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2nd M.P.L.

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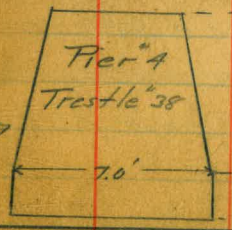
TRESTLES

Hill 1930 — 1

Sta.	Trestle	Pier	Ground Elev.	Grade Elev.	Footing Elev.	Dimension Base at Pier	Height	Excav. C.Y.	Concrete C.Y.	lbs. Reinf. Steel	bbls. Cement
793	39	1	306.6	308.0	303.2	2.6 × 6.02	5.3	1.91	1.87	112.	
		2	306.0	"	302.5	2.83 × 6.25	6.0	~~2.25~~ 2.29	2.35	122.	
		3	307.3	"	304.7	2.10 × 5.52	3.8	1.11	1.06	89.	
Trestle walk		2 pcs 2"×16"×15' = 3 " 2"×16"×16' =			90.67 F.B.M.			5.31			
						Poured 5/15/30		5.27	5.28	323.	7.5
768	38	1	320.8	324.0	317.7	3.10 × 6.52	6.8	2.32	2.98	138.	
		2	316.6	"	311.3	4.0 × 7.0	13.2	5.50	~~4.19~~ 4.53	282.	
		3	317.2	"	313.0	4.0 × 7.0	11.5	4.36	~~3.86~~ 4.05	243.	
see sketch below for		4	318.1	"	314.1	4.3 × 7.0	10.4	4.46	~~6.04~~ 6.56	208.	
		5	323.0	"	318.4	2.9 × 6.28	6.1	3.10	2.43	124.	
Trestle walk		4 pcs. 2"×16"×15' = 5 " 2"×16"×15' =			177.78 F.B.M.						
						Poured 5/17/30 - 5/23		19.74	~~19.97~~ 20.55	995.	26.5

Note 1'-6' batter stopped when pier length reached 7.0' to keep within Right of Way



Area at pt. 8.3 below top 25.2 Sq. Ft.
" " base = 30.1 Sq. Ft.
25.2 + 30.1 / 2 × 2.1 ÷ 27 = 2.15 C.Y.

716	37	1	251.1	256.0	246.8	4.07 × 7.0	9.7	4.54	5.81	197.	
		2	246.6	"	242.7	4.0 × 7.0	13.8	4.07	~~4.65~~ 4.75	300.	
See note above for Piers 1-4		3	246.4	"	242.2	4.0 × 7.0	19.3	4.36	~~4.81~~ 4.90	308.	
		4	251.7	"	247.6	3.8 × 7.2	8.9	4.15	5.00	183.	
Trestle walk		3 pcs. 2"×16"×15' = 4 " 2"×16"×16' =			134.22 F.B.M.						
						Poured 5/27/30 - 5/31/30		17.09	~~20.58~~ 20.46	1988.	31.3

Note For piers adjacent to old wood structure a minimum depth of about 4 feet was used for footing.

calc. FKH. col. FKH. chkd FKH.

chkd by A.L.L.

Trestles (cont.)

Sta.	Trestle	Pier	Ground Elev.	Grade Elev.	Footing Elev.	Dimens. Base of Pier	Height	Excav. C.Y.	Concrete C.Y.	Reinf. Steel	bbls. Cement
691	36	1	246.6	246.6	242.0	2.2 x 5.62	4.1	1.15	1.20	88.	
	figured same as top of high pier	2	241.4	"	236.5	4.03 x 7.0	9.6	3.90	5.62	195.	
		3	237.9	"	232.6	5.37 x 7.0	13.6	6.20	10.57	257.	
		4	234.4	"	228.5	4.0 x 7.0	17.6	6.12	~~5.88~~ 5.89	365.	
		5	234.7	"	231.4	4.0 x 7.0	14.7	3.42	~~4.96~~ 5.02	310.	
		6	239.1	"	235.3	4.37 x 7.0	10.6	3.48	6.68	209.	
		7	243.6	"	240.4	2.73 x 6.15	5.7	1.50	2.14	117.	
Trestle walk		6 pcs. 2"x16"x15' 7 " 2"x16"x1			264.89 F.B.M.	Poured 6/1/30 - 6/9/30		25.82 / 24.66 Calc. 24.6	37.12 / ~~36.87~~ Calc. 36.8	1541.	56.5

Note On several piers below grade shown footings carried about 2 feet on drawings on account of soft adobe.

With exception of material excavated yardage computed

Piers 4 & 5 of above Trestle on same batter as piers, excavation accordingly.

621+40	35	1	241.8	242.87	236.6	3.47 x 6.88	7.9	5.57	4.00	166.	
		2	241.9	242.87	237.7	2.73 x 6.15	5.7	2.61	2.14	117.	
Trestle walk		1 pc. 2"x16"x15' 2 pcs 2"x16"x16'			~~125.~~ 47.11 F.B.M.	Poured 6/18/30 - 6/19/30		8.18 Calc. 8.2	6.14 Ch. M. 6.1	283. Chkd 284.	9.4

chkd by A.L.

Trestles (cont.)

Sta.	Trestle	Pier	Ground Elev.	Grade Elev.	Footing Elev.	Dimens. of base	Height	Excav. C.Y.	Concrete C.Y.	Reinf. steel	bbls. Cement
614+70	#34	1	369.6	370.66	367.3	2.13 x 5.35	3.9	1.01 S.V	1.10 S.V	90. V	
		2	369.9	370.63	368.0	1.87 x 5.28	3.1	0.69 S.V	0.76 S.V	79. V	
Trestle walk		1 pc. 2"x16"x15' 2 pcs. 2"x16"x16" = 47.11 F.B.M.				Poured 6/18/30-6/19/30		1.70 S.V	1.86 S.V	169. V	2.5
612	33	1	367.5	371.22	364.0	3.40 x 6.82	7.7	3.01 S.V	3.80 S.V	164. V	
		2	366.1	371.19	362.0	4.07 x 7.48	9.7	4.62 S.V	6.09 S.V	195. V	
		3	368.3	371.16	364.9	3.10 x 6.52	6.8	2.54 S.V	2.98 S.V	138. V	
Trestle walk		2 pcs. 2"x16"x15' 3 " 2"x16"x16' = 90.67 F.B.M.				Poured 6/19/30-6/20/30		10.17 S.V	12.87 S.V	497. V	16.0
607+50	32	1	324.6	328.04	320.0	3.67 x 7.08	8.5	4.43 S.V	4.63 S.V	177. V	
		2	323.6	328.84	319.0	4.26 x 7.68	10.3	5.57 S.V	6.92 S.V	205. V	
		3	322.7	329.65	320.0	4.20 x 7.62	10.1	3.20 S.V	6.64 S.V	202. V	
		4	327.4	330.45	323.0	3.5 x 6.92	8.0	3.95 S.V	4.10 S.V	167. V	
		5	328.8	331.26	326.0	2.77 x 6.18	5.8	1.78 S.V	2.21 S.V	120. V	
Trestle walk		4 pcs. 2"x16"x15' 5 " 2"x16"x16" = 177.78 F.B.M.				Poured 6/20/30-6/30/30		18.93 S.V	24.50 S.V	871. V	36.2

calc. THK. ch. M.D.E.

cak THK. Ch. M.D.E.

chkd THK.

ch'kd by A.C.L.

1 I

1 S

Trestles (cont.)

Sta.	Trestle	Pier	Ground Elev.	Grade Elev.	Footing Elev.	Dimens. of base	Height	Excav. C.Y.	Concr. C.Y.	Reinf. Steel	Bbls Cement
607	"31	1	326.6	326.32	322.0	2.43 x 5.85	4.8	1.90 S.	1.57 S.	102.	
		2	327.3	327.13	323.0	2.37 x 5.78	4.6	2.18 S.	1.46 S.	99.	
	Trestle walk	1 pc. 2"x16"x15' 2 pcs. 2"x16"x16' = 47.11 F.B.M.			S.	Poured 6/27/30 - 6/28/30		4.08 S. 3.70	3.03 S.	201.	4.5
605+75	"30	1	327.6	327.88	324.5	2.13 x 5.55	3.9	1.36 S.	1.10 S.	89.	
		2	327.7	327.46	324.0	2.17 x 5.38	4.0	1.66 S.	1.15 S.	91.	
	Trestle walk	1 pc. 2"x16"x15' 2 pcs 2"x16"x16" = 47.11 F.B.M.				Poured 6/27/30 - 6/28/30		3.02 S.	2.25 S.	180.	3.5
592+40	"28	1	259.2	260.10	257.0	2.03 x 5.75	3.6	0.90 S.	0.97 S.	86.	
		2	258.0	"	255.5	2.53 x 5.95	5.1	1.39 S.	1.75 S.	110.	
		3	258.1	"	256.0	2.70 x 6.12	5.6	1.90 S.	2.07 S.	118.	
		4	259.0	"	256.0	2.37 x 5.78	4.6	1.52 S.	1.46 S.	101.	
	Trestle walk	3 pcs 2"x16"x15' 4 pcs 2"x16"x16' = 139.22 F.B.M.			S.	Poured 7/1/30 - 7/2/30		5.71 S.	6.25 S.	415.	9.5
571	27	1	313.5	316.16	309.5	2.23 x 6.05	7.2	3.18 S.	3.33 S.	145.	
		2	316.0	316.29	311.6	2.57 x 5.98	5.2	2.50 S.	1.81 S.	110.	
	Trestle walk	1 pc 2"x16"x15' 2 pcs 2"x16"x16" = 47.11 F.B.M.			S.	Poured 7/2/30 - 7/5/30		5.68 S. calc. [illegible] chkd. [illegible]	5.14 S. calc. [illegible] chkd. [illegible]	255. chkd [illegible]	7.9 chkd by A.C.L.

Trestles (cont'd)

Sta.	Trestle	Pier	Ground Elev.	Grade Elev.	Footing Elev.	Dimension of base	Height	Excav. C.Y.	Concr. C.Y.	Reink. Steel	Bbls. Cement
556+50	"26	1	331.9	332.16	329.0	2.07 x 5.48	3.7	1.22 $	1.01 $	88.#	
		2	329.3	330.92	327.0	2.30 x 5.72	4.4	1.12 $	1.35 $	98.#	
		3	328.0	330.33	324.0	3.10 x 6.52	6.8	2.99 $	2.98 $	135.#	
		4	330.1	330.00	327.0	2.00 x 5.42	3.5	1.24 $	0.92 $	85.#	
	Trestle Walk		3 pcs 2"x16"x15' 4 pcs 2"x16"x16" =		134.22 F.B.M. $	Poured 7/3/30 - 7/5/30		6.57 $	6.26 $	406.#	9.8
560+50	"25	1	264.3	266.05	261.0	2.70 x 6.12	5.6	2.02 $	2.07 $	117.#	
		2	263.7	266.50	261.0	2.83 x 6.25	6.0	1.77 $	2.35 $	123.#	
		3	265.5	266.95	263.5	2.13 x 5.33	3.9	0.88 $	1.10 $	91.#	
	Trestle Walk		2 pcs 2"x16"x15' 3 pcs 2"x16"x16" =		90.67 F.B.M. $	Poured 7/6/30 - 7/7/30		4.67 $	5.52 $	331.#	8.4
549+50	"24	1	272.4	273.09	270.0	2.03 x 5.15	3.6	0.98 $	0.97 $	86.#	
		2	268.4	273.16	264.5	3.90 x 7.32	9.2	4.12 $	5.45 $	186.#	
		3	268.2	273.51	265.0	3.83 x 7.25	9.0	3.29 $	3.21 $	183.#	
		4	272.9	274.14	270.0	2.32 x 5.78	4.6	1.47 $	1.46 $	102.#	
	Trestle Walk		3 pcs 2"x16"x15' 4 pcs 2"x16"x16" =		134.22 $	Poured 7/9/30 - 7/11/30		9.86 $	13.09 $	557.#	20.3

calc. HH. calc. HH

chkd. HH

chkd by A.C.L.

$ $

Trestles (con't.)

Sta.	Trestle	Pier	Ground Elev.	Grade Elev.	Footing Elev.	Dimens. of base	Height	Excav. C.Y.	Concr. C.Y.	Reinf. Steel	Bbls. Cement
518+70	#23	1	274.6	270-02	273.0	1.66X5.08	2.5-	0.3 8/9	0.5 3/4	70.	
		2	274.6	274.20	271.5-	1.90X5.32	3.2	1.16 8/9	0.80	80.	
	Trestle Walk	1pc 2"x16"x15' 2 pcs 2"x16"x16"	=		~~47.11~~ F.B.M.	Poured 7/9/30-7/11/30		1.66 8/9	1.35 3/4	150.	2.1
516+50	#22	1	170.0	170.31	168.0	1.76X5.18	2.8	0.67 8/9	0.64 3/4	74.	
		2	167.5	170.00	164.5	2.83X6.25	6.0	1.96 8/9	2.35 3/4	124.	
		3	168.2	170.00	165-0	2.67X6.08	5.5	1.9 8/9	2.00 3/4	116.	
		4	170.4	170.33	167.0	2.10X5.32	3.8	1.46 8/9	1.06 3/4	89.	
	Trestle Walk	3 pcs 2"x16"x15' 4 pcs 2"x16"x16"	=		134.22 8/9 F.B.M.	poured 7/12/30-7/15/30		6.01 8/9	6.0 3/4	403.	9.3
493+50	#21	1	141.5-	142.68	139.0	2.23X5.65	4.2	1.17 8/9	1.25 3/4	95.	
		2	142.1	143.40	139.5-	2.30X5.72	4.4	1.27 8/9	1.35 3/4	98.	
	Trestle Walk	1pc 2"x16"x15' 2 pcs 2"x16"x16"	=		47.11 8/9 F.B.M.			2.44 1/2	2.60 3/4	193.	4.0
492+40	#20	1	141.5	140.66	135.0-	2.90X6.32	6.2	4.41 8/9	2.50 3/4	125.	
		2	139.0	140.77	135-0	2.93X6.35	6.3	2.76 8/9	2.58 3/4	128.	
	Trestle Walk	1pc 2"x16"x15' 2pcs 2"x16"x16"	=		~~47.11~~			7.17 1/2	5.08 3/4	253.	7.8
								calc. MHK	calc. MHK		
								chkd MLR &	chkd MHK		
											chkd by A.C.L.

Sta.	Trestle	Pier	Ground Elev.	Grade Elev.	Footing Elev.
270+50	"18	1	354.1	357.14	351.4
		2	351.2	"	348.9
		3	353.1	"	352.6
	Trestle Walk	2 pcs 2"x16"x15 3 pcs 2"x16"x16"	=		90.67 F.B.M.
260	"17	1	363.6	365.15	361.4
		2	361.4	366.28	357.8
		3	363.0	367.40	359.9
		4	368.8	368.52	366.6
	Trestle Walk	3 pcs 2"x16"x15' 4 pcs 2"x16"x16"	=		134.22 F.B.M.
251+50	"16	1	367.2	368.08	364.0
		2	361.4	368.29	357.0
		3	361.3	368.46	357.2
		4	365.4	368.56	363.0
		5	368.7	368.70	367.0
	Trestle Walk	4 pcs 2"x16"x15' 5 pcs 2"x16"x16"	=		177.78 F.B.M.
136+50	"15	1	365.0	368.0	363.0
		2	364.0	"	360.0
		3	367.7	"	365.5
	Trestle Walk	2 pcs 2"x16"x15" 3 pcs 2"x16"x16"	=		90.67

Dimens. of base	Height	Excav. C.Y.	Concr. C.Y.	Reinf. Steel	Bbls Cement
2.93 x 6.60	6.3	1.93	2.68	130.	
3.76 x 7.13	8.8	2.38	5.16	184.	
2.47 x 6.13	4.9	1.29	1.70	105	
		5.60	9.54	419.	14.6
2.30 x 5.97	4.4	1.12	1.41	99.	
3.87 x 7.53	9.1	3.89	5.52	186.	
3.53 x 7.20	8.1	2.92	~~4.36~~	171.	
1.66 x 5.33	2.5	0.72	0.56	70	
		8.65	~~12.19~~ 11.85	526.	18.1
2.40 x 6.07	4.7	1.73	1.58	104.	
4.13 x 7.80	9.9	2.86	6.58	202.	
4.17 x 7.83	10.0	2.78	6.72	203.	
2.90 x 6.57	6.2	1.69	2.60	126.	
1.60 x 5.27	2.3	0.53	0.51	52.	
		9.59	17.90	687.	27.5
2.70 x 6.97	5.6	1.27	2.16	117.	
3.70 x 7.37	8.6	4.04	4.92	179.	
1.87 x 5.63	3.1	0.84	0.79	77.	
		6.15	7.87	373.	12.0
		calc. J.E.B. chkd	calc. T.M.K.	calc. J.C.S. chkd T.M.K.	

chkd by A.C.L.

Sta.	Trestle	Pier	Ground Elev.	Grade Elev.	Footing Elev.	Dimens. of base	Height	Excav C.Y.	Concr. C.Y.	Reinf. Steel	B.M. cement
119+60	" 14	1	329.2	330.0	322.0	3.70 x 7.37	8.6	7.27	4.92	179.	
		2	328.8	"	322.0	3.70 x 7.37	8.6	6.82	4.92	179.	
	Trestle Walk	1 pc 2"x16"x15' 2 pcs 2"x16"x16"		=	47.11 F.B.M.			14.14	9.84	358.	15.1
112+70	" 13	1	383.3	384.0	381.5	1.87 x 5.53	3.1	0.69	0.79	77.	
		2	380.3	"	378.5	2.87 x 6.53	6.1	1.39	2.52	123.	
		3	380.9	"	378.5	2.87 x 6.53	6.1	1.67	2.52	123.	
		4	383.6	"	381.5	1.87 x 5.53	3.1	0.80	0.79	79.	
	Trestle Walk	3 pcs 2"x16"x15' 4 pcs 2"x16"x16"		=	134.22 F.B.M.			4.55	6.62	402.	10.1
110+10	" 12	1	364.2	364.0	360.5	2.20 x 5.87	4.1	1.77	1.25	92.	
		2	365.5	"	361.0	2.03 x 5.70	3.6	1.93	1.01	86.	
	Trestle Walk	1 pc 2"x16"x15' 2 pcs 2"x16"x16"		=	47.11 F.B.M.			3.70	2.26	178.	3.5
103+00	" 11	1	309.5	312.0	307.0	2.70 x 6.37	5.6	1.59	2.16	117.	
		2	308.8	"	304.0	3.70 x 7.37	8.6	4.85	4.92	179.	
		3	308.8	"	304.0	3.70 x 7.37	8.6	4.85	4.92	179.	
		4	311.1	"	309.0	2.03 x 5.70	3.6	0.90	1.01	86.	
	Trestle Walk	3 pcs 2"x16"x15' 4 pcs 2"x16"x16"		=	134.22 F.B.M.			12.19	13.01	561.	19.9
98+50	" 10	1	348.8	352.0	346.0	3.03 x 6.70	6.6	2.11	2.93	132.	
		2	347.5	"	344.0	3.70 x 7.37	8.6	3.53	4.92	179.	
	Trestle Walk	1 pc 2"x16"x15' 2 pcs 2"x16"x16"		=	47.11 F.B.M.			5.64	7.85	311.	12.0
								calc. T.H.K. chkd	calc. T.H.K. M.A.G.	J.C.B. chkd	
								Σ	Σ 12.826		chkd by A.C.L.

Sta.	Trestle	Pier	Ground Elev.	Grade Elev.	Footing Elev.	Dimens. of base	Height	Excav. C.Y.	Concr. C.Y.	Reinf. Steel	Bbls. Cement
93+00	#9	1	324.7	328.0	323.5	2.53 X 6.20	5.1	0.70	1.82	110.	
		2	322.8	"	319.5	3.87 X 7.53	9.1	3.56	5.52	187.	
		3	325.3	"	323.5	2.53 X 6.20	5.1	1.05	1.82	110.	
Trestle Walk		2 pcs 2"x16"x15' 3 pcs 2"x16"x16"		=	90.67 F.B.M.			5.31	9.16	407.	14.0
81+50	#8	1	329.0	330.0	326.5	2.20 X 5.87	4.1	1.19	1.25	93.	
		2	329.2	"	327.0	2.03 X 5.70	3.6	0.94	1.01	86.	
Trestle Walk		1 pc 2"x16"x15' 2 pcs 2"x16"x16"		=	47.11 F.B.M.			2.13	2.26	179.	3.6
72+20	#7	1	336.2	339.0	334.5	2.53 X 6.20	5.1	0.99	1.82	110.	
		2	335.2	"	330.5	3.87 X 7.53	9.1	5.07	5.52	187.	
		3	337.5	"	335.5	2.20 X 5.87	4.1	0.96	1.25	93.	
Trestle Walk		2 pcs 2"x16"x15' 3 pcs 2"x16"x16"		=	90.67 F.B.M.			7.02	8.59	390.	13.1
67+50	#6	1	310.9	312.0	305.5	3.20 X 6.87	7.1	4.40	3.37	143.	
		2	310.8	"	305.0	3.37 X 7.03	7.6	5.09	3.84	152.	
Trestle Walk		1 pc 2"x16"x15' 2 pcs 2"x16"x16"		=	47.11 F.B.M.			9.49	7.21	295.	11.0
60+50	#5	1	339.0	340.0	335.0	2.70 X 6.37	5.6	2.55	2.16	116.	
		2	338.5	"	333.5	3.20 X 6.87	7.1	4.07	3.37	143.	
Trestle Walk		1 pc 2"x16"x15' 2 pcs 2"x16"x16"		=	47.11 F.B.M.			6.62	5.53	259.	8.5
33+10	#4	1	353.5	354.0	350.5	2.20 X 5.87	4.1	1.43	1.25	93.	
		2	353.7	"	351.5	1.87 X 5.53	3.1	0.84	0.79	79.	
Trestle Walk		1 pc 2"x16"x15' 2 pcs 2"x16"x16"		=	47.11 F.B.M.			2.27 Cal. J.C.B.E. 32 83 chkd M.B.E.	2.04 calc. [illegible]	172. chkd [illegible]	3.1 chkd by A.C.L.

Sta.	Trestle	Pier	Ground Elev.	Grade Elev.	Footing Elev.	Dimens. at base	Height	Excav. C.Y.	Concr. C.Y.	Reinf. steel	Bbls cement
29+30	#3	1	337.8	338.0	336.0	2.03 x 5.70	3.6	1.20	1.01	85.	
		2	337.1	"	334.0	2.37 x 6.03	4.6	1.64	1.52	100.	
		3	338.0	"	336.0	1.70 x 5.37	2.6	0.68	0.59	74.	
Trestle Walk		2 pcs 2" x 16" x 15' 3 pcs 2" x 16" x 16"		=	90.67 F.B.M.			3.52	3.12	259.	4.8
10+80	#2	1	336.9	336.32	332.0	2.47 x 6.13	4.9	2.19	1.70	105.	
		2	335.2	336.06	331.5	2.57 x 6.23	5.2	2.19	1.89	110.	
Trestle Walk		1 pc 2" x 16" x 15' 2 pcs 2" x 16" x 16"		=	47.11 F.B.M.			4.38	3.59	215.	3.5
		Total to here	3,209.78								
1+30	#1			395.66							
		1	390.9	"	387.1	3.87 x 7.53	9.1	4.10	5.52	185.	
		2	389.8	"	385.7	4.43 x 8.10	10.8	5.85	7.92	212.	
		3	388.7	"	384.5	4.73 x 8.40	11.7	6.18	9.41	225.	
		4	389.2	"	387.2	3.83 x 7.50	9.0	2.13	5.40	183.	
Trestle Walk		3 pcs 2" x 16" x 15' 4 pcs 2" x 16" x 16"		=	134.22 F.B.M.			18.26	28.25 27.66	805.	41.0
								calc. AHH chkd WM.NE	calc. AHH	chkd AHH.	
Totals all trestles by WM.DE 10/31/30 chk. AHH 11/3/30					3,344.00 F.B.M.			293.02	340.88 341.98 wv.	15,807.	509.41.

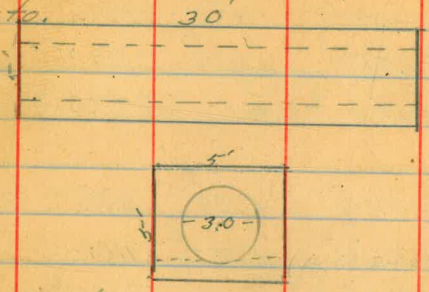
Note - Steel in each separate Pier not checked A.C.L.

chkd 6-1 ACL

MISCELLANEOUS CONCRETE STRUCTURES

Hill 1930

Concr. encasement at R.R. undercrossing Encanto.



Concrete

End area of concr. = 5' x 5' = 25 sq ft
" " " pipe $(1.5')^2 \times 3.1416 = 7.06$ "
Net end area = 25.0 − 7.06 = 17.94 sq ft.

Concrete content = $\frac{17.94 \times 30.0}{27} = 19.93$ C.Y.

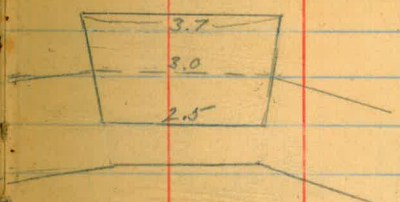
Reinforcing - 8 - ½ ϕ bars 25' long = 200.
30 " " " 4.5' " = 135.
335 feet at 0.85 lbs per foot = 285 lbs.

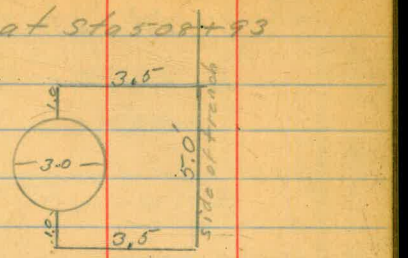
Cement - 20.1 bbls.

Calc. T.H.H.
Chkd. M.P.E.

chkd by A.L.L.

Pipe Anchor Block at Sta 508+93





Concrete

Total content of block = $3.1 \times 3.5 \times 5.0 = 54.25$ c.u.ft.
Content replaced by pipe = $(1.5')^2 \times 3.1416 \times 2.75' = 9.71$ c.u.ft.

$\frac{54.25 - 9.71}{27} = 1.65$ Cu. Yds.

Reint. Steel

5 - 5/8" ϕ bars 5.33' long = 26.65'
26.65' feet at 1.33 lbs per foot = 35. lbs.

Cement 2.2 bbls.

Structure Excav.

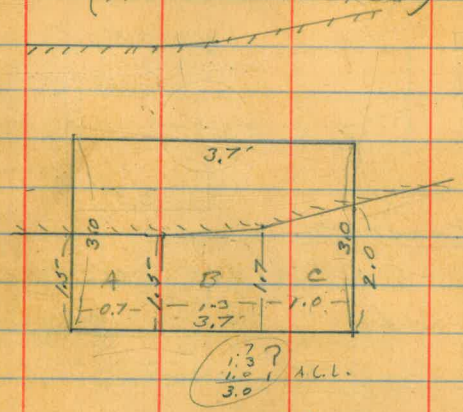
$\frac{3.1 \times 3.5 \times 1.0}{27} = 0.40$ Cu. Yds.

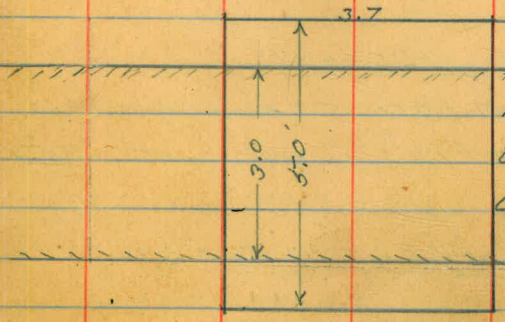
Calc. T.H.H.
Chkd M.P.E.

chkd by A.L.L.

Pipe Anchor at 469+95

(As constructed)





Excavation

$A = \frac{1}{2} \times 1.5 \times 5.0 \times 0.7 = 5.25$

$B = \frac{1}{2} \times 1.6 \times 5.0 \times 1.3 = 10.40$

$C = \frac{1}{2} \times 1.85 \times 5.0 \times 1.0 = 9.25$

$\frac{5.25 + 10.40 + 9.25}{27} = 0.92$ C.Y.

Concrete

$3.7 \times 5.0 \times 3.0 = 55.5$ cu. ft.

Supplanted by pipe = 9.18 cu. ft.

$55.50 - 9.18 =$ 1.72 Cu Yds.

Reinforcing Steel

6 - 5/8" ⌀ bars 5.5' long = 27.5'

27.5 feet at 1.33 lbs per foot = 37.1 lbs.

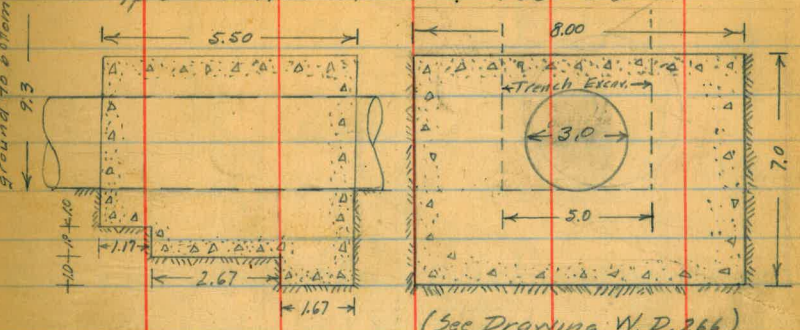
Cement 2.2 bbls.

Calc. T.H.K.

Chkd. M.N.E.

chkd by.

Pipe Anchor at Sta 468+58



(See Drawing W. D. 266)

Excavation

$\frac{1. \times 5.5 \times 8}{27} = 1.63$ ✓

$\frac{1 \times 9.33 \times 8}{27} = 1.28$ ✓

$\frac{1 \times 1.67 \times 8}{27} = 0.49$ ✓

$\frac{(5.5 \times 8. \times 9.3) - (\text{Trench Exc.}\ 5. \times 5.5 \times 9.3)}{27} = 5.68$ ✓ ℄

Total Exc. 9.08 Cu. yds

Concrete

Cement

10.4 bbls.

$\frac{1 \times 5.5 \times 8.}{27} = 1.63$ ✓ C.Y.

$\frac{1 \times 9.33 \times 8}{27} = 1.28$ ✓

$\frac{1 \times 1.67 \times 8}{27} = 0.49$ ✓

$\frac{(8. \times 4. \times 5.5) - (\text{Pipe}\ 1.5^2 \times 3.1416 \times 5.5)}{27} = 5.08$ ℄

Total Concrete 8.98 Cu. Yds

Reinforcing Steel

"A" bars	8 x 8.71'	=	69.7' ℄
"B" bars	5 x 6.16'	=	30.8' ℄
"C" bars	8 x 7.0'	=	56.0' ℄
			156.5' ℄

156.5' of 3/4" ⌀ at 1.91 lbs per ft = 299 ℄ Lbs.

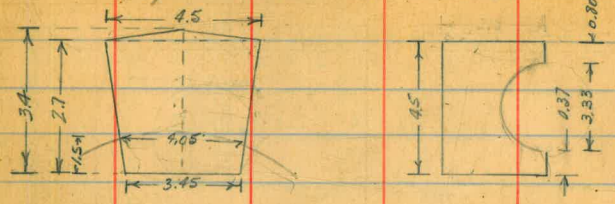
Chkd. T.H.K.

Comptd. M.N.E. 10/28/30

chkd. by A.C.L.

Misc. Concrete Structures (cont.)

Pipe Anchor at Sta 286+67



Concrete $\left(\frac{3.45+4.5}{2} \times 2.7 \times 4.5\right) + (0.7 \times 2.25 \times 4.5) - \left(\frac{1.67^2 \times 3.1416 \times 3.75}{2}\right)$ (Pipe) $= 1.44$ C.Y.

27

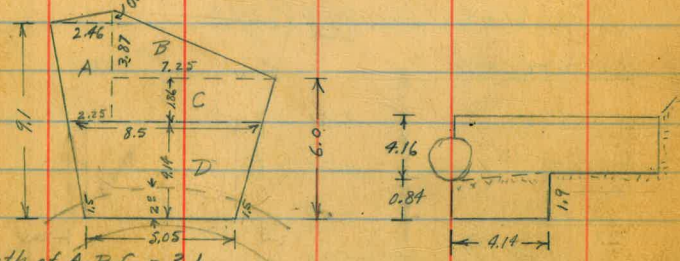
Steel $5 - 3/4^{\#}$ 5.33 Long $= 26.65'$ at 1.91 Lbs per ft. $= 51$ Lbs

Excavation $\left(\frac{3.45+4.5}{2} \times 2.7 \times 0.37\right) + (0.7 \times 2.25 \times 0.37) \div 27 = 0.17$ C.Y.

Cement 8 sacks $= 2.0$ bbl.

Compted M.D.E. 10/29/30 - chk ALL

Pipe Anchor Sta. 224+85



Ave. Depth of A, B, C = 3.1

Ave Depth of D = 5.0

Concrete $\left(\frac{8.5+5.05}{2} \times 4.14 \times 5\right) + \left(\frac{7.25+6.25}{2}\right)$ C $\times 1.86 \times 3.1) + \left(\frac{3.87 \times 7.25}{2}\right)$ B $\times 3.1)$

$+ \left(\frac{2.46+2.25}{2} \times 5.73 \times 3.1\right) + \left(\frac{2.46 \times 0.77 \times 3.1}{2}\right) - (4.99$ (Pipe) $\times 5.68) \div 27 = 8.86$ C.Y.

Steel $10 - 3/4^{\#}$ bars 5.33 Long $= 53.3'$ at 1.91 Lbs ft. $= 102$ Lbs.

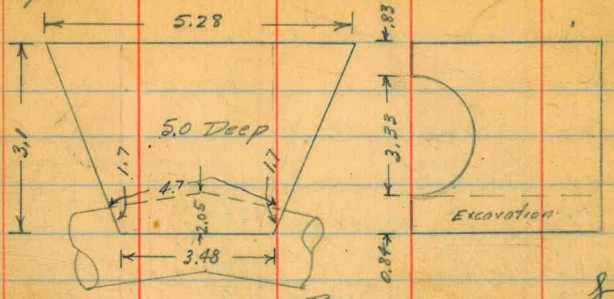
Excavation $\left(\frac{8.5+5.05}{2}\right) \times 4.14 \times \left(\frac{0.84+1.9}{2}\right) \div 27 = 1.42$ C.Y.

Cement 43 sacks $= 10.75$ bbls.

Compted. M.D.E.
chk ALL

ch. kd. by A.C.L

Pipe Anchor Sta 145+47.87



Concrete $\left(\frac{5.28+3.48}{2} \times 3.1 \times 5.\right) - (5.02$ (Pipe) $\times 4.09) \div 27 = 1.76$ Cu. Yds.

Excavation $\left(\frac{5.28+3.48}{2} \times 3.1 \times 0.84\right) \div 27 = 0.42$ Cu. Yds

Cement 10 sacks $= 2.5$ bbls.

Steel $6 - 3/4^{\#}$ bars 5.33 Long at 1.91 Lbs per ft. $= 61.$ Lbs.

Calc. M.D.E.

chk ALL

Misc. Concrete Structures Continued on Page 37

Ch. by A.C.L.

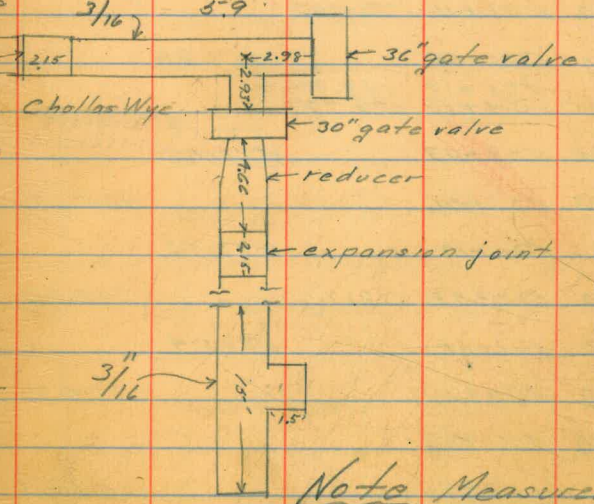
STEEL PIPE 36"

Station to	Station	3/16" Lin. ft	1/4" Lin. ft.	5/16" Lin. ft.	3/8" Lin. ft
855+12.05	853+73.70	142.65			
853+73.70	846+22.20		768.07		
846+22.20	838+80	768.10			
838+80	819+~~13.5~~ 10.5		1965.40		
819+~~13.5~~ 10.5	814+25	485.09			
814+25	804+17		1009.13		
804+17	759+02	4676.96			
759+02	749+20		999.90		
749+20	718+79	3062.56			
718+79	713+88		503.42		
713+88	696+78	1721.60			
696+78	682+00		1487.30		
682+00	679+90			209.20	
679+90	674+47		553.00		
674+47	627+11	4751.50			
627+11	617+78		945.50		
617+78	596+55	2137.30			
596+55	590+08		658.92		

(cont. on next page)

SPECIALS

Station	3/16" Lin. ft	1/4" Lin. ft.	5/16" Lin. ft.	3/8" Lin. ft.
853+10		27.6		
849+95		34.25		
848+68		5.9		
800+66.2 = 802+21.04				
801+27.5				
769+50	5.22			
768+64	18.35			
767+75	11.62			
754+38		20.00		
748+54	25.60			
718+45		20.43		
691+00		12.12		
680+17		30.08		
671+02	31.20			
620+17		14.87		
616+25	23.40			
615+94	14.10			



Note Measurement at specials discontinued as it was impossible to determine exact length on account of wrapping.

STEEL PIPE 36" (cont.)

Station to	Station	3/16" Lin. ft.	1/4" Lin. ft.	5/16" Lin. ft.	3/8" Lin. ft.
590+08	563+40	2702.15			
563+40	538+90		469.35		
538+90	551+11	795.02			
551+11	536+65		1451.90		
536+65	535+18 / 534+88	149.97 / ~~129.77~~			
535+18 / ~~534+88~~	529+83		541.19 / ~~677+19~~		
529+83	522+96			705.67	
522+96	520+10		292.16		
520+10	512+98			718.70	
512+98	471+18		179.84		
471+18	490+30			2109.40	
490+30	461+62				2890.97
461+62	450+22			1148.53	
450+22	439+92		1036.79		
439+92	430+45	948.33			
		22,355.23	12,852.11	4,891.50	2,890.97

40" PIPE

430+45	411+20	1930.64			
411+20	405+33 / ~~684~~		591.90 / ~~621.90~~		
405+33 / ~~684~~	397+84			772.15 / ~~742.15~~	
397+84	394+80 / ~~395+10~~		314.20 / ~~284.20~~		
394+80 / ~~395+10~~	362.04	3286.05 / ~~3316.05~~			
362+04	360+68		137.63		
360+68	352+53	824.50			
352+53	350+50		205.95		

SPECIALS

Station	3/16" Lin. ft.	1/4" Lin. ft.	5/16" Lin. ft.	3/8" Lin. ft.
608+10	12.10			

STEEL PIPE 40" (cont.)

Station to	Station	3/16 Lin. ft.	1/4 Lin. ft.	5/16 Lin. ft.	3/8 Lin. ft.
350+50	344+53	606.95			
344+53	342+25		228.73		
342+25	330+74	1167.95			
330+74	328+22		252.46		
328+22	318+53	974.86			
318+53	312+73		587.70		
312+73	311+24	149.80			
311+24	309+06		226.40		
309+06	298+20	1094.10			
298+20	286+98		Tunnel #4 1126.43		
286+98	227+56	5979.37			
227+56	224+31	343.70			
224+31	205+00		Tunnel #3 1931.50		
205+00	192+03	1303.75			
192+03	171+97		Tunnel #2 2009.52		
171+97	167+84	413.45			
167+84	145+70		Tunnel #1 2221.73		
145+70	106+08	3991.66			
106+08	103+83		230.35		
103+83	68+06	3660.15			
68+06	66+53		158.76		
66+53	51+94	1485.92			
51+94	39+05		1305.84		

STEEL PIPE 40" (cont)

Station	to Station	3/16" Lin. Ft.	1/4" Lin. Ft.	5/16" Lin. Ft.
39+05	21+86	1755.20		
21+86	19+25		275.41	
19+25	1+17	1832.21		
		30,799.45	11,809.52	772.15

~~Note {1+33.5 / 1+17} end at Wye Branch at trestle 1-Filter Plant~~

APURTENANCES

	Item "18 40"x36"x¼" reducer	Item "19 40"x30"x¼" reducer	Item "20 40"x28"x¼" reducer	Item "21 36"x30"x¼" reducer	Item "22 36"x28"x¼" reducer	Item "23 36"x36"x20" Tee	Item "24 40"x40"x36" wye	Item "25 36"x36"x30" Tee	Item "26 40" expansion joints	Item "27 36" expansion joints
800+82										1
800+66.2										
802+21.04								1		
802+16				1						
802+10										1
801+27								1		
65-8				2						

discontinued

Apurtenances (cont.)

Station	Item 28 36" gate valve	Item 29 30" gate valve	Item 30 28" gate valve
800+66.20			
802+21.01	1	1	
658		1	

discontinued

Item 31 4" air valve private R/W	Item 32 4" air valve Sts. & Roads	Item 33 4" blow off trestles 181	Item 34 4" blow off trestles 755	Item 40 4" pipe
855+08 2				10.75

Byler
King
OTTEN

1-26-44

ELEV'S. OF VARIOUS METERS GAGES & VALVES OTAY FILTER PLANT

	B.S.	H.I.	F.S.	ELEV.	Locations
	3.53	408.28		404.75	B.M. Cross on end of small retaining wall S.W. Cor. Main Bldg.
T.P.			0.00	408.28	
	12.20	420.48			
BRISTOL Press. Meter			1.10	419.38	
Wash Water Meter			0.69	419.79	
Center Table guage			1.31	419.17	
Sparling Wash guage			0.83	419.65	
CHlor. Press. ga.			0.96	419.52	E. W
Wash Press. ga.			0.95	419.53	E. W
Domestic Press ga.			0.84	419.64	E. W
HYD. Valve Press guage		(Continued)	0.84	419.64	E. Wall

LHH 9-5-44

Plse set Pressure gauges on Otay & Bonita Pk at grd Elevation & gauge

1. Air valve just out of Filter plant at 70.
2. Coronado Wye.
3. Bonita Wye
4. 31st & Bdwy

Earl Thomas has a 200# gauge and a 100# gauge which we can borrow. The 200# gauge is for 31st & Bdwy. Plse put gauges on 24 hr charts.

Stop at Chollas to pick up fittings if needed.

Do you want patrolman to help you?

PB.

Byler
King
OTTEN

1-26-44

ELEV'S. of VARIOUS METERS GAGES & VALVES OTAY FILTER PLANT

	B.S.	H.I.	F.S.	ELEV.	Locations
	3.53	408.28		404.75	B.M. Cross on end of small retaining wall S.W. Cor. Main Bldg.
T.P.			0.00	408.28	
	12.20	420.48			
BRISTOL Press. Meter			1.10	419.38	West Wall in office So. End Main Bldg.
Wash Water Meter			0.69	419.79	W. Wall in office So. End Main Bldg.
Center Table guage			1.31	419.17	Center Table Oper. Floor
Sparling Wash guage			0.83	419.65	E. Wall Centr. Oper. Floor.
Chlor. Press. ga.			0.96	419.52	E. Wall in office So. End Main Bldg.
Wash Press. ga.			0.95	419.53	E. Wall in office So. End. Main Bldg.
Domestic Press ga.			0.84	419.64	E. Wall in office So. End. Main Bldg.
HYD. Valve Press guage	(Continued)		0.84	419.64	E. Wall in office So. End Main Bldg.

Elev's. Meters Etc. (Cont.)
Otay Filter Plant

CHLORINE HOUSE

	3.05	407.80	404.75	B.M. "X" on So. end of retaining wall near S.W. Cor. Main Bldg.
No. Chlorine guage		2.74	405.06	No. guage
" "		2.75	405.05	Center guage
So. " "		2.81	404.99	So. guage
Floor Elev.				

PUMP HOUSE

	0.63	396.43	395.80	B.M. on steel dowel in most westerly of two 12"X12" Concrete piers West of stand by pump house
Pressure gauge		4.38	392.0	on 8" Wash line
Pressure guage		5.08	391.3	on 3" Dom. line
Pressure guage		8.85	387.6	on 1½" chlor. line
Floor El.		10.7	385.7	

(Continued)

ELEV'S. METERS ETC. OTAY FILTER PLANT (CONT.)

Emergency Standby Plant

396.43

Pressure guage	1.1	392.3
Pressure guage	3.2	393.2
Floor Elev.	5.2	391.2

1½" Chlor line

2" Domestic line

Hill
King
Otten
Stephens

10-27-44

Add'l. Elevs on Pipes Otay P. Plant

B.M.	4.23	407.77			403.54
			2.00	405.77	
			8.88	398.89	
			12.98	394.79	
			8.8	399.0	
			9.2	398.6	
			10.1	397.7	
			12.8	395.0	

X on End Retaining Wall S.W. Cor. Filter House

Top 36" Pipe at Pt A

Top 40" " " " A

Concrete Floor at Pt. A

Top 40" Pipe at Pt. 36&40 Join

Top stem on by pass Gate on 40" Pl.

Top stem on Blow off Gate on 40" Pl.

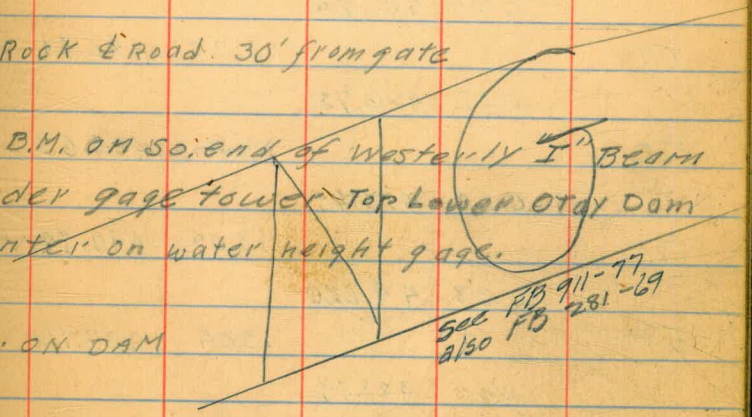
Ground Elev. at Blow off

Byler
King
Otten
1-26-44

LEVELS FOR ESTABLISHING B.M. ON OTAY DAM

	B.S.	H.I.	F.S.	ELEV.	B.M.	
	12.90	417.65			A04.75	SEE PAGE 22
T.P.			0.06	417.59		ON 2" PIPE UNION
	12.63	430.22				
T.P			0.56	429.66		ON ROCK
	12.37	442.03				
T.P			0.03	442.0		ON ROCK near Road
	12.85	454.85				
T.P.			0.29	454.56		ON Rock So. of Road near 1st cabin
	12.81	467.37				
T.P.			0.20	467.17		ON Rock in Road
	12.84	480.01				
T.P.			0.17	479.84		ON Rock in Road
	12.00	491.84				
T.P.			0.26	491.58		ON ROCK in Road
	12.05	503.63				
T.P.			0.18	503.45		ON Rock No side Road
	12.13	515.58				
T.P.			0.22	515.36		ON Rock So side Road
	12.44	527.80				
T.P.			0.23	527.57		On Rock E. of flagpole
	11.01	538.58				
			9.34	529.24		ON N.E. Cor. Top of Flag pole base
T.P.			5.61	532.97		
	0.51	533.48				
T.P.						

		533.48			
T.P.			13.02	520.46	ON Rock in ℄ of Road
	0.84	521.30			
T.P.			12.63	508.67	ON Rock in ℄ of Road
	0.45	509.12			
T.P.			10.27	498.85	ON Rock ℄ Road. 30' from gate
	4.34	503.19			
B.M.			5.17	498.02	Set B.M. on So. end of Westerly "I" Beam under gage house. Top Lower Otay Dam Point "1" on water height gage.
	4.31	502.33			
			0.79	501.54	
	Check Back				
				498.02 ✓	B.M. ON DAM
	11.69	509.71			
T.P.			0.42	509.29	ON Rock in ℄ Road
	13.03	522.32			
T.P.			0.13	522.19	ON Rock ℄ Road
	12.42	534.61			
T.P.			1.96	532.65	ON Rock ℄ Road
	6.70	539.35			
TP			10.11	529.24	ON flag pole base (check)
	0.56	529.80			
T.P.			13.01	516.79	ON Rock ℄ Road
	0.40	517.19			
			13.05	504.14	ON Rock So.
T.P.	0.08	504.22			



		504.22				
T.P.			12.69	491.53		On Rock No. Side of Road
	0.21	491.74				
T.P.			12.99	478.75		On Rock So. Side of Road.
	0.54	479.29				
T.P.			12.78	466.51		On Rock ℄ Road
	0.27	466.78				
T.P.			13.10	453.68		On ROCK So. Side Road
	0.23	453.91				
T.P.			13.09	440.82		On Rock W. of Road
	0.38	441.20				
T.P.			13.04	428.16		On Rock near Tel.
	0.00	428.16				
T.P.			12.44	415.72		
	1.13	416.85				
B.M.			12.11	404.74	404.75	(Check)

MISCELLANEOUS STRUCTURE EXCAVATION

Connection at Lantana $\frac{1 \times 2.8' \times 1.0'}{27} = 0.42$ C.Y.

8" T 16" connec's at 54th St. $\frac{1.5' \times 3.0 \times 5.0}{27} \times 2 = 1.66$ C.Y.

Expans. jt. at sta 800+82 $\left.\begin{matrix} 1.5' \times 6.0 \times 6.0 \\ 1.0 \times 5.0 \times 6.0 \end{matrix}\right\} \div 27 = 3.11$ C.Y.

~~Expans. jt. at sta. 802+10 same as above 3.11 C.Y.~~

Tee, sta. 801+28 $\frac{2.7' \times 4.5' \times 5.0'}{27} = 2.25$ C.Y.

Anchor 10' West of P.I. 802+21.04 = 800+66.20 $\left.\begin{matrix} 1.3' \times 5.5' \times 8.6' \\ 1.0' \times 6.7' \times 8.6' \end{matrix}\right\} \div 27 = 4.41$ C.Y.

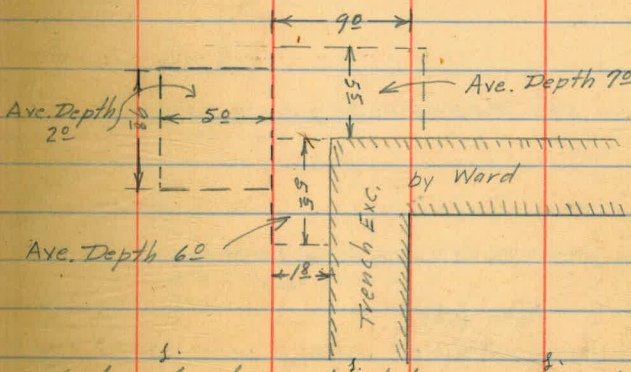
Anchor & Expansion Jt. 802+10 $\frac{(6' \times 6' \times 5.6') - (4.5 \times 4.2 \times 6)}{27} = 3.27$ C.Y.

Calc. ~~T.H.B.~~
Chkd M.B.E.

15.12

Note: This Excav. was checked from figures as given, A.C.L.

Structure Exc. at Gate Valve
Sta 802+21.04 = 800+66.20



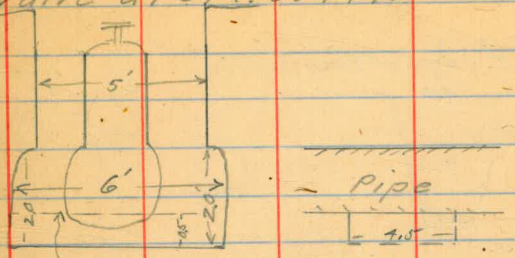
$\frac{(9.0' \times 7.0' \times 5.5') + (9.8' \times 5.0' \times 2) + (1.8' \times 5.5' \times 6.0')}{27} = 18.66$ C.Y.

Calc. M.B.E.
Chkd. T.H.B.

Structure Excav. (cont.)

		Cu. Yds.
Blowoff at sta. 774+20	$\frac{2.0 \times 2.5 \times 5.0}{27} =$	0.93
4" connection sta. 742+81	$\frac{1.2 \times 2.3 \times 5.0}{27} =$	0.51
2" connection sta. 733+25	$\frac{1.0 \times 2.4 \times 5.0}{27} =$	0.44
10" connection sta. 707+08	$\frac{1.5 \times 1.0 \times 5.0}{27}$	1.11
Excavation for 10" connection at sta. 700 thru error in work order - same dimensions as above =		1.11
6" connections sta. 678+35	$\frac{2.0 \times 5.0 \times 5.0}{27} \times 2$	3.70
Expans. jt. at sta. 658+30	$\left.\begin{matrix} 1.5 \times 6.0 \times 6.0 \\ 1.0 \times 5.0 \times 6.0 \end{matrix}\right\} \div 27$	3.11
Expans. jt. at sta. 657+20 - same as above		3.11
Note: - This Excavation was checked from figures as given. A.C.L.	Calc. [illegible] Chkd M.M.E.	14.02

Gate valve at sta. 657+93

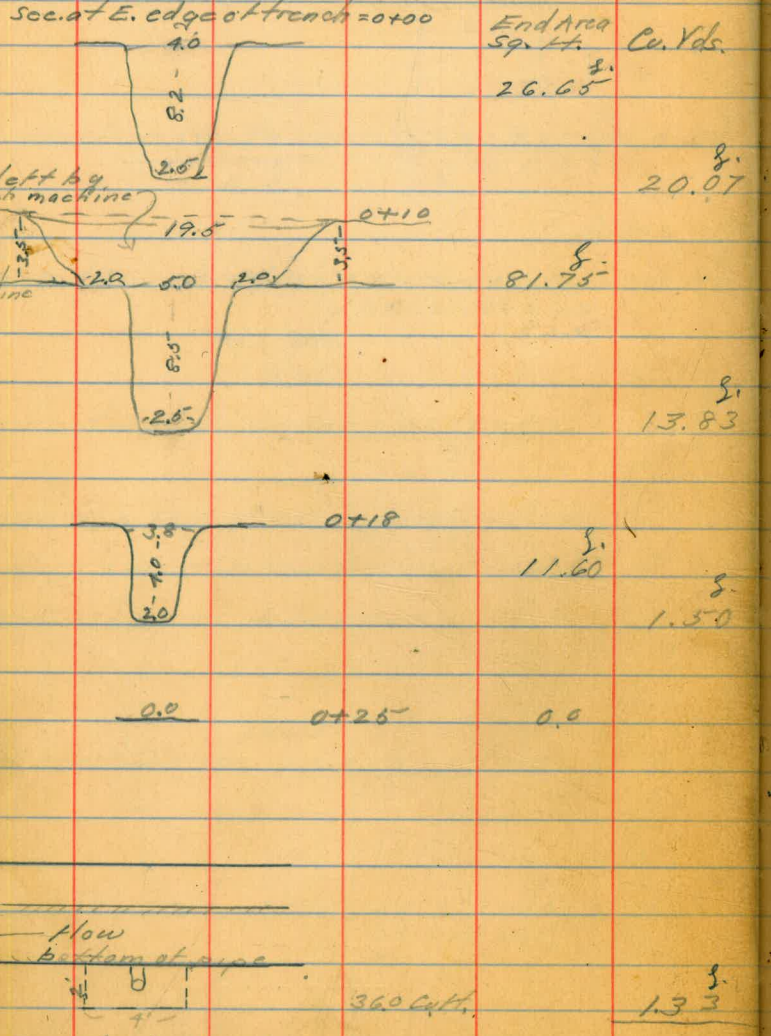


$\left.\begin{matrix} 0.5 \times 5.0 \times 4.5 \\ 2.0 \times 4.5 \times 0.5 \times 2 \end{matrix}\right\} \div 27 =$ 0.76 C.Y.

Calc. [illegible]
Chkd M.M.E.

Structure Excavation (cont.)

Blow-off at sta. 650

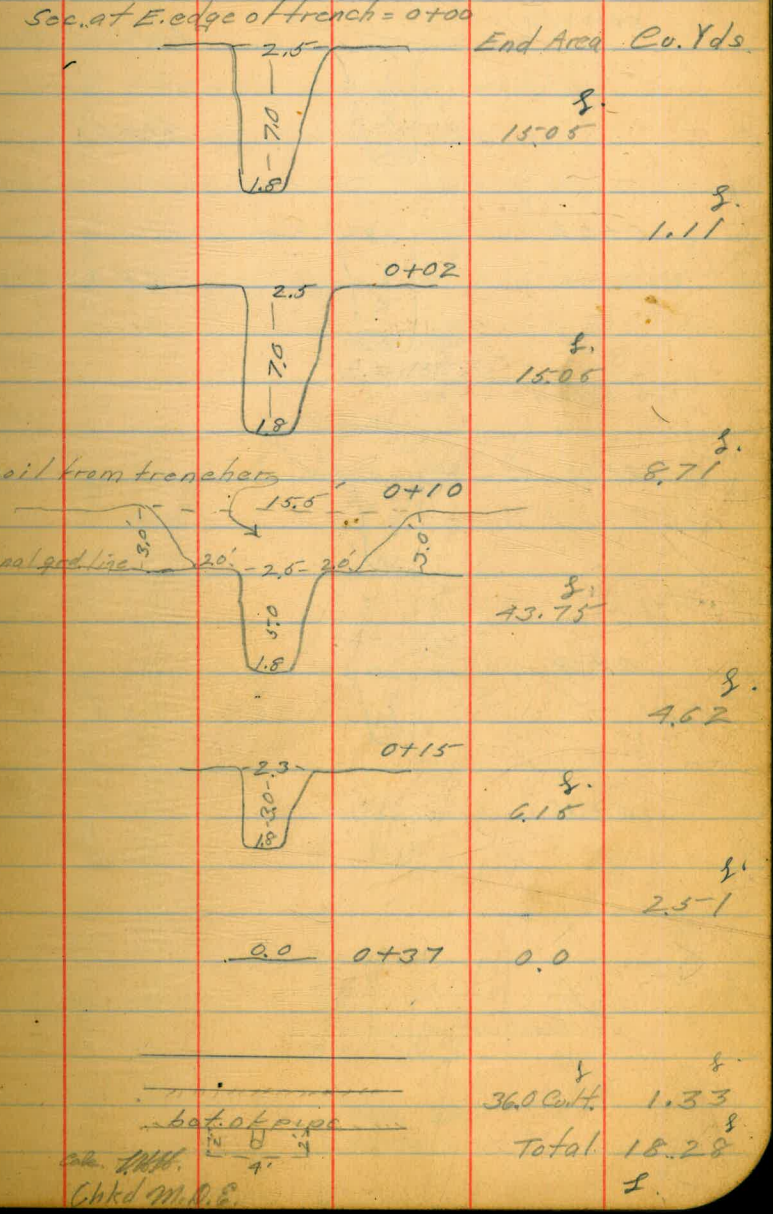


	End Area Sq. Ft.	Cu. Yds.
	26.65	
		20.07
	81.75	
		13.83
	11.60	
		1.50
		1.33
		36.73

36.0 Cu. Yds.

Calc. [illegible]
Chkd M.R.E.

Blow-off at sta. 646+50



	End Area	Cu. Yds.
	15.05	
		1.11
	15.05	
		8.71
	43.75	
		4.62
	6.15	
		2.5-1
		1.33
		18.28

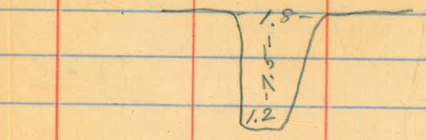
36.0 Cu. Yds.

Calc. [illegible]
Chkd M.R.E.

Structure Excavation (cont.)

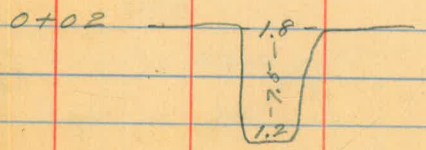
Blowoff at sta. 636+65

0+00 = E side of trench



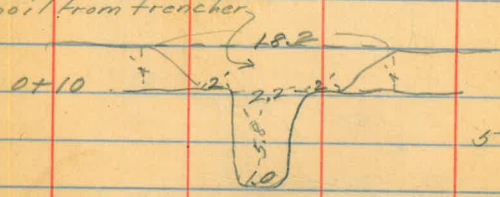
End Area 11.25 S.F. — Cu. Yds. 0.83 S.F.

0+02



11.25 S.F.

Spoil from trencher



10.27 S.F. — 8.08 S.F.

9.67 S.F.

0+18

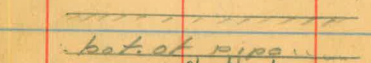
7.20 S.F.

3.57 S.F.

0+36

3.50 S.F.

bot. of pipe



36.0 Cu. Ft. — 1.33 S.F.

Total 25.07 S.F.

Calc. [illegible]
Chkd M.D.E.

1" connections at stations

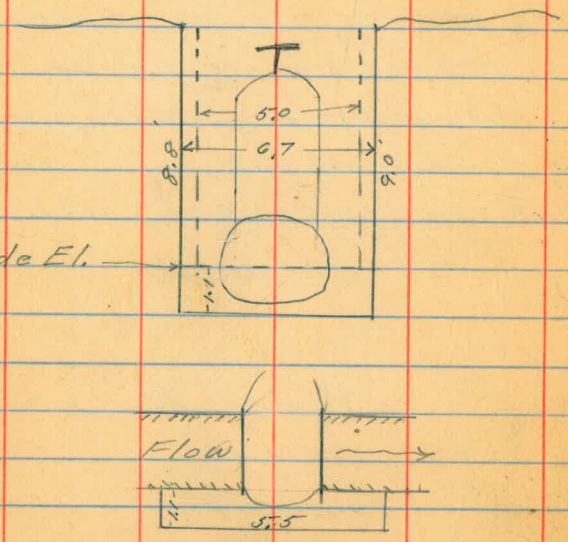
637+00, 634+25, 615+08, 508+16, 507+23, 502+06, 501+15, 500+36, 197+95, 196+40, 194+10, 356+00, 312+15 (2" connec.) 277+94, 238+50, 137+28.

Av. dimens. $\frac{1.0 \times 2.1 \times 5.0}{27} = 0.44$ S.F. × 16 = 7.04 Cu. yds.

Calc. [illegible]
Chkd M.D.E.

Structure Excav. (cont.)

Gate Valve at sta. 430+51



5.5' X 5.0 X 1.1 = 30.25 Cu. Ft.

5.5 X 8.8 X 0.85 = 41.14 " "

5.5 X 9.0 X 0.85 = 42.08 " "

113.47 Cu. Ft. = 4.20 C. Yds.

calc. T.H.S.
Ckkd M.R.E.

Exp. joint at 430+88

1.7 X 5.0 X 6.0
1.5 X 5.0 X 6.0 } ÷ 27 = 3.36 Cu. Yds.

Exp. joint at 429+69

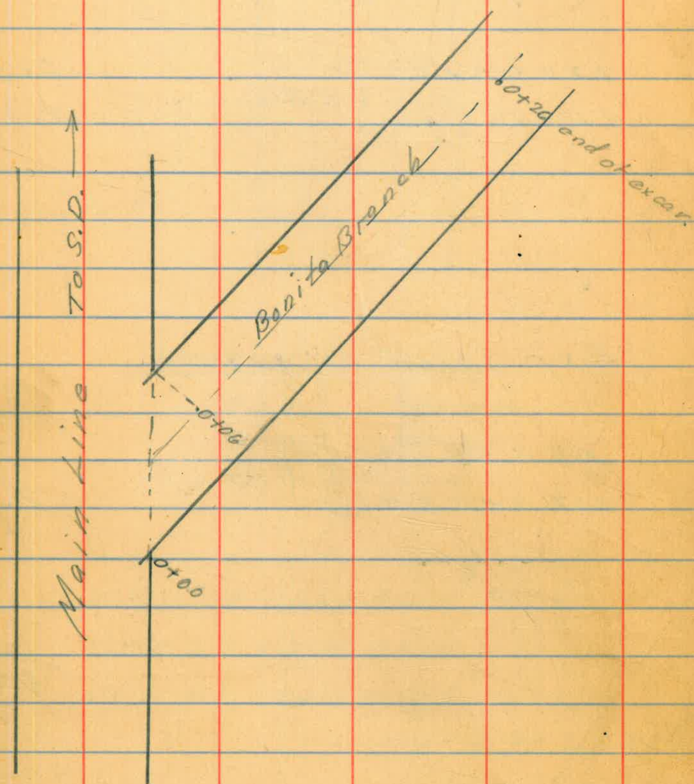
1.6 X 5.0 X 4.1
1.17 X 4.8 X 4.1 } ÷ 27 = 2.07

5.63

calc. T.H.S.
Ckkd M.R.E.

Structure Excav. (cont.)

Bonita Wye Branch



Station	Section	End Area	Cu. Yds.
Intersec. So. line of branch with M.L. 0+00	El. 359.0; 10.0	0.0	
			6.50
Intersec. N. line of branch with M.L. 0+06	El. 359.0; 6.2; 10.0; 5.5	58.50	
			9.10
0+10	El. 358.7; 6.3; 10.9; 5.5	64.31	
			6.51
0+13	El. 358.8; 5.5; 11.0; 4.1	52.80	
			13.21
0+21	El. 362.5; 5.6; 7.2; 4.5	36.36	
			3.24
0+24	El. 364.9; 5.5; 4.4; 4.5	22.00	
			0.41
0+25	369.0	0.00	
			38.97

calc. [illegible]

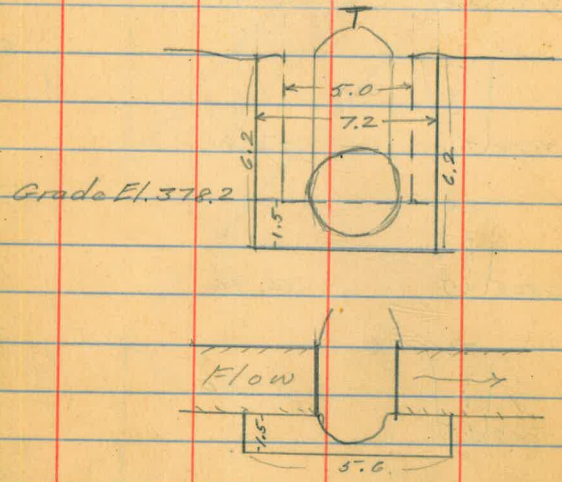
Chkd M.R.E.

Structure Excav. (cont.)

Exp. joint at 307+24

2.0 x 5.0 x 3.7
2.0 x 6.5 x 3.7 } ÷ 27 = Cu. Yds. 3.15 ℄

Gate Valve at 306+21



6.2 x 5.6 x 2.2
5.0 x 5.6 x 1.5 } ÷ 27 = ℄ 4.38

Exp. joint at 305+20

1.8 x 5.0 x 4.0
2.0 x 4.5 x 4.0 } ÷ 27 = ℄ 2.67

10.20

Calc. A.K.B. Chkd M.R.E.

Exp. jt. at 136+94

1.5 x 5.0 x 4.0
1.5 x 4.8 x 4.0 } ÷ 27 Cu. Yds. 2.18 ℄

6" connection at 135+88

$\frac{2.0 \times 2.0 \times 1.0}{27}$ = ℄ 0.15

6" connection at 135+65

$\frac{1.0 \times 1.0 \times 1.0}{27}$ = ℄ 0.04

Gate Valve at 135+81

S. side 4.8 x 4.1 x 1.5
N. " 6.5 x 4.0 x 0.8
Bottom 5.0 x 5.0 x 0.9 } ÷ 27 = ℄ 2.70 ✓

Exp. jt. at 134+30

$\frac{1.0 \times 4.0 \times 6.0}{27}$ = ℄ 0.89 ✓

5.96

Calc. A.K.B.
Chkd M.R.E.

Miscellaneous Concrete Structures (Cont)

Venturi Meter Tube Box at Sta 5+19 (Drawing WD273)

Concrete

Walls $32' \times 0.5' \times 8.' = 128.0$ Cu.ft.

Floor $7.' \times 10.' \times 0.5' = 35.0$ Cu.ft.

Pier $\frac{(1.8 \times 2.8)_{\text{Bottom}} + (1.1 \times 2.0)_{\text{Top}}}{2} \times 1.85_{\text{Ht.}} = 6.03$ Cu.ft.

169.03 Cu.ft.

Supplanted by pipes

$(1.17^2 \times 3.1416 \times 0.5) + (1.0^2 \times 3.1416 \times 0.5) = 3.72$ Cu.ft.

Lid seat $2'' \times 3'' \times 31' = 1.29$ Cu.ft.

5.01 Cu.ft

$\frac{169.03 - 5.01}{27} =$ 6.07 C.Y. Conc.

Steel

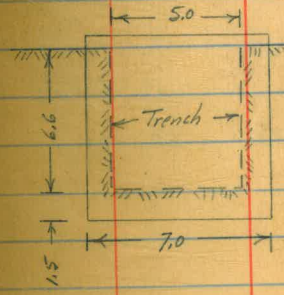
27 pcs $\frac{3}{8}^{\phi} \times 6.75' = 182.25$

24 pcs $\frac{3}{8}^{\phi} \times 9.75' = 234.0$

34 pcs $\frac{3}{8}^{\phi} \times 8.25' = 280.5$

696.75 at .38 lbs.ft. = 265 lbs

Excavation



$\frac{(8.1 \times 7.0 \times 10.0) - (6.6 \times 5.0 \times 10.0)}{27} = 8.78$ C.Y.

Cement 34 sacks = 8.5 bbls.

6" Concrete Conduit Pipe E.W.O. = ~~13 Lin. ft.~~

Ladder Rungs = ~~5~~

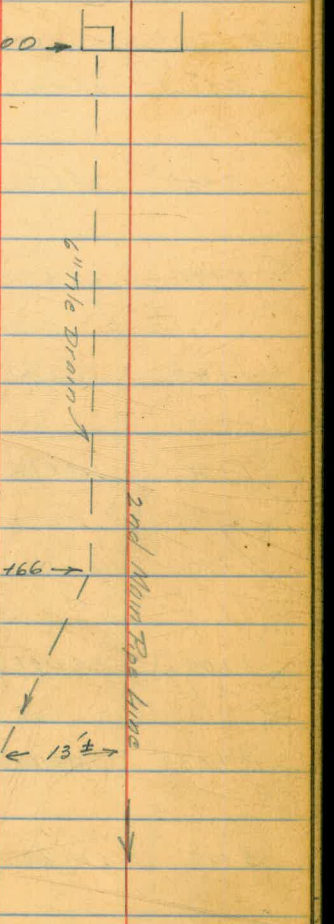
Calc. M.R.C. and T.H.F.

Chd. A.C.L.

Excavation + Drain tile at Exit Tunnel #4

Sta.	Depth x Width	Cu. Yds.
0+00	1.0 x 1.7	0.49
0+06	1.6 x 1.7	1.91
0+27	1.3 x 1.7	2.33
0+64	0.7 x 1.7	0.06
0+66	0.3 x 1.7	2.57
0+82	4.8 x 1.7	3.59
1+02	0.9 x 1.7 End Pipe	0.34
1+14	0.0	
Total Exc.		11.29 C.Y.

102' of 6" tile.



Computed M.A.C.
Chk. E.W.P.

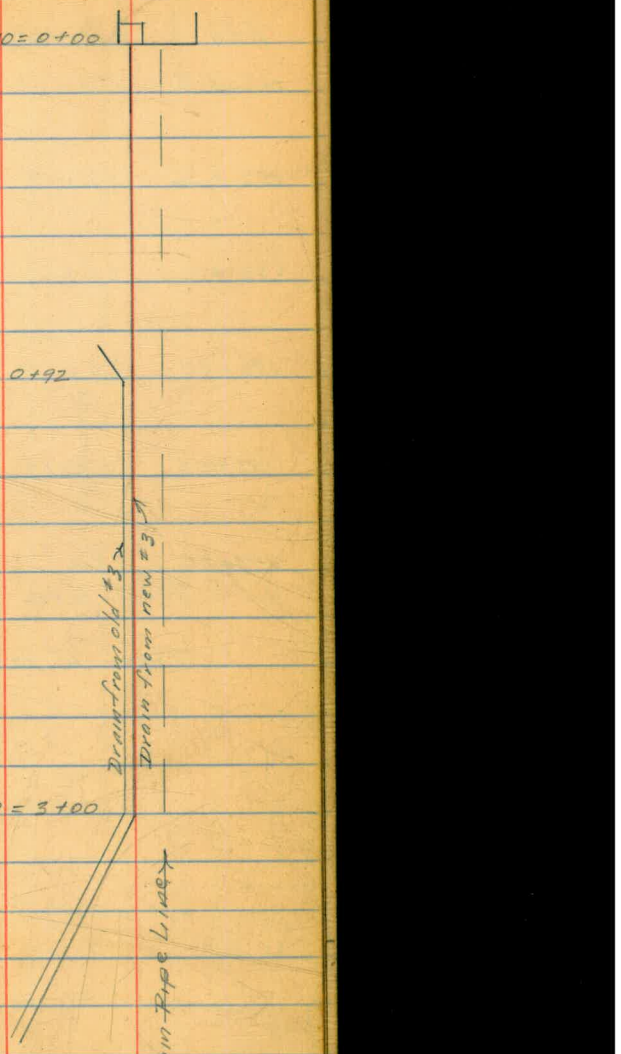
Structure Exc. (cont)

Excavation and Tile Ent. Tunnel #3

Sta	Depth × Width	Cu. yds
0+00	1.0 × 1.67	1.06
0+10.7	2.2 × 1.67	4.38
0+50	1.9 × 1.67	2.47
0+92	0.5 × 1.67	2.15
1+50	0.7 × 1.67	1.99
1+90	0.9 × 1.67	2.60
2+50	0.5 × 1.67	1.39
3+00	0.4 × 1.67	0.58
3+035	5.0 × 1.67	2.26
3+10	6.2 × 1.67	4.79
3+22	6.7 × 1.67	4.92
3+37	3.9 × 1.67	1.44
3+49	0.0	

Calcd. [illegible]

30.03 Cu. yds total excavation.



For old Tunnel 261'

For new Tunnel 348'

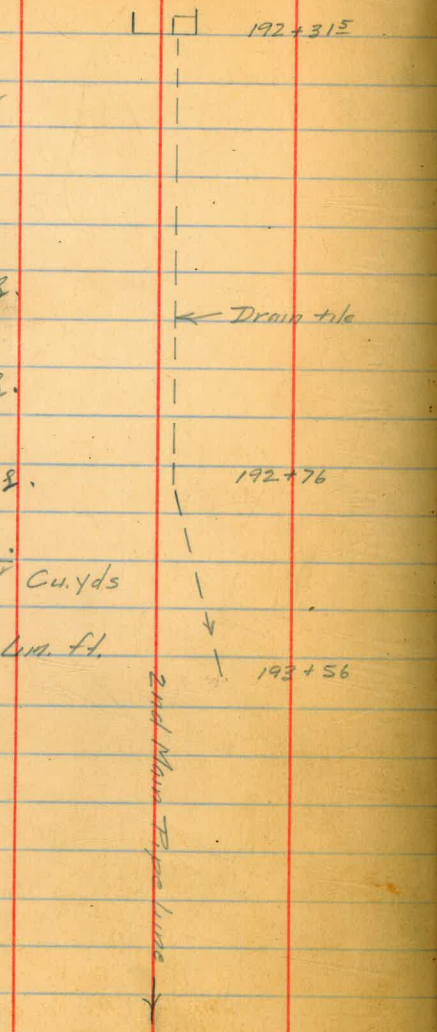
609 Lineal ft. of 6" tile.

Computed M.M.E.

Excavation + Tile Exit Tunnel #2

Sta	Depth + Width	Cu. yds.
192+315	1.0 x 1.7	
		3.50
192+76	1.5 x 1.7	
		2.83
193+06	1.5 x 1.7	
		1.87
193+23	2.0 x 1.7	
		3.78
193+53	2.0 x 1.7	
		0.19
193+56	0.0	
Total Exc.		12.17 Cu. yds

Total 6" pipe 123 Lin. ft.

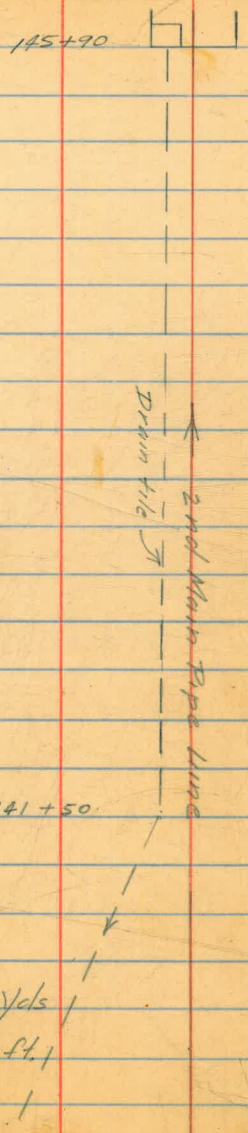


Compt'd. M.D.E. 10/29/30
Chkd. [illegible]

Excavation + Tile Entrance Tunnel #1

Sta.	Depth + Width	Cu. yds.
145+90	1.0 x 1.5	
		1.20
145+74	1.7 x 1.5	
		6.37
145+00	1.4 x 1.5	
		16.11
143+00	1.5 x 1.5	
		8.75
141+50	0.6 x 1.5	
		0.19
141+49	6.2 x 1.5	
		1.95
141+43	5.5 x 1.5	
		1.94
141+36	4.5 x 1.5	
		0.61
141+32	1.0 x 1.5	
		0.06
141+30	0.0	
Total Exc		37.18 Cu. yds

Total 6" pipe 459 Lin. ft.



Compt'd M. D. E.
Chkd. [illegible]

TOTAL QUANTITIES

Structure Excavation ✓	606.11 ✓	Cu. Yds.
Douglas Fir lumber ✓	3.344 ✓	M. B. M.
Concrete	391.89	Cu. Yds.
Reinforcing Steel ✓	16,942. ✓	Lbs.
Cement	573.05 ✓	Bbls.
6" Concrete Drain Pipe	1293'	Lin. ft.

Calc. M.D.E. 11/5/30
ch'kd [illegible].

TRESTLE QUANTITIES AND MISC. STRUCTURES

02.

Summarized by - A.C.L. 11/19/30

Structure -	From Page this Vol.	Cu. Yds. Concrete	Bbls. Cement	
Trestle No. 39	1	5.28	7.5	1.42
" " 38		20.55	25.5	1.24
" " 37		20.46	31.3	1.53.
" " 36		37.12	56.5	1.52.
" " 35		6.14	9.4	1.53.
" " 34		1.86	2.5	1.34
" " 33		12.87	16.0	1.24.
" " 32		24.50	36.2	1.48
" " 31		3.03	4.5	1.49
" " 30	No Trestle #29	2.25	3.50	1.56
" " 28		6.25	9.5	1.52.
" " 27		5.14	7.9	1.54.
" " 26		6.26	9.8	1.57
" " 25		5.52	8.4	1.52.
" " 24		13.09	20.3	1.56
" " 23		1.35	2.1	1.56
" " 22		6.05	9.3	1.54
" " 21		2.60	4.0	1.54
" " 20	No Trestle #19	5.08	7.8	1.54
" " 18		9.54	14.6	1.53.
" " 17		11.85	18.1	1.53.
" " 16		17.99	27.5	1.53.
" " 15		7.87	12.0	1.52
		232.65	34420	Sub. Totals

(over)

TRESTLE QUANTITIES AND MISC. STRUCTURES-(CONT.)

Structure-	Cu. yds. Concrete	Bbls. Cement	Brl. for work
	232.65	344.20	
Trestle No. 14	9.84	15.1	1.53
" " 13	6.62	10.1	1.53
" " 12	2.26	3.5	1.55
" " 11	13.01	19.9	1.53
" " 10	7.85	12.0	1.53
" " 9	9.16	14.0	1.53
" " 8	2.26	3.6	1.59
" " 7	8.59	13.1	1.53
" " 6	7.21	11.0	1.53
" " 5	5.53	8.5	1.54
" " 4	2.04	3.1	1.52
" " 3	3.12	48	1.54
" " 2	3.59	5.5	1.53
" " 1	28.25	41.0	1.45
Concrete Box under R.R. Encanto —	19.93	25.1	1.26
Anchor Block Sta. 508+93	1.65	2.2	1.33
Anchor Block Sta. 469+95	1.72	2.2	1.28
" " " 468+58	8.48	10.4	1.23
" " " 286+67	1.44	2.0	1.39
" " " 224+85	8.86	10.75	1.21
" " " 145+47.87	1.76	2.50	1.42
Venturi Meter Tube Box Sta. 5+19	6.07	8.5	1.40
Totals -	391.89	573.05	1.46

TRESTLE QUANTITIES AND MISC. STRUCTURES

Summarized by A.C.L. 11/19/30

Structure -	Structure Excavation Cu. yds.	Lumber F.B.M.	Reinforcing Steel Pounds.
Trestle No. 39	5.31	90.67	323
" " 38	19.74	177.78	995
" " 37	17.09	134.22	988
" " 36	25.82	264.89	1541
" " 35	8.18	47.11	283
" " 34	1.70	47.11	169
" " 33	10.17	90.67	497
" " 32	18.93	177.78	871
" " 31	4.08	47.11	201
" " 30	3.02	—	180
No Trestle No. 29			
" " 28	5.71	134.22	415
" " 27	5.68	47.11	255
" " 26	6.57	134.22	406
" " 25	4.67	90.67	331
" " 24	9.86	134.22	557
" " 23	1.66	—	150
" " 22	6.01	134.22	403
" " 21	2.44	47.11	193
" " 20	7.17	—	253
No Trestle No. 19			
" " 18	5.60	90.67	419
" " 17	8.65	134.22	526
" " 16	9.59	177.78	687
" " 15	6.15	90.67	373
	193.80	2292.45	11,016

Sub Totals

TRESTLE QUANTITIES AND MISC. STRUCTURES (CONT.)

Structure	Structure Excavation Cu. Yds.	Lumber F.B.M.	Reinforcing Steel Pounds	
	193.80	2292.45	11,016.	Brt. forward
Trestle No. 14	14.14	47.11	358	
" " 13	4.55	134.22	402	
" " 12	3.70	47.11	178	
" " 11	12.19	134.22	561	
" " 10	5.64	47.11	311	
" " 9	5.31	90.67	407	
" " 8	2.13	47.11	179	
" " 7	7.02	90.67	390	
" " 6	9.49	47.11	295	
" " 5	6.62	47.11	259	
" " 4	2.27	47.11	172	
" " 3	3.52	90.67	259	
" " 2	4.38	47.11	215	
" " 1	18.26	134.22	805	
Concrete Box Under RR Encmt.	—	—	285	
Anchor Blocks Sta. 508+93	0.40	—	35	
" " " 469+95	0.92	—	37	
" " " 468+58	9.08	—	299	
" " " 286+67	0.17	—	51	
" " " 224+85	1.42	—	102	
" " " 145+47 8T	0.42	—	61	
Venturi Meter Tube Box Sta. 511	8.78	—	265	
* See Next Page —	241.90			
Totals	606.11	3.344 M.B.M.	16,942 lbs.	

* MISC. STRUCTURES (CONT.) 44

Structure	Excavation Cu. Yds.	Tile Drain
See Page # 30 for Detail	15.12	
" " # 30 " "	18.66	
" " # 31 " "	14.02	
" " # 31 " "	0.75	
" " # 32 " "	36.73	
" " # 32 " "	18.28	
" " # 33 " "	25.67	
" " # 33 " "	7.04	
" " # 34 " "	4.20	
" " # 34 " "	5.63	
" " # 35 " "	38.97	
" " # 36 " "	10.20	
" " # 36 " "	5.96	
Tile Drain Tunnel #4 Page # 38	11.29	102 ft.
" " " #3 " 39	30.03	609.
" " " #2 " 40	12.17	123.
" " " #1 " 40	37.18	459
	291.90	1293 ft. Total 6" Drain

℄ Profile - 36th St Revision - Boston, Birch, Vesta, Main

B.M.	11.40	50.70		39.30	Top F. Hyd. S.E. Cor. 36th & National
TP	1.81	50.54	1.97	48.73	
81+00			6.7	43.8	
+15.07 ℄			7.6	42.9	
+50			10.0	40.5	
82			12.2	38.3	
+50			12.5	38.0	
TP - Set B.M.	0.11	37.74	12.91	37.63	Nail in powerpole 8' Rt 83+20
83			0.5	37.2	
+50			2.3	35.4	
84			3.8	33.9	
+50			5.7	32.0	
85			6.3	31.4	
+50			7.2	30.5	
86			9.6	28.1	
+50			9.8	27.9	
87			10.8	26.9	
+50			12.0	25.7	
TP	0.30	25.39	12.65	25.09	On hub - 87+34.20
87+65			0.3	25.1	
88+00			3.8	21.6	
+50			10.2	15.2	
TP	0.18	12.62	12.95	12.44	
89			1.6	11.0	
+50			4.2	8.4	

12·62

90+00			6.1	6.5	
+50			6.7	5.9	
+64			9.3	3.3	
+66			11.3	1.3	
90+76 74	Lt.		11.8	0.8	
			5.7	6.9	Rim sewer M.H 29 'Rt 90+64
			11.1	1.5	M.H. " " "
90+79			7.0	5.6	
91+00			5.6	7.0	
PI	3.98	10.73	5.87	6.75	
91+50			4.1	6.6	
92			4.2	6.5	
+25			4.3	6.4	
+42			1.1	9.6	(spoil pile from drain ditch)
+50			5.7	5.0	
+55			9.1	1.6	{in drain ditch
+62			9.0	1.7	
+68			4.2	6.5	
93			4.9	5.8	
+50 95	Lt.		5.2	5.5	
94			5.6	5.1	
+30			4.9	5.8	
+50			0.7	10.0	(spoil pile from drain ditch at Rt of ℄)
+60			7.6	3.1	
+78			7.5	3.2	

		10.73			
94+80			5.8	4.9	
95			4.9	5.8	
95+28.88			4.6	6.1	
TP	6.22	13.16	3.79	6.94	Set B.M. - nail in power pole 46' Lt 95+43
			7.9	5.3	Rim of sewer M.H. 39' Lt 95+15
			16.5	-3.3	Fl. L. " " " " "
			11.5	1.7	Fl. line 36" Conc. culv. 25° Rt 95+09
95+50			6.9	6.3	
96			6.7	6.5	
+50			6.5	6.7	
97			6.1	7.1	
+50			5.8	7.4	
98			5.6	7.6	
+50			5.2	8.0	
99			4.8	8.4	
			9.8	3.4	Fl. L. 36" Conc. Culv. 35° Rt 99+00
+50			4.4	8.8	
100			3.9	9.3	
+50			3.3	9.9	
101			2.6	10.6	
+50			2.0	11.2	
102			1.2	12.0	
+50			0.5	12.7	
TP	9.76	22.62	0.30	12.86	
103			9.5	13.1	

		22.62		
103+50			9.0	13.6
104			8.4	14.2
+50			7.8	14.8
105			7.2	15.4
+50			6.6	16.0
106			5.9	16.7
+50			5.0	17.6
107			4.0	18.6
+50			2.6	20.0
108			1.0	21.6
+44 30 L			0.0	22.6
+50			0.1	22.5
109			0.7	21.9
PI	184	24.22	0.24	22.38
+50			2.6	21.6
110			3.1	21.1
			3.3	20.9
			9.2	15.0
110+50			3.3	20.9
111			3.8	20.4
+50			4.2	20.0
112			4.5	19.7
+50			5.0	19.2
113			5.6	18.6
+50			6.2	18.0

Rim sewer M.H. 5 4 Rt 110+29 3
Fl. L. " " " "

		24.22			
114+00			6.7	17.5	
			6.7	17.5	Rim, sewer M.H. 5' Rt 114+09 (covered with tar)
114+50			7.4	16.8	
115			8.0	16.2	
+50			8.5	15.7	
116			9.0	15.2	
TP	5.77	21.35	8.64	15.58	Set B.M. Point on curb return 25' Lt 116+45
+50			6.1	15.3	
117			5.2	16.2 ~~17.2~~	
+50			4.7	16.7 ~~17.7~~	
118			4.0	17.4	
+50			4.0	17.4	
119			4.6	16.8 ~~17.8~~	
+50			5.6	15.8	
TP	4.82	19.78	6.39	14.96	
TP	3.88	18.62	5.04	14.74	
			5.10	13.52	B.P. in curb S.W. Cor Main & Una.
B.M.	3.22	18.80		15.58	Profile West of Main will probably change (Road is dug (up for oiling)
120 ℄ Main			3.2	15.6	
121			5.3	13.5	
122			6.9	11.9	
123			8.8	10.0	
124			10.2	8.6	
TP	5.97	14.47	10.30	8.50	

		14.47			
125			5.3	9.2	
126			4.7	9.8	
127			4.7	9.8	
128			5.0	9.5	
129			5.7	8.8	
461			6.1	8.4	
			4.14	10.33	Set B.M. Nail in guy pole

10/16/41
Soper
Brooks
Hodgeson

Relocation of 36th St pipeline on Federal Blvd. - Sta 2+90.73 to 9+15.85

℄

4+26.00 nail in edge of pavement

City Engineer's Id & tack on ℄ of Federal Blvd 144.95 S.W. of East line of P.L. = 1151

90°
15.53

3+98.74

3+75.65 - ℄ pavement

3+64.75 nail in edge of pave

℄

3+58.35 L. 31°50' Lt

3+58.35 — 3.7

3+50 — 4'

3+00 — 5.7

2+50 — 6.0

6.0

Edge of Conc. Pave.

2+09.73 P.O.T.

℄

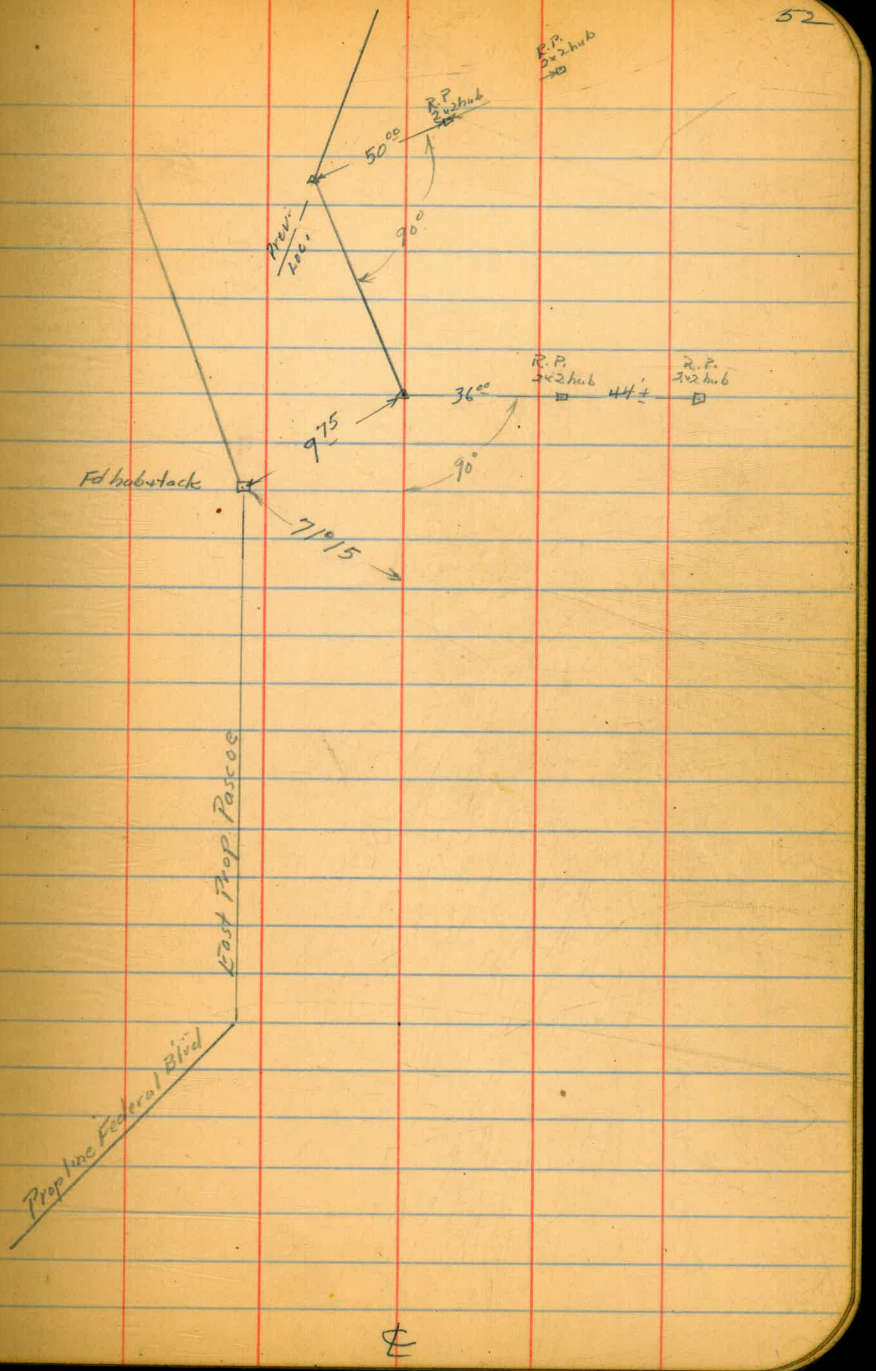
Contd from Book 289A page 77

Cont'd in Book = 289M - page 61

8+22.65 Ahead
9+15.85 = Back ∠ 25°41' Rt to previous loc. - 10' west of pueblo lot line

6+10.41 ∠ 34°00' Lt

4+46.25 P.O.T



10/17/41
Sopher
Brooks
Hedgcock

℄ Profile 36th St Relocation Sta 2+09.73 - 9+15.85

B.M.	11.28	62.22		50.94
2+09.73			4.7	57.5
+50			5.2	57.0
3+00			5.7	56.5
+50			5.9	56.3
+58.35			5.9	56.3
+64.7			5.9	56.3
+95.5			5.5	56.7
4+26			5.9	56.3
+42			5.2	57.0
+46.2			3.6	58.6
TT	12.37	74.56	0.03	62.19
4+52			10.0	64.6
5+00			4.1	70.5
TT	11.03	85.13	0.46	74.10
+25			8.7	76.4
+50			5.7	79.4
+68			4.4	80.7
6+00			6.0	79.1
+10.41 L			4.5	80.6
TT	12.63	97.34	0.42	84.71
6+50			11.5	85.8
7+00			3.9	93.4

Top of ½" pipe 10 Lt 14+13.5 (1st alignment)

Edge of Pave.

℄ " "

Edge " "

for final ℄ sections page 79

	Lt	℄	Rt
	71.3 3.3 12.		63.1 11.5 21 / 62.5 12.1 33
	81.1 4.0 10 / 78.9 6.2 7		67.1 18.0 13 / 66.6 18.5 23
Same slope 10' further	85.1 0.0 10		71.1 14.0 10 / 69.9 15.2 24
Same slope 10' further	85.1 0.0 6		74.1 11.0 9 / 73.3 11.8 21
+3.0 17	85.1 0.0 7		78.5 6.6 15
	89.8 7.5 10		87.1 10.2 15
	94.0 3.3 11		94.0 3.3 15

		97.34		
TP	12.10	109.33	0.11	97.23
7+50			8.6	100.7
8+00			2.0	107.3
TP	12.38	121.19	0.52	108.81
8+60			4.1	17.1
TP	12.02	133.06	0.15	121.04
8+90			11.2	21.9
9+00			8.2	24.9
9+15.85 Back = 8+22.65 Ahead			5.6	127.5
			2.2	130.9

Cont'd in Book 291 page 51

	LT	RT
	110.3 / +1.0 / 10 — 107.6 / 1.7 / 5	107.6 / 1.7 / 12
	127.8 / +6.6 / 20 — 124.8 / +3.6 / 13	117.4 / 3.8 / 10
	127.5 / 5.1 / 15	122.3 / 10.8 / 12
	129.2 / 3.9 / 19 — 125.4 / 7.7 / 9	124.1 / 9.0 / 10

ck on old Sta 8+50 Rec. elev. 130.9

Slope stakes for bench excavation - bench grade is 10 feet above pipe grade, 1½' base width, ¼ to 1 slope.

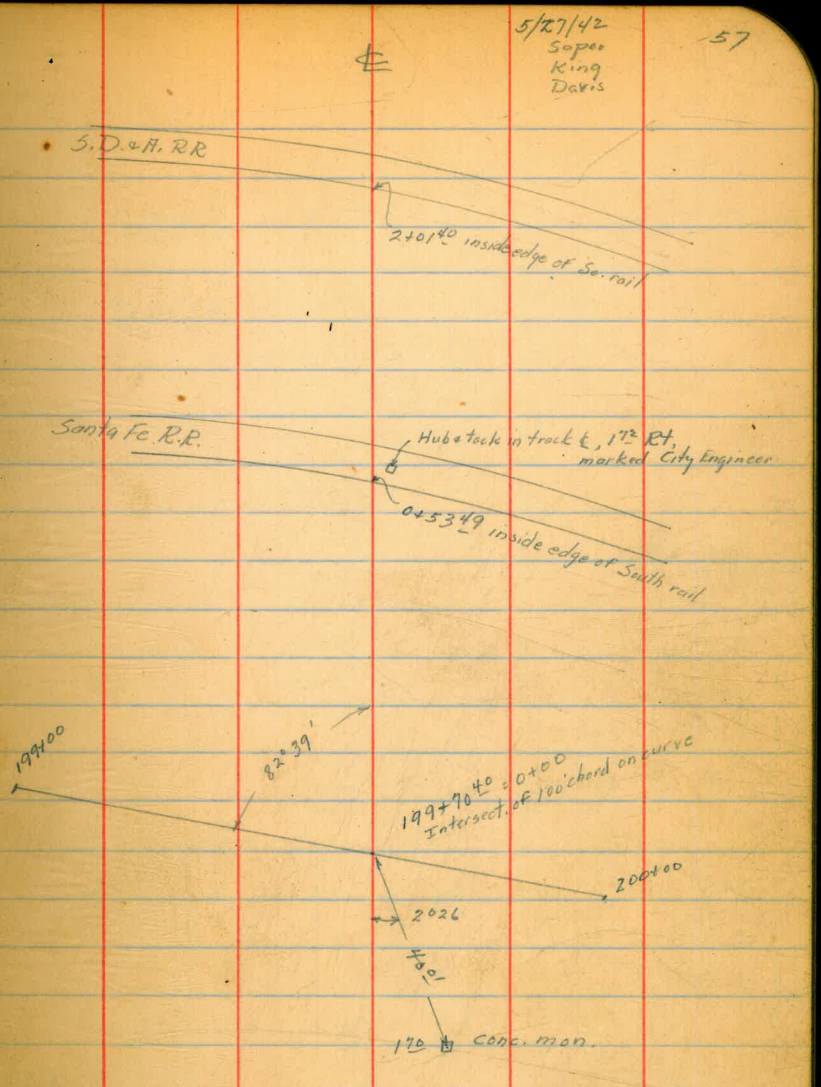
17+00	7.3	162.4		155.1	
clear 17+50			5.1	157.3	Rec. 157.3
					Bench grade 10' above pipe grade
16+88			8.7	153.7	142.00
17+00			7.3	155.1	145.7
+36			5.0	157.4	148.7
+54			5.3	157.1	149.3
+72			7.5	154.9	149.3
18+00			12.6	149.8	148.0

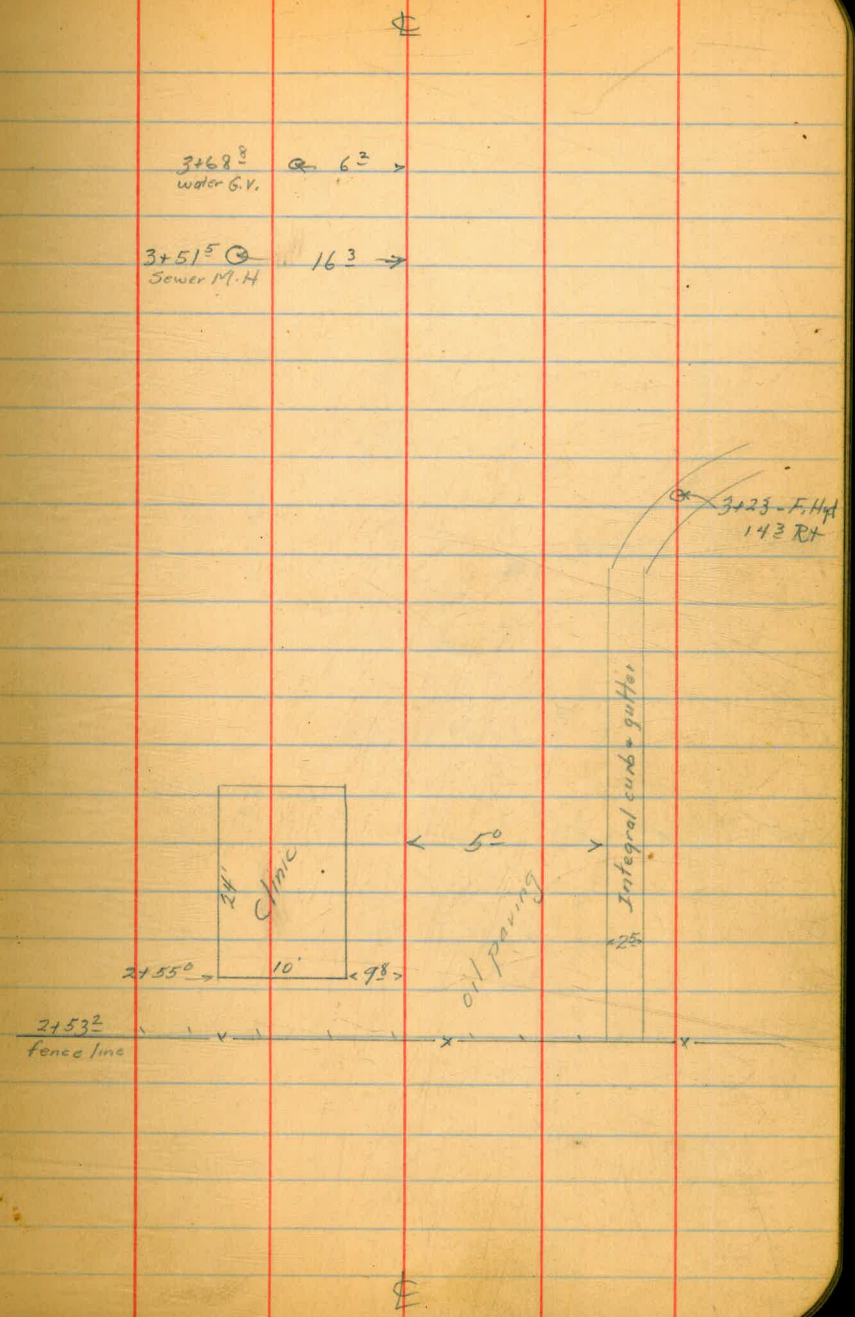
Lt	℄	Rt
C 11 0 / 10 2	11 7	C 11 8 / 10 5
C 9 7 / 9 9	9 4	C 9 6 / 9 9
C 8 6 / 9 6	8 1	C 8 6 / 9 6
C 6 9 / 9 2	7 8	C 8 2 / 9 6
C 4 9 / 8 7	5 6	C 6 7 / 9 2
C 1 3 / 7 8	1 8	C 2 4 / 8 1

5/27/42
Soper
King
Davis

Pipeline location, from Shelkens location on Harbor Drive, North on Vesta St. to intersection with 36th St location

0+00




℄
3+68.8
water G.V.
6 ⁵
3+51.5
Sewer M.H
16.3
3+23 - F.H.
14.3 Rt
Integral curb + gutter
5°
24' Clinic
10'
2+55.0
9.8
oil paving
25'
2+53.2
fence line
℄

9+43.17 EC.

Δ 11°00' Lt
R. 400
T. 38.52
L. 76.79

~~8+88.71 Δ 15°36' Lt~~

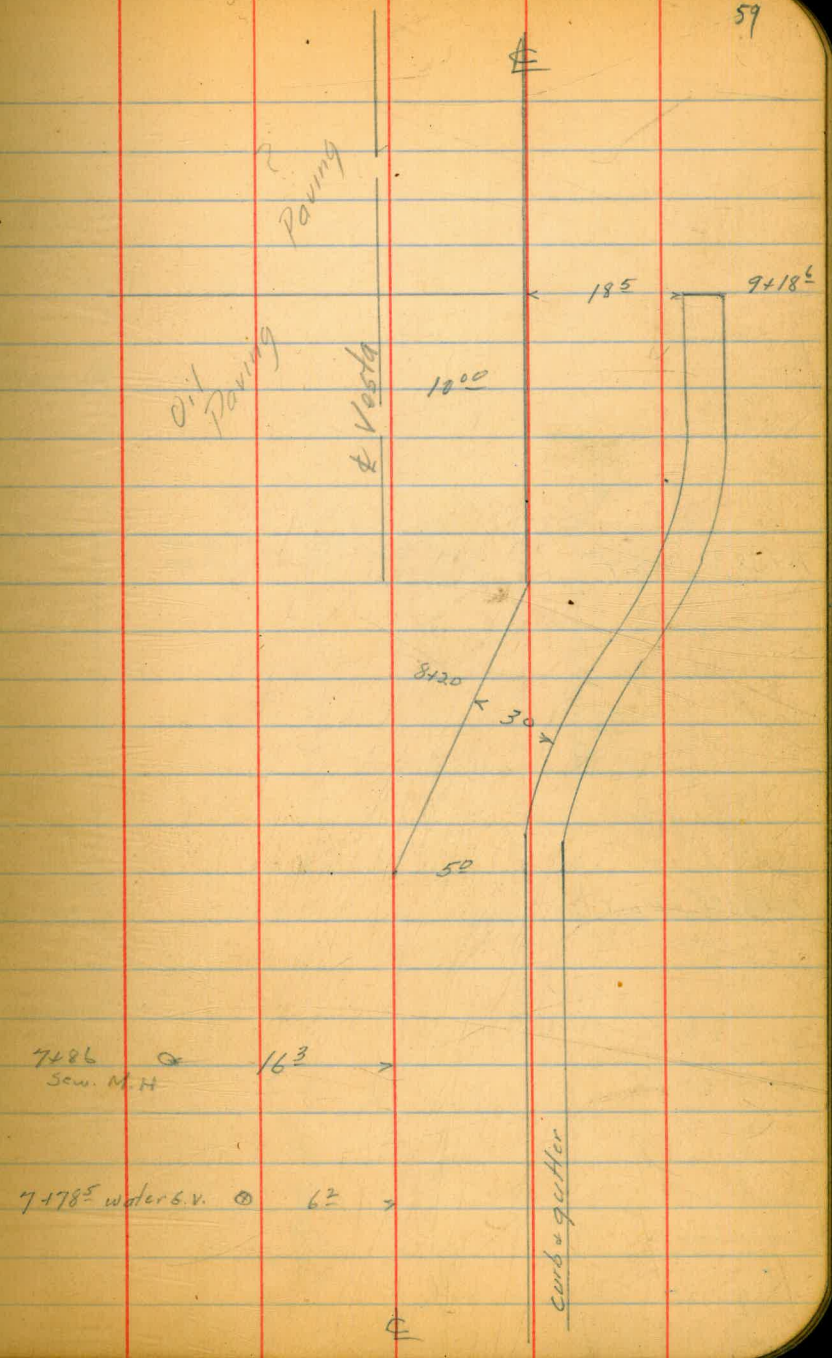
8+66.38 PC.

8+62.29 EC

Δ 10°-8' R
R. 400
T 38.10
L 76.52

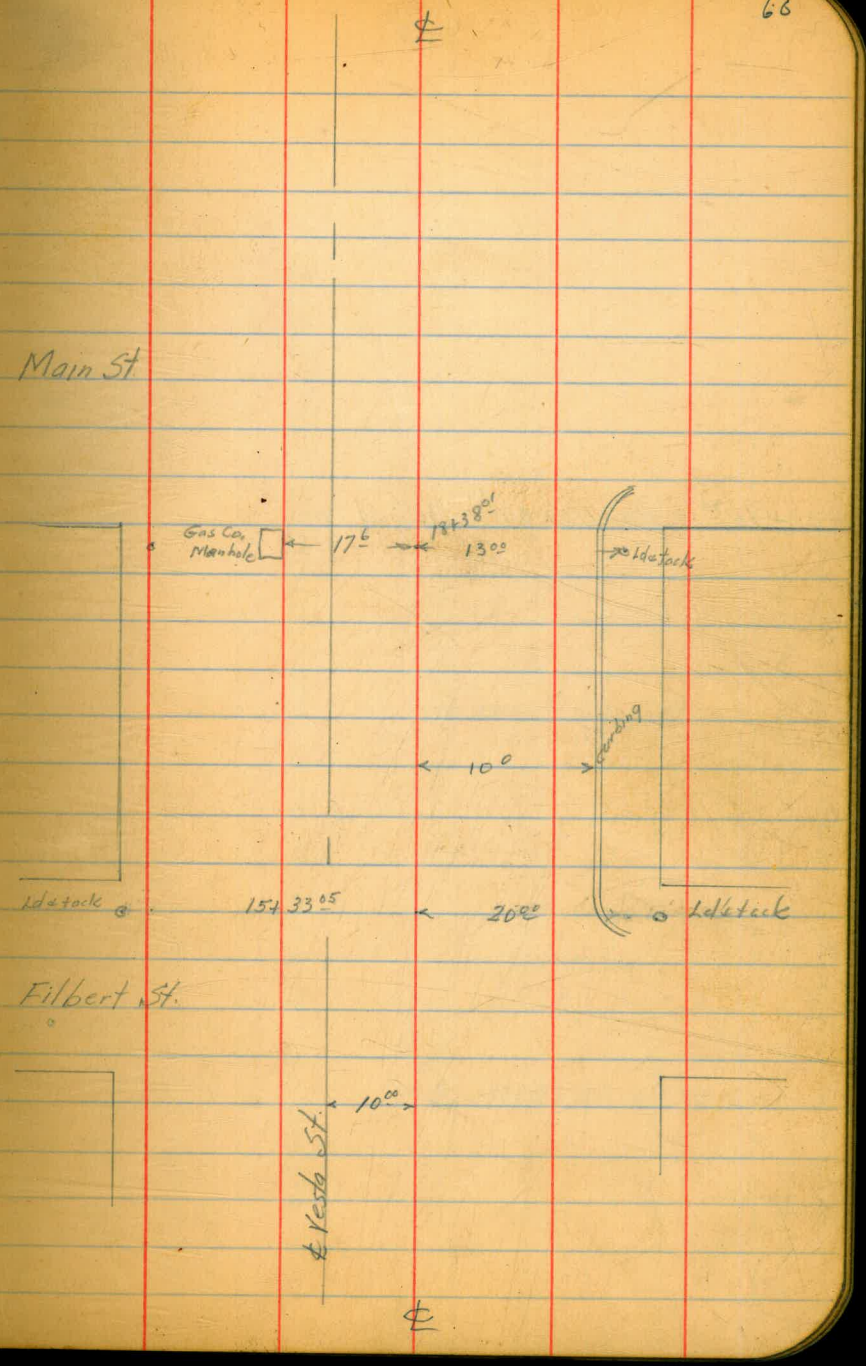
~~7+95.80 Δ 15°35' Rt~~

7+85.73 BC.

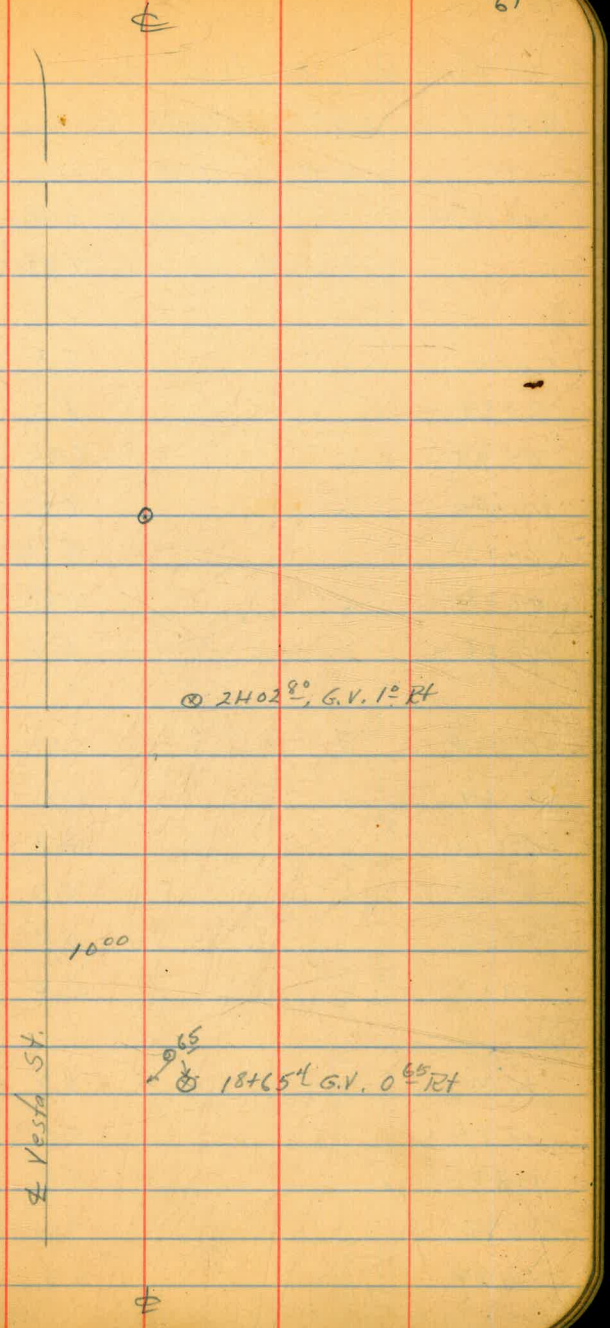


18+38.01 P.O.T.

15+33.05 P.O.T.



23+78.38 = Sta. 115+07.38 - 36th St line



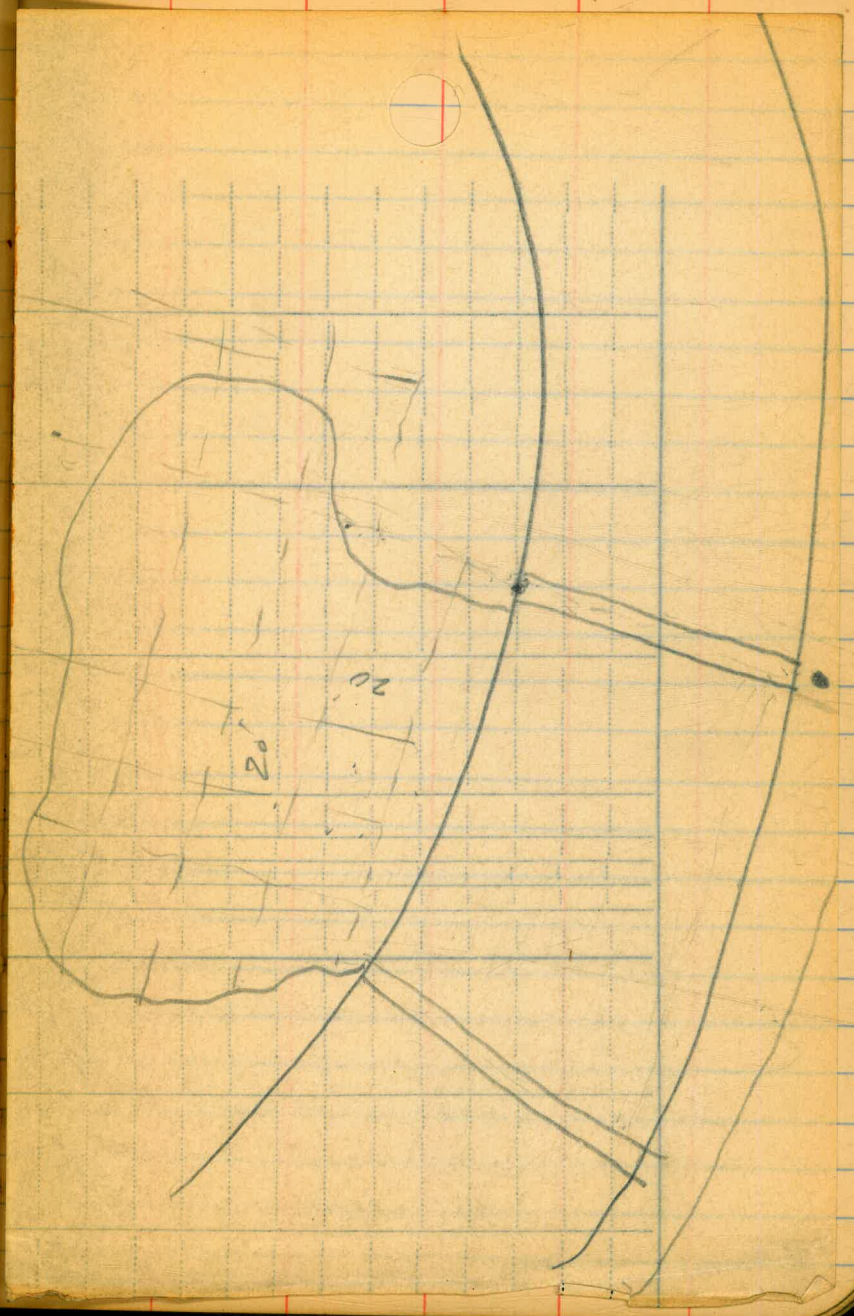
℄ Profile - Vesta St. Loc.

B.M.	2.24	12.57		10.33	✓	Nail in guy pole (page 50) 21' Rt 10+92 (new sta.)
TP	3.95	11.32	5.20	7.37	✓	
set B.M.			3.38	7.94	✓	Nail in telephone pole, 14' Rt 1+05
			4.43	6.89	✓	ck on top of rail 198+50, Shelltons loc. Rec. 7°
0+00			6.3	5.0	✓	
0+39			5.2	6.1	✓	
0+45			6.9	4.4	✓	
0+50			5.4	5.9	✓	
0+53½			4.62	6.70	✓	Top of rail
0+58 ±			4.48	6.84	✓	" " "
0+60			5.2	6.10	✓	
0+65			6.5	4.8	✓	
0+69			6.4	4.9	✓	
0+72			4.7	6.6	✓	
1+00			5.0	6.3	✓	
1+05			4.8	6.5	✓	
1+10			6.2	5.1	✓	
1+50			5.7	5.6	✓	
1+81			5.4	5.9	✓	
1+87			4.9	6.4	✓	
1+94			9.1	2.2	✓	
1+99			6.9	4.4	✓	

		11.32 ✓			
2+00			6.9	4.4	✓
2+01.4			6.30	5.0	✓
2+06.1			6.29	5.03	✓
2+08			6.9	4.4	✓
2+13			8.7	2.6	✓
2+22			5.2	6.1	✓
2+50			4.9	6.4	✓
3+00			5.1	6.2	✓
3+50			4.9	6.4	✓
4+00			5.1	6.2	✓
4.50			4.8	6.5	✓
5+00			4.7	6.6	✓
5+50			4.5	6.8	✓
TP	6.10	13.42	4.00	7.32	✓
6+00			6.4	7.0	✓
6+50			6.2	7.2	✓

Top of rail
" " "

	13.42	✓		
7+00		6.1	7.3	✓
7+50		6.0	7.4	✓
7+95.80		5.8	7.6	✓
8+00		5.7	7.7	✓
+50		5.6	7.8	✓
8+88.71		5.3	8.1	✓
9+00		5.1	8.3	✓
+50		4.9	8.5	✓
10		4.4	9.0	✓
+50		4.1	9.3	✓
11		3.5	9.9	✓
+50		3.3	10.1	✓



		13.42	✓		
7+00			6.1	7.3	✓
7+50			6.0	7.4	✓
7+95.80			5.8	7.6	✓
8+00			5.7	7.7	✓
+50			5.6	7.8	✓
8+88.71			5.3	8.1	✓
9+00			5.1	8.3	✓
+50			4.9	8.5	✓
10			4.4	9.0	✓
+50			4.1	9.3	✓
11			3.5	9.9	✓
+50			3.3	10.1	✓

		13.42	✓		
12+00			3.4	10.0	✓
TP	5.23	14.83	3.82	9.60	✓
12+50			4.9	9.9	✓
13			5.0	9.8	✓
+50			5.2	9.6	✓
14			5.4	9.4	✓
+50			6.1	8.7	✓
+69			6.5	8.3	✓
15			5.5	9.3	✓
+26			5.7	9.1	✓
+50			5.2	9.6	✓
16			4.4	10.4	✓
+50			3.4	11.4	✓

		14.83	✓		
17+06			2.5	12.3	✓
+50			1.7	13.1	✓
18			1.0	13.8	✓
TP	9.01	22.93	0.91	13.92	✓
18+50			8.0	14.9	✓
18+81			7.3	15.6	✓
19+00			7.4	15.5	✓
19+09			7.4	15.5	✓
+50			6.6	16.3	✓
20			5.8	17.1	✓
+50			5.5	17.4	✓
21			5.8	17.1	✓
+50			6.6	16.3	✓

℄ Main

		22.93 ✓				
22+00			7.0	15.9	✓	
+40			7.9	15.0	✓	
+50			7.9	15.0	✓	
+72			7.7	15.2	✓	
23			8.0	14.9	✓	
23+28			7.3	15.6	✓	
+50			7.0	15.9	✓	
+78.38			6.7	16.2	✓	
ck on B.M.			7.32	15.61 ✓	Rec. 1558	Point on curb return, 20' Rt 22+36 - Old sta 116+45 (page 49)

6/22/42
℄ Rt. Soper
Lt. Davis

℄ profile - 36th St - after benching

B.M.	10.47	61.41		50.94
4+30			4.8	56.6
+40			4.5	56.9
+50			3.1	58.3
TP	13.04	73.46	0.99	60.42
4+70			10.5	63.0
+80			8.7	64.8
5+00			6.3	67.2
+50			0.0	73.5
TP	12.83	86.20	0.09	73.37
6+00			6.6	79.6
+50			0.0	86.2
TP	12.97	99.07	0.10	86.10
7+00			5.3	93.8
TP	12.84	111.91	0.00	99.07
7+50			11.6	100.3
8+00			4.1	107.8
TP	12.83	124.38	0.36	111.55
8+50			9.0	115.4
9+00			0.5	123.9
TP	12.96	137.17	0.17	124.21
9+15 = 8.85 back 8+23.65 ahead.			10.4	126.8
8+50			6.0	131.2
TP	12.70	149.64	0.23	136.94
9+00			11.5	138.1

Note: From sta 4+30 to 15+40 was benched off by H. Foster. From 16+30 to 25+58, moved by City crew

For final ℄-sections page 19

		149.64			
9+50			7.9	141.7	
10+00			6.2	143.4	
+50			4.6	145.0	
11+00			4.2	145.4	
+50			4.3	145.3	
12+00			3.7	145.9	
+50			3.4	146.2	
13+00			5.3	144.3	
+50			9.4	140.2	
TP	0.73	139.86	10.51	139.13	
14+00			3.5	136.4	
+50			7.2	132.7	
15+00			12.6	127.3	
TP	1.13	128.01	12.98	126.88	
15+40			5.2	122.8	Pave. covered with dirt.
B.M.			5.61	122.40	Rec. 122.41 B.P. in curb N.W. Cor. 36th & Market.
16+30			5.6	122.4	
17+00			4.1	123.9	
18+00			4.5	123.5	
19+00			5.9	122.1	
20+00			9.9	118.1	
TP	0.49	118.41	10.09	117.92	
21+00			5.4	113.0	
22+00			10.2	108.2	
TP	1.12	106.77	12.76	105.65	

		106.77			
23+00			2.8	104.0	
24+00			5.8	101.0	
25+00			8.7	98.1	
			2.56	104.21	Set temporary B.M. Nailing guy pole 40' Lt 23+60
B.M.	0.21	104.42			& Profile over line revision - 25+25.88 to 28+02
25+25.88			6.9	97.5	
+38			7.0	97.4	
+41			5.5	98.9	dirt walk
+45			5.5	98.9	" "
+50			10.0	94.4	
TP	4.55	97.83	11.14	93.28	
25+55			6.2	91.6	
+94			12.5	85.3	bottom of draw
26+00			11.2	86.6	
+28.07			6.6	91.2	
+50			8.9	88.9	
27			12.0	85.8	
+25			9.7	88.1	
+50			8.4	89.4	
+58			7.9	89.9	
+67			1.6	96.2	dirt walk
+71			1.7	96.1	" "
+75			3.3	94.5	
28+02.00 back					
28+03.88 ahead			5.2	92.6	
ck on 28+50			6.6	91.2	Rec. 91.1

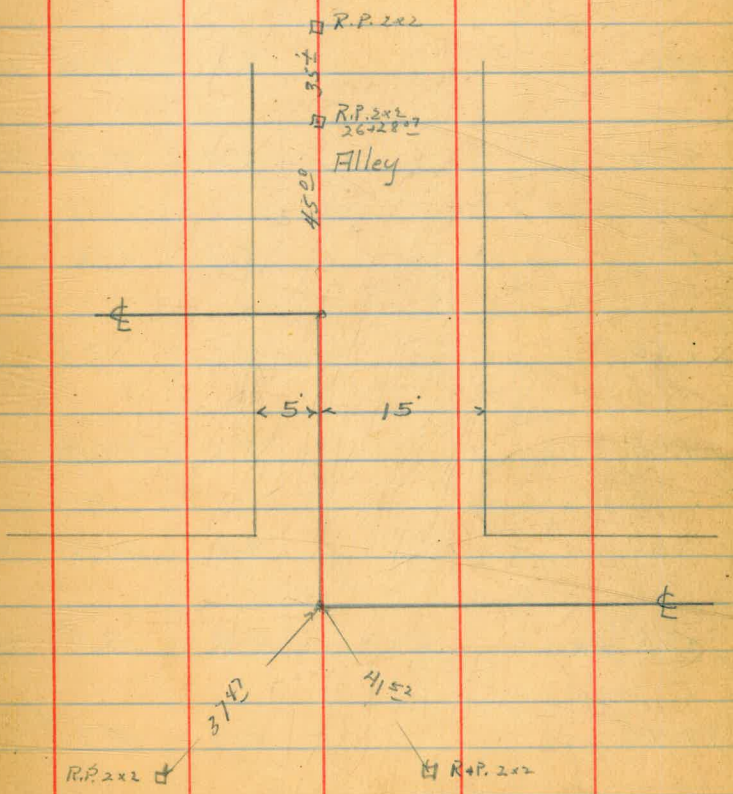
6/23/42
Soper
King
Davis

36th St line revision, 25+25.88 to 28+03.88

28+03.88 ahead
28+02.09 back

26+28.07 ∠ 90°05' Lt

25+25.88 ∠ 90°36' Rt



7/16/42
Soper
Icing
Davis

Profile - 6' offsets to left - 36th St. P.L. Loc.

B.M.	10.40	61.34	50.94	Grade	Cut
~~0+00~~		2.4	58.9	~~51.88~~	~~7.1~~
0+04 Beginning of work			58.9	51.91	7.0
0+50		2.7	58.6	53.13	5.5
0+75 x		3.1	58.2	53.80	4.4
1+00		3.1	58.2	53.65	4.5
1+50		3.5	57.8	53.35	4.4
2+00		3.7	57.6	53.05	4.5
2+50		4.2	57.1	52.75	4.3
3+00		4.6	56.7	52.45	4.2 (x on Pave)
3+50		4.9	56.4	52.15	4.2 "
3+58.35 x		4.9	56.4	52.10	4.3 " (bisection of ∠)
3+90 x		4.6	56.7	51.00	5.7 "
4+10 x		4.9	56.4	51.00	5.4 "

		61.34					
4+30	×		4.5	56.8′	51.70	5.1′	hub
4+50	×		2.8	58.5′	53.10	5.4′	
PT	12 93	73.49′	0.78	60.56′			
4+70	×		10.1	63.4′	55.20	8.2′	
5+00	×		6.0	67.5′	59.40	8.1′	
PT	12.17	85.36′	0.30	73.19′			
5+50			11.6	73.8′	66.95	6.8′	
6+00	×		5.7	79.7′	74.50	5.2′	
+10 41′	Δ		4.4	81.0′	76.00	5.0′	(bisection of angle)
PT	12.60	97.88′	0.08	85.28′			
6+50			?		81.70	?	
7+00			4.3	93.6′	88.90	4.7′	
PT	12.41	109.71′	0.58	97.36′			
7+50			8.9	100.8′	96.10	4.7′	

		109.71				
8+00			1.7	108.0	103.30	4.7
PT	12.69	121.96	0.44	109.27		
8+50			6.4	115.6	111.37	4.2
PT	8.45	130.02	0.39	129.57		
9+00			6.1	123.9	119.44	4.5
9+15.85 back 8+22.65 ahead			3.2	126.8	122.00	4.8 (bisection of angle)
PT	12.53	139.32	3.23	126.79		on ℄ hub 9+15.85 = 8+22.65
8+50			8.0	131.3	126.33	5.0
8+75			4.2	135.1	130.30	4.8
9+00			1.0	138.3	133.30	5.0
PT	10.51	149.52	0.31	139.01		
9+25			8.9	140.6	135.50	5.1
9+75			6.7	142.8	138.70	4.1
10+25			5.0	144.5	140.70	3.8

140.3
136.9
3.5

		149.52				
10+75	X		4.3	145.2	141.80	3.4
11+00			4.2	145.3	141.80	3.5
+50			4.1	145.4	141.80	3.6
12	X		3.6	145.9	141.80	4.1
+50	X		3.5	146.0	140.70	5.3
13	X		5.0	144.5	138.00	6.5
+50			9.2	140.3	134.13	6.2
TP	0.94	141.27	9.19	140.33		
14			4.7	136.6	130.26	6.3
+50			8.4	132.9	126.40	6.5
14+90	X		12.7	128.6	123.30	5.3
TP	0.66	129.23	12.70	128.57		

			129.23				
15+10	X			3.1	126.1	121.20	4.9
+30	X			5.5	123.7	118.60	5.1
+50				6.7	122.5	118.60	3.9 X on Pave
16+00	X			6.7	122.5	118.60	3.9 X on Pave
TP		3.76	126.18	6.81	122.42		
16+50				3.1	123.1	118.50	4.6
17				2.4	123.8	118.40	5.4
+50				2.1	124.1	118.30	5.8
18				2.5	123.7	118.20	5.5
+50				3.2	123.0	118.10	4.9
19	X			3.8	122.4	118.00	4.4
+50				5.3	120.9	116.00	4.9

		126.18				
20+00	X		7.6	118.6	114.00	4.6
+50			10.1	116.1	111.50	4.6
21			12.7	113.5	109.00	4.5
TP	0.50	113.94	12.74	113.44		
21+50			3.3	110.6	106.50	4.1
22	X		5.4	108.5	104.00	4.5
+50			7.4	106.5	102.00	4.5
23			9.4	104.5	100.00	4.5
+50			11.0	102.9	98.00	4.9
TP	2.66	105.57	11.03	102.91		
24+00			4.2	101.4	96.00	5.4
+50	X		5.9	99.7	94.00	5.7
~~25~~			~~7.2~~	~~98.4~~		
~~25+25~~ 88			8.0	97.6		
ck on B.M.			1.37	104.20	Rec. 104.21	

Cont'd in Book 601-A- page 1

Elev. of existing 8" C.I.P. on Market St. (from G.V.)

B.M	4.96	127.37		122.41	
			6.25	121.12	118.7 both pipes -2¼ for G.V.
			5.62	121.75	119.4 both pipes -2¼ for G.V.

Top of stem of 8" G.V. 22 ft Rt 1+84.3

" " " " " 9± Lt 1+84.3

7/27/12
Super
L. M.
Davis

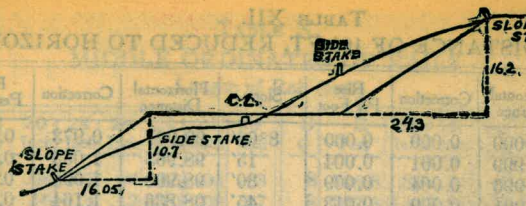
(79)

X-section after benching

(+ or - From ℄ elev. see page 68)

	Lt	℄ Elev.	Rt
5+00		+0 7/13 67 2	-1 2/25
+25	+12 9/13	+0 5/11 5 70 0	0 0/15
+50	+13 9/14	+0 3/12 73 5	0.0/10
+68	+11 9/13	+1 0/11 2 75 1	0.0/15
6+00	+7 0/12	0 0/11 79 6	0.0/15
+50	+3 7/10	+0 7/9 86 3	0 0/15
7+00	+1 7/12	+0 3/14 93 8	+0 3/15
8+00	+5 0/19	+0 8/17 107 8	+0 2/15
+60	+6 5/14	+0 3/11 117 2	+1 0/15
+70	+4 0/13	+0 2/11 122 3	0.0/15
9+00	+2 8/13	+0 3/12 123 9	0.0/15

IMPROVED TABLES AND INFORMATION



DISTANCES FROM SIDE STAKES FOR CROSS-SECTIONING.

SLOPE 1½ TO 1. ROADWAY OF ANY WIDTH.

	0	.1	.2	.3	.4	.5	.6	.7	.8	.9	
0	0 00	0 15	0.30	0.45	0.60	0.75	0.90	1.05	1.20	1.35	0
1	1.50	1 65	1 80	1.95	2.10	2.25	2.40	2.55	2.70	2.85	1
2	3.00	3.15	3.30	3 45	3.60	3 75	3.90	4.05	4.20	4 35	2
3	4.50	4 65	4.80	4.95	5 10	5 25	5 40	5.55	5.70	5.85	3
4	6.00	6 15	6.30	6.45	6.60	6 75	6.90	7.05	7.20	7.35	4
5	7 50	7.65	7.80	7.95	8.10	8.25	8.40	8.55	8.70	8.85	5
6	9 00	9 15	9.30	9.45	9.60	9.75	9.90	10.05	10.20	10.35	6
7	10.50	10 65	10.80	10.95	11.10	11.25	11.40	11.55	11 70	11.85	7
8	12.00	12 15	12.30	12.45	12.60	12.75	12.90	13 05	13.20	13.35	8
9	13 50	13 65	13 80	13 95	14.10	14.25	14.40	14 55	14.70	14.85	9
10	15.00	15 15	15 30	15 45	15.60	15.75	15.90	16.05	16.20	16 35	10
11	16 50	16 65	16 80	16.95	17 10	17.25	17.40	17.55	17.70	17.85	11
12	18 00	18 15	18.30	18 45	18.60	18 75	18.90	19.05	19.20	19 35	12
13	19 50	19 65	19.80	19.95	20.10	20.25	20 40	20.55	20.70	20.85	13
14	21.00	21 15	21.30	21.45	21 60	21.75	21.90	22 05	22 20	22 35	14
15	22 50	22 65	22 80	22 95	23.10	23.25	23.40	23.55	23.70	23.85	15
16	24.00	24 15	24 30	24 45	24 60	24.75	24 90	25 05	25.20	25.35	16
17	25.50	25 65	25.80	25 95	26.10	26 25	26 40	26.55	26.70	26.85	17
18	27.00	27 15	27.30	27 45	27.60	27.75	27.90	28.05	28 20	28.35	18
19	28 50	28 65	28 80	28.95	29.10	29.25	29.40	29.55	29.70	29.85	19
20	30 00	30 15	30.30	30.45	30.60	30.75	30.90	31.05	31.20	31.35	20
21	31 50	31 65	31.80	31.95	32 10	32 25	32.40	32.55	32 70	32 85	21
22	33 00	33 15	33 30	33 45	33.60	33 75	33.90	34.05	34.20	34.35	22
23	34 50	34 65	34.80	34.95	35.10	35 25	35 40	35.55	35.70	35 85	23
24	36.00	36 15	36.30	36 45	36.60	36.75	36.90	37.05	37.20	37.35	24
25	37.50	37.65	37 80	37.95	38.10	38.25	38.40	38.55	38.70	38.85	25
26	39 00	39 15	39.30	39 45	39 60	39.75	39.90	40.05	40.20	40.35	26
27	40 50	40 65	40 80	40.95	41.10	41.25	41 40	41.55	41.70	41.85	27
28	42 00	42 15	42.30	42.45	42.60	42 75	42.90	43.05	43.20	43.35	28
29	43 50	43 65	43.80	43 95	44.10	44 25	44 40	44.55	44.70	44 85	29
30	45 00	45 15	45.30	45 45	45.60	45.75	45.90	46.05	46 20	46.35	30
31	46.50	46.65	46.80	46 95	47.10	47.25	47.40	47.55	47.70	47.85	31
32	48 00	48.15	48.30	48 45	48.60	48 75	48.90	49.05	49 20	49.35	32
33	49 50	49 65	49.80	49.95	50.10	50.25	50.40	50.55	50.70	50.85	33
34	51 00	51.15	51.30	51.45	51.60	51.75	51.90	52.05	52.20	52.35	34
35	52 50	52.65	52.80	52.95	53.10	53.25	53.40	53.55	53.70	53.85	35
36	54 00	54 15	54.30	54 45	54.60	54.75	54.90	55.05	55.20	55.35	36
37	55 50	55 65	55.80	55.95	56.10	56.25	56.40	56.55	56.70	56.85	37
38	57 00	57.15	57.30	57 45	57.60	57 75	57.90	58.05	58.20	58 35	38
39	58 50	58.65	58 80	58.95	59.10	59 25	59.40	59 55	59.70	59.85	39
40	60 00	60 15	60 30	60 45	60 60	60.75	60 90	61.05	61 20	61.35	40
41	61.50	61 65	61 80	61 95	62 10	62 25	62.40	62 55	62 70	62.85	41
42	63 00	63.15	63 30	63 45	63 60	63 75	63 90	64 05	64 20	64.35	42
43	64.50	64 65	64 80	64.95	65.10	65 25	65 40	65.55	65.70	65.85	43
44	66 00	66 15	66.30	66.45	66.60	66.75	66.90	67.05	67.20	67.35	44
45	67 50	67 65	67 80	67.95	68.10	68.25	68.40	68.55	68.70	68.85	45
46	69 00	69 15	69 30	69.45	69.60	69.75	69.90	70.05	70.20	70.35	46
47	70 50	70 65	70 80	70 95	71.10	71.25	71.40	71.55	71.70	71.85	47
48	72.00	72 15	72.30	72.45	72.60	72.75	72.90	73 05	73.20	73 35	48
49	73 50	73 65	73.80	73.95	74.10	74.25	74.40	74.55	74.70	74.85	49
50	75.00	75.15	75.30	75.45	75.60	75.75	75.90	76.05	76.20	76.35	50

Computed by L. Leland Locke.

497.32
417.75
79.57
497.32
404 75
92.57

120
116 45
3 55
18.81
2236

Intersec. Birch + Vesta. 108+~~44~~30

108+72.30 tie to ℄ pt. E side of Vesta

115+66.32 tie to ℄ point on N. side of Dalhorgie

New Δ = 10.8+49 30

prop 108+77 30

18.96
120
+347.17
486.13

497.32

529.24
404.75
124.49