

CITY OF LATHROP

Department of Public Works

DESIGN & CONSTRUCTION

Standard Details



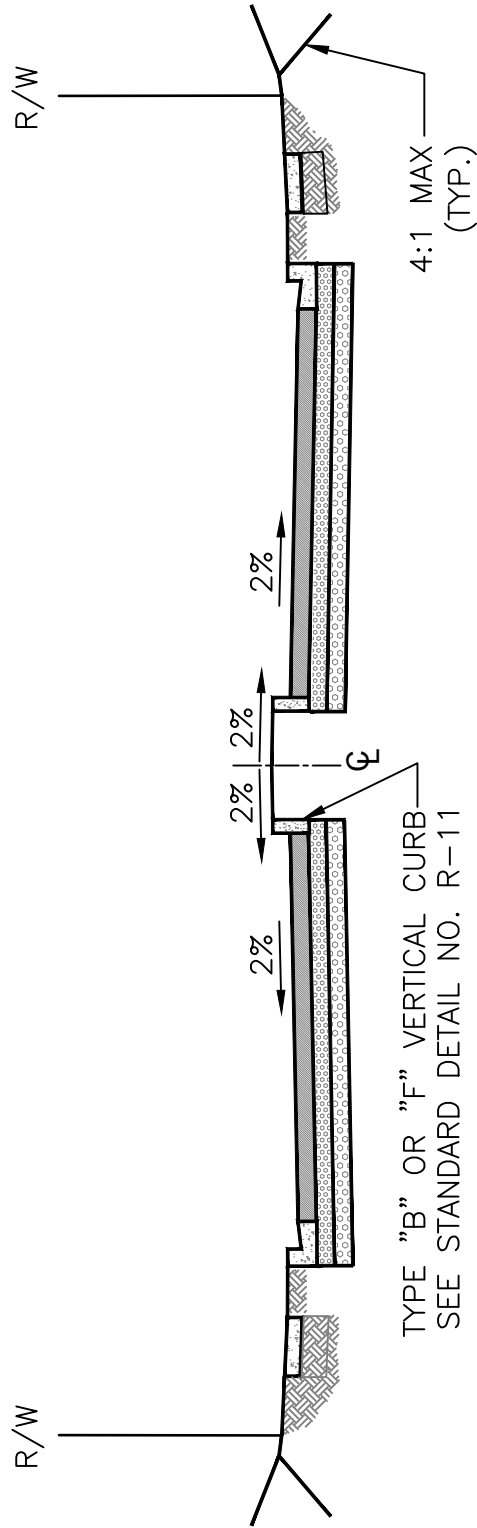
July 2024

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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:

[Signature]
 City of Lathrop
 City Engineer

No	Revised	Date

CITY OF LATHROP
 DEPARTMENT OF PUBLIC WORKS

TYPICAL STREET SECTION

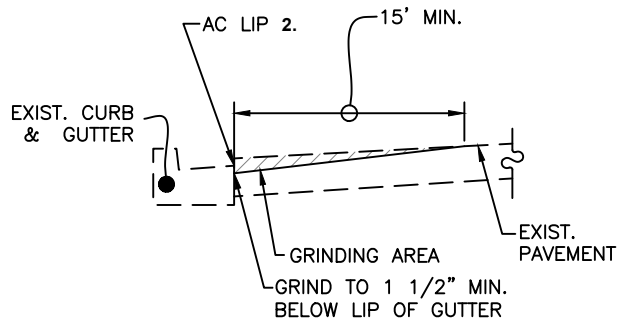


**STANDARD
 DETAIL**

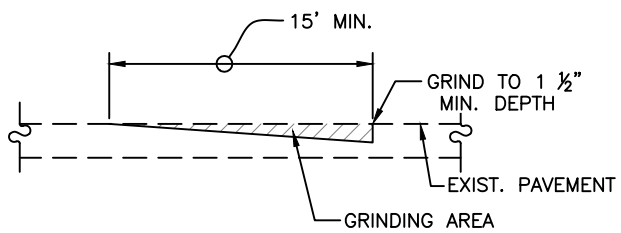
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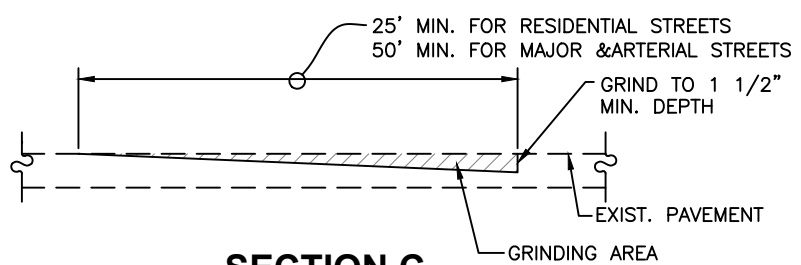
R-1



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 City Engineer		
No	Revised	Date

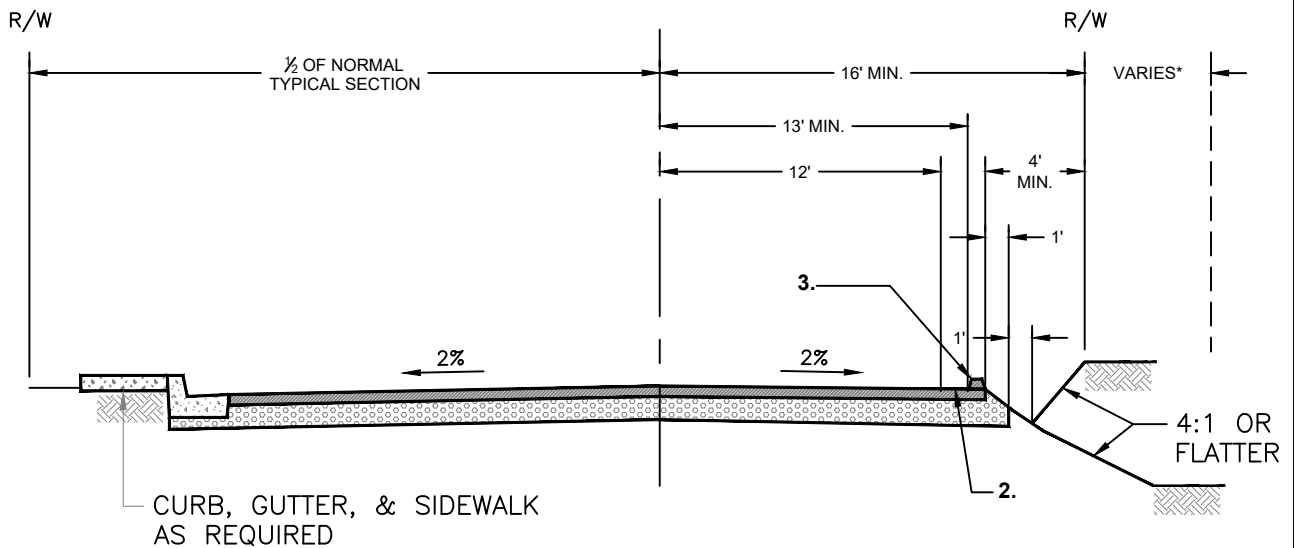
CITY OF LATHROP
 DEPARTMENT OF PUBLIC WORKS

PAVEMENT OVERLAY



**STANDARD
 DETAIL**

Date: **JULY 2024**
 Drawing No:
R-2



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:		
City Of Lathrop City Engineer		
No	Revised	Date

CITY OF LATHROP
DEPARTMENT OF PUBLIC WORKS

PARTIAL WIDTH STREET SECTION



**STANDARD
DETAIL**

Date: **JULY 2024**

Drawing No:

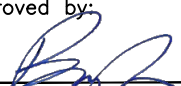
R-3

CONCRETE CONSTRUCTION NOTES

(Typical for Standard Details No. R-3 to R-58)

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.
14. For any asphalt concrete repair along new or replacement concrete, asphalt concrete shall be cut 6' from edge of new concrete.

NOT TO SCALE

Approved by:		
 City Of Lathrop City Engineer		
No	Revised	Date

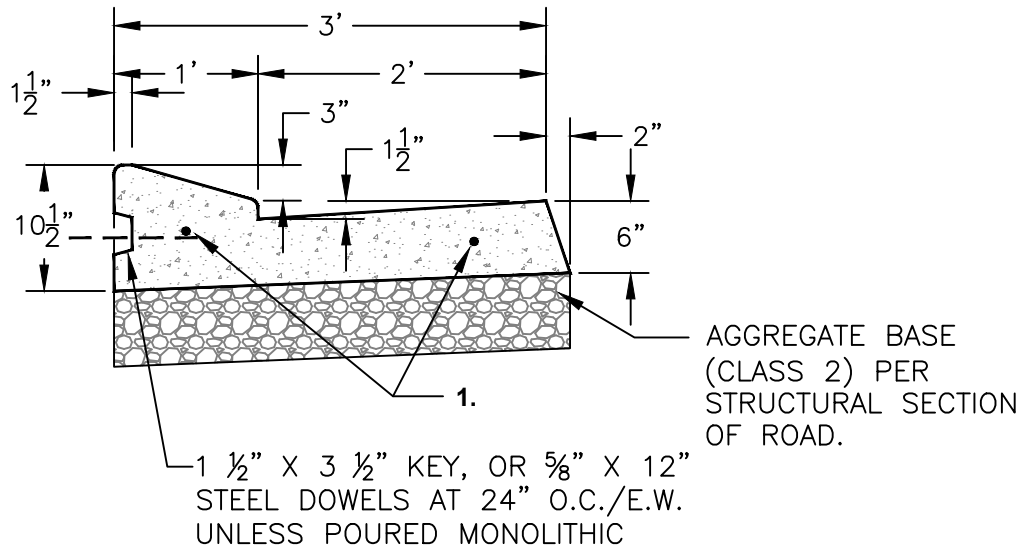
CITY OF LATHROP
 DEPARTMENT OF PUBLIC WORKS

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

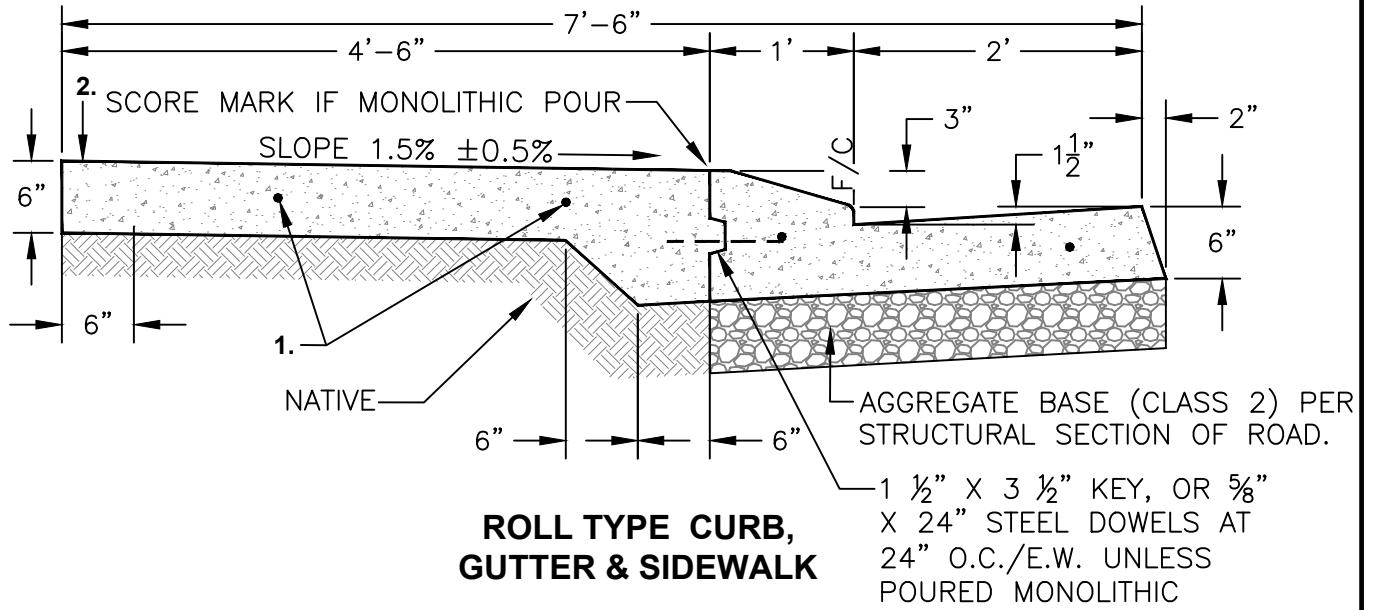


STANDARD
DETAIL

Date: **JULY 2024**
 Drawing No:
R-4



ROLL TYPE CURB & GUTTER



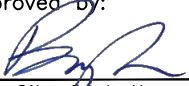
ROLL TYPE CURB, GUTTER & SIDEWALK

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-4.

NOT TO SCALE

Approved by:



City of Lathrop
City Engineer

No	Revised	Date

CITY OF LATHROP
DEPARTMENT OF PUBLIC WORKS
ROLL CURB, GUTTER AND SIDEWALK (RESIDENTIAL)

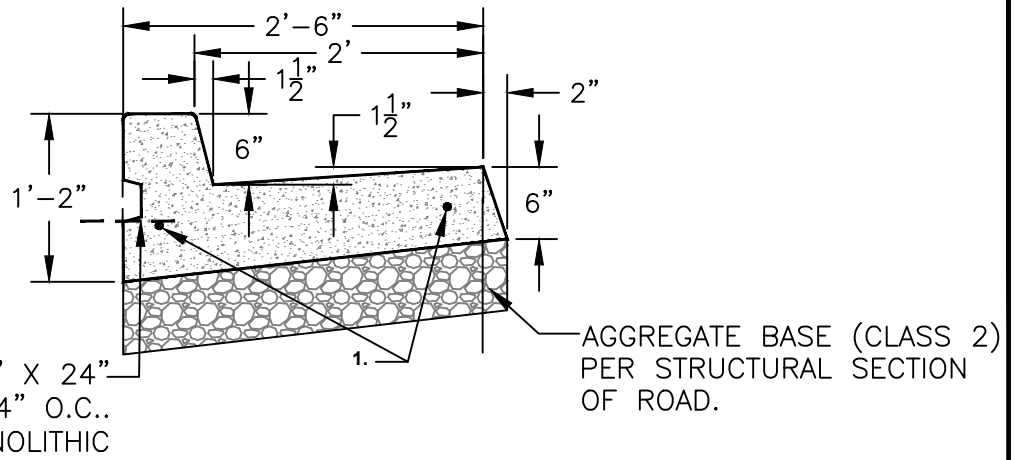


STANDARD DETAIL

Date: **JULY 2024**

Drawing No:

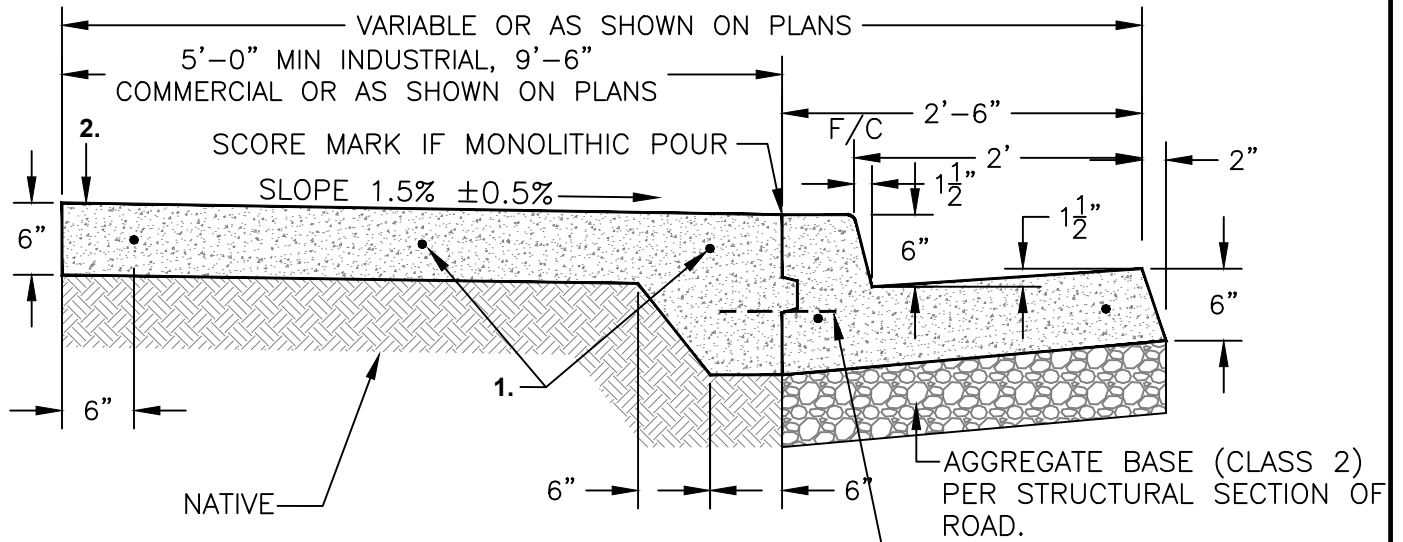
R-5



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

NOTES:

1. 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. 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-4.

NOT TO SCALE

Approved by: 		
City of Lathrop City Engineer		
No	Revised	Date

CITY OF LATHROP
DEPARTMENT OF PUBLIC WORKS
VERTICAL CURB, GUTTER AND SIDEWALK
(COMMERCIAL, INDUSTRIAL, AND CROSSROADS)

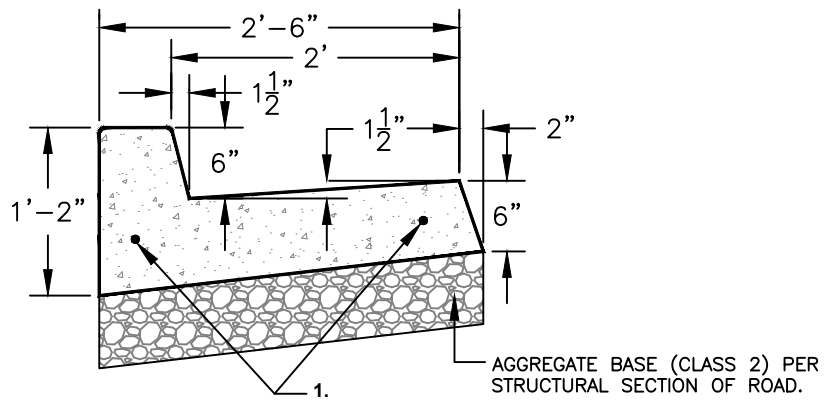


**STANDARD
DETAIL**

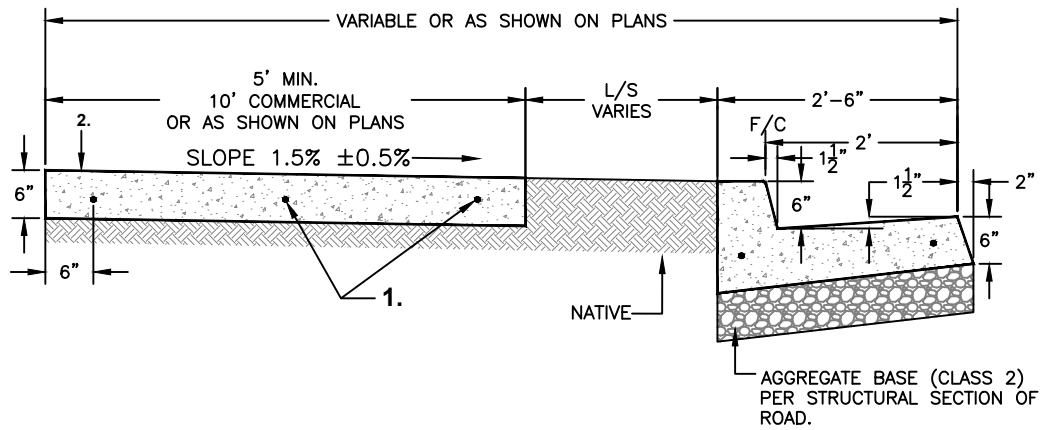
Date: **JULY 2024**

Drawing No:

R-6



VERTICAL CURB & GUTTER



VERTICAL CURB, GUTTER w/ DETACHED SIDEWALK

NOTES:

1. 18" long #4 rebar for curb and gutter, 24" O.C. 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-4.

NOT TO SCALE

Approved by:		
City of Lathrop City Engineer		
No	Revised	Date

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

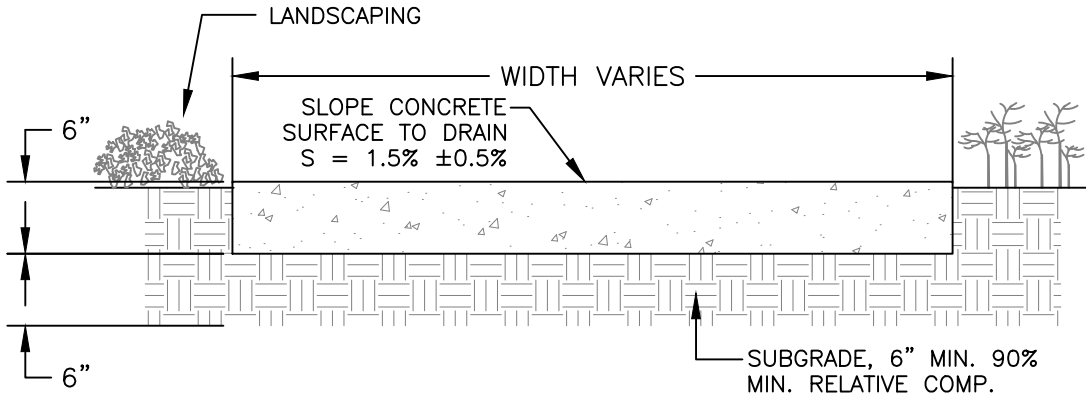


**STANDARD
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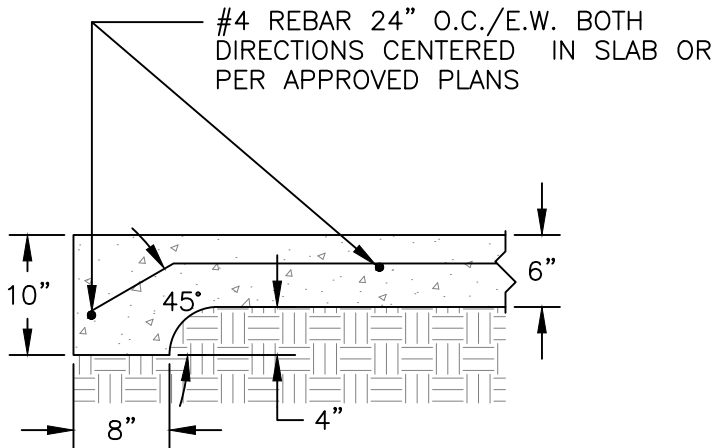
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R-7



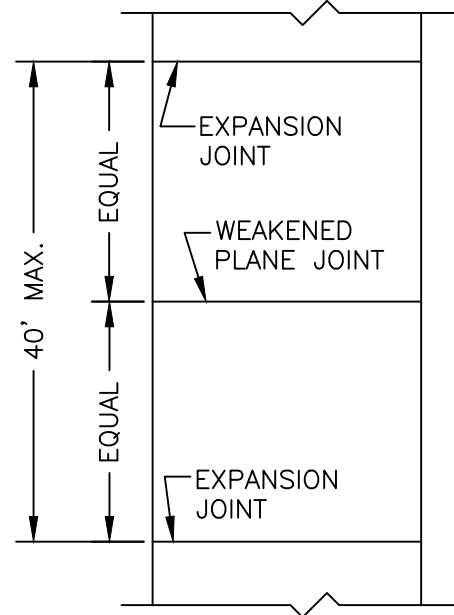
**CONCRETE PATH
(ON-SITE ONLY)**



REINFORCED CONCRETE PATH

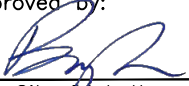
NOTES:

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: 		
City of Lathrop City Engineer		
No	Revised	Date

CITY OF LATHROP
DEPARTMENT OF PUBLIC WORKS

CONCRETE PATH

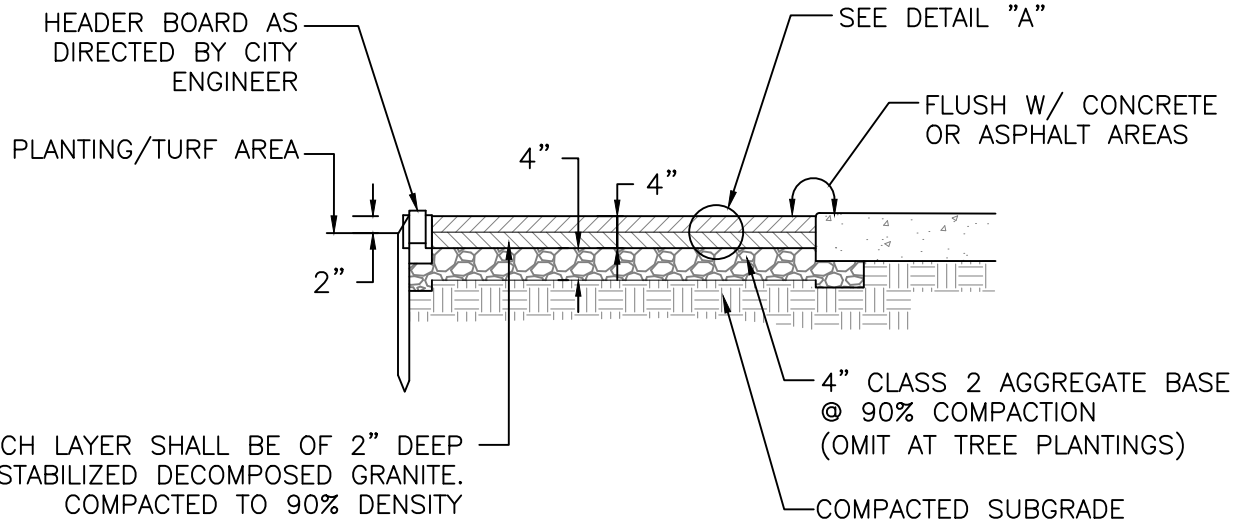


**STANDARD
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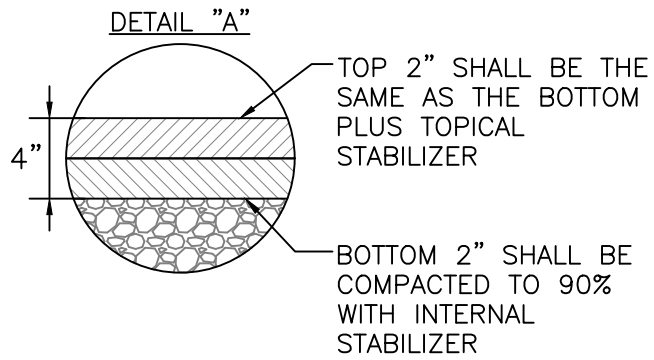
Date: **JULY 2024**

Drawing No:

R-8



EACH LAYER SHALL BE OF 2" DEEP STABILIZED DECOMPOSED GRANITE. COMPACTED TO 90% DENSITY



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 City Engineer		
No	Revised	Date

CITY OF LATHROP
DEPARTMENT OF PUBLIC WORKS

**STABILIZED DECOMPOSED
GRANITE PATH**



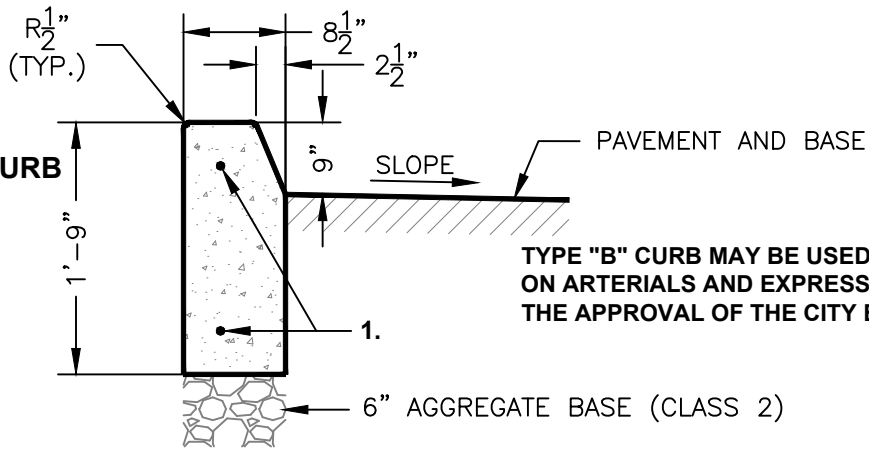
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DETAIL**

Date: **JULY 2024**

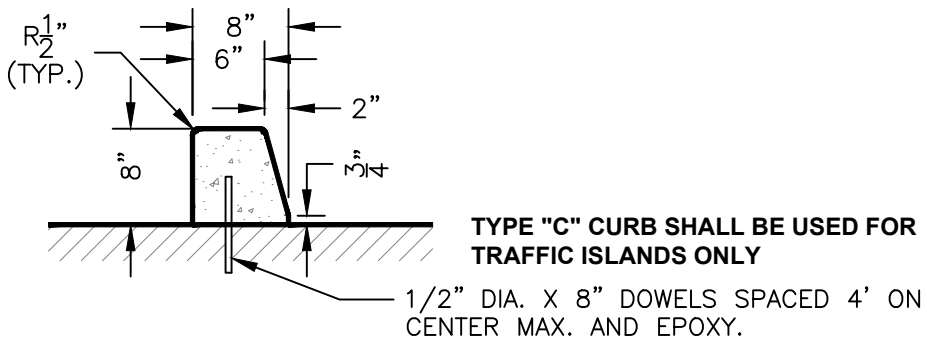
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R-9

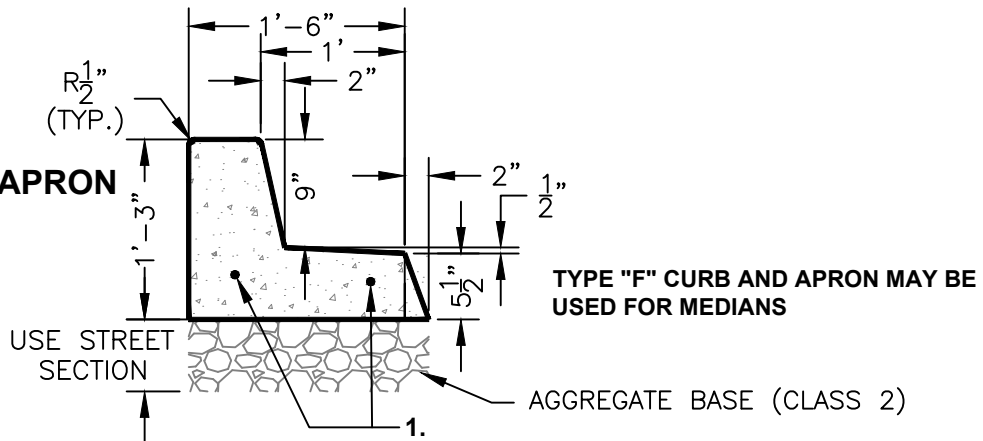
TYPE "B" VERTICAL CURB



TYPE "C" CURB



TYPE "F" CURB & APRON



NOTES:

1. 1. 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. for all flatwork, one side with plastic sleeve 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-4.

NOT TO SCALE

Approved by:

[Signature]
City of Lathrop
City Engineer

CITY OF LATHROP
DEPARTMENT OF PUBLIC WORKS

**MEDIAN AND TRAFFIC
ISLAND CURBS**



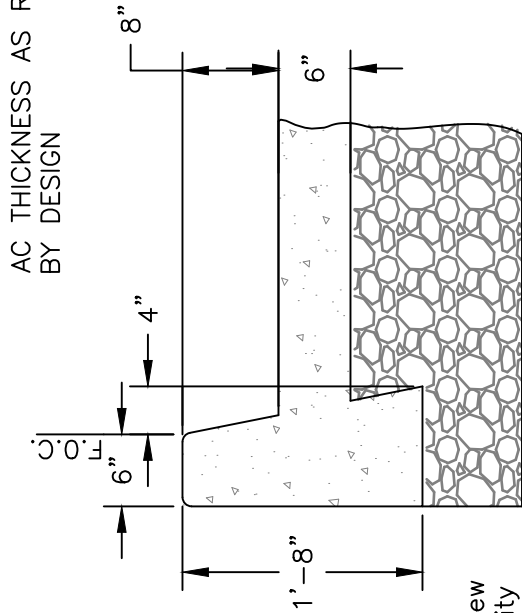
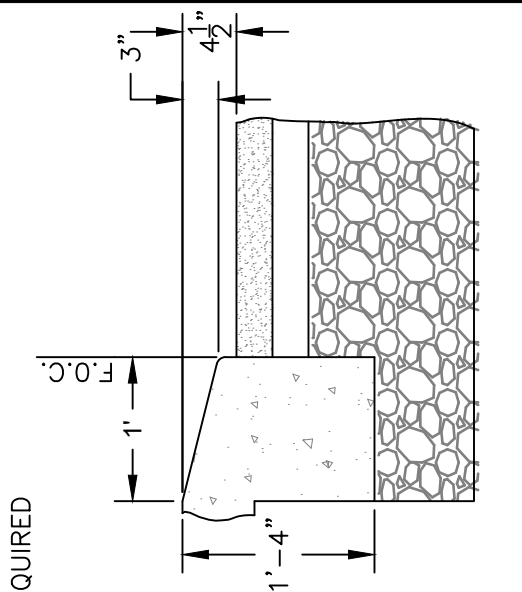
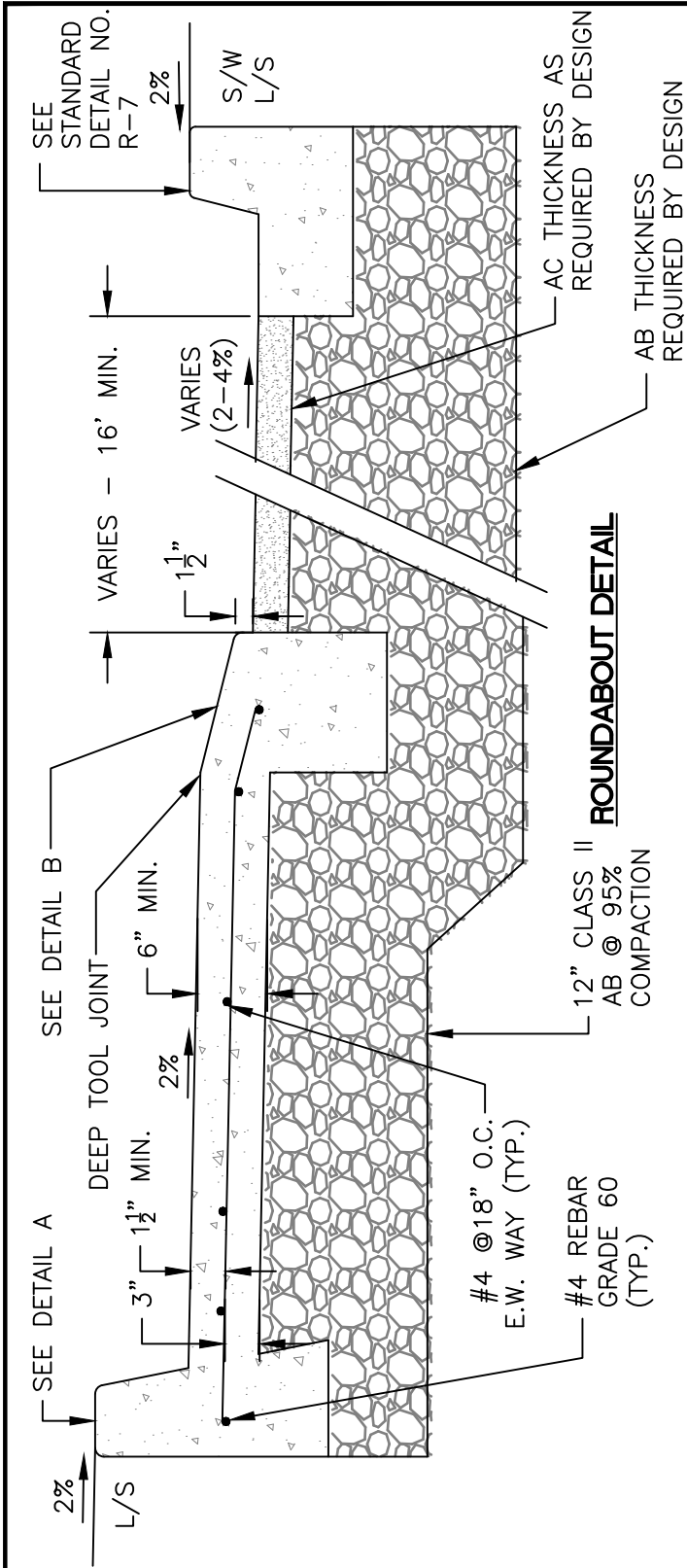
**STANDARD
DETAIL**

Date: **JULY 2024**

Drawing No:

R-10

No	Revised	Date



NOTES

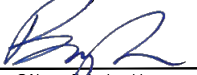
1. Truck apron, decorative raised-mountable concrete paving, pattern and colors are subject to review and approval by City Engineer.
2. Plans shall show AASHTO truck turning template.

NOT TO SCALE

DETAIL B

DETAIL A

Approved by:



City of Lathrop
City Engineer

No	Revised	Date

CITY OF LATHROP
DEPARTMENT OF PUBLIC WORKS

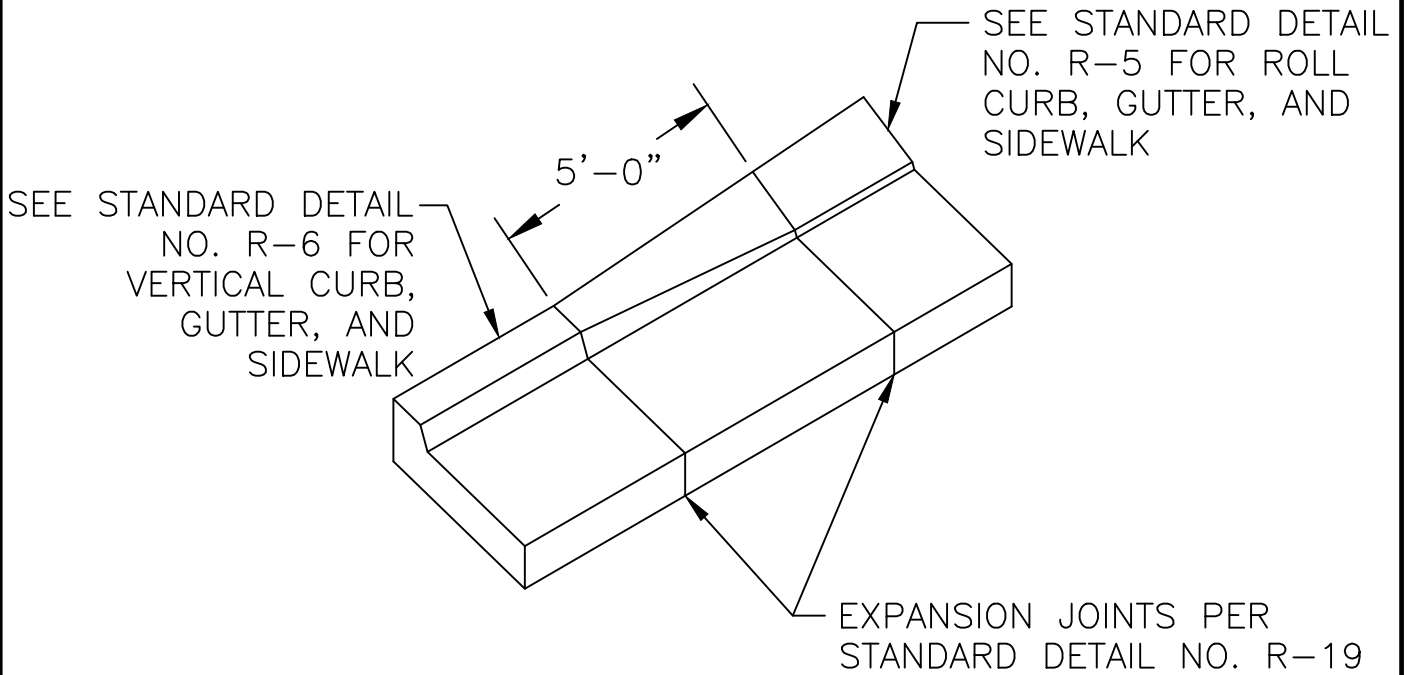
ROUNDABOUT



STANDARD DETAIL

Date: **JULY 2024**

Drawing No: **R-11**



NOT TO SCALE

Approved by:

City of Lathrop
City Engineer

No	Revised	Date

CITY OF LATHROP
DEPARTMENT OF PUBLIC WORKS

**CURB TRANSITION
DETAIL**

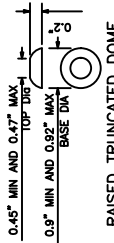


**STANDARD
DETAIL**

Date: **JULY 2024**

Drawing No:

R-12



RAISED TRUNCATED DOME

2.3" MIN AND 2.4" MAX CENTER TO CENTER SPACING

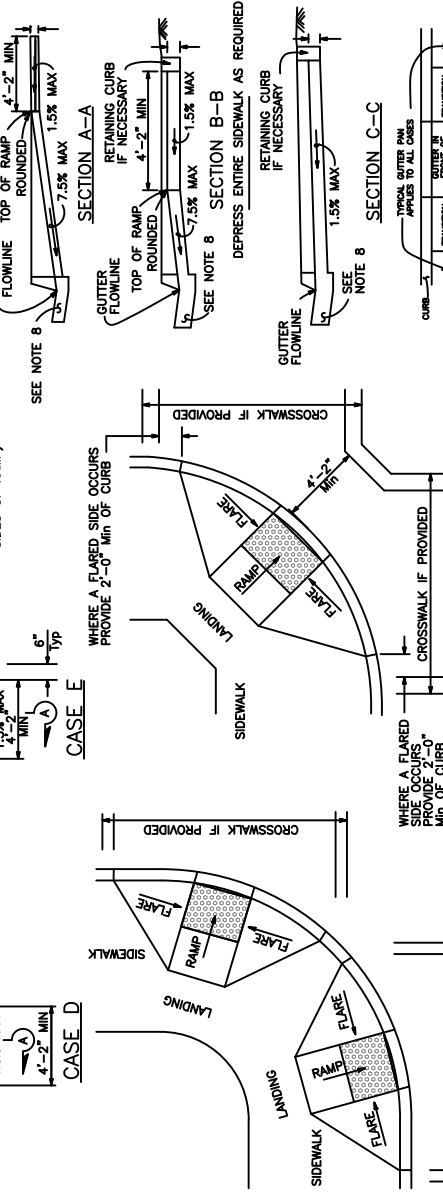
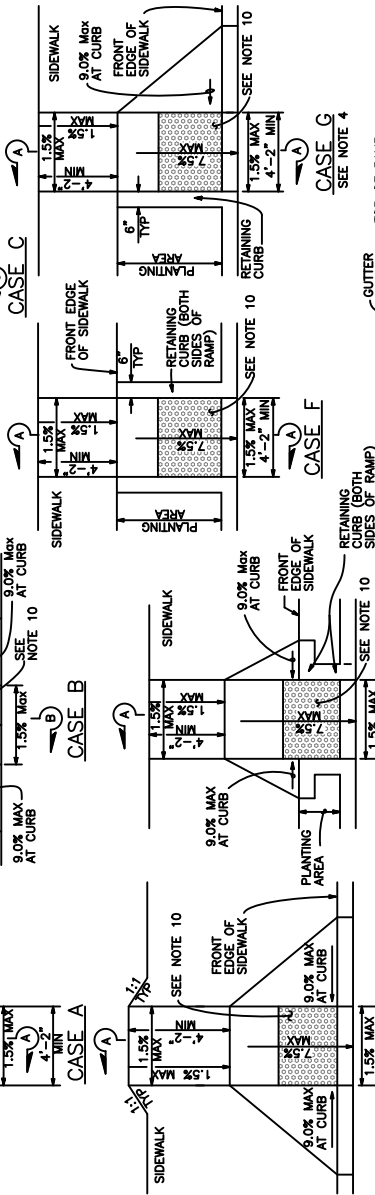
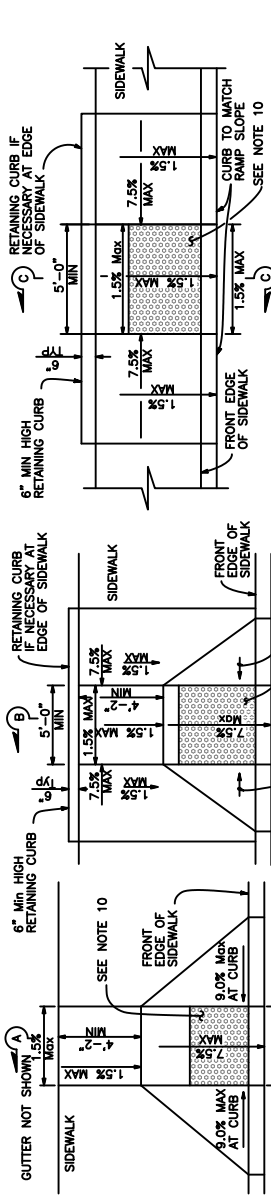
RAISED TRUNCATED DOME PATTERN (IN-LINE)

DETECTABLE WARNING SURFACE

SEE NOTE 10

NOTES:

- As site conditions dictate, Case A through Case C 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 C curb ramps also may be used at mid block locations, as site conditions dictate. For specific site conditions, configurations, materials, etc. conform to existing sidewalk, see Project Plans.
- If distance from curb to back of sidewalk is too short to accommodate ramp and 4'-2" 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.
- When ramp is located in center of curb return, crosswalk configuration must be similar to that shown for Detail B.
- As site conditions dictate, the retaining curb side and the flared side of the Case G ramp shall be constructed in reversed position.
- The ramp portion of the curb ramp is a typical rectangle, unless modified in the Project Plans.
- Side slopes of ramp flares vary uniformly from a maximum of 9.0% at curb to conform with longitudinal sidewalk slope adjacent to top of the ramp, except in Case C and Case F.
- The adjacent surfaces at transitions at curb ramps to walks, gutters, and streets shall be at the same level.
- Counter slopes of adjoining gutters and road surfaces immediately adjacent to and within 24 inches of the curb ramp shall not be steeper than 1V:20H (5.0%). Gutter pan slope shall not exceed 1" of depth for each 2'-0" of width.
- Transition gutter pan slope from 1" of depth for each foot of width to match typical gutter pan slope per Standard Plan A87A.
- The detectable warning surface will be a rectangle as shown at back of curb, unless modified in the Project Plans. Curb ramps shall have a detectable warning surface that extends the full width and 3'-0" depth of the ramp. The detectable warning surface shall be the full width of the ramp, except for the 3'-0" depth of the full width of the ramp. The detectable warning surface shall conform to the requirements in the Standard Specifications.
- Sidewalk and ramp thickness, "T", shall be 3 1/2" minimum.
- 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.
- Detectable warning surface may have to be cut to allow removal of utility covers while maintaining detectable warning width and depth.
- Any ADA path of travel affected by construction shall have an alternate path.
- ALL WORK SHALL CONFORM TO THE CURRENT VERSION OF CALTRANS STANDARD PLANS A88A AND A88B



DETAIL B
TYPICAL ONE-RAMP
CORNER INSTALLATION
SEE NOTES 1 AND 3

DETAIL A
TYPICAL TWO-RAMP
CORNER INSTALLATION
SEE NOTE 1

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION
CURB RAMP DETAILS
NO SCALE

RSP A88A DATED JULY 21, 2017; SUPERSEDES RSP A88A DATED JULY 15, 2016 AND STANDARD PLAN A88A DATED OCTOBER 30, 2015 - PAGE 127 OF THE STANDARD PLANS BOOK DATED 2015.

REVISED STANDARD PLAN RSP A88A

Approved by:



City of Lathrop
City Engineer

No	Revised	Date

CITY OF LATHROP
DEPARTMENT OF PUBLIC WORKS
CURB RAMP DETAILS

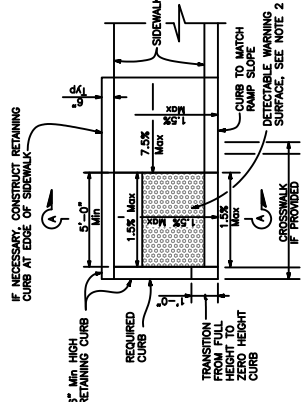


**STANDARD
DETAIL**

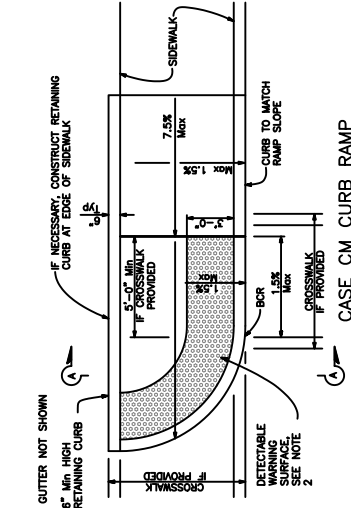
Date: **JULY 2024**
Drawing No:
R-13

NOTES:

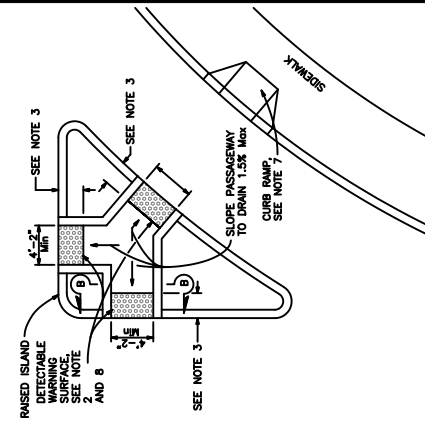
1. Sidewalk, ramp and passageway thickness, "T", shall be 3 1/2" minimum.
2. For details of detectable warning surfaces, see Standard Detail R-X.
3. Where an island passageway length is greater than or equal to 6'-0", but less than 8'-0", each detectable warning surface shall extend the full width and 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.



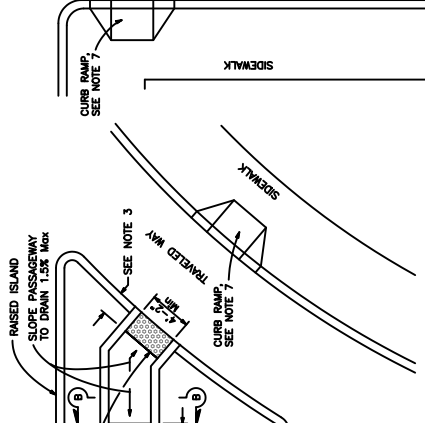
CASE CH CURB RAMP



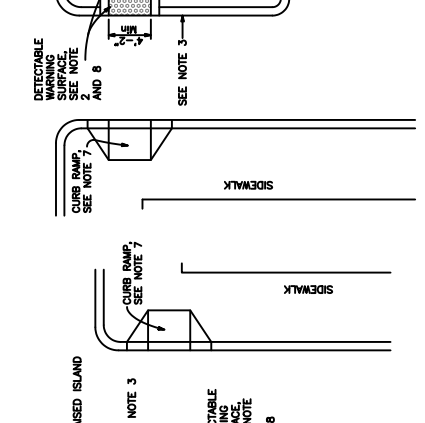
CASE CM CURB RAMP



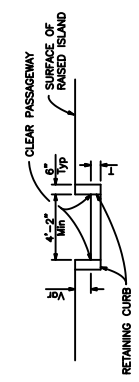
TYPE C PASSAGEWAY



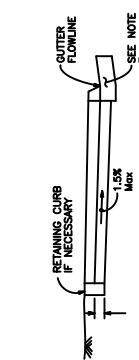
TYPE B PASSAGEWAY



TYPE A 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
City Engineer

No	Revised	Date

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



STANDARD DETAIL

Date: **JULY 2024**
Drawing No: **R-14**

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. 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 medium 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 #4 rebar 18-inch long at 24" O.C. drive tight fit or epoxy. Expansion joints and/or weakened plane joints shall separate curb ramps in new concrete construction.
10. 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 City Engineer		
No	Revised	Date

CITY OF LATHROP
DEPARTMENT OF PUBLIC WORKS

**ADA RAMP
NOTES 1**



**STANDARD
DETAIL**

Date: JULY 2024

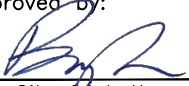
Drawing No:

R-15

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 or 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 City Engineer		
No	Revised	Date

CITY OF LATHROP
DEPARTMENT OF PUBLIC WORKS

**ADA RAMP
NOTES 2**



**STANDARD
DETAIL**

Date: **JULY 2024**

Drawing No:

R-16

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 City Engineer		
No	Revised	Date

CITY OF LATHROP
DEPARTMENT OF PUBLIC WORKS

CURB RAMP DETAILS

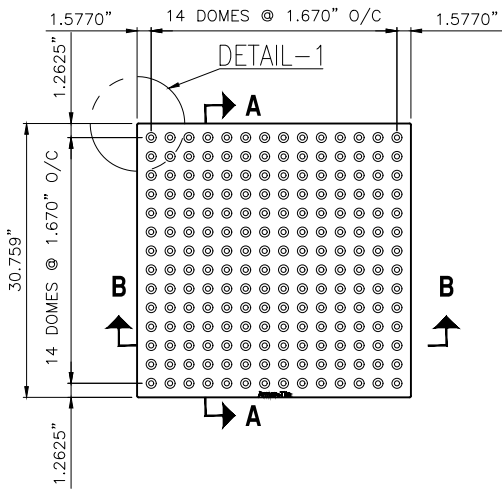


**STANDARD
DETAIL**

Date: **JULY 2024**

Drawing No:

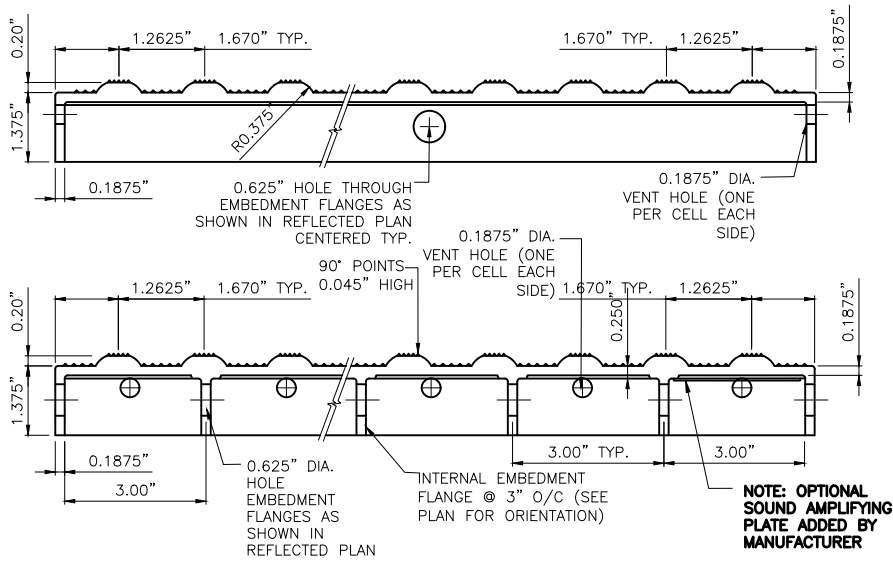
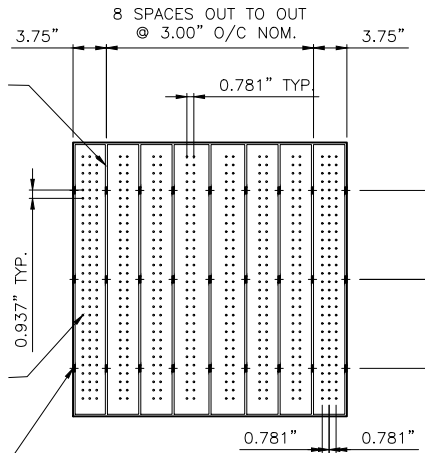
R-17



INTERNAL EMBEDMENT FLANGE 9 PER TILE

0.1875" DIA. x 0.0625" HIGH MICRO-TEXTURE UNDERSIDE OF TILE

0.625" DIA. HOLES THROUGH EMBEDMENT FLANGES



NOTES:

1. Truncated domes shall be cast in place and in conformance with the manufacturers cast in place requirements.
2. Adhesive application truncated domes are permitted only in unique circumstances and upon the approval of the City Engineer.
3. See R-15 to R-17 for additional ramp dome notes.
4. Truncated domes shall be sourced through (www.Armor-Tile.com) or approved equal.

NOT TO SCALE

Approved by:		
City of Lathrop City Engineer		
No	Revised	Date

CITY OF LATHROP
DEPARTMENT OF PUBLIC WORKS

**ADA RAMP
DOME DETAILS**

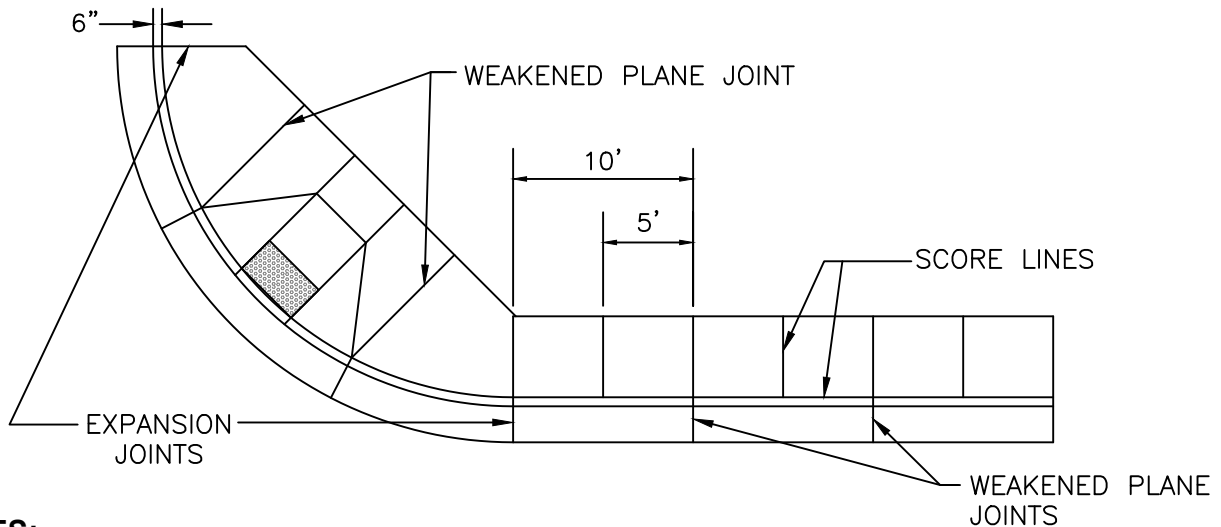
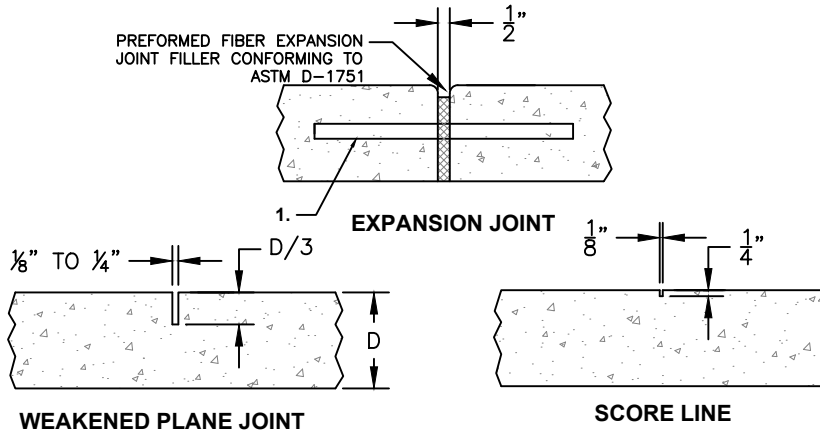


**STANDARD
DETAIL**

Date: **JULY 2024**

Drawing No:

R-18



NOTES:

1. 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. for all flatwork, one side with plastic sleeve through all expansion and cold joints.
2. Expansion joints shall be constructed every 40' max.
3. See notes on Standard Detail No. R-4.

DESCRIPTIONS:

Curve Ramp Defined as Ramp, Flare, Landing, Curb
Gutter Pan, Boarder, and Detectable Warning Surface.

NOT TO SCALE

Approved by:		
City of Lathrop City Engineer		
No	Revised	Date

CITY OF LATHROP
DEPARTMENT OF PUBLIC WORKS
EXPANSION JOINTS
WEAKENED PLANE JOINTS
AND SCORE LINES

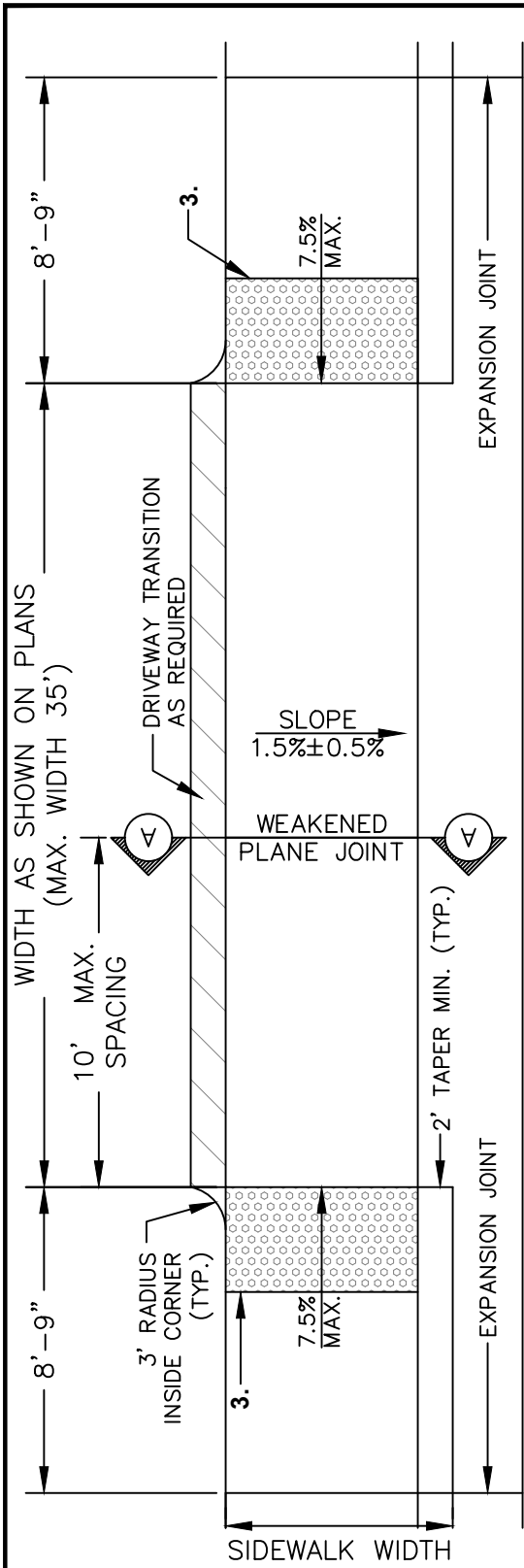


**STANDARD
DETAIL**

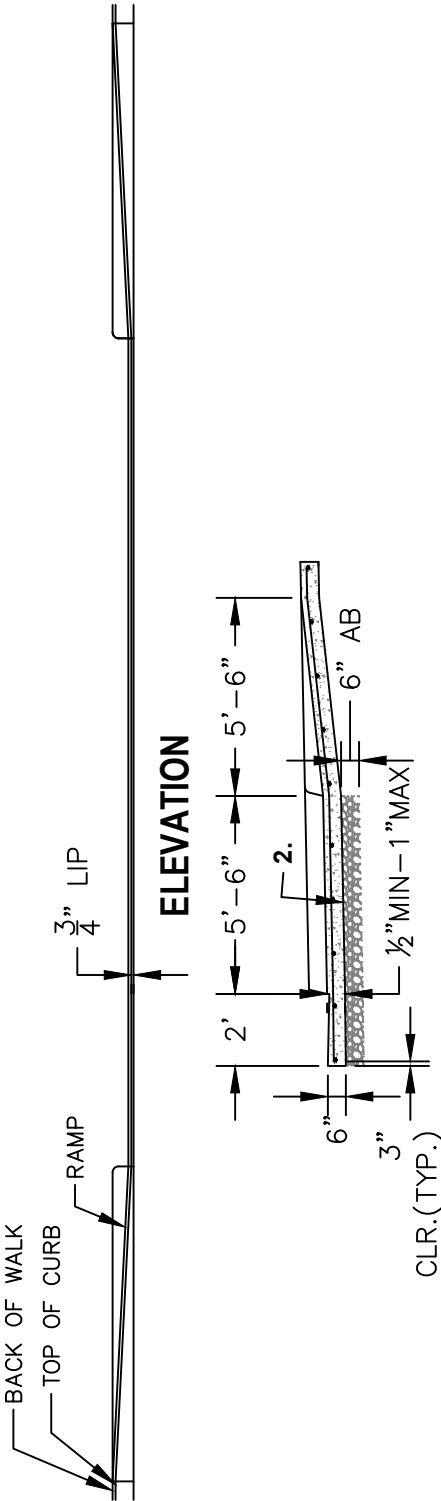
Date: **JULY 2024**

Drawing No:

R-19



PLAN



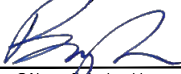
SECTION A-A

NOTES:

1. #4 Reinforcing bars 16" O.C.E.W The entire width of driveway and ramp.
2. Gutter pan dimensions per Standard Details.
3. Detectable warning surface and warning surface details see Standard Detail No. R-15 to R-18.
4. For expansion joints and doweling, see Standard Detail No. R-19.
5. See notes on Standard Detail No. R-4.
6. 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-4).

NOT TO SCALE

Approved by:



City of Lathrop
City Engineer

No	Revised	Date

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



STANDARD DETAIL

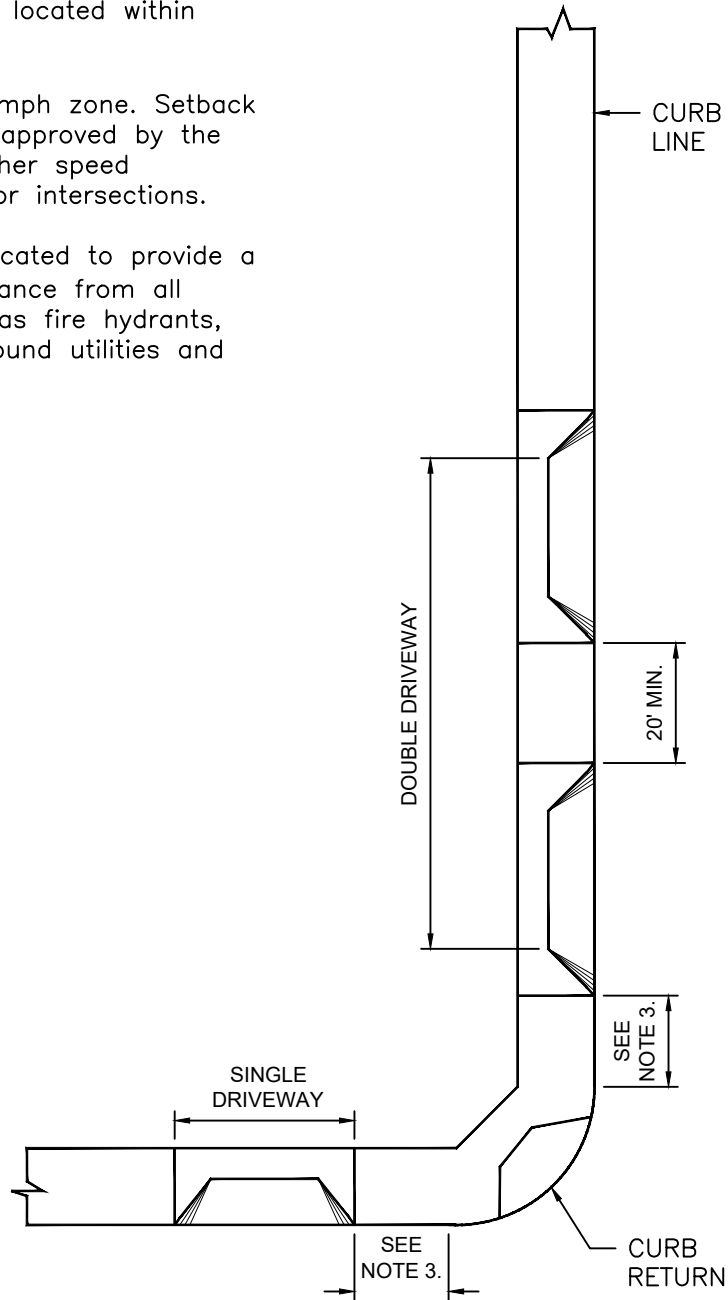
Date: **JULY 2024**

Drawing No:

R-20

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:

[Signature]

City of Lathrop
City Engineer

No	Revised	Date

CITY OF LATHROP
DEPARTMENT OF PUBLIC WORKS

TYPICAL COMMERCIAL DRIVEWAY LOCATION

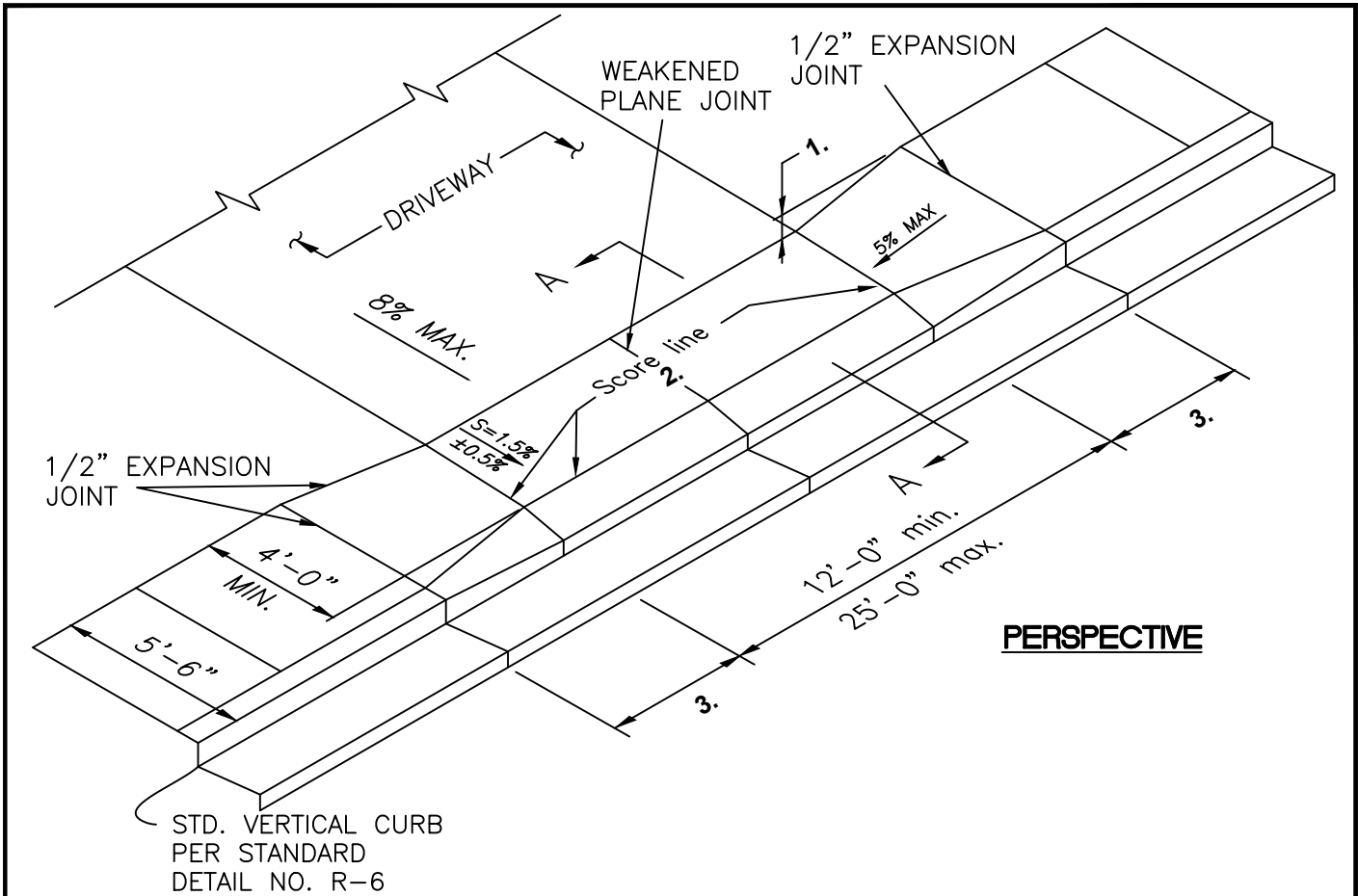


**STANDARD
DETAIL**

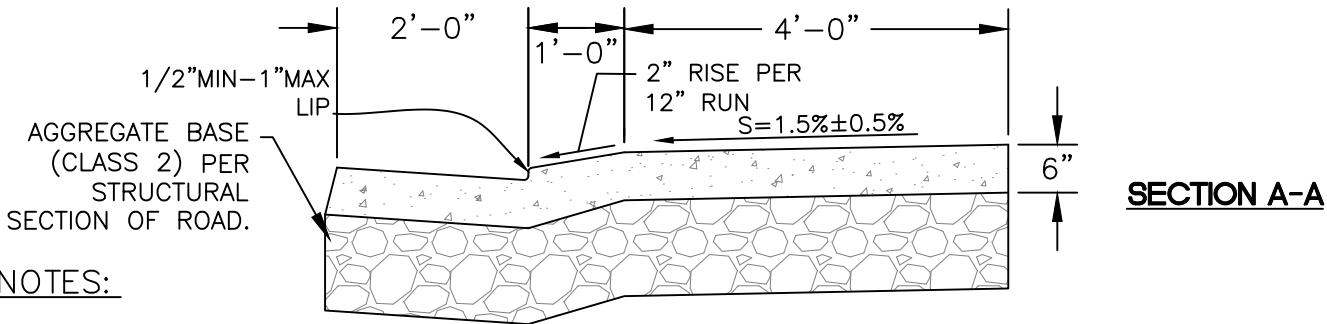
Date: **JULY 2024**

Drawing No:

R-22



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-4..

NOT TO SCALE

Approved by:



City of Lathrop
City Engineer

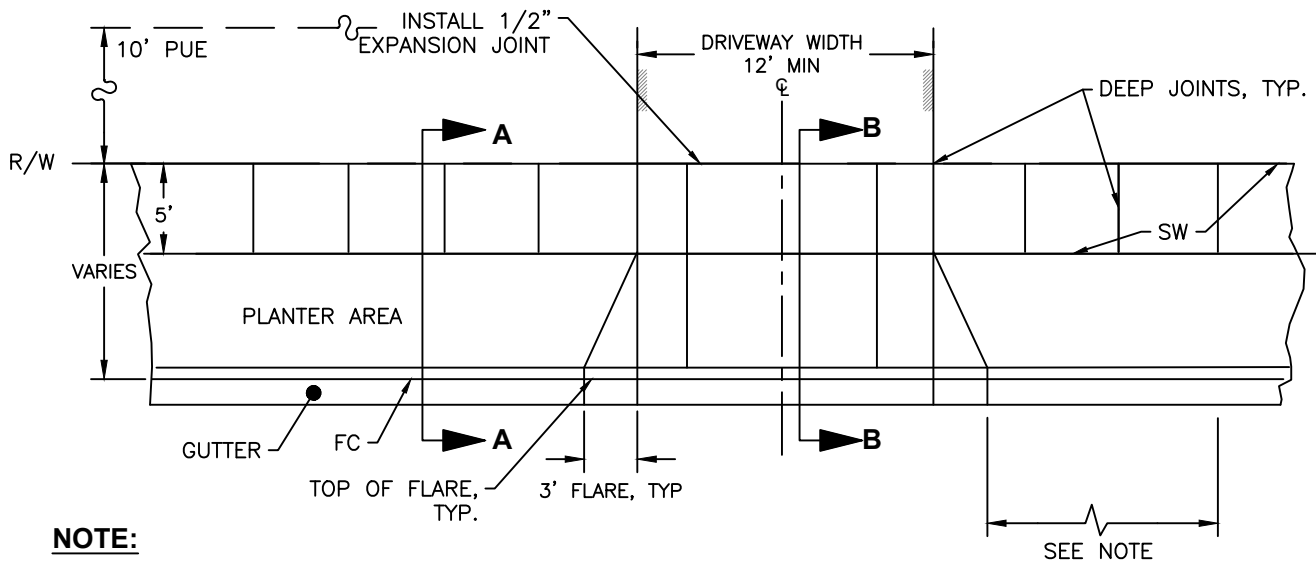
No	Revised	Date

CITY OF LATHROP
DEPARTMENT OF PUBLIC WORKS
TYPICAL RESIDENTIAL
DRIVEWAY AT VERTICAL
CURB AND GUTTER



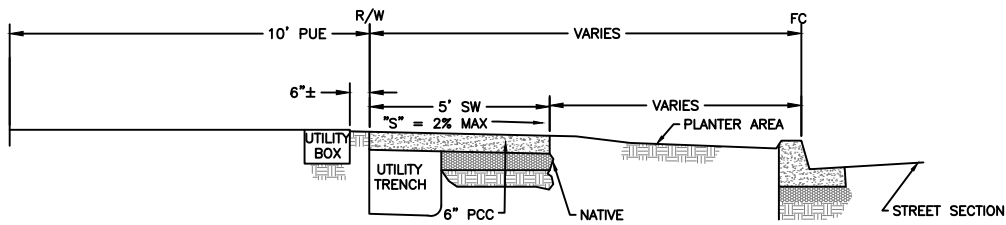
STANDARD
DETAIL

Date: **JULY 2024**
Drawing No:
R-23

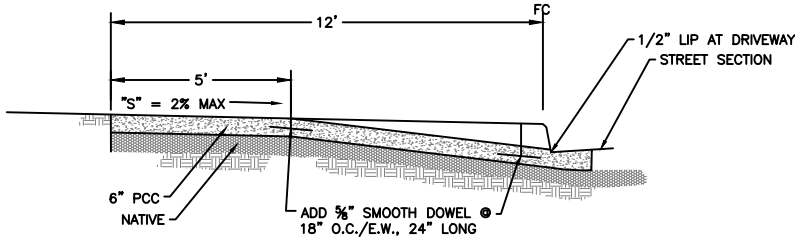


NOTE:

- 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:

[Signature]
 City of Lathrop
 City Engineer

No	Revised	Date

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

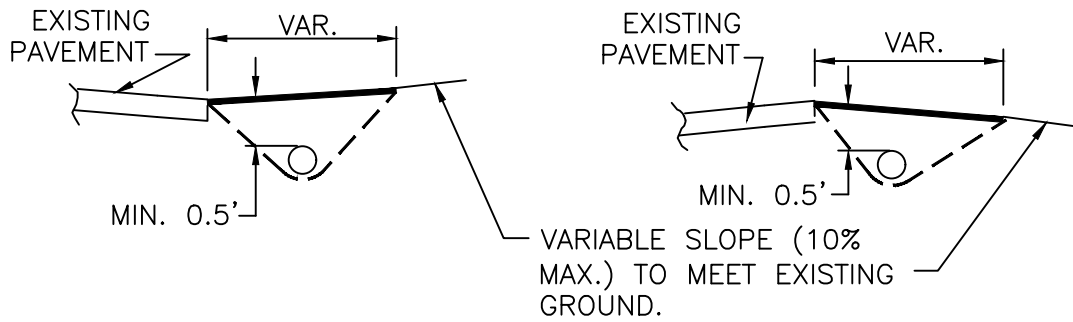


STANDARD
DETAIL

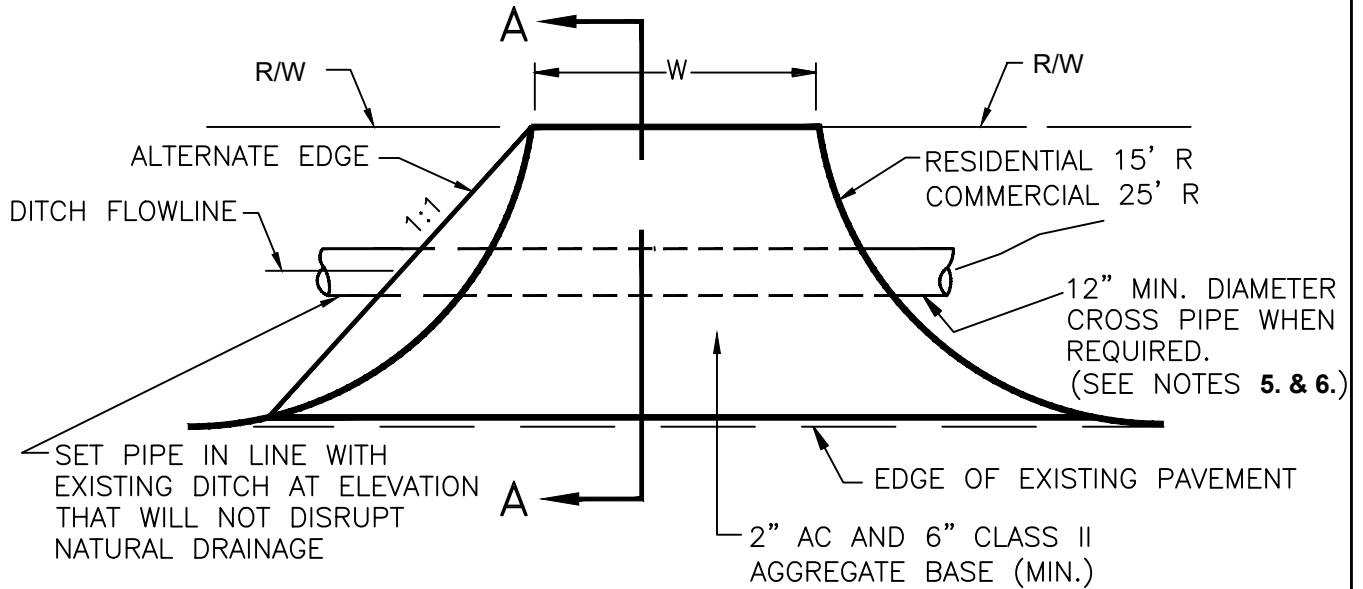
Date: **JULY 2024**

Drawing No:

R-24



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:

[Signature]
 City of Lathrop
 City Engineer

No	Revised	Date

CITY OF LATHROP
 DEPARTMENT OF PUBLIC WORKS

**TEMPORARY
 DRIVEWAYS**



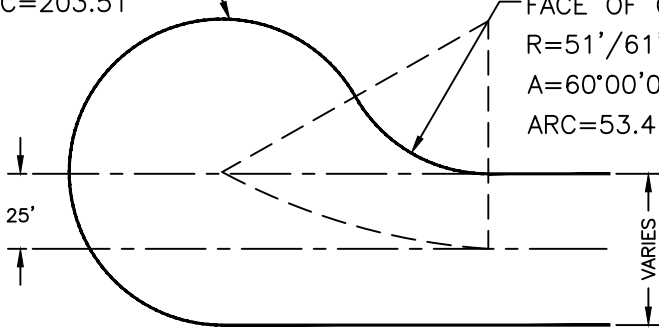
**STANDARD
 DETAIL**

Date: JULY 2024

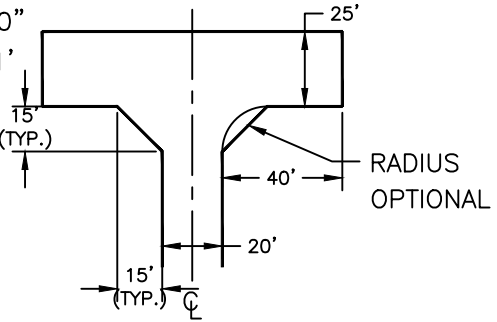
Drawing No:

R-25

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

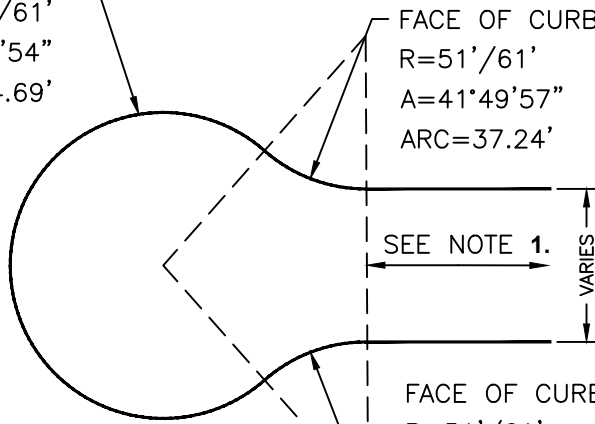


FACE OF CURB DATA
 $R=51'/61'$
 $A=60^\circ 00' 00''$
 $ARC=53.41'$



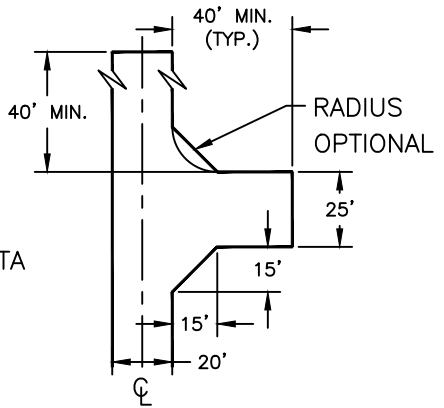
**HAMMERHEAD
 TURNAROUND**
 NOT TO SCALE

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
 $R=51'/61'$
 $A=41^\circ 49' 57''$
 $ARC=37.24'$



"L" TURNAROUND
 NOT TO SCALE

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:

[Signature]
 City of Lathrop
 City Engineer

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



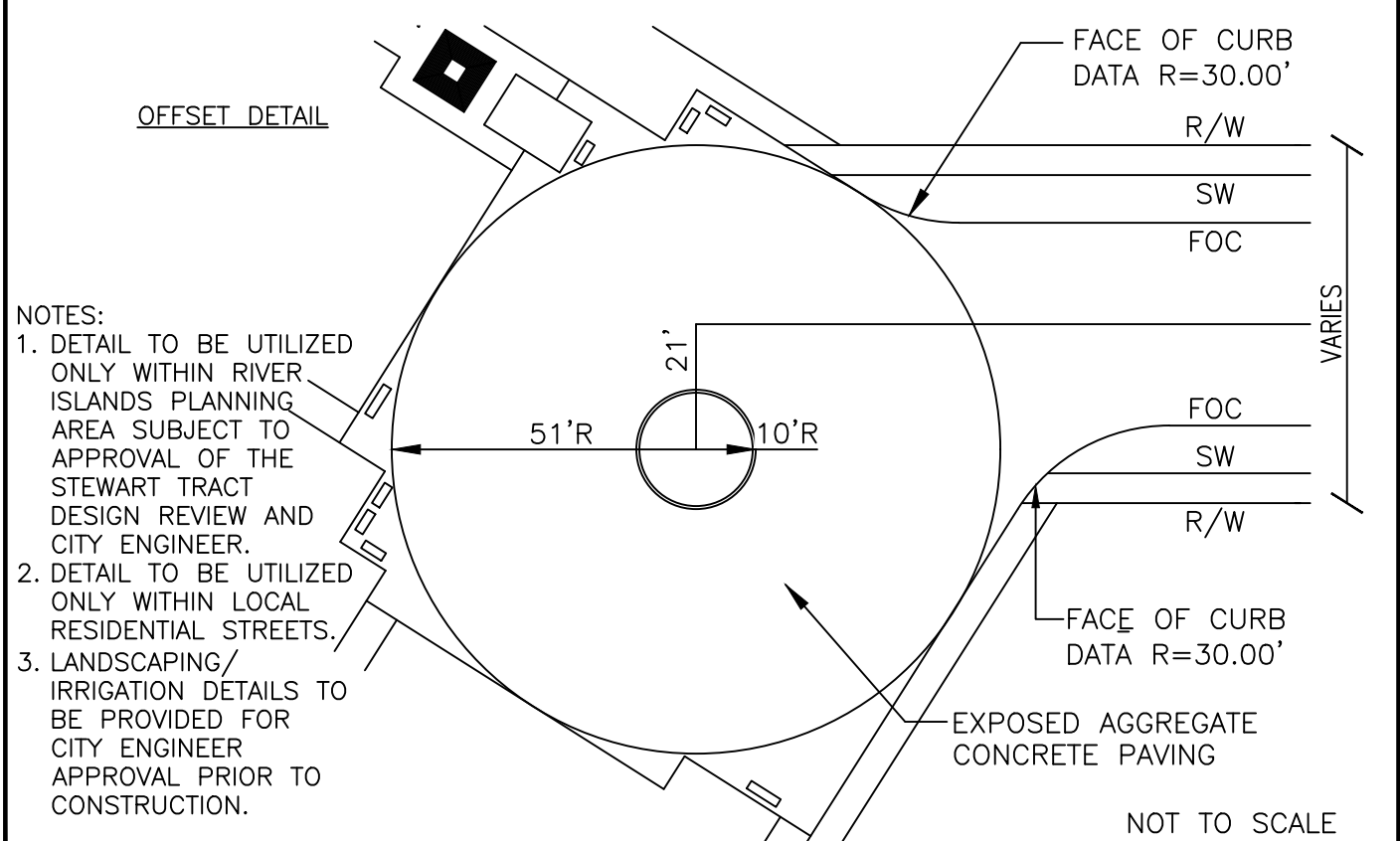
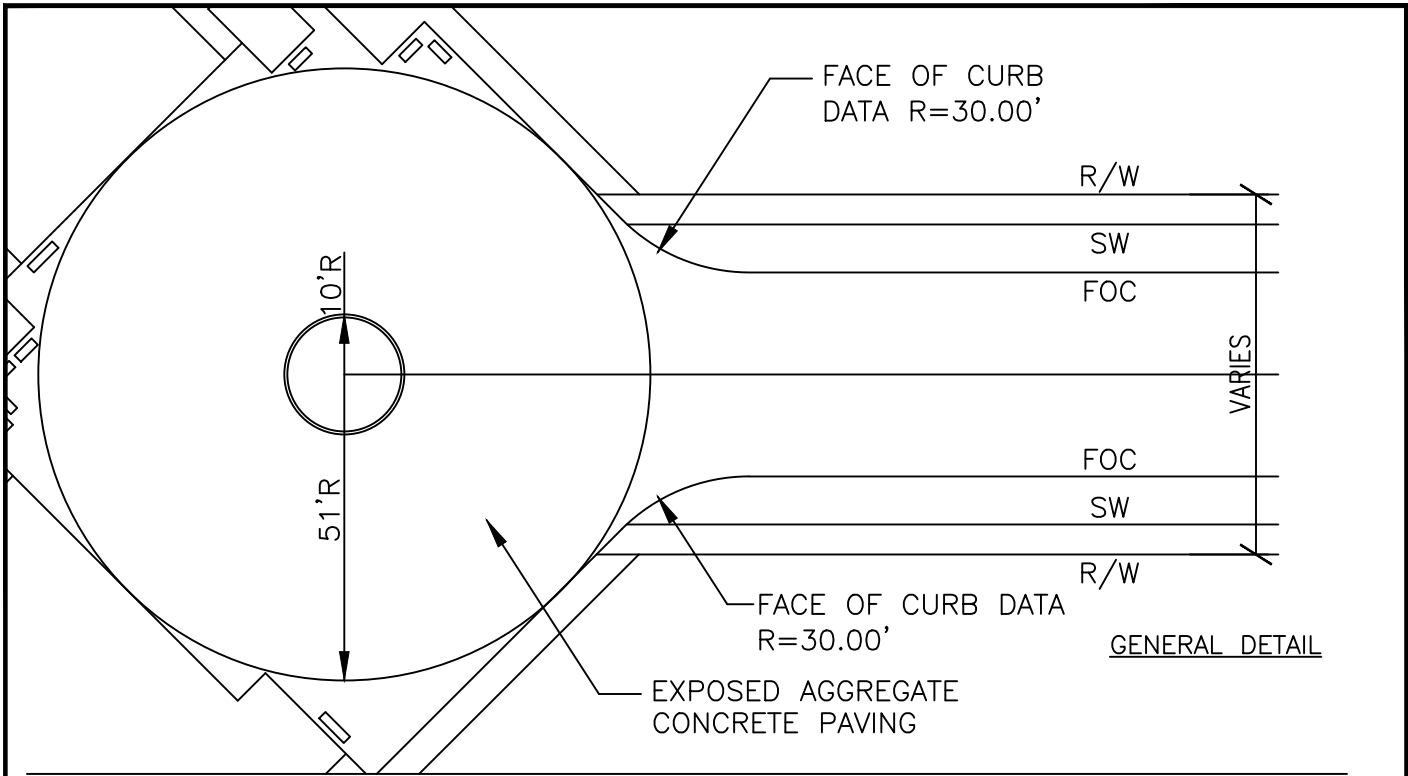
**STANDARD
 DETAIL**

Date: **JULY 2024**

Drawing No:

R-26

No	Revised	Date



- 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
City Engineer

No	Revised	Date

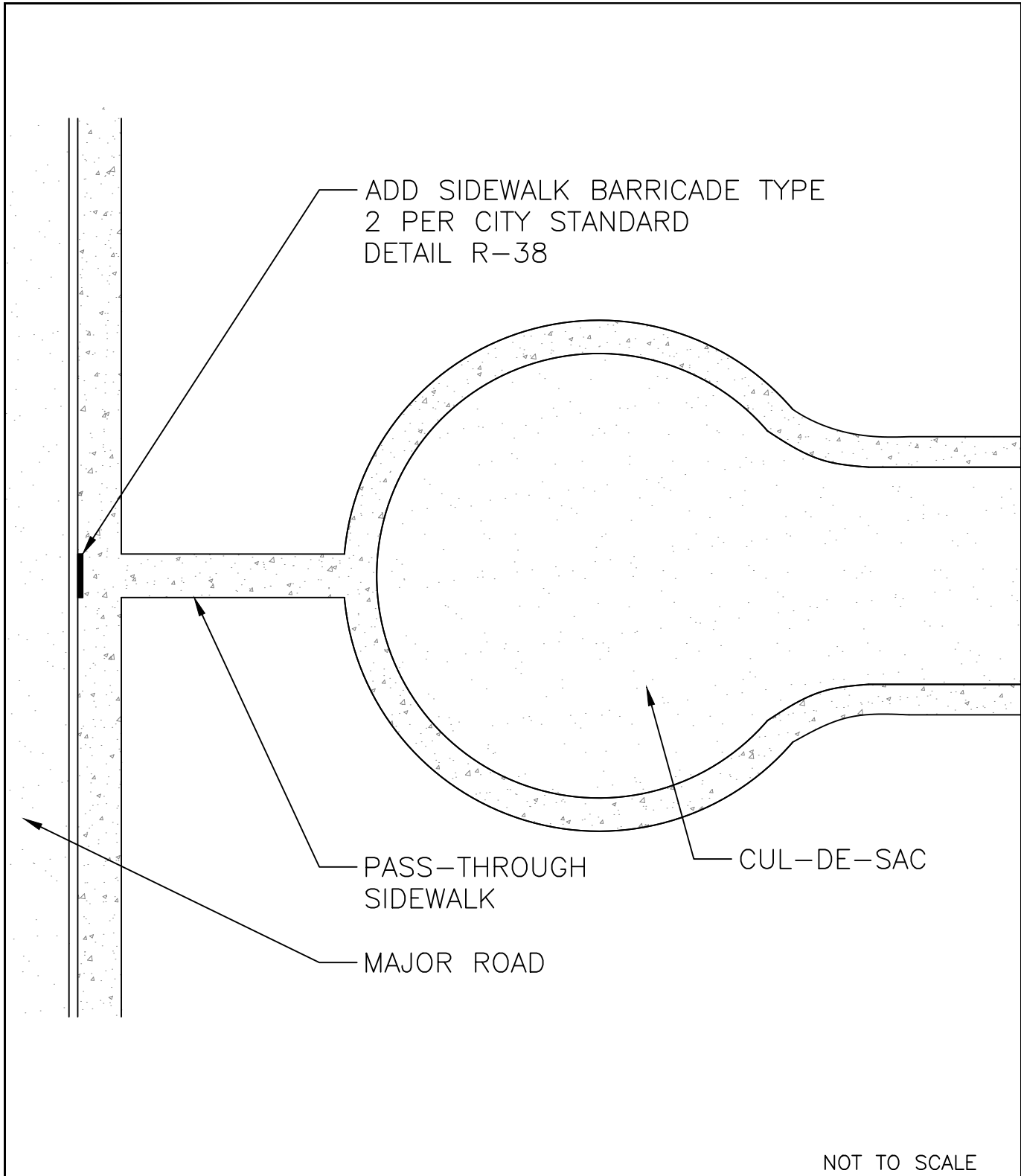
CITY OF LATHROP
DEPARTMENT OF PUBLIC WORKS

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



**STANDARD
DETAIL**

Date: **JULY 2024**
Drawing No:
R-27



NOT TO SCALE

Approved by:



City of Lathrop
City Engineer

No	Revised	Date

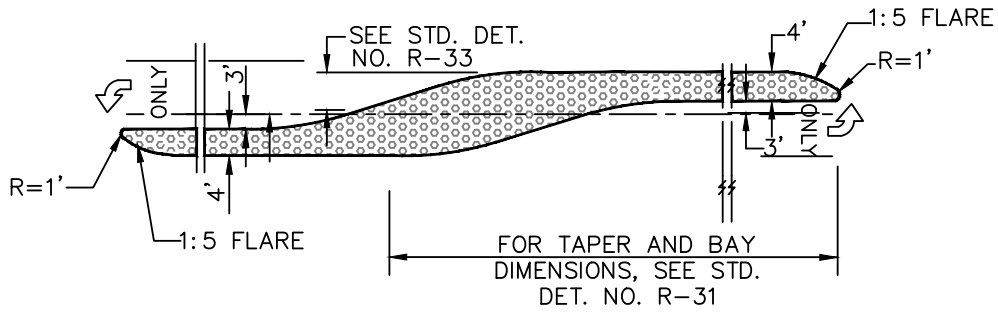
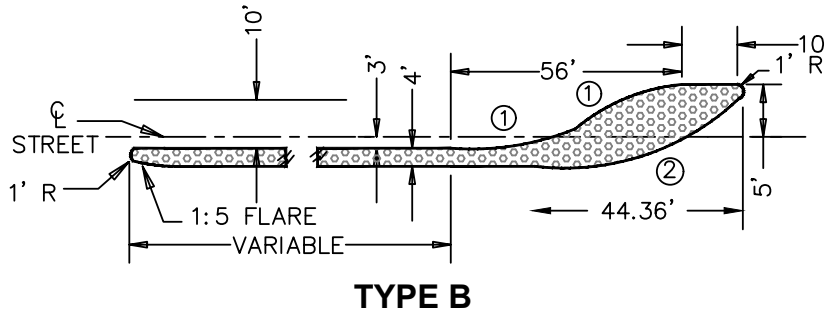
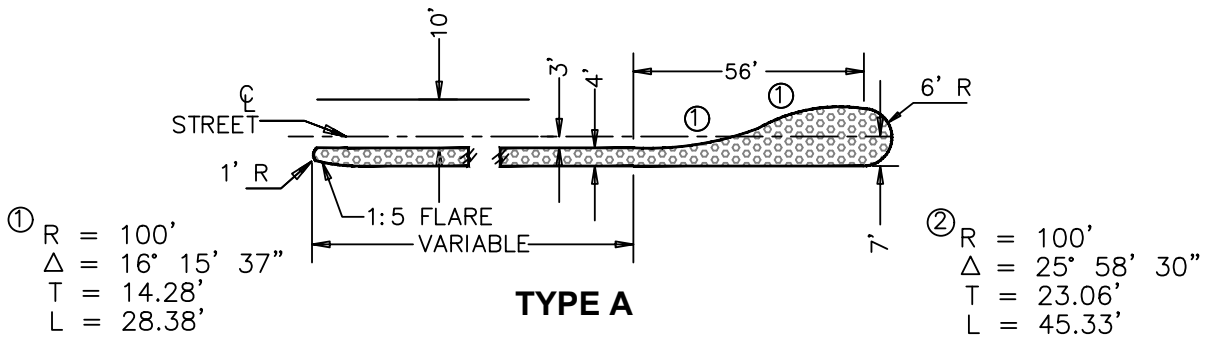
CITY OF LATHROP
DEPARTMENT OF PUBLIC WORKS

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



**STANDARD
DETAIL**

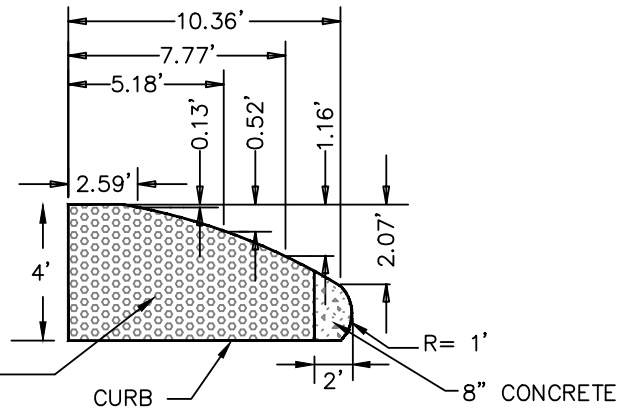
Date: JULY 2024
Drawing No:
R-28



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-10 for median curb.

SEE IMPROVEMENT PLANS FOR SURFACE TREATMENT 1.



FLARE DETAIL

NOT TO SCALE

Approved by:

[Signature]
 City of Lathrop
 City Engineer

No	Revised	Date

CITY OF LATHROP
 DEPARTMENT OF PUBLIC WORKS

TRAFFIC ISLAND

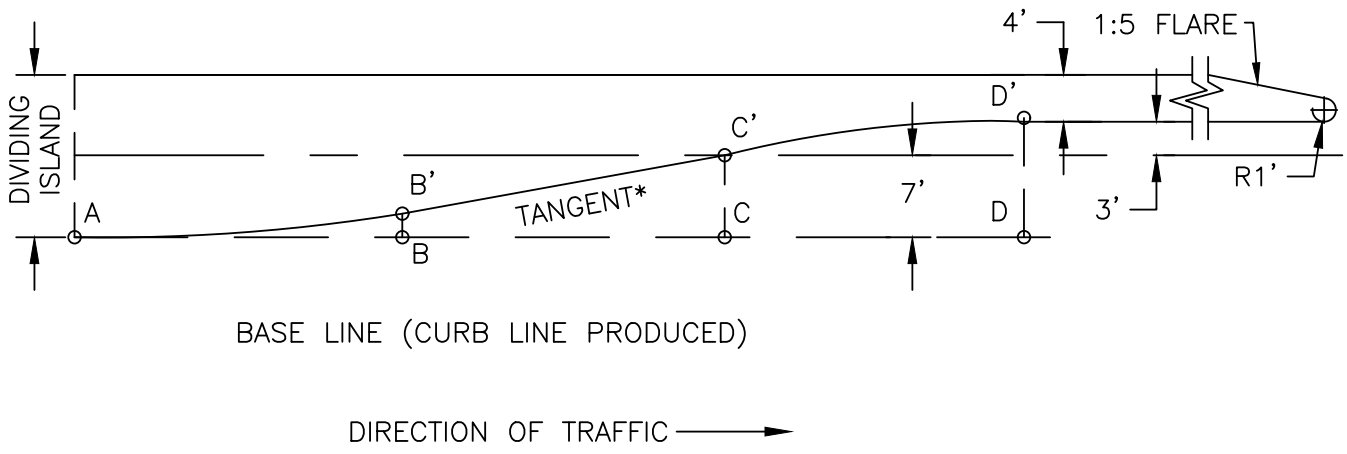


**STANDARD
 DETAIL**

Date: JULY 2024

Drawing No:

R-29



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
City Engineer

No	Revised	Date

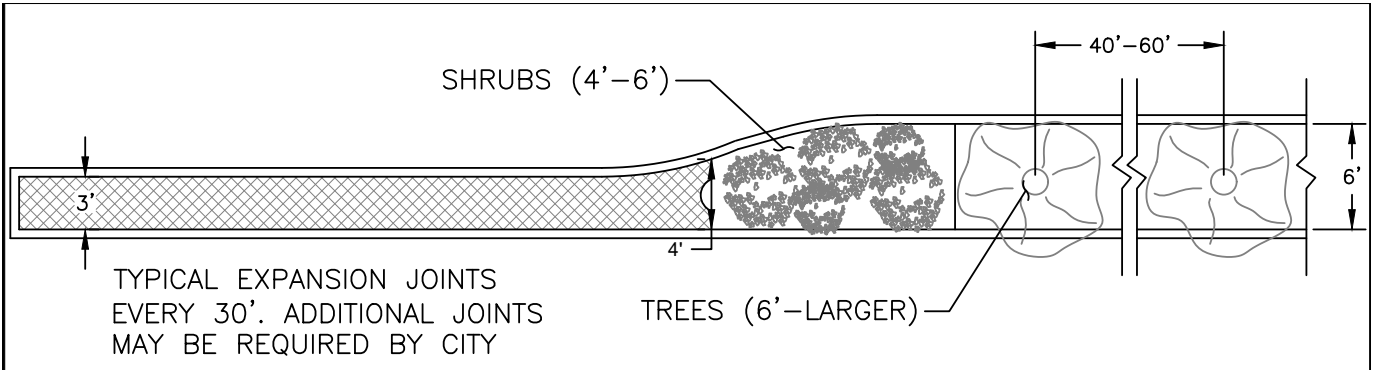
CITY OF LATHROP
 DEPARTMENT OF PUBLIC WORKS

**LEFT TURN LANE
 TAPER DATA**



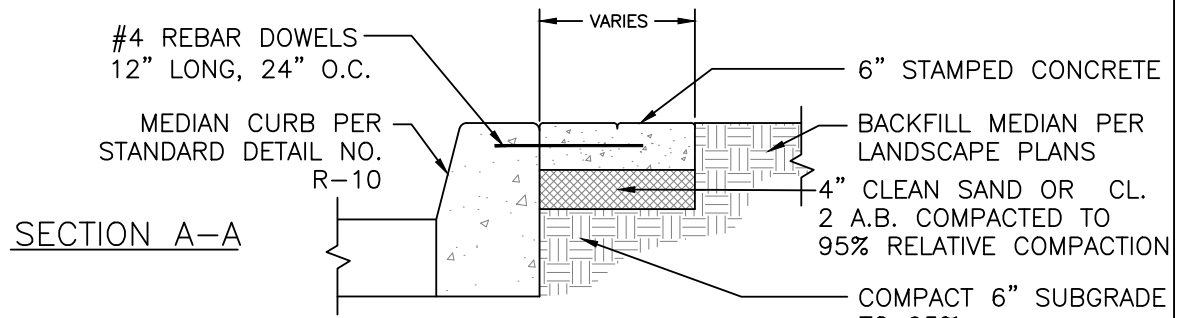
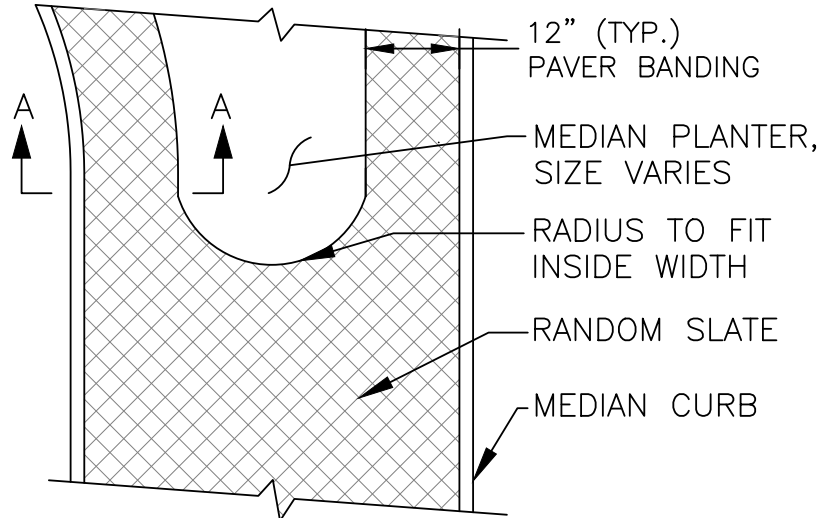
**STANDARD
 DETAIL**

Date: JULY 2024
 Drawing No:
R-30



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-4.
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 City Engineer		
No	Revised	Date

CITY OF LATHROP
DEPARTMENT OF PUBLIC WORKS

STAMPED CONCRETE



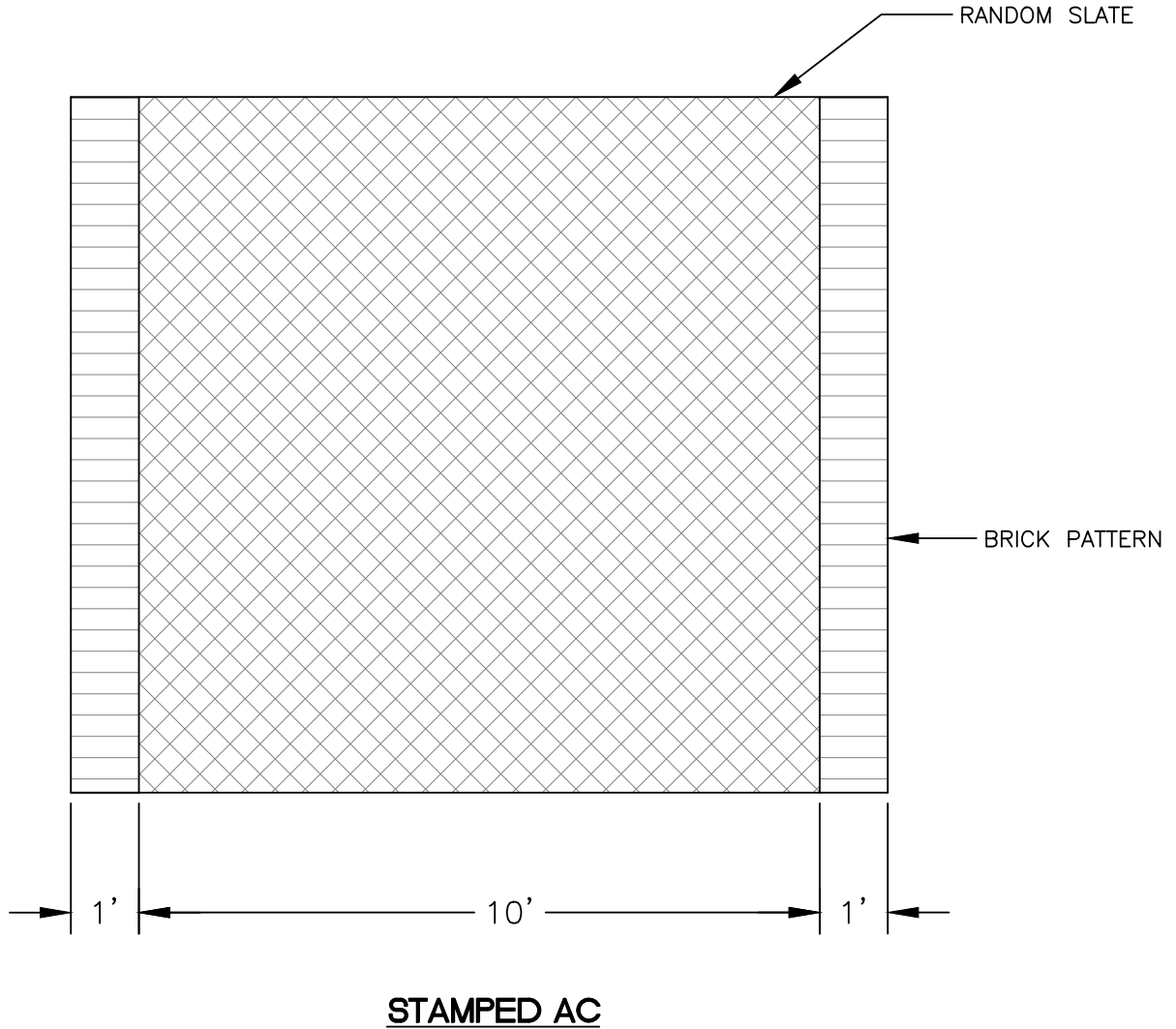
**STANDARD
DETAIL**

Date: JULY 2024
Drawing No:

R-31

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:

[Signature]
City of Lathrop
City Engineer

No	Revised	Date

CITY OF LATHROP
DEPARTMENT OF PUBLIC WORKS

**STAMPED
ASPHALT CROSSWALK**

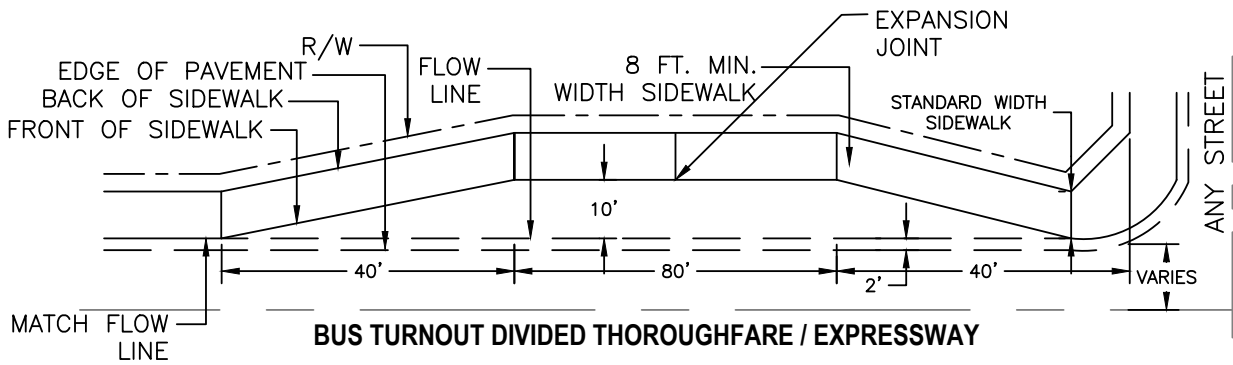


**STANDARD
DETAIL**

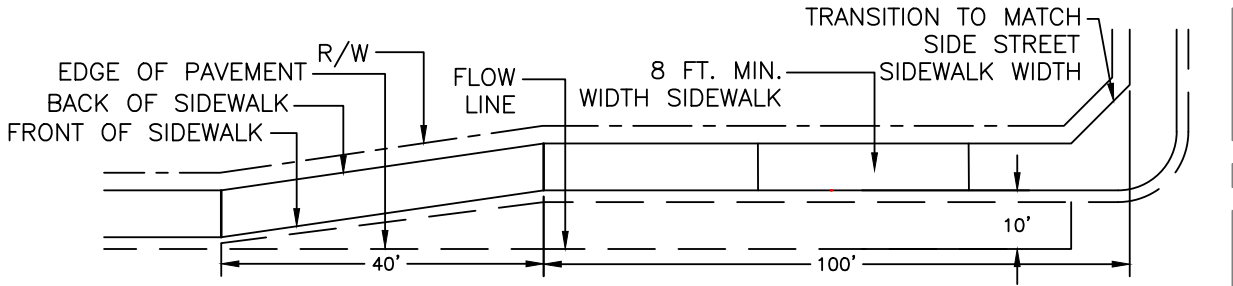
Date: **JULY 2024**

Drawing No:

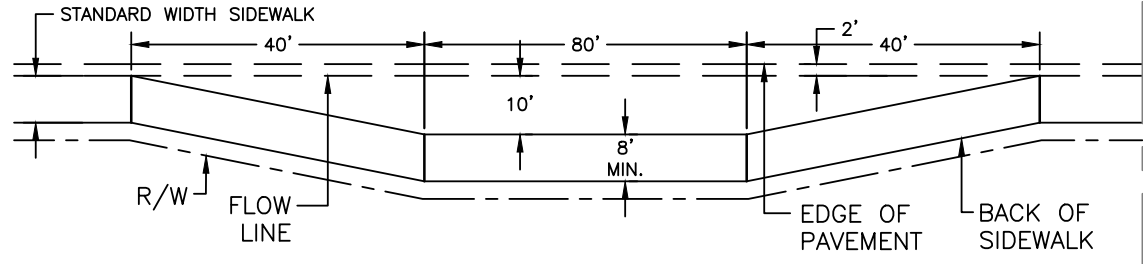
R-32



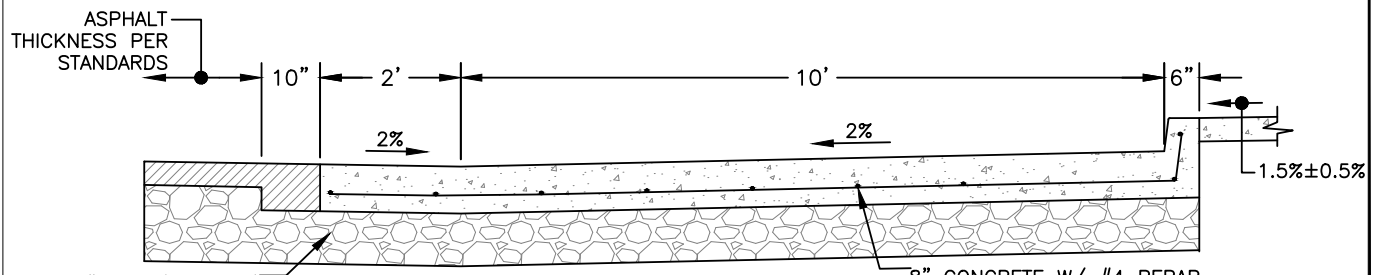
BUS TURNOUT DIVIDED THOROUGHFARE / EXPRESSWAY



BUS TURNOUT UNDIVIDED ARTERIAL



BUS TURNOUT TYPICAL MID-BLOCK



BUS TURNOUT CROSS SECTION

NOTES:

1. Expansion joints shall be 40' equal distance from center of bus stop and at the beginning and end of turnout.

NOT TO SCALE

Approved by:



City of Lathrop
City Engineer

No	Revised	Date

CITY OF LATHROP
DEPARTMENT OF PUBLIC WORKS

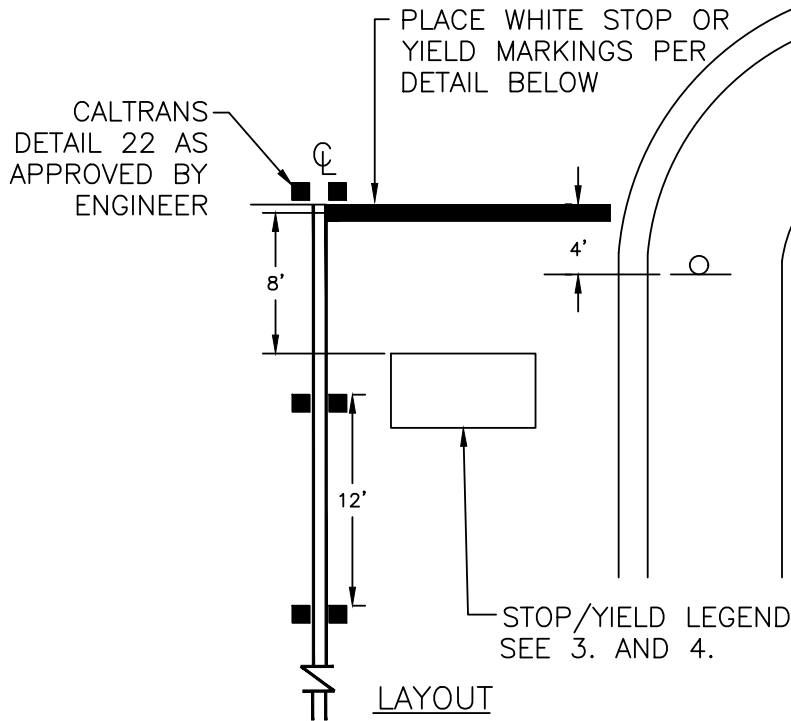
BUS TURNOUT



**STANDARD
DETAIL**

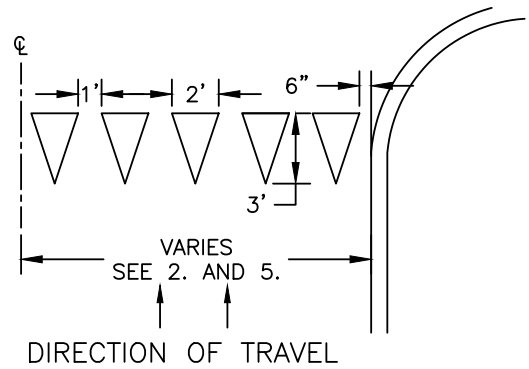
Date: **JULY 2024**
Drawing No:

R-33

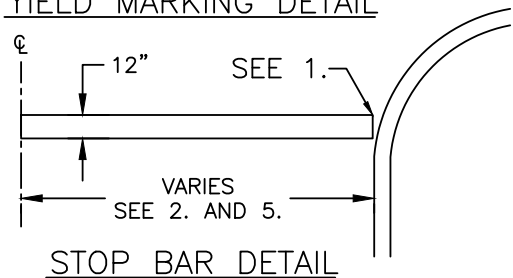


NOTES:

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 makings 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.
10. Crosswalks at arterials and collectors shall include ladder enhancement with 2' bar and 2' space.



YIELD MARKING DETAIL



STOP BAR DETAIL

NOT TO SCALE

Approved by:		
City of Lathrop City Engineer		
No	Revised	Date

CITY OF LATHROP
DEPARTMENT OF PUBLIC WORKS
STOP AND YIELD
STRIPING DETAILS

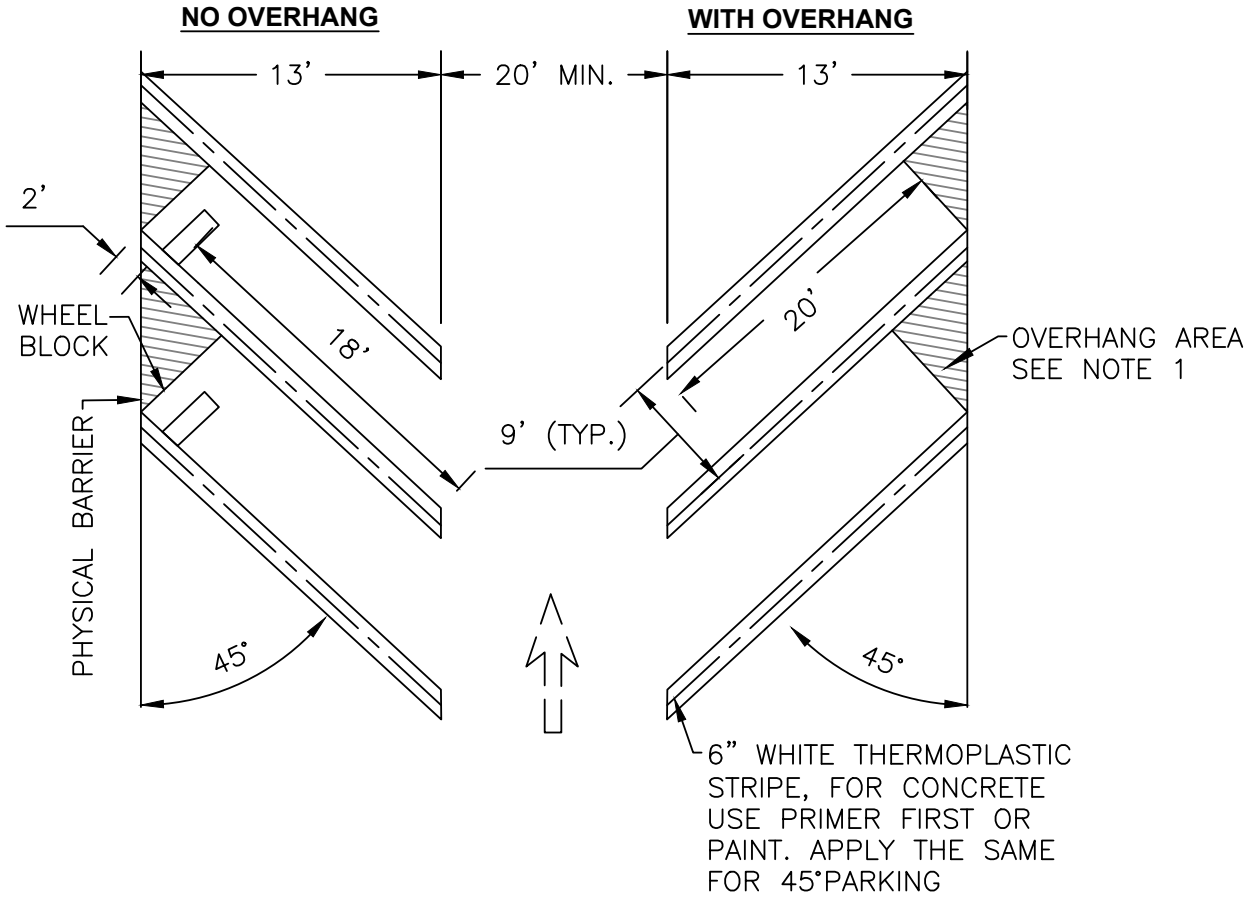


STANDARD
DETAIL

Date: **JULY 2024**

Drawing No:

R-34



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 City Engineer		
No	Revised	Date

CITY OF LATHROP
DEPARTMENT OF PUBLIC WORKS
TYPICAL 45°
PARKING STALL
LAYOUT



STANDARD
DETAIL

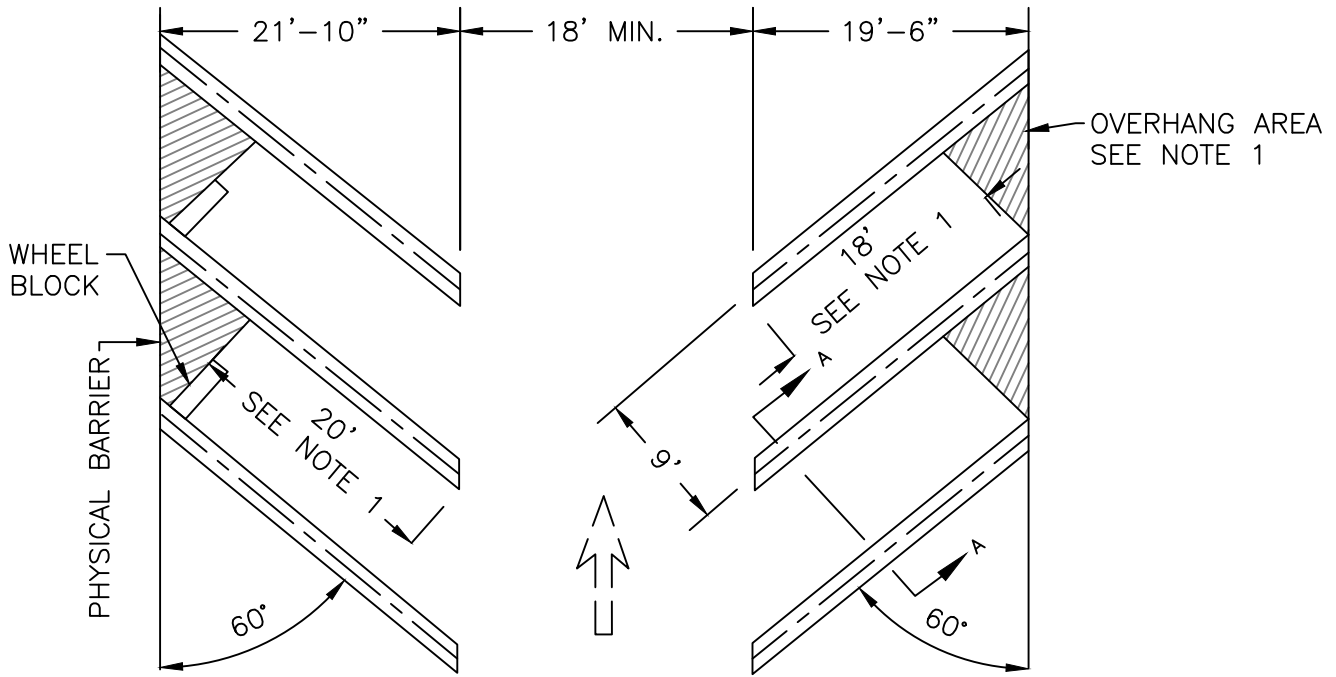
Date: JULY 2024

Drawing No:

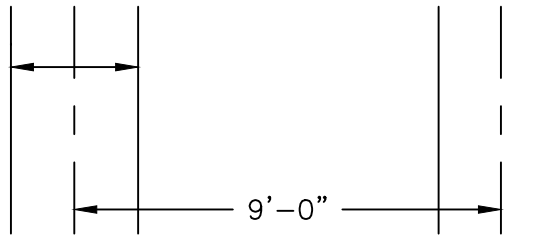
R-35

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 City Engineer		
No	Revised	Date

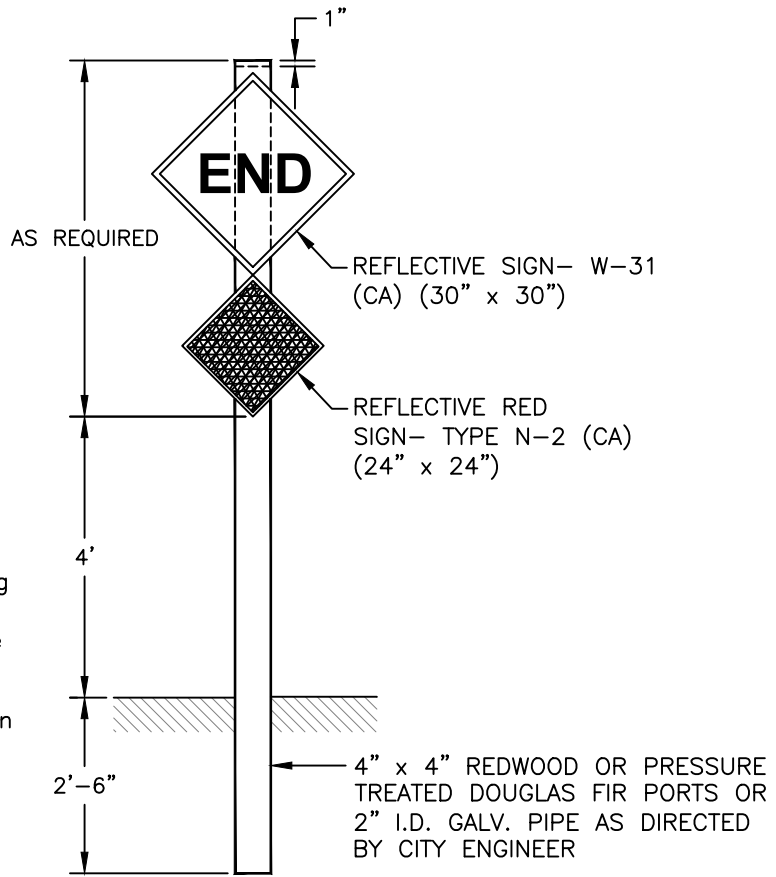
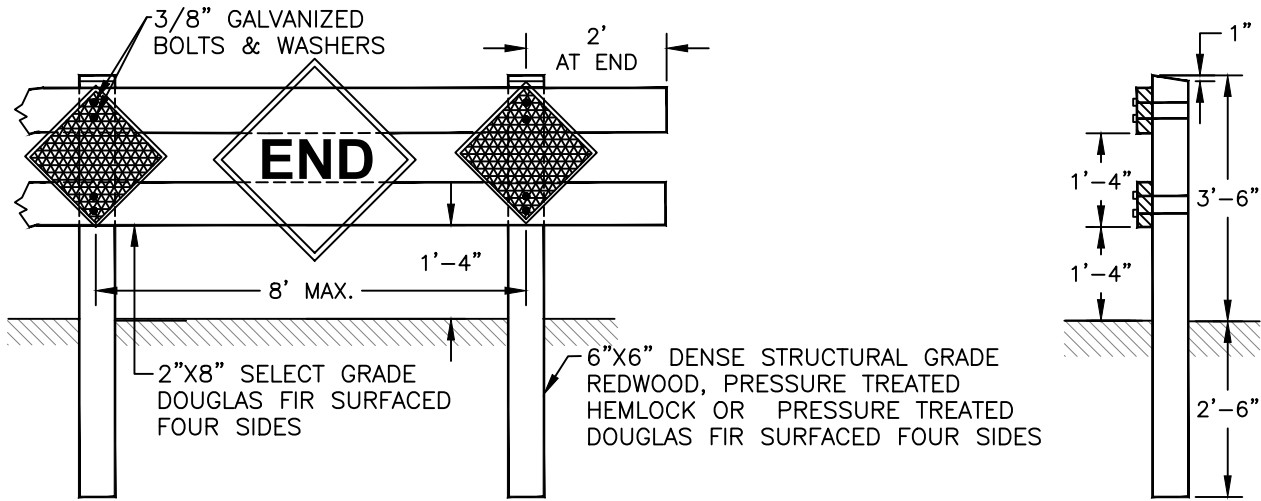
CITY OF LATHROP
DEPARTMENT OF PUBLIC WORKS
TYPICAL 60°
PARKING STALL
LAYOUT



STANDARD
DETAIL

Date: JULY 2024
Drawing No:

R-36



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
City Engineer

No	Revised	Date

CITY OF LATHROP
DEPARTMENT OF PUBLIC WORKS

**BARRICADES FOR
TERMINATING STREETS**



**STANDARD
DETAIL**

Date: JULY 2024
Drawing No:
R-37

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

USE SLEEVE POST DETAIL, SEE NOTE 2

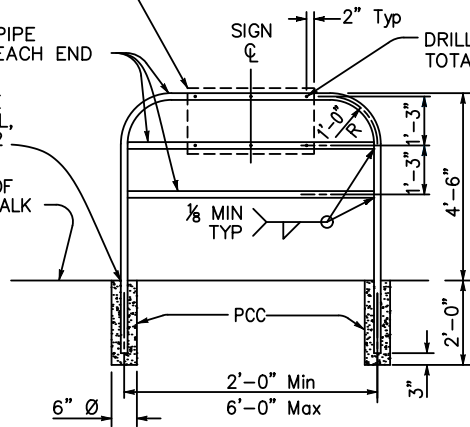
TOP OF SIDEWALK

R49 (CA) SIGN

SIGN

2" Typ

DRILL ½" Ø HOLES, TOTAL 6



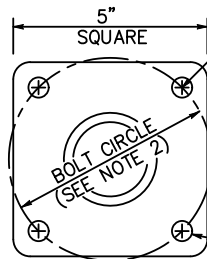
THREADED PIPE COLLAR

PCC SIDEWALK

ELEVATION

¼

½" BASE PLATE



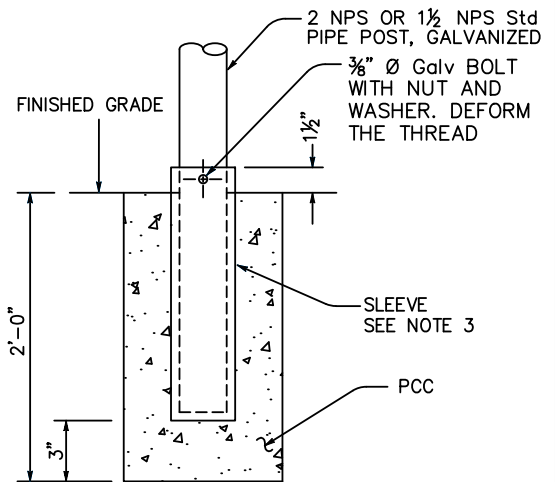
PLAN

POST ANCHORAGE DETAIL

MECHANICAL EXPANSION ANCHORS ½" Ø, TOTAL 4

BOLT CIRCLE (SEE NOTE 2)

3/16" Ø HOLES



SLEEVE POST DETAIL

Use unless otherwise specified or shown on plans

NOT TO SCALE

Approved by:

[Signature]
City of Lathrop
City Engineer

No	Revised	Date

CITY OF LATHROP
DEPARTMENT OF PUBLIC WORKS

**SIDEWALK BARRICADE
TYPE II**

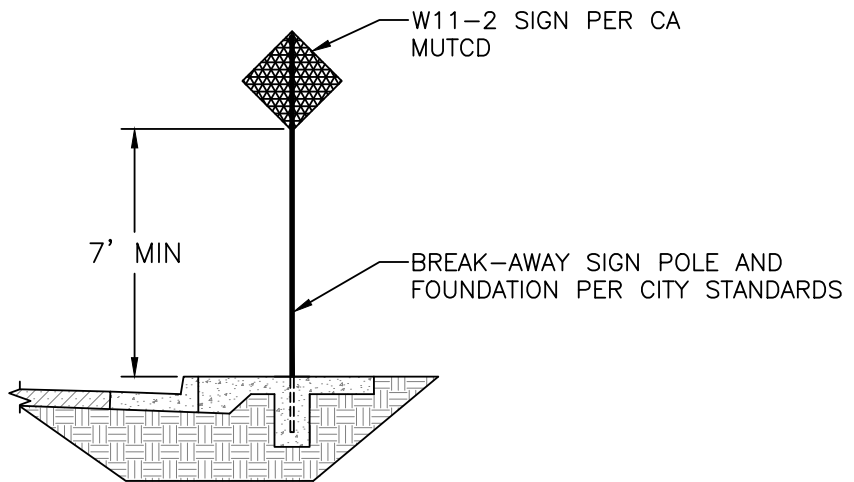
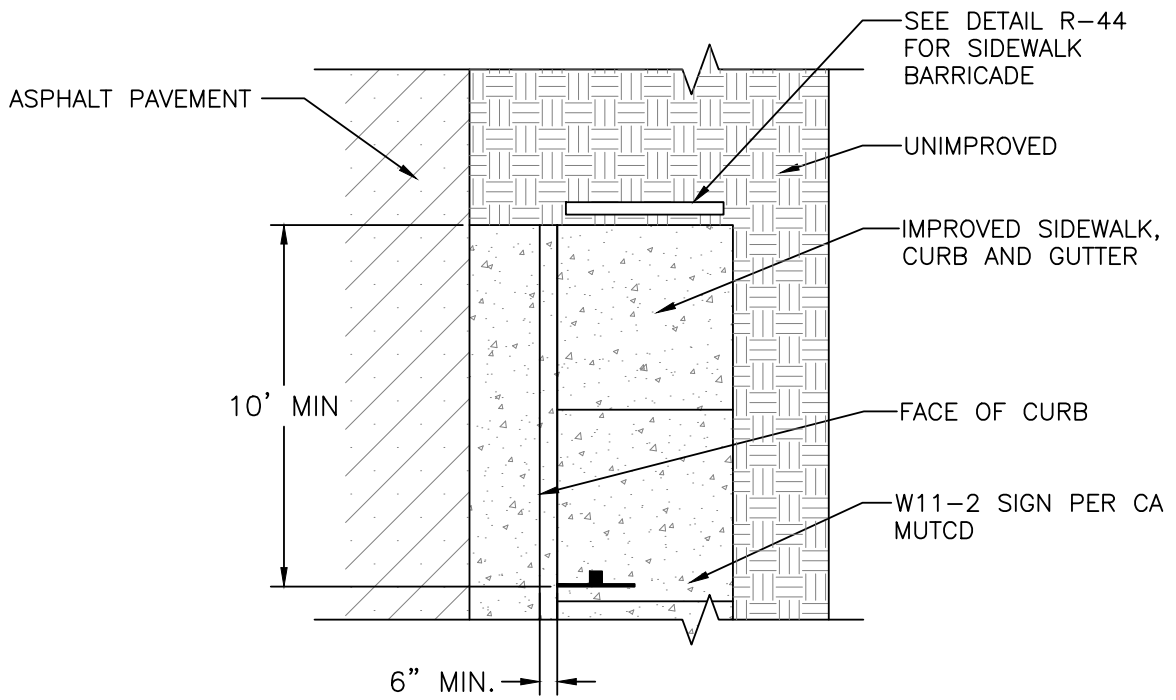


**STANDARD
DETAIL**

Date: JULY 2024

Drawing No:

R-38



NOT TO SCALE

Approved by:

[Signature]
 City Of Lathrop
 City Engineer

No	Revised	Date

CITY OF LATHROP
 DEPARTMENT OF PUBLIC WORKS

**SIDEWALK TRANSITION
 IMPROVED TO UNIMPROVED**

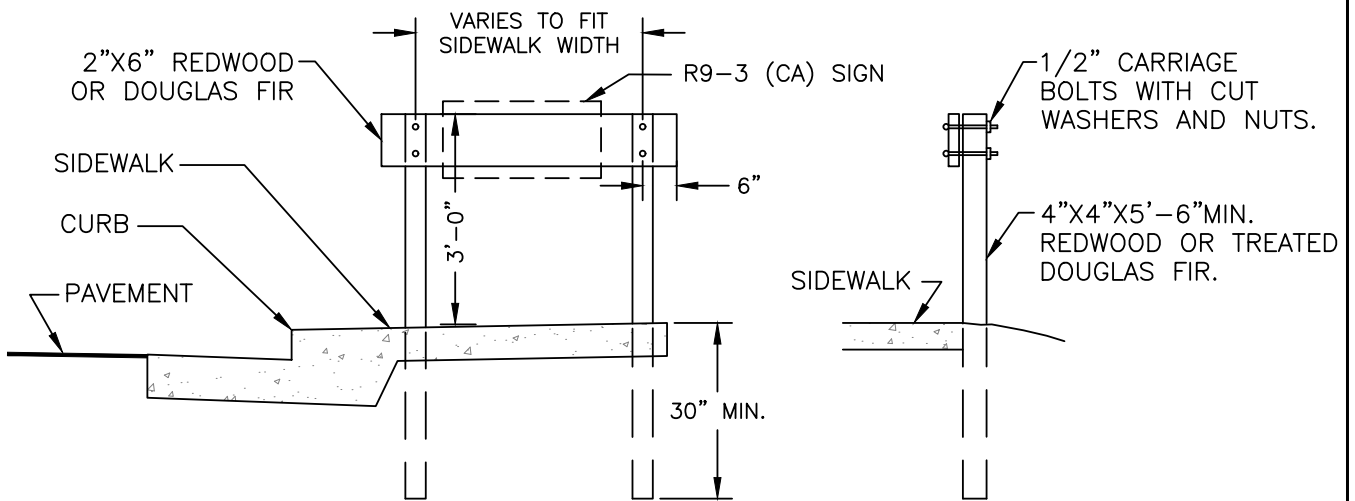


**STANDARD
 DETAIL**

Date: JULY 2024

Drawing No:

R-39



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 City Engineer		
No	Revised	Date

CITY OF LATHROP
 DEPARTMENT OF PUBLIC WORKS

**TEMPORARY SIDEWALK
 BARRICADE TYPE I**

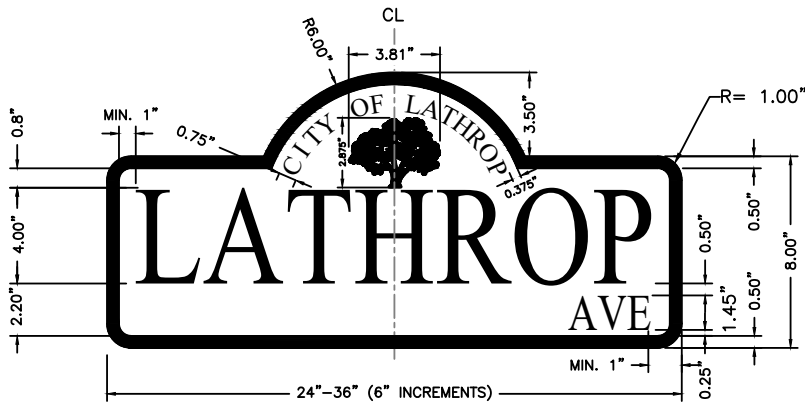


**STANDARD
 DETAIL**

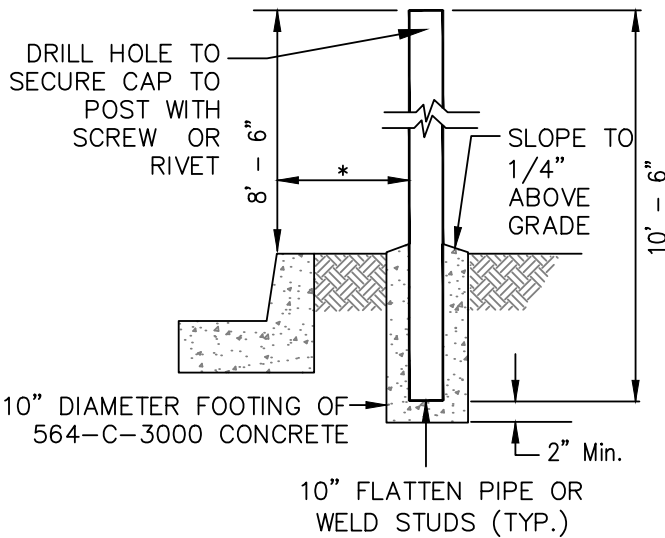
Date: **JULY 2024**

Drawing No:

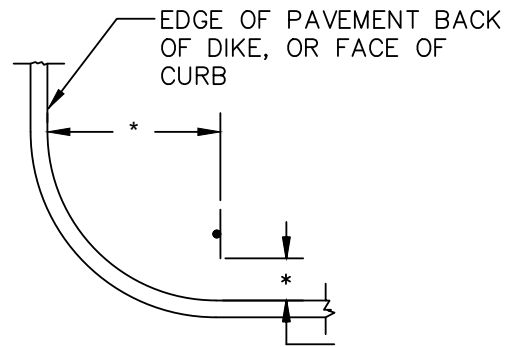
R-40



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



**TYPICAL STOP AND STREET
SIGN INSTALLATION**



* OFFSET SHALL BE PER THE LATEST CA MUTCD

**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. Tex-Cote Graffiti Guard[®], 21st Century Coatings Graff-It-Off[®], or approved equal shall be applied to all signs.
6. All signs shall be Diamond Grade reflective.
7. Pole shall be telespar 2"x2" break away.

NOT TO SCALE

Approved by:		
City of Lathrop City Engineer		
No	Revised	Date

CITY OF LATHROP
DEPARTMENT OF PUBLIC WORKS

**STANDARD STREET
SIGN DETAILS**

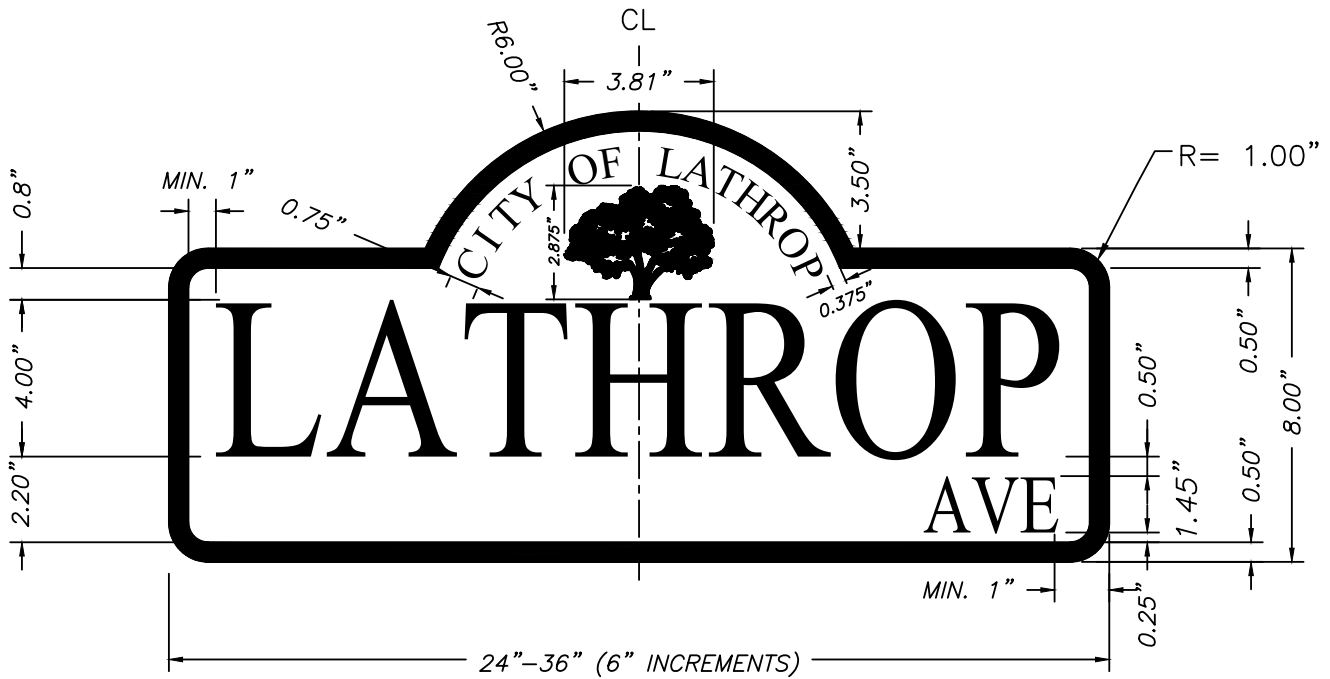


**STANDARD
DETAIL**

Date: JULY 2024

Drawing No:

R-41



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 City Engineer		
No	Revised	Date

CITY OF LATHROP
DEPARTMENT OF PUBLIC WORKS

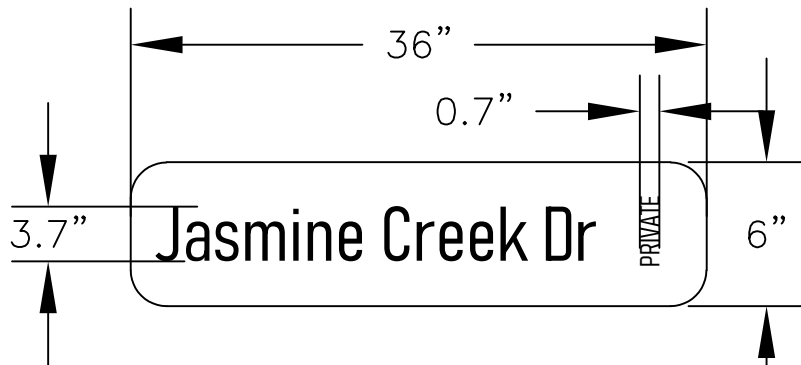
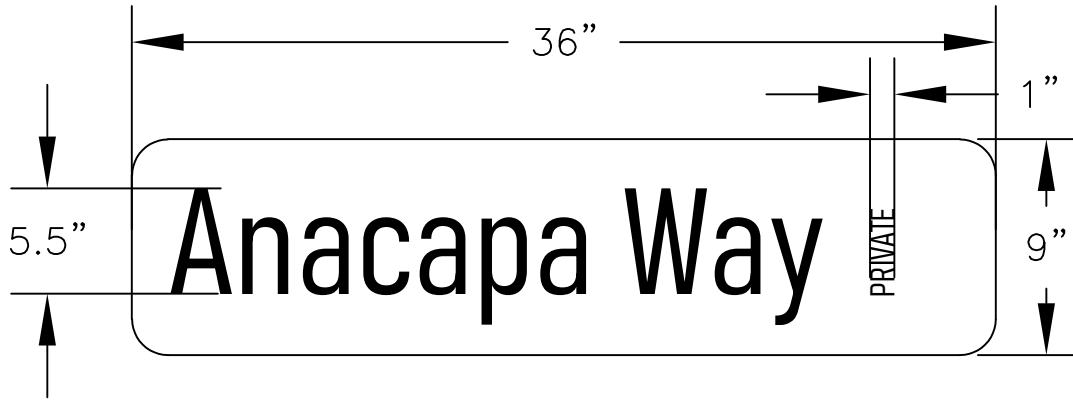
**RESIDENTIAL STREET
NAME SIGN DETAIL**



**STANDARD
DETAIL**

DATE: JULY 2024
DRAWING NO:

R-42



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
 City Engineer

No	Revised	Date

CITY OF LATHROP
 DEPARTMENT OF PUBLIC WORKS

RIVER ISLANDS
STREET SIGN DETAIL

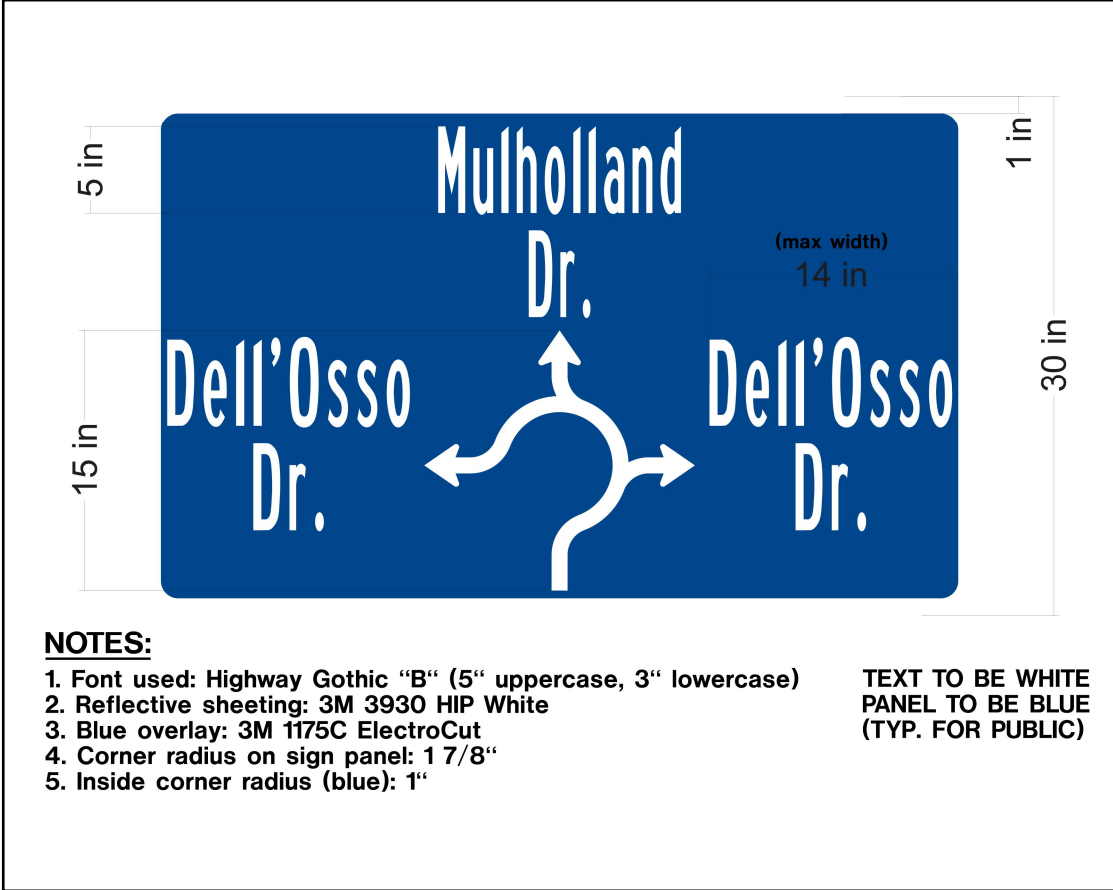


STANDARD
DETAIL

Date: **JULY 2024**

Drawing No:

R-43



NOT TO SCALE

Approved by:



City of Lathrop
City Engineer

No	Revised	Date

CITY OF LATHROP
DEPARTMENT OF PUBLIC WORKS

**River Islands Roundabout
Street Name Sign**

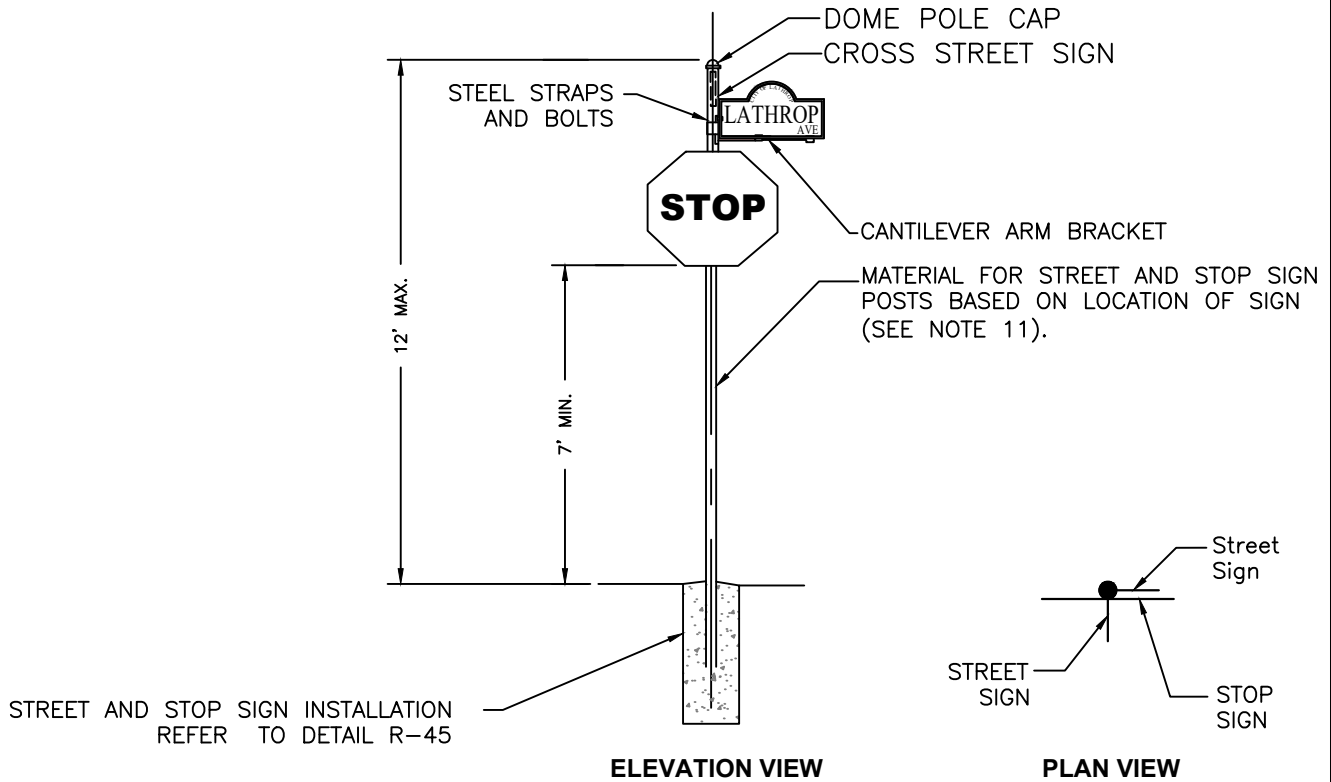


**STANDARD
DETAIL**

Date: JULY 2024

Drawing No:

R-44



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-45 for details on typical stop and street sign installation.
11. Pole shall be 2"x2" break away. See detail R-45.

NOT TO SCALE

Approved by:		
CITY OF LATHROP City Engineer		
No	Revised	Date

CITY OF LATHROP
DEPARTMENT OF PUBLIC WORKS

**RESIDENTIAL
SIGN LOCATION**



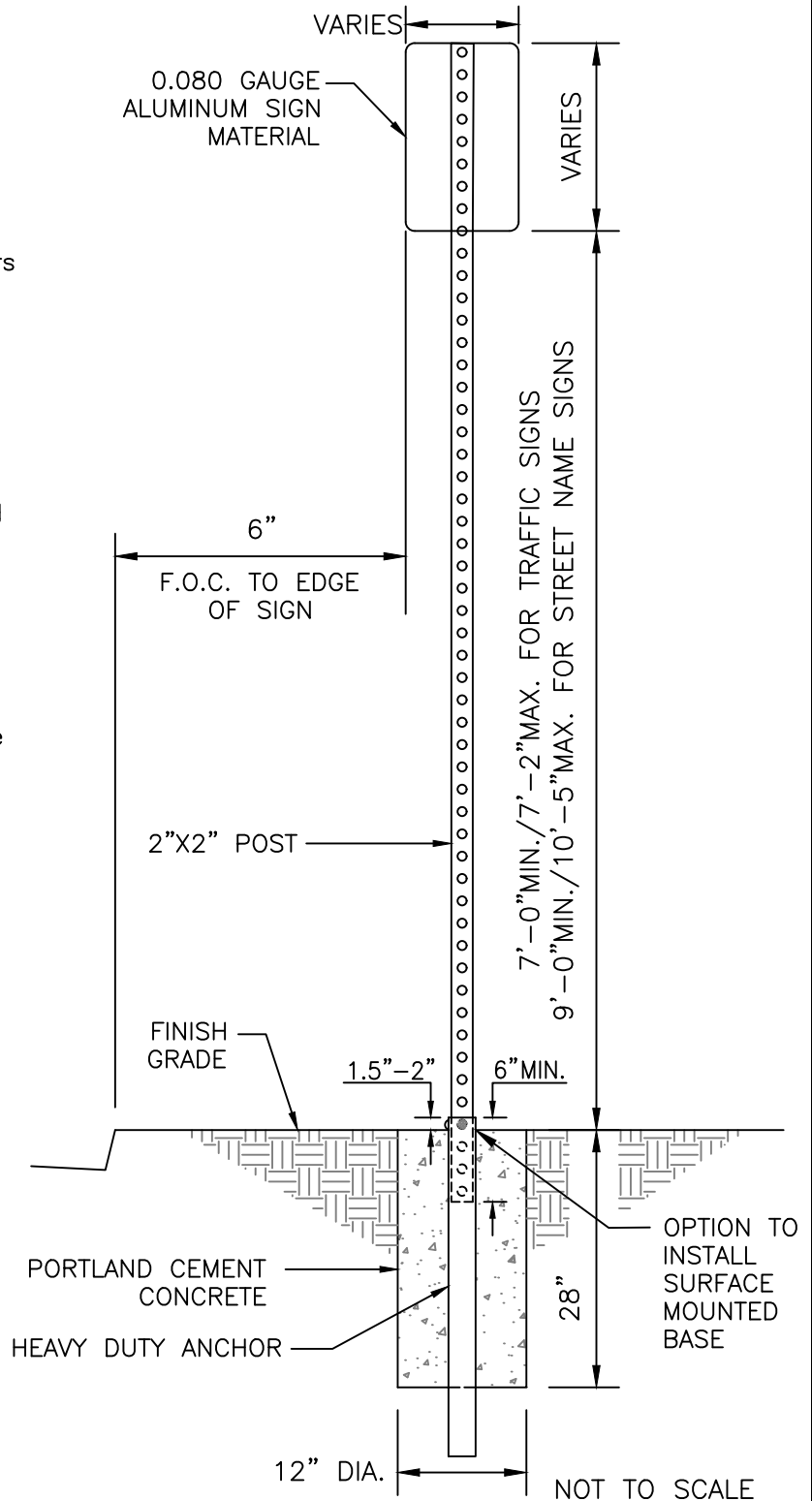
**STANDARD
DETAIL**

Date: JULY 2024
DRAWING NO:

R-45

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 coded #RAL 6012 green black.



Approved by:

[Signature]
City Engineer

No	Revised	Date

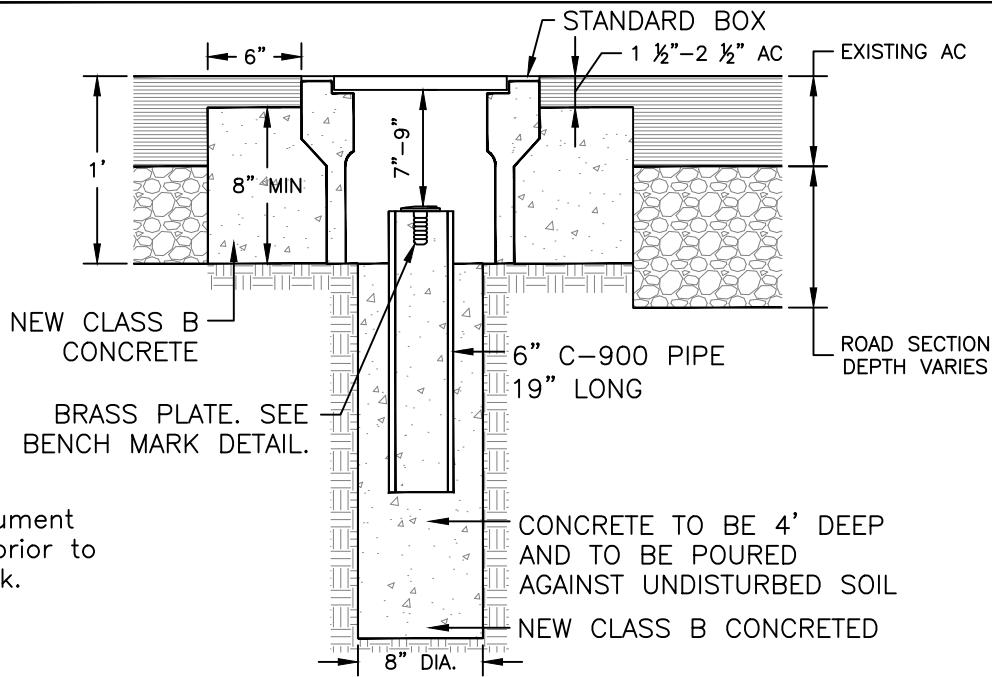
CITY OF LATHROP
DEPARTMENT OF PUBLIC WORKS

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



**STANDARD
DETAIL**

Date: JULY 2024
Drawing No:
R-46

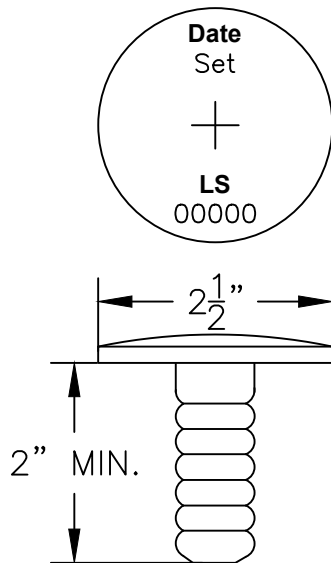


NOTE:
Survey monument report due prior to start of work.

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 Leitz 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 City Engineer		
No	Revised	Date

CITY OF LATHROP
DEPARTMENT OF PUBLIC WORKS

BENCH MARK & SURVEY MONUMENT

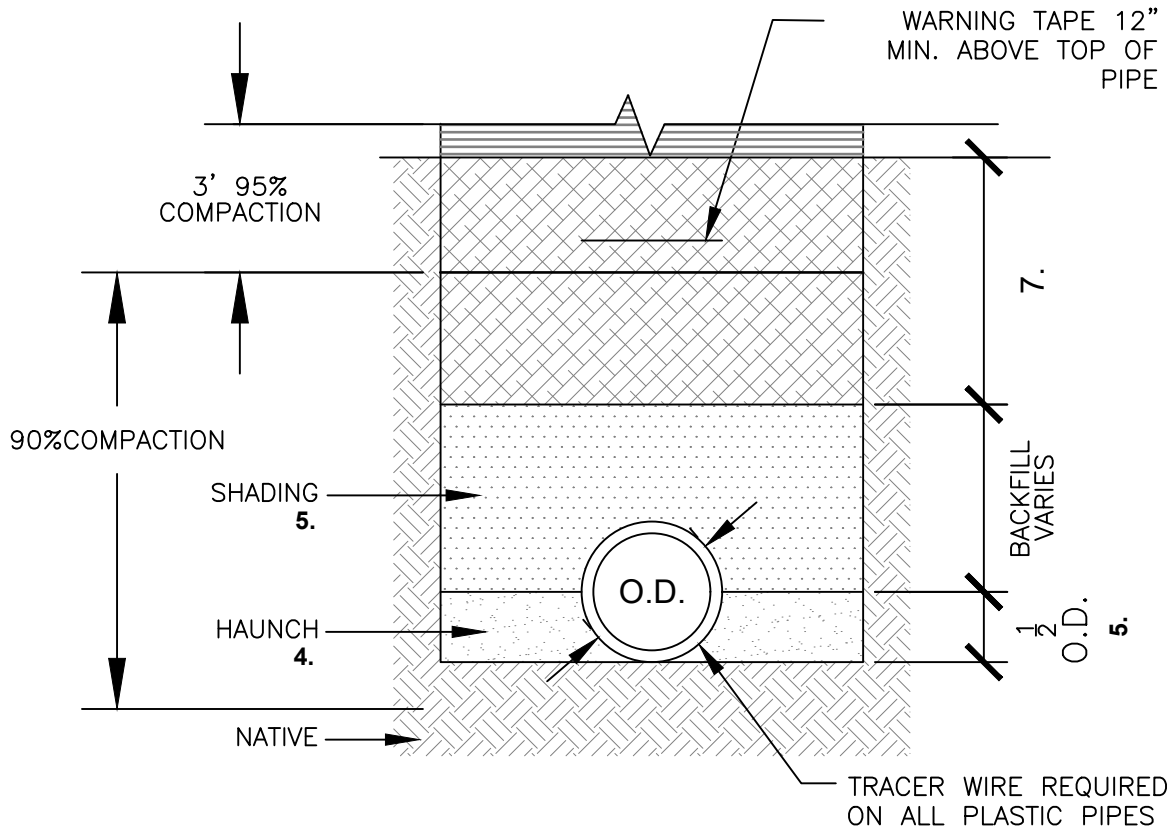


STANDARD DETAIL

Date: JULY 2024

Drawing No:

R-47



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-48 through R-51 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.
11. Refer to detail R-53.

NOT TO SCALE

Approved by:


City of Lathrop
City Engineer

CITY OF LATHROP
DEPARTMENT OF PUBLIC WORKS



**STANDARD
DETAIL**

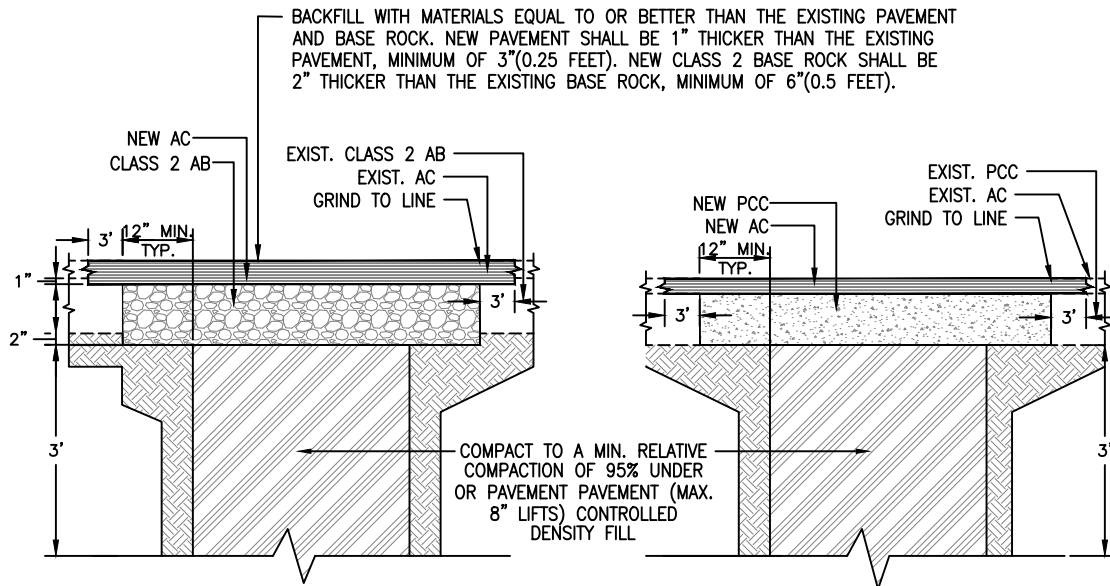
**TRENCH BEDDING
AND SHADING**

Date: JULY 2024

Drawing No:

R-48

No	Revised	Date



NOTES:

1. Relative compaction of materials shall be tested in accordance with ASTM D1557, D2922 and D3017.
2. All existing pavement shall be neatly ground 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 3' 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-51 for pipe bedding and shading requirements.
7. Add glass grid under top lift and second lift.
8. Refer to detail R-53.

NOT TO SCALE

Approved by:		
City of Lathrop City Engineer		
No	Revised	Date

CITY OF LATHROP
 DEPARTMENT OF PUBLIC WORKS
TRENCH BACKFILL
EXISTING OR FUTURE
PAVED AREAS



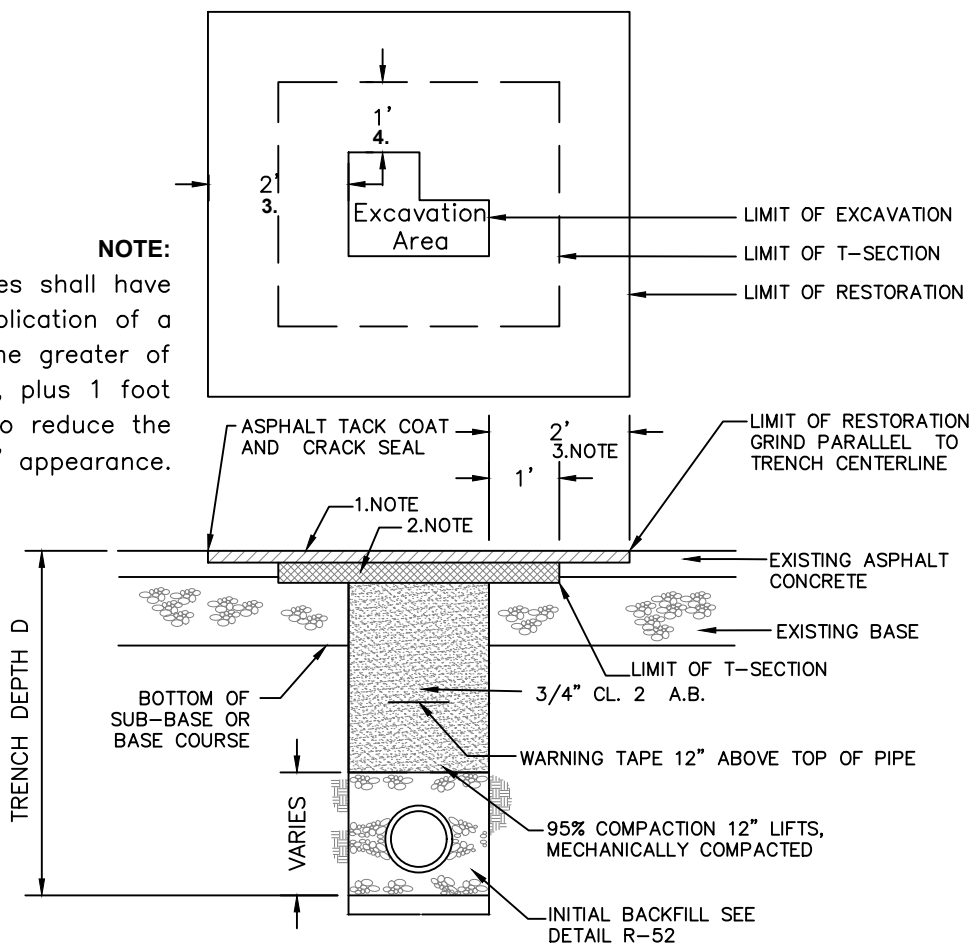
STANDARD
DETAIL

Date: JULY 2024

Drawing No:

R-49

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 3" in accordance with these standards.
2. Construct new asphalt concrete surface 2" thicker than existing section but not less than 5". Total thickness includes 3" surface course detailed in note 1.
3. Restoration width shall be 2' min.
4. Restoration and T-section limits shall be rectangular areas and limits are measured from the widest portion of the excavation.
5. Restoration area and T-section areas shall be ground out after backfill of trench is completed.
6. All trench bedding and backfill shall conform to standard detail no. R-50.
7. Refer to detail R-53.
8. Add glass grid between top lift and second lift

NOT TO SCALE

Approved by:		
City of Lathrop City Engineer		
No	Revised	Date

CITY OF LATHROP
 DEPARTMENT OF PUBLIC WORKS



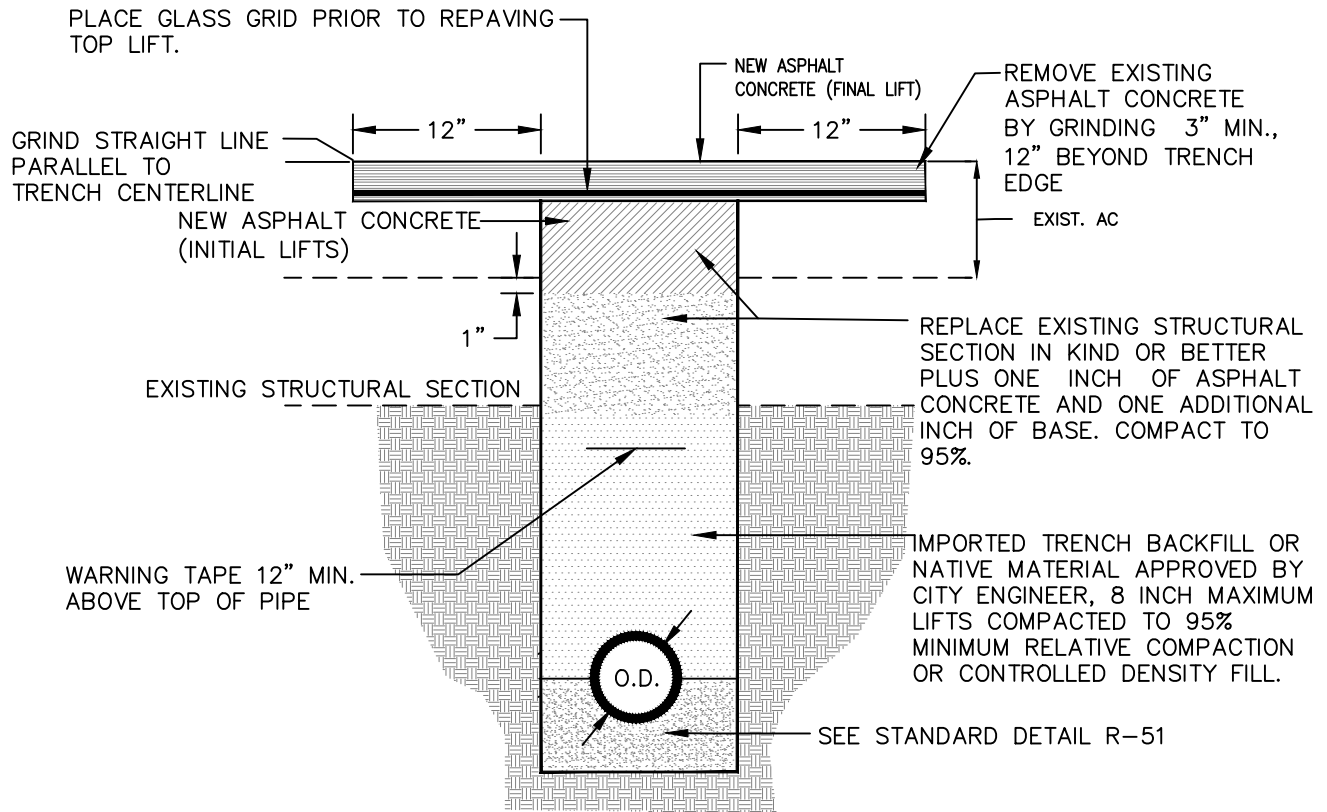
EXCAVATION REPAIR

**STANDARD
 DETAIL**

Date: JULY 2024

Drawing No:

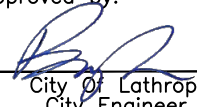
R-50



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.
8. Refer to detail R-53.

NOT TO SCALE

Approved by:		
		
City of Lathrop City Engineer		
No	Revised	Date

CITY OF LATHROP
DEPARTMENT OF PUBLIC WORKS

**TRENCH BACKFILL
PAVING REINFORCEMENT
FABRIC**



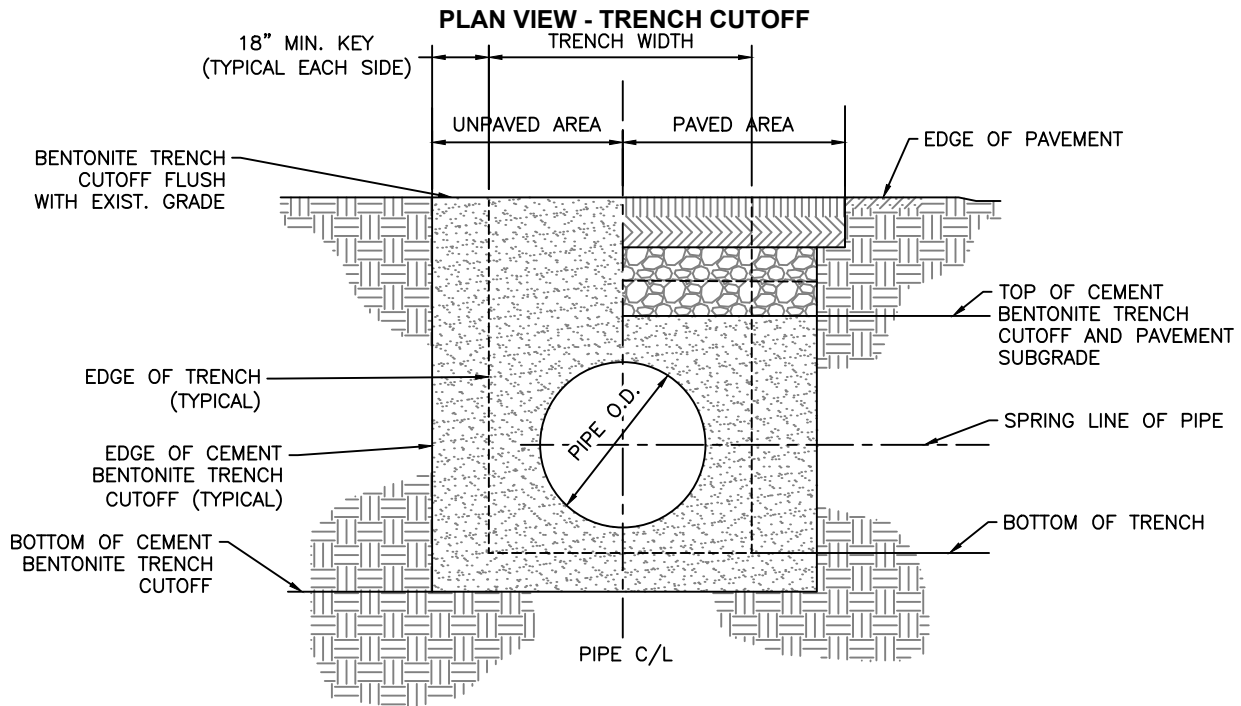
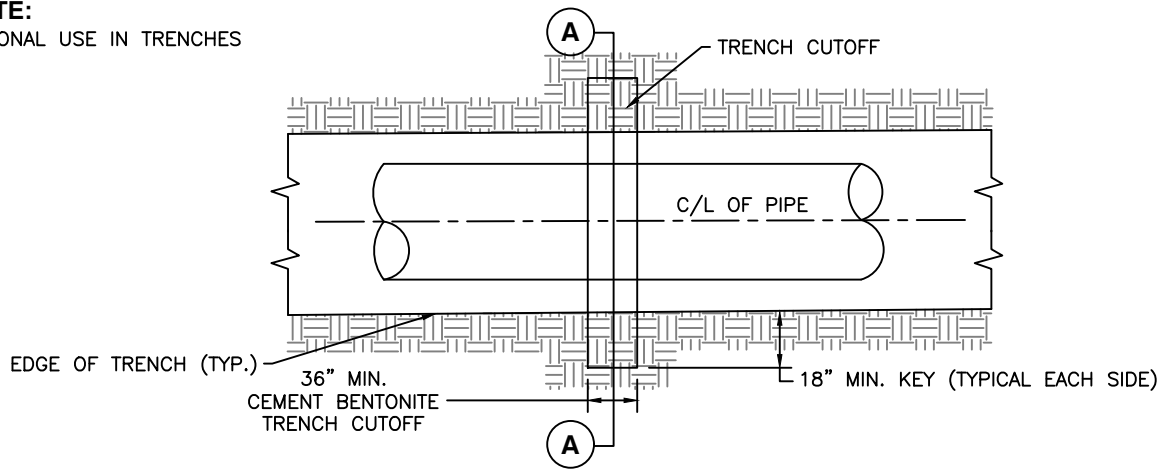
**STANDARD
DETAIL**

Date: JULY 2024

Drawing No:

R-51

NOTE:
OPTIONAL USE IN TRENCHES



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 City Engineer		
No	Revised	Date

CITY OF LATHROP
DEPARTMENT OF PUBLIC WORKS
TRENCH BACKFILL
SEWER TRENCH DAM



**STANDARD
DETAIL**

Date: JULY 2024


Drawing No:

R-52

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 GROUND THROUGH THE FULL THICKNESS OF EXISTING AC AND TO NEAT STRAIGHT LINES WITH A 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 City Engineer		
No	Revised	Date

CITY OF LATHROP
DEPARTMENT OF PUBLIC WORKS

**STANDARD
TRENCH DETAIL
GENERAL NOTES**



**STANDARD
DETAIL**

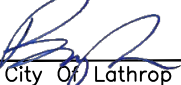
Date: JULY 2024
Drawing No:

R-53

NOTES:

1. Refer to R-52 to R-56 for the detail on open trench, backfill and repair of existing streets.
2. Jetting of trenches is not allowed unless approved by City Engineer.
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 Mechanical 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-48 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-56 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 City Engineer		
No	Revised	Date

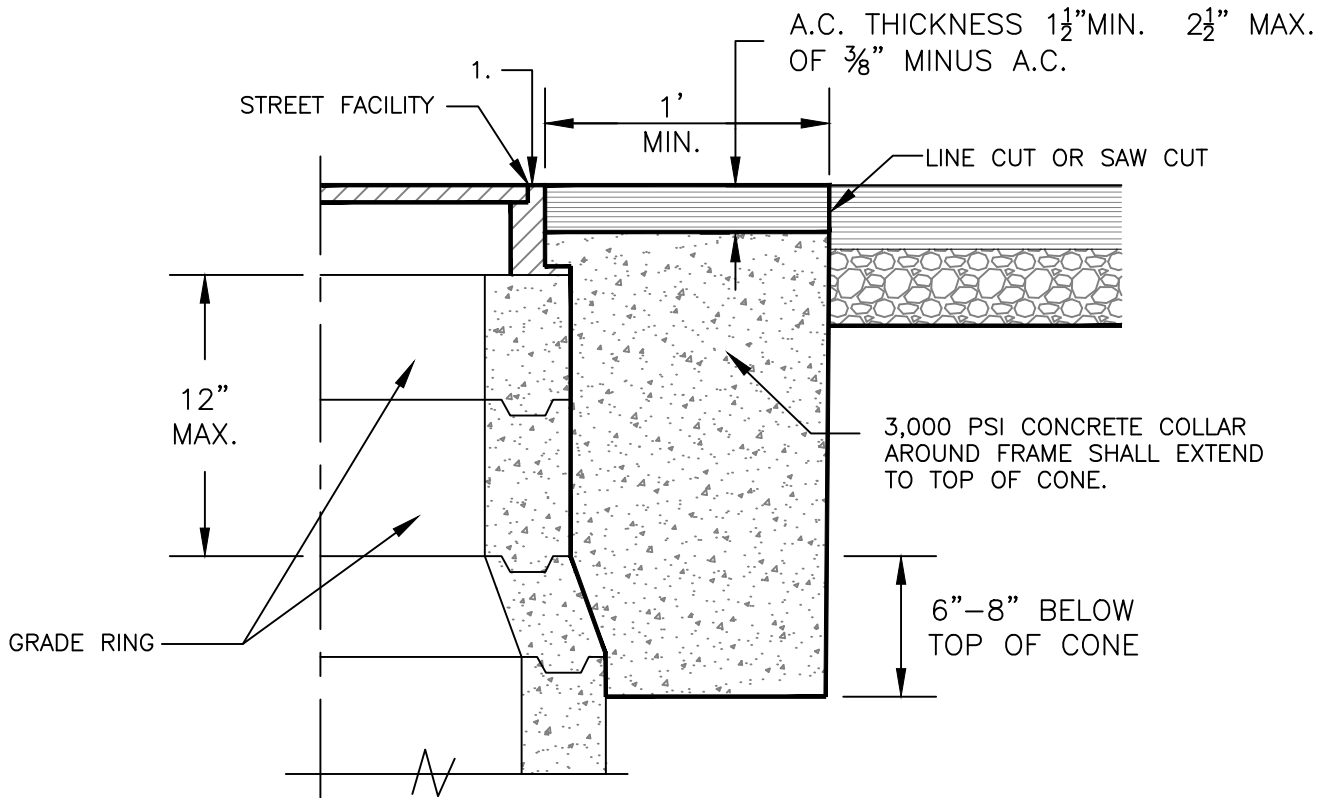
CITY OF LATHROP
 DEPARTMENT OF PUBLIC WORKS
**NOTES FOR OPEN TRENCH,
 BACKFILL AND REPAIR OF
 EXISTING STREETS**



**STANDARD
 DETAIL**

Date: JULY 2024
 Drawing No:

R-54



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:

[Signature]
 City of Lathrop
 City Engineer

CITY OF LATHROP
 DEPARTMENT OF PUBLIC WORKS



**STANDARD
 DETAIL**

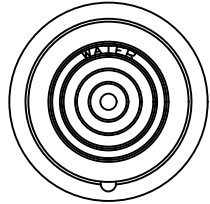
**ADJUSTING STREET
 FACILITIES TO GRADE**

Date: JULY 2024

Drawing No:

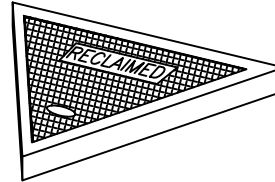
R-55

No	Revised	Date

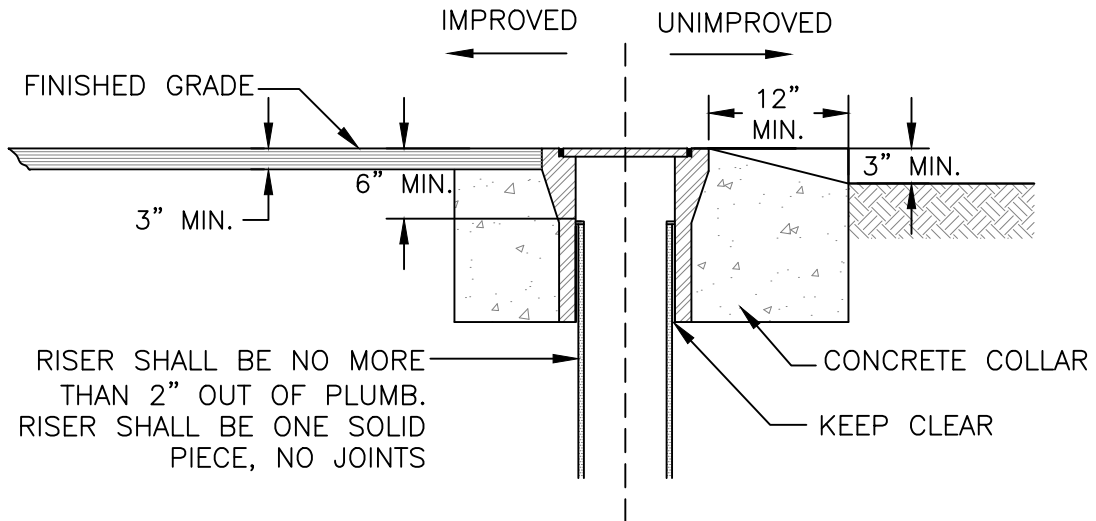


CHRISTY G5 OR G12
LID DETAIL

CHRISTY G5
LID DETAIL



CHRISTY G4
LID DETAIL



NOTES:

1. For concrete specifications see notes on Standard Detail No. R-4.
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".
3. For recycled water, paint lids purple (Pantone 512) per Recycled Water Standards.

NOT TO SCALE

Approved by:

[Signature]
City of Lathrop
City Engineer

No	Revised	Date

CITY OF LATHROP
DEPARTMENT OF PUBLIC WORKS

**TYPICAL BOX
FOR IMPROVED &
UNIMPROVED AREAS**

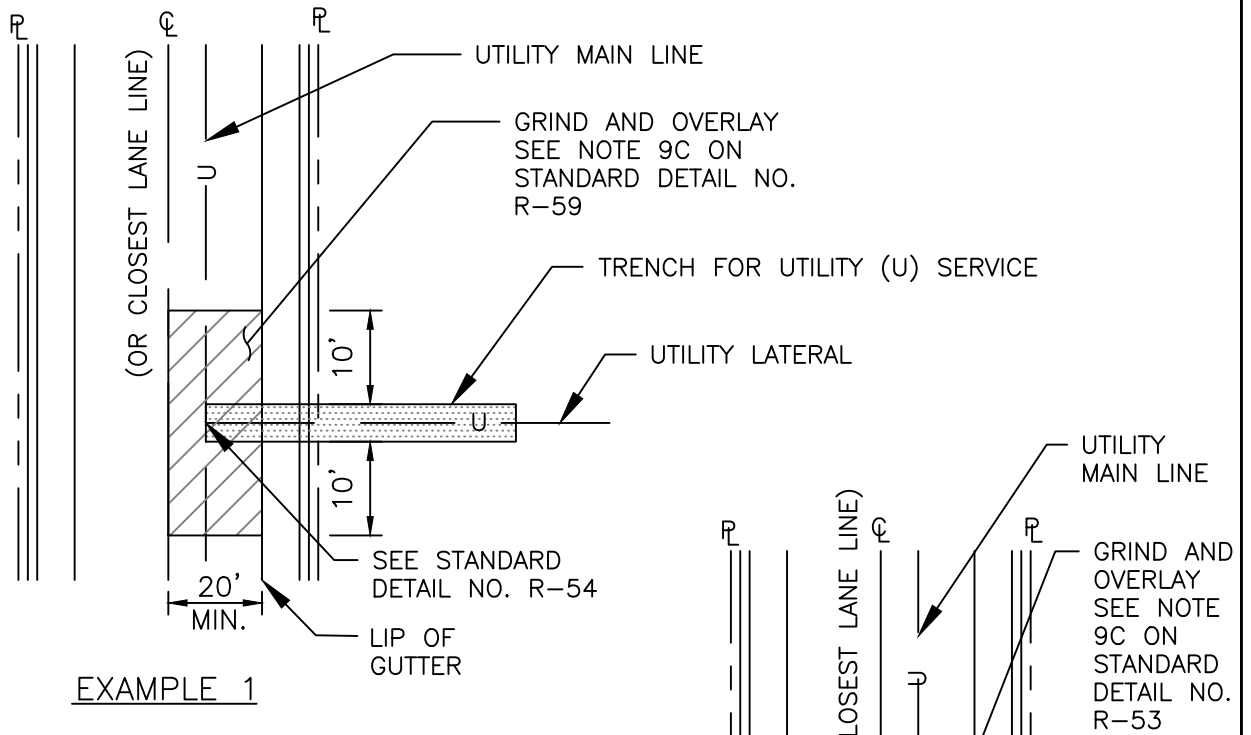


**STANDARD
DETAIL**

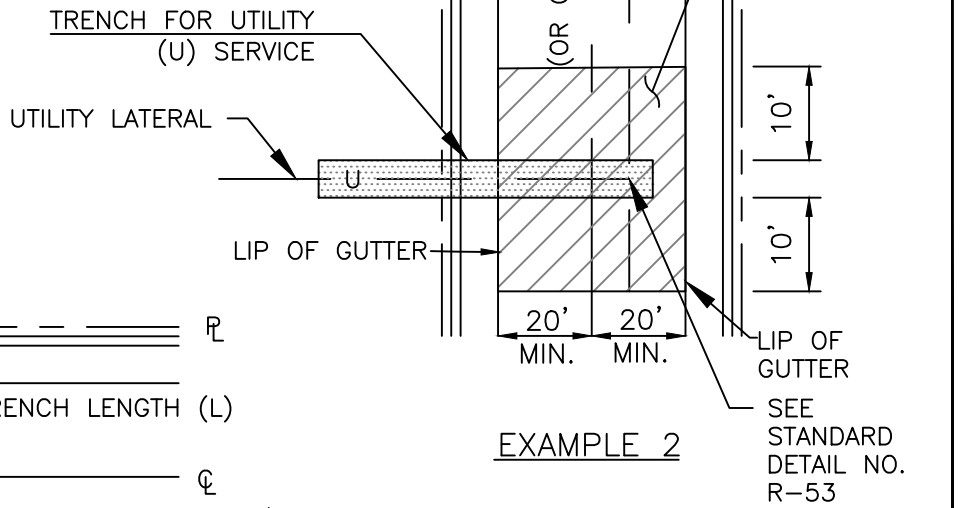
Date: JULY 2024

Drawing No:

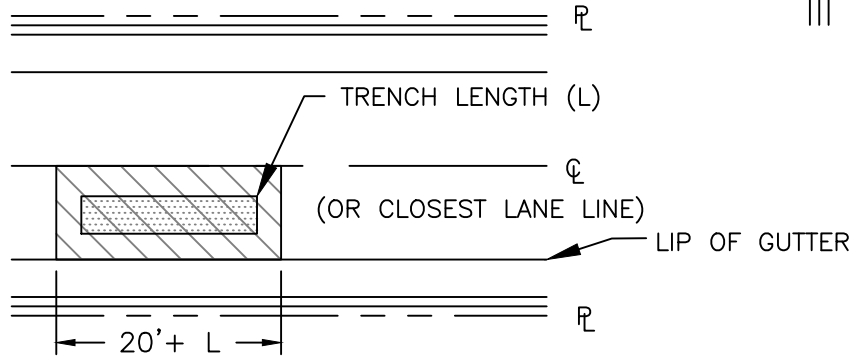
R-56



EXAMPLE 1



EXAMPLE 2



EXAMPLE 3

NOT TO SCALE

Approved by:



City Of Lathrop
City Engineer

No	Revised	Date

CITY OF LATHROP
DEPARTMENT OF PUBLIC WORKS

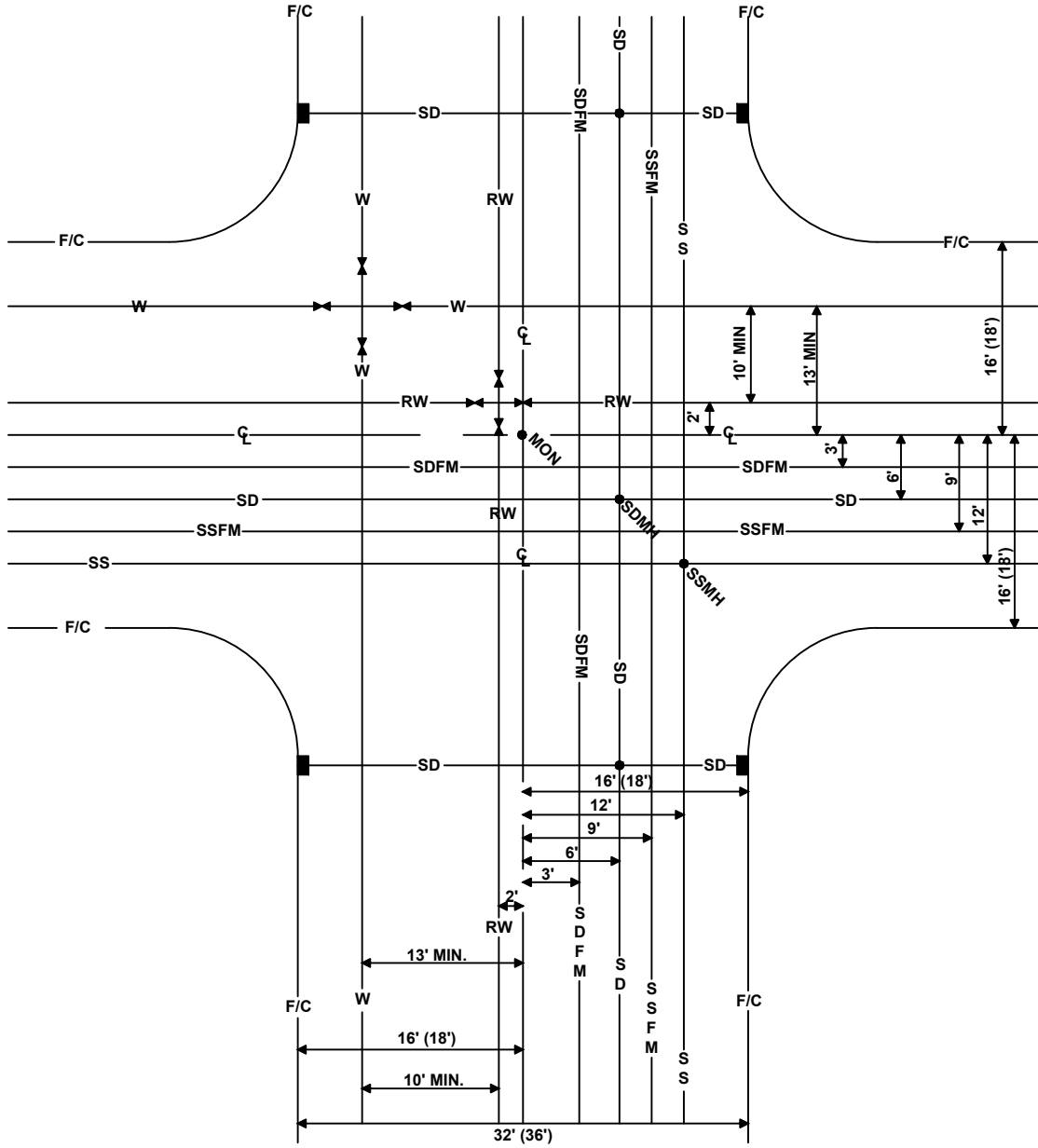
**MORATORIUM STREET
TRENCH REPAIR LIMITS**



**STANDARD
DETAIL**

Date: JULY 2024

Drawing No:
R-57



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 City Engineer		
No	Revised	Date

CITY OF LATHROP
DEPARTMENT OF PUBLIC WORKS
UNDERGROUND UTILITIES
LOCATIONS AT NEW
DEVELOPMENTS

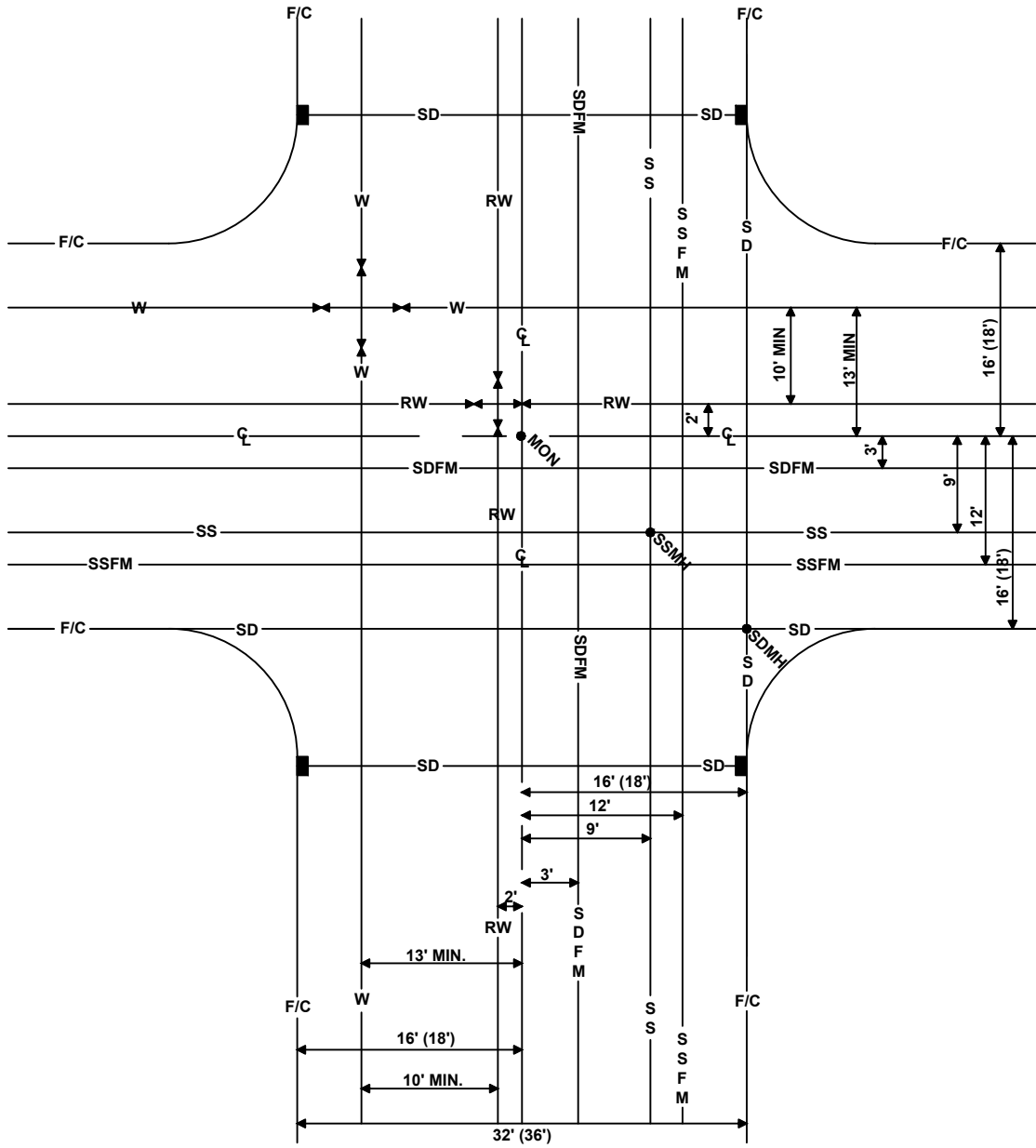


STANDARD
DETAIL

Date: JULY 2024

Drawing No:

R-58



- 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
City Engineer

No	Revised	Date

CITY OF LATHROP
DEPARTMENT OF PUBLIC WORKS

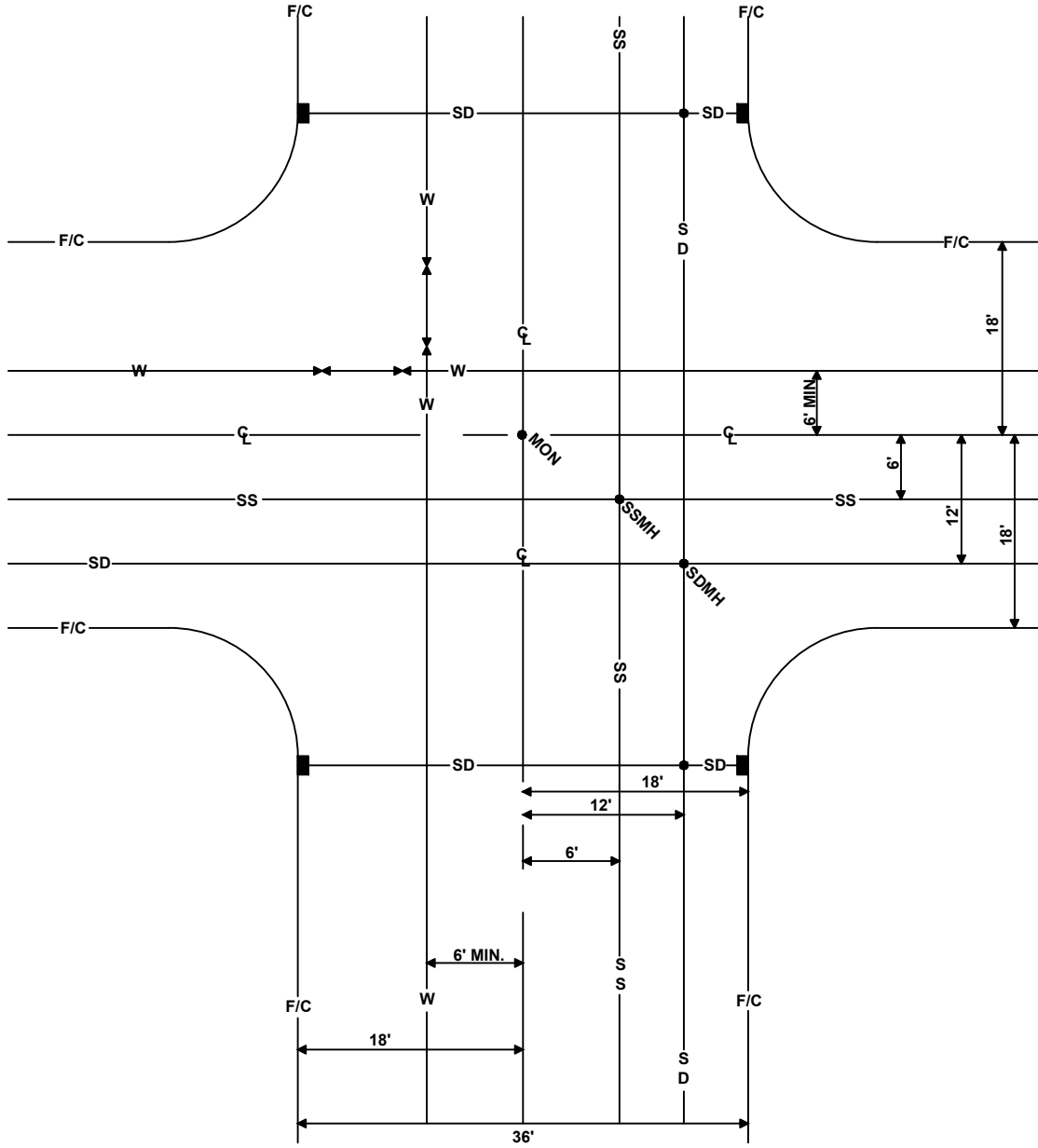
**UNDERGROUND UTILITIES
LOCATIONS AT NEW DEVELOPMENTS
WITH SD UNDER GUTTER**



**STANDARD
DETAIL**

Date: JULY 2024
Drawing No:

R-59



NOTES:

- Any deviations from the standard locations shall be approved by the City Engineer.
- 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 City Engineer		
No	Revised	Date

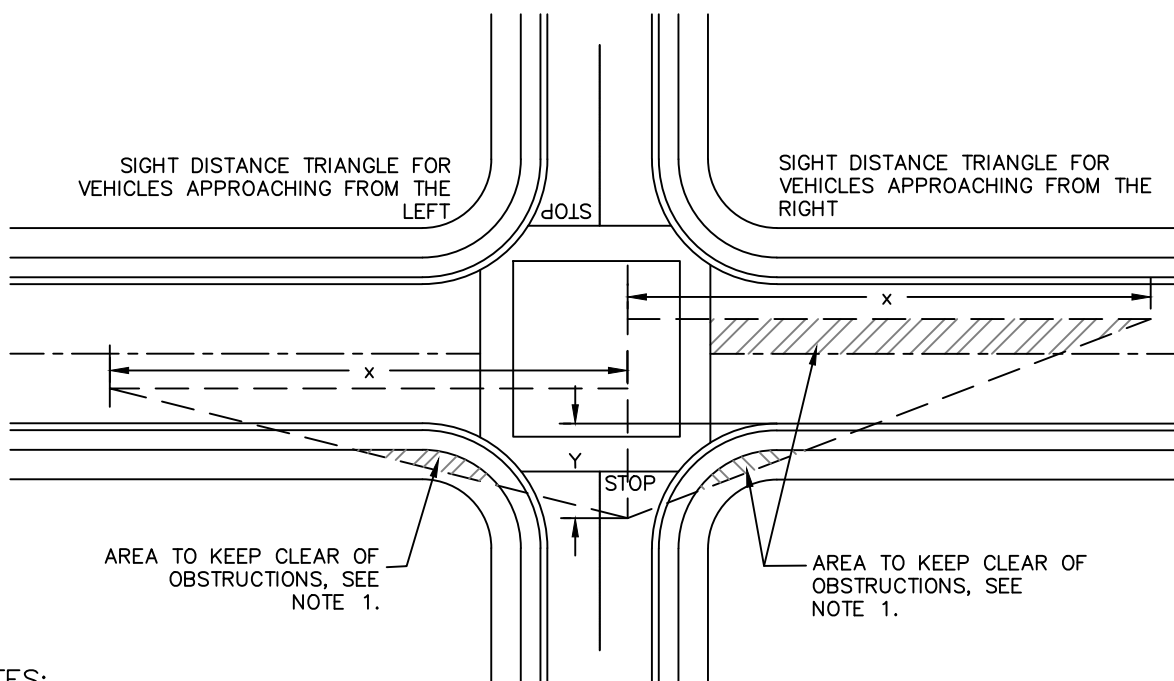
CITY OF LATHROP
 DEPARTMENT OF PUBLIC WORKS
UNDERGROUND UTILITIES
LOCATIONS AT NEW
DEVELOPMENTS WITH UP
TO 36' F/C TO F/C



STANDARD
DETAIL

Date: **JULY 2024**
 Drawing No:
R-60

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 City Engineer		
No	Revised	Date

CITY OF LATHROP
DEPARTMENT OF PUBLIC WORKS

**SIGHT DISTANCE
CLEARANCES**

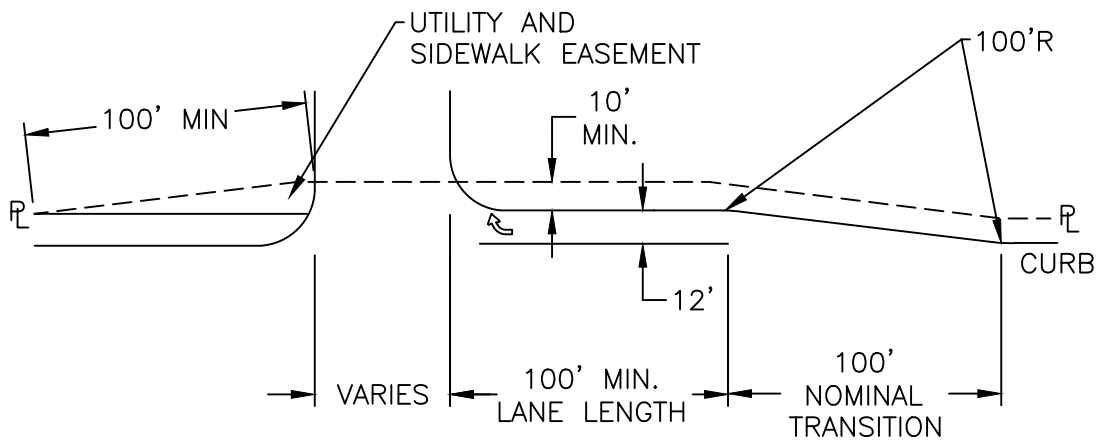


**STANDARD
DETAIL**

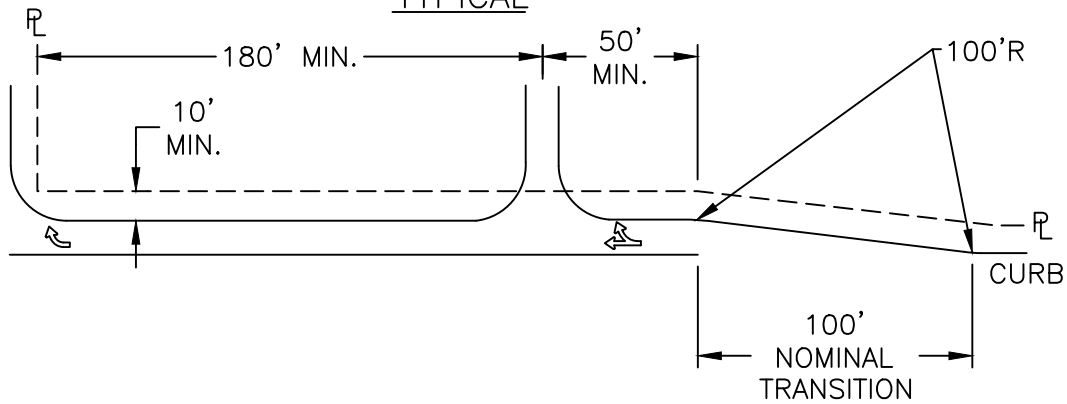
Date: JULY 2024

Drawing No:

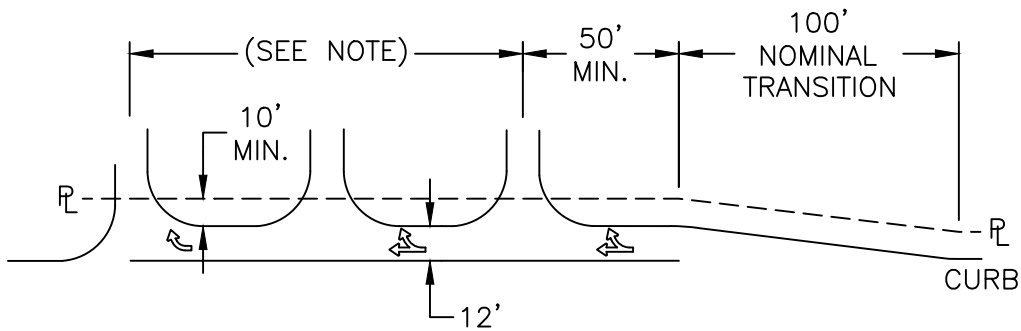
R-61



TYPICAL



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:

[Signature]
City of Lathrop
City Engineer

No	Revised	Date

CITY OF LATHROP
DEPARTMENT OF PUBLIC WORKS

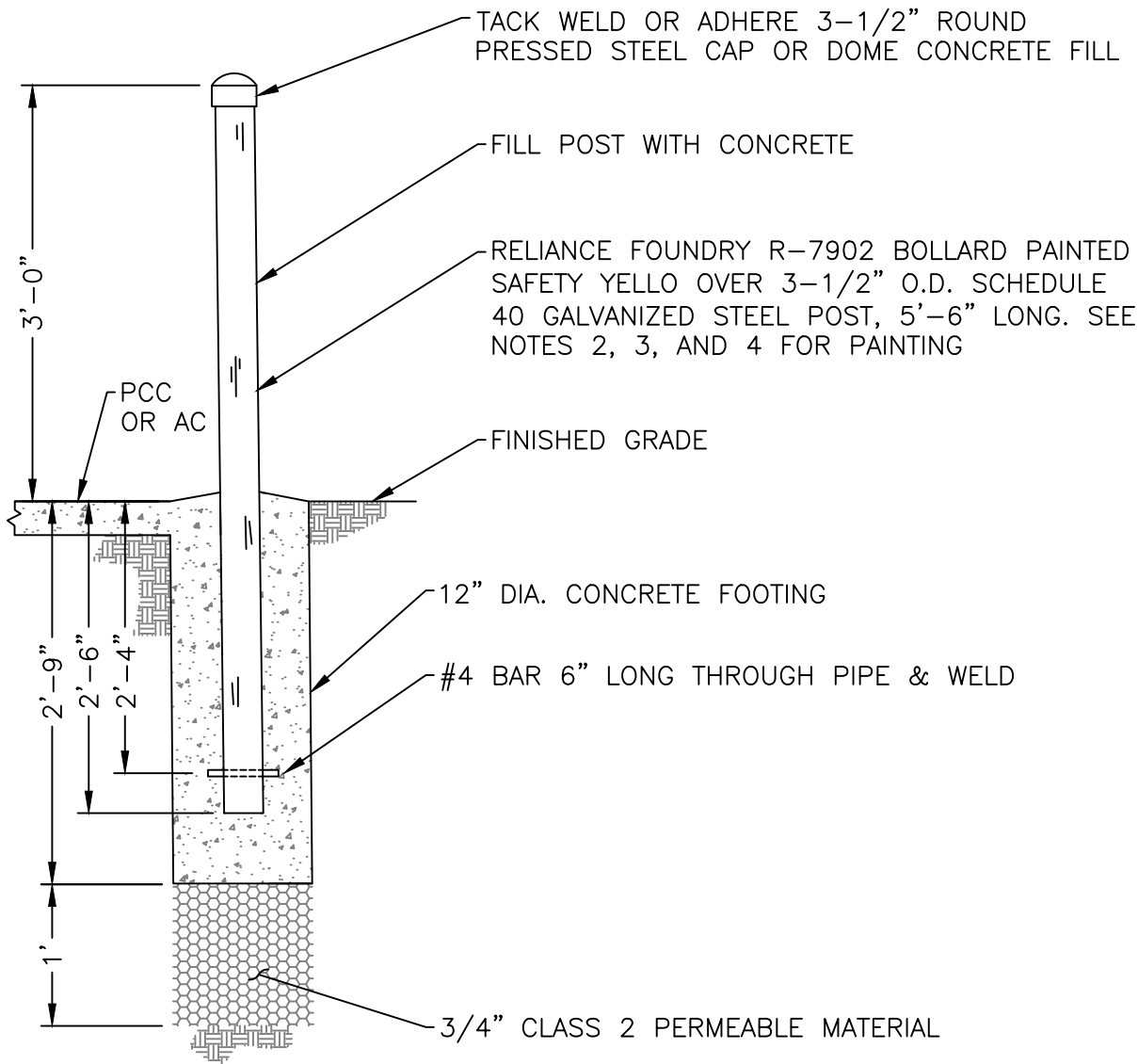
**DECELERATION LANES
FOR DRIVEWAYS**



**STANDARD
DETAIL**

Date: JULY 2024
Drawing No:

R-62



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:

[Signature]
 City of Lathrop
 City Engineer

CITY OF LATHROP
 DEPARTMENT OF PUBLIC WORKS



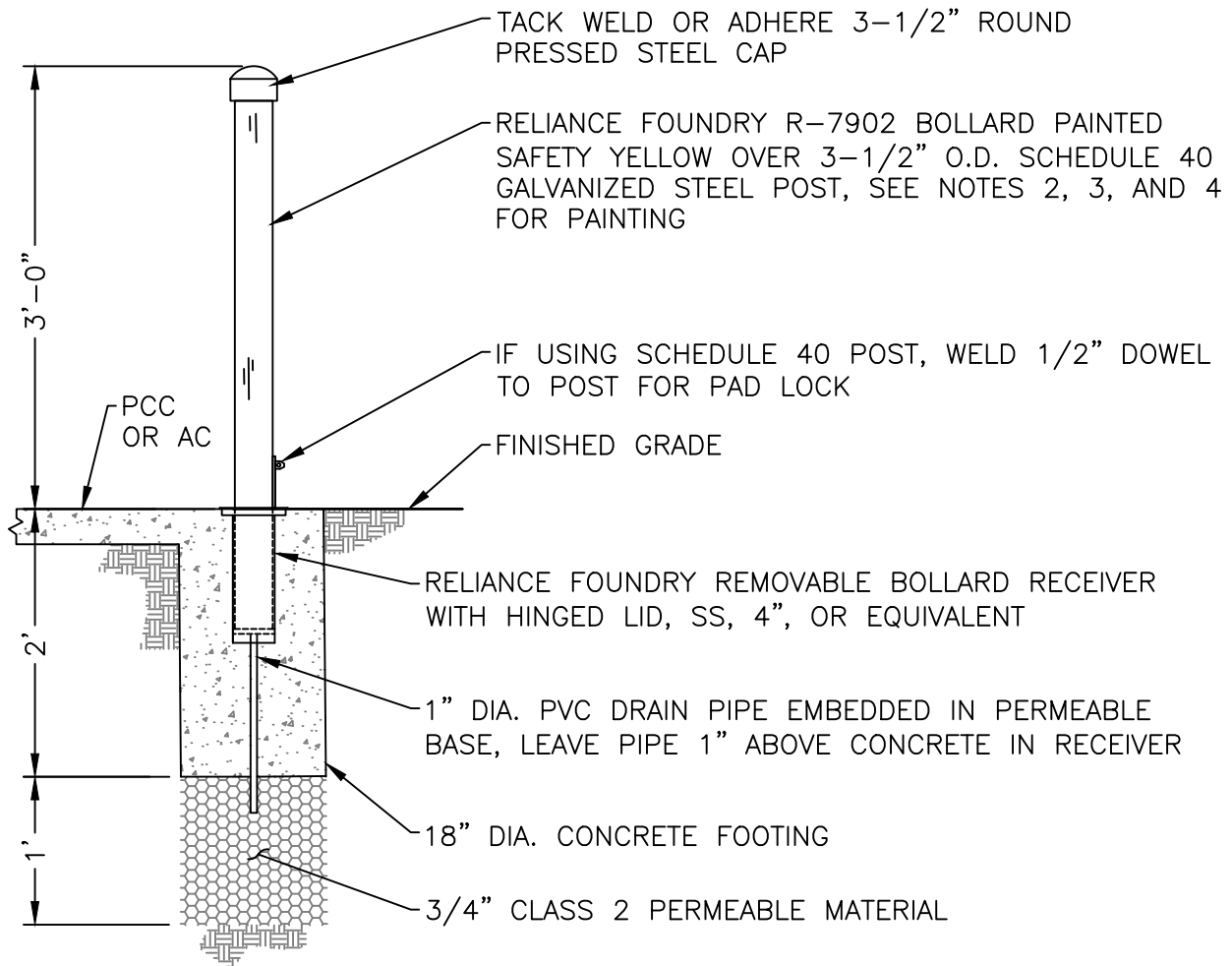
**STANDARD
 DETAIL**

FIXED BOLLARD

Date: JULY 2024
 Drawing No:

R-63

No	Revised	Date



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 City Engineer		
No	Revised	Date

CITY OF LATHROP
DEPARTMENT OF PUBLIC WORKS

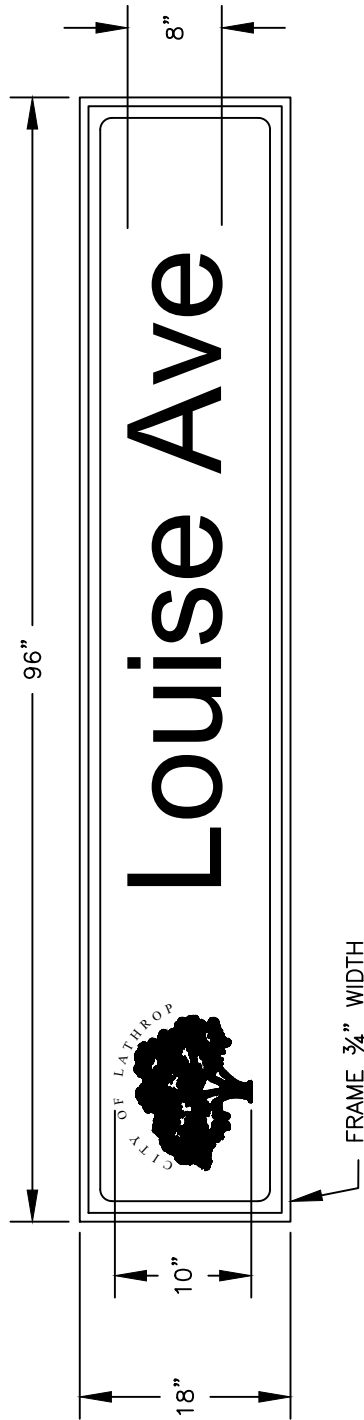
**REMOVABLE
BOLLARD**



**STANDARD
DETAIL**

Date: JULY 2024
Drawing No:

R-64



SPECIFICATIONS:

- ISNS: Type A Housing, 8'x18" – Panel Only
- Panel: Clear Acrylic 0.125" Thick, High Impact Modified
- Vinyl: 3M 1175 Blue on 3MDG3 4090 Sheeting
- Font: FHWA Series E, 8" UC. & 6" LC.
- Border: 1" Radius Border
- Logo: 10" Height Cut-out City of Lathrop Tree Suffix and Block #: FHWA Series D, 3" UC.

NOT TO SCALE

Approved by:		
		
City of Lathrop City Engineer		
No	Revised	Date

CITY OF LATHROP
 DEPARTMENT OF PUBLIC WORKS
ISNS TYPE A PANELS
STREET SIGNS



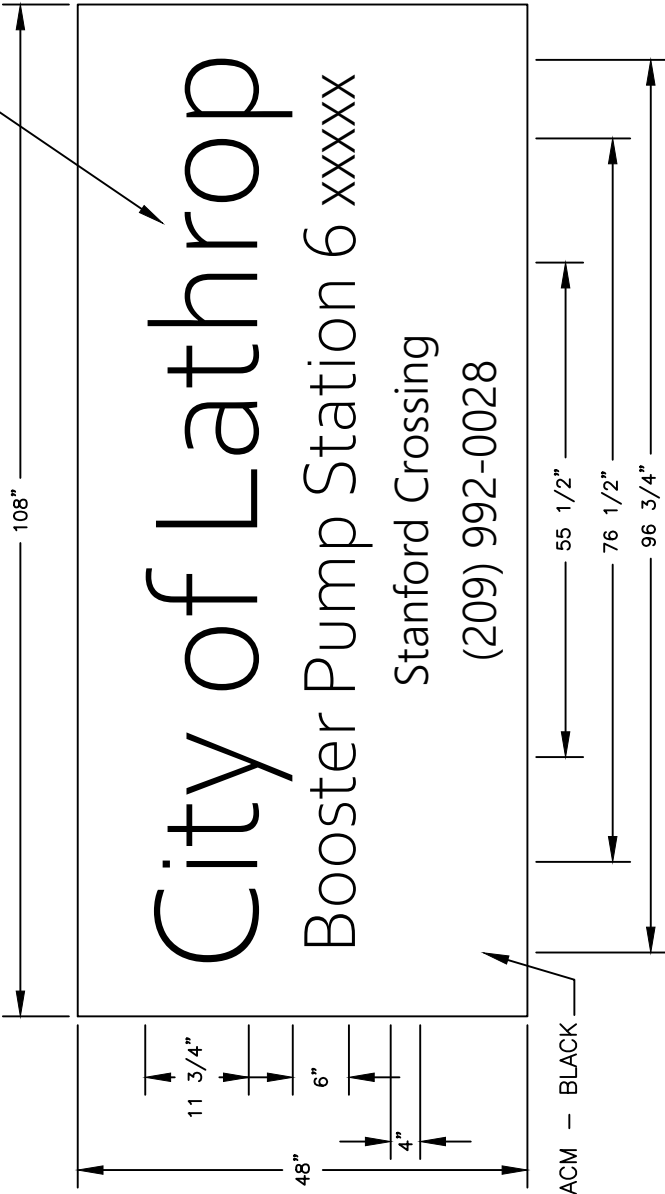
**STANDARD
 DETAIL**

Date: JULY 2024

Drawing No:

R-65

ACRYLIC FCO'S
 - PAINTED
 METALLIC
 SILVER



SIDE

FRONT

SPECIFICATIONS:

- 1/2" Acrylic
- Routed to Shape
- Painted
- ACM Backer Panel
- Mounted Flush to Wall with Studs and Silicone

*Submit Draft for Approval

NOT TO SCALE

Approved by:


 City of Lathrop
 City Engineer

No	Revised	Date

CITY OF LATHROP
 DEPARTMENT OF PUBLIC WORKS
SIGN FOR CITY FACILITIES



**STANDARD
 DETAIL**

Date: **JULY 2024**

Drawing No:

R-66