STATE OF CALIFORNIA

DEPARTMENT OF PUBLIC WORKS

DIVISION OF HIGHWAYS

COUNTY OF RIVERSIDE

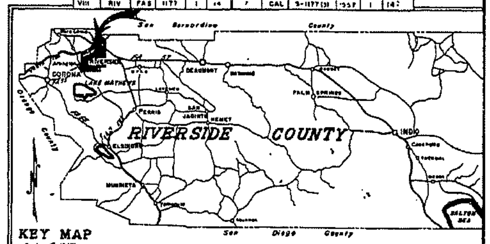
PLAN AND PROFILE

FEDERAL AID SECONDARY PROJECT

No. S–1177(3)

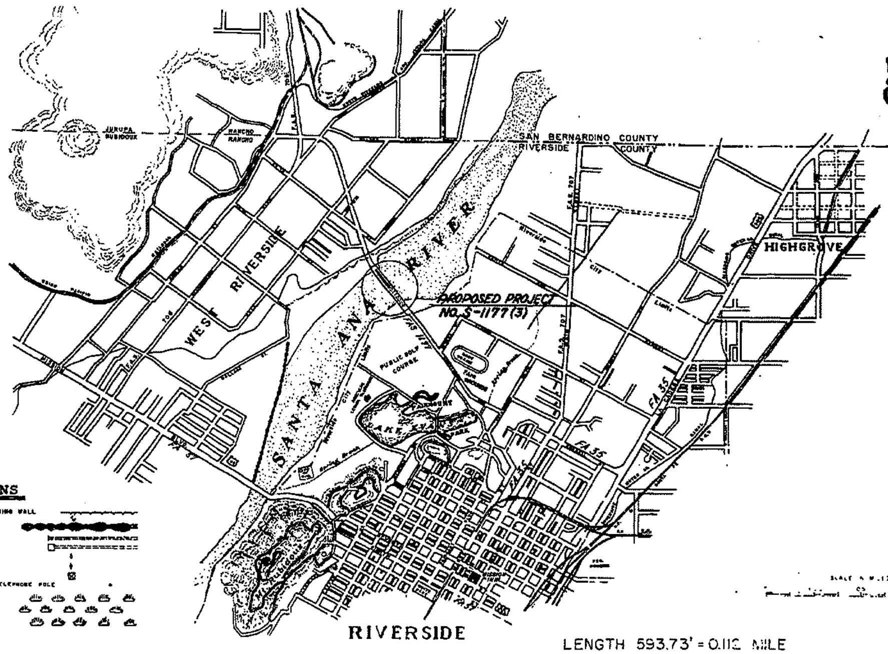
BRIDGE ON CRESTMORE ROAD AT SANTA ANA RIVER

DIST	COUNTY	ROUTE	SEC.	[illegible]	[illegible]	[illegible]	STATE	PROJECT No.	[illegible]	[illegible]	[illegible]
VIII	RIV	FAS	1177	1	14	[illegible]	CAL	S-1177(3)	1957	1	14



KEY MAP

INDEX



COUNTY OF RIVERSIDE

G. C. Keith
COUNTY SURVEYOR & ROAD COMMISSIONER
CIVIL ENGINEER LICENSE NUMBER 4366

APPROVED BY THE BOARD OF SUPERVISORS
June 12, 1956
BY [signature]
CHAIRMAN

APPROVED *June 13*, 1956

[signature]
CHIEF ENGINEER, RIVERSIDE COUNTY FLOOD CONTROL & WATER CONSERVATION DISTRICT

STATE OF CALIFORNIA

[signature]
DISTRICT ENGINEER, DISTRICT VIII

APPROVED SEPTEMBER 17, 1956

G. T. McCoy
STATE HIGHWAY ENGINEER

BY *[signature]*

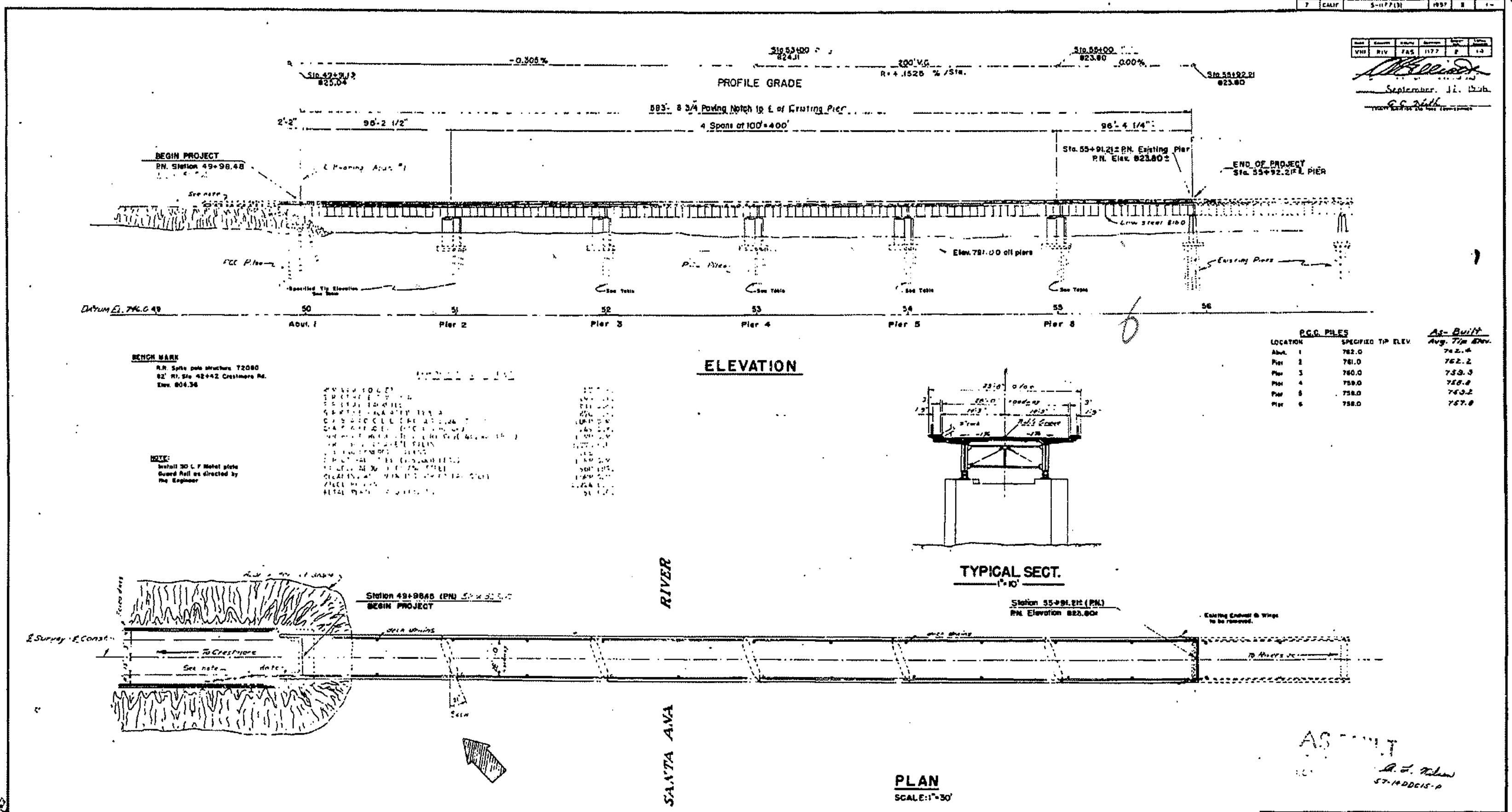
CONVENTIONAL SIGNS

COUNTY LINE	BANK OR RETAINING WALL
CITY OR TOWN LIMITS	LEVEE
TOWNSHIP LINE	CULVERTS
SECTION LINE	DROP INLET
RANCH LINE	TROLLEY POLE
FENCE	POWER POLE
GUARD RAIL	POWER TOWER
UNFENCED PROPERTY	TELEGRAPH OR TELEPHONE POLE
RIGHT OF WAY LINE	MARSH
BASE OR SURVEY LINE	
TRAVELED WAY	
RAILROAD TRACKS	

LENGTH 593.73' = 0.112 MILE

No changes
[signature]
57-M DDC15-P
 # 56 . 24

1



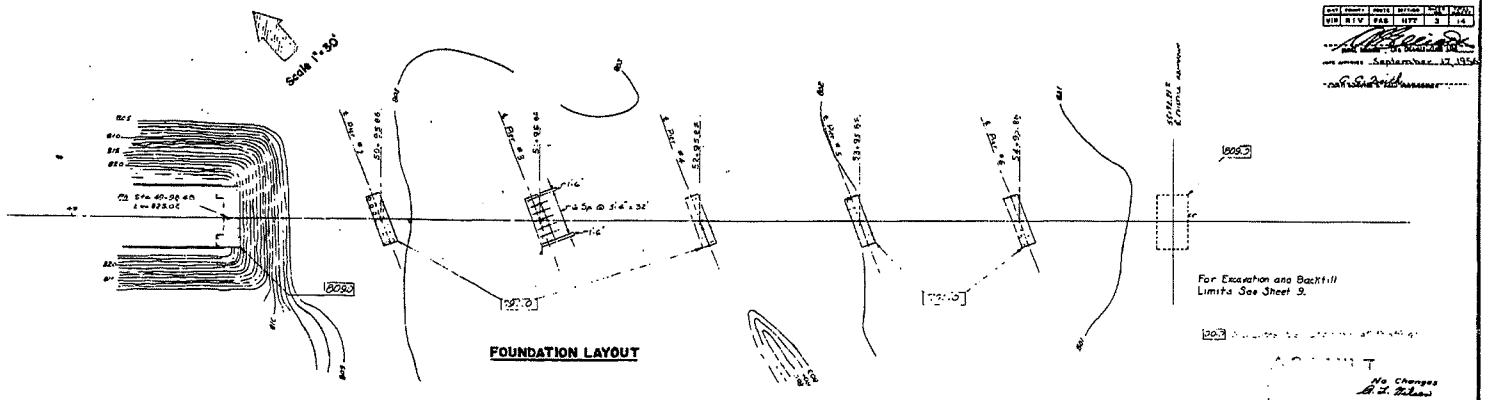
P.C.C. PILES LOCATION		SPECIFIED TIP ELEV.	As-Built Avg. Tip Elev.
Abut.	1	762.0	762.4
Pier	2	761.0	762.2
Pier	3	760.0	753.3
Pier	4	759.0	758.8
Pier	5	758.0	763.2
Pier	6	758.0	757.8

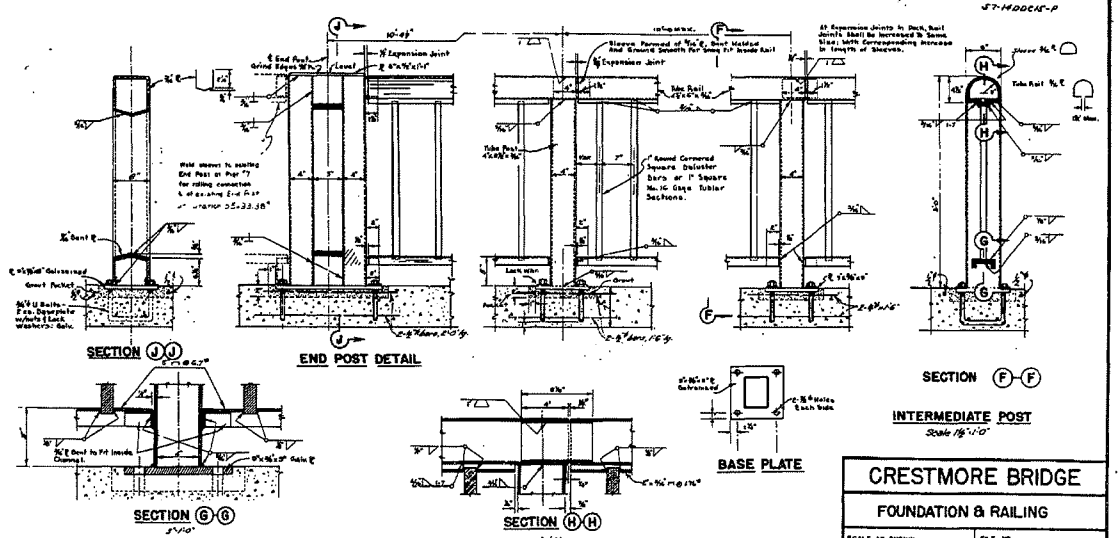
CRESTMORE BRIDGE

GENERAL PLAN

SCALE AS SHOWN | FILE NO

BRIDGE NO. 56C-24 | DRAWING NO





Note: Railing to be galvanized following fabrication; rail shall conform to rails. If anchor alignment. Exact location of railposts to be determined from the approved shop plans.

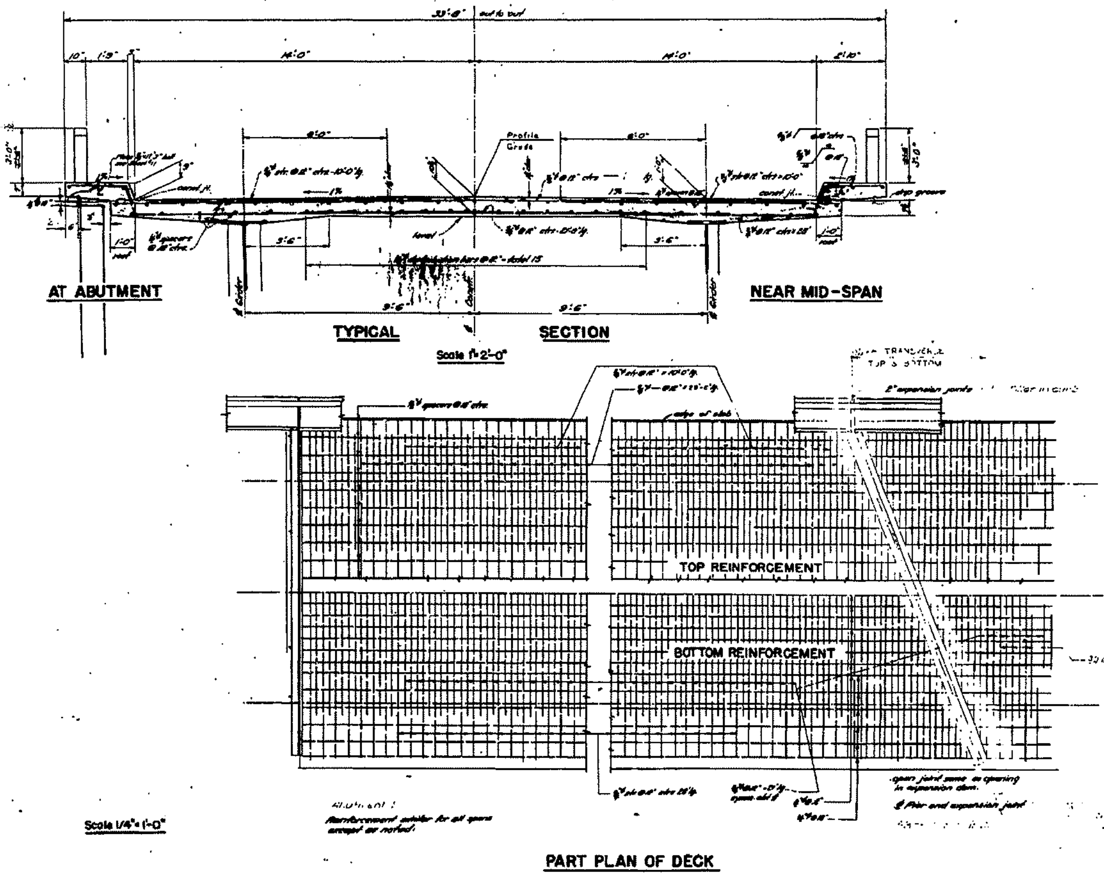
CRESTMORE BRIDGE

FOUNDATION & RAILING

SCALE AS SHOWN	FILE NO
BRIDGE NO 56C-24	DRAWING NO.

PREL. DRAWING NO. P.

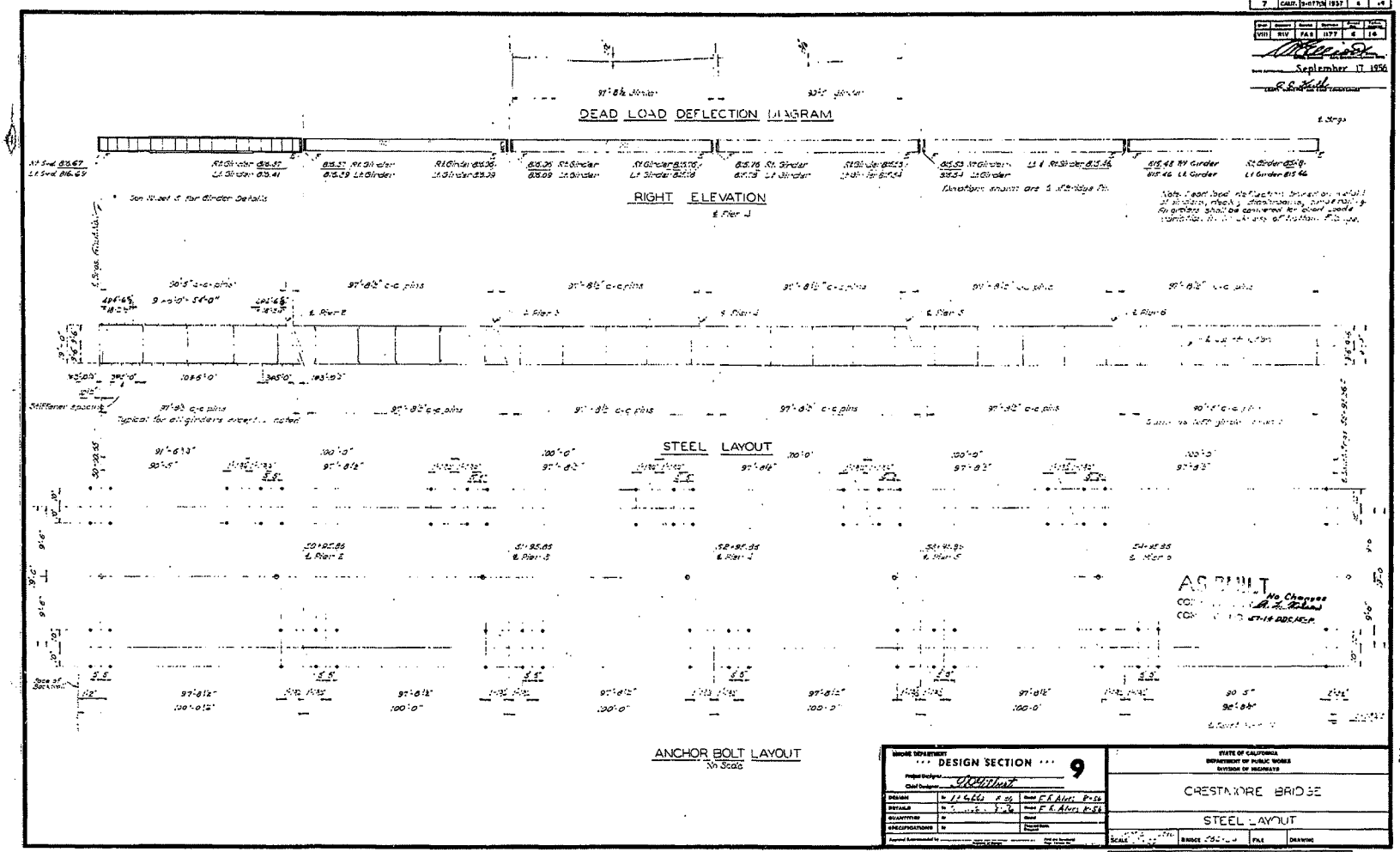
3

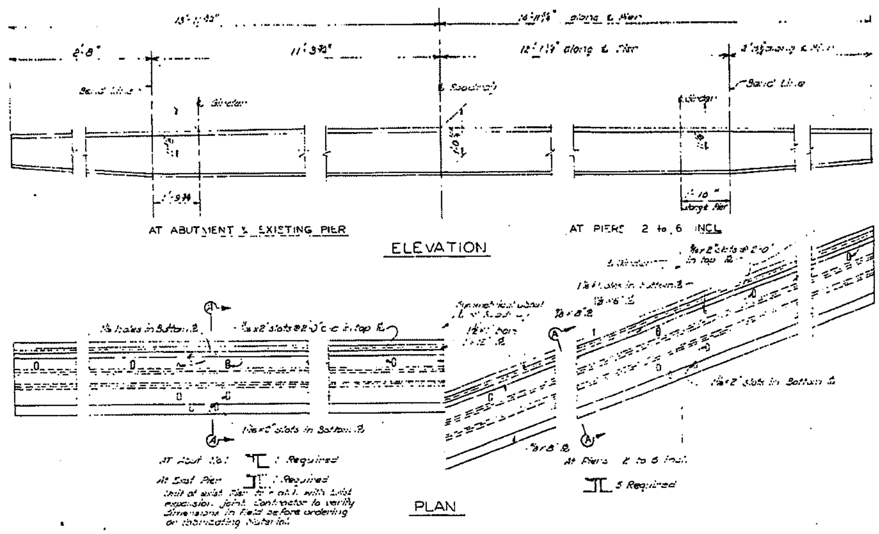


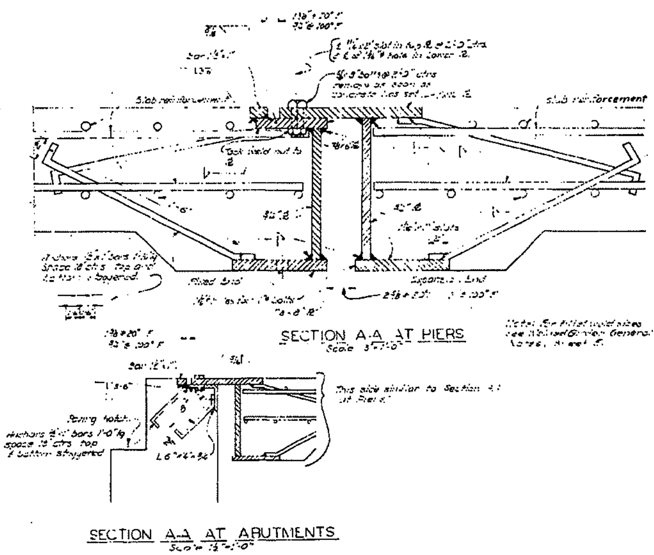
September 17, 1956

CRESTMORE BRIDGE	
DECK DETAIL	
SCALE AS SHOWN	FILE NO.
BRIDGE NO.	DRAWING NO.

PREL. DRAWING NO.


DEAD LOAD DEFLECTION DIAGRAM
RIGHT ELEVATION
STEEL LAYOUT
ANCHOR BOLT LAYOUT
AS BUILT
No Changes
September 17 1956
DESIGN SECTION 9
CRESTMORE BRIDGE
STEEL LAYOUT
PREL. DRAWING No. P-2718





GENERAL NOTES

SPECIFICATIONS:
DESIGN: A.A.S.H.O. DATED 1953 WITH SUBSEQUENT REVISIONS, AND BRIDGE DEPARTMENT SUPPLEMENT DATED 1953.

CONSTRUCTION: STANDARD SPECIFICATIONS, DIVISION OF HIGHWAYS, DATED AUGUST 1954 AND THE SPECIAL PROVISIONS.

LIVE LOADING: H20-S16-44

UNIT STRESSES:
REINFORCED CONCRETE: f_s= 20,000 P.S.I., N = 10
f_c= 1,200 P.S.I., (EXCEPT AS NOTED)
f_c= 1,000 P.S.I., (ROADWAY SLAB ON GIRDERS)

STRUCTURAL STEEL: f_s = 18,000 P.S.I.

PILE LOADING: 45 TONS TYPE: CONCRETE

REINFORCEMENT: EMBEDMENT IS CLEAR TO OUTSIDE OF BAR AND IS 2" TO MAIN REINFORCEMENT, EXCEPT AS NOTED. BACKING FOR HOOKS IS FOUR DIAMETERS, EXCEPT AS NOTED.
WHERE REINFORCING BARS ARE SPLICED THEY SHALL HAVE A 20 DIAMETER LAP UNLESS OTHERWISE CALLED FOR ON THE PLANS.
CONTRACTOR SHALL VERIFY ALL DEPENDENT DIMENSIONS BEFORE ORDERING OR FABRICATING MATERIAL.

September 17, 1956

AS BUILT
CORRECTIONS BY
CONTRACT NO.

BRIDGE DEPARTMENT
*** DESIGN SECTION *** 9

DESIGN		F. K. Alves 8-56
DETAILS		F. K. Alves 8-56
QUANTITIES		
SPECIFICATIONS		

STATE OF CALIFORNIA
DEPARTMENT OF PUBLIC WORKS
DIVISION OF HIGHWAYS

CRESTMORE BRIDGE

EXPANSION JOINT DETAILS

SCALE As Noted | BRIDGE | FILE | DRAWING

PREL. DRAWING No. P-2718

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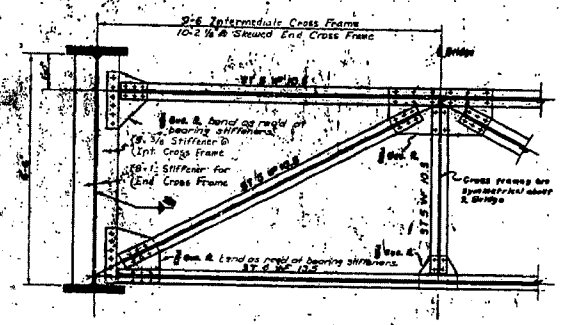
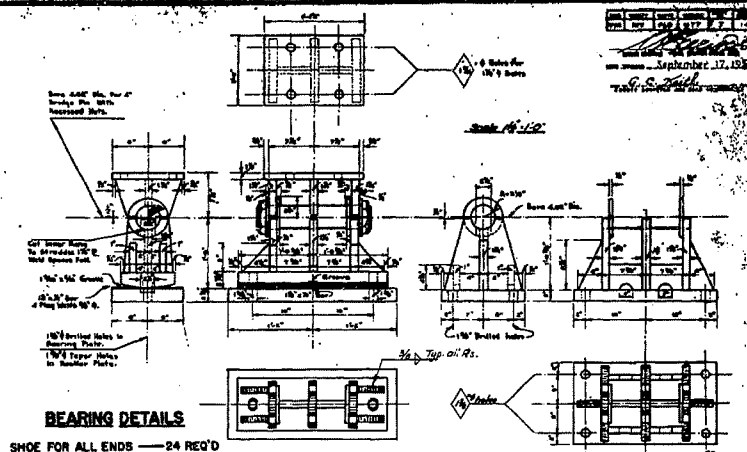


SCALE 4"=1'-0" CROSS FRAME

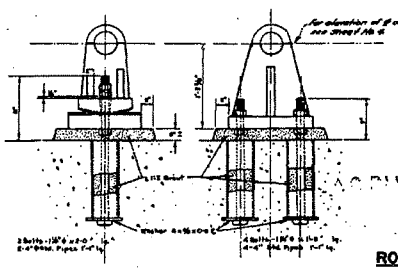
High strength bolts may be substituted for rivets.



BEARING DETAILS

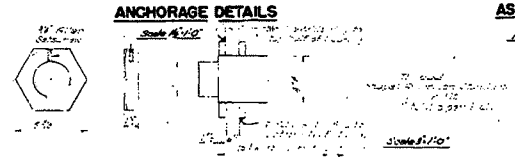
SHOE FOR ALL ENDS — 24 REQ'D
FIXED END PEDESTAL — 12 REQ'D
ROCKER B.R FOR EXPANSION ENDS — 12 REQ'D
BRIDGE PINS — 24 REQ'D

Weldments shall be stress-relieved by heat treating before machining.



ANCHORAGE DETAILS

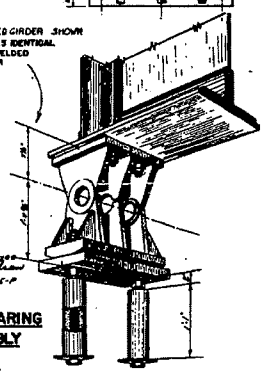
Scale 1½"=1'-0"



BRIDGE PIN DETAIL

Scale 6"=1'-0"

RIVETED GIRDER SHOWN DETAILS IDENTICAL FOR WELDED GIRDER



ROCKER BEARING ASSEMBLY

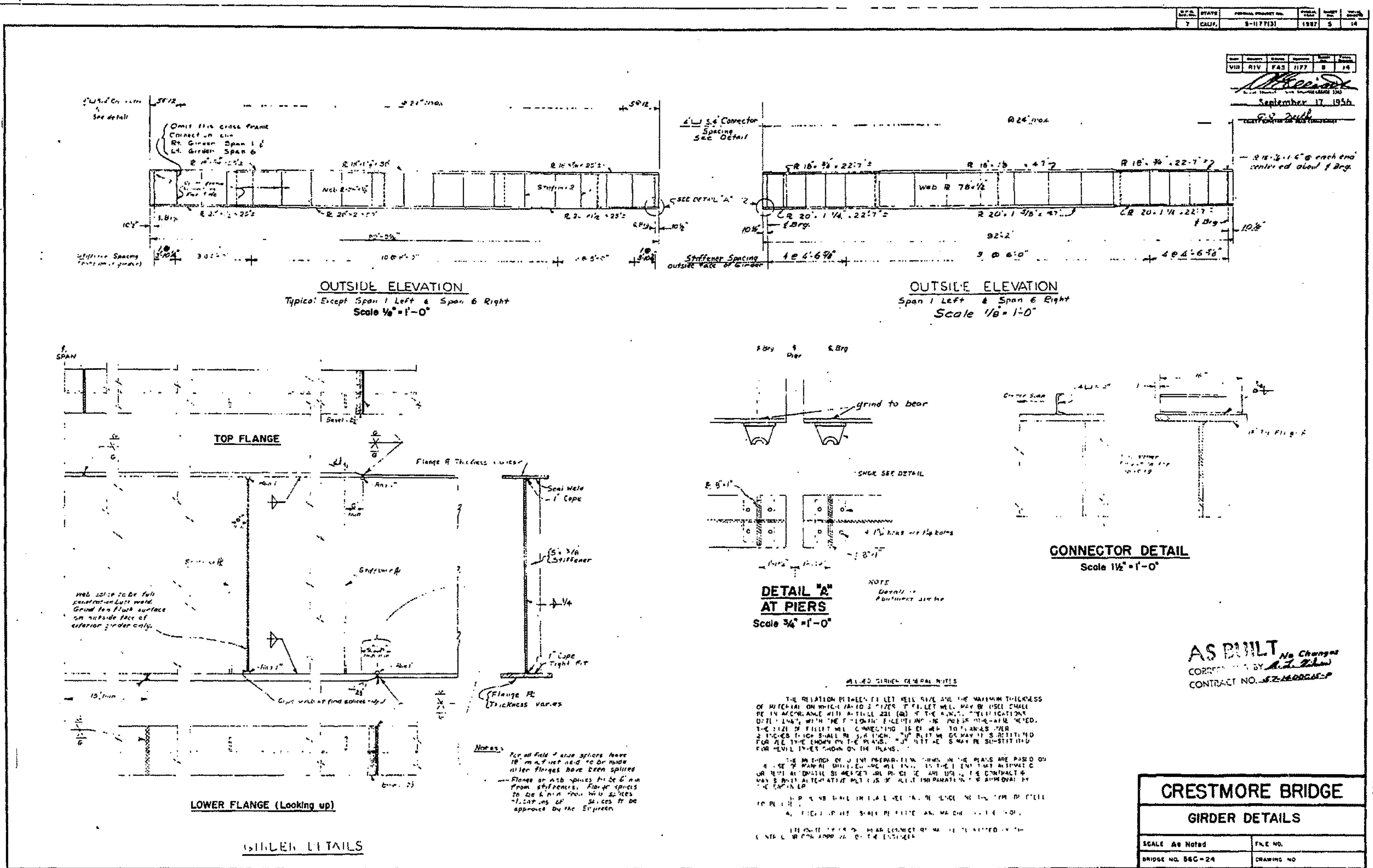
no scale

CRESTMORE BRIDGE

STEEL DETAILS

SCALE AS SHOWN	FILE NO.
BRIDGE NO. 86C-24	DRAWING

PREL. DRAWING NO. P- 25 57



September 17, 1956
OUTSIDE ELEVATION
Typical: Except Span 1 Left & Span 6 Right
Scale 1/8"=1'-0"
OUTSIDE ELEVATION
Span 1 Left & Span 6 Right
Scale 1/8"=1'-0"
Stiffener Spacing
TOP FLANGE
LOWER FLANGE (Looking up)
GIRDER DETAILS
grind to bear
DETAIL "A"
AT PIERS
Scale 3/4"=1'-0"
CONNECTOR DETAIL
Scale 1½"=1'-0"
AS BUILT
No Changes
CONTRACT NO.
CRESTMORE BRIDGE
GIRDER DETAILS
SCALE As Noted
BRIDGE NO. 56C-24

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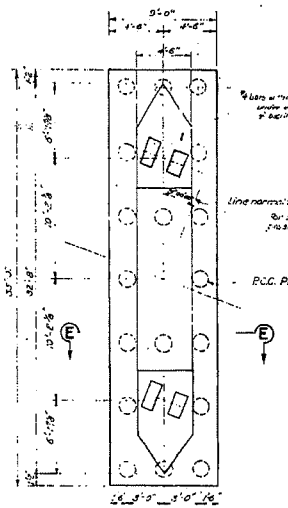
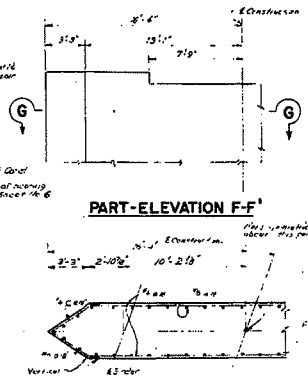
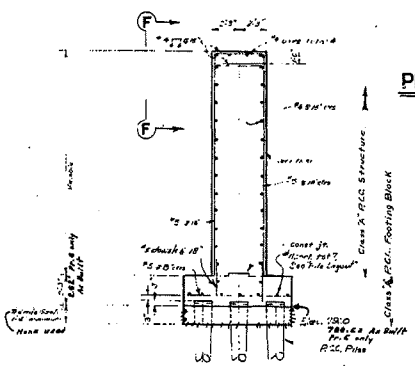


PLAN



PART-ELEVATION F-F'

SECTION G-G

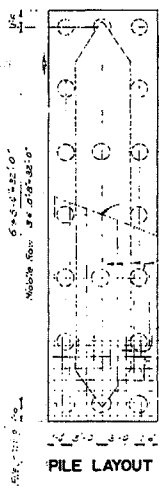


SECTION E-E

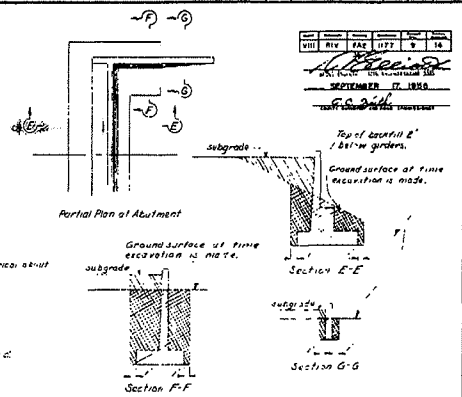
PIER DETAILS

NOTE: Seal course to be placed only when ordered by the Engineer. Seal thickness shown is for a sloping pervious area. The thickness to be used will be determined in the field by the Engineer. Where seal is not used, the bottom of the reinforced footing shall be placed at the elevation shown for bottom of seal.

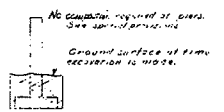
No Seal Course Used



PILE LAYOUT



AT ABUTMENT 1



AT PIERS

AS BUILT

Structure Excavation

Structure Backfill

Legend

LIMITS OF PAYMENT FOR STRUCTURE EXCAVATION AND STRUCTURE BACKFILL

VIII	Riv	PAE	1177	9	16

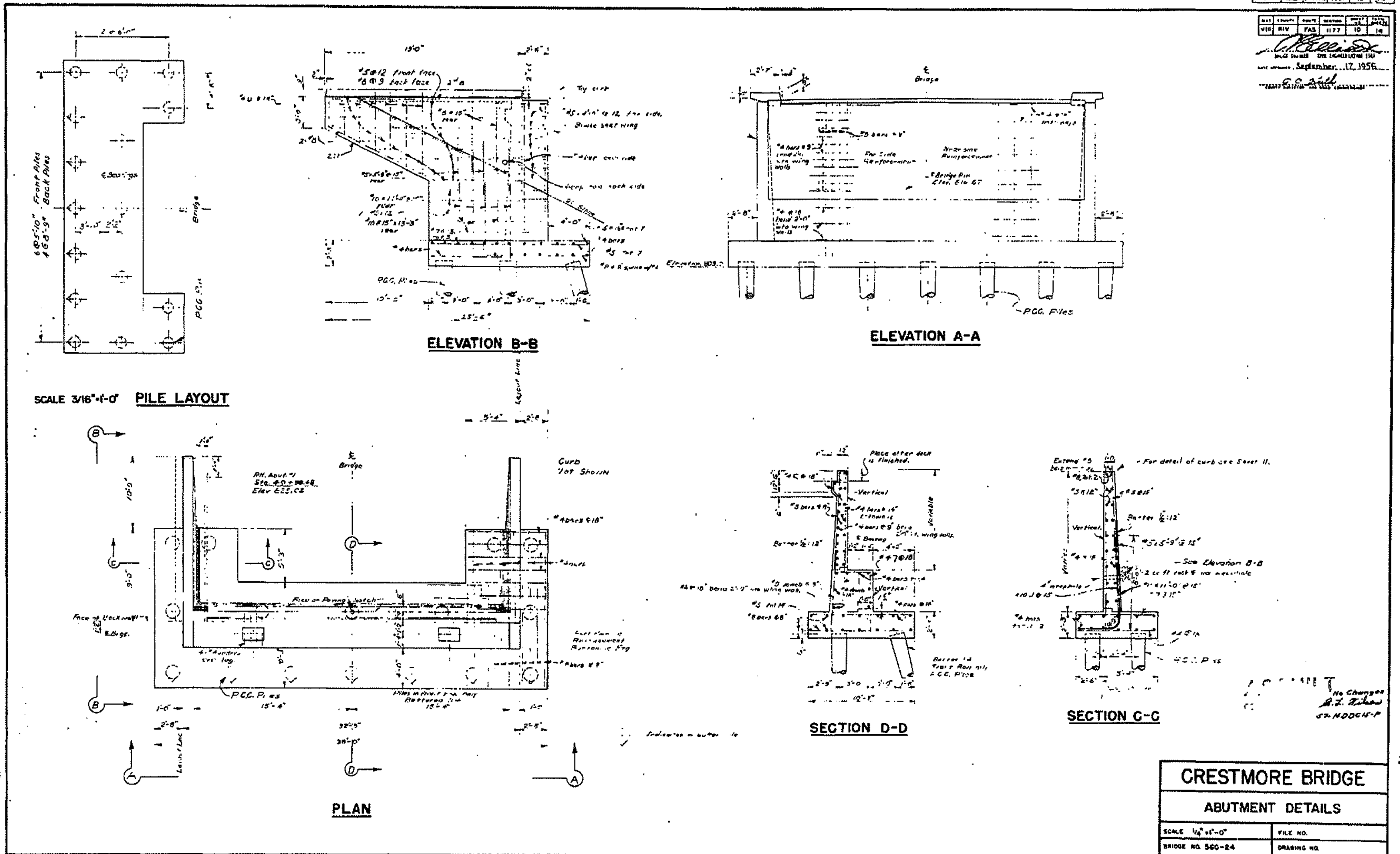
SEPTEMBER 17, 1956

DIST.	COUNTY	ROUTE	SECTION		SHEET NO.	TOTAL SHEETS
7	CALIF.	S-RFT(3)		1957	9	16

CRESTMORE BRIDGE

PIER DETAILS

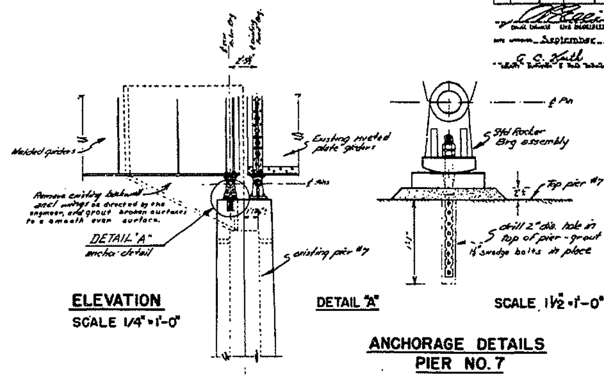
SCALE 1/4"=1'-0"	FILE NO
BRIDGE NO 56C-24	DRAWING NO



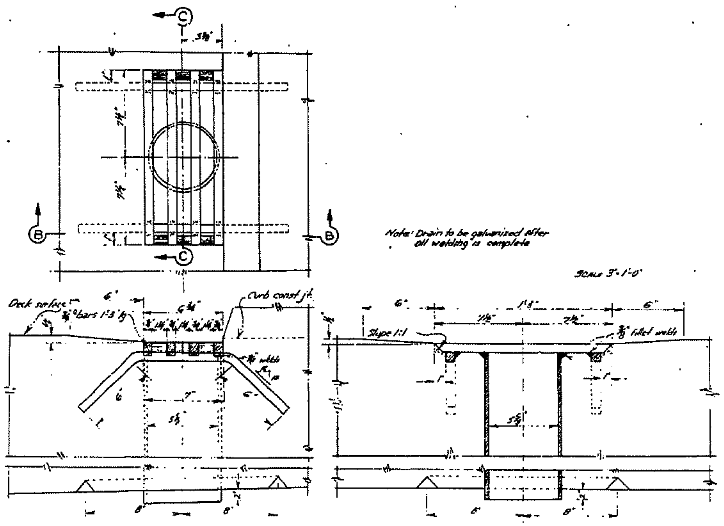
CRESTMORE BRIDGE

ABUTMENT DETAILS

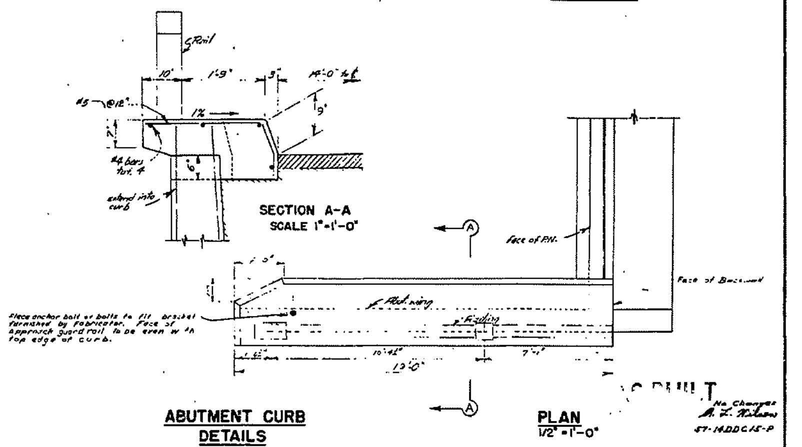
SCALE 1/4"=1'-0"	FILE NO.
BRIDGE NO. 56C-24	DRAWING NO.



ANCHORAGE DETAILS
PIER NO. 7



DECK DRAIN DETAILS

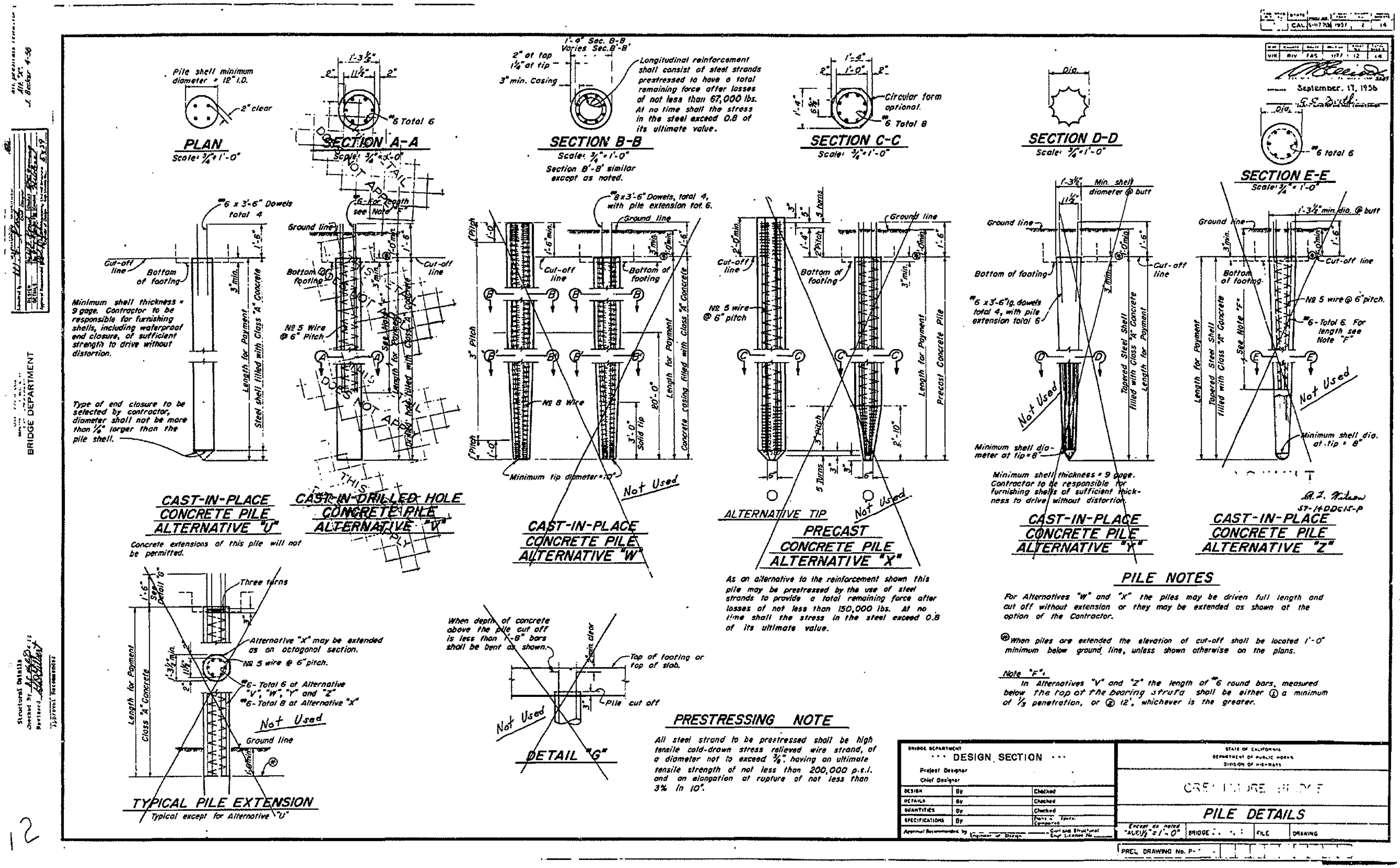


ABUTMENT CURB DETAILS

CRESTMORE BRIDGE

MISCELLANEOUS DETAILS

SCALE AS SHOWN	FILE NO.
BRIDGE NO. 56C-24	DRAWING NO.



Pile shell minimum diameter = 12" I.D.
2" clear
PLAN
Scale: 3/4" = 1'-0"
SECTION A-A
Scale: 3/4" = 1'-0"
#6 Total 6
SECTION B-B
Scale: 3/4" = 1'-0"
Section B'-B' similar except as noted.
Longitudinal reinforcement shall consist of steel strands prestressed to have a total remaining force after losses of not less than 67,000 lbs. At no time shall the stress in the steel exceed 0.8 of its ultimate value.
3" min. Casing
SECTION C-C
Scale: 3/4" = 1'-0"
Circular form optional.
#6 Total 8
SECTION D-D
Scale: 3/4" = 1'-0"
SECTION E-E
Scale: 3/4" = 1'-0"
#6 total 6
September 17, 1956
#6 x 3'-6" Dowels total 4
Ground line
Cut-off line
Bottom of footing
Minimum shell thickness = 9 gage. Contractor to be responsible for furnishing shells, including waterproof end closure, of sufficient strength to drive without distortion.
Type of end closure to be selected by contractor, diameter shall not be more than 1/4" larger than the pile shell.
Length for Payment
Steel shell filled with Class "A" Concrete
No. 5 Wire @ 6" Pitch
#8 x 3'-6" Dowels, total 4, with pile extension tot. 6.
No. 8 Wire
Minimum tip diameter
Length for Payment
Concrete casing filled with Class "A" Concrete
No. 5 wire @ 6" pitch
Precast Concrete Pile
ALTERNATIVE TIP
#6 x 3'-6" lg. dowels total 4, with pile extension total 6
Min. shell diameter @ butt
Tapered Steel Shell filled with Class "A" Concrete
Minimum shell diameter at tip = 8"
Minimum shell thickness = 9 gage. Contractor to be responsible for furnishing shells of sufficient thickness to drive without distortion.
No. 5 wire @ 6" pitch.
#6 - Total 6. For length see Note "F"
Minimum shell dia. at tip = 8"
CAST-IN-PLACE CONCRETE PILE ALTERNATIVE "U"
Concrete extensions of this pile will not be permitted.
CAST-IN-DRILLED HOLE CONCRETE PILE ALTERNATIVE "V"
CAST-IN-PLACE CONCRETE PILE ALTERNATIVE "W"
Not Used
PRECAST CONCRETE PILE ALTERNATIVE "X"
As an alternative to the reinforcement shown this pile may be prestressed by the use of steel strands to provide a total remaining force after losses of not less than 150,000 lbs. At no time shall the stress in the steel exceed 0.8 of its ultimate value.
CAST-IN-PLACE CONCRETE PILE ALTERNATIVE "Y"
CAST-IN-PLACE CONCRETE PILE ALTERNATIVE "Z"
Three turns
Alternative "X" may be extended as an octagonal section.
No. 5 wire @ 6" pitch.
#6 - Total 6 at Alternative "V", "W", "Y" and "Z"
#6 - Total 8 at Alternative "X"
Class "A" Concrete
TYPICAL PILE EXTENSION
Typical except for Alternative "U"
When depth of concrete above the pile cut off is less than 1'-8" bars shall be bent as shown.
Top of footing or top of slab.
Pile cut off
DETAIL "G"
PRESTRESSING NOTE
All steel strand to be prestressed shall be high tensile cold-drawn stress relieved wire strand, of a diameter not to exceed 3/8", having an ultimate tensile strength of not less than 200,000 p.s.i. and an elongation at rupture of not less than 3% in 10".
PILE NOTES
For Alternatives "W" and "X" the piles may be driven full length and cut off without extension or they may be extended as shown at the option of the Contractor.
When piles are extended the elevation of cut-off shall be located 1'-0" minimum below ground line, unless shown otherwise on the plans.
Note "F":
In Alternatives "V" and "Z" the length of #6 round bars, measured below the top of the bearing strata shall be either (1) a minimum of 1/3 penetration, or (2) 12', whichever is the greater.
BRIDGE DEPARTMENT
DESIGN SECTION
State of California
Department of Public Works
Division of Highways
PILE DETAILS
BRIDGE DEPARTMENT

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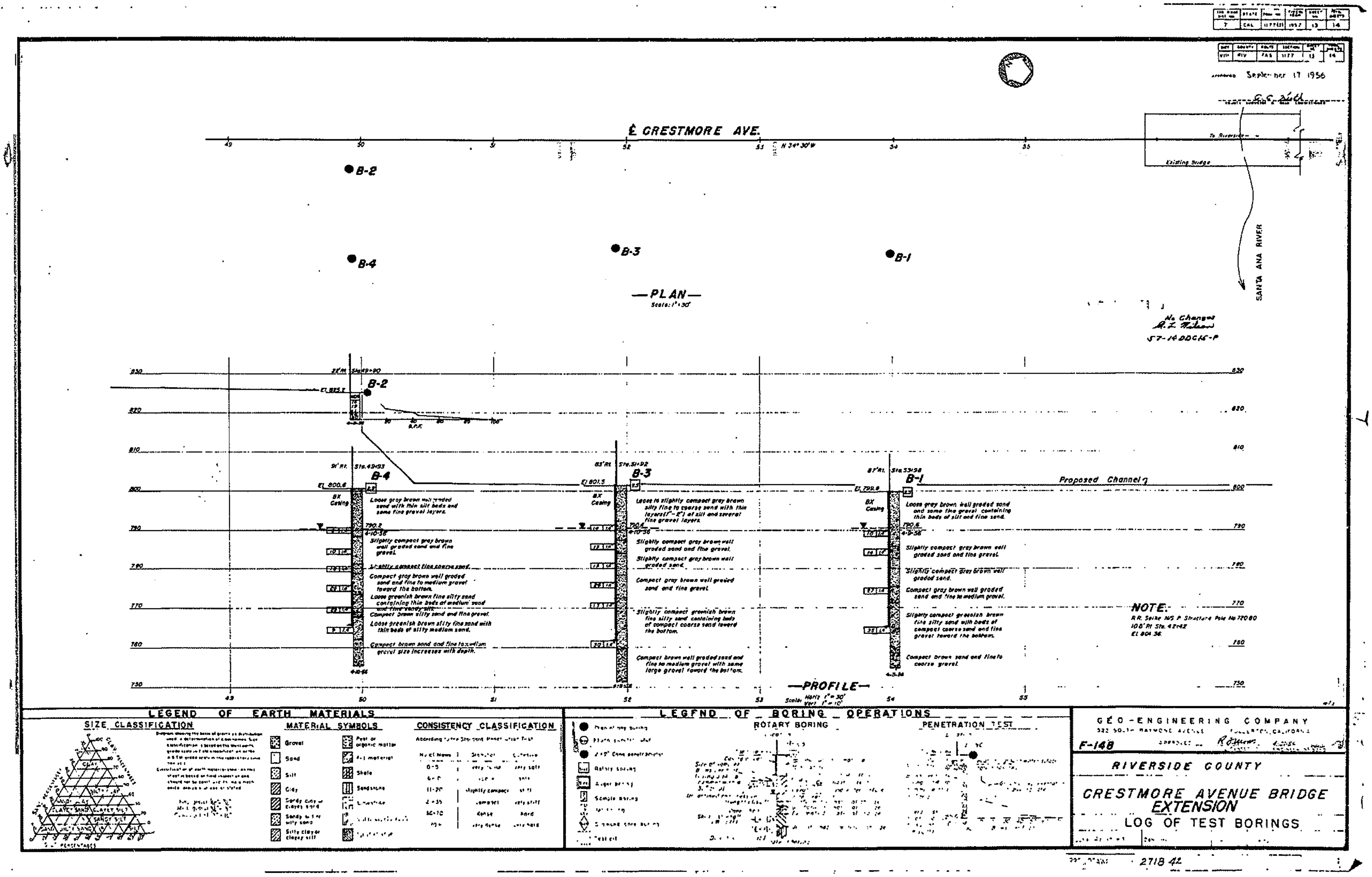

℄ CRESTMORE AVE.
B-2
B-4
B-3
B-1
— PLAN —
SANTA ANA RIVER
Existing Bridge
No Changes
57-16DDC15-P
September 17, 1956
Proposed Channel
— PROFILE —
NOTE:
LEGEND OF EARTH MATERIALS
SIZE CLASSIFICATION
MATERIAL SYMBOLS
CONSISTENCY CLASSIFICATION
LEGEND OF BORING OPERATIONS
ROTARY BORING
PENETRATION TEST
GEO-ENGINEERING COMPANY
F-148
RIVERSIDE COUNTY
CRESTMORE AVENUE BRIDGE EXTENSION
LOG OF TEST BORINGS
2718 42

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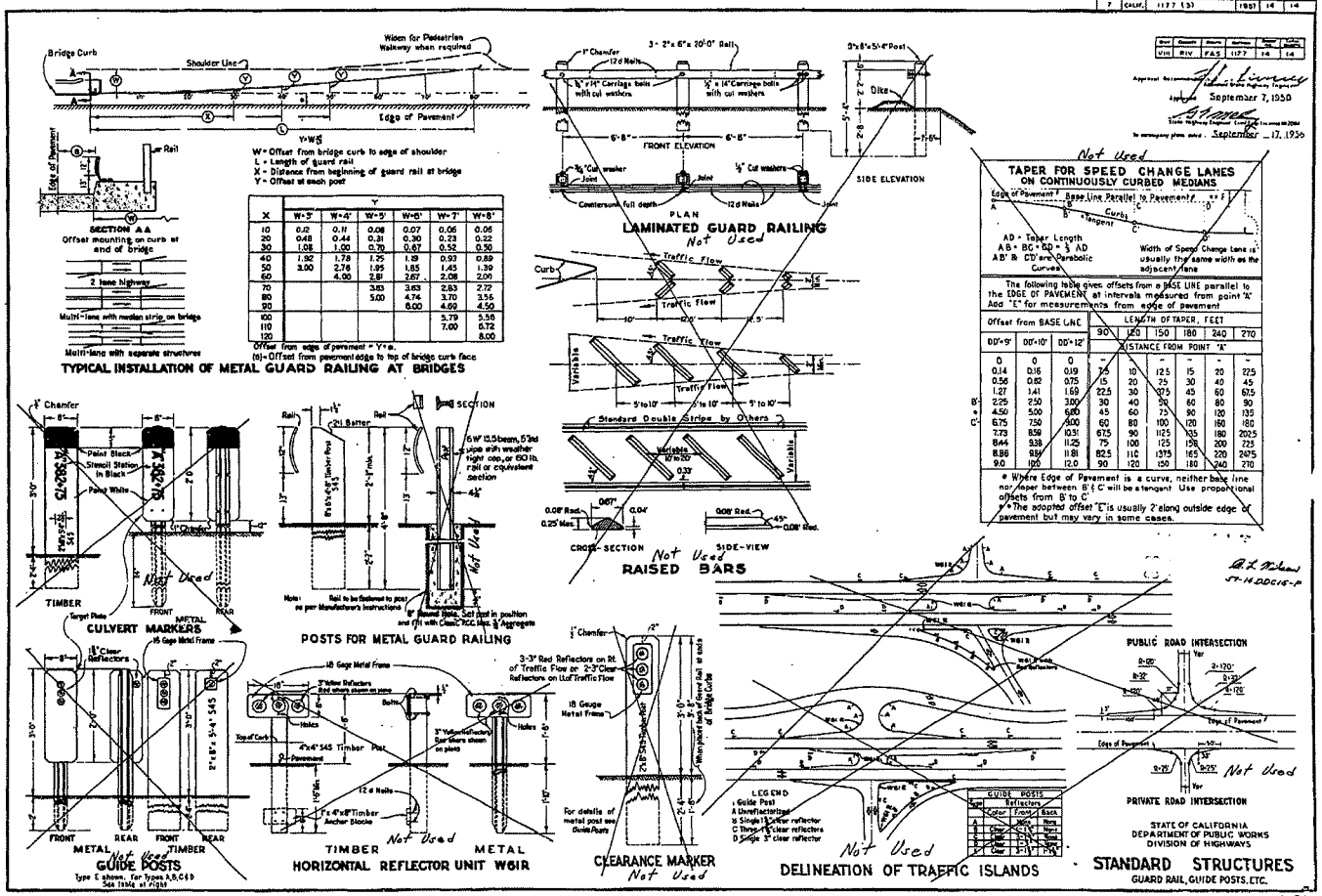

X	W=3'	W=4'	W=5'	W=6'	W=7'	W=8'
10	0.02	0.11	0.08	0.07	0.06	0.06
20	0.48	0.44	0.31	0.30	0.23	0.22
30	1.08	1.00	0.70	0.67	0.52	0.50
40	1.92	1.78	1.25	1.19	0.93	0.89
50	3.00	2.78	1.95	1.85	1.45	1.39
60		4.00	2.81	2.67	2.08	2.00
70			3.83	3.63	2.83	2.72
80			5.00	4.74	3.70	3.56
90				6.00	4.69	4.50
100					5.79	5.56
110					7.00	6.72
120						8.00

Y (Offset from edge of pavement = Y + e, (a) = Offset from pavement edge to top of bridge curb face)

Offset from BASE LINE	LENGTH OF TAPER, FEET					
	90'	120'	150'	180'	240'	270'
00'+9' 00'+10' 00'+12'	DISTANCE FROM POINT 'A'					
0 0 0	-	-	-	-	-	-
0.14 0.16 0.19	7.5	10	12.5	15	20	22.5
0.56 0.62 0.75	15	20	25	30	40	45
1.27 1.41 1.69	22.5	30	37.5	45	60	67.5
2.25 2.50 3.00	30	40	50	60	80	90
4.50 5.00 6.00	45	60	75	90	120	135
6.75 7.50 9.00	60	80	100	120	160	180
7.73 8.59 10.31	67.5	90	112.5	135	180	202.5
8.44 9.38 11.25	75	100	125	150	200	225
8.86 9.84 11.81	82.5	110	137.5	165	220	247.5
9.0 10.0 12.0	90	120	150	180	240	270

Guide Posts	Reflectors	
Type	Color	Front / Back
A	None	None / None
B	Clear	1-3" / None
C	Clear	2-3" / None
D	Clear	3-3" / None
E	Clear	1-3" / 1-3"