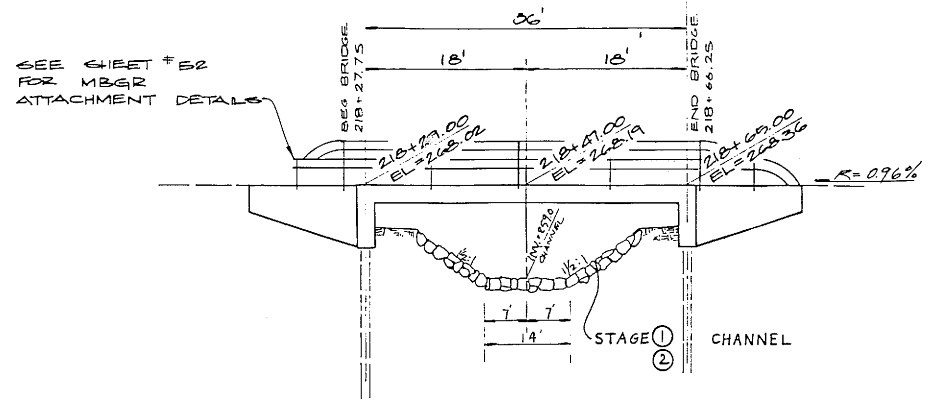
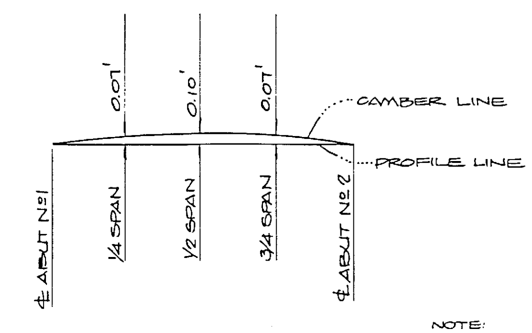


ELEVATION

SCALE: 1"=10'-0"



CAMBER DIAGRAM

NO SCALE

NOTE:
CAMBER DIAGRAM DOES NOT INCLUDE ALLOWANCE FOR FALSEWORK SETTLEMENT. THE TOTAL DEFLECTION WILL BE REACHED ABOUT FOUR YEARS AFTER FALSEWORK REMOVAL. FOR VALUES AT TIME OF FALSEWORK REMOVAL, DIVIDE THOSE SHOWN BY FOUR. THE AMOUNT OF CAMBER FOR CONSTRUCTION WILL BE DETERMINED BY THE ENGINEER.

GENERAL NOTES

SPECIFICATIONS

DESIGN

A.A.S.H.T.O. STD. SPECS. DATED 1977 WITH SUBSEQUENT REVISIONS AND CALIFORNIA DEPT. OF TRANSPORTATION BRIDGE PLANNING & DESIGN MANUAL.

CONSTRUCTION

STANDARD SPECIFICATIONS, CALIFORNIA DEPT. OF TRANSPORTATION DATED JANUARY 1981 AND SPECIAL REVISIONS.

LIVE LOADING

H.S. 20-44 AND ALTERNATIVE & CALTRANS PERMIT LOAD.

PILE LOADING

45 TON TYPE: CLASS 45

REINFORCEMENTS

EMBEDMENT IS CLEAR TO OUTSIDE OF BAR AND IS 2" TO MAIN REINFORCEMENT EXCEPT AS SHOWN. BACKING FOR HOOKS IS FOUR DIAMETERS EXCEPT AS NOTED. WHERE REINFORCEMENT BARS ARE SPLICED, BARS #8 AND SMALLER LAP 45 DIAMETERS OF SMALLER BAR JOINED, BARS 9, 10 & 11 LAP 60 DIAMETERS OF SMALLER BAR JOINED

CONCRETE

CLASS "A" (564 lb.) "TYPE IP(MS)" OR "TYPE II MOD. PORTLAND CEMENT. DECK SLAB CLASS "D" 658 (7 SACKS)

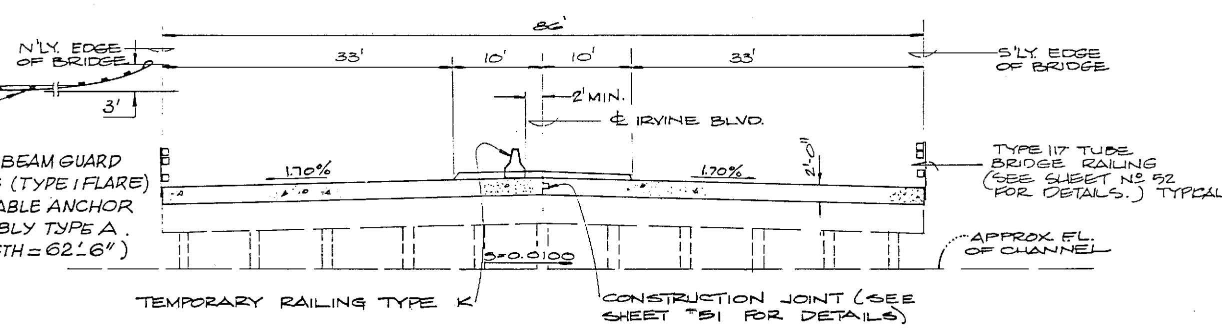
UNIT STRESSES

PILE CAP & ABUT.: f'_c = 3250 P.S.I. @ 28 DAYS
f_y = 60,000 P.S.I.

PILES: f'_c = 6,000 P.S.I.
f_y = 270,000 P.S.I. STRANDS
f_y = 60,000 P.S.I. BARS

ESTIMATED BRIDGE QUANTITIES

	Item	Quantity	Unit
	STRUCTURE EXCAVATION	115	C.Y.
	STRUCTURE BACKFILL	35	C.Y.
(F)	STRUCTURE CONCRETE	363	C.Y.
(F)	REINFORCING STEEL	38,023	LBS.
	FURNISH CONC. PILES	1100	L.F.
(F)	DRIVE CONC. PILES	22	EA.
(F)	BRIDGE RAILING TYPE 117	110	L.F.
(S)	SLOPE PROTECTION ROCK CL. 1/4 TON METHOD "B" PLACEMENT	641	TONS
	TEMPORARY RAILING TYPE K	80	L.F.
	METAL BEAM GUARD RAILING	130	L.F.



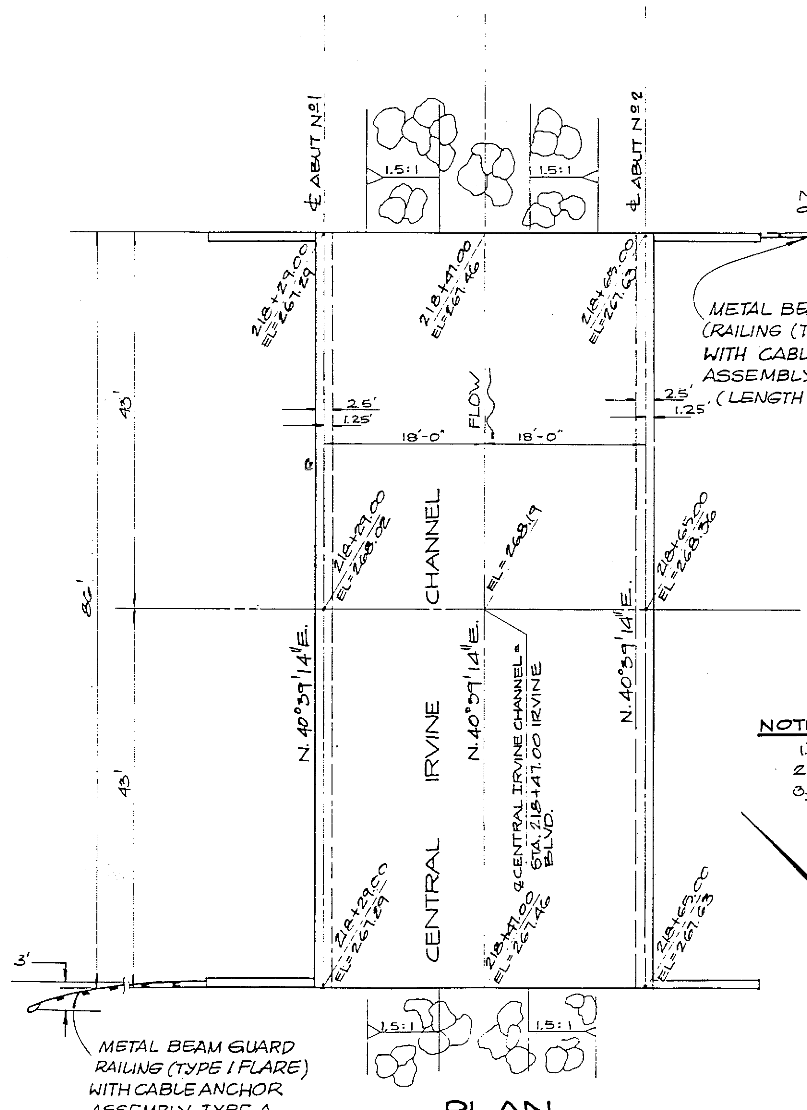
TYPICAL SECTION

SCALE: 1"=10'

THIS SECTION IS APPLICABLE @ ABUTMENTS ONLY.

SETTLEMENT PIN ELEVATIONS		
LEFT SIDE (DECK PIN)	LOCATIONS	RIGHT SIDE (DECK PIN)
	℄ ABUTMENT #1	
	℄ SPAN #1	
	℄ ABUTMENT #2	
DESCRIPTION OF DATUM:		

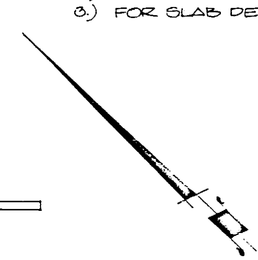
NOTE:
FOR USE OF PROJECT ENGINEER UPON COMPLETION OF CONSTRUCTION.



PLAN

SCALE: 1"=10'-0"

NOTES:
1.) ALL STATIONING IS ALONG ℄ IRVINE BLVD.
2.) ALL ELEVATIONS ARE TOP OF CONC. SLAB.
3.) FOR SLAB DETAILS SEE SHEET Nº 50 & 51



STAGE	TYPE OF STORM	DISCHARGE cfs
ONE	STORM OF RECORD	526
	Q_{50}	450
	BASE FLOOD Q_{100}	500
	OVERTOPPING FLOOD	610
TWO	Q_{50}	*450
	BASE FLOOD Q_{100}	*500

*DRAINAGE AREA WAS REDUCED DUE TO CHANNEL DIVERSION UPSTREAM

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

CHECKED BY: [signature] 6-1-83
RCE 23831

MARK	DATE	DESCRIPTION
REVISIONS		

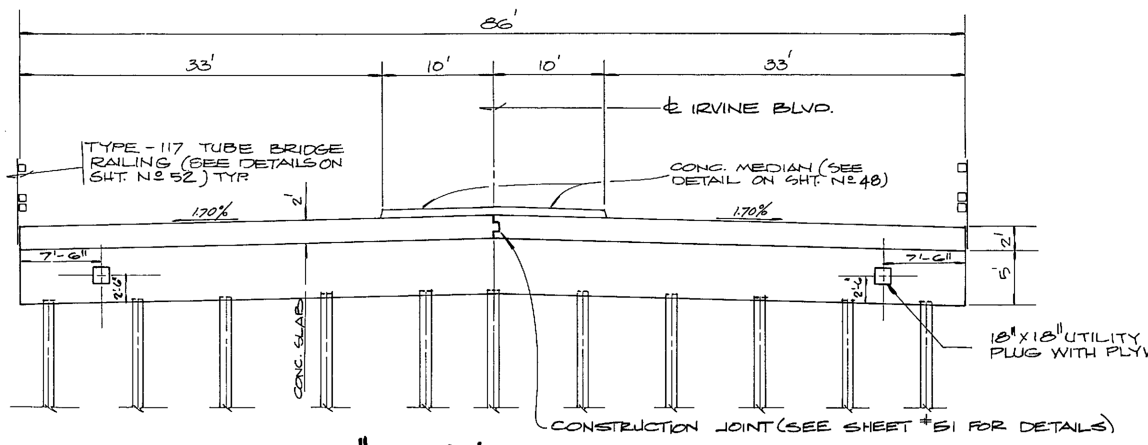
DESIGNED C.L.K.
DRAWN T.C.B. CHECKED J.B.

ORANGE COUNTY
ENVIRONMENTAL MANAGEMENT AGENCY

IRVINE BLVD BRIDGE OVER CENTRAL IRVINE CHANNEL
55C - 450

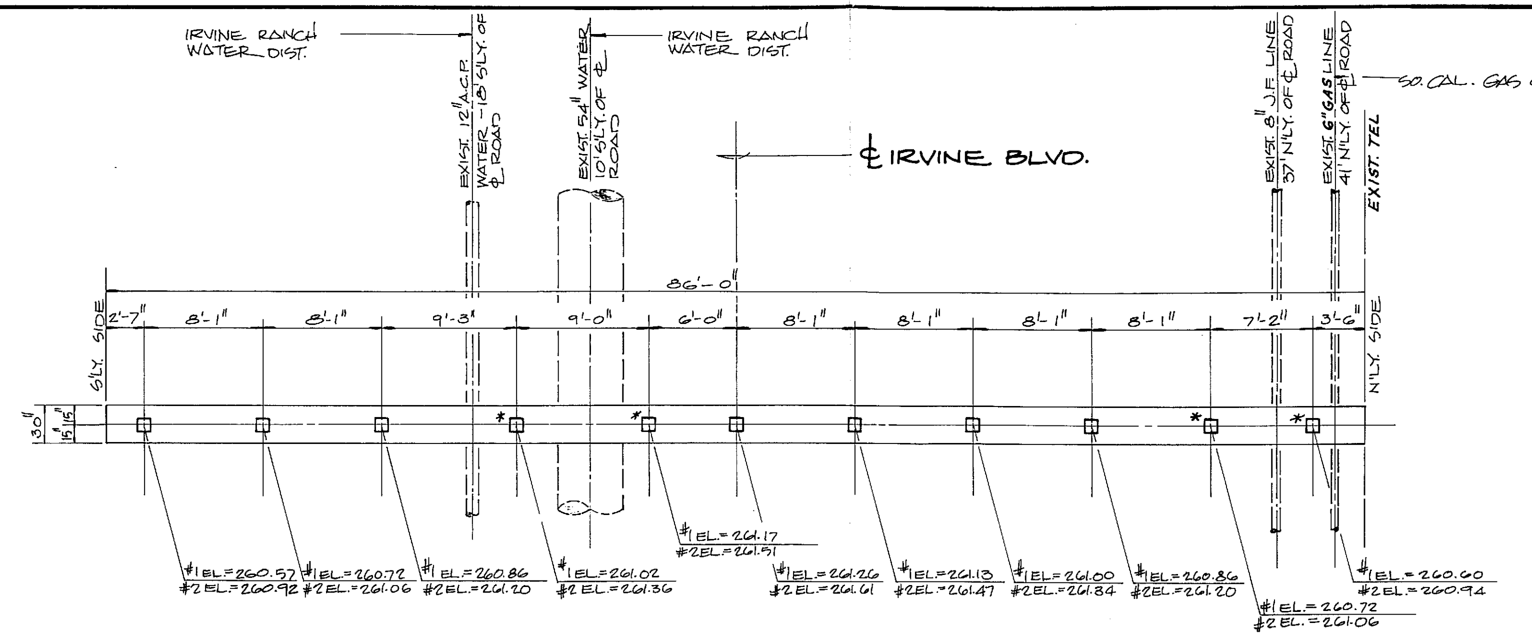
GENERAL PLAN

PREPARED UNDER SUPERVISION OF [signature] R.C.E. 20927 DATE 2-25-83
SHEET 46
SCALE AS SHOWN | DATE | DWG. NO.



SECTION "B-B" ℄ ABUT. Nº 1 & Nº 2

SCALE: 1"=8'-0"



TYPICAL PILE LAYOUT @ ABUT. Nº 1

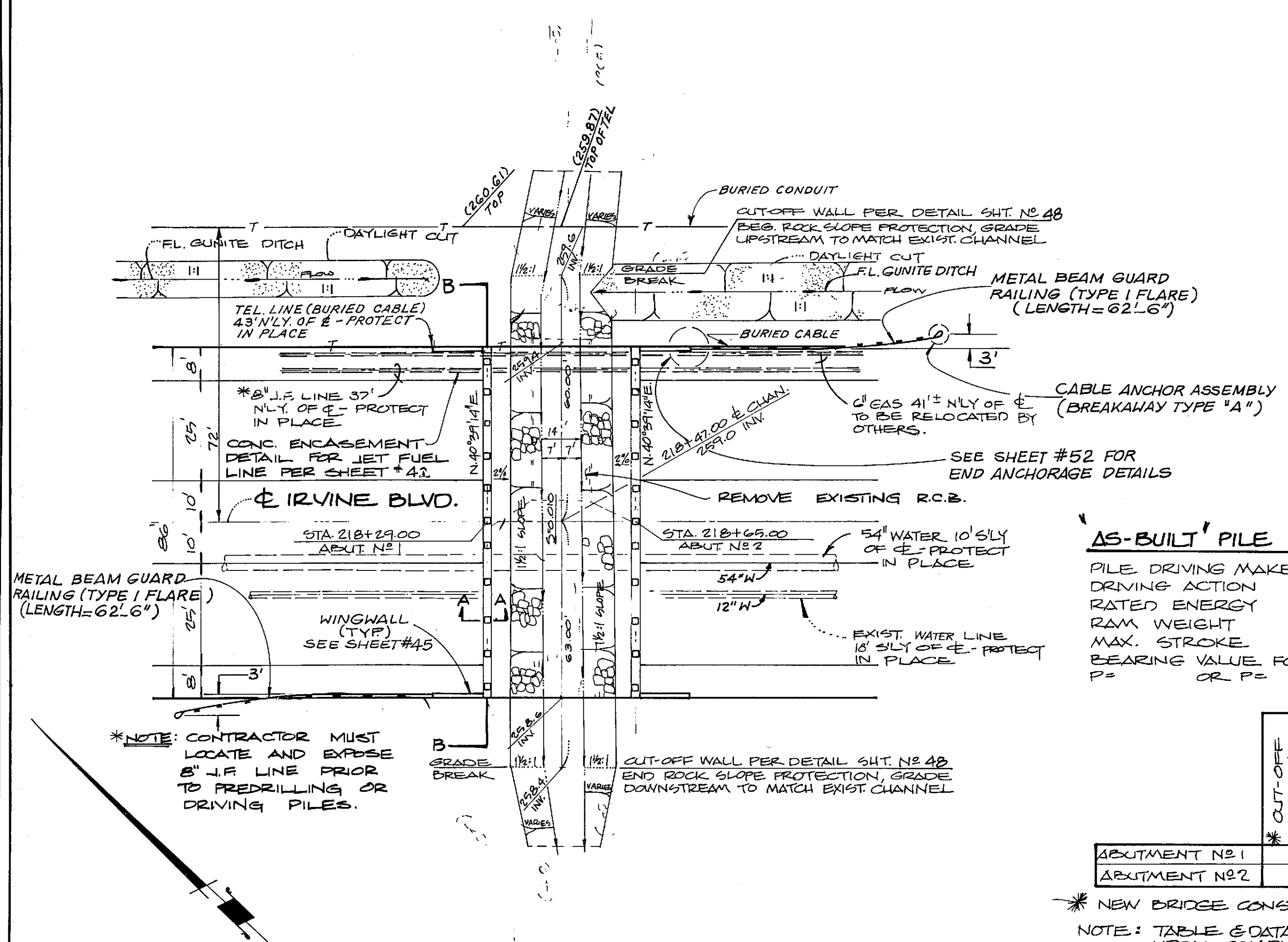
SCALE: 1"=6'-0"

(UTILITY ORIENTATION IS SHOWN FOR ABUTMENT NO. 1. ABUTMENT NO. 2 UTILITY ORIENTATION SIMILIAR BUT OPPOSITE HAND)

SPECIFIED PILE TIP ELEV. = 211.0'
ESTIMATED PILE TIP ELEV. = 206.0'

*NOTE: PILING TO BE PREDILLED TO 5' BELOW INVERT OF ADJACENT UTILITIES.

ALL HIGH HAZARD UTILITIES ARE TO BE LOCATED AND EXPOSED PRIOR TO START OF PILE DRIVING OR PREDRILLING.



FOUNDATION PLAN

SCALE: 1"=20'

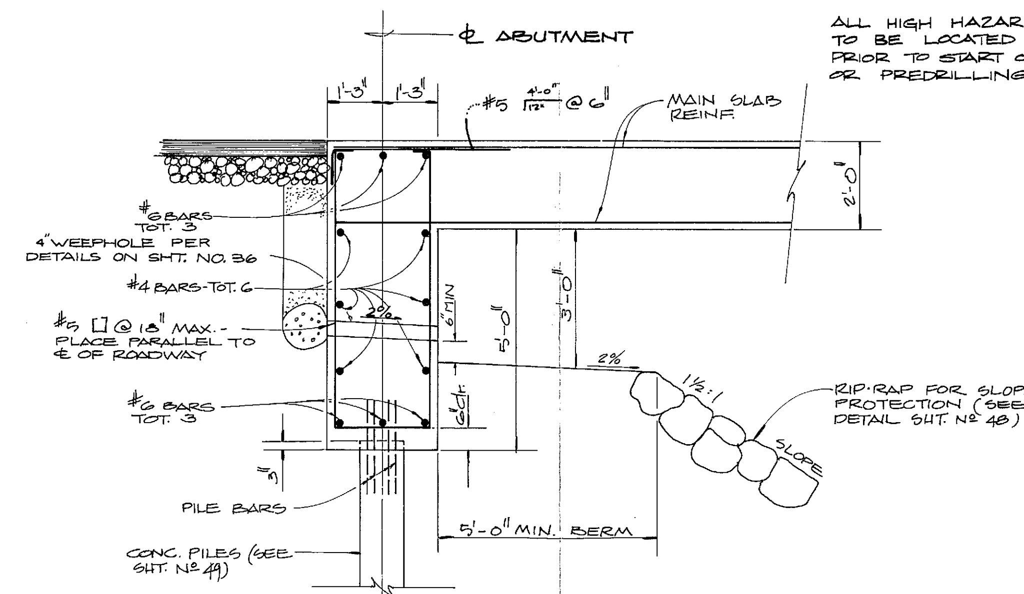
"AS-BUILT" PILE DRIVING DATA

PILE DRIVING MAKE & MODEL
DRIVING ACTION
RATED ENERGY
RAM WEIGHT
MAX. STROKE
BEARING VALUE FORMULA — STD. SPEC. SEC. 49-1.08
P= OR P=

	*CUT-OFF ELEV.	*MAX. TIP ELEV.	*MIN. TIP LENGTH	*AVG. "AS-BUILT" PILE TIP ELEV.	*AVG. STROKE HEIGHT	*AVG. BLOWS PER FOOT	*AVG. BEARING VALUE (TONS)
ABUTMENT Nº 1							
ABUTMENT Nº 2							

* NEW BRIDGE CONSTRUCTION

NOTE: TABLE & DATA ABOVE FOR USE OF RESIDENT ENG'R. UPON COMPLETION OF CONSTRUCTION.



SECTION "A-A" SHOWING TYP. ABUT. DETAIL

SCALE: ½"=1'-0"

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

CHECKED BY:
RCE 23831

MARK	DATE	DESCRIPTION
REVISIONS		

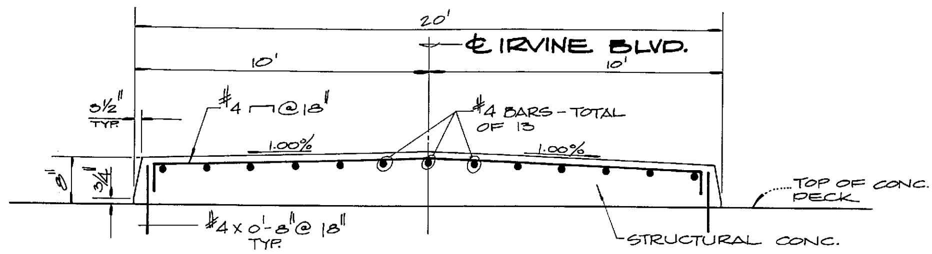
DESIGNED
DRAWN ______ CHECKED ______

ORANGE COUNTY
ENVIRONMENTAL MANAGEMENT AGENCY

IRVINE BLVD. BRIDGE OVER CENTRAL IRVINE CHANNEL
55C-450

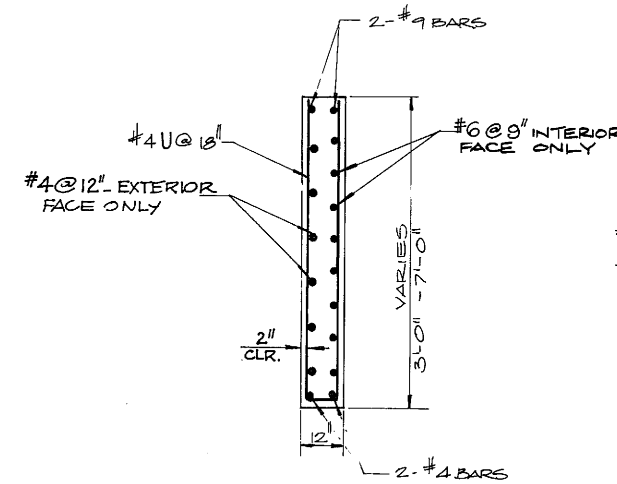
ABUTMENT & FOUNDATION PLAN

PREPARED UNDER SUPERVISION OF
R.C.E. 20927 — 2-25-83 DATE
SHEET 47
SCALE AS SHOWN | DATE | DWG. NO.

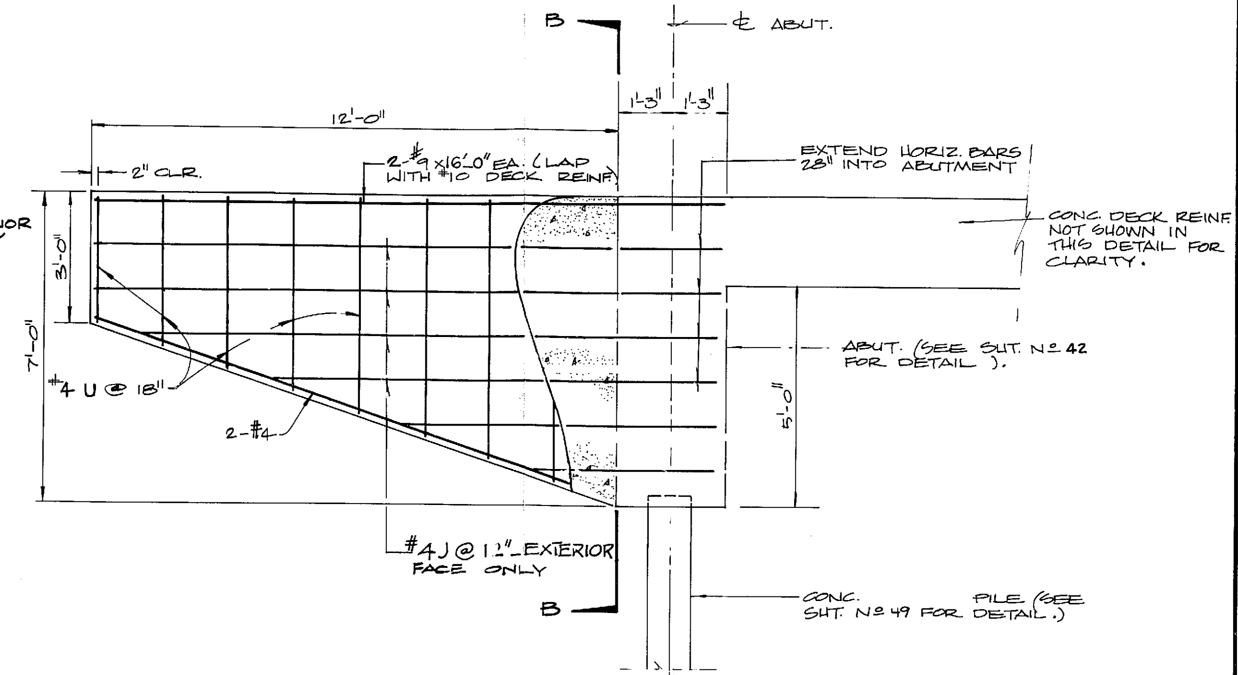


CONC. DECK MEDIAN

NO SCALE



SECTION "B-B"

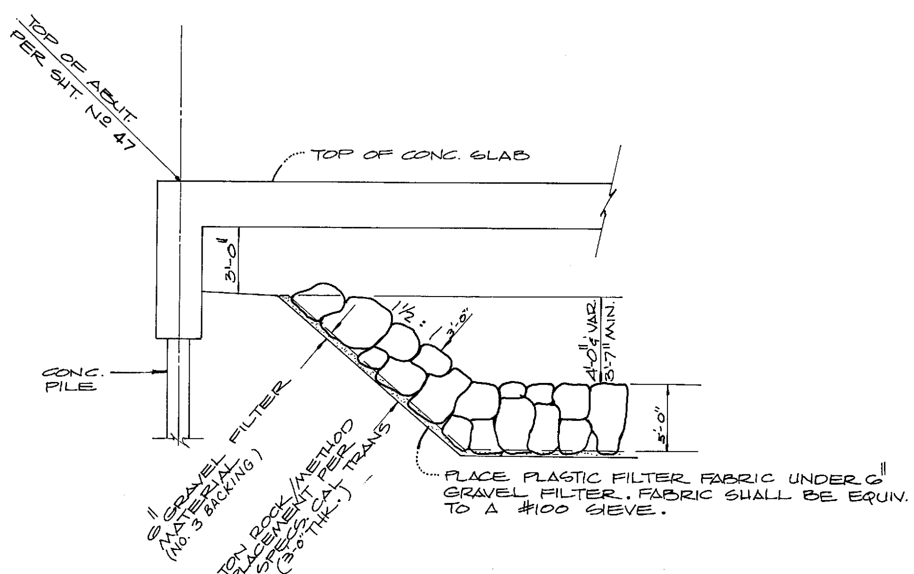


ELEVATION

TYPICAL WINGWALL DETAIL

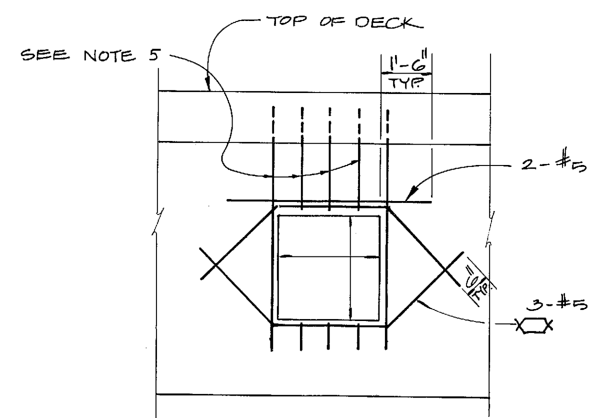
SCALE: ½" = 1'-0"

NOTE:
1.) BARRIER RAILING TYPE 117 NOT SHOWN IN THIS DETAIL. SEE SHT. Nº 52
2.) FOR CORNER DETAIL SEE SHT. Nº 51



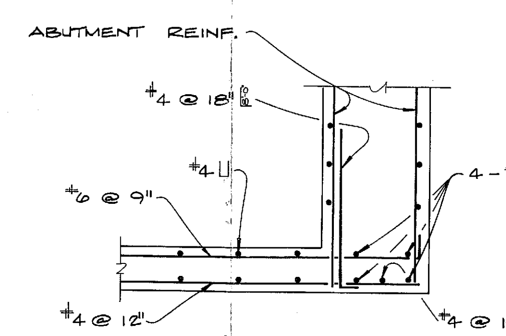
TYPICAL ROCK PLACEMENT FOR EROSION PROTECTION

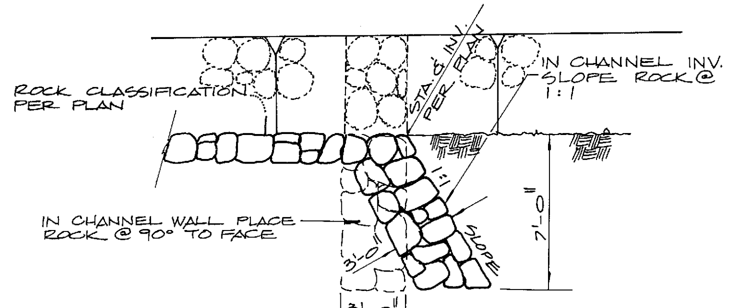
SEE SHT. Nº FOR PLAN-VIEW
SCALE: 1" = 4'-0"



UTILITY OPENINGS

NO SCALE





NOTE: EXTEND CUT-OFF WALL UP CHANNEL WALLS TO NATURAL GROUND.

ROCK CUT-OFF WALL

SCALE: 1" = 4'-0"

NOTES:

1. THE EXACT LOCATION, ELEVATION, SIZE & DIRECTION OF OPENING SHALL BE IN ACCORDANCE WITH THE PROJECT PLANS & AS DIRECTED BY THE ENGINEER.
2. ALL REINF. DETAIL TO BE PLACED IN ADDITION TO REINF. SHOWN ON PROJECT PLANS.
3. SEAL UTILITIES AT ABUTMENTS W/CONC. OR MORTAR, AFTER TIGHTLY WRAPPING UTILITY W/2 LAYERS OF 15# BUILDING PAPER.
4. MAIN REINF. TO CLEAR OPENING.
5. REINF. TO BE SAME BAR SIZE & 2/3 THE SPACING OF ADJACENT REINF. SHOWN ON PROJECT PLANS.

1/2 0 1 2
3 inches on original drawing

CHECKED BY: (signature) 6-1-83
RCE 23831

MARK | DATE | DESCRIPTION — REVISIONS
DESIGNED ____ DRAWN ____ CHECKED ____

ORANGE COUNTY
ENVIRONMENTAL MANAGEMENT AGENCY

IRVINE BLVD. BRIDGE OVER CENTRAL IRVINE CHANNEL
55C-450

MISC. DETAILS

PREPARED UNDER SUPERVISION OF (signature) R.C.E. 20927 2-25-83 DATE

SHEET 48

SCALE AS SHOWN | DATE | DWG. NO.

ORANGE COUNTY ENVIRONMENTAL MANAGEMENT AGENCY

IRVINE BLVD. BRIDGES OVER PETERS CANYON WASH
CENTRAL IRVINE CHANNEL

CONC. PILE DETAILS

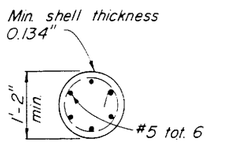
MARK	DATE	DESCRIPTION
REVISIONS		

PREPARED UNDER SUPERVISION OF: _____ DATE _____

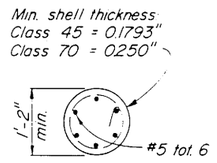
DESIGNED _____ DRAWN _____ CHECKED _____

SCALE AS SHOWN | DATE | DWG. NO.

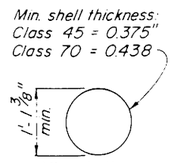
SHEET 49



SECTION U-U
(Mandrel driven)

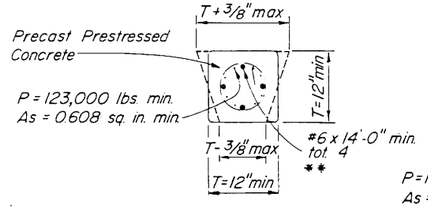


SECTION V-V

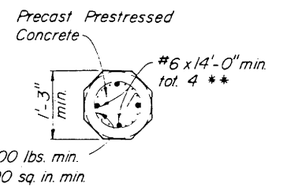


Min. shell cross-sectional area:
Class 45 = 16.0 sq. in.
Class 70 = 18.66 sq. in.

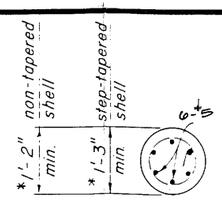
SECTION W-W



SECTION X-X



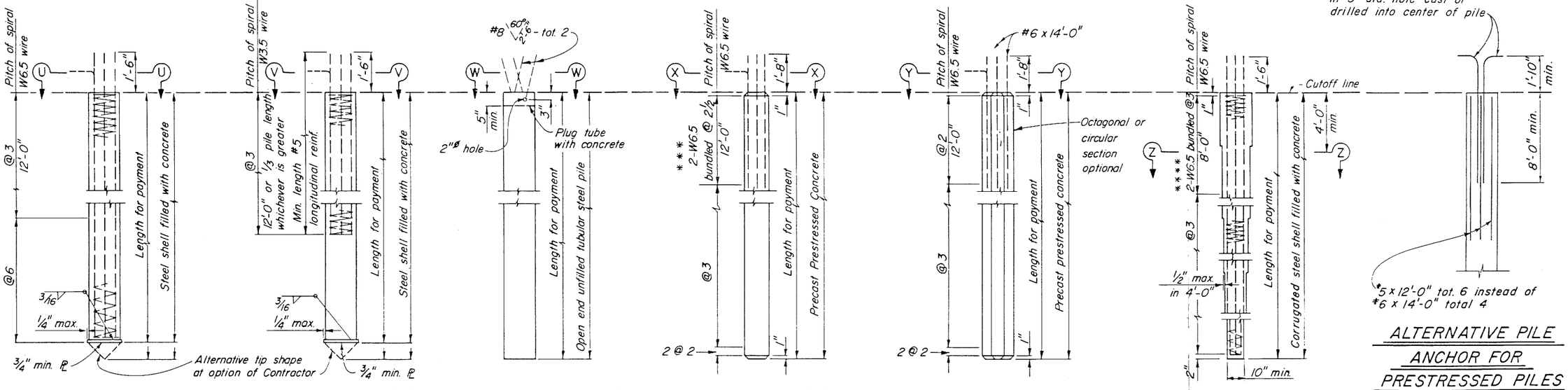
SECTION Y-Y



SECTION Z-Z

**To be in place when pile is cast.

*Measured out to out of corrugations.



ALTERNATIVE "U"

ALTERNATIVE "V"

ALTERNATIVE "W"

ALTERNATIVE "X"

*** W11 at 2 may be substituted

ALTERNATIVE "Y"

ALTERNATIVE "Z"

**** W11 at 2 1/2 may be substituted

ALTERNATIVE PILE ANCHOR FOR PRESTRESSED PILES

Notes:

Details are the same for both Class 45 and Class 70 piles unless noted otherwise.

A 10" minimum diameter pipe extension (thickness = 0.1798" min. for Class 45 and 0.250" min. for Class 70) may be used at the tip of Alternative "Z" when taper is 30' or more in length.

Pile reinforcement extending into a footing shall be hooked as required to provide clearance to top of footing. Piles shall be extended only in accordance with details shown elsewhere in these plans.

Lapped splices in spiral pile reinforcement shall be lapped 80 wire diameters minimum. Spiral pile reinforcement at splices and at ends shall be terminated by a 135° hook with 6" tail hooked around a longitudinal bar or strand.

2" clearance to spiral reinforcement shall be maintained if section used is larger than the minimum section shown.

PRECAST PRESTRESSED PILES:

P = Prestressing Force @ anchorage

If section used is larger than the min. section shown, then "P" shall provide 860 psi min.

As = Minimum area of prestressing steel required.

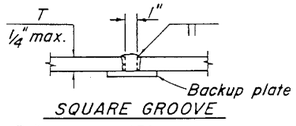
Concrete Strength: f'c @ 28 days = 6,000 psi (Alternative "X")
5,000 psi (Alternative "Y")
f'ci @ transfer = 4,000 psi

DESIGN LOADING

Class 45 = 45 tons
Class 70 = 70 tons

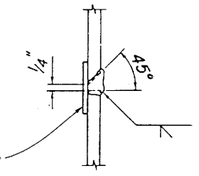
NOTE: This sheet supersedes Sheet No. B2-1, page 86 and Sheet No. B2-5, page 88 of the Standard Plans dated January, 1981

Supersedes Sheet RSP B2-5 dated April, 1982



SQUARE GROOVE

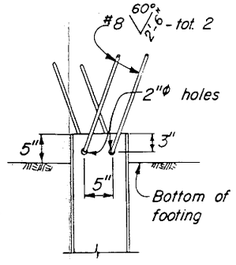
SINGLE VEE-GROOVE



SINGLE BEVEL-GROOVE

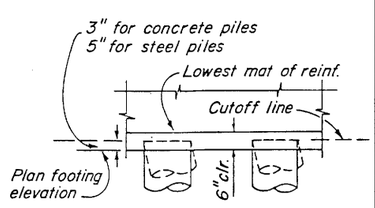
PILE WELDING DETAIL - BUTT JOINTS

Notes:
1. Single Vee-Groove and Square Groove permitted for all positions.
2. Single Bevel-Groove permitted for horizontal joints only.



STEEL PILE ANCHOR

Steel piles, except for "Alternative W" to be used only when shown on plans or permitted by the Special Provisions.



Pile type to be as designated elsewhere

PILE EMBEDMENT

STRUCTURES-DESIGN

PROJECT ENGINEER _____ REGISTERED CIVIL ENGINEER NO. _____

BRIDGE NO. _____

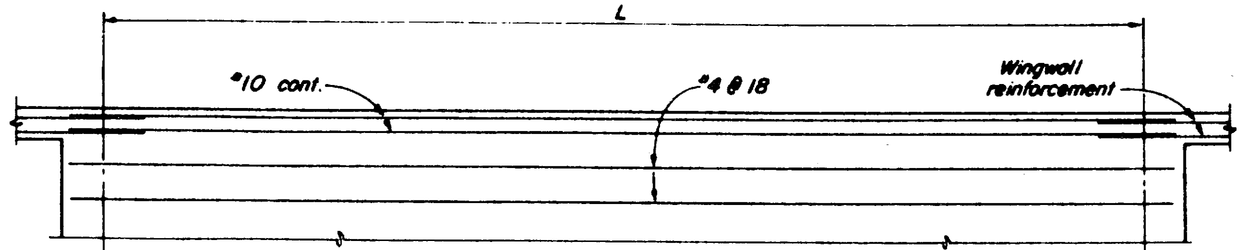
POST MILE _____

PILE DETAILS - CLASS 45 & CLASS 70

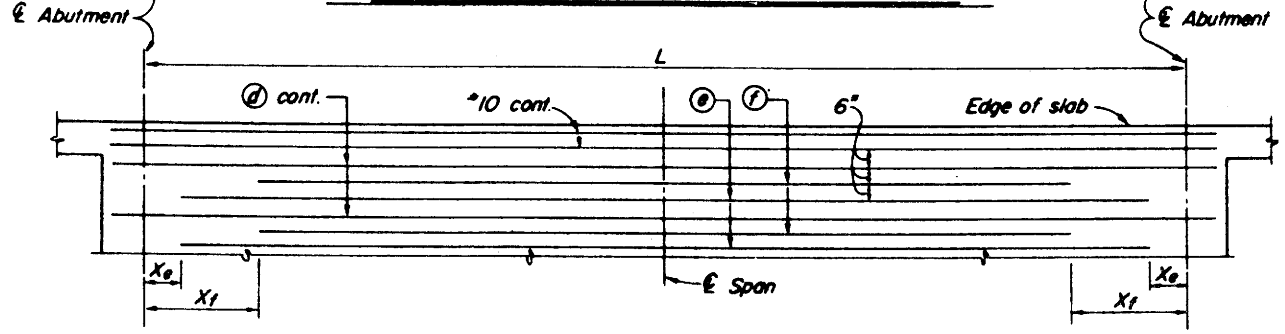
DH-0503 147

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

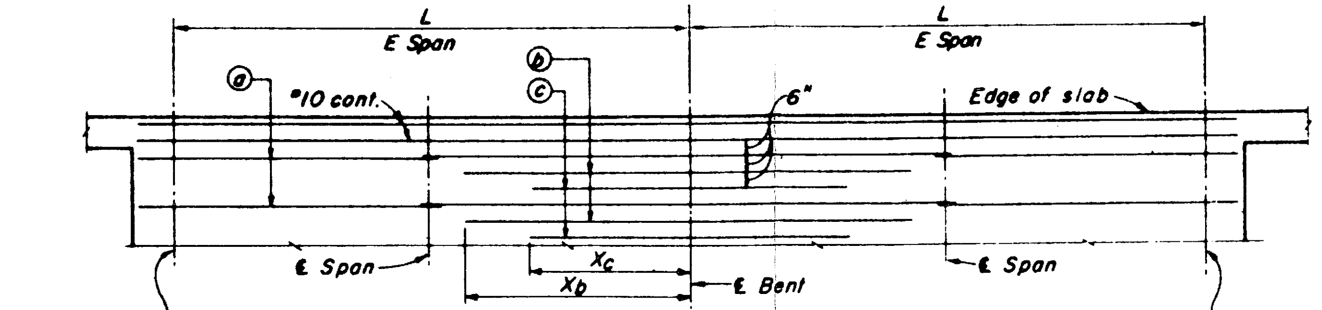
REVISION DATES (PRELIMINARY STAGE ONLY)



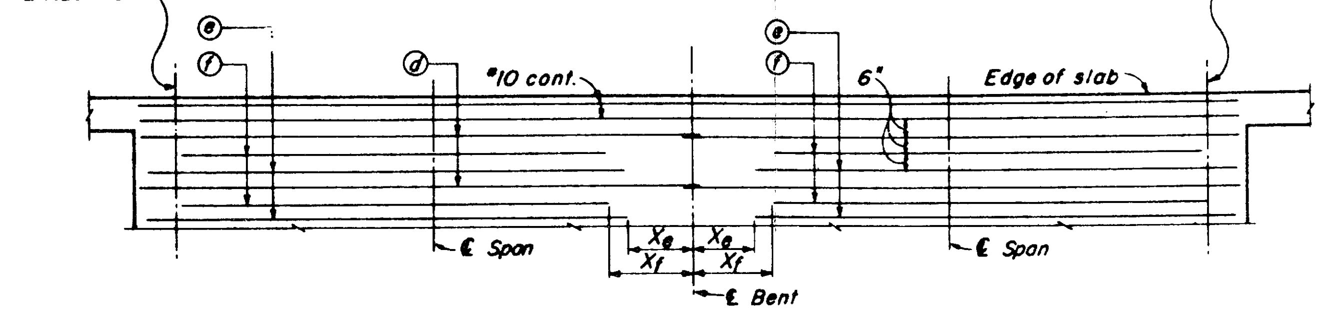
REINFORCEMENT - TOP OF SLAB



REINFORCEMENT - BOTTOM OF SLAB



REINFORCEMENT - TOP OF SLAB



REINFORCEMENT - BOTTOM OF SLAB

L = Length of Span				16'	18'	20'	22'	24'	26'	28'	30'	32'	34'	36'	38'	40'	42'	44'
REINF.	Bottom of Slab	Ⓓ bars	Size	#8	#8	#9	#9	#9	#9	#10	#10	#10	#10	#10	#11	#11	#11	#11
			Length	← Continuous →														
		Ⓔ bars	Size	#8	#8	#8	#8	#9	#9	#9	#9	#10	#10	#10	#10	#11	#11	#11
			Length	15'-0"	17'-0"	18'-0"	20'-0"	22'-0"	24'-0"	24'-0"	26'-0"	28'-0"	30'-0"	31'-0"	34'-0"	36'-0"	37'-0"	40'-0"
			X_e	0'-6"	0'-6"	1'-0"	1'-0"	1'-0"	1'-0"	2'-0"	2'-0"	2'-0"	2'-0"	2'-6"	2'-0"	2'-0"	2'-6"	2'-0"
		Ⓕ bars	Size	#7	#7	#8	#8	#8	#9	#8	#9	#8	#9	#10	#10	#10	#11	#11
			Length	11'-0"	12'-0"	12'-0"	14'-0"	15'-0"	17'-0"	17'-0"	19'-0"	19'-0"	22'-0"	22'-0"	25'-0"	25'-0"	27'-0"	29'-0"
			X_f	2'-6"	3'-0"	4'-0"	4'-0"	4'-6"	4'-6"	5'-6"	5'-6"	6'-6"	6'-0"	7'-0"	6'-6"	7'-6"	7'-6"	7'-6"
T = Thickness of slab ⊛				13"	14"	15"	16"	18"	19"	20"	21"	22"	23"	24"	25"	26"	28"	31"
Approx. Quantities per ft. of width			Conc. ft.^{3}	18.3	22.1	26.3	30.6	37.5	42.8	48.6	54.4	60.5	67.4	74.3	81.5	89.3	100.6	116.5
			Steel-lbs.	110	120	145	165	185	210	230	260	280	315	340	390	450	475	505
Deflection at Midspan Δ				.01'	.02'	.03'	.03'	.04'	.04'	.05'	.06'	.07'	.09'	.10'	.11'	.13'	.13'	.13'

⊛ Add ½" for "Marine Environment" & adjust concrete quantity.

SLAB DETAILS - SINGLE SPAN

CENTRAL IRVINE CHANNEL BRIDGE, L=36'

L = Length of Span				16'	18'	20'	22'	24'	26'	28'	30'	32'	34'	36'	38'	40'	42'	44'
REINFORCEMENT	Top of Slab	Ⓐ bars	Size	#7	#8	#9	#9	#10	#10	#10	#10	#11	#11	#11	#11	#10	#10	#11
			Length	34'-0"	38'-0"	42'-0"	46'-0"	50'-0"	54'-0"	58'-0"	68'-0"	73'-0"	77'-0"	81'-0"	85'-0"	89'-0"	92'-0"	97'-0"
		Ⓑ bars	Size	#7	#7	#8	#7	#8	#8	#8	#8	#8	#9	#7	#8	#11	#11	#11
			Length	12'-0"	11'-0"	12'-0"	11'-0"	12'-0"	13'-0"	13'-0"	13'-0"	13'-0"	13'-0"	15'-0"	16'-0"	21'-0"	22'-0"	21'-0"
			X_b	6'-0"	5'-6"	6'-0"	5'-6"	6'-0"	6'-6"	6'-6"	6'-6"	6'-6"	6'-6"	7'-6"	8'-0"	10'-6"	11'-0"	10'-6"
		Ⓒ bars	Size	#6	#6	#7	#7	#8	#9	#9	#9	#8	#8	#11	#11	#11	#11	#11
			Length	5'-0"	5'-0"	5'-0"	5'-0"	6'-0"	6'-0"	6'-0"	6'-0"	6'-0"	6'-0"	13'-0"	13'-0"	12'-0"	12'-0"	12'-0"
			X_c	2'-6"	2'-6"	2'-6"	2'-6"	3'-0"	3'-0"	3'-0"	3'-0"	3'-0"	3'-0"	6'-6"	6'-6"	6'-0"	6'-0"	6'-0"
	Bottom of Slab	Ⓓ bars	Size	#7	#8	#9	#9	#10	#10	#10	#10	#11	#11	#11	#11	#11	#11	#11
			Length	34'-0"	38'-0"	42'-0"	46'-0"	50'-0"	54'-0"	58'-0"	68'-0"	73'-0"	77'-0"	81'-0"	85'-0"	89'-0"	93'-0"	97'-0"
		Ⓔ bars	Size	#8	#7	#8	#8	#8	#9	#9	#9	#8	#8	#9	#9	#9	#9	#9
			Length	15'-0"	14'-0"	15'-0"	16'-0"	17'-0"	19'-0"	20'-0"	21'-0"	21'-0"	21'-0"	24'-0"	24'-0"	25'-0"	28'-0"	30'-0"
			X_e	1'-0"	4'-0"	4'-6"	5'-0"	6'-0"	6'-0"	7'-0"	7'-6"	8'-0"	10'-0"	9'-6"	11'-0"	11'-6"	12'-0"	13'-0"
		Ⓕ bars	Size	#7	#7	#7	#7	#8	#8	#8	#8	#7	#7	#7	#8	#8	#9	#9
			Length	10'-0"	11'-0"	10'-0"	12'-0"	13'-0"	14'-0"	15'-0"	16'-0"	15'-0"	16'-0"	16'-0"	18'-0"	19'-0"	22'-0"	23'-0"
			X_f	4'-6"	5'-6"	7'-0"	7'-0"	8'-0"	8'-6"	9'-6"	10'-0"	11'-6"	12'-6"	13'-6"	14'-0"	14'-6"	14'-0"	15'-0"
T = Thickness of slab ⊛				10½"	11"	11½"	12½"	13½"	14"	15"	16"	17"	18"	18½"	19"	20"	21"	22"
Approx. Quantities per ft. of width			Conc. ft.^{3}	14.9	17.4	20.2	24.0	28.1	31.5	36.2	41.3	46.7	52.5	57.0	61.7	68.3	75.3	82.5
			Steel lbs.	140	160	200	225	275	310	335	340	400	430	470	520	525	570	620
Deflection at Midspan Δ				.00'	.02'	.02'	.03'	.04'	.04'	.05'	.05'	.06'	.06'	.07'	.08'	.09'	.10'	.10'

✦ Length includes allowance for one splice.

⊛ Add ½" for "Marine Environment" & adjust concrete quantity.

SLAB DETAILS - 2 SPANS

PETER'S CYN. BRIDGE, L=40'

RATTLESNAKE CYN. BRIDGE, L=34'

LIVE LOADING: HS 20-44 & ALT.

LIVE LOADING: HS 20-44 & ALT.

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

CHECKED BY:
RCE 23831 6-1-83

MARK	DATE	DESCRIPTION
REVISIONS		

DESIGNED ______ DRAWN ______ CHECKED ______

ORANGE COUNTY
ENVIRONMENTAL MANAGEMENT AGENCY

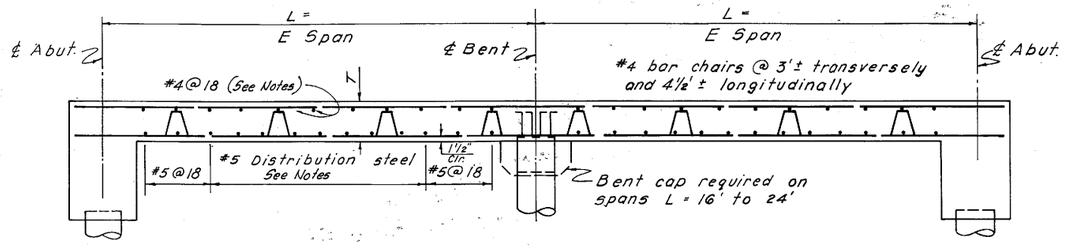
IRVINE BLVD. BRIDGES OVER
PETER'S CYN. WASH
RATTLESNAKE CYN. WASH
CENTRAL IRVINE CHANNEL

SLAB DETAILS

PREPARED UNDER SUPERVISION OF [signature] -25-83 DATE

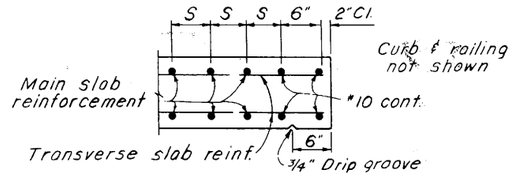
SHEET 50

SCALE AS SHOWN | DATE | DWG NO.

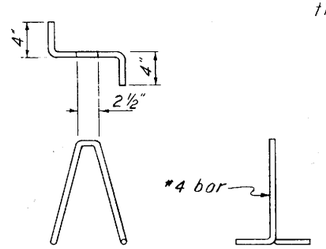


LONGITUDINAL SECTION

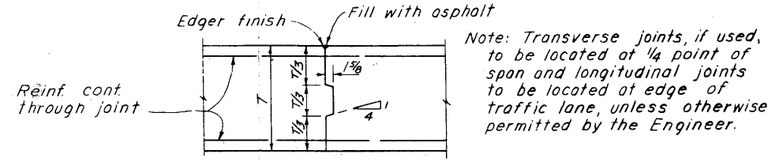
NOTES: Splices in top main bars to be 35 dia. and located near center of span.
Splices in bottom main bars to be 20 dia. and located near bent.
Spacing of #4 @ 18 is measured normal to bars.
Spacing of #5 bars in bottom of slab is measured along ℄ roadway. For spacing in center half of span see table.
Place all transverse bars parallel to bent.



EDGE OF SLAB DETAIL

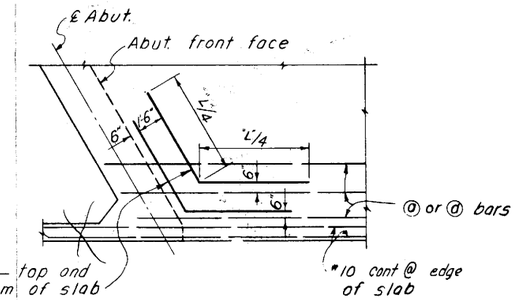


BAR CHAIR DETAIL



Note: Transverse joints, if used, to be located at ¼ point of span and longitudinal joints to be located at edge of traffic lane, unless otherwise permitted by the Engineer.

LONGITUDINAL OR TRANSVERSE SLAB CONSTRUCTION JOINT



OBTUSE CORNER DETAIL

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

CHECKED BY:
Dennis Gillespie
RCE 23831

MARK	DATE	DESCRIPTION
REVISIONS		

DESIGNED
DRAWN CHECKED

ORANGE COUNTY
ENVIRONMENTAL MANAGEMENT AGENCY

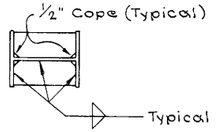
IRVINE BLVD. BRIDGES OVER PETERS CANYON WASH
RATTLESNAKE CREEK
℄ CENTRAL IRVINE CHANNEL

SLAB DETAILS

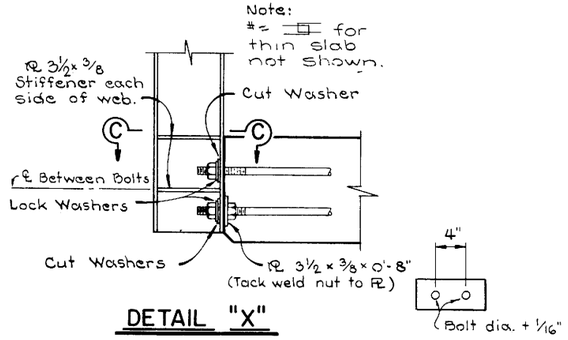
PREPARED UNDER SUPERVISION OF Lawrence A. Goglio
2-25-83 DATE

SCALE AS SHOWN | DATE | DWG. NO.

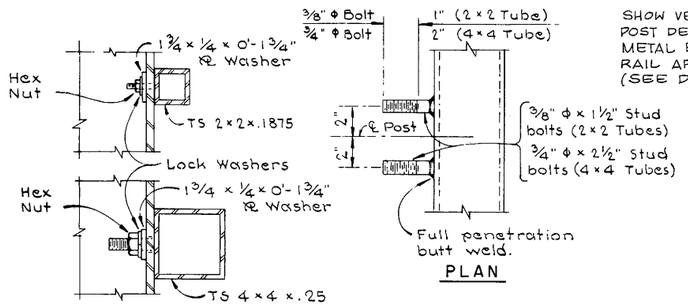
SHEET 51



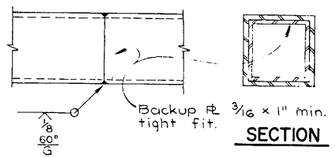
SECTION C-C



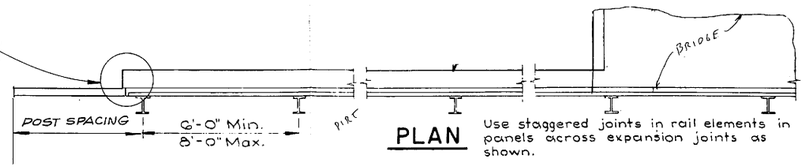
DETAIL "X"



DETAIL "B"

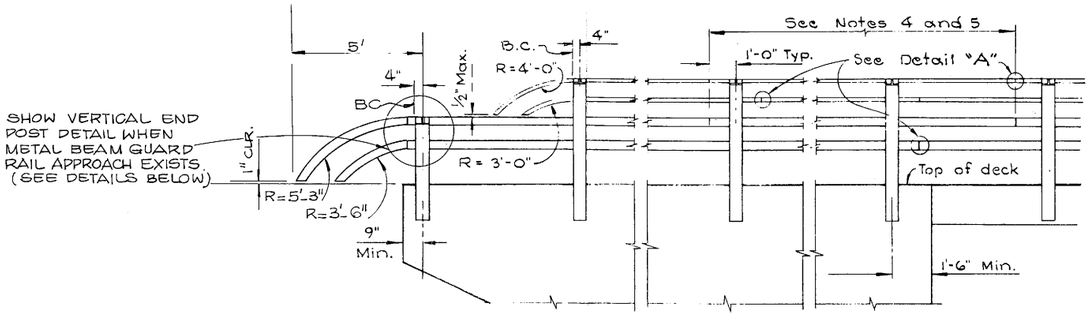


SHOP FABRICATION- WELDED TUBE SPLICE

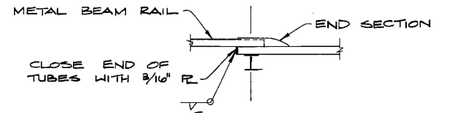


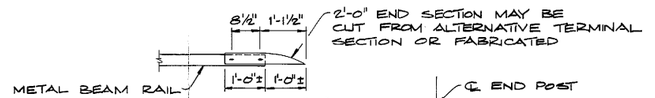
PLAN

Use staggered joints in rail elements in panels across expansion joints as shown.



RAIL ELEVATION





DETAIL "C"

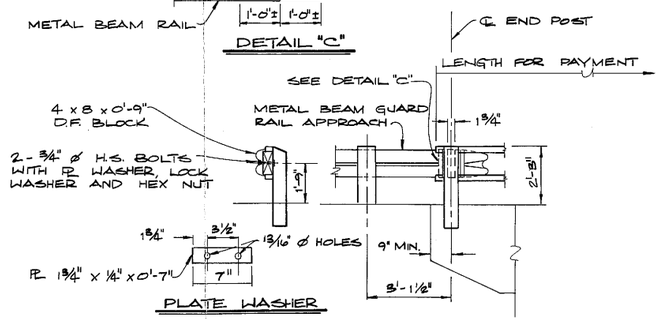
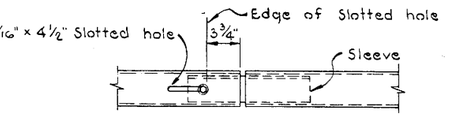


PLATE WASHER

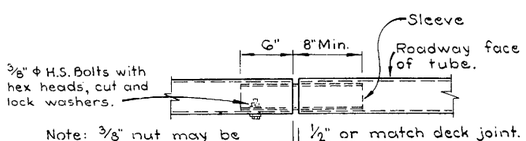
VERTICAL END POST DETAIL AT METAL BEAM APPROACH

1 1/2 0 1 2

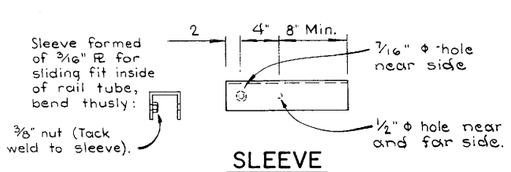
3 inches on original drawing



ELEVATION

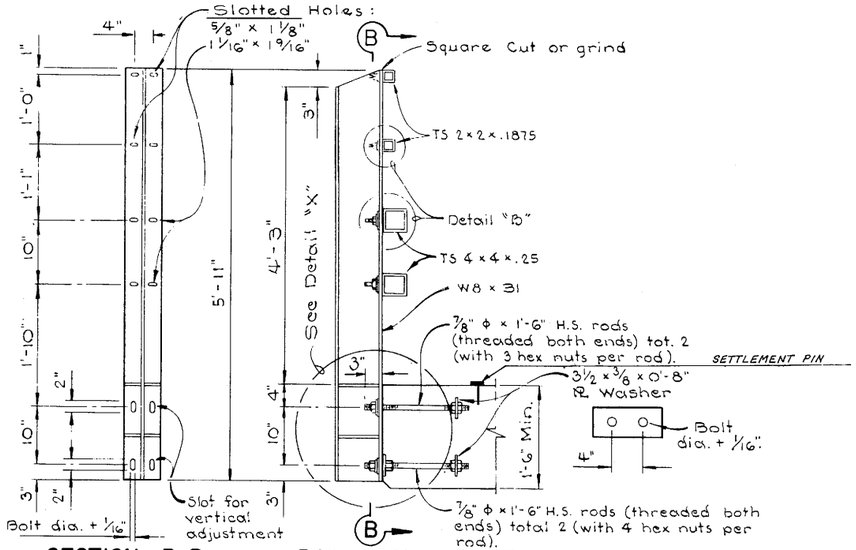


PLAN



SLEEVE

DETAIL "A"- TUBE SPLICE



SECTION B-B

RAIL POST DETAILS THICK SLAB

NOTES:

1. Posts shall be vertical.
2. Tubing shall be shop bent to fit horizontal curve when curve radius is less than 950'.
3. Tubing shall be parallel to vertical alignment.
4. Tubing shall be continuous over not less than 3 intermediate posts, with a minimum length of 3 panels except as noted.
5. No more than one tube splice per panel is permitted, except as noted.
6. Space posts to provide 1'-6" min clear between expansion joints and ℄ of post.
7. Rail joints in top and bottom tubes at deck expansion joints shall provide allowance for movement equal to width of deck joint with corresponding increase in length of sleeve.
8. Railing on bridge wingwalls to be placed after walls are backfilled.
9. 3/4" stud bolt nuts shall be torqued to 175 ft lbs, 3/8" stud bolt nuts shall be wrench tight.
10. Anchor bolt nuts shall be wrench tight.
11. Galvanize rail assembly after fabrication.
12. Designed by AASHTO dated 1973 and Interim Specifications dated 1974, 1975 and 1976.
13. Design height of rail is based on a future overlay of 3 inches maximum.

CHECKED BY:

Gene Williamson 6-1-83

RCE 23831

ORANGE COUNTY ENVIRONMENTAL MANAGEMENT AGENCY

IRVINE BLVD. BRIDGES OVER PETER'S CYN. WASH RATTLESNAKE CYN. WASH CENTRAL IRVINE CHANNEL

BRIDGE RAILING DETAILS

MARK	DATE	DESCRIPTION
		REVISIONS

PREPARED UNDER SUPERVISION OF Lorenzo A. Gaglia 2-25-83 DATE

DESIGNED

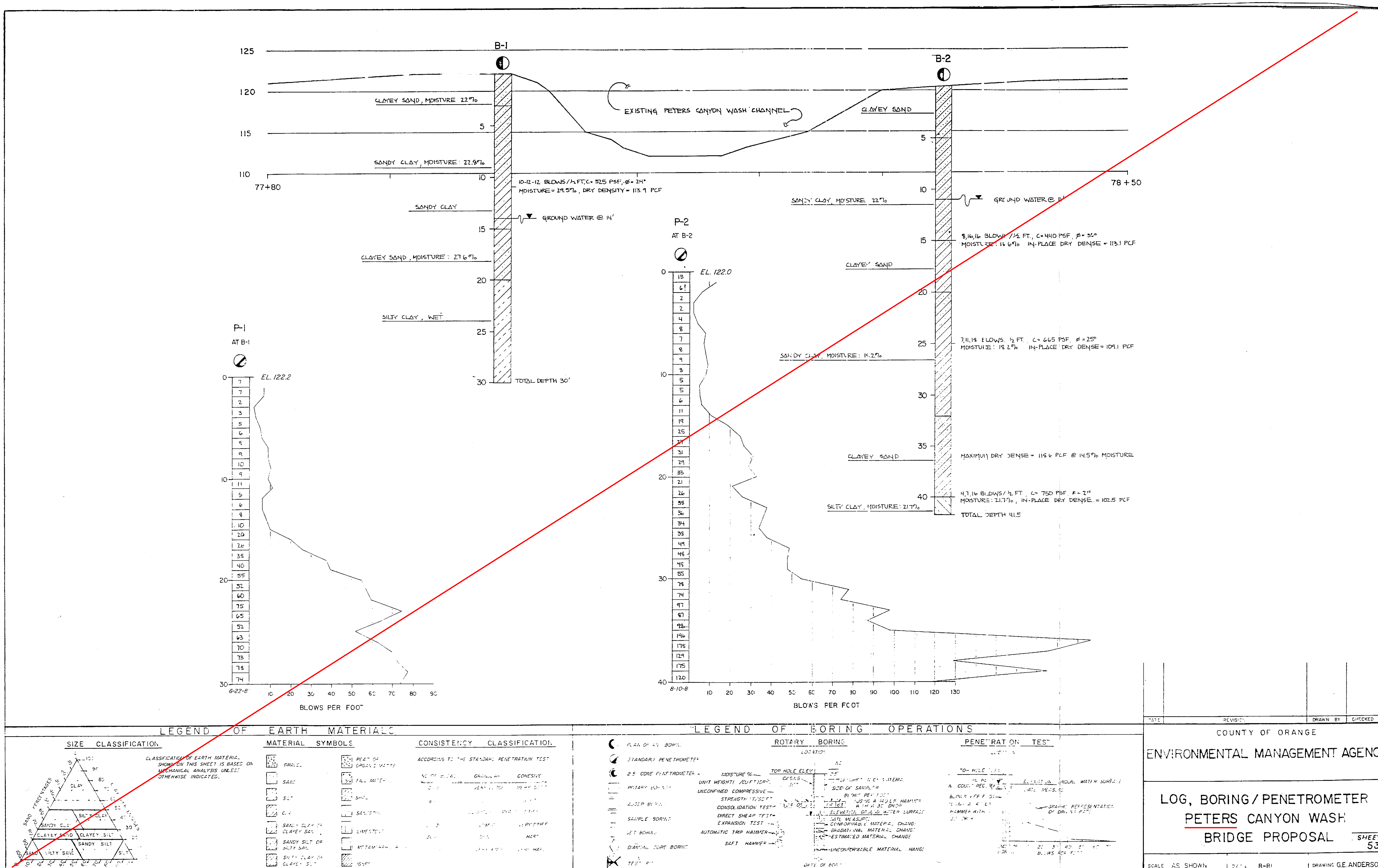
DRAWN CHECKED J.B.

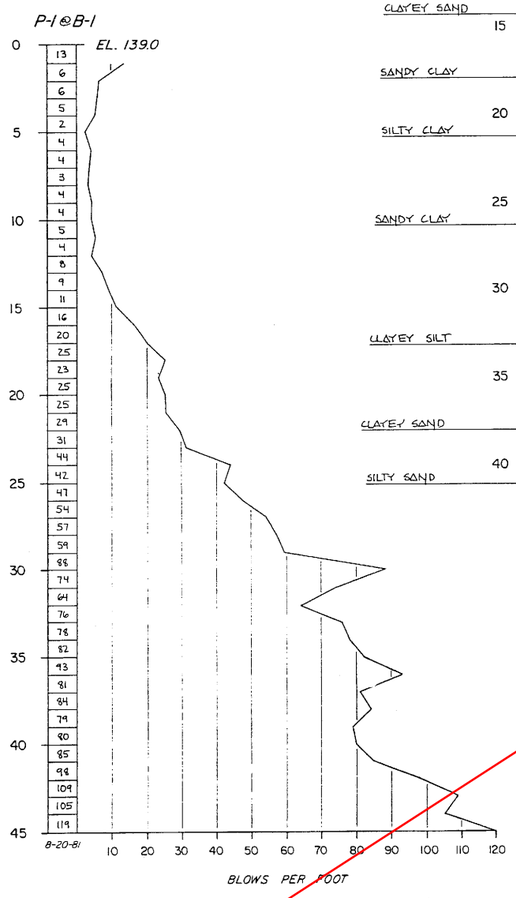
SCALE AS SHOWN

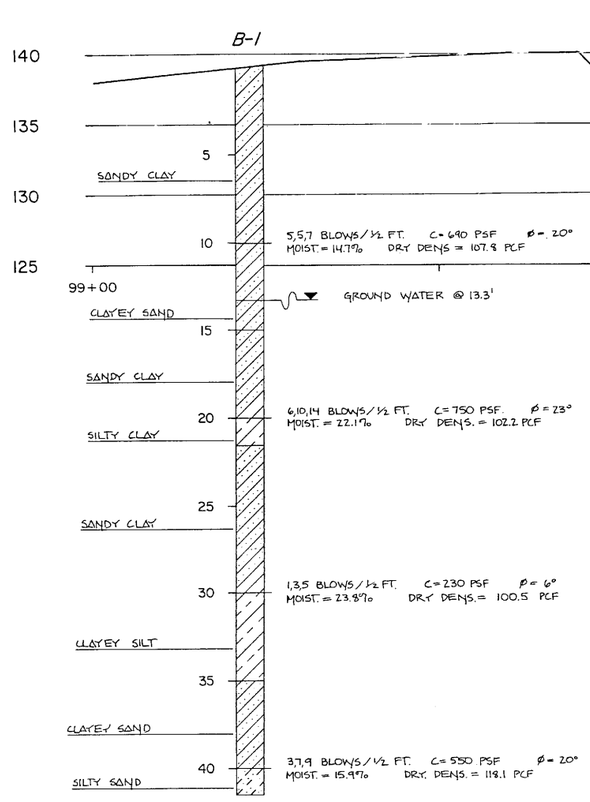
DATE

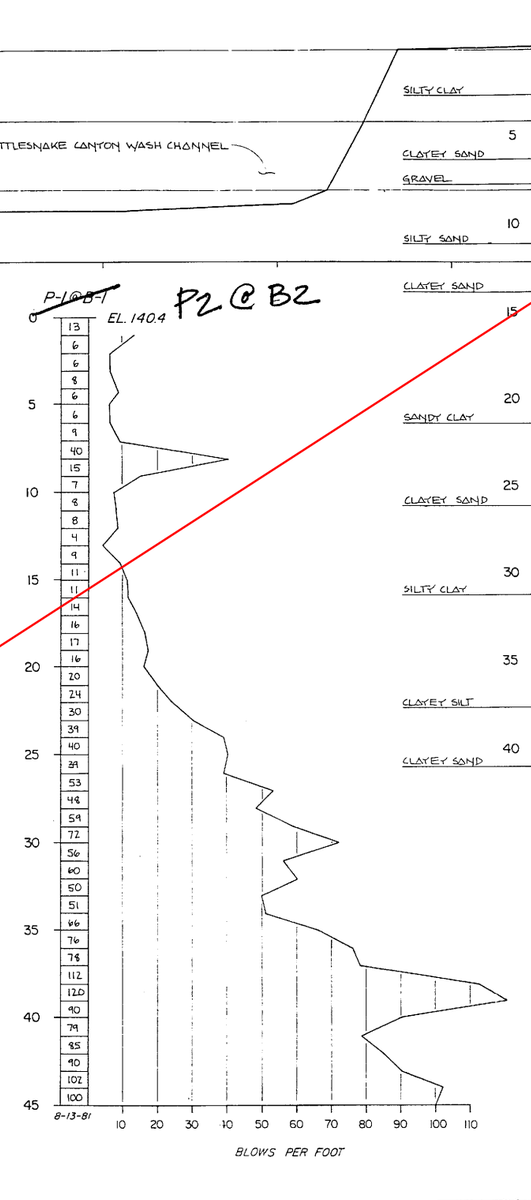
DWG. NO.

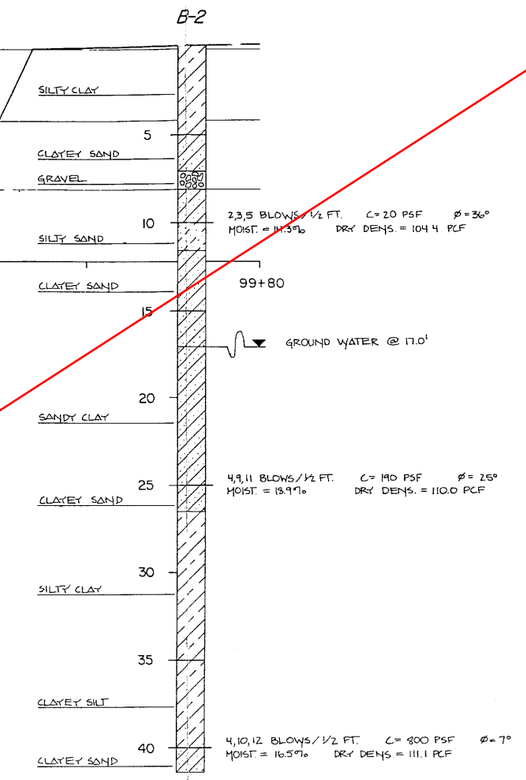
SHEET 52


B-1
B-2
125
120
115
110
77+80
78 + 50
CLAYEY SAND, MOISTURE 22%
SANDY CLAY, MOISTURE 22.8%
10-12-12 BLOWS/½ FT, C= 525 PSF, ø= 24°
MOISTURE= 29.5%, DRY DENSITY= 113.9 PCF
SANDY CLAY
GROUND WATER @ 14'
CLAYEY SAND, MOISTURE: 27.6%
SILTY CLAY, WET
TOTAL DEPTH 30'
EXISTING PETERS CANYON WASH CHANNEL
CLAYEY SAND
SANDY CLAY, MOISTURE 22%
GROUND WATER @ 11'
8,16,16 BLOWS/½ FT., C=440 PSF, ø= 36°
MOISTURE: 14.6% IN-PLACE DRY DENSE = 113.1 PCF
CLAYEY SAND
7,11,14 BLOWS ½ FT C= 665 PSF ø= 25°
MOISTURE: 19.2% IN-PLACE DRY DENSE= 109.1 PCF
SANDY CLAY, MOISTURE: 19.2%
CLAYEY SAND
MAXIMUM DRY DENSE= 115.6 PCF @ 14.5% MOISTURE
4,7,16 BLOWS/½ FT C= 750 PSF ø= 21°
MOISTURE: 21.7%, IN-PLACE DRY DENSE = 102.5 PCF
SILTY CLAY, MOISTURE: 21.7%
TOTAL DEPTH 41.5
P-1
AT B-1
EL. 122.2
6-22-81
BLOWS PER FOOT
P-2
AT B-2
EL. 122.0
8-10-81
BLOWS PER FOOT
LEGEND OF EARTH MATERIALS
SIZE CLASSIFICATION
CLASSIFICATION OF EARTH MATERIAL SHOWN ON THIS SHEET IS BASED ON MECHANICAL ANALYSIS UNLESS OTHERWISE INDICATED.
SAND PERCENTAGES
CLAY
SANDY CLAY
SILTY CLAY
CLAYEY SAND
CLAYEY SILT
SANDY SILT
SILTY SAND
SAND
SILT
SILT PERCENTAGES
MATERIAL SYMBOLS
CONSISTENCY CLASSIFICATION
LEGEND OF BORING OPERATIONS
ROTARY BORING
PENETRATION TEST
COUNTY OF ORANGE
ENVIRONMENTAL MANAGEMENT AGENCY
LOG, BORING / PENETROMETER
PETERS CANYON WASH
BRIDGE PROPOSAL
SHEET 53
SCALE AS SHOWN
DATE 8-81
DRAWING G.E. ANDERSON
DATE
REVISION
DRAWN BY
CHECKED BY



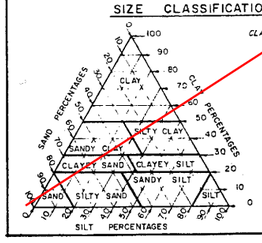






LEGEND OF EARTH MATERIALS

SIZE CLASSIFICATION



CLASSIFICATION OF EARTH MATERIAL SHOWN ON THIS SHEET IS BASED ON MECHANICAL ANALYSIS UNLESS OTHERWISE INDICATED.

MATERIAL SYMBOLS

- GRAVEL
- SAND
- SILT
- CLAY
- SANDY CLAY OR CLAYEY SAND
- SANDY SILT OR SILTY SAND
- SILTY CLAY OR CLAYEY SILT
- PEAT OR ORGANIC MATTER
- FILL MATERIAL
- SHALE
- SANDSTONE
- LIMESTONE
- METAMORPHIC ROCK
- IGNEOUS ROCK

CONSISTENCY CLASSIFICATION

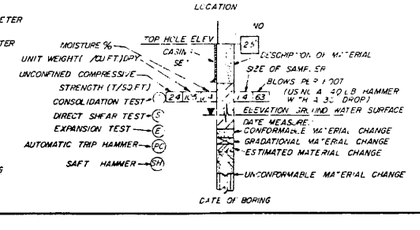
ACCORDING TO THE STANDARD PENETRATION TEST

NO OF BLOWS	GRANULAR	COHESIVE
0-5	VERY LOOSE	VERY SOFT
6-10	LOOSE	SOFT
11-20	SLIGHTLY COMPACT	STIFF
21-35	COMPACT	VERY STIFF
36-70	DENSE	HARD
70+	VERY DENSE	VERY HARD

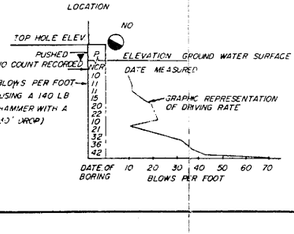
LEGEND OF BORING OPERATIONS

- PLAN OF ANY BORING
- STANDARD PENETHOMETER
- 2.5" CONE PENETROMETER
- ROTARY BORING
- AUGER BORING
- SAMPLE BORING
- JET BORING
- DIAMOND CORE BORING
- TEST PIT

ROTARY BORING



PENETRATION TEST



DATE	REVISION	DRAWN BY	CHECKED BY

COUNTY OF ORANGE

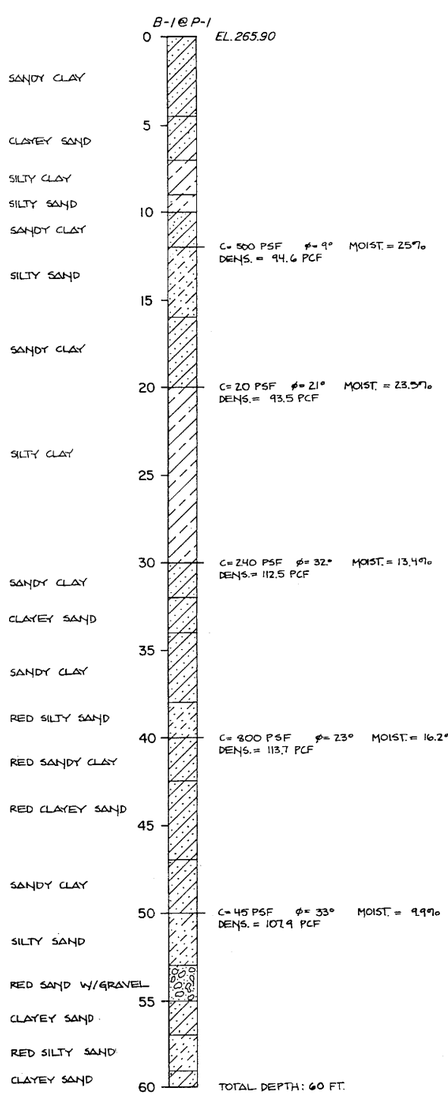
ENVIRONMENTAL MANAGEMENT AGENCY

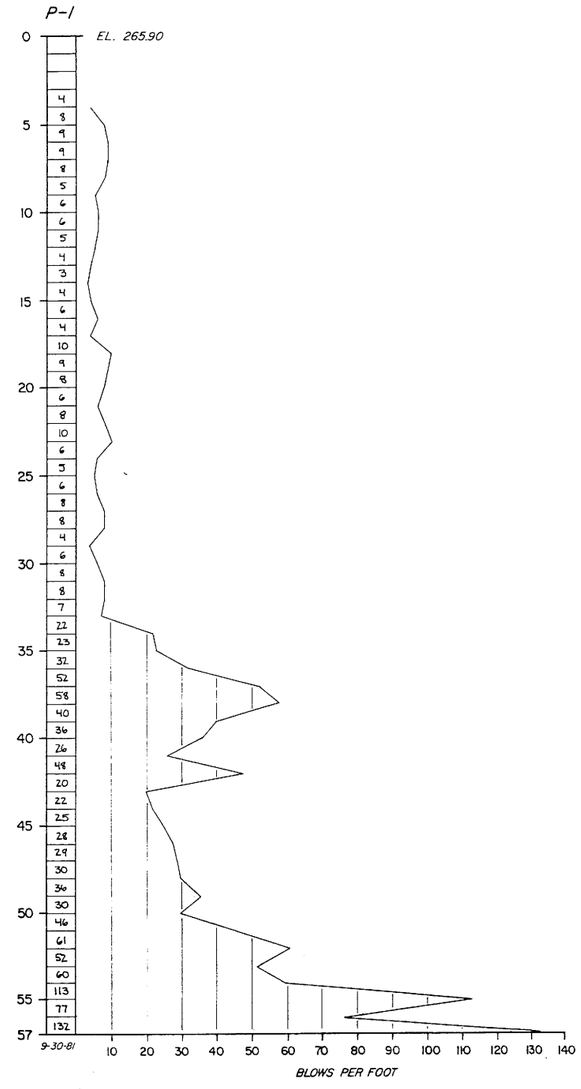
LOG, BORING/ PENETROMETER
RATTLESNAKE CYN. WASH
BRIDGE PROPOSAL

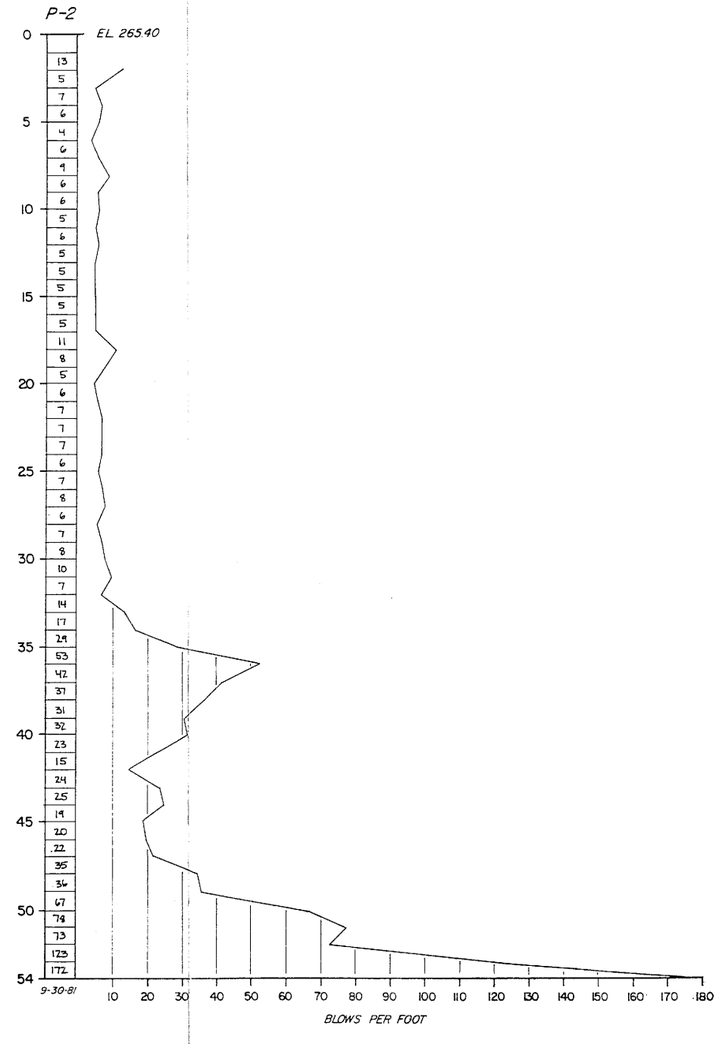
SHEET 54

SCALE AS SHOWN	DATE 9-81	DRAWING G.E ANDERSON

DRAWN BY
CHECKED BY

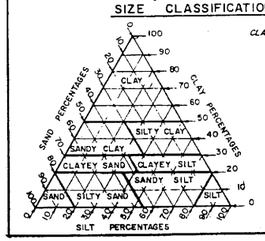






LEGEND OF EARTH MATERIALS

SIZE CLASSIFICATION



CLASSIFICATION OF EARTH MATERIAL SHOWN ON THIS SHEET IS BASED ON MECHANICAL ANALYSIS UNLESS OTHERWISE INDICATED.

MATERIAL SYMBOLS

- GRAVEL
- SAND
- SILT
- CLAY
- SANDY CLAY OR CLAYEY SAND
- SANDY SILT OR SILTY SAND
- SILTY CLAY OR CLAYEY SILT
- PEAT OR ORGANIC MATTER
- FILL MATERIAL
- SHALE
- SANDSTONE
- LIMESTONE
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- IGNEOUS ROCK

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ACCORDING TO THE STANDARD PENETRATION TEST

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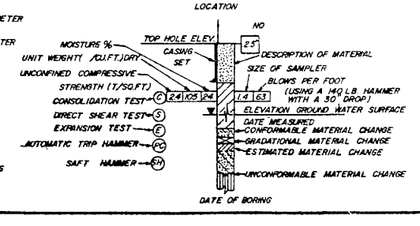
21 - 35	COMPACT	VERY STIFF
36-70	DENSE	HARD
70+	VERY DENSE	VERY HARD

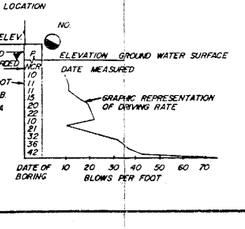
LEGEND OF BORING OPERATIONS

- PLAN OF ANY BORING
- STANDARD PENETROMETER
- 8.5" CONE PENETROMETER
- ROTARY BORING
- AUGER BORING
- SAMPLE BORING
- JET BORING
- DIAMOND CORE BORING
- TEST PIT

ROTARY BORING



PENETRATION TEST



DATE	REVISION:	DRAWN BY	CHECKED BY

COUNTY OF ORANGE

ENVIRONMENTAL MANAGEMENT AGENCY

LOG, BORING/ PENETROMETER
CENTRAL IRVINE CH.
BRIDGE PROPOSAL

SHEET 55

SCALE AS SHOWN	DATE 12-81	DRAWING G.E. ANDERSON