

DR. No. 13

Book 1.

DIETZGEN
TRADE MARK

No. 412

Topography.

DISTANCES FROM CENTER OF ROADWAY FOR CROSS-SECTIONING.

Roadway 16 feet wide.

Side Slopes 1 on 1.

For Single Track Embankment.

H	0	.1	.2	.3	.4	.5	.6	.7	.8	.9	H
0	8.0	8.1	8.2	8.3	8.4	8.5	8.6	8.7	8.8	8.9	0
1	9.0	9.1	9.2	9.3	9.4	9.5	9.6	9.7	9.8	9.9	1
2	10.0	10.1	10.2	10.3	10.4	10.5	10.6	10.7	10.8	10.9	2
3	11.0	11.1	11.2	11.3	11.4	11.5	11.6	11.7	11.8	11.9	3
4	12.0	12.1	12.2	12.3	12.4	12.5	12.6	12.7	12.8	12.9	4
5	13.0	13.1	13.2	13.3	13.4	13.5	13.6	13.7	13.8	13.9	5
6	14.0	14.1	14.2	14.3	14.4	14.5	14.6	14.7	14.8	14.9	6
7	15.0	15.1	15.2	15.3	15.4	15.5	15.6	15.7	15.8	15.9	7
8	16.0	16.1	16.2	16.3	16.4	16.5	16.6	16.7	16.8	16.9	8
9	17.0	17.1	17.2	17.3	17.4	17.5	17.6	17.7	17.8	17.9	9
10	18.0	18.1	18.2	18.3	18.4	18.5	18.6	18.7	18.8	18.9	10
11	19.0	19.1	19.2	19.3	19.4	19.5	19.6	19.7	19.8	19.9	11
12	20.0	20.1	20.2	20.3	20.4	20.5	20.6	20.7	20.8	20.9	12
13	21.0	21.1	21.2	21.3	21.4	21.5	21.6	21.7	21.8	21.9	13
14	22.0	22.1	22.2	22.3	22.4	22.5	22.6	22.7	22.8	22.9	14
15	23.0	23.1	23.2	23.3	23.4	23.5	23.6	23.7	23.8	23.9	15
16	24.0	24.1	24.2	24.3	24.4	24.5	24.6	24.7	24.8	24.9	16
17	25.0	25.1	25.2	25.3	25.4	25.5	25.6	25.7	25.8	25.9	17
18	26.0	26.1	26.2	26.3	26.4	26.5	26.6	26.7	26.8	26.9	18
19	27.0	27.1	27.2	27.3	27.4	27.5	27.6	27.7	27.8	27.9	19
20	28.0	28.1	28.2	28.3	28.4	28.5	28.6	28.7	28.8	28.9	20
21	29.0	29.1	29.2	29.3	29.4	29.5	29.6	29.7	29.8	29.9	21
22	30.0	30.1	30.2	30.3	30.4	30.5	30.6	30.7	30.8	30.9	22
23	31.0	31.1	31.2	31.3	31.4	31.5	31.6	31.7	31.8	31.9	23
24	32.0	32.1	32.2	32.3	32.4	32.5	32.6	32.7	32.8	32.9	24
25	33.0	33.1	33.2	33.3	33.4	33.5	33.6	33.7	33.8	33.9	25
26	34.0	34.1	34.2	34.3	34.4	34.5	34.6	34.7	34.8	34.9	26
27	35.0	35.1	35.2	35.3	35.4	35.5	35.6	35.7	35.8	35.9	27
28	36.0	36.1	36.2	36.3	36.4	36.5	36.6	36.7	36.8	36.9	28
29	37.0	37.1	37.2	37.3	37.4	37.5	37.6	37.7	37.8	37.9	29
30	38.0	38.1	38.2	38.3	38.4	38.5	38.6	38.7	38.8	38.9	30
31	39.0	39.1	39.2	39.3	39.4	39.5	39.6	39.7	39.8	39.9	31
32	40.0	40.1	40.2	40.3	40.4	40.5	40.6	40.7	40.8	40.9	32
33	41.0	41.1	41.2	41.3	41.4	41.5	41.6	41.7	41.8	41.9	33
34	42.0	42.1	42.2	42.3	42.4	42.5	42.6	42.7	42.8	42.9	34
35	43.0	43.1	43.2	43.3	43.4	43.5	43.6	43.7	43.8	43.9	35
36	44.0	44.1	44.2	44.3	44.4	44.5	44.6	44.7	44.8	44.9	36
37	45.0	45.1	45.2	45.3	45.4	45.5	45.6	45.7	45.8	45.9	37
38	46.0	46.1	46.2	46.3	46.4	46.5	46.6	46.7	46.8	46.9	38
39	47.0	47.1	47.2	47.3	47.4	47.5	47.6	47.7	47.8	47.9	39
40	48.0	48.1	48.2	48.3	48.4	48.5	48.6	48.7	48.8	48.9	40

Example—If point is 22.6 ft. above grade, how far should it be from center line to be a slope stake point? Ans. from Table 30.6. For same slopes but other widths of roadbed, correct above figures by one-half difference in width of roadbed; thus in example above, for 20 ft. roadbed distance will be $30.6 + (20 - 16) \div 2$ or 2 ft. added to 30.6 = 32.6. For slopes of 1 on $1\frac{1}{2}$ see inside of back cover.

Copyright, 1914, by Eugene Dietzgen Co.

FILED

FEB 27 '23

J. W. Coker
COUNTY CLERK



Index.

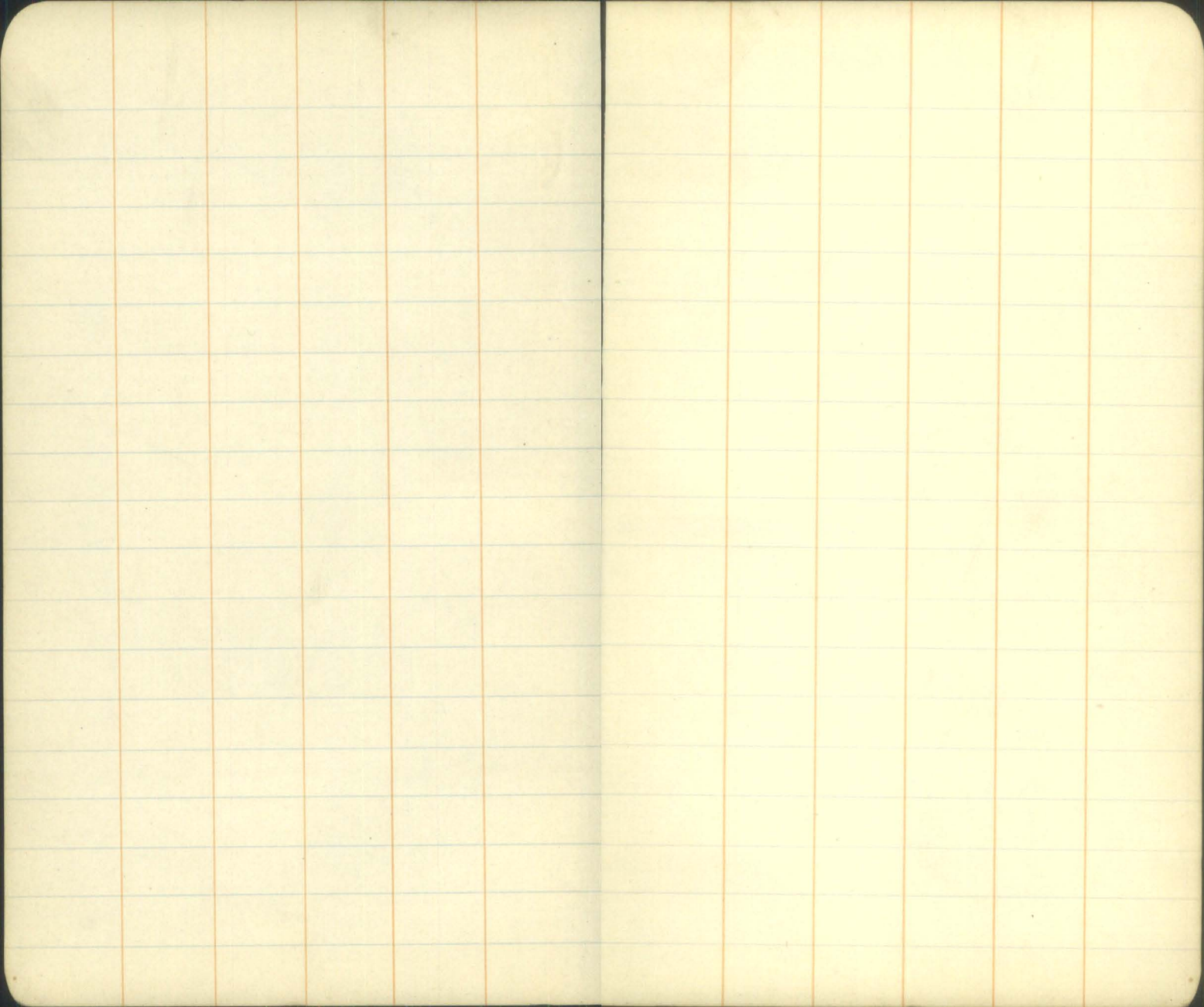
Pages -

Topography -
Triangulation Base -
Bench Marks -

1-108

109-124

125-146



Topog.

At. A #D

FS 18° 58'

A #1 93° 59' 1370'

At A #1

BS 93° 59'

H 127° 660

H 2. 107° 680

H SL 78 $\frac{1}{4}$ 860H Top. 63 $\frac{1}{4}$ 740

K. West 120 1080

side
Main
CREEK 132 980

K 153 830

H 43 730

K 165 780

K 183 $\frac{1}{2}$ 660

4/26/21 Briggs

Hoff

Hill

Simpson

Church Steeple Sw.

Note Hoff ³ RoadsideShed line W
sideHills Roadside
(K)
CREEK

AD

SL. W side

HS F.L.

NFS Hwy.

E+W Hwy Topog

Junction.

Still on B₁₉ CREEK

K	153	800
K	147 $\frac{1}{2}$	740
K	147 $\frac{1}{2}$	680
K	145	640
K	159	530
K	163	330
H	134 $\frac{1}{2}$	1020 ✓
H	147	780
K	180°	270 ✓
K	211°	100
K	273°	120
H	173°	620
K	284°	210 ✓
H	208 $\frac{1}{2}$	600
K	281	350
K	284 $\frac{1}{2}$	450
K	285	500
K	288	620

Small Creek S of Junction

SL East side

Bridge E & W Hwy on West Br.

K 276 $\frac{1}{2}$ 370' π At Δ "D"

F.S. 18° 58'

H SL. 133 $\frac{1}{4}$ 1120 ✓H 145 $\frac{1}{2}$ 1120 ✓H 162 $\frac{1}{2}$ 1060 ✓

H 179° 1160 ✓

K 94 $\frac{1}{2}$ 950 ✓H 188 $\frac{1}{2}$ 1200 ✓

K creek 98 900 ✓

K Creek 98 $\frac{1}{2}$ 850 ✓H 197 $\frac{1}{2}$ 1460 ✓K 103 $\frac{1}{2}$ 760 ✓

K 107 680 ✓

H 201 $\frac{1}{2}$ 1150 ✓K 111 $\frac{1}{2}$ 630 ✓

K 111 550 ✓

Junction E & W Branches

Ch. SW.

Shed line N side

E. Creek.

RR track

E. RR Bridge

K	136 $\frac{1}{2}$	280'	✓	Creek
K	164 $\frac{1}{2}$	270'	✓	
K	178	310'	✓	
K	190	340'	✓	
K	202	340'	✓	
K	232	450'		
K	233°	560'		

RR Bridge E. Br.

Topog. W. Side W. Br.

H	311 $\frac{1}{2}$	720'	✓	RR
H	304	650'	✓	
H	316 $\frac{1}{2}$	620'	✓	
H	326 $\frac{1}{2}$	560'	✓	
H	341 $\frac{1}{2}$	380'	✓	
H	335 $\frac{1}{2}$	330'	✓	
H	349	300'	✓	
H	359	280'	✓	
H	10°	340'	✓	

H	28 $\frac{1}{2}$	380'	✓	
H	40 $\frac{1}{2}$	410'	✓	
H	80 $\frac{1}{2}$	270'	✓	E+W. Co. line
H	55°	440'	✓	
H	82°	610'	✓	E+W Hwy Co. line
H	101 $\frac{1}{4}$	710'	✓	
H	110 $\frac{1}{2}$	410'	✓	
H	81	360'	✓	E+W Hwy Co. line
H	128	200'	✓	
H	208	150'	✓	
H	267	340'	✓	
H	275 $\frac{1}{2}$	500'	✓	RR

Interior divide

H	202°	400'	✓	
H	224 $\frac{1}{2}$	640'	✓	RR
H	239°	960'	✓	

Δ #2 246°-38' 1320'

π at Δ #2

BS. 246°-38'

H 52° 700

H_# 148 $\frac{1}{4}$ 1130

K 41 $\frac{1}{2}$ 740

H_# 156 1280

K 32 $\frac{1}{2}$ 850

H_# 158 1420

K 13° 730

H_# 160 $\frac{1}{2}$ 1200

K 259 $\frac{1}{2}$ 700

H_# 169 1140

K 351 $\frac{1}{2}$ 870

H_{SA} 168° 960'

All this forog both H+K.

Δ "D"

old top pt. KK

A A Δ #2

H _{SL}	159 $\frac{1}{2}$	1520	RR
K _{TOP.}	333	1030	
H _{SL}	171 $\frac{1}{2}$	2040	
H _{SL}	178	2000	
H _{SL}	197 $\frac{1}{2}$	1840	ETW. P.L.
H?	185	1800	
K _{1267d}	236 $\frac{1}{2}$	40'	
K	277	100'	
H _{TOP.}	186°	1640	
H	190°		1460
K	280	290'	
K	296	350'	
H	190°		1300
K	316°	260'	
H	201		1280
K	353 $\frac{1}{2}$	160'	
K	206°		1360

H	213°	1600'	N+J Hwy.
A #3	230°-38'	1660	
At A #3			
B5	230°-38'	1640	A #2
H	137½	410	
H	154	490	
H	175	370	
K island	358	530	
H	143½	70'	
K island	2°	620	
H	104½	170	
H	68½	210	
K	36°	800	
H	354	220	
K	48½	900'	
H	307½	320'	
K	53½	860	
H	286	330	

K	50°	720'	
H	260°	340	
K	38°	640'	
H	225½	310'	
K	13½	520	
H	234°	480	
H	268½	600	
H	282	690	
H	302	590	
H	316	690	
H	318½	920	
H	349°	830'	
H	218½	930	
H	207	860	
H	302½	1000	
H	302	1150	
H	309	1400	

Close K -
10/10/40

Tie 184°-58'

Born West N

Tie 32°-12' Cl. SW.

H 325 $\frac{1}{2}$ 1270

A #4 283°-11' 1260' #3-4

At A #4

B.S. 283°-11' 1260

Tie 40°-17' Cl. SW.

S 34 $\frac{1}{2}$ 730'

K 246° 720'

S 54 1150'

K 232° 800' AD COR.

S 50° 1350'

K 214 900

K 206° 810

S 33 $\frac{1}{2}$ 1100

K 203 1070

K 198° 1200

S 357 700'

S	338°	850
S	328½	730
K	199½	1520
K	194	1660
K	187	1680
S	293½	540
K	179½	1800
J	276	320
S	247	300'
K	186	2000
S	212½	210
J	183	290
S	159½	340
K	179°	2500
S	177	450
K	173½	2200
S	162	700
K	164½	2000

S	145	950'
K	159	1830'
S	162	1070
K	162½	1600
K	157	1460
S	145½	1280
K	153½	1300

At A

F.S. 302°-59'

Ch. SE.

Island	74°	1600
"	80¾	1610
"	80½	1420
"	72½	1460

Height K
P.M.

Topog. K's Old pt.

K	50°	1700'
K	42°	1580
K	38°	1600
K	38¼	1720

K 35 $\frac{1}{4}$ 1800

K 33° 1600

K 22 $\frac{1}{2}$ 1440K 25 $\frac{1}{2}$ 1600K 25 $\frac{3}{4}$ 1650K 18 $\frac{1}{2}$ 1700K 12 $\frac{1}{2}$ 1660

A-5 263°-31' 1380

At A #5

Tie 311°-22' Ch. SE

Tie 129°-22' Barn NW

5-6 284°-0' 1440' #6

To 09 E Side Horseshoe

H 264° 750' ✓ ETW Hwy

H 226° 650' ✓

H 209° 750' ✓

5-7 207°-45' 1300'

At A #7

B.S. 207°-45' 1320' #5

H 352° 520' ✓

H 336 740' ✓

H 324 $\frac{1}{2}$ 750' ✓

H 320 960' ✓

K 93 $\frac{1}{2}$ 620 N. Side

H 303 1100' ✓

S 121 350' ✓

H 296 780' ✓

S 140 320' ✓ ETW PL.

H 311 500' ✓

S 158 400' ✓

H 327 280' ✓

H 274° 420' ✓

S 142 $\frac{1}{2}$ 840' ✓S 145 $\frac{1}{2}$ 930' ✓H 280 $\frac{1}{2}$ 720' ✓

S	155 $\frac{1}{2}$	750 ✓	
H	268	570 ✓	
H	255	620 ✓	
S	160	1000 ✓	
H	261	770 ✓	
S	163	950 ✓	
H	244	780 ✓	E+V PL.
S	188	620 ✓	
S	198	930 ✓	
F-8	235°-27'	1110	
Tie	322°-57'	Barn Vent SE	

At A #8

B5	235°-27'	1120 #7	
H	34 $\frac{1}{2}$	220' ✓	
H	334 $\frac{1}{2}$	280 ✓	E+V PL.
H	332 $\frac{1}{2}$	740 ✓	
S	117	760 ✓	

H	322	900 ✓	
H	311	800 ✓	
S	117	1100 ✓	
H	314	500 ✓	
H	305	400 ✓	E+V PL.
S	117	1600 ✓	
H	282	350 ✓	
H	275 $\frac{1}{2}$	560 ✓	
S	123	1740 ✓	
H	283	820 ✓	E+V PL.
S	129	1420 ✓	
H	293	910 ✓	
H	295	1100 ✓	
S	134	910 ✓	
H	291	1220 ✓	
H	277 $\frac{1}{2}$	1130 ✓	E+V PL.
S	158 $\frac{1}{2}$	1300' ✓	
H	271	1100' ✓	

H	265	1310	✓	
S	151 $\frac{1}{2}$	1500	✓	
H	255 $\frac{1}{2}$	1240	✓	
H	253 $\frac{1}{2}$	950	✓	NHS P.L.
S	144	2000	✓	
H	251 $\frac{1}{2}$	740	✓	
S	148	1980	✓	
H	240	640	✓	
H	241 $\frac{1}{2}$	280	✓	
S	163	1800	✓	
H	202	270	✓	
H	171 $\frac{1}{2}$	430	✓	
H	175	620	✓	
H	194	810	✓	
8-9	170°-35'	1120'	#9	
Tic	170°-42'		Baro NE	

K At A #9				
135.	170°-38'	1120'	#8	
H	295	770	✓	
H	285 $\frac{1}{2}$	700	✓	
H	285 $\frac{1}{2}$	1080	✓	N/E P.L.
H	275 $\frac{1}{2}$	1250	✓	
H	275	1440	✓	
H	281 $\frac{1}{2}$	1660	✓	
H	286	1840	✓	
H	280	2000	✓	Bldg's
K	159 $\frac{1}{2}$	860	✓	
K	152 $\frac{1}{2}$	1020	✓	NHS Hwy
H	272 $\frac{1}{2}$	2100	✓	300' N Cor.
K	197	1250	✓	
H	267	2040	✓	
K	145 $\frac{1}{2}$	1580	✓	
H	261	1540	✓	
K	149 $\frac{1}{2}$	1800	✓	

H 253 $\frac{1}{2}$ 1340 ✓

K 154 1350 ✓

H 260 1000 ✓

K 159 $\frac{1}{2}$ 1400 ✓ P.L. ?

H 265° 650 ✓

H 257 460 ✓

K 168 1080 ✓

H 225 405 ✓

K 180° 1120 ✓

H 228° 600 ✓ Bldg's

H 208 $\frac{1}{2}$ 610 ✓K 177 $\frac{1}{2}$ 1400 ✓

H 195 720 ✓

9-10 196°-33' 1240' #10

Tio 358°-45' Basin V S.

4/29/21

Briggs
Hoff 28
Hill
Simpson

H #10

BS. 196°-33° 1220' #9

S 115 $\frac{1}{2}$ 460 ✓

S 128° 550 ✓

S 126° 700 ✓

Road (H) 45° 750 ✓ Bridge Road

S 138° 670 ✓

" (H) 52° 900 Cr. Crossed Hwy.

S 142 $\frac{1}{2}$ 780 ✓" (H) 72 $\frac{1}{2}$ 830' HWY 11+5

S 139° 960 ✓

" (H) 75 $\frac{3}{4}$ 1150 ✓ HWY mostS 143 $\frac{1}{2}$ 980 ✓

S 160° 870 ✓

S 161 $\frac{1}{2}$ 990 ✓

S 170° 940 ✓

H Topog 355° 380 ✓

S 183 960 ✓

H 210° 430 ✓

S 186½ 870 ✓

H 298° 570 ✓

S 190½ 780 ✓

H 201 900 ✓ Road?

H 293½ 1080 ✓

S 180° 720 ✓

H 290½ 1380 ✓

S 171° 650 ✓

H 293½ 1660 ✓ E+W. Hwy.

S 171½ 460 ✓

H Xover S 188 270 ✓

S 212½ 330 ✓

S 210° 430 ✓

S 225 490 ✓

S 237 560 ✓

S 232 650 ✓

S 231½ 776 ✓

10-11 221°-18' 1400' #11

Tie 4°-12' Barn Kent South.

At A #11

B.S. 221°-18' 1400' #10

11-12 333°-28' 1200' #12

Tie 13°-32' Jamo Barn V.S.

S 39½ 560 ✓

H 347½ 1100 ✓

S 56½ 540 ✓

H 347½ 950 ✓

S 66° 440 ✓

H 338 1020 ✓

S 48° 430 ✓

H 341° 860 ✓

S 29½ 380 ✓

H 320½ 840 ✓

S 10° 460 ✓

S	360°	470	✓	
H	324	730	✓	
S	344	410	✓	
H	301½	650	✓	
S	321	420	✓	
H	300	830	✓	
S	309	390	✓	
H	301½	980	✓	
S	303°	290	✓	
H	307°	1040	✓	
S	278	440	✓	
H	303½	1120	✓	H+J HWY.
S	266°	420	✓	
H	300°	1240	✓	Bldgs
S	253	250	✓	
H	299°	1040	✓	(Hwy 3)
S	206	220	✓	
H	295	760	✓	

S	209½	400	✓	
H	286½	940	✓	H+J HWY
S	238½	430	✓	
H	279°	900	✓	Hwy Bridge
S	252	600	✓	
H	275	1150	✓	
S	257½	870	✓	H+J HWY
Tic	148°-33'			Water Tank NW.
11-13	250°-34'	1600'		#13
At A #12				
B.C.	250°-34'	1620'		#11
Tic	137°-10'			Water Tank NW.
K	12°	700		
K	357½	820		
K	352½	750		
K	338½	1000		
K	327°	1110		

K 324 1300'

K 324 $\frac{1}{2}$ 1480K 322 $\frac{1}{2}$ 1800

K 327° 1840

K 322 $\frac{1}{2}$ 2000K 315 $\frac{1}{2}$ 2200

S 69° 560

S 78 $\frac{1}{2}$ 520

S 88° 590

S 82 $\frac{1}{2}$ 520

S 97° 480

S 103 $\frac{1}{2}$ 600

S 105 470

S 117° 460

E+11N. HWY.

13-14 297° 04'

#14

S 120 $\frac{1}{2}$ 550S 128 $\frac{1}{2}$ 480

S 141 536

92°
1300
B-14S 140 $\frac{1}{2}$ 630'

S 146 560

K X-over K 287 1360

S 151 $\frac{1}{2}$ 620S 154 $\frac{1}{4}$ 530K 291 $\frac{1}{2}$ 1260

S 165 490

S 168 580

K 291 1060

S 174 480

S 190° 510

H 214 850

S 196 620

H 220 750

S 207° 750

H 238 $\frac{1}{2}$ 650S 207 $\frac{1}{4}$ 880

H 317° 600

S	179°	780
H	245°	510
S	194°	1120
H	15°	390
S	196 $\frac{1}{2}$	1220
H	45°	450
S	206	1320
K	53°	270
K	78°	320
S	209°	1640
K	106	220
S	211	1360
K	130 $\frac{3}{4}$	345
S	221	1400
K	155°	370
K	185	320
K	212	510
K	238 $\frac{1}{2}$	675
K	241°	840

E E+W Hwy

E

K 225° 660'

K 216½ 690'

K 218 850

K 226° 1030

S 227° 1450

K 234 1160

S 226½ 1800

K 242½ 1450

S 228° 1990

S 229° 1740

K 250° 1790

S 232° 1600'

B=K 246½ 1880

S 237½ 1860

B 243½ 1900

± Hwy - Pointe N

close on S.

B.S.

299° 04'

1750' Δ-13

K 183° 1400' close on K
from Δ-13

K 189° 1300' E Hwy

K 190° 1170

K 179½ 950

K 185° 820

K 186½ 670

S 188 1720

K 182 500

S 195 1700 NSE

K 168° 600

K 157½ 470 close to land

S 200° 1700

S 205½ 1460 E Hwy (?)

S 201½ 1300

S 198 1160

K 345 880 close on K
from Δ-13

S 196½ 860

K K 336° 1220

S 203° 650

S 213½ 620

K 331 1590 F. Cor.

S 225 800 E

S 228° 1020

K 321½ 2030

S 232° 1320

S 241° 1370

S 246° 1380

S 251½ 1380

S 256° 1270

S 256° 950

S 268 1070

S 268° 810

S 266° 625 E

S 234½ 500

14-15 • 315°-37' 990' Δ-15

S 208° 330

S 163° 236'

S 119° 270'

S 79½° 290'

S 25° 170'

H A # 15

Bs 315° 37' 980' # 14

Tie 134° 08' Water Tank NW.

S 140½° 720'

H 234° 870'

S 151° 500'

S 175° 400' N+J. R.L.

H 326° 1080' S. Side Pond

S 200° 460'

H 315° 1250' S. Pond

S 227½° 470'

S 247½° 550'

S 257½° 670'

H 297½° 1600'

S 263° 1020'

H 295° 1780'

S 268½° 1100'

S 268° 850'

H 289½° 1980'

S 268° 620'

S 268° 270'

H 290° 1500' N+J. P.L.

S 176½° 40' N+J. P.L.

K 292° 1240'

S 126½° 290'

S 109½° 420'

K 286½° 1400'

S 99¼° 410'

K 280° 1400'

S 83° 170'

K 278° 1150'

S 351° 85' NS P.L.

S 301° 190'

K 278° 810'

S 277½ 360' Close "K" 12-16

M/E BRANCH

At Δ #12

BS. 333°-28' 1200' Δ #11

H 325°-15' 940' COR-

H 318½ 1200

S 99° 260

H 316½ 1400

S 73½ 360

H 317 1520

S 49 230

H 309½ 1600

S 2½° 145°

H 306 1800

S 334° 220

S 303° 280

S 264 230

302°-21' 1680' #16

S 247° 340

S 255½ 440

S 268° 580

S 275° 850

S 280½ 840

S 292½ 510 NYS HWY.

S 312½ 490

S 311½ 670

S 307½ 980

Tie 347°-26' W.M. 11 S.

At Δ #16

BS 302°-21' 1685' #12

K 309° 240'

K 309° 300'

K	284°	540	145 PL. ?
Culvert	108°	970	145 Hwy.
K	268°	600'	
H	125	520	
K	274	900'	
H	145	420	
K	271	1160	
H	171 $\frac{1}{2}$	630	
K	268°	1330	
H	178 $\frac{1}{2}$	770	
H	193°	760	
K	260 $\frac{1}{2}$	1440	EXX. P.L.
H	201 $\frac{1}{2}$	890	
H	209	900	
K	259	1600	
H	224°	770	
K	254 $\frac{1}{2}$	1720	
H	236	980	

K	250 $\frac{1}{2}$	1720	
H	243	1100	
H	242 $\frac{1}{2}$	1280	
H	246°	1440	Close-
Tie	189°-22'		Born Side H.

TAH-G

BS	284°-0'	1460'	to Δ-5	6-17	302°-06'	955'	to Δ-17
Tie	319°-11'		Ch. S.E.	K	84°	820'	
Tie	55°-17'		Ch. S.W.	K	88	860	
S	1°	1040'		S	302°	770	
K	106½	950		K	85	980	close island
K	101½	1060		S	288°	800	
S	35½	820		K	82°	1060	red back
K	101½	950		S	275°	780	
S	342	880		K	77	980	
K	96°	1130		S	265½	960	
S	33½	870		K	80½	820	
K	95½	1170		S	258½	980	
S	314°	940		K	90°	770	
K	90°	990	red	S	247°	1040	
K	85½	970	island	K	78°	620	
K	81	950		S	238½	1180	± Hwy
K	78	910		K	111	460	
K	79	850					

May 3d '21
Hoff 48
Hill
Simpson

S	S	236°	1210'
K	K	119°	380'
K	K	143°	810
S	S	232°	1400
K	K	174°	230
K	K	142°	190
K	K	107½°	290
K	K	84°	370
K	K	77°	290
K	K	67°	590
K	K	60°	750
K	K	47°	860'
K	K	34°	770
K	K	18°	660
K	K	352¾°	550

N+SE

NE

NAT Δ-17

OS.	302°-06'	960'	TO Δ-6
TIC	323°-18'		CH. S.E.
TIC	87°-03'		CH. NW
K	101°	750	
K	95°	590	
K	105°	570	
K	112°	430	
K	119°	770	
K	123°	640	
K	125½°	540	
S	191°	1380	
K	141°	810	
S	186°	1500	
S	182°	1420	
K	145°	610	
S	178°	1400	
S	174°	1320	
K	157°	820	

S 169 1200

K 163½ 860

S 164½ 1200

K 170° 820

S 165¼ 1110

K 168½ 930

44m

chase

S 60° 1160

S 53° 1130

S 46° 1120

S 38° 1040

±

S 31° 1000

S 23° 930

Not top. 11½ 1360 Drainage Well

17-18 348°-58' 2600½ To 18

S 17 740

S 5½ 620

S 353½ 590

K 1° 1980
 S 341 450
 K 355 1950
 S 355 330
 K 355 1400
 S 332° 400
 K 348 1980
 S 304 350
 K 342 2100
 S 288° 190
 K 334° 2100
 K 330 2040
 S 260 250
 S 277 360
 K 326½ 1970
 S 264 410
 K 332½ 1680
 S 241 340

(red?)

K 340 1590
 S 257 460
 S 249 550
 K 351½ 1670
 S 287½ 540
 S 238¼ 610
 K 359° 1560
 S 231° 700
 K 4½° 1440
 S 222 725
 K 3¾° 1290
 S 214° 720
 S 208 810
 K 351 1240
 S 218½ 790
 K 349 1170
 S 231 840
 K 355 1110

E
 E N+S
 ENE
 E

K	357 $\frac{1}{2}$	1060
S	234	910
K	350 $\frac{1}{2}$	1090
S	226	1050
K	344	1250
S	216	1130
K	336	1280
K	334	1220
S	227 $\frac{1}{2}$	1150
K	335	1120
S	236	1320
K	348	930
S	237	1440
K	331	950
K	326	1050
K	320	990
K	315 $\frac{1}{2}$	970
K	307	850
K	303 $\frac{1}{2}$	860

K	302	1100	
K	300	1400	
17-19	274 $^{\circ}$ 49'	1390	to Δ. 19
K	298	1580	
K	300	1700	
K	296 $\frac{1}{2}$	1800	
K	294	1570	
K	298	1240	
K	295	1180	
K	289 $\frac{1}{2}$	1330	
K	288	1140	
K	288	970	
K	286	810	

57

A A. 19

B. 5. 274°-49' 1400' To A-17

Tie 88°-08' Ch NW

K 87° 680

K 102 560

Tie 142°-38' To A-G

K 127 530

K 142 550

S 173 1080

K 154 490

S 178 1230

K 173 490

S 179 1380 xed E Hwy

K 195 430

K 221 460

K 243 1/2 570 E Hwy

Tie 20°-06' To A-18

K 264 1/2 640

K 275 930

58

19-20

191°-46' 2380'

To A-20

K 284° 1030

K 290° 1070

K 290° 1240

S 191 1400 xed E Hwy

K 291 1200 Island

S 190 1250

K 297 1070

S 188 1/2 1070

K 302 1/2 1180

S 193 880

K 301 1240

S 203 820

K 291 1240 Close Island

S 207 1/2 850 E Hwy

K 291 1150

S 210 1060

K 297 980

S	215°	1070
K	304	1080
S	223	1230
K	306	1240
S	223	1430
K	307	1500
S	229	1820
K	303	1860
S	233½	1790
K	291°	1400
S	233	1990
K	285	1330
S	230	2220
K	283	1500
S	231	2400
K	284	1740
S	233	2380
K	288	1800
S	234	2200

K	290	1980
S	236	2000
K	286	2100
S	238½	1960
K	283½	2320
S	241	2080
K	283½	2600
S	241½	2220
K	277	2380
S	238	2500
K	272½	2400
S	237	2650
K	270½	2430
S	238½	2840
K	271	2700
S	241	2850
K	268	2650
S	241	2650

MSA

EWE

S	241 $\frac{1}{2}$	2575
S	245	2480
K	267	1940
S	248	2600
K	269	1760
S	249 $\frac{1}{2}$	2780
K	271 $\frac{1}{2}$	1560
S	252	2800
K	271 $\frac{1}{2}$	1420
S	252 $\frac{1}{2}$	2600
K	267	1080
S	251 $\frac{1}{2}$	2300
K	261	880
S	250	2180
K	250	950
S	253	2300
K	237 $\frac{1}{2}$	710
S	249	1880
K	236 $\frac{1}{2}$	770

S	245	1700
K	227 $\frac{1}{2}$	810
S	242	1480
S	241 $\frac{1}{2}$	1340
K	238 $\frac{1}{2}$	990
S	244	1260
S	241	1220
S	238	1100
		close on K

A+ Δ-20

B.S.	191	46'	2380'	T.A-19
S	39°	1140'		Close on Hwy
S	44	1250	✓	
S	44	1180	✓	
S	58	1250	✓	
S	44	1060	✓	
S	38½	1020	✓	
K	15	880		Close on Hwy
S	29	890	✓	
K	8½	770	✓	E Hwy
S	39	780	✓	
K	35½	650	✓	
S	58	660	✓	
S	68	730	✓	
K	322	680	✓	
S	77	810	✓	
S	81	790		
K	299	1000	✓	

S	88	650	✓	
K	291	1200	✓	
S	97	800	✓	
K	282	1240	✓	
S	109	910	✓	
S	115	900	✓	E+Hwy
K	281	1400	✓	
S	124	950	✓	
K	276	1600	✓	
S	131	740	✓	
S	144	680	✓	
K	273	1800	✓	
S	156	920	✓	
K	272	1520	✓	
S	160½	870	✓	E Hwy
K	275	1200	✓	NISK
S	168	970	✓	
K	278	1020	✓	
S	174	1100	✓	

K	289	810	✓
S	182	1210	✓
K	290	620	✓
S	183½	1070	✓
K	286½	470	✓
S	184	880	✓
K	271	590	✓
S	195	880	✓
S	204	860	✓
K	259	870	✓
S	213	990	✓
K	262	1190	✓
S	210	1190	✓
K	254	1370	✓
S	204	1350	✓
S	206	1450	✓
K	256	1640	✓
S	213	1560	✓

K	259	1880	✓
S	219	1680	✓
K	258	2140	✓
S	223	1820	✓
K	256	2100	✓
S	228½	2000	✓
K	251	2020	✓
S	235	2090	✓
K	248	1880	✓
S	233	1900	✓
K	246	1700	✓
S	230	1750	✓
K	242	1560	✓
S	231	1640	✓
K	242½	1500	✓
S	228	1400	✓
K	242½	1260	✓
S	224	1250	✓
K	241	1130	✓

Æ

Æ

S 123 1040 ✓

K 244 920 ✓

S 225 860 ✓

S 218 660 ✓

K 247½ 580 ✓

S 200 600 ✓

K 255 390 ✓

S 177 430 ✓

K 301 290 ✓

K 332 280 ✓

S 129½ 285 ✓

K 353½ 370 ✓

S 86 260 ✓

S 62 330 ✓

K 20¾ 440 ✓

S 40 400 ✓

Tie 16° 10'

D-18

± Hwy

± Hwy

close

At Δ-18 - 4' Not E of V 1/16 E

BS

348°-58'

To Δ-17

S 328° 1550

± Hwy

Tie

287°-38'

Ch. SE.

S 322 1250

Tie

102°-31'

Ch. N.W.

S 315 1170

K 137 940

S 307 1180

K 137 1220

S 300 1300

S 295 1380

K 130 1500

E

S 293 1500

S 289 1640

S 285 1700

S 282½ 1820

S 278½ 1900

± Hwy

S	272	1950
S	270	1860
K	119	1600
S	269	1720
K	118½	1440
S	273	1500
K	112	1420
S	280	1310
K	110	1260
S	284	1080
S	275	1100
K	94	1050
K	86	1030
S	265	1280
S	261	1460
K	81	840
S	257	1580
K	74	690

#

			# Hwy
S	257½	1720	
K	57	570	
S	257	1880	
K	37	600	
S	252½	2030	
K	24	770	
S	247	2020	
K	18°	900	
S	243	2000	
K	12	960	
S	243¼	1810	
K	3	880	
S	246	1600	
K	380°	960	
K	346	1060	
S	253	1330	
K	339	1040	Island
S	258	1150	

5/12/21⁷²
Hoff
Hill
Simpson

S 265 980

H

T A T Δ K

S 270 880

B.S.

268°-31'

S 265 770

H

Tie

76-51

W.M.I.L.W.

S 256 650

S 75° 460'

S 252 540

S 57 480

S 265½ 520

H

S 37 570

S 275 410

S 22 590

S 286 530

S 7¼ 560

S 302 650

S 356 430

S 311 700

S 345 280

S 315 850

S 294½ 230

18-21 31°-28'

1660 To Δ-21 T-21

86°-04'

To Δ-21

S 326½ 870

S 260¼ 360

E Hwy

Tie 200°-07'

To Δ-19

K 85¾ 1460

E Hwy

S 338½ 1030

close on H

S 238 360

K 80 1400

S 230 490

E Hwy

K 79 1320

K 76 1280

S 229 680

K 75 1/2 1230

S 238 540

K 70 1/2 1050

S 248 740

K 65 900

S 262 660

K 55 1/2 900

K 55 810

S 273 1/2 570

K 50 1/2 960

S 286 440

K 44 1080

S 307 320

K 40 1330

S 338 420

K 39 1250

K 38 1140

E Hwy

E Hwy

K-22 332°-54'

2000' To A-22

S 355 570

K 46 940

S 360 820

K 45 800

S 339 900

K 31 980

S 329 960

K 31 1060

K 19 1200

S 320 1060

K 12 1400

S 316 1200

K 9 1580

K 14 1700

K 5 1970

K 360 1740

K 557 1/2 1820

K 360 2040

E Hwy

K 356 1990
 K 351 1960
 K 352 2040
 K 352 2100
 K 349 2130
 K 345 2200
 K 348 1/2 2320
 K 245 2420

↗ A-Δ-22

B.S. 332°-52' 1990 To A-K

Tie 169°-03' ch N.

K 23° 630 t. Hwy

K 7 1/2 830 Fm H. S.

K 360 900

K 3 1/2 860 xedover

S 208 570 Pond

22-23 340°-33' 1260 To A:

S 215 590

S 221 680

S 230 560

S 220 460

S 210 470

close pond

K 230 60

Island

K 202 100

~~K 200 100~~

K 110
250 90

K 87
273 160

K 53 110

S 194 980

K 10 170

K 354 180

K 328 90

close island

S 207 1/2 1000

S 212 1/2 950

S 215 1120

K 246 330

22-24 222°-22' 1680' To Δ-24

AA Δ-24

B.S. 222°-22' 1640' To Δ-22

K 35 1230

K 38½ 1020

K 34 880

K 24 860

K 12 950

K 359 960

K 346 970

K 339 1150

K 329 1100

S 69 560

K 326 1170

S 94 920

S 82 810

K 310 1360

S 92 820

K 307½ 1540

S 101 910

K 302 1520

S 110½ 880

K 295 1440

S 104 670

K 290½ 1270

S 102 480

K 294 1020

S 118 400

S 143 450

K 308 700

S 142 660

K 326½ 530

S 140 820

K 318 480

S 135 950

K 296 620

N45 E

N45 E

S	136 $\frac{1}{2}$	1000'	136 $\frac{1}{2}$ 4 1/4 W
K	293	740	
K	283	970	
K	275	990	
K	274 $\frac{3}{4}$	1120	145 E
K	276	1360	
K	276	1640	
K	277	1880	
S	144	850	
K	271 $\frac{3}{4}$	2000	145 E
S	149	900	500m E
K	268	2240	
S	156	630	
K	266	2400	
S	166	650	500m E
S	168	810	
K	265	2800	
S	164	900	

S	157	1000	
S	158	1100	
K	261 $\frac{1}{4}$	2120	E
S	163	1170	
K	263	1950	
S	162	1310	
S	158	1400	
K	264	1540	
S	157	1450	
K	262	1350	
S	158	1600	
K	258	1240	
S	156	1700	
K	253	1420	
S	159	1800	
K	248	1580	
S	158	1940	
K	244	1620	

S	160	2200
S	160	2200
K	242	1440
S	161	2300
S	165	2280
S	169	2200
S	171 $\frac{1}{2}$	2120
S	173	2240
K	242	1160
S	174	2140
K	242	860
S	177	2080
K	249 $\frac{1}{2}$	150
S	179	2220
K	259	580
S	180	2390
K	261	390
S	177	2500

FWF

K	270	190
K	320	100
S	179	2600
K	55	110
S	182	2650
K	160	110
K	203	280
K	207	430
K	193	510
K	188	650
K	201 $\frac{1}{2}$	900
K	214	1120
K	217	1380
K	215	1590
S	186	2100
K	206	2020
S	182	2060
K	202	2160

Hwy

S 177½ 1860

K 198 2060

S 175 1760

K 197½ 1900

S 173 1600

K 201 1700

S 180 1580

S 180 1600

K 203 1480

S 182 1500

K 202 1300

S 181 1360

K 194 1216

S 182 1190

K 188 1150

185 950

180 930

} close

{ E side pond

{ W . . .

pondion 'Died

T A Δ 23

BS 340° 33' 1260

Tie 166° 11' ch H.

S 195° 1310'

K 108½ 600

S 172½ 1060

K 103 980

S 179 840

K 94½ 1170

S 189 680

K 95½ 1400

S 209 670

K 93 1600

K 91½ 1720

S 229 720 E-W E

K 87¼ 1980 N+S E

S 24½ 770 N+S E

K 81½ 1880

K 80½ 1700 E-W E

S 257° 890

K 82° 1420

S 265° 1090

K 78 1180

S 267½ 1250

K 71 1140

S 265 1480

K 71 860

K 72 600

K 61 490

23-25 274°-38'

K 42 630

K 39 780

K 25½ 1060

K 16½ 1200

K 18 920

K 19½ 550

K 56 260

↑ xed

Top goes 500's.

E Hwy

1980 T6Δ-2

Hwy A

K 100° 140'

K 161½ 120

Bridge 100¼

A At Δ-25

BS 274°-38' 1960'

Tie 186°-29'

S 136° 520'

K 95° 1700

Tie 136°-08' 5

S 163 520

K 91 1480

S 169° 820

S 165½ 740

K 75½ 1440

S 175° 790

K 68° 1600

S 170 910

un painted
new Barn
W Mill NE-By

T6Δ-24

E-W K

E-W K

S	181½	900	N45E
K	67	2070	
S	187½	1080	
K	61¾	1980	
S	195	1260	
K	57½	2100	
S	199	1400	
K	62	1800	
S	195	1440	
K	62	1560	
S	201	1600	
K	68½	1300	
S	206½	1780	
S	210½	1990	N45E
K	68½	1050	
S	21K	2020	
K	61½	830	
K	38½	800	

S	216¼	1740	
K	20	890	
S	211	1480	
K	12½	1190	
S	208	1380	
K	11	1320	
S	202½	1110	
S	199½	900	E4W E
S	205	730	
S	220	770	
S	232½	950	
25-26	46°31'	1440	T.Δ-26
S	238	1200	
S	242	1400	
S	249	1260	
S	253½	1050	
S	249	810	
S	235	590	

S 197 340 N+SE

S 174 260

S 140° 210

S 98 420

S 81 480

25-27 338°-25' 1230 T₆Δ-2

S 57 370

S 22½ 350

S 3° 380

S 0° 530

TAH Δ-27

B.S 338°-25' 1230 T₆Δ-2

Tie 93°-09' Δ-26

Tie 300°-37' B. vent S.E.

Tie 145°-19' Δ-24

S 155½ 610 N+SE

S 173½ 540

S 182 610

S 198½ 510

S 220 600

S 234 740

S 233½ 900

S 232½ 1150

S 235 1290

S 237½ 1450

S 233 1680

K 50 670

S 233 2040

K 27 620

S 236 1760

K 11½ 730 E H W Y

S 241½ 1660

K 5¼ 910 N+SE

S 249 1920

K 382½ 1210

S 251½ 2000

K 348 1420

S 251 $\frac{1}{2}$ 1980K 339 $\frac{1}{2}$ 1580S 248 $\frac{1}{2}$ 1560

S 248 1250

K 358 $\frac{3}{4}$ 1860

S 250 1050

K 350 $\frac{1}{4}$ 1860S 259 $\frac{1}{2}$ 1090S 263 $\frac{1}{2}$ 1160K 355 $\frac{3}{4}$ 2180

S 270 1400

K 350 $\frac{1}{4}$ 2220

S 270 1070

K 349 $\frac{3}{4}$ 2400

S 263 820

S 254 630

S 237 300

N+S E Xed

N+S E Xed

Top goes 400' W

S 168° 270'

S 135 $\frac{1}{2}$ 310

S 106 350

S 70 350

S 39 $\frac{1}{2}$ 270

S 354 320

S 342 430

S 336 580

S 337 740

Bridge 352 $\frac{1}{4}$

S 325 850

S 319 $\frac{1}{2}$ 920

27-28 331°-13'

1820

To 28

N+S E.

E

E/W

93

T.A. Δ-28

B.S. 331°-13' 1840 T.A.-2

Tie 316°-46' Sage Mill 6 E.

S 173½ 790

K 33½ 1160

S 189½ 670

K 36¼ 1290 E.W. H.

S 206 700

K 42¼ 1000

S 22¼ 770

K 36 1760

S 239 850

K 28¼ 1720

S 255½ 960

S 264 1040

K 22 1800

S 265 1250

K 20½ 1860

S 267 1420

E.W. H. 28-29 256°-40' 1820 T.A.-29
 200' bore
 Draw back of

H.

94

K 15¾ 1830 E.W. H.

S 274½ 1660

K 15½ 1470

S 279½ 1780

K 16 1230

S 280 1620

K 6° 1050 N+S H.

S 279 1380

K 357 1220

S 286 1170

K 354 1430

S 291½ 1280

S 293 1480

S 291 1720

S 298½ 1570

256°-40' 1820 T.A.-29

S 303½ 1440

S 306½ 1180

S 302 930

K	350	1680	E+W+E
S	288	730	
S	267	570	
S	250	440	
S	225	270	
S	182	340	
S	163	580	
S	156 $\frac{1}{2}$	780	
S	151 $\frac{1}{2}$	870	
S	141	820	
S	133	630	
S	131 $\frac{1}{2}$	450	
S	106	260	
S	52	270	

$\pi A + \Delta - 29$

B.S.	356°-40	1860	To A-28
K	221 $\frac{3}{4}$	270'	E+W+E
S	170	1480	
K	264	380	
S	173 $\frac{1}{2}$	1330	
K	284	570	
S	180	1100	
K	294	620	
S	185 $\frac{1}{2}$	980	
K	305	390	
S	196	990	
K	311 $\frac{1}{2}$	810	
S	207	840	
K	309	1050	
S	221	840	
K	308	1230	
S	230	1000	

K	298 $\frac{1}{2}$	1210
S	237	1170
K	294	1370
S	239 $\frac{1}{2}$	1400
K	283 $\frac{1}{2}$	1380
S	241 $\frac{1}{4}$	1630
K	280 $\frac{1}{2}$	1480
S	245 $\frac{1}{2}$	1630
K	274	1270
S	246	1410
S	247	1260
K	270 $\frac{1}{2}$	1460
S	254 $\frac{3}{4}$	1200
K	269	1740
K	267	1800
S	263	1560
K	264	1760

E.W.H.

} close.

TAH Δ -26BS 46 $^{\circ}$ 31' - 1440 - To Δ -25T.C. 273 $^{\circ}$ 12'To Δ -27S 300 $\frac{1}{2}$ 1080K 297 $\frac{1}{2}$ 620

S 311 1100

K 316 $\frac{1}{2}$ 450S 326 $\frac{1}{2}$ 970

K 329 310

K 347 450

S 340 950

K 354 490

K 9 570

S 354 $\frac{1}{2}$ 1110

K 18 710

S 4 1290

K 37 630

K 57 570

S 3 1700

N+SE

N+SE

K 60° 680'

S 359 1780

K 52 830

K 38½ 880

K 28½ 990

K 1120 E (Hwy)

26-30 355° 15' 1700 To Δ-30

K 28½ 1160 Hwy(?)

K 43 1160

K 49½ 1200

K 57½ 1220

K 54 1300

K 60 1380

K 57 1450 E Hwy

60π H Δ-30

BS 355° 15'

1680

Tic 1° 58'

Grey Silo 5.

S 340° 180

N+5 E

S 305° 400'

S 305° 600

S 319½ 680

S 331 590

S 348 450

N+5 E

S 5° 540

S 5° 660

E+W E

30-31 17° 26' 1740 To Δ-31

S 16½° 730

S 27½ 860

S 25½ 1010

S 17½ 1080

S 10 1130

S 2 1190



To Δ-26

S	35 1/2	1160	N+S H
K	49 3/4	1560	E+N+S Hwy
S	344	1220	
K	47	1360	
K	50 1/2	1160	E+W H
K	61 1/2	1340	
K	68	1310	
K	68 1/2	1060	
K	72	860	
K	78	710	
K	94	630	
K	107	700	
K	109 1/2	950	
K	100	1110	

A A Δ . 31			
B.S.	17° 26'	1760	To Δ 30
31-32	43° 53'	1720	To Δ 32
Tie	142° 25'		S.Q. (P)
S	239°	990	
S	243	1180	
S	247 1/2	1390	
K	16 1/2	950	Private Hwy E+W H
S	254	1460	
K	14°	890	
S	259	1480	
K	27 1/2	840	
S	257 1/2	1140	
K	14°	680	
S	261 1/2	940	
K	29 1/2	640	
S	270	860	
K	24	530	
S	278	1040	

K	37 $\frac{1}{2}$	525	SW #
S	282 $\frac{1}{4}$	1220	SW #
K	27	410	
K	48	320	
S	285	1430	
K	75	330	
S	288	1720	
K	117 $\frac{1}{2}$	320	
S	29 $\frac{1}{2}$	1970	
K	153	320	
S	295 $\frac{1}{2}$	2000	
K	210	240	
K	235	200	red over
S	303 $\frac{3}{4}$	1940	
S	302 $\frac{3}{4}$	1700	
S	299 $\frac{1}{2}$	1370	
S	304	1230	
S	299 $\frac{1}{2}$	1000	
S	314	950	

S	318 $\frac{1}{2}$	690	
S	308	460	
K	132	910	
S	277	330	
S	240	250	
K	129 $\frac{1}{2}$	1190	
K	122	1350	
K	115 $\frac{1}{2}$	1240	
K	101	1070	
K	97 $\frac{1}{2}$	1280	
K	99	1410	
K	101 $\frac{1}{2}$	1460	
K	102	1760	
K	100 $\frac{1}{2}$	2000	N+S #
K	99	2180	
K	95	2380	
K	90	1960	N+S #

TAT 15-32

BS 43°-53' 1690' T64.31

K 136 1/2 1280

K 161 1120

K 142 1270

S 254 900

K 133 1440

S 269 910

K 124 1680

S 271 1220

S 274 1460

K 115 1/2 1230

S 278 1800

K 111 1500

S 284 1460

S 281 1320

K 100 2120

S 281 1/2 1010

N+SE

Private Hwy

E

N+SE
E

S 286 1/2 890

K 96 1/2 2280

S 297 910

K 91 2140

S 298 1/2 1100

S 299 1/2 1280

K 85 1960

S 294 1540

K 80 1660

S 303 1/2 1740

K 68 1360

S 310 1920

K 54 1500

S 315 1/4 1880

K 54 1500

K 49 1/2 1460

S 316 1/2 1720

K 45 1270

E+W E

N+SE

E

(?)

S	315	1480
K	46	1000
S	319	1170
K	42½	800
Z	230½	1140
K	30	800
S	347	1100
K	3½	970
S	4	1300
K	18	1100
S	6	1530
K	21	1340
S	6	1460
K	25½	1460
S	7¾	1700
K	27½	1640
S	13½	1660
K	24½	1780
K	19°	1720

4 Hwy
N 5 H

E 4 W H

N 45 H

120°	80'	15 land
167°	180	
190	400	
216	400	
245	350	
295	200	
350	200	
37	100	

$\pi A + \Delta - O$ B.S. $354^{\circ} - 45'$ $\Delta - P$ $264^{\circ} - 34'$ Tie $144^{\circ} - 35'$ Tie $274^{\circ} - 18'$ $\pi A + \Delta - P$ B.S. $264^{\circ} - 34'$ Tie $239^{\circ} - 02'$ Tie $310^{\circ} - 14'$ $\Delta - Q$ $265^{\circ} - 57'$ $\pi A + \Delta - Q$ B.S. $265^{\circ} - 57'$ Tie $76^{\circ} - 33'$ Tie $296^{\circ} - 43'$ Tie $\rightarrow$ Tie $220^{\circ} - 12'$ Tie $194^{\circ} - 11'$

$$\begin{array}{r} 354 - 45 \\ 140 \\ \hline 194 - 25 \end{array}$$
To $\Delta - N$.To $\Delta - P$

Spear C Spire NW.

W Mill E

To $\Delta - O$

W Mill N.E. - Old Fashioned Fans.

Same W Mill SE.

To $\Delta - P$.

W Mill W

Sage W Mill by S House

Same W Mill N.E. - Old Fashioned Fans.

C Spire NE.

Triangulation Base

(Δ-1 is 16 1/2' S of E & W Co Line

Δ-A 33' E and 33' N from NW Cor

L. Denver Hwy - 1200' W of Δ-A

Δ-B 1323' W of Δ-A on E Denver

Culvert 605' N Δ-B - F&L W 132' N of Δ-B
= 5 bed Point

Δ-C 2455' N of Δ-B + 7' W of E. Line

Bridge across Co Line 522' W Δ-B

WCF & N. RR. 1317' W of Δ-B.

Δ-D 1800' W. of Δ-B + 10' S. of

Bridge on Co Line 757' W of Δ-D

Δ-E 2276' W. Δ-D + 25' N. of Δ-D NE sec 2
S. Hwy E 10' E Hwy W Line sec 2

Bridge 971' E of Δ-A on Co Line

E N. 1325' E of Δ-A

Δ-F 2900' E of Δ-A + 15' N of

Δ-G 1081' E " Δ-F + 15' N of S

Bridge 1048' E of Δ-G

Δ-H 1322' E of Δ-G

31' E + 33.5' N of NE Cor post sec 1
= E Hwys.

Apr 19-24

Hoff
H. H.

NE sec 2 - 16' S of N Line sec 1.

post sec 2 = E Logan Ave

Δ Denver Hwy 300' N Δ-B

Hwy + 40' N of N. Line F sec 2

E E 1360' N of Δ-B

F sec - W. Hwy E.

23' N. of 12th Tel. Bldg
N. of House

House bath & dog Hwy

S Hwy E - 1st F&L W of Gate post

Hwy E - E N + 5.

Bridge 313' S Δ -A - Bridge 600' S. Δ -A - Δ E-W 905' S Δ -A

Δ E-W 2229' S Δ -A

Δ -I 3000' S Δ -A + 20' E of W Hwy Δ 121 steel post S of cherry trees

Δ A Δ -A

Hwy S

Hwy E

Hwy W.

Δ -B 84°-12'

Δ -F 263°-54'

Δ -I 354°-03'

Tie 302°-59'

Tie 160°-44'

Δ A Δ -I

B.S. 354°-03'

Tie 64°-34'

Tie Δ -J 168°-55',
354°-19'

Church Steeple SE

Weather vane Red Barn N.

T Δ -A.

church steeple S.W

Same weather vane

Red Barn N.

$\triangle A \triangle B$ B.S. $84^{\circ} 12'$ Tie $199^{\circ} 56'$ $\triangle C$ $188^{\circ} 08'$ Tie $297^{\circ} 06'$ $\triangle D$ $84^{\circ} 54'$ $\triangle A \triangle D$ B.S. $84^{\circ} 54'$ Tie $18^{\circ} 58'$ $\triangle E$ $83^{\circ} 14'$ Tie $230^{\circ} 12'$ $\triangle A \triangle E$ B.S. $83^{\circ} 14'$ $173^{\circ} 50'$ $1140'$ 5 side
 $\frac{1}{4}$ 5 Rod $169\frac{1}{2}$ $1160'$ $164\frac{1}{2}$ 1280 161 $1320'$ $157\frac{1}{2}$ $1400'$ $153\frac{1}{2}$ $1500'$ To $\triangle A$.

Same Red Barn Vent NE.

Same Church Steeple SE.

 $\triangle D$ $45'$ N of S Hwy E.To $\triangle B$

church steeple SW

Same B Vent NE.

To $\triangle D$ Bridge N

E BR N

150°

1560'

Tie 5°-23'

Tie 208°-12'

Hwy 3 354°

Hwy W 83°-50'

T A + Δ - F

B S 263°-34'

Tie 80°

Δ - G 263°-48'

T A + Δ - G

B S 263°-48'

Tie 335°-59'

Δ - H 263°-12'

Tie 106°-33'

T A + Δ - H

B. S. 263°-12'

Tie 352°-39'

Spear Church Steeple S

Center Steel Mail Box Post N.E.

To Δ - A.

Spear Church Steeple W.

To Δ - E

Church Steeple SE

same.

S. Vent NW

To Δ - G.

Church Steeple S.

Tic $59^{\circ}16'$ Hwy N. $173^{\circ}43'$ Hwy E. $263^{\circ}35'$ Hwy S $353^{\circ}53'$ EW 538' S Δ -I Δ -J 1600 S Δ -I + 6' E ofE Hwy Xing, 287' S Δ -J

E N 1323' E of E Hwy Xing

Bridge 2205' E. of " "

E N + S. 2652' " " " "

Bridge 3545' " " " "

 Δ -K 4900' " " " "E Hwy Xing 400' " " Δ -K

E N 1335' W of E Hwy Xing

" S 1377' " " "

C steeple S.W.

W Hwy E. By 2^d FPN Telpistacross^{Hwy 11}

S' N of S Hwy E.

By Δ -J
" "

$\Delta-L$ 2675' W of Δ Hwy Xing
 " 8' E of Δ W & N + 25' S of

Bridge 748' W $\Delta-L$

Δ Hwy Xing 2678' W $\Delta-L$

$\Delta-M$ 3000' W of $\Delta-L$ + 20' S of N Hwy E opposite 4th Fl.

$\Delta-E$ 1332' S Δ Hwy Xing

$\Delta-N$ 1700 S " " " "

$\nearrow$ A + $\Delta-J$

B.S. 354°-19'

Tie 80° 41'

$\Delta-K$ 268°-31'

$\Delta-N$ 352°-28'

$\Delta-L$ 78°-34'

Tie 261°-39'

13y $\Delta-J$

N 17 Hwy E.

WNW cor cem.

13y $\Delta-J$

" " = 8' W of Δ Hwy E 2 1/2 FPS of

To $\Delta-I$

C. steeple W.

C. steeple E.

Æ E-W 957' S Δ-N

Bridge 1335' S Δ-N

" 3181 " " "

Δ-O 3495' S Δ-N + 2' 50' of N Hwy E + 4' E of W Hwy ^{Garden} ~~opposite NW corner~~

Δ-P 1450' E of Δ-O + 10' 50' N Hwy Æ Bet Blazed posts

Æ N 1330' E Δ-P,

Δ-Q 1900' E Δ-P + 10' N of S Hwy Æ By Blazed Post E of Int ^{Divide}

Æ A + Δ-L

B 3, 78°-34'

To Δ-J

Δ-M 84°-24'

Tie 82°-47'

C. Spire W

Tie 261°-55'

Flag pole. School House E.

W.C.F. + N.S. 353°-50'

Æ A + Δ-N.

B 5, 352°-28'

Tie 101°-03'

C. Spire W

Tie 131°-44'

Spire C. Spire N.W.

Δ-O 354°-45' over ahead

125 Establishing Bench-Marks

B.S. H.I. - S Elev

BM #1 5.83 15.83 10.00

T.P. 7.12 ~~15.82~~ 7.63 8.20

" " 6.71 15.31 7.23 8.60 ✓

T.P. 5.09 ~~16.05~~ 4.30 11.01

" " 4.57 16.05 3.80 11.51 ✓

BM #2 1.76 14.29

T.P. 4.53 18.84 1.74 14.31 ✓

" " 4.04 ~~18.83~~ 1.26 14.79 ✓

T.P. 10.73 ~~25.24~~ 4.30 14.54 ✓

" " 10.22 ~~25.24~~ 3.82 15.02 ✓

BM #3 8.30 16.95

T.P. 4.59 23.40 6.44 18.81 ✓

" " 4.07 23.40 5.92 19.38 ✓

T.P. 6.12 ~~24.57~~ 4.83 18.87 ✓

" " 5.63 ~~24.70~~ 4.33 19.07 ✓

BM #4 3.86 20.84

T.P. 6.11 25.25 5.56 19.14 ✓

" " 5.13 25.25 5.08 19.62 ✓

Blackhawk-Bremor Co. Drain #13¹²⁶₁

Spike in E. end N. Cap Bridge across Hoff Hill
1/4 Sec. Run W. Line Sec

Apr 7, 21

^{1st}
N.E. Cor. of N.E. wing Br. on Co. line W. of W.C.F. & N.

Spike in E. end N. Cap ^{1st} W.C.F. & N. Br. N. of Co. Line

= 2d Br. E. of W.C.F. & N.

Spike in E. end N. Cap 2^d Br. on Co. Line W. of Logan Ave.

		H.I.		
	B.5	25.25	-5	Elev
T.P.	4.62	25.00	4.87	20.38 ✓
" "	4.22	25.01	4.46	20.79 ✓
BM #5	3.51	27.89	0.62	24.38 ✓
T.P.	6.39	28.63	5.85	22.04 ✓
" "	6.22	28.63	5.48	22.41 ✓
BM #6	5.51	30.98	3.16	25.47 ✓
		30.97		
T.P.	6.99	30.96	4.66	23.97 ✓
T.P.	6.07	32.20	4.82	26.13 ✓
" "	5.10	32.21	3.86	27.11 ✓
T.P.	6.26	34.31	4.16	28.05 ✓
" "	5.37	34.31	3.27	28.94 ✓
BM #7			4.95	29.36 ✓
Gr Level			6.40	
+ " 200'			6.15	
+ " 200'			5.80	
+ " 200'			5.50	29.81 ✓
T.P.	4.74	33.93	5.12	29.19 ✓
" "	4.23	33.93	4.61	29.70 ✓

Top N.E. cor E wall ¹⁵¹ Conc. Culv 50' S of Co. line on Logan Ave.

900' E of Logan Ave
Highest point large rock 100' S of E.W. & N.W. sec. 1

70' S of E.W. & sec 1 Approx 2000' E of Logan Ave.
Highest point S. end large flat black rock

E.W. & sec

		H.I.			
	BS	33.93	-5	Elev.	
T.P.	289	34.23	2.39	31.84	✓
"..	2.43	34.23	2.13	31.80	✓
Gr Level			5.80	28.13	✓
Gr level			6.00	28.23	✓
BM #8	6.18	38.74	1.67	32.56	✓
BM #9	11.81	46.39	4.16	34.58	✓
T.P.	2.65	41.54	7.50	38.89	✓
"..	—	—	4.61	41.78	✓
BM #10	4.76	37.48	8.82	32.72	✓
T.P.	4.52	38.24	3.76	33.72	✓
"..	4.02	38.24	3.26	34.22	✓
T.P.	5.39	41.34	2.29	35.95	✓
"..	4.88	41.33	1.80	36.44	✓
T.P.	7.62	43.53	5.42	35.91	✓
"..	9.22	43.53	5.02	36.31	✓
T.P.	3.33	43.11	3.95	39.78	✓
BM #11	4.29	48.11	4.71	38.62	✓

600' N. of E. W. & S. W. 1/4 Sec 1

At " " " " "

Sec. 1

Spike in stump W. of lone willow on E. W. & S. W. 1/4

W.
N.E. Cor. [Iron Cap Wood Br., S. Line Sec 1.

By tele. post.

Bridges

Boulder N side Hwy 5 Line Sec 1 Between

Spike in End N. Cap. E. Wood Br. S. Line Sec 1,

N.E. Cor. End N [Beam Cap. BR W Line Sec 12

131

H.I.

Sta	B.S.	13.11	-5	Elev	
T.P.	5.46	44.10	4.47	38.64	✓
" "	5.02	44.09	4.04	39.07	✓
T.P.	6.48	47.35	3.22	40.87	✓
T.P.	4.32	47.34	1.07	48.02	✓
BM #12			3.82	43.53	✓
T.P.	7.17	50.85	3.67	43.68	✓
" "	5.55	50.86	2.04	45.31	✓
T.P.	6.32	52.22	4.96	45.90	✓
" "	5.87	52.22	4.51	46.35	✓
T.P.	6.18	52.06	5.34	46.88	✓
" "	5.79	53.05 53.04	4.97	47.25	✓
BM #13			4.12	48.93	✓
	7.95	58.16	2.84	50.21	✓
	7.54	58.15	2.44	50.61	✓
	7.55	60.45 60.74	4.95	53.20	✓
	7.16	60.73	4.58	53.57	✓
BM #14			2.70	58.04	

132

1

Apr 8 21

Hoff
Hill

Highest pt. large rock N. side Ditch by lone tree
Spike in cor. post E+W. $\frac{1}{2}$ Sec 7 40 rods E of W. Line

W. of N.E. Cor. SE $\frac{1}{4}$ SW $\frac{1}{4}$ Sec 7.
Top N.E. Cor. N. Wend Conc Culv. in pasture

N.E. Cor N. wall E Conc Culv. S Line Sec 7

H. 1					
Sta	B.S.	60.74	-8	Elev	
T.P.	6.52	64.75	2.51	58.23	✓
" "	6.13	64.75	2.12	58.62	✓
T.P.	5.70	68.20	2.25	62.50	✓
" "	3.79	68.20	0.34	64.41	✓
T.P.	6.28	71.82	2.64	65.54	✓
" "	5.96	71.83	2.32	65.88	✓
T.P.	5.83	74.66	3.00	68.83	✓
" "	5.54	74.65	2.72	69.11	✓
T.P.	4.88	76.07	3.47	71.19	✓
" "	4.45	76.06	3.05	71.61	✓
BM [#] 15			3.05	73.02	✓

N.W. cor. NE 1/4 S.E. 1/4 sec 18
 Lat 66.66 E-W 1/2 sec 18. E side rock - Approx

135

Bench Marks Br. 1.

B.S. H.I. - S. Elev.

BM #2	2.08	16.37		14.29 ✓
T.P.	6.45	17.54	5.23	11.14 ✓
" "	6.30	17.58 17.58	5.10	11.27 ✓
T.P.	4.94	18.19	4.33	13.25 ✓
BM #16	4.48	18.20	3.86	13.72 ✓
T.P.	6.13	18.15	6.18	12.02 ✓
" "	5.94	18.15	5.99	12.21 ✓
T.P.	5.42	19.28	4.29	13.86 ✓
BM #17	5.05	19.28	3.92	14.28 ✓
T.P.	5.96	22.06	3.18	16.10 ✓
" "	5.76	22.05	2.79	16.29 ✓
T.P.	5.79	24.42	3.42	18.63 ✓
BM #18	4.51	24.41	2.15	19.90 ✓
T.P.	5.17	25.55	4.03	20.38 ✓
" "	4.96	25.55	3.82	20.59 ✓
T.P.	4.49	29.41	0.63	24.92 ✓
BM #19	5.84	29.41	1.98	23.57 ✓

1325 1372
4.94 4.85
18.17 18.20

136

W.C.F. + IV.

N.E. cor. N. Ewing 1st Conc Br on Co line W. of

NW 1/4 Sec 2.

Spike 195th F.P.N. of Ditch Channel - E + W

RW 1/2 Sec 2.

Spike in Cor. post SD E of Ditch Channel on

Es side Ditch channel 1/4 mi N. of Slide Sec 2
Highest pt. SE cor. largest rock in pile

1st W of W.C.F. + IV.

Spike N. End E. Cap¹ Br 5. Line Sec 2

B.S. 29.41 -5 Elev.

T.P. 5.12 29.83 4.70 24.71

" " 5.02 29.82 4.62 24.79 ✓

BM[#]20 6.22 31.28 4.96 25.06 ✓

T.P. 5.36 31.98 4.66 26.62 ✓

" " 5.13 31.97 4.44 26.84 ✓

BM[#]21 3.53 28.44 ✓

T.P. 6.12 33.26 4.83 27.14 ✓

" " 5.92 33.26 4.63 27.34 ✓

T.P. 6.23 35.04 4.45 28.81 ✓

T.P. 6.05 35.07 4.22 29.04 ✓

T.P. 6.20 36.34 4.96 30.11 ✓

BM[#]22 5.46 36.35 4.10 30.97 ✓

T.P. 5.27 39.66 1.96 34.39

" " 4.90 39.67 1.58 34.77

T.P. 5.88 45.16 0.34 39.33

" " 5.49 45.16 0.00 39.67

BM[#]23 4.50 46.66

Channel W.C.F. & N. BR. Sec II.

Spike N. side E. post of 1st Bent N. of Ditch

of BR (W.C.F. & N.) Sec II

Iron Bar in Blue rock by wood BR 900' SE

E. side Sec II. Bet. W.C.F. & N. & Logan Ave

Spike W side lone willow in Fence Corner

Highest point Lone rock in pasture
W side Ditch Channel SE $\frac{1}{4}$ SE $\frac{1}{4}$ Sec II
200' S.E. of Gate

		H.I.		
	B.S.	45.16	- 5.	Elev.
T.P.	3.00	45.84	2.32	42.54
" "	2.60	45.84	1.92	43.24
T.P.	7.34	47.91	5.27	40.57
" "	6.96	47.91	4.89	40.95
B.M. #24			3.73	44.18
T.P.	8.03	53.14	2.80	45.11
		53.13		
" "	7.71	53.12	2.50	45.41
B.M. #25			1.59	51.54

B.M.s BR 1-B(?)

B.M. #18	1.69	21.59		19.90
T.P.	4.84	21.62	4.81	16.78
" "	4.46	21.61	4.44	17.15
T.P.	5.56	24.00	3.17	18.44
" "	5.12	24.01	2.72	18.59
B.M. #26			2.42	21.58

1st W of Logan Ave.
NE. cor N. wall conc. culv. S Line Sec 11

SW. cor. NE $\frac{1}{4}$ NE $\frac{1}{4}$ Sec 14
Spike in root of S. of ran willows near

Spike End N. Cap Wood BR W. Line Sec 2
S. of E of Sec.

141

H.I.

B.S. 24.00 - 5 Elev.

T.P. 5.90 24.93 4.97 19.03

" " 5.48 24.93 4.55 19.45

T.P. 6.50 27.38 4.05 20.88

" " 6.20 27.39
27.40 3.73 21.20

BM #27 3.71 23.68

T.P. 5.53 32.06 0.86 26.53

" " 5.22 32.07 0.54 26.85

BM #28 3.44 28.63

T.P. 5.46 34.80 2.73 29.34

" " 5.03 34.80 2.30 29.77

T.P. 5.24 36.94 3.10 31.70

" " 4.78 36.95 2.62 32.19

BM #29 1.95

2.68

142

Approx 1/4 M. N. of BR on S Line sec 3.
Spike 10 W of 2 trees in pasture N.W. of Ditch

1st W. of Church
Spike N. end E. Cap Wood BR S. Line sec 3

Brace
Spike in tree post on E-W & N-E sec 3
willows
E of Ave

BMs. BR 3 (P)

BM^{#5} 2.74 27.12 24.38T.P. 5.89 ~~31.56~~ 1.45 25.17

" " 5.56 31.55 1.13 25.99

BM^{#33} " 4.71 26.84

T.P. 5.85 34.53 2.87 28.68

" " 5.50 ~~34.54~~ 2.51 29.04BM^{#34} 6.31 36.92 3.92 30.61T.P. 5.95 ~~36.92~~ 3.55 30.98T.P. 6.54 ~~41.48~~ 1.98 34.94" " 6.20 ~~41.46~~ 1.62 35.26

on. Co. Line
 Spike in N. end E. cap 1st Wood CR. E of Logan Ave

channel on F. Line Inlet of line N.W
 Lath hub N. of N. stump in row S. of Ditch

B.S. 41.47 - 5 Elev

T.P. 8.20 ~~46.53~~ 3.14 38.33" " 7.92 ~~46.54~~ 2.85 38.62

BM #35 6.12 40.42

T.P. 4.99 47.39 3.94 42.60

" " 4.17 ~~47.40~~ 3.31 43.23

BM #36 2.65 44.74

T.P. 6.22 ~~50.99~~ 2.62 44.77

" " 5.94 51.00 2.33 45.06

BM #37 7.76 55.99 2.77 48.23

T.P. 8.28 62.51 1.96 54.03

" " 7.65 62.31 1.33 54.66

BM #38 1.30 61.01

T.P. 8.79 ~~68.12~~ 2.98 59.33

" " 8.52 68.11 2.72 59.59

T.P. 11.20 ~~77.59~~ 1.72 66.39

" " 10.79 77.58 1.32 66.79

BM #39 1.23 76.35

(S. of Sect-Line E.) of Sec. Center. (?)
 Highest point largest rock in pasture 200' NW

Near Sect BR E.
 Top of large rock in ditch SW of Old's

E. side
 Spike head top plank/wood culv. on E+W Hwy.

600' NE Farm House
 Top large rock Bet Ditch & Hwy near Sect NE.

with Drag Hwy
 NE Cr E. wall Gmc. Culv. N+5 Hwy 150 N. of Sect

147

148

Checking

10.00

2.80 H2O level

1.60 Ditch bed

4.15

770

8.40

5.85

5.92

5.85

5.75

5.77

5.77

5.79

5.62

5.91

4.09

5.72

5.62

5.87

5.56

5.48

5.45

5.50

5.47

Tile top
at 10.161

at #

1

1.50

2

1.50

1.95

at 0

1

1

1.50

2

1.50

3

1.67

4

1.50

Spade 1.70 long + 6" tile = 2.30

10.00

5.39

5.35

4.65

5.98 11.65

4.33 5.67

6.92 4.78

6.82

6.74

6.69

6.60

6.55

6.48

6.42

6.35

6.34

6.35

6

6.25

6.24

6.23

6.21

5

1.60

7.19

6

1.52

7

1.50

8

1.50

9

1.50

10

1.50

11

1.50

11.90

12

1.50

641

$\pi A + \Delta \# -$

B.S

73-84

Tie

184-21

BS 16. N.

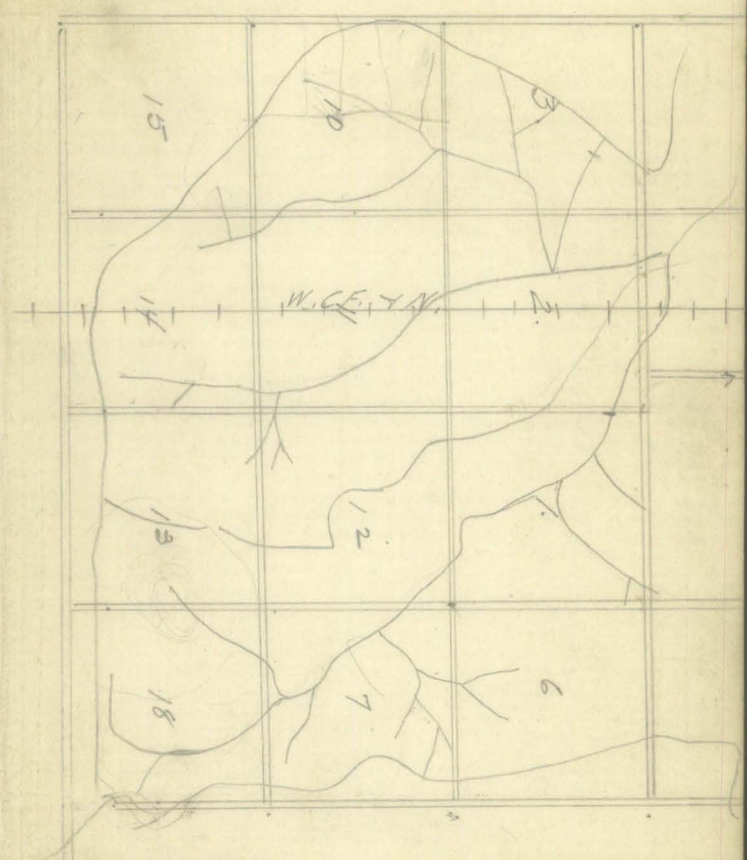
H

180 1/4

1400

0

Bremner Co.
B/K-Hut Co.



Bremner Co.
B/K-Hut Co.

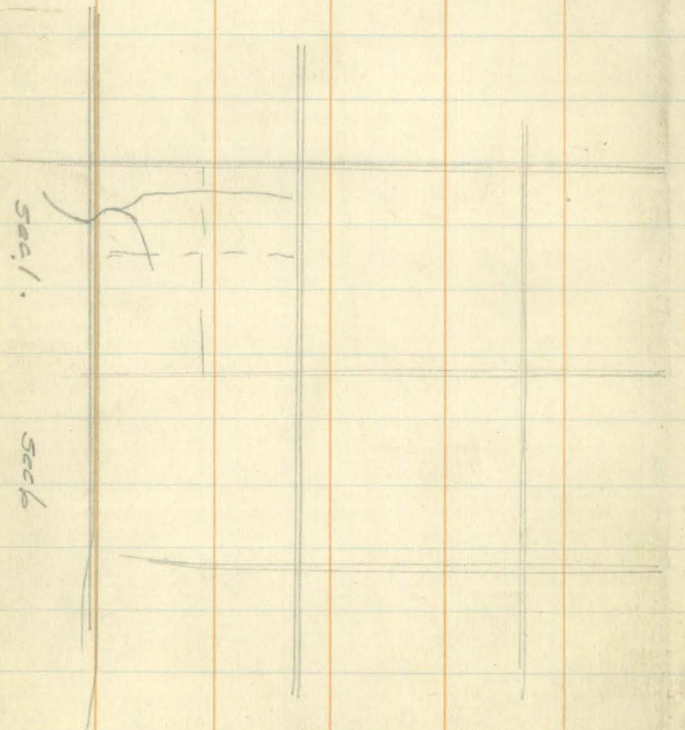


TABLE IX.—CALCULATION OF EARTHWORK.

Width	HEIGHT														
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1	.02	.04	.06	.07	.08	.11	.13	.15	.17	.18	.20	.22	.24	.26	.28
2	.04	.07	.11	.15	.18	.22	.26	.30	.33	.37	.41	.44	.48	.52	.56
3	.06	.11	.17	.22	.28	.33	.39	.44	.50	.56	.61	.67	.72	.78	.83
4	.07	.15	.22	.30	.37	.44	.52	.59	.67	.74	.81	.89	.96	1.04	1.11
5	.09	.19	.28	.37	.46	.56	.65	.74	.83	.93	1.02	1.11	1.20	1.30	1.39
6	.11	.22	.33	.44	.56	.67	.78	.89	1.00	1.11	1.22	1.33	1.44	1.55	1.67
7	.13	.26	.39	.52	.65	.78	.91	1.04	1.16	1.30	1.42	1.55	1.68	1.81	1.94
8	.15	.30	.44	.59	.74	.89	1.04	1.19	1.33	1.48	1.63	1.78	1.92	2.08	2.22
9	.17	.33	.50	.67	.83	1.00	1.17	1.33	1.50	1.67	1.83	2.00	2.17	2.33	2.50
10	.18	.37	.56	.74	.93	1.11	1.30	1.48	1.67	1.85	2.04	2.22	2.41	2.59	2.78
11	.20	.41	.61	.82	1.02	1.22	1.43	1.63	1.83	2.04	2.24	2.44	2.65	2.85	3.06
12	.22	.44	.67	.89	1.11	1.33	1.56	1.78	2.00	2.22	2.44	2.67	2.89	3.11	3.33
13	.24	.48	.72	.96	1.20	1.44	1.68	1.92	2.16	2.40	2.64	2.88	3.13	3.37	3.61
14	.26	.52	.78	1.04	1.30	1.55	1.81	2.08	2.33	2.59	2.85	3.11	3.37	3.63	3.89
15	.28	.56	.83	1.11	1.39	1.67	1.94	2.22	2.50	2.78	3.06	3.33	3.61	3.89	4.17
16	.30	.59	.89	1.18	1.48	1.78	2.07	2.37	2.67	2.96	3.26	3.56	3.85	4.15	4.44
17	.31	.63	.94	1.26	1.57	1.89	2.20	2.52	2.83	3.15	3.46	3.78	4.09	4.41	4.72
18	.33	.67	1.00	1.33	1.67	2.00	2.33	2.67	3.00	3.33	3.67	4.00	4.33	4.67	5.00
19	.35	.70	1.06	1.41	1.76	2.11	2.46	2.82	3.17	3.52	3.87	4.22	4.57	4.92	5.28
20	.37	.74	1.11	1.48	1.85	2.22	2.59	2.96	3.33	3.70	4.07	4.44	4.81	5.18	5.56
21	.39	.78	1.17	1.55	1.94	2.33	2.72	3.11	3.50	3.89	4.28	4.67	5.06	5.44	5.83
22	.41	.81	1.22	1.63	2.04	2.44	2.85	3.26	3.67	4.07	4.48	4.89	5.30	5.70	6.11
23	.43	.85	1.28	1.70	2.13	2.56	2.98	3.41	3.83	4.26	4.68	5.11	5.54	5.96	6.39
24	.44	.89	1.31	1.78	2.22	2.67	3.11	3.56	4.00	4.44	4.89	5.33	5.78	6.22	6.67
25	.46	.92	1.39	1.85	2.31	2.78	3.24	3.70	4.17	4.63	5.09	5.56	6.02	6.48	6.94
26	.48	.96	1.44	1.92	2.41	2.89	3.37	3.85	4.33	4.82	5.30	5.78	6.26	6.74	7.24
27	.50	1.00	1.50	2.00	2.50	3.00	3.50	4.00	4.50	5.00	5.50	6.00	6.50	7.00	7.50
28	.52	1.04	1.55	2.07	2.59	3.11	3.63	4.15	4.67	5.18	5.70	6.22	6.74	7.26	7.78
29	.54	1.07	1.61	2.15	2.68	3.22	3.76	4.30	4.83	5.37	5.91	6.44	6.98	7.52	8.06
30	.56	1.11	1.67	2.22	2.78	3.33	3.89	4.44	5.00	5.55	6.11	6.67	7.22	7.78	8.33
31	.57	1.15	1.72	2.30	2.87	3.44	4.02	4.59	5.17	5.74	6.32	6.89	7.46	8.04	8.61
32	.59	1.18	1.78	2.37	2.96	3.56	4.15	4.74	5.33	5.92	6.52	7.11	7.70	8.30	8.89
33	.61	1.22	1.83	2.44	3.05	3.67	4.28	4.89	5.50	6.11	6.72	7.33	7.94	8.55	9.17
34	.63	1.26	1.89	2.52	3.15	3.78	4.40	5.04	5.67	6.29	6.93	7.56	8.18	8.81	9.44
35	.65	1.30	1.94	2.59	3.24	3.89	4.53	5.18	5.83	6.48	7.13	7.78	8.42	9.08	9.72
36	.67	1.33	2.00	2.67	3.33	4.00	4.66	5.33	6.00	6.67	7.33	8.00	8.67	9.33	10.00
37	.68	1.37	2.06	2.74	3.42	4.11	4.79	5.48	6.17	6.85	7.54	8.22	8.91	9.59	10.28
38	.70	1.41	2.11	2.82	3.52	4.22	4.92	5.63	6.33	7.03	7.74	8.44	9.15	9.85	10.56
39	.72	1.44	2.17	2.89	3.61	4.33	5.05	5.78	6.50	7.22	7.95	8.67	9.39	10.11	10.83
40	.74	1.48	2.22	2.96	3.70	4.44	5.18	5.92	6.67	7.41	8.15	8.89	9.63	10.37	11.11

Table gives cu. yds. in 1 ft. of a triangle of given width and height. Corrections for tenths of width are one tenth the values found under each height considering the widths from 1 to 9 as tenths and similarly the corrections for tenths of height are one tenth the figures opposite width considering the heights from 1 to 9 as tenths. Thus if $w = 16.2$ and $h = 5.3$, cu. yds. $= 1.48 + .028 + .089 = 1.597$ cu. yds. or practically 160 cu. yds. per 100 ft. If w exceeds 40 ft., use one half and multiply result by 2, if both w and h are large use one half of each and multiply result by 4. Any cross-section may be divided into triangles by the following rule. To the triangle of the sum of the outside cuts (or fills) $= h$, and $\frac{1}{2}$ the roadbed $= w$, add the triangles formed by taking the distance out to each break in turn ($= w$) by the difference between the cuts (or fills) on each side of it ($= h$) always subtracting the outer from the inner.

DISTANCES FROM CENTER OF ROADWAY FOR CROSS-SECTIONING.

Roadway 16 feet wide. Side Slopes 1 on 1½
For Single Track Embankment.

H	0	.1	.2	.3	.4	.5	.6	.7	.8	.9	II
0	8.0	8.2	8.3	8.5	8.6	8.8	8.9	9.1	9.2	9.4	0
1	9.5	9.7	9.8	10.0	10.1	10.3	10.4	10.6	10.7	10.9	1
2	11.0	11.2	11.3	11.5	11.6	11.8	11.9	12.1	12.2	12.4	2
3	12.5	12.7	12.8	13.0	13.1	13.3	13.4	13.6	13.7	13.9	3
4	14.0	14.2	14.3	14.5	14.6	14.8	14.9	15.1	15.2	15.4	4
5	15.5	15.7	15.8	16.0	16.1	16.3	16.4	16.6	16.7	16.9	5
6	17.0	17.2	17.3	17.5	17.6	17.8	17.9	18.1	18.2	18.4	6
7	18.5	18.7	18.8	19.0	19.1	19.3	19.4	19.6	19.7	19.9	7
8	20.0	20.2	20.3	20.5	20.6	20.8	20.9	21.1	21.2	21.4	8
9	21.5	21.7	21.8	22.0	22.1	22.3	22.4	22.6	22.7	22.9	9
10	23.0	23.2	23.3	23.5	23.6	23.8	23.9	24.1	24.2	24.4	10
11	24.5	24.7	24.8	25.0	25.1	25.3	25.4	25.6	25.7	25.9	11
12	26.0	26.2	26.3	26.5	26.6	26.8	26.9	27.1	27.2	27.4	12
13	27.5	27.7	27.8	28.0	28.1	28.3	28.4	28.6	28.7	28.9	13
14	29.0	29.2	29.3	29.5	29.6	29.8	29.9	30.1	30.2	30.4	14
15	30.5	30.7	30.8	31.0	31.1	31.3	31.4	31.6	31.7	31.9	15
16	32.0	32.2	32.3	32.5	32.6	32.8	32.9	33.1	33.2	33.4	16
17	33.5	33.7	33.8	34.0	34.1	34.3	34.4	34.6	34.7	34.9	17
18	35.0	35.2	35.3	35.5	35.6	35.8	35.9	36.1	36.2	36.4	18
19	36.5	36.7	36.8	37.0	37.1	37.3	37.4	37.6	37.7	37.9	19
20	38.0	38.2	38.3	38.5	38.6	38.8	38.9	39.1	39.2	39.4	20
21	39.5	39.7	39.8	40.0	40.1	40.3	40.4	40.6	40.7	40.9	21
22	41.0	41.2	41.3	41.5	41.6	41.8	41.9	42.1	42.2	42.4	22
23	42.5	42.7	42.8	43.0	43.1	43.3	43.4	43.6	43.7	43.9	23
24	44.0	44.2	44.3	44.5	44.6	44.8	44.9	45.1	45.2	45.4	24
25	45.5	45.7	45.8	46.0	46.1	46.3	46.4	46.6	46.7	46.9	25
26	47.0	47.2	47.3	47.5	47.6	47.8	47.9	48.1	48.2	48.4	26
27	48.5	48.7	48.8	49.0	49.1	49.3	49.4	49.6	49.7	49.9	27
28	50.0	50.2	50.3	50.5	50.6	50.8	50.9	51.1	51.2	51.4	28
29	51.5	51.7	51.8	52.0	52.1	52.3	52.4	52.6	52.7	52.9	29
30	53.0	53.2	53.3	53.5	53.6	53.8	53.9	54.1	54.2	54.4	30
31	54.5	54.7	54.8	55.0	55.1	55.3	55.4	55.6	55.7	55.9	31
32	56.0	56.2	56.3	56.5	56.6	56.8	56.9	57.1	57.2	57.4	32
33	57.5	57.7	57.8	58.0	58.1	58.3	58.4	58.6	58.7	58.9	33
34	59.0	59.2	59.3	59.5	59.6	59.8	59.9	60.1	60.2	60.4	34
35	60.5	60.7	60.8	61.0	61.1	61.3	61.4	61.6	61.7	61.9	35
36	62.0	62.2	62.3	62.5	62.6	62.8	62.9	63.1	63.2	63.4	36
37	63.5	63.7	63.8	64.0	64.1	64.3	64.4	64.6	64.7	64.9	37
38	65.0	65.2	65.3	65.5	65.6	65.8	65.9	66.1	66.2	66.4	38
39	66.5	66.7	66.8	67.0	67.1	67.3	67.4	67.6	67.7	67.9	39
40	68.0	68.2	68.3	68.5	68.6	68.8	68.9	69.1	69.2	69.4	40

Example—If point is 22.6 ft. above grade, how far should it be from center line to be a slope stake point? Ans. from Table 41.9. For same slopes but other widths of roadbed correct above figures by one-half difference in width of roadbed; thus in example above for 20 ft. roadbed distance will be $41.9 + (20 - 16) \div 2$ or 2 ft. added to 41.9 = 43.9. For slopes of 1 on 1 see inside of front cover.

FILED

FEB 27 '23

J. W. E. H.
BOSTON, MASS.

