W
415

DIETZGEN

[illegible]

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.

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Page

Concrete + Excavation.

UPSTREAM TOEWALL

Excavation Item 12.

Elev. of top is constant

Elev. "A" = Start of batter sect.

Elev. "B" = Bottom of concrete + Rock

Elev. "E"-"F" = Top of Rock

Width "C" =   of Base Sect.

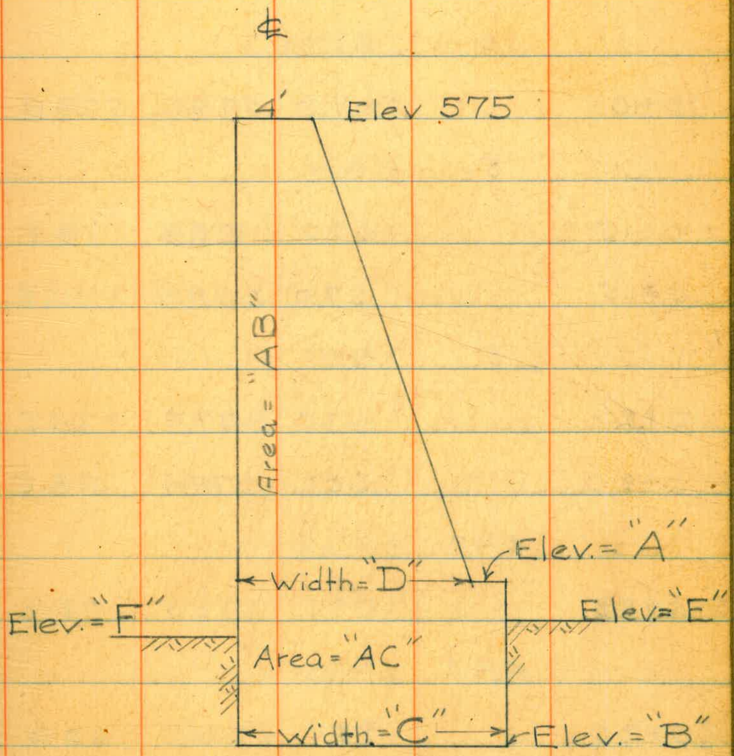
Width "D" = Bottom of batter Sect.

"AB" = Area of Batter Sect. Concrete

"AC" = End Area of Base Sect. Conc.

F.O. 12/19/32

Sketch Showing Location of Elevations and Widths Recorded.



Stations are on ℄. Distances Corrected for Curvature are — For Batter Sect. = "x"

For Base Sect. = "y"

Excavation

See Page 1

sta.	Distance "y"	Elev. of "B"	Elev. of "E"	Elev. of "F"	Width "C"	End Area of Rock	Cubic Yds. Rock
0+00		567.0	579.5	579.5	4'	50.0	
	10'						18.18
0+10		567.0	579.1	579.0	4'	48.2	
	5'						8.85
0+15		67.0	78.9	78.8	4	47.4	
0+15		67.0	78.9	78.8	6.67	58.08	
	5						10.51
0+20		67.0	77.9	78.5	6.67	55.48	
0+20		60.2	77.9	78.5	8.0	144.0	
	4.97						25.92
0+25		57.1	72.5	72.3	9.0	137.7	
	4.97						21.56
0+30		55.1	66.0	62.3	10.67	96.56	
0+30		52.5	66.0	62.3	10.67	124.3	
	3.97						16.30
0+34		50.9	61.4	58.0	11.07	97.42	
	5.96						21.22
0+40		46.5	55.0	54.2	11.67	94.53	

Sta.	"y"	"B"	"E"	"F"	"C"	Area Rock	cb. yds Rock
0+40		46.5	55.0	54.2	11.67	94.53	
	9.92						31.63
0+50		44.7	51.9	50.1	12.33	77.68	
	9.92						29.17
0+60		43.5	50.5	49.6	12.38	81.09	
	9.92						30.42
0+70		42.3	49.1	49.1	12.43	84.52	
	9.91						32.27
0+80		41.2	48.2	48.7	12.60	91.35	
	9.91						37.02
0+90		40.2	48.9	48.6	12.91	110.38	
	9.91						41.48
1+00		39.2	47.5	48.4	13.22	115.67	
	9.90						42.17
1+10		38.4	46.7	47.0	13.53	114.33	
	9.90						41.64
1+20		37.6	45.9	45.6	13.84	112.80	

Sta.	"y"	"B"	"E"	"F"	C	Area Rock	cu.yds. Rock
1+20		37.6	45.9	45.6	13.84	112.80	
	9.90						41.95
1+30		36.72	45.3	44.5	14.15	116.03	
	9.90						44.22
1+40		35.76	45.1	43.8	14.47	125.16	
	9.89						47.69
1+50		34.8	44.9	43.0	14.78	135.24	
	9.89						50.73
1+60		33.88	44.1	42.5	15.08	141.75	
	9.89						53.32
1+70		32.96	43.4	42.0	15.40	149.38	
1+70		32.96	43.4	42.0	15.40	149.38	
	9.88						55.48
1+80		32.2	42.7	41.3	15.70	153.86	
	9.88						56.73
1+90		31.6	42.1	40.6	16.02	156.19	
	9.88						57.56
2+00		31.0	41.5	39.9	16.33	158.40	

Sta.	"y"	"B"	"E"	"F"	"C"	Area Rock	cb.yds Rock
2+00		31.0	41.5	39.9	16.33	158.4	
	9.88						57.49
2+10		30.56	40.9	39.2	16.40	155.64	
	9.88						56.67
2+20		30.12	40.4	38.5	16.47	153.99	
2+20		30.12	40.4	38.5	16.47	153.99	
	9.87						55.49
2+30		29.92	39.8	38.1	16.53	149.60	
	9.87						53.13
2+40		29.96	39.1	37.9	16.60	141.10	
	9.87						50.98
2+50		30.0	38.5	37.7	16.67	135.03	
	9.87						49.36
2+60		29.92	38.5	37.5	16.67	135.03	
	9.87						49.21
2+70		29.84	38.4	37.3	16.67	134.19	
	9.87						48.90
2+80		29.78	38.4	37.2	16.67	133.36	

Sta.	y	B	E	F	C	Area Rock	cb. yds. Rock
2+80		29.78	38.4	37.2	16.67	133.36	
	9.87						49.05
2+90		29.74	38.3	37.3	16.67	135.03	
	9.87						49.21
3+00		29.70	38.2	37.3	16.67	134.19	
	9.87						49.05
3+10		29.66	38.2	37.3	16.67	134.19	
	9.87						49.66
3+20		29.62	38.3	37.4	16.67	137.53	
	9.87						51.64
3+30		29.6	38.3	38.3	16.67	145.03	
	9.87						52.56
3+40		29.9	38.6	38.3	16.67	142.53	
	9.87						53.78
3+50		29.9	38.8	39.2	16.67	151.70	
	9.88						54.99
3+60		29.9	38.9	39.2	16.27	148.87	

Sta.	"y"	B	E	F	C	Area Rock	cb.yds. Rock
3+60		32.3	38.9	39.2	16.27	109.80	
	9.88						47.67
3+70		31.2	39.9	41.5	15.87	150.76	
	2.96						16.68
3+73		31.3	40.3	41.8	15.75	153.56	
	2.96						20.19
3+76		30.7	44.1	44.8	15.63	214.91	
	1.98						15.12
3+78		33.0	45.0	46.4	15.55	197.48	
	6.92						53.00
3+85		33.3	46.1	48.8	15.27	216.07	
	1.98						15.66
3+87		34.4	46.7	49.9	15.19	211.14	
	12.86						103.91
4+00		35.7	48.6	53.5	14.67	225.18 ✓	
	4.95						39.11
4+05		36.1	49.1	53.7	13.17	201.50	
	4.95						34.20
4+10		38.1	50.0	55.6	11.67	171.55	

Sta.	y	B	E	F	C	Area Rock	cu. yds. Rock
4+10		38.1	50.0	55.6	11.67	171.55	
	5.95						36.80
4+16		39.4	51.3	55.6	11.56	162.42	
4+16		47.2	51.3	55.6	11.56	72.25	
	3.97						10.88
4+20		47.92	52.9	56.5	11.14	75.75	
	9.93						29.28
4+30		49.9	52.5	59.0	10.0	83.50	
	9.94						28.66
4+40		53.25	59.5	62.8	9.08	72.19	
	9.95						24.59
4+50		56.6	61.6	66.6	8.17	61.27	
	4.98						11.51
4+55		58.0	63.4	69.0	7.75	63.55	
	4.98						11.53
4+60		60.27	66.2	70.9	7.46	61.54	
	9.97						22.17
4+70		64.8	71.8	74.8	6.89	58.56	

Sta.	y	B	E	F	C	Area Rock	cb. yds. Rock
4+70		64.8	71.8	74.8	6.89	58.56	
	4.98						10.42
4+75		66.7	72.5	77.2	6.67	54.36	
4+75		66.7	72.5	77.2	4.0	32.6	
	10						15.11
4+85		67.9	78.9	81.4	4.0	49.0	

Upstream Toewall Total Excavation Item 12 = 2193.68 cubic yards

UPSTREAM TOEWALL - CONCRETE

See Sketch on Page 1 For Headings.

Note: Sta. 0+00 to 0+15 No batter.

Sta.	"x"	"y"	"A"	"B"	"C"	"D"	"AB"	"AC"	Cubic Yards of Concrete
0+00			575.0	567.0	4′	4′		32.0	
		10							11.85
0+10			575.0	67.0	4	4		32.0	
		5							5.92
0+15			75.0	67.0	4	4		32.0	
0+15			67.0	67.0	6.67	6.67		42.64	
		5							7.89
0+20			67.0	67.0	6.67	6.67		42.64	
0+20			63.0	60.2	8	8	72.0	22.40	
	4.99	4.97							20.26
0+25			63.0	57.1	9	8	72.0	53.1	
	4.99	4.97							25.95
0+30			63.0	55.1	10.67	8	72.0	84.29	
0+30			58.0	52.5	10.67	9.67	116.11	58.68	
	3.99	3.97							27.25
0+34			58.0	50.9	11.07	9.67	116.11	78.60	

Sta.	x	y	A	B	C	D	AB	AC	Cbyds Conc.
0+34			58.0	50.9	11.07	9.67	116.11	78.60	
	5.98	5.96							49.21
0+40			58.0	46.5	11.67	9.67	116.11	134.20	
	9.97	9.92							97.65
0+50			58.0	44.7	12.33	9.67	116.11	164.0	
0+50			53.0	44.7	12.33	11.33	168.63	102.34	
	9.96	9.92							102.60
0+60			53.0	43.5	12.38	11.33	168.63	117.61	
	9.96	9.92							108.24
0+70			53.0	42.3	12.43	11.33	168.63	133.0	
	9.96	9.91							113.89
0+80			53.0	41.2	12.60	11.33	168.63	148.68	
0+80			49.0	41.2	12.60	12.66	216.58	98.28	
	9.95	9.91							118.69
0+90			49.0	40.2	12.91	12.66	216.58	113.60	
	9.95	9.91							124.44
1+00			49.0	39.2	13.22	12.66	216.58	129.56	
	9.95	9.90							129.85
1+10			49.0	38.4	13.53	12.66	216.58	143.42	

Sta.	x	y	A	B	C	D	AB	AC	cb yds Conc.
1+10			49.0	38.4	13.53	12.66	216.58	143.42	
	9.95	9.90							135.03
1+20			49.0	37.6	13.84	12.66	216.58	157.78	
1+20			46.0	37.6	13.84	13.66	256.07	116.26	
	9.94	9.90							139.66
1+30			46.0	36.72	14.15	13.66	256.07	131.31	
	9.94	9.90							145.51
1+40			46.0	35.76	14.47	13.66	256.07	148.17	
	9.94	9.89							151.73
1+50			46.0	34.8	14.78	13.66	256.07	165.54	
	9.94	9.89							158.06
1+60			46.0	33.88	15.08	13.66	256.07	182.77	
	9.94	9.89							164.52
1+70			46.0	32.96	15.40	13.66	256.07	200.82	
1+70			43.0	32.96	15.40	14.66	298.56	154.62	
	9.94	9.88							169.22
1+80			43.0	32.2	15.70	14.66	298.56	169.56	
	9.94	9.88							174.35
1+90			43.0	31.6	16.02	14.66	298.56	182.62	

Sta.	x	y	A	B	C	D	AB	AC	cb.yds. Conc.
1+90			43.0	31.6	16.02	14.66	298.56	182.62	
	9.94	9.88							179.18
2+00			43.0	31.0	16.33	14.66	298.56	195.96	
	9.94	9.88							183.09
2+10			43.0	30.56	16.40	14.66	298.56	204.02	
	9.94	9.88							186.05
2+20			43.0	30.12	16.47	14.66	298.56	212.13	
2+20			40.0	30.12	16.47	15.66	344.05	162.72	
	9.93	9.87							186.73
2+30			40.0	29.92	16.53	15.66	344.05	166.62	
	9.93	9.87							187.45
2+40			40.0	29.96	16.60	15.66	344.05	166.66	
	9.93	9.87							187.46
2+50			40.0	30.0	16.67	15.66	344.05	166.70	
	99.3	9.87							187.71
2+60			40.0	29.92	16.67	15.67	344.05	168.03	
	9.93	9.87							188.20
2+70			40.0	29.84	16.67	15.67	344.05	169.37	

Sta.	x	y	A	B	C	D	AB	AC	Cub. yds. Conc.
2+70			40.0	29.84	16.67	15.67	344.05	169.37	
	9.93	9.87							188.63
2+80			40.0	29.78	16.67	15.67	344.05	170.37	
	9.93	9.87							188.93
2+90			40.0	29.74	16.67	15.67	344.05	171.03	
	9.93	9.87							189.17
3+00			40.0	29.70	16.67	15.67	344.05	171.7	
	9.93	9.87							189.42
3+10			40.0	29.66	16.67	15.67	344.05	172.37	
	9.93	9.87							189.66
3+20			40.0	29.62	16.67	15.67	344.05	173.03	
	9.93	9.87							189.84
3+30			40.0	29.6	16.67	15.67	344.05	173.37	
	9.93	9.87							188.99
3+40			40.0	29.9	16.67	15.67	344.05	168.37	
	9.93	9.87							188.08
3+50			40.0	29.9	16.67	15.67	344.05	168.37	
	9.93	9.88							187.40
3+60			40.0	29.9	16.27	15.67	344.05	164.33	

Sta.	x	y	A	B	C	D	AB	AC	Cub.yds. Conc.
3+60			40.0	32.3	16.27	15.67	344.05	125.28	
	9.93	9.88							175.00
3+70			40.0	31.2	15.87	15.67	344.05	139.66	
	2.98	2.96							53.14
3+73			40.0	31.3	15.75	15.67	344.05	137.02	
3+73			41.5	31.3	15.75	15.17	321.10	160.65	
	2.98	2.96							53.51
3+76			41.8	30.7	15.63	15.07	316.56	173.50	
	1.99	1.98							34.71
3+78			42.0	33.0	15.55	15.00	313.50	139.95	
	6.95	6.92							115.69
3+85			42.7	33.3	15.27	14.77	303.13	143.54	
	1.99	1.98							32.22
3+87			43.0	34.4	15.19	14.67	298.56	130.63	
	12.92	12.86							199.55
4+00			44.0	35.7	14.67	14.20	278.46	127.63	
4+00			49.0	35.7	1467	12.67	216.58	195.11	
	4.97	4.95							73.33
4+05			49.0	36.1	13.17	12.67	216.58	169.89	

sta.	x	y	A	B	C	D	AB	AC	cub.yds. Conc
4+05			49.0	36.1	13.17	12.67	216.58	169.89	
	4.97	4.95							66.95
4+10			52.0	38.1	11.67	11.67	180.09	162.21	
	5.97	5.95							73.75
4+16			52.32	39.4	11.56	11.56	176.45	149.35	
4+16			57.5	47.2	11.56	9.83	120.92	119.07	
	3.99	3.97							34.47
4+20			57.5	47.92	11.14	9.83	120.92	106.72	
	4.98	4.96							40.45
4+25			57.5	48.9	10.57	9.83	120.92	90.90	
4+25			62.5	48.9	10.57	8.17	76.00	143.75	
	4.98	4.96							38.80
4+30			62.5	49.9	10.0	8.17	76.00	126.0	
	9.97	9.94							66.71
4+40			62.5	53.25	9.08	8.17	76.0	83.99	
	9.97	9.95							52.42
4+50			62.5	56.6	8.17	8.17	76.0	48.20	

sta.	x	y	A	B	C	D	AB	AC	cbyds. Conc.
4+50			67.5	56.6	8.17	6.50	39.37	89.05	
	4.99	4.98							22.27
4+55			67.5	58.0	7.75	6.50	39.37	73.62	
	4.99	4.98							19.03
4+60			67.5	60.27	7.46	6.50	39.37	53.93	
	4.99	4.98							15.53
4+65			67.5	62.53	7.17	6.50	39.37	35.63	
4+65			72.0	62.53	7.17	5.0	13.50	67.90	
	5.00	4.98							13.34
4+70			72.0	64.8	6.89	5.0	13.50	49.61	
	5.00	4.98							10.33
4+75			72.0	66.7	6.67	5.0	13.50	35.35	
4+75			75.0	66.7	4	4		33.2	
		10.0							11.41
4+85			75.0	67.9	4	4		28.4	

UPSTREAM TOEWALL, TOTAL CONCRETE = 6570.37 Cubic Yards

DOWNSTREAM TOEWALL

EXCAVATION Item 12

See Sketch on Page 1 For Headings

Sta	y	B	E	F	C	Area of Rock	Cubic Yards of Rock
0-60		565.0	576.0	576.0	4	44.0	
	10						14.67
0-50		65.0	73.0	74.6	4	35.20	
	10						11.26
0-40		65.0	70.4	72.4	4	25.60	
	10						7.44
0-30		65.0	68.3	69.0	4	14.60	
0-30		60.0	68.3	69.0	8	69.20	
	10						20.22
0-20		60.0	62.5	65.5	10	40.0	
0-20		48.0	62.5	65.5	10	160.0	
	9.						44.75
0-11		48.0	58.6	59.1	10	108.50	
0-11		40.0	52.1	48.7	13.0	135.20	
	11						53.76
0+00		40.0	52.1	47.7	13.0	128.70	

Sta.	y	B	E	F	C	Area Rock	cbyds. Rock
0+00		40.0	52.1	47.7	13.00	128.70	
	8.54						40.71
0+08.54		40.0	52.2	47.6	13.00	128.70	
‖ Area of Angle Section =							47.68
0+11.45		40.0	51.2	47.6	13.04	122.57	
	8.45						38.47
0+20		39.54	50.5	47.0	13.39	123.32	
	9.88						45.45
0+30		39.02	49.7	46.6	13.70	125.08	
	9.88						46.31
0+40		38.46	49.6	46.3	13.93	128.02	
	9.87						47.48
0+50		37.9	48.3	46.1	14.17	131.78	
	9.87						46.61
0+60		37.54	46.8	45.4	14.40	123.26	
	9.87						43.44
0+70		37.18	45.3	44.7	14.63	114.41	
	9.87						40.07
0+80		36.9	44.1	43.8	14.87	104.83	

Sta.	y	B	E	F	C	Area Rock	cbyds. Rock
0+80		36.9	44.1	43.8	14.87	104.83	
	9.86						36.51 ✓
0+90		36.7	43.1	42.9	15.10	95.13	
	9.86						32.34 ✓
1+00		36.5	42.1	41.6	15.33	82.01	
	4.93						15.73 ✓
1+05		35.7	41.8	41.3	15.43	90.26	
	4.93						16.65 ✓
1+10		35.4	41.4	41.0	15.53	90.07	
	9.85						32.78 ✓
1+20		34.8	40.7	40.3	15.73	89.66	
	9.85						32.92 ✓
1+30		34.2	40.1	39.7	15.93	90.80	
	9.85						33.40 ✓
1+40		33.6	39.6	39.0	16.13	91.94	
	19.70						67.64 ✓
1+60		32.8	38.8	38.2	16.40	93.48	
	9.84						33.99 ✓
1+70		32.6	38.5	38.0	16.47	93.05	

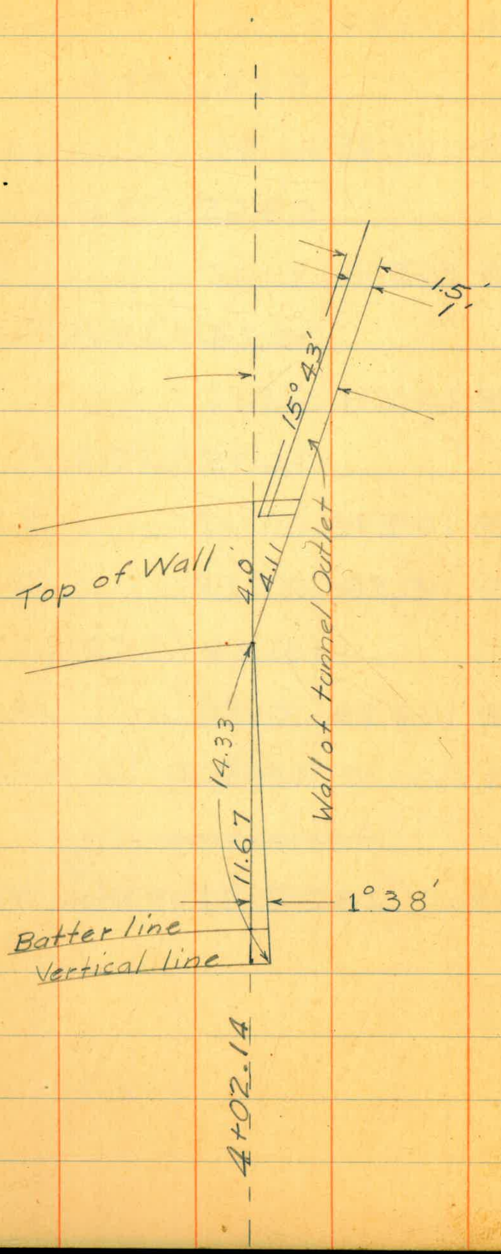
Sta.	y	B	E	F	C	Area Rock	Cbyds. Rock
1+70		32.6	38.5	38.0	16.47	93.05	
	9.84						33.82✓
1+80		32.4	38.2	37.8	16.53	92.57	
	9.84						33.66✓
1+90		32.2	38.0	37.5	16.60	92.13	
	9.84						33.49✓
2+00		32.0	37.8	37.2	16.67	91.68	
	9.84						33.78✓
2+10		31.8	37.8	37.0	16.73	93.69	
	9.84						34.06✓
2+20		31.6	37.7	36.6	16.80	93.24	
	9.84						33.74✓
2+30		31.4	37.4	36.3	16.87	91.94	
	9.84						32.95✓
2+40		31.2	36.8	36.1	16.93	88.88	
	9.84						31.84✓
2+50		31.0	36.2	35.9	17.0	88.85	
	9.84						31.66✓
2+60		30.8	36.0	35.9	17.07	87.91	

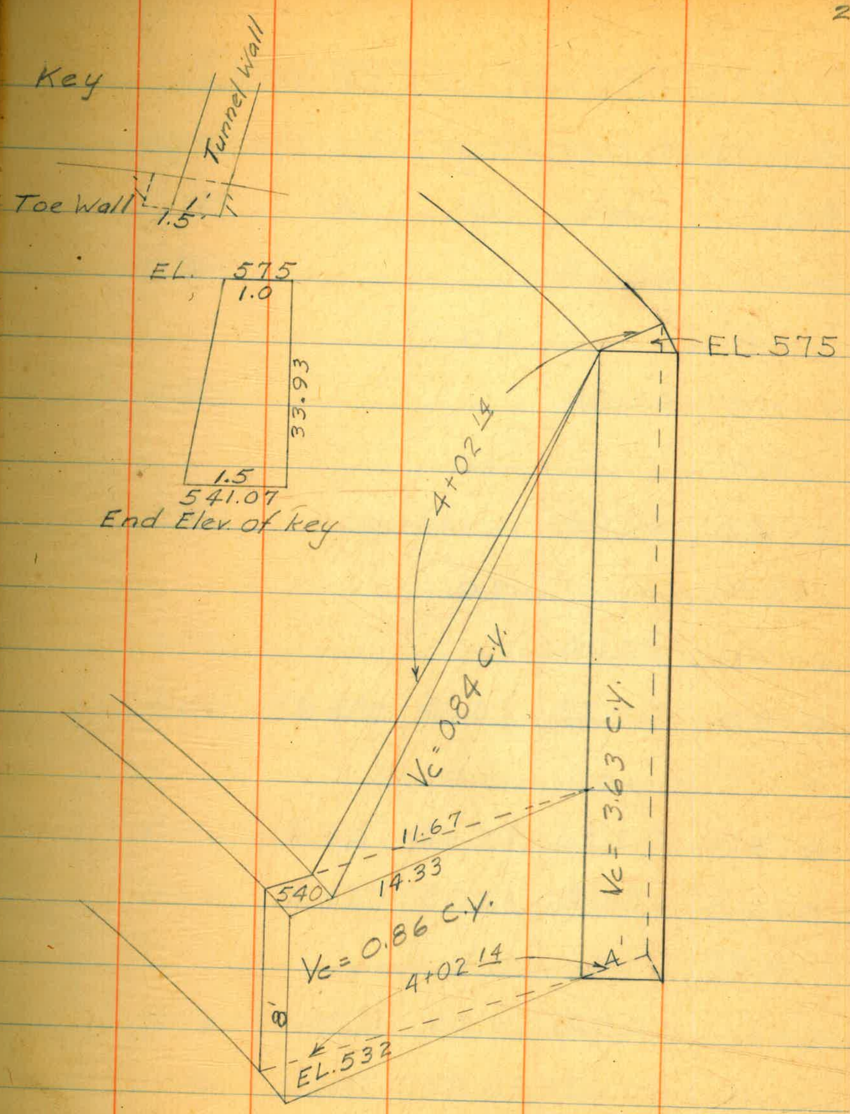
Sta.	y	B	E	F	C	Area Rock	Cbyds. Rock
2+60		30.8	36.0	35.9	17.07	87.91	
	9.84						32.41 ✓
2+70		30.6	35.8	35.9	17.13	89.93	
	9.84						33.99 ✓
2+80		30.4	35.7	36.1	17.20	96.60	
	9.84						36.17 ✓
2+90		30.2	35.8	36.4	17.27	101.89	
	9.83						35.90 ✓
3+00		30.4	36.1	35.7	17.33	95.31	
	9.83						36.33 ✓
3+10		30.4	36.5	36.5	17.09	104.25	
	9.84						39.27 ✓
3+20		30.4	36.8	37.2	16.86	111.28	
	9.84						42.96 ✓
3+30		30.46	37.7	38.2	16.62	124.48	
	9.84						48.43 ✓
3+40		30.58	39.1	39.3	16.39	141.28	
	9.85						54.66 ✓
3+50		30.70	40.5	40.5	16.16	158.37	

Sta.	Y	B	E	F	C	Area Rock	C.byds Rock
3+50		30.70	40.5	40.5	16.16	158.37	
	9.85						58.41
3+60		30.94	41.1	41.1	15.93	161.85	
	9.85						59.65
3+70		31.18	41.8	41.6	15.70	165.16	
	4.92						30.24
3+75		31.30	42.1	41.9	15.58	166.71	
	12.32						76.75
3+87.5		31.70	42.3	43.3	15.29	169.72	
3+87.5		31.70	42.3	42.0	18.33	191.55	
	14.38						101.28
4+02.14		32.0	42.6	42.0	18.33	188.80	
Volume of additional wedge See Sketch Page 24							1.98

Total Excavation in Downstream Toewall = 1837.71 Cubic Yards

SKETCH OF WEDGE AT SOUTH END OF DOWNSTREAM TOE WALL





DOWNSTREAM TOE WALL CONCRETE

See Sketch on Page 1 for Headings

Sta.	x	y	A	B	C	D	AB	AC	Cubic Yards of Concrete
0-60				565.0	4			40.00	
		10							14.81
0-50				65.0	4			40.00	
		10							14.81
0-40				65.0	4			40.00	
		10							14.81
0-30				65.0	4			40.00	
0-30			566.50	60.0	8	6.83	46.07	52.00	
	10	10							38.73
0-20			66.5	60.0	10	6.83	46.07	65.00	
0-20			62.0	48.0	10	8.33	80.21	140.00	
	9	9							73.41
0-11			62.0	48.0	10	8.33	80.21	140.00	
0-11			52.0	40.0	13	11.67	180.09	156.00	
	11	11							136.92
0+00			52.0	40.0	13	11.67	180.09	156.00	

Sta.	x	y	A	B	C	D	AB	AC	Y^3 Conc.
0+00			52.0	40.0	13	11.67	180.09	156.00	
	8.54	8.54							106.30
0+08.54			52.0	40.0	13	11.67	180.09	156.00	
=	Area of angle Section =								95.79
0+11.45			52.0	40.0	13.04	11.67	180.09	156.48	
	8.50	8.45							107.28
0+20			52.0	39.54	13.39	11.67	180.09	166.84	
	9.94	9.88							129.36
0+30			52.0	39.02	13.70	11.67	180.09	177.83	
0+30			49.0	39.02	13.70	12.67	216.58	136.73	
	9.93	9.88							131.53
0+40			49.0	38.46	13.93	12.67	216.58	146.82	
	9.93	9.87							135.23
0+50			49.0	37.9	14.17	12.67	216.58	157.29	
	9.93	9.87							138.56
0+60			49.0	37.54	14.40	12.67	216.58	165.02	
0+60			46.0	37.54	14.40	13.67	256.07	121.82	
	9.92	9.87							139.93
0+70			46.0	37.18	14.63	13.67	256.07	129.04	

Sta.	x	y	A	B	C	D	AB	AC	Y^3 Conc.
0+70			46.0	37.18	14.63	13.67	256.07	129.04	
	9.92	9.87							142.40
0+80			46.0	36.90	14.87	13.67	256.07	135.32	
	9.92	9.86							144.43
0+90			46.0	36.70	15.10	13.67	256.07	140.43	
0+90			43.0	36.70	15.10	14.67	298.56	95.13	
	9.92	9.86							145.25
1+00			43.0	36.50	15.33	14.67	298.56	99.64	
	4.96	4.93							74.22
1+05			43.0	35.70	15.43	14.67	298.56	112.64	
	4.96	4.93							75.90
1+10			43.0	35.40	15.53	14.67	298.56	118.03	
	9.92	9.85							154.75
1+20			43.0	34.80	15.73	14.67	298.56	128.99	
	9.92	9.85							158.79
1+30			43.0	34.20	15.93	14.67	298.56	140.18	
	9.92	9.85							162.92
1+40			43.0	33.6	16.13	14.67	298.56	151.62	

Sta.	x	y	A	B	C	D	AB	AC	Y^3 Conc.
1+40			40.0	33.6	16.13	15.67	344.05	103.23	
	19.82	19.70							333.30
1+60			40.0	32.8	16.40	15.67	344.05	118.08	
	9.91	9.84							170.01
1+70			40.0	32.6	16.47	15.67	344.05	121.88	
	9.91	9.84							171.38
1+80			40.0	32.4	16.53	15.67	344.05	125.63	
	9.91	9.84							172.77
1+90			40.0	32.2	16.60	15.67	344.05	129.48	
	9.91	9.84							174.17
2+00			40.0	32.0	16.67	15.67	344.05	133.36	
	9.91	9.84							175.58
2+10			40.0	31.8	16.73	15.67	344.05	137.19	
	9.91	9.84							176.99
2+20			40.0	31.6	16.80	15.67	344.05	141.12	
	9.91	9.84							178.43
2+30			40.0	31.4	16.87	15.67	344.05	145.08	
	9.91	9.84							179.86
2+40			40.0	31.2	16.93	15.67	344.05	148.98	

Continued on Page 32

Total Area displacement	71.8123 □'
Area " in floor	10.5000 □'
Area Displacement above floor	61.3123 □'

"Note" This line was staked to El. given on WD-Drains July 1932

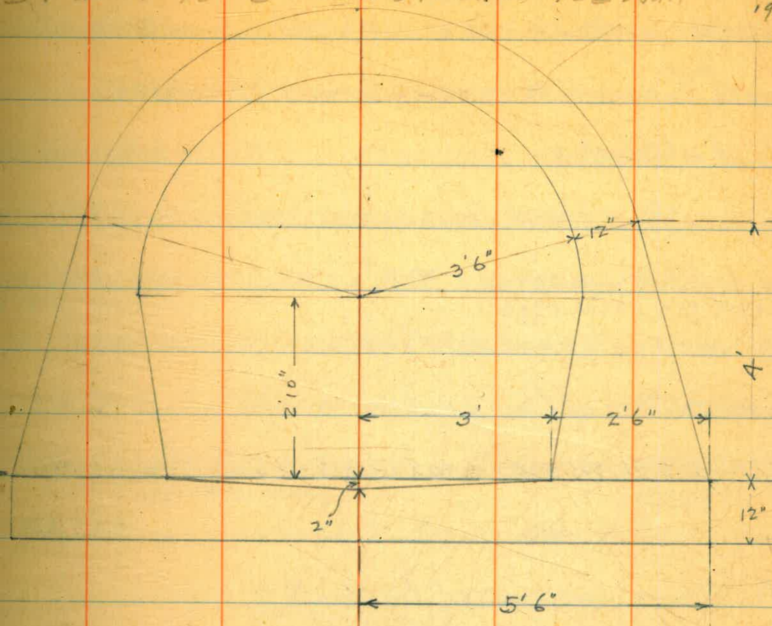
"Note" This estimate for Concrete includes additional yardage due to floor thickness as follows:

North Drain	+ 28.00 Cu. yds
Center Drain	+ 31.80 " "
South Drain	+ 18.50 " "

EL CAPITAN DAM

Nov. 8 1932

Drains to Downstream Toewall



Total Area of Displacement = 71.8123 □'

" " of Concrete = 33.6523 □'

" of Waterway = 38.1600 □'

Area of Concrete above floor of Invert = 23.1523 □'

" " " in floor slab = 10.5000 □'

Center of Gravity in Displacement mass above floor of Invert 3.15 above intersection of footing and floor Surface

Center of Gravity of Concrete Mass above floor 3.50 above Intersection of footing and floor Surface

	Volumn of Displacement	Vol. of Concrete	Vol. for Tile	Net Volumn of Concrete
North Drain	418.2 y^3	214.0 y^3	- 4.15 y^3	209.85 y^3
Well	70.2 "	28.1 "		28.10 "
Center Drain	405.5 y^3	210.1 y^3	- 3.96 y^3	206.14 y^3
Well	74.7 "	29.8 "		29.80 "
South Drain	407.6 y^3	204.0 "	- 4.07 y^3	199.93 y^3
Well	79.3 "	31.6 "		31.60 "
Total Cu. yds all Concrete				705.42 y^3

Nov. 8. 1937
J.W.W.

North Drain
Computations

(Displacement) Volumn in North Drain from E4510.6 to E4660

Length from Toe wall to end of Drain 149.4 feet.

2 foot end plug $2 \times 71.8123 = 143.6246\,ft^3$

Area above floor $149.4 - (2+3.15) \times 61.3123^{\square'} =$ $8844.2993\,ft^3$

Area in floor $(149.4 - 2) \times 10.5^{\square'} =$ $1547.7000\,ft^3$

$10535.6239\,ft^3$

Area excavated and paid for $390.2079\,y^3$

below bottom of floor grade $28.0000\,y^3$

(Well) El. 542 to El. 575 $= (33' + 1.05') - 3.15' \times 61.3123^{\square'} =$ $70.1685\,y^3$

1894.5501 Cu ft.

$488.3764\,y^3$

Total Volumn Displaced by North Drain and well 488.4 Cubic yards.

— North Drain —

(Concrete) 2 foot End plug. $2' \times 71.8123^{\square'} = 143.6246^{\square'}$

Concrete above floor $149.4' - (2+3.5) = 143.9' \times 23.1523^{\square'}$ $= 3331.6160^{\square'}$

Concrete in floor $(149.4' - 2') \times 10.5^{\square'}$ $= 1547.7000^{\square'} =$

$5022.9406^{\square'} =$

Volumn poured and paid for $186.0347\,y^3$

below bottom of floor grade $28.0000\,y^3$

(Well) El. 542' to El. 577.5 $= (35.5' - 3.5') \times 23.1523^{\square'} =$

$740.8736\,ft^3 + (0.66' \times 11' \times 2.5') = 18.15\,ft^3 =$

$759.0236\,ft^3 =$ $28.1120\,y^3$

$242.1467\,y^3$

Less Tile 5 3/8" Diameter $= 0.157^{\square'}$

Less $211 \times 1.42' \times .157^{\square'} = 47.04\,ft^3$

" $210 \times 1.89' \times .157^{\square'} = 62.31$ " ^{3}

$9 \times 2 \times .157^{\square'} = 2.83$ " ^{3}

112.18 " $^3 = 4.15\,y^3$

4.15

Total $=$ $238.00\,y^3$

Nov 8. 1937
J.W.W.

Center Drain

(Displacemt) Volumn in Center Drain E4516.8 to E4660 = 143.2 feet

Length from toe wall to end of Drain = 143.2 feet.

2 foot end plug $2 \times 71.8123^{\square'} = 143.6246\,ft^3$

Area above floor $143.2 - (2+3.15) = 138.05 \times 61.3123^{\square'} = 8464.1630\,ft^3$

Area in floor $(143.2' - 2') = 141.2' \times 10.5^{\square'}$ $= 1482.6000\,ft^3$

$10090.3876 = 373.7177\,y^3$

Area excavated and paid for

below bottom of floor grade $31.8000\,y^3$

(Well) El. 540 to El. 575 $= 33' + 1.05' - 3.15' \times 61.3123^{\square'} = 2017.1747\,ft^3 =$ $74.7101\,y^3$

$480.2278\,y^3$

Total Volumn displaced by Center Drain 480.2 Cubic Yards

Center Drain

(Concrete) 2 foot end plug $2 \times 71.8123^{\square'} = 143.6246\,ft^3$

Concrete above floor $143.2' - (2+3-5) \times 23.1523^{\square'} = 3188.0717\,ft^3$

Concrete in floor $(143.2 - 2) \times 10.5^{\square}$ $= 1482.6000\,ft^3$

$4814.2963\,ft^3 = 178.3074\,y^3$

Volumn poured + paid for below bottom of floor grade $31.8000\,y^3$

(Well) El. 540 to El. 577.5 $= 37.5 - 3.5 \times 23.1523$ $= 787.1782\,ft^3 =$ $29.1547\,y^3$

Wall $0.66' \times 11' \times 2.5' =$ $18.1500\,ft^3 =$ $0.6722\,y^3$

$239.9343\,y^3$

Less Tile 5 3/8" diameter $= 0.157^{\square'}$ Less tile $3.9600\,y^3$

$235.9743\,y^3$

Less $201 \times 1.42 \times .157^{\square'} = 44.81\,ft^3$

$200 \times 1.89 \times .157^{\square'} = 59.35\,ft^3$

$9 \times 2 \times .157^{\square'} = 2.83\,ft^3$

$106.99\,ft^3 = 3.96\,y^3$

Total Concrete 236.0 Cu yds

South Drain

((Displacement) Volumn in South Drain from E 4511 to E 4660 = 149'

Length from toe wall to end of Drain = 149 feet

2 foot end plug 2 X 71.8123$^{\square'}$ = 143.6246 ft^3

Area above floor 149 - (2 + 3.15) = 143.85 X 61.3123$^{\square'}$ = 8819.7744 ft^3

Area in floor = 149 - 2 = 147 X 10.5$^{\square'}$ = 1543.5000 ft^3

10506.8990 ft^3 = 389.144 y^3

area excavated and paid for

below bottom of floor grade 18.500 y^3

(Well) El. 538 to El. 575 = 37 + 1.05 - 3.15 = 34.9 X 61.3123$^{\square'}$ = 2139.7993 79.252 y^3

486.896 y^3

Total Volumn Displaced by South Drain 486.9 cu. yds

— South Drain —

(Concrete) 2' end plug 2 X 71.8123$^{\square}$ = 143.6246 ft^3

Concrete above floor 149 - (2 + 3.5) = 143.5 X 23.1523$^{\square'}$ = 3322.3550 ft^3

Concrete in floor 149 - 2 = 147 X 10.5$^{\square'}$ = 1543.5000 ft^3

5009.4796 = 185.5360 y^3

Concrete Volumn poured and

paid for below bottom of floor grade 18.50000 y^3

(Well) El. 538 to El. 577.5 = 39.5 - 3.5 = 36 X 23.1523$^{\square'}$ = 833.4328 ft^3 30.8679 y^3

Wall 0.66' X 11' X 2.5' = 18.1500 ft^3 = 0.6722 y^3

235.5751 y^3

Less tile 5 3/8" diameter = 0.157 Less tile 4.07 y^3

231.5051 y^3

Less 206 X 1.42 X .157 = 45.92 ft^3

206 X 1.89 X .157 = 61.13 " ^{3}

9 X 2 X .157 = 2.83 " ^{3}

109.88 ft^3 = 4.07 y^3

Total Concrete 231.5 cu. yds

DOWNSTREAM TOEWALL – CONCRETE

Sta.	x	y	A	B	C	D	AB	AC	Y^3 Conc.
2+40			537.0	31.2	16.93	16.67	392.54	98.19	
	9.90	9.84							180.41
2+50			37.0	31.0	17.00	16.67	392.54	102.00	
	9.90	9.84							181.80
2+60			37.0	30.8	17.07	16.67	392.54	105.83	
	9.90	9.84							183.19
2+70			37.0	30.6	17.13	16.67	392.54	109.63	
	9.90	9.84							184.59
2+80			37.0	30.4	17.20	16.67	392.54	113.52	
	9.90	9.84							186.02
2+90			37.0	30.2	17.27	16.67	392.54	117.44	
	9.90	9.83							186.10
3+00			36.3	30.4	17.33	16.90	404.41	102.25	
	9.90	9.83							185.28
3+10			36.5	30.4	17.09	16.83	401.17	104.25	
	9.90	9.84							184.76
3+20			36.8	30.4	16.86	16.73	395.75	107.90	
	9.90	9.84							183.96
3+30			37.1	30.46	16.62	16.62	390.75	110.36	

Sta.	x	y	A	B	C	D	AB	AC	Y^3 Conc.
3+30			37.1	30.46	16.62	16.62	390.75	110.36	
	9.91	9.84							182.98
3+40			37.83	30.58	16.39	16.39	378.76	118.83	
	9.91	9.85							181.72
3+50			38.52	30.70	16.16	16.16	367.72	126.37	
	9.91	9.85							179.98
3+60			39.21	30.94	15.93	15.93	356.47	131.74	
	9.91	9.85							177.87
3+70			39.90	31.18	15.70	15.70	345.73	136.90	
	4.95	4.92							88.06
3+75			40.26	31.30	15.58	15.58	340.10	139.60	
	12.39	12.32							217.74
3+87.5			42.0	31.7	15.29	15.00	313.50	157.49	
3+87.5			40.0	31.7	18.33	15.67	344.05	152.14	
	14.51	14.38							264.45
4+02.14			40.0	32.0	18.33	15.67	344.05	146.64	

Volume of Additional Wedge See Sketch P. 24 — 5.33

Less Key " " " " — -1.57

Total Concrete in Downstream Toe Wall = 7021.29

Drains thru toewall → 63.07

Total 6958.22

Table IX.—Calculation of Earthwork.

Width	HEIGHT														
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1	.02	.04	.06	.07	.09	.11	.13	.15	.17	.18	.20	.22	.24	.26	.28
2	.04	.07	.11	.15	.18	.22	.26	.30	.33	.37	.41	.44	.48	.52	.56
3	.06	.11	.17	.22	.28	.33	.39	.44	.50	.56	.61	.67	.72	.78	.83
4	.07	.15	.22	.30	.37	.44	.52	.59	.67	.74	.81	.89	.96	1.04	1.11
5	.09	.19	.28	.37	.46	.56	.65	.74	.83	.93	1.02	1.11	1.20	1.30	1.39
6	.11	.22	.33	.44	.56	.67	.78	.89	1.00	1.11	1.22	1.33	1.44	1.55	1.67
7	.13	.26	.39	.52	.65	.78	.91	1.04	1.16	1.30	1.42	1.55	1.68	1.81	1.94
8	.15	.30	.44	.59	.74	.89	1.04	1.19	1.33	1.48	1.63	1.78	1.92	2.08	2.22
9	.17	.33	.50	.67	.83	1.00	1.17	1.33	1.50	1.67	1.83	2.00	2.17	2.33	2.50
10	.18	.37	.56	.74	.93	1.11	1.30	1.48	1.67	1.85	2.04	2.22	2.41	2.59	2.78
11	.20	.41	.61	.82	1.02	1.22	1.43	1.63	1.83	2.04	2.24	2.44	2.65	2.85	3.06
12	.22	.44	.67	.89	1.11	1.33	1.56	1.78	2.00	2.22	2.44	2.67	2.89	3.11	3.33
13	.24	.48	.72	.96	1.20	1.44	1.68	1.92	2.16	2.41	2.65	2.89	3.13	3.37	3.61
14	.26	.52	.78	1.04	1.30	1.55	1.81	2.08	2.33	2.59	2.85	3.11	3.37	3.63	3.89
15	.28	.56	.83	1.11	1.39	1.67	1.94	2.22	2.50	2.78	3.06	3.33	3.61	3.89	4.17
16	.30	.59	.89	1.18	1.48	1.78	2.07	2.37	2.67	2.96	3.26	3.56	3.85	4.15	4.44
17	.31	.63	.94	1.26	1.57	1.89	2.20	2.52	2.83	3.15	3.46	3.78	4.09	4.41	4.72
18	.33	.67	1.00	1.33	1.67	2.00	2.33	2.67	3.00	3.33	3.67	4.00	4.33	4.67	5.00
19	.35	.70	1.06	1.41	1.76	2.11	2.46	2.82	3.17	3.52	3.87	4.22	4.57	4.92	5.28
20	.37	.74	1.11	1.48	1.85	2.22	2.59	2.96	3.33	3.70	4.07	4.44	4.81	5.18	5.56
21	.39	.78	1.17	1.55	1.94	2.33	2.72	3.11	3.50	3.89	4.28	4.67	5.06	5.44	5.83
22	.41	.81	1.22	1.63	2.04	2.44	2.85	3.26	3.67	4.07	4.48	4.89	5.30	5.70	6.11
23	.43	.85	1.28	1.70	2.13	2.56	2.98	3.41	3.83	4.26	4.68	5.11	5.54	5.96	6.39
24	.44	.89	1.33	1.78	2.22	2.67	3.11	3.56	4.00	4.44	4.89	5.33	5.78	6.22	6.67
25	.46	.92	1.39	1.85	2.31	2.78	3.24	3.70	4.17	4.63	5.09	5.56	6.02	6.48	6.94
26	.48	.96	1.44	1.92	2.41	2.89	3.37	3.85	4.33	4.82	5.30	5.78	6.26	6.74	7.24
27	.50	1.00	1.50	2.00	2.50	3.00	3.50	4.00	4.50	5.00	5.50	6.00	6.50	7.00	7.50
28	.52	1.04	1.55	2.07	2.59	3.11	3.63	4.15	4.67	5.18	5.70	6.22	6.74	7.26	7.78
29	.54	1.07	1.61	2.15	2.68	3.22	3.76	4.30	4.83	5.37	5.91	6.44	6.98	7.52	8.06
30	.56	1.11	1.67	2.22	2.78	3.33	3.89	4.44	5.00	5.55	6.11	6.67	7.22	7.78	8.33
31	.57	1.15	1.72	2.30	2.87	3.44	4.02	4.59	5.17	5.74	6.32	6.89	7.46	8.04	8.61
32	.59	1.18	1.78	2.37	2.96	3.56	4.15	4.74	5.33	5.92	6.52	7.11	7.70	8.30	8.89
33	.61	1.22	1.83	2.44	3.05	3.67	4.28	4.89	5.50	6.11	6.72	7.33	7.94	8.55	9.17
34	.63	1.26	1.89	2.52	3.15	3.78	4.40	5.04	5.67	6.29	6.93	7.56	8.18	8.81	9.44
35	.65	1.30	1.94	2.59	3.24	3.89	4.53	5.18	5.83	6.48	7.13	7.78	8.42	9.08	9.72
36	.67	1.33	2.00	2.67	3.33	4.00	4.66	5.33	6.00	6.67	7.33	8.00	8.67	9.33	10.00
37	.68	1.37	2.06	2.74	3.42	4.11	4.79	5.48	6.17	6.85	7.54	8.22	8.91	9.59	10.28
38	.70	1.41	2.11	2.82	3.52	4.22	4.92	5.63	6.33	7.03	7.74	8.44	9.15	9.85	10.56
39	.72	1.44	2.17	2.89	3.61	4.33	5.05	5.78	6.50	7.22	7.95	8.67	9.39	10.11	10.83
40	.74	1.48	2.22	2.96	3.70	4.44	5.18	5.92	6.67	7.41	8.15	8.89	9.63	10.37	11.11

Table gives cu. yds. in 1 ft. of a triangle of given width and height. Corrections for tenths of width are one tenth the values found under each height considering the widths from 1 to 9 as tenths and similarly the corrections for tenths of height are one tenth the figures opposite width considering the heights from 1 to 9 as tenths. Thus if w =16.2 and h =5.3, cu. yds. =1.48+.028+.089 =1.597 cu. yds. or practically 160 cu. yds. per 100 ft. If w exceeds 40 ft., use one half and multiply result by 2, if both w and h are large use one half of each and multiply result by 4. Any cross-section may be divided into triangles by the following rule. To the triangle of the sum of the outside cuts (or fills) =h, and ½ the roadbed =w, add the triangles formed by taking the distance out to each break in turn (=w's) by the difference between the cuts (or fills) on each side of it (=h's) always subtracting the outer from the inner.

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 Germany.