

STANDARD RATES OF SUPERELEVATION AND MINIMUM LENGTH OF RUNOFF FOR URBAN HIGHWAYS

E MAX=0.04 DESIRABLE

D	R (FT.)	V=20 (MPH)				V=30 (MPH)				V=40 (MPH)				V=50 (MPH)				V=60 (MPH)									
		$\frac{e}{F}$	L(FT.)			$\frac{e}{F}$	L(FT.)			$\frac{e}{F}$	L(FT.)			$\frac{e}{F}$	L(FT.)			$\frac{e}{F}$	L(FT.)								
			2-LN	4-LN	6-LN		2-LN	4-LN	6-LN		2-LN	4-LN	6-LN		2-LN	4-LN	6-LN		2-LN	4-LN	6-LN						
0°-15'	22,918	NC	0	0	0	NC	0	0	0	NC	0	0	0	NC	0	0	0	NC	0	0	0	NC	0	0	0		
0°-30'	11,459	NC	0	0	0	NC	0	0	0	NC	0	0	0	NC	0	0	0	RC	175	175	215						
0°-45'	7,639	NC	0	0	0	NC	0	0	0	NC	0	0	0	RC	150	150	195	RC	175	175	215						
1°-00'	5,730	NC	0	0	0	NC	0	0	0	RC	125	130	170	RC	150	150	195	.025	175	180	240						
1°-30'	3,820	NC	0	0	0	RC	100	110	145	RC	125	130	170	.024	150	160	215	.029	175	200	265						
2°-00'	2,865	NC	0	0	0	RC	100	110	145	.022	125	135	180	.027	150	170	230	.033	175	215	285						
2°-30'	2,292	NC	0	0	0	RC	100	110	145	.025	125	145	190	.030	150	180	240	.036	175	225	300						
3°-00'	1,910	NC	0	0	0	.020	100	110	145	.027	125	150	200	.033	150	195	255	.039	175	240	315						
3°-30'	1,637	NC	0	0	0	.022	100	115	155	.028	125	155	205	.035	150	200	265	.040	175	240	320						
4°-00'	1,432	NC	0	0	0	.024	100	120	160	.030	125	160	210	.037	150	210	275	D (MAX) = 3°-45'									
5°-00'	1,146	RC	65	100	130	.026	100	125	170	.033	125	170	225	.039	150	215	285										
6°-00'	955	.020	65	100	130	.028	100	130	175	.035	125	175	235	.040	150	220	290										
7°-00'	819	.022	70	105	135	.030	100	135	180	.037	125	180	240	D (MAX) = 6°-00'													
8°-00'	716	.023	70	105	140	.031	100	140	185	.039	125	190	250														
9°-00'	637	.024	75	110	145	.033	100	145	195	.040	130	190	255														
10°-00'	573	.025	75	110	145	.034	100	150	195	.040	130	190	255														
11°-00'	521	.026	75	115	150	.035	100	150	200	D (MAX) = 10°-00'																	
12°-00'	477	.027	80	115	155	.036	105	155	205																		
13°-00'	441	.028	80	120	155	.037	105	155	210																		
14°-00'	409	.028	80	120	155	.038	105	160	210																		
16°-00'	358	.030	80	120	160	.039	110	160	215																		
18°-00'	318	.031	85	125	165	.040	110	165	220																		
19°-00'	302	.032	85	125	170	.040	110	165	220																		
20°-00'	286	.032	85	125	170	D (MAX) = 19°-00'																					
24°-00'	239	.035	90	135	180																						
28°-00'	205	.036	90	135	180																						
32°-00'	179	.038	95	140	190																						
36°-00'	159	.039	95	145	190																						
40°-00'	143	.040	100	145	195																						
44°-00'	130	.040	100	145	195																						
		D (MAX) = 45°-00'																									

LEGEND

	D DEGREE OF CURVE
	R RADIUS OF CURVE
	V ASSUMED DESIGN SPEED
	e RATE OF SUPERELEVATION
	L MINIMUM LENGTH OF RUNOFF
NC	NORMAL CROWN
RC	REMOVE ADVERSE CROWN, SUPERELEVATE AT NORMAL CROWN SLOPE

LEGEND	
	D DEGREE OF CURVE
	R RADIUS OF CURVE
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	e RATE OF SUPERELEVATION
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NC	NORMAL CROWN
RC	REMOVE ADVERSE CROWN, SUPERELEVATE AT NORMAL CROWN SLOPE

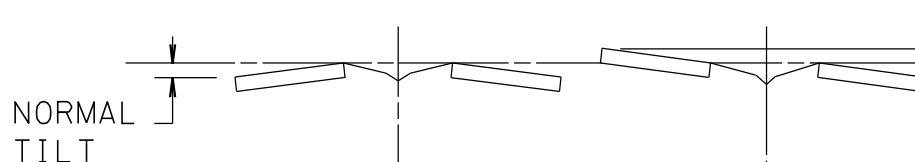
E MAX=0.06 ALLOWABLE

D	R (FT.)	V=20 (MPH)						V=30 (MPH)						V=40 (MPH)						V=50 (MPH)						V=60 (MPH)						V=70 (MPH)					
		$\frac{e}{F/F}$	L(FT.)			$\frac{e}{F/F}$	L(FT.)			$\frac{e}{F/F}$	L(FT.)			$\frac{e}{F/F}$	L(FT.)			$\frac{e}{F/F}$	L(FT.)			$\frac{e}{F/F}$	L(FT.)			$\frac{e}{F/F}$	L(FT.)										
			2-LN	4-LN	6-LN		2-LN	4-LN	6-LN		2-LN	4-LN	6-LN		2-LN	4-LN	6-LN		2-LN	4-LN	6-LN		2-LN	4-LN	6-LN		2-LN	4-LN	6-LN	2-LN	4-LN	6-LN					
0°-15'	22,918	NC	0	0	0	NC	0	0	0	NC	0	0	0	NC	0	0	0	NC	0	0	0	NC	0	0	0	NC	0	0	0	NC	0	0	0				
0°-30'	11,459	NC	0	0	0	NC	0	0	0	NC	0	0	0	NC	0	0	0	NC	0	0	0	RC	175	175	215	RC	200	200	240								
0°-45'	7,639	NC	0	0	0	NC	0	0	0	NC	0	0	0	NC	0	0	0	NC	0	0	0	.021	175	175	220	.026	200	210	280								
1°-00'	5,730	NC	0	0	0	NC	0	0	0	RC	125	130	170	.020	150	150	195	.027	175	190	255	.033	200	240	320												
1°-30'	3,820	NC	0	0	0	RC	100	110	145	.020	125	130	170	.028	150	175	235	.037	175	230	305	.046	200	300	400												
2°-00'	2,865	NC	0	0	0	RC	100	110	145	.025	125	145	190	.035	150	200	265	.045	175	260	350	.055	225	340	450												
2°-30'	2,292	NC	0	0	0	.020	100	110	145	.030	125	160	210	.040	150	220	290	.051	190	285	380	.059	240	360	475												
3°-00'	1,910	RC	65	100	130	.023	100	120	155	.034	125	175	230	.045	160	235	315	.055	200	300	400	D(MAX)=2°-45'															
3°-30'	1,637	RC	65	100	130	.026	100	125	170	.038	125	185	245	.048	165	245	330	.058	210	315	420																
4°-00'	1,432	RC	65	100	130	.029	100	135	180	.041	130	195	260	.052	175	260	350	.060	215	320	430	D(MAX)=4°-15'															
5°-00'	1,146	.020	65	100	130	.034	100	150	195	.046	140	210	280	.056	185	275	365																				
6°-00'	955	.023	70	105	140	.038	105	160	210	.050	150	225	295	.059	190	285	380																				
7°-00'	819	.026	75	110	145	.041	110	165	220	.053	155	230	310	D(MAX)=6°-45'																							
8°-00'	716	.029	80	120	160	.043	115	175	230	.056	160	240	320																								
9°-00'	637	.031	85	125	165	.046	120	180	240	.058	165	250	330																								
10°-00'	573	.033	85	130	170	.048	125	185	245	.059	170	250	335																								
11°-00'	521	.035	90	135	180	.050	130	190	255	.060	170	255	340																								
12°-00'	477	.037	95	140	185	.052	130	195	260	D(MAX)=11°-15'																											
13°-00'	441	.038	95	140	190	.054	135	200	270																												
14°-00'	409	.039	95	145	190	.055	135	205	270																												
16°-00'	358	.041	100	150	200	.058	145	215	285																												
18°-00'	318	.044	105	155	205	.059	145	215	285																												
20°-00'	286	.046	110	160	215	.060	145	220	290																												
21°-00'	273	.047	110	165	215	.060	145	220	290																												
24°-00'	239	.049	115	170	225	D(MAX)=21°-00'																															
28°-00'	205	.052	120	175	235																																
32°-00'	179	.055	120	180	240																																
36°-00'	159	.057	125	185	250																																
40°-00'	143	.059	130	190	255																																
44°-00'	130	.060	130	195	260																																
48°-00'	119	.060	130	195	260																																

1/2 FULL S.E.

D(MAX)=49°-15'

NORMAL TILT



SECTIONS

