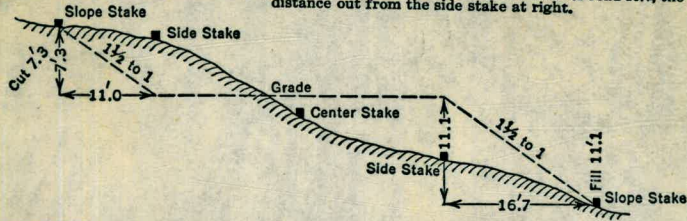


W
601

DISTANCES FROM SIDE STAKES FOR CROSS-SECTIONING
Roadway of any Width. Side Slopes 1/2 to 1.

In the figure below: opposite 7 under "Cut or Fill" and under .3 read 11.0, the distance out from the side stake at left. Also, opposite 11 under "Cut or Fill" and under .1 read 16.7, the distance out from the side stake at right.



Cut or Fill	Distance out from Side or Shoulder Stake										Cut or Fill
	0	.1	.2	.3	.4	.5	.6	.7	.8	.9	
0	0.0	0.2	0.3	0.5	0.6	0.8	0.9	1.1	1.2	1.4	0
1	1.5	1.7	1.8	2.0	2.1	2.3	2.4	2.6	2.7	2.9	1
2	3.0	3.2	3.3	3.5	3.6	3.8	3.9	4.1	4.2	4.4	2
3	4.5	4.7	4.8	5.0	5.1	5.3	5.4	5.6	5.7	5.9	3
4	6.0	6.2	6.3	6.5	6.6	6.8	6.9	7.1	7.2	7.4	4
5	7.5	7.7	7.8	8.0	8.1	8.3	8.4	8.6	8.7	8.9	5
6	9.0	9.2	9.3	9.5	9.6	9.8	9.9	10.1	10.2	10.4	6
7	10.5	10.7	10.8	11.0	11.1	11.3	11.4	11.6	11.7	11.9	7
8	12.0	12.2	12.3	12.5	12.6	12.8	12.9	13.1	13.2	13.4	8
9	13.5	13.7	13.8	14.0	14.1	14.3	14.4	14.6	14.7	14.9	9
10	15.0	15.2	15.3	15.5	15.6	15.8	15.9	16.1	16.2	16.4	10
11	16.5	16.7	16.8	17.0	17.1	17.3	17.4	17.6	17.7	17.9	11
12	18.0	18.2	18.3	18.5	18.6	18.8	18.9	19.1	19.2	19.4	12
13	19.5	19.7	19.8	20.0	20.1	20.3	20.4	20.6	20.7	20.9	13
14	21.0	21.2	21.3	21.5	21.6	21.8	21.9	22.1	22.2	22.4	14
15	22.5	22.7	22.8	23.0	23.1	23.3	23.4	23.6	23.7	23.9	15
16	24.0	24.2	24.3	24.5	24.6	24.8	24.9	25.1	25.2	25.4	16
17	25.5	25.7	25.8	26.0	26.1	26.3	26.4	26.6	26.7	26.9	17
18	27.0	27.2	27.3	27.5	27.6	27.8	27.9	28.1	28.2	28.4	18
19	28.5	28.7	28.8	29.0	29.1	29.3	29.4	29.6	29.7	29.9	19
20	30.0	30.2	30.3	30.5	30.6	30.8	30.9	31.1	31.2	31.4	20
21	31.5	31.7	31.8	32.0	32.1	32.3	32.4	32.6	32.7	32.9	21
22	33.0	33.2	33.3	33.5	33.6	33.8	33.9	34.1	34.2	34.4	22
23	34.5	34.7	34.8	35.0	35.1	35.3	35.4	35.6	35.7	35.9	23
24	36.0	36.2	36.3	36.5	36.6	36.8	36.9	37.1	37.2	37.4	24
25	37.5	37.7	37.8	38.0	38.1	38.3	38.4	38.6	38.7	38.9	25
26	39.0	39.2	39.3	39.5	39.6	39.8	39.9	40.1	40.2	40.4	26
27	40.5	40.7	40.8	41.0	41.1	41.3	41.4	41.6	41.7	41.9	27
28	42.0	42.2	42.3	42.5	42.6	42.8	42.9	43.1	43.2	43.4	28
29	43.5	43.7	43.8	44.0	44.1	44.3	44.4	44.6	44.7	44.9	29
30	45.0	45.2	45.3	45.5	45.6	45.8	45.9	46.1	46.2	46.4	30
31	46.5	46.7	46.8	47.0	47.1	47.3	47.4	47.6	47.7	47.9	31
32	48.0	48.2	48.3	48.5	48.6	48.8	48.9	49.1	49.2	49.4	32
33	49.5	49.7	49.8	50.0	50.1	50.3	50.4	50.6	50.7	50.9	33
34	51.0	51.2	51.3	51.5	51.6	51.8	51.9	52.1	52.2	52.4	34
35	52.5	52.7	52.8	53.0	53.1	53.3	53.4	53.6	53.7	53.9	35
36	54.0	54.2	54.3	54.5	54.6	54.8	54.9	55.1	55.2	55.4	36
37	55.5	55.7	55.8	56.0	56.1	56.3	56.4	56.6	56.7	56.9	37
38	57.0	57.2	57.3	57.5	57.6	57.8	57.9	58.1	58.2	58.4	38
39	58.5	58.7	58.8	59.0	59.1	59.3	59.4	59.6	59.7	59.9	39
40	60.0	60.2	60.3	60.5	60.6	60.8	60.9	61.1	61.2	61.4	40

KEUFFEL & ESSER CO., N. Y.
 For Curve Tables see end of book.

601

CLA 0126 48 00
 760-50-00 126° 48' 30"
 1268° 01' 30" 126° 48' 09"
 1541 37' 30" 126° 48' 07"

027 36 30
 55 12 45
 27 36 22

ARC
 990 11' 45"
 595 11' 00"
 991 58 30
 1190 21 30

MICROFILMED

JAN 13 1965

The paper in this book No. F363A
 is made of 50% high grade rag stock
 with a WATER RESISTING surface sizing.

46+68

102

~~Pipe Line El Monte Pump Plant
To Grandville~~

~~Index in Back of Book p 76~~

Index

Unit No 8. El Monte Pipeline

- P1-11 Levels, Stations 300 - 353
12 Checks on B.Ms Lakeside
13-36 Levels Stns 353 - 473+50
15 Details of Bridge at 368+58
22 " " at 403
24 " Culvert at 435+00
29 " Bridge 437+47
37-41 Cross Sections 295 - 325
43 Checks on Bench Marks
43-48 Levels, Stn 470+75 - 496+50
50-80 " 497+0 - 612+25
50 Change offset from 8' N. to 8' E of 1/4 in.
77-80 Change of offset to West side
Levels -

From Book #628

Sta.	B.S.	Hi.	F.S.	Rad	Elev.
T.P.#41					343.39 344.24
A #42	0.59	343.98 344.83			
300+50 [Ⓢ]				1.0	343.0
" 2				1.4	342.6
301+00 [Ⓢ]				1.6	342.4
" 2				2.1	341.9
301+50 [Ⓢ]				2.3	341.7
" 2				2.6	341.4
302+00 [Ⓢ]				2.8	341.2
" 2				3.1	340.9
302+50 [Ⓢ]				3.3	340.7
" 2				3.6	340.4
302+06	Power Pole Left Rd.				
302+00 [Ⓢ]				3.8	340.2
" 2				4.0	340.0
303+50 [Ⓢ]				4.1	339.9
" 2				4.3	339.7
304+00 [Ⓢ]				4.3	339.7
" 2				4.7	339.3
303+85	Power Pole Left Rd.				

Messersmith

Melhorn

Dec. 2, 1941

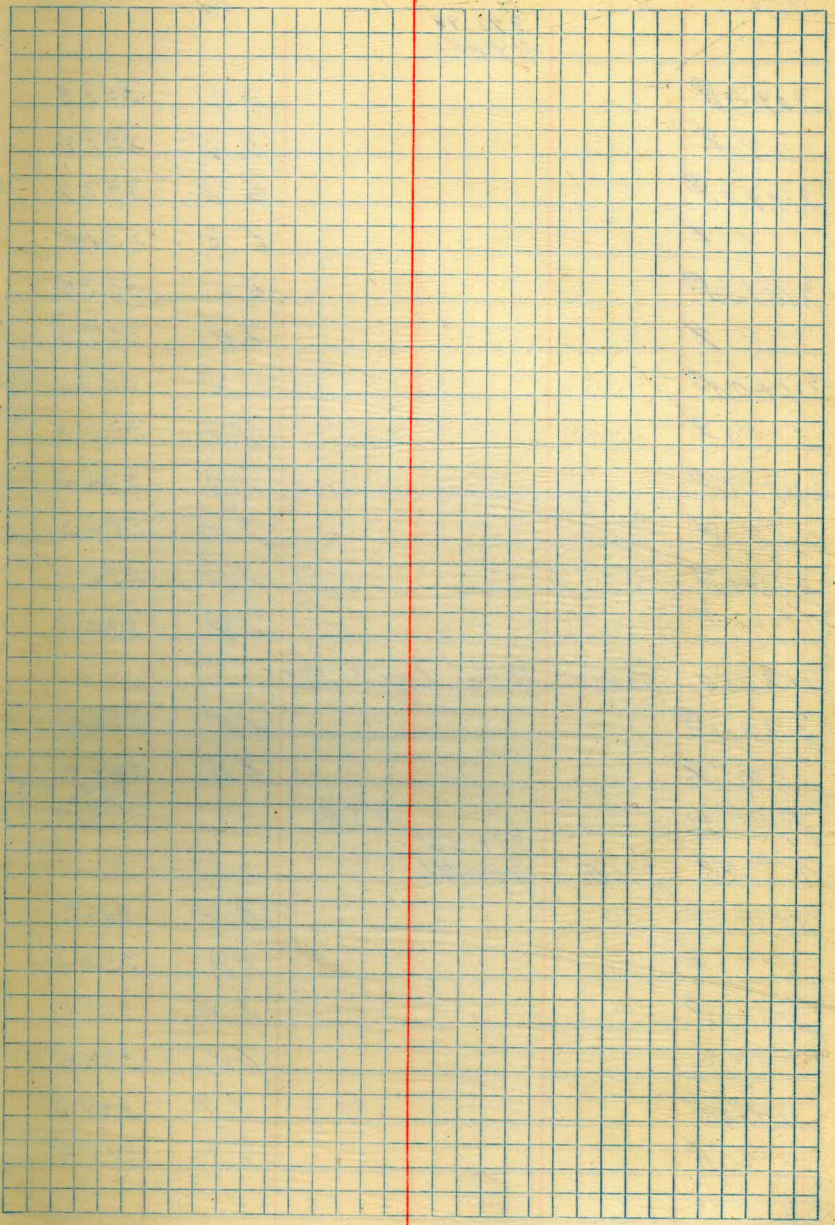
There is a correction of -0.85
from T.P.#39 on. That is so we will
check into the S.W. B.M. "#R61-1927"
at Santee Station

Note

All elevations prior
to this page subject
to correction of -1.0
foot

Those on this page
later no correction

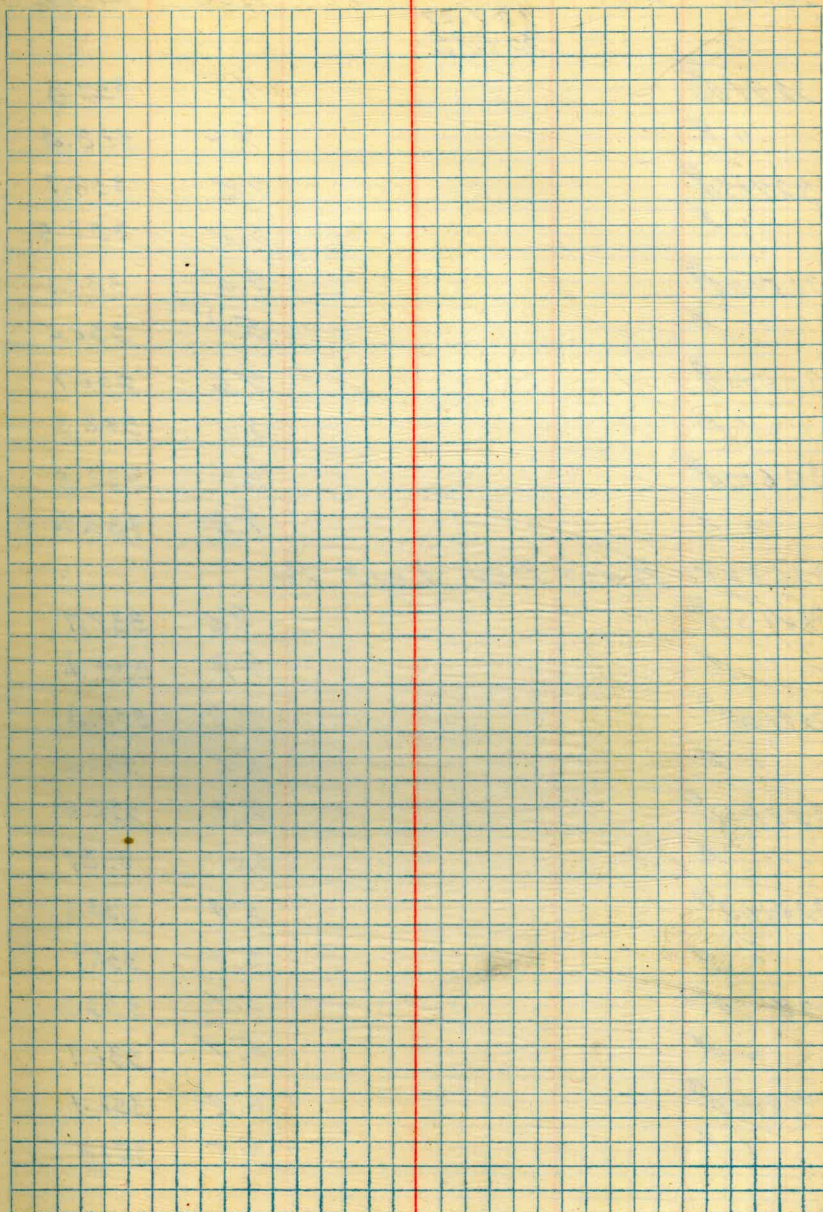
Sta.	B.S.	Hi. ✓ 243.98 344.83	F.S.	Red.	Elev.
304+50 [Ⓢ]				4.6	339.4
" 2				4.9	339.1
305+00 [Ⓢ]				4.9	339.1
" 2				5.2	338.8
305+50 [Ⓢ]				5.1	338.9
" 2				5.5	338.5
305+25	Power Pole Left Rd.				
305+46	24" CW	vert	Flow Line	8.5	335.5
306+00 [Ⓢ]				5.3	338.7
" 2				3.7	338.3
306+50 [Ⓢ]				5.5	338.5
" 2				5.8	338.2
307+00 [Ⓢ]				5.6	338.4
" 2				6.0	338.0
307+50 [Ⓢ]				5.7	338.3
" 2				6.1	337.9
308+00 [Ⓢ]				5.8	338.2
" 2				6.3	337.7
308+50 [Ⓢ]				5.8	338.2
" 2				6.1	337.9
309+00 [Ⓢ]				6.0	338.0
" 2				6.4	337.6
308+60	Power Pole Left Rd.				



S.T.	B.S.	H.I. ✓ 343.98 344.83	F.S.	Rod	Elev.
309+50 [⊙]				6.1	337.9
" 2				6.6	337.4
310+00 [⊙]				6.3	337.7
" 2				6.8	337.2
310+50 [⊙]				6.6	337.4
" 2				7.0	337.0
311+00 [⊙]				6.8	337.2
" 2				7.2	336.8
311+50 [⊙]				7.2	336.8
" 2				7.5	336.5
312+00 [⊙]				7.3	336.7
" 2				7.9	336.1
312+00	Power Pole Left Rd.				
312+50 [⊙]				7.5	336.5
" 2				8.0	336.0
TP# 42					336.46 337.31
TP# 43	3.10	339.56	7.52		340.41
313+00 [⊙]				3.4	336.2
" 2				3.9	335.7
313+50 [⊙]				3.6	336.0
" 2				4.1	335.5
314+00 [⊙]				3.9	335.7
" 2				4.3	335.3

Sta.	B.S.	HI. ✓ 339.56 340.11	F.S.	Rad.	Elev.
314+50 [⊙]				3.9	335.7
" 2				4.5	335.1
315+00 [⊙]				4.0	335.6
" 2				4.3	335.3
315+50 [⊙]				4.1	335.5
" 2				4.6	335.0
315+38	Power Pole Left Rd.				
315+40	24" Culvert	Flow Line		7.5	332.1
315+40	4" Iron Pipe	Top Pipe		7.0	332.6
316+00 [⊙]				4.1	335.5
" 2				4.6	335.0
316+50 [⊙]				4.3	335.3
" 2				4.8	334.8
317+00 [⊙]				4.6	335.0
" 2				5.0	334.6
317+50 [⊙]				4.8	334.8
" 2				5.2	334.4
318+00 [⊙]				5.2	334.4
" 2				5.6	334.0
318+09	Power Pole Left Rd.				
318+50 [⊙]				5.5	334.1
" 2				5.7	333.9
319+00 [⊙]				5.6	334.0
" 2				5.8	333.8

S70	B.S.	H.I.	F.S.	Rad	Elev
		339.56			
		340.44			
319+50 [Ⓢ]				5.8	333.8
" 2				6.0	333.6
320+00 [Ⓢ]				5.8	333.8
" 2				6.1	333.5
320+50 [Ⓢ]				6.0	333.6
" 2				6.3	333.3
321+00 [Ⓢ]				6.2	333.4
" 2				6.5	333.1
320+85	Power Pole Left Rd.				
321+50 [Ⓢ]				6.5	333.1
" 2				6.8	332.8
322+00 [Ⓢ]				6.6	333.0
" 2				7.0	332.6
322+11	18" current Flow Line			7.2	330.4
322+50 [Ⓢ]				6.6	333.0
" 2				7.0	332.6
322+80 [Ⓢ]				6.6	333.0
" 2				7.0	332.6
T.P. #43					332.681
					332.881
					332.73
T.P. #44	4.39	337.27	16.68		338.12
323+50 [Ⓢ]				4.7	332.9
" 2				4.8	332.5
323+60	Power Pole Left Rd.				



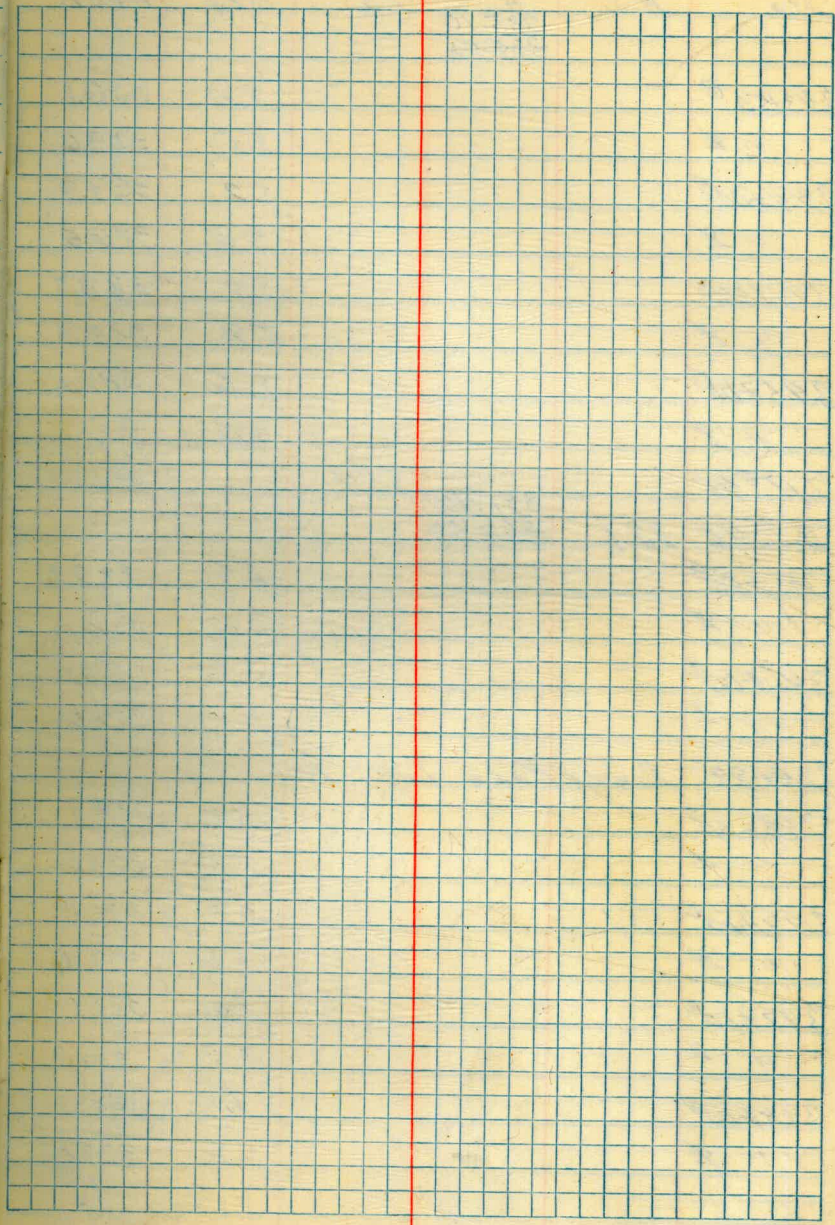
Sta.	B.S.	HI. ✓ 337.27 338.12	F.S.	Red	Elev.
324+00 [Ⓢ]				4.5	332.8
" 2				4.9	332.4
324+50 [Ⓢ]				4.6	332.7
" 2				4.8	332.5
325+00 [Ⓢ]				4.6	332.7
" 2				5.1	332.2
325+50 [Ⓢ]				4.6	332.7
" 2				5.0	332.3
326+00 [Ⓢ]				4.5	332.8
" 2				4.8	332.5
326+25	Power Pole Left Rd.				
326+50 [Ⓢ]				4.6	332.7
" 2				4.9	332.4
327+00 [Ⓢ]				4.7	332.6
" 2				5.1	332.2
327+50 [Ⓢ]				4.9	332.4
" 2				5.2	332.1
328+00 [Ⓢ]				5.0	332.3
" 2				5.4	331.9
328+04 [Ⓢ]				5.1	332.2
" 2				5.4	331.9
328+50 [Ⓢ]				5.2	332.1
" 2				5.5	331.8

Sta	P.S.	Hi.	F.S.	Rod	Elev.
57a		337.27 338.12			
328+70	24" Culvert		Flow Line 8.9		328.4
329+00 [Ⓢ]				5.5	331.8
" ♀				5.8	331.5
U.S. B.M.					337.30 335.45 336.30
We Deff.			1.82		
329+30	Power Pole			Left Rd.	
329+50 [Ⓢ]				5.7	331.6
" ♀				6.3	331.0
330+00 [Ⓢ]				5.9	331.4
" ♀				6.4	330.9
330+50 [Ⓢ]				6.0	331.3
" ♀				6.6	330.7
331+00 [Ⓢ]				5.9	331.4
" ♀				6.3	331.0
331+50 [Ⓢ]				5.9	331.4
" ♀				6.4	330.9
331+62	Power Pole			Left Rd.	
332+00 [Ⓢ]				6.0	331.3
" ♀				6.6	330.7
332+50 [Ⓢ]				6.1	331.2
" ♀				6.6	330.7
333+00 [Ⓢ]				6.1	331.2
" ♀				6.6	330.7

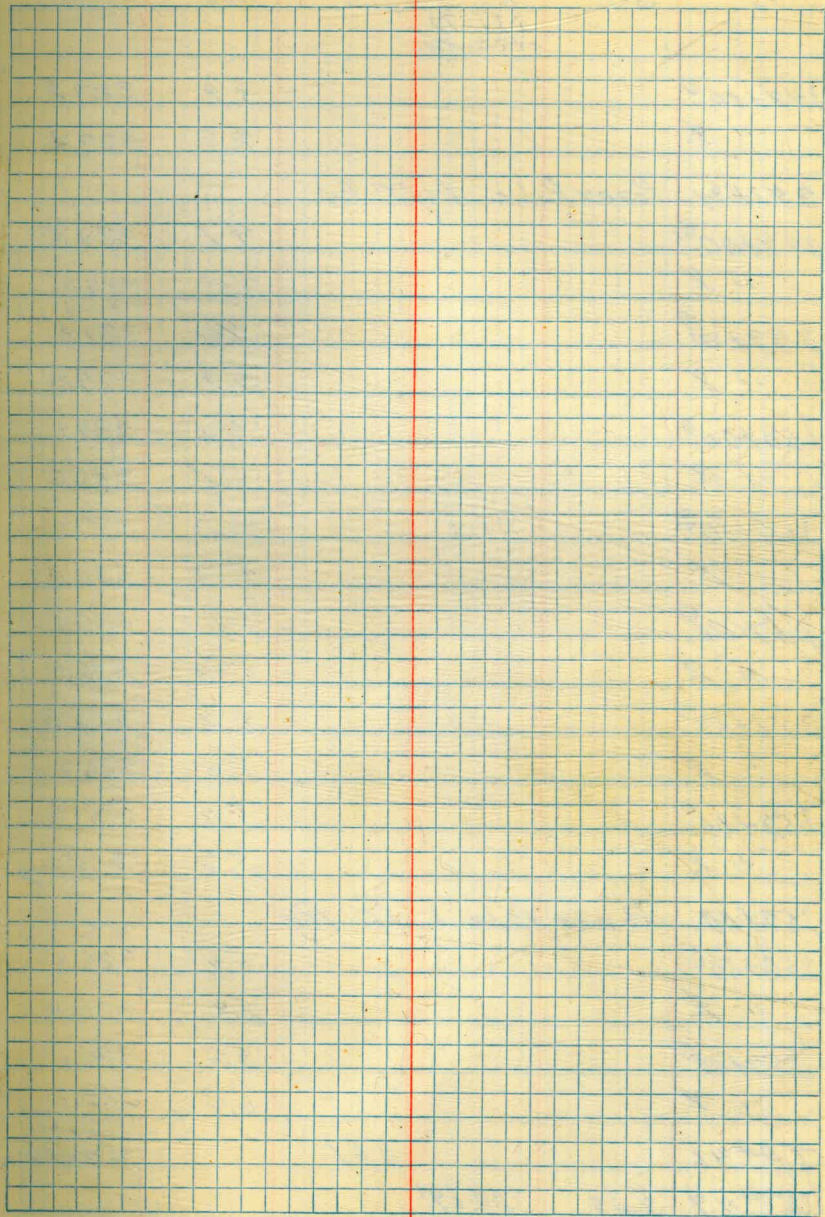
Check
City Datum ?

Sta.	P.S.	Hi.	F.S.	Rod	Elev.
		337.27 338.72			
333+50 ⁰				6.2	331.1
" 2				6.7	330.6
T.P. #44		338.10	16.20		331.07 331.92
A #45	4.03	335.95			
334+00 ⁰				4.1	331.0
" 2				4.5	330.6
334+50 ⁰				4.1	331.0
" 2				4.5	330.6
334+55	Power Pole Left Rd.				
335+00 ⁰				4.2	330.9
" 2				4.7	330.4
335+50 ⁰				4.3	330.8
" 2				4.8	330.3
336+00 ⁰				4.4	330.7
" 2				4.9	330.2
336+50 ⁰				4.6	330.5
" 2				5.1	330.0
336+55	Power Pole Left Rd.				
336+65	18" Culvert Flowline			8.3	326.8
337+00 ⁰				4.8	330.3
" 2				5.4	329.7
337+50 ⁰				5.0	330.1
" 2				5.5	329.6

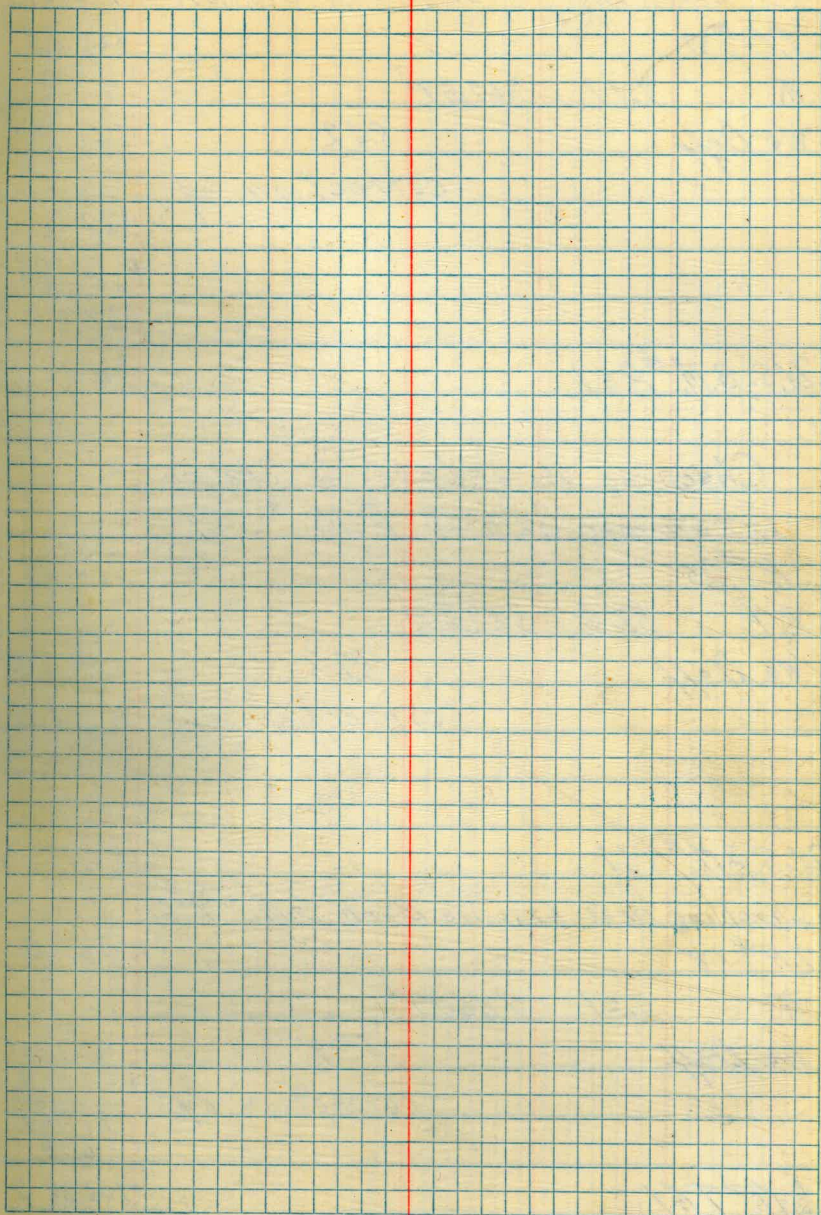
Sta	B.S.	Hi.	F.S.	Red	Elev.
		335.10			
		335.95			
338+00 [⊙]				5.0	330.1
" 2				5.5	329.6
338+50 [⊙]				5.0	330.1
" 2				5.6	329.5
339+00 [⊙]				5.0	330.1
" 2				5.5	329.6
339+50 [⊙]				5.0	330.1
" 2				5.5	329.6
339+65	Power Pole				Left Rd.
340+00 [⊙]				5.0	330.1
" 2				5.5	329.6
340+50 [⊙]				4.8	330.3
" 2				5.3	329.8
341+00 [⊙]				4.7	330.4
" 2				5.2	329.9
341+50 [⊙]				4.7	330.4
" 2				5.2	329.9
342+00 [⊙]				4.6	330.5
" 2				5.2	329.9
342+50 [⊙]				4.6	330.5
" 2				5.0	330.1
343+00 [⊙]				4.8	330.3
" 2				5.3	329.8
343+75	Power Pole				Left Rd.



Sta.	B.S.	Hi. / 335.10 335.95	F.S.	Rad	Elev.
343+50				5.0	330.1
" 2				5.5	329.6
344+00				5.2	329.9
" 2				5.6	329.5
344+50				5.4	329.7
" 2				5.7	329.4
345+00				5.6	329.5
" 2				6.0	329.1
TP #45					329.511
TP #46	22.1	331.721	5.59		330.36
		332.57			
345+50				2.4	329.3
" 2				2.6	329.1
346+00				2.7	329.0
" 2				3.1	328.6
345+98	Power Pole Left Rd				
346+50				3.0	328.7
" 2				3.5	328.2
347+00				3.3	328.4
" 2				3.8	327.9
347+50				3.6	328.1
" 2				4.0	327.7
348+00				3.7	328.0
" 2				4.2	327.5



Sta	B.S.	Hi. ✓	F.S.	Rod	Elev.
		331.72			
		332.57			
348+50 [Ⓢ]				3.9	327.8
" 2				4.3	327.4
348+94	Power Pole Left Rd				
349+00 [Ⓢ]				4.1	327.6
" 2				4.5	327.2
349+50 [Ⓢ]				4.4	327.3
" 2				4.7	327.0
350+00 [Ⓢ]				4.6	327.1
" 2				5.1	326.6
350+50 [Ⓢ]				4.7	327.0
" 2				5.2	326.5
351+00 [Ⓢ]				5.0	326.7
" 2				5.4	326.3
351+50 [Ⓢ]				5.2	326.5
" 2				5.5	326.2
352+00 [Ⓢ]				5.3	326.4
" 2				5.7	326.0
352+00	Power Pole Left Rd				
352+50 [Ⓢ]				5.4	326.3
" 2				5.8	325.9
353+00 [Ⓢ]				5.6	326.1
" 2				6.0	325.7
T.P. #46			5.61		326.111
A #47	2.08	328.191			326.96



Checking in at Santee Station BM#R61

T.P.#39 361.92

π 7.17 369.09

We Deff 5.62 363.47

correction of $-.85$

362.62

+ 6.12

368.74

U.S. B.M.#R61 368.736

Checking in at Lakeside Union

Grammar School B.M.#S61

T.P.#25 377.76

π # 5.06 382.82

We Deff 4.23 378.59

correction of $-.935$

377.655

+ 6.12

U.S. B.M.#S61 383.775

Checking in at Lakeside Bank B.M.#T61

T.P.#18 401.28

π 5.21 406.49

We Deff 5.79 400.70

correction of $+.738$

399.962

+ .12

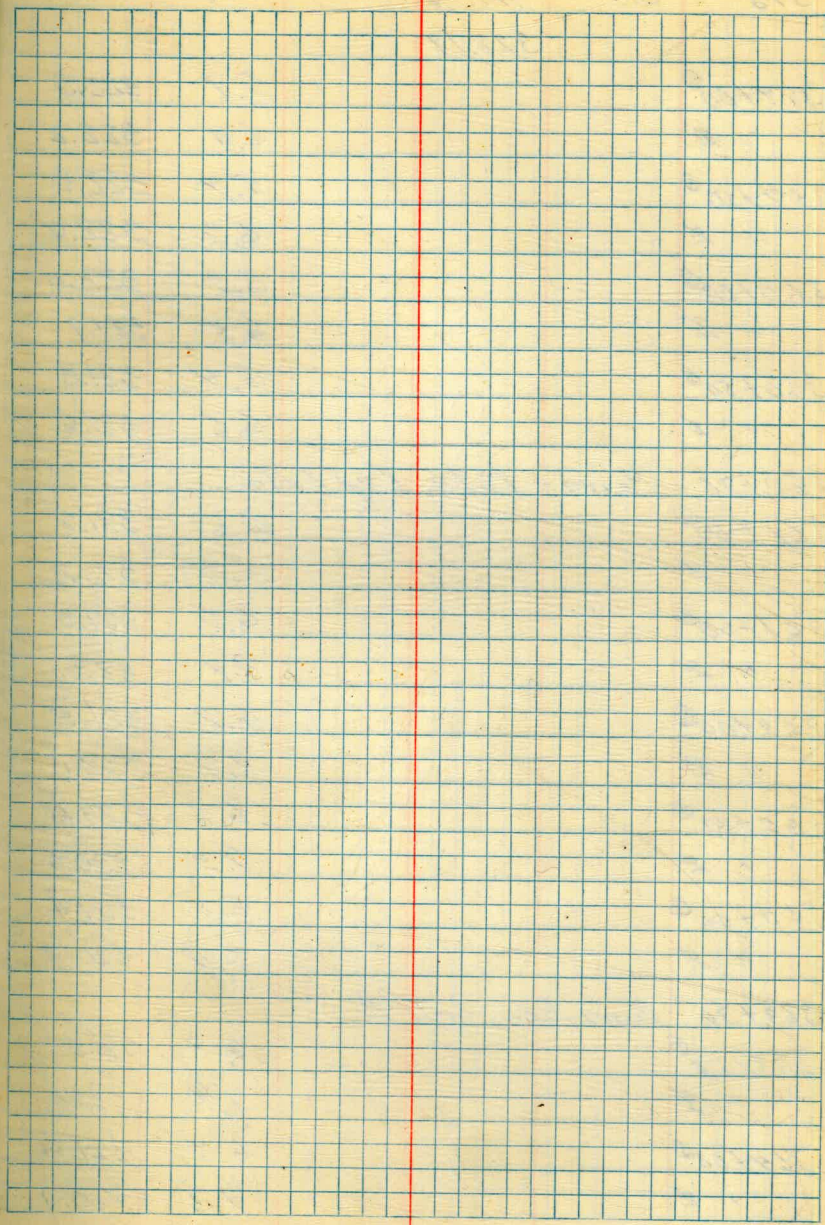
B.M.#T61 406.082

π Messersmith 12

ϕ Melhorn

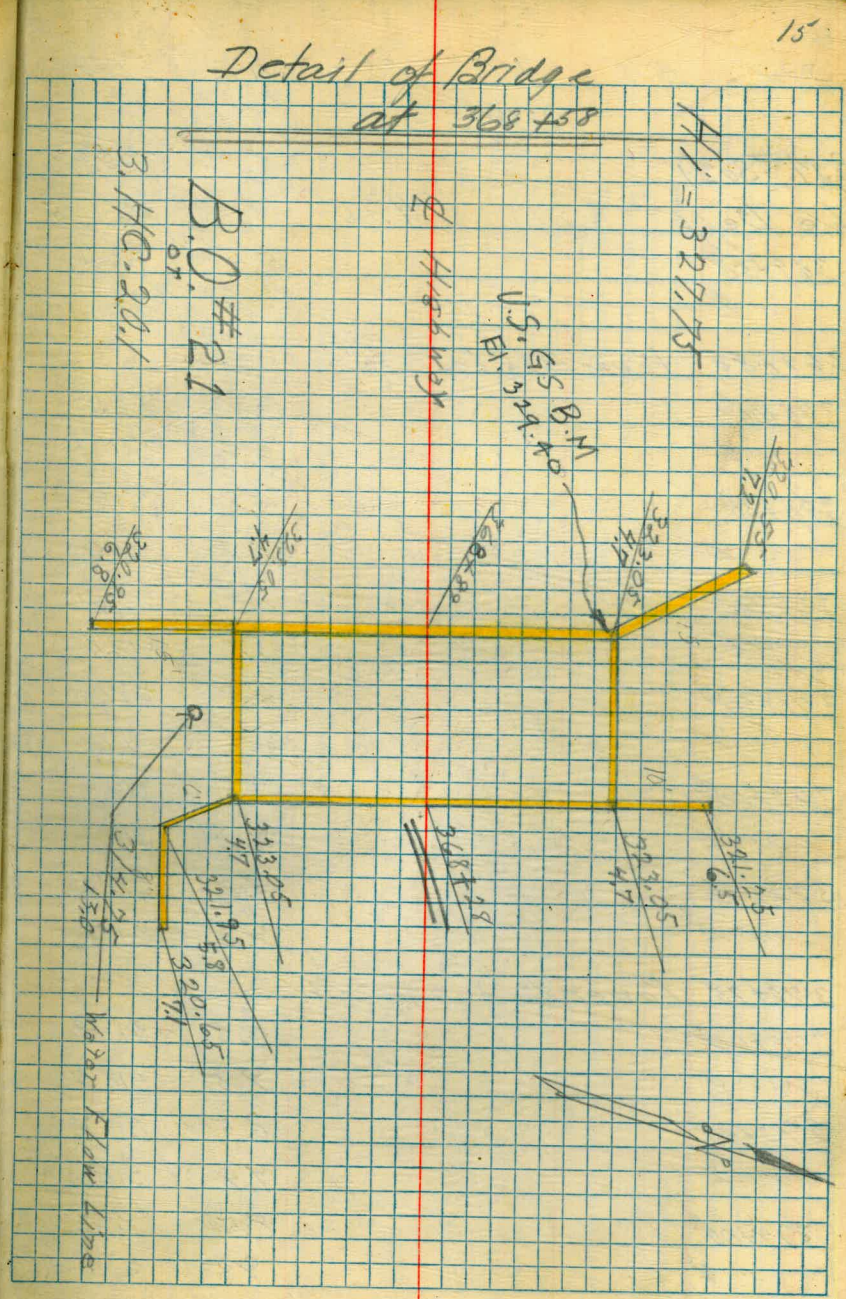
Dec. 3, 1941

Sta.	B.S.	Hi.	I.S.	Rod	Elev.
		328.19			
353+50 [Ⓢ]				2.2	326.0
" 2				2.6	325.6
354+00 [Ⓢ]				2.4	325.8
" 2				2.9	325.3
354+50 [Ⓢ]				2.6	325.6
" 2				3.0	325.2
355+00 [Ⓢ]				2.8	325.4
" 2				3.2	325.0
354+99 Power Pole Left Rd					
355+50 [Ⓢ]				3.1	325.1
" 2				3.5	324.7
356+00 [Ⓢ]				3.5	324.7
" 2				3.9	324.3
356+50 [Ⓢ]				3.8	324.4
" 2				4.1	324.1
357+00 [Ⓢ]				4.2	324.0
" 2				4.6	323.6
357+50 [Ⓢ]				4.6	323.6
" 2				5.0	323.2
358+00 [Ⓢ]				5.0	323.2
" 2				5.3	322.9
357+88 Power Pole Left Rd					
358+50 [Ⓢ]				5.3	322.9
" 2				5.6	322.6



Sta.	B.S.	H.I. ✓	F.S.	Rod	Elev.
		328.19			
359+00 [Ⓟ]				5.7	322.5
" 2				6.0	322.2
359+50 [Ⓟ]				5.9	322.3
" 2				6.2	322.0
360+00 [Ⓟ]				6.2	322.0
" 2				6.5	321.7
360+50 [Ⓟ]				6.4	321.8
" 2				6.6	321.6
360+70	Power Pole Left Rd.				
361+00 [Ⓟ]				6.6	321.6
" 2				6.9	321.3
361+50 [Ⓟ]				6.7	321.5
" 2				7.1	322.1
362+00 [Ⓟ]				6.7	321.5
" 2				7.2	322.0
362+50 [Ⓟ]				6.8	321.4
" 2				7.3	320.9
363+00 [Ⓟ]				6.8	321.4
" 2				7.4	320.8
363+30	Power Pole Left Rd.				
363+50 [Ⓟ]				6.9	321.3
" 2				7.4	320.8
364+00 [Ⓟ]				6.8	321.4
" 2				7.3	320.9

S. No.	B.S.	Hi.	I.S.	Rod	Elev.
		328.19			
364450 ^o				6.9	321.3
" 2				7.4	320.8
T.P.#47			6.89		321.30
#48	6.45	327.75			
365700 ^o				6.5	321.3
" 2				7.0	320.8
365750 ^o				6.4	321.4
" 2				6.8	321.0
366700 ^o				6.2	321.6
" 2				6.7	321.1
366750 ^o				6.0	321.8
" 2				6.7	321.4
366749	Power Pole Left Ad.				
367700 ^o				5.6	322.2
" 2				5.9	321.9
367750 ^o				5.1	322.7
" 2				5.4	322.4
368700 ^o				4.7	323.1
" 2				5.3	322.5
368750 ^o				4.9	322.9
" 2				off Bridge	
369700 ^o				4.9	322.9
" 2				4.9	322.9

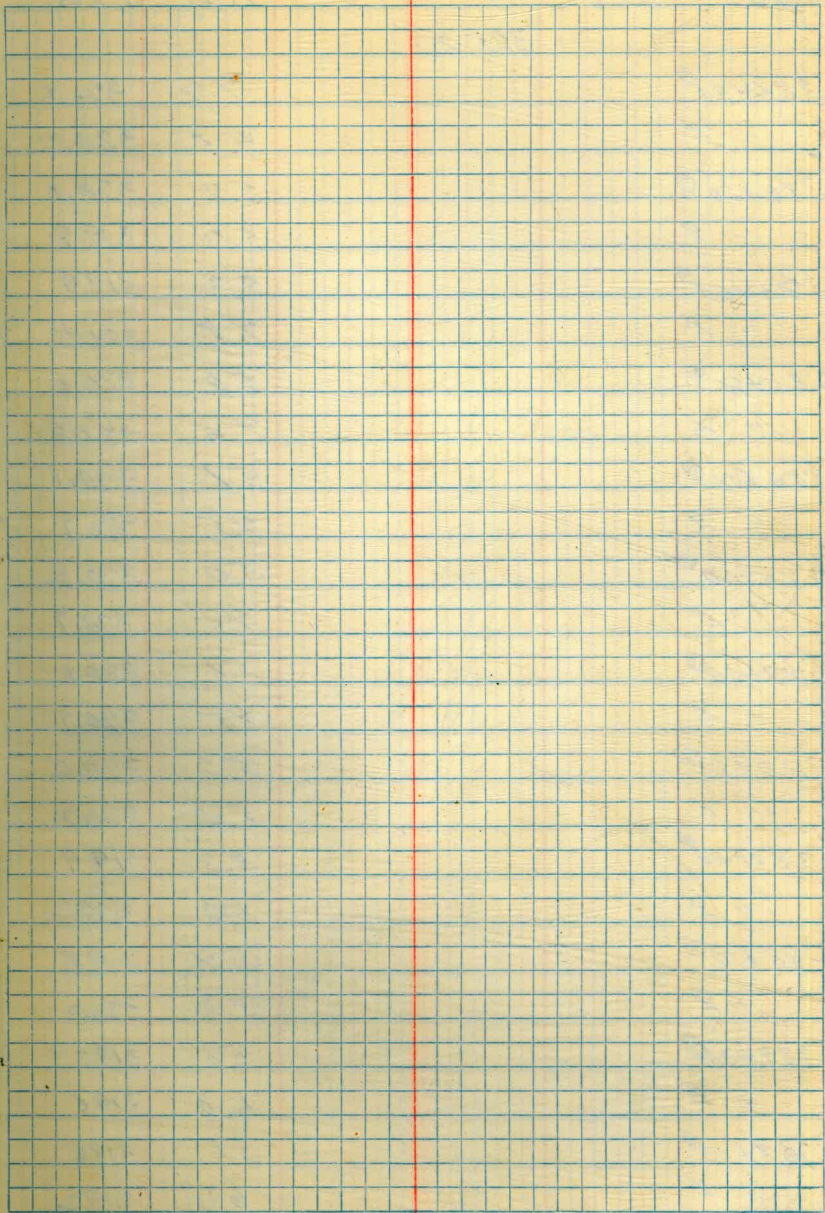


Sta	B.S.	Hi.	I.S.	Rod	Elev.
		327.75			
B.M. # 2021					329.40
We Deff			4.70		323.05
369+50				5.4	322.4
" 2				5.7	322.1
369+88	Power Pole Left Rd.				
370+00				6.1	321.7
" 2				6.9	320.9
370+50				6.8	321.0
" 2				7.8	320.0
371+00				7.4	320.4
" 2				8.4	319.4
371+50				7.8	320.0
" 2				8.6	319.2
372+00				8.0	319.8
" 2				9.0	318.8
372+50				8.3	319.5
" 2				9.6	318.2
372+75	Power Pole Left Rd.				
373+00				8.5	319.3
" 2				9.5	318.3
373+50				8.5	319.3
" 2				9.4	318.4
374+00				8.5	319.3
" 2				9.5	318.3

N.W. Cor of Bridge # 20.21 or 3.H.C. 20.1
 B.M. = Elev 329.40 (U.S.G.S.)
 City Datum E.L.

Sta	B.S.	I.I.	F.S.	Red.	Elev
		327.75			
374450 [⊙]				8.4	319.4
" ⊘				9.2	318.6
375400 [⊙]				8.5	319.3
" ⊘				9.2	318.6
T.P. #48			8.54		319.21
A #49	7.11	326.32			
375450 [⊙]				7.1	319.2
" ⊘				7.5	318.8
375462	Power Pole Left Rd.				
376400 [⊙]				6.8	319.5
" ⊘				7.0	319.3
376450 [⊙]				6.6	319.7
" ⊘				6.8	319.5
377400 [⊙]				6.5	319.8
" ⊘				6.8	319.6
377450 [⊙]				6.4	319.9
" ⊘				6.4	319.9
378400 [⊙]				6.2	320.1
" ⊘				6.6	319.7
378450 [⊙]				6.1	320.2
" ⊘				6.6	319.7
378471	Power Pole Left Rd.				
379400 [⊙]				6.0	320.3
" ⊘				6.5	319.8

Sta.	B.S.	I.I.	F.S.	Red.	Elev.
		326.32			
379+50				6.2	320.1
"				6.6	319.7
380+00				6.2	320.1
"				6.7	319.6
B.C. 380+23				6.2	320.1
"				6.6	319.7
380+50				6.1	320.2
"				6.6	319.7
381+00				6.1	320.2
"				6.5	319.8
381+20	Power Pole Left Rd.				
381+50				6.2	320.3
"				6.6	319.7
EC 381+98				6.3	320.2
"				6.6	319.7
382+59				6.5	319.8
"				6.7	319.6
TP #49			6.55		319.77
#50	5.43	325.20			
383+00				5.5	319.7
"				5.5	319.7
383+50				5.2	320.0
"				5.2	320.0



Sta.	B.S.	Hi.	I.S.	Rod	Elev.
		325.20			
384400 [⊙]				4.7	320.5
" 2				4.5	320.7
384450 [⊙]				5.2	320.0
" 2				5.3	319.9
384500 [⊙]				5.3	319.9
" 2				4.8	320.4
384550 [⊙]				5.2	320.0
" 2				4.6	320.6
386400 [⊙]				5.1	320.1
" 2				4.5	320.7
386450 [⊙]				5.0	320.2
" 2				4.5	320.7
387400 [⊙]				5.1	320.1
" 2				4.5	320.7
387450 [⊙]				5.2	320.0
" 2				5.0	320.2
388400 [⊙]				5.3	319.9
" 2				5.0	320.2
388450 [⊙]				5.4	319.8
" 2				5.2	320.0
389400 [⊙]				5.5	319.7
" 2				5.6	319.6
389450 [⊙]				5.6	319.6
" 2				6.0	319.2

Sta.	B.S.	H.I.	F.S.	Rod	Elev.
		325.20			
390+00 [⊙]				5.8	319.4
" 2				6.3	318.9
390+50 [⊙]				6.0	319.2
" 2				6.6	318.6
391+00 [⊙]				6.2	319.0
" 2				6.9	318.5
391+50 [⊙]				6.5	318.7
" 2				7.3	317.9
392+00 [⊙]				7.0	318.2
" 2				7.7	317.5
392+50 [⊙]				7.3	317.9
" 2				8.1	317.1
393+00 [⊙]				7.7	317.5
" 2				8.5	316.7
393+50 [⊙]				8.1	317.1
" 2				9.0	316.2
394+00 [⊙]				8.6	316.6
" 2				9.5	315.7
394+50 [⊙]				9.1	316.1
" 2				10.1	315.1
T.P. #50			9.09		316.11'
π #51	1.61	317.72			
395+00 [⊙]				2.2	315.5
" 2				2.9	315.0

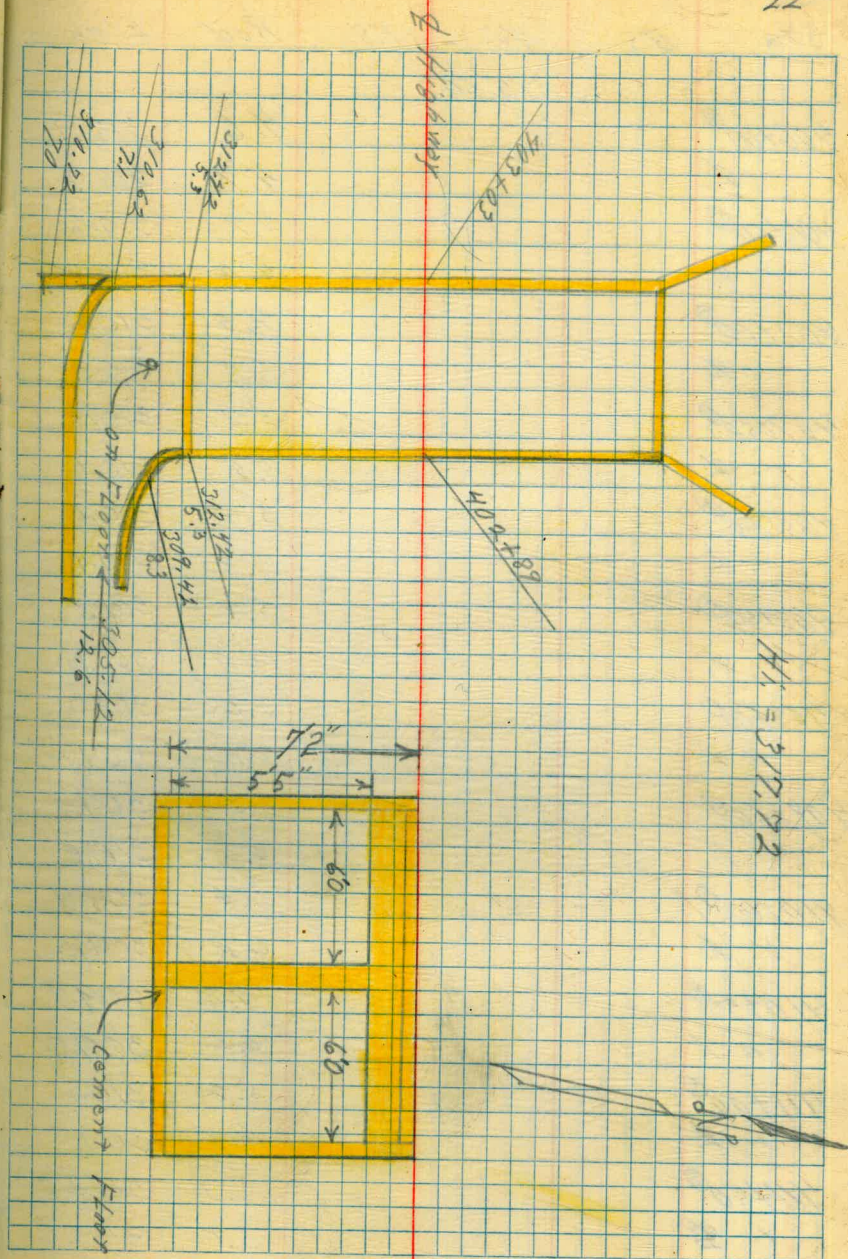
Sta.	B.S.	Hi.	F.S.	Rod	Elev.
		317.72			
395+50 [Ⓢ]				2.6	315.1
" 2				3.1	314.6
396+00 [Ⓢ]				3.0	314.7
" 2				3.5	314.2
396+50 [Ⓢ]				3.4	314.3
" 2				3.8	313.9
397+00 [Ⓢ]				4.0	313.7
" 2				4.4	313.3
397+50 [Ⓢ]				4.3	313.4
" 2				4.7	313.0
398+00 [Ⓢ]				4.7	313.0
" 2				5.1	312.6
398+50 [Ⓢ]				4.9	312.8
" 2				5.5	312.2
399+00 [Ⓢ]				5.2	312.5
" 2				5.7	312.0
399+50 [Ⓢ]				5.5	312.2
" 2				6.1	311.6
400+00 [Ⓢ]				5.6	312.1
" 2				5.9	311.8
400+50 [Ⓢ]				5.6	312.1
" 2				6.0	311.7
401+00 [Ⓢ]				5.4	312.3
" 2				5.7	312.0

* Messersmith 21

φ Melhorn

Dec. 4, 1941

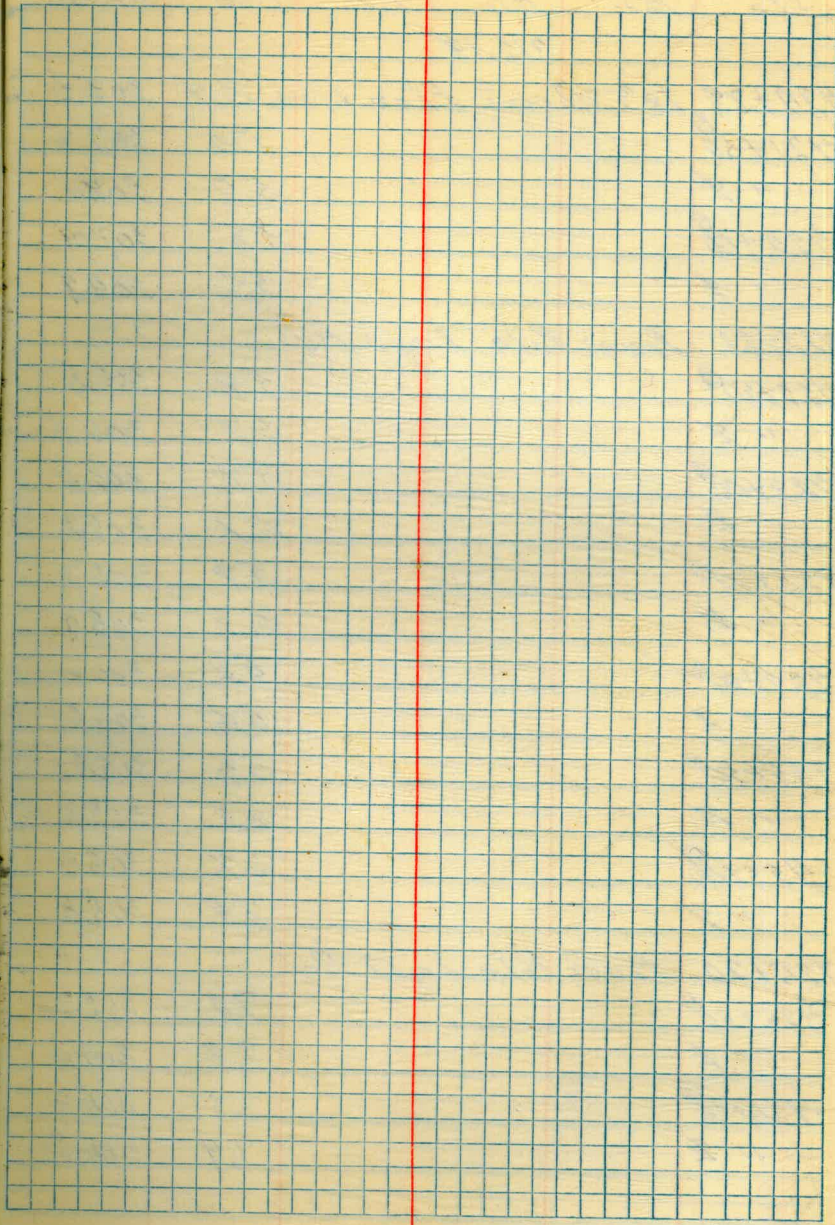
Sta	B.S.	Hi.	F.S.	Rod	Elev.
		317.72			
401+50				5.5	312.2
" 2				6.0	311.7
402+00				5.3	312.4
" 2				5.7	312.0
402+50				5.1	312.6
" 2				5.8	311.9
403+00				5.2	312.5
" 2				5.3	312.4
403+50				5.3	312.4
" 2				5.4	312.3
B.C. 403+87.2				5.3	312.4
" 2				5.5	312.2
404+00				5.3	312.4
" 2				5.5	312.2
404+50				5.4	312.3
" 2				5.9	311.8
405+00				5.6	312.1
" 2				6.0	311.7
Eq. 405+31.2				5.9	311.8
" 2				6.1	311.6
405+50				6.2	311.5
" 2				6.2	311.5
T.P. #51			6.26		311.46
#52	4.04	315.50			



Sta	B.S.	Hi.	F.S.	Rod	Elev
		315.50			
406+00 [Ⓢ]				4.6	310.9
" 2				4.7	310.8
406+50 [Ⓢ]				4.9	310.6
" 2				4.9	310.6
407+00 [Ⓢ]				4.9	310.6
" 2				5.2	310.3
407+50 [Ⓢ]				5.2	310.3
" 2				5.5	310.0
408+00 [Ⓢ]				5.4	310.1
" 2				5.8	309.7
408+50 [Ⓢ]				5.7	309.8
" 2				6.0	309.5
409+00 [Ⓢ]				5.6	309.9
" 2				6.1	309.4
409+50 [Ⓢ]				5.6	309.9
" 2				6.0	309.5
410+00 [Ⓢ]				5.6	309.9
" 2				6.2	309.3
410+50 [Ⓢ]				5.6	309.9
" 2				6.5	309.0
411+00 [Ⓢ]				5.4	310.1
" 2				6.3	309.2
411+50 [Ⓢ]				5.3	310.2
" 2				5.9	309.6

Sta	B.S.	Hi.	I.S.	Red	Elev.
		315.50			
412+00 [⊙]				5.2	310.3
" 2				5.8	309.7
412+50 [⊙]				5.0	310.5
" 2				5.6	309.9
413+00 [⊙]				4.8	310.7
" 2				5.5	310.0
413+50 [⊙]				4.7	310.8
" 2				5.4	310.1
414+00 [⊙]				4.7	310.8
" 2				5.2	310.3
414+50 [⊙]				4.6	310.9
" 2				4.9	310.6
415+00 [⊙]				4.6	310.9
" 2				4.8	310.7
415+47	Power Pole Left Rd.				
415+50 [⊙]				4.7	310.8
" 2				5.1	310.4
416+00 [⊙]				4.9	310.6
" 2				5.2	310.3
416+50 [⊙]				5.2	310.3
" 2				5.5	310.0
417+00 [⊙]				5.5	310.0
" 2				5.7	309.8

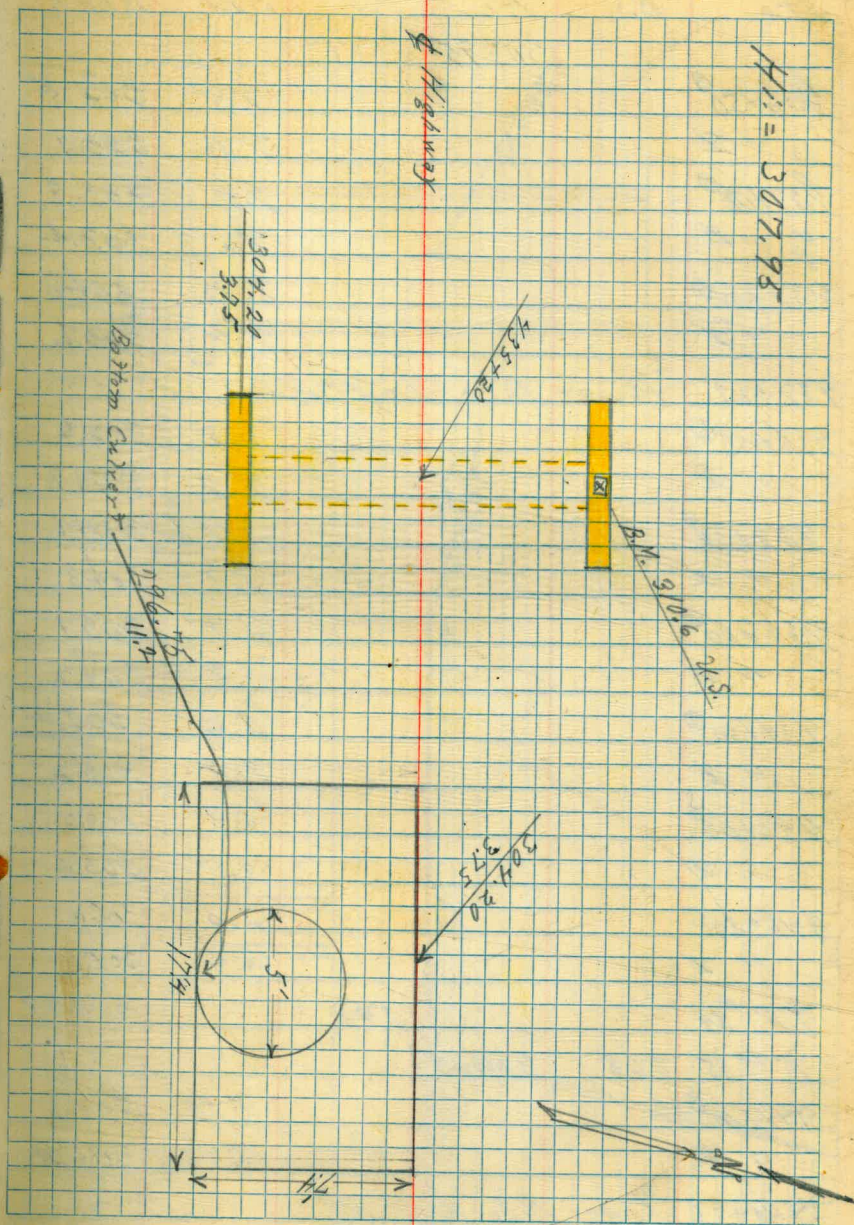
S72	B.S.	H.I.	I.S.	Rod	Elev.
		315.50			
T.P.#52			5.55		309.95
A#53	2.24	312.19			
417+50 ⁰				2.4	309.8
" 2				2.3	309.9
418+00 ⁰				2.4	309.8
" 2				2.4	309.8
BC418+41 ⁰				2.6	309.6
" 2				2.6	309.6
418+50 ⁰				2.6	309.6
" 2				2.7	309.5
418+80	Power Pole Left Rd				
419+00 ⁰				3.0	309.2
" 2				2.6	309.6
EC419+25 ⁰				3.3	308.9
" 2				3.0	309.2
417+80	18" Culvert Flow Line 5.0				307.2
419+50 ⁰				3.5	308.7
" 2				3.3	308.9
420+00 ⁰				3.8	308.4
" 2				3.7	308.5
420+50 ⁰				4.2	308.0
" 2				4.2	308.2
421+00 ⁰				4.6	307.6
" 2				4.8	307.4



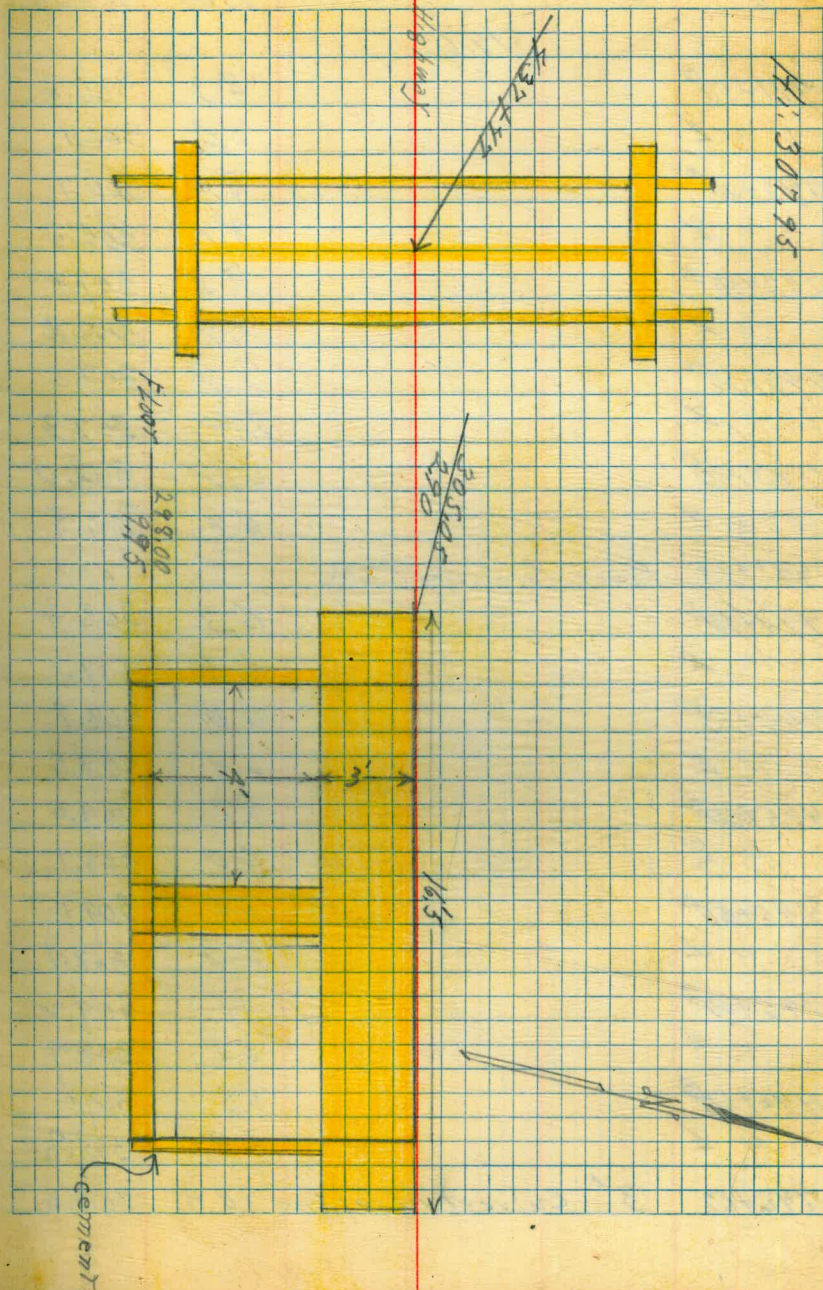
Sta.	B.S.	Hi.	I.S.	Rod	Elev.
		312.19			
420+89	18" Culvert	Flow Line	8.9		303.3
421+50				5.0	307.2
" 2				5.2	307.0
422+00				5.2	307.0
" 2				5.5	306.7
422+21	Power Pole	Left Rd.			
422+50				5.4	306.8
" 2				5.7	306.5
423+00				5.7	306.5
" 2				6.1	306.1
423+50				5.9	306.3
" 2				6.3	305.9
424+00				6.2	306.0
" 2				6.6	305.6
424+50				6.4	305.8
" 2				6.9	305.3
425+00				6.7	305.5
" 2				7.4	304.8
425+20	Power Pole	Left Rd.			
425+50				7.0	305.2
" 2				7.8	304.4
426+00				7.3	304.9
" 2				7.9	304.3

Sta.	B.S.	Hi.	F.S.	Red	Elev.
		312.19			
426+50 [⊙]				7.6	304.6
" 2				8.3	303.9
427+00 [⊙]				8.0	304.2
" 2				8.8	303.4
427+50 [⊙]				8.2	304.0
" 2				8.8	303.4
428+00 [⊙]				8.3	303.9
" 2				8.8	303.4
428+20	Power Pole Left Rd				
428+50 [⊙]				8.4	303.8
" 2				8.9	303.3
T.P.#53			8.41		303.78
T.#54	4.17	307.95			
429+00 [⊙]				4.2	303.8
" 2				4.7	303.3
429+50 [⊙]				4.2	303.8
" 2				4.8	303.2
430+00 [⊙]				4.2	303.8
" 2				4.7	303.3
430+50 [⊙]				4.2	303.8
" 2				4.6	303.4
431+00 [⊙]				4.3	303.7
" 2				4.7	303.3
431+20	Power Pole Left Rd				

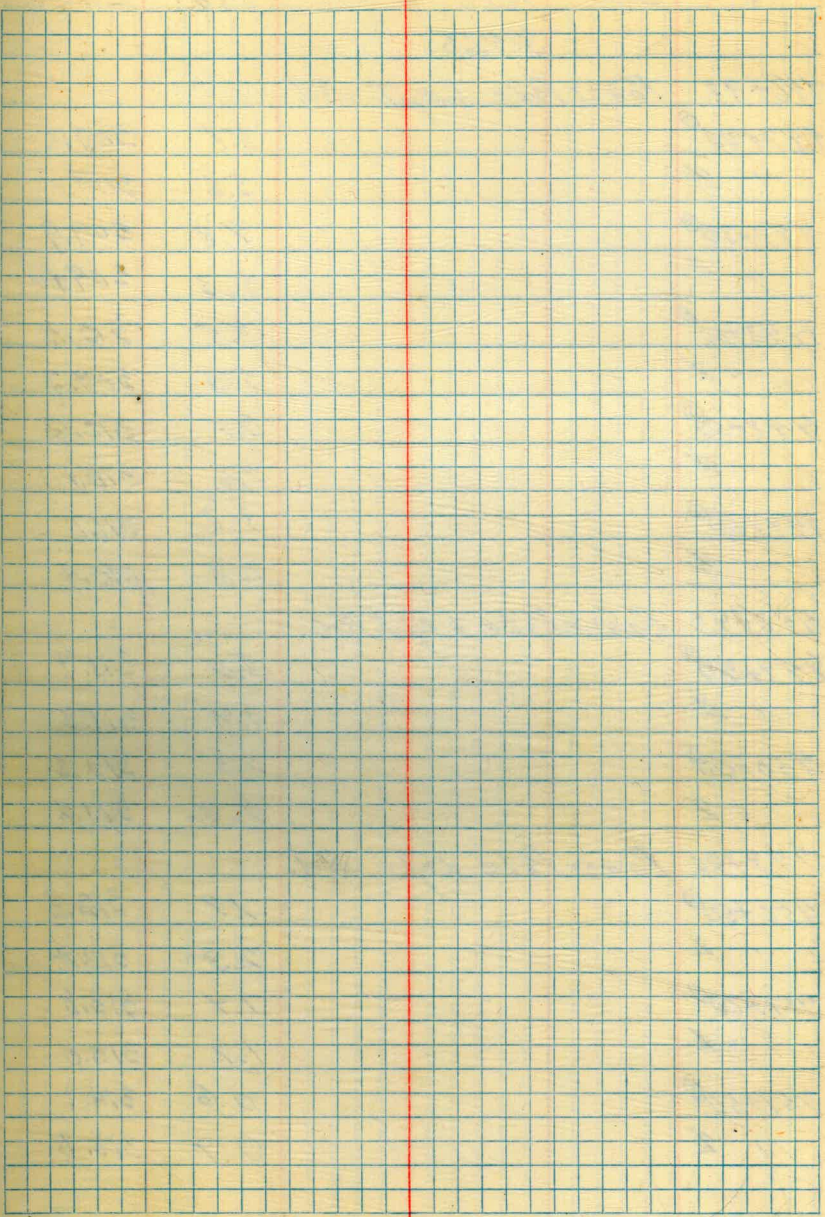
Sta	B.S.	Hi	F.S.	Rad	Elev
		307.95			
431+50 [⊙]			4.5		303.5
" \ominus			5.0		303.0
432+00 [⊙]			4.6		303.4
" \ominus			5.1		302.9
432+50 [⊙]			4.9		303.1
" \ominus			5.3		302.7
433+00 [⊙]			5.1		302.9
" \ominus			5.6		302.4
433+50 [⊙]			5.2		302.8
" \ominus			5.7		302.3
434+00 [⊙]			5.3		302.7
" \ominus			5.8		302.2
434+22	Power Pole Left Rd				
434+50 [⊙]			5.2		302.8
" \ominus			5.8		302.2
435+00 [⊙]			5.2		302.8
" \ominus			5.4		302.6
2 I.S.B.M.					310.60
We Deff.		3.70			304.25
435+50 [⊙]			5.0		303.0
" \ominus			5.3		302.7
436+00 [⊙]			4.8		303.2
" \ominus			5.2		302.8



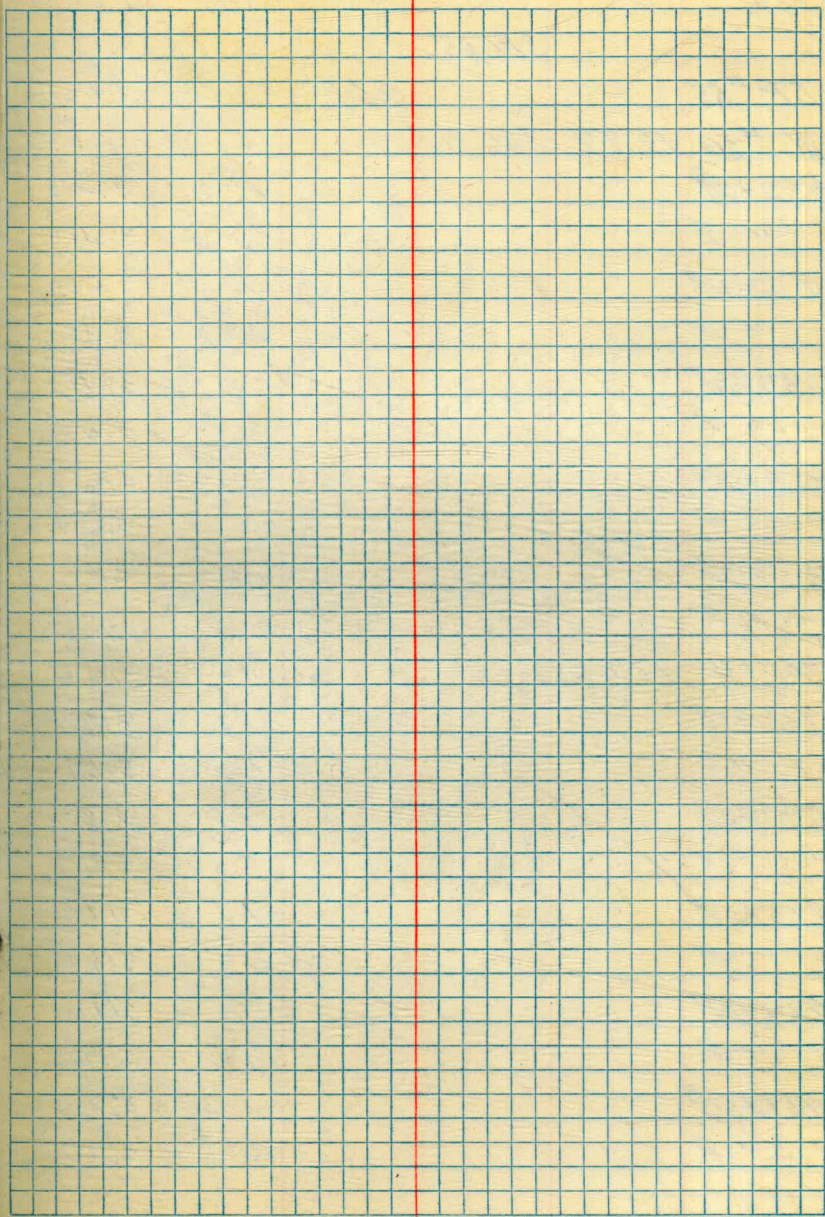
Sta	B.S.	Hi.	F.S.	Red	Elev.
		307.95			
436+50 [⊙]			4.5		303.5
" 2			4.9		303.1
437+00 [⊙]			4.2		303.8
" 2			4.6		303.4
439+50 [⊙]			4.0		304.0
" 2			4.4		303.6
437+62	Power Pole Left Rd.				
438+00 [⊙]			3.8		303.8
" 2			4.2		303.8
438+50 [⊙]			3.4		304.6
" 2			3.7		304.3
439+00 [⊙]			2.9		305.1
" 2			3.2		304.8
439+50 [⊙]			2.6		305.4
" 2			2.8		305.2
440+00 [⊙]			2.3		305.7
" 2			2.5		305.5
440+50 [⊙]			2.0		306.0
" 2			2.4		305.6
T.P. #34			1.98		305.97
" #55	8.68	314.65			
441+00 [⊙]			8.4		306.3
" 2			8.7		306.0
440+93	Power Pole Left Rd.				



Sta.	B.S.	Hi.	F.S.	Rod	Elev.
		314.65			
441+50 ⁰				8.3	306.4
" 2				8.6	306.1
442+00 ⁰				8.0	306.7
" 2				8.1	306.6
442+50 ⁰				7.6	307.1
" 2				7.9	306.8
443+00 ⁰				7.1	307.6
" 2				7.4	307.3
443+50 ⁰				6.7	308.0
" 2				6.9	307.8
443+93	Power Pole Left Rd.				
444+00 ⁰				6.3	308.4
" 2				6.6	308.1
444+50 ⁰				6.0	308.7
" 2				6.2	308.5
445+00 ⁰				5.7	309.0
" 2				6.0	308.7
445+50 ⁰				5.6	309.1
" 2				6.0	308.7
446+00 ⁰				5.5	309.2
" 2				6.0	308.7
446+50 ⁰				5.3	309.4
" 2				5.9	308.8
446+62	3' Culvert Flowline		10.4		304.3



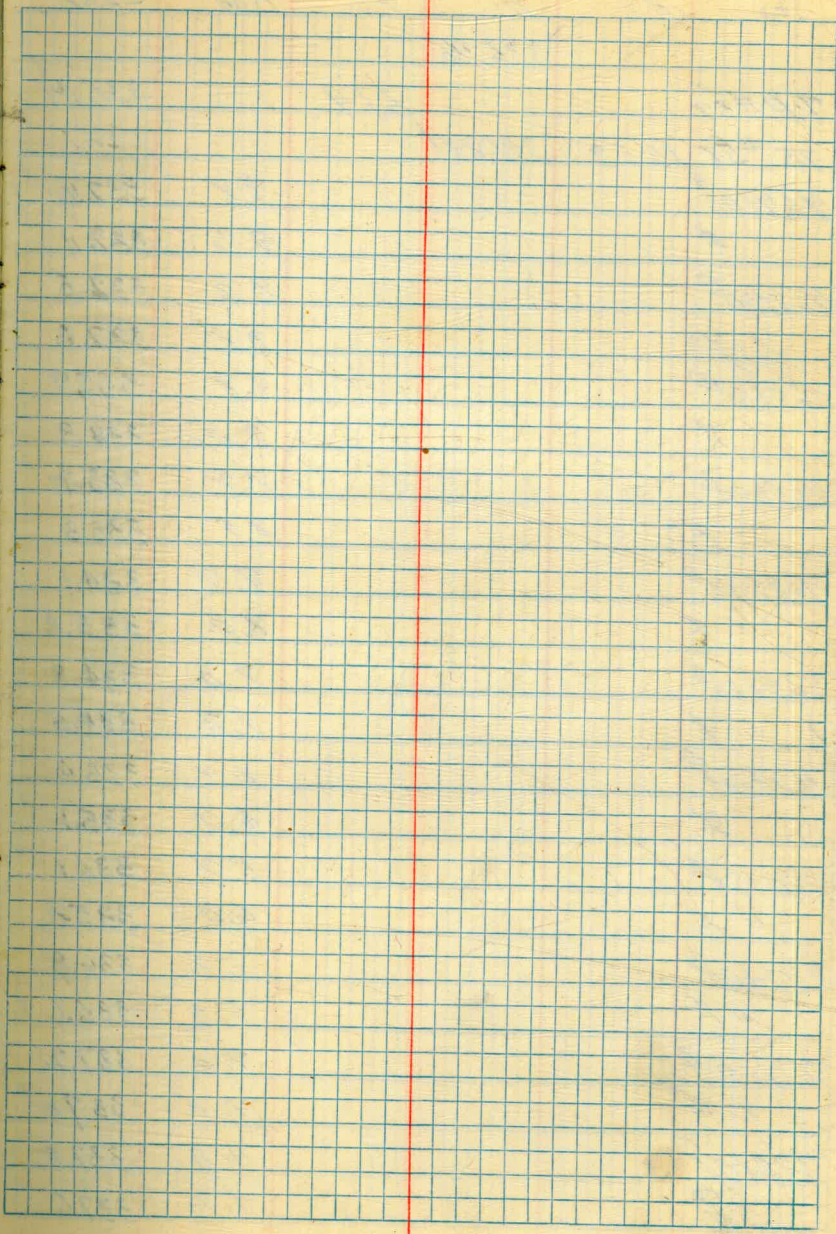
Sta	B.S.	Hi.	F.S.	Red	Elev.
		314.65			
446+93	Power Pole Left Rd.				
447+00 [Ⓢ]				5.1	309.6
" 2				5.6	309.1
447+50 [Ⓢ]				4.8	309.9
" 2				5.3	309.4
448+00 [Ⓢ]				4.5	310.3
" 2				5.0	309.7
448+50 [Ⓢ]				4.1	310.6
" 2				4.6	310.1
449+00 [Ⓢ]				3.6	311.1
" 2				3.8	310.9
448+93	Power Pole Left Rd.				
449+50 [Ⓢ]				3.0	311.7
" 2				3.4	311.3
450+08 [Ⓢ]				2.5	312.2
" 2				2.9	311.8
449+90	Power Pole Left Rd.				
450+50 [Ⓢ]				1.9	312.8
" 2				2.3	312.4
451+00 [Ⓢ]				1.4	313.3
" 2				1.7	313.0
451+50 [Ⓢ]				0.6	314.1
" 2				0.9	313.8



Sta.	B.S.	Hi.	F.S.	Rod	Elev.
		314.65			
T.P. #55			0.63		314.02
#56	12.88	326.90			
452+00 ^o				12.1	314.8
" 2				12.4	314.5
452+50 ^o				11.5	315.4
" 2				12.0	314.9
453+00 ^o				11.1	315.8
" 2				11.4	315.5
453+50 ^o				10.7	316.2
" 2				11.1	315.8
454+00 ^o				10.2	316.7
" 2				10.7	316.2
453+75	18" Culvert	Flowline		14.5	312.4
454+50 ^o				9.5	317.4
" 2				10.0	316.9
455+00 ^o				8.7	318.2
" 2				9.1	317.8
455+50 ^o				7.9	319.0
" 2				8.2	318.7
456+00 ^o				7.1	319.8
" 2				7.3	319.6
456+50 ^o				6.2	320.7
" 2				6.5	320.4

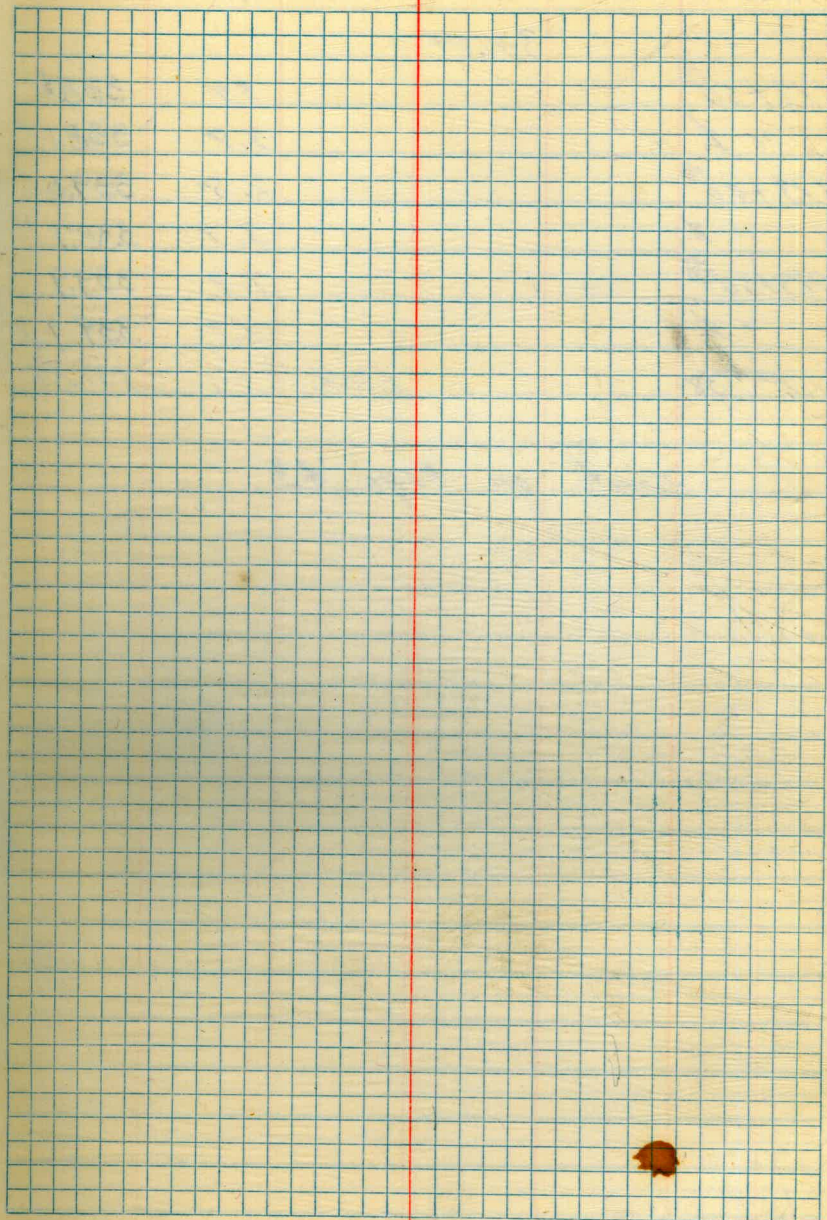
S72	B.S.	Hi.	F.S.	Red	Elev.
		326.90			
457+00 [Ⓢ]				5.4	321.5
" 2				5.5	321.4
457+50 [Ⓢ]				4.5	322.4
" 2				4.4	322.5
BC. 457+58.32 [Ⓢ]				4.3	322.6
" 2				4.2	322.7
458+00 [Ⓢ]				3.5	323.4
" 2				3.5	323.4
458+50 [Ⓢ]				2.9	324.0
" 2				2.9	324.0
EC. 458+65.25 [Ⓢ]				2.8	324.1
" 2				2.7	324.2
459+00 [Ⓢ]				2.3	324.6
" 2				2.3	324.6
459+50 [Ⓢ]				1.6	325.3
" 2				1.7	325.2
460+00 [Ⓢ]				1.1	325.8
" 2				1.1	325.8
460+50 [Ⓢ]				0.6	326.3
" 2				0.7	326.2
T.P. #56			0.66		326.24
* #57	10.21	336.45			
461+00 [Ⓢ]				9.9	326.6
" 2				10.0	326.5

Sta.	B.S.	Hi.	F.S.	Rad	Elev.
		336.45			
461+50 [Ⓢ]				9.5	327.0
" 2				9.8	326.7
462+00 [Ⓢ]				9.4	327.1
" 2				9.5	327.0
461+90	18" culvert	Flow Line	12.2		327.3
462+50 [Ⓢ]				8.9	327.6
" 2				9.0	327.7
463+00 [Ⓢ]				8.6	327.9
" 2				8.8	327.7
463+50 [Ⓢ]				8.3	328.2
" 2				8.6	327.9
464+00 [Ⓢ]				7.8	328.7
" 2				8.1	328.4
464+50 [Ⓢ]				7.3	329.2
" 2				7.5	329.0
465+00 [Ⓢ]				6.7	329.8
" 2				6.9	329.6
465+50 [Ⓢ]				6.3	330.2
" 2				6.3	330.2
466+00 [Ⓢ]				5.7	330.8
" 2				5.6	330.9
466+50 [Ⓢ]				5.1	331.4
" 2				4.8	331.7



Sta.	B.S.	Hi.	F.S.	Rod	Elev.
		336.45			
T.P. #57			5.14		331.31
TA #58	10.53	341.84			
467+00				9.8	332.0
" 2				9.7	332.1
467+50				9.3	332.5
" 2				9.5	332.3
468+00				8.9	332.9
" 2				9.0	332.8
468+50				8.5	333.4
" 2				8.5	333.3
469+00				7.7	334.1
" 2				8.0	333.8
469+50				7.0	334.8
" 2				7.3	334.5
470+00				6.7	335.4
" 2				6.7	335.1
470+50				5.7	336.1
" 2				6.0	335.8
471+00				5.0	336.8
" 2				5.2	336.6
471+50				4.6	337.2
" 2				4.8	337.0
472+00				4.0	337.8
" 2				4.2	337.6

Plotted 2-16-42
Rothman
Ex. O.K.



Sta.	B.S.	Hi	F.S.	Red	Elev.
		341.84			
492+50 [Ⓢ]				3.4	338.4
" 4				3.7	338.1 ⁴
493+00 [Ⓢ]				2.8	339.0
" 4				3.1	338.7 ^{4.1}
493+50 [Ⓢ]				1.9	339.9
" 4				1.9	339.9 ^{0.1}
T.P. #38			1.94		339.90

Cont. on Page 43

Plotted 2-16-42
Rothman

Ex. OK

Cross Sections on So. Side County

Road Stas 275+63 to 366+33.52

To determine excavation necessary
to install another pipe line
parallel to existing line.

Road Elevation taken as zero datum
at each station.

Stationing + ϕ on Tangents (not curves)

279+00

278+00

277+00

276+50

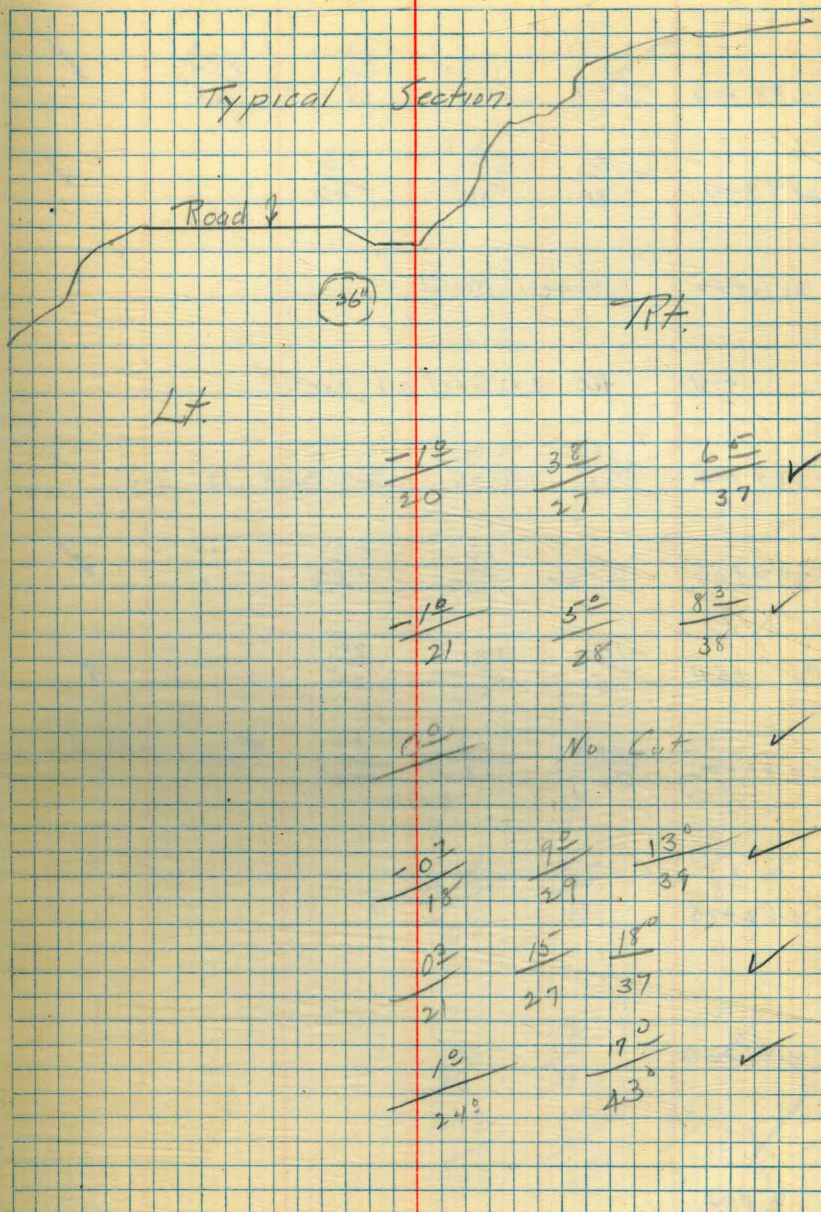
276+00

275+63

Dec. 11th 41.

Barker - Melhorn - Messersmith.

37



Stas.

Right

288+00	$\frac{-10}{8^e}$	$\frac{12^e}{19^e}$	$\frac{18^e}{25}$	$\frac{22^e}{35}$	✓
--------	-------------------	---------------------	-------------------	-------------------	---

287+00	$\frac{-14}{30}$	$\frac{6^e}{36^e}$	$\frac{8^e}{46^e}$		✓
--------	------------------	--------------------	--------------------	--	---

286+00 None Req'd

+50 No excavation Req'd.

285+00	$\frac{-10}{21}$	$\frac{2^e}{35}$	Vert Bank 13 high.		✓
--------	------------------	------------------	--------------------	--	---

284+00	$\frac{0^e}{26}$	$\frac{4^e}{33}$	$\frac{8^e}{43}$		✓
--------	------------------	------------------	------------------	--	---

PI +50	$\frac{-12}{15}$	$\frac{4^e}{25}$	$\frac{8^e}{35}$		✓
--------	------------------	------------------	------------------	--	---

283+00	$\frac{-10}{9^e}$	$\frac{6^e}{13}$	$\frac{8^e}{23}$	←	
--------	-------------------	------------------	------------------	---	--

282+00

281+00

280+00

38

Right.

C.P.	$\frac{-12}{09}$	$\frac{6^e}{13}$	$\frac{8^e}{23}$		
------	------------------	------------------	------------------	--	--

?	$\frac{-10}{0^e}$	$\frac{5^e}{11}$	$\frac{10^e}{23^e}$	✓	
---	-------------------	------------------	---------------------	---	--

	$\frac{5^e}{9}$	$\frac{7^e}{19}$		✓	
--	-----------------	------------------	--	---	--

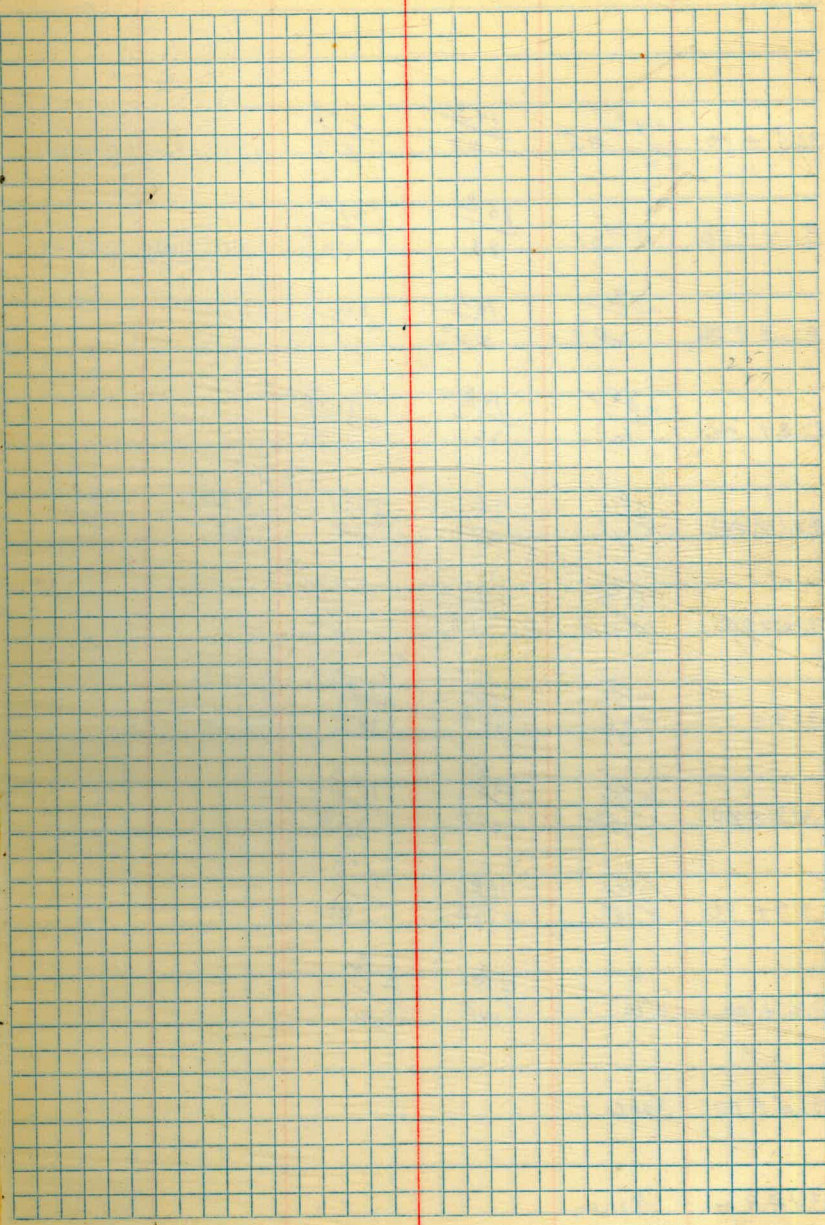
	$\frac{-13}{8^e}$	$\frac{6^e}{21}$	$\frac{8^e}{31}$	✓	
--	-------------------	------------------	------------------	---	--

Right

301+00	$\frac{-24}{70}$	$\frac{8^{\circ}}{16^{\circ}}$	$\frac{12^{\circ}}{26^{\circ}}$	
	Left			
300+00	$\frac{-22}{140}$	$\frac{10^{\circ}}{0^{\circ}}$	$\frac{15^{\circ}}{10^{\circ}}$	
	Left.			
299+00	$\frac{-12}{10^{\circ}}$	$\frac{5^{\circ}}{0^{\circ}}$	$\frac{10^{\circ}}{10^{\circ}}$	
298+00	$\frac{-0^{\circ}}{15}$	$\frac{8^{\circ}}{24}$	$\frac{12^{\circ}}{34}$	
297+00	None			
296+00	None			
295+00	None			
294+00	None			
293+00	None			
292+20°	No	Exc.		
292 ⁰⁰	$\frac{+1^{\circ}}{0^{\circ}}$	$\frac{9^{\circ}}{7^{\circ}}$	$\frac{13^{\circ}}{17^{\circ}}$	
291+00	$\frac{-1^{\circ}}{9^{\circ}}$	$\frac{18^{\circ}}{26^{\circ}}$	$\frac{21^{\circ}}{32}$	
290+00	$\frac{-1^{\circ}}{30}$			
PI 289+0178	$\frac{-22}{11}$	$\frac{10^{\circ}}{22}$	$\frac{16^{\circ}}{32}$	$\frac{26^{\circ}}{42^{\circ}}$

Right.

313+00	$\frac{0^0}{9^0}$	$\frac{55}{16^0}$		
312+00	$\frac{-0^3}{15^0}$	$\frac{55}{25}$	$\frac{18}{38}$	
311+00	$\frac{0^0}{20^0}$	$\frac{55}{28}$	$\frac{17^0}{38^0}$	
310+00	$\frac{-0^7}{15^0}$	$\frac{55}{25}$		
309+00	$\frac{0^3}{16^0}$	$\frac{55}{24}$		
308+00	$\frac{0^0}{16}$	$\frac{55}{23}$	$\frac{15^3}{31}$	
307+00	$\frac{-1^3}{18^0}$	$\frac{3^0}{25^0}$	$\frac{18^0}{28}$	$\frac{2^2}{38}$
306+00	$\frac{0^0}{18^0}$	$\frac{18^0}{24^0}$	$\frac{22^0}{34^0}$	
305+00	$\frac{-1^0}{8^0}$	$\frac{14^0}{15^0}$	$\frac{17^0}{25^0}$	
304+00	$\frac{-0^3}{13}$	$\frac{12^3}{18}$	$\frac{16^3}{28}$	
303+00	$\frac{-1^0}{22}$	$\frac{14^0}{32}$	$\frac{17^0}{42}$	
302+00	$\frac{1^2}{26^0}$	$\frac{16^0}{36^0}$	$\frac{21^0}{46^0}$	



325 + 00 $\frac{1^3}{45}$ $\frac{14^0}{48}$ $\frac{24^0}{57}$ on Long Chard.

324 + 00 $\frac{0^0}{31}$ $\frac{15^0}{33}$ $\frac{21^0}{43^0}$ on Long Chard

323 + 00 $\frac{-0^2}{20^0}$ $\frac{10^0}{22^0}$ $\frac{20^0}{34^0}$

322 + 00 $\frac{-0^5}{16}$ $\frac{14^0}{25}$ $\frac{16^5}{35}$

321 + 00 $\frac{0^0}{11^0}$ $\frac{7^0}{23}$ $\frac{20^0}{28}$ $\frac{24^0}{38}$

320 + 00 $\frac{13^0}{18^0}$ $\frac{26^0}{21^0}$ $\frac{29^0}{30^0}$

319 + 00 $\frac{0^0}{6^0}$ $\frac{7^0}{12^0}$ $\frac{13^0}{18^0}$

318 + 00 $\frac{-0^2}{17^0}$ $\frac{10^2}{26^0}$ $\frac{19^0}{36^0}$

317 + 00 $\frac{0^0}{18^0}$ $\frac{10^0}{19^0}$ $\frac{15^0}{28^0}$

316 + 00 $\frac{-1^5}{13}$ $\frac{4^0}{14^0}$ $\frac{10^3}{22^0}$

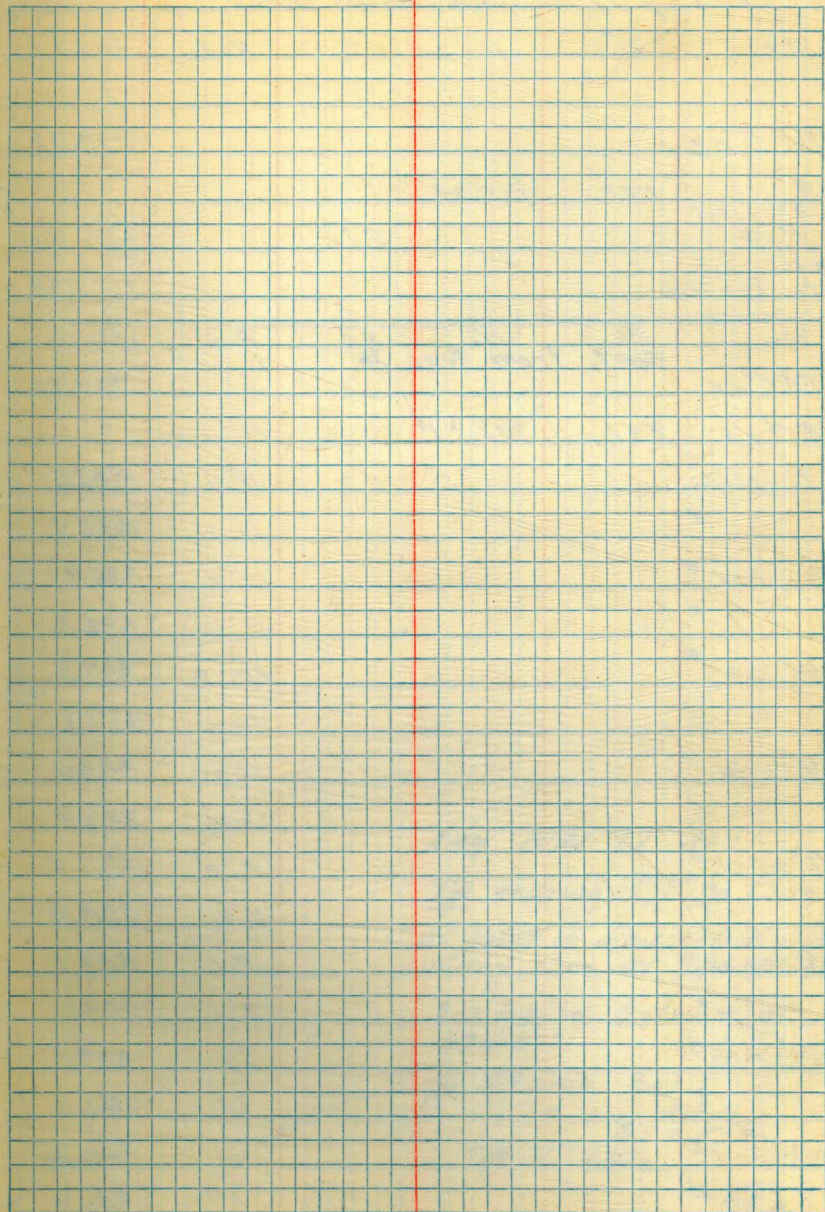
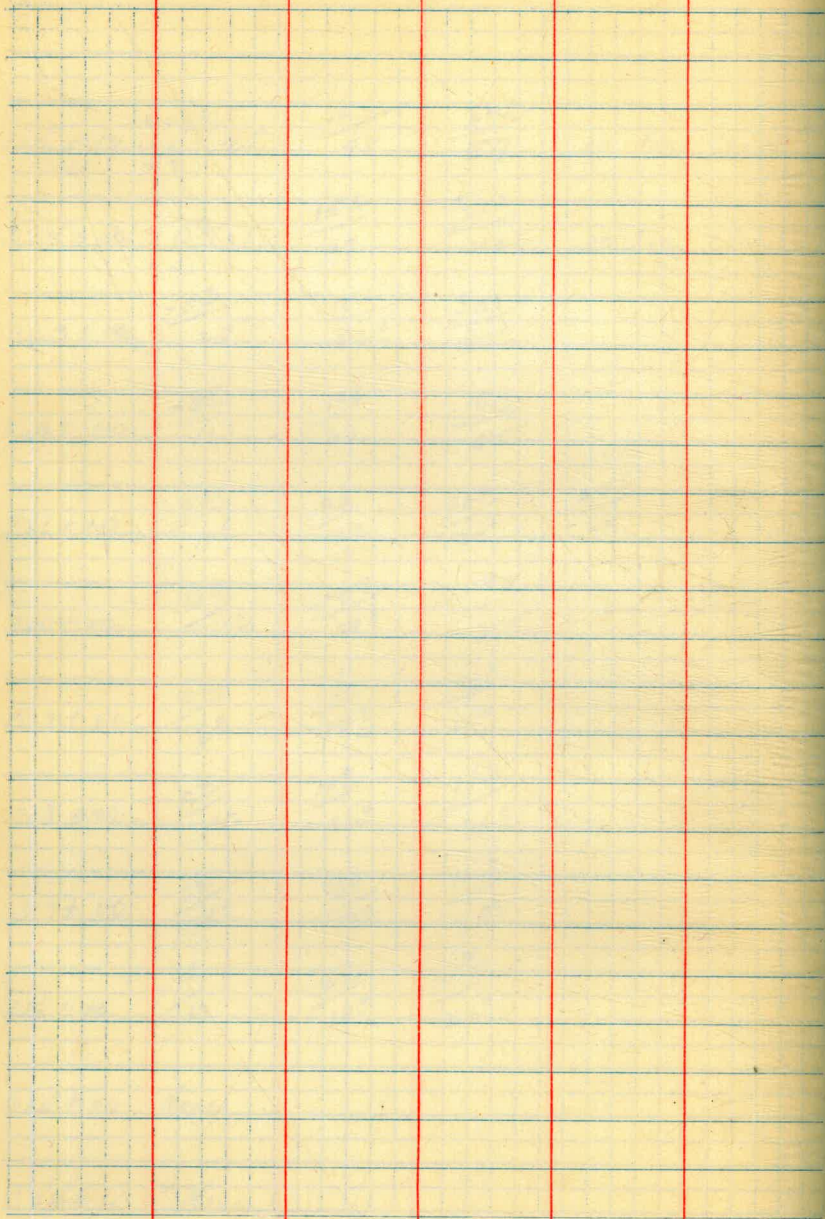
315 + 00 None

314 + 00 None

123

212

912



Checking in to U.S. Road Marks

Sta	B.S.	Hi.	I.S.	Red	Elev.
T.P. # 49					319.77
W 321-1935	5.57	325.24			
B.M.			5.10		320.24
W 321-1935					326.599
265-326.599 P.M.					
Sta.	B.S.	Hi.	I.S.	Red	Elev.
T.P. # 58					339.90
T. # 59	8.31	348.21			
B.C. 470+50.2				11.6	336.6
" " 2				11.3	336.9
471+00				11.3	336.9
" " 2				11.4	336.8
471+50				10.9	337.3
" " 2				11.1	337.1
472+00				10.2	338.0
" " 2				10.4	337.8
472+50				9.7	338.5
" " 2				9.8	338.4
473+00				9.1	339.1
" " 2				9.1	339.1
473+50				8.6	339.6
" " 2				8.2	340.0
474+00				8.0	340.2
" " 2				7.4	340.8

Plotted 2-16-42
Rothman

Ext. OK

Messersmith
& Melhorn
Mar. Dec 22, 1941

43

Note Mar. 17 '42

Top existing 36" Pipe Line
at point of intersection with
survey line at 744+10 is
3.3' below station at
474+00

$$\begin{array}{r} \rightarrow 474+00 \quad 340.8 \\ \quad \quad \quad \quad \quad 3.3 \\ \hline \text{Top 36" Line} \quad 337.5 = \end{array}$$

(A)

S72	B.S.	I.I.	F.S.	Rod	Elev.
		348.21			
474+50 [Ⓢ]				6.5	341.7
" ♀				7.0	341.2
475+00 [Ⓢ]				6.9	341.3
" ♀				6.0	342.2
475+50 [Ⓢ]				7.1	341.1
" ♀				6.0	342.2
476+00 [Ⓢ]				6.6	341.6
" ♀				6.3	341.9
EC 476+27 [Ⓢ]				5.9	342.3
" ♀				5.4	342.8
476+50 [Ⓢ]				6.0	342.2
" ♀				5.6	342.6
477+00 [Ⓢ]				6.8	341.4
" ♀				6.3	341.9
477+50 [Ⓢ]				7.4	340.8
" ♀				6.8	341.4
478+00 [Ⓢ]				9.5	338.7
" ♀				9.1	339.1
478+50 [Ⓢ]				12.4	335.8
" ♀				12.2	336.0
T.P. # 59			12.43		335.781
# 60	0.79	336.57			
479+00 [Ⓢ]				2.0	334.2
" ♀				1.6	335.0

Plotted 2-16-42
Rothman

Ext. OK

	348.21
	12.43
	335.78
	0.79
	336.57

Sta.	B.S.	Hi.	F.S.	Rad	Elev.
		311.67			
489+50 [Ⓢ]				11.1	300.5
" 2				10.9	300.7
490+00 [Ⓢ]				11.8	299.8
" 2				11.0	300.6
490+50 [Ⓢ]				9.8	301.8
" 2				8.6	303.0
491+00 [Ⓢ]				6.3	305.3
" 2				5.7	305.9
491+50 [Ⓢ]				3.3	308.3
" 2				2.7	308.9
492+00 [Ⓢ]				2.5	309.1
" 2				1.9	309.7
492+50 [Ⓢ]				3.5	308.1
" 2				2.6	308.0
493+00 [Ⓢ]				5.6	306.0
" 2				5.1	306.5
493+50 [Ⓢ]				6.2	305.4
" 2				6.1	305.5
494+00 [Ⓢ]				7.6	304.0
" 2				7.7	303.9
494+50 [Ⓢ]				10.8	300.8
" 2				10.6	301.0
T.P. #63			10.76		300.86 ✓
TP #64	1.60	302.46			

Plotted 2-16-42
Rothman

Ext. OK

511.62
10.76
300.86
1.60
302.46

Sta	B.S.	I.I.	F.S.	Red	Elev
		302.46			
495+00 [⊙]				3.9	298.6
" \ominus				3.7	298.8
495+50 [⊙]				6.5	296.0
" \ominus				6.2	296.3
496+00 [⊙]				8.2	294.3
" \ominus				9.2	293.3
496+50 [⊙]				12.9	289.6
" \ominus				10.9	291.6
497+00[⊙]	Cont on Page 50				
" \ominus					
497+50[⊙]				8.6	
" \ominus				7.4	
B.C. 497+31.22[⊙]				9.9	
" \ominus				7.5	
498+00[⊙]				8.6	
" \ominus				9.2	
E.C. 498+51.14[⊙]				10.7	
" \ominus				11.4	
" \ominus				12.5	
T.P.#64			10.68		291.78
π #65	1.61	293.39			
499+00 [⊙]				4.9	
" \ominus				4.0	

Plotted 2-16-42
Rothman

Ext. OK

302.46
10.68
291.78
1.61
293.39

The Pipe has been moved after we ran these levels from Sta. 496+50 to 503+00. New notes started on Page #50

Sta	B.S.	H.I.	F.S.	Red	Elev.
		293.39			
499+50 [Ⓢ]				6.1	
" 2				5.6	
500+00 [Ⓢ]				7.4	
" 2				6.8	
500+50 [Ⓢ]				8.5	
" 2				7.9	
501+00 [Ⓢ]				9.1	
" 2				8.5	
501+50 [Ⓢ]				9.7	
" 2				9.0	
P.C. 501+89.30				10.1	
" 2				9.3	
502+00 [Ⓢ]				10.1	
" 2				9.4	
502+50 [Ⓢ]				10.6	
" 2				9.7	
503+00 [Ⓢ]				10.8	
" 2				9.9	
T.P. #65			10.77		282.62
" #66					

293.39
10.27
282.62

Sta.	B.S.	H.I.	F.S.	Rdd	Elev.
Cont. from Page 48					
TP#64					291.98
TP#65	7.20				298.98 ✓
A. Flow Line #1				7.3	291.7
B. Flow Line				8.5	290.5
B.C. 497+08				5.8	293.2
" 4				3.5	295.5
497+50				4.9	294.1
" 4				4.1	294.9
E.C. 497+83		45°		4.5	294.5
" 4				5.0	294.0
497+99		45°		5.2	293.8
" 4				5.6	293.4
498+150		45°		5.8	293.2
" 4				6.3	292.7
B.C. 498+31		45°	Rt.	6.2	292.8
" 4				7.1	291.9
" 4			Lt.	8.1	290.9
498+50				9.0	290.0
" 4				7.9	291.1
499+00				10.3	288.7
" 4				9.5	289.5
499+50				11.6	287.4
" 4				11.0	288.0

Plotted 2-16-42
Rothman

Ext. OK

π Messersmith

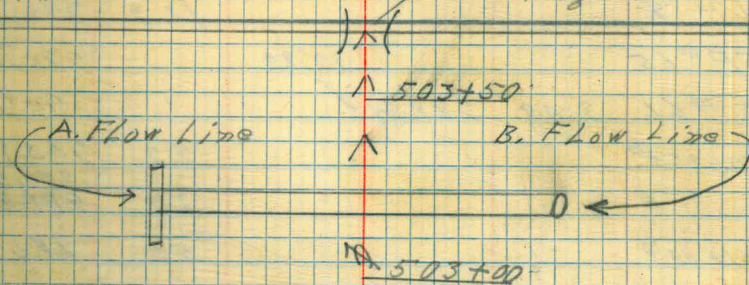
50

φ Melhorn

4/7/42

10:30 A.M.

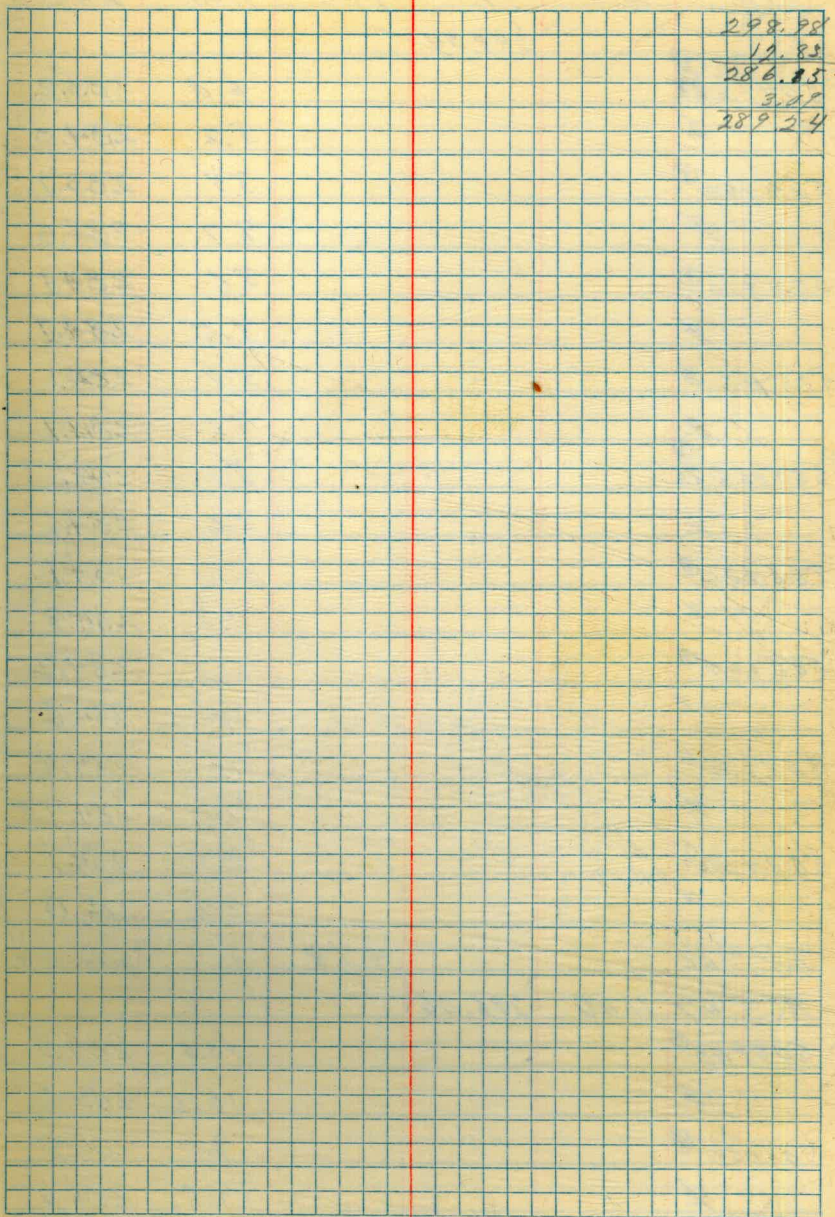
Notes continued from Page 48



ALL Flow Lines
on Culverts will
Be Noted this way.

At Sta. 498+31.2 8' offset charge from Right
to Left side of Pipe Line.

Sta.	B.S.	H.I.	F.S.	Rdd	Elev.
		298.98			
500+00 [⊙]				12.8	286.2
" ⊘				12.3	286.7
T.P. #65			12.83		286.15
⊕ #66	3.09	289.24			
500+50 [⊙]				4.3	284.9
" ⊘				3.7	288.5
501+00 [⊙]				5.0	284.2
" ⊘				4.4	284.8
EC 501+44 [⊙]				5.7	283.5
" ⊘				5.0	284.2
502+46 [⊙]	⊕ 50			6.6	282.6
" ⊘				5.7	283.5
502+62 [⊙]	⊕ 50			6.5	282.7
" ⊘				5.6	283.5
502+78 [⊙]	⊕ 50			6.5	282.7
" ⊘				5.5	283.7
502+94 [⊙]	⊕ 50			6.4	282.8
" ⊘				5.5	283.7
503+10 [⊙]	⊕ 50			6.4	282.8
" ⊘				5.5	283.7
A. Flow Line	#2	Culvert		9.6	279.6
B. Flow Line	"	"		12.1	277.1
503+50 [⊙]				6.6	282.6
" ⊘				5.7	283.5



298.98
 12.83
 286.15
 3.09
 289.24

Su 629-50

Plotted 2-16-42
Rothman

Ext. OK

Sta.	B.S.	H.I.	F.S.	Red	Elev.
		289.24			
B.C. 504+00 [Ⓢ]				6.0	283.2
" 2				5.2	284.0
504+50 [Ⓢ]				5.5	283.7
" 2				4.7	284.5
505+00 [Ⓢ]				5.1	284.1
" 2				4.5	284.7
505+50 [Ⓢ]				5.1	284.1
" 2				4.5	284.7
E.G. 505+66.28 [Ⓢ]				5.1	284.1
" 2				4.6	284.6
506+00 [Ⓢ]				5.1	284.1
" 2				4.7	284.5
506+50 [Ⓢ]				5.0	284.2
" 2				4.6	284.6
507+00 [Ⓢ]				4.8	284.4
" 2				4.5	284.7
507+50 [Ⓢ]				4.5	284.7
" 2				4.2	285.0
T.P. #66			4.18		285.06
A #67	11.00	296.06			
508+00 [Ⓢ]				10.6	285.5
" 2				10.3	285.8
508+50 [Ⓢ]				9.5	286.6
" 2				9.5	286.6

Plotted 2-16-42

Rothman

Ext. OK

289.24
4.18
285.06

Sta.	B.S.	Hi.	F.S.	Rod	Elev.
		296.06			
509+00 [⊙]			7.9	288.2	
" 2			8.2	287.9	
B.C. 509+11 [⊙]			7.5	288.6	
" 2			7.9	288.2	
509+50 [⊙]			6.2	289.9	
" 2			6.7	289.4	
510+00 [⊙]			4.6	291.5	
" 2			5.1	291.0	
510+50 [⊙]			3.6	292.5	
" 2			3.8	292.3	
E.C. 510+74 [⊙]			3.2	292.9	
" 2			3.4	292.7	
511+00 [⊙]			3.3	292.8	
" 2			2.9	293.2	
T.P. #67		1.05		295.01	
A #68	6.44	301.451			
A Flow Line #3 Culvert			14.2	287.3	
B Flow Line " "			18.9	282.6	
511+30 [⊙]			4.2	297.3	
" 2			7.2	294.3	
512+00 [⊙]			0.1	301.4	
" 2			1.0	300.5	
512+50 [⊙]			3.6	297.9	
" 2			5.5	296.0	

296.06
1.05
295.01
6.44
301.45

Sta.	B.S.	H.I.	F.S.	Rod	Elev.
		301.45			
513+00 [Ⓢ]				5.2	296.3
" ϕ				7.8	293.7
513+50 [Ⓢ]				8.2	293.3
" ϕ				9.0	292.5
514+00 [Ⓢ]				10.7	290.8
" ϕ				9.7	291.8
A. Flow Line #4 Culvert				12.7	288.8
B. Flow Line #4 "				14.4	287.1
514+50 [Ⓢ]				10.2	291.3
" ϕ				9.9	291.6
515+00 [Ⓢ]				9.9	291.6
" ϕ				9.9	291.6
¹³⁰ 515+47 ⁴²				9.4	292.1
" ϕ				9.6	291.9
515+50 [Ⓢ]				9.4	292.1
" ϕ				9.6	291.9
T.P. #68			9.60		291.85
A #69	9.86	301.71			
^{B.C.} 515+87 ²²				9.1	292.6
" ϕ				9.6	292.1
A. Flow Line #5 Culvert				10.5	291.2
B. Flow Line " "				12.7	289.0
516+00 [Ⓢ]				9.0	292.7
" ϕ				9.5	292.2

301.45
9.60
291.85
9.86
301.71

Sta.	B.S.	Hi.	F.S.	Red	Elev.
		306.71			
215 B.M.	We. Puff.		8.15		293.56
215 B.M.					299.60
516+50 [⊙]			7.9		293.8
" ♀			8.4		293.3
516+50[⊙]			7.6		
" ♀			8.1		
EC 516+77 [⊙]			6.6		295.1
" ♀			6.9		294.8
517+50 [⊙]			5.8		295.9
" ♀			5.5		296.2
518+00 [⊙]			5.8		295.9
" ♀			5.3		296.4
B.C. 518+37 [⊙]			5.8		295.9
" ♀			5.2		296.5
A. Flow Line	#6 Culvert		9.3		292.4
B. Flow Line	" "		12.8		288.9
518+50 [⊙]			5.7		296.0
" ♀			5.1		296.6
519+00 [⊙]			5.2		296.5
" ♀			4.4		297.3
519+50 [⊙]			4.0		297.7
" ♀			3.0		298.7
EC 519+79 [⊙]	450		2.7		299.0
" ♀			1.8		299.9

Sta.	B.S.	I.I.	F.S.	Rod	Elev.
		301.71			
519+95.58 [⊙]	X ⁵⁰			2.1	299.6
" 2				1.0	300.7
T.P.#69			1.04		300.67
π#70	12.49	313.16			
520+11.82 [⊙]	X ⁵⁰			12.9	300.3
" 2				11.8	301.4
520+27.2 [⊙]				12.2	301.0
" 2				11.1	302.1
B.C. 520+60 [⊙]				10.3	302.9
" 2				9.4	303.8
521+00 [⊙]				7.9	305.3
" 2				7.1	306.1
521+50 [⊙]				5.1	308.1
" 2				4.5	308.7
522+00 [⊙]				3.6	
" 2				3.3	309.9
E.C. 522+27.5 [⊙]				3.4	309.8
" 2				3.1	310.1
522+50 [⊙]				3.4	
" 2				3.1	310.1
T.P.#70			3.06		310.10
π#71	1.70	311.80			
523+00 [⊙]				2.5	
" 2				2.1	309.7

π Messersmith

β Melhorn

1/8/42

56

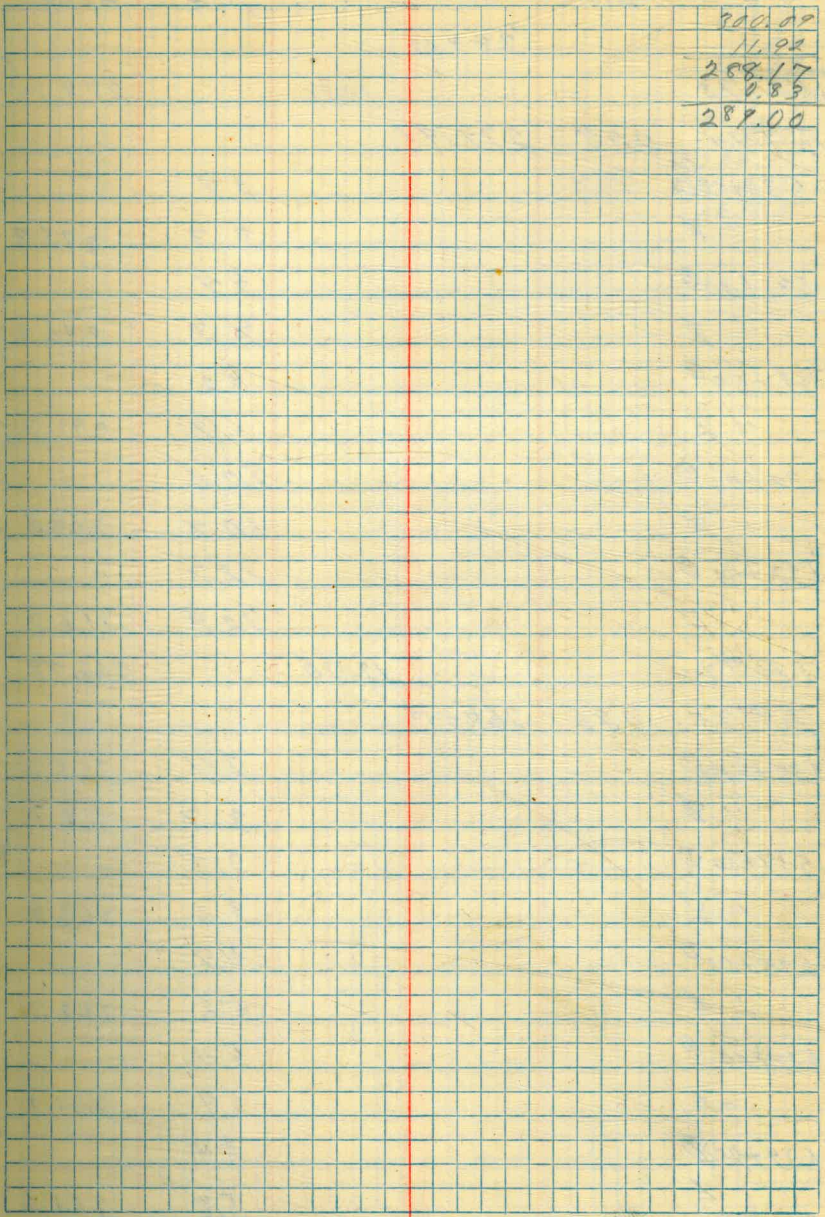
301.71
1.04
300.67
12.49
313.16
3.06
310.10
1.70
311.80

Sta.	B.S.	I.I.	F.S.	Rd.	Elev.
		311.80			
523+58 [⊙]				3.8	
" 2				3.1	308.7
524+00 [⊙]				4.4	
" 2				3.8	308.0
524+30 [⊙]				5.2	
" 2				4.5	307.3
524+48 [⊙]				5.7	
" 2				4.9	306.7
524+64 [⊙]				6.3	
" 2				5.4	306.4
524+81 [⊙]				6.9	
" 2				6.0	305.8
524+96 [⊙]				7.2	
" 2				6.7	305.1
525+12 [⊙]				7.7	
" 2				7.3	304.5
525+30 [⊙]				7.5	
" 2				8.9	302.9
B.C. 526+07 [⊙]				11.6	
" 2				11.3	300.5
526+50 [⊙]				13.0	
" 2				13.0	298.8
T.P.#71			13.00		298.80
A#72	1.29	300.09			

311.80
13.12
298.50
1.29
300.09

Sta	B.S.	Hi.	I.S.	Rod	Elev.
		300.09			
527+00 [Ⓢ]				3.4	
" ♀				3.3	296.8
EC 527+29 [Ⓢ]				4.5	
" ♀				4.4	295.6
527+50 [Ⓢ]				5.2	
" ♀				5.0	295.1
528+44 [Ⓢ]				8.8	
" ♀				8.7	291.4
528+60 [Ⓢ]				9.5	
" ♀				9.4	290.7
528+76 [Ⓢ]				10.2	
" ♀				10.0	290.1
528+92 [Ⓢ]				11.0	
" ♀				11.0	289.1
529+08 [Ⓢ]				12.0	
" ♀				11.7	288.2
T.P.#72			11.92		288.17
⌈ #73	0.83	289.00			
529+50 [Ⓢ]				3.3	7
" ♀				3.2	285.8
530+00 [Ⓢ]				6.4	
" ♀				6.2	282.8
530+50 [Ⓢ]				10.3	
" ♀				10.1	278.9

300.09
 16.92
 288.17
 0.85
 289.00



x	B.S.	Hi	F.S.	Red	Elev.
572		267.45			
534+50 [⊙]				5.4	
" \varnothing				5.8	261.6
535+00 [⊙]				5.5	
" \varnothing				5.9	261.5
A. Flow Line	#7 Culvert			8.0	
B. Flow Line	" "			11.1	
535+50 [⊙]				5.4	
" \varnothing				5.8	261.6
EC 535+99 [⊙]				5.3	
" \varnothing				5.9	261.5
536+16 [⊙]				5.3	
" \varnothing				6.0	261.4
536+32 [⊙]				5.3	
" \varnothing				6.0	
B.C. 536+41 [⊙]				5.3	
" \varnothing				6.0	261.4
536+50 [⊙]				5.3	
" \varnothing				6.0	261.4
537+00 [⊙]				5.0	
" \varnothing				5.7	261.7
537+50 [⊙]				4.6	
" \varnothing				5.3	262.1
P.C. 537+87 [⊙]				4.2	
" \varnothing				4.8	262.6

Sta.	B.S.	I.I.	F.S.	Red	Elev.
		267.45			
538+00 [⊙]				4.1	
" ♀				4.6	262.8
T.P. #75			4.12		263.33
TA #76	5.74	269.07			
538+43 [⊙]				5.4	
" ♀				6.0	
538+50 [⊙]				5.7	
" ♀				6.0	263.1
539+00 [⊙]				4.9	
" ♀				5.5	263.6
539+50 [⊙]				4.2	
" ♀				4.9	264.2
540+00 [⊙]				3.9	
" ♀				4.6	264.5
540+14 [⊙]				3.8	
" ♀				4.5	264.6
B.C. 540+19 [⊙]				3.8	
" ♀				4.5	264.6
540+50 [⊙]				3.8	
" ♀				4.4	264.7
541+00 [⊙]				3.8	
" ♀				4.3	264.8
541+50 [⊙]				4.3	
" ♀				4.7	264.4

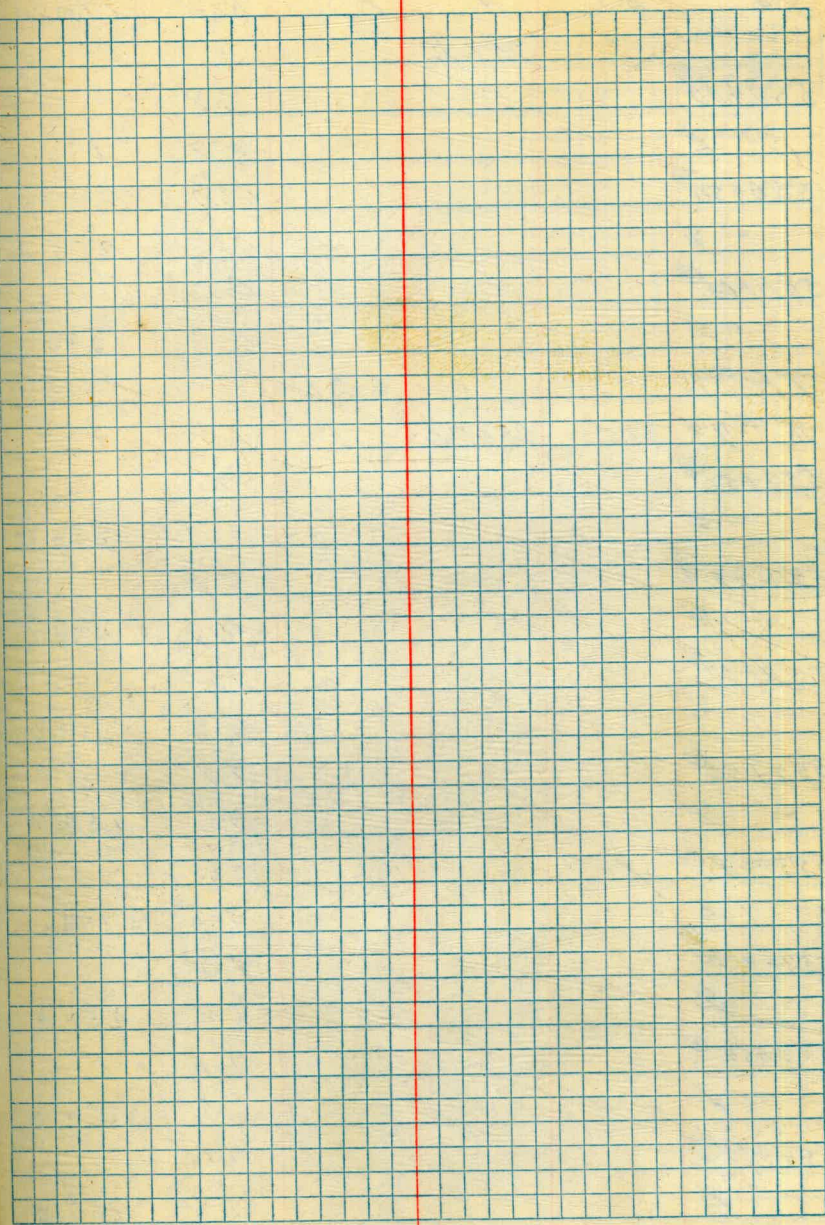
267.45
4.12
263.33
5.74
269.07

Sta.	B.S.	Ht.	F.S.	Red.	Elev.
		269.07			
A. Flon Line	#8	Culvert		7.7	
B. Flon Line	"	"		11.2	
E.C. 541+87				5.0	
" ♀				5.2	263.9
542+00				5.3	
" ♀				5.5	263.6
542+50				6.7	
" ♀				7.0	262.1
543+00				8.1	
" ♀				8.4	260.6
543+50				9.2	
" ♀				9.6	259.5
544+00				10.2	
" ♀				10.4	258.7
T.P. #76			10.17		258.90
A #77	0.12	259.02			
B.C. 544+49				0.8	
" ♀				1.0	258.0
544+50				0.8	
" ♀				1.0	
545+10				1.4	
" ♀				1.7	257.3
545+50				2.2	
" ♀				2.6	256.4

269.07
 10.17
 258.90
 0.12
 259.02

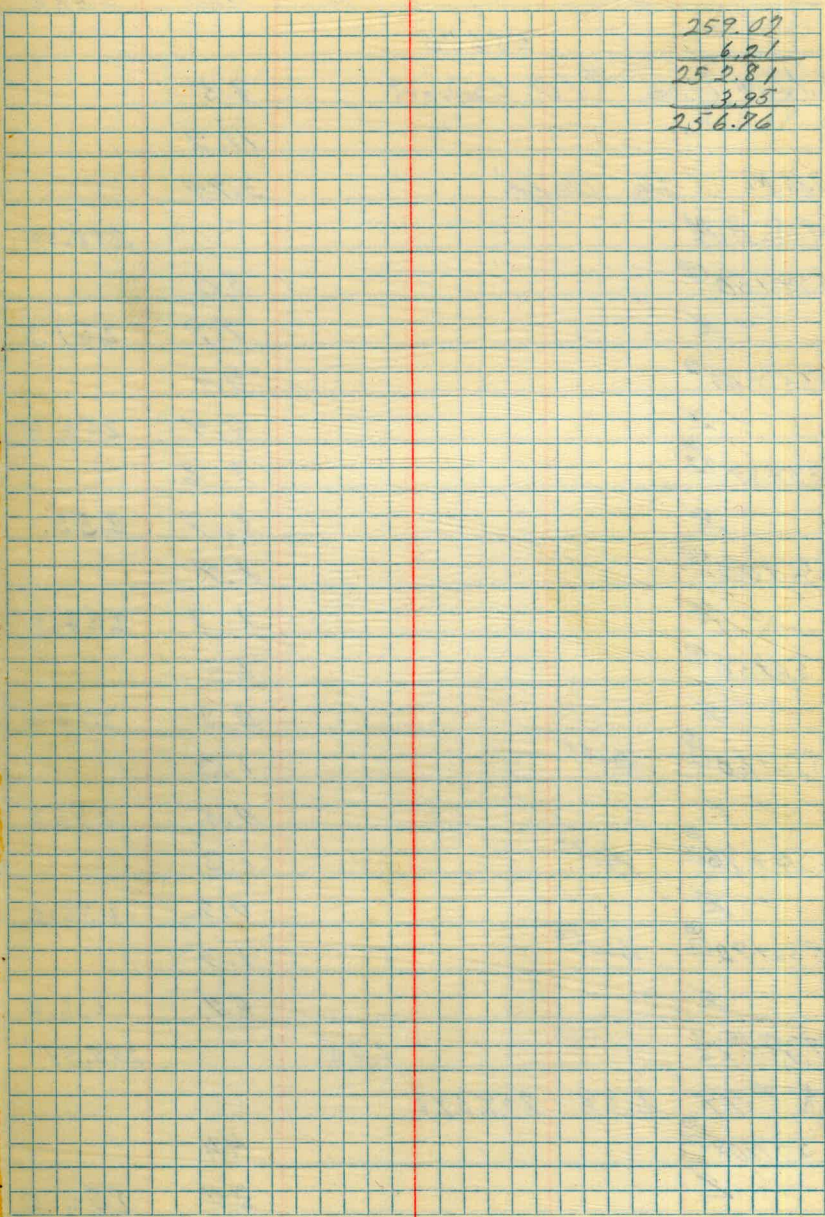
Sta.	B.S.	H.I.	F.S.	Rod	Elev.
		259.02			
546+00				3.2	
" 2				3.7	255.3
EC 546+30				3.6	
" 2				4.1	254.9
546+50				4.0	
" 2				4.4	254.8
547+00				4.6	
" 2				4.9	254.1
547+50				5.1	
" 2				5.3	253.7
548+00				5.4	
" 2				5.7	253.3
A. Flow Line	#9	Culvert		8.0	
B. " "	" "	" "		10.2	
548+50				5.5	
" 2				5.6	253.4
549+00				5.6	
" 2				5.8	253.2
549+50				5.8	
" 2				5.9	253.1
P.T. 549+49					
R-0+15					

4 4° 37' RT.



Sta	B.S.	Hi.	F.S.	Red	Elev.
		259.02			
550+00 [⊗]				5.8	
" ♀				5.9	253.1
550+50 [⊗]				6.0	
" ♀				6.2	253.8
551+00 [⊗]				6.2	
" ♀				6.3	252.7
T.P. #77			6.21		252.811
A #78	3.95	256.76			
551+50 [⊗]				4.1	
" ♀				4.2	252.6
B.S. 551+87 [⊗]				4.0	
" ♀				4.2	252.6
552+00 [⊗]				4.1	
" ♀				4.2	252.6
552+50 [⊗]				4.1	
" ♀				4.1	252.7
553+00 [⊗]				4.2	
" ♀				4.2	252.6
E.C. 553+45 [⊗]				4.6	
" ♀				4.4	252.4
553+30 [⊗]				4.6	
" ♀				4.5	252.3
554+00 [⊗]				4.9	
" ♀				4.8	252.0

259.02
 6.21
 252.81
 3.95
 256.76



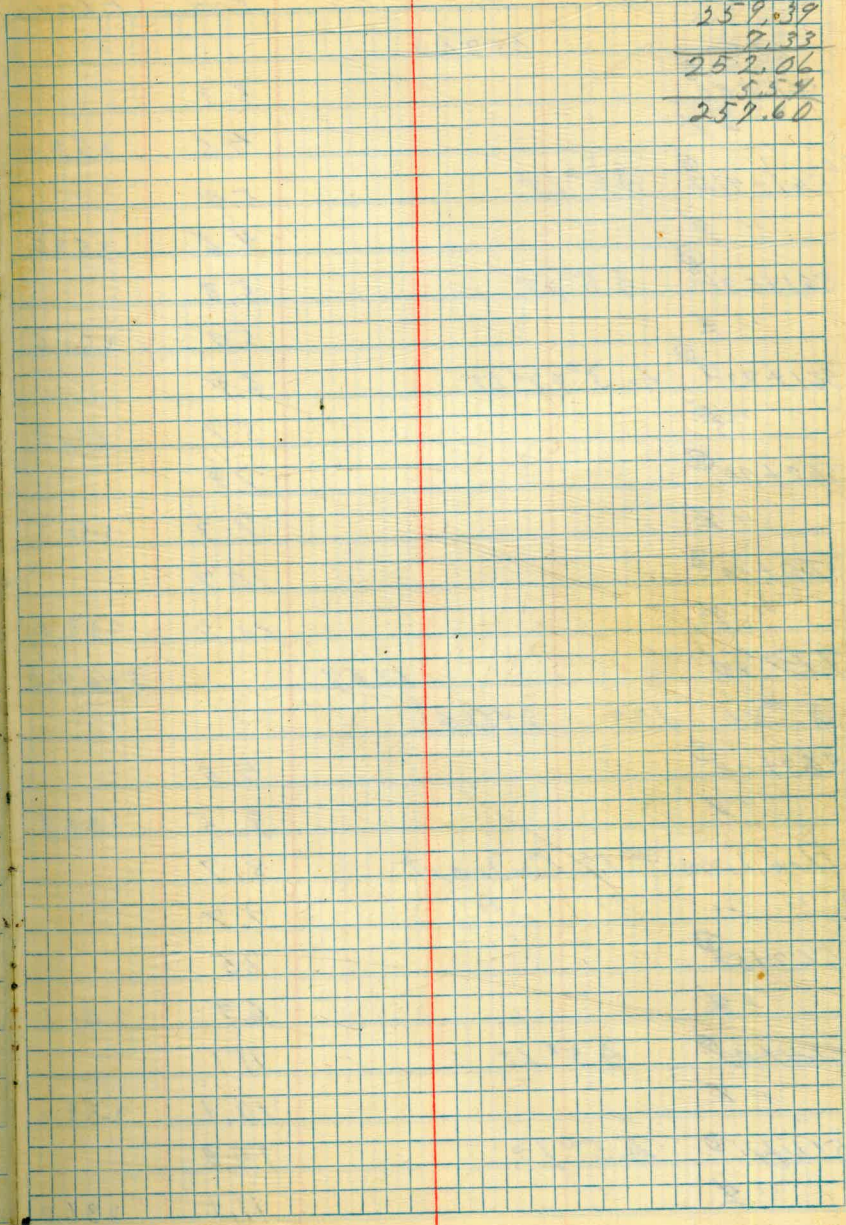
S7a.	B.S.	Hi.	F.S.	Red	Elev
		256.76			
A. Flow line	#10	Culvert		8.5	
B. " "	" "	" "		11.2	
U.S.B.M.	We	Deff.		3.94	
U.S.B.M.					258.89
554+50 [⊙]				5.0	
" \varnothing				4.9	251.9
555+00 [⊙]				4.4	
" \varnothing				4.4	252.4
B.C. 555+39 [⊙]				3.6	
" \varnothing				3.7	253.1
556+00 [⊙]				2.4	
" \varnothing				2.3	254.5
556+50 [⊙]				1.5	
" \varnothing				0.8	256.0
F.C. 556+61 [⊙]		Δ 50		1.3	
" \varnothing				0.5	256.3
556+76 [⊙]		Δ 50		1.3	
" \varnothing				0.7	256.6
556+92 [⊙]		Δ 50		1.5	
" \varnothing				0.4	256.4
T.P. #78			1.25		255.51
#79	3.88	259.39			
E.S. 557+08 [⊙]				4.4	
" \varnothing				3.4	256.0

256.76
1.25
255.51
3.88
259.39

1/9/42

Sta	B.S.	H.	F.S.	Red	Elev.
57a		259.39			
B.G. 557+44 ¹²				4.7	254.7
" 2				4.3	255.1
557+50 ¹⁰				4.9	
" 2				4.4	255.0
558+00 ¹⁰				6.2	
" 2				5.7	253.7
E.G. 558+19 ⁴²				7.2	
" 2				6.7	252.7
559+00 ¹⁰				7.8	
" 2				7.2	252.2
B.G. 559+14 ¹⁰				7.8	
" 2				7.3	252.1
A. Flow Line #11 Culvert				10.0	
B. " " #11 "				11.6	
T.P. #79			7.33		252.06
T.P. #80	5.54	257.60			
E.G. 559+32 ⁶²				6.0	
" 2				5.6	253.8
B.G. 559+66 ⁶⁶				6.0	
" 2				5.6	252.0
560+00 ¹⁰				5.8	
" 2				5.5	252.1
560+50 ¹⁰				5.5	
" 2				5.0	252.6

259.39
 7.33
 252.06
 5.54
 257.60



Sta.	B.S.	Hi.	F.S.	Rod	Elev.
		257.60			
561+00 [⊙]				5.3	
" \neq				4.6	253.0
E.C. 561+41.2 [⊙]		$\Delta 5^\circ$ LT.		5.4	
" \neq				4.6	253.0
561+57.2 [⊙]		$\Delta 5^\circ$ LT.		5.8	
" \neq				5.0	252.6
561+73.2 [⊙]		$\Delta 3^\circ 37'$ LT.		6.4	
" \neq				5.7	251.9
562+00 [⊙]				7.9	
" \neq				7.3	250.3
562+50 [⊙]				10.7	
" \neq				10.2	247.4
T.P. #80			1067		246.93
A #81	1.33	248.26			
563+00 [⊙]				4.0	
" \neq				3.5	244.8
A. Flow line #12 Culvert				8.7	
B. " " " "				9.7	
563+50 [⊙]				7.5	
" \neq				6.7	241.6
564+00 [⊙]		$\Delta 5^\circ$ LT.		11.1	
" \neq				10.1	238.2
564+16 [⊙]		$\Delta 5^\circ$ LT.		12.0	
" \neq				11.1	236.2

257.60
18.67
246.93
1.33
248.26

1/10/42

68

S7a	B.S.	H.I.	F.S.	Rod	Elev.
		248.26			
564732 [⊙]				13.0	
" ♀				12.0	
T.P. #81			12.95		235.31
A #82	3.54	238.85			
564750 [⊙]				4.3	
" ♀				3.4	235.4
564784 [⊙]		75° LT.		5.1	
" ♀				4.4	234.4
565400 [⊙]		75° LT.		5.5	233.3
" ♀				4.8	234.0
565416 [⊙]		75° LT.		5.9	
" ♀				5.2	233.6
565732 [⊙]		End Sp.		6.2	
" ♀				5.6	
565750 [⊙]				6.6	
" ♀				6.1	232.7
566400 [⊙]				7.0	
" ♀				7.3	231.5
A. Flow Line		#13 Culvert		8.7	
B. " "		" "		10.6	
566450 [⊙]				6.5	
" ♀				7.2	231.6
566492 [⊙]		75° RT.		5.7	
" ♀				6.3	232.5

248.26

12.95

235.31

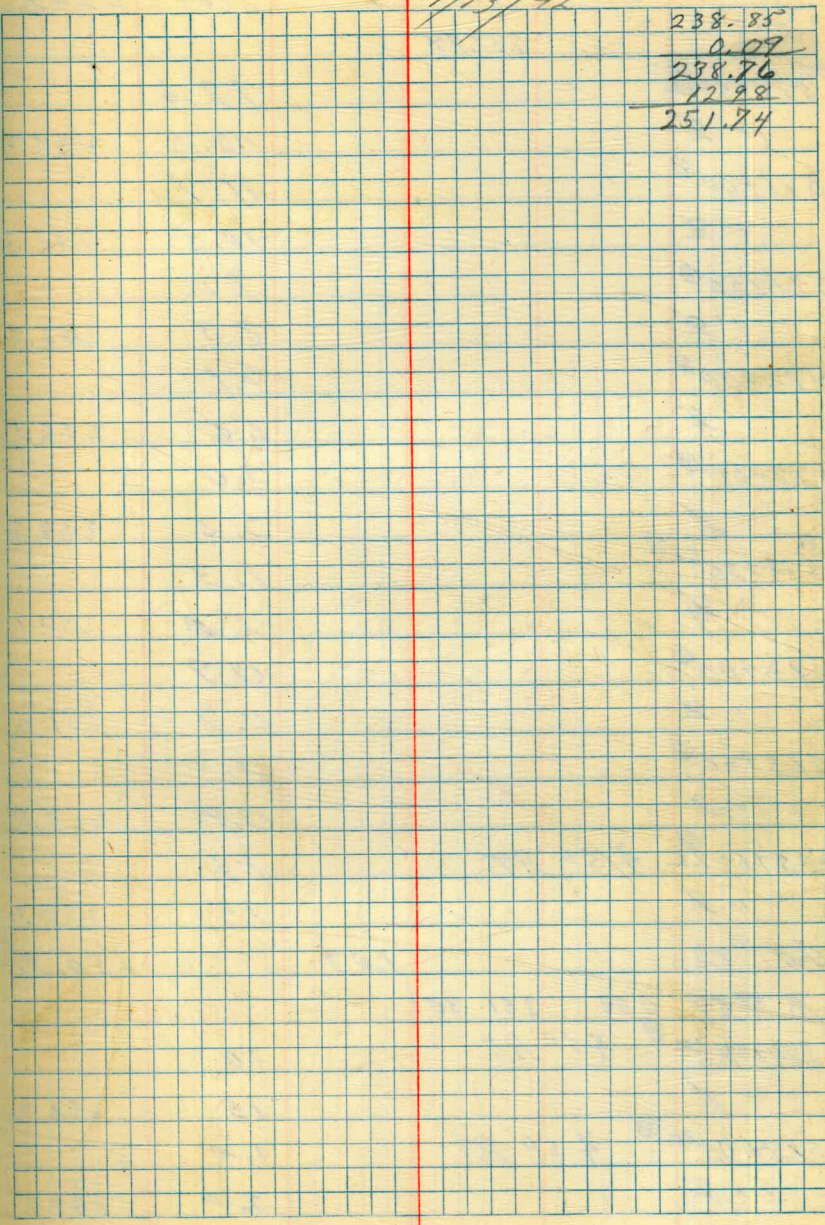
3.54

238.85

AL.
~~1/13/42~~

238.85
0.09
238.76
12.98
251.74

Sta	B.S.	Hi.	F.S.	Red	Elev.
		238.85			
567+08 ⁶⁵	45° RT.			5.5	
" 2				6.0	232.8
567+24 ⁶⁵	45° RT.			5.3	
" 2				5.8	233.0
567+40 ⁶⁵	43° RT.			5.2	
" 2				5.6	233.2
567+56 ⁶⁵	42 1/2° RT.			5.1	
" 2				5.5	233.3
568+00 ⁶⁵				5.0	
" 2				5.3	233.5
568+50 ⁶⁵				4.5	
" 2				4.9	233.9
569+00 ⁶⁵				3.8	
" 2				4.0	234.8
569+50 ⁶⁵				2.9	
" 2				3.1	235.7
570+00 ⁶⁵				1.7	
" 2				1.8	237.0
A. Flow Line #14 Culvert				4.4	
B. " " " "				6.5	
570+50 ⁶⁵				0.1	
" 2				0.0	238.8
T.P. #82			0.09		238.76
T.P. #83	12.98	251.74			



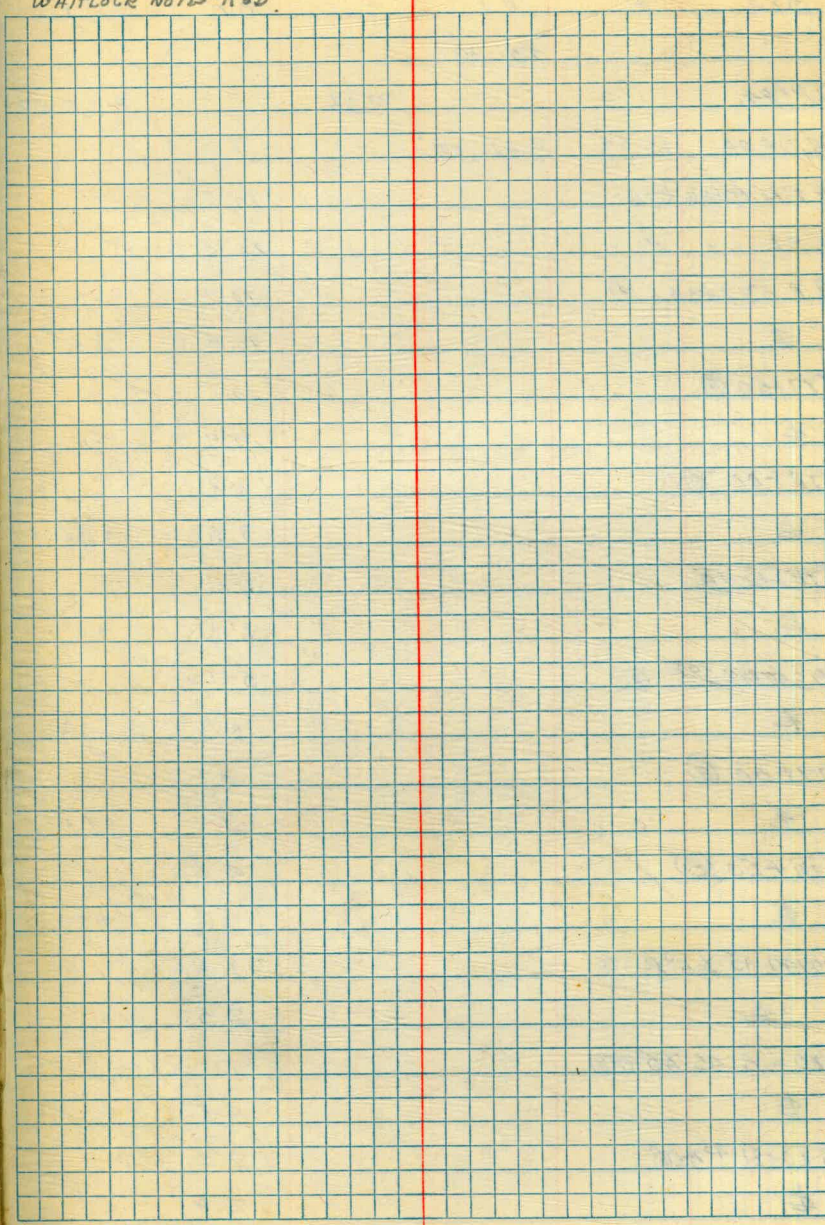
Sta.	B.S.	H.I.	F.S.	Red	Elev.
570		251.74			
B.G. 570+59 ²⁵				12.6	
"				12.5	239.2
571+00 ²⁰				11.1	
"				10.5	241.2
571+50 ²⁰				9.0	
"				8.3	243.4
572+00 ²⁰				6.1	
"				5.6	246.1
572+50 ²⁰				3.0	
"				2.5	249.2
E.S. 572+86 ²⁰				1.3	
"				1.0	250.7
573+00 ²⁰				0.9	
"				0.7	251.0
573+50 ²⁰				0.7	
"				0.9	250.8
573+68 ²²				1.1	
"				1.5	250.2
T.P.#83			1.03		250.71
A #84	0.59	251.30			
573+84 ²²				1.0	
"				1.5	250.2
574+00 ²²				1.4	
"				2.0	249.7

251.74
1.03
250.71

JAN. 19, 1942
 MELHORN T
 WHITLOCK NOTES-ROD.

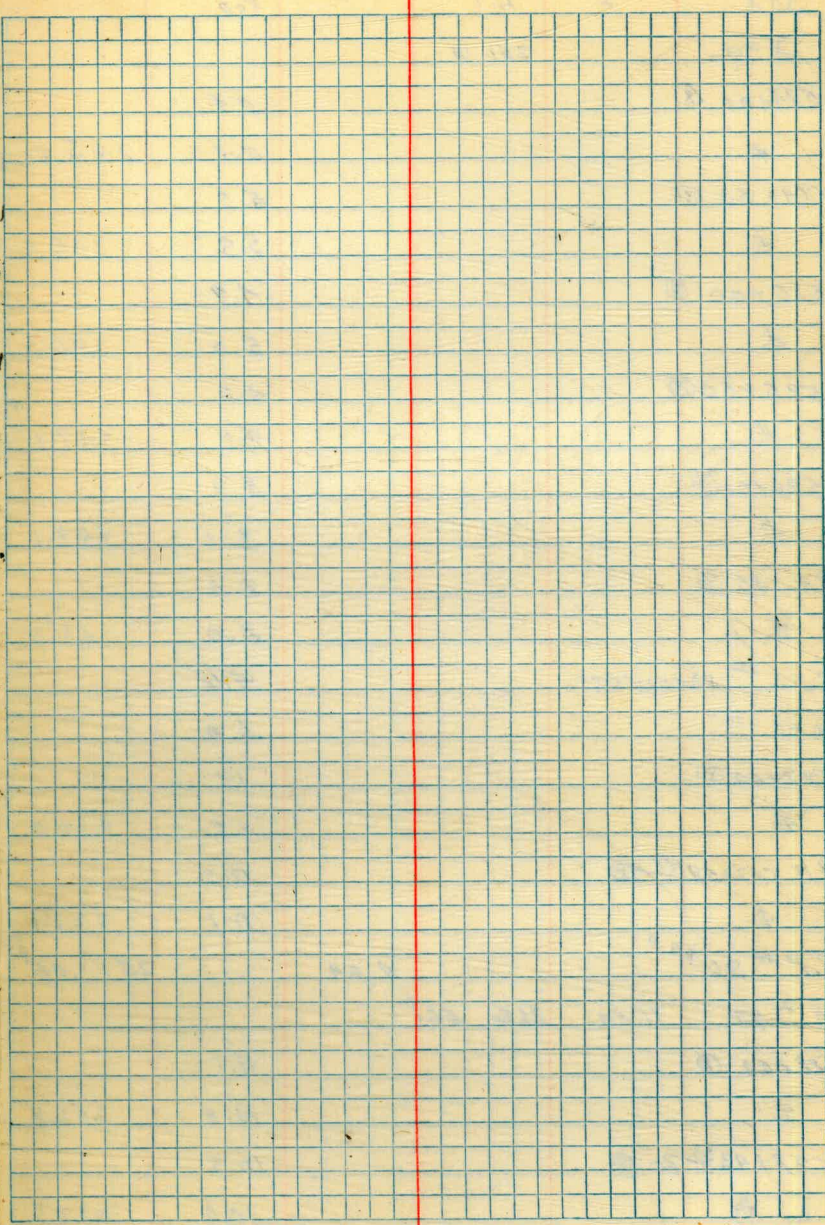
71

Sta	B.S.	Hi.	F.S.	Rod	Elev.
7#84		251.30			
574+16 ²² Ⓢ	4 50 RT			1.9	
" Ⓢ				2.5	248.8
574+32 ²² Ⓢ	4 50 RT.			2.5	
" Ⓢ				3.1	
574+48 ²² Ⓢ	4 50 RT.			3.1	
" Ⓢ				3.8	247.5
574+64 ²² Ⓢ	End Spl.			3.7	
" Ⓢ				4.6	246.7
CULVERT #15	EAST F.L.			8.1	
	W. F.L.			11.6	
575+17.32 B C Ⓢ				5.5	
" Ⓢ				6.2	245.1
575+50 Ⓢ				6.3	
" Ⓢ				6.4	240.9
E.C. 576+01 ²² Ⓢ				7.2	
" Ⓢ				7.3	244.0
576+26 ³² 5 ²² Ⓢ				7.9	
" Ⓢ				7.9	243.4
576+42.32 5 ²² Ⓢ				8.4	
" Ⓢ				8.4	242.9
576+58.32 5 ²² Ⓢ				8.7	
" Ⓢ				8.6	242.7
576+74.32 5 ²² Ⓢ				9.0	
" Ⓢ				8.9	242.4

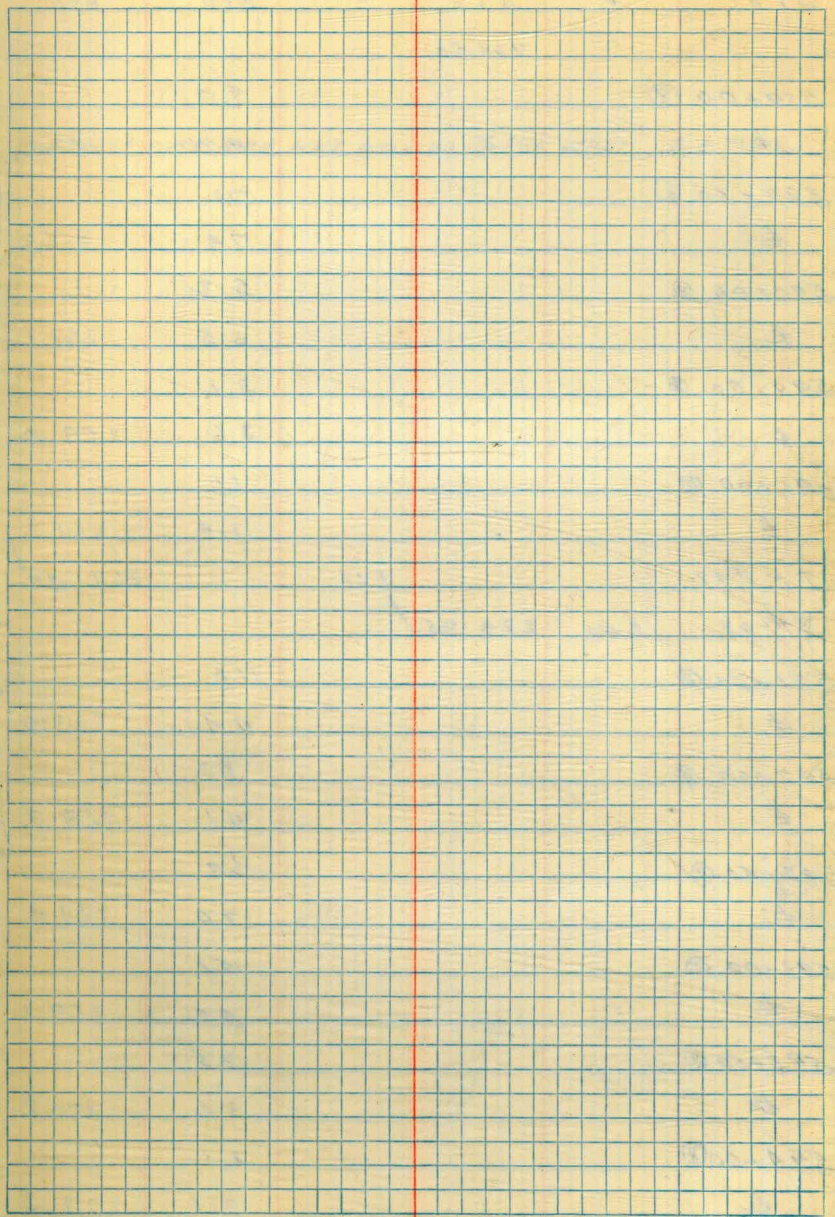


STA	+	H.I	-	POD	ELEV
		251.30			
T.P.#94			9.06		242.24
H.I.#85	10.33	252.57			
E.F.L. CURV.#16			19.7		
W.F.L. " "			20.5		
B.C. 577+30.6 (1)			10.7		
±			10.8		241.8
577+50 (1)			10.4		
±			9.9		242.7
578+00 (1)			8.8		
±			8.5		244.1
578+50 (2)			6.5		
±			6.1		246.5
F.C. 578+66.03 (1)			5.7		
±			5.3		247.3
579+00 (2)			4.2		
±			4.8		247.8
579+50 (2)			2.3		
±			2.5		250.1
579+99.45 X 5° RT (1)			1.9		
±			2.5		250.1
580+15.45 X 5° RT (1)			1.9		
±			2.5		
580+31.45 X 5° (1)			2.0		
±			2.6		

STA	+	H.I	-	ROD	ELEV
A#85		252.57			
580+97.45	RT			2.2	
	E			2.8	249.8
580+63.45	RT			2.4	
	E			3.0	
581+10				3.2	
	E			3.8	248.8
581+50				4.1	
	E			4.1	248.5
TP#85	58400		4.12		248.45
A#86	270	251.15			
B.C 581+89.95				3.3	
	E			3.2	248.0
582+00				3.4	
	E			3.3	247.9
582+50				4.5	
	E			3.9	247.3
583+00				4.9	
	E			4.5	246.7
583+06.5	XC			4.9	
	E			4.5	246.7
583+50				5.4	
	E			5.2	246.0
E.F.L #1704				8.7	
W.F.L "				11.2	



STA	+	H.I	-	ROD
T # 86		251.15		
584+00 (B)				5.4
+				5.4 245.8
584+50 (B)				5.3
+				5.3 245.9
585+00 (B)				4.9
+				5.0 246.2
585+50 (B)				4.2
+				4.1 247.1
586+00 (B)				3.1
+				3.1 248.1
586+50 (B)				2.0
+				2.0 249.2
E.F.L # 10 CULVERT.				4.6
W.F.L "				6.9
587+00 (B)				1.1
+				1.2 250.0
B.C. 587+58.97 (B)				0.2
+				0.1 251.1
T.P # 86 ^{KB.0}			0.09	251.06
T # 87	11.50	262.56		
588+00 (B)				11.1
+				10.8 251.8
588+43.33 EC (B)				10.3
+				10.0 252.6



STA.	+	H I	-	ROD	ELV
		262.56			
589+00	⊗			9.0	
	⊕			9.2	253.4
589+50	⊗			7.1	
	⊕			7.9	255.2
590+00	⊗			5.2	
	⊕			5.5	257.1
590+50	⊗			3.1	
	⊕			3.6	259.0
591+00	⊗			1.1	
	⊕			1.4	261.2
I.P. #87			1.11		261.45
I# 88	12.90	274.35			
591+50	⊗			11.0	
	⊕			11.4	263.0
592+00	⊗			8.9	
	⊕			9.1	265.3
592+50	⊗			6.9	
	⊕			7.0	267.4
593+00	⊗			5.1	
	⊕			5.2	269.2
593+50	⊗			3.5	
	⊕			3.6	270.8
594+00	⊗			2.1	
	⊕			2.1	272.3

CONT. Pg 77

589+20 CITY PIPE LINE CROSSES TO THE WEST B.O. #32

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STA	+	M.I	-	ROD.
	B.C	274.351		
594+39.0	⊙			10
⊕				0.9
	T.P.			273.5
594+50	⊙ W.SIDE NOW			0.7
⊕				0.6
				273.8
T.P. #88			0.65	273.70
7# 89	13.0	286.70		
595+00	⊙			11.6
⊕				11.6
				275.1
595+50	⊙			10.6
⊕				10.6
				276.1
595+70	⊙ E.C.			10.2
⊕				10.2
				276.5
596+00	⊙			9.8
⊕				9.8
				276.9
596+50	⊙			8.6
⊕				8.8
				277.9
597+00	⊙			7.4
⊕				7.5
				279.2
597+50	⊙			6.2
⊕				6.4
				280.3
598+00	⊙			4.3
⊕				4.5
				282.2
598+50	⊙			2.2
⊕				2.4
				284.3

OFFSET LINE SHIFTED TO W. SIDE ⊕ AT THIS PT

BEGINNING OF DRAIN DITCH LATERAL 15' E. OF
 ⊕ RD. COMPOSED OF 6" DIA COBBLE STONES
 CEMENTED TOGETHER. 14" INSIDE WIDTH AT BOTTOM
 AVERAGE DEPTH 1' BELOW EAST SHOULDERS 016

STA	+	H.1	-	ROD	ELEV
		286.70			
599+00	⊗			0.3	
	⊕			0.5	286.2
T.P.#89			0.28		286.42
⊕#90	11.11	297.53			
599+50	⊗			9.3	
	⊕			9.4	288.1
600+00	⊗			7.3	
	⊕			7.5	290.0
600+50	⊗			5.3	
	⊕			5.5	292.0
601+00	⊗			3.2	
	⊕			3.3	294.2
601+50	⊗ ^{TP}			0.9	
	⊕			1.0	296.5
T.P.#90			0.93		296.60
⊕#91	12.86	309.46			
602+00	⊗			10.6	
	⊕			10.7	298.8
602+50	⊗			8.5	
	⊕			8.6	300.9
603+00	⊗			6.4	
	⊕			6.3	303.2
603+09.4	⊕ ^{BC}			6.3	
	⊕			6.2	303.3

603+95 END OF COBBLESTONE DITCH, PARALLEL
TO ROAD 15' E OF ⊕

STA	+	H.I	-	ROD	ELEV.
T# 91		309.46			
603+50	⊗			4.1	304
⊕				7.2	305.3
603+70	⊕ E.C. ⊗			3.1	
⊕				3.2	306.3
604+00	⊗			1.8	
⊕				2.0	307.5
T.P. #91			0.27		309.19
T #92	10.93	320.12			
604+50	⊗			10.2	
⊕				10.6	309.5
605+00	⊗			7.8	
⊕				8.3	311.8
605+50	⊗			5.5	
⊕				5.8	314.3
606+00	⊗			3.0	
⊕				3.8	316.3
606+50	⊗ T.P.			0.9	
⊕				0.1	320.0
TP #92			0.86		319.26
T# 93	10.80	330.06			
607+00	⊗			7.6	
⊕				7.8	322.3
607+50	⊗			5.4	
⊕				5.9	324.2

⊕ PIPE RUNS OFF OIL SURFACE ONTO E. SHOULDER

OFFSET NOW OFF OIL SURFACE ALSO.

IN FIELD NOW.

STA	+	H.I.	-	POD
80				
STA #93		330.06		
57A 607+85				
U.S.G.S B.M. CONC. BRASS			4.22	GIVEN AS 334.28
607+85.22				4.7
⊕				5.3
608+35.22				4.1
⊕				4.6
608+85.22				4.6
⊕				6.6
609+33.22				5.2
⊕				8.9
609+81.22				8.1
⊕				10.8
610+29.22				9.1
⊕ I.P.				11.90
T.P #93			11.90	318.66
STA #94	2.70			321.36
610+77.22				3.0
⊕				5.9
611+25.22				4.8
⊕				8.0
611+73.22				6.1
⊕				10.2
612+25.12				8.6
⊕ B.O. (B)				10.8
T.P #94 ON 612+25.12			10.79	310.57

LEVELS CONTINUED IN F.B #630 PAGE 30
(Turns checked to here - C.V.G.)

CURVE TABLES.

Published by KEUFFEL & ESSER CO.

HOW TO USE CURVE TABLES.

Table I. contains Tangents and External to a 1° curve. Tan. and Ext. to any other radius may be found nearly enough, by dividing the Tan. or Ext. opposite the given Central Angle by the given degree of curve.

To find Deg. of Curve, having the Central Angle and Tangent: Divide Tan. opposite the given Central Angle by the given Tangent.

To find Deg. of Curve, having the Central Angle and External: Divide Ext. opposite the given Central Angle by the given External.

To find Nat. Tan. and Nat. Ex. Sec. for any angle by Table I.: Tan. or Ext. of twice the given angle divided by the radius of a 1° curve will be the Nat. Tan. or Nat. Ex. Sec.

EXAMPLE.

Wanted a Curve with an Ext. of about 12 ft. Angle of Intersection or I. P. = 23° 20' to the R. at Station 542+72.

Ext. in Tab. I opposite 23° 20' = 120.87
120.87 ÷ 12 = 10.07. Say a 10° Curve.

Tan. in Tab. I opp. 23° 20' = 1183.1
1183.1 ÷ 10 = 118.31.

Correction for A. 23° 20' for a 10° Cur. = 0.16
118.31 + 0.16 = 118.47 = corrected Tangent.

(If corrected Ext. is required find in same way)
Ang. 23° 20' = 23.33° ÷ 10 = 2.3333 = L. C.

2° 19½' = def. for sta.	542	I. P. = sta.	542+72
4° 49½' = " " "	+50	Tan. =	118.47
7° 19½' = " " "	543	B. C. = sta.	541+53.53
9° 49½' = " " "	+50	L. C. =	2.3333
11° 40' = " " "	543+	E. C. = Sta.	543+86.86
	86.86		
100 - 53.53 = 46.47 × 3' (def. for 1 ft. of 10° Cur.) = 139.41' =)			

2° 19½' = def. for sta. 542.

Def. for 50 ft. = 2° 30' for a 10° Curve.

Def. for 36.86 ft. = 1° 50½' for a 10° Curve.

