

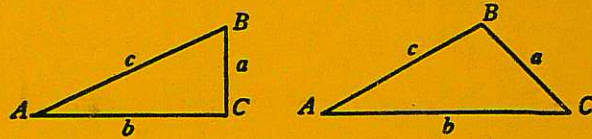
 **TELEDYNE POST**

COUNTY SHOP

**COLLEGE
FIELD BOOK**

48QC-05B

FORMULAE FOR SOLVING RIGHT TRIANGLES



$$\sin A = \frac{a}{c} = \cos B, \quad \cot A = \frac{b}{a} = \text{Tag } B$$

$$\cos A = \frac{b}{c} = \sin B, \quad \sec A = \frac{c}{b} = \text{Cosec } B$$

$$\tan A = \frac{a}{b} = \cot B, \quad \text{Cosec } A = \frac{c}{a} = \sec B$$

Given	Required	Solution
A, c	B, a, b	$B = 90^\circ - A, a = C \sin A, b = C \cos A.$
A, b	B, a, c	$B = 90^\circ - A, a = b \tan A, C = \frac{b}{\cos A}.$
A, a	B, b, c	$B = 90^\circ - A, b = a \cot A, C = \frac{a}{\sin A}.$
a, c	A, B, b	$\sin A = \frac{a}{c}, \cos B = \frac{a}{c}, b = \sqrt{(c+a)(c-a)}$
a, b	A, B, c	$\tan A = \frac{a}{b}, \cot B = \frac{a}{b}, c = \sqrt{a^2 + b^2}$

FORMULAE FOR SOLVING OBLIQUE TRIANGLES

Given	Required	Solution
A, a, b	B, c	$\sin B = \frac{b \sin A}{a}, c = \frac{a \sin C}{\sin A}$
A, B, a	b	$b = \frac{a \sin B}{\sin A}$
a, b, C	A, c	$A + B = 180^\circ - C, C = \frac{a \sin C}{\sin A}$
a, b, c	Area	side $\frac{a+b+c}{2}$, area = $\sqrt{s(s-a)(s-b)(s-c)}$
A, b, c	Area	area = $\frac{bc \sin A}{2}$
A, B, C, s	Area	area = $\frac{a^2 \sin B \sin C}{2 \sin A}$

PAGE

3-5

BENCH MARK LEVELS

BENCH MARK LEVELS

11-13-75 am CLEAR & COLD

T WARD

HOANH

BM EL = 4430.95

	+	HI	-	ELEV
	663	4444 ⁵⁶	2 94	4437 ⁹³ 6 03
	6 20	4440 ⁸¹	5 24	4434 ⁶⁷
	6 32	4439 ⁸¹	4 25	4433 ⁵⁹
BM-	6 87	4437 ⁸⁴	6 69	4430 ⁹⁷ 6 87
	3 92	4437 ⁶⁶ 6 09	4 82	4433 ⁷⁶
	3 45	4438 ⁵⁸ 4 32	5 72	4435 ¹³
	4 33	4440 ⁸⁵	6 86	4436 ⁵² 6 86 3 5
	2 35	4443 ³⁸ 6 00	5 01	4441 ⁰³
	3 06	4446 ⁰⁴	6 67	4442 ⁹⁸
	2 87	4449 ⁶⁵	6 02	4446 ⁷⁸ 3 2
	2 65	4452 ⁸⁰	6 04	4450 ¹⁵
BM	1 56	4456 ¹⁹		4454.63

BM. ON P. POLE INTER. OF
19W AND 2ND NORTHW. SIDE
OF 19W. No#

SE
BM. ON P. POLE COR. OF 10W
AND 2ND No. B 62
L.P.P.
6
30

+ HI - ELEV

200 No. 10+10

BM.

1 20 4454 52

6 25 4455 79 3 14 4449 54

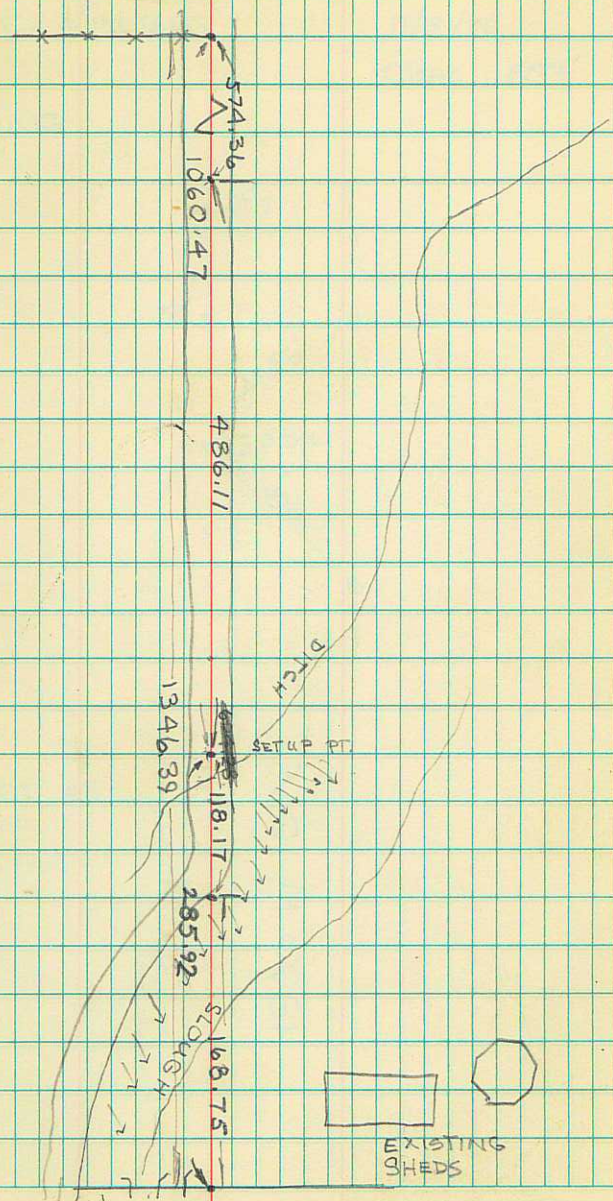
7 06 4452 68 2 42 4445 62

6 08 4448 41 3 13 4441 43

4444 56

ALIGNMENT

11-14-75
↑ WARD
⊕ HOANH



← 2ND NORTH TO LOGAN

CROSS-SECTIONS

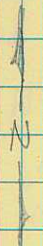
TS NOTES - WILLIAMS

11/5/76

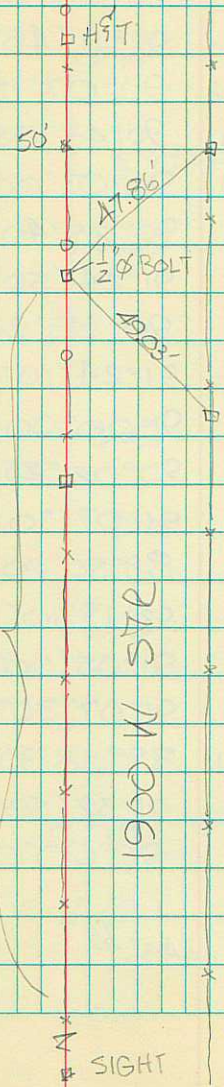
Φ - WARD

Clear ; 65°F

CH - SPAULDING



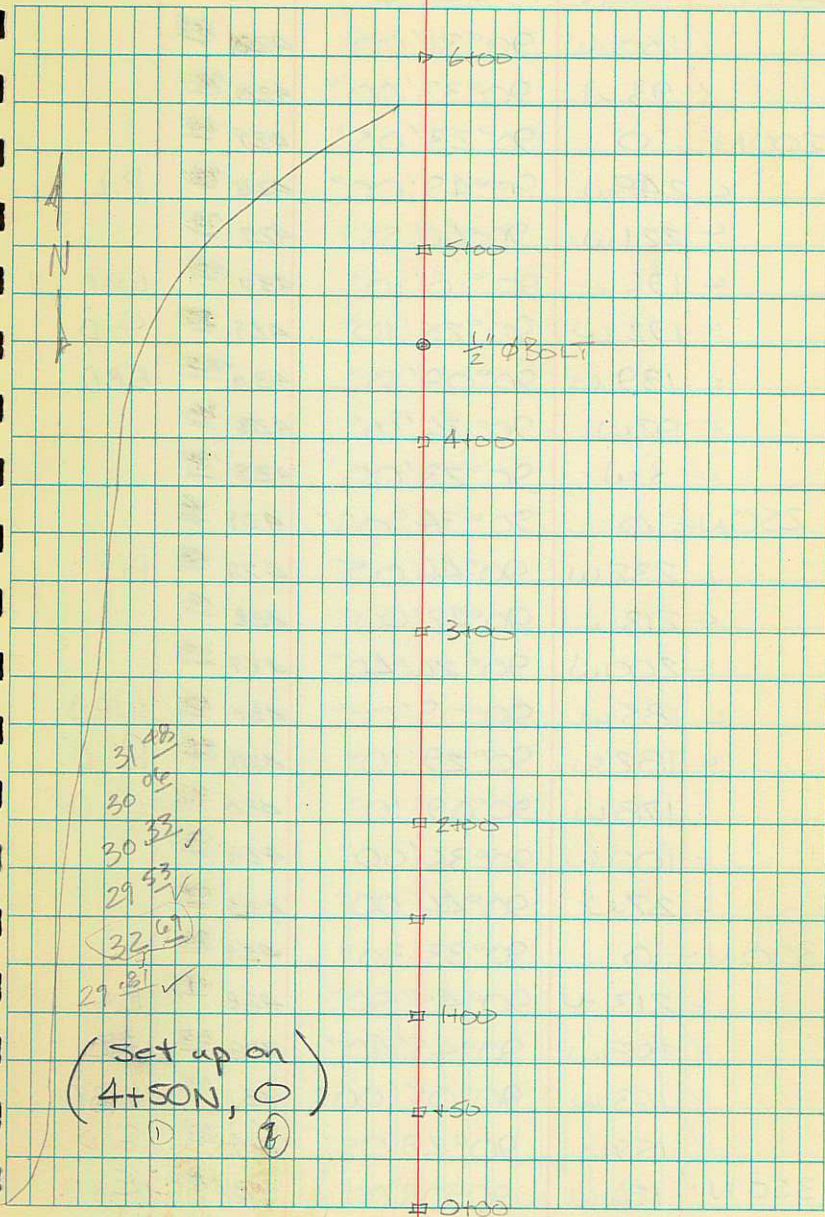
- 1 100
- 1 200
- 1 300
- 1 400
- 1



H&T'S SET AT
 FIFTY FOOT
 INTERVALS FOR
 450.00'

1900 W SITE

LATT	LONG	VERT	EL	
✓ 100w	90°33'00"	429	<u>92</u>	
✓ 66w	90°53'10"	429	<u>43</u>	
✓ 2w	90°27'00"	430	<u>49</u>	
350 N ✓ 0	90°50'50"	429	<u>80</u>	
✓ 199w	91°11'45"	427	<u>00</u>	
✓ 130w	90°07'15"	430	<u>99</u>	W B D
✓ 127w	90°43'05"	429	<u>52</u>	Q D
✓ 123w	90°03'00"	431	<u>16</u>	E B D
✓ 100w	90°25'40"	430	<u>45</u>	
✓ 37w	91°24'50"	429	<u>74</u>	
✓ 4w	90°38'30"	430	<u>72</u>	
400 N ✓ 0w	91°24'10"	430	<u>06</u>	
✓ 122w	91°00'00"	429	<u>15</u>	P.L.
✓ 77w	90°02'25"	431	<u>23</u>	W.B.D
✓ 73w	91°07'30"	429	<u>85</u>	Q D.
✓ 68w	89°50'00"	431	<u>48</u>	E.B.D.
450 N ✓ 21w	93°19'10"	430	<u>07</u>	
✓ 0w	91°05'00"	430	<u>33</u>	
✓ 73.8w	91°07'30"	429	<u>53</u>	P.L.
✓ 25.7w	89°58'30"	431	<u>30</u>	West Bank Ditch
✓ 21.2w	91°32'50"	429	<u>81</u>	Q Ditch
500 N ✓ 17.3w	90°00'00"	431	<u>28</u>	EAST BANK DITCH
+566	4436	⁶³	4430	⁹⁷ BM T.P 19th W 2nd S
HI = 5.35				



LATT	LONG	VERT &	EL	
✓	100 W	90° 31' 00"	428 ⁸⁵	
✓	93 W	90° 33' 00"	428 ⁷²	
200N ✓	0	90° 23' 05"	429 ⁶⁰	
✓	248 W	90° 49' 00"	426 ⁷⁴	P.L
✓	221 W	90° 40' 55"	429 ⁷³	
✓	196 W	90° 10' 10"	430 ⁴⁵	WBD
✓	192 W	90° 25' 10"	429 ²⁵	Q D
✓	189 W	90° 09' 55"	430 ⁴⁹	EBD
✓	92 W	90° 36' 10"	428 ⁷⁶	
✓	3 W	90° 23' 00"	429 ⁹⁴	
250N ✓	0	90° 34' 05"	429 ³⁰	
✓	232 W	90° 46' 05"	429 ⁸⁸	PL
✓	213 W	90° 42' 00"	428 ¹⁰	
✓	200 W	90° 26' 40"	429 ³⁴	
✓	185 W	90° 09' 00"	430 ⁶⁶	WBD
✓	182 W	90° 29' 10"	429 ²⁸	Q D
✓	178 W	90° 09' 10"	430 ⁶⁶	EBD
✓	100 W	90° 36' 00"	429 ³²	
✓	27 W	90° 46' 00"	429 ²⁴	
300N ✓	0	90° 33' 30"	429 ⁸²	
✓	213 W	90° 45' 50"	428 ¹⁴	P.L
✓	198 W	90° 45' 40"	428 ³³	P.L
✓	163 W	90° 05' 00"	431 ⁰⁰	WBD
✓	159 W	90° 29' 05"	429 ⁶⁹	Q D
350N ✓	156 W	90° 08' 00"	430 ⁸⁵	EBD

LATT	LONG	VERT	EL	
	2w	90°16'10"	429 ⁴⁰	
50N	0	90°20'45"	428 ⁸¹	
	✓ 247w	90°41'05"	426 ¹⁶	P.L.
	✓ 231w	90°39'00"	426 ⁵²	
	✓ 200w	90°08'25"	430 ²¹	WBD
	✓ 196w	90°20'30"	428 ⁸⁹	ED
	✓ 194w	90°11'05"	429 ⁷¹	EBD
	✓ 96w	90°27'00"	428 ⁴³	±
	✓ 1w	90°17'00"	429 ⁵⁵	
100N	0	90°22'00"	429 ⁰¹	
	✓ 246w	90°48'25"	425 ⁸³	P.L.
	✓ 225w	90°42'10"	426 ⁶⁸	
	✓ 197w	90°09'55"	430 ²⁴	WBD
	✓ 195w	90°22'00"	428 ²¹	ED
	✓ 191w	90°13'00"	429 ⁷⁴	EBD
	✓ 100w	90°30'00"	428 ⁵²	
	✓ 93w	90°30'00"	428 ⁵⁴	
	✓ 3w	90°16'45"	429 ⁸²	
150N	0	90°22'45"	429 ²³	
	✓ 257w	90°47'10"	426 ³⁵	P.L.
	✓ 233w	90°41'10"	429 ¹⁹	
	✓ 197w	90°11'50"	430 ¹⁸	WBD
	✓ 195w	90°22'50"	429 ¹⁷	ED
	✓ 192w	90°11'55"	430 ¹⁹	EBD

LATY	LONG	VERTX	EL	
			4421 ⁴²	Slouger
		4 ⁴⁵ 4435 ⁴²	4430 ⁴²	BENCH M.
		14 ⁰⁰	4421 ⁴²	Slouger
284W	90°25'00"		427 ⁴¹	P.L.
276W	90°26'00"		427 ²⁹	
257W	90°11'40"		429 ⁵²	W BD
254W	90°17'30"		428 ⁶⁵	ED
251W	90°10'00"		429 ⁷⁸	E BD
200W	90°18'50"		428 ⁵⁶	
100W	90°23'00"		428 ²⁰	
0W	0W	90°19'50"	428 ⁶⁸	
266W	90°32'00"		426 ⁸¹	P.L.
246W	90°29'05"		427 ³¹	
226W	90°11'30"		429 ²⁴	W BD
223W				ED
220W	90°10'00"		429 ⁹⁵	E BD
200W	90°17'00"		429 ⁰⁷	
50N	100W	90°25'00"	428 ²⁸	

STA	BS	HI	FS	ELEV
4+50 N	2.96	433.29		430.33
5+00 N				
4+00				
3+00			4.33	

$$\begin{array}{r}
 31.5 \\
 2.5 \\
 \hline
 29.0
 \end{array}
 \qquad
 \begin{array}{r}
 32.29 \\
 30.5 \\
 \hline
 2.79
 \end{array}$$

$$\begin{array}{r}
 33.29 \\
 29.50 \\
 \hline
 3.79
 \end{array}$$

$$\begin{array}{r}
 31 \\
 2.5 \\
 \hline
 28.5
 \end{array}
 \qquad
 \begin{array}{r}
 33.29 \\
 1.79 \\
 \hline
 31.50
 \end{array}$$

$$\begin{array}{r}
 33.29 \\
 28.50 \\
 \hline
 4.79
 \end{array}
 \qquad
 \begin{array}{r}
 33.29 \\
 22.5 \\
 \hline
 5.79
 \end{array}$$

TO SUB GRADE

STA	B.S	HI	FS	ELEV
Bm	6.00	36.99		4430.99

			6.79	30.18
--	--	--	------	-------

	4.21	34.39		
--	------	-------	--	--

36.99

6.79

30.18

4.21

34.39

31.8

34.4
32.7
2.1

2.6

31.8

3

31.5

31.75

34.4

31.8

2.6

JAN 19, 1977
FOGGY

23

STA	BS	HI	FS	ELEV
BM	3.77			4430.97
TBM		34.74	0.85	4433.89

BM @ 2N AND 1900 WEST
2ND GUARD POST WEST FROM
INTERSECTION ON SOUTH
SIDE OF 2N.

SET GRADE				
STA	BS	HI	FS	ELEV
	5.37	36.39		4430 ⁹⁷
0+00 N			5.0	31.39
1+00 N			4.9	31.99
2+00 N			6.7	29.69
3+00 N			5.6	30.79
4+00 N			5.3	31.09
5+00 N				
6+00 N				
4+50 N 5+00			4.9	31.49

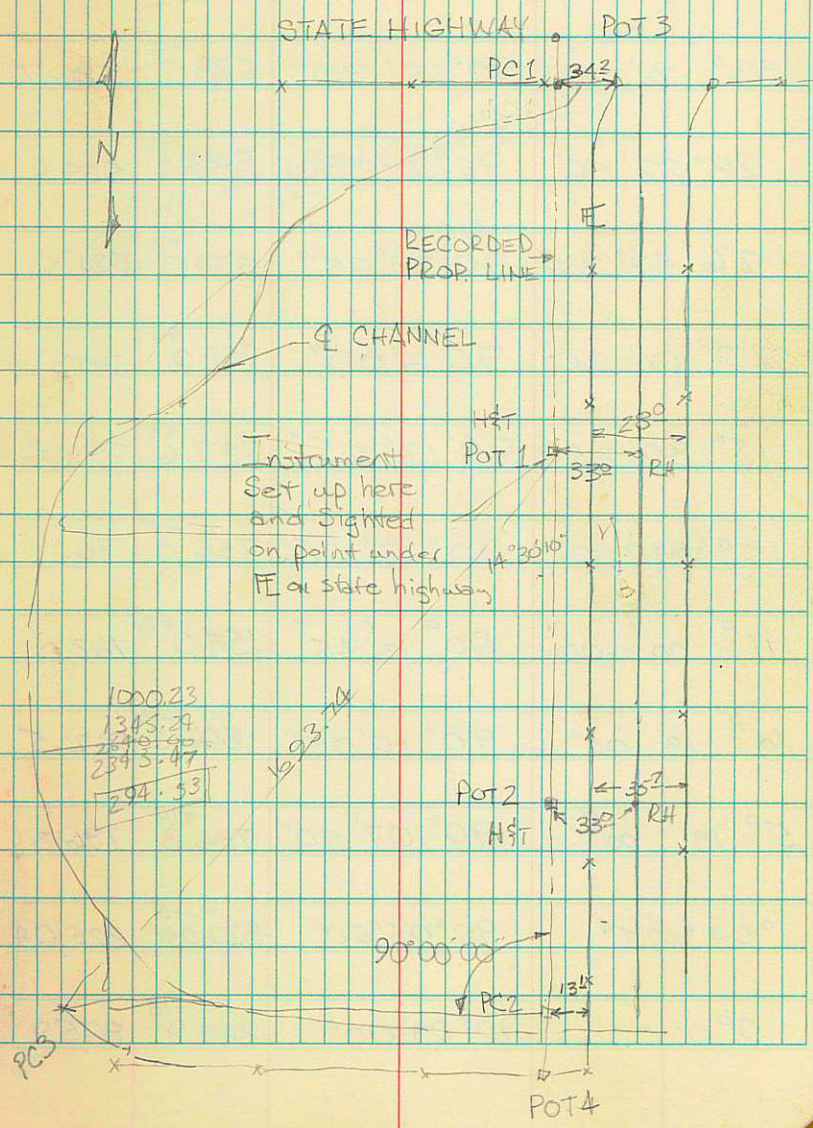
K. S. SPAULDING 25
 & P. WARD
 JAN 25, 1972

ON THE STAKE
 " " "
 ON THE GROUND
 " " "

STA to STA	SLP DIST	VERT \angle	HOR. DIST	
PC2	PC3	424.26	88° 46' 40"	424.16
POT2	PC2	298.26	91° 01' 00"	298.21 - 3.68
POT2	POT4	387.91	90° 18' 10"	VOID
POT1	POT2	1345.24	90° 02' 30"	1345.24
POT1	POT3	1030.08	89° 50' 50"	1030.08
POT1	PC1	1000.23	89° 58' 50"	1000.23

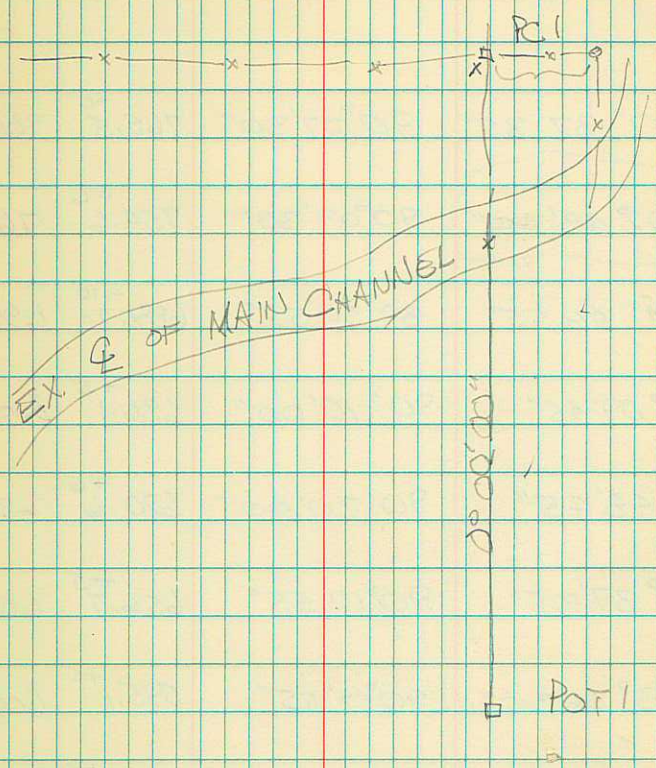
R/W LINE FOR COUNTY SHOP PROPERTY

T'S NOTES - WILLIAMS 1/25/77
 P - WARD PPM: 40



AREA CALCULATIONS

HOR X	VERT X	SLP DIST	HOR DIST
PPM @ 40			
WILLIAMS: X	SPAULDING: P	WARD: NOTES	
33° 18' 00"	90° 15' 30"	578.7 ⁺⁸	586.7
28° 22' 50'	90° 15' 35"	583.6 ⁺⁶	589.6
26° 42' 35"	90° 29' 05"	574.3 ⁺³	574.3
20° 01' 30"	90° 14' 00"	701.0 ⁺⁴	705
15° 30' 25"	90° 13' 55"	727.6 ⁺⁵	732.6
15° 09' 15"	90° 13' 55"	756.0 ⁺⁵	761
11° 00' 00"	90° 13' 45"	754.0 ⁺⁸	762.0
6° 18' 05"	90° 10' 05"	802.5 ⁺¹⁰	812.5
5° 19' 00"	90° 07' 50"	786.3 ⁺¹⁰	796.3
1° 04' 05"	90° 05' 50"	820.04 ⁺⁵	825.04
0° 0' 0"	90° 09' 00"	860.9 ⁺¹⁵	875.9



HOR Δ	VERT Δ	SLP DIST.	HOR DIST.
107° 37' 35"	90° 07' 30"	765.5 ⁺⁰	765.5
102° 48' 00"	90° 09' 30"	754.6 ⁺⁶	760.6
104° 46' 55"	89° 50' 55"	689.7 ⁺¹⁰	699.7
100° 09' 45"	90° 10' 00"	686.1 ⁺⁵	691.1
96° 48' 45"	90° 20' 00"	620.6 ⁺⁶	626.6
91° 37' 35"	90° 17' 55"	656.7 ⁺⁵	661.7
83° 36' 30"	90° 17' 55"	595.1 ⁺⁵	600.1
69° 48' 10"	90° 21' 25"	530.4 ⁺¹⁰	540.4
66° 47' 05"	90° 20' 30"	493.1 ⁺⁸	501.1
56° 10' 55"	90° 23' 00"	515.2 ⁺⁸	523.2
47° 31' 20"	90° 31' 20"	398.0 ⁺⁴	402.0
36° 31' 00"	90° 34' 55"	466.6 ⁺³	469.6

HOR Δ	VERT Δ	SLP DIST	HOR DIST.
148°13'50"	90°07'50"	1279.8 ⁺⁵	1284.8
144°58'00"	90°07'30"	1282.0	1282.0
143°08'10"	90°03'30"	1310.6 ⁺³	1313.6
139°48'00"	90°05'55"	1270.5 ⁺⁴	1274.5
140°19'55"	90°09'00"	1254.8	1254.8
138°07'00"	90°01'15"	1161.8 ⁺⁶	1167.8
135°32'30"	90°05'00"	1176.8 ⁺⁵	1181.8
131°26'30"	90°14'15"	1126.0 ⁺¹⁵	1141.0
131°12'15"	90°02'45"	1090.7 ⁺⁶	1096.7
121°59'30"	90°17'45"	970.3 ⁺⁶	976.3
112°55'30"	90°20'00"	822.5 ⁺¹⁵	837.5
109°23'00"	90°15'30"	818.9	818.9

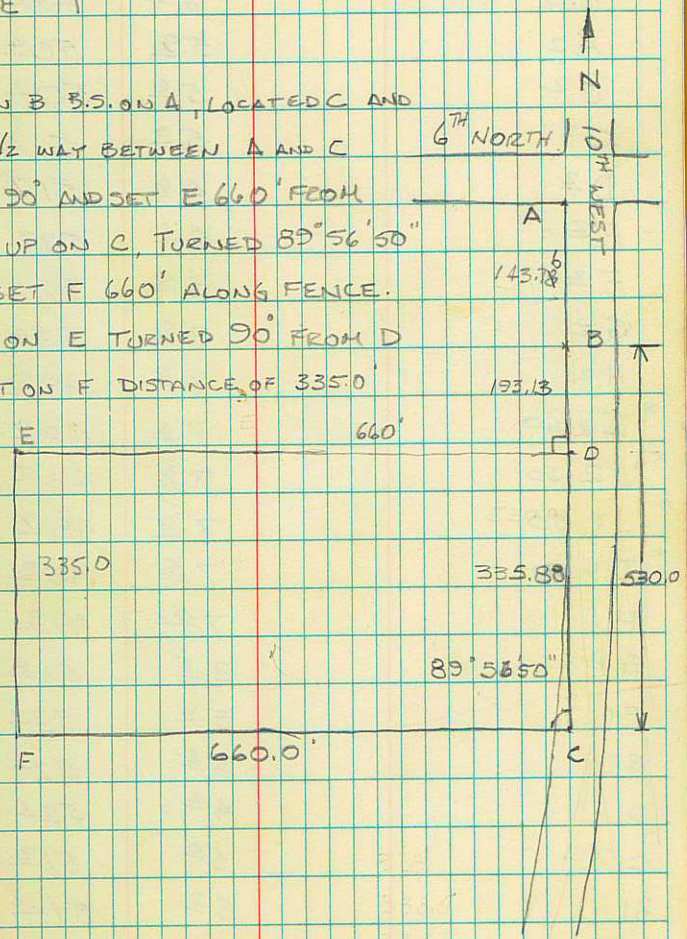
HOR Δ	VERT Δ	SLP DIST.	HOR DIST.
165°32'00"	89°55'55"	1693.8	1693.8
164°17'05"	90°05'00"	1611.6 ⁺⁴	1615.6
161°30'15"	90°03'20"	1570.3 ⁺⁵	1575.3
161°09'35"	90°07'00"	1620.2 ⁺⁵	1625.2
159°16'30"	90°07'00"	1623.3	1623.3
156°47'55"	90°06'30"	1667.7	1667.7
155°07'00"	90°03'00"	1619.2 ⁺¹⁰	1629.2
155°42'25"	90°07'00"	1491.7	1491.7
152°14'45"	90°05'30"	1446.8 ⁺⁴	1450.8
150°45'00"	90°06'05"	1405.9 ⁺⁴	1409.9

HORIZ X	SLOPE DISTANCE	VERT	HORIZ DIST
A			
176+43.0			
B TO A	143.76	89°58'	143.76
B = STA 174+99.24			
E B TO C	530.03	89°48'30"	530.0
TOTAL DISTANCE A TO C	IS 678.79		339.39
D SET 339.39' FROM A			
D TO C	335.88		335.88
D TO E	90°	660.0	660.0
C TO F	89°56'50"	660.0	660.0
E TO F	90°00'	335.0	335.0

23 JUNE 77 SHOP SITE

SUNNY, WARM 85°F
 HUDSON NOTES
 WARD T
 BOSHE P

SET UP ON B B.S. ON A, LOCATED C AND
 SET D 1/2 WAY BETWEEN A AND C
 TURNED 90° AND SET E 660' FROM
 D. SET UP ON C, TURNED 89°56'50"
 AND SET F 660' ALONG FENCE.
 SET UP ON E TURNED 90° FROM D
 AND SET ON F DISTANCE OF 335.0'

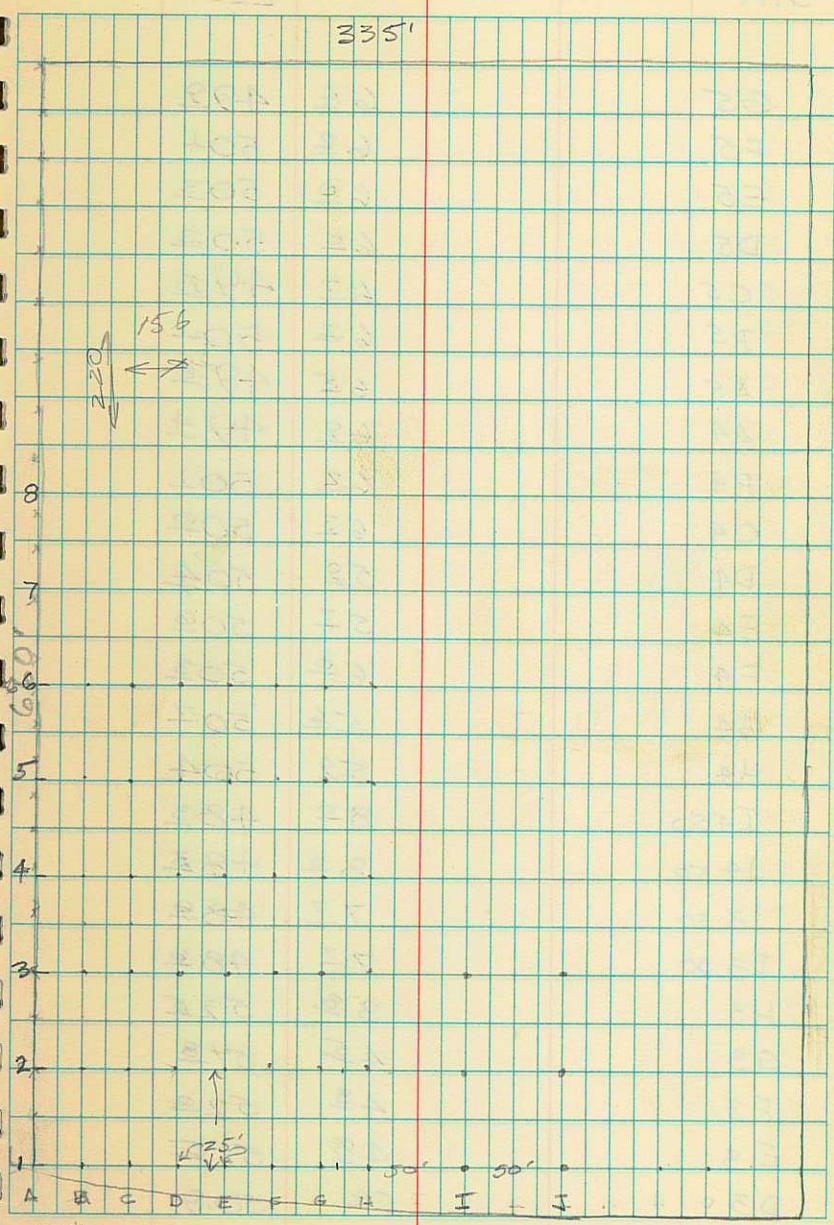


STA	+	HI	-	ELEV.	LENGTH
C3			52	514	
B3			56	502	
A3			66	492	
A2			52	504	
B2			56	502	
C2			52	513	
D2			46	512	
E2			44	522	
F2			32	524	
G2			32	524	
H2			70	493	
* I2 50			76	482	
* J2 50			78	485	
* J1 50			76	482	
* I1 50			75	488	
H1			70	493	
G1			35	528	
F1			36	522	
E1			42	524	
D1			42	524	
C1			50	513	
B1			52	514	
A1			58	5054	
A		445639			

652

Bm ON PP
7 4449 B2

* NO. RIGHT OF STA. IND. DIST FROM PREVIOUS STA



10TH WEST 335.8

STA	+	HI	-	ELEV
G5			64	492
F5			62	504
E5			60	503
D5			60	503
C5			67	496
B5			62	504
A5			65	498
A4			62	494
B4			62	504
C4			63	500
D4			52	504
E4			57	500
F4			60	503
G4			56	507
H4			52	504
I450			80	483
J450			80	483
J350			77	480
I350			77	480
H3			38	525
G3			45	518
F3			43	520
E3			48	515
D3			54	50.9

STA	+	HI	-	ELEV
7			88	475
8			91	472
9			82	474
A 10			101	462
C 10			105	458
E 10			98	463
G 10			96	462
I 10			99	464
J 10 50	50' FROM 9		102	461
J 9 50			94	462
I 9			96	462
G 9			90	473
E 9			91	472
C 9 50			86	472
A 9 50	FROM 8		91	472
A 8			72	491
B 8			67	496
C 8			61	502
D 8			60	503
E 8	+5 SAME ELEV		52	511
F 8	"		56	507
G 8	"		64	492
H 8 20	+5 SAME ELEV		64	492
I 8 50			97	466

GRAVEL BEFORE COUNTY RD PURCHASED
 WAS 1815 W YDS FIGURED JAN 78
 BY CROSS SECTIONING. FIGURES IN
 COUNTY SHOD FILE *at*

STA	+	HI	-	ELEV
TOP OF INSIDE OF PIPE		1049		45 64
FLOW LINE OF SEWER		1215		4398
BM #	631	4456 ¹³		
H9+5			82	474
H8+3			83	480
H7+2			82	481
H6+2			83	480
H5+2			72	484
H4+10			74	482
#3+4			73	490
G2+15			62	494
G1+10			70	493
G			66	492
F			74	489
E			76	487
D			67	496
C			73	491
B				
1			72	491
2			81	482
3			81	482
4			82	481
5			83	481
6			83	480

STA.	+	HI	-	ELEV
A 10			61	51.8
9			52	52.0
8			52	52.2
7			52	52.2
6			52	52.2
5			52	52.1
4			62	51.2
3			62	51.4
2			72	50.2
B 1			72	50.2
14			71	50.8
13			62	51.0
12			62	51.2
11			62	51.2
10			62	51.2
9			62	51.4
8			62	51.6
7			61	51.8
6			61	51.8
5			62	51.2
4			62	51.6
3			62	51.2
2			71	50.8
A 1			72	50.2

BM 4449 ⁸¹⁰ 22 445792

ON FENCE LINE SOUTHEAST CORNER PROPERTY

	8	53	527
	7	53	527
	6	51	528
	5	51	528
	4	52	529
	3	53	527
	2	72	504
D	1	72	500
	14	76	503
	13	76	503
	12	68	511
	11	63	517
D	10	60	519
	9	58	521
	8	55	524
	7	54	525
	6	52	524
	5	56	523
	4	58	521
	3	63	516
	2	74	505
C	1	80	492
	13	75	504
	12	68	511
C	11	63	516

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	2		79	498
H	1		81	496
	14		81	496
	13		84	493
	12		76	501
	11		71	506
	10		65	513
	9		63	515
	8		61	516
	7		61	516
	6		60	517
	5		62	515
	4		64	513
	3		70	507
	2		71	500
G	1		71	500
	14		80	497
	13		82	495
	12		80	497
	11		65	513
	10		58	519
	9		54	523
	8		52	525
	7		51	526
	6		51	526

7 84

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14	81	49°
13	94	48 ³
12	93	48 ⁴
11	92	48 ²
10	84	49 ³
9	72	49 ³
8	76	50 ³
7	76	50 ³
6	75	50 ³
5	76	50 ¹
4	72	50 ²
3	82	49 ²
2	82	49 ⁴
I 1	83	49 ⁴
14	82	49 ²
13	90	48 ²
12	93	48 ⁴
11	92	48 ²
10	81	49 ⁶
9	72	50 ²
8	74	50 ³
7	76	50 ¹
6	74	50 ³
5	74	50 ³
4	76	50 ¹
3	71	50 ²

8	86	491
7	86	491
6	83	494
5	85	492
4	89	488
3	91	486
2	92	485
K 1	87	490
14	89	488
13	90	487
12	102	469
11	107	470
10	93	484
9	84	493
8	78	492
7	72	493
6	78	492
5	72	498
4	80	497
3	84	493
2	87	490
J 1	85	492

CORRAL # 113 STA I 464

14	94	486
13	92	480
12	113	464
11	112	465
10	101	476
9	92	482

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