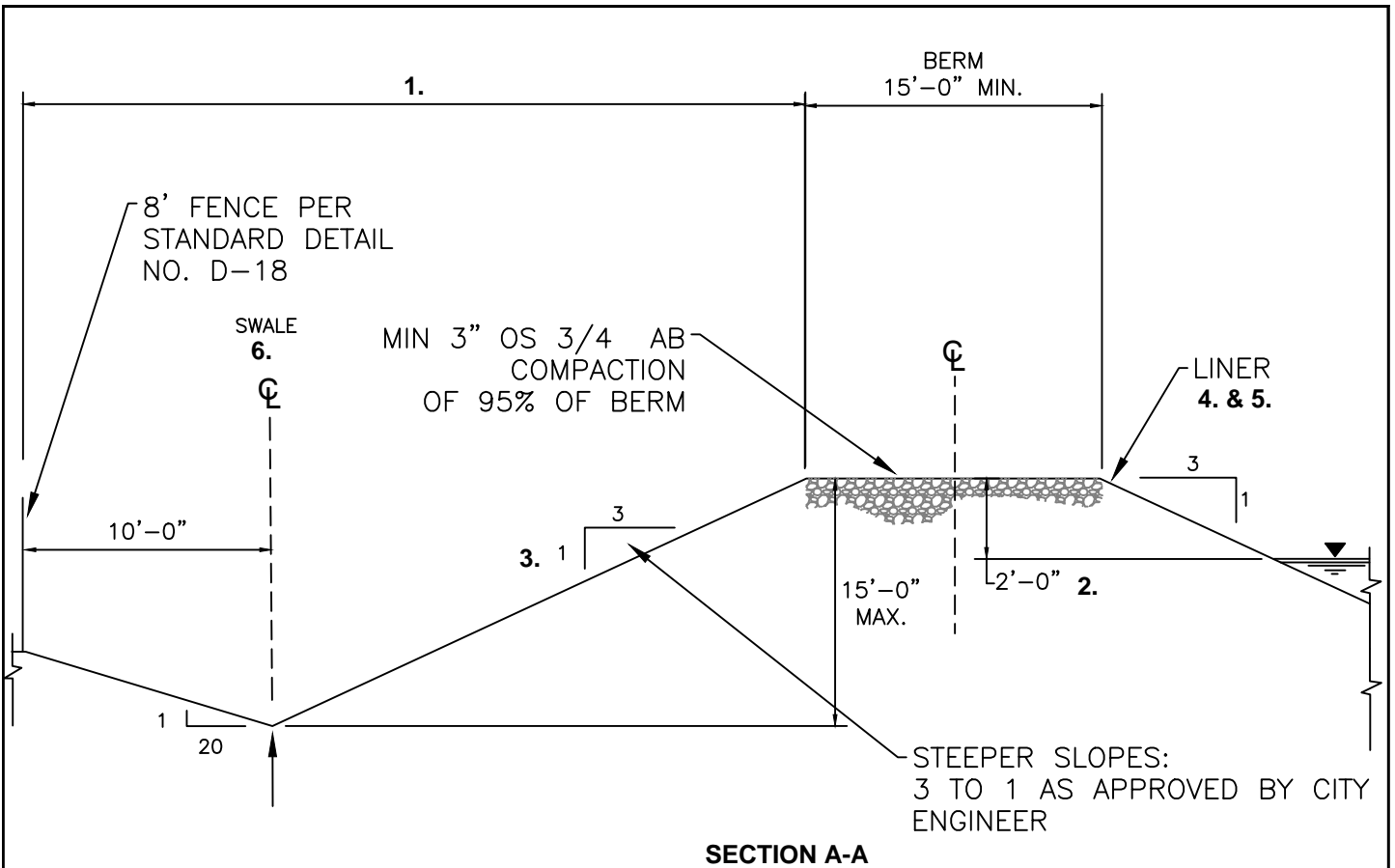
RECYCLED WATER POND
CROSS SECTION



STANDARD
DETAIL

Date: **JANUARY 2021**


Drawing No:
RW-5



NOTES:

1. No surface mounted equipment allowed (e.g. poles, vaults, etc.) within these limits.
2. A minimum of 2 feet of freeboard during 100-year precipitation conditions shall be required.
3. The outside slope shall be hydroseeded.
4. Install 40 mil HDPE liner per requirements of standards. The liner may be installed on a 2½:1 slope with supporting recommendations from a geotechnical engineer and the manufacturer. Emergency escape stairs shall be installed at 100 ft spacing.
5. Provide a 15-foot wide access ramp from the top of the berm to pond invert with a smooth and drivable surface as approved by the City Engineer.
6. Minimal dimension of swale shown above and must be verified by engineer, based on estimated drainage and subject to approval by City Engineer.

NOT TO SCALE

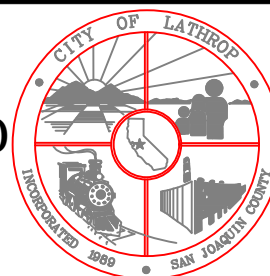
Approved by: 

City Of Lathrop
Public Works Director

No	Revised	Date

CITY OF LATHROP
DEPARTMENT OF PUBLIC WORKS

RECYCLED WATER POND
CROSS SECTION
STEEPER SLOPES DESIGN

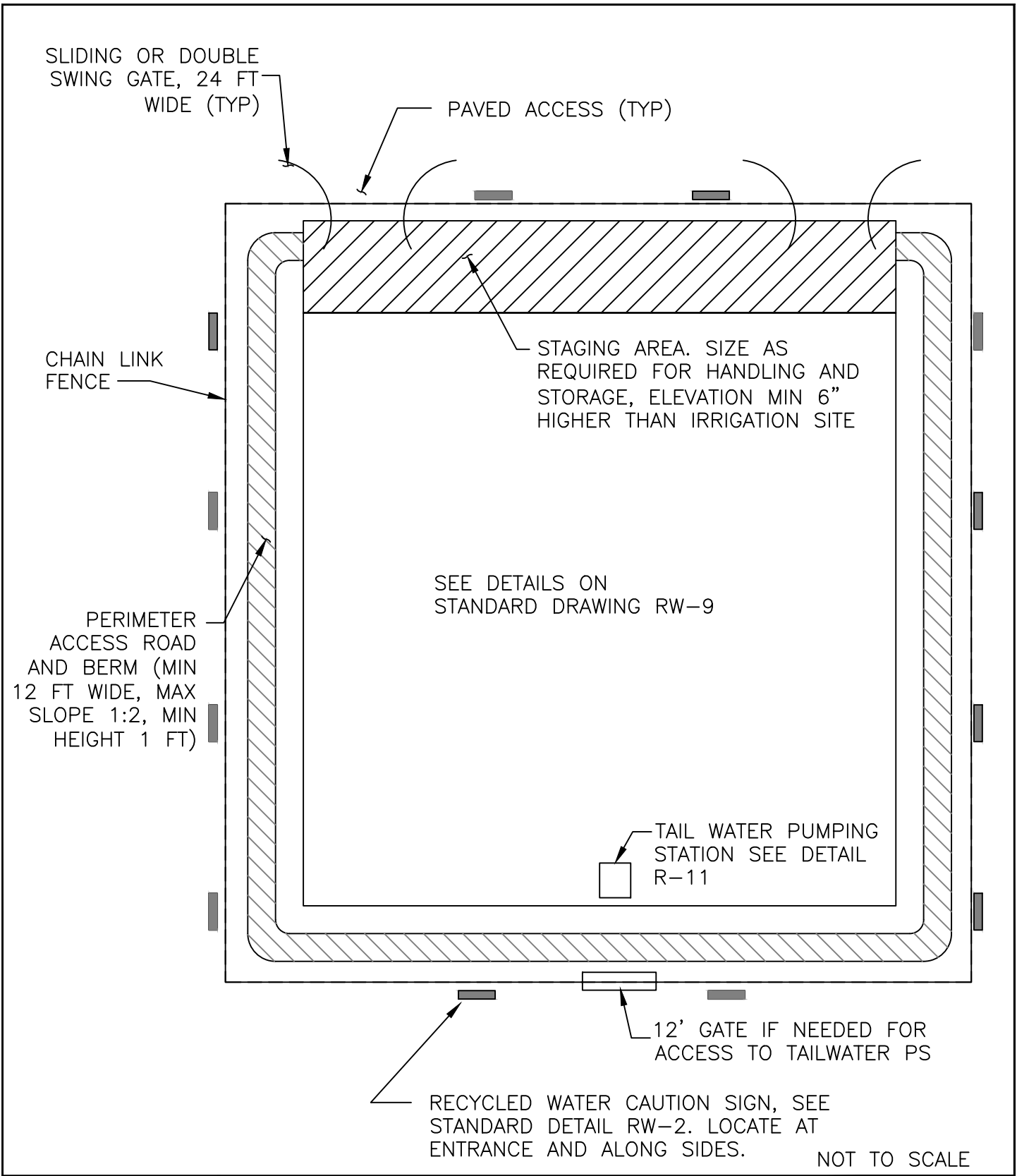


STANDARD
DETAIL


Date: **JANUARY 2021**

Drawing No:

RW-6



Approved by:



City Of Lathrop
Public Works Director

No	Revised	Date

CITY OF LATHROP
DEPARTMENT OF PUBLIC WORKS

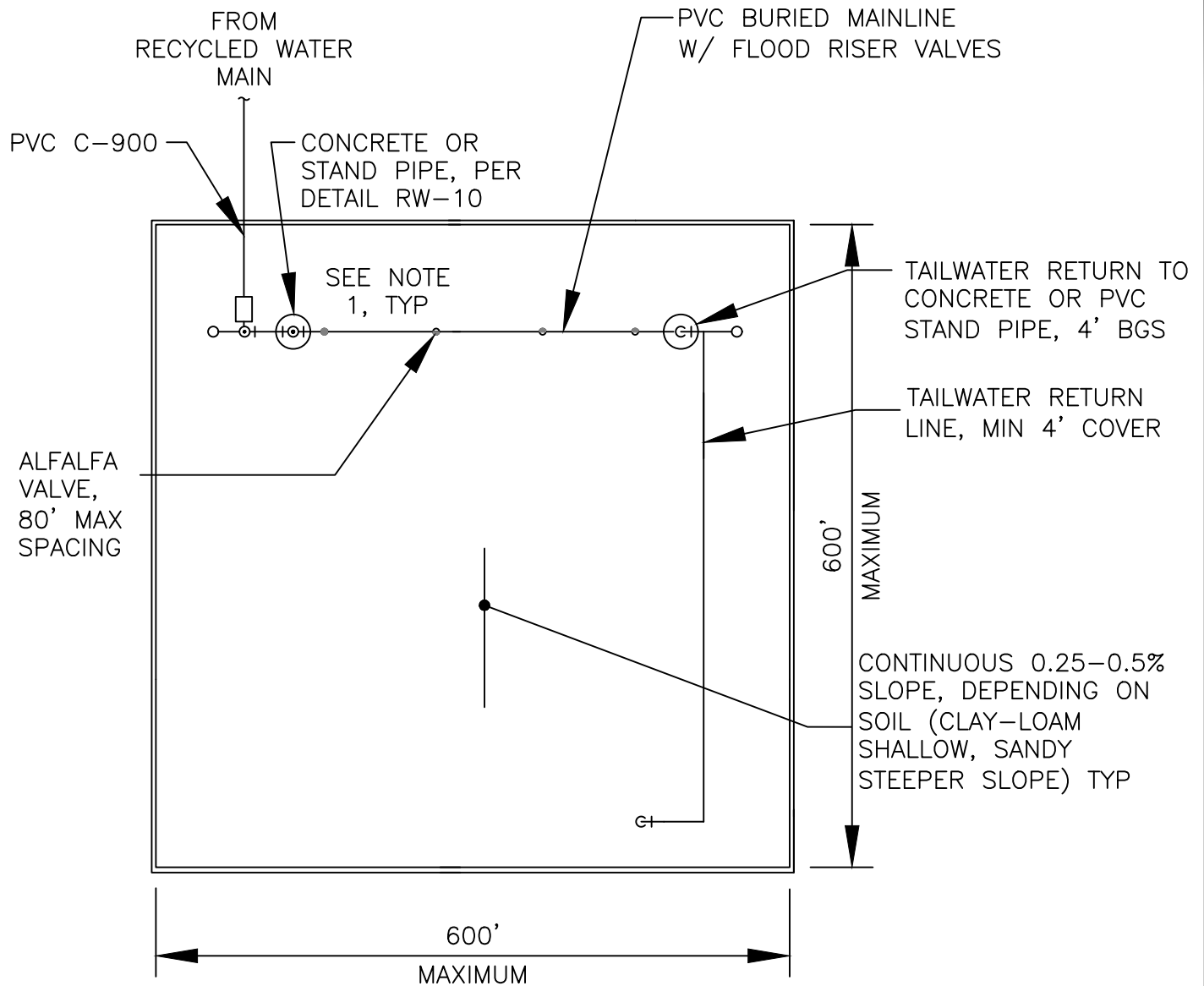
**FLOOD IRRIGATION
SITE PLAN**



**STANDARD
DETAIL**

Date: **JANUARY 2021**


Drawing No:
RW-7



NOTES:

1. Flood riser valves to be located at the CL and between checks.
2. Provide a berm around the entire site to control runoff and stormwater from leaving the site, drain to common point at tail water return pumping station.
3. Provide 12' wide access road behind alfalfa valve header for access to valves.
4. For berm, roadway, signage, and fencing requirements, see Standard Detail No. RW-7

NOT TO SCALE

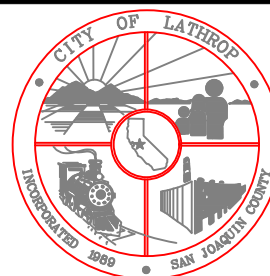
Approved by: 

City Of Lathrop
Public Works Director

No	Revised	Date

CITY OF LATHROP
DEPARTMENT OF PUBLIC WORKS

**FLOOD IRRIGATION
SITE DETAILS**

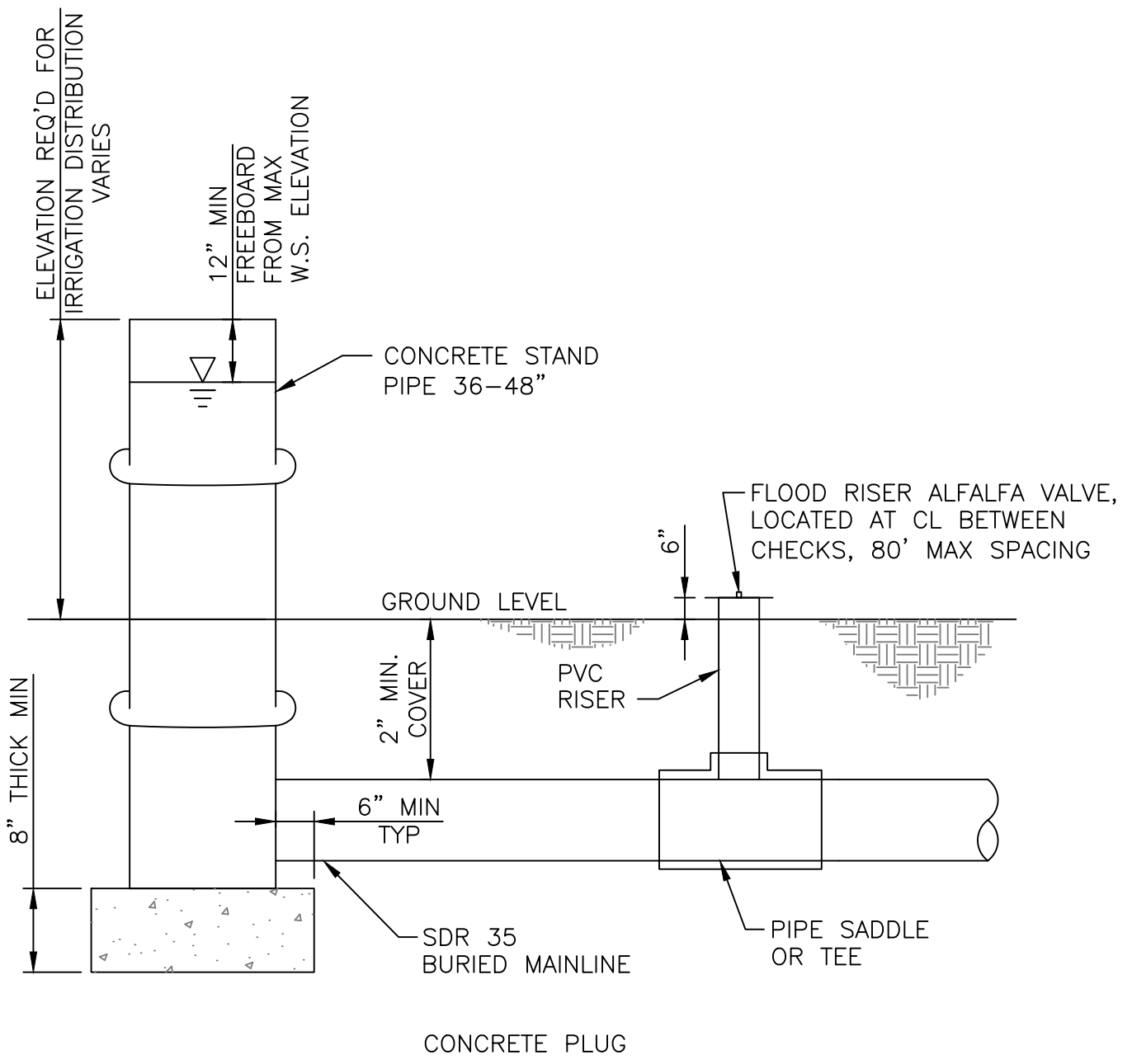


**STANDARD
DETAIL**

Date: **JANUARY 2021**

Drawing No:

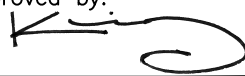
RW-8



NOTE:
 MAINLINE TO BE MINIMUM 12" DIA OR LARGER BASED ON LENGTH AND NUMBER OF RISER VALVES.

NOT TO SCALE

Approved by:

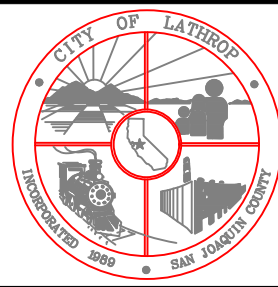


City Of Lathrop
Public Works Director

No	Revised	Date

CITY OF LATHROP
 DEPARTMENT OF PUBLIC WORKS

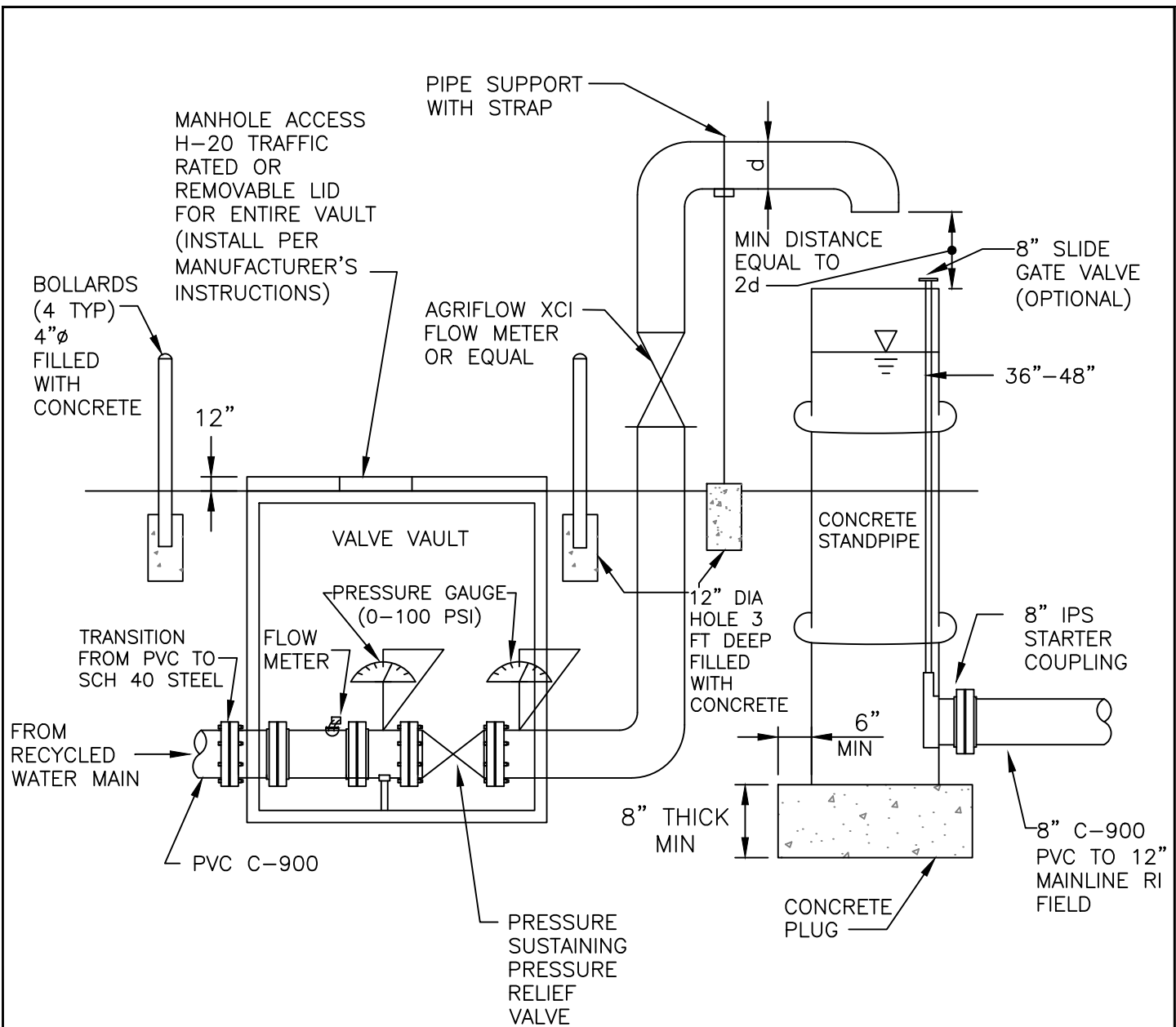
**FLOOD IRRIGATION
 STAND PIPE DETAIL**



**STANDARD
 DETAIL**

Date: **JANUARY 2021**


Drawing No:
RW-9



NOTE:

1. Paint all exposed pipe recycle purple.
2. Use Agriflow XCI flow meter or equal.

NOT TO SCALE

Approved by: 

City Of Lathrop
Public Works Director

No	Revised	Date

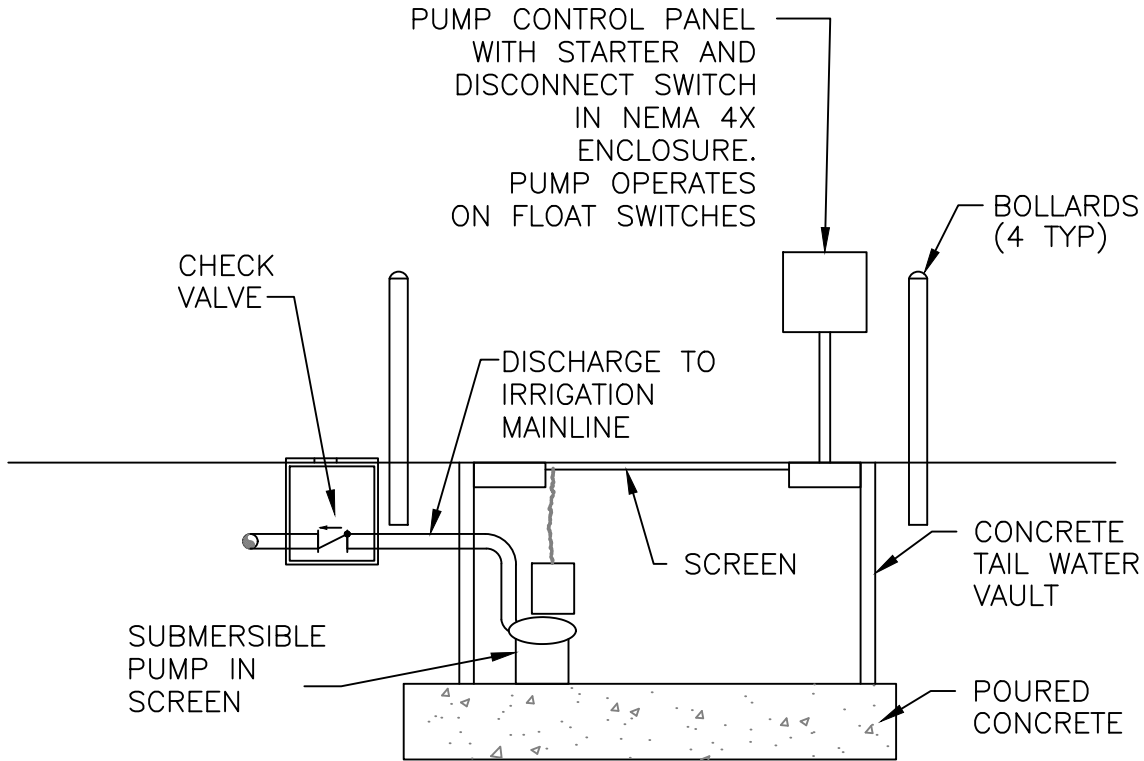
CITY OF LATHROP
DEPARTMENT OF PUBLIC WORKS
FLOOD IRRIGATION
FEED PIPE AND VAULT



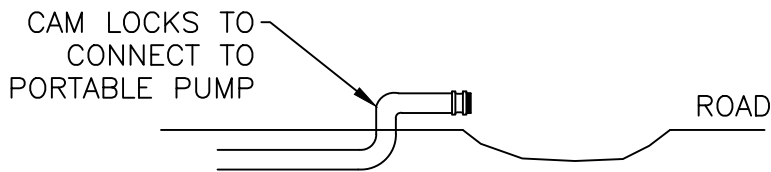
STANDARD
DETAIL

Date: **JANUARY 2021**
Drawing No:
RW-10

NOTE: Install discharge line to the irrigation stand pipe.




TAIL WATER PUMP STATION



OPTION

NOT TO SCALE

Approved by: 

City Of Lathrop
Public Works Director

No	Revised	Date

CITY OF LATHROP
DEPARTMENT OF PUBLIC WORKS

**FLOOD IRRIGATION
TAILWATER SYSTEM**

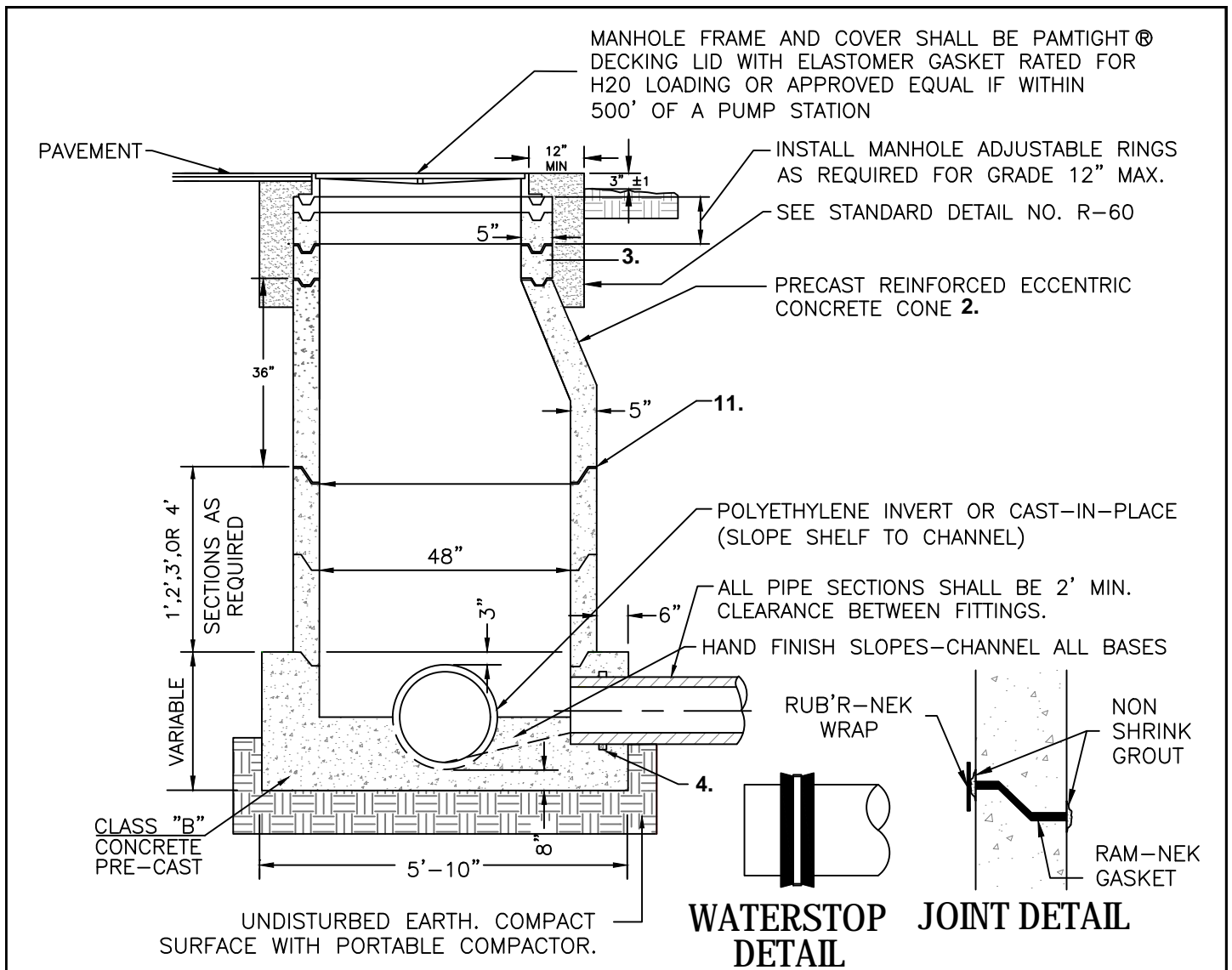


**STANDARD
DETAIL**

Date: **JANUARY 2021**

Drawing No:


RW-11



NOTES:

1. Concentric reinforced concrete cone may be used on approval of city engineer.
2. Precast reinforced concrete manhole unit shall conform to ASTM C-478.
3. Barrel diameter of 60" required when pipe is 18" & larger or at greater than 15' in depth.
4. All manholes shall be vacuum tested in the field in accordance with section 5-7.2 D leakage of the City Standards
5. Manhole base shall be pre-cast.
6. All joints shall be set on "Ram-Nek" or approved equal. Interior and exterior joints & pick points shall be grouted. Wrap exterior joint with Rub'R-Nek external concrete joint wrap.

NOT TO SCALE

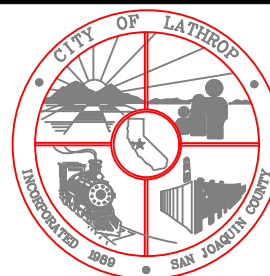
Approved by: 

City Of Lathrop
Public Works Director

No	Revised	Date

CITY OF LATHROP
DEPARTMENT OF PUBLIC WORKS

**SANITARY SEWER
TYPE I MANHOLE**

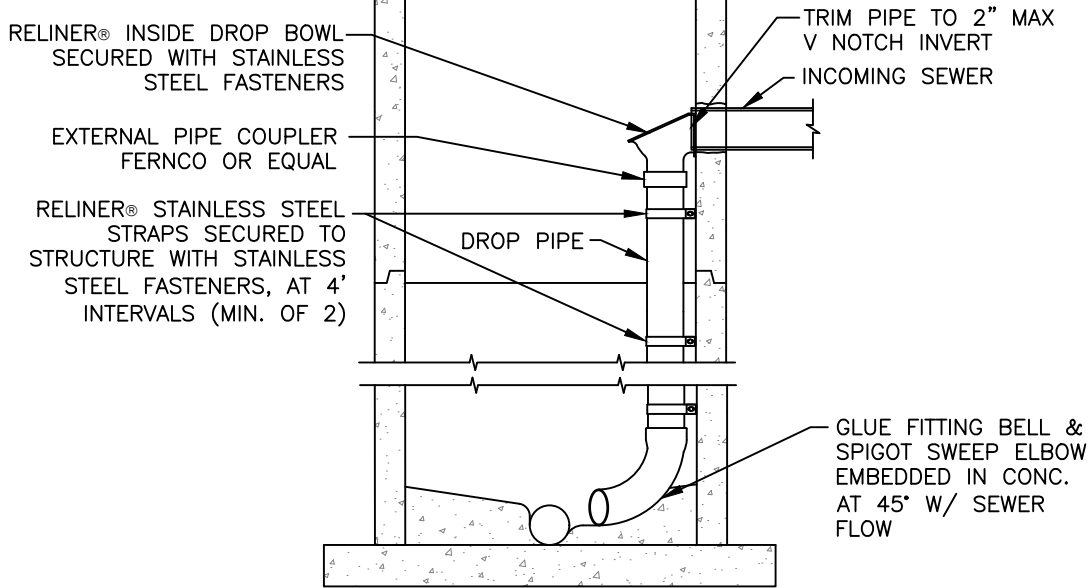
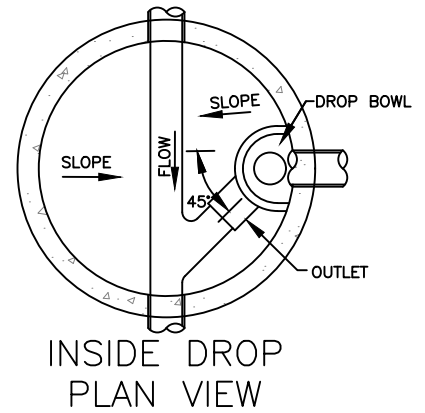


**STANDARD
DETAIL**

Date: **JANUARY 2021**

Drawing No:

S-1



INSIDE DROP CONNECTION

NOTES:

1. This type of manhole shall be used where the difference in elevation between the top of outlet pipe and the invert of the feeder pipe exceeds 24".
2. All inside drop piping to be PVC SDR-26.
3. Cement all joints.
4. Drop connection pipe and fittings to be same size as entering pipe.
5. Clamps to be 1-1/2" x 12 gauge stainless steel. Anchored to manhole wall with 2-1/2" stainless steel bolts 2 min at 24" o.c. (typ.).
6. Only inside drops are allowed.
7. Manhole barrel size may need to be increased to accommodate inside drop.
8. Rubber ring waterstop or manhole adapter required for PVC pipe installations.

NOT TO SCALE

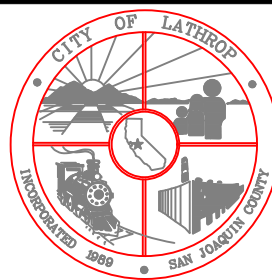
Approved by:

City Of Lathrop
Public Works Director

No	Revised	Date

CITY OF LATHROP
DEPARTMENT OF PUBLIC WORKS

SANITARY SEWER
INSIDE DROP MANHOLE

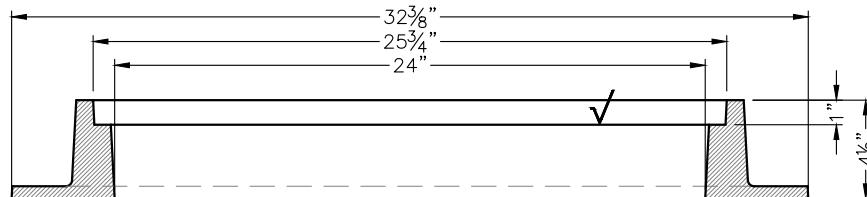
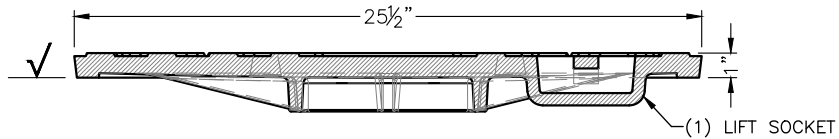
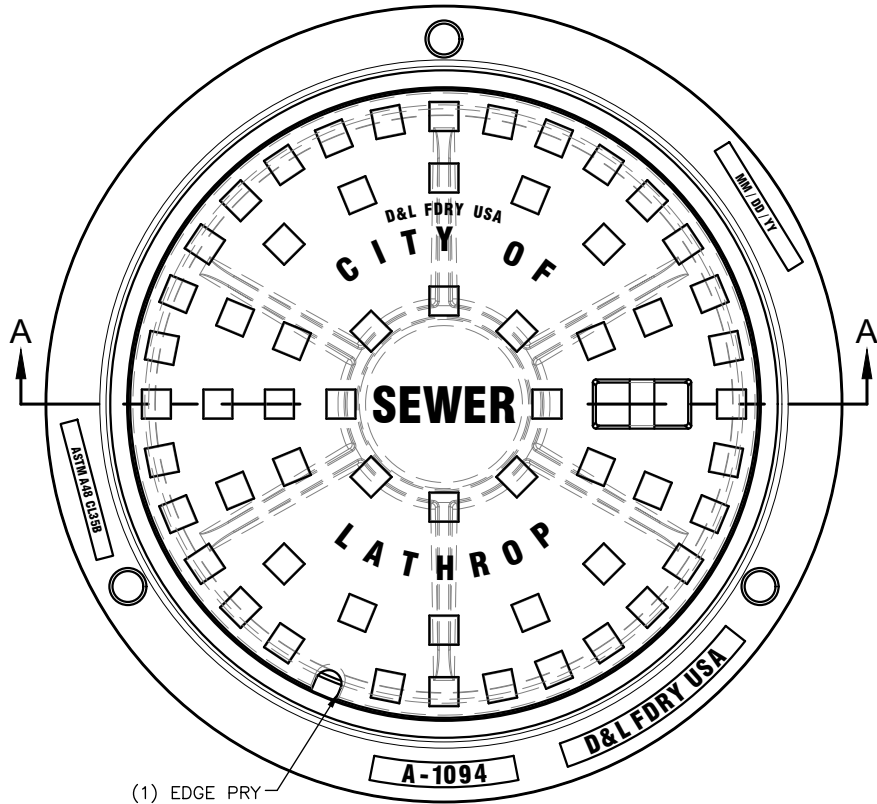


STANDARD
DETAIL

Date: **JANUARY 2021**

Drawing No:

S-2



SECTION A-A

D&L SUPPLY COMPANY		
	PRODUCT NUMBER	MATERIAL TYPE
COVER	A-1094-30	GRAY IRON: ASTM A-48 CL 35B
RING	A-1094-R1	GRAY IRON: ASTM A-48 CL 35B

NOTE:

1. Manhole frame and cover shall be Pamtight decking lid with Elastomer gasket rated for H2O loading or approved equal if within 500' of a pump station.
2. Manhole cover shall have raised letters and opening in socket

NOT TO SCALE

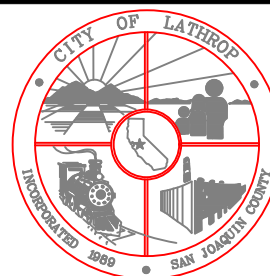
Approved by:

City Of Lathrop
Public Works Director

No	Revised	Date

CITY OF LATHROP
DEPARTMENT OF PUBLIC WORKS

MANHOLE FRAME AND COVER

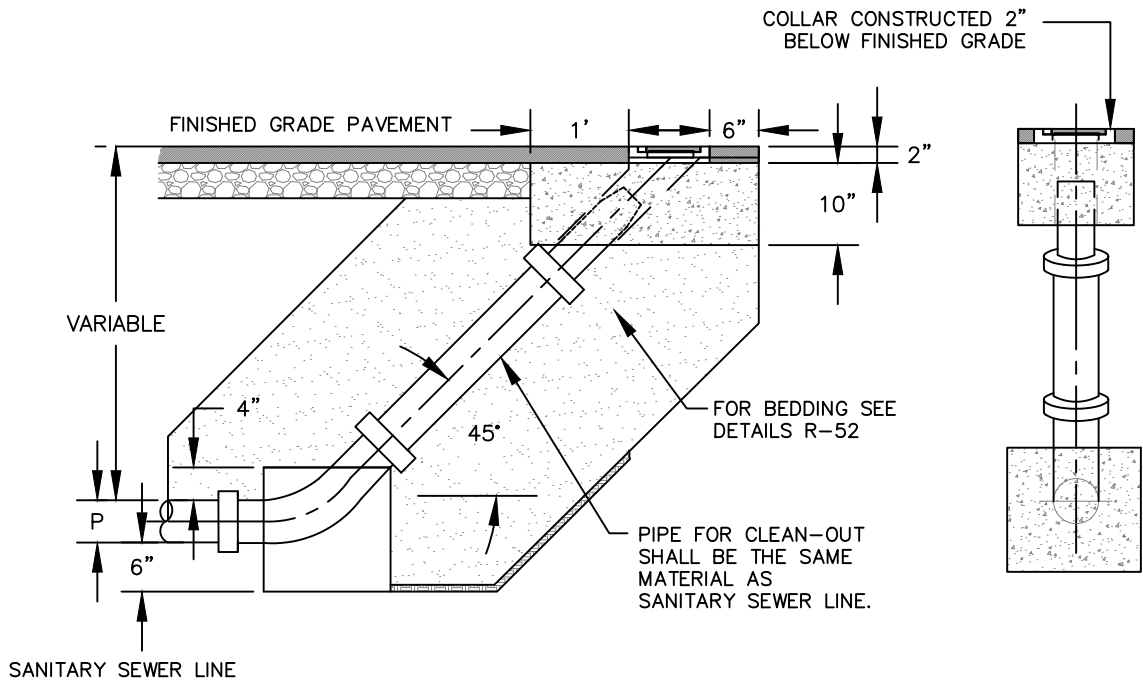
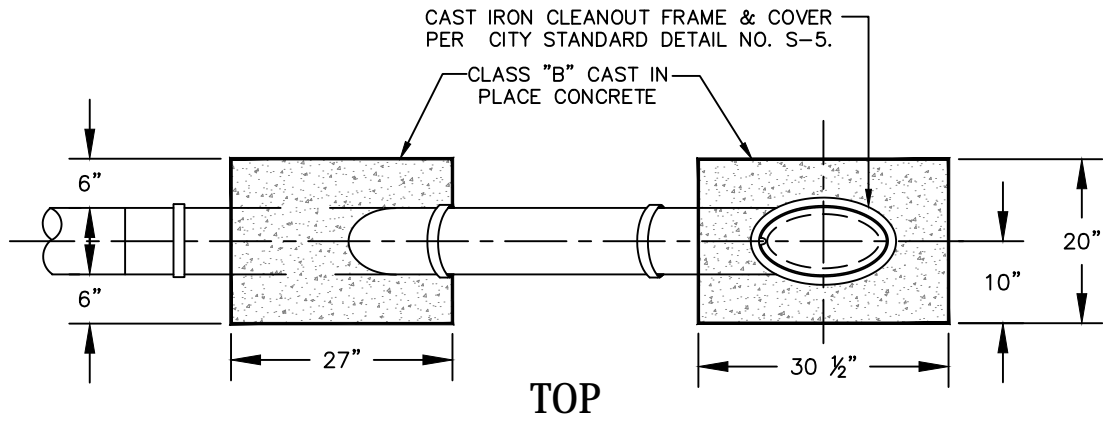


**STANDARD
DETAIL**

Date: **JANUARY 2021**

Drawing No:


S-3



NOTES:

1. 6"Ø 45° elbow.
2. Cleanout shall be used at of end line or where approved by city engineer.

NOT TO SCALE

Approved by: 

City Of Lathrop
Public Works Director

No	Revised	Date

CITY OF LATHROP
DEPARTMENT OF PUBLIC WORKS

LAMP POLE

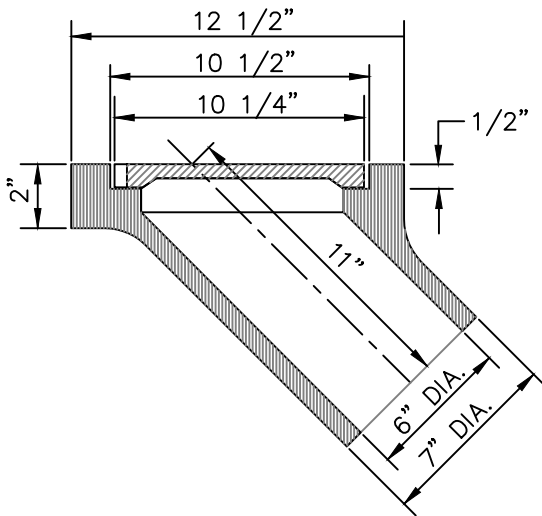
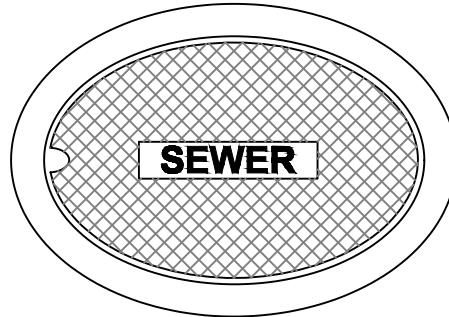
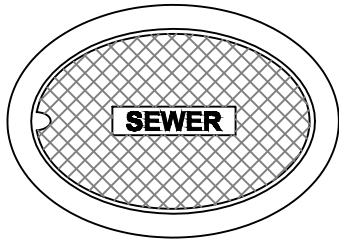


**STANDARD
DETAIL**

Date: **JANUARY 2021**

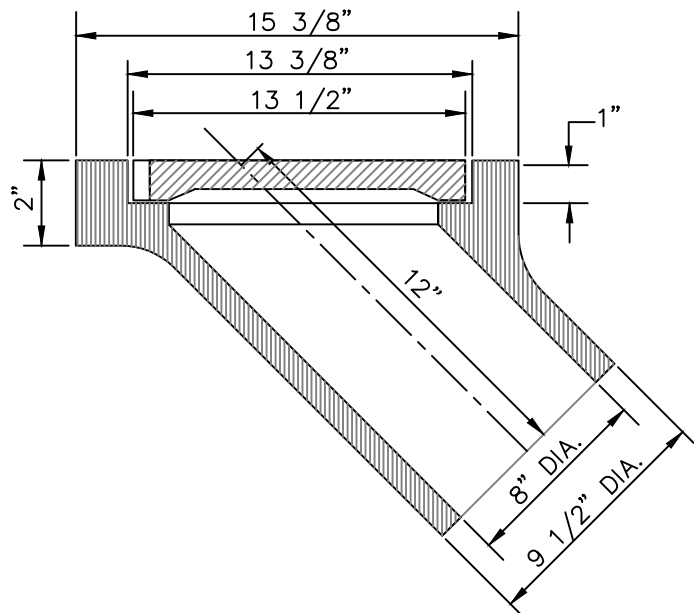
Drawing No:

S-4



SBF 1248 BOX / LID

SET WEIGHT	
Frame -----	55 lbs
Lid -----	10 lbs
Total	65 lbs




SBF 1247 BOX / LID

SET WEIGHT	
Frame -----	65 lbs
Lid -----	20 lbs
Total	85 lbs

NOTES:

1. All materials used in manufacturing shall conform to ASTM 48, Class 35B.
2. Castings shall be dipped in black, bituminous paint.
3. Frame and cover meets H-20 wheel loading.

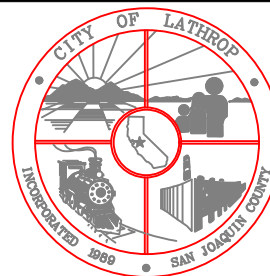
NOT TO SCALE

Approved by: 

City Of Lathrop
Public Works Director

No	Revised	Date

CITY OF LATHROP
DEPARTMENT OF PUBLIC WORKS
**LAMP POLE
COVER**

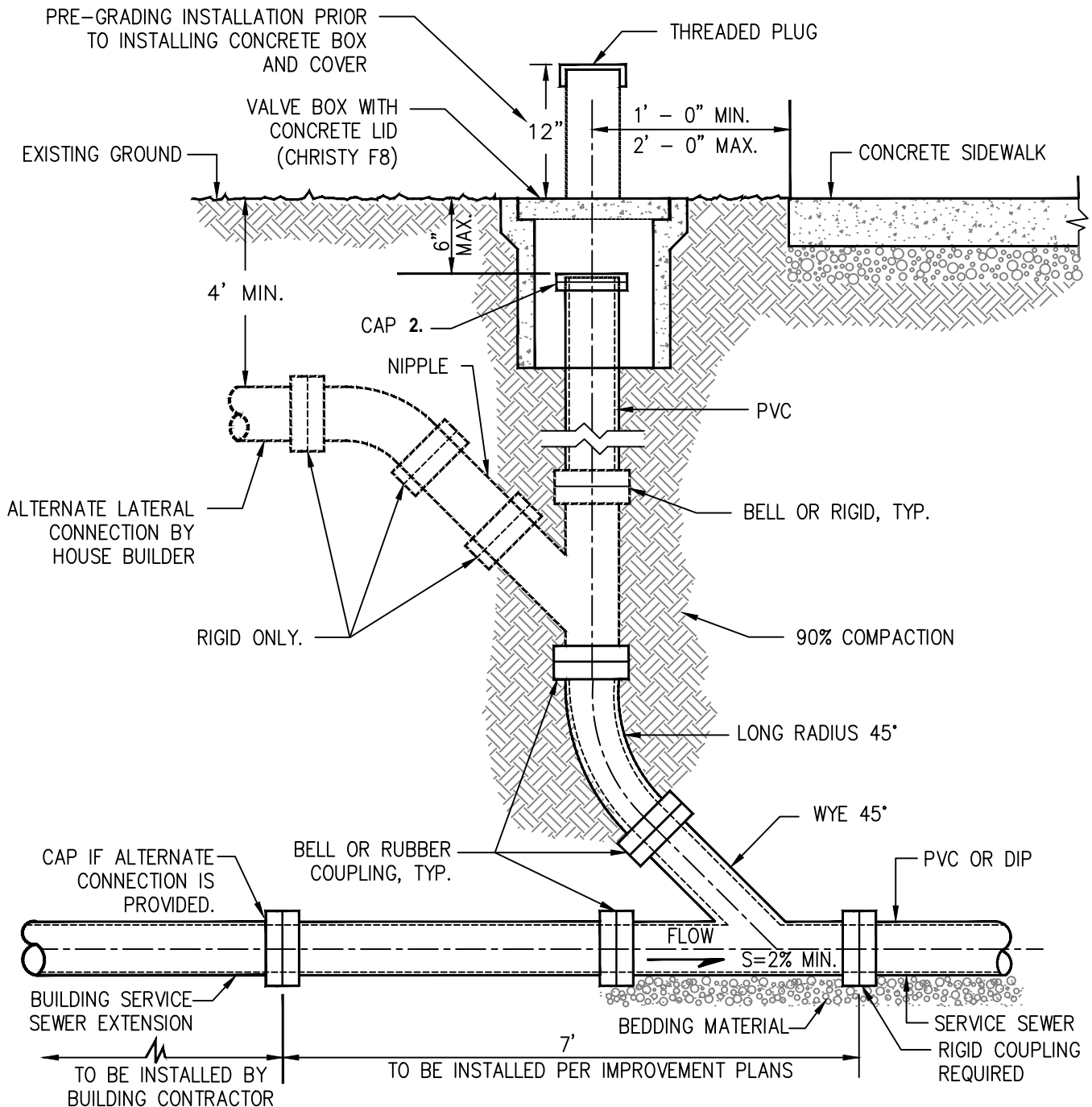


**STANDARD
DETAIL**

Date: **JANUARY 2021**

Drawing No:

S-5



NOTES:

1. All cleanout pipe and fittings shall be same size and material as the service sewer in which they connect.
2. All caps shall be threaded plugs.
3. PVC pipe shall be SDR-26 minimum strength.

NOT TO SCALE

Approved by:



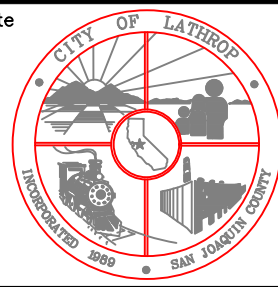
City Of Lathrop
Public Works Director

No	Revised

CITY OF LATHROP
DEPARTMENT OF PUBLIC WORKS

Date

**PROPERTY LINE
CLEANOUT**



**STANDARD
DETAIL**

Date: **JANUARY 2021**

Drawing No:

S-6

DIMENSIONS AND WEIGHTS

NOMINAL SIZE	A	B	WEIGHT LBS.
2" THREADED	16 ⁵ / ₈	25 ³ / ₈	346
2" FLANGED	16 ⁵ / ₈	23 ¹³ / ₁₆	366
3"	16 ⁵ / ₈	23 ¹³ / ₁₆	407
4"	16 ⁵ / ₈	23 ¹³ / ₁₆	429
6"	16 ⁵ / ₈	24 ¹ / ₆₄	462

ORIFICE SIZE AREA INCH²

AUTOMATIC ORIFICE	0.018
KINETIC ORIFICE	1.246

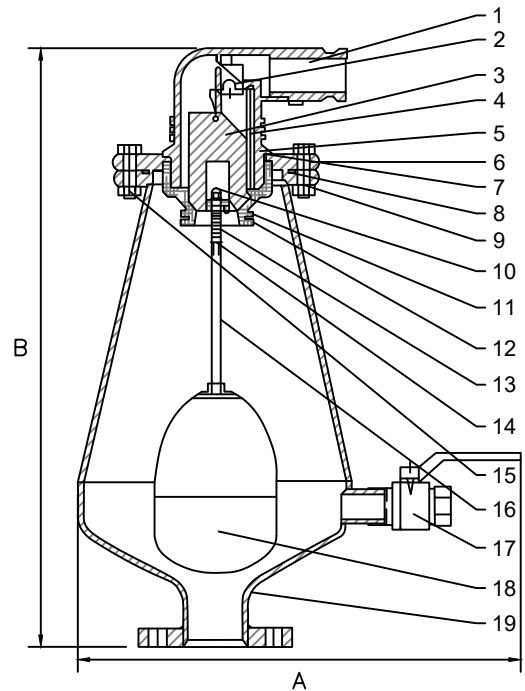
ENCLOSURE DETAILS:

THREADS: NPI
FLANGES AVAILABLE IN ANSI STANDARD

1. FOR POTABLE WATER USE BLUE: PART # VCAS-1830-BL
2. FOR RECYCLED WATER USE PURPLE: PART # VCAS-1830-PR
3. FOR SEWER USE GREEN: PART #VCAS-1830-GR


PARTS LIST AND SPECIFICATION

NO.	PART	MATERIAL
1	FLUSHING CONNECTION	POLYPROPYLENE
2	STEAL PLUG ASSEMBLY	REINFORCED NYLON + RUBBER EPDM
3	FLOAT	FOAMED POLYPROPYLENE
4	CLAMPING STEM	REINFORCED NYLON
5	BODY	REINFORCED NYLON
6	COVER	STEEL DIN ST 37/ST ST SAE 316/STEEL WCB
7	O-RING	BUNA-N
8	O-RING	BUNA-N
9	WASHER	TEFLON
10	CROWN NUT	STAINLESS STEEL SAE 316
11	PLASTIC BASE	REINFORCED NYLON
12	STOPPER	ACETAL
13	SPRING	STAINLESS STEEL SAE 316
14	WASHER	STAINLESS STEEL SAE 316
15	BOLT AND NUT	STAINLESS STEEL SAE 316
16	STERN	STAINLESS STEEL SAE 316
17	BALL VALVE	BRASS ASTM A124/POLYPROPYLENE
18	FLOAT	STAINLESS STEEL SAE 316
19	BODY	STEEL DIN ST 37/ST ST SAE 316/STEEL WCB



ONLY A.R.I. MODEL D-020 SHALL BE USED

NOT TO SCALE

Approved by: 

City Of Lathrop
Public Works Director

No	Revised	Date

CITY OF LATHROP
DEPARTMENT OF PUBLIC WORKS

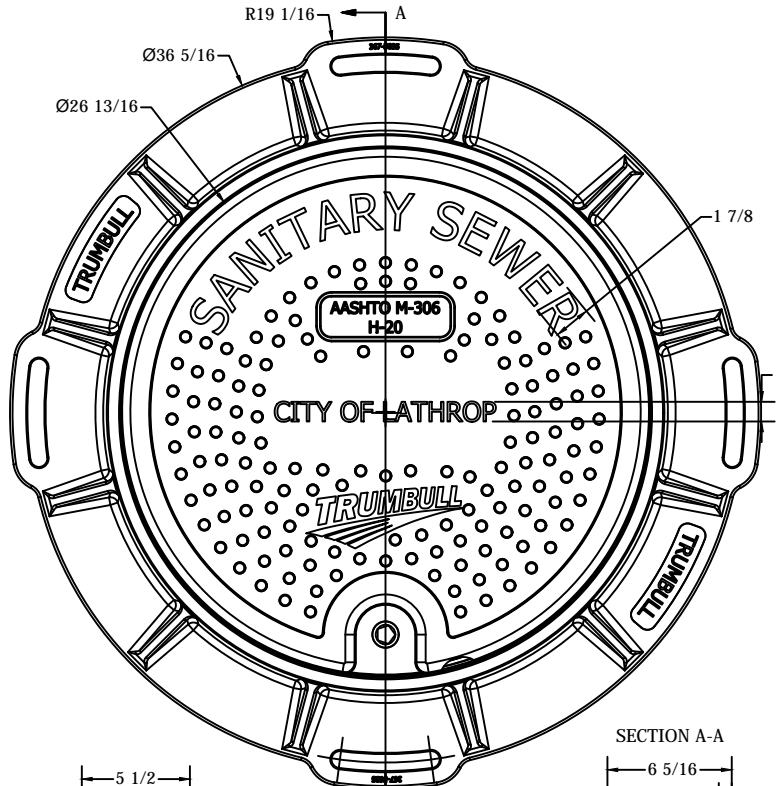
**SEWAGE AIR
RELEASE VALVE**



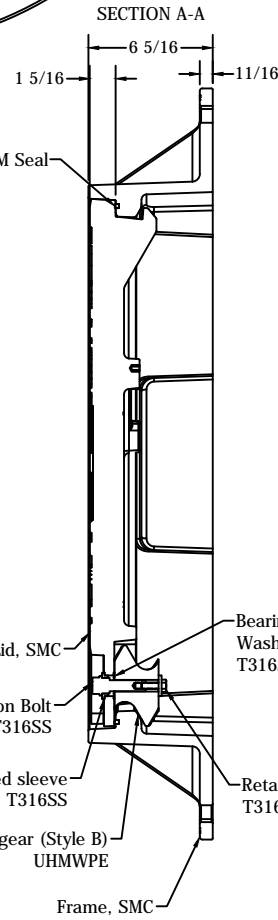
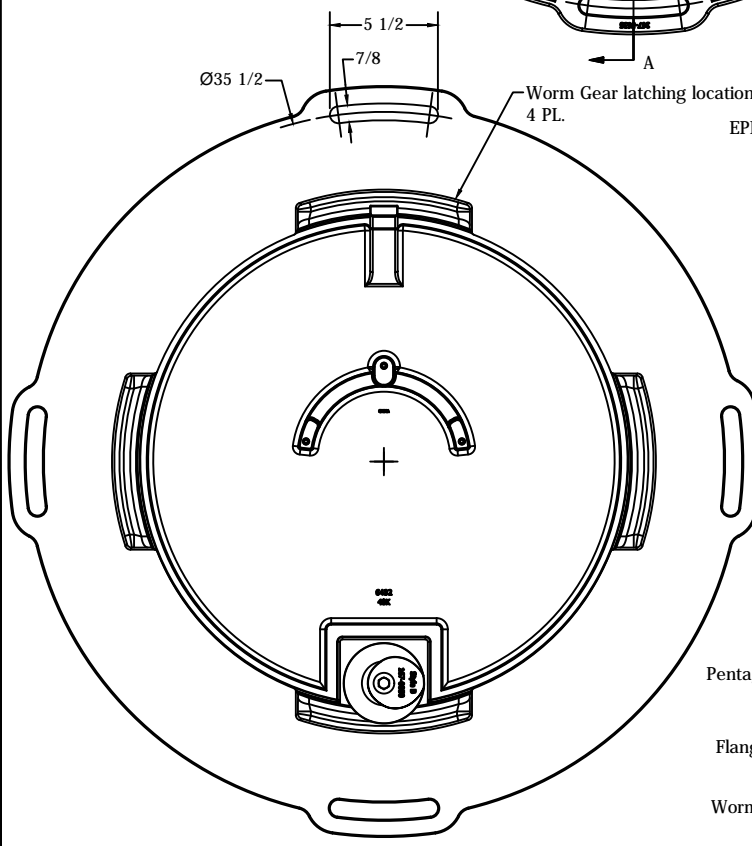
**STANDARD
DETAIL**

Date: **JANUARY 2021**

Drawing No:
S-7



Notes:
 1.) Lid weight = 54 lb., Frame weight = 58 lbs. approx.
 2.) Loctite (red) to be applied to threads on Retaining Bolt before final assembly.
 3.) Units in inches



* ALL INFORMATION SHOWN IN THIS FILE IS CONFIDENTIAL AND PROPRIETARY*

DRAWN benjamin	12/14/2020	TRUMBULL MANUFACTURING	
CHECKED		3850 Hendricks Rd. Youngstown, Ohio 44515 PH. 330-392-1323 FAX 330-392-1398	
QA		TITLE: 25-1/2" x 1-1/4" Lid w/ Frame	
PRODUCT FAMILY Meter & Sewer Lids		DWG NO	REV
PRODUCT SIZE 25-1/2" OD (40,000lb)		Lid 6432, Frame 367-5635	---
Sanitary Sewer - City of Lathrop		SCALE	NTS
		Submittal	SHEET 1 OF 1

Approved by: 

City Of Lathrop
Public Works Director

No	Revised	Date

CITY OF LATHROP
 DEPARTMENT OF PUBLIC WORKS

**COMPOSITE MANHOLE
 COVER WITHIN 500'
 OF PUMP STATION**

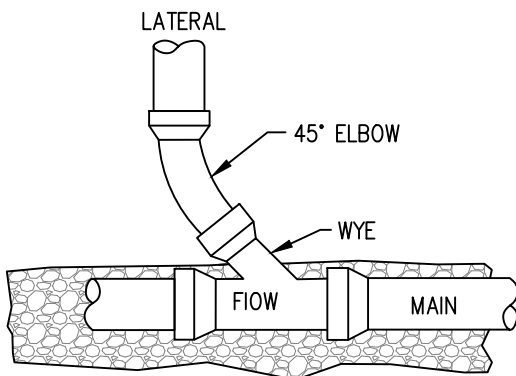
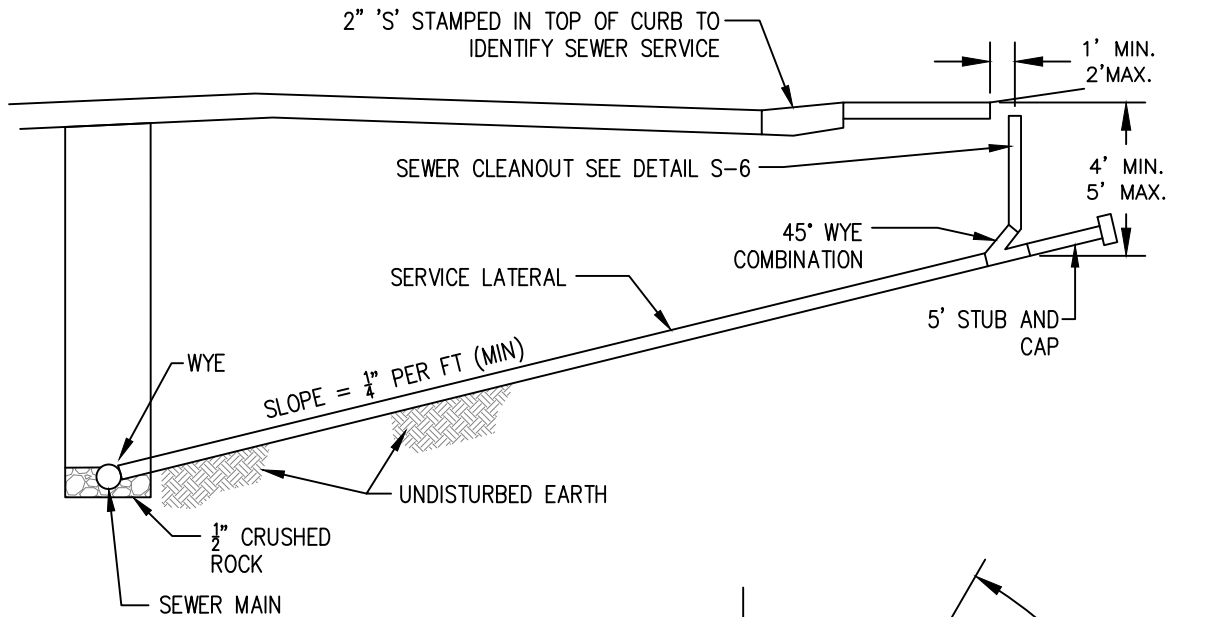


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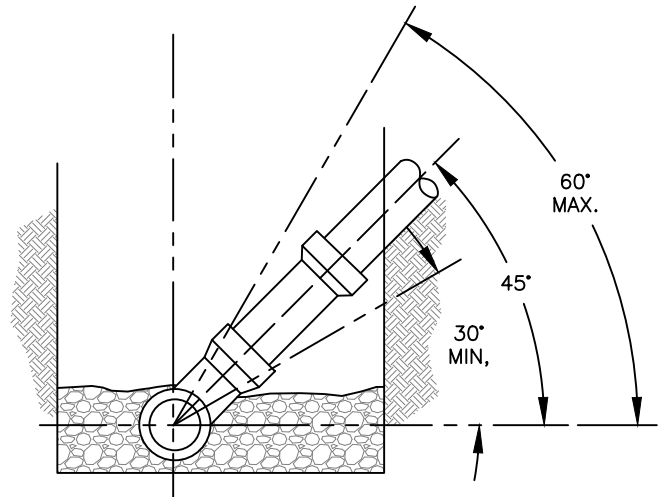
**STANDARD
 DETAIL**

Date: **JANUARY 2021**

Drawing No:
S-8



WYE DETAIL
(PLAN VIEW)




CROSS SECTION DETAIL

NOTES:

1. All services shall be 4" inside diameter or as shown on plan.
2. See standard detail S-6 for required cleanouts & boxes.

NOT TO SCALE

Approved by: 

City Of Lathrop
Public Works Director

No	Revised	Date

CITY OF LATHROP
DEPARTMENT OF PUBLIC WORKS

**SANITARY SEWER
LATERAL**

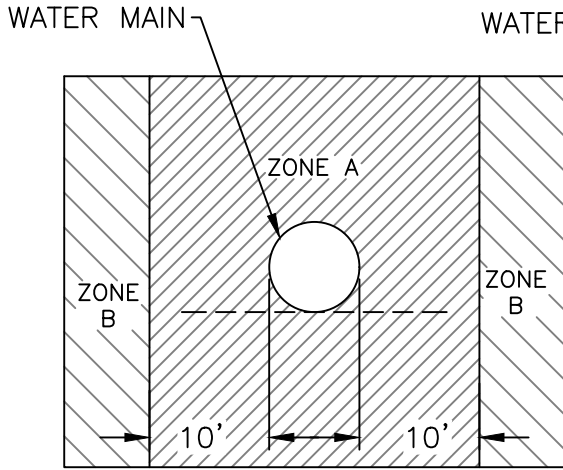


**STANDARD
DETAIL**

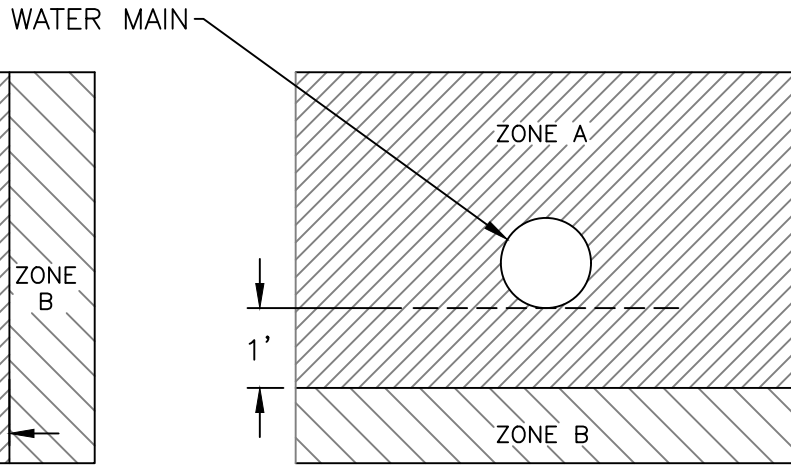
Date: **JANUARY 2021**

Drawing No:

S-9



PARALLEL CONSTRUCTION

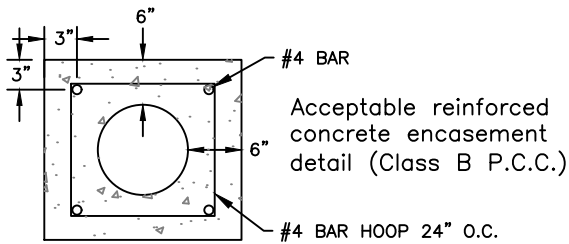


PERPENDICULAR CONSTRUCTION


NOTE: DIMENSIONS ARE FROM OUTSIDE OF WATER MAIN TO OUTSIDE OF SEWER. ALL CROSSINGS SHALL BE 90° WHERE POSSIBLE.

ZONE A: Sewer lines will not be permitted in this zone without the approval from the State Water Resources Control Board.

ZONE B: Sewer lines per City Standards are allowed in this zone.



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Public Works Director

No	Revised	Date

CITY OF LATHROP
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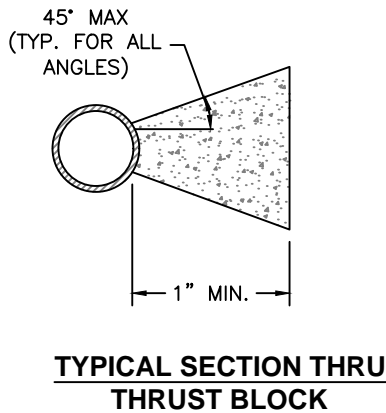
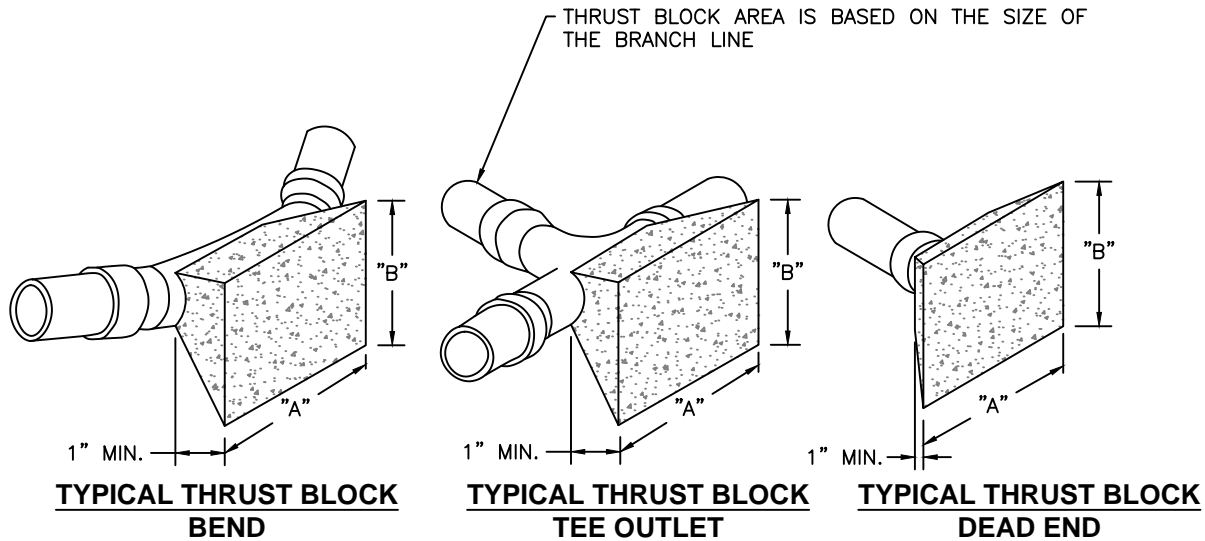
**WATER-SEWER
SEPARATION STANDARDS**



**STANDARD
DETAIL**

Date: **JANUARY 2021**

Drawing No:
W-1




THRUST BLOCK AREA REQUIRED		
FITTINGS	ALLOWABLE SOIL BEARING 1000 LBS. PER SQ. FT.	
	"A"	"B"
6" LINE OR SMALLER		
22 1/2"	1'-6"	1'-6"
45°	2'-0"	2'-0"
90°	3'-0"	2'-6"
TEE OUTLET	2'-6"	2'-0"
DEAD END	2'-6"	2'-0"
8" LINE		
22 1/2"	2'-0"	2'-0"
45°	3'-0"	2'-6"
90°	4'-0"	3'-0"
TEE OUTLET	3'-0"	3'-0"
DEAD END	3'-0"	3'-0"
10" LINE		
22 1/2"	3'-0"	2'-0"
45°	3'-6"	3'-0"
90°	5'-0"	4'-0"
TEE OUTLET	4'-0"	3'-6"
DEAD END	4'-0"	3'-6"
12" LINE		
22 1/2"	3'-0"	3'-0"
45°	4'-0"	4'-0"
90°	7'-0"	4'-0"
TEE OUTLET	5'-0"	4'-0"
DEAD END	5'-0"	4'-0"

NOTES:

1. All thrust blocks shall be poured against undisturbed soil.
2. Restraint system for vertical pipe bends shall be approved by the City Engineer.
3. Thrust restraint systems for pipes larger than 12" shall be designed on a case by case basis and shall be approved by the City Engineer.
4. Concrete shall be 3,000 PSI.
5. No concrete shall be placed within 4 inches of flanged, bolted joints.

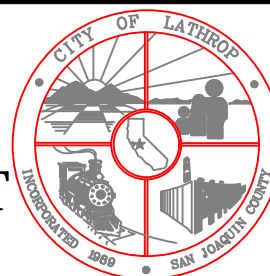
NOT TO SCALE

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City Of Lathrop
Public Works Director

No	Revised	Date

CITY OF LATHROP
DEPARTMENT OF PUBLIC WORKS



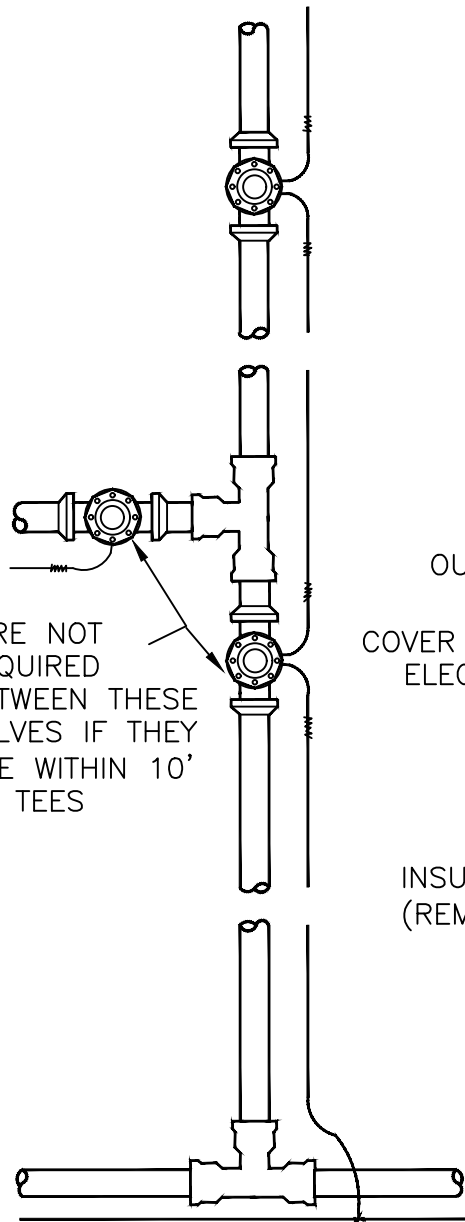
THRUST BLOCK CHART

**STANDARD
DETAIL**

Date: **JANUARY 2021**

Drawing No:

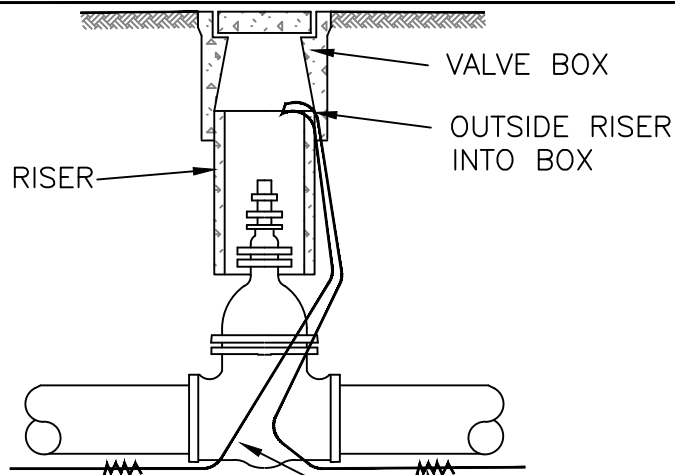
W-2



TYPICAL LAYOUT

NOTES:

1. Wire to be continuous between valve boxes, except as noted.
2. Bare wire not to touch metal valves or fittings.
3. Locating wire to be laid at top of pipe.
4. Provide access box for tracer wire where no valves located within 250'.

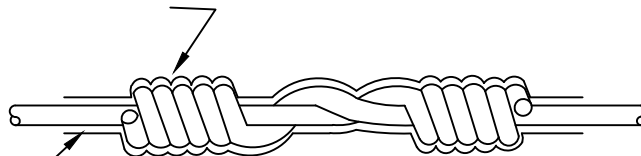


#10 AWG, SINGLE STRAND, SOFT DRAWN COPPER WIRE; 4/64" POLYVINYL CHLORIDE INSULATION OUTSIDE OF VALVE RISER AND INTO THE VALVE BOX

SEE DETAIL BELOW

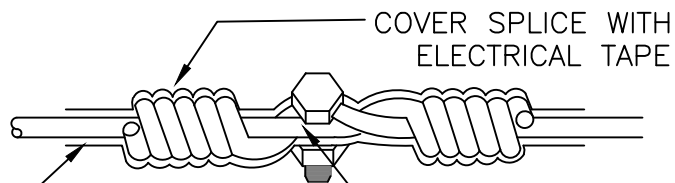
VALVE DETAIL

COVER SPLICE WITH ELECTRICAL TAPE



INSULATED INTO BOX (REMOVE AT SPLICE)

SPLICE DETAIL 1



INSULATED INTO BOX (REMOVE AT SPLICE) SPLIT BOLT TO BE COPPER

SPLICE DETAIL 2

NOT TO SCALE

Approved by:

City Of Lathrop Public Works Director		
No	Revised	Date

CITY OF LATHROP
DEPARTMENT OF PUBLIC WORKS

**LOCATOR WIRE
INSTALLATION**

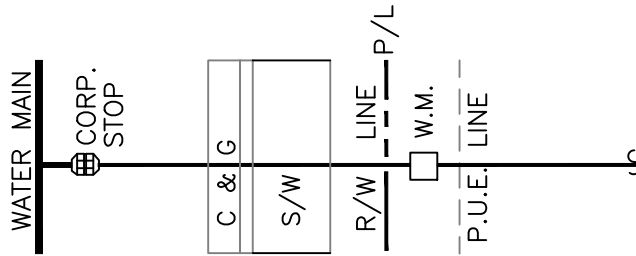


**STANDARD
DETAIL**

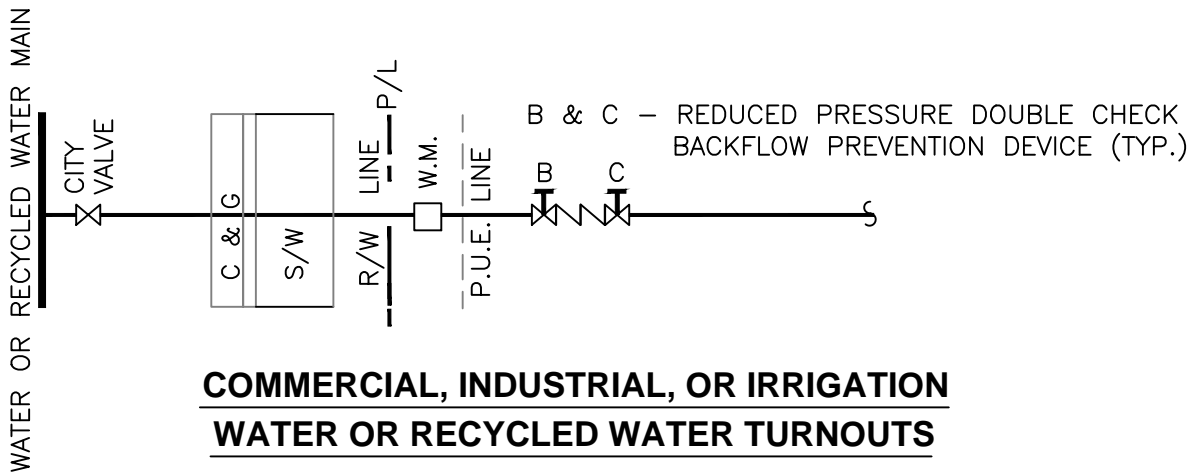
Date: **JANUARY 2021**

Drawing No:

W-3



RESIDENTIAL WATER TURNOUTS




**COMMERCIAL, INDUSTRIAL, OR IRRIGATION
WATER OR RECYCLED WATER TURNOUTS**

NOTE:

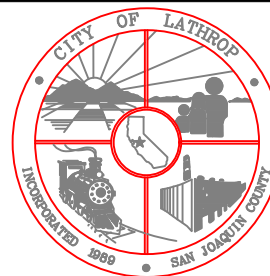
1. Backflow prevention device shall be FEBCO Model 860 or equal.
2. Meter shall be placed in streetright-of-way if there is no public utility easement (P.U.E).
3. Recycled water turnouts shall have proper signage, identification painting, and markings as required by the Recycled Water System Standards.
4. Backflows shall be painted as follow: potable water – blue, irrigation – green, recycled water – purple.

NOT TO SCALE

Approved by:		
		
City Of Lathrop Public Works Director		
No	Revised	Date

CITY OF LATHROP
DEPARTMENT OF PUBLIC WORKS

**WATER AND RECYCLED
WATER TURNOUTS**

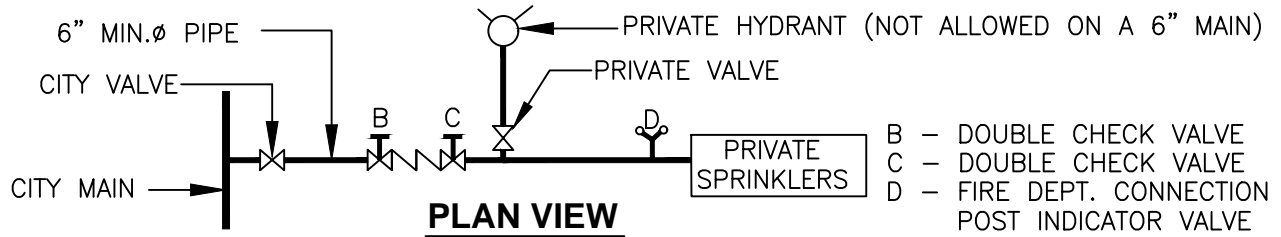


**STANDARD
DETAIL**

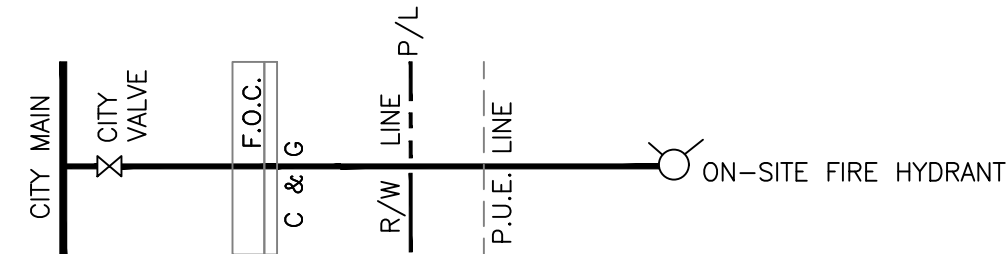
Date: **JANUARY 2021**

Drawing No:

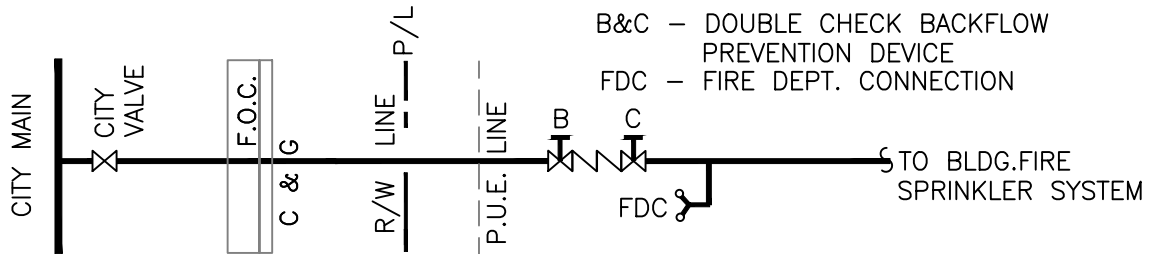
W-4



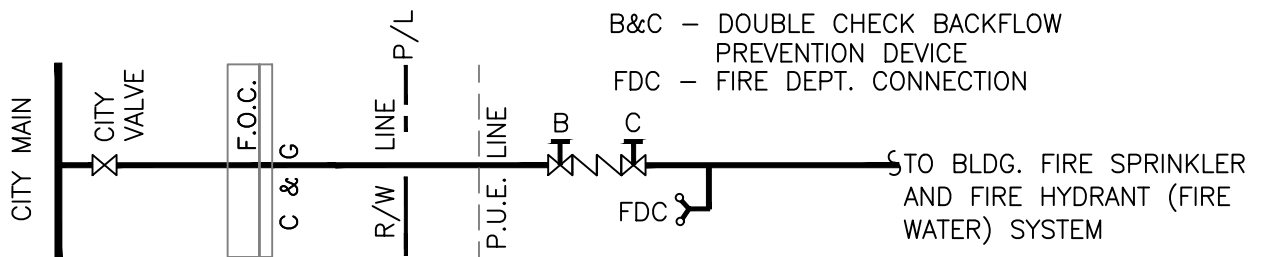
PLAN VIEW
SINGLE CONNECTION TO MAIN



ON-SITE FIRE HYDRANT
FIRE WATER LINE



ON-SITE BLDG
FIRE SPRINKLER SYSTEM LINE




DUAL ON-SITE
FIRE HYDRANT AND
BLDG. FIRE SPRINKLER SYSTEM

NOTES:

1. All backflow prevention devices shall be double check valve with no reduced pressure.
2. Check City approved backflow preventor list for approved brands and models.

NOT TO SCALE

Approved by: 

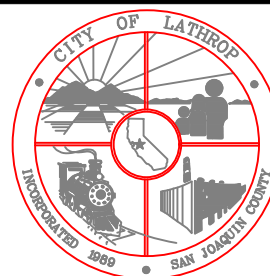
City Of Lathrop
Public Works Director

No	Revised	Date

CITY OF LATHROP
DEPARTMENT OF PUBLIC WORKS

FIRE SERVICE

SCHEMATIC DIAGRAMS

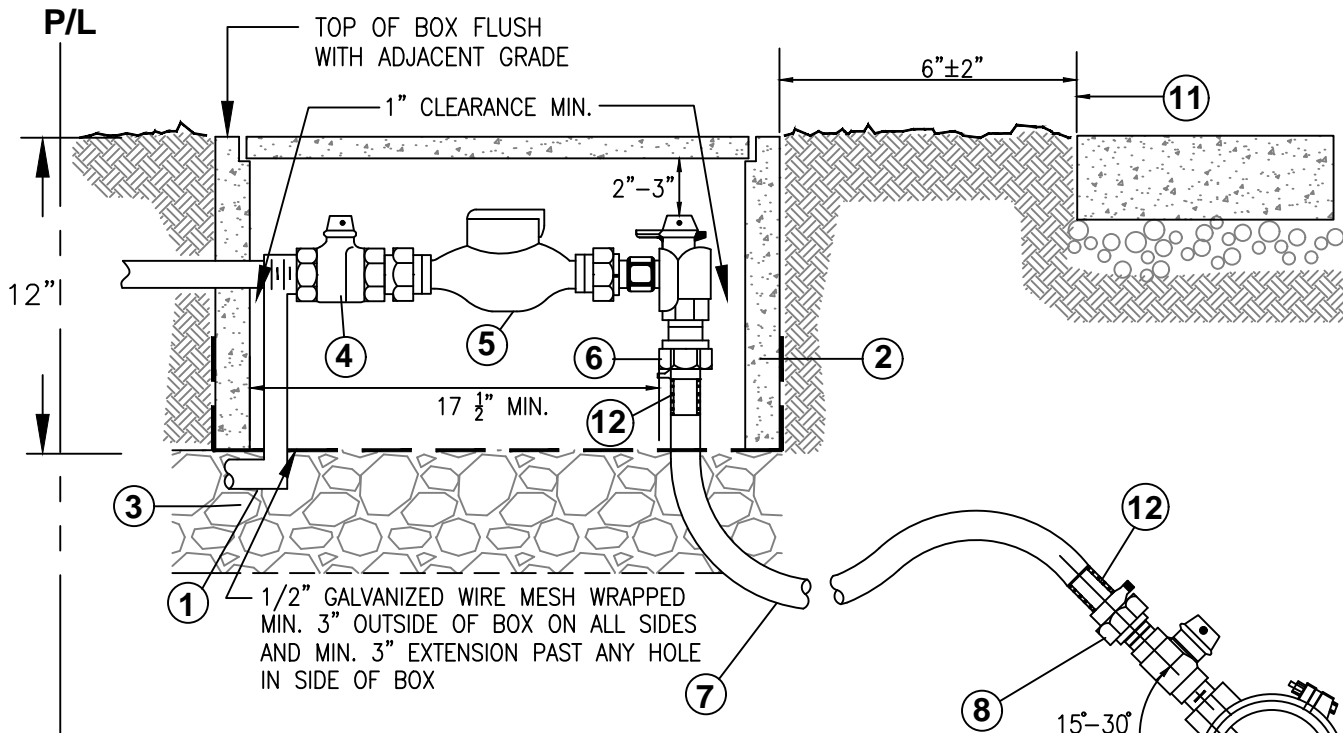


STANDARD
DETAIL

Date: **JANUARY 2021**

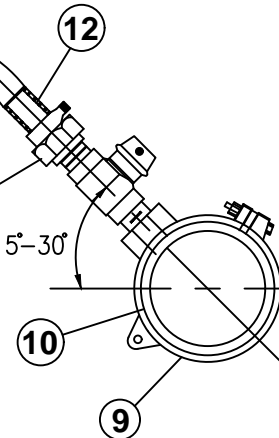
Drawing No:

W-5



DRAWING DETAILS:

1. 2 foot, schedule 80 threaded PVC nipple.
2. Meter box shall be manufactured by Christy with fibrelite lid or approved equal (see chart for type). Cleanouts and meters shall not be located in driveways. In cases were meters are approved in vehicle paths, meter box shall be equivalent Christy traffic rated box or approved equal.
3. 3/4" clean crushed rock, 1 foot deep and flush with bottom of meter box.
4. Meter stop, full port ball valve only (with handle).
5. Meters shall be per latest standard specifications. Meters shall be furnished by city's maintenance division at owner's cost upon establishment of water account for lot serviced. Install 7 1/2" spacer for (5/8" x 3/4") meter, 10 3/4" spacer for (1") meter during initial construction. 5/8" holes shall be drilled in spacer.
6. Angle meter stop, full port ball valve only, lockable.
7. Polyethylene service line. See construction drawings for sizing, 1-1/2" min (typ.).
8. Corporation stop (Ford F-600 or approved equal).
9. Bronze or brass service saddle required for PVC mains, direct taps are not acceptable for ductile iron.
10. Water or recycled water main.
11. Back of city sidewalk.
12. Stainless steel stiffeners.




METER BOX AND LID TYPE		
METER	BOX	LID
1"	B-16	FL16D
1 1/2"	B-30	FL30D

NOTES:

1. Service pipe to be continuous (no joints) between main and angle meter stop unless approved by city engineer.
2. The location of the service saddle shall be a min of 24" from another service saddle, bell, spigot, or other fitting.
3. Meter box may be placed adjacent to property or easement line with prior approval of the city engineer.
4. Place #10 gauge solid soft drawn copper wire along service line with accessibility from meter box.
5. Tap to water main shall be made by the city approved contractor at owner's cost.
6. Commercial/industrial service installation will be approved on case by case basis.
7. For meters larger than 1", meter box and lid shall be submitted to city for review.

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Approved by: 

City Of Lathrop
Public Works Director

No	Revised	Date

CITY OF LATHROP
DEPARTMENT OF PUBLIC WORKS

RESIDENTIAL SERVICE
INSTALLATIONS

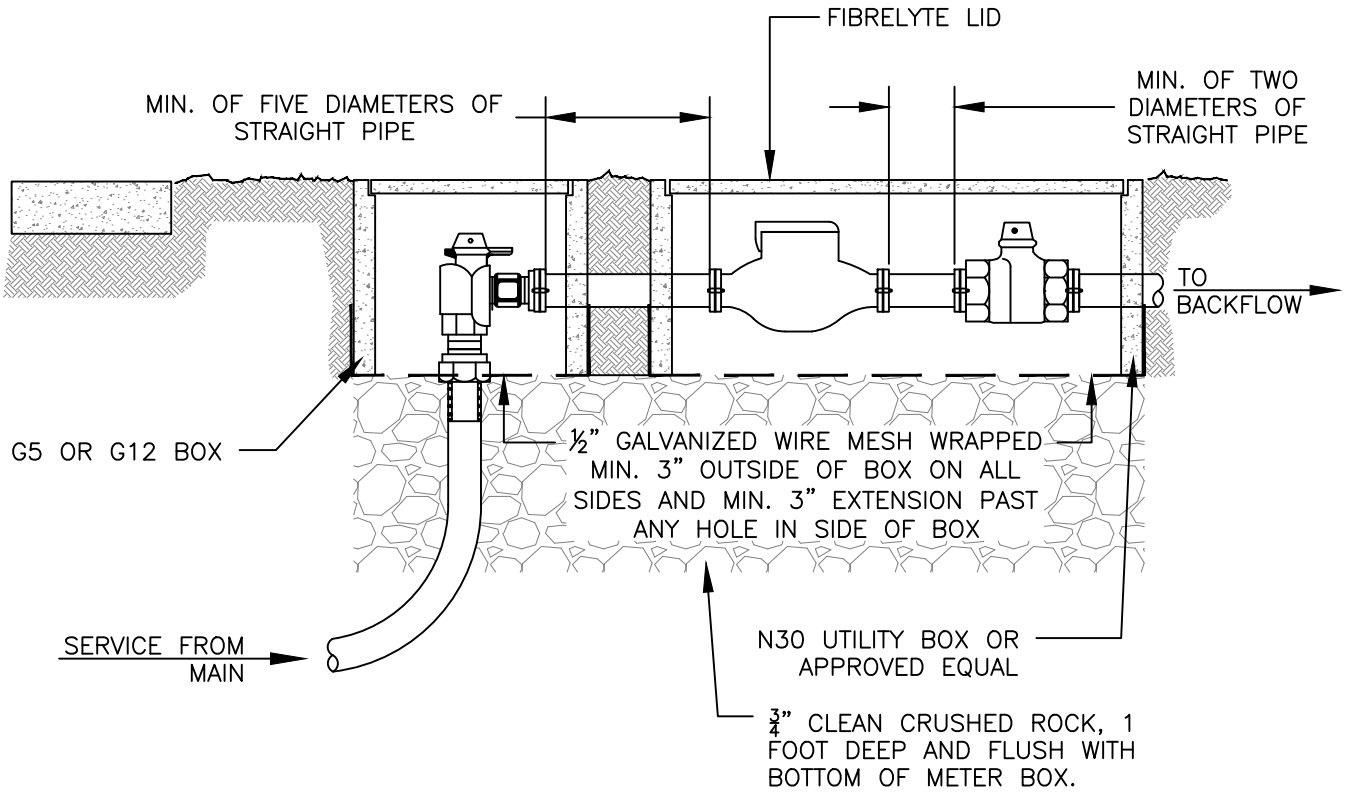


STANDARD
DETAIL


Date: **JANUARY 2021**

Drawing No:
W-6

REFER TO NOTES ON STANDARD DETAIL W-6



NOT TO SCALE

Approved by: 

City Of Lathrop
Public Works Director

No	Revised	Date

CITY OF LATHROP
DEPARTMENT OF PUBLIC WORKS

**COMMERCIAL AND INDUSTRIAL
SERVICE INSTALLATION**

1 1/2 INCH TO 2 INCH



**STANDARD
DETAIL**

Date: **JANUARY 2021**

Drawing No:

W-7

USE 1/2" X 18" FIBERGLASS ROD

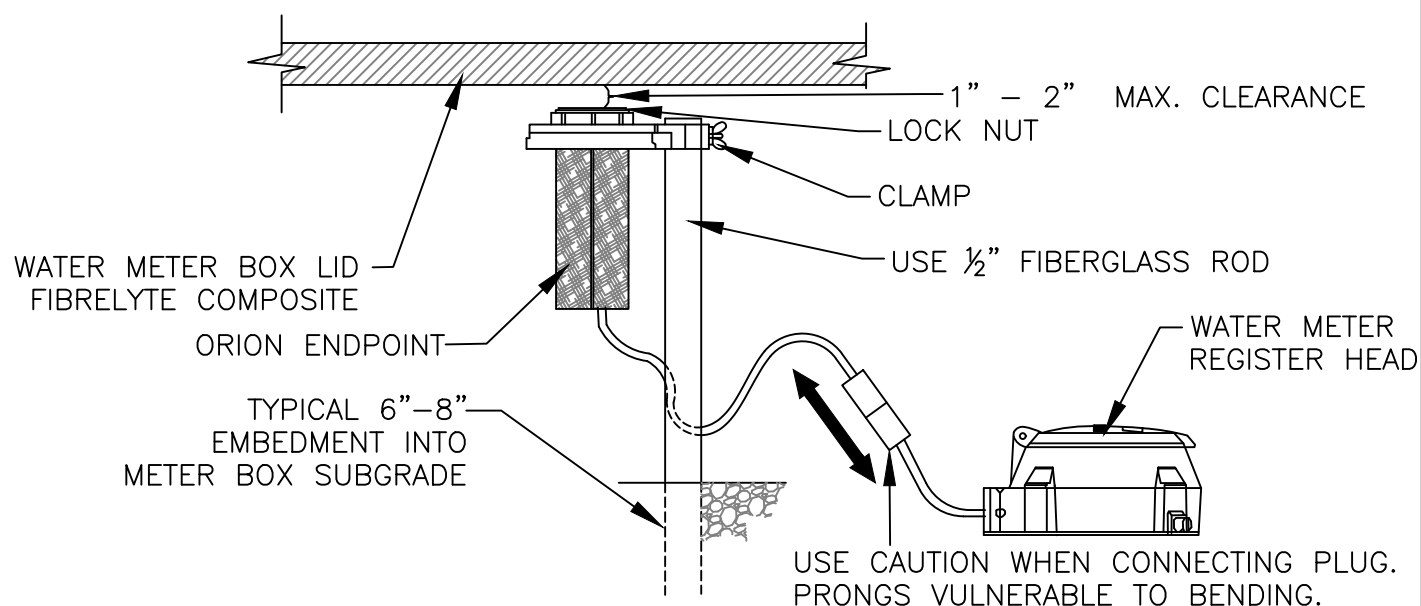
#6-32 WING NUT

#6 WASHER

#6-32 X 3/4 HEX HEAD BOLT

SUPPORT BRACKET

PIT SUPPORT BRACKET (KNUCKLES) - TOP VIEW



PIT ORION BENEATH LID INSTALLATION - SIDE VIEW

Installation of ORION ENDPOINT below a meter pit lid.

1. Drive rod into the ground prior to attaching the endpoint to avoid damage.
2. Once in the ground, secure the mounting bracket on the rod using the enclosed washer, wing nut and hex head bolt provided with bracket.
3. Insert the endpoint through the bottom of the bracket and thread the lock nut onto the top of the endpoint. Mount the endpoint a maximum of one to two inches below the underside of the lid.

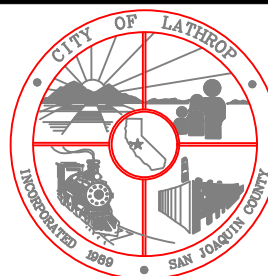
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Approved by:

City Of Lathrop
Public Works Director

No	Revised	Date

CITY OF LATHROP
DEPARTMENT OF PUBLIC WORKS
REMOTE READ
END-POINT-TRANSMITTER
INSTALLATION

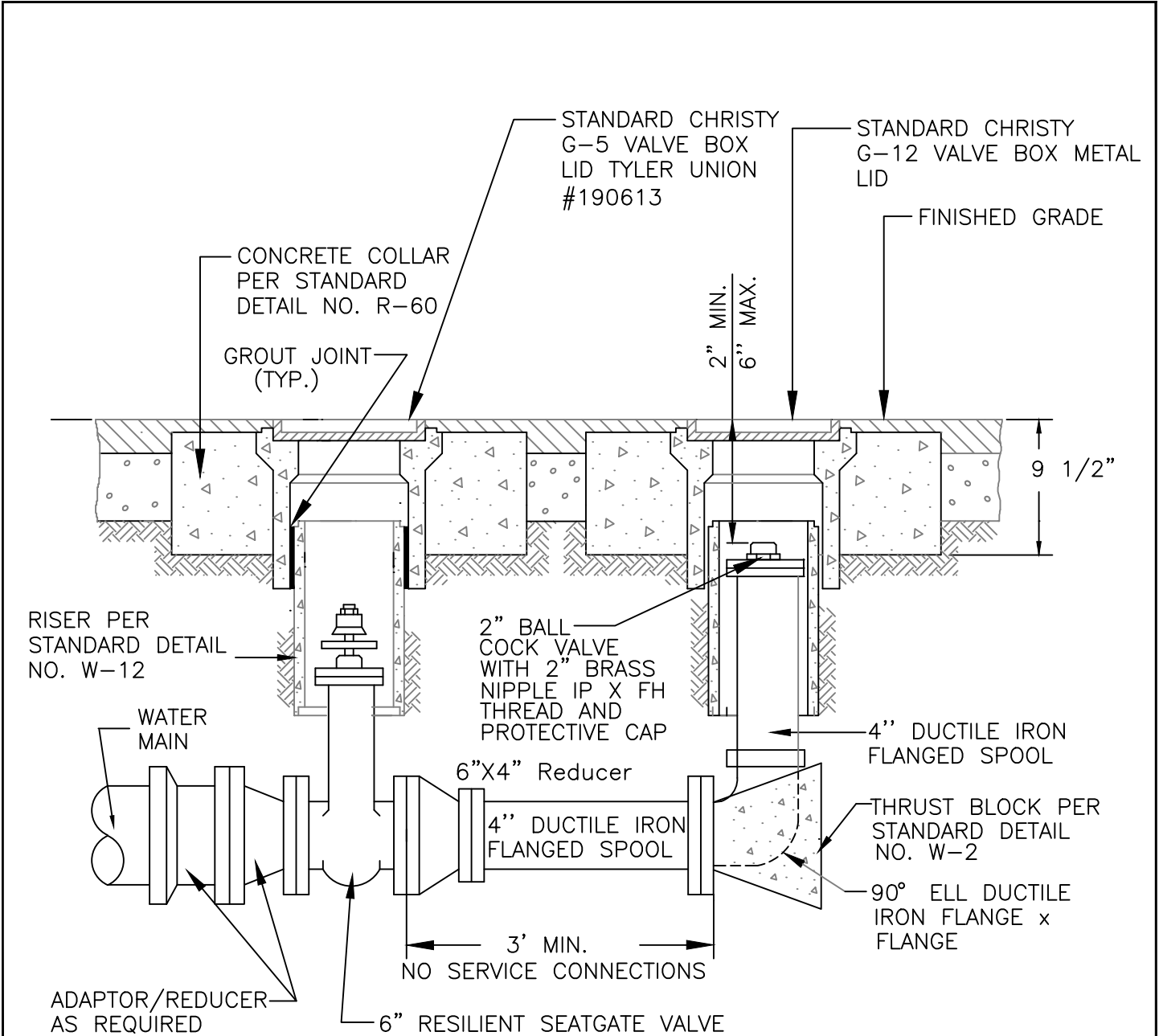


STANDARD
DETAIL

Date: **JANUARY 2021**

Drawing No:


W-8



NOTES:

1. Blow-off shall be used at all dead end lines except for cul-de-sacs.
2. No concrete or other obstruction within 4" of flanges.
3. Valve stem extension shall be used to comply with 5' max. distance from grade to nut.
4. Trace wire shall be used.
5. Blow-off shall be installed 5' from face of curb unless alternative location is approved by City Engineer.
6. All joints to be wrapped with 10 mil. PVC and tape.
7. Temporary blow-off allowed with approval of City Engineer.
8. All bolts must be stainless steel 316.

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Approved by: 

City Of Lathrop
Public Works Director

No	Revised	Date

CITY OF LATHROP
DEPARTMENT OF PUBLIC WORKS

WATER SYSTEM
BLOW - OFF



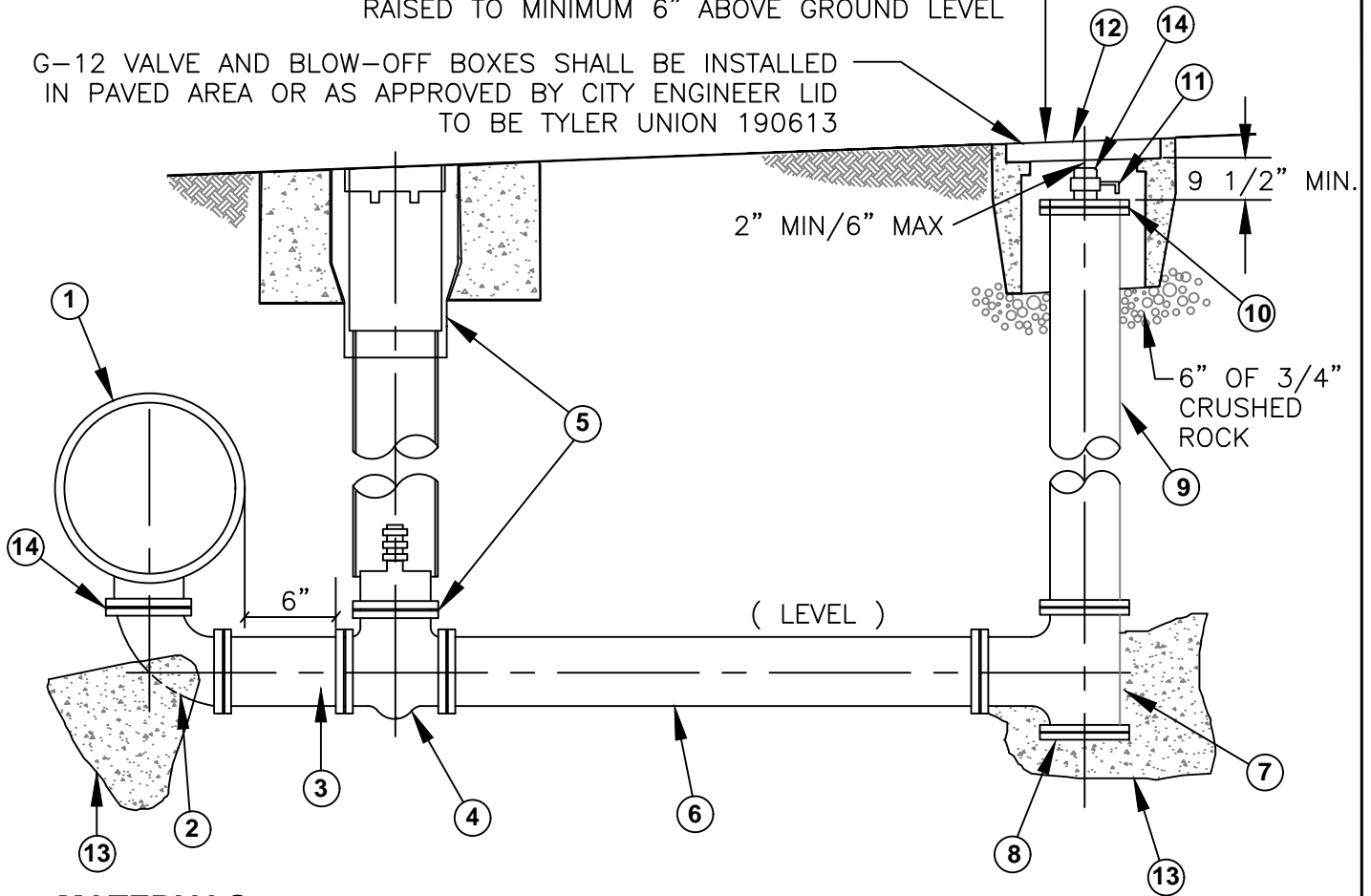
STANDARD
DETAIL

Date: **JANUARY 2021**

Drawing No:
W-9

IN UNPAVED AREAS, TOP OF BLOW OFF VALVE SHALL BE RAISED TO MINIMUM 6" ABOVE GROUND LEVEL

G-12 VALVE AND BLOW-OFF BOXES SHALL BE INSTALLED IN PAVED AREA OR AS APPROVED BY CITY ENGINEER LID TO BE TYLER UNION 190613




MATERIALS:

- ① PIPE DIA. x 6" D.I. TEE, FLANGED
- ② 6" D.I. 90° ELL, FLG.x FLG.
- ③ 6" x AS REQ'D D.I. SPOOL
- ④ 6" RESILENT SEAT GATE VALVE, FLG.x FLG.
- ⑤ VALVE AND VALVE BOX INSTALLATION PER STANDARD DETAIL NO. W-12
- ⑥ 6" x AS REQ'D FLG. x FLG. D.I. PIPE
- ⑦ 6" x 6" D.I. TEE FLG. x FLG. x FLG.
- ⑧ 6" D.I. BLIND FLANGE
- ⑨ 6" x AS REQ'D D.I. PIPE
- ⑩ 6" BLIND FLANGE WITH 2" TAP
- ⑪ 2" BRASS NIPPLE AND 2" BALL VALVE, I.P. THREAD
- ⑫ VALVE BOX PER STANDARD DETAIL NO. W-12 WITH CAST IRON TRAFFIC LIDS
- ⑬ THRUST BLOCKS PER STANDARD DETAIL NO. W-2
- ⑭ 2" BRASS NIPPLE, I.P. THREAD x FH THREAD, WITH PROTECTIVE CAP

ABBREVIATIONS

- D.I. DUCTILE IRON
- ELL ELBOW
- FLG. FLANGE
- I.P. INTERNAL PIPE
- F.H. FIRE HOSE

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City Of Lathrop
Public Works Director

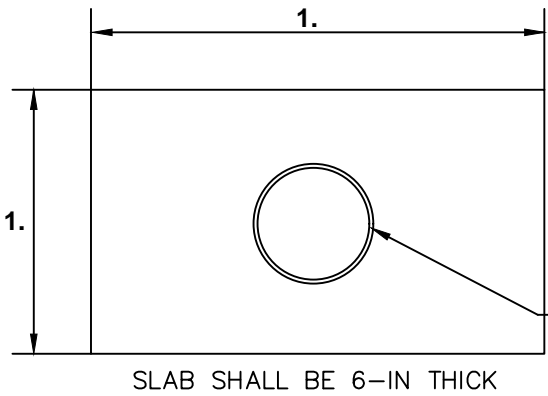
No	Revised	Date

CITY OF LATHROP
DEPARTMENT OF PUBLIC WORKS
WATER SYSTEM
BLOW - OFF
6" LINE DRAIN ASSEMBLY



**STANDARD
DETAIL**

Date: **JANUARY 2021**
Drawing No:
W-10

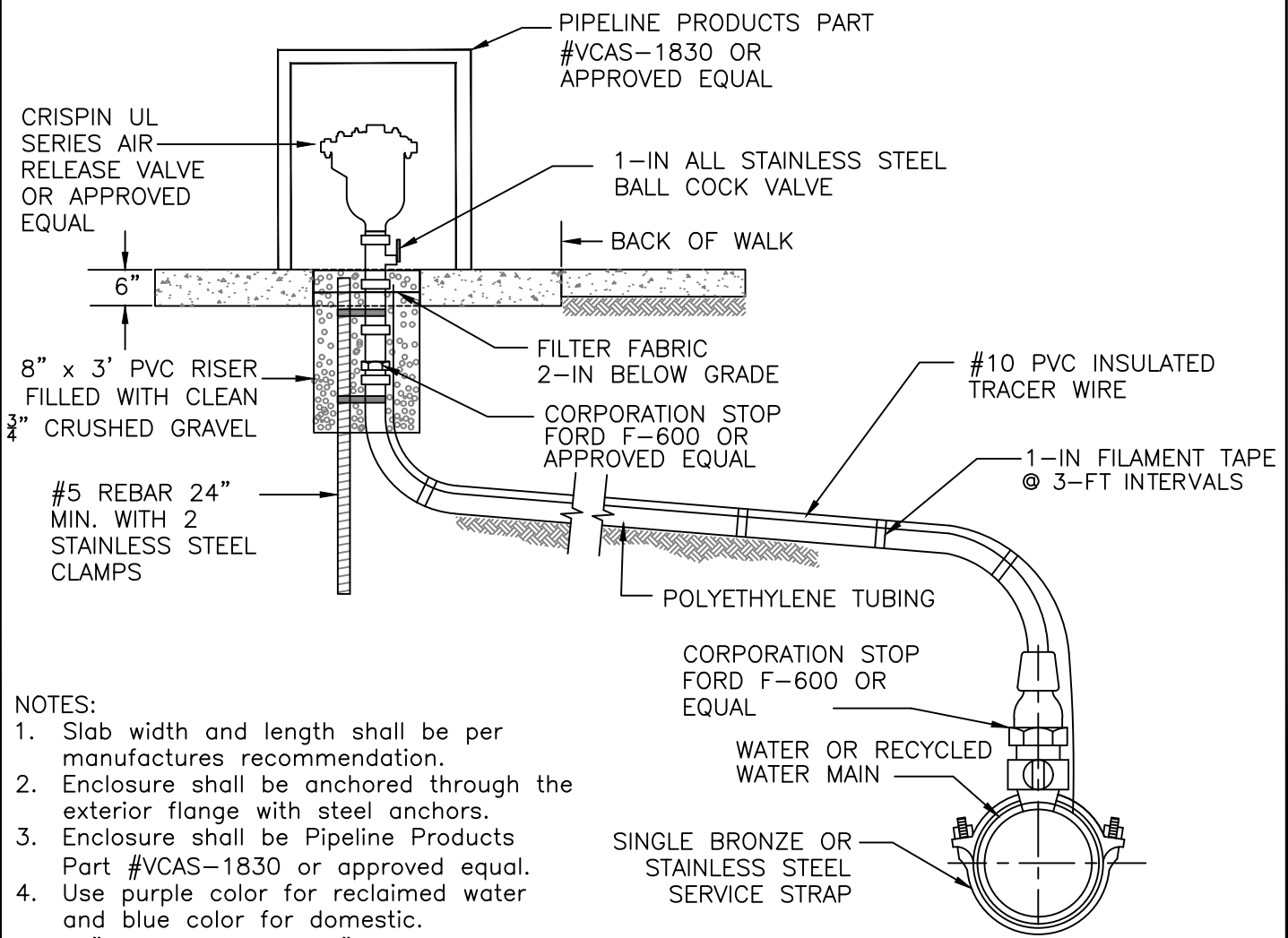


ENCLOSURE DETAILS:

1. FOR POTABLE WATER USE BLUE: PART # VCAS-1830-BL
2. FOR RECYCLED WATER USE PURPLE: PART # VCAS-1830-PR
3. FOR SEWER USE GREEN: PART #VCAS-1830-GR

SLOPE
CONCRETE
TOWARDS
DRAIN
RISER

SLAB SHALL BE 6-IN THICK



NOTES:

1. Slab width and length shall be per manufactures recommendation.
2. Enclosure shall be anchored through the exterior flange with steel anchors.
3. Enclosure shall be Pipeline Products Part #VCAS-1830 or approved equal.
4. Use purple color for reclaimed water and blue color for domestic.
5. 12" and above, use 2" service and ARV

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City Of Lathrop
Public Works Director

No	Revised	Date

CITY OF LATHROP
DEPARTMENT OF PUBLIC WORKS

**DOMESTIC AND RECLAIMED
AIR RELEASE VALVE**

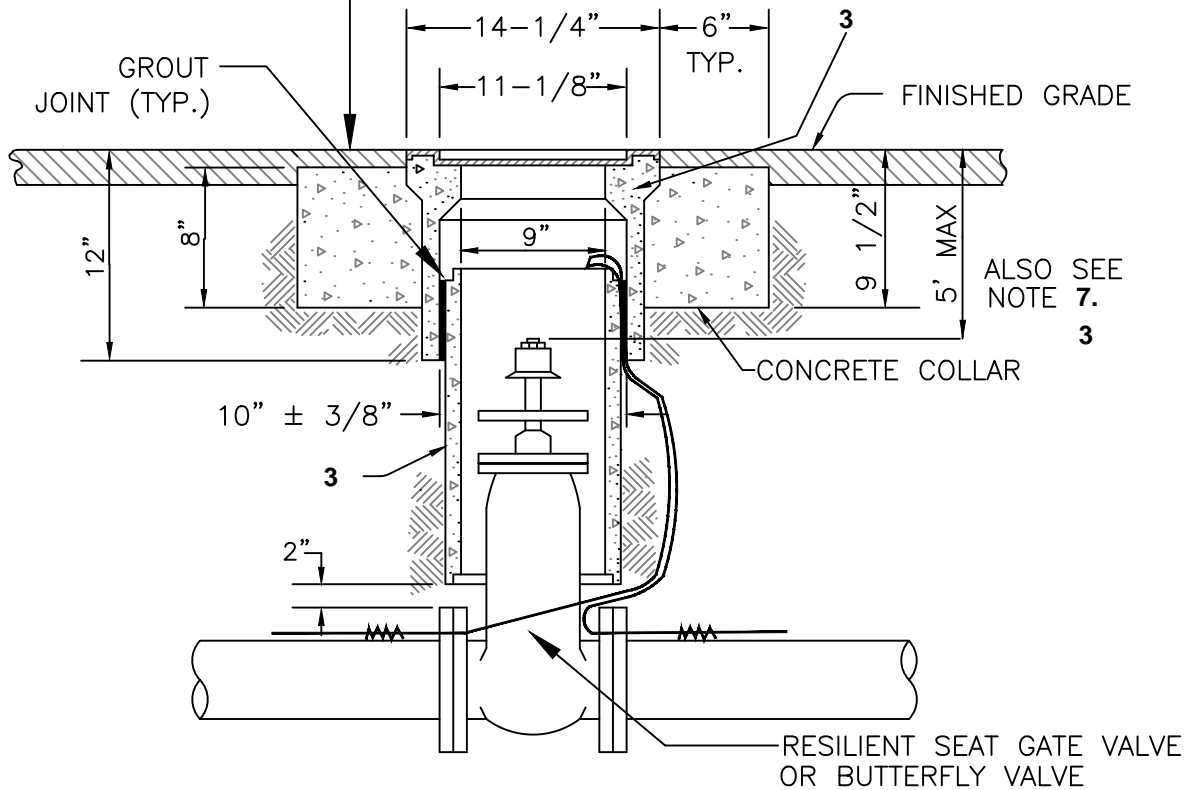


**STANDARD
DETAIL**

Date: **JANUARY 2021**

Drawing No:
W-11

ADJUST BOX TO GRADE PER CITY
STANDARD DETAIL NO. R-60.



ALSO SEE
NOTE 7.
3

NOTES:

1. Valve box shall be Christy no. G5 or equal as approved by the city engineer. Lid shall be Tyler Union #190613.
2. All lids shall be machined seating surface cast iron. Recycled water valve box lids to be heavy-duty, triangular in shape, and colored purple (Pantone 512) with language shown on standard detail No. R-61
3. Valve box riser to be one continuous piece and centered on valve unless otherwise approved by City Engineer. Shall be 8" ϕ , class 150 PVC (use C900) purple for lake fill, non-potable water, recycled water and blue only for potable water. See note 4.
4. Alternative valve box and risers may be used where approved by the City Engineer.
5. Concrete collar not required when valve box is located in concrete sidewalk area.
6. Valve operator extension shall be required when valve nut is deeper than 6' from finish grade, refer to standard detail no W-13.
7. Trace wire shall be used, refer to standard detail No. W-3.
8. Resilient seat gate valves shall comply with AWWA Standard W509. Butterfly valves shall comply with AWWA Standard C504.
9. Trace wire must be tested for continuity.

NOT TO SCALE

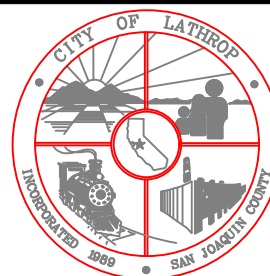
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City Of Lathrop
Public Works Director

No	Revised	Date

CITY OF LATHROP
DEPARTMENT OF PUBLIC WORKS

VALVE BOX

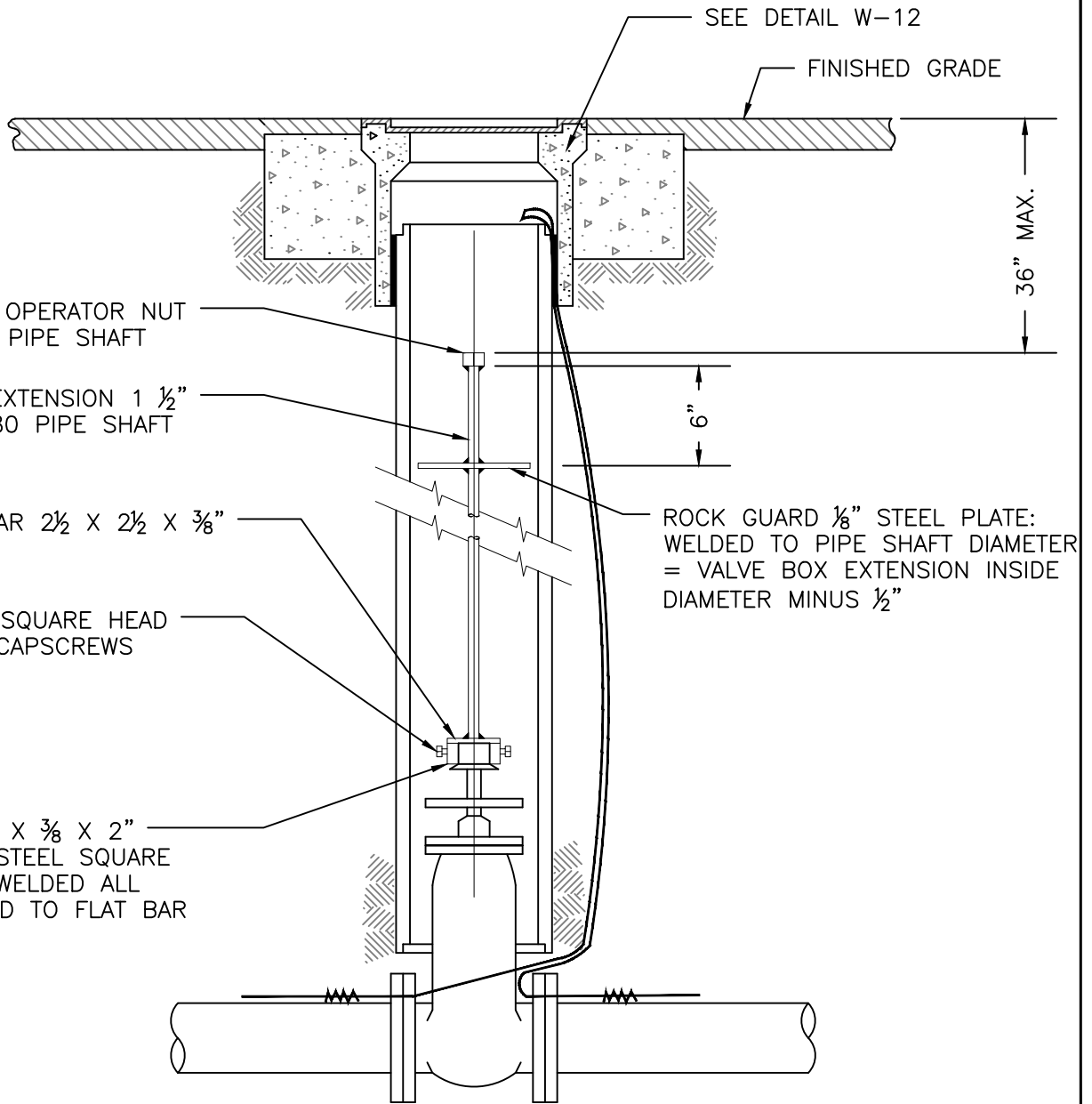


**STANDARD
DETAIL**

Date: **JANUARY 2021**

Drawing No:

W-12



2" SQUARE OPERATOR NUT
WELDED TO PIPE SHAFT

OPERATOR EXTENSION 1 1/2"
SCHEDULE 80 PIPE SHAFT

FLAT BAR 2 1/2 X 2 1/2 X 3/8"

3/8 X 3/4" SQUARE HEAD
CUPPED CAPSCREWS

3 X 3 X 3/8 X 2"
LONG STEEL SQUARE
TUBE WELDED ALL
AROUND TO FLAT BAR

SEE DETAIL W-12

FINISHED GRADE

36" MAX.

6"

ROCK GUARD 1/8" STEEL PLATE:
WELDED TO PIPE SHAFT DIAMETER
= VALVE BOX EXTENSION INSIDE
DIAMETER MINUS 1/2"

NOTES:

1. Operator extension required when valve nut is deeper than 6' from grade.
2. Center valve box on axis of operator nut
3. Welds shall be minimum 1/4" all around.
4. Hot dip galvanize operator extension after fabrication.

NOT TO SCALE

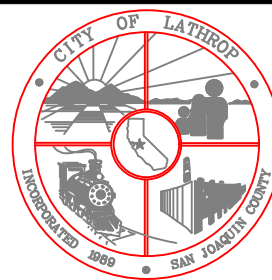
Approved by:

City Of Lathrop
Public Works Director

No	Revised	Date

CITY OF LATHROP
DEPARTMENT OF PUBLIC WORKS

**VALVE OPERATOR
EXTENSION**

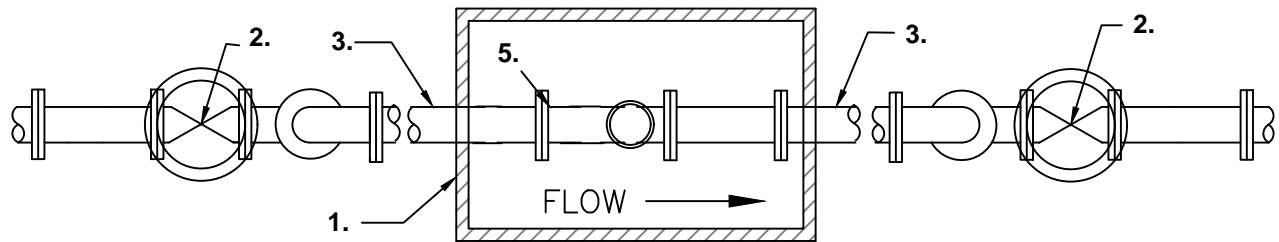


**STANDARD
DETAIL**

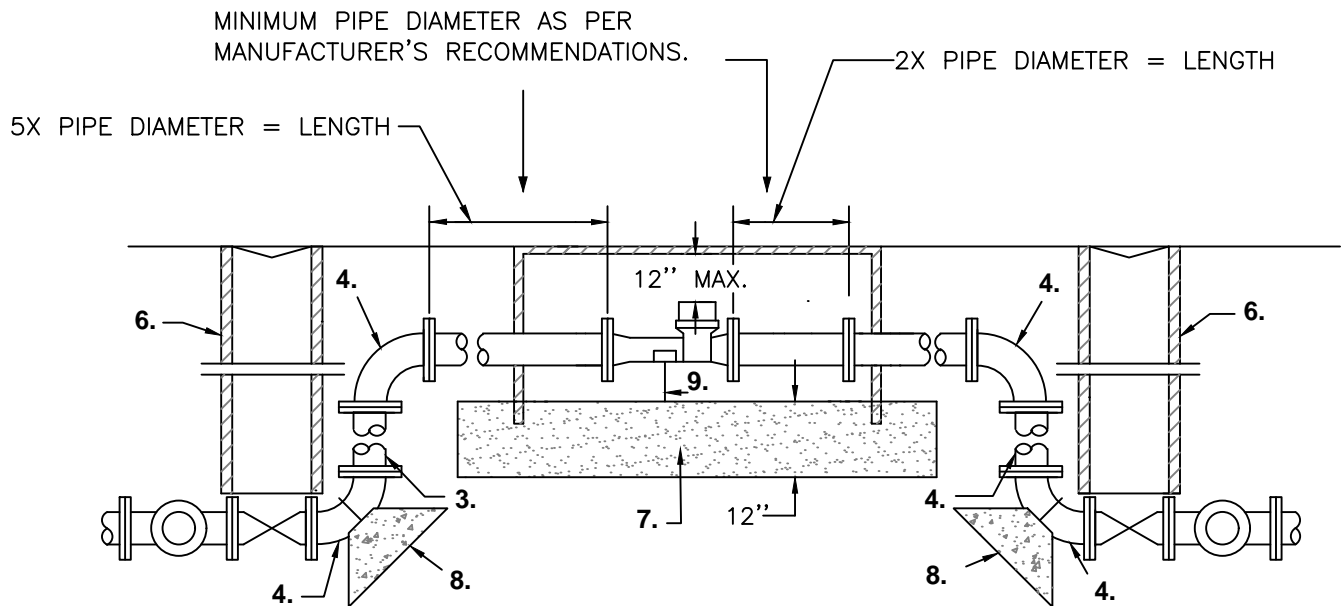
Date: **JANUARY 2021**

Drawing No:

W-13




PLAN



NOTES:

1. SEE COMPONENTS LIST AND NOTES ON W-14A

NOT TO SCALE

Approved by: 

City Of Lathrop
Public Works Director

No	Revised	Date

CITY OF LATHROP
DEPARTMENT OF PUBLIC WORKS

**LAYOUT FOR 3" OR
LARGER METER**



**STANDARD
DETAIL**

Date: **JANUARY 2021**

Drawing No:

W-14


COMPONENTS FOR 3" OR LARGER METER INSTALLATIONS

1. SIZE OF METER VAULT SHALL BE DETERMINED BY METER SIZE AND SHALL PROVIDE SUFFICIENT SPACE TO OPERATE WRENCHES ON ASSEMBLY BOLTS. WHEN METER VAULT IS PLACED IN A VEHICULAR AREA, BOTH VAULT AND LID SHALL BE H20 TRAFFIC RATED AND ENDPOINT TRANSMITTER SHALL BE INSTALLED IN A SEPARATE VALVE BOX WITH FIBERLYTE COMPOSITE LID IN A NON-VEHICULAR AREA. USE 3/4" SCH. 40 PVC CONDUIT (WITH A MINIMUM COVER OF 18") FOR WIRE SPLICE IN WATER METER BOX USING BADGER 308 CONNECTOR. ENDPOINT TRANSMITTER VALVE BOX LOCATION SHALL BE APPROVED BY THE CITY ENGINEER.
2. GATE VALVE – PER CITY STANDARD.
3. CLASS 125 DUCTILE IRON PIPE SPOOL.
4. CLASS 125 DUCTILE IRON PIPE 90° LONG RADIUS ELBOW.
5. METER AS SPECIFIED BY CITY.
6. VALVE BOX PER CITY STANDARD DETAIL NO. W-12.
7. 3/8" MAXIMUM GRAVEL BASE. 12" MINIMUM DEPTH.
8. THRUST BLOCKS – CITY STANDARD DETAIL NO. W-2.
9. METER AND PIPE SUPPORTS AS REQUIRED.

NOTES:

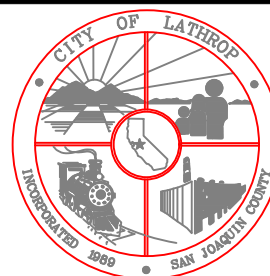
- A. DETAILED DRAWING WILL BE REQUIRED AND SHALL BE APPROVED BY THE CITY ENGINEER PRIOR TO INSTALLATION.
- B. CONTRACTOR TO CONSULT WITH CITY'S SPECIFICATIONS FOR APPROPRIATE METERS, VALVES AND APPURTENANCES.
- C. USE STAINLESS STEEL 316 BOLTS WITH ANTI-SEIZE ON THE THREADS.
- D. BURIED METAL/VALVE ASSEMBLIES TO BE WRAPPED IN PLASTIC.

NOT TO SCALE

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City Of Lathrop Public Works Director		
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CITY OF LATHROP
DEPARTMENT OF PUBLIC WORKS

**LAYOUT FOR 3" OR
LARGER METER NOTES**

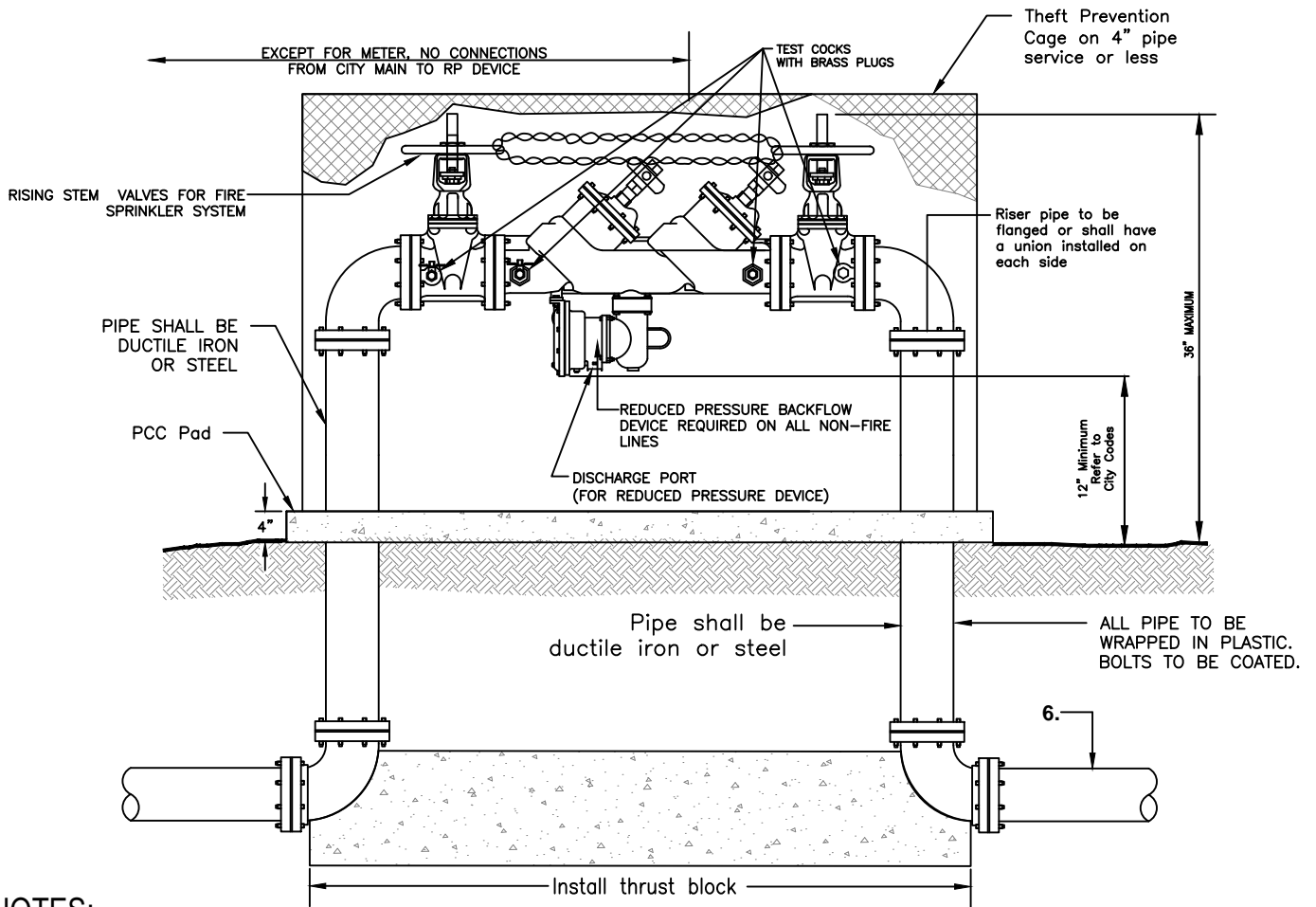


**STANDARD
DETAIL**

Date: **JANUARY 2021**

Drawing No:


W-14A



NOTES:

1. Installed device shall be Febco Model LF 860 large diameter or approved equal.
2. Device shall be installed above ground.
3. Test cocks and shut-off valves must be supplied and installed as shown.
4. Discharge port must be kept clear of obstruction at all times, 12 inch min.
5. Any deviation from the installation shown above must receive prior approval.
6. All piping and appurtenances shall be AWWA rated 150 psi.
7. Thrust blocks per Standard Detail No. W-2.
8. Insulation required to prevent freezing of exposed pipe shall be Polar Blanket or approved equal.
9. Valves shall be chain with a breakaway lock in an open position at all times.
10. All assemblies must be tested by a certified backflow prevention tester.
11. Installed device shall be painted medium blue for domestic, forest green for landscape, and screened with landscaping unless otherwise approved by City Engineer.
12. All underground ductile iron or steel pipe must be wrapped with a minimum of 10 mil. polywrap tape.
13. All bolts shall be stainless steel 316. Never Sieze shall be used on all threads.
14. All pipes to be plastic wrapped and bolts to be coated.
14. All assemblies must be tested by a certified backflow prevention tester and reports shall be sent to backflows@ci.lathrop.ca.us
15. See standard detail L-9 for temporary backflow preventer.

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**REDUCE PRESSURE
BACKFLOW DEVICE**

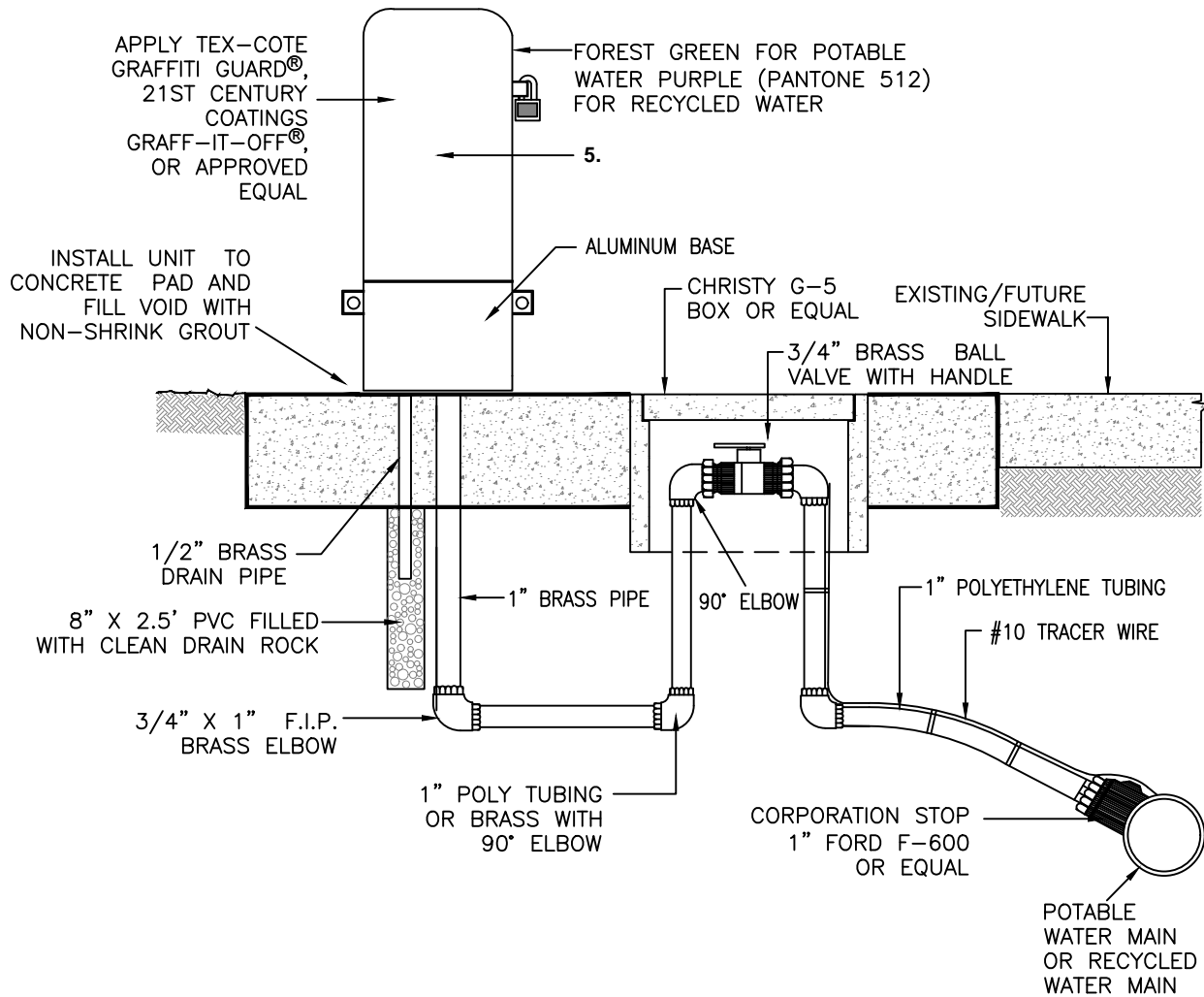


**STANDARD
DETAIL**

Date: **JANUARY 2021**

Drawing No:

W-15



APPLY TEX-COTE GRAFFITI GUARD®, 21ST CENTURY COATINGS GRAFF-IT-OFF®, OR APPROVED EQUAL

FOREST GREEN FOR POTABLE WATER PURPLE (PANTONE 512) FOR RECYCLED WATER

INSTALL UNIT TO CONCRETE PAD AND FILL VOID WITH NON-SHRINK GROUT

ALUMINUM BASE

CHRISTY G-5 BOX OR EQUAL

EXISTING/FUTURE SIDEWALK

3/4" BRASS BALL VALVE WITH HANDLE

1/2" BRASS DRAIN PIPE

8" X 2.5' PVC FILLED WITH CLEAN DRAIN ROCK

1" BRASS PIPE

90° ELBOW

1" POLYETHYLENE TUBING

#10 TRACER WIRE

3/4" X 1" F.I.P. BRASS ELBOW

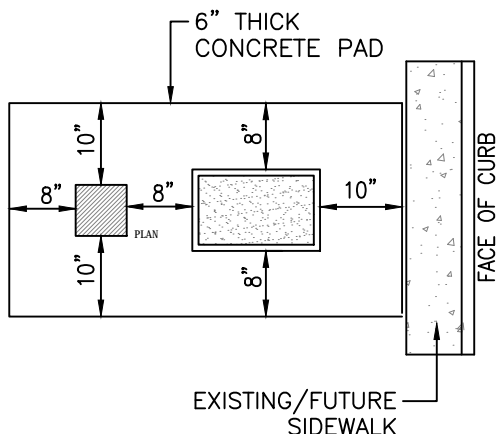
1" POLY TUBING OR BRASS WITH 90° ELBOW

CORPORATION STOP 1" FORD F-600 OR EQUAL

POTABLE WATER MAIN OR RECYCLED WATER MAIN

NOTES:

1. Sampling stations shall be 3' bury, with a 1" MIP inlet, and a 1/4" bent-nose sampling bib shall be located before the discharge.
2. All stations shall be enclosed in a lockable, nonremovable, aluminum-cast housing.
3. When opened, the station shall require no key for operation, and the water will flow in an all brass waterway.
4. All working parts will be of brass and serviceable from above ground with no digging. A 1/2" brass drain tube shall be provided within the locking cover.
5. Eclipse #88WC or equal sampling station (See Standard Detail No. W-17).
6. All materials should be lead-free.



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**STANDARD
DETAIL**

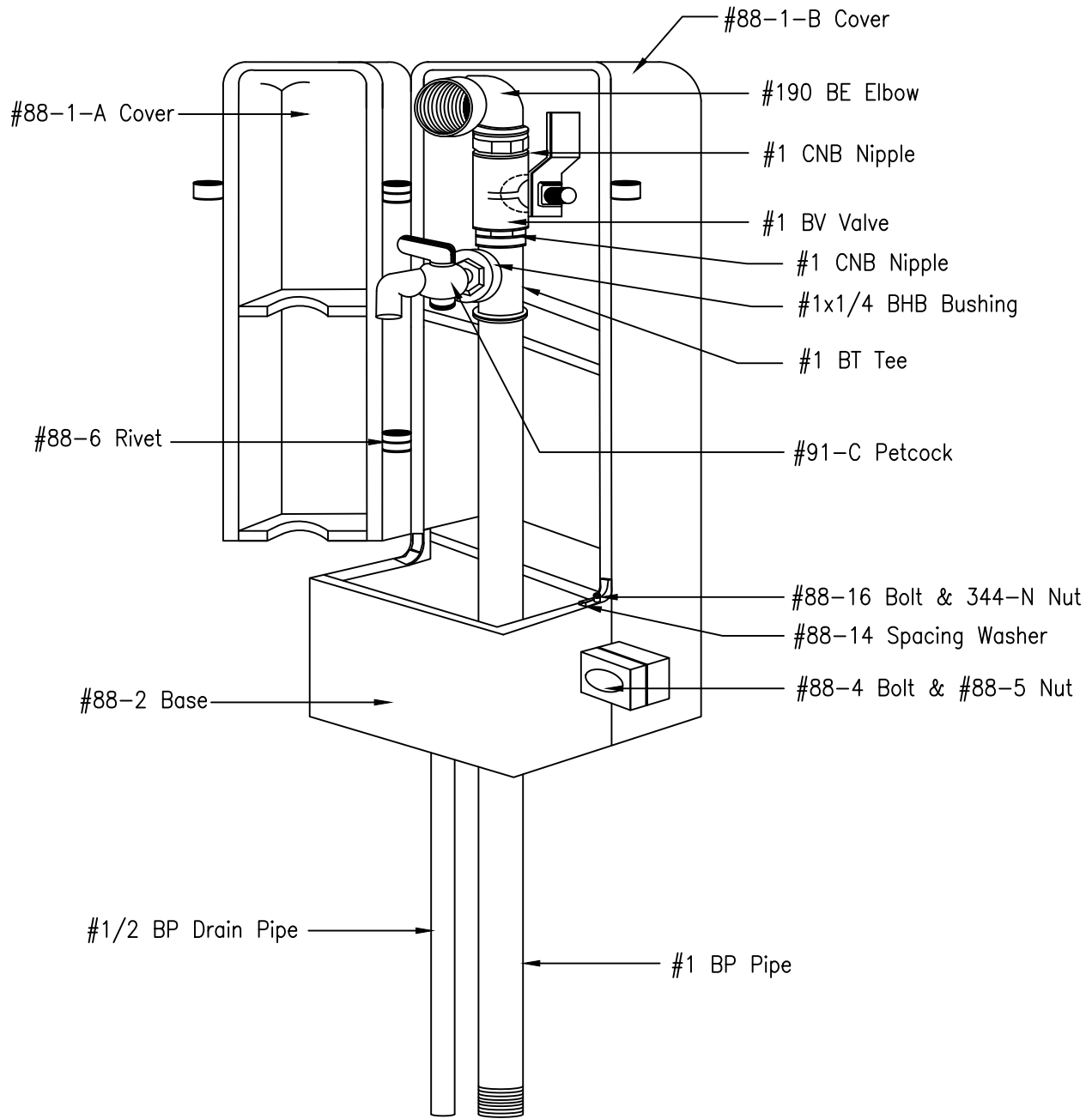
**BACTERIOLOGICAL
SAMPLING STATION
LAYOUT**

Date: **JANUARY 2021**

Drawing No:

W-16


No	Revised	Date



ECLIPSE # 88 WC

NOTE: The bacteriological sampling station shall be an Eclipse No. 88WC or approved equal.

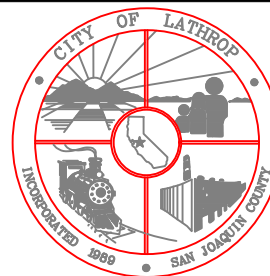
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City Of Lathrop
Public Works Director

No	Revised	Date

CITY OF LATHROP
DEPARTMENT OF PUBLIC WORKS
BACTERIOLOGICAL SAMPLING STATION
DETAIL

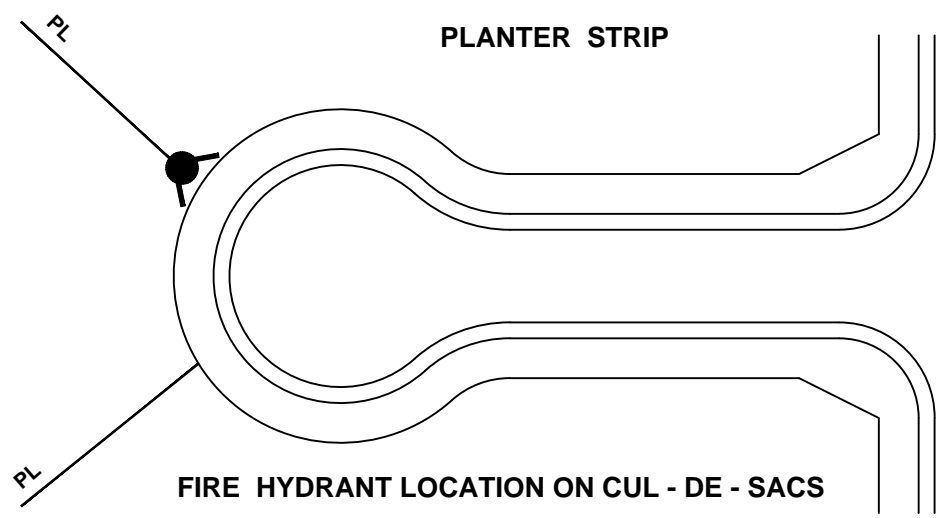
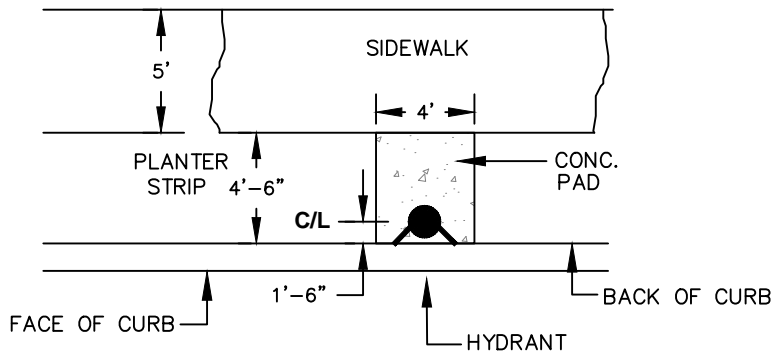
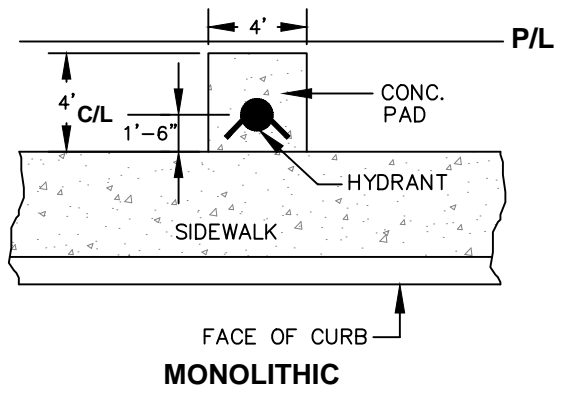
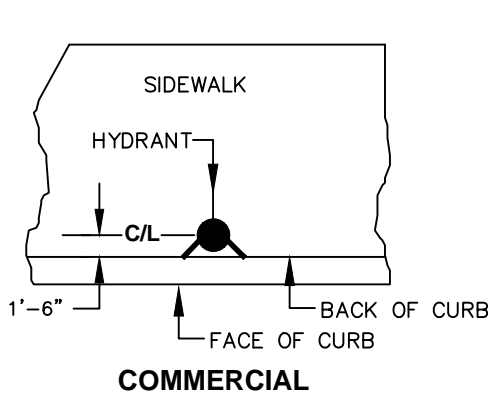


STANDARD
DETAIL

Date: **JANUARY 2021**

Drawing No:

W-17



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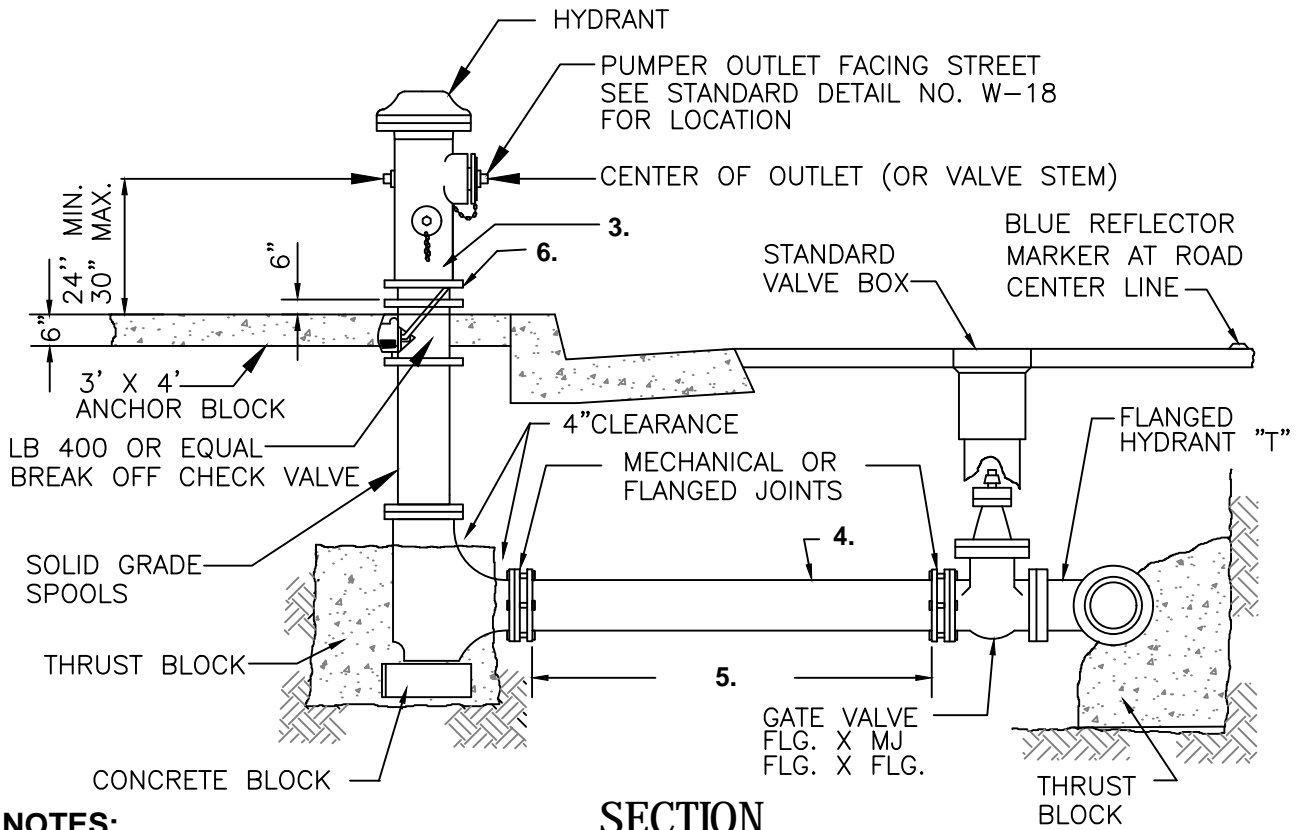
CITY OF LATHROP
DEPARTMENT OF PUBLIC WORKS

FIRE HYDRANT LOCATIONS



**STANDARD
DETAIL**

Date: **JANUARY 2021**
Drawing No:
W-18




NOTES:

1. Hydrant model to be :
 - Residential – Clow 850 or equal with 1 – 4 1/2" and 1 – 2 1/2" outlet.
 - Commercial/Industrial – Clow 960 or equiv. 1 – 4 1/2" and 2 – 2 1/2" outlet.
2. Hydrants shall be clean and free of concrete.
3. Entire hydrant shall be painted OSHA Safety Yellow (Hy-Lux industrial coatings or approved equal). private hydrants connected to a fire pump shall be painted red and all hydrants numbered in accordance with City of Lathrop approval. (black lettering min. 1" high, upstream of face of hydrant). Hydrants connected to recycled water line shall be painted purple. Color to be Pantone 522C or approved equal.
4. 6" dia. PVC pipe (AWWA C-900 with CIP equivalent o.d.) or DIP
5. Fire hydrant laterals greater than 100 LF, shall be 8" dia. PVC min. and shall have a second gate valve installed near the fire hydrant as approved by the fire district.
6. Break away spool with galvanized 307A or stainless steel spool bolts 6 nut to be on bottom at connection to hydrant.
7. Expansion joints in sidewalk per standard detail R-5 and R-20.
8. All thrust blocks shall be inspected and approved at the time of construction per Standard Detail W-2.
9. Hydrants shall comply with AWWA standard C503.
10. All fittings and metal pipes shall be wrapped with PVC 10 mil tape.
11. Underground bolts must be stainless steel 316 and must use Never Seize or copper coat on threads

NOT TO SCALE

Approved by:



City Of Lathrop
Public Works Director

No	Revised	Date

CITY OF LATHROP
DEPARTMENT OF PUBLIC WORKS

**FIRE HYDRANT
ASSEMBLY**



**STANDARD
DETAIL**

Date: **JANUARY 2021**

Drawing No:

W-19