

1859

ENGINEERS
FIELD BOOK
NO. 1859

EUGENE DIETZGEN CO.

DRAWING MATERIALS, MATHEMATICAL and
SURVEYING INSTRUMENTS

Chicago New York San Francisco New Orleans Pittsburg Toronto

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.

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1859

2041-55

0+06.05 C.E. DISC

0+80.12
1 40.72
27 20.84

13+94.03

80.12

CITY ENGINEER'S OFFICE

1.0303
30 | 30.910
30
0.91
30
100

1.0303
26
61818
20606
267878

10303
4
9.1212

INDEXED

to page # 78

1358.41
61.82
1296.59
30.02
1266.57

1268.27
1266.57
1.70

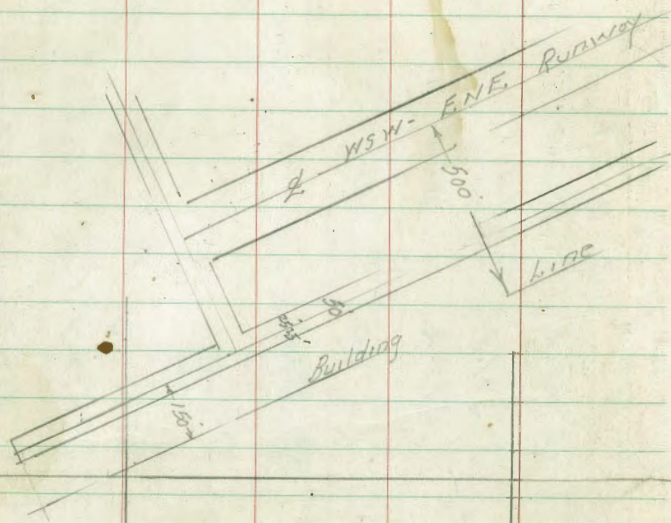
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INDEX-

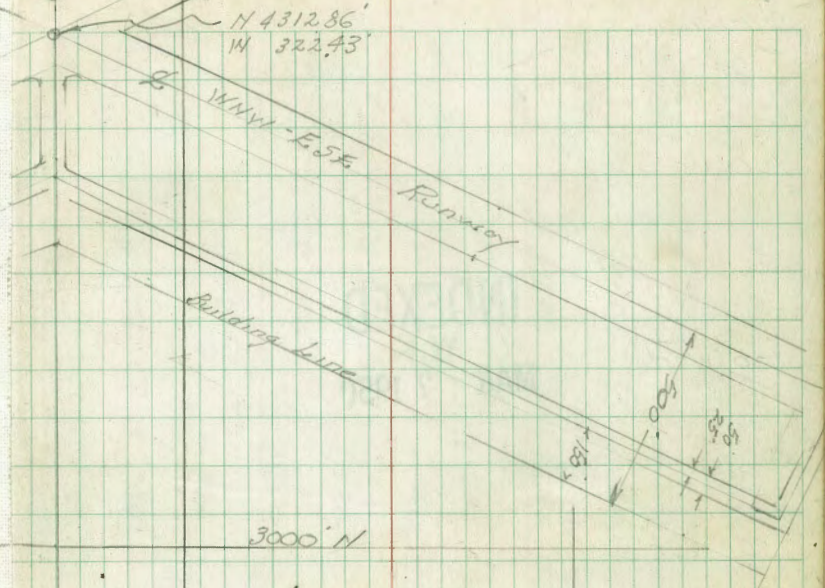
Gibbs Airport - Cross Sections	2-28-47
x sec Oniolo, Springfield to Mallard	48
" " " " " "	61

Gibbs Airport - Cross Sections



2000' N

1000' West



N 4312.86'
W 322.43'

3000' N

N 322.43'

90' Base
Ave North

2200' N
East

1000' East

Gibbs Airport Cross Sections

Stations

700 W

700' west

750 West

750 West

792.43

792.43 West

T.P. 612

402.47

INDEXED
W.K.
MAR 7 1950

402.9	404.0	402.7	402.9	402.0	403.0	402.9	403.0
77	66	78	77	66	68	68	68
2350	2300	2300	2300	2300	2300	2300	2300
401.9	404.4	404.0	401.8	401.2	403.8	403.8	403.8
87	62	66	88	94	51	51	51
2350	2350	2350	2350	2350	2350	2350	2350
401.6	405.8	405.3	401.5	401.1	405.5	405.5	405.5
90	48	48	91	95	54	54	54
2300	2800	2800	2800	2800	2800	2800	2800
401.1	405.9	406.1	400.1	400.9	405.2	405.2	405.2
95	47	45	95	97	67	67	67
2300	2650	2650	2650	2650	2650	2650	2650
400.8	406.3	404.8	401.2	398.6	403.9	403.9	403.9
98	98	68	94	11.0	77	77	77
2700	2700	2650	2700	2700	2700	2700	2700
401.1	406.2	404.1	401.9	400.8	402.9	402.9	402.9
95	44	65	87	98	71	71	71
2700	2700	2700	2700	2700	2700	2700	2700
400.8	406.0	404.4	401.9	401.0	403.5	403.5	403.5
93	46	62	87	96	73	73	73
2700	2700	2700	2700	2700	2700	2700	2700
402.1	406.4	404.1	402.1	401.0	403.3	403.3	403.3
85	42	65	85	96	67	67	67
2050	2850	2850	2850	2850	2850	2850	2850
403.0	407.1	405.4	402.3	401.1	403.7	403.7	403.7
76	35	52	83	95	68	68	68
2000	2900	2800	1850	1850	2900	2900	2900
402.6	406.8	405.8	402.3	401.1	404.5	404.5	404.5
80	38	48	83	95	61	61	61
1950	2950	2950	1850	1850	2900	2900	2900
402.4	405.8	406.0	402.3	401.1	404.4	404.4	404.4
82	48	46	83	95	62	62	62
1900	3000 W	3000 W	1850 W	1850 W	3000	3000	3000
402.5	405.3	405.3	402.3	401.1	404.1	404.1	404.1
81	43	43	83	95	65	65	65
1850	3000	3000	1850 W	1850 W	3000	3000	3000
402.7	405.3	405.3	402.3	401.1	404.1	404.1	404.1
82	43	43	83	95	65	65	65
1850	3000	3000	1850 W	1850 W	3000	3000	3000

at start

404.48 811

410.60

Gibbs Airport Cross Sections.

Stations

542.43 West

562.43 West

562.43 West.

600 West

600 West

650 West

650 West

410.60

403.4	403.4	72	2400
404.4	404.4	62	2450
404.1	404.1	65	2500
404.1	404.1	65	2550
404.3	404.3	63	2600
405.2	405.2	54	2650
405.7	405.7	49	2700
406.0	406.0	46	2750
406.9	406.9	37	2800
407.2	407.2	34	2850
407.4	407.4	32	2900
406.9	406.9	37	2950
406.4	406.4	42	3000 N
402.5	402.5	81	2400
404.1	404.1	65	2450
403.7	403.7	69	2500
404.4	404.4	62	2550
404.7	404.7	59	2600
405.4	405.4	52	2650
405.8	405.8	48	2700
406.3	406.3	43	2750
406.8	406.8	38	2800
407.3	407.3	33	2850
407.5	407.5	31	2900
407.2	407.2	34	2950
406.4	406.4	42	3000 N
403.3	403.3	78	2350
402.2	402.2	84	2300
401.4	401.4	92	2250
403.1	403.1	75	2300
402.6	402.6	80	2350
403.9	403.9	67	2400
404.0	404.0	66	2450
403.8	403.8	68	2500
403.9	403.9	67	2550
404.2	404.2	64	2600
404.0	404.0	66	2650
404.1	404.1	65	2700
403.1	403.1	75	2350
402.3	402.3	83	2300
401.7	401.7	89	2250
401.3	401.3	93	2200
402.1	402.1	85	2150
402.5	402.5	81	2100
402.9	402.9	77	2050
403.6	403.6	70	2000
403.7	403.7	63	1950
404.6	404.6	60	1900
404.0	404.0	66	1850
403.4	403.4	72	1800 N
403.7	403.7	69	2400
403.5	403.5	71	2450
404.5	404.5	61	2500
404.6	404.6	60	2550
405.2	405.2	54	2600
405.8	405.8	48	2650
406.5	406.5	40	2700
406.4	406.4	42	2750
407.0	407.0	36	2800
407.5	407.5	31	2850
407.5	407.5	31	2900
407.3	407.3	37	2950
406.6	406.6	40	3000 N
402.1	402.1	85	2350
402.4	402.4	82	2400
402.9	402.9	77	2450
404.2	404.2	64	2500
405.3	405.3	53	2550
405.9	405.9	47	2600
407.0	407.0	36	2650
406.6	406.6	40	2700
406.4	406.4	42	2750
406.4	406.4	42	2800
407.3	407.3	33	2850
407.6	407.6	30	2900
407.5	407.5	31	2950
406.5	406.5	41	3000 N
402.8	402.8	78	2350
401.6	401.6	90	2250
402.1	402.1	85	2200
401.3	401.3	98	2150
401.1	401.1	85	2100
402.9	402.9	77	2050
403.1	403.1	75	2000
403.9	403.9	67	1950
403.0	403.0	76	1900
403.1	403.1	75	1850
403.1	403.1	75	1800 N

410.60

Gibbs Airport - Cross Section 10125

300' West

403.8	405.1	404.5	405.3	404.4	404.7	404.7	404.9	404.3	404.5	403.5	403.5
6.8 29.50	5.5 29.00	6.1 22.50	5.3 22.00	6.2 21.50	5.9 21.00	5.9 20.50	5.9 20.00	5.7 19.50	6.3 19.00	6.1 18.50	7.1 18.00

322.43' West

403.4	403.6	403.3	404.3	404.9	404.2	404.1	404.5	403.9	404.6	403.5	404.9
7.2 23.50	7.0 23.00	7.3 22.50	6.3 22.00	5.7 21.50	6.4 21.00	6.5 20.50	6.1 20.00	6.7 19.50	6.0 19.00	7.1 18.50	5.7 18.00

322.43' West

404.4	404.6	406.3	404.5	405.0	407.4	405.1	405.1	405.3	405.3	405.7	406.3	406.0
6.2 24.00	6.0 24.50	4.3 25.00	6.1 25.50	5.6 26.00	3.2 26.50	3.5 27.00	5.5 27.50	6.3 28.00	5.3 28.50	4.9 29.00	4.3 29.50	4.5 30.00

350' West

403.3	403.9	403.9	404.1	404.3	404.4	404.6	405.7	404.8	405.8	405.9	405.8	406.1
7.3 24.00	6.7 24.50	6.7 25.00	6.5 25.50	6.3 26.00	6.2 26.50	6.0 27.00	4.9 27.50	5.8 28.00	4.8 28.50	4.7 29.00	4.8 29.50	4.5 30.00

350' West

404.5	403.1	404.0	405.4	403.6	403.8	403.7	403.7	405.2	404.1	403.2	405.1
6.1 23.50	7.5 23.00	6.6 22.50	5.2 22.00	7.9 21.50	6.8 21.00	6.9 20.50	6.7 20.00	5.4 19.50	6.5 19.00	7.4 18.50	6.5 18.00

400' West

402.8	402.7	403.9	402.9	404.1	402.7	402.7	403.6	405.0	404.1	405.4	404.8
7.8 23.50	7.9 23.00	6.7 22.50	7.7 22.00	6.5 21.50	7.9 21.00	7.9 20.50	7.0 20.00	5.6 19.50	6.5 19.00	5.2 18.50	5.8 18.00

400' West

403.0	403.1	405.1	403.5	404.6	404.3	404.7	405.0	405.6	406.4	406.4	406.0	406.1
7.6 24.00	7.5 24.10	5.5 25.00	7.1 25.50	6.7 26.00	6.3 26.50	5.9 27.00	5.6 27.50	5.0 28.00	4.2 28.50	4.3 29.00	4.6 29.50	4.5 30.00

410.60

410.60

Gibbs Airport Cross Section 10125

Station

142.43 West

142.43 West

200 West

200 West

250 West

250 West

300 West

410.60

405.0	407.0	404.5	406.4	404.1	405.7	405.3
5.6	3.6	6.1	4.2	6.5	4.9	5.3
2330	2400	2330	2400	2330	2400	2400
407.9	406.1	405.0	406.1	405.6	406.3	405.2
5.7	4.5	5.6	4.5	5.0	4.3	4.3
2300	2450	2300	2400	2300	2400	2500
405.7	407.0	406.1	406.8	405.7	406.8	405.0
4.9	3.8	4.5	2.3	4.9	2.3	3.8
2250	2200	2250	2350	2200	2300	2550
407.7	407.4	405.7	407.9	405.4	407.5	405.0
2.9	3.2	4.1	2.7	5.2	3.1	3.1
2200	2150	2150	2600	2200	2700	2600
406.8	407.9	406.5	406.8	407.1	406.8	406.2
3.8	2.7	2.6	4.3	4.0	3.0	4.7
2150	2180	2100	2650	2100	2650	2600
407.5	408.4	406.0	407.0	406.4	405.8	405.1
3.1	2.2	4.6	3.6	4.3	4.8	4.8
2100	2150	2050	2700	2700	2800	2800
408.0	407.1	405.1	406.4	406.3	406.3	405.1
2.6	3.5	5.5	4.2	4.1	4.3	4.3
2050	2150	2000	2800	2800	2850	2850
405.7	407.2	405.4	406.7	406.5	406.4	405.7
4.9	3.4	5.2	3.3	5.7	4.2	4.2
2000	2050	1950	2850	2900	2900	2950
405.3	407.2	405.7	406.9	405.8	406.4	405.6
5.3	3.2	4.9	3.5	4.8	4.2	4.2
1950	1900	1900	2900	2950	2950	3000
405.3	407.0	406.3	406.4	405.6	406.4	406.0
5.3	3.6	4.3	4.2	4.8	4.2	4.6
1850	1950	1850	2950	3000	3000	3000
406.0	407.1	407.3	406.6	404.4	406.1	405.8
4.6	3.5	5.3	4.0	6.2	4.5	4.8
1800	1800	1800	3000	3000	3000	3000

410.60

Gibbs Airport Cross-Sections

Station

0482.43 West

0482.43 West

102.43 West

102.43 West

122.43 West

122.43 West

410.60

9

406.9	406.8	407.1	409.0	408.3	409.1	408.1	407.7	407.6	407.5	407.5	407.7	407.5
3.7	3.8	3.5	1.6	2.3	1.5	2.5	2.9	3.0	3.1	3.1	2.9	3.1
2400	2450	2500	2550	2600	2650	2700	2750	2800	2850	2900	2950	3000
406.5	407.9	406.2	407.4	407.6	408.6	406.9	407.7	408.2	407.8	406.9	407.2	407.2
4.1	2.7	4.4	3.2	3.0	2.0	3.7	2.9	2.4	2.8	3.7	3.4	3.4
2350	2300	2250	2200	2150	2100	2050	2000	1950	1900	1850	1800	1800
406.9	407.2	407.3	407.7	408.0	408.1	407.7	407.8	407.7	407.7	407.5	407.4	407.2
3.7	3.4	3.3	2.9	2.6	2.5	2.9	2.8	2.9	2.9	3.1	3.2	3.4
2400	2450	2500	2550	2600	2650	2700	2750	2800	2850	2900	2950	3000
406.1	405.6	406.2	406.6	408.3	407.4	407.0	406.7	408.0	406.8	406.8	406.8	406.8
4.5	5.0	4.4	4.0	2.3	3.2	3.6	3.9	2.6	3.8	3.8	3.8	3.8
2350	2300	2250	2200	2150	2100	2050	2000	1950	1900	1850	1800	1800
407.1	407.9	407.8	407.8	407.6	407.8	407.3	407.5	407.5	407.6	407.6	407.5	407.5
3.5	2.7	2.8	2.8	3.0	2.8	3.3	3.1	3.1	3.0	3.0	3.1	3.1
2400	2450	2500	2550	2600	2650	2700	2750	2800	2850	2900	2950	3000
406.0	406.5	407.7	406.7	407.1	407.2	406.6	406.4	407.3	407.6	407.3	406.6	406.6
4.6	4.0	2.9	3.9	3.5	3.4	4.0	4.2	3.3	3.5	3.3	4.0	4.0
2350	2300	2250	2200	2150	2100	2050	2000	1950	1900	1850	1800	1800

410.60

Gibbs Airport Cross-Sections

Station

0+50 East

0+50 East

414.89

T.P. 7.37 414.89 3.10 407.50 407.52

0+00 = Base Line

0+00 = Base Line

0+50 West

0+50 West

410.60

10

407.2	408.5	409.1	410.0	409.4	409.0	409.7	408.7	408.6	408.2	408.4	408.6	407.9
7.7	6.9	5.8	4.9	5.5	5.9	5.2	6.2	6.3	6.7	6.5	6.3	7.0
2400	2450	2500	2550	2600	2650	2700	2750	2800	2850	2900	2950	3000

407.5	407.9	407.5	407.0	407.0	407.8	407.9	409.1	407.4	408.0	407.1	407.9
7.4	7.0	7.4	7.9	7.9	7.1	7.0	5.8	7.5	6.9	7.8	7.0
2350	2300	2300	2322	2322	2350	2350	2350	2350	2350	2350	2350

414.89

Hab at 20' 100 North } 10' West } F.B. 1750 -13

407.2	408.4	409.0	409.6	409.2	409.0	408.5	408.3	408.2	408.2	408.1	407.7	407.4
3.4	2.2	1.6	1.0	1.4	1.6	2.1	2.3	2.4	2.4	2.5	2.9	3.0
2400	2450	2500	2550	2600	2650	2700	2750	2800	2850	2900	2950	3000

406.9	407.0	407.4	407.0	407.4	407.6	407.6	407.5	407.2	407.1	407.0	407.0
3.7	3.6	3.2	3.6	3.2	3.0	3.0	3.1	3.4	3.5	3.6	3.6
2350	2300	2322	2322	2350	2350	2350	2350	2350	2350	2350	2350

407.5	408.0	408.5	409.2	409.3	409.1	408.7	408.4	407.6	407.7	407.4	407.5	407.8
3.1	2.6	2.1	1.4	1.3	1.5	1.9	2.2	3.0	2.9	3.2	3.1	2.8
2400	2450	2500	2550	2600	2650	2700	2750	2800	2850	2900	2950	3000

407.7	407.7	407.4	407.4	408.6	407.7	407.9	407.5	408.1	408.2	407.9	407.5
2.9	2.9	3.2	3.2	2.0	2.9	2.7	3.1	2.5	2.4	2.7	3.1
2350	2300	2322	2322	2350	2350	2350	2350	2350	2350	2350	2350

410.60

Gibbs Airport Cross-Sections

Station

3+00 East

2+00 East

2+00 East

1+47.57 East

1+47.57 East

1+00 East

1+00 East

414.89

410.2	410.4	412.5	412.3	411.2	408.8	408.9	409.7	409.1	411.0	408.8	408.2	408.7	
4.7 3000	4.5 2300	2.4 2300	2.6 2700	3.7 2600	6.1 2500	6.0 2900	5.2 2300	5.8 2200	3.9 2100	6.1 2000	6.7 1900	6.2 1800	
409.9			410.0			410.7		409.3		409.1			
5.0 2600			4.9 2700			4.2 2800		5.6 2900		5.8 3000			
408.4			408.1		408.2	407.3		408.7		408.5		407.4	
6.5 2500			6.8 2600		6.7 2300	7.6 2200		6.2 2100		6.4 2000		7.1 1900	7.5 1800
407.9	408.0	409.1	409.4	410.0	410.0	410.3	409.5	409.8	409.2	408.7	410.3		
7.0 2450	6.9 2500	5.8 2550	5.5 2600	4.9 2650	4.9 2700	4.6 2750	5.4 2800	5.1 2850	5.7 2900	6.2 2950	6.2 3000	4.6 3000	
407.8	407.9	407.8	407.9	407.8	408.2	408.0	408.4	407.7	407.5	407.2	407.1	406.8	
7.1 2400	7.0 2350	7.1 2300	7.0 2250	7.1 2200	6.7 2150	6.9 2100	6.5 2050	7.2 2000	7.4 1950	7.7 1900	7.8 1850	8.1 1800	
409.7	408.5	409.0	409.7	409.2	409.3	409.6	408.6	408.5	408.2	408.4			
5.2 2500	6.4 2550	5.9 2600	5.2 2650	5.5 2700	5.6 2750	5.3 2800	6.3 2850	6.4 2900	5.7 2950	6.5 3000			
407.7	407.5	407.6	407.7	407.8	407.1	407.4	407.9	407.7	407.9	407.5	407.8	407.1	407.0
7.2 2450	7.4 2400	7.3 2350	7.2 2300	7.1 2250	7.8 2200	7.5 2150	7.0 2100	7.2 2050	7.0 2000	7.4 1950	7.1 1900	7.8 1850	7.9 1800

414.89

Gibbs Airport Cross-Section

Station

12

800' E

412.9	413.4	412.6	412.7	412.8	412.6	412.5	412.8	412.6	412.4	411.3	410.2	409.6
54	19	5.7	5.6	5.5	5.7	5.8	5.5	5.7	5.9	7.0	8.1	8.7
3000	2900	2800	2700	2600	2500	2400	2300	2200	2100	2000	1900	1800

700' E

412.4	411.9	412.8	412.0	411.3	411.4	412.8	411.9	411.4	411.3	411.2	409.5	409.1
5.9	6.4	5.5	6.3	7.0	6.9	7.5	6.4	6.9	7.0	7.1	8.8	9.2
3000	2900	2800	2700	2600	2500	2400	2300	2200	2100	2000	1900	1800

600' E

412.2	411.3	411.3	411.0	410.6	411.3	412.5	411.4	410.7	410.6	409.9	409.6	408.8
6.1	7.0	7.0	7.3	7.7	7.0	5.8	6.9	7.6	7.7	8.4	8.7	9.5
3000	2900	2800	2700	2600	2500	2400	2300	2200	2100	2000	1900	1800

500' E

409.3
99
1900' N

408.8
95
1800' N

500' E

412.6	411.6	411.0	410.6	410.3	409.9	411.5	411.1	411.3	410.6	409.3
5.7	6.7	7.3	7.7	8.0	8.4	6.8	7.2	7.0	7.7	8.0
3000	2900	2800	2700	2600	2500	2400	2300	2200	2100	2000

418.30

T.P. 7.08 418.30 3.67 411.22

on stick

4:00 East

414.89

413.1	411.9	412.3	410.9	410.6	409.5	409.9	410.5	410.5	409.6	409.6	408.9	408.1
1.8	3.0	2.6	4.0	4.3	5.4	5.0	4.4	4.4	5.3	5.3	6.0	6.8
3000	2900	2800	2700	2600	2500	2400	2300	2200	2100	2000	1900	1800

414.89

Gibbs Airport - Cross Sections

1300' East

10.5	10.2	12.8	11.6	11.5	9.8	9.8	10.3	11.8	13.1	12.9	13.8	14.1
3004.8	2900	2800	2700	2600	2500	2400	2300	2200	2100	2000	1900	1800
Old Line												

406.5
406.8
404.2
405.4
405.5
407.2
407.3
406.7
405.2
403.9
404.1
403.2
402.9

1200' East

207.0
92
205.4
N
Old Line

88	82	7.3	6.7	5.9	3.7	4.1	5.1	8.9	11.8	10.9	11.9	12.9
3000	2900	2800	2700	2600	2500	2400	2300	2200	2100	2000	1900	1800
Old Line												

408.2
408.8
409.7
410.3
411.1
413.3
412.9
411.9
408.1
405.7
406.1
405.1
404.1

417.00

T.P. 2.78 417.00 4.08 414.22

1100' East

5.6	3.7	3.5	2.4	2.8	3.0	3.2	4.1	5.4	7.1	8.8	8.8	9.2	11.4
3098	3000	2900	2800	2700	2600	2500	2400	2300	2200	2100	2000	1900	1800
Old Line													

412.7
414.6
415.8
415.9
416.0
415.3
415.1
414.2
412.9
411.2
409.5
409.5
409.1
406.9

1000' E

1.9	0.9
3100	3144.7
Old Line	

416.3
416.7
416.7
415.9
414.9
413.9
413.0
411.9
411.4
412.7
412.0
409.5
409.0

chk. Hub 2000' N 1000' E

6.30 41201-181230-3
412.00

1000' E

2.0	1.6	1.6	2.4	2.4	4.4	5.3	6.4	6.9	5.6	6.3	8.5	9.3
3000	2900	2800	2700	2600	2500	2400	2300	2200	2100	2000	1900	1800
Old Line												

415.6
415.1
415.4
414.7
413.7
412.4
413.9
414.1
413.8
413.2
412.7
411.5
411.0

900' East

2.7	3.2	2.9	3.6	4.6	4.9	4.4	4.2	4.5	5.1	5.6	6.8	7.3
3000	2900	2800	2700	2600	2500	2400	2300	2200	2100	2000	1900	1800
Old Line												

418.30

418.30

Gibbs Airport - Cross Sections

0.02
416.27 = Hub
4.99 116.29 3000' N

T.P. 14.70 42.28 3.16 406.58

15+59.18 East.

15+59.18 East.

T.P. 2.99 489.74 2.75 407.25

1500 E

1400 East.

1400 East.

417.00

1500 E. FB 17.50 - 14

406.5
1.2
2800 2900 2883.9
Std. Line

409.0 408.4 407.3 407.1 403.8 401.7 400.3 398.7 399.4 394.8
0.7 1.3 2.4 2.6 5.9 8.0 9.4 11.0 10.3 14.9
2700 2600 2500 2400 2300 2200 2100 2000 1900 1800

406.3 406.1 406.0 405.6 404.3 403.6 402.6 399.2 400.3 399.5 399.5 393.6 400.2
10.7 10.2 11.0 11.4 12.7 13.4 14.4 17.8 16.7 17.5 17.5 22.4 16.8
2911 2900 2800 2700 2600 2500 2400 2300 2200 2100 2000 1900 1800
Std. Line

403.6 403.0
13.4 14.0
2700 2683.4
Std. Line

403.4 403.7 401.5 400.3 400.5 400.8 401.9 402.9 402.0 401.7 401.8
13.6 13.3 15.5 15.7 16.5 16.2 15.1 14.1 15.0 15.3 15.2
2800 2700 2600 2500 2400 2300 2200 2100 2000 1900 1800
417.00

Gibbs Airport - Cross Sections
From 3000' North to Bld. Line

Station

TR 4.79 108.02 10.04 403.30

1300' West

1400' West

1500' West

1600' West

1650' West

1700' West

5.46 413.34

407.88

402.3
11.0
3000

402.5
10.8
3100

403.3
10.0
3200

403.3
10.0
3305.4
Bld. Line

404.1
9.2
3000

403.5
9.8
3100

404.1
9.2
3200

404.1
9.2
3258.7
Bld. Line

404.9
8.4
3000

404.7
8.6
3100

404.6
8.5
3200

405.1
8.2
3212.1
Bld. Line

406.9
6.4
3000

406.6
6.7
3050

406.0
7.3
3100

405.7
7.6
3165.4
Bld. Line

409.1
4.2
3000

409.1
4.2
3050

407.3
6.0
3100

406.4
6.2
3142.1
Bld. Line

409.5
3.8
3000' N

409.1
4.2
3050

408.1
5.2
31

407.7
5.6
3118.8
Bld. Line

413.34

on Hub Control #10
#1750-P-6

Gibbs Airport - Cross Sections
From 3000 N to Bld. Line

Stations

562.43 West

600' West

600' West

T.P. 6.03 412.26 186 406.23

650' West

650' West

700' W.

750' West

408.09

48	50	51	51	50	57	62	63	67	68	407.5	407.3	407.2	407.2	407.3	406.6	406.1	406.0	405.6	405.5	17			
3649	3600	3550	3500	3450	3400	3350	3300	3250	3200	Bld. line	406.7	407.1	406.8	406.7	406.7	406.1	405.6	405.2	405.2	406.8			
56	62	65	71	71	71	66	67	60	48	55	56	52	55	55	55	52	55	55	55	55			
3000	3050	3100	3150	3200	3250	3300	3350	3400	3450	3500	3550	3600	3631.6	3631.6	3631.6	3631.6	3631.6	3631.6	3631.6	3631.6	Bld. line		
											412.26												
26	22	17	17	17	17	17	17	17	17	17	405.5	405.9	406.4	405.5	405.9	406.4	406.3	406.3	407.5	406.8			
3100	3050	3000	3000	3000	3000	3000	3000	3000	3000	3000	405.0	404.7	404.6	405.3	405.4	405.9	406.7	406.4	406.3	406.6	407.0		
31	34	35	28	27	28	14	17	18	15	11	31	34	35	28	27	28	14	17	18	15	11		
3100	3200	3250	3300	3350	3400	3450	3500	3550	3600	3608.3	3608.3	3608.3	3608.3	3608.3	3608.3	3608.3	3608.3	3608.3	3608.3	3608.3	3608.3	Bld. line	
23	27	28	32	32	32	29	27	22	19	19	405.8	405.4	405.3	404.9	404.2	404.5	404.9	405.2	405.4	405.9	406.2	406.2	406.3
3000	3050	3100	3150	3200	3250	3300	3350	3400	3450	3500	3550	3600	3600	3600	3600	3600	3600	3600	3600	3600	3600	3600	3608.3
											412.26												
28	32	35	38	42	41	35	30	28	24	20	405.3	404.9	404.6	404.3	403.9	404.0	404.6	405.1	405.3	405.7	406.1	406.3	
3000	3050	3100	3150	3200	3250	3300	3350	3400	3450	3500	3550	3600	3600	3600	3600	3600	3600	3600	3600	3600	3600	3600	3608.3
											412.26												
											412.26												

408.09

Bld. line

Gibbs Airport - Cross Sections

from 3000 N

502.43 West.

502.43 West.

522.43 West.

522.43 West.

542.43 West.

542.43 West.

562.43 W

412.26

407.9	408.0	408.5	408.6																
44	43	38	37																
3550	3600	3650	3677																
			8th line																
406.5	406.1	406.0	406.1	406.3	406.4	406.6	407.0	407.4	407.6	407.6									
58	62	63	62	60	59	57	53	49	47	47									
3000	3020	3100	3150	3200	3250	3300	3350	3400	3450	3500									
407.8			408.3																
45			40																
3600	3650	3667	333																
			8th line																
406.5	406.1	406.0	405.8	406.0	406.1	406.5	406.7	407.3	407.6	407.4	407.6								
58	62	63	65	63	62	58	56	50	47	47	47								
3000	3050	3100	3150	3200	3250	3300	3350	3400	3450	3500	3550								
407.5			407.9																
48			44																
3600	3650	3658	33																
			8th line																
406.6	406.2	406.0	405.6	405.8	405.9	406.2	406.4	407.1	407.5	407.4	407.4								
57	61	63	67	65	64	61	59	52	48	49	49								
3000	3050	3100	3150	3200	3250	3300	3350	3400	3450	3500	3550								
405.4	406.0	406.1	406.6																
69	63	62	57																
3150	3100	3050	3000																

412.26

Gibbs Airport - Cross Sections
from 3000 ft to Blvd. Line

322.43' West

350' West

350' West

400' West

400' West

450' West

450' West

406.1	406.2	406.1	406.1	406.2	406.6	406.9	407.2	407.3	407.6	407.8
62	6.1	6.2	6.2	6.1	5.7	5.4	5.1	5.0	4.7	4.5
3000	3050	3100	3150	3200	3250	3300	3350	3400	3450	3500
408.3	408.3	408.7	409.1	409.6						
40	40	36	32	27						
3550	3600	3650	3700	3748.3						
					Blvd. Line					
406.1	405.8	405.9	406.1	406.2	406.4	406.5	407.1	407.2	407.4	407.6
62	6.5	6.4	6.2	6.1	5.9	5.8	5.2	5.1	4.9	4.7
3000	3050	3100	3150	3200	3250	3300	3350	3400	3450	3500
408.5	408.5	408.9	409.2	409.1						
38	3.8	3.4	3.1	3.2						
3550	3600	3650	3700	3724.9						
					Blvd. Line					
406.1	405.9	406.0	406.1	406.2	406.3	406.9	407.1	407.1	407.5	407.7
62	6.4	6.3	6.2	6.1	6.0	5.4	5.2	5.2	4.8	4.6
3000	3050	3100	3150	3200	3250	3300	3350	3400	3450	3500
408.2	408.4	408.8	409.1							
4.1	3.9	3.5	3.2							
3550	3600	3650	3701.6							
406.2	406.1	406.1	406.1	406.2	406.4	406.9	407.2	407.3	407.5	407.7
6.1	6.2	6.2	6.2	6.1	5.9	5.4	5.1	5.0	4.8	4.6
3000	3050	3100	3150	3200	3250	3300	3350	3400	3450	3500

Gibbs Airport - Cross Sections
 from 3000 W to Old Line

200' West

409.1	409.5	410.3	410.4
3.2	2.7	2.0	1.9
3550	3600	3650	3700
			Old Line

200' W

406.6	406.9	407.1	407.5	407.6	407.9	408.0	408.1	408.1	408.3	408.7
5.7	5.4	5.2	4.8	4.7	4.4	4.3	4.2	4.2	4.0	3.6
3000	3050	3100	3150	3200	3250	3300	3350	3400	3450	3500

250' West

408.9	409.2	409.8	410.3	410.3
3.4	3.1	2.5	2.0	2
3550	3600	3650	3700	3727.36
				Old Line

250' West

406.2	406.1	406.3	406.5	407.0	407.3	406.6	407.5	407.6	408.1	408.7
6.1	6.2	6.0	5.7	5.3	5.0	5.7	4.8	4.7	4.2	3.6
3000	3050	3100	3150	3200	3250	3300	3350	3400	3450	3500

300' West

408.1	408.3	408.8	409.3	409.7
4.2	4.0	3.5	3.0	2.6
3550	3600	3650	3700	3750.67
				Old Line

300' West

406.0	406.1	406.2	406.1	406.2	406.5	406.9	407.1	407.2	407.6	407.7
6.3	6.2	6.1	6.2	6.1	5.8	5.4	5.2	5.1	4.7	4.6
3000	3050	3100	3150	3200	3250	3300	3350	3400	3450	3500

322.43' West

408.1	408.3	408.7	409.2	409.6
4.2	4.0	3.6	3.1	2.7
3550	3600	3650	3700	3761.17 - Old Line

412.26

412.26

Gibbs Airport - Cross Sections
from 3000' North to Bld. Line

82.43' West

407.6	407.8	408.4	409.0	409.2	409.2	409.7	409.8	409.5	409.4	21
4.7	4.5	3.9	3.3	3.1	3.1	2.6	2.5	2.8	2.9	
3000	3050	3100	3150	3200	3250	3300	3350	3400	3450	

102.43' West

409.7	409.3	409.6	410.3	
2.6	3.0	2.7	2.0	
3500	3550	3600	3650	3658.69
				Bld. Line

102.43' West

407.5	407.7	408.5	408.9	409.1	409.2	409.5	409.5	409.5	409.5
4.8	4.6	3.8	3.4	3.2	3.1	2.8	2.8	2.8	2.8
3000	3050	3100	3150	3200	3250	3300	3350	3400	3450

122.43' West

409.3	409.4	409.5	410.2	410.3
3.0	2.9	2.8	2.1	2.0
3500	3550	3600	3650	3667.9
				Bld. Line

122.43' West

407.6	407.8	408.1	408.7	408.8	408.9	409.0	409.1	409.2	409.3
4.7	4.5	4.2	3.6	3.5	3.4	3.3	3.2	3.1	3.0
3000	3050	3100	3150	3200	3250	3300	3350	3400	3450
									3500

142.43' West

409.1	409.3	410.0	410.2
3.2	3.0	2.3	2.1
3550	3600	3650	3677.25
			Bld. Line

142.43' West

407.1	407.6	407.8	408.1	408.4	408.7	408.8	409.0	408.7	408.9	409.0
5.2	4.7	4.5	4.2	3.9	3.6	3.5	3.3	3.6	3.4	3.3
3000	3050	3100	3150	3200	3250	3300	3350	3400	3450	3500

412.26

412.26

Gibbs Airport - Cross Sections
from 3000' N to Bld. Line

Station

chk Hub 3000' N 1000' E P. 14 4.38 416.27
0.02
416.29

900' East

800' East

700' East

T.P. 84.5 420.67 4.26 413.22

600' East

500' East

416.48

on stub
3000' N
600' E

415.7	416.3	416.5		
5.0 3000	4.4 3100	4.2 3191.3		
413.1	413.3	415.7	414.9	
7.6 3000	7.4 3100	5.0 3200	5.3 3237.9	
412.4	413.8	414.3	414.9	
8.3 3000	6.9 3100	6.4 3200	5.8 3284.5	
412.2	412.4	413.7	414.8	414.0
4.3 3000	4.1 3100	2.8 3200	1.7 3300	2.5 3331.8
412.6	412.7	413.8	414.7	413.6
3.9 3000	3.8 3100	2.7 3200	1.8 3300	2.9 3377.8
			416.48	Bld. Line

Gibbs Airport - Cross Sections.

From 1000 West to 21

2050' West

2050' West

2100' W

2100' West

2163.9 West

2163.9 West.

4.06 411.27 407.21

403.7	403.6	403.8	402.2	401.1	400.9	399.9	400.4	398.9
7.6	7.7	7.5	9.1	10.2	10.4	11.4	10.9	12.4
2955.6	2900	2810	2800	2700	2600	2500	2400	2300
					400.6	400.2	400.2	400.2
					10.7	11.1	11.1	11.1
					1800	1900	2000	2100
404.4	404.4	404.2	402.6	402.2	401.9	401.0	400.3	399.7
6.9	6.9	7.1	8.7	9.1	9.4	10.8	11.0	11.6
2932.3	2900	2810	2800	2700	2600	2500	2400	2300
Bld. Line								
405.4	408.4							
5.9	2.9							
2800	2902.5							
Bld. Line								
403.2	403.5	403.5	403.0	403.7	402.5	402.9	403.8	405.1
8.1	7.8	7.8	8.3	7.6	8.6	8.4	7.5	6.2
1800	1900	2000	2100	2200	2300	2400	2500	2600
Bld. on Hub 4+05.21								
FB 1750								
69								
411.27								

12.8
1800
N

12.4
1900

12.3
2000

12.6
2100

12.4
2200

Gibbs Airport. Cross sections

1700' W

TR 2.43 411.16 2.24 401.73

1700' West

TR 5.51 403.97 2.60 398.46

1800' West

1900' West

2000' West

2000' West

TP 4.28 408.06 7.47 403.78

~~2000' West~~

411.27

408.8
404.1
402.5
411.16

401.5
401.0
399.7
398.9
399.3
398.2
397.2
395.7
394.6

25 2600 3.0 2500 4.3 2400 5.1 2300 4.7 2200 5.8 2100 6.8 2000 8.3 1900 9.4 1800 W

407.7
407.4
404.5
403.9
403.1
403.1
400.3
399.1
398.4
398.4
397.3
396.4
396.4
394.9

0.4 3072 0.7 3000 3.6 2900 4.2 2800 5.0 2700 5.9 2600 7.8 2500 9.0 2400 9.7 2300 9.7 2200 10.8 2100 11.7 2000 11.7 1900 12.1 1800 W
81d. 86.0

408.7
408.1
403.5
402.5
401.1
400.5
401.1
400.4
399.4
399.0
396.9
396.9
395.0
395.0

40.6 3025 0.0 3000 4.5 2900 5.6 2800 7.0 2700 7.6 2600 7.0 2500 7.7 2400 8.7 2300 9.1 2200 11.2 2100 11.2 2000 12.1 1900 12.1 1800
84.0

403.3
402.3
401.6
400.8
400.4
399.2
398.7
398.6
398.1
398.1
398.3

4.8 2978 5.8 2900 6.5 2800 7.3 2700 7.7 2600 8.9 2500 9.4 2400 9.6 2300 10.0 2200 10.0 2100 9.8 2000
84.0

408.06

~~411.27~~

Gibbs Airport - Cross Sections

Stations

T.P. 4.88 405.88 10.16 401.00

1100 West

1200 West

1300 West

1400 West

1500 West

1600 West

411.16

27

401.7	401.0	401.6	401.7	400.1	400.0
95 3000 N	102 2900	96 2800	105 2700	111 2600	112 2500 N
	401.8	401.7	401.5	400.7	399.4
	94 2900	95 2800	98 2700	105 2600	112 2500 N
	403.4	403.4	403.1	401.4	401.4
	78 2900 N	78 2800	81 2700	98 2600	108 2500 N
403.7	404.3	404.5	402.8	401.4	400.6
75 2950 N	69 2900	67 2800	84 2700	98 2600	106 2500 N
404.9	405.1	405.0	402.8	401.9	401.2
63 2950 N	61 2900	62 2800	84 2700	93 2600	100 2500 N
407.1	406.4	404.6	402.7	401.5	
41 2950 N	48 2900	66 2800	85 2700	96 2600	97 2500 N

411.16

7-2-48

Gibbs Airport - Cross Sections

Station

chk Hub Page 2	5.36	$\frac{404.48}{0.02}$ 404.58
T.P.	9.79	409.86
1100' West	5.81	400.07

1200' West.

1300' West.

1400' West.

1500' West.

1600' West.

405.88

28

399.7	400.5	399.9	399.2	396.7	397.3	398.0
6.2	5.4	6.0	6.7	9.2	8.6	7.9
2400	2300	2200	2100	2000	1900	1800 N
399.2	400.0	399.6	398.0	397.8	395.7	397.0
6.7	5.9	6.3	6.9	8.1	10.2	8.9
2400	2300	2200	2100	2000	1900	1800 N
399.4	399.0	398.6	398.1	397.7	397.9	396.1
6.5	6.7	7.3	7.8	8.2	8.0	9.8
2400	2300	2200	2100	2000	1900	1800 N
400.0	399.4	398.4	397.6	396.4	396.2	395.9
5.9	6.5	7.5	8.3	9.5	9.7	10.0
2400	2300	2200	2100	2000	1900	1800 N
400.4	400.0	399.2	398.8	398.1	396.2	395.0
5.5	5.9	6.7	7.1	7.8	9.7	10.9
2400	2300	2200	2100	2000	1900	1800 N
400.4	400.3	399.1	399.4	398.2	397.1	395.7
5.5	5.6	6.8	6.5	7.7	8.8	10.2
2400	2300	2200	2100	2000	1900	1800 N
405.88			405.88			

Gibbs Airport - Cross Sections

Stations Borrow Pit (Proposed)

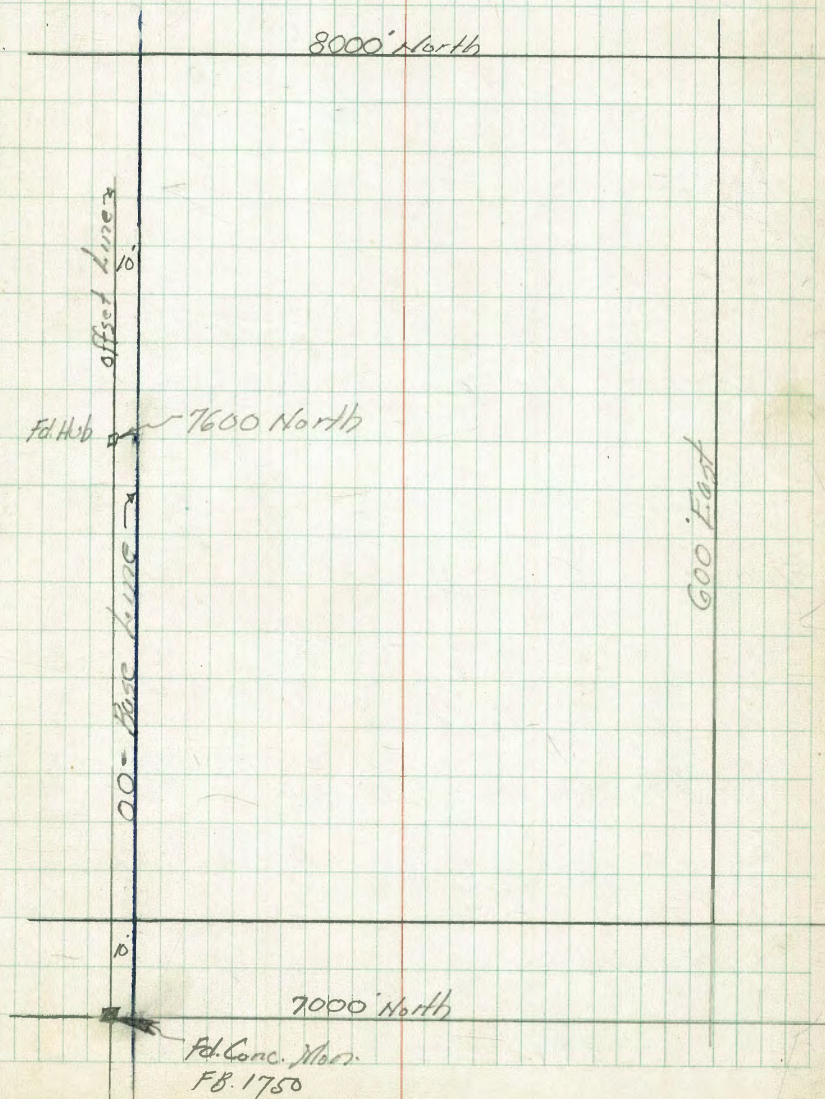
from 7100' North to 8000' N

" 00 = Base line to 600' East.

Note: No Readings West of Base line

Walker 7-2-48
Johnson
Allen
Fr. Gregory

29



Gibbs Airport Cross Sections

Proposed Barron Pit

30

7125' N

8.7 100 E	8.9 75	9.5 50	10.4 25	10.8 0
416.4	416.2	415.6	414.7	414.3

7125' N

86 125 E	82 100	84 175	83 200	77 225	7.6 250	7.7 275	7.5 300	7.5 325	7.4 350 E
416.5	416.9	416.7	416.8	417.4	417.5	417.4	417.6	417.6	417.7

7125' N

6.5 600 E	6.1 575	7.2 550	7.8 525	7.9 500	7.7 475	7.6 450	7.2 425	7.2 400	7.1 375 E
418.6	419.0	417.9	417.3	417.2	417.4	417.5	417.9	417.9	418.0

7100' N

8.4 800 E	8.3 525	7.1 550	6.3 575	6.4 600
416.7	416.8	418.0	418.8	418.7

7100' N

8.7 250 East	8.7 275	7.7 300	8.3 325	7.9 350	7.5 375	7.7 400	7.8 425	8.0 450	7.7 475
416.4	416.4	417.4	416.8	417.2	417.6	417.4	417.3	417.1	417.1

7100' North

11.5 0	10.8 25 E	9.5 50	9.2 75	8.8 100	9.3 125	8.5 150	9.0 175	8.8 200	8.2 225 E
413.6	414.8	415.6	415.9	416.3	415.8	416.6	416.1	416.3	416.9

322 | 425.12

415.73

425.12

Gibbs Airport Cross Sections.

Proposed Borrow Pit.

7400 N

7.9	7.1	6.7	5.7	5.5	5.8	6.5	7.2	7.6	8.3	8.9
600	575	550	525	500	475	450	425	400	375	350

419.9	420.4	421.1	422.1	423.1	423.7	423.9	423.9	423.2	422.4	422.0
8.8	8.3	7.6	6.5	5.7	5.0	4.8	4.8	5.5	6.3	6.7
325	350	375	400	425	450	475	500	525	550	575

415.4	416.0	416.7	416.6	417.5	416.8	418.0	418.0	417.6	418.5	418.9	419.4	419.7
13.3	12.7	12.0	12.1	11.4	11.9	10.7	10.7	11.1	10.2	9.8	9.3	9.0
0	25	50	75	100	125	150	175	200	225	250	275	300

7375 N

416.6	419.2	417.6	417.3	416.7	416.6	416.4	416.4	416.0	416.1	419.1	420.4
10.1	9.5	11.1	11.4	12.0	12.1	12.3	12.3	12.7	12.6	9.6	8.9
225	250	275	300	325	350	375	400	425	450	475	500

7350 N

420.7	421.4	422.4	423.4	424.2	424.5	424.8	424.8	422.4	422.6	422.1	421.9	421.6
8.0	7.3	6.3	5.3	4.5	4.2	3.9	3.9	5.3	6.1	6.6	6.8	7.1
600	575	550	525	500	475	450	425	400	375	350	325	300

7325

423.4	423.6	424.3	425.0	425.2	425.3	424.5	424.1	423.3	422.2	421.3	421.0
5.9	5.1	4.4	3.7	3.5	3.4	3.3	4.6	5.4	6.5	7.4	7.7
325	350	375	400	425	450	475	500	525	550	575	600

7325 N

415.9	415.9	416.6	416.7	417.2	417.1	417.2	418.1	418.8	419.7	420.3	421.3	422.7
12.8	12.8	12.1	12.0	11.5	11.6	11.5	10.6	9.9	9.0	8.4	7.4	6.0
0	25	50	75	100	125	150	175	200	225	250	275	300

428.74

428.74

34

Gibbs Airport Cross Sections

Proposed Burrow Pit

7475 N

418.4	418.6	418.7	419.4	420.2	420.6	420.9	420.8	420.9	421.3	421.5	421.5	420.7
10.3	10.1	10.0	9.8	8.5	8.1	7.8	7.9	7.8	7.1	7.2	7.7	8.0
300	325	350	375	400	425	450	475	500	525	550	575	600

7475 N

416.6	417.7	418.7	419.0	419.0	418.8	418.0	418.0	417.6	417.7	418.7	418.4	418.4
12.1	11.0	10.0	9.7	9.7	9.9	10.7	10.7	11.1	11.0	10.0	10.3	10.3
0	25	50	75	100	125	150	175	200	225	250	275	300

7450 N

419.2	418.2	418.4	417.7	417.5	417.5	417.5	418.3	418.4	418.4	418.3	417.3	416.5
9.5	10.5	10.3	11.0	11.2	11.2	11.2	10.4	10.3	10.3	10.4	11.4	12.2
300	275	250	225	200	175	150	125	100	75	50	25	0

7450 N

421.1	421.3	422.0	422.1	421.6	421.0	420.8	420.4	420.3	419.5	419.1	419.4	419.4
7.6	7.1	6.7	6.6	7.1	7.7	7.9	8.3	8.4	9.2	9.6	9.3	9.3
600	575	550	525	500	475	450	425	400	375	350	325	300

7425 N

419.3	419.6	420.1	420.7	421.1	421.7	422.2	422.3	422.4	421.3	421.0	419.0	419.0
9.4	9.1	8.6	8.0	7.6	7.0	6.5	6.4	6.3	7.4	7.7	7.7	7.7
350	375	400	425	450	475	500	525	550	575	600	600	600

7425 N

416.7	417.4	417.4	418.0	418.0	417.6	417.5	417.4	417.6	418.2	418.2	418.4	419.0	419.0
12.0	11.8	11.1	10.7	10.7	11.1	11.2	11.3	11.1	10.5	10.3	10.3	9.7	9.7
0	25	50	75	100	125	150	175	200	225	250	275	300	325

7400 N

418.5	419.1	418.7	418.3	418.1	418.0	417.6	417.1	416.9	417.7	417.7	417.3	416.9	416.1
9.7	9.6	10.0	10.4	10.6	10.7	11.1	11.6	11.8	10.0	11.0	11.4	11.8	12.6
325	300	275	250	225	200	175	150	125	100	75	50	25	0

428.74

428.74

Gibbs Airport Cross Sections

Proposed Barron Pit.

7575' N

7550' N

7550' N

7525' N

7525' N

7500' N

7500' N

428.74

420.1	421.6	421.5	422.5	422.5	423.2	422.0	422.0	420.9	419.7	419.0	418.2	418.9
86 0	71 25	62 50	62 75	65 100	67 125	67 100	7.8 125	90 200	97 225	95 250	98 275	
418.5	418.8	418.4	418.7	419.8	420.5	421.4	421.1	421.6	421.6	421.3	419.6	
102 275	99 250	103 225	10.0 200	89 175	82 150	73 125	76 100	71 75	71 50	74 25	91 0	
420.2	420.6	420.6	420.3	420.3	419.7	419.7	419.5	419.6	419.0	418.8	419.2	418.6
85 600	81 575	81 550	84 525	84 500	90 475	90 450	92 425	91 400	97 375	99 350	95 325	101 300
418.8	419.0	419.2	419.5	420.0	420.6	420.2	420.2	420.9	420.7	420.3		
99 350	97 325	95 300	93 275	87 250	81 225	85 200	83 175	7.8 150	80 125	84 100		
417.9	419.9	419.9	420.7	420.7	420.1	419.3	418.2	418.2	418.1	418.4	418.2	418.3
108 0	88 25	88 50	80 75	80 100	86 125	94 150	105 175	106 200	106 225	103 250	105 275	104 300
418.3	418.0	418.0	418.1	418.2	419.0	419.4	420.0	420.0	419.0	419.0	417.3	
102 275	107 250	107 225	106 200	105 175	97 150	93 125	87 100	87 75	97 50	97 25	114 0	
420.5	421.2	421.2	420.8	420.6	420.9	420.4	420.0	419.4	419.0	418.8	418.6	418.5
82 600	75 575	75 550	79 525	81 500	78 475	83 450	87 425	93 400	97 375	99 350	101 325	102 300

428.74

Gibbs Airport - Cross Sections

Proposed Borrow Pit

7650 N

7650 N

7625 N

7625 N

7600 N

7600 N

7575 N

428.74

82 275	82 250	76 225	58 200	45 175	42 150	50 125	42 100	41 75	41 50	51 25	73 0
420.5	420.5	421.1	423.3	424.2	424.5	423.7	424.5	424.6	424.6	423.6	37.4
418.9	419.9	420.3	420.5	420.6	420.7	420.3	420.7	420.2	420.7	420.4	420.2
98 600	88 575	84 550	82 525	81 500	80 475	84 450	84 425	85 400	80 375	83 350	84 325
420.0	419.9	419.9	420.3	419.9	419.9	420.1	420.3	420.5	420.2	420.7	420.2
87 380	88 375	88 400	84 425	88 450	88 475	86 500	84 525	82 550	85 575	89 600	
421.6	424.2	424.0	423.8	423.2	423.6	423.7	422.9	421.8	420.6	419.9	419.6
71 0	45 25	47 50	42 75	55 100	51 125	50 150	58 175	69 200	81 225	88 250	91 275
419.2	419.9	419.9	420.7	421.6	422.8	422.7	422.2	421.0	423.0	422.2	421.3
95 275	88 250	88 225	80 200	71 175	58 150	60 125	55 100	57 75	57 50	55 25	74 0
419.6	420.1	420.6	420.2	420.2	419.7	419.6	420.0	419.6	420.0	419.9	419.3
91 600	86 575	81 550	85 525	81 500	90 475	91 450	87 425	91 400	87 375	88 350	94 325
419.6	419.0	419.1	419.2	419.2	420.1	419.6	419.7	419.9	420.1	420.5	420.7
91 300	97 325	96 350	95 375	95 400	86 425	91 450	90 475	88 500	86 525	82 550	80 575

428.74

Gibbs Airport - Cross Sections
Proposed Borrow Pit.

38

7725 N

422.4	422.7	422.6	422.4	422.2	421.6	421.5	420.11	420.4	419.9	419.3	418.1
60	57	58	60	62	68	69	73	80	85	91	103
325	350	375	400	425	450	475	500	525	550	575	600

7725 N

417.7	419.0	419.7	419.5	419.2	421.1	421.7	422.4	422.7	422.8	422.7	422.2	422.3
187	92	87	89	92	73	67	60	57	56	57	61	61
0	25	50	75	100	125	150	175	200	225	250	275	300

7700 N

421.7	421.9	423.2	423.8	424.3	423.4	422.3	421.3	421.5	421.7	421.1	419.0	421.3
67	65	62	46	41	50	61	71	69	67	73	94	94
275	300	325	350	375	400	425	450	475	500	525	550	575

7700 N

418.5	419.5	420.0	420.4	421.0	421.3	421.4	421.5	421.8	422.0	422.0	421.8	421.3
29	39	44	40	74	71	70	69	66	64	64	66	67.1
600	675	750	825	900	975	1050	1125	1200	1275	1350	1425	1500

428.39

T.P. 6.71 428.39 7.06 421.68

7675 N

421.3	420.9	421.5	421.2	420.6	420.8	420.8	420.7	420.7	420.0	419.8	418.8
74	78	72	75	81	79	79	80.0	80	87	89	99
325	350	375	400	425	450	475	500	525	550	575	600

7675 N

421.3	422.4	423.4	423.6	423.6	424.0	424.8	424.7	423.8	422.5	421.4	420.7	420.6
74	63	53	51	51	47	39	40	49	62	73	80	81
0	25	50	75	100	125	150	175	200	225	250	275	300

428.74

428.74

Gibbs Airport - Cross Sections

Proposed Barrow Pit,

7825 H.

7800 N

7800 N

7775 N

7775 N

7750 N

7750 N

428.35

416.9	417.4	417.1	417.2	417.5	417.9	418.2	418.9	419.3	420.3	421.5	422.6	424.0
115 6	110 25	113 50	112 75	108 100	105 125	102 150	95 175	91 200	81 225	63 250	58 275	44 300
424.1	423.1	421.8	420.9	419.5	418.9	418.5	418.6	418.3	418.0	417.6	417.4	417.1
13 300	53 275	66 250	75 225	89 200	95 175	99 150	98 125	101 100	104 75	108 50	110 25	113 0
416.8	418.3	419.5	420.2	420.7	421.3	421.8	422.4	422.9	423.6	424.1	424.5	
116 600	101 575	89 550	83 525	77 500	71 475	66 450	60 425	55 400	48 375	43 350	39 325	
422.6	422.3	423.0	422.6	422.0	421.3	421.0	420.3	419.6	418.6	417.3		
48 350	51 375	54 400	58 425	64 450	71 475	74 500	81 525	88 550	98 575	111 600		
417.2	417.8	417.8	418.3	418.8	419.1	419.3	419.6	420.5	420.8	422.4	422.9	423.2
112 0	106 25	106 50	101 75	96 100	93 125	91 150	88 175	79 200	78 225	60 250	55 275	52 300
422.6	422.7	422.4	422.1	421.5	420.6	420.0	419.6	419.2	418.8	418.9	418.4	417.3
58 300	57 275	63 250	63 225	69 200	78 175	84 150	88 125	93 100	96 75	95 50	100 25	111 0
418.0	418.8	419.8	420.5	420.6	421.6	422.0	422.6	422.7	423.0	423.1	423.0	
114 600	96 575	86 550	79 525	78 500	68 475	64 450	58 425	57 400	54 375	53 350	54 325	

428.35

Gibbs-Airport - Cross Section 10173

Proposed Barrage Pit.

7900 N

7.7	7.2	7.3	7.9	8.8	10.2	10.9	11.5	12.2	12.5	12.8	12.9	12.7
300	275	250	225	200	175	150	125	100	75	50	25	0

7900 N

12.0	10.6	9.2	8.5	8.4	8.5	8.8	9.7	10.4	10.5	10.0	8.8
400	575	550	525	500	475	450	425	400	375	350	325

7875' N

7.7	8.5	8.4	8.5	7.7	7.7	7.8	8.5	9.3	11.0	12.3
350	375	400	425	450	475	500	525	550	575	600

7875 N

11.6	11.9	12.0	11.5	11.0	11.1	10.6	9.9	9.1	8.2	7.4	6.8	6.1	7.1
0	25	50	75	100	125	150	175	200	225	250	275	300	325

7850 N

5.1	5.8	7.1	8.5	9.2	9.6	10.2	10.6	10.8	11.3	11.3	11.6	11.8
300	275	250	225	200	175	150	125	100	75	50	25	0

7850 N

11.8	10.8	8.5	8.2	7.8	7.8	7.1	6.9	7.1	7.0	6.0	5.2
600	575	550	525	500	475	450	425	400	375	350	325

7825 N

12.2	11.6	11.2	10.9	10.2	10.6	11.2	11.7	13.1	14.4	14.8	11.8
325	350	375	400	425	450	475	500	525	550	575	600

428.39

428.39

Gibbs Airport. Cross Sections
Proposed Barrage Pt.

7975 N

7975 N

7950 N

7950 N

TP 5.56 425.00 8.95 419.44

7925 N

7925 N

428.39

41

415.3	414.6	414.3	414.9	417.3	418.5	418.4	418.4	418.5	419.2	419.1	417.7	416.8
97 325	104 350	107 375	101 400	77 425	65 455	66 480	66 475	62 500	58 525	59 550	73 575	82 600
414.5	413.1	412.5	412.8	413.0	414.2	415.0	415.7	416.8	418.5	420.3	418.6	416.2
105 0	112 25	125 50	122 75	120 100	108 125	100 150	93 175	82 200	65 225	47 250	64 275	88 300
420.2	421.5	419.9	418.4	417.4	415.8	414.3	414.0	413.4	413.4	413.5	414.7	
48 375	55 250	51 325	66 200	76 175	92 150	107 125	110 100	116 75	116 50	115 25	103 0	
416.8	417.6	419.0	419.2	418.8	419.5	418.7	416.7	415.5	415.1	415.7	416.7	418.1
82 600	74 575	60 550	58 525	62 500	55 475	63 450	83 425	95 400	99 375	93 350	83 325	69 300
425.00												
417.8	416.9	416.6	416.9	417.4	418.9	419.3	419.3	419.5	419.1	417.7	417.1	
106 325	115 350	118 375	115 400	110 425	95 450	91 475	91 500	89 525	93 550	107 575	113 600	
415.1	414.1	414.4	414.5	415.1	415.8	417.3	418.6	419.3	420.7	421.4	421.0	419.7
133 0	143 25	146 50	139 75	133 100	126 125	111 150	98 175	91 200	77 225	70 250	74 275	87 300

428.39

Gibbs Airport - Cross Sections
Proposed Borrow Pit.

Completed 7-6-48

$\begin{array}{r} 0.08 \\ 419.38 \\ \hline 419.30 \end{array}$ BMI =
 CAT. BM. 2.13 419.30
 T.P. 5.06 421.43 8.63 416.37

8000 N

8000 N

425.00

42

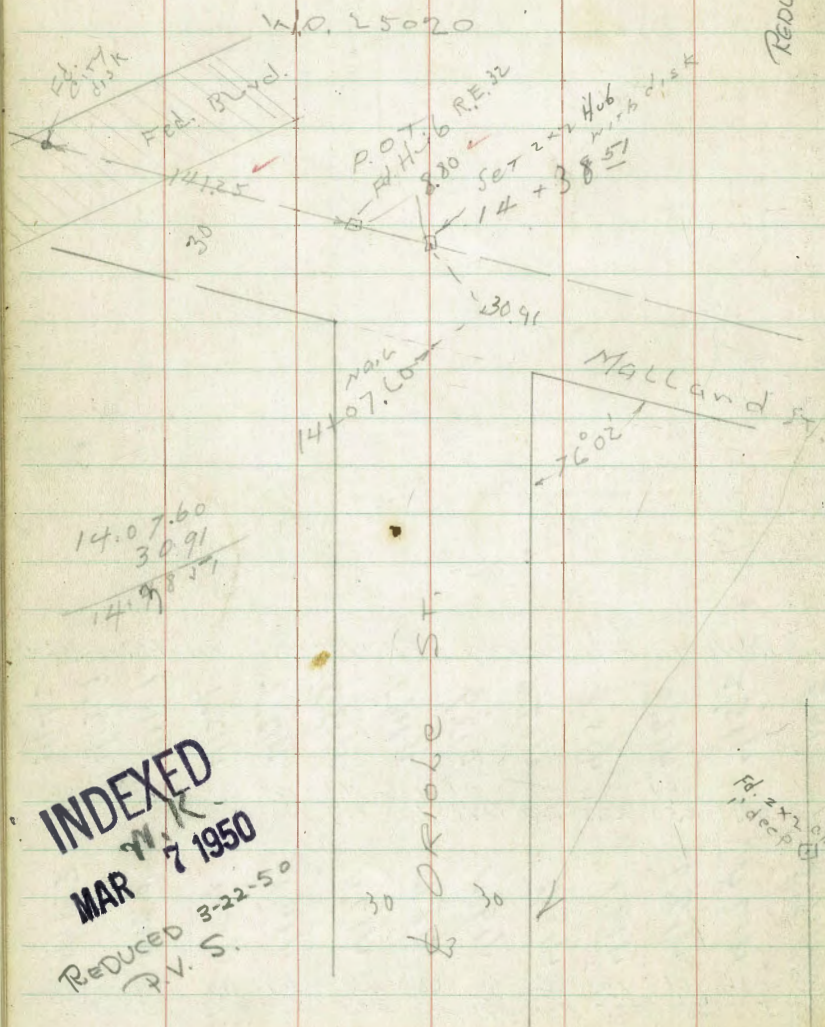
Two nails in Pole #4507 FB 1750-2 on Palm St
 $\begin{array}{cccccccccccccccc} 414.9 & 415.2 & 416.3 & 415.8 & 415.0 & 413.9 & 414.3 & 413.3 & 412.6 & 412.1 & 411.9 & 412.9 & 414.2 \\ 10.1 & 28 & 87 & 9.2 & 10.0 & 11.1 & 10.7 & 11.7 & 12.4 & 12.9 & 13.1 & 12.1 & 10.8 \\ 300 & 275 & 250 & 225 & 200 & 175 & 150 & 125 & 100 & 75 & 50 & 25 & 0 \\ \\ 416.5 & 417.4 & 418.9 & 419.1 & 418.6 & 419.4 & 418.6 & 417.4 & 414.1 & 413.7 & 413.7 & 414.3 \\ 85 & 76 & 61 & 59 & 64 & 56 & 64 & 76 & 109 & 113 & 113 & 107 \\ 600 & 575 & 550 & 525 & 500 & 475 & 450 & 425 & 400 & 375 & 350 & 325 \end{array}$

425.00

1-17-50 X sec Oriole St
 Moore Springfield to Mallard
 Begg
 Sherman
 Crawford

Ref. 1214-C

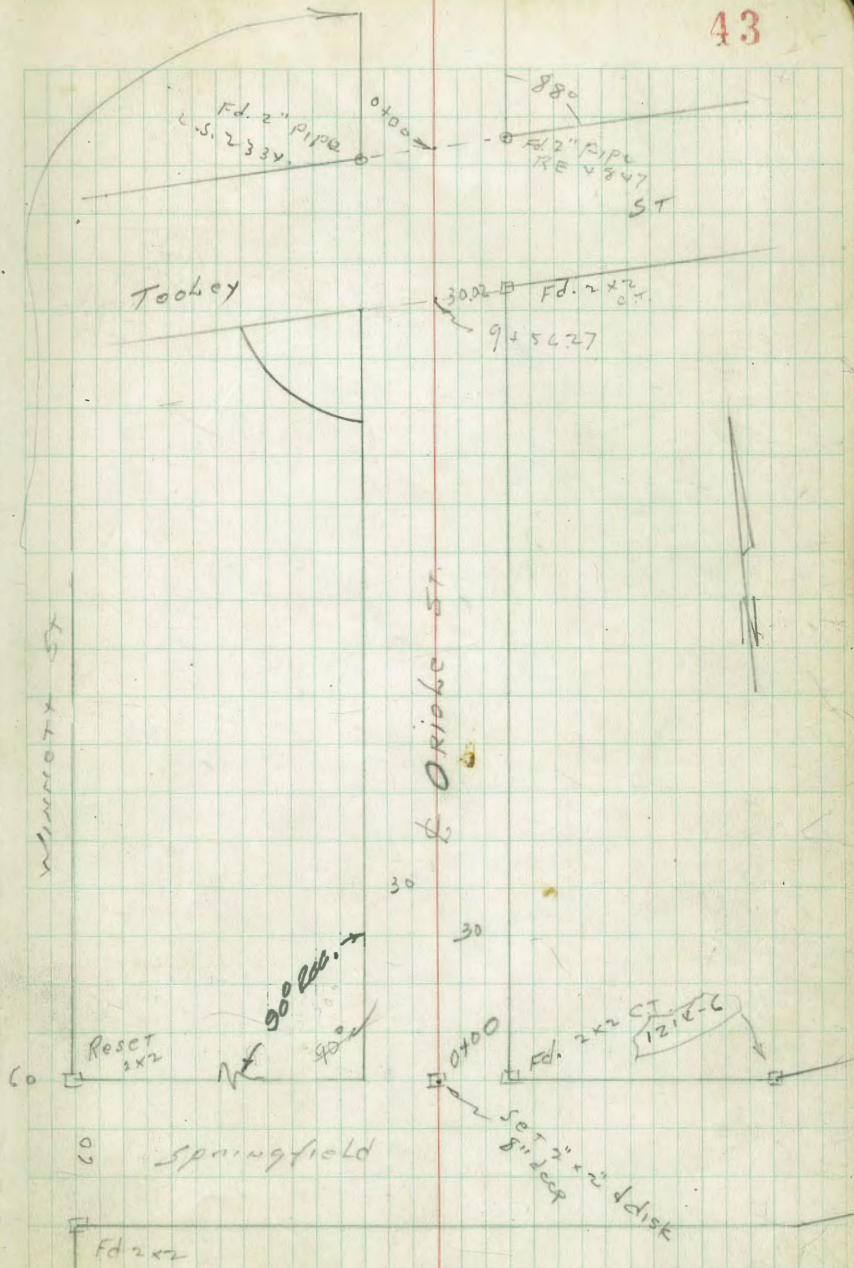
REDUCED 2-7-50
 P.V.S.



INDEXED

MAR 7 1950

REDUCED 3-22-50
 P.V.S.



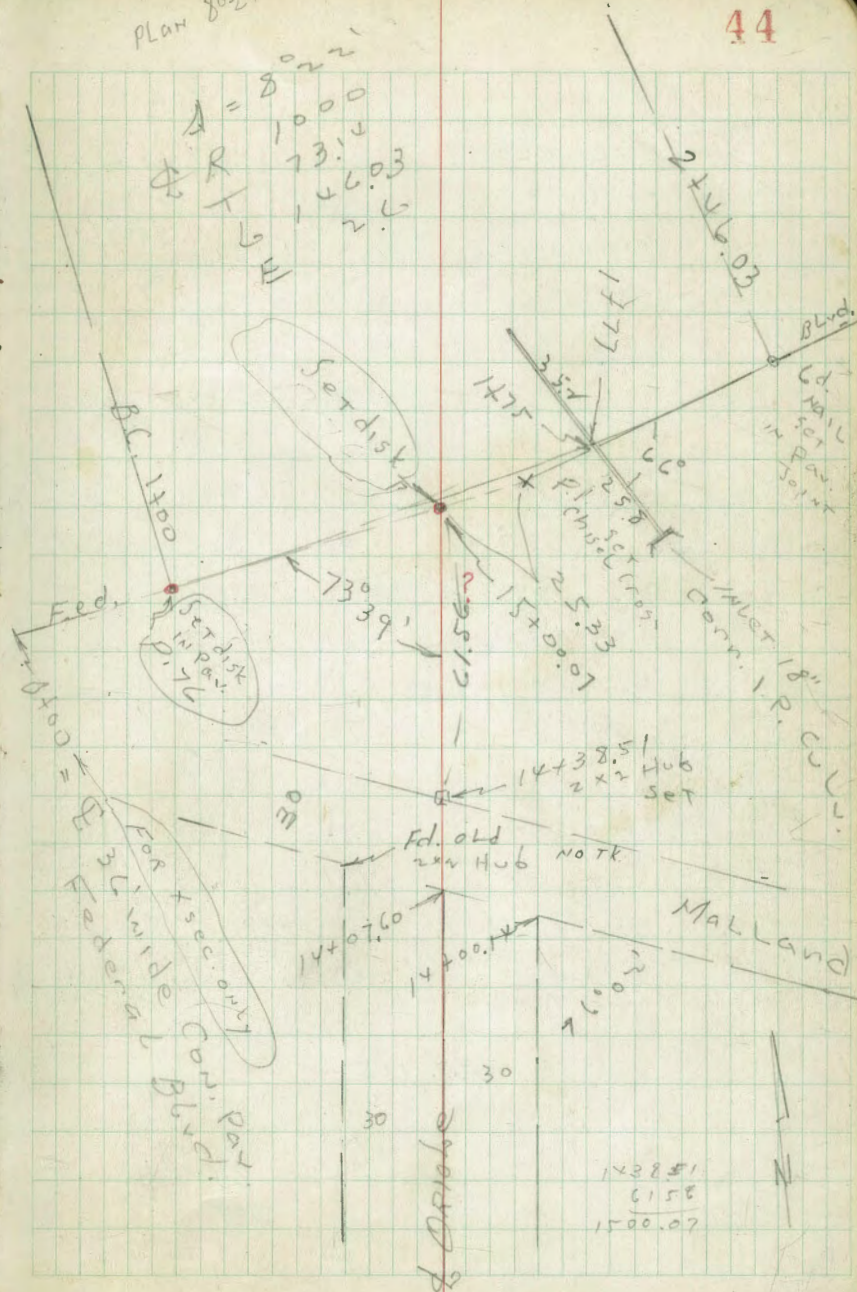
Plan 8021

$$A = 8022$$

$$R = 1000$$

$$T = 73.1$$

$$U = 46.03$$

$$W = 2.4$$


$$\begin{array}{r} 1400.14 \\ 1398.6 \\ \hline 1.54 \end{array}$$

$$\begin{array}{r} 1407.60 \\ 1400.14 \\ \hline 7.46 \\ 38.51 \\ 07.60 \\ \hline 30.91 \end{array}$$

$$\begin{array}{r} 1438.51 \\ 615.5 \\ \hline 1500.07 \end{array}$$

Bench Levels

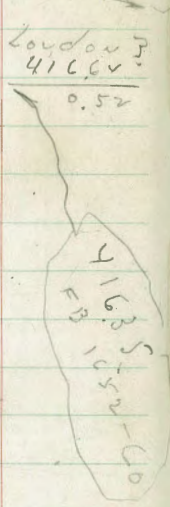
		Somerset		x sec Tooley	
B.M. Con. Mon. E.L. Winnet	L.I.C. 42074			414.58	
Check to Iron Bolt near old Hub x sec of Tooley + Winnet					
	x 42	416.17		416.64	
T.P.	0.53	408.27	13.00	407.74	
T.P.	0.41	395.8	12.95	395.34	
T.P.	0.14	382.81	13.06	382.67	
T.P.	0.44	370.31	12.94	369.87	
T.P.	0.19	357.44	13.00	357.25	
T.P.	0.18	344.53	13.09	344.35	
T.P.	0.39	331.93	12.99	331.54	
T.P.	0.08	319.07	12.94	318.99	
T.P.	0.43	306.54	12.98	306.09	
T.P.	0.17	293.64	13.05	293.47	
T.P.	1.00	281.74	12.90	280.74	
T.P.	12.54	287.17	7.11	274.63	

Check to Ch. H. Top Hd. w. Culv. inlet
 B.M. on Fed. Blvd
 600' NELY from WINNET

0.01 287.16 287.39
 0.23

F.B. 1652 - 62
 513500
 5565 = 293.43
 2.12
 287.31

FROM Somerset



B.M. Mon. Winnet Tooley	2.03	416.61		414.58
T.P.	1.53	407.21	10.93	405.68
T.P.	7.99	396.47	12.73	394.48
T.P.	1.39	384.99	12.87	383.60
T.P.	0.99	373.80	12.18	372.81
T.P.	1.43	362.33	12.90	360.90
T.P.	0.48	349.80	13.01	349.34
T.P.	0.17	337.30	12.67	337.13

X sec Oriole St.
Springfield to Mallard

1+50

T.P. 12:46 361.78 0:30 349.32

1+00

T.P. 12:54 349.64 0:22 337.08

0+50

Set B.M. 2x2 Hub City
 E Oriole and disk
 N.E. of Springfield

316

334.14

0+00 N.E. Springfield

0-30 E Springfield

0-00 S.E. Springfield

337.30

P.45

LT

R

R+

46

360.5
1.7
30

356.6
5.2
22

356.8
5.0
5

354.8
7.0
10

352.2
9.6
10

349.5
12.5
30

347.2
14.6
50

+ 353.8
4.2
30

+ 350.3
0.7
21

+ 350.1
0.5
9

348.21
61.78
141

346.8
3.8
10

344.5
5.1
30

341.8
7.8
50

346.5
9.2
30

342.6
5.3
20

343.1
5.8
8

342.2
4.7
10

340.5
3.7
10

338.0
0.7
30

335.1
-1.6
50

342.7
5.5
50

340.8
3.5
40

339.3
2.0
30

339.8
2.5
22

336.6
0.7
12

335.1
3.1
10

333.2
4.1
10

331.5
5.8
30

324.5
12.8
40

321.8
9.5
110

336.2
7.1
50

334.8
2.5
30

331.0
6.3
10

329.6
7.7
10

327.0
10.3
30

324.4
12.9
60

324.6
12.7
80

321.5
9.8
100

331.9
5.1
50

329.3
8.0
20

326.3
11.0
10

324.5
12.8
10

321.8
15.7
30

321.4
15.9
45

321.1
12.0
60

337.30

Wash
Ink
N.E. 1/4

X. Sec Oriole st
3+64 Springfield to Mallard

TP 12.54 399.54 0.20 387.00

3+46

TP 12.61 387.20 0.13 374.59

3+00

2+50

TP 13.00 374.72 0.06 361.72

2+00

361.78

L+

396.9
+1.6
30

395.0
+4.5
10

395.5
+4.0
10

R+
388.2
+11.2
30

388.2
+11.4
50

17

399.54

391.5
+4.0
30

389.5
+2.0
6

389.5
+2.9
10

388.5
+1.7
10

387.2
+0.0
30

387.2
+0.0
50

387.20

382.7
+8.0
30

377.1
+2.4
20

377.1
+2.4
7

374.2
+0.5
0.5

373.4
+1.9
10

371.9
+2.8
30

371.9
+2.8
50

373.8
+2.9
30

368.8
+5.9
21

368.8
+5.9
8

364.6
+10.1
10

363.5
+11.2
10

360.0
+14.7
30

356.6
+12.1
50

374.72

367.5
+5.7
30

362.9
+1.1
23

362.9
+1.1
10

359.6
+2.2
10

357.9
+3.9
10

355.4
+6.4
30

352.3
+2.5
50

361.78

X Sec Oriole St.
5+50 Springfield To Mallard

5+16

TP 11.98 448.05 0.03 436.07

5+00 ~~11.98 448.05 0.03 436.07~~

TP 12.80 436.10 0.58 423.30

4+50

TP 12.31 423.88 0.19 411.57

4+00

TP 12.28 411.76 0.06 399.48
399.54

449.2
+ 1.2
30
441.5
6.6
30
446.6
1.5
7.0
445.9
2.2
8.3
444.8
3.3
10.5
442.8
5.7
13.0
448

448.05

439.1
+ 3.0
30
435.7
0.4
30
434.6
1.5
434.1
2.0
432.8
3.3
430.8
5.3
30

436.10

423.7
0.2
30
421.0
2.9
420.4
7.5
420.6
3.3
417.4
6.5
30

423.88

409.0
2.8
30
406.2
5.6
405.2
6.1
403.3
8.5
30

411.76

X Sec Oriole St.
Springfield to Mallard

8+00

7+59

of conc drive

7+50

7+00

6+50

T.P.

7.42

467.78

0.16

460.36

6+04

T.P.

12.89

460.52

0.47

447.63

448.05

49

462¹
5.7
30

463²
4.6
30

463¹
4.4
30

463³
4.6
30

462⁵
5.2
30

459⁶
0.9
30

462²
5.6
30

462⁵
5.3
30

462⁶
5.2
30

462¹
5.1
30

462¹
5.7
30

459⁶
0.9
30

462⁵
5.3
10

462⁵
5.3
10

462⁸
5.0
10

462¹
5.1
10

461⁹
5.9
10

458⁵
3.0
10

462⁹
5.3
30

463⁵⁰
4.29
31.4

463⁸
4.2
30

463¹
4.4
30

462⁴
5.4
30

457⁴
3.1
30

456²
4.5
50

467.78

460.52

B.M. check Levels

B.M. NW Hub
Radio Dr.
Paradise

	1.02	352.38		351.36	FB. 1236-1
T.P.	1.99	341.54	1283	339.55	
T.P.	570	337.88	9.32	332.18	
TP	1.38	332.88	638	331.50	
TP	64	335.05	422	328.64	

check to B.M. 2x2 Hub 0.58 334.47

Toolie see Clint's Notes

TP 2.77 452.55

9+56.27
SLINE Toolie

TP 0.68 455.32 13.14 454.64

9+00

8+50

467.78

Oniole 50

← Miller Notes

334.14 P.46 N.E. Springfield
0.33 on 2 Oniole

mail on Pak SEcc Ints

458 ²	459 ^B	458 ^B	460 ^{5,1}	460 ⁹	463 ^B	465.05
9.6	8.0	9.0	7.7	6.9	4.0	2.73
30	18	12		10	14	30
						on Hub

455 ¹	456 ^{5,1}	454 ^B	455 ³	455 ^{5,1}	455 ⁸	459 ³	461 ²
12.7	11.3	13.0	12.5	12.3	12.0	8.5	10
30	6	4		10	13	16	30

460 ³	460 ¹	469 ⁵	460 ³	460 ³	461 ⁸	462 ⁰
7.5	7.1	8.3	7.5	7.5	6.0	5.8
30	7	6		10	15	30

467.78

Xsec Oriole
Tooley to Mallard

1450

T.P. 003 414.92 12.81 414.89

1400

T.P. 018 427.70 12.62 427.52

0150

0400 N.L. Tooley & Oriole
Sketch P 43

set B.M. 0.02 440.14 12.51 440.12

T.P. ^{mail} P.P. P.50 0.06 452.63 11.54 452.57 452.55

T.P. ^Q Hub 7.19 464.11 8.12 456.92

B.M. ^{2"} Pipe 2.98 465.04 462.06
RE 913

LT=West

401.8 405.5 409.3 411.4 P. 1 51
13.1 9.4 5.6 3.5 1.2 4.08
50 30 10 30 50

411.1 416.3 414.92 422.3 425.1
16.0 11.4 7.2 5.4 2.6
50 30 10 30

419.6 424.2 427.70 430.5 433.9
20.5 15.9 10.8 9.1 6.7
50 30 10 30

433.8 437.1 438.2 439.6
6.3 3.0 2.1 1.5
30 10 30

440.14

B.P. Cor. Mon. inside Fence Cor. N.E. Cor. Tooley and Oriole str.

set B.M. & Hub ^{disk} Tooley and Swan

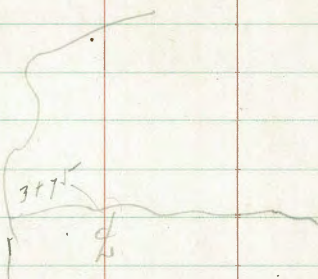
A pt. on N.L. Tooley at Paradise
Sanman Map Notes
Xsec of Tooley

X Sea Oriole
Tooley to Mallard

4+0

3+75 of wash

3+50



TP 0.89 378.39 12.93 377.50

3+00

2+50 0.86 390.43 12.55 389.57

2+00

T.P. 0.13 402.12 12.93 401.99
414.92

362 ² 16.2 30	358 ⁸ 19.6 23 wash	364 ⁸ 13.6 10	368 ⁹ 9.5 10	373 ⁸ 4.6 30	52 18.5 50
364 ¹ 14.3 30	360 ¹ 18.3 15 wash	363 ⁹ 14.5 10	368 ⁵ 9.9 10	375 ⁴ 3.0 30	+ 2.0 50
364 ⁹ 13.5 30	363 ⁹ 14.5 22 wash	371 ⁰ 7.4 10	373 ² 5.2 10	378 ^A 0.0 30	+ 4.0 50

372 ⁹ 17.5 65	370 ¹ 19.7 55 wash	373 ² 17.2 30	379 ⁸ 10.6 10	382 ⁸ 7.6 10	384 ⁴ 6.0 10	388 ¹ 2.3 30	391 ⁸ 1.4 50
393 ¹ 8.4 50	394 ¹ 7.4 30	390.43 400 ⁵ 1.6	404 ¹ 12.0 10	407 ⁹ 5.8 30	409 ⁹ 7.9 50		

402.12

X Sec Oriole
Tooley to Mallard

6+50

6+0

TP 0.31 353.93 13.02 353.62

5+50

5+00

4+50

TP 1.14 366.64 12.89 365.50
378.39

53

342 ² 11.7 70	337 ⁶ 16.3 50 creek	340 ⁹ 13.0 30	349 ⁵ 4.4	351 ⁴ 2.5 10	355 ⁴ +1.5 30
--------------------------------	---	--------------------------------	-------------------------	-------------------------------	--------------------------------

347 ³ 6.6 50	340 ³ 13.6 36 wash	342 ⁹ 11.0 30	351 ¹ 2.8	353 ⁹ 0.0 10	359 ¹ +5.8 30
-------------------------------	--	--------------------------------	-------------------------	-------------------------------	--------------------------------

353.93

353 ⁶ 13.0 50	342 ⁶ 24.0 30 wash	347 ³ 19.3 24	353 ⁵ 13.1	356 ¹ 9.9 10	362 ⁶ 4.0 30
--------------------------------	--	--------------------------------	--------------------------	-------------------------------	-------------------------------

353 ⁶ 13.0 30	346 ⁶ 20.0 20 wash	350 ⁶ 16.0 13	356 ¹ 10.5	359 ³ 7.3 10	365 ⁸ 0.8 30
--------------------------------	--	--------------------------------	--------------------------	-------------------------------	-------------------------------

357 ³ 9.3 30	353 ³ 13.3 20	360 ⁰ 6.6	364 ¹ 2.5 10	370 ¹ +3.5 30
-------------------------------	--------------------------------	-------------------------	-------------------------------	--------------------------------

366.64

4.79 346.09 12.63 341.30

9+50

9+0

8+50

8+00

7+50

7+00

353.93

15.5
100

338.8
15.1
50

342.1
11.7
30

346.09
347.9
6.0

350.5
3.4
10

353.2
1.0
30

340.2
13.7
50

343.1
10.2
30

349.6
4.7

352.1
1.8
10

355.1
1.2
30

339.7
14.2
50

343.1
10.8
30

348.7
5.2

351.1
2.8
10

354.1
0.3
30

337.8
16.1
50

341.1
12.5
30

347.9
6.0

349.9
4.0
10

352.9
1.0
30

336.6
17.3
50

342.1
11.8
30

347.1
6.8

349.4
4.5
10

352.9
1.0
30

330.1
23.8
70

335.9
18.0
50

340.6
13.3
30

347.8
6.1

349.8
4.1
10

354.4
0.5
30

crack

353.93

x Sec. Oriole

12

11+50

11+00

T.P. 0.72 333.84 12.97 333.12

10+50

10

346.09

Tooley to Mallard

55

321 ⁰	322 ⁷	323 ⁶	324 ⁶
12.8	11.1	10.2	9.2
30		10	30

323 ⁵	326 ¹	325 ⁸	327 ⁰
10.3	7.7	8.0	6.8
30		10	30

326 ⁵	328 ⁸	329 ²	330 ⁵
7.3	5.0	4.6	3.3
30		10	30

333.84

329 ⁷	331 ⁸	334 ⁸	335 ⁷	338 ⁹
16.4	14.3	11.3	10.4	7.2
50	30		10	30

333 ⁷	336 ³	342 ⁵	344 ⁶	348 ³
12.3	9.7	9.6	1.4	12.2
50	30		10	30

346.09

x 5cc Oriole

13.986

13 + 50

13 + 20

13 + 00

TP 2.89 324.05 12.68 321.16

12 + 50

333.84

Tooley to Mallard

3081 ⁴ 15.7 30	3091 ¹ 14.4 30	3098 ⁸ 14.3 10	3091 ⁶ 14.5 30
---------------------------------	---------------------------------	---------------------------------	---------------------------------

316 ¹ 8.0 30	317 ⁵ 6.6 30	318 ²¹ 5.8 10	317 ³¹ 6.8 30
-------------------------------	-------------------------------	--------------------------------	--------------------------------

320 ² 4.1 30	321 ⁵ 2.6 30	321 ¹ 2.4 10	321 ⁵ 2.6 30
-------------------------------	-------------------------------	-------------------------------	-------------------------------

321 ⁸ 2.8 30	321 ¹ 2.4 30	321 ⁹ 2.2 10	323 ⁰ 1.1 30
-------------------------------	-------------------------------	-------------------------------	-------------------------------

324.05

320 ⁵ 13.3 30	322 ¹ 11.7 30	321 ⁸ 12.0 10	322 ⁶ 11.2 30
--------------------------------	--------------------------------	--------------------------------	--------------------------------

333.84

X Sec Oriole

14 + 65

T.P. 1.81 293.39 9.08 291.58

14 + 59.57 Sec @ 90°

T.P. on Hub 0.92 300.66 12.04 299.74

14 + 38.57 Puerto Line

TP 0.47 311.78 12.74 311.31

14 + 07.6 Sec on S Line of Mallard

324.05

57

Tooley to Mallard

282.8	290.4	291.5	292.7	283.8
10.8	3.0	1.9	0.7	9.6
30.7	11		10	30.
Top of slope	Top of Bank			

291.0	293.39	294.1	293.9
9.7	7.5	6.6	6.8
36		10	30
Top of Bank			

295.2	300.66	300.8	301.3
16.6	11.7	11.0	10.5
30.91		10	30.91

304.51	311.78	308.7	309.6
19.6	16.8	15.4	14.5
30.91		10	30.91

324.05

Levels on Pav.
on Federal Blvd.
at Orisole
Sketch P. 44

0 + 25

0 + 00

See P. 44

619 293.35

287.16

INDEXED

MAR 7 1950

Check to USGS
Cross on Culv. M.W. inlet 619 287.20
600' NELY from Wirthner + Fed. Blvd.

14 + 823

14 + 75

14 + 72

293.39

61

62

Rt

58

14.7 14.5 14.8

278.1

278.1

277.7

75.6 75.3 75.7

293.35

28716 = 28739 = 51,300 M P. 45
 $\frac{28716}{0.04}$
 283.00 10.39 30 PM
 284.3 9.1 17 PM
 284.3 9.1 10
 289.9 3.5 10
 288.1 20
 285.45 53
 288.1 21
 289.1 3.7 30

282.81
 10.6
 30

289.4
 4.0 8.8 10
 290.6

290.0
 3.4
 30

293.39

Federal

2+00

1+77 Culvert

1+75

1+50

1+25

BC

0+50

293.35

Lt

7.1

12.23

35.2

See sketch

8.0

9.1

10.3

381.8

11.6

279.6

13.9

Rt

6.7

10.95

25.8

7.7

8.8

10.0

282.2

11.2

14.6

293.35

59

6.6

8.7

9.9

282.3

11.1

279.7

13.7

Federal B.M.

4+

R+

60

B.M. CHISEL TOP OF WALL FEDERAL BLDG	10.58	297.74		287.16	Pa. 45
TP	11.25	308.89	0.10	297.64	
TP	11.77	320.49	0.17	308.72	
TP	12.88	323.17	0.20	320.29	
TP	10.44	343.21	0.40	332.77	
SET BM P.L. MON ROT 80' S WEST OF PARADISE ON MALLARD			4.84	338.37	✓



FEDERAL

B + 46° 3' EC

5.8

5.3

5.3

B + 25'

293.35

6.3

5.9

5.7

293.35

X 500 Swan St.
Springfield to Mallard

2-10-50

Moore
Begg
SHERMAN
Crawford

WO 2 5020

Ref 1214-6

1652-62

1236-1

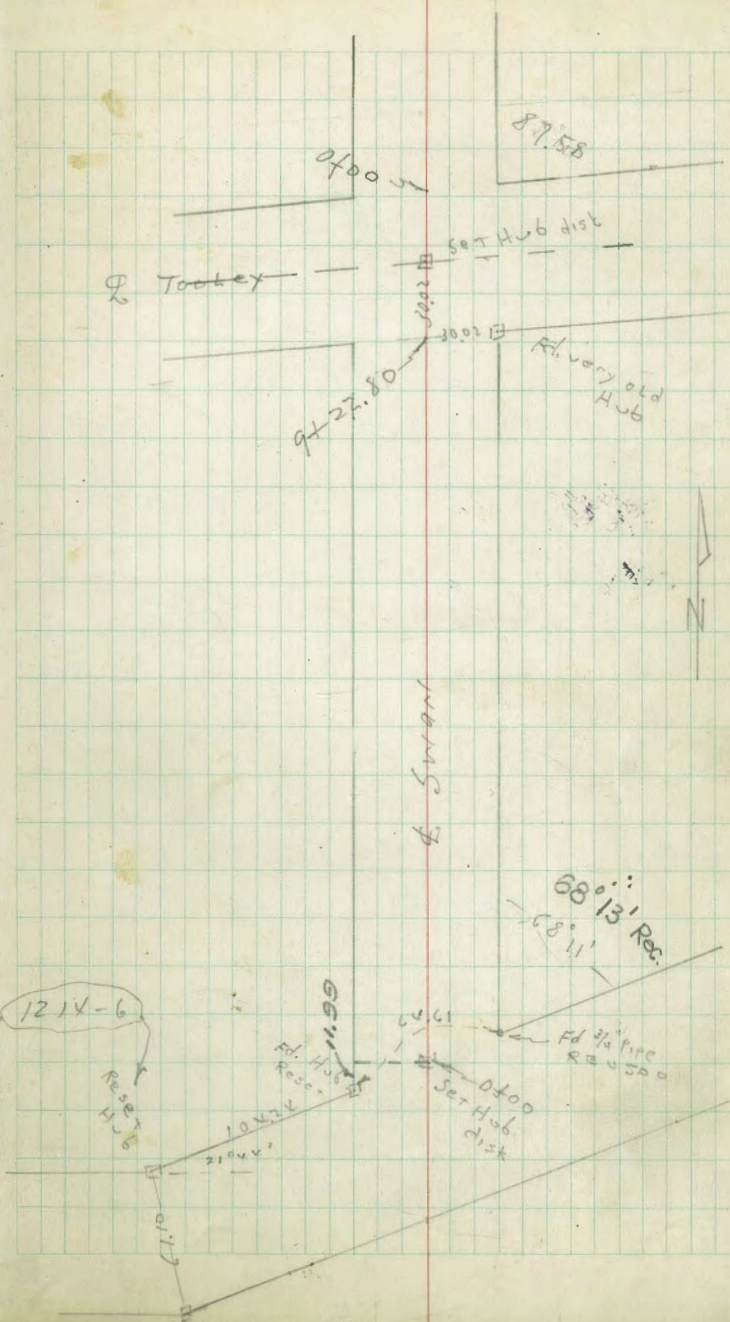
1225-34

INDEXED
W.K.
MAR 7 1950

REDUCED 3-7-50

P. V. S.

61



□ = set 2x2 RW Hubs
with disks

For use of Paradise

see F.B. 2082-1

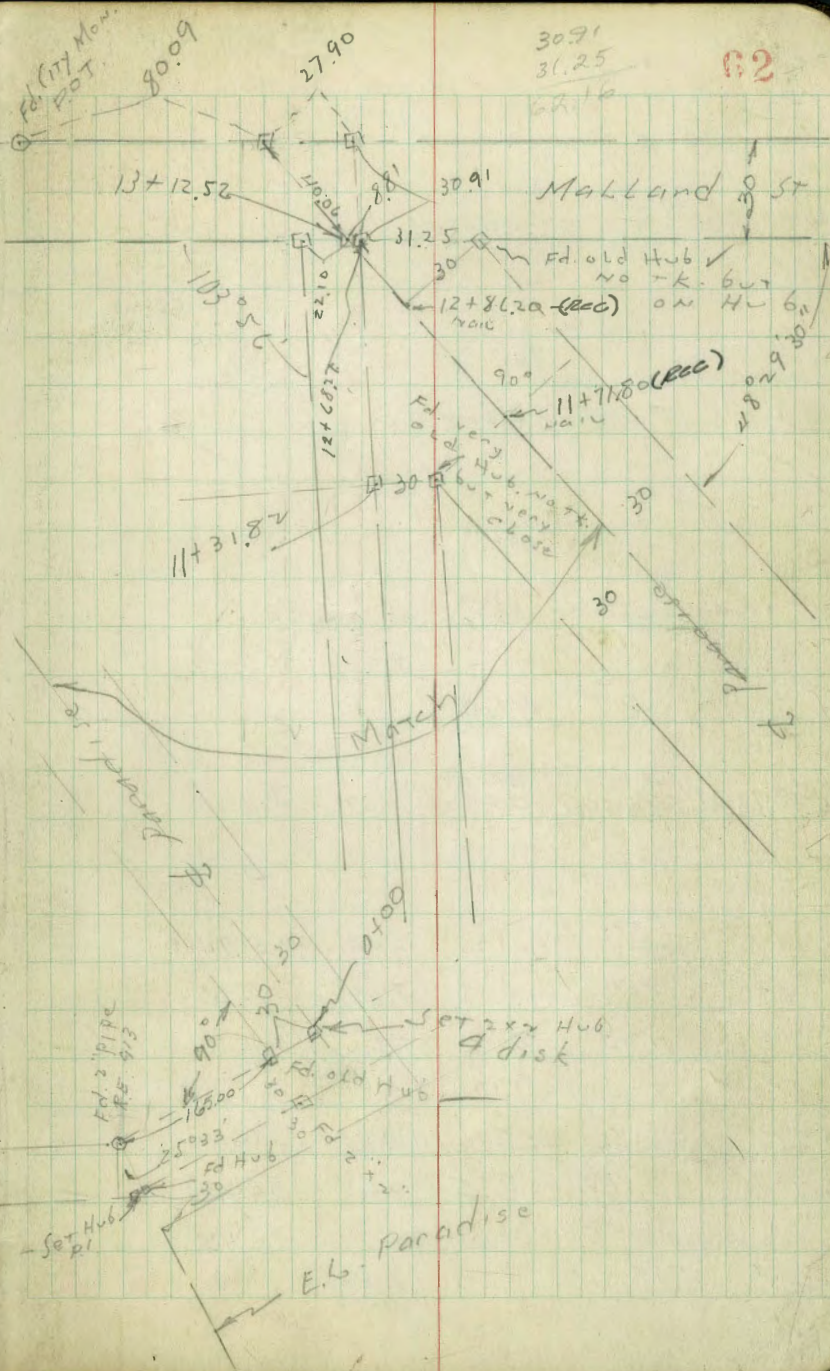
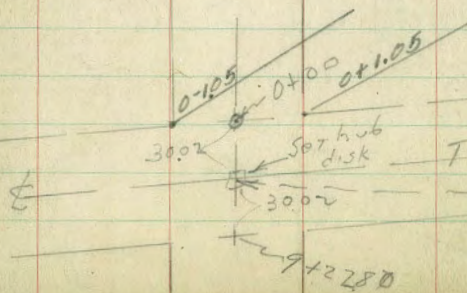
30.95
26.83
37.78

30.91
26.79
37.70

32.55
11.71
190.72

Swan

Stub PAT. □ 1+58.97



ASAC SWAN
Springfield to Maliland

0+00 N.L. SPRINGFIELD

0-32.3 SPRINGFIELD

0-64.6 S.L. SPRINGFIELD

T.P. 4.67 408.96

SET BM SWAN 2x2 Hub
 N.L. SPRINGFIELD CITY DISC 4.67 404.29

TP ~~7.02~~ 408.96 2.44 401.94

TP 12.02 404.38 0.27 392.36

TP 11.74 392.63 0.30 380.89

TP 12.74 381.19 0.51 368.45

TP 12.86 368.96 0.25 356.10

TP 12.16 356.35 0.43 344.19

B.M. 10.48 344.62 334.14 PVC
 2x2 Hub
 N.L. Springfield
 5 on 6 334.14

63

LT

E

RT

$\frac{389.2}{19.8}$
80

$\frac{401.1}{7.9}$
30

$\frac{404.7}{4.3}$

$\frac{405.9}{4.0}$
10

$\frac{406.5}{2.5}$
30

$\frac{409.0}{80}$

$\frac{389.2}{19.8}$
80

$\frac{399.5}{9.5}$
30

$\frac{402.7}{6.3}$

$\frac{402.7}{6.3}$
10

$\frac{403.6}{5.4}$
30

$\frac{405.1}{3.3}$
80

$\frac{387.5}{2.5}$
80

$\frac{397.5}{11.5}$
30

$\frac{398.9}{10.1}$

$\frac{398.8}{10.2}$
10

$\frac{398.4}{10.6}$
30

$\frac{397.4}{11.6}$
80

408.96

2+50

2+00

TP

0.70

397.11

12.55

396.41

1+50

1+00

+50

0+20

408.96

$$\begin{array}{r} 376^6 \\ 295 \\ \hline 50 \end{array}$$

$$\begin{array}{r} 381^3 \\ 15.9 \\ \hline 30 \end{array}$$

$$\begin{array}{r} 388^3 \\ 8.8 \\ \hline 12 \end{array}$$

$$\begin{array}{r} 389^7 \\ 7.4 \\ \hline 3 \end{array}$$

$$\begin{array}{r} 399^2 \\ 2.9 \\ \hline 3 \end{array}$$

$$\begin{array}{r} 396^4 \\ 0.7 \\ \hline 10 \end{array}$$

$$\begin{array}{r} 402^5 \\ 7.5 \\ \hline 30 \end{array}$$

64

$$\begin{array}{r} 379^2 \\ 17.9 \\ \hline 50 \end{array}$$

$$\begin{array}{r} 384^8 \\ 12.3 \\ \hline 30 \end{array}$$

$$\begin{array}{r} 389^2 \\ 7.2 \\ \hline 23 \end{array}$$

$$\begin{array}{r} 391^1 \\ 6.0 \\ \hline 1 \end{array}$$

$$\begin{array}{r} 395^2 \\ 1.9 \\ \hline 1 \end{array}$$

$$\begin{array}{r} 398^1 \\ 11.0 \\ \hline 10 \end{array}$$

$$\begin{array}{r} 403^5 \\ 16.4 \\ \hline 30 \end{array}$$

397.11

$$\begin{array}{r} 382^4 \\ 26.6 \\ \hline 50 \end{array}$$

$$\begin{array}{r} 388^1 \\ 20.9 \\ \hline 30 \end{array}$$

$$\begin{array}{r} 395^5 \\ 13.5 \\ \hline 14 \end{array}$$

$$\begin{array}{r} 395^7 \\ 13.3 \\ \hline 4 \end{array}$$

$$\begin{array}{r} 400^2 \\ 9.0 \\ \hline 10 \end{array}$$

$$\begin{array}{r} 403^2 \\ 6.0 \\ \hline 30 \end{array}$$

$$\begin{array}{r} 406^4 \\ 2.6 \\ \hline 30 \end{array}$$

$$\begin{array}{r} 409^5 \\ 10.5 \\ \hline 50 \end{array}$$

$$\begin{array}{r} 387^1 \\ 21.9 \\ \hline 50 \end{array}$$

$$\begin{array}{r} 393^2 \\ 15.3 \\ \hline 30 \end{array}$$

$$\begin{array}{r} 400^2 \\ 8.8 \\ \hline 10 \end{array}$$

$$\begin{array}{r} 399^8 \\ 9.2 \\ \hline 3 \end{array}$$

$$\begin{array}{r} 402^3 \\ 6.7 \\ \hline 10 \end{array}$$

$$\begin{array}{r} 409^5 \\ 4.5 \\ \hline 10 \end{array}$$

$$\begin{array}{r} 407^8 \\ 1.2 \\ \hline 30 \end{array}$$

$$\begin{array}{r} 391^1 \\ 17.3 \\ \hline 50 \end{array}$$

$$\begin{array}{r} 397^2 \\ 11.1 \\ \hline 30 \end{array}$$

$$\begin{array}{r} 402^1 \\ 6.3 \\ \hline 10 \end{array}$$

$$\begin{array}{r} 402^8 \\ 6.2 \\ \hline 3 \end{array}$$

$$\begin{array}{r} 409^3 \\ 4.7 \\ \hline 10 \end{array}$$

$$\begin{array}{r} 406^2 \\ 3.0 \\ \hline 10 \end{array}$$

$$\begin{array}{r} 407^1 \\ 1.1 \\ \hline 30 \end{array}$$

$$\begin{array}{r} 395^6 \\ 13.4 \\ \hline 50 \end{array}$$

$$\begin{array}{r} 399^2 \\ 9.1 \\ \hline 30 \end{array}$$

$$\begin{array}{r} 404^1 \\ 4.9 \\ \hline 12 \end{array}$$

$$\begin{array}{r} 404^1 \\ 4.9 \\ \hline 3 \end{array}$$

$$\begin{array}{r} 405^8 \\ 3.2 \\ \hline 10 \end{array}$$

$$\begin{array}{r} 406^5 \\ 2.7 \\ \hline 10 \end{array}$$

$$\begin{array}{r} 406^1 \\ 2.3 \\ \hline 30 \end{array}$$

408.96

4+90

4+78

4+50

4+00

TP 3.85 388.65 12.31 384.80

3+50

3+00

397.11

$\frac{362^3}{50}$	LT	$\frac{366^6}{30}$	$\frac{370^1}{18.0}$	$\frac{372^1}{16.6}$	$\frac{375^7}{13.0}$
$\frac{26.4}{50}$		$\frac{22.1}{30}$		$\frac{10}{10}$	$\frac{30}{30}$

$\frac{364^6}{50}$	$\frac{370^0}{18.7}$	$\frac{372^4}{16.3}$	$\frac{374^1}{14.6}$	$\frac{374^1}{14.0}$	$\frac{377^5}{11.2}$	$\frac{379^0}{9.7}$
$\frac{24.1}{50}$	$\frac{18.7}{30}$		$\frac{10}{10}$	$\frac{18}{18}$	$\frac{24}{24}$	$\frac{30}{30}$

$\frac{369^1}{50}$	$\frac{372^9}{30}$	$\frac{376^5}{12.2}$	$\frac{378^3}{10.4}$	$\frac{378^4}{10.3}$	$\frac{380^8}{7.9}$	$\frac{382^1}{6.6}$
$\frac{18.6}{50}$	$\frac{15.8}{30}$		$\frac{10}{10}$	$\frac{18}{18}$	$\frac{22}{22}$	$\frac{30}{30}$

$\frac{368^1}{50}$	$\frac{371^9}{30}$	$\frac{378^0}{10.7}$	$\frac{381^1}{7.6}$	$\frac{381^1}{7.0}$	$\frac{383^8}{4.9}$	$\frac{385^6}{3.1}$
$\frac{19.9}{50}$	$\frac{16.7}{30}$		$\frac{10}{10}$	$\frac{18}{18}$	$\frac{20}{20}$	$\frac{30}{30}$

388.65

$\frac{372^9}{50}$	$\frac{376^2}{30}$	$\frac{382^8}{14.3}$	$\frac{386^3}{10.8}$	$\frac{386^2}{10.2}$	$\frac{390^8}{6.3}$	$\frac{392^3}{4.8}$
$\frac{24.2}{50}$	$\frac{20.4}{30}$		$\frac{10}{10}$	$\frac{16}{16}$	$\frac{22}{22}$	$\frac{30}{30}$

$\frac{376^1}{50}$	$\frac{382^8}{30}$	$\frac{388^6}{8.5}$	$\frac{389^1}{8.0}$	$\frac{389^2}{7.9}$	$\frac{394^9}{2.2}$	$\frac{399^9}{12.8}$
$\frac{21.0}{50}$				$\frac{7}{7}$	$\frac{10}{10}$	$\frac{30}{30}$

397.11

6+70

TP 12.92 401.35 0.22 388.43

6+45

6+15

6+00

5+50

5+10

388.65

$\frac{21.1}{50}$	$\frac{22.3}{30}$	$\frac{20.9}{20}$	$\frac{11.4}{10}$	$\frac{10.6}{10}$	$\frac{11.1}{30}$	$\frac{16.3}{65}$	$\frac{15.3}{80}$
						WASH	

$\frac{11.9}{50}$	$\frac{12.4}{40}$	$\frac{12.1}{30}$	$\frac{4.4}{12}$	$\frac{2.9}{10}$	$\frac{3.1}{10}$	$\frac{9.3}{25}$	$\frac{9.6}{30}$	$\frac{6.2}{50}$
	WASH						WASH	

$\frac{15.5}{50}$	$\frac{12.3}{30}$	$\frac{11.6}{25}$	$\frac{12.7}{15}$	$\frac{15.0}{10}$	$\frac{14.4}{10}$	$\frac{12.0}{25}$	$\frac{9.5}{30}$	$\frac{3.8}{40}$
WASH					WASH			

$\frac{17.1}{50}$	$\frac{16.1}{30}$	$\frac{15.4}{6}$	$\frac{16.1}{10}$	$\frac{14.8}{10}$	$\frac{6.5}{24}$	$\frac{4.0}{30}$
		WASH				

$\frac{21.2}{30}$	$\frac{16.3}{18}$	$\frac{15.4}{11}$	$\frac{11.4}{6}$	$\frac{10.4}{10}$	$\frac{8.7}{10}$	$\frac{6.5}{30}$

$\frac{26.6}{50}$	$\frac{22.6}{30}$	$\frac{17.9}{11}$	$\frac{17.4}{2}$	$\frac{15.8}{10}$	$\frac{12.6}{10}$	$\frac{7.7}{30}$

388.65

8+35

T.P. 12.18 434.73 0.50 422.55

7+92

T.P. 10.07 423.05 0.61 412.98

7+70

T.P. 12.70 413.59 0.46 400.89

7+50

7+00

401.35

67

LT 931
3.6
30

420 51
4.2

RT 51
4.2
10

431 61
3.1
30

420 71
2.4
30

417 11
5.2
10

434.73
417 11
5.2
10

416 11
6.7
10

421 0
2.1
23

422 31
0.8
30

413 1
0.5
40

411 6
2.0
30

411 5
2.3
22

408 0
5.6
10

423.05
403 21
10.4
WASH
END

407 7
5.9
10

412 4
1.2
30

417 4
+3.8
40

412 4
+11.2
40

409 5
+8.1
40

406 0
+4.6
30

413.59
396 1
5.3
WASH

398 1
8.3
10

409 6
+8.2
30

412 6
+11.2
40

381 5
7.9
50

390 9
11.1
40

387 3
14.1
30

383 7
17.7
21

394 8
6.6
10

397 9
3.5
10

401 4
0.0
30

402 4
+1.0
40

401.35

X-SECTION TOOLEY-

0+00 - N.L. TOOLEY - SEE SOMMERMEYER

BM- E TOOLEY & SWAN	3.81	460.73	456.92	R _{3.51}
---------------------------	------	--------	--------	-------------------

CHECK TO BM 2R2 HUB - E SWAN & TOOLEY-	1.99	456.89	456.92	R _{3.51}
---	------	--------	--------	-------------------

9+22.80 S.L. TOOLEY	1.99	456.89	456.92	R_{3.51}
---------------------	-----------------	-------------------	-------------------	-----------------------------

9+05

8+90

TP	12.73	<u>458.88</u>	0.51	446.15
----	-------	---------------	------	--------

T.P.	12.50	<u>446.66</u>	0.57	434.16
------	-------	---------------	------	--------

LT E RT

455.51 3.4 30	455.2 3.7	455.2 3.7 10	455.6 3.3 30
---------------------	--------------	--------------------	--------------------

453.0 5.1 30	452.1 6.8	452.1 6.5 10	453.1 5.8 30
--------------------	--------------	--------------------	--------------------

449.8 9.1 30	447.9 11.0	447.9 11.0 10	449.1 9.8 30
--------------------	---------------	---------------------	--------------------

458.88

Swan St.

T.P. 0.38 436.30 12.71 435.92

2+00

T.P. 0.57 448.63 12.67 448.06

1+60

+25

1+00

0+50

460.73

W19 LT & RT Ely 69

<u>445.1</u>	<u>443.1</u>	<u>442.5</u>	<u>440.4</u>	<u>438.9</u>
2.9	5.5	6.1	8.3	10.2
30		10	30	50

<u>453.5</u>	<u>448.63</u>		
7.2	9.4	9.6	10.3
30		10	30

<u>455.9</u>	<u>455.2</u>	<u>455.0</u>	<u>453.0</u>
4.8	5.5	5.7	5.7
30		10	30

<u>457.3</u>	<u>456.4</u>	<u>456.4</u>	<u>456.1</u>
3.4	4.3	4.3	4.0
30		10	30

<u>458.0</u>	<u>458.1</u>	<u>458.1</u>	<u>457.9</u>
1.9	2.6	2.6	2.8
30		10	30

460.73

4+00

T.P. 0.57 412.92 11.93 412.35

3+60

3+30

T.P. 0.59 424.28 12.61 423.69

3+00

2+50

436.30

LT & RT

70

405²
7.7
30

402⁰
10.9

400²
12.7
10

397⁰
15.9
30

395⁰
17.9
50

416³
8.0
30

412.92
413³
11.0

411²
12.4
10

410¹
14.2
30

407⁶
16.7
50

403¹
21.2
70

423⁰
1.3
30

419⁰
5.3

417⁵
6.8
10

414¹
9.6
30

412⁰
11.5
50

427⁰
9.3
30

424.28
424⁶
11.7

423³
13.0
10

420¹
16.2
30

418⁰
18.3
50

434¹
2.2
30

432¹
3.6

432⁵
3.8
10

431⁰
5.3
30

429⁶
6.7
50

436.30

7+79

7+56

7+44

7+22

6+80

TP 1.09 355.74 12.82 354.65

6+50

367.47

$\begin{array}{r} 343.2 \\ 12.5 \\ \hline 40 \end{array}$
 $\begin{array}{r} 342.4 \\ 13.3 \\ \hline 30 \end{array}$
 $\begin{array}{r} LT \\ 339.9 \\ 15.8 \\ \hline 15 \end{array}$
 $\begin{array}{r} 334.5 \\ 21.2 \\ \hline 8 \end{array}$
 $\begin{array}{r} 339.5 \\ 16.2 \\ \hline 10 \end{array}$
 $\begin{array}{r} 340.1 \\ 15.4 \\ \hline 10 \end{array}$
 $\begin{array}{r} RT \\ 342.6 \\ 13.1 \\ \hline 30 \end{array}$

72

$\begin{array}{r} 344.2 \\ 16.5 \\ \hline 40 \end{array}$
 $\begin{array}{r} 342.5 \\ 13.2 \\ \hline 30 \end{array}$
 $\begin{array}{r} 340.6 \\ 15.2 \\ \hline 9 \end{array}$
 $\begin{array}{r} 335.6 \\ 20.1 \\ \hline 10 \end{array}$
 $\begin{array}{r} 341.0 \\ 14.7 \\ \hline 10 \end{array}$
 $\begin{array}{r} 343.8 \\ 1.9 \\ \hline 30 \end{array}$

$\begin{array}{r} 344.6 \\ 11.1 \\ \hline 40 \end{array}$
 $\begin{array}{r} 343.1 \\ 12.0 \\ \hline 30 \end{array}$
 $\begin{array}{r} 341.3 \\ 14.4 \\ \hline 9 \end{array}$
 $\begin{array}{r} 336.1 \\ 19.6 \\ \hline 10 \end{array}$
 $\begin{array}{r} 341.2 \\ 14.5 \\ \hline 7 \end{array}$
 $\begin{array}{r} 341.4 \\ 14.3 \\ \hline 10 \end{array}$
 $\begin{array}{r} 345.2 \\ 10.5 \\ \hline 30 \end{array}$

$\begin{array}{r} 346.0 \\ 9.7 \\ \hline 30 \end{array}$
 $\begin{array}{r} 342.0 \\ 13.1 \\ \hline 10 \end{array}$
 $\begin{array}{r} 342.4 \\ 13.1 \\ \hline 4 \end{array}$
 $\begin{array}{r} 337.0 \\ 18.7 \\ \hline 10 \end{array}$
 $\begin{array}{r} 342.7 \\ 13.0 \\ \hline 20 \end{array}$
 $\begin{array}{r} 344.8 \\ 10.9 \\ \hline 30 \end{array}$

$\begin{array}{r} 351.7 \\ 4.0 \\ \hline 30 \end{array}$
 $\begin{array}{r} 348.8 \\ 6.9 \\ \hline 10 \end{array}$
 $\begin{array}{r} 346.8 \\ 8.9 \\ \hline 10 \end{array}$
 $\begin{array}{r} 344.9 \\ 10.8 \\ \hline 25 \end{array}$
 $\begin{array}{r} 349.3 \\ 16.4 \\ \hline 30 \end{array}$
 $\begin{array}{r} 345.9 \\ 9.8 \\ \hline 40 \end{array}$

$\begin{array}{r} 356.1 \\ 11.4 \\ \hline 30 \end{array}$
 $\begin{array}{r} 355.74 \\ 13.9 \\ \hline 10 \end{array}$
 $\begin{array}{r} 350.7 \\ 16.8 \\ \hline 10 \end{array}$
 $\begin{array}{r} 347.1 \\ 20.4 \\ \hline 27 \end{array}$
 $\begin{array}{r} 345.2 \\ 22.3 \\ \hline 30 \end{array}$
 $\begin{array}{r} 340.7 \\ 26.8 \\ \hline 36 \end{array}$
 $\begin{array}{r} 347.7 \\ 19.8 \\ \hline 47 \end{array}$

367.47

9+70

9+35

8+90

8+45

8+30

8+00

TP

0.24

344.66

11.32

344.42

LT
 $\frac{10.4}{50}$

$\frac{9.8}{30}$

66

RT
 $\frac{5.0}{10}$

$\frac{3.2}{50}$

$\frac{12.2}{50}$

$\frac{9.0}{30}$

60

$\frac{5.8}{10}$

$\frac{2.6}{30}$

$\frac{13.0}{50}$

$\frac{13.4}{40}$

$\frac{11.8}{30}$

$\frac{7.4}{14}$

57

$\frac{4.2}{10}$

$\frac{4}{30}$

$\frac{10.4}{45}$

$\frac{10.9}{30}$

$\frac{11.4}{25}$

77

$\frac{5.8}{10}$

$\frac{2.6}{30}$

$\frac{8.1}{45}$

$\frac{9.0}{30}$

$\frac{9.5}{21}$

$\frac{11.0}{11}$

80

$\frac{6.3}{10}$

$\frac{2.7}{30}$

$\frac{5.2}{40}$

$\frac{6.3}{30}$

$\frac{7.7}{17}$

$\frac{10.4}{10}$

66

$\frac{5.2}{10}$

$\frac{1.2}{30}$

344.66

12+00

11+70

11+31⁸²

11+00

TP 8.07 347.04 5.69 338.97

10+50

10+00

344.66

^{338¹} $\frac{8.8}{40}$	^{339⁴} $\frac{7.6}{30}$	^{340⁸} $\frac{6.2}{15}$	^{339¹} $\frac{7.3}{10}$	^{341⁰} $\frac{5.2}{10}$	^{342⁰} $\frac{4.4}{25}$	^{342⁰} $\frac{5.0}{30}$	74
--	--	--	--	--	--	--	-----------

^{338¹} $\frac{8.1}{40}$	^{339⁰} $\frac{8.0}{30}$	^{339⁰} $\frac{8.0}{10}$	^{340⁴} $\frac{6.6}{10}$	^{340⁵} $\frac{6.5}{30}$
--	--	--	--	--

^{336⁶} $\frac{10.4}{40}$	^{337⁴} $\frac{9.6}{30}$	^{338¹} $\frac{8.9}{10}$	^{339⁴} $\frac{7.6}{10}$	^{340⁴} $\frac{6.6}{10}$	^{340⁴} $\frac{6.6}{30}$
---	--	--	--	--	--

^{335⁸} $\frac{11.2}{40}$	^{336¹} $\frac{10.8}{30}$	^{338¹} $\frac{8.3}{10}$	^{339¹} $\frac{7.9}{10}$	^{340¹} $\frac{6.9}{30}$
---	---	--	--	--

^{335¹} $\frac{9.6}{50}$	^{336¹} $\frac{8.6}{30}$	^{337¹} $\frac{7.0}{10}$	^{337⁹} $\frac{6.8}{10}$	^{340⁰} $\frac{4.7}{30}$
--	--	--	--	--

^{334¹} $\frac{10.0}{50}$	^{335⁴} $\frac{9.3}{30}$	^{338³} $\frac{6.4}{10}$	^{338⁸} $\frac{5.9}{10}$	^{341²} $\frac{3.5}{30}$
---	--	--	--	--

344.66

Swan St.

CHECK BM
FL. - Post Mon.
80 ± W. OF
PARADISE
ON MALLARD - Pg. 60

8.63 338.41 338.37
0.04

SECTION ON PUEBLO LINE ||

12+68.27 CONT.

12+68.27 = S.L. MALLARD ||

325.9
21.6
180.91

335.4 11.6 130.91	339.3 7.7 80.91	340.4 6.4 30.91	342.4 4.1 10	341.0 5.2 10	342.2 4.8 10	343.2 3.8 31.25	344.5 2.5 81.25
-------------------------	-----------------------	-----------------------	--------------------	--------------------	--------------------	-----------------------	-----------------------

12+60

340.3 6.7 40	339.8 7.2 30	340.4 6.6 10	341.0 6.0 10	341.3 5.7 10	342.9 4.1 30
--------------------	--------------------	--------------------	--------------------	--------------------	--------------------

12+30

339.1 7.3 40	340.1 6.5 30	339.9 7.1 15	341.6 5.4 10	341.2 6.0 10	341.4 5.6 30
--------------------	--------------------	--------------------	--------------------	--------------------	--------------------

347.04

347.04

LT

€

R7

75

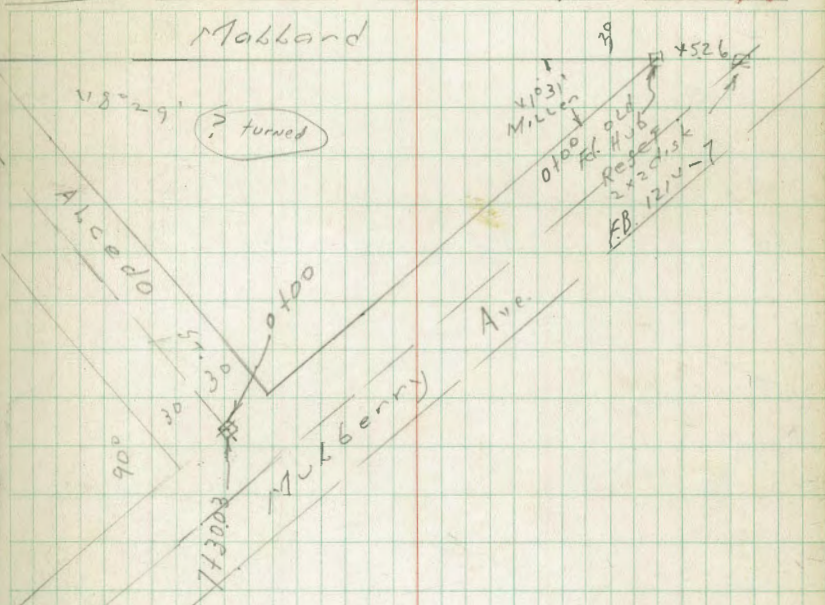
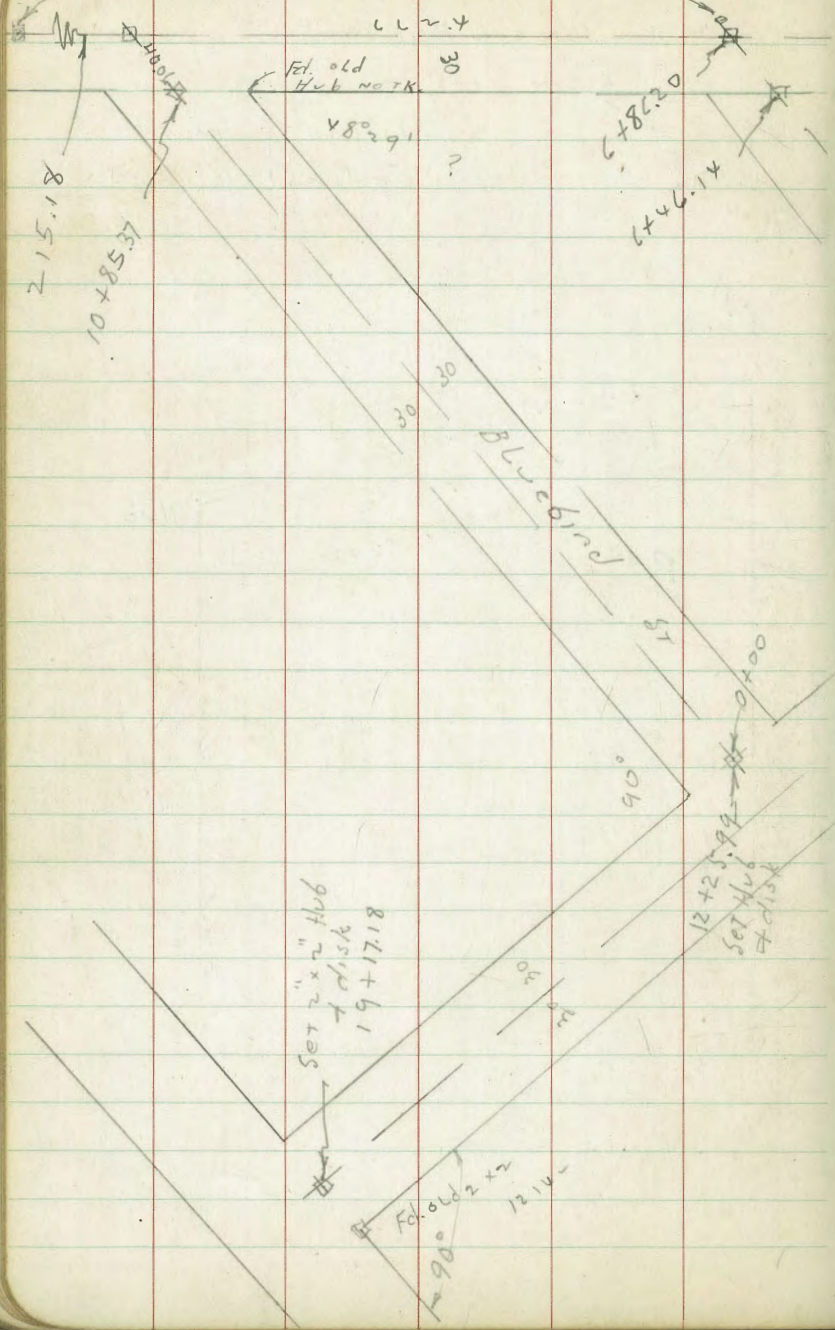
331.1 9.3 117.96	339.9 7.5 67.96	341.2 5.8 27.9	342.0 5.0	343.1 3.3 50	345.1 1.9 100
------------------------	-----------------------	----------------------	--------------	--------------------	---------------------

346.0
0.4
131.25

Fd. Con. Mon. "City"

3x4 POST WITNESS

77



□ = Set 2x2 Hubs + disks

Tie Pts.

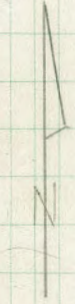
Del Norte Add.

3-3-50.

Moore
 Beggs
 Liberman
 Crawford

W.O. 25020

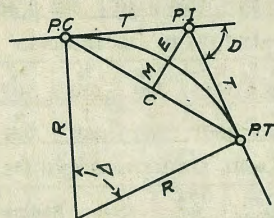
Ref. 1214-7



The image shows an open notebook with two pages. The left page is ruled with a wide grid of light green lines, with four vertical red lines creating five columns. The right page is ruled with a fine grid of light green lines, with one vertical red line on the left side. The number '79' is printed in red in the top right corner of the right page. The notebook has a dark cover visible around the edges.

DIETZGEN'S RAILROAD CURVE AND REDUCTION TABLES

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CURVE FORMULAS

Radius= $R = \frac{50}{\sin \frac{D}{2}}$ (1) Degree of Curve= D and $\sin \frac{D}{2} = \frac{50}{R}$ (2)

Tangent= $T = R \tan \frac{\Delta}{2}$ (3) Length of Curve= $L = 100 \frac{\Delta}{D}$ (4)

Middle ordinate= $M = R(1 - \cos \frac{\Delta}{2})$ (5) $= R \text{vers} \frac{\Delta}{2}$ (6)

External= $E = T \tan \frac{\Delta}{4}$ (7) $= R \div \cos \frac{\Delta}{2} - R$ (8) $= R \text{exsec} \frac{\Delta}{2}$ (9)

Long Chord= $C = 2 R \sin \frac{\Delta}{2}$ (10) $\Delta =$ Central Angle

EXPLANATION AND USE OF TABLES

Stations.—Given P. I.=Sta. 161+60.35 to find Sta. of P. C. and P. T. $\Delta=62^\circ 10'$ $D=8^\circ 20'$. From Table IV for 1° curve $T=3454.1$ and $+8\frac{1}{2}=414.49$ ft. From Table V correction= $.36$ or $T=414.85$ ft. P. C.=Sta. P.I.— $T=157+45.50$. Also from (4) $L=746.00$ and P. T.=Sta. P. C. + $L=164+91.50$.

Offsets.—Tangent offsets vary (approximately) directly with D and with square of the distance. Thus tangent offset for Sta. 158 on above curve is 2.16 ft. found as follows. From Table III tangent offset for 100 ft.=7.27 ft. Distance= 158 —Sta. P. C.= 54.50 , hence offset= $7.27 (54.50 \div 100)^2=2.16$ ft. Also square of any distance divided by twice the radius equals (approximately) the distance from tangent to curve. Thus $(54.50)^2 \div (2 \times 688.26)=2.16$ ft.

Deflections.—Deflection angle= $\frac{1}{2} D$ for 100 ft., $\frac{1}{4} D$ for 50 ft., etc. For c ft.=(in minutes) $.3 \times C \times D^\circ$ or=defl. for 1 ft. from Table III $\times C$. For Sta. 158 of above curve= $.3 \times 54.5 \times 8\frac{1}{2}=136.2'$ or $2^\circ 16.2'$, or= $2.50 \times 54.5=136.2'$ from Table III. For Sta. 159 deflection angle= $2^\circ 16.2' + 8^\circ 20' \div 2=6^\circ 26.2'$, etc.

Externals.—May be found in similar manner to tangents. Thus E for curve above is 115.37. For from Table IV for 1° curve $E=960.6$ for $8^\circ 20'=960.6 \div 8\frac{1}{2}=115.27$ and from Table V correction= $.10$ or $E=115.37$ ft. Or suppose $\Delta=32^\circ$ and E is measured and found to be 42 ft. What is D ? From Table IV $E=230.9$ and $+42=5.5$ or $D=5^\circ 30'$.

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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	H
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) * 2 or 2 ft. added to 41.9 = 43.9. For slopes of 1 on 1 see inside of front cover.

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