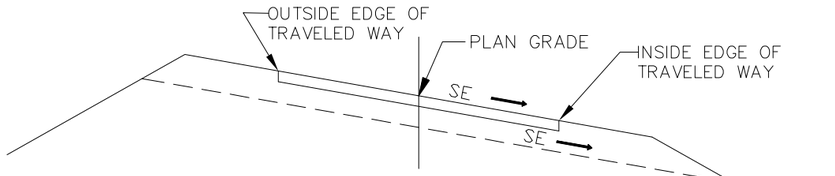
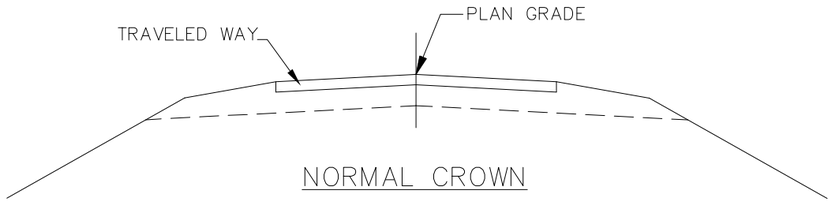
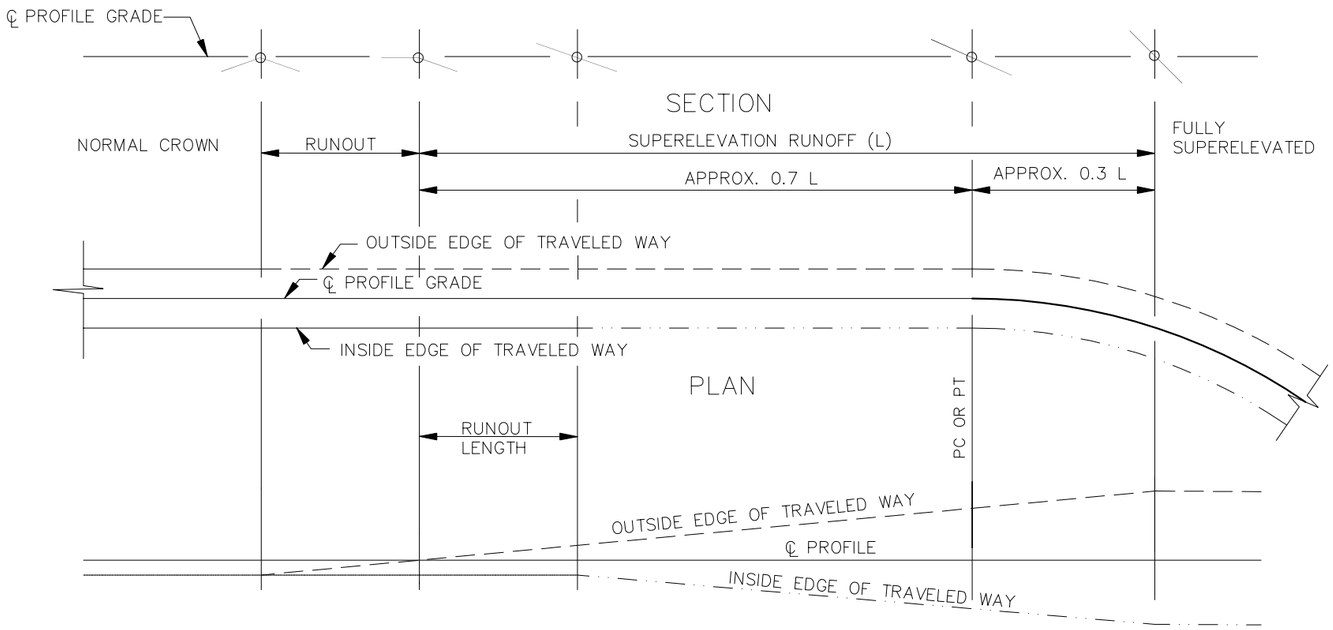


SUPERELEVATED CROWN



NORMAL CROWN



DIAGRAMMATIC PLAN AND PROFILE

SUPERELEVATION RATES AND SUPERELEVATION TRANSITION LENGTHS FOR HORIZONTAL CURVES

	30 MPH		35 MPH		40 MPH		45 MPH		50 MPH		55 MPH		60 MPH	
e	Dmax	L	Dmax	L	Dmax	L	Dmax	L	Dmax	L	Dmax	L	Dmax	L
%		FT		FT		FT		FT		FT		FT		FT
NC	1°43'		1°18'		1°02'		0°50'		0°41'		0°35'		0°29'	
2.0	2°20'	36	1°47'	39	1°24'	41	1°08'	44	0°56'	48	0°47'	51	0°40'	53
2.2	2°35'	40	1°58'	43	1°33'	45	1°15'	49	1°02'	53	0°52'	56	0°44'	59
2.4	2°50'	44	2°09'	46	1°42'	50	1°22'	53	1°08'	58	0°57'	61	0°48'	64
2.6	3°05'	47	2°21'	50	1°51'	54	1°30'	58	1°14'	62	1°02'	66	0°52'	69
2.8	3°21'	51	2°33'	54	2°00'	58	1°37'	62	1°20'	67	1°07'	72	0°57'	75
3.0	3°37'	55	2°45'	58	2°10'	62	1°45'	67	1°26'	72	1°12'	77	1°01'	80
3.2	3°53'	58	2°57'	62	2°19'	66	1°52'	71	1°32'	77	1°17'	82	1°05'	85
3.4	4°10'	62	3°10'	66	2°29'	70	2°00'	75	1°39'	82	1°22'	87	1°10'	91
3.6	4°26'	66	3°22'	70	2°39'	74	2°08'	80	1°45'	86	1°28'	92	1°14'	96
3.8	4°44'	69	3°36'	73	2°49'	78	2°16'	84	1°52'	91	1°33'	97	1°19'	101
4.0	5°01'	73	3°49'	77	2°59'	83	2°24'	89	1°59'	96	1°39'	102	1°23'	107
4.2	5°19'	77	4°02'	81	3°10'	87	2°33'	93	2°05'	101	1°44'	107	1°28'	112
4.4	5°37'	80	4°16'	85	3°20'	91	2°41'	98	2°12'	106	1°50'	112	1°33'	117
4.6	5°56'	84	4°29'	89	3°31'	95	2°50'	102	2°19'	110	1°56'	118	1°37'	123
4.8	6°14'	88	4°44'	93	3°38'	99	2°58'	107	2°26'	115	2°01'	123	1°42'	128
5.0	6°34'	91	4°58'	97	3°53'	103	3°07'	111	2°33'	120	2°07'	128	1°47'	133
5.2	6°54'	95	5°13'	100	4°05'	107	3°16'	115	2°41'	125	2°13'	133	1°52'	139
5.4	7°15'	98	5°28'	104	4°16'	111	3°25'	120	2°48'	130	2°19'	138	1°57'	144
5.6	7°36'	102	5°44'	108	4°28'	116	3°35'	124	2°56'	134	2°25'	143	2°02'	149
5.8	7°57'	106	5°60'	112	4°40'	120	3°44'	129	3°03'	139	2°32'	148	2°07'	155
6.0	8°20'	109	6°16'	116	4°53'	124	3°54'	133	3°11'	144	2°38'	153	2°12'	160
6.2	8°43'	113	6°33'	120	5°06'	128	4°04'	138	3°19'	149	2°44'	158	2°18'	165
6.4	9°07'	117	6°51'	124	5°19'	132	4°14'	142	3°27'	154	2°51'	164	2°23'	170
6.6	9°32'	120	7°09'	128	5°32'	136	4°25'	147	3°36'	158	2°58'	169	2°28'	176
6.8	9°59'	124	7°27'	131	5°47'	140	4°36'	151	3°45'	163	3°05'	174	2°34'	181
7.0	10°26'	128	7°46'	135	6°01'	144	4°47'	155	3°53'	168	3°12'	179	2°40'	186
7.2	10°55'	131	8°07'	139	6°16'	149	4°58'	160	4°02'	173	3°19'	184	2°45'	192
7.4	11°25'	135	8°28'	143	6°32'	153	5°10'	164	4°12'	178	3°26'	189	2°51'	197
7.6	11°56'	139	8°50'	147	6°47'	157	5°22'	169	4°21'	182	3°33'	194	2°57'	202
7.8	12°29'	142	9°13'	151	7°04'	161	5°35'	173	4°31'	187	3°41'	199	3°03'	208
8.0	13°03'	146	9°37'	155	7°22'	165	5°49'	178	4°42'	192	3°49'	204	3°10'	213
8.2	13°39'	150	10°02'	158	7°41'	169	6°03'	182	4°53'	197	3°57'	210	3°16'	218
8.4	14°17'	153	10°30'	162	8°00'	173	6°17'	186	5°04'	202	4°06'	215	3°23'	224
8.6	14°58'	157	10°57'	166	8°21'	178	6°33'	191	5°16'	206	4°15'	220	3°30'	229
8.8	15°42'	161	11°29'	170	8°43'	182	6°50'	195	5°29'	211	4°25'	225	3°38'	234
9.0	16°28'	164	12°01'	174	9°08'	186	7°09'	200	5°44'	216	4°36'	230	3°46'	240
9.2	17°22'	168	12°39'	178	9°35'	190	7°29'	204	5°60'	221	4°48'	235	3°55'	245
9.4	18°22'	171	13°19'	182	10°05'	194	7°52'	209	6°18'	226	5°02'	240	4°06'	250
9.6	19°29'	175	14°09'	185	10°41'	198	8°20'	213	6°39'	230	5°18'	245	4°18'	256
9.8	21°04'	179	15°14'	189	11°29'	202	8°55'	218	7°07'	235	5°39'	250	4°35'	261
10.0	24°45'	182	17°45'	193	13°15'	206	10°30'	222	8°15'	240	6°30'	256	5°15'	266
RUNOUT		36		39		41		44		48		51		53

EXTRA WIDTH TABLE (FT)		
DEGREE OF CURVE	20' TW	22' TW
4°00' TO 8°00'	2	1
8°01' TO 16°00'	3	2
16°01' AND OVER	4	3

GENERAL NOTES:

1. A VERTICAL CURVE SHOULD BE PLACED AT EXCESSIVE ANGULAR BREAKS. A CURVE LENGTH EQUAL TO THE DESIGN SPEED APPROXIMATES A SMOOTH TRAVELED WAY EDGE PROFILE. TRAVELED WAY EDGE PROFILE AND SHOULDER GRADE CORRECTIONS SHOULD BE DETERMINED GRAPHICALLY TO PROVIDE ADEQUATE DRAINAGE AND A SMOOTH PROFILE.
2. EXTRA WIDTH SHOULD BE ADDED ON INSIDE OF CURVE AT A UNIFORM RATE THROUGHOUT THE SUPERELEVATION TRANSITION LENGTH AND WITH SMOOTH EDGE TRANSITIONS. CENTERLINE STRIPE SHALL EQUALLY DIVIDE THE TRAVELED WAY. IF ADDITIONAL EXTRA WIDTH IS REQUIRED SEE VALUES IN DESIGN MANUAL.
3. RECOMMENDED LENGTH OF HORIZONTAL CURVE IS 15V, MINIMUM IS 200 FT + L.
4. MINIMUM HORIZONTAL CURVES ARE REQUIRED EXCEPT WHEN e = NC.
5. TO FIND REQUIRED SUPERELEVATION RATE, GO DOWN THE COLUMN FOR DESIGN SPEED AND FIND Dmax THAT IS JUST GREATER THAN DESIGN D. THE e FOR THAT ROW IS THE DESIGN e.
6. VALUES ARE FOR A 2-LANE TRAVELED WAY REVOLVED ABOUT THE CENTERLINE PROFILE.
7. SHOULDERS SHOULD NORMALLY BE SLOPED AT THE SAME RATE AS THE SUPERELEVATED TRAVELED WAY BUT MAY BE SLOPED TO DRAIN AWAY FROM THE TRAVELED WAY UP TO A MAXIMUM ALGEBRAIC GRADE DIFFERENCE BETWEEN TRAVELED WAY AND SHOULDER OF 8% OR BY ROUNDING THE SHOULDER.
8. e - SUPERELEVATION RATE
   L - SUPERELEVATION RUNOFF LENGTH
   TW - TRAVELED WAY
   D - DEGREE OF CURVATURE
   NC - NORMAL CROWN
   V - DESIGN SPEED (MPH)

BY | REVISION | DATE

OFFICE OF STATE AID ROAD CONSTRUCTION
MISSISSIPPI DEPARTMENT OF TRANSPORTATION

SUPERELEVATION TRANSITION

BY: JBM | DATE: NOVEMBER 16, 2004 | DRAWING NUMBER: SA-SE-2