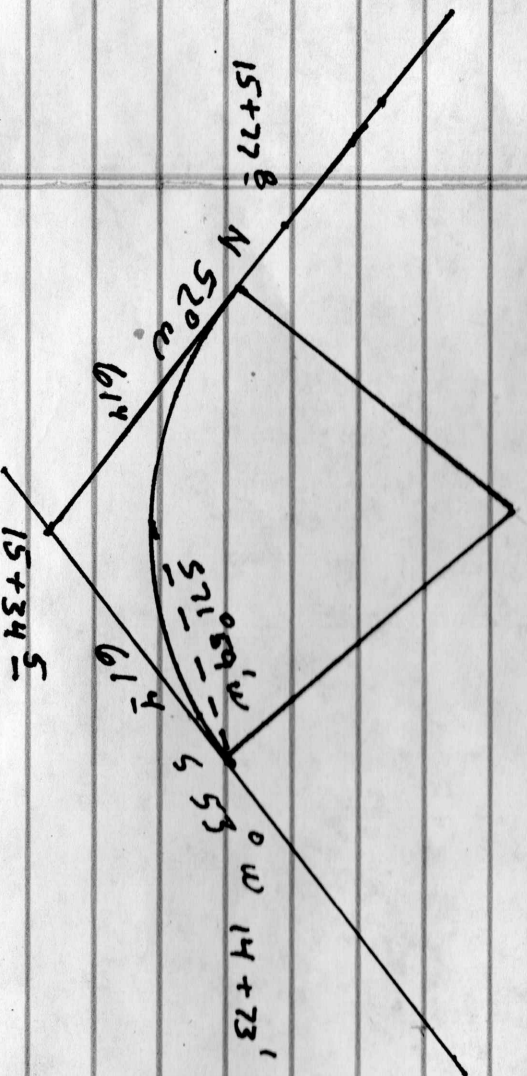


$$A = (90 - 53) + (90 - 52) = 75$$

$$R = 80'$$

1. $D = 5729 \frac{58}{180} / 80 = 71.62^\circ$
NEARS 100' Arc FOR 71.62°
2. $L = 75 / 71.62 \times 100 = 104.7'$
3. $T = R \tan \frac{A}{2} = 80 \tan \frac{75}{2} = 61.4'$



$$PC = 15 + 34 \frac{5}{8} - 61 \frac{4}{8} = 14 + 73 \frac{1}{8}$$

$$PT = 14 + 73 \frac{1}{8} + 104 \frac{7}{8} = 15 + 77 \frac{8}{8}$$

WANT TO STAKE $15 + 25^\circ$

$$\text{ARC LENGTH} = 15 + 25^\circ - 14 + 73 \frac{1}{8} = 51 \frac{7}{8}$$

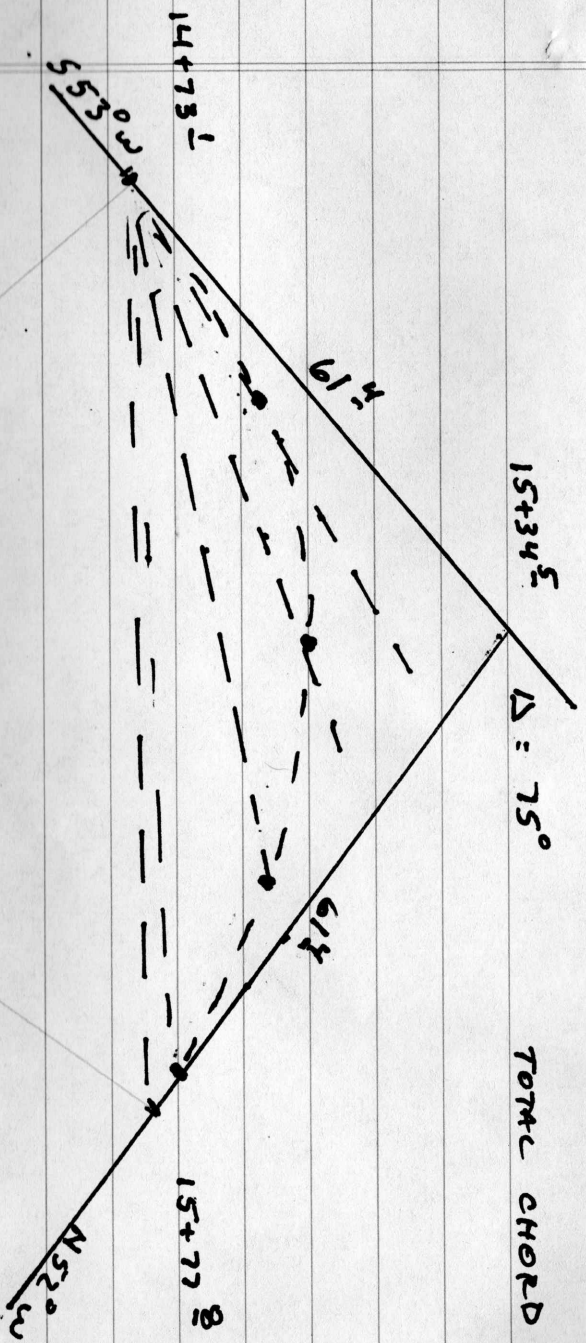
$$\text{SINCE } D = 100' = 71.62^\circ$$

$$d = 51 \frac{7}{8} / 100 \times 71.62^\circ = 37.17^\circ$$

$$defl = 1/2 d = 18.59^\circ$$

$$BNC = 53^\circ w + 18.59^\circ = 571.59' w$$

$$Ch = 2 R \sin \frac{d}{2} = 2(80) \sin 18.59^\circ = 51 \frac{0}{8}'$$



$R = 80'$
 $D = 71.62'$
 $T = 614'$
 $L = 1041.7'$

$15+00 \text{ L Arc} = 26'$ $\frac{71.62'}{100} = \frac{d}{26}$ $d = 19.3'$
 $\text{defl} = 9.6'$

STA Arc d/2 Ch

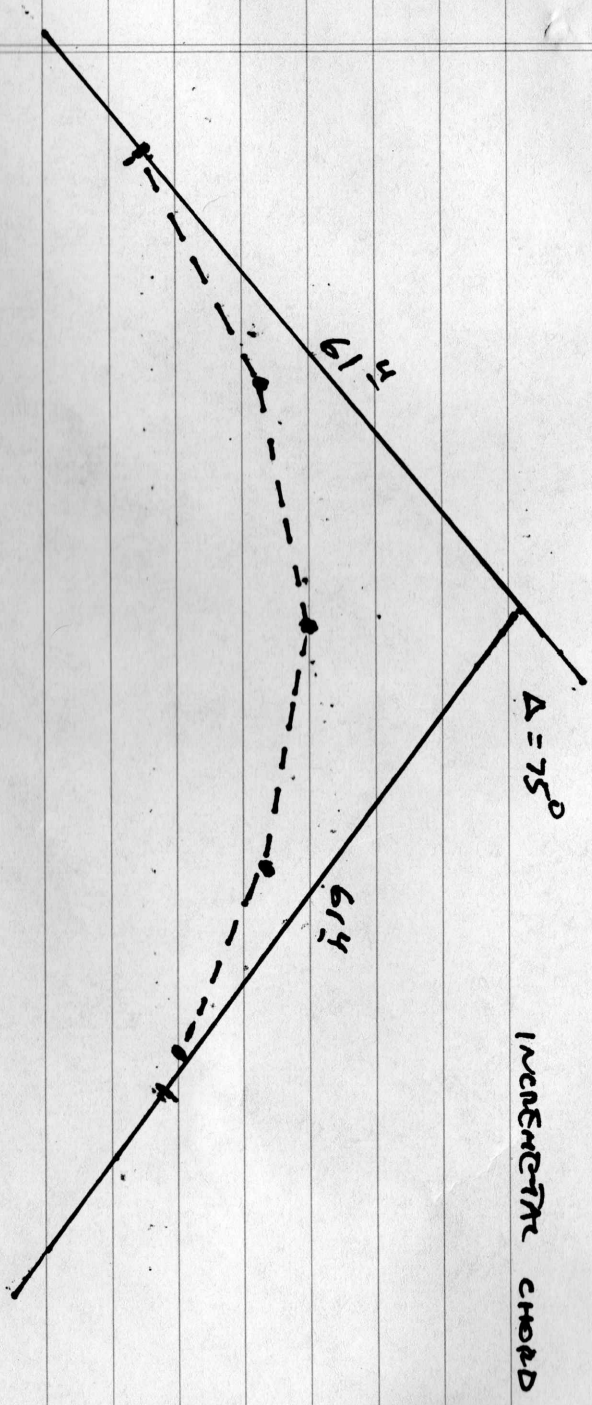
$14+73.1$ $26'$ $9.6'$ $26.7'$

$15+00$ $51'$ $18.6'$ $51.2'$

$15+25$ $76'$ $27.5'$ $73.1'$

$15+50$ $101'$ $36.5'$ $95.2'$

$15+75$ ~~126.5'~~



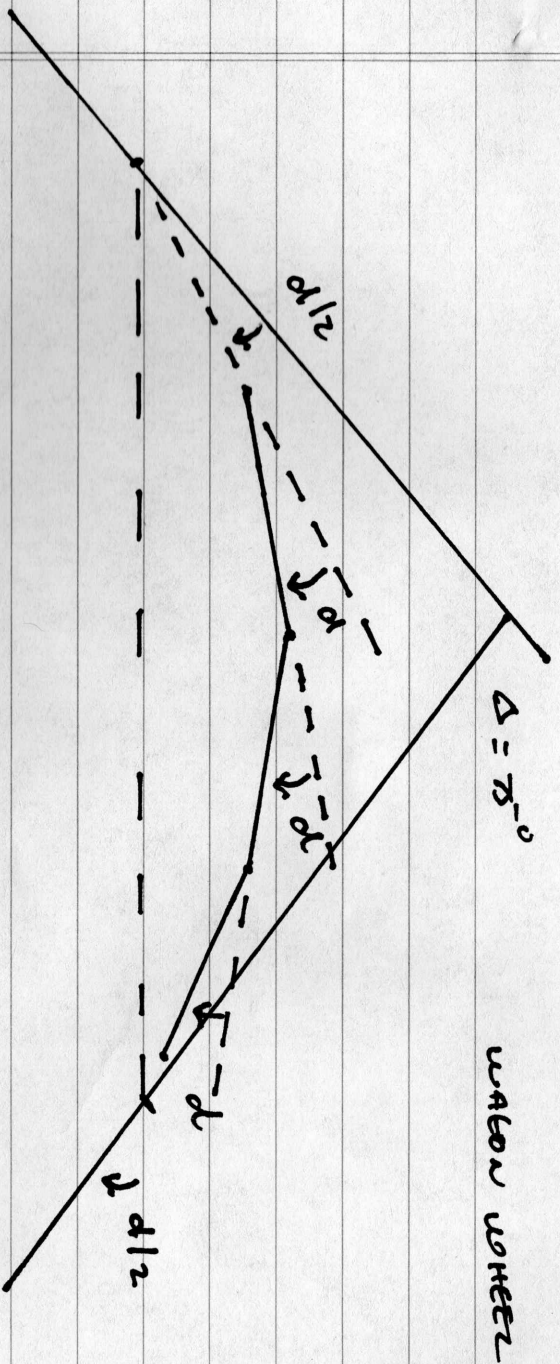
STA	ARC	CHORD	d/2
15+00	26° 9'	267'	96°
15+25	25°	249'	186°
15+50	25°	249'	276°
15+75	25°	249'	366°

25' ANCH

$$C = 2R \sin d/2 \quad d = \frac{25}{100} * D$$

$$d/2 = 9^\circ \quad = 172^\circ$$

$$C = 2(80) \sin 8.95 =$$



STA	ARC	d	d/2	CH
14+73.1	26°	19.3	9.6	26.7
15+00	25°	17.9		24.9
15+25	25°	17.9		24.9
15+50	25°	17.9		24.9
15+75	28°	2.0		
15+77.8				

9.6

DERIVATIVE COORDINATES ON THE CURVE

SAME CURVE AS SKETCHED

CULVERT POINT AT $15 + 37.4$

$$R = 80'$$

$$D = 71.62^\circ$$

$$PC = 14 + 73.1 \quad X = 1500.0 \quad Y = 1000.0$$

ARC LENGTH = $1537.4 - 14 + 73.1 = 64.3$ ON THE ARC

$$\therefore d = \frac{71.62^\circ}{100'} = \frac{d_c}{64.3} = 46.05^\circ = 46^\circ 03' 06''$$

$$C_c = 2(80) \sin 46.05^\circ / 2 = 62.58'$$

$$d_{off} = 1/2 46.05 = 23^\circ 01' 30''$$

$$\begin{aligned} \text{BEARING} &= 553^\circ 00' + 23^\circ 01' 30'' \\ &= 576^\circ 02' 6'' \end{aligned}$$

$$\text{DEP} = \sin 76^\circ 02' 6'' (62.58') = -60.73$$

$$\text{LAT} = \cos 76^\circ 02' 6'' (62.58') \therefore -15.11$$

$$\text{CULVERT } X = 1500 - 60.73 = 1439.3$$

$$Y = 1000 - 15.11 = 984.89$$