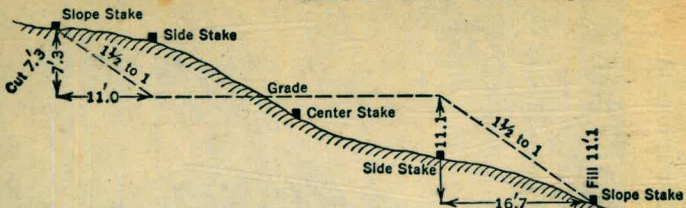


MISSION BAY

62

DISTANCES FROM SIDE STAKES FOR CROSS-SECTIONING
 Roadway of any Width. Side Slopes 1½ to 1.

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



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

KEUFFEL & ESSER CO., N. Y.

N. E. Edge 1115.

62-45-15
73-25-05

136-10-20
43-49-30
179-69-50

MICROFILMED

JAN 7 1965

The paper in this book No. 373A
 is made of 50% high grade rag stock
 with a WATER RESISTING surface sizing.

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10-19-50

Profile Extended North
To P.I. With Morena Blvd.

Sta	+	H.I.	-	Elev	
B. M.	7.58	28.73		21.15	6x6 Conc. Mon. Morena & Linda Vista
7+72 ⁶			6.6	22.10	on dirt East
8+14 ⁶			6.3	22.4	dirt East
8+25 ⁶			5.5	23.2	Top Berm
8+28 ⁶			5.82	22.51	East Gutter
PAINTED & 8+75 ⁶			5.43	23.30	Painted &
9+16			5.78	22.95	West Gutter
9+20			5.4	23.3	Berm west
9+25			5.4	23.3	West edge Embankment. ✓
9+50			9.8	17.9	
9+70			10.9	17.8	Toe Embankment.
10+00			11.2	17.5	
10+50			11.6	17.1	

PROFILE ALONG PROPOSED ALIGNMENT
OF NEW MORENA ST. BRIDGE.

STA	+	H.I.	-	ELEV
B.M.	2.989	24.22		21.23
10+00				23.30
B.M.			0.92	23.28
10+14 ^{14.5}			1.38	22.84
10+19			0.82	23.10
10+22			1.1	23.1
10+28			3.8	20.4
10+36			5.1	19.1
10+50			5.7	18.5
10+60 ^{60.5}			7.0	16.2
10+70			6.9	17.3
10+88 ⁵⁹			6.7	17.5
11+00			6.9	17.3
T.P.				
12+00			6.335	17.885
T.P.	4.62	22.505		17.885
13+00			4.6	17.9
+23			5.2	17.3
+43			5.6	16.9

(BOOK 42
PAGE 70)

6x6" CONC. MON. CUR. ENGR. P.F.N^o 498 SET ON
NLY. BOY. MORENA ST. & NLY. BOY. LINDAYISTA RD. (PRODUCED)
L. ST. MORENA & LINDAYISTA ROAD.

2"x2" HO. B. (FLUSH WITH GROUND)

C. BARRAGAN
A. SHERIDAN
H. BROWN
W. CARVER

10-12-50

1.2

PROFILE CONTD.

STA	+	H.I.	-	ELEV
13	+46	22.505	4.9	17.6
	+50		5.1	17.9
13	+54		5.4	17.1
	+73		2.2	15.3
14	+00		10.0	12.5
	+50		9.0	13.5
15	+00		8.9	13.6
	T.P.			
15	+00		8.86	13.695
"	5.86	19.505		
	+50		4.6	14.9
16	+00		4.8	14.7
	+50		5.1	14.4
17	+00		5.4	14.1
	+50		4.6	14.9
	+70		4.4	15.1
	+87		5.2	14.3
18	+00		4.9	14.6
18	+00		4.85	14.655

GROUND

2" x 2" HUB (T.O.P)

" "

GROUND

2" x 2" HUB (T.O.P)

4.4
25
9

PROFILE CONT'D

STA	T.P	+	H.I.	-	ELEV
18+00		4.65	19.305		14.655
+18				5.3	14.0
+50				6.3	13.0
+69				6.8	12.5
19+00				6.0	13.3
+50				5.4	13.9
+71				4.6	14.7
20+00				4.0	15.3
+34				4.5	14.8
+50				6.6	12.7
+62				8.6	10.7
+86				8.1	11.2
21+00				8.1	11.2
21+00	T.P			7.97	11.335
"		5.93	17.265		
+31				6.0	11.3
+38				5.3	12.0
+50				5.0	12.3
21+97				4.0	13.0

2"x2" HUB (T.O.P)

GROUND

2"x2" HUB (T.O.P)

" " "

PROFILE CONT'D.

STA	H.I.	ELEV
22+00	17.265	9.5 12.8
+15		7.3 10.0
+21		8.4 8.9
+38		8.2 9.1
+50		5.7 11.6
+75		4.5 12.8
23+00		4.8 12.5
+07		5.1 12.2
+12		6.9 10.4
+24		7.2 10.0
+30		6.3 11.0
+33		5.1 12.2
+37		6.7 10.6
+50		6.6 10.7
+56		7.6 9.7
+71		7.0 10.3
+93		7.9 9.4
24+00		8.2 9.1
T.B.17		
24+00		8.13 9.2

GRND.

2x2 HUB (TOP)

PROFILE CONT'D

STA	+	H.I.	-	ELEV		
1	24+07		17.265	7.2	10.0	
	+11			5.5	11.8	
	+17			5.3	12.0	
	+25			9.5	12.8	EDGE OF ROCK R.P. RAP.
1	24+27			1.96	15.305	COR. OF ROCK AT STA-24+27 (ON L)
	T.P.					" " " " " "
	"	11.71	22.015		15.305	" " " " " "
	24+33			9.7	17.3	(ON ROCKS)
2	+40			8.3	18.7	(ON ROCKS)
	+43			8.1	19.0	TOP EDGE OF ROCKS
	24+58			0.8	26.2	T.P. W/EDGE DYKE
	24+64	$\frac{46}{+55}$		0.705	26.310	HUB 2"X2" TOP, CENTER OF DYKE
	24+70	$\frac{49}{+55}$		0.6	26.4	ON DYKE
2	24+73	$\frac{52}{+55}$		1.1	25.9	TOP 3/4 EDGE DYKE
2	24+93			11.2	15.8	TAE (SOUTH) OF DYKE
	25+00			11.7	15.3	GROUND
	T.P.					
	25+00			11.44	15.525	TOP 2"X2" HUB
	"	4.74	20.315		15.525	" " "
	+50			5.5	14.8	
21	26+00			4.7	15.6	

PROFILE CONT'D

STA	+	H.I.	-	ELEV	
26	+12	20.315	4.0	16.3	TOE OF EMBANKMENT
	+21		0.7	19.6	NORTH EDGE OF DIRT BERM
	+24		1.0	19.3	EDGE OF A.C. SHOULDER
	+32		1.01	19.30	EDGE OF CONC. PAVEMENT (CAMINO DEL RIO)
1	+53 ¹⁶ _(-2.2)		0.82	19.50	GUTTER NORTH EDGE OF CENTER ISLAND
	+53 ⁵⁵ _(-2.2)		0.35	20.0	TOP CURB CENTER ISLAND (NORTH)
	26+58 ³⁴		0.28	20.0	" " " " (SOUTH)
2	+58 ⁸⁶ ₍₋₁₀₎		0.75	19.56	GUTTER SOUTH EDGE CEN. IS.
	+81 ⁸⁰ ₍₋₁₎		1.04	19.27	SOUTH EDGE CONC. PAVEMENT
	+90 ⁸⁰ ₍₋₁₎		1.17	19.14	GUTTER OF SHOULDER
	+91 ⁸⁰		0.96	19.35	TOP RAISED BERM
	26+93 ²		2.35	17.96	
2	27+00		3.1	17.2	
2	+09		3.7	16.6	
	+20		4.1	16.2	NORTH EDGE HOUSE
	T.B.M		0.44	19.87	TOP (CHESTNUT & ROSECRANS)
				19.12	S/E COR DROP INLET (SOUTH EDGE CAMINO DEL RIO)
				19.75	

(CO. I.P.R. APPLIED FROM PAGE 10) } - 19.12

CONT'D. ON PAGE (10) THIS BOOK

CHECK LEVELS

STA	+ H.I.	- ELEV	
1 24+64 ⁴⁶	5.07 31.38	26.31	2" x 2" Hub TOP OF DYKE
T.P.		5.75 25.63	TEMP. T.P.
"	4.545 30.175	25.63	" "
T.P.		5.725 24.95	" "
1 "	5.37 29.82	24.95	" "
B.M.		7.845 21.975	U.S.G. G.S. BRASS CAP
2 B.M.	7.67 29.289	21.619	" "
T.P.		5.07 24.214	TEMP. T.P.
"	5.39 29.604	24.214	" "
T.P.		4.634 25.07	TEMP. T.P.
"	5.605 30.575	25.07	" "
2 T.P.		5.180 25.395	TEMP. T.P.
2	5.74 31.135	25.395	
CHECK 46 24+64		4.948 26.187	2" x 2" Hub
"	1.341 22.528	26.31 26.187	SEC ADJ CORR
		12.497 15.031	TEMP. T.P.
	2.363 17.394	15.031	
2 CHECK 22+00		4.665 12.729	TOP HUB

26.31
26.19

.12

M.H.
(27.53 STA - 25+38.2
11.00 E/5 1/2 B/L
16.53 RIM M.H.)

BENCH LEVELS FOR SITUATION SURVEY
MARENA ST. BRIDGE (SOUTH END)

13.64

21.23	15.32	19.67	19.750
5.93	5.91	1.62	5.697
15.30	21.23	21.29	
5.05	5.59	5.97	24.817
20.35	15.64	15.32	5.18
5.68			19.667
19.67			
5.61			
19.68			
6.02			
13.61			

STA	+	H.I.	-	ELEV
T. B. M.	5.097	24.85		19.75
CHECK				23.60
T. B. M.		1.28		23.57
SET T. B. M.			5.18	19.67
"	1.62	21.29		19.67
T. P.			5.97	15.32
"	5.91	21.23		15.32
SET T. B. M.			5.59	15.64
T. P.			5.93	15.30
"	5.05	20.35		15.30
SET T. B. M.			5.68	19.67
"	5.01	19.68		19.67
CHECK				13.64
T. B. M.			6.07	13.61

Top S/E Cor. Drop Inlet South Edge Camino Del Rio (CHESTNUT & ROSECRANS)
 East End of South Curb Camino Del Rio (GAINES & WHITMAN)
 Wall N/Side of Power Pole on Sky Rosecrans -
 Middle of Block Between Whitman & Chestnut (Middle of Block)
 H.D. Wire Line Whitman Between Rosecrans & Taylor
 " " " " " "
 " " " " " "
 Lead & Tail Intersection of Taylor & Whitman
 T.P. Temp in Middle of Block
 " " " " "
 " " " " "
 " " " " "
 " " " " "
 " " " " "
 T.P. on Curb N/Side Taylor & East Side Juan St.

SITUATION SURVEY FOR NORTH APPROACH

PROPOSED NEW MORENA ST. BRIDGE

X @ P.I. SHERMAN & MORENA STA - 4+22.14 { NORTH = 0°00'00"

STATION OBJECT AZIM DIST P.O.D. FLEV

H. I. = 29.09 + 6.55 22.54
 STA 4+22.14 L. ST. MORENA
 E. & LANDA VISTA 157°52'40" 577.86

10,400.00
 4,22.19
 5,177.86

BARRAGAN 10-18-50
 SHERMAN
 BROWN &
 CARVER

(11)

STATION	OBJECT	AZIM	DIST	P.O.D.	FLEV
1	UTILITY POLE	345°05'	204'	6.2	
2	EDGE PAVE, (EAST) MORENA	341°10'	203'	4.5	
3	" " "	338°20'	202'	4.30	
4	W/PAVE MOR	335°25'	203'	4.7	
5	DIRT SHOULDER WEST	333°25'	204'	4.9	
6	W/SIDE MORENA	326°55'	210'	4.1	
7	" " "	317°10'	118'	11.9	
8	POWER POLE W/SIDE	323°10'	113'	11.0	
9	T.O.P. EMBANK. W. "	327°50'	112'	5.9	
10	W/EDGE PAV.	333°45'	110'	5.40	
11	E. MORENA ST.	338°45'	110'	5.19	
12	E/EDGE PAV	344°30'	110'	5.4	
13	N/W COR MOR BLV. FEED STORE	02°25'	133'	5.9	
14	S/W " " " "	14°0'	100'	6.2	

22.54
 6.55
 29.09

NORTH = 0° 00' 00"

9.3

BARR

10-18-50

(12)

SITUATION SURVEY H.I. = 29⁰⁹

119'

STA OBJECT AZIM DIST RAD ELEV

2	(15)	25° 30'	119'	9.3	S/C COR MOR BLVD FEED STORE
	(16)	10° 15'	50'	3.9	UTILITY POLE E/SIDE
	(17)	354° 0'	43'	5.9	E/EDGE PAV.
	(18)	340° 10'	42'	5.39	R. MORENA
	(19)	327° 50'	45'	5.69	W/EDGE PAV.
	(20)	319° 30'	47'	6.2	W/TOP SHOULDER EMBANK.
	(21)	312° 25'	49'	9.8	TOE EMBANKMT.
	(22)	298° 55'	53'	11.7	W/SIDE MOR.
	(23)	273° 40'	31'	11.2	POWER POLE W/SIDE
	(24)	281° 50'	23'	11.2	TOE EMBANKMT. W/
	(25)	291° 10'	20'	6.3	TOP SHOULDER EMBANKMT.
	(26)	308° 30'	15'	5.78	W/EDGE PAV.
	(27)	344° 55'	13'	5.5	R. MOR.
	(28)	19° 15'	18 ⁸ '	5.8	E/EDGE PAV.
	(29)	33° 25'	22'	6.2	E/EDGE EMBANKMT.
	(30)	41° 05'	36'	14.1	TOE (EAST)
	(31)	43° 25'	46'	13.9	EAST SIDE MOR.
	(32)	240° 15'	52'	9.7	UTILITY POLE EAST SIDE MOR.

SITUATION SURVEY

NORTH = 0°00'00" H.I. = 29°9

STA	OBJECT	AZIM	DIST	ROD	ELEV
-----	--------	------	------	-----	------

33		196°10'	68'	8.8	
----	--	---------	-----	-----	--

34		166°55'	50'	5.85	
----	--	---------	-----	------	--

35		155°55'	50'	5.49	
----	--	---------	-----	------	--

36		144°55'	52'	5.9	
----	--	---------	-----	-----	--

37		136°45'	55'	6.2	
----	--	---------	-----	-----	--

38		121°15'	60'	13.9	
----	--	---------	-----	------	--

39		112°25'	68'	4.3	
----	--	---------	-----	-----	--

40		138°50'	84'	9.5	
----	--	---------	-----	-----	--

S.W. SHERMAN WLY. N.P.

W/EDGE PAV.

E. MORENA

E/EDGE PAV.

EAST EDGE EMBANKMENT.

E/EDGE N.P.

14

UTILITY POLE EAST SIDE

C. BARRAGAN 10-18-50
A. SHERRY
H. BROWN
CARVER

(13)

SITUATION SURVEY CONT'D.

C. BARRAGAN
A. SHERRY
H. BROWN X
W. CARVER
10-23-50

(19)

* @ STA. 10+18⁶⁹ & LINDA V. STARR (NORTH = 0°00'00")

$$\left(\begin{array}{r} +7.42 \\ -11.15 \\ \hline 28.62 = H.I. \end{array} \right) \begin{array}{l} \text{COR.} \\ \text{E.Y.} \\ \text{NADIR} \end{array}$$

STATION OBJECT AZIM DIST ROD ELEV

10+18⁶⁹ 216°08'40"

①	333°35'	440'	-13.0	ALL EMBANKMENT	MORENA	BLVD
②	335°10'	432'	12.5	TOE "	"	"
③	336°55'	428'	10.0	ON BANK	"	"
④	338°05'	435'	5.3	SHOULDER WEST SIDE	"	"
⑤	338°50'	435'	5.4	W/EDGE PAVEMENT	"	"
⑥	340°05'	435'	5.12	CROWN E. ROAD	"	"
⑦	341°25'	437'	5.4	E/EDGE PAV. MOT	"	"
⑧	342°40'	439'	5.6	E/TOP SHOULDER	"	"
⑨	N.G. (TREES)			E/TOP EMBANKMT	(26' WEST OF ⑧) (5' HIGHER ⑩)	
⑩	348°	440'	14.0	E/TOE "	"	"
⑪	334°55'	395'	12.7	WEST OF TOE	"	"
⑫	335°25'	392'	11.5	" " "	"	"
⑬	336°15'	391'	9.3	POWER POLE W/SIDE	"	"
⑭	337°05'	390'	9.0	WEST TOE	"	"
⑮	338°0'	390'	5.6	TOP WEST SHOULDER	"	"

SITUATION SURVEY - CONT'D NORTH = 0°0'0" H.I. = 28.67

STATION	BECT	AZIM	DIST	R.O.D	ELEV			
(16)		339°0'	390'	5.48		WEST EDGE PAVEMENT	MORENA BLVD.	
(17)		340°20'	393'	5.22		C (CROWN)	" "	
(18)		341°50'	395'	5.4		EAST EDGE PAVE.	" "	
(19)		343°15'	395'	5.6		EAST TOP SHOULDER	" "	
(20)		345°20'	398'	13.9		TOP (EAST)	" "	
(21)		348°30'	402'	13.1		EAST OF EMBANKMENT	" "	
(22)		335°40'	353'	10.4		GUY POLE WEST SIDE	" "	
(23)		344°45'	360'	6.2		UTILITY POLE EAST SIDE	" "	
(24)		351°10'	348'	12.5		EAST OF EMBANKMENT	" "	
(25)		349°05'	346'	12.2		EAST TOP	" "	
(26)		344°15'	344'	5.9		EAST TOP SHOULDER	" "	
(27)		342°25'	342'	5.6		EAST EDGE PAVE.	" "	
(28)		340°45'	341'	5.34		C (CROWN)	" "	
(29)		339°05'	342'	5.5		WEST EDGE PAVE	" "	
(30)		338°0'	341'	5.7		WEST TOP SHOULDER	" "	
(31)		336°35'	342'	9.4		ON TOP OF EMBANKMENT	" "	
(32)		334°50'	340'	12.2		WEST TOP	" "	
(33)		333°10'	343'	12.0		WEST OF EMBANKMENT	" "	

SITUATION SURVEY CONT'D NORTH = 0°00' H.I. = 28.5

STATION OBJECT AZIM DIST ROD ELEV

STATION	OBJECT	AZIM	DIST	ROD	ELEV
34	W/E COR PICKET FENCE	46°20'	231'	6.8	PRESIDIO NURSERY
35	JOG IN FENCE	53°35'	130'	6.5	" "
36	W/E COR BUILDING	79°15'	135'	6.2	" "
37	S/W COR BUILDING	96°25'	130'	6.3	" "
38	COR JOG IN FENCE	98°40'	122'	6.7	" "
39	S/W COR FENCE	135°30'	155'	5.9	" "
40	TOP WEST POINT	329°15'	191'	12.3	MORENA BLVD
41	TOP SLOPE	333°05'	188'	11.9	" "
42	TRANS. POLE	339°10'	190'	10.2	" "
43	TOP WEST SHOULDER	337°40'	189'	5.5	" "
44	WEST EDGE PAVE.	338°55'	188'	5.62	" "
45	L. (CROWN)	343°0'	189'	5.28	" "
46	EAST EDGE PAVE.	348°0'	191'	5.6	" "
47	EAST TOP SHOULDER	349°45'	191'	6.2	" "
48	EAST OF EMBANKMENT	357°10'	200'	6.8	" "
49	TRANS. POLE	350°55'	229'	6.0	" "
50	" "	355°05'	163'	6.5	" "
51	S/W COR BEACON LUMBER SHED	308°25'	206'	11.1	" "
52	S/E " " " "	314°55'	204'		" "

21.15
7.41
28.56

C. BAIRD 99 10-29-50
A. SHERRY
H. BROWN
W. CARVER

AC STA - 13+00 N = 0° 0' 0" H.I. - DETAIL ONLY

STATION OBJECT AZIM DIST ROD ELEV

13+00 24+69⁴⁶ 179° 10' 00"

✓ ① 346° 30' 171'

POWER POLE

✓ ② 9° 15' 236'

" "

✓ ③ 9° 45' 209'

N/EDGE SIGN BOARD

✓ ④ 14° 55' 187'

S/EDGE " "

✓ ⑤ 70° 10' 122'

POWER POLE

✓ ⑥ 68° 15' 90'

N/EDGE SIGN BOARD

✓ ⑦ 77° 55' 109'

S/EDGE " "

✓ ⑧ 89° 35' 97'

POWER POLE

✓ ⑨ 99° 10' 126'

POWER POLE



* @ 18+00 N=0°0'0" H.I. - DETAIL ONLY

STATION OBJECT AZIM DIST ROD ELEV

18+00 24+64⁴⁶ 179°10'

✓ ① 338°15' 160' POWER POLE

✓ ② 275°45' 185' SHED COR BUILDING

✓ ③ 282°25' 165' SHED COR "

✓ ④ 286°0' 188' SHED COR "

✓ ⑤ 299°55' 192' SHED COR " DIFFERENT.

✓ ⑥ 310°15' N.G. SHED COR "

✓ ⑦ 313°15' 200' SHED COR "

✓ ⑧ 301°0' 113' ✓ SHED COR SHED

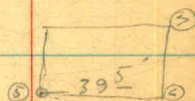
✓ ⑨ 309°25' 109' ✓ SHED COR SHED

11 ✓ ⑩ 310°45' 125' SHED COR "

⑪ 303°30' 60' POWER POLE

⑬ 19°25' 210' POWER POLE

⑭ 121°50' 253' H. T. Pole



X @ 22+00 N=0°0'0" H.I.=DETAIL ONLY

STATION OBJECT AZIM DIST ROD ELEV

22+00 24+64⁴⁶

✓ ① 48°30' 70'

✓ ② 20°45' 70'

✓ ③ 43°30' 112'

✓ ④ 76°41' 82'

✓ ⑤ 70°40' 27'

H.T. POWER POLE

GUY WIRE (DEAD MAN)

" " " "

" " " "

" " " "

+ 3.55
26.19
29.74

10-24-50

20

X @ 29+69 ⁹⁶ N = 0° 0' 0" H.I. = 29.74

STATION OBJECT AZIM DIST ROD ELEV

STATION	OBJECT	AZIM	DIST	ROD	ELEV
29+69 ⁹⁶	11+00	359° 10' 00"			
	①	198° 45'	132'		H.T. Power Pole
	②	256° 15'	221'		H.T. Power Pole
	③	266° 15'	199'		H.T. Power Pole
	④	263° 45'	188'	11.4	South slope, Point on
	⑤	267° 50'	187'	4.0	South Top
	⑥	272° 45'	186'	3.9	North Top
	⑦	282° 05'	165'	11.9	North slope, Point on
	⑧	244° 10'	58'	13.7	South slope
	⑨	261° 55'	53'	4.1	South Top
	⑩	279° 40'	53'	3.9	North Top
	⑪	304° 00'	63'	13.5	North slope
	⑫	115° 05'	60'	12.3	South slope
	⑬	98° 50'	53'	3.3	South Top
	⑭	83° 05'	55'	3.5	North Top
	⑮	70° 10'	60'	11.7	North slope
	⑯	66° 30'	61'	13.6	North slope

15157

station	Object	Azim	Dist.	Rod	Elev
---------	--------	------	-------	-----	------

(17)		103° 35'	150'	12.5	South Toe
------	--	----------	------	------	-----------

(18)		94° 10'	145'	3.0	South Top
------	--	---------	------	-----	-----------

(19)		89° 15'	145'	3.1	North Top
------	--	---------	------	-----	-----------

(20)		78° 30'	145'	13.8	North slope
------	--	---------	------	------	-------------

19.75
+ 5.05
24.80

10-24-56

(22)

A @ Sta-26+56³⁶ N=0°0'0" H.I.= 24.80

STATION OBJECT AZIM DIST ROD ELEV

26+56³⁶ 11+00 359°10'0"

① 252°30' 360 0.8 24.0 So. Barn

② CALLED OFF

10/26-56 19.76
601
2476

23

Sta 26+56³⁶ N = 0° 0' 0" HI = 24.76

Sta	Object	Azim	Dist	Rod	Elev			
✓	①	86° 40'	¹⁸² 364	4.76	200	So	Bank	Hwy
✓	②	85° 20'	¹⁴⁸ 296			"	"	"
✓	③	86° 45'	272			"	"	"
✓	④	90° 35'	181			"	"	"
✓	⑤	97° 20'	109			So	Top of Bank	
✓	⑥	99° 30'	95				Top of Burm.	
✓	⑦	93° 15'	128				Gutter	
✓	⑧	93° 0'	105			So	Edge of Pavement	
✓	⑨	79° 45'	85			So	Center Gutter	
✓	⑩	82° 30'	22				Top Curb	
✓	⑪	74° 10'	32			No	Center Top Curb	
✓	⑫	75° 25'	81			No	Gutter	
✓	⑬	63° 05'	105			No	Edge of Pavement	
✓	⑭	60° 15'	116			No	Gutter	
✓	⑮	53° 00'	86			No	Top of Burm	
✓	⑯	58° 05'	111			No	Bank Hwy	
	⑰	65° 15'	201					
	⑱	68° 45'	320					

H.I. = 24.76

Sta	Object	Azim	Dist	Rod	Elev				
	(19)	70° 35'	458 239	4.76	20.0	No	Bank	Hwy	
	(20)	70° 15'	468 218			"	"	"	
	(21)	68° 38'	434			"	"	"	
	(22)	69° 05'	361			So	Bank	Dyke	(Flood Control)
	(23)	47° 15'	240			"	"	"	"
	(24)	359° 15'	172			"	"	"	"
	(25)	322° 40'	215			"	"	"	"
	(26)	315° 45'	230			"	"	"	"
	(27)	316° 10'	244			"	"	"	"
	(28)	305° 0'	308			"	"	"	"
	(29)	298° 00'	372			"	"	"	"
	(1)	298° 30'	373	2.76	22.0	So	Bank	of Dyke	(Flood Control)
	(2)	318° 30'	236			"	"	"	"
	(3)	318° 0'	230			"	"	"	"
	(4)	359° 20'	175			"	"	"	"
	(5)	46° 55'	243			"	"	"	"
	(6)	65° 10'	390 241			"	"	"	"
	(7)	70° 35'	482						

H.I. = 24.76

10-26-92

(25)

Sta	Object	Azim	Dist	Rod	Elev	
			240			
	⑧	71°05'	480	2.76	22.0	So Bank of Tyhr (F.C.)
	⑨	70°35'	386			No Bank Hwy
✓	④	67°45'	269	3.76	21.0	" "
✓	②	69°45'	178			" "
✓	③	63°40'	156			No Top of Berin
✓	④	65°35'	177			No Gutter
✓	⑤	67°55'	168			" Edge of Pavement
✓	⑥	75°40'	154			No Center Gutter
?	⑦	71°05'	122			" " Top Curb
✓	⑧	79°10'	117			So " " Curb
✓	⑨	79°05'	149			" Gutter
✓	⑩	86°45'	169			So Edge of Pavement
✓	⑪	88°25'	188			So Gutter
	⑫	90°35'	162			So Top Berin
	⑬	88°10'	216			So Bank Hwy
	⑭	85°05'	340			" "
	⑮	85°10'	360			" "
	⑯	86°05'	364			" "

Sta	Object	Azim	Dist	Red	Elev		
			203				
	①	84°10'	406	2.76	22	So	Bank Hwy
	②	84°50'	341			"	"
	③	86°30'	251			"	"
	④	87°15'	221			So	Top Curb
	⑤	85°50'	250			"	Gutter
✓	⑥	84°40'	222			"	Edge of Pavement
✓	⑦	78°55'	205			S.	Center Gutter
✓	⑧	78°50'	177				Top Curb
✓	⑨	75°50'	182			No	" "
✓	⑩	75°35'	209				Gutter
✓	⑪	69°45'	223				Edge of Pavement
✓	⑫	78°10'	236			No	Gutter
✓	⑬	67°0'	216				Top Berm
✓	⑭	67°40'	249				Bank Hwy
	①	84°40'	327	1.76	23	So	bank Hwy
	②	85°20'	280				Top Berm
✓	③	84°25'	309				Gutter
✓	④	83°25'	277			"	EDGE Pavment

Sta	obj	Azin	Dist	Rod	Elev	
✓	⑤	78°45'	263	1.76	23	South center gutter
✓	⑥	78°40'	233			" curb-top
✓	⑦	75°45'	233			north curb-top
✓	⑧	75°35'	266			" center gutter
✓	⑨	71°05'	277			EDGE of pavement - north side
✓	⑩	69°50'	293			north gutter
✓	⑪	68°40'	262			Top North Beam
✓	⑫	69°10'	294	¹⁴⁷		north embankment Highway
✓	⑬	69°30'	334			" " "
✓	⑭	70°45'	385			" " "
		69°00'	429	-3.89	20.81	D.H. Between North of Highway & Levee
✓	①	70°45'	376	0.76	24.0	north Embankment Highway
✓	②	70°00'	316			Top North Beam
✓	③	70°50'	340			north gutter
✓	④	72°00'	331			EDGE of pavement - north side
✓	⑤	76°55'	317			? south center gutter
✓	⑥	75°55'	291			" curb top
✓	⑦	78°35'	288			north " "

10-26-50

H.I. = 24.76

10-26-50

C. BATHURAN
A. SHERIDAN
H. BROWN
W. CARTER

(28)

Sta.	obj.	Azim.	Dist.	Rod	Elev	
✓	⑧	78°35'	317	0.76	24.0	South center gutter
✓	⑨	82°30'	332			Edge of Pavement - South Side
✓	⑩	83°35'	352			South gutter
	⑪	84°40'	335			Top Berm - South side
	⑫	83°55'	367			South Embankment Highway
	⑬	83°40'	409			" " "
	①	83°15'	²⁰⁵ 410	10.24	25.0	" " "
	②	83°30'	376			Top Berm South side
	③	82°50'	470			South gutter
	④	81°55'	387			Edge of Pavement - South Side
		78°35'	370			South center gutter

11-3-50

H1=24.76

(29)

Sta	obj	Azim	Dist	ROD	Elev.
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to 26156³⁹

	+	H1	-		Elev
--	---	----	---	--	------

6.57		25.32			19.75
------	--	-------	--	--	-------

270

1.		280°00'	540	10.62	14.70
----	--	---------	-----	-------	-------

Drop Inlet So. Edge Camino Del Rio

Sewer Man Hole

FOR
 PAN DO
 ST 15
 CAMINO DEL RIO

10-27-50

C. BARRAGAN
A. SHERITY
H. BROWN
W. CANTYER

10-27-50

50

STA	+	H.I.	-	ELEV
T.B.M.	7.05	26.80		19.75
T.P.			0.96	25.84
"	7.29	33.08		25.84
SET T.B.M.			5.32	27.76
"	4.718	32.48		22.76

5-

ROSECRANS & CHESTNUT
S/F COR DROP INLET (SKYLINE CAMINO DEL RIO)

TEMP. T.P.

" "

MORENA & CAMINO DEL RIO
U.S. C. & G.S. BRASS CAP & MON (SKYLINE TAYLOR)

" " " " " "

19.75
7.05
26.80
0.96
25.84

25.84
7.24
33.08
5.32
27.76
4.72
32.48

10-27-60

27.76
4.72
32.48

(31)

SITUATION SURVEY @ P.I. OF MORENA

TAYLOR, & CAMINO DEL RIO

K @ 35+50⁶⁶ N = 0° 0' 0" H.I. = 32.98

STATION WECT AZIM DIST R.O.D. ELEV

STATION	WECT	AZIM	DIST	R.O.D.	ELEV
✓ 1	①	343° 40'	144	4.47	Cutter S.E. End Bridge
✓ 2	②	344° 05'	138	4.42	"
✓ 3	③	349° 15'	119	3.83	"
✓ 4	4	357° 50'	115	3.35	"
✓ 5	⑤	47° 05'	220	2.42	"
✓ 6	⑥	51° 40'	251	2.59	" End of Curb
✓ 7	⑦	350° 25'	112	3.57	Edge of Pavement
✓ 8	⑧	25° 30'	141	2.76	" "
✓ 9	⑨	40° 30'	179	2.60	" "
✓ 10	⑩	50° 40'	229	2.63	" "
✓ 11	⑪	53° 10'	246	2.69	" "
✓ 12	⑫	59° 35'	303	2.95	" "
✓ 13	⑬	62° 20'	340 ¹⁵⁷	3.25	" "
✓ 14	14	65° 0'	314	3.72	
✓ 15	15	63° 50'	286	3.50	N Gutter Center Isle
✓ 16	16	62° 50'	256	3.22	" "
✓ 17	17	62° 35'	241	3.25	" "

10-27-60

H.I. = 32.48

(32)

Sta	Objec	Azin	Hist	Rod	Elev
✓	(18)	65°15'	274	3.44	
✓	(19)	62°35'	238	3.28	
✓	(20)	57°55'	197	3.19	
✓	(21)	56°45'	199	3.20	
✓	(22)	46°55'	146	3.25	
✓	(23)	48°15'	143	3.25	
✓	(24)	14°35'	82	3.61	
✓	(25)	13°20'	85	3.57	
✓	(26)	14°56'	93	3.61	
✓	(27)	14°50'	92	3.63	
✓	(28)	358°50'	88	3.76	
✓	(29)	352°45'	90	3.74	
✓	30	354°06'	84	3.73	
✓	(1)	52°40'	113	4.04	
✓	(2)	54°40'	112	4.20	
✓	(3)	355°10'	48	4.24	
✓	(4)	352°55'	45	4.27	
✓	(5)	348°15'	17	4.78	

So Gutter Center 15k

" "

No Gutter " "

" " " "

So " " "

" " " "

No " " "

Traffic 15k } 2' R.

" "

" "

" "

" "

} 2' R.

Traffic 15k } 2' R.

} 2' R.

10-27-50

H.L. = 3248

(33)

Sta	Object	Azimuth	Dist	Red	Elev
-----	--------	---------	------	-----	------

✓	(6)	220°55'	8	5.67	
---	-----	---------	---	------	--

Traffic Isle

✓	(7)	203°25'	26	6.29	
---	-----	---------	----	------	--

"

✓	(8)	194°35'	27	6.34	
---	-----	---------	----	------	--

"

} 2'R

✓	(9)	96°25'	11	5.84	
---	-----	--------	----	------	--

"

✓	(10)	54°00'	52	5.14	
---	------	--------	----	------	--

"

✓	(1)	330°00'	36	4.62	
---	-----	---------	----	------	--

Traffic Isle

✓	(2)	325°10'	38	4.63	
---	-----	---------	----	------	--

} 2'R

✓	(3)	235°00'	46	6.75	
---	-----	---------	----	------	--

✓	(4)	237°10'	60	7.23	
---	-----	---------	----	------	--

✓	(5)	220°55'	74	7.91	
---	-----	---------	----	------	--

✓	(6)	217°50'	74	7.94	
---	-----	---------	----	------	--

"

} 2'R

✓	(7)	225°10'	39	6.65	
---	-----	---------	----	------	--

✓	(8)	277°20'	19	5.52	
---	-----	---------	----	------	--

✓	(1)	194°50'	82	8.44	
---	-----	---------	----	------	--

So Gutter

✓	(2)	77°50'	44	5.59	
---	-----	--------	----	------	--

"

B.C

✓	(3)	65°15'	69	5.08	
---	-----	--------	----	------	--

"

✓	(4)	61°25'	128	4.16	
---	-----	--------	-----	------	--

"

10-27-50
H.C.I. = 32.48

(34)

Sta	Object	Azin	Dist ^{90°}	Red	Elev
✓ (1)	(5)	65°15'		4.05	
✓	(1)	303°10'	6.3	4.66	
✓	(2)	304°15'	6.6	4.60	
✓	(3)	299°40'	8.1	4.46	
✓	(4)	291°15'	8.2	4.85	
✓	(5)	288°45'	7.2	5.19	
✓	(6)	281°10'	6.0	5.73	
✓	(7)	282°30'	5.6	5.64	
✓	(8)	293°05'	5.8	5.15	
✓	(1)	273°05'	16.8	6.15	
✓	(2)	275°35'	17.1	6.02	
✓	(3)	276°40'	14.6	5.69	
✓	4	280°15'	13.3	5.37	
✓	(5)	281°40'	11.8	5.06	
✓	(6)	283°10'	10.3	4.92	
✓	(7)	268°00'	7.1	5.13	
✓	(8)	241°55'	7.6	7.72	

So. Gutter

Traffic Isles
} 2' R.

} 2' R

} 2' R

So. Gutter Del Rio

B.C

10-27-60

H.I. = 3248

(35)

Sta	Object	Azim	Dist	Roa	Elev
✓	(9)	234° 30'	94	8.61	
✓	(10)	228° 50'	135	10.79	
✓	(1)	216° 10'	154	10.49	
✓	(2)	217° 00'	91	—	
✓	(3)	218° 20'	76	—	
✓	(1)	4° 55'	92	—	
✓	(2)	37° 25'	134	—	
✓	(1)	319° 55'	91	4.10	
	(2)	319° 15'	84	4.10	
✓	(3)	307° 35'	96	4.30	
✓	(4)	308° 10'	97	4.34	
✓	(5)	315° 15'	92	4.20	
✓	(6)	289° 10'	145		
??	(1)	278° 20'	124 298	6.95	

EC. Gutter

"

Raised Center

Raised Center

Traffic Isle }
}

Raised Center

Main Center Isle C. Del Rio

10-27-50 HI = 32.48

(36)

Sta Object Azim Dist Red

✓ ② 280°30' 226 6.57

✓ ③ 288°35' 169 5.44

✓ ④ 307°55' 112 4.45

L ⑤ 309°15' 115 4.42

L ⑥ 289°40' 173 5.45

L ⑦ 280°10' 241 6.83

Main Center Isla C. Del Rio

} 2' R

L ① 334°55' 155 4.42

Curb S.W. End Bridge

L ② 331°00' 135 4.40

L ③ 324°15' 128 4.46

L ④ 323°25' 138 4.36

} 5' R.

L ① 328°15' 157

Power Pole

L ② 348°45' 153

Guy Pole for #1

L ③ 26°35' 168

P.P.

L ④ 54°35' 285.

P.P.

L ⑤ 67°35' 71

P.P.

L ⑥ 176°36' 47

Telephone Pole

H.I. =

(37)

Sta	Obj.	Azim	Dist	Red.	Elev
-----	------	------	------	------	------

7

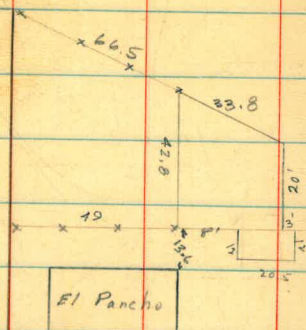
234° 25' 117

Power Pole Line 1+3

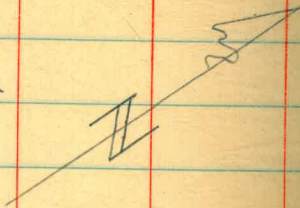
Location of Moreno Bro.

Cement works

Gaines



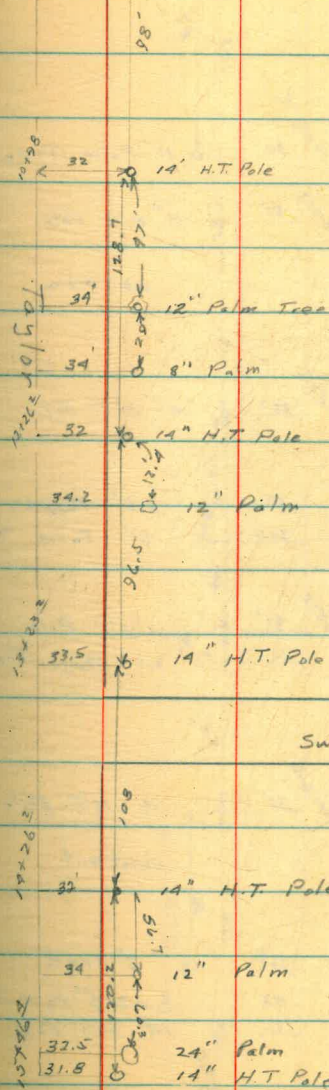
Whitman



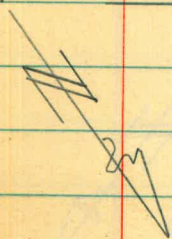
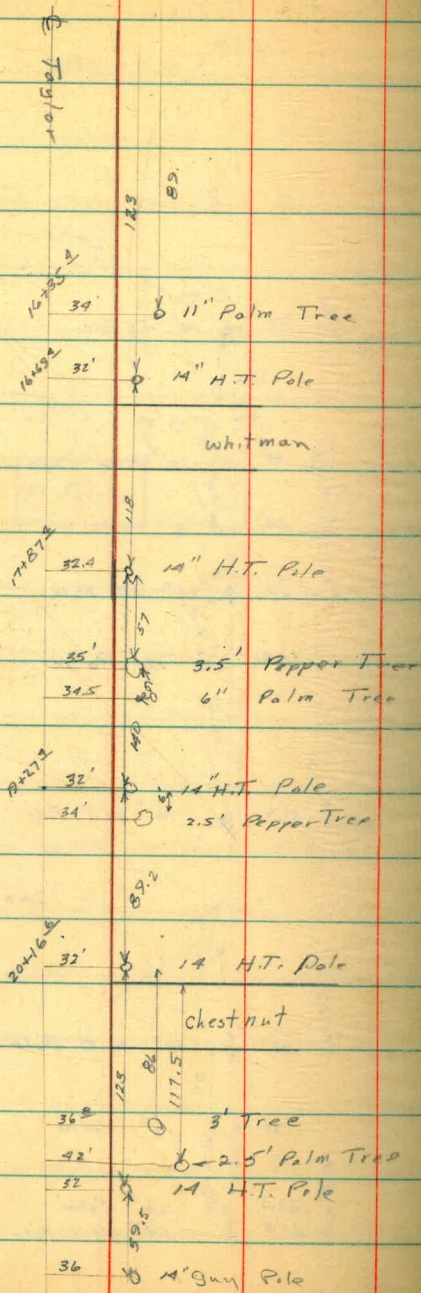
10+00 Juan

117.6
56.7
60.3

38



Sunset



20160
- 250
17610

11-3-50

Sta	+	H.I.	-	Elev		Sta	+	H.I.	-	Elev	(41)
2+50		25.31	2.54		So. Gutter	4+11			4.11		So. Gutter
			2.03		So. Curb				3.58		So. T. Curb
			2.06		No. Curb				3.68		No. " "
			2.57		No. Gutter				4.16		No. Gutter
3+00			1.61		So. Cut				1.92		Elec. M.H. Traffic Centre
			1.10		S. T. Curb						
			1.17		No. T. Curb						
			1.66		No. Gutter						
T.P.	6.61	29.82	2.10	23.21							
			4.88		Elect. M.H. Traffic Centre						
3+52.3 B.C.			5.09		So. Gutter						
			4.62		S.T. Gutter						
			4.60		N.T. Curb						
			5.13		No. Gutter						
3+80			4.62		So. Gutter						
			4.11		So. T. Curb						
			4.17		No. T. Curb						
			4.70		No. Gutter						

11-14-50

42

Situation Survey Moreno Blvd No. of Bridge

X 800' south of Leona + Tack & Moreno + Lindal Vista

Sta object Azim Dist

v ① ~~338~~⁷° 25' 341

v ② 336° 10' 342

v ③ 342° 50' 342

v ④ 336° 30' 309

v ⑤ 335° 15' 268

v ⑥ 343° 50' 268

v ⑦ 328° 45' 159

v ⑧ 332° 25' 157

v ⑨ 346° 55' 157

v ⑩ 357° 10' 68

v ⑪ 323° 30' 68

v ⑫ 201° 20' 42

v ⑬ 188° 55' 35

v ⑭ 128° 10' 38'

v ⑮ 167° 45' 120'

v ⑯ 150° 05' 120

⑰

Power Pole

W. Edge Pavement

E. " "

Man Hole Phone

W. Edge Pavement

E. " "

Power Pole

W. Edge Pavement

E. " "

E. " "

W. " "

Power Pole

W. Edge Pavement

E. " "

W. " "

E. " "

Situation Survey (Cont)

11-14-50

(43)

Sta Object Azim Dist

✓ (17) 163°10' 233

✓ (18) 163°00' 238

✓ (19) 163°10' 253

✓ (20) 154°55' 253

✓ (21) 161°10' 307

✓ (22) 156°50' 306

✓ (23) 156°10' 307

✓ (24) 161°58' 289

✓ (25) 164°48' 300

✓ (26) 161°05' 327

✓ (27) 157°05' 334

✓ (28) 162°00' 329

✓ (29) 156°35' 341

✓ (30) 45°00' 79

W. Hole Phone

M. Hole " "

W. Edge Pavement.

E. " " B.C. Curve to Bridge

W. " "

E. " "

Guy Pole

M. Hole Phone

Power Pole.

W. Edge of Pavement, N.W. End Bridge

" " " " N.E. " "

N.W. End of Steel.

N.E. " " "

Power Pole

11-14-5

(44)

Situation Survey - Moreno Blvd.

Sta Object Azim Dist

T at Hub. P.L. Taylor + Moreno

✓ ① 339°50' 155

W. Edge of Pavement

✓ ② 343°40' 144

E. " " "

✓ ③ 344°45' 149

S. E. End of Steel

✓ ④ 333°05' 163

S. W. " " "

TRIANGULATION OF CONTROL

Nov. 15, 1950

T. Stamper

E. Watson

H. Brown

A. Sherry

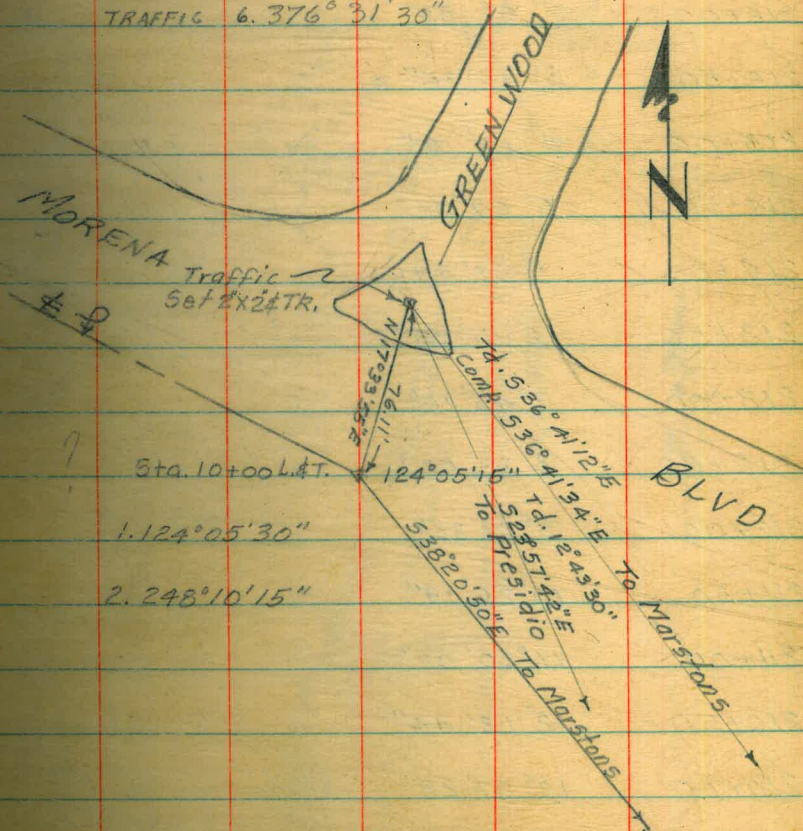
W. CARVER

POINTS FOR INNER CREST OF EAST

END OF NORTH LEVEE MISSION BAY

STA	OBJECT	ANGLES	MEAN	VERNIER
CITY	CAT	1. 73° 25' 30"		
TRAFFIC	Ry	2. 146° 50' 00"	73° 25' 05"	0° 00' 00"
U.S.E.D.				
PRESIDIO	6.	440° 30' 30"		
CITY				
TRAFFIC	1.	43° 49' 00"		
U.S.E.D.				
PRESIDIO	Ry	2. 87° 39' 00"	43° 49' 30"	0° 00' 00"
CITY				
CAT	6.	262° 57' 00"		
MARSTONS				
TOWER	1.	17° 48' 00"		
CITY				
CAT	Ry	2. 35° 36' 00"	17° 48' 10"	0° 00' 00"
U.S.E.D.				
PRESIDIO	6.	106° 49' 00"		
MARSTONS				
TOWER	1.	12° 43' 30"		
CITY				
TRAFFIC	Ry	2. 25° 27' 00"	12° 43' 30"	0° 00' 00"
U.S.E.D.				
PRESIDIO	6.	76° 21' 00"		

STA	OBJECT	ANGLES	MEAN	VERNIER
U.S.E.D.				
PRESIDIO	1.	62° 45' 30"		
CITY				
CAT	Ry	2. 125° 30' 00"	62° 45' 15"	0° 00' 00"
CITY				
TRAFFIC	6.	376° 31' 30"		



CONTROL POINTS NORTH LEVEE

INNERCREST AT EAST END &

CURVE DATA

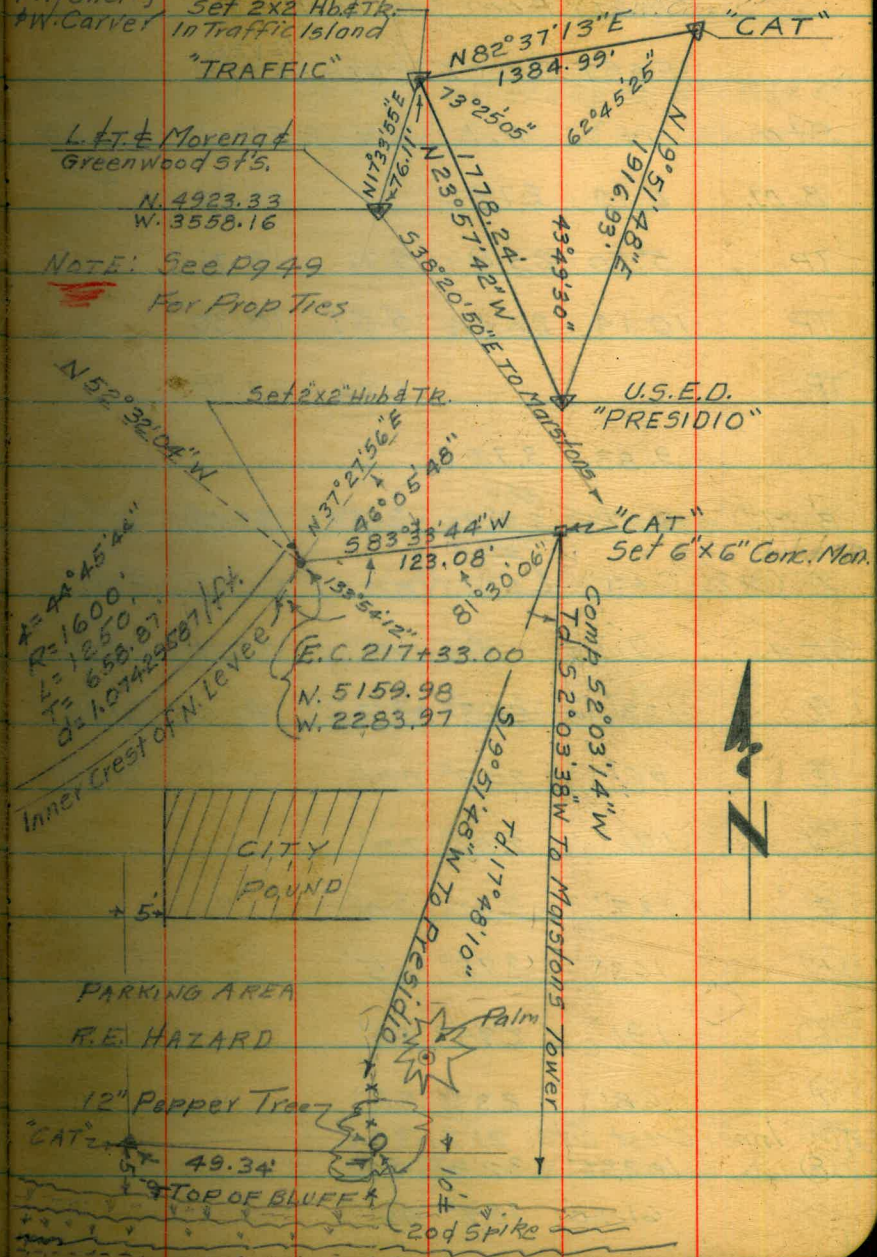
STA.	DEF. ANGLE	CHORD
E.C. 217+33.00	0° 00' 00"	0
217+00	✓ 0° 35' 27"	33.00
216+50	✓ 1° 29' 10"	50.00
216+00	✓ 2° 22' 53"	"
215+50	✓ 3° 16' 36"	"
215+00	✓ 4° 10' 19"	"
214+50	✓ 5° 04' 01"	"
214+00	✓ 5° 57' 44"	"
213+50	✓ 6° 51' 28"	"
213+00	✓ 7° 45' 10"	"
212+50	✓ 8° 38' 53"	"
212+00	✓ 9° 32' 36"	"
211+50	✓ 10° 26' 19"	"
211+00	✓ 11° 20' 02"	"
210+50	✓ 12° 13' 44"	"
210+00	✓ 13° 07' 28"	50.00

MT. Stamper Nov. 15, 1950

K.H. Brown
A. Cherry
W. Carver
Set 2"x2" Hub & Tr.
In Traffic Island
"TRAFFIC"

L.H. & Morena &
Greenwood St's.
N. 4923.33
W. 3558.16

NOTE: See P949
For Prop Ties



$\Delta = 44^\circ 45' 44''$
 $R = 1600'$
 $L = 18.50'$
 $T = 658.87'$
 $d = 1.07429587 / dx$

Inner Crest of N. Levee
 E.C. 217+33.00
 N. 5159.98
 W. 2283.97

PARKING AREA
R.E. HAZARD

12" Pepper Tree

"CAT" 49.34'

TOP OF BLUFF

20d Spike



BENCH LEVELS TO ESTABLISH

Nov. 17, 1950

T. Stamper
H. Brown
A. Sherry
W. Carver

THIRTY FOOT CONTOUR AT
EAST END OF NORTH ^{LEVEE} JETTY

6x6 Conc. Mon. City Engr. R.E. N^o 498 ON Wly Bdy. of
Morena St. & Nly. Bdy. of Linda Vista Road

Sta	+	H.I.	-	Elev.
B.M.	6.19	27.42		21.23
TP	5.10	23.81	8.71	18.71
TP	10.14	28.44	5.51	18.30
TP			1.26	27.18

9.83 37.01

B.M.	5.27	<u>39.70</u>	2.58	34.43
------	------	--------------	------	-------

4 "CAT" 15 06"x6" Conc Mon. Stamped "CAT"

⊗ @ Δ "CAT" Location of 30' Contour

Located Approx. 123' Ely. from E. End of N. Levee

Sta.	Dist	Azim	Rod Elev.	Inner Crest Top of Bluff Sly
①	123'	263° 33' 30"	9.60 30.1	Inner Crest Top of ^{Ground} 2"x2" Hub
②	96'	243° 00'	9.7 30.0	
③	101'	256° 20'	" "	
④	137'	266° 20'	" "	
⑤	163'	272° 05'	" "	
⑥	191'	279° 00'	" "	
⑦	68'	237° 45'	" "	

⊗ @ Inner Crest Sta. 217+33 E.C.

⑧	102.35	329° 04'		
	61.10'	189° 46'		

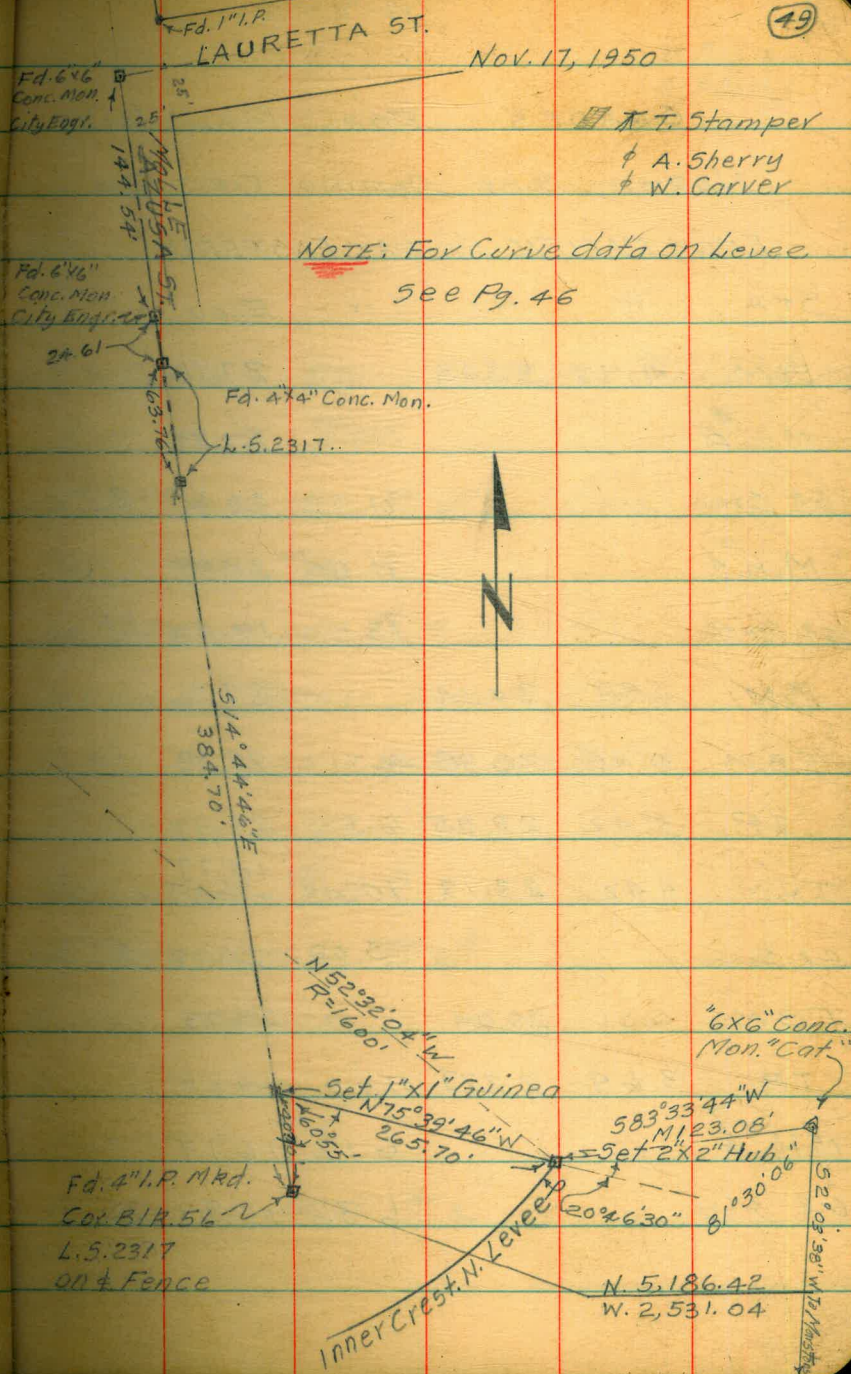
Cor Post N.W. R.E. Hazard Parking Area
" " S.W. " " " "

PROPERTY LINE TIES TO NORTH
LEVEE OF R.E. HAZARD PROPERTY

Nov. 17, 1950

T. Stamper
A. Sherry
W. Carver

NOTE: For Curve data on Levee
see Pg. 46



Fd. 4" I.P. Mk'd.
Col. B.I.R. 56
L.S. 2317
on Fence

A-3-51

(50)

H BROWN

A Sherry

GRADES FOR MAN HOLES

NORTH SIDE CAMINO DEL RIO

FROM PACIFIC HI-WAY EASTERLY

STA	+	H.I.	-	ELEV	
B.M.	4.77	32.53		27.76	USC & G.S. BRASS CAP & MON (MORENA & CAMINO DEL RIO)
M.H. #5			11.19	21.34	TOP M.H. #5
GR STAKE			11.73	20.80	25.00 10' OFF M.H. #5 (WEST)
M.H. #4			11.65	20.88	TOP M.H. #4
GR. STAKE			13.00	19.53	28.00 10' OFF M.H. #4 (EAST)
B.M.	6.88	34.64		27.76	USC & G.S. BRASS CAP & MON
T.B.M.	0.45	30.38	4.71	29.93	H. WAY MARKER NEAR M.H. #6
TP	5.42	29.25	6.55	23.83	
T.B.M.	4.42	23.19	10.48	$\frac{18.77}{.07}$	TOP M.H. #8
GR STAKE			3.09	20.10	27.00 6' WEST M.H. #8
T.B.M.	0.01	22.94		22.93	H. WAY MARKER
TP	3.69	22.29	11.29	18.65	
M.H. #6			6.12	16.17	TOP M.H. #6
GR. STAKE			6.36	15.93	25.00 8' WEST M.H. #6
				F. 11.07	

MAN HOLE GRADES CONT'D

STA + HI - ELEV

B.M. 2.49 22.24 19.75

(CHESTNUT & ROSECRANS)

TOP S.E. COR INLET S. EDGE CAMINO

GR. STAKE 8.52 13.72 20.00

2x2 10' SOUTH NEW LOCATION M.H. #3

TP 3.80 18.40 7.64 14.60

M.H. #2 3.67 14.73

TOP M.H. #2

GR STAKE 5.30 13.10 27.15

2x2 10' SOUTH M.H. #2

TP 4.23 14.17

T.B.M. 15.93

TOP Grade Stake 8' W. M.H. #7

11.78 27.71 GRADE FILL

12.91 14.80 25.00

25.0
14.8

10.2

27.71
5.24

22.47 25.0
 22.5

 2.5

ORIGINAL CROSS SECTIONS
OF NORTH APPROACH TO
MORENA BLVD BRIDGE PROJ # C 22057

Sta. 7+00

Sta	+	H.I.	-	Elev.	Pk.
B.M.				21.23	
	7.41	28.64			
0			5.33	23.31	
W 10			5.65	22.99	
W 17			5.8	22.8	
W 23			9.8	19.8	
W 39			12.5	16.1	
W 60			11.6	17.0	
W 83			12.0	16.6	

(52)

6-13-51 T. Stamper

φ A. Sherry

φ R. Shorey

6" x 6" Conc. Mon. Wly Bdy Morena & Nly Bdy L. Vista

φ Morena Blvd

W.E " "

Top Shldr

Top

CROSS SECTIONS CONTD

6-13-51

(53)

Sta 7+25

Sta	H.I	Elev.
	28.64	
0	5.34	23.30
W10	5.67	22.97
W18	6.2	22.4
W24	9.5	19.1
W41	11.8	16.8
W60	12.0	16.6
W85	12.0	16.6

P.X.

± Morena

W.E "

Sta 7+50

0	5.32	23.32
W10	5.70	22.94
W18	6.3	22.3
W27	6.1	22.5
W34	10.1	18.5
W45	12.1	16.5
W60	12.0	16.6
W85	12.0	16.6

± Morena

W.Edge "

CROSS SECTIONS CONTD

6-13-51

(54)

Sta 7+75

Sta	H.I	Elev	
	28.64		P.I.
0	5.31	23.33	± Morena
W10	5.62	23.02	W. Edge "
W18	6.0	22.6	
W40	5.1	23.5	
W48	6.1	22.5	
W60	11.9	16.7	
W85	12.0	16.6	

Sta 8+00

0	5.28	23.36	± Morena
W10	5.64	23.00	W. Edge "
W60	5.9	23.2	
W75	12.2	16.4	Toe
W100	12.0	16.6	
W			

CROSS SECTIONS CONTD

6-13-51

(55)

Sta 8+25

Sta	+ H.I	- Elev
	28.64	Px
0	5.27	23.37
W10	5.56	23.08
W14	5.3	23.3
W33	5.6	23.0
W46	4.8	23.8
W62	5.2	23.4
W75	12.1	16.5
W100	12.1	16.5

Sec on Top Break
Sta 8+50

0	5.28	23.36
W10	5.55	23.09
W15	5.73	22.91
W18	5.4	23.2
W22	7.7	20.9
W47	7.6	21.0
W60	7.6	21.0
W68	12.1	16.5
W100	12.1	16.5

± Top M.H. Top

CROSS SECTIONS CONTD P.Y

6-13-51

(56)

Sta 8+60 Toe Sec.

STA	+	H.1	-	Elev.
		28.64		
0		5.30		23.34
W10		5.61		23.03
W15		5.3		23.3
W32		11.2		17.4
W60		12.3		16.3
W85		12.2		16.4

Sta 8+75

0		5.31		23.33
W12		5.76		22.88
W16		5.4		23.2
W38		11.9		16.7
W60		12.3		16.3
W85		12.2		16.4

CROSS SECTIONS CONTD

6-13-51

(57)

5 Sta 9+00

Sta + H.V. - Elev

28.64

PX

0 5.42 23.22

Pt on Rd

W6 5.73 22.91

W E "

W9 5.4 23.2

W19 9.7 18.9

W33 11.6 19.0

W50 12.2 16.4

W75 12.0 16.6

Sta 9+25

0 5.2 23.4

PX

Top Wash/dk

W7 9.2 19.4

W24 11.4 17.2

W50 12.0 16.6

W75 12.0 16.6

CROSS SECTIONS CONTD Px

6-13-51

(58)

Sta 9+50

Sta	+ H.I	- Elev		
	28.64			
E 10	5.1	23.5	Px	Top Shldr
0	9.7	18.9		Toe
W 10	11.2	17.4		
W 50	11.9	16.7		
W 60	11.9	16.7		
W 75	11.5	17.1		

Sta 9+75

E 19	5.2	23.4		Top Shldr
E 10	9.1	19.5		
0	10.8	17.8		Toe
W 50	12.2	16.4		
W 80	11.5	17.1		

CROSS SECTIONS CONTD

6-13-51

(59)

Sta 10+00

P

Sta 4. H.I. - Elev

28.64

E 29 5.5 23.1

Top Shldr

E 17 9.4 19.2

0 11.0 17.6

W 6 12.2 16.4

W 50 11.2 16.4

W 75 11.7 16.9

Sta 10+25

E 40 5.4 23.2

Top Shldr

E 30 9.0 19.6

0 11.6 17.0

W 10 12.2 16.4

W 29 11.6 17.0

W 50 11.6 17.0

W 75 11.7 16.9

CROSS SECTIONS CONTD

6-13-51

(60)

Sta. 10+50

Sta. + H.I. - Elev. P.Y.

28.64

E50 5.5 23.1

Top shldr.

E40 9.2 19.4

E10 10.5 18.1

0 11.2 17.4

W16 12.2 16.4

W43 11.6 17.0

W50 11.8 16.8

W75 11.3 17.3

Sta 10+75

E61 5.3 23.3

Top Shldr

E47 9.5 19.1

E25 10.7 17.9

0 11.1 17.5

W26 11.6 17.0

W60 11.7 16.9

W75 11.6 17.0

T.P. 11.06 17.58^v

CROSS SECTIONS CONT'D

6-13-51

(61)

Sta. 11+00

Sta	+	H. 1	-	Elev	Px
TP	11.07	28.65 ^v		17.58	
E 73			5.1	23.5	
E 65			9.2	19.4	
E 50			9.7	18.9	
E 36			10.8	17.8	
0			11.4	17.2	
W 28			10.2	18.4	
W 50			11.5	17.1	
W 80			10.9	17.7	

Sta 11+25

E 30					W. Edge Bl'dg
E 79			5.1	23.5	Top Shldr
E 69			9.5	19.1	Top Shldr
E 46			10.0	18.6	
E 39			10.9	17.7	
E 19			11.2	17.4	
0			11.0	17.6	
W 18			11.2	17.4	
W 50			10.9	17.7	
W 75			11.2	17.4	

CROSS SECTIONS CONTD

6-13-51

(62)

Sta. 11+50

Sta	+	H.I	-	Elev	Px
		28.65			
E 66			5.3	23.3	
E 74			9.6	19.0	
E 50			10.8	17.8	
0			10.7	17.9	
W 50			11.6	17.0	
W 80			11.5	17.1	

Sta 11+75

E 95			5.3	23.3	
E 84			9.6	19.0	
E 50			10.6	18.0	
TBM.			10.20	18.45 ^v	
	10.10	28.55 ^v			
0			10.6	17.9	
W 50			11.4	17.1	
W 75			11.6	16.9	

Top 5h/12

Top Conc. Pad @ office Bldg.

CROSS SECTIONS CONTD

6-14-51

63

Sta. 12+00

Sta	+	H.1	-	Elev.	FX
TBM	8.70	27.15		18.45	Top Conc. Pad S. End Conty' Office Bldg
E 104			4.0	23.1	Top Shldr
E 95			7.8	19.3	Top
E 55			9.2	17.9	
0			9.4	17.7	
W 53			9.9	17.2	
W 89			10.2	16.9	
W 115			10.2	16.9	

Sta 12+25

E 112			4.1	23.0	Top Shldr
E 102			7.6	19.5	Top
E 75			9.1	18.0	
E 21			9.5	17.6	
0			9.6	17.5	
W 45			9.5	17.6	
W 92			10.5	16.6	
W 115			10.0	17.1	

CROSS SECTIONS CONTO.

6-14-51

(64)

Sta. 12+50

Sta. + H.I. - Elev. PY

27.15

E 121	4.0	23.1
E 113	7.4	19.7
E 84	8.9	18.2
E 34	9.3	17.8
0	9.8	17.3
W 20	9.7	17.4
W 45	9.3	17.8
W 70	9.9	17.2
W 125	9.9	17.2

Top Shldr

Toe

E Edge Conc. Slab for Precast Conc Piles

W " " " " " "

Sta. 12+75

0	10.0	17.1
E 134	4.0	23.1
E 127	7.0	20.1
E 105	8.4	18.7
E 55	9.1	18.0
0	10.0	17.1
W 20	9.9	17.2
W 120	9.9	17.2

W. Edge Conc. Ftg for Precast Piles

E Edge of W. Ftg.

CROSS SECTIONS CONTD

6-14-51

(65)

Sta. 13+00

Sta. + H.I. - Elev. DI

27.15

E141		4.0	23.1	Top Shldy
E135		6.9	20.2	
E102		8.7	18.4	
E50		9.0	18.1	
0		9.6	17.5	
W80		10.2	16.9	
W132		10.7	16.4	

Sta 13+25

E149		4.0	23.1	
E135		6.8	20.3	
E105		8.4	18.7	
E55		9.3	17.8	
0		9.8	17.3	
W66		10.3	16.8	
W137		11.4	15.7	

CROSS SECTIONS CONTD

6-14-51

(66)

Sta. 13+50

Sta.	+	H.I.	-	Elev.	P.V.
		27.15			
E 160			4.1	23.0	Top SHAY
E 135			5.6	21.5	Toe
E 96			8.5	18.6	
E 42			10.0	16.1	
0			10.5	16.6	
W 33			11.0	16.1	
W 69			10.9	16.2	
W 86			10.6	16.5	
W 110			11.6	15.5	
W 157			12.2	14.9	
TP.			10.92	16.23	
	8.42	24.65			

CROSS SECTIONS CONTD

6-14-51

(67)

Sta. 13+75

Sta	+	H.1	-	Elev	
		24.65			P.1
E167			1.9	22.7	TOP Shldr
E154			7.9	16.7	Toe
E72			8.7	15.9	
E63			9.5	15.1	
E31			9.1	15.5	
0			9.5	14.6	
W35			9.7	14.9	
W40			8.4	16.2	
W85			8.0	16.6	
W100			9.5	15.1	
W107			11.1	13.5	
W142			10.0	14.6	

CROSS SECTIONS CONTD

6-14-51

(68)

Sta. 14+00

Sta	+ Hill	- Elev	Px
	24.65		
E 174	2.0	22.6	Top Sbldr
E 148	11.6	13.0	
E 110	11.9	12.7	
E 74	11.6	13.0	
E 44	10.5	14.1	
E 31	11.5	13.1	
E 12	11.8	12.8	
0	12.0	12.6	
W 26	11.3	13.3	
W 43	11.5	13.1	
W 96	11.6	13.0	
W 123	11.2	13.4	
W 133	11.2	13.4	
W 158	12.6	12.0	

CROSS SECTIONS CONTD

6-14-51

(69)

Sta 14+25

Sta → H.I. - Elev. PX

24.65

Top Shldr


E185	2.1	22.5	
E159	14.5	10.1	
E128	13.5	11.1	
E88	12.6	12.0	
E77	10.9	13.7	
E39	11.1	13.5	
E30	11.7	12.9	
0	11.6	13.0	
W20	11.7	12.9	
W41	11.3	13.3	
W80	11.6	13.0	
W120	11.3	13.3	
W146	11.5	13.1	
W160	11.6	13.0	
B.M.	3.43	21.22	21.23 6x6" Conc Mon See Pg. 50

CROSS SECTIONS CONTD

6-19-51

(70)

Sta. 6+75


 T. Stampel
 A. Sherry
 R. Shorey

Sta	+	H.L.	-	Elev.
B.M.				23.28
	4.67	27.95		

PX

L&T. P.I. Morena & Greenwood North

0		4.63	23.32
W8		4.82	23.13
W18		5.1	22.8
W23		9.1	18.8
W44		11.4	16.5
W58		10.9	17.0
W93		11.4	16.5

f. Morena

W. Edge Paving

Top Shldr

Sta. 6+50

0		4.58	23.37
W8		4.76	23.19
W16		5.0	22.9
W22		8.6	19.3
W43		12.0	15.9
W63		11.7	16.2
W95		11.6	16.3

f. Morena

W. Edge

CROSS SECTIONS CONTD

6-19-51

(71)

Sta 6+25

Sta + H.I. - Elev

27.95

PX

0	4.5'	23.44
W8	4.73	23.22
W15	5.0	22.9
W24	8.7	21.2
W44	12.3	15.6
W62	12.1	15.8
W100	11.6	16.3

E. Morena

W.E. Paving

Top Shldr

Sta 6+00

0	4.44	23.51
W8	4.68	23.27
W13	4.9	23.0
W21	8.9	19.0
W42	12.4	15.5
W76	12.1	15.8
W110	11.6	16.3

E. Morena

W.E. Paving

Top Shldr

CROSS SECTIONS CONTD

6-19-51

(72)

Sta 5+75

Sta + H.1 - Elev

27.95

PX

0 4.39 23.56

4 Morena

W8 4.63 23.32

W.E. Pav.

W15 4.9 23.0

TOP Shld

W22 8.9 19.0

W37 12.1 15.8

W80 11.8 16.1

W Sta 5+50

0 4.39 23.56

4 Morena

W8 4.58 23.37

W.E. Pav

W16 5.2 22.7

W20 8.9 19.0

W36 12.2 15.7

W84 11.5 16.4

CROSS SECTIONS CONT'D

6-19-51

(73)

Sta 5+25

Sta	+ H.I	- Elev.	PX
	27.95		
0	4.32	23.63	± Moreng
WB	4.60	23.35	W.E. Paving
W17	5.0	22.1	TOP Shldr
W22	8.6	19.3	
W34	11.8	16.1	
W65	11.7	16.2	

Sta 5+00

0	4.27	23.68	± Moreng
WB	4.60	23.35	W.E. Pav
W18	4.93	23.0	
W47	8.0	19.9	± Sherman St.
W96	9.1	18.8	
T.P.	5.87	22.08	
	7.14	29.22	

CROSS SECTIONS CONTD

6-19-51

(74)

Sta 4+75

Sta + H.I - Elev PA

29.22

0	5.57	23.65	± Marena
W8	5.81	23.41	W.E. Paving
W32	7.9	21.3	
W71	9.5	19.7	
W83	12.8	16.4	

Sta. 4+50

0	5.58	23.64	± Marena
W8	5.80	23.42	W.E. Paving
W16	6.7	22.5	
²⁵ W52	10.8	18.4	
W35	10.1	19.1	
W59	10.4	18.8	
W77	13.9	15.3	

CROSS SECTIONS CONTD

6-19-51

(75)

Sta 4+25

Sta	+	H.I	-	Elev	PX
		29.22			
0		5.54		23.68	± Morena
WB		5.74		23.48	W.E. Paving
W16		6.4		22.8	
W23		11.0		18.2	
W39		11.7		17.5	
W56		12.1		17.1	
W66		13.4		15.8	
W83		13.3		15.9	

Sta 4+00

0		5.46		23.76	± Morena
WB		5.70		23.52	W.E. Paving
W16		6.4		22.8	
W22		10.3		18.9	
W42		12.4		16.8	
W63		13.6		15.6	
W88		13.6		15.6	

(76)

6-19-51

CROSS SECTIONS CONTD

Sta 3+75

Sta	+	H.I.	-	Elev	
		29.22			P1
0		5.41		23.81	W.E. Pav.
WB		5.59		23.63	W.E. Pav.
W 18		6.4		22.8	
W 26		11.0		18.2	
W 44		12.3		16.9	
W 69		13.8		15.4	
W 91		14.1		15.1	

Sta 3+50

0		5.29		23.93	W.E. Pav.
WB		5.46		23.76	W.E. Pav.
W 19		5.8		23.4	
W 27		10.8		18.4	
W 42		12.1		17.1	
W 66		13.9		15.3	
W 77		14.0		15.2	

Contd in FB #56, Pg 48

Drop Inlet 19.75

26+56 36

NEW M.H. #3 TOP EL. 28.00

" #2 27.15

#1 26.75

28

13.72

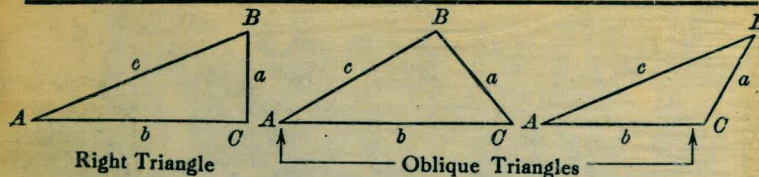
14.28

PJT

N. 36° 07' 52" E

15 96
 16 354
 78.76
 53.66
 5.7
 3 50' E
 19.74
 5.57
 25 32
 73-25-30
 35 8
 4 168
 470
 10398
 11211
 12267
 13103
 14262
 15464
 16692
 17874
 19272
 200166
 12.4
 1
 5.40
 5.7
 28
 19.53
 8.47
 360
 80
 25 00
 2) 39
 3.66
 25 33
 15 33
 9.07
 35+50.66
 36° 07' 52" E

TRIGONOMETRIC FORMULÆ



Solution of Right Triangles

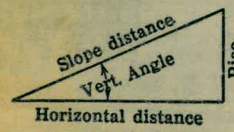
For Angle A. $\sin = \frac{a}{c}$, $\cos = \frac{b}{c}$, $\tan = \frac{a}{b}$, $\cot = \frac{b}{a}$, $\sec = \frac{c}{a}$, $\text{cosec} = \frac{c}{b}$

Given	Required	Formula
a, b	A, B, c	$\tan A = \frac{a}{b} = \cot B$, $c = \sqrt{a^2 + b^2} = a \sqrt{1 + \frac{b^2}{a^2}}$
a, c	A, B, b	$\sin A = \frac{a}{c} = \cos B$, $b = \sqrt{(c+a)(c-a)} = c \sqrt{1 - \frac{a^2}{c^2}}$
A, a	B, b, c	$B = 90^\circ - A$, $b = a \cot A$, $c = \frac{a}{\sin A}$
A, b	B, a, c	$B = 90^\circ - A$, $a = b \tan A$, $c = \frac{b}{\cos A}$
A, c	B, a, b	$B = 90^\circ - A$, $a = c \sin A$, $b = c \cos A$

Solution of Oblique Triangles

Given	Required	Formula
A, B, a	b, c, C	$b = \frac{a \sin B}{\sin A}$, $C = 180^\circ - (A + B)$, $c = \frac{a \sin C}{\sin A}$
A, a, b	B, c, C	$\sin B = \frac{b \sin A}{a}$, $C = 180^\circ - (A + B)$, $c = \frac{a \sin C}{\sin A}$
a, b, C	A, B, c	$A + B = 180^\circ - C$, $\tan \frac{1}{2}(A - B) = \frac{(a - b) \tan \frac{1}{2}(A + B)}{a + b}$ $c = \frac{a \sin C}{\sin A}$
a, b, c	A, B, C	$s = \frac{a + b + c}{2}$, $\sin \frac{1}{2}A = \sqrt{\frac{(s - b)(s - c)}{bc}}$ $\sin \frac{1}{2}B = \sqrt{\frac{(s - a)(s - c)}{ac}}$, $C = 180^\circ - (A + B)$
a, b, c	Area	$s = \frac{a + b + c}{2}$, $\text{area} = \sqrt{s(s - a)(s - b)(s - c)}$
A, b, c	Area	$\text{area} = \frac{bc \sin A}{2}$
A, B, C, a	Area	$\text{area} = \frac{a^2 \sin B \sin C}{2 \sin A}$

REDUCTION TO HORIZONTAL



Horizontal distance = Slope distance multiplied by the cosine of the vertical angle. Thus: slope distance = 319.4 ft. Vert. angle = 5° 10'. From Table, Page IX. $\cos 5^\circ 10' = .9959$. Horizontal distance = $319.4 \times .9959 = 318.09$ ft. Horizontal distance also = Slope distance minus slope distance times (1 - cosine of vertical angle). With the same figures as in the preceding example, the following result is obtained. $\cos 5^\circ 10' = .9959$. $1 - .9959 = .0041$. $319.4 \times .0041 = 1.31$. $319.4 - 1.31 = 318.09$ ft.

When the rise is known, the horizontal distance is approximately:—the slope distance less the square of the rise divided by twice the slope distance. Thus: rise = 14 ft., slope distance = 302.6 ft. Horizontal distance = $302.6 - \frac{14 \times 14}{2 \times 302.6} = 302.6 - 0.32 = 302.28$ ft.