
Bridge Inspection Records Information System

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State of California
Department of Transportation

**Division of Maintenance
Structures Maintenance & Investigations**



DEPARTMENT OF TRANSPORTATION
Structure Maintenance & Investigations

Bridge Number : 55C0344
Facility Carried: ADAMS AVE
Location : 0.5 MI E BROOKHURST ST
City :
Inspection Date : 08/13/2001

Bridge Inspection Report

Inspection Type

Routine	Group A	Underwater	Special	Other
☐	☐	☐	☐	☒

Name : SANTA ANA RIVER CHANNEL

CONSTRUCTION INFORMATION

Year Built : 1977	Skew (degrees): 14
Year Widened : N/A	No. of Joints : 0
Length (m) : 164.6	No. of Hinges : 0

Description of Structure : Continuous 5-span CIP/PS concrete box girder (10 cells) with RC pier walls and RC open end seat abutments, all supported upon concrete piles.

Span Configuration : (W) 27.4 m, 3 @ 36.0 m, 27.4 m (E) c/c

LOAD CAPACITY AND RATINGS

Design Live Load : MS - 18 OR HS - 20	
Inventory Rating : 32.6 metric tons	Calculation Method : LOAD FACTOR
Operating Rating : 71.6 metric tons	Calculation Method : LOAD FACTOR
Permit Rating : PPPPP	
Posting Load : Type 3 N/A english tons	Type 3S2 N/A english tons Type 3-3 N/A english tons

DESCRIPTION ON STRUCTURE

Bridge width : (S) 0.1 m br, 1.2 m sw, 1.2 m s, 3 @ 3.7 m, 1.2 m cu med, 3 @ 3.7 m, 1.2 m s, 1.2 m sw, 0.1 m br (N)

Total Width : 28.7 m	Net Width : 24.40 m	No. of Lanes : 6
Rail Description : Type 11 (Misc) Railing		Rail Code : 1000
Min. Vertical Clearance : Unimpaired		

DESCRIPTION UNDER STRUCTURE

Channel Description : RC vertical walls with sandy earth bottoms.

HISTORY

There is no history of scour at this bridge. Maintenance investigations of 1993 and 1995 describe channel improvement work and construction of vertical RC channel lining (walls) in Spans 1 and 5. The 1997 construction plans for the Local Agency Seismic Retrofit project show the bike path adjacent and outside of the Santa Ana River Channel (in Span 4), and the channel lining for the Greenville-Banning Channel (in Span 5). Included with the Seismic Retrofit plans was a Field Report, dated June 19, 1997, by WEST Consultants, Inc. which sited equipment clearing excess sand deposits for removal from the channel. This evidence suggested there is a "depositional zone" in the vicinity of this bridge. Therefore, the report indicates there is no evidence of long-term degradation.

REVISIONS

The National Bridge Inventory Item 113 Code has been revised from 6 to 8.

SCOUR

This report addresses hydraulic issues only. The structure's scour potential has been assessed in accordance with the Federal Highway Administration Technical Advisory T5140.23, "Evaluating Scour at Bridges". The National Bridge Inventory Item 113 Code, "Vulnerability to Scour", has been changed to 8: "Bridge foundations determined to be stable for the assessed or calculated scour condition. Scour is determined to be above top of footing by assessment, by calculation or by installation of properly designed countermeasures."

This evaluation is based on both a field investigation and an office review of maintenance records and as built or construction plans. A channel cross-section was measured along the upstream edge of deck during this field reconnaissance. The Santa Ana River Channel was dry on this date, and a laser was used to measure the cross-section from Abutment 1 to the concrete retaining wall in Span 5. As built profile stationing is west to east, Abutment 1 being the westerly abutment.

The sandy channel bed appears self-leveling, however several unbalanced deposits of sand were observed.

Bridge No.: 55C0344

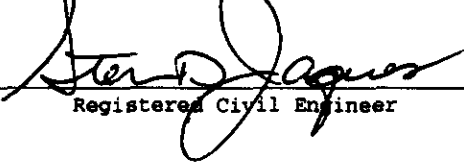
Location: 0.5 MI E BROOKHURST ST

Inspection Date: 13-AUG-2001

Both banks, up and downstream, are lined with reinforced concrete, vertical walls as described above. The only exposed footing was observed along the retaining wall in Span 4, near Pier 5 and the bike path. Rock riprap has been placed along the footing. The adjacent channel bed is approximately 0.4 m below the top of footing. The retaining wall height is approximately 6.71 m, does not meet the bridge soffit and is independent of the bridge foundation. The Greenville-Banning Channel lies under Span 5 and is a fully lined concrete channel. Drift accumulation at piers, abutment scour and local pier scour was not observed during this investigation. Piers are aligned with flow and hydraulic skew is not an issue.

The preliminary scour calculations indicate the calculated scour elevation is greater than the allowable scour elevation. Historical channel cross-sections do not exist, however the channel appears to be aggrading and no long-term degradation is anticipated. Therefore, this bridge is not scour critical.

Inspected By : Barry L. Pavan



Registered Civil Engineer

CC : TMRut, SM&I
Steve Jaques, Hydraulics
Tony Nedwick, Hydraulics
Orange County

Bridge No.: 55C0344

Location: 0.5 MI E BROOKHURST ST

Inspection Date: 13-AUG-2001

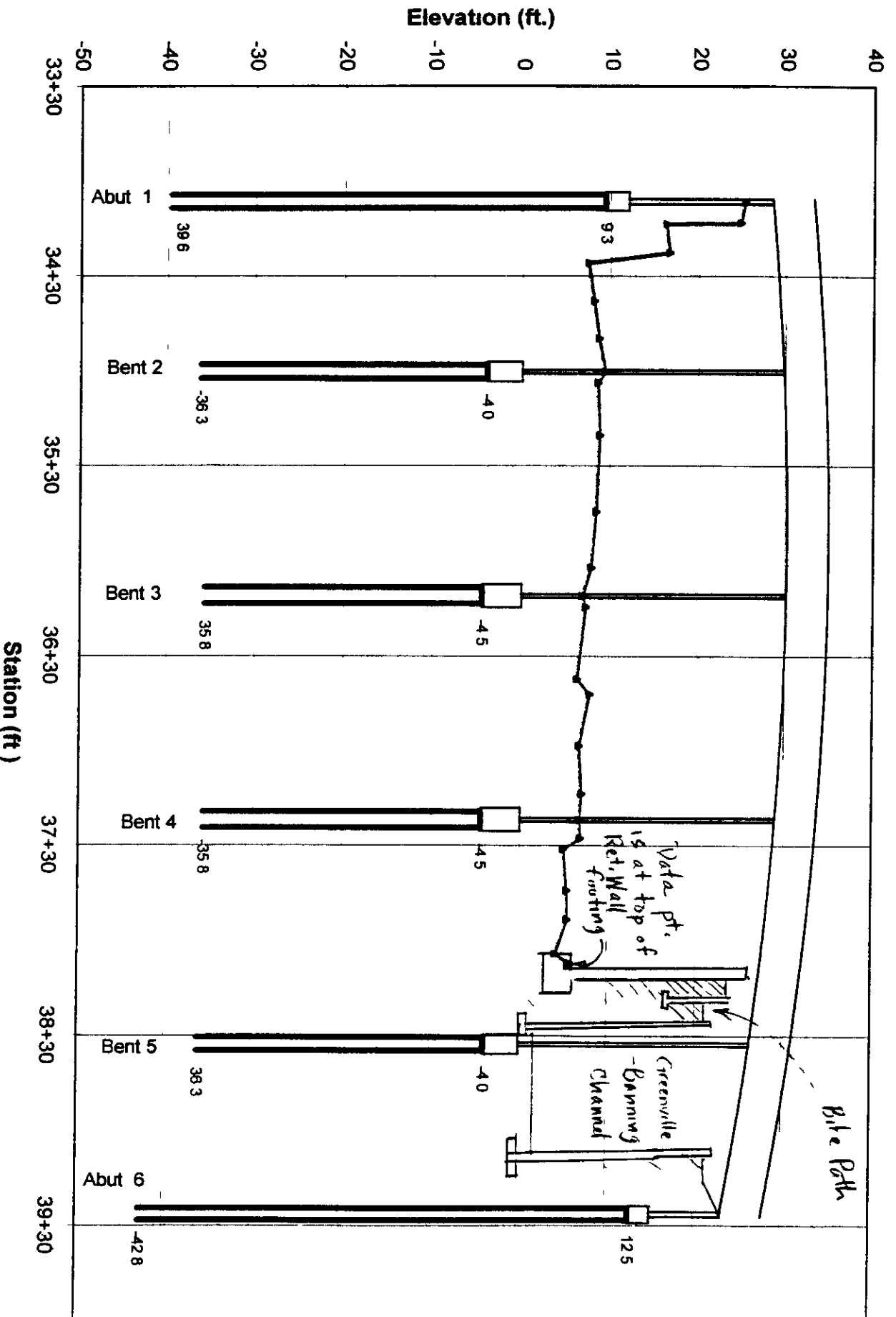
CHANNEL X-SECTION

Side : Upstream

X-Section Date : 13-AUG-01

Measured From : Channel grade to soffit.

Location	Horiz(m)	Vert(m)	Comments
Abutment 1	0.00	0.91	abutment 1 face
	3.43	1.15	top of retaining wall
	3.61	3.73	bottom of retaining wall, at service Rd.
	8.26	3.69	bottom of channel wall, at service Rd.
Pier 2	-17.46	6.52	retaining wall, channel side
	-11.39	6.43	
	-5.35	6.32	
	0.00	6.16	Pier 2 centerline
	1.70	6.44	
	10.20	6.43	
	22.48	6.59	
	-4.52	6.75	
Pier 3	0.00	7.04	Pier 3 centerline
	1.79	6.91	
	13.33	7.14	
	15.46	6.68	
	-11.93	6.95	
	-4.19	6.74	
Pier 4	0.00	6.74	Pier 4 centerline
	2.92	6.66	top of slope
	4.63	7.20	toe of slope
	11.24	6.95	
	15.83	6.82	
	21.46	7.10	Thalweg & toe of rock riprap
	22.89	6.59	
	23.42	6.59	face of channel wall near Pier 4



55C-0344 xlu

Note: See Local Agency
SEISMIC RETROFIT - G.P

By DeAnne Singleton on 10/23/01



DEPARTMENT OF TRANSPORTATION
Structure Maintenance & Investigations

Bridge Number : 55C0344
Facility Carried: ADAMS AVE
Location : 0.5 MI E BROOKHURST ST
City :
Inspection Date : 24-JUL-01
Inspection Type
Routine Group A Underwater Special Other
X

Bridge Inspection Report

Name : SANTA ANA RIVER CHANNEL

CONSTRUCTION INFORMATION

Year Built : 1977
Year Widened : N/A
Length (m) : 164.6
Skew (degrees): 14
No. of Joints : 0
No. of Hinges : 0

Description of Structure : Continuous 5-span CIP/PS concrete box girder (10 cells) with RC pier walls and RC open end seat abutments, all supported upon concrete piles.

Span Configuration : (W) 27.4 m, 3 x 36.0 m, 27.4 m (E) c/c

LOAD CAPACITY AND RATINGS

Design Live Load : MS - 18 OR HS - 20
Inventory Rating : 32.6 metric tons
Operating Rating : 71.6 metric tons
Permit Rating : PPPPP
Posting Load : Type 3 N/A english tons
Calculation Method : LOAD FACTOR
Calculation Method : LOAD FACTOR
Type 3S2 N/A english tons
Type 3-3 N/A english tons

DESCRIPTION ON STRUCTURE

Bridge width : (S) 0.1 m br, 1.2 m sw, 1.2 m s, 3 x 3.7 m, 1.2 m cu med, 3 x 3.7 m, 1.2 m s, 1.2 m sw, 0.1 m br (N)

Total Width : 28.7 m
Net Width : 24.40 m
No. of Lanes : 6
Rail Description : Type 11 (Misc) Railing
Min. Vertical Clearance : Unimpaired
Rail Code : 1000

DESCRIPTION UNDER STRUCTURE

Channel Description : RC vertical walls with sandy earth bottoms.

CONDITION OF STRUCTURE

The structure is in good condition.

MISCELLANEOUS

Pedestrian access beneath the structure is from the northeast and from the southeast quadrants.

The structure has been retrofitted seismically.

ELEMENT LEVEL INSPECTION RATINGS

F#	Elem	Element Description	Env	Total Units Quantity	Qty in each Condition State				
					St. 1	St. 2	St. 3	St. 4	St. 5
01 12		Concrete Deck - Bare	2	3970 sq.m.	3970	0	0	0	0
01 104		P/S Conc Closed Web/Box Girder	2	329 m.	329	0	0	0	0
01 210		Reinforced Conc Pier Wall	2	118 m.	118	0	0	0	0
01 215		Reinforced Conc Abutment	2	60 m.	60	0	0	0	0
01 302		Compression Joint Seal	2	6 m.	6	0	0	0	0
01 303		Assembly Joint/Seal (modular)	2	58 m.	58	0	0	0	0
01 312		Enclosed/Concealed Bearing	2	2 ea.	2	0	0	0	0
01 335		Other Bridge Railing	2	330 m.	330	0	0	0	0

WORK RECOMMENDATIONS - NONE

Bridge No.: 55C0344

Location: 0.5 MI E BROOKHURST ST

Inspection Date: 24-JUL-01

Inspected By : M. Ogata

M. Ogata
Registered Civil Engineer



CC : TMRut
Orange County

Bridge No.: 55C0344

Location: 0.5 MI E BROOKHURST ST

Inspection Date: 24-JUL-01

STRUCTURE INVENTORY AND APPRAISAL REPORT

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***** IDENTIFICATION *****
(1) STATE NAME - CALIFORNIA                                069
(2) STRUCTURE NUMBER                                      55C0344
(3) INVENTORY ROUTE(ON/UNDER) - ON                        140 06021N
(4) HIGHWAY AGENCY DISTRICT                               12
(5) COUNTY CODE 059 (4) PLACE CODE 00000
(6) FEATURE INTERSECTED - SANTA ANA RIVER CHANNEL
(7) FACILITY CARRIED - ADAMS AVE
(8) LOCATION - 0.5 MI E BROOKHURST ST
(9) MILEPOINT/KILOMETERPOINT                               0
(10) BASE HIGHWAY NETWORK - NOT ON NET                    0
(11) LRS INVENTORY ROUTE & SUBROUTE
(12) LATITUDE 33 DEG 40 MIN 19 SEC
(13) LONGITUDE 117 DEG 56 MIN 42 SEC
(14) BORDER BRIDGE STATE CODE 9 SHARE 9
(15) BORDER BRIDGE STRUCTURE NUMBER

***** STRUCTURE TYPE AND MATERIAL *****
(16) STRUCTURE TYPE MAIN: MATERIAL - PRSTR CONC CONT
      TYPE - BOX BEAM OR GDR - MULTIPLE CODE 6 05
(17) STRUCTURE TYPE APPR: MATERIAL -
      TYPE - CODE
(18) NUMBER OF SPANS IN MAIN UNIT 5
(19) NUMBER OF APPROACH SPANS 0
(20) DECK STRUCTURE TYPE CIP CONCRETE CODE 1
(21) WEARING SURFACE / PROTECTIVE SYSTEM:
      A) TYPE OF WEARING SURFACE - CONCRETE CODE 1
      B) TYPE OF MEMBRANE - NONE CODE 0
      C) TYPE OF DECK PROTECTION - NONE CODE 0

***** AGE AND SERVICE *****
(22) YEAR BUILT 1977
(23) YEAR RECONSTRUCTED 0000
(24) TYPE OF SERVICE: ON - HIGHWAY-PEDESTRIAN 5
      UNDER - WATERWAY 5
(25) LANES: ON STRUCTURE 06 UNDER STRUCTURE
(26) AVERAGE DAILY TRAFFIC 33000
(27) YEAR OF ADT 1999 (100) TRUCK ADT 14
(28) BYPASS, DETOUR LENGTH 3 KM

***** GEOMETRIC DATA *****
(29) LENGTH OF MAXIMUM SPAN 36 M
(30) STRUCTURE LENGTH 164.6 M
(31) CURB OR SIDEWALK: LEFT 1.2 M RIGHT 1.2 M
(32) BRIDGE ROADWAY WIDTH CURB TO CURB 24.4 M
(33) DECK WIDTH OUT TO OUT 28.7 M
(34) APPROACH ROADWAY WIDTH (W/SHOULDERS) 24.4 M
(35) BRIDGE MEDIAN - CLOSED (NO BARRIER) 2
(36) SKEW 14 DEG (37) STRUCTURE FLARED NO
(38) INVENTORY ROUTE MIN VERT CLEAR 99.99 M
(39) INVENTORY ROUTE TOTAL HORIZ CLEAR 24.4 M
(40) MIN VERT CLEAR OVER BRIDGE RDWY 99.99 M
(41) MIN VERT UNDERCLEAR REF - NOT H/RR 0 M
(42) MIN LAT UNDERCLEAR RT REF - NOT H/RR 0 M
(43) MIN LAT UNDERCLEAR LT 0 M

***** NAVIGATION DATA *****
(44) NAVIGATION CONTROL - NOT APPLICABLE CODE N
(45) PIER PROTECTION - NOT REQUIRED CODE 1
(46) NAVIGATION VERTICAL CLEARANCE 0 M
(47) VERT-LIFT BRIDGE NAV MIN VERT CLEAR 0 M
(48) NAVIGATION HORIZONTAL CLEARANCE 0

***** SUFFICIENCY RATING = 92.3
STATUS =
HEALTH INDEX = 100

***** CLASSIFICATION ***** CODE
(112) NBS BRIDGE LENGTH - YES Y
(104) HIGHWAY SYSTEM - NOT ON NHS 0
(106) FUNCTIONAL CLASS - MINOR ARTERIAL URBAN 16
(100) DEFENSE HIGHWAY - NOT STRAHNET 0
(101) PARALLEL STRUCTURE - NONE EXISTS N
(102) DIRECTION OF TRAFFIC - 2 WAY 2
(103) TEMPORARY STRUCTURE -
(105) FEDERAL LANDS HIGHWAY - NOT APPLICABLE 0
(110) DESIGNATED NATIONAL NETWORK - NOT ON NET 0
(120) TOLL - ON FREE ROAD 3
(11) MAINTAIN - COUNTY HIGHWAY AGENCY 2
(12) OWNER - COUNTY HIGHWAY AGENCY 2
(13) HISTORICAL SIGNIFICANCE - NOT ELIGIBLE 5

***** CONDITION ***** CODE
(50) DECK 7
(51) SUPERSTRUCTURE 8
(52) SUBSTRUCTURE 7
(61) CHANNEL & CHANNEL PROTECTION 9
(62) CULVERTS N

***** LOAD RATING AND POSTING ***** CODE
(31) DESIGN LOAD - MS - 18 OR HS - 20 5
(63) OPERATING RATING METHOD - LOAD FACTOR 1
(64) OPERATING RATING - 71.6
(65) INVENTORY RATING METHOD - LOAD FACTOR 1
(66) INVENTORY RATING - 92.6
(70) BRIDGE POSTING - Equal to or above legal loads 5
(41) STRUCTURE OPEN, POSTED OR CLOSED - A
      DESCRIPTION - OPEN, NO RESTRICTION

***** APPRAISAL ***** CODE
(67) STRUCTURAL EVALUATION 7
(68) DECK GEOMETRY 5
(69) UNDERCLEARANCES, VERTICAL & HORIZONTAL N
(71) WATER ADEQUACY 9
(72) APPROACH ROADWAY ALIGNMENT 8
(36) TRAFFIC SAFETY FEATURES 1000
(113) SCOUR CRITICAL BRIDGES 6

***** PROPOSED IMPROVEMENTS *****
(75) TYPE OF WORK - CODE
(76) LENGTH OF STRUCTURE IMPROVEMENT M
(94) BRIDGE IMPROVEMENT COST
(95) ROADWAY IMPROVEMENT COST
(96) TOTAL PROJECT COST
(97) YEAR OF IMPROVEMENT COST ESTIMATE
(114) FUTURE ADT 66000
(115) YEAR OF FUTURE ADT 2019

***** INSPECTIONS *****
(90) INSPECTION DATE 07/01 (91) FREQUENCY 24 MO
(92) CRITICAL FEATURE INSPECTION: (93) CFI DATE
      A) FRACTURE CRIT DETAIL - NO -1 MO A)
      B) UNDERWATER INSP - NO -1 MO B)
      C) OTHER SPECIAL INSP - NO -1 MO C)

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Bridge Number 55C-344

TYPE OF INVESTIGATION/REPORT

BIENNIAL X DAMAGE
CATEGORY A OTHER
UNDERWATER OFFICE

Location 12 - Ora - FAU M021-CR
Dist.-Co.-Rte.-City

Date of Investigation July 14, 1995

Name SANTA ANA RIVER CHANNEL (Adams Avenue, 0.5 mile east of Brookhurst Street)

CONDITION RATINGS:

Condition ratings of all bridge elements are shown on the PONTIS DATA FORM (Attachment A).

Channel & Channel Protection

9

SCOUR CRITICAL:

A scour rating of A-1 is appropriate.

DISCUSSION:

At time of inspection, construction of vertical channel lining in spans 1 and 5 have been completed. Bike path and trail, approximately 18 m wide, in span 4, have also been completed. This bike path separates Santa Ana river and Greenville - Banning channel.

CONDITION OF STRUCTURE:

Type B joint seal at sidewalk has crept out of the joint. Top of joint seal is 10 mm above sidewalk. This is not a problem yet.

Condition of structure is good.

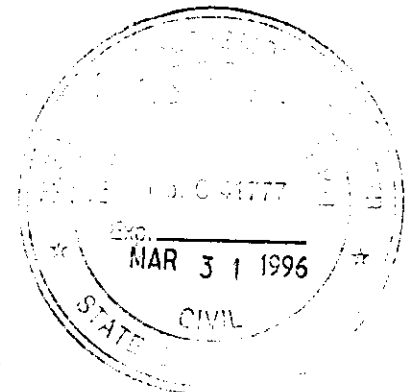
WORK RECOMMENDED:

None.

ENCROACHMENT:

One 0.60 m diameter steel pipe suspended under deck overhang in centerline of bridge.

By M. Hadi Behrooj
G. E. Balinghasay



GPB:cd
cc: CDHarris
Orange County
WLindsey

INFORMATION ONLY - NOT FOR UPDATE

BRIDGE NUMBER	FRAME	INSPECTION DATE
55C0344	01	071495
1 8	9	11 16

SCOUR CRITICAL	NO
CATEGORY A	NO
FRACTURE CRITICAL	NO
ELIGIBLE FOR RAIL UPGRADE	NO
UNDERWATER INSPECTION	NO

DISTRICT _____ 12
COUNTY _____ ORA
ROUTE _____
POSTMILE _____
NAME _____

[illegible]

07/18/95

BY: _____

Bridge No. 55C-344

Name SANTA ANA RIVER CHANNEL (Adams
Avenue, 0.5 mile east of
Brookhurst Street)

Location 12-Ora-FAS M021-CR
Dist.-Co.-Rte.-City

SUMMARY OF ENCROACHMENTS

Permit No. and Permittee	Date	Description & Location on Bridge
	Prior to 7-14-95	1 - 0.60 m diameter steel pipe suspended under deck overhang in centerline of bridge.

HBD M 30

SUPPLEMENTARY BRIDGE REPORT

DS-M19 (REV. 8/92)

Bridge Number 55C-344

Location 12 - Ora - FAU M021-CR
Dist.-Co.-Rte.-City

Date of Investigation April 12, 1993

TYPE OF INVESTIGATION/REPORT

BIENNIAL	<u>X</u>	DAMAGE	___
CATEGORY A	___	OTHER	___
UNDERWATER	___	OFFICE	___

Name SANTA ANA RIVER CHANNEL (Adams Avenue, 0.5 mile east of Brookhurst Street)

CONDITION RATINGS:

Condition ratings of all bridge elements are shown on the PONTIS DATA FORM (Attachment A).

Channel & Channel Protection

9

OBSERVATION:

On date of this inspection, major channel improvement work and reconstruction in the Santa Ana River Channel is in progress. The existing earth dike in Span 3 and 4 from west (at Pier 4) has been removed. New vertical RC channel walls are being constructed in Span 1 and Span 4, forming the Santa Ana River main channel (with partial PCC invert). Also a new RC rectangular channel is being constructed in Span 5, containing Greenville-Banning Channel.

CONDITION OF STRUCTURE:

Minor subsidence in approach roadway embankment at both ends of the bridge is creating vehicle tire impact on the abutment deck joint seal assembly.

Minor concrete crack and spall is noted at top of abutments (box girder soffit level) near horizontal abutment shear key, this due to bridge thermal movements and skew.

Condition of the structure is good.

Henry Ma

HM:cd

cc: INagai (2)
County of Orange



INFORMATION ONLY - NOT FOR UPDATE

BRIDGE NUMBER	FRAME	INSPECTION DATE
55C0344	01	041293
1 8	9	11 16

SCOUR CRITICAL	NO
CATEGORY A	NO
FRACTURE CRITICAL	NO
ELIGIBLE FOR RAIL UPGRADE	NO
UNDERWATER INSPECTION	NO

DISTRICT	12
COUNTY	ORA
ROUTE	***
POSTMILE	*****
NAME	

[illegible]

BY:

BRIDGE REPORT

14W11

Bridge No. 55C - 344

DS-M58 (REV. 1/91)

Location 12 - Ora - FAU M021-CR
Dist Co Rte City

REVISED ORIGINAL REPORT

Date of Investigation April 11, 1991

Name SANTA ANA RIVER CHANNEL (Adams Avenue, 0.5 mile east of Brookhurst Street)

Lat. 33° - 40.3'N Long. 117° - 56.6'W

Custodian County of Orange Owner County of Orange

STRUCTURAL DATA AND HISTORY

Year Built 1977 By County of Orange Contract No. Unknown

Designed by: County Plans Avail. @ County

Description: 5 span continuous CIP PS concrete box girder (10 cells) supported by RC pier walls and open end RC seated abutments, all on concrete piles.

Spans (W) 90', 3 @ 118', 90' (E)

Length 540' NBIS Bridge Length Yes Skew 14° Right

Number Of Intermediate Joints: @Hinges None @Bents None

Maximum Column/Pier Height: (Less than 20') X (20'-29') (30' & Over)

Design Live Load HS20-44 & Alt Design Method Unknown

DESCRIPTION - ON STRUCTURE

Bridge Width (S) 1'br, 4'sw, 40', 4'm, 40', 4'sw, 1'br (N)

Total Width 94' Net Width 80' Lanes 6 Tracks None

Median Raised island Rail Type 11 with tubular handrail 1000

Vert. Clearance over deck Unimpaired Appr. Rdwy. Width 80'

Deck Type 1 Wearing Surface/Prot. Sys. 100 Concrete/none

Alignment Tangent

DESCRIPTION - UNDER STRUCTURE

Roadway Section None

Clearances: Road: Vert. Horiz. Lt. ; Rt.

Lanes Tracks

Facilities Crossed Santa Ana River Channel (E 01) & Greenville-Banning Channel (D 03)

April 11, 1991

DESCRIPTION - HYDRAULICS

Channel Sandy bottom trapezoidal with concrete side slopes

Navigable: Yes ☐ No ☒ Clearances: Vert.

Horiz.

Pier/Abutment Protection (For Navigation) ☐

TRAFFIC INFORMATION	DECK	YEAR	UNDER	YEAR
Average Daily Traffic & Year :	42,000	1989	N	
Average Daily Traffic (Future) :	44,000 Est	2010	N	
Average Daily Trucks (% OF ADT) :	1% Est		N	
Bypass Detour Length	2 miles		N	
Shell Route:	No		No	
Functional Classification :	14		N	
LOAD RATINGS:	Inventory HS 20	Operating HS 44		
	Permit PPPPP	Computation Method Load Factor		

CONDITION RATINGS:

Deck	8	Superstructure	8	Substructure	8
Channel & Channel Protection	9	Culvert	N	Widenable	Yes

APPRAISAL RATINGS:

Waterway Adequacy	9	Approach Roadway Alignment	8
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Date of Revisions

CONDITION OF STRUCTURE:

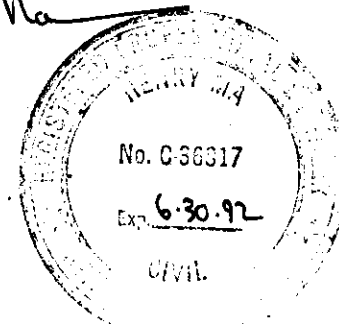
Previously noted broken concrete rail end post (north rail at east levee) remains unchanged.

Condition of the structure is good.

Henry Ma

HM:ms

cc: INagai (2)
County of Orange



Bridge No. 55C-344
Location 12-Ora - FAU M021 - CR
Dist. Co. Rte. City
Date of Investigation 4-10-89

Name SANTA ANA RIVER (Adams Avenue, 1.6 miles West of Harbor Boulevard)

CONDITION RATING:

Deck 8 Superstructure 8 Substr.&Pipes 8
Channel & Channel Protection 7 Culvert N Widenable? Yes

TYPE OF INVESTIGATION/REPORT

BIENNIAL X DAMAGE
CATEGORY A OTHER
UNDERWATER OFFICE

CONDITION OF STRUCTURE:

Condition of the structure remains unchanged since last inspected and is good.

REVISION:

Location: 12-Ora-FAU M021-CR
Name: SANTA ANA RIVER (Adams Avenue, 1.6 miles West of Harbor Boulevard).

WORK RECOMMENDED:

None.

RECOMMENDED POSTING:

None.

SUBSTRUCTURE CODING UPDATE:

2 RC open end seated abutments on concrete piles.

4 RC pier walls on concrete piles.


Henry Ma

HM:ms
cc: INagai (2)
County of Orange (2)



STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION
SUPPLEMENTARY BRIDGE REPORT
DM-93 M12 (REV. 1/74)

Bridge No. 55C-344
Location 7-Oran-FAU M021-CR
Dist - Co - Rte - PM - City

Date of Investigation April 15, 1987

Name SANTA ANA RIVER (Adams St., 1.6 miles W. of Harbor Blvd)

CONDITION RATING:

Deck 8 Superstructure 8 Substr. & Pipes 8 Overall 8
Channel & Channel Protection 7 Retaining Walls N

APPRAISAL RATING:

Widenable? Yes ☒ No ☐ Conditional ☐

Action Required By County Yes ☐ No ☒

PRIORITY

A - Immediate Action
B - Early Scheduling
C - Routine Maint.
O - For Record Only

REVISION:

Condition Rating: Deck 8
Superstructure 8
Substructure & Pipes 8
Appraisal Rating: Overall 8
Average Daily Traffic - 42,000 (1985)

WORK DONE:

AC roadway approaches to west side of structure has been leveled to eliminate subsidence.

CONDITION OF STRUCTURE:

Previously reported broken concrete bridge rail (north rail at east river levee) and detached tubular steel rail joint (south rail near west end) remains the same.

Otherwise, overall condition of the structure is good.

RECOMMENDED POSTING:

None

WORK RECOMMENDED:

None

HM:pht

cc: INagai (2)
Orange County (2)

Henry Ma
Henry Ma



STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION
SUPPLEMENTARY BRIDGE REPORT
DN-OS 119 (REV. 1/74)

Bridge No. 55C-344
Location 7-Oran-FAU M021-CR
Stat - Co - Pss - Rd - City (On Deck)
Date of Investigation January 7, 1986

Name SANTA ANA RIVER (Adams Street, 1.6 miles west of Harbor Blvd.)

CONDITION RATING:

APPRAISAL RATING:

Deck 9 Superstructure 9 Substr. & Pipes 9 Overall 9
Channel & Channel Protection 7 Retaining Walls N

Widenable? Yes ☒ No ☐ Conditional ☐

Action Required by County Yes ☒ No ☐

PRIORITY

A - Immediate Action
B - Early Scheduling
C - Routine Maint.
O - For Record Only

WORK NOT DONE:

The previously recommended work to repair north barrier rail has not been done.

CONDITION OF STRUCTURE:

There is subsidence of roadway pavement (1"±) at all four approaches to bridge abutment creating pounding impact.

At the southwest end of barrier rail, the structural tubing has slipped off its expansion sleeve. Also plate washer and nuts are missing on the second rail post.

Otherwise, the overall condition of the structure is good.

RECOMMENDED POSTING:

None

WORK RECOMMENDED:

1. Saw cut to neat lines and repair the concrete spall on the north barrier rail at the river east levee road with epoxy bonded cement mortar, then repair and reattach steel tubular railing.

C

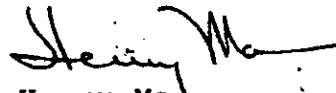
BRIDGE No. 55C-344
SHEET 2 of 2
DATE January 7, 1986

WORK RECOMMENDED: (Con't)

2. At southwest corner, extend steel rail expansion sleeve and re-attach tubular railing. IC
3. Raise roadway pavement at bridge approaches to smooth-out profile. IC

HM:pdh

cc: INagai (2)
Orange County (2)


Henry Ma
C-36817

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION
SUPPLEMENTARY BRIDGE REPORT
DH-QS M19 (REV. 1/74)

12/22/11

Bridge No. 55C-344
Location 7-Oran-FAU M021-CR
Dist - Co - Rte - PM - City (On deck)
Date of Investigation June 7, 1983

Name SANTA ANA RIVER (Adams Street, 1.6 mile west of Harbor Boulevard)

CONDITION RATING:

APPRAISAL RATING:

Deck 9 Superstructure 9 Substr. & Pipes 9 Overall 9
Channel & Channel Protection 7 Retaining Walls N

Widenable? Yes ☒ No ☐ Conditional ☐

County

Action Required by District Yes ☒ No ☐

PRIORITY

A - Immediate Action
B - Early Scheduling
C - Routine Maint.
O - For Record Only

WORK DONE:

The previously recommended work appears to have been done, but has been hit and spalled again.

CONDITION OF STRUCTURE:

The overall condition of the structure is good.

RECOMMENDED POSTING:

None.

RECOMMENDATION:

Saw cut to neat lines and repair the concrete spall on the north barrier rail, at the center dike roadway, with epoxy bonded cement mortar.

C

E. L. Neff
E. L. Neff
C 28703

ELN:cd

cc: DRHiggins (2)
Orange County (2)

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION
SUPPLEMENTARY BRIDGE REPORT
DH-03 M13 (REV. 1/74)

Bridge No. 55C-344
Location 07-Ora-FAU MO21-CR
Dist - Co - Rte - PM - City (On deck)
Date of Investigation August 20, 1981

Name SANTA ANA RIVER (Adams St., 1.6 mi. west of Harbor Blvd.)

CONDITION RATING:

APPRAISAL RATING:

Deck 9 Superstructure 9 Substr. & Pipes 9 Overall 9
Channel & Channel Protection 7 Retaining Walls N

Widenable? Yes ☒ No ☐ Conditional ☐

County: Orange
Action Required by ~~District~~ Yes ☒ No ☐

REVISIONS:

Location 07-Ora-FAU MO21-CR

CONDITION OF STRUCTURE:

Channel work is underway and a truck clipped the north bridge rail turning off from the center dike causing a large spall with rebar exposed.

Otherwise, the overall condition of the structure is good.

RECOMMENDED POSTING:

None.

RECOMMENDATIONS:

Saw cut to neat lines and repair the concrete spall on the north barrier rail at the center dike roadway with epoxy bonded cement mortar.

E. L. Neff
E. L. Neff **
C 28703

ELN:cd
cc: DRHiggins (2)
Orange County (2)

DIST
07
ROUTE
CO RD
COUNTY
55 C
STRU. NO
0344
POSTMILE
RATING
047.0
WIDTH-FT
STRU TYPE
CGG BOX
YR ORIG CONST
78
NOV. 30, 1979

	RATING FACTOR	PT	SPAN	ULT MOM CAP TOP IN COM	ULT MOM CAP BOT IN COM	POS HS20 MOMENT	NEG HS20 MOMENT	POS PURP MOMENT	NEG PURP MOMENT	DEAD LOAD MOMENT	SECONDARY MOMENT
INV	1.00	9	5	10500.3	0.0	2000.8	-297.5	3875.9	-819.9	3060.6	262.8
OPER	2.19	9	5	10500.3	0.0	2000.8	-297.5	3875.9	-819.9	3060.6	262.8
PURP	1.13	9	5	10500.3	0.0	2000.8	-297.5	3875.9	-819.9	3060.6	262.8

THE NUMBER OF AXLES ON THE TRUCK THAT CAUSES THE PURPLE RATING FACTOR IS 13.
 FC = 1.30 FY = 60.
 FS = 270. FPC = 3.50
 PS PHI= 0.97

THE INVENTORY RATING POINT WAS SET BY PS CRITERIA
 IF THE REPORTED ULTIMATE MOMENT CAPACITY IS 0, IT WAS DETERMINED NOT TO BE CRITICAL

- 2 SANTA ANA RIVER (ADAMS AVE)
- 3 5 SPAN CIP P/S BOX GIRDER W/NO AC SURFACING
- 4 STRUCTURE IS SEPARATED BY LONGIT EXP JT DOWN CENTER
- 5 RATE ONE HALF BRIDGE AS SYMM ABOUT EXP JT

PPPPP

DIST ROUTE COUNTY STRU. NO POSTMILE RATING WIDTH-FT STRU TYPE YR ORIG CONST
 07 CO RD 55 C 0344 . 047.0 CGO BOX 78

NOV. 30, 1979

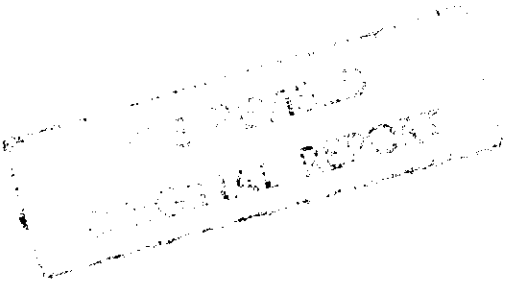
INFLUENCE LINE FOR CRITICAL INVENTORY RATING POINT SPAN 5 10TH POINT 9

MEM NO	LEFT	.1	.2	.3	.4	.5	.6	.7	.8	.9	RIGHT
3	0.0	0.035	0.079	0.127	0.171	0.206	0.225	0.220	0.184	0.112	0.0
4	0.0	-0.161	-0.366	-0.590	-0.800	-0.964	-1.051	-1.027	-0.862	-0.524	0.0
5	0.0	0.522	1.152	1.889	2.722	3.638	4.622	5.662	6.742	7.850	0.0

THE CRITICAL OPERATING RATING POINT IS THE SAME AS THE CRITICAL INVENTORY RATING POINT

THE CRITICAL PURPLE RATING POINT IS THE SAME AS THE CRITICAL INVENTORY RATING POINT

- 2 SANTA ANA RIVER (ADAMS AVE)
- 3 5 SPAN CIP P/S BOX GIRDER W/NO AC SURFACING
- 4 STRUCTURE IS SEPARATED BY LONGIT EXP JT DOWN CENTER
- 5 RATE ONE HALF BRIDGE AS SYMM ABOUT EXP JT



Bridge No. **550-344**
Other No. _____
P.U.C. No. _____
Location **07-Oran-PAU-M021-OMs**
Dist - Co - Rte - PM - City
Date of Investigation **August 9, 1979**

Name **SANTA ANA RIVER (Adams St. - 1.6 mi. w. of Harbor Blvd. - Greenville-Banning Channel)**
Lat. **N33°-40.3'** Long. **W117°-36.6'**

STRUCTURAL DATA AND HISTORY

Year Built **1977** By **Orange County** Contract No. **Unknown**

Date of Revisions _____

Designed by: B.D. ☐ **Orange County** Plans Avail. @ **County**

Description: **Five CIP/PS Concrete girder (12) spans on RC piers and RC abutments; all supported on PG/PS concrete piles.**

Spans **(w) 1 @ 89.7'; 3 @ 118'; 1 @ 90' (e) e/o**

Length **540'** Skew **14°Rt** Design LL **HS20-44 & Alt**

Ratings: Inventory **HS20/LF** Operating **HS44/LF** Permit **PPPPP/LF**

DESCRIPTION - ON STRUCTURE

Bridge Width **1' ER; 4' SW; 40'; 4' m; 40'; 4'SW; 1'ER**

Total Width **94'** Lanes **6** Tracks **None**

Median **4' (raised concrete)** Rail Type **11 (1111)**

Vert. Clearance over deck **Unimpaired** Appr. Rdwy. Width **84'**

Wearing Surface **None** Deck Seal **None**

Alignment **Tangent**

DESCRIPTION - UNDER STRUCTURE

Roadway Section **None**

Clearances: Vert. _____ Horiz. _____ Lt. _____ Rt. _____

Lanes _____ Tracks _____ Pumpplant: ☒ See Br. No. _____

Facilities Crossed **Santa Ana River & Greenville-Banning Channel (E01 & D03)**

cc:

Bridge No. **550-344**

Date **8-9-79**

DESCRIPTION - HYDRAULICS

Channel **Greenville-Banning-Well defined. Santa Ana River-Concrete slopes**

Navigable: Yes ☐ No ☒ Clearances: Vert. **N** Horiz. **N**

MAINTENANCE

Custodian **Orange County**

Owner **Orange County**

ORIGINAL
CONDITION RATING

Deck	9
Superstructure	9
Substructure & Pipes	9
Channel & Channel Protection	7
Retaining Walls	N
Approach Rdwy. Alignment	9
Estimated Remaining Life	60

ORIGINAL
APPRAISAL

Overall	9
Deck Geometry	8
Underclearances	Vert. N
	Horiz. N
Safe Load Capacity	9
Waterway Adequacy	8
Approach Rdwy. Alignment	9

Widenable? Yes ☒ No ☐ Conditional ☐

County **Orange**
Action Required by District: Yes ☐ No ☒

AVERAGE DAILY TRAFFIC: **16,400* (1979)**

BYPASS DETOUR LENGTH: **6 miles**

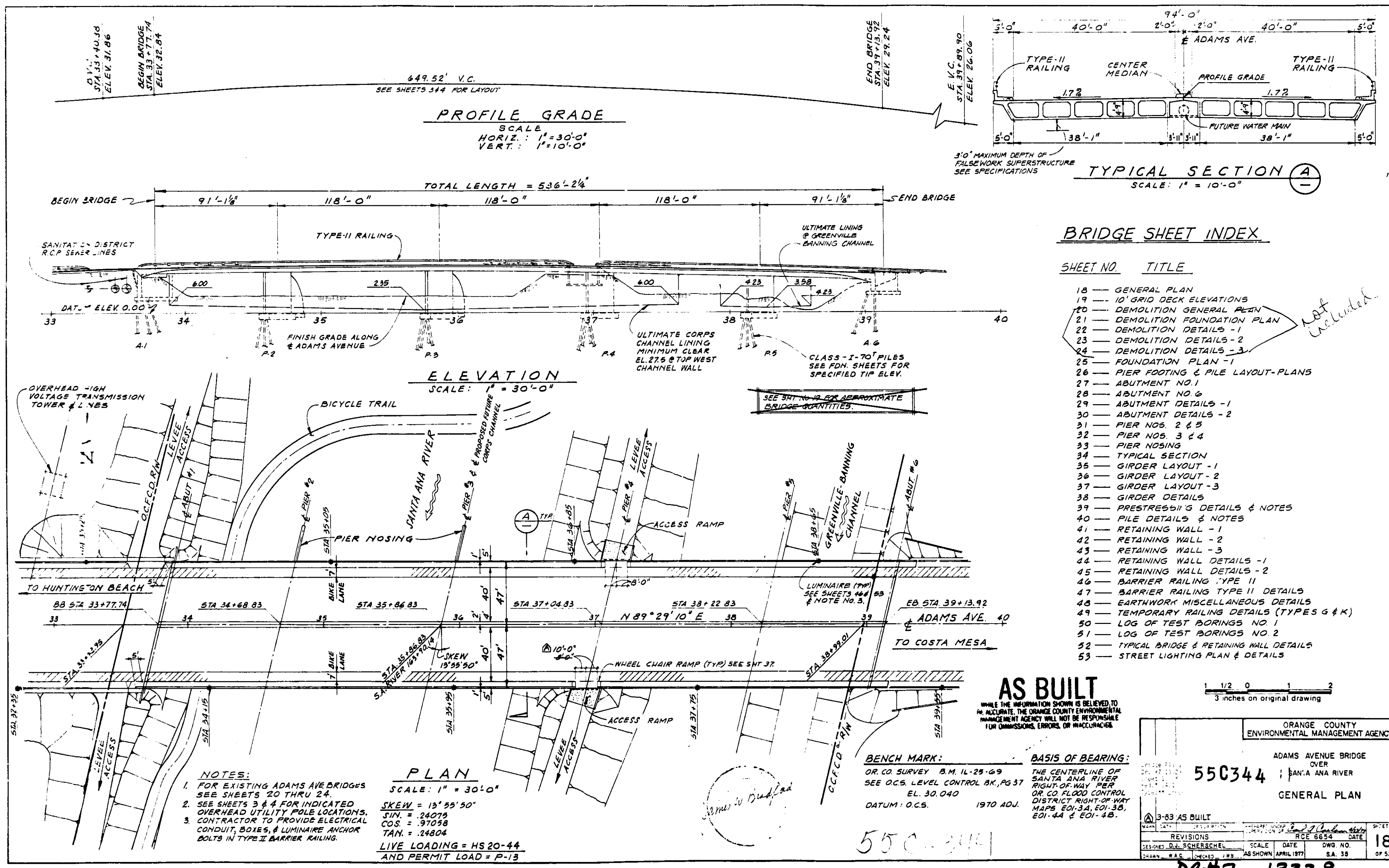
CONDITION OF STRUCTURE: **The structure is in good condition.**

LOAD CAPACITY: **The inventory, operating and permit ratings shown were obtained through the "Frame Rate" program using the load factor (LF) method of analysis.**

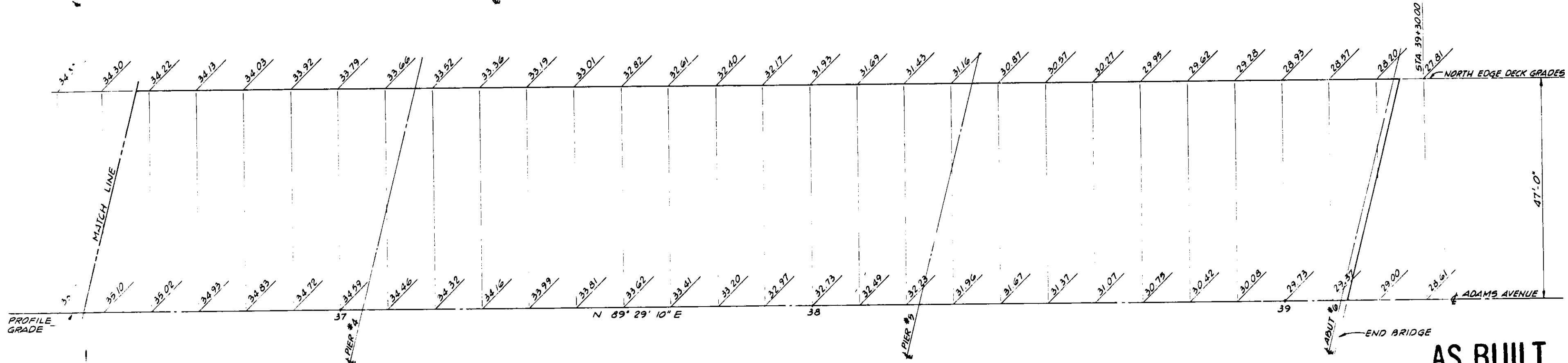
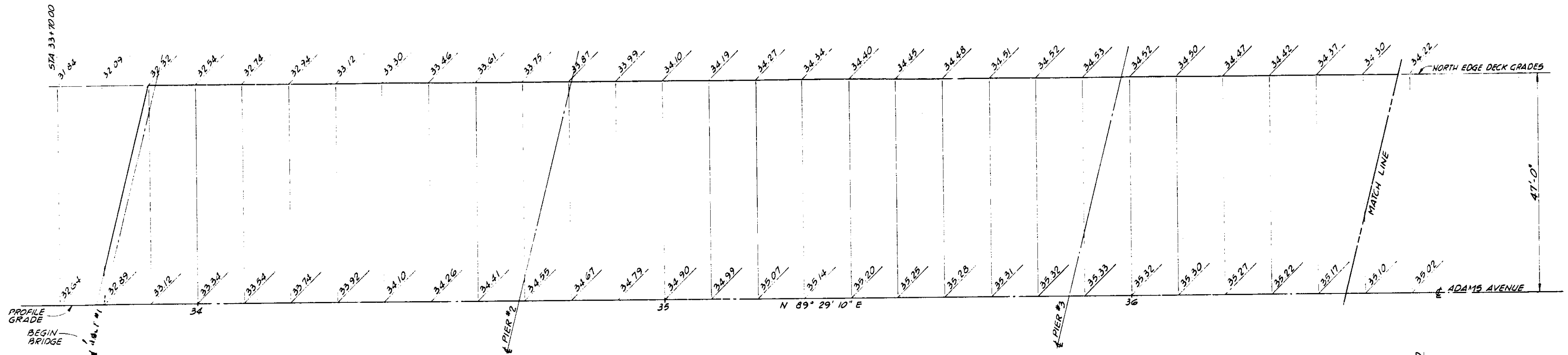
RECOMMENDATIONS: **None**

FJW:mr
cc:DR Higgins
Dist 07 Local Ass't
Orange County (2)

Original prepared by
Frank J. Walliser



DR#7 13329



PLAN - 10' GRID DECK ELEVATIONS
 SCALE: 1" = 10'-0"
 (LEFT BRIDGE SHOWN; RIGHT BRIDGE SIMILAR)

NOTE:
 ELEVATIONS ARE FIGURED NORMAL FROM PROFILE GRADE AT 10' STATIONS ALONG ADAMS AVENUE. THESE ELEVATIONS DO NOT INCLUDE CAMBER. ELEVATIONS ARE SYMMETRICAL ABOUT & ADAMS AVENUE.

AS BUILT
 WHILE THE INFORMATION SHOWN IS BELIEVED TO BE ACCURATE THE ORANGE COUNTY ENVIRONMENTAL MANAGEMENT AGENCY WILL NOT BE RESPONSIBLE FOR OMISSIONS, ERRORS, OR INACCURACIES.

1 1/2 0 1 2
 3 inches on original drawing

APPROXIMATE BRIDGE QUANTITIES

1. TEMPORARY BARRIER RAILING (TYPE K)----- 980 L.F.	11. FURNISH CONCRETE PILING (70')----- 12170 L.F.	21. GRAVEL BLANKET (BRIDGE)----- 153 C.Y.
2. REMOVE & SALVAGE BRIDGE GUARDRAILING----- 204 L.F.	12. DRIVE CONCRETE PILING (70')----- 325 EA.	
3. REMOVE BRIDGE DECK----- 28,877 S.F.	13. STRUCTURE CONCRETE (BRIDGE-3000 PSI)----- 285 C.Y.	
4. REMOVE STEEL BRIDGE GIRDERS----- 1 L.S.	14. STRUCTURE CONC. (BR. SUBSTRUCTURE-4000 PSI)-1730 C.Y.	
5. REMOVE BRIDGE CONCRETE----- 433 C.Y.	15. STRUCTURE CONC. (BR. PRESTRESS-5000 PSI)-3200 C.Y.	
6. REMOVE PILES----- 146 EA.	16. PRESTRESSING CIP BRIDGE----- 1 L.S.	
7. STRUCTURE EXCAVATION (BRIDGE)----- 6031 C.Y.	17. BAR REINFORCING (BRIDGE)----- 325000 LBS.	
8. STRUCTURE BACKFILL BRIDGE (METHOD A)----- 2746 C.Y.	18. MISCELLANEOUS METAL (BRIDGE)----- 1 L.S.	
9. STRUCTURE BACKFILL BRIDGE (METHOD B)----- 1406 C.Y.	19. METAL HANDRAIL TYPE II----- 1064 L.F.	
10. PERVIOUS BACKFILL MAT'L (BRIDGE)----- 34 C.Y.	20. EXPANSION JOINT MAT'L (BRIDGE)----- 174 L.F.	

NOTE:
 ITEMS DESIGNATED ○ ARE FINAL PAY QUANTITIES

ORANGE COUNTY
 ENVIRONMENTAL MANAGEMENT AGENCY

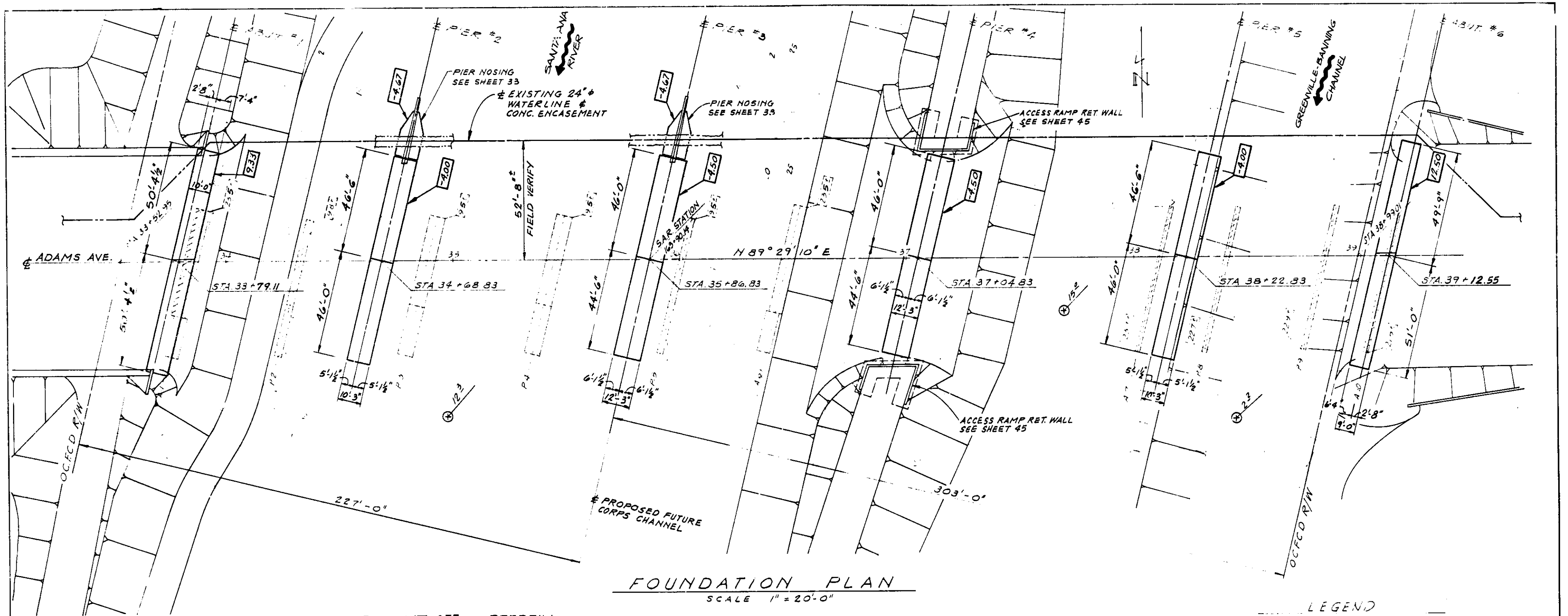
ADAMS AVENUE BRIDGE
 OVER
 SANTA ANA RIVER

10' GRID DECK
 ELEVATIONS

550344

DATE	DESIGNED	CHECKED	DATE	DATE	SHEET
4/23/77	RCE 6654	4/23/77	19		OF 53
SCALE	DATE	DWG. NO.			
AS SHOWN APRIL 1977	S.A. 35				

DR# 7 13329



FOUNDATION PLAN

SCALE 1" = 20'-0"

NOTES:

1. THE CONTRACTOR SHALL FIELD LOCATE THE EXISTING 24" WATERLINE PRIOR TO FINAL DRILLING AND PILE DRIVING. PREDRILLING TIP ELEVATIONS SHALL BE AS NOTED OR TO 5'-0" BELOW WATERLINE ENCASEMENT WHICHEVER IS LOWER WITHIN 10'-0" OF WATERLINE ENCASEMENT.
2. THE 24" WATERLINE SHALL BE MAINTAINED IN SERVICE AND SHALL BE SHORED, BRACED AND PROTECTED DURING ALL CONSTRUCTION OPERATIONS.
3. ALL JETTING MUST BE SUSPENDED AND THE PILE DRIVEN FOR THE LAST 10 FEET TO SPECIFIED BEARING.

LOCATION	STATION	SPECIFIED PILE TIP ELEVATION	PILE CUT OFF ELEVATION	PREDRILL TIP ELEV.
ABUT #1	23+79.11	-30.00	-39.58 MIN. @ +9.58	-15.00
PIER #2	32+68.83	-40.00	-36.25 MIN. @ -3.75	-25.00 *
PIER #3	35+86.83	-40.00	-35.75 MIN. @ -4.25	-25.00 *
PIER #4	37+04.83	-40.00	-35.75 MIN. @ -4.25	-25.00
PIER #5	38+22.83	-40.00	-36.25 MIN. @ -3.75	-25.00
ABUT #6	39+12.55	-30.00	-42.75 MIN. @ +12.75	-15.00
PIER #2 NOSING	32+68.83	-40.00	-35.58 MIN. @ -4.42	-25.00
PIER #3 NOSING	35+86.83	-40.00	-35.58 MIN. @ -4.42	-25.00

NOTES:
ALL PILES TO BE CLASS "X-70" SEE SHEET NO. 40 FOR PILE DETAILS.

* OPTIONAL DRILL JETTING AS APPROVED BY THE ENGINEER.

⊕ EXPLORATORY PILE LOCATION (TOTAL - 6) SEE ABUT. & PIER SHEETS #26, #27 & #28

LEGEND

- EXISTING PERMANENT
- EXISTING APPROX. BOTT. CUTS ELEVATION
- EXISTING CONTIGUOUS
- DESIGN BOTT. FOOTING ELEVATION
- DESIGN SPOT ELEVATIONS

AS BUILT
WHILE THE INFORMATION SHOWN IS BELIEVED TO BE ACCURATE, THE ORANGE COUNTY ENVIRONMENTAL MANAGEMENT AGENCY WILL NOT BE RESPONSIBLE FOR OMISSIONS, ERRORS, OR MALPRACICES.

1 2 0 1 2
3 inches on original drawing

ORANGE COUNTY
ENVIRONMENTAL MANAGEMENT AGENCY

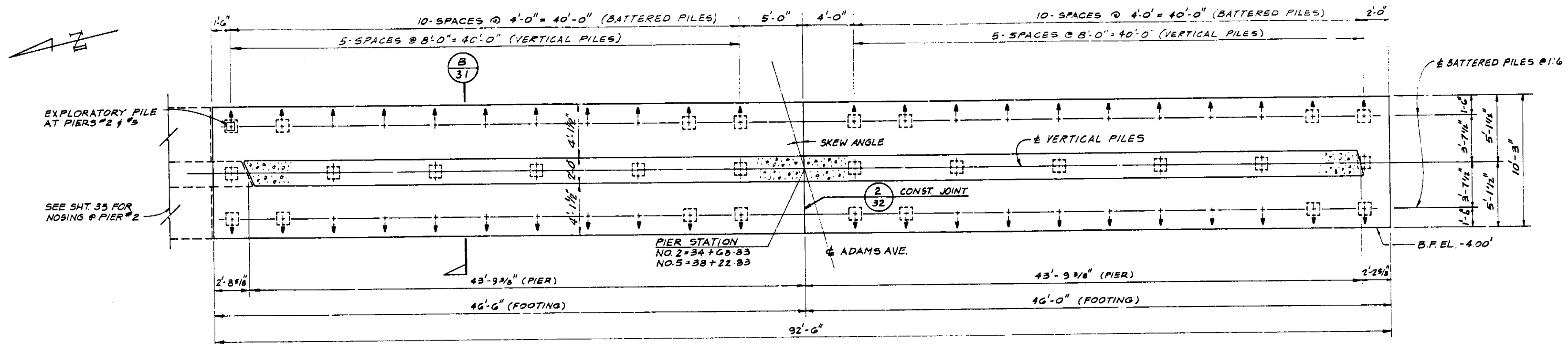
ADAMS AVENUE BRIDGE
OVER
SANTA ANA RIVER

550344

FOUNDATION PLAN - I

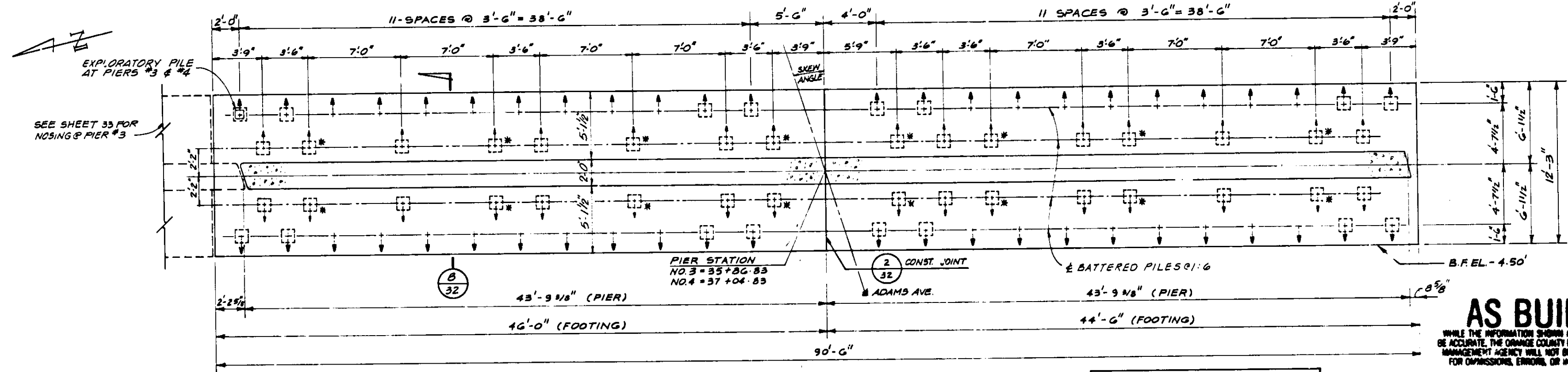
3-83 AS BUILT	DATE	BY	SCALE	DATE	DWG NO.
REVISIONS					
BY: DJB	DATE: 11/11/77	SCALE: AS SHOWN	DATE: APRIL 1977	S.A. 35	25
CHECKED: JWB					

DR#7 13329



PIER NO. 2 & 5
 PIER FOOTING & PILE LAYOUT-PLAN (A)
 SCALE: 1/4" = 1'-0"

TOTAL 56 PILES PER PIER
 44 BATTERED @ 1:6
 12 VERTICAL



PIER NO. 3 & 4
 PIER FOOTING & PILE LAYOUT-PLAN (B)
 SCALE: 1/4" = 1'-0"

PIER #3 - 64 PILES ALL BATTERED 1:6
 PIER #4 - 80 PILES ALL BATTERED 1:6
 * OMIT PILE @ PIER #3

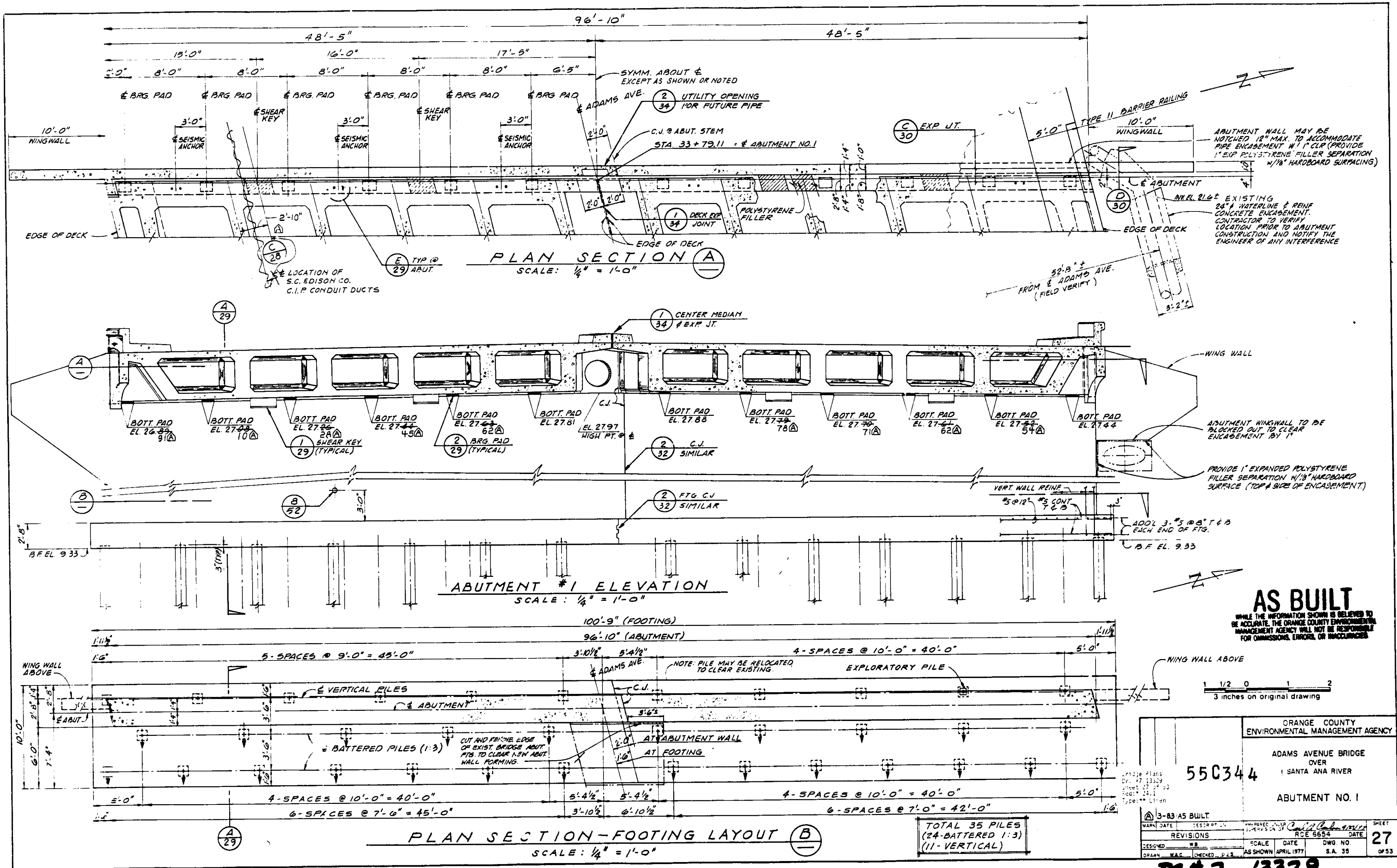
1 1/2 0 1 2
 3 inches on original drawing

AS BUILT
 WHILE THE INFORMATION SHOWN IS BELIEVED TO BE ACCURATE, THE ORANGE COUNTY ENVIRONMENTAL MANAGEMENT AGENCY WILL NOT BE RESPONSIBLE FOR OMISSIONS, ERRORS, OR INADJUNCTS.

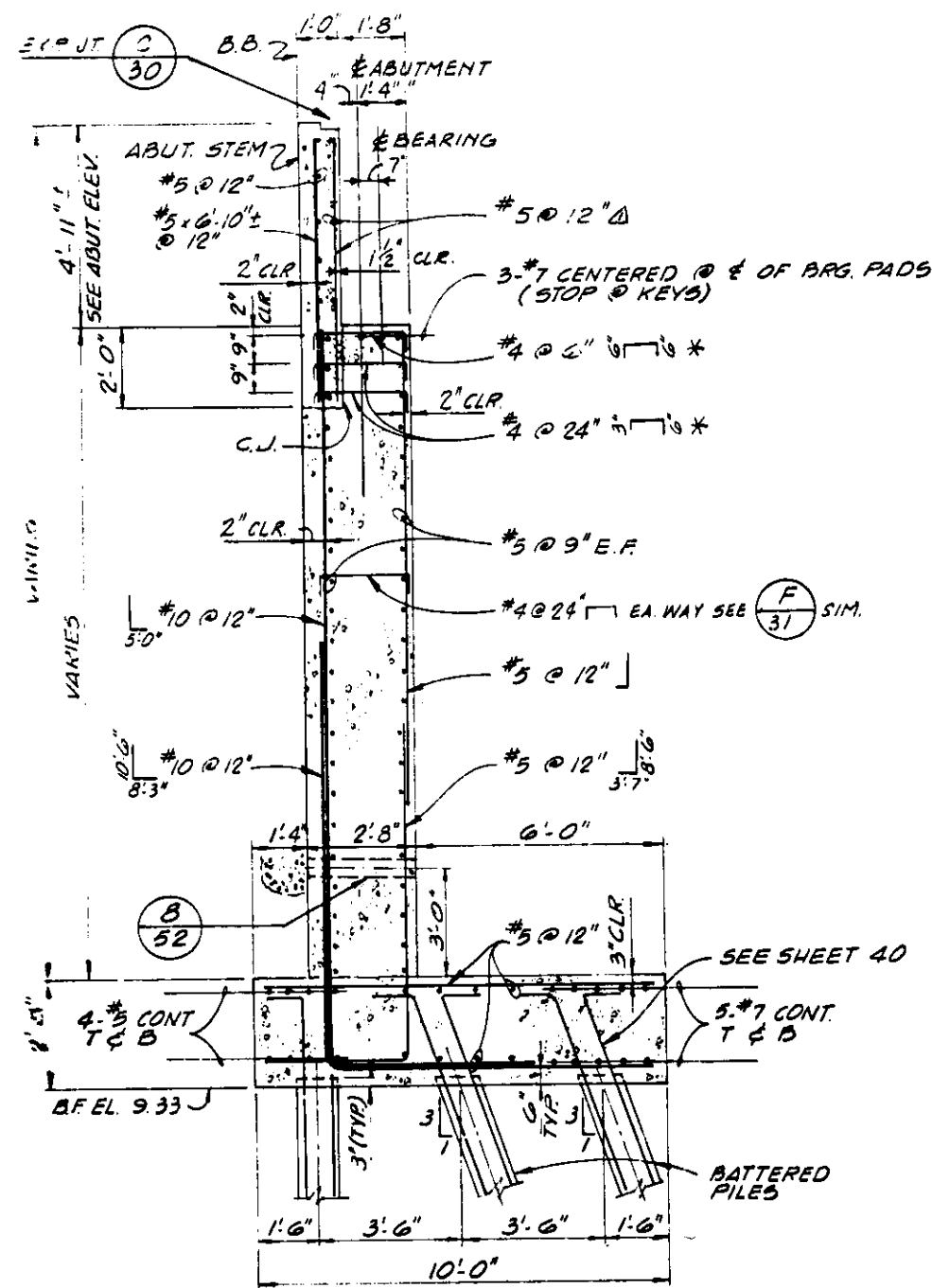
Bridge Plans
 Dr. - 7/13/77
 Rev. - 26/27/77
 Scaled - 33.1
 Type: L100

ORANGE COUNTY ENVIRONMENTAL MANAGEMENT AGENCY	
ADAMS AVENUE BRIDGE OVER SANTA ANA RIVER	
PIER FOOTING & PILE LAYOUT PLANS	
55C344	
DATE: 4/27/77	PREPARED UNDER: RCE 6634
DESIGNED: W.B.	CHECKED: D.J.S.
DRAWN: Z.S.	AS SHOWN: APRIL 1977
SCALE: S.A. 35	DWG. NO. 26
OF 33	

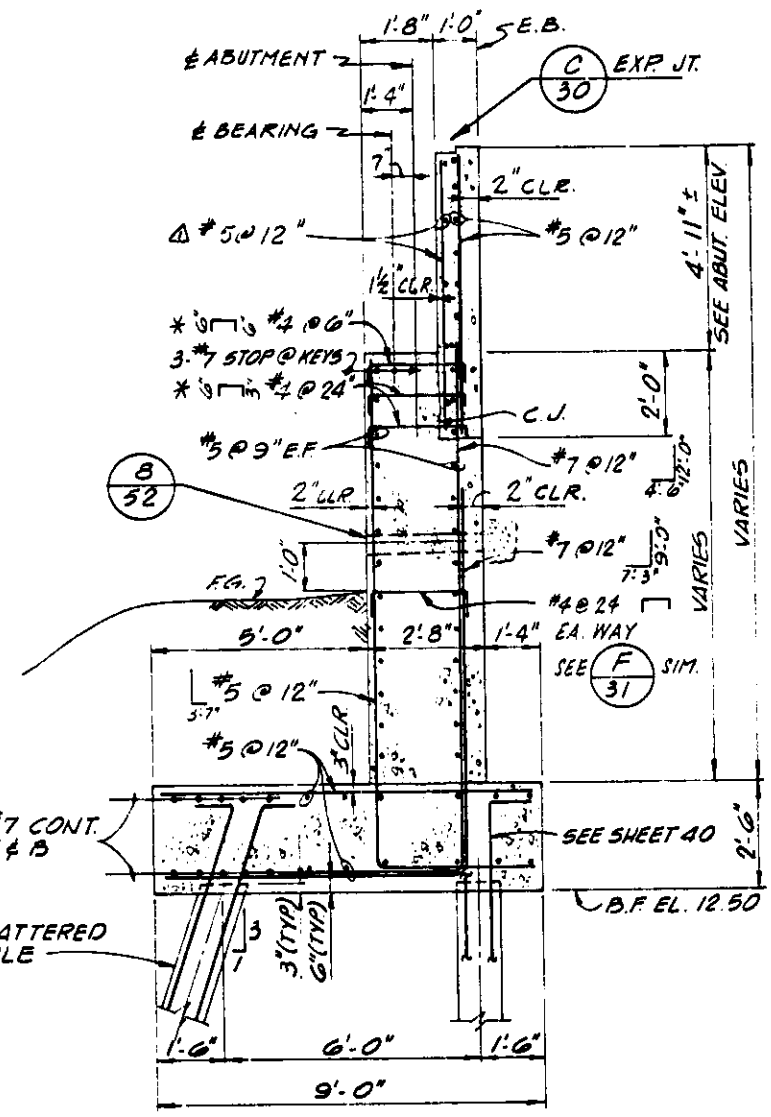
DR # 7 13329



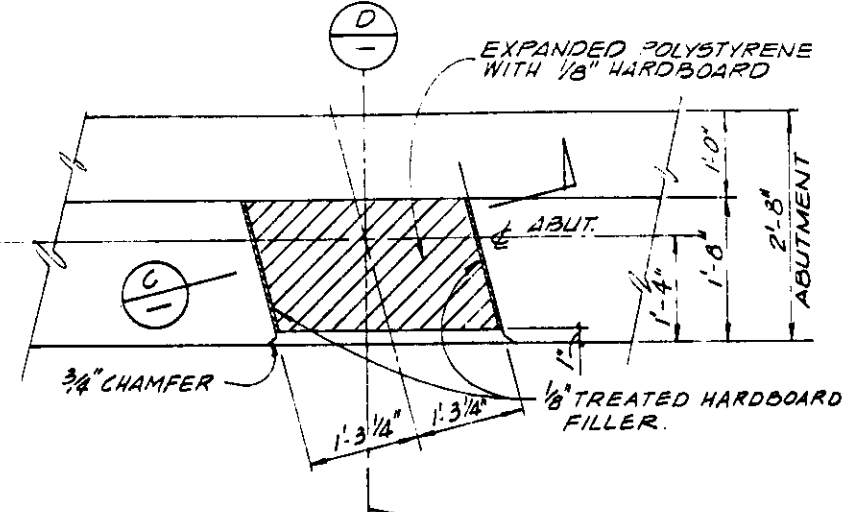
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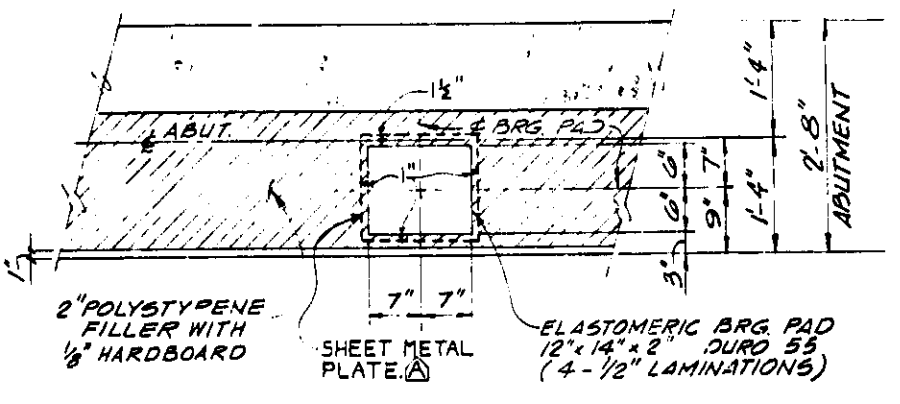
(ABUTMENT #1)
SECTION A
SCALE: 3/8"=1'-0"



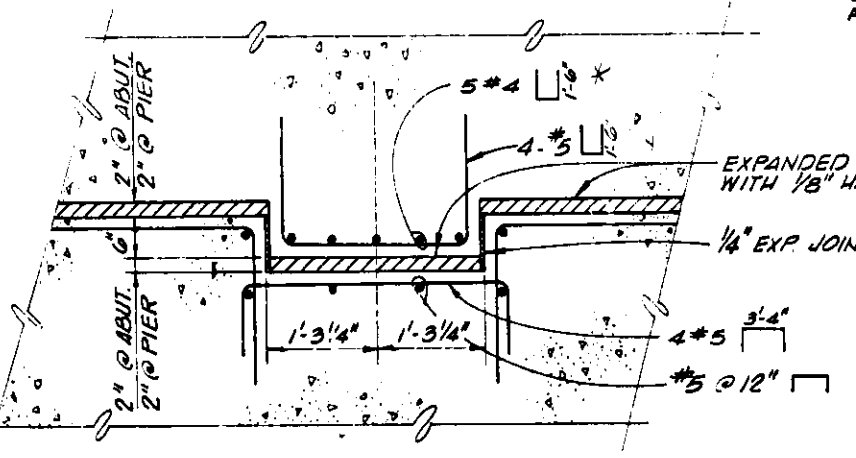
(ABUTMENT #6)
SECTION B
SCALE: 3/8"=1'-0"



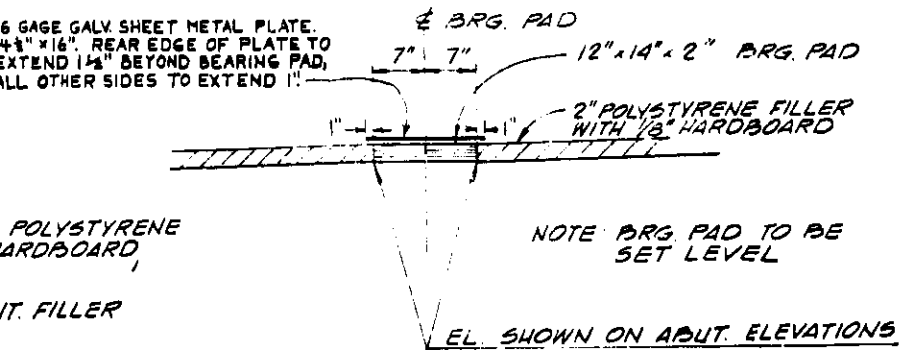
ABUT. SHEAR KEY PLAN
DETAIL 1
SCALE: 3/4"=1'-0"



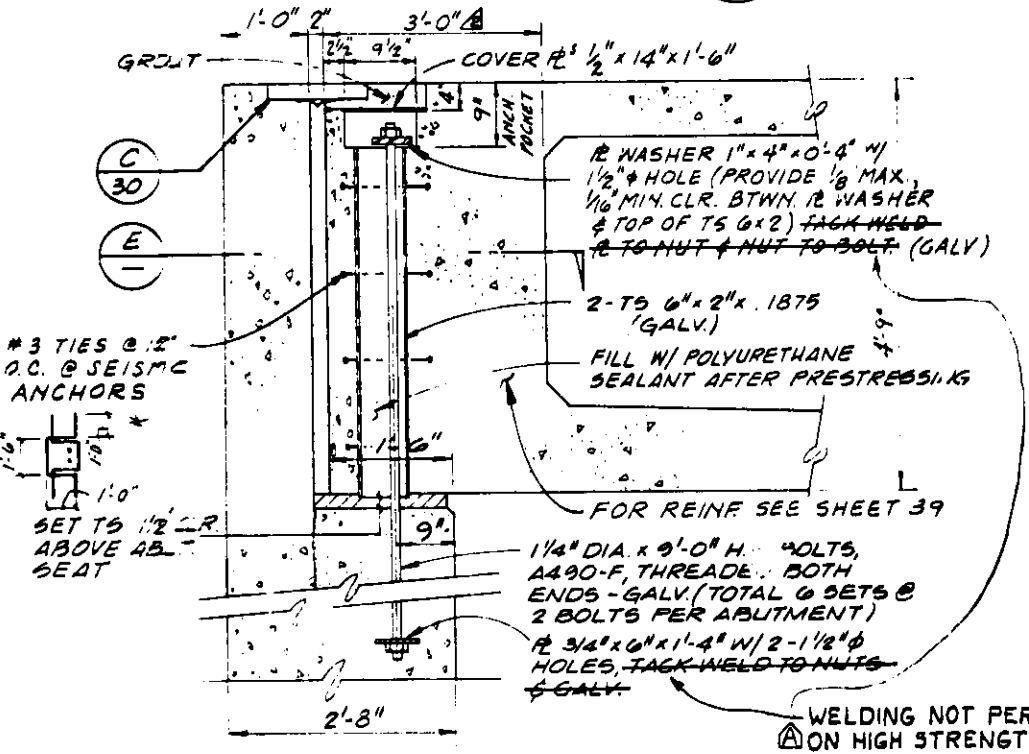
PLAN-ABUT. BEARING PAD
DETAIL 2
SCALE: 3/4"=1'-0"



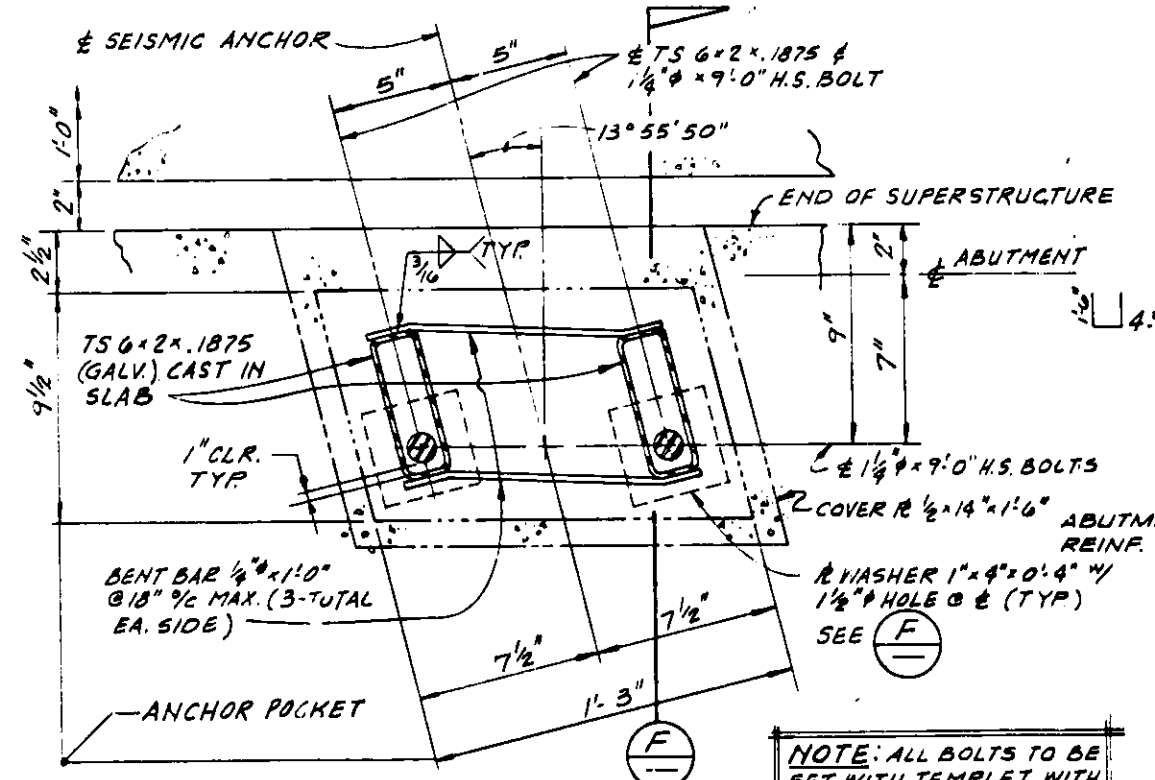
SECTION C
SCALE: 3/4"=1'-0"



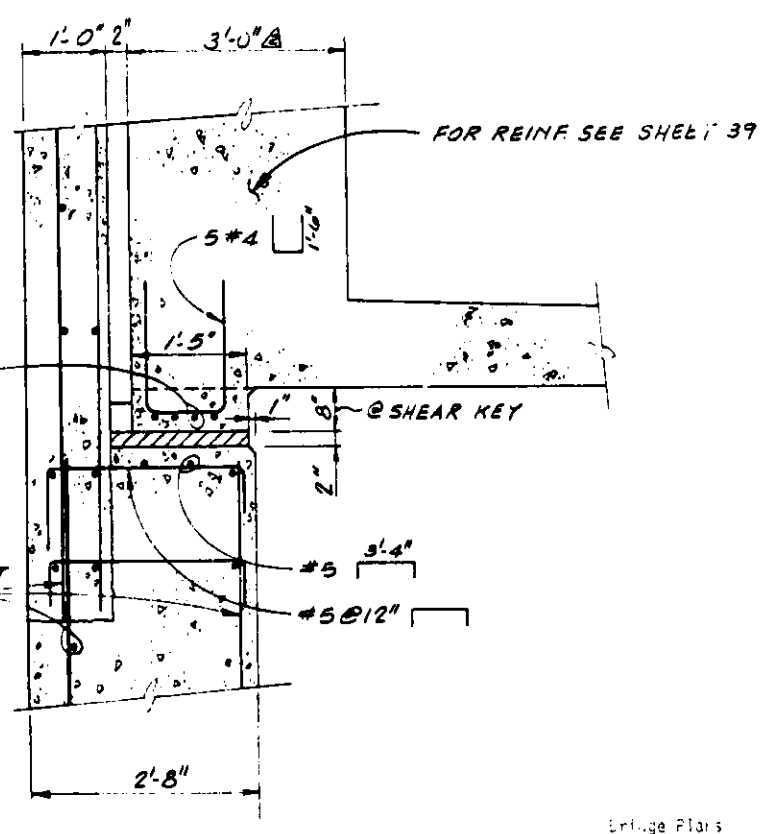
ELEVATION-ABUT. BRG. PAD
DETAIL 3
SCALE: 3/4"=1'-0"



(SEISMIC ANCHOR)
SECTION F
SCALE: 3/4"=1'-0"



PLAN-SECTION E
NO SCALE



SECTION D
SCALE: 3/4"=1'-0"

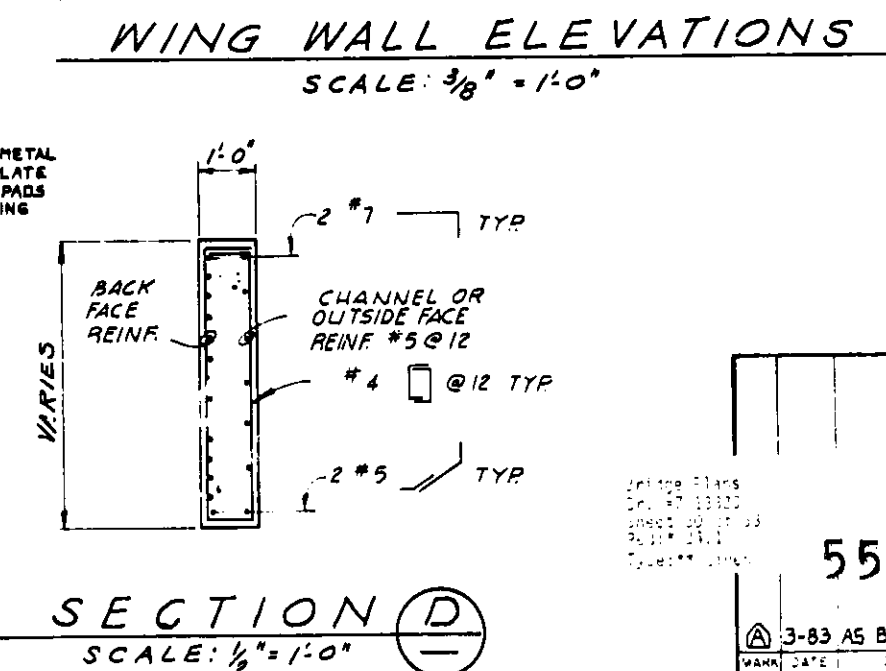
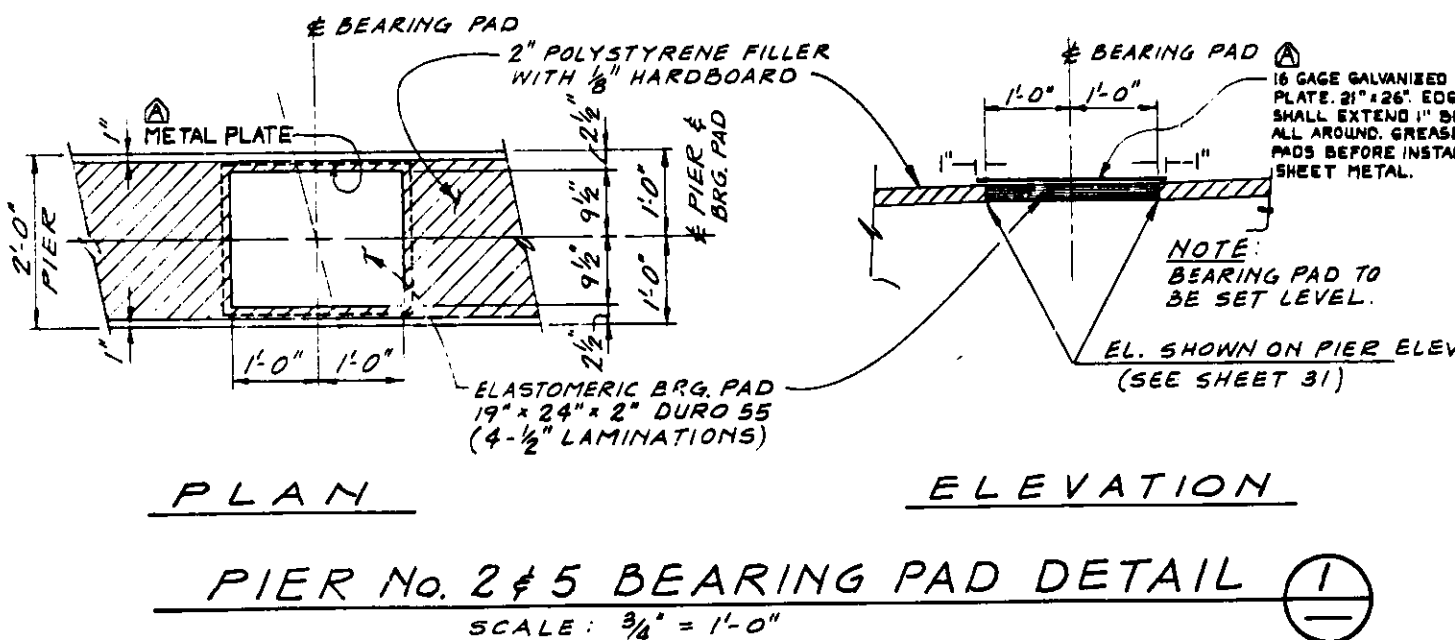
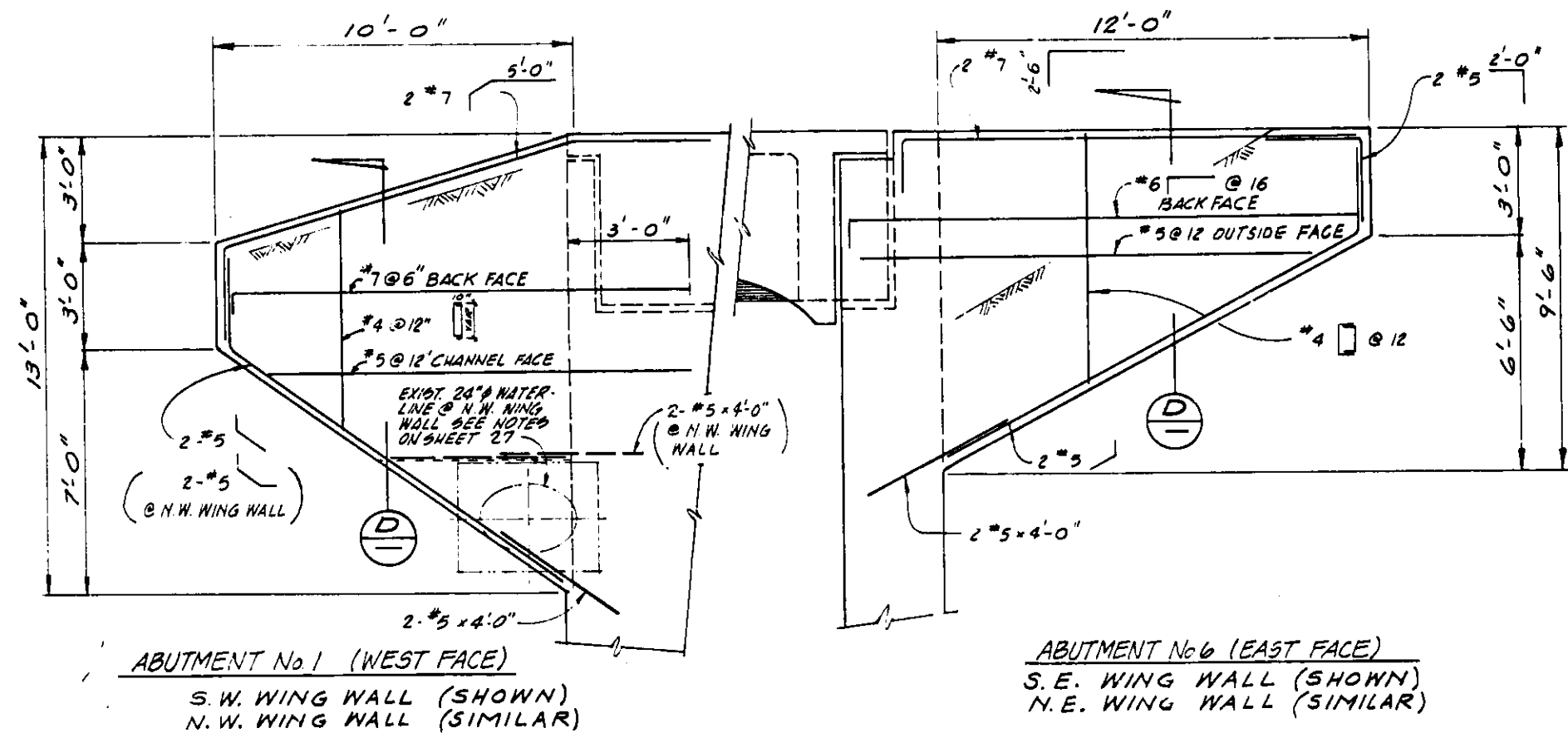
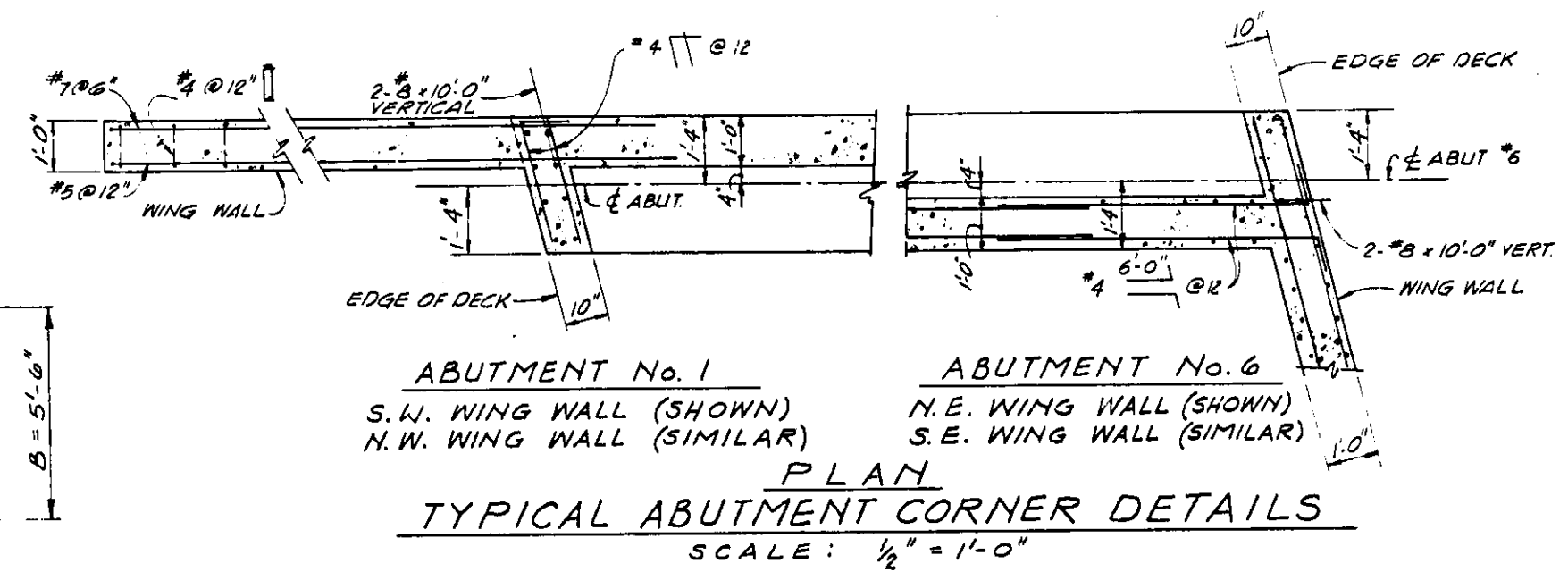
NOTE:
* SHEAR KEY REINFORCING TO BE BENT WITH STIRRUP HOOK BEND.

AS BUILT
WHILE THE INFORMATION SHOWN IS BELIEVED TO BE ACCURATE, THE ORANGE COUNTY ENVIRONMENTAL MANAGEMENT AGENCY WILL NOT BE RESPONSIBLE FOR OMISSIONS, ERRORS, OR INACCURACIES.

1 1/2 0 1 2
3 inches on original drawing

6-977 Vert. reinf. in back wall of abut.		ORANGE COUNTY ENVIRONMENTAL MANAGEMENT AGENCY	
6-977 Increase thickness of abut. diaphragm		ADAMS AVENUE BRIDGE OVER SANTA ANA RIVER	
3-83 AS BUILT.		ABUTMENT DETAILS-1	
DATE	DESCRIPTION	APPROVED UNDER	SHEET
DESIGNED	W.B.	SCALE	DATE
DRAWN	R.R.B.	CHECKED	D.T.S.
AS SHOWN APRIL 1977		DWG. NO.	29
		S.A. 35	OF 53

DR#7 13329

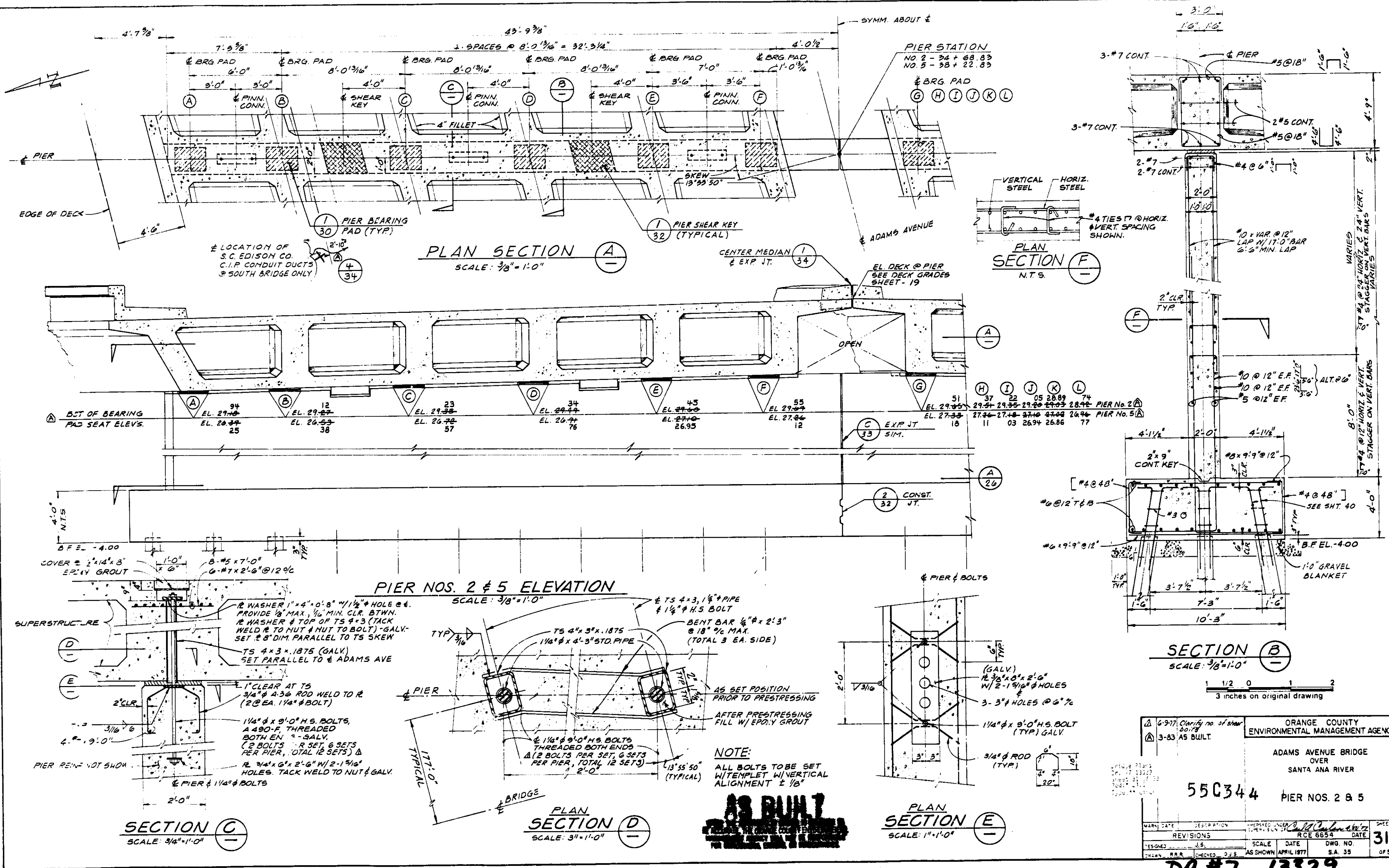


AS BUILT
WHILE THE INFORMATION SHOWN IS BELIEVED TO
BE ACCURATE, THE ORANGE COUNTY ENVIRONMENTAL
MANAGEMENT AGENCY WILL NOT BE RESPONSIBLE
FOR OMISSIONS, ERRORS, OR INACCURACIES.

1 1/2 0 1 2
3 inches on original drawing

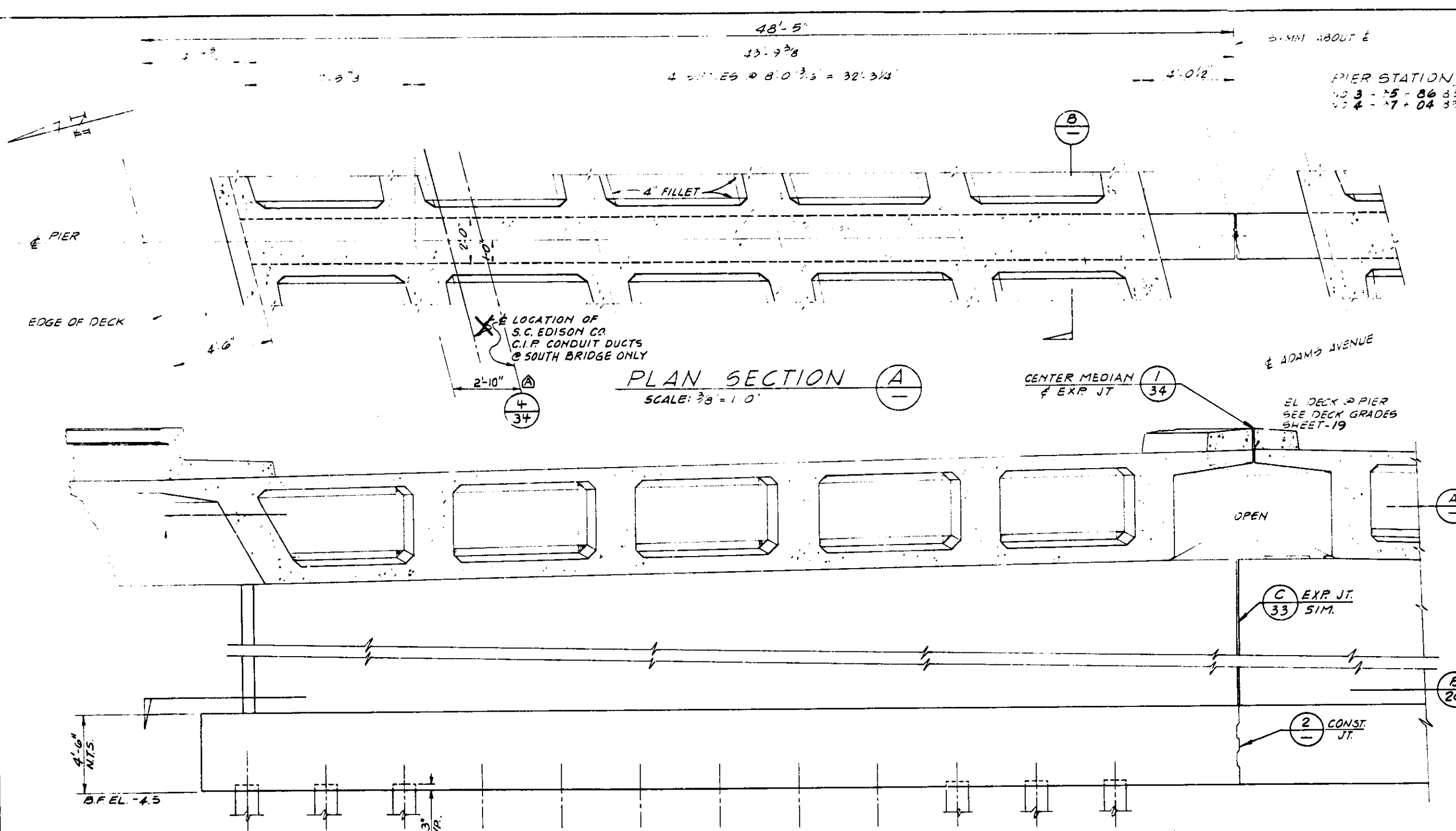
3-33 AS BUILT. WANA DATE DESCRIPTION REVISIONS DESIGNED WAC CHECKED WAC CHECKED D.S.		PREPARED BY <i>Paul C. Carlson 11/1/77</i> DIVISION OF SCALE DATE APRIL 1977		ORANGE COUNTY ENVIRONMENTAL MANAGEMENT AGENCY ADAMS AVENUE BRIDGE OVER SANTA ANA RIVER ABUTMENT DETAILS-2
30		RCE 6654 DATE		SHEET 30 OF 53

DR #7 13329

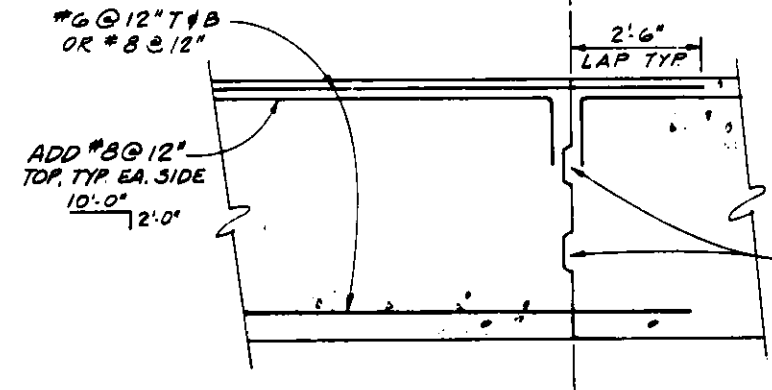
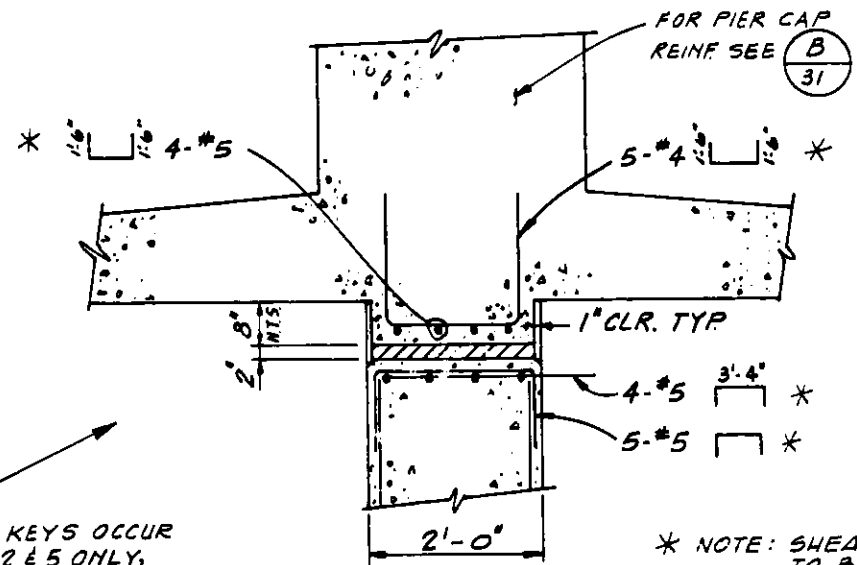
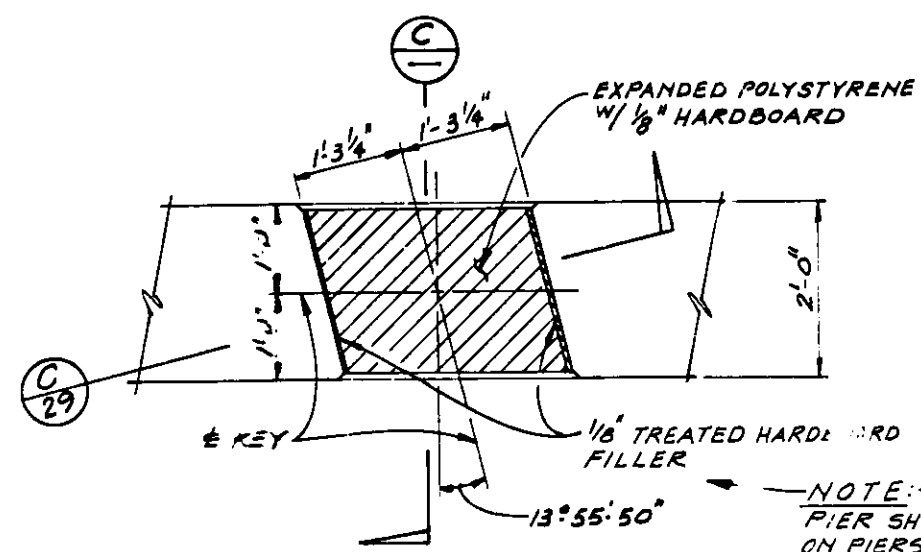


ORANGE COUNTY ENVIRONMENTAL MANAGEMENT AGENCY			
ADAMS AVENUE BRIDGE OVER SANTA ANA RIVER			
PIER NOS. 2 & 5			
DATE	DESCRIPTION	PREPARED UNDER	SHEET
DESIGNED	REVISIONS	RCE 6654	31
CHECKED	DATE	SCALE	DWG. NO.
AS SHOWN	APRIL 1977	S.A. 35	OF 53

DR #7 13329

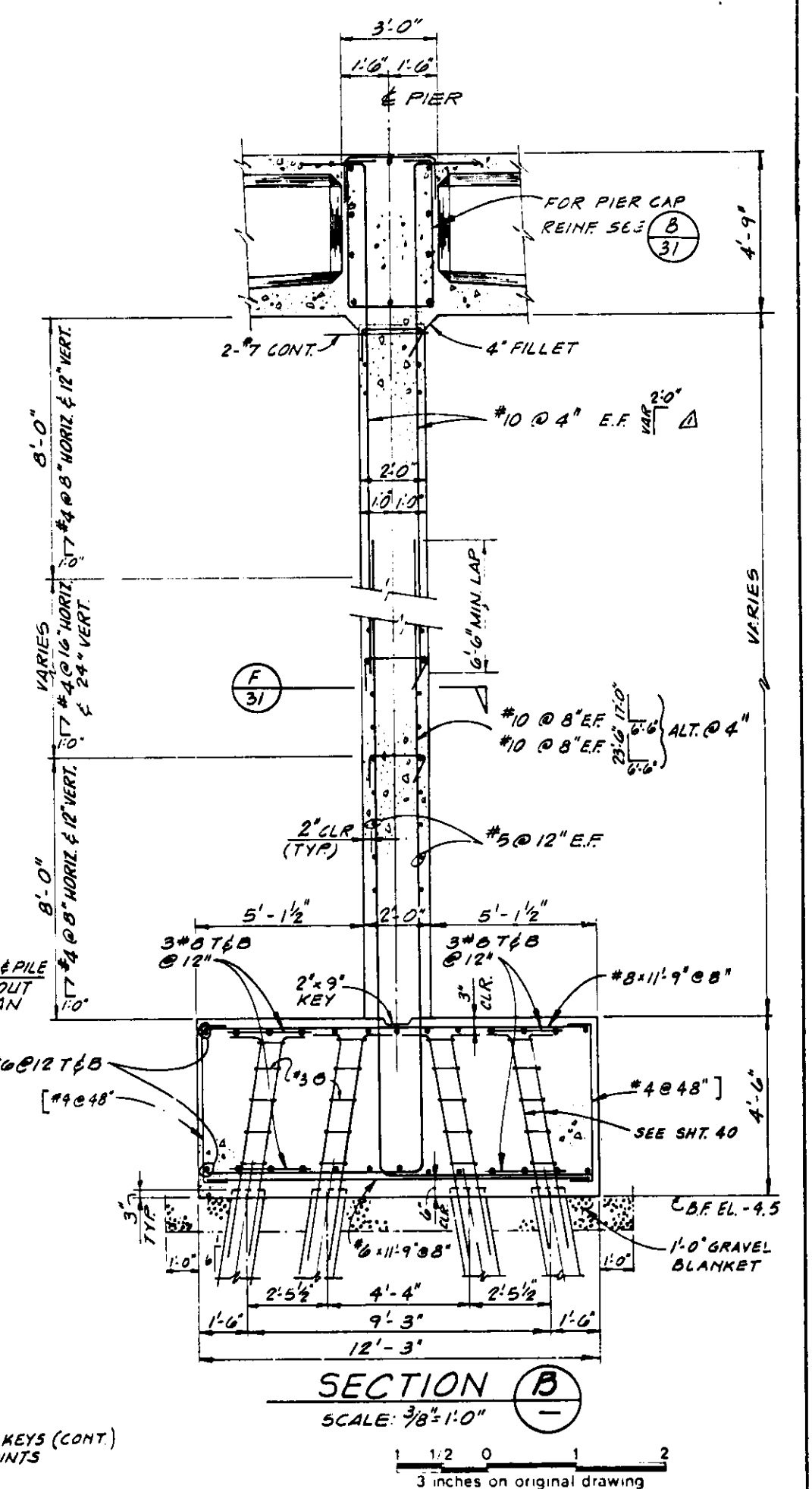


PIER NOS. 3 & 4 ELEVATION
SCALE: 3/8" = 1'-0"



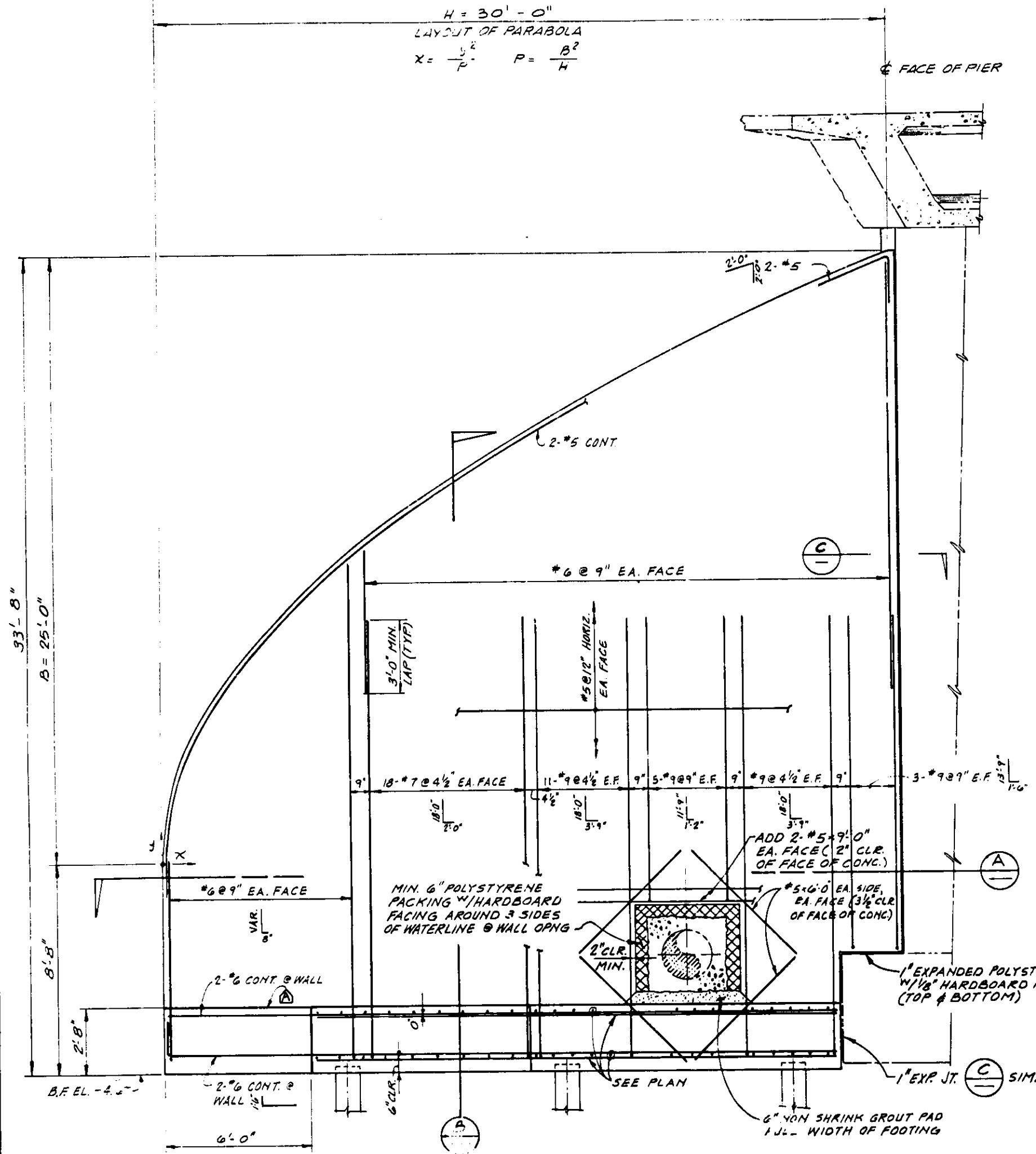
CONSTRUCTION JOINT AT FOOTING - DETAIL 2
SCALE: 1/2" = 1'-0"

AS BUILT
WHILE THE INFORMATION SHOWN IS BELIEVED TO BE ACCURATE, THE ORANGE COUNTY ENVIRONMENTAL MANAGEMENT AGENCY WILL NOT BE RESPONSIBLE FOR OMISSIONS, ERRORS, OR INACCURACIES.

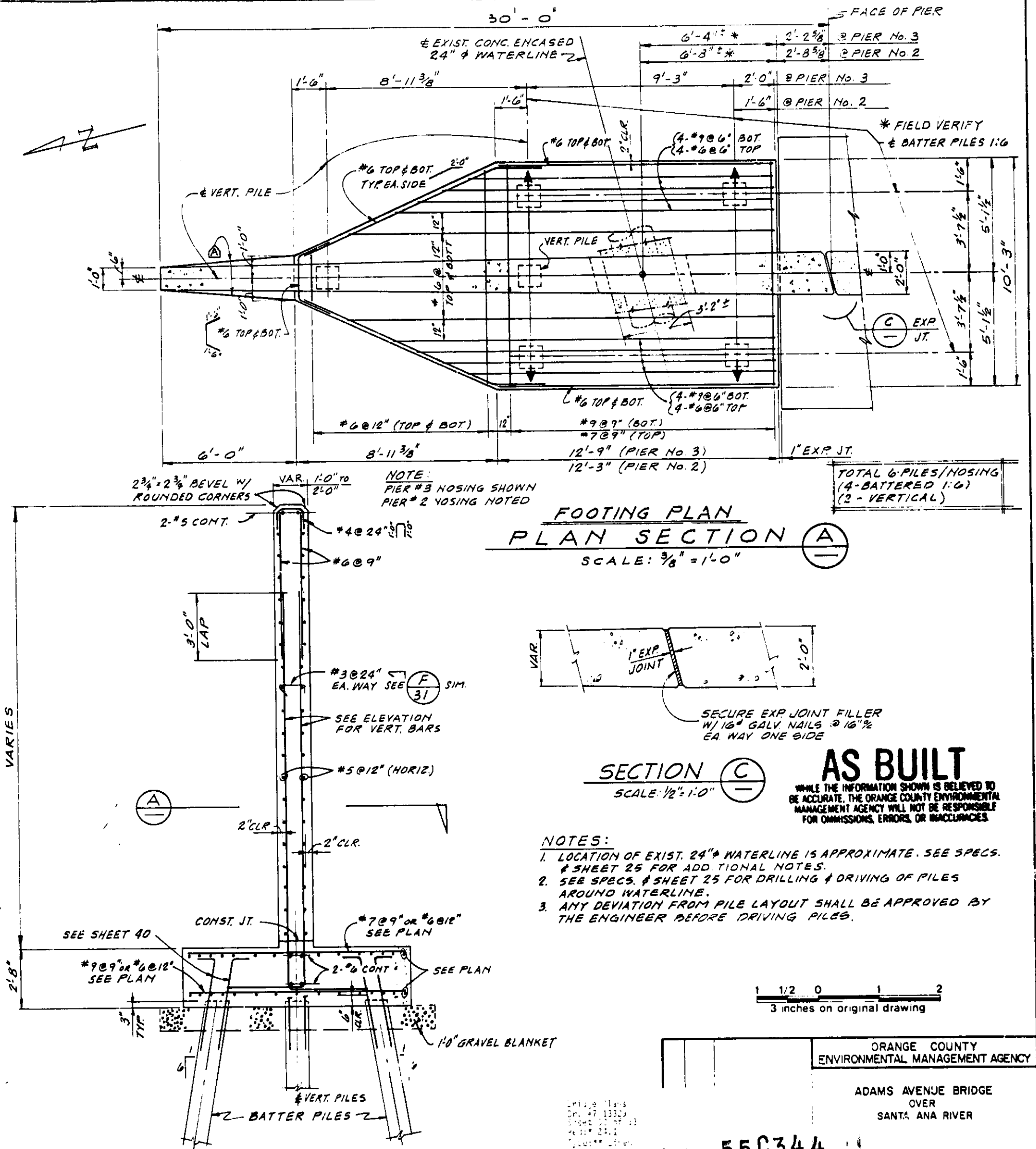


3-377 Deleted "Lap with 17'-0" bars" on section B 3-83 AS BUILT		ORANGE COUNTY ENVIRONMENTAL MANAGEMENT AGENCY ADAMS AVENUE BRIDGE OVER SANTA ANA RIVER	
550344 PIER NOS. 3 & 4		SHEET 32 OF 33	
DESIGNED: J.S. DRAWN: R.R.R.	SCALE: AS SHOWN DATE: APRIL 1977	RCE 6654 DWG. NO. S.A. 35	SHEET 32 OF 33

DR# 7 13329



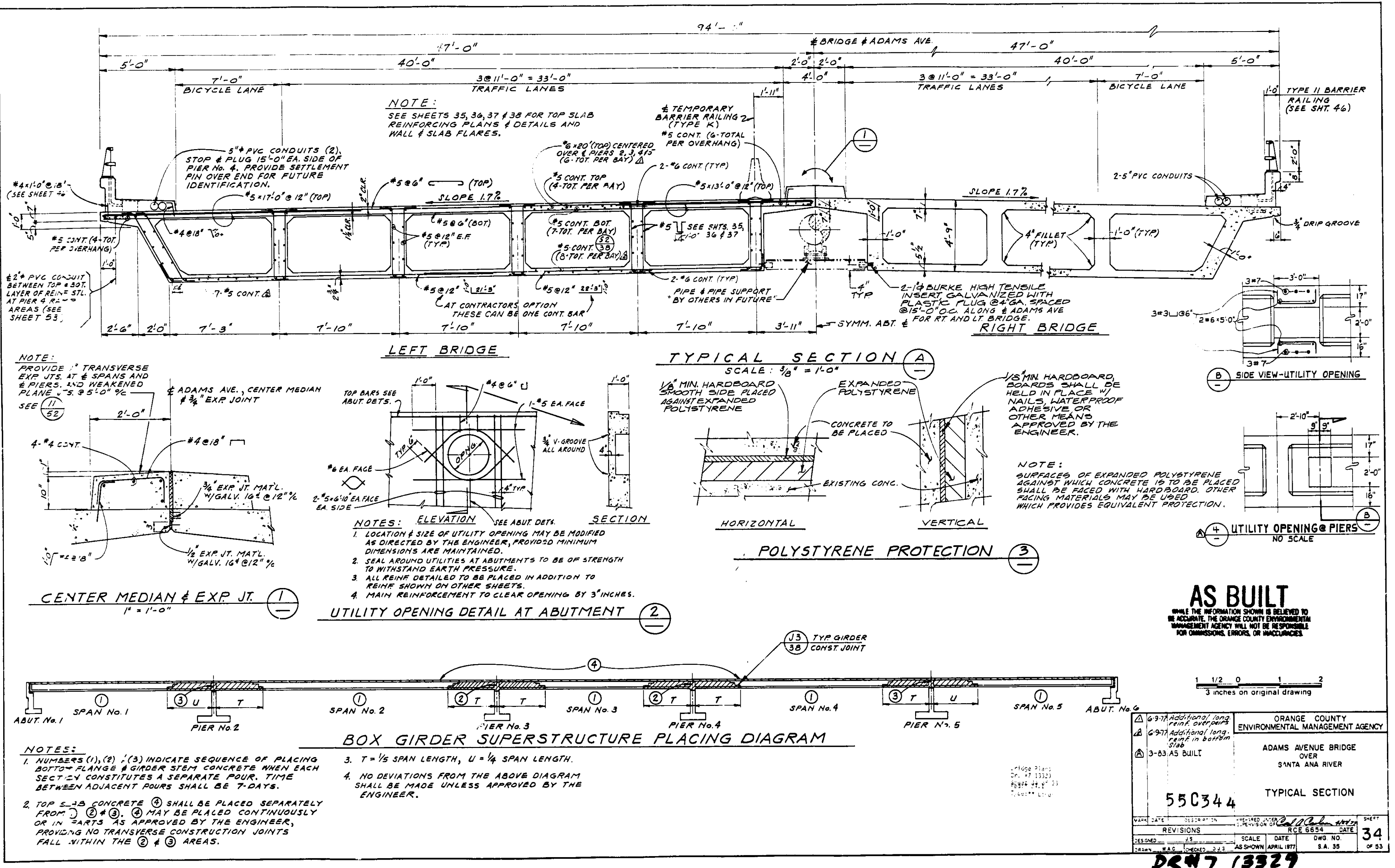
PIER #2 & #3
 NOSING-ELEVATION
 SCALE: 3/8" = 1'-0"



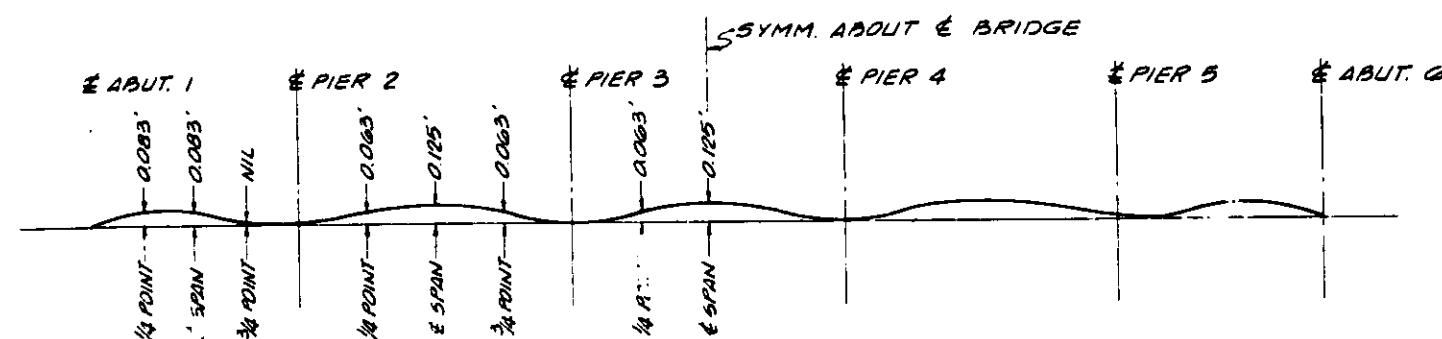
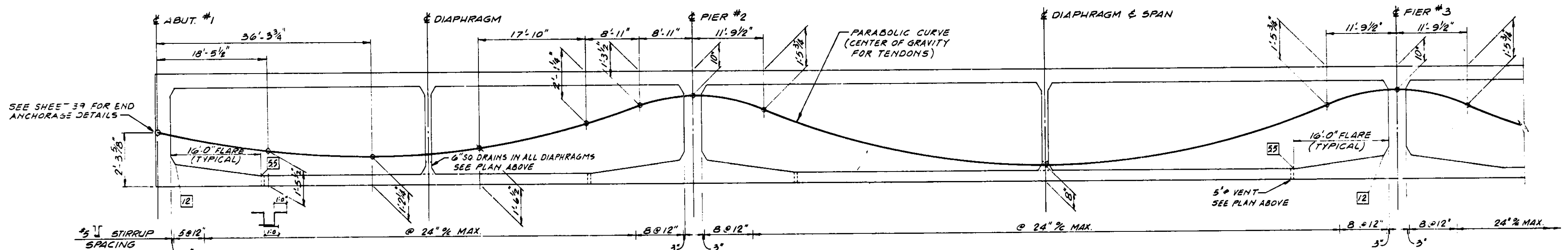
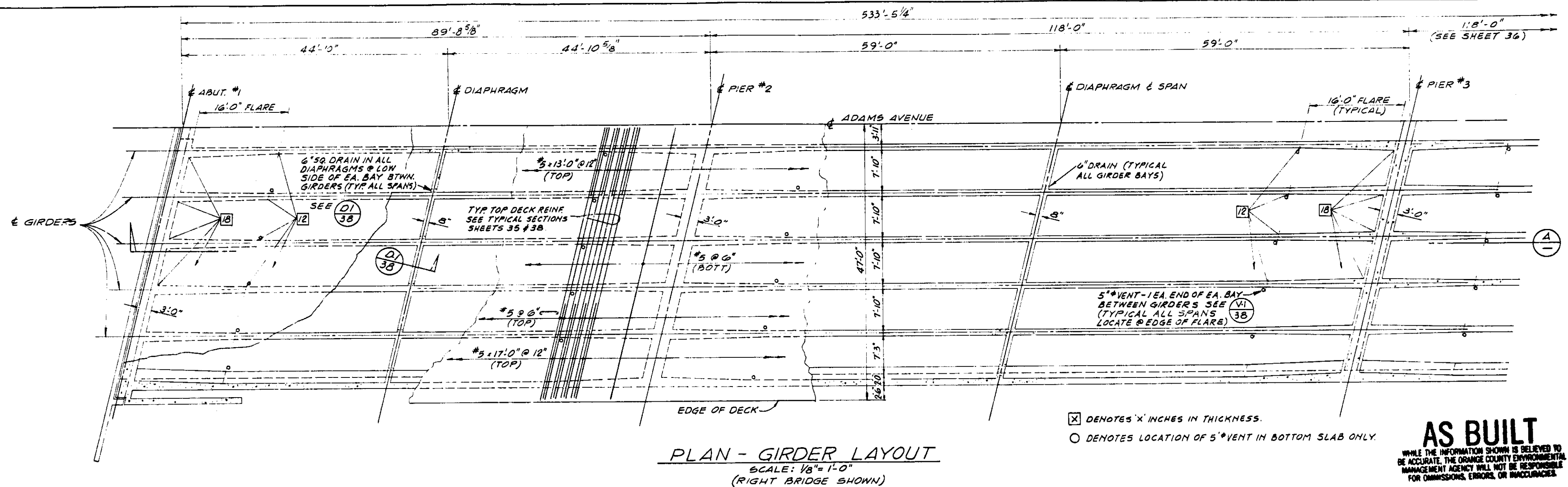
SECTION (B)
 SCALE: 3/8" = 1'-0"

ORANGE COUNTY ENVIRONMENTAL MANAGEMENT AGENCY			
ADAMS AVENUE BRIDGE OVER SANTA ANA RIVER			
PIER NOSING			
550344			
3-83 AS BUILT.			
DATE	DESIGNED BY	PREPARED BY	CHECKED BY
1/27/92	J.S.	W.A.C.	J.S.
SCALE	DATE	DWG. NO.	DATE
AS SHOWN	APRIL 1977	SA. 35	1977
33			OF 53

DR# 7 13329



DRW 7 13329



AS DEFLECTIONS MAY VARY WITH DIFFERENT PRESTRESSING SYSTEMS,
CAMBER DIAGRAM SHALL BE VERIFIED AFTER SHOP DRAWINGS
HAVE BEEN REVIEWED

LONGITUDINAL SECTION (A) TYPICAL ALL GIRDERS

SCALE: HORIZ. $\frac{1}{8}" = 1'-0"$
VERT. $\frac{1}{2}" = 1'-0"$

GENERAL NOTES

GENERAL NOTES
SPECIFICATIONS:
DESIGN AA SHTO 1973 WITH SUBSEQUENT INTERIM SPECIFICATIONS, & STATE OF CALIFORNIA,
DEPARTMENT OF TRANSPORTATION PLANNING & DESIGN

LIVE LOADING:
HS 20-44 & ALTERNATE & P.13 PERMIT LOADS

UNIT STRESSES:

REINFORCING STEEL	f_s : 60,000 PSI
CONCRETE SUPERSTRUCTURE	f'_c = 5000 PSI
PIERS, PIER NOSINGS, ABUTMENTS & PILE CAPS	f'_c = 4000 PSI
OTHER STRUCTURAL	f'_c = 3000 PSI

PILE LOADING: 70 TONS TYPE CLASS I PRESTRESSED CONCRETE $f'_c = 6000$ PSI

Judge Pines
Dr. #7 10021
8084 Dr. #7
Pines** - 10021

AS BUILT
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BE ACCURATE, THE ORANGE COUNTY ENVIRONMENTAL
MANAGEMENT AGENCY WILL NOT BE RESPONSIBLE
FOR OMISSIONS, ERRORS, OR INACCURACIES.

3 inches on original drawing

ORANGE COUNTY
ENVIRONMENTAL MANAGEMENT AGENCY

ADAMS AVENUE BRIDGE
OVER
SANTA ANA RIVER

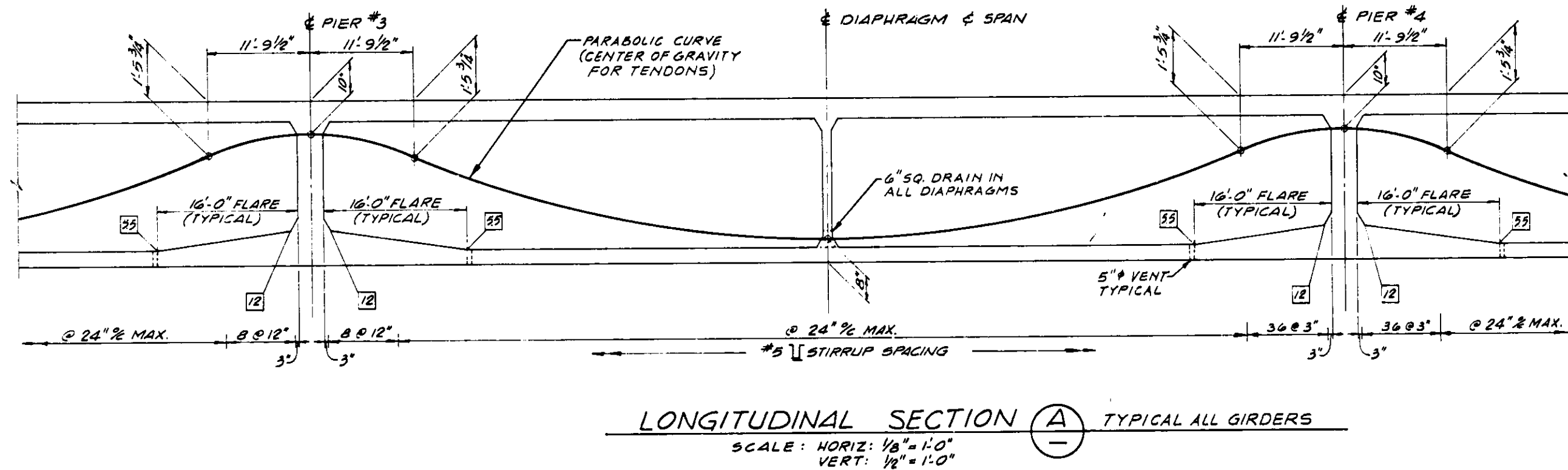
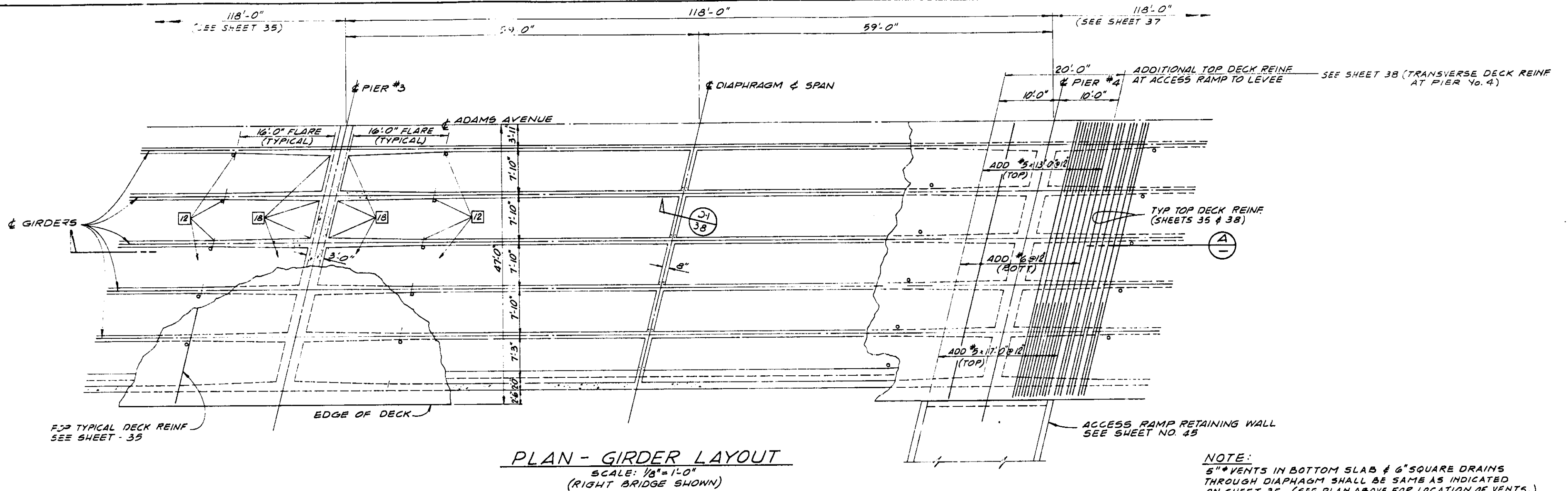
GIRDER LAYOUT - I

55C344

MARK	DATE	DESCRIPTION	PREPARED BY	DATE	SHEET 35 OF 53
REVISIONS			SUPERVISOR OF	DATE	
DESIGNED	J.S.	SCALE	DATE	DWG. NO.	
DRAWN	RRR	CHECKED	JWB	AS SHOWN	APRIL 1977
				S A 35	

DR# 7 13329

DR# 7 13329

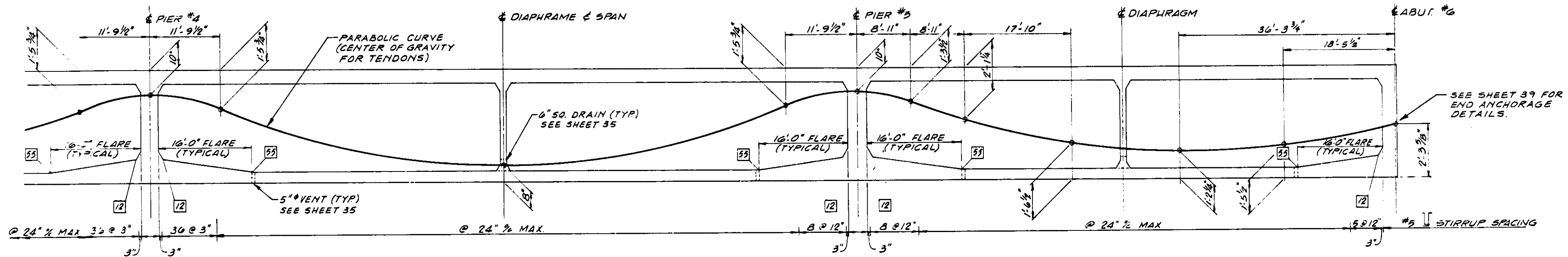
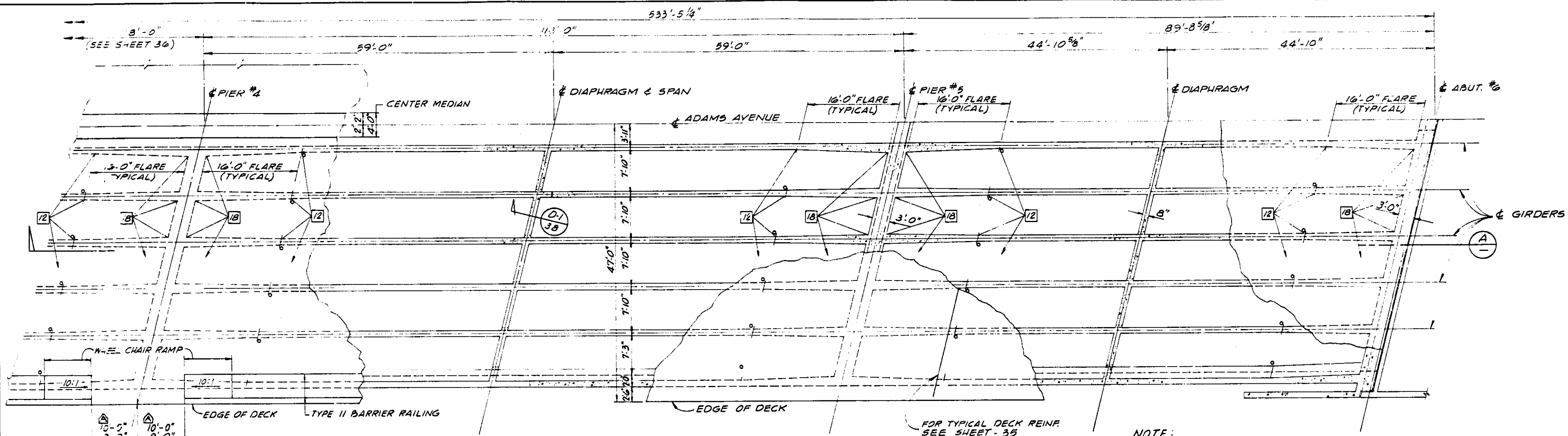


AS BUILT
WHILE THE INFORMATION SHOWN IS BELIEVED TO BE ACCURATE, THE ORANGE COUNTY ENVIRONMENTAL MANAGEMENT AGENCY WILL NOT BE RESPONSIBLE FOR OMISSIONS, ERRORS, OR INACCURACIES.

1 1/2 0 1 2
3 inches on original drawing

ORANGE COUNTY ENVIRONMENTAL MANAGEMENT AGENCY	
ADAMS AVENUE BRIDGE OVER SANTA ANA RIVER	
550344	GIRDER LAYOUT - 2
DESIGNED: J.S.	SCALE: AS SHOWN
DRAWN: A.R.R.	CHECKED: J.W.B.
DATE: APRIL 1977	DATE: APRIL 1977
OWG. NO. S.A. 35	SHEET 36 OF 53

DR#7 13329



AS BUILT

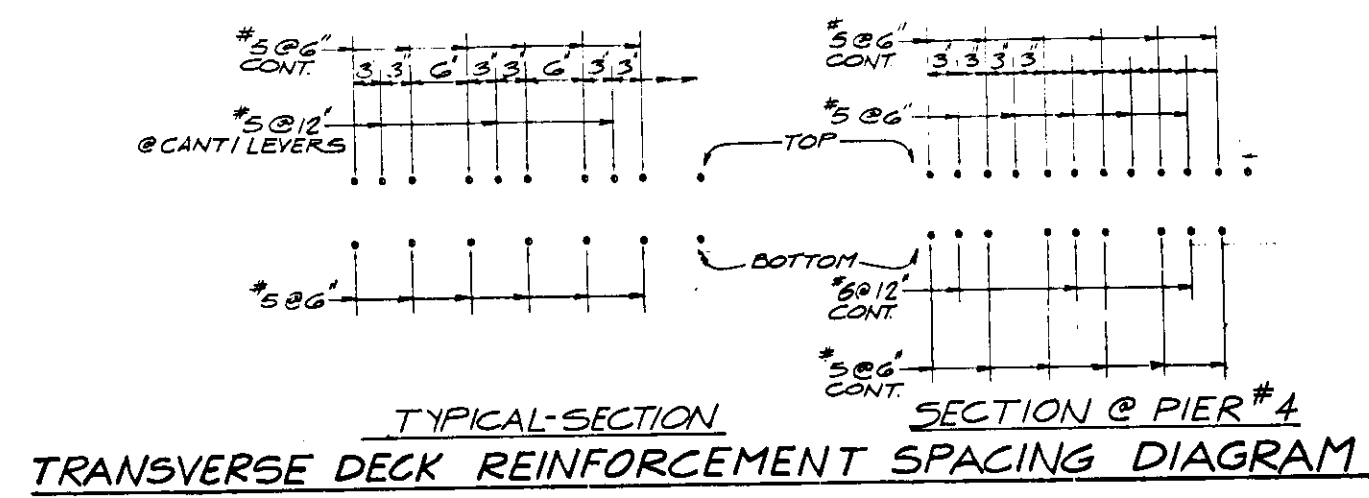
WHILE THE INFORMATION SHOWN IS BELIEVED TO BE ACCURATE, THE ORANGE COUNTY ENVIRONMENTAL MANAGEMENT AGENCY WILL NOT BE RESPONSIBLE FOR OMISSIONS, ERRORS, OR INACCURACIES.

1 1/2 0 1 2
3 inches on original drawing

ORANGE COUNTY ENVIRONMENTAL MANAGEMENT AGENCY	
ADAMS AVENUE BRIDGE OVER SANTA ANA RIVER	
550344 GIRDER LAYOUT - 3	
A 3-83-A5 BUILT.	
MARK DATE	DESCRIPTION
DESIGNED	SCALE DATE
DRAWN	CHECKED
AS SHOWN APRIL 1977	S.A. 35
SHEET 37 OF 53	

DR#7 13329

TYPICAL

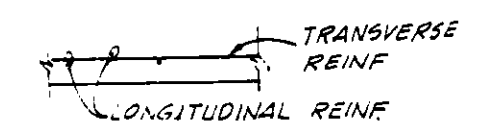
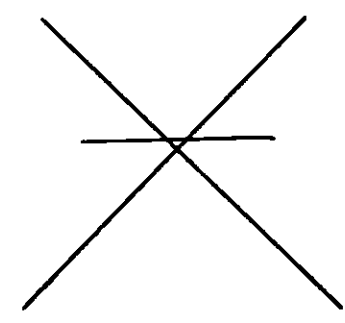


AS BUILT
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BE ACCURATE, THE ORANGE COUNTY ENVIRONMENTAL
MANAGEMENT AGENCY WILL NOT BE RESPONSIBLE
FOR OMISSIONS, ERRORS, OR INACCURACIES

12

12

see sheets 34, 35 & 36 for slab reinf.

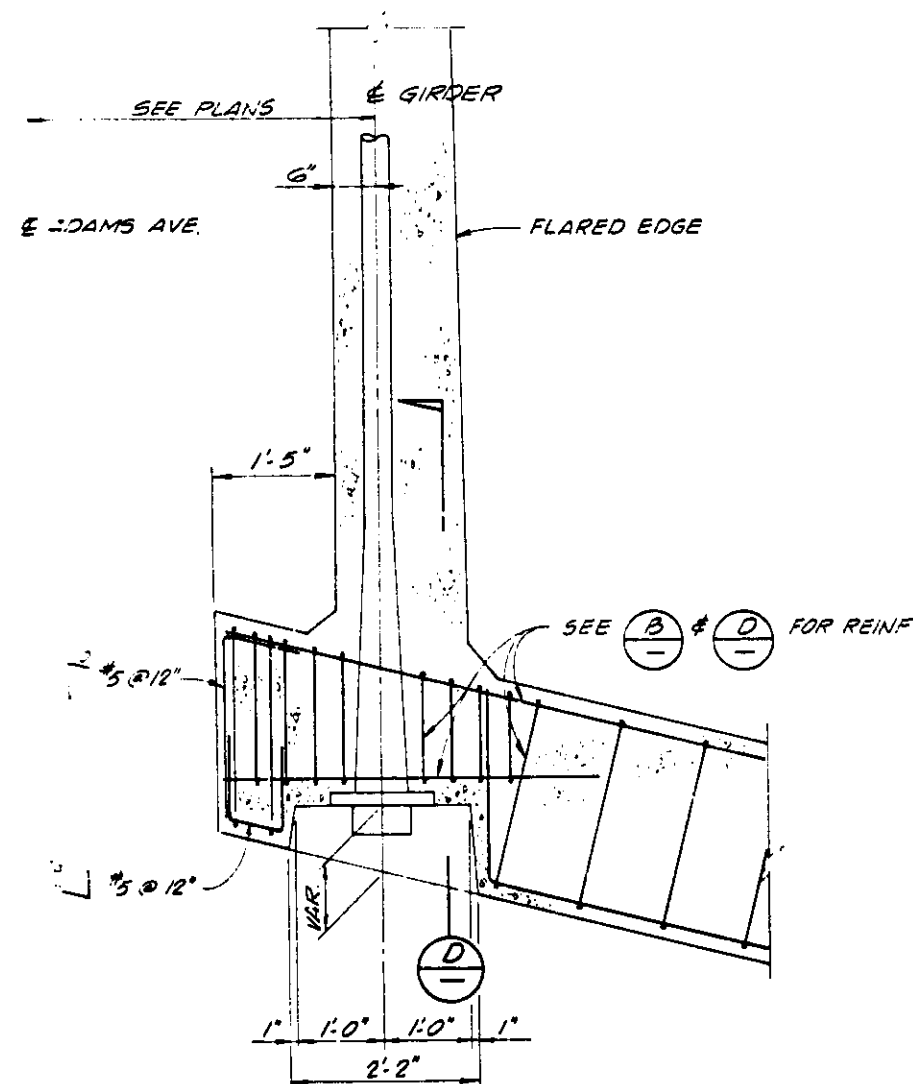


SPACING DIAGRAMS

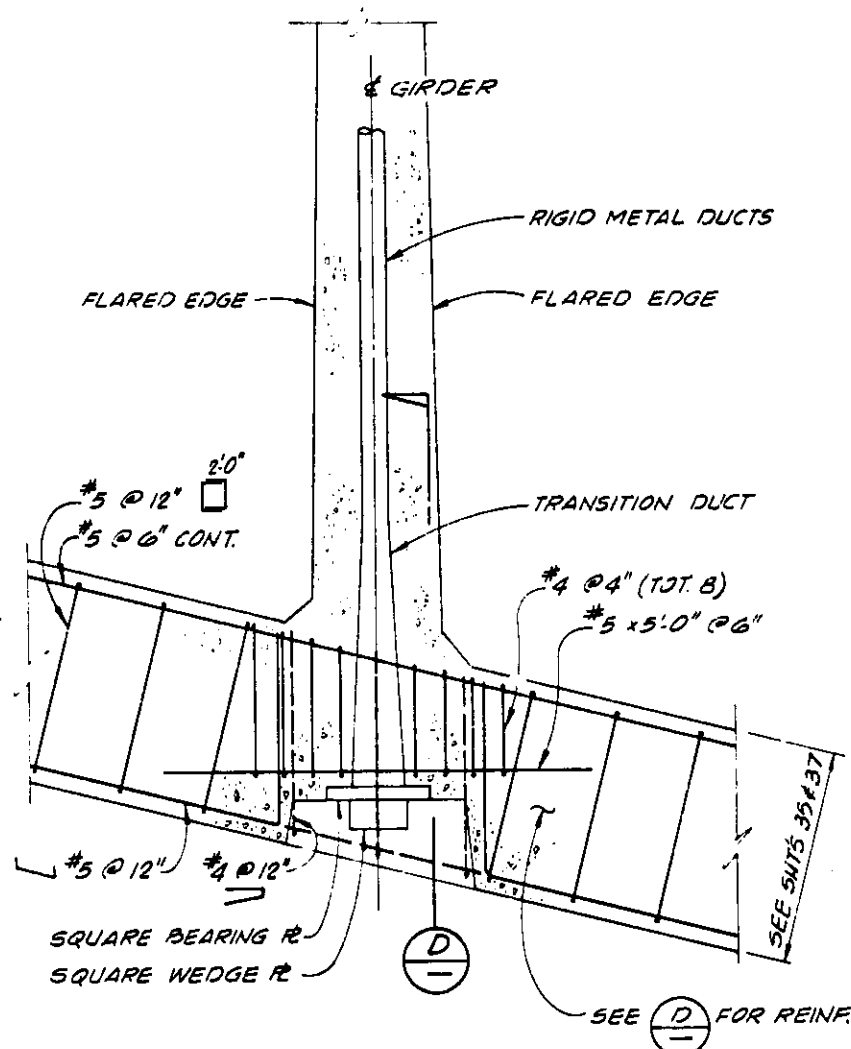
as indicated.

Bridge Plans
Dr. #7 13329
Scale: 1/4\"/>

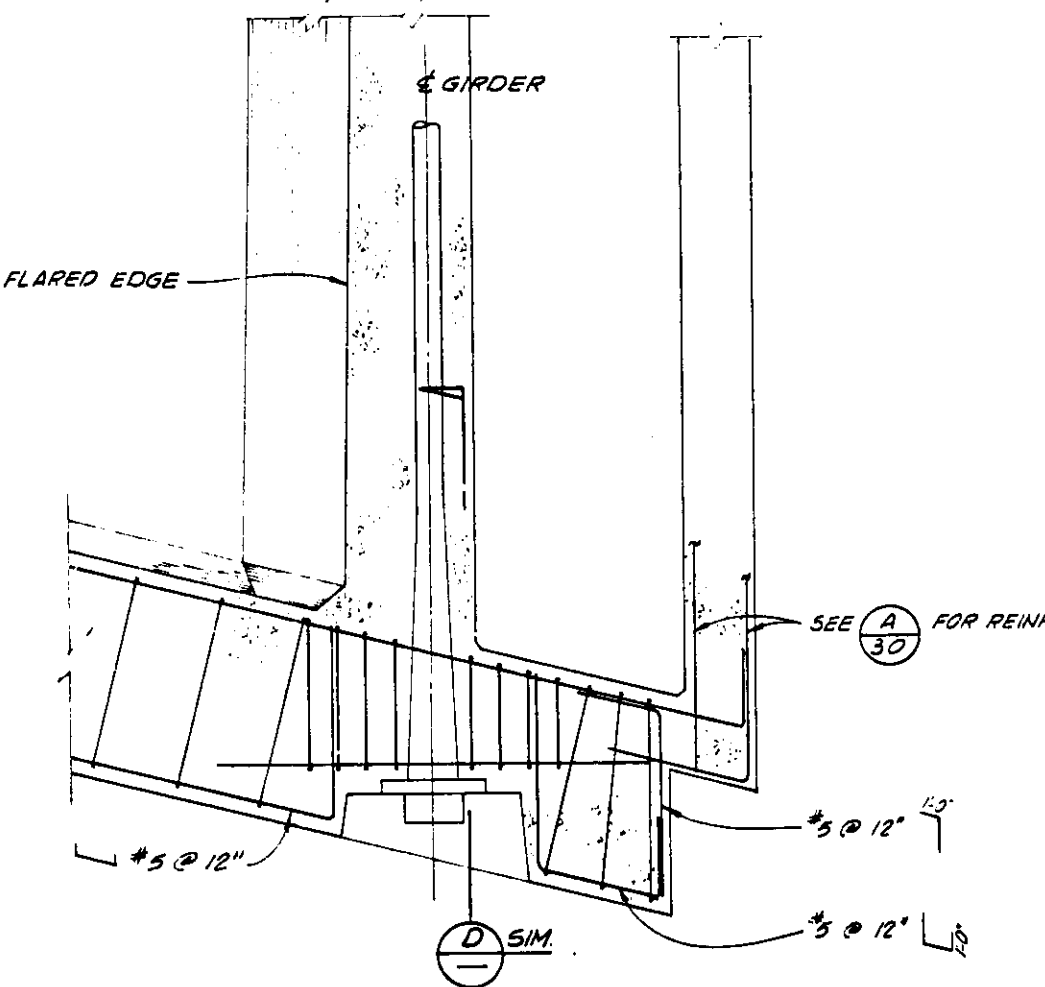
ORANGE COUNTY ENVIRONMENTAL MANAGEMENT AGENCY			
ADAMS AVENUE BRIDGE OVER SANTA ANA RIVER			
GIRDER DETAILS			
550344			
MARK	DATE	DESCRIPTION	DESIGNED BY
REVISIONS		DATE	DATE
DESIGNED	STD	SCALE	DATE
DRAWN	CHECKED	DATE	DATE
AS SHOWN		APRIL 1977	S.A. 35
DR#7		13329	
SHEET		38	
OF 53			



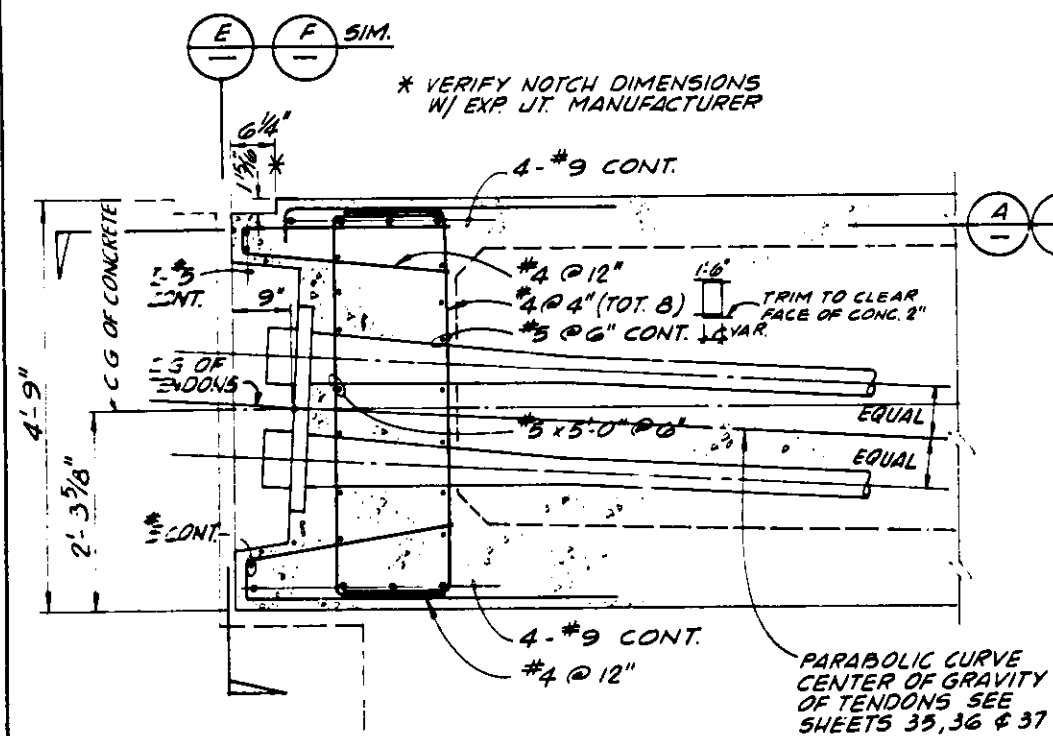
PLAN-SECTION A
SCALE: 3/4" = 1'-0"



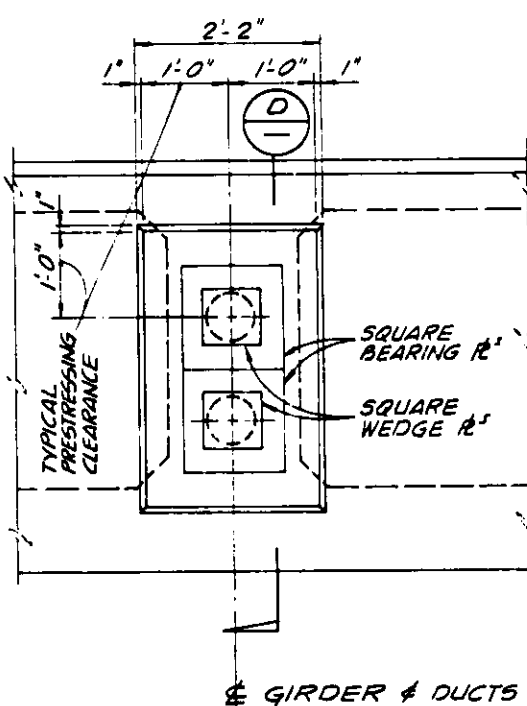
PLAN-SECTION B
SCALE: 3/4" = 1'-0"



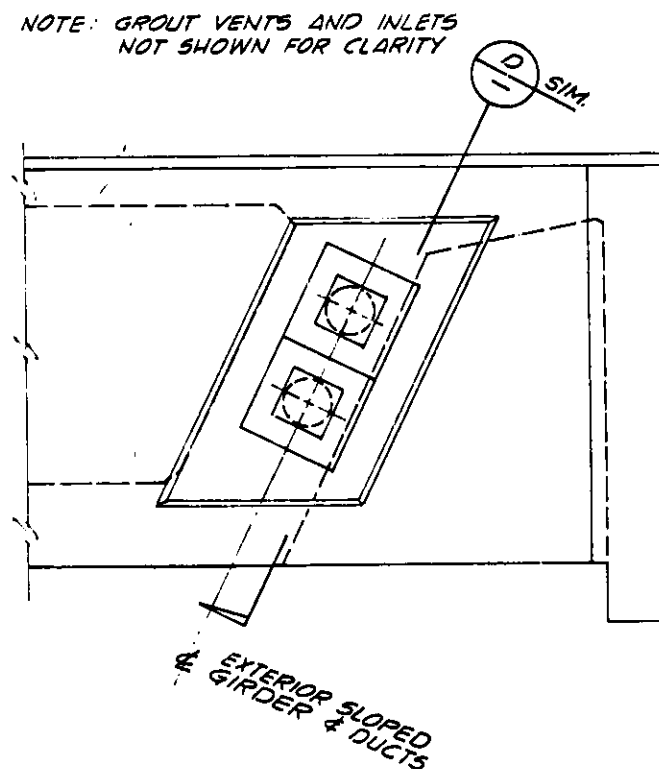
PLAN-SECTION C
SCALE: 3/4" = 1'-0"



(TYPICAL FOR ALL GIRDERS)
SECTION D
SCALE: 3/4" = 1'-0"



ELEVATION E
SCALE: 3/4" = 1'-0"



ELEVATION F
SCALE: 3/4" = 1'-0"

1. Jacking Force:
P_{jack} = 0.93 P_{stress}
A_s = 0.75 P_s
Total number of tendons on each side Total 12
P_{jack} specified tendons shall have a loss of stress for 32,000 psi loss in stress.
2. Concrete:
Ultimate compressive strength of concrete at 28 days = 5,000 psi.
At time of stressing = 3,500 psi.
3. Prestressing Steel:
Tendons are composed of 1/2 inch diameter, 270-ksi, seven-wire, stress-relieved strand, conforming to ASTM A 416.
4. Stressing Sequence: Shall be A, B, C, D, E, F, G, H, I, J, K, L, M, N, O, P, Q, R, S, T, U, V, W, X, Y, Z.
a. Stressing shall be done in the order shown on the drawings. For each tendon, an equal number are stressed in adjacent girders.
b. At no time during stressing operations shall more than one-sixth of the total prestressing force be eccentric about the centerline of the bridge section under construction.
c. Tendons shall be stressed to P_j from both ends. The two ends need not be stressed simultaneously.
5. Tendon Ducts:
a. Tendons are to be placed in galvanized semi-rigid metal duct after bridge section concrete placement is completed.
b. Duct shall be placed to the trajectory shown on the drawings.
c. Duct shall be securely tied at 5-foot centers to the vertical stirrups to prevent displacement during concreting.
d. Bearing plates must be placed tight against forms. Centerline of tendons are to be normal to plates. Forms shall be braced and anchored to support the weight of the bearing plates.
e. Reinforcing steel interfering with the prestressing tendon alignment shall be adjusted as directed by the engineer.
f. Clearances:
1) Horizontal clearance between tendon ducts = 2-1/2 inches minimum.
2) Tendon ducts may be bunched vertically in groups of three maximum.
3) Vertical clearance between groups = 3 inches minimum.
g. Tendon ducts to be vented through slab within 3 feet of high points of cable path.
6. General:
a. Design is based on $\lambda = 0.25$ and $K = 0.0002$.
b. Tendons to be jacked to 0.75 P_s and anchored at an equivalent anchor set of 5/8 inch.
c. Contractor to submit elongation and jacking calculations based on an average tendon stress of 0.85 times the jacking stress.

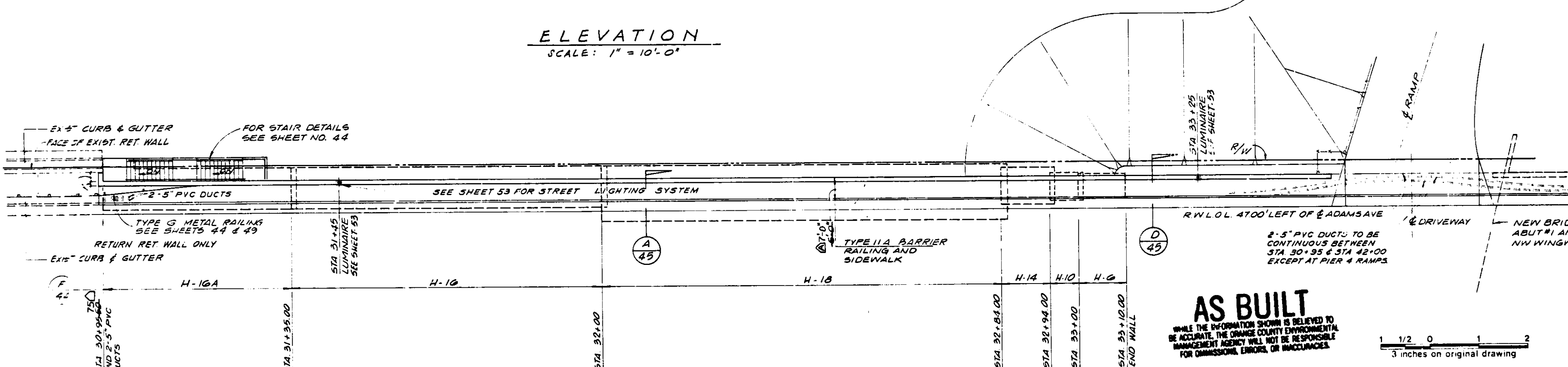
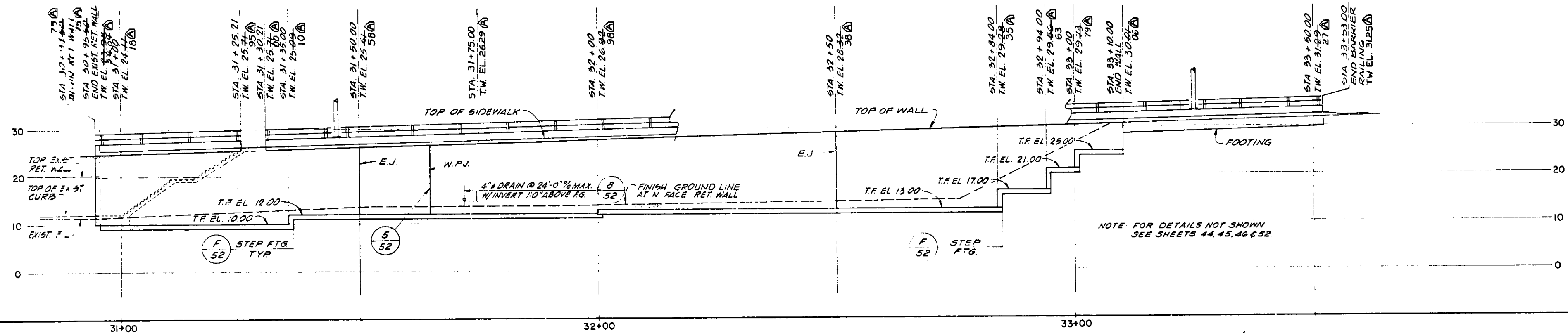
AS BUILT
WHILE THE INFORMATION SHOWN IS BELIEVED TO BE ACCURATE, THE ORANGE COUNTY ENVIRONMENTAL MANAGEMENT AGENCY WILL NOT BE RESPONSIBLE FOR OMISSIONS, ERRORS, OR INACCURACIES.

1 1/2 0 1 2
3 inches on original drawing

ORANGE COUNTY ENVIRONMENTAL MANAGEMENT AGENCY			
ADAMS AVENUE BRIDGE OVER SANTA ANA RIVER			
PRESTRESSING DETAILS & NOTES			
550344			
DATE: 4/21/77	DESIGNED BY: J.S.	SCALE: AS SHOWN	CHECKED BY: J.S.
REVISIONS	DATE	DWG. NO.	SHEET
1	4/21/77	39	OF 33

DR#7 13329

HUNTINGTON BEACH-NORTH SIDE



ELEVATION
SCALE: 1" = 10'-0"

PLAN
SCALE: 1" = 10'-0"

AS BUILT
WHILE THE INFORMATION SHOWN IS BELIEVED TO BE ACCURATE, THE ORANGE COUNTY ENVIRONMENTAL MANAGEMENT AGENCY WILL NOT BE RESPONSIBLE FOR OMISSIONS, ERRORS, OR INACCURACIES.

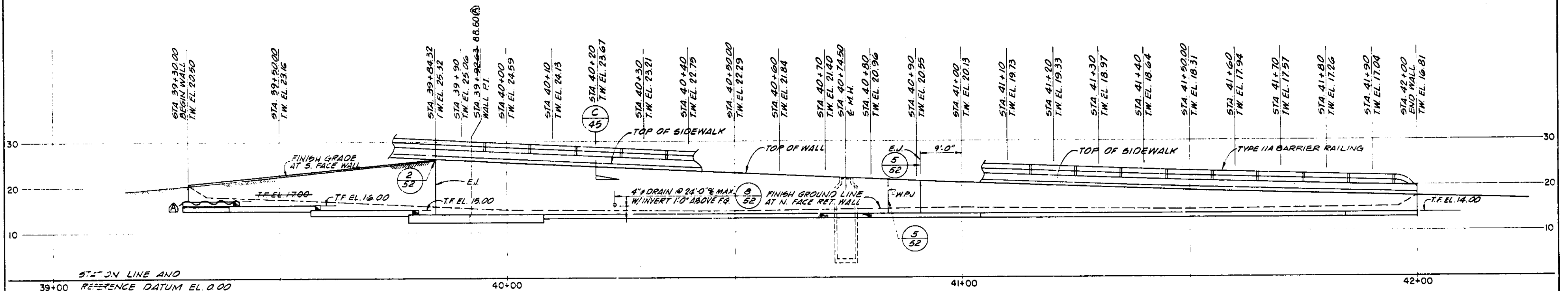
1 1/2 0 1 2
3 inches on original drawing

ORANGE COUNTY ENVIRONMENTAL MANAGEMENT AGENCY	
ADAMS AVENUE BRIDGE OVER SANTA ANA RIVER	
RETAINING WALL-I	
550344	
3-83-AS BUILT	
MARK DATE	DESCRIPTION
DESIGNED	W.B.
DRAWN	R.R.R.
CHECKED	C.J.S.
AS SHOWN	APRIL 1977
SCALE	DATE
DWG. NO.	S.A. 35
SHEET	41
OF 53	

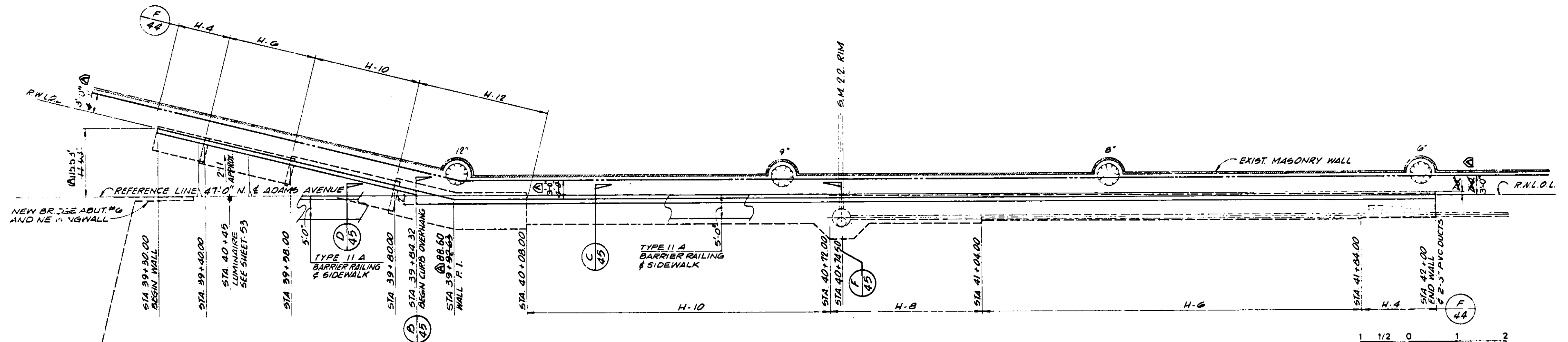
DR# 7 18329

NOTES: 1. FOR RETAINING WALL DETAILS NOT SHOWN SEE SHEET NOS 44, 45, 46 & 52
2. ALL ABOVE AND BELOW GRADE UTILITIES TO BE LOCATED PRIOR TO START OF ANY WORK

COSTA MESA - NORTH SIDE



ELEVATION
SCALE: 1"=10' 0"



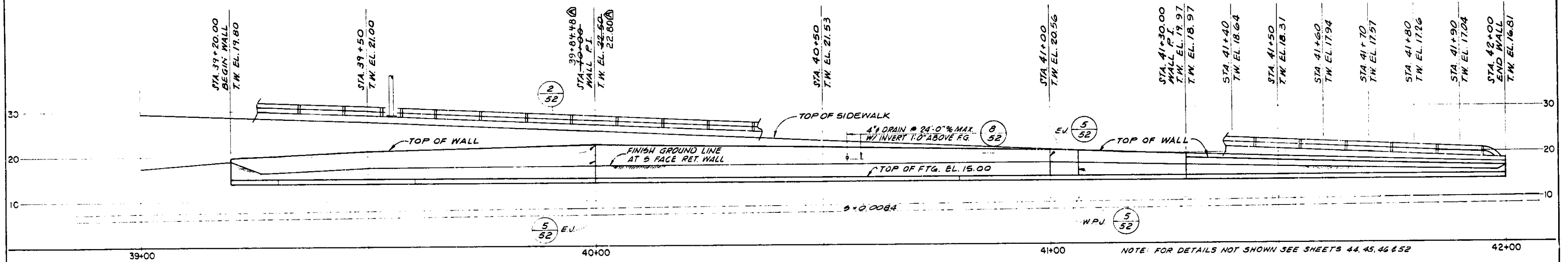
PLAN
SCALE: 1"=10' 0"

AS BUILT
WHILE THE INFORMATION SHOWN IS BELIEVED TO BE ACCURATE, THE ORANGE COUNTY ENVIRONMENTAL MANAGEMENT AGENCY WILL NOT BE RESPONSIBLE FOR OMISSIONS, ERRORS, OR INACCURACIES.

ORANGE COUNTY ENVIRONMENTAL MANAGEMENT AGENCY	
ADAMS AVENUE BRIDGE OVER SANTA ANA RIVER	
RETAINING WALL - 2	
55C344	
3-83 AS BUILT	
DESIGNED	CHECKED
SCALE	DATE
DWG. NO.	S.A. 35
SHEET 42 OF 53	

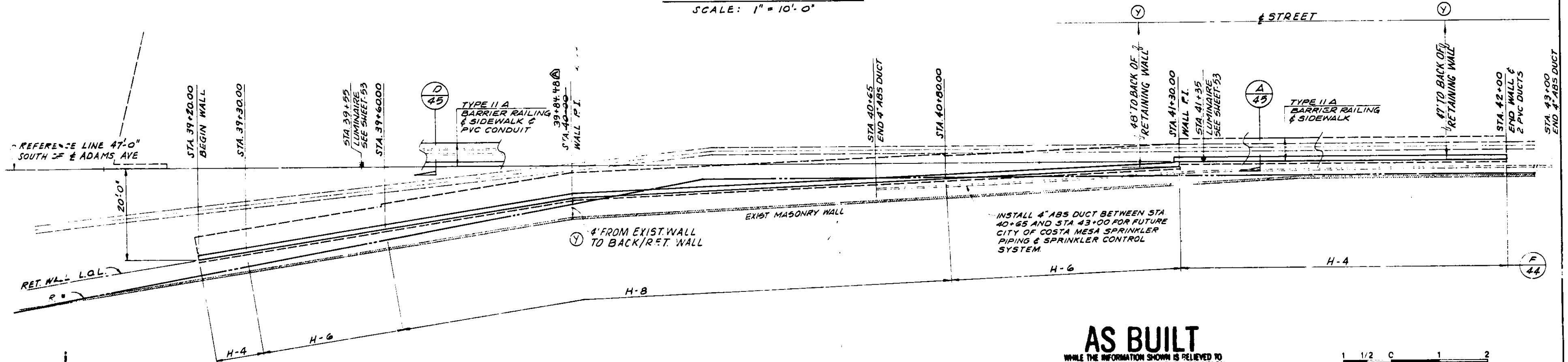
DRW 7 13329

COSTA MESA - SOUTH SIDE



ELEVATION

SCALE: 1" = 10'-0"



AS BUILT

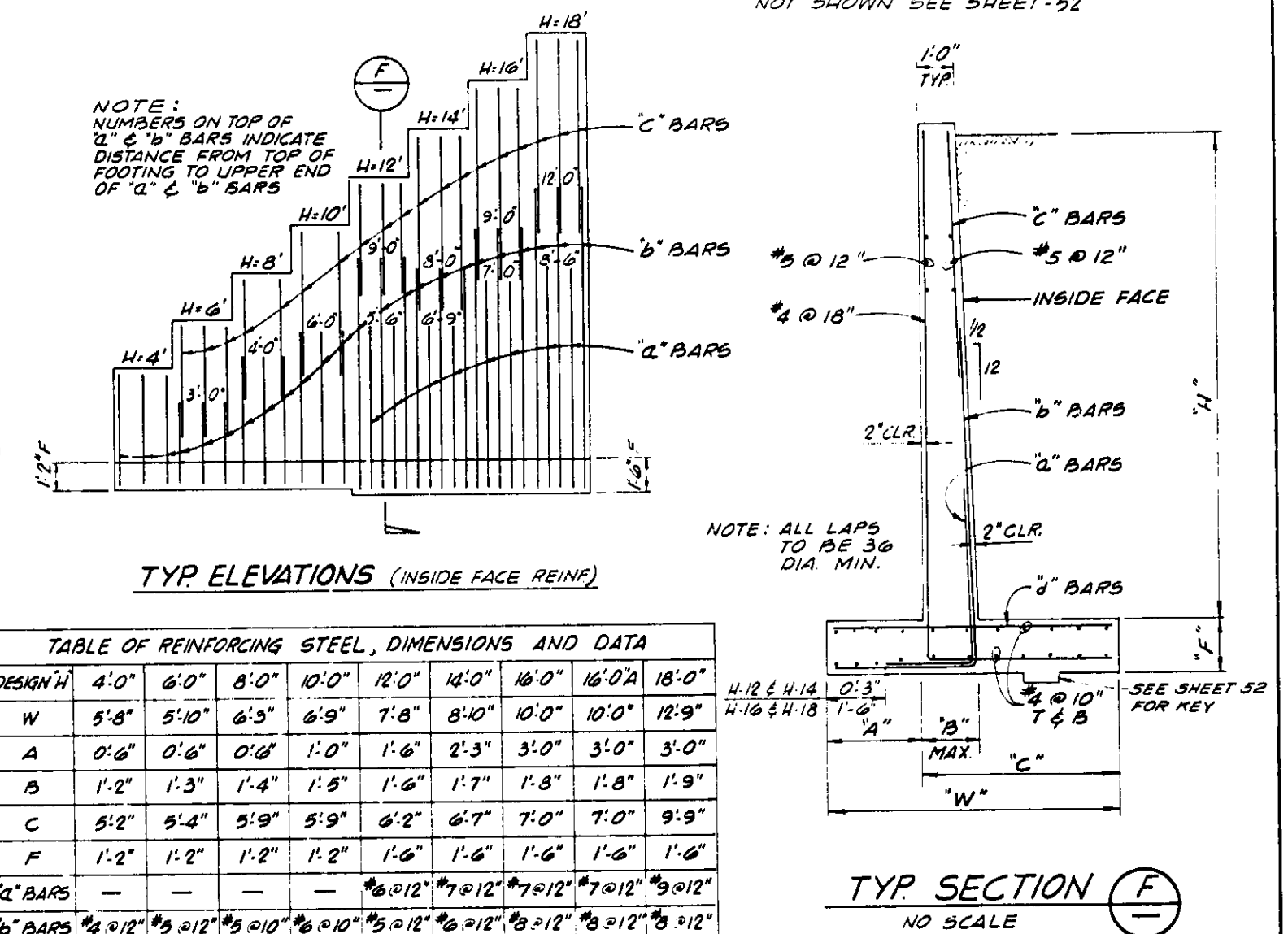
WHILE THE INFORMATION SHOWN IS BELIEVED TO BE ACCURATE, THE ORANGE COUNTY ENVIRONMENTAL MANAGEMENT AGENCY WILL NOT BE RESPONSIBLE FOR OMISSIONS, ERRORS, OR INACCURACIES.

1 1/2 C 1 2
3 inches on original drawing

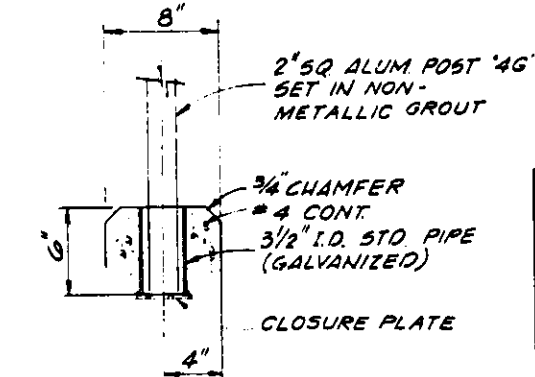
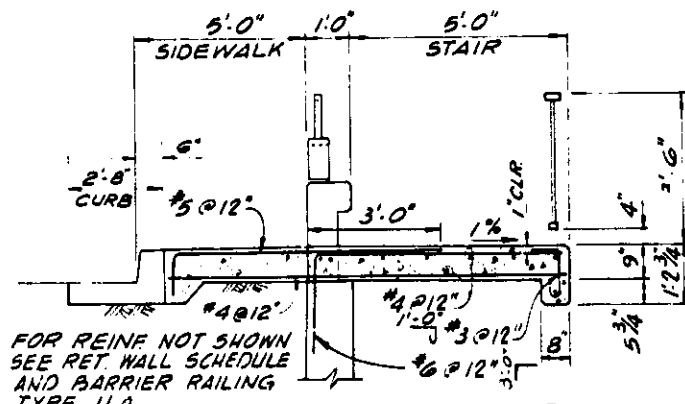
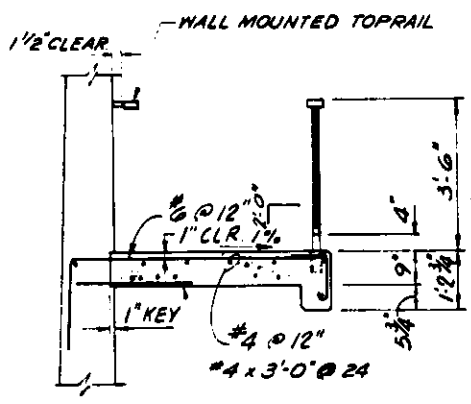
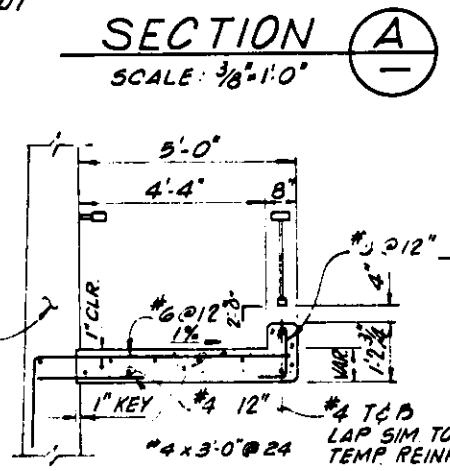
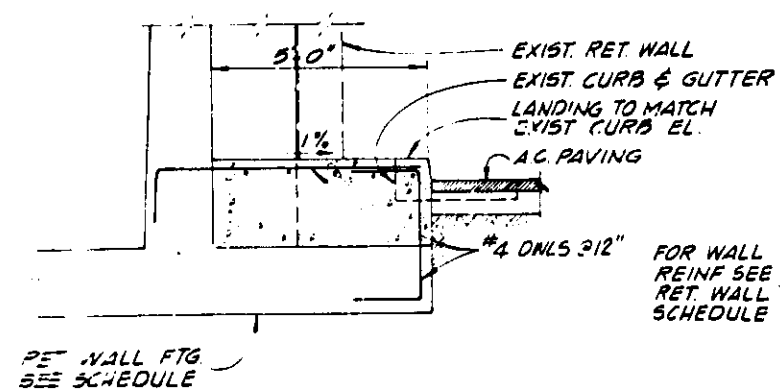
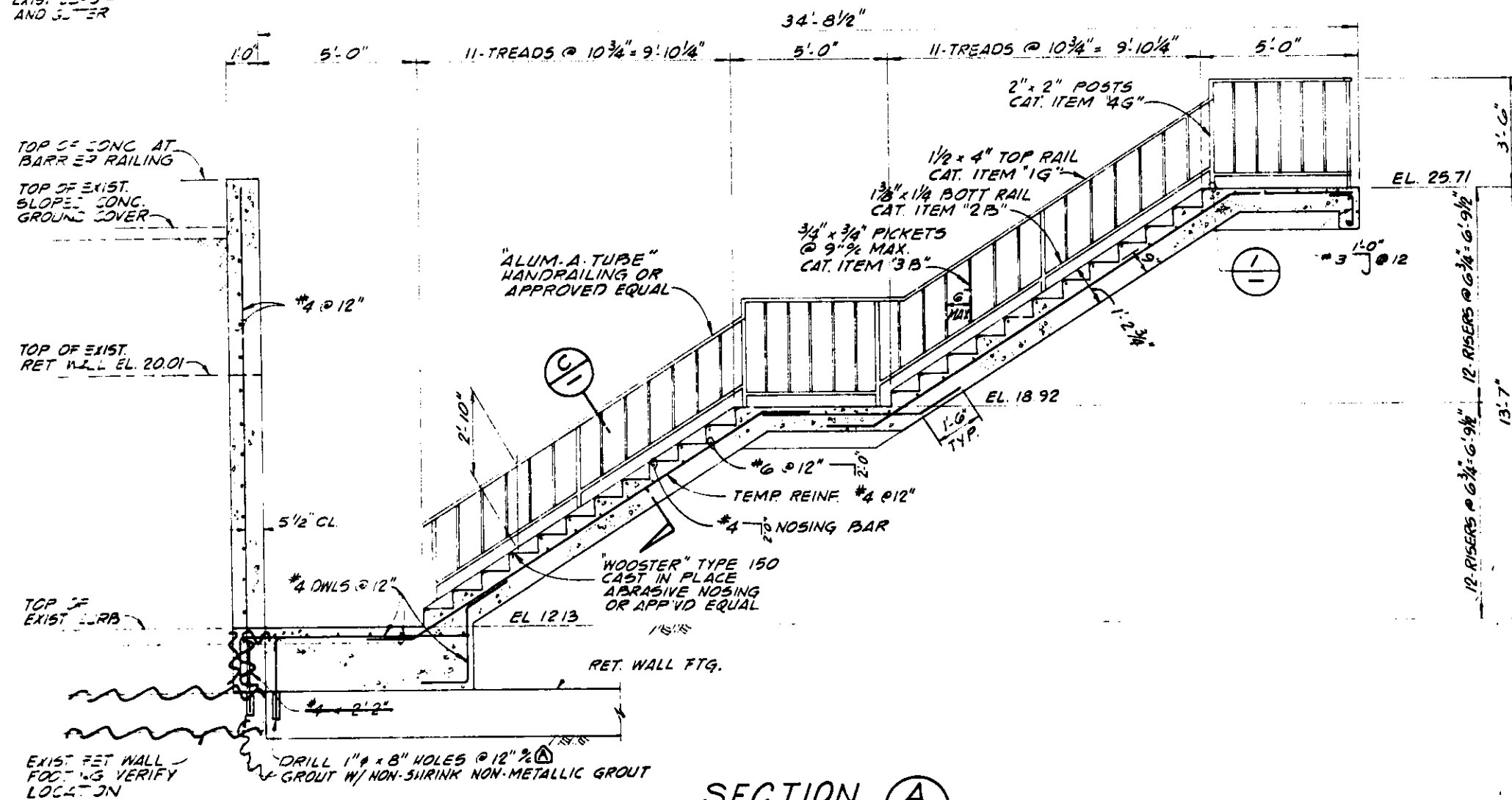
PLAN
SCALE: 1" = 10' - 0"

Y 8-27-78 Dimensions to pet wall A 3-83 AS BUILT	ORANGE COUNTY ENVIRONMENTAL MANAGEMENT AGENCY		
	ADAMS AVENUE BRIDGE OVER SANTA ANA RIVER		
55C344			
RETAINING WALL - 3			
MARK DATE DESCRIPTION PREPARED BY 12-22-83 12-22-83	SUPERVISOR <i>John Smith</i> RCE 6654		
REVISIONS		DATE	
DESIGNED W.B. DRAWN W.A.C. CHECKED D.J.S.	SCALE AS SHOWN	DATE APRIL 1977	DWG. NO. S.A. 35
			43 OF 53

DR#7 13329



DESIGN #	4"0"	6"0"	8"0"	10"0"	12"0"	14"0"	16"0"	16"0A	18"0"
W	5"8"	5"10"	6"3"	6"9"	7"8"	8"10"	10"0"	10"0"	12"9"
A	0"6"	0"6"	0"6"	1"0"	1"6"	2"3"	3"0"	3"0"	3"0"
B	1"2"	1"3"	1"4"	1"5"	1"6"	1"7"	1"8"	1"8"	1"9"
C	5"2"	5"4"	5"9"	5"9"	6"2"	6"7"	7"0"	7"0"	9"9"
F	1"2"	1"2"	1"2"	1"2"	1"6"	1"6"	1"6"	1"6"	1"6"
"L" BARS	—	—	—	—	*6 @ 12"	*7 @ 12"	*7 @ 12"	*7 @ 12"	*9 @ 12"
"B" BARS	*4 @ 12"	*3 @ 12"	*3 @ 10"	*6 @ 10"	*3 @ 12"	*6 @ 12"	*8 @ 12"	*8 @ 12"	*8 @ 12"
"C" BARS	—	*4 @ 12"	*5 @ 20"	*3 @ 20"	*3 @ 12"	*3 @ 12"	*3 @ 12"	*7 @ 12"	*3 @ 12"
"d" BARS	*3 @ 12"	*3 @ 10"	*6 @ 10"	*7 @ 12"	*7 @ 12"	*8 @ 6"	*6 @ 6"	*7 @ 6"	*8 @ 6"

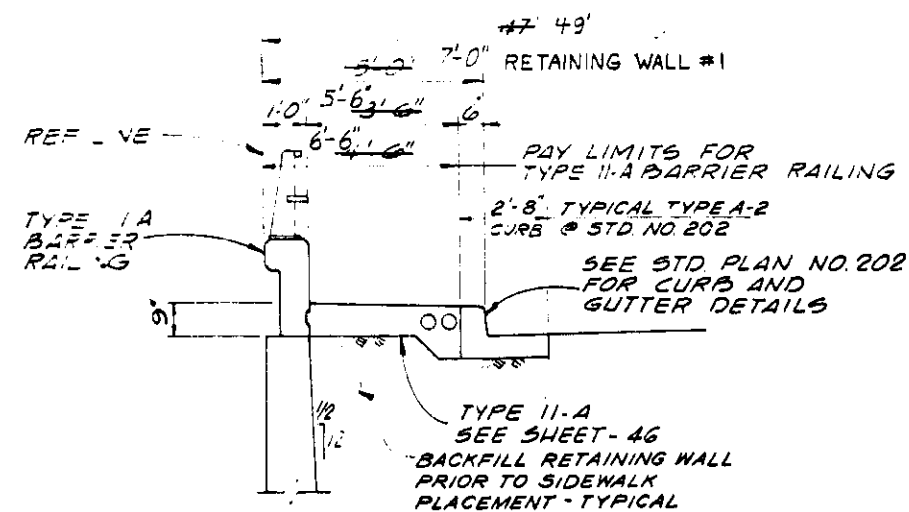


AS BUILT
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MANAGEMENT AGENCY WILL NOT BE RESPONSIBLE
FOR OMISSIONS, ERRORS, OR INACCUACIES.

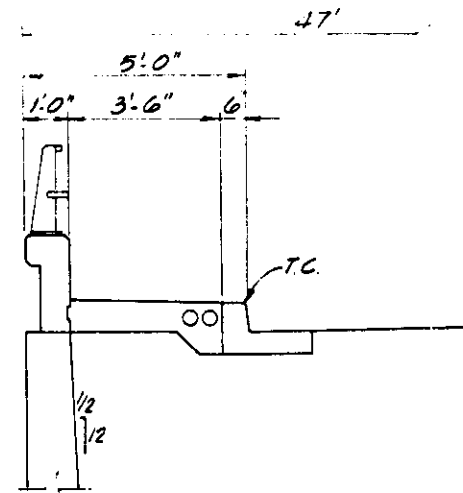


ORANGE COUNTY ENVIRONMENTAL MANAGEMENT AGENCY	
ADAMS AVENUE BRIDGE OVER SANTA ANA RIVER	
RETAINING WALL DETAILS - I	
550344	
A 3-30 AS BUILT.	
MARK DATE DESCRIPTION	PREPARED UNDER SUPERVISION OF <i>Carol Coleman</i> 4/27/77
REVISIONS RCE 6654 DATE	
DESIGNED <i>WB</i>	SCALE DATE
DRAWN <i>RRR</i> CHECKED <i>JVS</i>	AS SHOWN APRIL 1977
OWG. NO. S.A. 35	
44 OF 52	

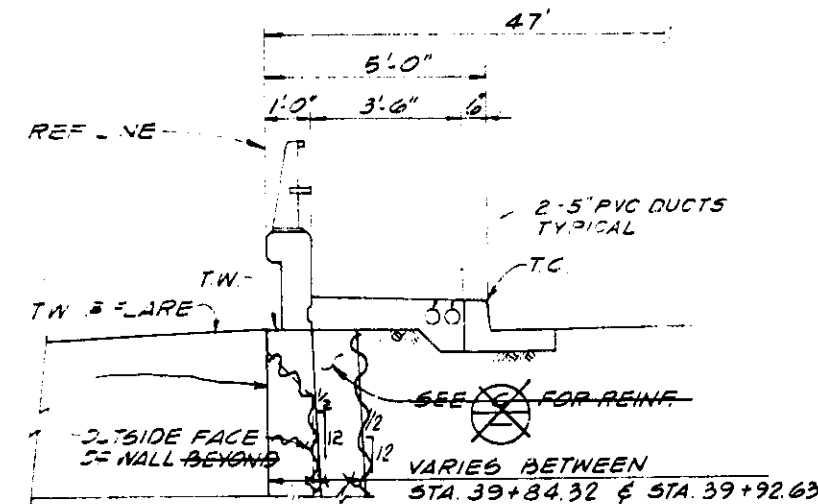
DR#7 13329



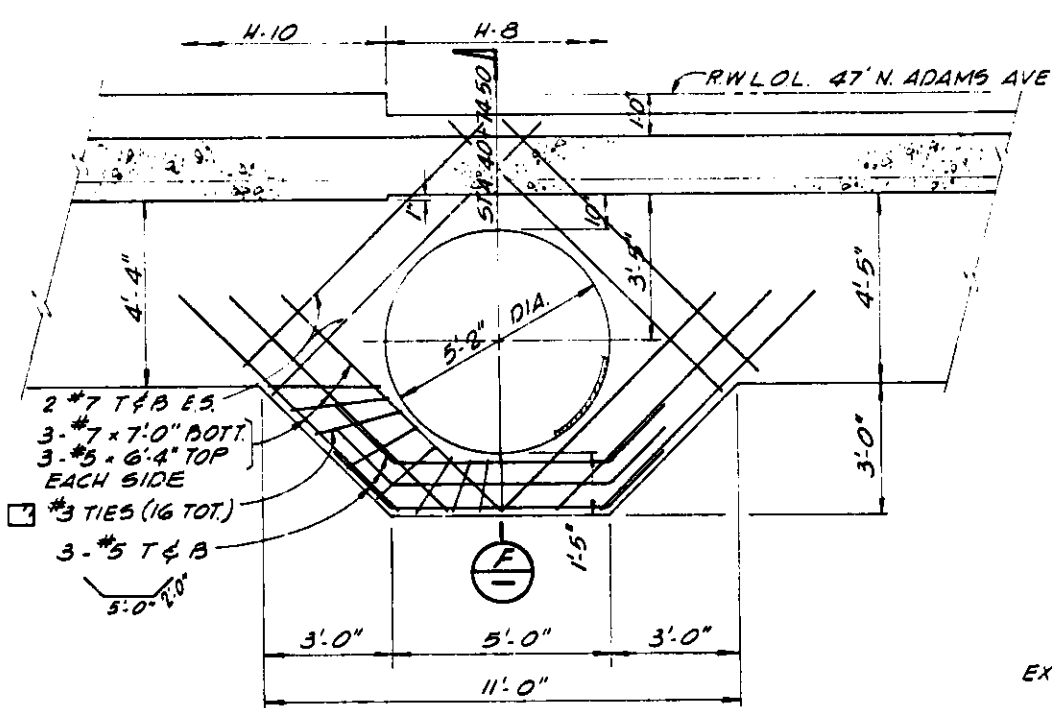
SECTION A
SCALE: 3/8"=1'-0"



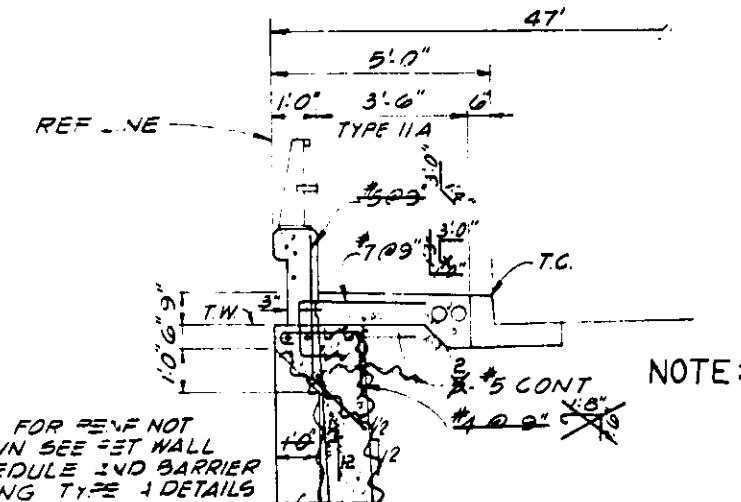
SECTION E
SCALE: 3/8"=1'-0"



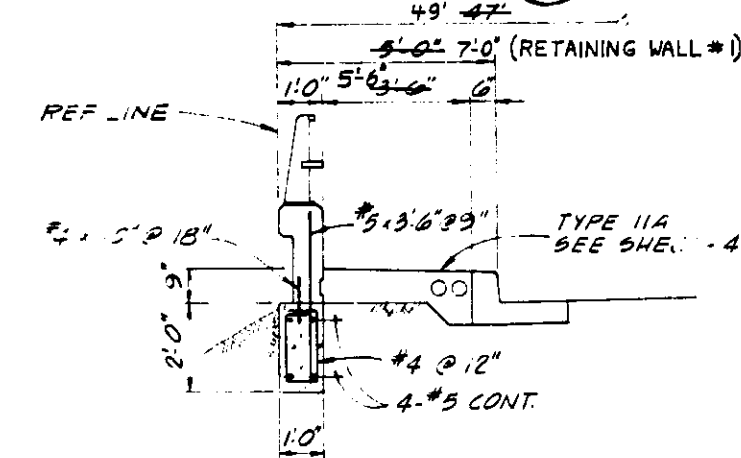
SECTION B
SCALE: 3/8"=1'-0"



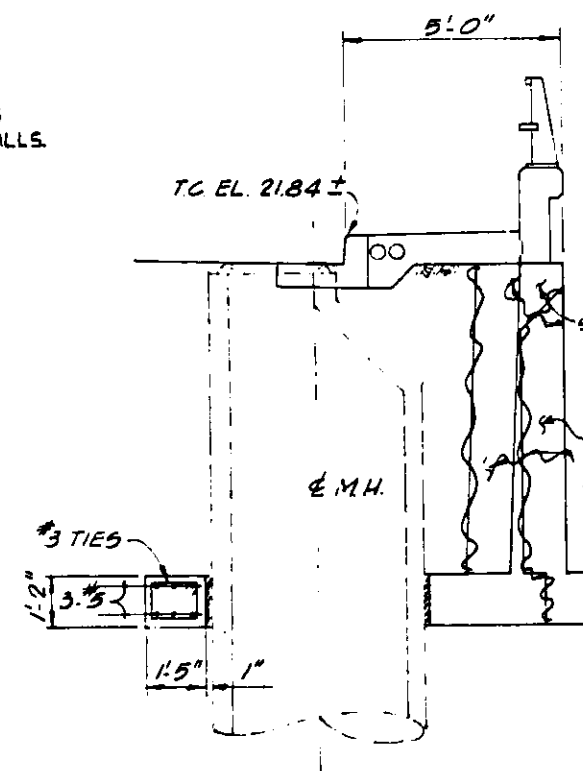
PLAN
SCALE: 3/8"=1'-0"



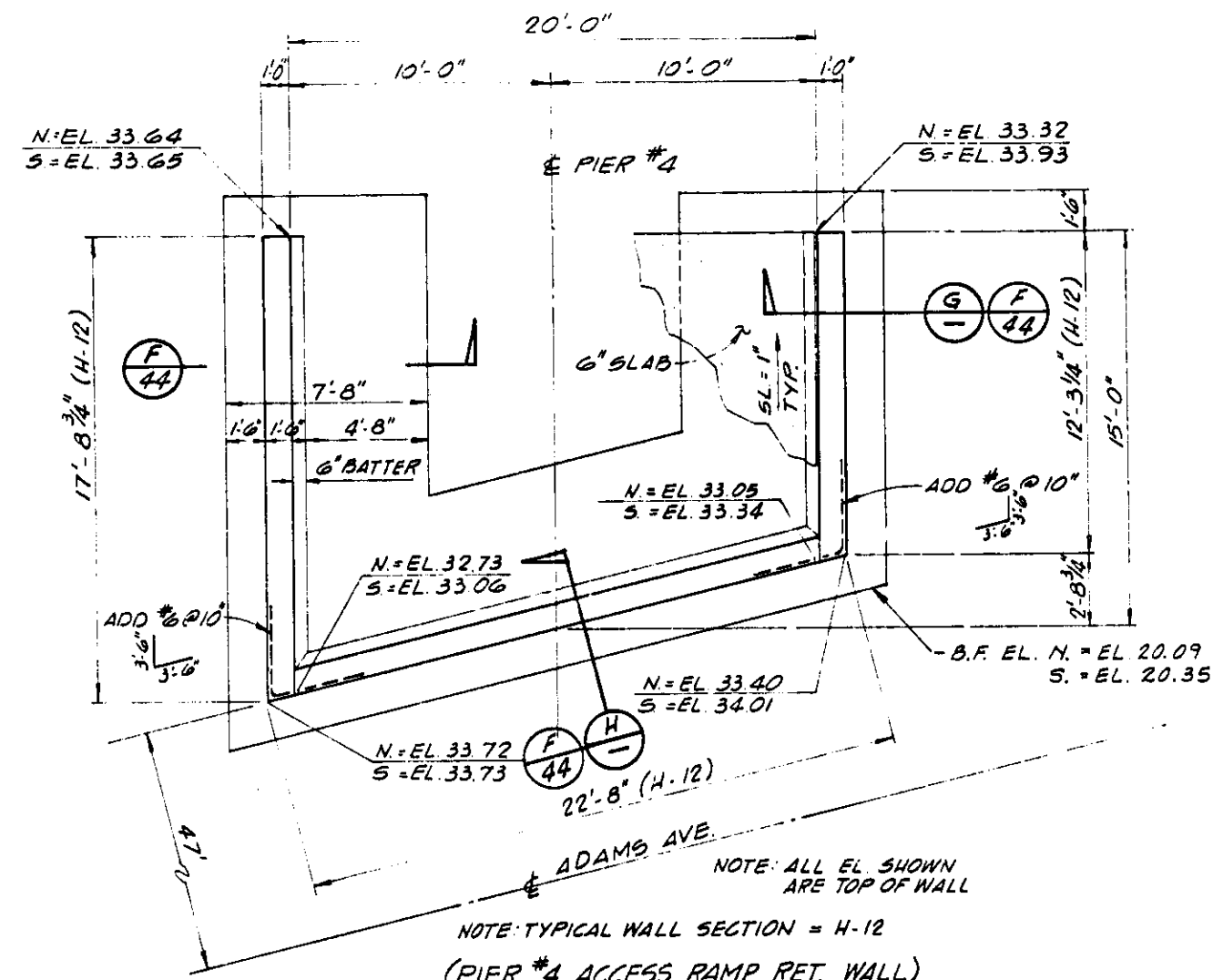
SECTION C
SCALE: 3/8"=1'-0"



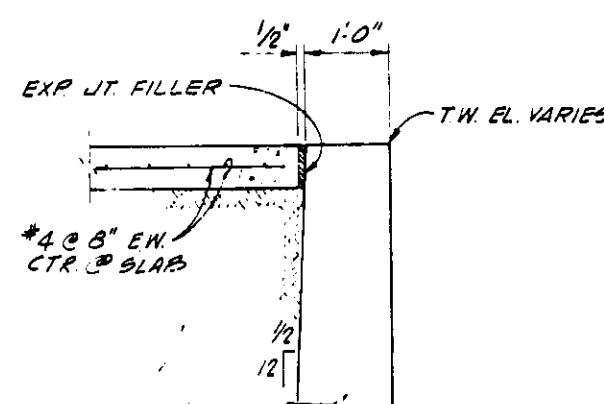
SECTION D
SCALE: 3/8"=1'-0"



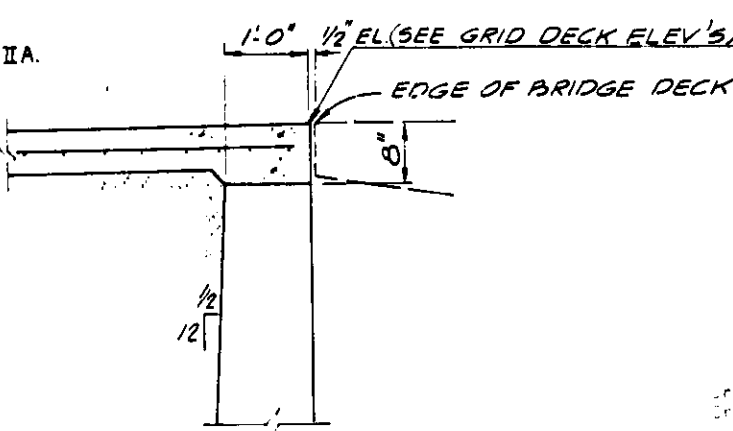
SECTION F
SCALE: 3/8"=1'-0"



PLAN (NORTH SIDE SHOWN SOUTH SIMILAR)
SCALE: 1/4"=1'-0"



SECTION G
SCALE: 3/4"=1'-0"



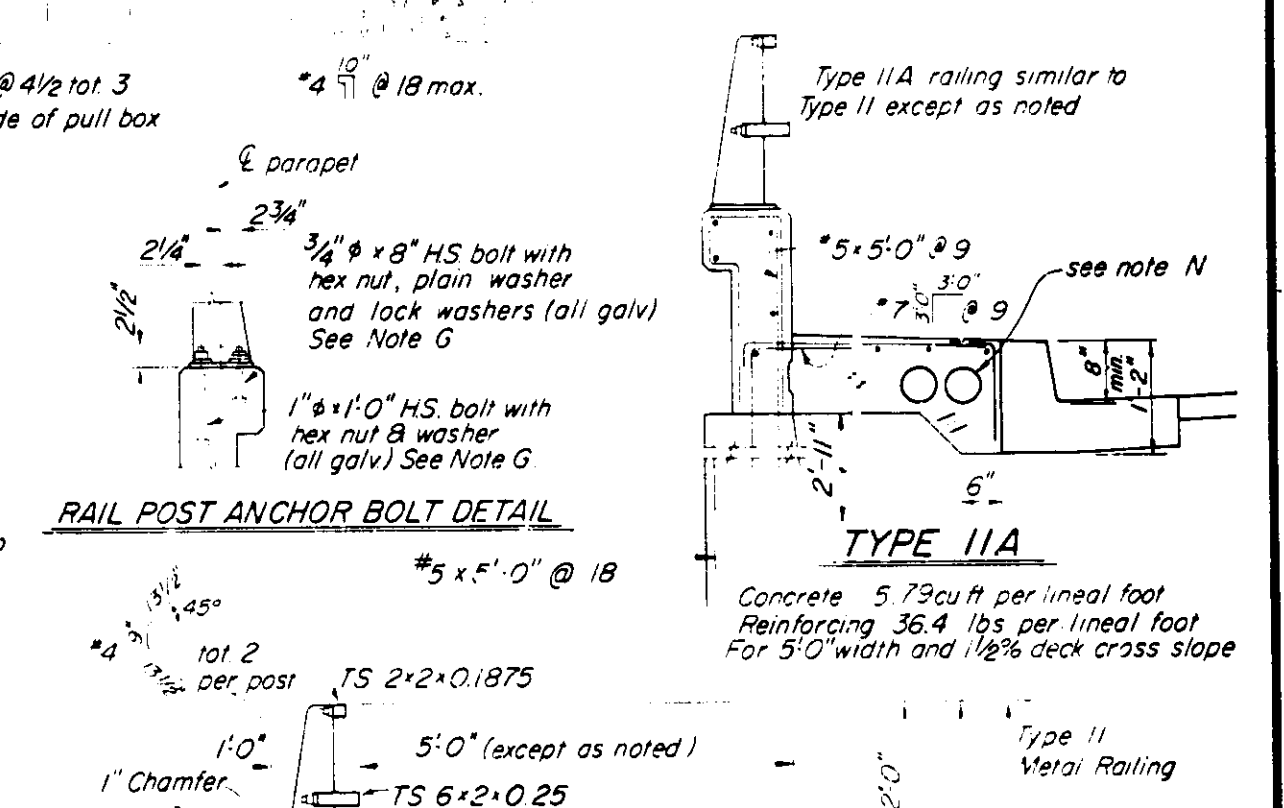
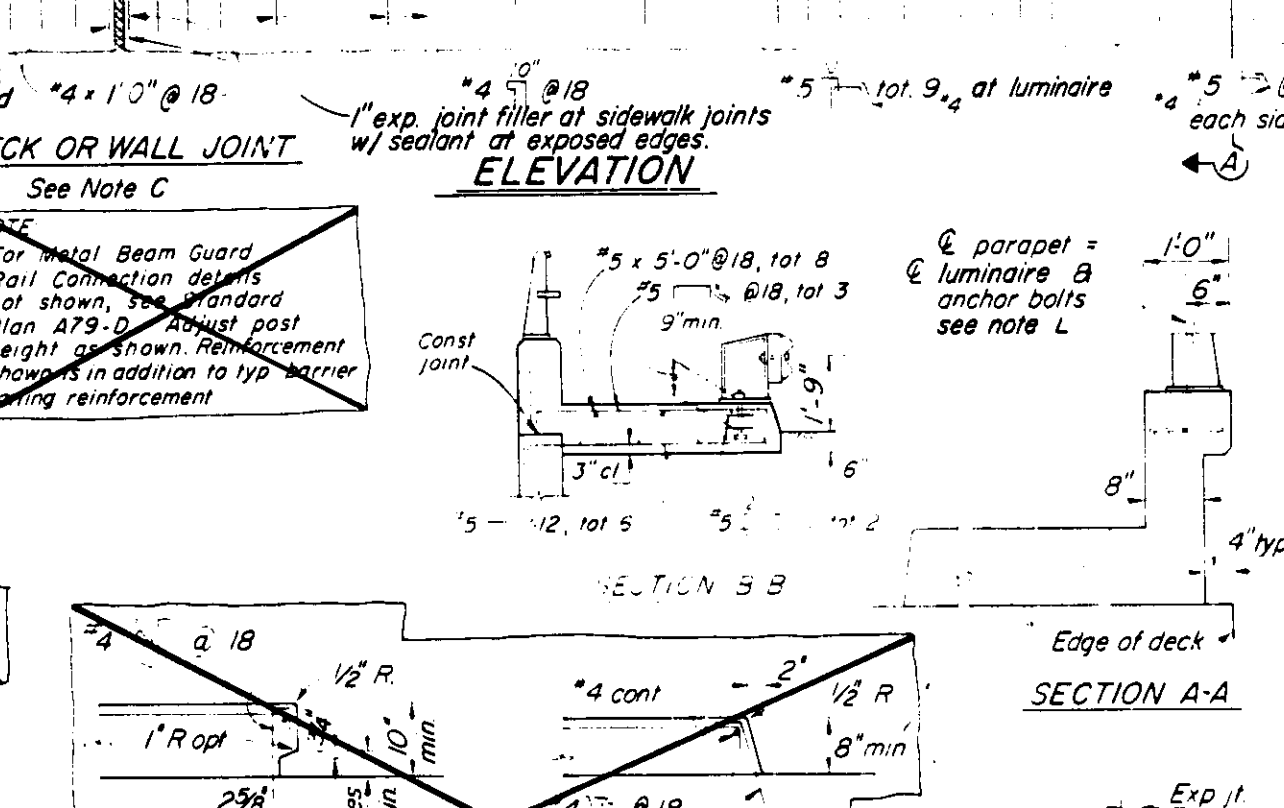
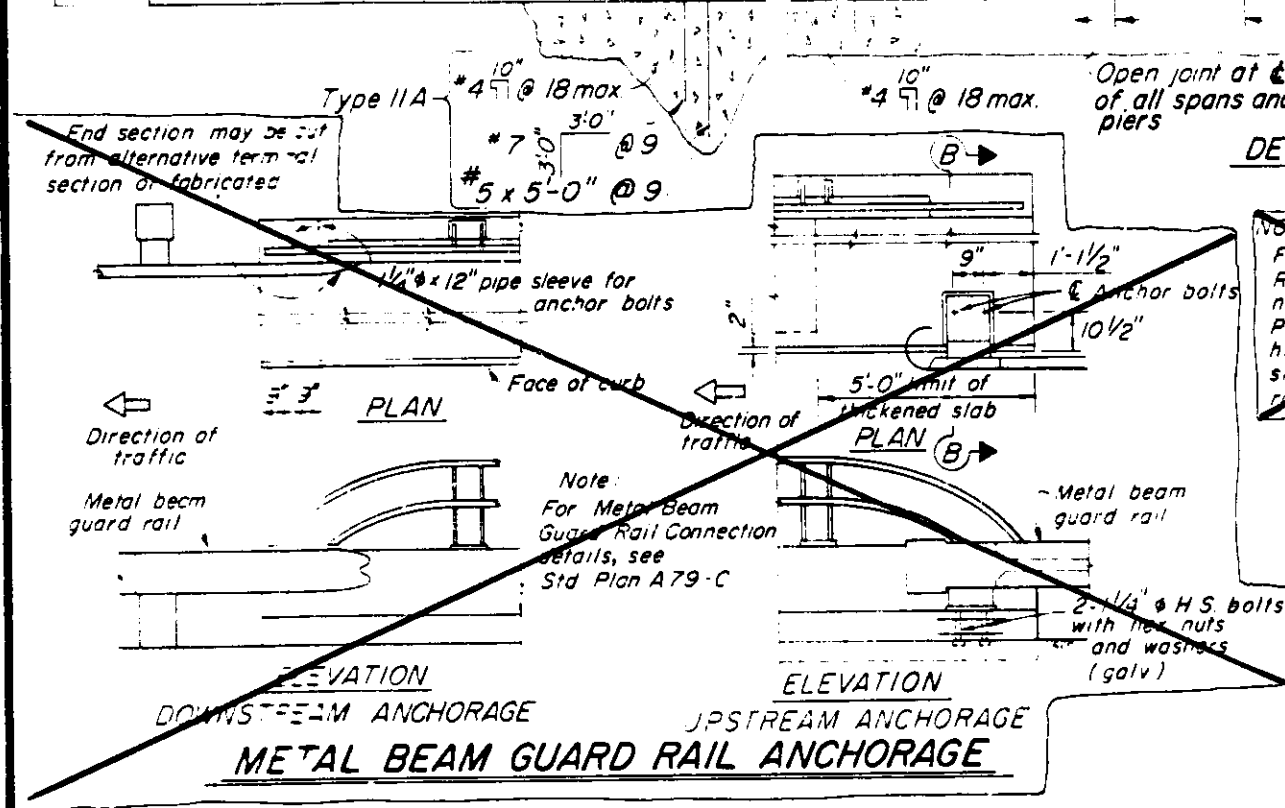
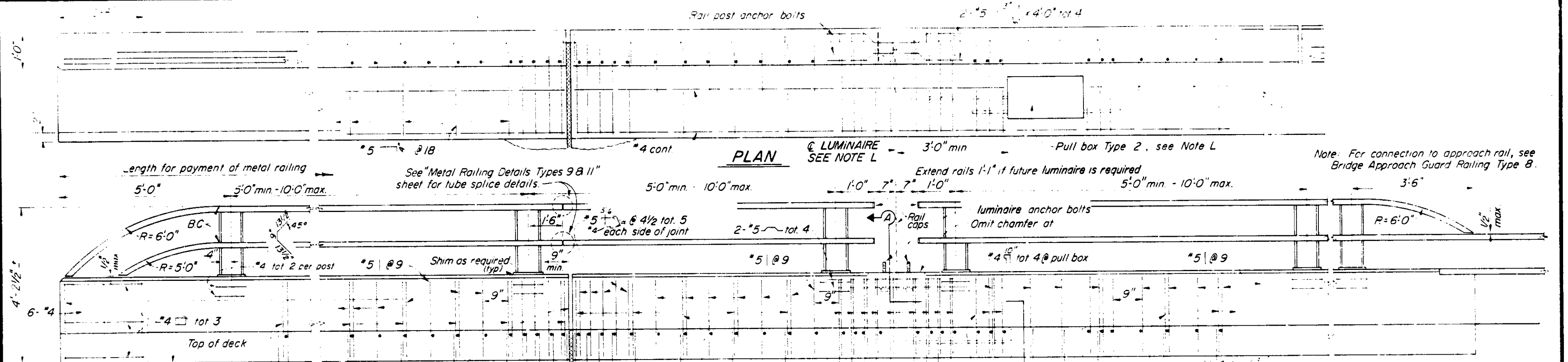
SECTION H
SCALE: 3/4"=1'-0"

AS BUILT
WHILE THE INFORMATION SHOWN IS BELIEVED TO BE ACCURATE, THE ORANGE COUNTY ENVIRONMENTAL MANAGEMENT AGENCY WILL NOT BE RESPONSIBLE FOR OMISSIONS, ERRORS, OR INACCURACIES.

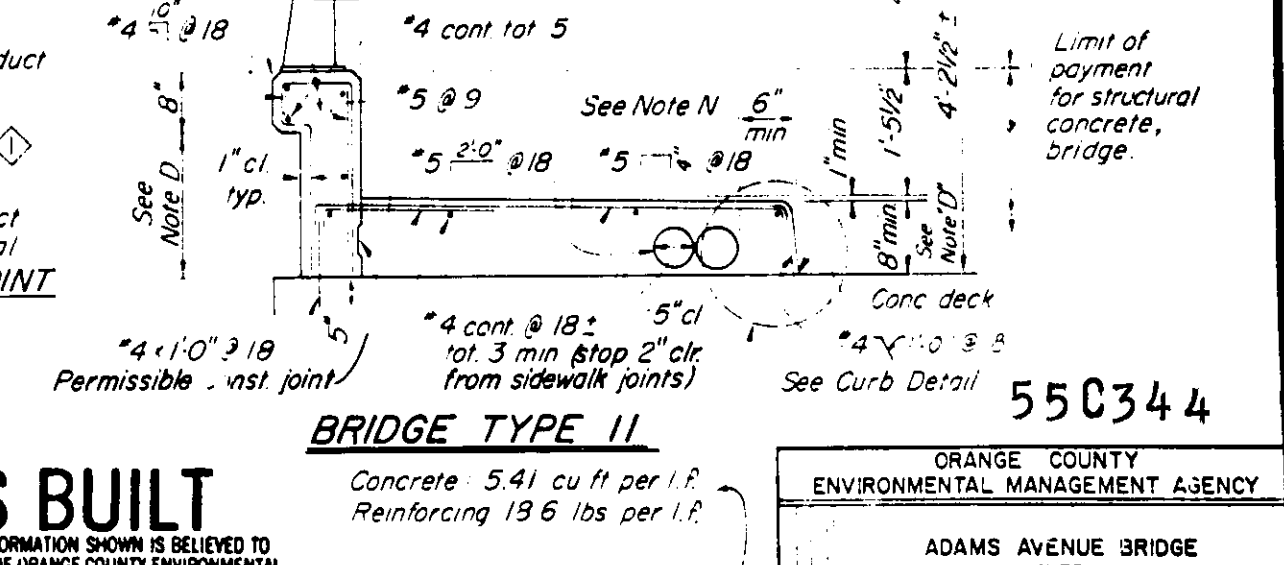
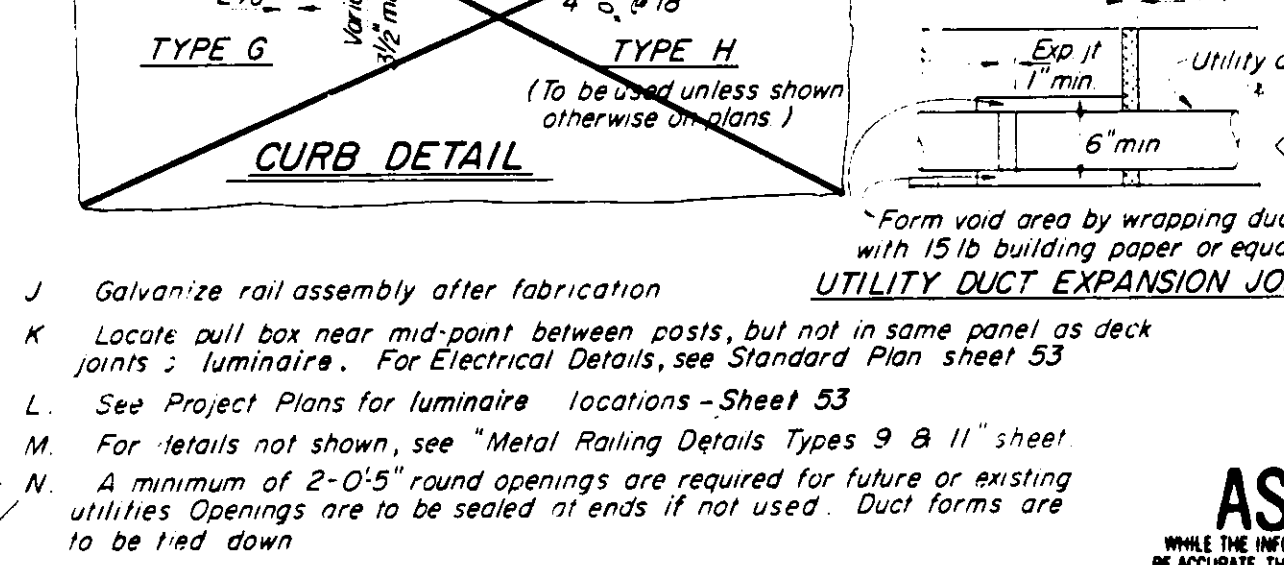
1 1/2 0 1 2
3 inches on original drawing

ORANGE COUNTY ENVIRONMENTAL MANAGEMENT AGENCY			
ADAMS AVENUE BRIDGE OVER SANTA ANA RIVER			
RETAINING WALL DETAILS-2			
550344			
3-83 AS BUILT			
DATE	DESIGNED BY	CHECKED BY	DATE
REVISIONS	RCE 6654	DATE	
DESIGNED	SCALE	DATE	DWG. NO
DRAWN	AS SHOWN	APRIL 1977	S.A. 35
			OF 35

DR#7 13329



- Notes:**
- Tubing shall be shop bent or fabricated to fit horizontal curve when radius is less than 950'.
 - Posts shall be normal to railing.
 - Tube splice shall be located in tubes spanning deck joints. Increase joint width to match deck opening and increase sleeve length correspondingly.
 - Dimension shall vary with cross slope and with certain thicknesses of surfacing. See bridge plans.
 - Walls are to be backfilled before railing is placed.
 - Clearance to reinforcing steel in curb and railing to be 1" Longitudinal reinforcement to stop at all expansion joints.
 - High strength rods threaded both ends with 2 hex nuts and washers (all galv.) may be substituted for high strength anchor bolts.
 - Torque rail to post nuts to 175 ft. lbs. Exception: 2x2 tube is wrench tight.
 - Tubing shall be continuous over not less than two posts except a short length is permitted near deck joints, luminaire or other railing discontinuities.



Notes:

- Galvanize rail assembly after fabrication.
- Locate pull box near mid-point between posts, but not in same panel as deck joints; luminaire. For Electrical Details, see Standard Plan sheet 53.
- See Project Plans for luminaire locations - Sheet 53.
- For details not shown, see "Metal Railing Details Types 9 & 11" sheet.
- A minimum of 2'-0" round openings are required for future or existing utilities. Openings are to be sealed at ends if not used. Duct forms are to be tied down.

AS BUILT

WHILE THE INFORMATION SHOWN IS BELIEVED TO BE ACCURATE, THE ORANGE COUNTY ENVIRONMENTAL MANAGEMENT AGENCY WILL NOT BE RESPONSIBLE FOR OMISSIONS, ERRORS, OR INACCURACIES.

BRIDGE TYPE II

Concrete 5.41 cu ft per l.f.
Reinforcing 19.6 lbs per l.f.

For 5'-0" width & 1/2% deck cross slope

Bridge Plans
Dr. #7 13329
Sheet 46 of 53
Revised 24.1
Type: Linen

ORANGE COUNTY ENVIRONMENTAL MANAGEMENT AGENCY

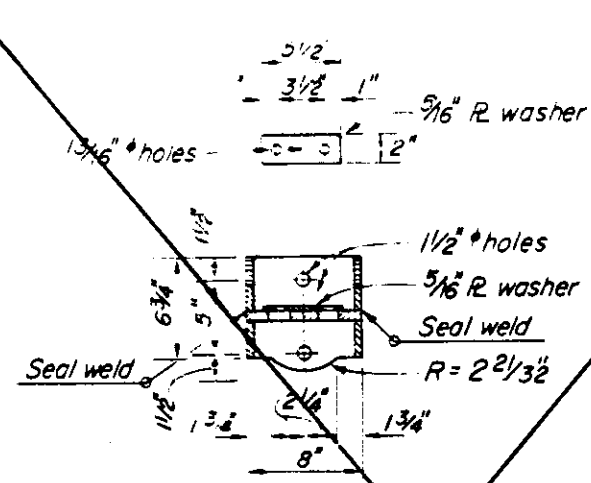
ADAMS AVENUE BRIDGE
OVER
SANTA ANA RIVER

BARRIER RAILING TYPE II

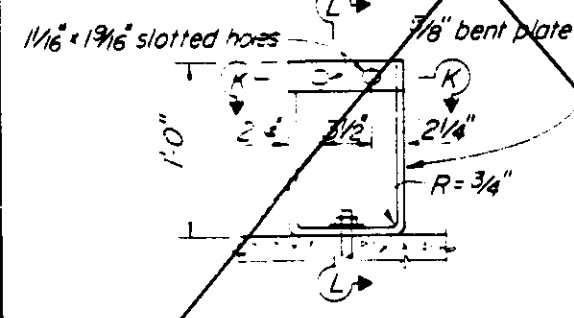
AS SHOWN

55C344

DR#7 13329



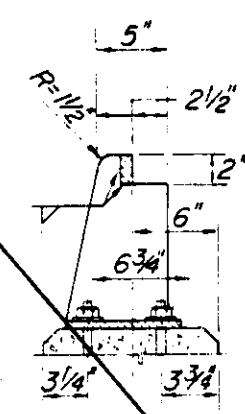
SECTION K-K



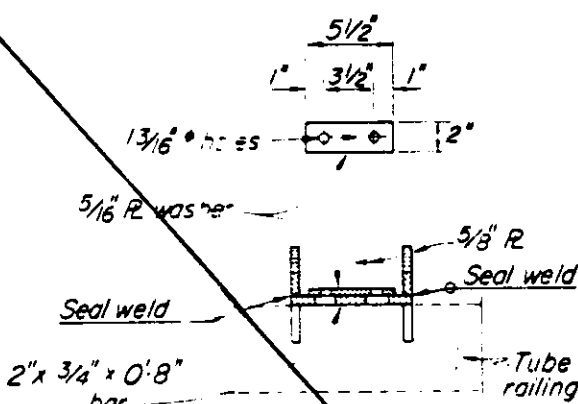
ELEVATION

ALTERNATIVE RAIL POST DETAILS TYPE 9

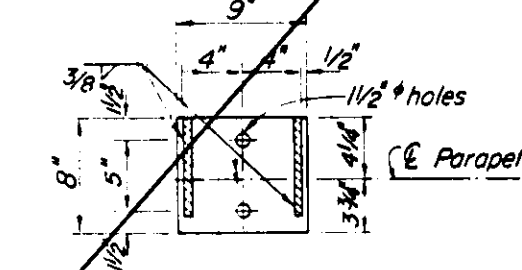
These details apply to Barrier Railing Types 9 and 12



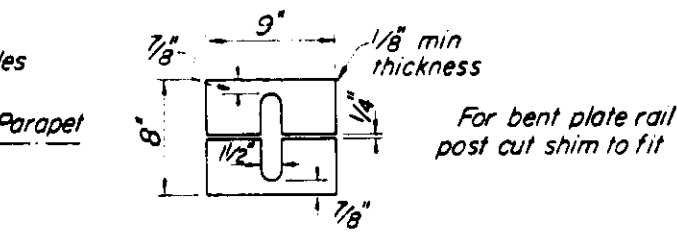
SECTION L-L



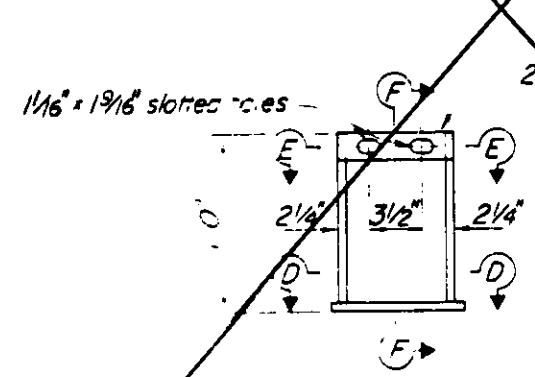
SECTION E-E



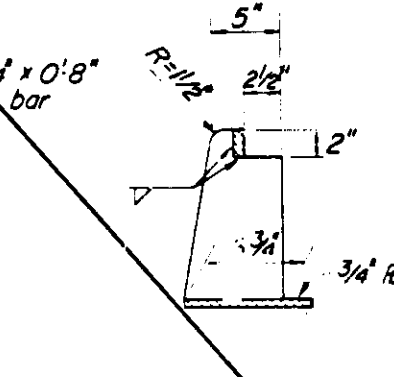
SECTION D-D



POST SHIM DETAIL TYPES 9 & 11



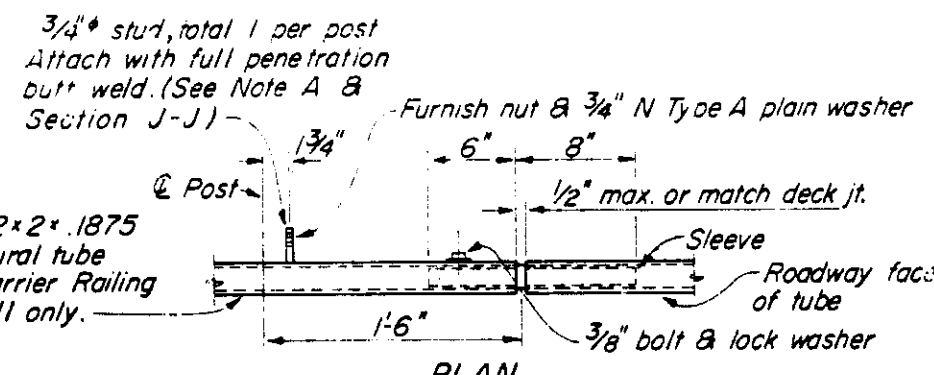
ELEVATION



SECTION F-F

RAIL POST DETAILS TYPE 9

These details apply to Barrier Railing Types 9 & 12



PLAN

Tack weld 3/8 inch nut inside of sleeve for 3/8 inch hex bolt with lock washer. (total 1) See Note B.

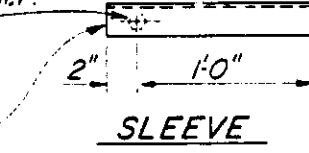
Sleeve formed of 3/16 inch R, bent thus: 61 for sliding fit inside of rail tube.

Note A:

3/8 inch studs may be used with 2x2 tube in lieu of 3/4 inch studs. Decrease post slotted hole size to 5/8 inch x 1 1/8 inch and use 3/8 inch W Type A plain washers.

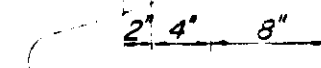
Note B:

3/8 inch hex nut tack welded to inside of sleeve may be replaced by a drilled and tapped hole to accept the 3/8 inch bolt.



SLEEVE

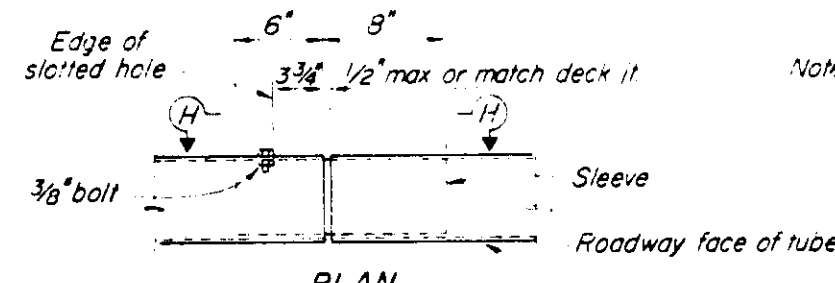
Tack weld 3/8 inch nut inside of sleeve for 3/8 inch hex bolt with lock washer. (total 1) See Note B.



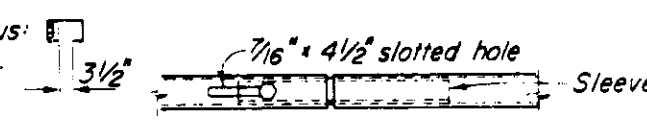
1/2 inch holes near & far side. Sleeve formed of 3/16 inch R, bent thus: for sliding fit inside of rail tube.

SLEEVE

STUD BOLT DETAILS

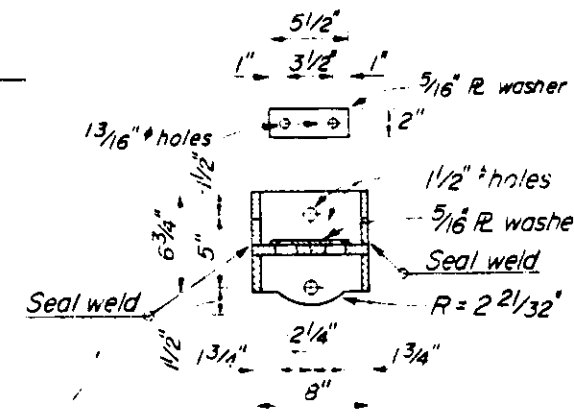


PLAN

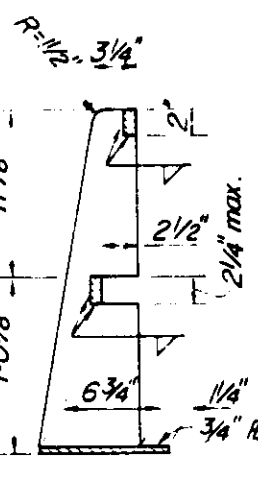


VIEW H-H

DETAIL A - TUBE SPLICE



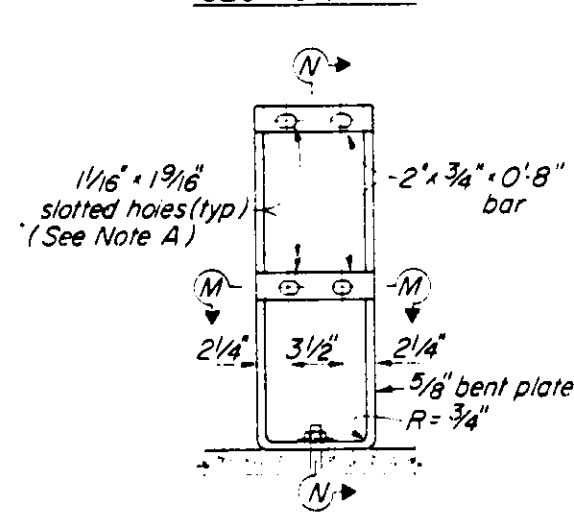
SECTION M-M



SECTION G-G

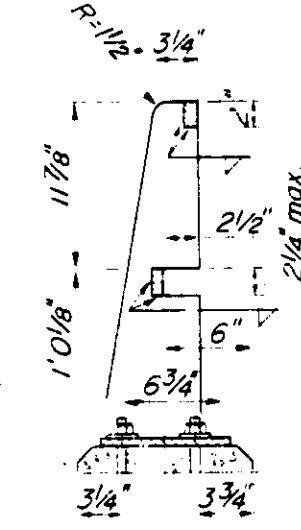
RAIL POST DETAILS TYPE II

These details apply to Barrier Railing Types II & 9-II

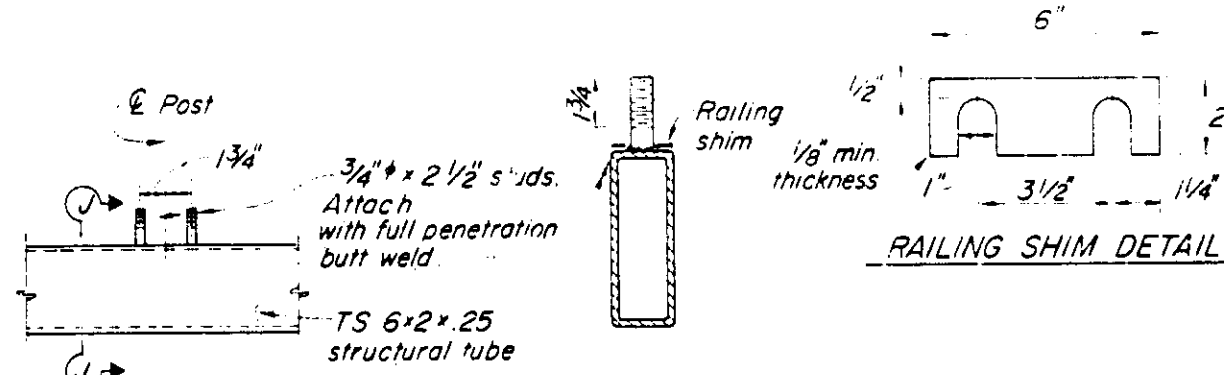


ELEVATION

ALTERNATIVE RAIL POST DETAILS TYPE II

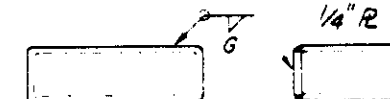


SECTION N-N



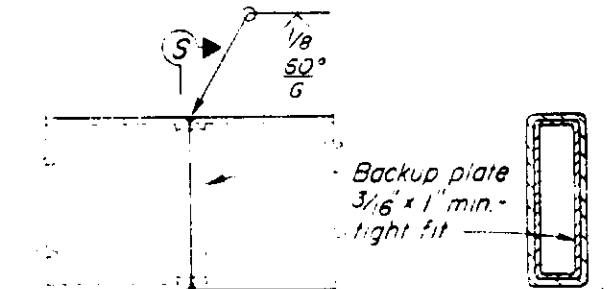
SECTION J-J

RAILING SHIM DETAIL



RAIL CAP

Note: Contractor may submit alternative detail for approval. Typical for 2x2 tube also.



SECTION S-S

TUBE - WELDED SPLICE

AS BUILT

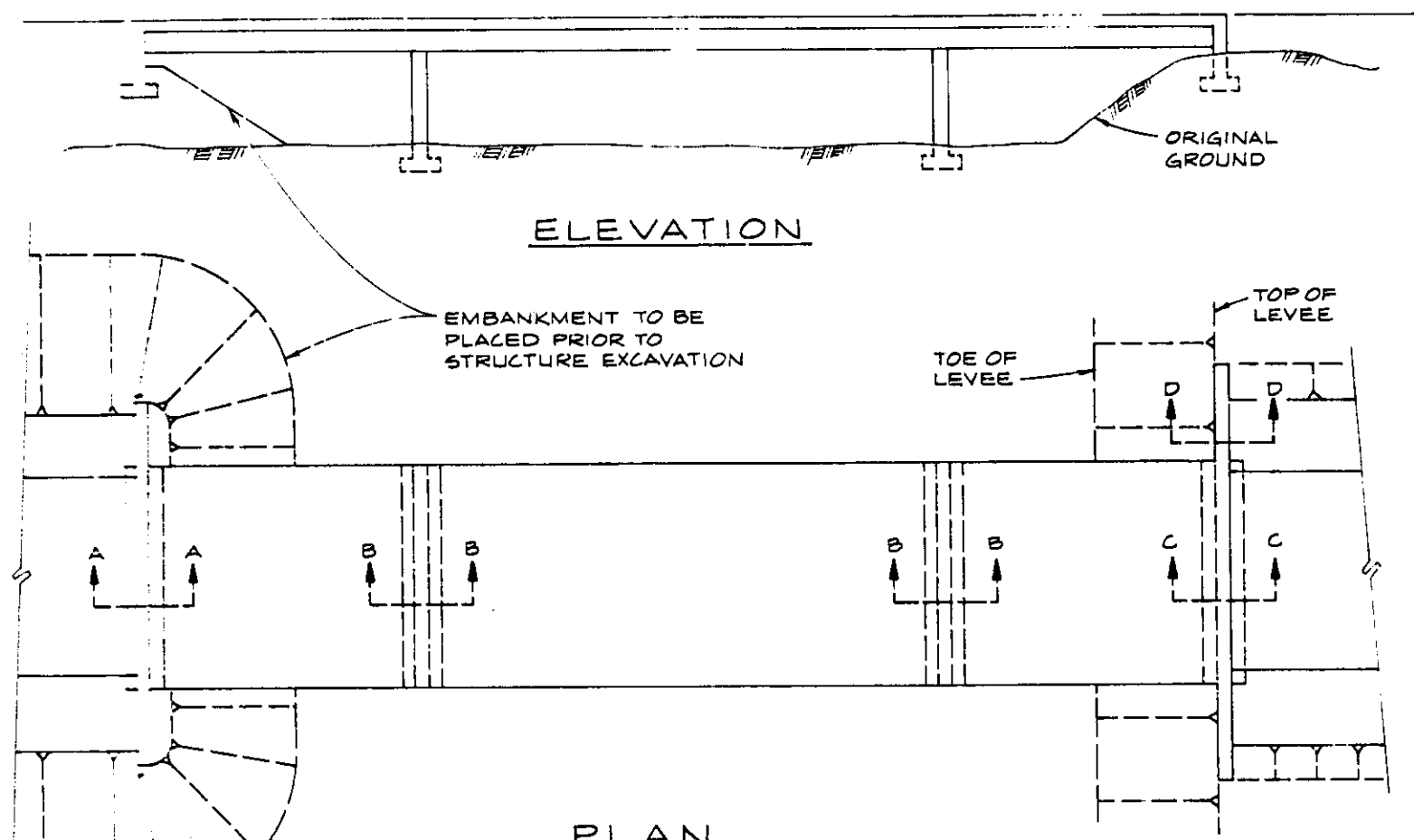
WHILE THE INFORMATION SHOWN IS BELIEVED TO BE ACCURATE, THE ORANGE COUNTY ENVIRONMENTAL MANAGEMENT AGENCY WILL NOT BE RESPONSIBLE FOR OMISSIONS, ERRORS, OR INACCURACIES.

Bridge Plans
Dr. # 13329
Sheet 47 of 53
Revised 24.1
Type: 11/11/11

550344

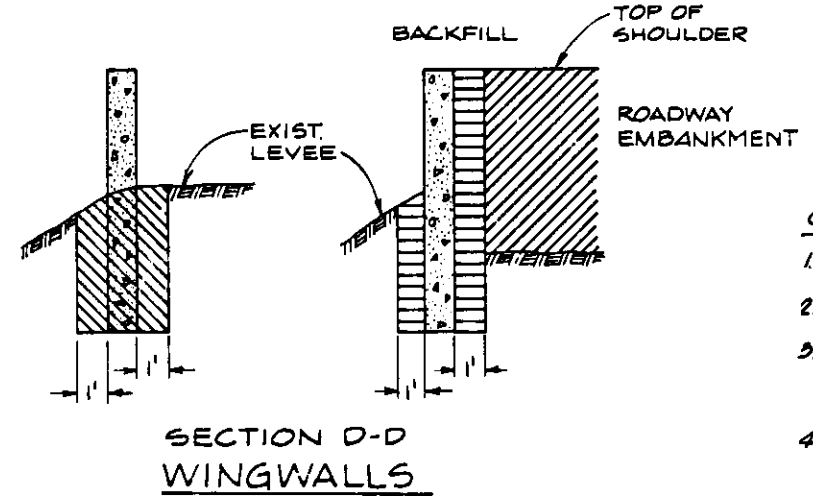
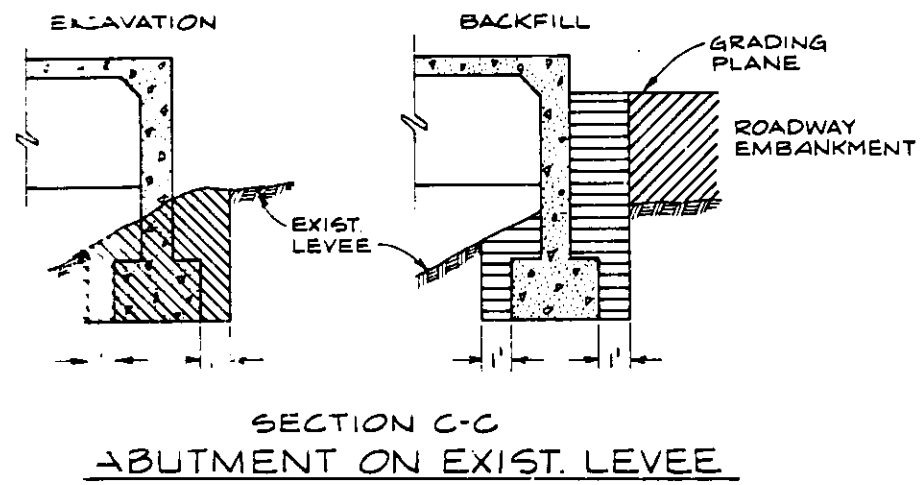
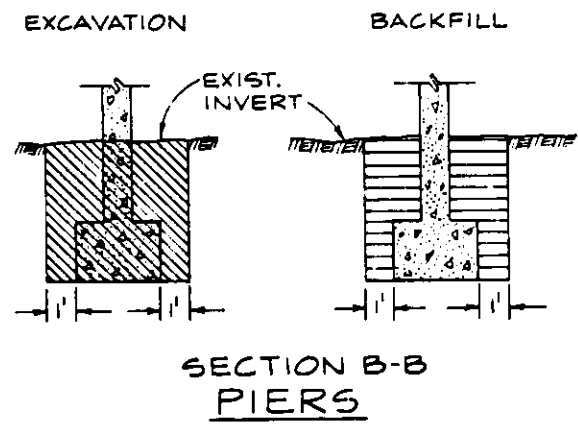
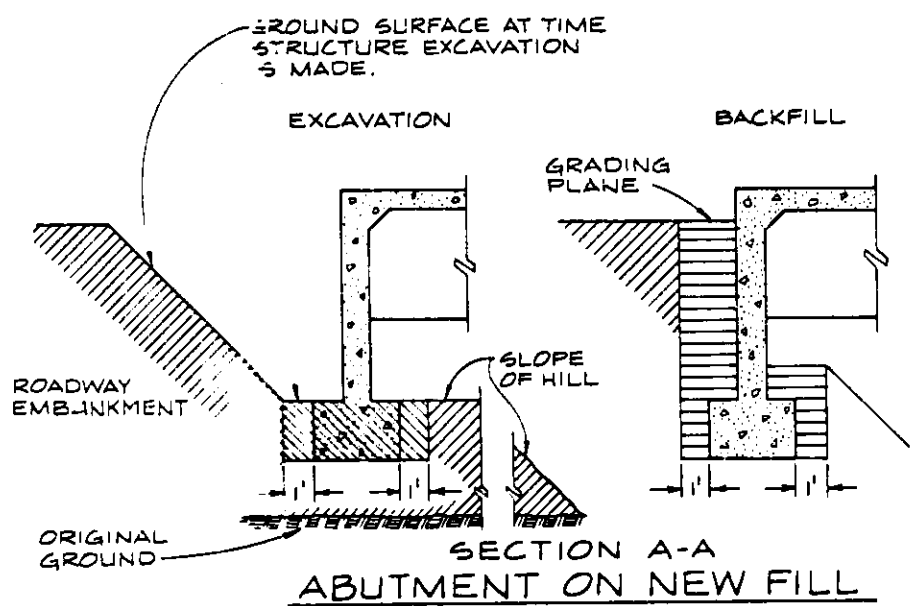
ORANGE COUNTY ENVIRONMENTAL MANAGEMENT AGENCY	
ADAMS AVENUE BRIDGE OVER SANTA ANA RIVER	
BARRIER RAILING TYPE II DETAILS	
AS SHOWN	SHEET 47 OF 53

DR#7 13329

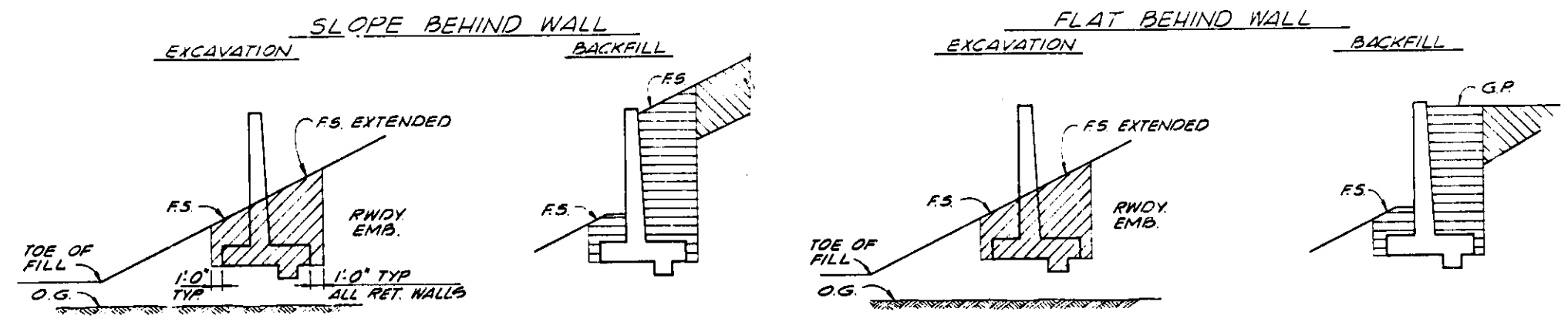


EXCAVATION LEGEND

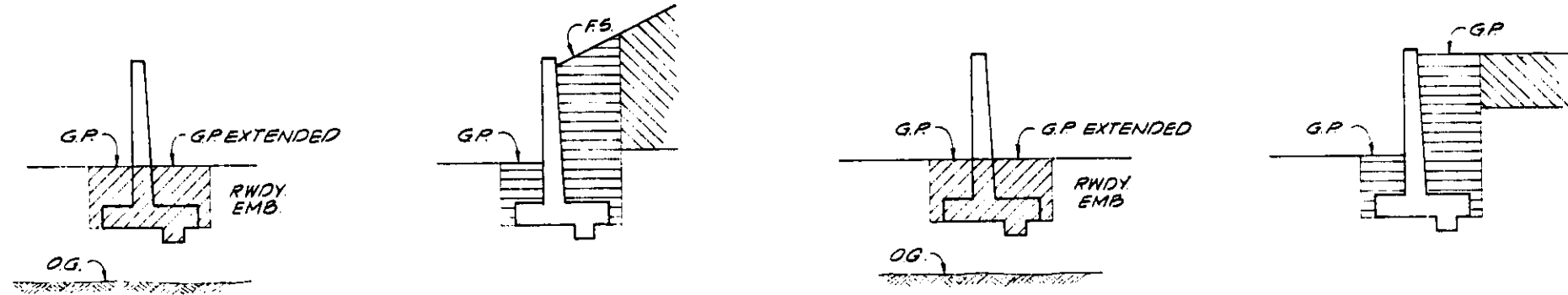
- STRUCTURE EXCAVATION
- STRUCTURE BACKFILL
- ROADWAY EMBANKMENT



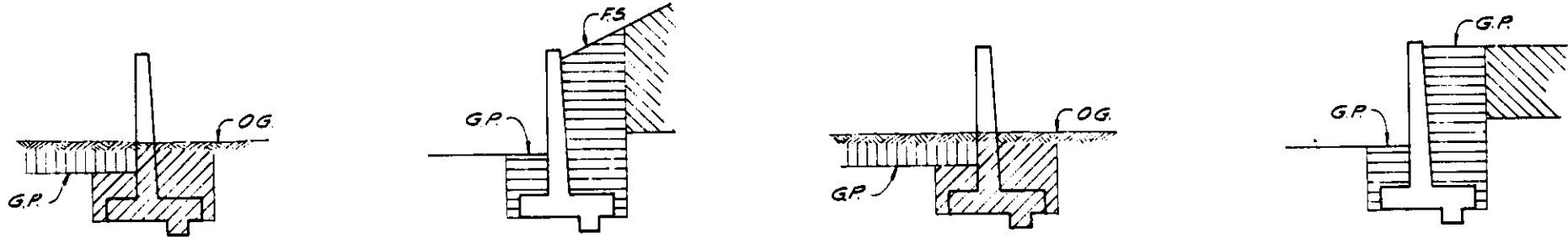
STRUCTURE EXCAVATION AND BACKFILL DETAILS



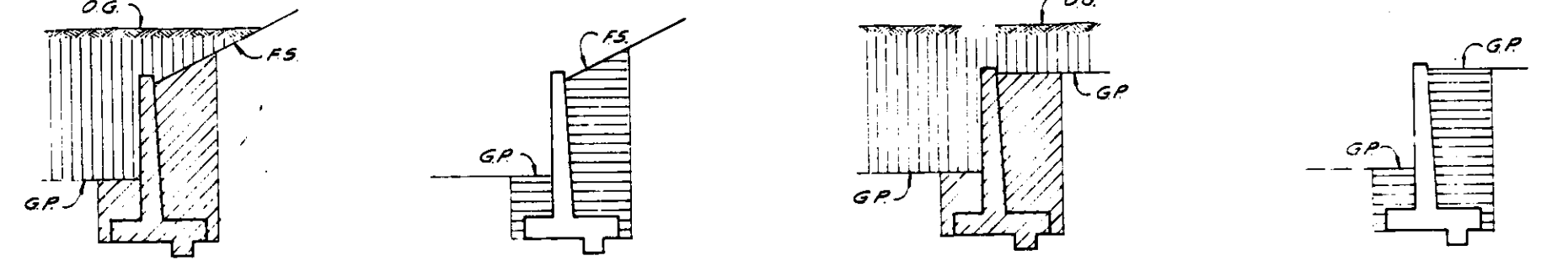
RETAINING WALL IN FILL, ON SLOPE



RETAINING WALL IN FILL



RETAINING WALL IN CUT & FILL



RETAINING WALL IN CUT

AS BUILT
WHILE THE INFORMATION SHOWN IS BELIEVED TO BE ACCURATE, THE ORANGE COUNTY ENVIRONMENTAL MANAGEMENT AGENCY WILL NOT BE RESPONSIBLE FOR OMISSIONS, ERRORS, OR INACCURACIES.

1 1/2 0 1 2
3 inches on original drawing

GENERAL NOTES:

1. ROADWAY EMBANKMENT IS NOT DELINEATED ON EXCAVATION DRAWINGS FOR CLARITY.
2. EMBANKMENT IF ANY, MUST BE IN PLACE BEFORE STRUCTURE EXCAVATION IS MADE.
3. IF NO ROADWAY OR DITCH EXCAVATION OR EMBANKMENT IS INVOLVED AT THE WALL, STRUCTURE EXCAVATION WILL BE MEASURED FROM THE ORIGINAL GROUND.
4. NO DEDUCTION FOR CRIPWALL MEMBER VOLUMES IS MADE FROM STRUCTURE BACKFILL QUANTITIES.
5. WHEN AN EMBANKMENT SETTLEMENT PERIOD IS REQUIRED, THE UPPER LIMITS OF RETAINING WALL EXCAVATION ARE RAISED TO CONFORM TO THE EMBANKMENT LIMITS, AFTER THE SETTLEMENT PERIOD.

SURCHARGE NOTES:

1. BRIDGE EMBANKMENT SURCHARGE IS TO BE PLACED IN LOCATIONS AND TO THE HEIGHTS LISTED IN THE SPECIAL PROVISIONS.
2. SURCHARGE SLOPES TO BE AS STEEP AS STABILITY OF MATERIAL PERMITS.

ABBREVIATIONS:

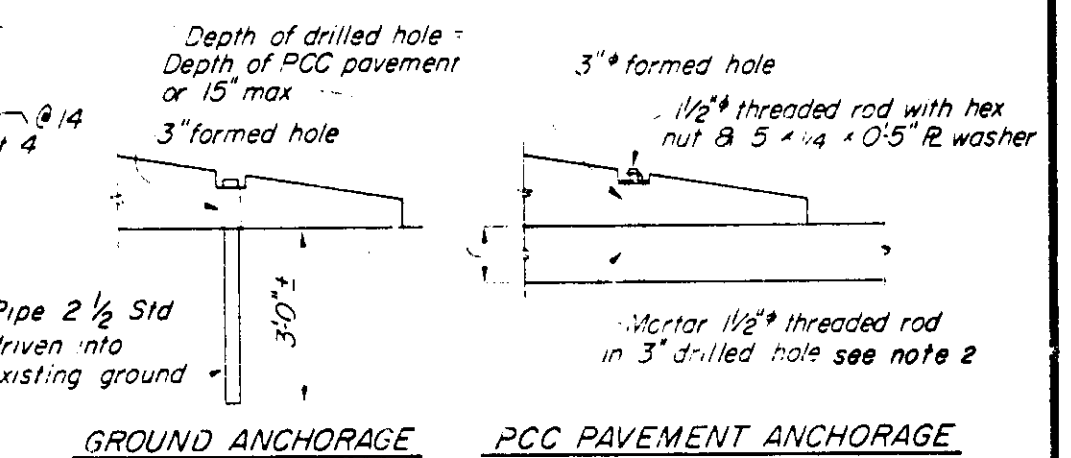
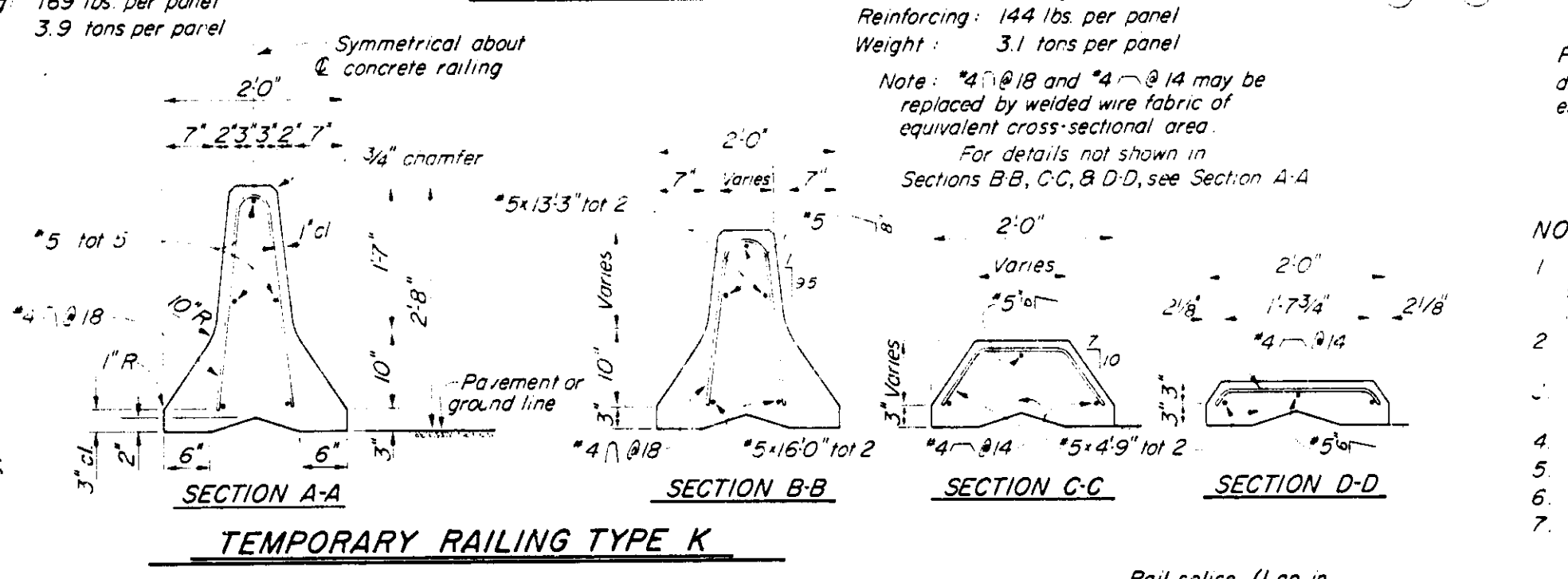
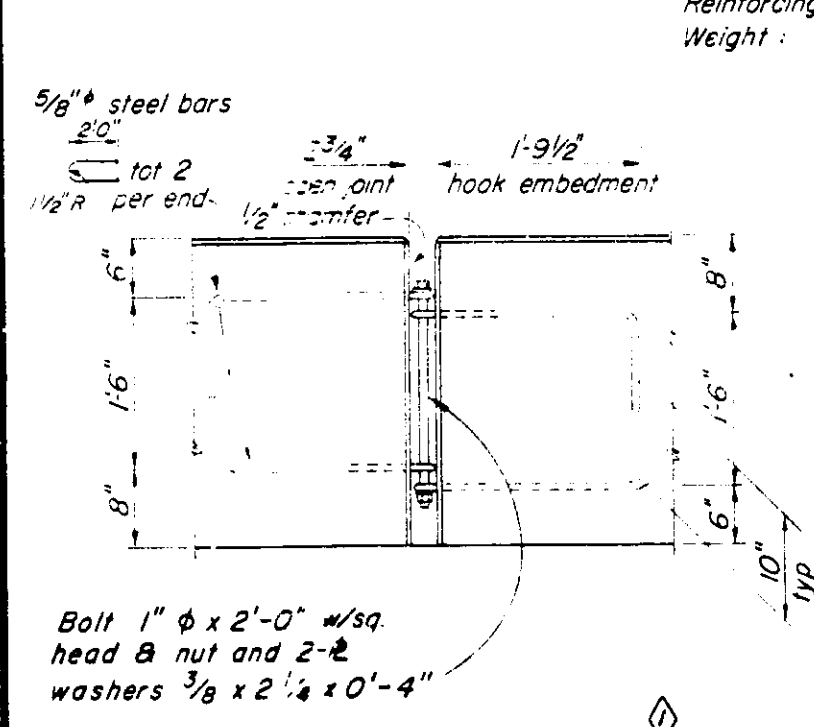
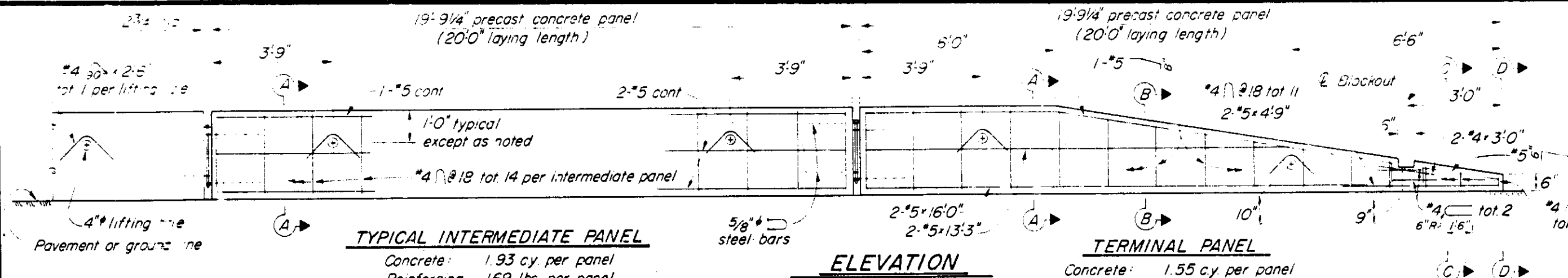
- O.G.: ORIGINAL GROUND
- F.S.: PLANNED FINISH SURFACE
- G.P.: PLANNED GRADING PLANE

LEGEND:

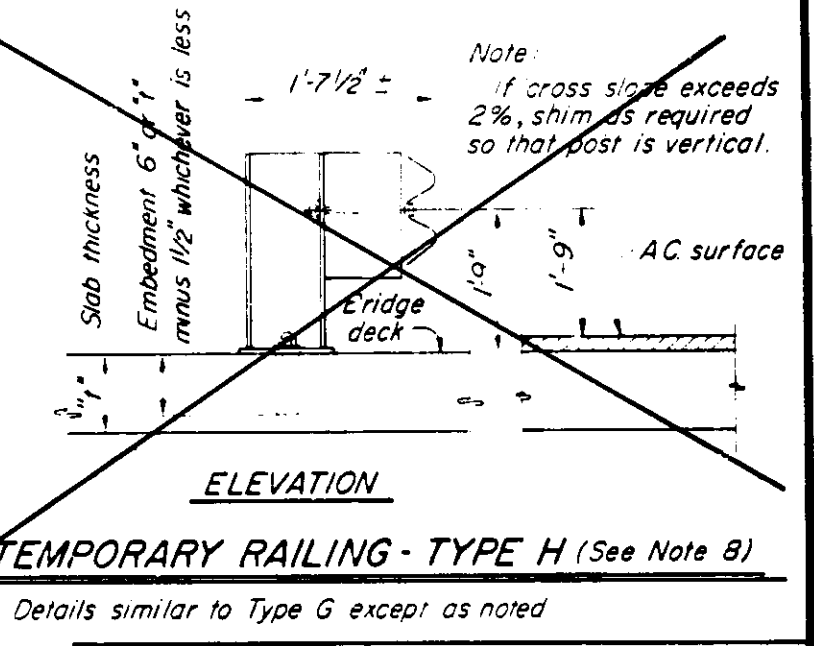
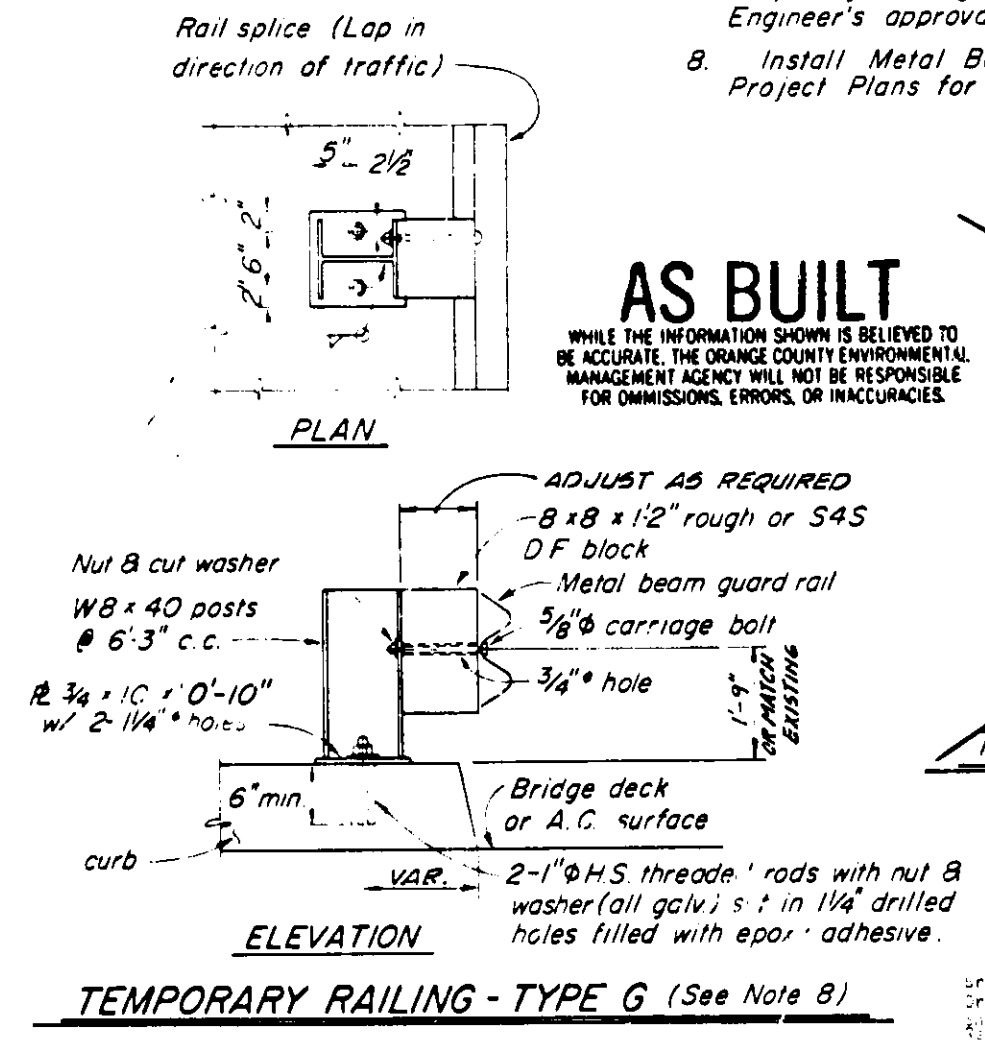
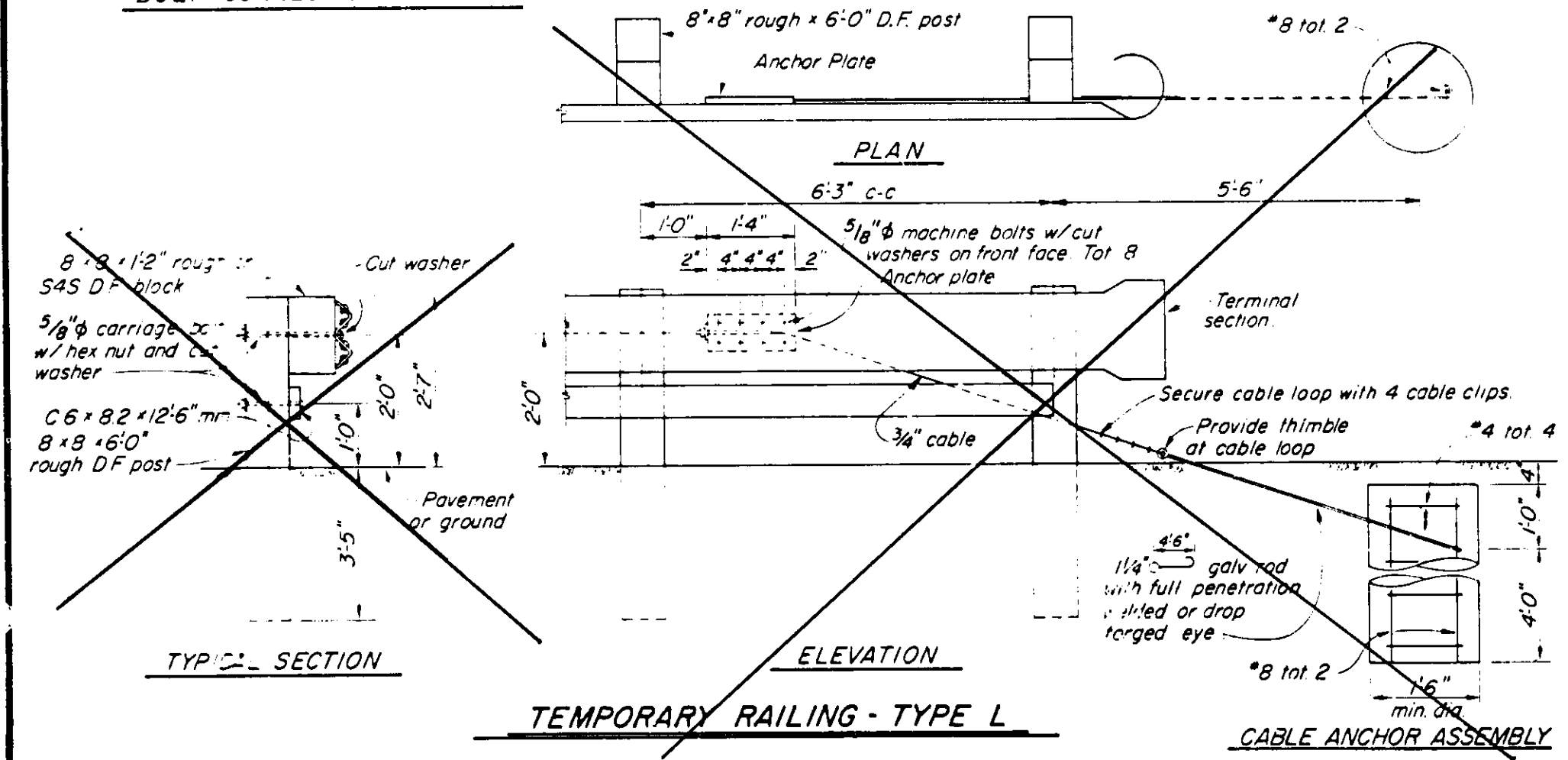
- STRUCTURE EXCAVATION
- STRUCTURE BACKFILL
- ROADWAY EXCAVATION
- ROADWAY EMBANKMENT
- BRIDGE EMBANKMENT
- SURCHARGE

ORANGE COUNTY ENVIRONMENTAL MANAGEMENT AGENCY			
ADAMS AVENUE BRIDGE OVER SANTA ANA RIVER			
EARTHWORK & MISCELLANEOUS DETAILS			
550344		DATE: 4/21/77	
DESIGNED: DJS	CHECKED: JWB	SCALE: AS SHOWN	DATE: APRIL 1977
DRAWN: DCM		DATE: APRIL 1977	SHEET: 48 OF 53

DRW 7 13329



- NOTES:**
- Anchor cable for Temporary Rail Type L to be parallel to guard rail for straight runs of rail. Cable may have angle point at anchor plate if guard rail is curved.
 - Drilling into precast prestressed slab units at Greenville-Banning channel bridge is not permitted.
 -
 - All bolts to have cut washers unless otherwise stated.
 - Paint entire unit white.
 - Remove bolts and fill holes with mortar when railing is no longer needed.
 - Alternative details for lifting the precast concrete panels of the Temporary Railing Type K may be submitted by the Contractor for the Engineer's approval.
 - Install Metal Beam Guard Railing on approaches if required. See Project Plans for layout and Standard Plan.

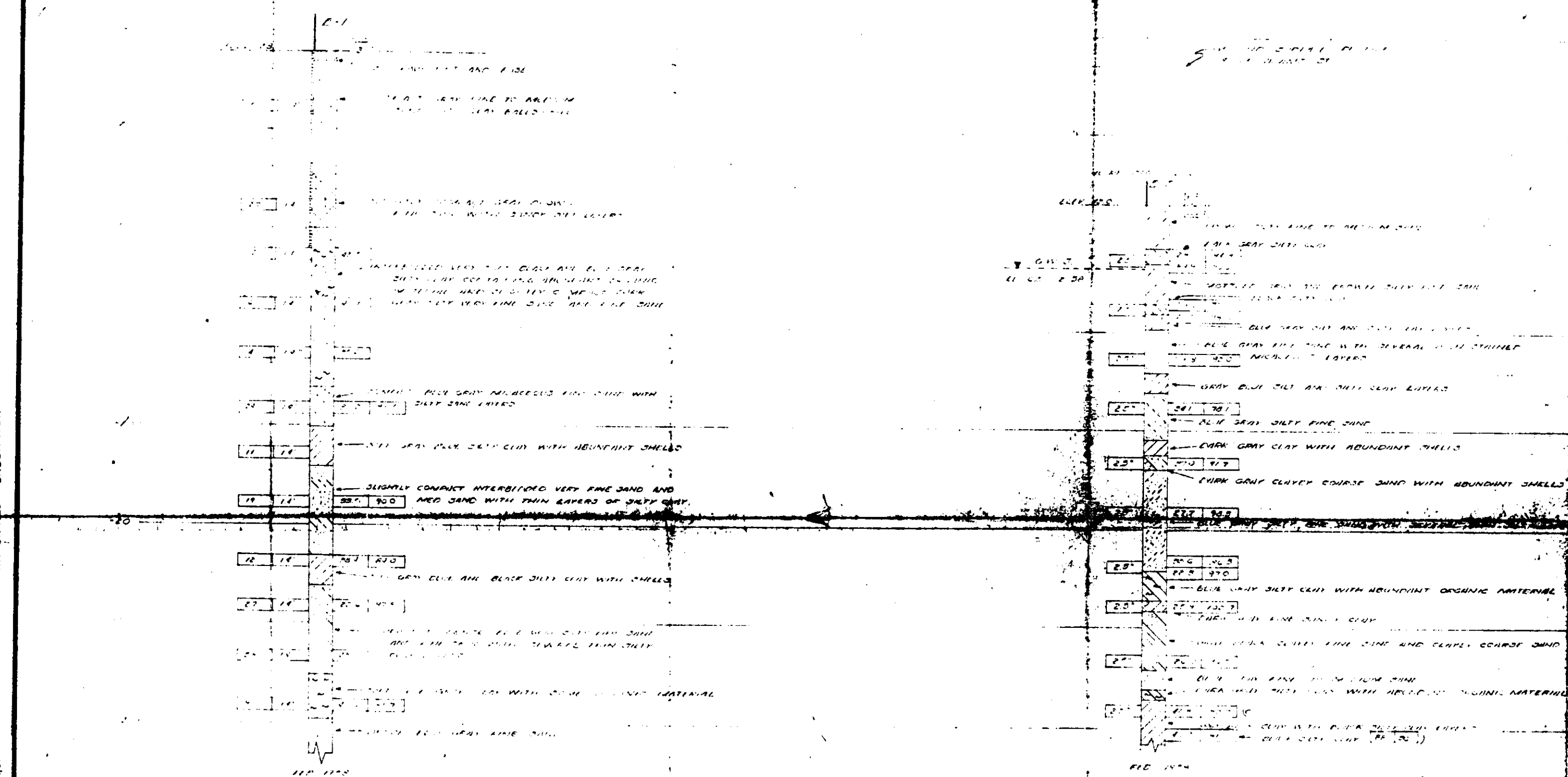


AS BUILT
 WHILE THE INFORMATION SHOWN IS BELIEVED TO BE ACCURATE, THE ORANGE COUNTY ENVIRONMENTAL MANAGEMENT AGENCY WILL NOT BE RESPONSIBLE FOR OMISSIONS, ERRORS, OR INACCURACIES.

ORANGE COUNTY ENVIRONMENTAL MANAGEMENT AGENCY	
ADAMS AVENUE BRIDGE OVER SANTA ANA RIVER	
550344 TEMPORARY RAILING DETAILS	
DESIGNED BY: [Signature]	CHECKED BY: [Signature]
DATE: APRIL 1977	DATE: APRIL 1977
SCALE: AS SHOWN	DWG. NO. S.A. 35
SHEET 49 OF 53	

DR #7 13329

B11-30



AS BUILT

WHILE THE INFORMATION SHOWN IS BELIEVED TO BE ACCURATE, THE ORANGE COUNTY ENGINEERING CO. MAKES NO WARRANTY AS TO THE ACCURACY OF THE INFORMATION FOR CONSTRUCTION PURPOSES.

NOTES
DRAWINGS THRU BY O.C.E. ENGINEERING CO.
FOR O.C.E.C.

CLASSIFICATION OF MATERIAL BASED ON STANDARD GRADE SIZE LIMITS

DIAGRAM SHOWING THE BASIS FOR ESTIMATES OF GRADE SIZE DISTRIBUTION USED IN DETERMINATION OF CLASS NAMES. IF GRAVEL IS PRESENT IN APPRECIABLE AMOUNTS THE TERM "GRAVELLY" MAY BE ADDED TO THE CLASS NAME, VIZ "GRAVELLY SAND". THE TERMS "COARSE", "MEDIUM" AND "FINE" WHEN USED TO DESCRIBE SAND, SILT AND GRAVEL REFER TO STANDARD GRADE SIZE LIMITS.

LEGEND OF EARTH MATERIALS

GRAVEL	SILTY CLAY OR CLAYEY SILT
SAND	PEAT AND/OR ORGANIC MATTER
SILT	FILL MATERIAL
CLAY	IGNEOUS ROCK
SANDY CLAY OR CLAYEY SAND	SEDIMENTARY ROCK
SANDY SILT OR SILTY SAND	METAMORPHIC ROCK

LEGEND OF BORING OPERATIONS

- PLAN OF ANY BORING
- PENETROMETER
- 2 1/2" CONE PENETROMETER
- SAMPLER BORING (DRY)
- ROTARY BORING (WET)
- AUGER BORING (DRY)
- JET BORING
- CORE BORING
- TEST PIT

ROTARY BORING

PENETRATION BORING

NOTES

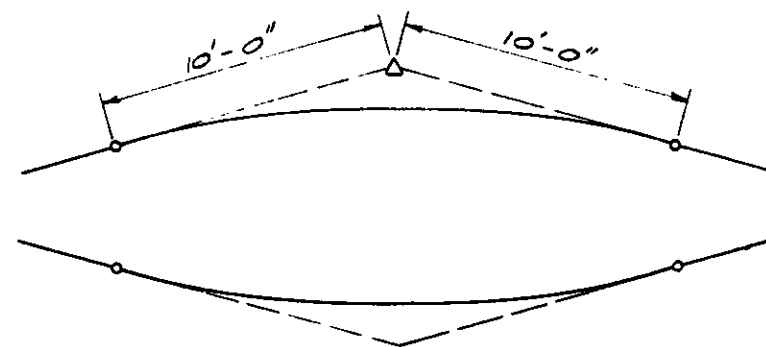
The contractor's attention is directed to Section 101 of the Standard Specification and to the Special Provisions accompanying this set of plans. Classification of earth material as shown on this plan is based upon 1:1 scale analysis.

ORANGE COUNTY ROAD DEPARTMENT

ADAMS AVENUE BRIDGE
ACROSS
GREENVILLE - BANNING CHANNEL

LOG OF TEST BORINGS

SCALE: 1" = 6' BRIDGE FILE DRAWING 5

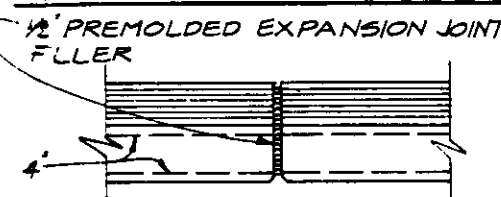


20' VC AT TOP OF WALL SLOPE CHANGE (2)
WHERE SHOWN ON THE PLANS

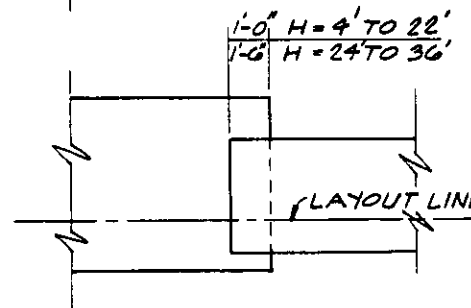
Hand-drawn detail of a window frame. A horizontal line represents the window sill. Above it, a vertical line represents the window frame. A horizontal line extends from the vertical line to the right, labeled $\frac{1}{2}"$ EXPANSION JOINT IF REQUIRED. Below the horizontal line, there are two vertical lines representing reinforcement bars, labeled $4" \text{ @ } 12"$ and $2'-0"$. The drawing is a simple line sketch with some hatching for shading.



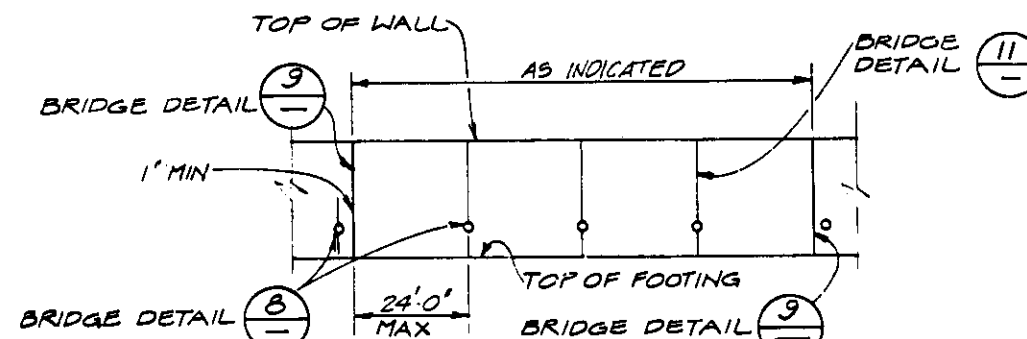
WATERSTOP
PLAN OF WALL
WITH BR. DETAIL (4)



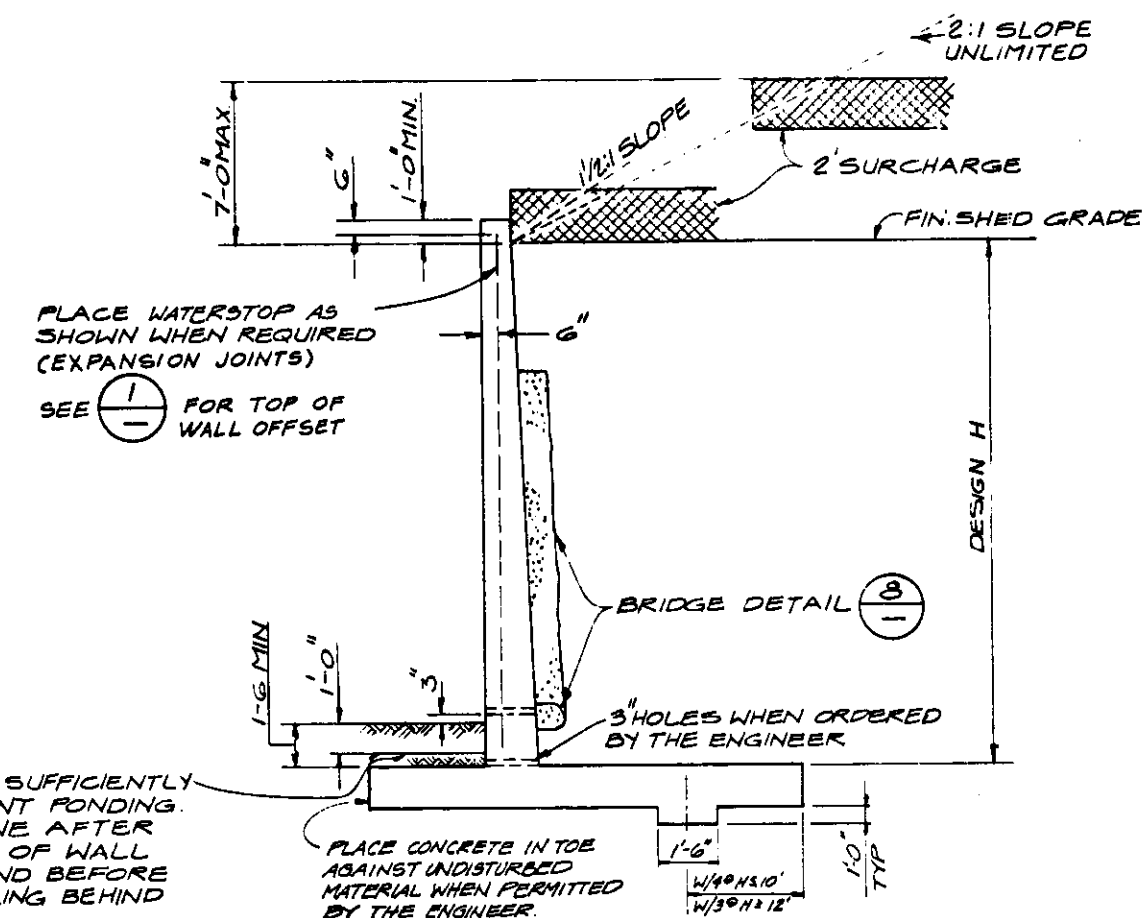
PLAN OF WALL WITH
EXPANSION JOINT ONLY (6)



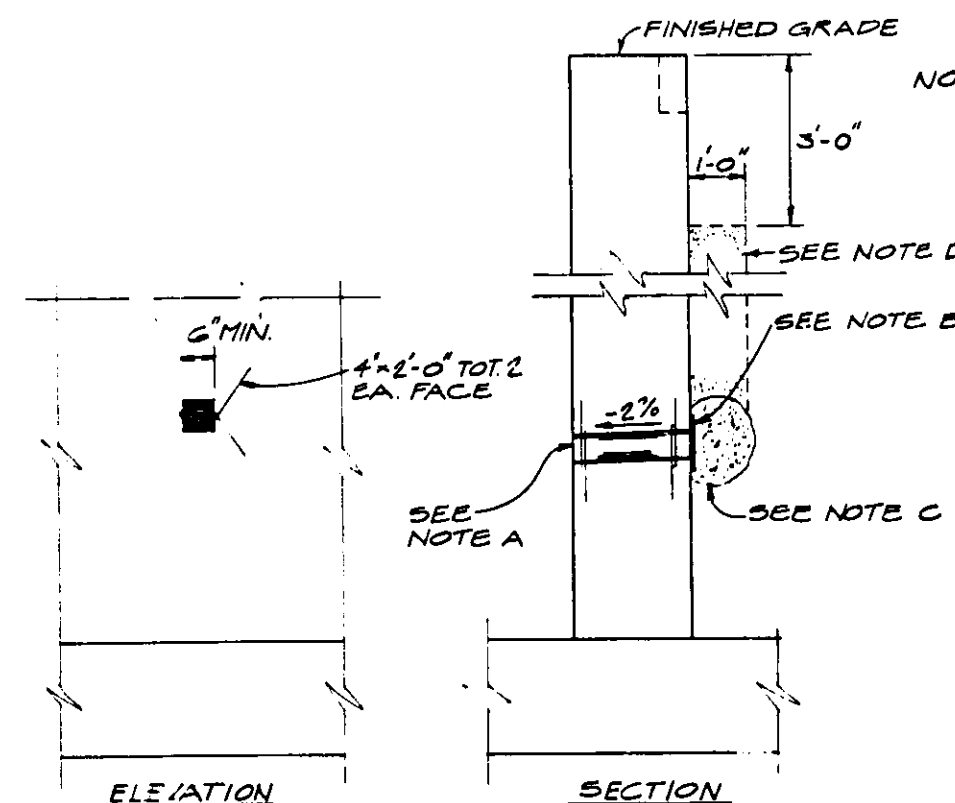
FOOTING STEP (7)



WALL EXPANSION JOINTS
AND WEAKENED PLANES
BRIDGE DETAILS (5
—)

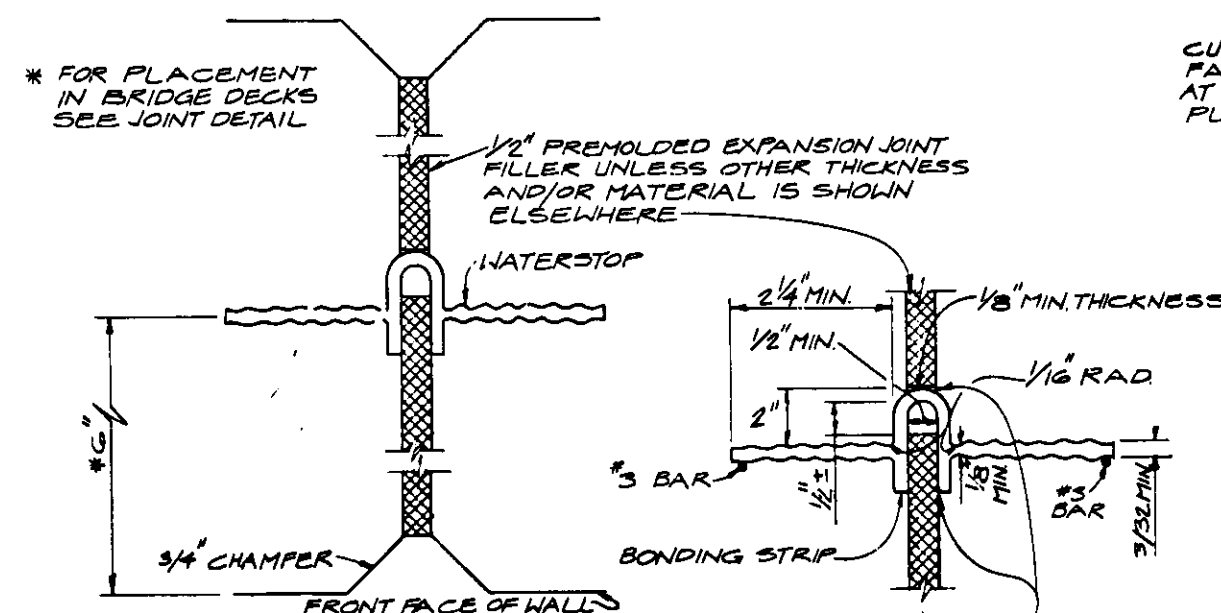


DESIGN AND DRAINAGE (3)



WEEP HOLE AND PERVIOUS BACKFILL
BRIDGE DETAIL (8)

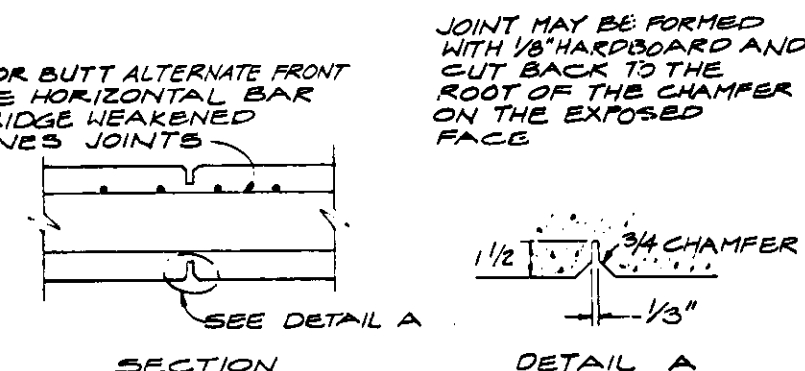
- NOTES:
- A. 4" ϕ DRAINS @ 24' MAX. CENTER TO CENTER RETAINING WALLS AND 9'-3" C-C FOR ABUTMENT #1 & #6 WALL DRAINS SHALL BE LOCATED 3" $\pm$ ABOVE FINISHED GRADE.
 - B. 6" SQUARE ALUMINUM OR GALVANIZED STEEL WIRE 4 MESH HARDWARE CLOTH. (MIN. WIRE DIAMETER 0.03") ANCHOR FIRMLY TO BACKFACE.
 - C. ONE CUBIC FOOT PERVIOUS BACKFILL MATERIAL IN A BURLAP SACK, SECURELY TIED
 - D. PERVIOUS BACKFILL MATERIAL CONTINUOUS BEHIND RETAINING WALL OR ABUTMENT



WALL EXPANSION JOINT
AND WEAKENED PLANES
BRIDGE DETAIL (9)

WATERSTOP
BRIDGE DETAIL (10)

- NOTES:**
1. WATERSTOP TO HAVE 5 OR MORE PAIRS OF RAISED RIBS TO PROVIDE 0.1 SQ. IN. MIN. RIB CROSS-SECTION AREA ON EACH HALF OF 1-2 WATERSTOP. HEIGHT OF RIBS TO BE $\frac{3}{32}$ " MIN.
 2. HOLES WILL BE PERMITTED IN THE OUTER $\frac{1}{2}$ " OF THE WEB FOR WIRE RINGS, ETC. TIE WEB TO #3 REINFORCING BARS @ 12" MAX INTERVALS TO SUPPORT THE WATERSTOP IN PROPER POSITION DURING CONCRETE PLACEMENT. ALTERNATIVE DETAIL MAY BE SUBMITTED FOR APPROVAL OF THE ENGINEER.



WEAKENED PLANES
BRIDGE DETAIL (11)

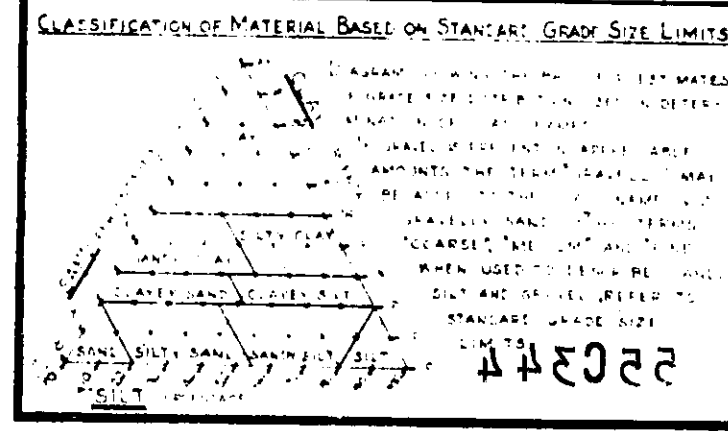
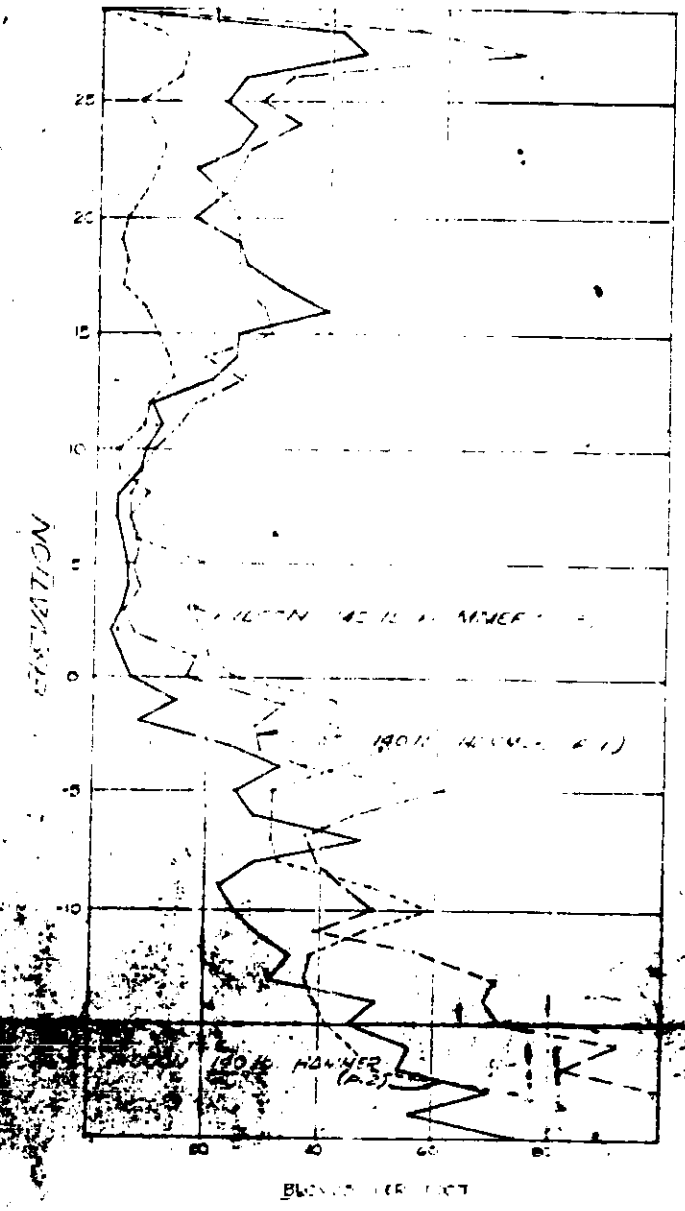
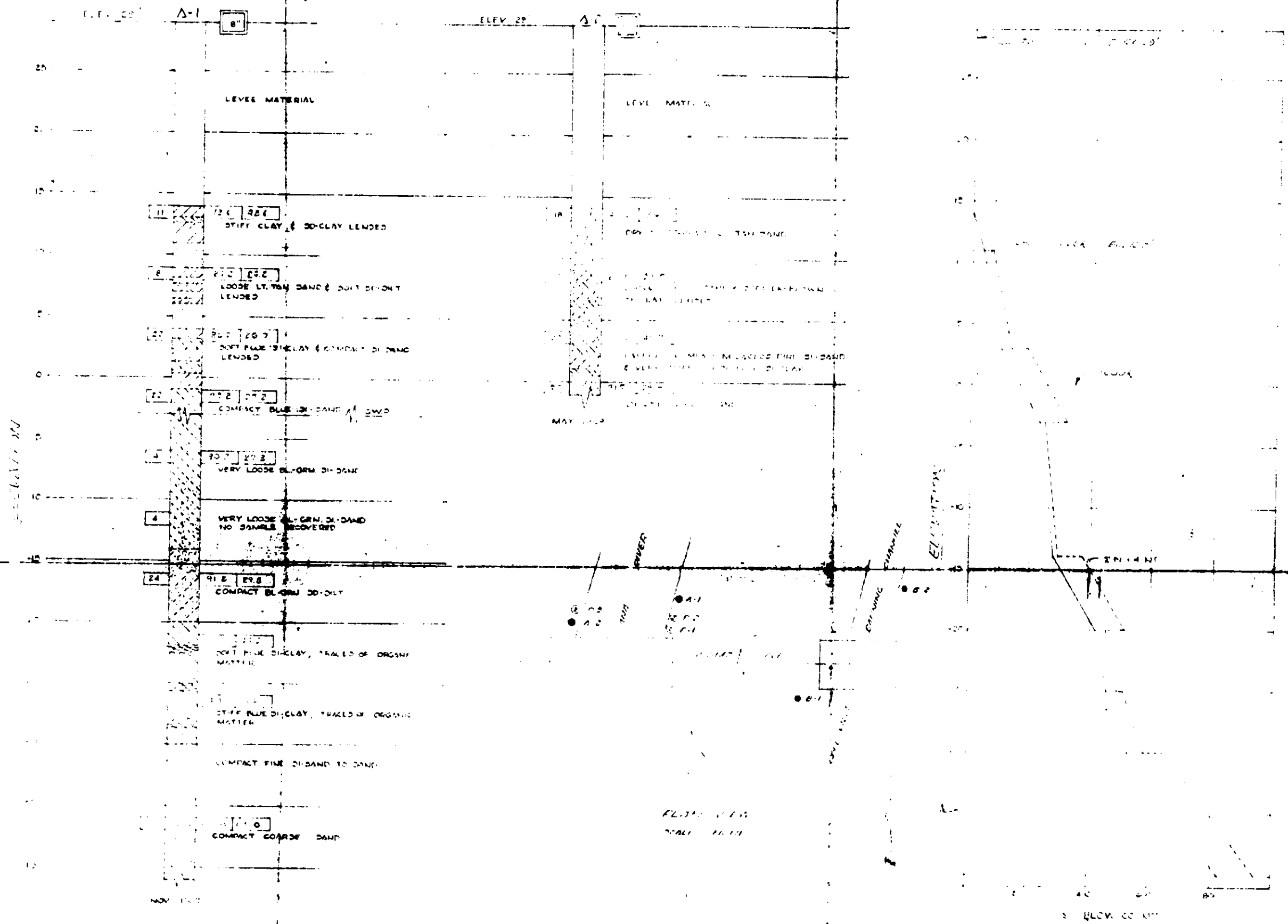
AS BUILT

WHILE THE INFORMATION SHOWN IS BELIEVED TO BE ACCURATE, THE ORANGE COUNTY ENVIRONMENTAL MANAGEMENT AGENCY WILL NOT BE RESPONSIBLE FOR OMISSIONS, ERRORS, OR INACCURACIES.



55C344		ORANGE COUNTY ENVIRONMENTAL MANAGEMENT AGENCY	
		ADAMS AVENUE BRIDGE OVER SANTA ANA RIVER	
		TYPICAL BRIDGE & RETAINING WALL DETAILS	
WORK DATE	DESCRIPTION	PREPARED BY SUPERVISOR OF	<i>Paul A. Baker</i> 11/27/77 RCE 6654
REVISIONS		SCALE	DATE
DESIGNED	D.J.S.	DATE	OWG. NO.
APPROVED	L.W.R.	APRIL 1977	S.A. 35

DR. #7 13329

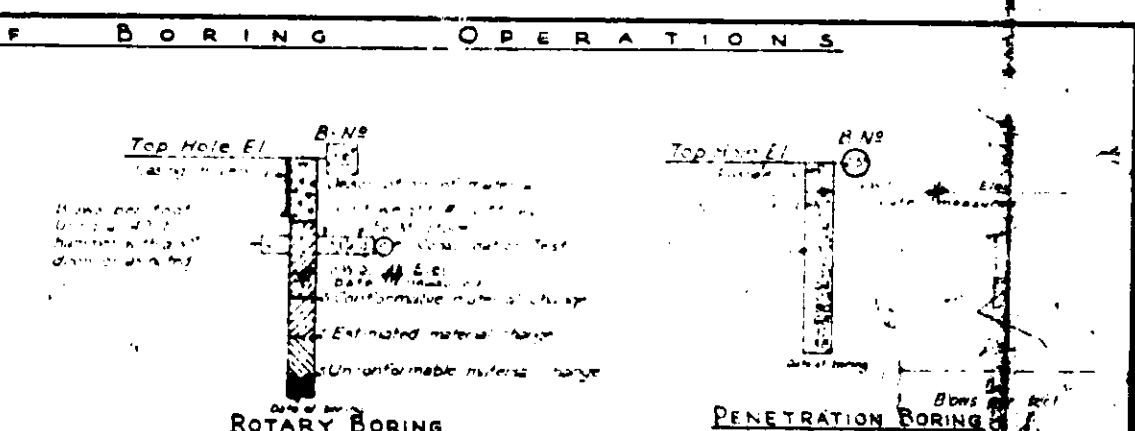


LEGEND OF EARTH MATERIALS

GRAVEL	CLAY
SAND	CLAY AND/OR ORGANIC MATTER
SILT	FILL MATERIAL
CLAY	IGNEOUS ROCK
SANDY CLAY OR CLAYEY SAND	SEDIMENTARY ROCK
SANDY SILT OR SILTY SAND	METAMORPHIC ROCK

LEGEND OF BORING OPERATIONS

PLAN OF ANY BORING
PENETROMETER
2 1/2" CONE PENETROMETER
SAMPLER BORING (DRY)
ROTARY BORING (WET)
AUGER BORING (DRY)
JET BORING
CORE BORING
TEST PIT



NOTES

The contractor is directed to follow the Standard Specification and to the Special Provisions, emphasizing the following:

Classification of earth material as shown on this sheet is based upon...

GRANITE COUNTY ROAD DEPARTMENT

PLAINVIEW BRIDGE

THE CLAYTON RIVER

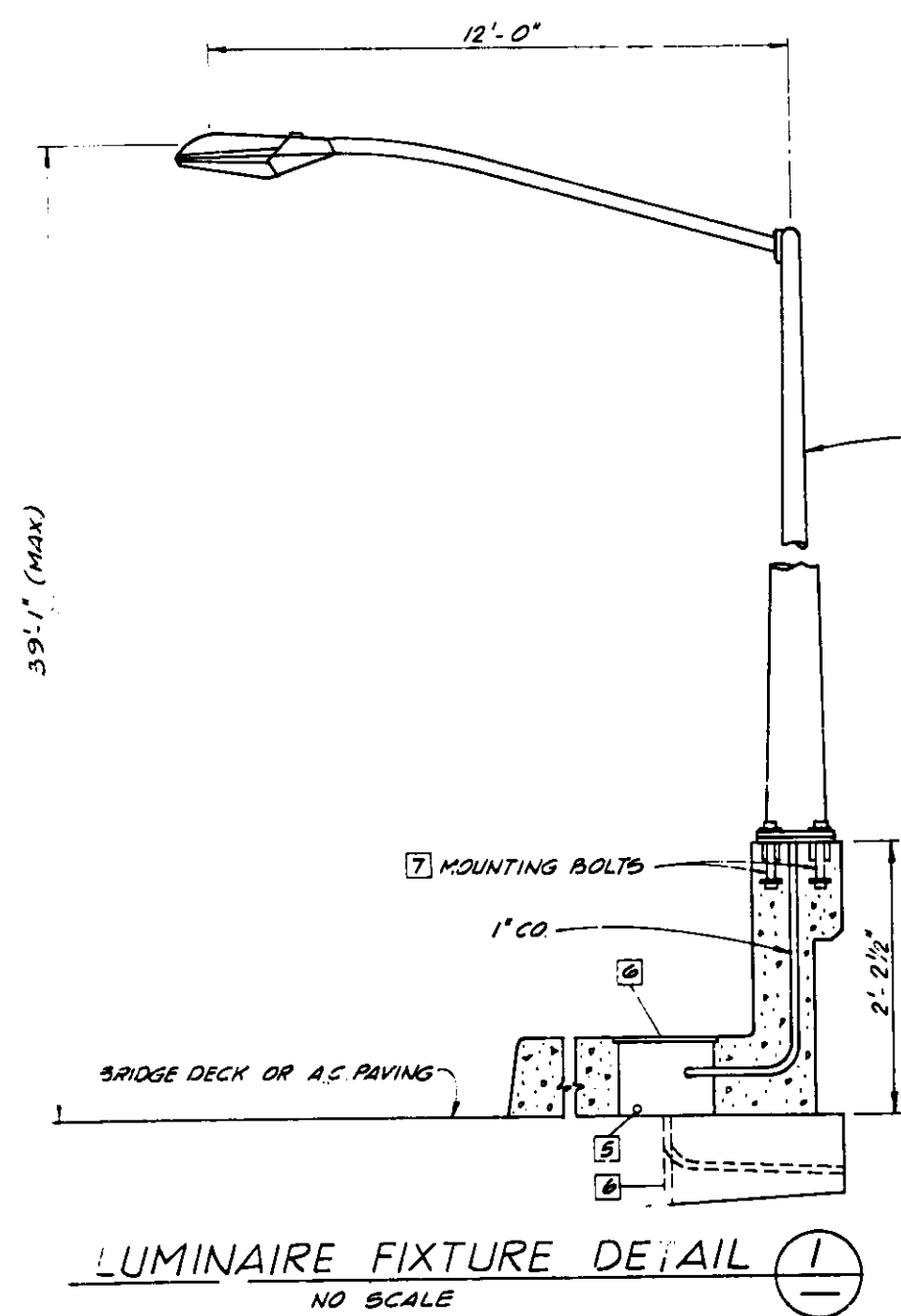
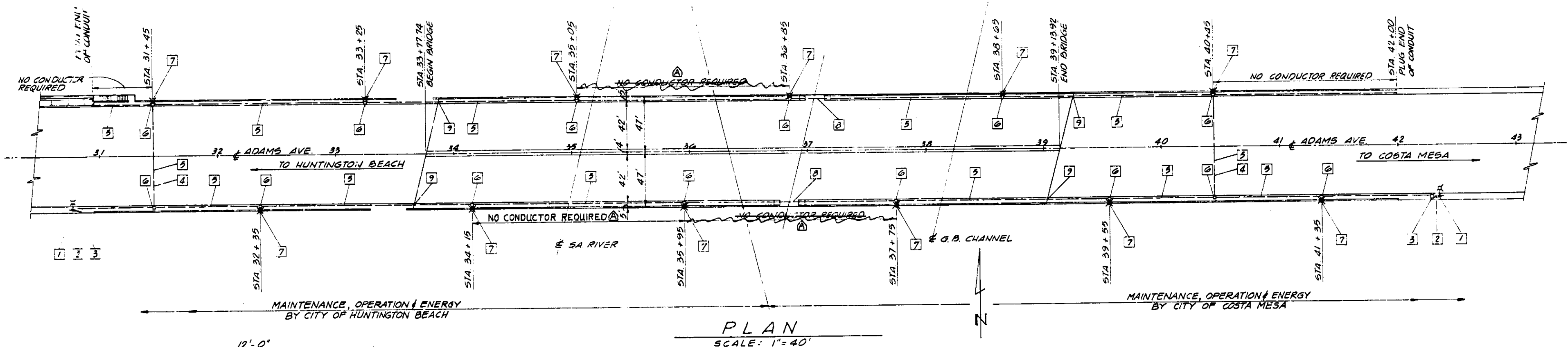
LOG OF TEST BORINGS

SCALE 1/8" = 1' HORIZONTAL
1" = 10' VERTICAL

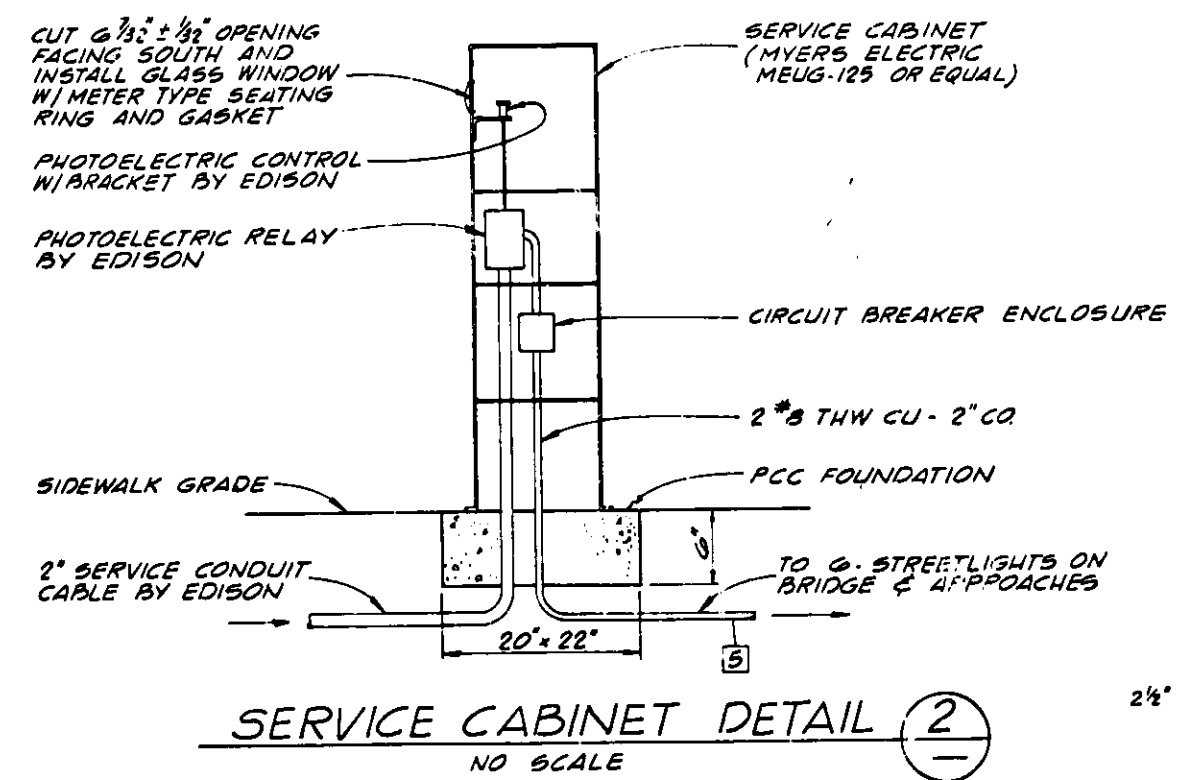
DATE: 10-1-66

DRAWN BY: [Name]

CHECKED BY: [Name]

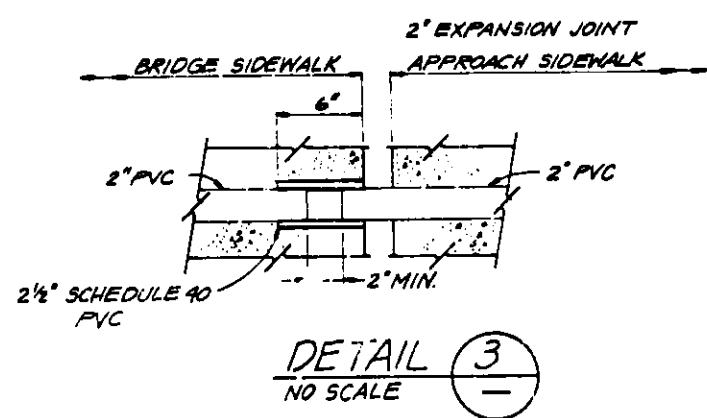


TYPE 21 LIGHT STANDARD PER
CALTRANS STD PLAN ES-6C
G-REQUIRED ON BRIDGE
3- REQUIRED EACH APPROACH



ELECTRICAL NOTES:

- 1 - EXIST. EDISON CO. FEED POINT FOR BRIDGE LIGHTING
- 2 - INSTALL 2" CO. PVC SCHEDULE 40 FROM EDISON CO. SERVICE POINT TO UNDERGROUND SERVICE PEDESTAL. SERVICE CONDUCTORS BY EDISON.
- 3 - INSTALL MYERS ELECTRIC MEUG-125 SERVICE CABINET OR APPROVED EQUAL.
- 4 - INSTALL 2" CO. PVC SCHEDULE 40 W/ 3" CONC. ENCASEMENT.
- 5 - INSTALL 2-#8 THW CU & 2" CO. PVC SCHEDULE 40. (SEE SHEET 46)
- 6 - INSTALL PULLBOX PER CALTRANS DWG. ES-7A (TYPE-2). WITH 3/4" DRAIN THROUGH BRIDGE DECK, GRADE BEAM OR RETAINING WALL.
- 7 - 1/2" DIA. MOUNTING BOLTS, 11 1/2" BOLT CIRCLE, WITH ANCHOR PLATE PER CALTRANS SHEET ES-7B.
- 8 - INSTALL 2" PVC SCHEDULE 40 CONDUIT IN TOP SLAB OF BRIDGE STRUCTURE AT PIER & RAMP AREA.
- 9 - PROVIDE EXPANSION JOINT PER DETAIL (3)



1 1/2 0 1 2
3 inches on original drawing

SPECIFICATIONS:
G.E. M-400A POWR/DOOR C6776506
LAMP: LU400/BD 400 WATT HIGH PRESSURE SODIUM VAPOR
REFRACTOR: LEXAN TYPE III DISTRIBUTION

AS BUILT
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ORANGE COUNTY ENVIRONMENTAL MANAGEMENT AGENCY			
ADAMS AVENUE BRIDGE OVER SANTA ANA RIVER			
STREET LIGHTING PLAN AND DETAILS			
550344			
3-83AS BUILT.			
DATE	DESIGNATION	DATE	DESIGNATION
REVISIONS		RCE 6654	DATE
DESIGNED S.A.C.	SCALE	DATE	DWG. NO.
DRAWN R.R.R.	CHECKED C.A.C.	AS SHOWN APRIL 1977	S.A. 35
			SHEET 53 OF 53

DR#7 13329