



CITY OF SAN MARCOS ENGINEERING DIVISION

AN APPLICANT'S GUIDE TO PROCEDURES FOR:

URBAN STREET DESIGN CRITERIA

1 Civic Center Dr., San Marcos, CA 92069-2918 (760) 744-1050 FAX (760) 591-4135

FOOTNOTES

1. Design speed for Prime Arterials may be reduced to 50 mph in urban areas at the discretion of the City Engineer.
2. Right-of-way and curb-to-curb distance may be increased to provide for special roadway geometrics at major intersections.
3. Special cross-sections exist for the following street locations:

PAVED WIDTH

Twin Oaks Valley Road - Barham Drive to Hwy 78	130 feet
Twin Oaks Valley Road - 660' n/o Borden Rd. to Deer Springs**	94 feet
Deer Springs Road - Twin Oaks Valley Road to I-15**	94 feet
Rancho Santa Fe Road - 1320' s/o San Elijo Rd to Melrose	130 feet

**30' wide median curb island

RIGHT-OF-WAY WIDTH

Twin Oaks Valley Road - Barham Drive to Hwy 78	150 feet
Twin Oaks Valley Road - 660' n/o Borden to Deer Springs	154 feet
Deer Springs Road - Twin Oaks Valley Road to I-15	154 feet
Rancho Santa Fe Road - 1320' s/o San Elijo Rd to Melrose	150 feet

4. Actual structural sections to be determined by geotechnical engineer's testing of the sub-grade and recommendations.
5. The AASHTO "comfort curve" for sag curve conditions, $L = AV^2/46.5$, is an acceptable alternative if adequate supplemental street illumination is provided.
6. Super elevation and upgraded roadway drainage may be used to reduce these minimums.
7. A 0.04 (4%) maximum is to be exceeded only with the permission of the City Engineer. An absolute maximum of 0.06 (6%) should never be exceeded in urban areas or on routes with significant truck traffic in the traffic stream. Super elevation is not recommended on industrial, residential, cul-de-sac or hillside streets.

8. Used when approaching major signalized intersections (existing or planned), or terminus of street. Distance is measured from the P.C.R. May be reduced only with permission of the City Engineer.
9. May be increased up to 2% for short distances in mountainous terrain only with permission of the City Engineer. The maximum grade through an intersection shall not exceed 6%.
10. At the intersection of two dissimilarly classified streets, the luminaries requirements for the higher classified street shall be used. At signalized intersections, lighting shall be designed to provide an illumination level of 0.6 foot-candle at the intersection of the street centerlines. All street lights shall be Low Pressure Sodium Vapor (LPSV).
11. At the intersection of two dissimilarly classified streets, the larger of the two radii shall be used. All radii are measured at curb face.
12. Maximum driveway width is thirty feet (30'). An alternate maximum driveway width of thirty-six (36') is acceptable if there is joint access between adjacent properties. New driveways in commercially and industrially zoned areas shall be the radius type per the City's Standard Drawing handout.
13. NONE if other available. 24' to 30' (36' for joint access) driveways only when absolutely necessary. Driveway geometrics may be required to restrict turns to right turn in or right turn out on an auxiliary lane. A 20' minimum throat distance (measured from the ultimate right-of-way line) is required as part of on-site parking lot design.
14. May be restricted. New driveways in commercially and industrially zoned areas shall be the radius type per the City's Standard Drawing handout.
15. Distance is measured from P.C.R. to near side of the driveway. Approval of driveways within this separation may be contingent upon driveway geometrics that allow only right turns in or right turns out on an auxiliary lane, and/or reciprocal access agreements with the adjacent property owner(s).
16. See also "Cul-de-sac/Single Access Policy Resolution (90-3568)" handout.

Date: _____

Charlie Schaffer
Development Services Director

Michael D. Edwards
City Engineer

CITY OF SAN MARCOS URBAN STREET DESIGN CRITERIA

1 Civic Center Dr., San Marcos, CA 92069-2918 (760) 744-1050 FAX (760) 591-4135

DESIGN CRITERIA	PRIME ARTERIAL	6-LANE MAJOR ARTERIAL	4-LANE MAJOR ARTERIAL	SECONDARY ARTERIAL	COLLECTOR STREET	INDUSTRIAL STREET(S)	RESIDENTIAL STREET	CUL-DE-SAC STREET	ALLEY STREET	HILLSIDE STREET
Estimated Ultimate Capacity ADT (LOS "E")	60,000	50,000	40,000	30,000	15,000	5,000 or 15,000	1,000	300 *(16)	----	----
LOS "C" Capacity (ADT)	42,000	35,000	28,000	21,000	10,000	N/A or 10,000	N/A	N/A	N/A	N/A
LOS "D" Capacity (ADT)	51,000	41,000	35,000	24,500	12,500	N/A or 12,500	N/A	N/A	N/A	N/A
Design Speed	60 mph *(1)	50 mph	50 mph	40 mph	30 mph	30 mph	25 mph	20 mph	----	25 mph
Curb-to-Curb Distance *(2,3)	106' 18'Median	94' 18' Median	82' 18'Median	64'	48'	48' or 64'	40'	40' Shaft 50' Bulb	20'	40' or 48'
Right-of-Way *(2,3)	126'	114'	102'	84'	68'	68' or 84'	60'	60' Shaft 60'R Bulb	24'	40' - 60'
Min. Traffic Index	9.0	9.0	8.5	8.0	6.0	8.0	5.0	5.0	4.0	5.0
Min. Structural Section *(4)	<u>5" AC</u> 8" AB	<u>5" AC</u> 8" AB	<u>5" AC</u> 6" AB	<u>4" AC</u> 6" AB	<u>3" AC</u> 6" AB	<u>4" AC</u> 6" AB	<u>3" AC</u> 6" AB	<u>3" AC</u> 6" AB	<u>3" AC</u> 4" AB	<u>3" AC</u> 6" AB
Min. Horizontal Radius *(6)	2200'	1400'	1400'	600'	300'	300'	200'	150'	----	200'
Curb Return Radius *(11)	35'	35'	35'	35'	35'	35'	25'	25'	10'	25'
Maximum Grade *(9)	7%	7%	7%	10%	12%	7%	12% (14%RPCC)	12% (14%RPCC)	----	15%
Minimum Grade	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%

*See attached Footnotes

N/A = Not Applicable

NR = Not Recommended

AB = Class II Aggregate Base

S:\Communications\Web Content\DVLP\Land Development - For Sarah\Application Documents & Design Standards\Improvements\URBAN STREET DESIGN CRITERIA.docx

CITY OF SAN MARCOS URBAN STREET DESIGN CRITERIA

1 Civic Center Dr., San Marcos, CA 92069-2918 (760) 744-1050 FAX (760) 591-4135

DESIGN CRITERIA	PRIME ARTERIAL	6-LANE MAJOR ARTERIAL	4-LANE MAJOR ARTERIAL	SECONDARY ARTERIAL	COLLECTOR STREET	INDUSTRIAL STREET(S)	RESIDENTIAL STREET	CUL-DE-SAC STREET	ALLEY STREET	HILLSIDE STREET
Minimum "Recovery" Tangent	200'	150'	150'	100'	100'	50' or 100'	50'	50'	----	----
Max. Intersection Skew	10°	10°	10°	10°	10°	10°	10°	10°	0°	10°
Vertical Curve "K" Sag "K" Crest *(5)	120-160 190-310	90-110 110-160	90-110 110-160	60-70 60-80	40 30	40 30	30 20	20 10	----	30 20
Max. Super elevation *(7)	4%	4%	4%	4%	2%	-2%(NR)	-2%(NR)	-2%(NR)	----	-2%(NR)
Minimum Intersection Tangent *(8)	100'	100'	100'	50'	50'	50'	25'	25'	----	25'
Min. Intersection Spacing Offset "T's"	2600' 1300'	1200' 600'	1200' 600'	600' 300'	600' 300'	300'or 600' 200'or 300'	200' 200'	----	----	150'
Lighting *(10) Intersection. Non-Intersection	180W 180W	180W 135W	180W 135W	135W 90W	90W 55W	135W 90W	90W 55W	55W 55W	---- ----	55W 55W
Stopping Sight Distance	525' to 650'	400' to 475'	400' to 475'	275' to 325'	200'	200'	150'	125'	325'	125'
Driveway Access *(12)	None *(13)	None *(13)	None *(13)	None *(13)	OK *(14)	OK *(14)	OK	OK	OK	OK
Driveway/Intersection Spacing *(15)	300'	300'	200'	200'	100'	100'	50'	----	----	----
Driveway to Driveway Separation	250'	250'	250'	175'	50'	75'	**	**	**	**
On-Street Parking	None	None	None	None	OK *(14)	OK *(14)	OK	None	None	One side Only

*See attached Footnotes

N/A = Not Applicable

NR = Not Recommended

AB = Class II Aggregate Base

S:\Communications\Web Content\DVLP\Land Development - For Sarah\Application Documents & Design Standards\Improvements\URBAN STREET DESIGN CRITERIA.docx