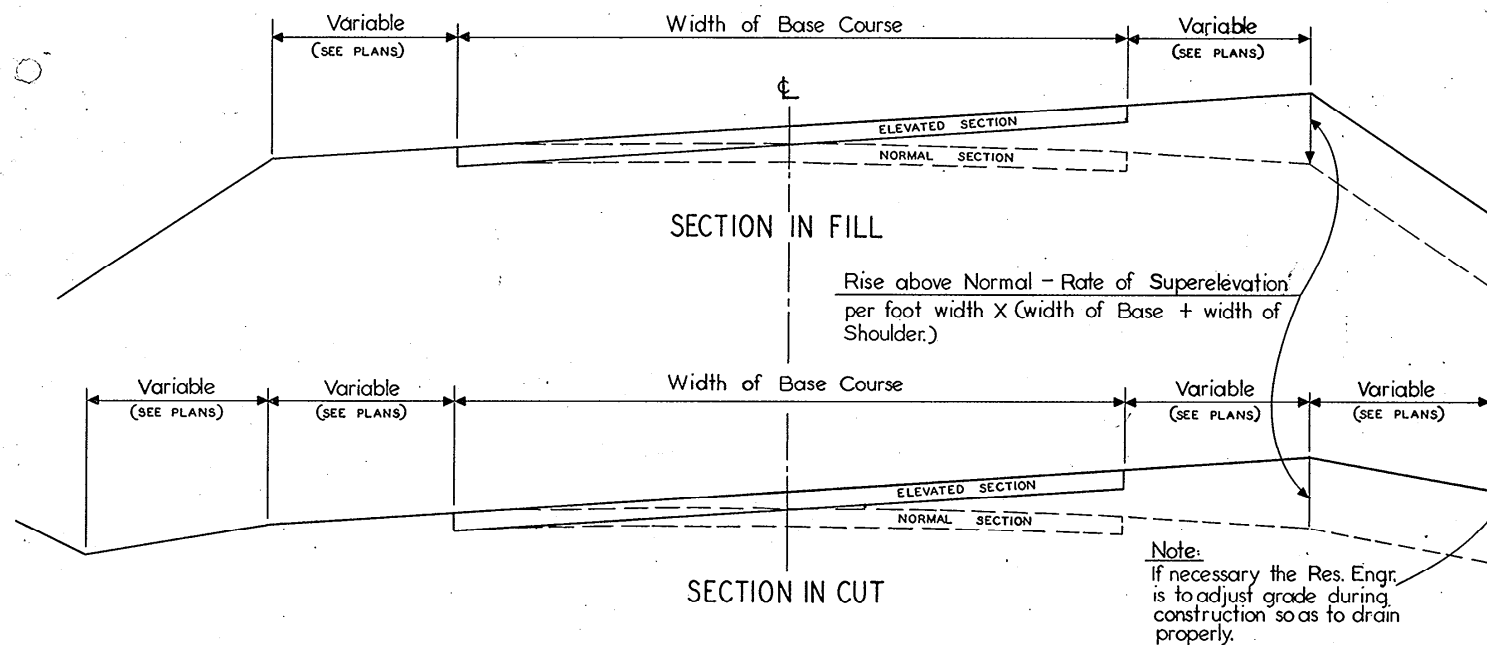


# SUPERELEVATION STANDARD

S.C. STATE HIGHWAY DEPT.  
COLUMBIA

FED. ROAD DIV. NO.	STATE	COUNTY	DOCKET NO.	PROJECT NO.	SHEET NO.	TOTAL SHEETS
3	S.C.	Kershaw	28.450	S-2563/1	4	21



## SUPERELEVATION FOR DESIGN SPEED OF 65 M.P.H. (BASED ON S = 50 M.P.H. IN FORMULA)

DEGREE OF CURVE	RADIUS OF CURVE	SUPERELEV. IN FT. PER FT. WIDTH	TOTAL SUPERELEVATION - FT.			LENGTH OF APPROACH - FT.		
			21' WIDTH	23' WIDTH	25' WIDTH	21' WIDTH	23' WIDTH	25' WIDTH
0° - 30'	11 459.19	0.014	0.29	0.32	0.35	98	104	110
1° - 00'	5729.65	0.029	0.61	0.67	0.73	162	174	186
1° - 30'	3819.83	0.043	0.90	0.99	1.08	220	238	256
2° - 00'	2864.93	0.057	1.20	1.31	1.43	280	302	326
2° - 30'	2292.01	0.072	1.51	1.66	1.80	342	372	400
3° - 00'	1910.08	0.086	1.81	1.98	2.15	402	436	470
3° - 30' AND OVER	TO BE SUPERELEVATED SAME AS 3°-00'							

SUPERELEVATION FORMULA:

$$E = 0.067 \frac{S^2}{R}$$

E = SUPERELEVATION IN FEET  
S = SPEED IN MILES PER HOUR  
R = RADIUS OF CURVE IN FEET

		DISTANCE FROM BEGINNING OF SUPERELEVATION IN DIRECTION OF CURVE - FEET																																																									
		10	20	30	40	50	60	70	80	90	100	110	120	130	140	150	160	170	180	190	200	210	220	230	240	250	260	270	280	290	300	310	320	330	340	350	360	370	380	390	400	410	420																
SUPERELEVATION IN FEET	21' FT. WIDTH DEGREE OF CURVE	0°-30'	.01	.03	.06	.10	.15	.20	.23	.26	.28	.29																																															
		1°-00'	.01	.03	.06	.10	.15	.20	.23	.26	.28	.29	.33	.40	.45	.50	.54	.58	.60	.61																																							
		1°-30'	.01	.03	.06	.10	.15	.20	.23	.26	.28	.29	.33	.40	.45	.50	.54	.58	.60	.61	.75	.80	.84	.87	.89	.90																																	
		2°-00'	.01	.03	.06	.10	.15	.20	.23	.26	.28	.29	.33	.40	.45	.50	.54	.58	.60	.61	.75	.80	.84	.87	.89	.90	1.00	1.05	1.10	1.14	1.17	1.19	1.20																										
		2°-30'	.01	.03	.06	.10	.15	.20	.23	.26	.28	.29	.33	.40	.45	.50	.54	.58	.60	.61	.75	.80	.84	.87	.89	.90	1.00	1.05	1.10	1.14	1.17	1.19	1.20	1.30	1.35	1.40	1.44	1.48	1.50	1.51	1.51																		
SUPERELEVATION IN FEET	23' FT. WIDTH DEGREE OF CURVE	0°-30'	.01	.03	.06	.10	.15	.20	.24	.27	.29	.31	.32	.41	.45	.50	.55	.59	.62	.65	.66	.67																																					
		1°-00'	.01	.03	.06	.10	.15	.20	.24	.27	.29	.31	.32	.41	.45	.50	.55	.59	.62	.65	.66	.67	.80	.85	.90	.93	.96	.98	.99																														
		1°-30'	.01	.03	.06	.10	.15	.20	.24	.27	.29	.31	.32	.41	.45	.50	.55	.59	.62	.65	.66	.67	.80	.85	.90	.93	.96	.98	.99	1.10	1.15	1.20	1.25	1.28	1.30	1.31	1.31																						
		2°-00'	.01	.03	.06	.10	.15	.20	.24	.27	.29	.31	.32	.41	.45	.50	.55	.59	.62	.65	.66	.67	.80	.85	.90	.93	.96	.98	.99	1.10	1.15	1.20	1.25	1.28	1.30	1.31	1.31	1.40	1.45	1.50	1.55	1.60	1.63	1.65	1.66	1.66													
		2°-30'	.01	.03	.06	.10	.15	.20	.24	.27	.29	.31	.32	.41	.45	.50	.55	.59	.62	.65	.66	.67	.80	.85	.90	.93	.96	.98	.99	1.10	1.15	1.20	1.25	1.28	1.30	1.31	1.31	1.40	1.45	1.50	1.55	1.60	1.63	1.65	1.66	1.66	1.80	1.85	1.89	1.93	1.96	1.98	1.98						

## SUPERELEVATION FOR DESIGN SPEED OF 45 M.P.H. (BASED ON S = 35 M.P.H. IN FORMULA)

DEGREE OF CURVE	RADIUS OF CURVE	SUPERELEV. IN FT. PER FT. WIDTH	TOTAL SUPERELEVATION - FT.			LENGTH OF APPROACH - FT.		
			19' WIDTH	21' WIDTH	23' WIDTH	19' WIDTH	21' WIDTH	23' WIDTH
1° - 00'	5729.65	0.014	0.27	0.29	0.32	94	98	104
1° - 30'	3819.83	0.021	0.40	0.44	0.48	120	128	136
2° - 00'	2864.93	0.029	0.55	0.61	0.67	150	162	174
2° - 30'	2292.01	0.036	0.66	0.76	0.83	176	192	206
3° - 00'	1910.08	0.043	0.82	0.90	0.99	204	220	238
3° - 30'	1637.28	0.050	0.95	1.05	1.15	230	250	270
4° - 00'	1432.69	0.057	1.08	1.20	1.31	256	280	302
4° - 30'	1273.57	0.065	1.24	1.37	1.50	288	314	340
5° - 00'	1146.28	0.072	1.37	1.51	1.66	314	342	372
5° - 30'	1042.14	0.079	1.50	1.66	1.82	340	372	404
6° - 00'	955.37	0.086	1.63	1.81	1.98	366	402	436
6° - 30' AND OVER	TO BE SUPERELEVATED SAME AS 6°-00'							

		DISTANCE FROM BEGINNING OF SUPERELEVATION IN DIRECTION OF CURVE - FEET																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																					
		10	20	30	40	50	60	70	80	90	100	110	120	130	140	150	160	170	180	190	200	210	220	230	240	250	260	270	280	290	300	310	320	330	340	350	360	370	380	390	400	410	420																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																												
21 FT. WIDTH	1°-00'	.01	.03	.06	.10	.15	.20	.24	.27	.28	.29																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																												
	1°-30'	.01	.03	.06	.10	.15	.20	.24	.27	.30	.35	.39	.42	.43	.44																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																								
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	5°-00'	.01	.03	.06	.10	.15	.20	.24	.27	.30	.35	.40	.45	.50	.55	.58	.60	.61	.61																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																				
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23 FT. WIDTH	1°-00'	.01	.03	.06	.10	.15	.20	.24	.27	.29	.31	.32																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																											

