

# STANDARD DRAWINGS

2015 Edition



CITY OF RIALTO  
PUBLIC WORKS DEPARTMENT

## STANDARD DRAWINGS EXPLANATIONS

1. The City of Rialto Standard Drawings are intended for use on City Public Works Projects in conjunction with the Standard Specifications for Public Works Construction by the American Public Works Association (APWA).
2. By referring to these Standard Drawings on construction documents, the Design Engineer assumes full responsibility for their use.
3. If these Standard Drawings do not fulfill construction details of special design conditions, additional detail shall be shown on construction documents. If Standard Drawings from another source are referred to on construction documents, the Standard Drawings shall be shown on those construction documents, and is subject to approval by the City Engineer.
4. These Standard Drawings are a supplement to the latest editions of Standard Plans and Specifications for Public Works Construction by the APWA, the County of San Bernardino Department of Public Works and Flood Control Standards and Specifications, and the California Department of Transportation (CALTRANS) Standard Plans. The City-adopted sections of the APWA Standards are noted in the Standard Drawings Index.
5. These Standard Drawings are amended periodically to reflect changing technology of the construction industry.
6. Interested parties who wish to suggest amendments to these Standard Drawings may write to:

City of Rialto  
Public Works Department  
150 South Palm Avenue  
Rialto, CA 92376

# STANDARD DRAWING INDEX

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## STORM DRAIN

REFER TO STANDARD PLANS FOR PUBLIC WORKS CONSTRUCTION (LATEST EDITION)

## STANDARD DRAWING INDEX

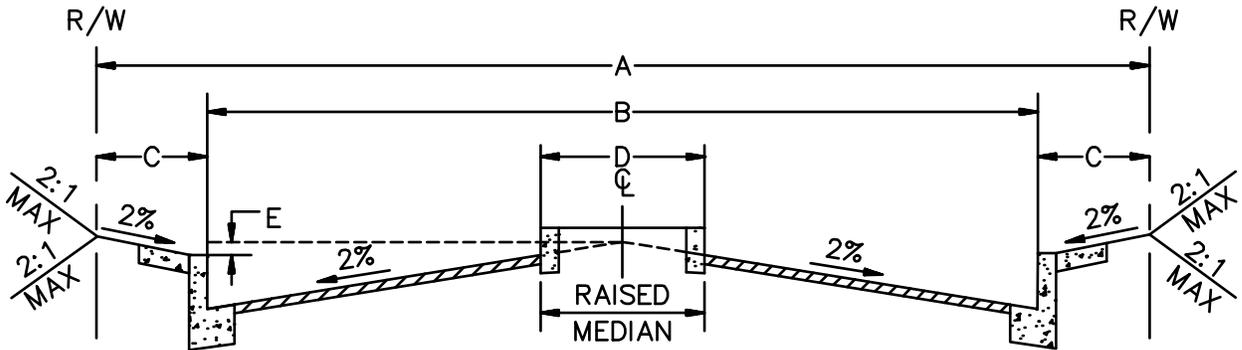
### WATER

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THOUGH 16" PIPE  
W-727 METER SERVICES 3" OR LARGER  
BEHIND CURB  
W-728 PRESSURE REGULATOR STATION

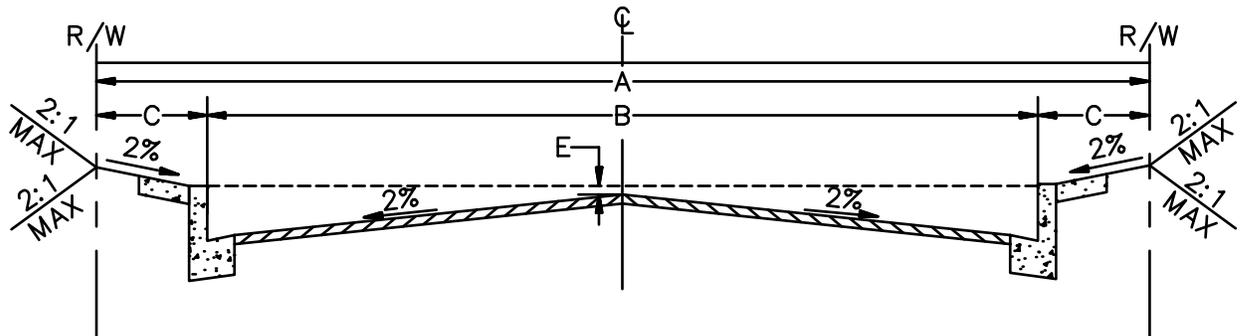
### SANITARY SEWER

SS-200 SEWER GENERAL NOTES  
SS-201 STANDARD MANHOLE FRAME,  
COVER AND REINFORCED  
CONCRETE COLLAR  
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SS-209 SEWER LATERAL CONNECTIONS  
TYPE A AND TYPE B

STREET



**MAJOR ARTERIAL HIGHWAY, MAJOR ARTERIAL, MODIFIED MAJOR ARTERIAL I AND II, MODIFIED ARTERIAL I AND II, AND SECONDARY ARTERIAL**



**COLLECTOR, COLLECTOR (COMMERCIAL/INDUSTRIAL), INDUSTRIAL, AND LOCAL**

NOT TO SCALE

**APPROVED BY:**

*Marcus Fuller* 11/25/14  
**P.W. DIRECTOR/CITY ENGINEER** **DATE**

**STREET SECTIONS**

**CITY OF RIALTO, CALIFORNIA  
 PUBLIC WORKS DEPARTMENT  
 ENGINEERING DIVISION**

REVISIONS			
DATE	BY	MARK	APPROVED

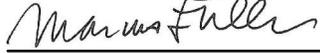
DIMENSIONS					E	STRUCTURAL SECTION		# OF TRAVEL LANES
STREET-TYPE	A	B	C	D		MIN. A.C.	MIN. A.B.	
MAJOR ARTERIAL HIGHWAY	120'	94'	13'	18'	.40'	5"	6"	6 LANES
MAJOR ARTERIAL	120'	96'	12'	16'	.42'	5"	6"	6 LANES
MODIFIED MAJOR ARTERIAL I	120'	96'	12'	16'	.42'	5"	6"	6 LANES
MODIFIED MAJOR ARTERIAL II	120'	90'	15'	14'	.36'	5"	6"	6 LANES
MODIFIED ARTERIAL II	120'	VARIES	VARIES	VARIES				4 LANES, 4 CURB PARKING LANES
MODIFIED ARTERIAL I	104'	78'	14'	13'	.24'	5"	6"	4 LANES 2 BIKE LANES
SECONDARY ARTERIAL	88'	64'	12'	-	.10'	4"	6"	4 LANES 2 PARKING
COLLECTOR	64'	40'	12'	-	.14'	4"	6"	2 LANES 2 PARKING
COLLECTOR (COMMERCIAL/INDUSTRIAL)	60'	44'	8'	-	.10'	4"	6"	2 LANES 2 PARKING
INDUSTRIAL	45'	44'	VARIES	-	.10'	5"	6"	2 LANES
LOCAL	60'	36'	12'	-	.18'	4"	6"	2 LANES 2 PARKING
LOCAL (COUNTY STD)	60'	40'	10'					2 LANES 2 PARKING

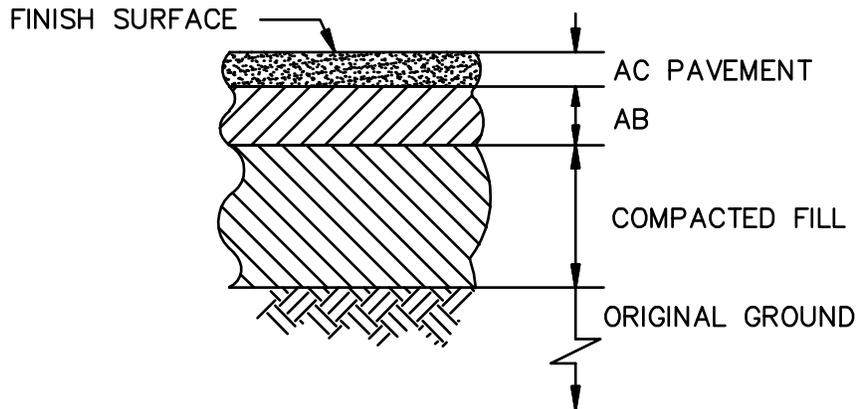
THE STRUCTURAL SECTION DESIGN FOR ALL STREETS SHALL BE DETERMINED USING THE FORMULAS CONTAINED IN THE CALIFORNIA DEPARTMENT OF TRANSPORTATION HIGHWAY DESIGN MANUAL TABLES 608.4 AND 608.4B AND IN NO CASE SHALL THE DESIGN SECTIONS BE LESS THAN THE MINIMUMS SHOWN.

GENERAL NOTES:

1. STREET DIMENSIONS MAY VARY IN SPECIFIC PLAN AREAS.
2. T.I.=10 FOR ALL TRUCK ROUTES AND ARTERIAL STREETS. SOIL TESTING AND CALCULATIONS WILL BE REQUIRED FOR PAVEMENT SECTION RECOMMENDATIONS.
3. FOR SIDEWALK, REFER TO STANDARD DRAWINGS SC-203, SC-204, SC-205, AND SC-206.
4. LEVEL LINE OFFSETS ARE BASED UPON A STRAIGHT GRADE CROSSFALL OF 2% "E".

NOT TO SCALE

<b>APPROVED BY:</b>				 11/25/14 <b>P.W. DIRECTOR/CITY ENGINEER</b> <b>DATE</b>		<b>STREET SECTIONS</b>	
<b>REVISIONS</b>						<b>CITY OF RIALTO, CALIFORNIA PUBLIC WORKS DEPARTMENT ENGINEERING DIVISION</b>	
<b>DATE</b>	<b>BY</b>	<b>MARK</b>	<b>APPROVED</b>				
				<b>STANDARD NO. S-100</b>		<b>SHT 2 OF 3</b>	



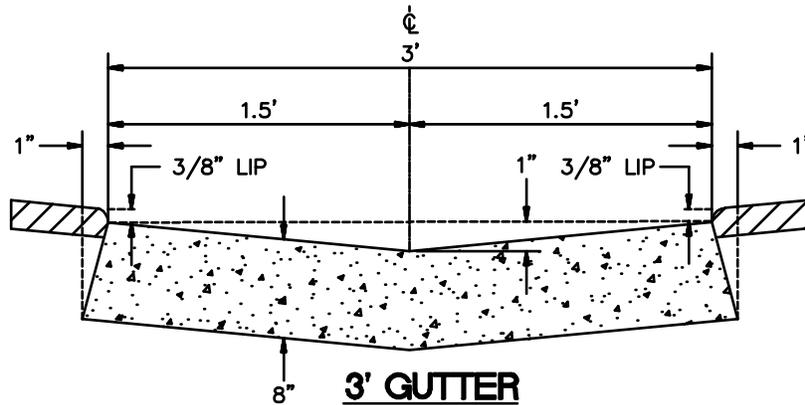
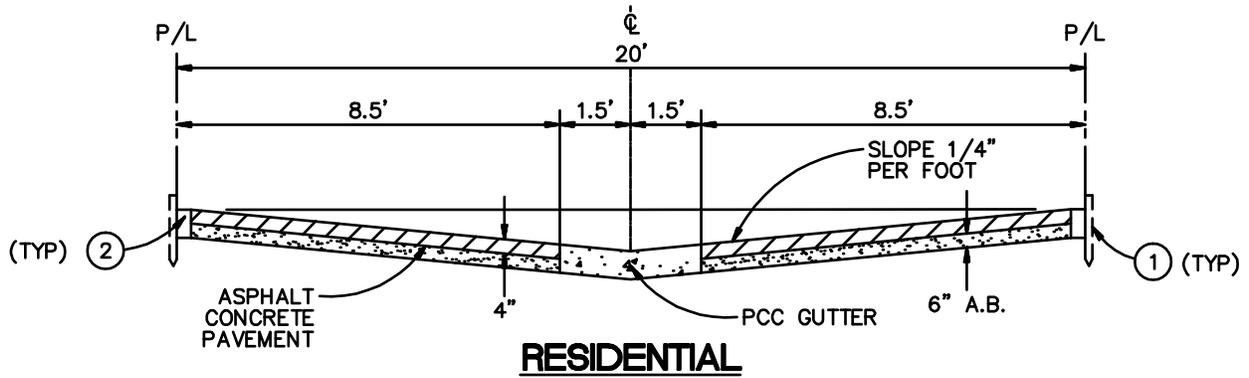
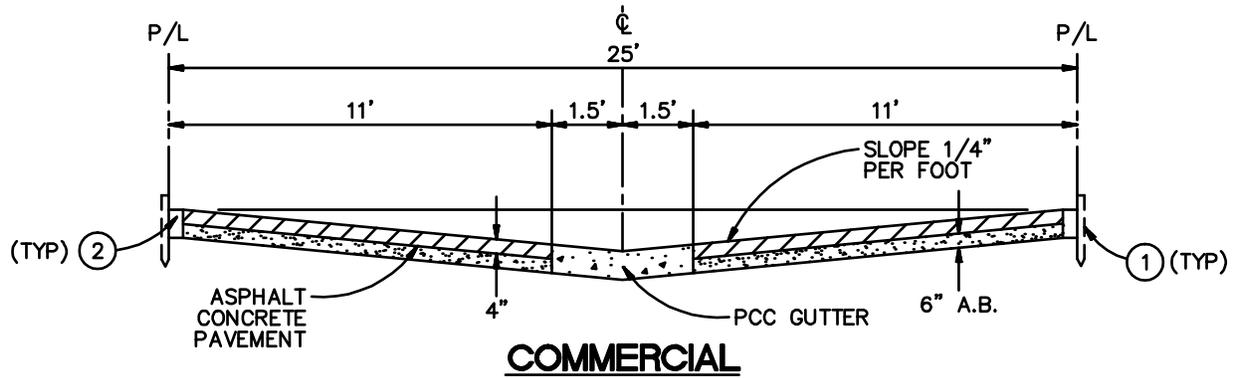
**STRUCTURAL SECTION**

**NOTES:**

1. ASPHALT CONCRETE PAVEMENT WILL BE A MINIMUM OF THREE (3) INCHES THICK FOR TEMPORARY PAVEMENT AND FOUR (4) INCHES THICK FOR PERMANENT PAVEMENT.
2. ASPHALT CONCRETE PAVEMENT AND AGGREGATE BASE SHALL BE COMPACTED TO 95% RELATIVE DENSITY PER TEST NO. CALIFORNIA 304.
3. COMPACTED FILL RELATIVE DENSITY SHALL BE DETERMINED BY SOILS TESTING AND CALCULATIONS FOR PAVEMENT SECTION RECOMMENDATIONS.
4. THE TOP 6" OF ORIGINAL GROUND SHALL BE COMPACTED TO 95% RELATIVE DENSITY.
5. CITY CONTRACT – ALL INITIAL COMPACTION TESTING SHALL BE PAID FOR BY THE CITY. ALL RETESTING SHALL BE PAID FOR BY THE CONTRACTOR. PRIVATE CONTRACTS COMPACTION TESTING SHALL BE PAID FOR BY THE PERMITTEE.

NOT TO SCALE

	<p><b>APPROVED BY:</b>                    11/25/14  <b>P.W. DIRECTOR/CITY ENGINEER                      DATE</b></p>	<b>STREET SECTIONS</b>			
	<b>REVISIONS</b>	<b>CITY OF RIALTO, CALIFORNIA                  PUBLIC WORKS DEPARTMENT                  ENGINEERING DIVISION</b>			
<b>DATE</b>	<b>BY</b>			<b>MARK</b>	<b>APPROVED</b>
		<b>STANDARD NO. S-100</b>	<b>SHT 3 OF 3</b>		



**NOTES:**

- ① STAKES FOR REDWOOD HEADER WILL BE AT LEAST 1"X3"X24" LONG AND PLACED EVERY 10'.
- ② REDWOOD HEADER 2"X4" STAKED – BOTH SIDES OF ALLEY. MAY USE THICKENED EDGE UPON INSECTORS APPROVAL.

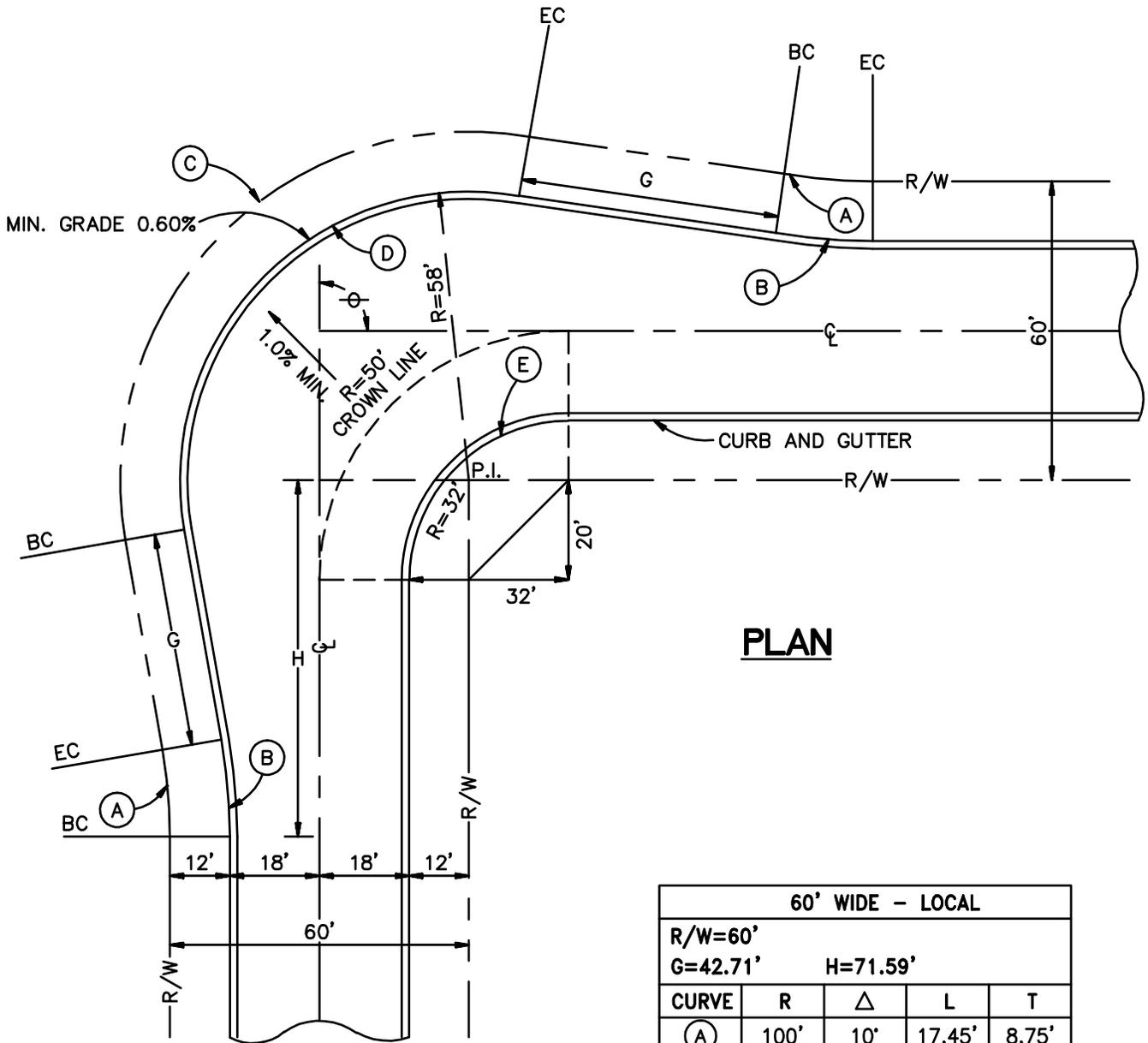
**GENERAL NOTES:**

- 1. ALL CONCRETE SHALL BE CLASS 520-C-2500.
- 2. PLACE TRANSVERSE WEAKENED PLANE JOINTS AT 10' INTERVALS.
- 3. SOILS TESTING SHALL DETERMINE ASPHALT STRUCTURAL SECTION.

NOT TO SCALE

<b>APPROVED BY:</b>			
<i>Marcus Fuller</i>		11/25/14	
P.W. DIRECTOR/CITY ENGINEER		DATE	
<b>REVISIONS</b>			
<b>DATE</b>	<b>BY</b>	<b>MARK</b>	<b>APPROVED</b>

<b>ALLEY AND 3' GUTTER</b>	
<b>CITY OF RIALTO, CALIFORNIA PUBLIC WORKS DEPARTMENT ENGINEERING DIVISION</b>	
<b>STANDARD NO. S-101</b>	<b>SHT 1 OF 1</b>



**PLAN**

**60' RIGHT OF WAY**

60' WIDE - LOCAL				
R/W=60'				
G=42.71'      H=71.59'				
CURVE	R	Δ	L	T
(A)	100'	10'	17.45'	8.75'
(B)	112'	10'	19.55'	9.80'
(C)	70'	θ+20°	-	-
(D)	58'	θ+20°	-	-
(E)	32'	θ	-	-

NOT TO SCALE

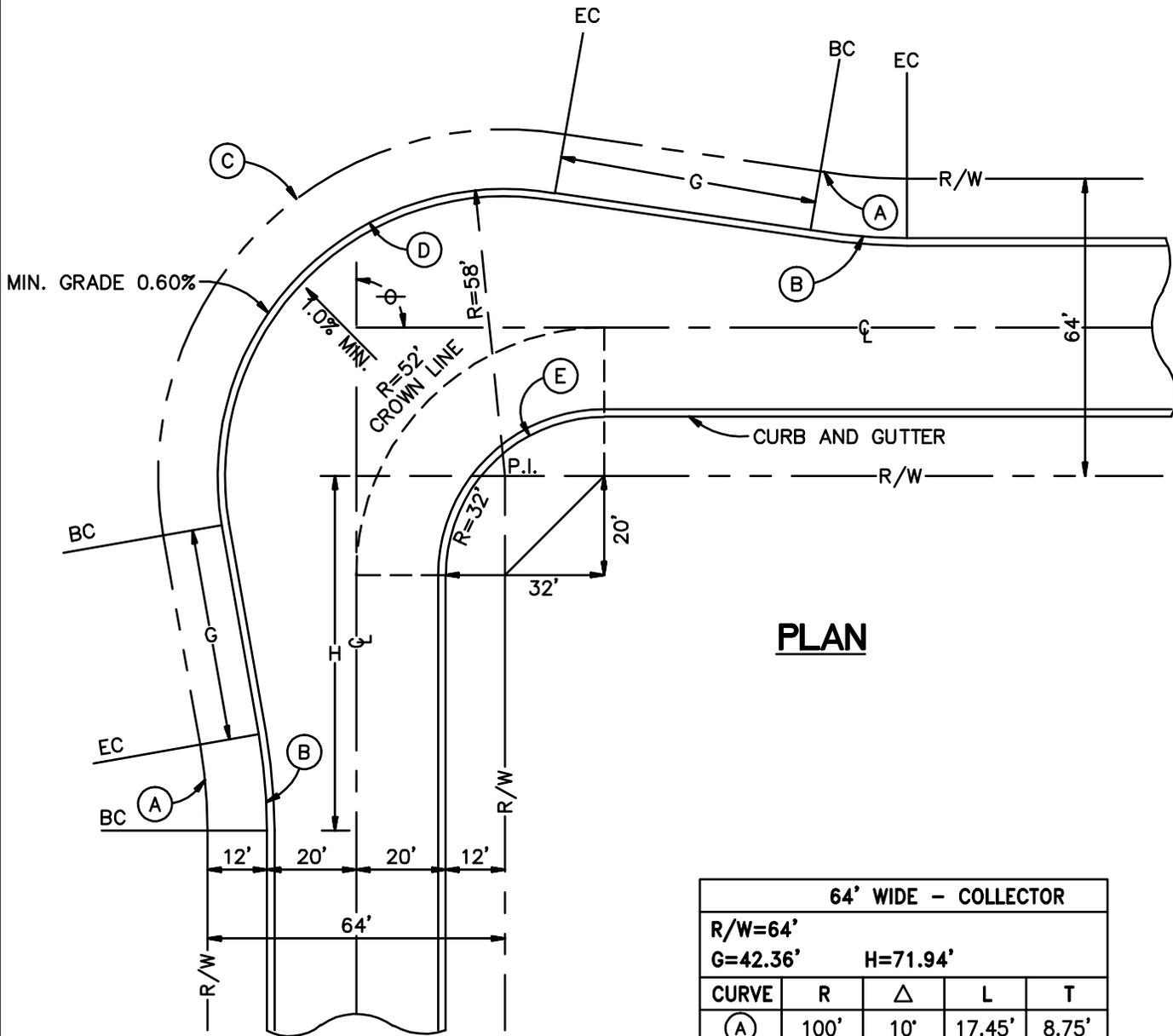
**APPROVED BY:**  
*Marcus Fuller*      11/25/14  
 P.W. DIRECTOR/CITY ENGINEER      DATE

**STANDARD KNUCKLE  
 LOCAL STREET**

REVISIONS			
DATE	BY	MARK	APPROVED

**CITY OF RIALTO, CALIFORNIA  
 PUBLIC WORKS DEPARTMENT  
 ENGINEERING DIVISION**

**STANDARD NO. S-102      SHT 1 OF 1**



**PLAN**

64' WIDE - COLLECTOR				
R/W=64'				
G=42.36'		H=71.94'		
CURVE	R	Δ	L	T
(A)	100'	10°	17.45'	8.75'
(B)	112'	10°	19.55'	9.80'
(C)	74'	0±20°	-	-
(D)	62'	0±20°	-	-
(E)	32'	ϕ	-	-

NOT TO SCALE

**APPROVED BY:**

*Marcus Fuller* 11/25/14  
P.W. DIRECTOR/CITY ENGINEER DATE

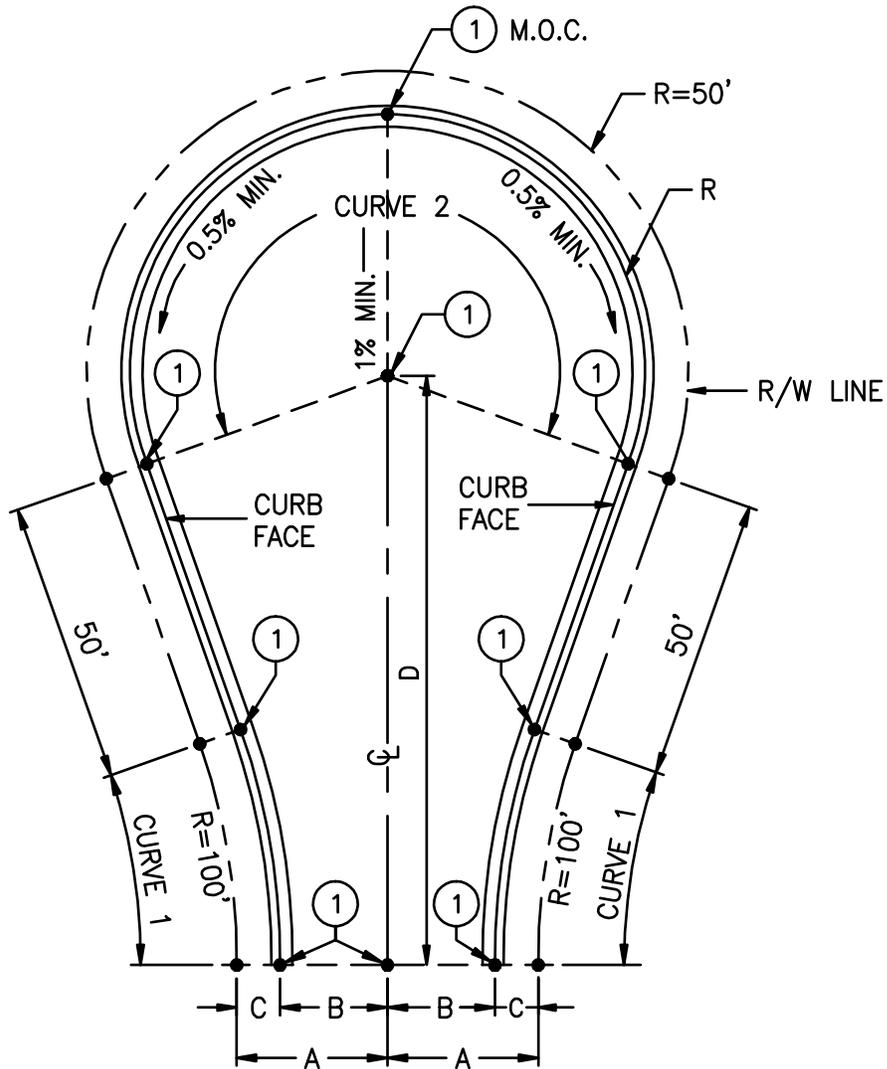
**STANDARD KNUCKLE  
COLLECTOR STREET**

REVISIONS			
DATE	BY	MARK	APPROVED

**CITY OF RIALTO, CALIFORNIA  
PUBLIC WORKS DEPARTMENT  
ENGINEERING DIVISION**

**STANDARD NO. S-103**

**SHT 1 OF 1**



**NOTES:**

① ELEVATION REQUIRED IN PLAN VIEW WHERE NOTED.

LOCAL COLLECTOR STREET					CURVE 1				CURVE 2					
					Δ	CURB		R/W		Δ	CURB		R/W	
R/W	A	B	C	D		R	L	R	L		R	L	R	L
60'	30'	18'	12'	90.00'	16°15'37"	112'	31.78'	100'	28.38'	212°31'13"	38'	140.95'	50'	185.46'
64'	32'	20'	12'	87.04'	14°57'57"	112'	29.25'	100'	26.12'	209°55'53"	38'	139.23'	50'	183.20'

NOT TO SCALE

**APPROVED BY:**

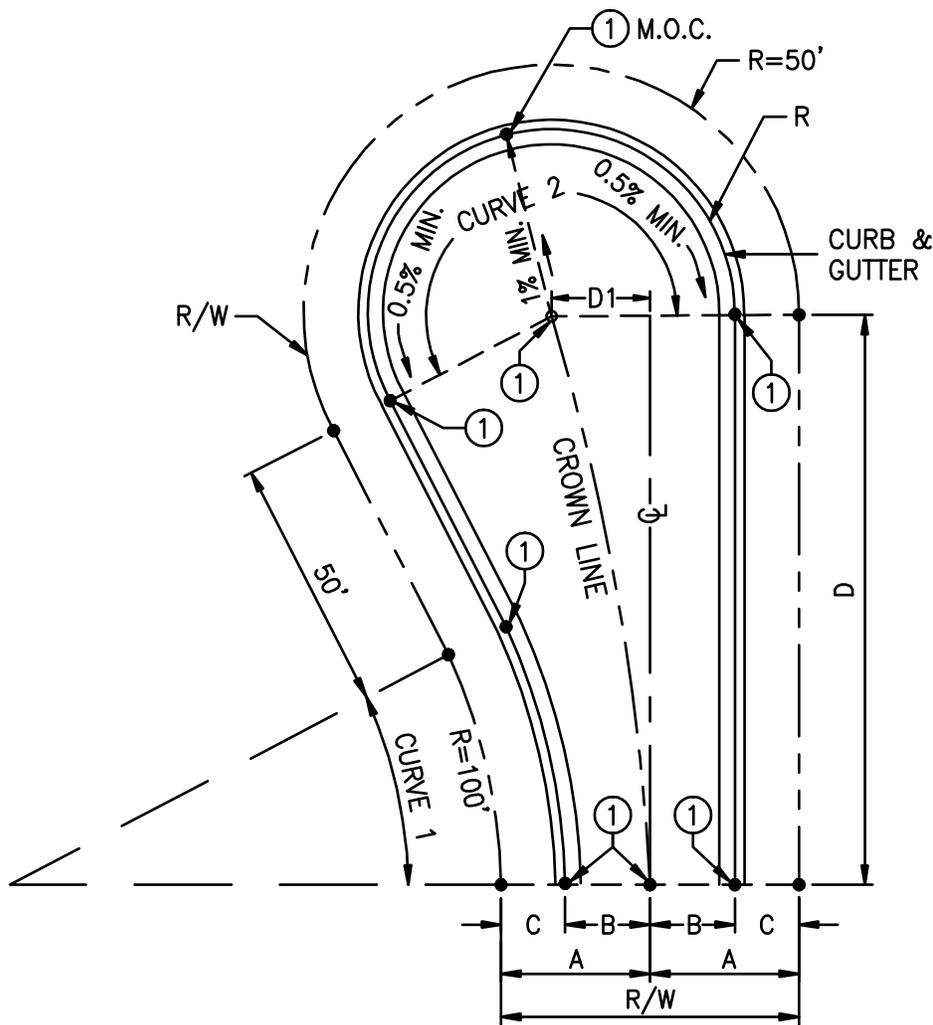
*Marcus Fuller* 11/25/14  
P.W. DIRECTOR/CITY ENGINEER DATE

REVISIONS			
DATE	BY	MARK	APPROVED

**CUL-DE-SAC  
LOCAL AND COLLECTOR**

**CITY OF RIALTO, CALIFORNIA  
PUBLIC WORKS DEPARTMENT  
ENGINEERING DIVISION**

**STANDARD NO. S-104 SHT 1 OF 1**



**NOTES:**

- ① ELEVATION REQUIRED IN PLAN VIEW WHERE NOTED.

LOCAL COLLECTOR STREET						CURVE 1				CURVE 2					
						Δ	CURB		PROPERTY		Δ	CURB		PROPERTY	
R/W	A	B	C	D	D1		R	L	R	L		R	L	R	L
60'	30'	18'	12'	69.22'	20'	27°28'55"	112'	53.72'	100'	47.97'	207°28'55"	38'	137.61'	50'	181.06'
64'	32'	20'	12'	64.41'	18'	25°25'41"	112'	49.71'	100'	44.38'	205°25'41"	38'	136.25'	50'	179.27'

NOT TO SCALE

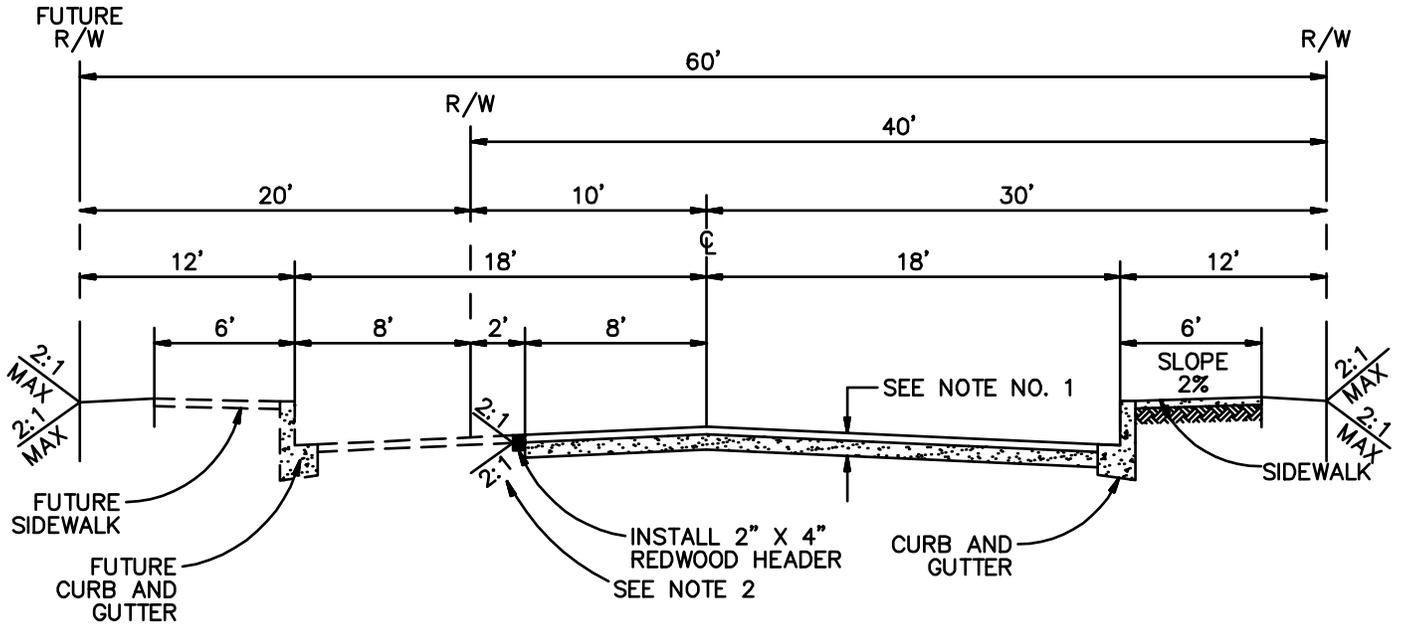
**APPROVED BY:**

*Marcus Fuller* 11/25/14  
P.W. DIRECTOR/CITY ENGINEER DATE

REVISIONS			
DATE	BY	MARK	APPROVED

**OFFSET  
CUL-DE-SAC  
LOCAL AND COLLECTOR**

**CITY OF RIALTO, CALIFORNIA  
PUBLIC WORKS DEPARTMENT  
ENGINEERING DIVISION**



**GENERAL NOTES:**

1. STRUCTURAL SECTION OF ROADWAY SHALL BE DETERMINED FROM SOILS TESTS AND SO INDICATED ON CONSTRUCTION PLANS PER STD. S-100.
2. CUT AND FILL SLOPES SHALL BE NO STEEPER THAN 2:1.
3. STREET SECTION SHALL CONFORM TO STANDARD NO. S-100.
4. TWO (2) TWELVE FOOT TRAVEL LANES SHALL BE PROVIDED.

NOT TO SCALE

**APPROVED BY:**

*Marcus Fuller* 11/25/14  
**P.W. DIRECTOR/CITY ENGINEER** **DATE**

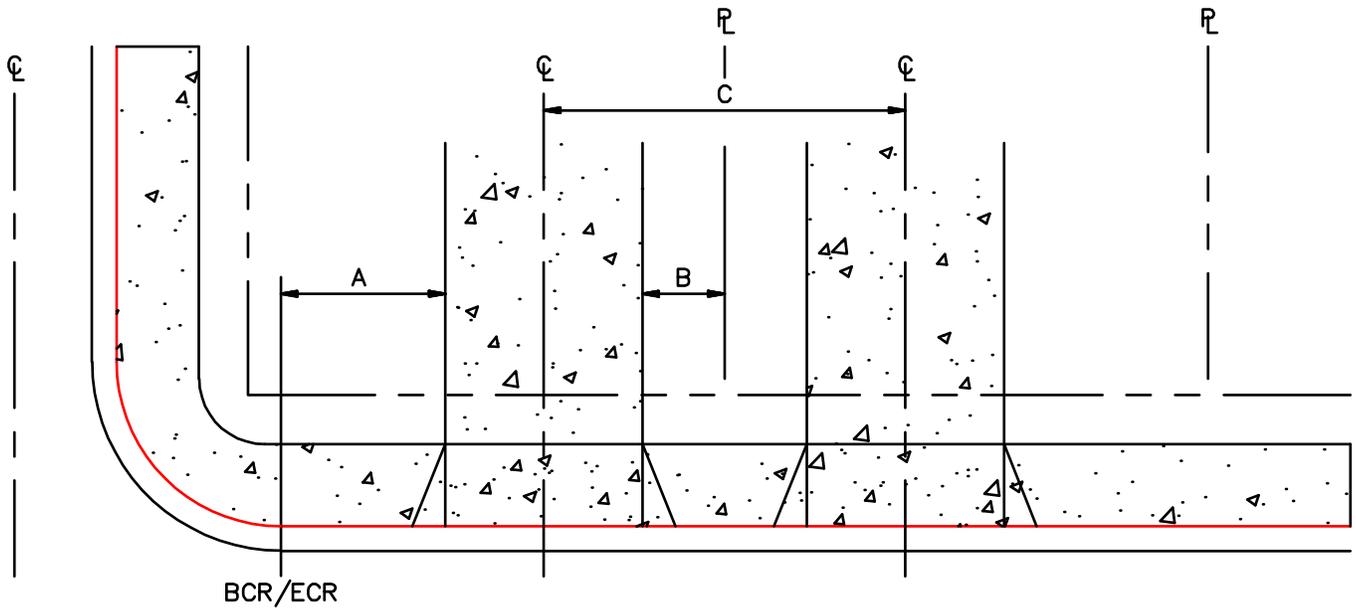
**HALF WIDTH  
STREET LOCAL**

REVISIONS			
DATE	BY	MARK	APPROVED

**CITY OF RIALTO, CALIFORNIA  
PUBLIC WORKS DEPARTMENT  
ENGINEERING DIVISION**

**STANDARD NO. S-106**

**SHT 1 OF 1**



STREET CLASS	A		B*		C	
	RES.	COMM.	RES.	COMM.	RES.	COMM.
MAJOR	50' MIN.	150' MIN.	5' MIN.	5' MIN.*	N/A	250' MIN.
SECONDARY	50' MIN.	150' MIN.	5' MIN.	5' MIN.*	N/A	250' MIN.
COLLECTOR (RESIDENTIAL/INDUSTRIAL)	50' MIN.	75' MIN.	5' MIN.	5' MIN.*	N/A	150' MIN.
LOCAL	35' MIN.	75' MIN.	5' MIN.	5' MIN.*	N/A	100' MIN.

\*MINIMUM DISTANCE IS 20 FEET BETWEEN RADIUS DRIVEWAYS.

1. SHARED DRIVEWAYS WITH ADJACENT PROPERTIES SHALL BE USED WHERE APPROPRIATE FOR THE PROPOSED SITE OR MASTER PLAN TO MEET REQUIREMENTS, OR WHERE LOCATED ON PROPERTY LINE.

NOT TO SCALE

**APPROVED BY:**

*Marcus Fuller* 11/25/14  
**P.W. DIRECTOR/CITY ENGINEER** **DATE**

**DRIVEWAY SPACING**

**REVISIONS**

DATE	BY	MARK	APPROVED

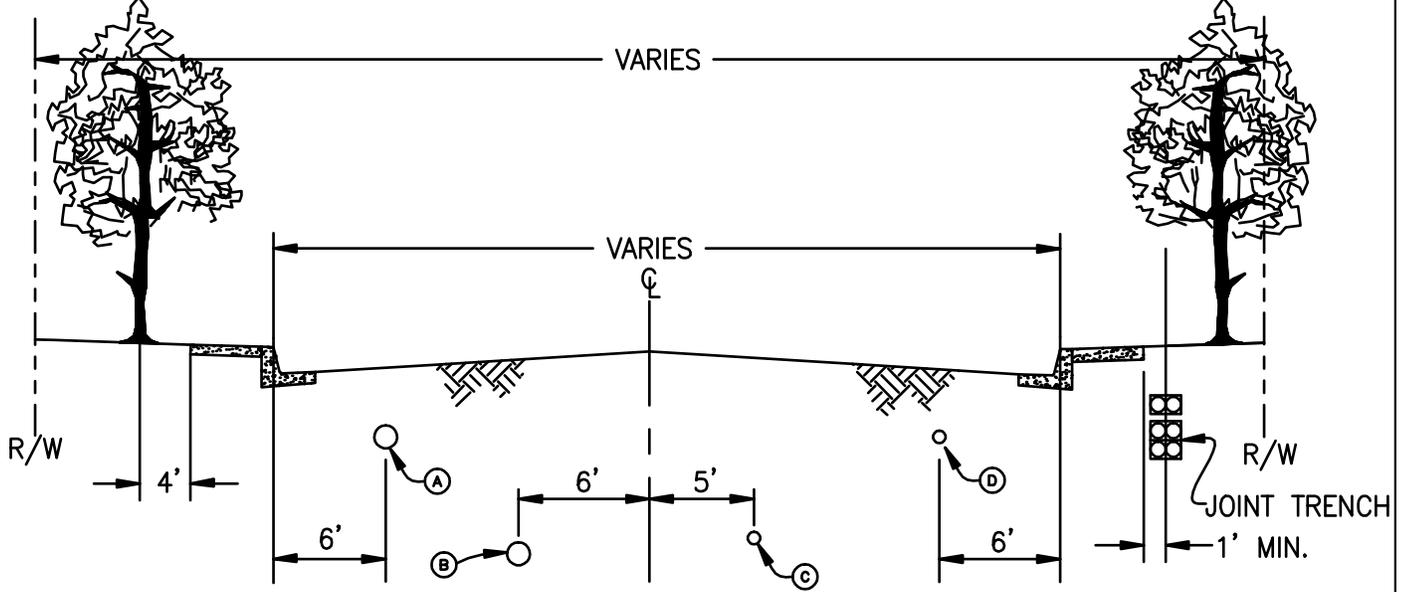
**CITY OF RIALTO, CALIFORNIA  
 PUBLIC WORKS DEPARTMENT  
 ENGINEERING DIVISION**

**STANDARD NO. S-107**

**SHT 1 OF 1**

SOUTH & WEST  
SIDE OF STREET

NORTH & EAST  
SIDE OF STREET

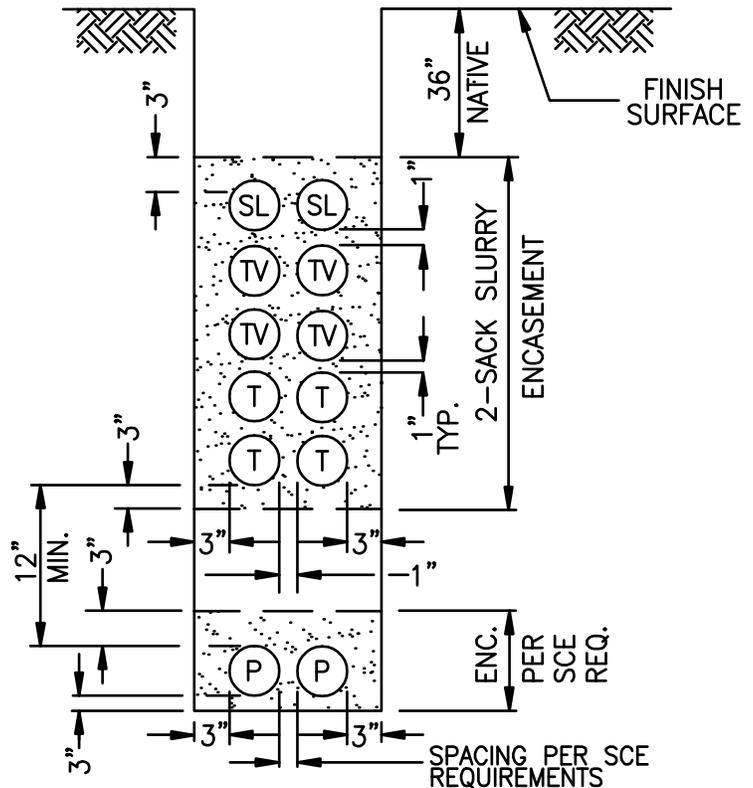


**UNDERGROUND UTILITY LOCATION**

UTILITY	MIN COVER
Ⓐ WATER	36"
Ⓑ STORM DRAIN	VARIES
Ⓒ SEWER	VARIES
Ⓓ GAS	30"
POWER	48"
TELEPHONE/CATV (T/TV)	36"
STREET LIGHT CONDUIT (SL)	48"

**RECOMMENDED UTILITY  
INSTALLATION SCHEDULE**

1. STORM DRAIN
2. SEWER
3. JOINT TRENCH UTILITIES
4. CURB & GUTTER
5. WATER
6. GAS
7. PAVING



**JOINT TRENCH SECTION**

NOT TO SCALE

**APPROVED BY:**

*Marcus Fuller* 11/25/14  
P.W. DIRECTOR/CITY ENGINEER DATE

**UNDERGROUND  
UTILITY LOCATIONS**

**CITY OF RIALTO, CALIFORNIA  
PUBLIC WORKS DEPARTMENT  
ENGINEERING DIVISION**

REVISIONS			
DATE	BY	MARK	APPROVED

**STANDARD NO. S-108**

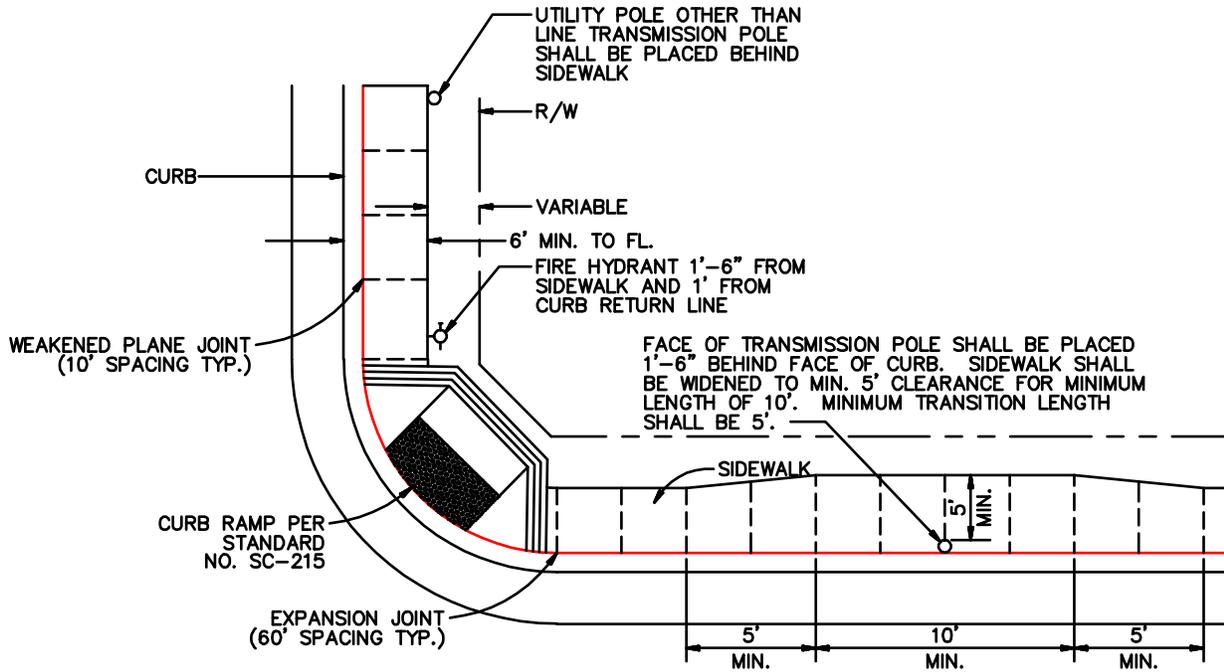
**SHT 1 OF 2**

GENERAL NOTES:

1. WHERE ULTIMATE STREET IMPROVEMENTS ARE TO BE CONSTRUCTED, MINIMUM COVER OVER UTILITIES MAY BE VARIED TO FACILITATE INSTALLATION UPON APPROVAL BY THE CITY ENGINEER.
2. THE UTILITY COMPANIES SHALL MAKE EVERY EFFORT TO LOCATE THEIR FACILITIES IN THE RECOMMENDED LOCATIONS, PARTICULARLY IN NEW SUBDIVISIONS.
3. THE CENTER 24' OF THE STREET SHALL BE RESERVED FOR SEWER AND STORM DRAIN INSTALLATION.
4. SURFACE OF VAULTS OR MANHOLES MUST MATCH PAVEMENT AND PARKWAY GRADES.
5. REPAIR OF TRENCHES AND REPLACEMENT OF PAVED SURFACE IN EXISTING CITY ROADS SHALL BE IN ACCORDANCE WITH CURRENT SPECIFICATIONS FOR TRENCH REPAIR PER STANDARD NO. SC-231.
6. WHENEVER POSSIBLE, MANHOLE COVERS SHALL NOT BE PLACED WITHIN THE SIDEWALKS.
7. MAINTAIN MINIMUM 10' OF SEPARATION BETWEEN OUTSIDE WALLS OF WATER AND SEWER PIPES.

NOT TO SCALE

<b>APPROVED BY:</b>				<b>UNDERGROUND UTILITY LOCATIONS</b>	
<i>Marcus Fuller</i>		11/25/14			
<b>P.W. DIRECTOR/CITY ENGINEER</b>		<b>DATE</b>		<b>CITY OF RIALTO, CALIFORNIA PUBLIC WORKS DEPARTMENT ENGINEERING DIVISION</b>	
<b>REVISIONS</b>					
<b>DATE</b>	<b>BY</b>	<b>MARK</b>	<b>APPROVED</b>		
<b>STANDARD NO. S-108</b>				<b>SHT 2 OF 2</b>	



NOT TO SCALE

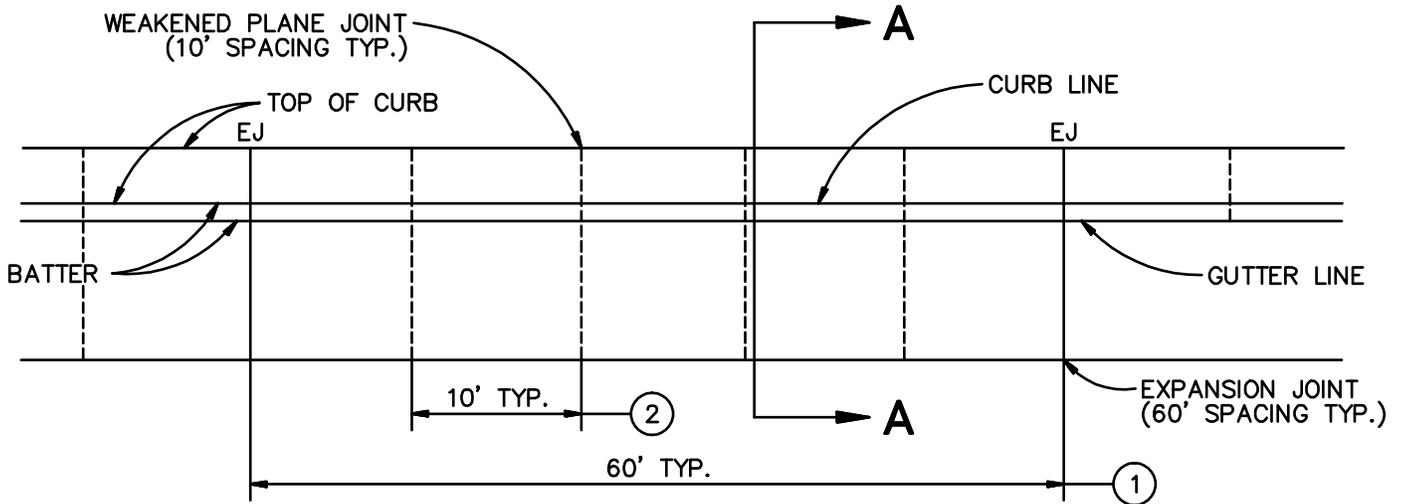
**APPROVED BY:**  
*Manus Fuller* 11/25/14  
 P.W. DIRECTOR/CITY ENGINEER DATE

**FIRE HYDRANT  
 AND UTILITY  
 POLE LOCATION**

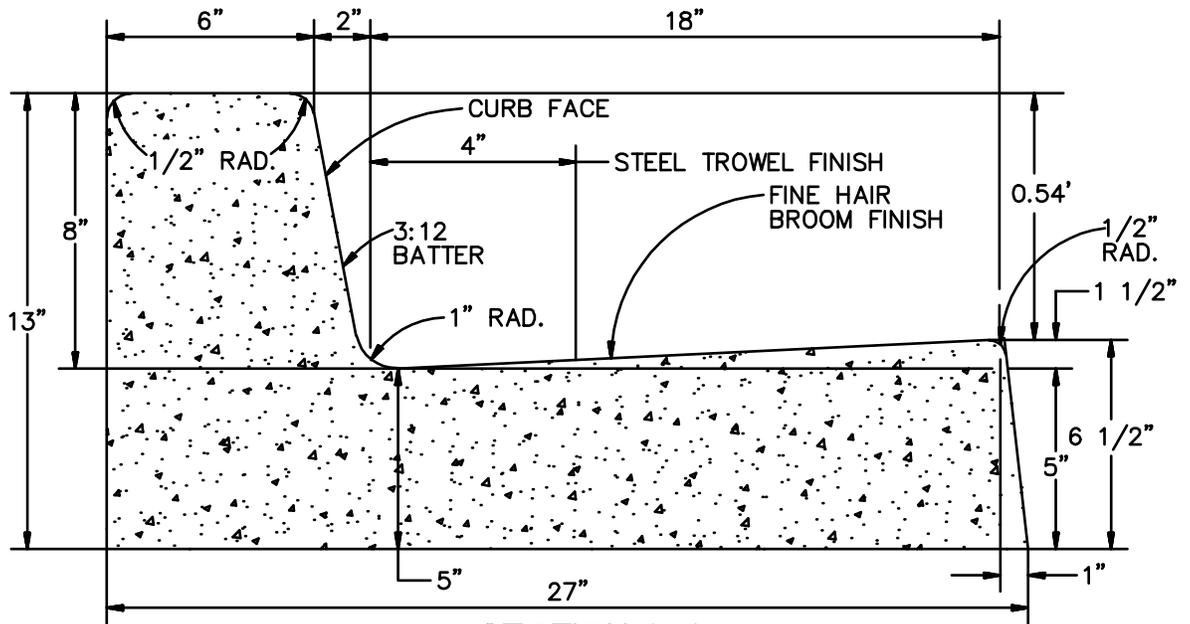
REVISIONS			
DATE	BY	MARK	APPROVED

**CITY OF RIALTO, CALIFORNIA  
 PUBLIC WORKS DEPARTMENT  
 ENGINEERING DIVISION**

# STREET CONSTRUCTION



**TYPICAL PLAN**



**SECTION A-A**

**NOTES:**

- ① 1/2" EXPANSION JOINT AT BEGINNING AND END OF CURB RETURN AND AT 60' INTERVALS, PER STANDARD NO. SC-209.
- ② 3/16" WEAKENED PLANE JOINT EVERY 10' PER STANDARD NO. SC-209.

**GENERAL NOTES:**

- 1. ALL CONCRETE SHALL BE CLASS 520-C-2500.
- 2. FOR ALL CURB REPAIRS, REMOVE CURB AND GUTTER TO NEXT WEAKENED PLANE OR EXPANSION JOINT, IF LESS THAN 5'.

NOT TO SCALE

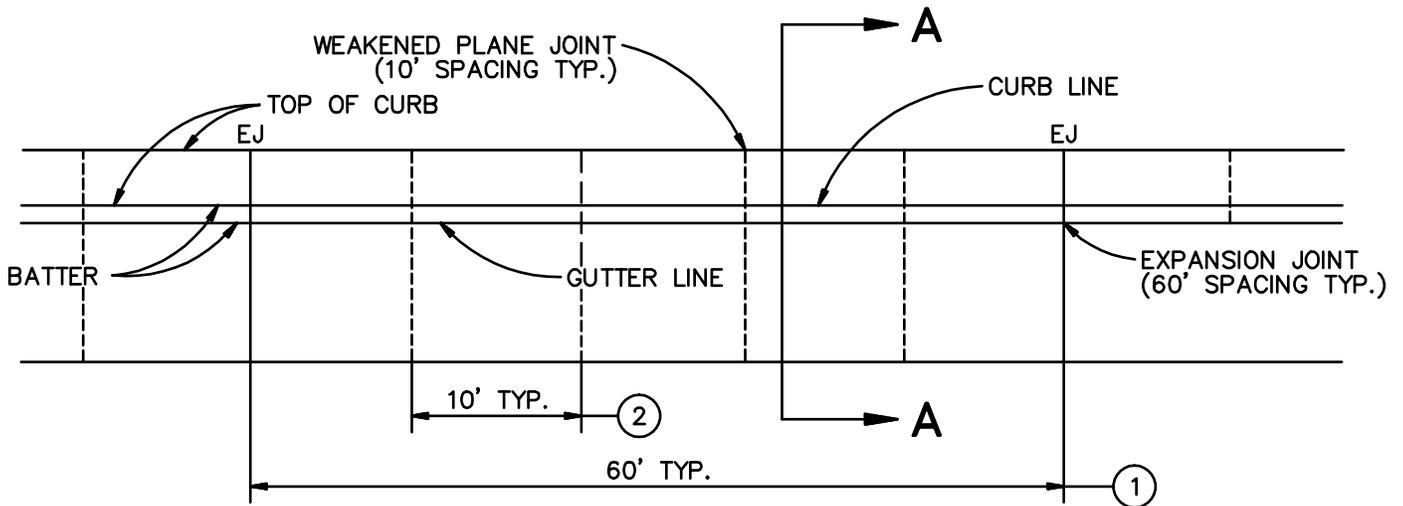
**APPROVED BY:**

*Marius Fuller* 11/25/14  
**P.W. DIRECTOR/CITY ENGINEER** **DATE**

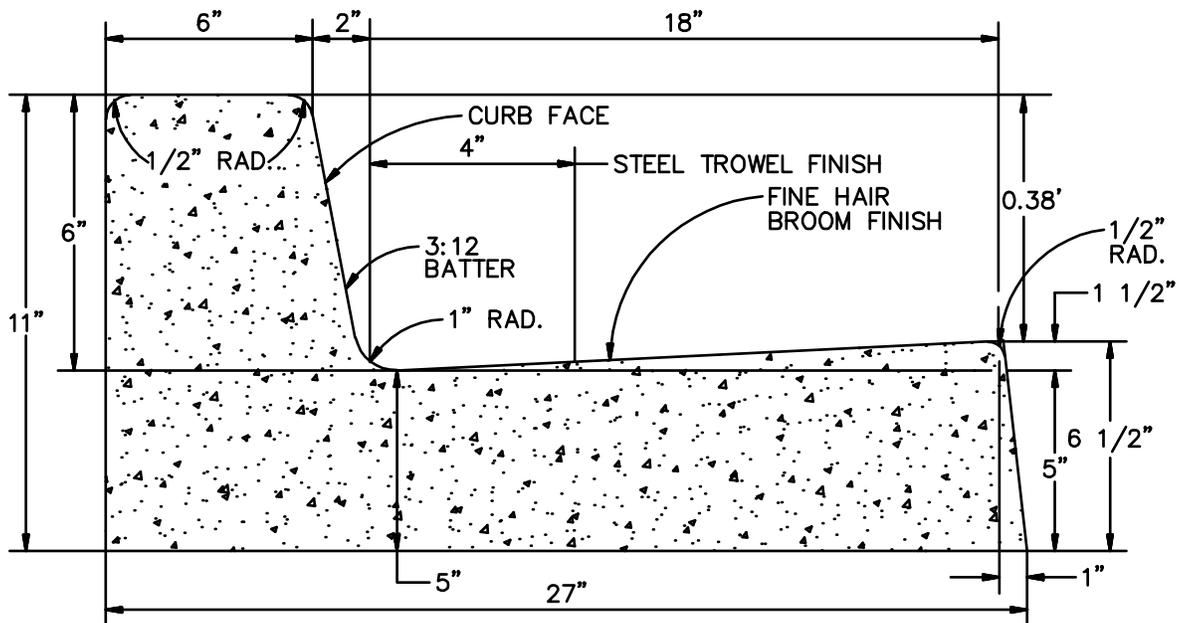
**8" CURB AND GUTTER**

REVISIONS			
DATE	BY	MARK	APPROVED

**CITY OF RIALTO, CALIFORNIA  
 PUBLIC WORKS DEPARTMENT  
 ENGINEERING DIVISION**



**PLAN**



**SECTION A-A**

**NOTES:**

- ① 1/2" EXPANSION JOINT AT BEGINNING AND END OF CURB RETURN AND AT 60' INTERVALS, PER STANDARD NO. SC-209.
- ② 3/16" WEAKENED PLANE JOINT EVERY 10' PER STANDARD NO. SC-209.

**GENERAL NOTES:**

- 1. 6" CURB AND GUTTER SHALL NOT BE USED FOR PUBLIC STREETS.
- 2. ALL CONCRETE SHALL BE CLASS 520-C-2500.
- 3. FOR ALL CURB REPAIRS, REMOVE CURB AND GUTTER TO NEXT WEAKENED PLANE OR EXPANSION JOINT, IF LESS THAN 5'.

NOT TO SCALE

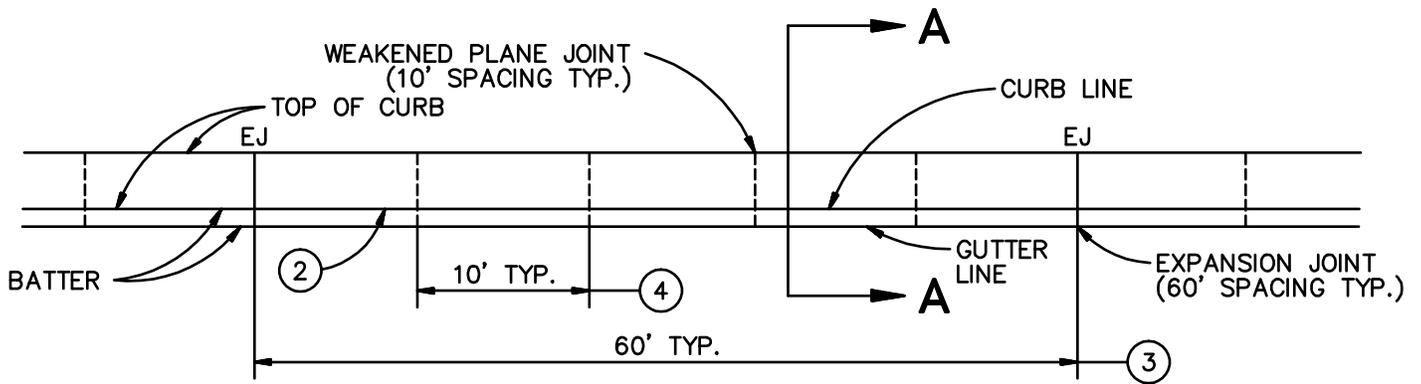
**APPROVED BY:**

*Marcus Fuller* 11/25/14  
P.W. DIRECTOR/CITY ENGINEER DATE

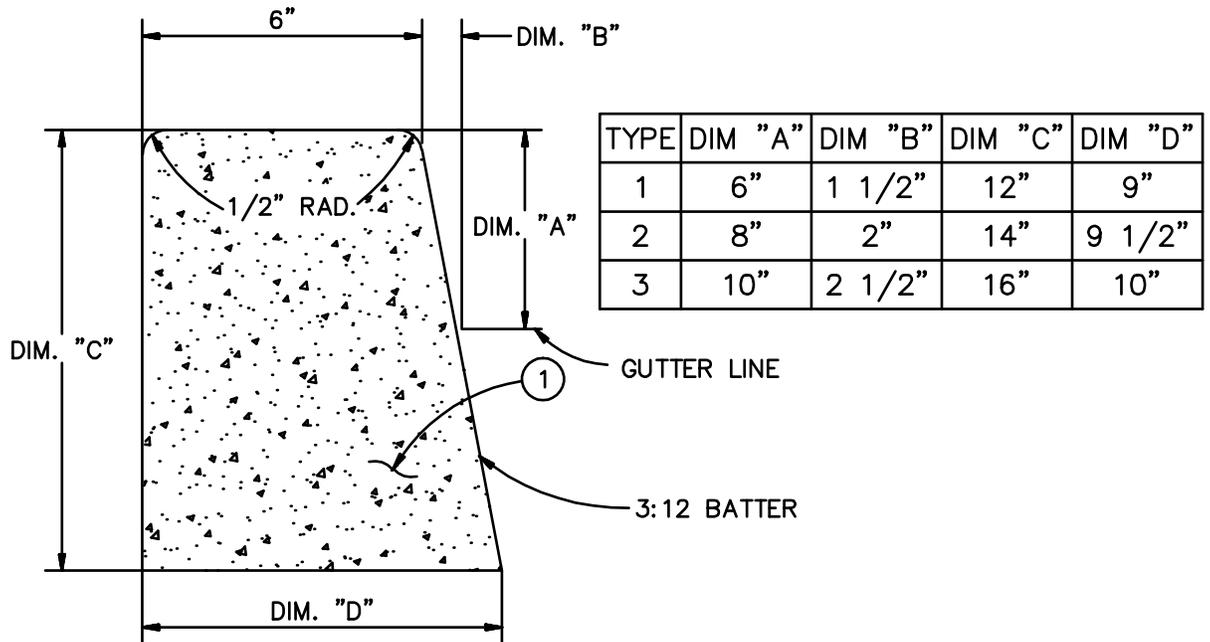
**6" CURB AND GUTTER  
(PRIVATE ONLY)**

REVISIONS			
DATE	BY	MARK	APPROVED

**CITY OF RIALTO, CALIFORNIA  
PUBLIC WORKS DEPARTMENT  
ENGINEERING DIVISION**



**TYPICAL PLAN**



**SECTION A-A**

**NOTES:**

- ① ALL CONCRETE SHALL BE CLASS 520-C-2500.
- ② WIDTHS SHOWN ON PLANS ARE TO CURB FACE UNLESS OTHERWISE INDICATED.
- ③ 1/2" EXPANSION JOINT AT BEGINNING AND END OF CURB RETURN AND AT 60' INTERVALS, PER STANDARD NO. SC-209.
- ④ 3/16" WEAKENED PLANE JOINT EVERY 10' INTERVALS, PER STANDARD NO. SC-209.

NOT TO SCALE

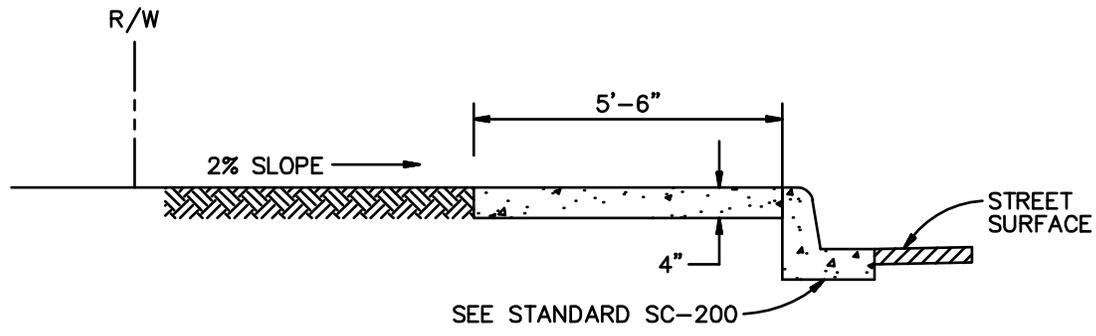
**APPROVED BY:**

*Marcus Fuller* 11/25/14  
**P.W. DIRECTOR/CITY ENGINEER** **DATE**

**CURB ONLY**

REVISIONS			
DATE	BY	MARK	APPROVED

**CITY OF RIALTO, CALIFORNIA  
 PUBLIC WORKS DEPARTMENT  
 ENGINEERING DIVISION**

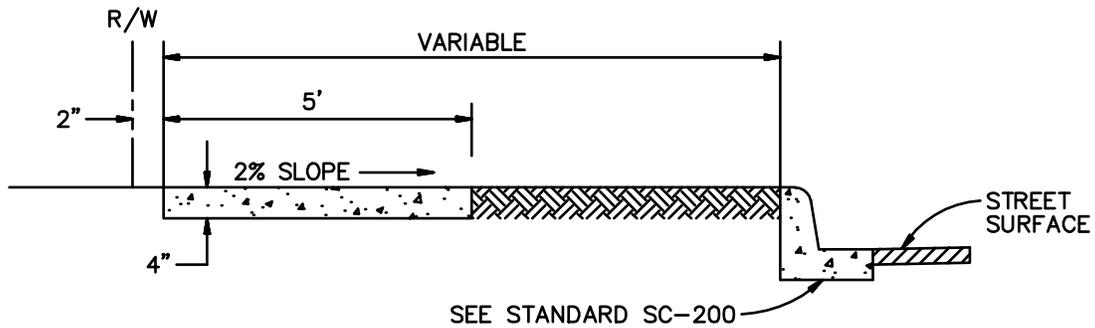


**GENERAL NOTES:**

1. ALL SIDEWALK AREA SHALL BE CLASS 520-C-2500 CONCRETE.
2. THE SUBGRADE SHALL BE FREE OF UNSUITABLE MATERIAL. ALL EXCESS DIRT TO BE REMOVED FROM PREMISES BY CONTRACTOR.
3. SUBGRADE SHALL BE SCARIFIED AND COMPACTED TO A MINIMUM DEPTH OF 12 INCHES. 90% MINIMUM COMPACTION IS REQUIRED BEHIND THE CURB AND IN PARKWAY AREA.
4. PARKWAY AREA TO BE BROUGHT TO GRADE BY CONTRACTOR BEFORE FINAL APPROVAL.
5. LIGHT BROOM FINISH-PERPENDICULAR TO CURB.
6. ALL SURFACES SHALL BE FREE OF HUMPS, SAGS, AND IRREGULARITIES. UNIFORM SURFACES SHALL NOT VARY MORE THAN .01 FOOT WHEN MEASURED WITH A 10 FOOT STRAIGHT EDGE.
7. ALL SIDEWALKS AND CURB AND GUTTERS SHALL HAVE WEAKENED PLANE JOINTS SPACED AT 10 FEET MAXIMUM INTERVALS AND SCORE LINE EVERY 5 FEET ON SIDEWALKS.
8. EXPANSION JOINTS SHALL BE PLACED AT 60 FEET MAXIMUM INTERVALS.
9. WEAKENED PLANE JOINTS AND EXPANSION JOINTS SHALL CONFORM TO STANDARD NUMBER SC-209.
10. CONCRETE REPAIRS SHALL BE MADE BY SAW CUTTING AND REMOVING THE ENTIRE UNIT BETWEEN WEAKENED PLANE JOINTS.
11. SIDEWALKS IN DRIVEWAYS OR ALLEYS SHALL BE 6" THICK.

NOT TO SCALE

	<p><b>APPROVED BY:</b></p> <p><i>Marcus Fuller</i>      11/25/14</p> <p><b>P.W. DIRECTOR/CITY ENGINEER</b>      <b>DATE</b></p>	<p><b>SIDEWALK (CURB ADJACENT)</b></p>			
	<p><b>REVISIONS</b></p>	<p><b>CITY OF RIALTO, CALIFORNIA PUBLIC WORKS DEPARTMENT ENGINEERING DIVISION</b></p>			
<p><b>DATE</b></p>	<p><b>BY</b></p>			<p><b>MARK</b></p>	<p><b>APPROVED</b></p>
		<p><b>STANDARD NO. SC-203</b></p>	<p><b>SHT 1 OF 1</b></p>		

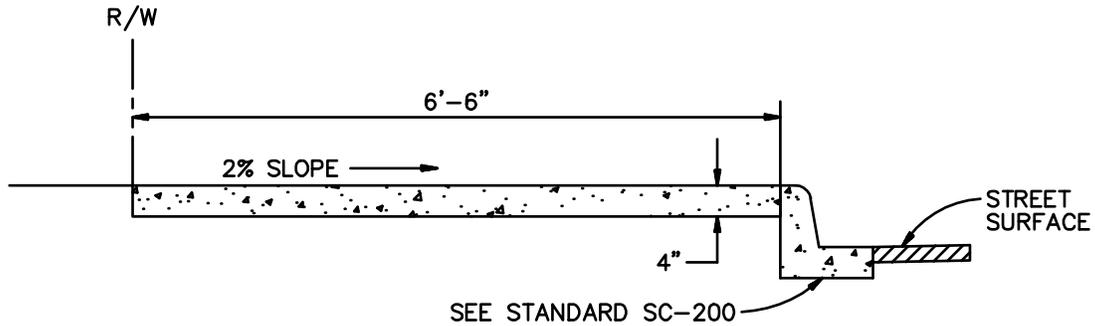


**GENERAL NOTES:**

1. ALL SIDEWALK AREA SHALL BE CLASS 520-C-2500 CONCRETE.
2. THE SUBGRADE SHALL BE FREE OF UNSUITABLE MATERIAL. ALL EXCESS DIRT TO BE REMOVED FROM PREMISES BY CONTRACTOR.
3. SUBGRADE SHALL BE SCARIFIED AND COMPACTED TO A MINIMUM DEPTH OF 12 INCHES. 90% MINIMUM COMPACTION IS REQUIRED BEHIND THE CURB AND IN PARKWAY AREA.
4. PARKWAY AREA TO BE BROUGHT TO GRADE BY CONTRACTOR BEFORE FINAL APPROVAL.
5. LIGHT BROOM FINISH—PERPENDICULAR TO CURB.
6. ALL SURFACES SHALL BE FREE OF HUMPS, SAGS, AND IRREGULARITIES. UNIFORM SURFACES SHALL NOT VARY MORE THAN .01 FOOT WHEN MEASURED WITH A 10 FOOT STRAIGHT EDGE.
7. ALL SIDEWALKS AND CURB AND GUTTERS SHALL HAVE WEAKENED PLANE JOINTS SPACED AT 10 FEET MAXIMUM INTERVALS AND SCORE LINE EVERY 5 FEET ON SIDEWALKS.
8. EXPANSION JOINTS SHALL BE PLACED AT 60 FEET MAXIMUM INTERVALS.
9. WEAKENED PLANE JOINTS AND EXPANSION JOINTS SHALL CONFORM TO STANDARD NUMBER SC-209.
10. CONCRETE REPAIRS SHALL BE MADE BY SAW CUTTING AND REMOVING THE ENTIRE UNIT BETWEEN WEAKENED PLANE JOINTS.
11. SIDEWALKS IN DRIVEWAYS OR ALLEYS SHALL BE 6" THICK.

NOT TO SCALE

	<p><b>APPROVED BY:</b></p> <p><i>Marcus Fuller</i>      11/25/14  P.W. DIRECTOR/CITY ENGINEER      DATE</p>	<p><b>SIDEWALK (PROPERTY LINE)</b></p>																	
	<p><b>REVISIONS</b></p>	<p><b>CITY OF RIALTO, CALIFORNIA PUBLIC WORKS DEPARTMENT ENGINEERING DIVISION</b></p>																	
	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 15%;">DATE</th> <th style="width: 15%;">BY</th> <th style="width: 15%;">MARK</th> <th style="width: 55%;">APPROVED</th> </tr> </thead> <tbody> <tr> <td> </td> <td> </td> <td> </td> <td> </td> </tr> <tr> <td> </td> <td> </td> <td> </td> <td> </td> </tr> <tr> <td> </td> <td> </td> <td> </td> <td> </td> </tr> </tbody> </table>			DATE	BY	MARK	APPROVED												
DATE	BY			MARK	APPROVED														
		<p><b>STANDARD NO. SC-204</b></p>	<p><b>SHT 1 OF 1</b></p>																

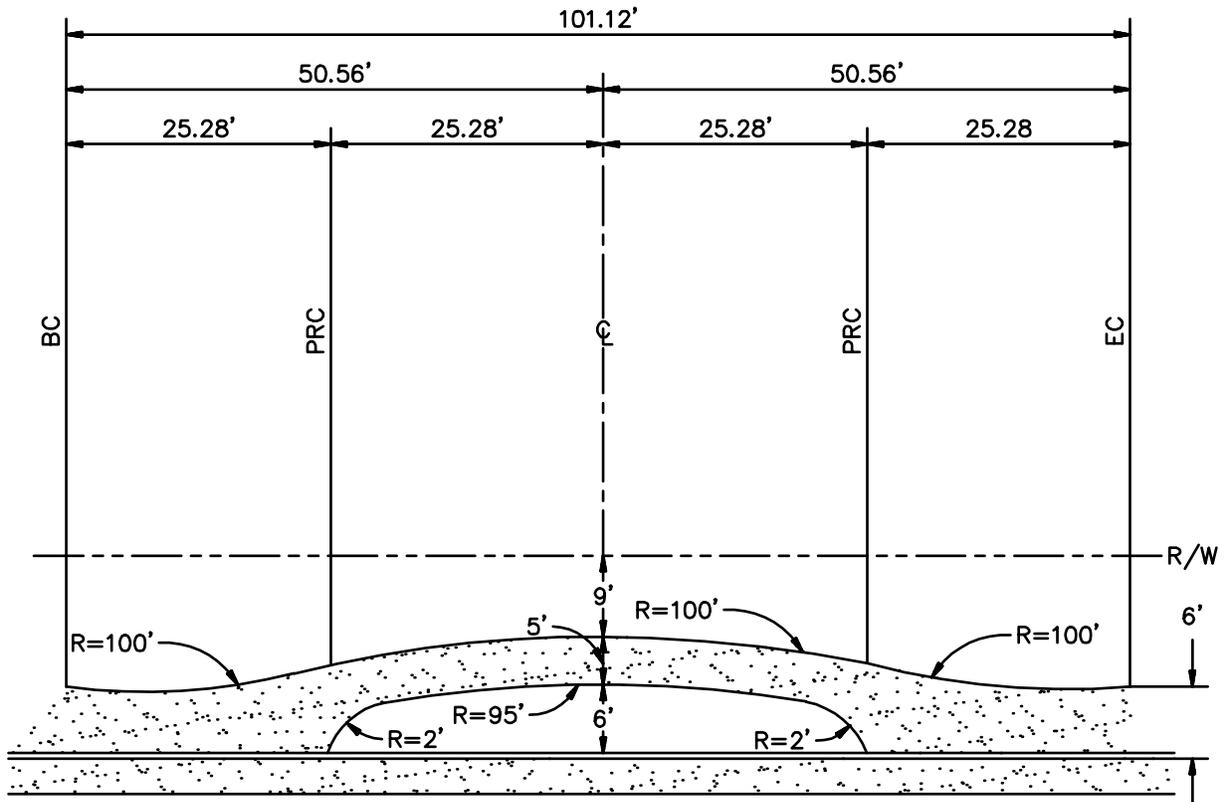


**GENERAL NOTES:**

1. ALL SIDEWALKS SHALL BE 4" THICK; CLASS 520-C-2500 CONCRETE.
2. THE SUBGRADE SHALL BE FREE OF UNSUITABLE MATERIAL. ALL EXCESS DIRT TO BE REMOVED FROM PREMISES BY CONTRACTOR.
3. SUBGRADE SHALL BE SCARIFIED AND COMPACTED TO A MINIMUM DEPTH OF 12 INCHES. 90% MINIMUM COMPACTION IS REQUIRED BEHIND THE CURB AND IN PARKWAY AREA.
4. PARKWAY AREA TO BE BROUGHT TO GRADE BY CONTRACTOR BEFORE FINAL APPROVAL.
5. LIGHT BROOM FINISH-PERPENDICULAR TO CURB.
6. ALL SURFACES SHALL BE FREE OF HUMPS, SAGS, AND IRREGULARITIES. UNIFORM SURFACES SHALL NOT VARY MORE THAN .01 FOOT WHEN MEASURED WITH A 10 FOOT STRAIGHT EDGE.
7. ALL SIDEWALKS AND CURB AND GUTTERS SHALL HAVE WEAKENED PLANE JOINTS SPACED AT 10 FEET MAXIMUM INTERVALS AND SCORE LINE EVERY 5 FEET ON SIDEWALKS.
8. EXPANSION JOINTS SHALL BE PLACED AT 60 FEET MAXIMUM INTERVALS.
9. WEAKENED PLANE JOINTS AND EXPANSION JOINTS SHALL CONFORM TO STANDARD NUMBER SC-209.
10. CONCRETE REPAIRS SHALL BE MADE BY SAW CUTTING AND REMOVING THE ENTIRE UNIT BETWEEN WEAKENED PLANE JOINTS.
11. SIDEWALKS IN DRIVEWAYS OR ALLEYS SHALL BE 6" THICK MIN.

NOT TO SCALE

<b>APPROVED BY:</b>				<b>SIDEWALK (FOOTHILL BLVD.)</b>	
<i>Marvin Fuller</i>		11/25/14			
P.W. DIRECTOR/CITY ENGINEER		DATE		<b>CITY OF RIALTO, CALIFORNIA PUBLIC WORKS DEPARTMENT ENGINEERING DIVISION</b>	
<b>REVISIONS</b>					
<b>DATE</b>	<b>BY</b>	<b>MARK</b>	<b>APPROVED</b>		
<b>STANDARD NO. SC-205</b>				<b>SHT 1 OF 1</b>	



**GENERAL NOTES:**

1. ALL SIDEWALKS SHALL BE 4" THICK MIN.; CLASS 520-C-2500 CONCRETE.
2. THE SUBGRADE SHALL BE FREE OF UNSUITABLE MATERIAL. ALL EXCESS DIRT TO BE REMOVED FROM PREMISES BY CONTRACTOR.
3. SUBGRADE SHALL BE SCARIFIED AND COMPACTED TO A MINIMUM DEPTH OF 12 INCHES. 90% MINIMUM COMPACTION IS REQUIRED BEHIND THE CURB AND IN PARKWAY AREA.
4. PARKWAY AREA TO BE BROUGHT TO GRADE BY CONTRACTOR BEFORE FINAL APPROVAL.
5. LIGHT BROOM FINISH—PERPENDICULAR TO CURB.
6. ALL SURFACES SHALL BE FREE OF HUMPS, SAGS, AND IRREGULARITIES. UNIFORM SURFACES SHALL NOT VARY MORE THAN .01 FOOT WHEN MEASURED WITH A 10 FOOT STRAIGHT EDGE.
7. ALL SIDEWALKS AND CURB AND GUTTERS SHALL HAVE WEAKENED PLANE JOINTS SPACED AT 10 FEET MAXIMUM INTERVALS AND SCORE LINE EVERY 5 FEET ON SIDEWALKS.
8. EXPANSION JOINTS SHALL BE PLACED AT 60 FEET MAXIMUM INTERVALS.
9. WEAKENED PLANE JOINTS AND EXPANSION JOINTS SHALL CONFORM TO STANDARD NUMBER SC-209.
10. CONCRETE REPAIRS SHALL BE MADE BY SAW CUTTING AND REMOVING THE ENTIRE UNIT BETWEEN WEAKENED PLANE JOINTS.
11. SIDEWALK IN DRIVEWAYS OR ALLEYS SHALL BE 6" THICK.

NOT TO SCALE

**APPROVED BY:**

*Marcus Fuller* 11/25/14  
P.W. DIRECTOR/CITY ENGINEER DATE

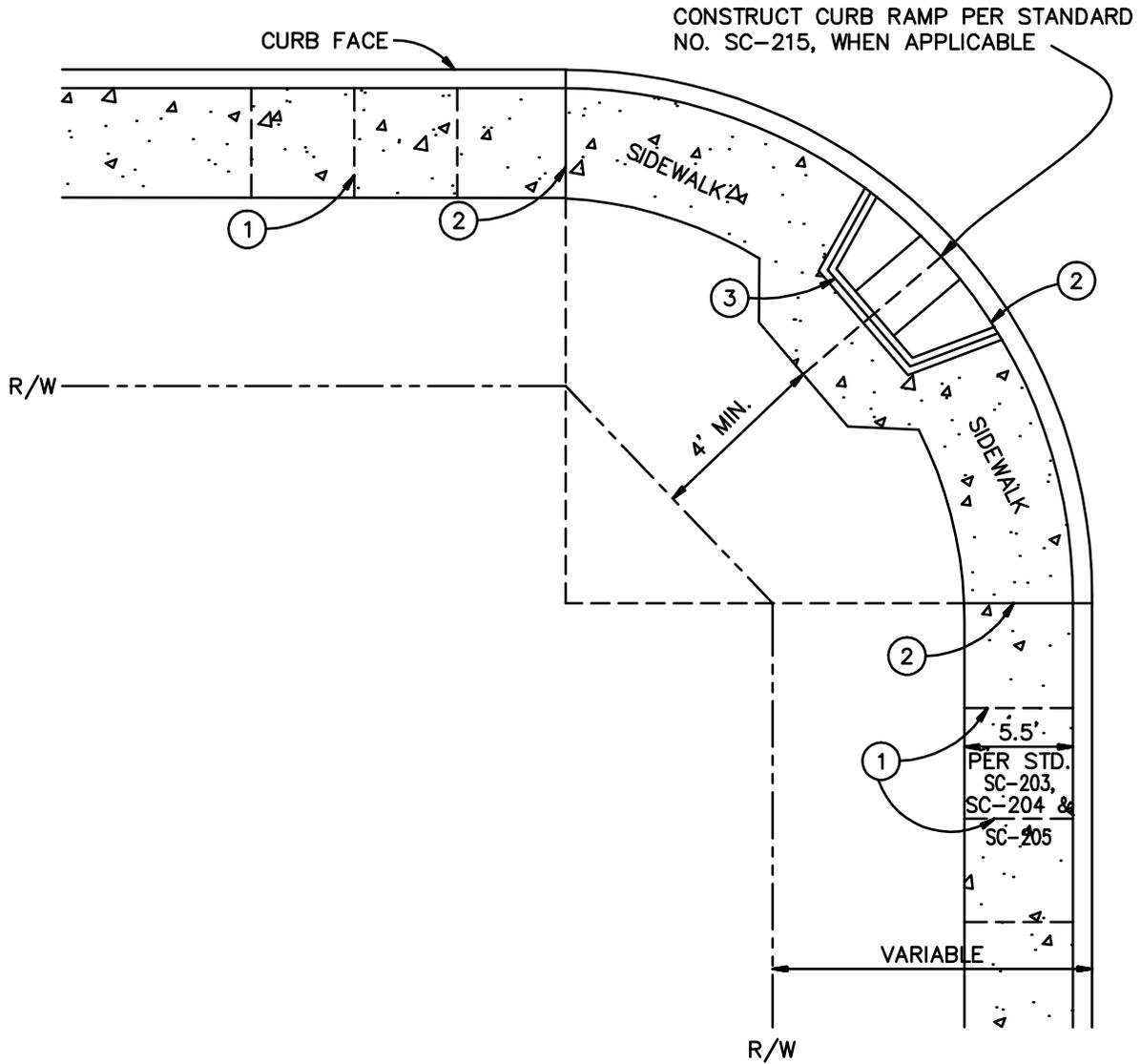
**MEANDERING SIDEWALK**

REVISIONS			
DATE	BY	MARK	APPROVED

**CITY OF RIALTO, CALIFORNIA  
PUBLIC WORKS DEPARTMENT  
ENGINEERING DIVISION**

**STANDARD NO. SC-208**

**SHT 1 OF 1**



**NOTES:**

- ① WEAKENED PLANE JOINT EVERY 10' AND SCORE LINE EVERY 5' PER STANDARD NO. SC-209.
- ② 1/2" EXPANSION JOINT PER STANDARD NO. SC-209.
- ③ CURB RAMP PER CITY STANDARD NO. SC-215.

**GENERAL NOTES:**

- 1. ALL CONCRETE SHALL BE CLASS 520-C-2500.

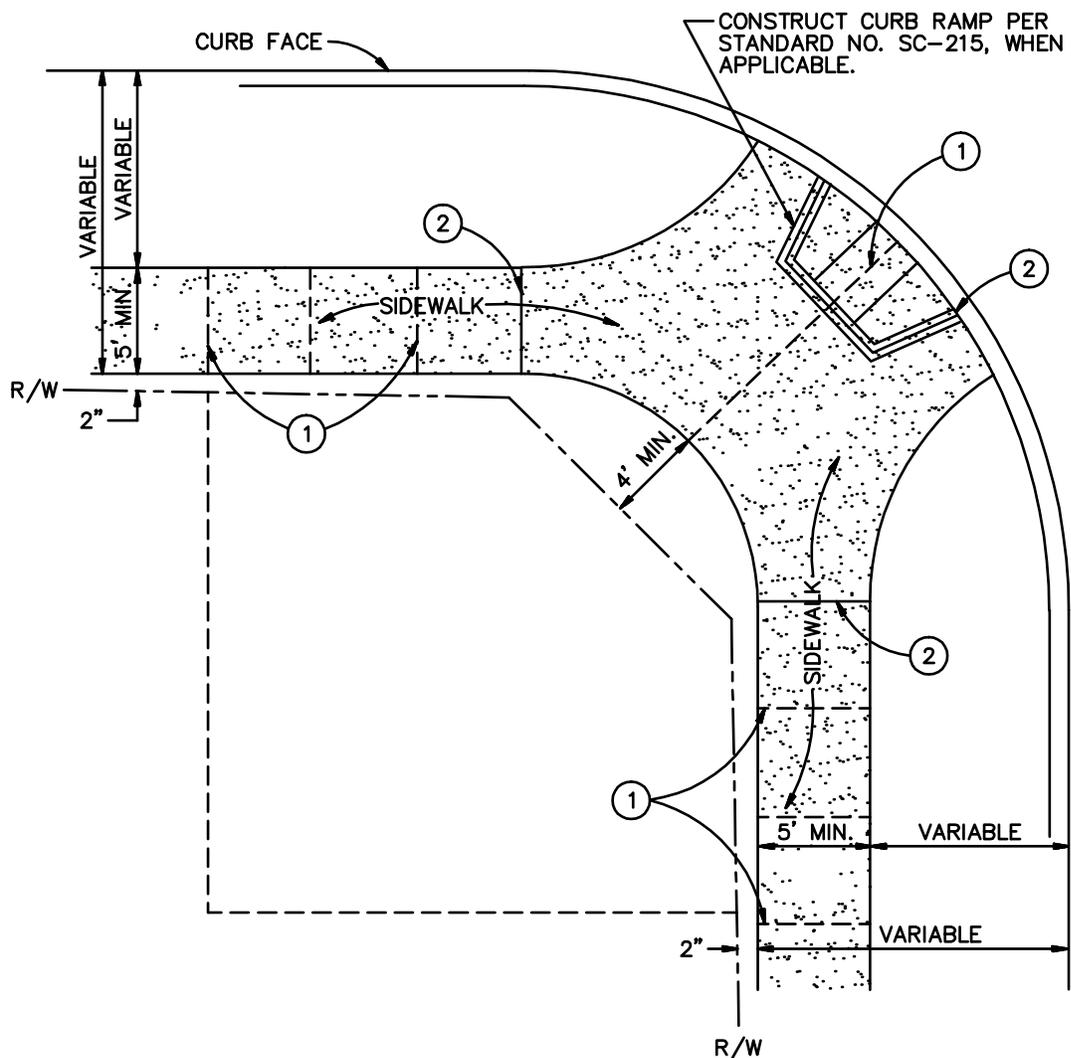
NOT TO SCALE

**APPROVED BY:**  
*Marcus Fuller* 11/25/14  
 P.W. DIRECTOR/CITY ENGINEER DATE

REVISIONS			
DATE	BY	MARK	APPROVED

**CURB ADJACENT  
 SIDEWALK INTERSECTION**

**CITY OF RIALTO, CALIFORNIA  
 PUBLIC WORKS DEPARTMENT  
 ENGINEERING DIVISION**



**NOTES:**

- ① WEAKENED PLANE JOINT EVERY 10' PER STANDARD NO. SC-209 AND SCORE LINE EVERY 5'.
- ② 1/2" EXPANSION JOINT PER STANDARD NO. SC-209.

**GENERAL NOTES:**

- 1. ALL CONCRETE SHALL BE CLASS 520-C-2500.

NOT TO SCALE

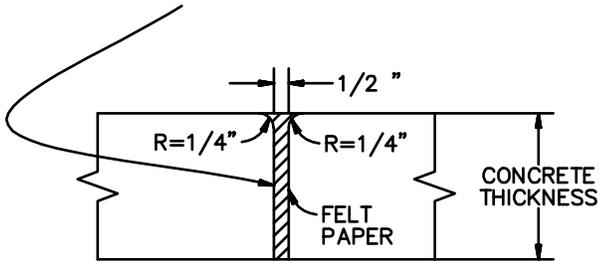
**APPROVED BY:**  
*Marcus Fuller* 11/25/14  
 P.W. DIRECTOR/CITY ENGINEER DATE

**PROPERTY LINE  
 ADJACENT SIDEWALK  
 INTERSECTION**

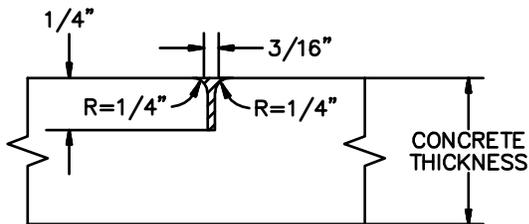
REVISIONS			
DATE	BY	MARK	APPROVED

**CITY OF RIALTO, CALIFORNIA  
 PUBLIC WORKS DEPARTMENT  
 ENGINEERING DIVISION**

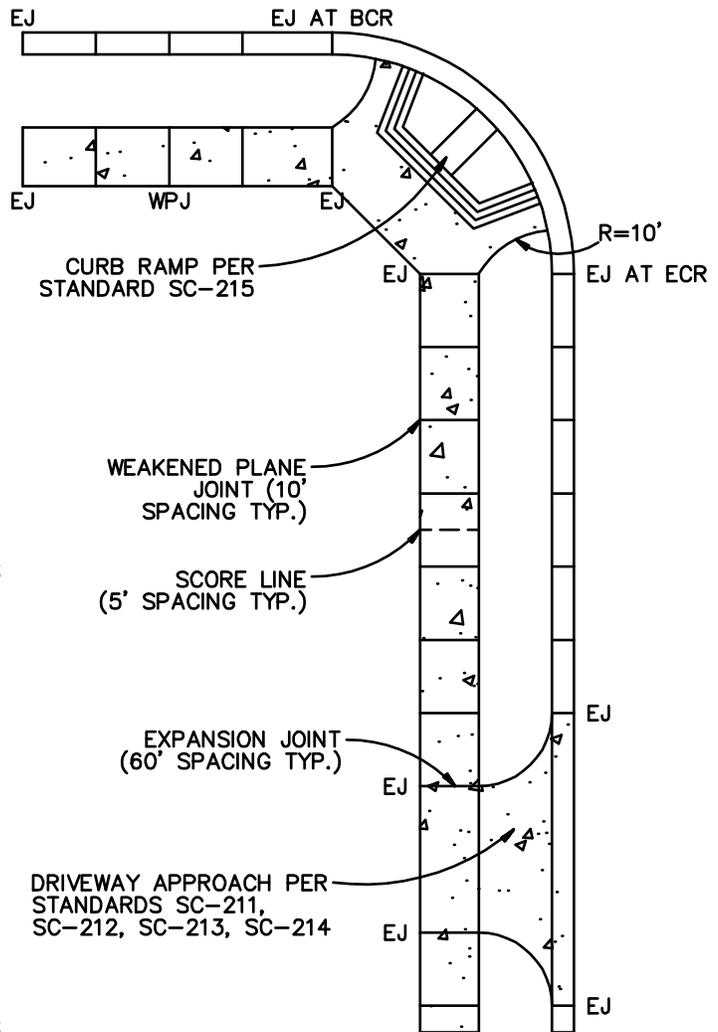
PRE-MOLDED JOINT FILLERS 1/2" OR 1" THICK OR 1" EXPANSION JOINT TO BE FILLED WITH NON-SHRINK CAULK AND GLAZE COMPOUND OR EQUAL AS APPROVED BY CITY ENGINEER.



EXPANSION JOINT (EP)  
SPACING: 60' INTERVALS,  
AND AT ALL B.C.'S, E.C.'S, DRIVEWAYS,  
CURB RETURNS AND STRUCTURES.



WEAKENED PLANE JOINT (WPJ)  
SPACING: 10' INTERVALS;  
MAY BE VARIED TO ALLOW MATCHING  
OF JOINTS IN ADJACENT EXISTING  
IMPROVEMENTS.



NOT TO SCALE

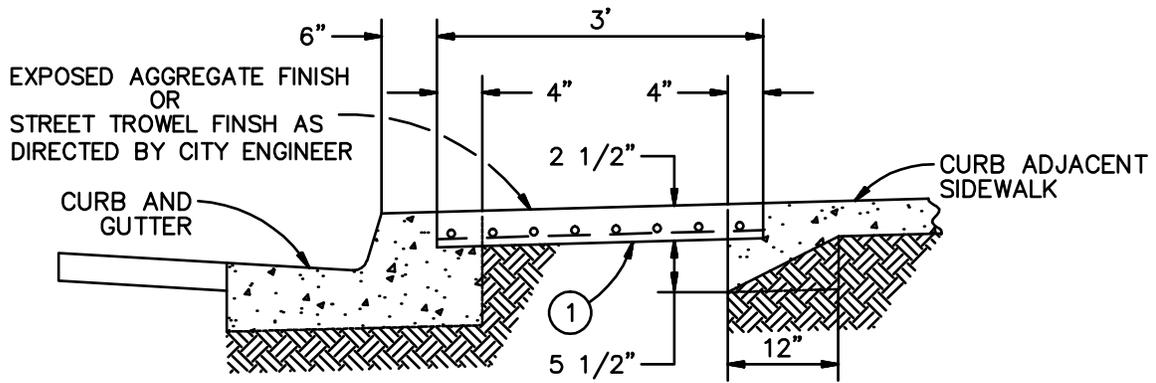
**APPROVED BY:**

*Marissa Fuller* 11/25/14  
P.W. DIRECTOR/CITY ENGINEER DATE

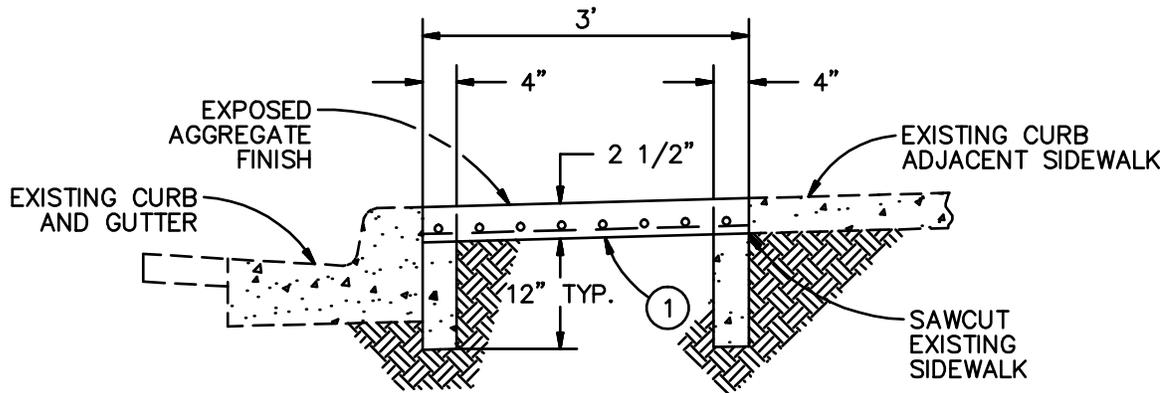
**EXPANSION AND  
WEAKENED  
PLANE JOINT**

**CITY OF RIALTO, CALIFORNIA  
PUBLIC WORKS DEPARTMENT  
ENGINEERING DIVISION**

REVISIONS			
DATE	BY	MARK	APPROVED



**SECTION A-A**  
**NEW CURB, GUTTER AND SIDEWALK**



**SECTION A-A**  
**EXISTING CURB, GUTTER AND SIDEWALK**

NOTES:

- ① ALL COVERS SHALL BE CLASS 560-C-3250.

GENERAL NOTES:

- 1. COVERS MAY BE CAST IN PLACE.

NOT TO SCALE

**APPROVED BY:**

*Marius Fuller* 11/25/14  
P.W. DIRECTOR/CITY ENGINEER DATE

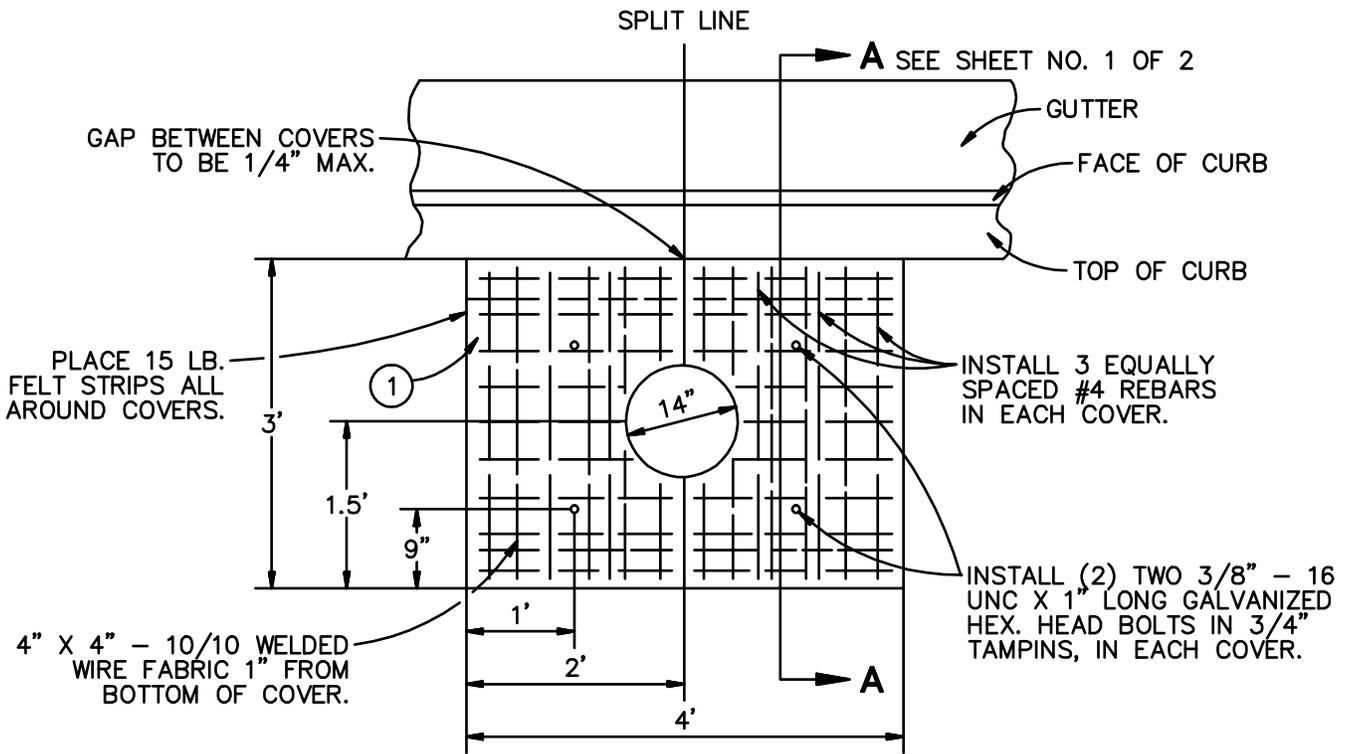
**TREE WELL  
AND COVERS**

REVISIONS			
DATE	BY	MARK	APPROVED

**CITY OF RIALTO, CALIFORNIA  
PUBLIC WORKS DEPARTMENT  
ENGINEERING DIVISION**

**STANDARD NO. SC-210**

**SHT 1 OF 2**



**PLAN**

NOTES:

- ① ALL COVERS SHALL BE CLASS 560-C-3250.

GENERAL NOTES:

- 1. COVERS MAY BE CAST IN PLACE.

NOT TO SCALE

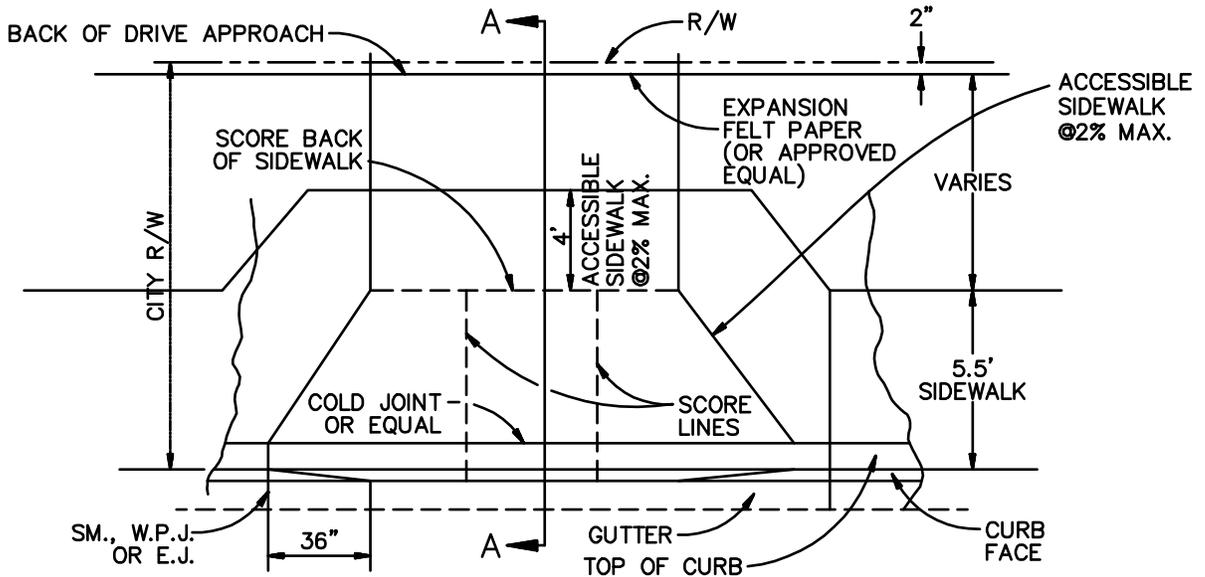
**APPROVED BY:**

*Marcus Fuller* 11/25/14  
 P.W. DIRECTOR/CITY ENGINEER DATE

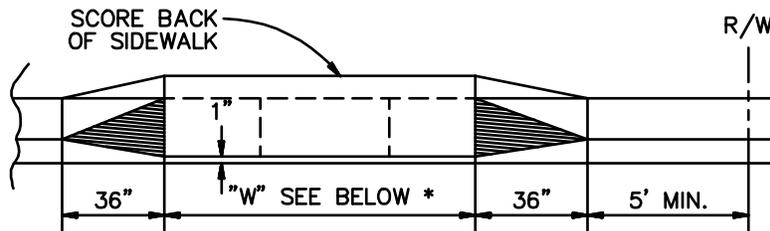
**TREE WELL  
AND COVERS**

**CITY OF RIALTO, CALIFORNIA  
PUBLIC WORKS DEPARTMENT  
ENGINEERING DIVISION**

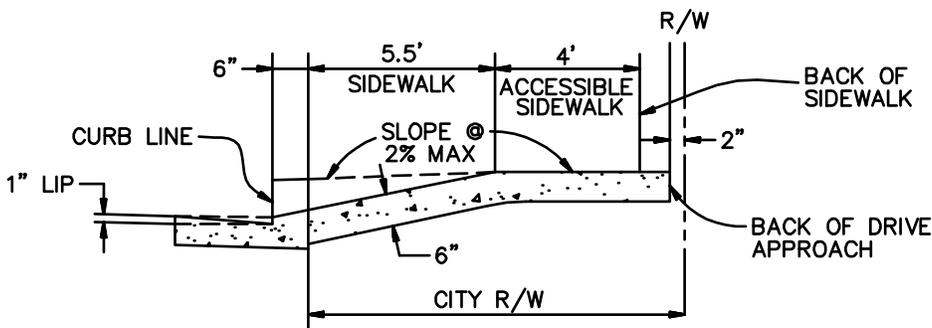
REVISIONS			
DATE	BY	MARK	APPROVED



**PLAN VIEW**



**ELEVATION**



**DRIVEWAY WIDTH (W)**

- \* 26' MAX. FOR 3-CAR GARAGE IF MIN. OF 25' OF FULL HEIGHT CURB AVAILABLE BETWEEN DRIVEWAYS.
- \* 20' MAX. FOR TWO CAR GARAGE.
- \* 10' MINIMUM.

**SECTION A-A**

**GENERAL NOTES:**

1. ALL CONCRETE IN DRIVEWAY APPROACH SHALL BE CLASS 520-C-2500.
2. ALL CONCRETE IN DRIVEWAY APPROACH SHALL BE 6" THICK INCLUDING SIDEWALK.
3. CURB AND SIDEWALK REPAIRS SHALL BE REMOVED BY SAW CUTTING, OR IF WITHIN 5', REMOVED TO A WEAKENED PLANE OR EXPANSION JOINT.

NOT TO SCALE

**APPROVED BY:**

*Manus Fuller* 11/25/14  
**P.W. DIRECTOR/CITY ENGINEER** **DATE**

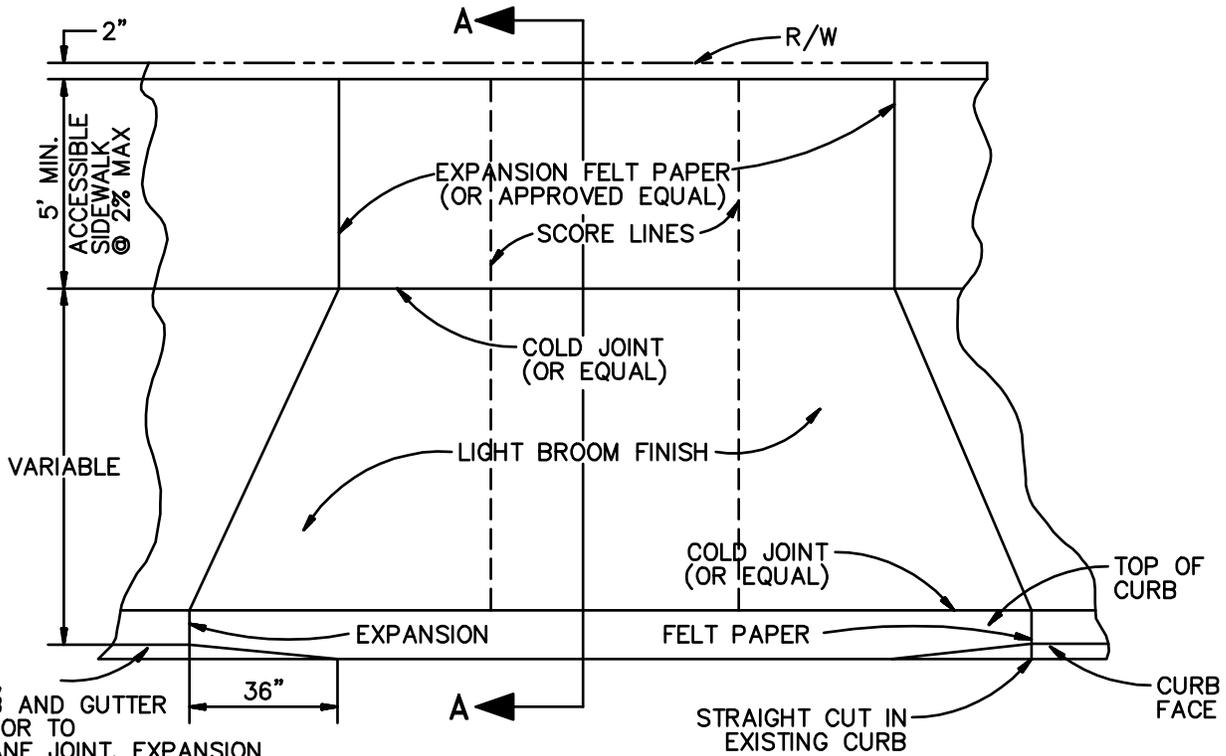
**DRIVEWAY APPROACH  
 (RESIDENTIAL CURB SIDEWALK)**

REVISIONS			
DATE	BY	MARK	APPROVED

**CITY OF RIALTO, CALIFORNIA  
 PUBLIC WORKS DEPARTMENT  
 ENGINEERING DIVISION**

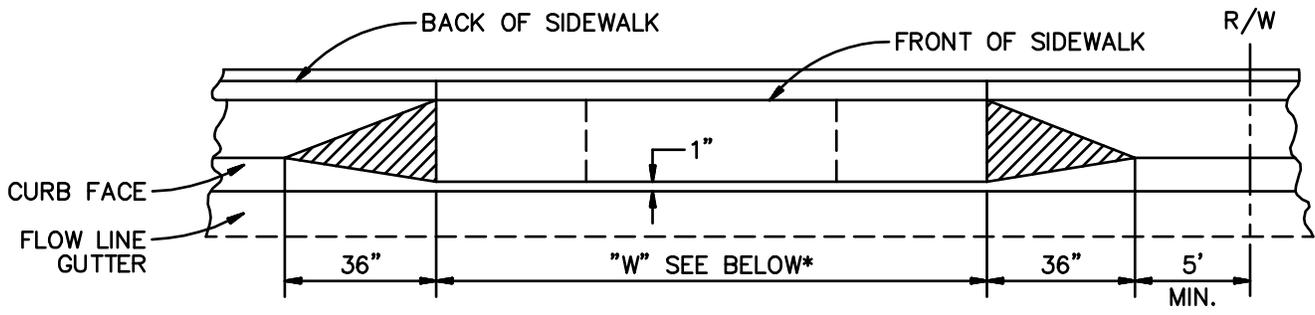
**STANDARD NO. SC-211**

**SHT 1 OF 1**

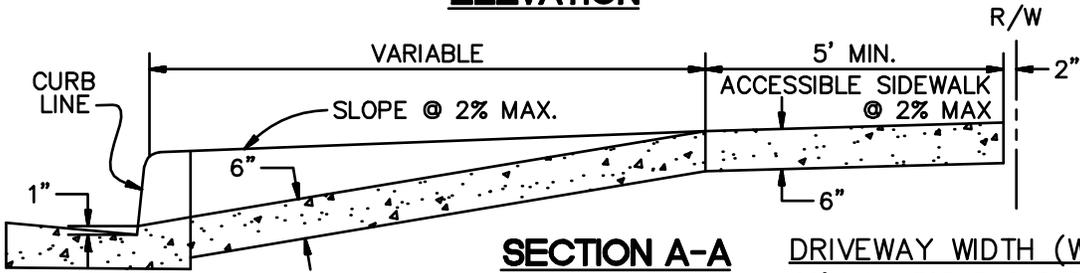


REPAIR WORK, REMOVE CURB AND GUTTER BY SAW CUT OR TO WEAKENED PANE JOINT, EXPANSION JOINT OR SCORE MARK.

**PLAN VIEW**



**ELEVATION**



**SECTION A-A**

**DRIVEWAY WIDTH (W)**

- \* 26' MAX. FOR 3-CAR GARAGE IF MIN. OF 25' OF FULL HEIGHT CURB AVAILABLE BETWEEN DRIVEWAYS.
- \* 20' MAX. FOR TWO CAR GARAGE.
- \* 10' MINIMUM.

NOT TO SCALE

**GENERAL NOTES:**

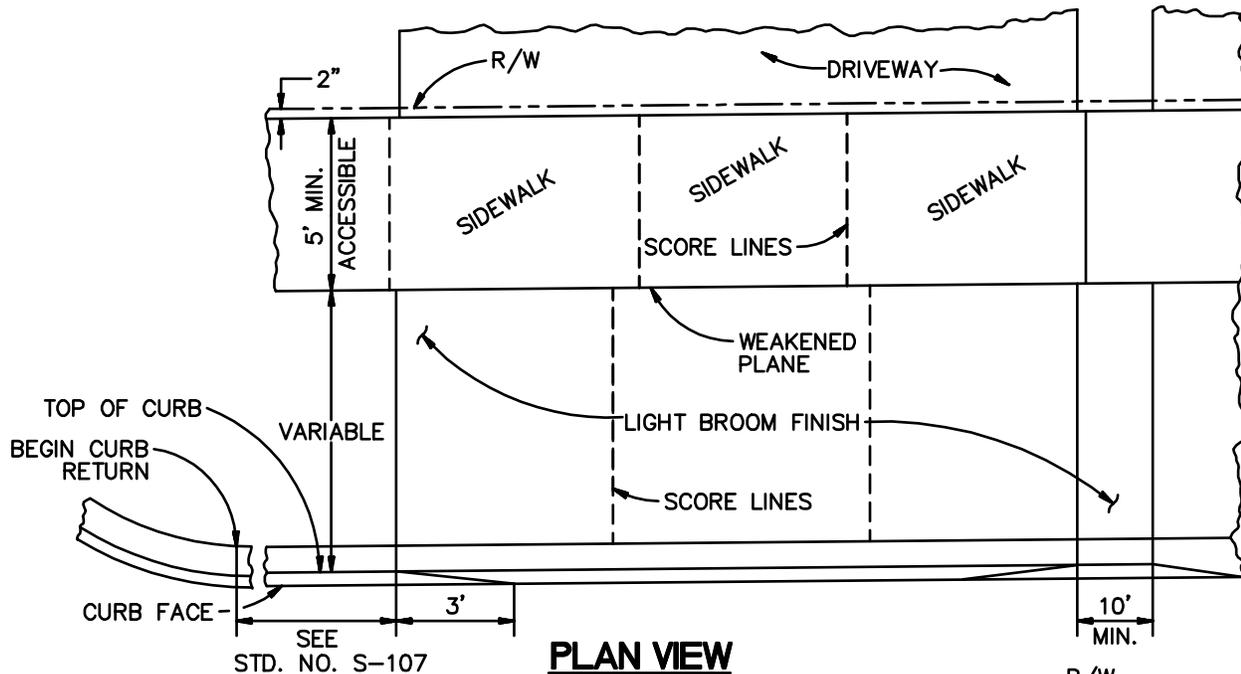
1. ALL CONCRETE IN DRIVEWAY APPROACH IS CLASS 520-C-2500.
2. ALL CONCRETE IS 6" THICK, INCLUDING SIDEWALK.

**APPROVED BY:**  
*Marius Fuller* 11/25/14  
 P.W. DIRECTOR/CITY ENGINEER DATE

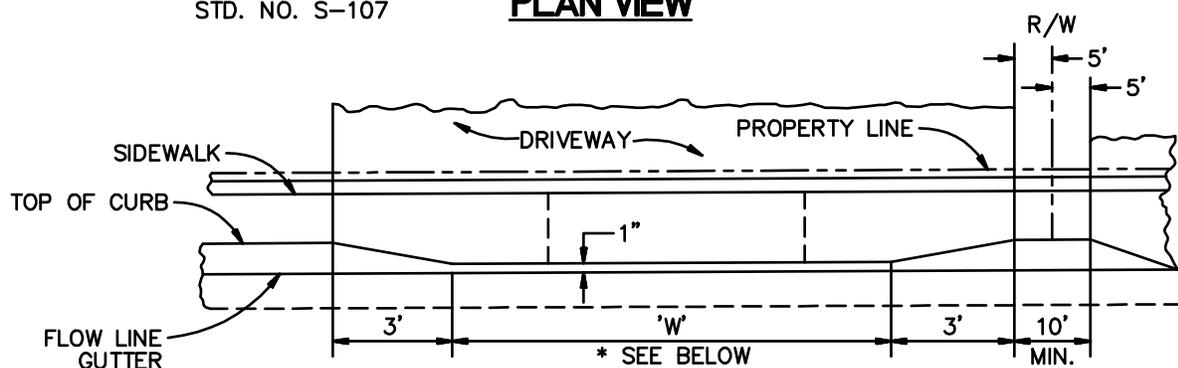
**DRIVEWAY APPROACH  
 (RESIDENTIAL - PROPERTY LINE)  
 SIDEWALK**

REVISIONS			
DATE	BY	MARK	APPROVED

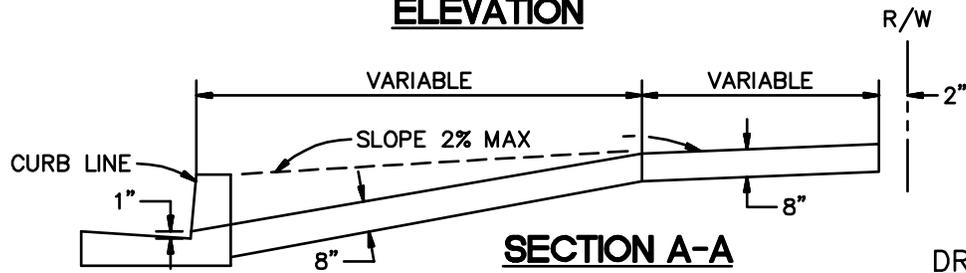
**CITY OF RIALTO, CALIFORNIA  
 PUBLIC WORKS DEPARTMENT  
 ENGINEERING DIVISION**



**PLAN VIEW**



**ELEVATION**



**SECTION A-A**

DRIVEWAY WIDTH (W)

**GENERAL NOTES:**

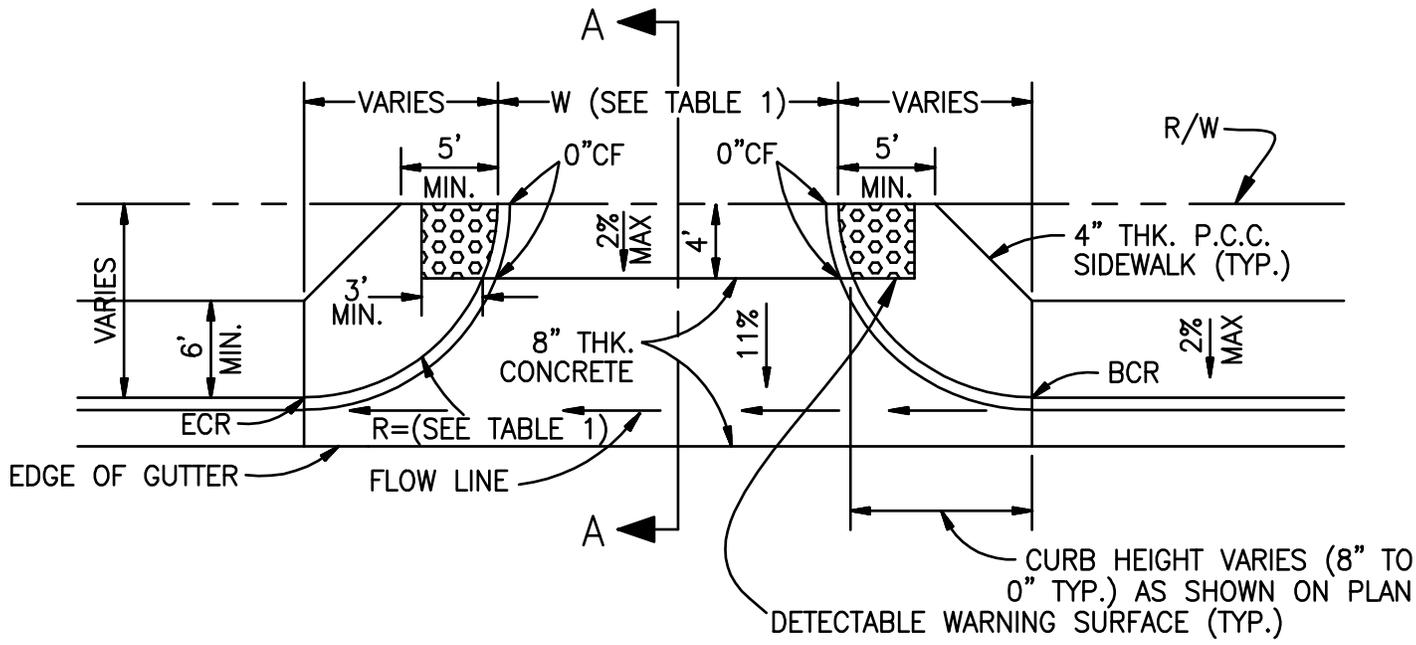
1. ALL DRIVEWAY APPROACH SHALL BE CLASS 520-C-2500 CONCRETE.
  2. ALL CONCRETE IN DRIVING AREA IS 8" THICK.
  3. IF EXISTING SIDEWALK IN BACK OF DRIVE APPROACH IS LESS THAN 6", IT SHALL BE REPLACED WITH 8".
  4. 20' OF FULL HEIGHT CURB SHALL BE PROVIDED BETWEEN ALL APPROACHES ON SAME PROPERTY.
- \* 13' MIN. ONE WAY ENTRANCE.  
 \* 20' MIN. TWO WAY ENTRANCE.  
 \* 36' MAXIMUM.
- NOT TO SCALE

**APPROVED BY:**  
*Marina Fuller* 11/25/14  
 P.W. DIRECTOR/CITY ENGINEER DATE

**DRIVEWAY APPROACH  
(COMMERCIAL)**

REVISIONS			
DATE	BY	MARK	APPROVED

**CITY OF RIALTO, CALIFORNIA  
PUBLIC WORKS DEPARTMENT  
ENGINEERING DIVISION**



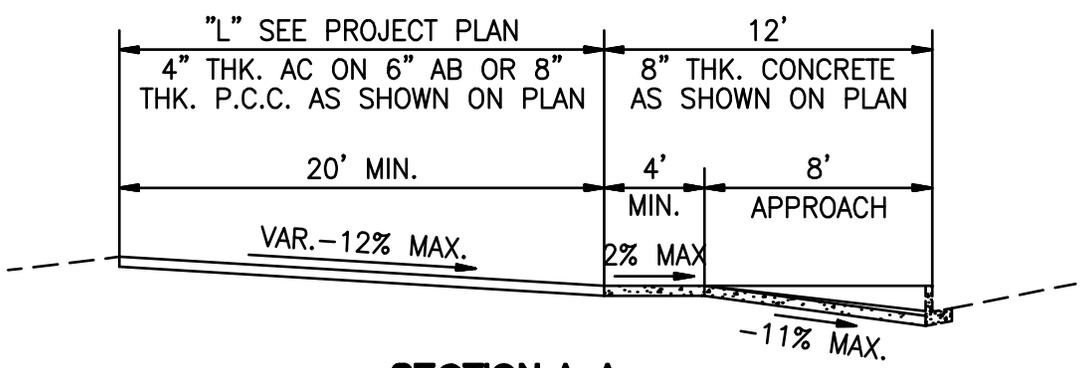
**GENERAL NOTES:**

1. THE CURB RETURN RADIUS AND/ OR MAX. WIDTH OF DRIVEWAY SHALL BE INCREASED TO ACCOMMODATE A TRUCK TURNING PATH.
2. SEE DRIVEWAY SPACING STANDARD NO. S-107 FOR APPROVED DRIVEWAY LOCATIONS.
3. CONCRETE SHALL BE CLASS 520-C-2500.

**DRIVEWAY WIDTH (W)**

TYPE	W	R
TYPE 1	32'	32'
TYPE 2	40'	35'
TYPE 3	50'	35'

TABLE 1



**SECTION A-A**

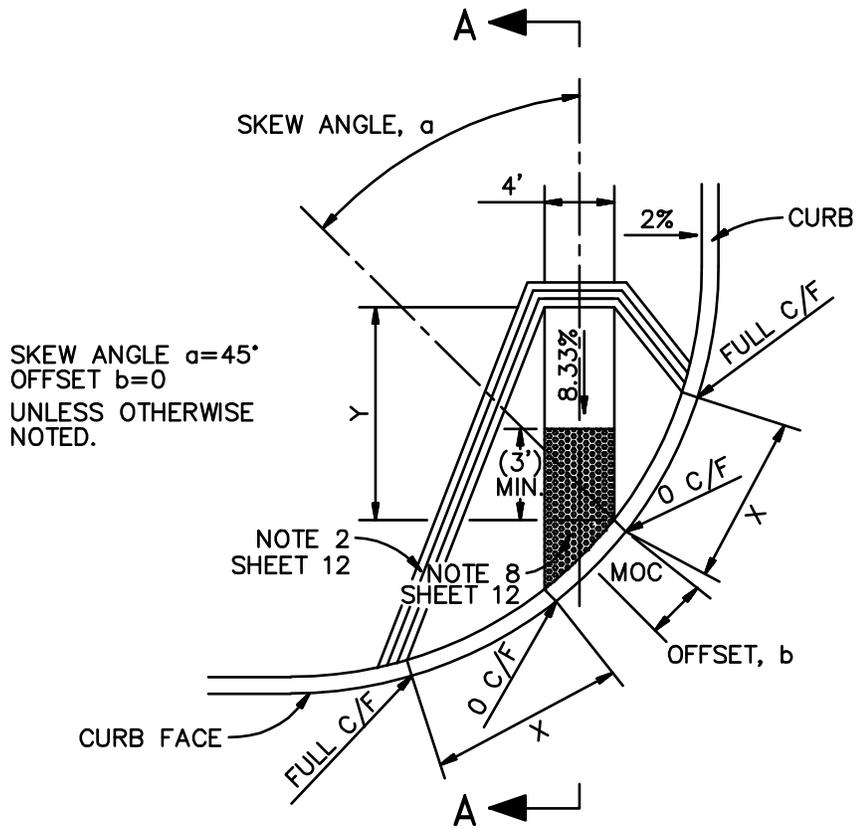
NOT TO SCALE

<b>APPROVED BY:</b>			
<i>Marina Fuller</i>		11/25/14	
P.W. DIRECTOR/CITY ENGINEER		DATE	
<b>REVISIONS</b>			
<b>DATE</b>	<b>BY</b>	<b>MARK</b>	<b>APPROVED</b>

**DRIVEWAY WITH CURB RETURNS**

**CITY OF RIALTO, CALIFORNIA  
PUBLIC WORKS DEPARTMENT  
ENGINEERING DIVISION**

<b>STANDARD NO. SC-214</b>	<b>SHT 1 OF 1</b>
----------------------------	-------------------



SKEW ANGLE  $\alpha=45^\circ$   
 OFFSET  $b=0$   
 UNLESS OTHERWISE NOTED.

### CASE C

ADOPTED FROM STANDARD PLANS FOR PUBLIC WORKS CONSTRUCTION

NOT TO SCALE

**APPROVED BY:**

*Marcus Fuller*

11/25/14

P.W. DIRECTOR/CITY ENGINEER

DATE

**REVISIONS**

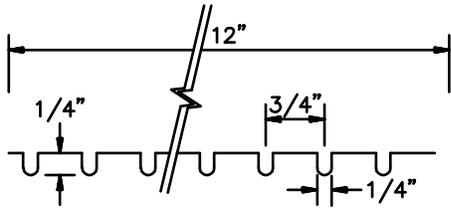
DATE	BY	MARK	APPROVED

### CURB RAMP

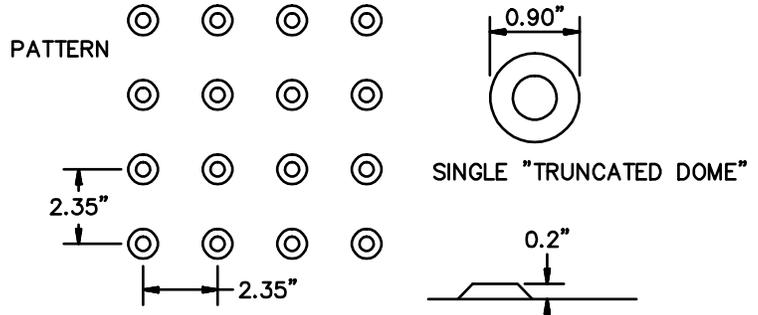
CITY OF RIALTO, CALIFORNIA  
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 ENGINEERING DIVISION

STANDARD NO. SC-215

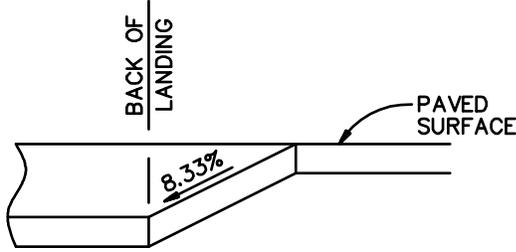
SHT 5 OF 12



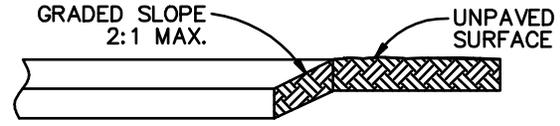
**GROOVING DETAIL**



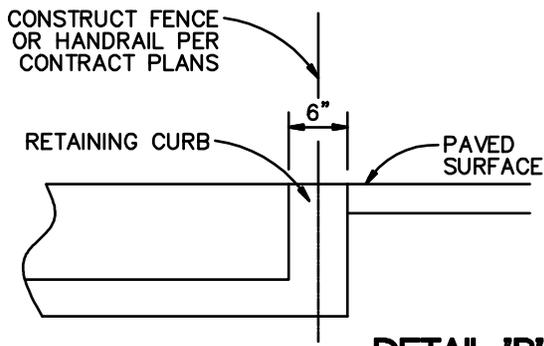
**DETECTABLE WARNING DETAIL**



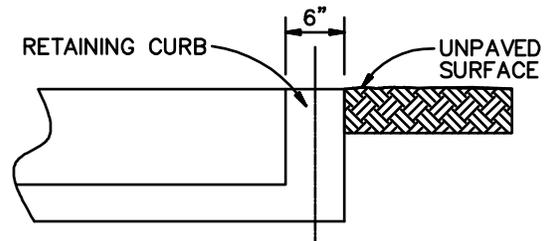
**DETAIL 'A'**



**DETAIL 'C'**



**DETAIL 'B'**



**DETAIL 'D'**

**GENERAL NOTES:**

1. CONCRETE SHALL BE CLASS 520-C-2500 (310-C-17) CONFORMING TO SSPWC 201-1.1.2 AND SHALL BE 4" THICK.
2. THE RAMP SHALL HAVE A 12" WIDE BORDER WITH 1/4" GROOVES APPROXIMATELY 3/4" OC. SEE GROOVING DETAIL.
3. THE RAMP SURFACE SHALL HAVE A TRANSVERSE BROOMED SURFACE TEXTURE CONFORMING TO SSPWC 303-1.9.
4. USE DETAIL "A" OR "B" IF EXISTING SURFACE BEHIND LANDING IS PAVED.
5. USE DETAIL "C" OR "D" IF EXISTING SURFACE BEHIND LANDING IS UNPAVED.
6. R=3' UNLESS OTHERWISE SHOWN ON PLAN.
7. ANGLE =  $\Delta/2$  UNLESS OTHERWISE SHOWN ON PLAN.
8. CONSTRUCT DETECTABLE WARNING SURFACE PER DETAIL THIS SHEET. MATERIALS SHALL BE PER CONTRACT DOCUMENTS.

**ADOPTED FROM STANDARD PLANS FOR PUBLIC WORKS CONSTRUCTION**

NOT TO SCALE

**APPROVED BY:**

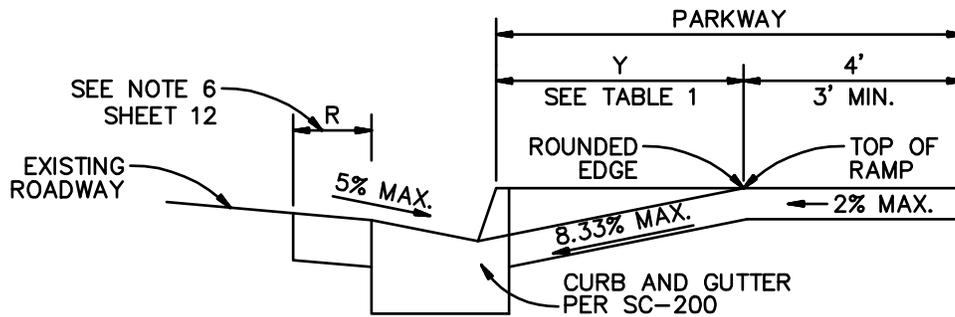
*Marcus Fuller* 11/25/14  
**P.W. DIRECTOR/CITY ENGINEER**      **DATE**

**CURB RAMP**

REVISIONS			
DATE	BY	MARK	APPROVED

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 ENGINEERING DIVISION**

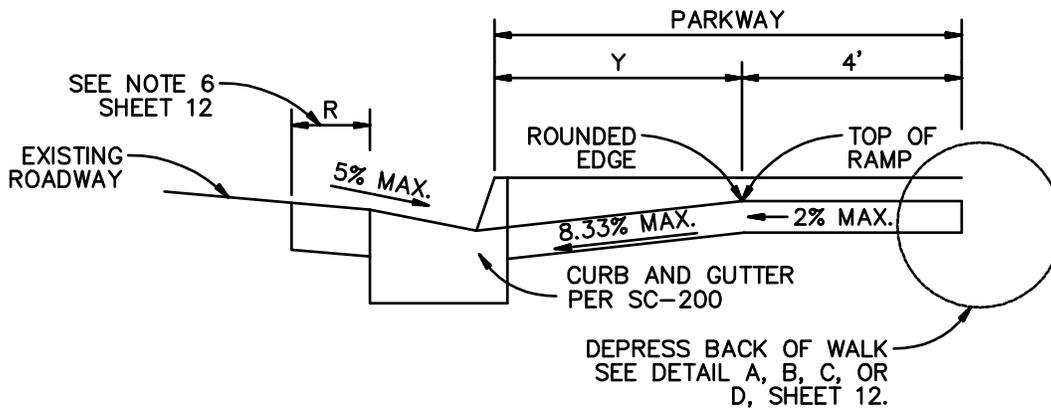
**STANDARD NO. SC-215 | SHT 12 OF 12**



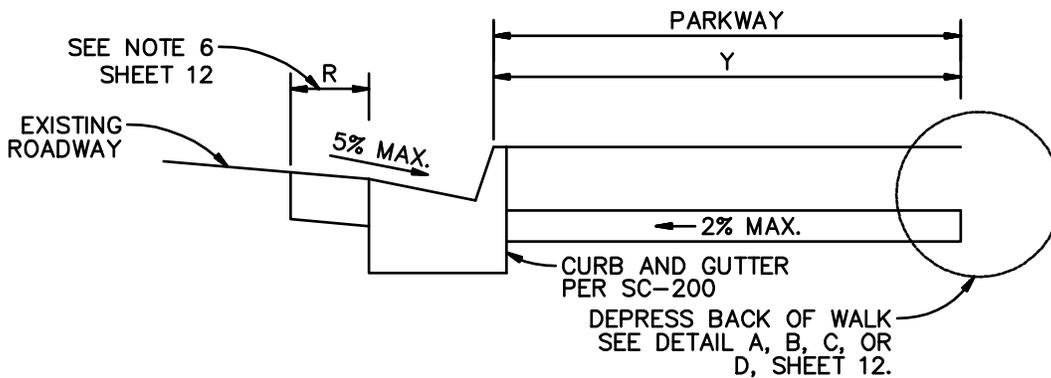
**SECTION A-A**

USE FIGURE 1 TO DETERMINE WHICH OF SECTIONS A-A, B-B, OR C-C IS APPROPRIATE.

SHEET 10



**SECTION B-B**



**SECTION C-C**

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**P.W. DIRECTOR/CITY ENGINEER** **DATE**

**CURB RAMP**

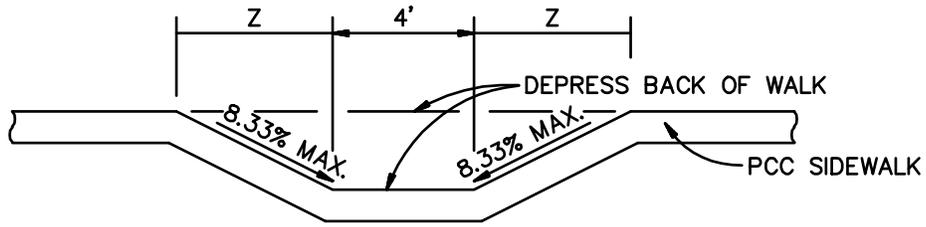
**REVISIONS**

DATE	BY	MARK	APPROVED

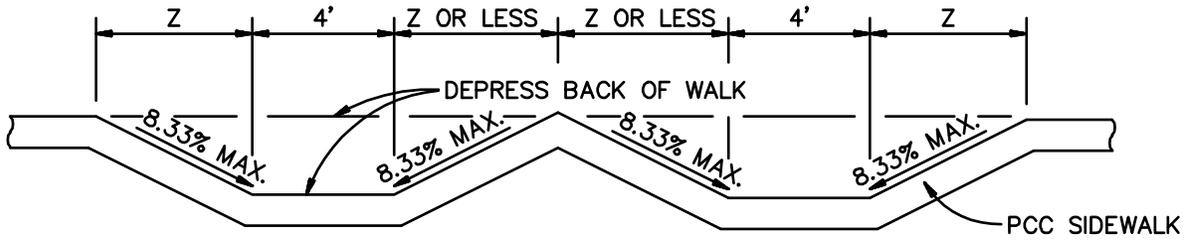
**CITY OF RIALTO, CALIFORNIA  
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**STANDARD NO. SC-215**

**SHT 8 OF 12**



**SECTION R-R**



**SECTION S-S**

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NOT TO SCALE

**APPROVED BY:**

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P.W. DIRECTOR/CITY ENGINEER DATE

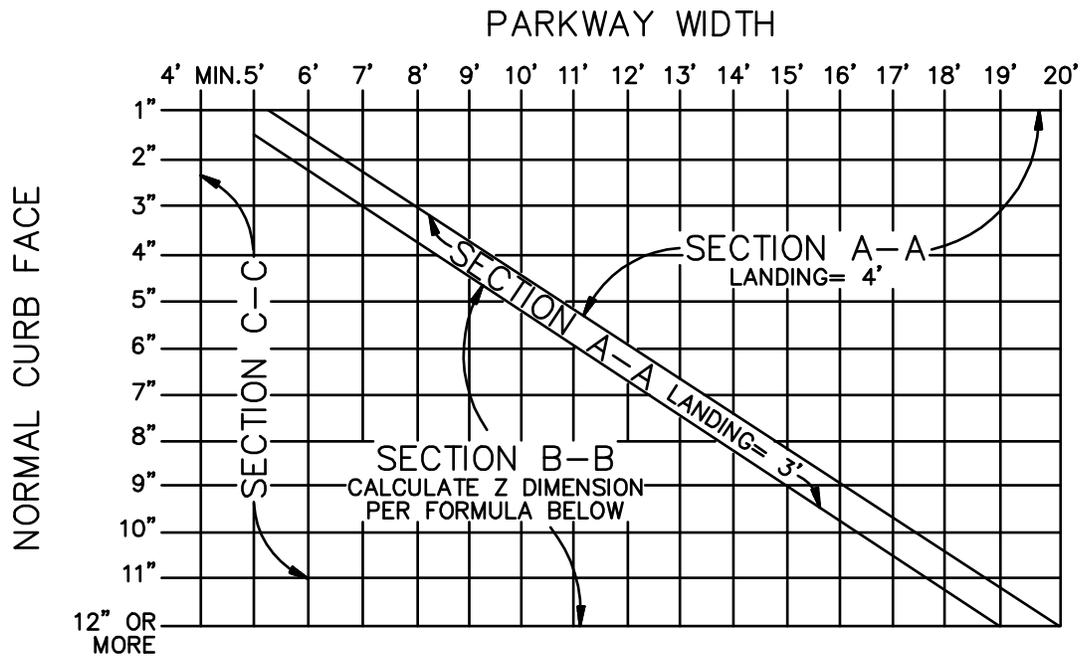
**CURB RAMP**

**REVISIONS**

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**STANDARD NO. SC-215 | SHT 9 OF 12**



**FIGURE 1-SECTION USAGE**

NORMAL CURB FACE	X	SECTION Y-Y
2"	4.00'	2.63'
3"	4.00'	3.95'
4"	4.00'	5.26'
5"	5.00'	6.58'
6"	6.00'	7.90'
7"	7.00'	9.21'
8"	8.00'	10.53'
9"	9.00'	11.84'
10"	10.00'	13.16'
11"	11.00'	14.47'
12"	12.00'	15.79'

WHERE FIGURE 1 SHOWS USE OF SECTION B-B, FIGURE Z DIMENSION AS FOLLOWS:

W = PARKWAY WIDTH  
 L = LANDING WIDTH, 4' TYP., 3' MIN.

$$Z = [(Y + L) - W] \times 0.760$$

IF (Y + L) < W, THEN Z = 0

TABLE 1 SHOWS X FOR A FLARE SLOPE OF 8.33% AT THE CURB FACE. IF L IS 4' OR MORE, X MAY BE MULTIPLIED BY 0.833 FOR A MAXIMUM FLARE SLOPE OF 10% AT THE CURB FACE.

SEE SHEET 11 FOR STREET SLOPE ADJUSTMENT FACTORS, ALL STREETS

**TABLE 1 - X AND Y VALUES**

TABLE 1 REFERENCE FORMULAS:  
 $X = CF / 8.333\%$   
 $Y = CF / (8.333\% - 2\% \text{ WALK CROSS SLOPE})$

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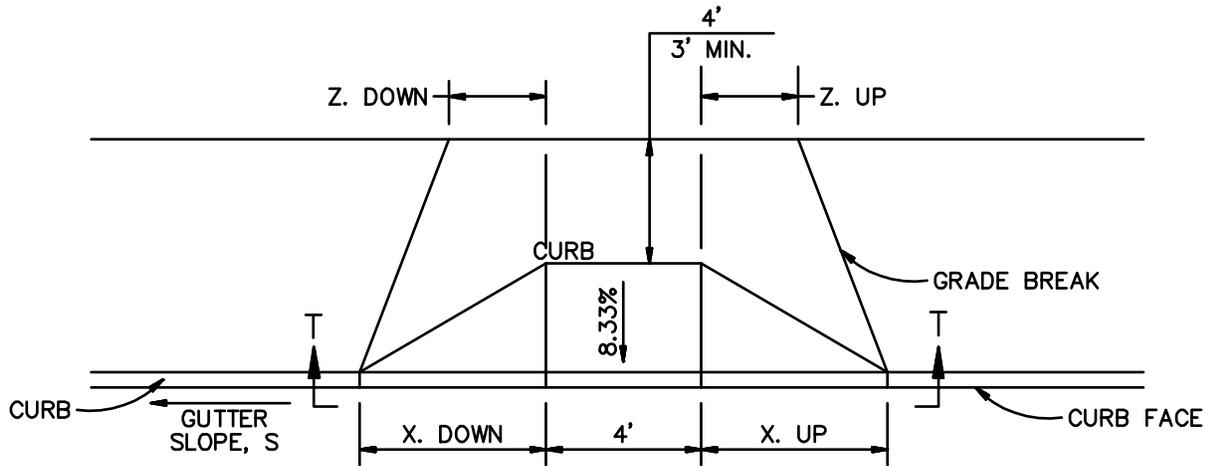
**APPROVED BY:**  
*Manus Fuller* 11/25/14  
 P.W. DIRECTOR/CITY ENGINEER DATE

REVISIONS			
DATE	BY	MARK	APPROVED

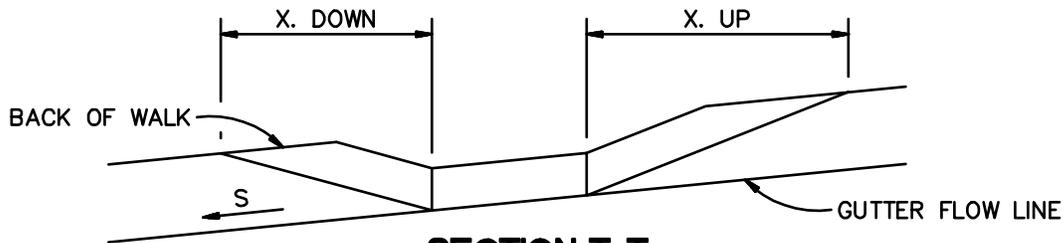
**CURB RAMP**

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 ENGINEERING DIVISION**

**STANDARD NO. SC-215 SHT 10 OF 12**



**TYPICAL CURB RAMP**



**SECTION T-T**  
SLOPED STREET

FOR SLOPED STREETS, MULTIPLY THE DIMENSIONS PARALLEL TO THE STREET, X AND Z, UPSTREAM AND DOWNSTREAM OF THE RAMP, BY THE FACTORS IN THE FOLLOWING TABLE.

FOR EXAMPLE, X. DOWN = X x K. DOWN

S	K. DOWN	K. UP
0%	1.000	1.000
0.2%	0.977	1.025
0.5%	0.943	1.064
1%	0.893	1.136
2%	0.806	1.316
3%	0.735	1.563
4%	0.676	1.923
5%	0.625	2.500

**TABLE 2 - SLOPE ADJUSTMENTS**

TABLE 2 REFERENCE FORMULAS:

K. DOWN =  $8.333\% / (8.333\% + S)$   
 K. UP =  $8.333\% / (8.333\% - S)$

## STREET SLOPE ADJUSTMENTS

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**CURB RAMP**

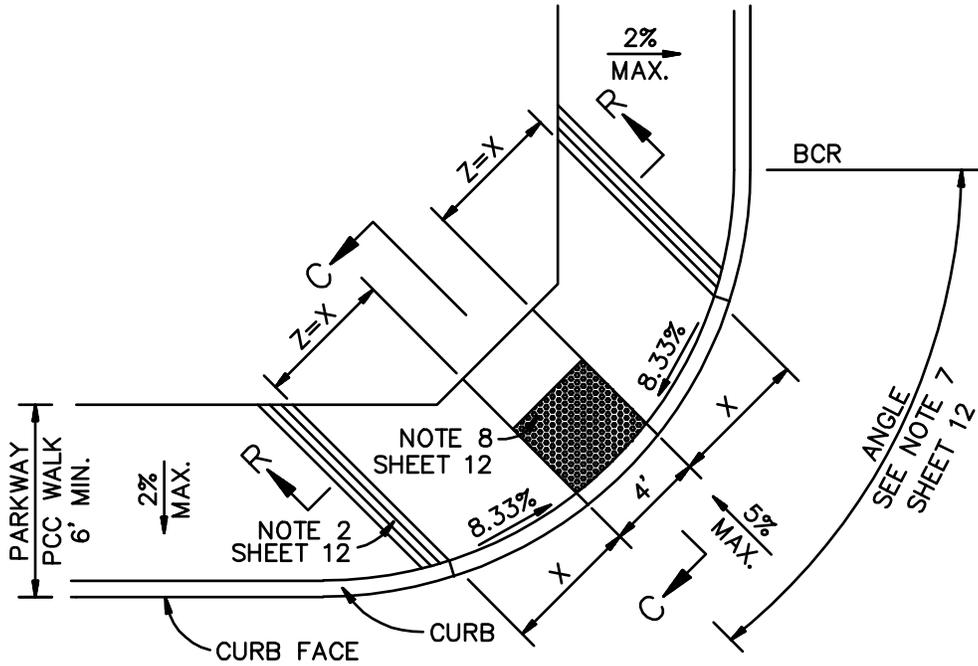
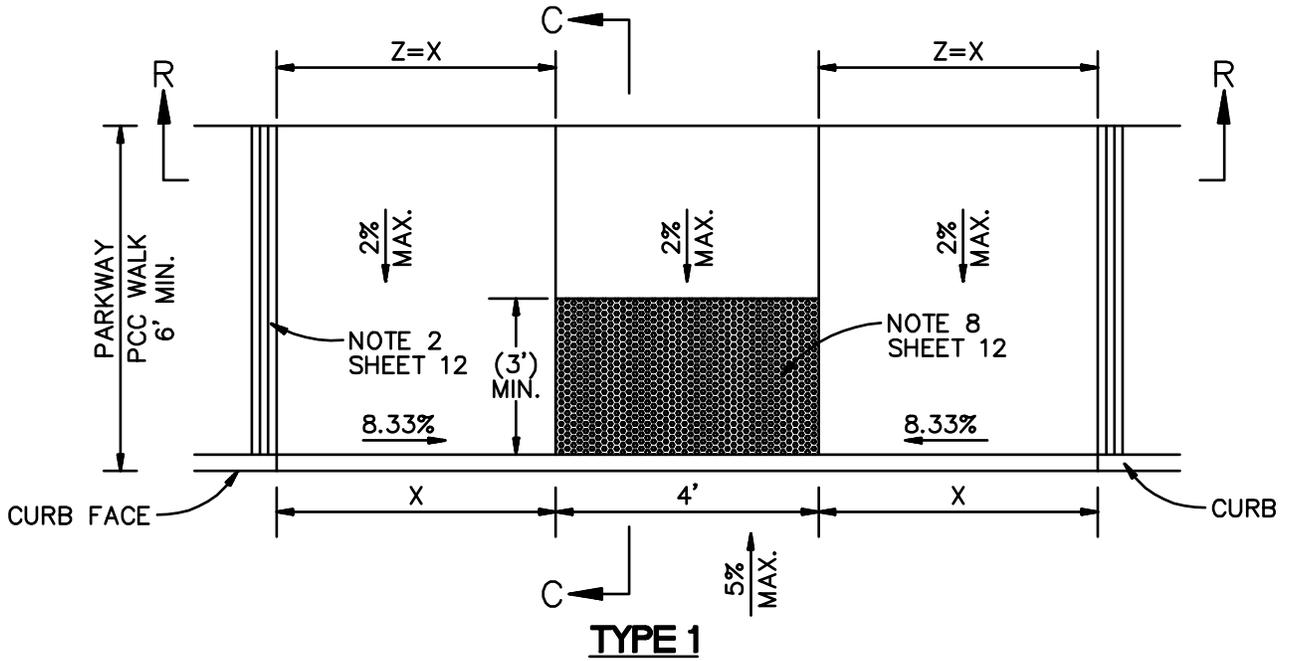
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**APPROVED BY:**

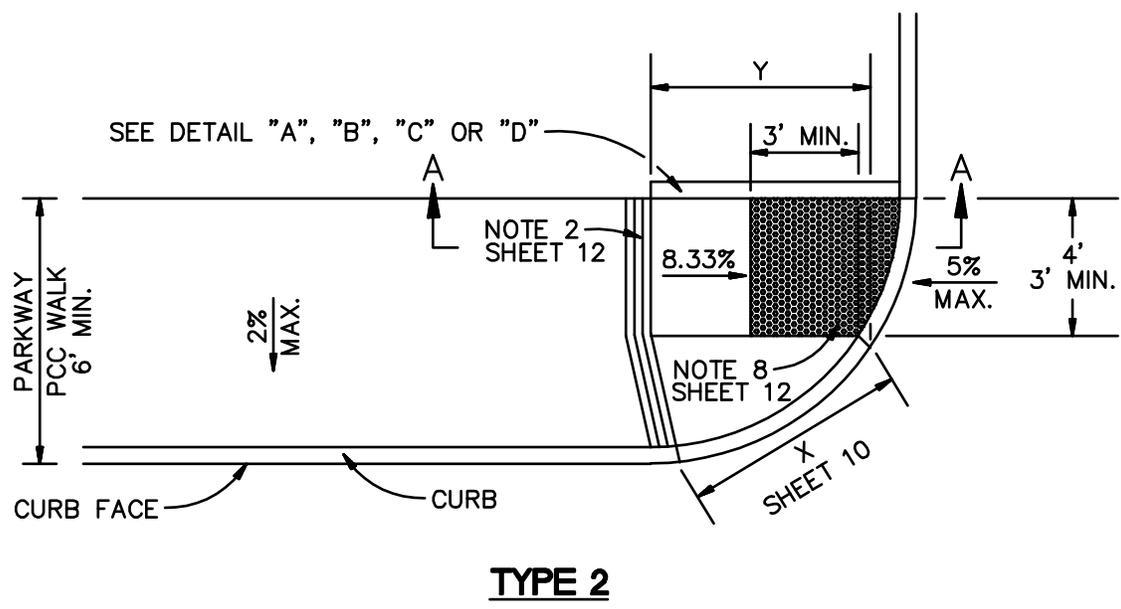
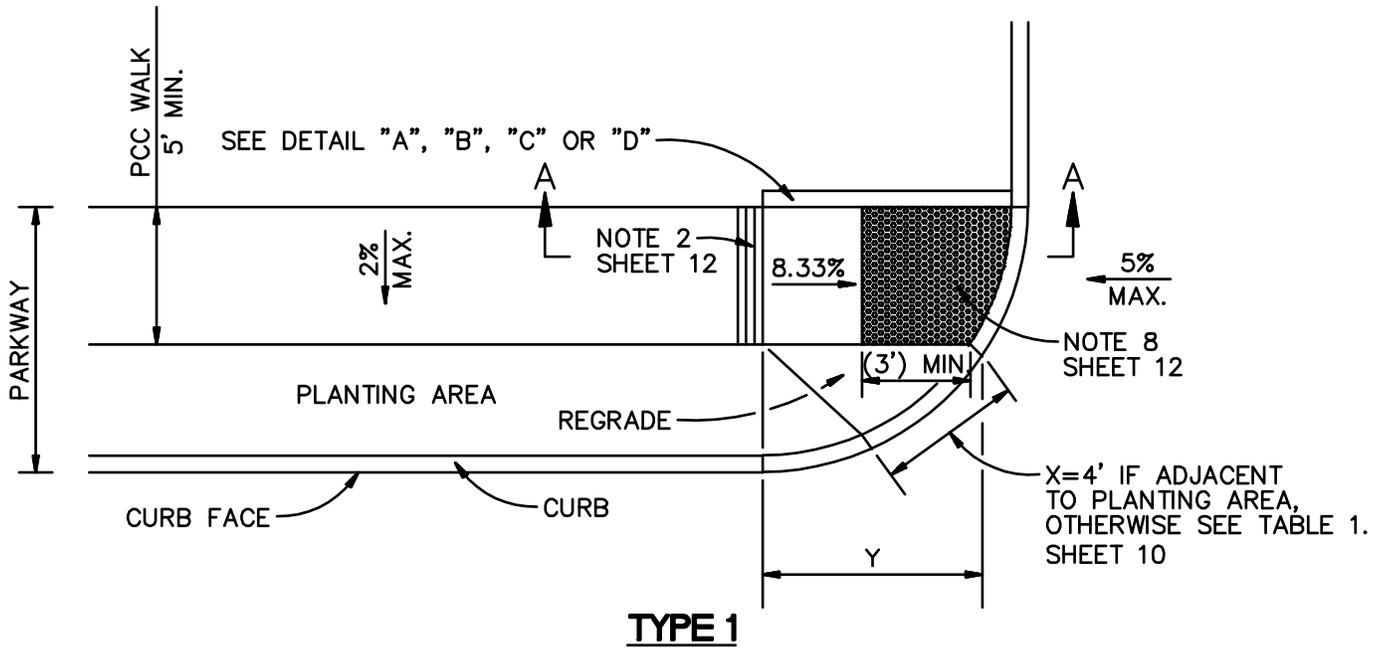
*Marcus Fuller* 11/25/14  
**P.W. DIRECTOR/CITY ENGINEER** **DATE**

**CURB RAMP**

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DATE	BY	MARK	APPROVED

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**STANDARD NO. SC-215** | **SHT 4 OF 12**



**CASE D**

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NOT TO SCALE

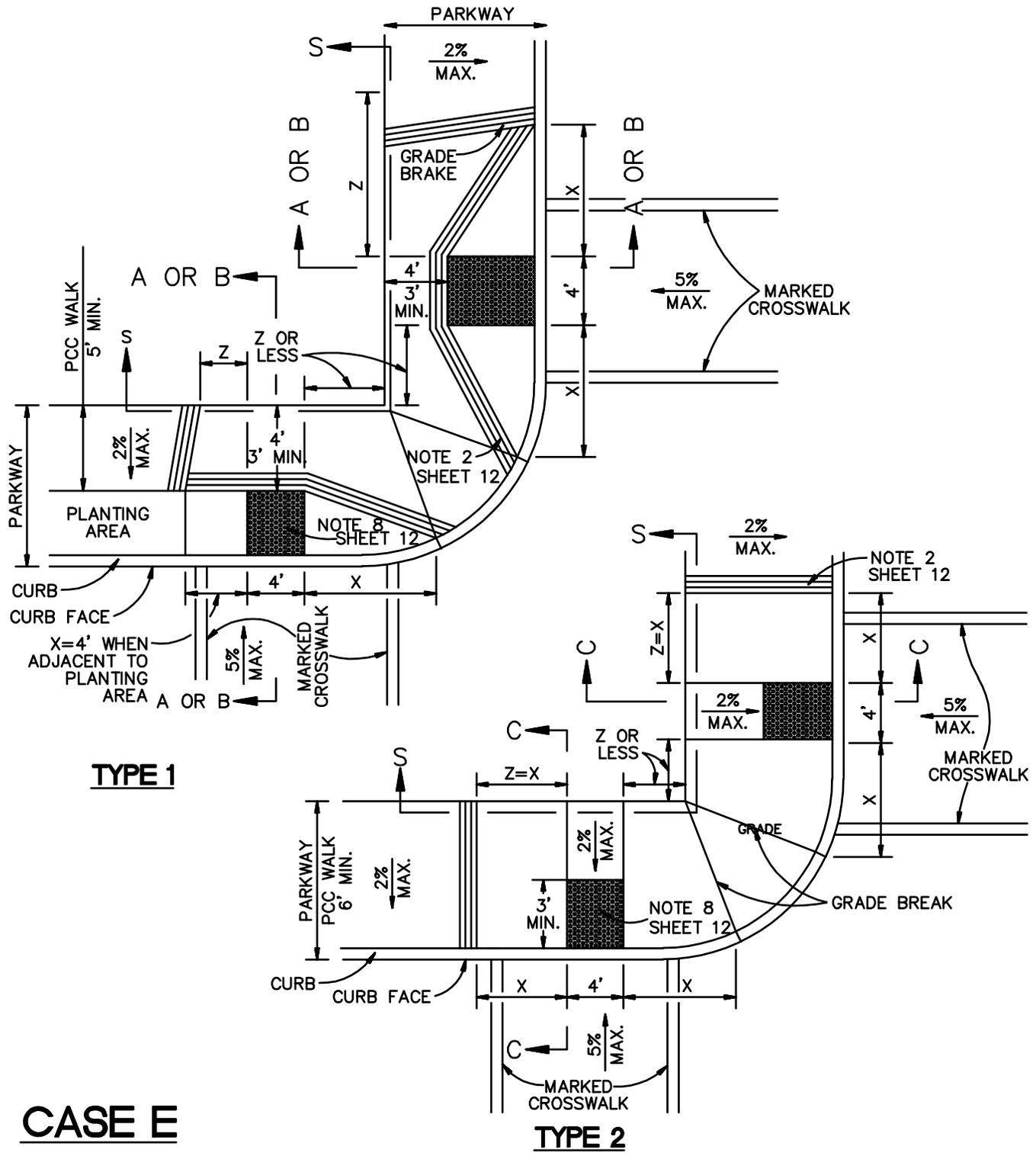
**APPROVED BY:**  
*Manus Fuller* 11/25/14  
 P.W. DIRECTOR/CITY ENGINEER DATE

**CURB RAMP**

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**STANDARD NO. SC-215    SHT 6 OF 12**



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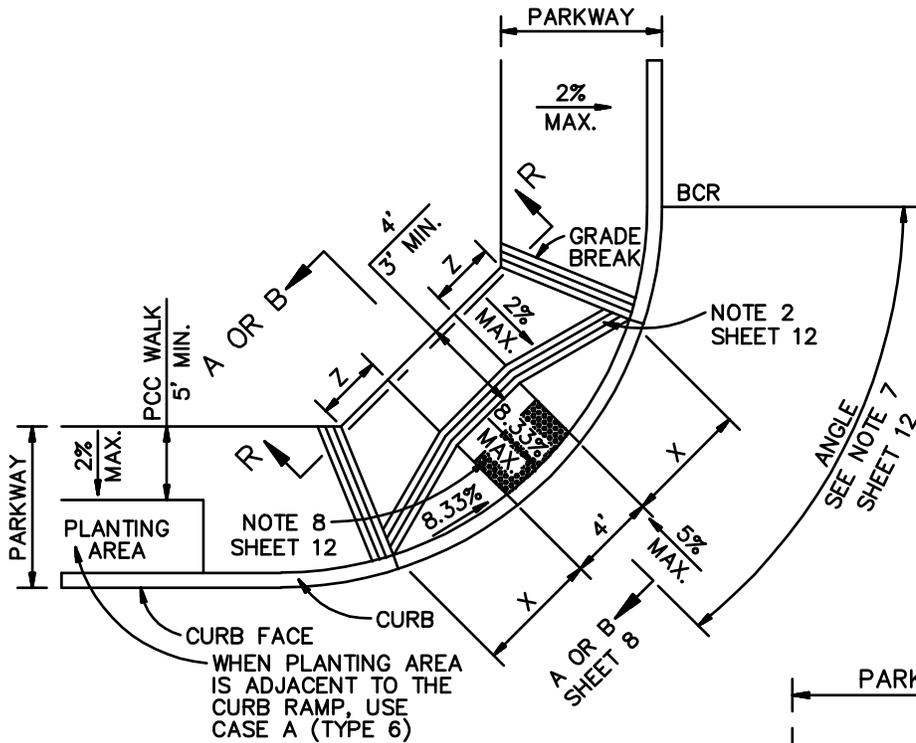
NOT TO SCALE

**APPROVED BY:**  
*Marius Fuller*  
 P.W. DIRECTOR/CITY ENGINEER      11/25/14  
 DATE

**CURB RAMP**

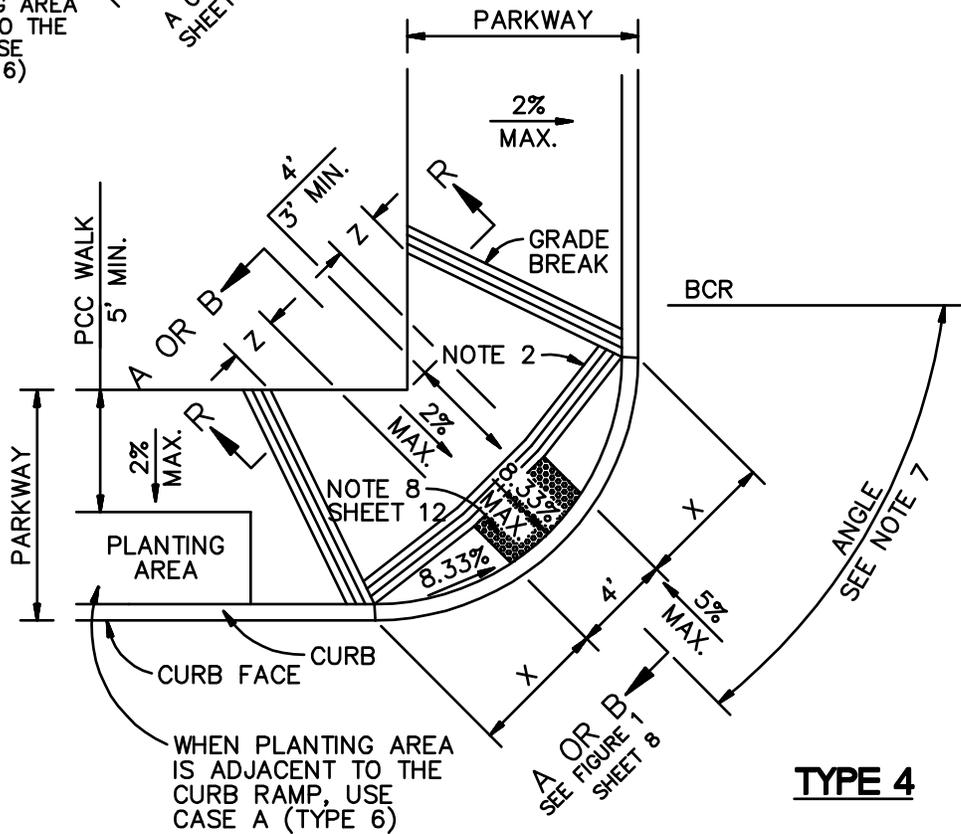
REVISIONS			
DATE	BY	MARK	APPROVED

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 PUBLIC WORKS DEPARTMENT  
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**TYPE 3**

CURB FACE  
WHEN PLANTING AREA  
IS ADJACENT TO THE  
CURB RAMP, USE  
CASE A (TYPE 6)



**CASE A**

**TYPE 4**

WHEN PLANTING AREA  
IS ADJACENT TO THE  
CURB RAMP, USE  
CASE A (TYPE 6)

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*Marcus Fuller* 11/25/14  
P.W. DIRECTOR/CITY ENGINEER DATE

**CURB RAMP**

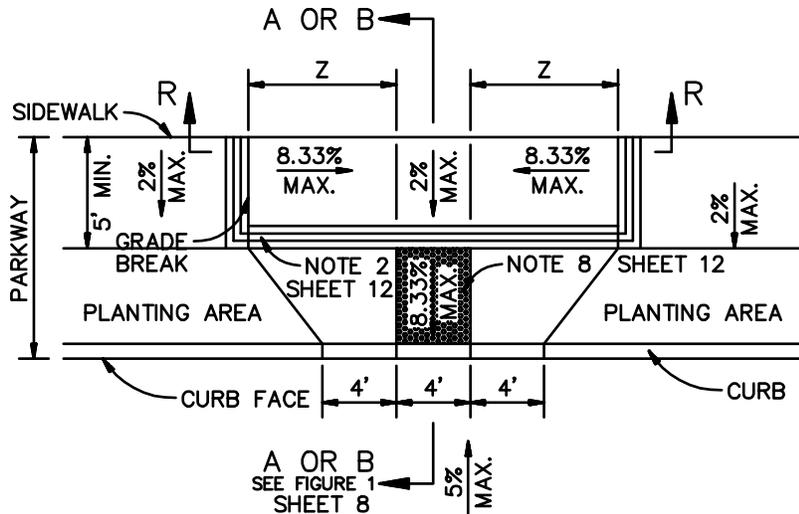
**REVISIONS**

DATE	BY	MARK	APPROVED

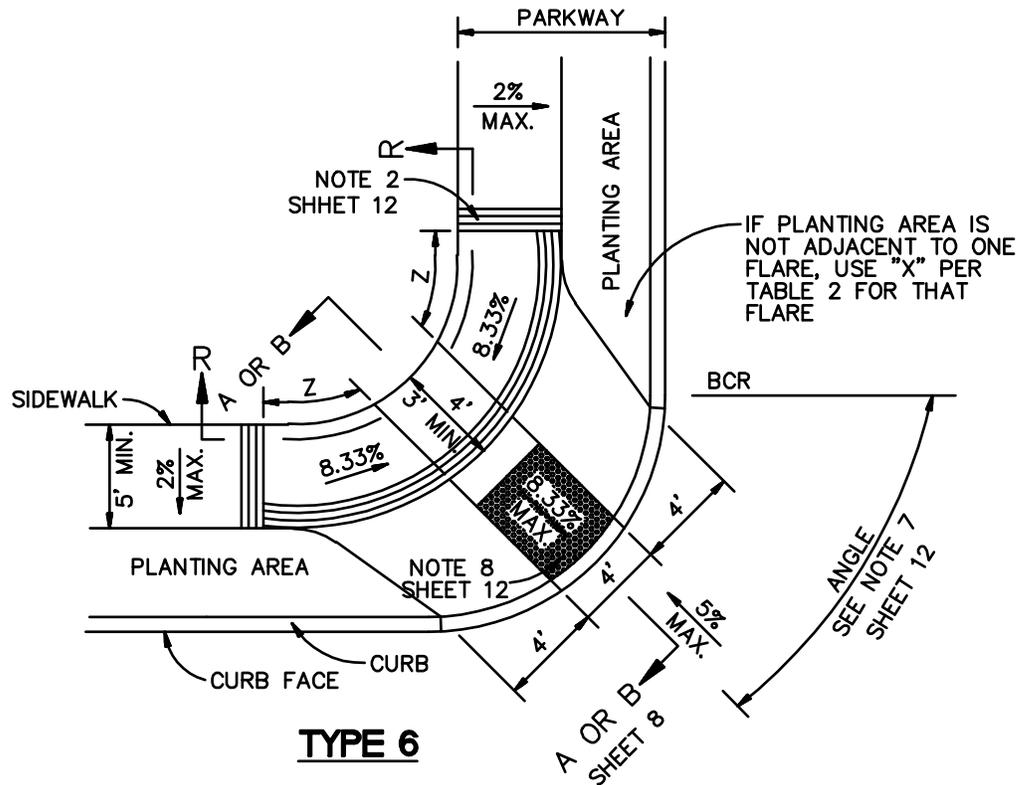
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**STANDARD NO. SC-215**

**SHT 2 OF 12**



**TYPE 5**



**TYPE 6**

**CASE A**

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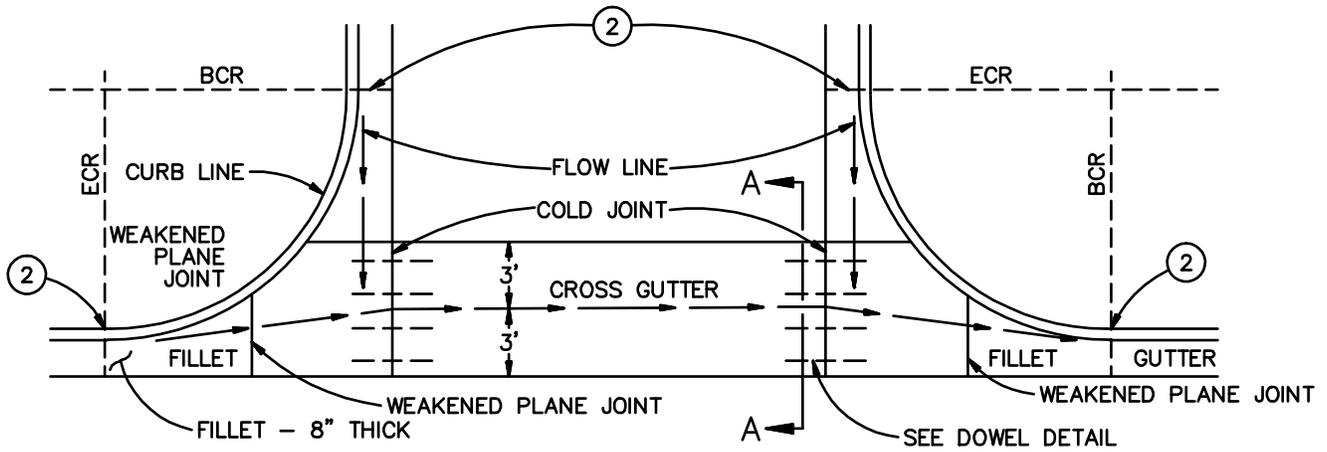
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*Marcus Fuller* 11/25/14  
 P.W. DIRECTOR/CITY ENGINEER DATE

REVISIONS			
DATE	BY	MARK	APPROVED

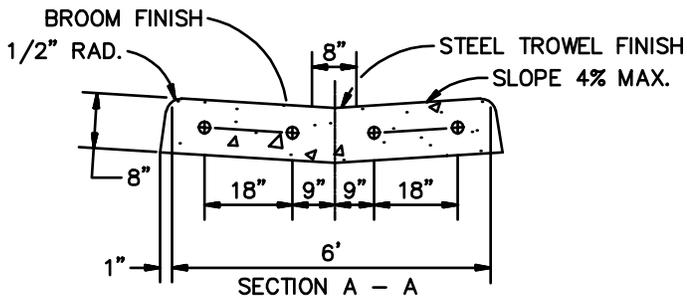
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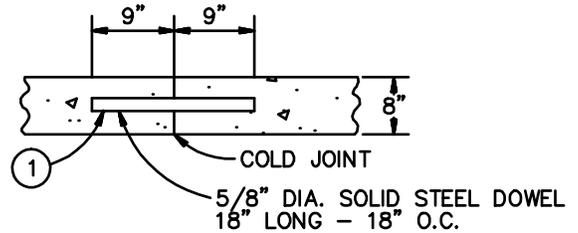
**STANDARD NO. SC-215 | SHT 3 OF 12**



**PLAN VIEW**



**CROSS GUTTER**



**DOWEL DETAIL**

**NOTES:**

- ① COAT 1/2 THE LENGTH OF DOWELS WITH GREASE TO PROVIDE SLIPPAGE.
- ② 1/2" EXPANSION JOINT AT BEGINNING AND END OF CURB RETURN, PER STANDARD NO. SC-209.

**NOTES:**

- 1. ALL CONCRETE SHALL BE CLASS 520-C-2500.

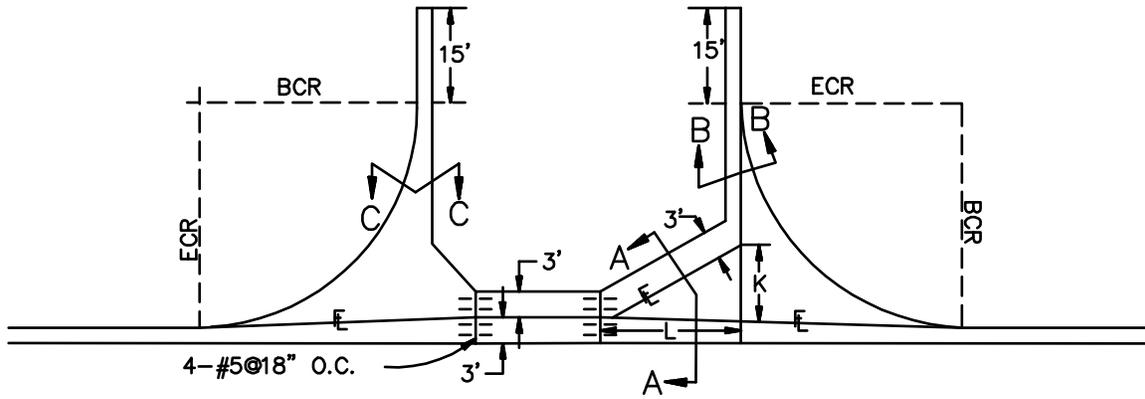
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*Marcus Fuller* 11/25/14  
 P.W. DIRECTOR/CITY ENGINEER DATE

REVISIONS			
DATE	BY	MARK	APPROVED

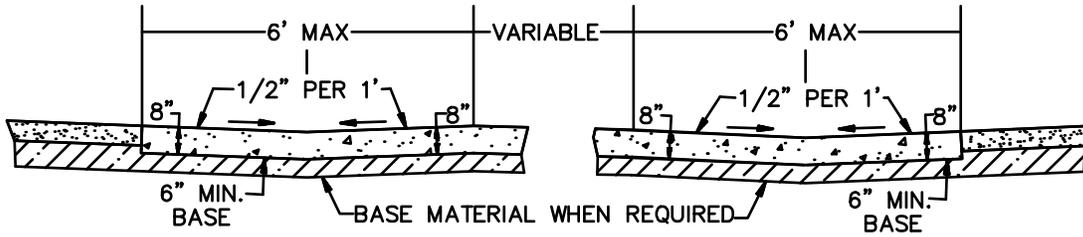
**CROSS GUTTER AND FILLET**

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 ENGINEERING DIVISION**

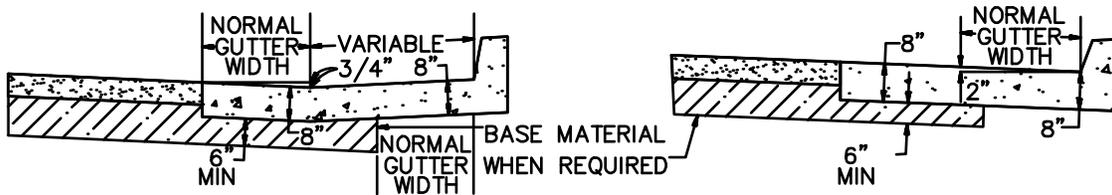


**PLAN VIEW**

SEE SHEET NO. 2 FOR APPLICATIONS



**SECTION A-A**



**SECTION B-B**

**SECTION C-C**

GENERAL NOTES:

1. DIMENSIONS TO BE DESIGNED AND SHOWN ON PLANS.
2. ALL CONCRETE SHALL BE CLASS 520-C-2500

NOT TO SCALE

**APPROVED BY:**

*Manus Fuller* 11/25/14  
**P.W. DIRECTOR/CITY ENGINEER** **DATE**

**SPECIAL CROSS  
 GUTTER**

**STEEP INTERSECTION GRADES**

**CITY OF RIALTO, CALIFORNIA  
 PUBLIC WORKS DEPARTMENT  
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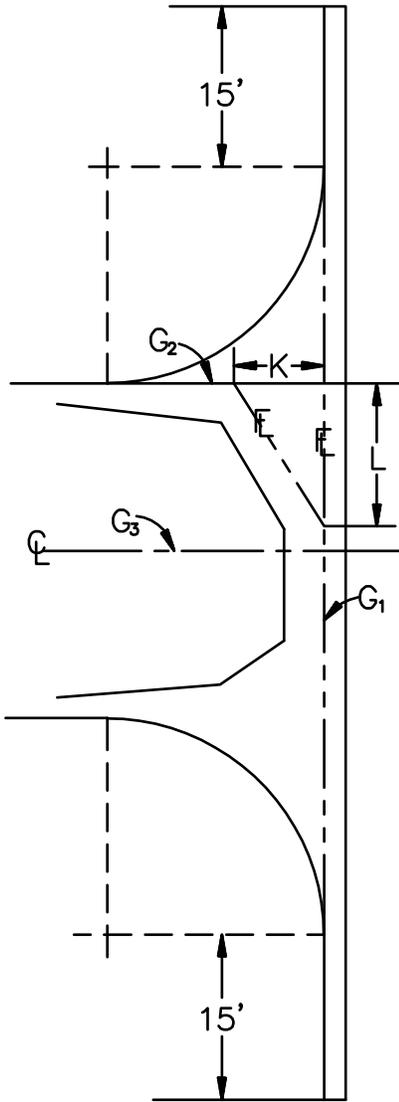
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DATE	BY	MARK	APPROVED

**STANDARD NO. SC-217**

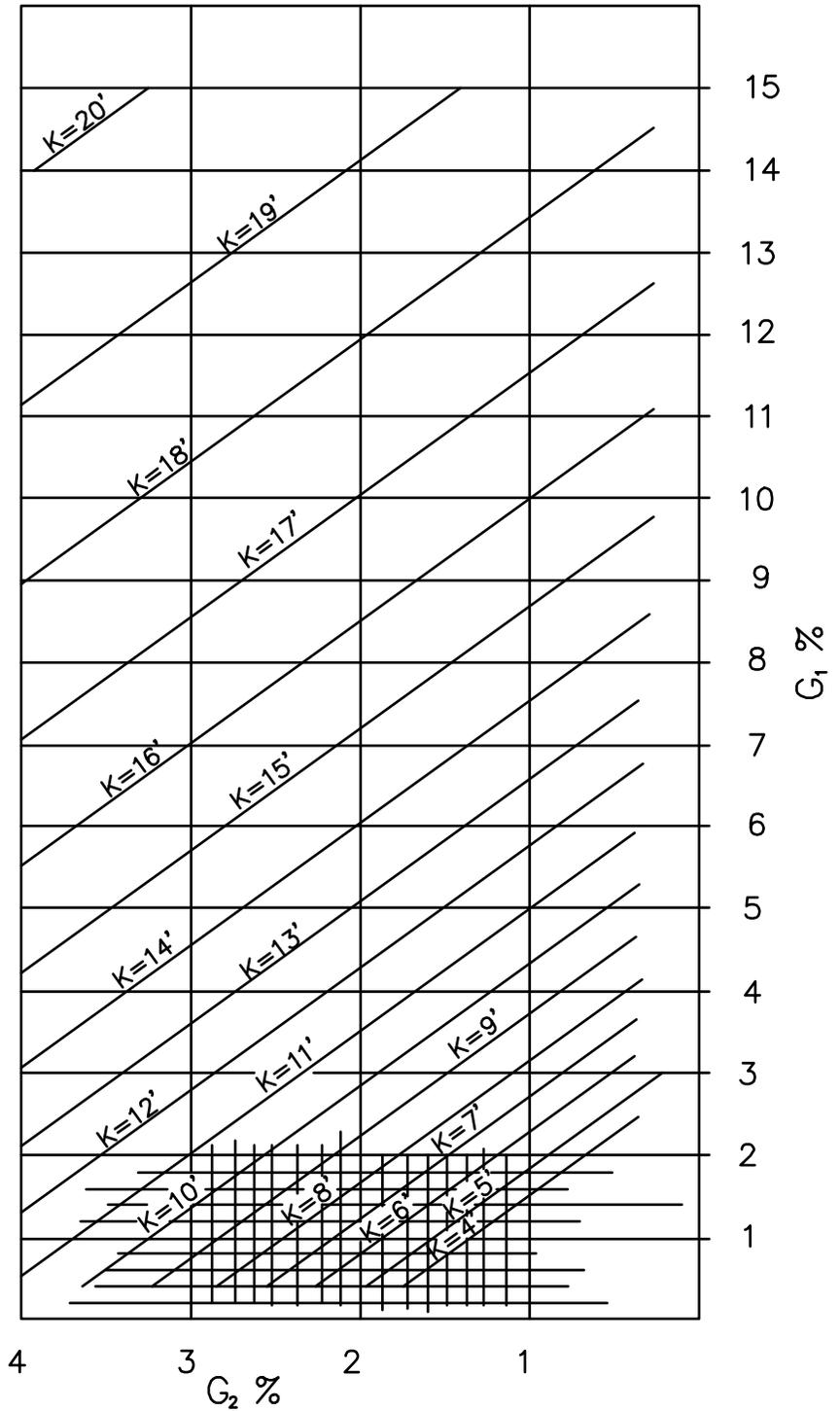
**SHT 1 OF 2**

$$L = KG_1/G_3$$

$$K \leq 1$$



TO BE USED WITH  
SHEET NO. 1



APPROVED BY:

*Marina Fuller*  
P.W. DIRECTOR/CITY ENGINEER

11/25/14  
DATE

**SPECIAL CROSS  
GUTTER**

**STEEP INTERSECTION GRADES**

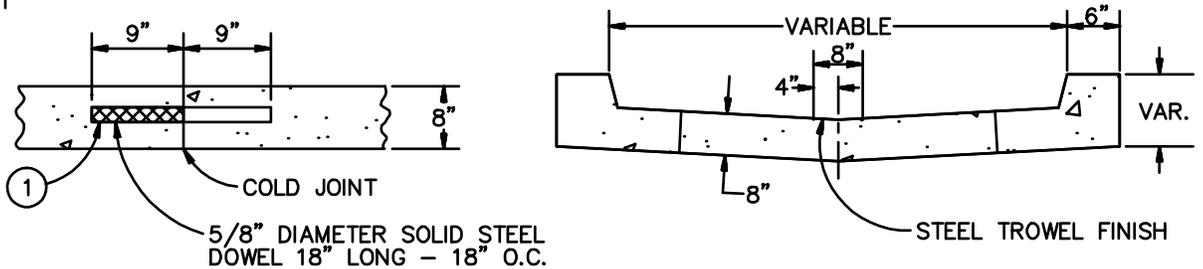
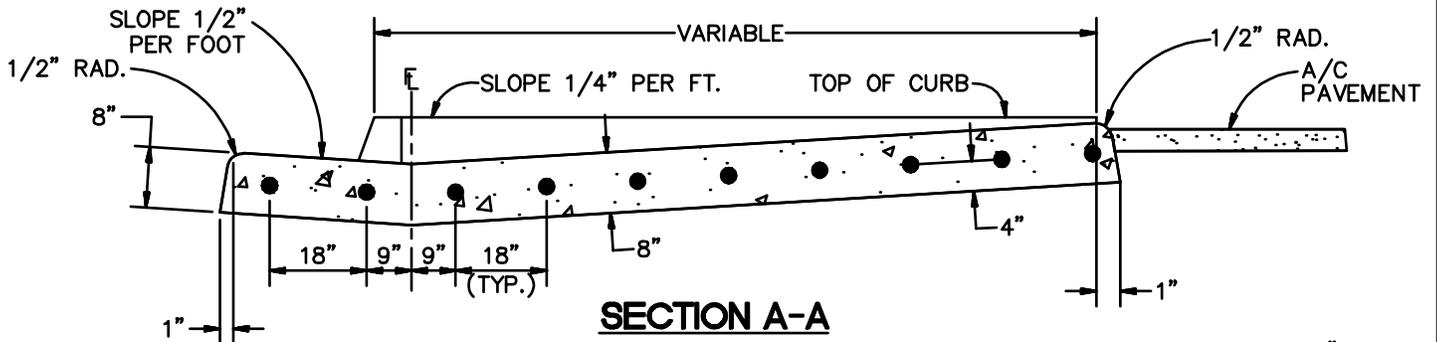
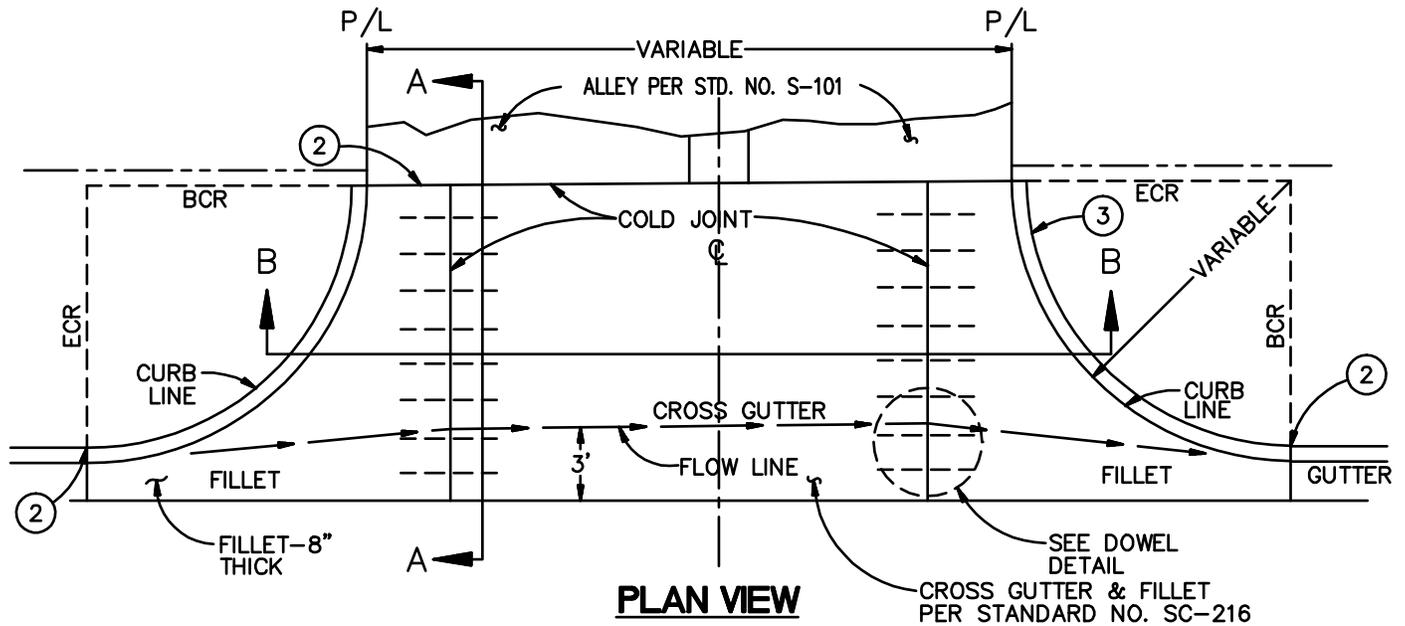
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ENGINEERING DIVISION**

**STANDARD NO. SC-217**

**SHT 2 OF 2**

REVISIONS

DATE	BY	MARK	APPROVED



**NOTES:**

- ① COAT 1/2 THE LENGTH OF DOWELS WITH GREASE TO PROVIDE SLIPPAGE.
- ② 1/2" EXPANSION JOINT AT BEGINNING AND END OF CURB RETURN, PER STANDARD NO. SC-209.
- ③ SEE STD. NO. SC-209; EXPANSION MATERIAL SHALL BE A MINIMUM OF 1/2" THICK.

**GENERAL NOTES:**

- 1. ALL CONCRETE SHALL BE CLASS 520-C-2500.
- 2. DOWELS NOT REQUIRED WHEN CONCRETE PLACED MONOLITHICALLY.

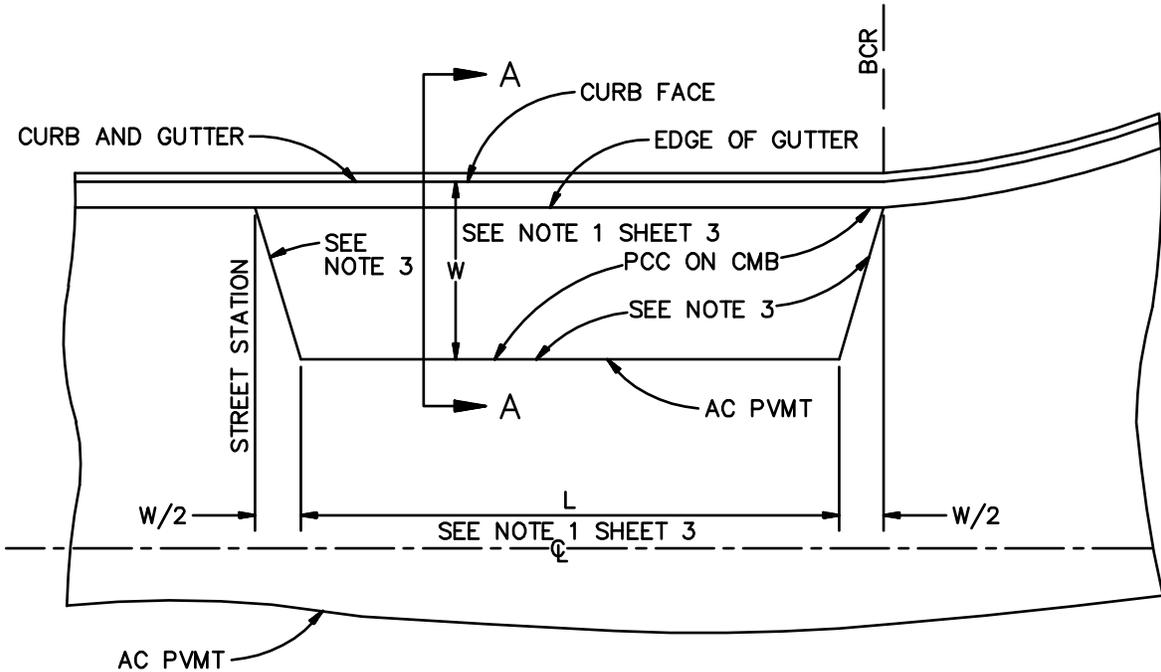
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*Marcus Fuller* 11/25/14  
**P.W. DIRECTOR/CITY ENGINEER DATE**

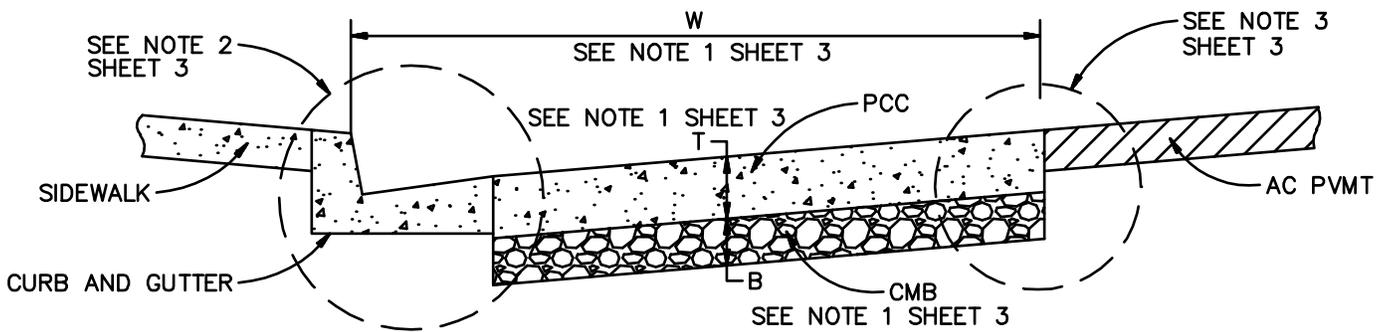
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DATE	BY	MARK	APPROVED

**ALLEY INTERSECTION**

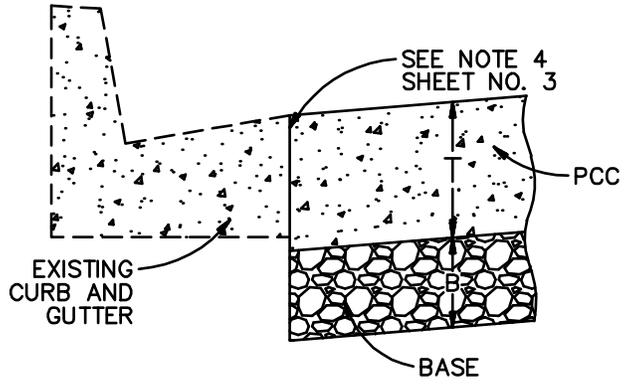
**CITY OF RIALTO, CALIFORNIA  
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 ENGINEERING DIVISION**



**TYPICAL BUS PAD**



**SECTION A-A**



**SECTION B-B SEE NOTE 2 SHEET 3**

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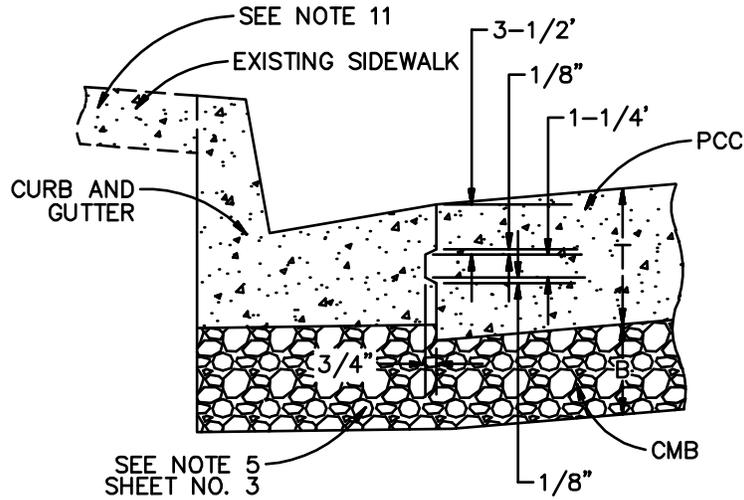
**APPROVED BY:**  
*Marina Fuller* 11/25/14  
 P.W. DIRECTOR/CITY ENGINEER DATE

**CONCRETE  
 BUS PAD**

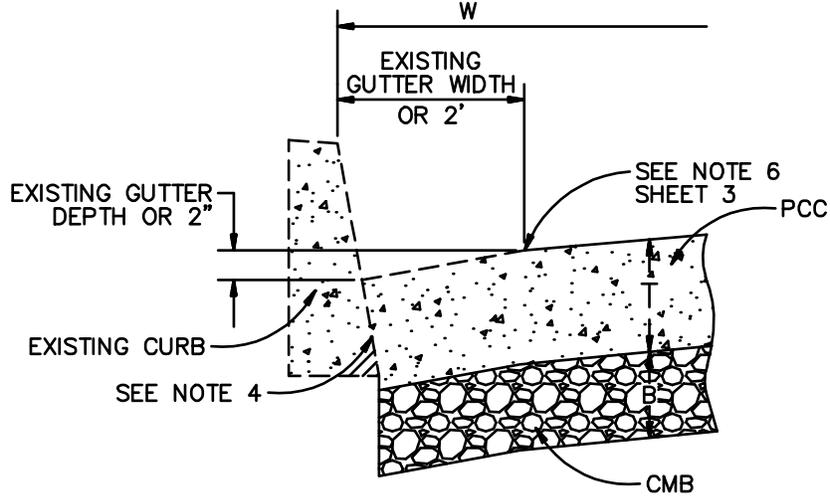
REVISIONS			
DATE	BY	MARK	APPROVED

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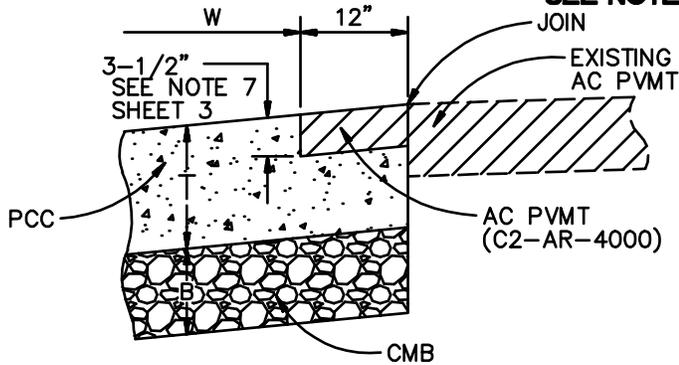
**STANDARD NO. SC-219 | SHT 1 OF 3**



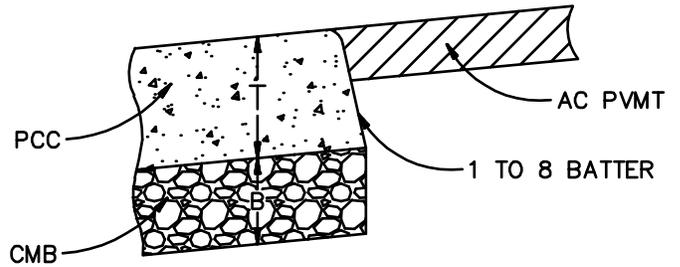
**SECTION C-C**  
SEE NOTE 2 SHEET 3



**SECTION D-D**  
SEE NOTE 2 SHEET 3



**SECTION E-E**  
SEE NOTE 3 SHEET 3



**SECTION F-F**  
SEE NOTE 3 SHEET 3 NOT TO SCALE

**APPROVED BY:**

*Marcus Fuller* 11/25/14  
P.W. DIRECTOR/CITY ENGINEER DATE

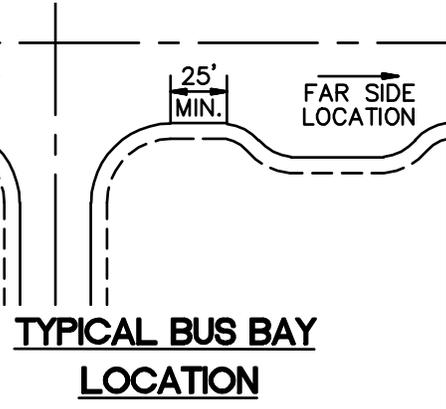
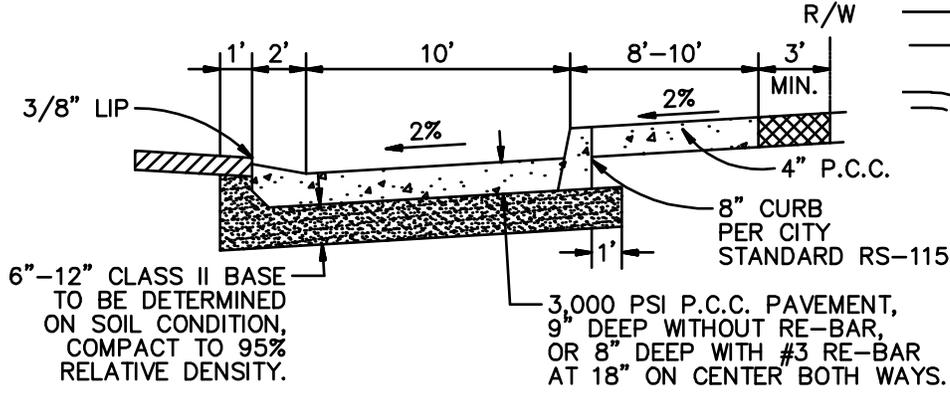
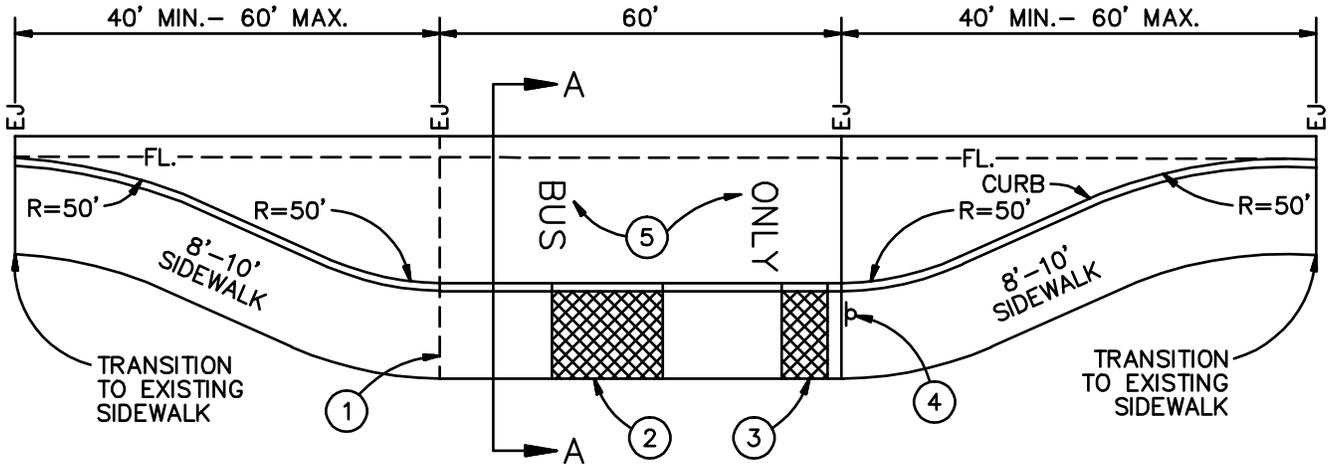
**REVISIONS**

DATE	BY	MARK	APPROVED

**CONCRETE  
BUS PAD**

**CITY OF RIALTO, CALIFORNIA  
PUBLIC WORKS DEPARTMENT  
ENGINEERING DIVISION**





**SECTION A-A**

**NOTES:**

- ① EXPANSION JOINT AND WEAKENED PLANE JOINT PER STANDARD NO. SC-209.
- ② 10' W X 8' D REAR DOOR WHEELCHAIR LOADING AREA.
- ③ 5' W X 8' D FRONT DOOR WHEELCHAIR LOADING AREA.
- ④ BUS STOP SIGN.
- ⑤ CONCRETE BUS PAD PER STANDARD NO. S-219.

**GENERAL NOTES:**

- 1. DRIVEWAYS SHOULD BE AVOIDED WITHIN TURNOUT/BUS ZONE.
- 2. ADDITIONAL STREET LIGHTING MAY BE REQUIRED AS DETERMINED BY THE CITY ENGINEER.
- 3. 4' MINIMUM SIDEWALK CLEARANCE IS REQUIRED FROM BENCH OR SHELTER.
- 4. LOCATION OF BUS TURNOUT SHALL BE APPROVED BY CITY ENGINEER.

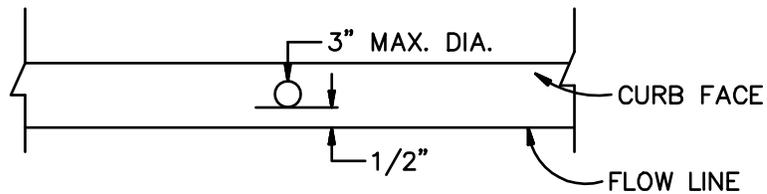
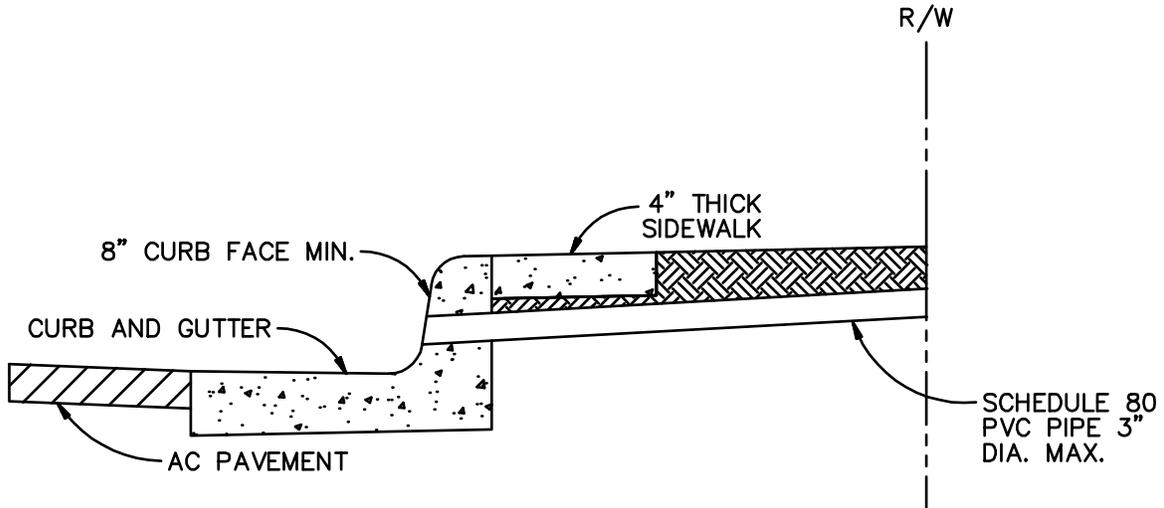
NOT TO SCALE

**APPROVED BY:**  
*Marcus Fuller* 11/25/14  
 P.W. DIRECTOR/CITY ENGINEER DATE

**BUS STOP WITH TURNOUT**

REVISIONS			
DATE	BY	MARK	APPROVED

**CITY OF RIALTO, CALIFORNIA  
 PUBLIC WORKS DEPARTMENT  
 ENGINEERING DIVISION**



**GENERAL NOTES:**

1. CURB SHALL BE CORED DRILLED BY A LICENSED CONTRACTOR.
2. PIPE SHALL BE MINIMUM OF SCHEDULE 80 PVC PIPE (3" DIA. MAX.).
3. SLOPE OF PIPE SHALL BE SLOPED 2% MINIMUM.
4. AREA BETWEEN PIPE AND CURB CORE SHALL BE FILLED IN WITH CONCRETE.
5. CURB CORES ARE NOT ALLOWED IN CURB LESS THAN 8" HIGH.

NOT TO SCALE

**APPROVED BY:**

*Marcus Fuller* 11/25/14  
**P.W. DIRECTOR/CITY ENGINEER** **DATE**

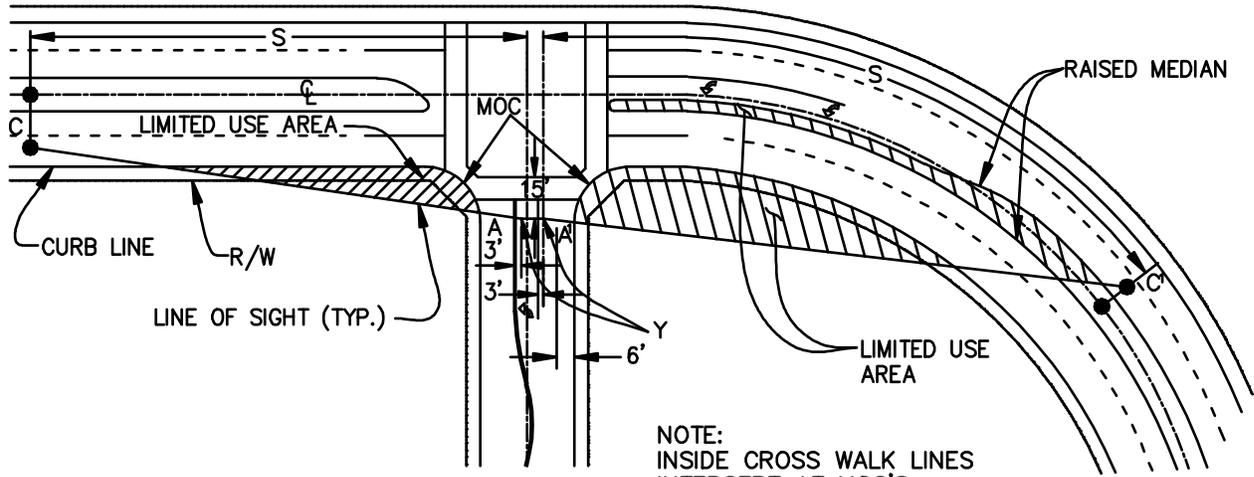
**CURB CORE DRAINAGE**

REVISIONS			
DATE	BY	MARK	APPROVED

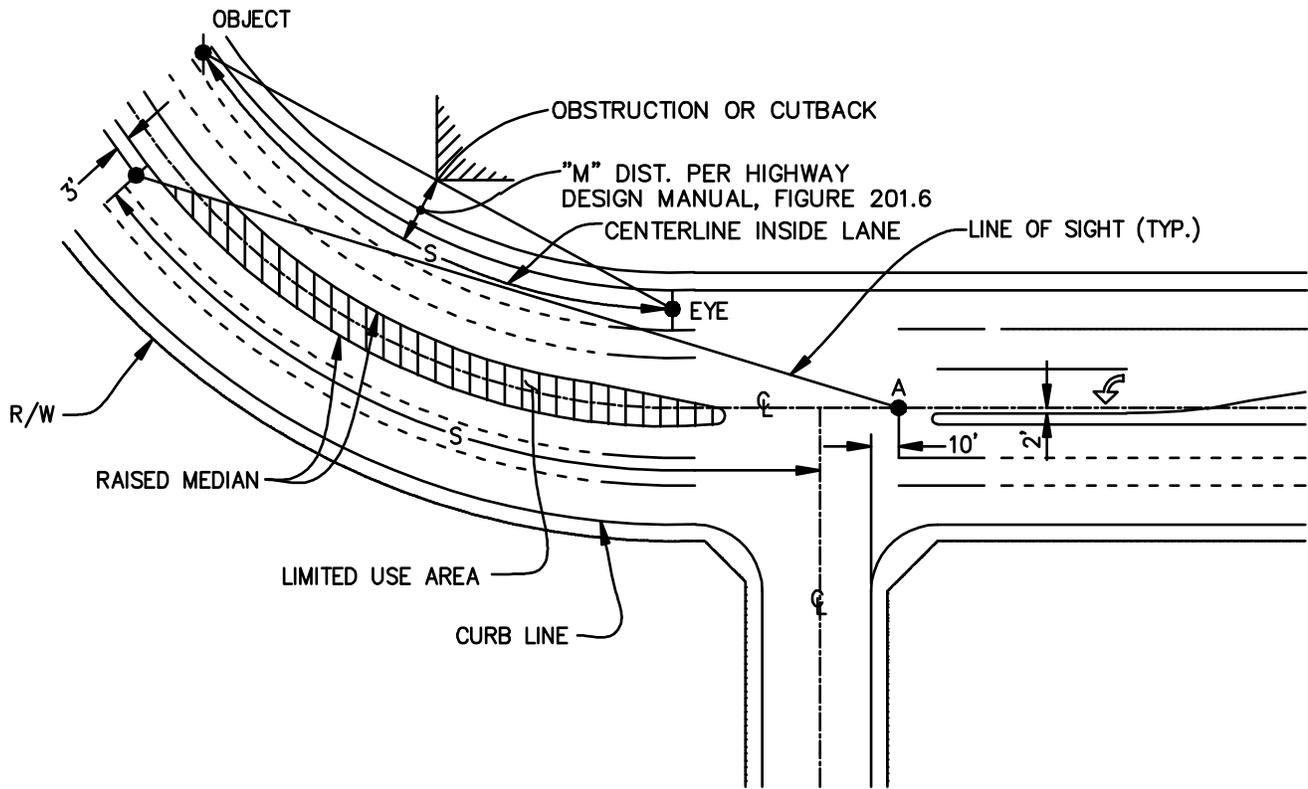
**CITY OF RIALTO, CALIFORNIA  
 PUBLIC WORKS DEPARTMENT  
 ENGINEERING DIVISION**

**STANDARD NO. SC-221**

**SHT 1 OF 1**



LEFT AND RIGHT TURN OUT  
AND CROSS TRAFFIC  
SIGHT DISTANCE



LEFT TURN IN  
SIGHT DISTANCE

NOT TO SCALE

**APPROVED BY:**

*Manus Fuller*

11/25/14

P.W. DIRECTOR/CITY ENGINEER

DATE

**INTERSECTION  
SIGHT DISTANCE**

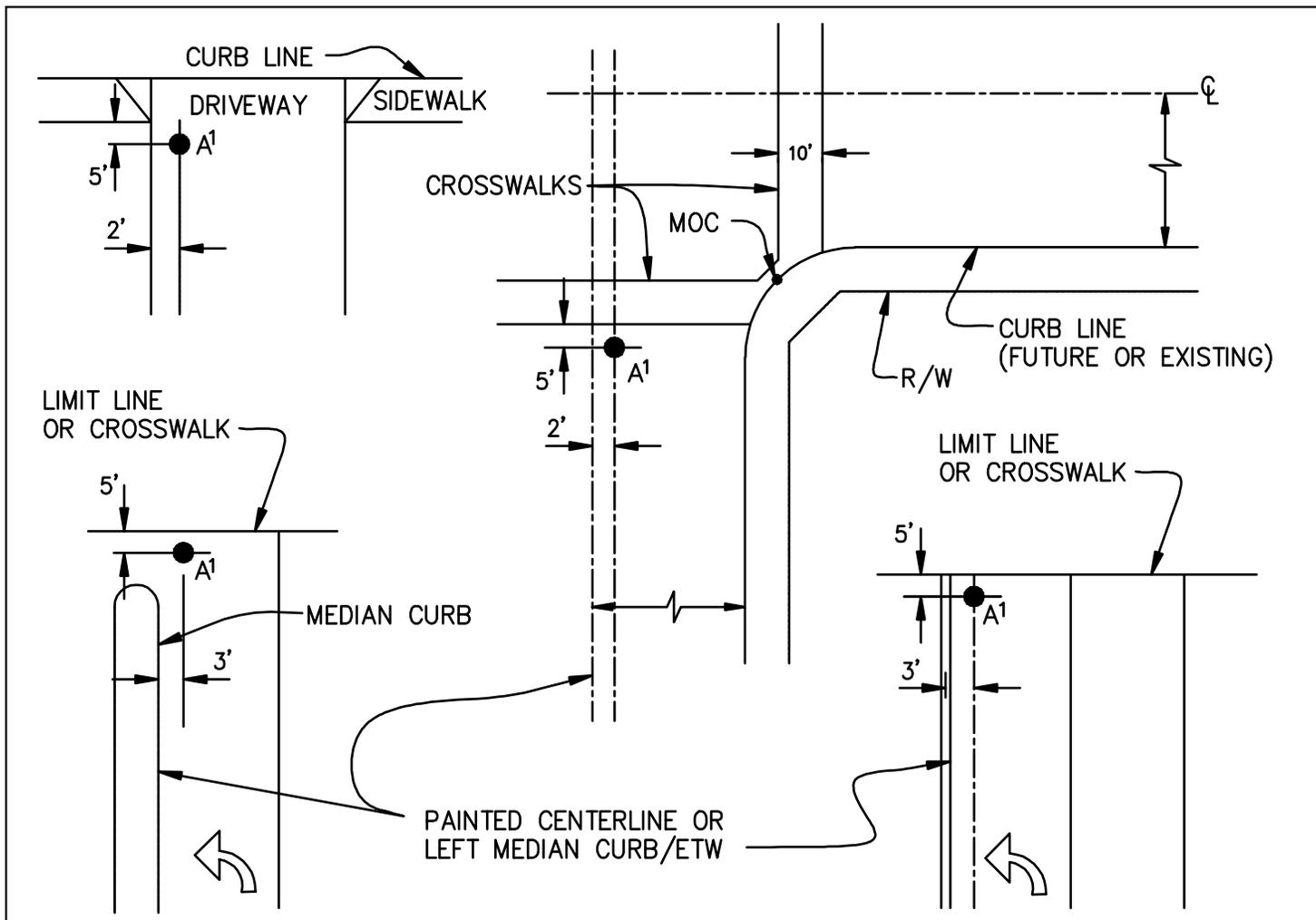
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DATE	BY	MARK	APPROVED

**CITY OF RIALTO, CALIFORNIA  
PUBLIC WORKS DEPARTMENT  
ENGINEERING DIVISION**

**STANDARD NO. SC-222**

**SHT 1 OF 3**



DESIGN SPEED OR 85TH PERCENTILE (MPH)	(1) DESIRABLE CORNER SIGHT DISTANCE S	(2) MINIMUM SIGHT DISTANCE (FT) S
25	275	155
30	330	200
35	385	250
40	440	305
45	495	360
50	550	425
55	605	495
60	660	570
65	715	645
70	770	730

- NOTES:
- = POINT OF MEASUREMENT.
  - FOR INTERSECTION CASES, SEE SHEET 3 FOR APPLICATION.
  - REFER TO SHEET 1 FOR LINE OF SIGHT APPLICATION TO DISTANCE (S).
  - WHERE VEHICLES ARE BACKING INTO ON COMING TRAFFIC, A' SHALL BE 13' VERSUS 5'.
  - MOC - MIDDLE OF CURB RETURN.

(2) STOPPING DISTANCE = MIN. SIGHT DISTANCE = S  
 (1) CORNER SIGHT DISTANCE = DESIRABLE

NOT TO SCALE

**APPROVED BY:**  
*Marcus Fuller* 11/25/14  
**P.W. DIRECTOR/CITY ENGINEER** **DATE**

**INTERSECTION SIGHT DISTANCE**

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DATE	BY	MARK	APPROVED

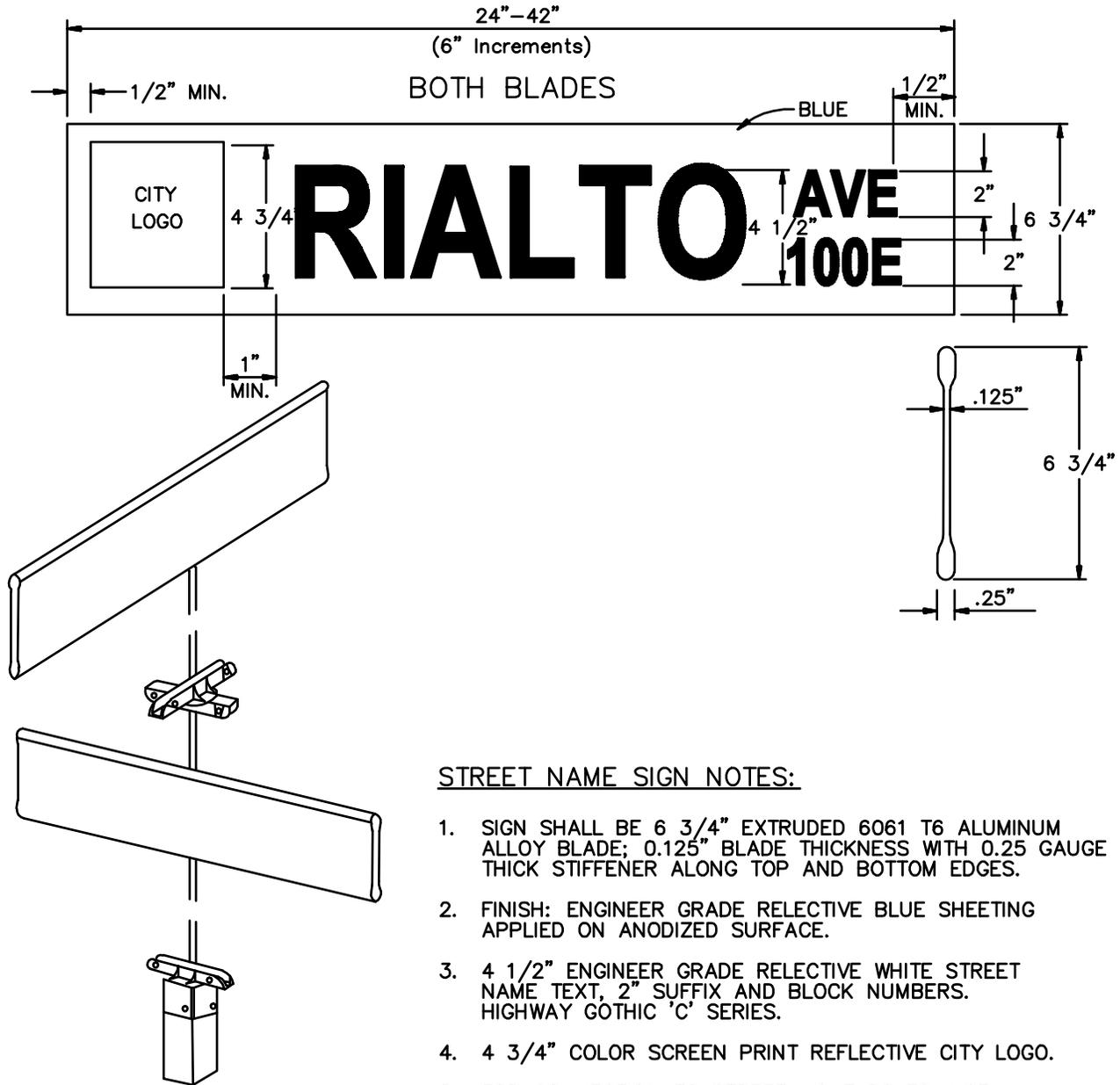
**CITY OF RIALTO, CALIFORNIA  
 PUBLIC WORKS DEPARTMENT  
 ENGINEERING DIVISION**

**GENERAL NOTES:**

1. THE DISTANCE S REPRESENTS THE INTERSECTION SIGHT DISTANCE MEASURED ALONG THE CENTERLINE OF THE ROAD. THE INTERSECTION SIGHT DISTANCE IS THE DISTANCE REQUIRED TO ALLOW STOPPING DISTANCE FOR THE DRIVER ON THE CROSS ROAD (OR LEFT TURN POCKET) TO SAFELY CROSS THE MAIN ROADWAY OR TURN LEFT WHILE THE APPROACH VEHICLE TRAVELS AT THE ASSUMED DESIGN SPEED OF THE MAIN ROADWAY.
2. THE DISTANCE S SHOULD BE INCREASED BY 20% FROM THE AMOUNT SHOWN ON THE STOPPING DISTANCE TABLE ON SUSTAINED DOWNGRADES STEEPER THAN 3% AND LONGER THAN ONE MILE.
3. POINTS A AND A' ARE THE LOCATIONS OF A DRIVER'S LINE OF SIGHT (3.5 FOOT EYE HEIGHT) TO ONCOMING VEHICLES (4.25 FOOT OBJECT HEIGHT) LOCATED AT POINTS C AND C' WHILE IN A VEHICLE AT AN INTERSECTION 5 FEET BACK FROM THE PROJECTION OF THE FIRST CROSSWALK LINE LEADING INTO THE INTERSECTION. IN NO CASE SHALL POINTS A AND A' BE LESS THAN FIFTEEN FEET FROM THE EDGE OF THE TRAVELED WAY.
4. THE DISTANCE Y IS THE 3' DISTANCE MEASURED FROM THE LEFT EDGE OF THE TRAVELED WAY TO THE LOCATION OF THE DRIVER.
5. THE LIMITED USE AREA IS DETERMINED BY THE GRAPHICAL METHOD USING THE APPROPRIATE DISTANCES GIVEN IN THE ABOVE TABLE. IT SHALL BE USED FOR THE PURPOSE OF PROHIBITING OR CLEARING OBSTRUCTIONS IN ORDER TO MAINTAIN ADEQUATE SIGHT DISTANCE AT INTERSECTIONS.
6. THE LINE OF SIGHT LINE SHALL BE SHOWN AT INTERSECTIONS ON ALL LANDSCAPING PLANS, GRADING PLANS, AND TENTATIVE TRACT PLANS. IN CASES, WHERE AN INTERSECTION IS LOCATED ON A VERTICAL CURVE, A PROFILE OF THE LINE OF SIGHT MAY BE REQUIRED. THE LANDSCAPE PLAN SUBMITTED SHALL SHOW THE NAME, LOCATION AND MATURE DIMENSIONS, PLOTTED TO SCALE OF ALL THE PROPOSED TREES WITHIN THE LIMITED USE AREA.
7. OBSTRUCTIONS SUCH AS BUS SHELTERS, WALLS OR LANDSCAPING WITHIN THE LIMITED USE AREA WHICH COULD RESTRICT THE LINE OF SIGHT SHALL NOT BE PERMITTED. DRIVEWAYS ARE NOT PERMITTED WITHIN INTERSECTION AREA DUE TO SIGHT DISTANCE RESTRICTION BY ENTERING VEHICLES.
  - a. PLANTS AND SHRUBS WITHIN THE LIMITED USE ARE SHALL BE OF THE TYPE THAT WILL GROW NO HIGHER THAN 30" ABOVE THE TOP OF CURB AND SHALL BE MAINTAINED AT A HEIGHT WHICH WILL ASSURE THAT THE 30" MAXIMUM HEIGHT IS NOT EXCEEDED BETWEEN MAINTENANCE INTERVALS. MAINTENANCE AT A LOWER HEIGHT MAY BE REQUIRED ON CREST VERTICAL CURVES PER NOTE 6 ABOVE.
  - b. A PROFILE DETAIL OF THE LINE OF SIGHT MAY BE REQUIRED TO VERIFY 12" MINIMUM VERTICAL CLEARANCE ABOVE VARIABLE HEIGHT OBSTRUCTIONS SUCH AS SLOPE LANDSCAPING, PLANTS, SHRUBS AND WALLS.
  - c. THE TOE OF SLOPE MAY NOT ENCROACH INTO THE LIMITED USE AREA UNLESS THE REQUIREMENTS OF (b) ABOVE ARE SATISFIED.
  - d. IN LIEU OF PROVIDING A PROFILE OF THE LINE OF SIGHT PER NOTE 7.b. ABOVE, THE TOE OF SLOPE SHALL NOT ENCROACH INTO THE LIMITED USE AREA, AND THE LIMITED USE AREA SHALL SLOPE 2% MAXIMUM BETWEEN THE LINE OF SIGHT AND THE BACK OF SIDEWALK.
8. NO PARKING OF ANY KIND IS TO BE ALLOWED WITHIN THE LIMITED USE AREA.
9. TREES ARE GENERALLY NOT PERMITTED WITHIN ANY PORTION OF THE LIMITED USE AREA. EXCEPTIONS ARE ALLOWED WHEN THE SPECIES HAS A MATURE DIAMETER OF LESS THAN 6 INCHES.
10. MEDIAN AREAS LESS THAN FIVE (5) FEET IN WIDTH SHALL NOT BE LANDSCAPED.
11. INTERSECTION SIGHT DISTANCE AT RIGHT ANGLE INTERSECTIONS IS MEASURED FROM THE IDENTIFIED MEASUREMENT POINT A<sup>1</sup>, IN ACCORDANCE WITH THE DIAGRAMS ON SHEET 2.
12. WHERE RESTRICTIVE CONDITION EXIST, CORNER SIGHT DISTANCE SHALL BE EQUAL TO THE STOPPING SIGHT DISTANCE.

NOT TO SCALE

	<p><b>APPROVED BY:</b></p> <p><i>Marcus Fuller</i>      11/25/14</p> <p><b>P.W. DIRECTOR/CITY ENGINEER      DATE</b></p>	<p><b>INTERSECTION SIGHT DISTANCE</b></p>																	
	<p><b>REVISIONS</b></p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 15%;">DATE</th> <th style="width: 15%;">BY</th> <th style="width: 15%;">MARK</th> <th style="width: 55%;">APPROVED</th> </tr> </thead> <tbody> <tr><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td></tr> </tbody> </table>	DATE	BY	MARK	APPROVED													<p><b>CITY OF RIALTO, CALIFORNIA PUBLIC WORKS DEPARTMENT ENGINEERING DIVISION</b></p>	
DATE	BY	MARK	APPROVED																
		<p><b>STANDARD NO. SC-222</b></p>	<p><b>SHT 3 OF 3</b></p>																



**STREET NAME SIGN NOTES:**

1. SIGN SHALL BE 6 3/4" EXTRUDED 6061 T6 ALUMINUM ALLOY BLADE; 0.125" BLADE THICKNESS WITH 0.25 GAUGE THICK STIFFENER ALONG TOP AND BOTTOM EDGES.
2. FINISH: ENGINEER GRADE RELECTIVE BLUE SHEETING APPLIED ON ANODIZED SURFACE.
3. 4 1/2" ENGINEER GRADE RELECTIVE WHITE STREET NAME TEXT, 2" SUFFIX AND BLOCK NUMBERS. HIGHWAY GOTHIC 'C' SERIES.
4. 4 3/4" COLOR SCREEN PRINT REFLECTIVE CITY LOGO.
5. FOR CONNECTION TO STREET LIGHT POLES, USE HALL SIGNS INC. #800 METRO WING BRACKET WITH #BB7 BUCKLE BRACKET OR APPROVED EQUAL. STEEL BAND AND HARDWARE MUST BE STAINLESS STEEL.
6. CENTER CROSS SADDLE SHALL BE ONE PIECE CAST ALUMINUM WITH DRILL THROUGH HOLES (HALL SIGNS INC. SUPR-LOK PRUF 990X OR APPROVED EQUAL) FOR MOUNTING SIGN WITH 5/16" X 1" HEXCAP BOLT.
7. ONE PIECE 2" CAST ALUMINUM POST CAP WITH FOUR (4) 5/16" STAINLESS STEEL ALLEN HEAD SET SCREWS AND DRILL THROUGH HOLES (HALL SIGNS INC. SUPR-LOK PRUF 97SQX OR APPROVED EQUAL) FOR MOUNTING SIGN WITH 5/16" X 1" HEXCAP BOLT. (FOR EXISTING 2" ROUND STEEL POST CONNECTION USE A HALL SIGNS INC. SUPR-LOK PRUF #522X CAP BRACKET OR APPROVED EQUAL).

NOT TO SCALE

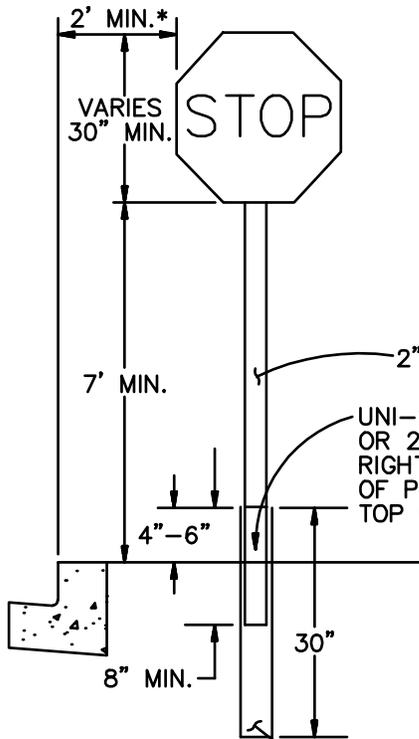
**APPROVED BY:**

*Manus Fuller* 11/25/14  
 P.W. DIRECTOR/CITY ENGINEER DATE

**SIGN POST  
 INSTALLATION**

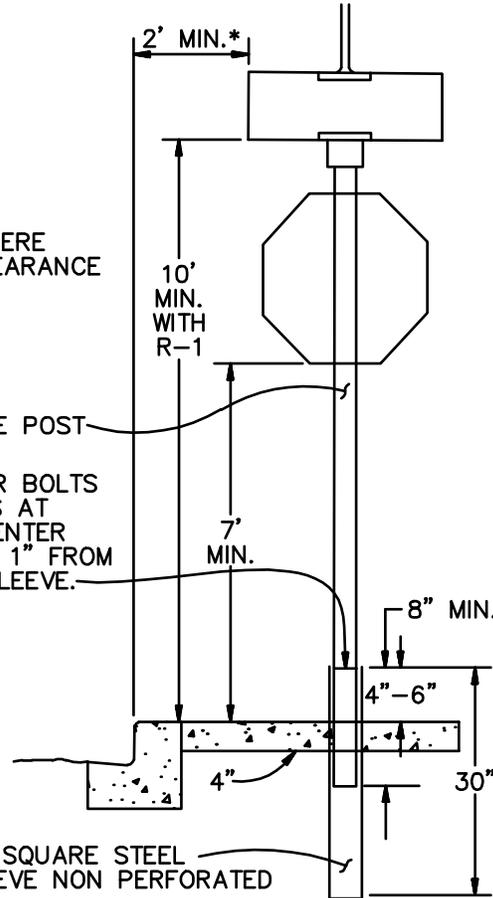
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DATE	BY	MARK	APPROVED

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 PUBLIC WORKS DEPARTMENT  
 ENGINEERING DIVISION**



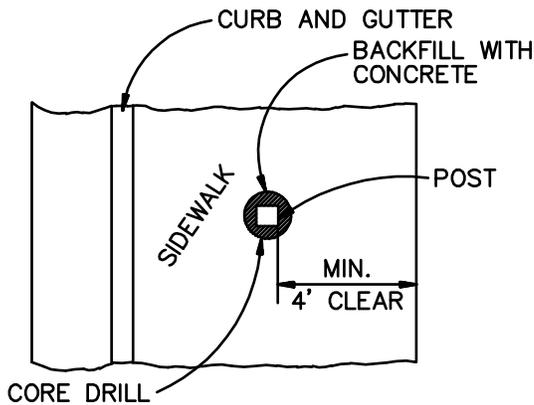
**WARNING AND REGULATORY SIGNS**  
SEE NOTE 7 PAGE 3

\* 1' MIN. WHERE LATERAL CLEARANCE IS LIMITED.



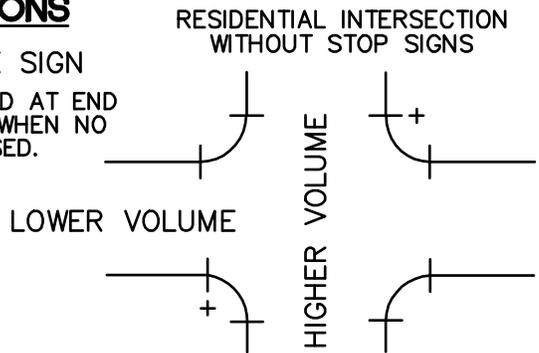
**STREET NAME SIGN**  
SEE NOTE 7 PAGE 3

**SAMPLE SIGN LOCATIONS**



**PLAN VIEW**

+ STREET NAME SIGN  
SIGNS TO BE PLACED AT END OF CURB RETURN WHEN NO STOP SIGNS ARE USED.



SEE GENERAL NOTES ON SHEET 3 OF 3 FOR THESE AND OTHER TYPES OF SIGNS.

NOT TO SCALE

**APPROVED BY:**

*Marcus Fuller* 11/25/14  
P.W. DIRECTOR/CITY ENGINEER DATE

**SIGN POST INSTALLATION**

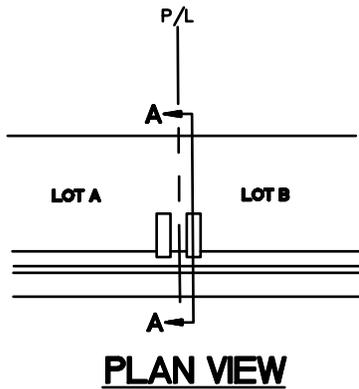
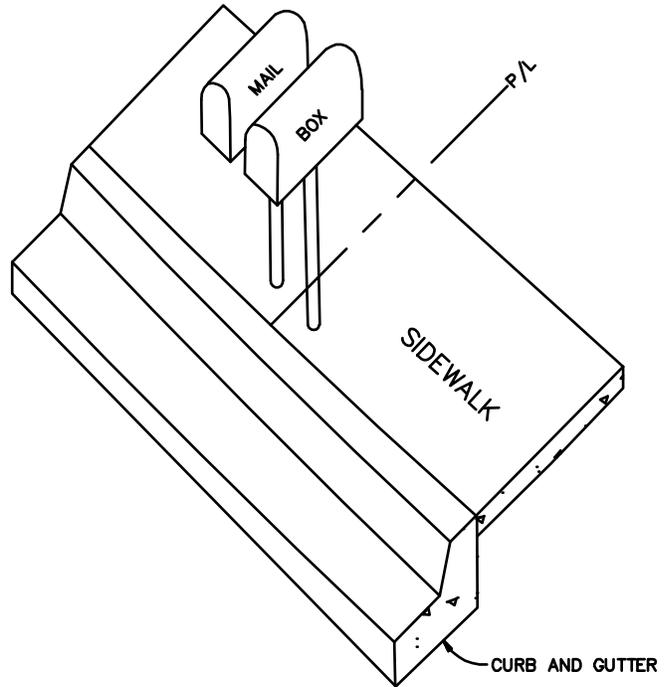
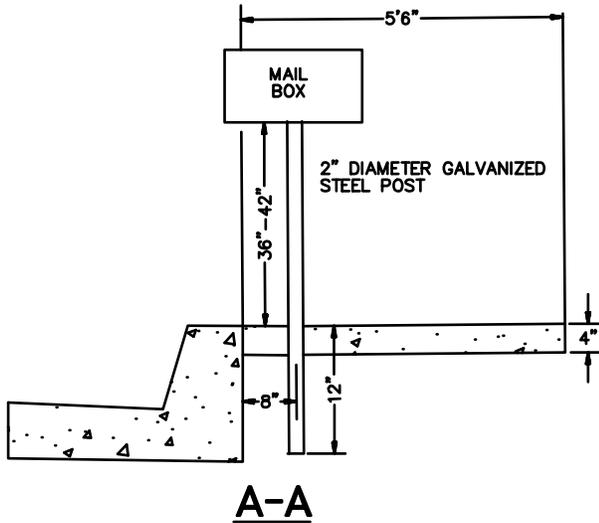
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**CITY OF RIALTO, CALIFORNIA  
PUBLIC WORKS DEPARTMENT  
ENGINEERING DIVISION**

**STANDARD NO. SC-223**

**SHT 2 OF 3**





**GENERAL NOTES:**

1. SUBMIT PLAN OF LOCATION OF MAIL BOXES FOR APPROVAL BY CITY ENGINEER.
2. DEVELOPER IS RESPONSIBLE FOR INSTALLATION OF ALL BOXES AT LOCATIONS APPROVED BY THE CITY ENGINEER.
3. COLOR OF MAIL BOX IS TO BE BLACK.
4. CURB MAIL SERVICE SUBJECT TO APPROVAL BY LOCAL POSTMASTER AT MAIN BRANCH U.S. POSTAL SERVICE.

NOT TO SCALE

**APPROVED BY:**

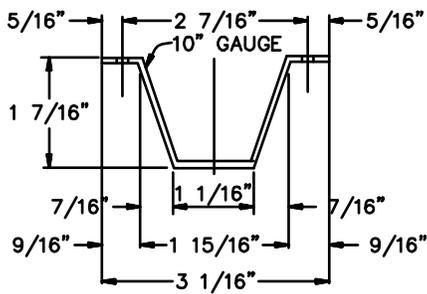
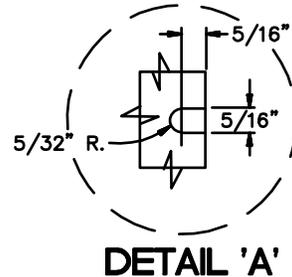
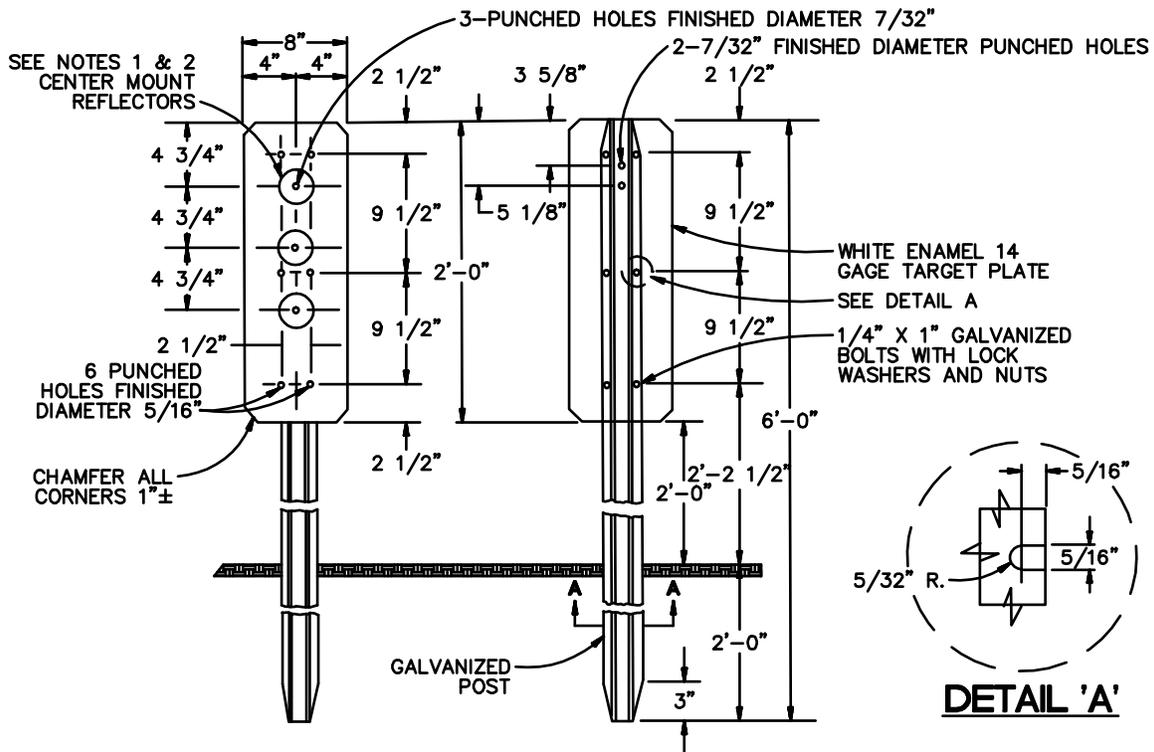
*Marina Fuller* 11/25/14  
**P.W. DIRECTOR/CITY ENGINEER** **DATE**

**MAIL BOX**

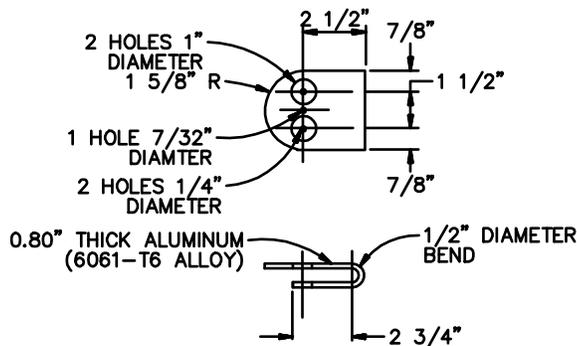
**CITY OF RIALTO, CALIFORNIA  
 PUBLIC WORKS DEPARTMENT  
 ENGINEERING DIVISION**

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DATE	BY	MARK	APPROVED

**STANDARD NO. SC-224** **SHT 1 OF 1**



**SECTION A-A**



**REAR MOUNT BRACKET**

**GENERAL NOTES:**

1. CLEARANCE MARKER (L-1) THREE 3 1/4" YELLOW CENTERMOUNT REFLECTORS.
2. GUIDE MARKERS ONE 3 1/4" WHITE CENTERMOUNT REFLECTOR.
3. REAR MOUNT REFLECTOR BRACKET SHALL BE USED ON CURVES. BRACKET SHALL BE ATTACHED WITH 3/16" BLIND ALUMINUM RIVETS AND USED TO MOUNT A 3" WHITE REFLECTOR.
4. ALL MATERIALS SHALL CONFORM TO STATE OF CALIFORNIA MUTCD.
5. HOLE DIAMETERS APPLY TO DIMENSION AFTER ITEM IS PAINTED.

NOT TO SCALE

**APPROVED BY:**

*Manus Fuller*

11/25/14

P.W. DIRECTOR/CITY ENGINEER

DATE

**REVISIONS**

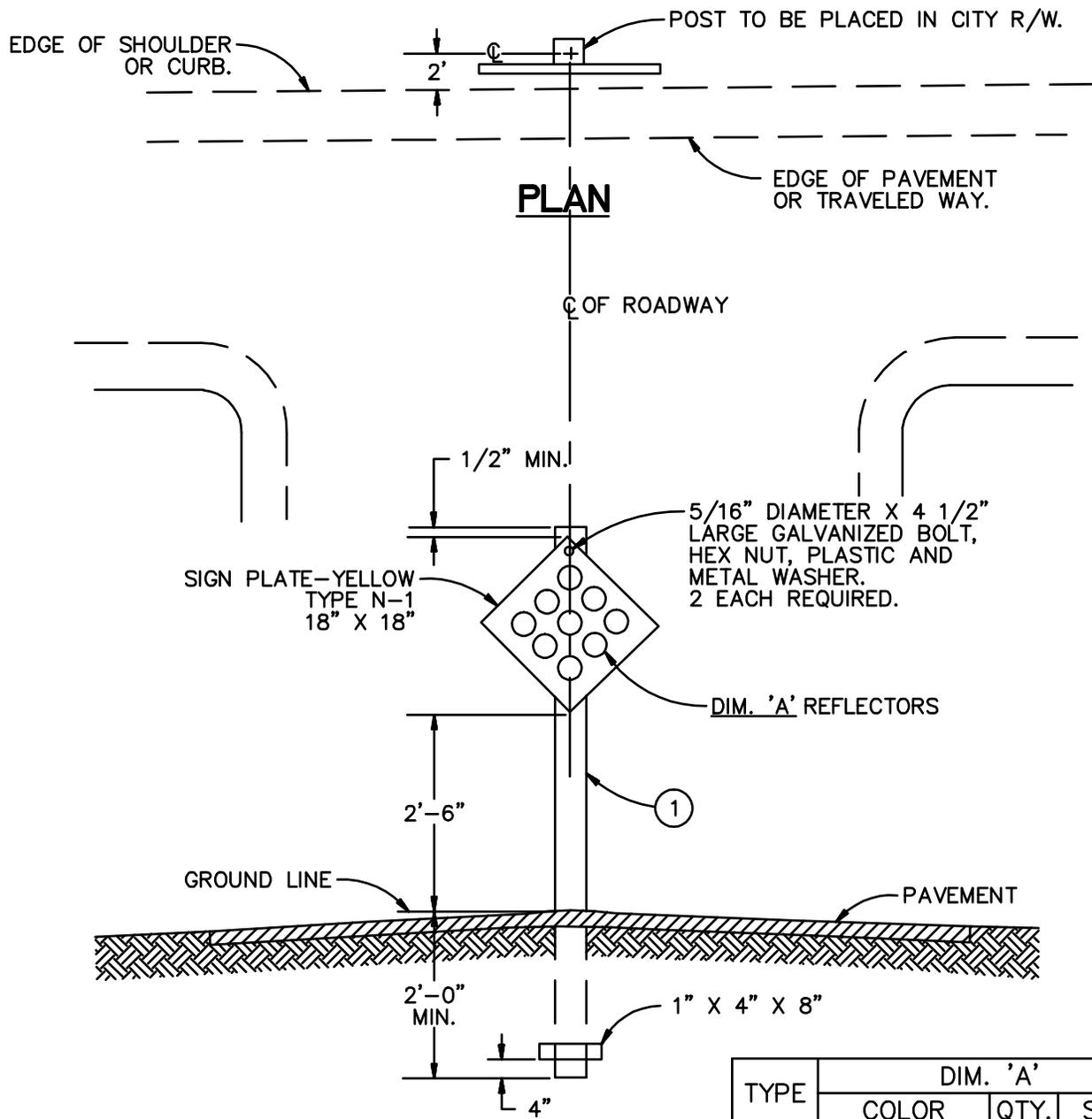
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**TYPE 'L' MARKERS**

**CITY OF RIALTO, CALIFORNIA  
PUBLIC WORKS DEPARTMENT  
ENGINEERING DIVISION**

**STANDARD NO. SC-225**

**SHT 1 OF 1**



TYPE	DIM. 'A'		
	COLOR	QTY.	SIZE
1	YELLOW	9	3 1/4"

**NOTES:**

① POST SHALL BE 4" X 4" CONSTRUCTION HEART REDWOOD OR BETTER, S-4-S.

**GENERAL NOTES:**

1. MATERIAL AND SIGN SHALL CONFORM TO STATE OF CALIFORNIA MUTCD.

NOT TO SCALE

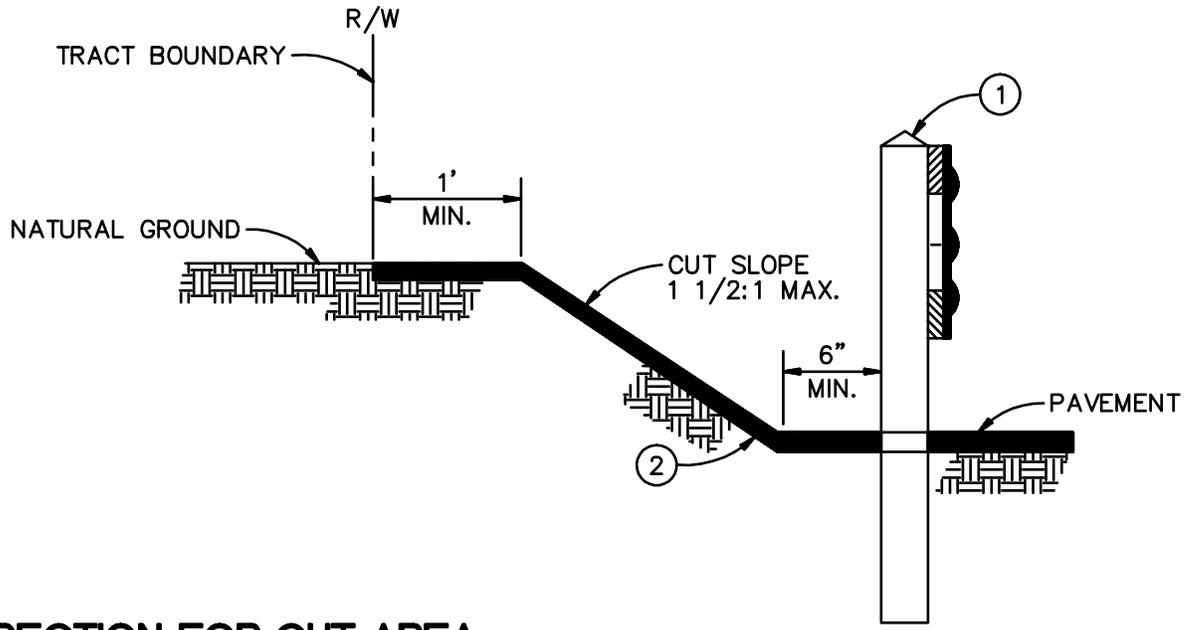
**APPROVED BY:**  
*Marcus Fuller* 11/25/14  
 P.W. DIRECTOR/CITY ENGINEER DATE

**OBSTRUCTION SIGN AND POST**

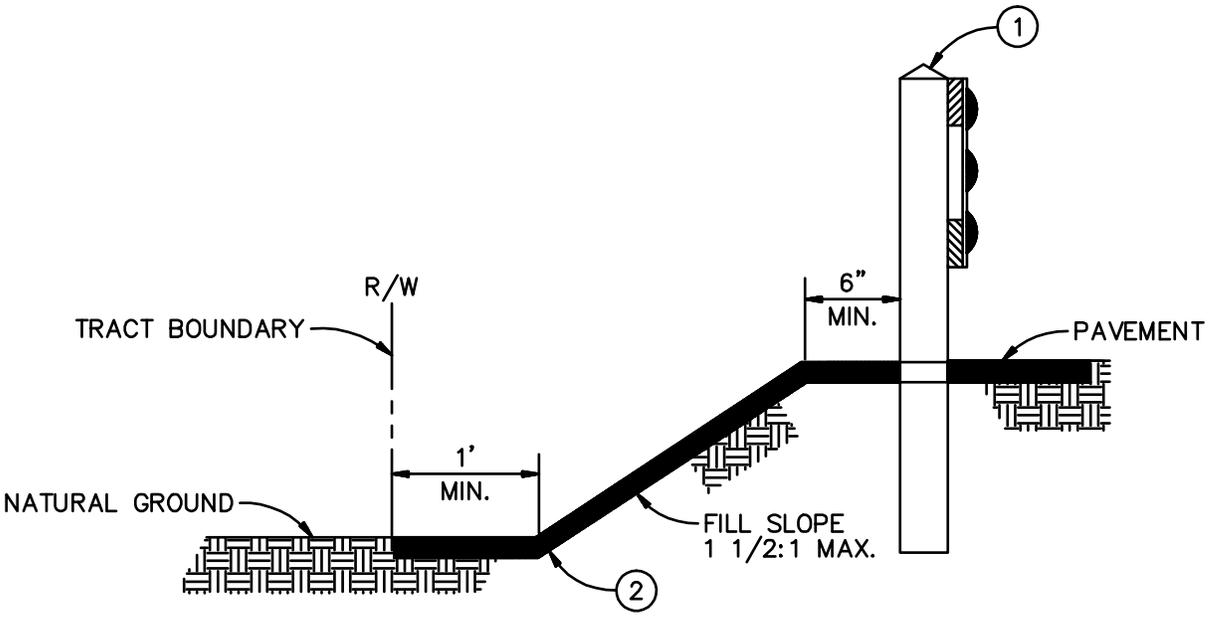
REVISIONS			
DATE	BY	MARK	APPROVED

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 PUBLIC WORKS DEPARTMENT  
 ENGINEERING DIVISION**

**STANDARD NO. SC-226      SHT 1 OF 1**



**SECTION FOR CUT AREA**



**SECTION FOR FILL AREA**

NOT TO SCALE

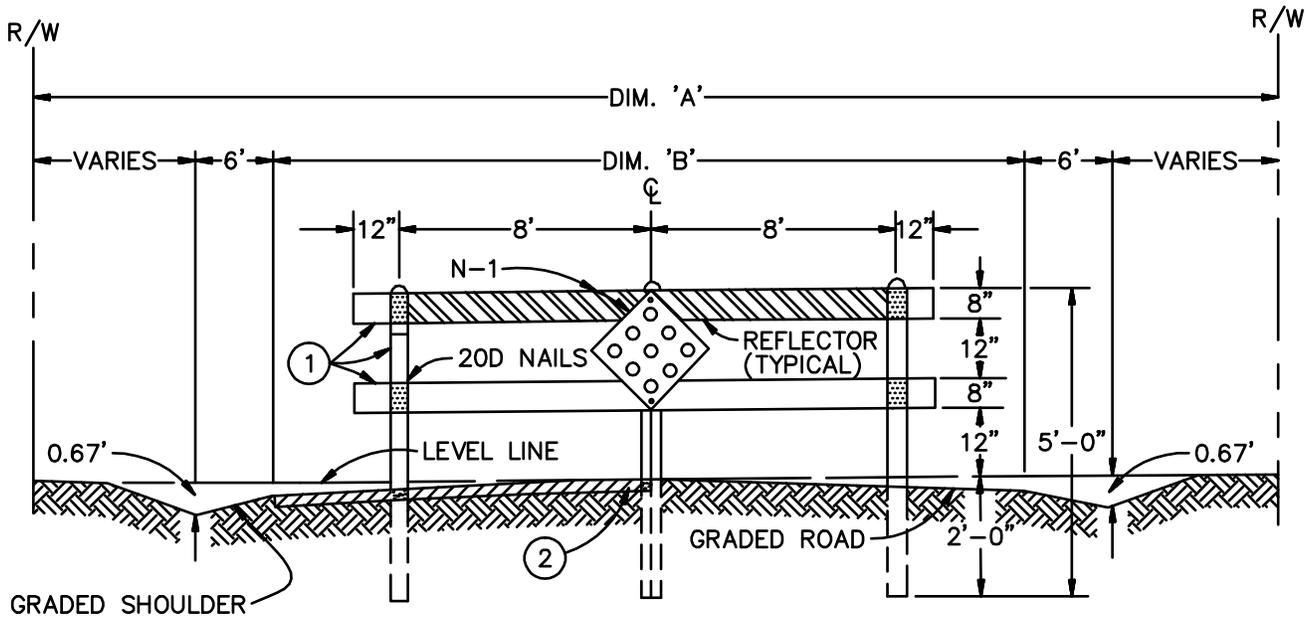
**APPROVED BY:**  
*Marcus Fuller*  
 P.W. DIRECTOR/CITY ENGINEER      11/25/14  
 DATE

**BARRICADE  
 POST AND SIGN**

REVISIONS			
DATE	BY	MARK	APPROVED

**CITY OF RIALTO, CALIFORNIA  
 PUBLIC WORKS DEPARTMENT  
 ENGINEERING DIVISION**

**STANDARD NO. SC-227      SHT 2 OF 2**



TYPE	DIM. 'A'	DIM. 'B' WIDTH OF ROADWAY	NUMBER OF EIGHT FOOT SECTIONS	TOTAL LENGTH OF PANELS
1	60'	36'	4 SECTIONS	34'-0"
2	64'	40'	4 SECTIONS	34'-0"
3	60'	44'	5 SECTIONS	42'-0"
4	88'	64'	7 SECTIONS	58'-0"
5	20'	20' ALLEY	2 SECTIONS	18'-0"

**NOTES:**

- ① POST ARE TO BE CHAMFERED 6" X 6" X 5'-0" CONST. HEART REDWOOD, S-4-S. TWO CROSS PLANKS ARE TO BE 2" X 6" DOUGLAS FIR, CONSTRUCTION GRADE.
- ② ASPHALT CONCRETE SHALL BE MINIMUM 3 INCHES THICK ON CUT OR FILL AREAS.

**GENERAL NOTES:**

- 1. BARRICADE MATERIALS AND N-1 REFLECTOR SHALL CONFORM TO STATE OF CALIFORNIA MUTCD.
- 2. ALL EXPOSED WOOD SURFACES SHALL BE GIVEN 2 BRUSH COATS OF FUME-RESISTANT EXTERIOR WHITE PAINT CONFORMING TO STATE OF CALIFORNIA SPECIFICATION 58-G-06.

NOT TO SCALE

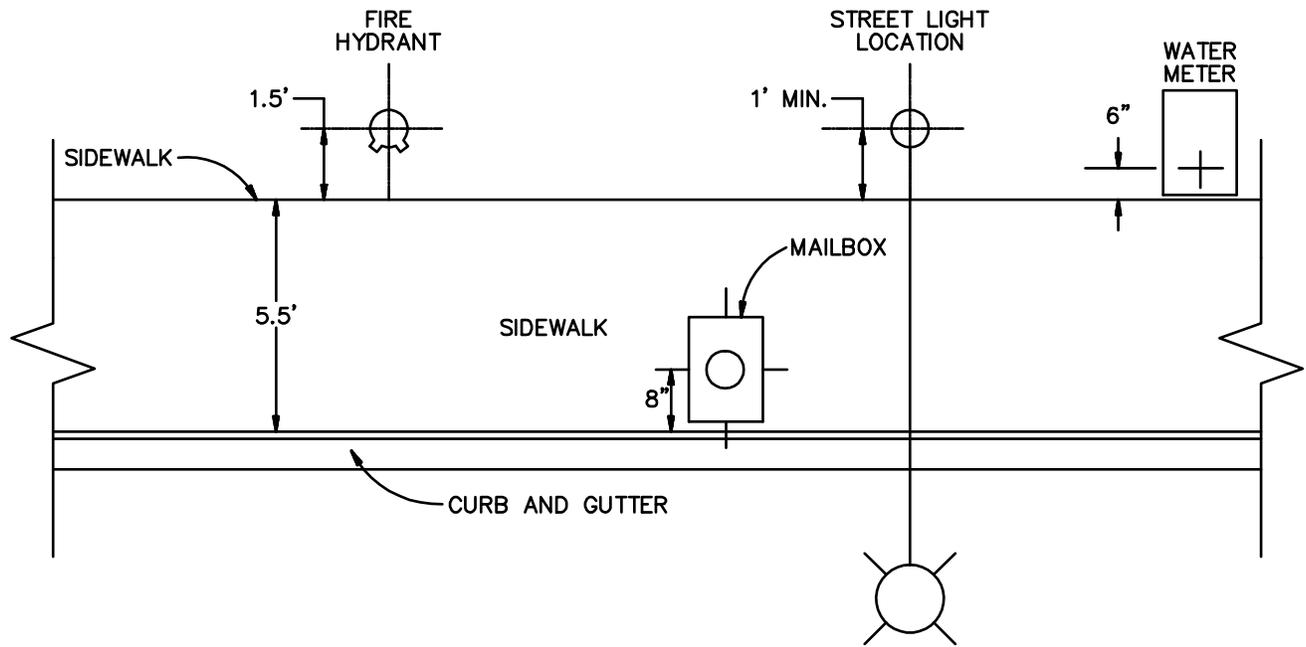
**APPROVED BY:**

*Marcus Fuller* 11/25/14  
P.W. DIRECTOR/CITY ENGINEER DATE

**BARRICADE POST AND SIGN**

REVISIONS			
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PUBLIC WORKS DEPARTMENT  
ENGINEERING DIVISION**



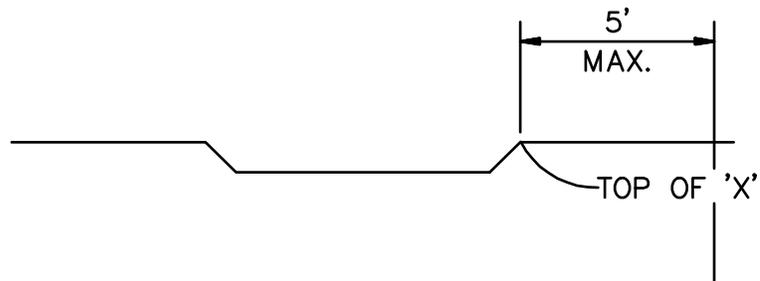
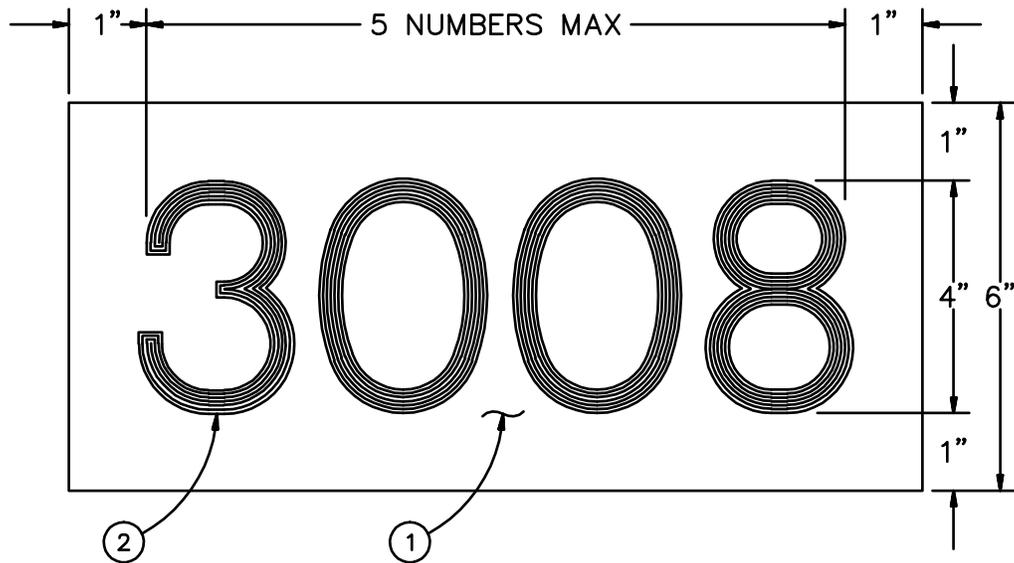
NOT TO SCALE

**APPROVED BY:**  
*Marissa Fuller* 11/25/14  
 P.W. DIRECTOR/CITY ENGINEER DATE

**UTILITY LOCATIONS  
ON CURB SIDEWALK**

REVISIONS			
DATE	BY	MARK	APPROVED

**CITY OF RIALTO, CALIFORNIA  
PUBLIC WORKS DEPARTMENT  
ENGINEERING DIVISION**



**NOTES:**

- ① BACKGROUND SHALL BE OF WHITE PAINT.
- ② NUMERALS SHALL BE OF BLACK PAINT.

**GENERAL NOTES:**

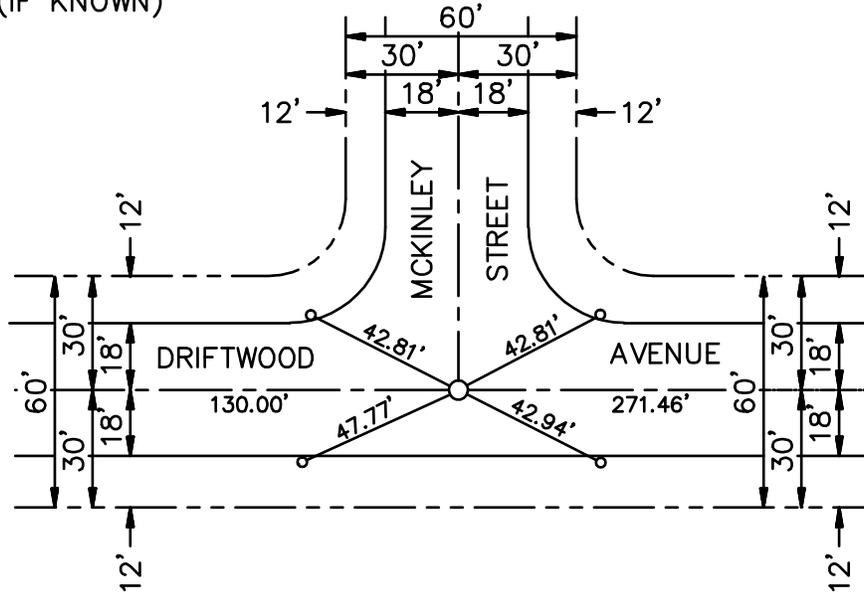
- 1. REPAINTED NUMERALS SHALL BE LOCATED DIRECTLY OVER THE OLD NUMERALS.
- 2. NEW NUMERALS SHALL BE LOCATED MAX. 5' FROM TOP OF 'X' OF DRIVEWAY. TOWARDS MIDDLE OF PROPERTY.
- 2. PAINTED CURB ADDRESS IS NOT REQUIRED BY CITY, AND ARE AT PROPERTY OWNER'S EXPENSE.

NOT TO SCALE

	<p><b>APPROVED BY:</b>            P.W. DIRECTOR/CITY ENGINEER      11/25/14          DATE</p>	<p><b>CURB ADDRESS</b></p>																	
	<p><b>REVISIONS</b></p>	<p><b>CITY OF RIALTO, CALIFORNIA          PUBLIC WORKS DEPARTMENT          ENGINEERING DIVISION</b></p>																	
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DATE	BY			MARK	APPROVED														
		<p><b>STANDARD NO. SC-229      SHT 1 OF 1</b></p>																	

EXAMPLE:  
 DRIFTWOOD AVENUE AND MCKINLEY STREET (STREET NAME)  
 TRACT 10159 (TRACT NO.)

GPS COORDINATES OF  $\phi$   
 (IF KNOWN)



**GENERAL NOTES:**

1. ALL TAGS AND FLASHERS, STREET NAMES, ETC. TO BE LABELED ON 4" X 6" INDEX CARD.
2. ALL REFERENCE POINTS SHALL BE LEAD AND TACK OR NAIL AND TAG.
3. TIE POINTS NOT TO BE IN CURB RETURN.
4. CENTERLINE MONUMENTS SHALL BE A 1" IRON PIPE 18" OR LONGER WITH NAIL AND TAG.
5. A MINIMUM OF 4 REFERENCE POINTS FOR EACH INTERSECTION IS REQUIRED.
6. GPS COORDINATES SHALL BE PROVIDED IF KNOWN OR ESTABLISHED DURING SURVEY.

NOT TO SCALE

**APPROVED BY:**

*Marcus Fuller* 11/25/14  
 P.W. DIRECTOR/CITY ENGINEER DATE

**CENTERLINE TIE  
 STANDARD ON  
 4"X6" CARD**

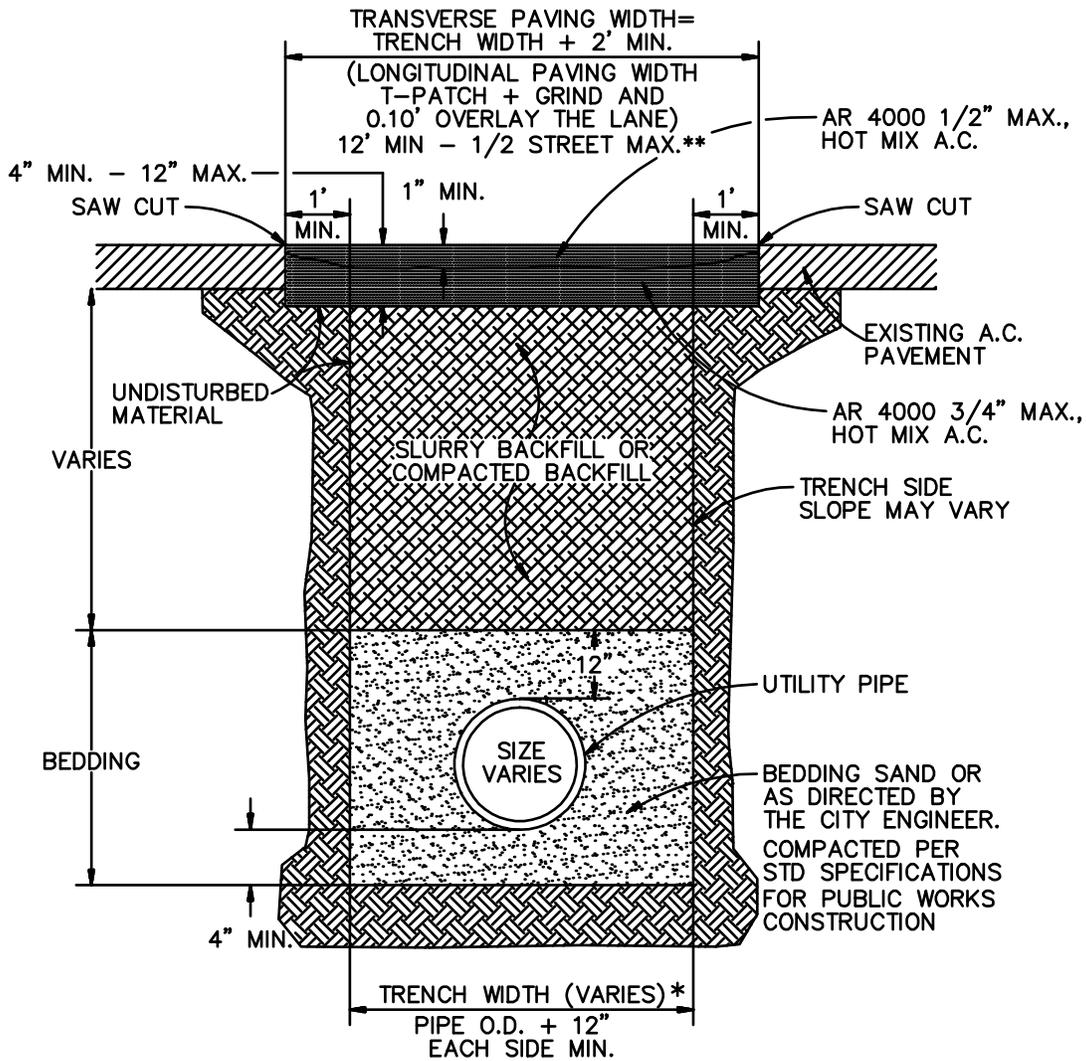
**REVISIONS**

DATE	BY	MARK	APPROVED

**CITY OF RIALTO, CALIFORNIA  
 PUBLIC WORKS DEPARTMENT  
 ENGINEERING DIVISION**

**STANDARD NO. SC-230**

**SHT 1 OF 1**



\* ACTUAL TRENCH WIDTH TO BE AT ENGINEER'S DISCRETION.

\*\* LONGITUDINAL PAVEMENT REPAIR SHALL BE MINIMUM 12' TO LANE LINE OR 1/2 STREET AS DIRECTED BY CITY ENGINEER AND MAY REQUIRE OVERLAY OR SLURRY SEAL.

SEE SHEET 2 FOR GENERAL NOTES.

NOT TO SCALE

**APPROVED BY:**

*Marina Fuller* 11/25/14  
 P.W. DIRECTOR/CITY ENGINEER DATE

**TRENCH WORK**

REVISIONS			
DATE	BY	MARK	APPROVED

**CITY OF RIALTO, CALIFORNIA  
 PUBLIC WORKS DEPARTMENT  
 ENGINEERING DIVISION**

**STANDARD NO. SC-231**

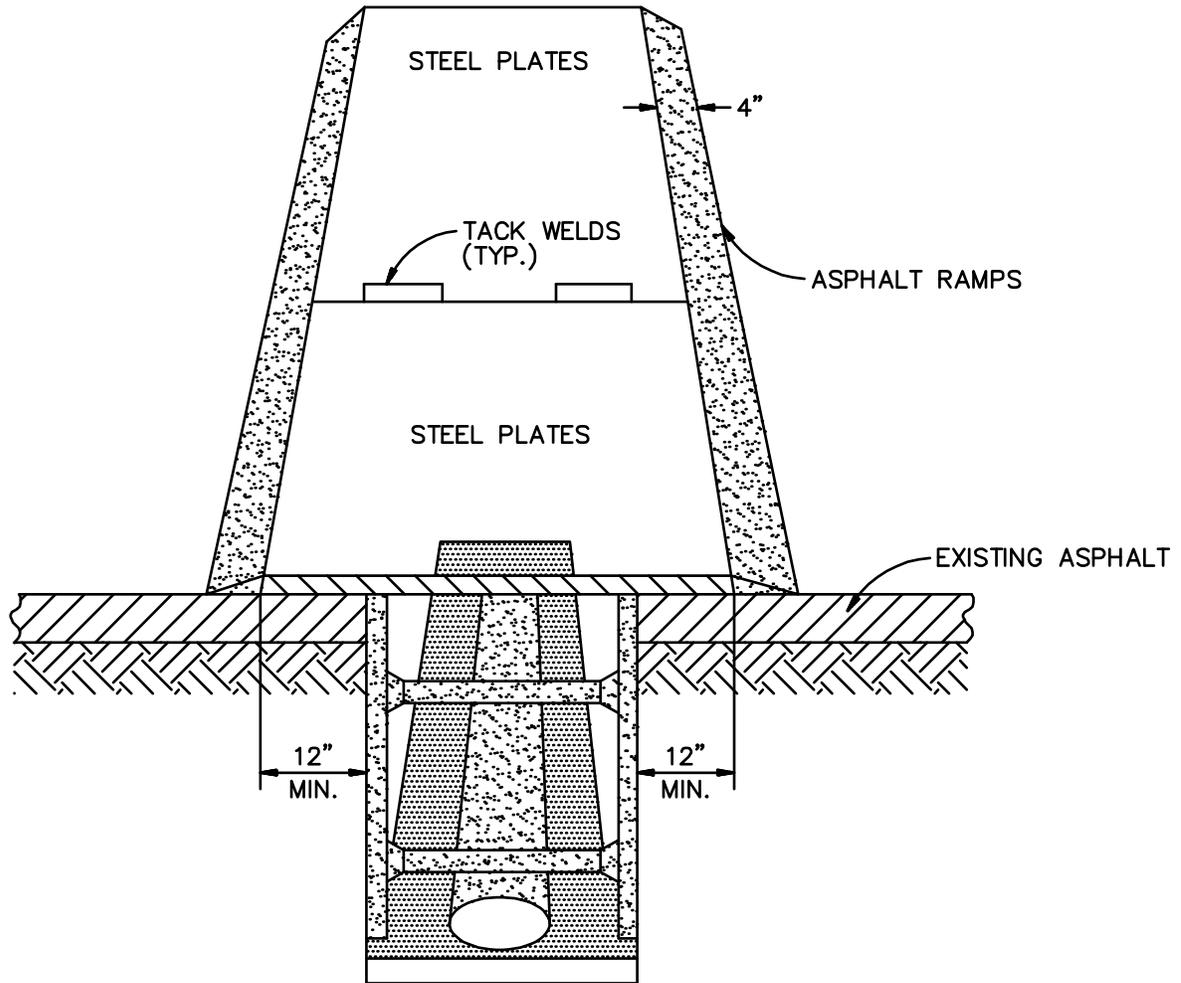
**SHT 1 OF 2**

**GENERAL NOTES:**

1. ALL STREET EXCAVATIONS REQUIRE A PERMIT FROM CITY OF RIALTO PUBLIC WORKS DEPARTMENT.
2. ALL PAVEMENT REMOVALS SHALL BE SAW CUT.
3. THE TRENCH SHALL BE "T" CUT TO 1' OUTSIDE THE TRENCH WIDTH ONTO UNDISTURBED GROUND; THE WIDTH SHALL BE EXTENDED UNTIL 1' OF UNDISTURBED GROUND HAS BEEN EXPOSED.
4. ALL EXCAVATIONS SHALL BE MADE IN A MANNER SET FORTH IN RULES AND SAFETY REGULATIONS PRESCRIBED BY THE CALIFORNIA DIVISION OF INDUSTRIAL SAFETY. A COPY OF CAL OSHA EXCAVATION PERMIT, IF APPLICABLE, SHALL BE FURNISHED TO THE PROJECT INSPECTOR PRIOR TO BEGINNING THE WORK.
5. SOFT OR UNSUITABLE MATERIAL ENCOUNTERED AT THE TRENCH BOTTOM SHALL BE REMOVED TO A DEPTH OF 1' MINIMUM AND REPLACED WITH COMPACTED SAND/ROCK MATERIAL AS DIRECTED BY THE CITY ENGINEER.
6. THE CONTRACTOR/PERMITEE SHALL BE REQUIRED TO FOLLOW THE WORK AREA TRAFFIC CONTROL HANDBOOK OR AS DIRECTED BY THE CITY TRAFFIC ENGINEER.
7. A MINIMUM 2" THICKNESS OF TEMPORARY ASPHALT PAVING SHALL BE PLACED WITHIN THE TRENCH AREA UNTIL PERMANENT REPAIR IS COMPLETED OR AS DIRECTED BY THE CITY ENGINEER. THE TEMPORARY PAVING SHALL BE PLACED, COMPACTED, AND MAINTAINED IN SUCH A MANNER AS TO PROVIDE A SAFE AND SMOOTH TRAVELED SURFACE UNTIL PERMANENT PAVING IS IN PLACE.
8. BEDDING MATERIAL SHALL BE SAND, GRAVEL, CRUSHED AGGREGATE OR NATIVE FREE-DRAINING GRANULAR MATERIAL HAVING A SAND EQUIVALENT OF NOT LESS THAN 30, OR AS DIRECTED BY CITY ENGINEER. THE UPPER 6" SHALL BE CLASS II BASE MATERIAL.
9. LATERAL CROSSINGS ON STREET RIGHT-OF-WAY LARGER THAN 64' IN WIDTH SHALL BE BACKFILLED WITH 100E100 SAND SLURRY. LATERAL CROSSINGS ON STREETS WITH RIGHT-OF-WAY OF 64' OR LESS SHALL USE CLASS II BASE ON UPPER 6" AND ADEQUATE BEDDING MATERIAL FOR THE REMAINING OR 100E100 SAND SLURRY AS BACKFILL. NO NATIVE MATERIAL SHALL BE USED AS BACKFILL.
10. LONGITUDINAL TRENCHES (SAME DIRECTION AS THE STREET) SHALL BE BACKFILLED WITH CLASS II BASE ON UPPER 6" OR 100E100 SAND SLURRY. LONGITUDINAL TRENCHES SHALL BE BASED WITH HOT ASPHALT MIX. THE LONGITUDINAL TRENCH SHALL BE PAVED WITH A SELF PROPELLED TYPE PAVING MACHINE (BARBER GREEN, NO LEE BOY). PAVING WIDTH SHALL BE A MINIMUM OF 10'. LONGITUDINAL TRENCHING OF 6' OF LENGTH OR LESS MAY BE REPAIRED AS A 'T' CUT TRENCH PATCH REPAIR.
11. COMPACTION REPORT SHALL BE SUBMITTED TO THE CITY FOR APPROVAL PRIOR TO THE PLACING OF PERMANENT PAVEMENT. BACKFILL SHALL BE COMPACTED TO MINIMUM 95% IN THE UPPER 6" BASE MATERIAL AND THE REMAINING BACKFILL SHALL BE COMPACTED TO A MINIMUM 90% RELATIVE DENSITY PER ASTM D-1556. IN LIEU OF COMPACTION TESTING, CONTRACTOR MAY USE 100E100 SAND SLURRY.
12. PRIOR TO PERMANENT PAVING, EXISTING PAVEMENT SHALL BE SAW CUT TO A NEAT STRAIGHT LINE. ALL PAVEMENT JOINTS OR CRACKS WITHIN 2' OF TRENCH IN ALL DIRECTIONS SHALL BE REMOVED, OR AS DIRECTED BY THE CITY ENGINEER.
13. ASPHALT THICKNESS SHALL BE 1" THICKER THAN THE EXISTING ASPHALT. IN NO CASE SHALL THE ASPHALT THICKNESS BE LESS THAN 4" THICK.
14. ALL PAVEMENT MARKINGS, LANE STRIPING AND CENTERLINE STRIPING WHOSE EFFECTIVENESS HAS BEEN REDUCED SHALL BE REPAINTED WITH TWO COATS OF THERMO PLASTIC OR MATCH THE EXISTING TYPE OF PAINT AND GLASS BEADS. IF A CROSSWALK OR ROAD STENCILS ARE CUT THROUGH, PARTIALLY PAVED OVER OR DEEMED TO HAVE BECOME INEFFECTIVE BECAUSE OF THE WORK BEING DONE; THE ENTIRE CROSSWALK OR ROAD STENCIL SHALL BE REPAINTED WITH TWO COATS OF THERMO PLASTIC OR MATCH THE EXISTING TYPE OF PAINT AND GLASS BEADS. RAISED PAVEMENT MARKERS SHALL BE REPLACED IN KIND OR AS DIRECTED BY THE CITY ENGINEER.
15. PLATING OF TRENCHES WILL BE CONSIDERED ON A CASE BY CASE BASIS AND SHALL BE APPROVED PRIOR TO PLACING TRENCH PLATES. IF PLATED, CONTRACTOR SHALL PROVIDE 24 HOUR EMERGENCY RESPONSE AND CONTACT NUMBER. SEE STD NO. SC-232.

NOT TO SCALE

<p><b>APPROVED BY:</b></p> <p style="text-align: center;"><i>Marcus Fuller</i>      11/25/14</p> <p style="text-align: center;"><b>P.W. DIRECTOR/CITY ENGINEER</b>      <b>DATE</b></p>				<p><b>TRENCH WORK (NOTES)</b></p>	
<p><b>REVISIONS</b></p>				<p><b>CITY OF RIALTO, CALIFORNIA PUBLIC WORKS DEPARTMENT ENGINEERING DIVISION</b></p>	
<p><b>DATE</b></p>	<p><b>BY</b></p>	<p><b>MARK</b></p>	<p><b>APPROVED</b></p>		
<p><b>STANDARD NO. SC-231</b></p>				<p><b>SHT 2 OF 2</b></p>	



SEE GENERAL NOTES ON SHEET 2

**APPROVED BY:**

*Marius Fuller*

11/25/14

P.W. DIRECTOR/CITY ENGINEER

DATE

**REVISIONS**

DATE	BY	MARK	APPROVED

**PLATE BRIDGING**

**CITY OF RIALTO, CALIFORNIA  
PUBLIC WORKS DEPARTMENT  
ENGINEERING DIVISION**

**STANDARD NO. SC-232**

**SHT 1 OF 2**

**GENERAL NOTES:**

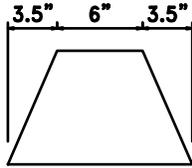
1. THE FOLLOWING TABLE SHOWS THE MINIMUM THICKNESS OF STEEL PLATE BRIDGING REQUIRED FOR A GIVEN TRENCH WIDTH:

<u>TRENCH WIDTH (FT.)</u>	<u>MINIMUM PLATE THICKNESS (INCH.)</u>
1-3 4	1 1 1/4

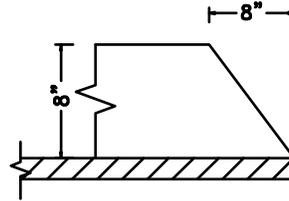
FOR SPANS GREATER THAN 4' A STRUCTURAL DESIGN SHALL BE PREPARED BY A CALIFORNIA REGISTERED CIVIL ENGINEER AND SUBMITTED TO CITY PRIOR TO PLACEMENT.

2. STEEL PLATES USED FOR BRIDGING MUST EXTEND A MINIMUM OF 12" BEYOND THE EDGES OF THE TRENCH.
3. STEEL PLATES BRIDGING SHALL BE NON-SKID SURFACE.
4. BRIDGING SHALL BE SECURED AGAINST DISPLACEMENT BY USING HOLDING DEVICES SUCH AS ADJUSTABLE CLEATS, BOLTS, TACK WELDING, OR OTHER DEVICES.
5. FOR SPEEDS GREATER THAN 45 MPH, THE PAVEMENT SHALL BE COLD PLANED TO A DEPTH EQUAL TO THE DIMENSIONS OF THE PLATE.
6. THE TRENCH SHALL BE ADEQUATELY SHORED TO SUPPORT THE BRIDGING AND TRAFFIC LOADS.
7. THE CONTRACTOR SHALL BE RESPONSIBLE AT ALL TIMES FOR MAINTENANCE OF THE PLATES, SHORING, ASPHALT CONCRETE RAMPS, AND ENSURING THAT THEY MEET MINIMUM SPECIFICATIONS. CONTRACTOR SHALL PROVIDE TO CITY INSPECTOR A 24 HOUR EMERGENCY RESPONSE PHONE NUMBER AND PROVIDE ADEQUATE SAFETY WARNINGS AND CONTROLS.
8. PLATE BRIDGING SHALL BE INSPECTED DAILY TO INSURE AGAINST MOVEMENT, DISPLACEMENT AND PLATE DAMAGE OR WEAKNESS.
9. BRIDGING REQUESTS MUST BE SUBMITTED TO THE DEPARTMENT OF PUBLIC WORKS PRIOR TO INSTALLATION.

<b>APPROVED BY:</b>				<b>PLATE BRIDGING</b>	
<i>Marcus Fuller</i>		11/25/14			
<b>P.W. DIRECTOR/CITY ENGINEER</b>		<b>DATE</b>		<b>CITY OF RIALTO, CALIFORNIA PUBLIC WORKS DEPARTMENT ENGINEERING DIVISION</b>	
<b>REVISIONS</b>					
<b>DATE</b>	<b>BY</b>	<b>MARK</b>	<b>APPROVED</b>		
<b>STANDARD NO. SC-232</b>				<b>SHT 2 OF 2</b>	

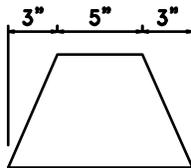


CROSS - SECTION

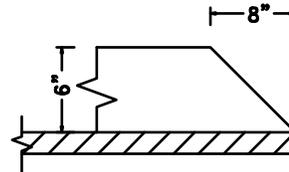


END TREATMENT

8" DIKE



CROSS - SECTION



END TREATMENT

6" DIKE

NOTES:

1. DIKE SHALL BE CONSTRUCTED OF TYPE AR-8000 OR PG-64-10 ASPHALT CONCRETE
2. TACT COAT BINDER SS1H SHALL BE PLACED ON EXISTING ASPHALT PAVEMENT PRIOR TO THE INSTALLATION OF THE DIKE
3. DEPRESS DIKE AT DRIVEWAYS (3/4" C.F.) AND TERMINATE (0" C.F.) AT CROSSWALKS PER PLAN AND AS DIRECTED BY THE CITY ENGINEER
4. DIKE SHALL BE CONSTRUCTED PER THIS DETAIL AND CALTRANS STANDARD PLAN A87, LATEST EDITION

**APPROVED BY:**

*Marcus Fuller* 11/25/14  
**P.W. DIRECTOR/CITY ENGINEER** **DATE**

**ASPHALT CONCRETE  
 DIKE**

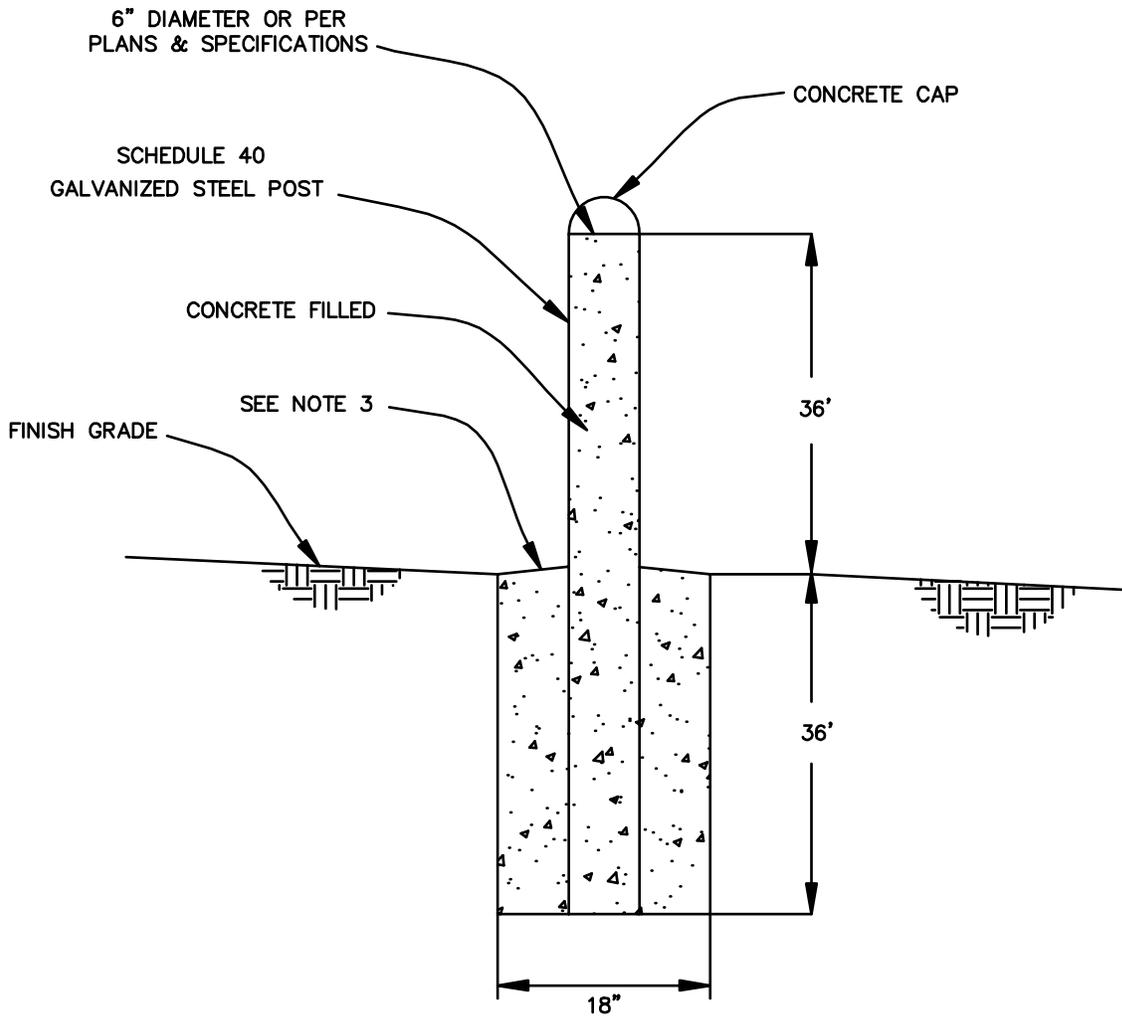
**REVISIONS**

DATE	BY	MARK	APPROVED

**CITY OF RIALTO, CALIFORNIA  
 PUBLIC WORKS DEPARTMENT  
 ENGINEERING DIVISION**

**STANDARD NO. SC-233**

**SHT 1 OF 1**



## GUARD POST

### NOTES:

1. LOCATION OF BOLLARD TO BE DETERMINED BY CITY ENGINEER IN THE FIELD.
2. POST MATERIAL SHALL MEET STATE STANDARDS AND CITY DIMENSIONS SHALL BE GALVANIZED PER STATE STANDARDS, SECT. 75-1.05, PRIMED AND PAINTED WITH TRAFFIC GRADE YELLOW PAINT.
3. SLOPE TOP OF CONCRETE 1/4" FROM POLE TO EDGE OF CONCRETE FOOTING, MATCH SIDEWALK GRADE IN SIDEWALK AREAS.

NOT TO SCALE

**APPROVED BY:**


11/25/14  
**P.W. DIRECTOR/CITY ENGINEER**      **DATE**

## GUARD POST

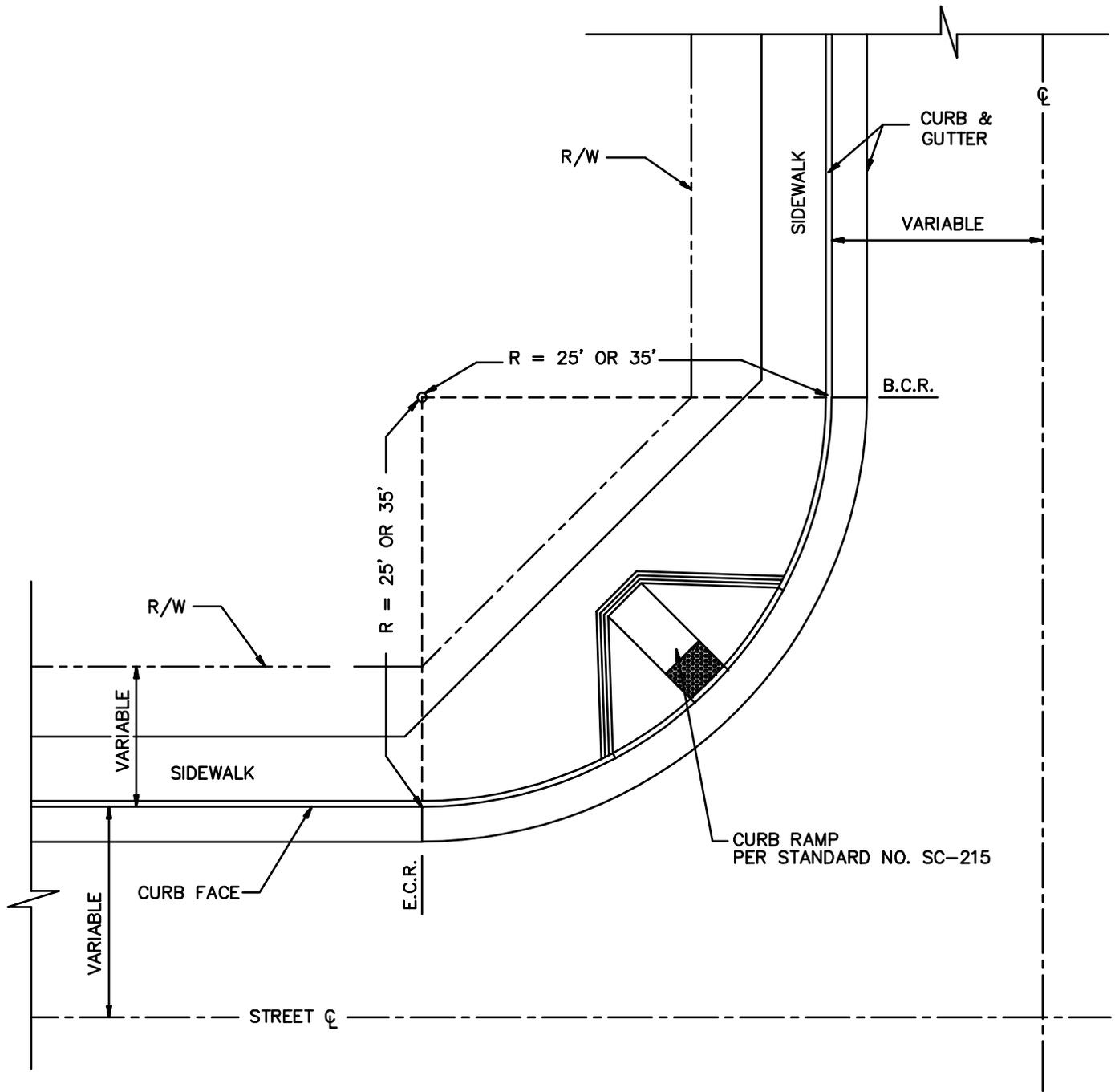
### REVISIONS

DATE	BY	MARK	APPROVED

**CITY OF RIALTO, CALIFORNIA  
PUBLIC WORKS DEPARTMENT  
ENGINEERING DIVISION**

**STANDARD NO. SC-234**

**SHT 1 OF 1**



**NOTES:**

1. R=25' IF BOTH STREETS HAVE A RIGHT-OF-WAY WIDTH OF 60' OR LESS.
2. R=35' IF EITHER STREET HAS A RIGHT-OF-WAY WIDTH OF 64' OR MORE, EXCEPT IN CASES WHERE SPECIAL DESIGN IS NECESSARY.

NOT TO SCALE

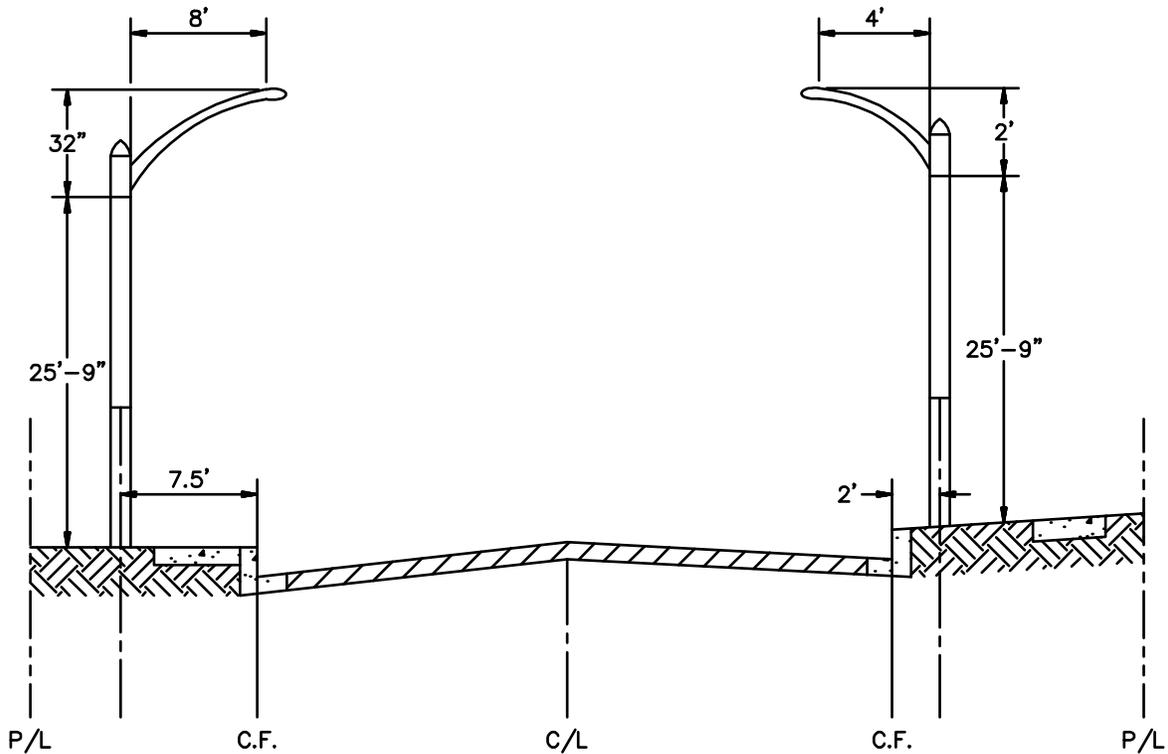
<b>APPROVED BY:</b>			
<i>Marcus Fuller</i>		11/25/14	
P.W. DIRECTOR/CITY ENGINEER		DATE	
<b>REVISIONS</b>			
<b>DATE</b>	<b>BY</b>	<b>MARK</b>	<b>APPROVED</b>

**CURB RETURN RADII  
AND  
R/W CORNER CUT-BACK**

**CITY OF RIALTO, CALIFORNIA  
PUBLIC WORKS DEPARTMENT  
ENGINEERING DIVISION**

**STANDARD NO. SC-235**      **SHT 1 OF 1**

# STREET LIGHTS



**GENERAL NOTES:**

1. ORNAMENTAL STREET LIGHT POLES SHALL BE MARBLELITE OR APPROVED EQUAL.
2. STREET LIGHTS SHALL BE INSTALLED AT ALL INTERSECTIONS, CUL-DE-SACS, KNUCKLES, AND AT SPACING PER SL-301.
3. STREET LIGHT LUMINAIRE WATTAGE AND LUMENS PER SL-301.
4. AT INTERSECTIONS, STREET LIGHTS SHOULD BE PLACED NEAR THE CURB RETURN AT A FAR RIGHT APPROACH.
5. LIGHT FOR CUL-DE-SAC SHOULD BE PLACED AT BEGINNING OF BULB (NOT END) ON EITHER SIDE OF STREET.
6. STREET LIGHT POLES SHALL HAVE ANTI GRAFFITI COATING.

NOT TO SCALE

**APPROVED BY:**  
  
 11/25/14  
 P.W. DIRECTOR/CITY ENGINEER      DATE

**STREET LIGHT LOCATION**

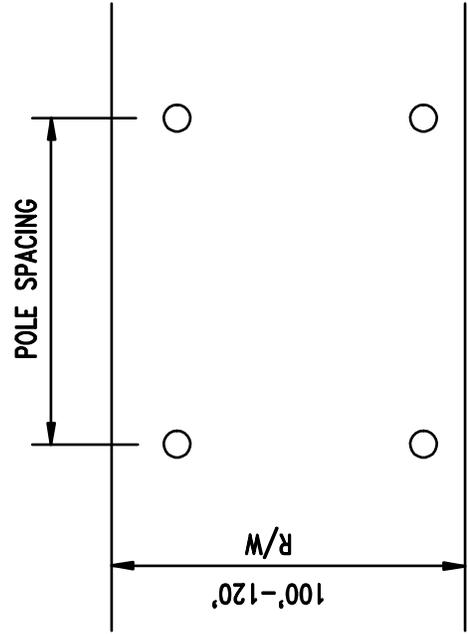
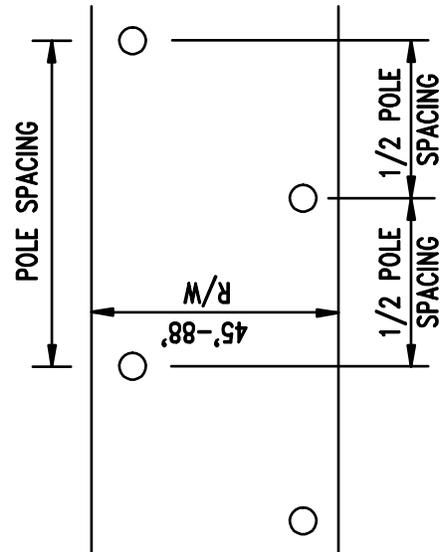
REVISIONS			
DATE	BY	MARK	APPROVED

**CITY OF RIALTO, CALIFORNIA  
 PUBLIC WORKS DEPARTMENT  
 ENGINEERING DIVISION**

**STANDARD NO. SL-300      SHT 1 OF 1**

ROADWAY SECTION	POLE SPACING	CONFIGURATION	LED COLOR TEMPERATURE	LUMENS	WATTS	MFG	LUMINAIRE ORDER NO.
50/60-Foot R/W Local Street	260'±15'	Staggered	4000K	3386	41	GE	ERS1 0 23 B1 7 40 2 GRAY
45-Foot R/W Local Industrial	360'±15'	Staggered	4000K	5100	58	GE	ERS1 0 A3 E1 7 40 2 GRAY
60/64-Foot R/W Collector	320'±15'	Staggered	4000K	11900	127	GE	ERS2 E3 D1 7 40 2 GRAY
88-Foot R/W Secondary Arterial	260'±15'	Staggered	4000K	15860	185	GE	ERS2 H3A1 7 40 2 GRAY
100/104-Foot R/W Modified Arterial I	147'±15'	Opposed	4000K	11900	127	GE	ERS2 E3 E1 7 40 2 GRAY
120-Foot R/W Modified Arterial II	140'±15'	Opposed	4000K	11900	127	GE	ERS2 E3 E1 7 40 2 GRAY
120-Foot R/W Major Arterial	118'±15'	Opposed	4000K	11900	127	GE	ERS2 E3 E1 7 40 2 GRAY

USE OF A BRAND NAME IN THESE STANDARDS IS NOT INTENDED TO RESTRICT COMPETITION. ALTERNATE PRODUCTS SUPPORTED BY LITERATURE MAY BE SUBSTITUTED WITH THE APPROVAL OF THE CITY ENGINEER.



NOT TO SCALE

APPROVED BY:

*Marcus Fuller*  
P.W. DIRECTOR/CITY ENGINEER

11/25/14  
DATE

REVISIONS

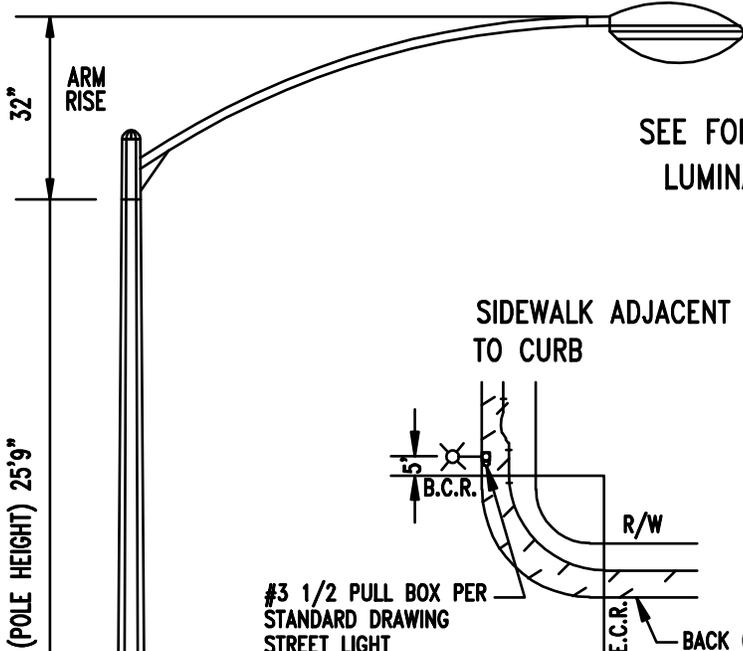
DATE	BY	MARK	APPROVED

STREET LIGHT GUIDELINES

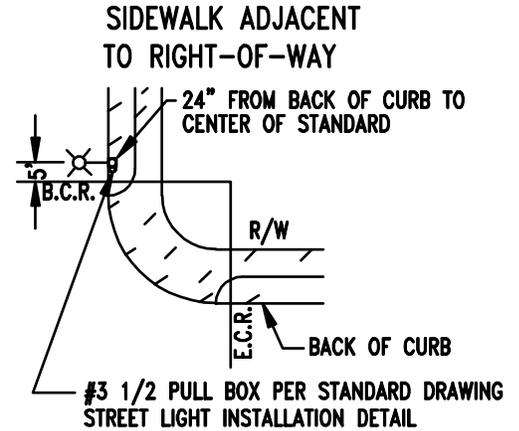
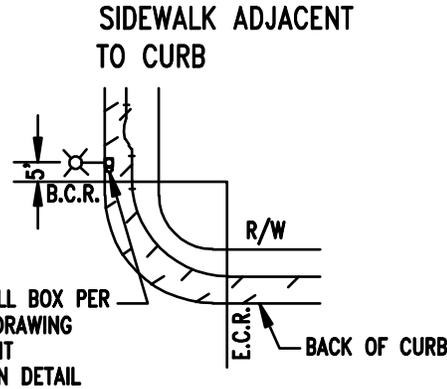
CITY OF RIALTO, CALIFORNIA  
PUBLIC WORKS DEPARTMENT  
ENGINEERING DIVISION

STANDARD NO. SL-301

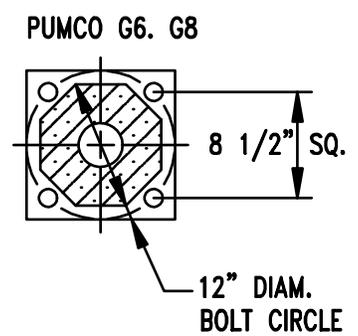
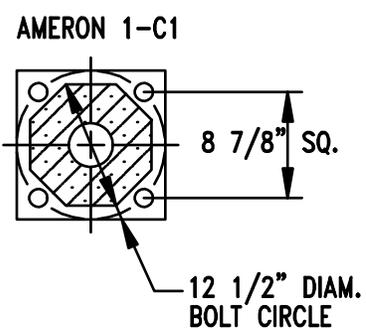
SHT 1 OF 1



SEE FOR POLE SPACING AND LUMINAIRE REQUIREMENTS



**STANDARD POLE LOCATION  
ADJACENT TO CURB RETURN**



**NOTES**

- 1. NO DEVIATION FROM THE ABOVE SCHEDULE WILL BE ALLOWED UNLESS OTHERWISE APPROVED IN WRITING BY THE CITY ENGINEER.

**BOLT CIRCLE DETAIL**

NOT TO SCALE

560-C-3250 PER SECTION 201 OF THE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONST.

**APPROVED BY:**

*Marvin Fuller*  
P.W. DIRECTOR/CITY ENGINEER

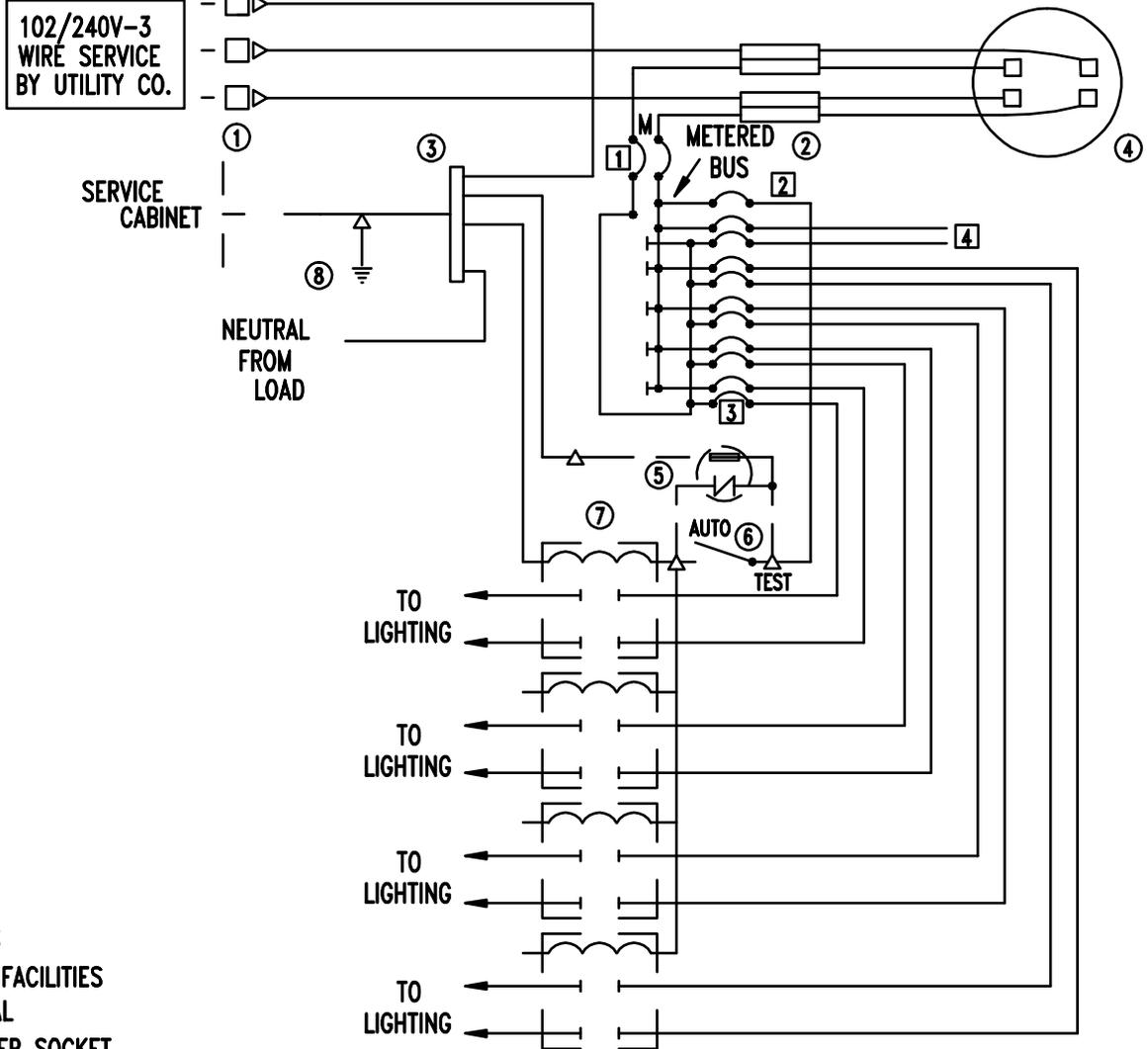
11/25/14  
DATE

**STREET LIGHT  
INSTALLATION**

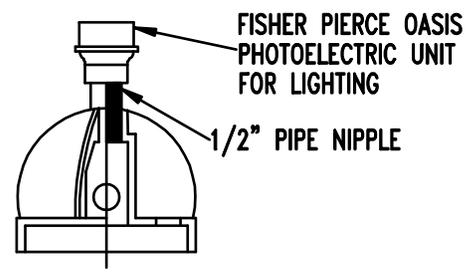
CITY OF RIALTO, CALIFORNIA  
PUBLIC WORKS DEPARTMENT  
ENGINEERING DIVISION

REVISIONS			
DATE	BY	MARK	APPROVED

STANDARD NO. SL-302      SHT 1 OF 1



- ① LANDING LUGS
- ② TEST BYPASS FACILITIES
- ③ SOLID NEUTRAL
- ④ 200 AMP METER SOCKET
- ⑤ PHOTOELECTRIC CONTROL SHALL BE INSTALLED ON TOP OF THE FIRST STREET LIGHT STANDARD AWAY FROM THE SERVICE PEDESTAL USING A CONDUIT ENTRY WITH A 3 #14 CONDUCTOR CABLE FROM PHOTOELECTRIC CONTROL TO THE SERVICE PEC TERMINAL. A PHOTOELECTRIC CONTROL MOUNT SHALL ALSO BE INSTALLED IN THE SERVICE CABINET.
- ⑥ 15A, 1R, TEST SWITCH
- ⑦ 30A, 2PNO MERCURY CONTRACTOR
- ⑧ GROUND ROD



**CIRCUIT BREAKER SCHEDULE**

- ① MAIN - 200AMP., 240V., 2P
- ② PHOTOELECTRIC CONTROL - 15AMP., 120V., 1P.
- ③ 240V. STREET LIGHTING - 4, 30AMP., 240V., 2P.
- ④ 120V. STREET LIGHTING - 2, 30AMP., 120V., 1P.

**CONDUIT ENTRY POLE CAP**

NOT TO SCALE

**APPROVED BY:**  
*Marius Fuller* 11/25/14  
 P.W. DIRECTOR/CITY ENGINEER DATE

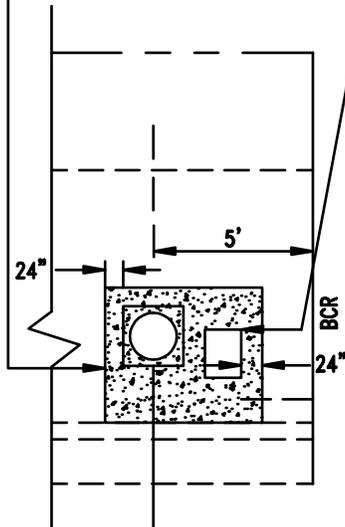
**STREET LIGHT  
 PEDESTAL WIRING  
 DIAGRAM**

REVISIONS			
DATE	BY	MARK	APPROVED

**CITY OF RIALTO, CALIFORNIA  
 PUBLIC WORKS DEPARTMENT  
 ENGINEERING DIVISION**

INSTALL PCC SLAB PER CITY STANDARD DRAWING SIDEWALK CONSTRUCTION ADJACENT TO CURB

INSTALL # 3 1/2 PULL BOX



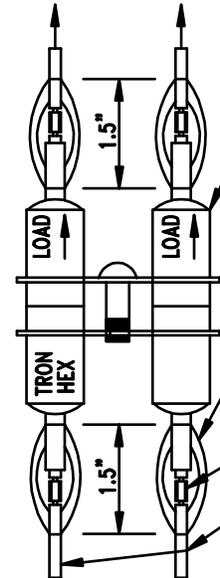
**PLAN VIEW**

NO. 3 1/2 PULL BOX WITH FUSED DISCONNECT (SEE DETAIL TYPICAL FUSEHOLDER INSTALLATION). INSTALL TWO 3/8" BRASS, NYLON OR STAINLESS STEEL LID LOCKS AND 2" (MIN.) GROUT IN THE BOTTOM OF BOX.

FEED CONDUIT  
1 1/2" RIDGE METALLIC CONDUIT OR 1 1/2" PVC SCHEDULE 80 PVC CONDUIT

FOR POLE PLACEMENT SEE CITY STANDARD DRAWING STREET LIGHT INSTALLATION  
1" RIDGE METALLIC CONDUIT OR 1" SCHEDULE 40 PVC CONDUIT

TO LUMINAIRE



**120/240V CITY CIRCUIT  
TYPICAL FUSEHOLDER INSTALLATION**

FUSEHOLDER TRON-HEX (240V CIRCUIT) OR TRON-HEB, NOT PICTURED, (120V CIRCUIT) WITH KTK FUSE, BUSSMAN MFG. DIV. OR EQUAL. FUSE SHALL BE RATED AT 20 AMPS. FOR 120 VOLT AND 10 AMPS FOR 240 VOLT

COMPLETELY COVER THE SPLICE AREA WITH AN ELECTRICAL INSULATING COATING AND ALLOW TO DRY. APPLY 3 LAYERS OF MINN. MINING & MFG. CO. ELECTRICAL TAPE NO. 23 AND 3 LAYERS OF TAPE NO. 88 OR EQUAL (TYPICAL 4 PL.)

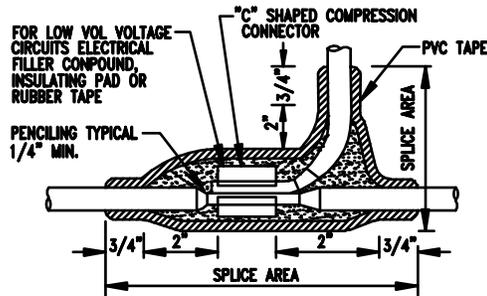
COMPLETELY COVER THE SPLICE AREA WITH AN ELECTRICAL INSULATING COATING AND ALLOW TO DRY

'C' SHAPED COMPRESSION CONNECTOR

SERVICE CONDUCTORS IF SERVICE IS DIRECT FROM EDISON USING ALUMINUM SERVICE CONDUCTIONS INSTALL 12" #8 AWG PIGTAIL

**NOTE:**

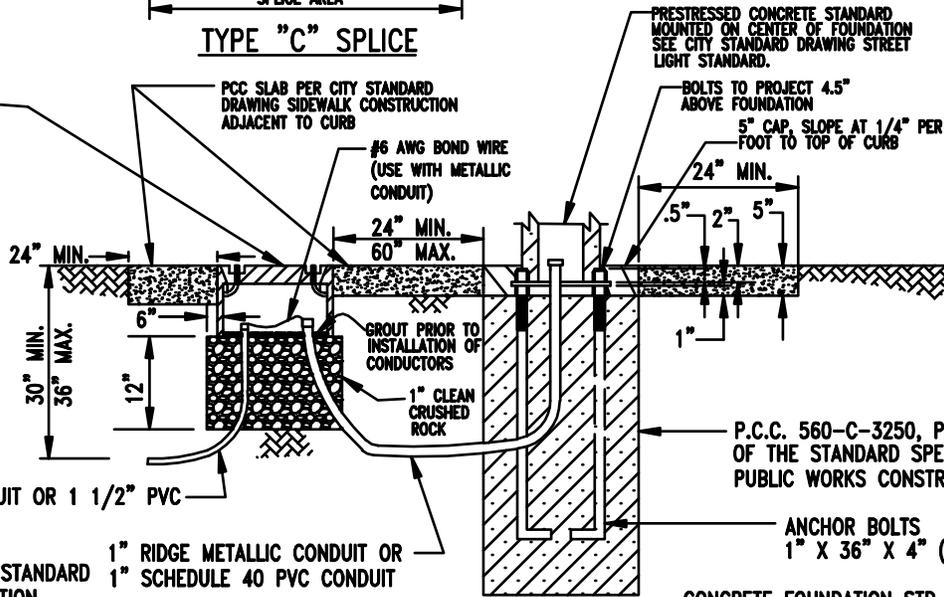
IN COMMERCIAL AREAS THE FUSEHOLDER SHALL BE PLACED IN THE STANDARD HANDHOLE AND THE PULL BOX LID GROUTED CLOSED.



**TYPE "C" SPLICE**

**METHOD "B"**

1. COMPLETELY COVER THE SPLICE AREA WITH ELECTRICAL INSULATING COATING AND ALLOW TO DRY.
2. APPLY 2 LAYERS OF ELECTRICAL INSULATING PAD WITH MINIMUM THICKNESS OF 4mm EACH LAYER OR 2 LAYERS, HALF LAPPED, SYNTHETIC OIL RESISTANT, SELF FUSING RUBBER TAPE.
3. APPLY 3 LAYERS, HALF LAPPED, POLYVINYL CHLORIDE TAPE.
4. COVER ENTIRE SPLICE WITH ELECTRICAL INSULATING COATING AND ALLOW TO DRY.



**TYPICAL FOUNDATION AND PULLBOX INSTALLATION**

NOT TO SCALE

**APPROVED BY:**  
*Marvin Fuller*  
P.W. DIRECTOR/CITY ENGINEER 11/25/14  
DATE

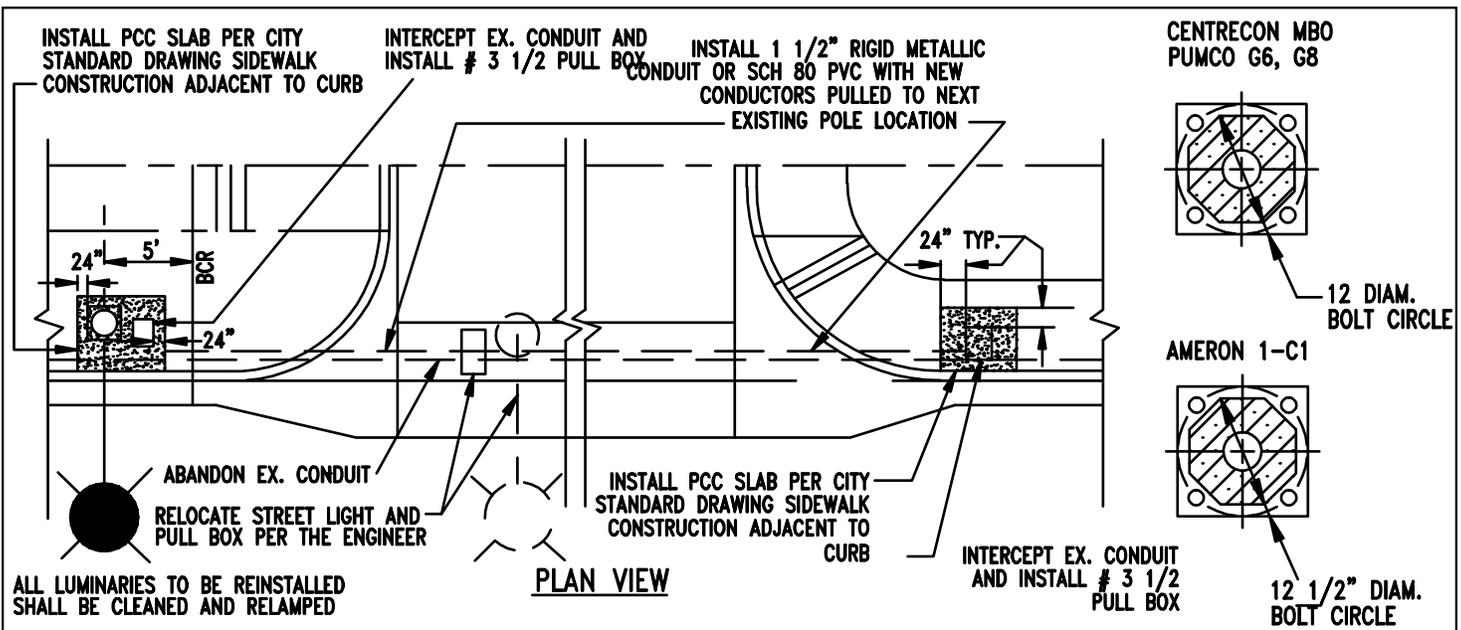
**STREET LIGHT  
INSTALLATION DETAIL**

REVISIONS			
DATE	BY	MARK	APPROVED

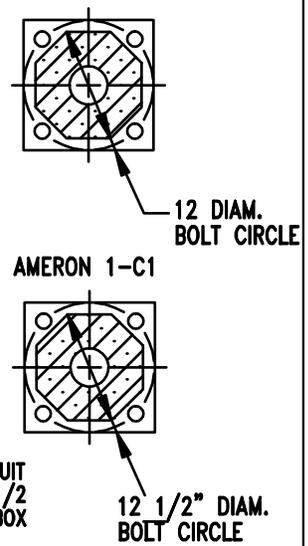
**CITY OF RIALTO, CALIFORNIA  
PUBLIC WORKS DEPARTMENT  
ENGINEERING DIVISION**

STANDARD NO. SL-304

SHT 1 OF 1



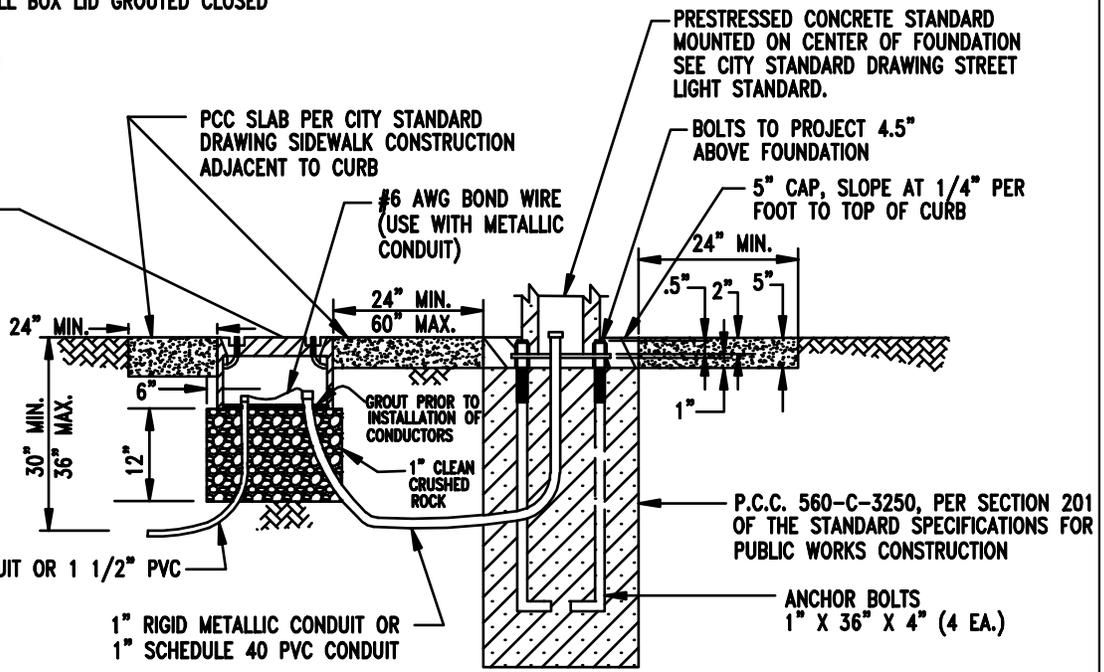
**BOLT CIRCLE DETAIL**



NOTE: WHEN A NEW DRIVE APPROACH IS INSTALLED THE EXISTING STREET LIGHT CONDUIT SHALL BE REPLACED PER THIS STANDARD DRAWING AND NEW CONDUCTORS INSTALLED. THE DEVELOPMENT ENGINEER SHALL CHECK OUT THE ORIGINAL STREET LIGHT DRAWING AND SHOW THE PROPOSED DRIVE APPROACH AND THE STREET LIGHT THAT IS TO BE RELOCATED WHEN AN EXISTING TRAFFIC SIGNAL PULL BOX LANDS IN A NEW DRIVE APPROACH, THE PULL BOX, CONDUIT AND CONDUCTORS (DLC,IC) SHALL BE RELOCATED PER THE ENGINEER.

NOTE: IN COMMERCIAL AREAS THE FUSE HOLDER SHALL BE PLACED IN THE STANDARD HAND HOLE AND THE PULL BOX LID GROUTED CLOSED

NO. 3 1/2 PULL BOX WITH FUSED DISCONNECT (SEE DETAIL TYPICAL FUSEHOLDER INSTALLATION). INSTALL TWO 3/8" BRASS, NYLON OR STAINLESS STEEL LID LOCKS AND 2" (MIN.) GROUT IN THE BOTTOM OF BOX.



FEED CONDUIT  
1 1/2" RIDGE METALLIC CONDUIT OR 1 1/2" PVC  
SCHEDULE 80 PVC CONDUIT

1" RIGID METALLIC CONDUIT OR  
1" SCHEDULE 40 PVC CONDUIT

FOR POLE PLACEMENT SEE CITY STANDARD DRAWING STREET LIGHT INSTALLATION

CONCRETE FOUNDATION STD. DIMENTIONS:  
A&B = 30" X 30" X 42"  
C = 30" X 30" X 48"

**TYPICAL FOUNDATION AND PULLBOX INSTALLATION**

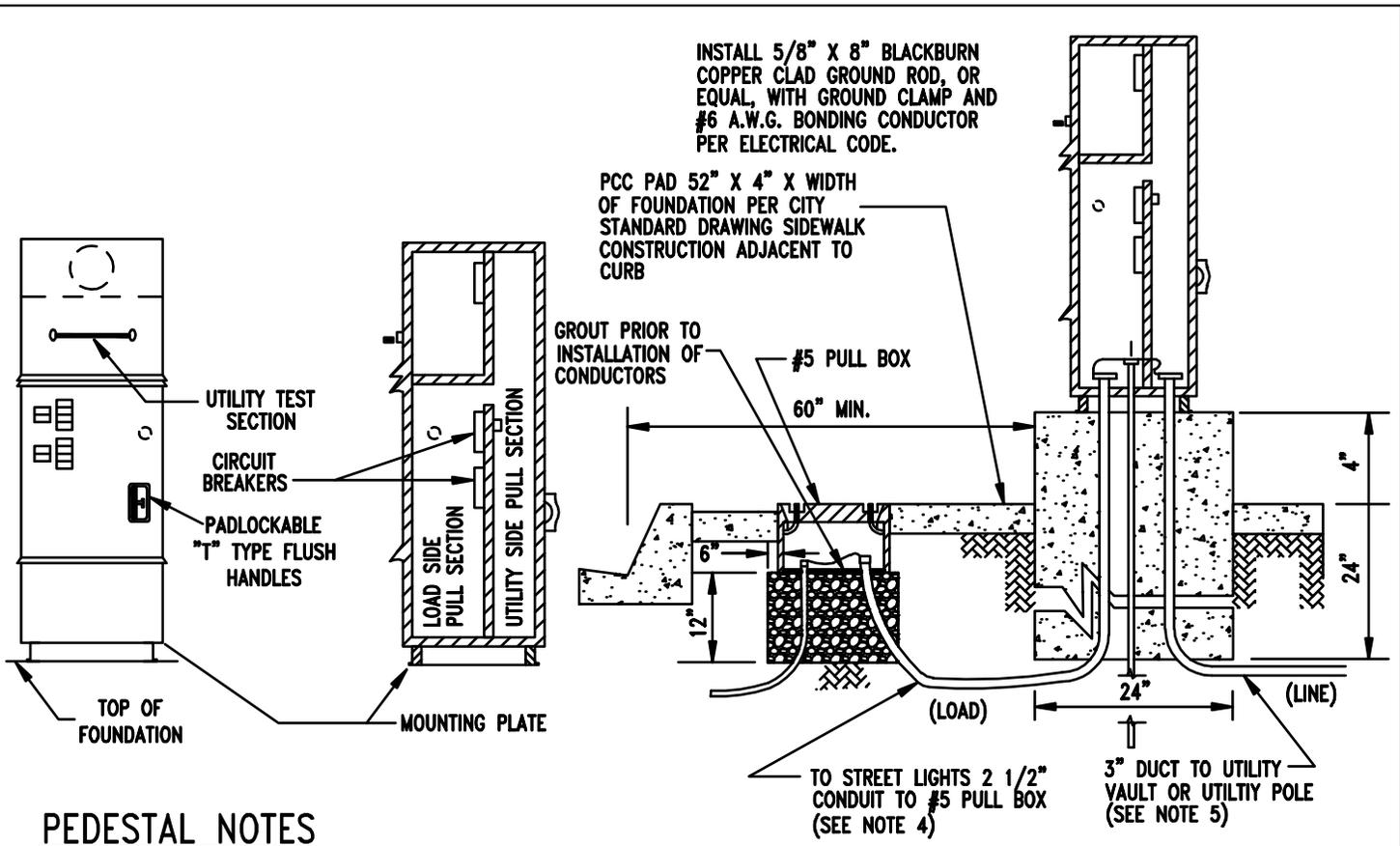
NOT TO SCALE

**APPROVED BY:**  
*Marius Fuller* 11/25/14  
P.W. DIRECTOR/CITY ENGINEER DATE

**STREET LIGHT  
DRIVE APPROACH  
RELOCATION**

REVISIONS			
DATE	BY	MARK	APPROVED

**CITY OF RIALTO, CALIFORNIA  
PUBLIC WORKS DEPARTMENT  
ENGINEERING DIVISION**



## PEDESTAL NOTES

1. SERVICE PEDESTAL SHALL BE PACIFIC UTILITY PRODUCTS USP24-M200-112CTB-SD. METERS ELECTRIC PRODUCTS MEUG24-S-M200W/TB-MOD, TESCO CONTROLS, INC. OR AN EQUAL ALTERNATE APPROVED IN WRITING BY THE CITY ENGINEER. PEDESTAL LOCK SHALL BE A PAD LOCKABLE "T" TYPE FLUSH HANDLES. PEDESTAL WIRING SHALL BE PER CITY STANDARD DRAWING STREET LIGHT PEDESTAL WIRING DIAGRAM, AND CALTRANS STANDARD SPECIFICATIONS LATEST ENGLISH EDITION.
2. SERVICE PEDESTAL SHALL BE INSTALLED WITH PAD MOUNT SLEEVE.
3. CABINET SHALL BE BONDED TO A 5/8" X 8" BLACKBURN COPPER CLAD GROUND ROD, OR EQUAL, WITH GROUND CLAMP AND NO. 6 A.W.G. BONDING CONDUCTOR.
4. A 2 1/2 INCH (MINIMUM SIZE) CONDUIT WILL RUN FROM THE LOAD SIDE OF THE PEDESTAL TO THE ADJACENT #5 PULL BOX LOCATED WITHIN 5 FEET OF THE FEED PEDESTAL BASE.
5. A 3 INCH EDITION CO. APPROVED CONDUIT WITH PULL ROPE WILL RUN FROM THE UTILITY SIDE OF THE PEDESTAL TO THE FEED POINT PER S.C.E. REQUIREMENTS.
6. CONDUIT SHALL EXTEND INTO PEDESTAL 1" ABOVE FLOOR AND HAVE APPROVED CONDUIT BUSHINGS.
7. NO SPLICES WILL BE ALLOWED IN THE FIRST PULL BOX. SEPARATE CIRCUITS SHALL BE SUPPLIED FOR EACH DIRECTION OF SERVICE FROM THE PEDESTAL.
8. IN UNIMPROVED AREAS, TOP OF FOUNDATION SHALL BE AS DIRECTED BY THE CITY ENGINEER. IN IMPROVED AREAS, TOP OF FOUNDATION SHALL BE 12" ABOVE THE ADJACENT FINISHED SURFACE.
9. CONTRACTOR SHALL MAKE ARRANGEMENTS WITH THE EDISON CO. AND THE CITY ENGINEER FOR 120/240 VOLT 200 AMP SERVICE. CONTRACTOR SHALL BE RESPONSIBLE FOR ANY CHARGES FOR ANY WORK VOLT 200 AMP SERVICE. CONTRACTOR SHALL BE RESPONSIBLE FOR ANY CHARGES FOR ANY WORK.
10. CIRCUIT BREAKERS SHALL BE SUITABLE FOR USE ON 120/240 VOLT 200 AMP SERVICE AND BE U.L. LISTED.
11. ON METERED (LS-3) CIRCUITS THE PHOTOELECTRIC CONTROL WINDOW AND SOCKET SHALL BE LOCATED ON THE LOAD SIDE OF CABINET. UNMETERED (LS-2) CIRCUITS SHALL HAVE THE PHOTOELECTRIC CONTROL WINDOW AND SOCKET ON THE UTILITY SIDE OF CABINET.
12. THE APPROVED BILLING ADDRESS SHALL BE PAINTED ON THE METERED SIDE OF ALL PEDESTALS CABINETS.
13. THE PHOTO-CONTROL SHALL BE INSTALLED ON TOP OF THE FIRST STREET LIGHT STANDARD AWAY FROM THE SERVICE PEDESTAL USING A CONDUIT ENTRY CAP PER CITY STANDARD DRAWING STREET LIGHT PEDESTAL WIRING DIAGRAM.

NOT TO SCALE

APPROVED BY:

*Marius Fuller*  
P.W. DIRECTOR/CITY ENGINEER

11/25/14  
DATE

### REVISIONS

DATE	BY	MARK	APPROVED

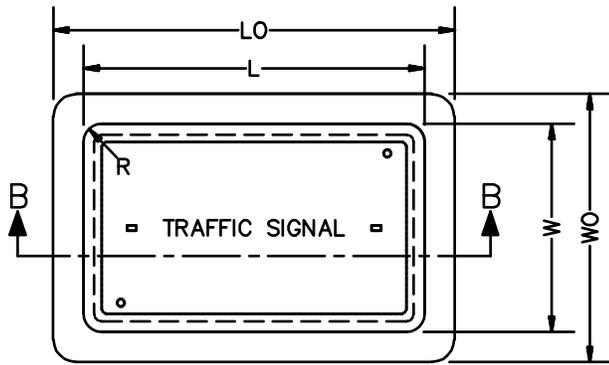
## UNDERGROUND ELECTRICAL FEED POINT

CITY OF RIALTO, CALIFORNIA  
PUBLIC WORKS DEPARTMENT  
ENGINEERING DIVISION

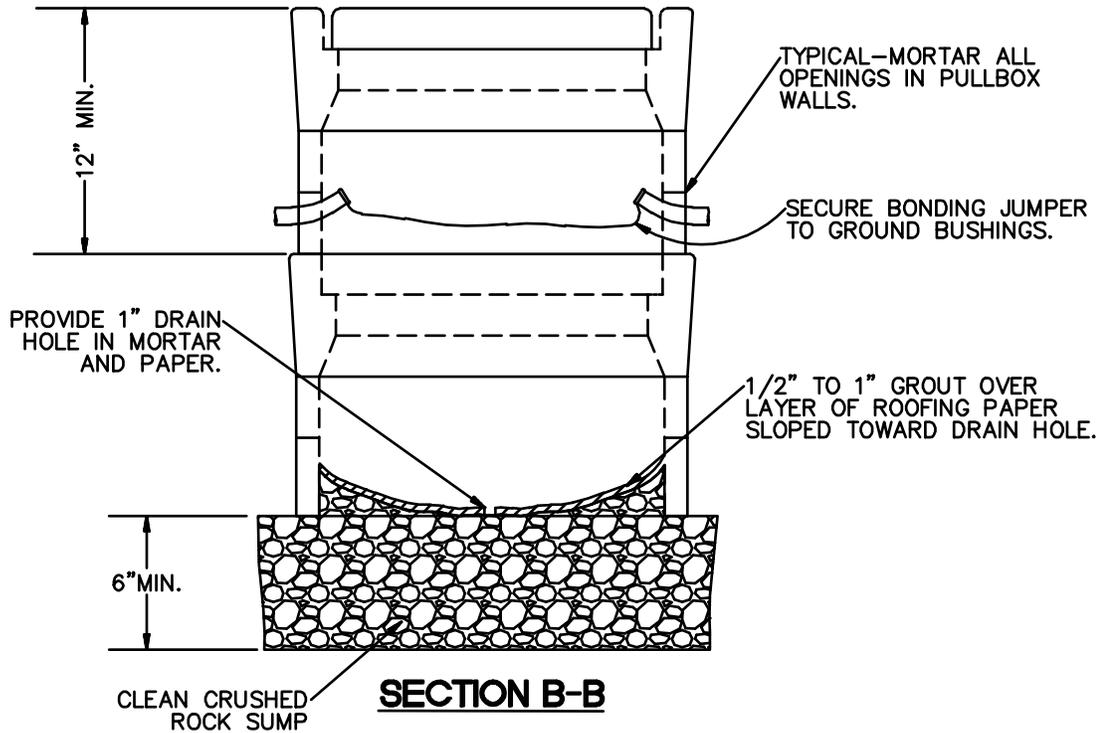
STANDARD NO. SL-308

SHT 1 OF 1

# TRAFFIC SIGNALS



**TOP VIEW**



**SECTION B-B**

PULL BOX	CONCRETE BOX				CONCRETE COVERS				
	MIN. THICKNESS	MIN. DEPTH BOX AND EXTENSION	LO	WO	L	W	R	EDGE THICKNESS	EDGE TAPER
No. 6*	1 1/2"	24"	36"	23"	30 5/8"	17 5/8"	1 1/4"	2"	1/8"

\* ALL PULLBOXES ADJACENT TO TRAFFIC CONTROLLER SHALL BE #6E.

NOT TO SCALE

**APPROVED BY:**

*Marcus Fuller* 11/25/14  
**P.W. DIRECTOR/CITY ENGINEER** **DATE**

**TRAFFIC SIGNAL PULLBOX  
(IMPROVED AREAS)**

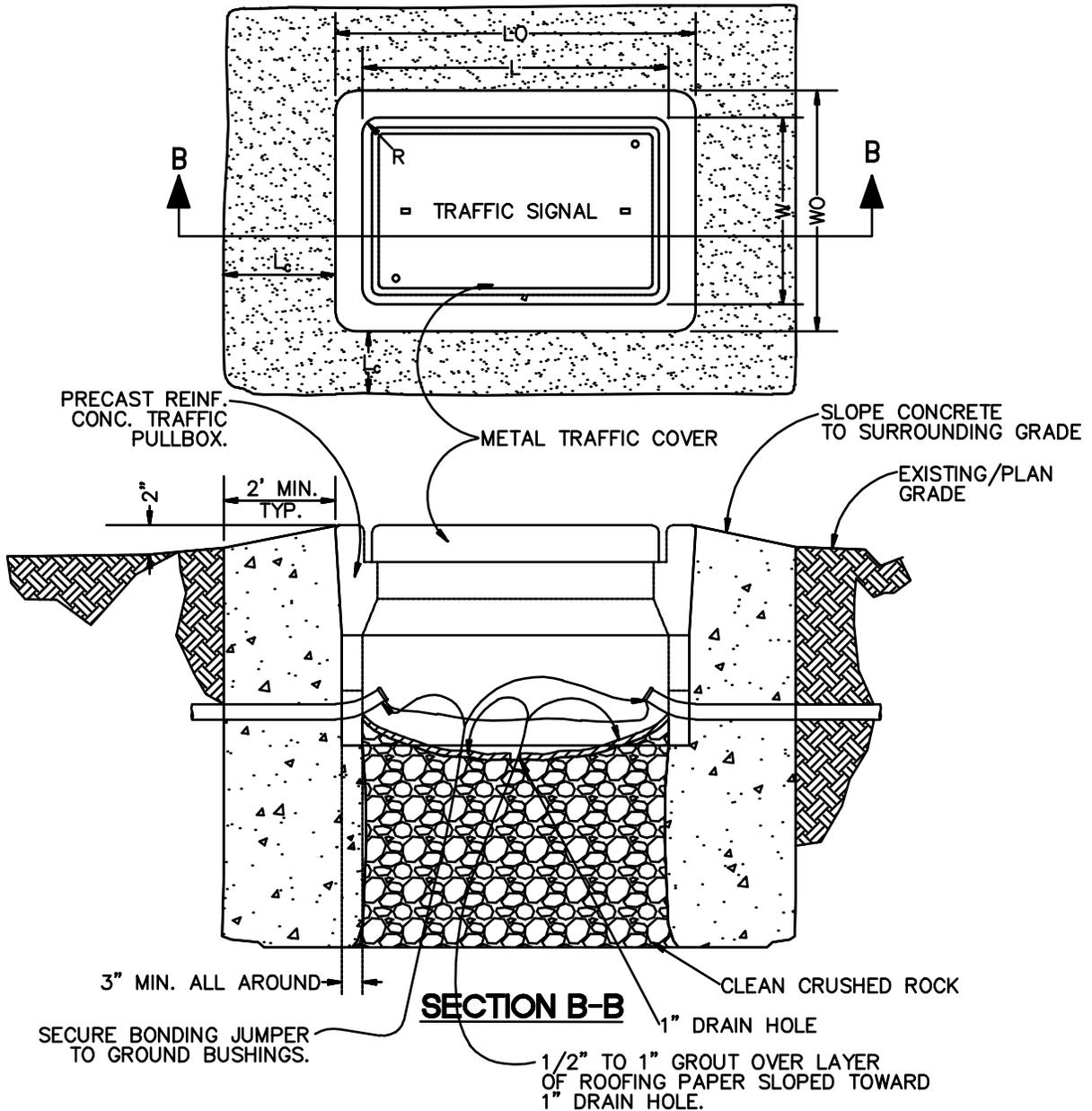
**REVISIONS**

DATE	BY	MARK	APPROVED

**CITY OF RIALTO, CALIFORNIA  
PUBLIC WORKS DEPARTMENT  
ENGINEERING DIVISION**

**STANDARD NO. TS-400**

**SHT 1 OF 1**



PULL BOX	CONCRETE BOX				COVERS				
	MINIMUM THICKNESS	MIN. DEPTH BOX AND EXTENSION	LO	WO	L	W	R	EDGE THICKNESS	EDGE TAPER
No. 6(T)	2"	11"	36"±	24"±	33"±	20"±	0"	1/2" STEEL COVER	NONE

**GENERAL NOTES:**

1. SET PULLBOX 2" ABOVE GRADE.
2. DETAILS NOT CALLED OUT ARE PER CALTRANS STANDARD PLAN ES-8.
3.  $L_c = 2'$  UNLESS APPROVED OTHERWISE.

NOT TO SCALE

**APPROVED BY:**

*Marius Fuller* 11/25/14  
**P.W. DIRECTOR/CITY ENGINEER** **DATE**

**TRAFFIC SIGNAL PULLBOX  
(UNIMPROVED AREAS)**

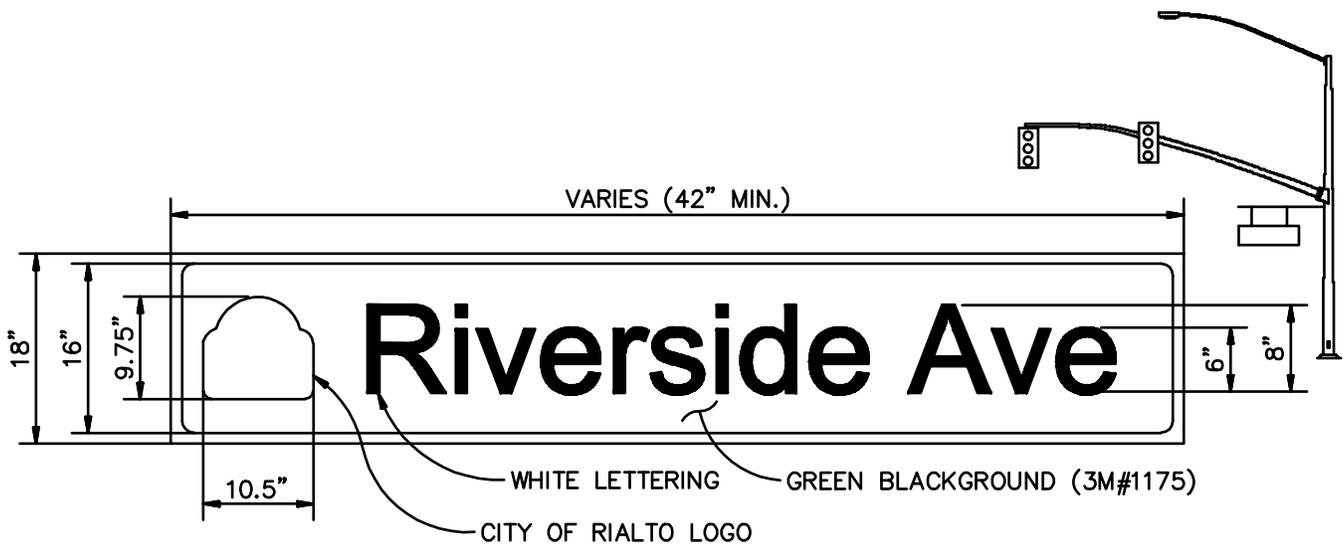
REVISIONS			
DATE	BY	MARK	APPROVED

**CITY OF RIALTO, CALIFORNIA  
PUBLIC WORKS DEPARTMENT  
ENGINEERING DIVISION**

**STANDARD NO. TS-401**

**SHT 1 OF 1**



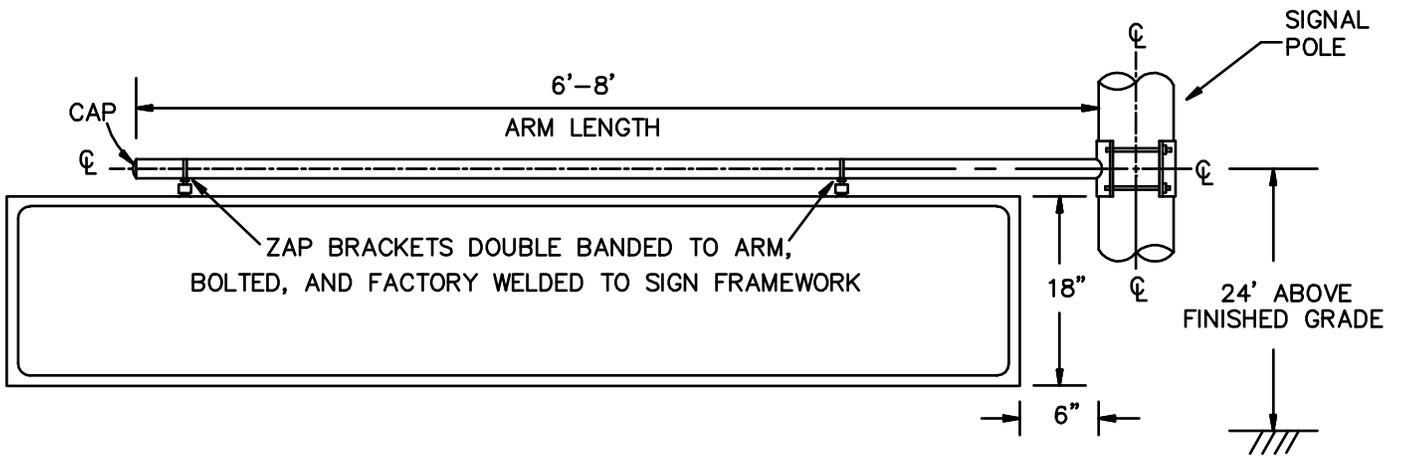


**NOTES:**

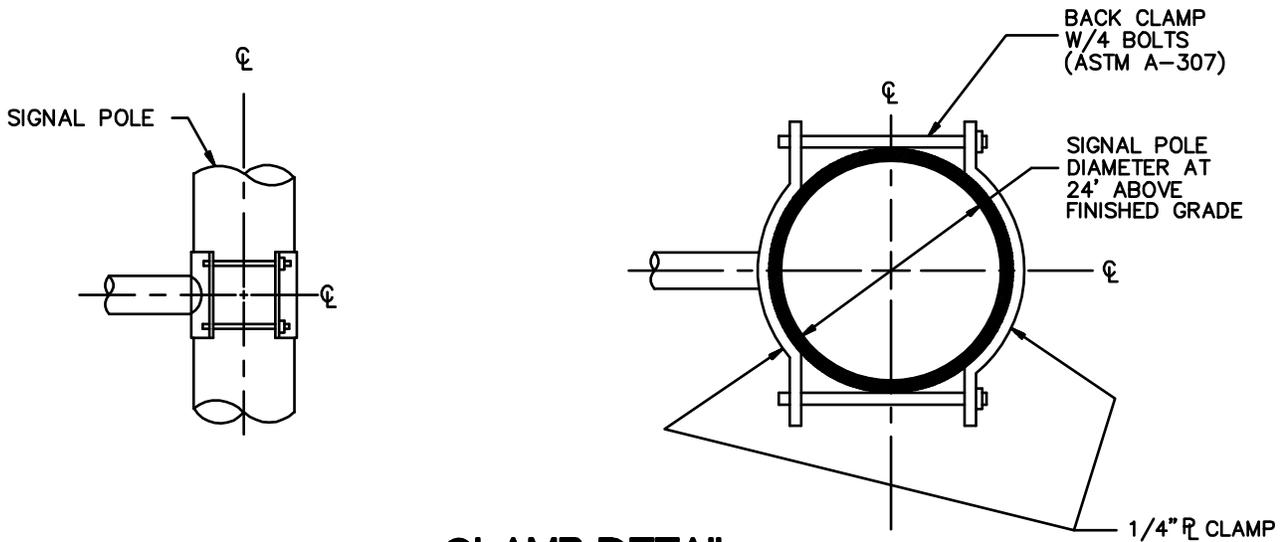
1. CANTILEVER ARM MOUNTED REFLECTORIZED STREET NAME SIGNS SHALL BE TYPE DG3.
2. SIGN PANEL SURFACES, INCLUDING LETTERING AND BORDERS, SHALL BE 3M BRAND DIAMOND GRADE (DG3 4090) REFLECTIVE SHEETING AND MEET ASTM TYPE XI SPECIFICATIONS. REFLECTIVE SHEETING SHALL BE APPLIED IN SUCH A MANNER AS TO MAINTAIN LIGHT TRANSMISSION LEVELS SPECIFIED IN THE CALTRANS SPECIFICATIONS.
3. SIGN LEGENDS SHALL BE WHITE ON GREEN, MINIMUM SIGN PANEL WIDTH SHALL BE 42". DETAILS OF COLOR, STYLE, BORDERS, AND SPACING SHALL CONFORM TO CITY OF RIALTO STANDARD PLAN AS SHOWN ABOVE.
4. "PERIODS" SHALL NOT BE USED ON ABBREVIATIONS. FULL-SIZE LAYOUTS FOR EACH LEGEND SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PRIOR TO FABRICATION.
5. CANTILEVER ARM MOUNTED STREET NAME SIGNS SHALL BE INSTALLED ON POLES ARMS AT THE LOCATIONS SHOWN ON THE PLANS. SIGN SHALL BE INSTALLED ON MAST ARM SUCH AS TO MAINTAIN A MINIMUM CLEARANCE HEIGHT OF 17'. THE STREET NAME SIGNS AND MOUNTING HARDWARE SHALL BE FURNISHED BY THE CONTRACTOR. THE SIGN LEGENDS ARE SHOWN ON THE TRAFFIC SIGNAL PLANS. THE HANGER ASSEMBLY SHALL BE PER SHEET 2. THE SIGN PANEL SHALL BE LEVELED AND ALL HARDWARE TIGHTENED SECURELY.
6. SIGN INSTALLATION ASSEMBLY SHALL BE WARRANTED FOR 1 YEAR MINIMUM FOR ANY DEFECTS AND MALFUNCTIONS.

NOT TO SCALE

<p><b>APPROVED BY:</b></p> <p style="text-align: center;"><i>Marcus Fuller</i>      11/25/14</p> <p style="text-align: center;"><b>P.W. DIRECTOR/CITY ENGINEER</b>      <b>DATE</b></p>		<p><b>TRAFFIC SIGNAL STREET NAME SIGN</b></p>			
<p><b>REVISIONS</b></p>				<p><b>CITY OF RIALTO, CALIFORNIA PUBLIC WORKS DEPARTMENT ENGINEERING DIVISION</b></p>	
<p><b>DATE</b></p>	<p><b>BY</b></p>	<p><b>MARK</b></p>	<p><b>APPROVED</b></p>		
<p><b>STANDARD NO. TS-403</b></p>		<p><b>SHT 1 OF 2</b></p>			



**SIGN MOUNT DETAIL**



**CLAMP DETAIL**

NOT TO SCALE

**APPROVED BY:**

*Marcus Fuller* 11/25/14  
**P.W. DIRECTOR/CITY ENGINEER** **DATE**

**TRAFFIC SIGNAL  
 STREET NAME SIGN**

REVISIONS			
DATE	BY	MARK	APPROVED

**CITY OF RIALTO, CALIFORNIA  
 PUBLIC WORKS DEPARTMENT  
 ENGINEERING DIVISION**

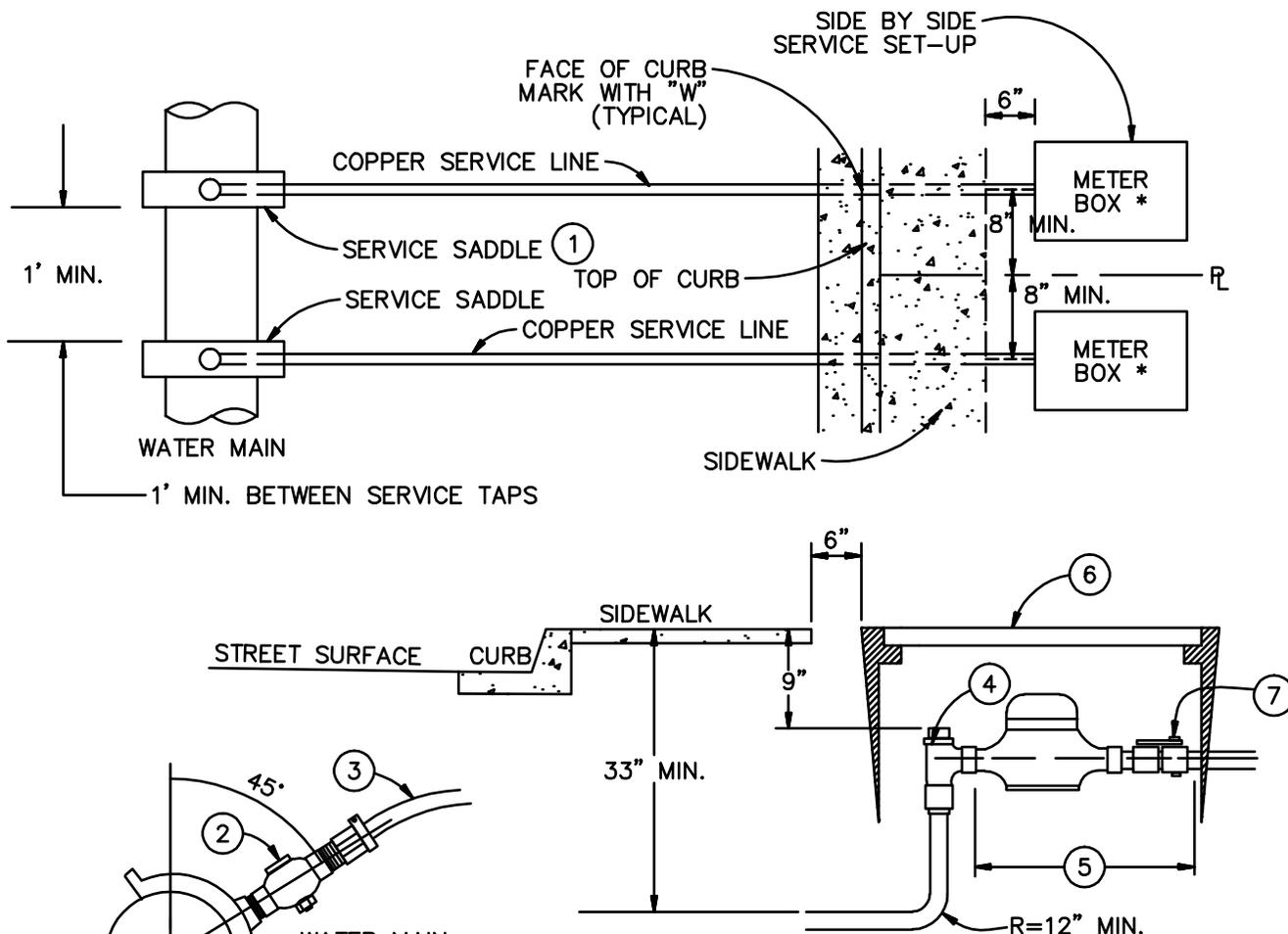
**STANDARD NO. TS-403**

**SHT 2 OF 2**

# STORM DRAIN

Refer to Standard  
Plans for Public  
Works Construction  
(Latest Edition)

WATER



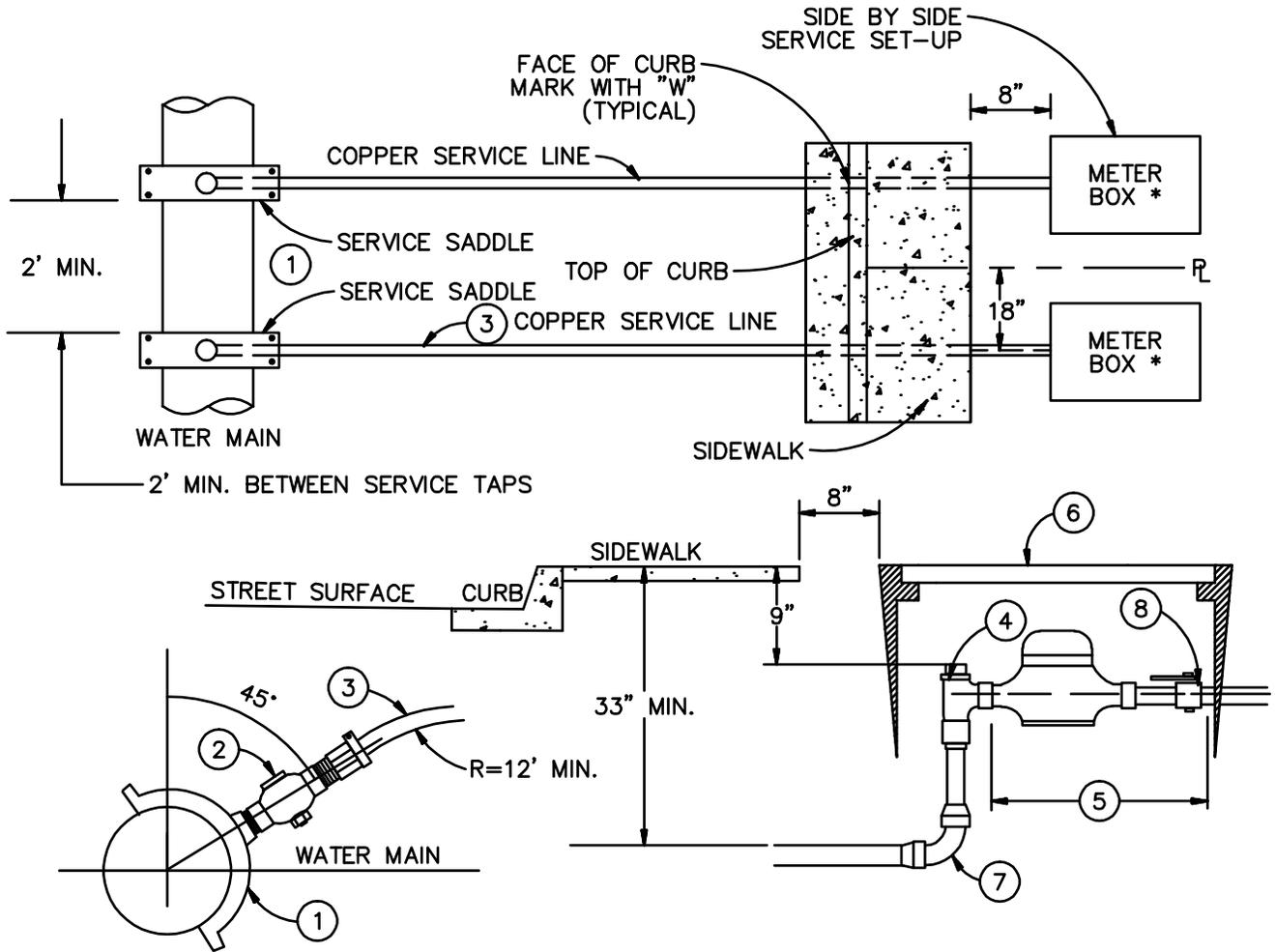
\* METERS TO BE PLACED BEHIND SIDEWALK OR CURB ACCORDING TO LOCATION OF SIDEWALK.

**NOTES:**

- ① DOUBLE STRAPPED SERVICE WITH 1" TAP. 515 SMITH-BLAIR, FORD F202 OR APPROVED EQUAL.
- ② 1" BALL TYPE CORPORATION STOP I.P. X P.J., JONES NO. J-1935, FORD F-1100 OR APPROVED EQUAL.
- ③ 1" TYPE "K" SOFT COPPER PIPE, MINIMUM 12" RADIUS BENDS.
- ④ 1" ANGLE METER STOP, JONES NO. J-1963, FORD KV43-444W OR APPROVED EQUAL.
- ⑤ METER ASSEMBLY INSTALLED BY CITY WATER DEPARTMENT/WATER UTILITY COMPANY.
- ⑥ METER BOX INSTALLED BY CITY WATER DEPARTMENT/WATER UTILITY COMPANY. A TRAFFIC LOAD RATED COVER SHALL BE USED IN AREAS WITHOUT CURB AND GUTTER, ROLLED CURB OR WITHIN 5' OF DRIVEWAY OR BCR.
- ⑦ METER COUPLING WITH BALL VALVE WITH HANDLE. JONES E1908, FORD B133444W-NL OR APPROVED EQUAL.

NOT TO SCALE

<b>REF. OLD RIALTO STD. 201</b>	<b>APPROVED BY:</b>  P.W. DIRECTOR/CITY ENGINEER	<b>1" WATER METER CONNECTION</b>														
	11/25/14 DATE	<b>CITY OF RIALTO, CALIFORNIA PUBLIC WORKS DEPARTMENT ENGINEERING DIVISION</b>														
	<b>REVISIONS</b>															
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DATE	BY	MARK	APPROVED													
<b>STANDARD NO. W-700</b>		<b>SHT 1 OF 1</b>														



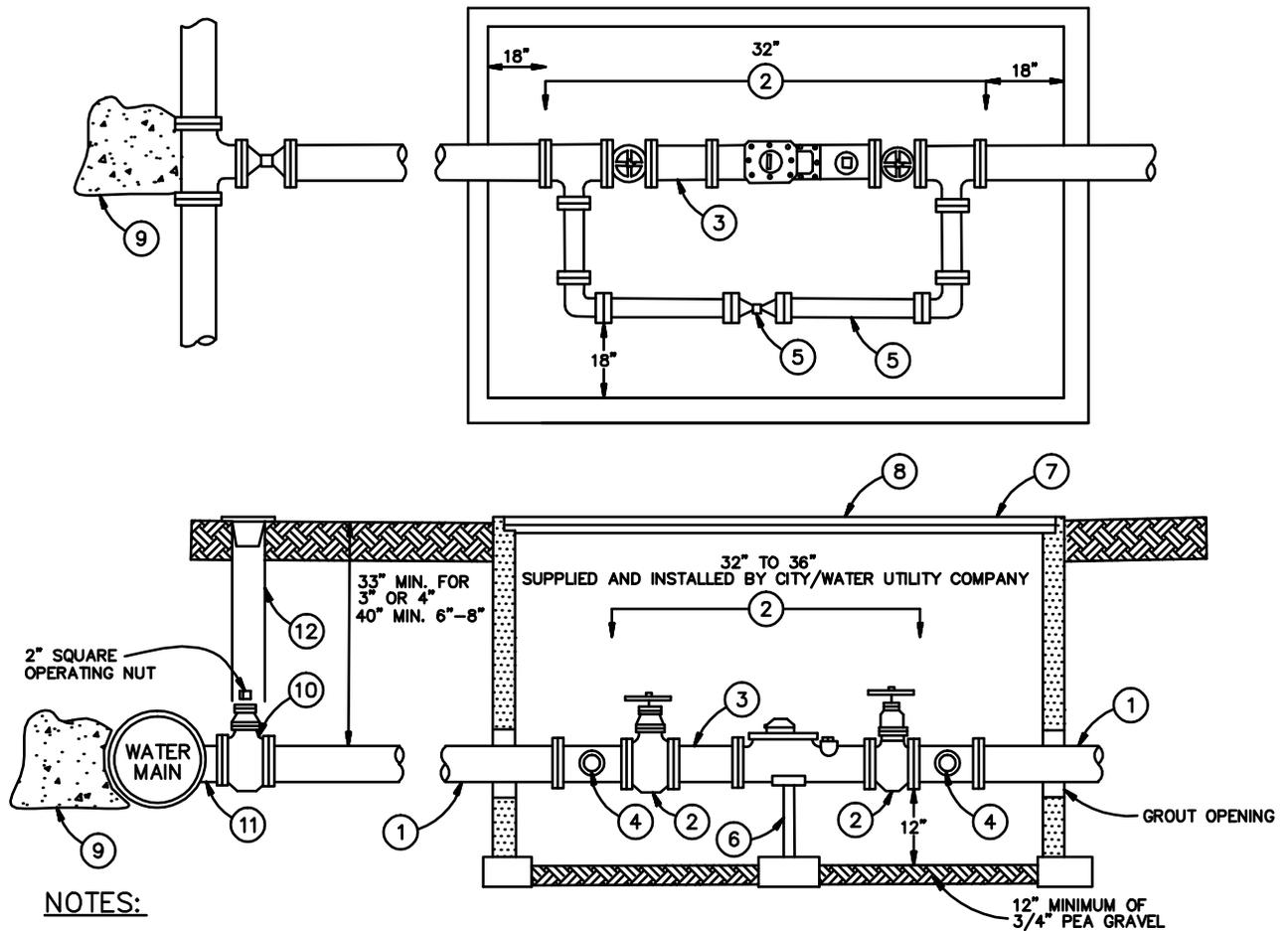
\* METERS TO BE PLACED BEHIND SIDEWALK OR CURB ACCORDING TO LOCATION OF SIDEWALK.

**NOTES:**

- ① DOUBLE STRAPPED SERVICE SADDLE WITH 2" TAP. 313 SMITH-BLAIR, FORD 202B-NL OR APPROVED EQUAL.
- ② 2" BALL TYPE CORPORATION STOP, JONES NO. J-1935, FORD 2" FB-1100 OR APPROVED EQUAL.
- ③ 2" TYPE "K" COPPER PIPE, MINIMUM 12" RADIUS BENDS.
- ④ 2" BALL ANGLE METER VALVE, FORD BFA 13-777W WITH JONES NO. J-2605 ADAPTOR OR APPROVED EQUAL.
- ⑤ METER INSTALLED BY CITY WATER DEPARTMENT/WATER UTILITY COMPANY.
- ⑥ METER BOX INSTALLED BY CITY WATER DEPARTMENT/WATER UTILITY COMPANY. A TRAFFIC LOAD RATED COVER SHALL BE USED IN AREAS WITHOUT CURB & GUTTER, ROLLED CURB OR WITHIN 5" OF DRIVEWAY OR BCR.
- ⑦ BRONZE ELBOW COUPLING JONES NO. J-2611 OR APPROVED EQUAL.
- ⑧ METER COUPLING WITH BALL VALVE. JONES NO. E-1913W, FORD BF13-777W-NL OR APPROVED EQUAL.

NOT TO SCALE

REF. OLD RIALTO STD. 209	<b>APPROVED BY:</b>  P.W. DIRECTOR/CITY ENGINEER	<b>2" WATER METER CONNECTION</b>																
	11/25/14 DATE	<b>CITY OF RIALTO, CALIFORNIA PUBLIC WORKS DEPARTMENT ENGINEERING DIVISION</b>																
	<b>REVISIONS</b>			<b>STANDARD NO. W-701</b>														
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DATE	BY	MARK	APPROVED															



**NOTES:**

- ① SCHEDULE 40 STEEL CML/C PIPE, SIZED TO METER.
- ② BY-PASS LINE NOT NEEDED FOR IRRIGATION SERVICE. (SUPPLY BY CITY/WATER UTILITY COMPANY)
- ③ 18" FLANGED SPOOL (SCHEDULE 40 STEEL CML/C PIPE).
- ④ FLANGED TEES W/OUTLET ONE SIZE SMALLER THAN MAIN VALVE ON METER.
- ⑤ BY-PASS RESILIENT VALVE AND LINE ONE SIZE SMALLER SAME SIZE RESILIENT VALVE.
- ⑥ PIPE SUPPORTS FOR METER AND MAIN VALVE. (SUPPLY BY CITY/WATER UTILITY COMPANY)
- ⑦ ADJUST VAULT AND COVER TO MEET CURB GRADE PER CITY STANDARD W-703. (SUPPLY BY CONTRACTOR)
- ⑧ VAULT LID SHALL HAVE SPRING HINGES AND A SMALL DOOR FOR READING METER PER CITY STANDARD W-703. (SUPPLY BY CONTRACTOR)
- ⑨ THRUST BLOCK PER CITY STANDARD W-723.
- ⑩ FLANGED RESILIENT SEATED GATE VALVE.
- ⑪ FLANGED TEE OR RINGTITE TEE WITH FLANGED OUTLET TO MATCH METER SIZE.
- ⑫ 8" RISER PIPE WITH SLIP CAN AND CAP PER CITY STANDARD W-719.

NOT TO SCALE

REF. OLD RIALTO  
STD. 208

APPROVED BY:

*Marina Fuller* 11/25/14  
P.W. DIRECTOR/CITY ENGINEER DATE

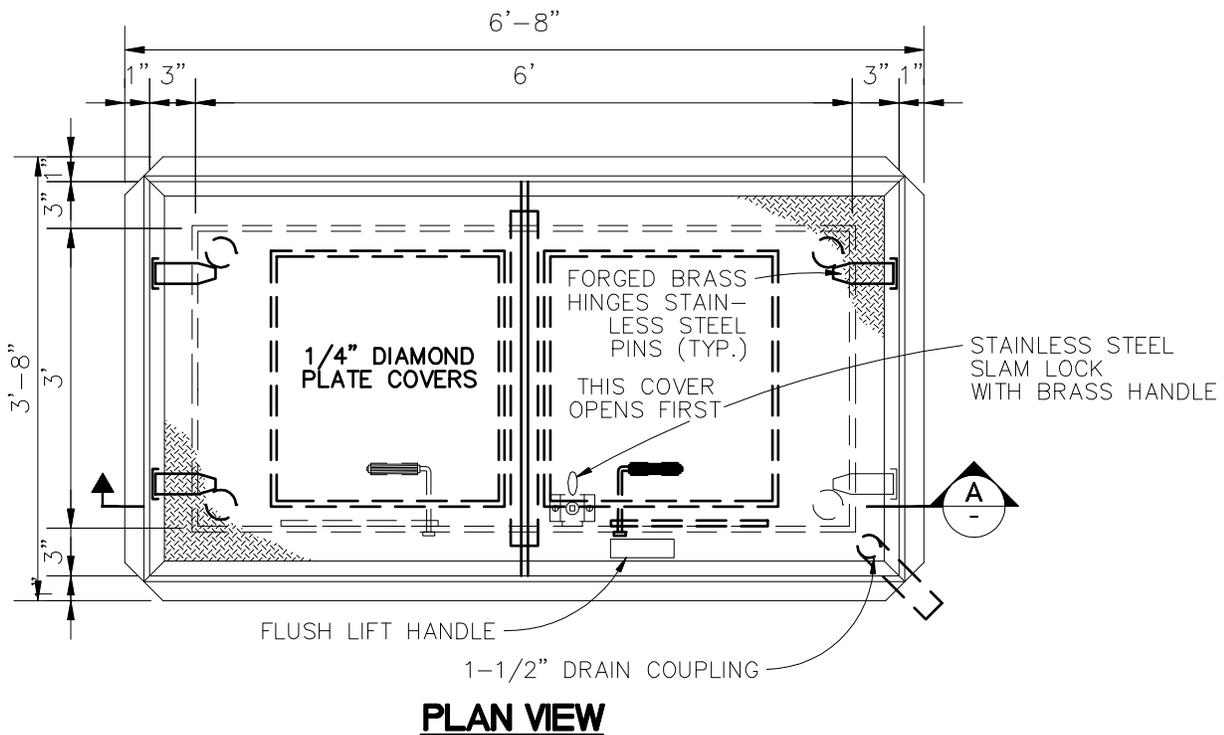
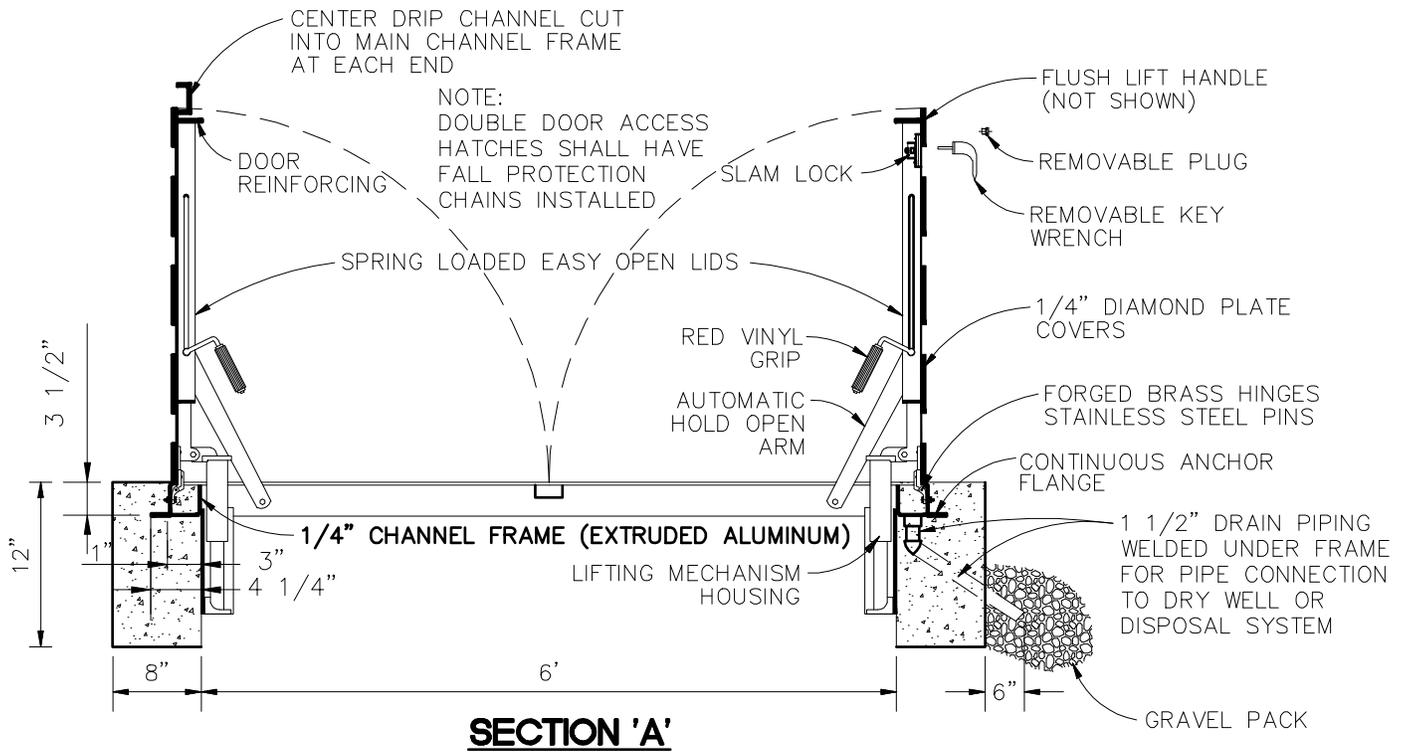
**3" WATER SERVICE AND  
LARGER METER AND  
VAULT INSTALLATION**

REVISIONS			
DATE	BY	MARK	APPROVED

CITY OF RIALTO, CALIFORNIA  
PUBLIC WORKS DEPARTMENT  
ENGINEERING DIVISION

STANDARD NO. W-702

SHT 1 OF 1



NOT TO SCALE

**APPROVED BY:**  
*Marina Fuller*  
 P.W. DIRECTOR/CITY ENGINEER

11/25/14  
 DATE

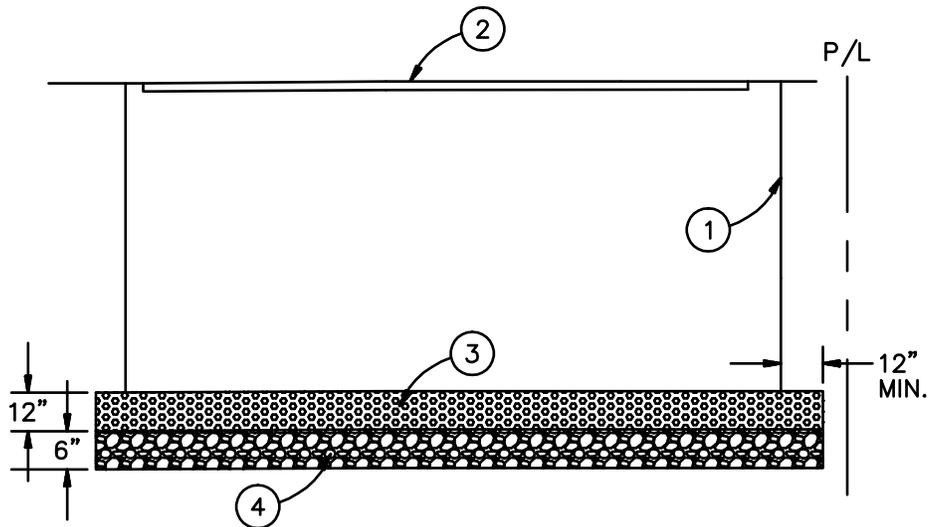
**WATER VAULT**

REVISIONS			
DATE	BY	MARK	APPROVED

**CITY OF RIALTO, CALIFORNIA  
 PUBLIC WORKS DEPARTMENT  
 ENGINEERING DIVISION**

**STANDARD NO. W-703**

**SHT 1 OF 2**



**NOTES:**

- ① 3' x 6' FIBERGLASS OR PRE-CAST CONCRETE VAULT (LARGER VAULT MAY BE REQUIRED).
- ② 3' X 6' DOUBLE DOOR ACCESS HATCH PER SHEET 1.
- ③ INSTALL MIN. 12" THICK 3/4" CRUSHED ROCK GRAVEL (NO FINES).
- ④ INSTALL 6" THICK BACKFILL (SE 30) OR BETTER, 95% COMPACTION.

NOT TO SCALE

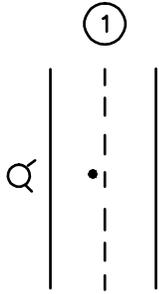
**APPROVED BY:**  
*Marius Fuller*  
 P.W. DIRECTOR/CITY ENGINEER      11/25/14  
 DATE

**WATER VAULT**

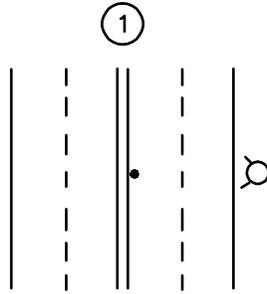
REVISIONS			
DATE	BY	MARK	APPROVED

**CITY OF RIALTO, CALIFORNIA  
 PUBLIC WORKS DEPARTMENT  
 ENGINEERING DIVISION**

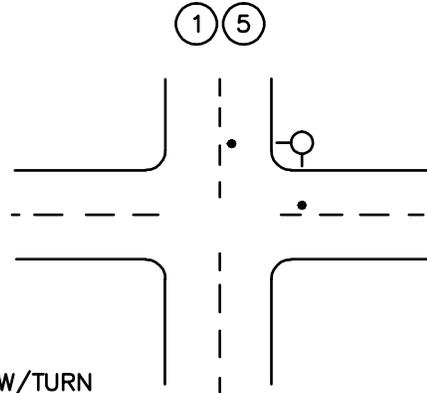
TWO-LANE STREET



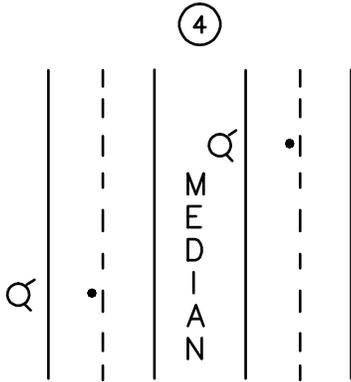
MULTI-LANE STREET



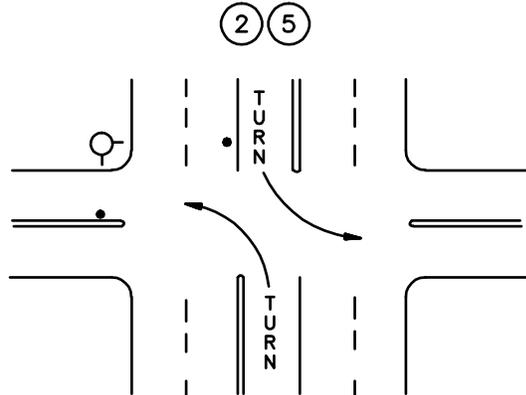
TWO-LANE STREET AT INTERSECTION



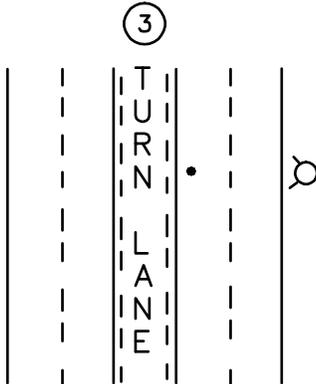
MEDIAN



FOUR LANE STREET W/TURN LANE AT INTERSECTION



MULTI-LANE STREET W/TURN LANE



**BLUE MARKER PLACEMENT:**

- ① MARKERS SHALL BE PLACED 6" FROM THE EDGE OF THE PAINTED  $\mathcal{C}$  OR IF NO PAINTED  $\mathcal{C}$  EXISTS, 6" FROM THE CENTER OF PAVED ROAD ON THE SIDE NEAREST THE HYDRANT.
- ② MARKERS SHALL BE PLACED 6" FROM THE EDGE OF THE PAINTED WHITE CHANNELIZING LINE ON THE SIDE NEAREST THE HYDRANT.
- ③ MARKERS SHALL BE PLACED 6" FROM THE EDGE OF THE PAINTED YELLOW BARRIER LINE ON THE SIDE NEAREST THE HYDRANT.
- ④ MARKERS SHALL BE PLACED 6" FROM THE EDGE OF THE PAINTED LANE LINE CLOSEST TO AND ON THE SIDE NEAREST TO THE HYDRANT.
- ⑤ HYDRANTS WITHIN A CURB RETURN SHALL HAVE MARKERS PLACED IN THE APPROPRIATE LOCATIONS ON BOTH STREETS.

**GENERAL NOTES:**

1. ADHESIVE AND APPLICATION METHOD SHALL BE APPROVED BY CITY.
2. MARKERS SHALL BE BLUE RETROREFLECTIVE PAVEMENT MAKERS OF A TYPE APPROVED BY THE CITY.

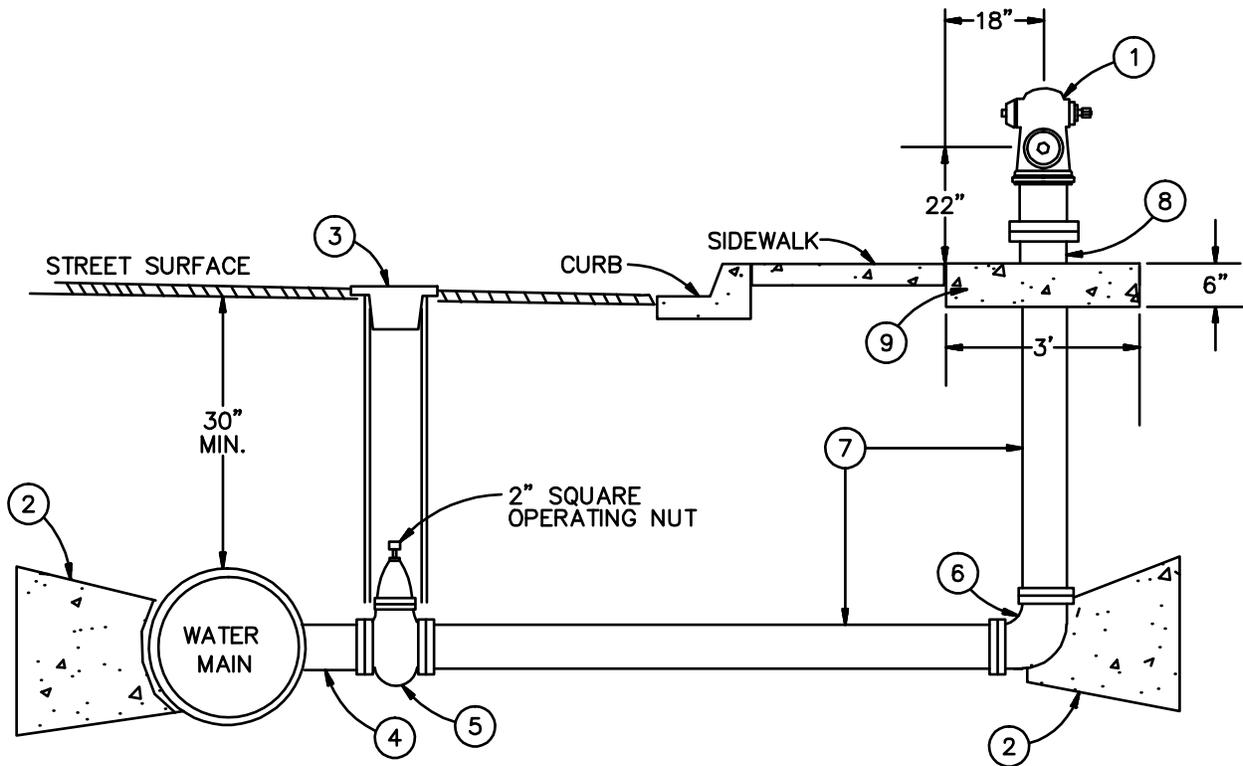
NOT TO SCALE

**APPROVED BY:**  
  
 P.W. DIRECTOR/CITY ENGINEER      11/25/14  
 DATE

**PAVEMENT MARKERS AT FIRE HYDRANTS**

REVISIONS			
DATE	BY	MARK	APPROVED

**CITY OF RIALTO, CALIFORNIA  
 PUBLIC WORKS DEPARTMENT  
 ENGINEERING DIVISION**



**NOTES:**

- ① FIRE HYDRANT, JONES NO. J-3710 "R" WITH ONE 4" AND ONE 2.5" OUTLETS WITH 5/8" X 3" BREAKAWAY BOLTS AT FLANGE.
- ② THRUST BLOCK PER CITY STANDARD W-723.
- ③ 8" RISER PIPE WITH SLIP CAN AND RISER CAP PER CITY STANDARD W-719.
- ④ 6" FLANGED TEE OR TAPPING SADDLE.
- ⑤ 6" FLANGED RESILIENT SEATED GATE VALVE.
- ⑥ 6" FLANGED 90 DEGREE ELBOW.
- ⑦ 6" SCHEDULE 40 STEEL CML/C PIPE WITH WELDED FLANGES.
- ⑧ 3" CLEARANCE FROM BOTTOM OF FLANGE TO TOP OF CONCRETE PAD.
- ⑨ 3' X 3' X 6" CONCRETE PAD.

**GENERAL NOTES :**

- 1. FIRE HYDRANT SHALL NOT BE INSTALLED CLOSER THAN FIVE FEET FROM ANY STREET LIGHT, POWER POLE, DRIVEWAY, OR ANY OTHER OBSTRUCTION.
- 2. INSTALL BLUE REFLECTIVE PAVEMENT MARKER AS PER CITY STANDARD W-704.
- 3. HYDRANTS SHALL BE PAINTED WITH 2 COATS HIGH GLOSS ENAMEL YELLOW.

NOT TO SCALE

REF. OLD RIALTO  
STD. 207

APPROVED BY:

*Marcus Fuller* 11/25/14  
P.W. DIRECTOR/CITY ENGINEER DATE

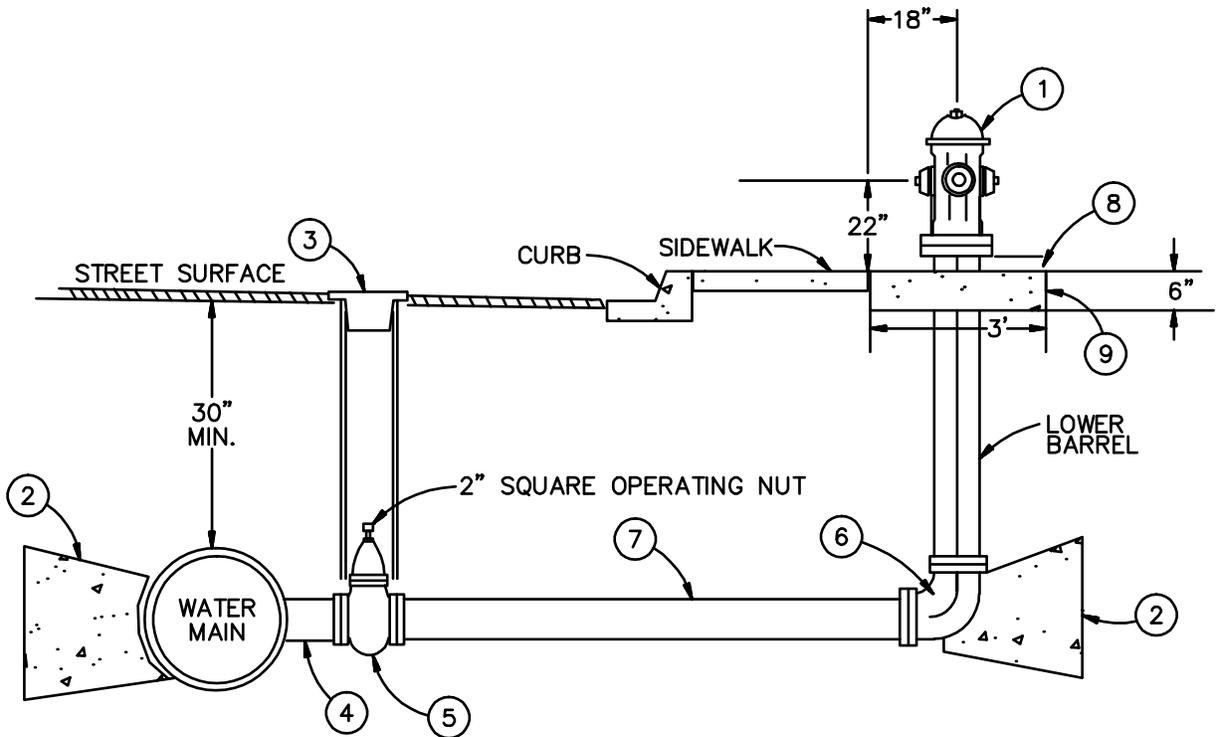
**WET BARREL  
FIRE HYDRANT  
INSTALLATION**

REVISIONS			
DATE	BY	MARK	APPROVED

CITY OF RIALTO, CALIFORNIA  
PUBLIC WORKS DEPARTMENT  
ENGINEERING DIVISION

STANDARD NO. W-705

SHT 1 OF 1



**NOTES:**

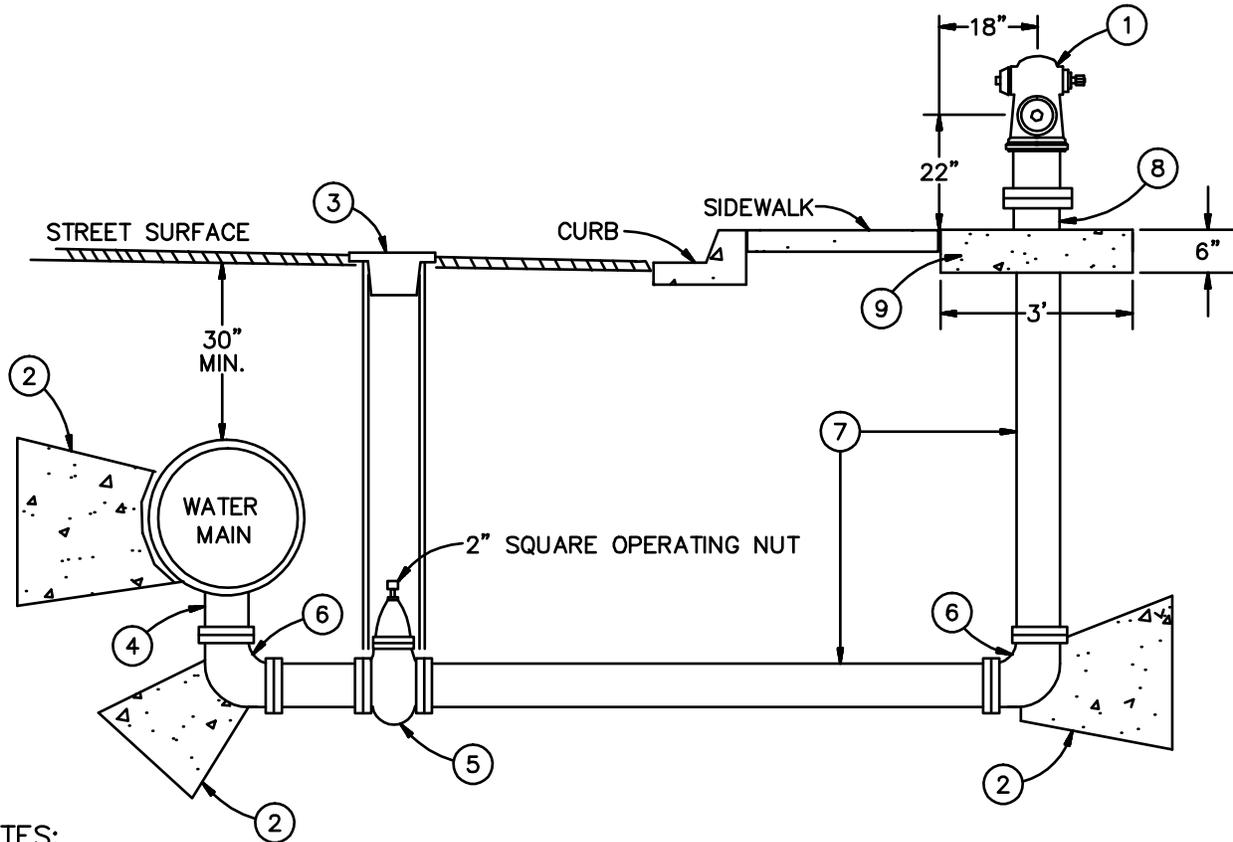
- ① 3-WAY HYDRANT HEAD, MULLER A-423 DRY BARREL OR APPROVED EQUAL.
- ② THRUST BLOCK PER CITY STANDARD W-723.
- ③ 8" RISER PIPE WITH SLIP CAN AND RISER CAP PER CITY STANDARD W-719.
- ④ 6" FLANGED TEE OR TAPPING SADDLE.
- ⑤ 6" FLANGED RESILIENT SEATED GATE VALVE.
- ⑥ 6" FLANGED 90 DEGREE ELBOW.
- ⑦ 6" SCHEDULE 40 STEEL CML/C PIPE WITH WELDED FLANGES.
- ⑧ 3" CLEARANCE FROM BOTTOM OF FLANGE TO TOP OF CONCRETE PAD.
- ⑨ 3' X 3' X 6" CONCRETE PAD.

**GENERAL NOTES :**

- 1. FIRE HYDRANT SHALL NOT BE INSTALLED CLOSER THAN FIVE FEET FROM ANY STREET LIGHT, POWER POLE, DRIVEWAY, OR ANY OTHER OBSTRUCTION.
- 2. INSTALL BLUE RETROREFLECTIVE PAVEMENT MARKER AS PER CITY STANDARD W-704.
- 3. HYDRANTS SHALL BE PAINTED WITH 2 COATS HIGH GLOSS ENAMEL YELLOW.

NOT TO SCALE

<b>REF. OLD RIALTO STD. 206</b>	<b>APPROVED BY:</b>  P.W. DIRECTOR/CITY ENGINEER	11/25/14 DATE	<b>DRY BARREL FIRE HYDRANTS INSTALLATION</b>																			
	<b>REVISIONS</b>			CITY OF RIALTO, CALIFORNIA PUBLIC WORKS DEPARTMENT ENGINEERING DIVISION																		
	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 15%;">DATE</th> <th style="width: 15%;">BY</th> <th style="width: 15%;">MARK</th> <th style="width: 55%;">APPROVED</th> </tr> </thead> <tbody> <tr><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td></tr> </tbody> </table>	DATE	BY			MARK	APPROVED															
	DATE	BY	MARK			APPROVED																
<b>STANDARD NO. W-706</b>			<b>SHT 1 OF 1</b>																			



**NOTES:**

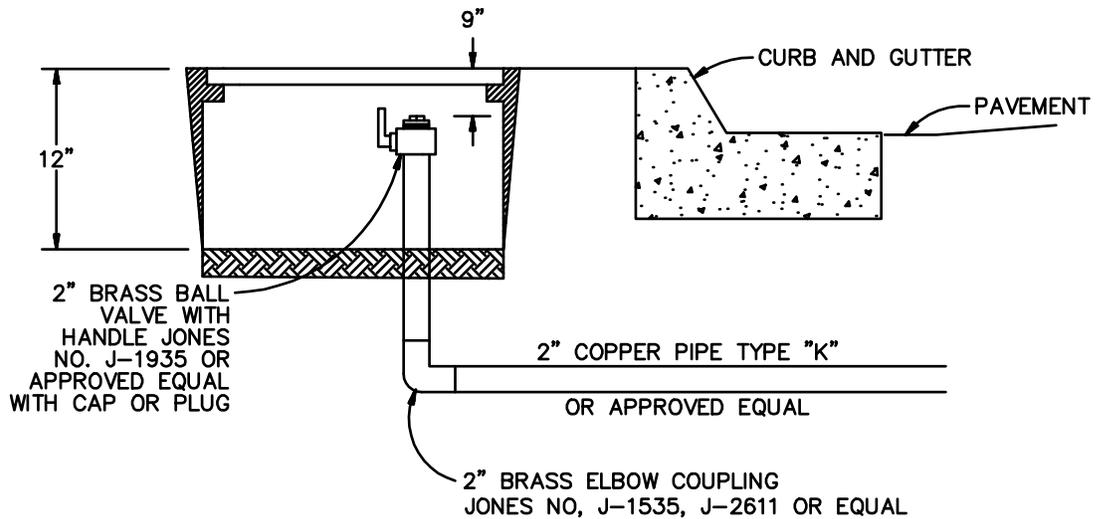
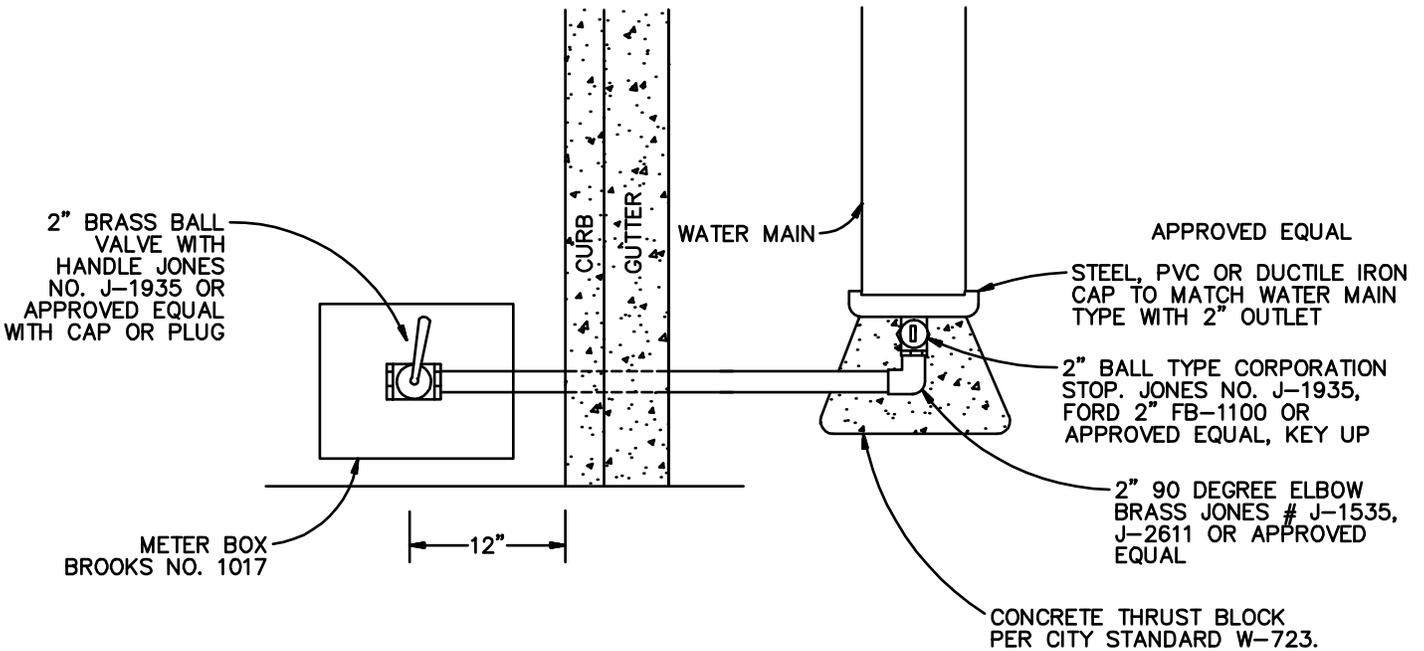
- ① FIRE HYDRANT, JONES NO. J-3710 "R" WITH ONE 4" AND ONE 2.5" OUTLETS WITH 5/8" X 3" BREAKAWAY BOLTS AT FLANGE.
- ② THRUST BLOCK PER CITY STANDARD W-723.
- ③ 8" RISER PIPE WITH SLIP CAN AND RISER CAP PER CITY STANDARD W-719.
- ④ 6" FLANGED TEE OR TAPPING SADDLE.
- ⑤ 6" FLANGED RESILIENT SEATED GATE VALVE.
- ⑥ 6" FLANGED 90 DEGREE ELBOW.
- ⑦ 6" SCHEDULE 40 STEEL CML/C PIPE WITH WELDED FLANGES.
- ⑧ 3" CLEARANCE FROM BOTTOM OF FLANGE TO TOP OF CONCRETE PAD.
- ⑨ 3' X 3' X 6" CONCRETE PAD.

**GENERAL NOTES :**

- 1. FIRE HYDRANT SHALL NOT BE INSTALLED CLOSER THAN FIVE FEET FROM ANY STREET LIGHT, POWER POLE, DRIVEWAY, OR ANY OTHER OBSTRUCTION.
- 2. INSTALL BLUE RETROREFLECTIVE PAVEMENT MARKER AS PER CITY STANDARD W-704.
- 3. HYDRANTS SHALL BE PAINTED WITH 2 COATS HIGH GLOSS ENAMEL YELLOW.

NOT TO SCALE

<b>REF. OLD RIALTO STD. 218</b>	<b>APPROVED BY:</b>  P.W. DIRECTOR/CITY ENGINEER	11/25/14 DATE													
	<b>REVISIONS</b>														
	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 15%;">DATE</th> <th style="width: 15%;">BY</th> <th style="width: 15%;">MARK</th> <th style="width: 55%;">APPROVED</th> </tr> </thead> <tbody> <tr> <td> </td> <td> </td> <td> </td> <td> </td> </tr> <tr> <td> </td> <td> </td> <td> </td> <td> </td> </tr> </tbody> </table>	DATE	BY	MARK	APPROVED									<b>6" BLOW OFF INSTALLATION</b>	
	DATE	BY	MARK	APPROVED											
<b>CITY OF RIALTO, CALIFORNIA PUBLIC WORKS DEPARTMENT ENGINEERING DIVISION</b>															
<b>STANDARD NO. W-707</b>		<b>SHT 1 OF 1</b>													



NOT TO SCALE

REF. OLD RIALTO  
STD. 212

APPROVED BY:

*Marcus Fuller* 11/25/14  
P.W. DIRECTOR/CITY ENGINEER DATE

**2" END OF LINE  
BLOW OFF**

REVISIONS			
DATE	BY	MARK	APPROVED

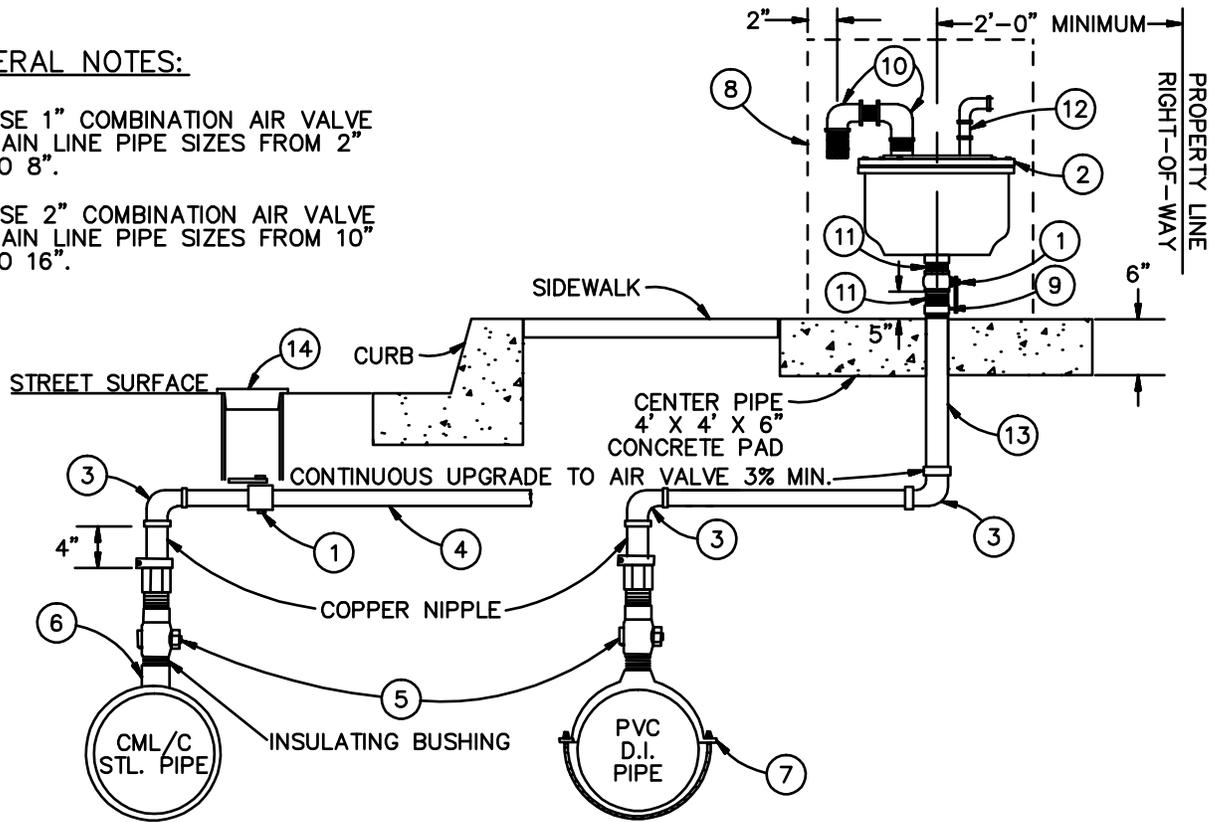
CITY OF RIALTO, CALIFORNIA  
PUBLIC WORKS DEPARTMENT  
ENGINEERING DIVISION

STANDARD NO. W-708

SHT 1 OF 1

**GENERAL NOTES:**

1. USE 1" COMBINATION AIR VALVE MAIN LINE PIPE SIZES FROM 2" TO 8".
2. USE 2" COMBINATION AIR VALVE MAIN LINE PIPE SIZES FROM 10" TO 16".



**NOTES:**

- ① 1" OR 2" BALL VALVE. JONES E-1935W, FORD BF13-777W-NL OR APPROVED EQUAL.
- ② AWWA C5 12 OR EQUAL 1" OR 2" HEAVY DUTY COMBINATION AIR-VAC RELEASE VALVE.
- ③ 1" OR 2" COPPER 90° ELBOWS OR 90° ELL FORD L-44-77 COMPRESSION FITTINGS OR APPROVED EQUAL.
- ④ 1" OR 2" TYPE "K" COPPER PIPE.
- ⑤ 1" OR 2" CORP STOP, BALL TYPE. JONES E-1908, J-1935, FORD FB-1100, B-133444W-NL OR APPROVED EQUAL.
- ⑥ 1" OR 2" SCHEDULE 40 BLACK STEEL COUPLING (WELDED PIPE CONNECTION).
- ⑦ DOUBLE STRAPPED C 900 BRASS SERVICE SADDLE WITH 1" OR 2" TAP.
- ⑧ AIR-VAC VENTED STEEL COVER PER CITY STANDARD W-711.
- ⑨ BRASS COUPLING AT SURFACE ON CONCRETE.
- ⑩ 1" OR 2" DOUBLE 90° ELBOWS.
- ⑪ 1" OR 2" BRASS NIPPLES THREADED AT BOTH ENDS.
- ⑫ 1/2" BRASS BALL VALVE, WITHOUT HANDLE WITH 90° ELBOW.
- ⑬ 1" OR 2" BRASS PIPE.
- ⑭ RISER PIPE WITH SLIP CAN AND RISER CAP PER CITY STANDARD W-719.

NOT TO SCALE

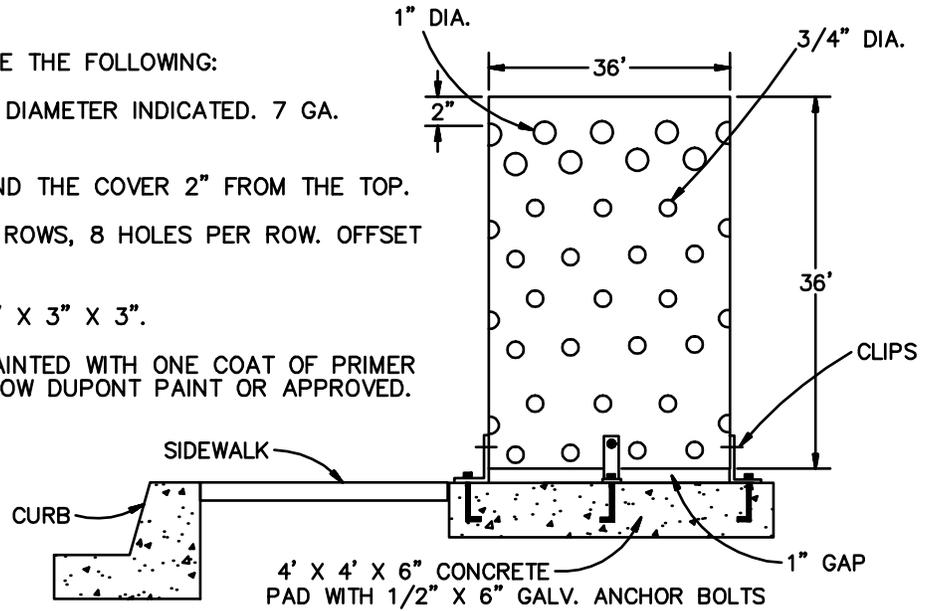
<p><b>REF. OLD RIALTO STD. 215</b></p>	<p><b>APPROVED BY:</b>                    P.W. DIRECTOR/CITY ENGINEER      11/25/14                  DATE</p>	<p><b>1" AND 2" COMBINATION AIR VALVE</b></p>			
	<p><b>REVISIONS</b></p>			<p><b>CITY OF RIALTO, CALIFORNIA PUBLIC WORKS DEPARTMENT ENGINEERING DIVISION</b></p>	
	<p><b>DATE</b></p>	<p><b>BY</b></p>	<p><b>MARK</b></p>		<p><b>APPROVED</b></p>
<p><b>STANDARD NO. W-709</b></p>		<p><b>SHT 1 OF 1</b></p>			



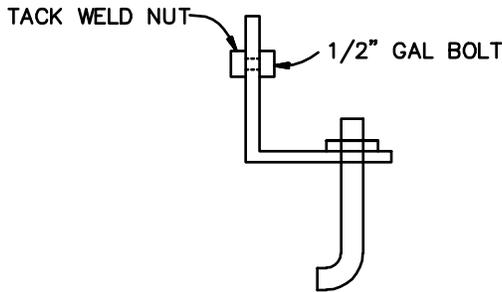
**GENERAL NOTES:**

THE ENCLOSURE SHALL INCLUDE THE FOLLOWING:

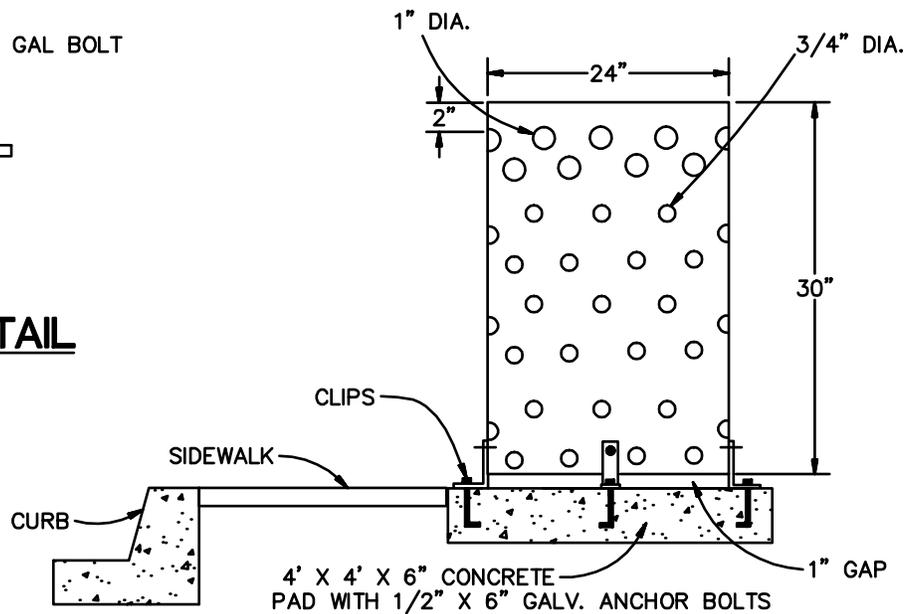
1. 12 GA. STEEL PIPE OF DIAMETER INDICATED. 7 GA. THICKNESS FOR TOP.
2. 6 EA. 1" HOLES AROUND THE COVER 2" FROM THE TOP.
3. 40 EA. 3/4" HOLES 5 ROWS, 8 HOLES PER ROW. OFFSET ROWS 22 DEGREES.
4. 4 EA. CLIPS 1/4" X 3" X 3" X 3".
5. EXTERIOR SHALL BE PAINTED WITH ONE COAT OF PRIMER AND 2 COATS OF YELLOW DUPONT PAINT OR APPROVED. EQUAL.



**4" A.V.**



**CLIP DETAIL**



**1" AND 2" A.V.**

NOT TO SCALE

REF. OLD RIALTO  
STD. 215

APPROVED BY:

*Marcus Fuller* 11/25/14  
P.W. DIRECTOR/CITY ENGINEER DATE

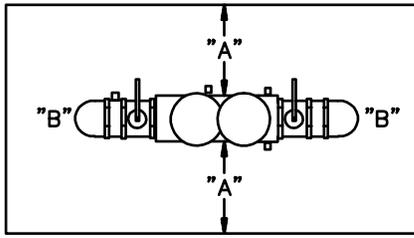
REVISIONS			
DATE	BY	MARK	APPROVED

**AIR VALVE  
ENCLOSURE**

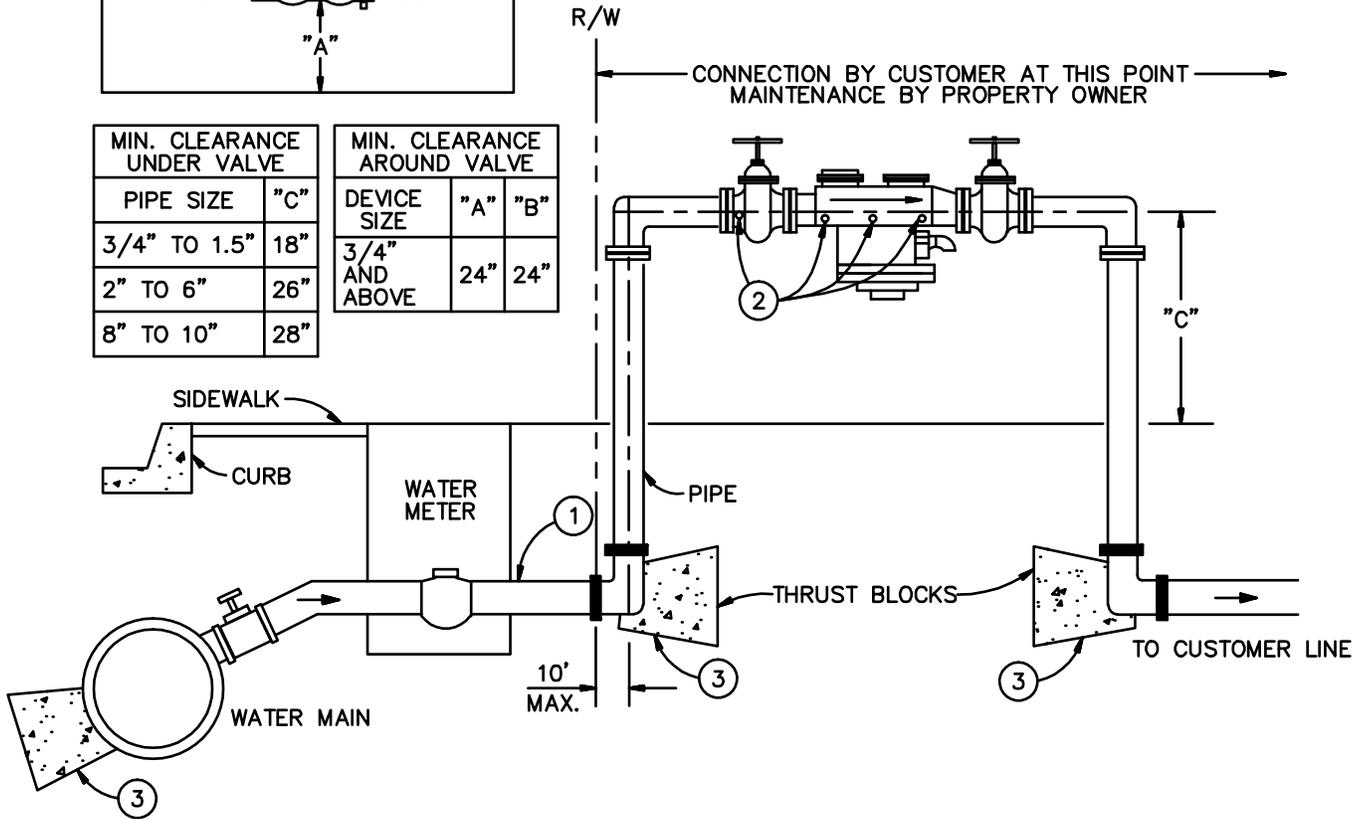
CITY OF RIALTO, CALIFORNIA  
PUBLIC WORKS DEPARTMENT  
ENGINEERING DIVISION

STANDARD NO. W-711

SHT 1 OF 1



MIN. CLEARANCE UNDER VALVE		MIN. CLEARANCE AROUND VALVE		
PIPE SIZE	"C"	DEVICE SIZE	"A"	"B"
3/4" TO 1.5"	18"	3/4"	24"	24"
2" TO 6"	26"	AND ABOVE		
8" TO 10"	28"			



**NOTES:**

- ① NO CONNECTION OR TEES BETWEEN WATER METER AND REDUCED PRESSURE (R.P.) DEVICE. R. P. DEVICE SHALL BE LOCATED AS CLOSE TO METER AS POSSIBLE AND A MAXIMUM DISTANCE OF 10' FROM METER.
- ② TEST COCK SIZE :  
 3/4" TO 2" DEVICE = 1/4" TEST COCKS  
 2 1/2" TO 4" DEVICE = 1/2" TEST COCKS  
 6" AND UP DEVICES = 3/4" TEST COCKS
- ③ THRUST BLOCK PER CITY STANDARD W-722.

**GENERAL NOTES:**

- 1. THE INSTALLATION AND OR REPLACEMENT OF ANY REDUCED PRESSURE DEVICE SHALL FIRST BE REVIEWED AND APPROVED BY CITY BEFORE INSTALLATION.
- 2. INSTALL R.P. DEVICE AT PROPERTY LINE. DEPENDING ON RIGHT-OF-WAY, R.P. DEVICE MAY BE INSTALLED PARALLEL TO PROPERTY LINE.
- 3. DEVICE SHALL BE SCREENED FOR SECURITY.

NOT TO SCALE

REF. OLD RIALTO  
STD. 203

APPROVED BY:

*Marcus Fuller* 11/25/14  
P.W. DIRECTOR/CITY ENGINEER DATE

**REDUCED PRESSURE  
DEVICE**

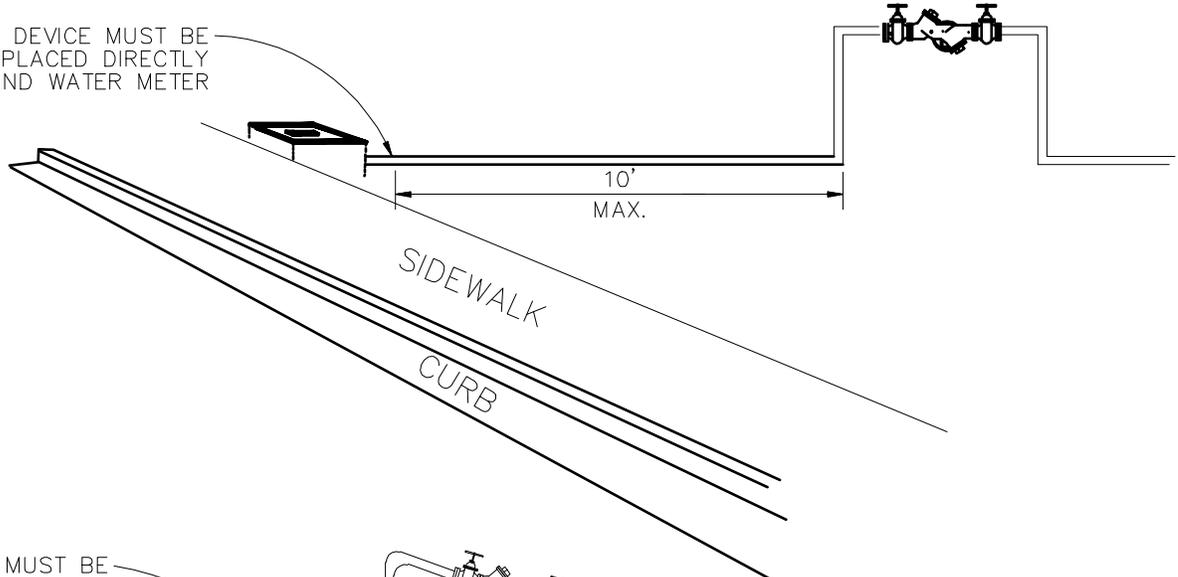
REVISIONS			
DATE	BY	MARK	APPROVED

CITY OF RIALTO, CALIFORNIA  
PUBLIC WORKS DEPARTMENT  
ENGINEERING DIVISION

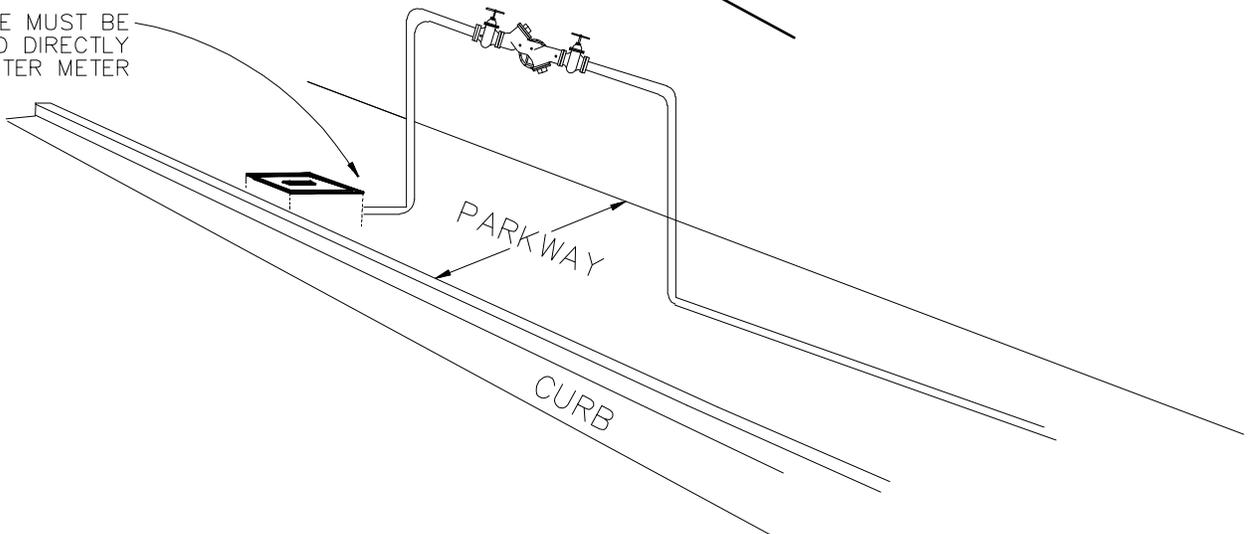
STANDARD NO. W-712

SHT 1 OF 1

DEVICE MUST BE PLACED DIRECTLY BEHIND WATER METER



DEVICE MUST BE PLACED DIRECTLY BEHIND WATER METER



**GENERAL NOTES:**

1. METERS TO BE PLACED BEHIND SIDEWALK OR CURB ACCORDING TO LOCATION OF SERVICES.
2. DEVICE MUST BE IN AN ENCLOSURE.

NOT TO SCALE

**APPROVED BY:**  
*Marissa Fuller* 11/25/14  
 P.W. DIRECTOR/CITY ENGINEER DATE

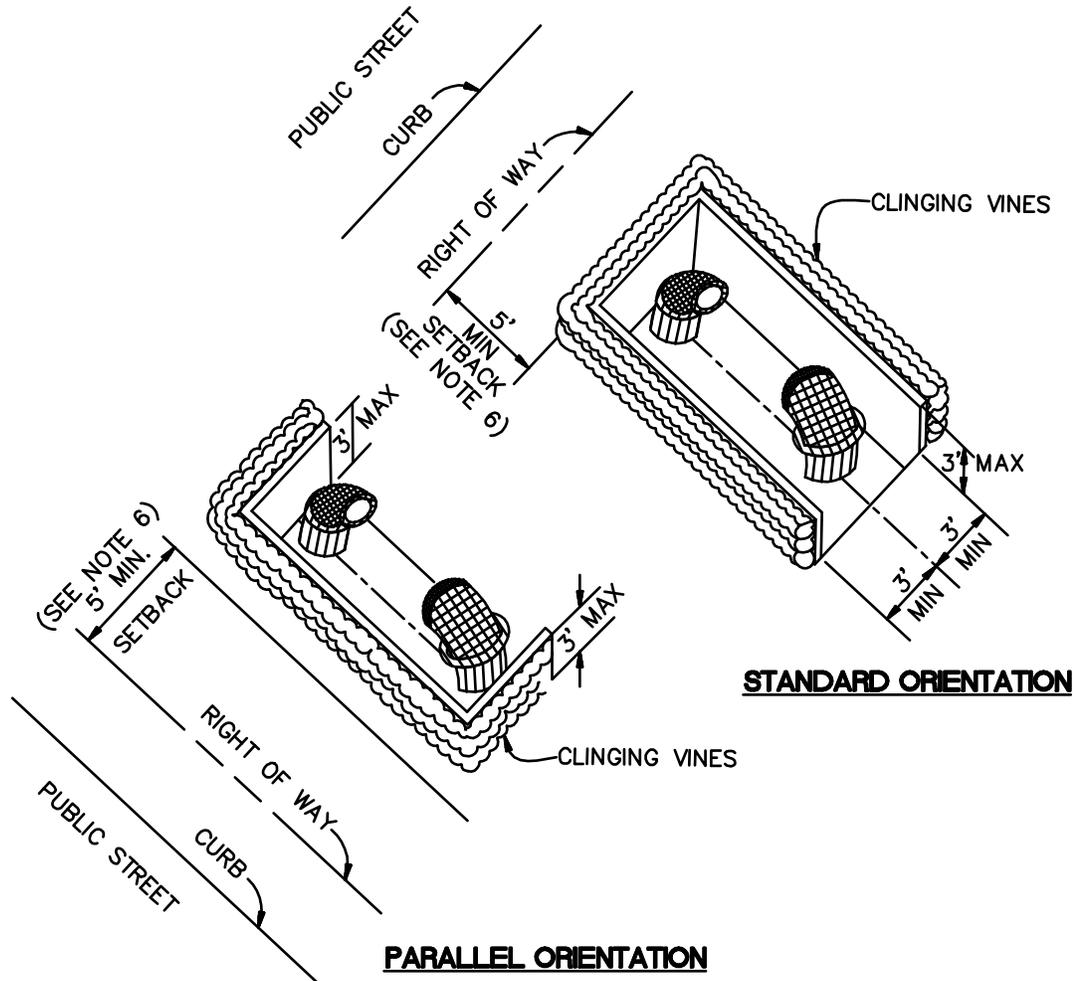
**LOCATION AND SCREENING FOR ABOVE GROUND BACKFLOW PREVENTORS AND DETECTOR CHECK VALVE**

REVISIONS			
DATE	BY	MARK	APPROVED

**CITY OF RIALTO, CALIFORNIA  
 PUBLIC WORKS DEPARTMENT  
 ENGINEERING DIVISION**

**STANDARD NO. W-713**

**SHT 1 OF 3**

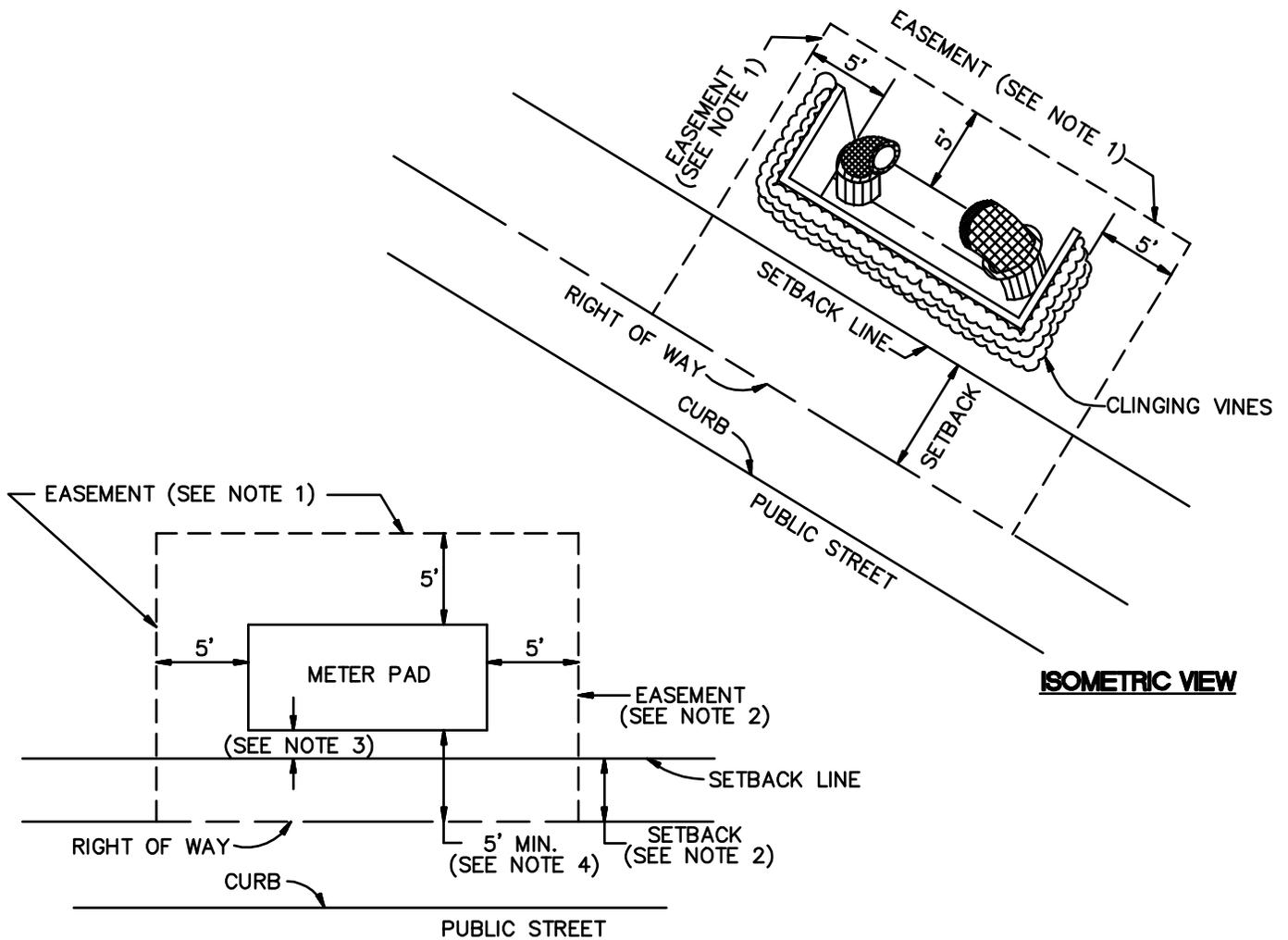


**NOTES:**

1. ABOVE GROUND FIRE LINE AND BACKFLOW ASSEMBLIES MUST BE SHIELDED FROM PUBLIC VIEW FROM STREET WITH LANDSCAPING AND/OR WALLS OR OTHER MEANS IN ACCORDANCE WITH CITY POLICY, THE STANDARD SPECIFICATIONS OR AS DIRECTED BY THE DEVELOPMENT SERVICES DEPARTMENT.
2. WALL HEIGHT SHALL BE RESTRICTED TO A MAX. OF 3' IN STREET SETBACK AREA.
3. CLINGING VINES TO BE PLACED ADJACENT TO WALL PER PLANNING DEPT. REQUIREMENTS.
4. ALL LANDSCAPING WITH IRRIGATION TO BE INSTALLED AND MAINTAINED BY PROPERTY OWNER.
5. FIRE DEPARTMENT CONNECTIONS CANNOT BE PLACED ON THE ASSEMBLY WITHOUT PRIOR APPROVAL. CONTACT FIRE DEPARTMENT AT 909-820-2501 FOR ACCEPTABLE LOCATION.
6. THE DISTANCE FROM THE SETBACK LINE TO THE RIGHT OF WAY LINE VARIES BY ZONING WITH A MAXIMUM IS 10- FEET, OR AS APPROVED BY PLANNING DEPARTMENT.
7. FOR METER INSTALLATION, AN EASEMENT DEDICATED TO THE CITY IS REQUIRED. SEE SHEET 3 FOR REQUIRED LIMITS OF EASEMENT.

NOT TO SCALE

<p><b>APPROVED BY:</b>    <b>P.W. DIRECTOR/CITY ENGINEER</b>      <b>11/25/14</b>  <b>DATE</b></p>				<p><b>LOCATION AND SCREENING FOR ABOVE GROUND BACKFLOW PREVENTORS AND DETECTOR CHECK VALVE</b></p>	
<p style="text-align: center;"><b>REVISIONS</b></p>				<p style="text-align: center;"><b>CITY OF RIALTO, CALIFORNIA          PUBLIC WORKS DEPARTMENT          ENGINEERING DIVISION</b></p>	
<b>DATE</b>	<b>BY</b>	<b>MARK</b>	<b>APPROVED</b>		
<p><b>STANDARD NO. W-713</b></p>				<p><b>SHT 2 OF 3</b></p>	



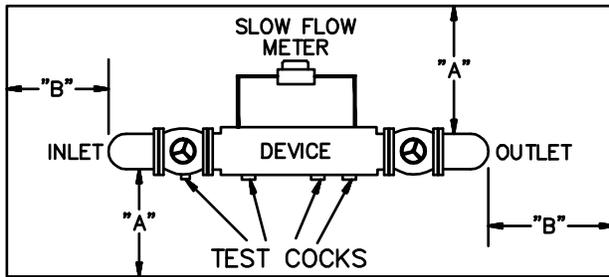
**PLAN VIEW**  
**METER INSTALLATION EASEMENT**

**NOTES:**

1. FOR METERS ONLY— AN EASEMENT IS REQUIRED TO BE DEDICATED TO THE CITY. THE EASEMENT SHALL EXTEND 5-FT MINIMUM OUTSIDE OF THE CONCRETE PAD AND SHALL CONTINUE TO EXTEND TO THE RIGHT OF WAY, THIS DISTANCE VARIES, SEE NOTES 2 AND 3.
2. THE DISTANCE FROM THE SETBACK LINE TO RIGHT OF WAY LINE VARIES BY ZONING MAXIMUM 10 FT, SEE PLANNING DEPARTMENT FOR REQUIRED DISTANCE OR VARIANCE.
3. THE DISTANCE FROM THE SETBACK LINE TO THE METER PAD SHALL BE AS REQUIRED TO MEET SCREENING REQUIREMENTS PER DEVELOPMENT SERVECIES DEPARTMENT.
4. THE MINIMUM DISTANCE FROM THE METER PAD TO THE RIGHT OF WAY SHALL BE 5-FEET MINIMUM AS REQUIRED PER MUNICIPAL CODE SECTION 18.38.160.

NOT TO SCALE

<b>APPROVED BY:</b>  <b>P.W. DIRECTOR/CITY ENGINEER</b>				<b>11/25/14</b> <b>DATE</b>		<b>LOCATION AND SCREENING FOR ABOVE GROUND BACKFLOW PREVENTORS AND DETECTOR CHECK VALVE</b>	
						<b>CITY OF RIALTO, CALIFORNIA PUBLIC WORKS DEPARTMENT ENGINEERING DVISION</b>	
<b>REVISIONS</b>				<b>STANDARD NO. W-713</b>		<b>SHT 3 OF 3</b>	
<b>DATE</b>	<b>BY</b>	<b>MARK</b>	<b>APPROVED</b>				

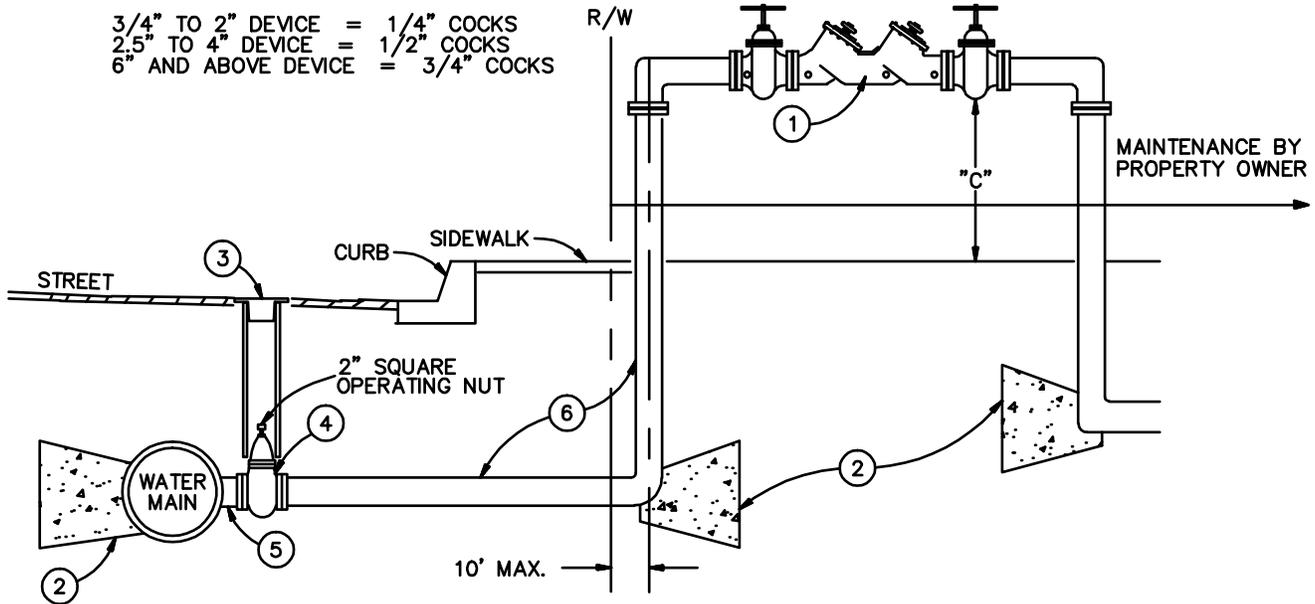


MIN. CLEARANCE UNDER VALVE	
PIPE SIZE	"C"
3/4" TO 1.5"	18"
2"	24"
10"	24"

MIN. CLEARANCE AROUND VALVE		
DEVICE SIZE	"A"	"B"
1" AND UP	24"	24"

**TEST COCK SIZES:**

3/4" TO 2" DEVICE = 1/4" COCKS  
 2.5" TO 4" DEVICE = 1/2" COCKS  
 6" AND ABOVE DEVICE = 3/4" COCKS



**NOTES:**

- ① CITY APPROVED DOUBLE DETECTOR CHECK ASSEMBLY.
- ② THRUST BLOCK PER CITY STANDARD W-723.
- ③ 8" RISER PIPE WITH SLIP CAN AND RISER CAP PER CITY STANDARD W-719.
- ④ FLANGED RESILIENT SEATED GATE VALVE.
- ⑤ FLANGED OUTLET TEE.
- ⑥ SCHEDULE 40 STEEL CML/C PIPE.
- ⑦ NO CONNECTION OR TEES BETWEEN MAINLINE AND DEVICE.
- ⑧ DEVICE SHALL BE SCREENED.

NOT TO SCALE

REF. OLD RIALTO  
 STD. 205A

**APPROVED BY:**

*Marina Fuller* 11/25/14  
 P.W. DIRECTOR/CITY ENGINEER DATE

**FIRE LINE INSTALLATION  
 DOUBLE DETECTOR  
 CHECK ASSEMBLY**

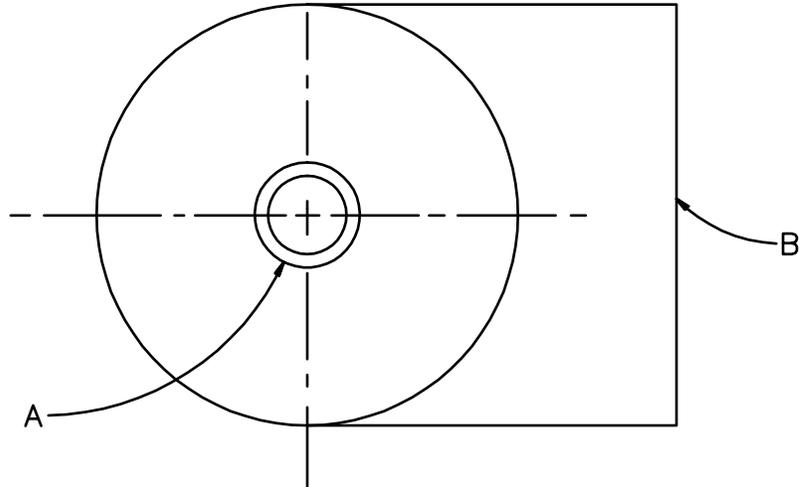
REVISIONS			
DATE	BY	MARK	APPROVED

CITY OF RIALTO, CALIFORNIA  
 PUBLIC WORKS DEPARTMENT  
 ENGINEERING DIVISION

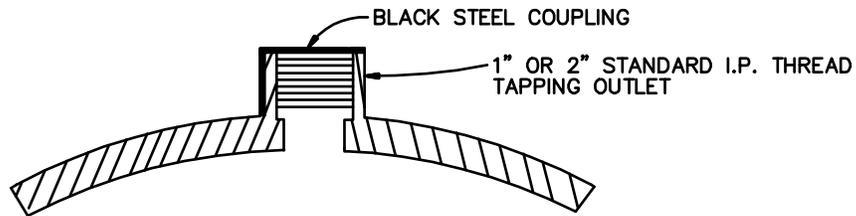
STANDARD NO. W-714

SHT 1 OF 1





**TOP VIEW**



**SIDE VIEW**

SADDLE DIMENSIONS		
SERVICE SIZE	A	B
1"	2"	5"
2"	3"	7"

**GENERAL NOTES:**

1. USE DOUBLE-PASS WELDS FOR FABRICATION AND FIELD WELDS.
2. SADDLE CURVATURE TO BE FORMED TO MEET PIPE DIAMETERS ON CHART.
3. WHEN INSTALLED, OUTLET TO BE COATED WITH SAME COATING AS PIPE.
4. USE I.P. X P.J. CORPERATION STOP FOR OUTLET.

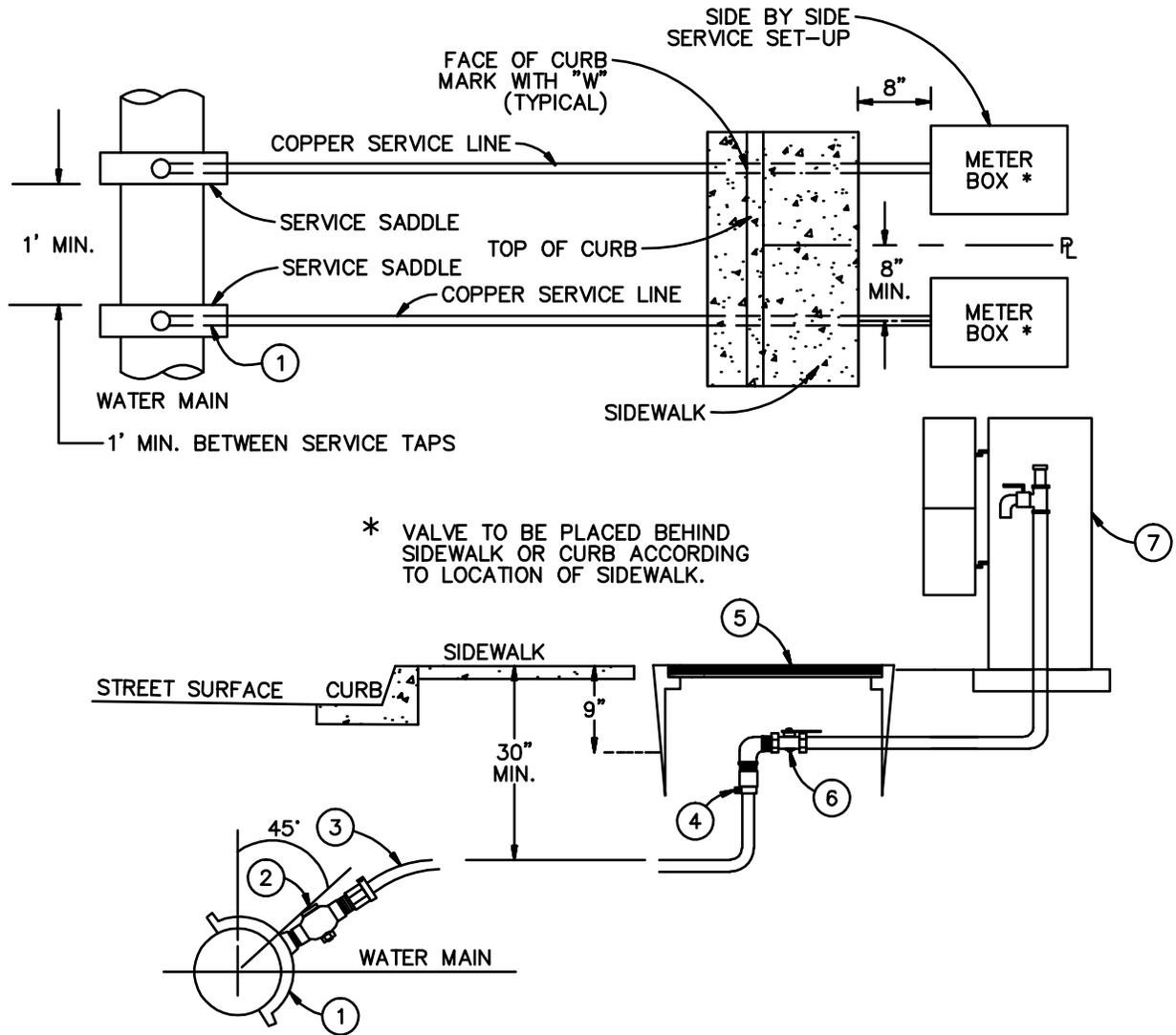
NOT TO SCALE

**APPROVED BY:**  
*Marcus Fuller* 11/25/14  
 P.W. DIRECTOR/CITY ENGINEER DATE

**SERVICE TAP 1"  
 AND 2" FOR STEEL  
 PIPE WELDING**

REVISIONS			
DATE	BY	MARK	APPROVED

**CITY OF RIALTO, CALIFORNIA  
 PUBLIC WORKS DEPARTMENT  
 ENGINEERING DVISION**



**NOTES:**

- ① 1" SERVICE SADDLE, DOUBLE STRAP 515 SMITH-BLAIR, FORD F-202 OR APPROVED EQUAL.
- ② 1" BALL TYPE CORPORATION STOP IP X PJ, JONES NO. J-1935, FORD F-1100 OR APPROVED EQUAL.
- ③ 1" DIAMETER TYPE "K" SOFT COPPER PIPE, MINIMUM 12" RADIUS BENDS.
- ④ 1" IP X PJ ADAPTAOR/WITH BRASS STREET ELL.
- ⑤ METER BOX INSTALLED BY CITY/WATER COMPANY.
- ⑥ 1" BALL VALVE, JONES E-1908, FORD B133444W-NL OR APPROVED EQUAL.
- ⑦ SAMPLING STATION, ECLIPSE NO. 88-WC OR APPROVED EQUAL.

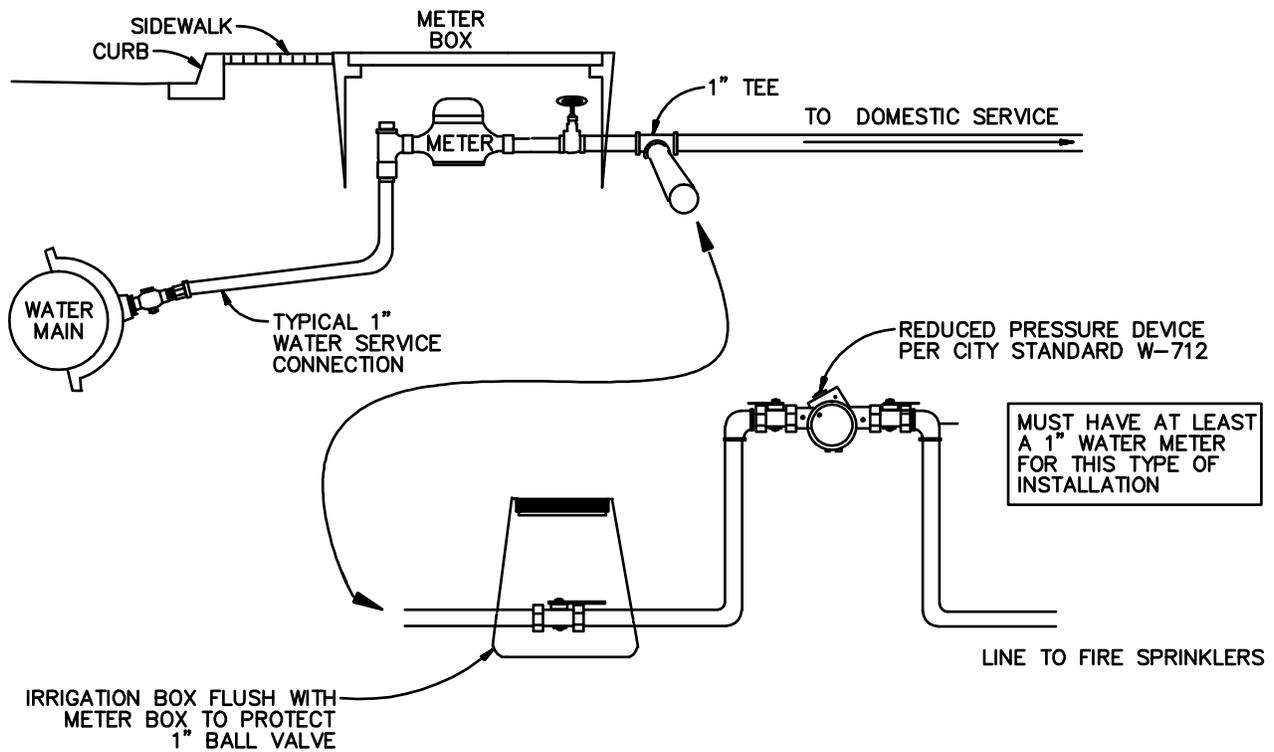
NOT TO SCALE

**APPROVED BY:**  
*Marissa Fuller* 11/25/14  
 P.W. DIRECTOR/CITY ENGINEER DATE

REVISIONS			
DATE	BY	MARK	APPROVED

**SAMPLE STATION**

CITY OF RIALTO, CALIFORNIA  
 PUBLIC WORKS DEPARTMENT  
 ENGINEERING DVISION



MUST HAVE AT LEAST A 1" WATER METER FOR THIS TYPE OF INSTALLATION

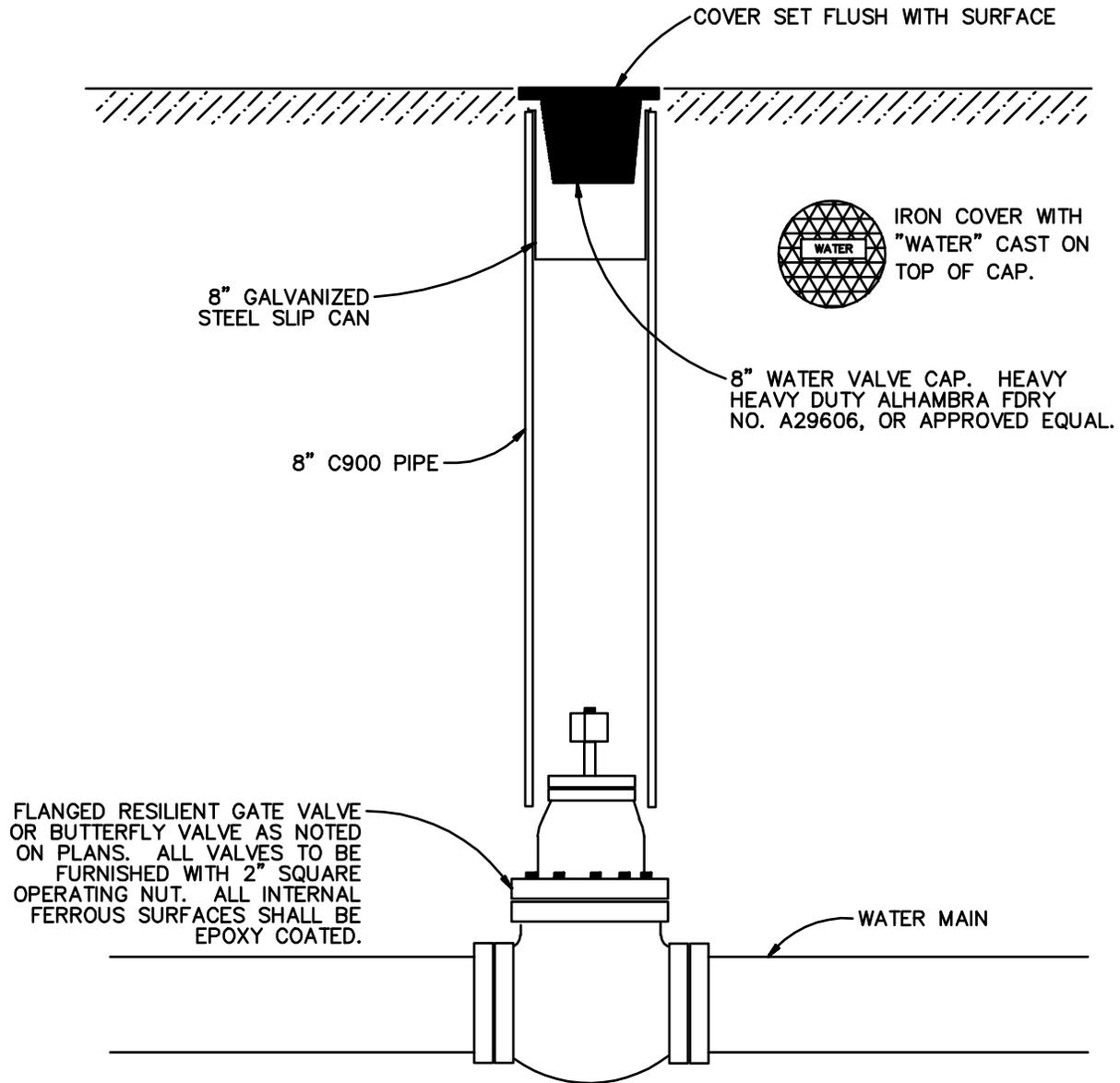
NOT TO SCALE

**APPROVED BY:**  
*Marius Fuller* 11/25/14  
 P.W. DIRECTOR/CITY ENGINEER DATE

**1" WATER LINE FOR FIRE SPRINKLER ASSEMBLY OFF EXISTING 1" DOMESTIC LINE (APPLIES ONLY TO RESIDENTIAL SERVICE LINES)**

REVISIONS			
DATE	BY	MARK	APPROVED

**CITY OF RIALTO, CALIFORNIA  
 PUBLIC WORKS DEPARTMENT  
 ENGINEERING DIVISION**



NOT TO SCALE

REF. OLD RIALTO  
STD. 205, 206, 207,  
208, 218

APPROVED BY:

*Marcus Fuller*  
P.W. DIRECTOR/CITY ENGINEER

11/25/14  
DATE

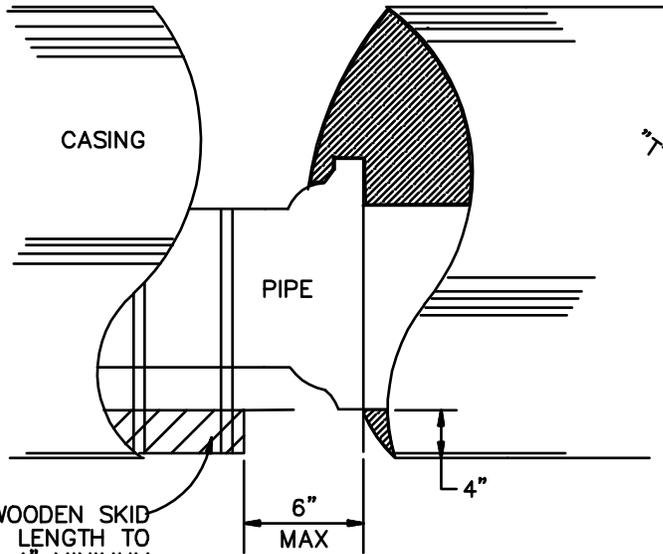
**VALVE BOX RISER  
INSTALLATION**

CITY OF RIALTO, CALIFORNIA  
PUBLIC WORKS DEPARTMENT  
ENGINEERING DIVISION

REVISIONS			
DATE	BY	MARK	APPROVED

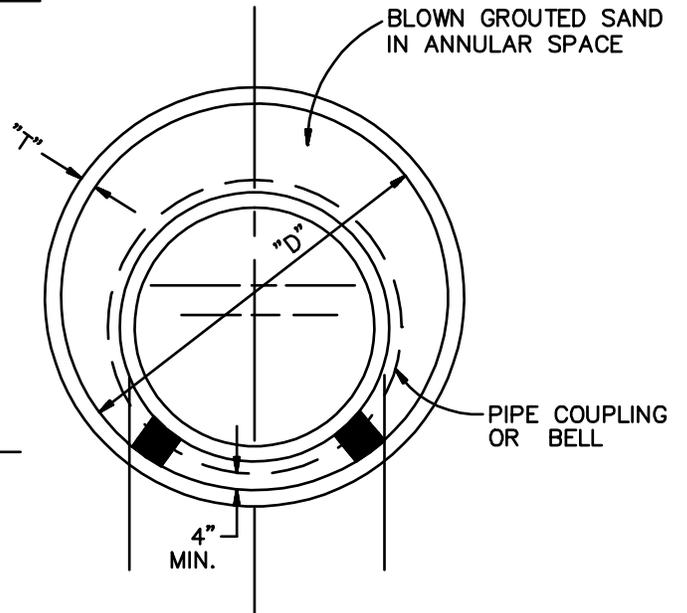
STANDARD NO. W-719

SHT 1 OF 1

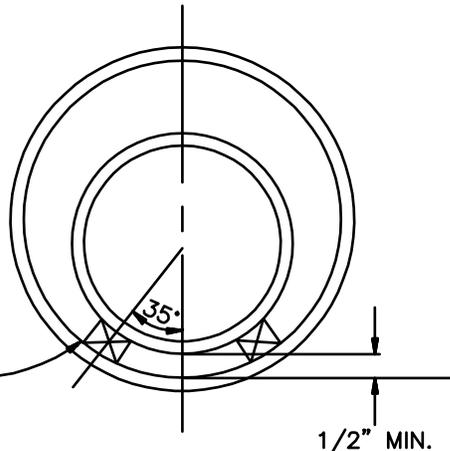


ADJUST WOODEN SKID FULL LENGTH TO MAINTAIN 4" MINIMUM CLEARANCE BETWEEN BELL AND CASING

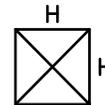
PULL DIRECTION →



CASING DIAMETER ("D") AND CASING THICKNESS ("T") SHALL BE PER APPROVED CONSTRUCTION DRAWINGS



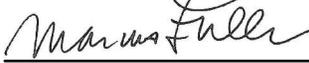
4" X 4" ROUGH REDWOOD SKID, CUT TO MAINTAIN 4" MINIMUM CLEARANCE BETWEEN BELL AND CASING AND TO BEAR ON CONDUCTOR TUBE



ALL WOODEN SKIDS TO BE SQUARE

IT SHALL BE CUT TO MAINTAIN 4" MINIMUM CLEARANCE BETWEEN BELL AND CASING

NOT TO SCALE

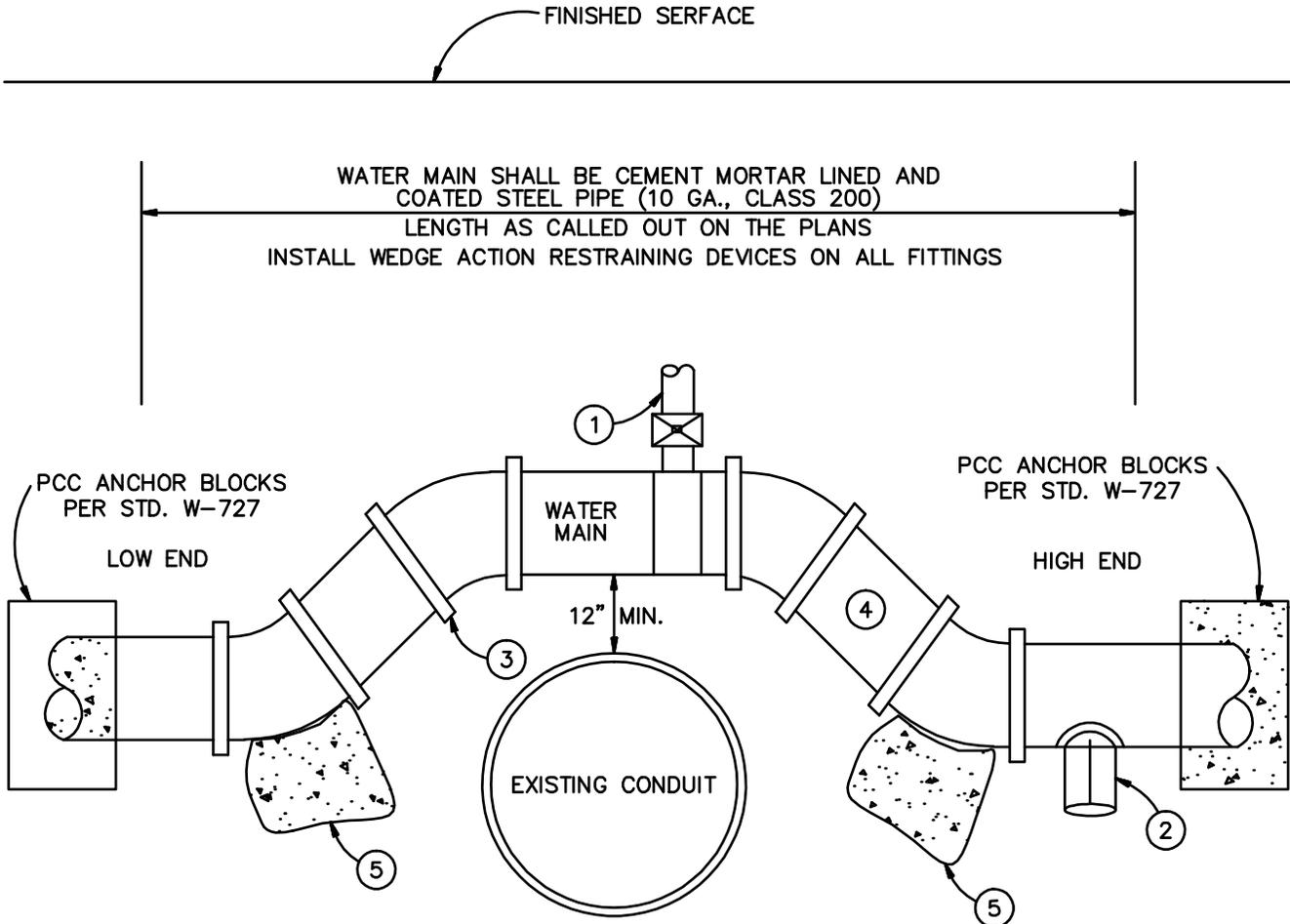
REF. OLD RIALTO STD. 216	<b>APPROVED BY:</b>  P.W. DIRECTOR/CITY ENGINEER		11/25/14 DATE		<b>STEEL PIPE CASING INSTALLATION</b>  CITY OF RIALTO, CALIFORNIA PUBLIC WORKS DEPARTMENT ENGINEERING DIVISION
	REVISIONS				
	DATE	BY	MARK	APPROVED	
				STANDARD NO. W-720	SHT 1 OF 2

GENERAL NOTES:

1. THE STEEL CASING SHALL BE INSTALLED BY MEANS OF JACKING OR DRY BORING, EXCEPT WHERE SPECIFICALLY NOTED ON THE PLANS TO BE INSTALLED BY OPEN TRENCH CONSTRUCTION.
2. CASING DIAMETER SHALL BE A MINIMUM OF 4" GREATER THAN THE OUTSIDE BELL DIAMETER, EXCEPT SEWER PIPE CASING WHICH SHALL NOT BE LESS THAN 30" IN DIAMETER UNLESS SPECIFICALLY NOTED.
3. THE MINIMUM CASING THICKNESS SPECIFIED ON THE CONSTRUCTION DRAWING IS REQUIRED FOR CASING IN PLACE AND DOES NOT ACCOUNT FOR CONSTRUCTION LOADS. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR THE STRUCTURAL SUFFICIENCY AND METHOD OF INSTALLATION.
4. GRAVITY SEWER PIPELINES AND PRESSURE PIPELINES SHALL BE SUPPORTED ON PIPE SKIDS SUBJECT TO THE APPROVAL OF THE ENGINEER. CML & C PRESSURE PIPE MAY REST ON THE BOTTOM OF THE CASING, BUT SHALL NOT BE DRAGGED INTO POSITION WITHOUT SKIDS.
5. ENDS OF THE CASING PIPE SHALL BE CLOSED AROUND THE CARRIER WITH A POURED-IN-PLACE PLASTER OF PARIS OR CEMENT PLUG WITH A SMALL OPENING LEFT FOR DRAINAGE AT THE BOTTOM OF THE DOWNSTREAM SIDE ONLY, OR AS DIRECTED BY ENGINEER.
6. ALL SKIDS ARE TO BE SQUARE IN CROSS SECTION AND MAY BE MADE FROM REDWOOD OR BETTER DOUGLAS FIR, SOUND MATERIAL, TO BE WOLMANIZED OR CREOSOTED. (REDWOOD NEED NOT BE TREATED).
7. SKIDS SHALL BE ATTACHED TO PIPE BY STRAPPING WITH A STANDARD STRAPPING MACHINE TO HOLD SKIDS IN PLACE DURING PULLING OPERATIONS, USE STAINLESS STEEL BAND, OR METHOD OF "CLEATING" SKIDS TOGETHER, AS APPROVED.
8. ANNULAR SPACE SHALL BE BACKFILLED WITH GROUT SAND TO PREVENT PIPE FROM FLOATING. ALL PRECAUTIONS SHALL BE TAKEN TO PREVENT SAND BLASTING DAMAGE TO PIPE AND TO PREVENT PIPE FROM GETTING OUT OF ROUND FROM ENDS OF CASING PIPE, SEE NOTE #5. PIPE WITHIN CASING TO BE BONDED TOGETHER AT THE JOINTS FROM AN INTEGRAL UNIT MANUFACTURERS RECOMMENDATIONS.
9. NOTICE AS REQUIRED BY THE CITY SHALL BE GIVEN PRIOR TO CONSTRUCTION. FOR INSPECTION OF THE CASING PIPE AND CARRIER PIPE INSTALLATION, THE AS BUILT LOCATION AND GRADE OF CASING PIPE SHALL BE APPROVED BY THE ENGINEER PRIOR TO INSTALLATION OF THE CARRIER PIPE. DEPARTURES FROM PLANNED LOCATION OR GRADE OF THE CASING PIPE SHALL REQUIRE FIELDS SURVEY FOR CARRIER PIPE REDESIGN IF FEASIBLE OR ABANDONMENT IN FAVOR OF A NEW INSTALLATION.

NOT TO SCALE

<p><b>REF. OLD RIALTO STD. 216</b></p>	<p><b>APPROVED BY:</b>                    11/25/14  <b>P.W. DIRECTOR/CITY ENGINEER</b>                      <b>DATE</b></p>				<p><b>STEEL PIPE CASING INSTALLATION NOTES</b></p>	
	<p><b>REVISIONS</b></p>				<p><b>CITY OF RIALTO, CALIFORNIA PUBLIC WORKS DEPARTMENT ENGINEERING DIVISION</b></p>	
	<b>DATE</b>	<b>BY</b>	<b>MARK</b>	<b>APPROVED</b>		
				<p><b>STANDARD NO. W-720      SHT 2 OF 2</b></p>		



**NOTES:**

- ① COMBINATION AIR VALVE PER CITY STANDARD W-709 OR W-710 AT HIGHEST POINT.
- ② BLOW-OFF ASSEMBLY PER CITY STANDARD W-707.
- ③ 45° (10 GA., CLASS 200) CEMENT MORTAR LINED AND COATED STEEL ELBOW RESTRICTED PER CITY STANDARD W-723 OR W-724.
- ④ CEMENT MORTAR LINED AND COATED STEEL PIPE (10 GA., CLASS 200).
- ⑤ THRUST BLOCK PER CITY STANDARD W-723.

SEE SHEET 2 FOR GENERAL NOTES

NOT TO SCALE

**APPROVED BY:**

*Marissa Fuller* 11/25/14  
**P.W. DIRECTOR/CITY ENGINEER** **DATE**

**SIPHON DETAIL**

**CITY OF RIALTO, CALIFORNIA  
 PUBLIC WORKS DEPARTMENT  
 ENGINEERING DIVISION**

REVISIONS			
DATE	BY	MARK	APPROVED

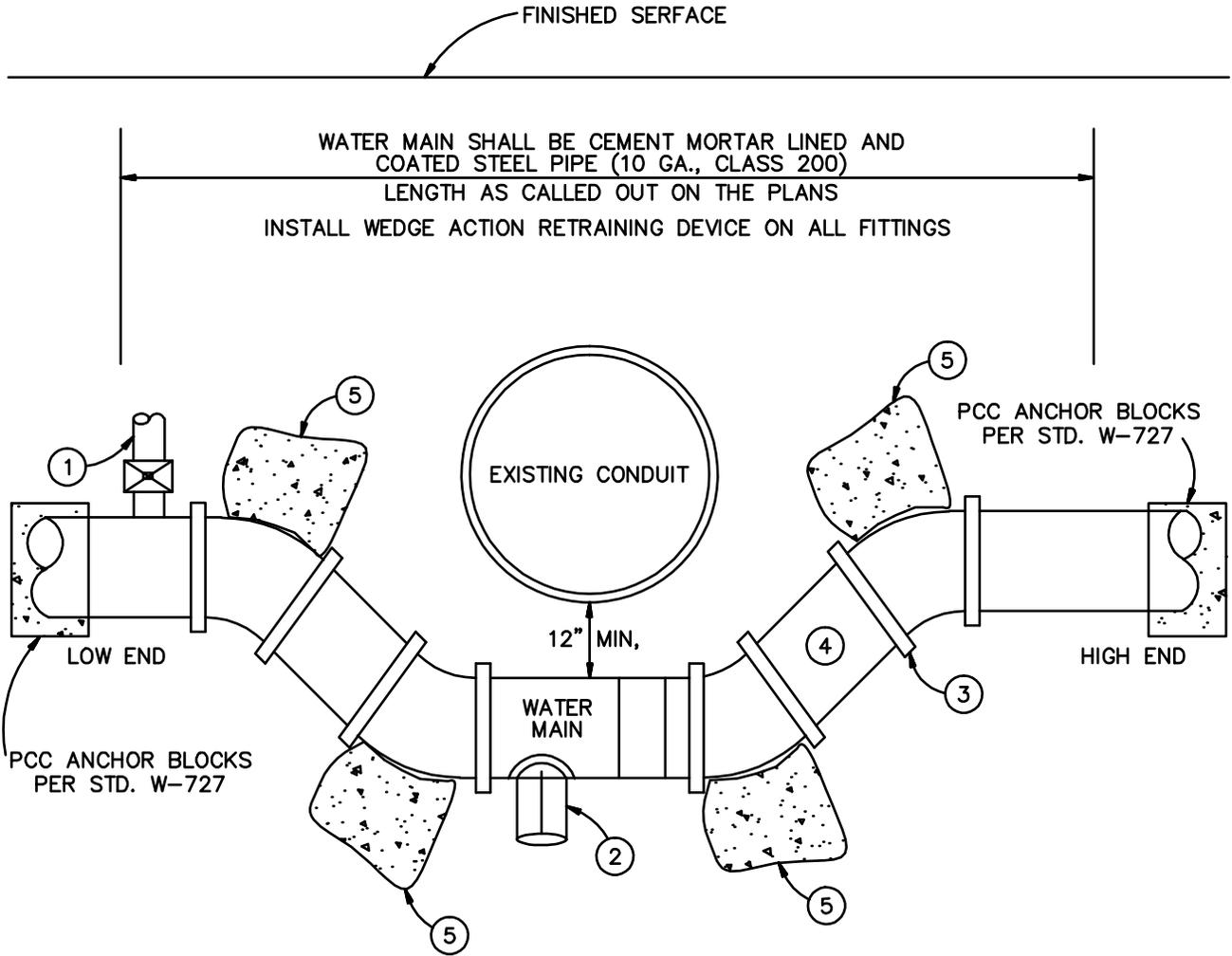
**STANDARD NO. W-721** | **SHT 1 OF 2**

GENERAL NOTES:

1. THIS STANDARD TO BE USED ONLY WHERE APPROVED BY UTILITY. ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE CITY OF RIALTO WATER DEPARTMENT, RIALTO PUBLIC WORKS DEPARTMENT, STANDARD PLANS AND PROJECT SPECIFICATIONS.
2. CONTRACTOR SHALL PROVIDE TWO (2) WEEKS ADVANCE NOTIFICATION PRIOR TO CONSTRUCTION TO ARRANGE FOR INSPECTION.
3. CONTRACTOR MUST VERIFY LOCATION AND ELEVATION OF EXISTING CAST IRON PIPE (CIP), ASBESTOS-CEMENT PIPE (A.C.P.), DUCTILE IRON PIPE (D.I.P) OR CEMENT MORTOR LINED AND COATED STEEL PIPE (CML/C) WATER MAINS PRIOR TO CONSTRUCTION OF THE OFFSET SIPHON.
4. CONTRACTOR SHALL PROVIDE NOTIFICATION TO CONSUMERS NOT LESS THAN 4 WORKING DAYS PRIOR TO SERVICE INTERRUPTION.
5. CONTRACTOR SHALL CONTACT WATER DEPARTMENT TO TURN (OR EXERCISE) WATER VALVES A MINIMUM OF 4 WORKING DAYS PRIOR TO VALVE SHUT DOWN AT EACH LOCATION.
6. CITY CANNOT GUARANTEE A COMPLETE SHUTDOWN OF EXISTING MAINS. CITY WILL ATTEMPT AS COMPLETE A SHUTDOWN AS POSSIBLE BUT THE CONTRACTOR SHALL BE RESPONSIBLE FOR DEWATERING AND ISOLATION FOR TESTING AND CONSTRUCTION.
7. MINIMUM 12" CLEARANCE IS REQUIRED BETWEEN OUTER WALL OF WATER MAIN AND OUTER WALL OF CONFLICTING UTILITY.
8. SIPHON SHALL BE ONE-PIECE CONSTRUCTION.
9. INSTALL CONCRETE THRUST BLOCK PER CITY W-723.

NOT TO SCALE

	<p><b>APPROVED BY:</b></p> <p style="text-align: center;"><i>Marina Fuller</i>      11/25/14</p> <hr/> <p><b>P.W. DIRECTOR/CITY ENGINEER      DATE</b></p>	<b>SIPHON DETAIL</b>			
	<b>REVISIONS</b>	<b>CITY OF RIALTO, CALIFORNIA PUBLIC WORKS DEPARTMENT ENGINEERING DIVISION</b>			
<b>DATE</b>	<b>BY</b>			<b>MARK</b>	<b>APPROVED</b>
		<b>STANDARD NO. W-721</b>	<b>SHT 2 OF 2</b>		



**NOTES:**

- ① COMBINATION AIR VALVE PER CITY STANDARD W-709 OR W-710 AT HIGHEST POINT.
- ② BLOW-OFF ASSEMBLY PER CITY STANDARD W-707.
- ③ 45° (10 GA., CLASS 200) CEMENT MORTAR LINED AND COATED STEEL ELBOW RESTRICTED PER CITY STANDARD W-723 OR W-724.
- ④ CEMENT MORTAR LINED AND COATED STEEL PIPE (10 GA., CLASS 200).
- ⑤ THRUST BLOCK PER CITY STANDARD W-723.

GENERAL NOTES ON SHEET 2

NOT TO SCALE

**APPROVED BY:**  
*Marcus Fuller*  
 P.W. DIRECTOR/CITY ENGINEER      11/25/14  
 DATE

**INVERTED SIPHON  
 DETAIL**

REVISIONS			
DATE	BY	MARK	APPROVED

**CITY OF RIALTO, CALIFORNIA  
 PUBLIC WORKS DEPARTMENT  
 ENGINEERING DIVISION**

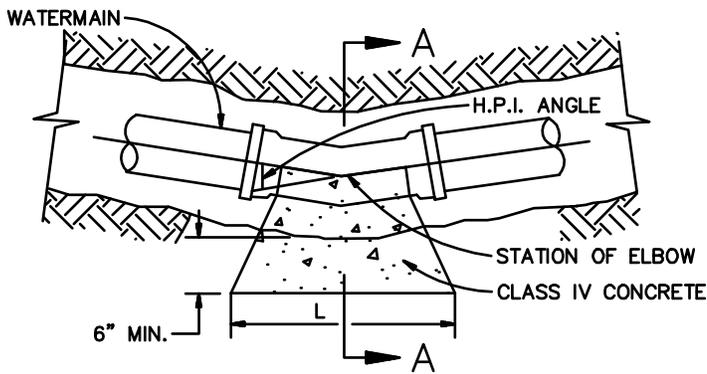
**STANDARD NO. W-722      SHT 1 OF 2**

GENERAL NOTES:

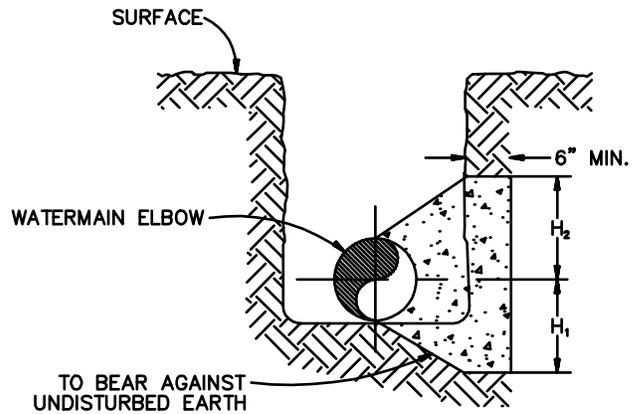
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7. MINIMUM 12" CLEARANCE IS REQUIRED BETWEEN OUTER WALL OF WATER MAIN AND OUTER WALL OF CONFLICTING UTILITY.
8. SIPHON SHALL BE ONE-PIECE CONSTRUCTION.
9. INSTALL CONCRETE THRUST BLOCK PER CITY W-723.

NOT TO SCALE

<b>APPROVED BY:</b>				<b>INVERTED SIPHON DETAIL</b>	
		11/25/14			
<b>P.W. DIRECTOR/CITY ENGINEER</b>		<b>DATE</b>		<b>CITY OF RIALTO, CALIFORNIA PUBLIC WORKS DEPARTMENT ENGINEERING DIVISION</b>	
<b>REVISIONS</b>					
<b>DATE</b>	<b>BY</b>	<b>MARK</b>	<b>APPROVED</b>		
<b>STANDARD NO. W-722</b>				<b>SHT 2 OF 2</b>	



**SECTIONAL PLAN  
HORIZONTAL BEND**



**SECTION A-A**

HORIZONTAL THRUST BLOCK				
PIPE DIA.	H <sub>1</sub>	H <sub>2</sub>	L	H.P.I. ANGLE
4"	1/2 O.D.	1/2 O.D.	4'-0"	5° TO 41°
4"	4"	4"	4'-0"	42° TO 83°
4"	10"	5"	4'-0"	84° TO 104°
6"	1/2 O.D.	1/2 O.D.	4'-0"	5° TO 27°
6"	6"	6"	4'-0"	28° TO 51°
6"	1'-6"	9"	4'-0"	52° TO 90°
8"	1/2 O.D.	1/2 O.D.	4'-0"	5° TO 20°
8"	8"	8"	4'-0"	21° TO 36°
8"	1'-8"	10"	4'-0"	37° TO 54°
8"	2'-2"	1'-1"	4'-0"	55° TO 78°
8"	2'-8"	1'-4"	4'-0"	79° TO 111°
10"	1/2 O.D.	1/2 O.D.	4'-0"	5° TO 16°
10"	10"	10"	4'-0"	17° TO 28°
10"	1'-10"	11"	4'-0"	29° TO 39°
10"	2'-4"	1'-2"	4'-0"	40° TO 53°
10"	2'-10"	1'-5"	4'-0"	54° TO 70°
10"	2'-10"	1'-5"	6'-0"	71° TO 120°
12"	1/2 O.D.	1/2 O.D.	4'-0"	5° TO 13°
12"	12"	12"	4'-0"	14° TO 22°
12"	2'-0"	12"	4'-0"	23° TO 30°
12"	2'-6"	1'-3"	4'-0"	31° TO 40°
12"	3'-0"	1'-6"	4'-0"	41° TO 52°
12"	3'-0"	1'-6"	6'-0"	53° TO 83°

NOT TO SCALE

APPROVED BY:

*Marcus Fuller*  
P.W. DIRECTOR/CITY ENGINEER

11/25/14  
DATE

REVISIONS

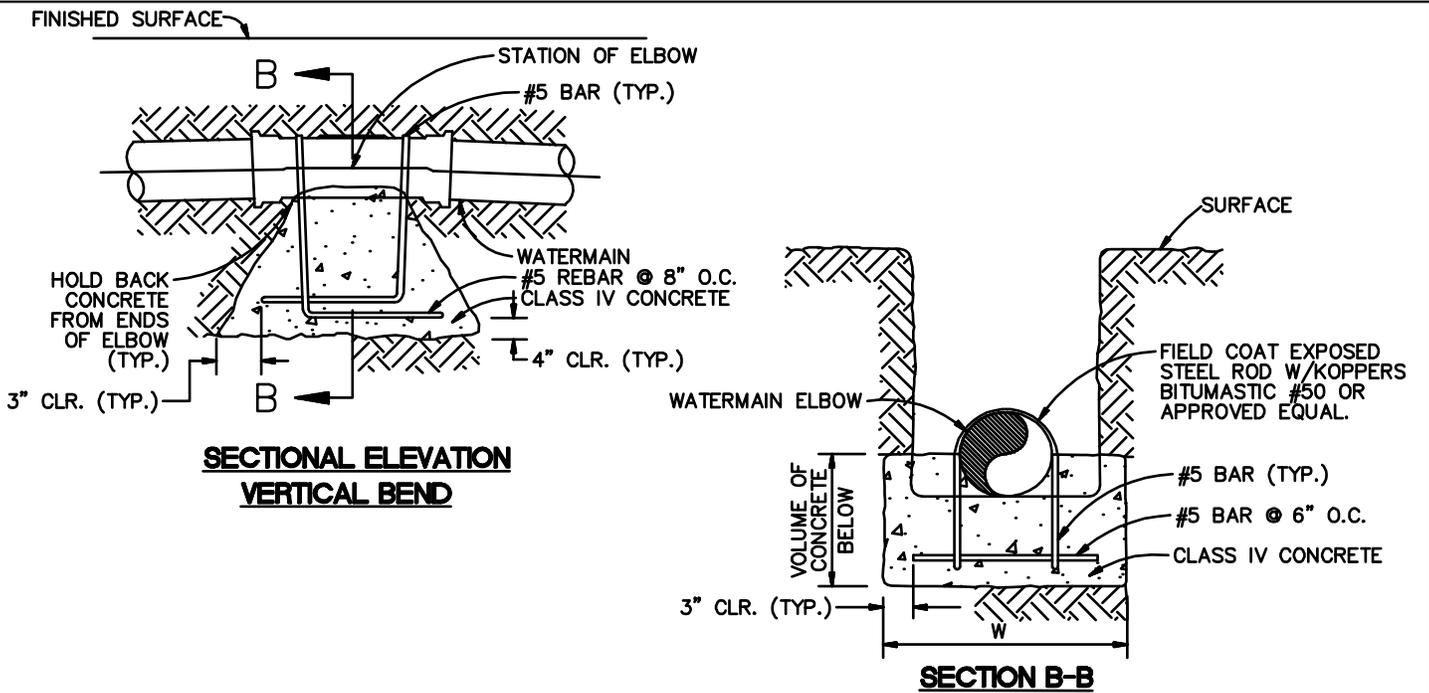
DATE	BY	MARK	APPROVED

**CONCRETE THRUST  
BLOCKS FOR PIPELINES,  
CLASS 200 P.S.I. MAX**

**CITY OF RIALTO, CALIFORNIA  
PUBLIC WORKS DEPARTMENT  
ENGINEERING DIVISION**

STANDARD NO. W-723

SHT 1 OF 4



VERTICAL ANCHOR BLOCK			
PIPE DIA.	W	VOLUME OF CONC. (cu. ft.)	GRADE % DIFFERENCE
4"	1'-6"	4.3	5 TO 15
4"	1'-6"	6.5	16 TO 25
4"	1'-6"	8.6	26 TO 35
4"	1'-6"	10.8	36 TO 45
4"	1'-6"	13.0	46 TO 55
4"	1'-6"	15.1	56 TO 65
6"	2'-0"	7.6	5 TO 15
6"	2'-0"	11.4	11 TO 25
6"	2'-0"	15.2	26 TO 40
6"	2'-0"	22.8	41 TO 55
8"	2'-0"	10.3	5 TO 15
8"	2'-0"	15.5	11 TO 20
8"	2'-0"	20.6	21 TO 30
8"	2'-0"	31.0	31 TO 40
8"	2'-0"	41.3	41 TO 55
10"	2'-6"	20.9	5 TO 15
10"	2'-6"	27.8	16 TO 25
10"	2'-6"	41.7	26 TO 35
10"	2'-6"	55.6	36 TO 45
10"	2'-6"	69.5	46 TO 55
12'	2'-6"	27.6	5 TO 15
12'	2'-6"	36.8	16 TO 25
12'	2'-6"	55.3	26 TO 35
12'	2'-6"	73.7	36 TO 45
12'	2'-6"	92.1	46 TO 55

NOT TO SCALE

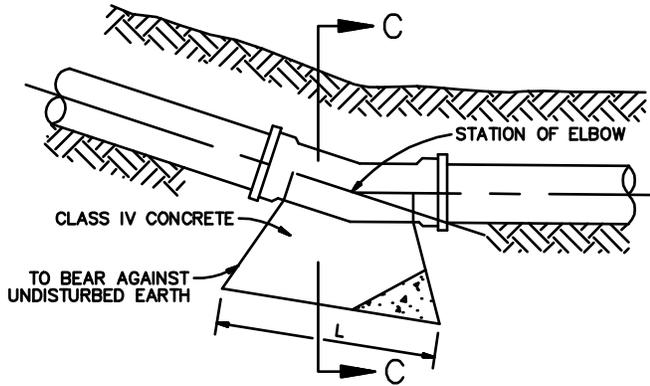
**APPROVED BY:**  
*Marcus Fuller*  
 P.W. DIRECTOR/CITY ENGINEER      11/25/14      DATE

**CONCRETE THRUST  
 BLOCKS FOR PIPELINES,  
 CLASS 200 P.S.I. MAX**

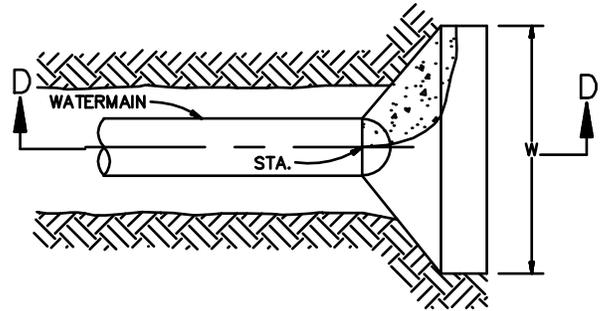
REVISIONS			
DATE	BY	MARK	APPROVED

**CITY OF RIALTO, CALIFORNIA  
 PUBLIC WORKS DEPARTMENT  
 ENGINEERING DIVISION**

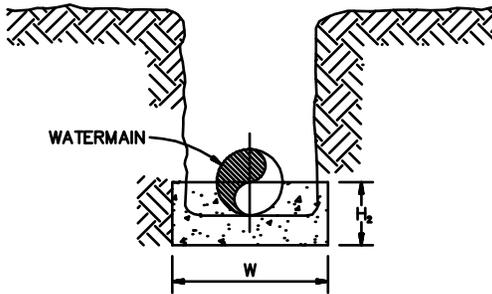
**STANDARD NO. W-723      SHT 2 OF 4**



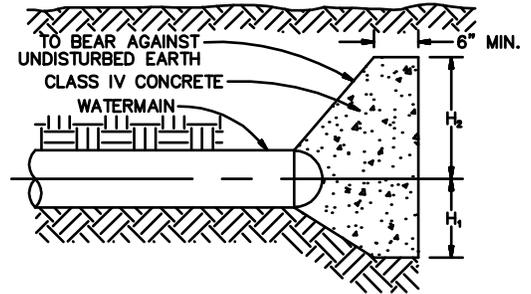
**SECTIONAL ELEVATION  
VERTICAL BEND**



**SECTIONAL PLAN**



**SECTION C-C**



**SECTION D-D**

**VERTICAL BEARER BLOCK**

PIPE DIA.	W	H <sub>2</sub>	L	GRADE % DIFFERENCE
4"	1'-6"	8"	1'-0"	5 TO 60
6"	2'-0"	9"	1'-0"	5 TO 40
6"	2'-0"	9"	1'-6"	41 TO 55
8"	2'-0"	10"	1'-0"	5 TO 25
8"	2'-0"	10"	1'-6"	16 TO 40
8"	2'-0"	10"	2'-0"	41 TO 55
10"	2'-6"	1'-2"	1'-0"	5 TO 10
10"	2'-6"	1'-2"	2'-0"	11 TO 40
10"	2'-6"	1'-2"	3'-0"	41 TO 60
12"	2'-6"	1'-3"	2'-0"	5 TO 25
12"	2'-6"	1'-3"	3'-0"	26 TO 45
12"	2'-6"	1'-3"	4'-0"	46 TO 60

**END THRUST BLOCK**

PIPE DIA.	H <sub>1</sub>	H <sub>2</sub>	L
4"	9"	6"	3'-6"
6"	1'-6"	9"	4'-0"
8"	2'-2"	1'-1"	4'-0"
10"	2'-10"	1'-5"	4'-0"
12"	3'-0"	1'-6"	5'-0"

NOT TO SCALE

**APPROVED BY:**

*Marcus Fuller*  
P.W. DIRECTOR/CITY ENGINEER

11/25/14  
DATE

**REVISIONS**

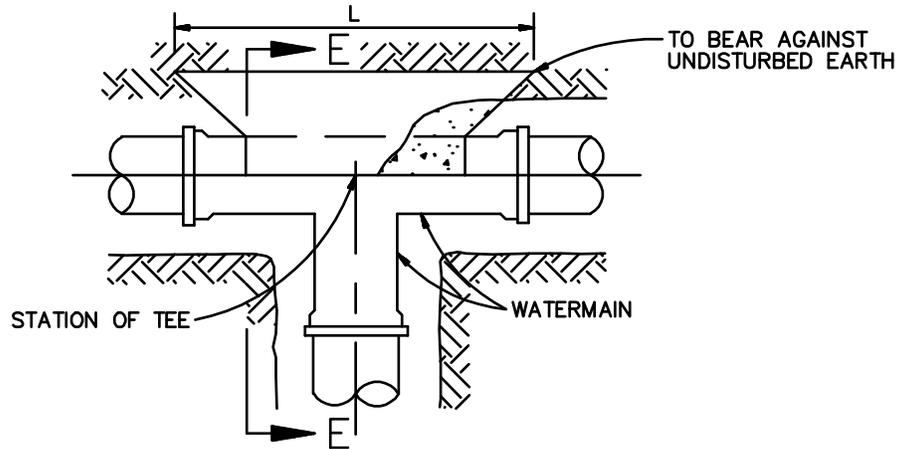
DATE	BY	MARK	APPROVED

**CONCRETE THRUST  
BLOCKS FOR PIPELINES,  
CLASS 200 P.S.I. MAX**

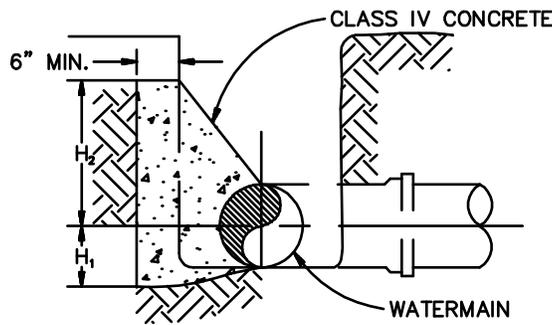
**CITY OF RIALTO, CALIFORNIA  
PUBLIC WORKS DEPARTMENT  
ENGINEERING DIVISION**

**STANDARD NO. W-723**

**SHT 3 OF 4**



**SECTIONAL PLAN**



**SECTION E-E**

TEE THRUST BLOCK			
PIPE DIA.	H <sub>1</sub>	H <sub>2</sub>	L
4"	9"	6"	3'-6"
6"	1'-6"	9"	4'-0"
8"	2'-2"	1'-1"	4'-0"
10"	2'-10"	1'-5"	4'-0"
12"	3'-0"	1'-6"	5'-0"

**TEE THRUST BLOCK**

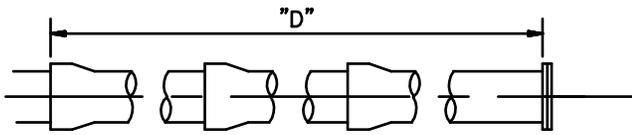
NOT TO SCALE

**APPROVED BY:**  
*Marvin Fuller*  
 P.W. DIRECTOR/CITY ENGINEER      11/25/14      DATE

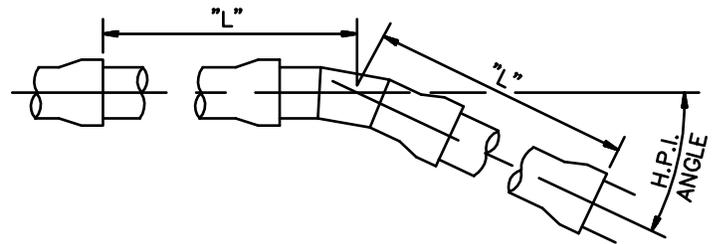
**CONCRETE THRUST  
 BLOCKS FOR PIPELINES,  
 CLASS 200 P.S.I. MAX**

REVISIONS			
DATE	BY	MARK	APPROVED

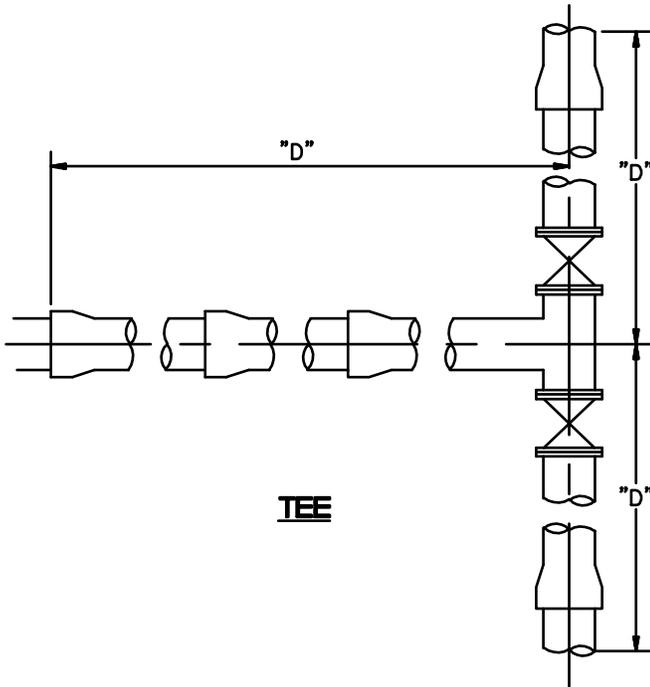
**CITY OF RIALTO, CALIFORNIA  
 PUBLIC WORKS DEPARTMENT  
 ENGINEERING DIVISION**



**END**



**HORIZONTAL BEND**



**TEE**

PIPE DIAMETER	CLASS 150	CLASS 200
	"D" (FEET)	
6"	120'	160'
8"	120'	160'
12"	140'	200'
16"	180'	240'

PIPE DIAMETER	H.P.I. (DEGREES)	CLASS 200	CLASS 200
		"L" (FEET)	
6"	5° - 30°	10'	15'
	31° - 60°	40'	60'
	61° - 90°	80'	120'
8"	5° - 30°	15'	20'
	31° - 60°	50'	80'
	61° - 90°	100'	140'
12"	5° - 30°	20'	30'
	31° - 60°	80'	120'
	61° - 90°	140'	200'
16"	5° - 30°	30'	40'
	31° - 60°	100'	140'
	61° - 90°	200'	280'

NOT TO SCALE

**APPROVED BY:**

*Marcus Fuller*  
P.W. DIRECTOR/CITY ENGINEER

11/25/14  
DATE

**RESTRAINED JOINT  
AND WELDED JOINT  
THRUST PROTECTION**

CITY OF RIALTO, CALIFORNIA  
PUBLIC WORKS DEPARTMENT  
ENGINEERING DIVISION

REVISIONS			
DATE	BY	MARK	APPROVED

STANDARD NO. W-724

SHT 1 OF 2

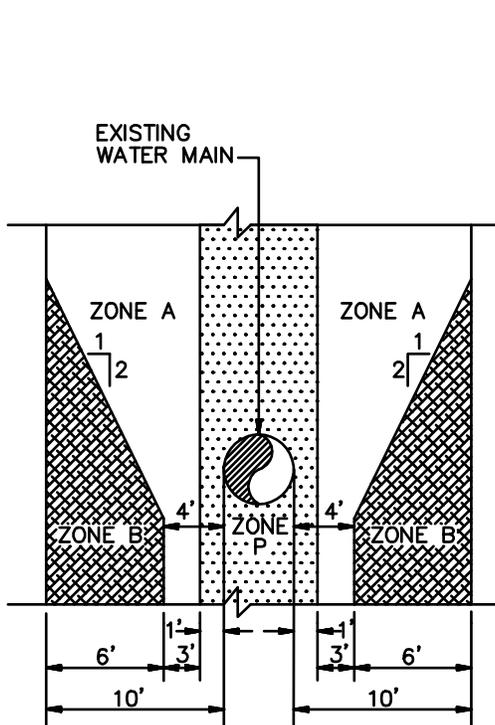
**GENERAL NOTES:**

1. USE THE FOLLOWING GUIDELINES WHEN OTHER PIPE JOINTS ARE WITHIN 10' OF THE JOINT BEING RESTRAINED:
  - A) USE THE "DEAD END" LENGTH FOR CONNECTIONS TO ANY MATERIAL EXCEPT DUCTILE IRON AND CAST IRON.
  - B) USE THE "DEAD END" LENGTH WHEN ANOTHER PIPE JOINT IS WITHIN 10' OF A BEND BEING RESTRAINED.
  - C) USE THE "90° BEND" LENGTH WHEN ANOTHER PIPE JOINT IS WITHIN 10' OF A TEE BEING RESTRAINED.
2. DIVIDE RESTRAINED LENGTH BY 0.85 FOR SILTY SOIL.
3. FOR PIPE DIAMETERS LARGER THAN 16", OR FOR CONDITIONS OTHER THAN THOSE DESCRIBED ABOVE, PLEASE REFER TO DUCTILE IRON PIPE RESEARCH ASSOCIATION (DIPRA) GUIDELINES FOR CALCULATING RESTRAINED LENGTH. CALCULATIONS MUST BE SUBMITTED FOR APPROVAL.
4. RESTRAINED LENGTH ON TEES ASSUMES THE SAME SIZE BRANCH AND RUN. TEES WHICH HAVE BRANCH DIAMETERS LESS THAN THE DIAMETER OF THE RUN MAY REQUIRE A SHORTER RESTRAINED LENGTH. CALCULATIONS MUST BE SUBMITTED JUSTIFYING A SHORTER RESTRAINED LENGTH.
5. ALL PIPELINES LARGER THAN 16" DIAMETER REQUIRES RESTRAINED LENGTH CALCULATIONS INCLUDING SOILS REPORT.
6. WELDED STEEL PIPE SHALL HAVE FULLY WELDED JOINTS WITHIN LIMITS SHOWN ABOVE.
7. DUCTILE IRON PIPE SHALL HAVE BOLTLESS RESTRAINED JOINTS.

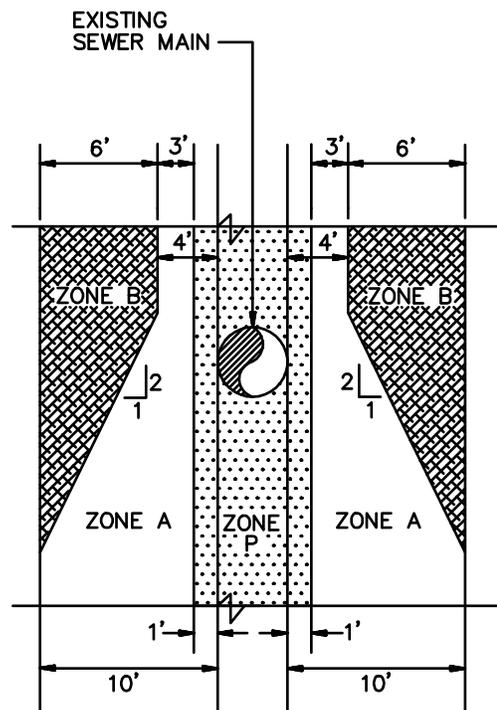
NOT TO SCALE

	<p><b>APPROVED BY:</b>            P.W. DIRECTOR/CITY ENGINEER</p> <p style="text-align: right;">11/25/14 DATE</p>	<p><b>RESTRAINED JOINT AND WELDED JOINT THRUST PROTECTION</b></p>																
	<p><b>REVISIONS</b></p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 15%;">DATE</th> <th style="width: 15%;">BY</th> <th style="width: 15%;">MARK</th> <th style="width: 55%;">APPROVED</th> </tr> </thead> <tbody> <tr><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td></tr> </tbody> </table>	DATE	BY	MARK	APPROVED													<p><b>CITY OF RIALTO, CALIFORNIA PUBLIC WORKS DEPARTMENT ENGINEERING DIVISION</b></p>
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		<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%;"><b>STANDARD NO. W-724</b></td> <td style="width: 50%;"><b>SHT 2 OF 2</b></td> </tr> </table>	<b>STANDARD NO. W-724</b>	<b>SHT 2 OF 2</b>														
<b>STANDARD NO. W-724</b>	<b>SHT 2 OF 2</b>																	

ZONE	NEW SEWER CONSTRUCTION	NEW WATER MAIN CONSTRUCTION
B	SEWER PIPE SHALL BE EXTRA STRENGTH V.C.P. WITH COMPRESSION JOINTS OR ALTERNATE MATERIAL AS APPROVED BY PUBLIC WORKS AND PUBLIC UTILITIES DEPARTMENT	WATER PIPE SHALL BE DIP, CLASS 52, WITH HOT DIP BITUMINOUS COATING PER SECT. 2-01 OR, UPON APPROVAL, PVC PIPE, CLASS 305 (DR 14 AWWA C900), SEE NOTE 4 ON W-725 SHEET 2 OF 4
A	NO CONSTRUCTION WITHOUT APPROVAL OF WATER UTILITY AND DEPARTMENT OF HEALTH SERVICES	
P	PROHIBITED ZONE PER SECTION 64630 (E) (2), CALIFORNIA ADMINISTRATIVE CODE, TITLE 22	



**ZONES INDICATING LOCATIONS  
OF NEW SEWER**



**ZONES INDICATING LOCATIONS  
OF NEW WATER MAIN**

**PARALLEL CONSTRUCTION**

NOTE: SEE NOTES ON SHEET 2 OF 4 FOR ADDITIONAL REQUIREMENTS

NOT TO SCALE

<b>APPROVED BY:</b>  P.W. DIRECTOR/CITY ENGINEER				11/25/14 DATE		<b>WATER AND SEWER SEPARATION REQUIREMENTS</b>	
<b>REVISIONS</b>							
DATE	BY	MARK	APPROVED	CITY OF RIALTO, CALIFORNIA PUBLIC WORKS DEPARTMENT ENGINEERING DIVISION			
<b>STANDARD NO. W-725</b>						<b>SHT 1 OF 4</b>	

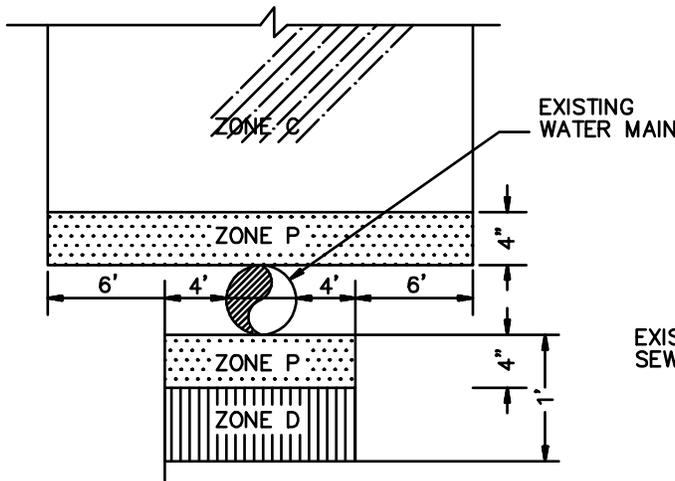
**NOTES:**

1. DEPARTMENT OF PUBLIC HEALTH (DPH) REGULATIONS REQUIRE THAT THE HORIZONTAL DISTANCE BETWEEN THE WATER MAIN AND THE SANITARY SEWER MAIN SHALL BE A MINIMUM OF 10-FT FROM OUTSIDE WALL-TO-OUTSIDE WALL.
2. FOR SITUATIONS IN WHICH THERE IS NO ALTERNATIVE BUT TO INSTALL WATER MAINS, SANITARY MAINS OR OTHER NON-POTABLE PIPELINES AT A DISTANCE LESS THAN THAT REQUIRED BY THE DPH REGULATIONS, THEN SPECIAL CONSTRUCTION WILL BE REQUIRED AS SHOWN ON SHEET 1 OF 4 STD. W-725.
3. FORCE SEWER MAINS ARE NOT PERMITTED IN ZONES A OR B.
4. PVC WATER MAIN CONSTRUCTION SHALL BE PRE-APPROVED BY THE UTILITY. PVC PIPE LARGER THAN 12-INCH IN DIAMETER IS NOT ALLOWED WITHOUT ADDITIONAL APPROVAL.
5. INSTALLATION OF WATER MAINS, SANITARY SEWER MAINS, OR OTHER NON-POTABLE PIPELINES THAT DO NOT MEET THE MINIMUM DPH SEPARATION CRITERIA AND ARE 24-INCHES IN DIAMETER OR LARGER SHALL BE REVIEWED AND APPROVED IN WRITING BY THE DEPARTMENT OF PUBLIC HEALTH ON A CASE-BY-CASE BASIS PRIOR TO CONSTRUCTION.

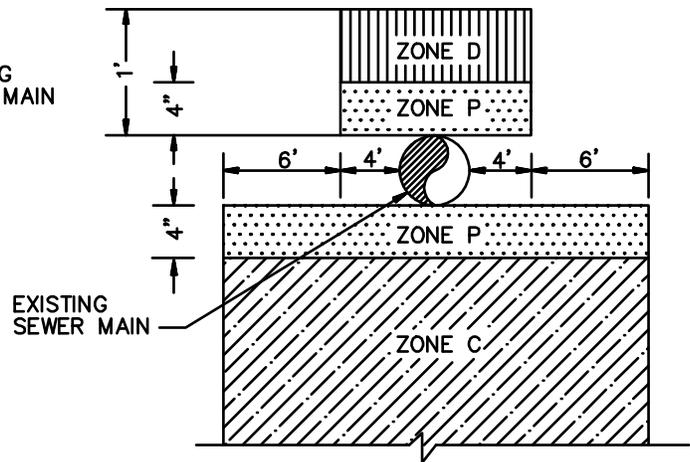
NOT TO SCALE

<b>APPROVED BY:</b>  <b>P.W. DIRECTOR/CITY ENGINEER</b>				11/25/14 <b>DATE</b>	<b>WATER AND SEWER SEPARATION REQUIREMENTS</b>	
<b>REVISIONS</b>				<b>CITY OF RIALTO, CALIFORNIA PUBLIC WORKS DEPARTMENT ENGINEERING DIVISION</b>		
<b>DATE</b>	<b>BY</b>	<b>MARK</b>	<b>APPROVED</b>			
				<b>STANDARD NO. W-725</b>	<b>SHT 2 OF 4</b>	

ZONE	NEW SEWER CONSTRUCTION	NEW WATER MAIN CONSTRUCTION
C	NEW SEWER PIPE SHALL BE CENTERED OVER THE EXISTING WATER PIPE BEING CROSSED; SEWER PIPE SHALL BE A CONTINUOUS FULL LENGTH OF DIP WITH CERAMIC EPOXY LINING (PROTECTO 401 OR APPROVED EQUAL), OR, ALTERNATIVELY, ANY APPROVED SEWER PIPE MATERIAL WITHIN A CONTINUOUS CASING AS APPROVED BY PUBLIC WORKS	NEW WATER PIPE SHALL BE CENTERED UNDER THE EXISTING SEWER PIPE BEING CROSSED; WATER PIPE SHALL BE A CONTINUOUS FULL LENGTH OF DIP, CLASS 52, OR, UPON APPROVAL, A CONTINUOUS FULL LENGTH OF PVC PIPE, CLASS 305 (DR 14 AWWA C900), SEE NOTE ON W-725, SHEET 4 OF 4
D	SEWER PIPE SHALL NOT HAVE JOINTS WITHIN 4-FT FROM EITHER SIDE OF WATER PIPE BEING CROSSED; SEWER PIPE SHALL BE A CONTINUOUS SECTION OF DIP WITH CERAMIC EPOXY LINING (PROTECTED 401 OR APPROVED EQUAL)	WATER PIPE HAVE NO JOINTS WITHIN 4-FT FROM EITHER SIDE OF SEWER PIPE BEING CROSSED; WATER PIPE SHALL BE A CONTINUOUS FULL LENGTH OF DIP, CLASS 52, OR UPON APPROVAL, A CONTINUOUS FULL LENGTH OF PVC PIPE, CLASS 305 (DR 14 AWWA C900), SEE NOTE 5 ON W-725, SHEET 4 OF 4
P	PROHIBITED ZONE PER SECTION 64630 (E) (2), CALIFORNIA ADMINISTRATIVE CODE, TITLE 22.	



**ZONES INDICATING LOCATIONS  
OF NEW SEWER**



**ZONES INDICATING LOCATIONS  
OF NEW WATER MAIN**

**PERPENDICULAR CONSTRUCTION (CROSSING)**

NOTE: SEE NOTES ON SHEET 4 OF 4 FOR ADDITIONAL REQUIREMENTS

NOT TO SCALE

**APPROVED BY:**  
  
 11/25/14  
**P.W. DIRECTOR/CITY ENGINEER**      **DATE**

REVISIONS			
DATE	BY	MARK	APPROVED

**WATER AND SEWER  
SEPARATION  
REQUIREMENTS**

**CITY OF RIALTO, CALIFORNIA  
PUBLIC WORKS DEPARTMENT  
ENGINEERING DIVISION**

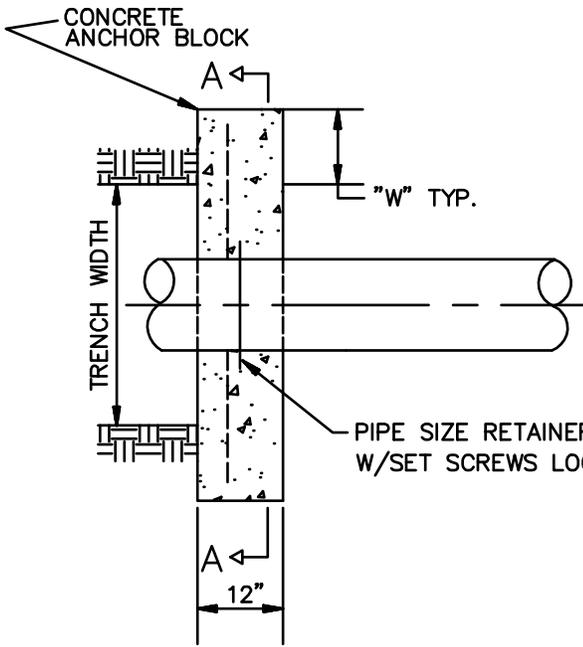
**STANDARD NO. W-725      SHT 3 OF 4**

**NOTES:**

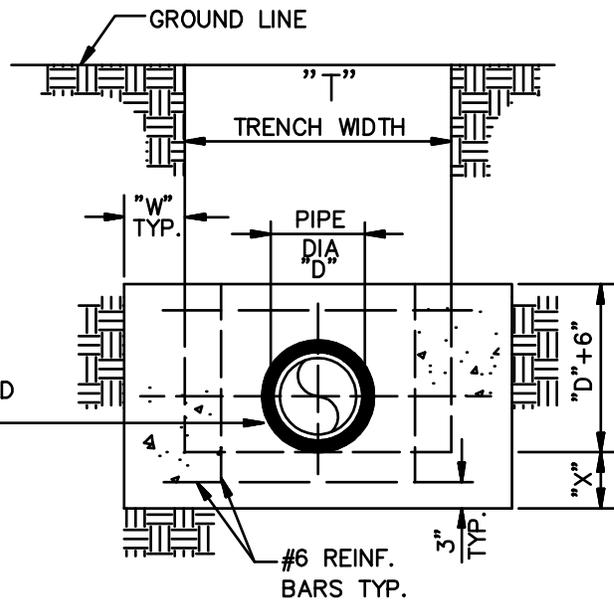
1. DEPARTMENT OF PUBLIC HEALTH (DPH) REGULATIONS REQUIRE THAT WATER MAINS BE INSTALLED A MINIMUM OF ONE (1) FOOT VERTICALLY ABOVE THE SANITARY SEWER MAINS OUTSIDE WALL-TO-OUTSIDE WALL.
2. FOR SITUATIONS IN WHICH THERE IS NO ALTERNATIVE BUT TO INSTALL WATER MAINS, SANITARY SEWER MAINS OR OTHER NON-POTABLE PIPELINES AT A DISTANCE LESS THAN THAT REQUIRED BY THE DPH REGULATIONS, THEN SPECIAL CONSTRUCTION WILL BE REQUIRED AS SHOWN ON SHEET 3 OF 4 STD. W-725.
3. FORCE SEWER MAINS ARE NOT PERMITTED IN ZONE C, AND IN ZONE D ONLY WITH SPECIAL CONSTRUCTION AS DETERMINED BY DEPARTMENT OF PUBLIC HEALTH.
4. ALL WATER MAIN PIPE SHALL BE D.I.P. PER SECTION 2-01 AND SHALL RECEIVE A HOT DIP BITUMINOUS COATING.
5. PVC WATER MAIN CONSTRUCTION SHALL BE PRE-APPROVED BY THE UTILITY. PVC PIPE LARGER THAN 12-INCH DIAMETER IS NOT ALLOWED WITHOUT ADDITIONAL APPROVAL.
6. SEWER HOUSE LATERAL REPAIR CROSSING ABOVE A WATER MAIN SHALL BE CONTINUOUS 5-FT LENGTH VCP PIPE WITH FERNCO COUPLING OR APPROVED EQUAL.
7. WATER MAIN CROSSING BELOW AN EXISTING SEWER HOUSE LATERAL SHALL BE A CONTINUOUS FULL LENGTH PIPE CENTERED BELOW THE LATERAL.
8. INSTALLATION OF WATER MAINS, SANITARY SEWER MAINS, OR OTHER NON-POTABLE PIPELINES THAT DO NOT MEET THE MINIMUM DHP SEPARATION CRITERIA AND ARE 24-INCHES IN DIAMETER OR LARGER SHALL BE REVIEWED AND APPROVED IN WRITING BY THE DEPARTMENT OF PUBLIC HEALTH ON A CASE-BY-CASE BASIS. PRIOR TO CONSTRUCTION.

NOT TO SCALE

<b>APPROVED BY:</b>  <b>P.W. DIRECTOR/CITY ENGINEER</b>				<b>11/25/14</b> <b>DATE</b>		<b>WATER AND SEWER SEPARATION REQUIREMENTS</b>	
<b>REVISIONS</b>						<b>CITY OF RIALTO, CALIFORNIA PUBLIC WORKS DEPARTMENT ENGINEERING DIVISION</b>	
<b>DATE</b>	<b>BY</b>	<b>MARK</b>	<b>APPROVED</b>				
				<b>STANDARD NO. W-725</b>		<b>SHT 4 OF 4</b>	



**PLAN**



**SECTION A-A**

**NOTES:**

1. ANCHOR BLOCK SHALL BE 560-C-3250 (3250 P.S.I. AT 28 DAYS).
2. CONCRETE SHALL BE POURED AGAINST UNDISTURBED EARTH.
3. DIMENSIONS ARE BASED ON 1.5 TIMES STATIC WATER PRESSURE, 2000 P.S.F. SOIL BEARING CAPACITY PRESSURE & 60,000 LB. REINF. BAR TENSILE STRENGTH.

NOT TO SCALE

**APPROVED BY:**  
*Marcus Fuller*  
 P.W. DIRECTOR/CITY ENGINEER      11/25/14  
 DATE

**ANCHOR BLOCK ASSEMBLY  
 FOR 6" THROUGH 16" PIPE**

REVISIONS			
DATE	BY	MARK	APPROVED

**CITY OF RIALTO, CALIFORNIA  
 PUBLIC WORKS DEPARTMENT  
 ENGINEERING DIVISION**

**STANDARD NO. W-726      SHT 1 OF 2**

**ANCHOR BLOCK DIMENSIONS**

T	D	VARIABLE	STATIC WATER PRESSURE – PSI										
			100	110	120	130	140	150	160	170	180	190	200
30"	6"	AREA SF	2.1	2.3	2.5	2.8	3.0	3.2	3.4	3.6	3.8	4.0	4.2
		W (INCHES)	14	14	16	18	18	13	14	15	15	16	17
		X (INCHES)	0	0	0	0	0	6	6	6	6	6	6
30"	8"	AREA SF	3.8	4.1	4.5	4.9	5.3	5.7	6.0	6.4	6.8	7.2	7.5
		W (INCHES)	10	12	12	14	16	16	14	16	16	18	18
		X (INCHES)	6	6	6	6	6	6	9	9	9	9	9
30"	10"	AREA SF	5.9	6.5	7.1	7.7	8.2	8.8	9.4	10.0	10.6	11.2	11.8
		W (INCHES)	16	18	16	18	16	18	18	20	22	24	24
		X (INCHES)	6	6	9	9	12	12	12	12	12	12	12
36"	12"	AREA SF	8.5	9.3	10.2	11.0	11.9	12.7	13.6	14.4	15.3	16.1	17.0
		W (INCHES)	18	16	18	20	22	24	20	20	22	24	26
		X (INCHES)	9	12	12	12	12	12	18	18	18	18	18
36"	16"	AREA SF	15.1	16.6	18.1	19.6	21.1	22.6	24.1	25.6	27.1	28.7	30.2
		W (INCHES)	18	18	18	18	18	18	20	20	22	22	24
		X (INCHES)	15	15	18	21	25	30	30	30	30	30	30

NOT TO SCALE

**APPROVED BY:**  
  
 P.W. DIRECTOR/CITY ENGINEER      11/25/14  
 DATE

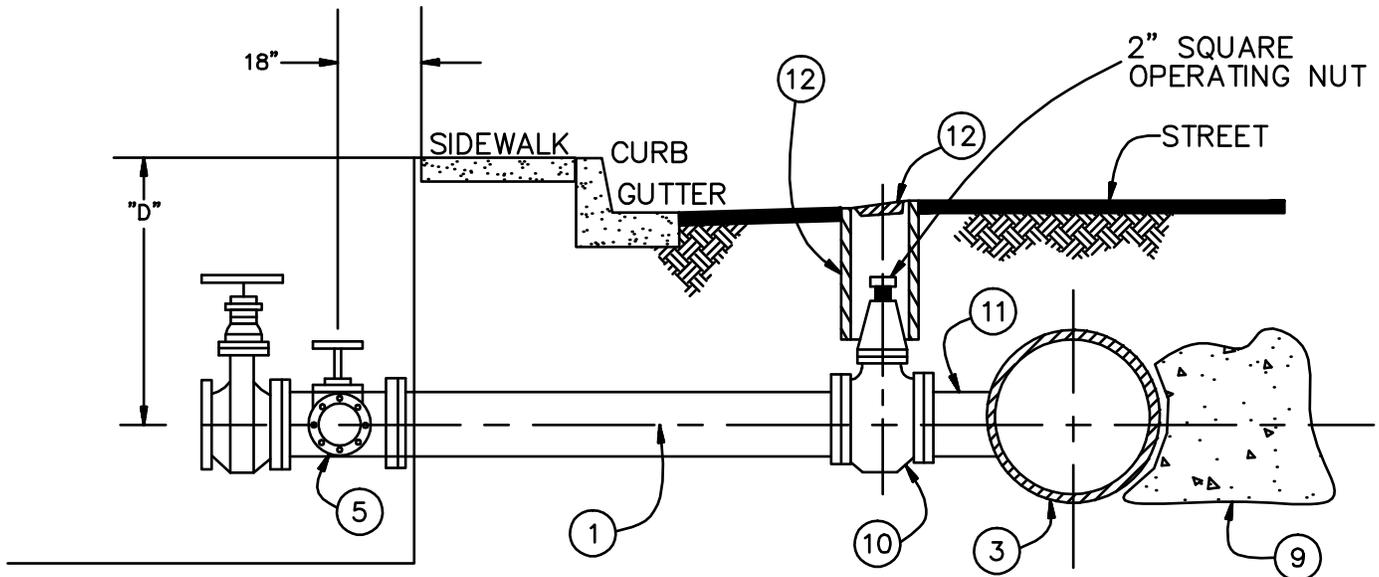
**ANCHOR BLOCK ASSEMBLY  
 FOR 6" THROUGH 16" PIPE**

REVISIONS			
DATE	BY	MARK	APPROVED

**CITY OF RIALTO, CALIFORNIA  
 PUBLIC WORKS DEPARTMENT  
 ENGINEERING DIVISION**

**STANDARD NO. W-726      SHT 2 OF 2**

PIPE SIZE	"D"
3"-4"	32"
6"-8"	40"

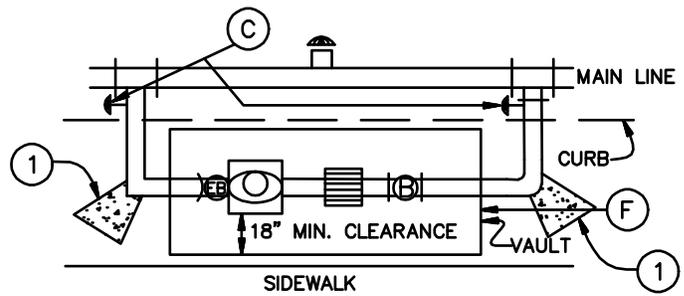
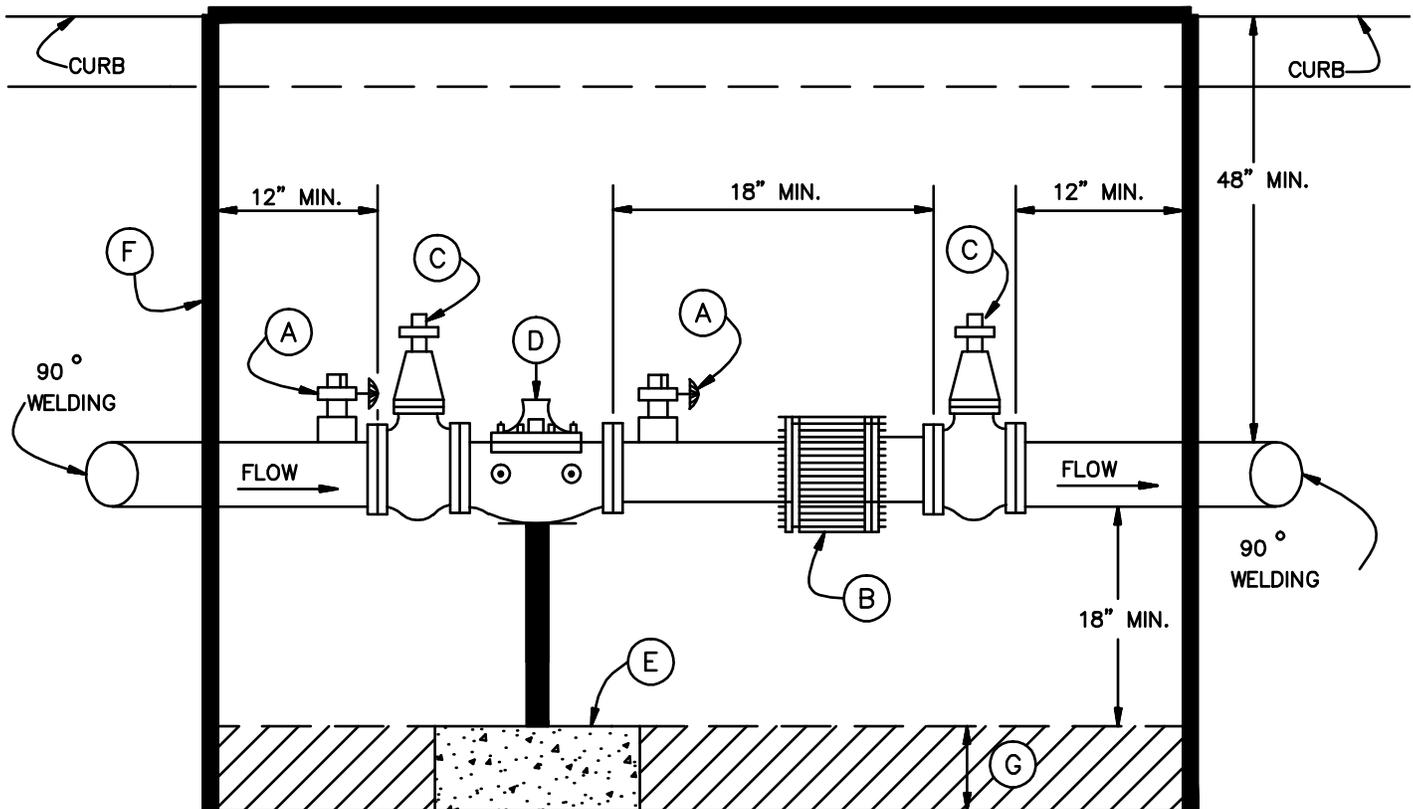


**NOTES:**

- ① SCHEDULE 40 STEEL CML/C PIPE, SIZED TO METER.
- ② BY-PASS LINE NOT NEEDED FOR IRRIGATION SERVICE. (SUPPLY BY CITY/WATER UTILITY COMPANY)
- ③ 18" FLANGED SPOOL (SCHEDULE 40 STEEL CML/C PIPE).
- ④ FLANGED TEES W/OUTLET ONE SIZE SMALLER THAN MAIN VALVE ON METER.
- ⑤ BY-PASS RESILIENT VALVE AND LINE ONE SIZE SMALLER SAME SIZE RESILIENT VALVE.
- ⑥ PIPE SUPPORTS FOR METER AND MAIN VALVE. (SUPPLY BY CITY/WATER UTILITY COMPANY)
- ⑦ ADJUST VAULT AND COVER TO MEET CURB GRADE PER CITY STANDARD W-703. (SUPPLY BY CONTRACTOR)
- ⑧ VAULT LID SHALL HAVE SPRING HINGES AND A SMALL DOOR FOR READING METER PER CITY STANDARD W-703. (SUPPLY BY CONTRACTOR)
- ⑨ THRUST BLOCK PER CITY STANDARD W-723.
- ⑩ FLANGED RESILIENT SEATED GATE VALVE.
- ⑪ FLANGED TEE OR RINGTITE TEE WITH FLANGED OUTLET TO MATCH METER SIZE.
- ⑫ 8" RISER PIPE WITH SLIP CAN AND CAP PER CITY STANDARD W-719.

NOT TO SCALE

<b>REF. OLD RIALTO STD. 208</b>	<b>APPROVED BY:</b>  P.W. DIRECTOR/CITY ENGINEER		11/25/14 DATE		<b>METER SERVICES 3" OR LARGER BEHIND CURB</b>  <b>CITY OF RIALTO, CALIFORNIA PUBLIC WORKS DEPARTMENT ENGINEERING DIVISION</b>  <b>STANDARD NO. W-727</b>	
	<b>REVISIONS</b>					<b>SHT 1 OF 1</b>
	DATE	BY	MARK	APPROVED		



**NOTES:**

- (A) 1" VALVE AND COUPLING, OHIO #2500.
- (B) FLEX COUPLING = LINE SIZE
- (C) FLANGE AWWA C-509 RESILIENT SEATED VALVES.
- (D) CLAYTON 90G-01A KC PRESSURE REDUCING VALVE (ONLY) = LINE SIZE.
- (E) 12"x12"x6" DEEP CONCRETE BLOCK WITH 3" PIPE SUPPORT.
- (F) A QUICKSET GV-300 SERIES VAULT SHALL BE 4'-6" WIDE X 8'-6" LONG WITH A TORISON HINGED COVER. FOR USE WITH ONE REGULATOR. FOR TWO REGULATORS, THE VAULT SHALL BE 6'-6" WIDE 8'-6" LONG.
- (G) 6" OF GRAVEL
- (H) ALL PIPE SHALL BE STANDARD STEEL D.D FROM THE MAINLINE TO THE REGULATOR AT LINE SIZE.
- (I) THRUST BLOCKS PER W-723.

NOT TO SCALE

REF. OLD RIALTO  
STD. 211

APPROVED BY:

*Marina Fuller* 11/25/14  
P.W. DIRECTOR/CITY ENGINEER DATE

**PRESSURE  
REGULATOR STATION**

REVISIONS			
DATE	BY	MARK	APPROVED

CITY OF RIALTO, CALIFORNIA  
PUBLIC WORKS DEPARTMENT  
ENGINEERING DIVISION

STANDARD NO. W-728

SHT 1 OF 1

# SANITARY SEWER

**SEWER MATERIALS AND STRUCTURES**

THE CITY’S EXISTING WASTEWATER COLLECTION SYSTEM CONSISTS PRIMARILY OF VITRIFIED CLAY PIPE (VCP) AND REINFORCED CONCRETE PIPE (RCP) WITH PLASTIC LINER PLATE. THERE ARE SOME UNLINED CONCRETE PIPES, PLASTIC PIPES, BRICK ARCHES, CLAY TILE-LINED REINFORCED CONCRETE PIPE AND ARCHES. EXISTING STRUCTURES ARE PRIMARILY BRICK WITH CEMENT MORTAR OR REINFORCED CONCRETE LINED WITH PLASTIC LINER PLATE.

**SEWER PIPE**

SEWER PIPE MATERIALS AND CONSTRUCTION METHODS ARE SPECIFIED IN DETAIL IN THE SEWER POLICY PAPER AND THE STANDARD SPECIFICATION FOR PUBLIC WORKS CONSTRUCTION, GREENBOOK. THE STRUCTURAL ENGINEER SHALL CHECK SEWER PIPE STRENGTH REQUIREMENTS. ALL SEWER PIPES SHALL BE INSTALLED IN ACCORDANCE WITH THE PROJECT PLANS AND SPECIFICATIONS. ALL PIPE SIZES REFER TO THE NOMINAL INSIDE DIAMETER OF PIPE.

**VITRIFIED CLAY PIPE**

VCP SEWER PIPE MAY BE SPECIFIED IN SIZES 6 INCH THROUGH 42 INCH. EXCEPT AS MODIFIED BY THE GREENBOOK, VCP AND FITTINGS SHALL BE EXTRA STRENGTH MANUFACTURED IN ACCORDANCE WITH ASTM C 700.

**REINFORCED CONCRETE PIPE**

RCP SHALL BE USED FOR SEWERS LARGER THAN 42 INCH. EXCEPT AS MODIFIED BY THE GREENBOOK, RCP SHALL BE MANUFACTURED IN ACCORDANCE WITH ASTM C 76. PLASTIC LINER PLATE CIRCUMFERENTIAL REQUIREMENTS SHALL BE DETERMINED AND SHOWN ON THE PLANS. PLASTIC LINERS SHALL BE POLYVINYL CHLORIDE (PVC) CONFORMING TO THE GREENBOOK, AND STANDARD PLANS. THE LINER PLATE SHALL EXTEND A MINIMUM OF 2 INCHES BELOW THE HYDRAULIC GRADE LINE AT MINIMUM FLOW.

**CONCRETE PIPE**

UNREINFORCED CONCRETE PIPE IS NOT PERMITTED FOR USE IN CITY SEWERS.

**ASBESTOS CEMENT PIPE (ACP)**

ACP IS NOT PERMITTED FOR USE IN CITY SEWERS.

**PLASTIC PIPE**

BECAUSE OF RAPIDLY CHANGING NATURE OF SEWER PIPE MATERIALS, THIS SUBSECTION IS SUBJECT TO MODIFICATION. IN GENERAL, PLASTIC PIPE IS PERMITTED ON ANY SEWER AS LONG AS IT IS APPROVED BY THE DIRECTOR OF PUBLIC WORKS/CITY ENGINEER.

<b>APPROVED BY:</b>  <b>P.W. DIRECTOR/CITY ENGINEER</b>				11/25/14 <b>DATE</b>	<b>SEWER GENERAL NOTES</b>		
<b>REVISIONS</b>						<b>CITY OF RIALTO, CALIFORNIA PUBLIC WORKS DEPARTMENT ENGINEERING DIVISION</b>	
<b>DATE</b>	<b>BY</b>	<b>MARK</b>	<b>APPROVED</b>				
				<b>STANDARD NO. SS-200</b>		<b>SHT 1 OF 4</b>	

THE USE OF PLASTIC PIPES IS GOVERNED BY THE FOLLOWING CRITERIA:

- a. PLASTIC PIPES CAN BE BID AS AN ALTERNATE TO VCP OR RCP.
- b. PLASTIC PIPES SHALL NOT BE PERMITTED WHERE CONCENTRATED DISCHARGES OF INDUSTRIAL OR COMMERCIAL SEWAGE EXIST. WHERE THIS CANNOT BE AVOIDED THE SEWER SHALL NOT BE PERMITTED TO BE CONSTRUCTED OF PLASTIC MATERIALS.
- c. PLASTIC PIPE MAY BE USED WHEN ABRASIVE ACTION IN THE SEWER IS NOT ANTICIPATED. FLOW VELOCITIES AND THE AMOUNT AND TYPES OF SOLIDS GENERATED SHALL BE CONSIDERED TO DETERMINE ABRASIVE ACTION. GENERALLY, VELOCITIES SHOULD NOT EXCEED 12 FPS.
- d. PLASTIC PIPE SEWERS SHALL BE LIMITED IN SIZE TO:
  - 1. MAIN LINE: 8 INCH TO 15 INCH.
  - 2. HOUSE CONNECTIONS: 6 INCH MINIMUM.
- e. THE MAXIMUM DESIGN DEFLECTION (FLATTENING) FOR PLASTIC PIPE SHALL BE 3 PERCENT FOR PVC COMPOSITE PIPE AND 5 PERCENT FOR SOLID WALL PVC AND ABS PIPE. TO ASSURE THAT SOLID WALL PLASTIC PIPE HAS SUFFICIENT STIFFNESS, THE MINIMUM WALL THICKNESS SDR (STANDARD DIMENSION RATIO OF PIPE OUTSIDE DIAMETER TO WALL THICKNESS) SHALL BE 35 FOR PVC.
- f. SINCE CONCRETE WILL NOT BOND TO MOST PLASTICS, SOME FORM OF SEAL OR WATER STOP IS REQUIRED TO PROVIDE A WATERTIGHT MAINTENANCE HOLE CONNECTION. A MAINTENANCE HOLE COUPLING, CAN BE CAST DIRECTLY INTO THE MAINTENANCE HOLE OR BASE OR GROUTED INTO PRECAST CONCRETE MAINTENANCE HOLES. AS AN ALTERNATIVE, A RUBBER ADAPTOR RING CAN BE PLACED AROUND THE PIPE STUB TO BE CAST INTO THE MAINTENANCE HOLE WALL.
- g. UNLESS SPECIFIED, THE DESIGN CRITERIA SHALL BE THE SAME AS CURRENTLY USED FOR CLAY PIPE SEWERS.

PRIOR TO THE PREPARATION OF ANY SEWER PLAN, THE ENGINEER SHALL INVESTIGATE AND DETERMINE IF PLASTIC PIPE IS SUITABLE FOR THE PROJECT AS AN ALTERNATIVE PIPE MATERIAL. IF PLASTIC SEWER PIPE IS ACCEPTABLE, THE PLANS SHALL CALL FOR "SEWER PIPE". IF PLASTIC SEWER PIPE IS UNACCEPTABLE FOR THIS PROJECT, THE PLANS SHALL CALL FOR "VCP" OR "RCP".

<b>APPROVED BY:</b>				<b>SEWER GENERAL NOTES</b>	
		11/25/14			
P.W. DIRECTOR/CITY ENGINEER		DATE		CITY OF RIALTO, CALIFORNIA PUBLIC WORKS DEPARTMENT ENGINEERING DIVISION	
<b>REVISIONS</b>					
<b>DATE</b>	<b>BY</b>	<b>MARK</b>	<b>APPROVED</b>		
STANDARD NO. SS-200				SHT 2 OF 4	

**COMPOSITE PIPE (TRUSS PIPE)**

COMPOSITE PIPE IS A PLASTIC PIPE CONSISTING OF TWO CONCENTRIC TUBES WITH A "TRUSS" CONNECTING THE TWO CONCENTRIC TUBES. THE PIPE BETWEEN THE CONCENTRIC TUBES IS FILLED WITH CEMENTITIOUS SLURRY OR INERT MATERIALS. THE PLASTIC TUBES SHALL BE ACRYLONITRILE-BUTADIENE-STYRENE (ABS). THE REQUIREMENTS FOR THIS PIPE ARE SET FORTH IN ASTM D2680 AND MODIFIED BY THE GREENBOOK. THIS PIPE MAY BE USED FOR MAIN LINE AND HC SEWERS.

**ABS SOLID WALL PIPE**

ABS PIPE MAYBE USED FOR BOTH MAIN LINE AND HC SEWERS. REQUIREMENTS ARE SET FORTH IN THE GREENBOOK.

**PVC SOLID WALL PIPE**

PVC PIPE MAY BE USED FOR BOTH MAIN LINE AND HC SEWERS PROVIDED THE FOLLOWING REQUIREMENTS ARE MET:

- a. ONLY PIPE CONFORMING TO ASTM D3034 IS APPROVED.
- b. MINIMUM WALL THICKNESS SHALL CONFORM TO STANDARD DIMENSION RATIO (SDR) 35.
- c. FILLERS IN THE RESIN SHALL NOT EXCEED 10 PARTS PER 100 PARTS OF RESIN BY WEIGHT, OF THE PVC RESIN.
- d. ALL REQUIREMENTS SET FORTH IN THE SSPWC AND GREENBOOK ARE MET.

**PE SOLID WALL PIPE**

PE PIPE MAY BE USED FOR BOTH MAIN LINE AND HC SEWERS PROVIDED THE FOLLOWING REQUIREMENTS ARE MET:

- A. ONLY PIPE CONFORMING TO ASTM D 3350 IS APPROVED.
- B. MINIMUM WALL THICKNESS SHALL CONFORM TO STANDARD DIMENSION RIALTO (SDR) 21.
- C. PIPE AND FITTING SHALL BE MADE FROM PE RESING COMPLYING WITH ASTM D 1248.
- D. ALL REQUIREMENTS SET FORTH IN SSPWC AND GREENBOOK ARE MET.

**CCFRPM PIPE**

CCFRPM PIPE MAY BE USED FOR MAIN LINE SEWERS PROVIDED THE PIPE CONFORMS TO ASTM D 3262 AND ALL REQUIREMENTS SET FORTH IN SSPWC AND GREENBOOK ARE MET.

**DIRECT BURIAL PROFILED WOUND PE**

DIRECT BURIAL PROFILE WOUND PE PIPE MAY BE USED FOR MAIN LINE SEWERS PROVIDED THE PRODUCT IS ON THE ENGINEER OF DESIGN'S APPROVAL PIPE PRODUCT SUPPLIER'S LIST.

<b>APPROVED BY:</b>  P.W. DIRECTOR/CITY ENGINEER				11/25/14 DATE		<b>SEWER GENERAL NOTES</b>	
<b>REVISIONS</b>						CITY OF RIALTO, CALIFORNIA PUBLIC WORKS DEPARTMENT ENGINEERING DIVISION	
DATE	BY	MARK	APPROVED				
				<b>STANDARD NO. SS-200</b>		<b>SHT 3 OF 4</b>	

**DIRECT BURIAL CLOSED PROFILE WOUND PE**

DIRECT BURIAL CLOSED PROFILE WOUND PE PIPE MAY BE USED FOR MAIN LINE SEWERS PROVIDED THE PRODUCT IS ON THE ENGINEER OF DESIGN'S APPROVED PIPE AND PIPE PRODUCT SUPPLIER'S LIST.

**OTHER'S PLASTIC PIPES**

THE DEPARTMENT OF PUBLIC WORKS/CITY ENGINEER CONTINUES TO REVIEW AND INVESTIGATE PLASTIC PIPES FOR USE AS MAIN LINE SEWERS. ANY PIPE LISTED ON THE UPDATED APPROVED PIPE AND PIPE PRODUCT SUPPLIER'S LIST MAY BE USED.

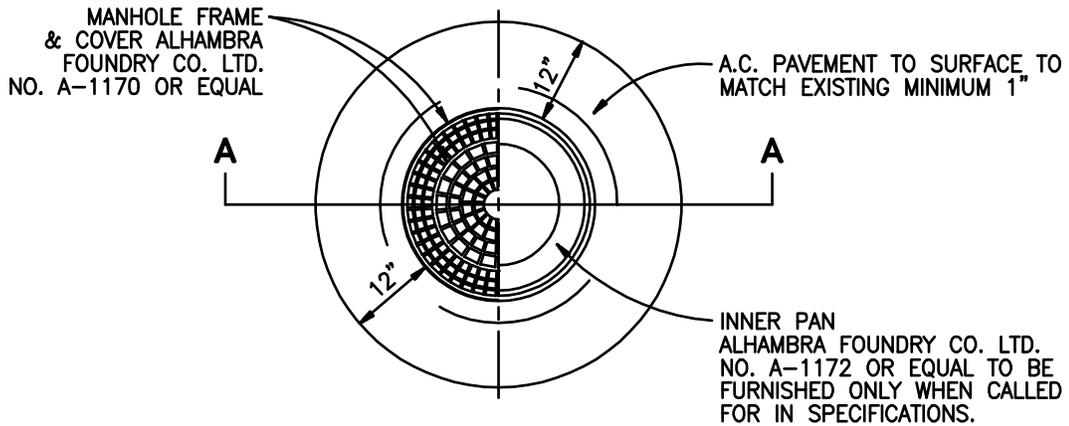
**CORRUGATED STEEL PIPE**

CORRUGATED STEEL PIPE (CSP), ALSO KNOWN AS CORRUGATED METAL PIPE SHALL NOT USED FOR SEWER PIPE EXCEPT FOR TEMPORARY AND EMERGENCY SITUATIONS SUCH AS BYPASSING SEWAGE AROUND CURRENT CONSTRUCTION WORK. SINCE THE CSP ROUGHNESS FACTOR (n) WILL SIGNIFICANTLY DIFFER FROM THE EXISTING SEWER PIPE AND AIR LINE ROUGHNESS FACTORS, ANY DESIGN SHALL BE CHECKED THOROUGHLY TO ENSURE ADEQUATE FLOW CAPACITY AND CONTINUITY DURING CONSTRUCTION.

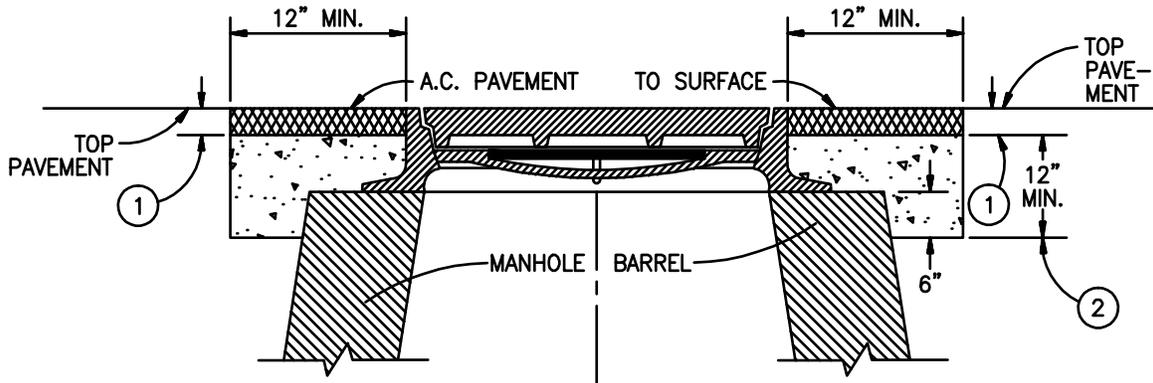
**DUCTILE IRON PIPE**

DUCTILE IRON PIPE (DIP) IS SUPERIOR IN STRENGTH, RESISTANCE TO ELECTROLYTIC CORROSION, AND IT IS CONSIDERED SPARKPROOF. THESE QUALITIES SHALL BE CONSIDERED WHEN HIGH STRENGTH SEWER PIPE OR PRESSURE PIPE IS REQUIRED. DIP IS PRIMARILY USED FOR FORCE MAINS BUT MAY USED FOR GRAVITY SEWERS WHEN WARRANTED.

<b>APPROVED BY:</b>  <b>P.W. DIRECTOR/CITY ENGINEER</b>				<b>11/25/14</b> <b>DATE</b>		<b>SEWER GENERAL NOTES</b>	
<b>REVISIONS</b>						<b>CITY OF RIALTO, CALIFORNIA PUBLIC WORKS DEPARTMENT ENGINEERING DIVISION</b>	
<b>DATE</b>	<b>BY</b>	<b>MARK</b>	<b>APPROVED</b>				
				<b>STANDARD NO. SS-200</b>		<b>SHT 4 OF 4</b>	



**PLAN**



**NOTES:**

- ① MATCH EXISTING-1" MIN.
- ② NO MORE THAN 12" OF GRADE RINGS ALLOWED FOR A MAXIMUM OF 18" FROM TOP OF MANHOLE BARREL. CONCRETE SHALL BE PLACED FROM 2" BELOW GRADE RING AND SHALL ENCAPSULATE ALL GRADE RINGS. ALL CONCRETE SHALL BE 564-B-3000.

**SECTION A-A**

NOT TO SCALE

REF. OLD RIALTO  
STD. 100

APPROVED BY:

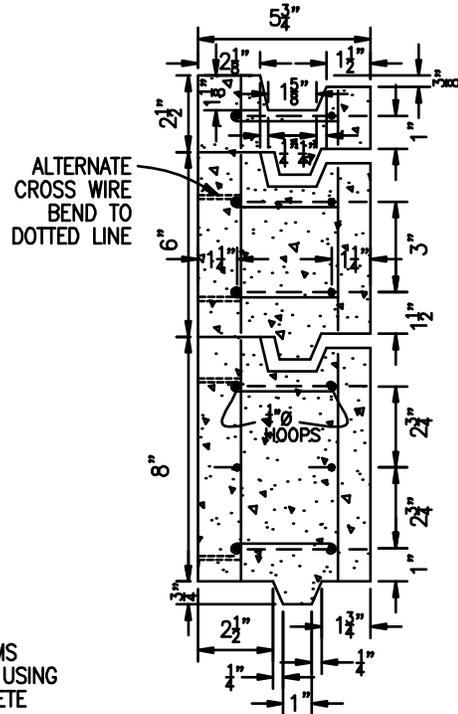
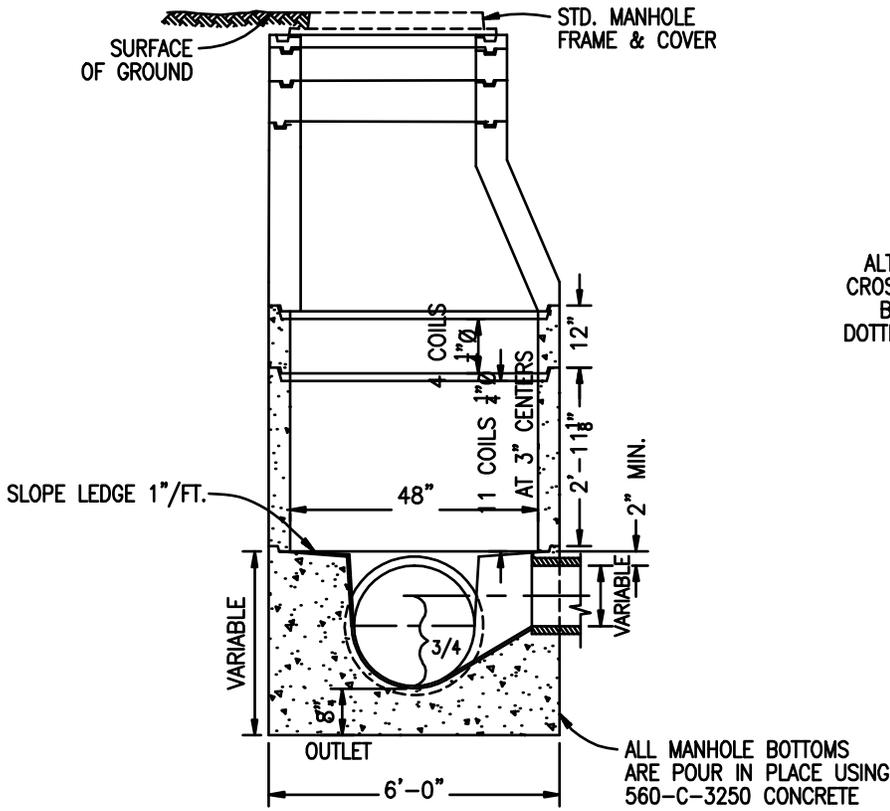
*Marcus Fuller* 11/25/14  
P.W. DIRECTOR/CITY ENGINEER DATE

**STD. MANHOLE FRAME,  
COVER AND REINFORCED  
CONCRETE COLLAR**

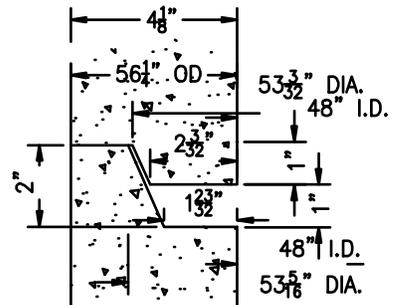
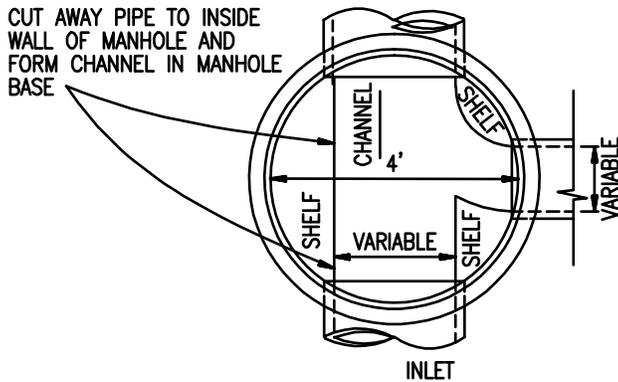
REVISIONS			
DATE	BY	MARK	APPROVED

CITY OF RIALTO, CALIFORNIA  
PUBLIC WORKS DEPARTMENT  
ENGINEERING DIVISION

STANDARD NO. SS-201-0 SHT 1 OF 1



**SECTION OF TOP RINGS  
(PRE-CAST R.C.)**



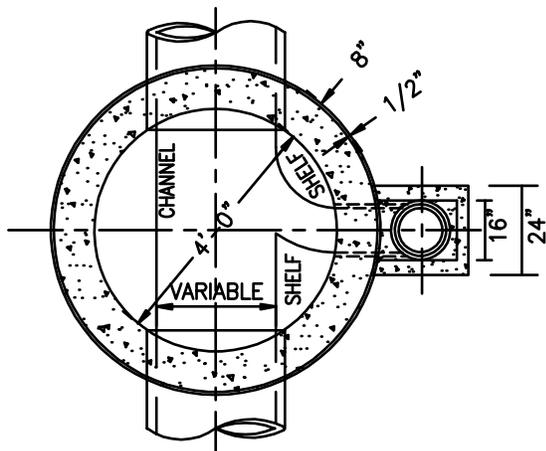
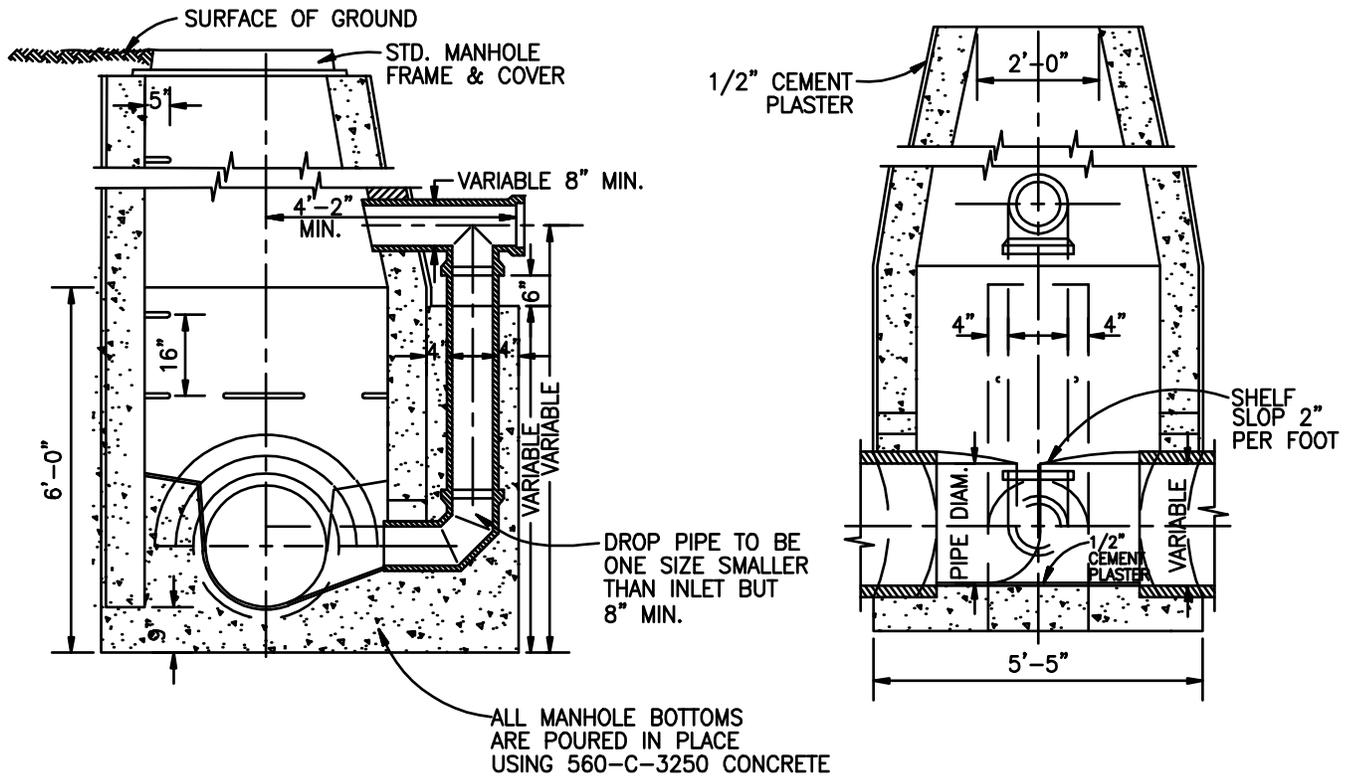
**JOINT DETAIL**

**GENERAL NOTES:**

1. ALL JOINTS SHALL BE MORTARED.
2. ECCENTRIC CONE MAY BE USED IN LIEU OF CONCENTRIC CONES.

NOT TO SCALE

<b>REF. OLD RIALTO STD. 101</b>	<b>APPROVED BY:</b>  P.W. DIRECTOR/CITY ENGINEER	11/25/14 DATE	<b>STANDARD PRECAST IN PLACE MANHOLE FOR SEWER</b>		
	<b>REVISIONS</b>			CITY OF RIALTO, CALIFORNIA PUBLIC WORKS DEPARTMENT ENGINEERING DIVISION	
	DATE	BY	MARK		APPROVED
			<b>STANDARD NO. SS-202-0 SHT 1 OF 1</b>		



GENERAL NOTES:

1. FOR 15" SEWERS AND LARGER, TURN 8" ARCH OVER PIPE.
2. FOR 12" SEWERS AND UNDER, TURN 4" ARCH OVER PIPE.

NOT TO SCALE

REF. OLD RIALTO  
STD. 100

APPROVED BY:

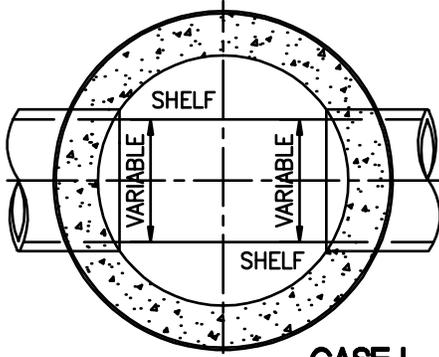
  
 P.W. DIRECTOR/CITY ENGINEER      11/25/14  
 DATE

**STD. DROP MANHOLE  
FOR 6" TO 36" PIPE**

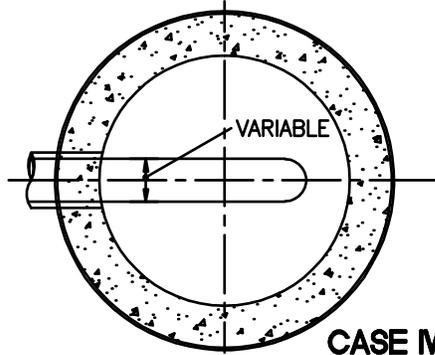
REVISIONS			
DATE	BY	MARK	APPROVED

**CITY OF RIALTO, CALIFORNIA  
PUBLIC WORKS DEPARTMENT  
ENGINEERING DIVISION**

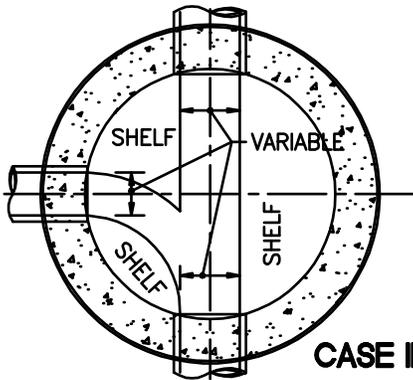
STANDARD NO. SS-203-0      SHT 1 OF 1



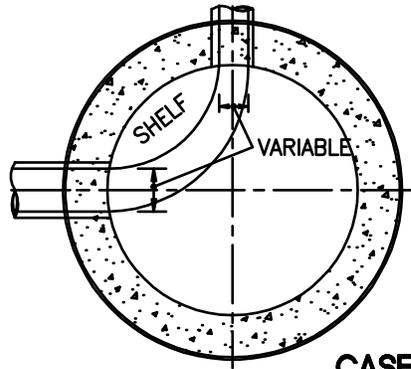
CASE I



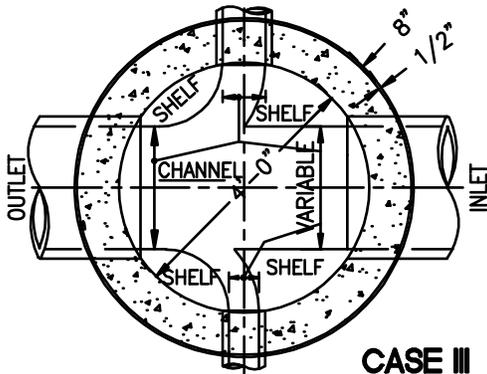
CASE IV



CASE II



CASE V



CASE III

GENERAL NOTE:

1. MANHOLE STEPS TO BE INSTALLED ON THE DOWNSTREAM SIDE ONLY.

NOT TO SCALE

APPROVED BY:

*Marissa Fuller*  
P.W. DIRECTOR/CITY ENGINEER

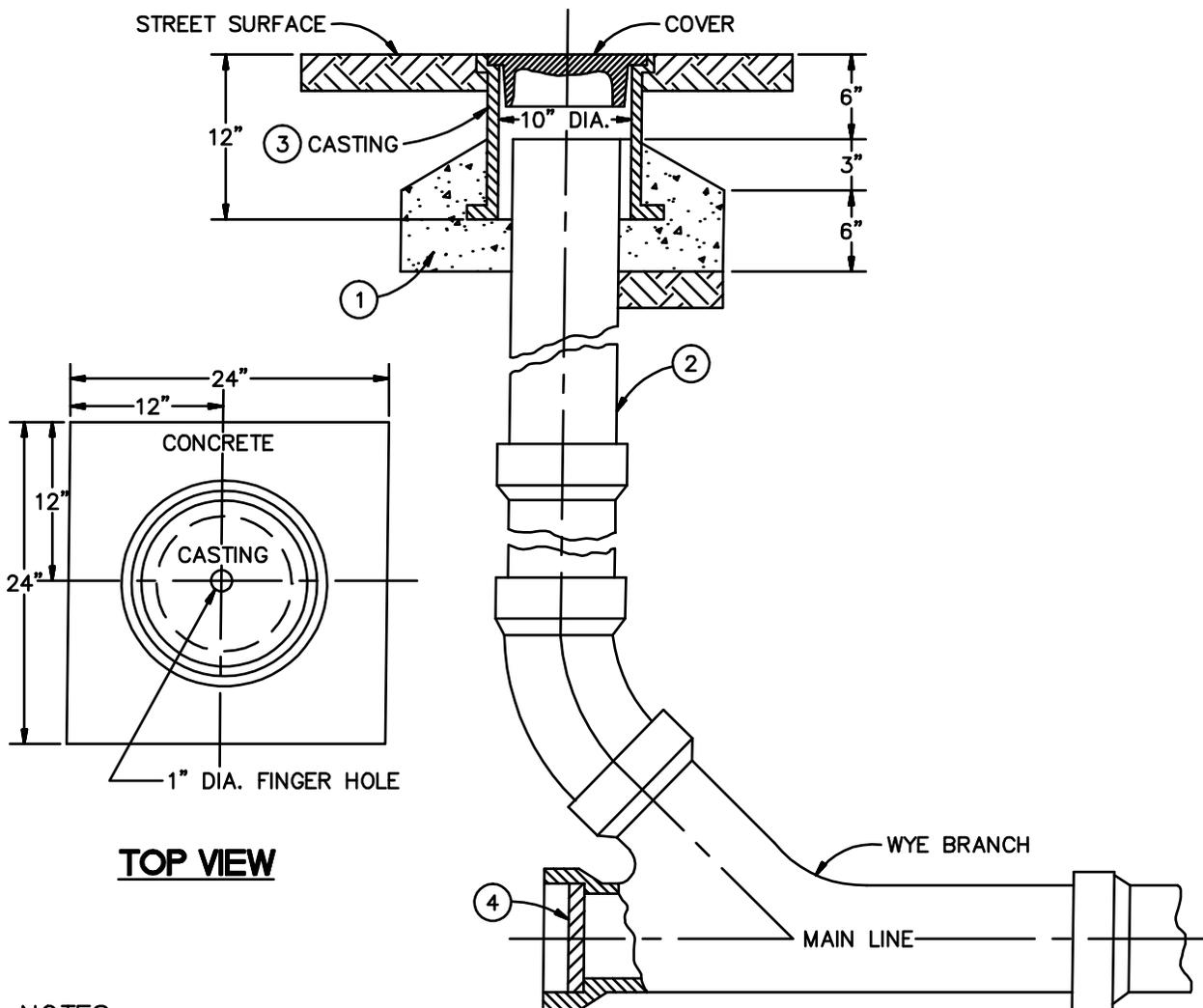
11/25/14  
DATE

**TYPICAL SEWER  
MANHOLE BASES**

CITY OF RIALTO, CALIFORNIA  
PUBLIC WORKS DEPARTMENT  
ENGINEERING DIVISION

REVISIONS			
DATE	BY	MARK	APPROVED

STANDARD NO. SS-204-0 SHT 1 OF 1



**TOP VIEW**

NOTES:

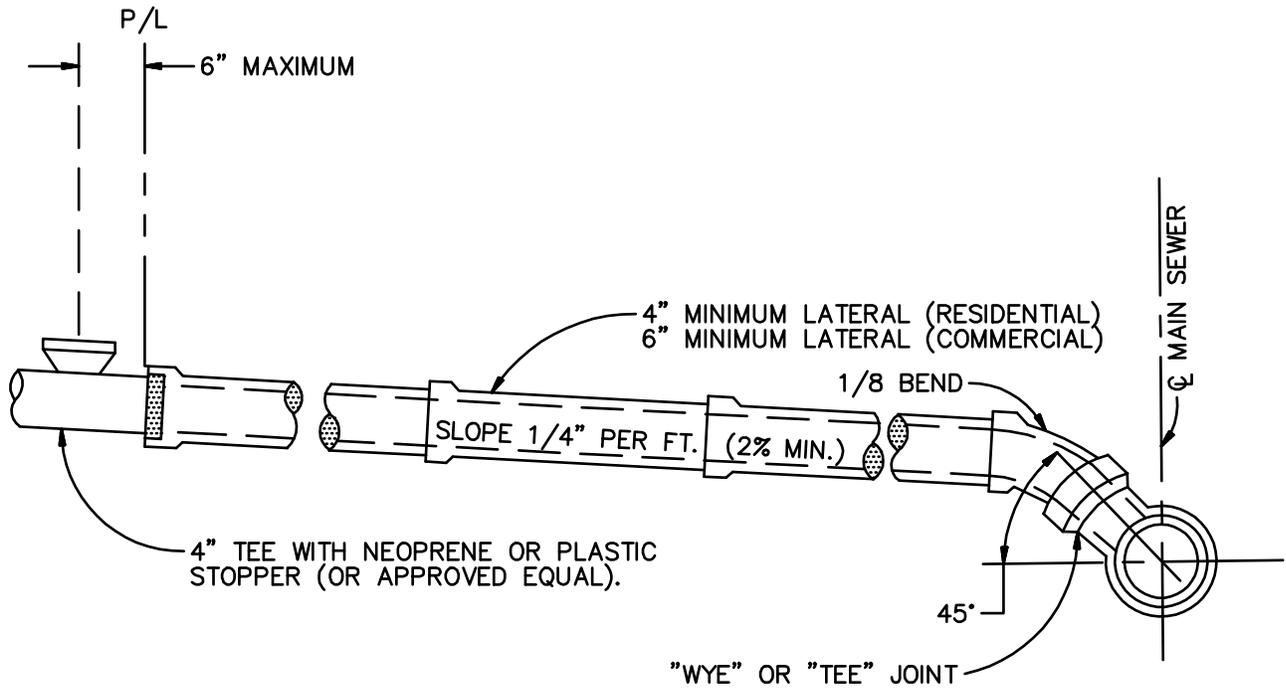
- ① ALL CONCRETE SHALL BE CLASS 560-C-3250.
- ② CLEAN-OUT PIPE MUST BE THE SAME DIAMETER AS THE MAIN SEWER LINE.
- ③ CASTING-ALHAMBRA FOUNDRY A-1240 (OR EQUAL).
- ④ PLUG WITH NEOPRENE OR PLASTIC STOPPER (OR EQUAL).

GENERAL NOTES:

- 1. TYPE "C", "D", OR "G" JOINTS SHALL BE USED ON ALL CLEAN-OUT JOINTS.
- 2. CLEAN-OUT COVER AND FRAME SHALL BE PER ALHAMBRA FOUNDRY NO. 1240 (OR APPROVED EQUAL).
- 3. MAXIMUM DISTANCE FROM CLEAN-OUT TO DOWN STREAM MANHOLE SHALL BE 150'.

NOT TO SCALE

<p><b>REF. OLD RIALTO STD. 102</b></p>	<p><b>APPROVED BY:</b>              11/25/14  <b>P.W. DIRECTOR/CITY ENGINEER</b>      <b>DATE</b></p>	<p><b>SEWER TERMINAL CLEAN-OUT</b></p>																
	<p><b>REVISIONS</b></p>																	
	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 15%;">DATE</th> <th style="width: 15%;">BY</th> <th style="width: 15%;">MARK</th> <th style="width: 55%;">APPROVED</th> </tr> </thead> <tbody> <tr><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td></tr> </tbody> </table>	DATE	BY	MARK	APPROVED													<p><b>CITY OF RIALTO, CALIFORNIA PUBLIC WORKS DEPARTMENT ENGINEERING DIVISION</b></p>
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<p><b>STANDARD NO. SS-205-0</b></p>		<p><b>SHT 1 OF 1</b></p>																

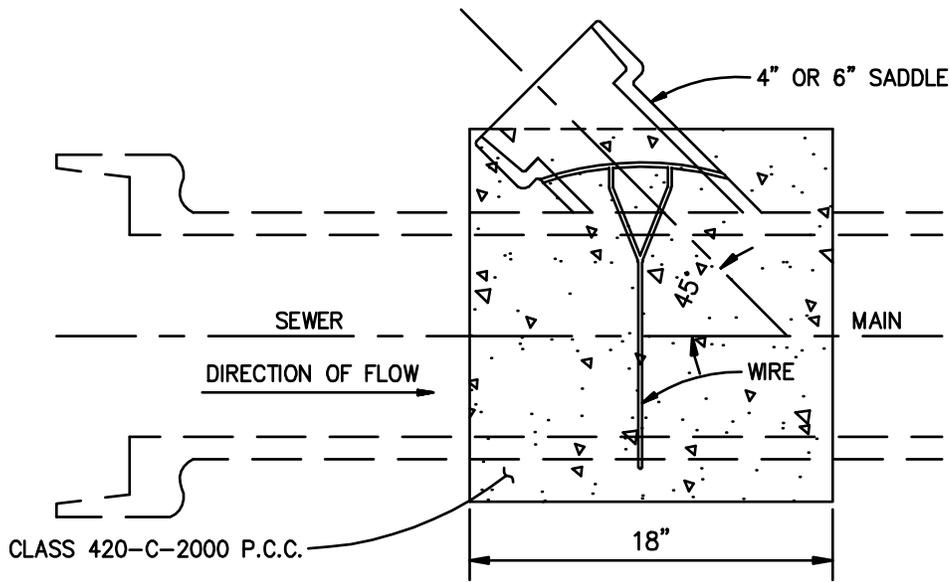


**GENERAL NOTES:**

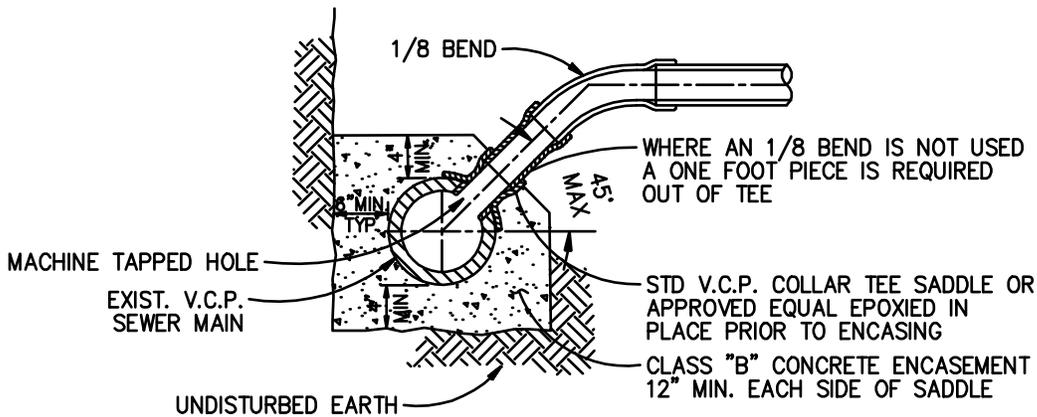
1. LATERAL SHALL BE VITRIFIED CLAY PIPE, (CAST IRON PIPE OPTIONAL).
2. TYPE "C", "D", AND "G" JOINTS ONLY FOR VCP.
3. WHERE LATERAL IS TO BE CONSTRUCTED UNDER AN EXISTING CURB, THE CONTRACTOR SHALL CHISEL THE LETTER "L" INTO THE CURB FACE DIRECTLY ABOVE THE LATERAL. "L" SHALL BE 1 1/2" HIGH, AND 3/6" DEEP.
4. ALL SEWER MAINS AND LATERALS WILL REQUIRE AN AIR PRESSURE TEST.
5. RESIDENTIAL SEWER SHALL BE 4" MIN. VCP PIPE.
6. ALL COMMERCIAL SEWER CONNECTIONS SHALL BE 6" VCP LATERAL WITH WYE RISER.
7. WHEN EVER RISER IS IN PAVED AREA, RISER SHALL BE INSTALLED IN CONCRETE TRAFFIC NOTED BOX.

NOT TO SCALE

<b>REF. OLD RIALTO STD. 103</b>	<b>APPROVED BY:</b>  P.W. DIRECTOR/CITY ENGINEER      11/25/14 DATE	<h2 style="margin: 0;">SEWER LATERAL</h2>																
	<b>REVISIONS</b>																	
	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 15%;">DATE</th> <th style="width: 15%;">BY</th> <th style="width: 15%;">MARK</th> <th style="width: 55%;">APPROVED</th> </tr> </thead> <tbody> <tr><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td></tr> </tbody> </table>	DATE	BY	MARK	APPROVED													<b>CITY OF RIALTO, CALIFORNIA PUBLIC WORKS DEPARTMENT ENGINEERING DIVISION</b>
	DATE	BY	MARK	APPROVED														
<b>STANDARD NO. SS-206-0    SHT 1 OF 1</b>																		



**PLAN VIEW**



**V.C.P. SADDLE CONNECTION**

**GENERAL NOTES:**

1. A WYE OR TEE SADDLE SHALL BE INSTALLED BY CUTTING A NEAT HOLE CONFORMING TO THE INSIDE DIAMETER OF THE SADDLE WHEN USING A SADDLE WITHOUT COLLAR AS SHOWN IN EPOXY RESIN JOINT DETAIL. WHEN USING A SADDLE WITH COLLAR THE DIAMETER OF THE HOLE SHALL BE OUTSIDE DIAMETER PLUS 1/8" AS SHOWN IN CEMENT COLLAR JOINT DETAIL.
2. BROKEN PIECES FROM CUTTING OF THE MAIN LINE SEWER MUST BE EXTRACTED CAREFULLY PRIOR TO PLACEMENT OF THE SADDLE.
3. THE SADDLE SHALL BE CEMENTED INTO PLACE USING CLASS "D" CEMENT MORTAR OR OTHER CEMENTING AGENT APPROVED BY THE DEPARTMENT. THE SADDLE SHALL BE HELD SECURELY IN PLACE WHILE THE CEMENT OR OTHER APPROVED CEMENTING AGENT SETS. THE INSIDE OF THE JOINT BETWEEN PIPE AND SADDLE SHALL BE FILLED WITH CEMENTING MATERIAL AND NEATLY ROUNDED.

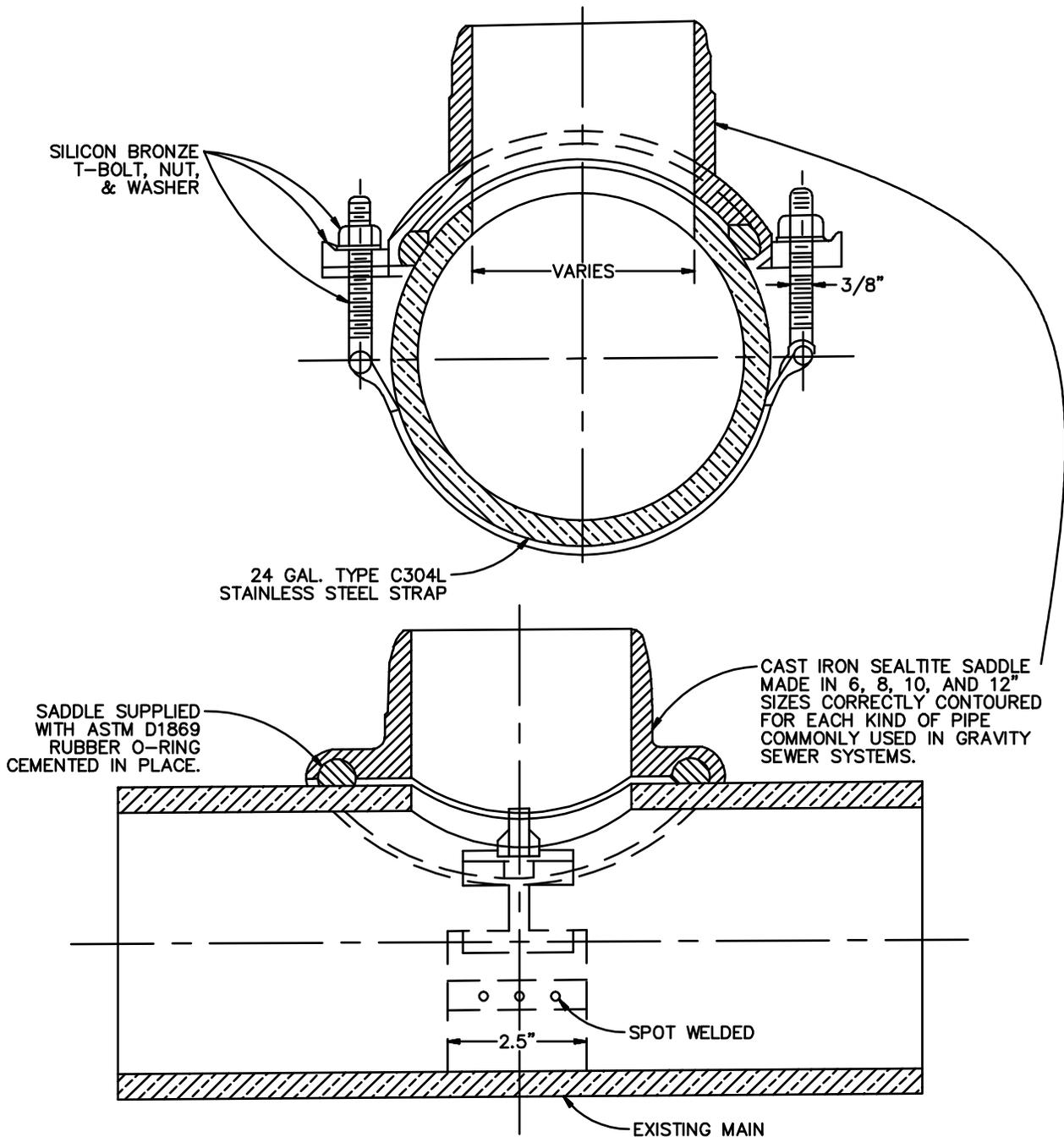
**APPROVED BY:**

*Marcus Fuller* 11/25/14  
**P.W. DIRECTOR/CITY ENGINEER** **DATE**

**SEWER SADDLE**

REVISIONS			
DATE	BY	MARK	APPROVED

**CITY OF RIALTO, CALIFORNIA  
 PUBLIC WORKS DEPARTMENT  
 ENGINEERING DIVISION**

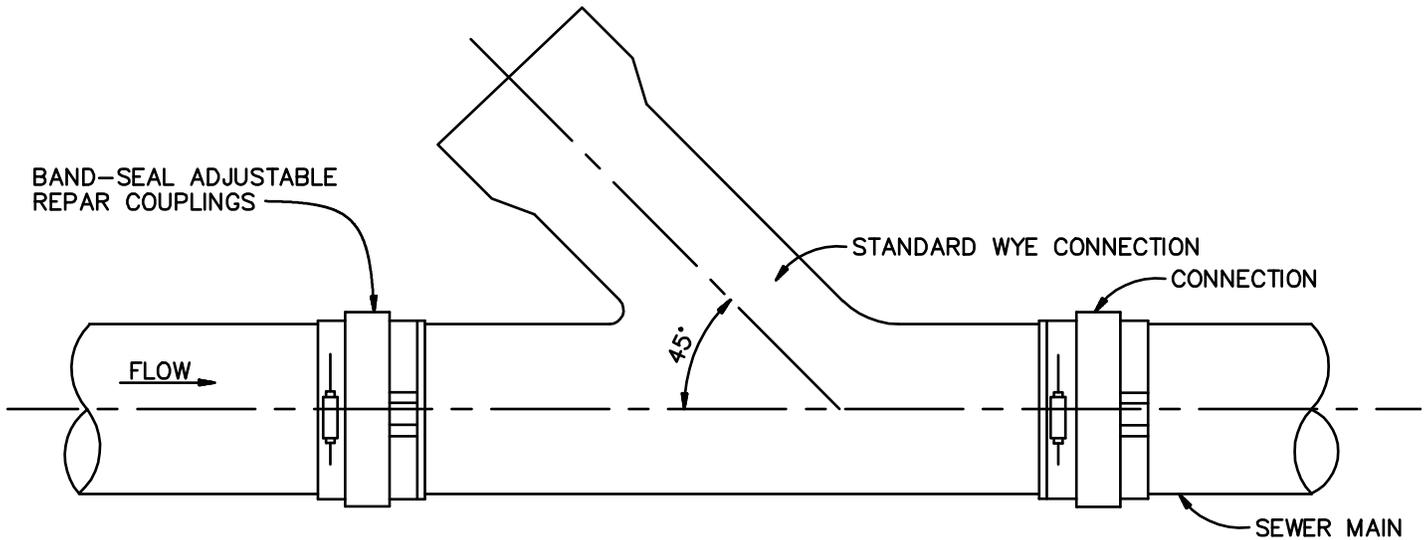


**GENERAL NOTES:**

1. HOLE ON EXISTING SEWER MAIN TO BE CHISLED TO EXACT SIZE OF LATERAL (CORE EXISTING SEWER MAIN MAY BE USED AS AN ALTERNATE METHOD).
2. GENECO "SEALTITE" SEWER PIPE SADDLE OF APPROVED SIZE OR EQUAL.
3. ALL TIGHTEN BOLTS SHALL BE TIGHTENED TO A MINIMUM OF 5 FOOT POUNDS AND NOT TO EXCEED 10 FOOT POUNDS.

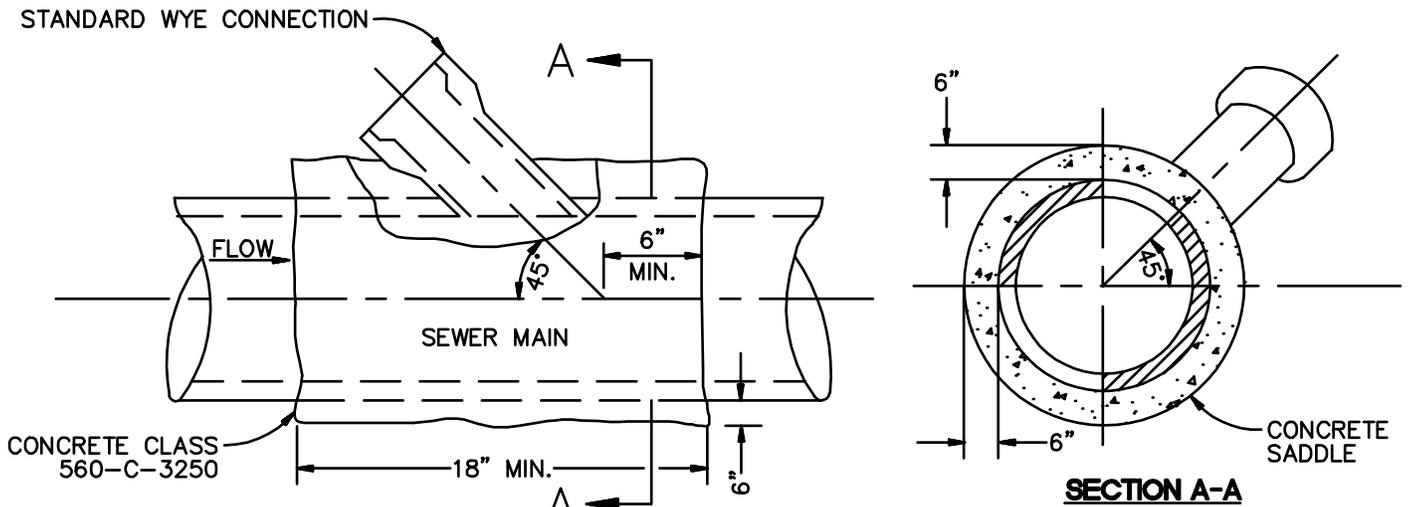
NOT TO SCALE

<b>REF. OLD RIALTO STD. 104</b>	<b>APPROVED BY:</b>  P.W. DIRECTOR/CITY ENGINEER	11/25/14 DATE	<b>TAPPING EXISTING SEWER MAIN</b>												
	<b>REVISIONS</b>			<b>CITY OF RIALTO, CALIFORNIA PUBLIC WORKS DEPARTMENT ENGINEERING DIVISION</b>											
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	DATE	BY	MARK		APPROVED										
<b>STANDARD NO. SS-208-0</b>			<b>SHT 1 OF 1</b>												



**SEWER LATERAL CONNECTION TYPE A**

1. FOR USE IN SANITARY LINES ONLY.



**PLAN VIEW**

**SEWER LATERAL CONNECTION TYPE B**

**GENERAL NOTES:**

1. TYPE B REQUIRES SPECIAL APPROVAL OF DIRECTOR OF PUBLIC WORKS AND TO BE USED ONLY ON LARGE MAINS WITH HEAVY FLOWS AND WILL BE CORED.
2. TYPE A USE 4" WIDE MINIMUM STAINLESS STEEL COUPLING AT CONNECTION TO SEWER MAIN.

NOT TO SCALE

**APPROVED BY:**  
*M. Fuller*  
 P.W. DIRECTOR/CITY ENGINEER      11/25/14  
 DATE

**SEWER LATERAL CONNECTIONS TYPE A AND TYPE B**

REVISIONS			
DATE	BY	MARK	APPROVED

**CITY OF RIALTO, CALIFORNIA  
 PUBLIC WORKS DEPARTMENT  
 ENGINEERING DIVISION**