

SUPERELEVATION NOTES

- THIS STANDARD PLAN SHOWS THE REQUIRED RATES OF SUPERELEVATION FOR THE VARIOUS RADIUS LENGTHS AT DIFFERENT DESIGN SPEEDS FOR THE MAXIMUM SUPERELEVATION RATE OF 8%. ALTERNATIVE MAXIMUM RATE OF SUPERELEVATION SHALL BE USED FOR CROWNED HIGHWAYS WHEN SPECIFIED ON THE PLANS.
- VALUES ARE FOR DESIGN ELEMENTS RELATED TO DESIGN SPEED AND HORIZONTAL CURVATURE FOR 2-LANE AND 4-LANE HIGHWAYS.
- NUMBER OF LANES ROTATED:
 - ONE LANE ROTATED IS TYPICAL FOR A TWO-LANE HIGHWAY.
 - TWO LANES ROTATED ARE TYPICAL FOR A FOUR-LANE HIGHWAY.
- SPIRALS ARE RECOMMENDED BELOW THE HEAVY LINE IN THE TABLES. SPIRALS ARE PERMISSIBLE BUT NOT RECOMMENDED ABOVE THE HEAVY LINE. SPIRAL LENGTHS MAY BE ROUNDED TO MULTIPLES OF 50 FEET FOR CALCULATION CONVENIENCE.

$e_{max} = 8\%$ TABLE CONTINUES ON SHEET 2.

e (%)	V _d =15 mph				V _d =20 mph				V _d =25 mph				V _d =30 mph				V _d =35 mph				V _d =40 mph				V _d =45 mph				V _d =50 mph				e (%)
	R (FT.)	L (FT.)			R (FT.)	L (FT.)			R (FT.)	L (FT.)			R (FT.)	L (FT.)			R (FT.)	L (FT.)			R (FT.)	L (FT.)			R (FT.)	L (FT.)			R (FT.)	L (FT.)			
		1 LN	2 LNS			1 LN	2 LNS			1 LN	2 LNS			1 LN	2 LNS			1 LN	2 LNS			1 LN	2 LNS			1 LN	2 LNS			1 LN	2 LNS		
2.0	676-<932	31	46		1190-<1640	32	49		1720-<2370	34	51		2370-<3240	36	55		3120-<4260	39	58		3970-<5410	41	62		4930-<6710	44	67		5990-<8150	48	72	2.0	
2.2	605-<676	34	51		1070-<1190	36	54		1550-<1720	38	57		2130-<2370	40	60		2800-<3120	43	64		3570-<3970	46	68		4440-<4930	49	73		5400-<5990	53	79	2.2	
2.4	546-<605	37	55		959-<1070	39	58		1400-<1550	41	62		1930-<2130	44	65		2540-<2800	46	70		3240-<3570	50	74		4030-<4440	53	80		4910-<5400	58	86	2.4	
2.6	496-<546	40	60		872-<959	42	63		1280-<1400	45	67		1760-<1930	47	71		2320-<2540	50	75		2960-<3240	54	81		3690-<4030	58	87		4490-<4910	62	94	2.6	
2.8	453-<496	43	65		796-<872	45	68		1170-<1280	48	72		1610-<1760	51	76		2130-<2320	54	81		2720-<2960	58	87		3390-<3690	62	93		4130-<4490	67	101	2.8	
3.0	415-<453	46	69		730-<796	49	73		1070-<1170	51	77		1480-<1610	55	82		1960-<2130	58	87		2510-<2720	62	93		3130-<3390	67	100		3820-<4130	72	108	3.0	
3.2	382-<415	49	74		672-<730	52	78		985-<1070	55	82		1370-<1480	58	87		1820-<1960	62	93		2330-<2510	66	99		2900-<3130	71	107		3550-<3820	77	115	3.2	
3.4	352-<382	52	78		620-<672	55	83		911-<985	58	87		1270-<1370	62	93		1690-<1820	66	99		2170-<2330	70	106		2700-<2900	76	113		3300-<3550	82	122	3.4	
3.6	324-<352	55	83		572-<620	58	88		845-<911	62	93		1180-<1270	65	98		1570-<1690	70	105		2020-<2170	74	112		2520-<2700	80	120		3090-<3300	86	130	3.6	
3.8	300-<324	58	88		530-<572	62	92		784-<845	65	98		1100-<1180	69	104		1470-<1570	74	110		1890-<2020	79	118		2360-<2520	84	127		2890-<3090	91	137	3.8	
4.0	277-<300	62	92		490-<530	65	97		729-<784	69	103		1030-<1100	73	109		1370-<1470	77	116		1770-<1890	83	124		2220-<2360	89	133		2720-<2890	96	144	4.0	
4.2	255-<277	65	97		453-<490	68	102		678-<729	72	108		955-<1030	76	115		1280-<1370	81	122		1660-<1770	87	130		2080-<2220	93	140		2560-<2720	101	151	4.2	
4.4	235-<255	68	102		418-<453	71	107		630-<678	75	113		893-<955	80	120		1200-<1280	85	128		1560-<1660	91	137		1960-<2080	98	147		2410-<2560	106	158	4.4	
4.6	215-<235	71	106		384-<418	75	112		585-<630	79	118		834-<893	84	125		1130-<1200	89	134		1470-<1560	95	143		1850-<1960	102	153		2280-<2410	110	166	4.6	
4.8	193-<215	74	111		349-<384	78	117		542-<585	82	123		779-<834	87	131		1060-<1130	93	139		1390-<1470	99	149		1750-<1850	107	160		2160-<2280	115	173	4.8	
5.0	172-<193	77	115		314-<349	81	122		499-<542	86	129		727-<779	91	136		991-<1060	97	145		1310-<1390	103	155		1650-<1750	111	167		2040-<2160	120	180	5.0	
5.2	154-<172	80	120		284-<314	84	126		457-<499	89	134		676-<727	95	142		929-<991	101	151		1230-<1310	108	161		1560-<1650	116	173		1930-<2040	125	187	5.2	
5.4	139-<154	83	125		258-<284	88	131		420-<457	93	139		627-<676	98	147		870-<929	105	157		1160-<1230	112	168		1480-<1560	120	180		1830-<1930	130	194	5.4	
5.6	126-<139	86	129		236-<258	91	136		387-<420	96	144		582-<627	102	153		813-<870	108	163		1090-<1160	116	174		1390-<1480	124	187		1740-<1830	134	202	5.6	
5.8	115-<126	89	134		216-<236	94	141		358-<387	99	149		542-<582	105	158		761-<813	112	168		1030-<1090	120	180		1320-<1390	129	193		1650-<1740	139	209	5.8	
6.0	105-<115	92	138		199-<216	97	146		332-<358	103	154		506-<542	109	164		713-<761	116	174		965-<1030	124	186		1250-<1320	133	200		1560-<1650	144	216	6.0	
6.2	97-<105	95	143		184-<199	101	151		308-<332	106	159		472-<506	113	169		669-<713	120	180		909-<965	128	192		1180-<1250	138	207		1480-<1560	149	223	6.2	
6.4	89-<97	98	148		170-<184	104	156		287-<308	110	165		442-<472	116	175		628-<669	124	186		857-<909	132	199		1110-<1180	142	213		1400-<1480	154	230	6.4	
6.6	82-<89	102	152		157-<170	107	161		267-<287	113	170		413-<442	120	180		590-<628	128	192		808-<857	137	205		1050-<1110	147	220		1330-<1400	158	238	6.6	
6.8	76-<82	105	157		146-<157	110	165		248-<267	117	175		386-<413	124	185		553-<590	132	197		761-<808	141	211		990-<1050	151	227		1260-<1330	163	245	6.8	
7.0	70-<76	108	162		135-<146	114	170		231-<248	120	180		360-<386	127	191		518-<553	135	203		716-<761	145	217		933-<990	156	233		1190-<1260	168	252	7.0	
7.2	64-<70	111	166		125-<135	117	175		214-<231	123	185		336-<360	131	196		485-<518	139	209		672-<716	149	223		878-<933	160	240		1120-<1190	173	259	7.2	
7.4	59-<64	114	171		115-<125	120	180		198-<214	127	190		312-<336	135	202		451-<485	143	215		628-<672	153	230		822-<878	164	247		1060-<1120	178	266	7.4	
7.6	54-<59	117	175		105-<115	123	185		182-<198	130	195		287-<312	138	207		417-<451	147	221		583-<628	157	236		765-<822	169	253		980-<1060	182	274	7.6	
7.8	48-<54	120	180		94-<105	126	190		164-<182	134	201		261-<287	142	213		380-<417	151	226		533-<583	161	242		701-<765	173	260		901-<980	187	281	7.8	
8.0	38-<48	123	185		76-<94	130	195		134-<164	137	206		214-<261	145	218		314-<380	155	232		444-<533	166	248		587-<701	178	267		758-<901	192	288	8.0	

e = SUPERELEVATION RATE
 R - RADIUS OF CURVE
 V_d - ASSUMED DESIGN SPEED
 L - LENGTH OF SUPERELEVATION RUNOFF OR SPIRAL LENGTH

Computer File Information		Sheet Revisions		Colorado Department of Transportation 4201 East Arkansas Avenue Denver, Colorado 80222 Phone: (303) 757-9083 Fax: (303) 757-9820		SUPERELEVATION CROWNED AND DIVIDED HIGHWAYS		STANDARD PLAN NO.	
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