1583

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)÷2 or 2 ft. added to 30.6 =32.6. For slopes of 1 on 1½ see inside of back cover.

1583

ENGINEERING DEPARTMENT
CITY OF SAN DIEGO.
CALIFORNIA.

1583

CITY ENGINEER

The paper stock of this book is made of a **high grade 50% rag** paper having a **water resisting surface.** This book is sewed with Bing **Special Enamel Waterproof Thread.**

Made in U. S. A.

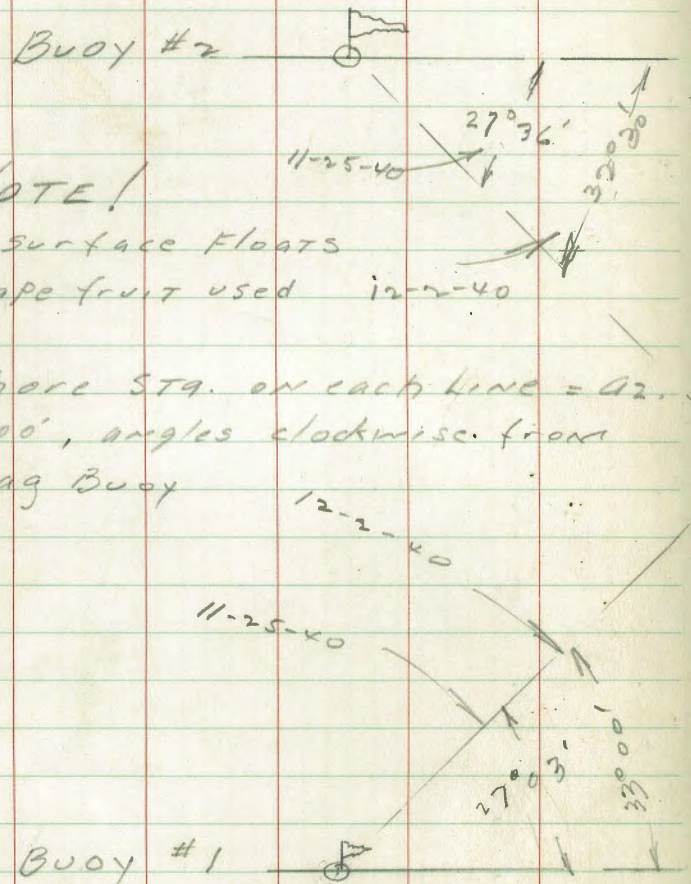
Sta. 153+85 80 = Avg. pt.
Sdg. line # 7

Observation # 1 - Foot of Newport st.

Date — Aug. 20, 1940
Time
Tide
Bearing of wave
Height - Trough to crest
Interval between waves
Elev. plunge pt.
Wind
  Direction
  Strength
Flourscein Test
  Duration - min.
  Distance traversed
  Rate of drift
  Direction
  Dist. to Ref. pt.
Barometer - 1st
  2nd
Section of beach
Material

Observation # 2 - sta. 165+00 = sdg. line # 12

Current Observation
outside of Plunge line
by use of Sextant
off Ocean Beach

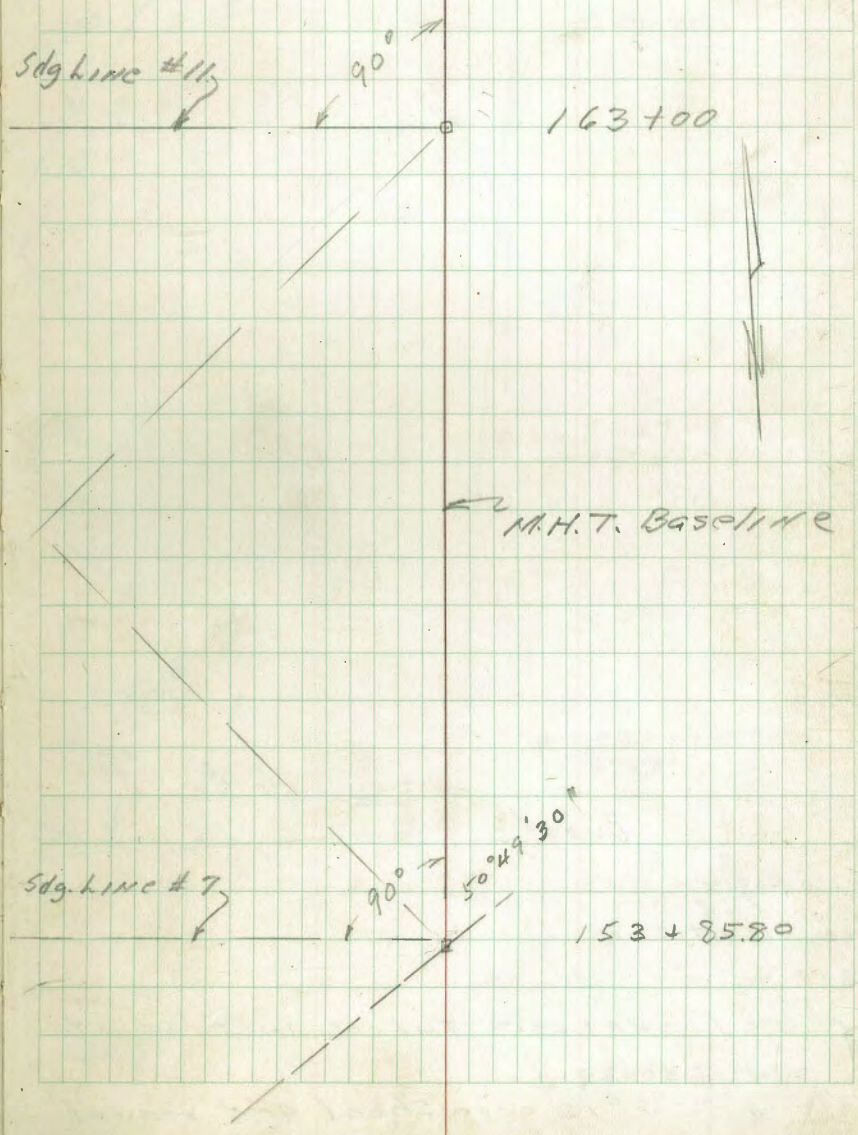


NOTE!
Sub-Surface Floats
+ grape fruit used 12-2-40

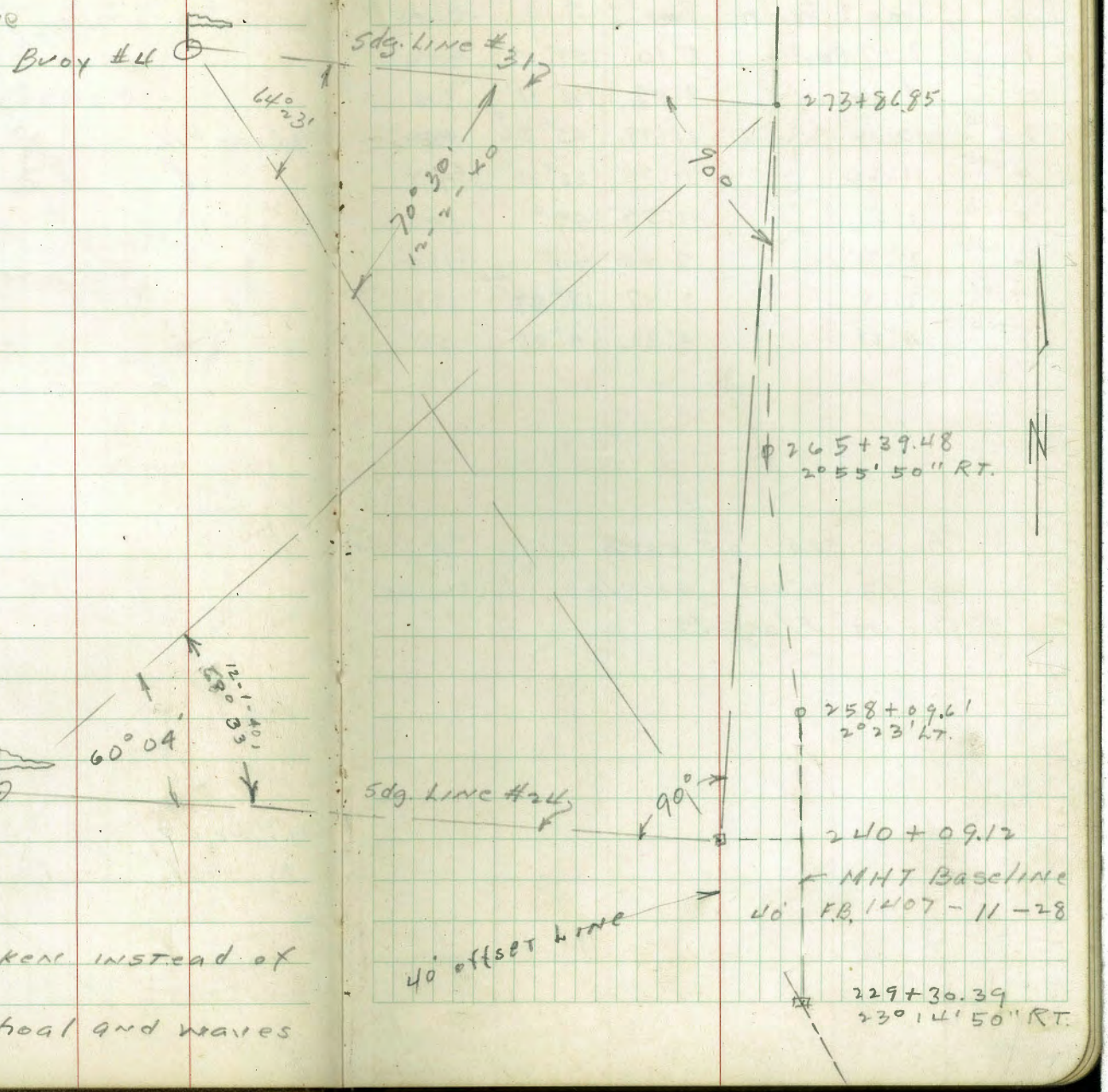
Shore Stg. on each line = 0°00', angles clockwise from Flag Buoy

Power Boat + Out. Bd. Skiff
by Harry Freeburn, Shops.

Moore
Osborne
Hale
11-25-40



Current Observation
off Mission Beach
outside of Plunge Line



240+09.17
N. end of
40' offset B.L.

NOTE! 240+09.17 taken instead of
229+30.39,
" " is over shoal and waves
are dangerous

Buoy #1 11-25-40.

Clear, very light wind in N.W.
Ocean quiet

	Time I	Depth	Time II	Ang.	Dist.	Drift
1	7:17 A.M.	22	8:10	153° 27'	440'	S.W.
2 sub	8:16		9:59	108° 11'	300'	S
3 sub	10:04		11:19	45° 06	400'	S.E.
4 sub	11:20		11:37	25° 31'	97'	
5 sub	1:51		1:59	49°	100'	
6 sub	2:31		2:44	40°	130'	
7 sub	3:21		3:47	18° 49'	173'	
8 sub	4:21		4:32	4° 25'	50'	

7:15 A.M.

Osborne in Power boat on # 1 - 2 - 3.

Shore sta. on each line #1 to #2 = Az. 0°00' angles clockwise from Flag B

Buoy #2 11-25-40.

	Time I	Depth	Time #II	Ang.	Dist.	Drift
1	7:32 AM.	22	8:25	153°18'	700'	S.W.
2 sub.	8:35		9:53	64°37'	140	S E
3 sub	9:54		11:10	35°40'	400	S E
4 sub	11:12		11:31	21°28'	93	S. E
5 sub	1:48	7:30 AM.	2:03	35°40'	109'	
6 sub	2:29		3:48	11°40'	200'	
7 sub	3:19		3:50	352°09'	250'	
8 sub	4:19		4:35	352°20'	200'	

Buoy #3 11-25-40:

No.	Time I	Depth	Time II	Ang.	Dist	Drift
1	7:44 AM	25	8:44	116°40'	1000	S.W.
2 sub.	8:48	7:40 AM	8:39	134°53'	600	S.W.
3 sub	10:42		10:53	77°49'	250	S.E.
4 sub	11:46		11:55	78°34'	250	S.E.
5 sub	1:31		1:39	79°15'	200'	
6 sub	2:12		2:20	74°53'	200'	
7 sub	2:58		3:10	56°	250	
8 sub	3:59		4:11	53°51'	200'	
9 sub	4:45					

11-25-1940 Buoy # 4

No.	Time I	Depth	Time II	Ang.	Dist.
1	7:53 A.M.	22	9:33	117°	1800 ?
1	9:27	7:50 A.M.	9:40	160°	100
2	9:46		9:59	156°	100
3	10:00		10:13	158°	100
4	10:15	4 mile N.W. wind	10:28	110°	100
5	10:29		10:41	105°	100
6	10:42		10:54	105°	100
7	10:56		11:07	95°	100
8	11:10		11:22	90°	100
9	11:23		11:34	90°	100
10	11:36		11:47	85°	75
11	11:49		12:01	95°	45
12	1:22		1:36	315°	80
13	1:38		1:43	335°	50
14	1:45		1:52	350°	70
15	1:53		1:58	345°	60
16	2:00		2:04	335°	40
17	2:05		2:10	340°	50
18	2:12		2:17	345°	60
19	2:18		2:22	350°	50
20	2:23		2:27	1°00'	55
21	2:30		2:34	2°00'	60
22	2:35		2:40	1°00'	45

Side float from inlet.

Drift

S.

No	Time I		Time II	Az.	dist.
23	2:41		2:45	2°00'	50
24	2:50		2:54	2°00'	45
25	2:56	Very light wind	3:01	0°00'	55
26	3:02		3:08	358°	60
27	3:10		3:16	1°00'	55
28	3:17	No wind	3:23	359°	50
29	3:26		3:31	358°	60
30	3:32		3:37	325°	55
31	3:38		3:42	330°	50
32	3:45		3:56	340°	110
33	3:57		4:08	335°	100
34	4:09		4:18	330°	120
35	4:20		4:31	340°	125
36	4:35		4:44	355°	115

CSM in skiff and oars

Buoy # 1 Dec. 2 - 40.
Clear
Ocean calm
Light NE wind 3 mi. per hour

No.	Time I	depth	Time II	Ang.	dist.
1	7:56	18	8:17	45°	75
2	8:20	↓	8:40	338°	80
3	8:40	7:50 A.M.	8:58	30°	140
4	9:01		9:25	345°	120
5	9:29		9:46	15°	150
	Wind N.W. 4 mi. per hr. 10:00 A.M.				
6	9:50		10:10	20°	160
7	10:13		10:28	25°	240
8	10:30		10:46	25°	220
9	10:47		11:03	30°	130
10	11:05		11:30	80°	200
11	11:32		11:47	85°	200
12	1:10		1:22	60°	250
13	1:24		1:36	65°	240
14	1:37		1:50	50°	300
15	1:52		2:04	35°	200
16	2:06		2:16	20°	175
17	2:18		2:31	345°	150
	Wind N.W. 10 mi. per hour 2:30 P.M.				
18	2:32		2:44	340°	110
19	2:46		3:05	335°	170
20	3:10		3:24	340°	175

No.	Time I	Time II	angle	dis.
21	3:27	3:41	315°	130
22	3:44	4:02	300°	150
23	4:04	Lost acct. Fog		

Note! Shoreward current approx. same until floats are within about 75' of Plunge line then velocity increases

CSTM

grape fruit & sub-surf. floats used alternating

Buoy #2

12-2-40

CSM. in skiff with out 6d. motor on Buoy #1 & #2

No	Time I	depth	Time II	Ang.	dist.
1	8:00	17	8:25	130°	85
2	8:27	1	8:46	15°	150
3	8:47		9:06	15°	160
4	9:08		9:34	355°	300
5	9:37	8:00 AM	9:52	10°	250
6	9:54		10:16	20°	275
7	10:18		10:35	20°	300
8	10:36		10:53	25°	250
9	10:54		11:17	35°	310
10	11:18		11:34	60°	200
11	11:35		11:50	75°	190
12	1:14 PM		1:26	45°	220
13	1:27		1:41	30°	300
14	1:44		1:56	20°	210
15	1:57		2:07	15°	170
16	2:10		2:25	10°	180
17	2:26		2:37	5°	170
18	2:40		2:54	358°	190
19	2:58		3:11	5°	170
20	3:14		3:30	359°	190
21	3:32		3:46	340°	150
22	3:48		4:07	310°	175

12-2-40 Buoy H 3

Hale in Power Boat

No	Time I	Depth	Time II	Angle	Dist.	Drift
1 Sub	8:05 AM	20'	8:11	115°30'	170'	S.W
2. Sub float	8:36		8:41	76°20'	60'	S
3. "	8:59		9:04	80°	100'	S
4. "	9:18		9:28	85°	100'	S
5. "	9:40		9:50	88°20'	220'	S
6. "	10:13		10:23	89°	225'	S
7. "	10:52		11:04	91°20'	125'	S
8 "	11:24		11:39	90°	175'	S
9. "	1:22		1:32	88°	313'	S
10. "	1:54		2-04	87°20'	335'	S
11 "	2:26		2:30	87°	350'	S
12 "	2:56		3 06	87°	375'	S
13 SUB float	3:26		3 36	84°	350'	S
14 "	3:57		4:07	84°	300'	

3:00 AM

12-2-40 Buoy # 4

Std. Hole in Power boat

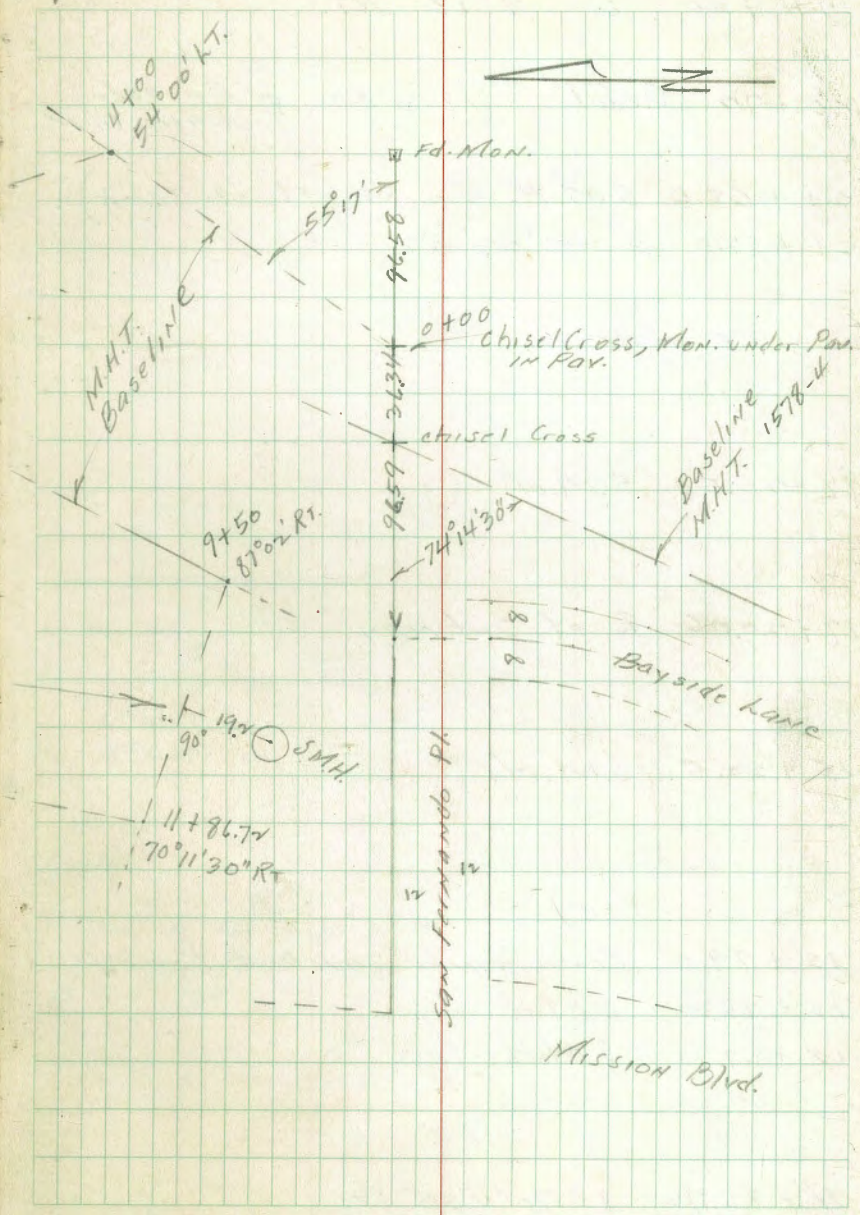
No.		Time I	Depth	Time II	Angle	Dist.	Drift
1.	Sub Float	8:19 AM	17	8:24	315°0"	30'	NE
2.	"	8:53	↑ 8:15 A.M.	9:12	63°	75'	SE
3.	"	9:12		9:34	15°	175'	E
4.	"	9:34		9:58	50°50'	675'	SE
5	"	9:58		10:08	50°30'	175'	SE
6.	"	10:38		10:48	51°	160'	SE
7.	Surface Float	10:49		11:09	58°	350'	SE
8	Sub Float	11:09		11:19	54°	175	SE
9.	"	1:38		1:48	53°	225	SE
10	"	2:11		2:21	60°	250	SE
11	"	2:43		2:53	65°	275'	SE
12	"	3:12		3:22	80°	300'	S
13	Surface float	3:40		3:50	80°	175'	S

Survey of M.H.T. 4.93 USC & G
of Bonita Bay
Mission Beach

See T.P. Bk. 75

Moore
Osborne
Sammis-Meyer
4-7-41.

Indexed
4.M.



6+50
48°37'50" Rt.

10+53.3 S.M.H. 19.7 Ht. or South
℄ of Bayside Lane to South

24+00 Δ 71°13' RT.

23+72 S.M.H. 13.3 RT & Bayside Lane to N

21+68.6 S.M.H 2.2 RT. (Flush Tank)?
21+57.0 Δ 40°03' RT

21+19.5 S.M.H.

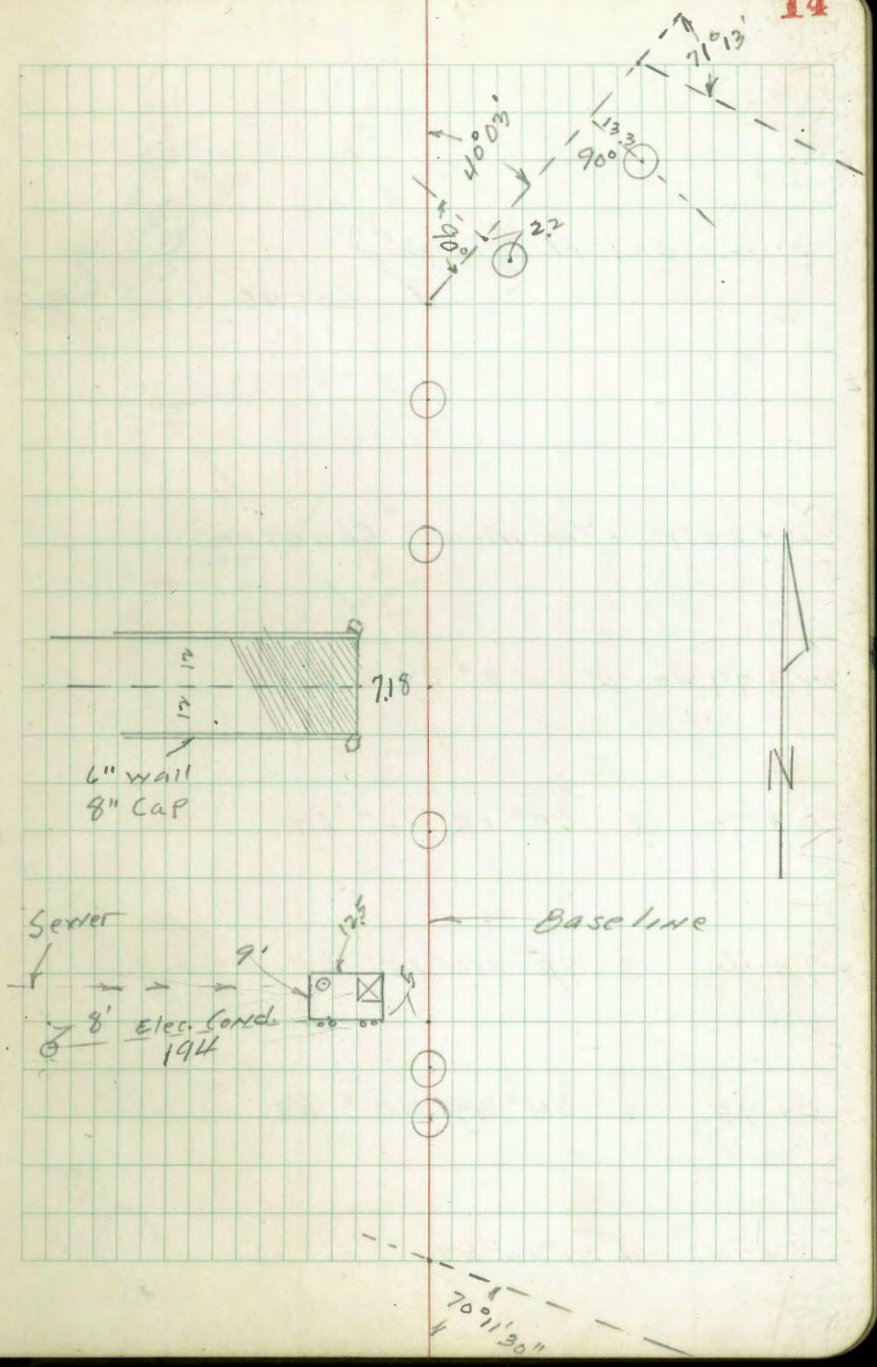
18+20.5 S.M.H.

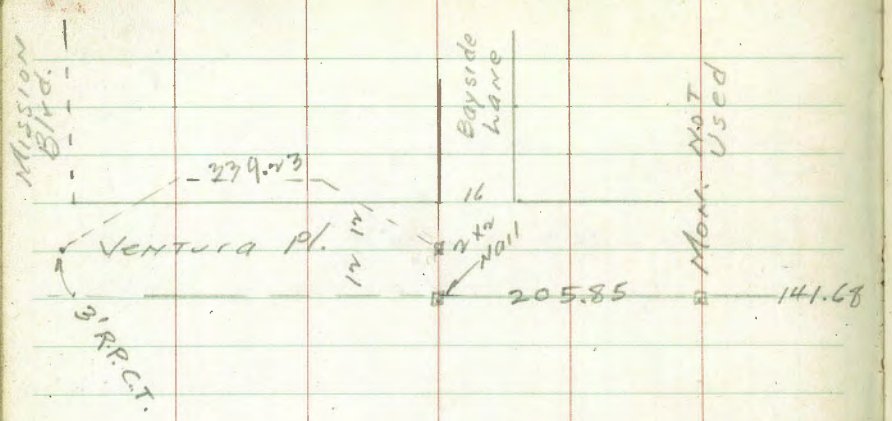
17+20.06 E of Subway

15+20.5 S.M.H.

12+89.0 Com. Sewer Tank & Pump
12+85.20 S.M.H.
12+67.70 S.M.H.

11+86.72 Δ 70°11'30" Rt.





34+02.90 = Con. Mon. "Coaster"

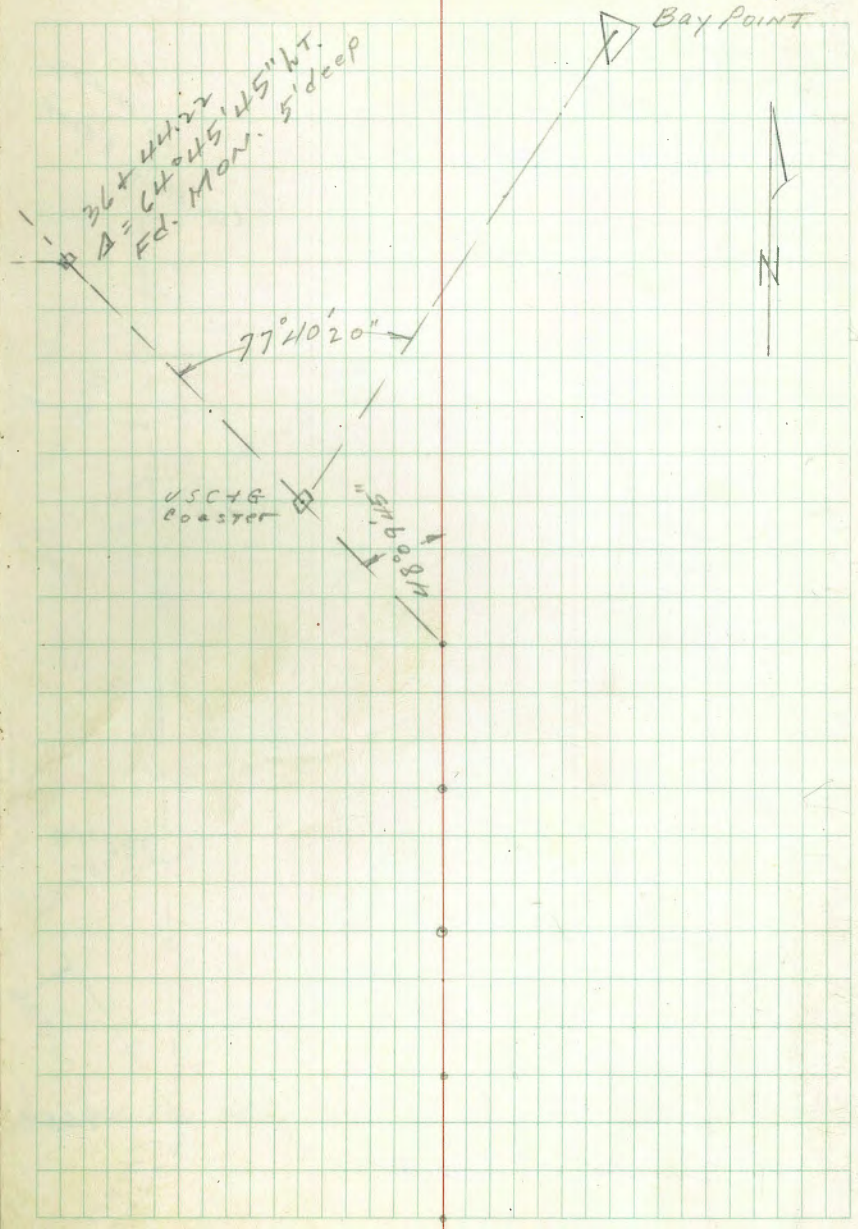
37+79.40 Δ 48° 09' 45" Lt

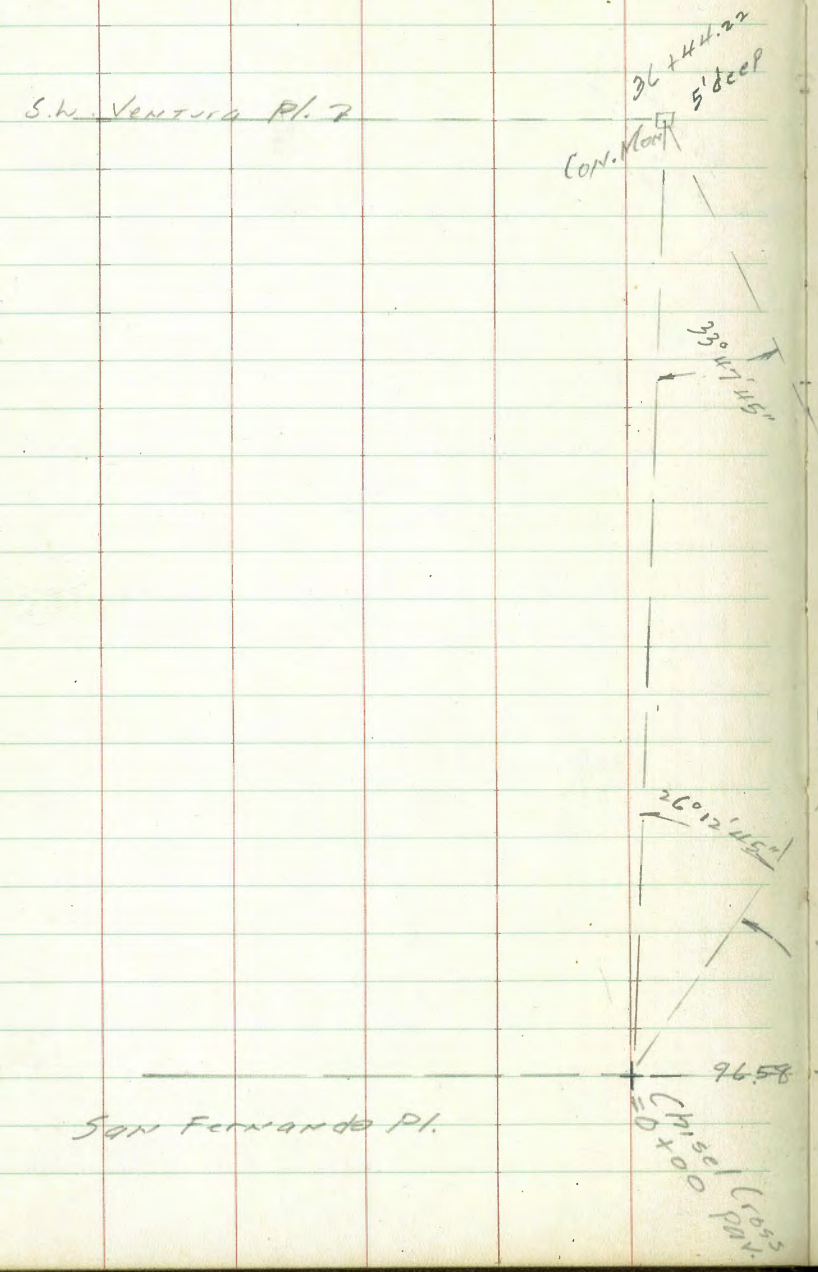
30+70 Δ 65° 15' 45" Lt

29+40 Δ 87° 40' 15" Lt.

26+75 Δ 64° 35' 40" Rt.

24+00 Δ 71° 13' Rt.




S.W. Ventura Pl. ?
36+44.22
5' deep
Con. Mon.
33° 47' 45"
26° 12' 15"
96.58
San Fernando Pl.
0+00
Chisel Cross
34+02.90
Coaster
USC&G
4+00
55° 17'
Fd. Con. Mon.

Levels begun 4/9/41 P.M. very windy but clear

X sec of Fore Shore 4.93 M.H.T. of Bonita Bay, Mission Beach

+50					
T.P.	3.87	13.94	4.14	10.07	Top M.H. 10+47.7
+50					
1 too	Sec 90°				
0700	Sec. Taken on N.L. San Fernando Prod & W				
T.P.	5.21	14.19	4.28	8.98	
T.P.	3.98	13.36	9.31	9.38	
Check to B.M.			2.08	16.61	San Fernando Seawall 16.58
T.P.	5.00	18.69	5.08	13.69	
Check to B.M.			2.26	16.51	Subway Seawall 16.50
T.P.	5.10	18.77	4.99	13.67	
SWBP	2.14	18.66		7.51	Ventura Pl. Seawall
				9.01	
				16.57	= U.S.C.&G.

cloudy, windy
beg. 4/9/41 P.M.

13.94

End 4/8/41.

14.19

LT | ℄ Baseline | RT

10.24	6.24	4.93		2.44
3.7	7.7	9.01		11.5
35	41	59		101
10.04	7.44	4.93		2.24
3.9	7.5	9.01		11.7
33	35	58		100
9.79	4.59	4.93		2.89
4.4	7.6	9.26		11.3
32	36	56		90
9.59	6.69	4.93		3.19
4.6	7.5	9.26		11.0
33	50	56		90
9.90	7.49	4.93		4.22
4.29	4.7	9.26		9.97
57.5	58	90		96.58

E edge sdw Bayside walk

Top curb

+25

5

+75

+50

+25

4 = Δ 54°00' LT

+50

3

13.94

Sec. on Split of Δ

LT ℄ RT

8.84	6.44	4.93
5.1	7.5	9.01
30	45	70
8.94	6.74	4.93
5.0	7.2	9.01
35	52	80
9.74	7.24	4.93
4.6	6.7	9.01
38	50	85
9.54	6.94	4.93
4.4	7.0	9.01
28	48	81
9.64	6.74	4.93
4.3	7.2	9.01
26	35	67
9.04	6.54	4.93
4.9	7.4	9.01
10	15	47
9.54	6.34	4.93
4.4	7.6	9.01
2-	25	49
9.94	6.54	4.93
4.0	7.4	9.01
28	33	55

2.34	11.6	101
1.94	12.0	114
2.24	11.7	115
2.44	11.5	115
2.94	11.0	100
2.34	11.6	90
2.34	11.6	95
2.34	11.6	100

13.94

Station			LT	℄	RT			
+25					10.84 / 3.1 / 15	5.84 / 8.1 / 24	4.93 / 9.01 / 31	2.34 / 11.6 / 50
7					10.84 / 3.1 / 23	5.74 / 8.2 / 33	4.93 / 9.01 / 39	1.74 / 12.2 / 65
+75					9.14 / 4.8 / 30	5.64 / 8.3 / 37	4.93 / 9.01 / 43	2.14 / 11.8 / 65
6 + 50	Δ 48° 37' 50" LT.		Sec. on Split		10.24 / 3.7 / 25	5.74 / 8.2 / 35	4.93 / 9.01 / 41	1.94 / 12.0 / 65
+25					10.34 / 3.6 / 34	6.94 / 7.0 / 44	4.93 / 9.01 / 58	2.34 / 11.6 / 80
6					9.74 / 4.2 / 36	7.04 / 6.9 / 46	4.93 / 9.01 / 63	2.14 / 11.8 / 85
+75					9.94 / 4.0 / 28	6.94 / 7.0 / 38	4.93 / 9.01 / 58	2.04 / 11.9 / 88
5 + 55	Δ 89° 22' 30" LT		Sec. on Split		9.84 / 4.1 / 5	6.94 / 7.0 / 25	4.93 / 9.01 / 42	1.84 / 12.1 / 70
		13.94		13.94 ℄				

Station	Note	Lt	℄	Rt		
10+25		9.24 4.7/25		4.93 9.01/10	2.24 11.7/30	
9+50	Δ 87°02' Rt — Sec. on Split			9.64 4.3/20	4.93 9.01/54	2.24 11.7/75
+75		9.94 4.0/20		4.93 9.01/16	1.74 12.2/40	
+50		9.54 4.4/25		4.93 9.01/11	1.74 12.2/35	
+25		10.24 3.7/35		4.93 9.01/7	2.14 11.8/30	
8		9.94 4.0/20		4.93 9.01/10	2.34 11.6/30	
+75		10.14 3.8/10		4.93 9.01/15	2.34 11.6/35	
7+50		10.44 3.5/10		5.84 8.1/15	4.93 9.01/22	2.04 11.9/45

13.94

13.94

13

+50

12+25

11+84.7 ℄ 70°11'30" Rt

+25

11

+75

10+50

13.94

LT ℄ RT

9.94 | 11.0 | 8

9.04 | 11.9 | 6

8.94 | 5.0 | 3.9

10.04 | 3.9 | 13

7.14 | 6.8 | 35

4.93 | 9.01 | 48

2.24 | 11.7 | 60

6.94 | 7.0 | 15

4.93 | 9.01 | 27

2.34 | 11.6 | 45

4.93 | 9.01 | 25

2.54 | 11.4 | 40

Sec. on Split

10.14 | 3.0 | 23

8.84 | 5.1 | 21

10.24 | 3.7 | 28

8.94 | 5.0 | 26

7.04 | 6.9 | 5

10.24 | 3.7 | 3

8.74 | 5.2 | 28

7.24 | 4.7 | 29

6.94 | 7.0 | 5

4.93 | 9.01 | 15

2.64 | 11.3 | 30

4.93 | 9.01 | 8

2.44 | 11.5 | 25

4.93 | 9.01 | 11

2.54 | 11.4 | 20

4.93 | 9.01 | 21

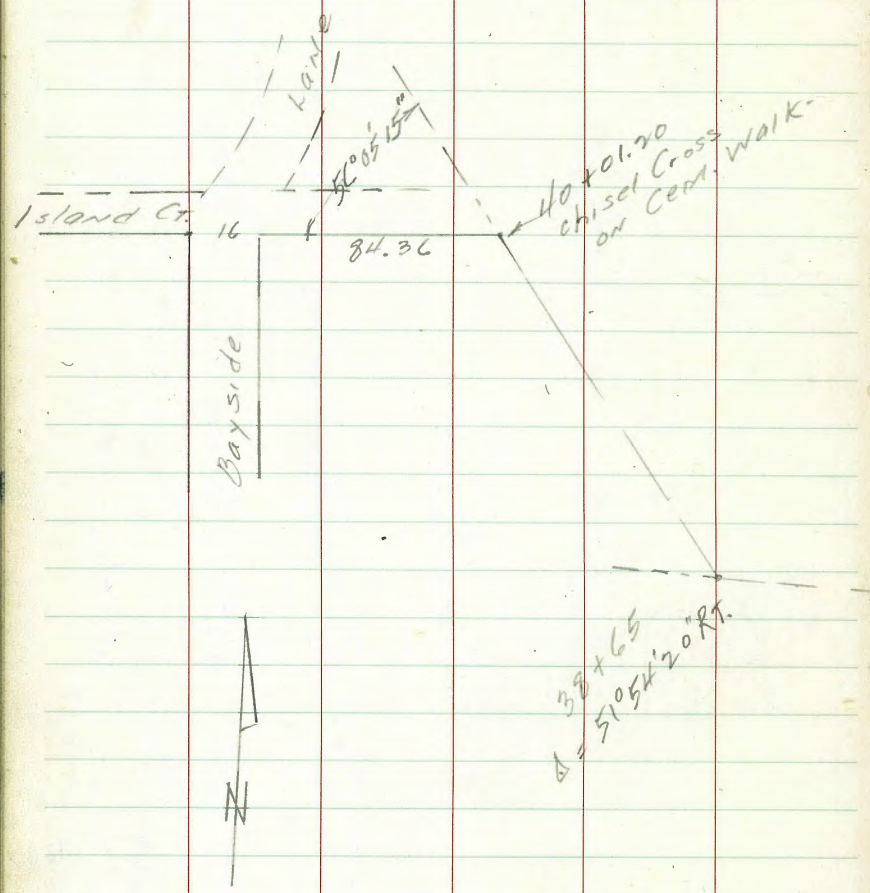
2.34 | 11.6 | 25

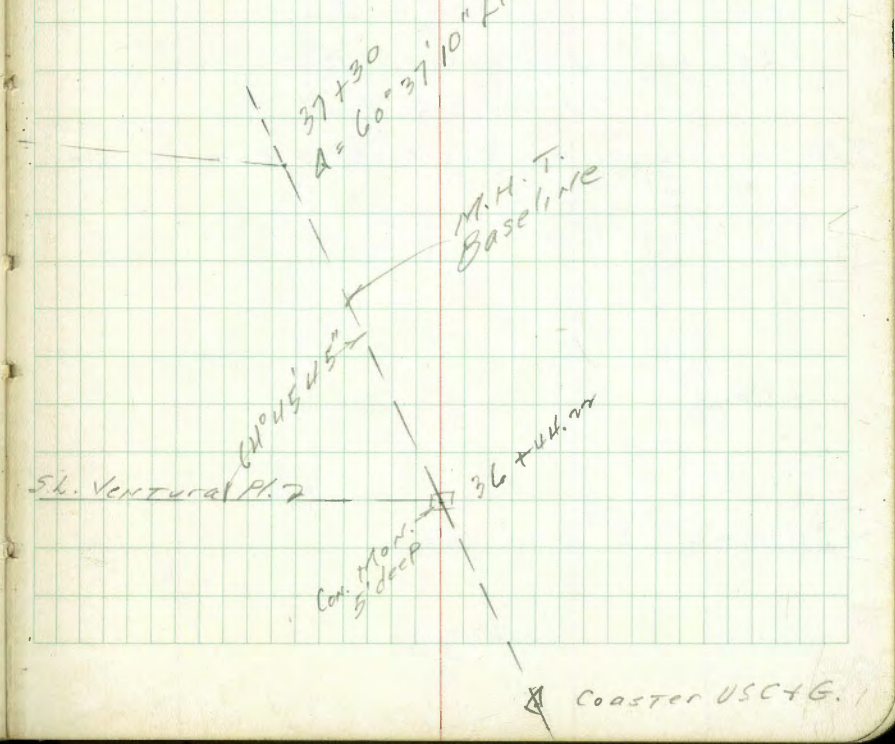
13.94

		CONTD P-24			
17					
+50					
16					
+50					
15					
+50					
14					
13+50					
T.P.	3.80	13.87 13.94	3.87	10.07	

LT			℄		RT	
4.2 | 9.67					8.94 | 4.93	11.7 | 2.17
4.2 | 9.27					17	35
4.6 | 9.57				7.0 | 6.87	8.94 | 4.97	11.0 | 2.87
4.3 | 9.87				3	15	31
3.9				7.2 | 6.67	8.94 | 4.93	11.3 | 2.57
3				2	13	30
				8.94 | 4.93	10.7 | 3.17	
				12	25	
			4.7 | 9.17	8.0 | 5.87	8.94 | 4.93	11.0 | 2.87
			4.9 | 8.97	7	14	30
			49	8.0 | 5.87	8.94 | 4.93	10.8 | 3.07
				9	15	30
				4.1 | 9.27	8.0 | 5.67	8.94 | 4.93
				3.1	11.2	20
				4.1 | 9.37	7.5 | 6.37	8.94 | 4.93	11.4 | 2.27
				6	11	22	40
							11.7 | 2.67
			13.87				40

Survey M.H.T. 4.93 USC&G
on Blk 91 Mission Beach





+50					
20					
+50					
19					
+50	beg. 4-10-41. P.M. Windy cloudy				
T.P.	2.81	12.83	3.85	10.02	Top M.H. 18+20.5
18					
+50					
17+20.06	℄ Subway				
		13.87			

Lt ℄ RT

9.33 / 3.5 / 1		6.53 / 6.3 / 4	4.93 / 7.9 / 16	2.53 / 10.3 / 35
9.63 / 3.2 / 2		6.43 / 6.4 / 4	4.93 / 7.9 / 15	2.43 / 10.4 / 35
9.73 / 3.1 / 3		6.63 / 6.2 / 3	4.93 / 7.9 / 13	2.43 / 10.4 / 35
	9.03 / 3.8	6.73 / 6.1 / 3	4.93 / 7.9 / 16	2.63 / 10.2 / 35
9.33 / 3.5 / 2		6.63 / 6.2 / 3	4.93 / 7.9 / 12	2.63 / 10.2 / 35

12.83

End 4-9-41 Very Windy Rain 4:15 P.M.

9.57 / 4.3 / 5		7.17 / 6.7 / 2	4.93 / 8.94 / 15	2.47 / 11.4 / 35
9.57 / 4.3 / 3		4.93 / 8.94 / 15	2.67 / 11.2 / 30	
9.96 / 3.91 / 7.8	9.77 / 4.1	6.87 / 7.0 / 8	4.93 / 8.94 / 19	2.37 / 11.5 / 35

℄ cem. walk

13.87

+50

24+00 Δ 71°13' RT

+50

23

+50

22

21+57.00 = Δ 40°03' RT

21

12.83

Lt ℄ Rt

4.6, 8.23 | 7.9/26, 4.93 | 10.4/50, 2.43

Sec. on Split 3.3, 9.53 | 5.0/22, 7.83 | 7.9/48, 4.93 | 10.1/70, 2.73

2.5/12, 10.33 | 4.3/10, 8.53 | 7.9/22, 4.93 | 10.4/45, 2.43

2.6/26, 10.23 | 4.0/24, 8.83 | 7.9/4, 4.93 | 10.1/20, 2.73

2.5/30 | 4.5/28 | 5.5/13 | 7.9/1, 4.93 | 10.1/15, 2.73

2.5/21, 10.33 | 7.9/9, 4.93 | 10.1/30

Sec. on Split 3.1/10, 9.73 | 5.1/15, 7.73 | 7.9/36, 4.93 | 9.7/50, 3.13

3.5, 9.33 | 6.6/8, 6.23 | 7.9/21, 4.93 | 10.3/40, 2.53

12.83

Station		Lt		℄		Rt		
28					1.7/9 · 11.13	4.9/15 · 7.93	7.9/35 · 4.93	10.0/59 · 2.83
+50					1.8/3 · 11.03	7.9/32 · 4.93	10.2/50 · 2.53	
27+25					1.8/9 · 11.03	7.9/35 · 4.93	10.1/50 · 2.73	
26+75	Δ 64°35'40" Rt	Sec. on Split			1.6/17 · 11.23	7.9/9 · 4.93	10.7/90 · 2.13	
+25			2.4 · 10.43		4.3 · 8.53	7.9/22 · 4.93	10.1/40 · 2.73	
26			6/8.0 · 7.83	6.1/2 · 6.73		7.9/13 · 4.93	10.6/35 · 2.23	
+50			2.2/20 · 10.63	6.1/9 · 6.73		7.9/6 · 4.93	10.3/25 · 2.53	
25			2.7/22 · 10.13			7.9/12 · 4.93	10.3/30 · 2.53	

12.83

12.83

35				
30				
29+70				
T.P.	4.04	15.26	1.61	11.22
29+40	Sec. at 90° from			
29+40	Sec. on Split of Δ			
29+40	Δ 87°40'15" Lt.	Sec. at 90°		
29				
28+50				
		17.83		

Lt ℄

11.16	6.44	4.93	2.56
4.1 / 27	8.8 / 30	10.33 / 45	12.7 / 80
11.16	6.44	4.93	2.26
4.6 / 6.1	8.8 / 43	10.33 / 54	13.0 / 90
11.06	6.66	4.93	2.26
4.2 / 27	8.6 / 40	10.33 / 54	13.0 / 90

15.26

Fwd. Tang.

10.53	6.43	4.93	2.23
2.0 / 9	6.4 / 30	7.9 / 46	10.6 / 80
11.03	6.33	4.93	2.33
1.8 / 5	6.5 / 30	7.9 / 46	10.5 / 75
11.03	7.03	4.93	2.23
1.5 / 5	5.8 / 30	7.9 / 55	10.5 / 70

from back Tang.

11.43			
1.4			
7.83	4.93	2.43	
5.0 / 20	7.9 / 50	10.4 / 65	
11.23	2.03	4.93	2.43
1.6 / 5	4.8 / 10	7.9 / 40	10.4 / 60

17.83

Station			Lt	℄	Rt	Rt	Rt
+50			4.2/2 (11.06)		7.8/13 (7.46)	10.33/72 (4.93)	12.9/95 (2.36)
33			4.3/9 (10.96)		7.6/8 (7.66)	10.33/44 (4.93)	12.7/65 (2.56)
32+79.42	Δ 48°09'45" LT.	Sec. on split	4.6/15 (10.66)		10.33/29 (4.93)	12.5/50 (2.76)	
+50				4.3 (10.96)	8.3/11 (6.96)	10.33/35 (4.93)	12.9/60 (2.36)
32			4.1/15 (11.16)		8.5/20 (6.76)	10.33/43 (4.93)	12.7/65 (2.56)
+50			4.1/16 (11.16)		8.8/25 (6.46)	10.33/42 (4.93)	12.6/65 (2.66)
31			4.1/14 (11.16)		8.6/19 (6.66)	10.33/34 (4.93)	12.8/65 (2.46)
30+70	Δ 65°15'45" LT	Sec. on split	4.0/4 (11.26)		8.8/11 (6.46)	10.33/25 (4.93)	12.4/60 (2.86)

15.26

15.26

36 + 44.22 SE Ventura Pl. Sec. at 90°

T.P. Mon 3.90 15.35 3.81 11.45 "Coaster"

36 + 44.22 Sec. on S.E. Ventura

36

+ 50

35

+ 50

34 + 02.90 = "Coaster"

15.26

Lt & Pt

Prod. Ely

15.35

on Brass disc → 3.81
on Conc. Mon
U.S.C.&G.

15.26

	9.95	7.15	4.93	3.85
5.41	8.2	10.44	11.5	
15	25	55	65	
	10.66	6.56	4.93	2.16
4.6	8.7	10.33	13.1	
16	30	57	90	
	10.16	7.26	4.93	2.26
5.1	8.0	10.33	13.0	
18	27	63	85	
	10.86	7.06	4.93	2.66
4.4	8.2	10.33	12.4	
22	29	51	80	
	11.26	7.46	4.93	2.56
4.0	8.4	10.33	12.7	
20	29	54	80	
	10.96	7.26	4.93	2.46
4.3	8.0	10.33	12.1	
16	27	53	78	
	10.46	7.26	4.93	2.36
4.0	8.0	10.33	12.9	
14	23	46	90	

40 + 01.20 = S.L. Island Ct. Sec. on S.L. Ct. Prod. Ely

	15.35 = ⊼	
	7.75	
	8.10	
39 + 50	3.84	
	11.94	
	2.73	
	9.21	
	8.20	
	17.41	
+ 81	0.91	
	16.50 —	check to starting B.M.

38 + 65 Δ = 51° 54' 20" RT. Sec. on Split

38

+ 50

37 + 30 Δ = 60° 37' 10" LT

36 + 90

15.35

LT ℄ RT.

40+01.20: 8.0/30 7.35; 10.42/50 4.93; 12.4/65 2.95

39+50: 8.4/20 6.95; 10.42/36 4.93; 11.9/71 3.45

10+42 = F.L. 12" Con. drain from outlet Sewer tank

38+65: 6.1 9.25; 8.8/2 6.55; 10.42/9 4.93; 12.2/75 3.15

38: 5.3/8 10.05; 9.1/4 6.25; 10.42/12 4.93; 12.0/65 3.35

+50: 5.8 7.55; 8.3/12 7.05; 10.42/29 4.93; 12.0/65 3.35

Sec. on Δ Split

37+30: 5.9 9.45; 8.1/7 7.25; 10.42/25 4.93; 12.1/40 3.25

36+90: 5.8/12 9.55; 8.3/21 7.05; 10.42/44 4.93; 11.9/55 3.45

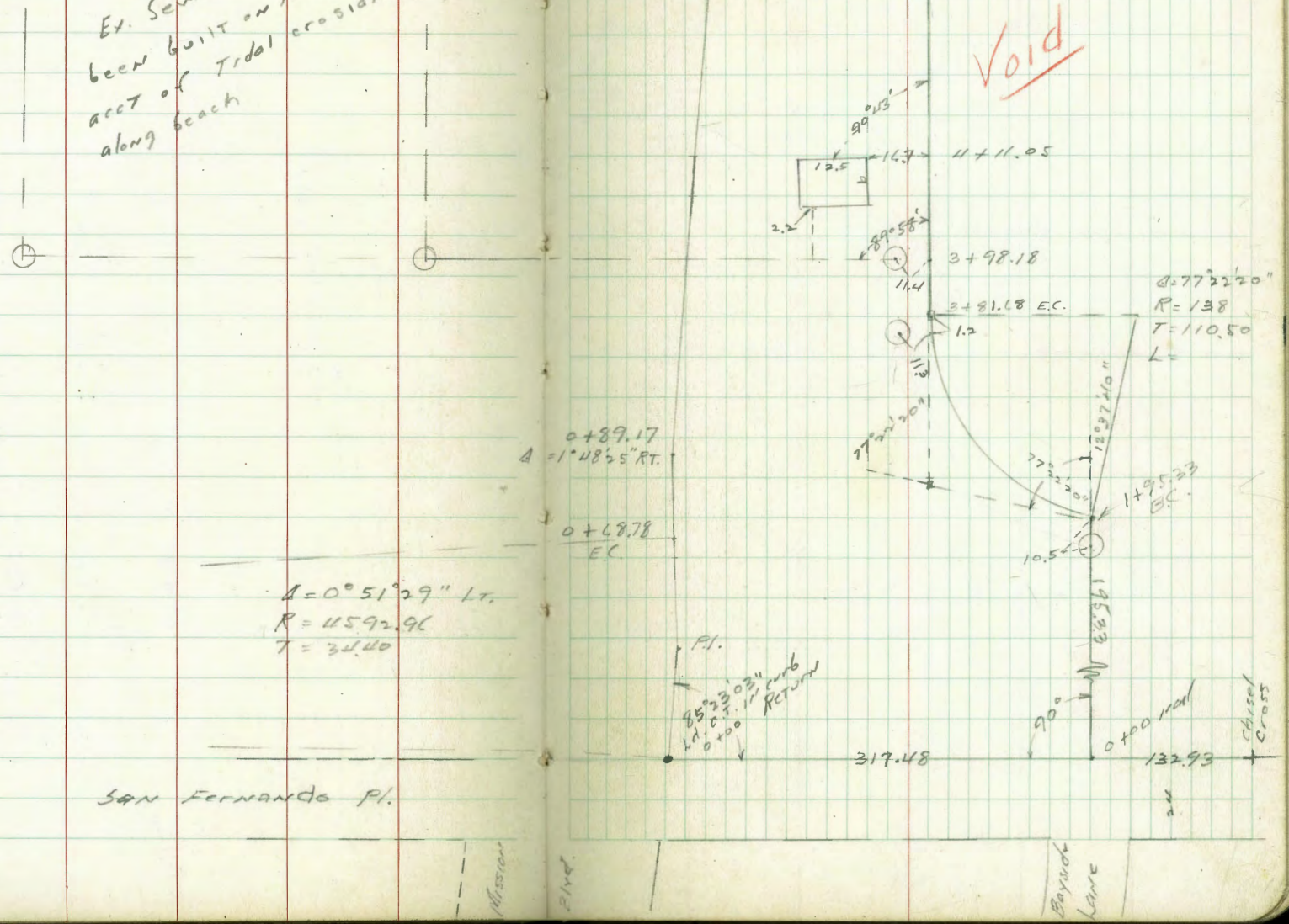
15.35

Moore Road
Mayne Align. of Sewer R.O.W. at
3-11-47. Bonita Bay, Mission Beach

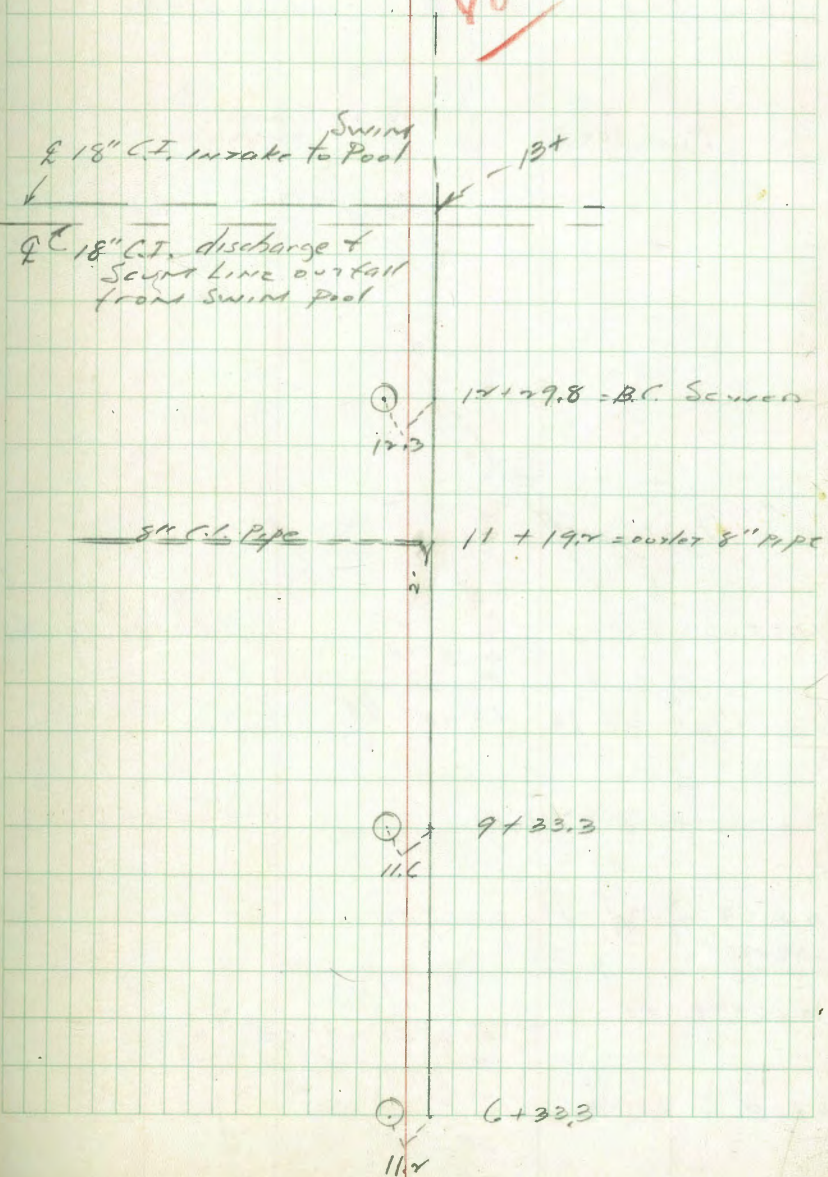
⊙ = Existing Sewer M.H.

Void

Ex. Sewer has not been built on ROW account of Tidal erosion along beach



Void

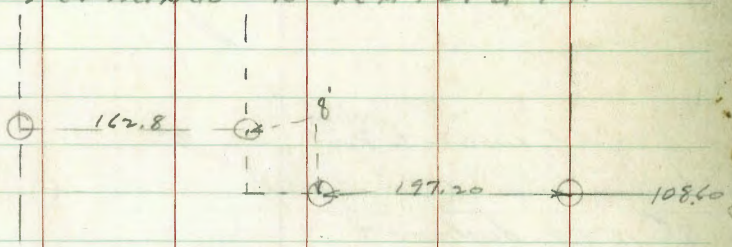

℄ 18" C.I. intake to Swim Pool
13+
℄ 18" C.I. discharge & Sewer Line outfall from Swim Pool
17+29.8 = B.C. Sewer
17.3
8" C.I. Pipe
11 + 19.5 = outlet 8" pipe
9+33.3
11.6
6+33.3
11.5

For change of Sewer R.O.W.

Location of Existing Sewer M.H. = ⊙

Mission Beach, on Bayside Lane

San Fernando to Ventura Pl.



Mission
E.L. Blvd align.

7+55.27 = EC — 6.45 Lt. to C.L.

Δ = 8°18' LT.
R = 2020
T = 146.55
.57

? +62.65 BC LT — 6.04 Lt. to C.L.

3+52.59 = Δ 2°46' Rt. — 5.86 Lt. to C.L.

0+89.17 = Δ 1°48'25" Rt

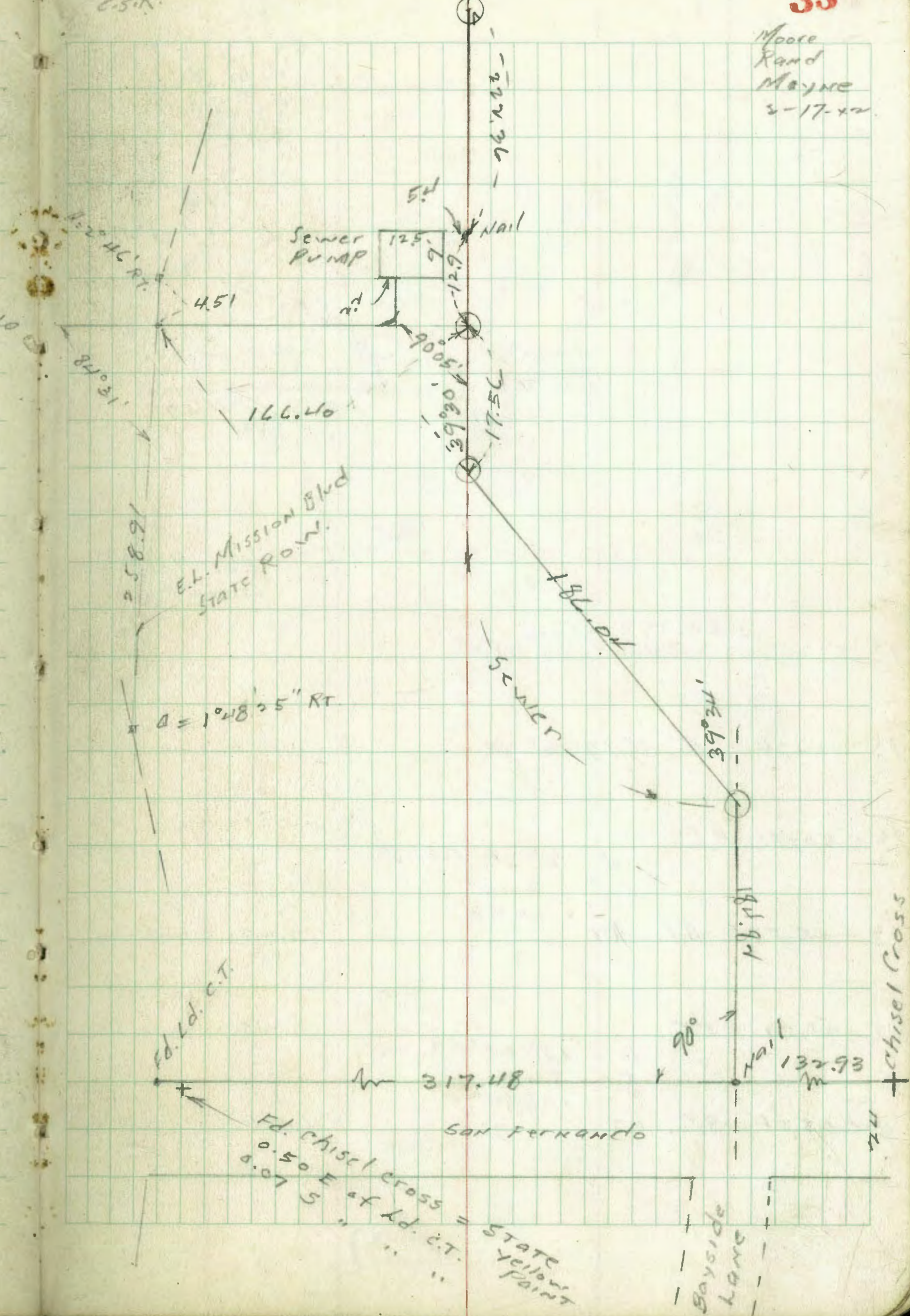
0+68.78 EC

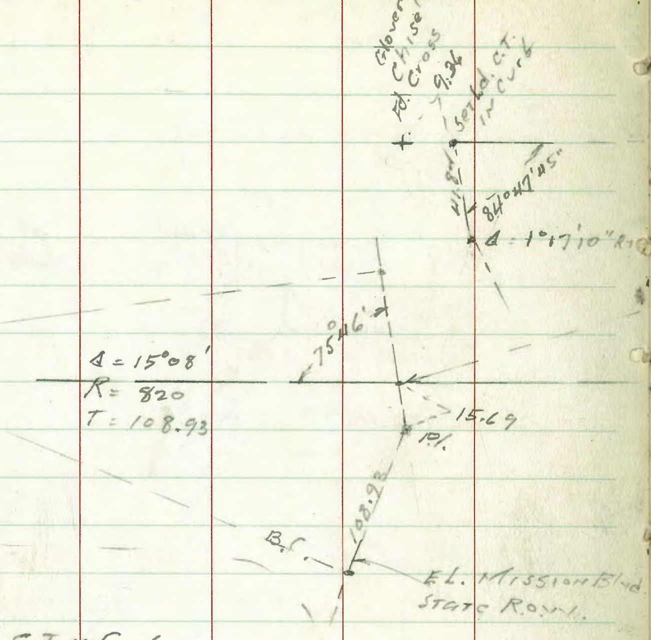
Δ = 0°51'29" Lt
R = 1592.96
T = 34.40

0+00 Ld. C.T. B.C.

Indexed
C.S.K.

Moore
Rand
Mayne
3-17-??





15+ = Ld. C.T. in Curb
S. Ventura Pl.
Main

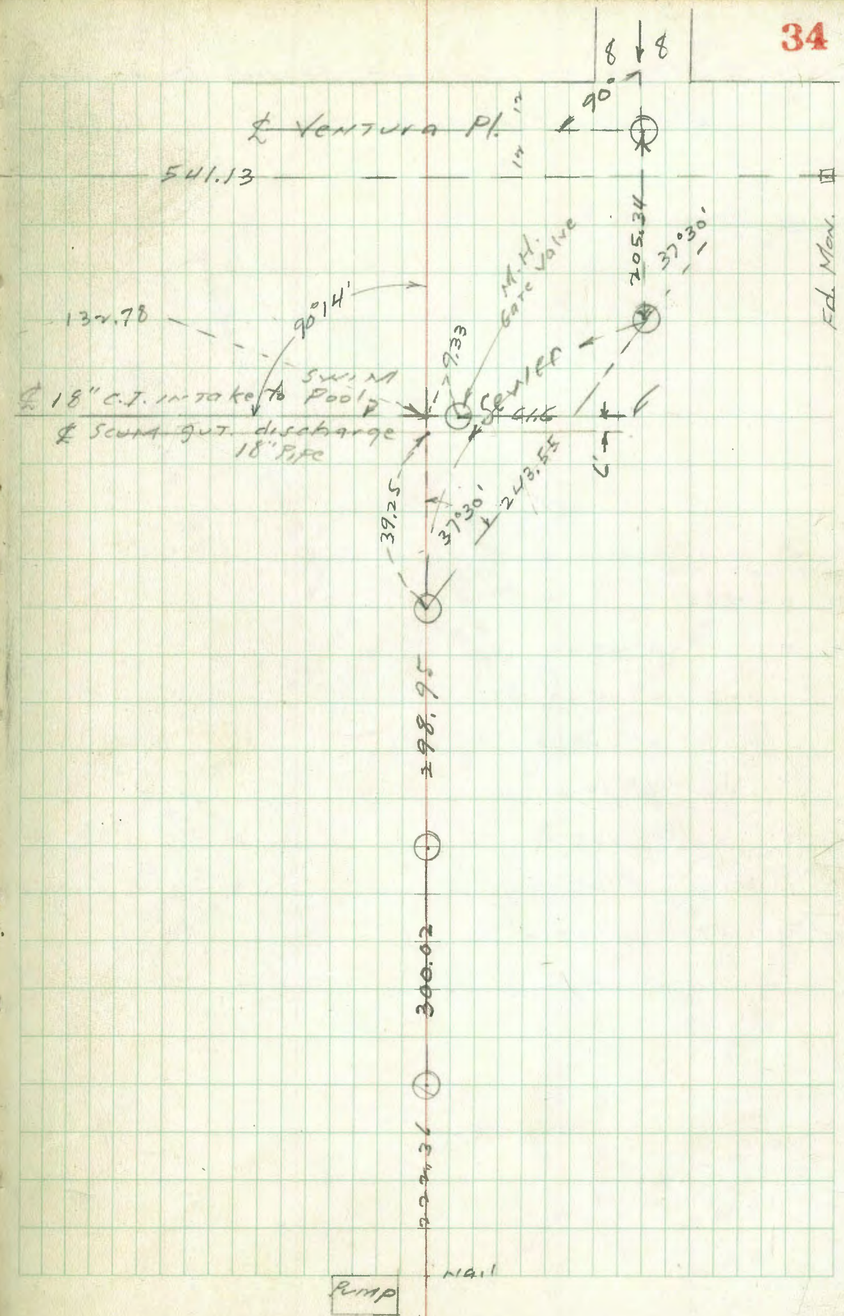
15+34.76 = Δ 1°17'10" RT.

14+50.11 E.C.
Δ = 8°38' RT ✓
R = 800
T = 60.38

13+89.57 = B.C. RT .39 — 7.77 Lt to cb

13+21.59 = EC
Δ = 15°08' LT. ✓
R = 820
T = 108.92 — 7.78 Lt. to cb

11+05.01 B.C. LT .43 — 6.94 Lt to cb



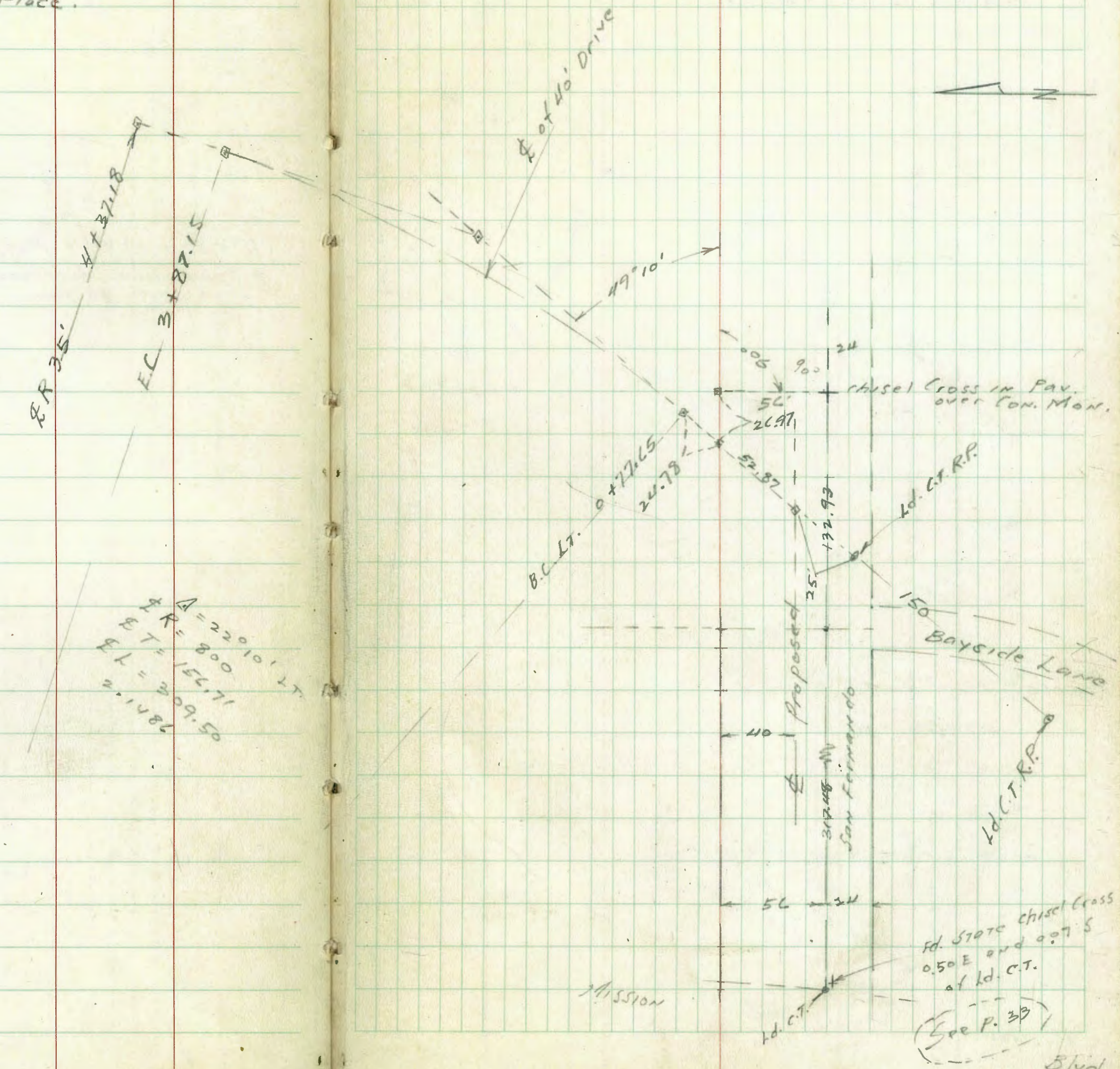
indexed
E.S.K.

Moore
Walker
Hardin
Reed

3-30-44

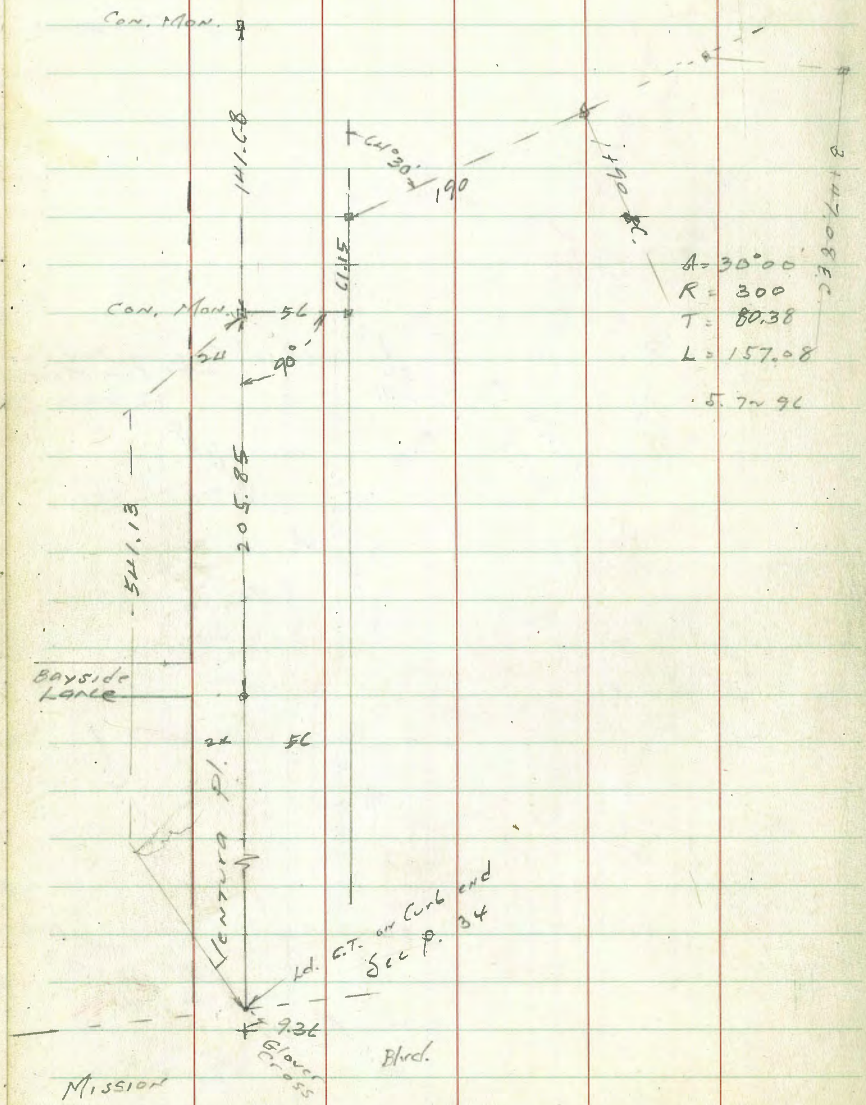
℄ align. of Proposed Bayside Drive, 40' wide
at San Fernando Place.

B.C. 0+77.65	
1	0°48.0?
+50	2°35.45
2	4°22.88
+50	6°10.31
3	7°57.74
+50	9°45.17
E.C. 3+87.15	11°05.0



℄ align. of Bayside Drive 40' wide at Ventura Pl.

Moore
Hazard
Hoopes
4-2-42.



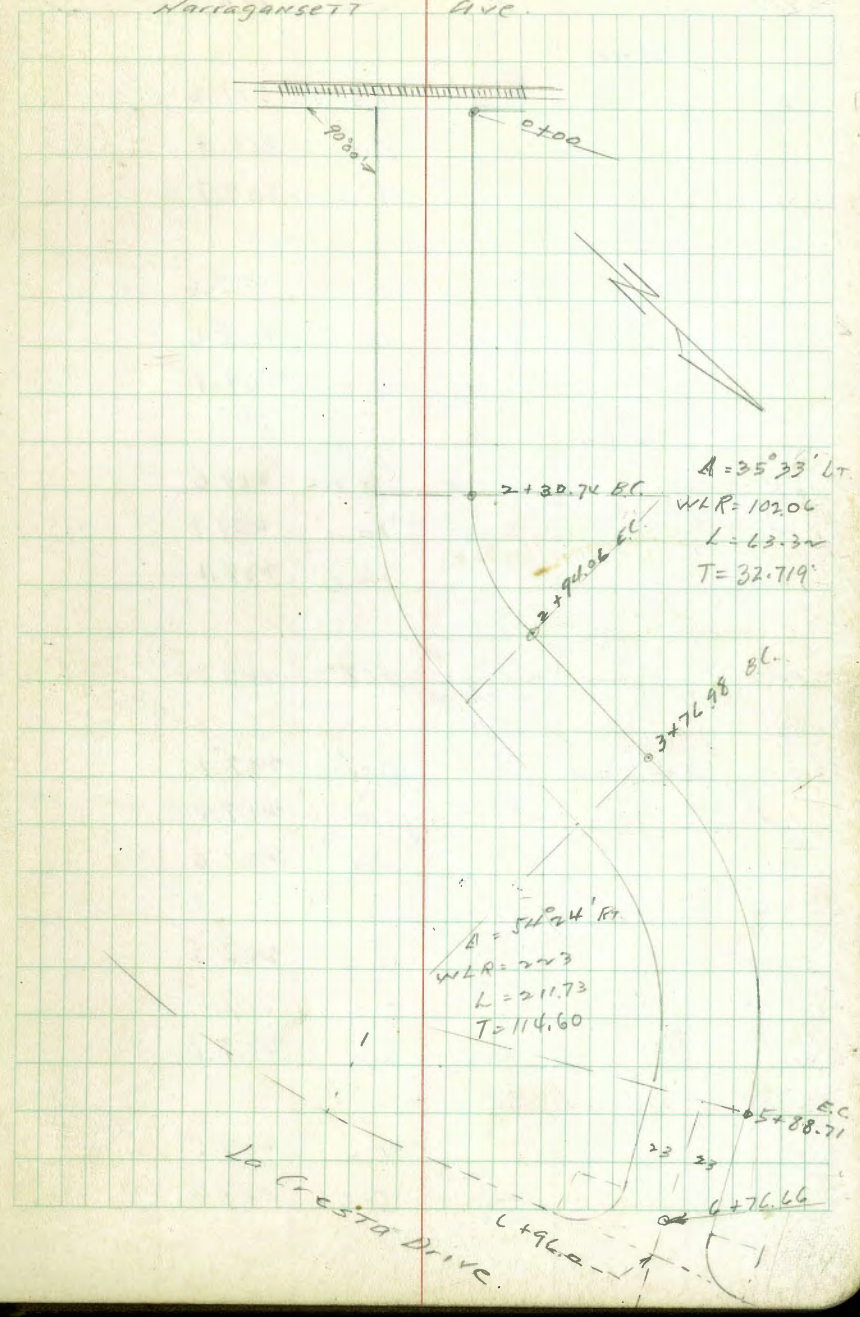
B.C.	1+90	
	2	0° 57.3
	+25	3° 20.5
	+50	5° 43.8
	+75	8° 07.0
	3	10° 30.3
	+25	12° 53.5
E.C.	3+47.08	15° 00.0

indexed
C.S.K.

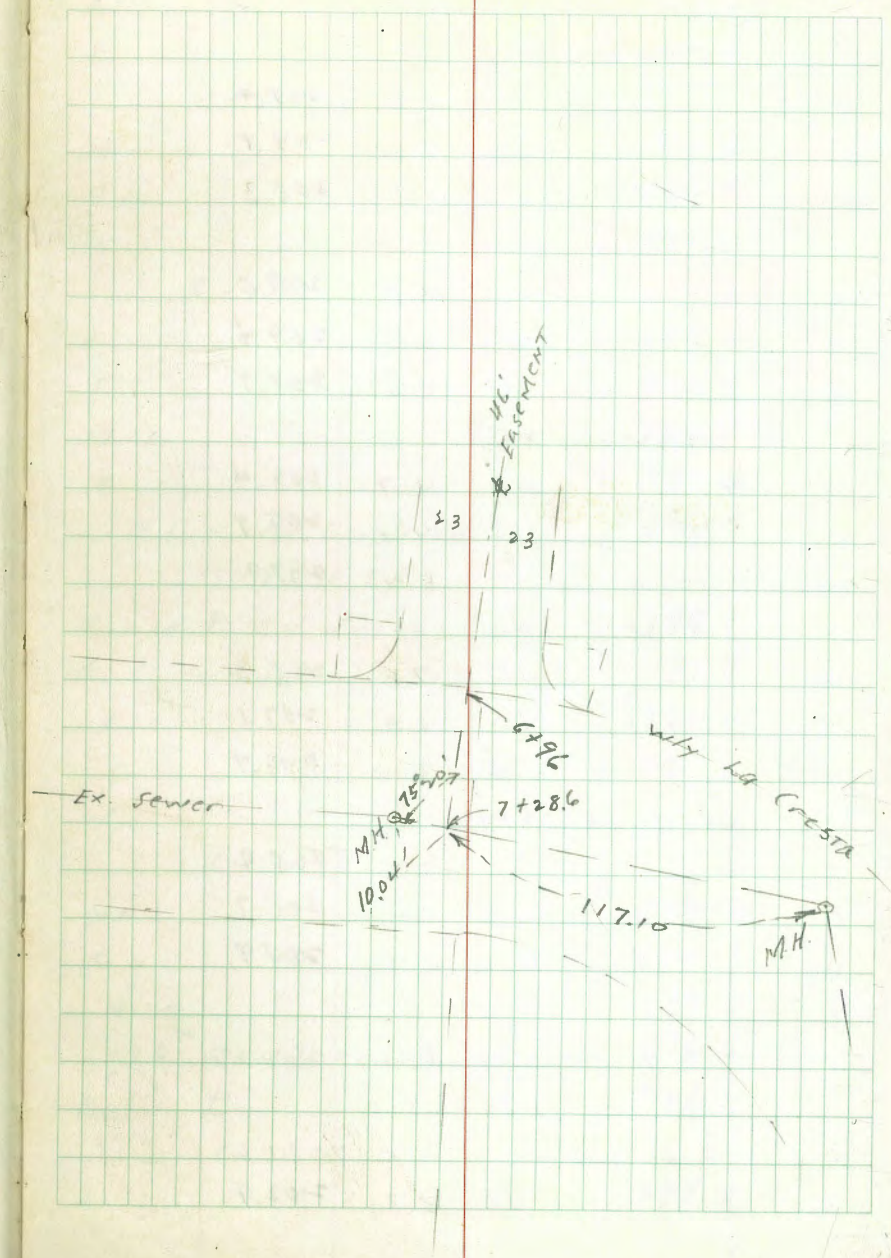
C Moore
W "
M Fox
9-14-44

Levels on 16' Easement for Proposed Sewers
Thru Sefton Estates Map #2047
NOTE: W'ly Line Sta.

T.P. Ld. C.T. F.B. 586-42	2.23	218.74 ✓		216.49
	0 – 8.24 on W'l & 0 – 9.38 on E			
W	Top cb		2.54	216.20
"	gT pav		3.07	215.67
E	Top cb		2.34	216.40
E	gT pav		2.85	215.89
	0+00 N'ly Narragansett			
E			2.34	216.4
C			2.44	216.3
W'l			2.54	216.2
	0+00			
W'l			1.04	217.7
C			1.24	217.5
E			1.44	217.3
	0+21			
E			3.04	215.7
C			5.04	213.7
W'l			4.74	214.0
	0+50			
W'l			6.14	212.6
C			5.54	213.2



		218.7±		
E			4.5	214.2
	1+00			
E			7.5	211.2
C			8.4	210.3
W			9.0	209.7
	1+37			
W			11.1	207.6
C			10.1	208.6
E			9.6	209.1
	1+50			
E			9.1	209.6
C			10.0	208.7
W			10.6	208.1
T.P.	6.0±	213.6	11.68	207.0±
W	2+00		6.0	207.1
C			5.2	207.9
E			4.1	209.0
	2+30.7± BC L7			
E			4.6	208.5
C			5.6	207.5
W			6.0	207.1
	2+40			
W			6.0	207.1
C			5.5	207.6



		213.06		
E			4.6	
	2+40			
E			3.7	209.4
C			4.0	209.1
W			4.8	208.3
	2+60.4			
W			4.1	209.0
C			3.7	209.4
E			3.4	209.7
	2+94.06 E.C.			
E			4.7	208.4
C			4.4	208.7
W			5.2	207.9
	3+35			
W			7.8	205.3
C			6.0	207.1
E			6.4	206.7
	3+76.98 B.C.R.T.			
E			7.2	205.9
C			7.4	205.7
W			8.2	204.9
T.P.	0.91	205.78	8.9	204.87
	4+29.91			
W			3.7	202.1

205.78

C		2.0	203.8
E		1.6	204.2
	4+82.84		
E		3.0	202.8
C		3.4	202.4
W		5.2	200.6
	5+35.77		
W		6.0	199.8
C		4.0	201.8
+13		3.4	202.4
E		4.6	201.2
	+3 Wedge Ex. drive	5.1	200.7
	5+88.71 E.C.		
E	-10 E Ex. drive	6.7	199.1
E	W edge "	7.0	198.8
+10		4.4	201.4
C		4.5	201.3
W		4.6	201.2
	6+32.48		
W		6.2	199.6
C		5.7	200.1
+10		6.7	199.1
	+16 Wedge Ex drive	9.4	196.4
E	E " "	9.2	196.6
	6+76.66		
E		8.8	197.0

205.78

E + 5	E. edge Ex. drive	11.6		194.2
C		11.8		194.0
+ C		10.4		193.4
+ 10		7.4		198.4
W		7.5		198.3
T.P.	7.35	195.99 ✓	17.14	193.64 ✓
	6 + 91 Con.			
W	Top Ret. Wall		-2.6	198.6
W			3.3	192.7
C	on Pav		3.0	193.0
E			2.2	193.8
	6 + 9C La Cresta W.L. Dr.			
E			2.8	193.2
+ 9.8	Top C6		2.39	193.60
"	gut. Pav.		3.06	192.93
C	pav		3.17	192.82
+ 13.5	" gut		3.75	192.24
"	Top C6		3.13	192.86
W			3.9	192.1
	7 + 0C W.C6 Line			
W - 20	Top C6		5.32	190.67
" "	gut		5.95	190.04
W	Pav		4.67	191.32
C	"		3.69	192.30

195.99

E pav gut		3.82	192.17 in rising dir.
E + 4	"	3.9C	192.03
"	Top C6	3.3C	192.63
E + 20	gut	3.95	192.04
"		3.27	192.72
	7 + 28.6 Int. Ex. Sewer		
℄ pav.		4.9r	191.07
10.0 x S = Ex. M.H.		4.5r	191.47 R.IM
"	" "	21.59	174.40 F.L.
117.1 x	" "	11.40	184.59 R.IM
"	" "	24.1r	171.87 F.L.
+ R	5.0r 191.33 ✓	9.68	181.31 ✓
T.P.	17.0C 203.17 ✓	0.2r	191.11 ✓
T.P.	3.58 206.41 ✓	0.34	205.83 ✓
check + BM. Ld. plug curb		1.25	205.1C 205.17
N.W. Norm. + La Cresta			

Cross Section Land St. | indexed G.S.K.
East Line of Nile to 265' East

1+44	28' Rt of ℄ = Sly Power Pole				
1+41	= Ely 26 Conc Walk on Lt.				
1+0					
0+50					
0+21	28' Rt. of ℄ = Sly Power Pole				
0+0	= E.L. Nile = Ely Improvements				
0-14	= E Cb of Nile				
TP	2.03	323.91	8.55	321.88	
BM	1.39	330.43		329.04	N E B.P. Land St Boundary

Feb. 16-44
Sisson
Bliss
Osborne

Lt = N ℄ Rt = S

318.68 / 5.23 / 48 = N'ly Flow Cb Top; 318.54 / 5.37 / 38.8 = S. Ely 26 Conc Walk; 317.7 / 6.2 / 26; 317.6 / 6.3 / 13; 317.4 / 6.5; 317.0 / 6.9 / 13; 317.3 / 6.6 / 26; 317.0 / 6.9 / 40

319.12 / 4.79 / 38.6 = Sly 26 Conc Walk; 318.8 / 5.1 / 26; 318.4 / 5.5 / 13; 318.1 / 5.8; 318.1 / 5.8 / 13; 318.2 / 5.7 / 26; 317.9 / 6.0 / 40

320.75 / 3.16 / 38.5 Sly 26 Conc Walk; 320.3 / 3.6 / 27; 319.9 / 4.0 / 26; 319.8 / 4.1 / 13; 319.8 / 4.1; 319.6 / 4.3 / 13; 319.7 / 4.2 / 26; 319.4 / 4.5 / 40

322.20 / 1.71 / 40; 322.19 / 1.72 / 38.4 = Sly 26 Conc Walk; 322.00 / 1.91 / 26 = Cb; 321.44 / 2.47 / 26 = Gut; 321.82 / 2.09 / 13; 321.99 / 1.92; 321.94 / 1.97 / 13; 321.75 / 2.16 / 26 = Gut; 322.33 / 1.58 / 26 = Cb; 322.59 / 1.32 / 40 on Walk

321.93 / 1.98 / 40 = Cb Top; 321.37 / 2.54 / 40 = Gut; 321.68 / 2.23 / 26; 322.11 / 1.80 / 13; 322.27 / 1.64; 322.20 / 1.71 / 13; 322.03 / 1.88 / 26; 321.87 / 2.04 / 40 = Gutter; 322.29 / 321.29 / 1.62 / 40 = Cb Top

323.91

Lt. ℄ Rt.

2+35

2+20

2+0

1+89 = ℄ 2' Conc Walk on Rt.

1+65 = ℄ Double Conc Ribbon Drive 6' Wide on Rt.

1+60

22391

3/3.6 10.3 40	3/3.5 10.4 26	3/3.2 10.7 13	3/3.2 10.7	3/3.2 10.7 13	3/3.1 10.8 26	2/2.3 11.6 40

3/3.64
10.27
40 = 4" Conc Walk

3/5.5 8.4 40	3/5.3 8.6 26	3/5.3 8.6 13	3/5.2 8.7	3/5.1 8.8 13	3/5.0 8.9 26	3/4.7 9.2 40

3/5.32
8.59
40 = 4" Conc Walk

3/6.87
7.04
40 = 2'-3" Ribbon Conc. Curb

3/7.1 6.8 40	3/7.2 6.7 26	3/7.0 6.9 13	3/6.8 7.1	3/6.5 7.4 13	3/6.6 7.3 26	3/6.4 7.5 40

22391

2+65

+57 28' Rt of ℄ = Sly. Power Pole

2+50

323.91

Lt. ℄ Rt

312.2	312.3	311.9	311.8	311.5	307.9	302.9
11.7	11.6	12.0	12.1	11.4	16.0	21.0
40	26	13		13	26	40

312.7	312.6	312.9	312.9	312.7	312.0	309.0
11.2	11.3	11.0	11.0	11.2	11.9	14.9
40	26	13		13	26	50

323.91

indexed
C.S.R.

C S[illegible]
2-23-44

Levels on Congress (not oiled)
Conde to Twiggs — only intersection of Harney oiled

LT — ℄ — RT = NE'ly

(Each shot: elevation / rod reading / distance from ℄)

Station	LT	℄	RT
1+50	20.1 / 8.7 / 25; 20.1 / 8.7 / 18; 20.0 / 8.8 / 15; 20.2 / 8.6 / 7	20.4 / 8.4	20.2 / 8.6 / 7; 20.0 / 8.8 / 12; 20.3 / 8.5 / 15; 21.0 / 7.8 / 25
1+36	19.80 / 8.97 / 25.4 (℄ 5' walk)		
1+25	19.8 / 9.0 / 25; 19.8 / 9.0 / 18; 19.6 / 9.2 / 15; 19.9 / 8.9 / 7	20.1 / 8.7	20.0 / 8.8 / 7; 19.8 / 9.0 / 12; 20.0 / 8.8 / 15; 20.6 / 8.2 / 25
1+00	18.7 / 10.1 / 35; 19.1 / 9.7 / 25; 19.4 / 9.4 / 18; 19.3 / 9.5 / 15; 19.6 / 9.2 / 7	19.8 / 9.0	19.7 / 9.1 / 7; 19.6 / 9.2 / 13; 19.8 / 9.0 / 15; 20.3 / 8.5 / 25
0+75	16.54 / 12.23 / 35; 19.2 / 9.6 / 25; 19.3 / 9.5 / 18; 19.0 / 9.8 / 15; 19.3 / 9.5 / 7	19.5 / 9.3	19.5 / 9.3 / 7; 19.6 / 9.2 / 15; 20.0 / 8.8 / 25
0+50	19.1 / 9.7 / 25; 18.9 / 9.9 / 18; 18.6 / 10.2 / 15; 18.9 / 9.9 / 7	19.2 / 9.6	19.3 / 9.5 / 11; 19.5 / 9.3 / 15; 19.9 / 8.9 / 25
0+25	18.9 / 9.9 / 25; 18.7 / 10.1 / 15; 18.4 / 10.4 / 10	19.0 / 9.8	19.2 / 9.6 / 7; 19.3 / 9.5 / 15; 19.6 / 9.2 / 25
0+00	18.4 / 10.4 / 25; 18.3 / 10.5 / 15; 18.0 / 10.8 / 10	18.7 / 10.1	19.1 / 9.7 / 7; 19.0 / 9.8 / 15; 19.4 / 9.4 / 17; 19.5 / 9.3 / 25

0+00 = N'ly of Conde

Spike in P.P. Sly Con.	3.04	28.77	25.73	Jefferson Harney

28.77

Congress

Station	Notes	Lt	℄	Rt
Sly c6	Beg. oil Pav	232/5.6/25; 231/5.7/15; 236/5.2/7	238/5.0	238/5.0/7; 234/5.4/15; 236/5.8/21; 232/5.6/25
Sly Line +08	IN gut	234/5.4/25; 229/5.9/15; 238/5.3/7	237/5.1	239/5.1/7; 237/5.6/15; 229/5.9/20; 23.8/5.0/25
3+00	Sly Harney 50' wide 10' cbs 7½ ¼ s	233/5.5/25; 233/5.5/18; 236/5.8/15; 228/6.0/13; 23.6/5.8/7	235/5.3	232/5.6/7; 228/6.0/15; 23.5/5.3/20; 238/5.0/25
2+75		227/6.1/25; 225/6.3/18; 224/6.4/15; 217/7.1/11; 222/6.6/7	225/6.3	22.2/6.6/7; 21.9/6.9/13; 22.2/6.6/15; 228/6.0/18; 23.1/5.7/25
2+48.5	22.17 / 6.58 / 25.2 Top 4" wall	226/6.8/25; 21.8/7.0/18; 21.6/7.2/15; 21.3/7.5/12; 21.5/7.3/7	21.7/7.1	21.6/7.2/7; 21.3/7.5/13; 21.7/7.1/15; 22.2/6.6/25
2+25		21.6/7.2/25; 21.5/7.3/18; 20.9/7.9/15; 21.1/7.7/7	21.3/7.5	21.1/7.7/7; 20.9/7.9/15; 21.6/7.2/19; 22.0/6.8/25
2+06	℄ dwy drive 6.5 overall 1.5 Ribbons	21.44/7.33/25.1		
2+00	Top 4" wall → 25.1	21.68/7.09/25.1; 21.2/7.6/25; 20.9/7.9/18; 20.6/8.2/15; 20.8/8.0/7	20.9/7.9	20.8/8.0/7; 20.6/8.2/15; 21.3/7.5/20; 21.6/7.2/25
1+75		20.5/8.3/25; 205/8.3/18; 20.3/8.5/15; 205/8.3/7	20.6/8.2	20.5/8.3/7; 20.3/8.5/13; 205/8.3/15; 21.2/7.4/25

28.77

28.77

Congress

Lt | ℄ | Rt

Top Lower Con. Step: 4.71 / 2.68 (9 3' of 2 steps)

Station	Readings (Lt → ℄ → Rt)
1+31	236 / 5.2 / 25; 233 / 5.5 / 18; 228 / 6.0 / 15; 23.1 / 5.7 / 7; 233 / 5.5; 232 / 5.6 / 7; 236 / 5.8 / 12; 234 / 5.4 / 15; 235 / 5.3 / 18; 238 / 5.0 / 25
1+00	239 / 4.9 / 25; 232 / 5.1 / 16; 232 / 5.6 / 15; 235 / 5.3 / 7; 23.7 / 5.1; 235 / 5.3 / 7; 233 / 5.5 / 12; 235 / 5.3 / 15; 238 / 5.0 / 18; 24.0 / 48 / 25
0+50	243 / 4.5 / 25; 242 / 4.6 / 18; 238 / 5.0 / 15; 239 / 5.1 / 12; 243 / 4.5 / 7; 24.5 / 4.3; 243 / 4.5 / 7; 232 / 5.1 / 14; 239 / 4.9 / 15; 24.1 / 4.7 / 25
Nly Harney = 0+00 End Oil Pav.	24.5 / 4.3 / 25; 237 / 5.0 / 18; 238 / 5.0 / 13; 24.8 / 4.5 / 7; 24.5 / 4.3; 24.3 / 4.5 / 7; 24.6 / 4.8 / 15; 239 / 4.9 / 19; 244 / 4.4 / 25
Nly c6 +03	239 / 4.9 / 25; 239 / 4.9 / 15; 24.4 / 4.4 / 7; 24.5 / 4.3; 24.3 / 4.5 / 7; 24.6 / 4.8 / 15; 239 / 4.9 / 20; 24.6 / 4.8 / 25
Nly c6	246 / 4.8 / 25; 242 / 4.6 / 15; 243 / 4.5 / 7; 24.3 / 4.5; 24.3 / 4.5 / 7; 24.3 / 4.5 / 15; 24.2 / 4.6 / 25
Nly 1/4	24.2 / 4.6 / 25; 242 / 4.6 / 15; 242 / 4.6 / 7; 24.36 / 4.57 on M.H. Rim; 24.3 / 4.5 / 7; 24.3 / 4.5 / 15; 243 / 4.5 / 25
℄ Harney (oiled)	238 / 5.0 / 25; 239 / 4.9 / 15; 24.6 / 4.8 / 7; 246 / 4.8; 24.1 / 4.7 / 7; 24.6 / 4.8 / 15; 239 / 4.9 / 25
Sly 1/4 of Harney	

28.77

28.77

Congress

Station	Description	
3+00	Sly Twiggs	Con. Top wall 2327 / 5.50 / 25.4
2+59	℄ 3' Con. walk	
2+50		Top wall 2344 / 5.33 / 25.1
2+26	℄ 3' Con. walk	
2+26	℄ 4.4 Con. walk	
2+14	Beg. 6" Con wall	
2+00		
1+50		

2877

Lt ¢ Rt

22.1/6.7/25	22.1/6.7/18	21.8/7.0/15	21.9/6.9/7	22.1/6.7	21.9/6.9/7	21.6/7.2/15	22.6/6.8/18	22.1/6.7/25
22.44/6.33/25								
22.5/6.3/25	22.6/6.2/18	22.1/6.7/15	22.1/6.7/7	22.2/6.6	22.2/6.6/7	22.6/6.8/15	22.3/6.3/18	22.6/6.2/25
22.71/6.02/24.7	23.87/4.90/29.7							
22.71/6.06/25.1								
Top wall 2369/5.08/25								
22.9/5.9/25	22.9/5.9/18	22.4/6.4/15	22.5/6.3/7	22.6/6.[illegible]	22.5/6.3/7	22.3/6.5/15	22.8/6.0/18	22.9/5.9/25
23.3/5.5/25	23.1/5.7/18	22.7/6.1/15	22.8/6.0/7	23.0/5.8	22.8/6.0/7	22.8/6.0/15	23.1/5.7/18	23.2/5.6/25

28.77

indexed C.S.K.

Levels on Harney — 50' wide, 10' cbs, oil pav.
San Diego to Congress

Station	Notes	Lt	℄	Rt = to N'nly
1+01	End Cont'l gut on Rt; ℄ Top 4' wide flagstone walk	27.64 / 2.83 / 24; 27.3 / 8.2 / 15; 27.1 / 8.4 / 13; 27.6 / 7.9 / 7	27.7 / 7.8	27.5 / 8.0 / 7; 27.1 / 8.4 / 11; 27.9 / 7.6 / 15; 27.7 / 7.8 / 20; 28.1 / 7.4 / 25
0+85	Cont'l oil gut on Rt. is badly broken up.	28.3 / 7.2 / 25; 27.9 / 7.6 / 15; 27.5 / 7.8 / 13; 28.1 / 7.4 / 7	28.2 / 7.3	28.0 / 7.5 / 7; 27.9 / 7.6 / 12; 28.0 / 7.5 / 15; 28.2 / 7.3 / 20; 28.5 / 7.0 / 25
0+69		29.2 / 6.3 / 25; 28.9 / 6.6 / 18; 28.8 / 6.7 / 15; 28.5 / 7.0 / 13; 28.7 / 6.8 / 7	28.8 / 6.7	28.5 / 7.0 / 7; 28.2 / 7.3 / 12; 28.5 / 7.0 / 15; 28.9 / 6.6 / 17; 28.9 / 6.6 / 24; 29.26 / 6.23 / 24.2 (℄ Top of Lower Wood step 4.8 wide)
0+54.2	℄ Top Lower Con. step 8.2 wide and Level	29.86 / 5.63 / 23.9		
0+50		29.6 / 5.9 / 25; 29.5 / 6.0 / 15; 29.1 / 6.4 / 12; 29.2 / 6.3 / 7	29.3 / 6.2	29.1 / 6.4 / 7; 28.7 / 6.8 / 12; 29.1 / 6.4 / 15; 29.7 / 5.8 / 18; 29.7 / 5.8 / 25
0+25	on Rt. is oil Cont'l gutter	30.6 / 4.9 / 25; 30.1 / 5.4 / 15; 29.9 / 5.6 / 13; 30.0 / 5.5 / 7	30.1 / 5.4	29.9 / 5.6 / 7; 29.6 / 5.9 / 13; 30.0 / 5.5 / 15; 30.4 / 5.1 / 18; 30.5 / 5.0 / 25
0+0.0	Swly San Diego Ave	31.12 / 4.37 / 25 walk; 30.88 / 4.61 / 15 cb; 30.30 / 5.19 / 15 Pav; 30.49 / 5.00 / 7.5 Pav	30.48 / 5.01 Pav	30.39 / 5.10 / 7.5 Pav; 30.17 / 5.32 / 15 Pav; 30.69 / 4.80 / 15 cb; 30.92 / 4.57 / 25 walk

check to Swly — B.M. B.P. San Diego & Conde

			3.42	32.07	31.95
T.P.	9.98	35.49 / 28.77	3.26 Fwd from 47	+5.51	0.52 Same old difference art.

35.49

Station					LT					℄					RT
2+25					24.9 / 5.0 / 25	248 / 5.1 / 15	246 / 5.3 / 13	248 / 5.1 / 7		250 / 4.9	249 / 5.0 / 7	24.7 / 5.2 / 14	249 / 5.0 / 15	251 / 4.8 / 25	2471 / 5.14 / 25.6 (℄ 3' Con walk)
2+16					℄ 4' Con. walk	2471 / 5.18 / 25									
2+00					252 / 4.7 / 25	253 / 4.6 / 16	249 / 5.0 / 13	252 / 4.7 / 7		254 / 4.5	252 / 4.7 / 7	250 / 4.9 / 11	252 / 4.7 / 15	252 / 4.2 / 25	
1+74					257 / 4.2 / 25	259 / 4.0 / 17	256 / 4.3 / 15	253 / 4.6 / 13	257 / 4.2 / 7	259 / 4.0	257 / 4.2 / 7	255 / 4.4 / 12	257 / 4.2 / 15	262 / 3.7 / 25	262+ / 3.64 / 25.8 (℄ 4' Con. walk)
1+64					261 / 3.8 / 25	Loose brick walk 2' wide									
1+50					263 / 3.6 / 25	261 / 3.8 / 15	258 / 4.1 / 12	261 / 3.8 / 7		263 / 3.6	261 / 3.8 / 7	259 / 4.0 / 12	261 / 3.8 / 15	266 / 3.3 / 25	
1+31												273 / 2.6 / 24.9	℄ 2' wide Loose tile walk		
1+15	Back up											27.8 / 2.1 / 25.4	℄ Loose Tile walk 2' wide		
T.P.	3.42	29.89	9.02	26.47						29.89					
1+25					270 / 8.5 / 25	269 / 8.6 / 17	26.7 / 8.8 / 15	264 / 9.1 / 13	26.9 / 8.6 / 7	27.0 / 8.5	26.7 / 8.8 / 7	264 / 9.1 / 13	26.7 / 8.8 / 15	27.1 / 8.4 / 18	27.4 / 8.1 / 25
		35.49								35.49					

check to T.P. p. 48	4.39	25.50	25.51 / 6.01
3+06 Ely Congress p. 46			
2+79			
2+75			
2+50			

2989

24.8 / 5.4 / 25.2 ℄ 3.5 Con walk

24.1 / 5.8 / 25	24.1 / 5.8 / 16	23.8 / 6.1 / 11	24.1 / 5.8 / 7	24.3 / 5.6	24.3 / 5.6 / 7	24.4 / 5.7 / 12	24.8 / 5.1 / 15	24.5 / 5.4 / 25

24.3 / 5.6 / 25	24.4 / 5.5 / 15	24.2 / 5.7 / 12	24.4 / 5.5 / 7	24.6 / 5.3	24.5 / 5.4 / 7	24.5 / 5.4 / 12	24.22 / 5.67 / 14	25.0 / 4.9 / 15	24.7 / 5.2 / 25	24.15 / 5.74 / 25.8

F.L. outlet 4" Con. drain

F.L. 2" inlet

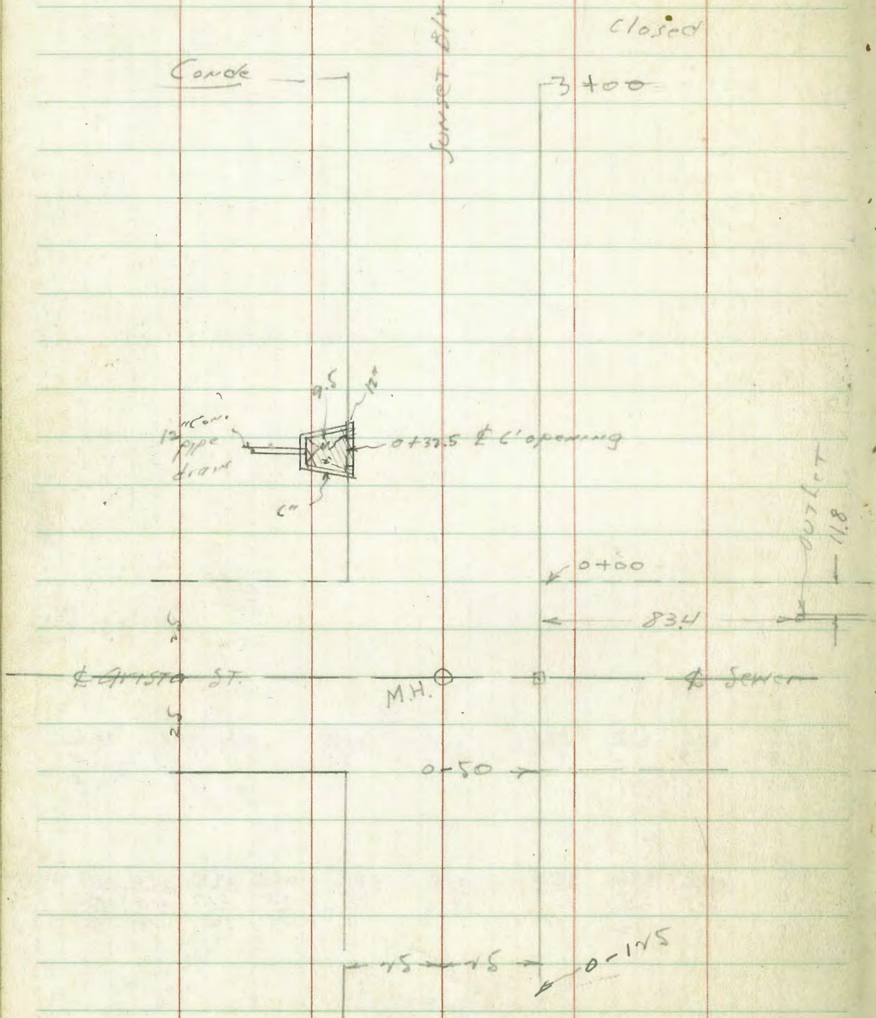
2 9.89

Supposed to drain yard

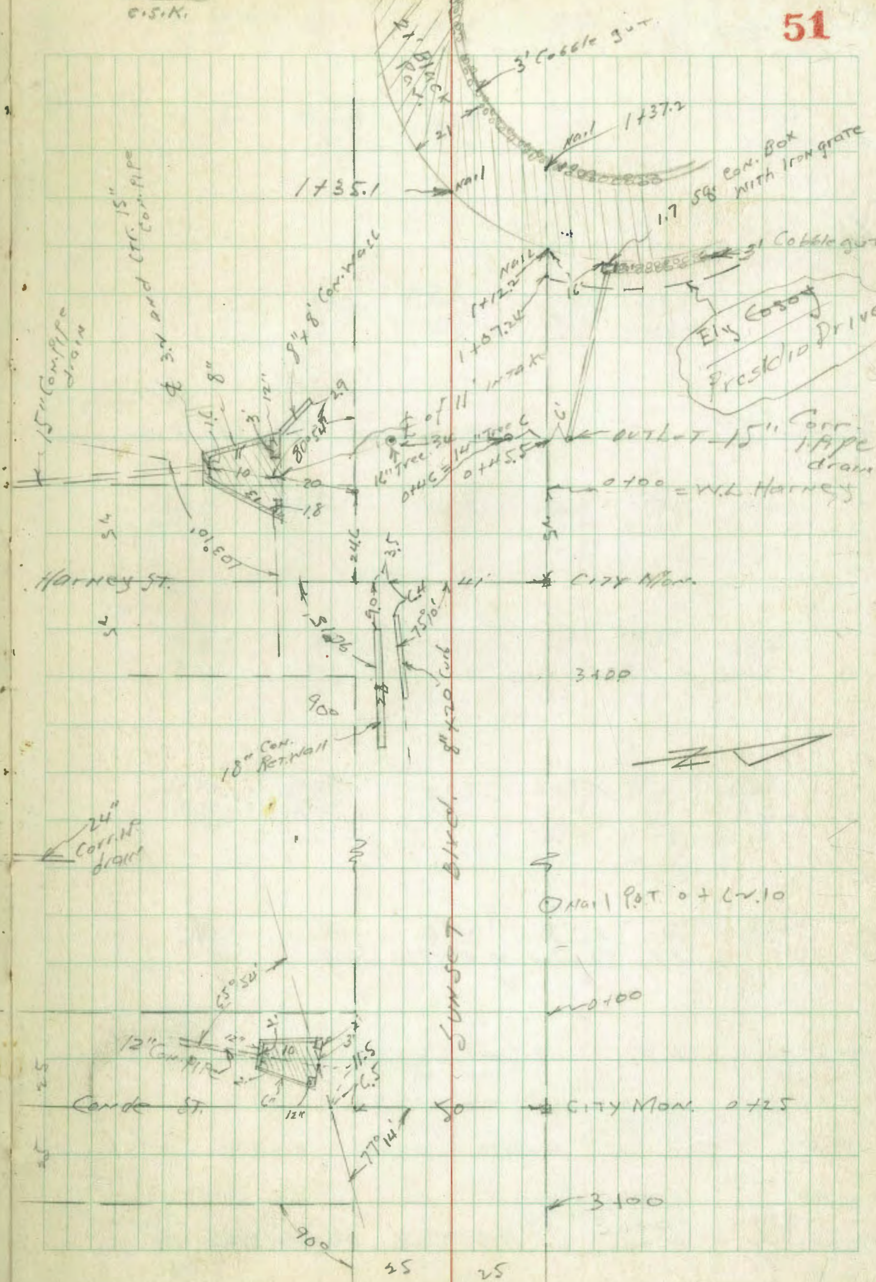
CSK
SMRMyr.
WF
3-27-44.

Levels on Sunset Blvd.
Arista to Cosoy.

See G.B. 155-69
For City Mons. Set.



Indexed
C.S.K.



0+00 = W.L. Arista					
0-10					
0-11.8					
0-25 ℄ Arista					
T.P. Con. on Mon.	0.80	173.38	12.22	172.58	Nly Sunset ℄ Arista
0-40					
0-50 = E.L. Arista					
0-100					
0-125 = Ely front ? ℄ 12' E.L. Arista					
T.P.	0.87	185.02	13.05	184.15	
T.P.	0.10	197.20	12.53	197.10	
T.P.	0.72	209.63	12.42	208.91	
T.P.	1.06	221.33	12.21	220.27	
Sly BMBP 7' CT. in Curb	0.48	232.48		232.00	Chesnut Arista

LT ℄ RT = Nly

170.61 / 27.7 / 35 — 150.0 / 23.2 / 25 — ℄ 162.8 / 10.6 — 162.4 / 11.0 / 15 — 161.2 / 12.2 / 25 — 160.7 / 12.1 / 31 — 155.9 / 17.5 / 39

153.9 / 19.5 / 35 — 155.2 / 17.7 / 25 — 166.5 / 6.9 — 170.2 / 3.2 / 15 — 172.1 / 1.2 / 25 — 172.3 / 1.0 / 30

El. 24" outlet Conc. P. +11.8 / 108.2 = 185.2

157.5 / 15.9 / 35 — 160.2 / 13.2 / 25 — 167.9 / 5.5 Rim M.H. — 171.0 / 2.2 / 15 — 172.6 / 0.8 / 25

173.38

160.1 / 24.9 / 35 — 162.8 / 22.2 / 25 — 168.8 / 16.2 — 172.0 / 12.0 / 15 — 178.2 / 6.8 / 25 — 179.2 / 5.8 / 35

160.4 / 24.6 / 35 — 163.3 / 21.7 / 25 — 170.0 / 15.0 — 173.7 / 11.3 / 15 — 178.5 / 6.5 / 25 — 179.8 / 5.2 / 30

155.0 / 27.0 / 35 — 160.8 / 24.2 / 25 — 167.5 / 17.5 — 160.8 / 14.2 / 15 — 176.2 / 8.8 / 25 — 180.1 / 4.9 / 32

160.9 / 24.1 / 35 — 162.8 / 22.2 / 25 — 166.1 / 18.9 — 169.2 / 15.8 / 15 — 175.0 / 10.0 / 25 — 178.0 / 7.0 / 30

185.02

Ele. Toe slope 1649-49.

0+50					
0+40					
0+37					
0+37.5					27.5 Top Conc. Walls
0+31					
0+28					
0+23					
0+10					
T.P.	0.63	161.17 / 173.38	12.89	160.49	

T.C. = Top Cut Bank

F.L. 12" Pipe F.L. apron

141.2 / 19.9 / 39	141.5 / 19.6 / 25	143.0 / 18.1 / 15	145.9 / 15.2	150.6 / 10.5 / 25	152.9 / 8.2 / 35
	139.2 / 21.9 / 25	141.1 / 20.0 / 15	144.2 / 16.2	148.8 / 12.3 / 25	150.9 / 10.2 / 35
	133.6 / 27.5 / 25	135.2 / 25.4 / 15	139.2 / 23.4	143.9 / 17.2 / 25	150.8 / 10.3 / 35
128.9 / 32.2 / 34.1	132.6 / 28.5 / 25		136.6 / 24.5	148.0 / 18.1 / 25	146.0 / 15.1 / 35
	133.9 / 27.2 / 25		139.6 / 23.5	143.8 / 17.3 / 25	146.8 / 14.3 / 35
	133.7 / 27.4 / 25	135.0 / 27.1 / 27	144.1 / 17.0	144.3 / 16.8 / 25	142.4 / 13.7 / 35
136.5 / 24.6 / 35	143.0 / 18.1 / 25		145.9 / 15.2	148.8 / 14.3 / 15	144.8 / 16.3 / 19	144.9 / 16.2 / 25	150.9 / 10.2 / 29	146.9 / 14.2 / 34
143.6 / 17.5 / 35	145.8 / 15.3 / 25		153.6 / 7.5	154.7 / 6.4 / 15	154.6 / 6.5 / 25	142.6 / 13.5 / 25	142.8 / 13.3 / 32	154.3 / 1.8 / 37

161.17

Sunset Blvd.

1+75				
1+67				
1+62				
1+45				
1+40				
1+25				
T.P.	12.12	173.11	0.13	160.99
1+00				
0+75				
		161.12		

Sta.	Lt	Lt	Lt	℄	Rt	Rt	Rt	Rt
1+75	153.1 / 20.0 / 36	153.2 / 19.9 / 25	159.1 / 14.1 / 10	162.6 / 10.5	165.2 / 7.9 / 12	168.0 / 5.1 / 25		
1+67	156.2 / 16.9 / 26	156.4 / 16.7 / 25	162.1 / 11.0 / 10	162.9 / 10.2	162.1 / 6.0 / 15	167.6 / 3.5 / 25		
1+62	157.0 / 16.1 / 26	157.3 / 15.8 / 25	162.9 / 10.2 / 10	163.4 / 9.7	165.4 / 7.7 / 15	167.7 / 5.4 / 25	171.1 / 2.0 / 30	
1+45	T.C.	160.6 / 12.5 / 25	165.1 / 8.0 / 10	166.6 / 6.5	166.1 / 7.0 / 12	168.0 / 5.1 / 25	168.4 / 4.7 / 29	172.7 / 0.4 / 33
1+40	T C	161.1 / 12.0 / 25	166.9 / 6.2 / 10	167.9 / 5.2	168.5 / 4.6 / 15	171.4 / 1.7 / 25		
1+25	T.C. 159.8 / 12.3 / 26	161.1 / 12.1 / 25	164.5 / 8.6 / 15	167.5 / 5.6	170.0 / 3.1 / 25			
T.P.				173.11				
1+00	T.C. 151.2 / 8.9 / 30	155.7 / 5.4 / 25		160.3 / 0.8	162.8 / +1.7 / 25	163.8 / +2.7 / 35		
0+75	149.7 / 11.4 / 29 T.C. cut	149.3 / 11.8 / 25	150.0 / 11.1 / 15	152.1 / 9.0	155.7 / 5.4 / 25	157.4 / 3.7 / 35		
				161.12				

Sunset

					Lt	℄	Rt
3+25 ℄ Conde					1238 / 21.5 / 35 TC; 113.9 / 21.4 / 25; 111.3 / 24.0 / 20; 113.6 / 21.7 / 7; 118.9 / 16.4 / 6	120.9 / 14.4	122.4 / 7.9 / 15; 124.52 / 5.8 / 25 (on Mon.); 124.3 / 1.0 / 35
3+15					123.1 / 12.2 / 25 TC; 111.5 / 23.8 / 12; 113.4 / 21.9 / 8	118.9 / 16.4	123.6 / 11.7 / 20; 123.8 / 11.5 / 25; 134.9 / 0.4 / 50
3+10					125.9 / 9.4 / 25 T.C.; 119.7 / 15.6 / 10; 113.7 / 21.6 / 7	114.9 / 20.4	118.9 / 16.4 / 20; 120.0 / 15.3 / 25; 123.7 / 11.6 / 27; 134.6 / 0.7 / 50
3+00 = 0+00 S/y Conde					130.9 / 4.4 / TC 25; 129.9 / 5.4 / 15	125.1 / 10.4	124.0 / 11.3 / 20; 120.4 / 14.9 / 25; 121.7 / 13.6 / 35; 130.7 / 4.6 / 50
T.P.	0.03	135.33	12.89	135.30		135.33	
2+83					132.7 / 15.5 / 25 TC	135.9 / 12.3	137.0 / 11.2 / 12; 138.2 / 10.0 / 25; 135.2 / 13.0 / 40; 126.9 / 21.3 / 55
T.P.	0.23	148.19	12.69	147.96		148.19	
2+50					T.C. 135.6 / 25.1 / 25; 138.3 / 22.4 / 10	141.3 / 19.4	146.7 / 14.0 / 25
2+25					143.9 / 16.8 / 25 T.C.	148.7 / 13.0	149.5 / 11.2 / 15; 151.4 / 9.3 / 25
T.P.	0.14	160.65	12.60	160.51		160.65	
2+00					150.6 / 23.1 / 26 TC; 150.3 / 22.8 / 25; 152.7 / 20.4 / 15	156.8 / 16.3	158.8 / 14.3 / 15; 160.9 / 12.2 / 25
		173.11				173.11	

Sta.				Sunset	
0 + 75					
0 + 62.10 P.O.T.					
0 + 50					
T.P.	12.92	148.17	0.08	135.25	
0 + 25					
0 + 00 = W.L. Conde					
℄ + 15					
℄ + 11.4		98.8 / 36.5 ↑ F.L. 12" Pipe inlet		104.7 / 30.6 ↑ Top headwall	103.6 / 31.7 ↑ F.L. inlet of apron
℄ Conde + 4					

135.33

Lt — ℄ — Rt

137.8 / 10.9 / 25 T.C. — 144.4 / 3.8 — 148.7 / +0.5 / 25

136.8 / 11.4 / 25 T.Cut — 143.1 / 5.1 — 150.7 / +2.5 / 25

134.6 / 13.6 / 26 — 134.9 / 13.3 / 25 — 141.4 / 6.8 — 148.8 / +0.6 / 25

T.C.

148.17

127.3 / 8.0 T.C. 28 — 127.7 / 7.6 / 25 — 133.0 / 2.3 — 140.2 / +4.9 / 25

112.4 / 22.9 / 39 T.C. — 115.4 / 19.9 / 25 — 118.5 / 16.8 / 17 — 124.0 / 11.3 — 133.9 / 1.6 / 25

105.2 / 30.1 / 30 — 107.3 / 28.0 / 25 — 114.1 / 21.2 / 15 — 112.7 / 17.6 / 10 — 123.9 / 11.4 — 132.6 / 2.1 / 25

107.3 / 28.0 / 25 — 111.3 / 24.0 / 15 — 117.4 / 17.9 / 10 — 123.1 / 12.2 — 132.1 / 3.2 / 25

107.2 / 28.1 / 35 — 109.6 / 25.7 / 25 — 112.9 / 22.4 / 8 — 118.9 / 16.4 / 5 — 122.3 / 13.0 — 128.5 / 6.8 / 15 — 130.2 / 5.1 / 25 — 135.33 / 0.0 / 35

135.33

Sunset Blvd

1+75				
T.P.	0.22	123.55	1.81	123.33
1+50				
1+25				
T.P.	0.79	136.14	12.82	135.35
1+00				
1+75				
1+50				
1+25				
1+00		148.17		

Lt ℄ Rt

109.4 / 14.3 / 25
114.7 / 8.9
117.0 / 6.6 / 15
120.2 / 3.4 / 25
T.C.
123.55

103.5 / 32.3 / 25
107.9 / 28.2 / 23
112.0 / 24.1 / 17
116.4 / 19.7
120.9 / 15.2 / 15
124.6 / 11.5 / 25
T.C.T

113.6 / 22.5 / 26
113.8 / 22.3 / 25
120.0 / 16.1
122.9 / 13.2 / 15
126.9 / 9.1 / 25
T.C.T
136.14

117.4 / 30.8 / 25
124.8 / 23.4
132.6 / 15.6 / 25
T.C.

120.2 / 27.5 / 25
121.7 / 26.5 / 20
129.9 / 18.3
138.6 / 9.6 / 25
T.C.

124.7 / 23.5 / 25
127.1 / 21.1 / 15
132.6 / 14.6
141.5 / 6.7 / 20
142.8 / 5.4 / 25
T.C.

134.1 / 14.1 / 26
134.1 / 14.1 / 25
135.4 / 12.8
138.2 / 9.5 / 15
142.7 / 5.5 / 25
T.C.

132.1 / 11.1 / 26
132.8 / 10.9 / 25
140.1 / 8.1 / 15
140.2 / 8.0
141.4 / 6.8 / 15
143.3 / 4.9 / 25
T.C.

148.17

Station	Notes	Left page	Right page (Lt — ℄ — Rt)
0+10		22.5 / 35	103.3 / 20.4 / 25 — 106.5 / 17.1 / 8 — 109.3 / 14.3 — 112.5 / 11.1 / 15 — 123.1 / 0.5 / 25
0+5		24.1 / 35	102.2 / 21.4 / 25 — 105.6 / 18.6 / 8 — 106.6 / 17.0 — 117.5 / 6.1 / 16 — 122.8 / 0.8 / 25
3+50 = 0+00	Wly Harney	24.7 ↑ Top Hdwall; 30.9 ↗ FL. 15" inlet P	98.2 / 25.4 (FL apron) — 100.9 / 22.7 / 25 — 105.4 / 18.2 / .3 — 114.1 / 9.5 — 114.6 / 9.0 / 8 — 120.4 / 3.2 / 17 — 121.2 / 2.4 / 25
3+65	+		104.0 / 19.6 / 25 — 104.6 / 19.0 / 10 — 107.5 / 16.1 — 109.2 / 14.4 / 12 — 118.1 / 5.5 / 14 — 121.4 / 2.2 / 25
3+40			106.0 / 17.6 / 25 — 110.2 / 13.4 / 10 — 113.1 / 10.5 — 116.8 / 6.8 / 12 — 118.0 / 5.6 / 14 — 121.4 / 2.2 / 25
3+25	E Harney		108.9 / 14.7 / 25 — 108.7 / 14.9 / 18 — 112.1 / 11.5 / 10 — 113.3 / 10.3 — 116.0 / 7.6 / 10 — 121.82 / 1.73 / 25 on City Mon.
3+15		108.1 / 15.5 / 25 T.Cut	111.6 / 12.0 / 17 (Top 18" wall) — 111.8 / 11.8 / 12.6 (Top 8" curb) — 110.6 / 13.0 / 10 — 112.7 / 10.9 / 5 — 113.6 / 10.0 — 117.0 / 6.6 / 15 — 120.4 / 3.2 / 25
3+09		T.Cut	103.9 / 19.7 / 25 — 106.6 / 17.0 / 19 — 112.6 / 11.0 / 16.3 (Top 18" wall) — 112.0 / 11.6 / 11.5 (Top 8" cb) — 111.1 / 12.5 / 8 — 112.2 / 11.4 — 114.5 / 9.1 / 15 — 116.4 / 7.2 / 25
3+00	Ely Harney St		102.4 / 21.2 / 25 (T.Cut) — 108.1 / 15.5 / 18 (Top 18" wall) — 113.7 / 10.9 / 16 (Top 8" curb) — 113.1 / 10.5 / 9 — 111.5 / 12.1 / 5 — 113.5 / 10.1 — 116.6 / 7.6 / 15 — 118.5 / 5.1 / 25

123.55

123.55

133.86
0.55
133.31
12.92
146.23
0.25
145.98
10.72
156.70
1.15
155.55
8.15
163.70
3.15
160.55 = 160.50
0.05

BM. Ld. C.T. B.C. on Sch. Key Rot. Presidio Dr. and Coody.

1+50

1+37.2

1+35.1

1+17.2 E. edge pav on NL Sunset

1+07.24

1+00

0+45.5

TP. 11.99 133.85 1.68 121.87

0+25

1+13.55

0+46 19 Rt 14" pepper tree
" 9 Lt 16" " "

Lt			℄		Rt
	124.7 / 12.7 / 5.5		124.6 / 12.3		121.0 / 12.9 / 15 edge pav
edge pav					
124.5 / 12.4 / 25	121.9 / 12.0 / 11	122.2 / 11.2 / 6	123.2 / 10.7		123.6 / 10.3 / 25
121.6 / 12.3 / 25	122.0 / 11.9 / 10	123.2 / 10.7 / 5	123.4 / 10.5		124.0 / 9.9 / 25
					top grade and edge pav
	122.8 / 11.1 / 25		124.1 / 9.8	126.3 / 7.6 / 13	126.9 / 7.0 / 25 pav
					128.6 / 5.3 / 42
					126.9 / 7.0 / 42 F.L. Bar Box
	122.0 / 11.1 / 25		124.3 / 9.6	125.5 / 8.4 / 15	127.4 / 6.5 / 25
	123.2 / 10.7 / 50		124.5 / 9.4		126.9 / 7.4 / 25
	121.2 / 12.7 / 25		123.6 / 10.3		125.4 / 8.5 / 25
Top edge Lawn					124.4 / 9.5 / 21 F.L. 15" outlet drain
			133.85		
105.0 / 18.6 / 40	108.9 / 14.7 / 25	111.2 / 11.9 / 15	117.7 / 5.9		121.6 / 2.0 / 20 — 123.55 / 0.0 / ~5
			1+13.55		

W.O. 60138

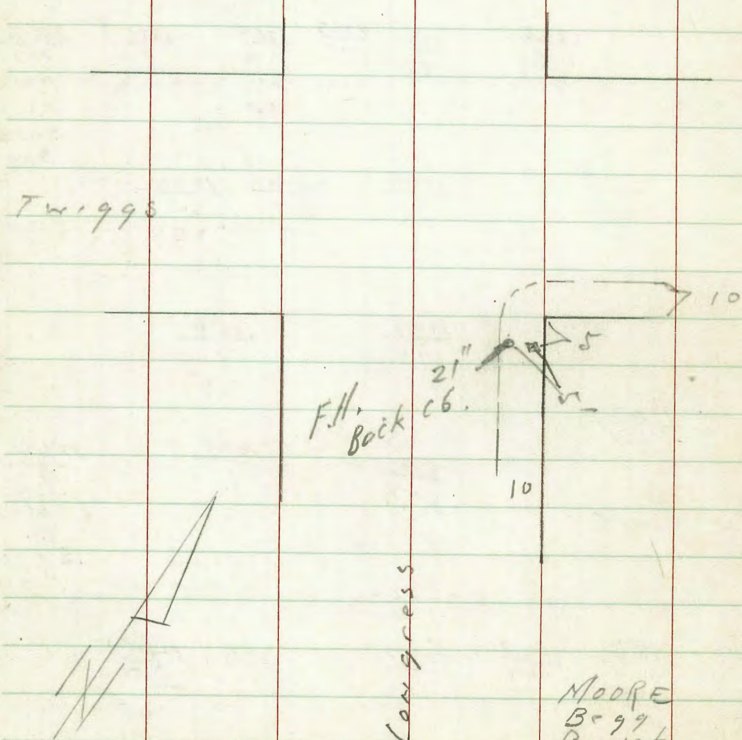
Set F.H. on Ely Cor.
Twiggs & Congress

B.M. Sly Cor. Top Wall
3.55 (26.8?)

23.27 P.x7

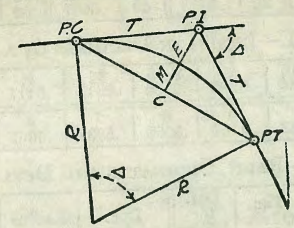
curb gr. at F.H.

22.03
4.79
4.83
F 0.0x



Moore
Begg
Bunch
7-26-48

DIETZGEN'S RAILROAD CURVE AND REDUCTION TABLES



CURVE FORMULAS

Radius=R=$\frac{50}{\sin. D/2}$ (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) =Rvers $\frac{\Delta}{2}$ (6)

External=E=T$\tan\frac{\Delta}{4}$ (7) =R÷cos.$\frac{\Delta}{2}$–R(8)=Rexsec$\frac{\Delta}{2}$(9)

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

EXPLANATION AND USE OF TABLES

Stations.—Given P. I.=Sta. 161+60.35 to find Sta. of P. C. and P. T. Δ=62° 10′ D=8° 20′. From Table IV for 1° curve T=3454.1 and÷8⅓=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 $(54.50\div100)^2$=2.16 ft. Also square of any distance divided by twice the radius equals (approximately) the distance from tangent to curve. Thus $(54.50)^2\div(2\times688.26)$=2.16 ft.

Deflections.—Deflection angle=½ D for 100 ft., ¼ D for 50 ft., etc. For c ft.=(in minutes) .3 x C x D° or=defl. for 1 ft. from Table III x C. For Sta. 158 of above curve=.3 x 54.5 x 8⅓=136.2′ or 2° 16.2′, or=2.50 x 54.5=136.2′ from Table III. For Sta. 159 deflection angle=2° 16.2′+8° 20′÷2=6° 26.2′, etc.

Externals.—May be found in similar manner to tangents. Thus E for curve above is 91.37. For from Table IV for 1° curve E=960.6 for 8° 20′=960.6÷8⅓=91.27 and from Table V correction=.10 or E=91.37 ft. Or suppose Δ=32° 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° 30′.

Conde S.D.
31.95

B.P. Skly Con

160.50

16 5/

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.

MADE IN U.S.A.