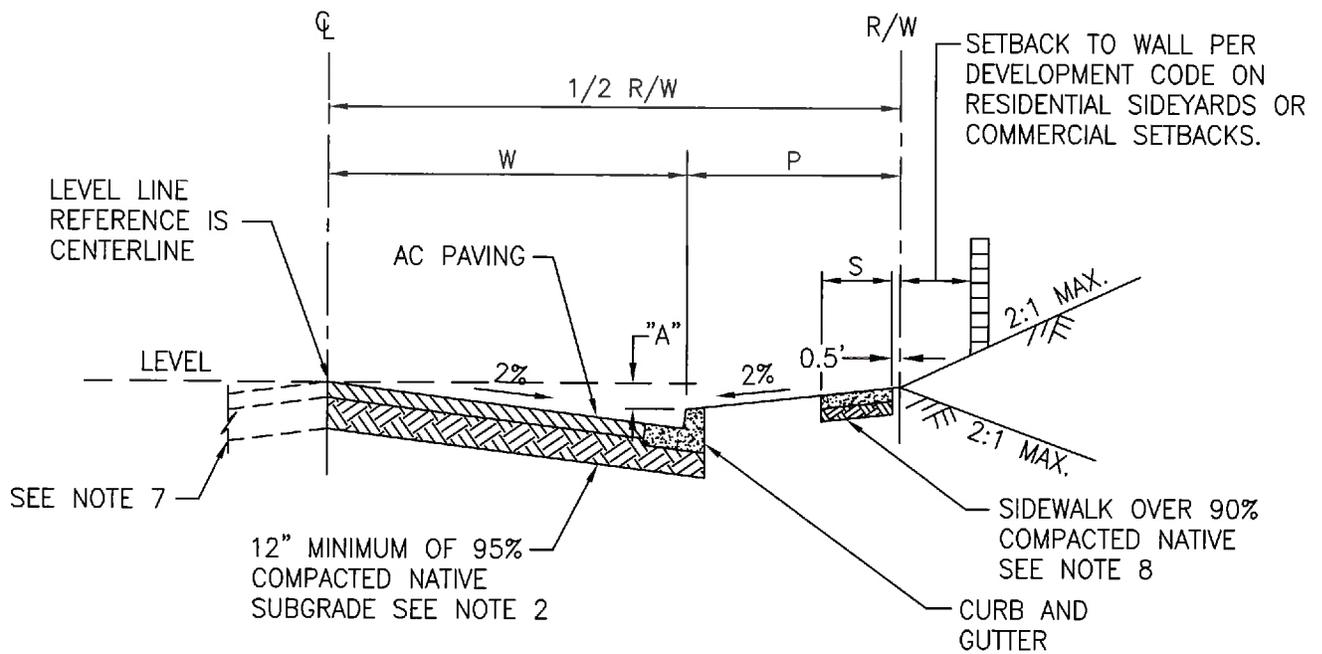


SECTION 400
STREET DESIGN

DESIGN STANDARDS

SECTION 400 – STREET DESIGN

400	Typical Undivided Street Sections – Local, Collector, Collector Industrial, and Secondary Highway (Level and Tilted Sections)
401	Typical Divided Street Sections – Primary and Major (Level and Tilted Sections)
402	Street Design Requirements
403 (2 Sheets)	Cross Gutter (Standard)
404 (2 Sheets)	Street Lights – Revised 12/12/11
405	Cul – De – Sac
406	Offset Cul – De – Sac
407	Standard Knuckle (Intersection and “L” Shape Design)



TYPICAL MID-BLOCK 1/2 WIDTH STREET SECTION

Roadway Designation	R/W	W	Parkway P	Sidewalk S	"A" 6" CURB	"A" 8" CURB	MIN. AC
Local	64'	20'	12'	5'	-0.03'	0.14'	4"
Collector	68'	22'	12'	5'	N/A	0.10'	4.5"
Collector Industrial	80'	28'	12'	5'	N/A	-0.02'	5.5"
Secondary	92'	34'	12'	6'	N/A	-0.14'	6.5"

NOTES:

1. THE LEVEL LINE OFFSETS ARE BASED UPON A STRAIGHT GRADE CROSSFALL OF 2% EXCEPT AS OTHERWISE APPROVED BY THE CITY ENGINEER. "A" CALCULATION INCLUDES 3/8" ASPHALT LIP.
2. ACTUAL THICKNESS OF A.C. PAVEMENT AND/OR BASE COURSE MATERIAL FOR STRUCTURAL STREET SECTION SHALL BE RECOMMENDED BY A GEOTECHNICAL ENGINEERING REPORT AND SUBMITTED TO THE CITY OF FONTANA FOR APPROVAL UPON COMPLETION OF ROUGH GRADING UNLESS OTHERWISE DIRECTED BY THE CITY ENGINEER. SEE STANDARD DETAIL 402 FOR ADDITIONAL DESIGN PARAMETERS.
3. A.C. FINISH COURSES, MIN. 0.1', PG-70-10. BASE COURSES MIN. 0.15' PG-70-10.
4. CRUSHED MISCELLANEOUS BASE SHALL BE IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION (GREEN BOOK - LATEST EDITION) AND AS APPROVED BY THE CITY ENGINEER.
5. INTERSECTION CROSS-SECTIONS/GEOMETRY SHALL BE BASED UPON AN ALIGNMENT STUDY.
6. FOR INFILL AND COMMUNITY/SPECIFIC PLAN AREAS OTHER STREET CROSS-SECTIONS MAY APPLY AS APPROVED BY THE CITY ENGINEER.
7. ADDITIONAL IMPROVEMENTS BEYOND JOIN LINE MAY BE REQUIRED BY THE CITY ENGINEER WHEN MATCHING EXISTING IMPROVEMENTS.
8. EXACT LOCATION/WIDTH OF SIDEWALK MAY VARY AND SHALL BE DETERMINED AT PLAN REVIEW AS APPROVED BY THE CITY ENGINEER.

NOT TO SCALE



APPROVED BY:

CITY ENGINEER
RICARDO SANDOVAL

DATE

REVIEWED BY: *JLK*

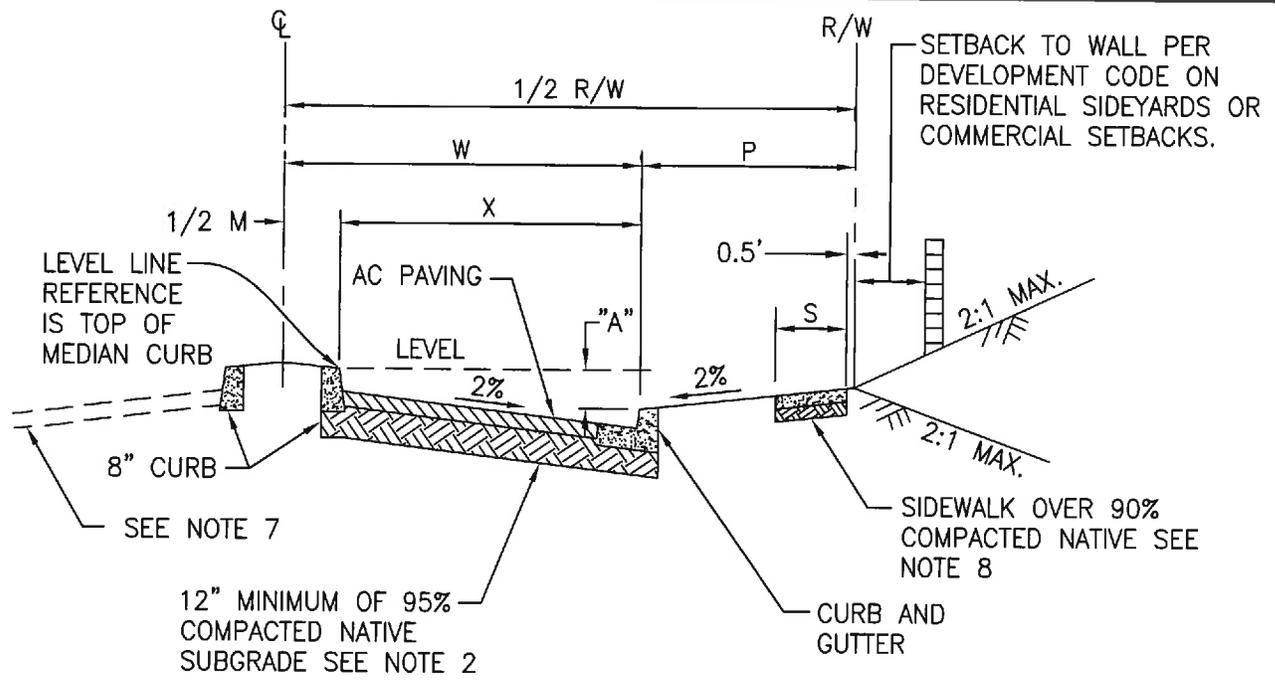
DATE OF LAST REVISION: 08/30/18

CITY OF FONTANA

TYPICAL UNDIVIDED
STREET SECTIONS

STD. PLAN NO. 400

SHT 1 OF 1



TYPICAL MID-BLOCK 1/2 WIDTH STREET SECTION

Roadway Designation	R/W	W	Parkway P	Sidewalk S	Median M	X	"A" 8" CURB	MIN. AC
Primary	104'	40'	12'	6'	14'	33'	-0.79'	6.5"
Major	132'	54'	12'	6'	20'	44'	-1.01'	6.5"

* SEE NOTE 9

NOTES:

1. THE LEVEL LINE OFFSETS ARE BASED UPON A STRAIGHT GRADE CROSSFALL OF 2% EXCEPT AS OTHERWISE APPROVED BY THE CITY ENGINEER. "A" CALCULATION INCLUDES 3/8" ASPHALT LIP.
2. ACTUAL THICKNESS OF A.C. PAVEMENT AND/OR BASE COURSE MATERIAL FOR STRUCTURAL STREET SECTION SHALL BE RECOMMENDED BY A GEOTECHNICAL ENGINEERING REPORT AND SUBMITTED TO THE CITY OF FONTANA FOR APPROVAL UPON COMPLETION OF ROUGH GRADING UNLESS OTHERWISE DIRECTED BY THE CITY ENGINEER. SEE STANDARD DETAIL 402 FOR ADDITIONAL DESIGN PARAMETERS.
3. FINISH COURSES, MIN. 0.1', PG-70-10. BASE COURSES MIN. 0.15' PG-70-10.
4. CRUSHED MISCELLANEOUS BASE SHALL BE IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION (GREEN BOOK - LATEST EDITION) AND AS APPROVED BY THE CITY ENGINEER.
5. INTERSECTION CROSS-SECTIONS/GEOMETRY SHALL BE BASED UPON AN ALIGNMENT STUDY.
6. FOR INFILL AND COMMUNITY/SPECIFIC PLAN AREAS OTHER STREET CROSS-SECTIONS MAY APPLY AS APPROVED BY THE CITY ENGINEER.
7. ADDITIONAL IMPROVEMENTS BEYOND JOIN LINE MAY BE REQUIRED BY THE CITY ENGINEER WHEN MATCHING EXISTING IMPROVEMENTS.
8. EXACT LOCATION/WIDTH OF SIDEWALK MAY VARY AND SHALL BE DETERMINED AT PLAN REVIEW AS APPROVED BY THE CITY ENGINEER.
9. FOR TRUCK ROUTES, MIN. A.C. SHALL BE 7.5" DEEP.

NOT TO SCALE



APPROVED BY: *[Signature]* 8-30-18
 CITY ENGINEER DATE
 RICARDO SANDOVAL
 REVIEWED BY: *[Signature]*
 DATE OF LAST REVISION: 08/30/18

CITY OF FONTANA	
TYPICAL DIVIDED STREET SECTIONS	
STD. PLAN NO. 401	SHT 1 OF 1

07/10/06

	STREET CLASSIFICATION					
	INDUSTRIAL COLLECTOR	LOCAL	COLLECTOR	SECONDARY HIGHWAY	PRIMARY HIGHWAY	MAJOR HIGHWAY
TRAFFIC INDEX (TI) (SEE NOTE 2) (BASED UPON MIN. 20 YEAR DESIGN LIFE)	7-9	5.5	6.5	9.0	10.0	11.0
RIGHT-OF-WAY (FT)	80	64	68	92	104	132
CURB TO CURB WIDTH (FT)	56	40	44	68	80	108
MEDIAN CURB TO PARKWAY CURB WIDTH (FT)	N/A	N/A	N/A	N/A	33	44
PREFERRED HORIZONTAL CENTERLINE RADIUS (FT)	825	375 *	825	1400	1750	2200
	* OR AS APPROVED BY THE CITY ENGINEER (R=200' MINIMUM)					
MINIMUM DESIGN SPEED (MPH)	40	30	40	50	55	60
RESIDENTIAL ACCESS PROHIBITED	REFER TO ACCESS MANAGEMENT REQUIREMENTS STD. PLAN NO. 701					
COMMERCIAL/INDUSTRIAL DRIVEWAY ACCESS						
INTERSECTION INTERVALS						

NOTES:

- STREET GRADES AND GEOMETRICAL DESIGN CRITERIA SHALL CONFORM TO STANDARD DESIGN PRACTICES. CRITERIA SHOWN ARE SUBJECT TO CHANGE AS REQUIRED BY THE CITY ENGINEER. MINIMUM GRADE-0.50% MAXIMUM GRADE-10% SEE STANDARD DETAILS 1000 & 1001 FOR ADDITIONAL DESIGN PARAMETERS.
- THE DESIGN ENGINEER SHALL OBTAIN APPROVAL FROM THE CITY ENGINEER FOR THE PROPOSED TRAFFIC INDEX, PRIOR TO DESIGN SUBMITTAL FOR STREET STRUCTURAL SECTION.
- ACTUAL THICKNESS OF A.C. PAVEMENT AND/OR BASE COURSE MATERIAL FOR STRUCTURAL STREET SECTION SHALL BE RECOMMENDED BY A GEOTECHNICAL ENGINEERING REPORT AND SUBMITTED TO THE CITY OF FONTANA FOR APPROVAL UPON COMPLETION OF ROUGH GRADING UNLESS OTHERWISE DIRECTED BY THE CITY ENGINEER. FOR THE PURPOSE OF CALCULATING A STRUCTURAL SECTION, THE MAXIMUM PERMISSIBLE R-VALUE SHALL BE 70. FOR AC OVER AG BASE STRUCTURAL SECTIONS, THE MINIMUM THICKNESS OF A.C. PAVEMENT IS 4 INCHES.



APPROVED BY:

CITY ENGINEER
RICARDO SANDOVAL

DATE

REVIEWED BY: *JL*

DATE OF LAST REVISION: 8/30/18

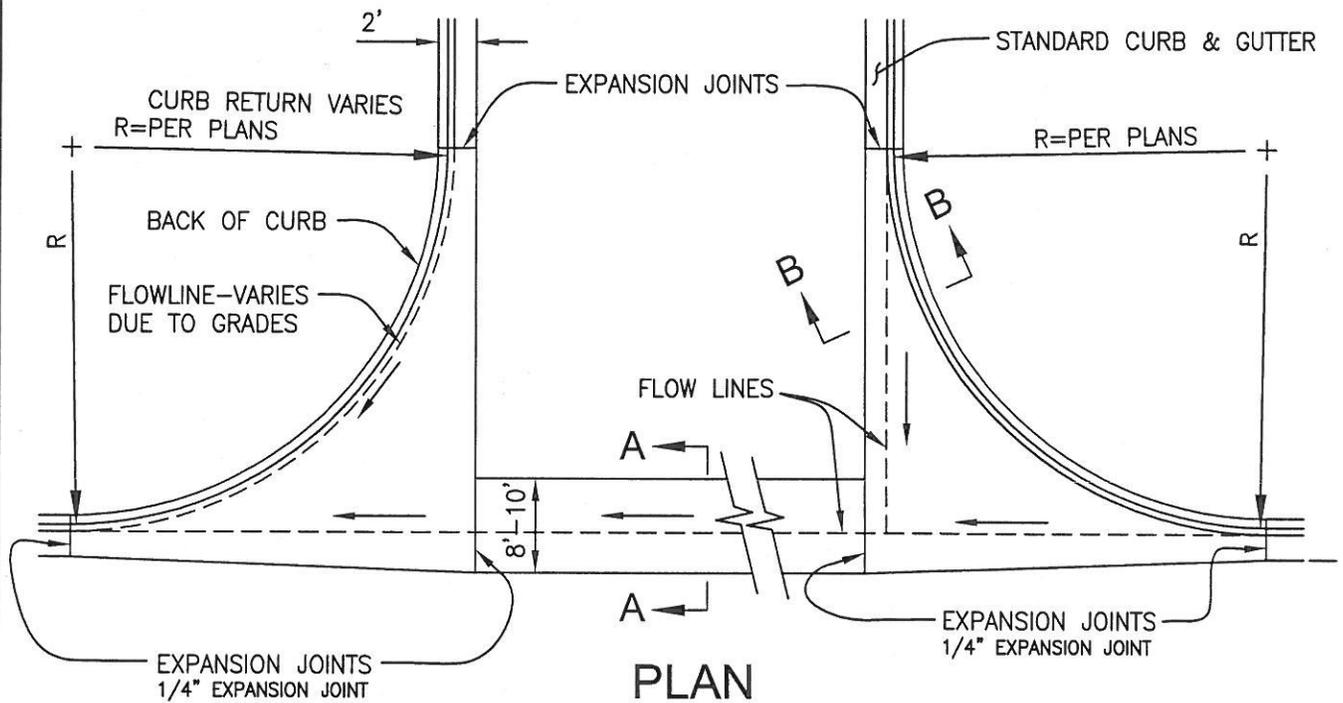
CITY OF FONTANA

**STREET DESIGN
REQUIREMENTS**

07/10/06

STD. PLAN NO. **402**

SHT **1** OF **1**



NOTES:

1. 8' CROSS GUTTER IS USED FOR LOCAL STREETS.
2. FOR NON SIGNALIZED INTERSECTIONS (DESIGN IS REQUIRED ON PLAN).
3. SEE SHEET 2 FOR SECTIONS



APPROVED BY: *Ricardo Sandoval* 10-18-06
 CITY ENGINEER DATE
RICARDO SANDOVAL
 REVIEWED BY: **DG**
 REVISION NUMBER: _____

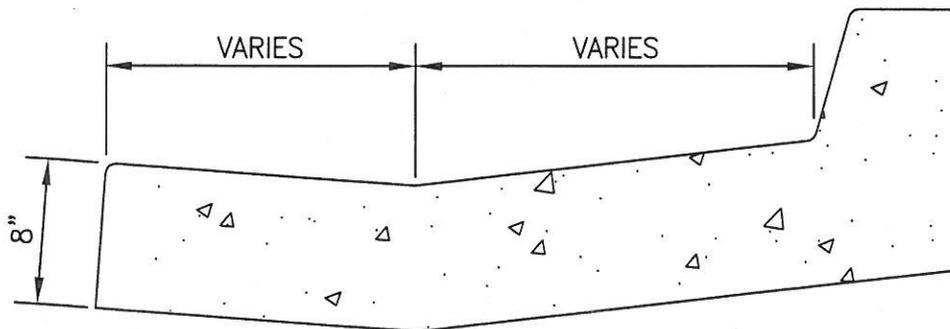
CITY OF FONTANA

**CROSS GUTTER
(STD.)**

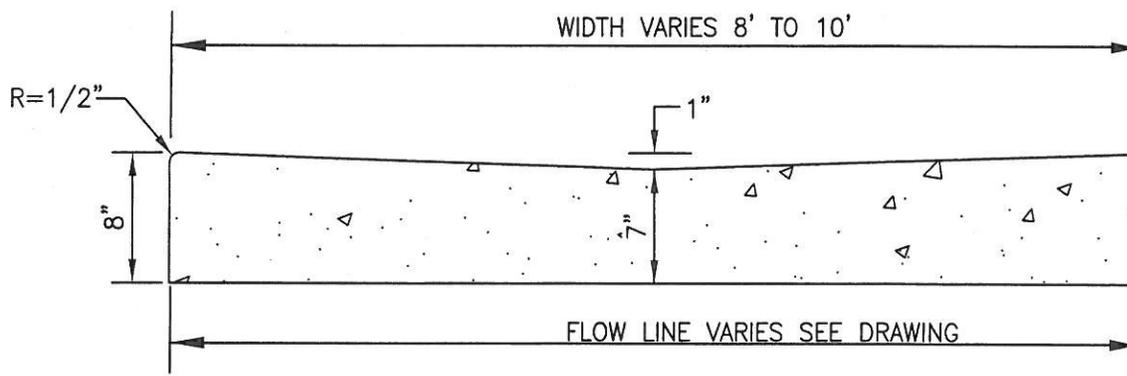
07/10/06

STD. PLAN NO. **403**

SHT **1** OF **2**



SECTION B-B



SECTION A-A

N.T.S.



APPROVED BY:

Ricardo Sandoval 10-18-06

CITY ENGINEER

DATE

RICARDO SANDOVAL

REVIEWED BY: *DG*

REVISION NUMBER: _____

CITY OF FONTANA

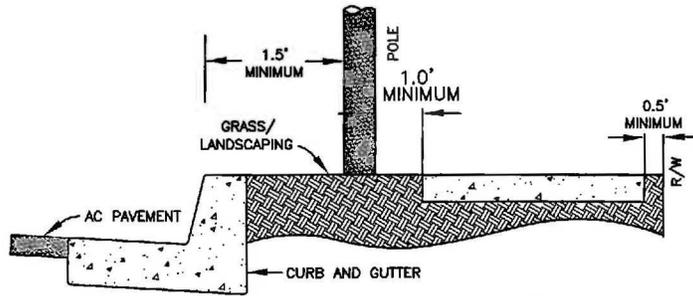
**CROSS GUTTER
(STD.)**

07/10/06

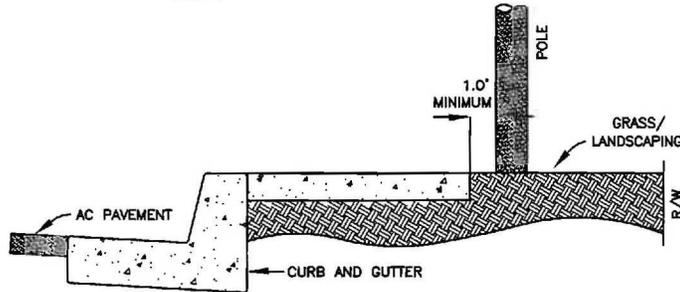
STD. PLAN NO. **403**

SHT **2** OF **2**

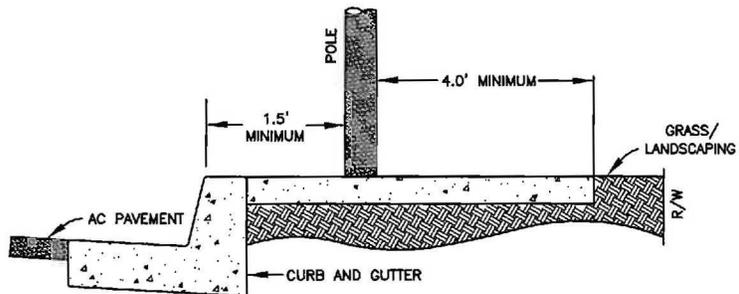
CASE 1
LANDSCAPING ADJACENT TO CURB



CASE 2
SIDEWALK ADJACENT TO CURB



CASE 3
SIDEWALK ADJACENT TO CURB



STREET LIGHT GENERAL NOTES

1. LIGHTING LAYOUT SHALL COMMENCE AT STREET INTERSECTIONS. STREET LIGHT SPACING BETWEEN INTERSECTIONS SHALL BE AS SPECIFIED IN THE TABLE ON SHEET 3 AND LOCATED AT THE PROLONGATION OF PROPERTY LINES. STREET LIGHT LAYOUTS SHALL BE REVIEWED FOR CONFLICTS WITH OTHER UTILITIES (CATCH BASINS, FIRE HYDRANTS, TRANSFORMERS, ETC.)
2. USE OF BRAND NAMES IN THESE STANDARDS IS NOT INTENDED TO RESTRICT COMPETITION. EQUIVALENT PRODUCTS MAY BE SUBSTITUTED WITH THE APPROVAL OF THE CITY ENGINEER.
3. SIDEWALK WIDTHS TO BE PER APPROVED STREET IMPROVEMENT PLANS. A MINIMUM OF 4' UNOBSTRUCTED SIDEWALK CLEARANCE IS REQUIRED.
4. ANY CHANGE IN LOCATION OF STREET LIGHTS FROM THE APPROVED PLANS OR STANDARDS IS SUBJECT TO WRITTEN APPROVAL BY THE CITY ENGINEER.
5. ALL STREET LIGHTS SHALL HAVE AN ANTI-GRAFFITI COATING



APPROVED BY:

Ricardo Sandoval 10.13.17
CITY ENGINEER DATE

RICARDO SANDOVAL

DRAWN BY: _____ DT

REVISION NUMBER: 3 7/10/2017

CITY OF FONTANA

STREET LIGHT
INSTALLATION
DETAIL, NOTES

STD. PLAN NO. 404 DWG. 1/4

STREET LIGHT POLE, STANDARD

AMERON POLE No. 1C1-28 (01N)	SCE MATERIAL No. 040-00121
ALUMINUM ARM ASSEMBLY P/N 1AP6A	
OCTAGONAL CAP	
ANCHOR BOLTS 1" X 30" X 4" A-307	
BASE DIAMETER: 12"	

STREET LIGHT POLE, CARPINTERIA

AMERON POLE No. 5B1-29 (06N) COLOR: BROWN NATURAL
ALUMINUM ARM P/N CZB-6' (PAINTED STANDARD BLACK RAL 9017)
OCTAGONAL CAP P/N 1AZRC8PLA (PAINTED STANDARD BLACK RAL 9017)
ARM/SCROLL ASSY. P/N 1AZB6PJA (PAINTED STANDARD BLACK RAL 9017)
ANCHOR BOLTS 1" X 30" X 4" A-307
BASE DIAMETER: 25"
SCE MATERIAL No. 040-01632

STREET LIGHT POLE, GOLETA

AMERON POLE No. 39CT29 COLOR BROWN NATURAL
AMERON ARM/SCROLL ASSY. P/N 1AZB6PJA (PAINTED STANDARD BLACK RAL 9017)
OCTAGONAL CAP P/N 1AZRC6PLA (PAINTED STANDARD BLACK RAL 9017)
AMERON BRACKET/ARM ASSY. P/N WBVTARSCEPLA (PAINTED STANDARD BLACK RAL 9017)
KING K118 ACORN DECORATIVE LUMINAIRE (SCE P/N 18184005)
AMERON WALL BRACKET ASSEMBLY (AMERON P/N WBVTA4SCEPLA) (SCE P/N 661-00389)
ANCHOR BOLTS 1" X 36" X 4" A-307
BASE DIAMETER: 28"
SCE MATERIAL No. 040-01848



APPROVED BY:

 CITY ENGINEER DATE
 RICARDO SANDOVAL 10.13.17
DRAWN BY: _____ DT
REVISION NUMBER: 3 7/10/2017

CITY OF FONTANA

**STREET LIGHT
PART NUMBERS**

STD. PLAN NO. 404 DWG. 2/4

LEGEND FOR STREET LIGHT PLANS

- 
(F)41W INDICATES FUTURE 41W LED STANDARD STREET LIGHT
- 
(F)90W INDICATES FUTURE 90W LED STANDARD STREET LIGHT
- 
(F)75W INDICATES FUTURE 75W LED DECORATIVE STREET LIGHT
- 
(F)165W INDICATES FUTURE 165W LED DECORATIVE STREET LIGHT
- 
(N)41W INDICATES PROPOSED 41W LED STANDARD STREET LIGHT
- 
(N)90W INDICATES PROPOSED 90W LED STANDARD STREET LIGHT
- 
(N)75W INDICATES PROPOSED 75W LED DECORATIVE STREET LIGHT
- 
(N)165W INDICATES PROPOSED 165W LED DECORATIVE STREET LIGHT



APPROVED BY: *[Signature]* 1-31-18

CITY ENGINEER DATE
 RICARDO SANDOVAL

DRAWN BY: _____ DT

REVISION NUMBER: 4 1/31/2018

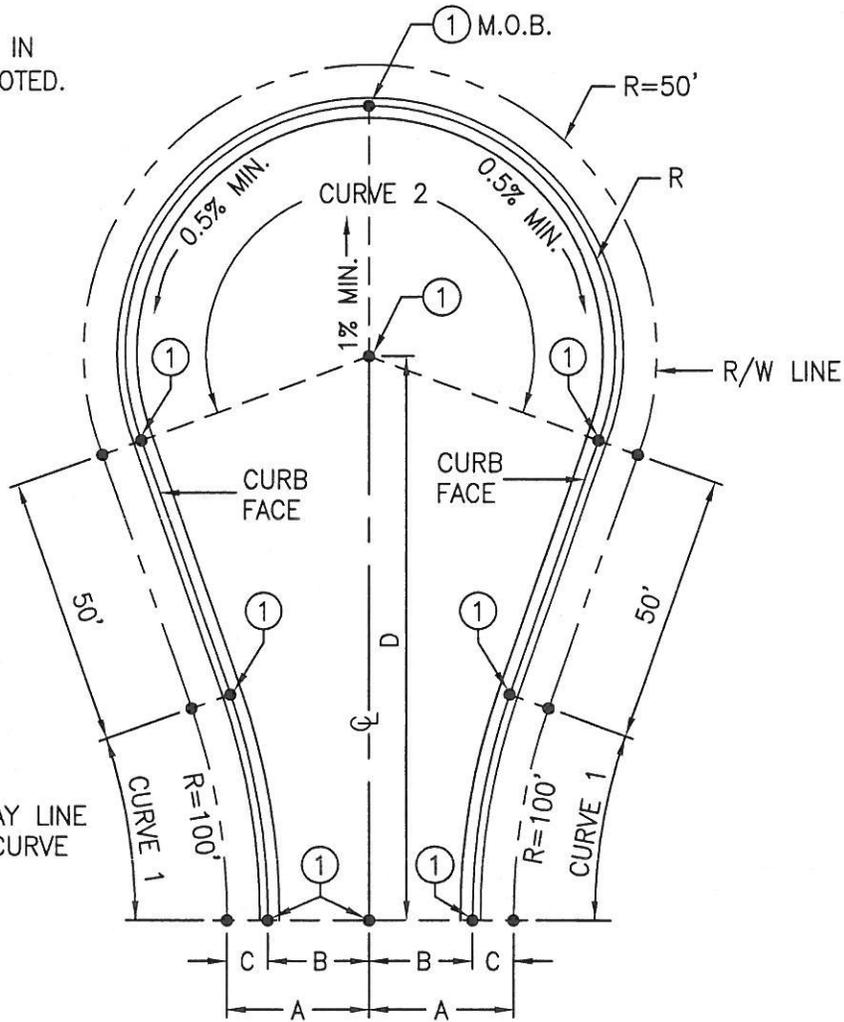
CITY OF FONTANA

STREET LIGHT
 LEGEND

STD. PLAN NO. 404 DWG. 4/4

NOTE:

- ① ELEVATION REQUIRED IN PLAN VIEW WHERE NOTED.



LEGEND:

R/W = RIGHT OF WAY LINE
R = RADIUS OF CURVE

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
50'	25'	18'	7'	96.82'	19°19'35"	107'	36.09'	100'	33.73'	218°39'09"	43'	164.09'	50'	190.81'
54'	27'	20'	7'	94.18'	18°07'35"	107'	33.85'	100'	31.64'	216°15'11"	43'	162.30'	50'	188.72'
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'
68'	34'	22'	12'	83.93'	13°37'31"	112'	26.63'	100'	23.78'	207°15'02"	38'	137.45'	50'	180.86'
INDUSTRIAL STREET														
60'	30'	24'	6'	90.00'	16°15'37"	106'	30.08'	100'	28.38'	212°31'13"	44'	163.20'	50'	185.46'
68'	34'	28'	6'	83.93'	13°37'31"	106'	25.21'	100'	23.78'	207°15'02"	44'	159.16'	50'	180.86'

NOT TO SCALE



APPROVED BY:

Ricardo Sandoval 10.18.06
CITY ENGINEER DATE
RICARDO SANDOVAL

REVIEWED BY: *DL*

DATE OF LAST REVISION: _____

CITY OF FONTANA

CUL-DE-SAC

07/10/06

STD. PLAN NO. **405**

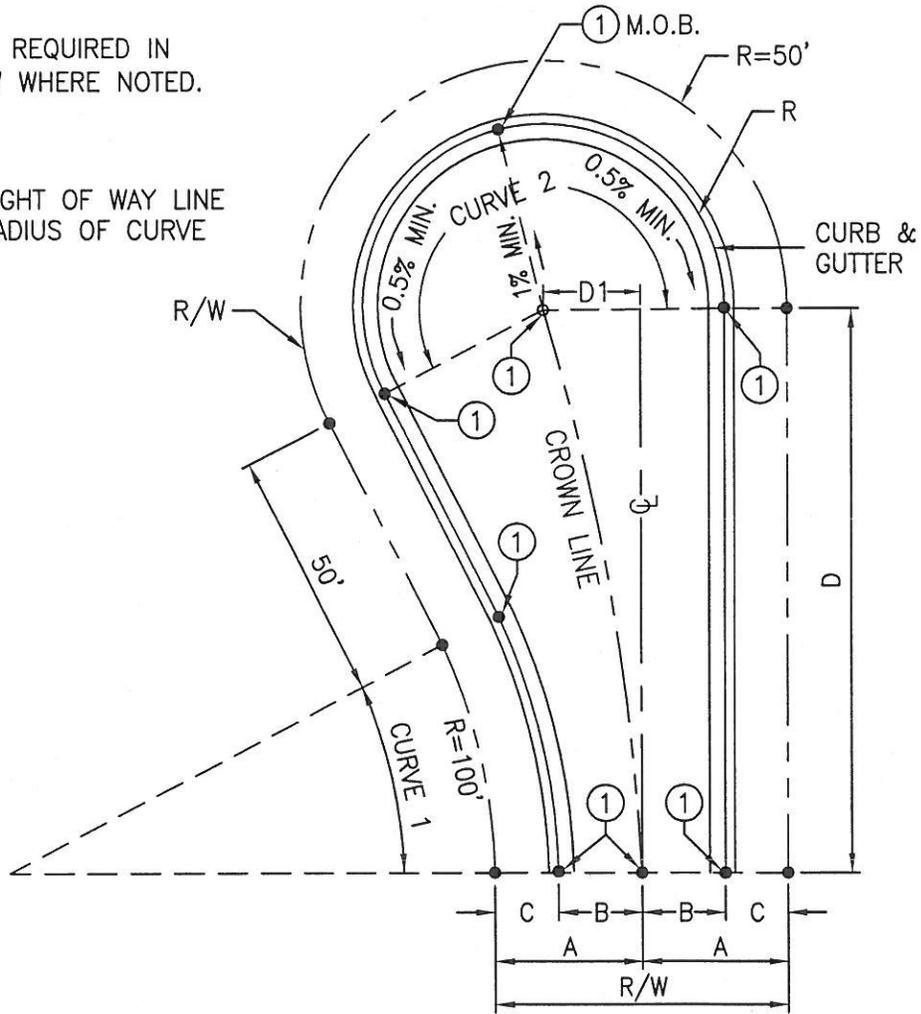
SHT **1** OF **1**

NOTE:

- ① ELEVATION REQUIRED IN PLAN VIEW WHERE NOTED.

LEGEND:

R/W = RIGHT OF WAY LINE
R = RADIUS OF CURVE



LOCAL COLLECTOR STREET						CURVE 1				CURVE 2					
R/W	A	B	C	D	D1	Δ	CURB		PROPERTY		Δ	CURB		PROPERTY	
							R	L	R	L		R	L	R	L
50'	25'	18'	7'	80.23'	25'	32°20'01"	107'	60.38'	100'	56.43'	212°20'01"	43'	159.35'	50'	185.30'
54'	27'	20'	7'	75.99'	23'	30°26'11"	107'	56.84'	100'	53.12'	210°26'11"	43'	157.93'	50'	183.64'
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'
68'	34'	22'	12'	59.32'	16'	23°17'40"	112'	45.54'	100'	40.66'	203°17'40"	38'	134.83'	50'	177.41'
INDUSTRIAL STREET															
60'	30'	24'	6'	69.22'	20'	27°28'55"	106'	50.84'	100'	47.97'	207°28'55"	44'	159.33'	50'	181.06'
68'	34'	28'	6'	59.32'	16'	23°17'40"	106'	43.10'	100'	40.66'	203°17'40"	44'	156.12'	50'	177.41'

NOT TO SCALE



APPROVED BY:

Ricardo Sandoval 10.18.06

CITY ENGINEER

DATE

RICARDO SANDOVAL

REVIEWED BY: DG

DATE OF LAST REVISION: _____

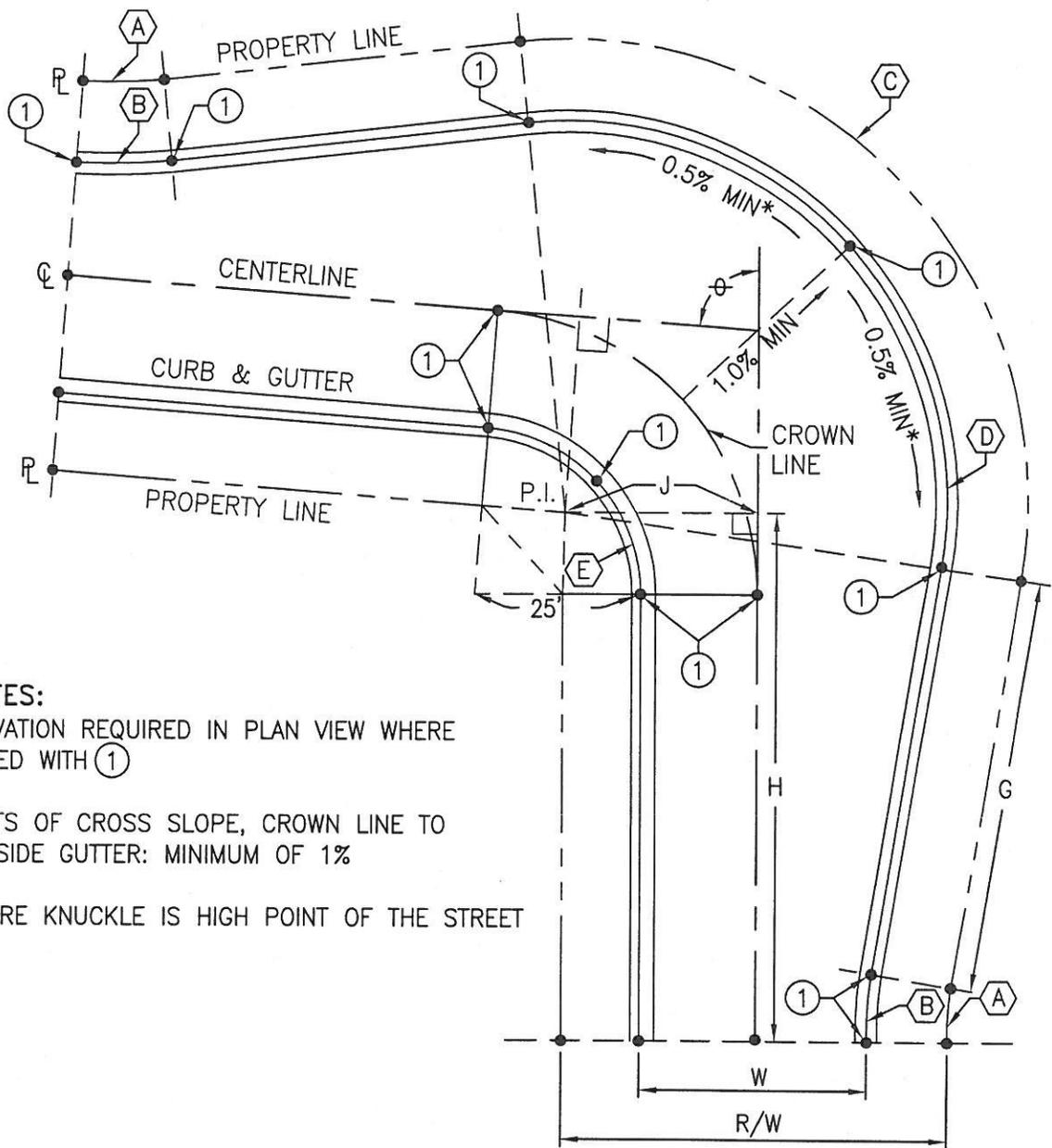
CITY OF FONTANA

OFFSET CUL-DE-SAC

07/10/06

STD. PLAN NO. **406**

SHT **1** OF **1**



NOTES:

1. ELEVATION REQUIRED IN PLAN VIEW WHERE NOTED WITH (1)
 2. LIMITS OF CROSS SLOPE, CROWN LINE TO OUTSIDE GUTTER: MINIMUM OF 1%
- * WHERE KNUCKLE IS HIGH POINT OF THE STREET

60' WIDE - LOCAL				
R/W=60'	W=36'			
G=42.71'	H=71.59'		J=30'	
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)	25'	θ	-	-

64' WIDE - LOCAL				
R/W=64'	W=40'			
G=42.36'	H=71.94'		J=32'	
CURVE	R	Δ	L	T
(A)	100'	10°	17.45'	8.75'
(B)	112'	10°	19.55'	9.80'
(C)	74'	θ + 20°	-	-
(D)	62'	θ + 20°	-	-
(E)	25'	θ	-	-

NOT TO SCALE



APPROVED BY: *[Signature]* 10.18.06
 CITY ENGINEER
RICARDO SANDOVAL
 DATE
 REVIEWED BY: DG
 DATE OF LAST REVISION: _____

CITY OF FONTANA

**STANDARD KNUCKLE
 (INTERSECTION AND
 "L" SHAPE DESIGN)**

07/10/06

STD. PLAN NO. **407**

SHT 1 OF 1