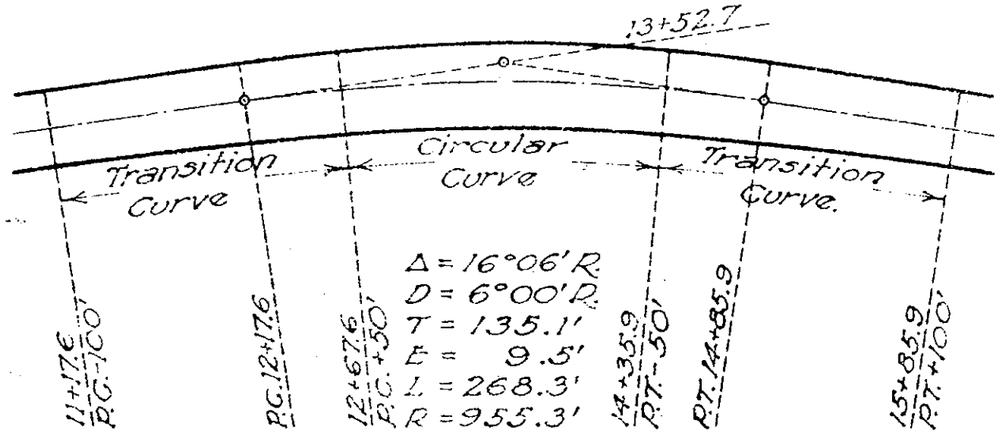

Given:- P.I. at Sta. 13+52.7 with an angle of 16°06' R. and an external of approximately 9.6 feet required.

By using the functions of a 1°00' curve it is found that the external for a 16°06' angle is 57.0' and dividing this by 9.6 (the approximate external) results in a 5.937° curve. Use a 6°00' curve.

External for 1°00' curve, Δ 16°06' = 57.0'
57.0' ÷ 6 = 9.5'. Use 9.5'.

Tang. for 1°00' curve, Δ 16°06' = 810.4'
810.4' ÷ 6 = 135.06'. Use 135.1'.

16°06' ÷ 6°00' = 2.6833. Use 268.3 length of curve.

P.I., 13+52.7 - 135.1 = 12+17.6 = P.C.

P.C., 12+17.6 + 268.3 = 14+85.9 = P.T.

Stations required for widening and superelevations are:- 11+17.6, + 25.0, +50.0, + 75.0, 12+00.0, +25.0, +50.0, +67.6, + 75.0, 13+00.0, +25.0, +50.0, +75.0, 14+00.0, +25.0, +35.9, +50.0, + 75.0, 15+00.0, +25.0, +50.0, +75.0 and +85.9.

Width of pavement 20.0'.

Since the maximum width is 20.00' + 2.08' or 22.08' and the superelevation for a 6°00' curve is 0.063' per foot of width, the max. superelevation or S is 22.08' x 0.063' or 1.39'.

WIDENING AT INTERVALS FROM P.C.-100.0'			
PLUS-(P.C.-100')=INTERVAL	GIVEN *	INTERPOLATION	GIVEN *
11+17.6 - 11+17.6 = 0.0	0.0 = 0.00	0.0 = 0.00	0.0 = 0.00
11+25.0 - 11+17.6 = 7.4	0.0 = 0.00	7.4 = 0.01	10.0 = 0.01
11+50.0 - 11+17.6 = 32.4	30.0 = 0.11	32.4 = 0.13	40.0 = 0.18
11+75.0 - 11+17.6 = 57.4	50.0 = 0.29	57.4 = 0.39	60.0 = 0.42
12+00.0 - 11+17.6 = 82.4	80.0 = 0.74	82.4 = 0.79	90.0 = 0.95
12+25.0 - 11+17.6 = 107.4	100.0 = 1.22	107.4 = 1.42	110.0 = 1.49
12+50.0 - 11+17.6 = 132.4	130.0 = 1.90	132.4 = 1.93	140.0 = 2.02
12+67.6 - 11+17.6 = 150.0	150.0 = 2.08	150.0 = 2.08	150.0 = 2.08

PROPORTIONAL SUPERELEVATION	
INTERVAL	SUPER.
0.0	0.00
7.4	0.07
32.4	0.30
57.4	0.53
82.4	0.76
107.4	1.00
132.4	1.23
150.0	1.39

* See Dr. No 116-20

WIDENING AT INTERVALS FROM P.T.-50.0'			
(P.T.+100')-PLUS=INTERVAL	GIVEN *	INTERPOLATION	GIVEN *
15+65.9 - 14+35.9 = 150.0	150.0 = 2.08	150.0 = 2.08	150.0 = 2.08
15+85.9 - 14+50.0 = 135.9	130.0 = 1.90	135.9 = 1.97	140.0 = 2.02
15+85.9 - 14+75.0 = 110.9	110.0 = 1.49	110.9 = 1.51	120.0 = 1.72
15+85.9 - 15+00.0 = 85.9	80.0 = 0.74	85.9 = 0.86	90.0 = 0.95
15+85.9 - 15+25.0 = 60.9	60.0 = 0.42	60.9 = 0.43	70.0 = 0.57
15+85.9 - 15+50.0 = 35.9	30.0 = 0.11	35.9 = 0.15	40.0 = 0.18
15+85.9 - 15+75.0 = 10.9	10.0 = 0.01	10.9 = 0.01	20.0 = 0.04
15+85.9 - 15+85.9 = 0.0	0.0 = 0.00	0.0 = 0.00	0.0 = 0.00

PROPORTIONAL SUPERELEVATION	
INTERVAL	SUPER.
150.0	1.39
135.9	1.26
110.9	1.03
85.9	0.80
60.9	0.56
35.9	0.33
10.9	0.10
0.0	0.00

BUREAU OF CONSTRUCTION
OHIO
DEPARTMENT OF HIGHWAYS

SCHEDULE FOR DEVELOPING APPLICATION OF CURVE FUNCTIONS WIDENING AND SUPERELEVATIONS

STANDARD CONSTRUCTION DRAWING 112
MAY 21, 1930

APPROVED H P C CHIEF ENGR. CONST.

REVISED