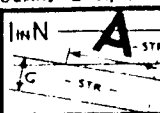
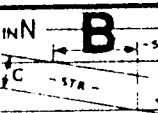



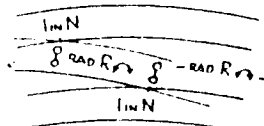
PERMANENT WAY NOTES

DIMENSIONS, FORMULÆ ETC. FOR CROSSOVER ROADS.

THESE NOTES ARE INTENDED FOR THE GUIDANCE AND ASSISTANCE OF STAFF ENGAGED UPON PERMANENT WAY WORK. THEY DO NOT IN ANY WAY MODIFY, SUPPLEMENT OR AMEND THE INSTRUCTIONS LAID DOWN IN E.D.I., STANDARD DRAWINGS CIRCULARS ETC., WHICH SHOULD BE REFERRED TO IN ALL CASES.

N XING ANGLE	1IN N  FORMULA :- $A = N(1-C) + \frac{1+C}{4N}$						1IN N  FORMULA :- $B = N(1-C) - \frac{1+C}{4N}$						1IN N  FORMULA :- $C = \sqrt{A^2 + C^2}$ OR $C = \sqrt{B^2 + 1^2}$					
	INTERVAL			ADD FOR EA. ADDNL.	ADD FOR EA. ADDNL.	INTERVAL			ADD FOR EA. ADDNL.	ADD FOR EA. ADDNL.	INTERVAL				ANGLE			
	1IN	6'-6"	8'-6"	11'-0"	FOOT OF INTERVAL	INCH OF INTERVAL	6'-6"	8'-6"	11'-0"	FOOT OF INTERVAL	INCH OF INTERVAL	6'-6"	7'-6"	8'-6"	11'-0"	1IN		
6	11'-2 1/2"	23'-3 1/2"	38'-4 1/2"	6'-0 1/2"	6'-0 1/4"	10'-3 1/2"	22'-2 1/2"	37'-1 1/2"	5'-11 1/2"	5'-9 6"	12'-2"	17'-10 1/2"	23'-9 1/2"	38'-8 1/2"	6			
6 1/4	11'-7 1/4"	24'-2 1/4"	39'-1 1/4"	6'-3 1/2"	6'-2 9"	10'-9"	23'-2 1/4"	38'-8 1/4"	6'-2 1/2"	6'-2 1"	12'-6 1/2"	18'-6 1/2"	24'-8 1/4"	40'-2 1/4"	6 1/4			
6 1/2	12'-1"	25'-1 1/2"	41'-6"	6'-6 1/2"	6'-5 4"	11'-2 1/2"	24'-1 1/2"	40'-3 1/2"	6'-5 1/2"	6'-4 6"	12'-11 1/2"	19'-2 1/2"	25'-7 1/2"	41'-9 1/2"	6 1/2			
6 3/4	12'-6 1/4"	26'-1"	43'-0 1/4"	6'-9 1/4"	6'-7 9"	11'-8 1/4"	25'-1 1/4"	41'-10 1/4"	6'-8 1/2"	6'-7 1"	13'-4 1/4"	19'-10 1/4"	26'-6 1/4"	43'-3 1/4"	6 3/4			
7	12'-11 1/2"	27'-0 1/2"	44'-7 1/2"	7'-0 1/2"	7'-0 4"	12'-1 1/2"	26'-0 1/2"	43'-5 1/2"	6'-11 1/2"	6'-9 6"	13'-9 1/2"	20'-6 1/2"	27'-5 1/2"	44'-10 1/2"	7			
7 1/4	13'-4 1/4"	27'-11 1/4"	46'-1 1/4"	7'-3 1/4"	7'-2 8"	12'-7 1/4"	27'-0 1/4"	45'-0 1/4"	7'-2 5/8"	7'-2 2"	14'-2 1/4"	21'-2 1/4"	28'-4 1/4"	46'-4 1/4"	7 1/4			
7 1/2	13'-9 1/2"	28'-10 1/2"	47'-8 1/2"	7'-6 1/2"	7'-5 3"	13'-0 1/2"	28'-0"	46'-8"	7'-5 5/8"	7'-4 7"	14'-7 1/2"	21'-10 1/2"	29'-3 1/2"	47'-11 1/2"	7 1/2			
7 3/4	14'-3"	29'-9 3/4"	49'-3 3/4"	7'-9 3/4"	7'-7 8"	13'-6 3/4"	28'-11 1/4"	48'-3 3/4"	7'-8 5/8"	7'-7 2"	15'-0 1/4"	22'-6 1/4"	30'-2 1/4"	49'-5 1/4"	7 3/4			
8	14'-8 1/4"	30'-9"	50'-9 1/4"	8'-0 1/4"	8'-0 3"	13'-11 1/4"	29'-11 1/4"	49'-10 1/4"	7'-11 1/4"	7'-9 7"	15'-5 1/4"	23'-2 1/4"	31'-1 1/4"	51'-0 1/4"	8			
8 1/4	15'-1 1/4"	31'-8 1/4"	52'-4 1/4"	8'-3 1/4"	8'-2 8"	14'-5 1/4"	30'-10 1/4"	51'-5 1/4"	8'-2 5/8"	8'-2 2"	15'-10 1/4"	23'-10 1/2"	32'-0 1/4"	52'-7 1/4"	8 1/4			
8 1/2	15'-6 1/2"	32'-7 1/2"	53'-11 1/2"	8'-6 1/2"	8'-5 3"	14'-10 1/2"	31'-10 1/2"	53'-0 1/2"	8'-5 5/8"	8'-4 7"	16'-3 1/2"	24'-6 1/2"	32'-11 1/2"	54'-1 1/2"	8 1/2			
8 3/4	16'-0"	33'-6 3/4"	55'-6"	8'-9 3/4"	8'-7 8"	15'-4 3/4"	32'-9 3/4"	54'-7 3/4"	8'-8 5/8"	8'-7 2"	16'-8 1/4"	25'-2 1/4"	33'-10 1/4"	55'-8 1/4"	8 3/4			
9	16'-5 1/4"	34'-5 1/4"	57'-0 1/4"	9'-0 1/4"	9'-0 3"	15'-9 1/4"	33'-9 1/4"	56'-2 1/4"	8'-11 1/4"	8'-9 7"	17'-1 1/4"	25'-10 1/4"	34'-9 1/4"	57'-3 1/4"	9			
9 1/4	17'-3 1/4"	36'-4 1/4"	60'-2 1/4"	9'-6 1/4"	9'-5 3"	16'-8 1/4"	35'-8 1/4"	59'-4 1/4"	9'-5 5/8"	9'-4 7"	17'-11 1/4"	27'-3"	36'-8 1/4"	60'-4 1/4"	9 1/4			
10	18'-2 1/2"	38'-3"	63'-3 1/2"	10'-0 1/2"	10'-0 3"	17'-7 1/2"	37'-7 1/2"	62'-6 1/2"	9'-11 1/2"	9'-9 8"	18'-9 1/2"	28'-7 1/2"	38'-6 1/2"	63'-5 1/2"	10			
10 1/4	19'-1"	40'-1 1/4"	66'-5 1/4"	10'-6 1/4"	10'-5 2"	18'-6 1/2"	39'-6"	65'-8 1/2"	10'-5 3/4"	10'-4 8"	19'-7 1/2"	29'-11 1/2"	40'-4 1/2"	66'-7 1/2"	10 1/4			
11	19'-11 1/2"	42'-0 1/2"	69'-6 1/2"	11'-0 1/2"	11'-0 2"	19'-5 1/2"	41'-4 1/2"	68'-10 1/2"	10'-11 1/2"	10'-9 8"	20'-6 1/4"	31'-4 1/4"	42'-3 1/4"	69'-8 1/4"	11			
11 1/4	20'-10 1/4"	43'-10 1/4"	72'-8 1/4"	11'-6 1/4"	11'-5 2"	20'-4 1/2"	43'-3 1/2"	72'-0 1/2"	11'-5 3/4"	11'-4 8"	21'-4 1/2"	32'-8 1/2"	44'-1 1/2"	72'-10 1/2"	11 1/4			
11 1/2	21'-8 1/2"	45'-9 1/2"	75'-10"	12'-0 1/2"	12'-0 2"	21'-3 1/2"	45'-2 1/2"	75'-2 1/2"	11'-11 1/2"	11'-9 8"	22'-2 1/2"	34'-1"	46'-0 1/2"	75'-11 1/2"	11 1/2			
12	21'-8 1/2"	45'-9 1/2"	75'-10"	12'-0 1/2"	12'-0 2"	21'-3 1/2"	45'-2 1/2"	75'-2 1/2"	11'-11 1/2"	11'-9 8"	22'-2 1/2"	34'-1"	46'-0 1/2"	75'-11 1/2"	12			
12 1/4	22'-7 1/4"	47'-7 1/4"	78'-1 1/4"	12'-6 1/4"	12'-5 2"	22'-2 1/4"	47'-1 1/4"	78'-4"	12'-5 3/4"	12'-4 8"	23'-1 1/4"	35'-5 1/4"	47'-10 1/4"	79'-1 1/4"	12 1/4			
12 1/2	22'-7 1/2"	47'-7 1/2"	78'-1 1/2"	12'-6 1/2"	12'-5 2"	22'-2 1/2"	47'-1 1/2"	78'-4"	12'-5 3/4"	12'-4 8"	23'-1 1/2"	35'-5 1/2"	47'-10 1/2"	79'-1 1/2"	12 1/2			
13	23'-6 1/2"	49'-6 1/2"	82'-1 1/2"	13'-0 1/2"	13'-0 2"	23'-1"	49'-0 1/2"	81'-5 1/2"	12'-11 1/4"	12'-9 8"	23'-11 1/4"	36'-10"	49'-9 1/4"	82'-2 1/4"	13			
13 1/4	24'-4 1/4"	51'-5 1/4"	85'-2 1/4"	13'-6 1/4"	13'-5 2"	23'-11 1/4"	50'-11 1/4"	84'-7 1/4"	13'-5 3/4"	13'-4 8"	24'-10 1/4"	38'-2 1/4"	51'-7 1/4"	85'-4 1/4"	13 1/4			
13 1/2	24'-4 1/2"	51'-5 1/2"	85'-2 1/2"	13'-6 1/2"	13'-5 2"	23'-11 1/2"	50'-11 1/2"	84'-7 1/2"	13'-5 3/4"	13'-4 8"	24'-10 1/2"	38'-2 1/2"	51'-7 1/2"	85'-4 1/2"	13 1/2			
14	25'-3 3/8"	53'-3 3/8"	88'-4 3/8"	14'-0 3/8"	14'-0 2"	24'-10 1/8"	52'-10 1/8"	87'-9 3/8"	13'-11 3/8"	13'-9 8"	25'-8 3/8"	39'-7"	53'-6 3/8"	88'-5 3/8"	14			
14 1/4	26'-2 1/4"	55'-2 1/4"	91'-6"	14'-6 1/4"	14'-5 2"	25'-9 1/2"	54'-9"	90'-11 1/2"	14'-5 3/4"	14'-4 8"	26'-7 1/2"	40'-11 1/2"	55'-4 7/8"	91'-7 1/2"	14 1/4			
14 1/2	26'-2 1/2"	55'-2 1/2"	91'-6"	14'-6 1/2"	14'-5 2"	25'-9 1/2"	54'-9"	90'-11 1/2"	14'-5 3/4"	14'-4 8"	26'-7 1/2"	40'-11 1/2"	55'-4 7/8"	91'-7 1/2"	14 1/2			
15	27'-0 1/4"	57'-1 1/4"	94'-7 1/4"	15'-0 1/4"	15'-0 2"	26'-8 1/4"	56'-7 1/4"	94'-1 1/4"	14'-11 1/4"	14'-9 8"	27'-5 1/4"	42'-3"	57'-3 1/4"	94'-9"	15			
16	28'-10 1/2"	60'-10 1/2"	100'-11"	16'-0 1/2"	16'-0 2"	28'-5 1/2"	60'-5 1/2"	100'-5 1/2"	15'-11 1/2"	15'-9 8"	29'-2 1/2"	45'-1 1/2"	61'-0 1/2"	101'-0 1/2"	16			
17	30'-7 1/2"	64'-7 1/2"	107'-2 1/2"	17'-0 1/2"	17'-0 1"	30'-3 1/2"	64'-3 1/2"	106'-8 1/2"	16'-11 1/2"	16'-9 9"	30'-11 1/2"	47'-10 1/2"	64'-9 1/2"	107'-3 1/2"	17			
18	32'-4 7/8"	68'-5 1/4"	113'-5 1/8"	18'-0 1/8"	18'-0 1"	32'-1 1/8"	68'-0 7/8"	113'-0 3/8"	17'-11 1/8"	17'-9 9"	32'-9"	50'-7 1/4"	68'-7 1/8"	113'-6 1/8"	18			
19	34'-2 1/4"	72'-2 1/4"	119'-9"	19'-0 1/4"	19'-0 1"	33'-10 1/4"	71'-10 1/4"	119'-4"	18'-11 1/4"	18'-9 9"	34'-6 1/4"	53'-5"	72'-4 1/2"	119'-10 1/4"	19			
20	35'-11 1/2"	76'-0"	126'-0 1/2"	20'-0 1/2"	20'-0 1"	35'-8 1/2"	75'-8"	125'-7 1/2"	19'-11 1/2"	19'-9 9"	36'-3 1/2"	56'-2 1/2"	76'-1 1/2"	126'-1 1/2"	20			

CURVED ROADS



THE FORMULÆ AND DIMENSIONS TABULATED ABOVE MAY BE USED WHEN THE MAIN LINES ARE CURVED, PROVIDED THE CROSSOVER ROAD IS CURVED TO THE SAME HAND AND RADIUS, AS SHOWN IN THE SKETCH ABOVE.

OTHER INTERVALS

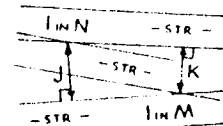
"A" AND "B" FOR OTHER INTERVALS THAN THOSE GIVEN ABOVE MAY BE FOUND AS FOLLOWS :-

EXAMPLE. TO FIND "A" FOR ANGLE 1 IN 8 AND INTERVAL 6'-9"

"A" FOR INTERVAL 6'-6" 14'-8 1/4"
ADD FOR ADDNL. 1" OF INTERVAL, 8'-0 3"
FOR ADDNL. 3" OF INTERVAL, ADD 24'-0 9" = 2'-0 1/8"
" DIMENSION "A" FOR 6'-9" INTERVAL, 16'-8 1/8"

[N.B. THIS METHOD DOES NOT APPLY TO "C."]]

DIVERGING ROADS



THE FORMULÆ AND DIMENSIONS TABULATED ABOVE MAY BE USED BY TAKING EITHER CROSSING ANGLE WITH THE INTERVAL OPPOSITE THE OTHER, MEASURED AS SHOWN IN THE SKETCH ABOVE, I.E. 1 IN N, WITH INTERVAL K, OR, 1 IN M, WITH INTERVAL J.

R1754

CHIEF ENGINEER'S OFFICE, — PADDINGTON.

FEB. 1937