Return to City Engineer's Office
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TRANSIT

398

F.B. 348

TRAVERSE TABLE FOR TRANSIT BOOK

From 1° to 90° for a distance of 10

348

Degrees.	DEGREES. Lat.	DEGREES. Dep.	¼ DEGREE. Lat.	¼ DEGREE. Dep.	½ DEGREE. Lat.	½ DEGREE. Dep.	¾ DEGREE. Lat.	¾ DEGREE. Dep.	Degrees.
0			100.00	0.44	100.00	0.87	99.99	1.31	89
1	99.98	1.75	99.98	2.18	99.97	2.62	99.95	3.05	88
2	99.94	3.49	99.92	3.93	99.91	4.36	99.88	4.80	87
3	99.86	5.23	99.84	5.67	99.81	6.10	99.79	6.54	86
4	99.76	6.98	99.73	7.41	99.69	7.85	99.66	8.28	85
5	99.62	8.72	99.58	9.15	99.54	9.58	99.50	10.02	84
6	99.45	10.45	99.41	10.89	99.36	11.32	99.31	11.75	83
7	99.25	12.19	99.20	12.62	99.14	13.05	99.09	13.49	82
8	99.03	13.92	98.97	14.35	98.90	14.78	98.84	15.21	81
9	98.77	15.64	98.70	16.07	98.63	16.50	98.56	16.93	80
10	98.48	17.36	98.40	17.79	98.33	18.22	98.25	18.65	79
11	98.16	19.08	98.08	19.51	97.99	19.94	97.90	20.36	78
12	97.81	20.79	97.72	21.22	97.63	21.64	97.53	22.07	77
13	97.44	22.50	97.34	22.92	97.24	23.34	97.13	23.77	76
14	97.03	24.19	96.92	24.62	96.81	25.04	96.70	25.46	75
15	96.59	25.88	96.48	26.30	96.36	26.72	96.25	27.14	74
16	96.13	27.56	96.00	27.98	95.88	28.40	95.76	28.82	73
17	95.63	29.24	95.50	29.65	95.37	30.07	95.24	30.49	72
18	95.11	30.90	94.97	31.32	94.83	31.73	94.69	32.14	71
19	94.55	32.56	94.41	32.97	94.26	33.38	94.12	33.79	70
20	93.97	34.20	93.82	34.61	93.67	35.02	93.51	35.43	69
21	93.36	35.84	93.20	36.24	93.04	36.65	92.88	37.06	68
22	92.72	37.46	92.55	37.86	92.39	38.27	92.22	38.67	67
23	92.05	39.07	91.88	39.47	91.71	39.87	91.53	40.27	66
24	91.35	40.67	91.18	41.07	91.00	41.47	90.81	41.87	65
25	90.63	42.26	90.45	42.66	90.26	43.05	90.07	43.44	64
26	89.88	43.84	89.69	44.23	89.49	44.62	89.30	45.01	63
27	89.10	45.40	88.90	45.79	88.70	46.17	88.50	46.56	62
28	88.29	46.95	88.09	47.33	87.88	47.72	87.67	48.10	61
29	87.46	48.48	87.25	48.86	87.04	49.24	86.82	49.62	60
30	86.60	50.00	86.38	50.38	86.16	50.75	85.94	51.13	59
31	85.72	51.50	85.49	51.88	85.26	52.25	85.04	52.62	58
32	84.80	52.99	84.57	53.36	84.34	53.73	84.10	54.10	57
33	83.87	54.46	83.63	54.83	83.39	55.19	83.15	55.56	56
34	82.90	55.92	82.66	56.28	82.41	56.64	82.16	57.00	55
35	81.92	57.36	81.66	57.71	81.41	58.07	81.16	58.42	54
36	80.90	58.78	80.64	59.13	80.38	59.48	80.13	59.83	53
37	79.86	60.18	79.60	60.53	79.34	60.88	79.07	61.22	52
38	78.80	61.57	78.53	61.91	78.26	62.25	77.99	62.59	51
39	77.71	62.93	77.44	63.27	77.16	63.61	76.88	63.94	50
40	76.60	64.28	76.32	64.61	76.04	64.94	75.76	65.28	49
41	75.47	65.61	75.18	65.93	74.90	66.26	74.61	66.59	48
42	74.31	66.91	74.02	67.24	73.73	67.56	73.43	67.88	47
43	73.14	68.20	72.84	68.52	72.54	68.84	72.24	69.15	46
44	71.93	69.47	71.63	69.78	71.33	70.09	71.02	70.40	45
45	70.71	70.71							
Degrees.	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Degrees
	DEGREES		¾ DEGREE.		½ DEGREE.		¼ DEGREE.		

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TRANSIT BOOK

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H. S. CROCKER CO.

SAN FRANCISCO AND SACRAMENTO
CALIFORNIA

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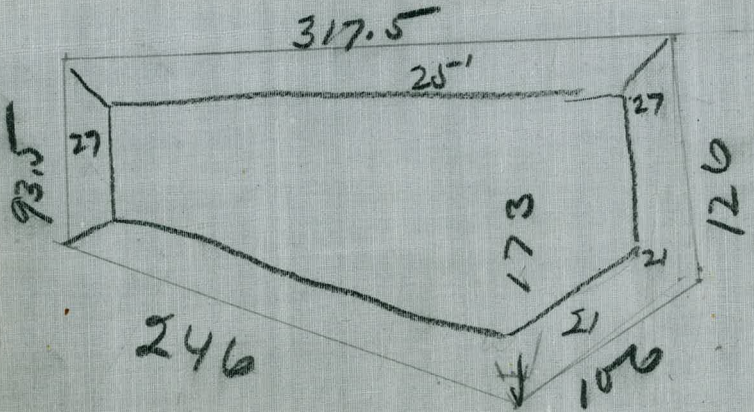
SAN DIEGO, CAL.

FB #348 PAGE

UNIVERSITY RESERVOIR - 2-23
TIES to BLK 151.
GATE VALVES,
PIPES, ETC.

NO OTHER ENTRIES


317.5
20'
27
27
93.5
173
126
21
21
246
106

	+	H.I.	—	Elev.
	3.73	379.42		375.69 BM
B.M.	3.95	377.77	5.60	373.80
T.P.	3.49	375.89	~~5.37~~	372.40
B.M.			~~3.74~~	372.14
T.P.	3.94	374.53	~~5.30~~	370.59
			~~8.18~~	366.35
B.M.			~~8.38~~	366.16
B.M.			~~8.00~~	~~366.53~~ (?)
T.P.	7.03	377.98	~~3.58~~	370.95
			~~2.34~~	375.64
			~~4.16~~	373.80 ahk.
B.M.	3.80	379.35		375.55
			7.10	372.25

Brass plg. N.E Cor. Reservoir 373.35
" " N.W. " " 373.87
" " Center " 369.16
" " S.W. Cor. " 367.51

El Cajon Blvd. + Oregon SE cor. Hd spk in Fence post 375.55

Bench Marks

1

Copper plug in mont. Cor. El Cajon & Idaho
Spk in pole Cor Howard & Idaho.

" " 3 2/4 pole south from Howard on Idaho

Elev. Top of Wood Pipe 12' S prop line Polk Ave.
Hub S.E. Cor. Polk Ave. & Oregon
Rock 300' S & 150' W of Cor Howard & Oregon Sts.

Spk on brace in fence at Cor. Oregon & Howard Sts.

R.R. Spk S.E Cor. Oregon & El Cajon Fence post
Elev. Top of wood pipe on El Cajon Ave. Cor. Oregon 20' West of E. Line Oregon

University Reservoir. Nov 28-08
" 30

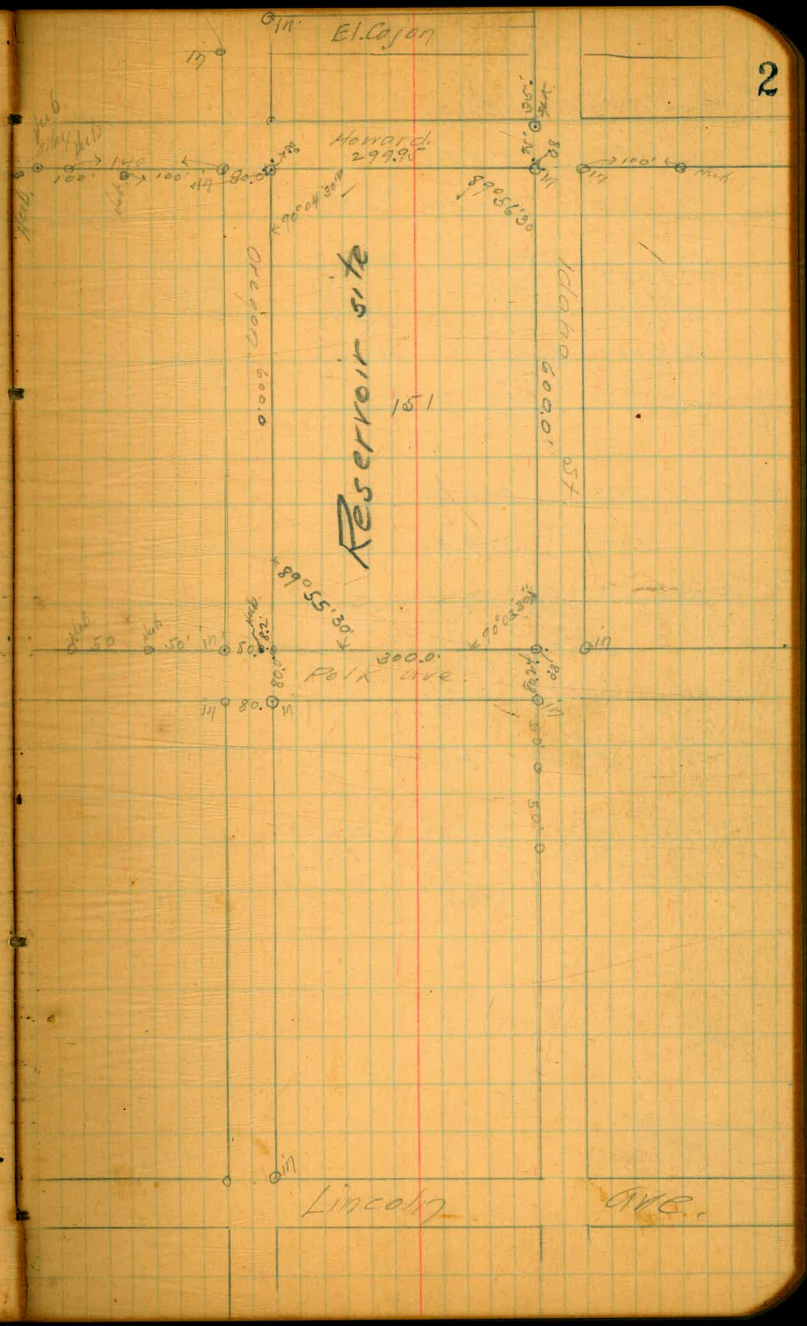
Ties to Blk 151

NW. Cor. Blk 151. Backsight on N.E. Cor. Blk 151. 100' - 100'

N.E. Cor. Foresight on Blk Cor. E side Idaho. - 100.

North. from same Cor. Backsight on S.E. Cor. 75 - 35'

inter prop & curb at Georgia



Cut & Fill stakes on Edg. of Reservoir

B.M. 384 379.53 375.69

3.57 377.34 3.76 373.77

370.50	369.97	369.27	368.74
6.84	7.37	8.07	8.60
3.88	4.68	4.95	5.47
C 2.96	C 2.77	C 3.12	C 3.13
368.21	367.68	367.33	5.24
9.13	9.66	10.01	372.10 = B.M.
6.08	6.85	7.20	
C 3.05	C 2.81	C 2.81	

B.M. 3.29 378.84 375.55

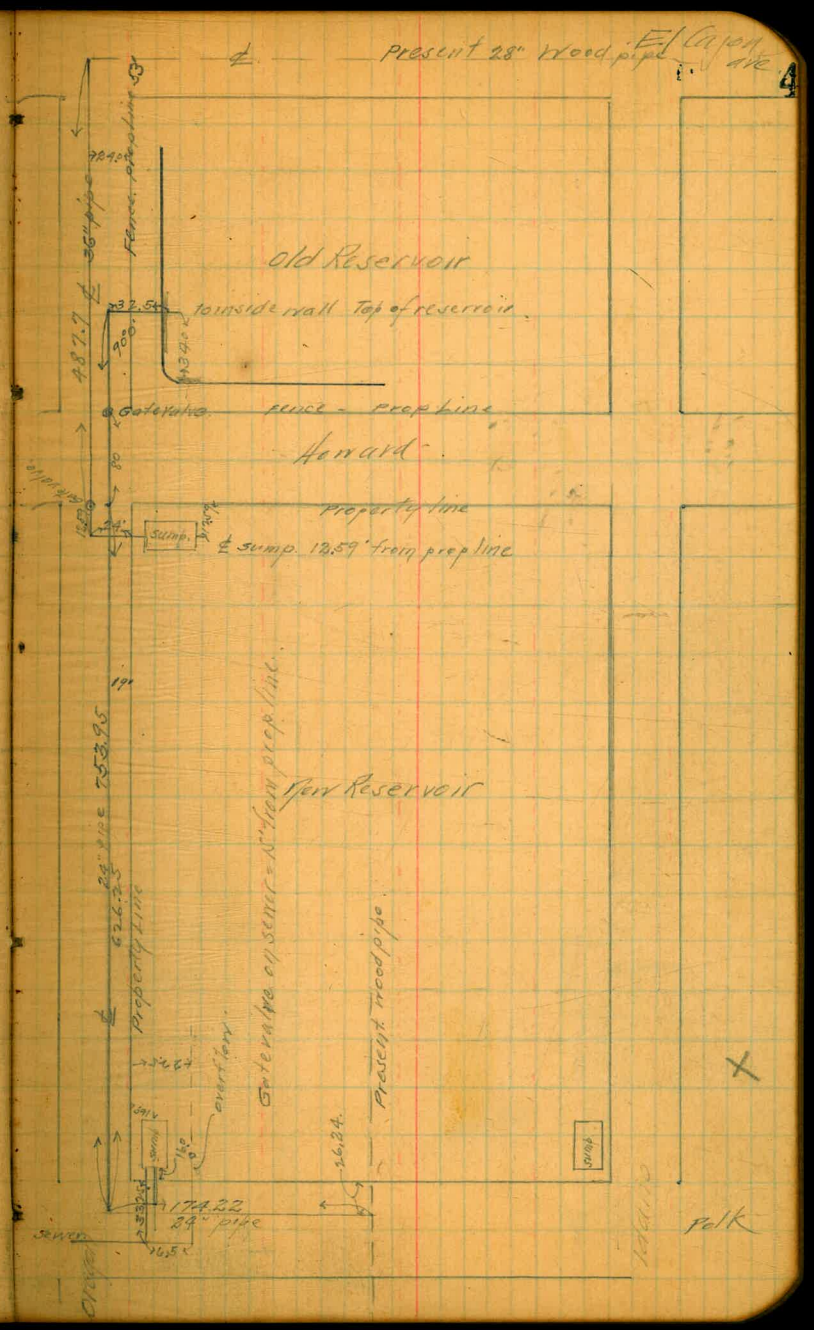
1.74 377.36 3.72 375.62

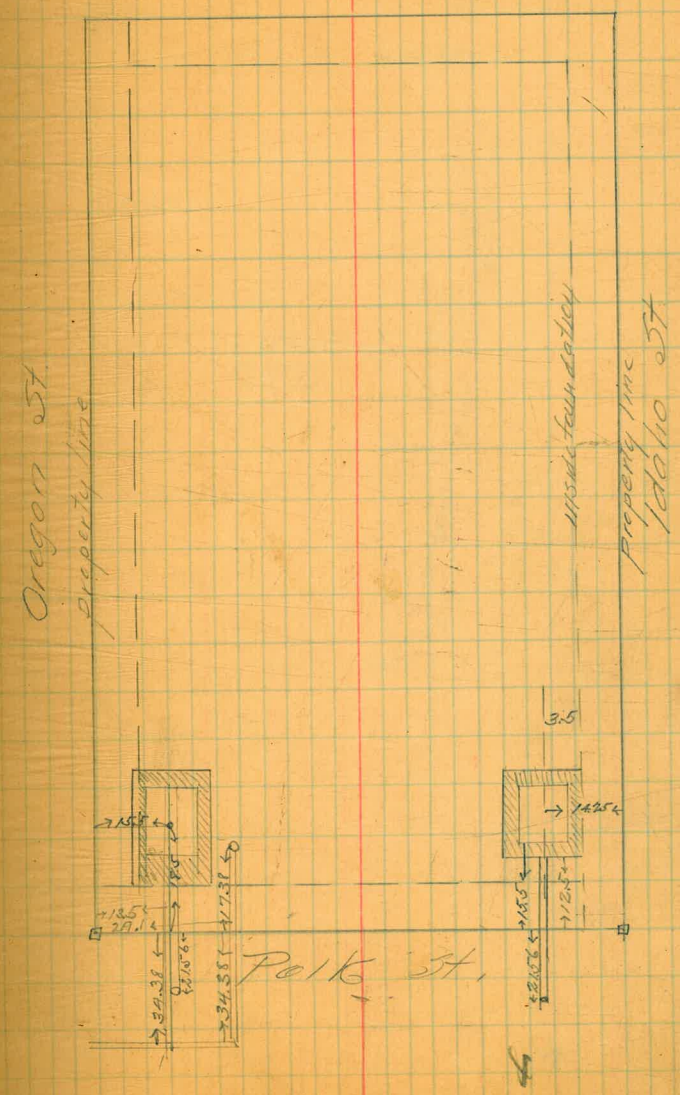
370.50	370.83	371.16	371.50	N.51 W
6.86	6.53	6.20	5.86	5.86
3.80	3.77	3.42	3.50	3.73
C 3.06	C 2.81	C 2.78	C 2.36	2.13
370.14	368.85	367.67	366.38	365.15
7.22	8.51	9.74	10.98	12.21
4.35	5.22	6.44	7.12	8.98
C 2.87	C 3.29	C 3.30	C 3.86	C 3.23
364.33	13.03	365.33	366.33	367.33
13.03	9.77	12.03	11.03	10.03
9.73	C 3.26	8.38	7.74	7.15
C 3.30		C 3.65	C 3.29	C 2.88

X

Survey of Pipes, gates, valves at University Hts. Reservoir 12-4-08

753.95
626.23
127.72

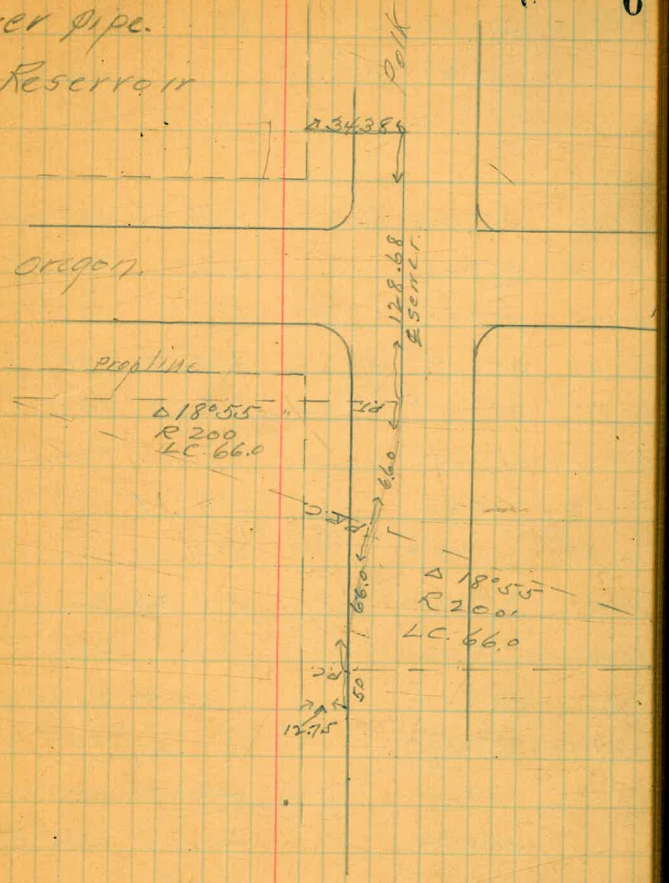



Oregon St
Property line
Inside foundation
Property line
Idaho St
Polk St.
3.5
14.25
15.5
12.5
17.38
34.38
21.56

1-18-09

Sewer Pipe.

Reservoir



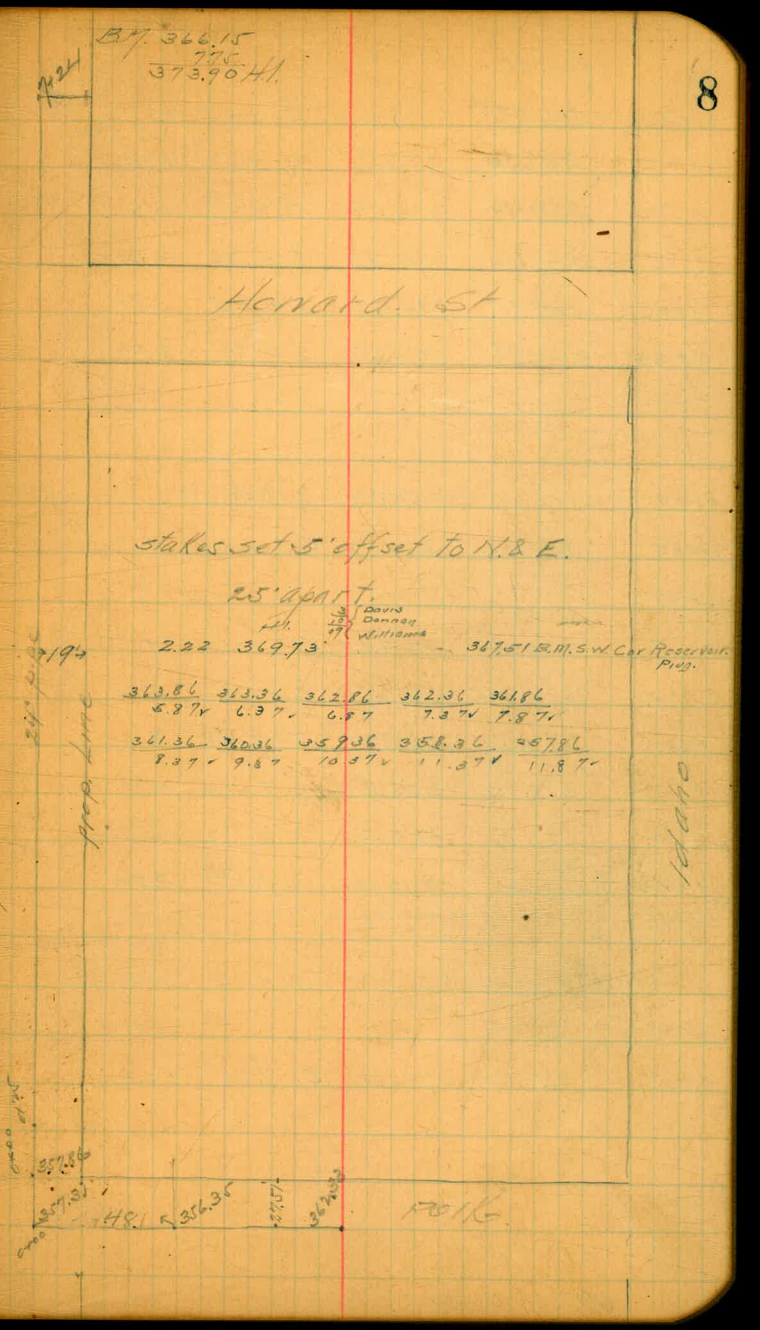
Cuts for Sewer pipe C.H. Rev. 1-18-09

Station	Grade	H.I.	Cut	Elev.		
	4.14	370.29		366.15	B.M.	S.E.
						Rod.
0+00	359.20		8.36	367.56	2.73	Elev bottom ditch at turn of pipe
0+20	359.18		C 7.92	367.10	3.19	366.15 B.M.
0+40	359.16 ✓		C 7.01	366.17	4.12	369.32 H.I.
0+60	359.14 ✓		C 6.74	365.88	4.41	359.16 ✓ 359.14 ✓ 359.12 ✓ 359.10
0+80	359.12 ✓		C 5.76	364.88	5.41	10.36 10.38 10.40 10.42
1+00	359.10 ✓		C 5.23	364.33	5.96	366.15
1+20	359.08		C 4.71	363.79	6.50	369.29 = H.I.
1+28.6 P.C.	359.08 ✓		C 4.23	363.29	7.00	359.08 ✓ 359.06 ✓ 359.04 ✓ 359.02 ✓ 359.00 ✓ 358.98
1+40	359.06 ✓		C 4.26	363.30	6.85	10.21 10.23 10.25 10.27 10.29 10.74
1+60	359.04 ✓		C 3.87	362.59	7.70	358.10 357.65 357.52 (2-4-08)
1+80	359.02 ✓		C 3.56	362.56	7.93	11.19 11.64 11.76
2+00	359.00 ✓		C 2.31	361.29	9.00	366.15 B.M.
2+	358.96		~~C 1.50~~	360.49	9.80	369.31 H.I. 359.00 ✓ 358.23 ✓ 357.46 ✓ 356.50 ✓
	~~358.94~~		~~C 0.90~~	~~359.84~~	10.45	10.31 11.08 11.85 12.81
End sewer.			C 1.5			366.15 B.M. 359.20 359.18 359.16 359.08
Elev. at sump	359.32					4.12 11.07 11.09 11.11 11.19
2+00	359.00 ✓					370.27 H.I.
2+20	358.23 ✓					
2+40	357.46					
2+60	356.69					
2+65	356.50					

0+00 = N. prop. line of path on Oregon.
Grade for 24" pipe.

Sta	Grade		Cut.	—	
0+00	357.86	367.39	C. 9.53	6.51	
0+25	358.36	367.26	C 8.90	6.64	
0+50	358.86	367.98	C 9.12	5.92	
+75	359.36	368.28	C 8.92	5.62	
1+00	359.86	368.61	C 8.75	5.29	
+25	360.36	369.10	C 8.74	4.80	
+50	360.86	369.58	C 8.72	4.32	
+75	361.36	369.72	C 8.36	4.18	
2+00	361.86	370.13	C 8.27	3.73	
+25	362.36	370.10	C 7.74	3.80	
+50	362.86	370.67	C 7.81	3.23	
+75	363.36	370.65	C 7.29	3.25	
3+00	363.86	371.15	C 7.29	2.75	
+25	364.36	371.55	C 7.19	2.35	H.I. 378.20
+50	364.86	371.70	C 6.84	6.50	
+75	365.36	371.92	C 6.56	6.28	
4+00	365.86	372.13	C 6.27	6.07	
+25	366.36	372.48	C 6.12	5.72	
+50	366.86	372.62	C 5.76	5.58	
+75	367.36	372.71	C 5.35	5.49	
5+00	367.86	372.92	C 5.06	5.28	
+25	368.36	373.34	C 4.98	4.86	
+50	368.86	373.27	C 4.41	4.93	
+75	369.36	373.60	C 4.24	4.60	

373.90 H.I.
235
371.55
6.65
378.20



8

	Grade.	Elev hub.			H.I.
6+00	369.75	373.53	C 3.78	4.67	378.20
+25	369.80	373.97	C 4.17	4.23	
+50	369.85	374.04	C 4.19	4.16	
+75	369.90	374.26	C 4.36	3.94	
7+00	369.95	374.40	C 4.45	3.80	
7+24	369.98	374.27	C 4.27	3.93	

0+00 = turn of pipe at Oregon & Polk Sts. H.I. 373.90

0+00	357.31	367.72	C. 10.41	6.18	
0+25					
0+48.1	356.35				
0+50	356.44	368.15	C. 11.71	5.75	
0+75	357.62	368.55	C. 10.93	5.35	
1+00	358.80	368.78	C 9.98	5.12	
+25	359.98	368.92	C 8.94	4.98	
+50	361.16	369.29	C 8.13	4.61	
+74.22	362.83 ~~362.33~~	370.06	C 7.23 ~~7.73~~	3.84	

24" pipe

changed account of Lowering 36" pipe

Elev. of 24" pipe where same turns up at derating table O/B Rc.

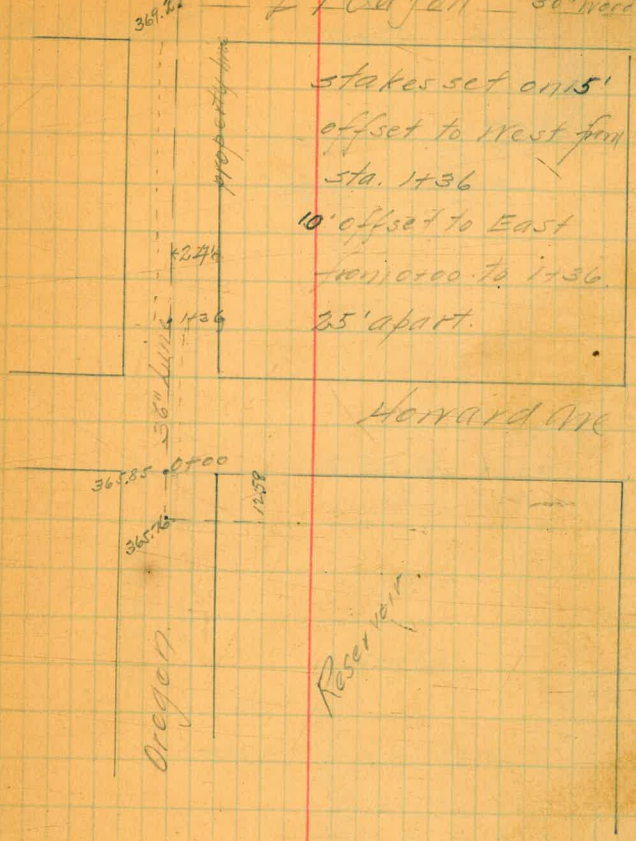
		Elev Hub.			
0+00 = 24"/inc	370.02			—	375.64 467 380.31 H.I.
0+25	370.02	379.95	C. 9.93	0.36	

375.64 B.M.
467
380.31
0.36
379.95
70.02
9.93

Grade for 36" pipe. 0+00 = S. line Howard Ave.

Turn Pipe	Grade.	Elev. Hub	Cut	5.75	H.I.
	365.76	373.52	7.76		379.27
0+00	365.85	373.52	7.67	5.75	375.64
					363
0+25	366.03	373.98	7.95	5.29	379.27 H.I.
0+50	366.21	374.05	7.84	5.22	
0+75	366.39	374.27	7.88	5.00	
1+00	366.57	374.41	7.84	4.86	
+25	366.75	374.31	7.56	4.96	
+36	366.83	374.49	7.66	4.78	
+50	366.93	374.18	7.25	5.09	
+75	367.11	374.55	7.44	4.92	
2+00	367.29	374.13	6.84	5.14	
+25	367.47	374.36	6.89	4.91	
+50	367.65	374.21	6.56	5.06	
+75	367.83	374.16	6.33	5.11	
3+00	368.01	374.18	6.17	5.09	
+25	368.19	374.44	6.25	4.73	
+50	368.37	374.49	6.12	4.78	
+75	368.55	374.69	6.14	4.58	
4+00	368.73	375.31	6.58	3.96	
+25	368.91	375.17	6.26	4.10	
+50	369.09	374.37	5.28	4.90	
+75	369.27	374.67	5.40	4.60	

El Cajon — 30" wood. 10



H.I.

4.76 372.27. 367.51 B.M.

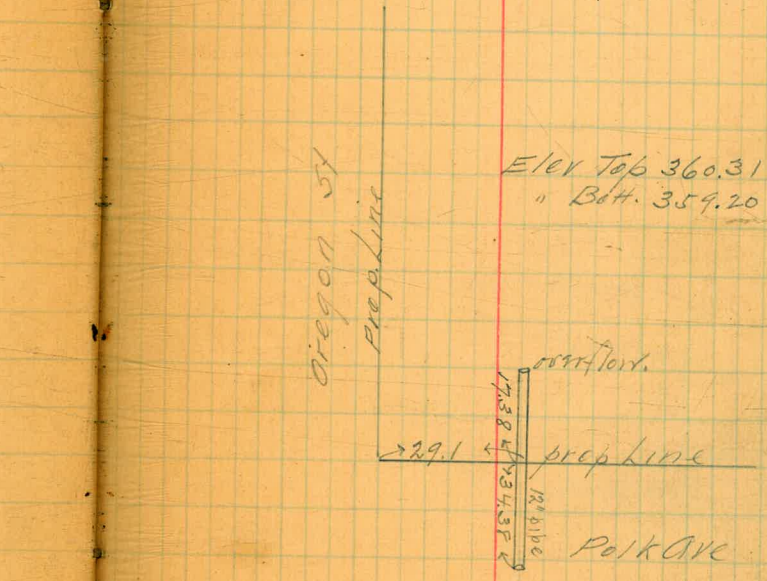
359.20
13.07
5.29
7.28

13.07
36
9.46

Plan of Overflow.

360.31
1.11
359.20

Elev Top 360.31
" Bot. 359.20



Elevation of 36" pipe at sump at S.E. Cor. Reservoir.

Station					
End pipe.	363.1	369.98	6.88	3.57	
bottom Sump.	360.97				

372.15 B.M.
1.40
373.55

Elev. to bottom ditch

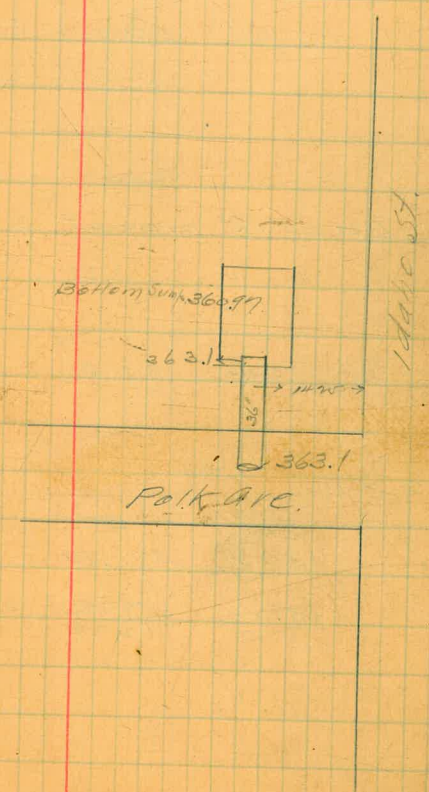
373.55 H.S.
4.85
368.70
63.1
5.6

363.10
10.45

366.20
32
363.1

363.7
32
3605

372.15
1.78
373.93
363.1
10.83



360.51
359.19
1.32

36"

Elev. bot of pipe at slump.

at S.E. Cor. 363.11 ✓

at S.W. " 360.51 ✓

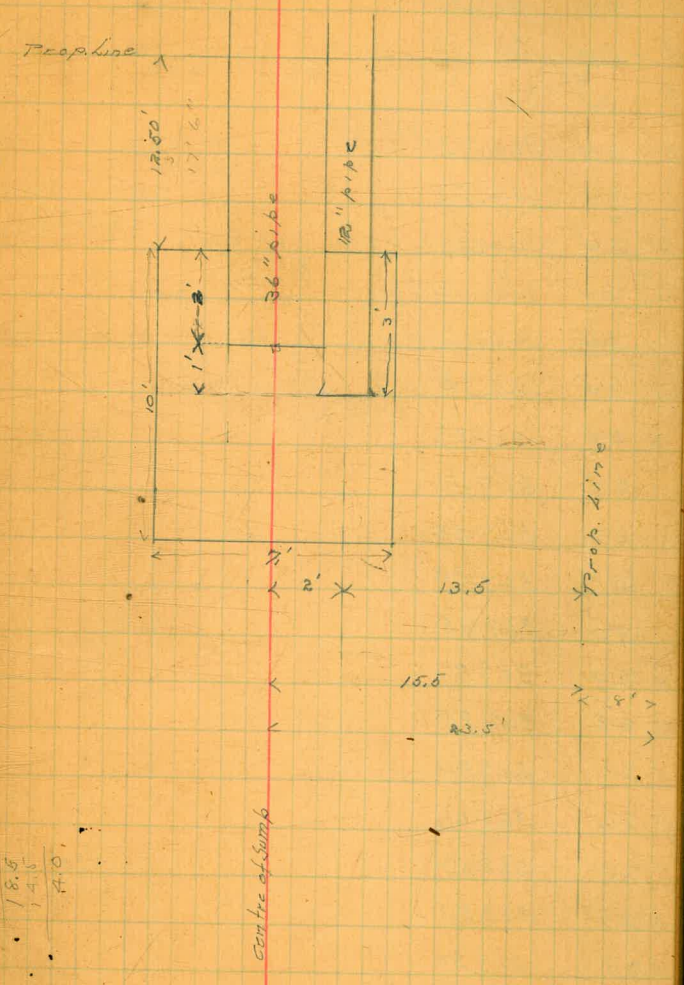
377.0

7.11	373.26	366.15	B.M. Fold of Dregon
	373.30	~~363.11~~	~~10.15~~
		10.19	363.11
		1.30	372.0
Bot of 12" pipe at S.W. Cor			~~359.32~~ ~~359.19~~
	373.30	14.11	359.19
5.56	371.75		366.19
		11.24	360.51
		12.56	359.19
5.73	371.40		366.17
359.32 / 12.08	359.20 / 12.28	360.51 / 10.89	

377.00
373.30
3.70

3/2/09

Whittelsey
Taylor
Churchman



Foundations stakes on S end.

Station	Grade
X - 34	367.33
F - 34	367.13
G - 34	366.93
H - 34	366.73
I - 34	366.53
J - 34	366.33
K - 34	366.13
L - 34	365.93
M - 34	365.73
x 34	367.33
x 33	367.41
x 32	367.50
x 31	367.59
x 30	367.68
x 29	367.77
x 28	367.85
x 27	367.94
x 26	368.03
x 25	368.12
x 24	368.21
x 23	368.30
x 22	368.38

3/4. 09

B.B.	43	10.3
B.B.	43	10.3
B.B.	43	10.3
CC.	5	12

366.17 = B.M.
6.42
372.59 = H.I.

366.93 / 5.66 — 366.73 / 5.86 — 366.53 / 6.06 — 366.33 / 6.26

367.33 / 6.73

366.13 / 6.46

369.16 = B.M.
4.90
374.06 H.I.

367.33 / 6.73 — 33 — 367.41 / 6.65 — 545 / 1.20 — 32 — 367.50 / 6.56 — 570 / 0.86 — 31 — 367.59 / 6.45 — 55 / 0.09

30 — 367.68 / 6.38 — 560 / 0.78 — 24 — 368.21 / 5.85 — 4.95 / .90

29 — 367.77 / 6.29 — 50 / 0.89

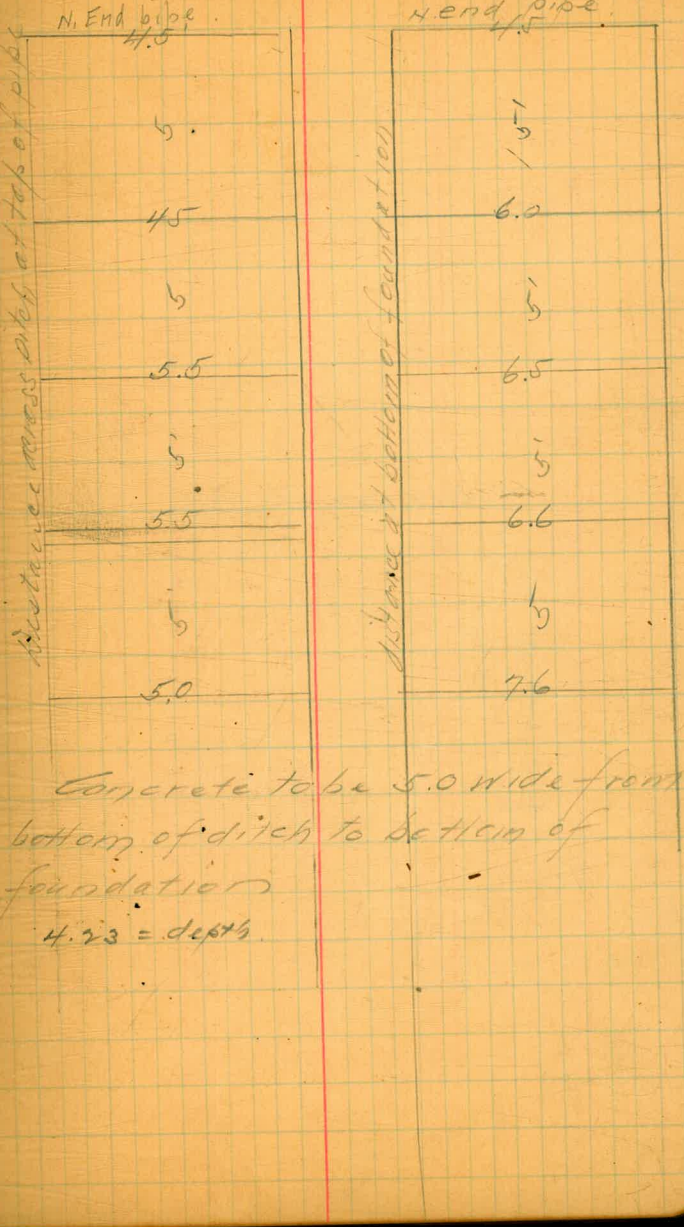
28 — 367.85 / 6.21 — 520 / 1.00

27 — 367.94 / 6.12 — 4.95 / 1.17

26 — 368.03 / 6.03 — 4.85 / 1.18

25 — 368.12 / 5.94 — 4.85 / 1.09

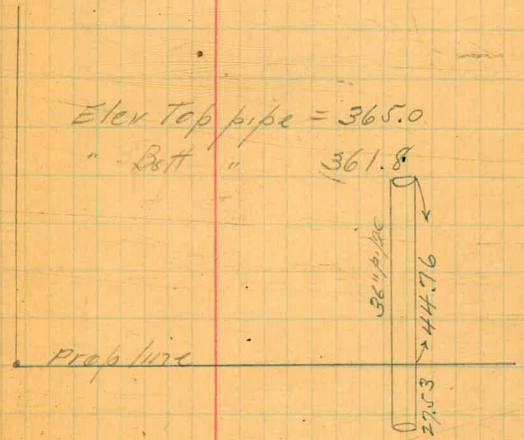
Measurements for concrete at pump on S.E. corner of reservoir.



Concrete to be 5.0 wide from bottom of ditch to bottom of foundation

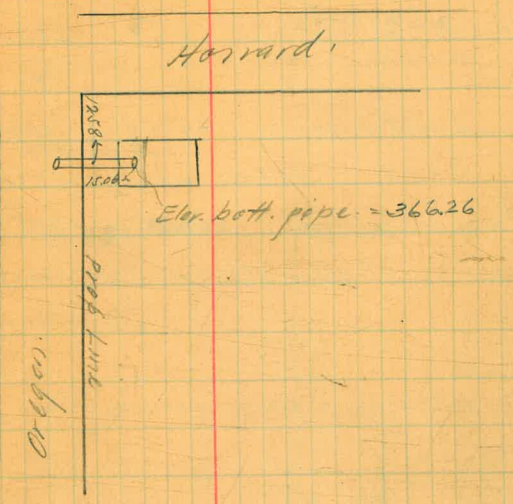
4.23 = depth

Plan of intake



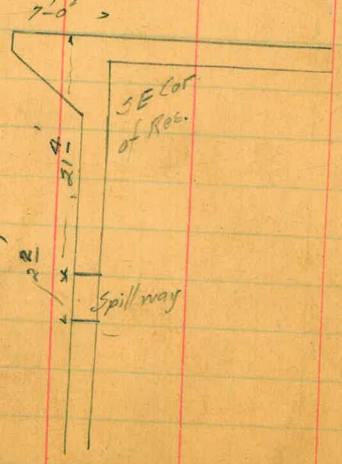
4.67 378.54 373.87 B.M.

366.76
12.18
4.92
7.36



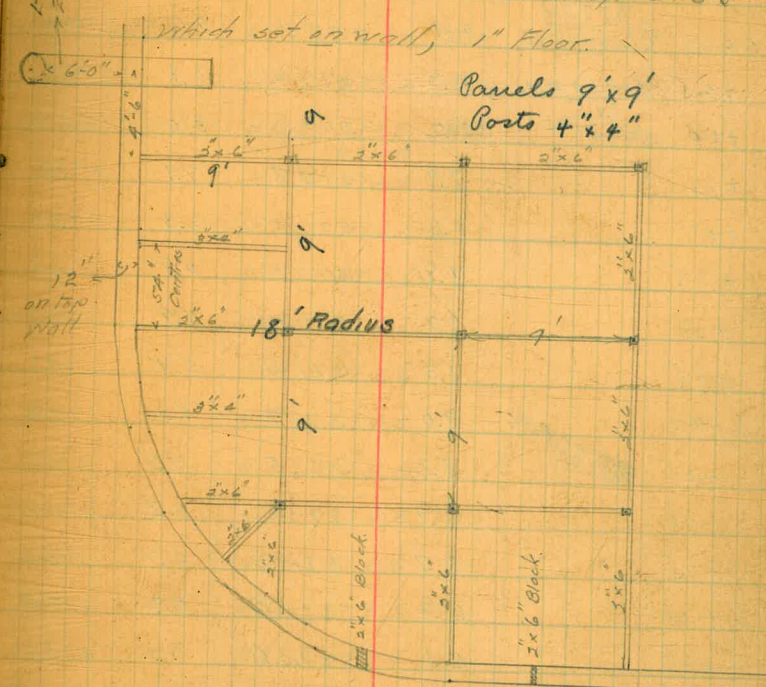
8/3/09 Hatch Wood

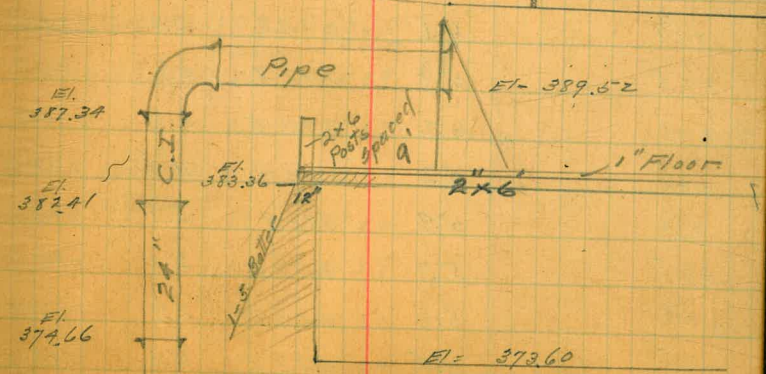
BM	8.46	384.01		375.55	El Cajon and Oregon
Lower Bell of Pipe.			9.35	374.66	
2d " " "			1.60	382.41	
3d " " "			+ 3.33	387.34	
Top of wall at inlet pipe			0.65	383.36	
Floor Level			10.41	373.60	
Bottom of inlet pipe			+ 5.51	389.52	
T.P.	10.55	388.25	6.31	377.70	
Top of wall at Spillway.			4.83	383.42	
Wier is 2" below Top of wall or.				383.25	



POSTED

1" Plate on top wall under Joist except 2"x6" which set on wall, 1" Floor.





Aug. 21/09 Childs & Barber

Levels over curb line around Univ. Hts. Reservoir: Taylor

+ 15' East of curb on Idaho

Sta.	H.I. 378.74	Rod curb line	Elev.	Rod 15' East	Elev. curb
0+00	S.E. cor. Res.	8.4	370.3	8.6	370.1
+25	375.69 BM. 3.05 378.74 H.I.	8.3	370.4	8.4	370.3
+50		8.2	370.5	8.0	370.7
+75		7.9	370.8	7.1	371.6
1+00		7.6	371.1	6.3	372.4
+25		7.8	370.9	5.9	372.8
+50		7.7	371.0	5.4	373.3
+75		7.3	371.4	5.4	373.3
2+00		7.0	371.7	5.1	373.6
+25		7.2	371.5	5.9	372.8
+50		6.9	371.8	6.3	372.4
+75		6.7	372.0	6.7	372.0
3+00		6.7	372.0	6.2	372.5
+25		6.1	372.6	3.6	375.1
+50		6.1	372.6	3.4	375.3
+75		5.9	372.8	3.8	374.9
4+00		6.2	372.5	4.2	374.5
+25		6.3	372.4	4.5	374.3
+50		5.9	372.8	3.5	375.3
+75		5.7	373.0	2.1	376.7
5+00		5.6	373.1	2.9	375.8
+25		5.5	373.2	2.4	376.3

+ 18' Ro. of curb on Polk

Sta.	H.I.	Rod curb line	Elev.	15' East Rod	curb Elev.
5+50	378.74	5.5	373.2	2.0	376.5
+75		5.5	373.2	3.3	375.4
6+00	N.E. cor. Res.	4.2 4.7	374.5 374.0	4.7	374.0
+25		5.3	373.4		
+50		5.2	373.5		
+75		5.1	373.6		
7+00		5.0	373.7		
+25		5.1	373.6		
+50		4.5	374.2		
+75		4.7	374.0		
8+00		4.5	374.2		
+25		4.7	374.0		
+50		4.7	374.0		
+75		3.8	374.9		
9+00	N.W. cor. Res.	3.9 4.7	374.8 374.0		
+25	374.50	0.6	373.9		
+50	~	0.6	373.9		
+75	373.69 3.8 0.85 374.54 H.I.	0.8	373.7		
10+00		1.1	373.4		
+25		0.7	373.8		
+50		1.3	373.2		
+75		1.1	373.4		

POSTED

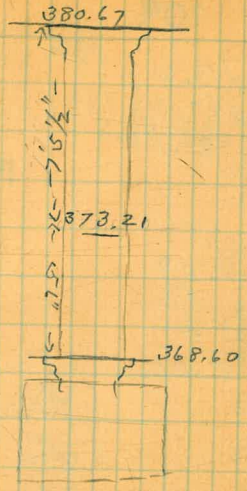
Cont. from page 19

Sta.	H.I.	curb line Rod	curb line Elev.	18'Rd. @ curb Rod	18'Rd. @ curb Elev.
11+00	374.50	2.3	372.2		
+25		1.9	372.6		
+50		1.9	372.6		
+75		2.0	372.5		
12+00		2.2	372.3		
+25		2.4	372.1		
+50		2.0	372.5		
+75		3.5	371.0		
13+00		3.6	370.9		
+25		4.7	369.8		
+50		4.4	370.1		
+75		4.7	369.8		
14+00		5.5	369.0		
+25		5.6	368.9		
+50		6.0	368.5		
+75		6.5	368.0		
15+00	S.W. cor. Res.	6.5	368.0		
		4.4	370.1	7.3	367.2
+25		5.3	369.2	6.6	367.9
+50		5.9	368.6	5.9	368.6
+75		5.6	368.9	3.6	370.9
16+00		5.0	369.5	3.5	371.0
+25		5.3	369.2	4.3	370.2
+50		4.5	370.0	4.8	369.7

Sta	H.I.	curb line Rod	curb line Elev	18'Rd Rod	18'Rd curb Elev.
16+75	374.50	4.8	369.7	2.4	372.1
17+00		4.7	369.8	3.8	370.7
+25		4.8	369.7	3.1	371.4
+50		4.6	369.9	3.9	370.6
+75		3.8	370.7	3.4	371.1
18+00	S.E. cor Res.	3.2	371.3	2.3	372.2

POSTED

36" INLET PIPE.



373.21
4.66
368.55

377.00
3.79
373.21
7.40
380.67

POSTED

369.29 J.P.

373.66 H.I.
365.08
8.58

171
POS. 182

365.08
52
365.60
8.06

368.06
365.08
182) 2.98 (1.63
182
1160
1092
680
546
1340

6.56
41
6.15
.41
5.74
.41
5.33
.41
4.92
41
4.51

368.31
367.86
184) 0.450 (.244
368
820
736
840
20

.244
32
488
732
.07808

367.87
5.79
.07

4.79
07
4.72
.06
4.66
.06
4.60
.06
4.54
.06
4.48
.06
4.42
.06
4.36

7.03
6.53
27
6.26

366.32
8.03
.27
6.26
.23
6.03
46
5.57
23
5.34
23
5.11
23
4.88
369.47
368.91

5.06
374.35 H.I.
368.31
6.04

368.06
6.29

.926
29
8334
1852
.26854

368.95
366.32
184) 2.630 (.926
2556
740
568
1720
1704

369.20
368.38
185) .820 (.443
740
800
740
2215
1329
.15505

368.38
16
368.54
5.81
5.95

4.81
.11
4.70
11
4.59
11
4.48
11
4.37
11
4.26

369.83
4.52

27
366.59
1.50
368.09

5.99
375.28 H.I.
369.20
6.08

7.20
368.08

368.95
6.33

5.42
374.71 H.I.
368.95
5.76
4.76
366.32
8.39
27
8.12
1.50
6.62
23
6.39
46
5.93
23
5.70
23
5.47

184) 2.63 (1.429
184
790
736
540
368
1720
1656

3

.0143
34
572
429
.4862

.49

.36

.357

8.39
.49
7.90
1.5
6.4
36
6.04
.36
5.33
36
4.97
36
4.61
36
4.25

Univ. Hts Reservoir
Elev. for grade of gate boxes

At pt. in El Cajon Ave. 24' W of E Line Oregon & 53' N. of S. Line of El Cajon
Elev = 374.34

At pt. on Polk Ave 21.56' S of N. line Polk Ave and 13.5' E. of E. Line of Oregon St. 366.4

At pt. on Polk Ave 170' W. of W. Line Oregon St, and 1.25' inside curb line on N. side Polk. Elev 358.5
5% grade for 50' farther west.

At pt. on Polk Ave 155.22' E of E. line Oregon St. and 24' S. of N. Line Polk Ave Elev. 367.85'

At pt. on Oregon St. 19' W. of E line of Oregon, and on N. Line Howard St. Elev 373.23

80
2156
5844

5.80
4.68
1.12
Fill From Top of gate

374.34
4.68

B.M. 375.55
3.47
H.I. 379.02
5.80
373.22

373.23
5.92

7.04
5.92
1.12
Fill from Top of gate

B.M. 375.55
3.60
H.I. 379.15
4.49
374.66
2.24
376.90
9.56
367.34
5.66
H.I. 373.00

379.15
7.04
372.11

367.85
5.15

7.65
5.15
2.50
Fill from top of gate

366.40
6.60

5.20
C 1.40 on hub 5' S. 85' E of gate.

358.50
9.81

10.40
9.81
.59

B.M. 366.16
2.15
368.31
.91

Stakes set 10-29-09
Lockwood
Evans
Lambert

Posted

Sewer Grades - bot stakes

mm Lin 4 4" pipe from wk plan

375.69
3.65
379.34 ✓
6.47
372.87 T.P.
2.72
375.59 ✓
6.30
.29 T.P.
369
4.37
373.66 ✓ .23

~~32~~
365.40
.231

5.33
6.03
70.

7.76
1.50
6.26

.926
.231

8

5.9800 | 126.1
5.0144 | 04.66
8360 | 233
7566 | 118
7940

174.2
48.1
126.1

362.33
35.98
5.98

.0466
2
.0932

356.35
09
356.44 = 50
117
357.62 75
358.80 1
359.98 125
361.16 150
362.34 175

#89

34 38
26 24
.14

4

55. 3/4

4 7.75-

7.55 1/2

Published by H. S. CROCKER COMPANY, Stationers, Drawing Materials, and Mathematical Instruments, San Francisco.

Table showing the difference of latitude and departure in running 80 chains at any course from 1 to 60 minutes.

MINUTES.	LKS.	MINUTES.	LKS.	MINUTES.	LKS.
1	2⅓	21	49	41	95⅔
2	4⅔	22	51⅓	42	98
3	7	23	53⅔	43	100⅓
4	9⅓	24	56	44	102⅔
5	11⅔	25	58⅓	45	105
6	14	26	60⅔	46	107⅓
7	16⅓	27	63	47	109⅔
8	18⅔	28	65⅓	48	112
9	21	29	67⅔	49	114⅓
10	23⅓	30	70	50	116⅔
11	25⅔	31	72⅓	51	119
12	28	32	74⅔	52	121⅓
13	30⅓	33	77	53	123⅔
14	32⅔	34	79⅓	54	126
15	35	35	81⅔	55	128⅓
16	37⅓	36	84	56	130⅓
17	39⅔	37	86⅓	57	133
18	42	38	88⅔	58	135⅓
19	44⅓	39	91	59	137⅔
20	46⅔	40	93⅓	60	140

TABLE FOR RUNNING ON SLOPES.

In the following table the first column shows the angle, the second the number of links to be added to a chain on the slopes, to make one chain, horizontal measurement.

ANGLE	COR. IN LINKS	ANGLE	COR. IN LINKS	ANGLE	COR. IN LINKS	ANGLE	COR. IN LINKS
°		°		°		°	
4	0.24	11	1.88	18	5.14	25	10.54
5	0.38	12	2.24	19	5.76	26	11.26
6	0.55	13	2.63	20	6.42	27	12.24
7	0.76	14	3.06	21	7.11	28	13.37
8	0.98	15	3.53	22	7.85	29	14.34
9	1.24	16	4.02	23	8.64	30	15.47
10	1.55	17	4.56	24	9.47	35	22.07