ENGINEERING DESIGN & IMPROVEMENT STANDARDS

2016

Prepared by: Engineering Division

For latest edition of these Improvement Standards, refer to City of Visalia website at:
www.visalia.city/EngineeringDocuments

ENGINEERING DESIGN & IMPROVEMENT STANDARDS

UNDER THE AUTHORITY OF

THE CITY OF VISALIA

NICK MASCIA

CITY ENGINEER

EFFECTIVE DATE: SEPTEMBER 16, 2016

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EXP. MARCH 2018

City of Visalia
Community Development Department
Engineering Division
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Revisions to Improvement Standards:

Below is a list of standards that have been revised after the release of the City's 2016 Improvement Standards implemented on September 19, 2016.

Standard	Name	Date		Description of Change
C-29	Major Commercial Drive Approach 20' Radius Curb Return - Alternative	10/28/16		Corrected some dimensions on "Section A-A" of the drawing. (15' & 18' needed to be swapped)

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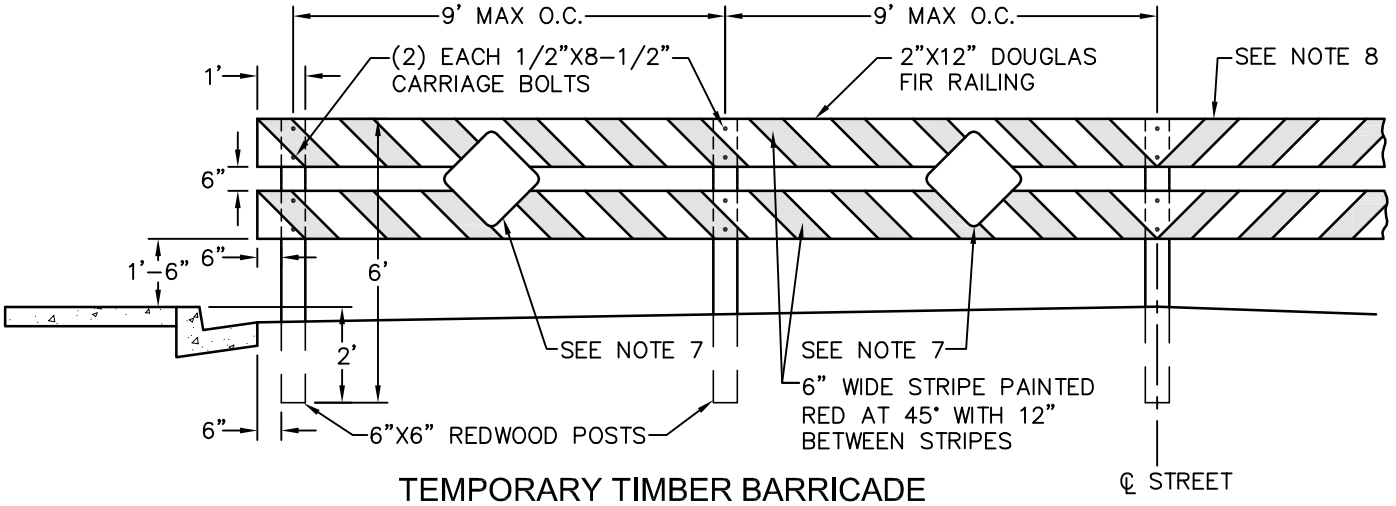
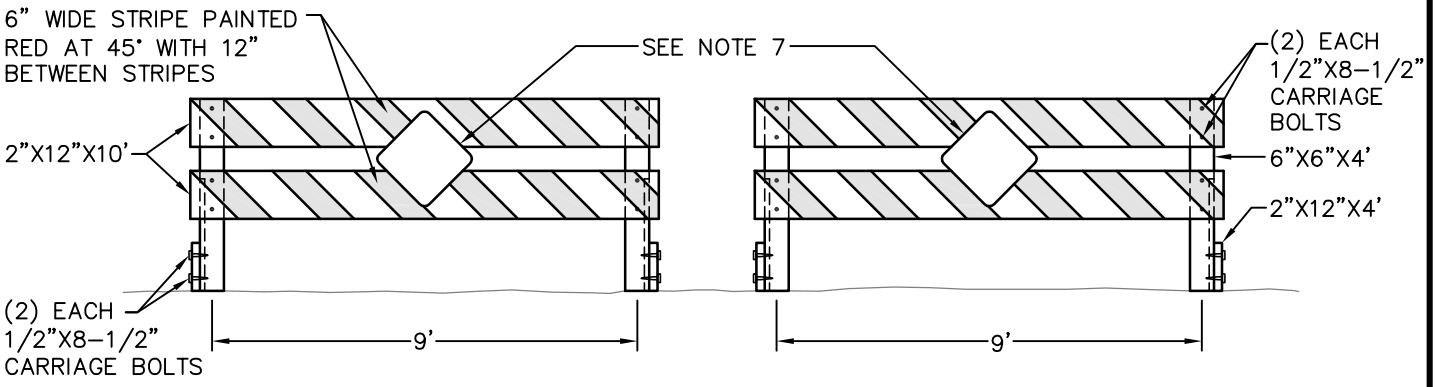


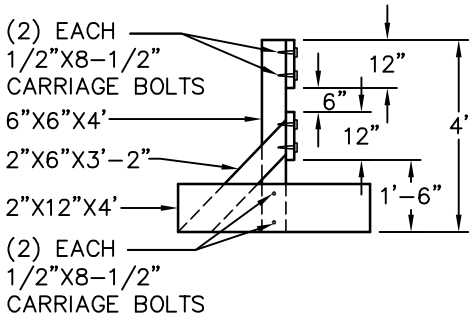
TEMPORARY TIMBER BARRICADE

FOR TYPICAL CONDITIONS



PORTABLE TIMBER BARRICADE

FOR SPECIAL CONDITIONS



PORTABLE TIMBER BARRICADE

SIDE VIEW

NOTES:

1. BARRICADES SHALL BE FULL WIDTH OF PAVEMENT OR TRAVELED WAY OR AS APPROVED BY THE CITY ENGINEER.
2. BARRICADE SHALL BE PAINTED WITH TWO COATS OF WHITE PAINT. FOLLOWED BY TWO COATS OF RED PAINT FOR THE STRIPE. PAINT SHALL BE A PREMIUM QUALITY EXTERIOR GLOSS OR SEMI-GLOSS ENAMEL AND SHALL BE PURE WHITE IN COLOR. PAINT SHALL COMPLETELY SEAL ALL EXPOSED SURFACES OF THE BARRICADE.
3. WOOD PRESSURE TREATED WITH A PRESERVATIVE MAY BE SUBSTITUTED FOR REDWOOD MATERIAL.
4. ALL SIGNS SHALL BE IN ACCORDANCE WITH THE CURRENT EDITION OF THE CALIFORNIA MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES.
5. USE OF THE PORTABLE TIMBER BARRICADE OR BARRICADES WITH A LOCK AND CHAIN, SHALL BE SUBJECT TO THE APPROVAL OF THE CITY ENGINEER.
6. ABANDONED BARRICADES SHALL BE RECLAIMED BY THE CITY OF VISALIA.
7. REFLECTOR SIGNS – CALIFORNIA 0M4-1. FASTEN REFLECTOR SIGN TO BARRICADE WITH 3/8" X 1-1/2" GALVANIZED LAG SCREWS WITH WASHERS.
8. DIAGONAL STRIPES ON BARRICADE SHALL POINT TO THE CENTER OF THE ROADWAY.

APPROVED BY: _____ 09/16/16
CITY ENGINEER R.P.E. 81734 DATE

CITY OF VISALIA
DESIGN & IMPROVEMENT STANDARDS

TIMBER BARRICADES

REVISIONS
06/14/13
BK 2016

B-1

GENERAL CONCRETE NOTES

1. ALL CONCRETE SHALL BE CLASS 3 CONCRETE UNLESS OTHERWISE SPECIFIED.
2. CLASS 2 CONCRETE SHALL CONTAIN NOT LESS THAN 590 POUNDS OF PORTLAND CEMENT PER CUBIC YARD WITH 1 INCH AGGREGATE. 5 INCH MAXIMUM SLUMP. 3000 P.S.I. AT 28 DAYS.
3. CLASS 3 CONCRETE SHALL CONTAIN NOT LESS THAN 505 POUNDS OF PORTLAND CEMENT PER CUBIC YARD WITH 1 INCH AGGREGATE. 5 INCH MAXIMUM SLUMP. 2500 P.S.I. AT 28 DAYS.
4. CLASS 4 CONCRETE SHALL CONTAIN NOT LESS THAN 420 POUNDS OF PORTLAND CEMENT PER CUBIC YARD WITH 1 INCH AGGREGATE. 5 INCH MAXIMUM SLUMP. 2500 P.S.I. AT 28 DAYS.
5. WHEN MAXIMUM DAYTIME TEMPERATURE EXCEEDS 50° F. ALL NEWLY PLACED CONCRETE SHALL BE SPRAYED UNIFORMLY WITH A CURING COMPOUND. CURING COMPOUND SHALL BE APPLIED AT A NOMINAL RATE OF ONE GALLON PER 150 SQUARE FEET, UNLESS OTHERWISE SPECIFIED.
6. ALL WORK CONSTRUCTED BY THESE STANDARDS SHALL BE IN COMPLIANCE WITH ALL CURRENT ADA REGULATIONS.
7. WHERE REBAR IS USED, CONTRACTOR SHALL INSTALL WIRE TIES SECURELY AT ALL REBAR CROSSINGS. CONCRETE BLOCK OR CHAIRS AS APPROVED BY THE CITY ENGINEER SHALL BE INSTALLED PRIOR TO CONCRETE INSTALLATION TO KEEP REBAR IN THE PROPER LOCATION.

CURBS AND GUTTERS

1. ALL CURB AND GUTTER, VEE GUTTER, MEDIAN CURB AND LANDSCAPE CURB SHALL BE CLASS 3 CONCRETE.
2. BARRIER TYPE CURB AND GUTTER SHALL HAVE A MINIMUM GRADIENT OF 0.20 FEET PER 100 FEET OR AS APPROVED BY THE CITY ENGINEER.
3. BARRIER TYPE CURB AND GUTTER ON THE CURVE OF CUL–DE–SACS AND STREET BULBS SHALL HAVE A MINIMUM GRADIENT OF 0.35 FEET PER 100 FEET OR AS APPROVED BY THE CITY ENGINEER.
4. ROLL TYPE CURB AND GUTTER SHALL HAVE A MINIMUM GRADIENT OF 0.35 FEET PER 100 FEET OR AS APPROVED BY THE CITY ENGINEER.
5. VEE GUTTER SHALL HAVE A MINIMUM GRADIENT OF 0.25 FEET PER 100 FEET OR AS APPROVED BY THE CITY ENGINEER.
6. ALL CURB AND GUTTER, VEE GUTTER, MEDIAN CURB AND LANDSCAPE CURB SHALL BE PLACED ON 6 INCH MOIST AND COMPACTED BASE MATERIALS. 95 PERCENT MINIMUM RELATIVE COMPACTION.
7. ALL CURB AND GUTTER, VEE GUTTER, MEDIAN CURB AND LANDSCAPE CURB SHALL HAVE A LIGHT BROOM FINISH.
8. ALL CURB AND GUTTER AND VEE GUTTER SHALL HAVE WEAKENED PLANE JOINTS CONSTRUCTED AT 15 FOOT CENTERS. MEDIAN CURB AND LANDSCAPE CURB SHALL HAVE WEAKENED PLANE JOINTS CONSTRUCTED AT 8 FOOT CENTERS. WEAKENED PLANE JOINTS SHALL BE A MINIMUM OF 1–1/2 INCHES IN DEPTH AND SHALL BE FINISHED WITH A SCORING TOOL LEAVING THE EDGES ROUNDED.
9. ALL EXPOSED SURFACES OF CURB AND GUTTER, VEE GUTTER, MEDIAN CURB AND LANDSCAPE CURB SHALL NOT VARY IN EXCESS OF 0.02 FEET WHEN A 10 FOOT STRAIGHT EDGE IS PLACED ON THE SURFACE, EXCEPT AT GRADE CHANGES OR CURVES.
10. ALL CURB AND GUTTER AND VEE GUTTER SHALL BE WATER TESTED FOR FLOW.
11. ALL CURB AND GUTTER, VEE GUTTER, MEDIAN CURB AND LANDSCAPE CURB SHALL BE CURED IN ACCORDANCE WITH THE PROVISIONS IN THE GENERAL CONCRETE NOTES IN THESE IMPROVEMENT STANDARDS.

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CITY ENGINEER R.P.E. 81734 DATE

CITY OF VISALIA
DESIGN & IMPROVEMENT STANDARDS

CONCRETE SPECIFICATIONS

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C–1

SIDEWALKS AND RAMPS

1. ALL SIDEWALKS AND RAMPS SHALL BE CLASS 3 CONCRETE.
2. SIDEWALKS AND RAMPS SHALL BE PLACED ON 6 INCH MOIST AND COMPACTED BASE MATERIALS. 90 PERCENT RELATIVE COMPACTION UNDER SIDEWALKS. 95 PERCENT RELATIVE COMPACTION UNDER RAMPS AND SIDEWALKS AT CURB RETURNS.
3. SIDEWALKS AND RAMPS SHALL BE STEEL TROWELED AND HAVE A LIGHT BROOM FINISH UNLESS OTHERWISE NOTED. RAMPS SHALL HAVE A HEAVY BROOM FINISH ACROSS THE SLOPE OF THE RAMP.
4. SIDEWALKS AND RAMPS SHALL HAVE WEAKENED PLANE JOINTS CONSTRUCTED AT 15 FOOT CENTERS AND WHERE SHOWN IN THESE IMPROVEMENT STANDARDS. WEAKENED PLANE JOINTS SHALL BE A MINIMUM OF 1 INCH IN DEPTH AND SHALL BE FINISHED WITH A SCORING TOOL LEAVING THE EDGES ROUNDED.
5. ESTABLISHED SIDEWALK PATTERN IN BLOCK SHALL BE MATCHED.
6. SPECIAL SIDEWALK DESIGNS AND MATERIALS SHALL BE SUBJECT TO APPROVAL BY THE CITY ENGINEER.
7. SIDEWALK INSTALLED IN INFILL OR EXISTING AREAS SHALL BE SUBJECT TO THE APPROVAL OF THE CITY ENGINEER.
8. ALL SIDEWALKS AND RAMPS SHALL BE CURED IN ACCORDANCE WITH THE PROVISIONS IN THE GENERAL CONCRETE NOTES OF THESE IMPROVEMENT STANDARDS.
9. DETECTABLE WARNING SURFACES SHALL BE INSTALLED PER THESE IMPROVEMENT STANDARDS AND AS REQUIRED BY THE CITY ENGINEER.

DRIVE APPROACHES

1. ALL DRIVE APPROACHES SHALL BE CLASS 3 CONCRETE UNLESS OTHERWISE NOTED.
2. SINGLE FAMILY RESIDENTIAL DRIVE APPROACHES SHALL BE PLACED ON 6 INCH MOIST AND COMPACTED BASE MATERIALS. 95 PERCENT RELATIVE COMPACTION.
3. MULTI–FAMILY RESIDENTIAL, OFFICE AND COMMERCIAL DRIVE APPROACHES SHALL BE PLACED ON 6 INCH MOIST AND COMPACTED BASE MATERIALS. 95 PERCENT RELATIVE COMPACTION.
4. MAJOR COMMERCIAL DRIVE APPROACHES SHALL BE PLACED ON 6 INCH MOIST AND COMPACTED CLASS 2 AGGREGATE BASE OVER 6 INCH MOIST AND COMPACTED BASE MATERIALS. 95 PERCENT RELATIVE COMPACTION.
5. DRIVE APPROACHES SHALL BE STEEL TROWELED AND HAVE A LIGHT BROOM FINISH.
6. DRIVE APPROACHES SHALL HAVE A WEAKENED PLANE JOINT CONSTRUCTED AT EACH EDGE AND AT THE CENTERLINE. WEAKENED PLANE JOINTS SHALL BE A MINIMUM OF 1–1/2 INCH IN DEPTH AND SHALL BE FINISHED WITH A SCORING TOOL LEAVING THE EDGES ROUNDED.
7. NOT MORE THAN 50 PERCENT OF PROPERTY FRONTAGE SHALL BE USED AS DRIVE APPROACH.
8. DRIVE APPROACHES ON STATE ROUTES ARE SUBJECT TO APPROVAL BY CALTRANS.
9. ALL EXPOSED SURFACES OF DRIVE APPROACHES AND FLOW LINES SHALL NOT VARY IN EXCESS OF 0.02 FEET WHEN A 10 FOOT STRAIGHT EDGE IS PLACED ON THE SURFACE, EXCEPT AT GRADE CHANGES OR CURVES.
10. ALL DRIVE APPROACHES SHALL BE CURED IN ACCORDANCE WITH THE PROVISIONS IN THE GENERAL CONCRETE NOTES OF THESE IMPROVEMENT STANDARDS.

APPROVED BY: _____ 09/16/16
CITY ENGINEER R.P.E. 81734 DATE

CITY OF VISALIA
DESIGN & IMPROVEMENT STANDARDS

CONCRETE SPECIFICATIONS

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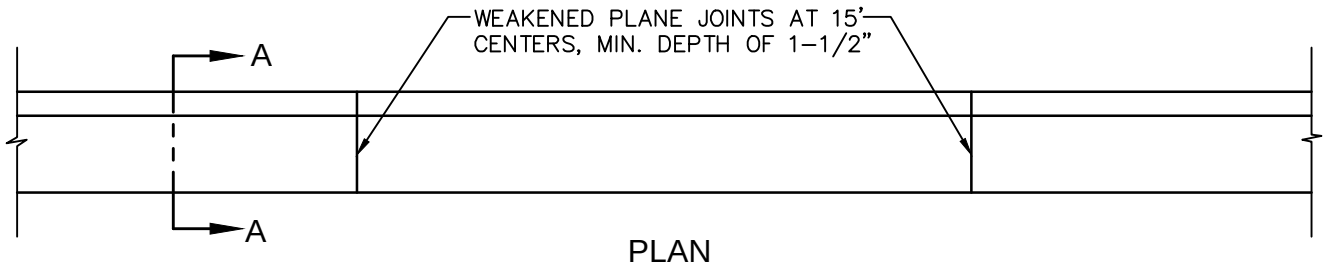
06/14/13
BK 2016

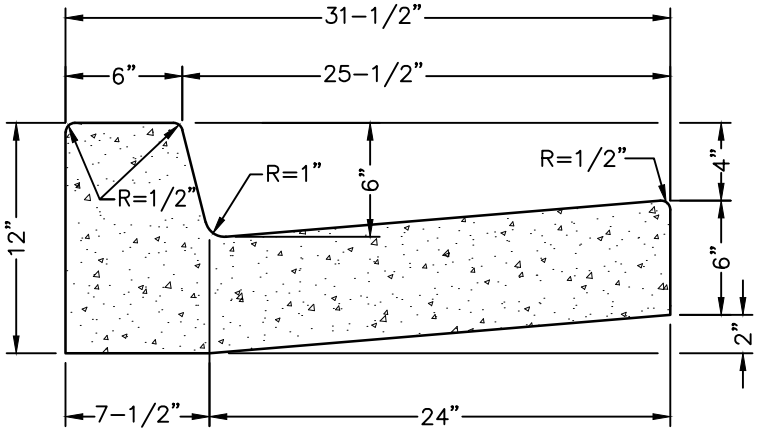
C–2

RESERVED FOR FUTURE DETAIL

APPROVED BY: _____ _____	CITY OF VISALIA DESIGN & IMPROVEMENT STANDARDS
RESERVED	REVISIONS BK 2016
	C-3



PLAN

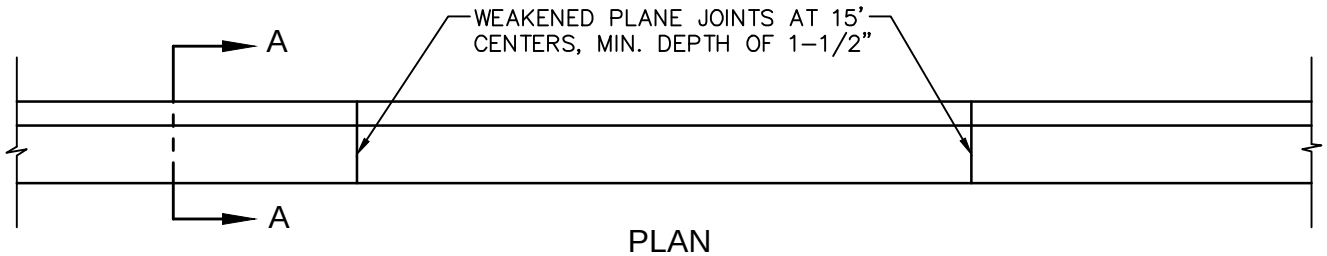


SECTION A-A

NOTES:

1. ALL CONCRETE SHALL BE CLASS 3 CONCRETE.
2. A WEAKENED PLANE JOINT OR COLD JOINT SHALL BE INSTALLED AT THE END OF CURB RETURNS AND AT THE CENTERLINE OF PROPOSED DRIVE APPROACHES.
3. CALTRANS FACILITIES REQUIRE STATE STANDARD CURB AND GUTTER.
4. WHERE ADA ACCESSIBLE PATH CROSSES GUTTER PAN, SLOPE IN THE DIRECTION OF TRAVEL SHALL BE 4% MININMUM AND 5% MAXIMUM.

APPROVED BY: _____ CITY ENGINEER R.P.E. 81734 DATE 09/16/16	CITY OF VISALIA DESIGN & IMPROVEMENT STANDARDS
BARRIER CURB AND GUTTER TYPE A2-6	REVISIONS 06/30/16 BK 2016 / C-4



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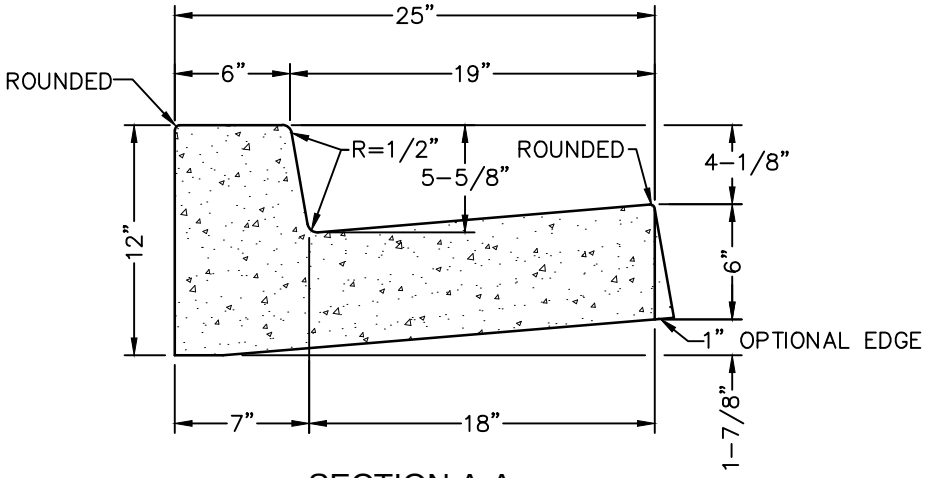
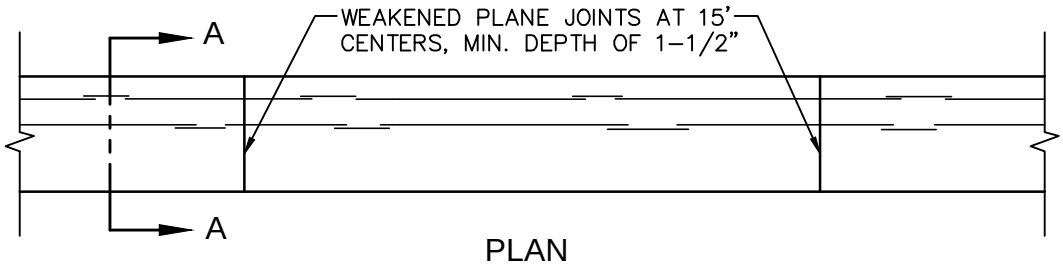


SECTION A-A

NOTES:

1. ALL CONCRETE SHALL BE CLASS 3 CONCRETE.
2. A WEAKENED PLANE JOINT OR COLD JOINT SHALL BE INSTALLED AT THE END OF CURB RETURNS AND AT THE CENTERLINE OF PROPOSED DRIVE APPROACHES.
3. ABOVE TYPE CURB AND GUTTER SHALL NOT BE CONSTRUCTED EXCEPT TO COMPLETE A BLOCK WITH EXISTING ABOVE TYPE CURB AND GUTTER OR TO REPLACE EXISTING DAMAGED ABOVE TYPE CURB.
4. WHERE ADA ACCESSIBLE PATH CROSSES GUTTER PAN, SLOPE IN THE DIRECTION OF TRAVEL SHALL BE 4% MINIMUM AND 5% MAXIMUM.

APPROVED BY: _____ CITY ENGINEER R.P.E. 81734 09/16/16 DATE	CITY OF VISALIA DESIGN & IMPROVEMENT STANDARDS
BARRIER TYPE CURB AND GUTTER (INFILL & REPLACEMENT ONLY)	REVISIONS 06/30/16 BK 2016 — C–5



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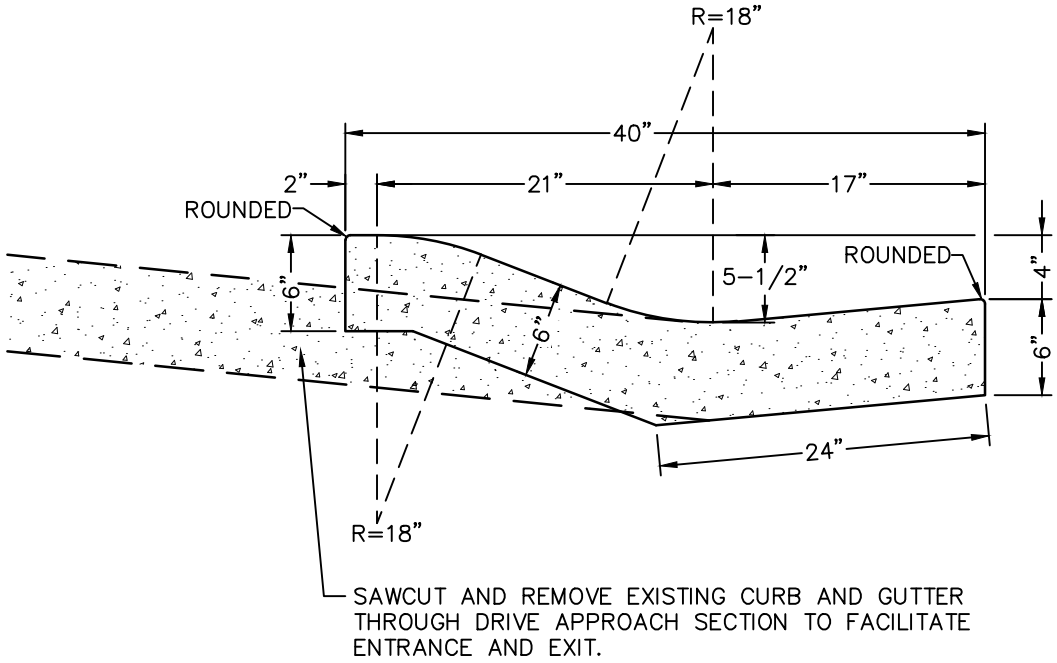
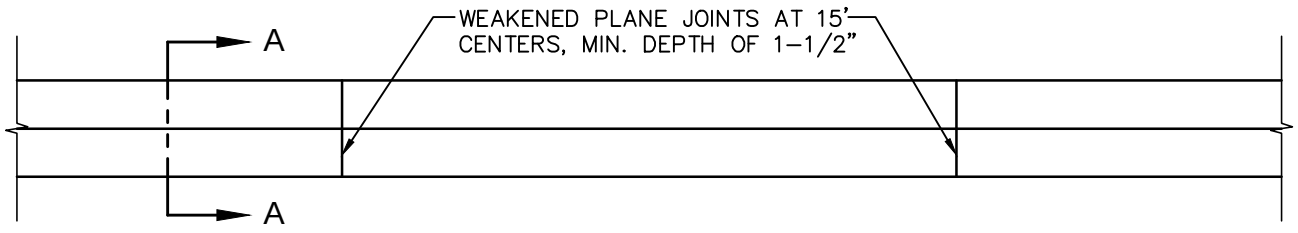


SECTION A-A

NOTES:

1. ALL CONCRETE SHALL BE CLASS 3 CONCRETE.
2. A WEAKENED PLANE JOINT OR COLD JOINT SHALL BE INSTALLED AT THE END OF CURB RETURNS AND AT THE CENTERLINE OF PROPOSED DRIVE APPROACHES.
3. ROLL TYPE CURB AND GUTTER SHALL NOT BE CONSTRUCTED EXCEPT TO COMPLETE A BLOCK WITH EXISTING ROLL TYPE CURB AND GUTTER OR TO REPLACE EXISTING DAMAGED ROLL CURB.
4. WHERE ADA ACCESSIBLE PATH CROSSES GUTTER PAN, SLOPE IN THE DIRECTION OF TRAVEL SHALL BE 4% MINIMUM AND 5% MAXIMUM.

APPROVED BY: CITY ENGINEER R.P.E. 81734 — 09/16/16 DATE	CITY OF VISALIA DESIGN & IMPROVEMENT STANDARDS	
ROLL TYPE CURB AND GUTTER (INFILL & REPLACEMENT ONLY)	REVISIONS 06/14/13 BK 2016	C-6



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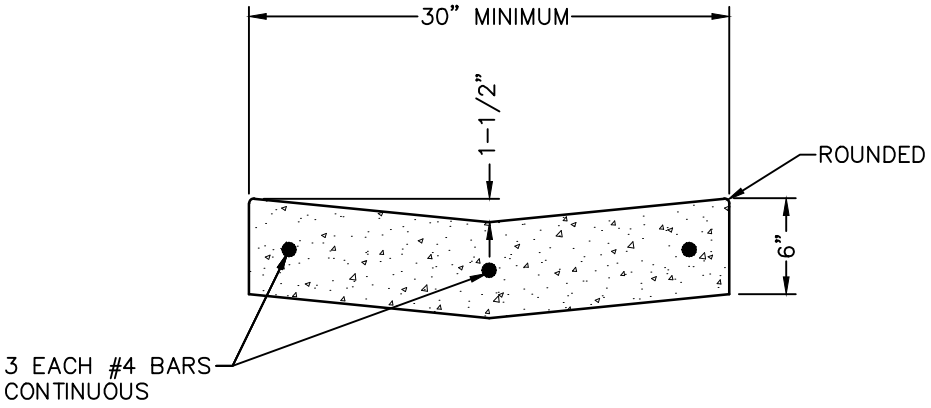
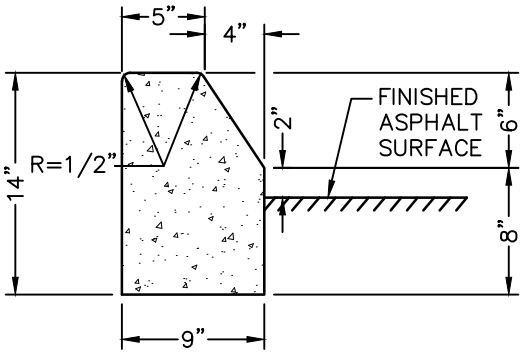


SECTION A-A

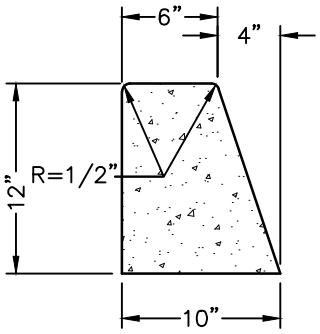
NOTES:

1. ALL CONCRETE SHALL BE CLASS 3 CONCRETE.
2. REBAR SHALL BE DEFORMED STEEL BARS AND SHALL BE GRADE 40 MINIMUM. REBAR SHALL BE FREE OF RUST OR DIRT AND SHALL BE THOROUGHLY CLEANED BEFORE PLACEMENT.
3. REBAR SHALL HAVE A MINIMUM OF 2" OF CLEAR COVERAGE.
4. WHERE ADA ACCESSIBLE PATH CROSSES GUTTER PAN, SLOPE IN THE DIRECTION OF TRAVEL SHALL BE 4% MINIMUM AND 5% MAXIMUM.

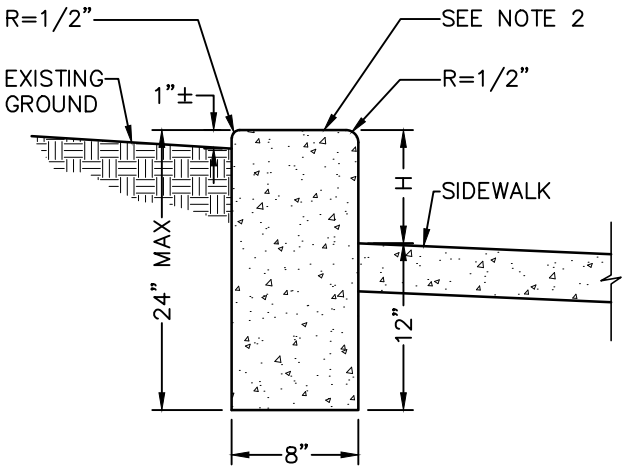
APPROVED BY: CITY ENGINEER R.P.E. 81734 09/16/16 DATE	CITY OF VISALIA DESIGN & IMPROVEMENT STANDARDS	
VEE GUTTER	REVISIONS 09/14/16 BK 2016	C–7



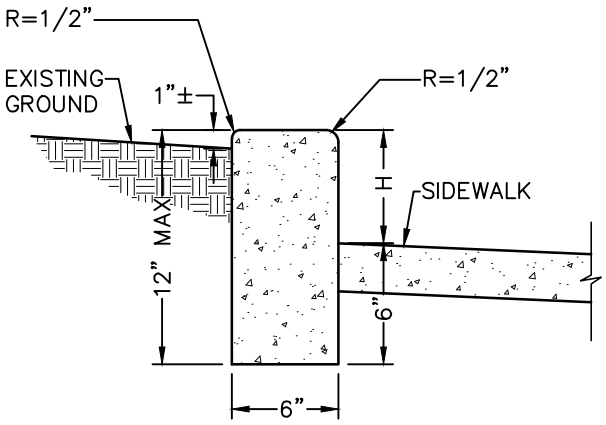
MEDIAN CURB TYPE B1-6
STREET APPLICATIONS



LANDSCAPE CURB
NON-STREET APPLICATIONS



RETAINING CURB
NON-STREET APPLICATIONS
USE WHEN H>6"



RETAINING CURB
NON-STREET APPLICATIONS
USE WHEN H ≤6"

NOTES:

1. ALL CONCRETE SHALL BE CLASS 3 CONCRETE.
2. REBAR SHALL BE USED AT THE DISCRETION OF THE CITY ENGINEER.

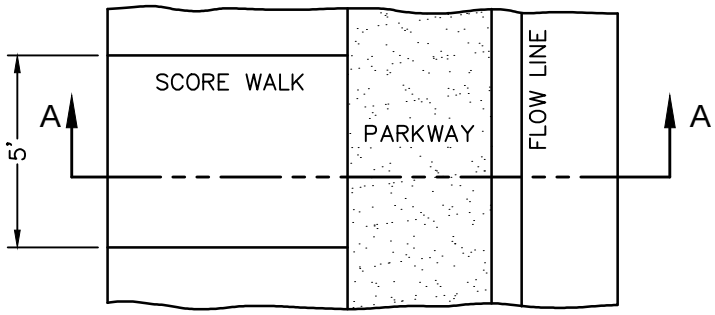
APPROVED BY: _____ 09/16/16
CITY ENGINEER R.P.E. 81734 DATE

CITY OF VISALIA
DESIGN & IMPROVEMENT STANDARDS

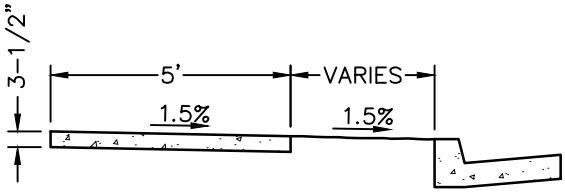
MEDIAN CURB TYPE B1–6, RETAINING CURB AND LANDSCAPE CURB

REVISIONS
06/14/13
BK 2016

C–8



PLAN

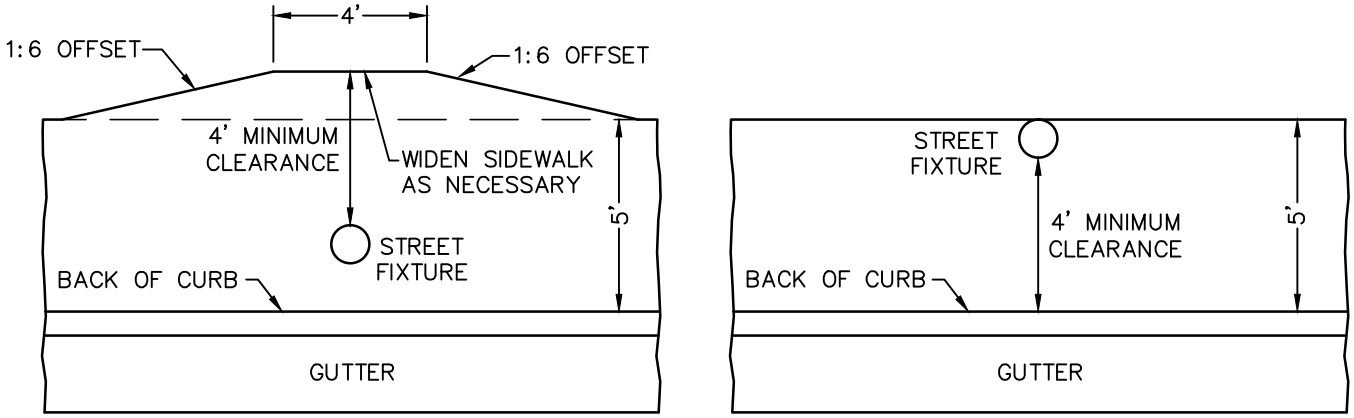


SECTION A-A

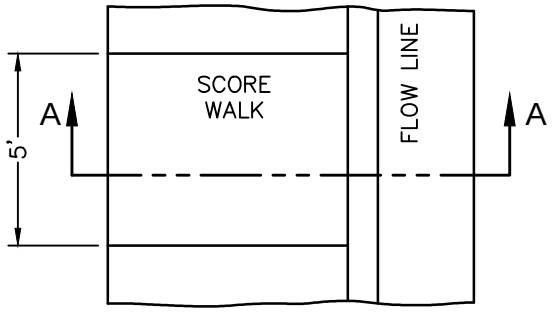
NOTES:

1. ALL CONCRETE SHALL BE CLASS 3 CONCRETE.

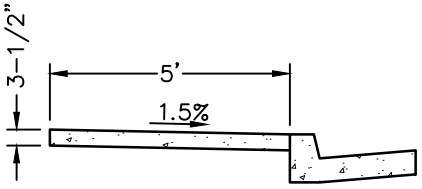
APPROVED BY: _____ CITY ENGINEER R.P.E. 81734 09/16/16 DATE	CITY OF VISALIA DESIGN & IMPROVEMENT STANDARDS
SIDEWALK – RESIDENTIAL WITH PARKWAY	REVISIONS 06/30/16 BK 2016
	C–9



PLAN WITH STREET FIXTURE



PLAN

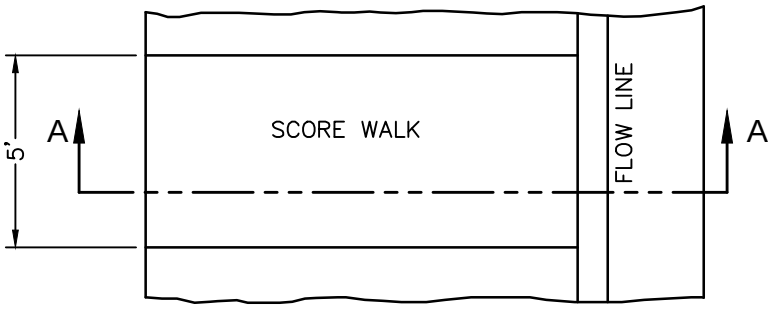


SECTION A-A

NOTES:

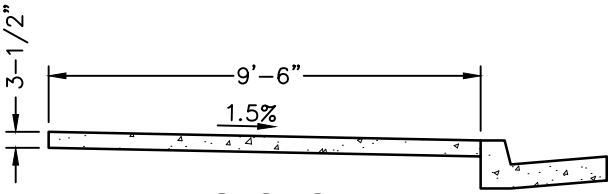
1. ALL CONCRETE SHALL BE CLASS 3 CONCRETE.
2. SIDEWALK SHALL BE WIDENED AT STREET FIXTURE LOCATIONS PROVIDING A MINIMUM CLEARANCE OF 4' TO BACK OF SIDEWALK, OR AS APPROVED BY CITY ENGINEER.

APPROVED BY: _____ CITY ENGINEER R.P.E. 81734 — 09/16/16 DATE	CITY OF VISALIA DESIGN & IMPROVEMENT STANDARDS	
SIDEWALK – RESIDENTIAL ADJACENT TO CURB	REVISIONS 06/30/16 BK 2016	C–10

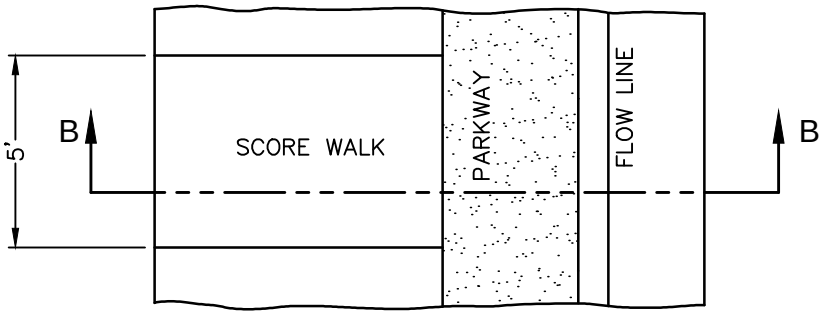


PLAN

DOWNTOWN COMMERCIAL

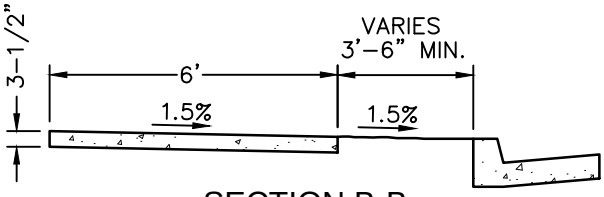


SECTION A-A



PLAN

WITH PARKWAY



SECTION B-B

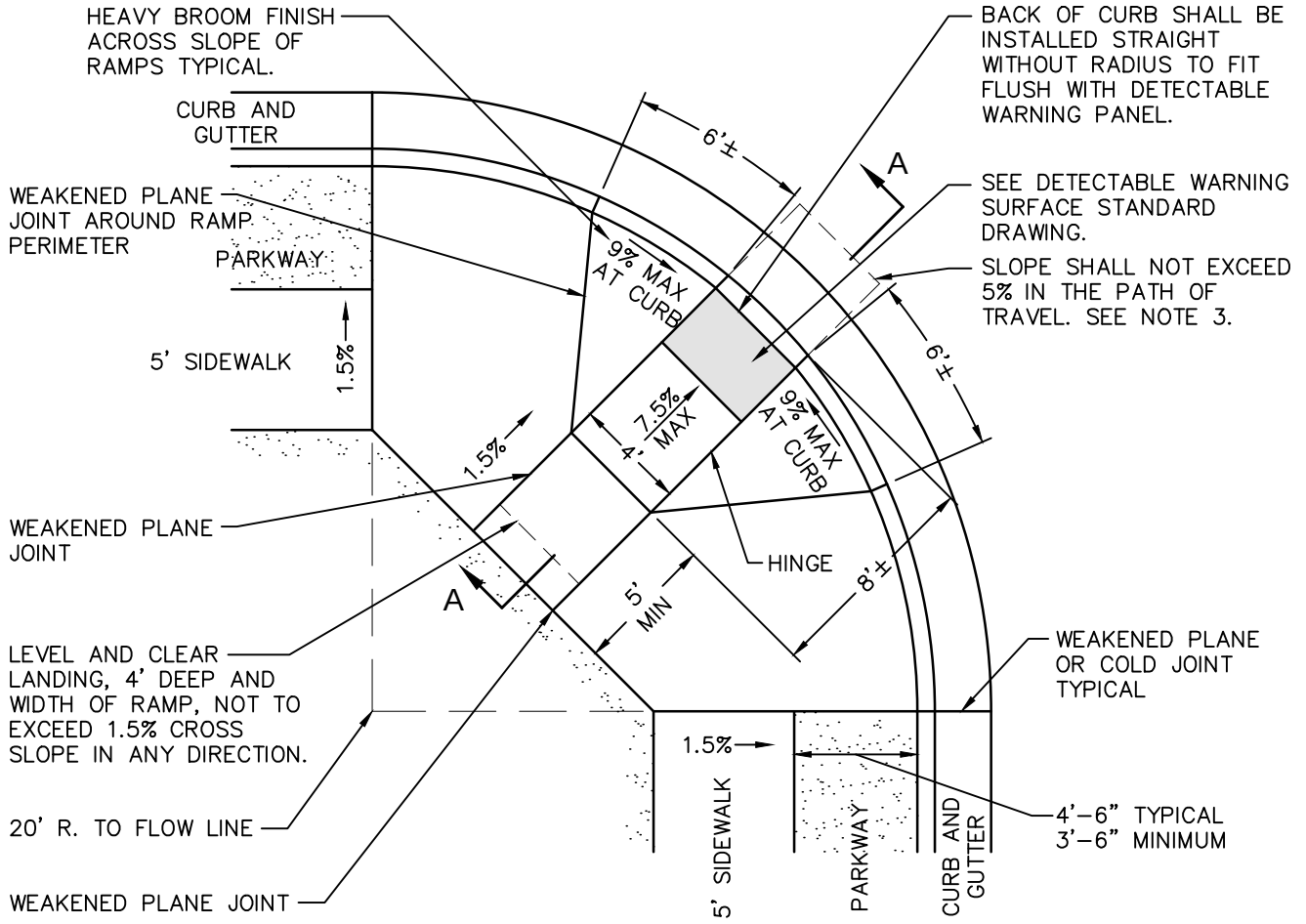
NOTES:

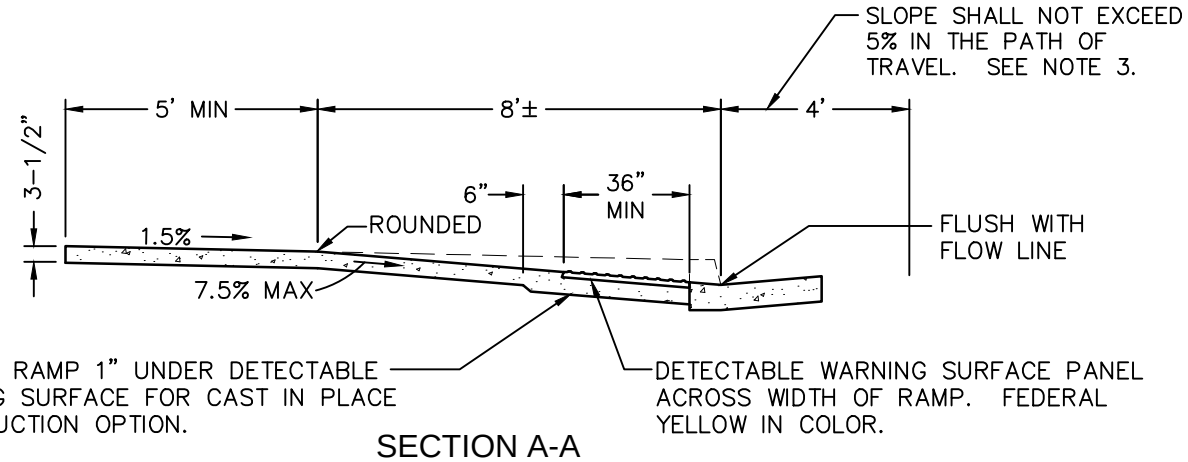
1. ALL CONCRETE SHALL BE CLASS 3 CONCRETE.

APPROVED BY: _____ CITY ENGINEER R.P.E. 81734 09/16/16 DATE	CITY OF VISALIA DESIGN & IMPROVEMENT STANDARDS
SIDEWALKS – OFFICE/COMMERCIAL	REVISIONS 06/30/16 BK 2016 / C–11

RESERVED FOR FUTURE DETAIL

APPROVED BY:_____ _____	CITY OF VISALIA DESIGN & IMPROVEMENT STANDARDS
RESERVED	REVISIONS BK 2016
	C–12





SECTION A-A

NOTES:

1. ALL CONCRETE SHALL BE CLASS 3 CONCRETE.
2. APPLICABLE TO LOCAL STREET INTERSECTIONS IN RESIDENTIAL AND OFFICE ZONES.
3. MAXIMUM SLOPES OF ADJOINING GUTTERS, THE ROAD SURFACE IMMEDIATELY ADJACENT TO THE CURB RAMP OR ACCESSIBLE ROUTE SHALL NOT EXCEED 5% WITHIN 4' OF THE BOTTOM OF THE CURB RAMP.
4. NO CROSS SLOPE IN THE PATH OF TRAVEL TO EXCEED 1.5%.

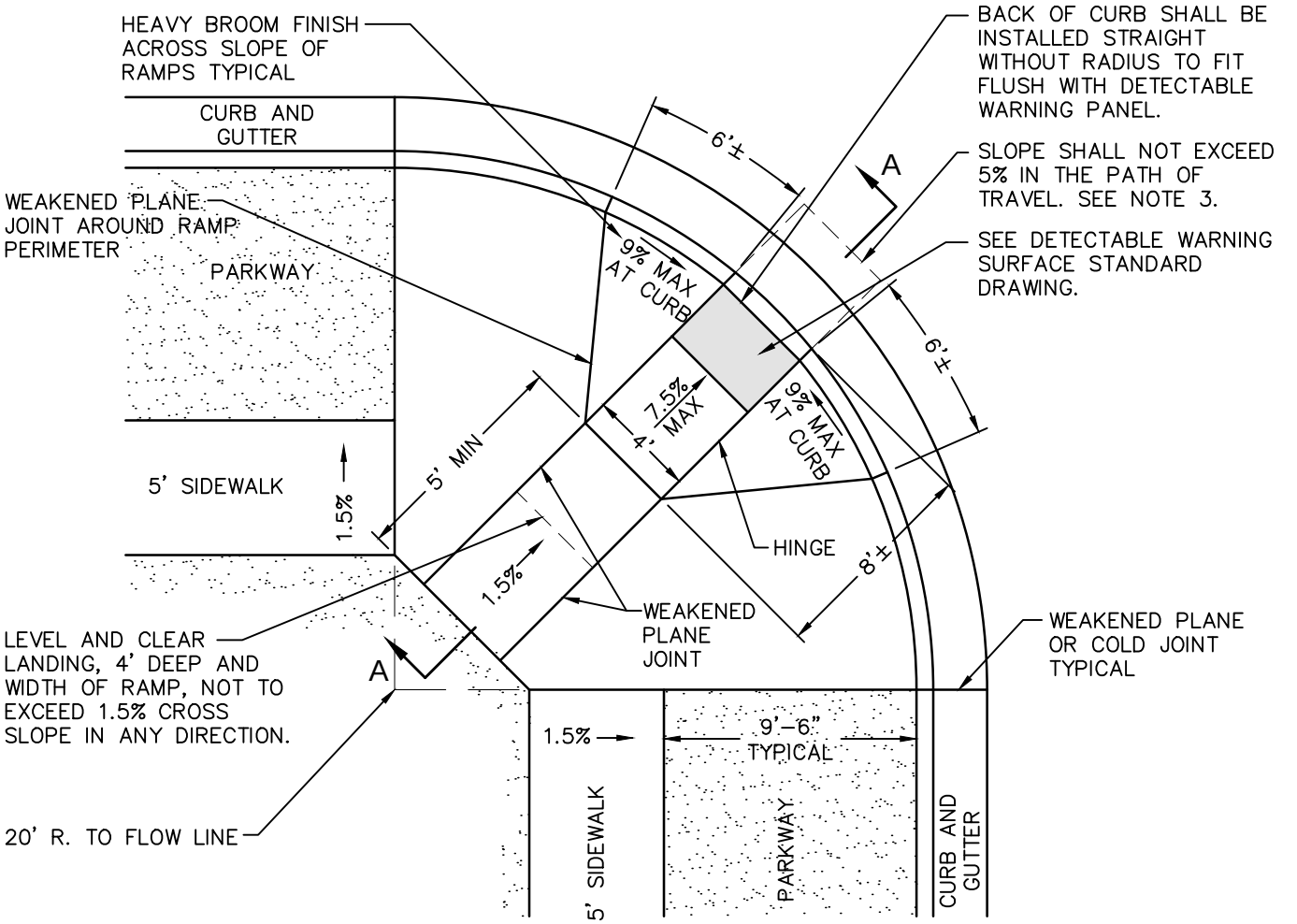
APPROVED BY: _____ CITY ENGINEER R.P.E. 81734 09/16/16 DATE

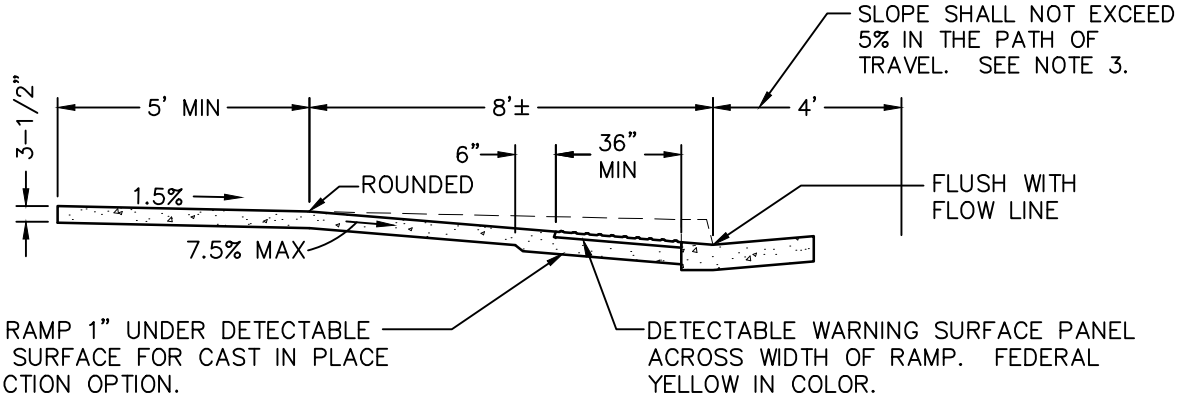
CITY OF VISALIA
DESIGN & IMPROVEMENT STANDARDS

20' RADIUS CURB RETURN WITH SIDEWALK CONNECTION – DETAIL 1

REVISIONS
09/15/16
BK 2016

C–13





SECTION A-A

NOTES:

1. ALL CONCRETE SHALL BE CLASS 3 CONCRETE.
2. APPLICABLE TO LOCAL STREET INTERSECTIONS IN RESIDENTIAL AND OFFICE ZONES.
3. MAXIMUN SLOPES OF ADJOINING GUTTERS, THE ROAD SURFACE IMMEDIATELY ADJACENT TO THE CURB RAMP OR ACCESSIBLE ROUTE SHALL NOT EXCEED 5% WITHIN 4' OF THE BOTTOM OF THE CURB RAMP.
4. NO CROSS SLOPE IN THE PATH OF TRAVEL TO EXCEED 1.5%.

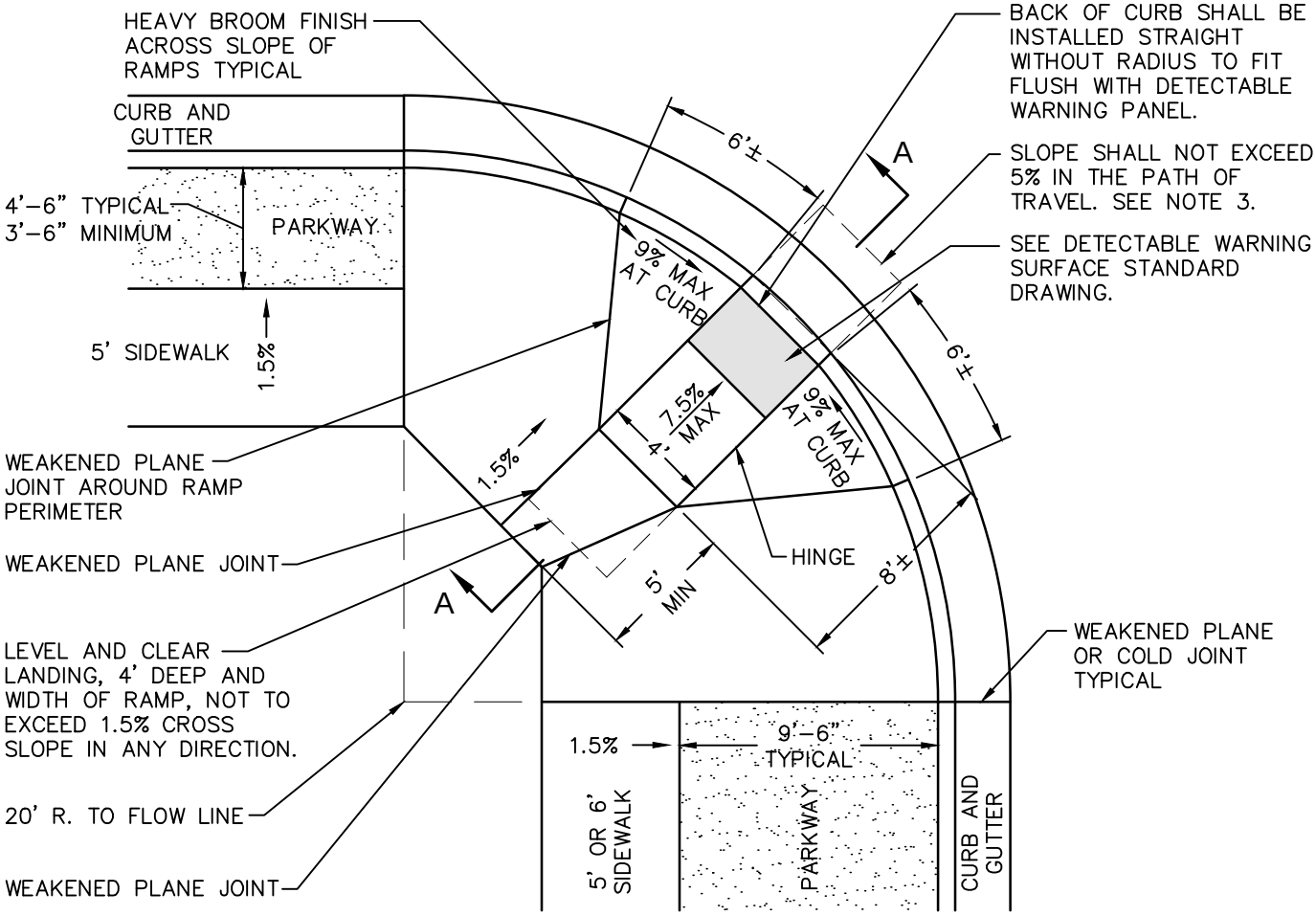
APPROVED BY: _____ 09/16/16
CITY ENGINEER R.P.E. 81734 DATE

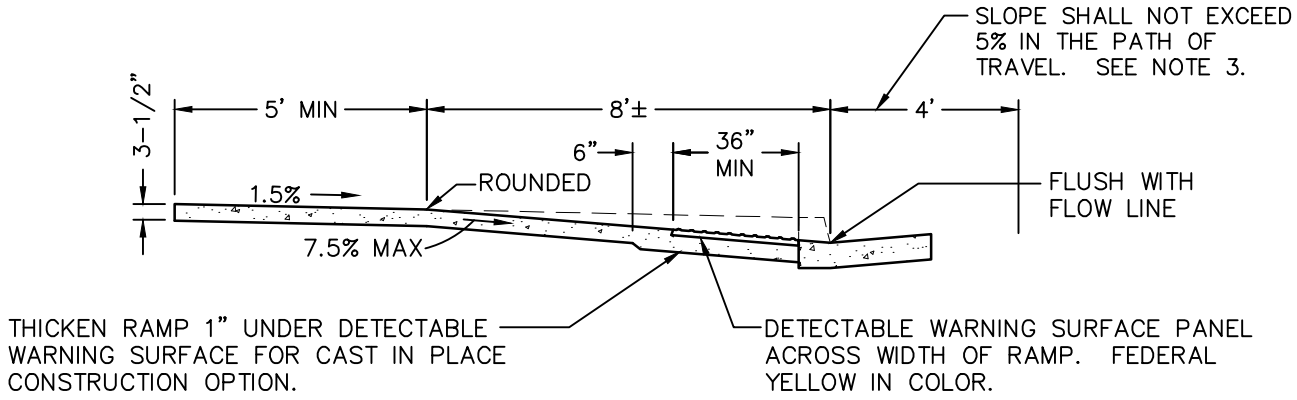
CITY OF VISALIA
DESIGN & IMPROVEMENT STANDARDS

20' RADIUS CURB RETURN WITH SIDEWALK CONNECTION – DETAIL 2

REVISIONS
09/15/16
BK 2016

C–14





SECTION A-A

NOTES:

1. ALL CONCRETE SHALL BE CLASS 3 CONCRETE.
2. APPLICABLE TO LOCAL STREET INTERSECTIONS IN RESIDENTIAL AND OFFICE ZONES.
3. MAXIMUM SLOPES OF ADJOINING GUTTERS, THE ROAD SURFACE IMMEDIATELY ADJACENT TO THE CURB RAMP OR ACCESSIBLE ROUTE SHALL NOT EXCEED 5% WITHIN 4' OF THE BOTTOM OF THE CURB RAMP.
4. NO CROSS SLOPE IN THE PATH OF TRAVEL TO EXCEED 1.5%.

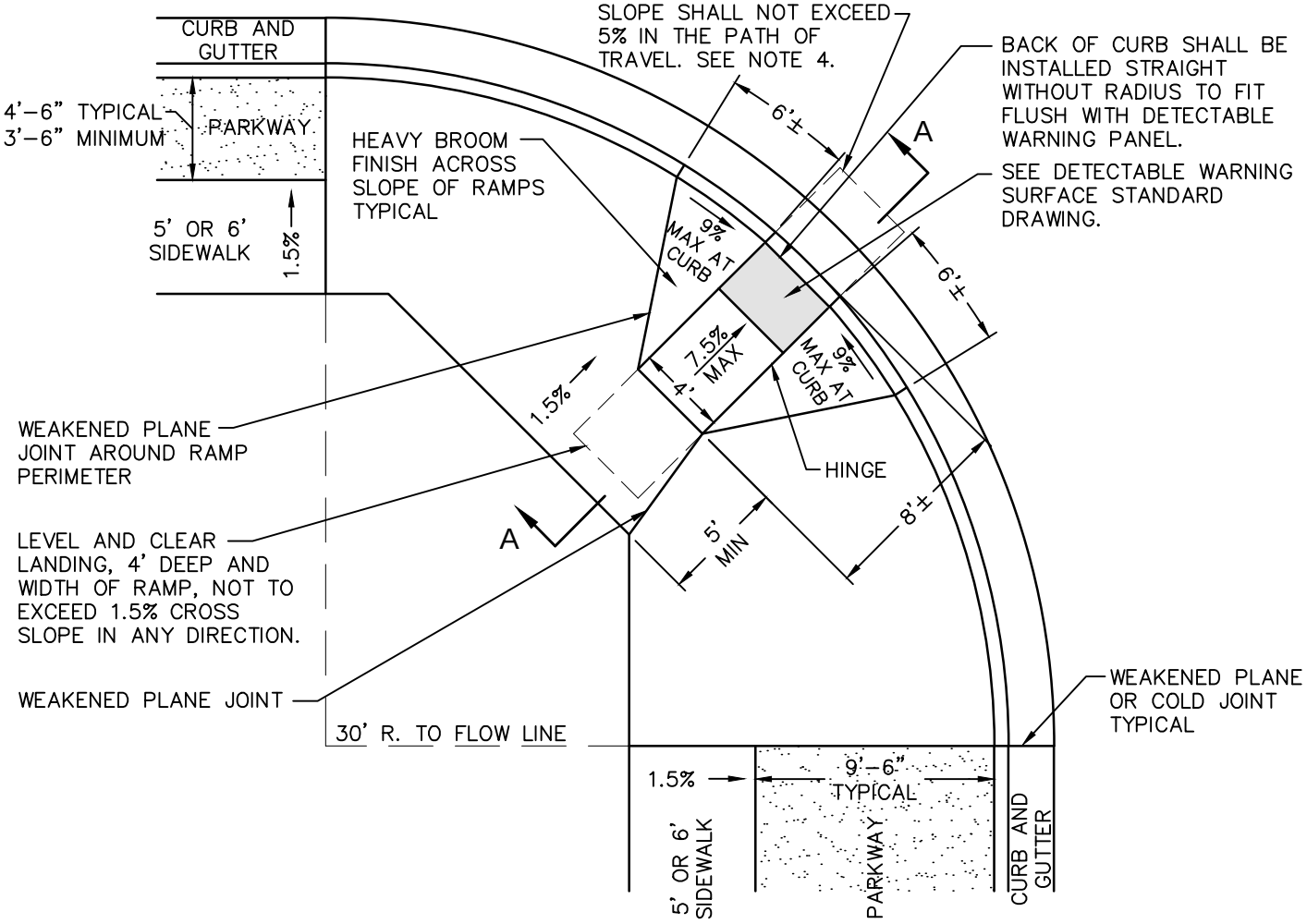
APPROVED BY: _____ 09/16/16
CITY ENGINEER R.P.E. 81734 DATE

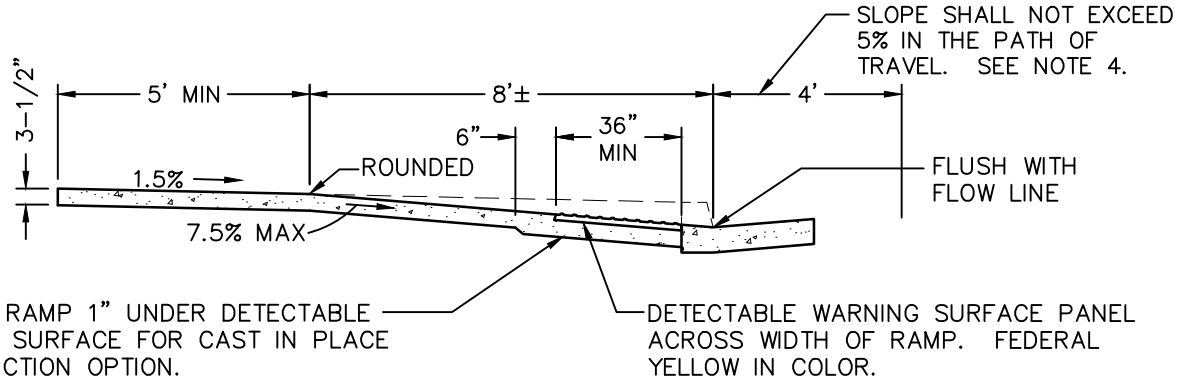
CITY OF VISALIA
DESIGN & IMPROVEMENT STANDARDS

20' RADIUS CURB RETURN WITH SIDEWALK CONNECTION – DETAIL 3

REVISIONS
09/15/16
BK 2016

C–15





SECTION A-A

NOTES:

1. ALL CONCRETE SHALL BE CLASS 3 CONCRETE.
2. APPLICABLE TO LOCAL STREET INTERSECTIONS WITH COLLECTORS OR ARTERIALS.
3. APPLICABLE TO LOCAL STREET INTERSECTIONS IN INDUSTRIAL AND COMMERCIAL ZONES.
4. MAXIMUM SLOPES OF ADJOINING GUTTERS, THE ROAD SURFACE IMMEDIATELY ADJACENT TO THE CURB RAMP OR ACCESSIBLE ROUTE SHALL NOT EXCEED 5% WITHIN 4' OF THE BOTTOM OF THE CURB RAMP.
5. NO CROSS SLOPE IN THE PATH OF TRAVEL TO EXCEED 1.5%.

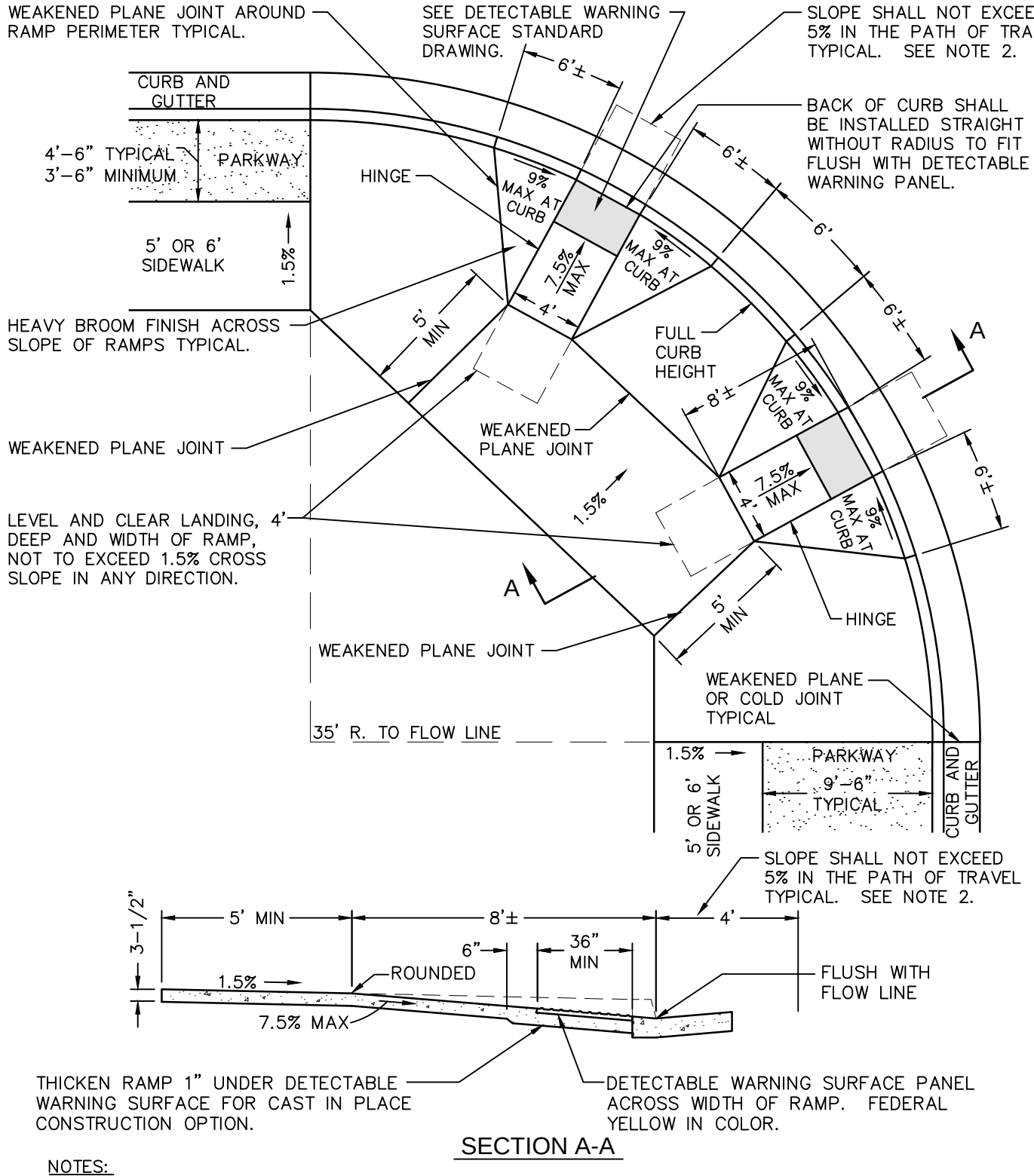
APPROVED BY: _____ CITY ENGINEER R.P.E. 81734 09/16/16 DATE

CITY OF VISALIA
DESIGN & IMPROVEMENT STANDARDS

30' RADIUS CURB RETURN WITH SIDEWALK CONNECTION

REVISIONS
09/15/16
BK 2016

C–16



SECTION A-A

NOTES:

1. ALL CONCRETE SHALL BE CLASS 3 CONCRETE.
2. MAXIMUM SLOPES OF ADJOINING GUTTERS, THE ROAD SURFACE IMMEDIATELY ADJACENT TO THE CURB RAMP OR ACCESSIBLE ROUTE SHALL NOT EXCEED 5% WITHIN 4' OF THE BOTTOM OF THE CURB RAMP.
3. NO CROSS SLOPE IN THE PATH OF TRAVEL TO EXCEED 1.5%.

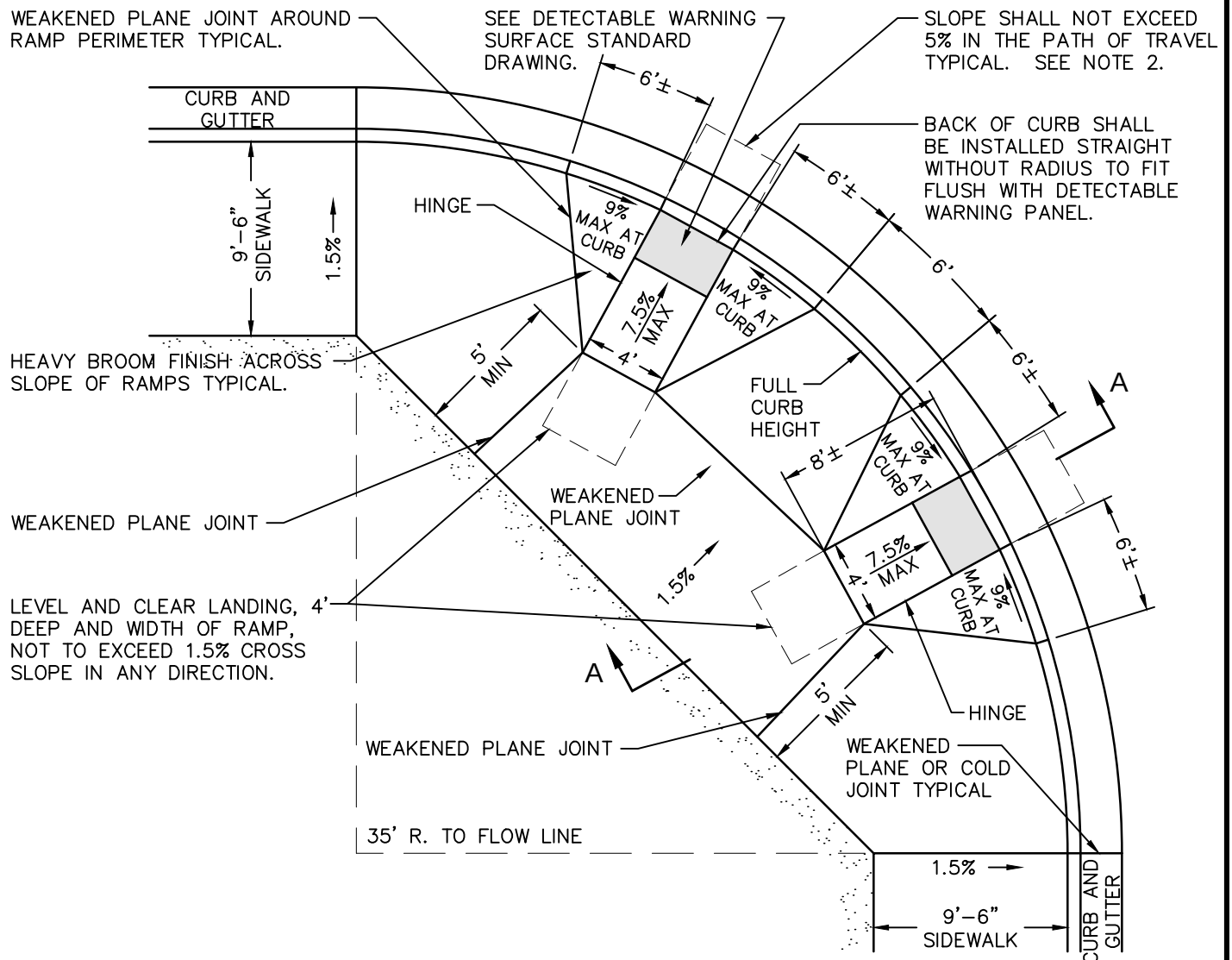
APPROVED BY: _____ CITY ENGINEER R.P.E. 81734 09/16/16 DATE

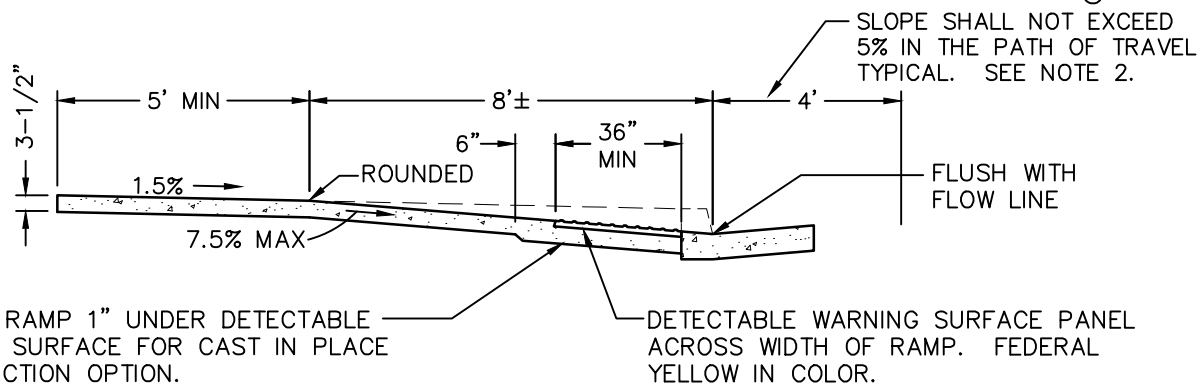
CITY OF VISALIA
DESIGN & IMPROVEMENT STANDARDS

35' RADIUS CURB RETURN WITH SIDEWALK CONNECTION – DETAIL 1

REVISIONS
09/15/16
BK 2016

C–17





SECTION A-A

NOTES:

1. ALL CONCRETE SHALL BE CLASS 3 CONCRETE.
2. MAXIMUM SLOPES OF ADJOINING GUTTERS, THE ROAD SURFACE IMMEDIATELY ADJACENT TO THE CURB RAMP OR ACCESSIBLE ROUTE SHALL NOT EXCEED 5% WITHIN 4' OF THE BOTTOM OF THE CURB RAMP.
3. NO CROSS SLOPE IN THE PATH OF TRAVEL TO EXCEED 1.5%.

APPROVED BY: _____ CITY ENGINEER R.P.E. 81734 09/16/16 DATE

CITY OF VISALIA
DESIGN & IMPROVEMENT STANDARDS

35' RADIUS CURB RETURN WITH SIDEWALK CONNECTION – DETAIL 2

REVISIONS
09/15/16
BK 2016

C–18

RESERVED FOR FUTURE DETAIL

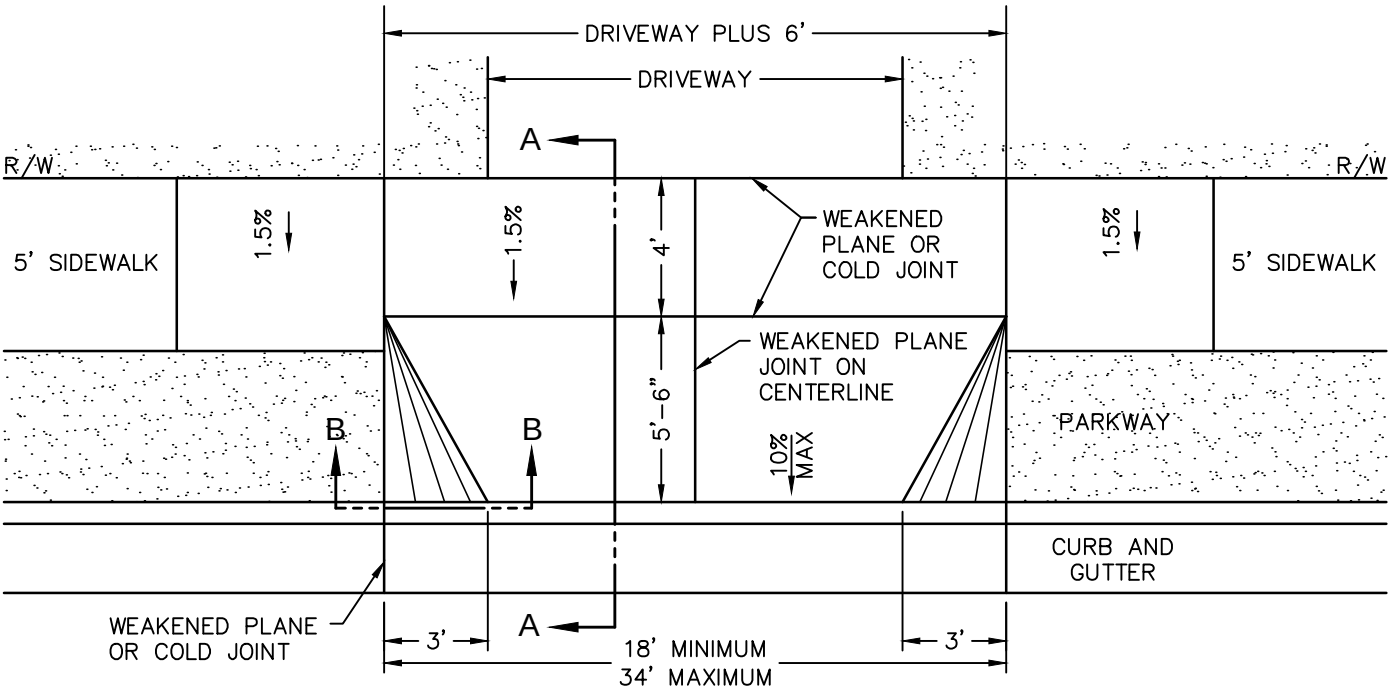
APPROVED BY: _____ _____	CITY OF VISALIA DESIGN & IMPROVEMENT STANDARDS
RESERVED	REVISIONS BK 2016
	C–19

RESERVED FOR FUTURE DETAIL

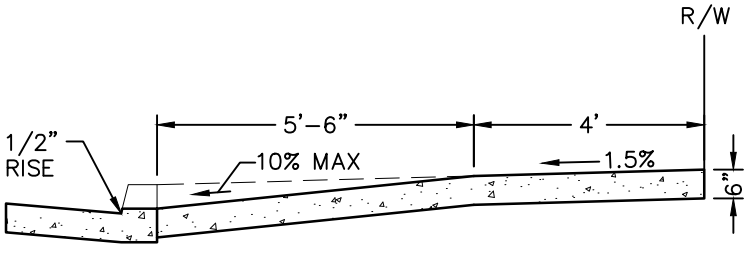
APPROVED BY: _____ _____	CITY OF VISALIA DESIGN & IMPROVEMENT STANDARDS
RESERVED	REVISIONS BK 2016
	C-20

RESERVED FOR FUTURE DETAIL

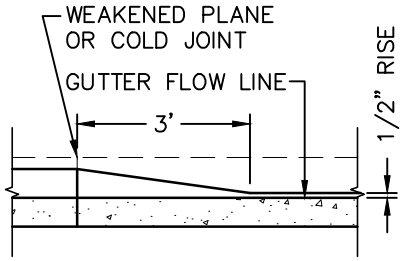
APPROVED BY: _____ _____	CITY OF VISALIA DESIGN & IMPROVEMENT STANDARDS
RESERVED	REVISIONS BK 2016
	C-21



PLAN



SECTION A-A



SECTION B-B

NOTES:

1. ALL CONCRETE SHALL BE CLASS 3 CONCRETE.
2. DRIVE APPROACHES SHALL BE NO GREATER THAN 6' WIDER THAN THE DRIVEWAY.

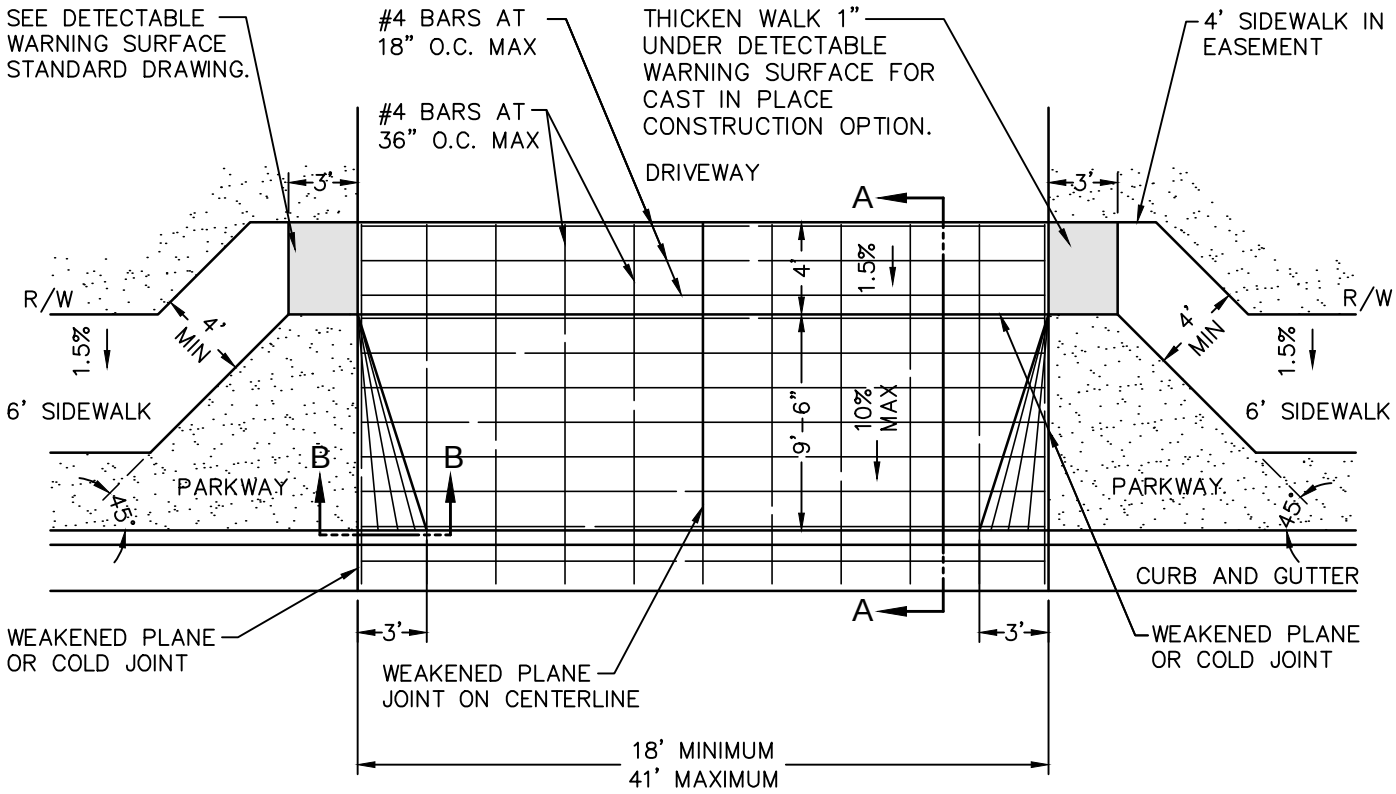
APPROVED BY: _____ CITY ENGINEER R.P.E. 81734 09/16/16 DATE

CITY OF VISALIA
DESIGN & IMPROVEMENT STANDARDS

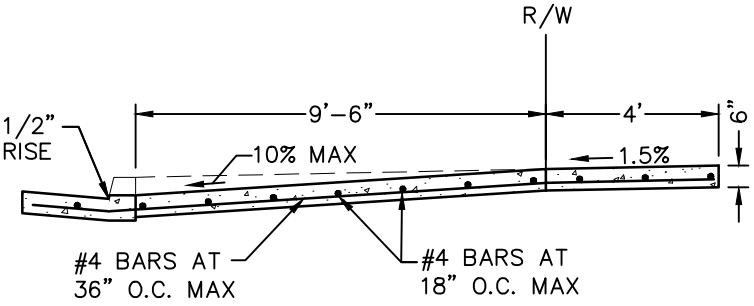
RESIDENTIAL DRIVE APPROACH

REVISIONS
07/11/16
BK 2016

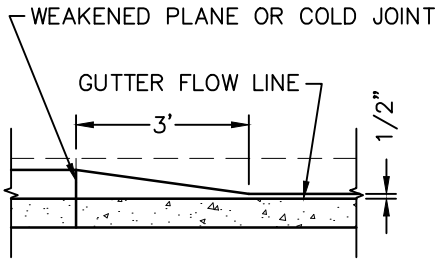
C-22



PLAN



SECTION A-A



SECTION B-B

NOTES:

1. ALL CONCRETE SHALL BE CLASS 3 CONCRETE.
2. ON COLLECTOR AND ARTERIAL STREETS, THE MINIMUM DRIVE APPROACH WIDTH SHALL BE 21' FOR ONE-WAY DRIVE APPROACHES AND 36' FOR TWO-WAY DRIVE APPROACHES, OR AS APPROVED BY CITY ENGINEER.
3. REBAR SHALL BE DEFORMED STEEL BARS AND SHALL BE GRADE 40 MINIMUM. REBAR SHALL BE FREE OF RUST OR DIRT AND SHALL BE THOROUGHLY CLEANED BEFORE PLACEMENT.
4. REBAR SHALL HAVE A MINIMUM OF 2" OF CLEAR COVERAGE.
5. NOT MORE THAN 50% OF PROPERTY FRONTAGE SHALL BE USED AS DRIVE APPROACH.
6. WIDTH AND LOCATION OF DRIVE APPROACHES ON STATE ROUTES IS SUBJECT TO APPROVAL BY CALTRANS.

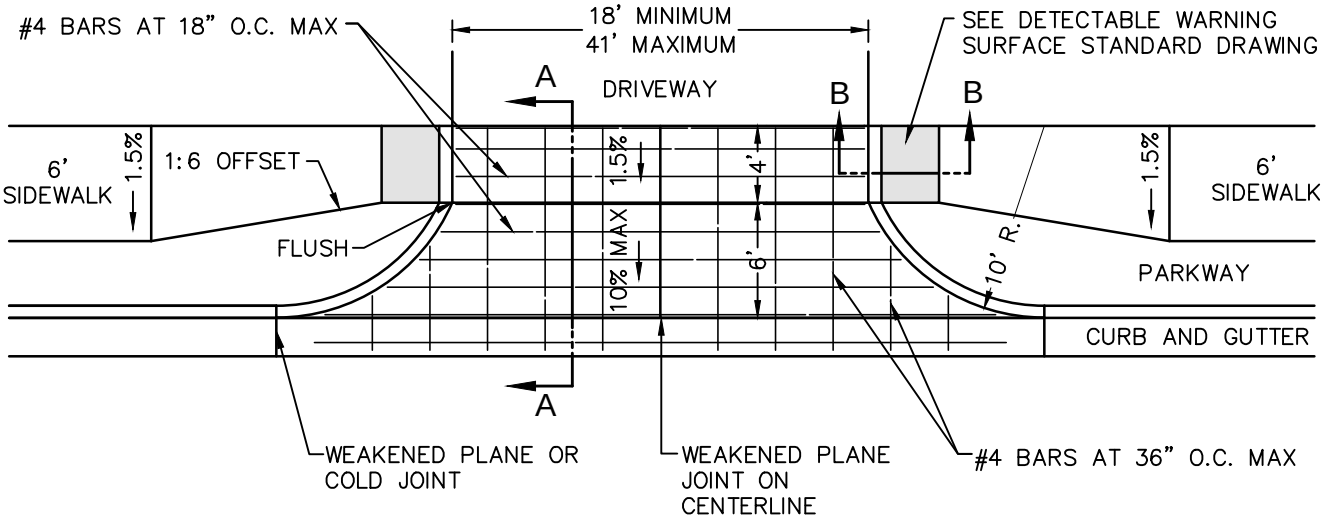
APPROVED BY: _____ CITY ENGINEER R.P.E. 81734 09/16/16 DATE

CITY OF VISALIA
DESIGN & IMPROVEMENT STANDARDS

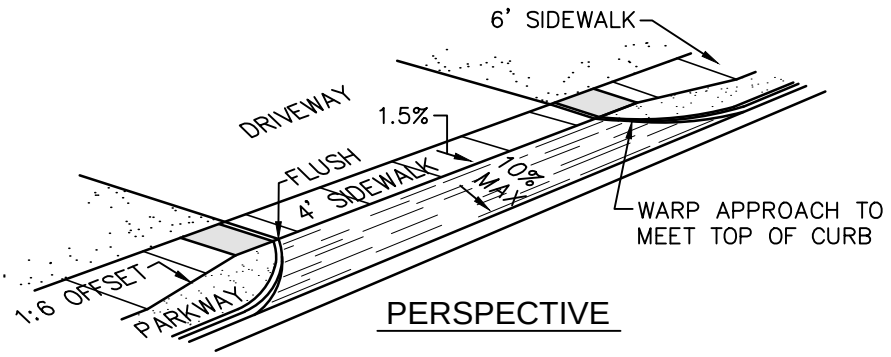
MULTI-FAMILY RESIDENTIAL/OFFICE /COMMERCIAL DRIVE APPROACH

REVISIONS
09/15/16
BK 2016

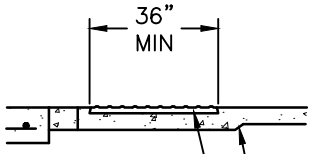
C-23



PLAN

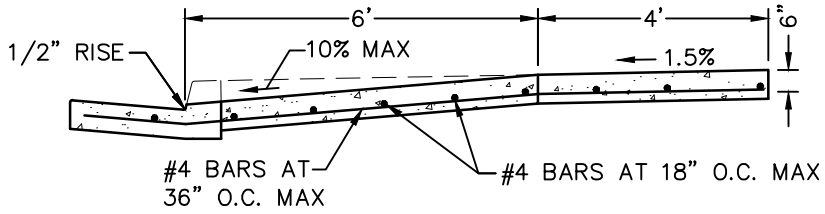


PERSPECTIVE



DETECTABLE WARNING SURFACE PANEL ACROSS WIDTH OF WALK. FEDERAL YELLOW IN COLOR.

THICKEN WALK 1" UNDER DETECTABLE WARNING SURFACE FOR CAST IN PLACE CONSTRUCTION OPTION.



SECTION A-A

SECTION B-B

NOTES:

1. ALL CONCRETE SHALL BE CLASS 3 CONCRETE.
2. ON COLLECTOR AND ARTERIAL STREETS, THE MINIMUM DRIVE APPROACH WIDTH SHALL BE 21' FOR ONE-WAY DRIVE APPROACHES AND 36' FOR TWO-WAY DRIVE APPROACHES, OR AS APPROVED BY CITY ENGINEER.
3. REBAR SHALL BE DEFORMED STEEL BARS AND SHALL BE GRADE 40 MINIMUM. REBAR SHALL BE FREE OF RUST OR DIRT AND SHALL BE THOROUGHLY CLEANED BEFORE PLACEMENT.
4. REBAR SHALL HAVE A MINIMUM OF 2" OF CLEAR COVERAGE.
5. NOT MORE THAN 50% OF PROPERTY FRONTAGE SHALL BE USED AS DRIVE APPROACH.
6. WIDTH AND LOCATION OF DRIVE APPROACHES ON STATE ROUTES IS SUBJECT TO APPROVAL BY CALTRANS.

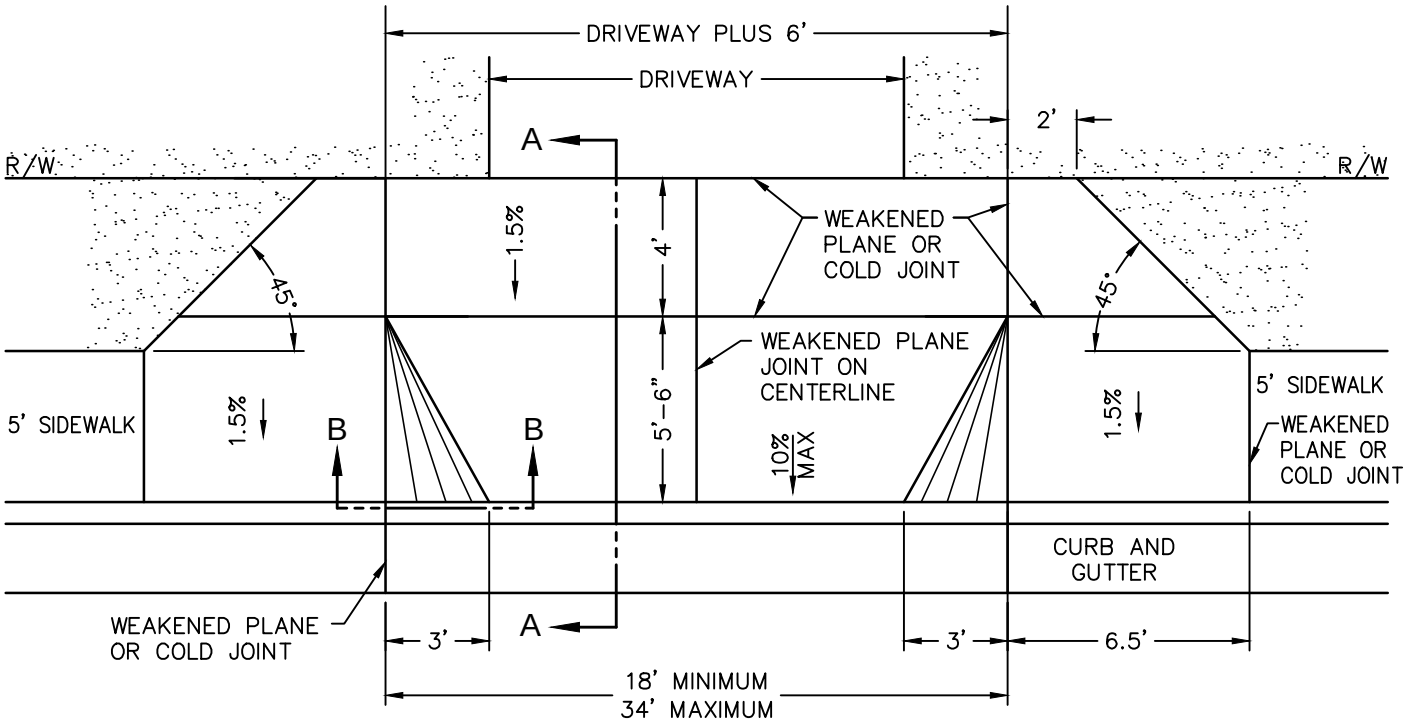
APPROVED BY: _____ CITY ENGINEER R.P.E. 81734 09/16/16 DATE

CITY OF VISALIA
DESIGN & IMPROVEMENT STANDARDS

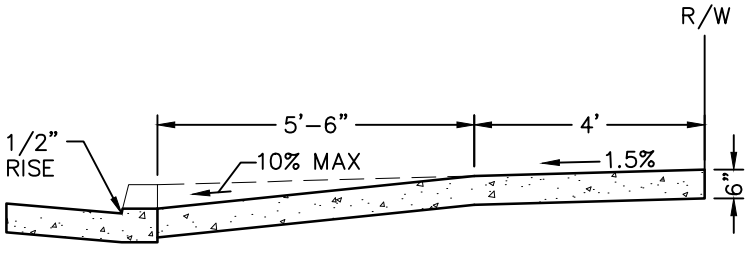
OFFICE/COMMERCIAL DRIVE APPROACH (ALTERNATIVE – WITH CURB RETURNS)

REVISIONS
09/15/16
BK 2016

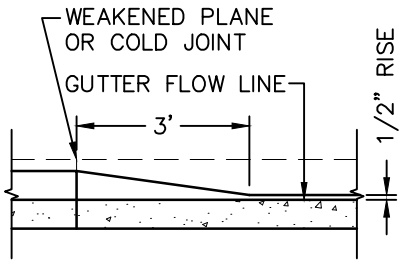
C-24



PLAN



SECTION A-A

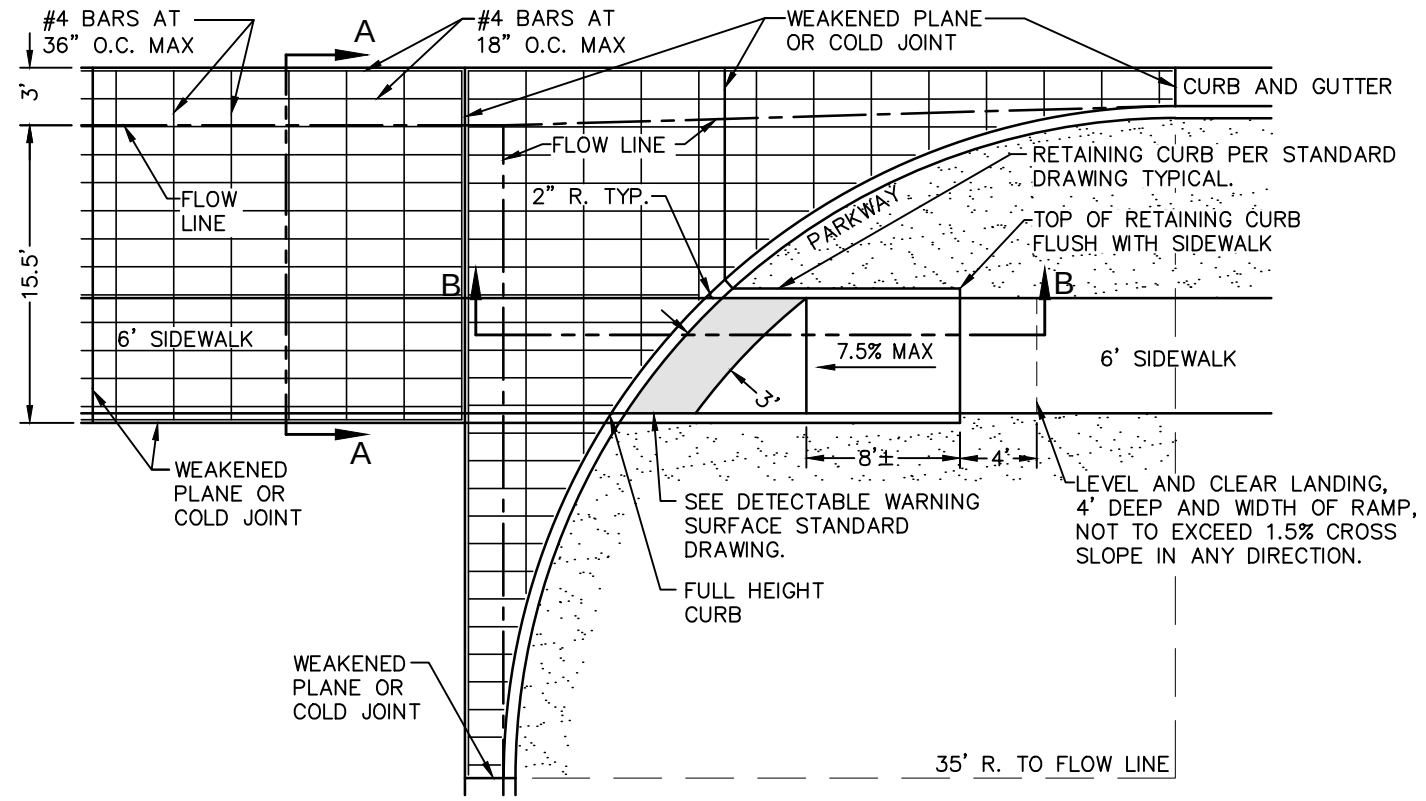


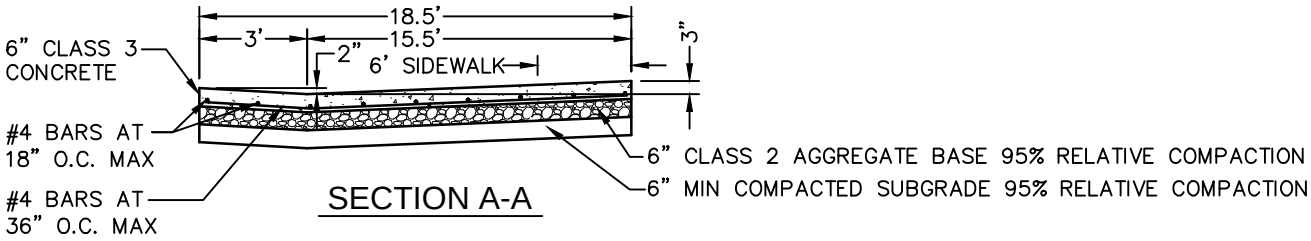
SECTION B-B

NOTES:

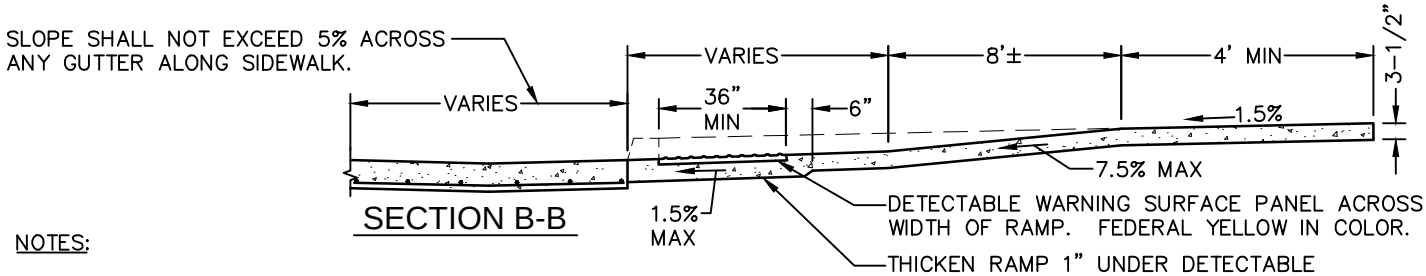
1. ALL CONCRETE SHALL BE CLASS 3 CONCRETE.
2. DRIVE APPROACHES SHALL BE NO GREATER THAN 6' WIDER THAN THE DRIVEWAY.

APPROVED BY: _____ CITY ENGINEER R.P.E. 81734 09/16/16 DATE	CITY OF VISALIA DESIGN & IMPROVEMENT STANDARDS
RESIDENTIAL DRIVE APPROACH WITH ADJACENT SIDEWALK (INFILL ONLY)	REVISIONS 07/11/16 BK 2016 — C-25





SECTION A-A



SECTION B-B

NOTES:

1. ALL CONCRETE SHALL BE CLASS 3 CONCRETE.
2. COMMERCIAL DRIVE APPROACH SHALL HAVE A MINIMUM GRADIENT OF 0.40%. MINIMUM GRADIENT ON INFILL PROJECTS MAY BE LESS AS APPROVED BY THE CITY ENGINEER.
3. REBAR SHALL BE DEFORMED STEEL BARS AND SHALL BE GRADE 40 MINIMUM. REBAR SHALL BE FREE OF RUST OR DIRT AND SHALL BE THOROUGHLY CLEANED BEFORE PLACEMENT.
4. REBAR SHALL HAVE A MINIMUM 2" OF CLEAR COVERAGE.
5. GUTTER FLOW LINE SHALL BE WATER TESTED FOR FLOW.
6. PROVIDE A MINIMUM 6' SIDEWALK ACROSS DRIVE. MAXIMUM 1.5% CROSS SLOPE AND MAXIMUM 1.5% SLOPE IN THE DIRECTION OF SIDEWALK.
7. NO CROSS SLOPE IN THE PEDESTRIAN ACCESS ROUTE TO EXCEED 1.5%.

APPROVED BY: _____ CITY ENGINEER R.P.E. 81734 09/16/16 DATE

CITY OF VISALIA
DESIGN & IMPROVEMENT STANDARDS

MAJOR COMMERCIAL DRIVE APPROACH 35' RADIUS CURB RETURN

REVISIONS
09/15/16
BK 2016

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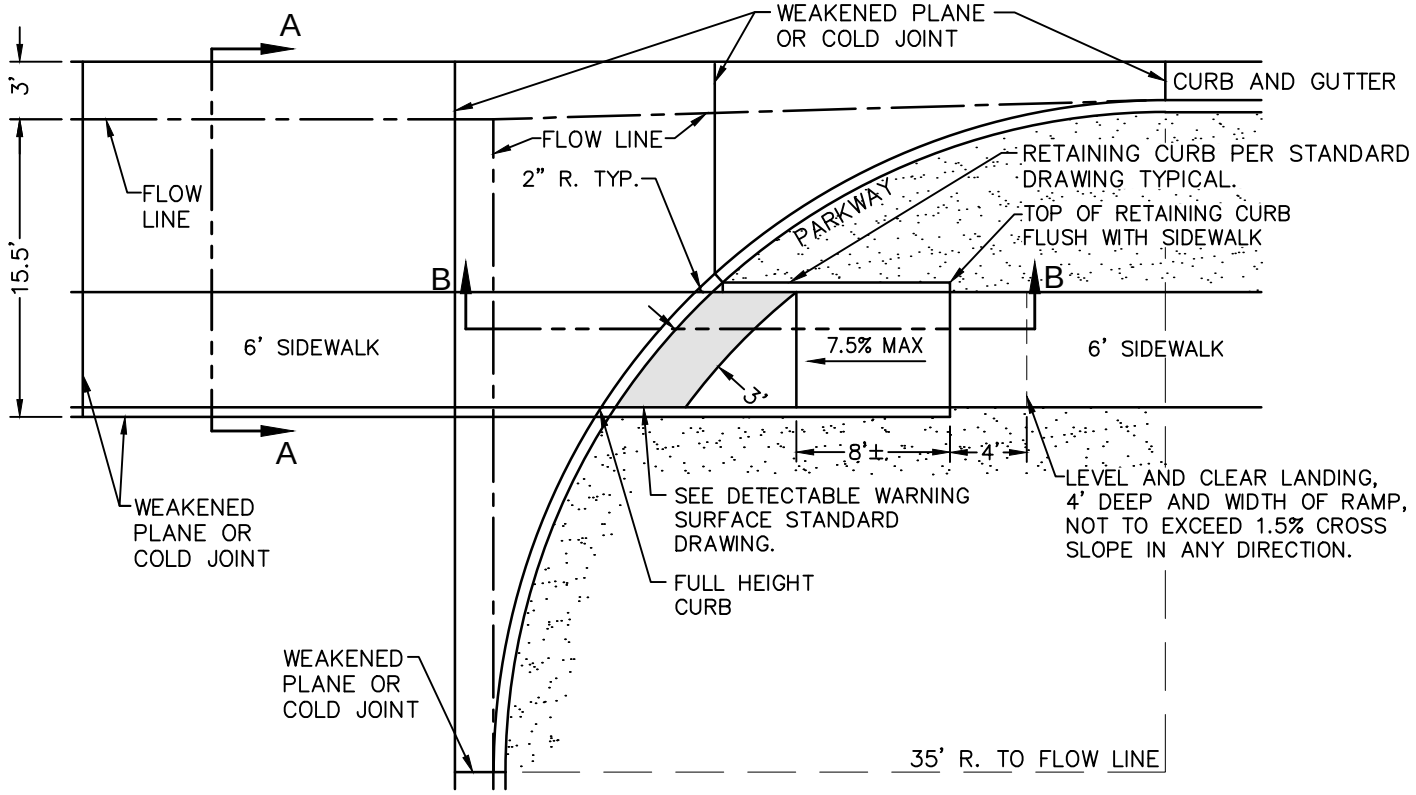
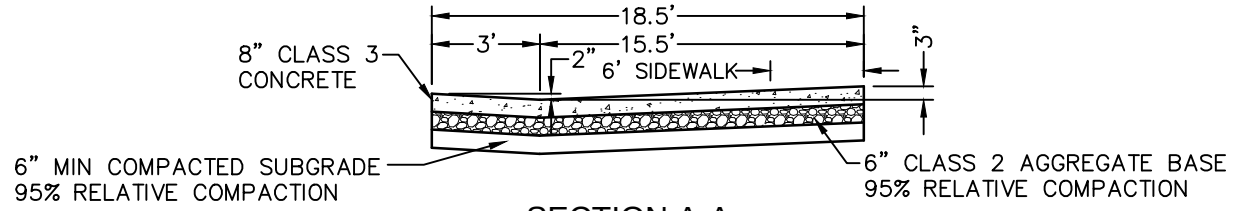
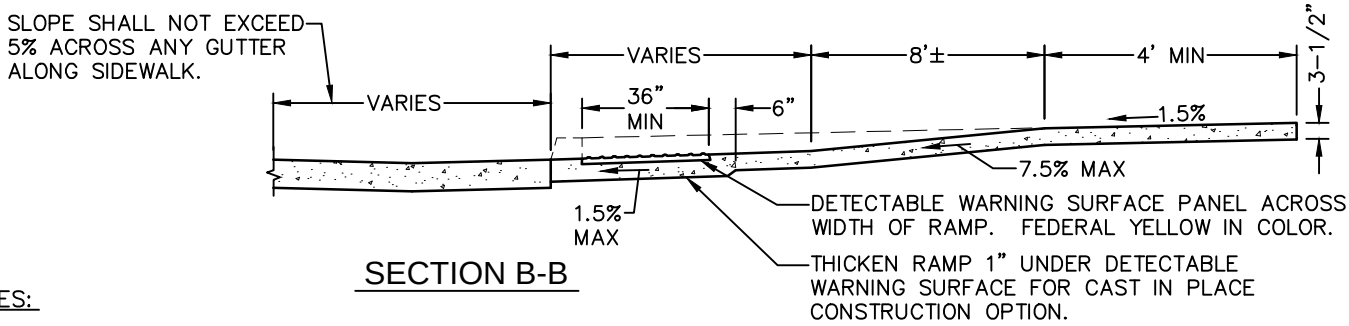




SECTION A-A



SECTION B-B

NOTES:

1. ALL CONCRETE SHALL BE CLASS 3 CONCRETE.
2. COMMERCIAL DRIVE APPROACH GUTTER SHALL HAVE A MINIMUM GRADIENT OF 0.40%. MINIMUM GRADIENT ON INFILL PROJECTS MAY BE LESS AS APPROVED BY THE CITY ENGINEER.
3. GUTTER FLOW LINE SHALL BE WATER TESTED FOR FLOW.
4. NO CROSS SLOPE IN THE PEDESTRIAN ACCESS ROUTE TO EXCEED 1.5%.
5. PROVIDE A MINIMUM 6' SIDEWALK ACROSS DRIVE. MAXIMUM 1.5% CROSS SLOPE AND MAXIMUM 1.5% SLOPE IN THE DIRECTION OF SIDEWALK.

APPROVED BY: _____ CITY ENGINEER R.P.E. 81734 09/16/16 DATE

CITY OF VISALIA
DESIGN & IMPROVEMENT STANDARDS

MAJOR COMMERCIAL DRIVE APPROACH 35' RADIUS CURB RETURN–ALTERNATE

REVISIONS
09/15/16
BK 2016

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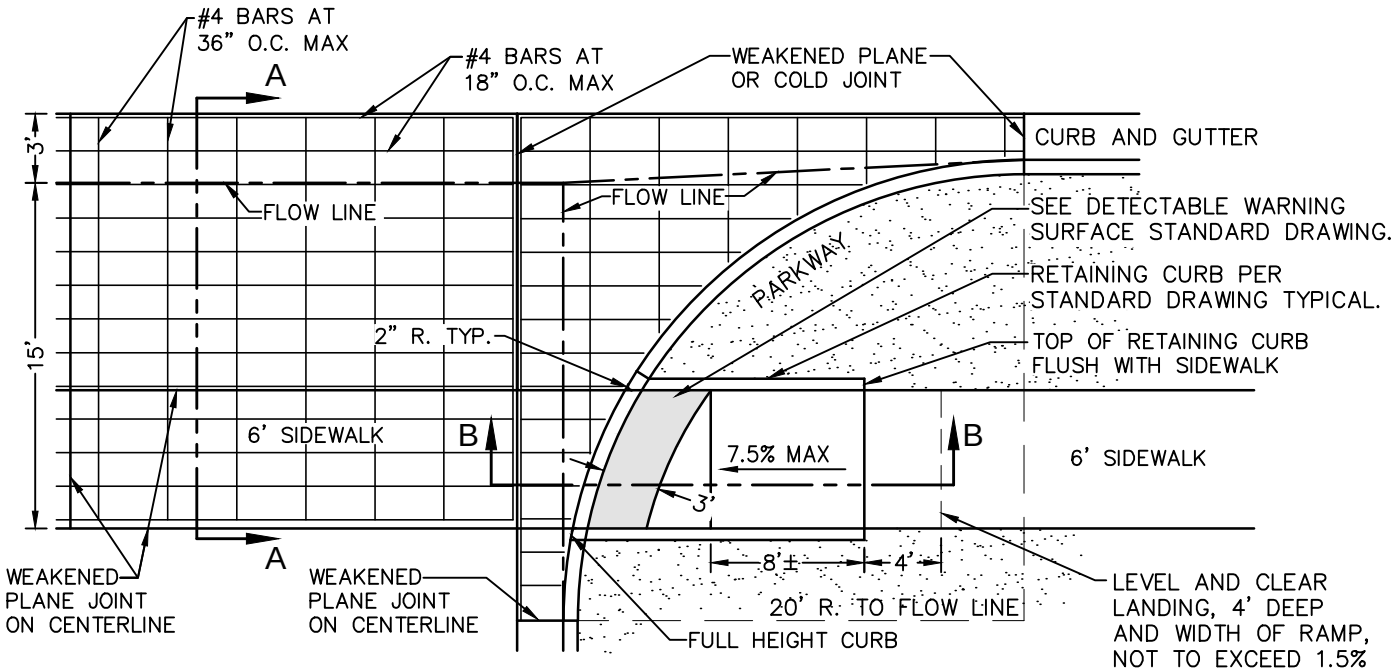
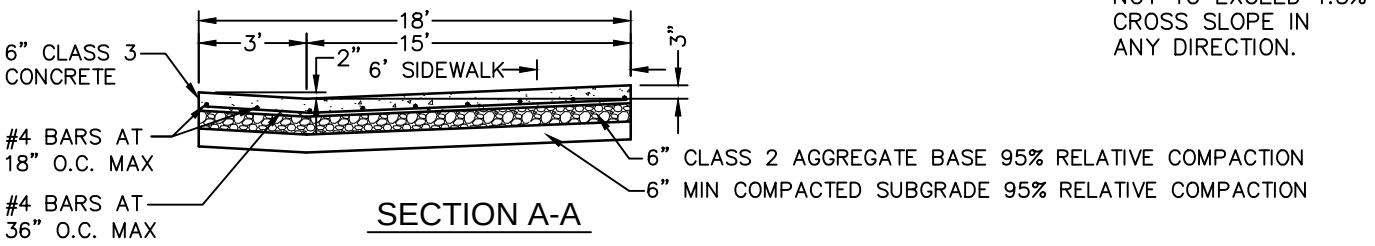
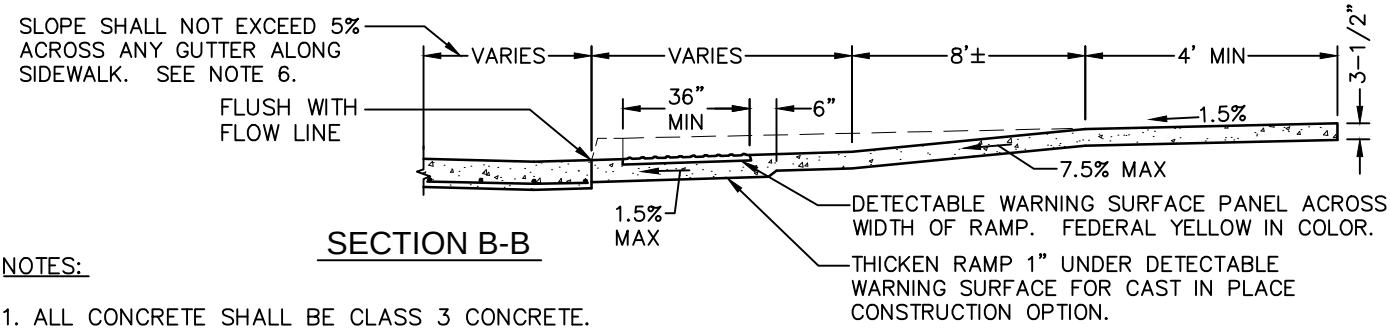




SECTION A-A



SECTION B-B

NOTES:

1. ALL CONCRETE SHALL BE CLASS 3 CONCRETE.
2. COMMERCIAL DRIVE APPROACH SHALL HAVE A MINIMUM GRADIENT OF 0.40%. MINIMUM GRADIENT ON INFILL PROJECTS MAY BE LESS AS APPROVED BY THE CITY ENGINEER.
3. REBAR SHALL BE DEFORMED STEEL BARS AND SHALL BE GRADE 40 MINIMUM. REBAR SHALL BE FREE OF RUST OR DIRT AND SHALL BE THOROUGHLY CLEANED BEFORE PLACEMENT.
4. REBAR SHALL HAVE A MINIMUM OF 2" OF CLEAR COVERAGE.
5. GUTTER FLOW LINE SHALL BE WATER TESTED FOR FLOW.
6. MAXIMUM SLOPES OF ADJOINING GUTTERS IMMEDIATELY ADJACENT TO THE CURB RAMP OR ACCESSIBLE ROUTE SHALL NOT EXCEED 5% WITHIN 4' OF THE BOTTOM OF THE CURB RAMP.
7. NO CROSS SLOPE IN THE PEDESTRIAN ACCESS ROUTE TO EXCEED 1.5%.
8. PROVIDE A MINIMUM 6' SIDEWALK ACROSS DRIVE. MAXIMUM 1.5% CROSS SLOPE AND MAXIMUM 1.5% SLOPE IN THE DIRECTION OF SIDEWALK.

APPROVED BY: _____ 09/16/16
CITY ENGINEER R.P.E. 81734 DATE

CITY OF VISALIA
DESIGN & IMPROVEMENT STANDARDS

MAJOR COMMERCIAL DRIVE APPROACH 20' RADIUS CURB RETURN

REVISIONS
09/15/16
BK 2016

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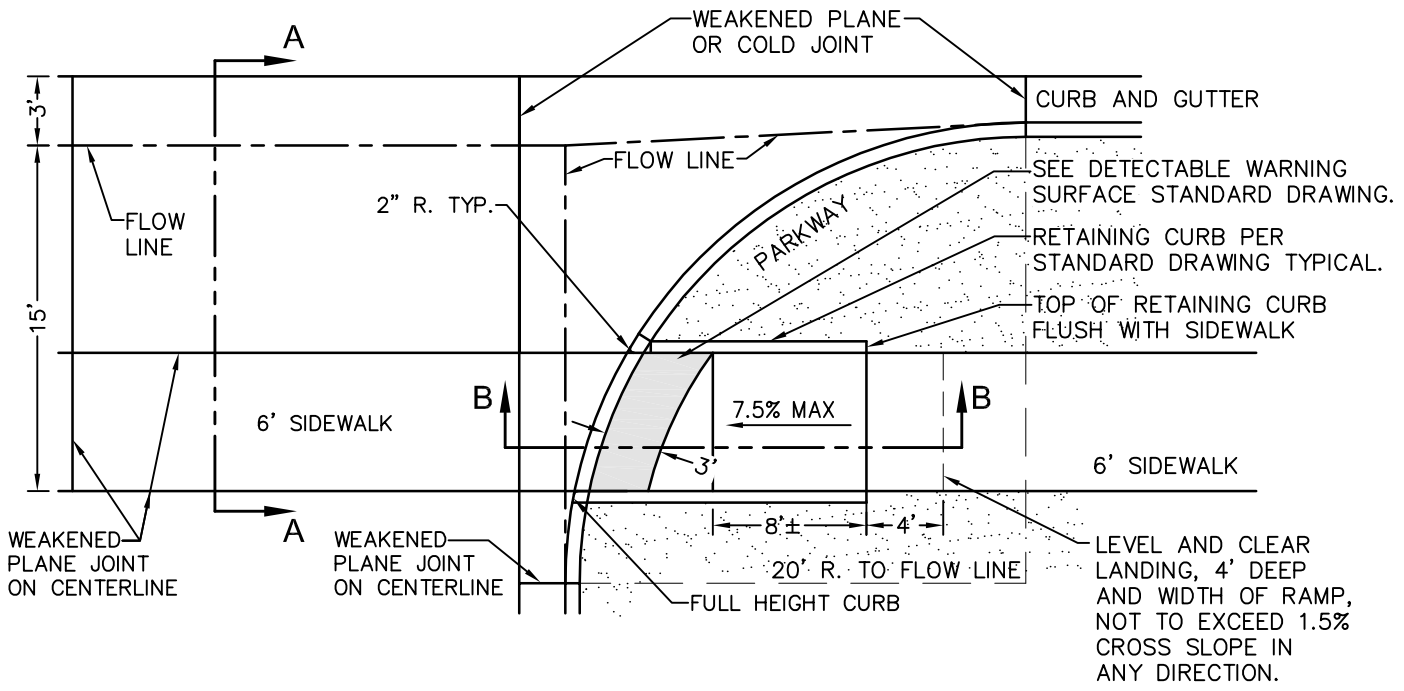
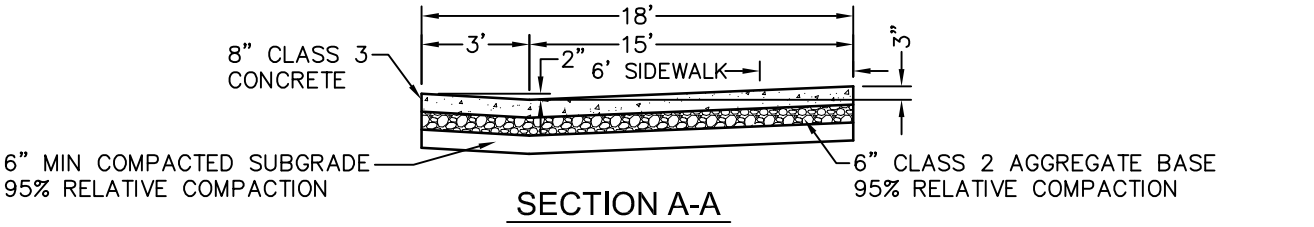
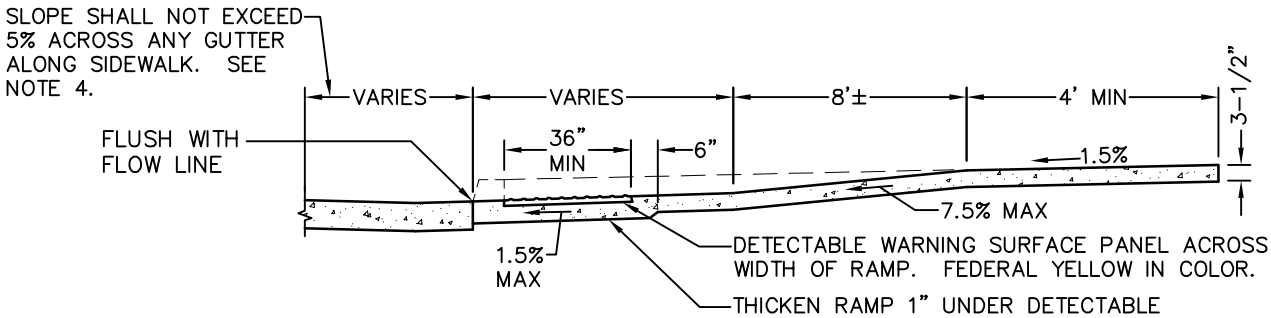




SECTION A-A



SECTION B-B

NOTES:

1. ALL CONCRETE SHALL BE CLASS 3 CONCRETE.
2. COMMERCIAL DRIVE APPROACH GUTTER SHALL HAVE A MINIMUM GRADIENT OF 0.40%. MINIMUM GRADIENT ON INFILL PROJECTS MAY BE LESS AS APPROVED BY THE CITY ENGINEER.
3. GUTTER FLOW LINE SHALL BE WATER TESTED FOR FLOW.
4. MAXIMUM SLOPES OF ADJOINING GUTTERS IMMEDIATELY ADJACENT TO THE CURB RAMP OR ACCESSIBLE ROUTE SHALL NOT EXCEED 5% WITHIN 4' OF THE BOTTOM OF THE CURB RAMP.
5. NO CROSS SLOPE IN THE PEDESTRIAN ACCESS ROUTE TO EXCEED 1.5%.
6. PROVIDE A MINIMUM 6' SIDEWALK ACROSS DRIVE. MAXIMUM 1.5% CROSS SLOPE AND MAXIMUM 1.5% SLOPE IN THE DIRECTION OF SIDEWALK.

APPROVED BY: _____ CITY ENGINEER R.P.E. 81734 — 09/16/16 DATE

CITY OF VISALIA
DESIGN & IMPROVEMENT STANDARDS

MAJOR COMMERCIAL DRIVE APPROACH 20' RADIUS CURB RETURN–ALTERNATE

REVISIONS
10/28/16
BK 2016

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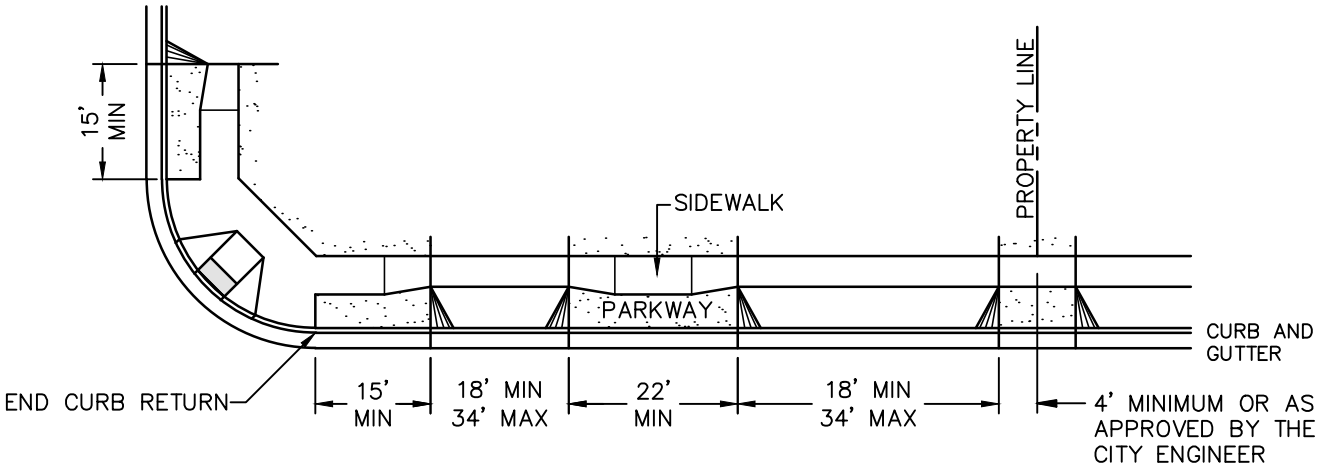
RESERVED FOR FUTURE DETAIL

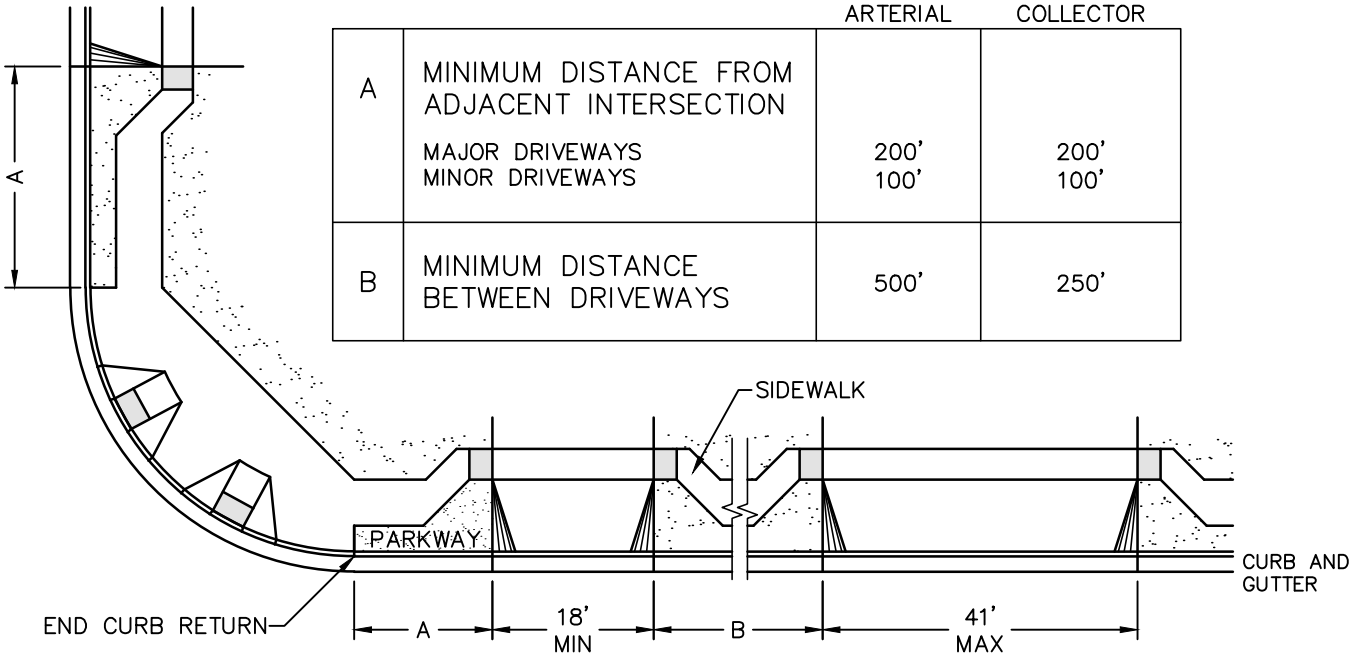
APPROVED BY: _____ _____	CITY OF VISALIA DESIGN & IMPROVEMENT STANDARDS
RESERVED	REVISIONS BK 2016
	C-30

RESERVED FOR FUTURE DETAIL

APPROVED BY:_____ _____	CITY OF VISALIA DESIGN & IMPROVEMENT STANDARDS
RESERVED	REVISIONS BK 2016
	C-31



DRIVE APPROACH LOCATIONS
RESIDENTIAL ZONES WITH 4 UNITS OR LESS PER LOT



		ARTERIAL	COLLECTOR
A	MINIMUM DISTANCE FROM ADJACENT INTERSECTION		
	MAJOR DRIVEWAYS	200'	200'
	MINOR DRIVEWAYS	100'	100'
B	MINIMUM DISTANCE BETWEEN DRIVEWAYS	500'	250'

DRIVE APPROACH LOCATIONS
OFFICE / COMMERCIAL / MULTI FAMILY ZONES

NOTES:

1. ON COLLECTOR AND ARTERIAL STREETS, THE MINIMUM DRIVE APPROACH WIDTH SHALL BE 21' FOR ONE-WAY DRIVE APPROACHES AND 36' FOR TWO-WAY DRIVE APPROACHES, OR AS APPROVED BY CITY ENGINEER.
2. NOT MORE THAN 50% OF PROPERTY FRONTAGE SHALL BE USED AS DRIVE APPROACH.
3. DRIVEWAYS SHOULD BE CONSOLIDATED WHENEVER POSSIBLE TO PROVIDE THE MINIMUM DISTANCE BETWEEN DRIVEWAYS AS SHOWN IN 'B' ABOVE.
4. DRIVEWAYS FROM RESIDENTIAL PROPERTIES TO ARTERIAL STREETS ARE DISCOURAGED. RESIDENTIAL PROPERTIES SHOULD RECEIVE ACCESS TO ARTERIALS FROM COLLECTOR STREETS AND LOCAL STREETS.
5. WIDTH AND LOCATION OF DRIVE APPROACHES ON STATE ROUTES IS SUBJECT TO CALTRANS APPROVAL.
6. NO VEHICULAR TRAFFIC SHALL CROSS CURB, GUTTER, OR SIDEWALK WITHOUT AN APPROVED DRIVE APPROACH.

APPROVED BY: _____ CITY ENGINEER R.P.E. 81734 09/16/16 DATE

CITY OF VISALIA
DESIGN & IMPROVEMENT STANDARDS

DRIVE APPROACH LOCATIONS

REVISIONS
06/14/13
BK 2016

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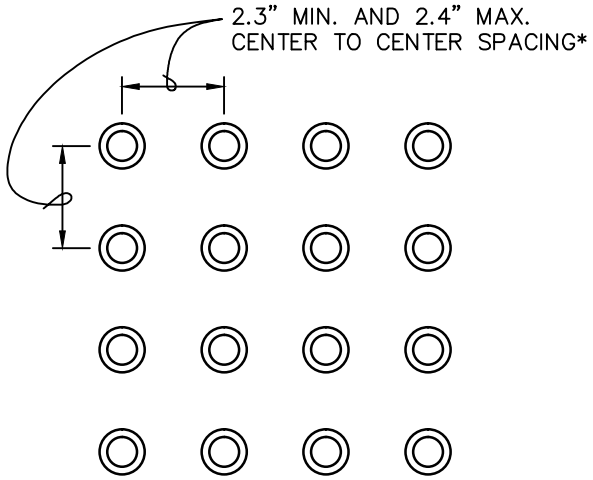
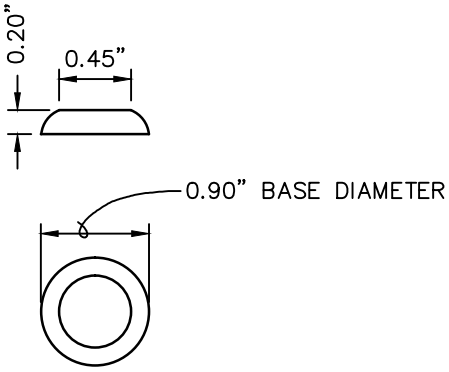
NOTE:

* WHERE INSTALLED IN A RADIAL PATTERN, TRUNCATED DOMES SHALL HAVE A CENTER TO CENTER SPACING OF 1.6" MINIMUM TO 2.4" MAXIMUM OR AS INDICATED PER CURRENT CBC.



RAISED TRUNCATED DOME PATTERN



RAISED TRUNCATED DOME

NOTES:

1. DETECTABLE WARNING SURFACE SHALL BE INSTALLED AT THE BOTTOM OF ALL CURB RAMPS.
2. DETECTABLE WARNING SHALL BE INSTALLED SO THAT IT BUTTS UP FLUSH AGAINST THE BACK OF ADJACENT CURB. WHERE CURBS ARE ON A CURVE, THE BACK OF CURB SHALL BE STRAIGHTENED AT THE DETECTABLE WARNING LOCATION SO THE WARNING BUTTS UP FLUSH AGAINST THE BACK OF CURB.
3. DETECTABLE WARNING SURFACE SHALL BE THE FULL WIDTH OF RAMP AND SHALL BE A MINIMUM OF 36" IN DEPTH.
4. DETECTABLE WARNING SURFACE SHALL BE PREMIXED FEDERAL YELLOW COLORED AND SHALL BE AN AUTHORIZED MATERIAL FROM THE CITY OF VISALIA DETECTABLE WARNING SURFACE AUTHORIZED MATERIAL LIST.
5. IN RETROFIT TYPE SITUATIONS ON EXISTING SURFACES THE CITY WILL ALLOW RETROFIT TYPE WARNING PANELS. RETROFIT PANEL MATERIALS SHALL BE SUBMITTED TO THE CITY ENGINEER FOR ACCEPTANCE PRIOR TO CONSTRUCTION. PANELS SHALL BE GLUED AND BOLTED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS. BOTTOM OF PANELS SHALL BE FLUSH AGAINST THE ADJACENT CONCRETE SURFACE.

APPROVED BY: _____ 09/16/16
CITY ENGINEER R.P.E. 81734 DATE

CITY OF VISALIA
DESIGN & IMPROVEMENT STANDARDS

DETECTABLE WARNING SURFACE DETAIL

REVISIONS
09/15/16
BK 2016

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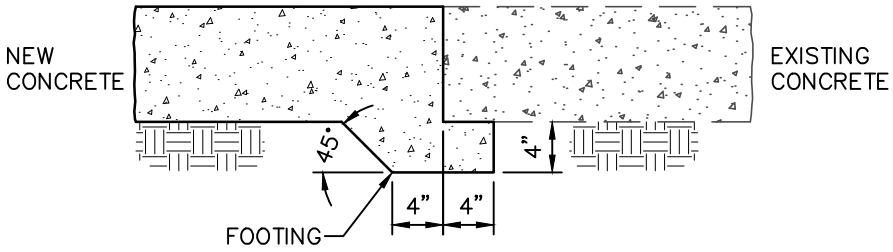
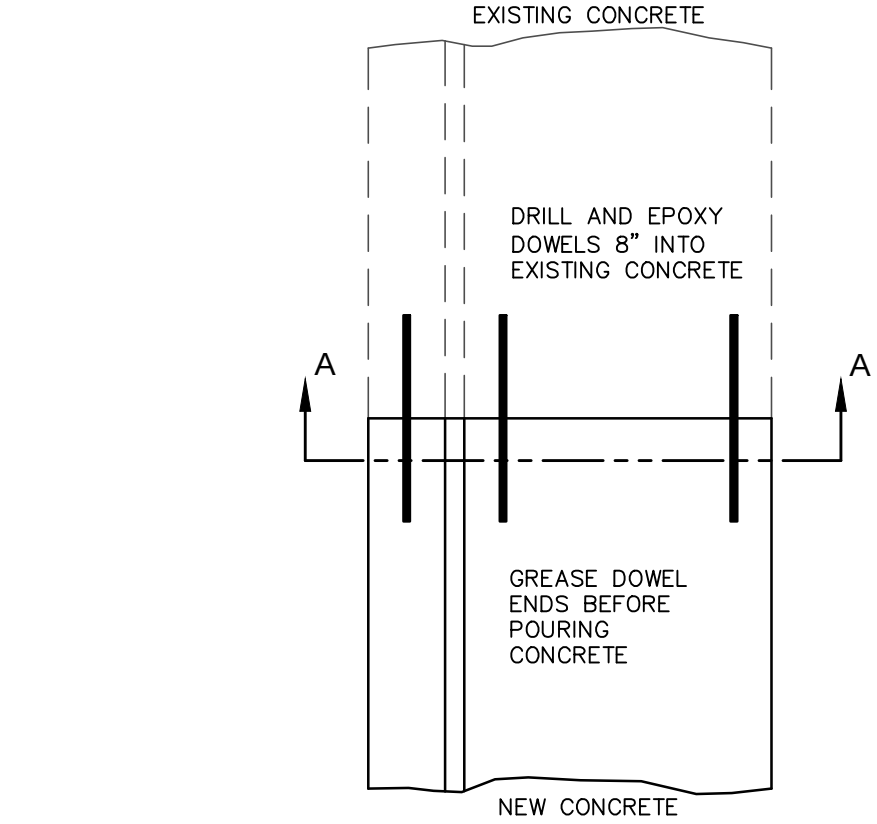
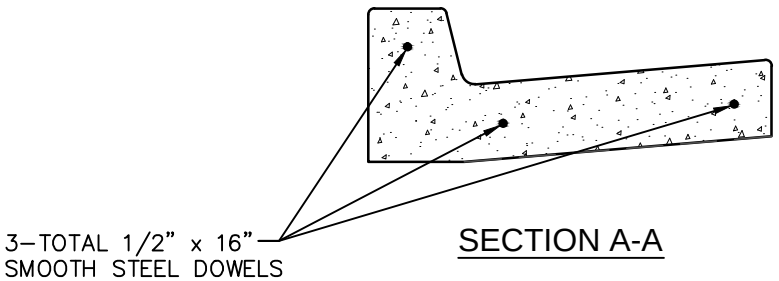


SECTION

CONCRETE FLATWORK



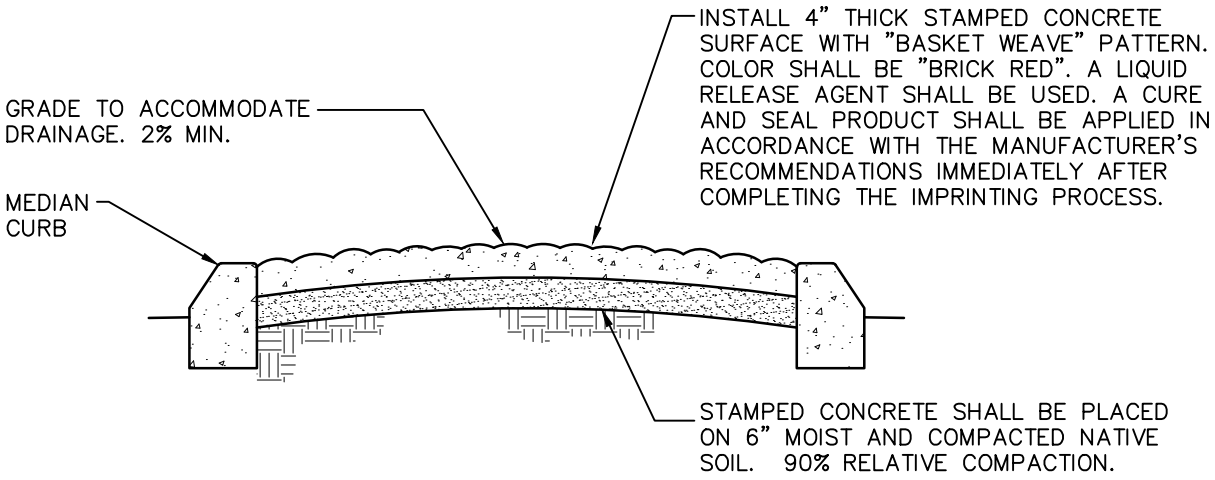
PLAN



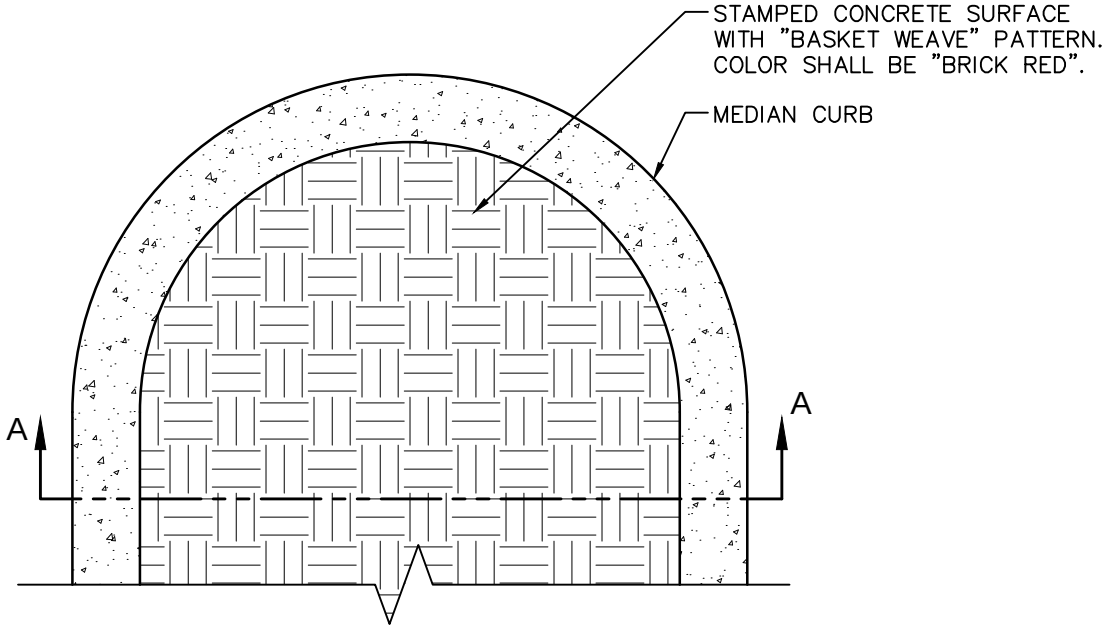
SECTION A-A

CONCRETE CURBING

APPROVED BY: _____ CITY ENGINEER R.P.E. 81734 09/16/16 DATE	CITY OF VISALIA DESIGN & IMPROVEMENT STANDARDS
CONCRETE COLD JOINTS	REVISIONS 10/23/12 BK 2016 — C–34



SECTION A-A

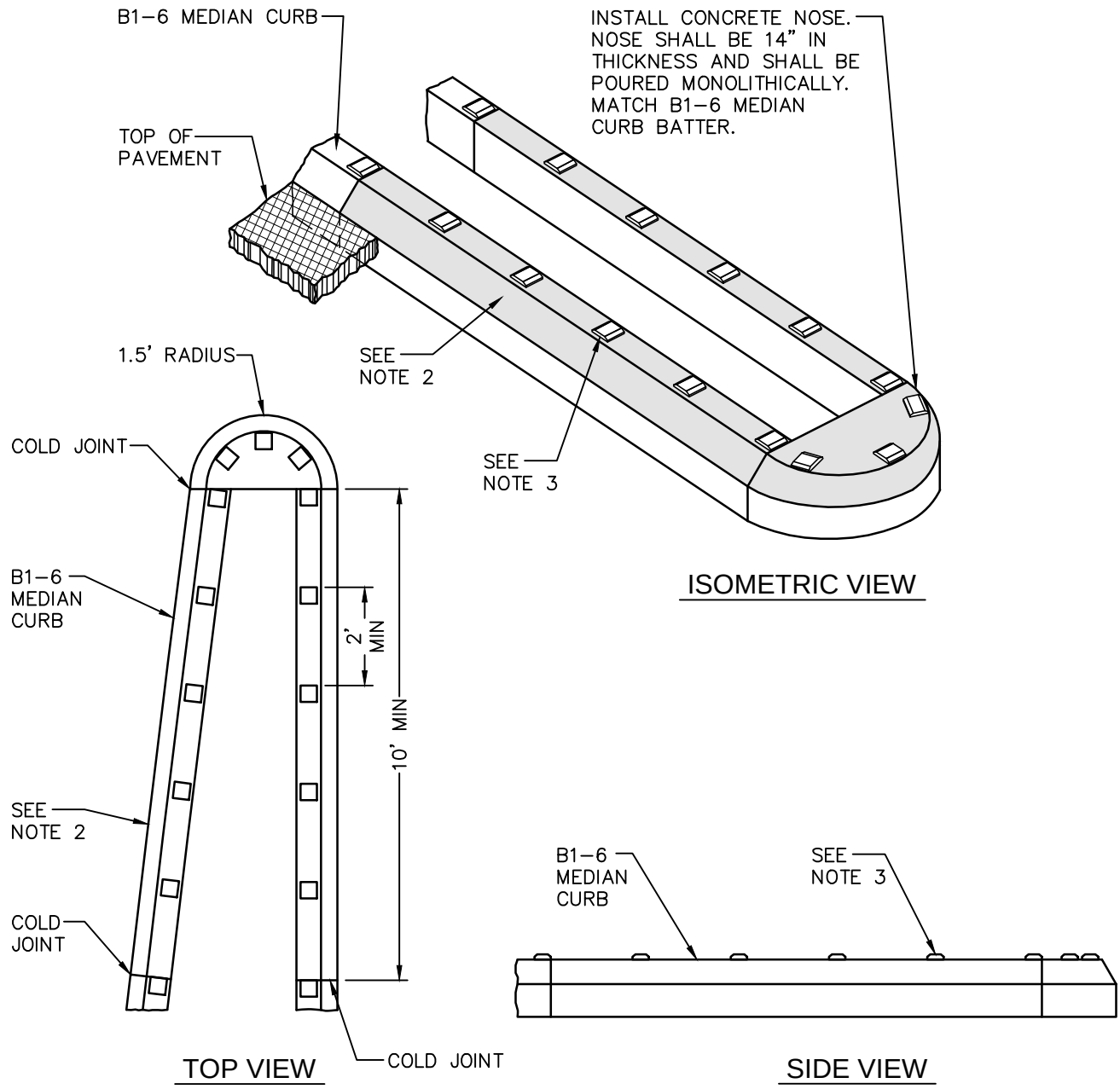


PLAN

NOTES:

1. WHEN MATCHING AN EXISTING COBBLESTONE MEDIAN, "RIVER ROCK" PATTERN WITH "COBBLESTONE GRAY" COLOR AND A LIQUID RELEASE AGENT SHALL BE USED.

APPROVED BY: _____ CITY ENGINEER R.P.E. 81734 — 09/16/16 DATE	CITY OF VISALIA DESIGN & IMPROVEMENT STANDARDS
STAMPED CONCRETE MEDIAN	REVISIONS 07/19/16 BK 2016 — C–35



NOTES:

1. ALL CONCRETE SHALL BE CLASS 3 CONCRETE.
2. THE TOP AND FACE OF THE CURB SHALL BE PAINTED WITH WHITE OR YELLOW WATERBORNE PAINT AND APPLY GLASS BEADS FOR RETROREFLECTIVITY IN ACCORDANCE TO CITY OF VISALIA STANDARD SPECIFICATIONS.
3. INSTALL TYPE G OR TYPE D RAISED PAVEMENT MARKERS PER CALTRANS STANDARD SPECIFICATIONS SECTION 81–3.02C. THE RAISED PAVEMENT MARKERS SHALL BE ATTACHED TO THE TOP OF THE CURB USING ADHESIVES PER CALTRANS STANDARD SPECIFICATIONS SECTIONS 81–3.02D AND 81–3.02E.

APPROVED BY: _____ CITY ENGINEER R.P.E. 81734 09/16/16 DATE

CITY OF VISALIA
DESIGN & IMPROVEMENT STANDARDS

MEDIAN NOSE DETAIL

REVISIONS
09/08/16
BK 2016

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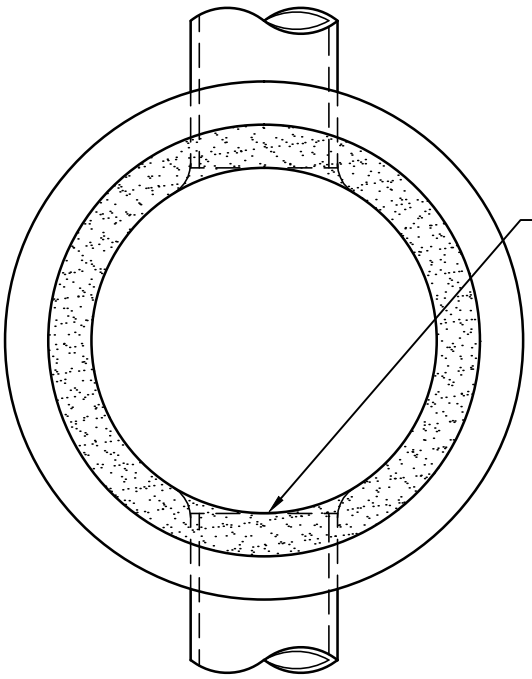
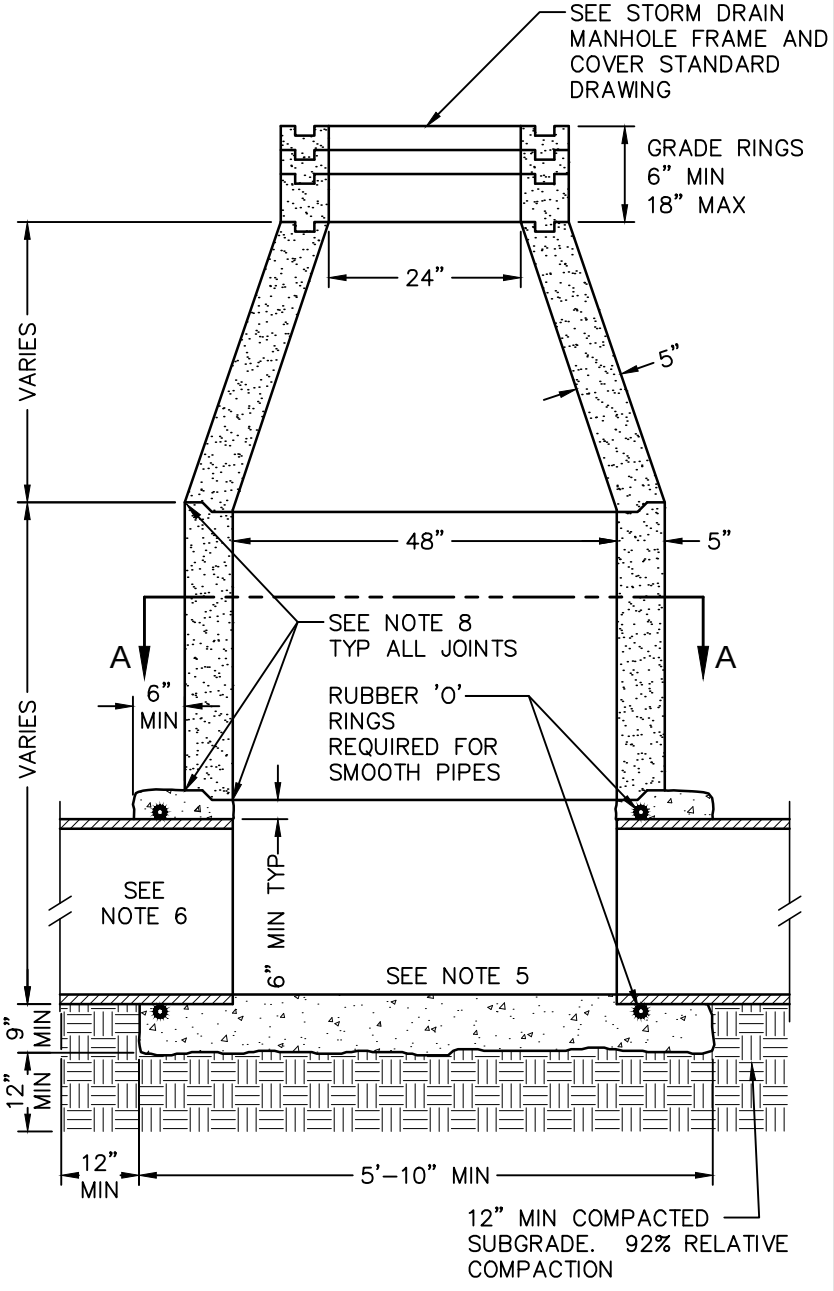


SECTION A-A

NOTES:

1. ALL CONCRETE SHALL BE CLASS 2 CONCRETE.
2. MANHOLE PIPE, CONE AND GRADE RINGS SHALL BE PRECAST REINFORCED CONCRETE AS PER ASTM C478.
3. JOINTS SHALL BE RUBBER GASKET AS PER ASTM C443 OR JOINTS SHALL BE CONSTRUCTED WITH MASTIC (KENT SEAL NO. 2 OR EQUAL) AS PER ASTM C990 AT CONTRACTOR'S OPTION. MASTIC SHALL COVER A MINIMUM OF ONE-HALF THE COMPRESSED SURFACE. ALL JOINTS SHALL BE WATER TIGHT.
4. MAXIMUM DISTANCE BETWEEN MANHOLES SHALL BE 500 FEET OR AS REQUIRED BY THE CITY ENGINEER.
5. SUMP BOTTOM MANHOLES ARE REQUIRED ON ALL STORM DRAIN SYSTEMS WITH PUMPS. 18" SUMP BELOW PIPE INVERT WHERE REQUIRED. SEE STORM DRAIN MANHOLE SUMP REQUIREMENTS STANDARD DRAWING.
6. 48" MANHOLES ARE REQUIRED FOR STORM DRAIN PIPE SIZES FROM 12" TO 24" OR AS REQUIRED BY THE CITY ENGINEER.
7. EXFILTRATION TEST REQUIRED AS PER ASTM C969-02, AS IMPLEMENTED BY CITY OF VISALIA.
8. SEE STORM DRAIN MANHOLE JOINT FINISHING REQUIREMENTS STANDARD DRAWING.



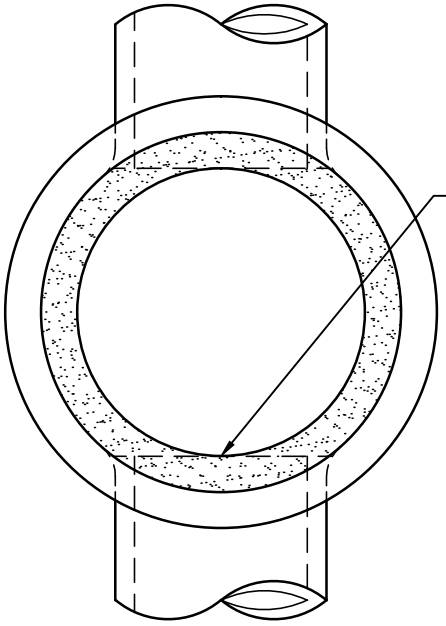
APPROVED BY: _____ 09/16/16
CITY ENGINEER R.P.E. 81734 DATE

CITY OF VISALIA
DESIGN & IMPROVEMENT STANDARDS

48" STORM DRAIN MANHOLE

REVISIONS
06/14/13
BK 2016

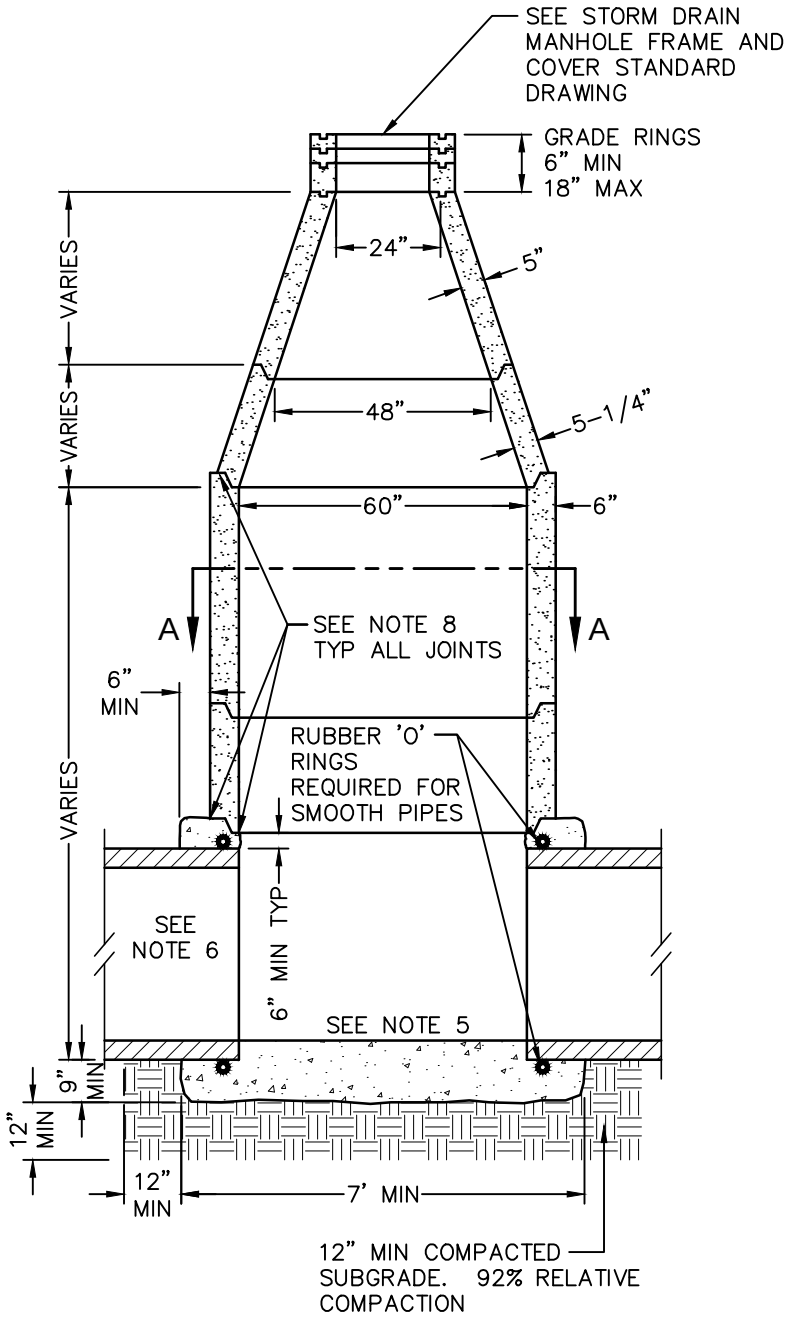
D-1



SECTION A-A

NOTES:

1. ALL CONCRETE SHALL BE CLASS 2 CONCRETE.
2. MANHOLE PIPE, CONE AND GRADE RINGS SHALL BE PRECAST REINFORCED CONCRETE AS PER ASTM C478.
3. JOINTS SHALL BE RUBBER GASKET AS PER ASTM C443 OR JOINTS SHALL BE CONSTRUCTED WITH MASTIC (KENT SEAL NO. 2 OR EQUAL) AS PER ASTM C990 AT CONTRACTOR'S OPTION. MASTIC SHALL COVER A MINIMUM OF ONE-HALF THE COMPRESSED SURFACE. ALL JOINTS SHALL BE WATER TIGHT.
4. MAXIMUM DISTANCE BETWEEN MANHOLES SHALL BE 500 FEET OR AS REQUIRED BY THE CITY ENGINEER.
5. SUMP BOTTOM MANHOLES ARE REQUIRED ON ALL STORM DRAIN SYSTEMS WITH PUMPS. 18" SUMP BELOW PIPE INVERT WHERE REQUIRED. SEE STORM DRAIN MANHOLE SUMP REQUIREMENTS STANDARD DRAWING.
6. 60" MANHOLES ARE REQUIRED FOR STORM DRAIN PIPE SIZES FROM 27" TO 36" OR AS REQUIRED BY THE CITY ENGINEER.
7. EXFILTRATION TEST REQUIRED AS PER ASTM C969-02, AS IMPLEMENTED BY CITY OF VISALIA.
8. SEE STORM DRAIN MANHOLE JOINT FINISHING REQUIREMENTS STANDARD DRAWING.



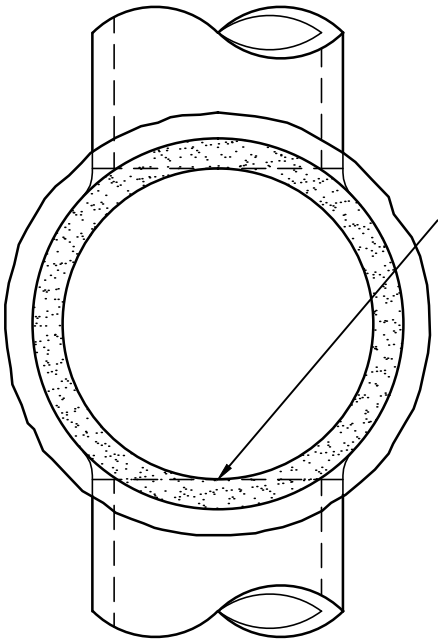
APPROVED BY: _____ CITY ENGINEER R.P.E. 81734 — 09/16/16 DATE

CITY OF VISALIA
DESIGN & IMPROVEMENT STANDARDS

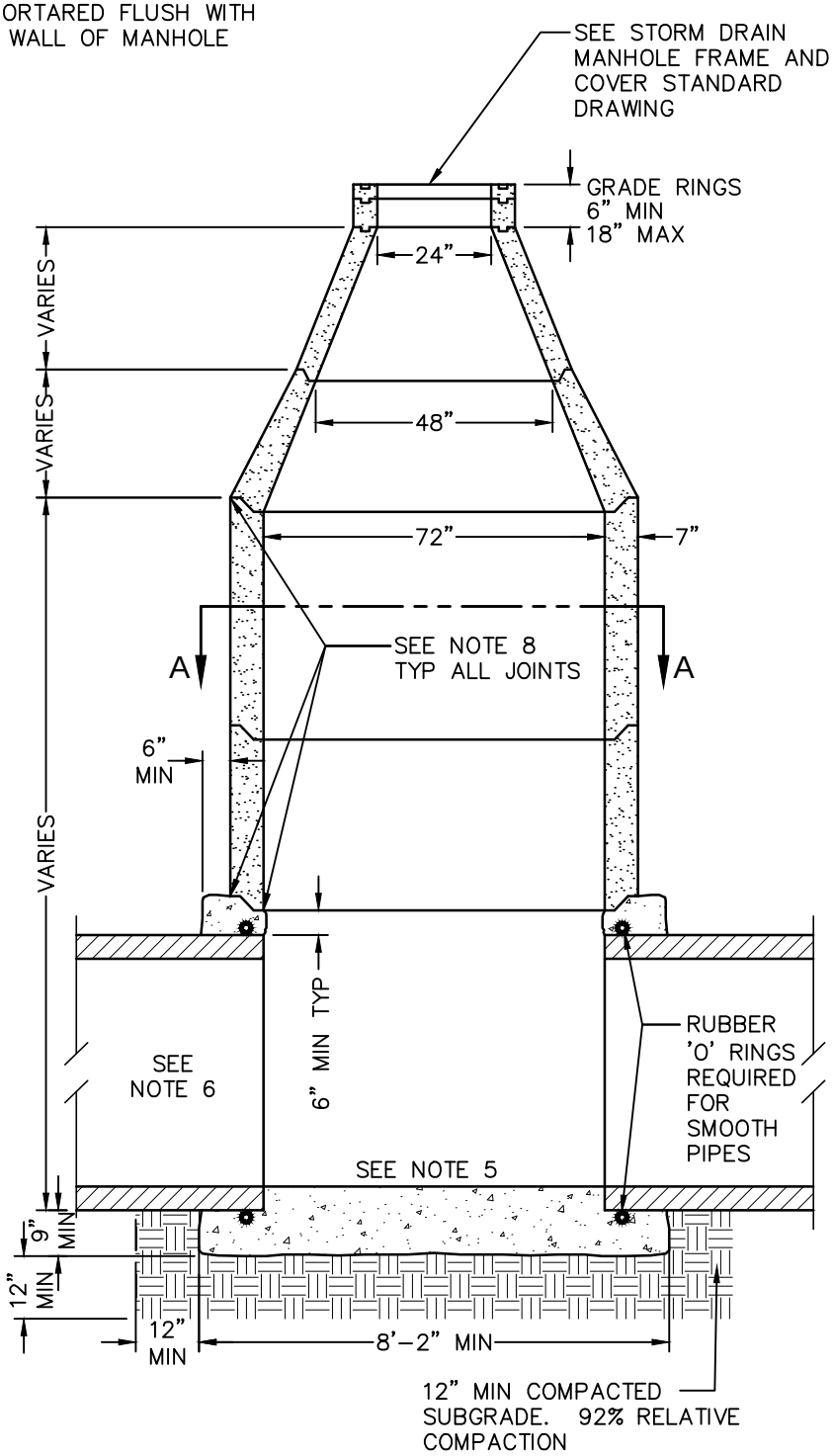
60" STORM DRAIN MANHOLE

REVISIONS
06/14/13
BK 2016

D-2



SECTION A-A



NOTES:

1. ALL CONCRETE SHALL BE CLASS 2 CONCRETE.
2. MANHOLE PIPE, CONE AND GRADE RINGS SHALL BE PRECAST REINFORCED CONCRETE AS PER ASTM C478.
3. JOINTS SHALL BE RUBBER GASKET AS PER ASTM C443 OR JOINTS SHALL BE CONSTRUCTED WITH MASTIC (KENT SEAL NO. 2 OR EQUAL) AS PER ASTM C990 AT CONTRACTOR'S OPTION. MASTIC SHALL COVER A MINIMUM OF ONE–HALF THE COMPRESSED SURFACE. ALL JOINTS SHALL BE WATER TIGHT.
4. MAXIMUM DISTANCE BETWEEN MANHOLES SHALL BE 500 FEET OR AS REQUIRED BY THE CITY ENGINEER.
5. SUMP BOTTOM MANHOLES ARE REQUIRED ON ALL STORM DRAIN SYSTEMS WITH PUMPS. 18" SUMP BELOW PIPE INVERT WHERE REQUIRED. SEE STORM DRAIN MANHOLE SUMP REQUIREMENTS STANDARD DRAWING.
6. 72" MANHOLES ARE REQUIRED FOR STORM DRAIN PIPE SIZES FROM 39" AND LARGER OR AS REQUIRED BY THE CITY ENGINEER.
7. EXFILTRATION TEST REQUIRED AS PER ASTM C969–02, AS IMPLEMENTED BY CITY OF VISALIA.
8. SEE STORM DRAIN MANHOLE JOINT FINISHING REQUIREMENTS STANDARD DRAWING .

APPROVED BY: _____ 09/16/16
CITY ENGINEER R.P.E. 81734 DATE

CITY OF VISALIA
DESIGN & IMPROVEMENT STANDARDS

72" STORM DRAIN MANHOLE

REVISIONS
06/14/13
BK 2016

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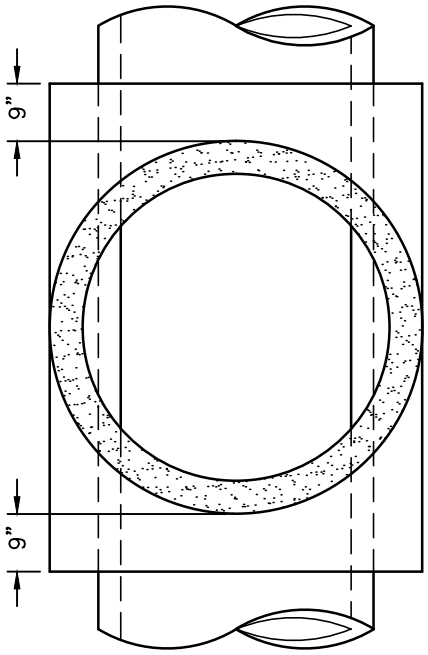
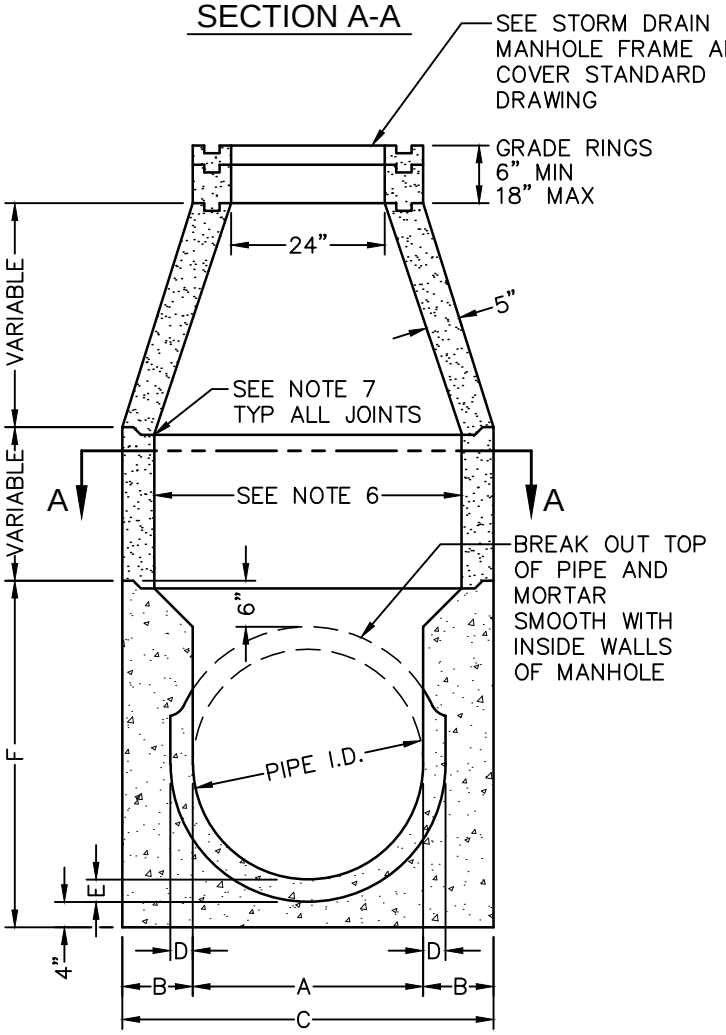


SECTION A-A



NOTES:

1. ALL CONCRETE SHALL BE CLASS 2 CONCRETE.
2. MANHOLE PIPE, CONE AND GRADE RINGS SHALL BE PRECAST REINFORCED CONCRETE AS PER ASTM C478.
3. JOINTS SHALL BE RUBBER GASKET AS PER ASTM C443 OR JOINTS SHALL BE CONSTRUCTED WITH MASTIC (KENT SEAL NO. 2 OR EQUAL) AS PER ASTM C990 AT CONTRACTOR'S OPTION. MASTIC SHALL COVER A MINIMUM OF ONE-HALF THE COMPRESSED SURFACE. ALL JOINTS SHALL BE WATER TIGHT.
4. MAXIMUM DISTANCE BETWEEN MANHOLES SHALL BE 500 FEET OR AS REQUIRED BY THE CITY ENGINEER.
5. EXFILTRATION TEST REQUIRED AS PER ASTM C969-02, AS IMPLEMENTED BY CITY OF VISALIA.
6. MANHOLE SHALL BE SIZED TO MATCH MANHOLE BASE. 48" MINIMUM INNER DIAMETER MANHOLE IS REQUIRED.
7. SEE STORM DRAIN MANHOLE JOINT FINISHING REQUIREMENTS STANDARD DRAWING.

PIPE I.D.	A	B	C	MIN D	E	F
24"	24"	17"	58"	3"	3"	40"
27"	27"	15-1/2"	58"	3"	3"	43"
30"	30"	14"	58"	3"	3"	46"
36"	36"	17"	70"	3-1/2"	3-1/2"	53"
42"	42"	15"	72"	4"	4"	60"
48"	48"	12"	72"	5"	5"	68"
54"	54"	10-1/2"	75"	5-1/2"	5-1/2"	75"
60"	60"	11"	82"	6"	6"	82"
66"	66"	11-1/2"	89"	6-1/2"	6-1/2"	89"
72"	72"	12"	96"	7"	7"	96"

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CITY ENGINEER R.P.E. 81734 DATE

CITY OF VISALIA
DESIGN & IMPROVEMENT STANDARDS

CAST IN PLACE CONCRETE PIPE MANHOLE

REVISIONS
06/14/13
BK 2016

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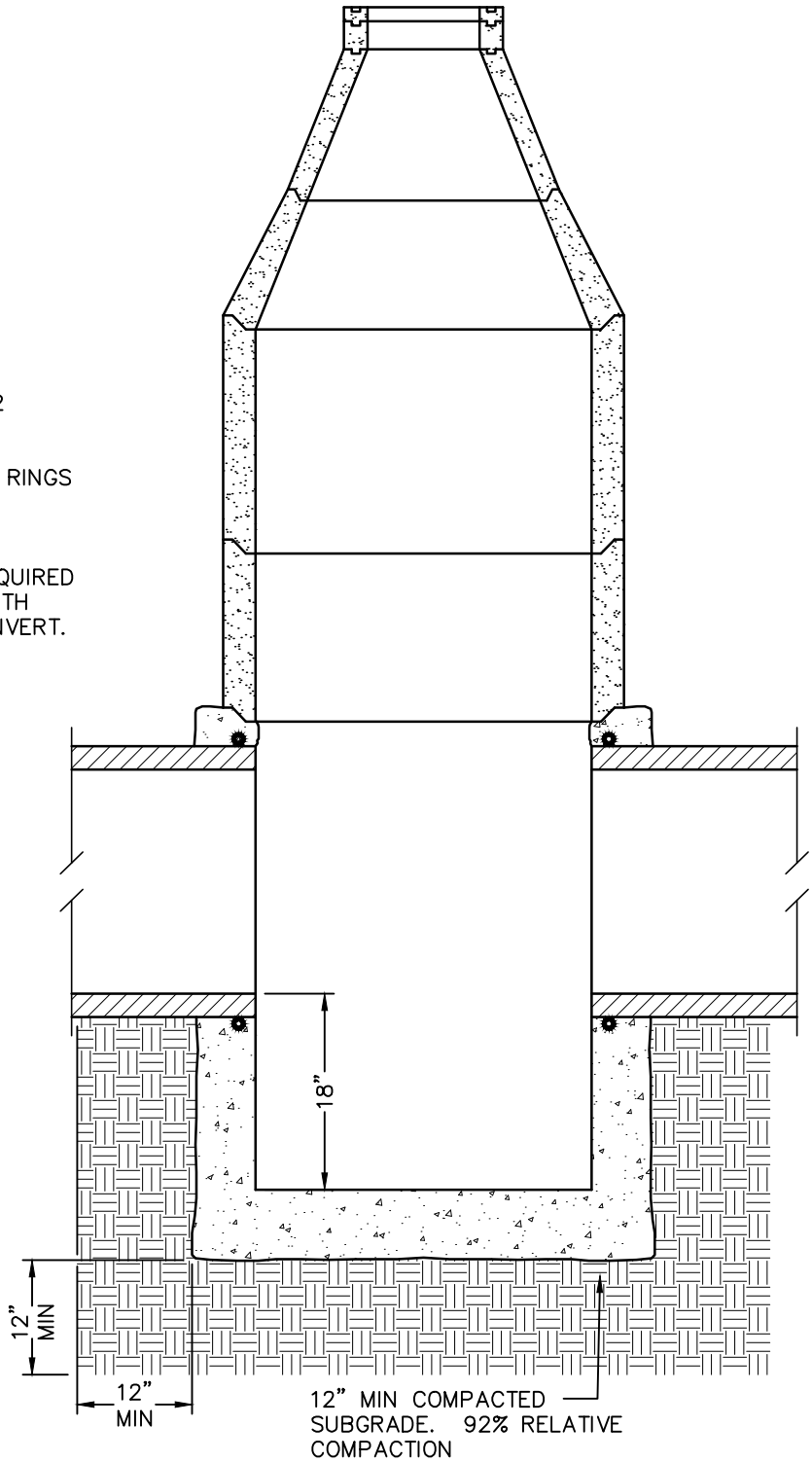
RESERVED	REVISIONS BK 2016
	D-5

NOTES:

1. ALL CONCRETE SHALL BE CLASS 2 CONCRETE.
2. MANHOLE PIPE, CONE AND GRADE RINGS SHALL BE PRECAST REINFORCED CONCRETE AS PER ASTM C478.
3. SUMP BOTTOM MANHOLES ARE REQUIRED ON ALL STORM DRAIN SYSTEMS WITH PUMPS. 18" SUMP BELOW PIPE INVERT.



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CITY OF VISALIA
DESIGN & IMPROVEMENT STANDARDS

STORM DRAIN MANHOLE SUMP REQUIREMENTS

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06/14/13
BK 2016

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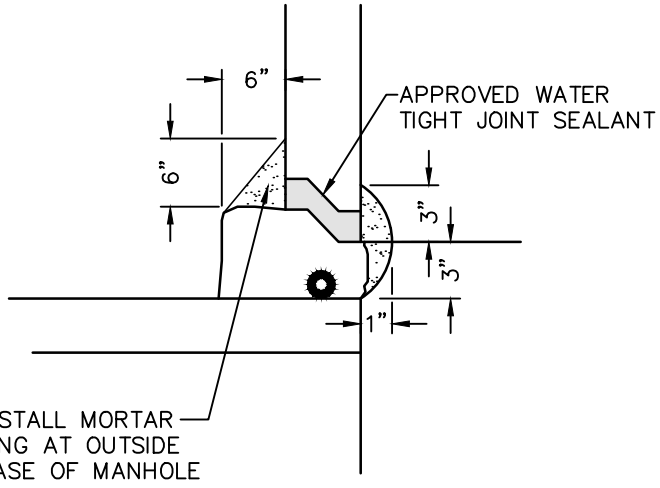
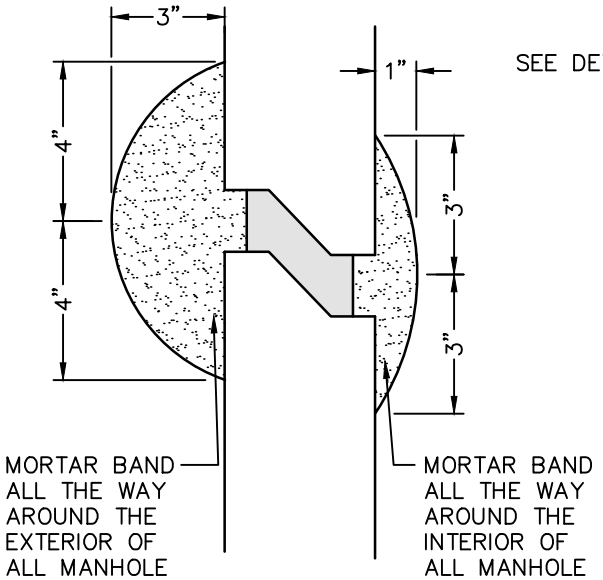


DETAIL 1



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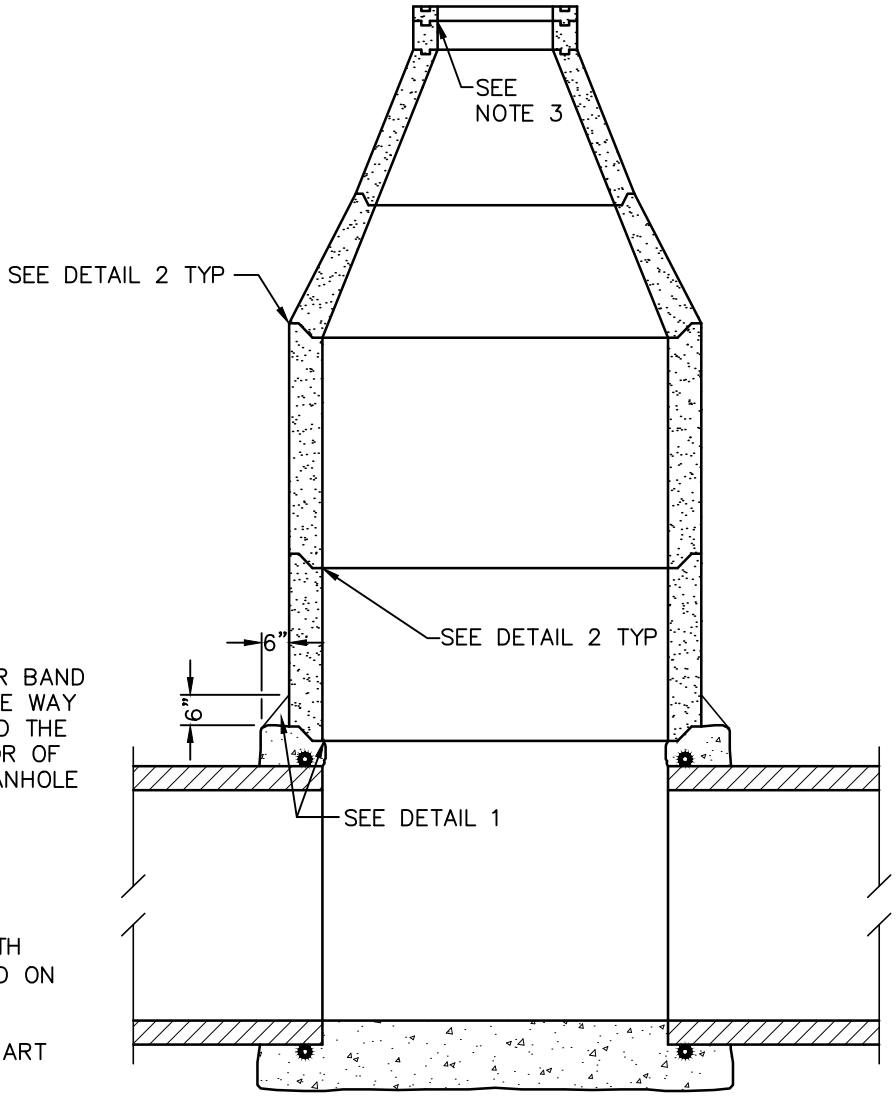

NOTES:

1. ALL JOINTS SHALL BE FINISHED WITH MORTAR AS SHOWN AND/OR NOTED ON THIS DETAIL.
2. MORTAR MIXTURE SHALL BE ONE PART CEMENT PER TWO PARTS SAND.
3. MORTAR INSIDE OF GRADE RINGS TO A SMOOTH SURFACE.
4. ALL JOINTS SHALL BE WATER TIGHT.

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CITY OF VISALIA
DESIGN & IMPROVEMENT STANDARDS

STORM DRAIN MANHOLE JOINT FINISHING REQUIREMENTS

REVISIONS
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BK 2016

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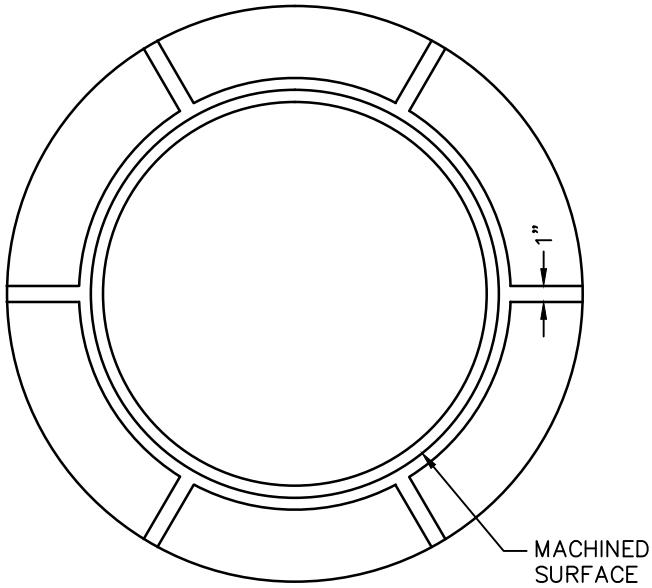
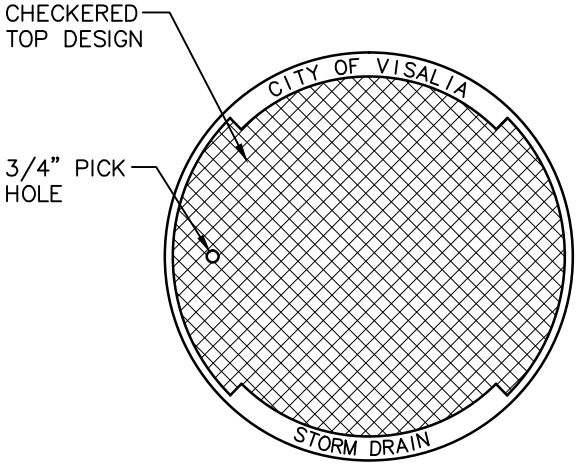
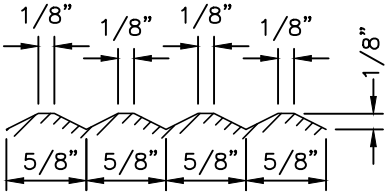
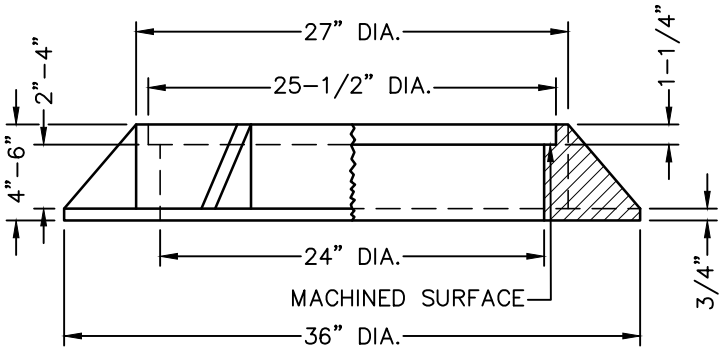
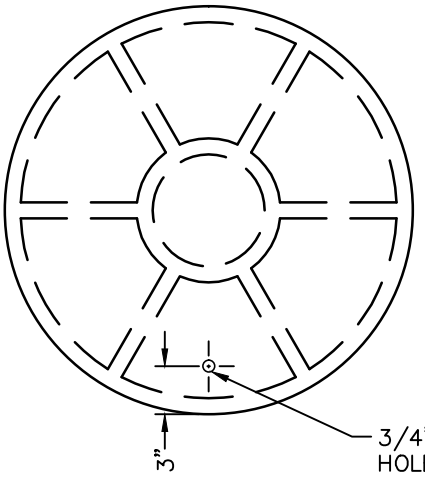


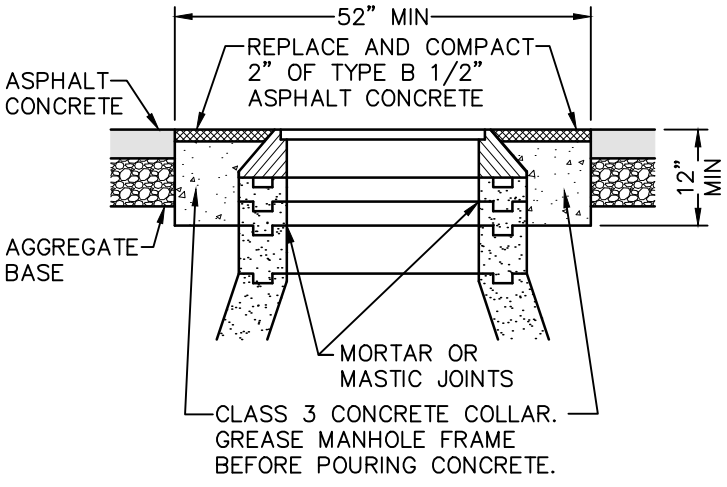




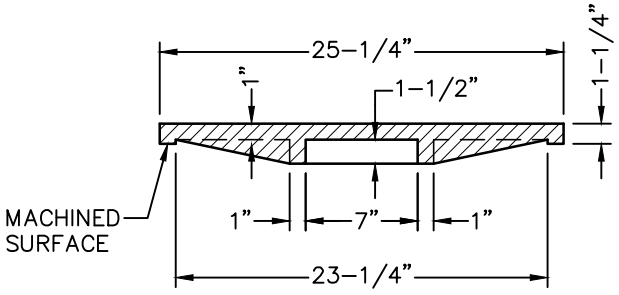


MANHOLE FRAME





MANHOLE ADJUSTMENT



MANHOLE COVER

NOTE: FRAME AND COVER SHALL MATCH CROSS SLOPE

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CITY ENGINEER R.P.E. 81734 DATE

CITY OF VISALIA
DESIGN & IMPROVEMENT STANDARDS

STORM DRAIN MANHOLE FRAME AND COVER

REVISIONS
06/14/13
BK 2016

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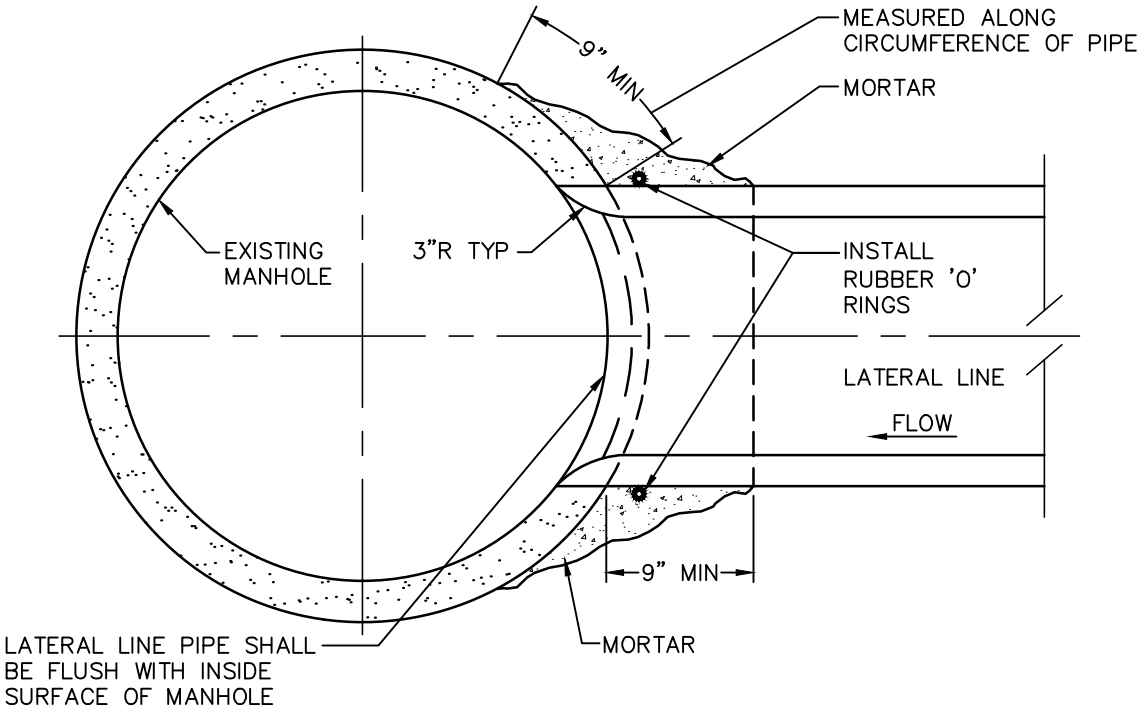
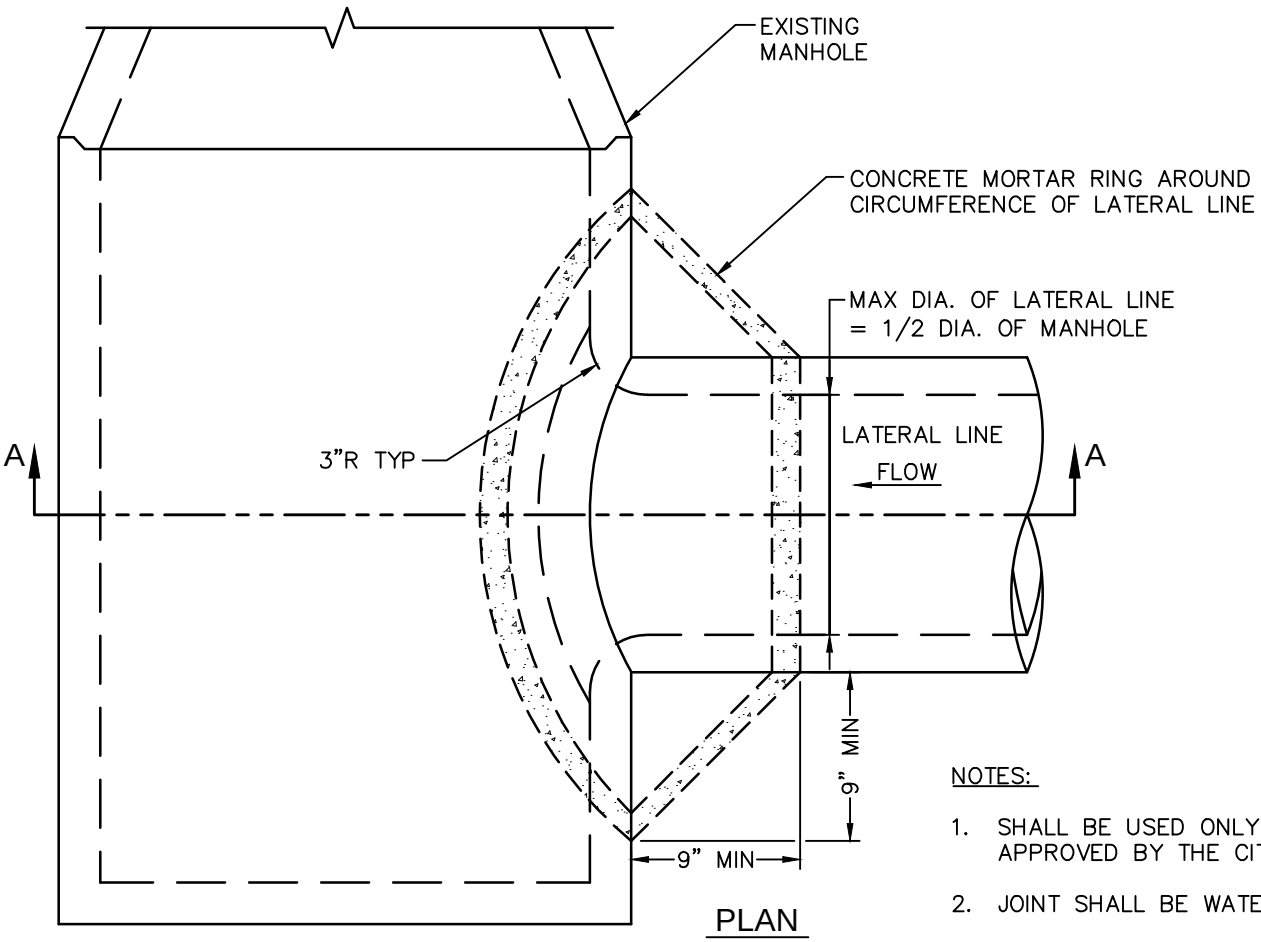


SECTION A-A



PLAN

NOTES:

1. SHALL BE USED ONLY AS APPROVED BY THE CITY ENGINEER.
2. JOINT SHALL BE WATER TIGHT.

APPROVED BY: _____ 09/16/16
CITY ENGINEER R.P.E. 81734 DATE

CITY OF VISALIA
DESIGN & IMPROVEMENT STANDARDS

LATERAL LINE CONNECTION AT EXISTING MANHOLE

REVISIONS
06/14/13
BK 2016

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RESERVED	REVISIONS BK 2016
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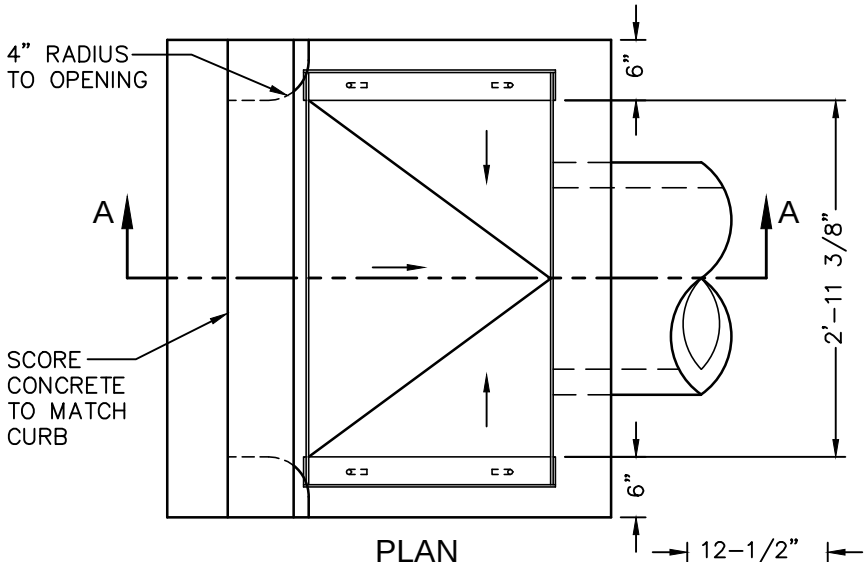
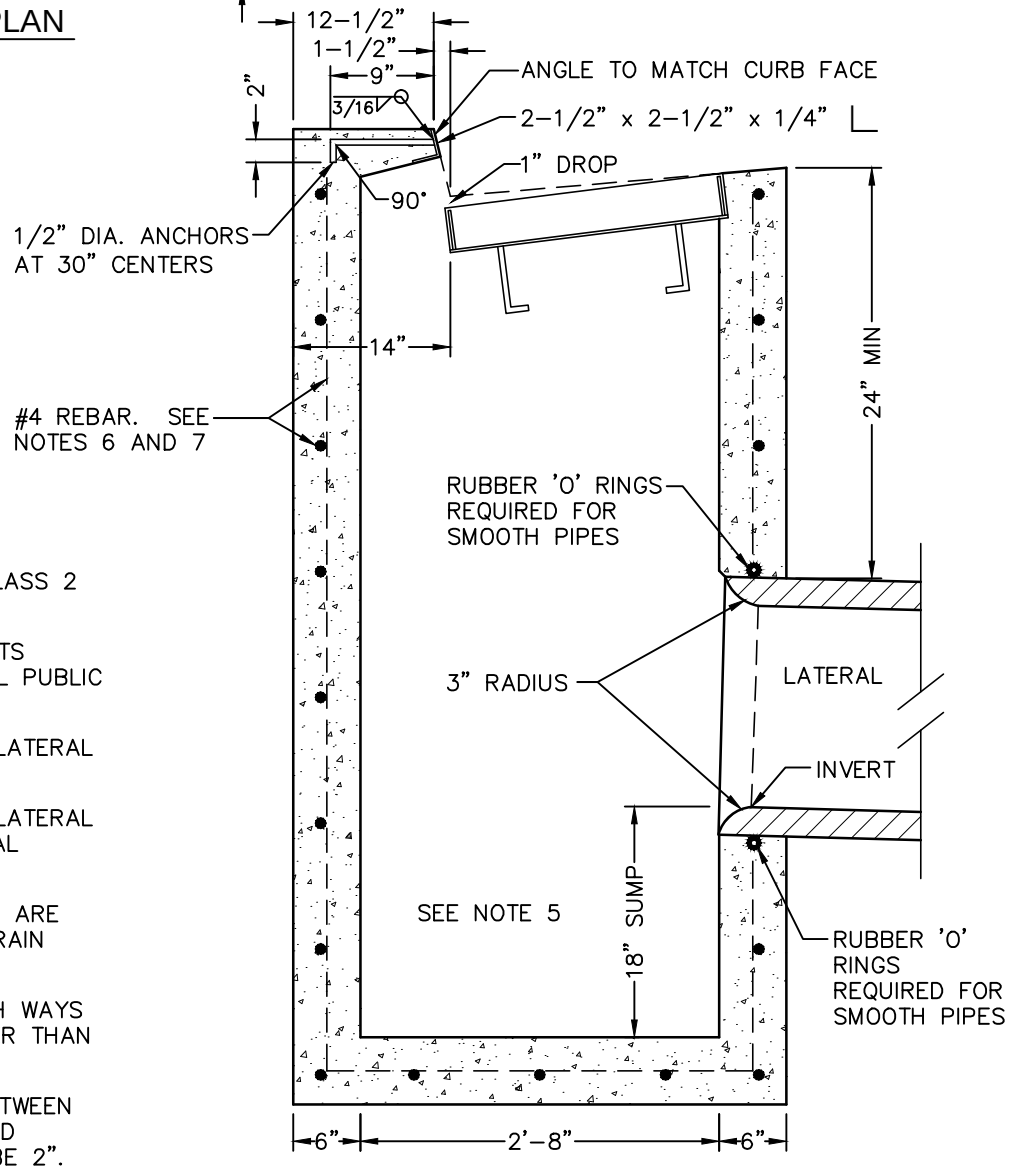


PLAN



SECTION A-A

NOTES:

1. ALL CONCRETE SHALL BE CLASS 2 CONCRETE.
2. MAJOR TYPE DRAINAGE INLETS SHALL BE INSTALLED ON ALL PUBLIC STREETS.
3. 12" MINIMUM STORM DRAIN LATERAL ON LOCAL STREETS.
4. 18" MINIMUM STORM DRAIN LATERAL ON COLLECTOR AND ARTERIAL STREETS.
5. SUMP BOTTOM DRAIN INLETS ARE REQUIRED ON ALL STORM DRAIN SYSTEMS.
6. #4 REBAR AT 18" O.C. BOTH WAYS WHEN DRAIN INLET IS DEEPER THAN 6' BELOW TOP OF CURB.
7. MINIMUM CLEAR SPACING BETWEEN SURFACES OF CONCRETE AND REINFORCING STEEL SHALL BE 2".

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CITY ENGINEER R.P.E. 81734 DATE

CITY OF VISALIA
DESIGN & IMPROVEMENT STANDARDS

DRAINAGE INLET – GO TYPE

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06/14/13
BK 2016

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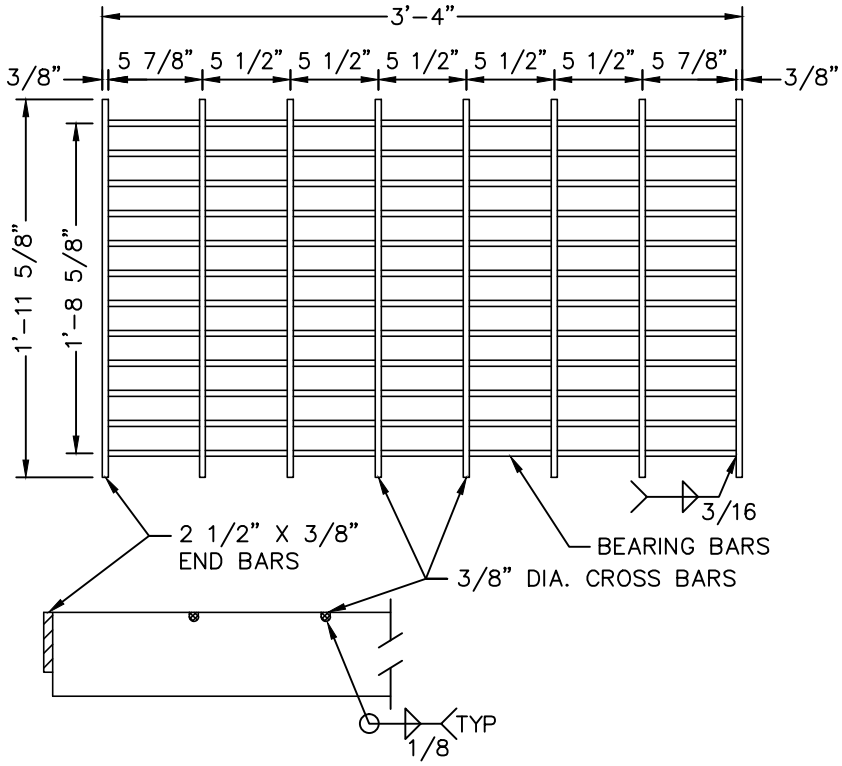
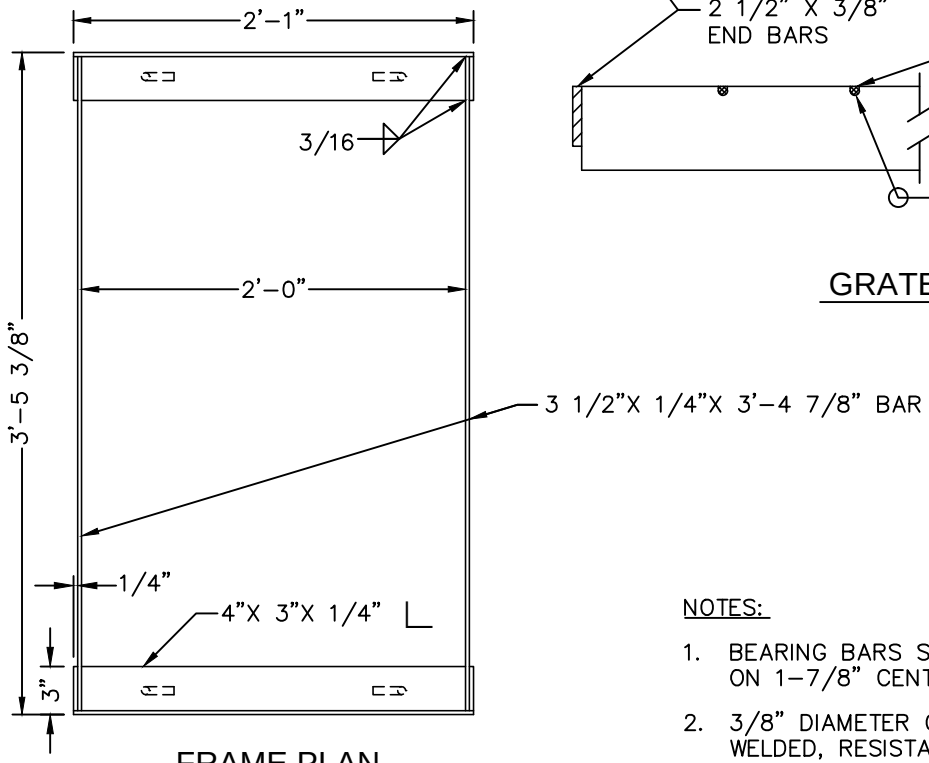


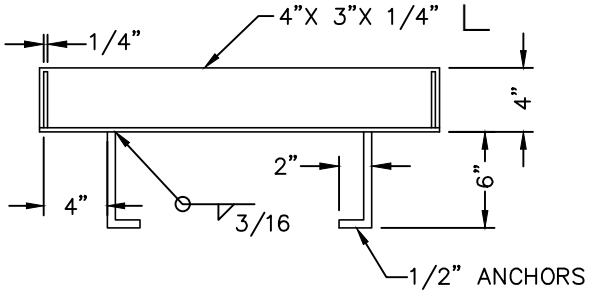
GRATE DETAIL



FRAME PLAN

NOTES:

1. BEARING BARS SHALL BE 3-1/2"X 3/8" BARS ON 1-7/8" CENTERS.
2. 3/8" DIAMETER CROSS BARS MAY BE FILLET WELDED, RESISTANCE WELDED OR ELECTROFORGED TO BEARING BARS.
3. FRAME AND GRATE SHALL BE HOT DIPPED GALVANIZED AFTER FABRICATION.



FRAME SECTION

APPROVED BY: _____ 09/16/16
CITY ENGINEER R.P.E. 81734 DATE

CITY OF VISALIA
DESIGN & IMPROVEMENT STANDARDS

DRAINAGE INLET – GO TYPE FRAME AND GRATE DETAIL

REVISIONS
06/17/04
BK 2016

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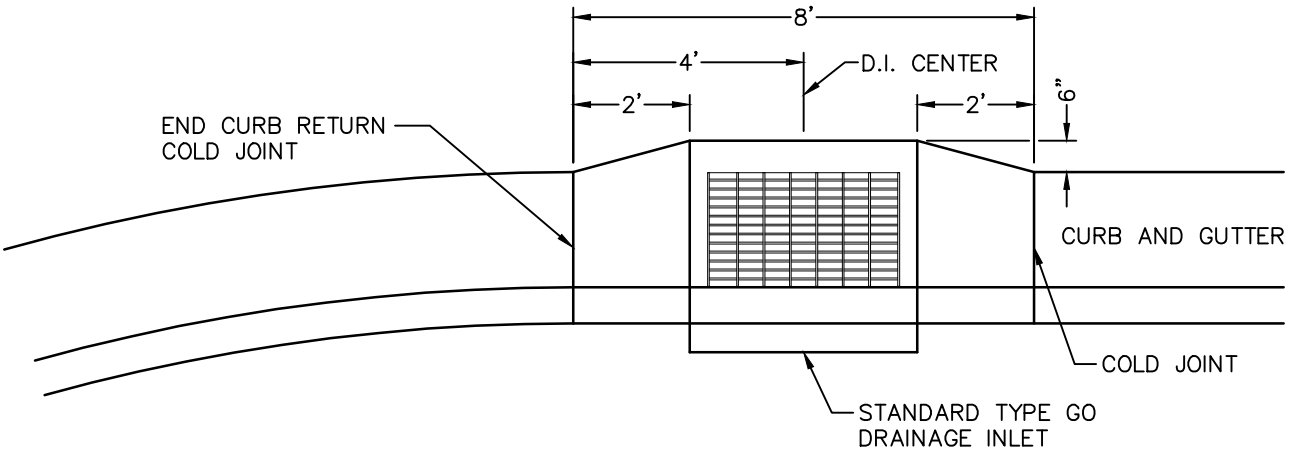
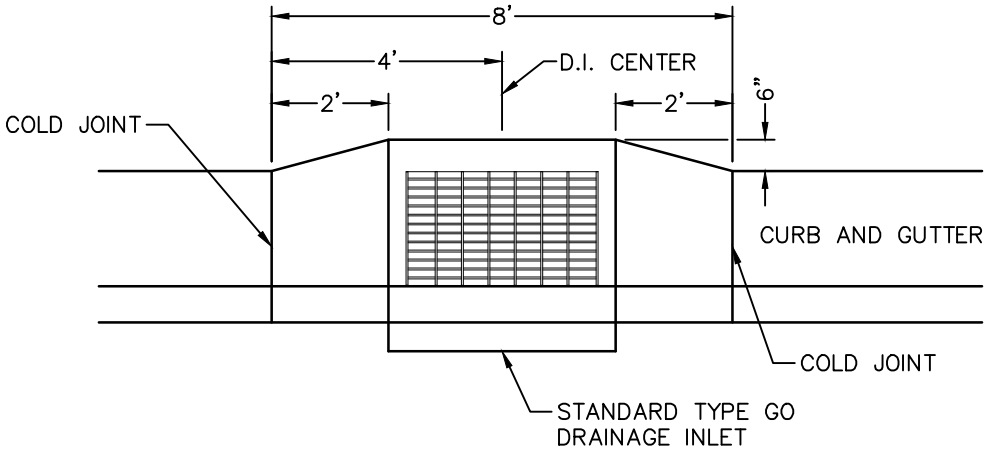


TYPE GO DRAINAGE INLET (D.I.)
INSTALLED AT CURB RETURN



TYPE GO DRAINAGE INLET (D.I.)
INSTALLED MID-BLOCK

APPROVED BY: _____ 09/16/16
CITY ENGINEER R.P.E. 81734 DATE

CITY OF VISALIA
DESIGN & IMPROVEMENT STANDARDS

MISCELLANEOUS DRAINAGE INLET DETAILS

REVISIONS
08/26/16
BK 2016

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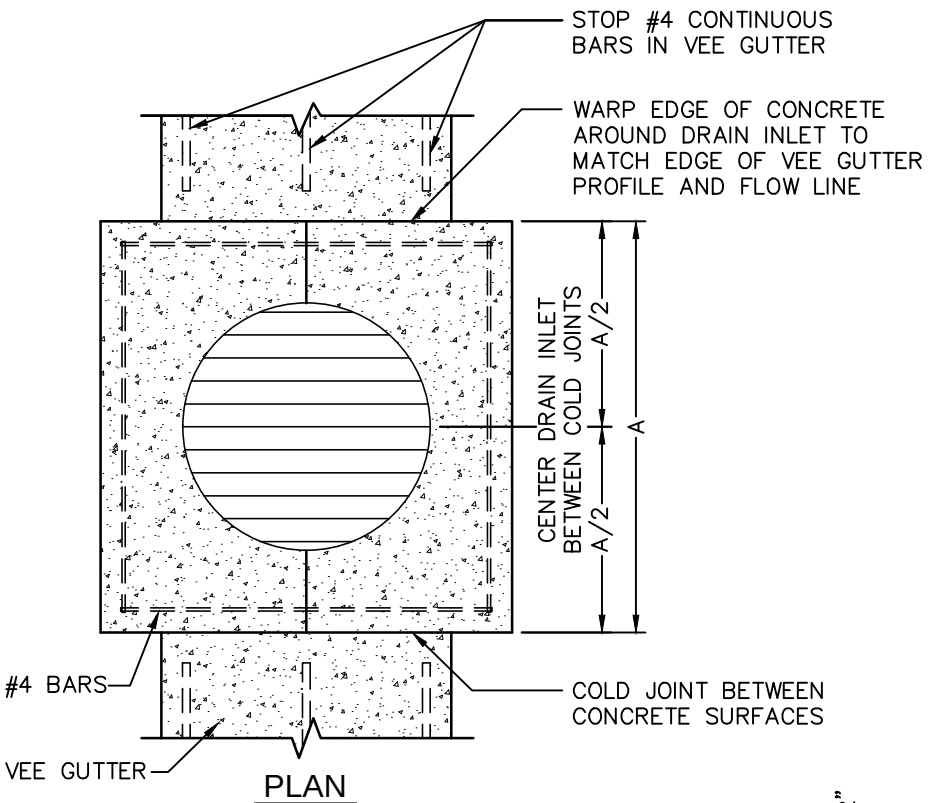
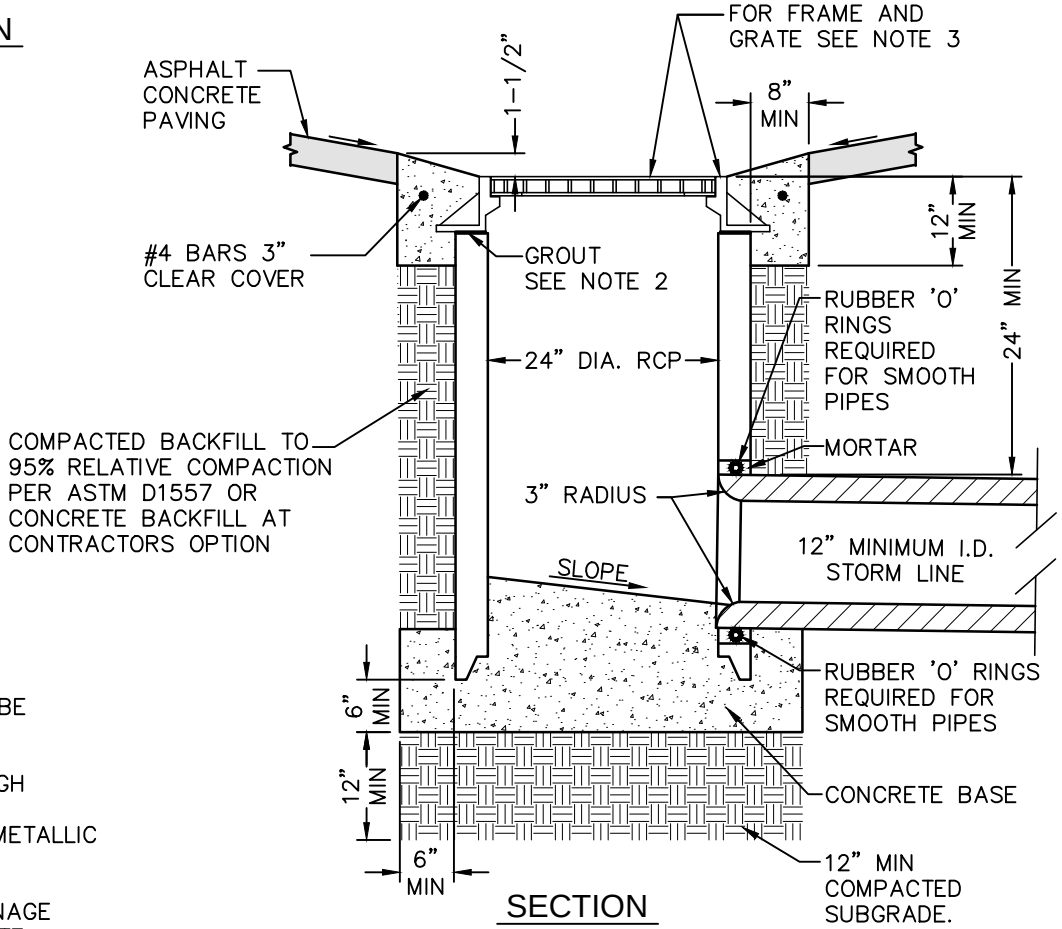


PLAN



SECTION

NOTES:

1. ALL CONCRETE SHALL BE CLASS 2 CONCRETE.
2. GROUT SHALL BE A HIGH STRENGTH, SHRINKAGE COMPENSATING, NON-METALLIC GROUT, OR EQUAL.
3. SEE VEE GUTTER DRAINAGE INLET FRAME AND GRATE STANDARD DRAWING.

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CITY ENGINEER R.P.E. 81734 DATE

CITY OF VISALIA
DESIGN & IMPROVEMENT STANDARDS

VEE GUTTER DRAINAGE INLET

REVISIONS
06/14/13
BK 2016

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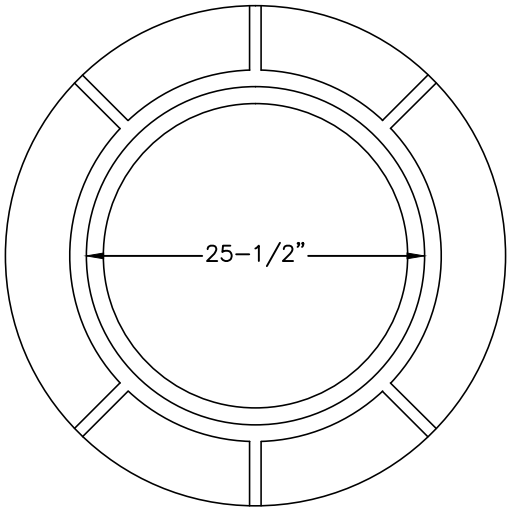
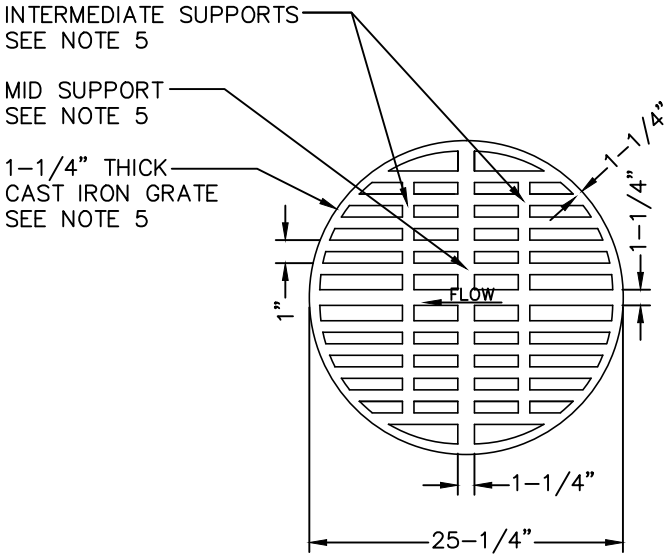
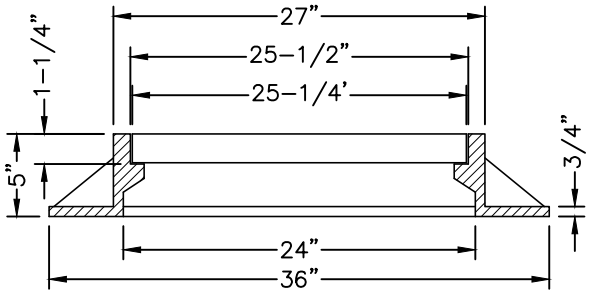


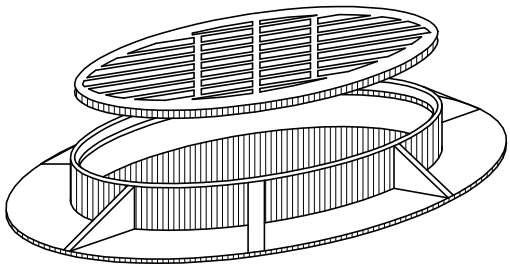
FRAME
PLAN



GRATE
PLAN



FRAME
SECTION



PERSPECTIVE

NOTES:

1. ALL DIMENSIONS ARE FINISHED DIMENSIONS. FRAME AND COVER BEARING SURFACE TO BE MACHINED TO ASSURE CLOSE, QUIET FIT.
2. CONSTRUCTION MATERIAL SHALL BE CAST IRON, DIPPED IN BLACK BITUMINOUS PAINT.
3. FRAME AND GRATE TO BE CONSTRUCTED IN ACCORDANCE WITH ASTM DESIGNATION 48, CLASS 35B, AND EXCEED H20 WHEEL LOADING.
4. GRATE TO BE INSTALLED SUCH THAT THE SLOTS ARE PARALLEL WITH THE DIRECTION OF WATER FLOW.
5. GRATES WITH MID AND INTERMEDIATE SUPPORTS SHALL BE USED AT ALL LOCATIONS WHERE BICYCLE OR OTHER WHEELED TRANSPORT SUCH AS WHEEL CHAIRS CAN BE ANTICIPATED. COVERS WITHOUT INTERMEDIATE SUPPORTS SHALL NOT BE USED WITHOUT APPROVAL OF THE CITY ENGINEER.
6. ALL GRATES SHALL HAVE A MINIMUM OPEN AREA OF 1.0 SQUARE FEET AND A MINIMUM WEIR PERIMETER OF 6.0 LINEAR FEET. ENGINEER OF RECORD SHALL BE RESPONSIBLE FOR VERIFYING GRATES MEET DRAINAGE REQUIREMENTS.
7. IF GRATE IS LOCATED IN A DESIGNATED ACCESSIBLE PATH OF TRAVEL, GRATE SHALL BE A.D.A. COMPLIANT.

APPROVED BY: _____ 09/16/16
CITY ENGINEER R.P.E. 81734 DATE

CITY OF VISALIA
DESIGN & IMPROVEMENT STANDARDS

VEE GUTTER INLET FRAME & GRATE

REVISIONS
06/14/13
BK 2016

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RESERVED	REVISIONS BK 2016
	D–17

RESERVED FOR FUTURE DETAIL

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RESERVED	REVISIONS BK 2016
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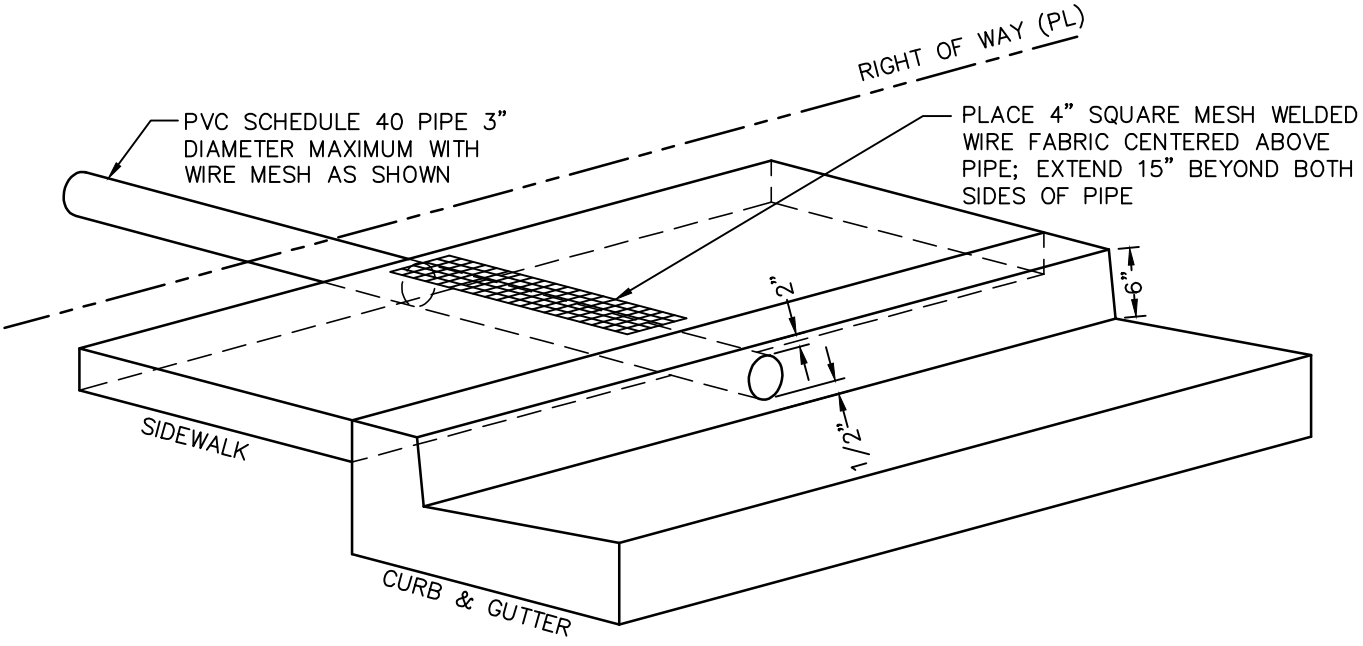


PERSPECTIVE

NOTES:

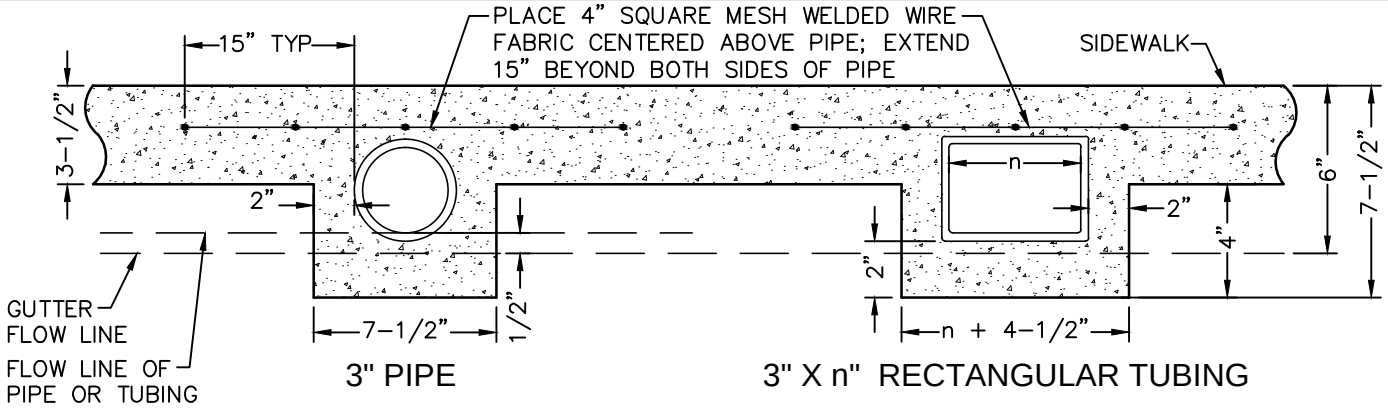
1. WHERE SIDEWALK AND CURB AND GUTTER EXIST, SIDEWALK AND CURB AND GUTTER SHALL BE REMOVED AND REPLACED TO THE NEAREST JOINT AND SHALL BE CONSTRUCTED PER APPLICABLE CITY OF VISALIA STANDARD DRAWINGS.

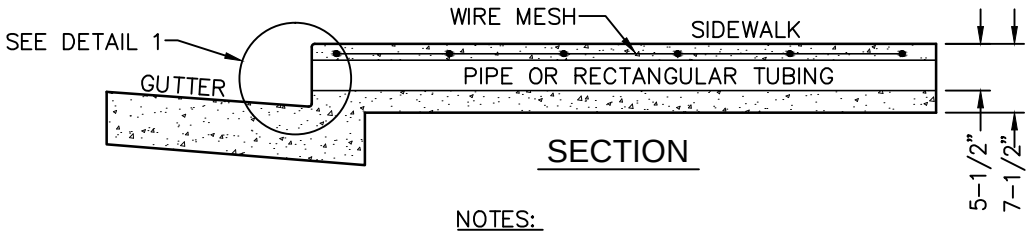
2. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO OBTAIN AN ENCROACHMENT PERMIT FOR ANY WORK WITHIN THE CITY RIGHT OF WAY, INCLUDING THE REMOVAL AND REPLACEMENT OF THE SIDEWALK AND CURB AND GUTTER AND THE CONSTRUCTION OF THE RESIDENTIAL UNDER SIDEWALK DRAIN, FROM THE CITY OF VISALIA ENGINEERING DIVISION.

3. THE ENGINEER OF RECORD SHALL DETERMINE THE NUMBER OF DRAINS REQUIRED.

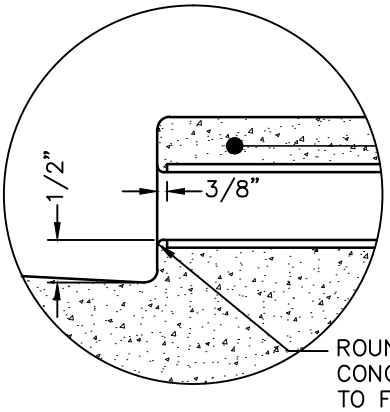
4. WELDED WIRE MESH SHALL BE 4X4–W2.1XW2.1.

APPROVED BY: _____ CITY ENGINEER R.P.E. 81734 09/16/16 DATE	CITY OF VISALIA DESIGN & IMPROVEMENT STANDARDS
RESIDENTIAL SIDEWALK DRAIN	REVISIONS 06/14/13 BK 2016 / D–19

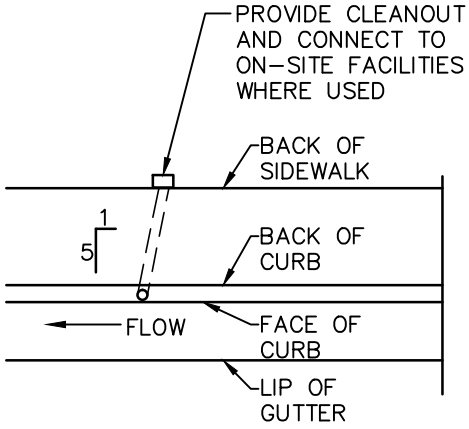




SECTION



DETAIL 1
SEE NOTE 6



DETAIL 2
SEE NOTE 5

NOTES:

1. 3" PIPE SHALL BE GALVANIZED PIPE. RECTANGULAR TUBING SHALL BE STEEL.
2. MINIMUM WALL THICKNESS OF RECTANGULAR TUBING IS 3/16".
3. SLOPE SHALL MATCH CROSS GRADE OF SIDEWALK.
4. NO DRAIN SHALL BE PERMITTED IN DRIVE APPROACH AREAS.
5. DRAINS SHALL BE ANGLED THROUGH SIDEWALK IN DIRECTION OF GUTTER FLOW. SEE DETAIL 2.
6. PIPE OR TUBING SHALL BE CUT SQUARE AND ROUNDED WITH FACE OF CURB. SEE DETAIL 1.
7. PERMITTED SIZE AND NUMBER OF PIPES/TUBING TO BE BASED ON DRAINAGE AREA AND SHALL BE DETERMINED BY THE ENGINEER OF RECORD.
8. AREA 3" DIA. PIPE = 7.1 SQ. IN.
   AREA 3" X 5" RECT. TUBE = 12.3 SQ. IN. (3/16" THICK)
   AREA 3" X 6" RECT. TUBE = 14.9 SQ. IN. (3/16" THICK)
   AREA 3" X 12" CHANNEL = 36 SQ. IN.
   AREA 4" X 14" CHANNEL = 56 SQ. IN.
9. WHERE SIDEWALK AND CURB AND GUTTER EXIST, SIDEWALK AND CURB AND GUTTER SHALL BE REMOVED AND REPLACED TO THE NEAREST JOINT AND SHALL BE CONSTRUCTED PER APPLICABLE CITY OF VISALIA STANDARD DRAWINGS.
10. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO OBTAIN AN ENCROACHMENT PERMIT FOR ANY WORK WITHIN THE CITY RIGHT OF WAY, INCLUDING THE REMOVAL AND REPLACEMENT OF THE SIDEWALK AND CURB AND GUTTER AND THE CONSTRUCTION OF THE RESIDENTIAL UNDER SIDEWALK DRAIN, FROM THE CITY OF VISALIA ENGINEERING DIVISION.
11. THE ENGINEER OF RECORD SHALL DETERMINE THE NUMBER OF DRAINS REQUIRED.
12. WELDED WIRE MESH SHALL BE 4X4-W2.1XW2.1.

APPROVED BY: _____ CITY ENGINEER R.P.E. 81734 — 09/16/16 DATE

CITY OF VISALIA
DESIGN & IMPROVEMENT STANDARDS

COMMERCIAL SIDEWALK DRAIN

REVISIONS
06/14/13
BK 2016

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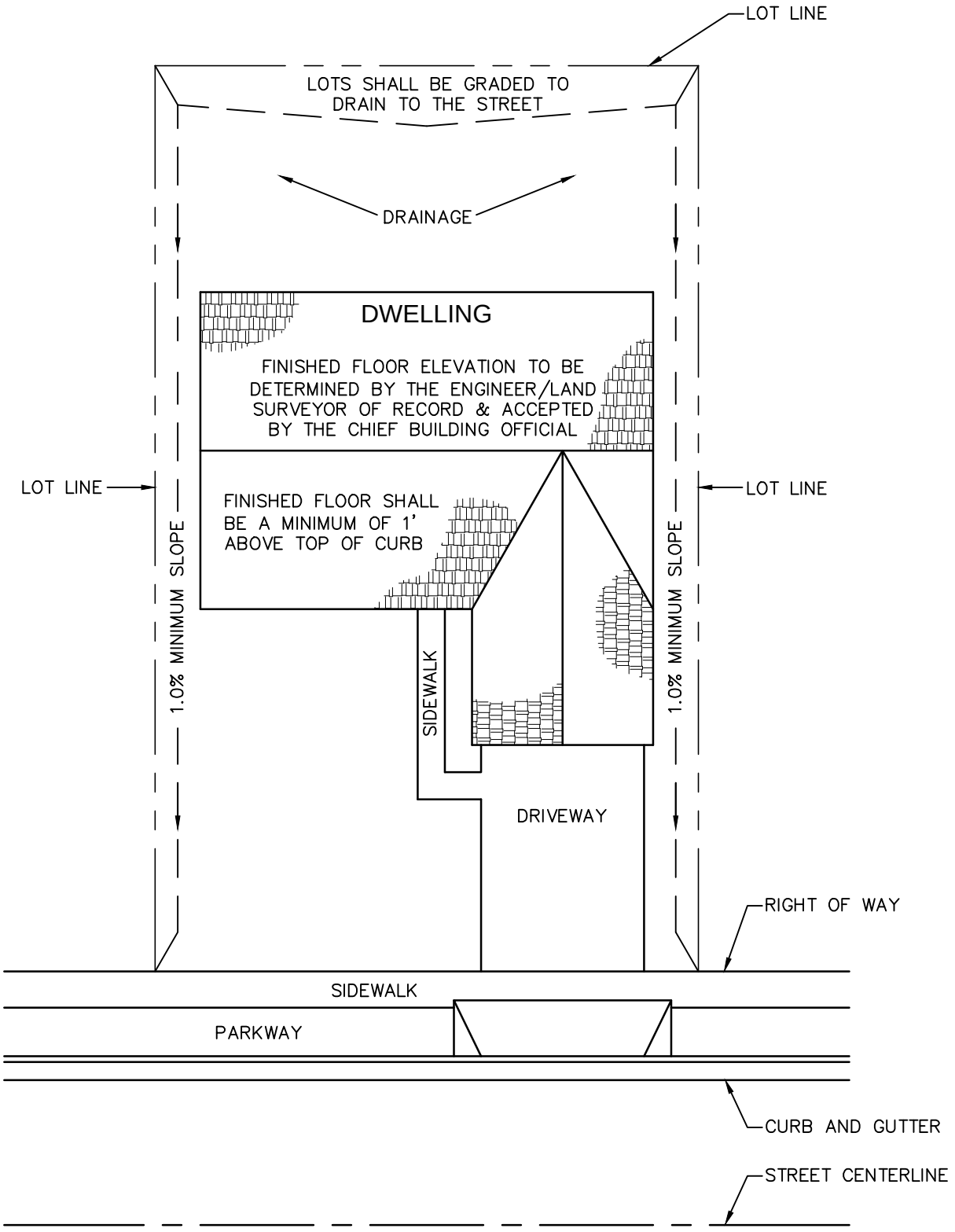

APPROVED BY: _____ 09/16/16
CITY ENGINEER R.P.E. 81734 DATE

CITY OF VISALIA
DESIGN & IMPROVEMENT STANDARDS

TYPICAL LOT DRAINAGE

REVISIONS
06/14/13
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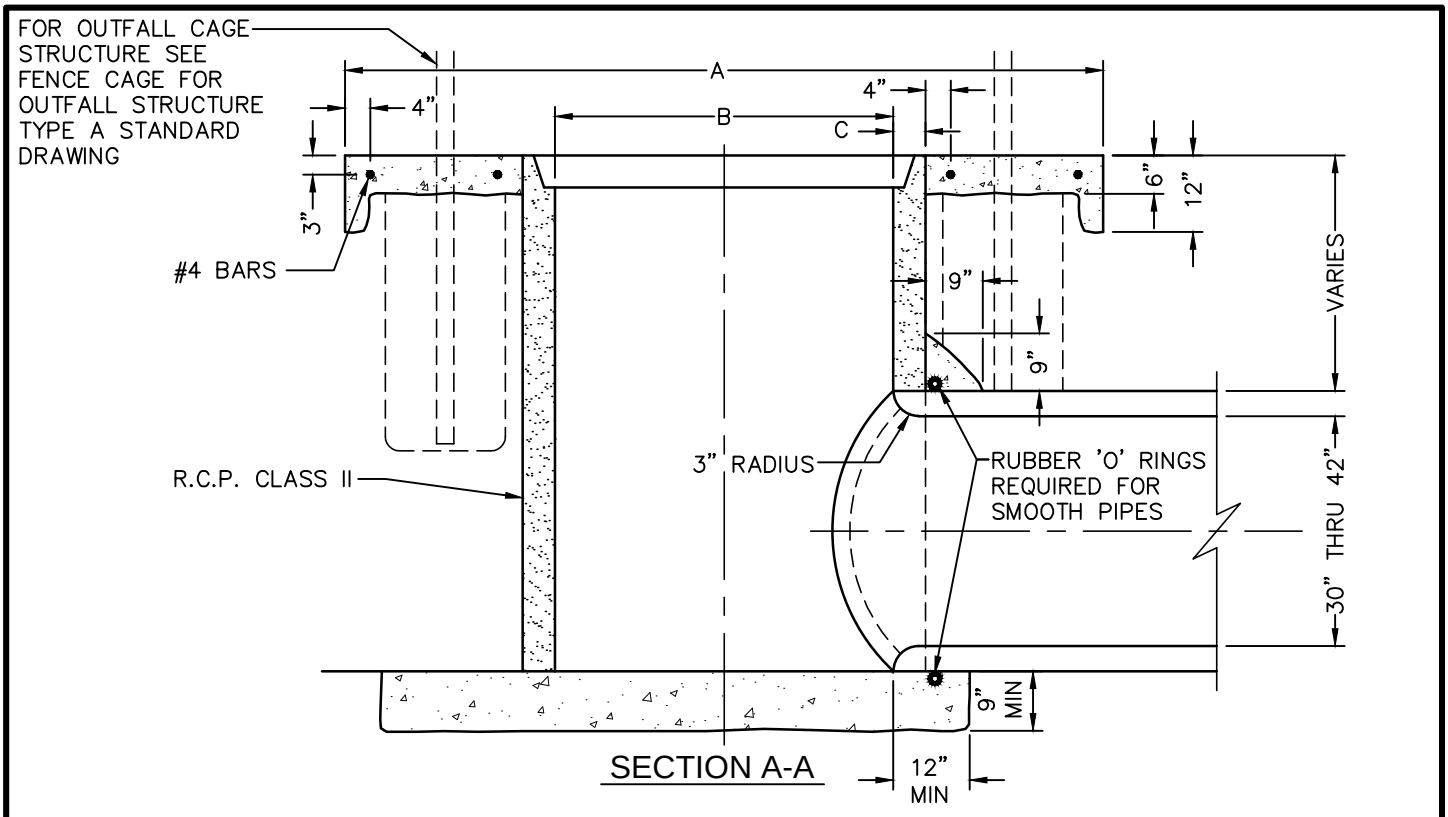
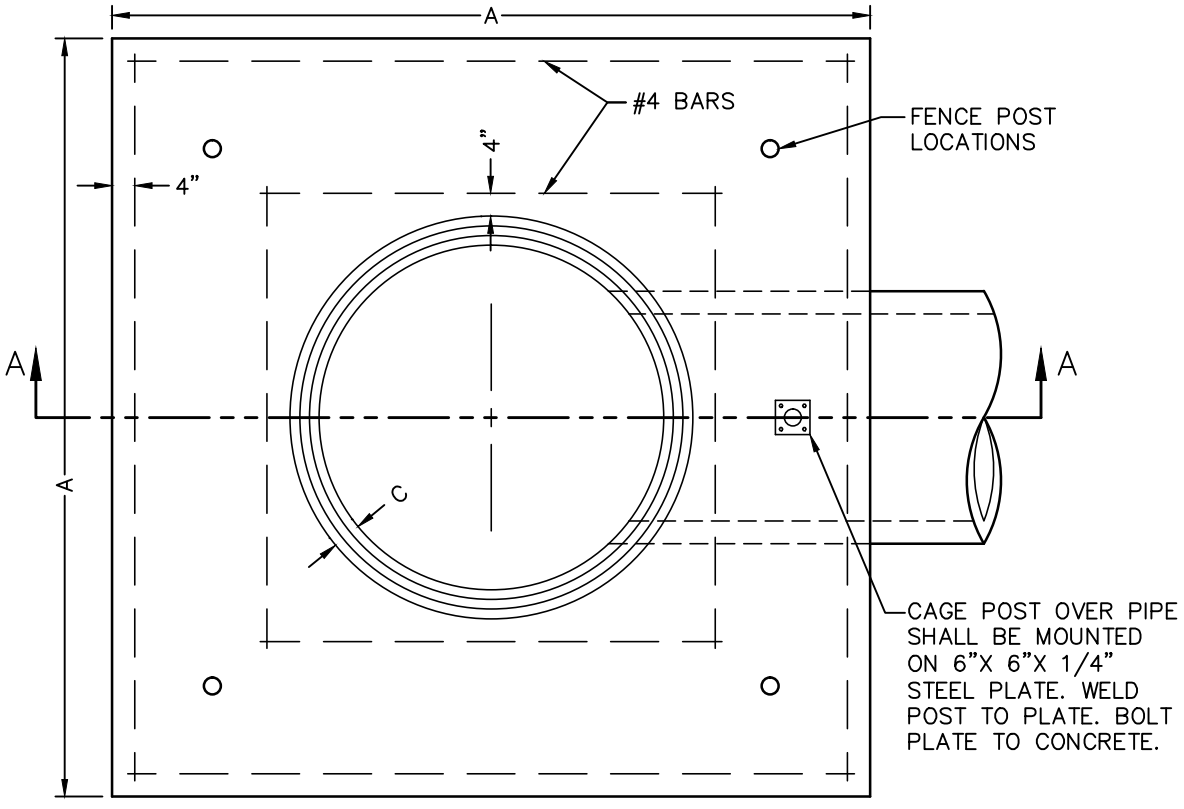


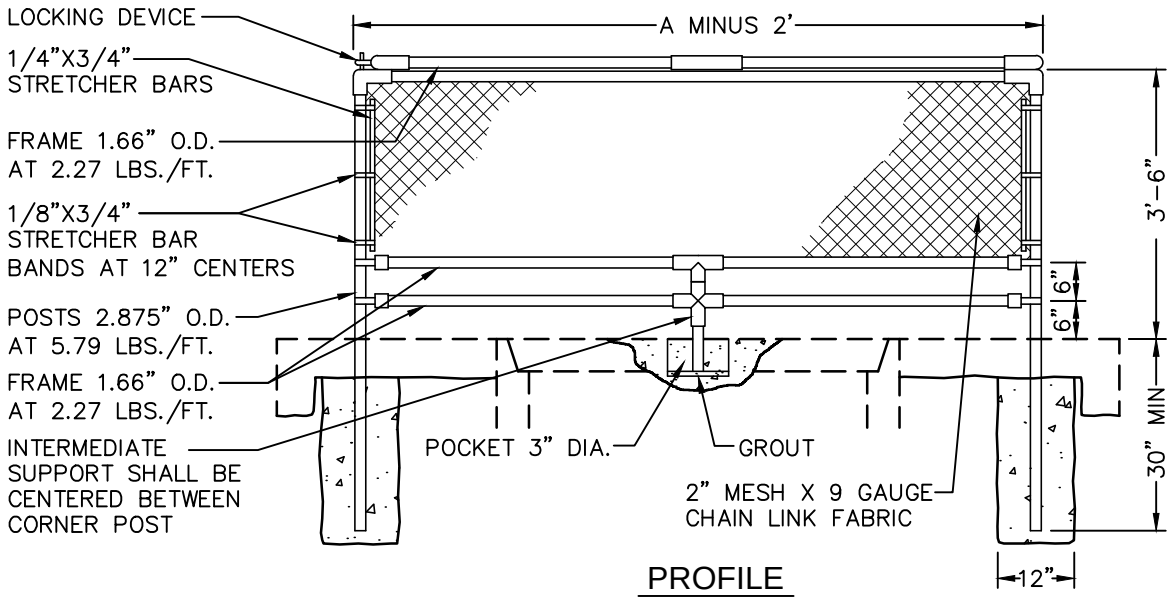


PLAN

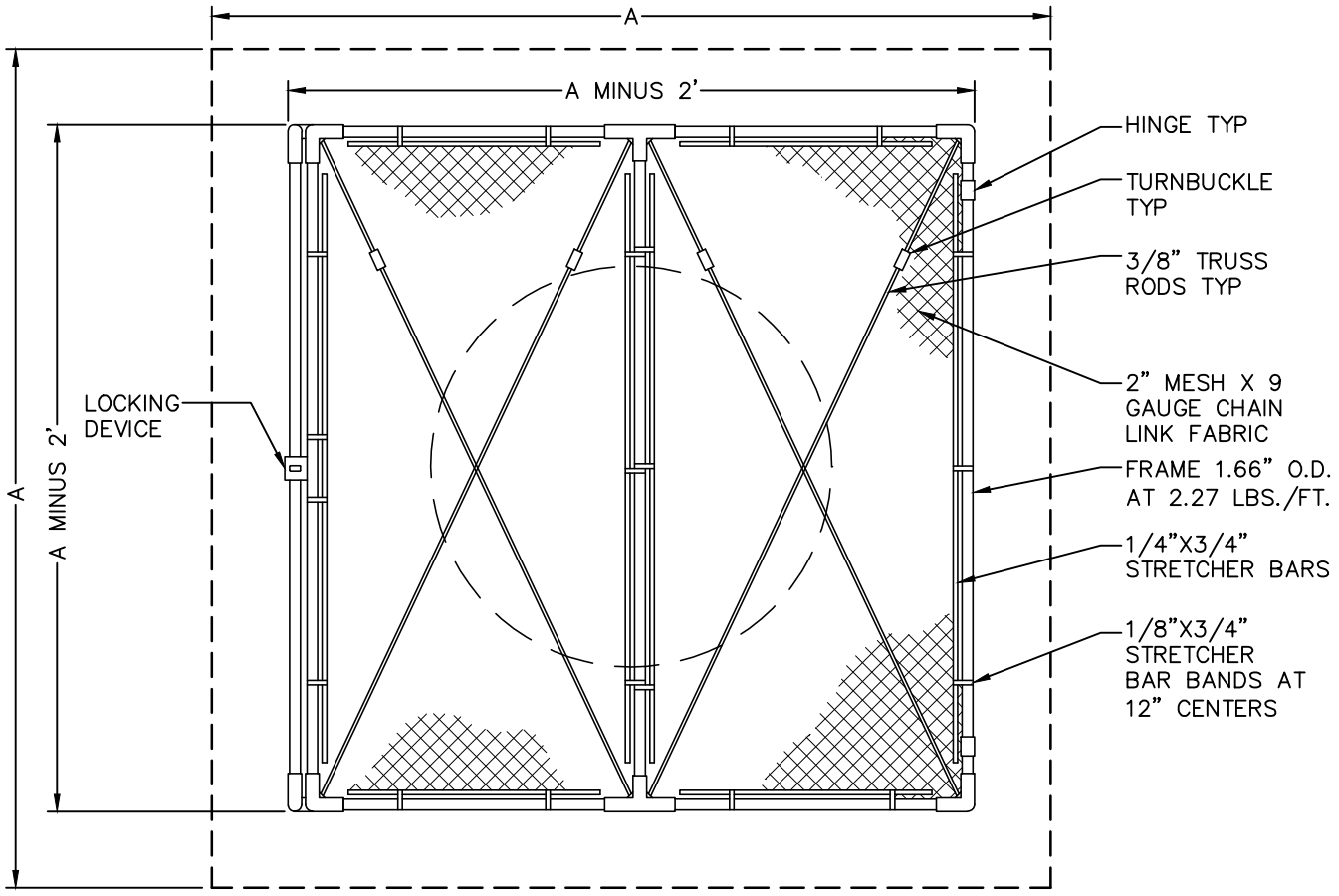
NOTES:

1. FOR DIMENSIONS SEE DESIGN TABLE FOR OUTFALL STRUCTURE TYPE A STANDARD DRAWING.

APPROVED BY: _____ CITY ENGINEER R.P.E. 81734 09/16/16 DATE	CITY OF VISALIA DESIGN & IMPROVEMENT STANDARDS
OUTFALL STRUCTURE TYPE A	REVISIONS 11/15/07 BK 2016 — D–22



PROFILE



PLAN

NOTES:

1. LOCKING DEVICE SHALL BE APPROVED BY THE CITY ENGINEER.
2. FOR DIMENSIONS SEE DESIGN TABLE FOR OUTFALL STRUCTURE TYPE A STANDARD DRAWING.

APPROVED BY: _____ 09/16/16
CITY ENGINEER R.P.E. 81734 DATE

CITY OF VISALIA
DESIGN & IMPROVEMENT STANDARDS

FENCE CAGE FOR OUTFALL STRUCTURE TYPE A

REVISIONS
11/15/07
BK 2016

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TYPE	MAX PIPE SIZE	DESIGN (C.F.S.)	A	B	C
A	30"	12–16	8'–0"	42"	3 1/2"
A	36"	16–21	9'–0"	48"	4"
A	42"	21–29	10'–0"	54"	4 1/2"

DESIGN TABLE
TYPE A

NOTES:

1. ALL CONCRETE SHALL BE CLASS 3 CONCRETE.
2. REINFORCING BARS SHALL BE DEFORMED STEEL BARS AND SHALL BE GRADE 40 MINIMUM. REINFORCING BARS SHALL BE FREE OF RUST OR DIRT AND SHALL BE THOROUGHLY CLEANED BEFORE PLACEMENT.
3. REINFORCING BARS SHALL HAVE A MINIMUM OF 2" OF CLEAR COVERAGE.

APPROVED BY: _____ 09/16/16
CITY ENGINEER R.P.E. 81734 DATE

CITY OF VISALIA
DESIGN & IMPROVEMENT STANDARDS

DESIGN TABLE FOR OUTFALL STRUCTURE TYPE A

REVISIONS
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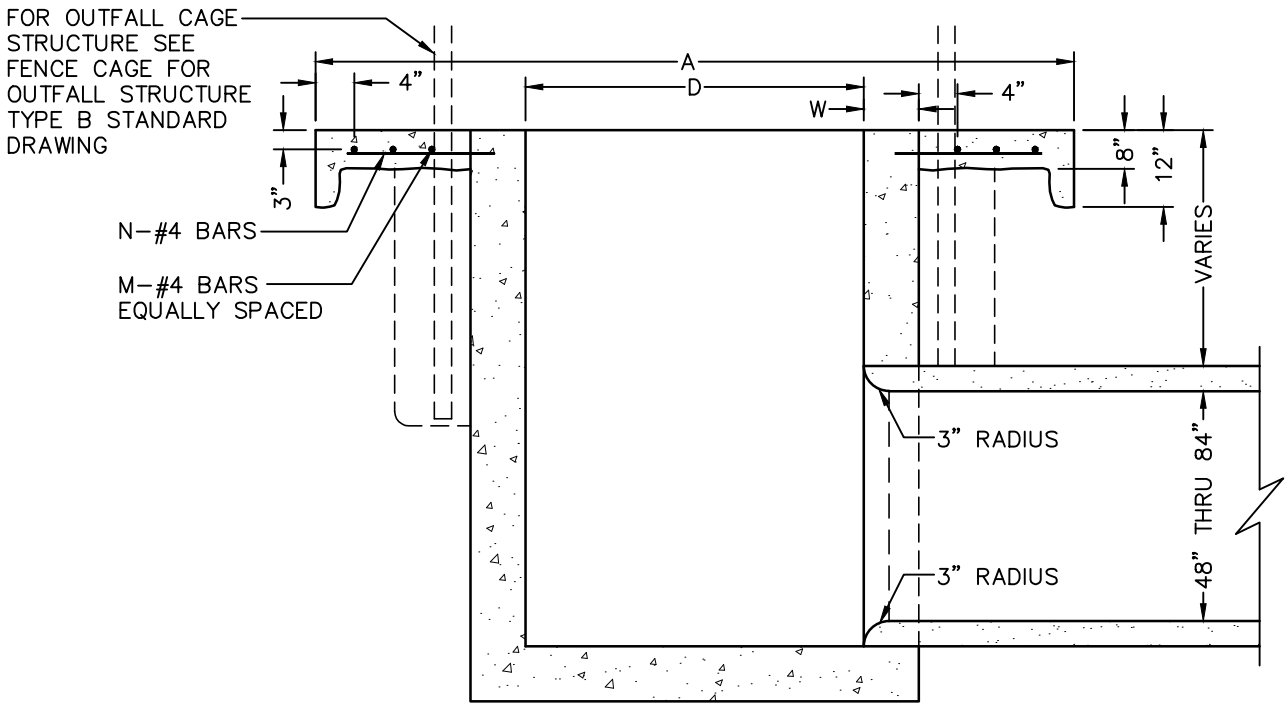
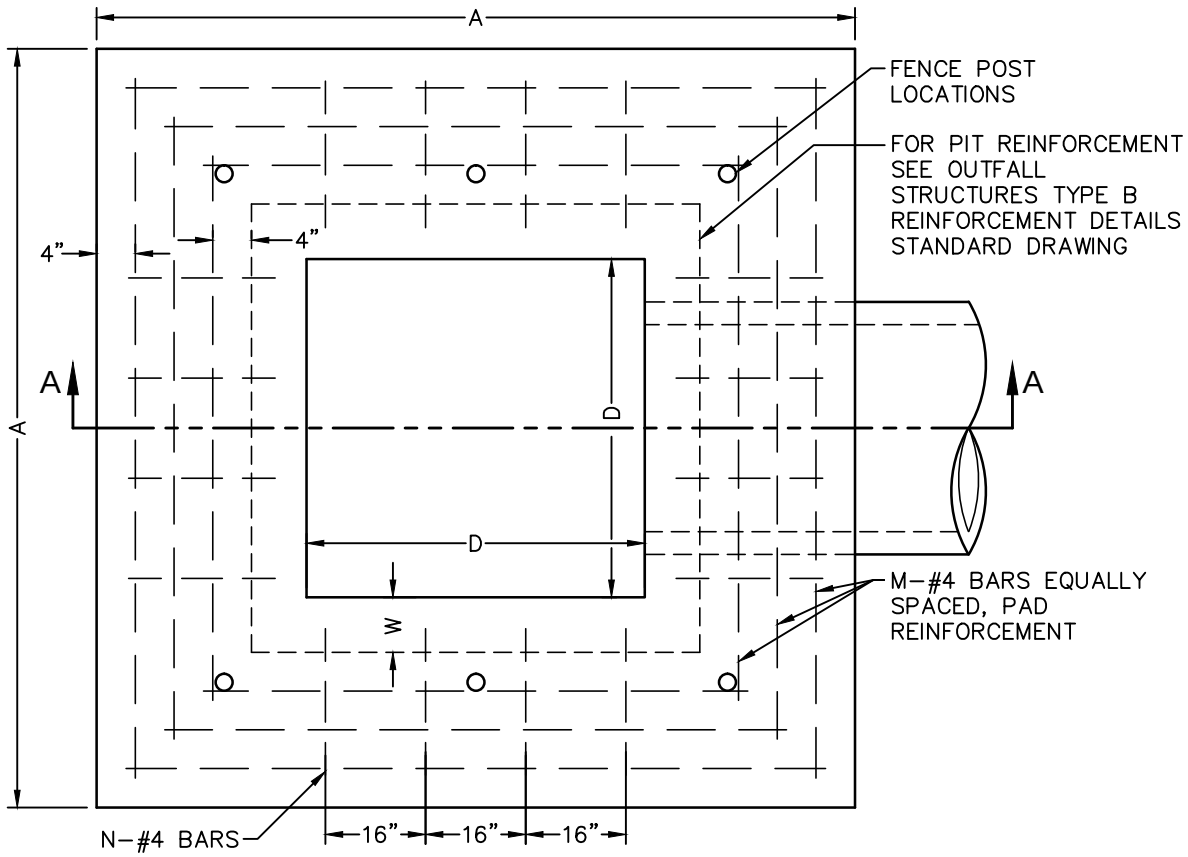


SECTION A-A



PLAN

NOTES:

1. FOR DIMENSIONS SEE DESIGN TABLE FOR OUTFALL STRUCTURE TYPE B STANDARD DRAWING.

APPROVED BY: _____ 09/16/16
CITY ENGINEER R.P.E. 81734 DATE

CITY OF VISALIA
DESIGN & IMPROVEMENT STANDARDS

OUTFALL STRUCTURE TYPE B

REVISIONS
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BK 2016

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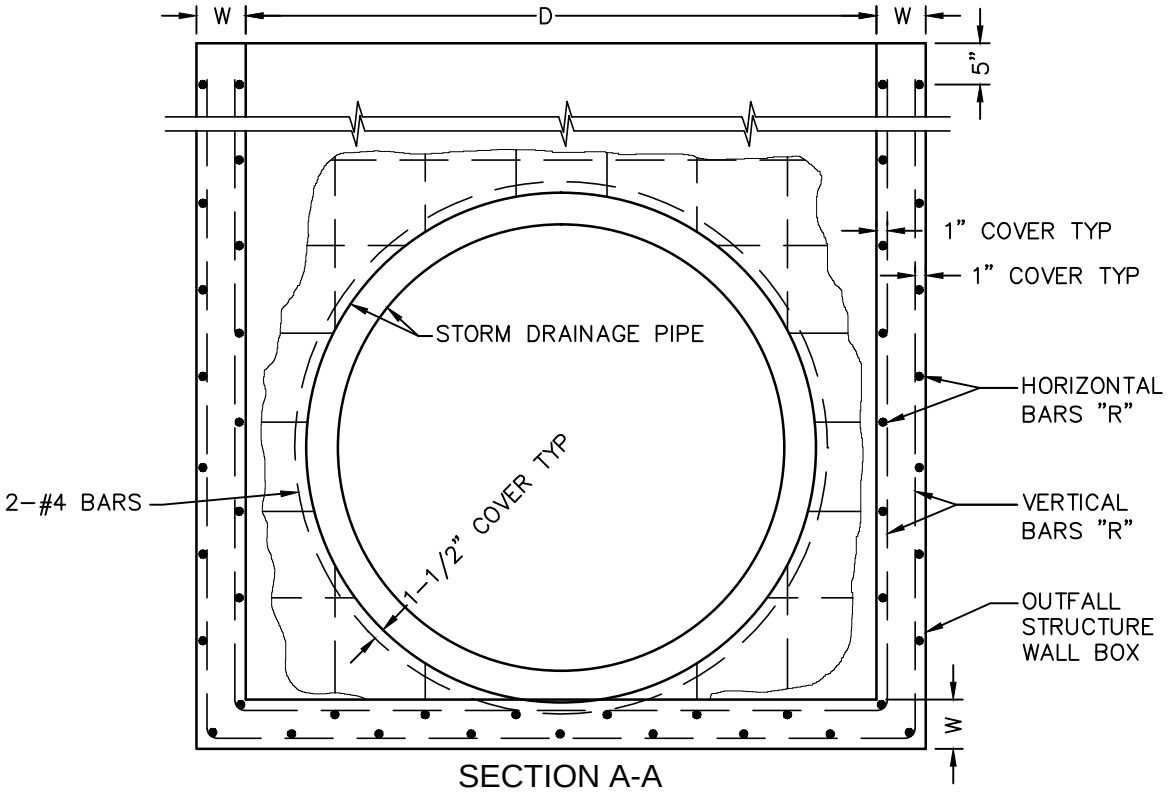
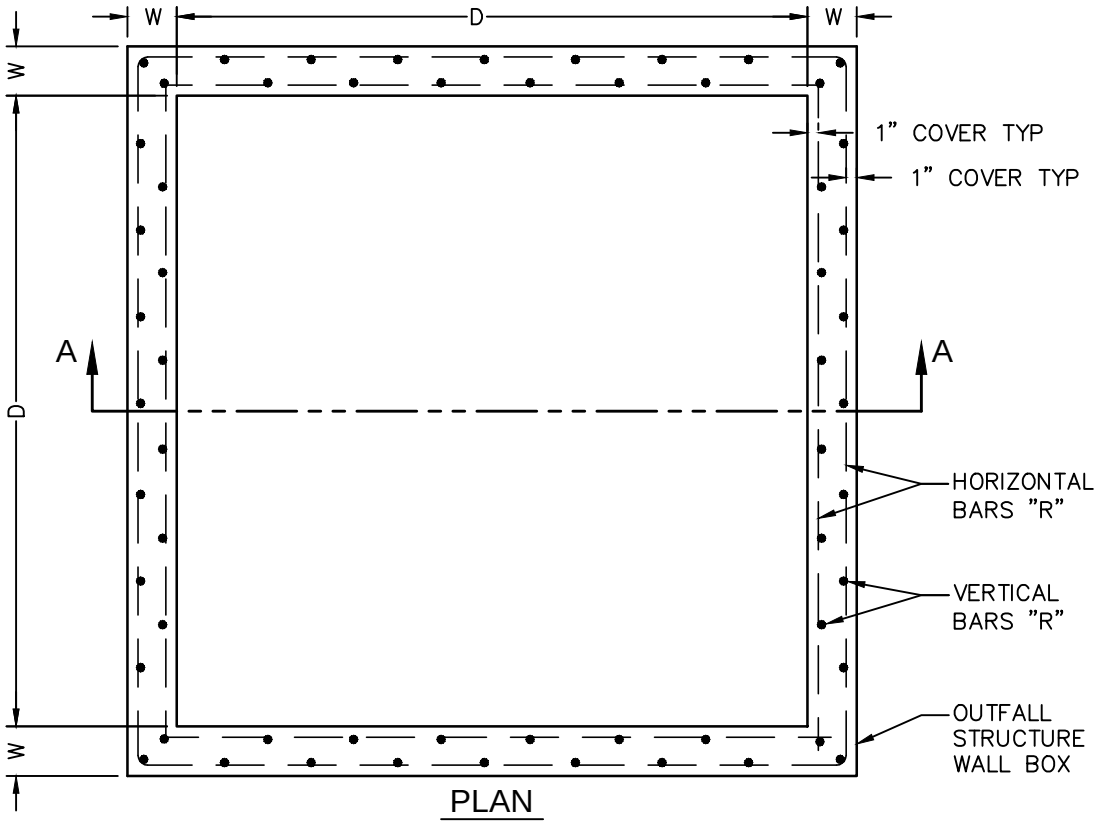


SECTION A-A



PLAN

NOTES:

1. FOR DIMENSIONS AND REBAR SIZE AND SPACING SEE DESIGN TABLE FOR OUTFALL STRUCTURE TYPE B STANDARD DRAWING.
2. ALL REINFORCEMENT SHALL CONFORM WITH THE CITY OF VISALIA STANDARD SPECIFICATIONS.

APPROVED BY: _____ 09/16/16
CITY ENGINEER R.P.E. 81734 DATE

CITY OF VISALIA
DESIGN & IMPROVEMENT STANDARDS

OUTFALL STRUCTURES TYPE B REINFORCEMENT DETAILS

REVISIONS
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BK 2016

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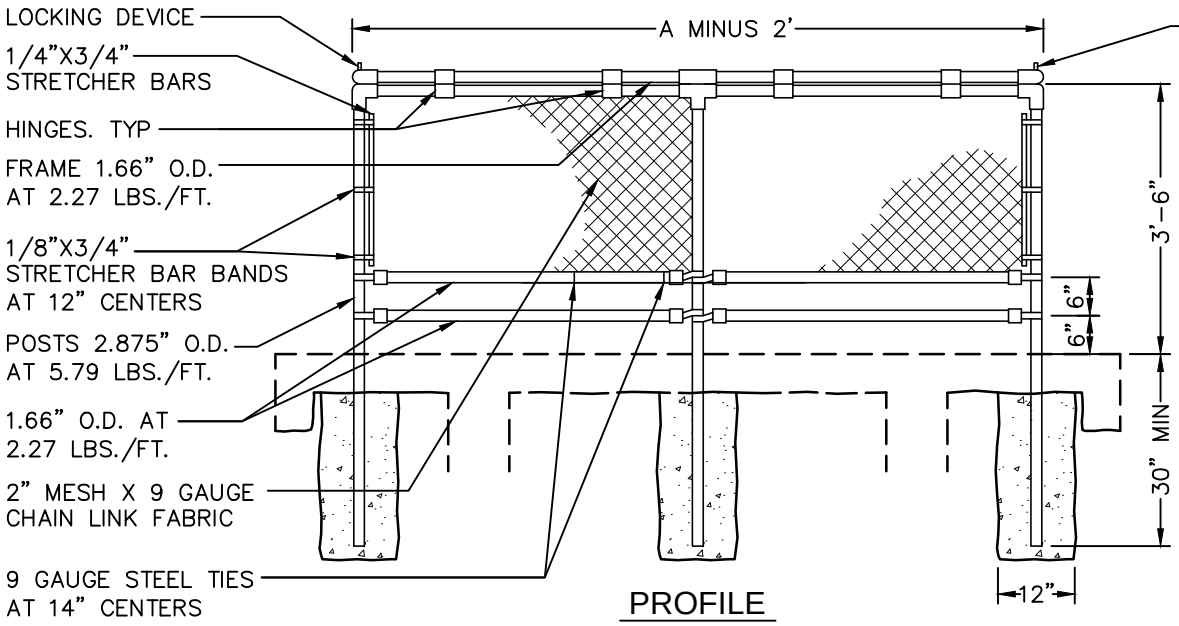
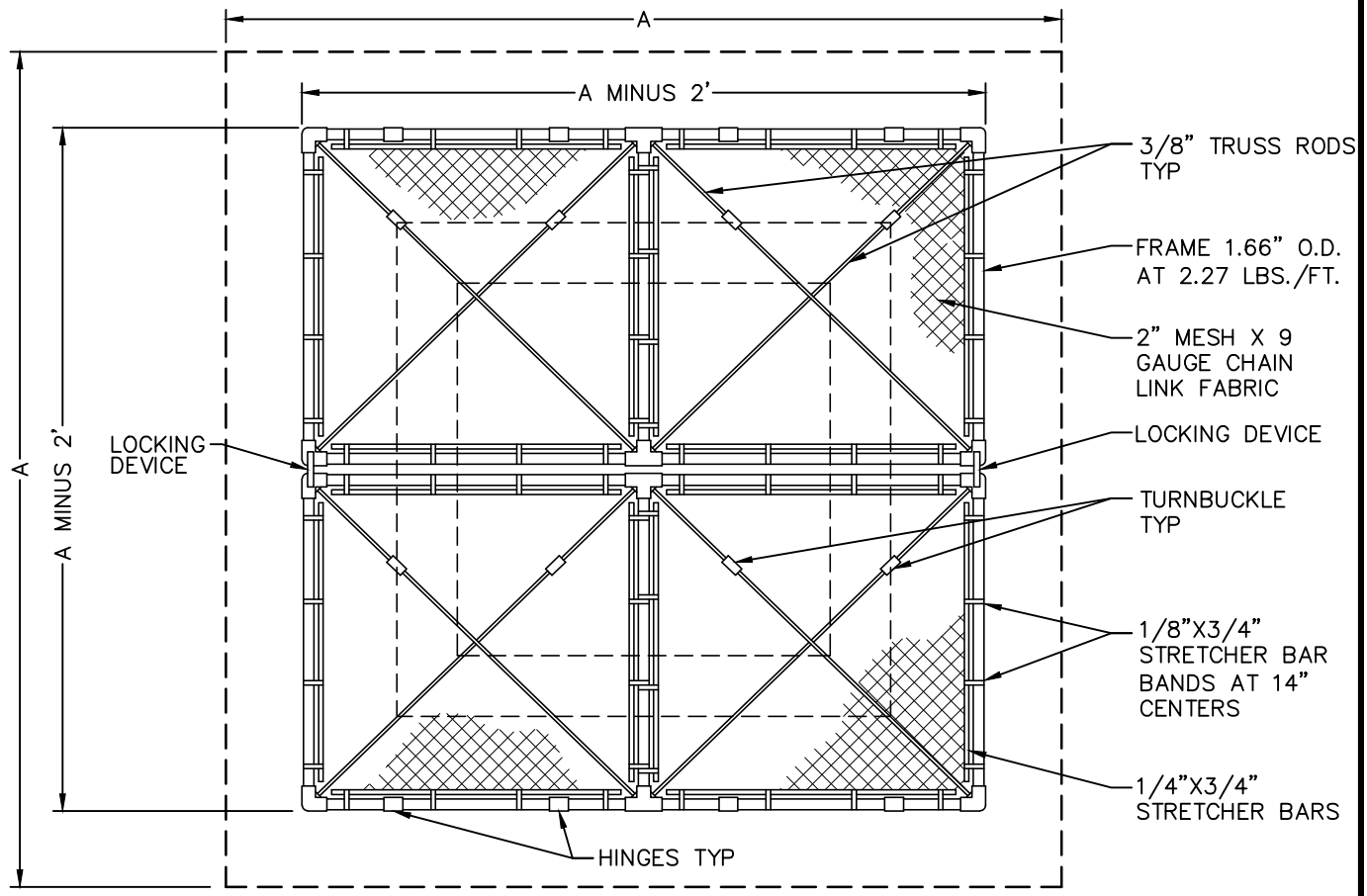


PROFILE



PLAN

NOTES:

1. LOCKING DEVICE SHALL BE APPROVED BY THE CITY ENGINEER.
2. FOR DIMENSIONS SEE DESIGN TABLE FOR OUTFALL STRUCTURE TYPE B STANDARD DRAWING.

APPROVED BY: _____ CITY ENGINEER R.P.E. 81734 09/16/16 DATE

CITY OF VISALIA
DESIGN & IMPROVEMENT STANDARDS

FENCE CAGE FOR OUTFALL STRUCTURE TYPE B

REVISIONS
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BK 2016

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TYPE	MAX PIPE SIZE	DESIGN (C.F.S.)	A	D	F	M	N	W	R*
B	48"	38–50	10'–0"	5'–0"	2'–6"	2	3	8"	#4 AT 12"
B	60"	50–65	12'–0"	6'–0"	3'–0"	3	4	8"	#4 AT 12"
B	66"	65–85	14'–0"	7'–0"	3'–6"	3	5	8"	#4 AT 12"
B	72"	85–110	16'–0"	8'–0"	4'–0"	3	6	10"	#5 AT 10"
B	84"	110–140	18'–0"	9'–0"	4'–6"	4	8	10"	#5 AT 10"

DESIGN TABLE
TYPE B

NOTES:

1. ALL CONCRETE SHALL BE CLASS 3 CONCRETE.
2. REINFORCING BARS SHALL BE DEFORMED STEEL BARS AND SHALL BE GRADE 40 MINIMUM. REINFORCING BARS SHALL BE FREE OF RUST OR DIRT AND SHALL BE THOROUGHLY CLEANED BEFORE PLACEMENT.
3. REINFORCING BARS SHALL HAVE A MINIMUM OF 2" OF CLEAR COVERAGE.

* REINFORCEMENT SHALL CONSIST OF A DOUBLE CURTAIN BOTH DIRECTIONS OF THE SIZE AND SPACING NOTED. SEE OUTFALL STRUCTURE TYPE B REINFORCEMENT DETAILS STANDARD DRAWING

APPROVED BY: _____ 09/16/16
CITY ENGINEER R.P.E. 81734 DATE

CITY OF VISALIA
DESIGN & IMPROVEMENT STANDARDS

DESIGN TABLE FOR OUTFALL STRUCTURE TYPE B

REVISIONS
12/18/07
BK 2016

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RESERVED FOR FUTURE DETAIL

APPROVED BY:_____ _____	CITY OF VISALIA DESIGN & IMPROVEMENT STANDARDS
RESERVED	REVISIONS BK 2016
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RESERVED FOR FUTURE DETAIL

APPROVED BY:_____ _____	CITY OF VISALIA DESIGN & IMPROVEMENT STANDARDS
RESERVED	REVISIONS BK 2016
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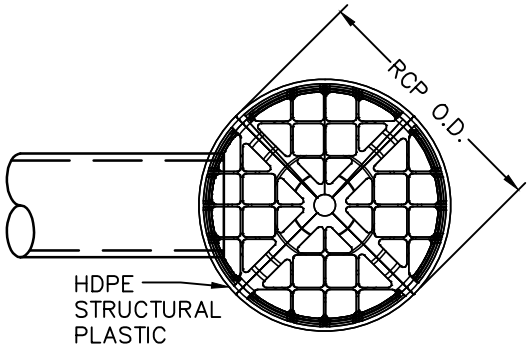
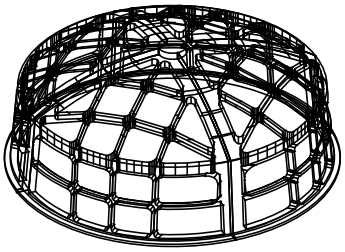
RESERVED FOR FUTURE DETAIL

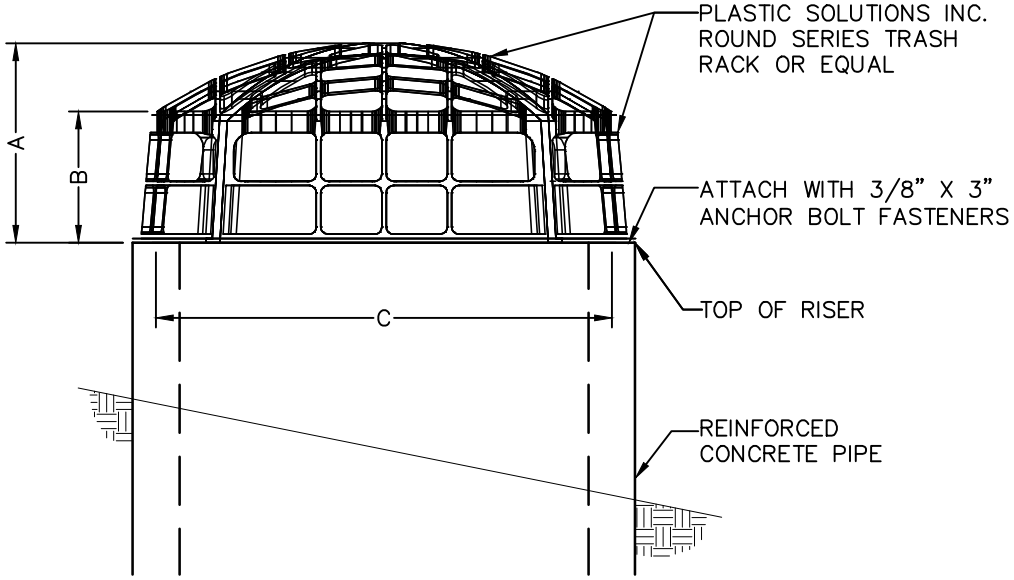
APPROVED BY:_____ _____	CITY OF VISALIA DESIGN & IMPROVEMENT STANDARDS
RESERVED	REVISIONS BK 2016
	D–31



PLAN



PERSPECTIVE



PROFILE

NOTES:

1. INLET STRUCTURE SHALL BE SIZED BY THE ENGINEER OF RECORD AND APPROVED BY THE CITY ENGINEER.

ROUND SERIES TRASH RACKS FOR CONCRETE RISERS BY PLASTIC SOLUTIONS, INC. (DIMENSIONS IN INCHES)

PART NO.	DIM. A	DIM. B	DIM. C	MIN. ID.	MIN. OD.
RS–24	17–1/4	14–1/4	28	24	30
RS–36	21–1/4	14–3/8	40–7/8	36	43
RS–48	27–3/4	18	54	48	57
RS–60	27–1/2	18–1/4	66–1/2	60	70

APPROVED BY: _____ 09/16/16
CITY ENGINEER R.P.E. 81734 DATE

CITY OF VISALIA
DESIGN & IMPROVEMENT STANDARDS

ROUND TRASH RACK FOR BASIN PUMP INLET STRUCTURE

REVISIONS
06/14/13
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RESERVED FOR FUTURE DETAIL

APPROVED BY:_____ _____	CITY OF VISALIA DESIGN & IMPROVEMENT STANDARDS
RESERVED	REVISIONS BK 2016
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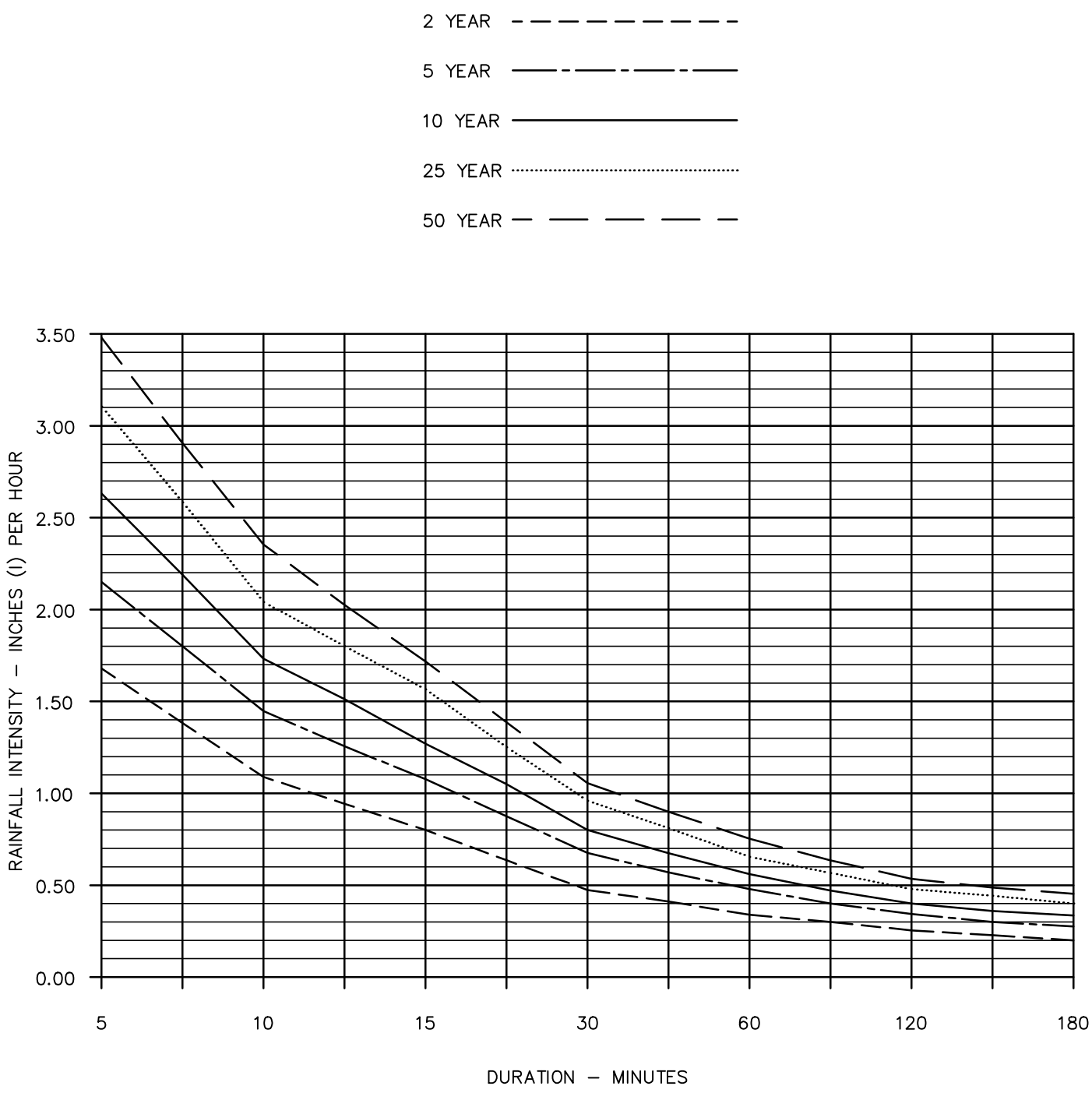
RESERVED FOR FUTURE DETAIL

APPROVED BY:_____ _____	CITY OF VISALIA DESIGN & IMPROVEMENT STANDARDS
RESERVED	REVISIONS BK 2016
	D-34



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CITY ENGINEER R.P.E. 81734 DATE

CITY OF VISALIA
DESIGN & IMPROVEMENT STANDARDS

INTENSITY DURATION CURVES

REVISIONS
06/18/04
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STORM DRAINAGE DESIGN CRITERIA

LEVEL OF PROTECTION

ITEM	VOLUME	LEVEL OF PROTECTION
MINOR (COLLECTOR) DRAINS	N/A	2 YEAR
MAJOR DRAINS	N/A	10 YEAR
IN-TOWN DETENTION BASINS	10 YEAR – 1 DAY	10 YEAR – 10 DAY
IN-TOWN RETENTION BASINS	10 YEAR – 10 DAY	10 YEAR – 10 DAY
INDUSTRIAL PARK RETENTION BASINS	10 YEAR – 10 DAY	10 YEAR – 10 DAY
DOWNSTREAM ULTIMATE STORAGE BASINS	10 DAY – 50 YEAR	10 DAY – 50 YEAR

NOTES:

1. MAJOR DRAINS GENERALLY SERVE AREAS IN EXCESS OF 100 ACRES. THESE DRAINS ARE DEFINED AND ANALYZED IN THE CITY'S STORM WATER MASTER PLAN.
2. MINOR DRAINS CONVEY RUNOFF TO THE MAJOR DRAINS AND GENERALLY SERVE AREAS LESS THAN 100 ACRES.
3. THE STORAGE VOLUME FOR DETENTION STORAGE IS BASED ON A 10-YEAR, 1-DAY STORM EVENT WITH A TOTAL RAINFALL OF 2.09 INCHES. THE BASIN SHALL ALSO ACCOMMODATE A 10-YEAR, 2-DAY EVENT WITH A TOTAL RAINFALL OF 2.64 INCHES WITH FREEBOARD AND PUMPING TAKEN INTO ACCOUNT. THE MAXIMUM DESIGN DEPTH AND SIDE SLOPES OF THE BASIN MUST BE APPROVED BY THE CITY. DISCHARGE PUMPS WITH A CITY APPROVED CAPACITY SHALL BE INSTALLED AND OPERATED IN ACCORDANCE WITH CITY STORM WATER DISCHARGE POLICIES.
4. THE STORAGE VOLUME FOR RETENTION STORAGE IS BASED ON A 10-YEAR, 10-DAY STORM EVENT WITH A TOTAL RAIN FALL OF 4.17 INCHES. DISCHARGE PUMPS CAN ONLY BE INSTALLED AND OPERATED WITH THE APPROVAL OF THE CITY.
5. THE DESIGN WATER SURFACE ELEVATION IN A BASIN SHALL BE A MINIMUM OF ONE FOOT BELOW THE LOWEST CATCH BASIN IN THE AREA THAT IS TRIBUTARY TO THE BASIN.
6. THE CITY DOES NOT CONSIDER PERCOLATION/INFILTRATION FACTORS IN SIZING BASINS.

RATIONAL METHOD RUNOFF COEFFICIENTS AND DESIGN CRITERIA FOR STORM WATER BASINS

LAND USE	COEFFICIENT OF RUNOFF (C)	STORAGE VOLUME (ACRE-FEET/ACRE)	
		DETENTION	RETENTION
INDUSTRIAL AND COMMERCIAL	0.85	0.148	0.295
PROFESSIONAL OFFICE	0.65	0.113	0.226
RESIDENTIAL			
– HIGH DENSITY (15-29 UNITS/ACRE)	0.55	0.096	0.191
– MEDIUM DENSITY (11-14 UNITS/ACRE)	0.45	0.078	0.156
– LOW DENSITY (3-10 UNITS/ACRE)	0.35	0.061	0.122
– RURAL (1-2 UNITS/ACRE)	0.30	0.052	0.104
PUBLIC/INSTITUTIONAL	0.40	0.070	0.139
OPEN SPACE			
– IMPROVED (PARKS)	0.25	0.044	0.087
– UNIMPROVED	0.15	0.026	0.052

DESIGN CRITERIA

1. THE RATIONAL METHOD MAY BE USED TO DETERMINE PEAK FLOWS AND RUNOFF VOLUMES FOR AREAS LESS THAN 150 ACRES.
2. ALL NEW DEVELOPMENTS SHALL BE DESIGNED SUCH THAT THE SURFACE OF PONDED WATER DURING THE 100-YEAR RAINFALL EVENT DOES NOT RISE MORE THAN ONE FOOT ABOVE THE LOWEST TOP OF CURB IN THE DEVELOPMENT.
3. LOT TO STREET TIME = 25 MINUTES. (RESIDENTIAL ONLY)
4. GUTTER VELOCITY = 2 FEET PER SECOND.

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CITY OF VISALIA
DESIGN & IMPROVEMENT STANDARDS

DESIGN CRITERIA FOR DRAINAGE

REVISIONS
06/14/13
BK 2016

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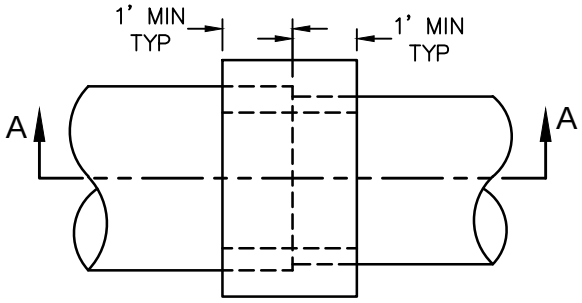
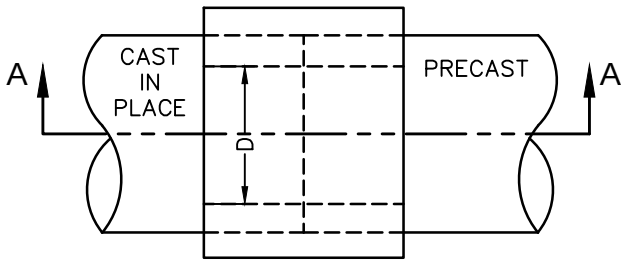
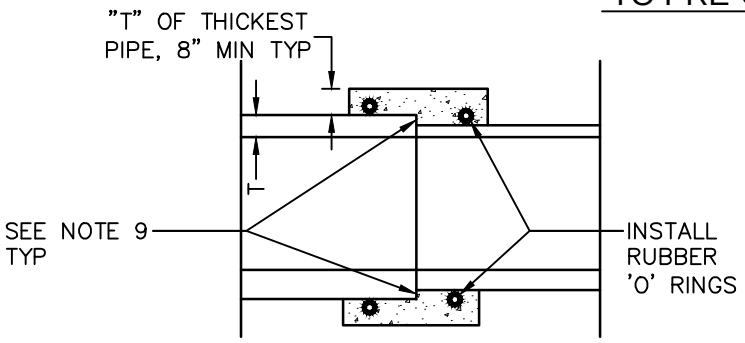


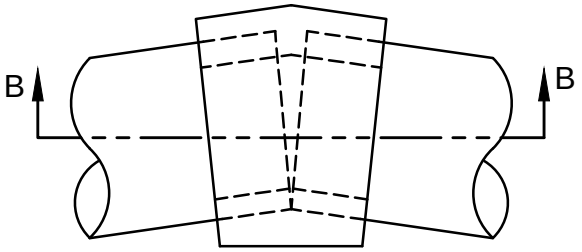
JOINING DISSIMILAR PIPES



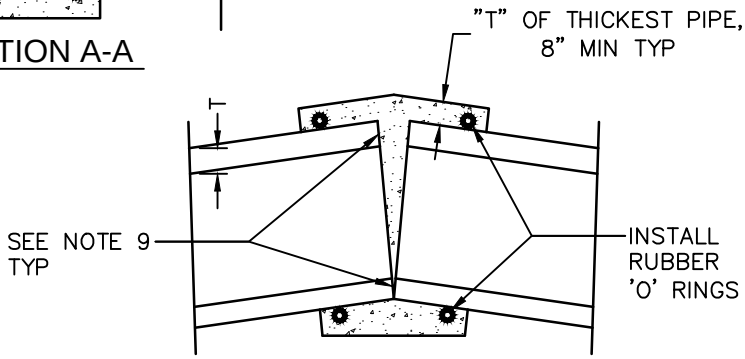
JOINING CAST-IN-PLACE TO PRE-CAST PIPES



SECTION A-A



ANGLE EXCEEDING NORMAL DEFLECTION ANGLE*



SECTION B-B

NOTES:

1. CONCRETE COLLAR SHALL BE CLASS 2 CONCRETE.
2. INSIDE COLLAR SHALL MATCH PIPE DIAMETER, SMOOTH STEEL TROWEL FINISH.
3. ALLOW CONCRETE TO HARDEN BEFORE BACKFILLING.
4. WHEN FORMING ANGLES ENGINEER MAY REQUIRE CHAMFERING OF PIPE ENDS.
5. JOINTS SHALL BE WATER TIGHT.
6. THIS DETAIL IS NOT FOR USE WITH PVC/PLASTIC PIPES. JOINING OF PVC/PLASTIC PIPES SHALL BE AS APPROVED BY THE CITY ENGINEER.
7. THIS DETAIL MAY BE USED FOR PIPES UP TO 48" IN DIAMETER. COLLARS FOR PIPES LARGER THAN 48" SHALL BE AS APPROVED BY THE CITY ENGINEER.
8. EXFILTRATION TEST REQUIRED AS PER ASTM C969–02 AS IMPLEMENTED BY THE CITY OF VISALIA.
9. CONTRACTOR SHALL INSTALL A QUICK SETTING TYPE HYDRAULIC CEMENT TO ALL JOINTS PRIOR TO POURING CONCRETE COLLAR. HYDRAULIC CEMENT SHALL BE A NON–SHRINKING, NON–METALLIC AND NON–CORROSIVE TYPE WITH A MINIMUM 28 DAY COMPRESSIVE STRENGTH OF 5,000 P.S.I. HYDRAULIC CEMENT DATA SHALL BE SUBMITTED TO THE CITY ENGINEER FOR APPROVAL PRIOR TO CONSTRUCTION. JOINT SEAL SHALL BE WATER TIGHT.

* THIS INSTALLATION METHOD SHALL ONLY BE USED WHERE APPROVED BY THE CITY ENGINEER IN WRITING. SEE NOTE 4.

APPROVED BY: _____ 09/16/16
CITY ENGINEER R.P.E. 81734 DATE

CITY OF VISALIA
DESIGN & IMPROVEMENT STANDARDS

CONSTRUCTION JOINT CONCRETE FILLED COLLAR

REVISIONS
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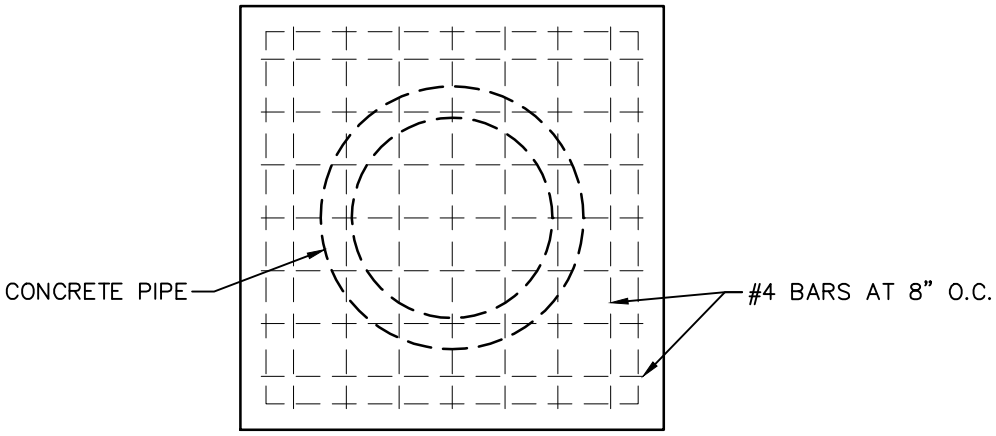
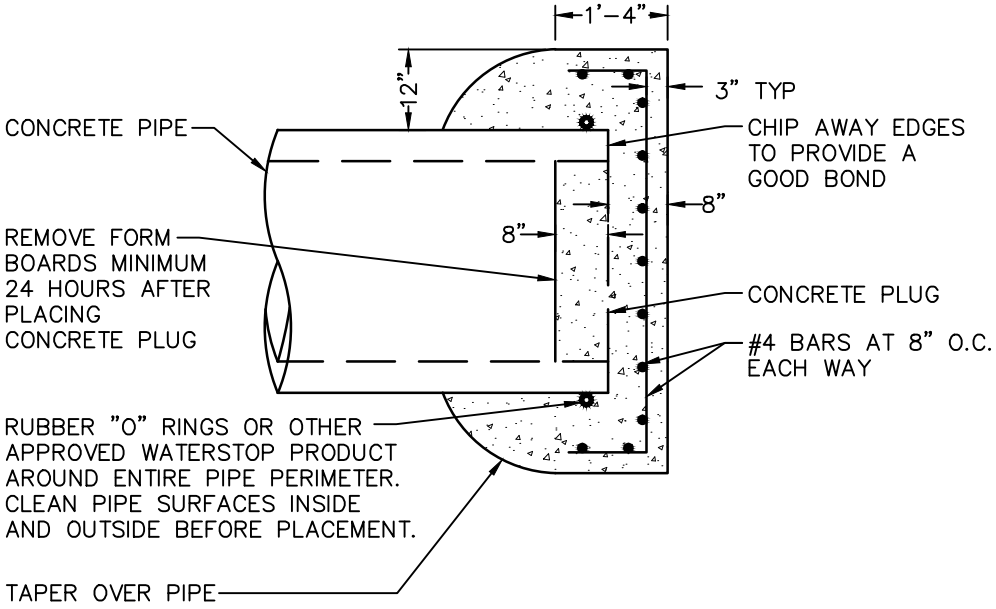


FRONT VIEW



SECTION

NOTES:

1. END PLUG SHALL ONLY BE USED WHERE APPROVED BY THE CITY ENGINEER.
2. THIS PLUG SHALL BE USED ON PIPES WITH AN INNER DIAMETER OF 12" UP TO 48". END PLUGS FOR PIPES WITH AN INNER DIAMETER LARGER THAN 48" SHALL BE DESIGNED BY THE ENGINEER OF RECORD AND APPROVED BY THE CITY ENGINEER.
3. REBAR AND CONCRETE SHALL COMPLY WITH THE CITY OF VISALIA STANDARD SPECIFICATIONS.
4. CONCRETE SHALL BE CLASS 2.
5. PIPE END PLUG SHALL BE WATER TIGHT.
6. EXFILTRATION TEST REQUIRED AS PER ASTM C969-02 AS IMPLEMENTED BY THE CITY OF VISALIA.

APPROVED BY: _____ 09/16/16
CITY ENGINEER R.P.E. 81734 DATE

CITY OF VISALIA
DESIGN & IMPROVEMENT STANDARDS

PIPE END PLUG FOR CONCRETE PIPE

REVISIONS
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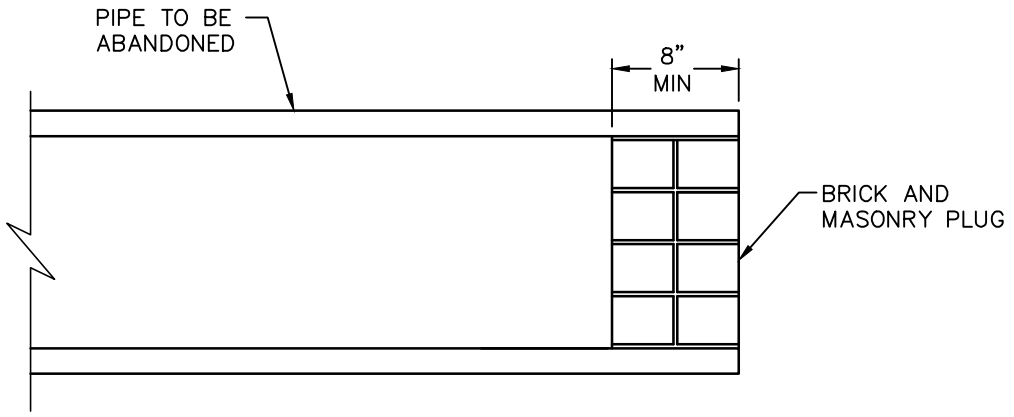
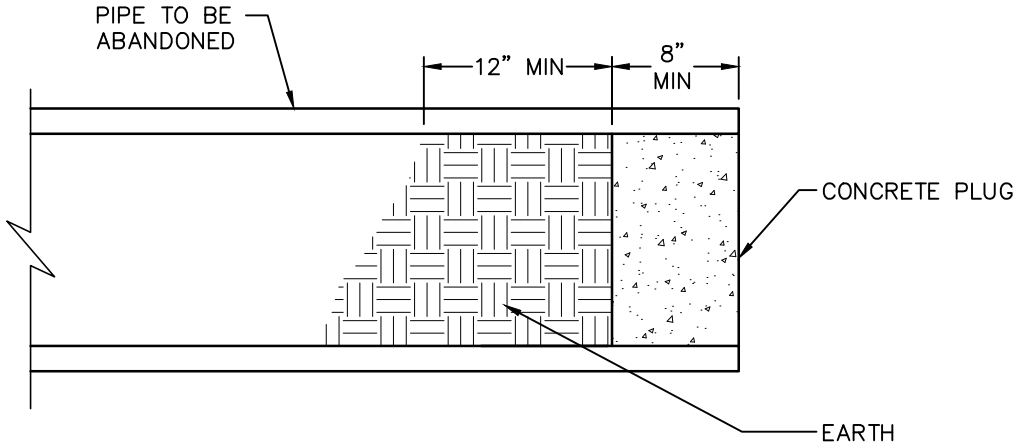


12" TO 48" DIAMETER PIPE

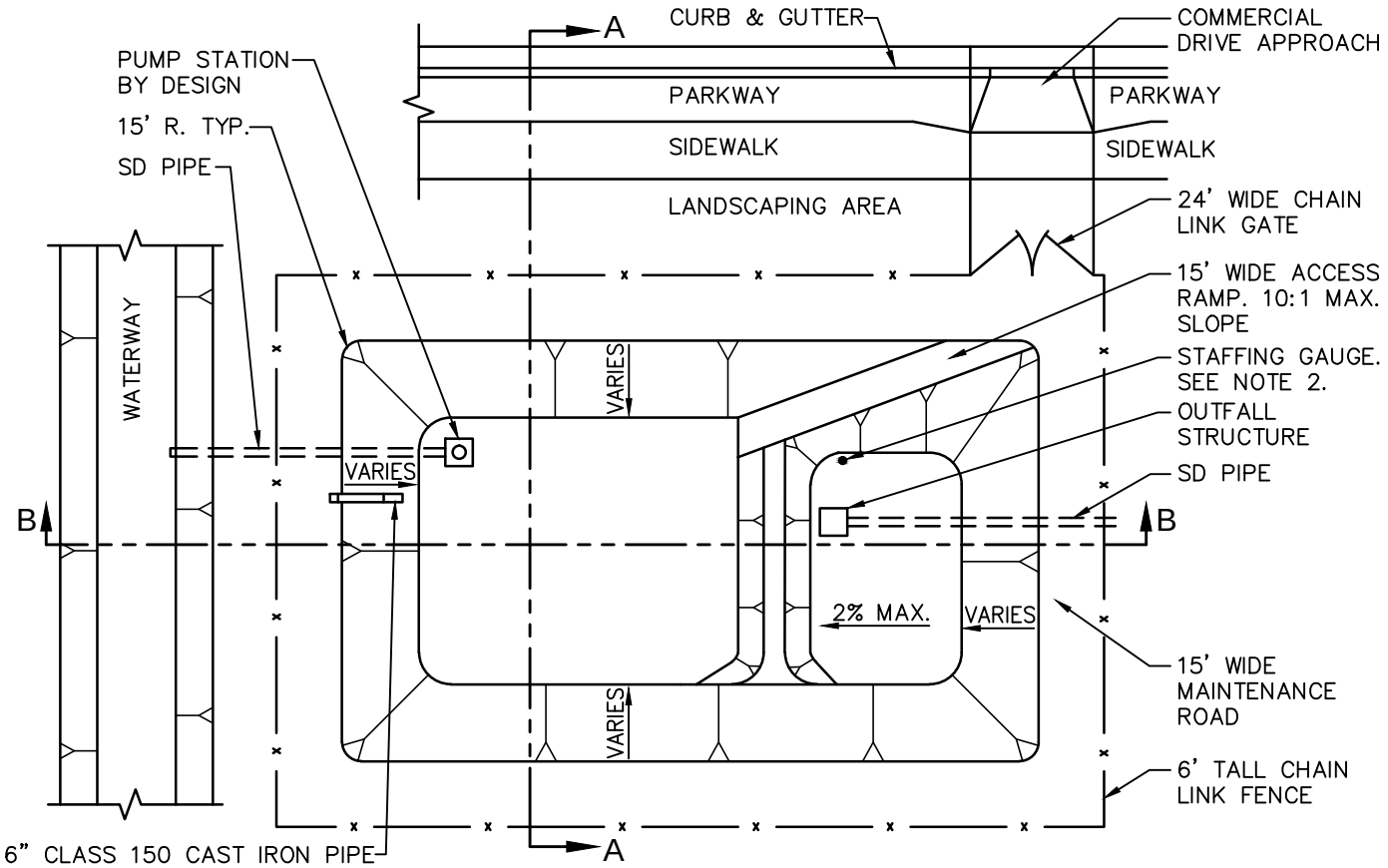


10" DIAMETER PIPE AND SMALLER

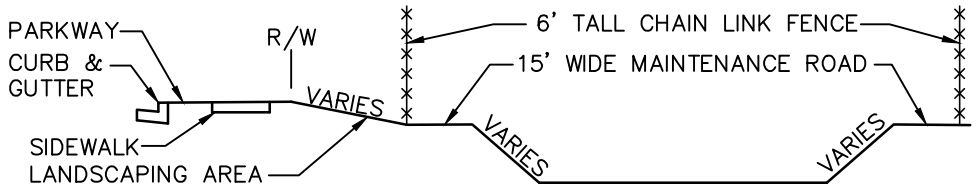
NOTES:

1. PIPE PLUGS SHALL BE INSTALLED TO THE SATISFACTION OF THE ENGINEER.
2. WHERE REQUIRED BY THE CITY ENGINEER, ABANDONED PIPES 12" AND LARGER, SHALL BE FILLED COMPLETELY WITH CEMENT SLURRY BACKFILL.
3. ALL PLUGS SHALL COMPLY WITH THE CITY OF VISALIA STANDARD SPECIFICATIONS.
4. PIPE END PLUG SHALL BE WATER TIGHT.
5. VIDEO INSPECTION REQUIRED PRIOR TO ABANDONMENT OF PIPE.

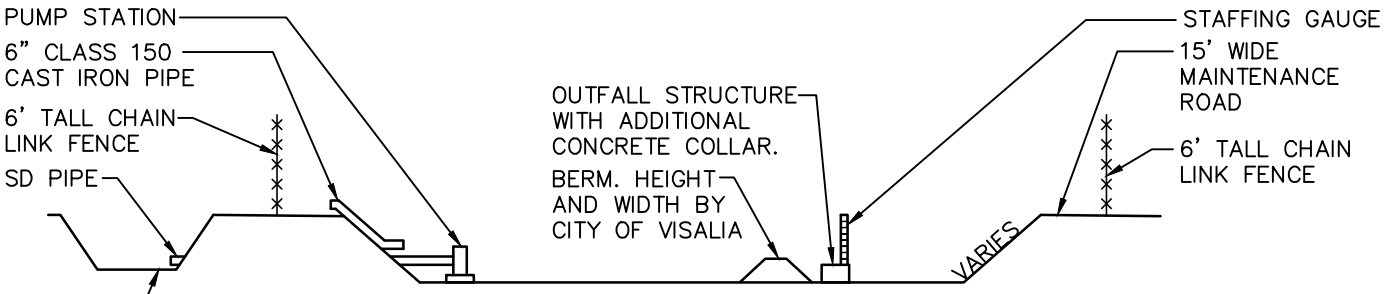
APPROVED BY: _____ CITY ENGINEER R.P.E. 81734 09/16/16 DATE	CITY OF VISALIA DESIGN & IMPROVEMENT STANDARDS
ABANDONED SANITARY SEWER AND STORM DRAIN PIPE PLUG	REVISIONS 06/14/13 BK 2016 — D-39



PLAN



SECTION A-A



SECTION B-B

NOTES:

1. REQUIREMENTS PER BASIN TO BE APPROVED BY CITY ENGINEER.
2. STAFFING GAUGE TO BE 4" GALVANIZED POLE. WHITE REFLECTIVE TAPE TO BE PLACED EVERY FOOT STARTING AT THE TOP OF BANK TO THE BOTTOM OF THE BANK. RED REFLECTIVE TAPE SHALL BE PLACED AT THE HIGH WATER LINE. EMBEDDING DEPTH AND FOOTING TO BE DETERMINED WITH PLANS.

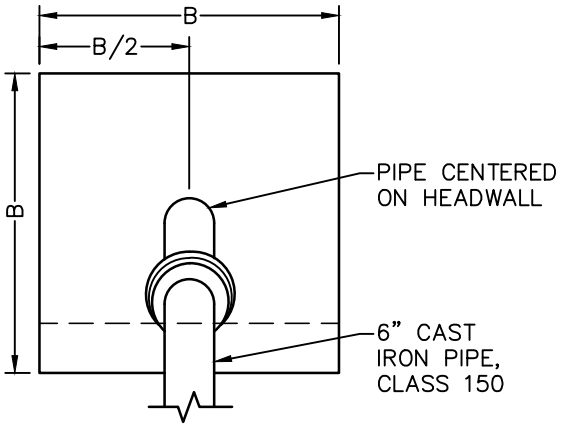
APPROVED BY: _____ 09/16/16
CITY ENGINEER R.P.E. 81734 DATE

CITY OF VISALIA
DESIGN & IMPROVEMENT STANDARDS

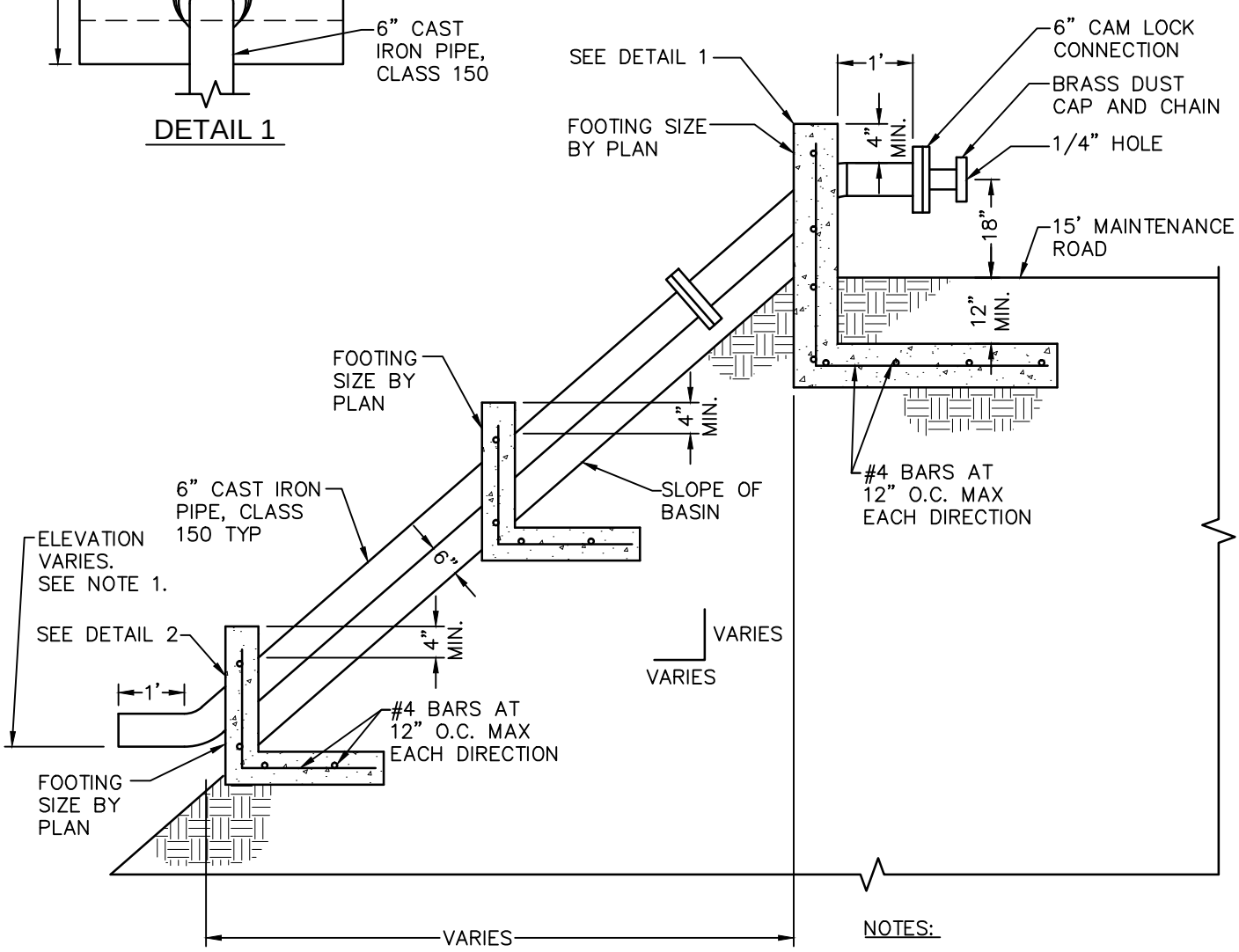
PONDING BASIN 1 OF 2

REVISIONS
09/15/16
BK 2016

D–40

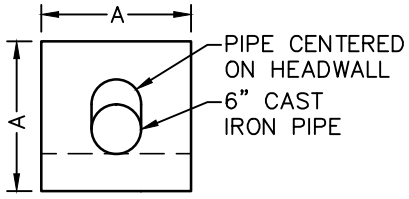


DETAIL 1



NOTES:

1. SET INLET PIPE ELEVATION BELOW MIDPOINT OF BASIN HIGHWATER LINE AND BOTTOM OF BASIN.
2. ALL CONCRETE SHALL BE CLASS 2.



DETAIL 2

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CITY OF VISALIA
DESIGN & IMPROVEMENT STANDARDS

PONDING BASIN 2 OF 2

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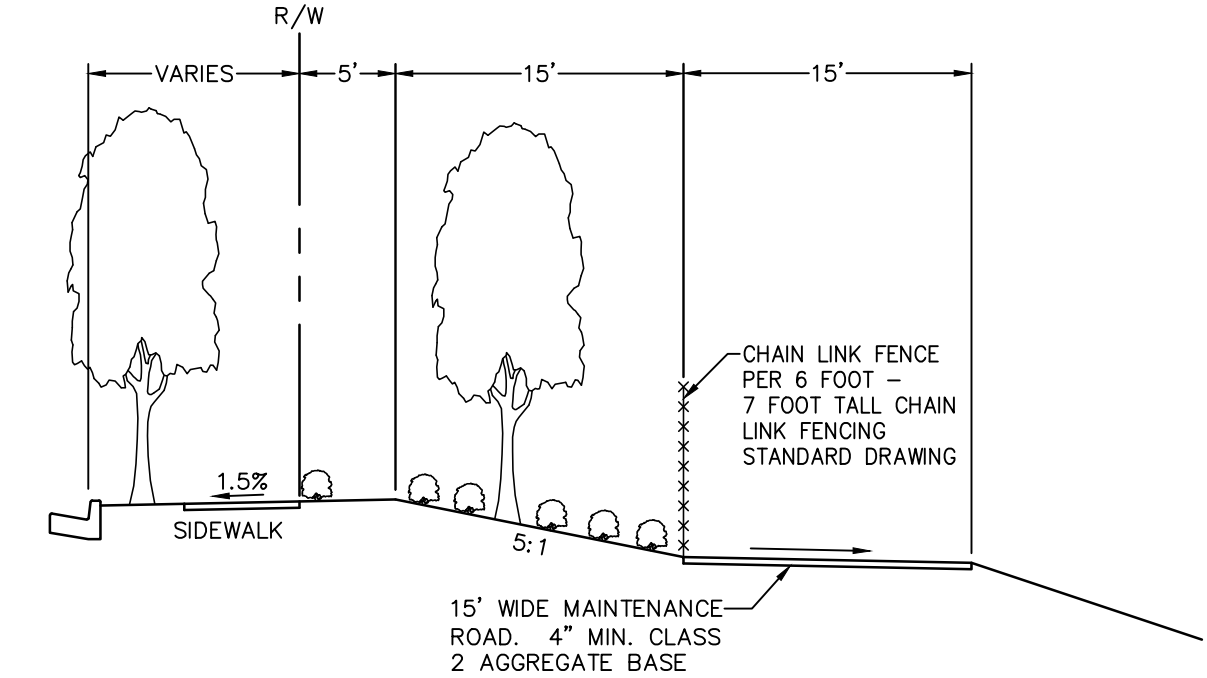
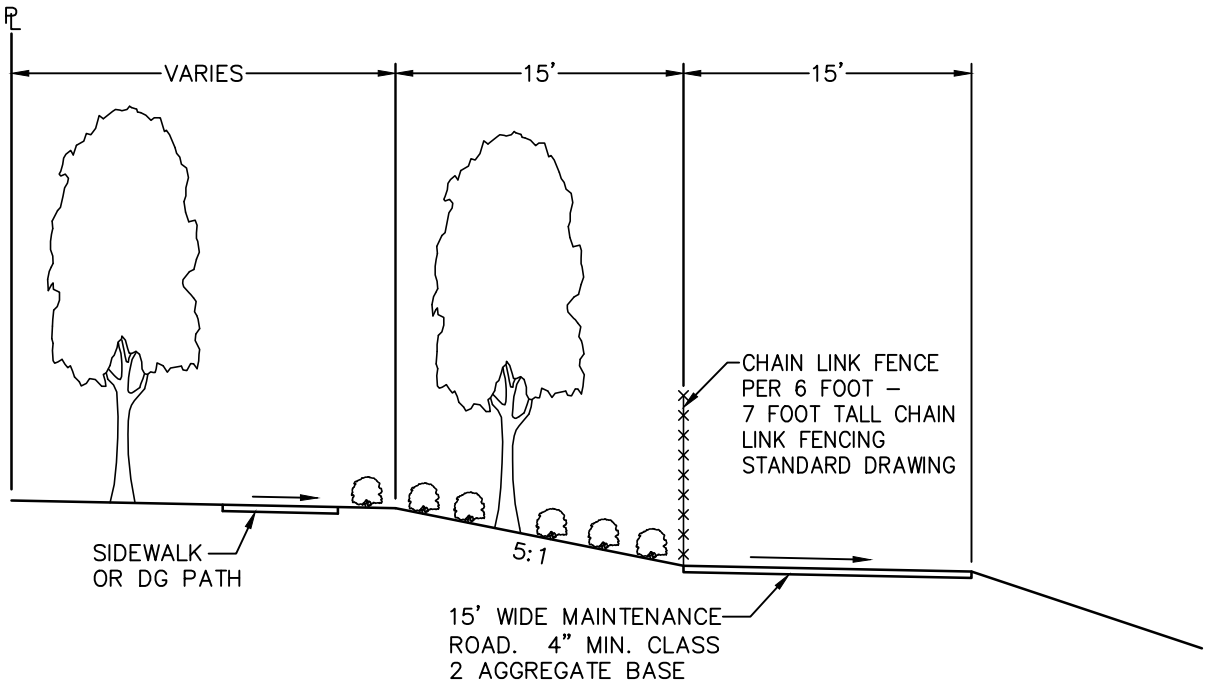
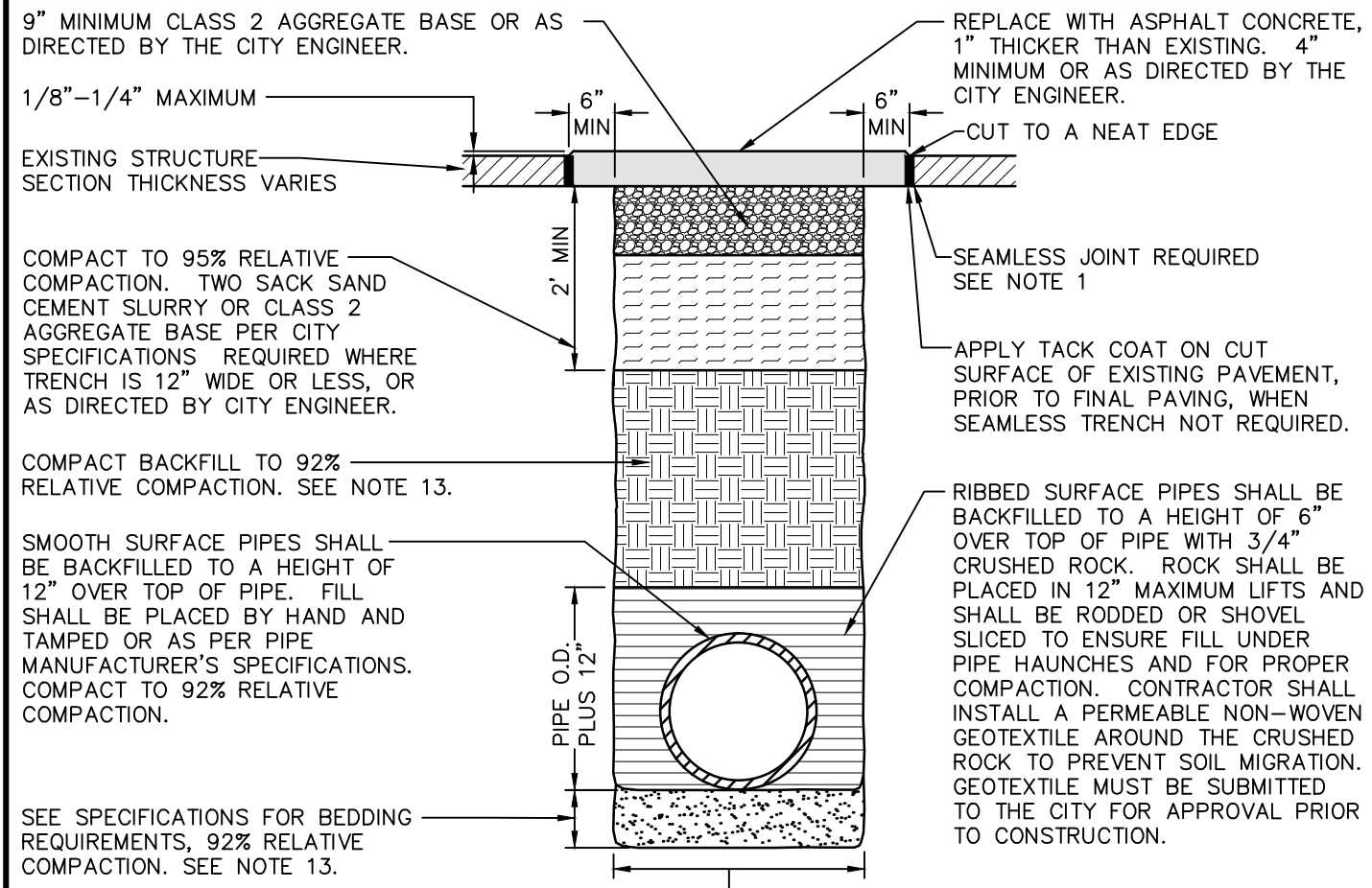




NOTES:

1. REFER TO CONCRETE IMPROVEMENT STANDARD DRAWINGS FOR SIDEWALK AND PARKWAY REQUIREMENTS.
2. DESIGN SHALL MINIMIZE EROSION.
3. SIDE SLOPE STABILIZATION AND HYDROSEEDING REQUIREMENTS PER CITY STANDARD SPECIFICATIONS OR AS DIRECTED BY THE CITY ENGINEER.

APPROVED BY: _____ CITY ENGINEER R.P.E. 81734 — 09/16/16 DATE	CITY OF VISALIA DESIGN & IMPROVEMENT STANDARDS
BASIN PERIMETER LANDSCAPING SECTION	REVISIONS 09/01/16 BK 2016 — D–42



NOTES:

1. ALL CUTS IN EXISTING PAVEMENT THAT IS LESS THAN EIGHT YEARS OLD OR AS DIRECTED BY THE CITY ENGINEER SHALL BE REQUIRED TO HAVE SEAMLESS JOINTS WITH THE EXISTING PAVEMENT BY USING A HEATER–REMIX PROCESS.
2. ALL WORKMANSHIP AND MATERIALS SHALL CONFORM TO THE REQUIREMENTS SET FORTH IN THE CITY OF VISALIA STANDARD SPECIFICATIONS.
3. ALL PROVISIONS AND REQUIREMENTS OF THE CITY OF VISALIA MUNICIPAL CODE SHALL BE FOLLOWED.
4. STREET CUTS SHALL BE MADE PARALLEL OR AT RIGHT ANGLES TO THE CENTERLINE OF THE STREET.
5. ALL TRENCHES UNDER EXISTING CURB AND GUTTER OR OTHER CITY STRUCTURES SHALL REQUIRE A TWO SACK CEMENT SLURRY BACKFILL. CEMENT SLURRY BACKFILL SHALL HAVE NOT LESS THAN 188 POUNDS OF CEMENT PER CUBIC YARD OF MATERIAL PRODUCED.
6. MANHOLE AND WATER VALVE RAISING ASSOCIATED WITH NEW STREET CONSTRUCTION IS NOT REQUIRED TO FOLLOW NOTE 1.
7. MOISTURE CONDITION AND MIX BACKFILL MATERIAL PRIOR TO PLACEMENT.
8. TEMPORARY TRENCH RESURFACING SHALL CONSIST OF A MINIMUM OF 2" COLD MIX AND SHALL BE REQUIRED WHENEVER THE STREET IS TEMPORARILY OPENED TO TRAFFIC. ALL TEMPORARY MATERIAL SHALL BE COMPLETELY REMOVED PRIOR TO FINAL PAVING.
9. TRENCH RESURFACING STRUCTURAL SECTION IN OTHER THAN PERMANENTLY PAVED OR UNPAVED AREAS SHALL BE DETERMINED BY THE CITY ENGINEER.
10. NO JETTING OR FLOODING OF TRENCH BACKFILL WILL BE ALLOWED. BACKFILL IS TO BE PLACED IN MAXIMUM 8" LOOSE LIFTS, THEN COMPACTED AS DIRECTED BY THE CITY ENGINEER.
11. FOR UTILITY POTHOLES WITH DIAMETER 9" OR LESS OR MAXIMUM DIMENSION IN ANY DIRECTION OF 9" OR LESS, OR WHERE DIRECTED BY THE ENGINEER, BACKFILL SHALL COMPLY WITH THE STANDARD CITY DRAWING FOR UTILITY POTHOLE BACKFILL.
12. IF THERE IS LESS THAN 2 FEET BETWEEN THE EDGE OF A TRENCH CUT AND A CONCRETE IMPROVEMENT, OR EDGE OF PAVING, THEN REMOVE AND REPLACE THE A.C. PAVEMENT FROM THE EDGE OF THE TRENCH CUT TO THE CONCRETE IMPROVEMENT, OR EDGE OF PAVING.
13. UNLESS OTHERWISE NOTED BACKFILL AND BEDDING SHALL BE CLEAN GRANULAR NATIVE MATERIAL PER CITY SPECIFICATIONS.

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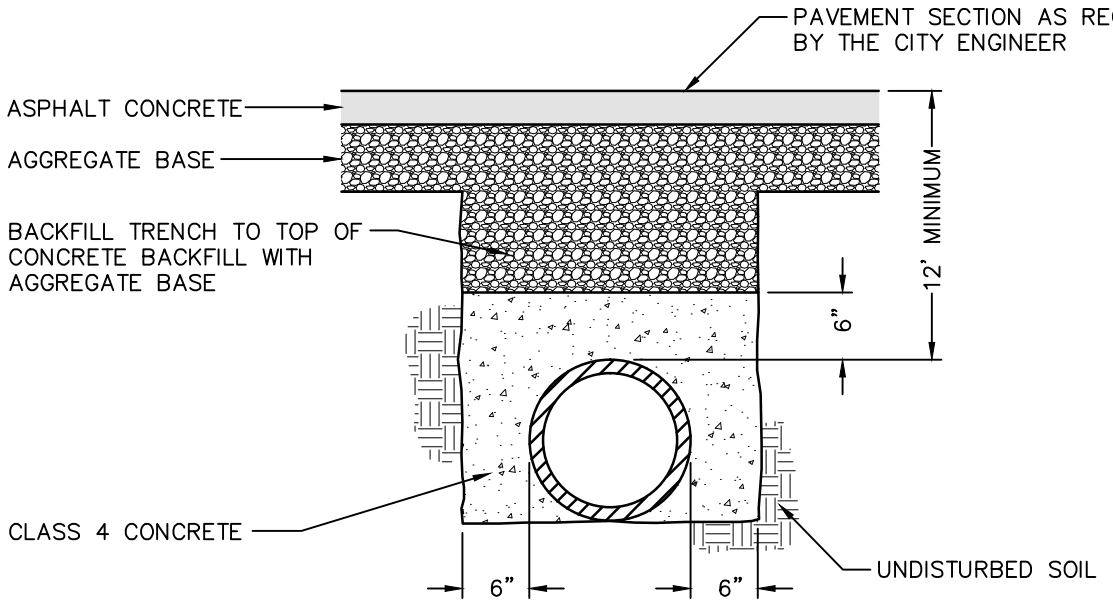
CITY ENGINEER R.P.E. 81734 DATE

CITY OF VISALIA
DESIGN & IMPROVEMENT STANDARDS

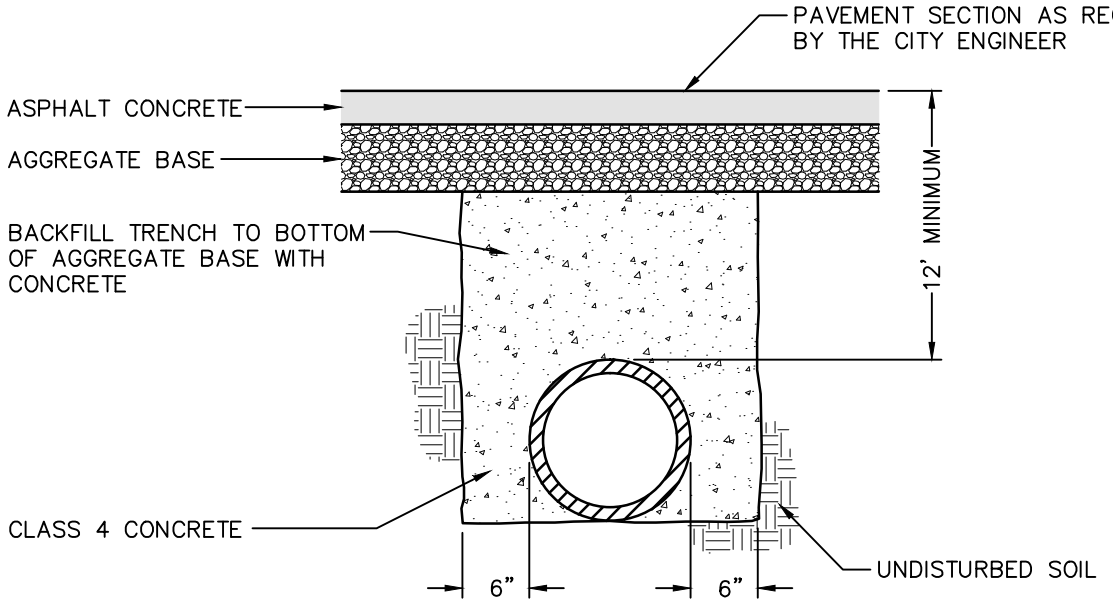
TRENCH BACKFILL/PATCH PAVING

REVISIONS
10/31/14
BK 2016

E–1



OPTION 1



OPTION 2

NOTES:

1. PIPE CONCRETE BACKFILL SHALL BE REQUIRED FOR ALL PIPE INSTALLED WITH LESS THAN 24" OF COVER OR AS DIRECTED BY THE CITY ENGINEER.
2. ALL CONCRETE BACKFILL SHALL BE CLASS 4 CONCRETE.
3. CONCRETE BACKFILL SHALL BE PLACED IN THE TRENCH AGAINST UNDISTURBED SOIL AND SHALL BE PLACED IN A MANNER THAT WILL PREVENT FLOATING OR SHIFTING OF THE PIPE.
4. FOREIGN MATERIAL WHICH FALLS INTO THE TRENCH DURING PLACEMENT OF THE CONCRETE SHALL BE IMMEDIATELY REMOVED.
5. NO MATERIAL SHALL BE PLACED ON TOP OF THE CONCRETE BACKFILL UNTIL 8 HOURS AFTER PLACING THE CONCRETE BACKFILL, AS DIRECTED BY THE CITY ENGINEER.
6. TRENCH SHALL BE BACKFILLED AND RE-SURFACED PER TRENCH BACKFILL/PATCH PAVING STANDARD DRAWING.

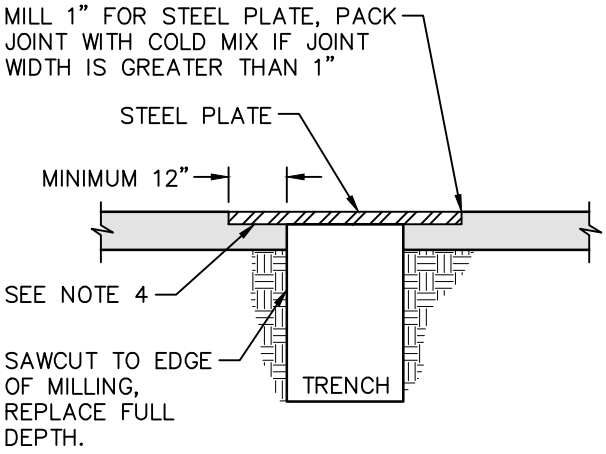
APPROVED BY: _____ 09/16/16
CITY ENGINEER R.P.E. 81734 DATE

CITY OF VISALIA
DESIGN & IMPROVEMENT STANDARDS

PIPE CONCRETE BACKFILL

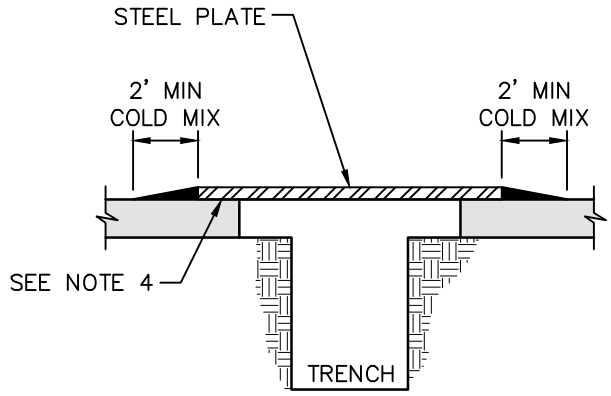
REVISIONS
06/14/13
BK 2016

E-2



TYPE "A" PLATING

CITY POSTED SPEEDS OF GREATER THAN 25 MPH OR BUS & TRUCK ROUTE



TYPE "B" PLATING

CITY POSTED SPEEDS OF 25 MPH AND UNDER

TRENCH WIDTH	MINIMUM PLATE THICKNESS
10" (0.25 M)	1/2" (13 MM)
1'–11" (0.58 M)	3/4" (19 MM)
2'–7" (0.80 M)	7/8" (22 MM)
3'–5" (1.04 M)	1" (25 MM)
5'–3" (1.60 M)	1 1/4" (32 MM)

NOTES:

1. WHEN BACKFILLING OPERATIONS CANNOT BE PROPERLY COMPLETED WITHIN A WORK DAY, STEEL PLATES SHALL BE INSTALLED USING EITHER TYPE "A" OR TYPE "B" PLATING METHODS, OR AS DIRECTED BY CITY ENGINEER. THE CONTRACTOR IS RESPONSIBLE FOR MAINTENANCE OF THE STEEL PLATES, SHORING OR BRACING OF THE TRENCH AND ENSURING THAT THEY MEET THE MINIMUM SPECIFICATIONS OF CALTRANS TR–0157.
2. USE OF STEEL PLATE BRIDGING SHOULD NOT EXCEED 4 CONSECUTIVE WORKING DAYS IN ANY GIVEN WEEK.
3. THE TRENCH SHALL BE ADEQUATELY SHORED OR BRACED TO SUPPORT THE STEEL PLATE BRIDGING AND TRAFFIC LOADS.
4. THE CONTRACTOR SHALL PROVIDE ADEQUATE OVERLAP OF PLATE ON ASPHALT TO ASSURE NO SLIPPAGE OF PLATE AND NO COLLAPSING OF TRENCH. PLATES SHALL BE PINNED TO THE PAVEMENT SURFACE, WITH A MINIMUM OF 2 DOWELS PRE–DRILLED INTO THE CORNERS OF THE PLATE AND DRILLED 2" INTO THE PAVEMENT, WITH A MINIMUM 1' OVERLAP ONTO EXISTING STABLE MATERIAL. WHEN STEEL PLATES ARE REMOVED, THE DOWEL HOLES IN THE PAVEMENT SHALL BE BACKFILLED WITH EITHER GRADED FINES OF ASPHALT CONCRETE MIX, CONCRETE SLURRY OR AN EQUIVALENT SLURRY THAT IS APPROVED BY CITY ENGINEER.
5. STEEL PLATES USED IN THE TRAVELED PORTION OF THE RIGHT OF WAY SHALL HAVE A SURFACE THAT WAS MANUFACTURED WITH A NOMINAL COEFFICIENT OF FRICTION (COF) OF 0.35 AS DETERMINED BY CALIFORNIA TEST METHOD 342, OR AS APPROVED BY CITY ENGINEER. SURFACING REQUIREMENTS ARE NOT NECESSARY FOR STEEL PLATES USED IN PARKING STRIPS, ON SHOULDERS NOT USED FOR TURNING MOVEMENTS, OR ON CONNECTING DRIVEWAYS, ETC. NOT OPEN TO THE PUBLIC. FOR SPANS GREATER THAN 5'–3", A STRUCTURAL DESIGN SHALL BE PREPARED BY A CALIFORNIA REGISTERED CIVIL ENGINEER.
6. ALL STEEL PLATES WITHIN THE RIGHT OF WAY, WHETHER USED IN OR OUT OF THE TRAVELED WAY, SHALL BE WITHOUT DEFORMATION.
7. A ROUGH ROAD SIGN (W8–8) WITH BLACK LETTERING ON AN ORANGE BACKGROUND SHALL BE USED IN ADVANCE OF STEEL PLATES IN ADDITION TO ANY OTHER REQUIRED CONSTRUCTION SIGNING.
8. "POSTED SPEED" DOES NOT INCLUDE TEMPORARY CONSTRUCTION SIGNING.

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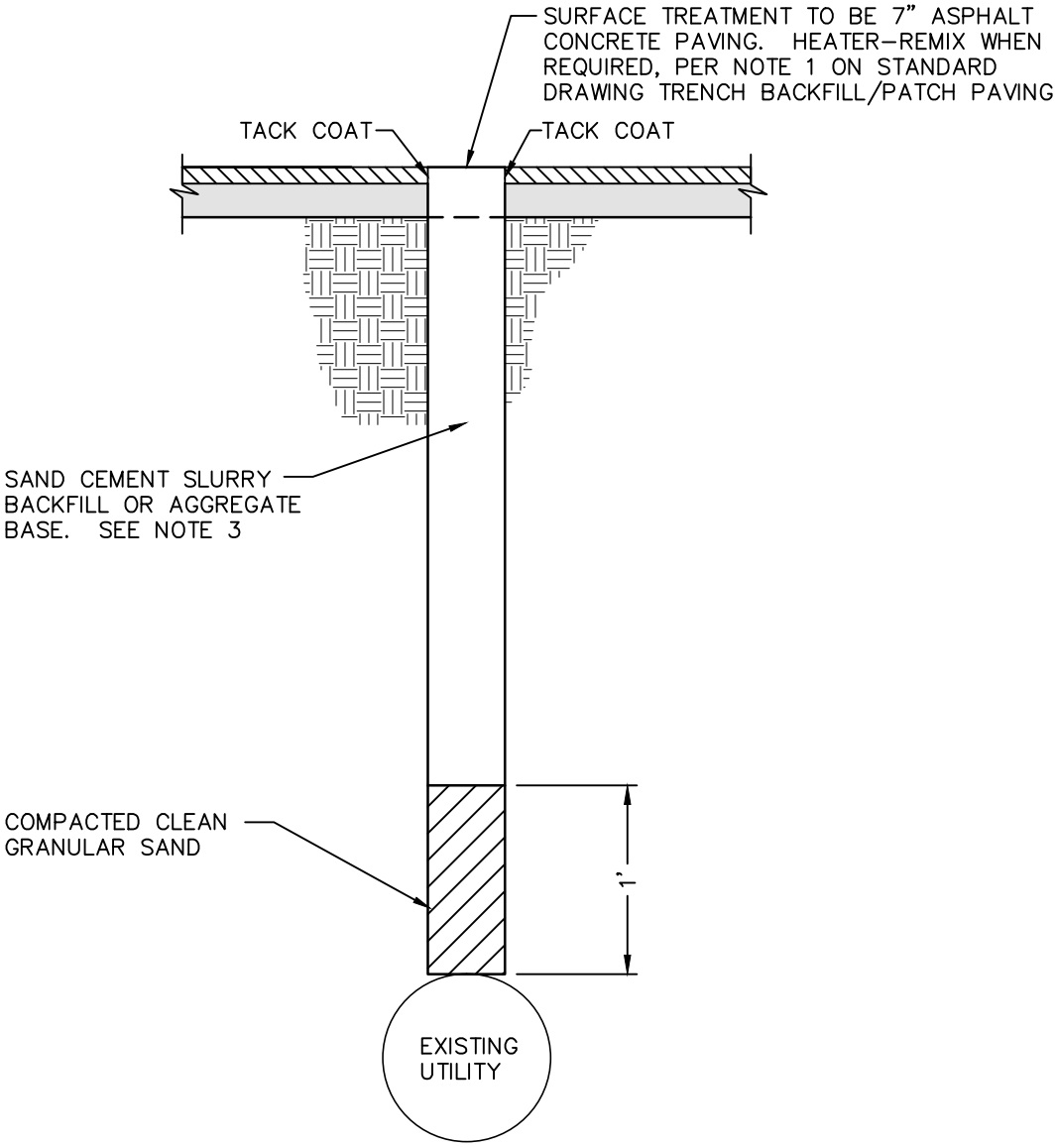
CITY OF VISALIA
DESIGN & IMPROVEMENT STANDARDS

TRENCH PLATE DETAILS

REVISIONS
06/14/13
BK 2016

E–3



NOTES:

1. THIS BACKFILL METHOD IS REQUIRED FOR UTILITY POTHOLES 9" DIAMETER OR LESS, OR MAXIMUM DIMENSION IN ANY DIRECTION OF 9" OR LESS, OR ANY POTHOLE DIRECTED BY THE ENGINEER TO BE BACKFILLED BY THIS METHOD.

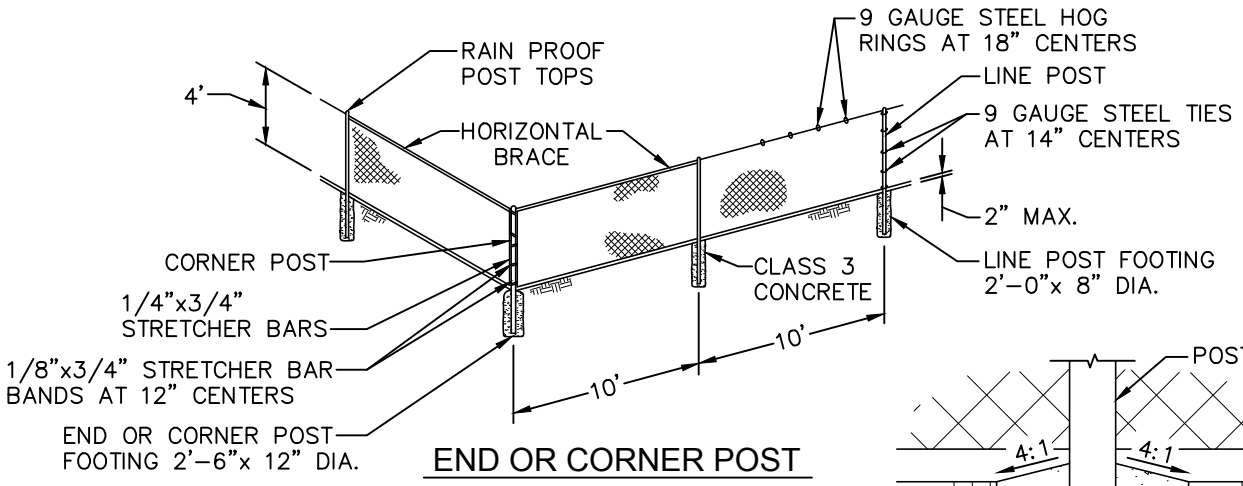
2. POTHOLES WITH DIMENSIONS GREATER THAN 9" SHALL BE BACKFILLED PER STANDARD DRAWING TRENCH BACKFILL/PATCH PAVING.

3. TWO SACK SAND CEMENT SLURRY BACKFILL OR CLASS 2 AGGREGATE BASE COMPACTED PER STANDARD DRAWING TRENCH BACKFILL/PATCH PAVING, SHALL CONFORM TO THE CITY OF VISALIA STANDARD SPECIFICATIONS.

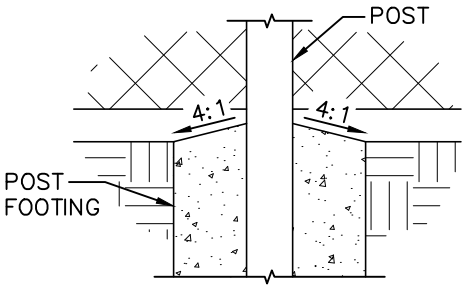
4. TEMPORARY TRENCH SURFACING SHALL CONSIST OF A MINIMUM OF 2" COLD MIX AND SHALL BE REQUIRED WHENEVER THE STREET IS TEMPORARILY OPENED TO TRAFFIC. ALL TEMPORARY MATERIAL SHALL BE COMPLETELY REMOVED PRIOR TO FINAL PAVING.

5. WHEN 3 OR MORE POTHOLES HAPPEN WITHIN 12 LINEAR FEET ON A SINGLE TRAVEL LANE, THE CONTRACTOR SHALL MILL AND REPLACE THE ASPHALT CONCRETE SECTION.

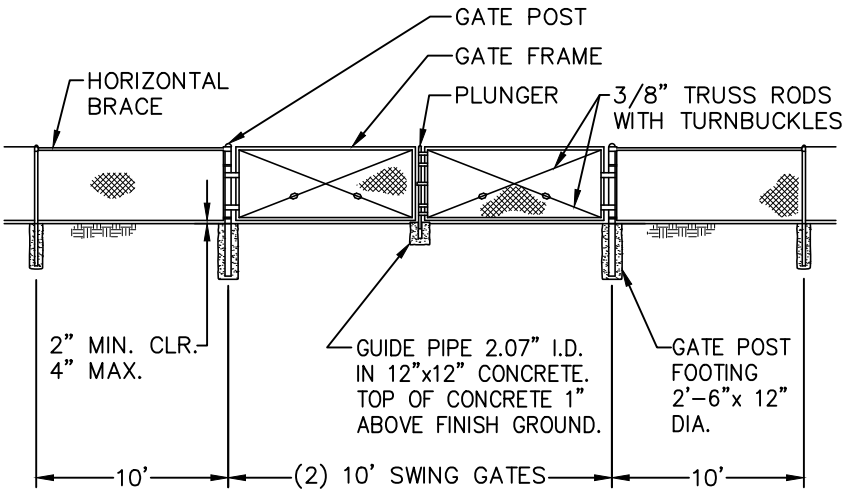
APPROVED BY: _____ CITY ENGINEER R.P.E. 81734 — 09/16/16 DATE	CITY OF VISALIA DESIGN & IMPROVEMENT STANDARDS
UTILITY POTHOLE BACKFILL	REVISIONS 06/14/13 BK 2016 — E-4



END OR CORNER POST



POST FOOTING DETAIL



GATE

POST AND BRACE SIZE REQUIREMENTS

DESCRIPTION	MIN. SIZE	MIN. WEIGHT LBS./FT.
END, LATCH OR CORNER POSTS	2.375"	3.65
LINE POSTS	1.900"	2.72
BRACES	1.660"	2.27
GATE POSTS	4.500"	10.80
GATE FRAMES	1.900"	2.72
GATE PLUNGER	1.600"	2.27

NOTES:

1. POSTS, BRACES AND GATE FRAMES SHALL BE COMMERCIAL QUALITY, OR BETTER, WELDABLE STEEL.
2. POST TOPS, STRETCHER BARS AND OTHER REQUIRED FITTINGS AND HARDWARE SHALL BE STEEL OR MALLEABLE IRON OR WROUGHT IRON.
3. CHAIN LINK FABRIC SHALL BE 9 GAUGE WIRE WOVEN INTO APPROXIMATELY 2" MESH. FABRIC SHALL HAVE A KNUCKLE BOTTOM AND TWISTED TOP.
4. LINE POSTS SHALL BE A MINIMUM OF 6'-0" LONG. GATE, END AND CORNER POSTS SHALL BE A MINIMUM OF 6'-6" LONG.
5. GATE FRAMES SHALL BE CROSSED TRUSSED WITH 3/8" ADJUSTABLE TRUSS RODS. THE CORNERS OF GATE FRAMES SHALL BE FASTENED TOGETHER WITH A MALLEABLE IRON FITTING OR WELDED AND GALVANIZE COATED OVER WELDS.
6. GATES SHALL BE HUNG BY AT LEAST TWO STEEL OR MALLEABLE IRON HINGES NOT LESS THAN THREE INCHES IN WIDTH AND SHALL HAVE A MALLEABLE CATCH AND LOCKING ATTACHMENT.
7. ALL CHAIN LINK FENCE MATERIAL SHALL BE GALVANIZED.
8. CHAIN LINK FENCING FOR SCREENING MAY BE REQUIRED BY THE CITY ENGINEER.
9. VINYL COATING MAY BE REQUIRED BY THE CITY ENGINEER.
10. NARROWER GATE SIZES SHALL BE SUBJECT TO APPROVAL BY THE CITY ENGINEER.

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CITY OF VISALIA
DESIGN & IMPROVEMENT STANDARDS

4 FOOT TALL CHAIN LINK FENCING

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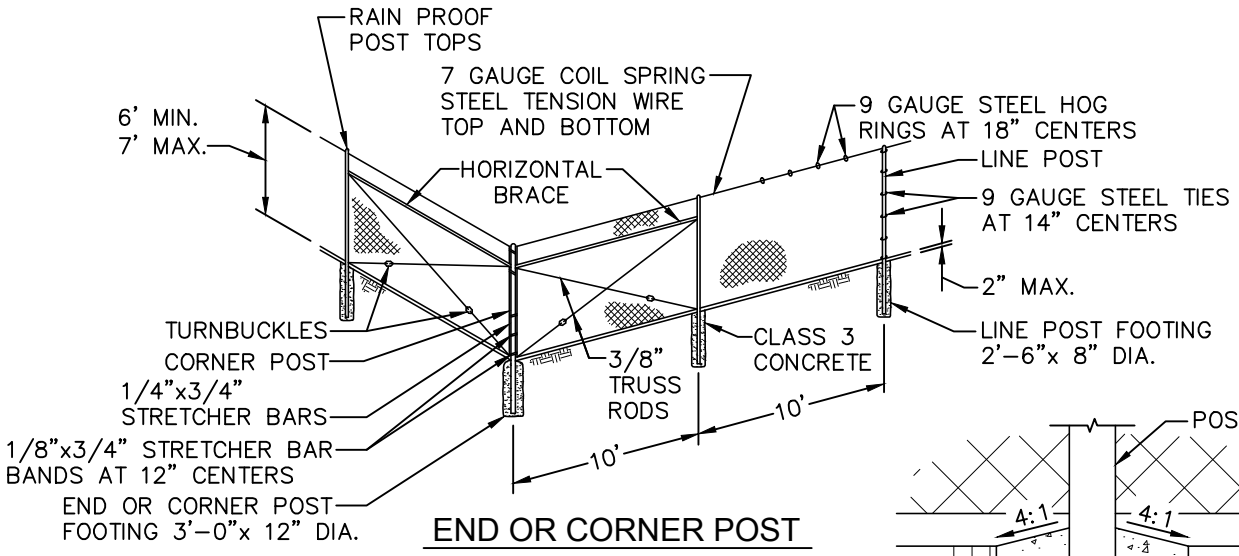
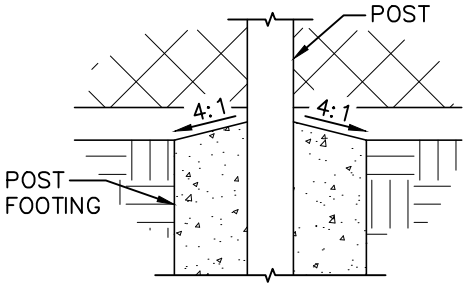
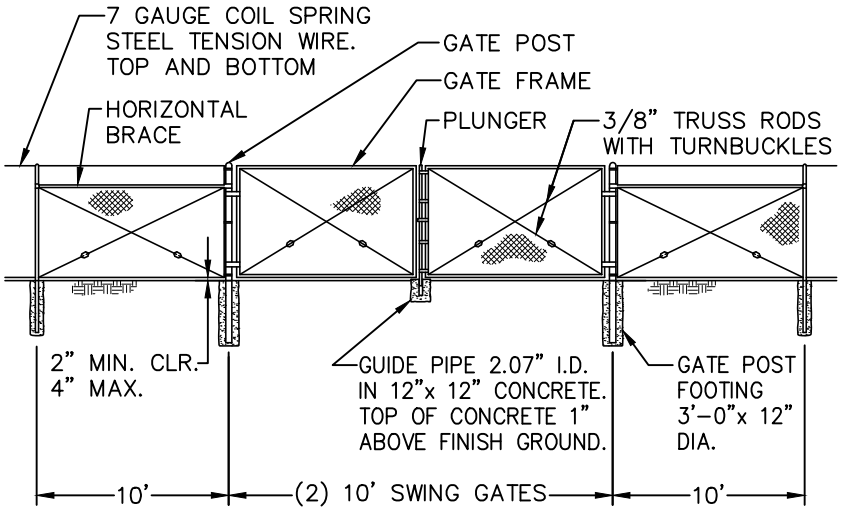


END OR CORNER POST



POST FOOTING DETAIL



GATE

POST AND BRACE SIZE REQUIREMENTS

DESCRIPTION	MIN. SIZE	MIN. WEIGHT LBS./FT.
END, LATCH OR CORNER POSTS	2.875"	5.80
LINE POSTS	2.375"	3.65
BRACES	1.660"	2.27
GATE POSTS	5.563"	14.63
GATE FRAMES	1.900"	2.72
GATE PLUNGER	1.600"	2.27

NOTES:

1. POSTS, BRACES AND GATE FRAMES SHALL BE COMMERCIAL QUALITY, OR BETTER, WELDABLE STEEL.
2. POST TOPS, STRETCHER BARS AND OTHER REQUIRED FITTINGS AND HARDWARE SHALL BE STEEL OR MALLEABLE IRON OR WROUGHT IRON.
3. CHAIN LINK FABRIC SHALL BE 9 GAUGE WIRE WOVEN INTO APPROXIMATELY 2" MESH. FABRIC SHALL HAVE A KNUCKLE BOTTOM AND TWISTED TOP.
4. FOR A 6' TALL FENCE, LINE POSTS SHALL BE A MINIMUM OF 8'-6" LONG. GATE, END AND CORNER POSTS SHALL BE A MINIMUM OF 9'-0" LONG.
5. END, CORNER, GATE AND LATCH POSTS SHALL BE BRACED TO THE NEAREST LINE POST WITH HORIZONTAL OR DIAGONAL BRACES USED AS COMPRESSION MEMBERS AND 3/8" STEEL TRUSS RODS WITH TURNBUCKLES USED AS TENSION MEMBERS.
6. GATE FRAMES SHALL BE CROSSED TRUSSED WITH 3/8" ADJUSTABLE TRUSS RODS. THE CORNERS OF GATE FRAMES SHALL BE FASTENED TOGETHER WITH A MALLEABLE IRON FITTING OR WELDED AND GALVANIZE COATED OVER WELDS.
7. GATES SHALL BE HUNG BY AT LEAST TWO STEEL OR MALLEABLE IRON HINGES NOT LESS THAN THREE INCHES IN WIDTH AND SHALL HAVE A MALLEABLE CATCH AND LOCKING ATTACHMENT.
8. ALL CHAIN LINK FENCE MATERIAL SHALL BE GALVANIZED.
9. CHAIN LINK FENCING FOR SCREENING MAY BE REQUIRED BY THE CITY ENGINEER.
10. VINYL COATING MAY BE REQUIRED BY THE CITY ENGINEER.
11. NARROWER GATE SIZES SHALL BE SUBJECT TO APPROVAL BY THE CITY ENGINEER.
12. 7' TALL FENCES MAY BE REQUIRED BY CITY ENGINEER. FOR A 7' TALL FENCE, LINE POSTS SHALL BE A MINIMUM OF 9'-6" LONG. GATE, END AND CORNER POSTS SHALL BE A MINIMUM OF 10'-0' LONG.

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CITY ENGINEER R.P.E. 81734 DATE

CITY OF VISALIA
DESIGN & IMPROVEMENT STANDARDS

6 FOOT – 7 FOOT TALL CHAIN LINK FENCING

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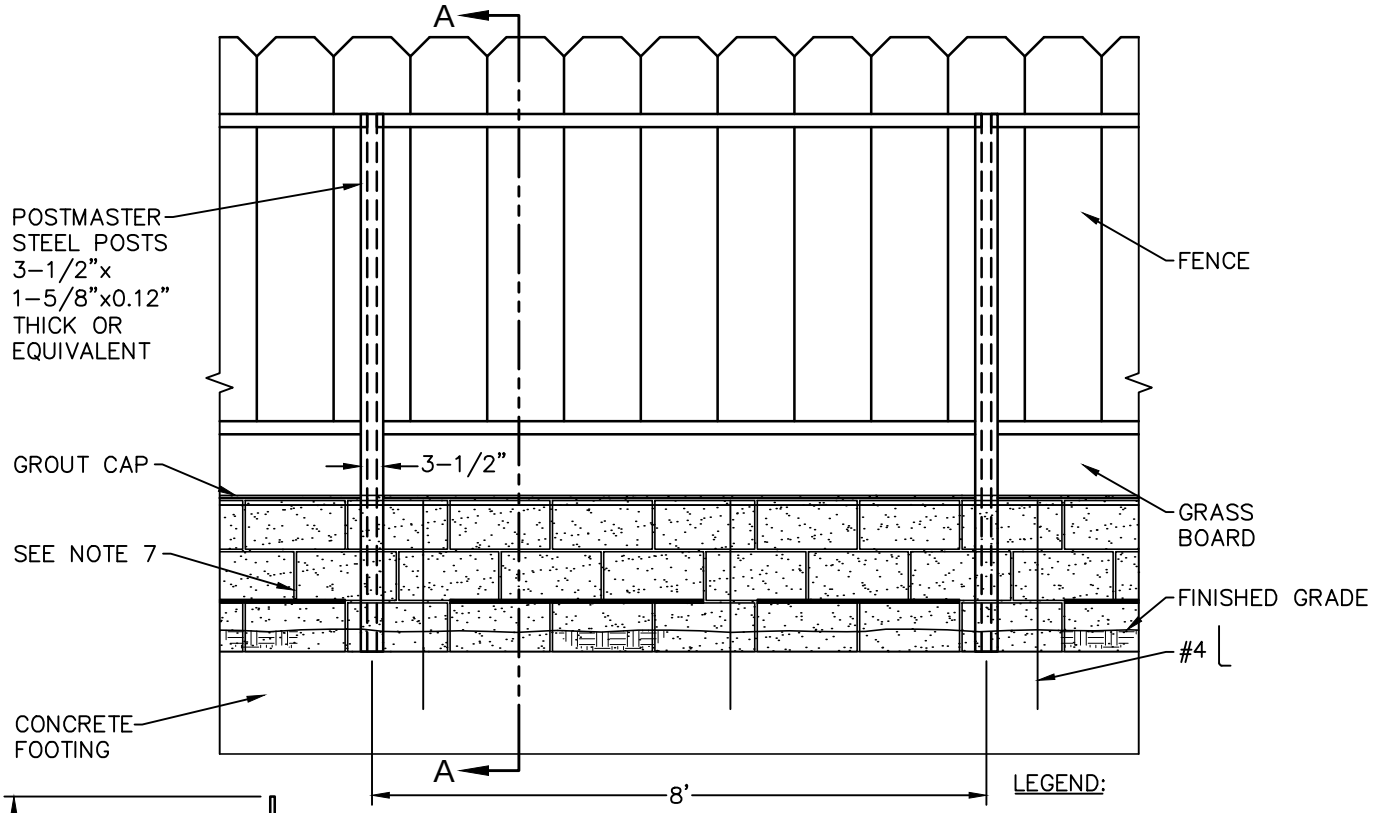

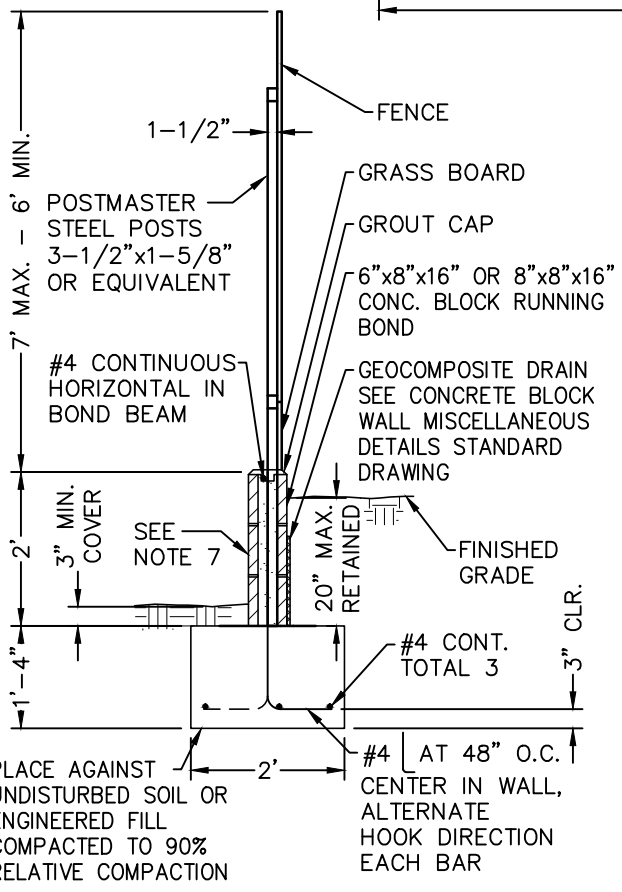

SECTION A-A

LEGEND:

GROUT FILLED CELLS

NOTES:

1. ALL MASONRY SHALL COMPLY WITH THE CURRENT EDITION OF THE CALIFORNIA BUILDING CODE.
2. FOOTING CONCRETE SHALL BE CLASS 3, PRE–MIXED. 28–DAY COMPRESSIVE STRENGTH = 2500 psi MIN.
3. CONCRETE MASONRY UNITS SHALL COMPLY WITH ASTM C90.
4. MASONRY DESIGN IS BASED ON MINIMUM COMPRESSIVE STRENGTH OF f'_m = 1500 psi.
5. REINFORCING BARS SHALL BE ASTM A615 GRADE 40 DEFORMED STEEL AND SHALL BE CLEAN OF DIRT AND RUST BEFORE PLACEMENT.
6. MORTAR SHALL BE TYPE 'S' AND CONFORM TO ASTM C270.
7. OMIT MORTAR FROM VERTICAL JOINT IN FIRST COURSE ABOVE FINISHED GRADE AT 32" CENTERS FOR WEEP HOLES. FILL ALL CELLS WITH GROUT.
8. GROUT SHALL CONFORM TO THE REQUIREMENTS OF ASTM C476. ADMIXTURES FOR GROUT MUST BE APPROVED BY THE ENGINEER. FIELD ADDITION OF ADMIXTURES IS NOT PERMITTED IN SELF–CONSOLIDATING GROUT.
9. GROUT REINFORCED CELLS ONLY, UNLESS NOTED OTHERWISE.
10. WALL THICKNESS SHALL BE EITHER 6" OR 8", UNLESS NOTED OTHERWISE.
11. WALL SHALL BE CENTERED ON PROPERTY LINE WHEN LOCATED BACK TO BACK OF PRIVATE RESIDENTIAL LOTS. WALL SHOULD BE FULLY WITHIN PRIVATE PROPERTY WHEN USED ADJACENT TO R/W OR L&LD LOT.
12. CONTRACTOR SUBMITTALS SHALL CONFORM TO ARTICLE 1.5 OF TMS 602/ACI 530.1/ASCE 6
13. QUALITY ASSURANCE SHALL CONFORM TO LEVEL 'B' QUALITY ASSURANCE PER ARTICLE 1.6 OF TMS 602/ACI 530.1/ ASCE 6. PERIODIC SPECIAL INSPECTION REQUIRED.
14. PLACE EXPANSION JOINT IN CONCRETE BLOCK WALL AT 96'–0" O.C. MAX., SEE CONCRETE BLOCK WALL MISCELLANEOUS DETAILS STANDARD DRAWING.

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CITY ENGINEER R.P.E. 81734 DATE

CITY OF VISALIA
DESIGN & IMPROVEMENT STANDARDS

2 FOOT CONCRETE BLOCK WALL WITH WOOD FENCE

REVISIONS
07/19/16
BK 2016

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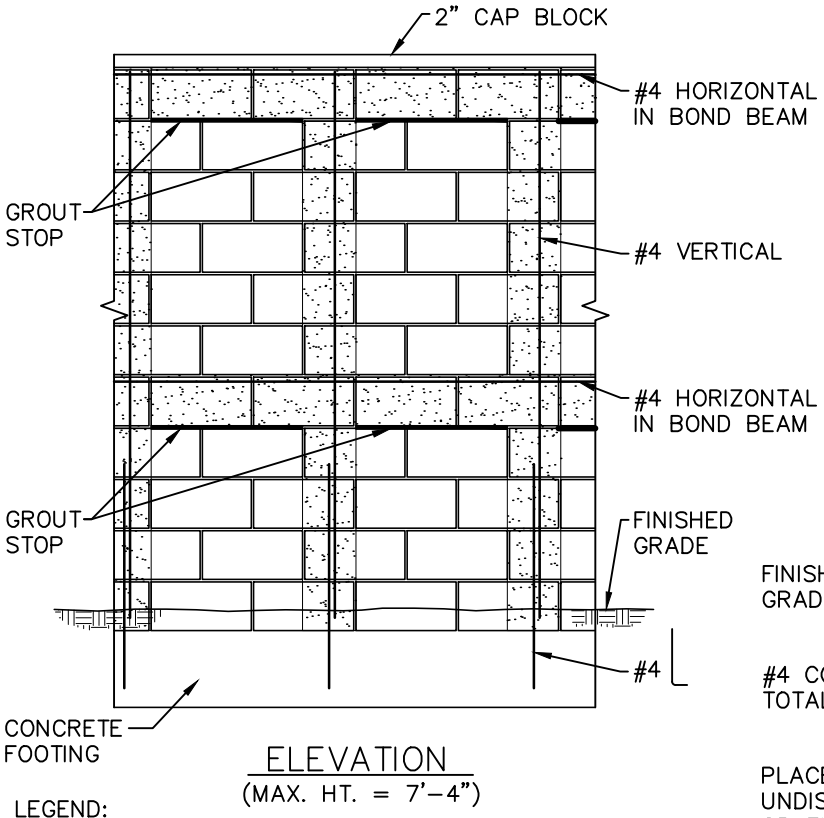
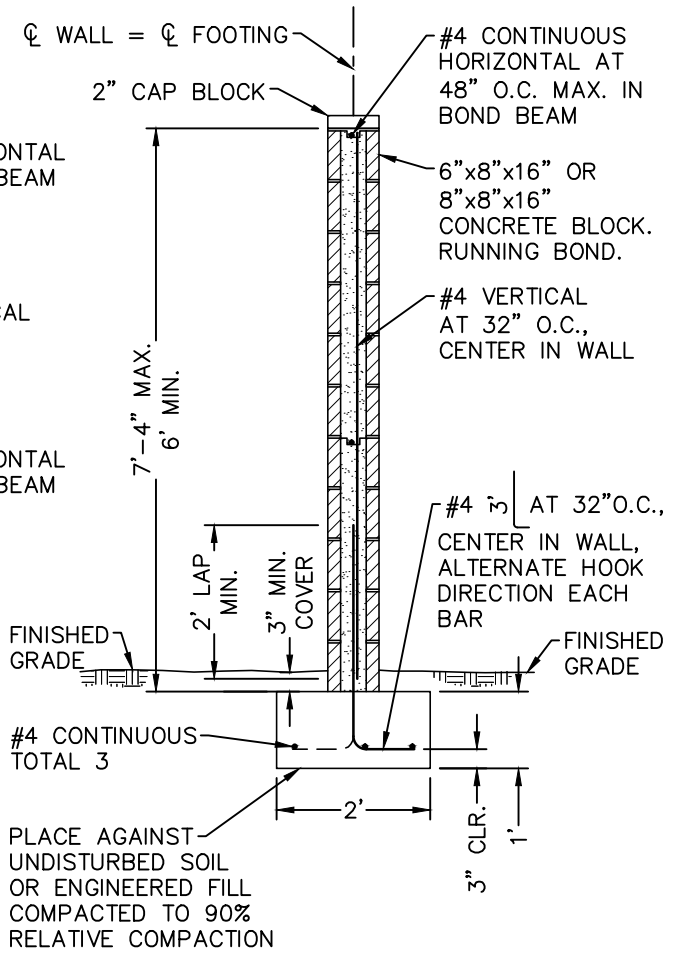


ELEVATION
(MAX. HT. = 7'-4")



LEGEND:

GROUT FILLED CELLS

NOTES:

1. ALL MASONRY SHALL COMPLY WITH THE CURRENT EDITION OF THE CALIFORNIA BUILDING CODE.
2. FOOTING CONCRETE SHALL BE CLASS 3, PRE-MIXED. 28-DAY COMPRESSIVE STRENGTH = 2500 psi MIN.
3. CONCRETE MASONRY UNITS SHALL COMPLY WITH ASTM C90.
4. MASONRY DESIGN IS BASED ON MINIMUM COMPRESSIVE STRENGTH OF f'_m = 1500 psi.
5. REINFORCING BARS SHALL BE ASTM A615 GRADE 40 DEFORMED STEEL AND SHALL BE CLEAN OF DIRT AND RUST BEFORE PLACEMENT.
6. MORTAR SHALL BE TYPE 'S' AND CONFORM TO ASTM C270.
7. GROUT SHALL CONFORM TO THE REQUIREMENTS OF ASTM C476. ADMIXTURES FOR GROUT MUST BE APPROVED BY THE ENGINEER. FIELD ADDITION OF ADMIXTURES IS NOT PERMITTED IN SELF-CONSOLIDATING GROUT.
8. GROUT REINFORCED CELLS ONLY, UNLESS NOTED OTHERWISE.
9. GROUT STOP SHALL CONSIST OF METAL OR PLASTIC LATH APPROVED BY THE MANUFACTURER TO CREATE A BARRIER THAT STOPS THE FLOW OF GROUT WHEN FILLING BLOCK WALL CELLS.
10. WALL THICKNESS SHALL BE EITHER 6" OR 8", UNLESS NOTED OTHERWISE.
11. FINISHED GRADE ELEVATION DIFFERENCE ON OPPOSITE SIDES OF THE WALL SHALL BE 6" MAXIMUM.
12. BLOCK WALL SHALL HAVE PILASTERS OR A JOG IN PLAN EVERY 200 FT MIN. VENEERS OR OTHER ARCHITECTURAL FEATURES RECOMMENDED. LOAD ALLOWANCE FOR ARCHITECTURAL TREATMENT IS 90 plf.
13. CONTRACTOR SUBMITTALS SHALL CONFORM TO ARTICLE 1.5 OF TMS 602/ACI 530.1/ASCE 6
14. QUALITY ASSURANCE SHALL CONFORM TO LEVEL 'B' QUALITY ASSURANCE PER ARTICLE 1.6 OF TMS 602/ACI 530.1/ASCE 6. PERIODIC SPECIAL INSPECTION REQUIRED. CONTRACTOR SHALL CONTACT THE CITY FOR INSPECTIONS.
15. PLACE EXPANSION JOINT AT 96'-0" O.C. MAX., SEE CONCRETE BLOCK WALL MISCELLANEOUS DETAILS STANDARD DRAWING.
16. FOR ALTERNATE FOOTINGS, SEE CONCRETE BLOCK WALL ALTERNATE FOOTINGS STANDARD DRAWING.
17. INTERLOCKING BLOCKS ARE AN ACCEPTABLE ALTERNATIVE.
18. WHEN WALL IS BETWEEN PRIVATE PROPERTY AND L&LD LOT, THE WALL STEM SHALL BE FULLY WITHIN THE L&LD LOT WITH THE FACE OF THE WALL AT PROPERTY LINE. BLOCK WALL FOOTING EASEMENT WILL BE REQUIRED FOR PORTION OF FOOTING EXTENDING INTO PRIVATE PROPERTY.

APPROVED BY: _____ 09/16/16
CITY ENGINEER R.P.E. 81734 DATE

CITY OF VISALIA
DESIGN & IMPROVEMENT STANDARDS

CONCRETE BLOCK WALL DETAIL

REVISIONS
07/19/16
BK 2016

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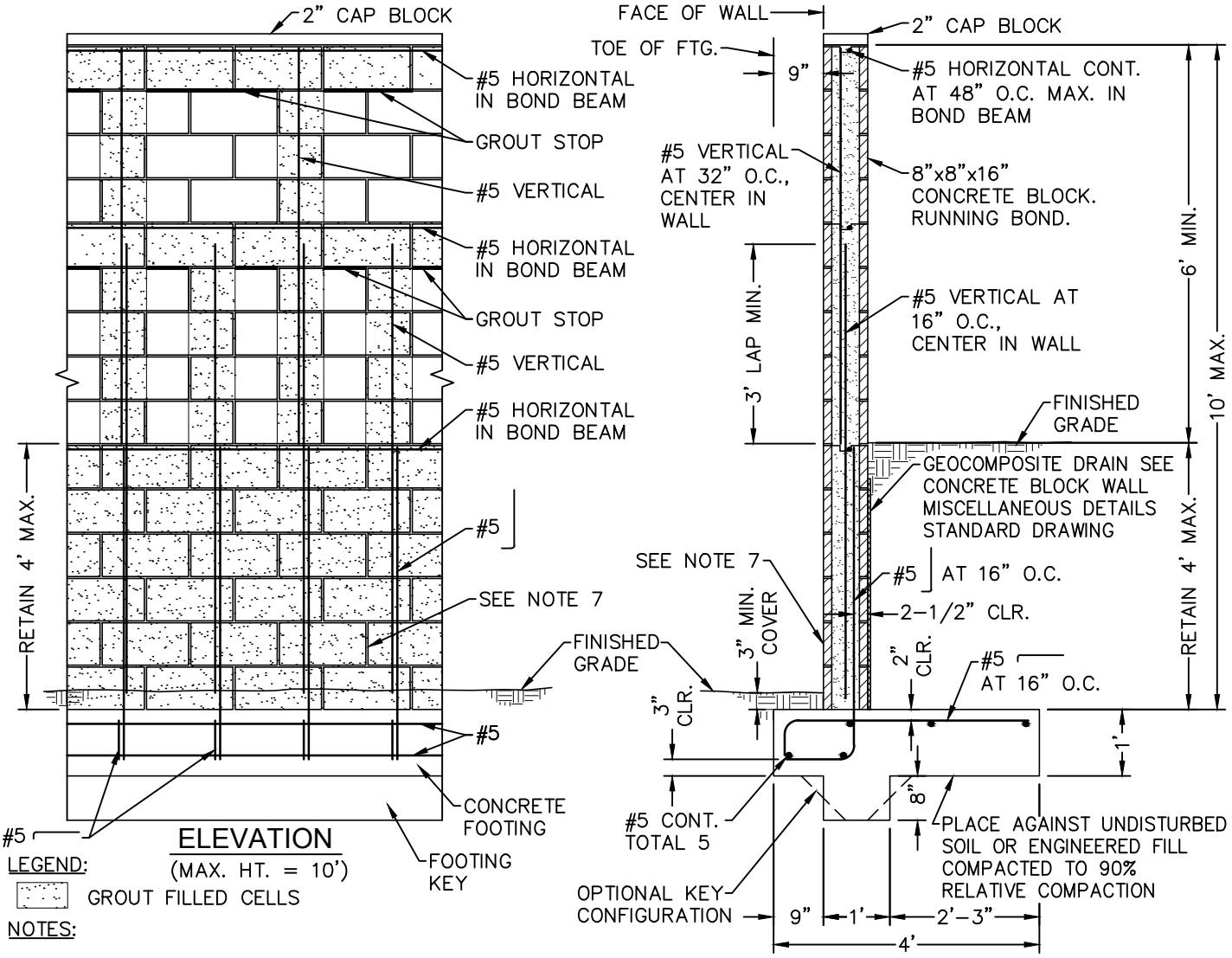

NOTES:

1. ALL MASONRY SHALL COMPLY WITH THE CURRENT EDITION OF THE CALIFORNIA BUILDING CODE.
2. FOOTING CONCRETE SHALL BE CLASS 3, PRE-MIXED. 28-DAY COMPRESSIVE STRENGTH = 2500 psi MIN.
3. CONCRETE MASONRY UNITS SHALL COMPLY WITH ASTM C90.
4. MASONRY DESIGN IS BASED ON MINIMUM COMPRESSIVE STRENGTH OF f'_m = 1500 psi.
5. REINFORCING BARS SHALL BE ASTM A615 GRADE 40 DEFORMED STEEL AND SHALL BE CLEAN OF DIRT AND RUST BEFORE PLACEMENT.
6. MORTAR SHALL BE TYPE 'S' AND CONFORM TO ASTM C270.
7. OMIT MORTAR FROM VERTICAL JOINT IN FIRST COURSE ABOVE FINISHED GRADE AT 32" CENTERS FOR WEEP HOLES. FILL ALL CELLS WITH GROUT.
8. GROUT SHALL CONFORM TO THE REQUIREMENTS OF ASTM C476. ADMIXTURES FOR GROUT MUST BE APPROVED BY THE ENGINEER. FIELD ADDITION OF ADMIXTURES IS NOT PERMITTED IN SELF-CONSOLIDATING GROUT.
9. GROUT REINFORCED CELLS ONLY, UNLESS NOTED OTHERWISE.
10. GROUT STOP SHALL CONSIST OF METAL OR PLASTIC LATH APPROVED BY THE MANUFACTURER TO CREATE A BARRIER THAT STOPS THE FLOW OF GROUT WHEN FILLING BLOCK WALL CELLS.
11. BLOCK WALL SHALL HAVE PILASTERS OR A JOG IN PLAN EVERY 200 FT MIN. VENEERS OR OTHER ARCHITECTURAL FEATURES RECOMMENDED. LOAD ALLOWANCE FOR ARCHITECTURAL TREATMENT IS 90 plf.
12. CONTRACTOR SUBMITTALS SHALL CONFORM TO ARTICLE 1.5 OF TMS 602/ACI 530.1/ASCE 6
13. QUALITY ASSURANCE SHALL CONFORM TO LEVEL 'B' QUALITY ASSURANCE PER ARTICLE 1.6 OF TMS 602/ACI 530.1/ASCE 6. PERIODIC SPECIAL INSPECTION REQUIRED. CONTRACTOR SHALL CONTACT THE CITY FOR INSPECTIONS.
14. PLACE EXPANSION JOINT AT 96'-0"O.C. MAX., SEE CONCRETE BLOCK WALL MISCELLANEOUS DETAILS STANDARD DRAWING.
15. INTERLOCKING BLOCKS ARE AN ACCEPTABLE ALTERNATIVE.
16. WHEN WALL IS BETWEEN PRIVATE PROPERTY AND L&LD LOT, THE WALL STEM SHALL BE FULLY WITHIN THE L&LD LOT WITH THE FACE OF THE WALL AT PROPERTY LINE. BLOCK WALL FOOTING EASEMENT WILL BE REQUIRED FOR PORTION OF FOOTING EXTENDING INTO PRIVATE PROPERTY.

APPROVED BY: _____ 09/16/16
CITY ENGINEER R.P.E. 81734 DATE

CITY OF VISALIA
DESIGN & IMPROVEMENT STANDARDS

CONCRETE BLOCK RETAINING WALL DETAIL

REVISIONS
08/01/16
BK 2016

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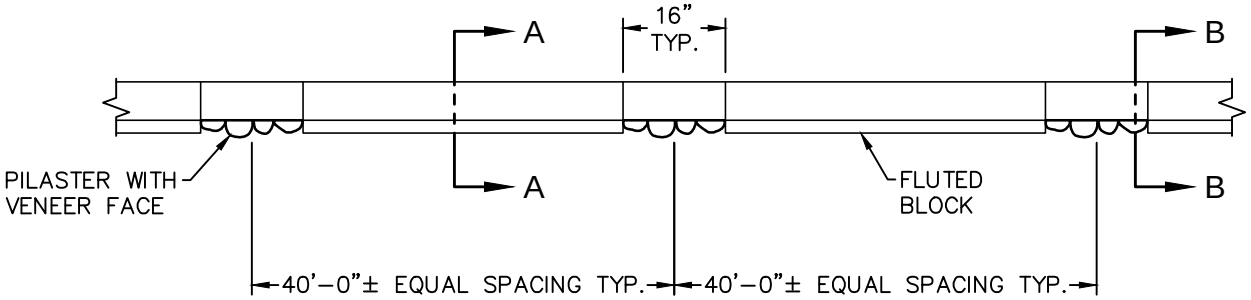
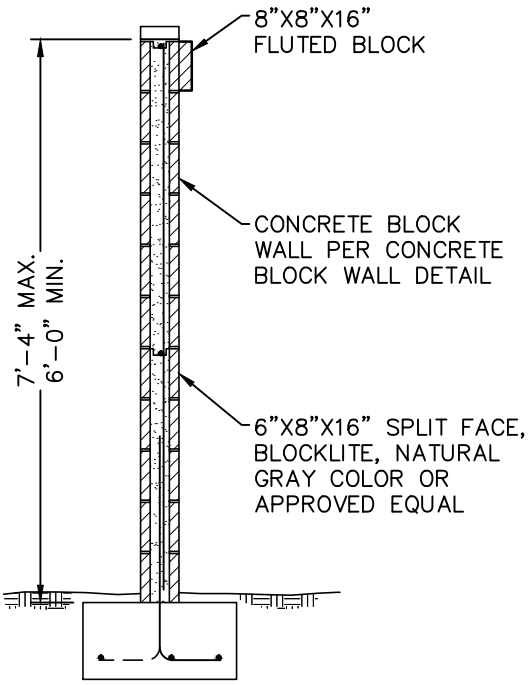
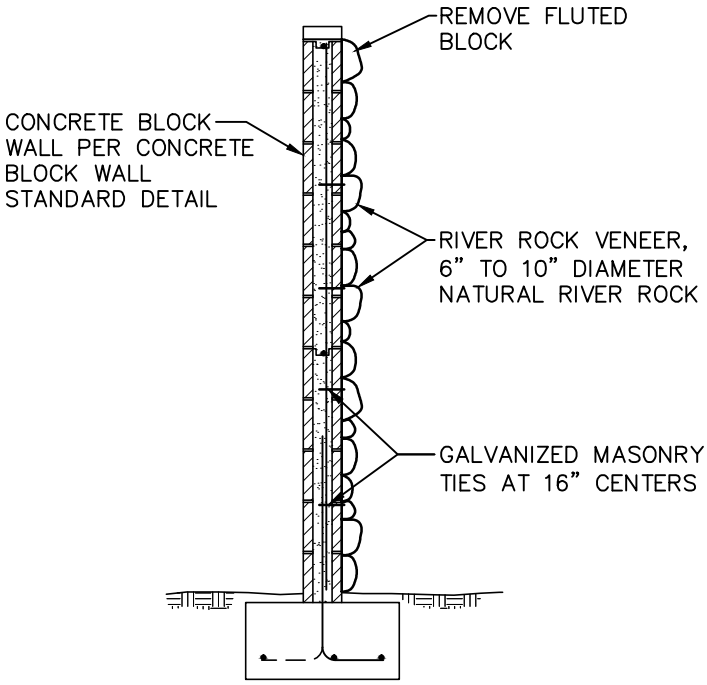




SECTION A-A



SECTION B-B

NOTES:

1. CONSTRUCTION REQUIREMENTS PER CONCRETE BLOCK WALL DETAIL SHOWN ON CONCRETE BLOCK WALL DETAIL STANDARD DRAWING.
2. FLUTED BLOCK AND RIVER ROCK VENEER ALSO COULD BE PLACED ON CONCRETE BLOCK RETAINING WALL DETAIL SHOWN ON CONCRETE BLOCK RETAINING WALL DETAIL STANDARD DRAWING. SEE CONCRETE BLOCK RETAINING WALL DETAIL STANDARD DRAWING FOR CONCRETE BLOCK RETAINING WALL FOOTING AND DIMENSION REQUIREMENTS.
3. UNIFORM HEIGHTS REQUIRED AT CURB RETURNS AND PEDESTRIAN ACCESS POINTS.

APPROVED BY: _____ 09/16/16
CITY ENGINEER R.P.E. 81734 DATE

CITY OF VISALIA
DESIGN & IMPROVEMENT STANDARDS

NORTHEAST AREA SPECIFIC PLAN CONCRETE BLOCK WALL

REVISIONS
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BK 2016

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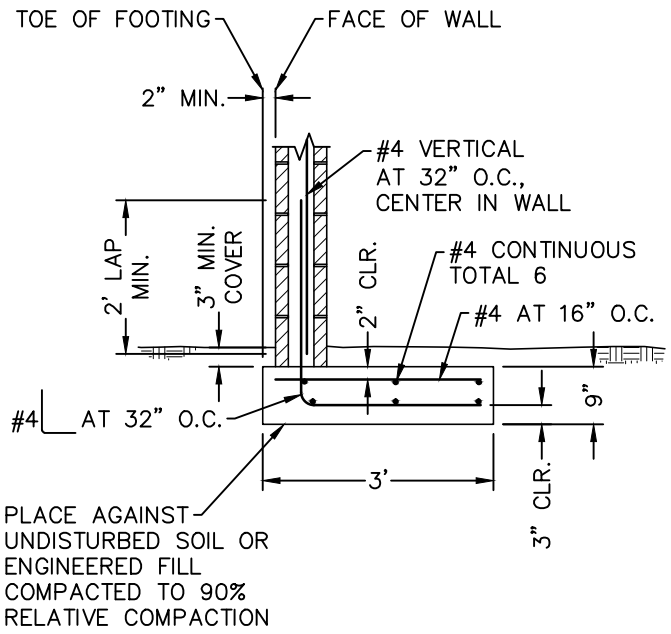

WALL SECTION

ALTERNATE FOOTING 'A'

(NON–RETAINING)
FOR USE UNDER OAK TREE

NOTES:

1. CONSTRUCTION REQUIREMENTS FOR CONCRETE BLOCK WALL SHOWN ON DETAIL CONCRETE BLOCK WALL DETAIL STANDARD DRAWING.
2. FOOTING CONCRETE SHALL BE CLASS 3, PRE–MIXED. 28–DAY COMPRESSIVE STRENGTH = 2500 psi MIN.
3. REINFORCING BARS SHALL BE ASTM A615 GRADE 40 DEFORMED STEEL AND SHALL BE CLEAN OF DIRT AND RUST BEFORE PLACEMENT.
4. FINISHED GRADE ELEVATION DIFFERENCE ON OPPOSITE SIDES OF THE WALL SHALL BE 6" MAXIMUM.
5. ALTERNATE FOOTINGS MAY BE USED UPON ACCEPTANCE FROM THE CITY ENGINEER. ENGINEER TO PROVIDE FOOTING DESIGN CALCULATIONS TO CONFIRM ALTERNATE FOOTING CAN BE USED IN PLACE OF THE STANDARD FOOTING SHOWN ON CONCRETE BLOCK WALL DETAIL STANDARD DRAWING.
6. ALTERNATE FOOTING 'A' IS A SHALLOW FOOTING DETAIL FOR USE UNDER OAK TREE CANOPY. TRENCHING BY HAND IS REQUIRED WHEN USED WITHIN DRIP LINE OF AN OAK TREE.

APPROVED BY: _____ 09/16/16
CITY ENGINEER R.P.E. 81734 DATE

CITY OF VISALIA
DESIGN & IMPROVEMENT STANDARDS

CONCRETE BLOCK WALL ALTERNATE FOOTINGS

REVISIONS
08/02/16
BK 2016

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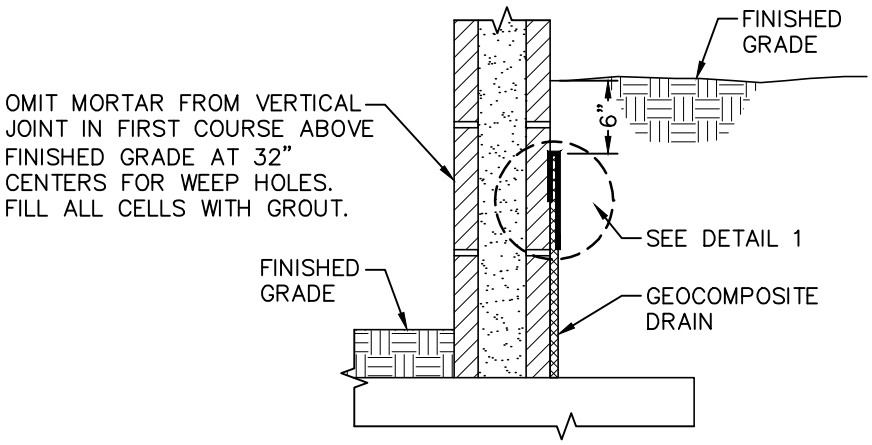
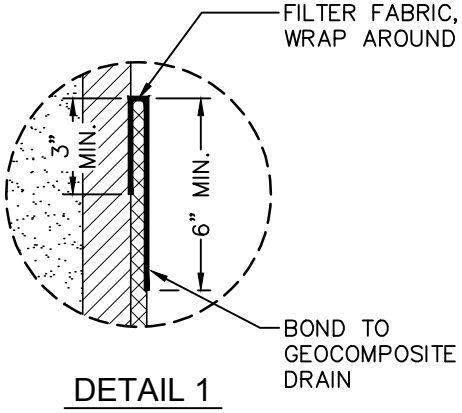
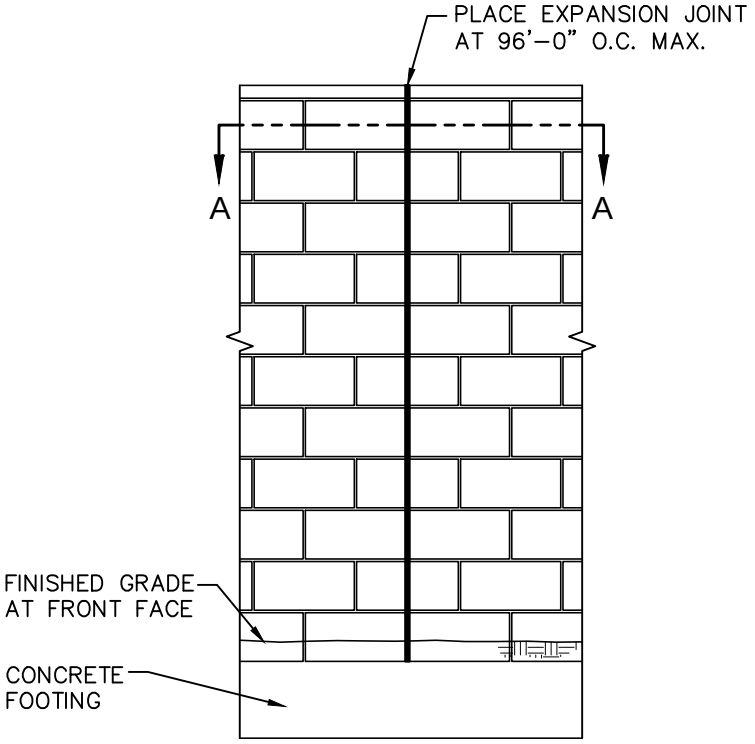


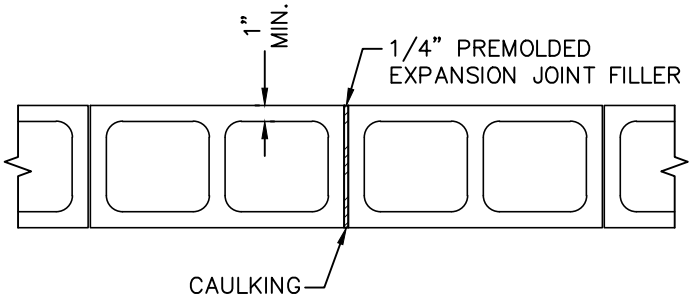
GEOCOMPOSITE DRAIN DETAIL



DETAIL 1



EXPANSION JOINT ELEVATION



SECTION A-A

NOTES:

1. GEOCOMPOSITE DRAIN MUST CONSIST OF A POLYMERIC CORE WITH FILTER FABRIC INTEGRALLY BONDED TO ONE OR BOTH SIDES OF THE CORE CREATING A STABLE DRAINAGE VOID AND MUST BE BETWEEN 1/4 AND 2 INCHES THICK. WHEN TESTED UNDER ASTM D 4716 WITH A GRADIENT OF 1.0 AND NORMAL STRESS OF 5,000 PSF, THE TRANSMISSIVITY MUST BE 4 GAL/MIN/FT.

2. FILTER FABRIC MUST BE MANUFACTURED FROM POLYESTER, POLYPROPYLENE, OR COMBINED POLYESTER AND POLYPROPYLENE. WHEN TESTED UNDER ASTM D 4491, THE PERMITTIVITY MUST BE AT LEAST 0.5 SEC^{-1}. WHEN TESTED UNDER ASTM D 4751, THE AVERAGE APPARENT OPENING SIZE MUST BE A MAXIMUM OF US STANDARD NO. 40 SIEVE. WHEN TESTED UNDER ASTM D 6241, THE PUNCTURE STRENGTH MUST BE AT LEAST 310 LB. WHEN TESTED UNDER ASTM D 4533, THE TRAPEZOID TEARING STRENGTH MUST BE AT LEAST 56 LB.

3. INSTALL GEOCOMPOSITE DRAIN WITH FILTER FABRIC FACING THE DIRT SIDE.

4. FABRIC FACING THE DIRT SIDE MUST OVERLAP AT LEAST 3 INCHES AT ALL JOINTS AND WRAP AROUND THE EXTERIOR EDGES AT LEAST 3 INCHES BEYOND THE EXTERIOR EDGE.

5. IF ADDITIONAL FABRIC IS NEEDED TO PROVIDE OVERLAP AT JOINTS AND WRAPAROUND AT EDGES, THE ADDED FABRIC MUST OVERLAP AT LEAST 6 INCHES AND BE ATTACHED TO THE FABRIC ON THE GEOCOMPOSITE DRAIN.

6. IF THE FABRIC ON THE GEOCOMPOSITE DRAIN IS TORN OR PUNCTURED, REPLACE THE DAMAGED SECTION COMPLETELY OR REPAIR IT BY PLACING A PIECE OF FABRIC THAT IS LARGE ENOUGH TO COVER THE DAMAGED AREA AND PROVIDE AT LEAST A 6–INCH OVERLAP.

APPROVED BY: _____ 09/16/16
CITY ENGINEER R.P.E. 81734 DATE

CITY OF VISALIA
DESIGN & IMPROVEMENT STANDARDS

CONCRETE BLOCK WALL MISCELLANEOUS DETAILS

REVISIONS
08/03/16
BK 2016

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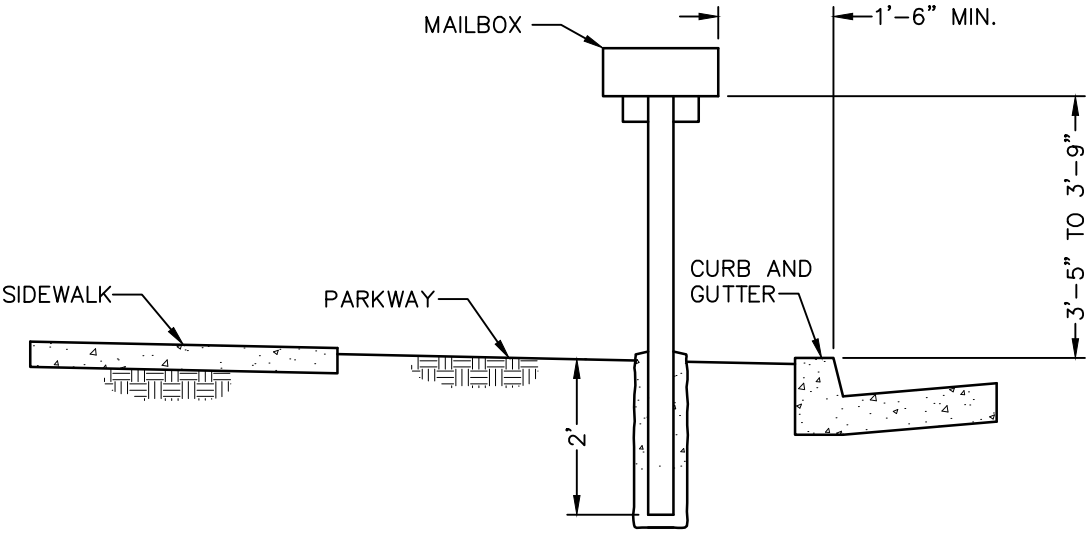
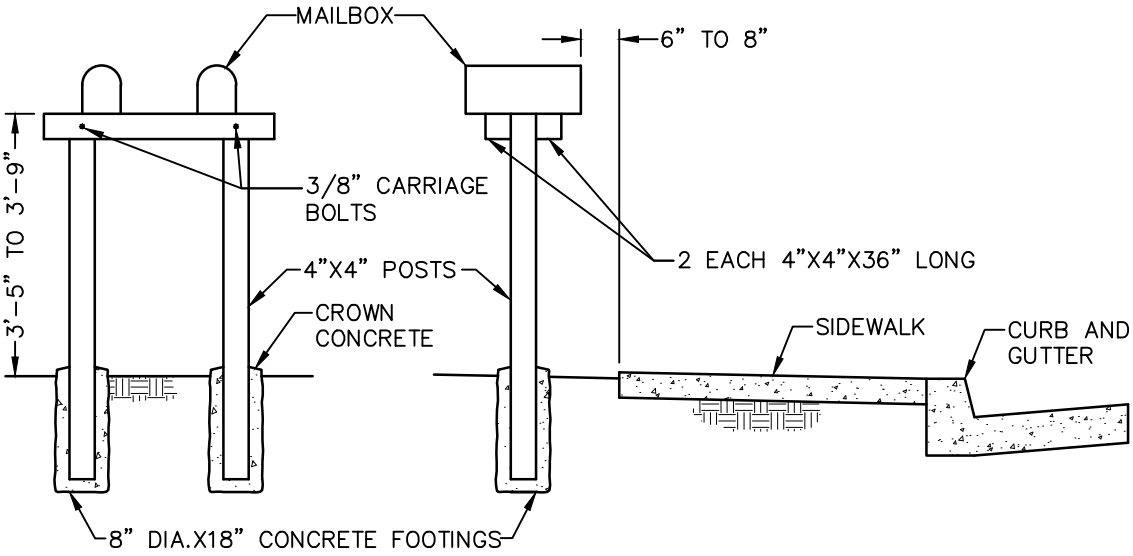


LOCATION WITH PARKWAY



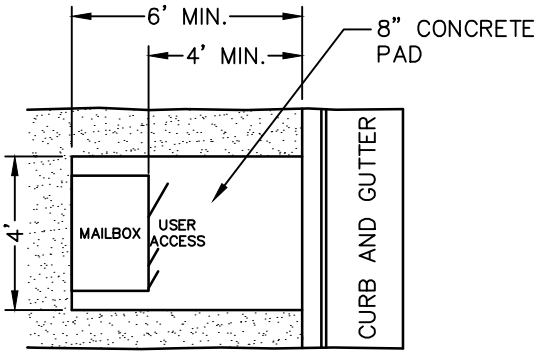
FRONT VIEW SIDE VIEW

LOCATION WITH ADJACENT SIDEWALK

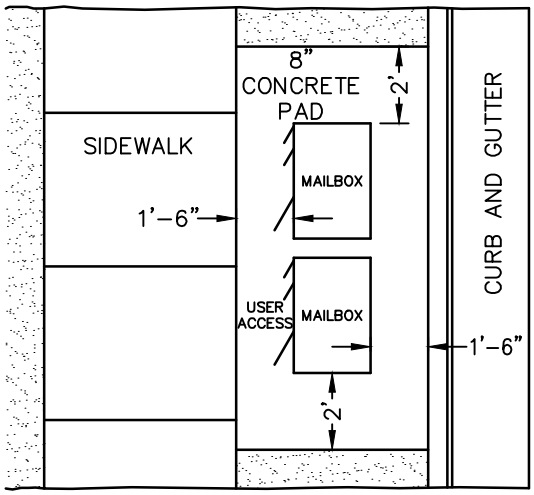
NOTES:

1. MAILBOXES SHALL BE IN COLLECTIONS OF 2 MINIMUM TO 3 MAXIMUM.
2. MAILBOXES SHALL SERVE HOUSES ON ONE SIDE OF STREET ONLY.
3. HOMEOWNERS SHALL BE RESPONSIBLE FOR ALL MAINTENANCE AND REPAIR.
4. VERTICAL STACKING OF MAILBOXES IS NOT PERMITTED
5. ALL WOOD POSTS SHALL BE NO. 2 PRESSURE TREATED DOUGLAS FIR OR REDWOOD.

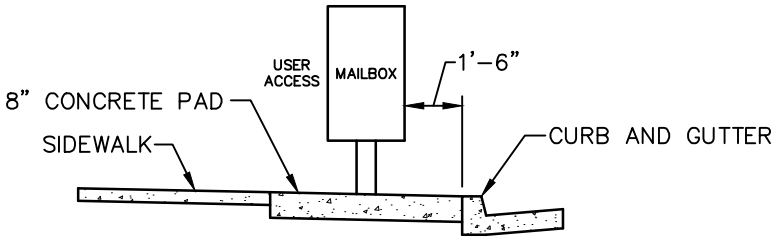
APPROVED BY: _____ CITY ENGINEER R.P.E. 81734 09/16/16 DATE	CITY OF VISALIA DESIGN & IMPROVEMENT STANDARDS
MAILBOX (INFILL & REPLACEMENT ONLY)	REVISIONS 08/03/16 BK 2016 — M-1



PLAN - SIDEWALK ADJACENT TO CURB (FRONT LOADING)



PLAN - WITH SIDEWALK



SECTION - WITH SIDEWALK

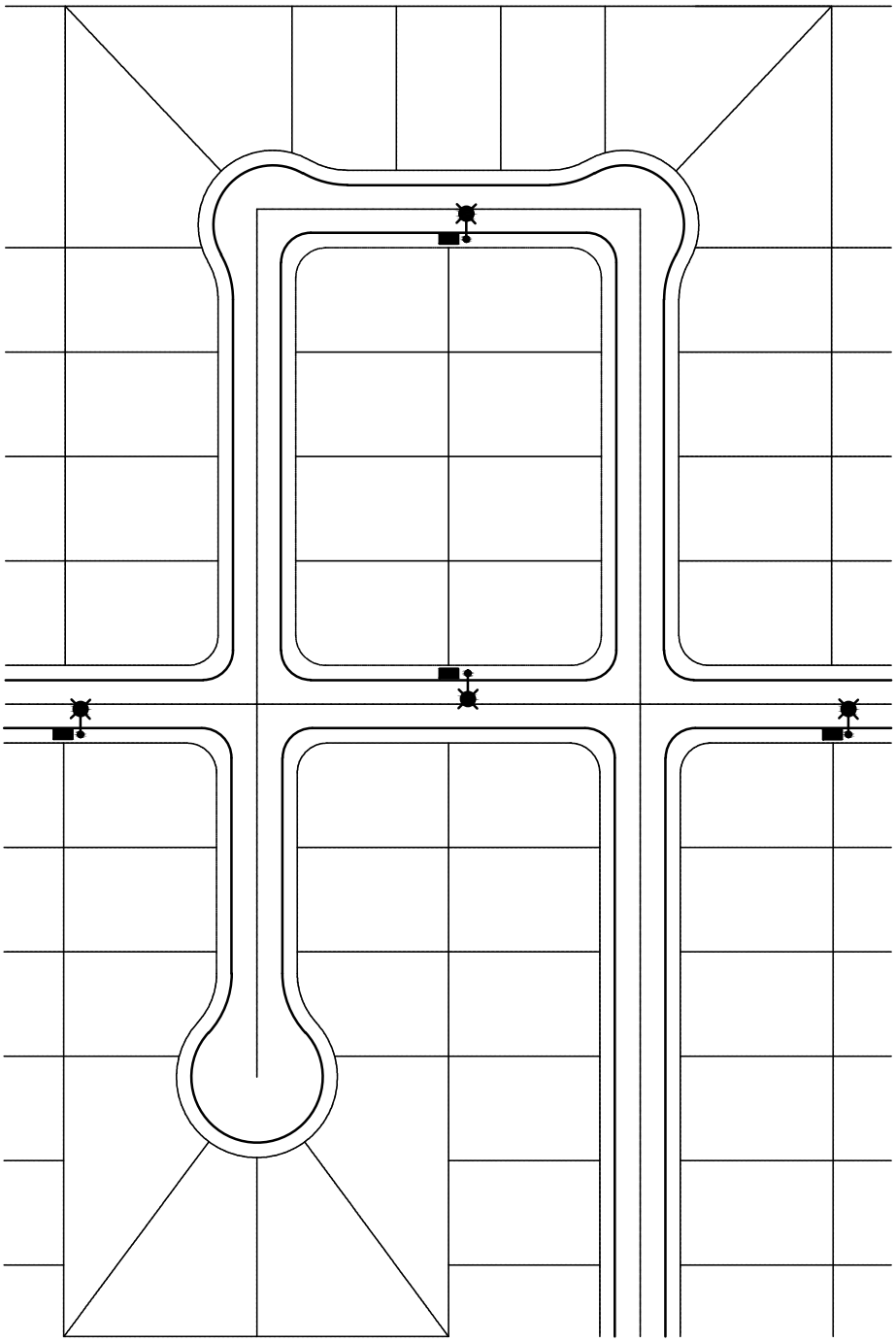
NOTES:

1. ALL MAILBOX CLUSTER DESIGNS SHALL BE APPROVED BY THE UNITED STATES POSTAL SERVICE PRIOR TO INSTALLATION.

2. CONCRETE PAD SHALL BE CONSTRUCTED PER UNITED STATES POSTAL SERVICE SPECIFICATIONS FOR SINGLE UNIT AND MULTIPLE UNITS.

3. MAILBOX CLUSTER SHALL BE ACCESSIBLE PER ADA REQUIREMENTS.

APPROVED BY: _____ CITY ENGINEER R.P.E. 81734 09/16/16 DATE	CITY OF VISALIA DESIGN & IMPROVEMENT STANDARDS
MAILBOX CLUSTER	REVISIONS 08/03/16 BK 2016 — M-2



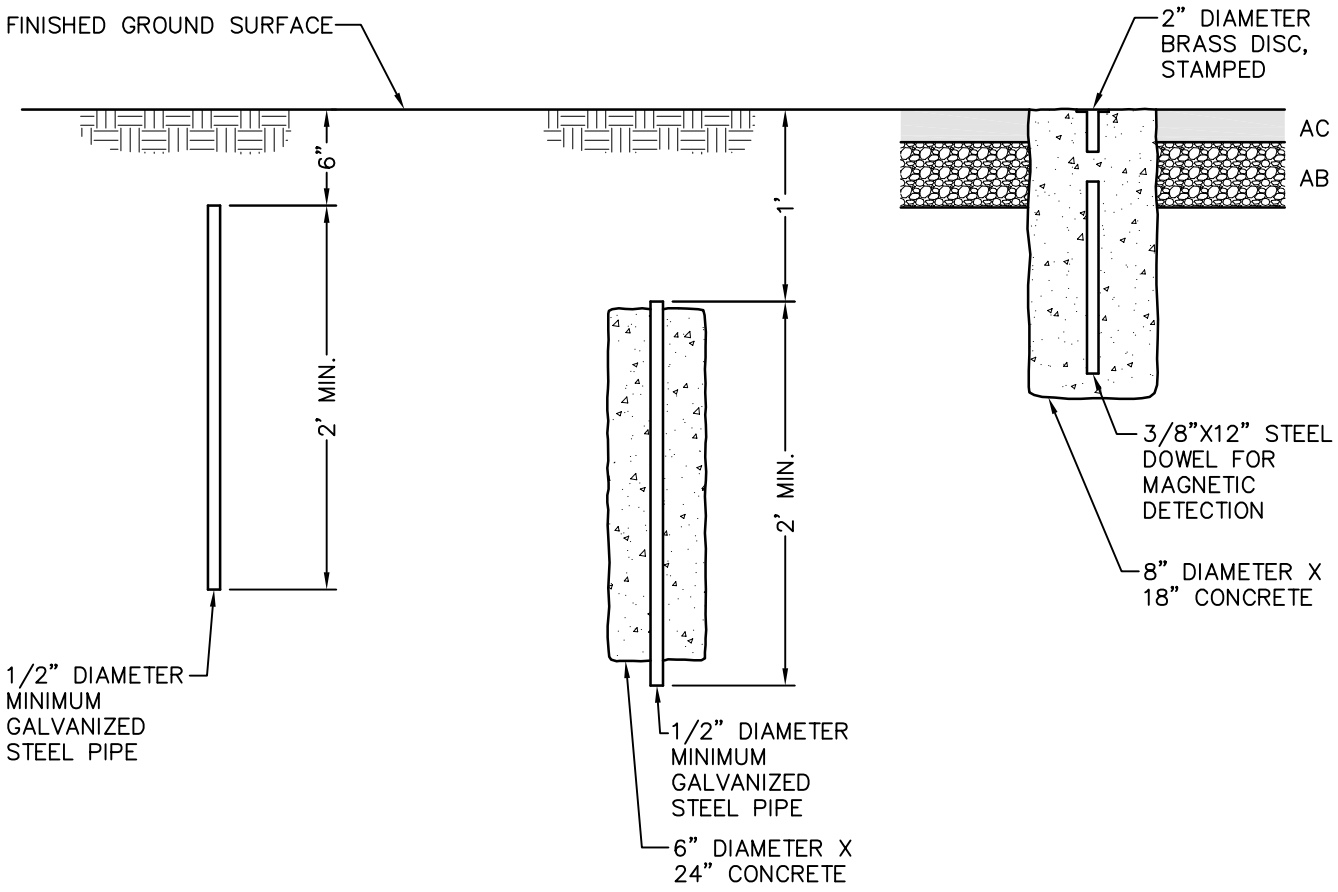
■ TYPICAL MAILBOX CLUSTER LOCATION

NOTES:

1. MAILBOX CLUSTER LOCATIONS SHALL HAVE A STREET LIGHT LOCATED WITHIN TEN FEET OF THE CLUSTER CONCRETE PAD. ALTERNATE LIGHTING MAY BE SUPPLIED (I.E. SOLAR) WITH CITY ENGINEER APPROVAL.

2. ALL MAILBOX CLUSTER LOCATIONS SHALL BE APPROVED BY THE UNITED STATES POSTAL SERVICE.

APPROVED BY: _____ CITY ENGINEER R.P.E. 81734 09/16/16 DATE	CITY OF VISALIA DESIGN & IMPROVEMENT STANDARDS
TYPICAL MAILBOX CLUSTER LOCATIONS	REVISIONS 04/29/16 BK 2016 — M–3



TYPE "A"
LOT CORNERS

TYPE "B"
STREET MONUMENTS AND LANDSCAPED MEDIAN MONUMENTS

TYPE "C"
STREET MONUMENTS

NOTES:

1. ALL MONUMENTS SET SHALL BE PERMANENTLY AND VISIBLY MARKED OR TAGGED WITH THE LICENSE NUMBER OF THE SURVEYOR OR CIVIL ENGINEER SETTING IT.
2. ALL LOT CORNERS SHALL BE LOCATED WITH TYPE "A" MONUMENTS OR MONUMENTS APPROVED BY THE CITY SURVEYOR.
3. TYPE "C" STREET MONUMENTS SHALL BE USED TO LOCATE ALL ANGLE AND CURVE POINTS ON THE CENTERLINES OF ASPHALT CONCRETE SURFACED STREETS.
4. ADDITIONAL MONUMENTS MAY BE REQUIRED AT THE DISCRETION OF THE CITY SURVEYOR.

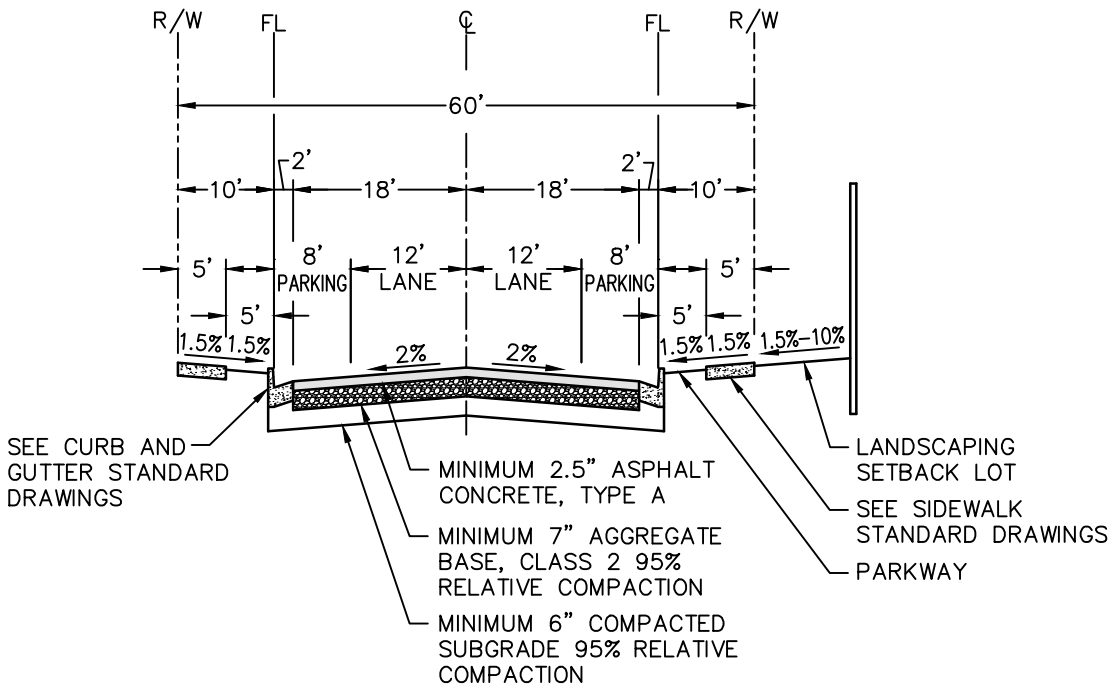
APPROVED BY: _____ 09/16/16
CITY ENGINEER R.P.E. 81734 DATE

CITY OF VISALIA
DESIGN & IMPROVEMENT STANDARDS

SURVEY MONUMENTS

REVISIONS
08/03/16
BK 2016

MN–1



NOTES:

1. DESIGN CRITERION: TRAFFIC INDEX SHALL BE 5.5.
2. STRUCTURAL SECTIONS SHALL BE DETERMINED BASED ON T.I. AND R-VALUES AS TABULATED IN THE STREET SECTIONS REQUIREMENTS STANDARD DRAWING.
3. ASPHALT CONCRETE SHALL BE TYPE A, WITH 3/4" AGGREGATE GRADATION AND PG 64-10 LIQUID ASPHALT BINDER PER CITY OF VISALIA STANDARD SPECIFICATIONS.
4. TACK COAT IS REQUIRED AND SHALL BE APPLIED PER CITY STANDARD SPECIFICATIONS.
5. ASPHALT CONCRETE REQUIREMENTS SHALL BE AS STATED IN THE CITY OF VISALIA STANDARD SPECIFICATIONS.
6. ASPHALT CONCRETE SHALL BE PLACED ONLY WHEN THE ATMOSPHERIC TEMPERATURE IS 50° F AND RISING.
7. WITH ADDITIONAL LANDSCAPE EASEMENTS, SIDEWALK MAY BE LOCATED OUTSIDE RIGHT OF WAY TO PROVIDE ADDITIONAL PARKWAY.
8. A FOOTING EASEMENT WILL BE REQUIRED AS NEEDED FOR BLOCK WALL FOOTINGS THAT EXTEND INTO PRIVATE PROPERTY.
9. STREET TREES ARE REQUIRED IN ADDITION TO THE ON-SITE LANDSCAPE REQUIREMENT.
10. FOR PARTIAL WIDTH STREETS A MINIMUM OF 30 FT OF PAVEMENT AND 8 FT SHOULDERS ARE REQUIRED.
11. SOIL ADJACENT TO CONCRETE CURB AND SIDEWALK SHALL BE GRADED 3" BELOW TOP OF CURB TO ALLOW ROOM FOR MULCH.

APPROVED BY: _____ 09/16/16
CITY ENGINEER R.P.E. 81734 DATE

CITY OF VISALIA
DESIGN & IMPROVEMENT STANDARDS

2 LANE LOCAL – RESIDENTIAL

REVISIONS
09/15/16
BK 2016

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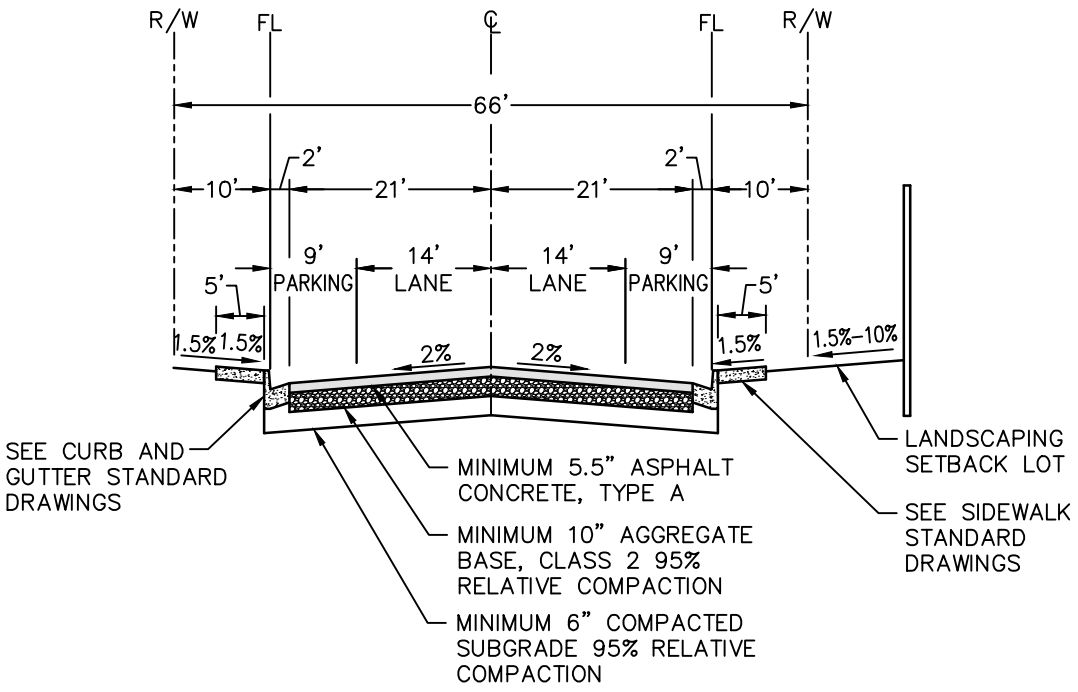

NOTES:

1. DESIGN CRITERION: TRAFFIC INDEX SHALL BE 9.
2. STRUCTURAL SECTIONS SHALL BE DETERMINED BASED ON T.I. AND R–VALUES AS TABULATED IN THE STREET SECTIONS REQUIREMENTS STANDARD DRAWING.
3. ASPHALT CONCRETE SHALL BE TYPE A, WITH 3/4" AGGREGATE GRADATION AND PG 64–10 LIQUID ASPHALT BINDER PER CITY OF VISALIA STANDARD SPECIFICATIONS.
4. TACK COAT IS REQUIRED AND SHALL BE APPLIED PER CITY STANDARD SPECIFICATIONS.
5. ASPHALT CONCRETE REQUIREMENTS SHALL BE AS STATED IN THE CITY OF VISALIA STANDARD SPECIFICATIONS.
6. ASPHALT CONCRETE SHALL BE PLACED ONLY WHEN THE ATMOSPHERIC TEMPERATURE IS 50° F AND RISING.
7. WITH ADDITIONAL LANDSCAPE EASEMENTS, SIDEWALK MAY BE LOCATED OUTSIDE RIGHT OF WAY TO PROVIDE ADDITIONAL PARKWAY.
8. A FOOTING EASEMENT WILL BE REQUIRED AS NEEDED FOR BLOCK WALL FOOTINGS THAT EXTEND INTO PRIVATE PROPERTY.
9. STREET TREES ARE REQUIRED IN ADDITION TO THE ON–SITE LANDSCAPE REQUIREMENT.
10. FOR PARTIAL WIDTH STREETS A MINIMUM OF 30 FT OF PAVEMENT AND 8 FT SHOULDERS ARE REQUIRED.
11. SOIL ADJACENT TO CONCRETE CURB AND SIDEWALK SHALL BE GRADED 3" BELOW TOP OF CURB TO ALLOW ROOM FOR MULCH.

APPROVED BY: _____ 09/16/16
CITY ENGINEER R.P.E. 81734 DATE

CITY OF VISALIA
DESIGN & IMPROVEMENT STANDARDS

2 LANE LOCAL – INDUSTRIAL

REVISIONS
09/15/16
BK 2016

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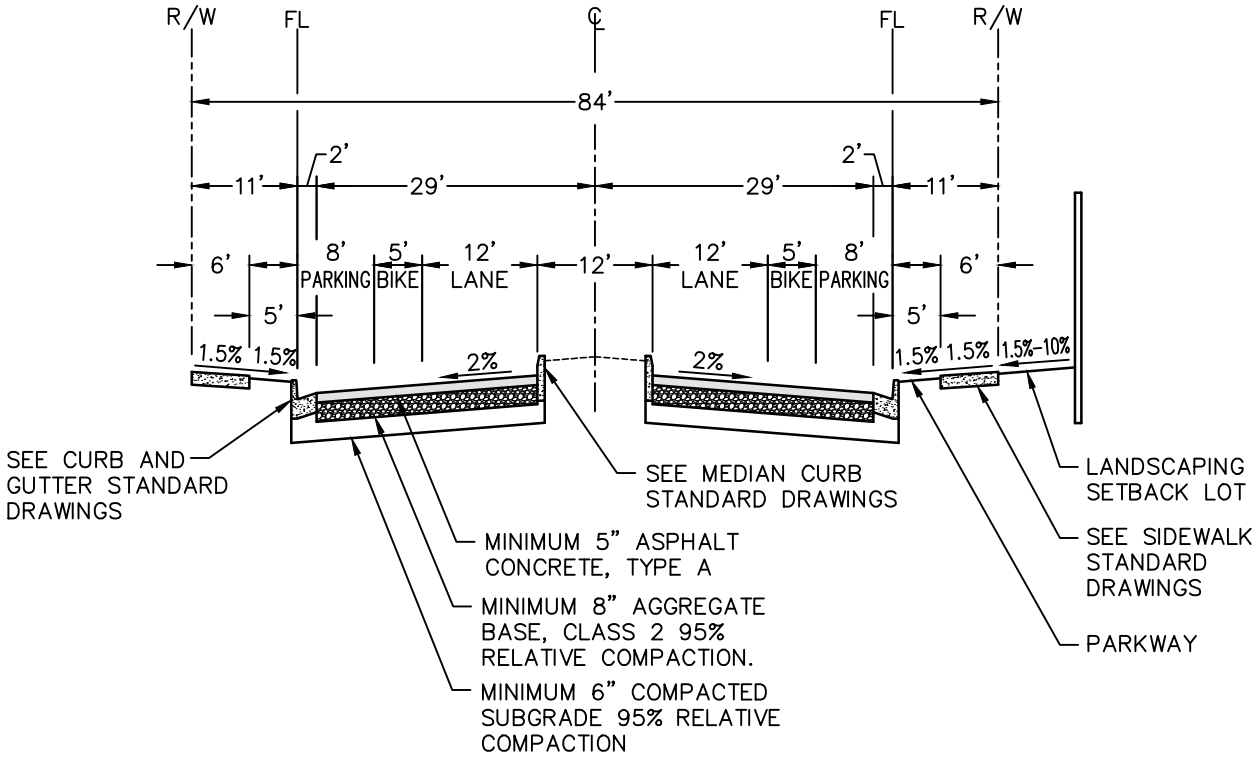

NOTES:

1. DESIGN CRITERION: TRAFFIC INDEX SHALL BE 8.
2. STRUCTURAL SECTIONS SHALL BE DETERMINED BASED ON T.I. AND R-VALUES AS TABULATED IN THE STREET SECTIONS REQUIREMENTS STANDARD DRAWING.
3. ASPHALT CONCRETE SHALL BE TYPE A, WITH 3/4" AGGREGATE GRADATION AND PG 64-10 LIQUID ASPHALT BINDER PER CITY OF VISALIA STANDARD SPECIFICATIONS.
4. TACK COAT IS REQUIRED AND SHALL BE APPLIED PER CITY STANDARD SPECIFICATIONS.
5. ASPHALT CONCRETE REQUIREMENTS SHALL BE AS STATED IN THE CITY OF VISALIA STANDARD SPECIFICATIONS.
6. ASPHALT CONCRETE SHALL BE PLACED ONLY WHEN THE ATMOSPHERIC TEMPERATURE IS 50° F AND RISING.
7. WITH ADDITIONAL LANDSCAPE EASEMENTS, SIDEWALK MAY BE LOCATED OUTSIDE RIGHT OF WAY TO PROVIDE ADDITIONAL PARKWAY.
8. A FOOTING EASEMENT WILL BE REQUIRED AS NEEDED FOR BLOCK WALL FOOTINGS THAT EXTEND INTO PRIVATE PROPERTY.
9. STREET TREES ARE REQUIRED IN ADDITION TO THE ON-SITE LANDSCAPE REQUIREMENT.
10. FOR PARTIAL WIDTH STREETS A MINIMUM OF 30 FT OF PAVEMENT AND 8 FT SHOULDERS ARE REQUIRED.
11. MEDIAN BREAK LOCATIONS AND U-TURN MOVEMENT LOCATIONS ARE SUBJECT TO APPROVAL OF THE CITY ENGINEER.
12. UNIMPROVED MEDIAN SHALL BE LEFT WITH NATIVE SOILS 3" BELOW THE TOP OF CURB.
13. SOIL ADJACENT TO CONCRETE CURB AND SIDEWALK SHALL BE GRADED 3" BELOW TOP OF CURB TO ALLOW ROOM FOR MULCH.

APPROVED BY: _____ 09/16/16
CITY ENGINEER R.P.E. 81734 DATE

CITY OF VISALIA
DESIGN & IMPROVEMENT STANDARDS

2 LANE COLLECTOR

REVISIONS
09/15/16
BK 2016

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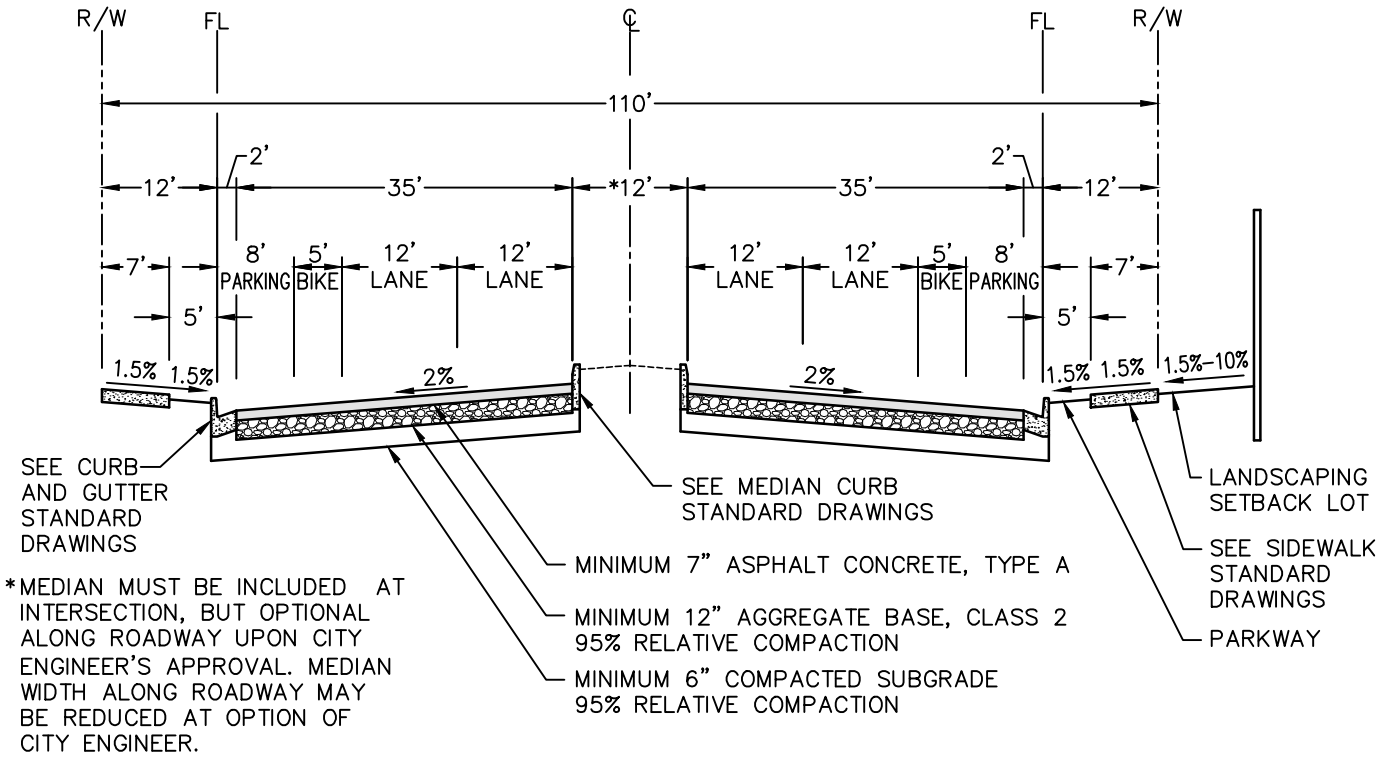

*MEDIAN MUST BE INCLUDED AT INTERSECTION, BUT OPTIONAL ALONG ROADWAY UPON CITY ENGINEER'S APPROVAL. MEDIAN WIDTH ALONG ROADWAY MAY BE REDUCED AT OPTION OF CITY ENGINEER.

NOTES:

1. DESIGN CRITERION: TRAFFIC INDEX SHALL BE 11.
2. STRUCTURAL SECTIONS SHALL BE DETERMINED BASED ON T.I. AND R-VALUES AS TABULATED IN THE STREET SECTIONS REQUIREMENTS STANDARD DRAWING.
3. ASPHALT CONCRETE SHALL BE TYPE A, WITH 3/4" AGGREGATE GRADATION AND PG 64-10 LIQUID ASPHALT BINDER PER CITY OF VISALIA STANDARD SPECIFICATIONS.
4. TACK COAT IS REQUIRED AND SHALL BE APPLIED PER CITY STANDARD SPECIFICATIONS.
5. ASPHALT CONCRETE REQUIREMENTS SHALL BE AS STATED IN THE CITY OF VISALIA STANDARD SPECIFICATIONS.
6. ASPHALT CONCRETE SHALL BE PLACED ONLY WHEN THE ATMOSPHERIC TEMPERATURE IS 50° F AND RISING.
7. WITH ADDITIONAL LANDSCAPE EASEMENTS, SIDEWALK MAY BE LOCATED OUTSIDE RIGHT OF WAY TO PROVIDE ADDITIONAL PARKWAY.
8. A FOOTING EASEMENT WILL BE REQUIRED AS NEEDED FOR BLOCK WALL FOOTINGS THAT EXTEND INTO PRIVATE PROPERTY.
9. STREET TREES ARE REQUIRED IN ADDITION TO THE ON-SITE LANDSCAPE REQUIREMENT.
10. FOR PARTIAL WIDTH STREETS A MINIMUM OF 30 FT OF PAVEMENT AND 8 FT SHOULDERS ARE REQUIRED.
11. MEDIAN BREAK LOCATIONS AND U-TURN MOVEMENT LOCATIONS ARE SUBJECT TO APPROVAL OF THE CITY ENGINEER.
12. UNIMPROVED MEDIAN SHALL BE LEFT WITH NATIVE SOILS 3" BELOW THE TOP OF CURB.
13. SOIL ADJACENT TO CONCRETE CURB AND SIDEWALK SHALL BE GRADED 3" BELOW TOP OF CURB TO ALLOW ROOM FOR MULCH.

APPROVED BY: _____ 09/16/16
CITY ENGINEER R.P.E. 81734 DATE

CITY OF VISALIA
DESIGN & IMPROVEMENT STANDARDS

4 LANE COLLECTOR

REVISIONS
09/15/16
BK 2016

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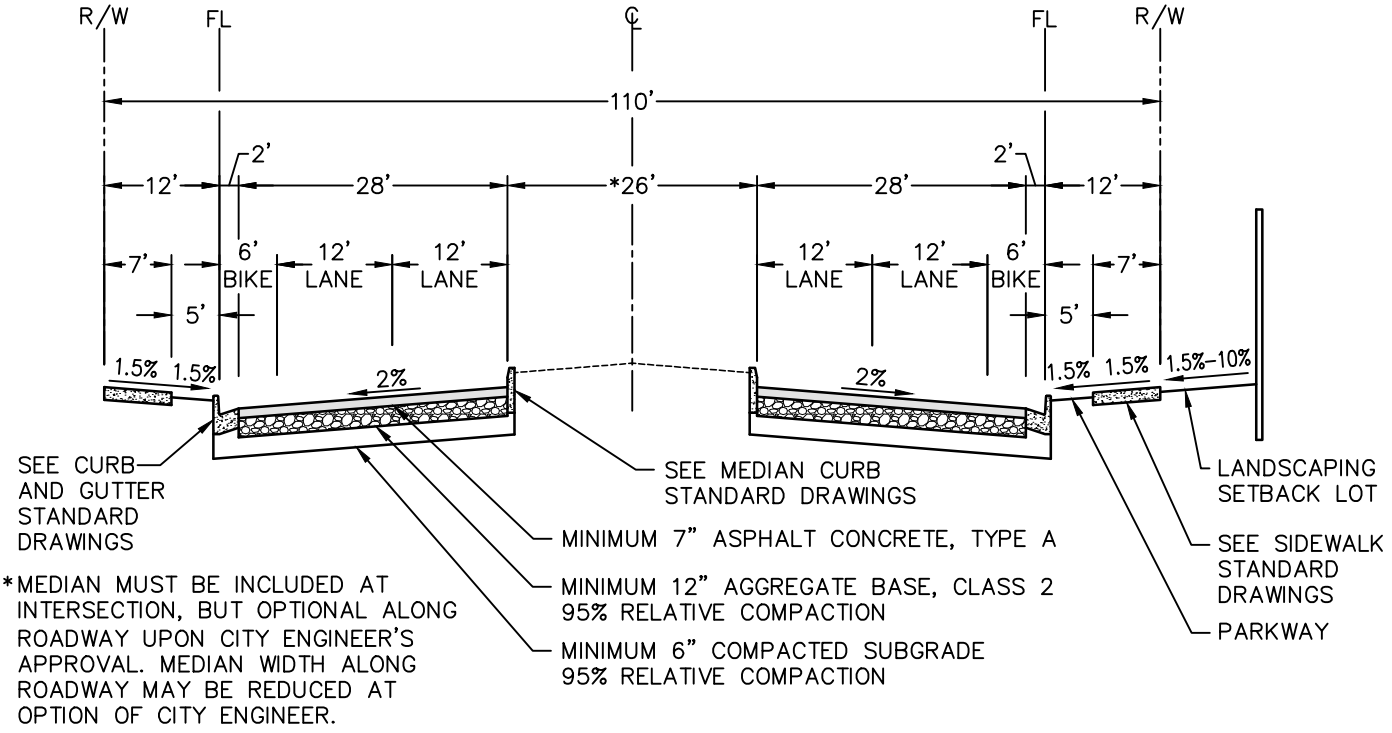

NOTES:

1. DESIGN CRITERION: TRAFFIC INDEX SHALL BE 11.
2. STRUCTURAL SECTIONS SHALL BE DETERMINED BASED ON T.I. AND R–VALUES AS TABULATED IN THE STREET SECTIONS REQUIREMENTS STANDARD DRAWING.
3. ASPHALT CONCRETE SHALL BE TYPE A, WITH 3/4" AGGREGATE GRADATION AND PG 64–10 LIQUID ASPHALT BINDER PER CITY OF VISALIA STANDARD SPECIFICATIONS.
4. TACK COAT IS REQUIRED AND SHALL BE APPLIED PER CITY STANDARD SPECIFICATIONS.
5. ASPHALT CONCRETE REQUIREMENTS SHALL BE AS STATED IN THE CITY OF VISALIA STANDARD SPECIFICATIONS.
6. ASPHALT CONCRETE SHALL BE PLACED ONLY WHEN THE ATMOSPHERIC TEMPERATURE IS 50° F AND RISING.
7. WITH ADDITIONAL LANDSCAPE EASEMENTS, SIDEWALK MAY BE LOCATED OUTSIDE RIGHT OF WAY TO PROVIDE ADDITIONAL PARKWAY.
8. A FOOTING EASEMENT WILL BE REQUIRED AS NEEDED FOR BLOCK WALL FOOTINGS THAT EXTEND INTO PRIVATE PROPERTY.
9. STREET TREES ARE REQUIRED IN ADDITION TO THE ON–SITE LANDSCAPE REQUIREMENT.
10. FOR PARTIAL WIDTH STREETS A MINIMUM OF 30 FT OF PAVEMENT AND 8 FT SHOULDERS ARE REQUIRED.
11. MEDIAN BREAK LOCATIONS AND U–TURN MOVEMENT LOCATIONS ARE SUBJECT TO APPROVAL OF THE CITY ENGINEER.
12. UNIMPROVED MEDIAN SHALL BE LEFT WITH NATIVE SOILS 3" BELOW THE TOP OF CURB.
13. SOIL ADJACENT TO CONCRETE CURB AND SIDEWALK SHALL BE GRADED 3" BELOW TOP OF CURB TO ALLOW ROOM FOR MULCH.

APPROVED BY: _____ 09/16/16
CITY ENGINEER R.P.E. 81734 DATE

CITY OF VISALIA
DESIGN & IMPROVEMENT STANDARDS

4 LANE ARTERIAL

REVISIONS
09/15/16
BK 2016

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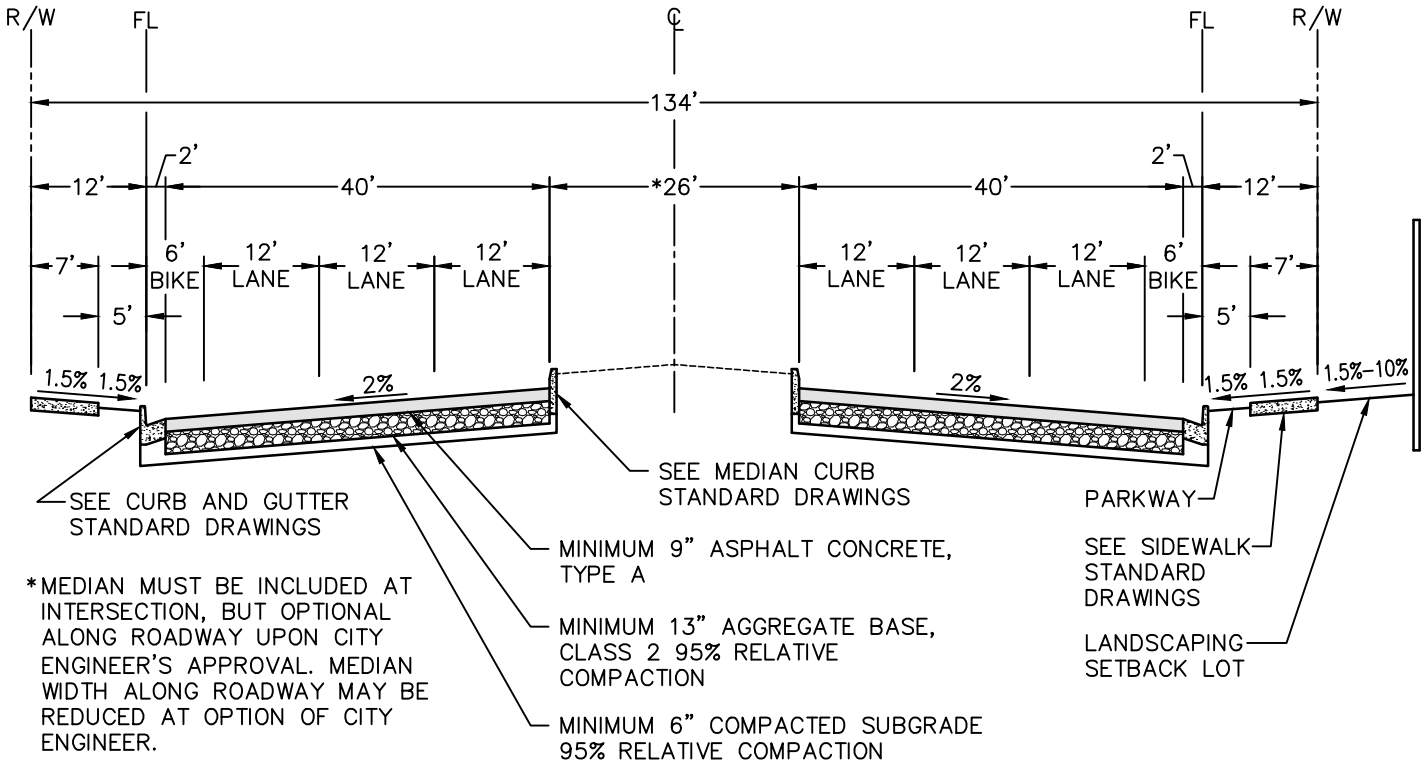

NOTES:

1. DESIGN CRITERION: TRAFFIC INDEX SHALL BE 13.
2. STRUCTURAL SECTIONS SHALL BE DETERMINED BASED ON T.I. AND R-VALUES AS TABULATED IN THE STREET SECTIONS REQUIREMENTS STANDARD DRAWING.
3. ASPHALT CONCRETE SHALL BE TYPE A, WITH 3/4" AGGREGATE GRADATION AND PG 64-10 LIQUID ASPHALT BINDER PER CITY OF VISALIA STANDARD SPECIFICATIONS.
4. TACK COAT IS REQUIRED AND SHALL BE APPLIED PER CITY STANDARD SPECIFICATIONS.
5. ASPHALT CONCRETE REQUIREMENTS SHALL BE AS STATED IN THE CITY OF VISALIA STANDARD SPECIFICATIONS.
6. ASPHALT CONCRETE SHALL BE PLACED ONLY WHEN THE ATMOSPHERIC TEMPERATURE IS 50° F AND RISING.
7. WITH ADDITIONAL LANDSCAPE EASEMENTS, SIDEWALK MAY BE LOCATED OUTSIDE RIGHT OF WAY TO PROVIDE ADDITIONAL PARKWAY.
8. A FOOTING EASEMENT WILL BE REQUIRED AS NEEDED FOR BLOCK WALL FOOTINGS THAT EXTEND INTO PRIVATE PROPERTY.
9. STREET TREES ARE REQUIRED IN ADDITION TO THE ON-SITE LANDSCAPE REQUIREMENT.
10. FOR PARTIAL WIDTH STREETS A MINIMUM OF 30 FT OF PAVEMENT AND 8 FT SHOULDERS ARE REQUIRED.
11. MEDIAN BREAK LOCATIONS AND U-TURN MOVEMENT LOCATIONS ARE SUBJECT TO APPROVAL OF THE CITY ENGINEER.
12. UNIMPROVED MEDIAN SHALL BE LEFT WITH NATIVE SOILS 3" BELOW THE TOP OF CURB.
13. SOIL ADJACENT TO CONCRETE CURB AND SIDEWALK SHALL BE GRADED 3" BELOW TOP OF CURB TO ALLOW ROOM FOR MULCH.

APPROVED BY: _____ 09/16/16
CITY ENGINEER R.P.E. 81734 DATE

CITY OF VISALIA
DESIGN & IMPROVEMENT STANDARDS

6 LANE ARTERIAL

REVISIONS
09/15/16
BK 2016

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RESERVED FOR FUTURE DETAIL

APPROVED BY:_____ _____	CITY OF VISALIA DESIGN & IMPROVEMENT STANDARDS
RESERVED	REVISIONS 09/09/16 BK 2016
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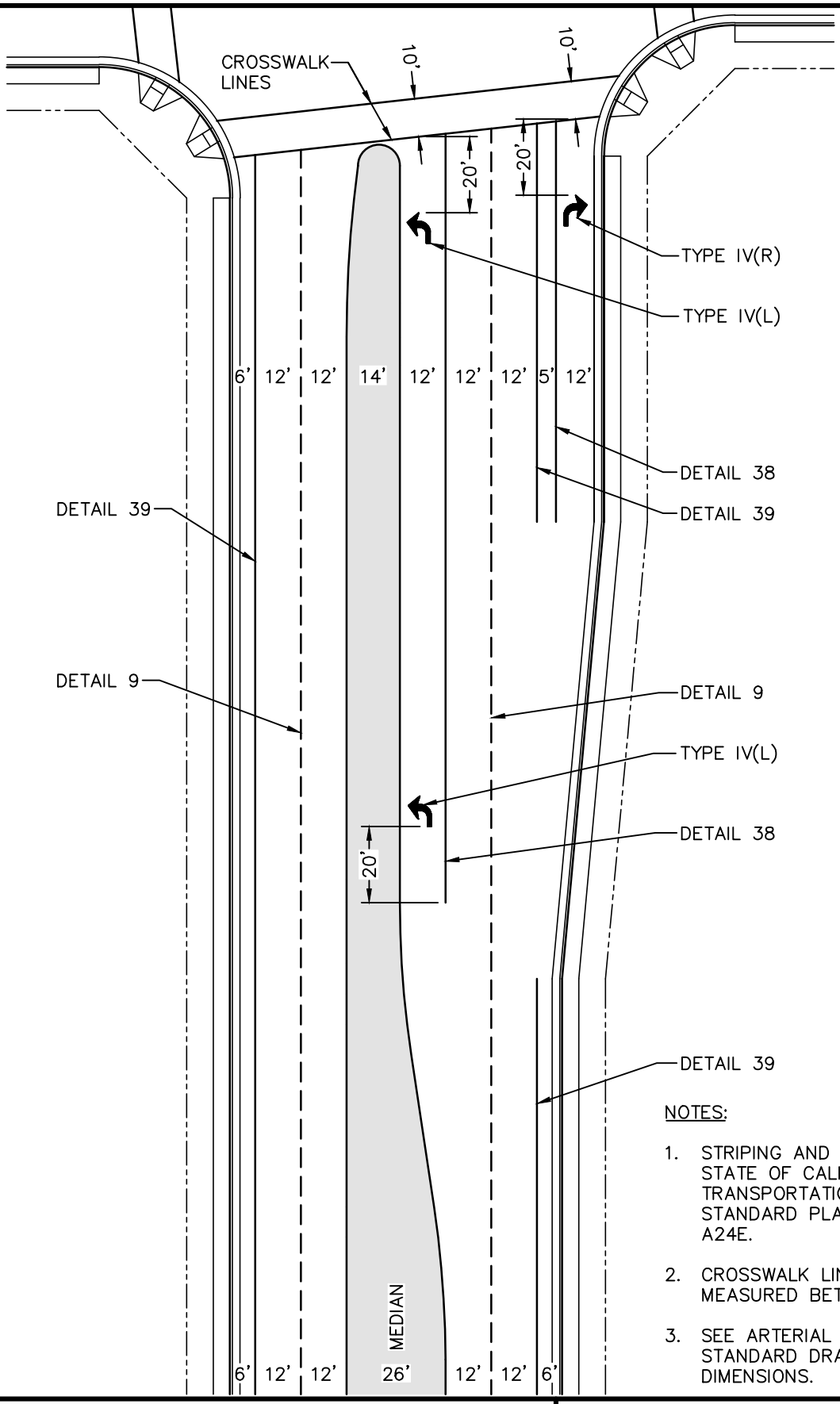

NOTES:

1. STRIPING AND PAVEMENT MARKINGS PER STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION STANDARD PLANS, STANDARD PLANS NO. A20A THROUGH A24E.
2. CROSSWALK LINES SHALL BE 10' APART MEASURED BETWEEN INSIDE OF LINES.
3. SEE ARTERIAL INTERSECTION DESIGN STANDARD DRAWING FOR CONSTRUCTION DIMENSIONS.

APPROVED BY: _____ 09/16/16
CITY ENGINEER R.P.E. 81734 DATE

CITY OF VISALIA
DESIGN & IMPROVEMENT STANDARDS

ARTERIAL INTERSECTION STRIPING

REVISIONS
08/04/16
BK 2016

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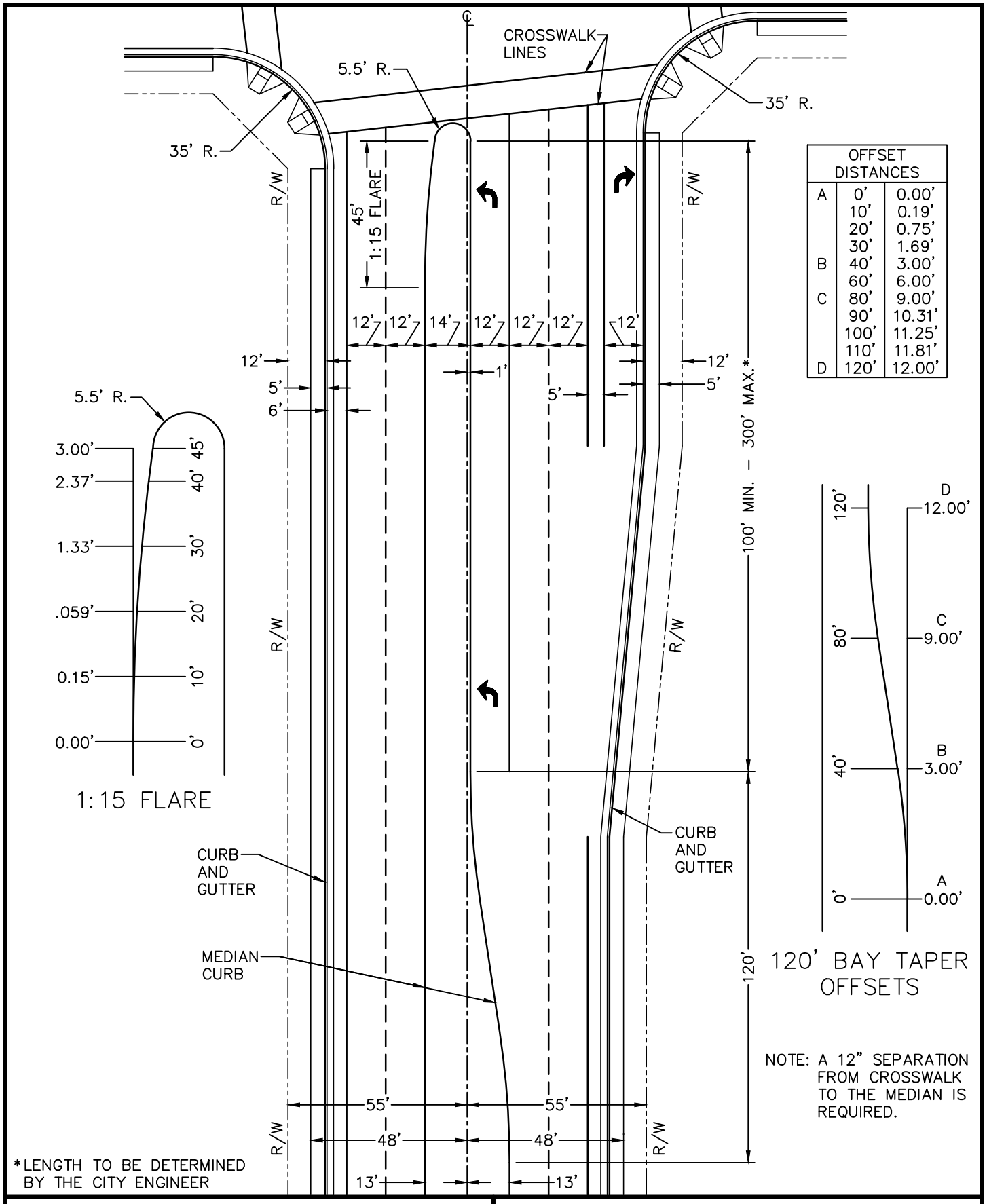

OFFSET DISTANCES		
A	0'	0.00'
	10'	0.19'
	20'	0.75'
	30'	1.69'
B	40'	3.00'
	60'	6.00'
C	80'	9.00'
	90'	10.31'
	100'	11.25'
	110'	11.81'
D	120'	12.00'

1:15 FLARE

120' BAY TAPER OFFSETS

NOTE: A 12" SEPARATION FROM CROSSWALK TO THE MEDIAN IS REQUIRED.

APPROVED BY: _____ CITY ENGINEER R.P.E. 81734 09/16/16 DATE

CITY OF VISALIA
DESIGN & IMPROVEMENT STANDARDS

ARTERIAL INTERSECTION DESIGN

REVISIONS
08/04/16
BK 2016

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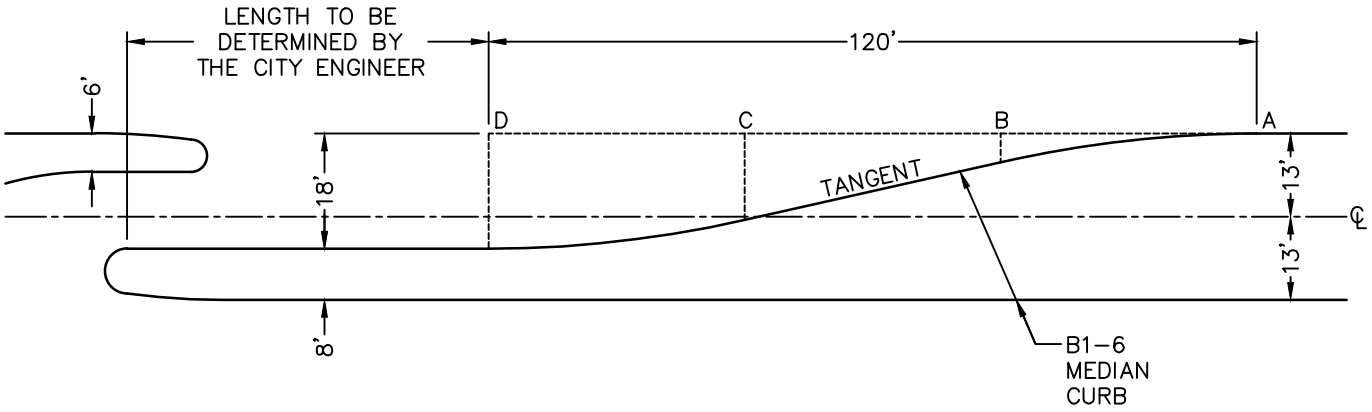
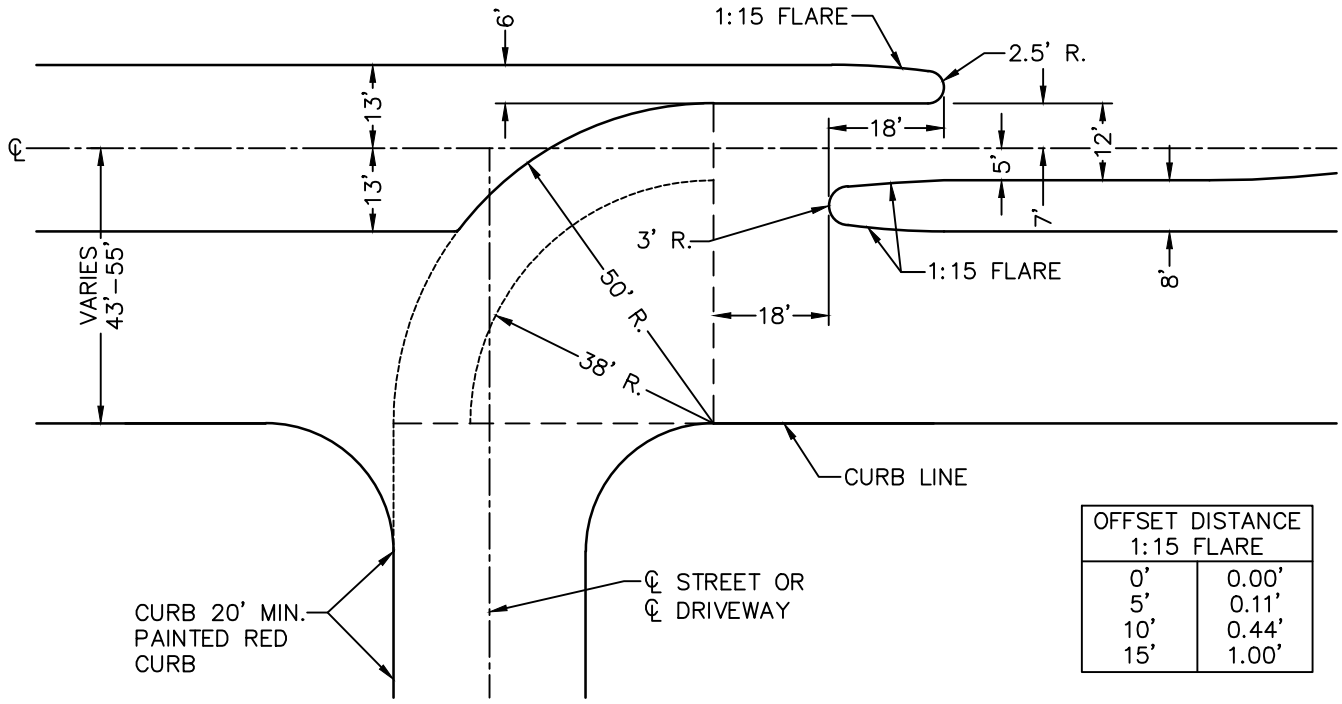


OFFSET DISTANCES		
A	0'	0.00'
	10'	0.25'
	20'	1.00'
	30'	2.25'
B	40'	4.00'
C	80'	12.00'
	90'	13.75'
	100'	15.00'
	110'	15.75'
D	120'	16.00'

OFFSET DISTANCES		
A	0'	0.00'
	10'	0.28'
	20'	1.13'
	30'	2.53'
B	40'	4.50'
C	80'	13.50'
	90'	15.47'
	100'	16.88'
	110'	17.72'
D	120'	18.00'

NOTE: MEDIAN WIDTH MAY BE REDUCED AT OPTION OF THE CITY ENGINEER.



OFFSET DISTANCE 1:15 FLARE	
0'	0.00'
5'	0.11'
10'	0.44'
15'	1.00'

APPROVED BY: _____ CITY ENGINEER R.P.E. 81734 09/16/16 DATE

CITY OF VISALIA
DESIGN & IMPROVEMENT STANDARDS

ARTERIAL MEDIAN ISLAND OPENING FOR ONE-WAY LEFT TURN ONLY

REVISIONS
08/05/16
BK 2016

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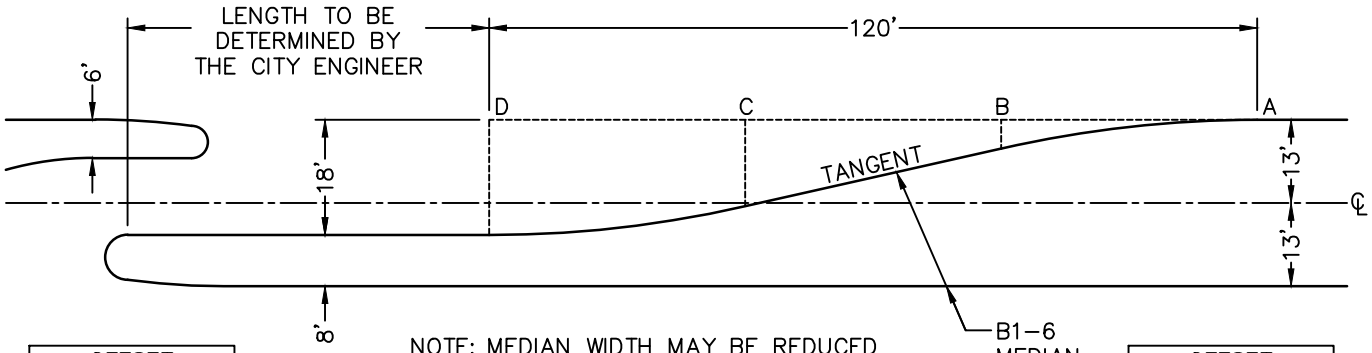
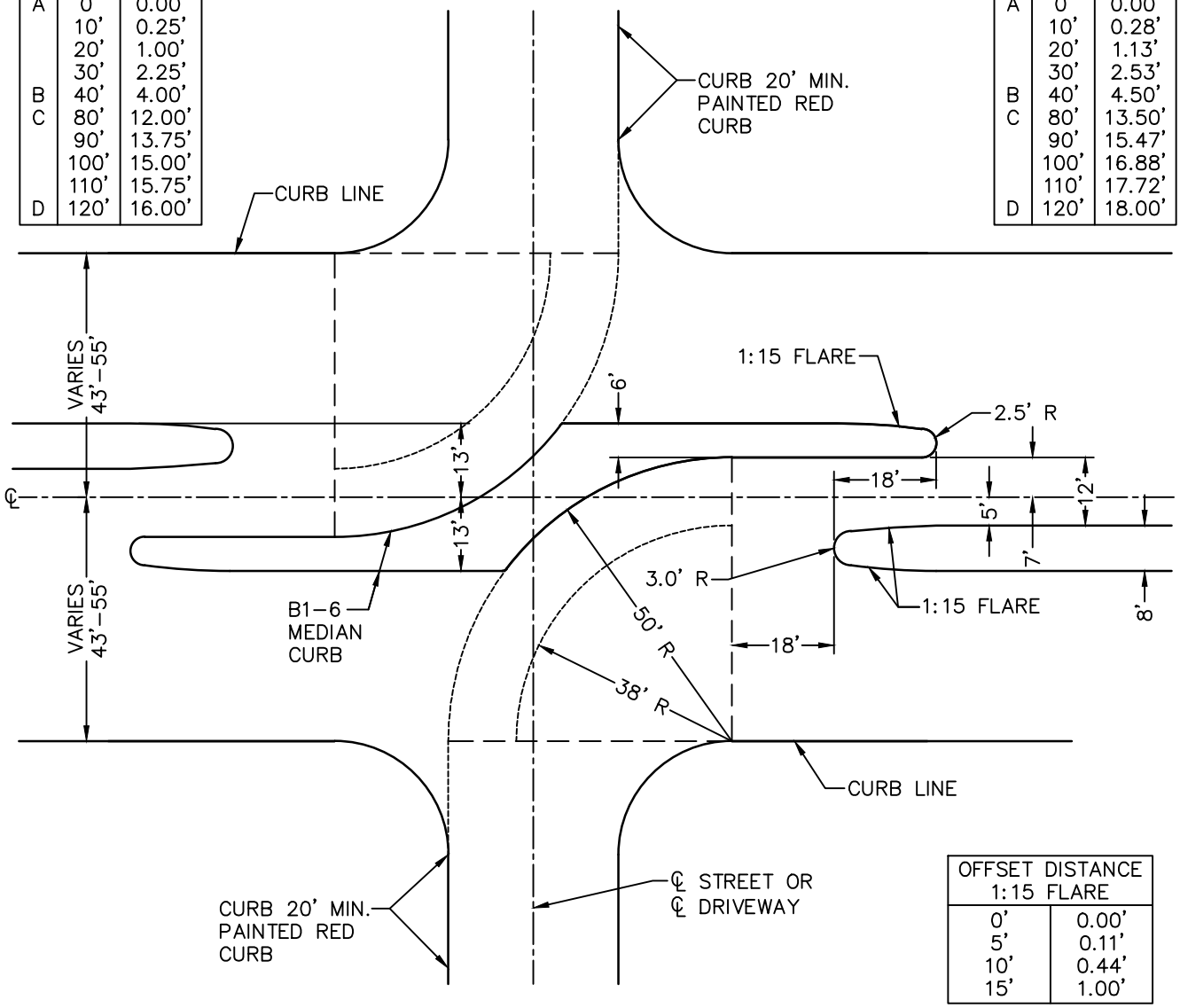


NOTE: MEDIAN WIDTH MAY BE REDUCED AT OPTION OF THE CITY ENGINEER.

OFFSET DISTANCES		
A	0'	0.00'
	10'	0.25'
	20'	1.00'
	30'	2.25'
B	40'	4.00'
C	80'	12.00'
	90'	13.75'
	100'	15.00'
	110'	15.75'
D	120'	16.00'

OFFSET DISTANCES		
A	0'	0.00'
	10'	0.28'
	20'	1.13'
	30'	2.53'
B	40'	4.50'
C	80'	13.50'
	90'	15.47'
	100'	16.88'
	110'	17.72'
D	120'	18.00'



OFFSET DISTANCE 1:15 FLARE	
0'	0.00'
5'	0.11'
10'	0.44'
15'	1.00'

APPROVED BY: _____ CITY ENGINEER R.P.E. 81734 09/16/16 DATE

CITY OF VISALIA
DESIGN & IMPROVEMENT STANDARDS

ARTERIAL MEDIAN ISLAND OPENING FOR TWO-WAY LEFT TURN ONLY

REVISIONS
08/05/16
BK 2016

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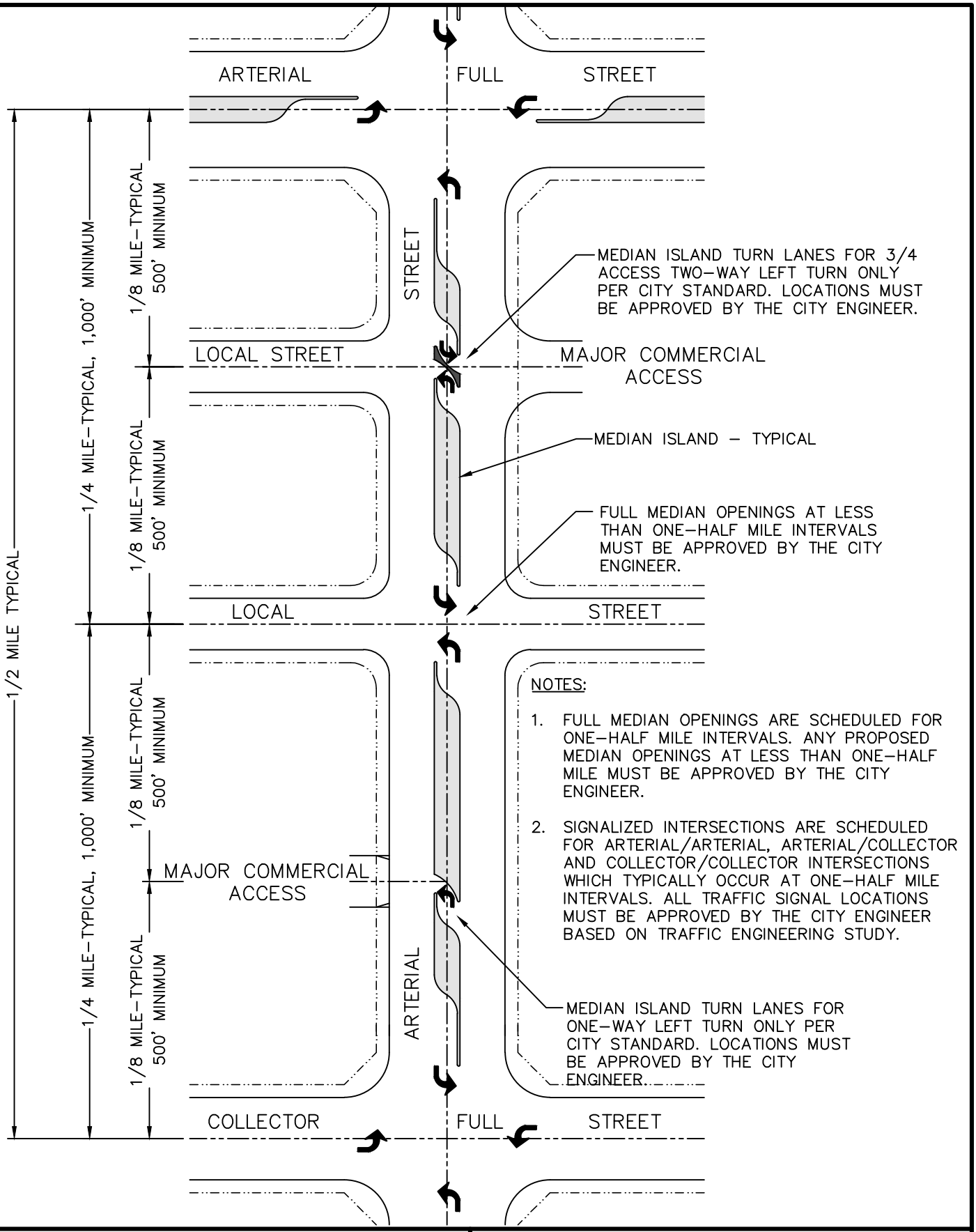

APPROVED BY: _____ 09/16/16
CITY ENGINEER R.P.E. 81734 DATE

CITY OF VISALIA
DESIGN & IMPROVEMENT STANDARDS

TYPICAL MEDIAN BREAK LOCATIONS

REVISIONS
08/05/16
BK 2016

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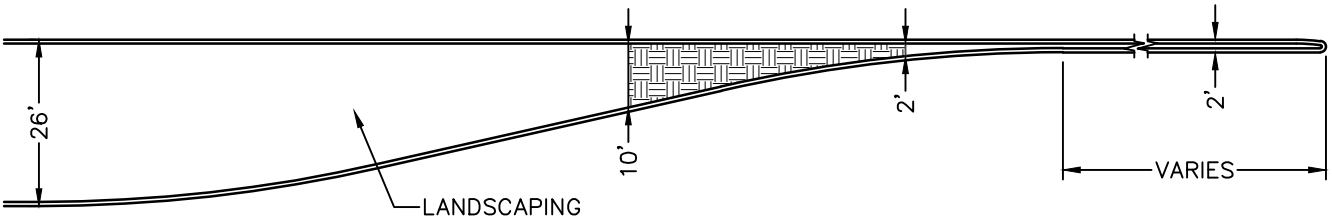
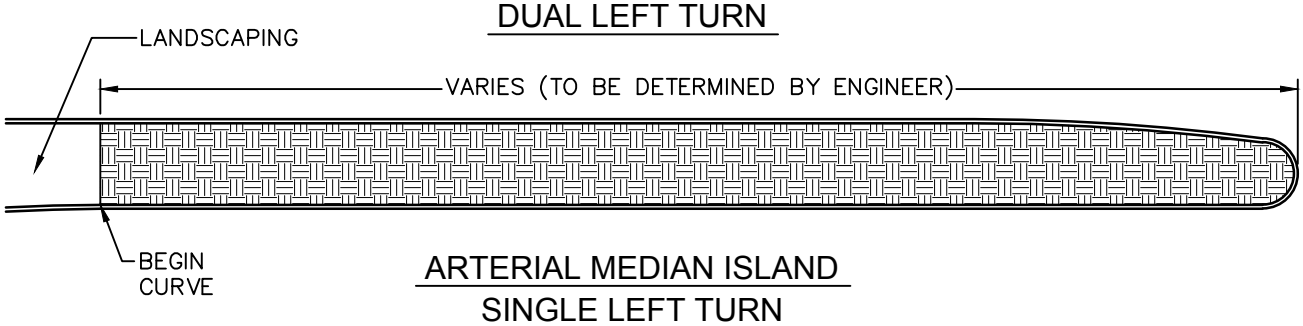
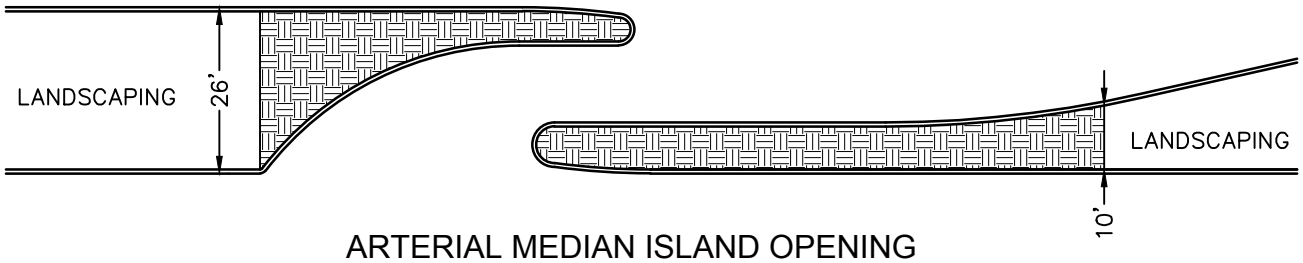


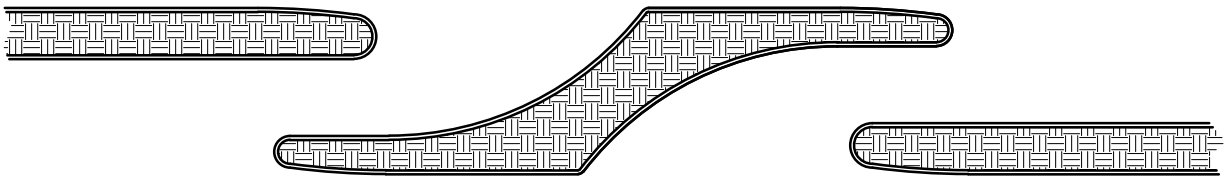
ARTERIAL MEDIAN ISLAND
DUAL LEFT TURN



ARTERIAL MEDIAN ISLAND
SINGLE LEFT TURN



ARTERIAL MEDIAN ISLAND OPENING
FOR ONE-WAY LEFT TURN ONLY



ARTERIAL MEDIAN ISLAND OPENING
FOR TWO-WAY LEFT TURN ONLY

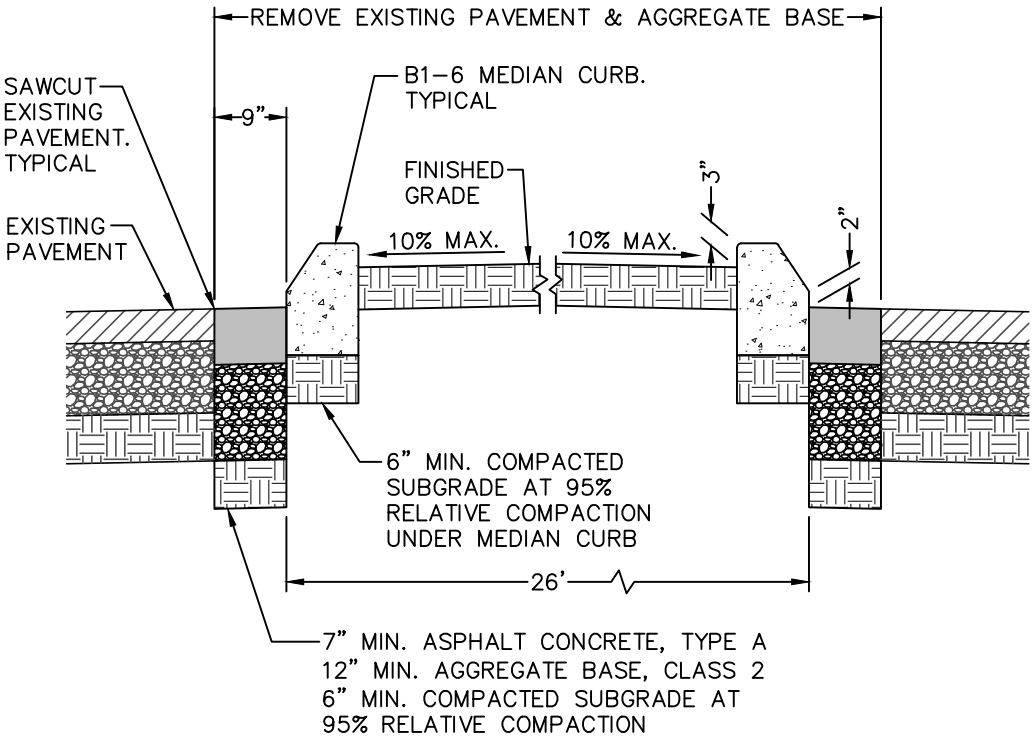
LEGEND:

STAMPED CONCRETE PER CITY STANDARD SPECIFICATIONS OR AS DIRECTED BY CITY ENGINEER

NOTES:

1. ANY MEDIAN SPACE LESS THAN 2' BACK OF CURB TO BACK OF CURB SHALL BE SOLID CONCRETE FINISH.
2. END STAMPED CONCRETE WHERE MEDIAN ISLAND WIDTH IS 10' BACK OF CURB TO BACK OF CURB.
3. SLEEVES SHALL BE PROVIDED THROUGH MEDIAN CONCRETE. IF CONDUIT OR OTHER IMPROVEMENT NEEDS TO RUN THROUGH MEDIAN CONCRETE IT SHALL BE DONE THROUGH BORING, NOT TRENCHING.

APPROVED BY: _____ CITY ENGINEER R.P.E. 81734 — 09/16/16 DATE	CITY OF VISALIA DESIGN & IMPROVEMENT STANDARDS
STAMPED CONCRETE & LANSCAPING LOCATIONS IN ARTERIAL MEDIANS	REVISIONS 08/05/16 BK 2016 — P–13



NOTE:

1. IF EXISTING PAVEMENT SECTION IS THICKER THAN SECTION THICKNESS MENTIONED ABOVE, THE PAVEMENT TO BE INSTALLED SHALL MATCH EXISTING.
2. IF MEDIAN WIDTH IS LESS THAN 6 FEET, THE MEDIAN SLOPE MAY BE INCREASED UP TO 25%.
3. MEDIAN IMPROVEMENTS, INCLUDING LANDSCAPING, SHALL NOT EXCEED 30" IN HEIGHT WITHIN THE SIGHT TRIANGLE AREA.
4. FULL DEPTH ASPHALT CONCRETE PLUG MAY BE ALLOWED WITH APPROVAL OF CITY ENGINEER.

APPROVED BY: _____ 09/16/16
CITY ENGINEER R.P.E. 81734 DATE

CITY OF VISALIA
DESIGN & IMPROVEMENT STANDARDS

ARTERIAL MEDIAN INSTALLATION IN EXISTING PAVEMENT

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08/10/16
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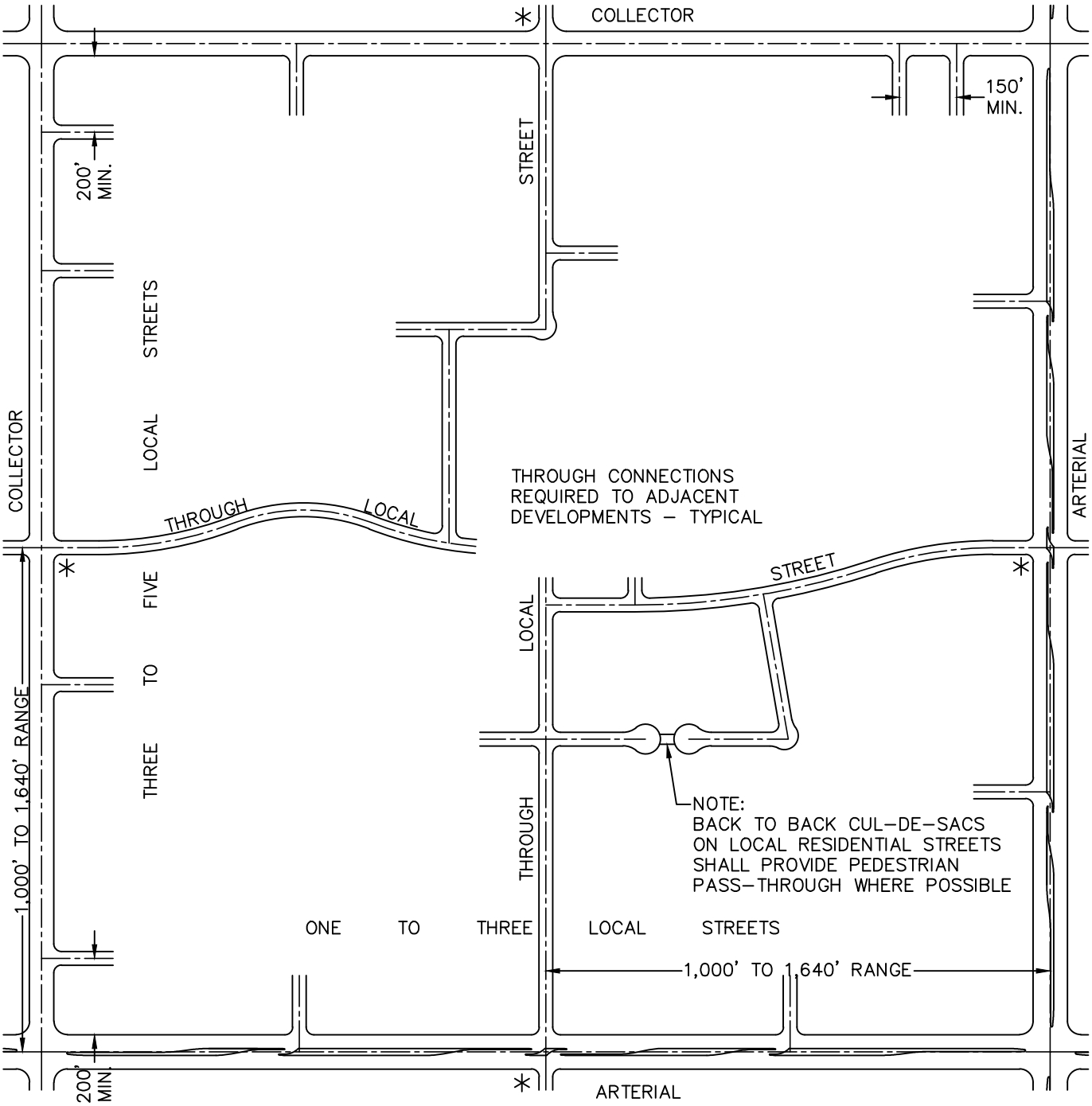

* THE INTENT OF THIS POLICY IS TO PROVIDE FULL ACCESS FROM EACH ASTRISK NOTED INTERSECTION TO EACH DEVELOPMENT WITHIN THE SUPER BLOCK WITHOUT USING A COLLECTOR OR ARTERIAL.

APPROVED BY: _____ 09/16/16
CITY ENGINEER R.P.E. 81734 DATE

CITY OF VISALIA
DESIGN & IMPROVEMENT STANDARDS

SUPER BLOCK CONNECTIVITY

REVISIONS
08/10/16
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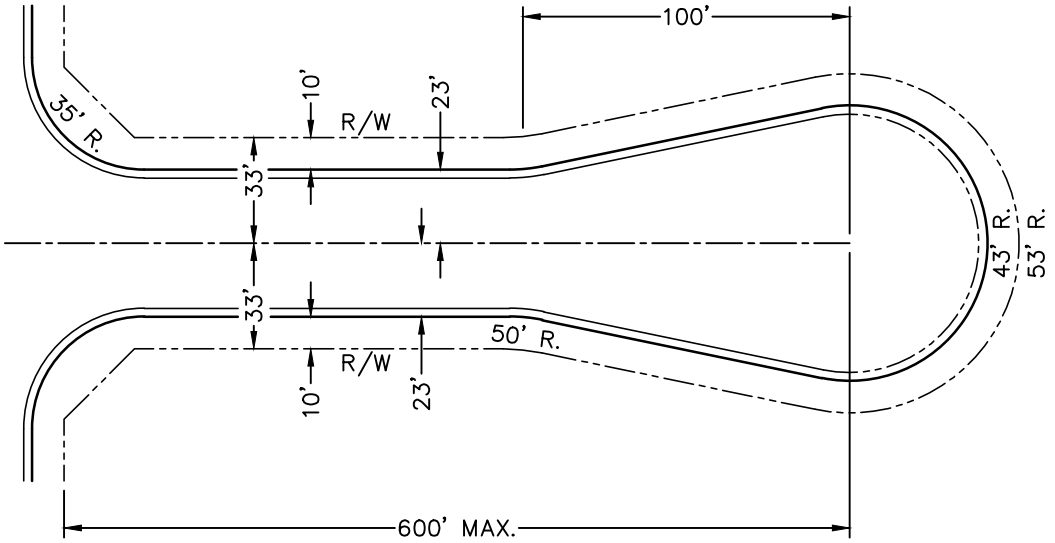
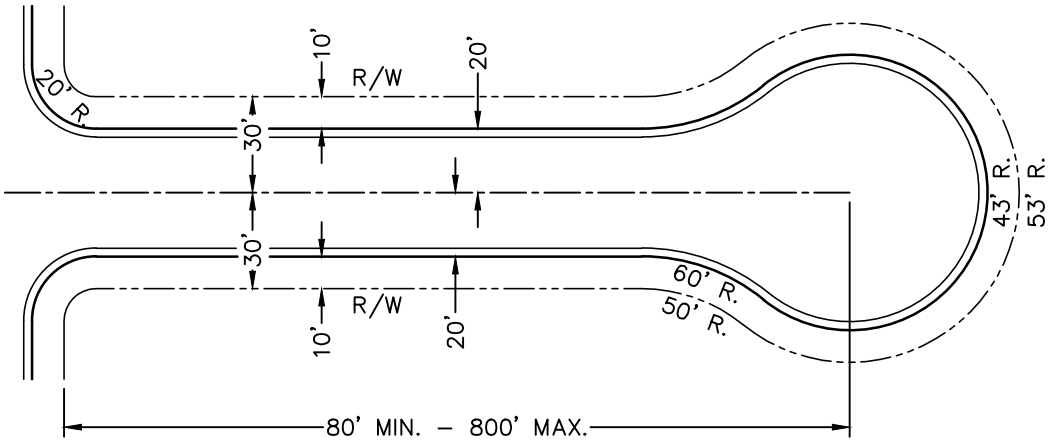
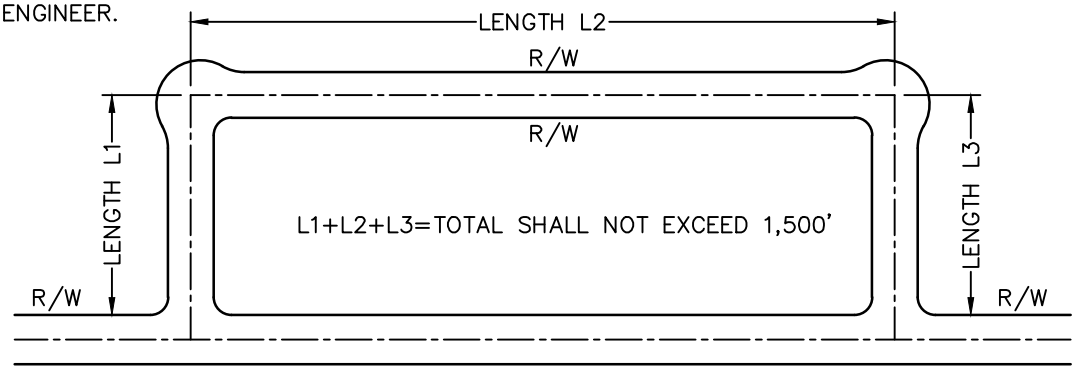


COMMERCIAL AND INDUSTRIAL CUL-DE-SAC



RESIDENTIAL CUL-DE-SAC

NOTE:
DESIGNS TO PERMIT PARKING IN CUL–DE–SAC CENTERS ARE SUBJECT TO APPROVAL OF THE CITY ENGINEER.



LOCAL MINOR LOOP STREET

APPROVED BY: _____ 09/16/16
CITY ENGINEER R.P.E. 81734 DATE

CITY OF VISALIA
DESIGN & IMPROVEMENT STANDARDS

CUL–DE–SAC AND LOCAL MINOR LOOP LAYOUT

REVISIONS
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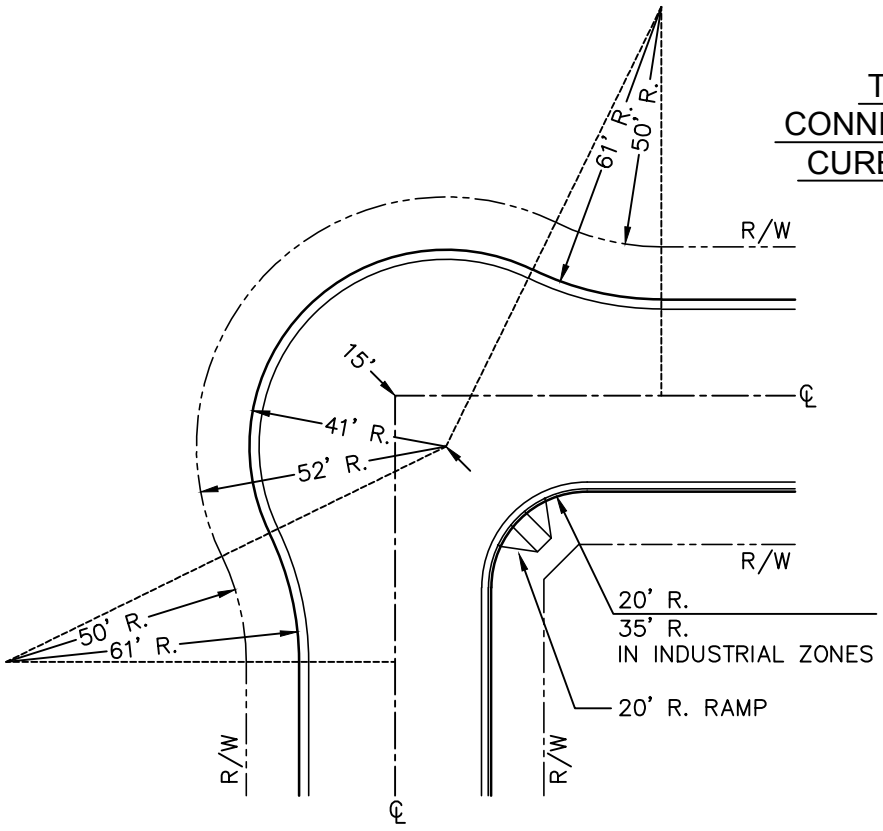
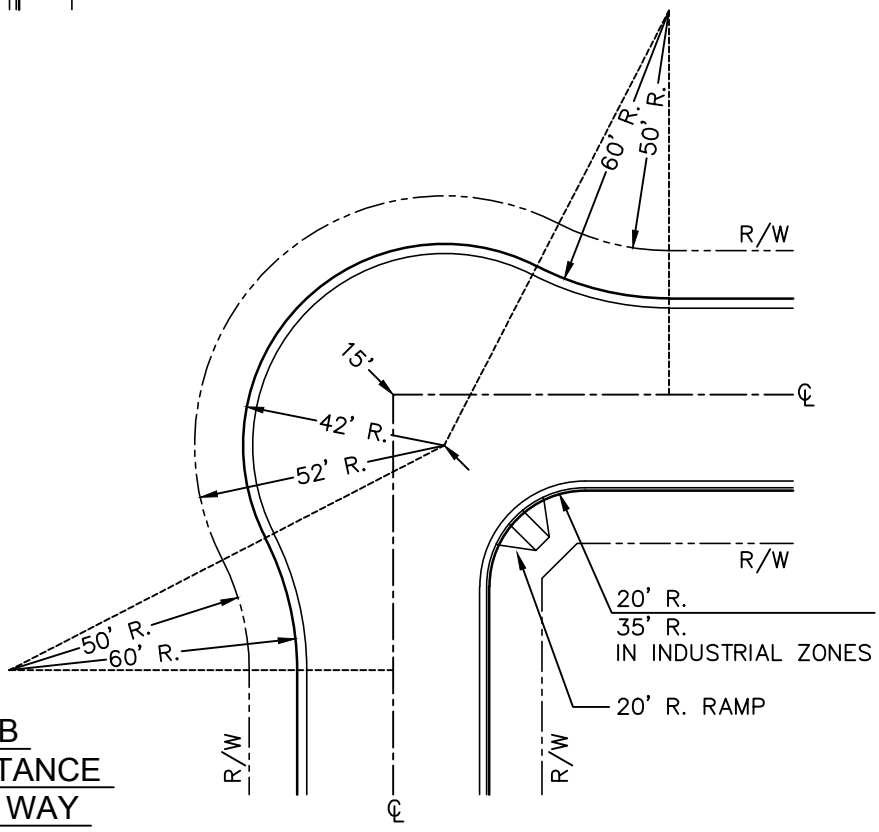
TYPICAL STREET BULB CONNECTION WITH 11' DISTANCE CURB FACE TO RIGHT OF WAY



TYPICAL STREET BULB CONNECTION WITH 10' DISTANCE CURB FACE TO RIGHT OF WAY



APPROVED BY: _____ 09/16/16
CITY ENGINEER R.P.E. 81734 DATE

CITY OF VISALIA
DESIGN & IMPROVEMENT STANDARDS

STREET BULB CONNECTION

REVISIONS
08/10/16
BK 2016

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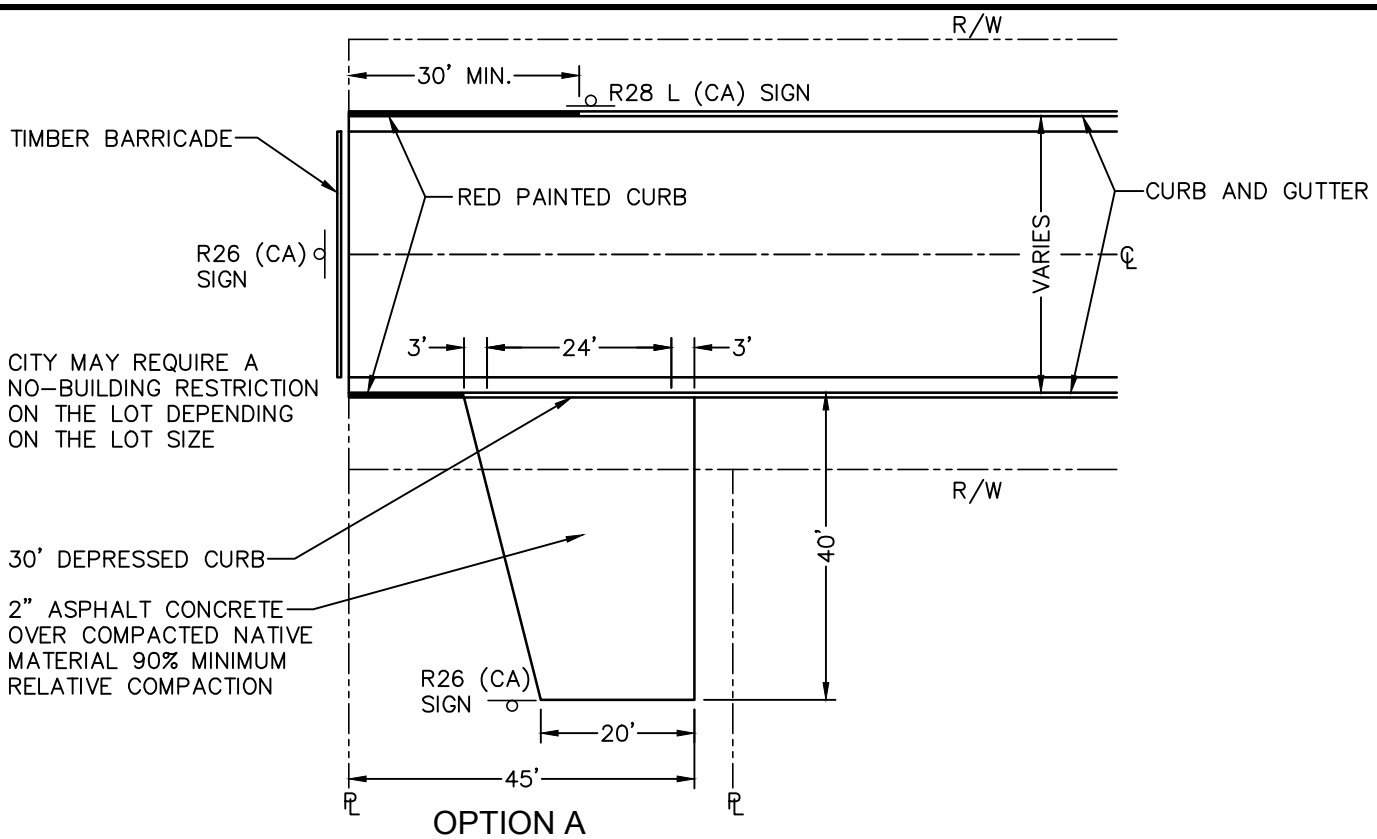
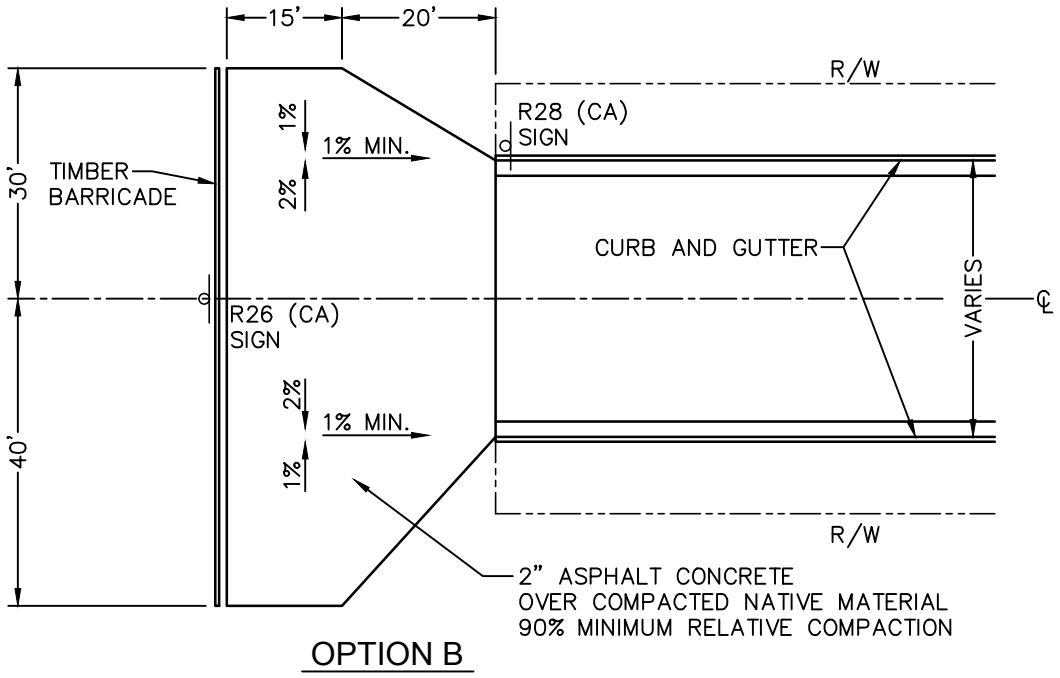
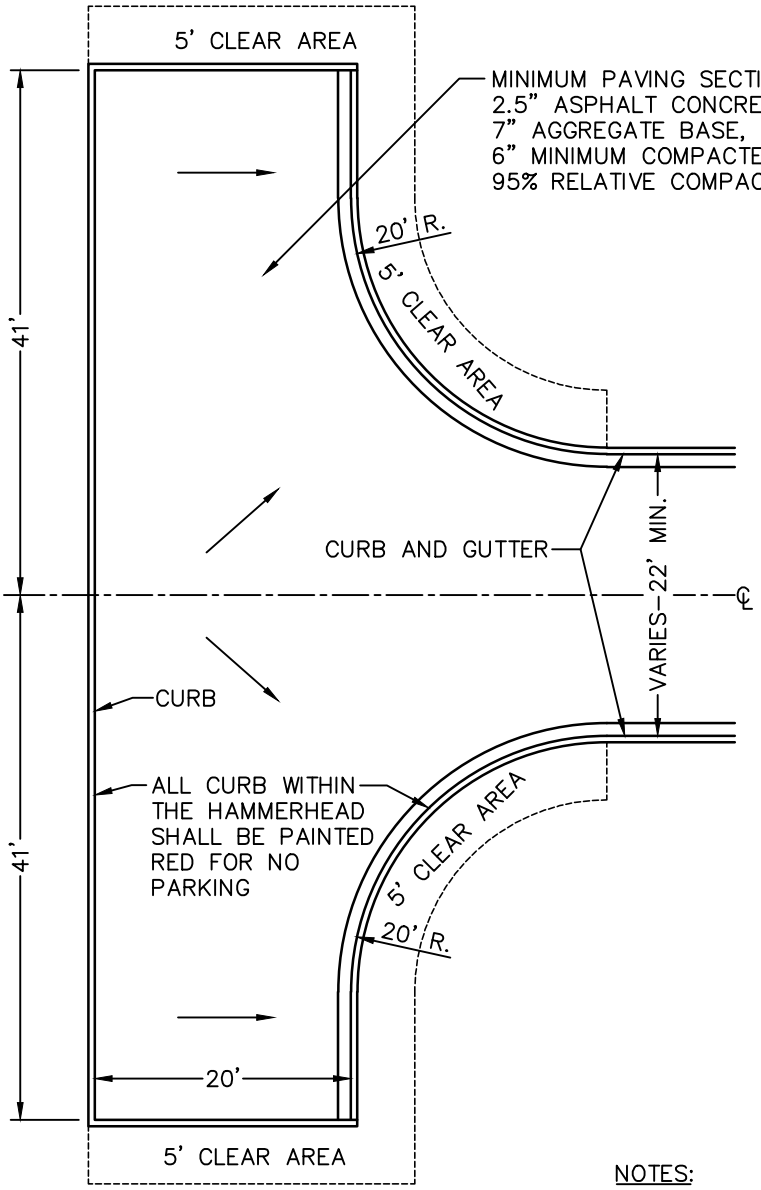




NOTES:

1. THESE STANDARDS ARE INTENDED FOR PUBLIC STREETS IN PHASED DEVELOPMENTS ON A TEMPORARY BASIS ONLY.
2. TURNAROUND SHALL BE REQUIRED WHEN A STUB STREET IS IN EXCESS OF 2 LOTS OR IN EXCESS OF 150 FEET FROM THROUGH STREET.
3. USE OTHER THAN TEMPORARY SHALL BE AT THE DISCRETION OF THE CITY ENGINEER.

APPROVED BY: CITY ENGINEER R.P.E. 81734 — 09/16/16 DATE	CITY OF VISALIA DESIGN & IMPROVEMENT STANDARDS
TEMPORARY HAMMERHEAD TURNAROUND PUBLIC STREET	REVISIONS 08/10/16 BK 2016 — P-18



NOTES:

1. NO PARKING ALLOWED.
2. DESIGN CRITERION: TRAFFIC INDEX 5.5.
3. CURB OR CURB AND GUTTER REQUIRED AT ALL PAVEMENT EDGES.
4. NO ABOVE GROUND STRUCTURES SHALL BE ALLOWED IN THE 5' CLEAR AREAS AS SHOWN.
5. THE USE OF THIS STANDARD MUST BE APPROVED BY THE CITY OF VISALIA SOLID WASTE DIVISION.

APPROVED BY: _____ CITY ENGINEER R.P.E. 81734 09/16/16 DATE

CITY OF VISALIA
DESIGN & IMPROVEMENT STANDARDS

PERMANENT HAMMERHEAD TURNAROUND

REVISIONS
08/10/16
BK 2016

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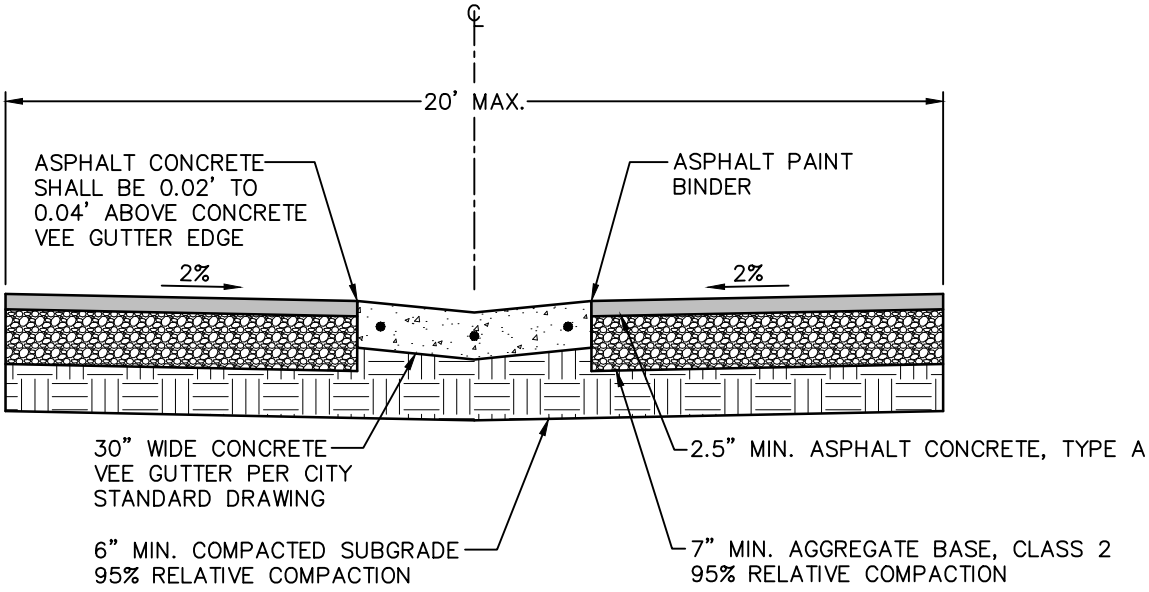
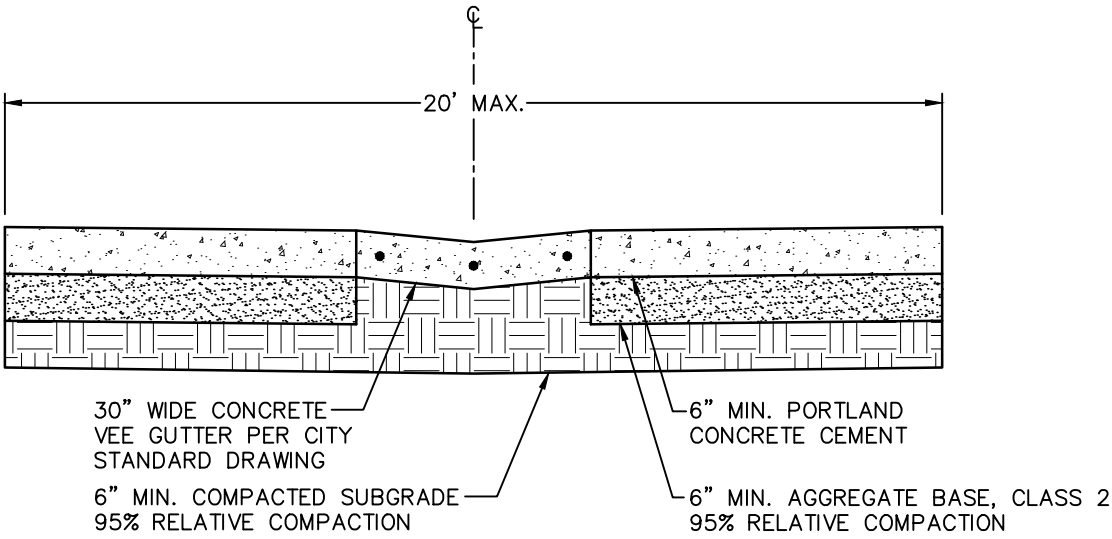


ASPHALT CONCRETE SURFACE



CONCRETE SURFACE

NOTES:

1. ALL CONCRETE SHALL BE CLASS 3 CONCRETE.
2. ALL CONCRETE SHALL HAVE A LIGHT BROOM FINISH.
3. DESIGN CRITERIA: TRAFFIC INDEX 5.5
4. STRUCTURAL SECTIONS SHALL BE DETERMINED BASED ON T.I. AND R-VALUES AS TABULATED IN THE STREET SECTION REQUIREMENTS STANDARD DETAIL.

APPROVED BY: _____ CITY ENGINEER R.P.E. 81734 09/16/16 DATE	CITY OF VISALIA DESIGN & IMPROVEMENT STANDARDS	
ALLEY PAVING SECTIONS	REVISIONS 08/10/16 BK 2016	P-20

PRIVATE STREET GUIDELINES

PAVEMENT WIDTHS:

1. PRIVATE STREETS SHALL PROVIDE A PAVEMENT WIDTH COMMENSURATE WITH THE PROPOSED DESIGN SPEED, TRAFFIC VOLUME, ALIGNMENT AND PARKING REQUIREMENTS.

2. A STREET PAVEMENT WIDTH OF 24', AND PARKING STALLS 20' IN LENGTH SHALL BE CONSIDERED MINIMUM IF THE PARKING STALLS ARE ORIENTED PERPENDICULAR TO THE STREET AND IF VEHICLES BACK INTO THE STREET TO EXIT. PARKING SPACES ORIENTED OTHERWISE SHALL CONFORM TO THE CITY OF VISALIA PARKING STANDARDS.

3. PRIVATE STREETS WITH ENTRY GATES SHALL PROVIDE A U-TURN AREA WITHIN THE PUBLIC RIGHT OF WAY. THE MINIMUM TURNING RADIUS SHALL BE 24'.

4. STREET ENDS, COURTS OR DRIVEWAYS SHALL PROVIDE SOLID WASTE TRUCKS SERVICING INDIVIDUAL REFUSE CONTAINERS A MINIMUM OUTSIDE TURNING RADIUS OF 35' AND A MAXIMUM INSIDE TURNING RADIUS OF 20'. SOLID WASTE TRUCKS PROVIDING SERVICE TO REFUSE BINS REQUIRE A MINIMUM OUTSIDE TURNING RADIUS OF 50' AND A MAXIMUM INSIDE TURNING RADIUS OF 36'.

5. THE UNIFORM FIRE CODE REQUIRES THAT THE MOST REMOTE WALL OF ANY BUILDING MUST BE WITHIN 150' OF A PAVED DRIVE OR STREET NOT LESS THAN 20' WIDE. ACCESS TO BUILDINGS CONFORMING TO THIS REQUIREMENT SHALL PROVIDE A 14' MINIMUM PAVED ACCESS DRIVE AND A 20' MINIMUM UNOBSTRUCTED ACCESS EASEMENT. ACCESS TO BUILDINGS IN EXCESS OF TWO STORIES SHALL COMPLY TO MORE STRINGENT REQUIREMENTS OF THE FIRE CODE.

STRUCTURAL SECTIONS:

1. THE STRUCTURAL SECTIONS OF STREETS UTILIZING ASPHALT CONCRETE SURFACING SHALL BE DESIGNED BY AN ACCEPTED FLEXIBLE PAVEMENT DESIGN METHOD.

2. THE MINIMUM STREET SECTION SHALL CONSIST OF A 2-1/2" TYPE A, 3/4" MAXIMUM, MEDIUM GRADE ASPHALT CONCRETE SURFACE, A 7" SECTION OF AGGREGATE BASE, CLASS 2, AND A 6" MINIMUM SOIL SUBGRADE COMPACTED TO A MINIMUM OF 95% RELATIVE COMPACTION.

3. PARKING AREAS AND ACCESS DRIVES MAY USE A PORTLAND CEMENT CONCRETE SURFACE A MINIMUM OF 6" THICK OVER A 6" AGGREGATE BASE OVER A 6" MINIMUM SOIL SUBGRADE COMPACTED TO A MINIMUM OF 90% RELATIVE COMPACTION.

TRAFFIC INDEXES:

1. THE CITY ENGINEER SHALL ESTABLISH TRAFFIC INDEXES FOR PRIVATE STREETS BASED UPON EXPECTED TRAFFIC VOLUMES AS INDICATED BELOW:

RESIDENTIAL UNITS USING STREET	MINIMUM TRAFFIC INDEX
1-150	5.5

APPROVED BY: _____ 09/16/16
CITY ENGINEER R.P.E. 81734 DATE

CITY OF VISALIA
DESIGN & IMPROVEMENT STANDARDS

PRIVATE STREET GUIDELINES
SHEET 1 OF 2

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PRIVATE STREET GUIDELINES CONTINUED

GEOMETRIC SECTIONS

1. DRIVES SERVING 1 TO 4 UNITS SHALL USE A LOCAL ROAD PAVING SECTION STANDARD EXCEPTING THAT PAVEMENT EDGES SHALL BE PROTECTED WITH A 6" TALL CONCRETE CURB. SUBJECT TO SITE PLAN REVIEW, THE CURBING REQUIREMENT MAY BE WAIVED.

2. DRIVES OR STREETS SERVING 5 OR MORE UNITS SHALL PROVIDE A CURB OR CURB AND GUTTER AT ALL PAVEMENT EDGES.

3. PAVEMENT SHALL HAVE A MINIMUM CROSS SLOPE OF 1% AND PAVEMENT SECTIONS SHOULD MATCH THE EQUIVALENT LOCAL PUBLIC STREET.

4. BARRIER TYPE CURB AND GUTTER TYPE A2–6, IS RECOMMENDED FOR PRIVATE STREETS. THE FOLLOWING ARE PERMITTED OPTIONS.

   A. VEE GUTTER, 24" MINIMUM WIDTH, SLOPE = 0.25 FEET PER 100 FEET MINIMUM.

   B. MINI CURB AND GUTTER, 4" CURB HEIGHT AND 12" GUTTER, SLOPE = 0.20 FEET PER 100 FEET MINIMUM.

   C. MINI ROLL CURB AND GUTTER, 4" CURB HEIGHT AND 12" GUTTER, SLOPE = 0.30 FEET PER 100 FEET MINIMUM.

5. FOR NEW ROADWAYS THAT ARE BEING CONSTRUCTED WHERE A PREVIOUS ROAD DID NOT EXIST, ALL ROADWAY INFRASTRUCTURE SHALL BE INSTALLED & OPERATIONAL PRIOR TO OPENING. THIS INCLUDES SIGNAGE, STRIPING, AND ROADWAY LIGHTING.

REQUIRED SIGNS:

1. THE ENTRANCE TO ANY PRIVATE STREET FROM A PUBLIC RIGHT OF WAY SHALL HAVE A SIGN "PRIVATE STREET" POSTED AT THE ENTRANCE.

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CITY OF VISALIA
DESIGN & IMPROVEMENT STANDARDS

PRIVATE STREET GUIDELINES
SHEET 2 OF 2

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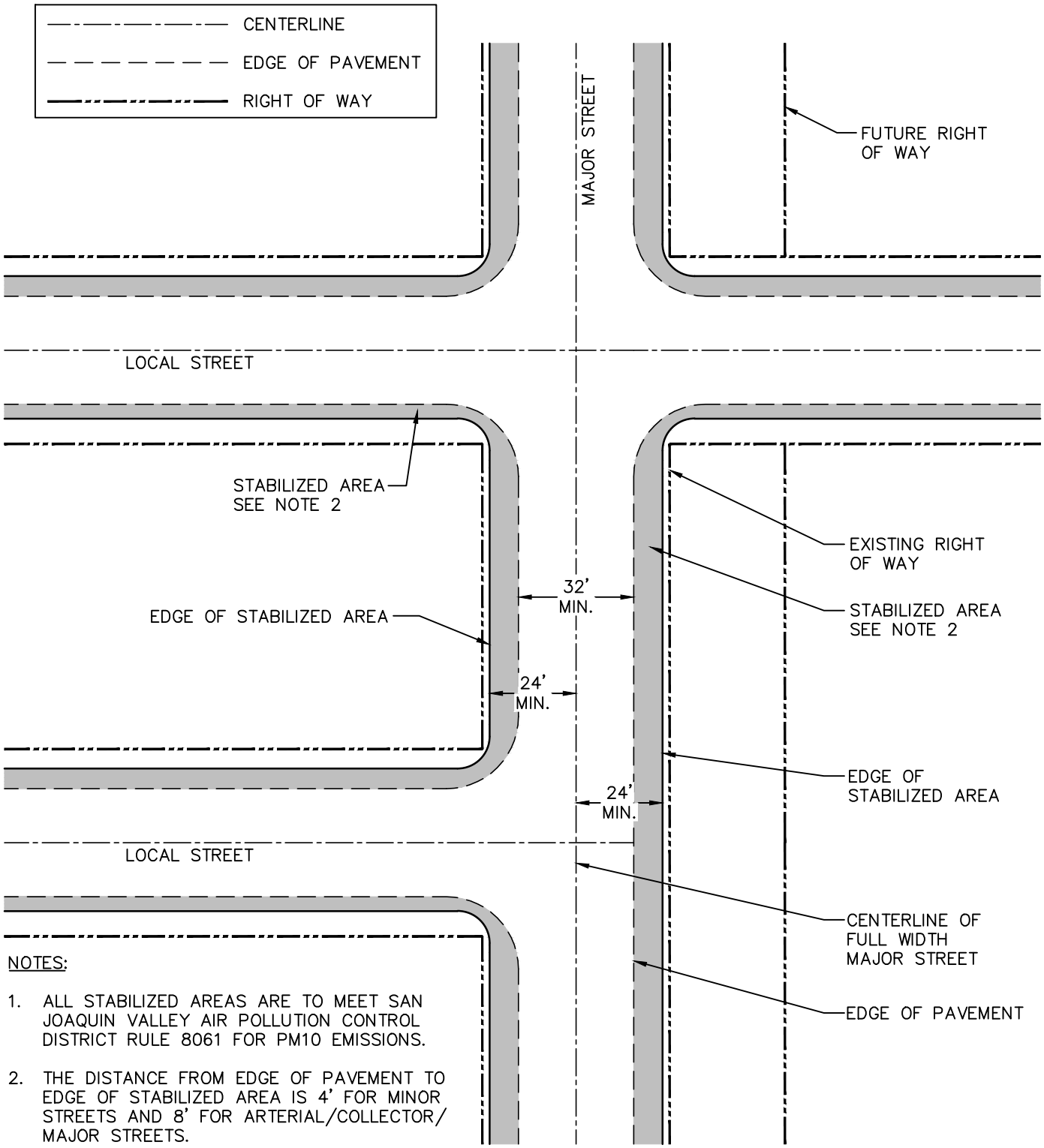

NOTES:

1. ALL STABILIZED AREAS ARE TO MEET SAN JOAQUIN VALLEY AIR POLLUTION CONTROL DISTRICT RULE 8061 FOR PM10 EMISSIONS.
2. THE DISTANCE FROM EDGE OF PAVEMENT TO EDGE OF STABILIZED AREA IS 4' FOR MINOR STREETS AND 8' FOR ARTERIAL/COLLECTOR/ MAJOR STREETS.
3. NEW PAVED ROADS OR MODIFICATIONS TO EXISTING PAVED ROADS WITH PROJECTED AVERAGE DAILY TRIPS OF 500 VEHICLES OR MORE SHALL BE CONSTRUCTED WITH PAVED SHOULDERS.

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CITY OF VISALIA
DESIGN & IMPROVEMENT STANDARDS

UNPAVED STREET & SHOULDER S.J.V.A.P.C.D. STANDARD REQUIREMENTS

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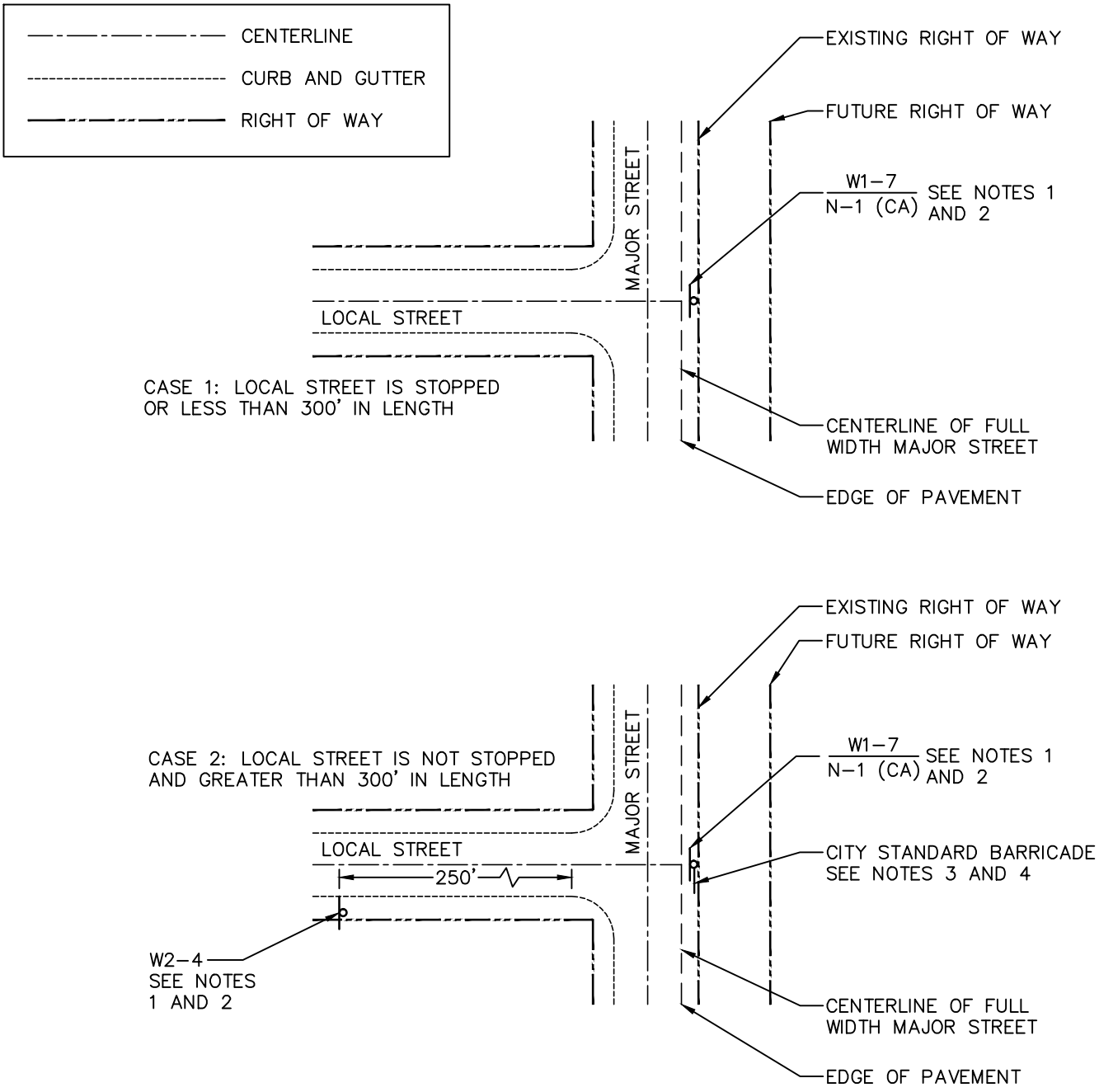

NOTES:

1. ALL SIGNS ARE TO MEET CITY STANDARDS FOR RETROREFLECTIVITY, FACE SHEETING, SIGN GAUGE, POST TYPE, AND ANCHORING/FOOTING PROCEDURES.
2. SIGNS ARE TO BE INSTALLED A MINIMUM OF 4' BACK FROM EDGE OF PAVEMENT.
3. CITY STANDARD BARRICADE IS TO BE INSTALLED IF OBJECTS IN THE PATH OF ONCOMING TRAFFIC MAY FORM A HAZARD (I.E. ORCHARD, TREE STAND, EARTHWORK, BUILDING, ETC.).
4. IF REQUIRED, CITY STANDARD BARRICADE IS TO BE INSTALLED BETWEEN 4' AND 8' BACK FROM EDGE OF PAVEMENT, DEPENDENT ON SURROUNDING AREA.
5. ALL SIGNS ARE TO MEET THE LATEST CALIFORNIA MUTCD GUIDELINES.

APPROVED BY: _____ CITY ENGINEER R.P.E. 81734 09/16/16 DATE

CITY OF VISALIA
DESIGN & IMPROVEMENT STANDARDS

"T" INTERSECTION TEMPORARY HALF STREET TREATMENTS

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STREET SECTION REQUIREMENTS

R-VALUE OF SUBGRADE	TRAFFIC INDEX (TI)																					
	5.5		6		6.5		7		7.5		8		9		10		11		12		13	
	HMA	AB	HMA	AB	HMA	AB	HMA	AB	HMA	AB	HMA	AB	HMA	AB	HMA	AB	HMA	AB	HMA	AB	HMA	AB
10	2.5"	12"	2.5"	14"	3"	15"	4"	15"	4.5"	16"	5"	16"	5.5"	19"	6"	22"	7"	24"	8"	26"	8.5"	30"
12	2.5"	12"	2.5"	14"	3"	15"	4"	14"	4.5"	15"	5"	16"	5.5"	19"	6"	21"	7"	23"	8"	25"	8.5"	29"
14	2.5"	12"	2.5"	13"	3"	14"	4"	14"	4.5"	15"	5"	15"	5.5"	18"	6"	21"	7"	23"	8"	24"	8.5"	28"
16	2.5"	11"	2.5"	13"	3"	14"	4"	13"	4.5"	14"	5"	15"	5.5"	17"	6"	20"	7"	22"	8"	23"	8.5"	27"
18	2.5"	11"	2.5"	12"	3"	13"	4"	13"	4.5"	14"	5"	14"	5.5"	17"	6"	19"	7"	21"	8"	23"	8.5"	26"
20	2.5"	11"	2.5"	12"	3"	13"	4"	12"	4.5"	13"	5"	14"	5.5"	16"	6"	19"	7"	20"	8"	22"	8.5"	25"
22	2.5"	10"	2.5"	11"	3"	12"	4"	12"	4.5"	13"	5"	13"	5.5"	15"	6"	18"	7"	19"	8"	21"	8.5"	24"
24	2.5"	10"	2.5"	11"	3"	12"	4"	11"	4.5"	12"	5"	12"	5.5"	15"	6"	17"	7"	19"	8"	20"	8.5"	24"
26	2.5"	9"	2.5"	11"	3"	11"	4"	11"	4.5"	12"	5"	12"	5.5"	14"	6"	16"	7"	18"	8"	19"	8.5"	23"
28	2.5"	9"	2.5"	10"	3"	11"	4"	10"	4.5"	11"	5"	11"	5.5"	14"	6"	16"	7"	17"	8"	19"	8.5"	22"
30	2.5"	9"	2.5"	10"	3"	10"	4"	10"	4.5"	11"	5"	11"	5.5"	13"	6"	15"	7"	16"	8"	18"	8.5"	21"
32	2.5"	8"	2.5"	9"	3"	10"	4"	9"	4.5"	10"	5"	10"	5.5"	12"	6"	14"	7"	16"	8"	17"	8.5"	20"
34	2.5"	8"	2.5"	9"	3"	10"	4"	9"	4.5"	9"	5"	10"	5.5"	12"	6"	14"	7"	15"	8"	16"	8.5"	19"
36	2.5"	7"	2.5"	9"	3"	9"	4"	8"	4.5"	9"	5"	9"	5.5"	11"	6"	13"	7"	14"	8"	15"	8.5"	18"
38	2.5"	7"	2.5"	8"	3"	9"	4"	8"	4.5"	8"	5"	9"	5.5"	10"	6"	12"	7"	13"	8"	15"	8.5"	17"
40	2.5"	7"	2.5"	7"	3"	8"	4"	8"	4.5"	8"	5"	8"	5.5"	10"	6"	12"	7"	13"	8"	14"	8.5"	16"
42	2.5"	7"	2.5"	7"	3"	8"	4"	8"	4.5"	8"	5"	8"	5.5"	10"	6"	11"	7"	12"	8"	13"	8.5"	15"
44	2.5"	7"	2.5"	7"	3"	8"	4"	8"	4.5"	8"	5"	8"	5.5"	10"	6"	11"	7"	12"	8"	12"	8.5"	14"

NOTES:

1. AB = CLASS 2 AGGREGATE BASE. HMA = HOT MIX ASPHALT. ALL AB AND HMA SHALL CONFORM WITH THE CITY OF VISALIA ENGINEERING STANDARD SPECIFICATIONS.
2. TRAFFIC INDEXES USED SHALL BE AS APPROVED BY THE CITY ENGINEER.
3. A CALIFORNIA R-VALUE REPORT SHALL BE SUBMITTED TO THE CITY ENGINEERING DEPARTMENT FOR REVIEW AND ACCEPTANCE. THIS REPORT SHALL BE STAMPED AND SIGNED BY A REGISTERED CIVIL ENGINEER FROM A CERTIFIED TESTING LABORATORY. THE REPORT SHALL INCLUDE THE TEST RESULTS, DATA SHEETS, AND SOIL CLASSIFICATION OF ALL R-VALUE TESTS AND A MAP THAT SHOWS THE LOCATION OF ALL TESTS TAKEN AND THE R-VALUES ON THE SITE. IN GENERAL R-VALUE TESTING SHALL BE PERFORMED AT 300' INTERVALS IN A ROADWAY UNLESS APPROVED OTHERWISE BY THE CITY ENGINEER.
4. WHERE SUBGRADE R-VALUES ARE LESS THAN 30 A MODIFIED STREET SECTION MAY BE PROPOSED. ALL MODIFIED STREET SECTIONS MUST BE ACCOMPANIED BY A LETTER OF APPROVAL STAMPED AND SIGNED BY A REGISTERED CIVIL ENGINEER FROM A CERTIFIED TESTING LABORATORY. PROPOSALS SHALL BE REVIEWED BY THE CITY ENGINEER. THE CITY IS UNDER NO OBLIGATION TO ACCEPT ANY MODIFIED STREET SECTION PROPOSALS.
5. STREET SECTION REQUIREMENTS SHOWN ON THIS DETAIL SUPERCEDE STREET SECTIONS SHOWN ON ALL OTHER PAVEMENT SECTION DETAILS.

APPROVED BY: _____ CITY ENGINEER
R.P.E. 81734
09/16/16 DATE

CITY OF VISALIA
DESIGN & IMPROVEMENT STANDARDS

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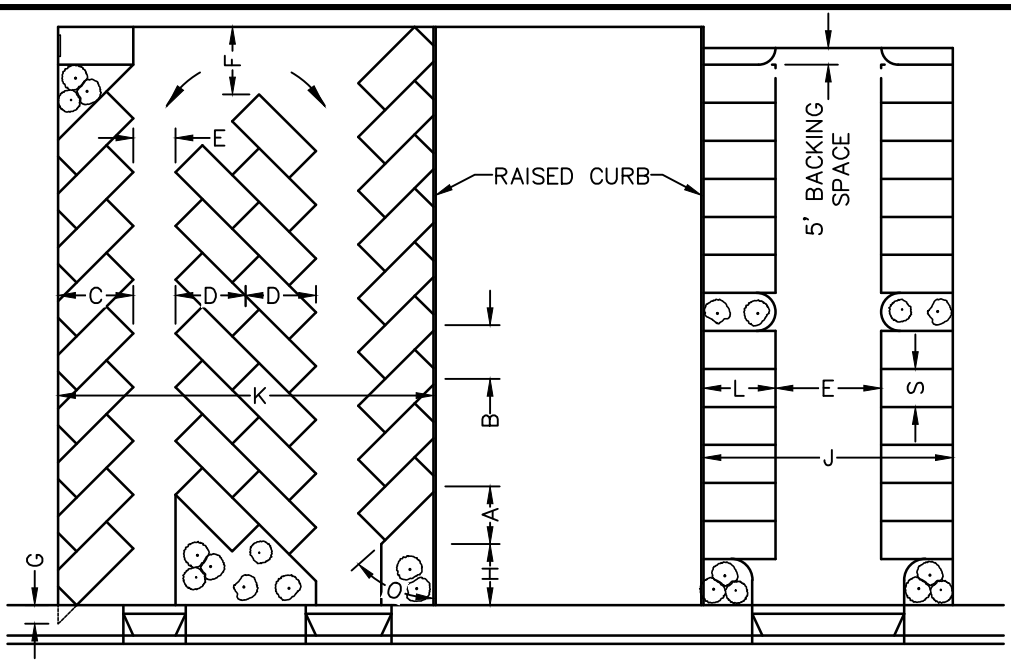

TABLE OF DIMENSIONS IN FEET

O	S	L	A	B	C	D	E	F	G	H	J	K
0°	8.0	22.0	0.0	22.0	8.0	8.0	12.0		0.0	5.0	28.0	
	8.0	24.0	0.0	24.0	8.0	8.0	11.0		0.0	5.0	27.0	
	8.0	26.0	0.0	26.0	8.0	8.0	10.0		0.0	5.0	26.0	
30°	8.5	19.0	29.2	17.0	16.9	13.2	10.0		12.8	6.0	43.8	
	9.0	19.0	30.0	18.0	17.3	13.4	9.0		13.5	6.0	43.6	
45°	8.5	19.0	19.4	12.0	19.4	16.4	10.8	15.5	6.0	9.5	49.6	93.2
	9.0	19.0	19.8	12.7	19.8	16.6	10.0	16.0	6.4	9.0	49.6	92.8
	9.5	19.0	20.1	13.4	20.1	16.7	9.5	16.5	6.7	8.5	49.7	92.6
	10.0	19.0	20.5	14.1	20.4	16.9	9.0	17.0	7.0	8.0	49.8	92.6
60°	8.5	19.0	12.0	9.8	20.8	18.7	18.0		2.5	12.5	59.6	115.0
	9.0	19.0	12.1	10.4	21.0	18.8	17.0	15.0	2.6	12.0	59.0	113.6
	9.5	19.0	12.3	11.0	21.3	18.9	15.5	15.0	2.8	11.5	58.1	111.4
	10.0	19.0	12.4	11.5	21.5	19.0	14.0	15.0	2.9	11.0	57.0	109.0
COMPACT 90°	7.5	15.0	0.0	7.5	15.0	15.0	24.0	20.0	0.0	5.0	54.0	108.0
	8.5	19.0	0.0	8.5	19.0	19.0	27.0	20.0	0.0	5.0	65.0	130.0
	9.0	19.0	0.0	9.0	19.0	19.0	25.0	20.0	0.0	5.0	63.0	126.0
	9.5	19.0	0.0	9.5	19.0	19.0	24.0	20.0	0.0	5.0	62.0	124.0
	10.0	19.0	0.0	10.0	19.0	19.0	23.0	20.0	0.0	5.0	61.0	122.0

NOTES:

1. PARKING LOT STRUCTURAL SECTION SHALL CONSIST OF 2" ASPHALT CONCRETE OVER 4" AGGREGATE BASE, CLASS 2, OVER 6" MINIMUM OF SUB-BASE COMPACTED TO 95% RELATIVE COMPACTION. DESIGN STRUCTURAL PAVING SECTION TO TRAFFIC INDEX OF 5.5 MINIMUM FOR SOLID WASTE TRUCK TRAVEL PATH. CITY PARKING LOT PAVEMENT SHALL BE DESIGNED PER STREET SECTION REQUIREMENTS STANDARD DRAWING.
2. MINIMUM SLOPE OF ASPHALT CONCRETE SURFACE SHALL BE 1%.
3. A LANDSCAPED ISLAND SHALL BE INSTALLED EVERY 10 SPACES.
4. MINIMUM AMOUNT OF LANDSCAPED AREA SHALL BE 5% TOTAL AREA.
5. ACCESSIBLE ROUTES SHALL BE PROVIDED TO THE CITY STREET RIGHT OF WAY, TO BUILDINGS, AND FACILITY ARRIVAL POINTS.
6. PARKING STALL LENGTH (L) CAN BE REDUCED BY 2 FT WHERE VEHICLES HAVE SPACE TO OVER HANG BY 2 FT WHILE MAINTAINING AN ACCESSIBLE ROUTE.

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CITY OF VISALIA
DESIGN & IMPROVEMENT STANDARDS

PARKING STANDARDS

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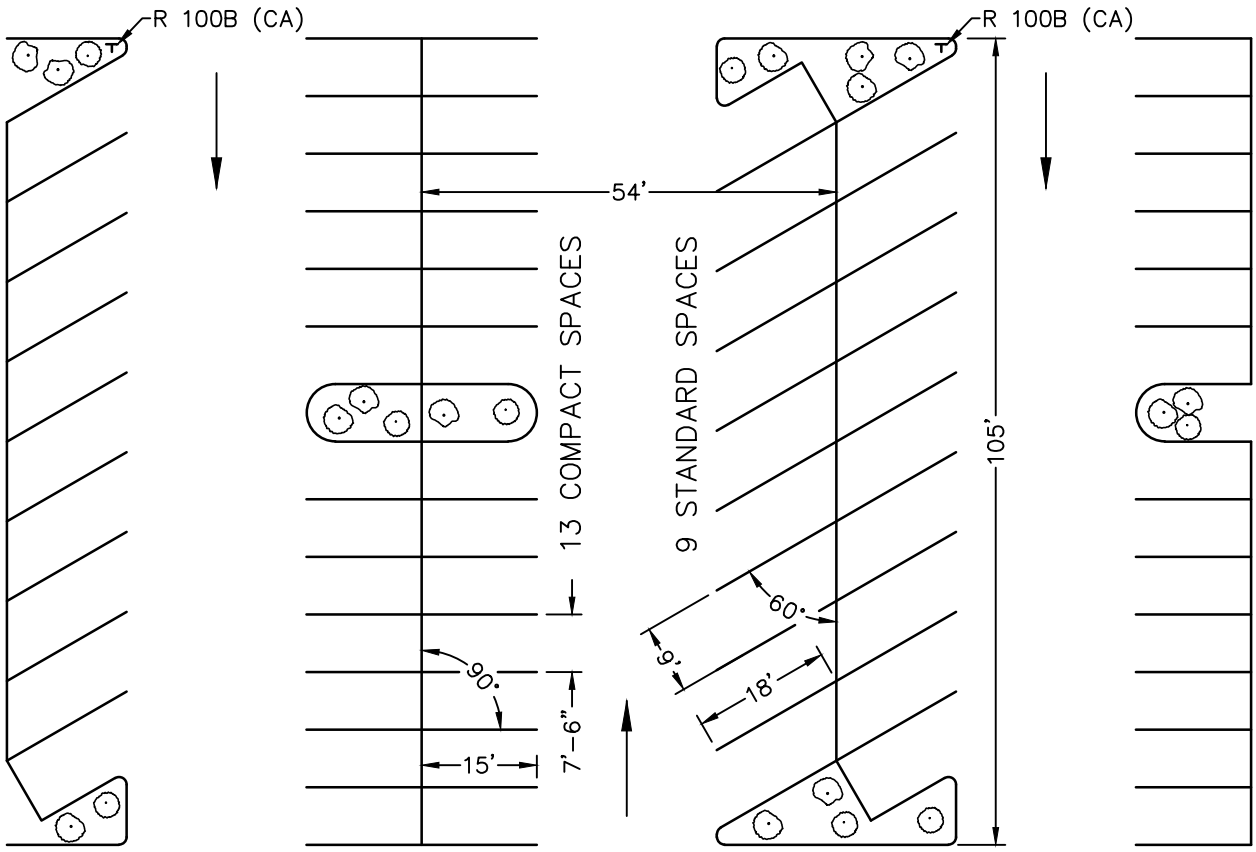

BASIC CONCEPT

THE DRACHMAN SYSTEM USES 90 DEGREE ANGLE SPACES FOR SMALL CARS IN THE SAME BAY IN WHICH 45 OR 60 DEGREE ANGLE SPACES ARE PROVIDED FOR LARGE CARS. THIS SELF ENFORCING PLAN USES STANDARD SPACE STALLS 8.5 OR 9.0 FEET WIDE BY 18 FEET LONG, WHILE COMPACT SPACES ARE 7.5 FEET WIDE BY 15 FEET LONG WITHIN A BAY WIDTH OF 54 FEET.

COMPARISON OF DRACHMAN SYSTEM TO STANDARD SYSTEM

DRACHMAN SYSTEM	
STANDARD SPACES	9
COMPACT SPACES	13
TOTAL	
STANDARD SYSTEM	
STANDARD SPACES	18
INCREASE IN SPACES DRACHMAN OVER STANDARD PERCENTAGE	22%

NOTES:

1. PARKING LOT STRUCTURAL SECTION SHALL CONSIST OF 2" ASPHALT CONCRETE OVER 4" AGGREGATE BASE, CLASS 2, OVER 6" MINIMUM OF SUB-BASE COMPACTED TO 95% RELATIVE COMPACTION. DESIGN STRUCTURAL PAVING SECTION TO TRAFFIC INDEX OF 5.5 MINIMUM FOR SOLID WASTE TRUCK TRAVEL PATH. CITY PARKING LOT PAVEMENT SHALL BE DESIGNED PER STREET SECTION REQUIREMENTS STANDARD DRAWING.
2. MINIMUM SLOPE OF ASPHALT CONCRETE SURFACE SHALL BE 1%.
3. A LANDSCAPED ISLAND SHALL BE INSTALLED EVERY 10 SPACES.
4. MINIMUM AMOUNT OF LANDSCAPED AREA SHALL BE 5% TOTAL AREA.
5. CITY ORDINANCE ALLOWS A MAXIMUM OF 30% COMPACT PARKING SPACES WITHIN A PARKING LOT, UNLESS EXTRA SPACES ARE PROVIDED.

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CITY ENGINEER R.P.E. 81734 DATE

CITY OF VISALIA
DESIGN & IMPROVEMENT STANDARDS

PARKING STANDARD DRACHMAN SYSTEM

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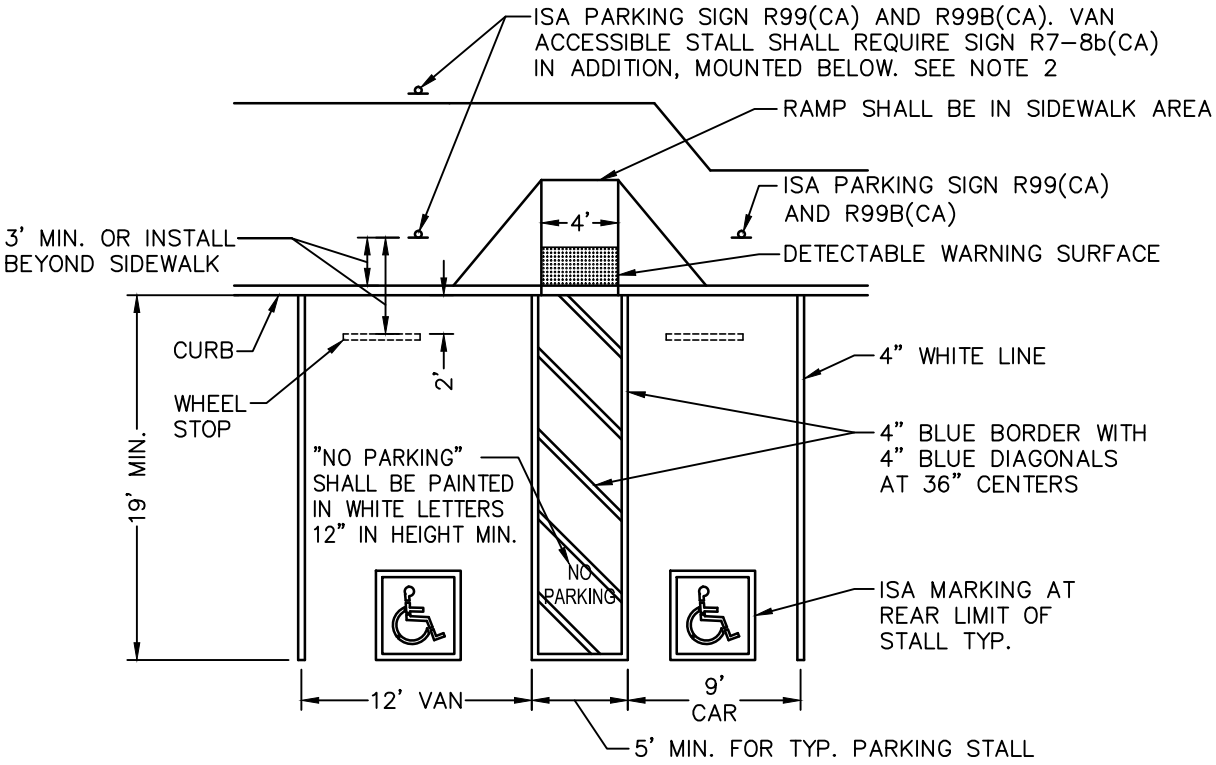
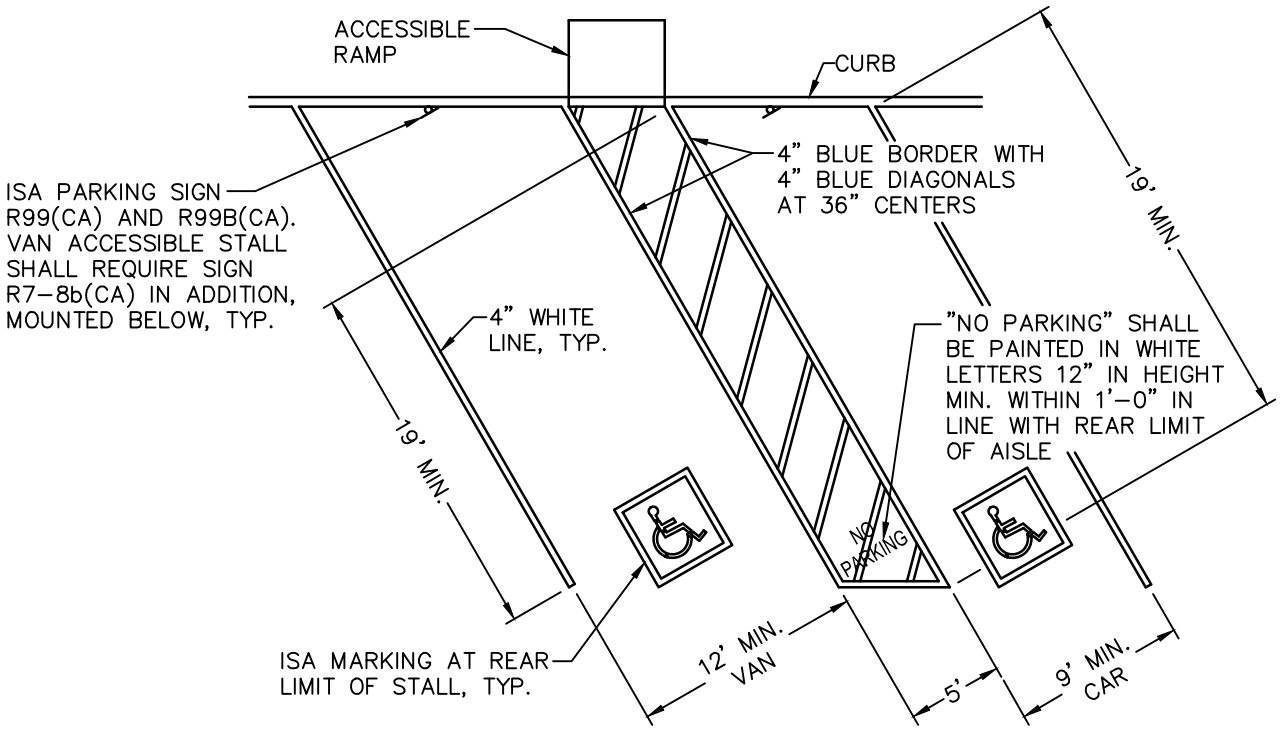


TYPICAL CONFIGURATION

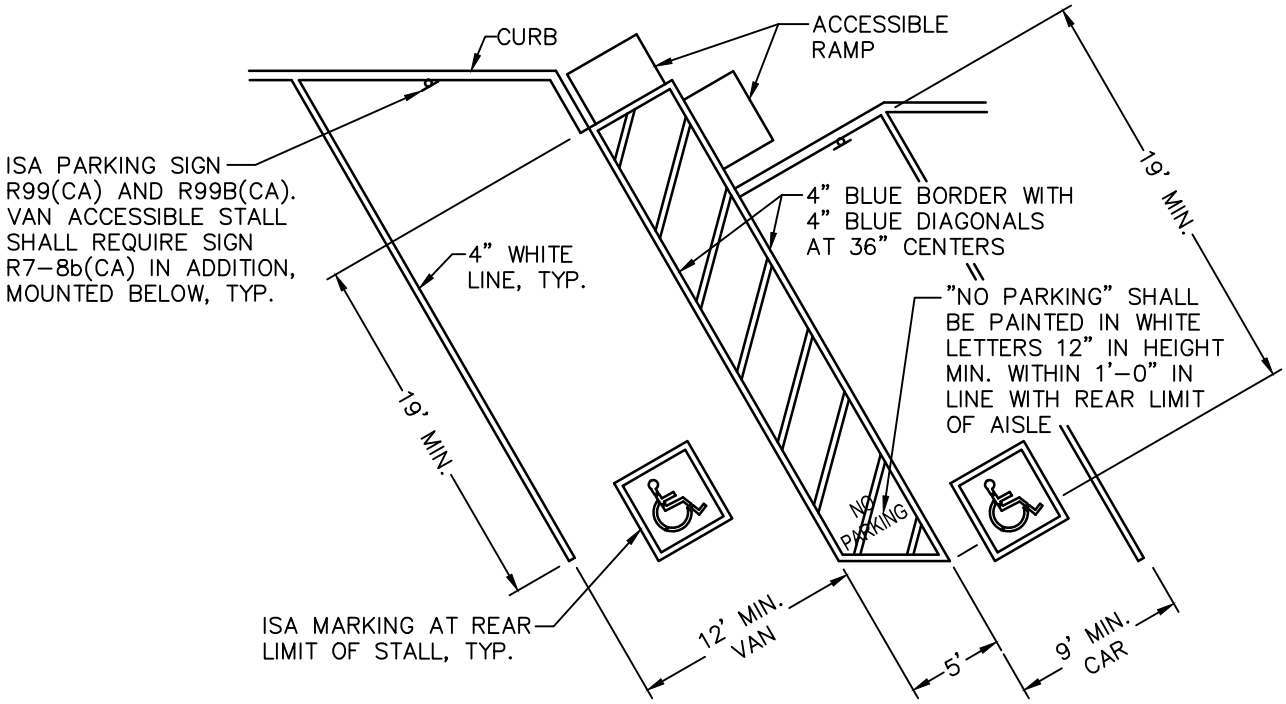
NOTE:

1. SEE PARKING STANDARDS AND PARKING STANDARDS DRACHMAN SYSTEM FOR REQUIRED LENGTH OF STALLS.
2. A R99C(CA) SIGN CAN BE USED IN PLACE OF THE R99(CA) AND R99B(CA) SIGNS.
3. A MAX SLOPE OF 1.5% IN ALL DIRECTIONS ON ACCESSIBLE PARKING STALLS AND AISLES.
4. ACCESSIBLE PARKING STALLS SHALL BE LOCATED AS CLOSE AS POSSIBLE, AND ON THE SHORTEST ACCESSIBLE ROUTE OF TRAVEL, TO THE PEDESTRIAN ENTRANCE OF THE SITE.
5. ACCESSIBLE PARKING STALLS SHALL BE SO LOCATED THAT USERS ARE NOT COMPELLED TO WHEEL OR WALK BEHIND PARKED CARS OTHER THAN THEIR OWN.
6. ONE IN EVERY SIX ACCESSIBLE PARKING STALLS, BUT NOT LESS THAN ONE, SHALL BE VAN ACCESSIBLE. VAN ACCESSIBLE PARKING STALLS SHALL HAVE AN ACCESS AISLE 5' MINIMUM IN WIDTH, PLACED ON THE SIDE OPPOSITE OF THE DRIVER'S SIDE OF THE VEHICLE.
7. RAMPS SHALL NOT ENCROACH INTO ANY ACCESSIBLE PARKING STALL OR ACCESS AISLE.
8. WHERE R99(CA) AND R99B(CA) SIGNS ARE INSTALLED ON SIDEWALKS OR OTHER PATHS OF TRAVEL, THE BOTTOM OF SIGN PANEL SHALL BE A MINIMUM OF 7' ABOVE THE SURFACE OF THE SIDEWALK OR PATH. WHERE R99(CA) AND R99B(CA) SIGNS ARE NOT INSTALLED ON SIDEWALKS OR PATHS OF TRAVEL, THE BOTTOM OF THE SIGN PANEL SHALL BE AT LEAST 5' ABOVE THE SURFACE OF THE PARKING LOT.
9. WHERE THERE IS A CLUSTER OF ACCESSIBLE PARKING STALLS, THE VAN ACCESSIBLE PARKING STALL SHALL BE FURTHEST FROM THE ACCESSIBLE FACILITY ENTRANCE, WITHIN SUCH CLUSTER OF ACCESSIBLE PARKING STALLS.

APPROVED BY: _____ CITY ENGINEER R.P.E. 81734 — 09/16/16 DATE	CITY OF VISALIA DESIGN & IMPROVEMENT STANDARDS
ACCESSIBLE PARKING 1 OF 3	REVISIONS 09/01/16 BK 2016 — PK-3



TYPICAL CONFIGURATION



TYPICAL CONFIGURATION

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CITY OF VISALIA
DESIGN & IMPROVEMENT STANDARDS

ACCESSIBLE PARKING 2 OF 3

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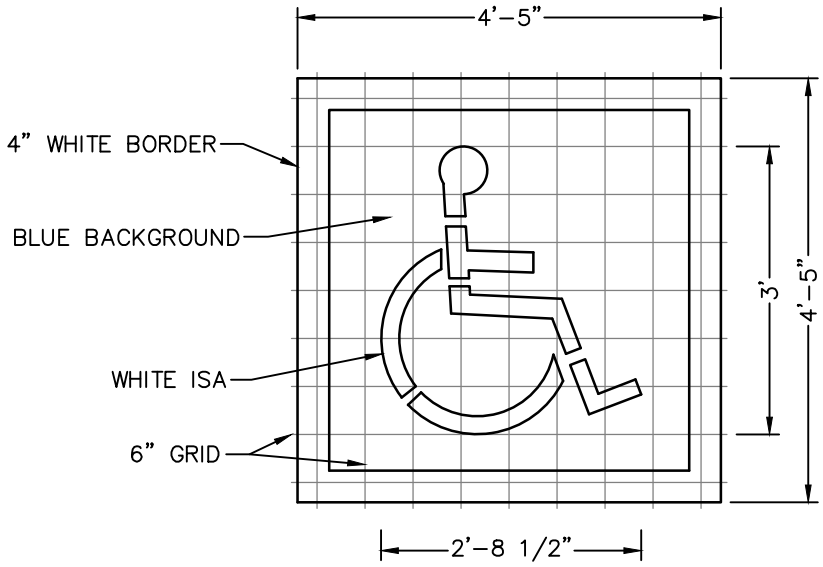

ISA MARKING FOR ACCESSIBLE PARKING SPACE OR STALL

TOTAL NUMBER OF PARKING SPACES OR STALLS	MINIMUM NUMBER OF DISABLED ACCESSIBLE PARKING SPACES OR STALLS
1–25	1
26–50	2
51–75	3
76–100	4
101–150	5
151–200	6
201–300	7
301–400	8
401–500	9
501–1000	2 PERCENT OF TOTAL
GREATER THAN 1001	20 PLUS 1 FOR EACH 100 OR FRACTION THEREOF OVER 1000

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CITY OF VISALIA
DESIGN & IMPROVEMENT STANDARDS

ACCESSIBLE PARKING 3 OF 3

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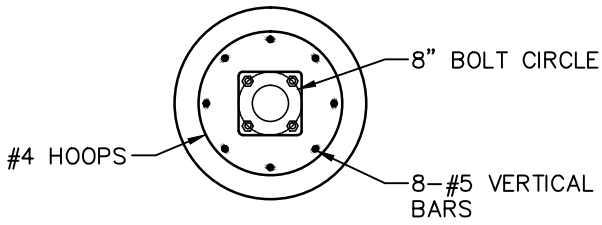
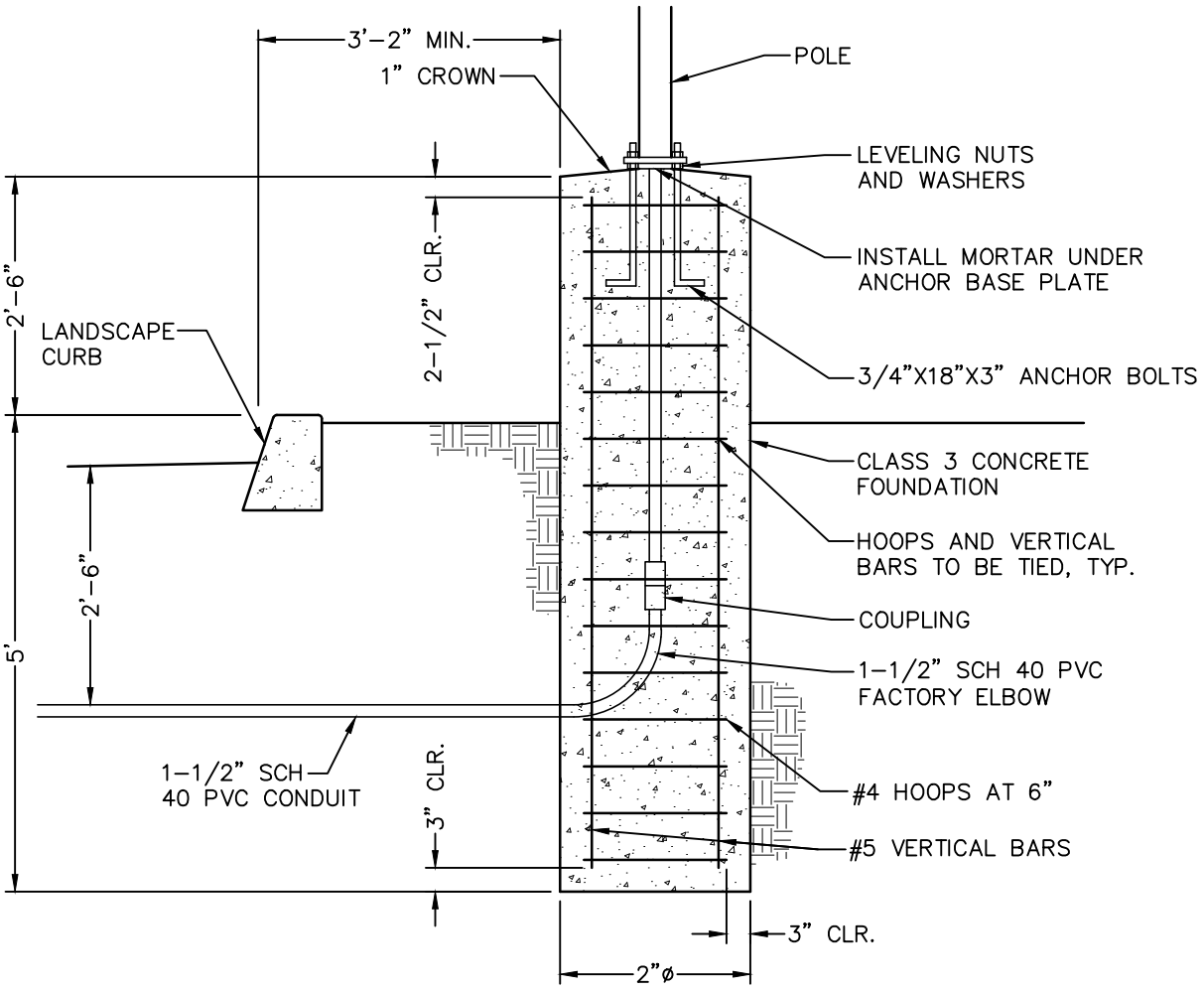


PLAN



NOTES:

1. POLES SHALL BE 25'–0" ROUND STRAIGHT STEEL, LITHONIA RSS 25 4B OR APPROVED EQUAL.
2. LIGHTING SHALL BE LITHONIA KAD R5S 400W HIGH PRESSURE SODIUM OR APPROVED EQUAL MOUNTED WITH A 4" MAST ARM.
3. ALL POLES, MAST ARMS AND LIGHTING SHALL BE MEDIUM BRONZE IN COLOR.

APPROVED BY: _____ CITY ENGINEER R.P.E. 81734 09/16/16 DATE

CITY OF VISALIA
DESIGN & IMPROVEMENT STANDARDS

CITY PARKING LOT LIGHTING

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BK 2016

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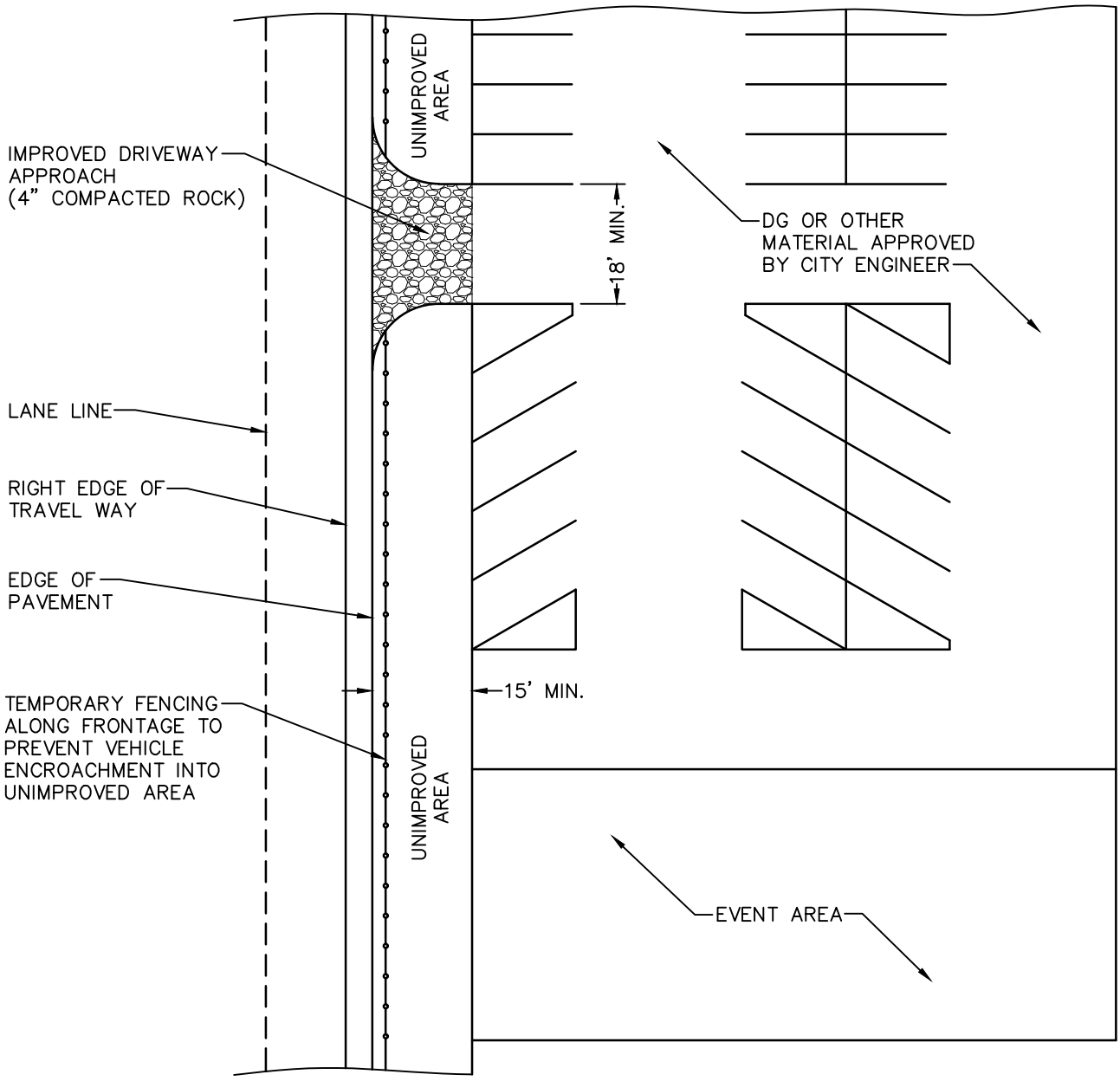
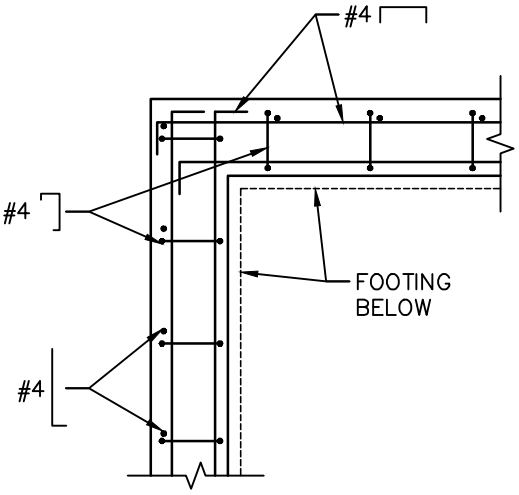


NOTES:

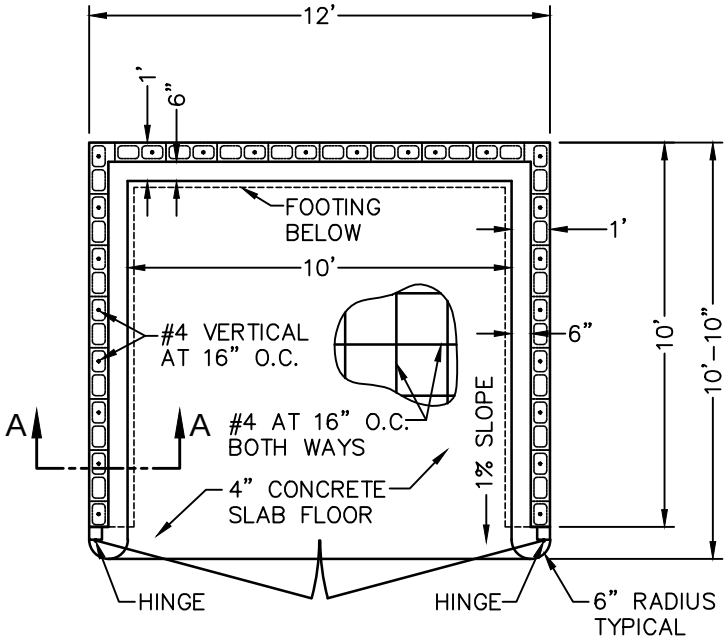
1. APPLICABLE TO TEMPORARY PARKING LOTS FOR TEMPORARY FUNCTIONS SUCH AS CARNIVALS, CHRISTMAS TREE LOTS, PUMPKIN PATCHES AND SIMILAR EVENTS WITH APPROVAL OF CITY ENGINEER.
2. TEMPORARY PARKING LOT REQUIRES A TEMPORARY CONDITIONAL USE PERMIT (TCUP). APPLICANT IS RESPONSIBLE FOR ALL TRACK-OUT DAILY. TEMPORARY PARKING SHALL BE LIMITED TO 3 MONTHS MAX.
3. SEE OTHER PARKING DETAILS FOR DIMENSIONS AND OTHER REQUIREMENTS.
4. NOT APPLICABLE FOR PERMANENT FACILITIES WITH TEMPORARY PARKING USE SUCH AS STORAGE FACILITIES, INDUSTRIAL PARKING LOTS, GARAGE SHOPS, ETC.
5. APPLICANT IS RESPONSIBLE FOR ON-SITE DRAINAGE.

APPROVED BY: _____ CITY ENGINEER R.P.E. 81734 — 09/16/16 DATE	CITY OF VISALIA DESIGN & IMPROVEMENT STANDARDS
TEMPORARY PARKING LOT STANDARDS	REVISIONS 08/12/16 BK 2016 — PK-7

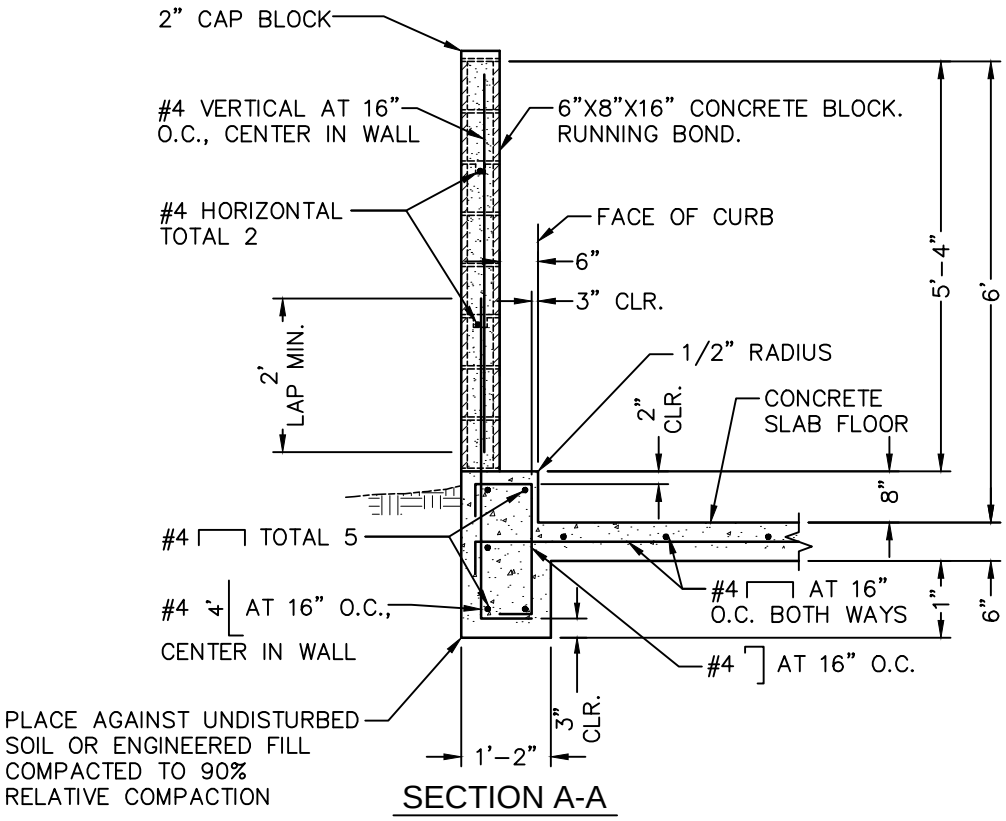


CURB CORNER DETAIL

FOOTING CORNER DETAIL SIMILAR



PLAN



SECTION A-A

NOTE:

FOR ALL APPLICABLE NOTES, SEE REFUSE CONTAINER ENCLOSURE NOTES STANDARD DRAWING.

APPROVED BY: _____ 09/16/16

CITY ENGINEER R.P.E. 81734 DATE

CITY OF VISALIA
DESIGN & IMPROVEMENT STANDARDS

12' REFUSE CONTAINER ENCLOSURE

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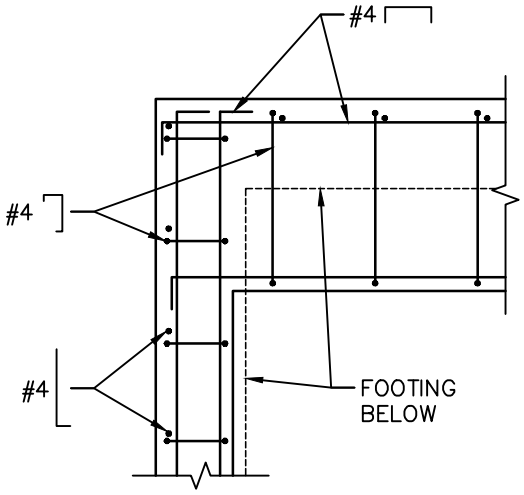
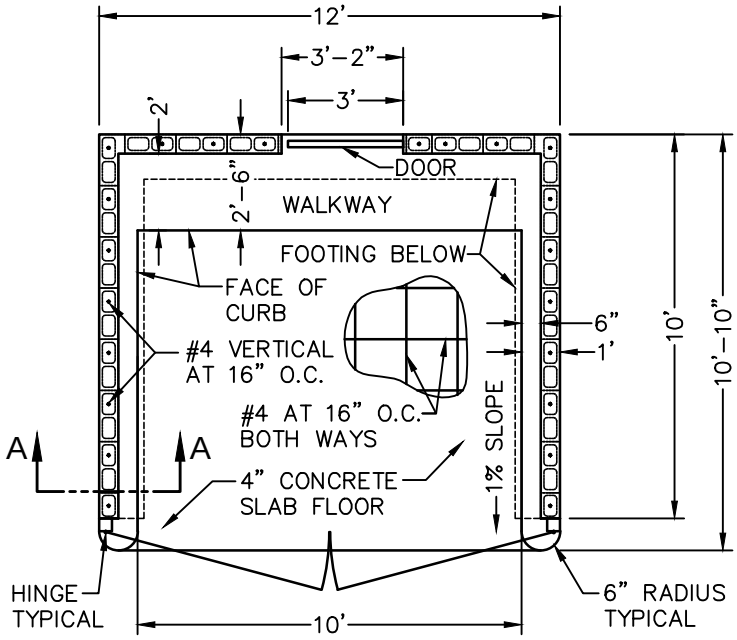


CURB CORNER DETAIL

FOOTING CORNER DETAIL SIMILAR



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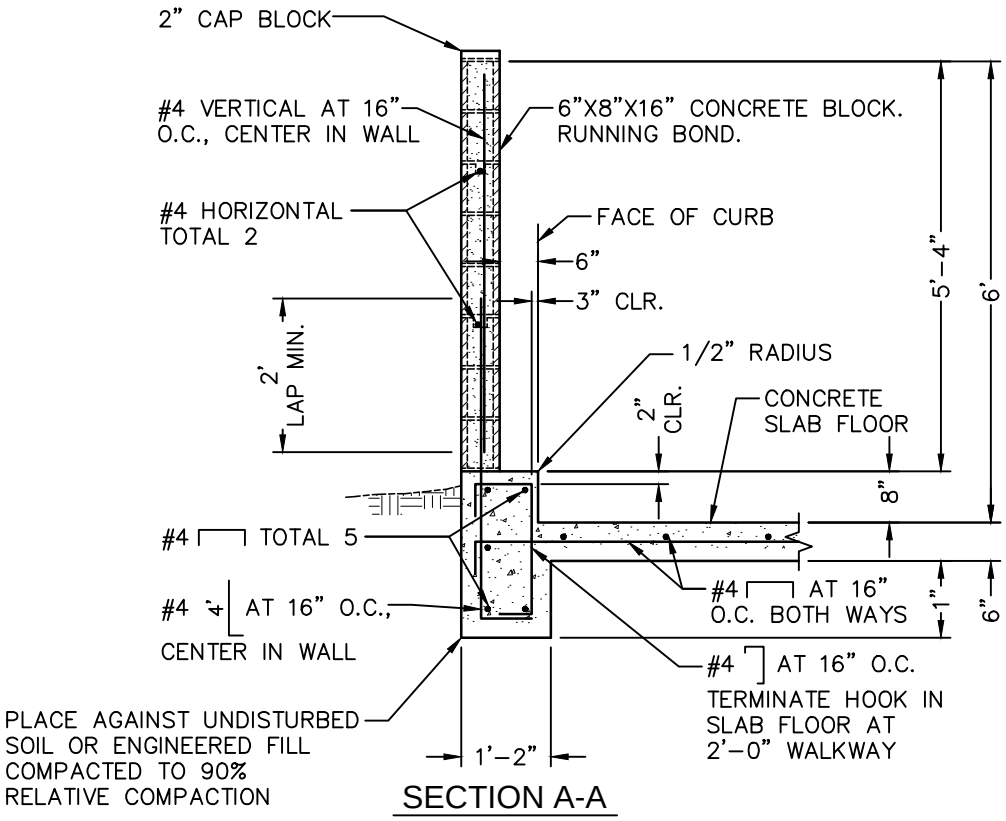

SECTION A-A

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APPROVED BY: _____ CITY ENGINEER R.P.E. 81734 09/16/16 DATE

CITY OF VISALIA
DESIGN & IMPROVEMENT STANDARDS

12' REFUSE CONTAINER ENCLOSURE – WITH DOOR

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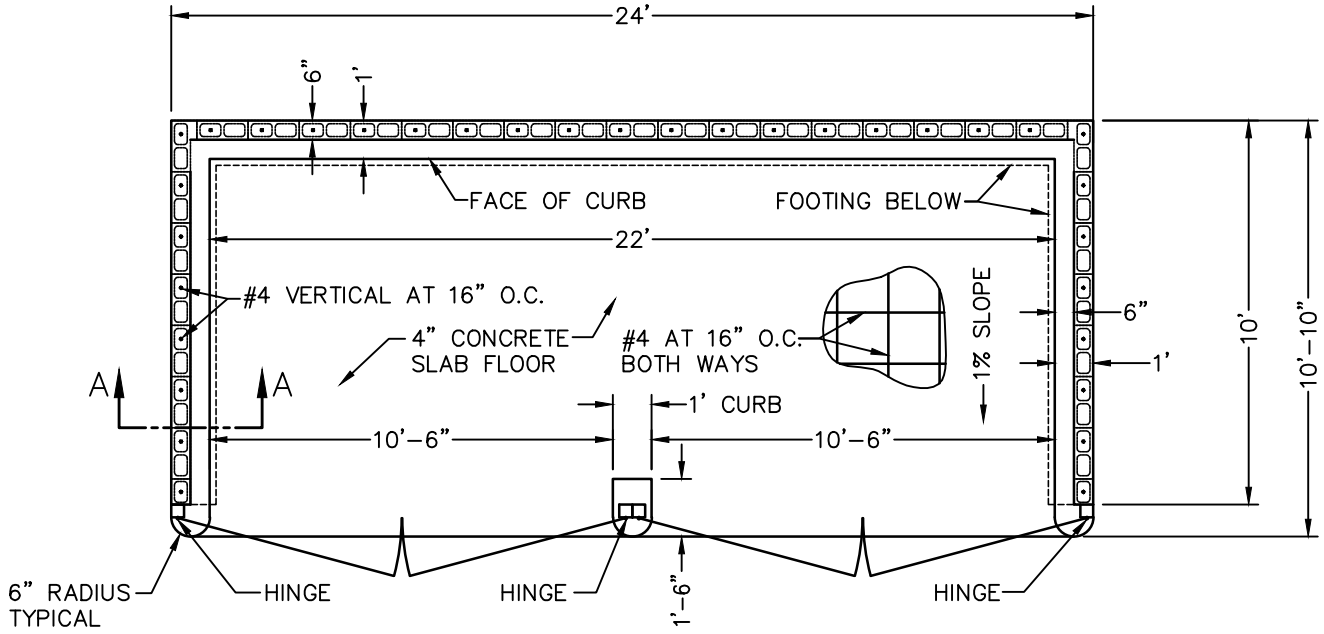

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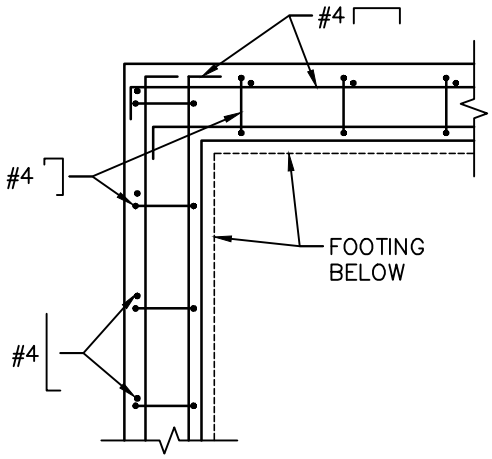
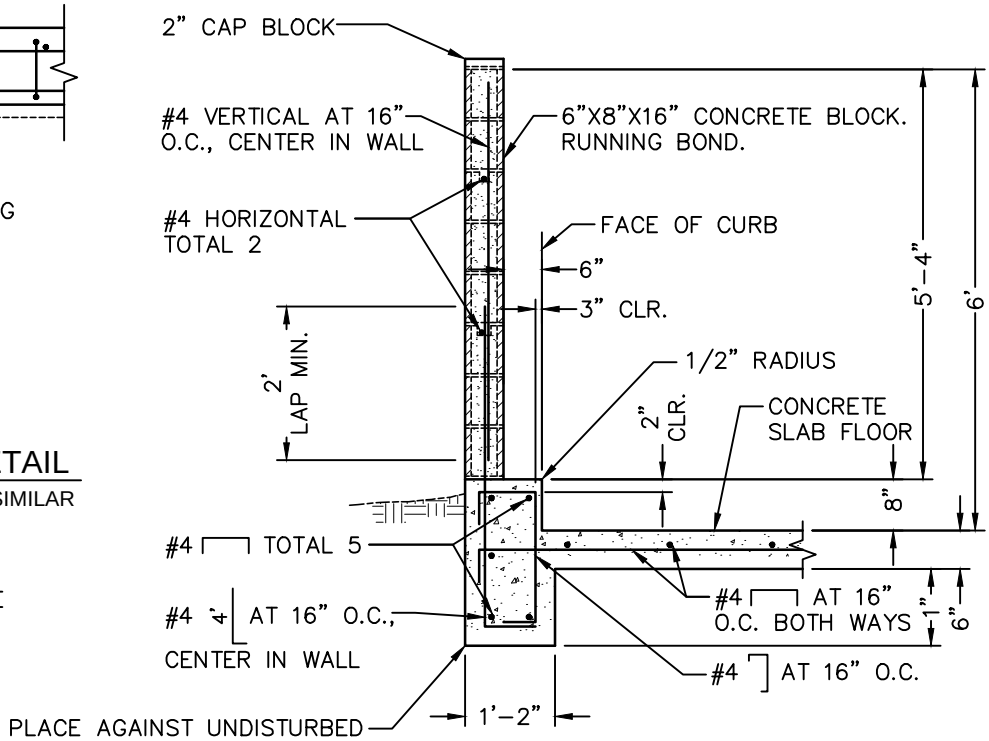


CURB CORNER DETAIL

FOOTING CORNER DETAIL SIMILAR

NOTE:

FOR ALL APPLICABLE NOTES, SEE REFUSE CONTAINER ENCLOSURE NOTES STANDARD DRAWING.



SECTION A-A

APPROVED BY: _____ CITY ENGINEER R.P.E. 81734 09/16/16 DATE

CITY OF VISALIA
DESIGN & IMPROVEMENT STANDARDS

24' REFUSE CONTAINER ENCLOSURE

REVISIONS
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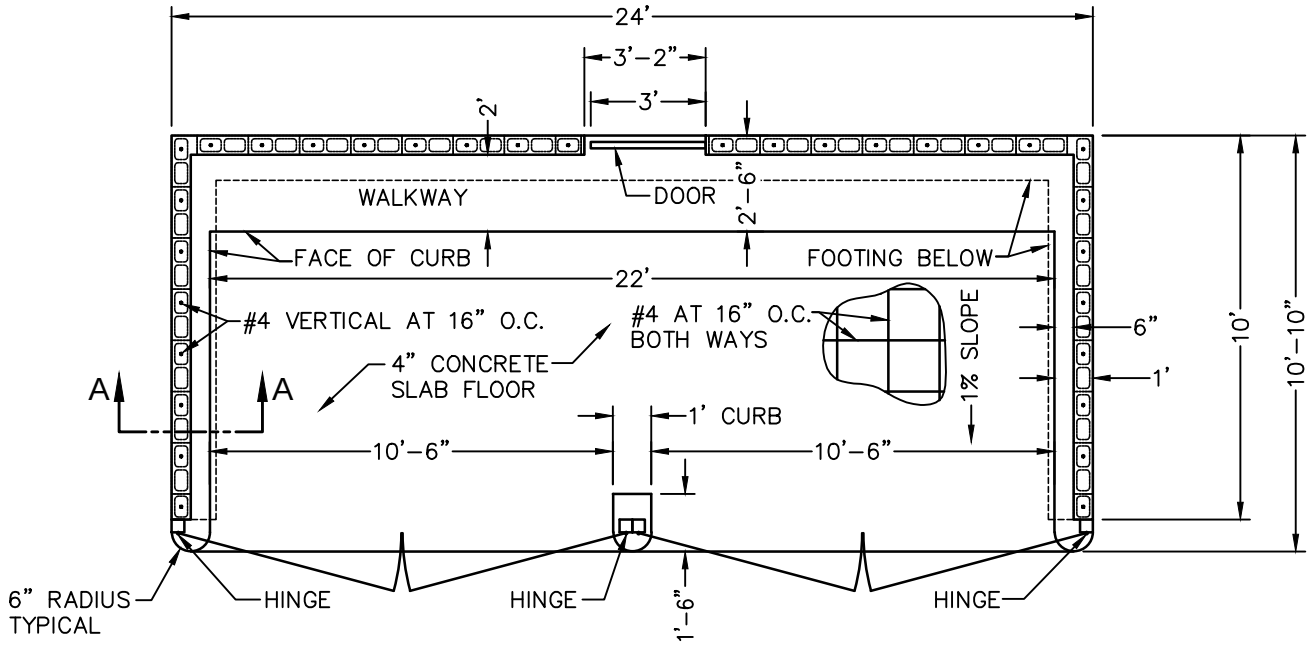

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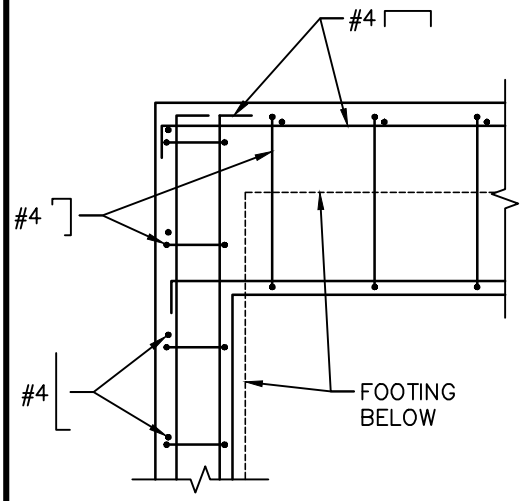

CURB CORNER DETAIL

FOOTING CORNER DETAIL SIMILAR

NOTE:

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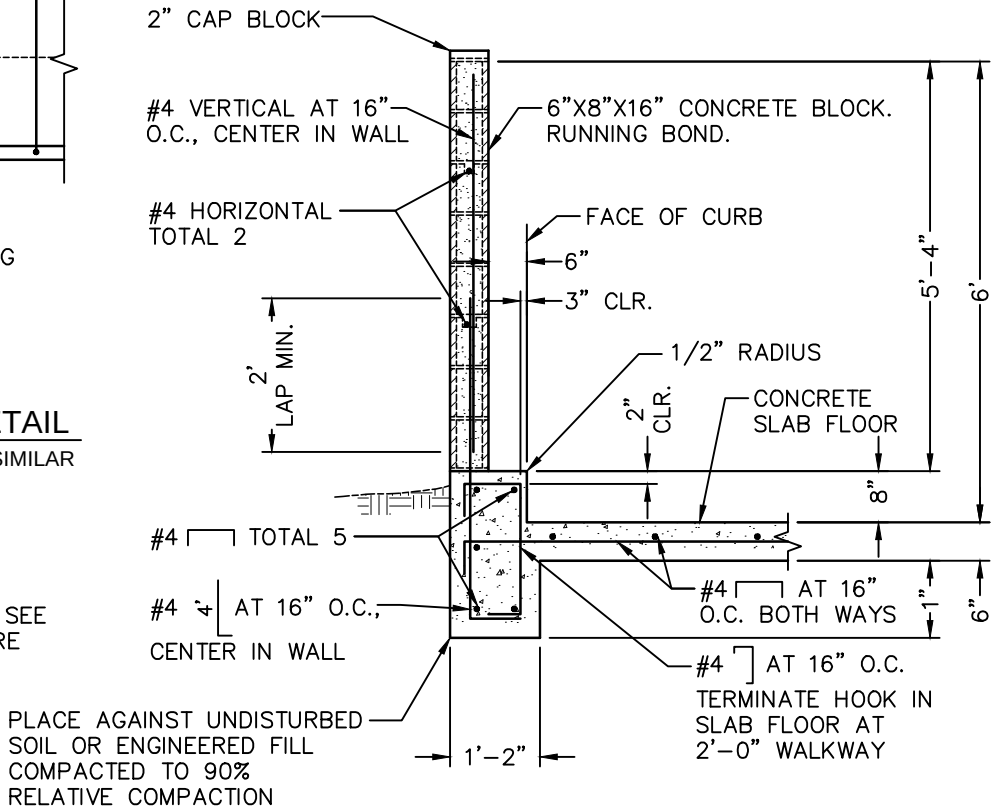

SECTION A-A

APPROVED BY: _____ CITY ENGINEER R.P.E. 81734 09/16/16 DATE

CITY OF VISALIA
DESIGN & IMPROVEMENT STANDARDS

24' REFUSE CONTAINER ENCLOSURE – WITH DOOR

REVISIONS
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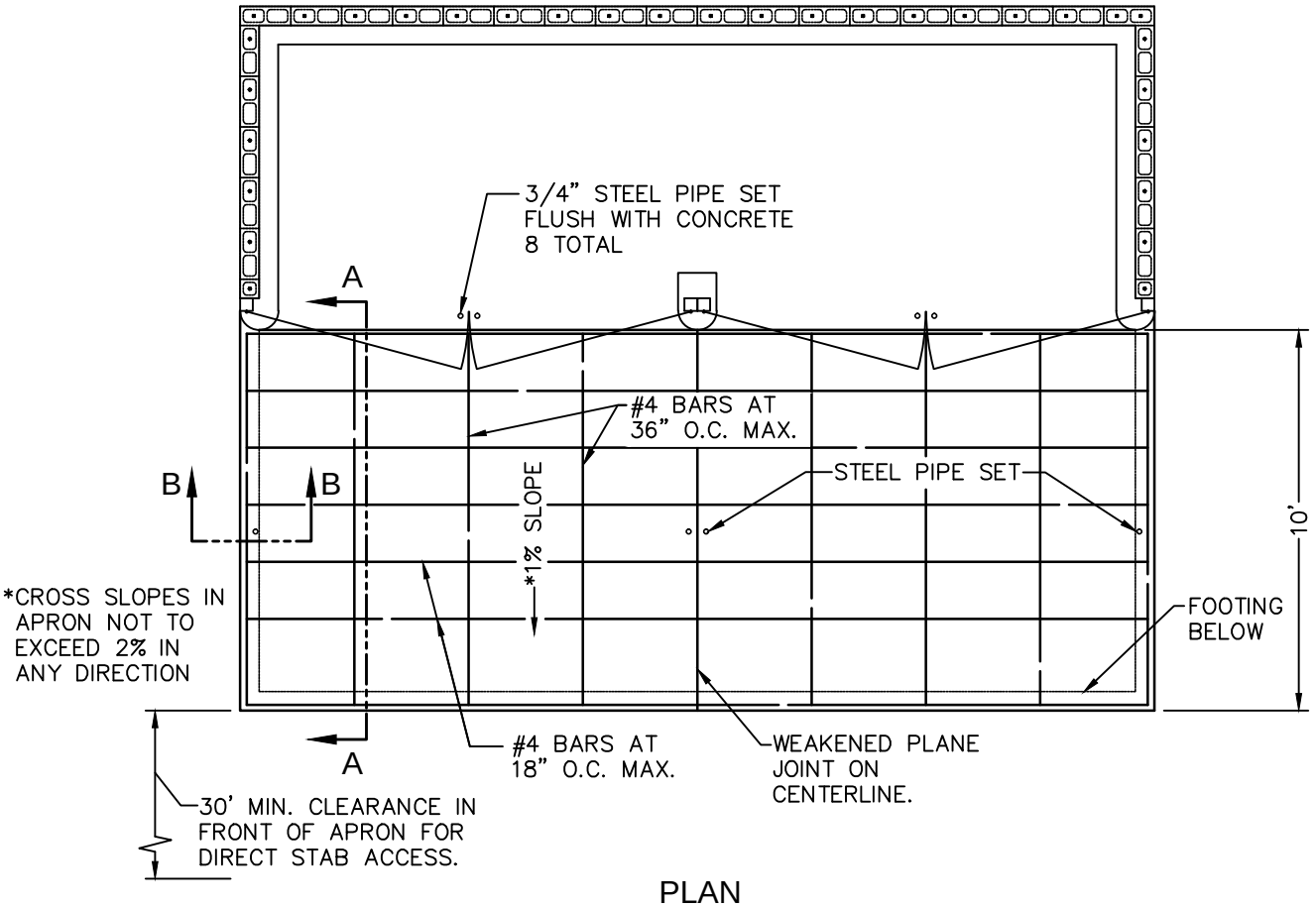

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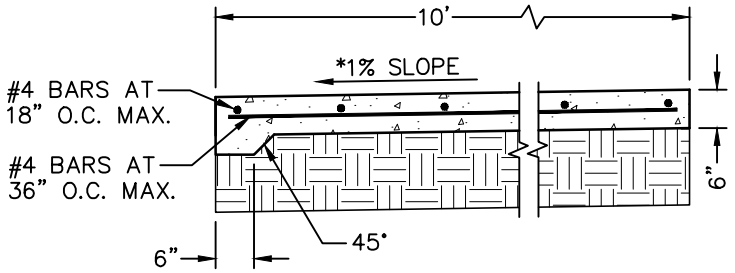
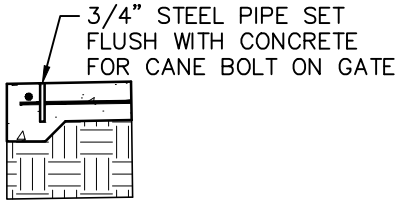


SECTION A-A



SECTION B-B

NOTES:

1. ALL CONCRETE SHALL BE CLASS 3, PRE-MIXED. 28-DAY COMPRESSIVE STRENGTH = 2500 psi MIN.
2. REINFORCING BARS SHALL BE ASTM A615 GRADE 40 MINIMUM DEFORMED STEEL AND SHALL BE CLEAN OF DIRT AND RUST BEFORE PLACEMENT.
3. REINFORCING BARS SHALL HAVE A MINIMUM OF 3" OF CLEAR COVERAGE FROM THE COMPACTED EARTH AND 2" FROM FINISH GRADE.
4. ALL REFUSE CONTAINER ENCLOSURES SHALL HAVE A CONCRETE APRON.
5. CONCRETE PAD SHALL BE PLACED ON MOIST AND COMPACTED BASE MATERIALS. 95% RELATIVE COMPACTION.
6. STEEL PIPE LOCATION IN CONCRETE PAD SHALL BE DETERMINED BY CANE BOLT LOCATION ON GATE. SEE REFUSE CONTAINER ENCLOSURE GATE DETAILS STANDARD DRAWING.

APPROVED BY: _____ 09/16/16
CITY ENGINEER R.P.E. 81734 DATE

CITY OF VISALIA
DESIGN & IMPROVEMENT STANDARDS

REFUSE CONTAINER ENCLOSURE CONCRETE APRON DETAILS

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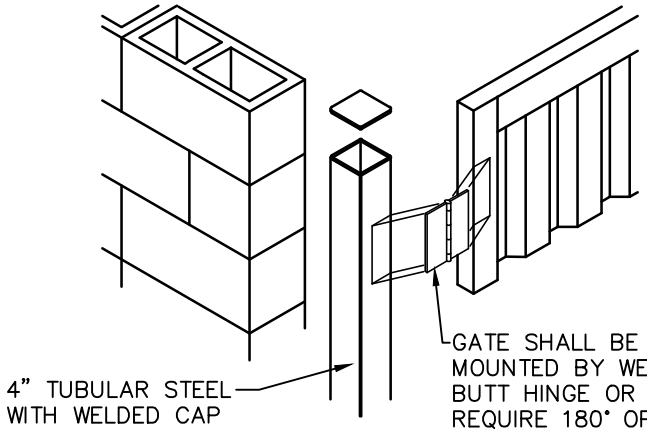
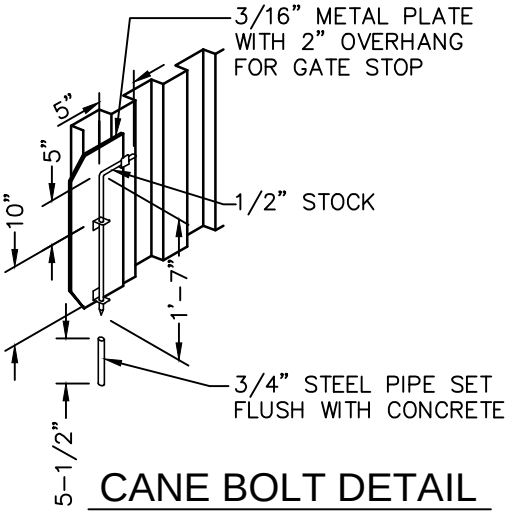


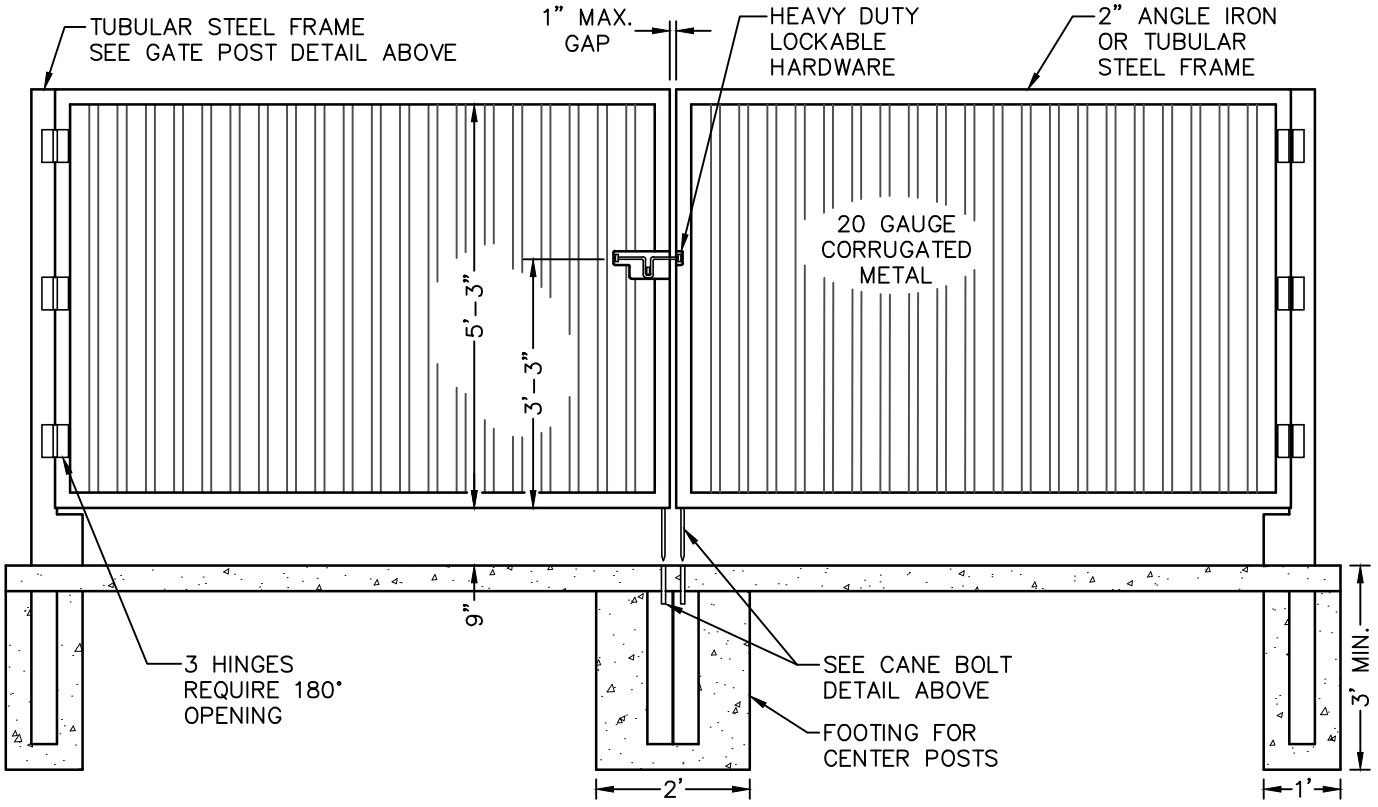
GATE POST DETAIL



CANE BOLT DETAIL

NOTES:

1. GATES TO BE PAINTED TO MATCH BUILDING ACCENT FEATURES.
2. DESIGN, ENGINEERING AND CONSTRUCTION NOT SPECIFICALLY NOTED SHALL BE IN ACCORDANCE WITH ACCEPTED INDUSTRY STANDARDS & OF FIRST QUALITY.
3. CONCRETE APRON SHALL INCLUDE TWO 3/4" STEEL PIPES SET FLUSH WITH THE CONCRETE FOR EACH GATE DOOR, BASED ON LOCATION OF CANE BOLTS ON GATE, TO SECURE THE GATE IN THE OPEN OR CLOSED POSITION. SEE REFUSE CONTAINER ENCLOSURE CONCRETE APRON DETAILS STANDARD DRAWING.
4. GATE POST SHALL ABUT REFUSE CONTAINER ENCLOSURE.
5. SUBMIT DETAILS OF REFUSE CONTAINER ENCLOSURES AND/OR REFUSE CONTAINERS REQUIRED TO BE ACCESSIBLE UNDER THE CURRENT CBC, OR MODIFY THIS DETAIL AS NECESSARY FOR REVIEW AND ACCEPTANCE FROM THE CITY ENGINEER.



APPROVED BY: _____ 09/16/16
CITY ENGINEER R.P.E. 81734 DATE

CITY OF VISALIA
DESIGN & IMPROVEMENT STANDARDS

REFUSE CONTAINER ENCLOSURE GATE DETAILS

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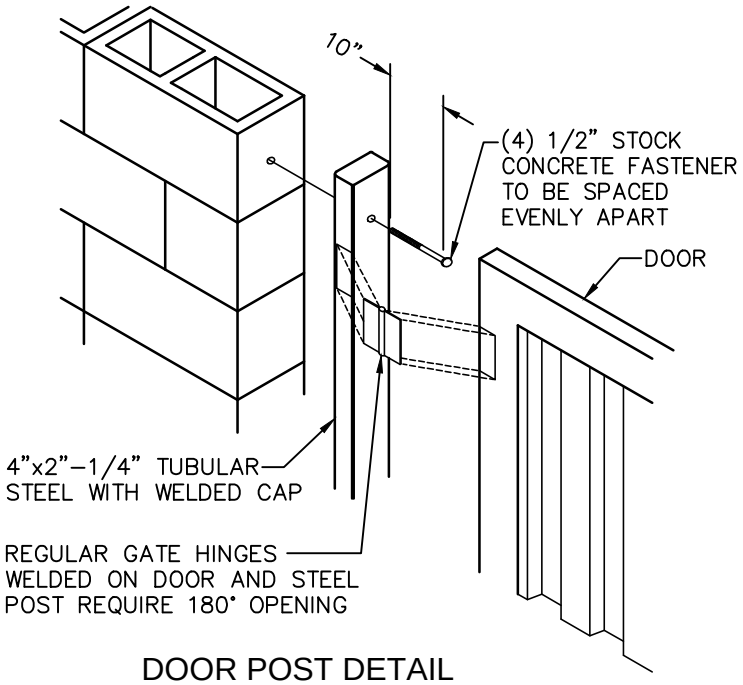
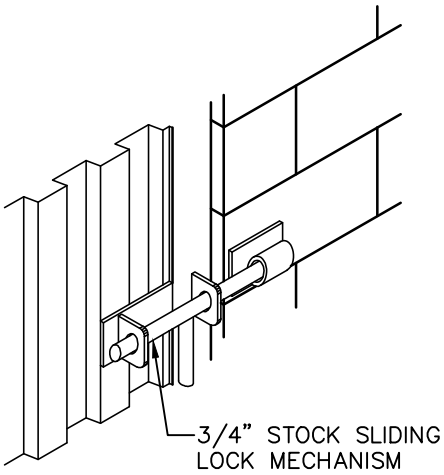


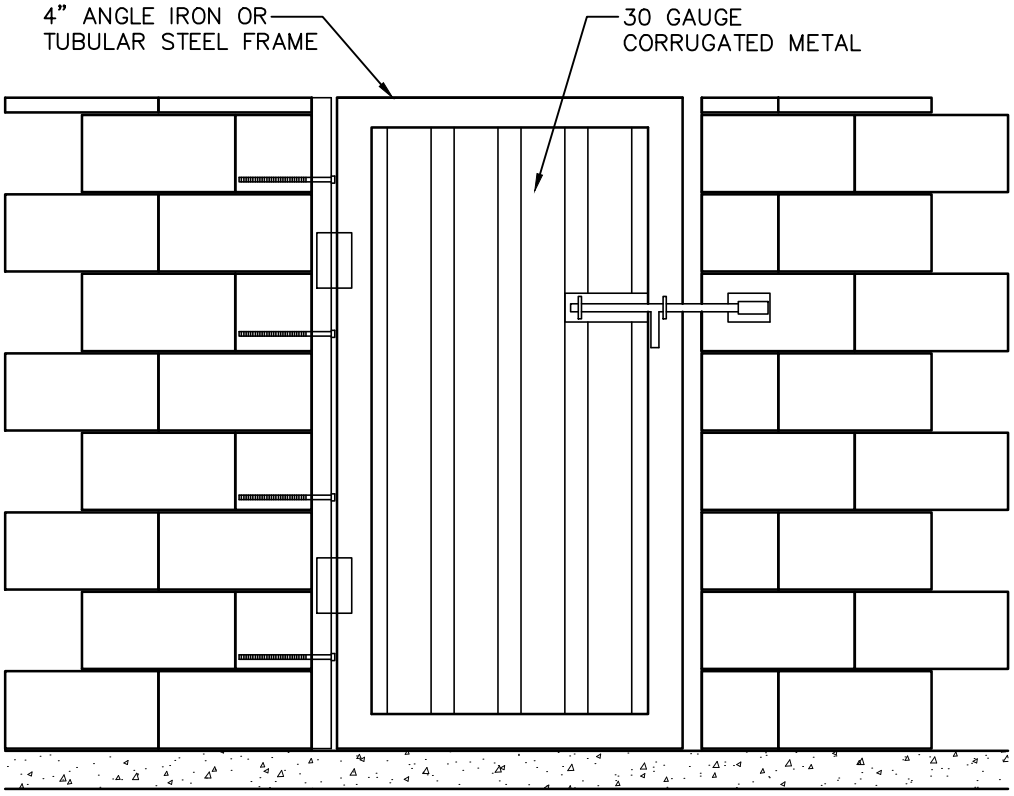
DOOR POST DETAIL



LOCKABLE HARDWARE DETAIL

NOTE:

1. SUBMIT DETAILS OF REFUSE CONTAINER ENCLOSURES AND/OR REFUSE CONTAINERS REQUIRED TO BE ACCESSIBLE UNDER THE CURRENT CBC, OR MODIFY THIS DETAIL AS NECESSARY FOR REVIEW AND ACCEPTANCE FROM THE CITY ENGINEER.



APPROVED BY: _____ 09/16/16
CITY ENGINEER R.P.E. 81734 DATE

CITY OF VISALIA
DESIGN & IMPROVEMENT STANDARDS

REFUSE CONTAINER ENCLOSURE DOOR DETAILS

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NOTES:

1. MASONRY ENCLOSURE WALLS SHALL BE FULLY GROUTED.
2. ALL MASONRY SHALL COMPLY WITH CURRENT EDITION OF THE CALIFORNIA BUILDING CODE.
3. SLAB FLOOR AND FOOTING CONCRETE SHALL BE CLASS 3, PRE–MIXED. 28–DAY COMPRESSIVE STRENGTH = 2500 P.S.I MINIMUM.
4. MASONRY DESIGN IS BASED ON MINIMUM COMPRESSIVE STRENGTH OF f'm = 1500 P.S.I.
5. REINFORCING BARS SHALL BE ASTM A615 GRADE 40 DEFORMED STEEL AND SHALL BE CLEAN OF DIRT AND RUST BEFORE PLACEMENT.
6. GROUT SHALL CONFORM TO THE REQUIREMENTS OF ASTM C476 AND ATTAIN A 28–DAY STRENGTH OF 2000 P.S.I. ADMIXTURES FOR GROUT MUST BE APPROVED BY THE ENGINEER. FIELD ADDITION OF ADMIXTURES IS NOT PERMITTED IN SELF–CONSOLIDATING GROUT.
7. GROUT STOP SHALL CONSIST OF METAL OR PLASTIC LATH APPROVED BY THE MANUFACTURER TO CREATE A BARRIER THAT STOPS THE FLOW OF GROUT WHEN FILLING BLOCK WALL CELLS.
8. REFUSE CONTAINER ENCLOSURE SHALL BE LOCATED A MINIMUM OF 5'–0" FROM ANY BUILDING WALL LINE. OTHERWISE ENCLOSURE MUST COMPLY WITH STRICTER REQUIREMENTS PER THE CALIFORNIA FIRE CODE.
9. ALL HORIZONTAL AND VERTICAL JOINTS SHALL HAVE A CONCAVE FINISH JOINT.
10. GROUND SHALL BE SLOPED AWAY FROM ENCLOSURE WALLS.
11. REFUSE CONTAINER ENCLOSURE SHALL HAVE SOLID FACE GATES.
12. LOCATION OF REFUSE CONTAINER ENCLOSURE SHALL BE APPROVED BY THE CITY OF VISALIA SOLID WASTE DIVISION.
13. ALL REFUSE CONTAINER ENCLOSURES SHALL HAVE A CONCRETE APRON PER REFUSE CONTAINER ENCLOSURE CONCRETE APRON DETAILS STANDARD DRAWING.
14. SUBMIT DETAILS OF REFUSE CONTAINER ENCLOSURES AND/OR REFUSE CONTAINERS REQUIRED TO BE ACCESSIBLE UNDER THE CURRENT CBC, OR MODIFY THIS DETAIL AS NECESSARY FOR REVIEW AND ACCEPTANCE FROM THE CITY ENGINEER.
15. WHERE REQUIRED, PROVIDE ACCESSIBLE TRASH CONTAINERS MEETING THE ACCESSIBILITY REQUIREMENTS UNDER THE CURRENT CBC. COORDINATE WITH SOLID WASTE DIVISION FOR SERVICEABILITY.
16. CONTRACTOR SUBMITTALS SHALL CONFORM TO ARTICLE 1.5 OF TMS 602/ACI 530.1/ASCE 6.
17. QUALITY ASSURANCE SHALL CONFORM TO LEVEL 'B' QUALITY ASSURANCE PER ARTICLE 1.6 OF TMS 602/ACI 530.1/ASCE 6. PERIODIC SPECIAL INSPECTION REQUIRED. CONTRACTOR SHALL CONTACT THE CITY FOR INSPECTIONS.
18. INTERLOCKING BLOCKS ARE AN ACCEPTABLE ALTERNATIVE.

APPROVED BY: _____ 09/16/16
CITY ENGINEER R.P.E. 81734 DATE

CITY OF VISALIA
DESIGN & IMPROVEMENT STANDARDS

REFUSE CONTAINER ENCLOSURE NOTES

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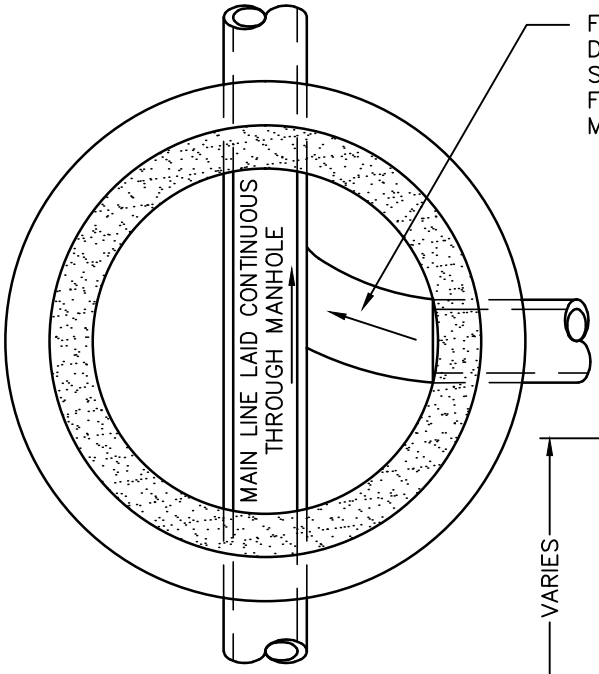
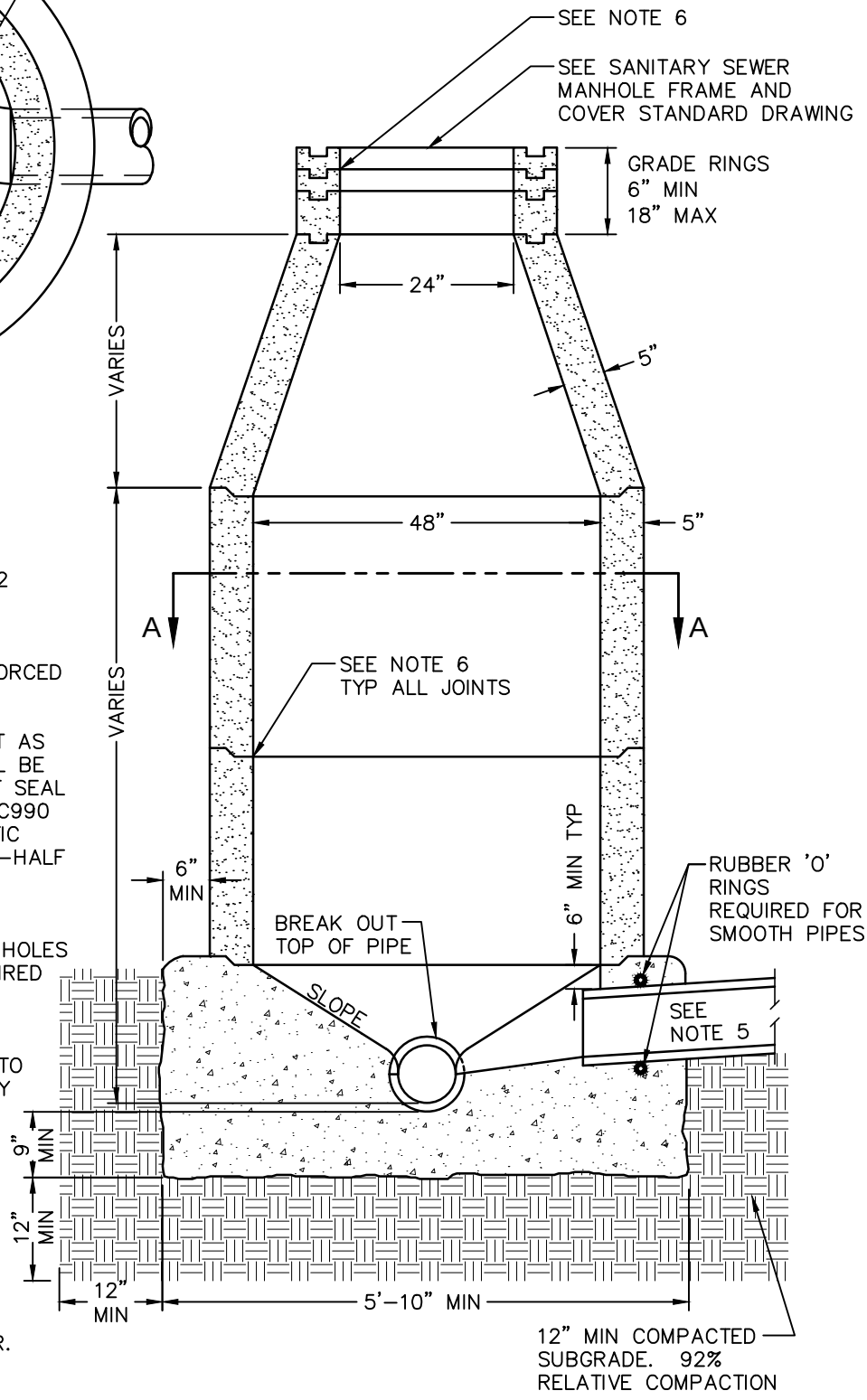


SECTION A-A

FORM TROUGH IN BOTTOM OF MANHOLE IN DIRECTION OF FLOW. TROUGH SHALL BE STEEL TROWELED SMOOTH. SEE TYPICAL FLOW CHANNELS FOR SANITARY SEWER MANHOLES STANDARD DRAWING.



NOTES:

1. ALL CONCRETE SHALL BE CLASS 2 CONCRETE.
2. MANHOLE PIPE, CONE AND GRADE RINGS SHALL BE PRECAST REINFORCED CONCRETE AS PER ASTM C478.
3. JOINTS SHALL BE RUBBER GASKET AS PER ASTM C443 OR JOINTS SHALL BE CONSTRUCTED WITH MASTIC (KENT SEAL NO. 2 OR EQUAL) AS PER ASTM C990 AT CONTRACTOR'S OPTION. MASTIC SHALL COVER A MINIMUM OF ONE-HALF THE COMPRESSED SURFACE. ALL JOINTS SHALL BE WATER TIGHT.
4. MAXIMUM DISTANCE BETWEEN MANHOLES SHALL BE 500 FEET OR AS REQUIRED BY THE CITY ENGINEER.
5. 48" MANHOLES ARE REQUIRED FOR SEWER PIPE SIZES FROM 8" TO 24" OR AS REQUIRED BY THE CITY ENGINEER.
6. MORTAR INSIDE OF GRADE RINGS AND ALL INTERIOR JOINTS TO A SMOOTH FINISH.
7. A MAXIMUM OF 2 SEWER LATERAL CONNECTIONS WILL BE ALLOWED AT EACH SEWER MANHOLE, UNLESS APPROVED OTHERWISE BY THE CITY ENGINEER.

APPROVED BY: _____ 09/16/16
CITY ENGINEER R.P.E. 81734 DATE

CITY OF VISALIA
DESIGN & IMPROVEMENT STANDARDS

48" SANITARY SEWER MANHOLE

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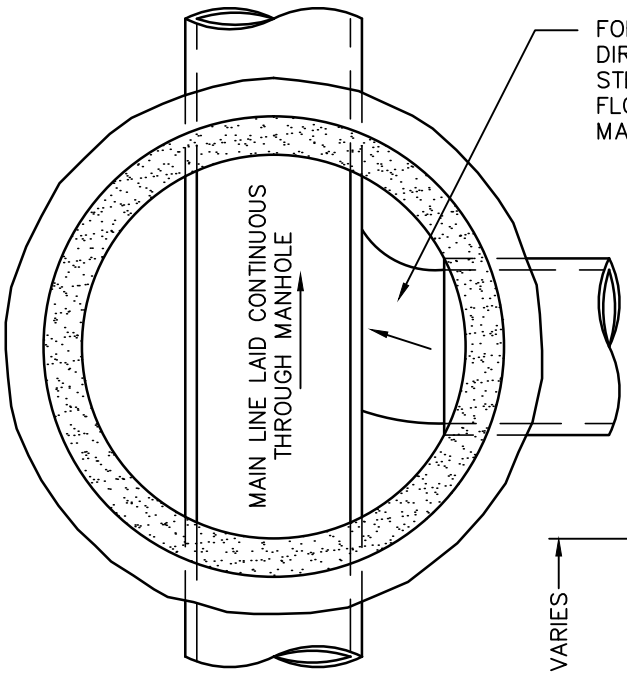
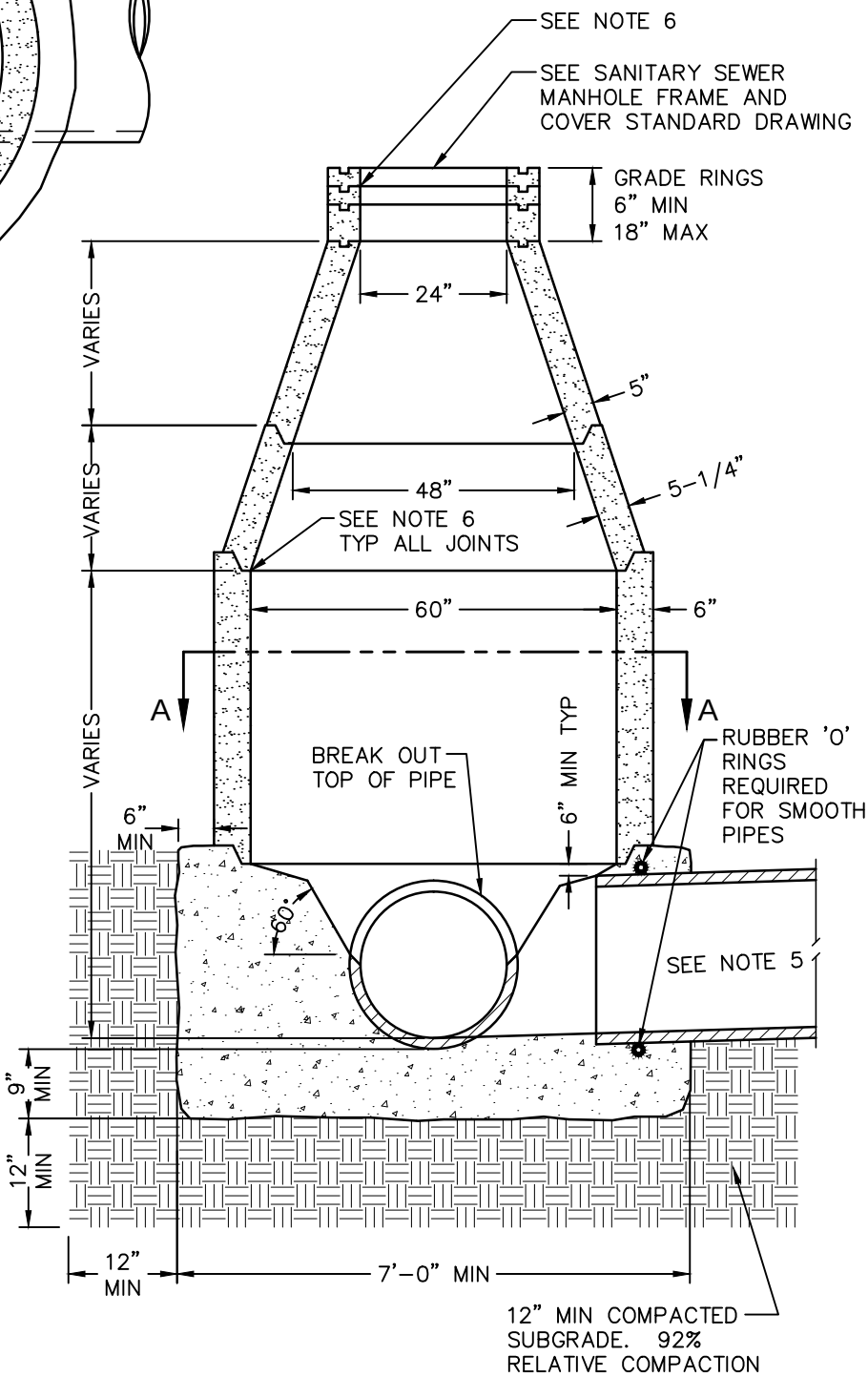


SECTION A-A

FORM TROUGH IN BOTTOM OF MANHOLE IN DIRECTION OF FLOW. TROUGH SHALL BE STEEL TROWELED SMOOTH. SEE TYPICAL FLOW CHANNELS FOR SANITARY SEWER MANHOLES STANDARD DRAWING.



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4. MAXIMUM DISTANCE BETWEEN MANHOLES SHALL BE 500 FEET OR AS REQUIRED BY THE CITY ENGINEER.
5. 60" MANHOLES ARE REQUIRED FOR SEWER PIPE SIZES FROM 27" TO 36" OR AS REQUIRED BY THE CITY ENGINEER.
6. MORTAR INSIDE OF GRADE RINGS AND ALL INTERIOR JOINTS TO A SMOOTH FINISH.
7. A MAXIMUM OF 2 SEWER LATERAL CONNECTIONS WILL BE ALLOWED AT EACH SEWER MANHOLE, UNLESS APPROVED OTHERWISE BY THE CITY ENGINEER.

APPROVED BY: _____ CITY ENGINEER R.P.E. 81734 — 09/16/16 DATE

CITY OF VISALIA
DESIGN & IMPROVEMENT STANDARDS

60" SANITARY SEWER MANHOLE

REVISIONS
09/27/13
BK 2016

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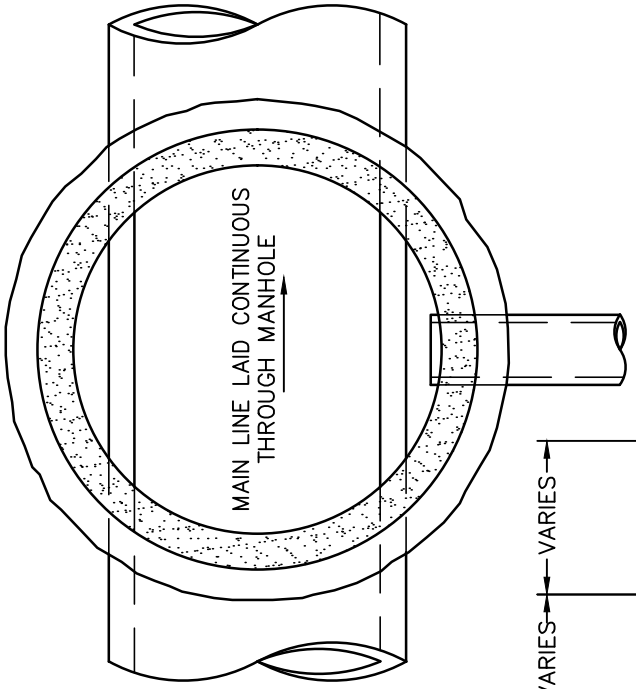
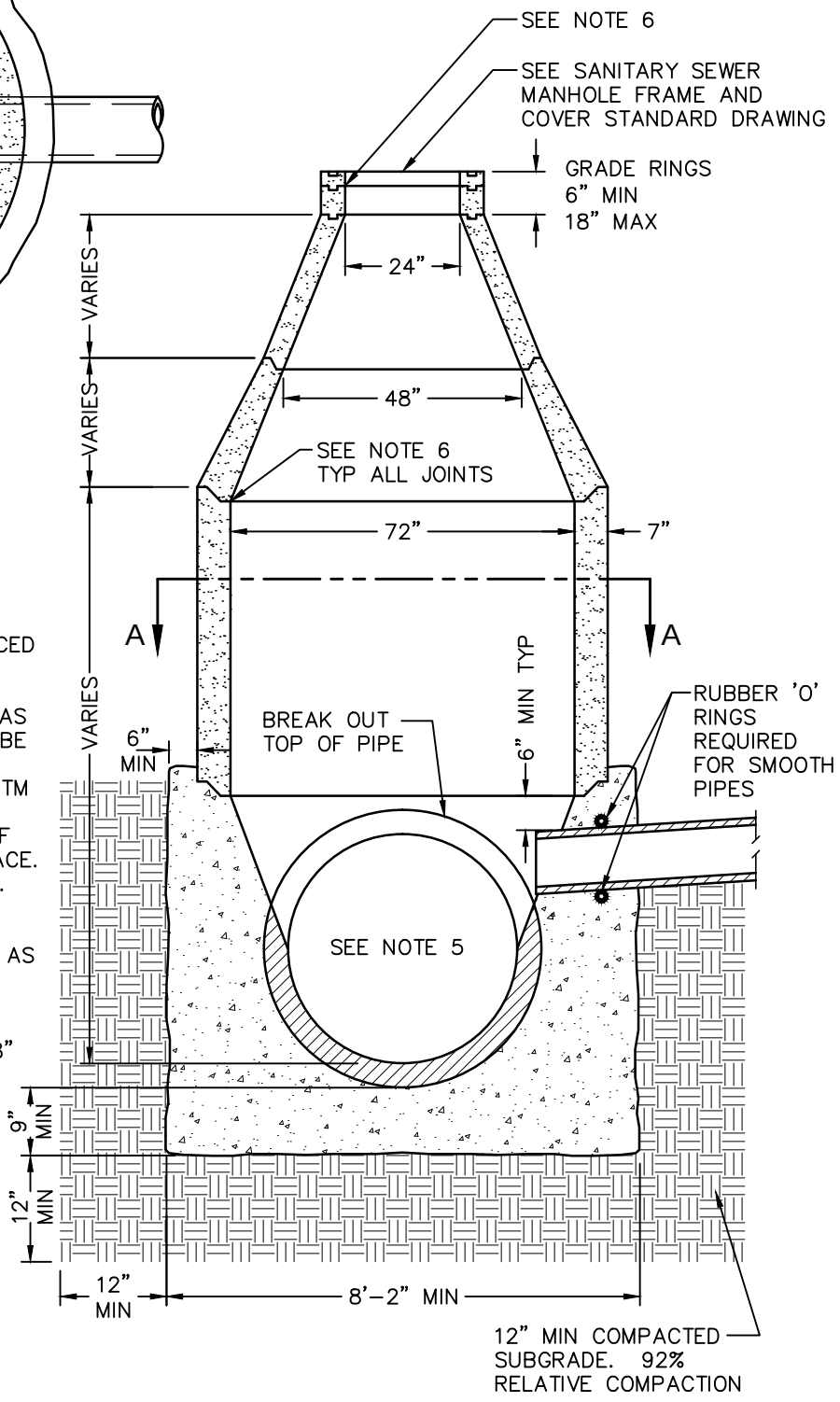


SECTION A-A



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4. MAXIMUM DISTANCE BETWEEN MANHOLES SHALL BE 500 FEET OR AS REQUIRED BY THE CITY ENGINEER.
5. 72" MANHOLES ARE REQUIRED FOR SEWER PIPE SIZES FROM 39" TO 48" OR AS REQUIRED BY THE CITY ENGINEER.
6. MORTAR INSIDE OF GRADE RINGS AND ALL INTERIOR JOINTS TO A SMOOTH FINISH.
7. A MAXIMUM OF 2 SEWER LATERAL CONNECTIONS WILL BE ALLOWED AT EACH SEWER MANHOLE, UNLESS APPROVED OTHERWISE BY THE CITY ENGINEER.

APPROVED BY: _____ CITY ENGINEER R.P.E. 81734 — 09/16/16 DATE

CITY OF VISALIA
DESIGN & IMPROVEMENT STANDARDS

72" SANITARY SEWER MANHOLE

REVISIONS
09/27/13
BK 2016

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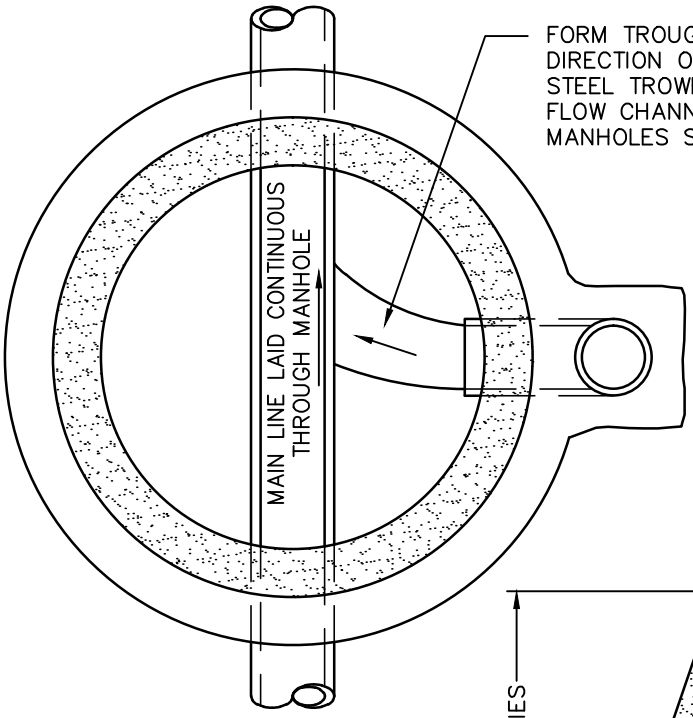
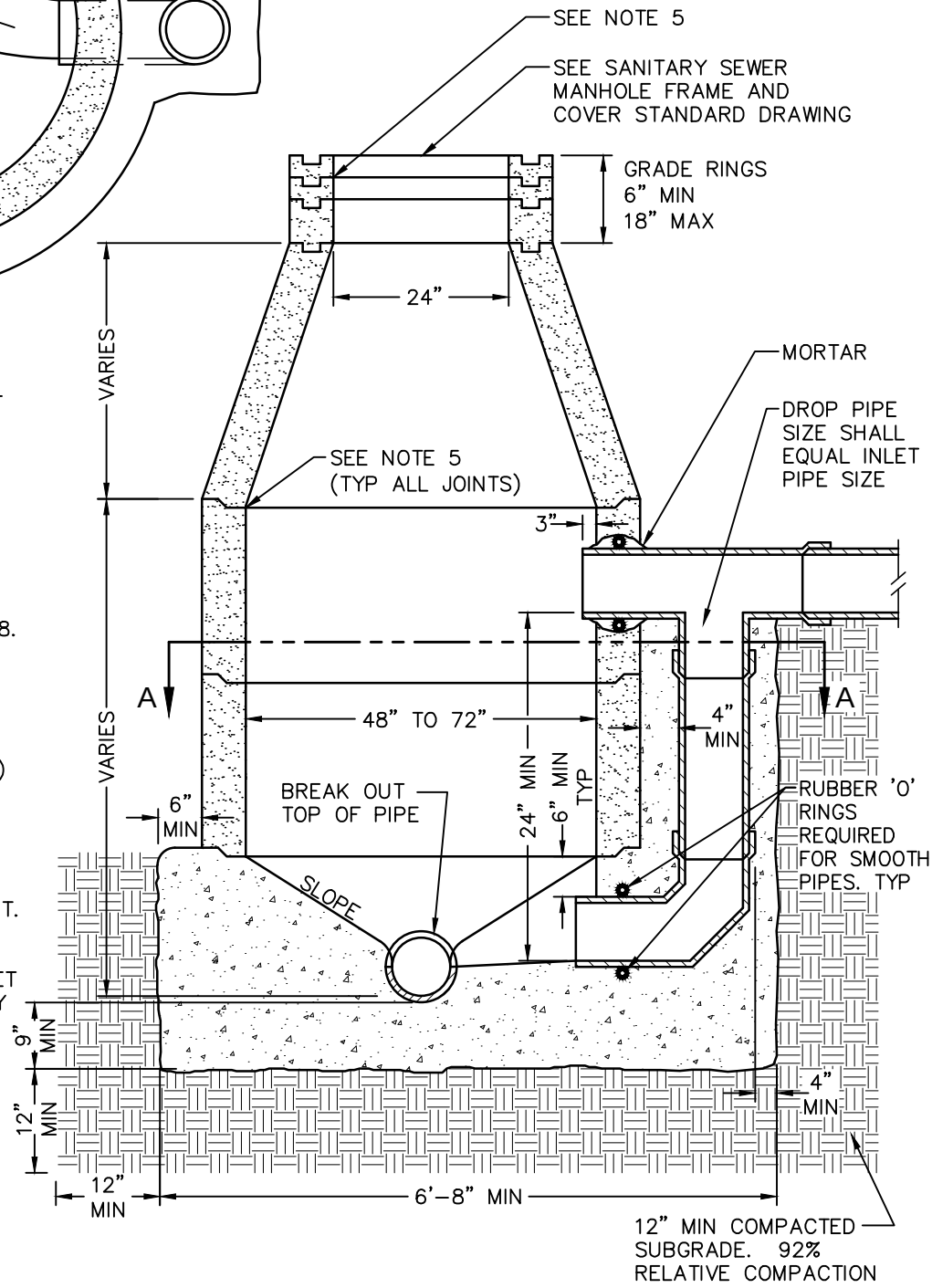


SECTION A-A



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APPROVED BY: _____ 09/16/16
CITY ENGINEER R.P.E. 81734 DATE

CITY OF VISALIA
DESIGN & IMPROVEMENT STANDARDS

SANITARY SEWER DROP MANHOLE

REVISIONS
09/27/13
BK 2016

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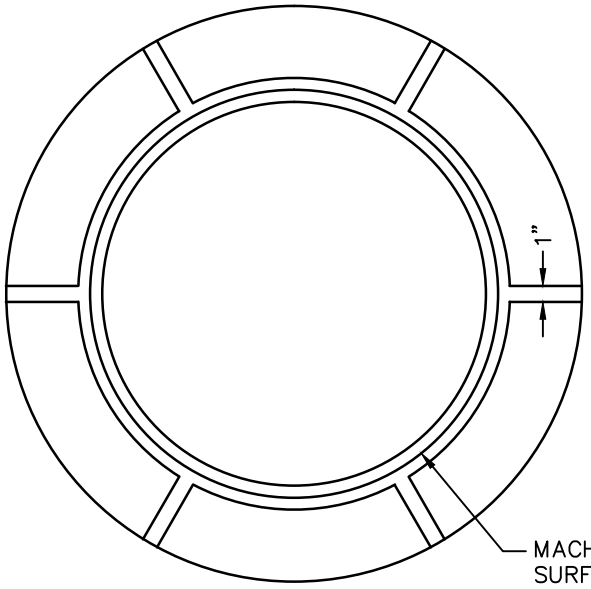
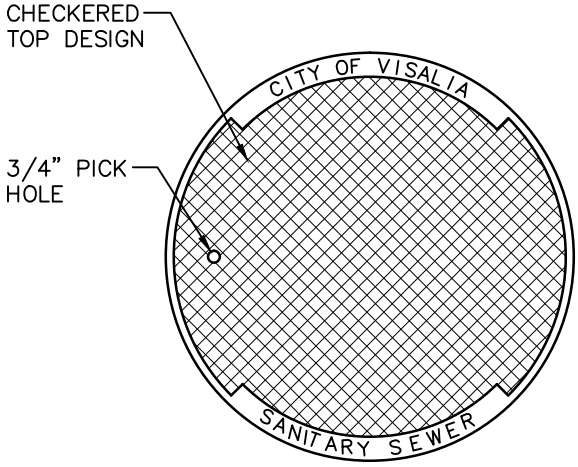
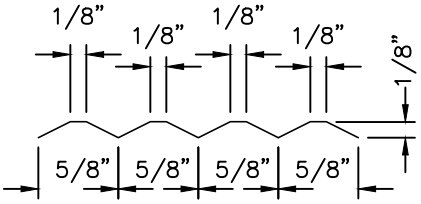
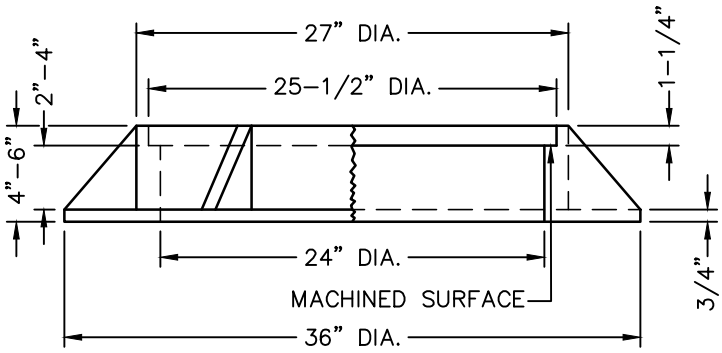
RESERVED FOR FUTURE DETAIL

APPROVED BY:_____ _____	CITY OF VISALIA DESIGN & IMPROVEMENT STANDARDS
RESERVED	REVISIONS BK 2016
	S-5

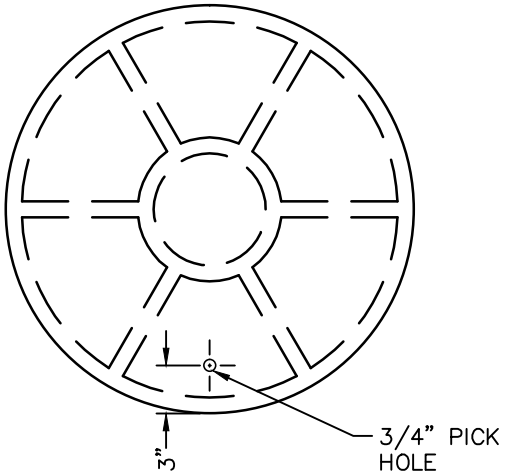


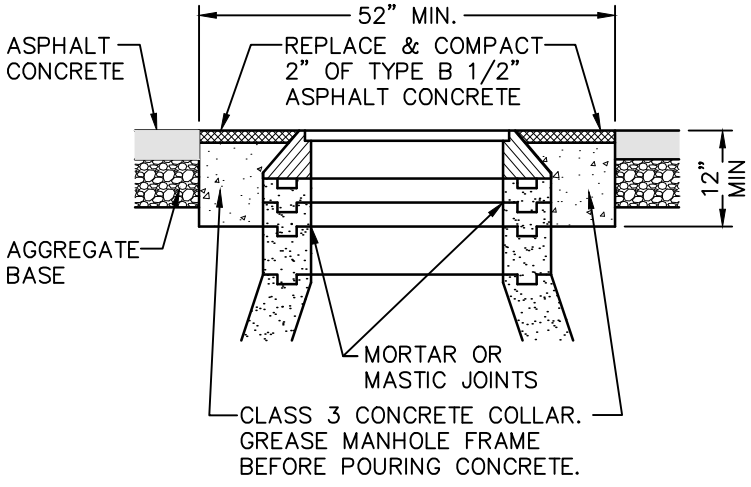




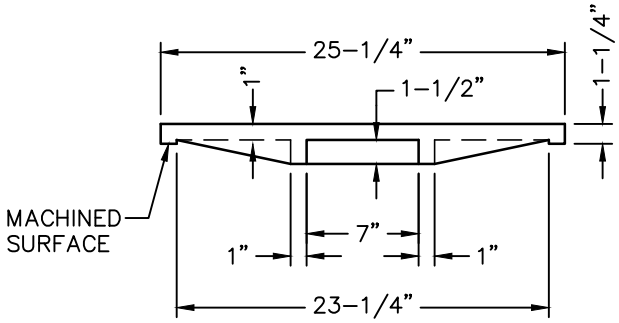


MANHOLE FRAME





MANHOLE ADJUSTMENT



MANHOLE COVER

NOTE: FRAME & COVER SHALL MATCH CROSS SLOPE

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CITY OF VISALIA
DESIGN & IMPROVEMENT STANDARDS

SANITARY SEWER MANHOLE FRAME AND COVER

REVISIONS
12/18/07
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S–6

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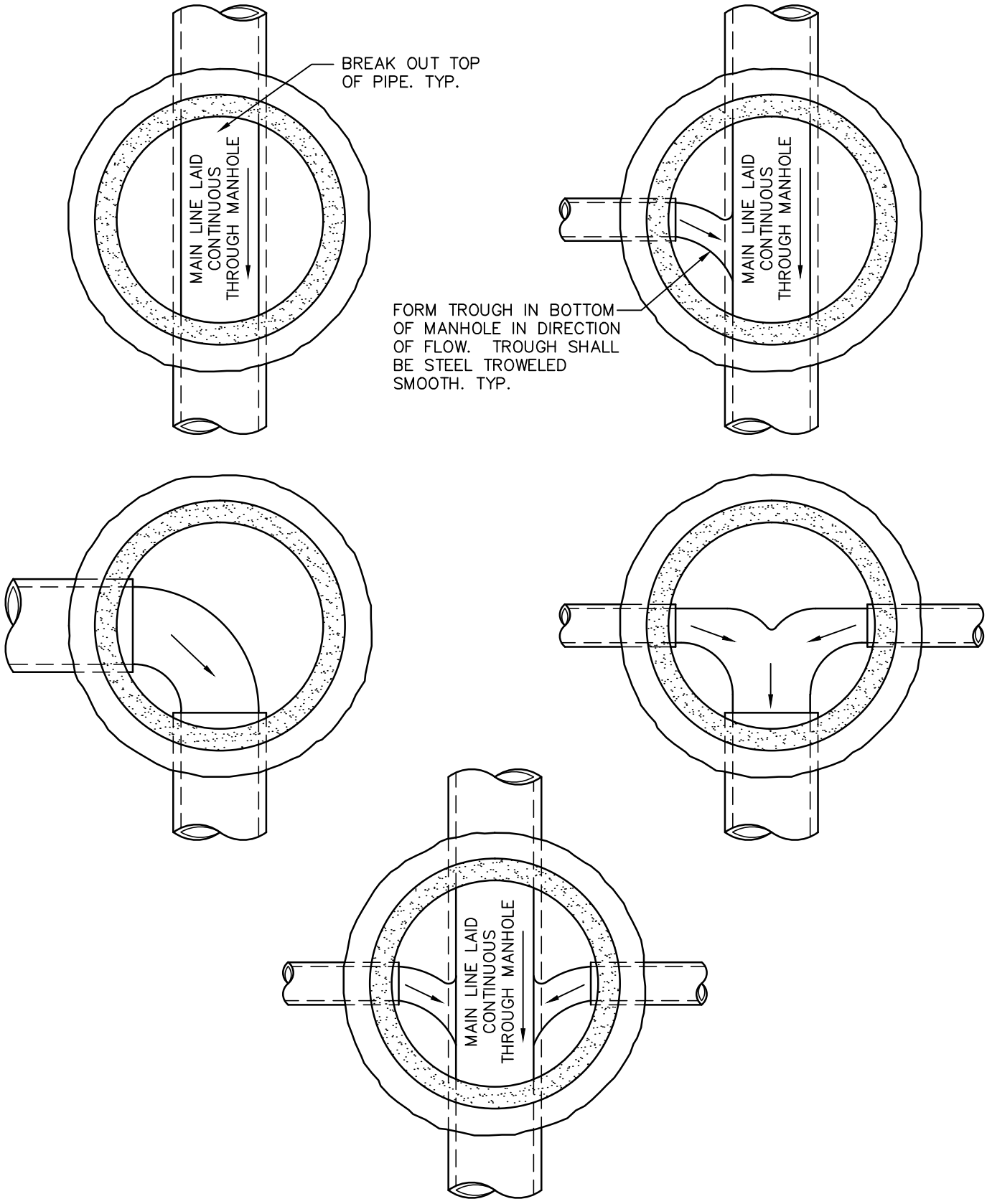
	S-7



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CITY OF VISALIA
DESIGN & IMPROVEMENT STANDARDS

TYPICAL FLOW CHANNELS FOR SANITARY SEWER MANHOLES

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11/22/99
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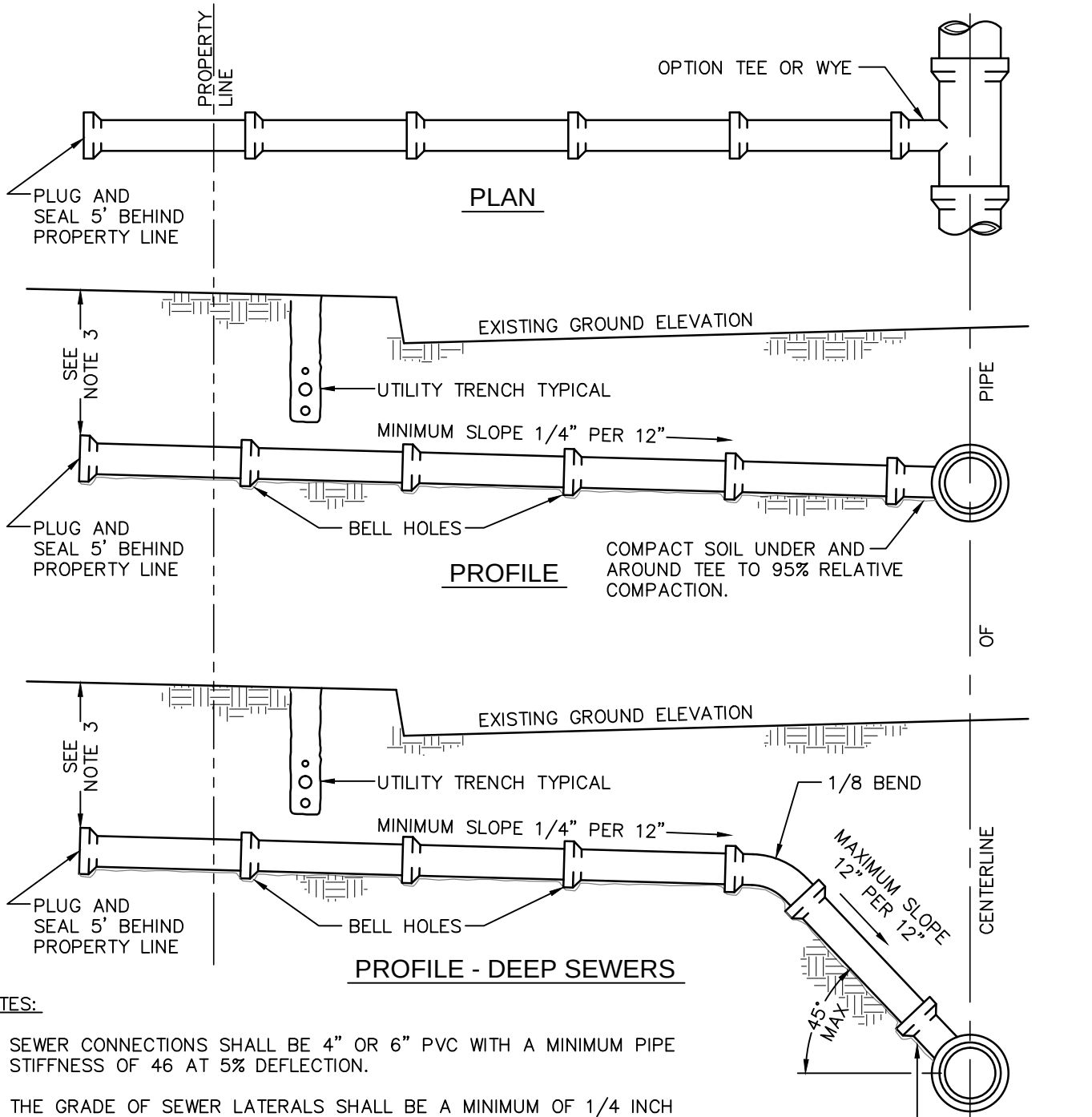
	S-9



NOTES:

1. SEWER CONNECTIONS SHALL BE 4" OR 6" PVC WITH A MINIMUM PIPE STIFFNESS OF 46 AT 5% DEFLECTION.
2. THE GRADE OF SEWER LATERALS SHALL BE A MINIMUM OF 1/4 INCH PER 12 INCHES AND A MAXIMUM OF 12 INCHES PER 12 INCHES FOR DEEP SEWERS. UNLESS APPROVED OTHERWISE BY THE CITY ENGINEER.
3. THE END OF SEWER LATERALS SHALL BE A MINIMUM 5' DEEP OR AS APPROVED BY THE CITY ENGINEER AND SHALL BE PLUGGED PRIOR TO BACKFILL WITH A CAP APPROVED BY THE PIPE MANUFACTURER FOR USE WITH THE PRODUCT.
4. SADDLES MOUNTED ON ALL PIPES SHALL HAVE A RUBBER GASKET AND SHALL BE SECURED WITH STAINLESS STEEL BANDS AND HARDWARE. CONNECTION SHALL BE WATER TIGHT.
5. A 3" "S" SHALL BE CHISELED OR STAMPED ON THE TOP OF CONCRETE CURB TO VERIFY SEWER LATERAL LOCATION.

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CITY OF VISALIA
DESIGN & IMPROVEMENT STANDARDS

SEWER CONNECTION

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09/27/13
BK 2016

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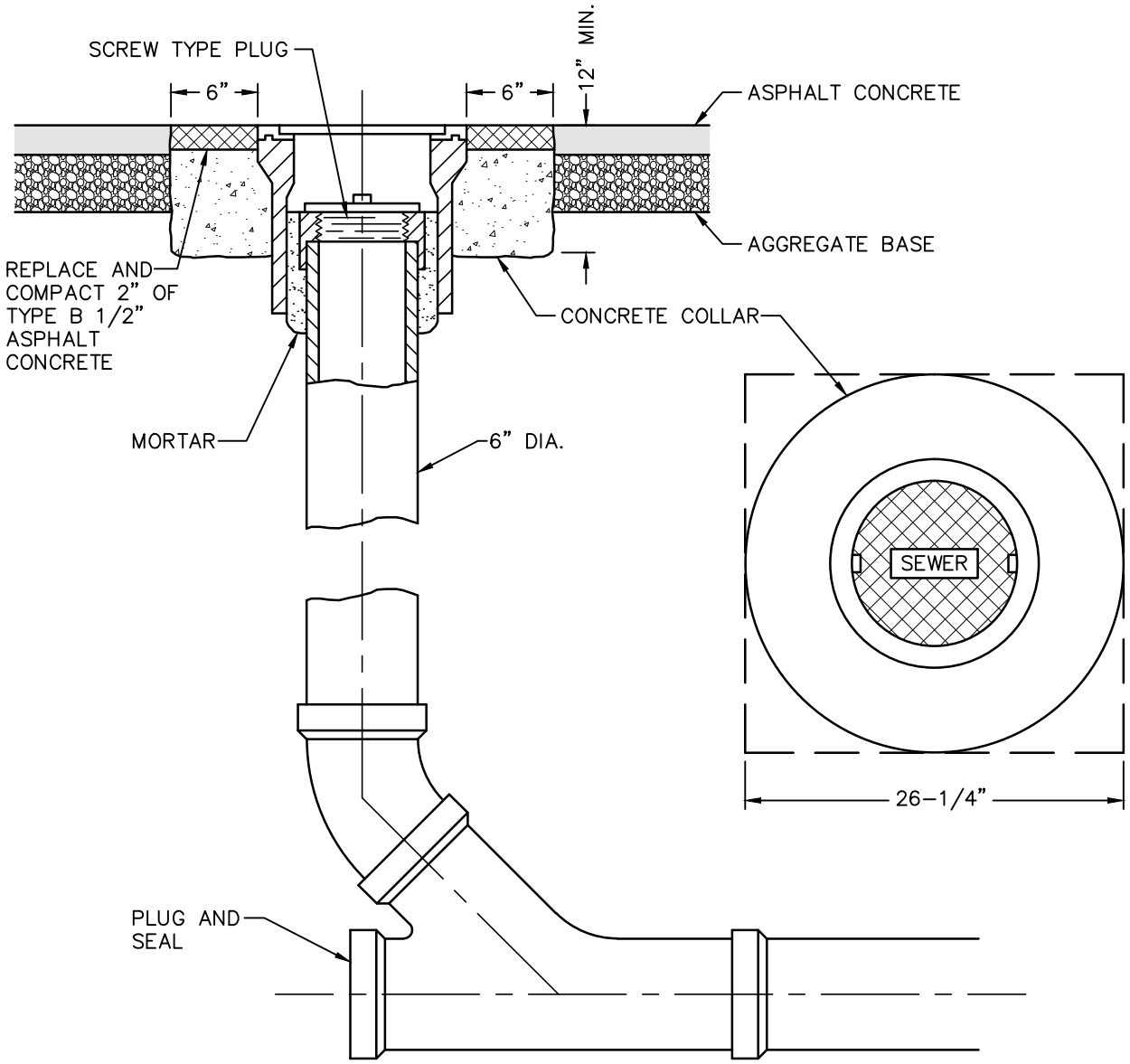

NOTES:

1. SEWER CLEANOUT RISER SHALL BE 6" MINIMUM PVC WITH A MINIMUM PIPE STIFFNESS OF 46 AT 5% DEFLECTION.
2. SEWER CLEANOUT FRAME AND COVER SHALL BE CHRISTY G5 TRAFFIC VALVE BOX OR EQUAL.
3. PLUG MAIN LINE END WITH CAP APPROVED BY THE PIPE MANUFACTURER FOR USE WITH THE PRODUCT.
4. CONCRETE COLLAR SHALL BE CLASS 3 CONCRETE.
5. CONCRETE COLLAR SHALL BE 26-1/4" IN DIAMETER OR ALTERNATIVE 26-1/4"X26-1/4" SQUARE.
6. MORTAR MIXTURE SHALL BE ONE PART CEMENT PER TWO PARTS SAND.

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CITY OF VISALIA
DESIGN & IMPROVEMENT STANDARDS

SANITARY SEWER CLEANOUT

REVISIONS
09/27/13
BK 2016

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RESERVED FOR FUTURE DETAIL

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RESERVED	REVISIONS BK 2016
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OUTSIDE COMMERCIAL AND INDUSTRIAL SAND, SILT, GREASE, OIL, AND GARBAGE INTERCEPTORS

1. THE SIZE AND DETAILS OF ALL INTERCEPTORS SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF THE CALIFORNIA PLUMBING CODE, CURRENT EDITION, HEREINAFTER REFERRED TO AS CPC. ALL INTERCEPTORS SHALL BE SEALED AND WATER TIGHT.

2. INTERCEPTORS SHALL BE CONSTRUCTED AND VENTED IN ACCORDANCE WITH THE SPECIFICATIONS SET FORTH IN THE CPC.

3. THE LOCATION OF THE INTERCEPTOR SHALL BE APPROVED BY THE COMMUNITY DEVELOPMENT DEPARTMENT PRIOR TO CONSTRUCTION.

4. ALL CAST IN PLACE OR PRECAST INTERCEPTOR UNITS SHALL BE APPROVED BY THE COMMUNITY DEVELOPMENT DEPARTMENT PRIOR TO CONSTRUCTION.

5. THE OWNER SHALL BE RESPONSIBLE FOR PROVIDING ALL DOCUMENTATION AND TESTING TO CERTIFY THAT THE INTERCEPTORS AND WASTE STREAMS MEETS THE REQUIREMENTS OF ALL CURRENT REGULATIONS AND THE QUALITY ASSURANCE DIVISION REQUIREMENTS.

6. PRE –CAST INTERCEPTORS SHALL BE LABELED WITH THE MANUFACTURERS NAME, MODEL NUMBER AND SHALL HAVE AN I.A.P.M.O. CERTIFICATION MARK.

7. ALL CONCRETE FOR CAST–IN–PLACE INTERCEPTORS SHALL BE CLASS 2 CONCRETE IN ACCORDANCE WITH THE CITY OF VISALIA STANDARD SPECIFICATIONS AND ENGINEERING DESIGN & IMPROVEMENT STANDARDS.

8. CAST IRON FRAMES MAY BE CAST INTO THE INTERCEPTOR LID.

9. ALL INTERCEPTORS SHALL BE ACCESSIBLE TO THE QUALITY ASSURANCE DIVISION FOR TESTING AT ANY TIME.

CITY OF VISALIA QUALITY ASSURANCE DIVISION
7579 AVENUE 288
VISALIA, CA. 93277–9435
TEL. 559–713–4529

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CITY OF VISALIA
DESIGN & IMPROVEMENT STANDARDS

OUTSIDE COMMERCIAL AND INDUSTRIAL SAND, SILT, GREASE, OIL AND GARBAGE INTERCEPTORS

REVISIONS
09/27/13
BK 2016

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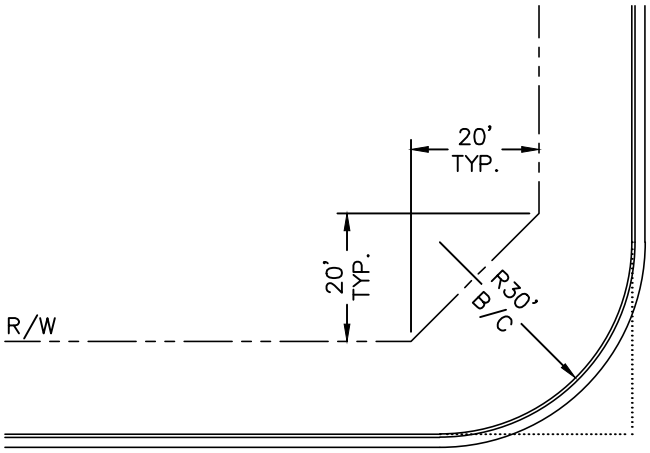
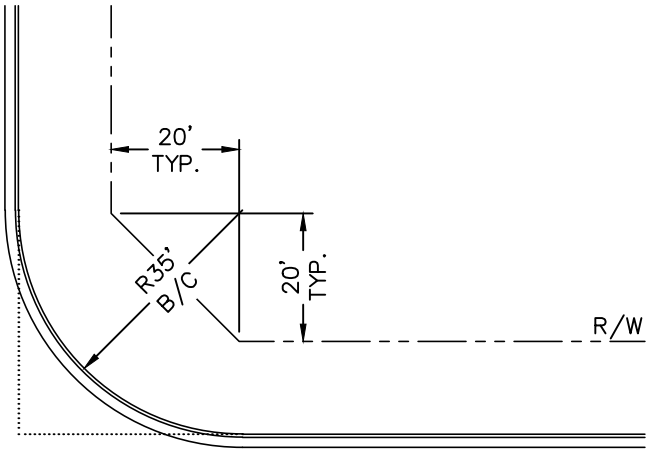
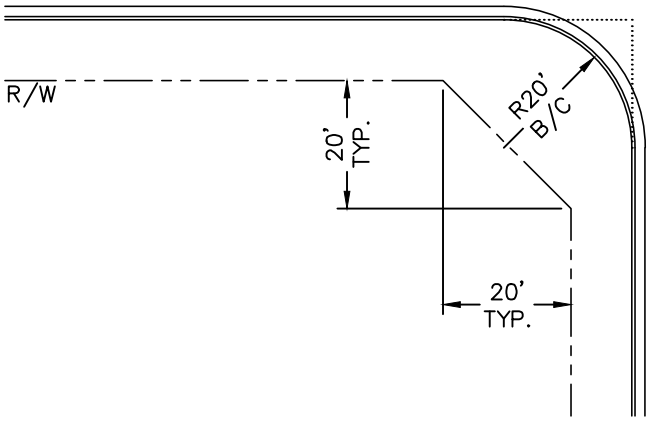


COLLECTOR

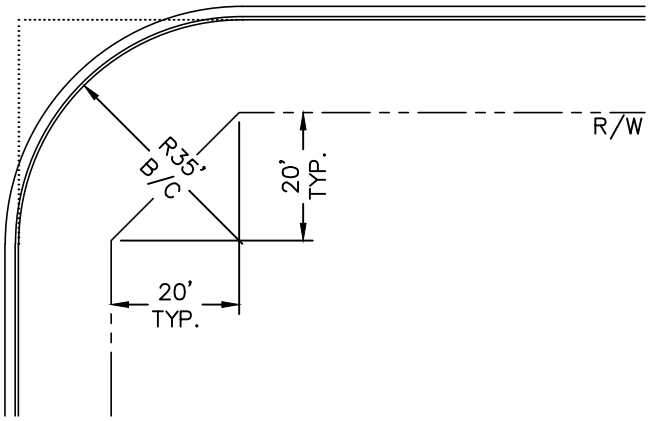
(RESIDENTIAL, HIGH VOLUME, AND COMMERCIAL/INDUSTRIAL)



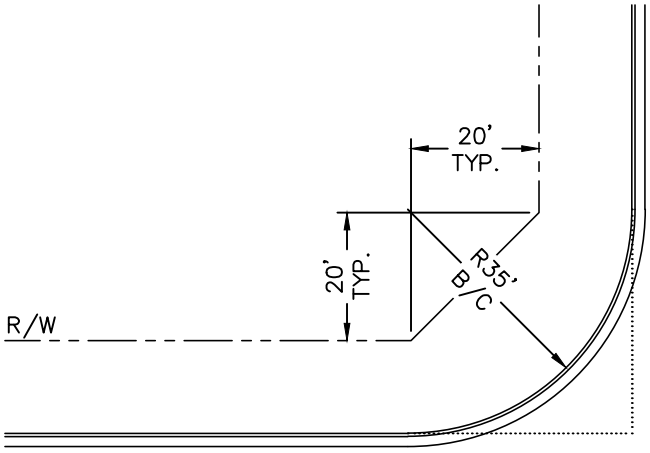
MAJOR ARTERIAL



LOCAL



MINOR ARTERIAL



PARKWAY

NOTES:

1. ALL CURB RETURNS SHALL HAVE SIDEWALK RAMPS PER CITY OF VISALIA CONCRETE STANDARD DRAWINGS.
2. THE CITY ENGINEER MAY REQUEST DIFFERENT DIMENSIONS TO ACCOMMODATE THE CITY'S SPECIAL NEEDS.

ABBREVIATIONS:

B/C = BACK OF CURB

R/W = RIGHT OF WAY

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CITY ENGINEER R.P.E. 81734 DATE

CITY OF VISALIA
DESIGN & IMPROVEMENT STANDARDS

CORNER RADII DEDICATIONS

REVISIONS
08/18/16
BK 2016

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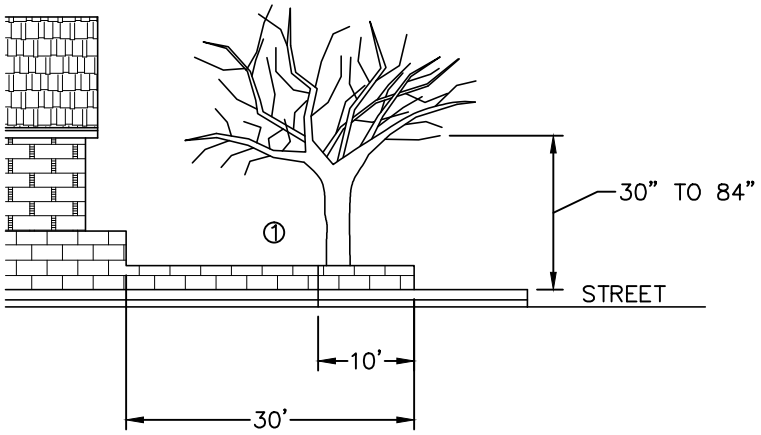
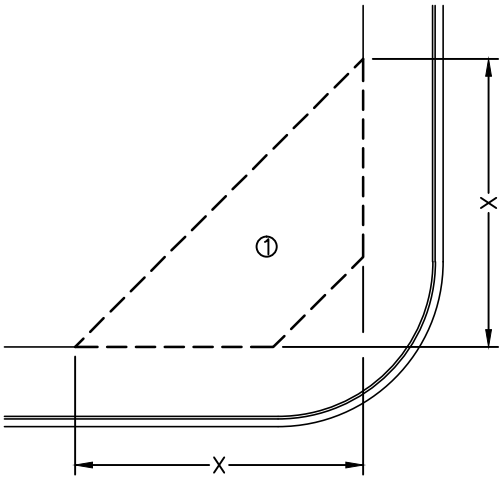


ELEVATION



PLAN

CONSTRUCTION NOTES:

① VERTICAL CLEAR ZONE

ROADWAY TYPE	X
6 LANE ARTERIAL	40'
4 LANE ARTERIAL	40'
4 LANE COLLECTOR	40'
2 LANE COLLECTOR	30'
LOCAL	30'

NOTES:

1. SIGNS, FENCES, WALLS, UTILITY BOXES, STRUCTURES, SHRUBS, HEDGES OR OTHER PLANTS, BUT EXCLUDING TREES OVER 30 INCHES IN HEIGHT SHALL NOT BE PERMITTED WITHIN THE RESTRICTED AREAS EXCEPT AS APPROVED BY CITY ENGINEER.

2. PLANTING WITHIN THE R/W IN THE VERTICAL CLEAR ZONE SHALL BE PER THE APPROVED TYPES AND DIMENSIONS AND SHALL NOT ENCROACH WITHIN THE SIGHT TRIANGLE PER AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS (AASHTO) GUIDELINES.

3. TREES ARE PERMITTED WITHIN THE RESTRICTED AREAS PROVIDED:

   A. NO LIMBS, LEAVES, NEEDLES OR OTHER FOLIAGE ABOVE 30 INCHES OR BELOW 84 INCHES ARE PERMITTED.

   B. TREES ARE PLANTED SO AS NOT TO OBSTRUCT MORE THAN 20% OF THE VISIBILITY WHEN COMBINED WITH OTHER OBSTRUCTIONS PRESENT.

4. COLLECTOR AND ARTERIAL ROADS SHALL ADHERE TO SIGHT VISIBILITY REQUIREMENTS PER SIGHT DISTANCE REQUIREMENTS STANDARD DRAWING AND SHALL COMPLY WITH AASHTO.

APPROVED BY: _____ 09/16/16
CITY ENGINEER R.P.E. 81734 DATE

CITY OF VISALIA
DESIGN & IMPROVEMENT STANDARDS

SIGHT VISIBILITY TRIANGLE

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08/26/16
BK 2016

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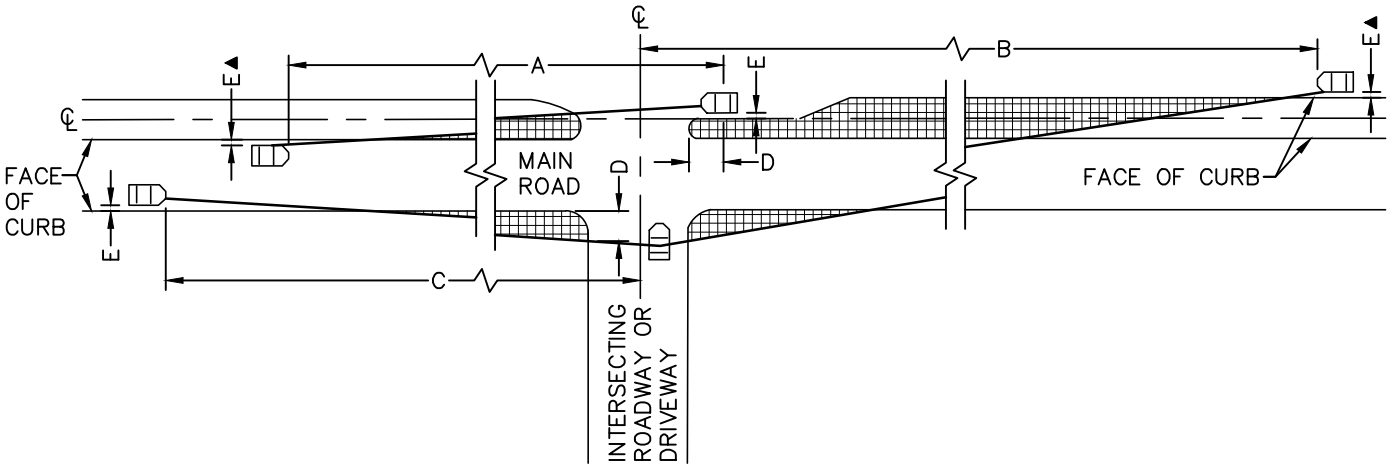


LEGEND:

▲ WHERE NO MEDIAN IS PRESENT USE CENTER OF ROADWAY AS A SUBSTITUTE FOR E

HEIGHT RESTRICTED AREA (SEE NOTE 4)

TABLE A

STREET	A	B*	C**	D	E
COLLECTOR	355'	500'	385'	18'	3'
ARTERIAL	480'	700'	480'	18'	3'

* REDUCE COLUMN "B" BY 165 FEET FOR SIGNALIZED INTERSECTIONS

** DIMENSION "C" IS FOR RIGHT–TURNS AT SIDE STREET APPROACHES PROVIDING ONLY RIGHT–IN/RIGHT–OUT MOVEMENTS. WHERE LEFT TURNS ARE ALLOWED, DIMENSION "C" SHALL EQUAL DIMENSION "B".

NOTES:

1. DIMENSIONS SHOWN IN TABLE "A" SHALL BE VERIFIED BASED ON AASHTO STANDARDS.
2. SIGHT DISTANCE FOR A COLLECTOR ROADWAY IS BASED ON A PASSENGER CAR ON A ROADWAY THAT PROVIDES 2–LANES IN EACH DIRECTION WITH A 14' RAISED MEDIAN, A DESIGN SPEED OF 40 MPH, AND AN APPROACH GRADE OF LESS THAN THREE PERCENT.
3. SIGHT DISTANCE FOR AN ARTERIAL ROADWAY IS BASED ON A PASSENGER CAR ON A ROADWAY THAT PROVIDES 3–LANES IN EACH DIRECTION WITH A 24' RAISED MEDIAN, A DESIGN SPEED OF 50 MPH, AND AN APPROACH GRADE OF LESS THAN THREE PERCENT.
4. NO SIGNS, FENCES, WALLS, UTILITY BOXES, STRUCTURES, SHRUBS, HEDGES, OR OTHER PLANTS, (EXCLUDING TREES), OVER 30 INCHES IN HEIGHT SHALL BE PERMITTED WITHIN THE RESTRICTED AREAS.
5. TREES ARE PERMITTED WITHIN THE RESTRICTED AREAS PROVIDED:
   A. NO LIMBS, LEAVES NEEDLES OR OTHER FOLIAGE ABOVE 30 INCHES OR BELOW 84 INCHES ARE PERMITTED.
   B. TREES ARE PLANTED SO AS NOT TO OBSTRUCT 20% OF THE VISIBILITY WHEN COMBINED WITH OTHER OBSTRUCTIONS PRESENT.
6. SIGHT DISTANCE FOR TYPICAL RIGHT ANGLE INTERSECTION ONLY. SKEWED INTERSECTIONS WILL REQUIRE ADDITIONAL DESIGN FOR REVIEW AND APPROVAL FROM CITY ENGINEER.

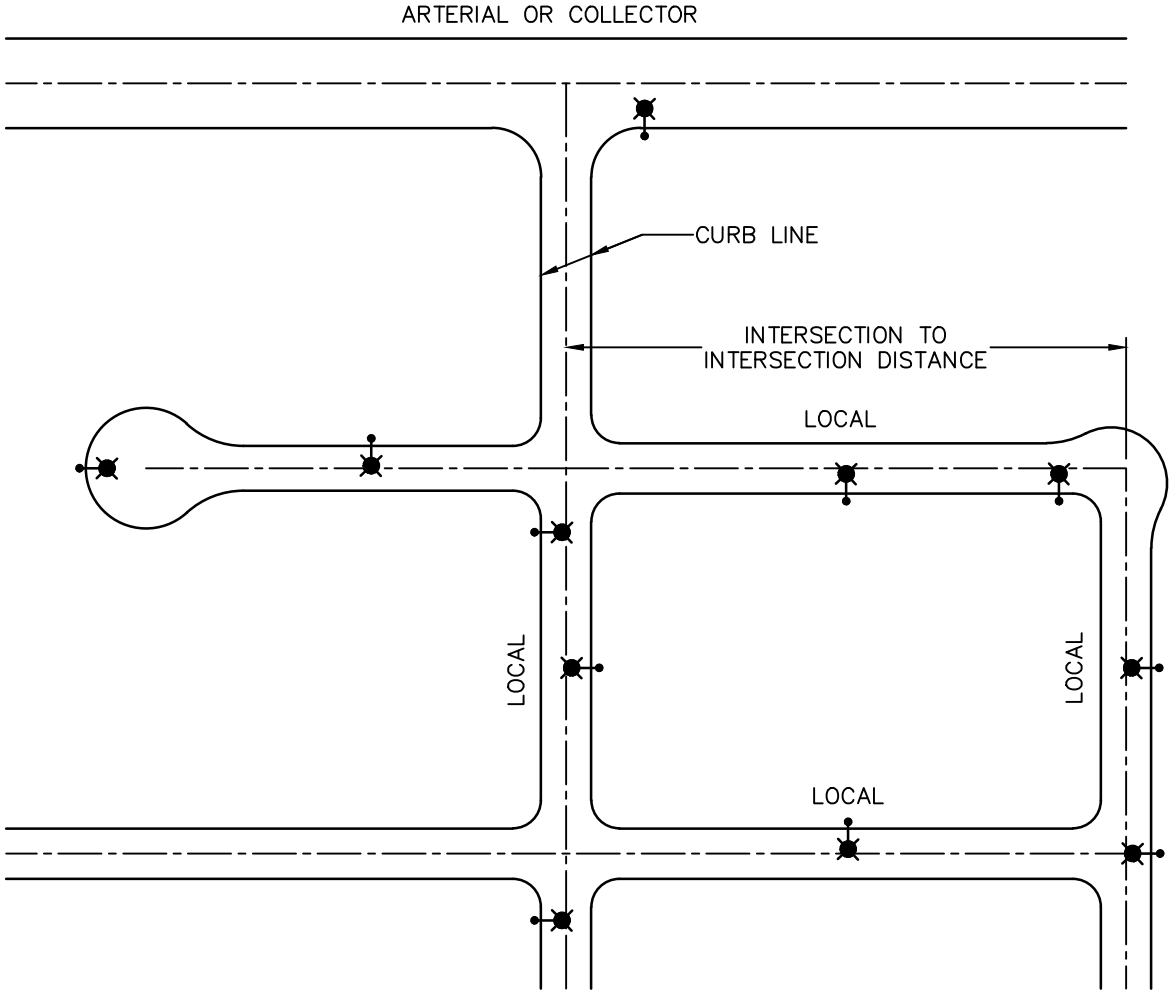
APPROVED BY: _____ CITY ENGINEER R.P.E. 81734 09/16/16 DATE

CITY OF VISALIA
DESIGN & IMPROVEMENT STANDARDS

SIGHT DISTANCE REQUIREMENTS FOR ARTERIAL & COLLECTOR STREETS

REVISIONS
08/26/16
BK 2016

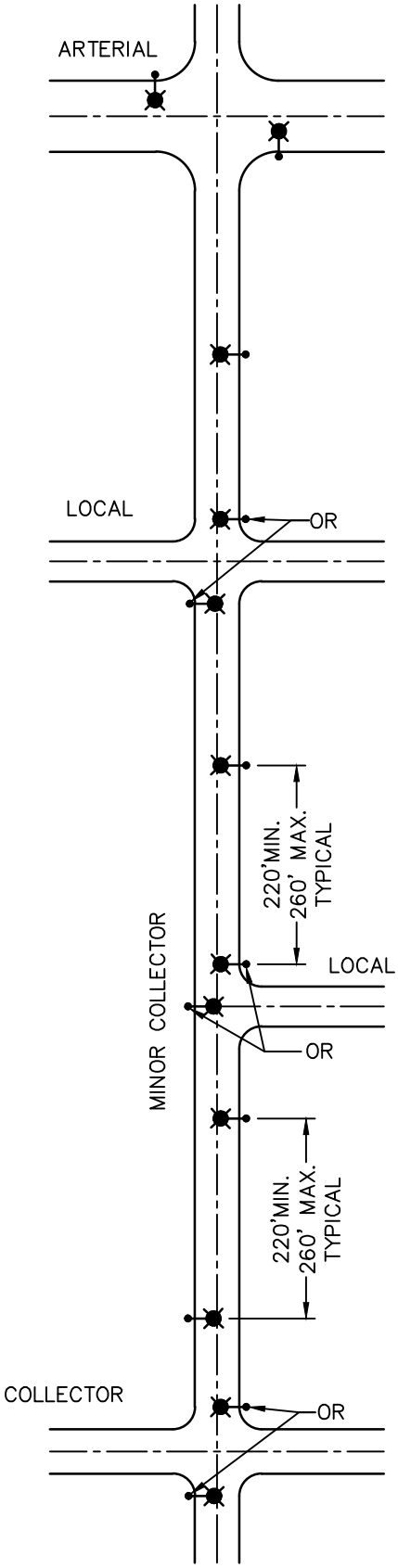
SD–3



NOTES:

1. STREETLIGHTS ON LOCAL STREETS SHALL BE LED – MINIMUM 5,800 LUMEN WITH CUT–OFF LUMINAIRES, LUMINAIRE ELEVATION OF 26', MOUNTED ON MARBLELITE POLES WITH 8' ALUMINUM MAST ARMS. ALTERNATIVE STREETLIGHT POLES ARE SUBJECT TO APPROVAL OF THE CITY ENGINEER.
2. STREETLIGHTS SHALL BE INSTALLED AT LOCATIONS AS DETERMINED BY THE CITY ENGINEER UPON REVIEW OF SUBMITTED IMPROVEMENT PLANS.
3. A STREETLIGHT SHALL BE INSTALLED AT EACH INTERSECTION. SHOULD THE DISTANCE EXCEED 360' BETWEEN INTERSECTIONS AN INTERMEDIATE STREETLIGHT, OR STREETLIGHTS, SHALL BE INSTALLED. SPACING OF STREET LIGHTS BETWEEN INTERSECTIONS WHERE REQUIRED SHALL BE 180' MINIMUM TO 240' MAXIMUM.
4. CUL–DE–SACS SHALL HAVE A MINIMUM OF ONE STREETLIGHT AND SHALL FOLLOW THE ABOVE SPACING REQUIREMENTS.
5. A STREET LIGHTING PLAN PREPARED BY A LICENSED ENGINEER SHALL BE SUBMITTED TO THE CITY. THE PLAN SHALL INCLUDE LOCATIONS OF STREETLIGHTS, PULL BOXES, CONDUIT, METER PEDESTAL, POINT OF SERVICE, AND VOLTAGE DROP CALCULATIONS. THE LIGHTING SYSTEM MUST COMPLY WITH THE CURRENT NATIONAL ELECTRICAL CODE (NEC) AND THE CALIFORNIA ELECTRICAL CODE (CEC).
6. STREET LIGHTING SHALL BE DESIGNED TO MINIMIZE THE NUMBER OF METER PEDESTALS.
7. A "WILL SERVE" LETTER FROM SOUTHERN CALIFORNIA EDISON SHALL BE SUBMITTED TO THE CITY PRIOR TO APPROVAL OF STREET LIGHTING PLANS.
8. A MINIMUM SEPARATION OF 20' IS REQUIRED BETWEEN TREES AND STREETLIGHT POLES.
9. ALL STREETLIGHTS INSTALLED OR REPLACED IN THE CENTRAL BUSINESS DISTRICT ARE SUBJECT TO APPROVAL OF THE CITY ENGINEER.

APPROVED BY: _____ CITY ENGINEER R.P.E. 81734 — 09/16/16 DATE	CITY OF VISALIA DESIGN & IMPROVEMENT STANDARDS
LOCAL STREET LIGHTING RESIDENTIAL & INDUSTRIAL	REVISIONS 04/29/16 BK 2016 — SL–1



NOTES:

1. STREETLIGHTS ON MINOR COLLECTOR STREETS SHALL BE LED – MINIMUM 9,500 LUMEN WITH CUT–OFF LUMINAIRES, LUMINAIRE ELEVATION OF 29' MOUNTED ON MARBLELITE POLES WITH 8' ALUMINUM MAST ARMS.
2. STREETLIGHTS SHALL BE INSTALLED AT LOCATIONS AS DETERMINED BY THE CITY ENGINEER UPON REVIEW OF SUBMITTED IMPROVEMENT PLANS.
3. A STREETLIGHT SHALL BE INSTALLED AT EACH INTERSECTION. STREETLIGHT SPACING SHALL BE 220' MINIMUM TO 260' MAXIMUM.
4. STREETLIGHTS SHALL BE STAGGERED FROM SIDE TO SIDE OF STREET, UNLESS OTHERWISE APPROVED BY THE CITY ENGINEER.
5. IF AN INTERSECTION IS SIGNALIZED, A STREETLIGHT SHALL BE INSTALLED ON EACH CORNER AS A PART OF THE TRAFFIC SIGNAL SYSTEM.
6. A STREET LIGHTING PLAN PREPARED BY A LICENSED ENGINEER SHALL BE SUBMITTED TO THE CITY. THE PLAN SHALL INCLUDE LOCATIONS OF STREETLIGHTS, PULL BOXES, CONDUIT, METER PEDESTAL, POINT OF SERVICE, AND VOLTAGE DROP CALCULATIONS. THE LIGHTING SYSTEM MUST COMPLY WITH THE CURRENT NATIONAL ELECTRICAL CODE (NEC) AND THE CALIFORNIA ELECTRICAL CODE (CEC).
7. STREET LIGHTING SHALL BE DESIGNED TO MINIMIZE THE NUMBER OF METER PEDESTALS.
8. A "WILL SERVE" LETTER FROM SOUTHERN CALIFORNIA EDISON SHALL BE SUBMITTED TO THE CITY PRIOR TO APPROVAL OF STREET LIGHTING PLANS.
9. A MINIMUM SEPARATION OF 20' IS REQUIRED BETWEEN TREES AND STREETLIGHT POLES.
10. ALL STREETLIGHTS INSTALLED OR REPLACED IN THE CENTRAL BUSINESS DISTRICT ARE SUBJECT TO APPROVAL OF THE CITY ENGINEER.

APPROVED BY: _____ 09/16/16
CITY ENGINEER R.P.E. 81734 DATE

CITY OF VISALIA
DESIGN & IMPROVEMENT STANDARDS

MINOR COLLECTOR STREET LIGHTING

REVISIONS
04/29/16
BK 2016

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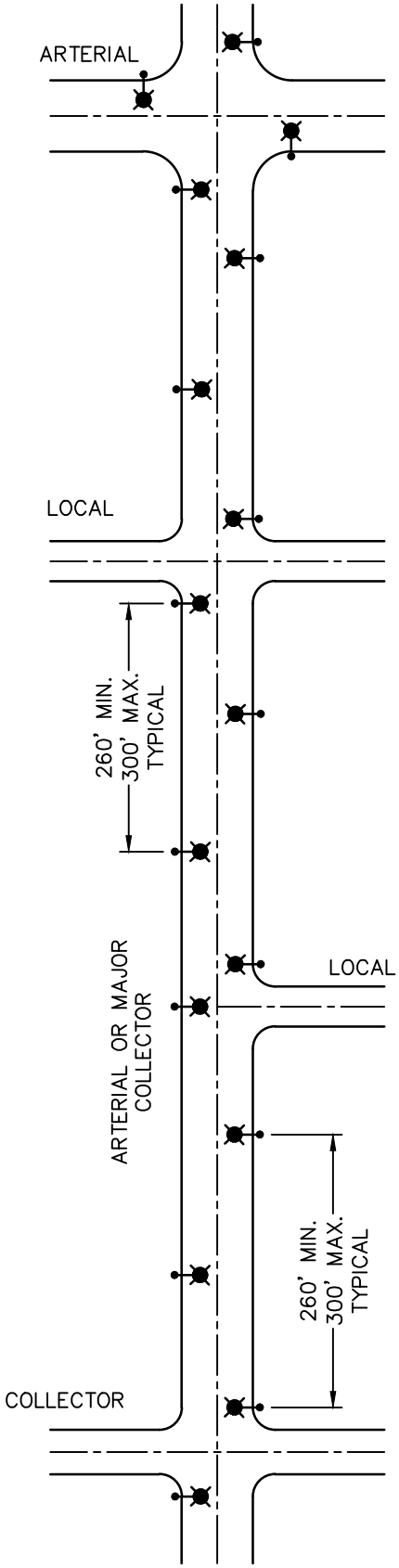

NOTES:

1. STREETLIGHTS ON ARTERIAL STREETS SHALL BE LED – MINIMUM 16,000 LUMEN WITH CUT–OFF LUMINAIRES, LUMINAIRE ELEVATION OF 29', MOUNTED ON MARBLELITE POLES WITH 8' ALUMINUM MAST ARMS.
2. STREETLIGHTS ON MAJOR COLLECTOR STREETS SHALL BE LED – MINIMUM 9,500 LUMEN WITH CUT–OFF LUMINAIRES, LUMINAIRE ELEVATION OF 29', MOUNTED ON MARBLELITE POLES WITH 8' ALUMINUM MAST ARMS.
3. STREETLIGHTS SHALL BE INSTALLED AT LOCATIONS AS DETERMINED BY THE CITY ENGINEER UPON REVIEW OF SUBMITTED IMPROVEMENT PLANS.
4. TWO STREETLIGHTS SHALL BE INSTALLED AT EACH INTERSECTION. STREETLIGHT SPACING SHALL BE 260' MINIMUM TO 300' MAXIMUM.
5. STREETLIGHTS SHALL BE INSTALLED ON BOTH SIDES OF THE STREET.
6. IF AN INTERSECTION IS SIGNALIZED, A STREETLIGHT SHALL BE INSTALLED ON EACH CORNER AS A PART OF THE TRAFFIC SIGNAL SYSTEM.
7. A STREETLIGHT PLAN PREPARED BY A LICENSED ENGINEER SHALL BE SUBMITTED TO THE CITY. THE PLAN SHALL INCLUDE LOCATIONS OF STREETLIGHTS, PULL BOXES, CONDUIT, METER PEDESTAL, POINT OF SERVICE, AND VOLTAGE DROP CALCULATIONS. THE LIGHTING SYSTEM MUST COMPLY WITH THE CURRENT NATIONAL ELECTRICAL CODE (NEC) AND THE CALIFORNIA ELECTRICAL CODE (CEC).
8. STREET LIGHTING SHALL BE DESIGNED TO MINIMIZE THE NUMBER OF METER PEDESTALS.
9. A "WILL SERVE" LETTER FROM SOUTHERN CALIFORNIA EDISON SHALL BE SUBMITTED TO THE CITY PRIOR TO APPROVAL OF STREET LIGHTING PLANS.
10. A MINIMUM SEPARATION OF 20' IS REQUIRED BETWEEN TREES AND STREETLIGHT POLES.
11. ALL STREETLIGHTS INSTALLED OR REPLACED IN THE CENTRAL BUSINESS DISTRICT ARE SUBJECT TO APPROVAL OF THE CITY ENGINEER.

APPROVED BY: _____ 09/16/16
CITY ENGINEER R.P.E. 81734 DATE

CITY OF VISALIA
DESIGN & IMPROVEMENT STANDARDS

ARTERIAL AND MAJOR COLLECTOR STREET LIGHTING

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04/29/16
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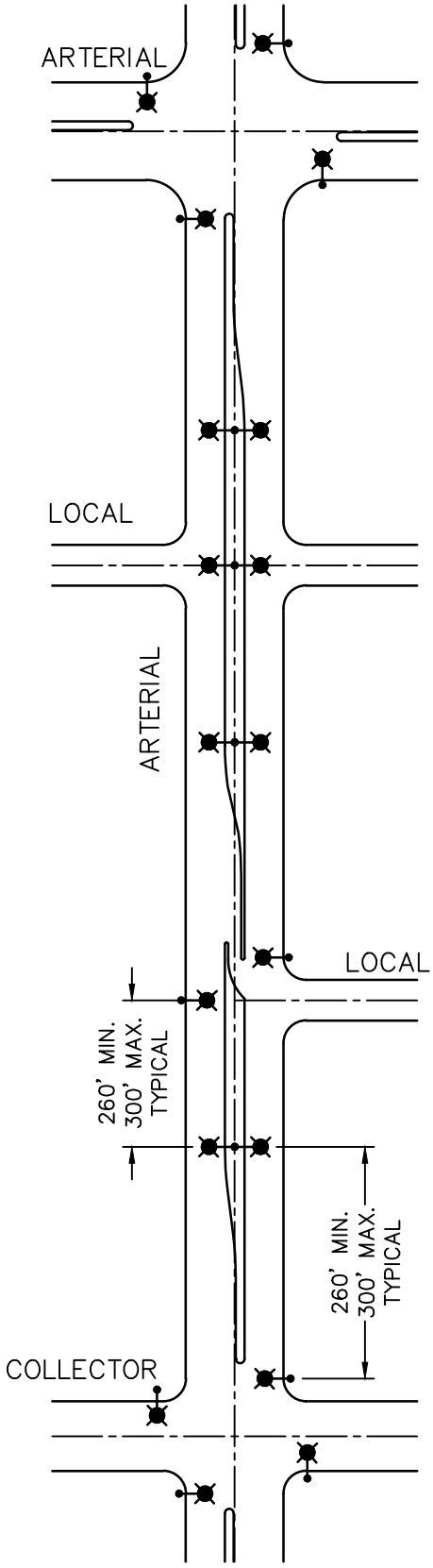


NOTES:

1. STREET LIGHTS SHALL BE INSTALLED IN MEDIAN. STREET LIGHTS INSTALLED IN MEDIAN SHALL BE INSTALLED ON SINGLE OCTAGONAL POLES WITH A POLE HEIGHT OF 25'–9" AND SHALL HAVE DUAL MAST ARMS WITH A LENGTH OF 8' EACH.
2. INTERSECTIONS MAY BE SUPPLEMENTED WITH LIGHTING BEHIND CURB AND GUTTER IF MEDIAN LIGHTING CANNOT BE POSITIONED TO PROVIDE ADEQUATE ILLUMINATION.
3. STREETLIGHTS ON ARTERIAL STREETS SHALL BE LED – MINIMUM 16,000 LUMEN WITH CUT–OFF LUMINAIRES, LUMINAIRE ELEVATION OF 29', MOUNTED ON MARBLELITE POLES WITH 8' ALUMINUM MAST ARMS.
4. STREETLIGHTS ON MAJOR COLLECTOR STREETS SHALL BE LED – MINIMUM 9,500 LUMEN WITH CUT–OFF LUMINAIRES, LUMINAIRE ELEVATION OF 29', MOUNTED ON MARBLELITE POLES WITH 8' ALUMINUM MAST ARMS.
5. STREETLIGHTS SHALL BE INSTALLED AT LOCATIONS AS DETERMINED BY THE CITY ENGINEER UPON REVIEW OF SUBMITTED IMPROVEMENT PLANS.
6. STREETLIGHT SPACING SHALL BE 260' MINIMUM TO 300' MAXIMUM.
7. IF AN INTERSECTION IS SIGNALIZED, A STREETLIGHT SHALL BE INSTALLED ON EACH CORNER AS A PART OF THE TRAFFIC SIGNAL SYSTEM.
8. A STREETLIGHT PLAN PREPARED BY A LICENSED ENGINEER SHALL BE SUBMITTED TO THE CITY. THE PLAN SHALL INCLUDE LOCATIONS OF STREETLIGHTS, PULL BOXES, CONDUIT, METER PEDESTAL, POINT OF SERVICE, AND VOLTAGE DROP CALCULATIONS. THE LIGHTING SYSTEM MUST COMPLY WITH THE CURRENT NATIONAL ELECTRICAL CODE (NEC) AND THE CALIFORNIA ELECTRICAL CODE (CEC).
9. STREET LIGHTING SHALL BE DESIGNED TO MINIMIZE THE NUMBER OF METER PEDESTALS.
10. A "WILL SERVE" LETTER FROM SOUTHERN CALIFORNIA EDISON SHALL BE SUBMITTED TO THE CITY PRIOR TO APPROVAL OF STREET LIGHTING PLANS.
11. A MINIMUM SEPARATION OF 20' IS REQUIRED BETWEEN TREES AND STREETLIGHT POLES.
12. ALL STREETLIGHTS INSTALLED OR REPLACED IN THE CENTRAL BUSINESS DISTRICT ARE SUBJECT TO APPROVAL OF THE CITY ENGINEER.

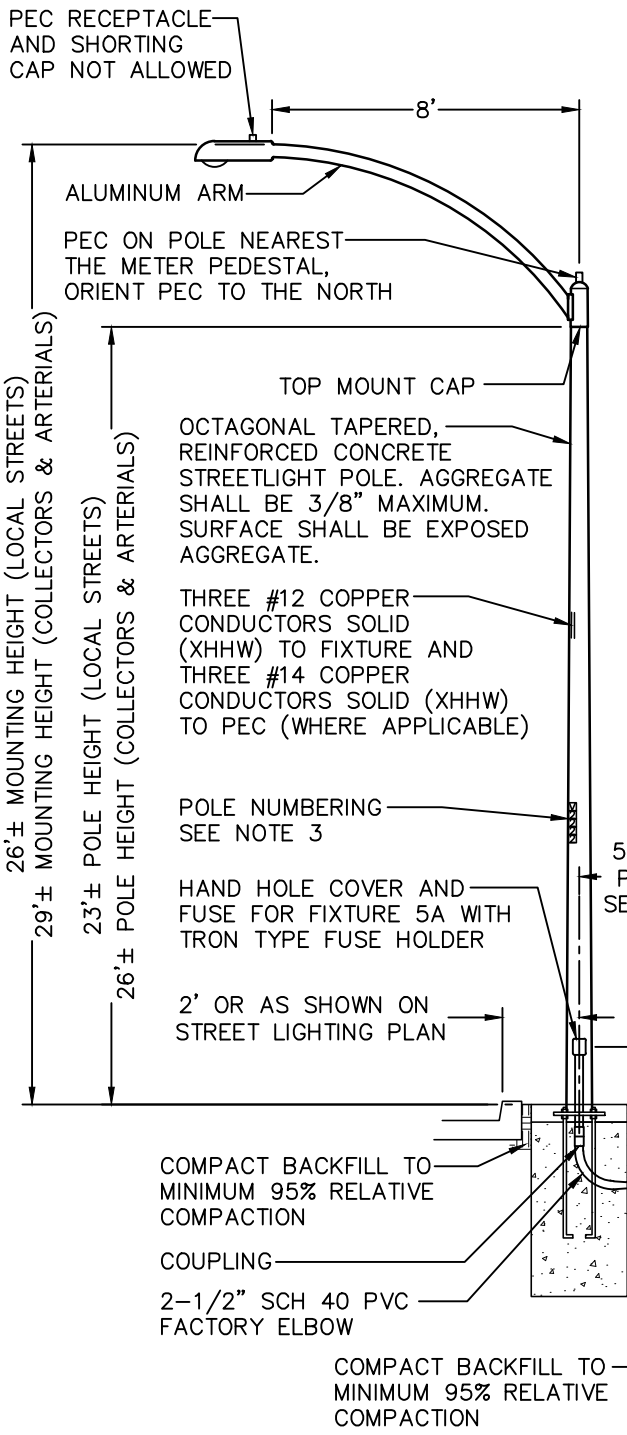
APPROVED BY: _____ CITY ENGINEER R.P.E. 81734 – 09/16/16 DATE

CITY OF VISALIA
DESIGN & IMPROVEMENT STANDARDS

ARTERIAL STREET LIGHTING WITH MEDIAN CURB

REVISIONS
08/22/16
BK 2016

SL–4



NOTES:

1. ALL WORK SHALL CONFORM TO THE APPLICABLE SECTIONS OF THE SPECIFICATIONS ENTITLED "STANDARD SPECIFICATIONS, STATE OF CALIFORNIA, BUSINESS, TRANSPORTATION AND HOUSING AGENCY, DEPARTMENT OF TRANSPORTATION" AND THE NATIONAL ELECTRICAL CODE.
2. LUMINAIRE SHALL BE 120V LED, COBRA HEAD STYLE WITH TYPE II CUTOFF.
3. ALL STREETLIGHTS SHALL BE NUMBERED. NUMERICAL SEQUENCE TO BE OBTAINED FROM THE CITY OF VISALIA. EACH CHARACTER SHALL BE 2-1/2" TEXT HEIGHT. ALUMINUM TAGS SHALL BE INSTALLED VERTICALLY. THE BOTTOM TAG SHALL BE 10'-6" ABOVE FINISH GRADE.
4. FOR BASE PLATE AND FOUNDATION INFORMATION SEE STREETLIGHT FOUNDATION STANDARD DRAWING.
5. PULL BOX SHALL NOT BE INSTALLED WITHIN SIDEWALK, UNLESS APPROVED BY THE CITY ENGINEER.

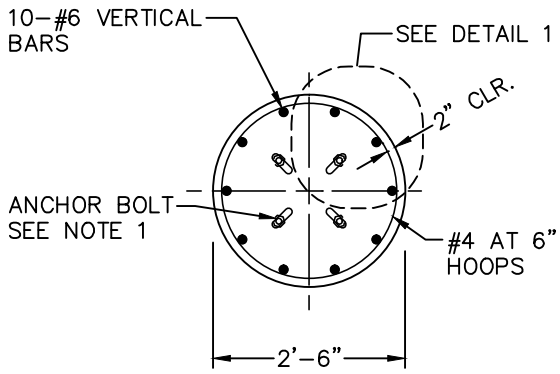
APPROVED BY: _____ 09/16/16
CITY ENGINEER R.P.E. 81734 DATE

CITY OF VISALIA
DESIGN & IMPROVEMENT STANDARDS

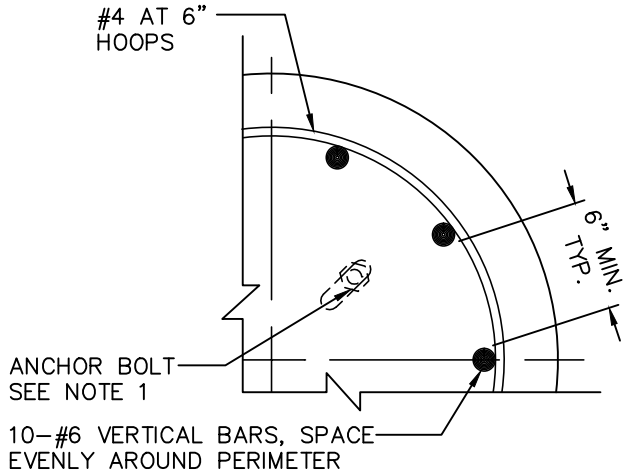
STREETLIGHT POLE

REVISIONS
08/22/16
BK 2016

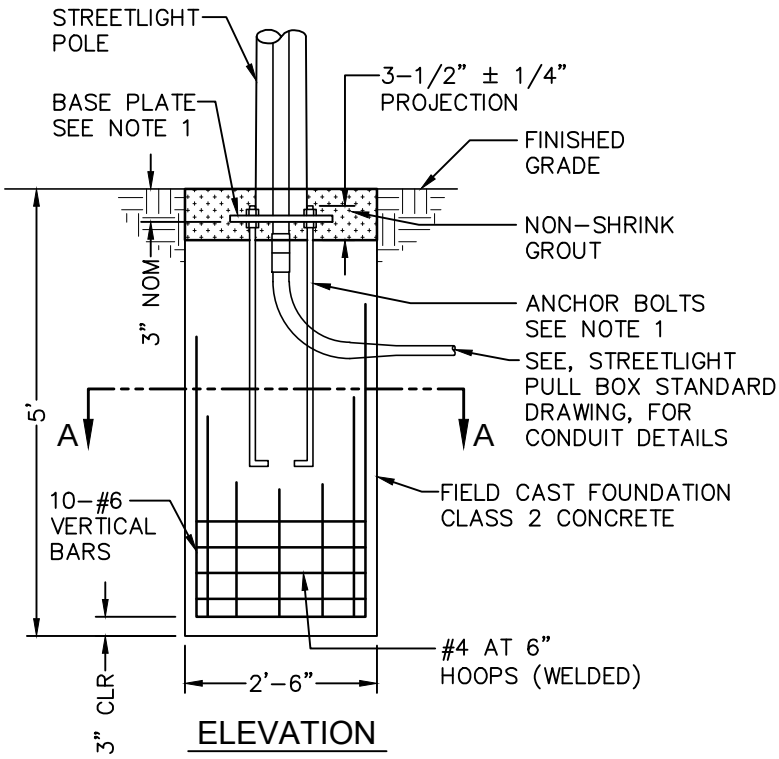
SL-5



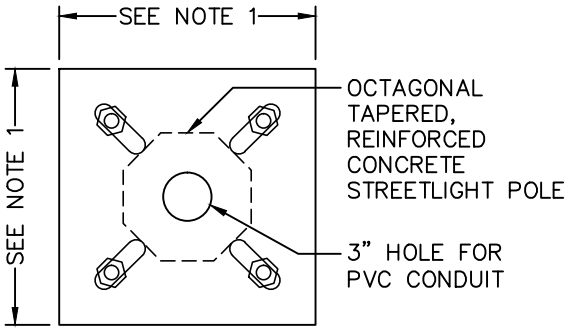
SECTION A-A



DETAIL 1



ELEVATION



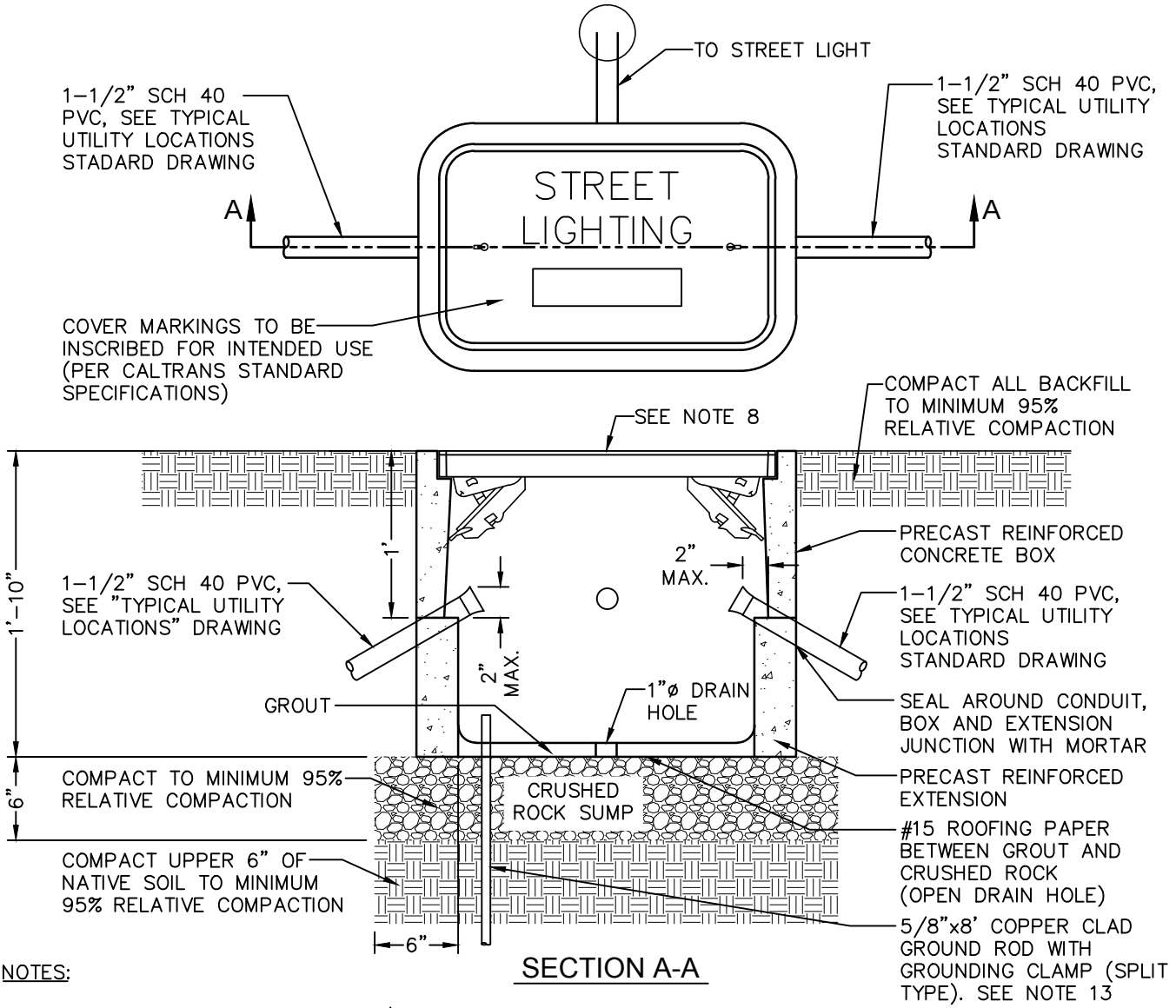
BASE PLATE DETAIL

CAST-IN-DRILLED HOLE PILE FOUNDATION
REINFORCED PILE

NOTE:

1. BASE PLATE AND ANCHOR BOLT DIMENSIONS PER MANUFACTURER SPECIFICATIONS. AT MINIMUM, ANCHOR BOLTS 1"ø x 36" x 4". INSTALL PER MANUFACTURERS RECOMMENDATION.

APPROVED BY: _____ CITY ENGINEER R.P.E. 81734 — 09/16/16 DATE	CITY OF VISALIA DESIGN & IMPROVEMENT STANDARDS
STREETLIGHT FOUNDATION	REVISIONS 08/22/16 BK 2016 — SL–6



SECTION A-A

NOTES:

1. PULL BOXES SHALL BE NO. 3-1/2 UNLESS OTHERWISE NOTED ON PLANS.
2. PULL BOXES SHALL BE GROUTED PRIOR TO INSTALLATION OF CONDUCTORS. SLOPED TOWARD THE DRAIN HOLE. PLACE A LAYER OF ROOFING PAPER BETWEEN THE CRUSHED ROCK AND GROUT. OPEN AT DRAIN HOLE.
3. PULL LIDS BEFORE POURING CONCRETE AROUND PULL BOXES.
4. WRAP BOX WITH ROOFING PAPER BEFORE BACKFILLING.
5. PULL BOX SHALL BE TRAFFIC RATED PER CALTRANS STANDARDS IF NOT LOCATED BEHIND A CURB.
6. STREET LIGHT CONDUCTORS SHALL BE INSTALLED CONTINUOUS. SPLICES SHALL ONLY BE PERMITTED AT THE PULL BOX.
7. FIRMLY INSTALL DUCT SEAL AFTER INSTALLATION OF CONDUCTORS.
8. A LOCKING LID SHALL BE INSTALLED. LID SHALL BE GALVANIZED STEEL DIAMOND PLATE, MINIMUM THICKNESS 3/16", WITH MINIMUM TWO CLAMPING JAWS. DELIVER ONE KEY PER PROJECT TO THE CITY OF VISALIA REPRESENTATIVE OR AS DIRECTED BY THE CITY REPRESENTATIVE. LID SHALL BE LOCKJAW BRAND OR APPROVED EQUAL. LID SHALL BE BONDED PER CALTRANS STANDARDS FOR TRAFFIC RATED LIDS.
9. A MINIMUM OF 2' OF SLACK IN EACH CONDUCTOR SHALL BE LEFT IN EACH PULL BOX. TWIST AND PUSH TO BOTTOM OF PULL BOX TO PREVENT WIRE FROM PULLING THROUGH.
10. CONDUIT SHALL HAVE BELL ENDS. EMPTY CONDUITS SHALL BE CAPPED WITHOUT GLUE.
11. CONDUIT SHALL BE MANDREL TESTED AFTER BACKFILL AND COMPACTION IN THE PRESENCE OF THE CITY OF VISALIA REPRESENTATIVE.
12. REFER TO TYPICAL UTILITY LOCATIONS STANARD DRAWING FOR PLACEMENT OF STREET LIGHTING CONDUIT IN UTILITY TRENCHES.
13. GROUND RODS REQUIRED ONLY IN PULL BOX FARTHEST FROM THE METER PEDESTAL AND IN THE METER PEDESTAL.

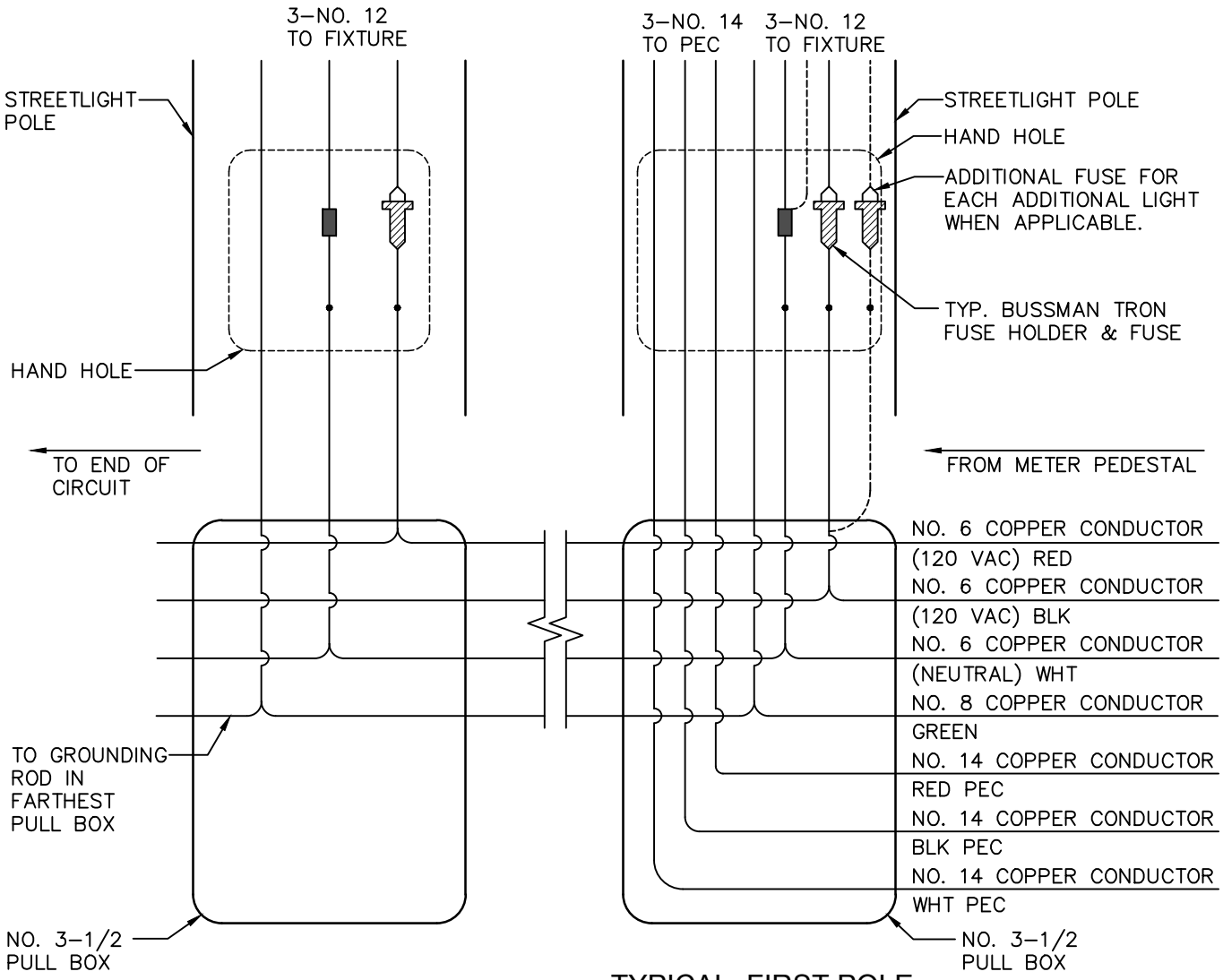
APPROVED BY: _____ 09/16/16
CITY ENGINEER R.P.E. 81734 DATE

CITY OF VISALIA
DESIGN & IMPROVEMENT STANDARDS

STREETLIGHT PULL BOX

REVISIONS
08/22/16
BK 2016

SL-7



TYPICAL, POLE AND PULL BOX ALONG RUN

TYPICAL, FIRST POLE AND PULL BOX, NEAREST METER

NOTES:

1. ALL CONDUCTORS SHALL BE (XHHW) TYPE, OR AS APPROVED BY CITY ENGINEER.
2. VOLTAGE DROP CALCULATIONS SHALL BE PERFORMED BY A LICENSED ENGINEER AND SUBMITTED TO THE CITY OF VISALIA FOR REVIEW.
3. 240V CIRCUITS ARE NOT STANDARD BUT MAY BE USED IF WARRANTED BY SPECIAL CIRCUMSTANCES. 240V CIRCUITS REQUIRE APPROVAL OF THE CITY ENGINEER AND SHALL BE DESIGNED BY A LICENSED ENGINEER.
4. SPLICES SHALL BE PER CALTRANS STANDARD PLAN ES–13A, TYPE "S" OR TYPE "ST" AS APPLICABLE. SPLICES SHALL BE INSULATED IN ACCORDANCE WITH METHOD "B".
5. SPLIT BOLT CONNECTOR (KEARNEY CONNECTORS, OR EQUAL), MAY BE USED TO SPLICE NO. 8 CONDUCTORS OR LARGER WITH METHOD "B" INSULATION.
6. WIRE NUTS ARE NOT ALLOWED FOR SPLICING.
7. THIS WIRING DIAGRAM DOES NOT SHOW THE SEPARATE GFI CIRCUIT REQUIRED IN THE DOWNTOWN AREA.

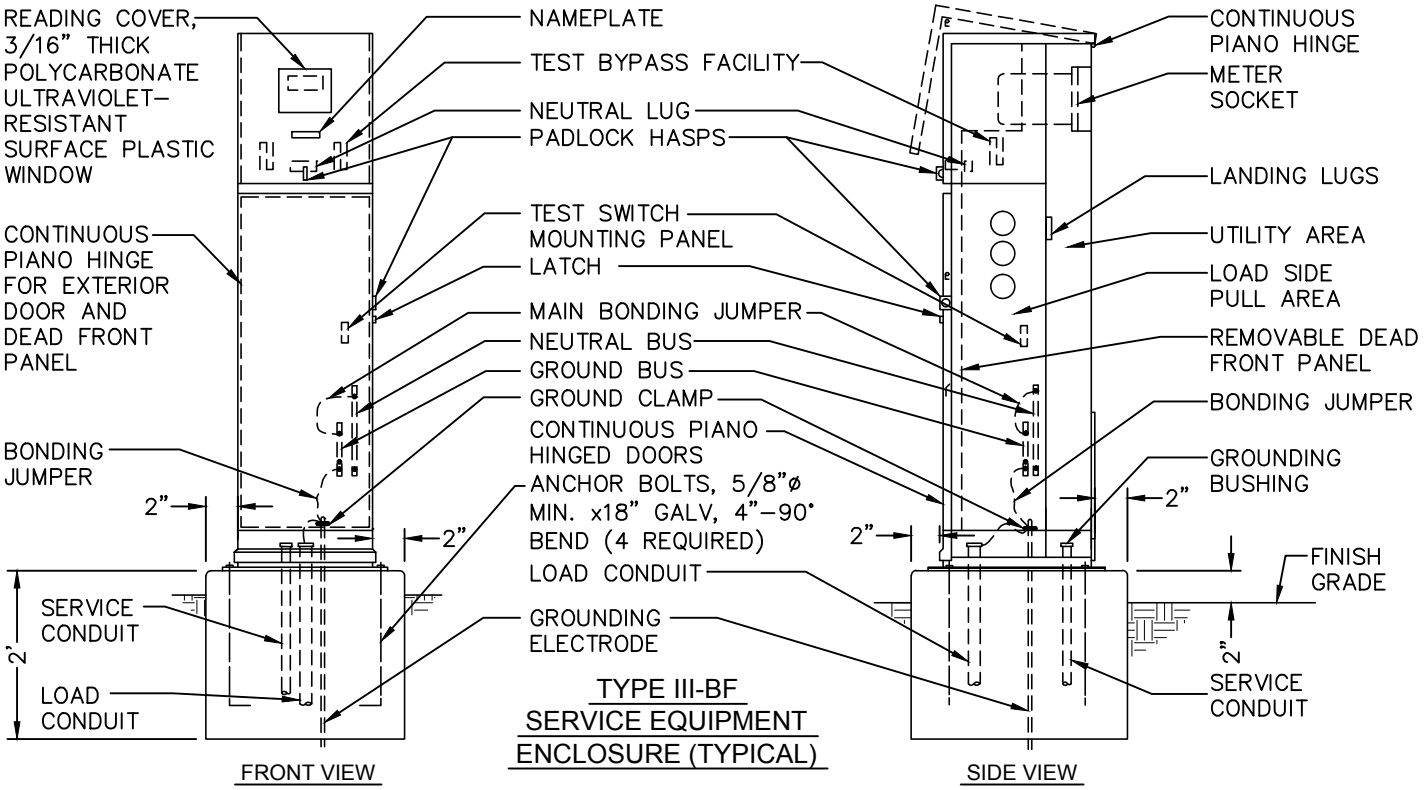
APPROVED BY: _____ 09/16/16
CITY ENGINEER R.P.E. 81734 DATE

CITY OF VISALIA
DESIGN & IMPROVEMENT STANDARDS

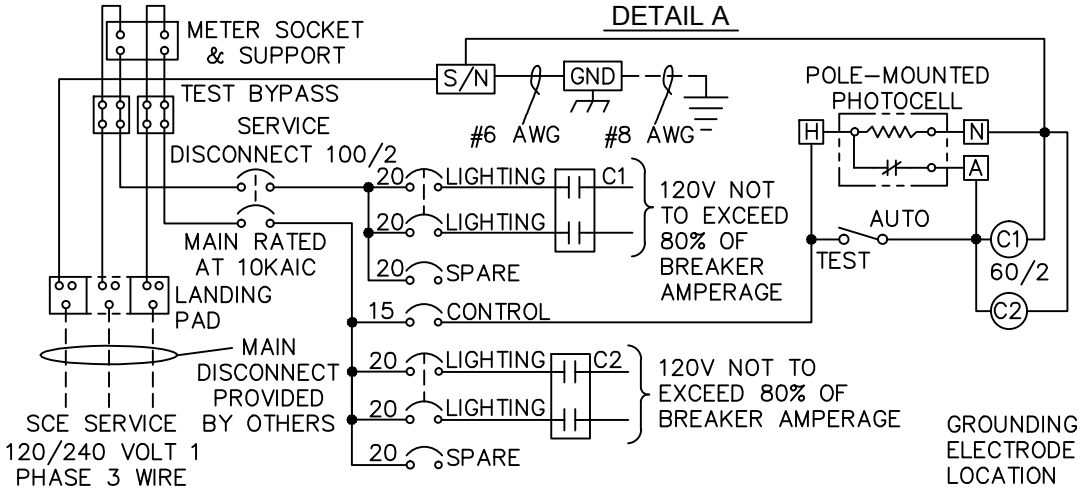
STREETLIGHT CONNECTION DIAGRAM

REVISIONS
08/22/16
BK 2016

SL–8

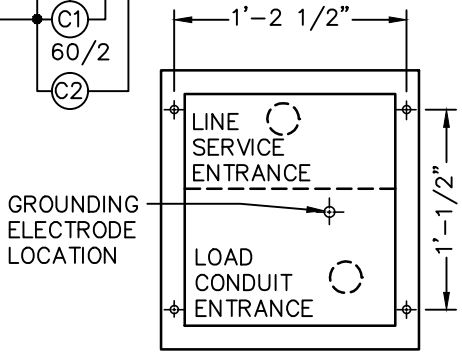


DETAIL A



NOTE: LOAD CURRENT FOR ALL BREAKERS NOT TO EXCEED 80% OF BREAKER AMPERAGE

SERVICE EQUIPMENT WIRING DIAGRAM



FRONT

BASE FOR TYPE III-B SERVICE EQUIPMENT ENCLOSURE

DETAIL B

ENCLOSURE CONSTRUCTION NOTES:

1. EXTERIOR, 1/8" ALUMINUM, AND INTERIOR 14 GA COLD ROLLED STEEL, ELECTRICALLY WELDED AND REINFORCED WHERE REQUIRED.
2. CONSTRUCTION WILL BE NEMA 3R, RAINTIGHT.
3. ALL NUTS, BOLTS AND SCREWS WILL BE STAINLESS STEEL.
4. NUTS, BOLTS & SCREWS WILL NOT BE VISIBLE FROM OUTSIDE OF ENCLOSURE.
5. NAMEPLATES WILL BE PROVIDED AS REQUIRED.
6. CONTROL WIRING WILL BE MARKED AT BOTH ENDS BY PERMANENT WIRE MARKERS.
7. A PLASTIC COVERED WIRING DIAGRAM WILL BE ATTACHED TO THE INSIDE OF THE FRONT DOOR.
8. ENCLOSURE WILL BE FACTORY WIRED AND CONFORM TO REQUIRED NEMA AND UL 508A STANDARDS.
9. COLOR TO BE: ANODIZED ALUMINUM
10. CONDUIT FROM SOUTHERN CALIFORNIA EDISON (SCE) POINT OF SERVICE SHALL BE 3" SCH. 80 PVC WITH A PULL ROPE PER SCE STANDARDS.
11. METER PEDESTAL SHALL CONFORM TO EUSERC DRAWING NO. 308.

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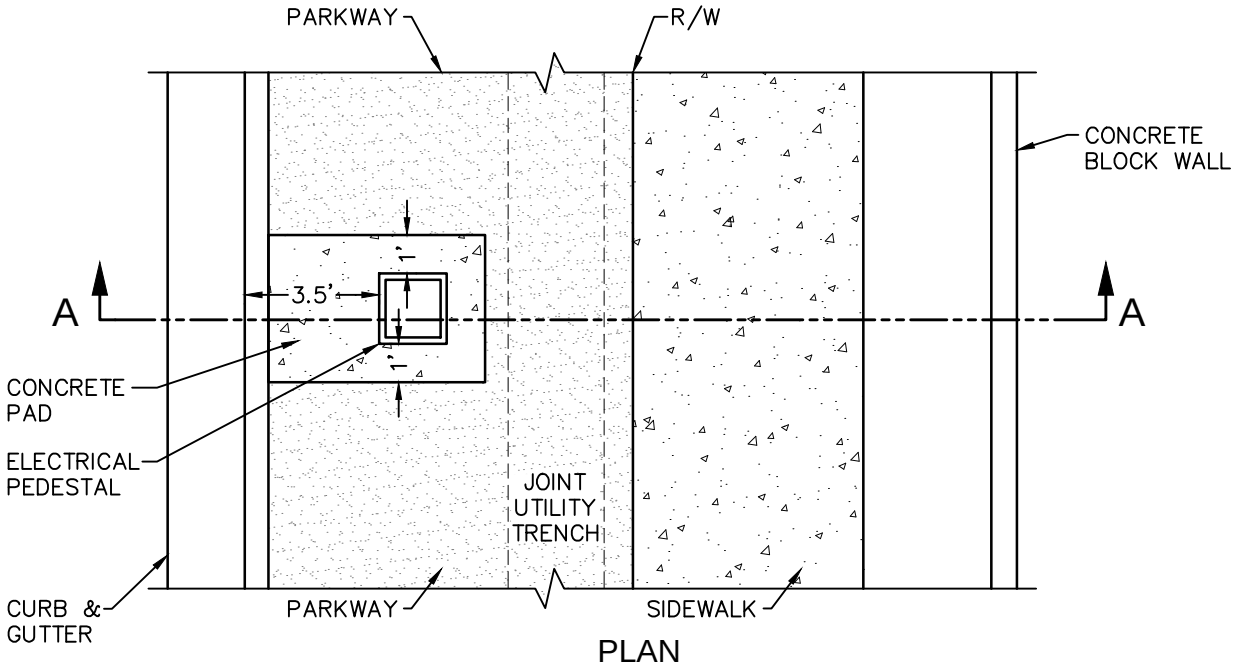
CITY OF VISALIA
DESIGN & IMPROVEMENT STANDARDS

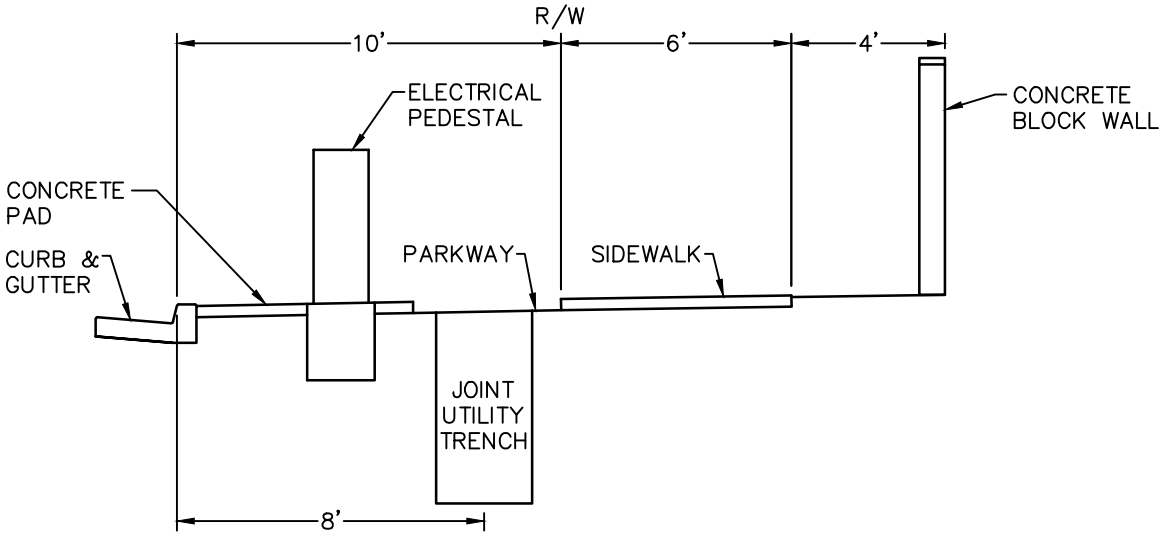
STREETLIGHT METER PEDESTAL TYPE III-BF

REVISIONS
08/22/16
BK 2016

SL-9



PLAN



SECTION A-A

NOTES:

1. ALL CONCRETE SHALL BE CLASS 3 CONCRETE.
2. A PLASTIC COVERED SET OF ELECTRICAL PLANS SHALL BE ATTACHED TO THE INSIDE OF THE FRONT DOOR.

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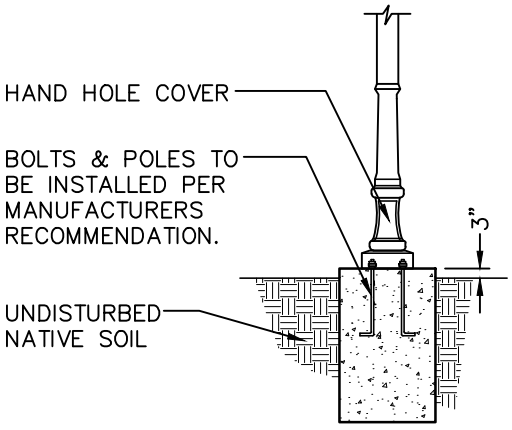
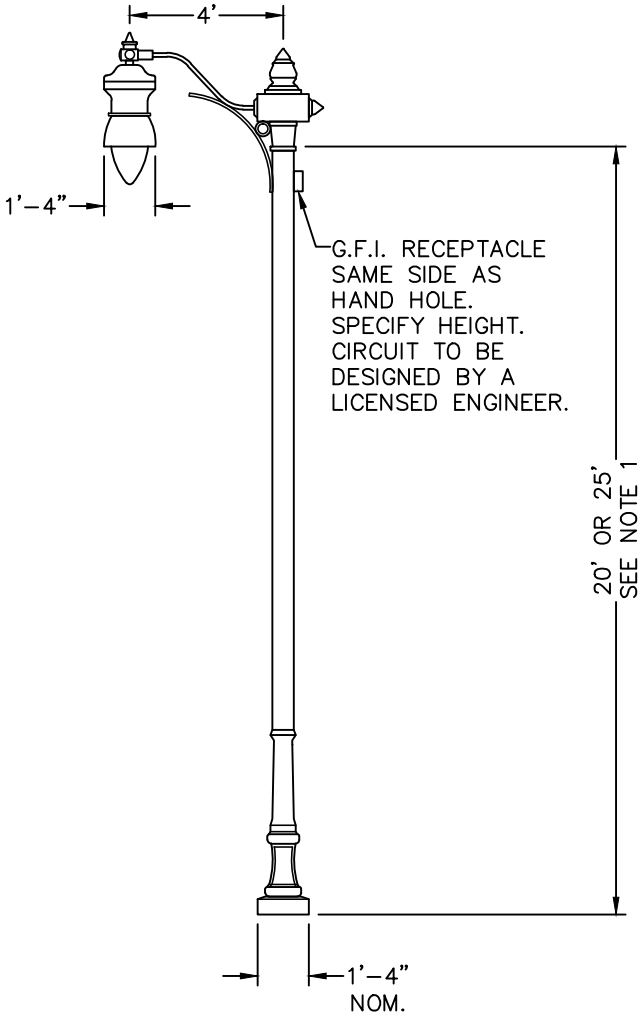
ELECTRICAL PEDESTAL LOCATION FOR COLLECTOR AND ARTERIAL STREETS	REVISIONS 08/23/16 BK 2016 — SL–10

NOTES:

1. DOWNTOWN AND TRANSIT AREA STREET LIGHT HEIGHT WILL BE 25'. RESIDENTIAL STREET LIGHT HEIGHT WILL BE 20'.
2. MEDIAN STREET LIGHTS WILL BE DUAL HEAD.
3. POLE SHALL BE STEEL.
4. MANUFACTURER AND MODEL NUMBER SHALL BE PROVIDED TO THE CITY FOR REVIEW. VISUAL CHARACTERISTICS SHALL BE SIMILAR TO POLES CURRENTLY EXISTING IN THE CITY OF VISALIA.
5. LUMINAIRE SHALL BE LED.
6. USE OF ORNAMENTAL STREETLIGHTS IS RESTRICTED AND SHALL BE APPROVED BY THE CITY ENGINEER.
7. FOR FOUNDATION INFORMATION SEE STREETLIGHT FOUNDATION STANDARD DRAWING.



SECTION



ELEVATION

APPROVED BY: _____ CITY ENGINEER R.P.E. 81734 09/16/16 DATE

CITY OF VISALIA
DESIGN & IMPROVEMENT STANDARDS

ORNAMENTAL STREETLIGHT 1 OF 2

REVISIONS
08/22/16
BK 2016

SL-11

SPECIFICATIONS

LUMINAIRE:	SEALED LED OPTICAL MODULE, LOW COPPER A356 ALLOY (<0.2% COPPER) CAST ALUMINUM HOUSING. TOP AND BOTTOM ARE HINGED FOR ACCESS WITH SEPARATE DRIVER AND LED COMPARTMENTS.
VLED OPTICAL MODULE:	SEALED LED OPTICAL MODULE, LOW COPPER A356 ALLOY (<0.2% COPPER) CAST ALUMINUM HOUSING, INTEGRATED CLEAR PRISMATIC BOROSILICATE GLASS REFRACTOR SEALED WITH A CONTINUOUS SILICONE GASKET. ENTIRE MODULE MUST MEET IP67 RATING.
VLED EMITTERS AND OPTICS:	80 LUXEON T EMITTERS (LED'S) DRIVEN AT 525 mA FOR 132 TOTAL INPUT WATTS. HIGHT OUTPUT, NEUTRAL WHITE NOMINAL 4000K CCT FOR THE ENTIRE MODULE. EACH EMITTER TO BE OPTICALLY CONTROLLED BY A REFLECTOR–PRISM INJECTION MOLDED FROM H12 ACRYLIC. REFLECTOR–PRISMS TO BE ARRAYED TO PRODUCE IES TYPE III LIGHT DISTRIBUTION. OPTICAL MODULE TO BE FIELD ROTABLE IN THE LUMINAIRE.
VLED DRIVER:	CONSTANT CURRENT LED DRIVER OPERATES ON INPUT VOLTAGES FROM 120–277 V., 50/60 Hz. FACTORY WIRED DRIVER TO BE INDEPENDENTLY SEALED AND UL LISTED FOR WET LOCATIONS. 20 KA SURGE PROTECTOR WITH "ON" LED OPERATIONAL INDICATER AND END OF LIFE OPEN CIRCUIT PROTECTION FOR LUMINAIRE.
ARM:	DURABLE CORROSION RESISTANT, ALUMINUM CONSTRUCTION.
SHAFT:	16 SHARP FLUTE, ROUND TAPERED STEEL SHAFT WITH 7.0" BUTT TAPERING TO 3.5" TOP (11 GAGE). MINIMUM YIELD STRENGTH 55,000 P.S.I. HAND HOLE WITH COVER AT 20" FROM BOTTOM OF BASE PLATE. SHAFT TO BE PROVIDED WITH 42" SMOOTH BOTTOM SECTION.
ANCHOR BASE:	FABRICATED FROM STRUCTURAL QUALITY HOT ROLLED STEEL. BASE TELESCOPES AND TO BE CIRCUMFERENTIALLY WELDED TO SHAFT.
BASE COVER:	TWO PIECE WRAPAROUND, CORROSION RESISTANT, DURABLE CAST ALUMINUM CONSTRUCTION. MINIMUM 0.250 WALL THICKNESS. BASE CONSISTS OF A SMOOTH TAPERED BOTTOM SECTION AND A DECORATIVE TAPERED FLUTED SECTION WITH EVENLY SPACED RAISED VERTICAL FLUTES. BASE TO BE FURNISHED WITH A CONTOURED, FLUTED FLUSH HAND HOLE AND COVER. HAND HOLE COVER TO INCLUDE TAMPER RESISTANT HARDWARE. (4) 1/4" – 20 SET SCREWS PROVIDED TO SECURE DECORATIVE BASE TO SHAFT.
ANCHORAGE:	(4) 1" X 36" ANCHOR BOLT, EACH SUPPLIED WITH TWO NUTS AND TWO WASHERS.
FINISH:	FIXTURE, ARM, AND BASE: POLYESTER POWDER COAT. (COLOR: GREEN TEXTURED, RAL–6005–T) OR APPROVED EQUAL. POLE ASSEMBLY: POLYESTER POWDER COAT. (COLOR: GREEN, SMOOTH, RAL–6005) OR APPROVED EQUAL.

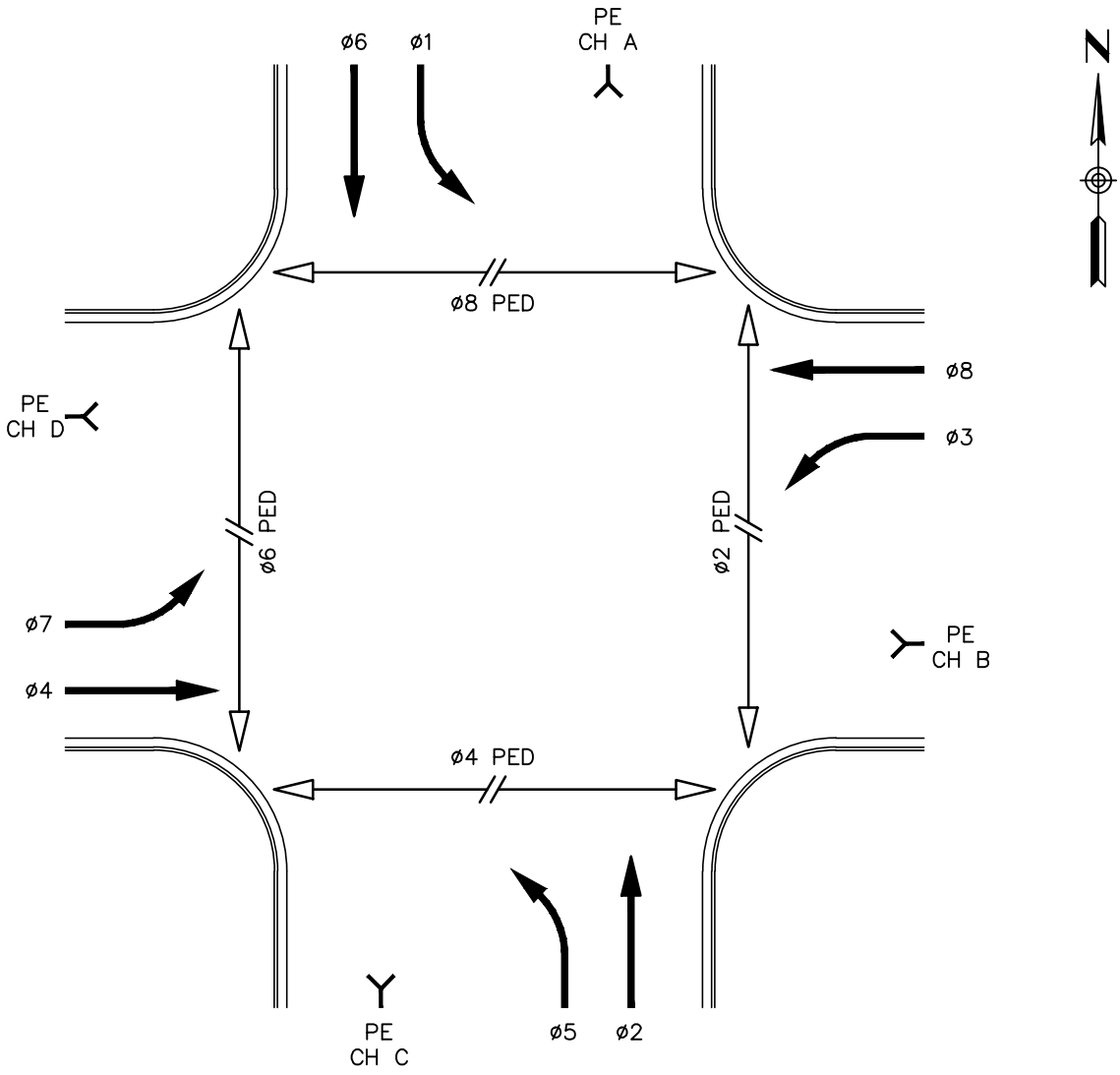
APPROVED BY: _____ 09/16/16
CITY ENGINEER R.P.E. 81734 DATE

CITY OF VISALIA
DESIGN & IMPROVEMENT STANDARDS

ORNAMENTAL STREETLIGHT 2 OF 2

REVISIONS
09/15/16
BK 2016

SL–12



PREEMPTION (PE) CHANNELS

PE CHANNEL A = NB PREEMPTOR 3 (ø2)
PE CHANNEL B = EB PREEMPTOR 4 (ø4)
PE CHANNEL C = SB PREEMPTOR 5 (ø6)
PE CHANNEL D = WB PREEMPTOR 6 (ø8)

EVP A = ø2 + ø5
EVP B = ø4 + ø7
EVP C = ø6 + ø1
EVP D = ø8 + ø3

NOTES:

1. PHASE 2 IS ALWAYS NORTHBOUND, REGARDLESS OF STREET CLASSIFICATION.

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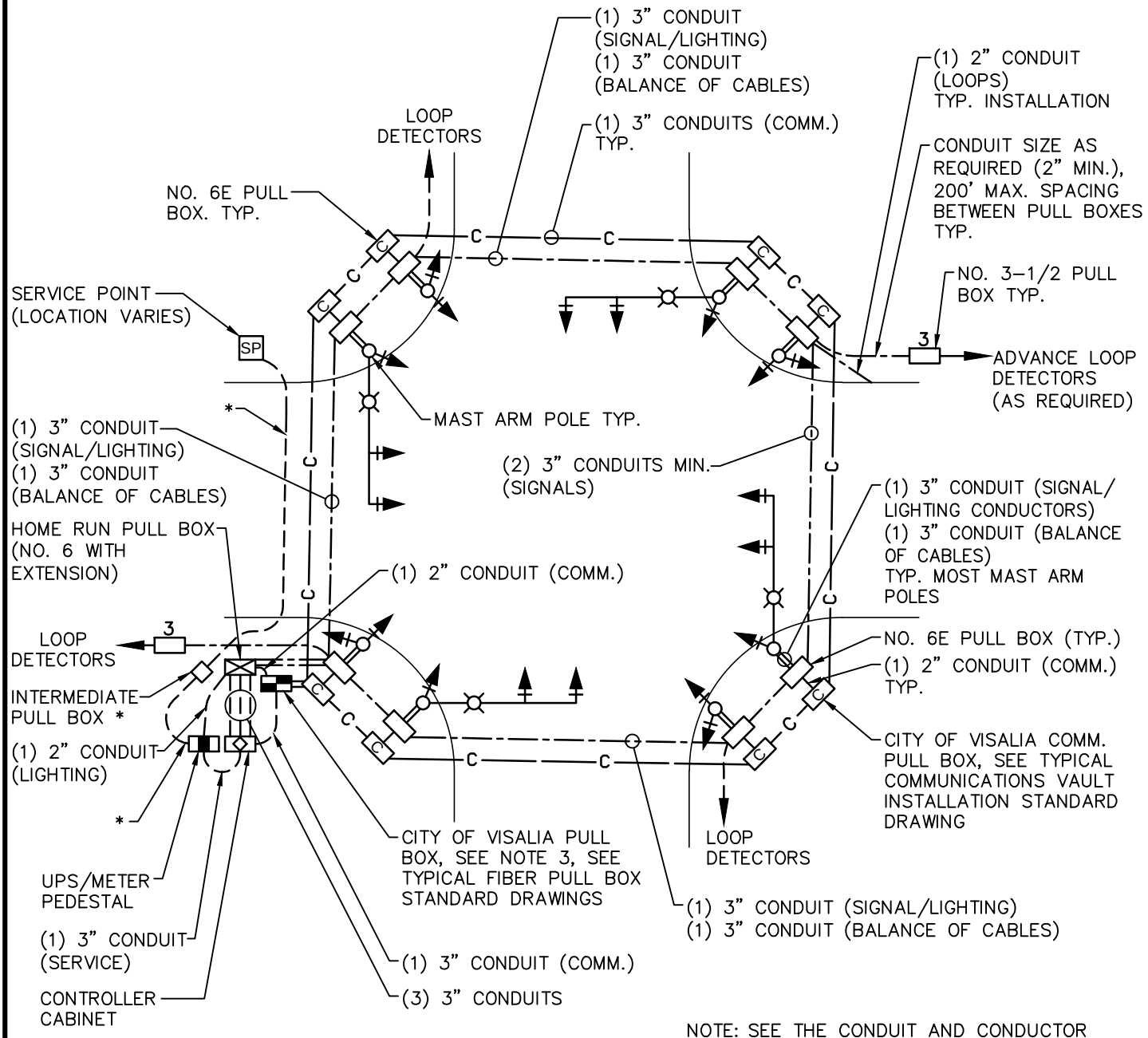
STANDARD TRAFFIC SIGNAL PHASING	REVISIONS 08/25/16 BK 2016 — TE–1



NOTE: SEE THE CONDUIT AND CONDUCTOR SCHEDULE ON THE PROJECT SPECIFIC PLANS FOR THE WIRING AND CONDUIT SIZES.

LEGEND:

* = PER ELECTRICAL UTILITY REQUIREMENTS

NOTES:

1. DRAWINGS ACCURATE FOR CONDUIT INFORMATION ONLY.
2. CONDUITS FOR LOOP DETECTORS ARE TYPICAL FOR ALL QUADRANTS.
3. WHEN CONDUIT AND PULL BOXES ARE BEING CONSTRUCTED PRIOR TO TRAFFIC SIGNAL DESIGN AND INSTALLATION, CITY OF VISALIA COMMUNICATION PULL BOXES SHALL BE INSTALLED ON ALL CORNERS OR AS DIRECTED BY THE CITY ENGINEER.
4. ALL EMPTY CONDUITS SHALL HAVE A #12 TRACING WIRE INSTALLED.

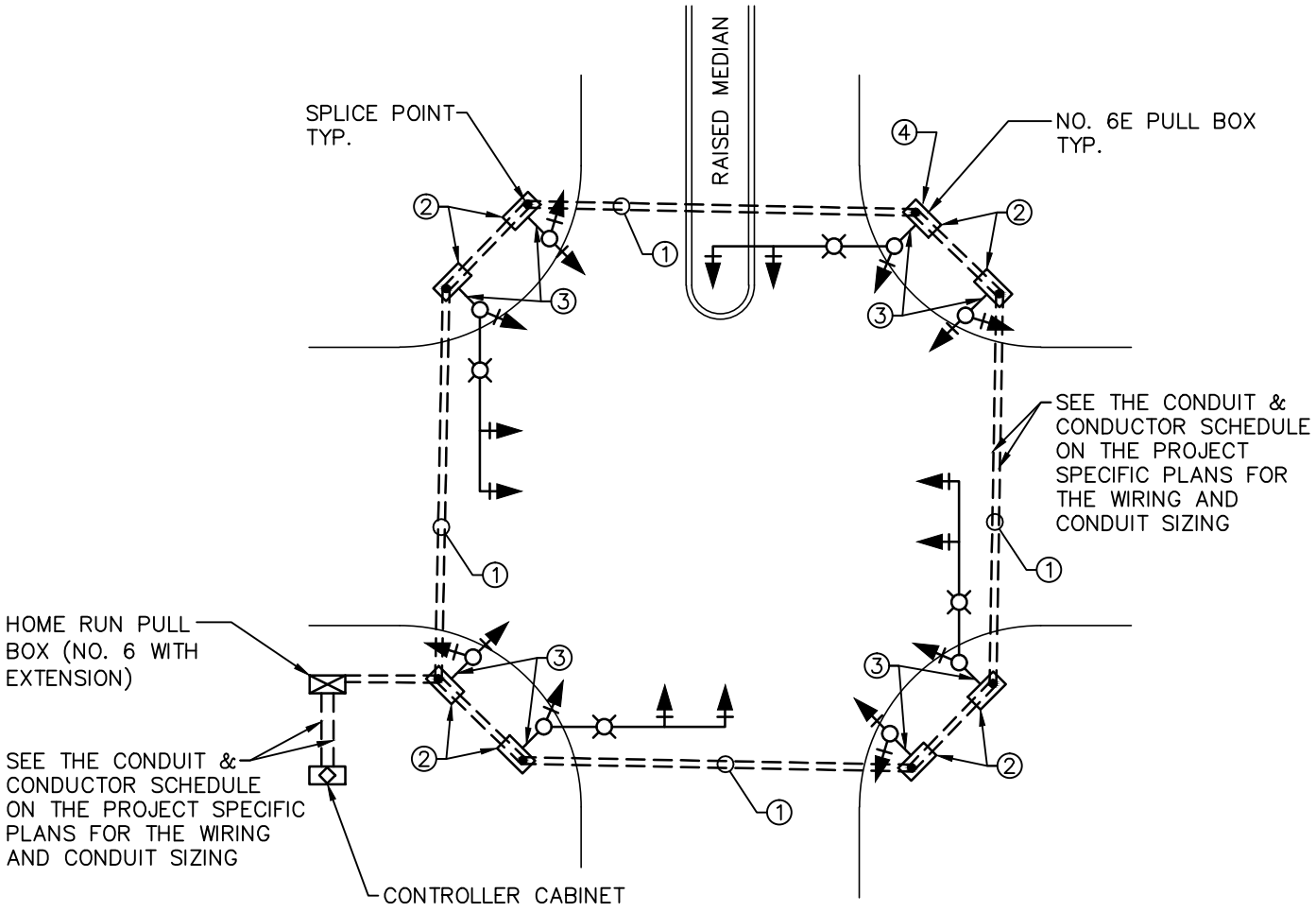
APPROVED BY: _____ 09/16/16
CITY ENGINEER R.P.E. 81734 DATE

CITY OF VISALIA
DESIGN & IMPROVEMENT STANDARDS

TYPICAL TRAFFIC SIGNAL CONDUIT SCHEMATIC

REVISIONS
08/24/16
BK 2016

TE-2



NOTES:

1. DRAWINGS ACCURATE FOR CABLING INFORMATION ONLY.

CONSTRUCTION NOTES:

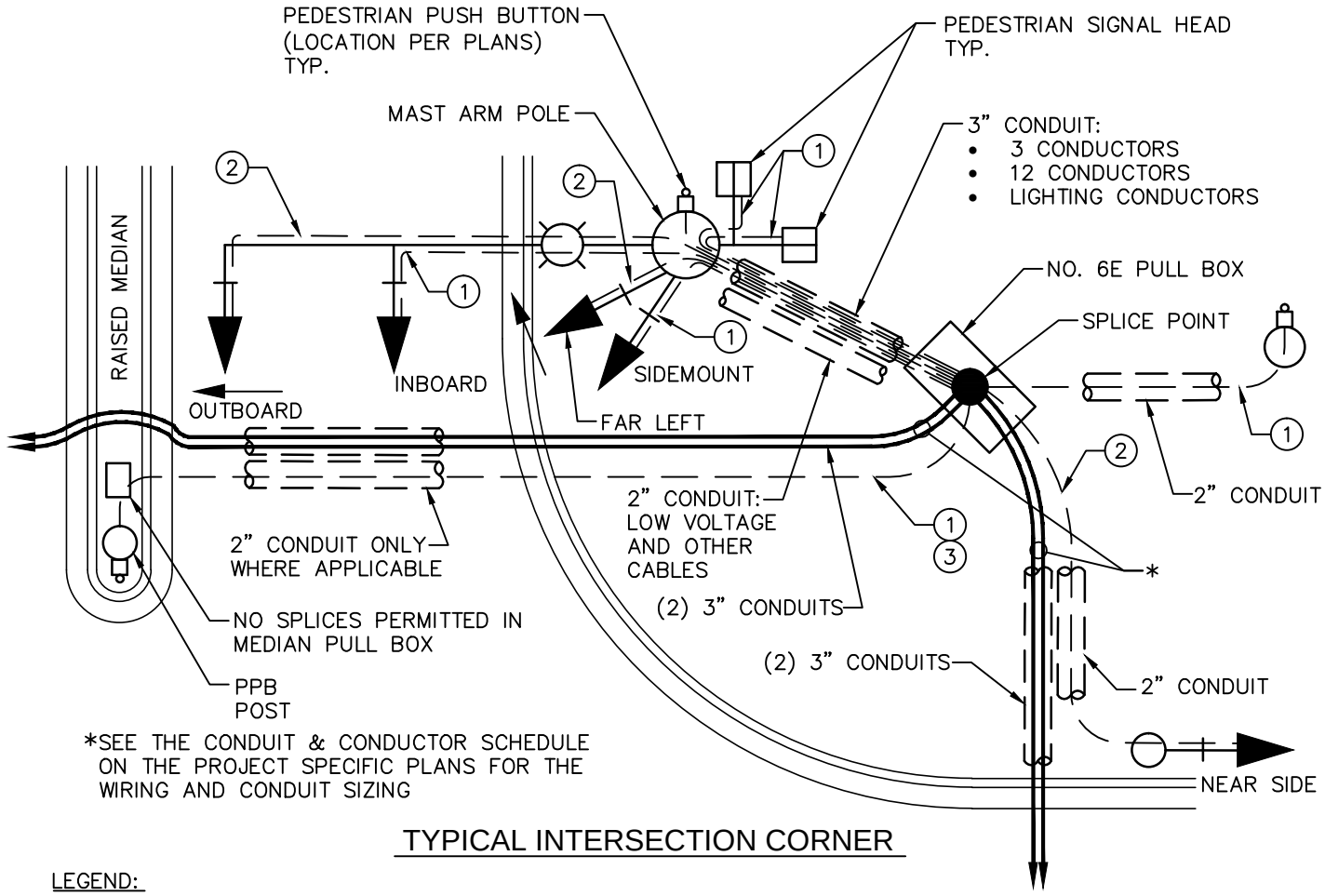
① SPLICE PERMITTED ONLY AT DESIGNATED SPLICE LOCATIONS AS SHOWN ON THIS PLAN. EACH SIGNAL CABLE IN USE AS SHOWN SHALL BE CONTINUOUS AND UNSPLICED BETWEEN PULL BOXES.

② PROVIDE 1 WRAP OF SLACK (3' MIN.) FOR EACH SIGNAL CABLE IN EACH PULL BOX. TERMINATE BETWEEN PULL BOXES.

③ LINE REPRESENTS CABLING AS SHOWN IN TRAFFIC SIGNAL WIRING SCHEMATIC STANDARD DRAWING.

④ INSTALL A GROUNDING ROD IN THE PULL BOX OPPOSITE THE TRAFFIC SIGNAL CABINET.

APPROVED BY: CITY ENGINEER R.P.E. 81734 — 09/16/16 DATE	CITY OF VISALIA DESIGN & IMPROVEMENT STANDARDS	
TYPICAL TRAFFIC SIGNAL CABLE SCHEMATIC	REVISIONS 08/24/16 BK 2016	TE–3



TYPICAL INTERSECTION CORNER

LEGEND:

— — EXISTING 3 OR 12CSC CONDUCTOR (IMSA 19–1)

——— PROPOSED 3 OR 12CSC CONDUCTOR (IMSA 19–1)

NOTES:

1. QUANTITY OF CABLES MAY VARY BASED ON ACTUAL FIELD CONDITIONS OR AS DIRECTED BY THE CITY ENGINEER.

2. DRAWING ACCURATE FOR WIRING INFORMATION ONLY.

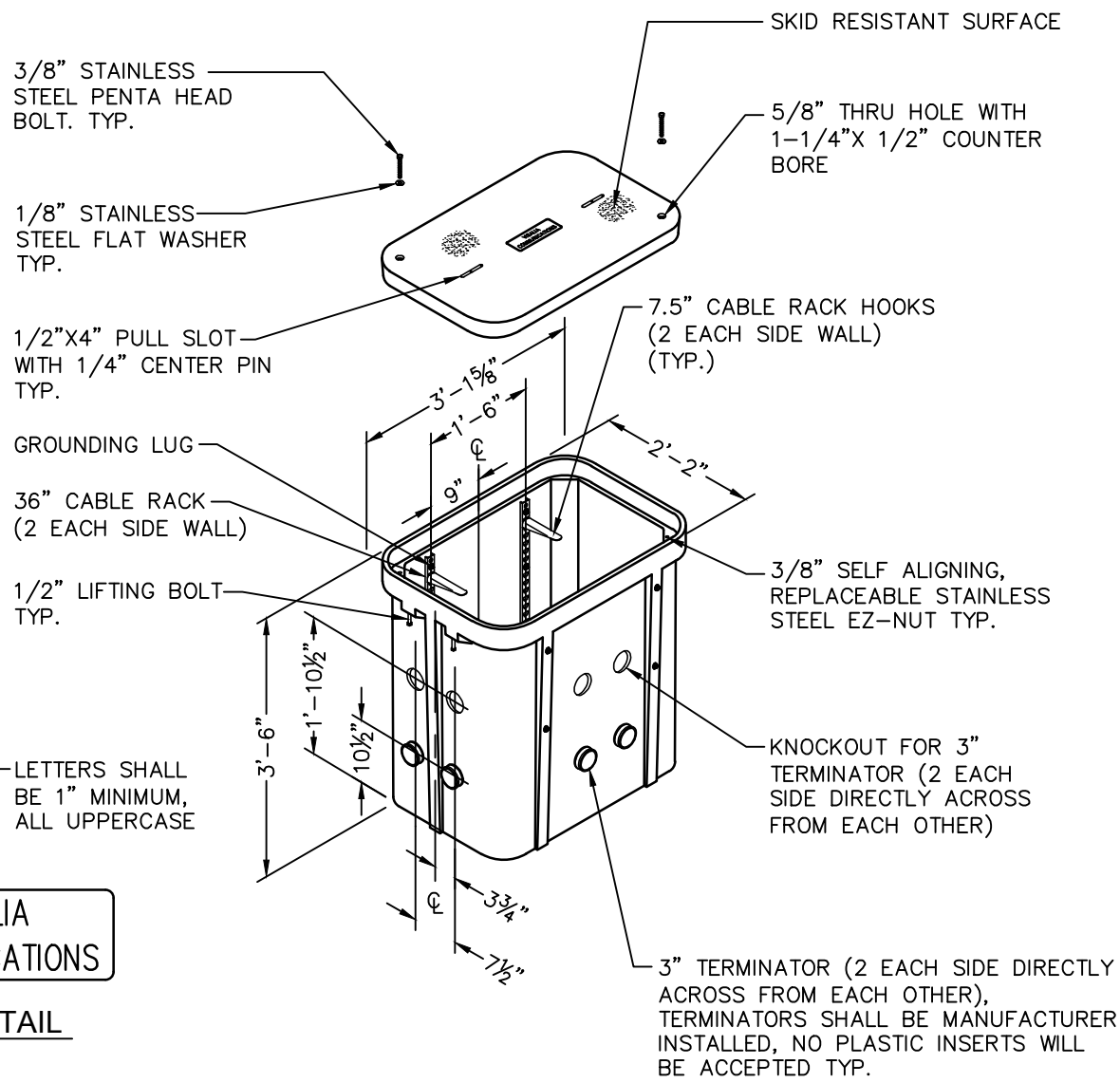
CONSTRUCTION NOTES:

(1) INSTALL 3 OR 12CSC CONDUCTOR (IMSA 19–1) CABLE CONTINUOUS AND UNSPLICED AS SHOWN FROM PULL BOX TO EACH OF THE FOLLOWING:
- SIDEMOUNT VEHICULAR SIGNAL
- PEDESTRIAN SIGNAL HEAD
- PEDESTRIAN PUSH BUTTON
- INBOARD

(2) INSTALL 3 OR 12CSC CONDUCTOR (IMSA 19–1) CABLE CONTINUOUS AND UNSPLICED AS SHOWN FROM PULL BOX TO EACH OF THE FOLLOWING:
- OUTBOARD VEHICULAR SIGNAL
- FAR LEFT MOUNTED VEHICULAR SIGNAL
- NEAR SIDE/RIGHT TURN OVERLAP VEHICULAR SIGNAL

(3) CONDUCTORS TO MEDIAN SHALL BE SPLICED IN THE BULL BOX ON THE ADJACENT CORNER IN THE CLOCKWISE DIRECTION FROM THE MEDIAN.

APPROVED BY: CITY ENGINEER R.P.E. 81734 — DATE 09/16/16	CITY OF VISALIA DESIGN & IMPROVEMENT STANDARDS	
TRAFFIC SIGNAL WIRING SCHEMATIC	REVISIONS 08/24/16 BK 2016	TE–4



LOGO DETAIL

PLAN SYMBOL:

[C] NEW

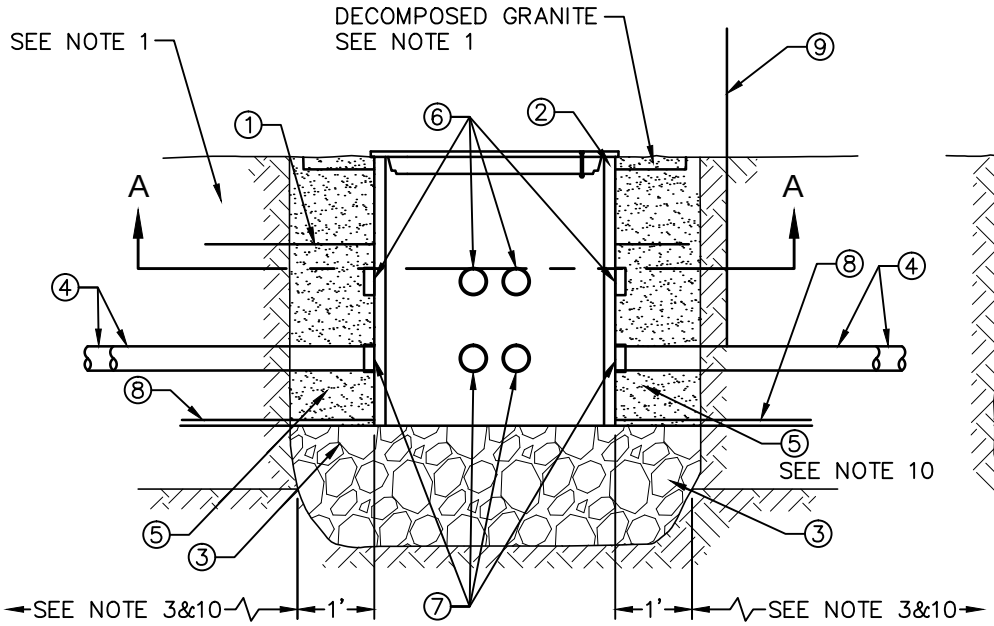
[C] EXISTING

TYPICAL PULL BOX

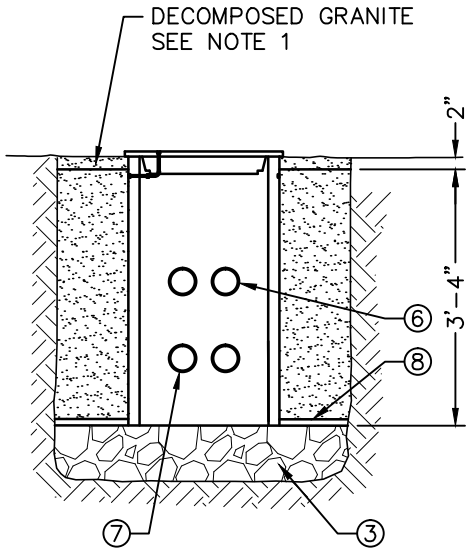
NOTE:

THE BOX OF THIS ASSEMBLY SHALL MEET BOTH PERFORMANCES AND TESTING OF ANSI/SCTE 77 TIER 15. INDEPENDENT THIRD PARTY VERIFICATION OF TEST REPORTS STAMPED BY A REGISTERED PROFESSIONAL ENGINEER CERTIFYING THAT ALL TEST PROVISIONS OF THIS SPECIFICATION HAVE BEEN MET ARE REQUIRED WITH EACH SUBMITTAL. SEE THE FOLLOWING TYPICAL FIBER PULL BOX STANDARD DRAWINGS FOR INSTALLATION INFORMATION.

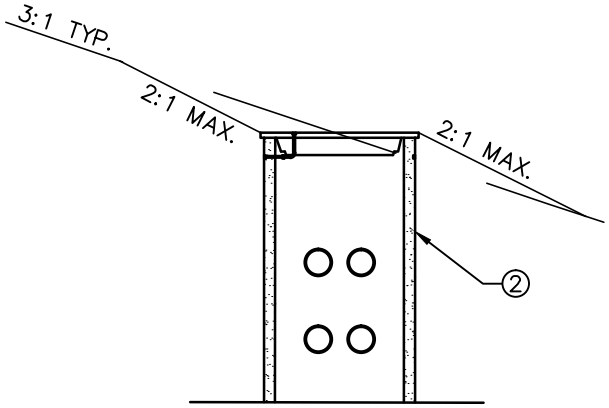
APPROVED BY: CITY ENGINEER R.P.E. 81734 — DATE 09/16/16	CITY OF VISALIA DESIGN & IMPROVEMENT STANDARDS	
TYPICAL FIBER PULL BOX	REVISIONS 09/09/16 BK 2016	TE-5



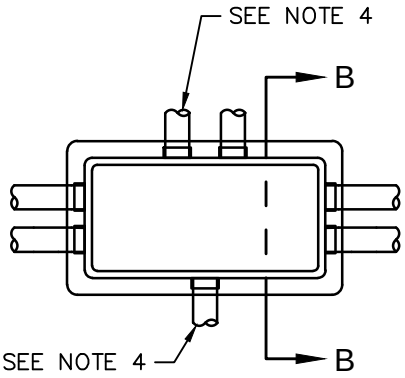
INSTALLATION FOR FIBER PULL BOX



SECTION B-B



INSTALLATION ON SLOPE



SECTION A-A

MATERIAL LIST	
ITEM	DESCRIPTION
①	WARNING TAPE–"CAUTION FIBER OPTIC LINE BURIED BELOW"
②	CITY OF VISALIA FIBER PULL BOX – SEE TYPICAL FIBER PULL BOX STANDARD DRAWINGS
③	3/4" CLEAN CRUSHED ROCK
④	3" DIAMETER SCHEDULE 40 PVC CONDUITS
⑤	CONTROLLED LOW STRENGTH MATERIAL–SEE NOTE 10
⑥	3" TERMINATOR KNOCK OUT – SEE TYPICAL FIBER PULL BOX STANDARD DRAWINGS
⑦	3" TERMINATOR
⑧	30# FELT PAPER & GALVANIZED STEEL SCREEN – SEE NOTE 8
⑨	PULL BOX DELINEATOR (FLEXIBLE IDENTIFICATION MARKER)–SEE NOTE 9

NOTES:

1. SEE TYPICAL FIBER TRENCH DETAILS STANDARD DRAWING AND TYPICAL FIBER TRENCH & STREET LIGHT JOINT TRENCH DETAIL STANDARD DRAWING FOR TRENCH REQUIREMENTS.
2. SEE TYPICAL FIBER PULL BOX INSTALLATION NOTES STANDARD DRAWING FOR ADDITIONAL NOTES.
3. STRICTER REQUIREMENTS AS DIRECTED BY THE CITY ENGINEER IF PULL BOX IS WITHIN ROADWAY.

APPROVED BY: _____ 09/16/16
CITY ENGINEER R.P.E. 81734 DATE

CITY OF VISALIA
DESIGN & IMPROVEMENT STANDARDS

TYPICAL FIBER PULL BOX INSTALLATION 1 OF 2

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TYPICAL FIBER PULL BOX INSTALLATION NOTES:

1. BACKFILL WITH DESIGNATED 3/4" CLASS 2 AGGREGATE BASE TO SIX (6) INCHES BELOW FINISH GRADE. BACKFILL WITH FOUR (4) INCHES OF WITH SELECT EXCAVATED MATERIAL AND THOROUGHLY COMPACT. TWO (2) INCHES OF DECOMPOSED GRANITE SHALL BE USED TO MATCH SLOPES.
2. THIS PULL BOX IS DESIGNED FOR NON-TRAFFIC AREAS.
3. CONDUIT FROM THE TYPICAL TRENCH SECTION SHALL NOT DEFLECT BY MORE THAN ONE (1) INCHES PER FOOT FROM THE ALIGNMENT PRECEDING OR FOLLOWING THE PULL BOX.
4. LATERAL CONDUIT AS REQUIRED.
5. ALL POWER AND COMMUNICATIONS CABLE SHALL BE TAGGED WITH CABLE IDENTIFICATION.
6. "VISALIA COMMUNICATIONS" SHALL BE THE TITLE EMBOSSED ON THE LID.
7. PVC CONDUIT SHALL BE USED TO ATTACH TO PULL BOX TERMINATORS. SEE TYPICAL FIBER PULL BOX STANDARD DRAWING.
8. 30# FELT PAPER AND A GALVANIZED STEEL SCREEN WITH NO LARGER THAN THREE QUARTERS (3/4) OF AN INCH OPENINGS SHALL BE INSTALLED BETWEEN PULL BOX AND AGGREGATE.
9. INSTALL ORANGE FLEXIBLE IDENTIFICATION MARKERS TWELVE (12) INCHES IN FRONT OF EACH PULL BOX WITHOUT TOUCHING CONDUIT. MARKER HEIGHT SHALL BE THREE (3) FEET ABOVE GRADE AND LABELED "FIBER OPTIC CABLE". FLEXIBLE IDENTIFICATION MARKERS SHALL NOT BE INSTALLED AT PULL BOXES AT SIGNALIZED INTERSECTIONS.
10. POUR 2-SACK SLURRY, OR A CONTROLLED LOW STRENGTH MATERIAL THAT MEETS CALTRANS SPECIFICATIONS, WITHIN TWELVE (12) INCHES OF PULL BOX.
11. PULL BOX HEIGHT ABOVE FINISHED GRADE SHALL PERMIT TWO (2) INCHES OF DECOMPOSED GRANITE TO BE USED TO MATCH SLOPE.
12. REFER TO TYPICAL FIBER PULL BOX STANDARD DRAWING FOR PULL BOX DIMENSIONS.
13. EXISTING PULL BOX CONFIGURATIONS MAY VARY. LOCATIONS WHERE PULL BOXES ARE BEING REPLACED, FIBER PULL BOXES SHALL BE INSTALLED AS SHOWN ON THIS SHEET UNLESS DIRECTED OTHERWISE BY THE CITY ENGINEER OR DESIGNEE.
14. EXISTING CONDUIT ENTERING A PULL BOX MAY NOT BE CORRECTLY ALIGNED TO FACILITATE PULLING CABLES THROUGH THE PULL BOX BY USE OF A PULLING SHOE. THE FORCE ACCOUNT ITEM FOR CONDUIT RECONDITIONING DOES NOT COVER REALIGNMENT OF CONDUIT TO ALLOW FOR PULLING THROUGH AN EXISTING PULL BOX, THEREBY ELIMINATING IT AS A PULL POINT.
15. IN ALL LOCATIONS WHERE FIBER OPTIC CABLE ENTERS A PULL BOX, CABLE SLACK SHALL BE LOOSELY LOOPED USING THE RACK AND HOOK SYSTEM. THIRTY FOOT (30') OF SLACK SHALL BE LEFT WHERE THE FIBER OPTIC CABLE ENTERS/EXITS THE COMMUNICATION VAULT PROVIDING A SIXTY FOOT (60') COIL OF SLACK.
16. A GROUNDING ELECTRODE REQUIRED WHEN SPECIFIED.

INSTRUCTIONS:

IT IS INTENDED THAT THESE NOTES SHALL BE PLACED ON THE PLANS WHERE APPROPRIATE TO FIT SPECIFIC PROJECT CONDITIONS. IF THEY ARE EDITED OR ALTERED, THESE NOTES SHALL REQUIRE APPROVAL BY THE CITY ENGINEER OR DESIGNEE.

APPROVED BY: _____ 09/16/16
CITY ENGINEER R.P.E. 81734 DATE

CITY OF VISALIA
DESIGN & IMPROVEMENT STANDARDS

TYPICAL FIBER PULL BOX INSTALLATION 2 OF 2

REVISIONS
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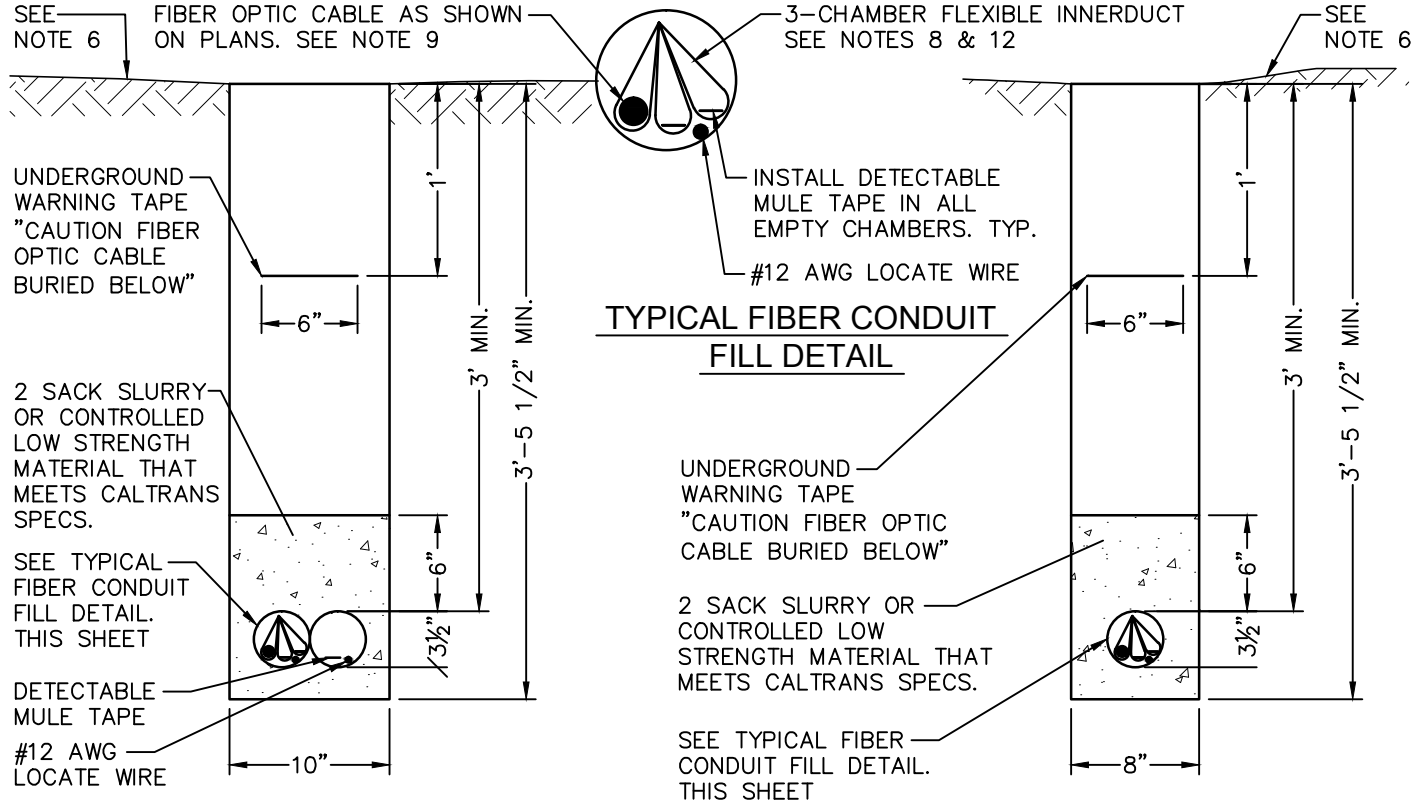

(2) 3" PVC CONDUIT OPEN TRENCH INSTALLATION

(1) 3" PVC CONDUIT OPEN TRENCH INSTALLATION

NOTES:

1. CONDUIT CONTENTS ARE ORIENTED ASSUMING THE SECTION FACING IN THE DIRECTION OF TRAVEL FOR THE MAJOR ARTERIAL.
2. ALL SPOIL MATERIAL SHALL BE REMOVED OFFSITE BY THE CONTRACTOR.
3. AREA SHALL BE RETURNED TO EXISTING GRADE.
4. CONDUIT COUPLINGS SHALL BE STAGGERED.
5. #12 AWG LOCATE WIRE SHALL BE INSTALLED IN ALL CONDUITS. DETECTABLE MULE TAPE SHALL BE INSTALLED IN ALL UNUSED CONDUITS AND FLEXIBLE INNERDUCT CHAMBERS. LEAVE A 10 FOOT LOOP OF WIRE IN A SMALL JUNCTION BOX WITHIN 5 FEET OF THE CONTROLLER CABINET, OR WITHIN THE CABINET.
6. BACKFILL WITH EXCAVATED MATERIAL AND COMPACT TO 95% OF MAXIMUM DENSITY.
7. CONTROLLED LOW STRENGTH MATERIAL REQUIRED WHEN TRUNK AND/OR BRANCH FIBER-OPTIC CABLES INSTALLED IN CONDUIT (2-SACK SLURRY).
8. FLEXIBLE INNERDUCT, MULE TAPE, AND LOCATE WIRE SHALL BE INSTALLED AT TIME OF CONDUIT INSTALLATION AND SHALL TERMINATE AT EACH PULL BOX LOCATED ON PLANS.
9. IF FIBER IS BEING INSTALLED IN EXISTING CONDUIT AND INNERDUCT IS NOT PRESENT, THE 3 CHAMBER FLEXIBLE INNERDUCT SHALL BE INSTALLED PRIOR TO FIBER INSTALLATION.
10. TRENCH UNDER PAVEMENT OR SIDEWALK SHALL REQUIRE MINIMUM ONE-SACK SLURRY (DIRECTED BY CITY ENGINEER OR DESIGNEE) AND BACKFILL PER CITY OF VISALIA EXCAVATION STANDARD DRAWINGS.
11. FIBER INSTALLATION AND TESTING SHALL CONFORM TO THE CITY OF VISALIA STANDARDS AND SPECIFICATIONS.
12. IN CASES WHERE FIBER IS NOT BEING INSTALLED (I.E., CONDUIT ONLY INSTALLATIONS), THE FLEXIBLE INNERDUCT SHALL NOT BE INSTALLED.
13. WHERE CONDUIT IS PLACED IN AN OPEN TRENCH, IT SHALL NOT DEVIATE MORE THAN ONE INCH PER FOOT (1":12" MAX.) IN EITHER THE HORIZONTAL OR VERTICAL PLANES.
14. CONDUIT RUNS SHALL FOLLOW THE MOST DIRECT ROUTE POSSIBLE WITH NO MORE THAN TWO 90° BENDS BETWEEN PULL POINTS AND NO MORE THAN A TOTAL OF 270° OF BEND BETWEEN PULL POINTS.
15. NO MORE THAN ONE WEEK PRIOR TO THE INSTALLATION OF ANY CABLE, ALL NEW AND EXISTING CONDUIT RUNS IN WHICH CABLE IS TO BE INSTALLED SHALL BE CLEARED BY PULLING A METAL-DISC MANDREL OF 90% DIAMETER OF THE CONDUIT.
16. WHEN CONDUIT IS TRENCHED UNDER ROADWAY PAVEMENT, THERE SHALL BE SUFFICIENT VERTICAL CLEARANCE BETWEEN CONDUIT AND PAVEMENT STRUCTURAL SECTION AS DIRECTED BY THE CITY ENGINEER.

APPROVED BY: _____ 09/16/16
CITY ENGINEER R.P.E. 81734 DATE

CITY OF VISALIA
DESIGN & IMPROVEMENT STANDARDS

TYPICAL FIBER TRENCH DETAILS

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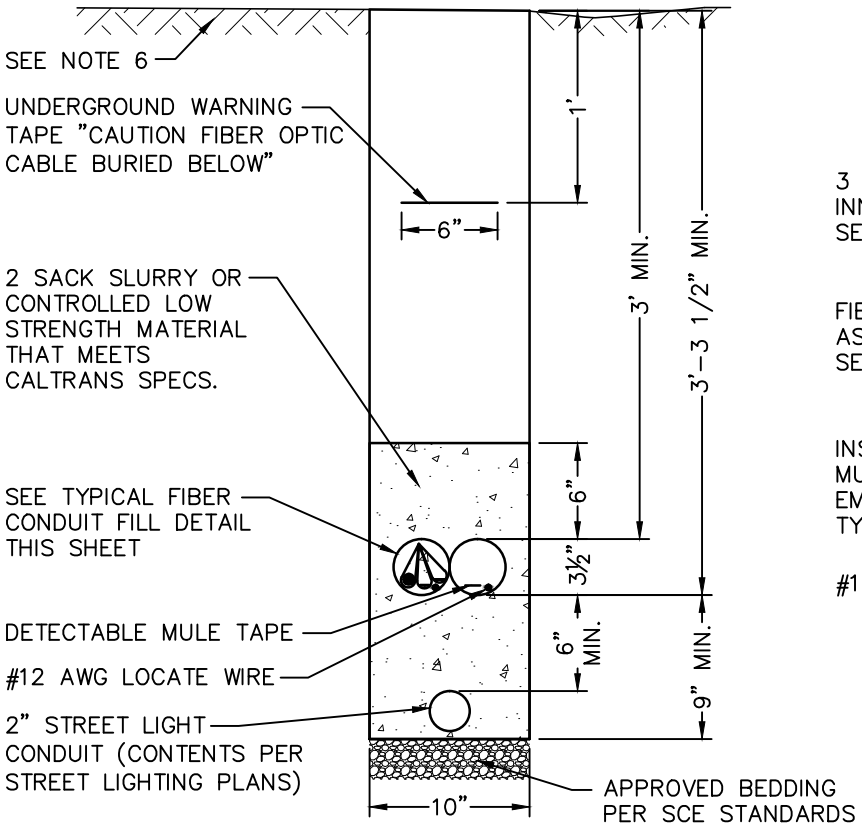
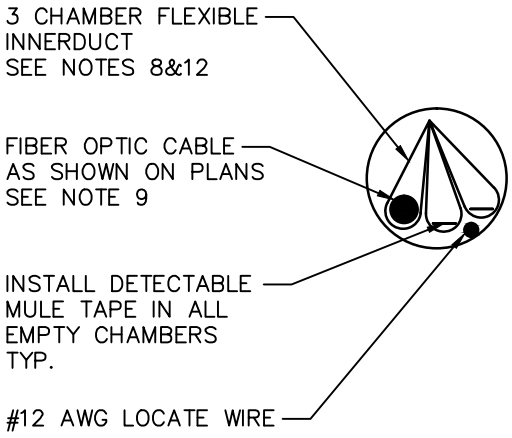


(2) 3" PVC CONDUIT
OPEN TRENCH INSTALLATION



TYPICAL FIBER CONDUIT
FILL DETAIL

NOTES:

1. CONDUIT CONTENTS ARE ORIENTED ASSUMING THE SECTION FACING IN THE DIRECTION OF TRAVEL FOR THE MAJOR ARTERIAL.
2. ALL SPOIL MATERIAL SHALL BE REMOVED OFFSITE BY THE CONTRACTOR.
3. AREA SHALL BE RETURNED TO EXISTING GRADE.
4. CONDUIT COUPLINGS SHALL BE STAGGERED.
5. #12 AWG LOCATE WIRE SHALL BE INSTALLED IN ALL CONDUITS. LEAVE A 10 FOOT LOOP OF WIRE IN A SMALL JUNCTION BOX (CHRISTY FIBERLYTE FL9 OR APPROVED EQUAL) WITHIN 5 FEET OF THE CONTROLLER CABINET. DETECTABLE MULE TAPE SHALL BE INSTALLED IN ALL UNUSED CONDUITS AND FLEXIBLE INNERDUCT CHAMBERS.
6. BACKFILL WITH EXCAVATED MATERIAL AND COMPACT TO 95% OF MAXIMUM DENSITY.
7. CONTROLLED LOW STRENGTH MATERIAL REQUIRED WHEN TRUNK AND/OR BRANCH FIBER-OPTIC CABLES INSTALLED IN CONDUIT.
8. FLEXIBLE INNERDUCT, MULE TAPE, AND LOCATE WIRE SHALL BE INSTALLED AT TIME OF CONDUIT INSTALLATION AND SHALL TERMINATE AT EACH PULL BOX LOCATED ON PLANS.
9. IF FIBER IS BEING INSTALLED IN EXISTING CONDUIT AND INNERDUCT IS NOT PRESENT, THE 3 CHAMBER FLEXIBLE INNERDUCT SHALL BE INSTALLED PRIOR TO FIBER INSTALLATION.
10. TRENCH UNDER PAVEMENT OR SIDEWALK SHALL REQUIRE MINIMUM ONE-SACK SLURRY (DIRECTED BY CITY ENGINEER OR DESIGNEE) BACKFILL PER CITY OF VISALIA EXCAVATION STANDARD DRAWINGS.
11. FIBER INSTALLATION AND TESTING SHALL CONFORM TO THE CITY OF VISALIA STANDARDS AND SPECIFICATIONS.
12. IN CASES WHERE FIBER IS NOT BEING INSTALLED (I.E., CONDUIT ONLY INSTALLATIONS), THE FLEXIBLE INNERDUCT SHALL NOT BE INSTALLED.
13. WHERE CONDUIT IS PLACED IN AN OPEN TRENCH, IT SHALL NOT DEVIATE MORE THAN ONE INCH PER FOOT (1":12" MAX.) IN EITHER THE HORIZONTAL OR VERTICAL PLANES.
14. CONDUIT RUNS SHALL FOLLOW THE MOST DIRECT ROUTE POSSIBLE WITH NO MORE THAN TWO 90° BENDS BETWEEN PULL POINTS AND NO MORE THAN A TOTAL OF 270° OF BEND BETWEEN PULL POINTS.
15. NO MORE THAN ONE WEEK PRIOR TO THE INSTALLATION OF ANY CABLE, ALL NEW AND EXISTING CONDUIT RUNS IN WHICH CABLE IS TO BE INSTALLED SHALL BE CLEARED BY PULLING A METAL-DISC MANDREL OF 90% DIAMETER OF THE CONDUIT.

APPROVED BY: _____ 09/16/16
CITY ENGINEER R.P.E. 81734 DATE

CITY OF VISALIA
DESIGN & IMPROVEMENT STANDARDS

TYPICAL FIBER AND STREET LIGHTING JOINT TRENCH DETAIL

REVISIONS
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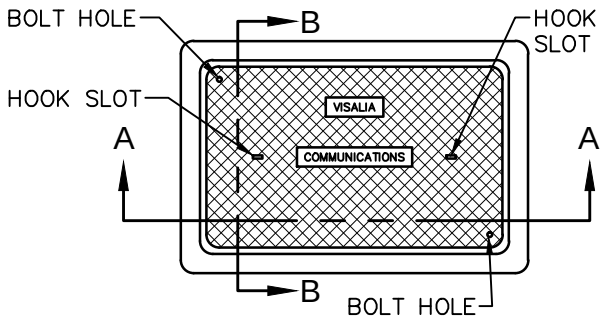

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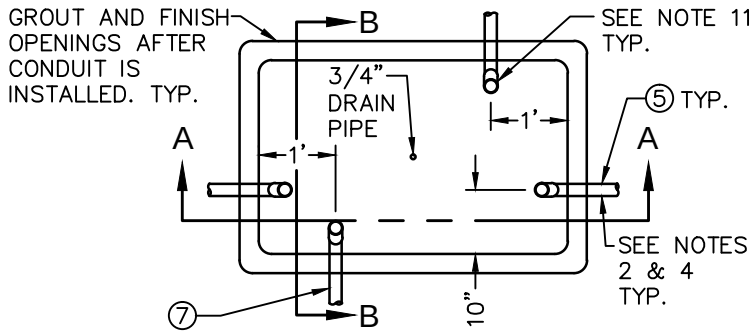

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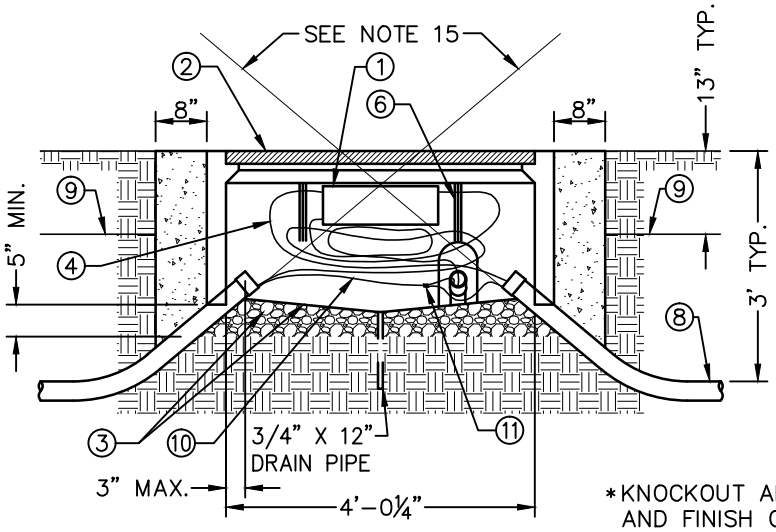
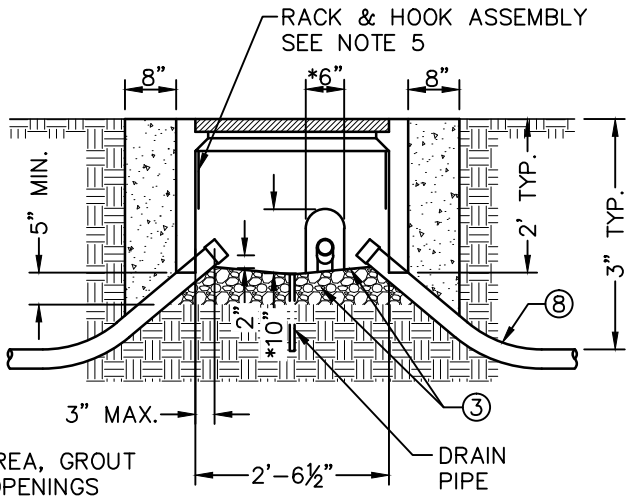


SECTION A-A



SECTION B-B

*KNOCKOUT AREA, GROUT AND FINISH OPENINGS AFTER CONDUIT IS INSTALLED

NOTE: STRICTER REQUIREMENTS AS DIRECTED BY THE CITY ENGINEER IF PULL BOX IS WITHIN ROADWAY.

LEGEND:

① FIBER OPTIC CABLE SPLICE CLOSURE.

② FIBER OPTIC SPLICE VAULT LID.

③ 1.5 INCH MAXIMUM COARSE AGGREGATE WITH 2 INCHES GROUT COVER OVER THE AGGREGATE. THE GROUT COVER SHALL BE SLOPED TOWARD THE DRAIN FOR DRAINAGE.

④ FIBER OPTIC CABLE. COIL AS REQUIRED.

⑤ PROPOSED SMFO BRANCH OR TRUNKLINE CONDUIT, IF NEEDED SEE PLANS

⑥ RACK & HOOK ASSEMBLY. SEE NOTE 5 ON TYPICAL COMMUNICATIONS VAULT INSTALLATION NOTES STANDARD DRAWING

⑦ TRAFFIC SIGNAL CONDUIT TYP. IF NEEDED. SEE PLANS.

⑧ 45 DEGREE ELBOW, 36" RADIUS MIN. ELBOW AND COUPLING MAY NOT BE NECESSARY FOR NEW CONDUIT INSTALLED BY DIRECTIONAL BORING. NEW CONDUIT INSTALLED BY DIRECTIONAL DRILLING SHALL ENTER SPLICE VAULT WITH BENDING RADIUS OF 36" MIN. SEE NOTE 15.

⑨ WARNING TAPE. FOR NEW CONDUIT INSTALLED BY TRENCHING

⑩ COIL 3 FEET OF TRACER WIRE.

⑪ SPLICE TRACER WIRE PER CALTRANS STANDARD SPECIFICATIONS FOR CONDUCTOR SPLICING.

APPROVED BY: _____ CITY ENGINEER R.P.E. 81734 09/16/16 DATE

CITY OF VISALIA
DESIGN & IMPROVEMENT STANDARDS

TYPICAL COMMUNICATIONS VAULT INSTALLATION 1 OF 2

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TYPICAL COMMUNICATIONS VAULT INSTALLATION NOTES:

1. TRUNKLINE CONDUIT(S) FROM THE TYPICAL BORE OR TRENCH SECTION SHOULD NOT DEFLECT BY MORE THAN ONE FOOT PER 10 FEET FROM THE ALIGNMENT PRECEDING OR FOLLOWING PULL BOX/SPLICE VAULT ENTRANCE/EXIT.
2. EXCESS CONDUIT FOR ALL CONDUIT ENDS SHALL BE CUT BACK TO PROVIDE STUB ENDS OF 1" MINIMUM TO 2" MAXIMUM.
3. SEE PLAN SHEETS FOR NUMBER AND SIZE OF CONDUIT.
4. IF MORE THAN 3 CONDUITS ARE REQUIRED IN SAME KNOCKOUT, KNOCKOUT SHALL BE WIDENED TO 1/2" MORE THAN THE COMBINED CONDUIT WIDTH.
5. ALL SPLICE VAULTS SHALL BE FURNISHED WITH TWO RACKS AND HOOKS INSTALLED ON EACH OF THE TWO LONG SIDES.
6. TRUNKLINE CONDUITS SHALL ENTER THROUGH KNOCKOUTS.
7. SPLICE VAULTS, VAULT EXTENSION, AND VAULT LIDS SHALL BE CHRISTY N48 UTILITY BOX OR APPROVED EQUIVALENT, AND SUPPORT MINIMUM TEST LOAD OF 12,500 LBS. IF SPLICE VAULT IS LOCATED IN TRAVEL WAY, SPLICE VAULT AND LID SHALL CONFORM VERTICAL PROOF LOAD STRENGTH REQUIREMENT AS PER CALTRANS STANDARD SPECIFICATIONS, SECTION 86-2.07.
8. LOCKING MECHANISM SHALL BE PROVIDED FOR VAULT LID. TWO 3/8" PENTA HEAD BOLTS AT 90° SHALL BE USED, ONE 3/8" PENTA HEAD SOCKET AND RATCHET SHALL BE PROVIDED TO CITY OF VISALIA FOR EVERY 10 SPLICE VAULTS.
9. "VISALIA COMMUNICATIONS" SHALL BE CASTED ON THE TOP FACE OF ALL VAULT LIDS.
10. CUT CONDUIT, DE-BURR, AND RE-THREAD PRIOR TO INSTALLING FIBER OPTIC CABLE AND/OR OTHER CABLES/CONDUCTORS. ALL METALLIC CONDUITS SHALL HAVE THREADED METALLIC BUSHINGS. ALL PVC AND HDPE CONDUITS SHALL HAVE BELL ENDS.
11. FURNISH AND INSTALL CAPS OR DUCT PLUGS FOR ALL UNUSED CONDUIT.
12. SPLICE CLOSURE SHALL BE ATTACHED TO THE RACK AND HOOK SYSTEM ON THE SAME SIDE AS THE FIBER OPTIC CABLE. THE SPLICE CLOSURE SHALL BE ANGLED TO FACILITATE MINIMUM BENDING RADIUS IN THE CABLE.
13. IF APPLICABLE, SPLICE VAULT HEIGHT ABOVE EXISTING DIRT GRADE SHALL PERMIT 1" OF FUTURE SURFACE LANDSCAPING. WHEN SPLICE VAULT IS INSTALLED IN EXISTING SIDEWALK, SPLICE VAULT LID SHALL SIT FLUSH WITH THE SIDEWALK. COORDINATE WITH ENGINEER WHERE THIS APPLIES.
14. EACH FIBER OPTIC SPLICE VAULT SHALL BE EQUIPPED WITH 50' MIN. OF SLACK IN THE TRUNKLINE CABLE AND 25' MIN. OF SLACK IN THE BRANCH CABLE ON EACH SIDE OF FIBER OPTIC SPLICE CLOSURE. (I.E. THE TRUNKLINE CABLE TYPICALLY WILL HAVE 50' OF SLACK AND THE BRANCH CABLE WILL TYPICALLY HAVE 25' OF SLACK.)
15. BOTTOM OF CONDUIT CENTERLINE SHALL BE ALIGNED TO EXIT TOP OF SPLICE VAULT TO FACILITATE CABLE PULLING.
16. MINIMUM SPLICE VAULT DEPTH SHALL BE 2'. IF NECESSARY, AN EXTENSION MAY BE USED TO MEET THIS REQUIREMENT.

APPROVED BY: _____ 09/16/16
CITY ENGINEER R.P.E. 81734 DATE

CITY OF VISALIA
DESIGN & IMPROVEMENT STANDARDS

TYPICAL COMMUNICATIONS VAULT INSTALLATION 2 OF 2

REVISIONS
09/15/16
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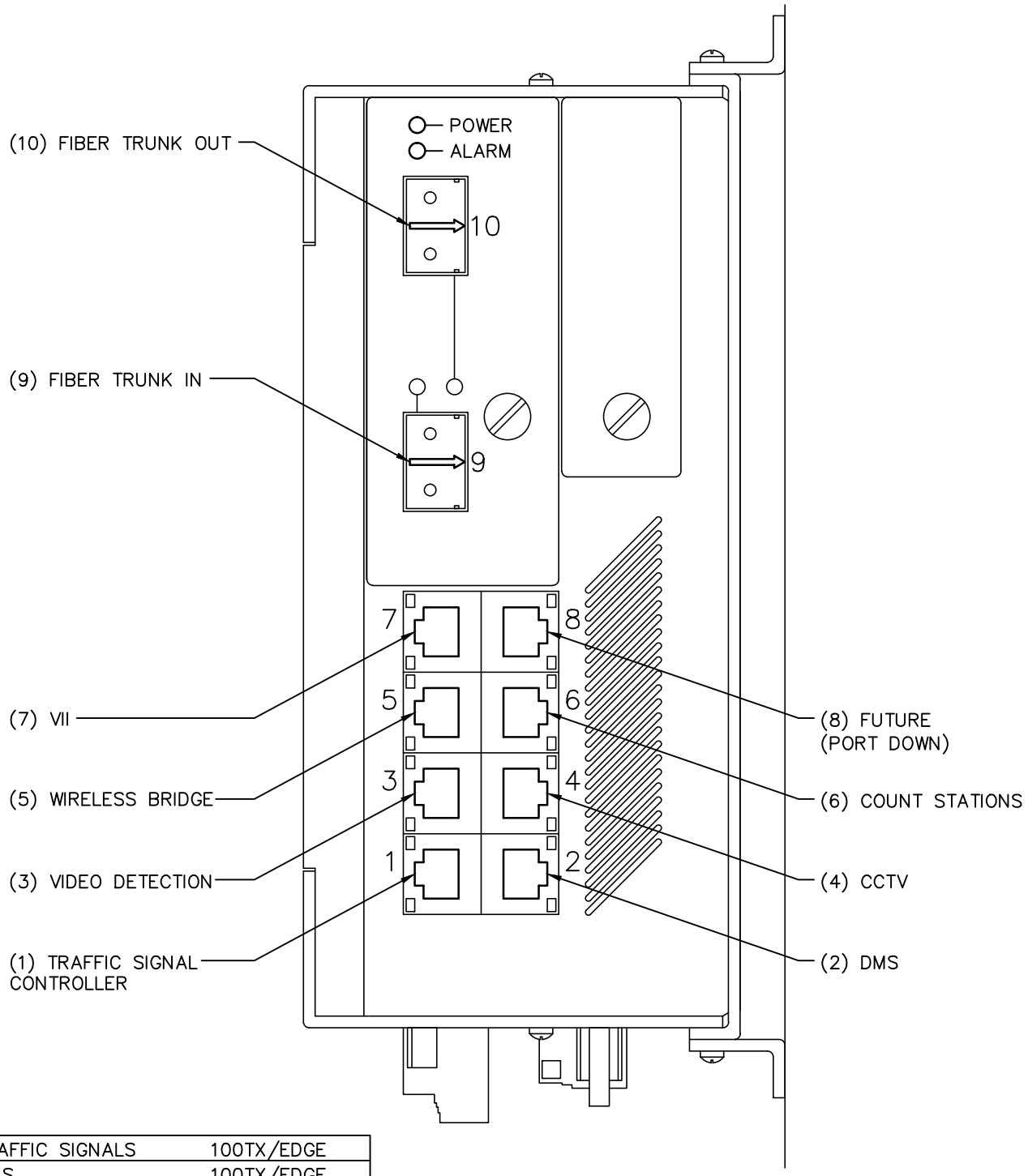
TE-11



PORT 1 TRAFFIC SIGNALS	100TX/EDGE
PORT 2 DMS	100TX/EDGE
PORT 3 VIDEO DETECTION	100TX/EDGE
PORT 4 CCTV	100TX/EDGE
PORT 5 WIRELESS	100TX/TRUNK
PORT 6 COUNT STATIONS	100TX/EDGE
PORT 7 VII (FUTURE)	100TX/EDGE
PORT 8 SPARE	100TX/OFF
PORT 9 FIBER IN	1000FX/TRUNK
PORT 10 FIBER OUT	1000FX/TRUNK

APPROVED BY: _____ 09/16/16
CITY ENGINEER R.P.E. 81734 DATE

CITY OF VISALIA
DESIGN & IMPROVEMENT STANDARDS

ITS FIELD SWITCH STATIC PORT ASSIGNMENTS

REVISIONS
08/25/16
BK 2016

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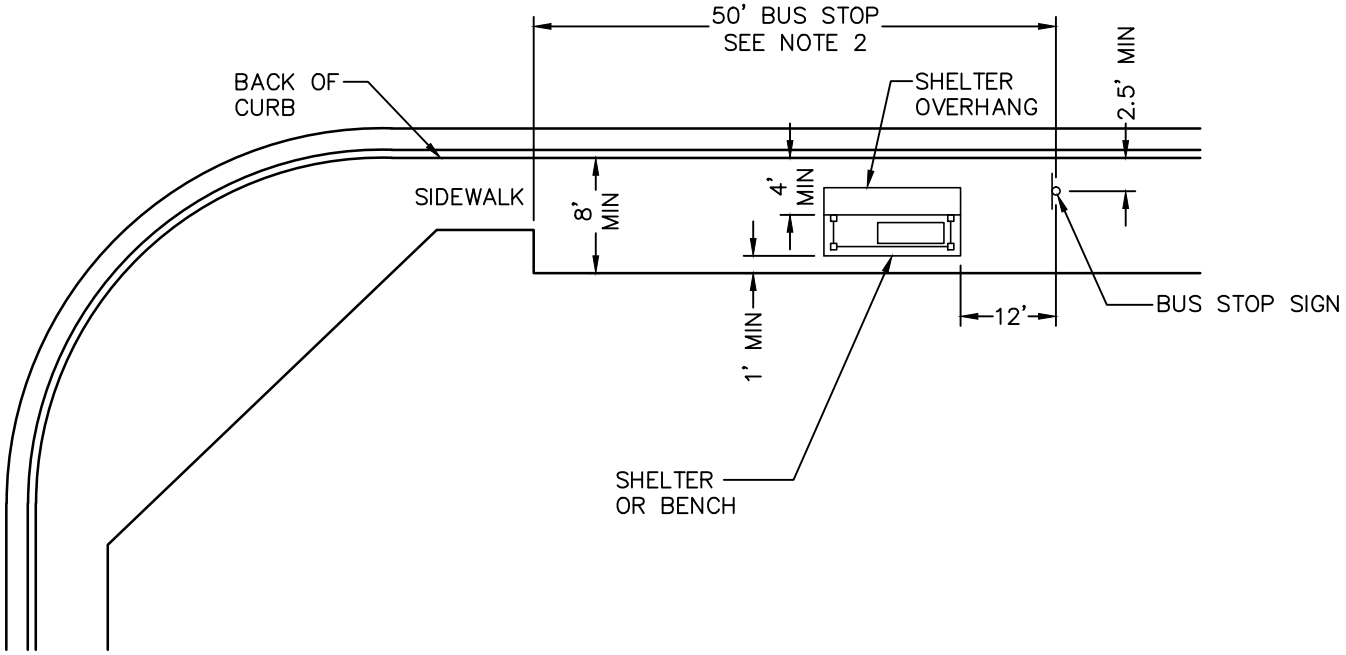
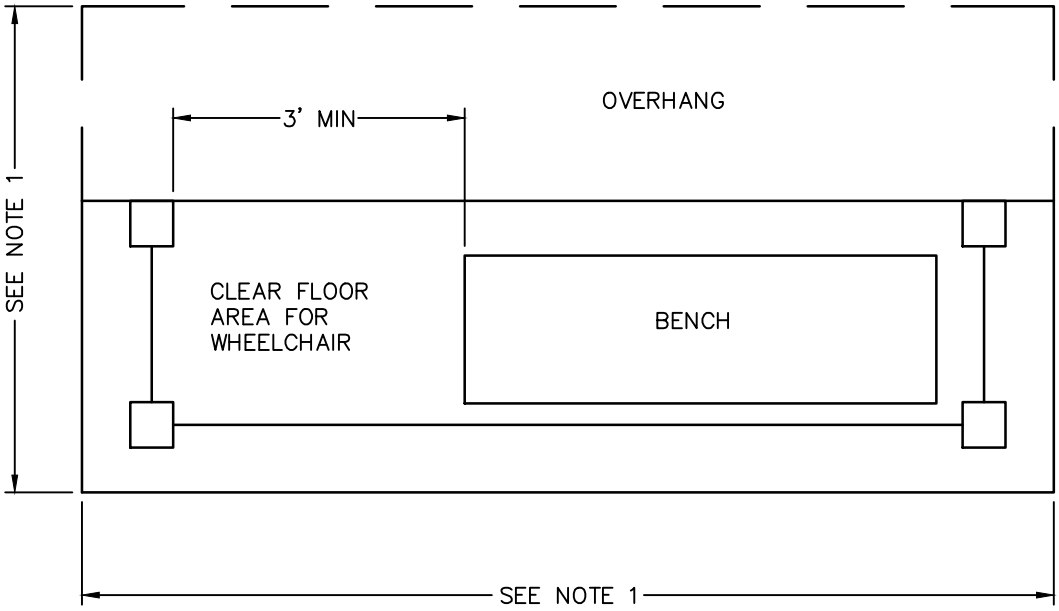




NOTES:

1. ALL SHELTERS SHALL BE PROPERLY CONSTRUCTED ACCORDING TO THE CITY'S ENGINEERED PLANS. CONTACT THE TRANSIT DEPARTMENT TO OBTAIN THE STRUCTURAL ENGINEERING PLANS FOR THE SHELTER. SIZE OF SHELTER SHALL BE VERIFIED WITH THE TRANSIT DEPARTMENT PRIOR TO CONSTRUCTION.

2. 8' MIN SIDEWALK DEPTH MUST EXTEND AT LEAST 25' ENDING AT BUS STOP SIGN POLE. DESIRABLE LENGTH IS 50'.

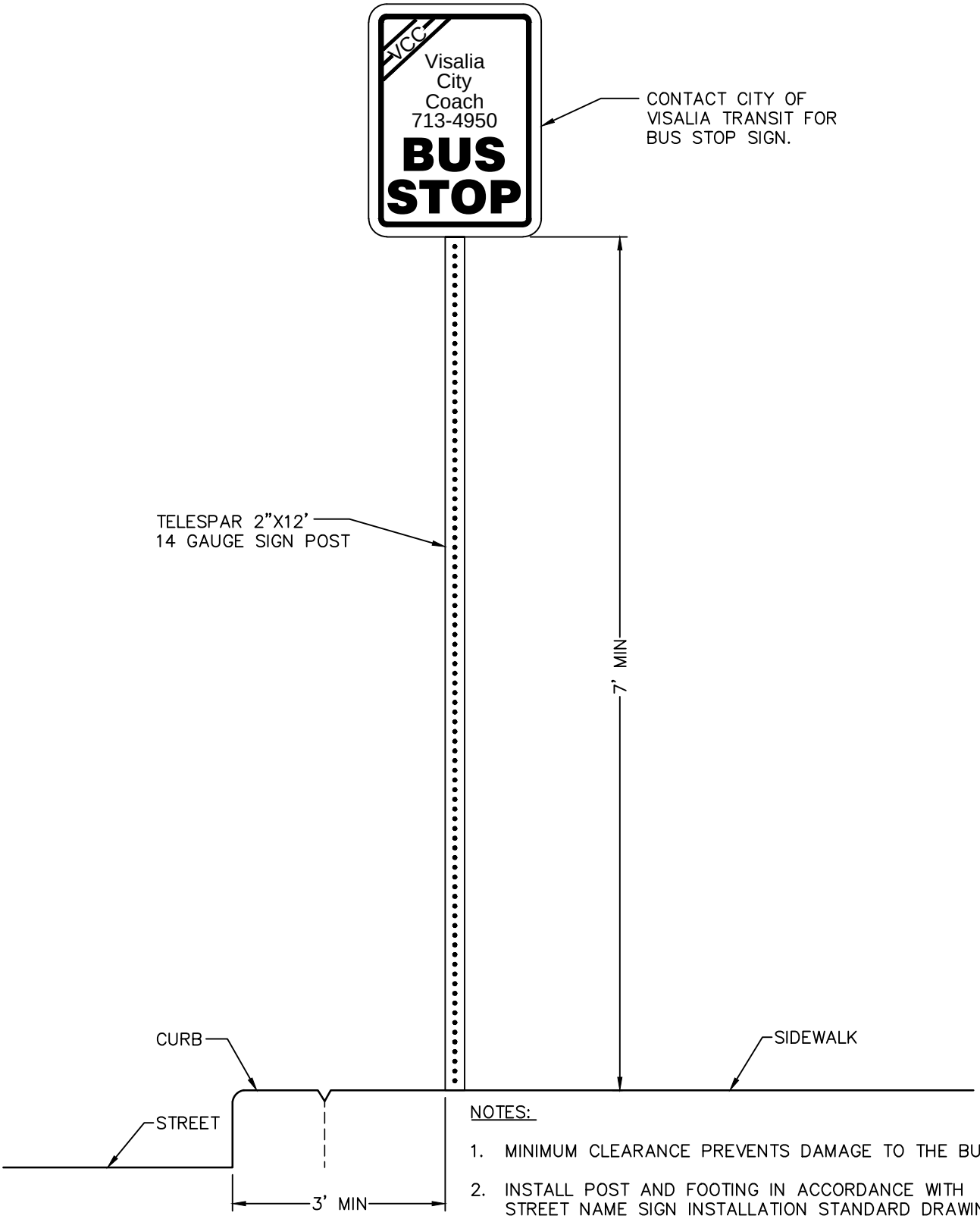
APPROVED BY: _____ 09/16/16
CITY ENGINEER R.P.E. 81734 DATE

CITY OF VISALIA
DESIGN & IMPROVEMENT STANDARDS

BUS SHELTER AND SIGN LOCATION WITH WHEELCHAIR AREA

REVISIONS
09/27/13
BK 2016

TR–1



NOTES:

1. MINIMUM CLEARANCE PREVENTS DAMAGE TO THE BUS.
2. INSTALL POST AND FOOTING IN ACCORDANCE WITH STREET NAME SIGN INSTALLATION STANDARD DRAWING.

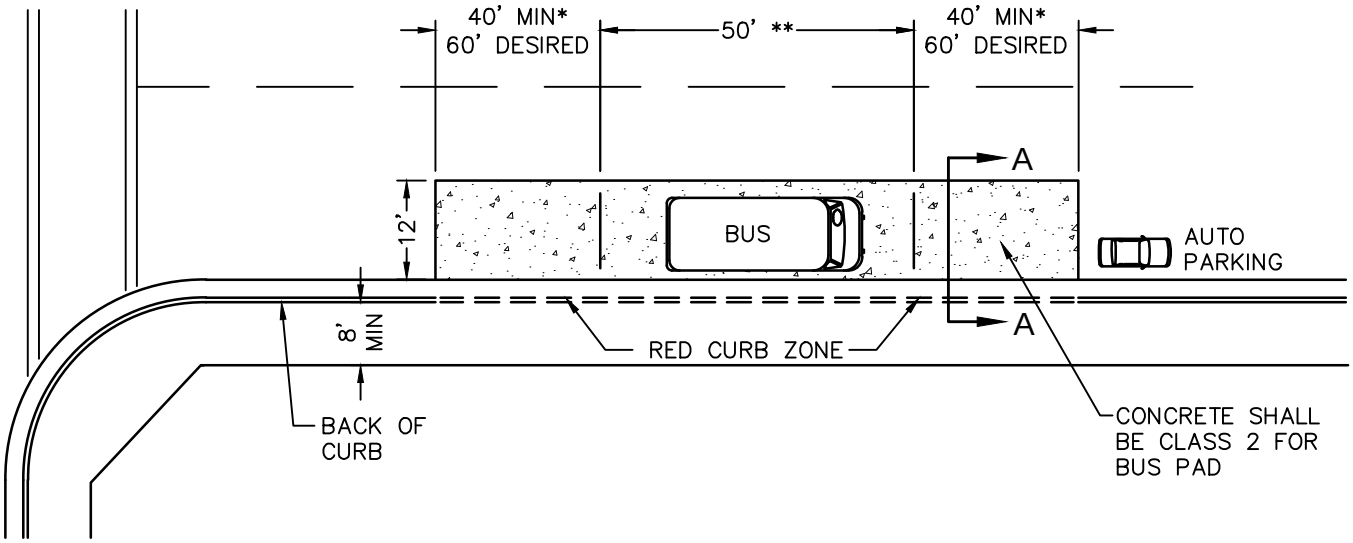
APPROVED BY: _____ 09/16/16
CITY ENGINEER R.P.E. 81734 DATE

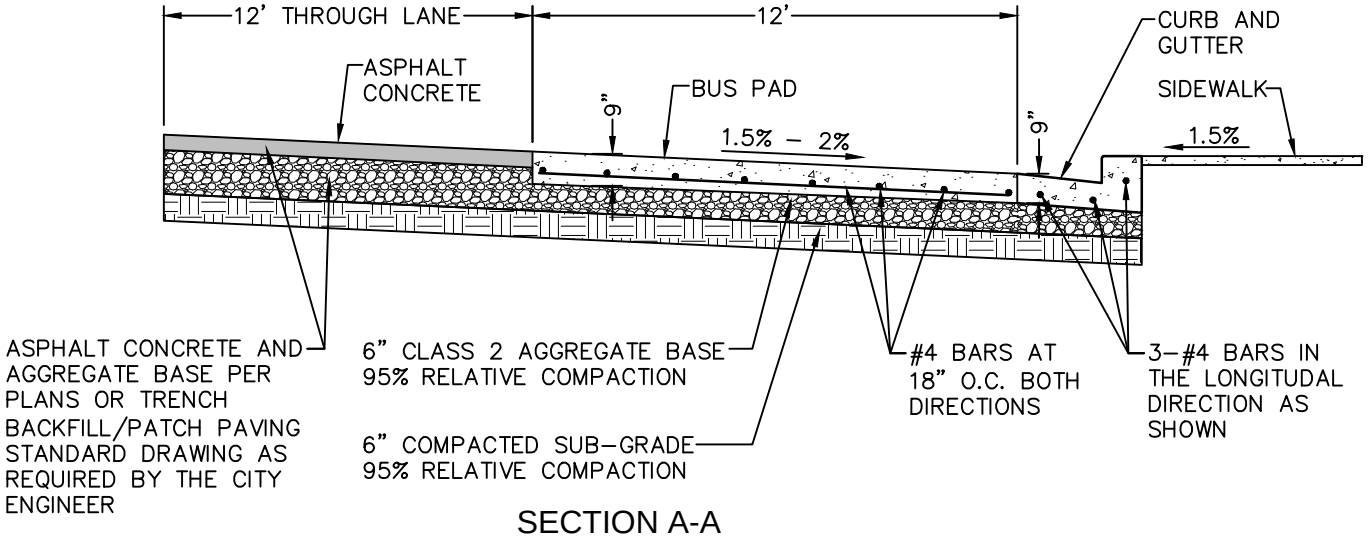
CITY OF VISALIA
DESIGN & IMPROVEMENT STANDARDS

BUS STOP SIGN

REVISIONS
09/15/16
BK 2016

TR–2





SECTION A-A

NOTES:

1. CONCRETE FOR BUS PAD SHALL BE CLASS 2.
2. CONCRETE FOR SIDEWALK AND CURB AND GUTTER SHALL BE CLASS 2 OR CLASS 3.
3. REINFORCING BARS SHALL BE DEFORMED STEEL BARS AND SHALL BE GRADE 40 MINIMUM. REINFORCING BARS SHALL BE FREE OF RUST OR DIRT AND SHALL BE THOROUGHLY CLEANED BEFORE PLACEMENT.
4. REINFORCING BARS SHALL HAVE A MINIMUM OF 3" OF CLEAR COVERAGE.
5. WEAKEND PLANE JOINTS SHALL BE PLACED IN THE BUS PAD AT 10'–15' CENTERS, MINIMUM DEPTH OF 2". JOINTS IN CURB AND GUTTER SHALL ALIGN WITH JOINTS IN BUS PAD WHERE POSSIBLE.

* 40' MINIMUM FOR SPEED LIMIT 30 MPH AND UNDER. 60' DESIRABLE FOR SPEED LIMIT ABOVE 30 MPH.

** FOR EACH ADDITIONAL PASS THROUGH BUS BERTH ADD 50', AND FOR EACH ADDITIONAL LAYOVER BUS BERTH ADD 80'.

APPROVED BY: _____ 09/16/16
CITY ENGINEER R.P.E. 81734 DATE

CITY OF VISALIA
DESIGN & IMPROVEMENT STANDARDS

BUS PAD

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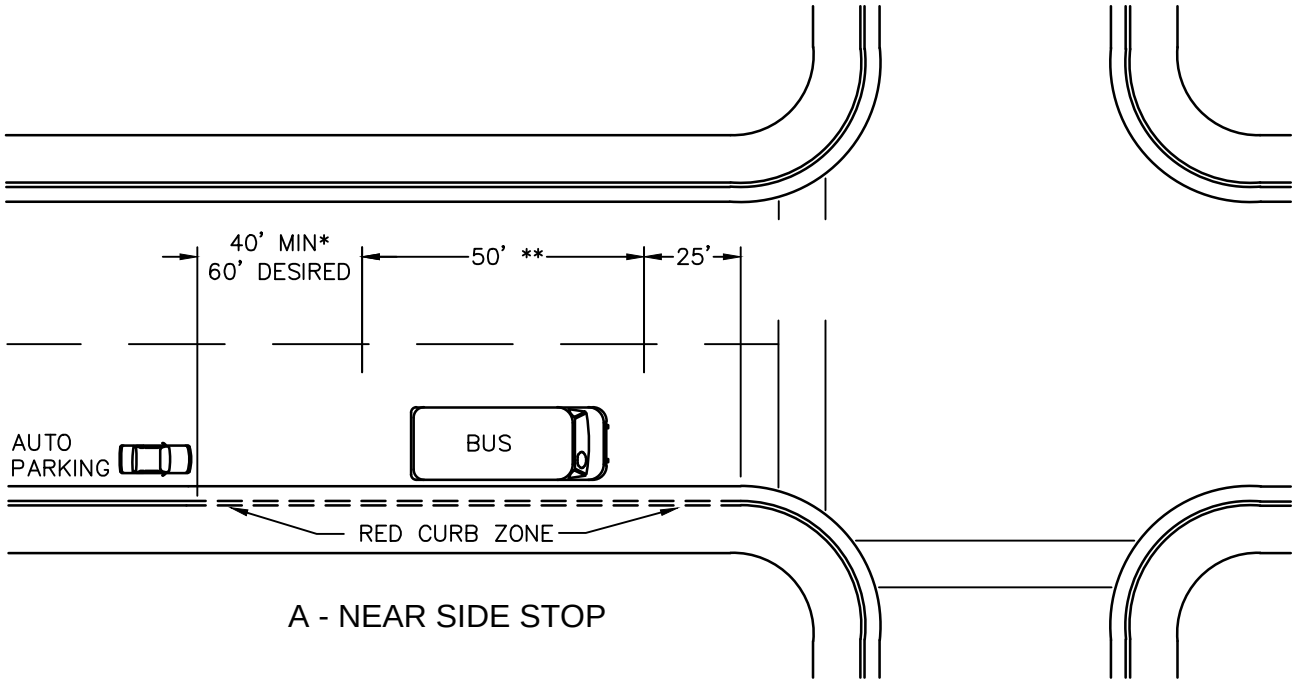
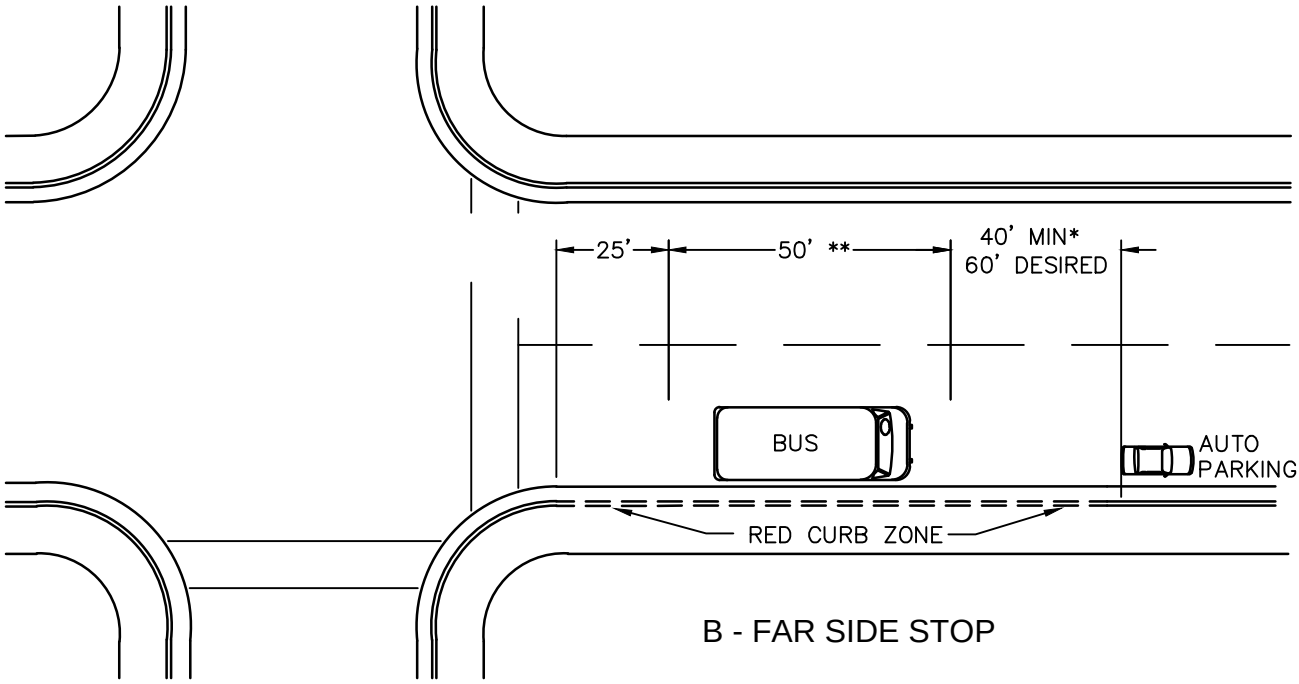
BK 2016

TR–3



A - NEAR SIDE STOP



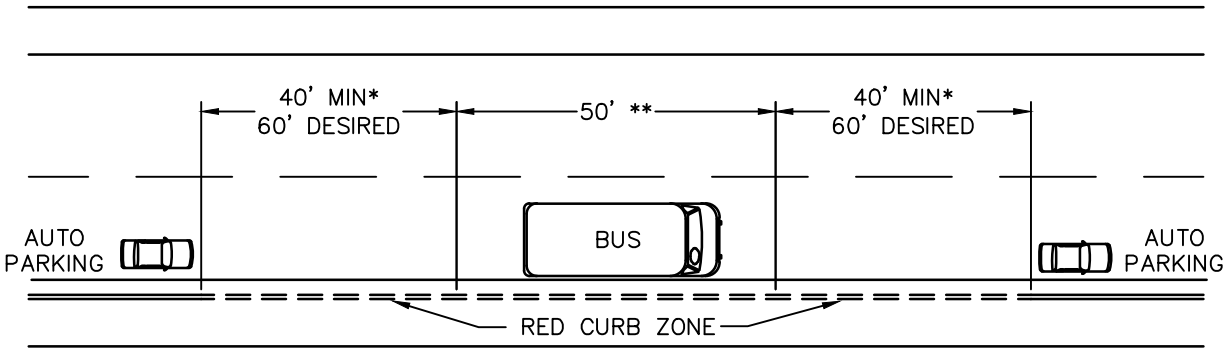
B - FAR SIDE STOP

NOTES:

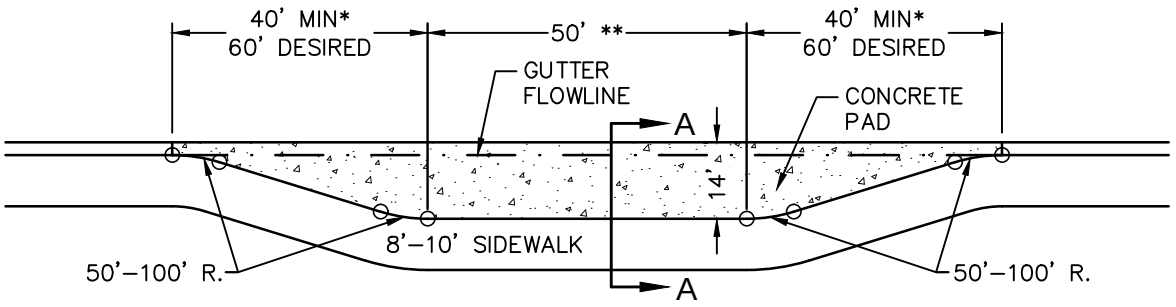
* 40' MINIMUM FOR SPEED LIMIT 30 MPH AND UNDER. 60' DESIRABLE FOR SPEED LIMIT ABOVE 30 MPH.

** FOR EACH ADDITIONAL PASS THROUGH BUS BERTH ADD 50', AND FOR EACH ADDITIONAL LAYOVER BUS BERTH ADD 80'.

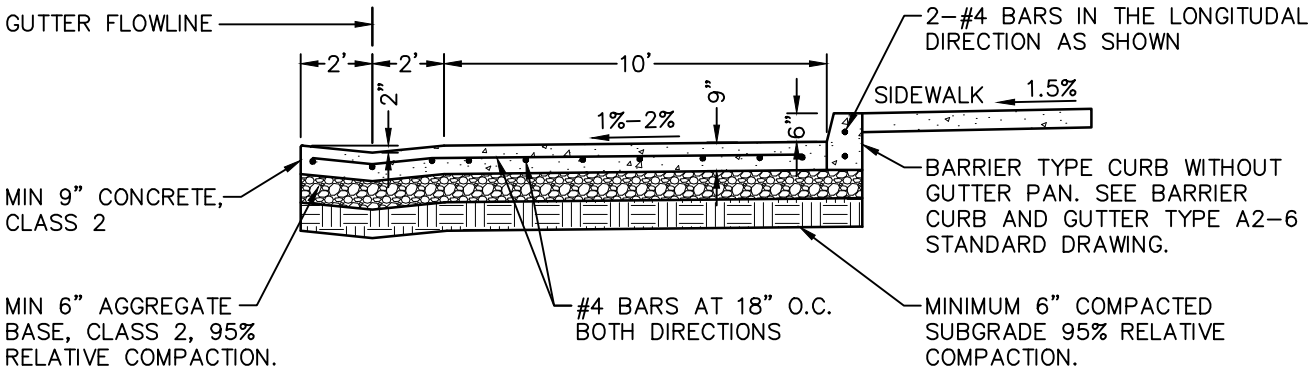
APPROVED BY: _____ CITY ENGINEER R.P.E. 81734 09/16/16 DATE	CITY OF VISALIA DESIGN & IMPROVEMENT STANDARDS
BUS STOPS A & B	REVISIONS 09/27/13 BK 2016 TR–4



C - MID-BLOCK STOP



D - TURNOUT STOP



SECTION A-A

NOTES:

1. CONCRETE FOR VEE GUTTER AND BUS PAD SHALL BE CLASS 2.
2. CONCRETE FOR SIDEWALK AND CURB AND GUTTER SHALL BE CLASS 2 OR CLASS 3.
3. REINFORCING BARS SHALL BE DEFORMED STEEL BARS AND SHALL BE GRADE 40 MINIMUM. REINFORCING BARS SHALL BE FREE OF RUST OR DIRT AND SHALL BE THOROUGHLY CLEANED BEFORE PLACEMENT.
4. REINFORCING BARS SHALL HAVE A MINIMUM OF 3" OF CLEAR COVERAGE.
5. WEAKEND PLANE JOINTS SHALL BE PLACED IN THE BUS PAD AT 12'–15' CENTERS, MINIMUM DEPTH OF 2". JOINTS IN CURB AND GUTTER SHALL ALIGN WITH JOINTS IN BUS PAD WHERE POSSIBLE.

* 40' MINIMUM FOR SPEED LIMIT 30 MPH AND UNDER. 60' DESIRABLE FOR SPEED LIMIT ABOVE 30 MPH.

** FOR EACH ADDITIONAL PASS THROUGH BUS BERTH ADD 50', AND FOR EACH ADDITIONAL LAYOVER BUS BERTH ADD 80'.

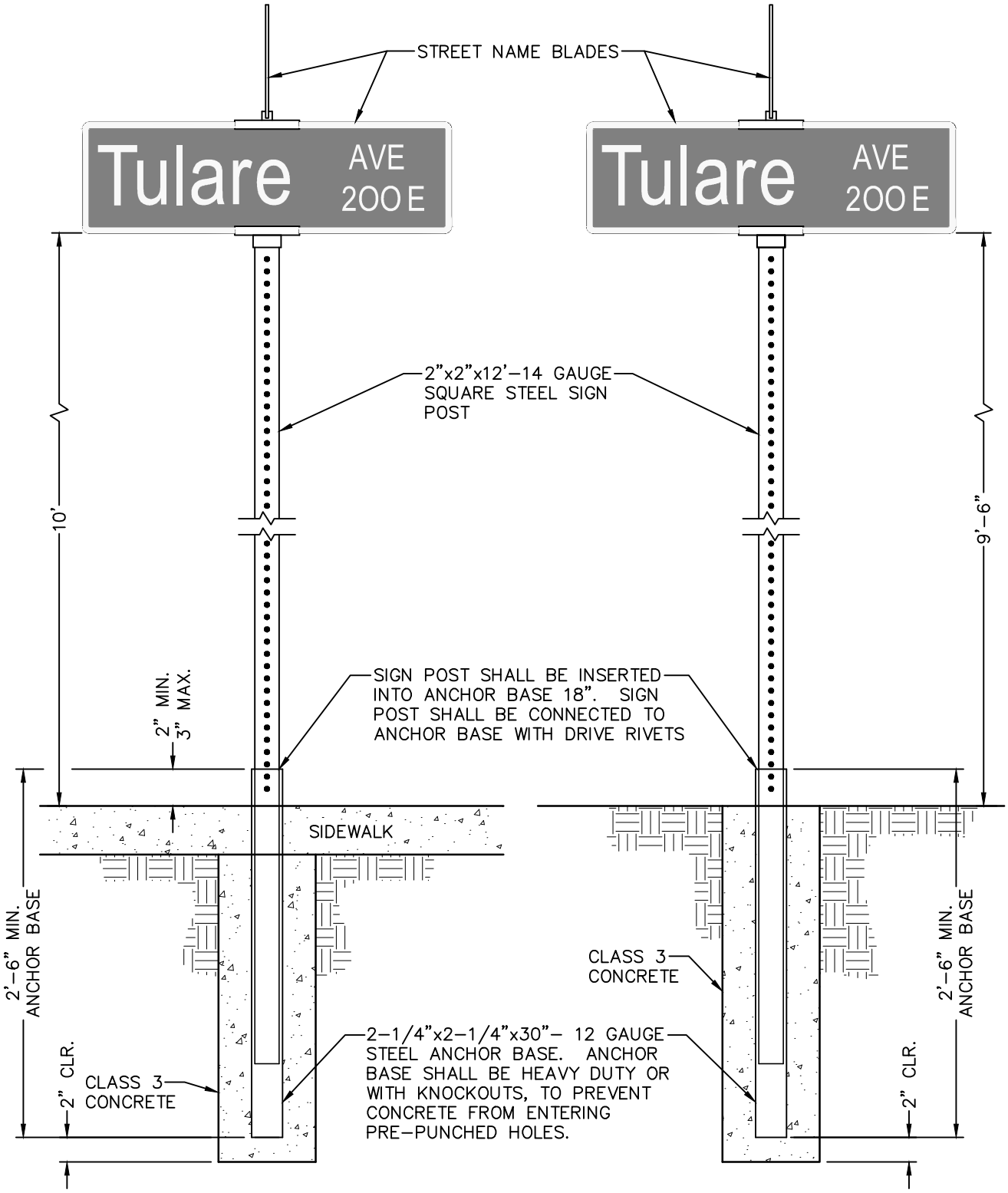
APPROVED BY: _____ 09/16/16
CITY ENGINEER R.P.E. 81734 DATE

CITY OF VISALIA
DESIGN & IMPROVEMENT STANDARDS

BUS STOPS C & D

REVISIONS
09/27/13
BK 2016

TR–5



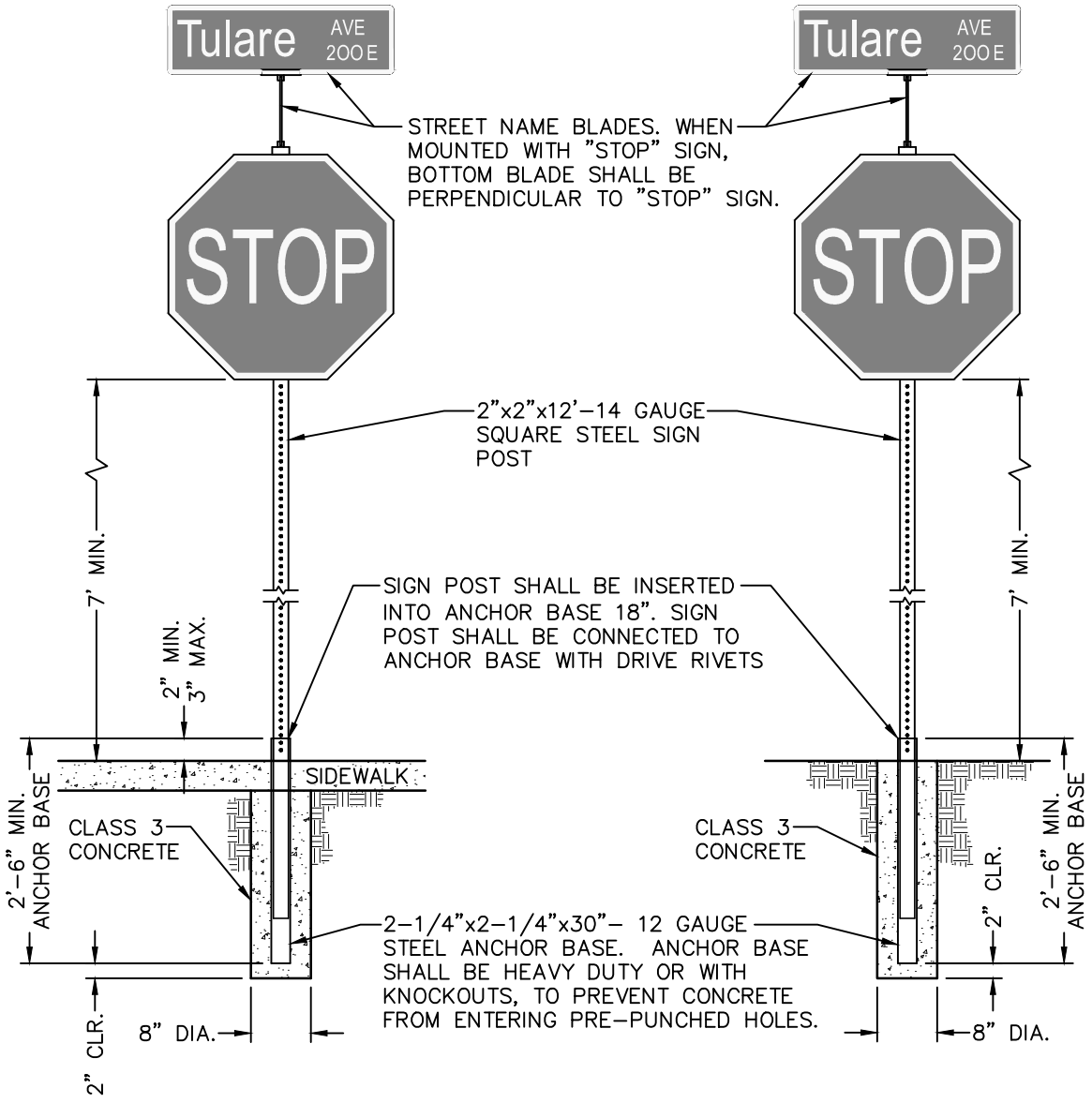
APPROVED BY: _____ 09/16/16
CITY ENGINEER R.P.E. 81734 DATE

CITY OF VISALIA
DESIGN & IMPROVEMENT STANDARDS

STREET NAME SIGN INSTALLATION

REVISIONS
09/13/16
BK 2016

TS-1



IN SIDEWALK

IN PARKWAY

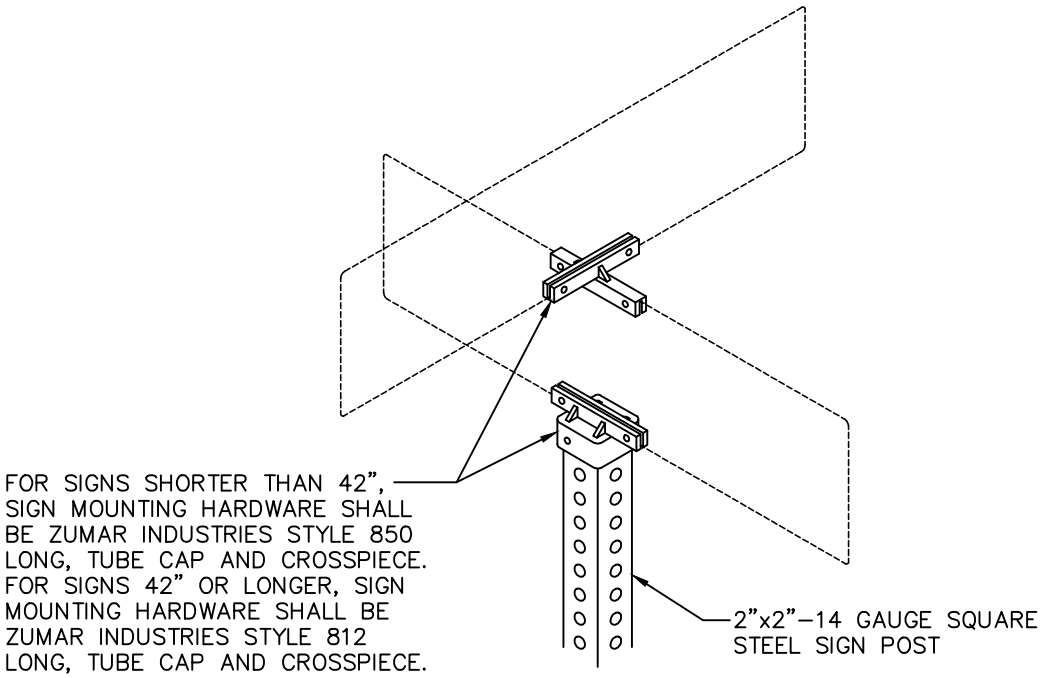
APPROVED BY: _____ CITY ENGINEER R.P.E. 81734 09/16/16 DATE

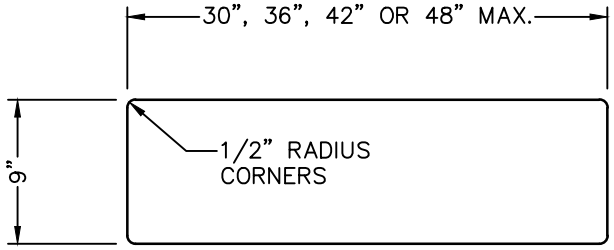
CITY OF VISALIA
DESIGN & IMPROVEMENT STANDARDS

STREET NAME SIGN INSTALLATION WITH "STOP" (R1) SIGN

REVISIONS
09/13/16
BK 2016

TS-2



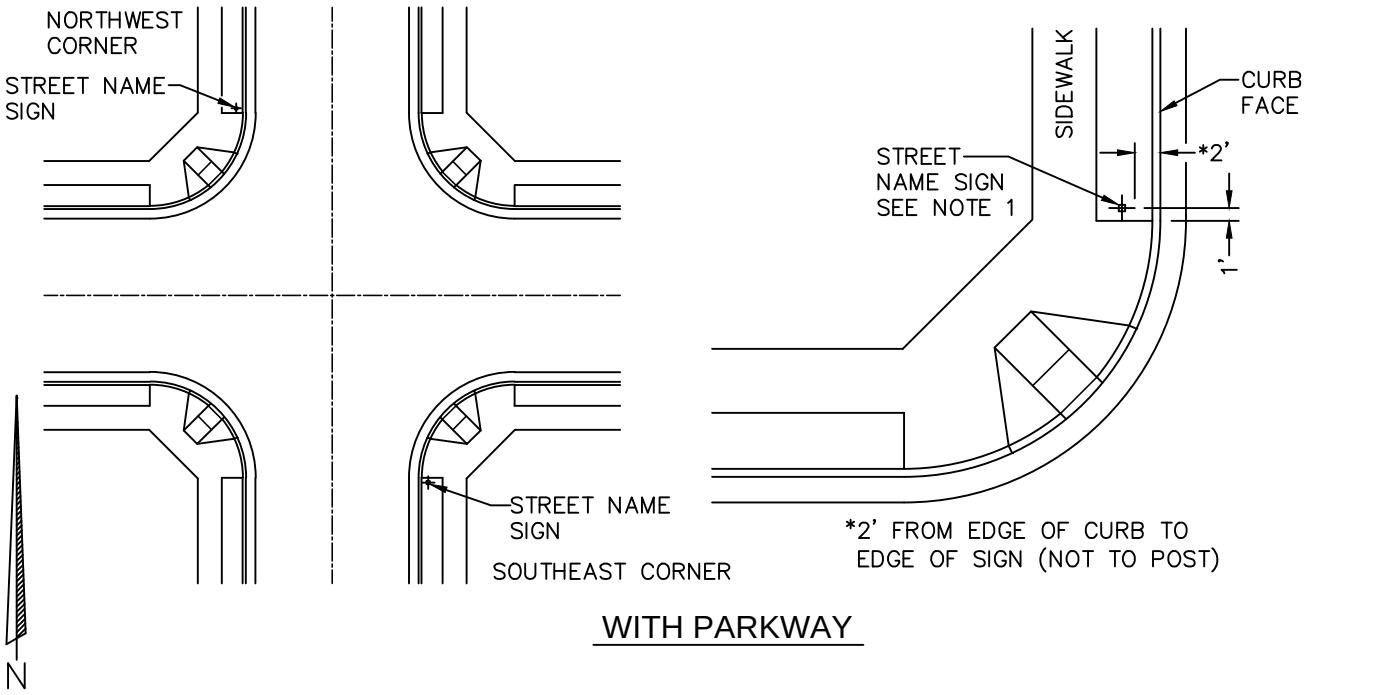


SIGN DIMENSIONS

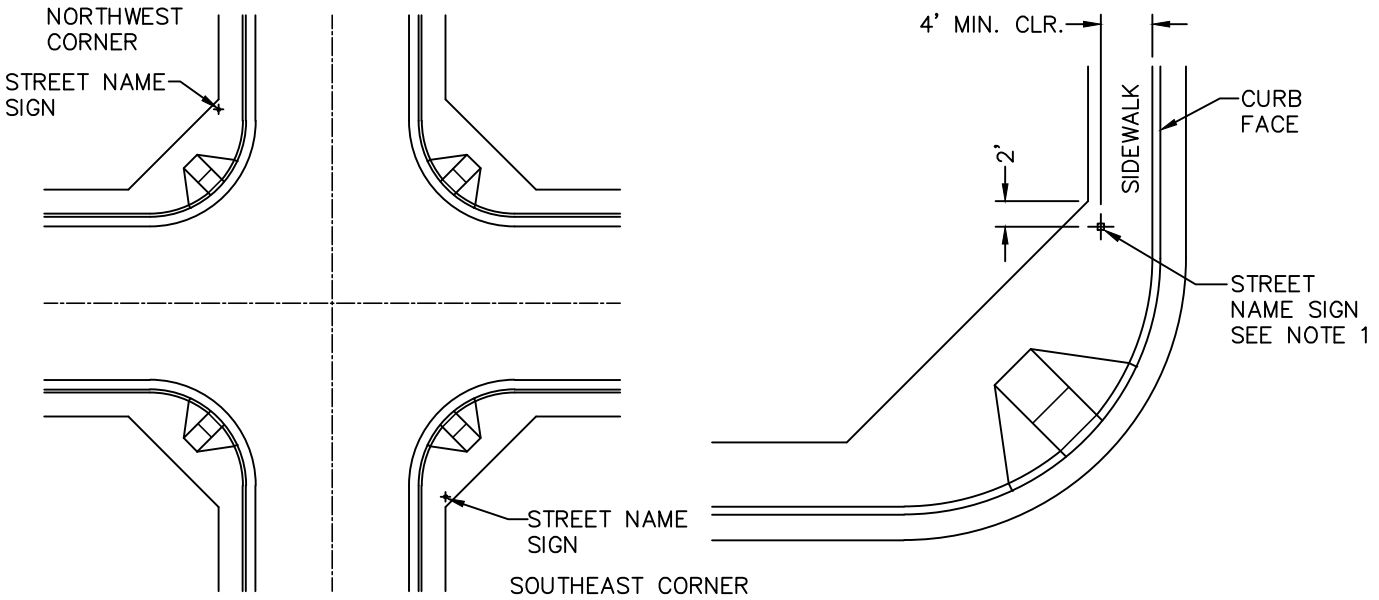
NOTE:

ALL SIGN MATERIAL SHALL CONFORM TO THE STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION SPECIFICATIONS. SIGN BLANKS SHALL BE 0.08" IN THICKNESS AND SHALL BE ALUMINUM ALLOY #5052–H38.

APPROVED BY: _____ CITY ENGINEER R.P.E. 81734 — 09/16/16 DATE	CITY OF VISALIA DESIGN & IMPROVEMENT STANDARDS
STREET NAME SIGNS TYPE 1	REVISIONS 09/13/16 BK 2016 — TS–3



WITH PARKWAY

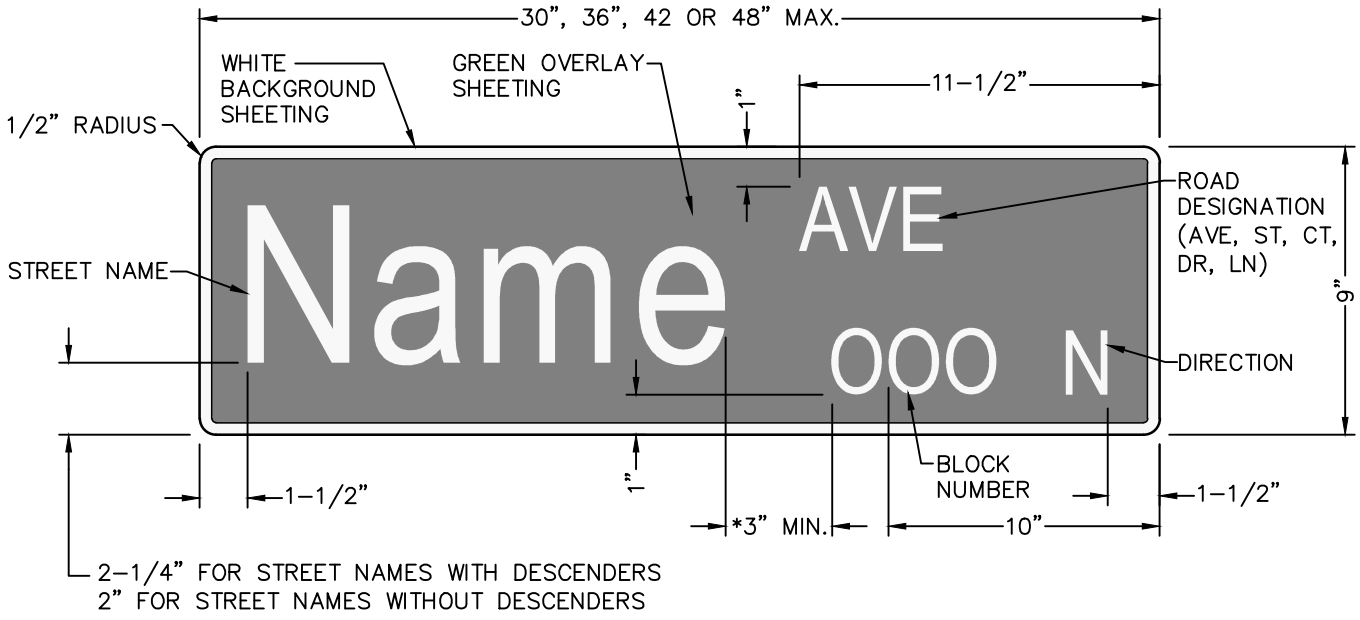


WITHOUT PARKWAY

NOTES:

1. STREET NAME SIGNS SHALL BE TYPICALLY LOCATED ON THE NORTHWEST OR SOUTHEAST CORNER OF AN INTERSECTION UNLESS PLACED ON A STOP SIGN PER STREET NAME SIGN INSTALLATION WITH "STOP" (R1) SIGN.
2. STREET NAME SIGNS SHALL BE PLACED ON STOP SIGNS AND ATTACHED TO STREET LIGHTS WHENEVER POSSIBLE.
3. STREET NAME SIGNS LOCATED IN SIDEWALK AREAS SHALL MAINTAIN A FOUR FOOT HORIZONTAL CLEAR PEDESTRIAN ACCESS ROUTE.
4. IF NO CURB IS PRESENT, SIGNS ARE TO BE INSTALLED A MINIMUM OF 6FT–12FT FROM EDGE OF PAVEMENT AND/OR AS REQUIRED PER THE CA MUTCD.

APPROVED BY: CITY ENGINEER R.P.E. 81734 — DATE 09/16/16	CITY OF VISALIA DESIGN & IMPROVEMENT STANDARDS	
STREET NAME SIGN LOCATIONS LOCAL STREETS	REVISIONS 08/25/16 BK 2016	TS–4

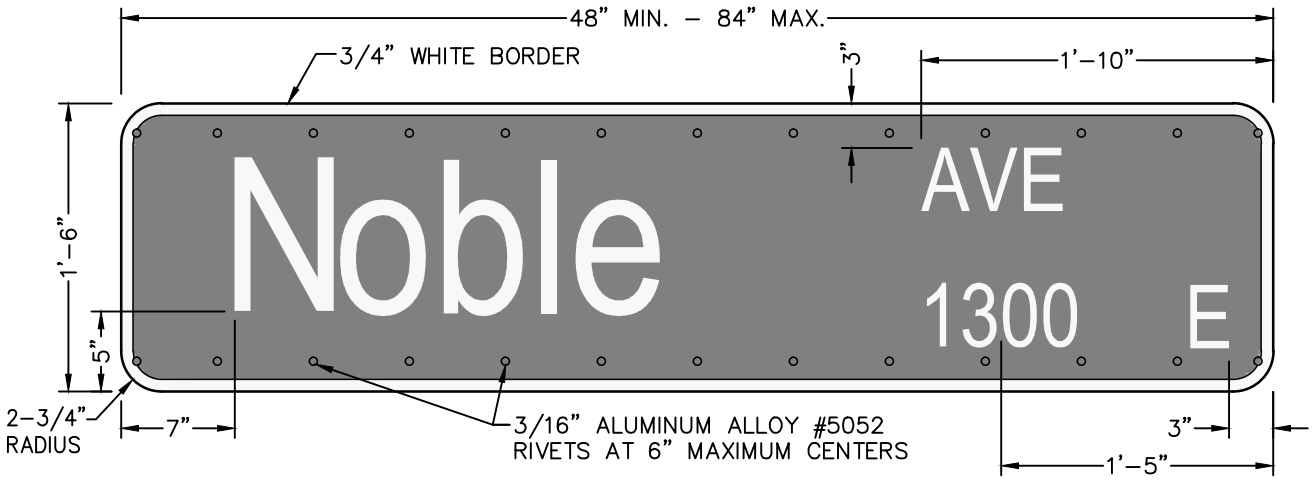


*MINIMUM WIDTH MAY BE REDUCED TO 1" ONLY ON 48" BLADES TO FIT STREET NAME

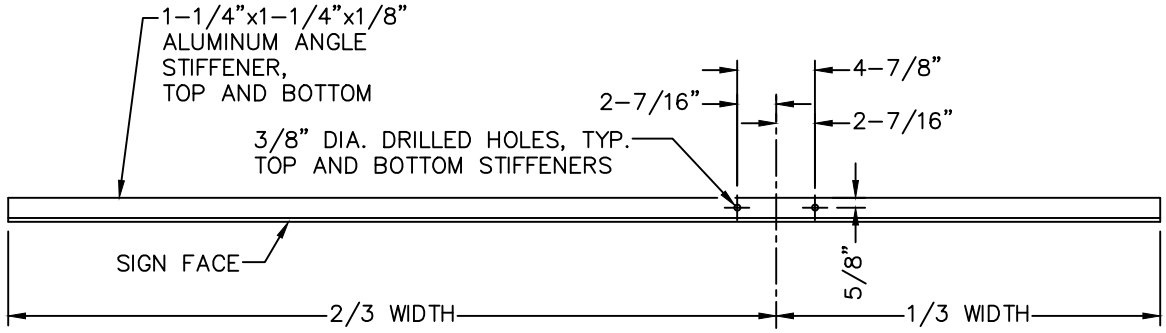
NOTES:

1. ALL SIGN MATERIAL SHALL CONFORM TO THE STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION SPECIFICATIONS. SIGN BLANKS SHALL BE 0.08" MINIMUM IN THICKNESS AND SHALL BE ALUMINUM ALLOY #5052-H38.
2. ALL SHEETING SHALL BE 3M BRAND SCOTCHLITE REFLECTIVE MATERIAL. NO SUBSTITUTIONS WILL BE ACCEPTED.
3. BACKGROUND SHEETING SHALL BE WHITE #4090 (DIAMOND GRADE). OVERLAY SHEETING SHALL BE GREEN #1177C ELECTRONIC CUTTABLE FILM.
4. STREET NAME LETTERS SHALL BE 6" IN SIZE, "ROAD GEEK" OR "HIGHWAY GOTHIC" FONT, SERIES 'C' WITH AN UPPER CASE INITIAL FOLLOWED BY LOWER CASE LETTERS.
5. ROAD DESIGNATION, BLOCK NUMBER AND DIRECTION LETTERS SHALL BE 3" UPPER CASE, SERIES 'C' (DIECUT).
6. WHEN STREET NAME LENGTH DOES NOT FIT ON 48" BLADE, LETTERS MAY BE REDUCED TO SERIES 'B'. SERIES 'A' IN NOT ALLOWED.
7. WHEN STREET NAME LENGTH IS SHORT, USE SERIES 'D'.

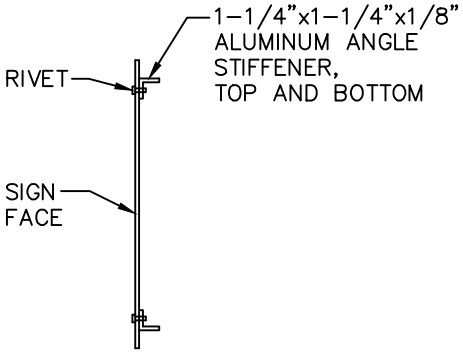
APPROVED BY: _____ CITY ENGINEER R.P.E. 81734 — 09/16/16 DATE	CITY OF VISALIA DESIGN & IMPROVEMENT STANDARDS
STREET NAME SIGN STREET INTERSECTIONS	REVISIONS 04/29/16 BK 2016 — TS-5



FRONT VIEW



TOP VIEW



SIDE VIEW

NOTES:

1. SIGN BLANK SHALL BE ALUMINUM ALLOY 6061–T6 OR 5052–H38.
2. ALL SHEETING, LETTERS AND NUMERALS SHALL BE 3M BRAND DIAMOND GRADE 3 (DG3) SCOTCHLITE REFLECTIVE MATERIAL. NO SUBSTITUTIONS WILL BE ACCEPTED.
3. BACKGROUND SHEETING SHALL BE GREEN (#4097).
4. BORDER, LETTERS AND NUMERALS SHALL BE WHITE (#3970).
5. STREET NAME LETTERS SHALL BE 12", "HIGHWAY GOTHIC" FONT, SERIES 'E' MODIFIED UPPER CASE INITIAL WITH LOWER CASE SUBSEQUENT LETTERS. "AVE", "ST", "DR", "LN", BLOCK NUMBER AND DIRECTION SHALL BE 5", "HIGHWAY GOTHIC" FONT, SERIES 'E' MODIFIED UPPER CASE LETTERS.
6. SEE STREET NAME SIGN BRACKET STANDARD DRAWING FOR BRACKET INFORMATION.

APPROVED BY: _____ 09/16/16
CITY ENGINEER R.P.E. 81734 DATE

CITY OF VISALIA
DESIGN & IMPROVEMENT STANDARDS

STREET NAME SIGN SIGNALIZED INTERSECTION

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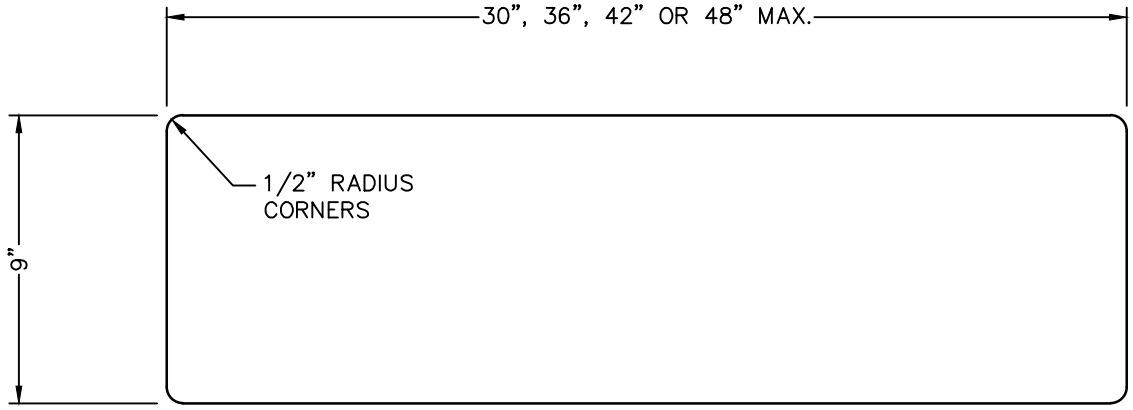
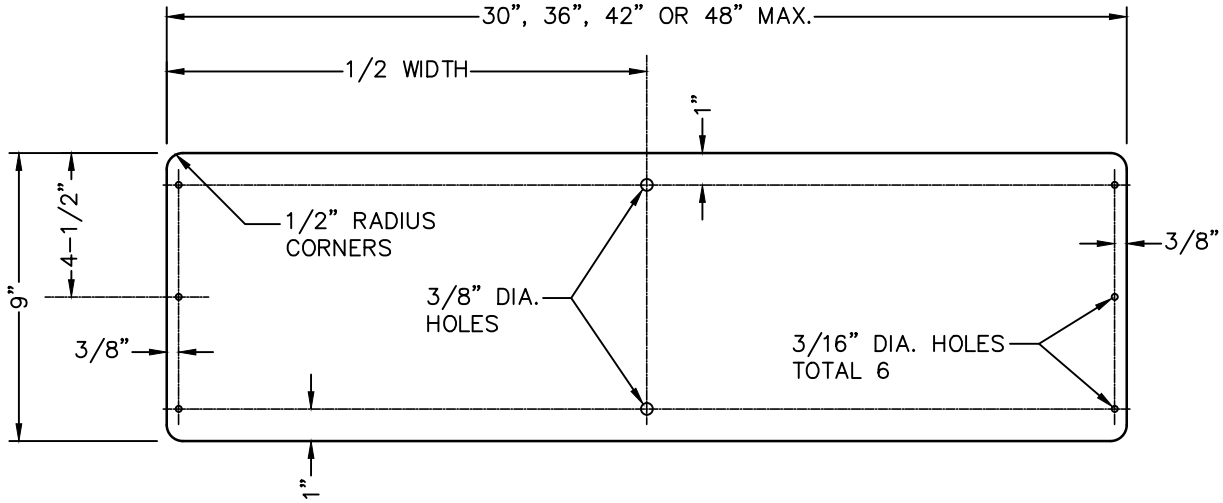
BK 2016

TS–6



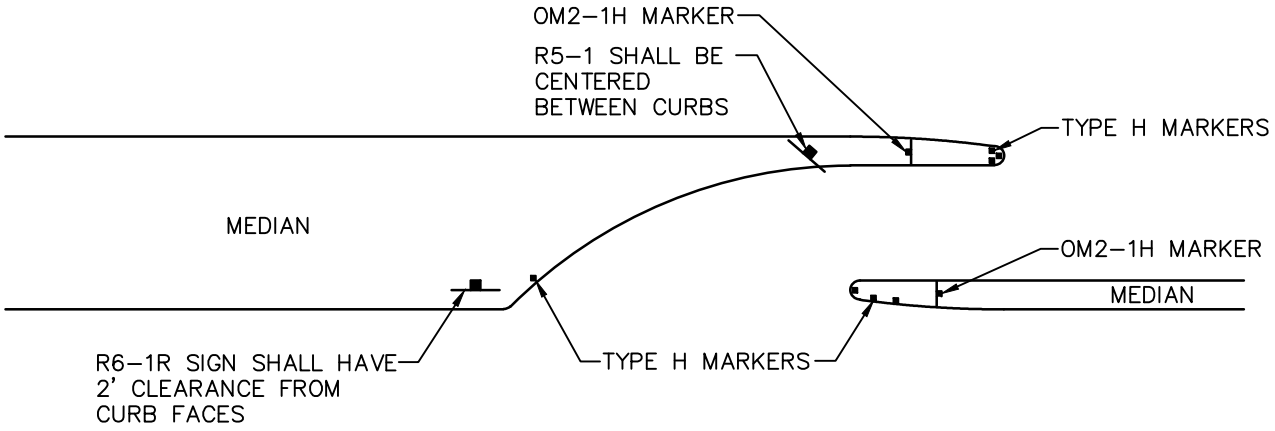
TYPE 1

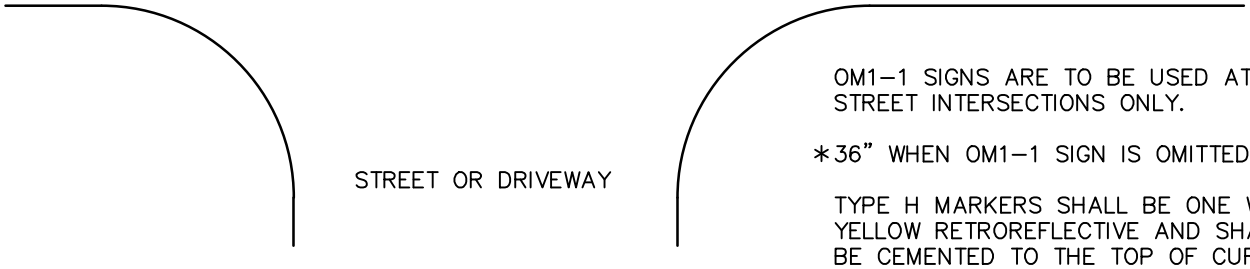


TYPE 2

NOTE:
ALL SIGN MATERIAL SHALL CONFORM TO THE STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION SPECIFICATIONS. SIGN BLANKS SHALL BE 0.08" IN THICKNESS AND SHALL BE ALUMINUM ALLOY #5052-H38. TYPE 2 SIGN BLANKS SHALL BE DRILLED AS SHOWN.

APPROVED BY: _____ CITY ENGINEER R.P.E. 81734 — 09/16/16 DATE	CITY OF VISALIA DESIGN & IMPROVEMENT STANDARDS	
STREET NAME BLANK	REVISIONS 08/25/16 BK 2016	TS-7

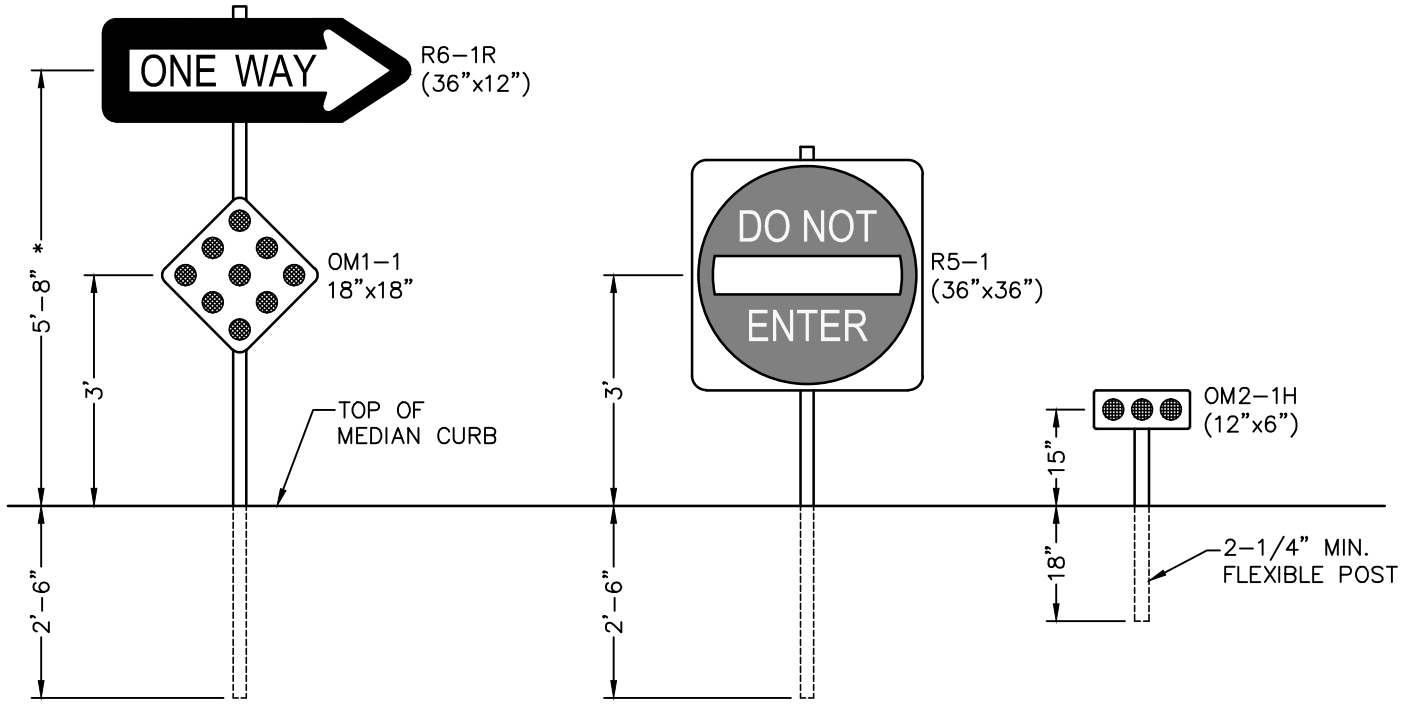




OM1-1 SIGNS ARE TO BE USED AT STREET INTERSECTIONS ONLY.

*36" WHEN OM1-1 SIGN IS OMITTED.

TYPE H MARKERS SHALL BE ONE WAY YELLOW RETROREFLECTIVE AND SHALL BE CEMENTED TO THE TOP OF CURB WITH A RAPID SET TYPE EPOXY ADHESIVE IN CONFORMANCE WITH THE MANUFACTURER'S INSTRUCTIONS.



APPROVED BY: _____ CITY ENGINEER R.P.E. 81734 09/16/16 DATE

CITY OF VISALIA
DESIGN & IMPROVEMENT STANDARDS

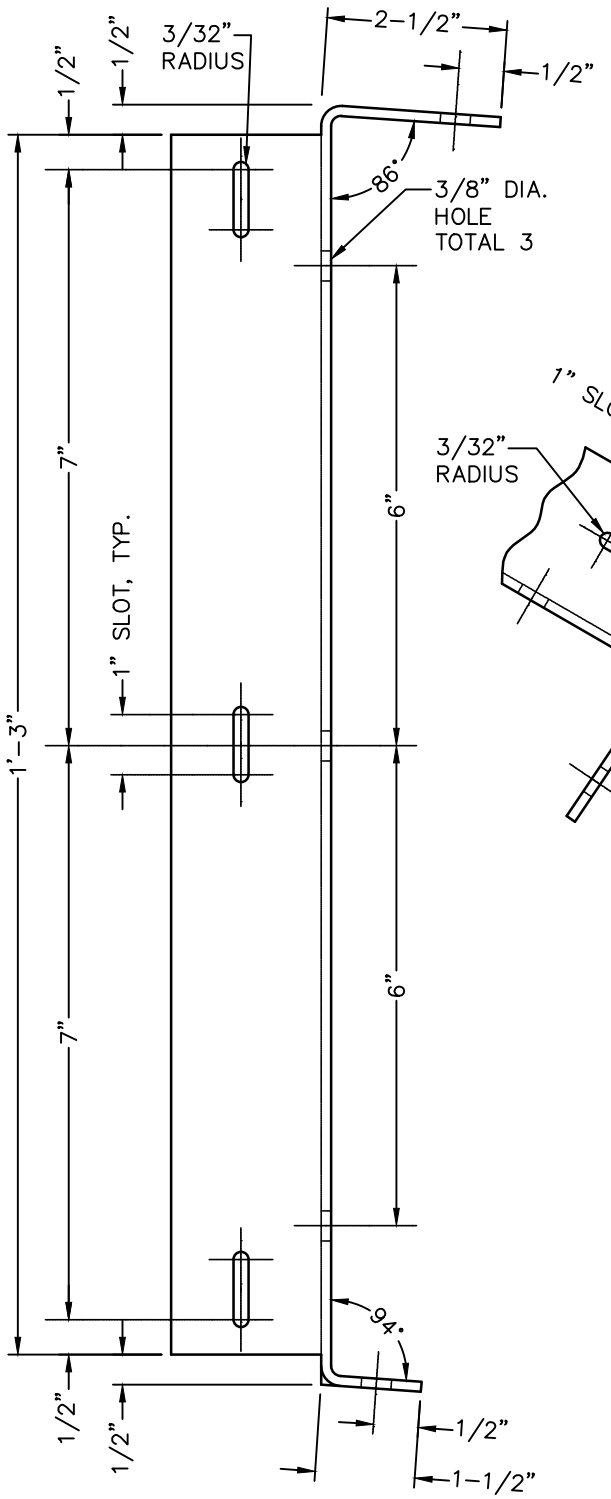
MEDIAN ISLAND OPENING SIGNING

REVISIONS
08/25/16
BK 2016

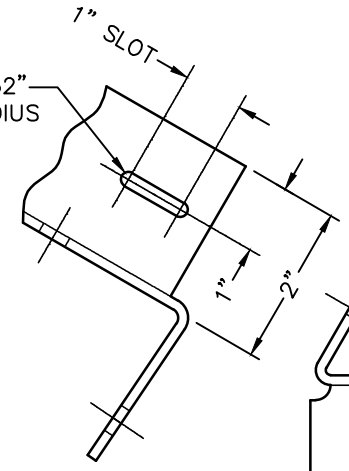
TS-8

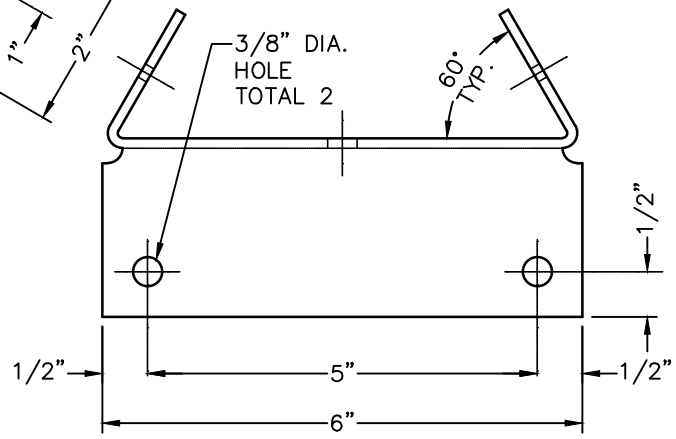
NOTES:

1. ALL MATERIAL SHALL BE 12 GAUGE HOT ROLLED STEEL SHEET, LOW CARBON COMMERCIAL QUALITY. SPECIFICATION QQS-636. GRADE 1010.
2. ALL BRACKETS SHALL BE HOT DIP GALVANIZED AFTER FABRICATION PER SPECIFICATION ASTM A 123/A 123M.
3. ALL BENDS SHALL BE 1/8" RADIUS.
4. ALL SHARP EDGES SHALL BE DEBURRED.
5. TOLERANCES: DIMENSIONS 1/32"±
   ANGLES 0°30'±
6. ATTACH BRACKET TO THE TRAFFIC SIGNAL POLE USING (3) 3/4" STAINLESS STEEL BANDS, 2 FEET ABOVE THE MAST ARM CONNECTION.

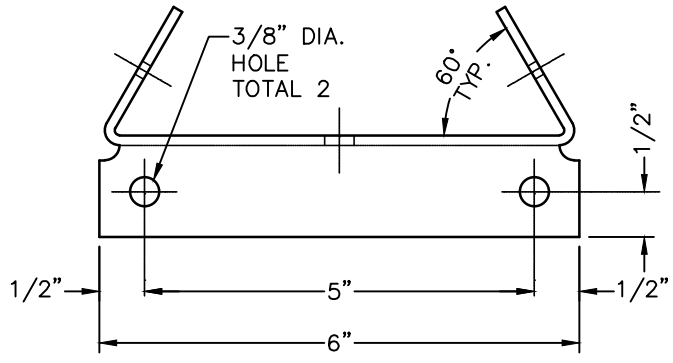


SIDE VIEW





TOP VIEW



BOTTOM VIEW

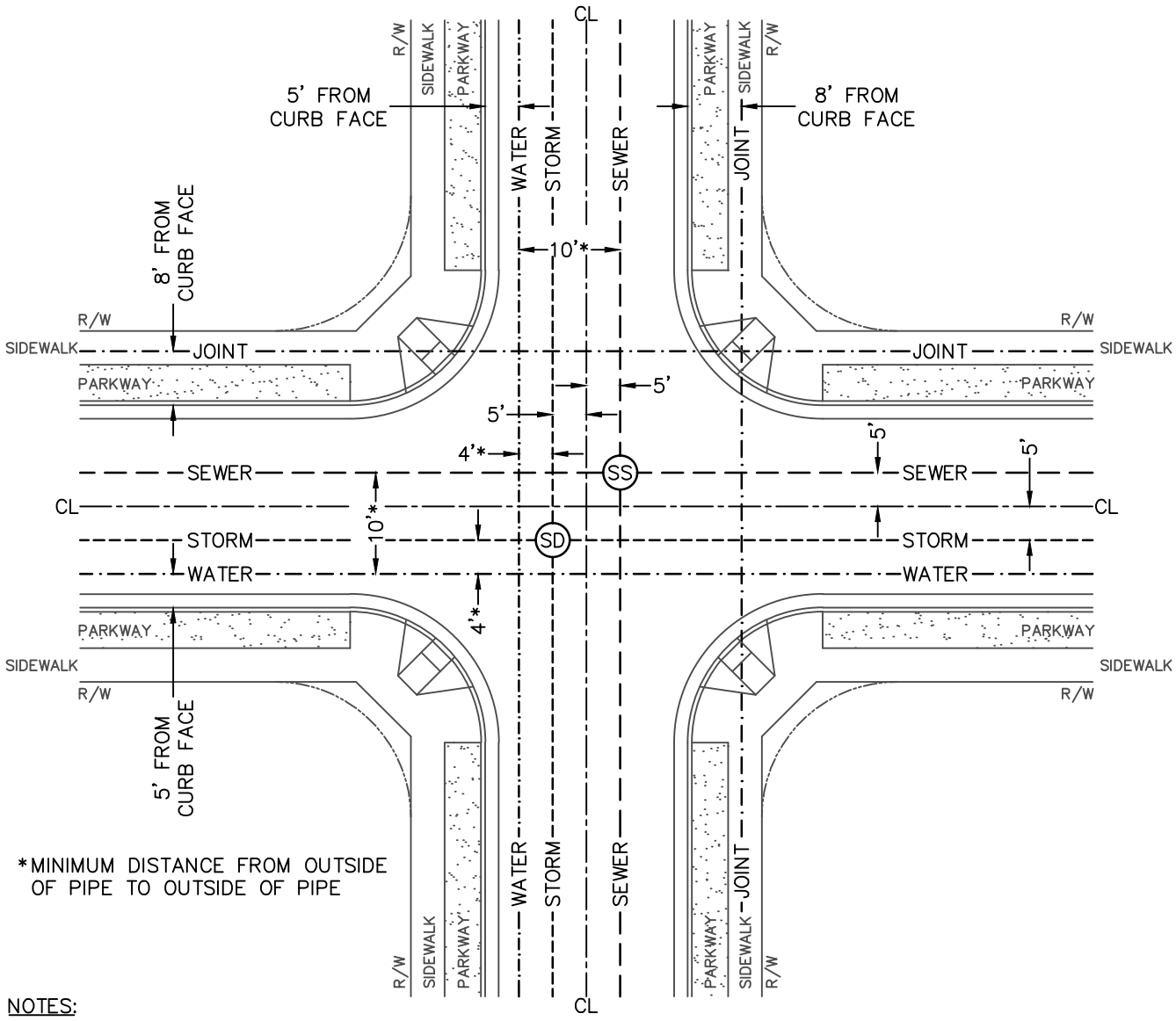
APPROVED BY: _____ 09/16/16
CITY ENGINEER R.P.E. 81734 DATE

CITY OF VISALIA
DESIGN & IMPROVEMENT STANDARDS

STREET NAME SIGN BRACKET

REVISIONS
08/26/16
BK_2015

TS-9



NOTES:

1. SANITARY SEWER LINES SHALL BE LOCATED NORTH OR EAST OF THE STREET CENTERLINE AND AT LEAST 10 FT HORIZONTALLY AND 1 FT LOWER THAN WATER MAIN.
2. STORM DRAIN LINES SHALL BE LOCATED SOUTH OR WEST OF THE STREET CENTERLINE.
3. WATER MAIN SHALL BE LOCATED SOUTH OR WEST OF THE STREET CENTERLINE. HORIZONTAL AND VERTICAL CLEARANCES TO SANITARY SEWER AND STORM DRAIN LINES SHALL MEET THE REQUIREMENTS OF THE "STATE OF CALIFORNIA DEPARTMENT OF HEALTH SERVICES GUIDANCE MEMO NO. 2003–02: GUIDANCE FOR THE SEPARATION OF WATER MAINS AND NON–POTABLE PIPELINES".
4. JOINT UTILITY FACILITIES (GAS, ELECTRIC, TELEPHONE AND CABLE TELEVISION) SHALL BE LOCATED NORTH OR EAST OF THE STREET CENTERLINE.
5. IF EXISTING UTILITY LOCATIONS DO NOT CONFORM TO THIS STANDARD, ALTERNATE LOCATIONS MAY BE APPROVED BY CITY ENGINEER.
6. UTILITY LINES SHOULD BE PLACED OUTSIDE THE TRAVELED WAY WHERE POSSIBLE.
7. MINIMUM VERTICAL SEPARATION AT ALL UTILITY CROSSINGS SHALL BE 1 FT OR AS REQUIRED BY THE UTILITY COMPANY; WHICHEVER IS MORE RESTRICTIVE.

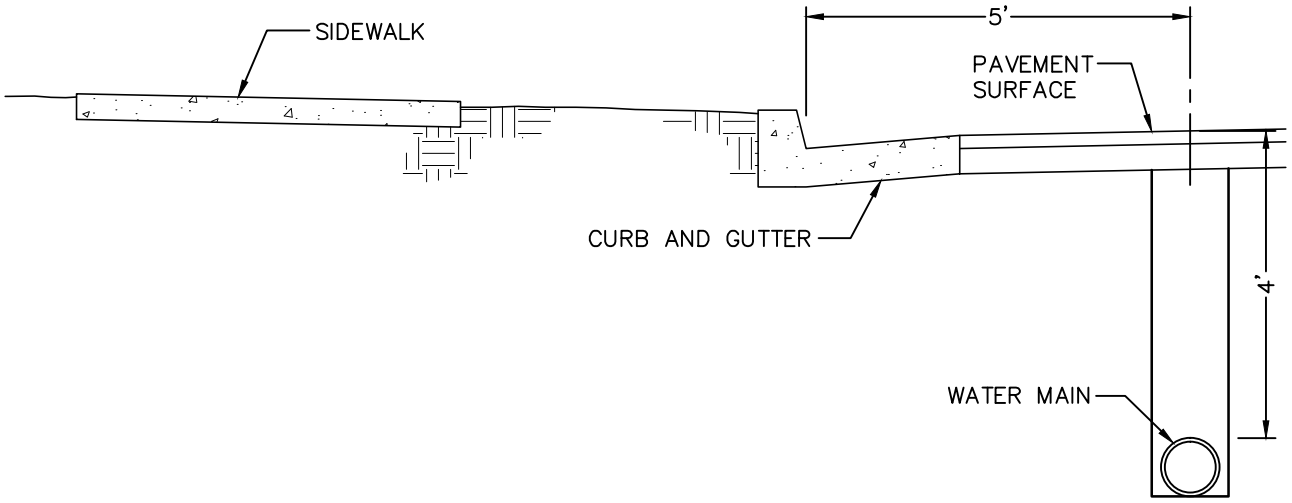
APPROVED BY: _____ 09/16/16
CITY ENGINEER R.P.E. 81734 DATE

CITY OF VISALIA
DESIGN & IMPROVEMENT STANDARDS

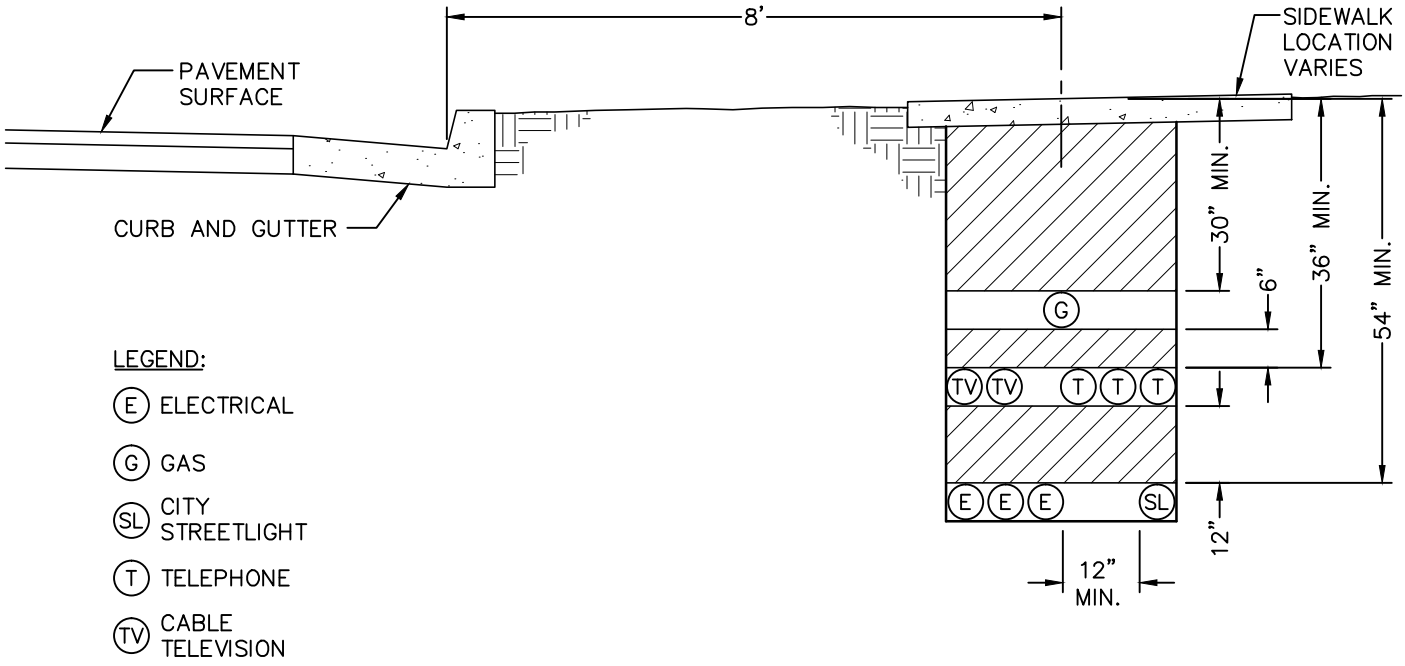
UTILITY LOCATIONS

REVISIONS
08/26/16
BK 2016

U–1



TYPICAL WATER MAIN TRENCH

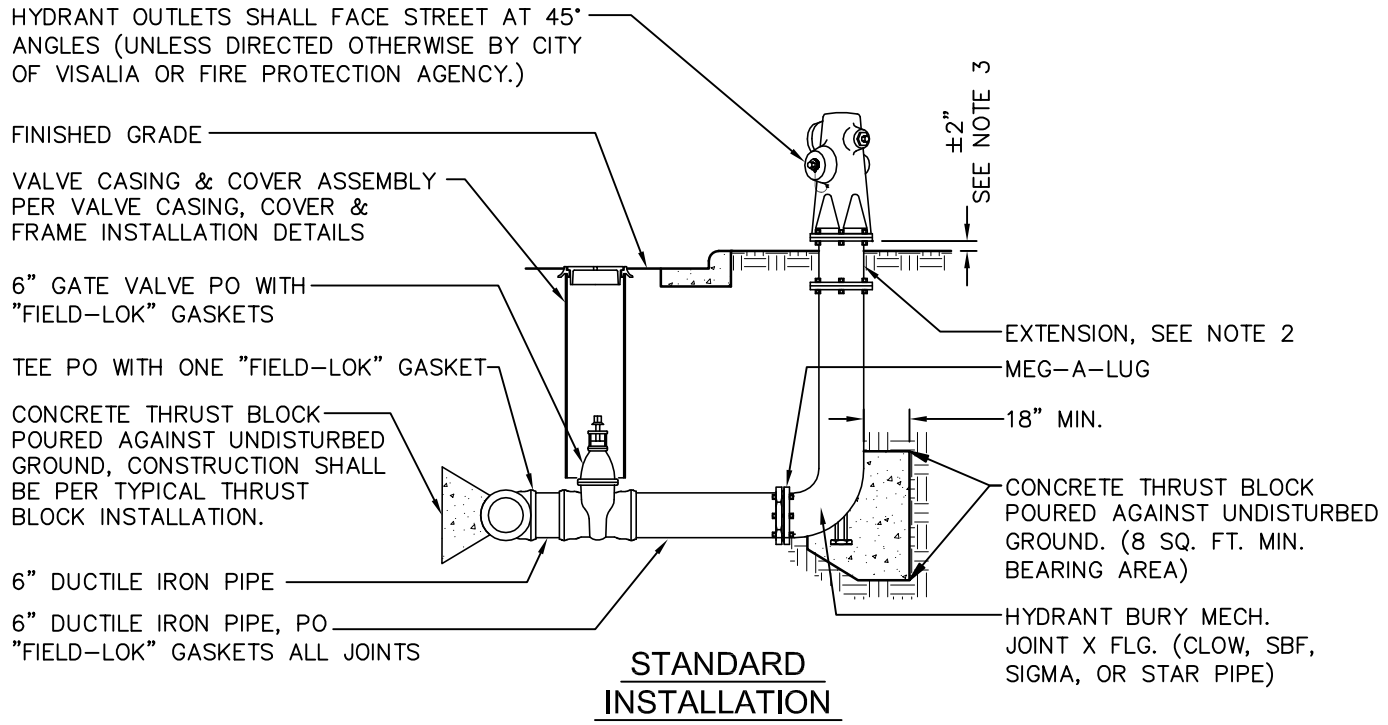


TYPICAL JOINT UTILITY TRENCH

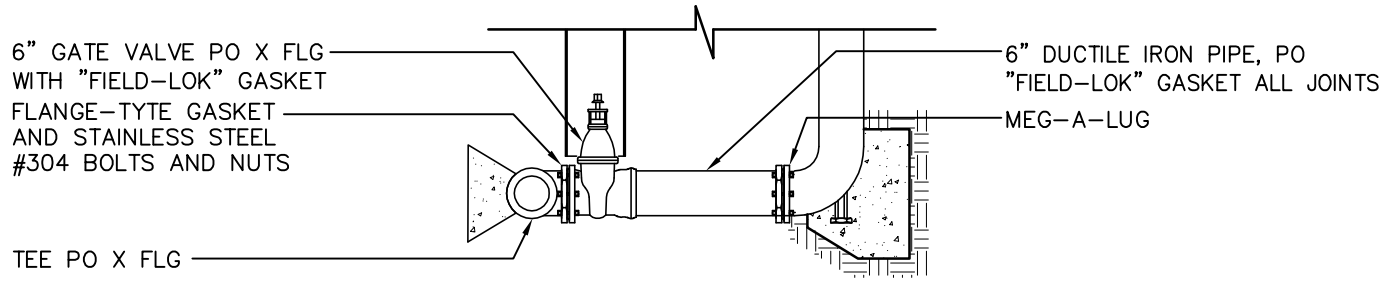
NOTES:

1. SEE TRENCH BACKFILL/PATCH PAVING STANDARD DRAWING FOR TRENCH BACKFILL STANDARDS.
2. ALTERNATE TRENCH CONFIGURATIONS MAY BE PROPOSED AND ARE SUBJECT TO APPROVAL BY THE CITY ENGINEER AND THE UTILITY COMPANIES.

APPROVED BY: _____ CITY ENGINEER R.P.E. 81734 — 09/16/16 DATE	CITY OF VISALIA DESIGN & IMPROVEMENT STANDARDS	
JOINT UTILITY TRENCH	REVISIONS 09/15/16 BK 2016	U–2



STANDARD INSTALLATION



ALTERNATE INSTALLATION

NOTES:

1. ALL FIRE HYDRANT MATERIALS SHALL COMPLY WITH MATERIAL SPECIFICATIONS.
2. A HYDRANT EXTENSION MAY BE REQUIRED TO ADJUST FOR FINISHED GRADE.
3. FOR WET BARREL HYDRANTS THIS DIMENSION IS FROM FINISHED GRADE TO BURY'S FLANGE OR EXTENSION'S FLANGE WHEN AN EXTENSION IS REQUIRED.
4. PUSH-ON, FLANGED FITTING JOINTS, AND/OR THREADED-FLANGED RISERS MAY BE REQUIRED. VERIFY WITH A CITY OF VISALIA REPRESENTATIVE ALL FIRE HYDRANT MATERIAL PRIOR TO THE INSTALLATION.
5. FIRE HYDRANT BARRICADES SHALL BE REQUIRED WHEN A VERTICAL OR ROLLED CURB DOES NOT EXIST, OR WHEN THE FIRE HYDRANT NEEDS TO BE PROTECTED FROM MOVING VEHICLES.
6. ALL MACHINE BOLTS AND NUTS SHALL BE #304 STAINLESS STEEL, EXCEPT FOR BREAKOFF BOLTS.
7. A 90° ELBOW WITH "FIELD-LOK" GASKETS MAY BE REQUIRED FOR THE FIRE HYDRANT INSTALLATION WHEN SPACE IS LIMITED AND THE HYDRANT LEAD MUST RUN PARALLEL TO THE MAIN OR THE LOCATION OF THE FIRE HYDRANT REQUIRES THE BEND.

APPROVED BY: _____ PUBLIC WORKS DIRECTOR R.C.E. 50022 09/16/16 DATE	CITY OF VISALIA DESIGN & IMPROVEMENT STANDARDS	
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