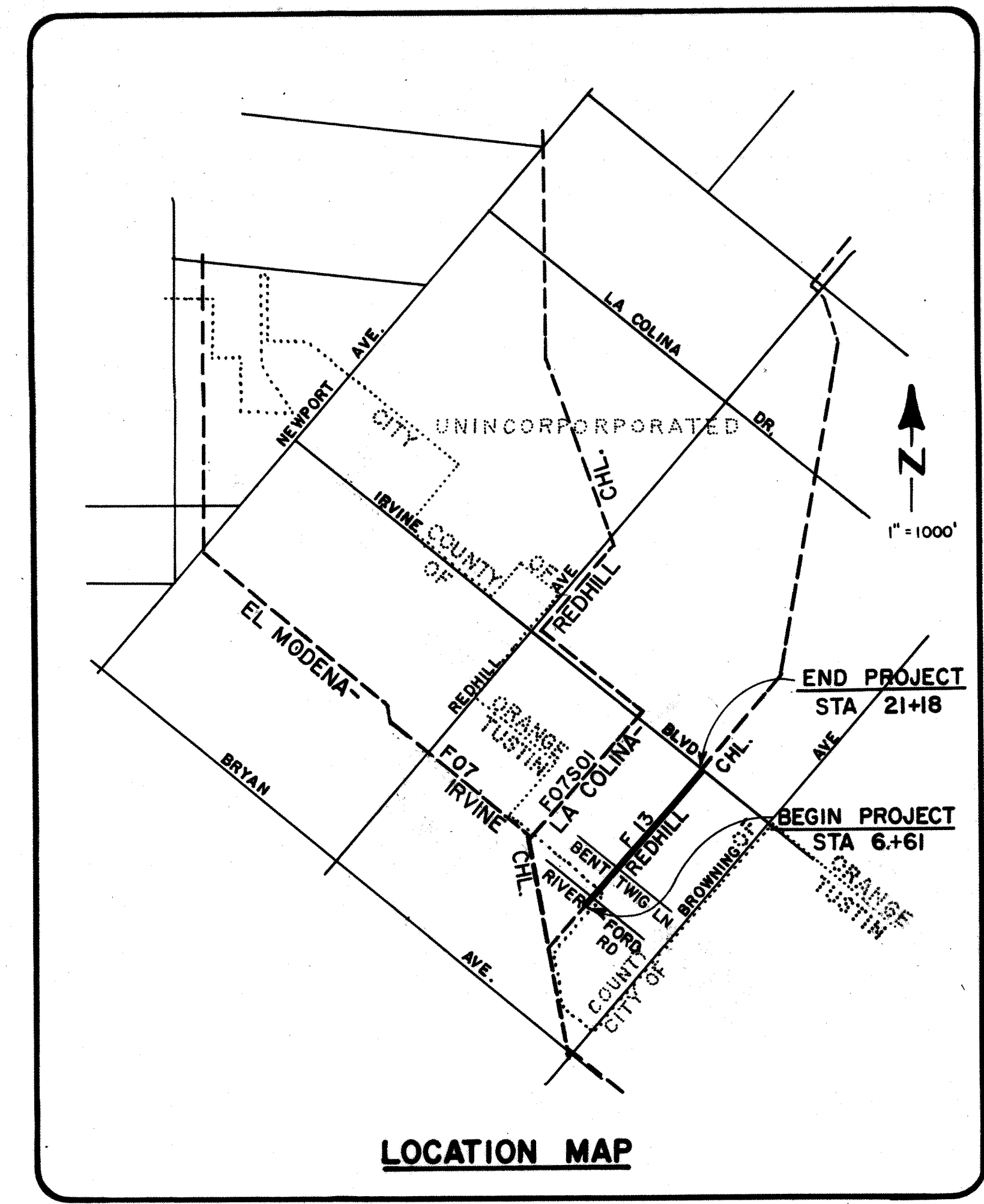
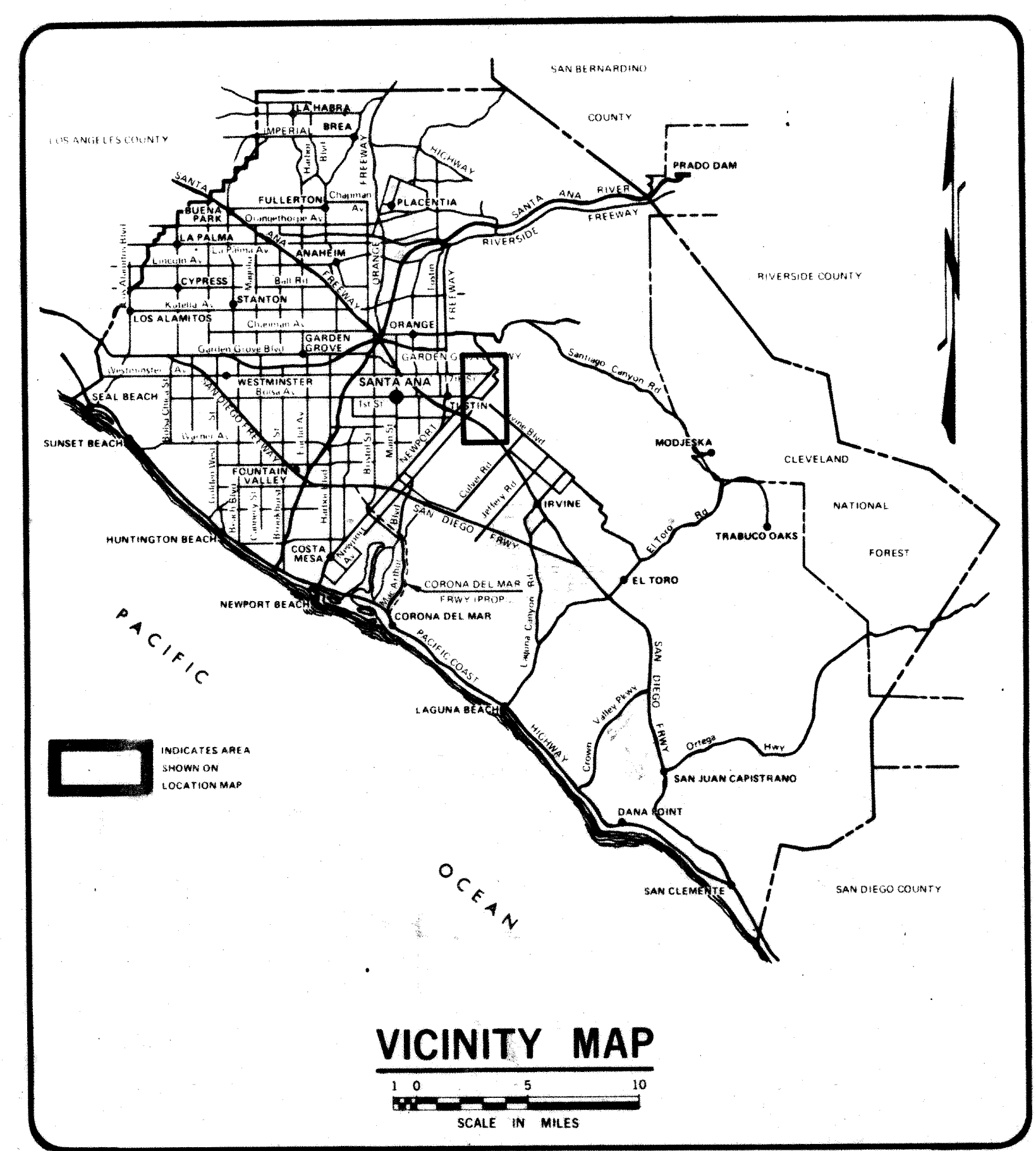


10

F13-101-5



ORANGE COUNTY ENVIRONMENTAL MANAGEMENT AGENCY

SANTA ANA, CALIFORNIA
E. SCHNEIDER, DIRECTOR

PLANS FOR CONSTRUCTION OF

REDHILL CHANNEL

(F13)

FROM RIVER FORD ROAD TO IRVINE BLVD.

JANUARY 1989

FUNDED BY: O. C. F. C. D.

CITY OF TUSTIN

APPROVED: *Robert J. Leland* 1/31/89
CITY ENGINEER DATE

EMA - PUBLIC WORKS

SUBMITTED: *[Signature]* FLOOD CONTROL DESIGN DATE

RECOMMENDED: *[Signature]* 1/31/89
DESIGN DIVISION DATE

APPROVED: *William L. Lann* 1/31/89
DIRECTOR OF PUBLIC WORKS DATE

INDEX OF SHEETS	
SHEET	DESCRIPTION
1	TITLE SHEET
2	PLAN AND PROFILE STATION 6+61.08 TO 9+00
3	PLAN AND PROFILE STATION 9+00 TO 19+00
4	PLAN, PROFILE & DETAIL STATION 19+00 TO 21+18.43
5	RCB DETAILS, RIVERFORD RD. & BENT TWIG LN.
6	PARAPET FENCE, WALL & GATE DETAILS
7	RC RECT. CHANNEL SCHEDULE AND DETAILS
8	RC BOX CULVERTS
9	SOIL BORINGS & SURVEY TIES
10	SOIL BORINGS & PAYLINES

UTILITY	PHONE NO.
SO. CAL. EDISON	KENDRA HEINICKE (714) 973-5457
SO. CAL. GAS	DON JONES (714) 634-3262
PACIFIC BELL	STEVE RANDALL (714) 259-4473
SAN DIEGO PIPELINE	SAM ASHMORE (714) 538-5227
ORANGE COUNTY SANITARY DIST.	RUSS WOLD (714) 540-2910
CITY OF TUSTIN	GARY VEEH (714) 544-8890 X248

BENCH MARK: F07-21
O.C.S. B.M. TAG STAMPED "R.C.E. 7872" .5' S/E OF N/W END OF N/W WINGWALL, 24' N/W OF Q OF BROWNING AVE. AT INTER. WITH BRYAN AVE.
ADJUSTED 1984 ELEV. = 97.967

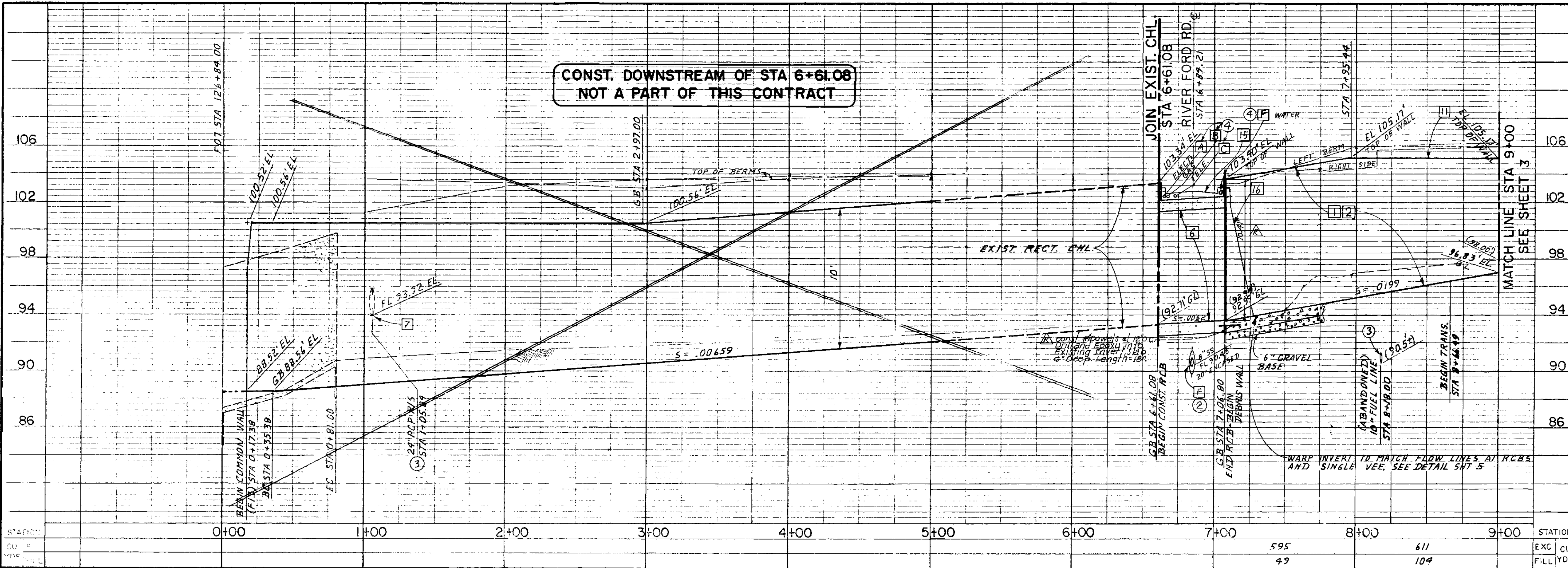
BASIS OF BEARING:
GRID BASED ON SM 81-2 (IRVINE BLVD)

NO.	REVISIONS	DESCRIPTION	SHT.	APPROVED	DATE
1	Record Drawings	2/4/89			Jan 91

W. O. NO. F07228
DWG. NO. F13-101-5

SHEET 1 OF 10

CONST. DOWNSTREAM OF STA 6+61.08
NOT A PART OF THIS CONTRACT

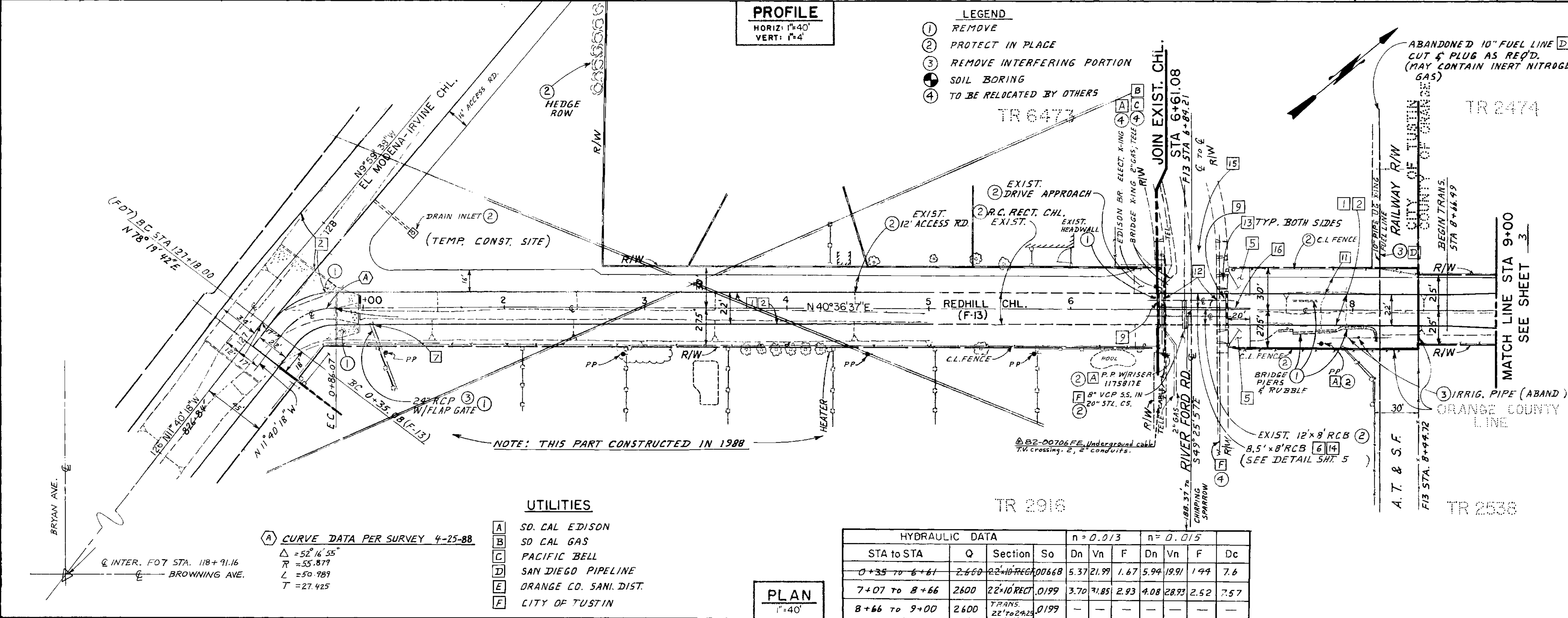


PROFILE

HORIZ: 1"=40'
VERT: 1"=4'

LEGEND

- 1 REMOVE
- 2 PROTECT IN PLACE
- 3 REMOVE INTERFERING PORTION
- 4 SOIL BORING
- 5 TO BE RELOCATED BY OTHERS



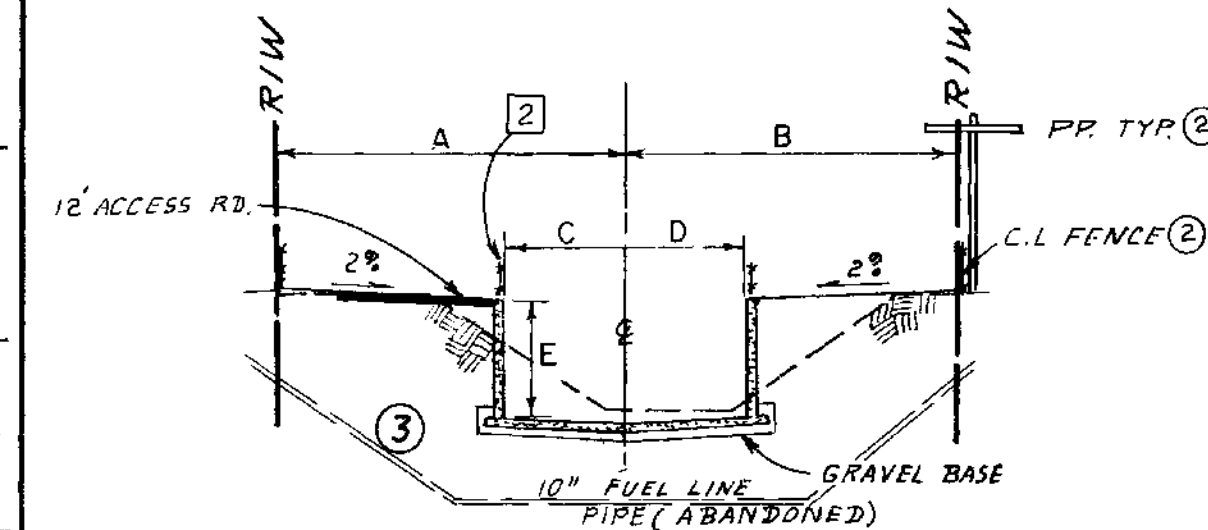
UTILITIES

- A SD. CAL EDISON
- B SD. CAL GAS
- C PACIFIC BELL
- D SAN DIEGO PIPELINE
- E ORANGE CO. SANI. DIST.
- F CITY OF TUSTIN

PLAN

1"=40'

HYDRAULIC DATA		n = 0.013				n = 0.015			
STA to STA	Q	Section	So	Dn	Vn	F	Dn	Vn	F
0+35 to 6+61	2,660	22'x10' RECT	0.0668	5.37	21.99	1.67	5.94	19.91	1.99
7+07 to 8+66	2,600	22'x10' RECT	0.099	3.70	7.85	2.93	4.08	28.93	2.52
8+66 to 9+00	2,600	TRANS. 22' to 24' 25'	0.099	-	-	-	-	-	-



F13 TYPICAL SECTION

STATION	A	B	C	D	E
7+06.80 to 7+95.44	30'	27.5'	11'	11'	10'
7+95.44 to 8+45.2	30	27.5	11	11	9.13
8+45.2 to 8+66.49	25	25	11	11	8.75
8+66.49 to 9+00	25	25	12.12	12.12	8.17

CONSTRUCTION NOTES

- 1 CONST. R.C. RECT. CHL. PER PLAN & PROFILE, TYP. SECTION, DETAIL SHT. 7, & OCMA STD. PLAN #1803.
- 2 CONST. GUARD CABLE FENCE ON TOP OF CHL. WALL PER PLAN, TYP. SECTION, & OCMA STD. PLAN #1413.
- 3 CONST. 5' HIGH CHAIN LINK FENCE PER PLAN, TYP. SECTION, & OCMA STD. PLAN #1412.
- 4 CONST. 5' HIGH CHAIN LINK GATE TO FIT OPENING PER PLAN & OCMA STD. PLAN #1412.
- 5 CONST. MAINT. APPROACH W/ 35' AC OVER .50' AB PER PLAN & SHT 5.
- 6 CONST. R.C. BOX CULVERT PER PLAN & PROFILE, TYP. SECT. DETAIL SHTS. 5 & 8, AND OCMA STD. PLAN #1803.
- 7 CONST. JUNCTION STRUCTURE TYPE 'X' PER PLAN & PROFILE, DETAIL SHT. 5, & OCMA STD. PLAN #1314.
- 8 CONST. INLET TYPE 'X' PER OCMA STD. PLAN #1305.
- 9 REMOVE, SALVAGE, & RECONSTRUCT FENCE, WALLS, & GATES TO MATCH EXIST., REFER TO AS BUILT DWG. SHT. 6 & DETAIL SHT. 5.
- 10 CONST. R.C. TRANS. RAMP & HEADWALL TO JOIN NEW R.C. RECT. CHL. & EXIST. R.C. BOX CULVERT PER PLAN & PROFILE, DETAIL SHT. 4, & OCMA STD. PLAN #1803.
- 11 CONST. 12' ACCESS ROAD W/ 50' AB PER PLAN & TYP. SECT.
- 12 CONST. 4" THICK PCC SIDEWALK PER OCMA STD. PLAN #1205.
- 13 CONST. 6" THICK PCC DRIVEWAY APPROACH TYPE A2-6 PER OCMA STD. PLAN #1210.
- 14 RECONSTRUCT AC PAVMT. WITH FULL DEPTH AC OVER RCB CULVERT PER OCMA STD. PLAN #1805 @ RIVERFORD RD. & BENT TWIG LN. FEATHER AC TO MATCH.
- 15 PROVIDE CONT. ACCESS FOR RIVERFORD RD. (SEE SPEC.)
- 16 CONST. CULVERT DEBRIS WALL PER PLAN & PROFILE, DETAIL SHT. 5, & OCMA STD. PLAN #1324.

1/2 0 2
3 inches on original drawing

BENCH MARK F07-21, ADJ. 1984, EL=97.967

ORANGE COUNTY
ENVIRONMENTAL MANAGEMENT AGENCY

RED HILL CHANNEL

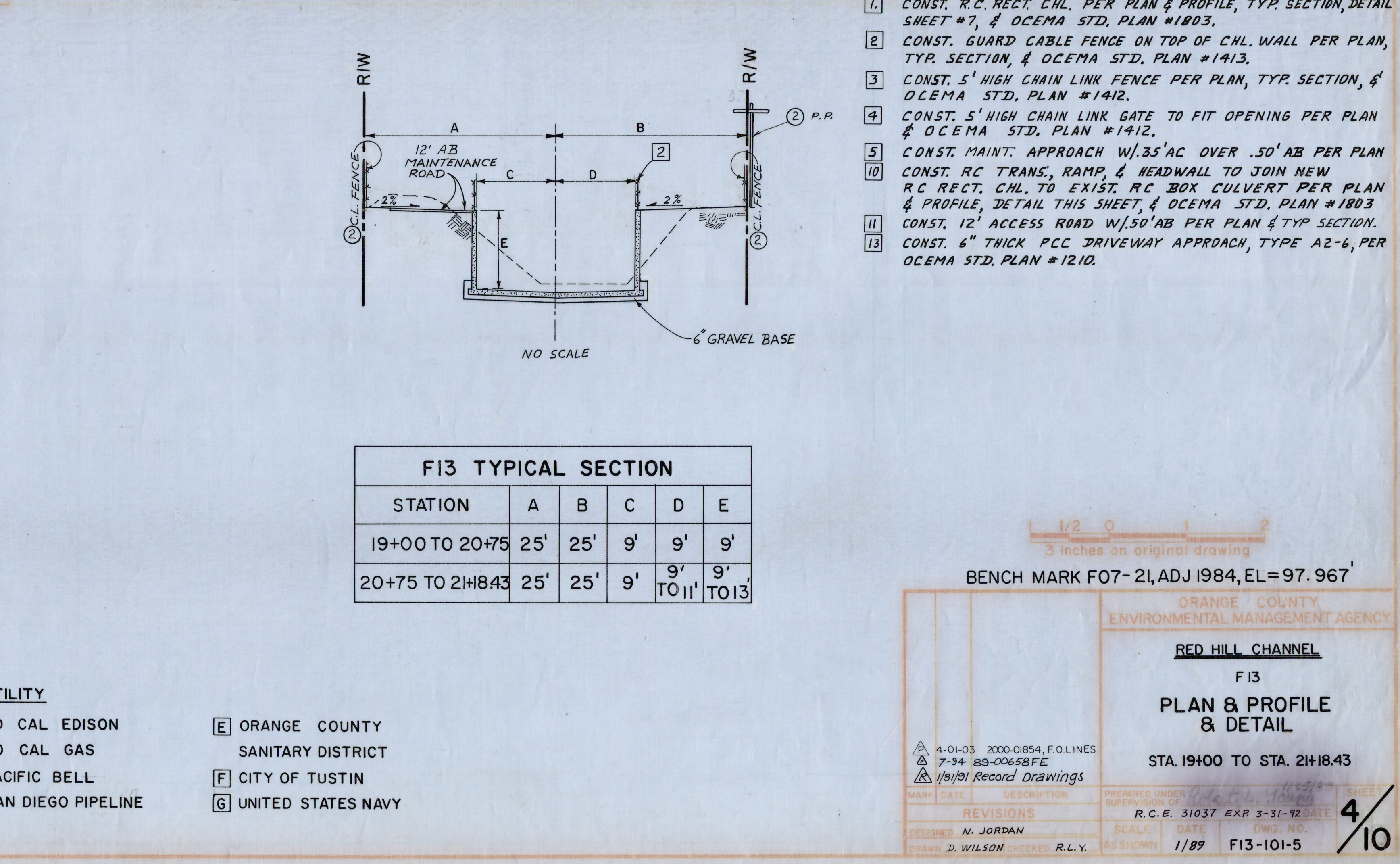
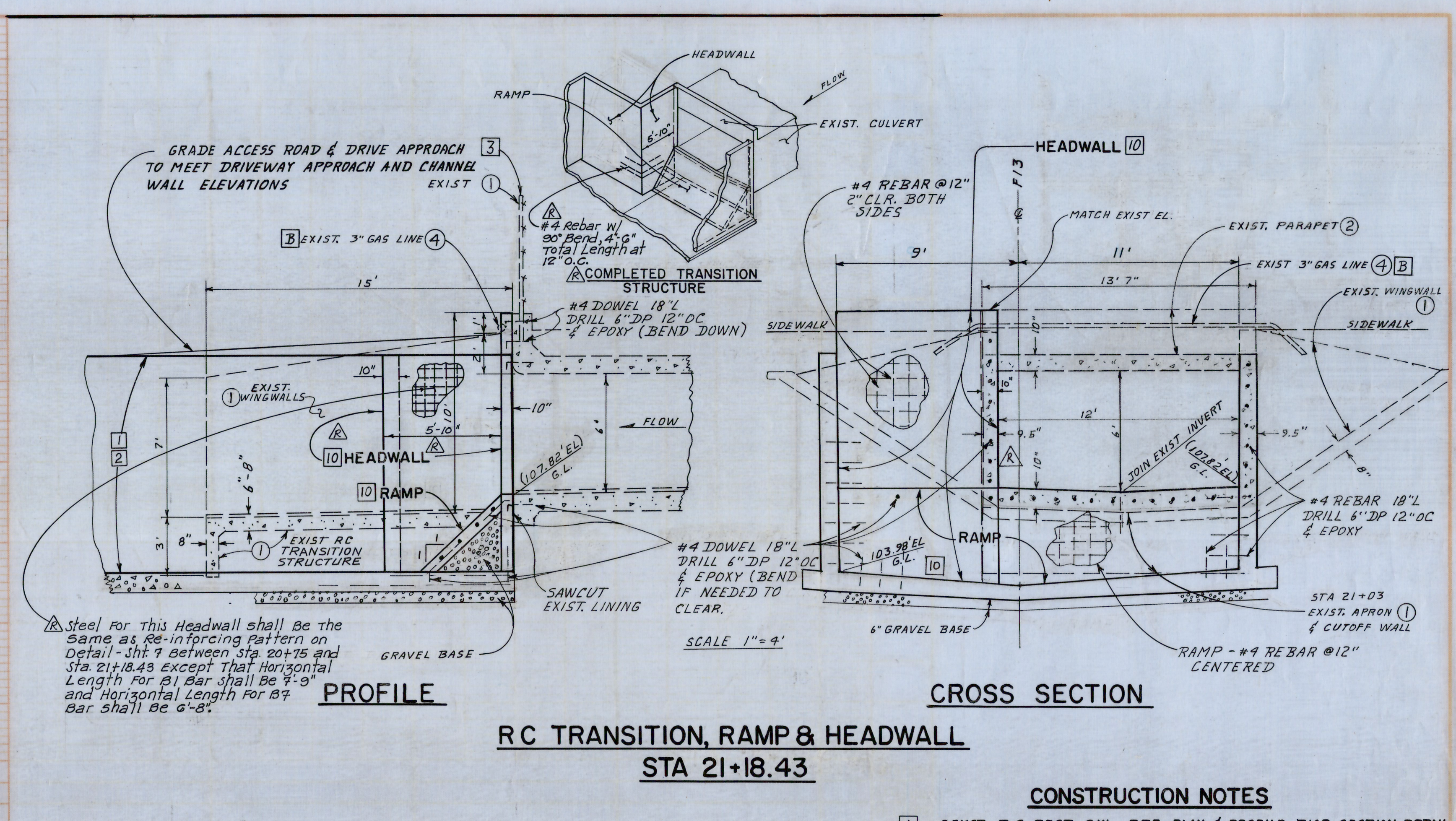
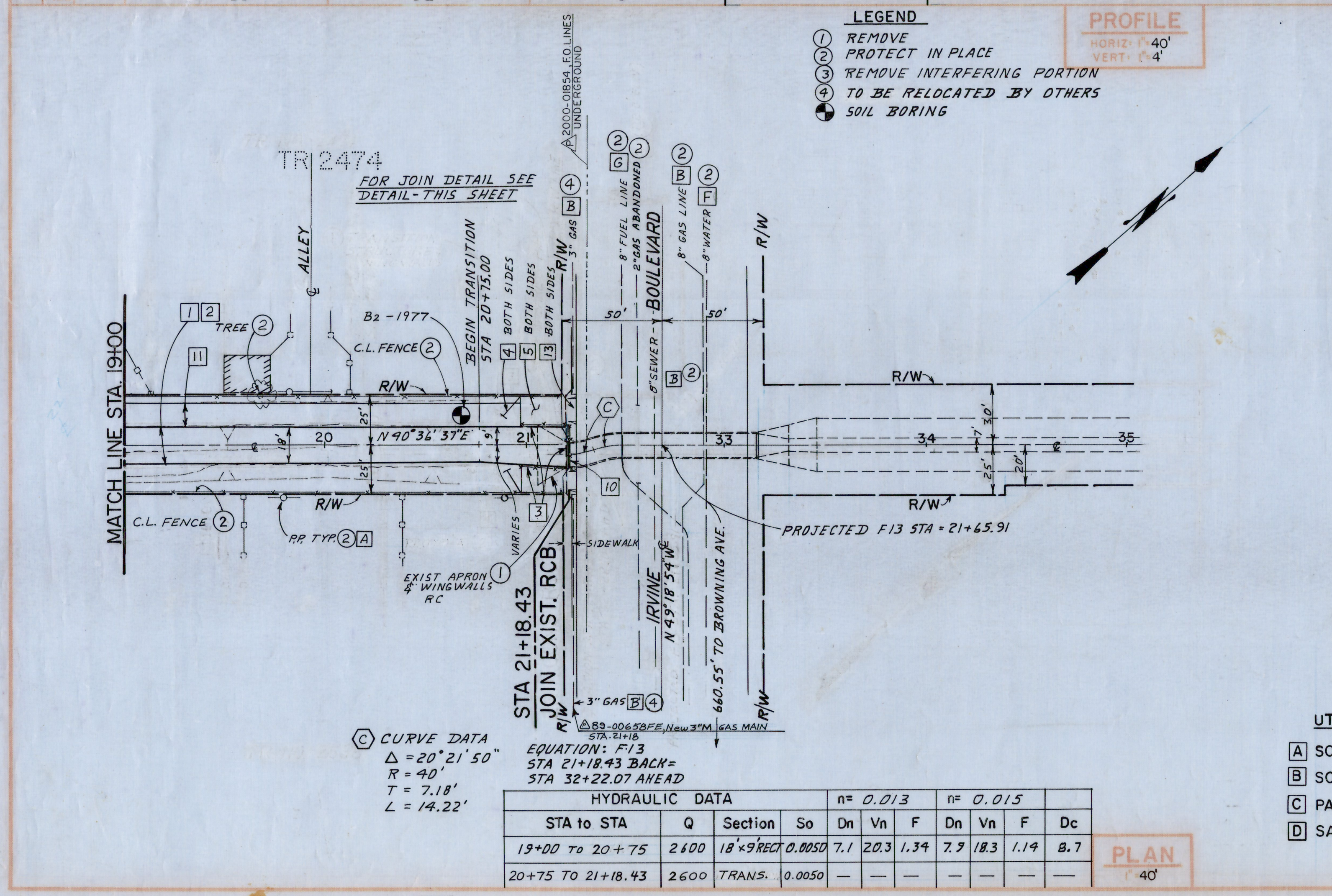
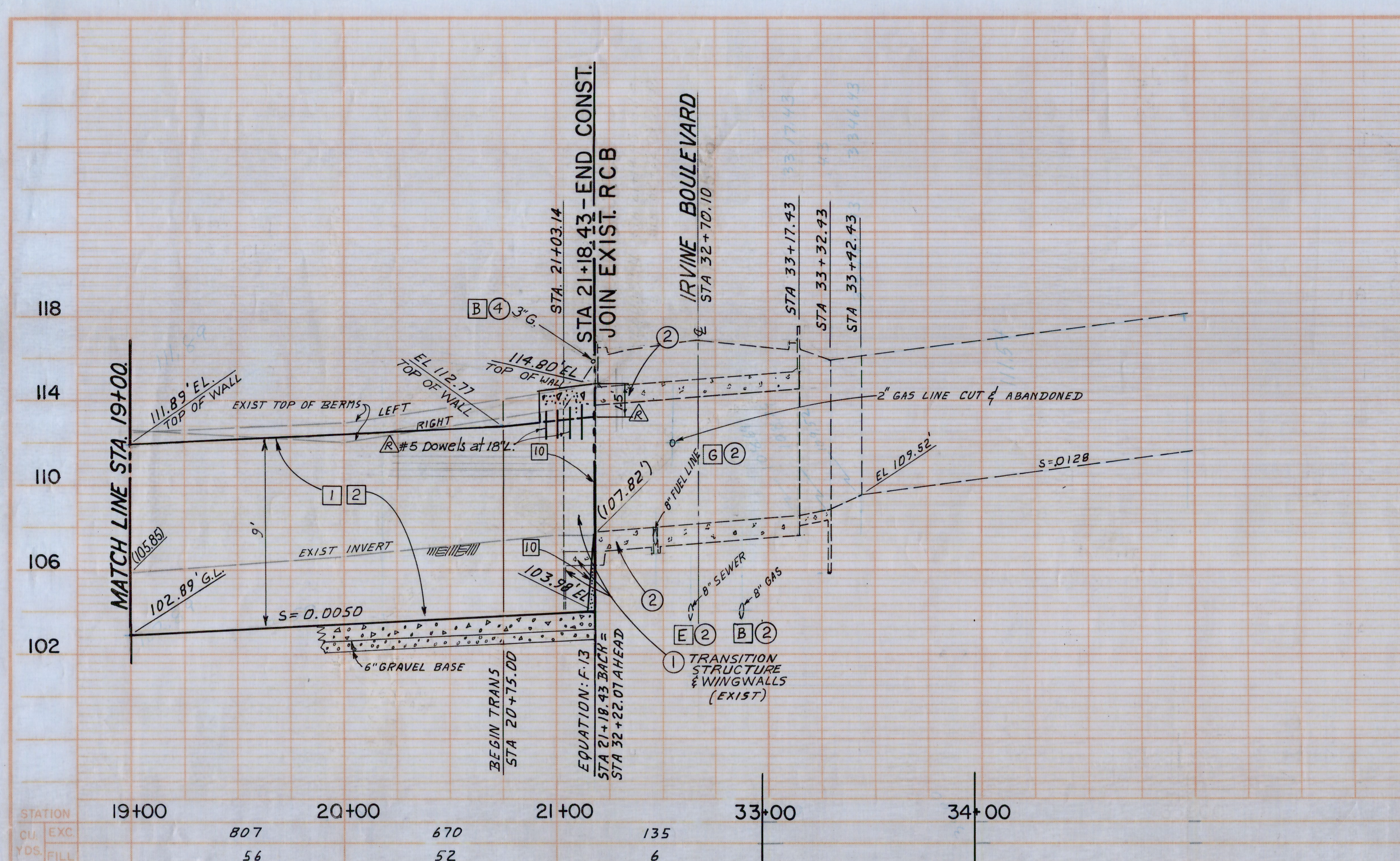
F13

PLAN & PROFILE

STA 6+61 TO STA 9+00

DESIGNED BY: J. JORDAN	CHECKED BY: R. L. L.	DATE: 1/89	SCALE: AS SHOWN	DWG. NO.: F13-101-5
REVISIONS	DATE	DESCRIPTION	PREPARED UNDER SUPERVISION OF: Robert L. Jordan	SHEET 2/10
10-95 182-00706.FE	1-91-91	Record Drawings	R.C.E. 3/037 EXP 3-31-92 DATE	

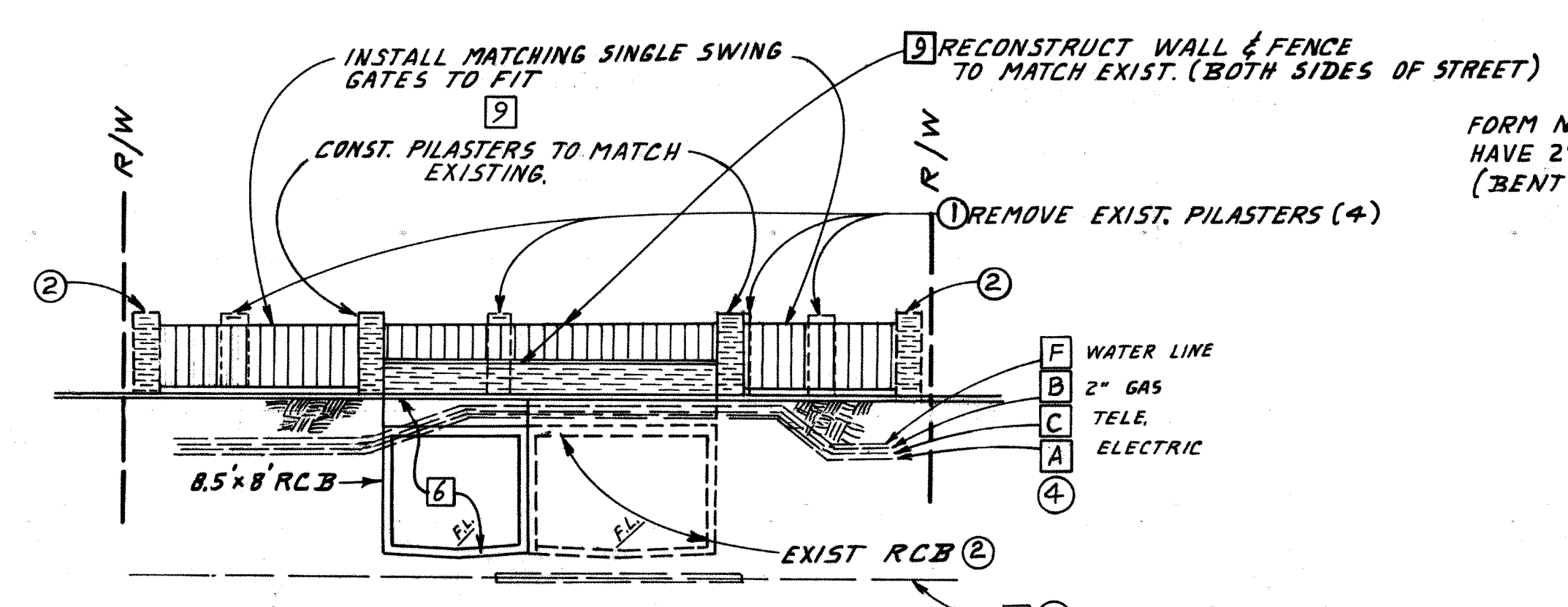
4-10



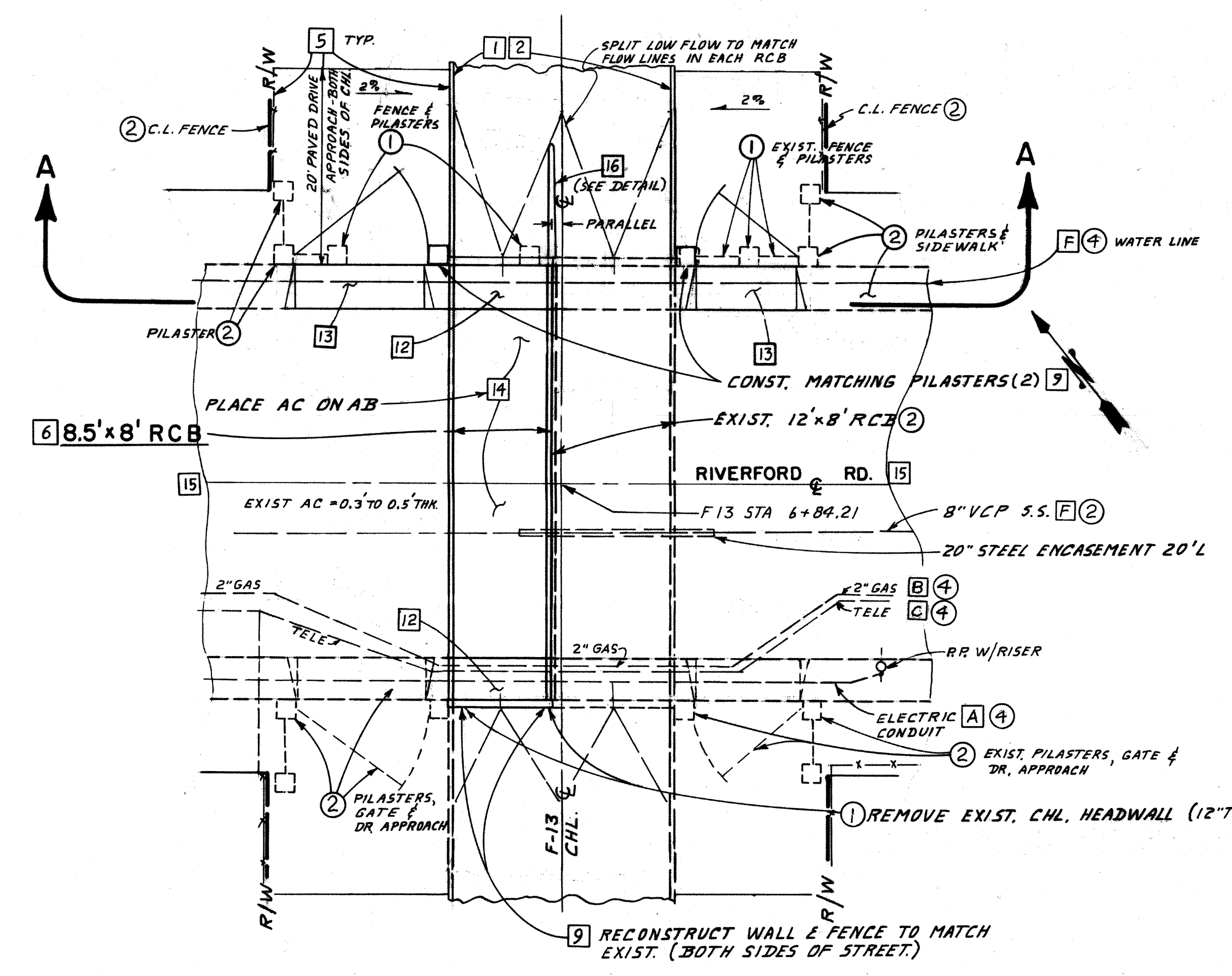
F13-101-5

4/10

F13-101-5



RIVERFORD RD. RCB
SECTION A-A
SCALE 1"=10'



RIVERFORD RD. RCB
PLAN VIEW
SCALE 1"=10'

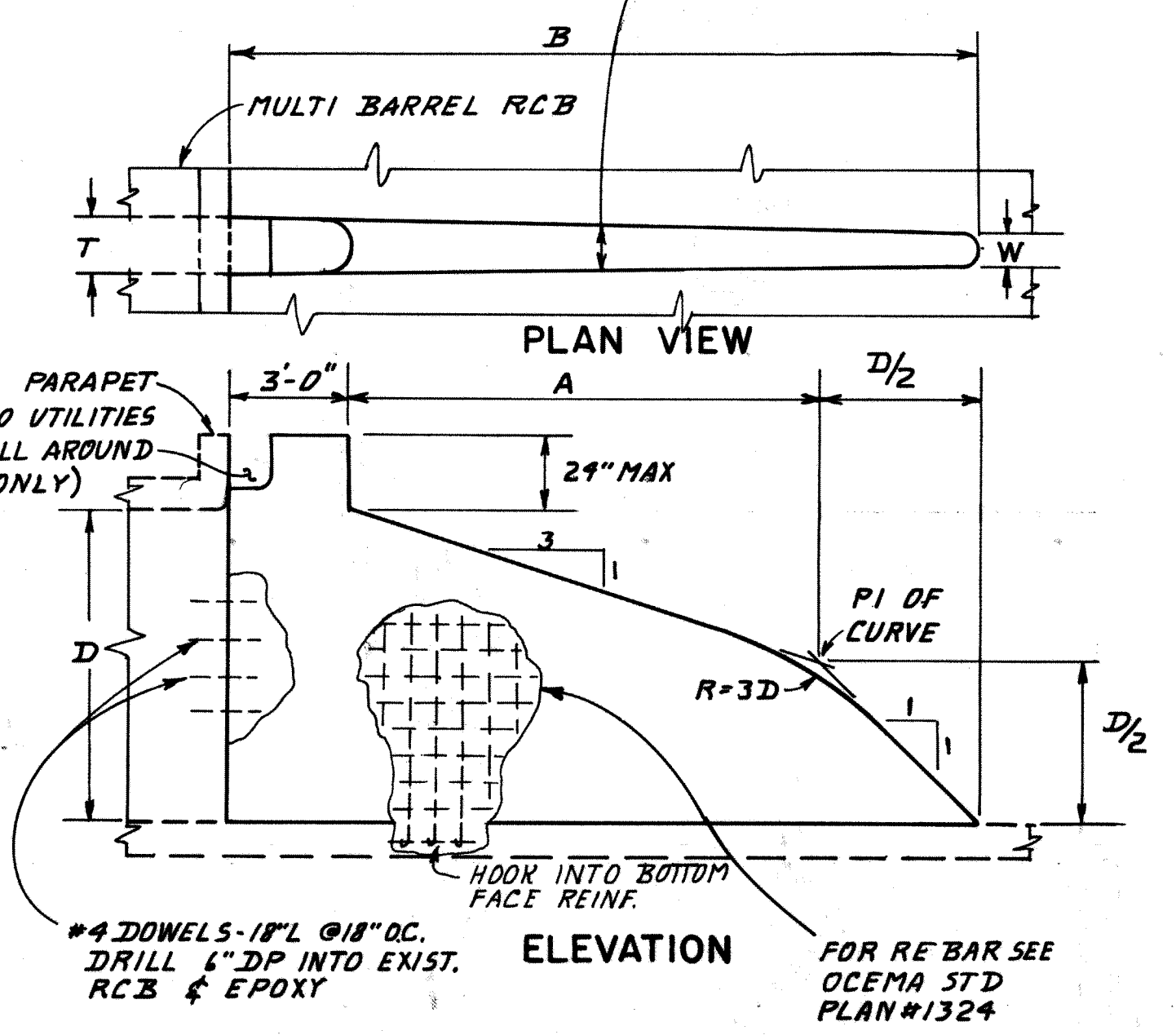
LEGEND

- ① REMOVE
- ② PROTECT IN PLACE
- ③ REMOVE INTERFERING PORTION TO BE RELOCATED BY OTHERS
- ④ SOIL BORING

UTILITIES

- A SO. CAL. EDISON
- B SO. CAL. GAS
- C PACIFIC BELL
- D SAN DIEGO PIPELINE
- E ORANGE CTY. SANI. DIST.
- F CITY OF TUSTIN

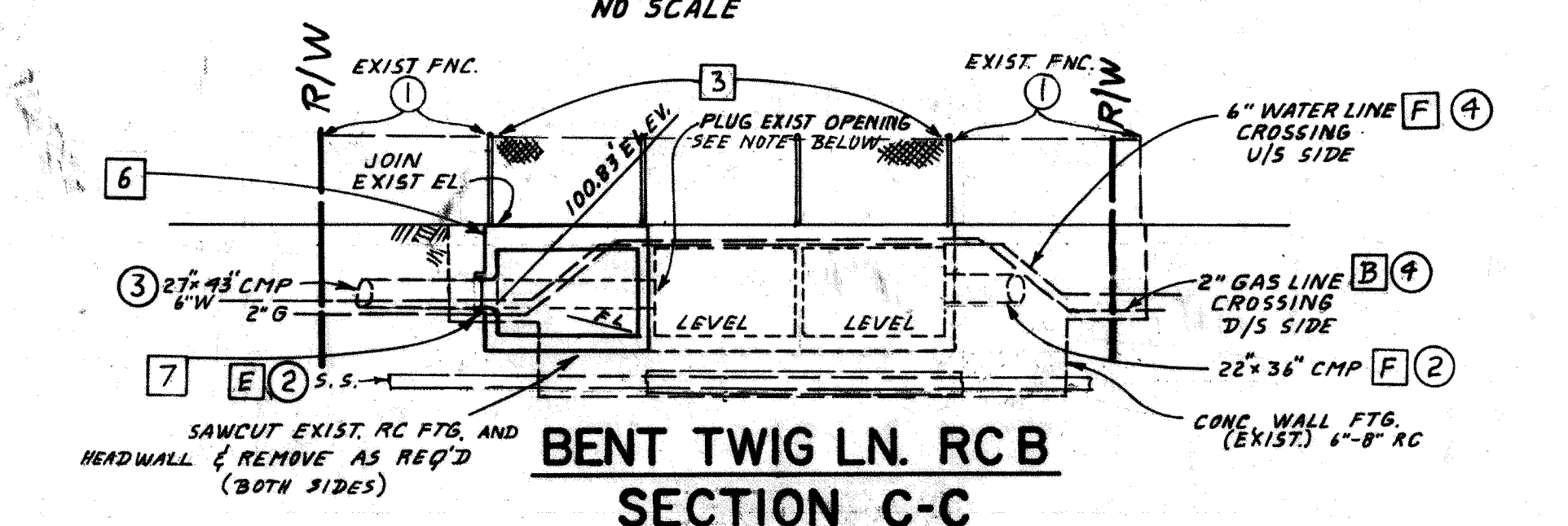
TAPER WALL THICKNESS UNIFORMLY FROM T TO W. ALIGN WALLS SO INSIDE FACES ARE PARALLEL TO CHL. &



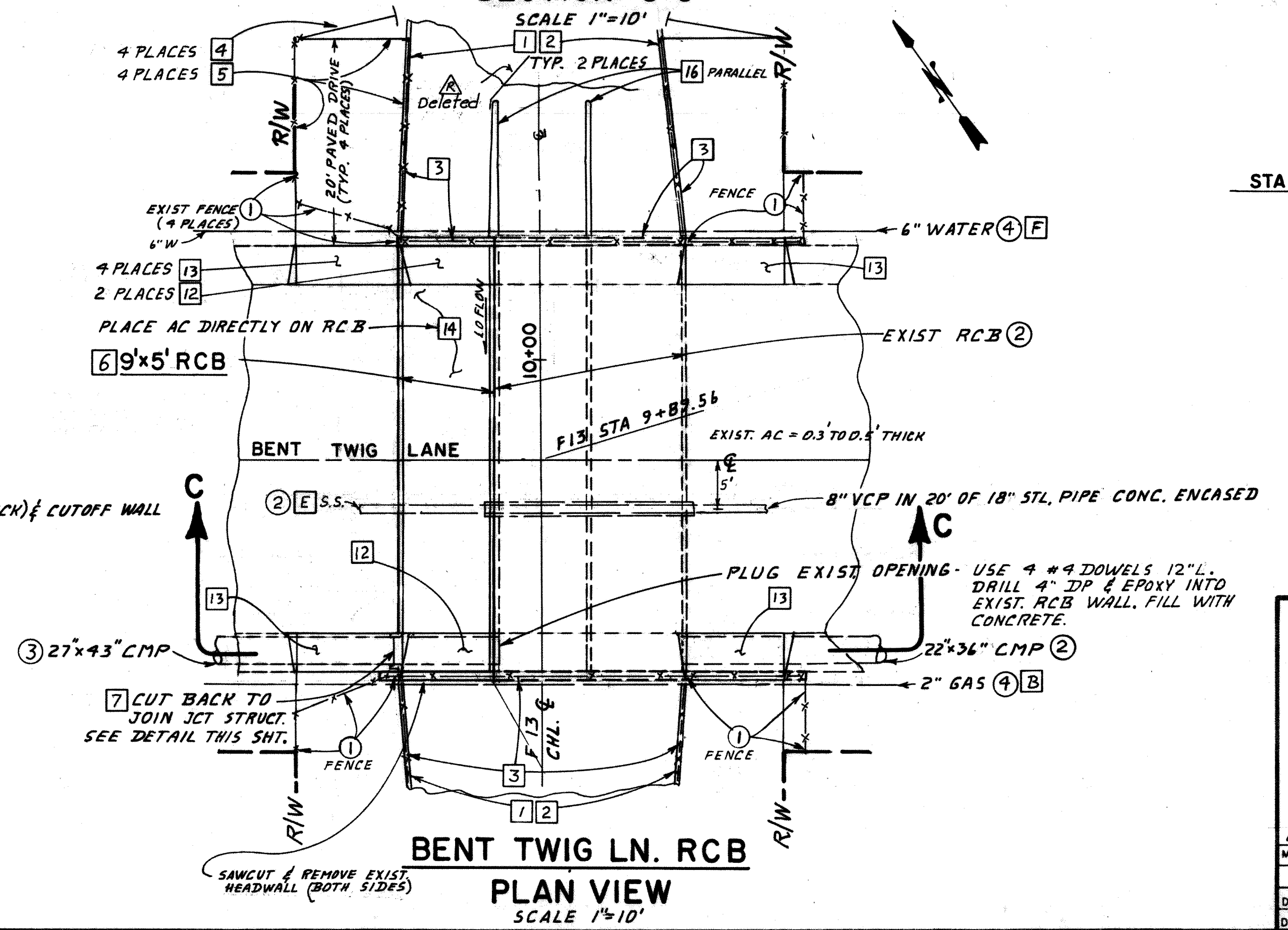
TYPICAL DEBRIS WALL
NO SCALE

DEBRIS WALL DIMENSIONS				
	RIVERFORD RD	BENT TWIG R/S	BENT TWIG L/S	
D	8'	5'	5'	
D/2	4'	2'-6"	2'-6"	
T	17"	6"	14"	
W	8"	6"	6"	
A	12'	8'-3"	8'-3"	
B	19'	14'	14'	
R	24'	15'	15'	

- ① CONST. R.C. RECT. CHANNEL PER PLAN & PROFILE, TYP. SECTION, DETAIL SHT. 7, AND OCMA STD. PLAN #1803.
- ② CONST. GUARD CABLE FENCE ON TOP OF CHL. WALL, PER PLAN, TYP. SECTION, & OCMA STD. PLAN #1413.
- ③ CONST. 5' HIGH CHAIN LINK FENCE PER PLAN, TYP. SECTION, AND OCMA STD. PLAN #1412.
- ④ CONST. 5' HIGH CHAIN LINK GATE TO FIT OPENING, PER PLAN & OCMA STD. PLAN #1412.
- ⑤ CONST. MAINT. RD. APPROACH W/ .35' AC OVER .50' AB PER PLAN.
- ⑥ CONST. R.C. BOX CULVERT PER PLAN & PROFILE, TYP. SECTION, DETAIL SHTS. 5 AND 8, & OCMA STD. PLAN #1803.
- ⑦ CONST. JUNCT. STRUCT. TYPE 'I' PER PLAN & PROFILE, DETAIL SHT. 5, AND OCMA STD. PLAN #1314.
- ⑧ REMOVE, SALVAGE, & RECONSTRUCT FENCE, WALL, & GATES TO MATCH EXIST. REFER TO AS BUILT DWG. - SHEET 8.
- ⑨ CONST. 4" THICK PCC SIDEWALK PER OCMA STD. PLAN #1205.
- ⑩ CONST. 6" THICK PCC DRIVEWAY APPROACH TYPE A2-6 PER OCMA STD. PLAN #1210.
- ⑪ RECONSTRUCT AC PAVT. WITH FULL DEPTH AC OVER RCB CULVERTS PER OCMA STD. PLAN 1805 & RIVERFORD RD. & BENT TWIG LN. LEATHER AC TO MATCH EXISTING.
- ⑫ PROVIDE CONT. ACCESS FOR RIVERFORD RD. PER SPEC. PROV.
- ⑬ CONST. CULVERT DEBRIS WALL PER PLAN & PROFILE, DETAIL SHT 5, & OCMA STD. PLAN #1324.

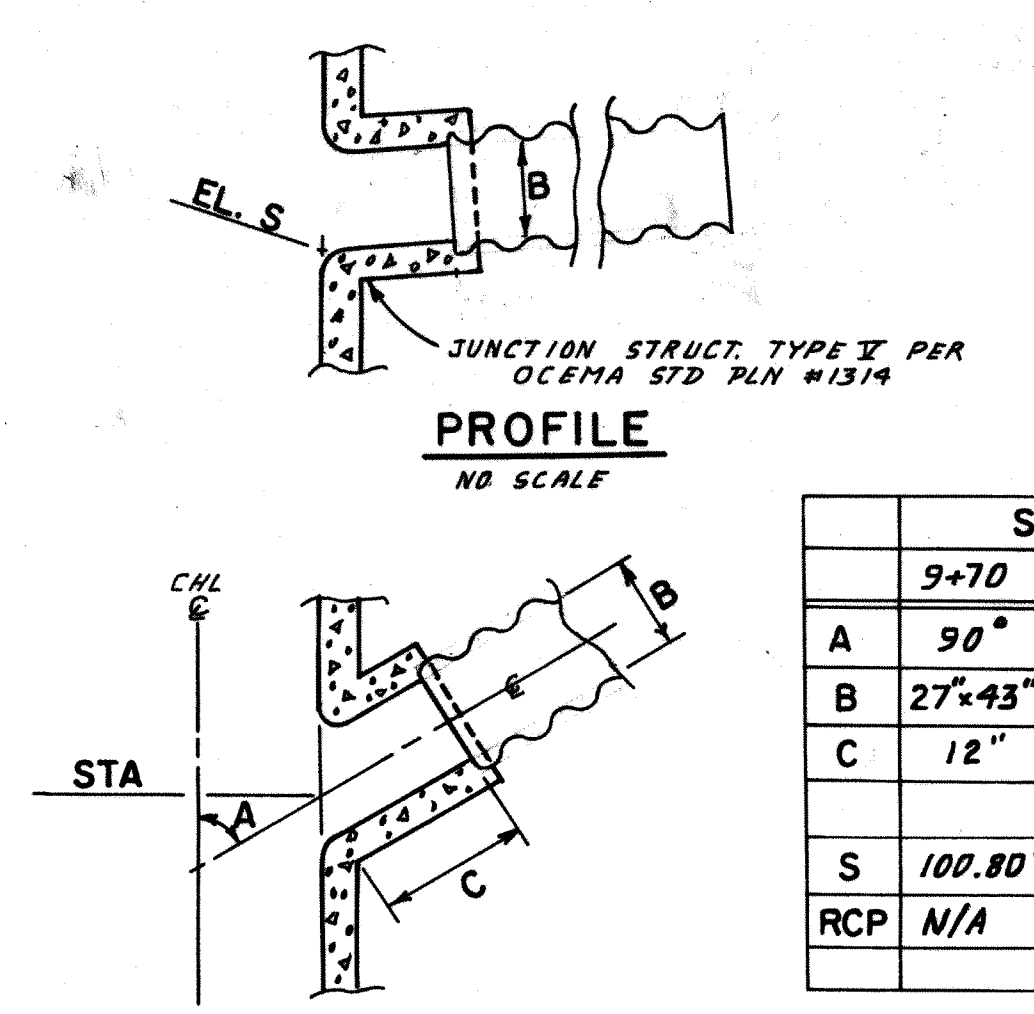


BENT TWIG LN. RCB
SECTION C-C
SCALE 1"=10'



BENT TWIG LN. RCB
PLAN VIEW
SCALE 1"=10'

JUNCTION STRUCTURE



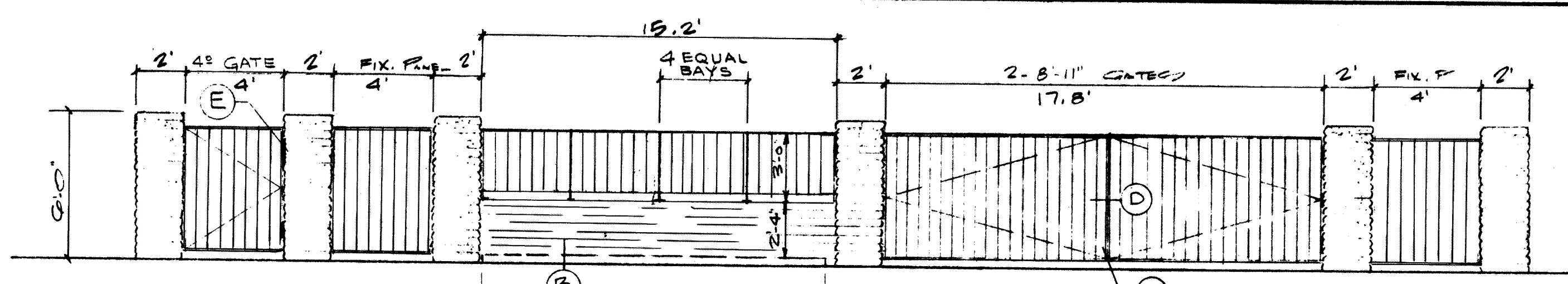
STA	
9+70	11+12
A	90° 90°
B	27° 43' 18"
C	12" 12"
S	100.80' 102.72'
RCP	N/A 18" RCP

1/2 0 1 2
3 inches on original drawing

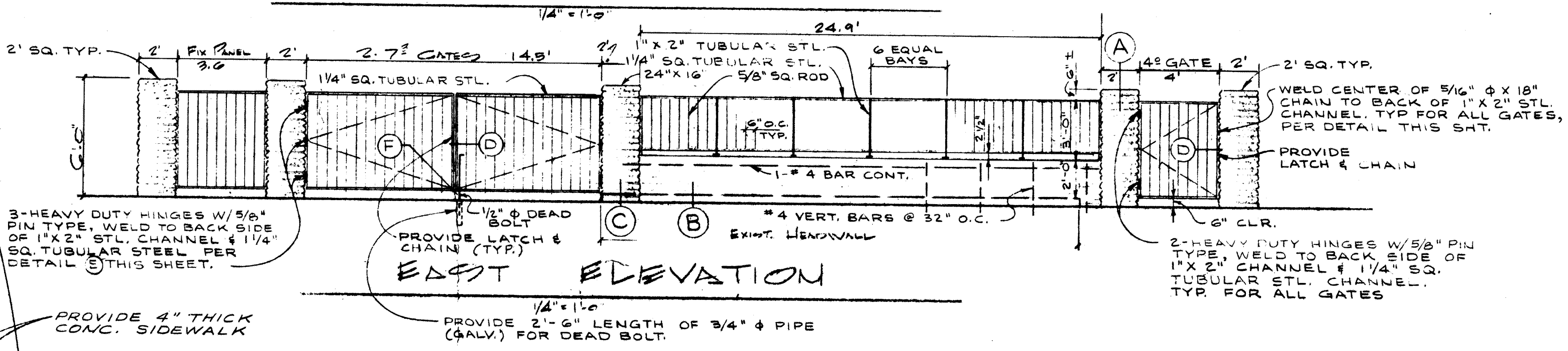
ORANGE COUNTY ENVIRONMENTAL MANAGEMENT AGENCY	
RED HILL CHANNEL	
F13	
RIVERFORD RD. & BENT TWIG RCB DETAILS	
DESIGNED: N. JORDAN	SCALE: AS SHOWN
DATE: 1/89	DWG. NO: F13-101-5
CHECKED: R.L.Y.	SHEET: 5/10

QUANTITY ESTIMATE

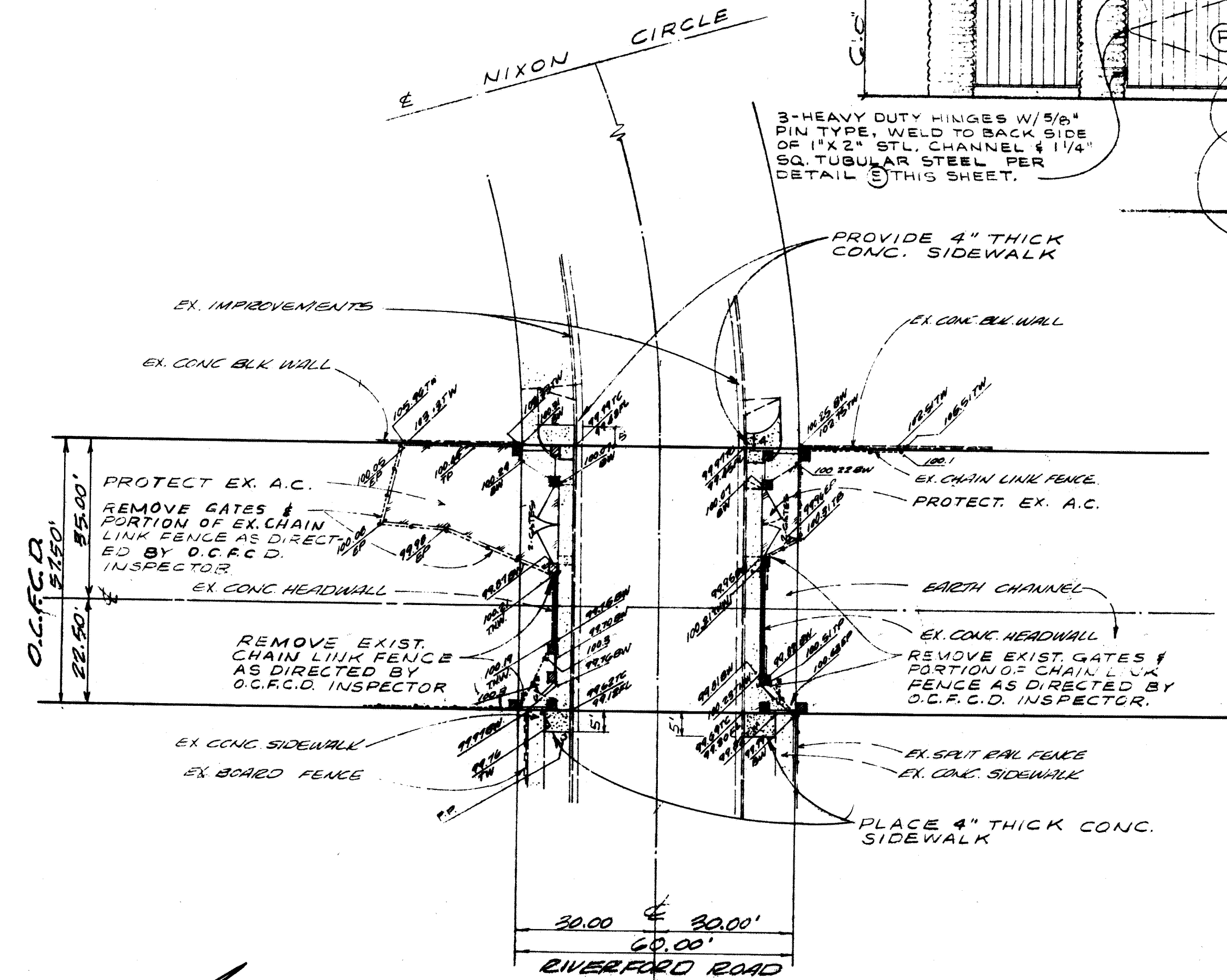
1. 4" THICK CONC. SIDEWALK	116 S.F.
2. EXIST. CHAIN LINK FENCE REMOVAL	88 L.F.
3. SPRING LOADED WHEELS FOR GATES	4 EA.
4. 2' SQ. SLUMP STONE COLUMN	14 EA.
5. 24"X16" SLUMP STONE COLUMN	1 EA.
6. 8"X4"X16" SOLID GROUT WALL	40 L.F.
7. 7/8" TUBULAR STEEL GATES	2 EA.
8. 7/8" TUBULAR STEEL GATES	2 EA.
9. 4" TUBULAR STEEL GATES	2 EA.
10. 5/8" HIGH TUBULAR STEEL FIX. PANELS	57 L.F.
11. 5/8" HIGH TUBULAR STEEL FIX. PANELS	42 L.F.



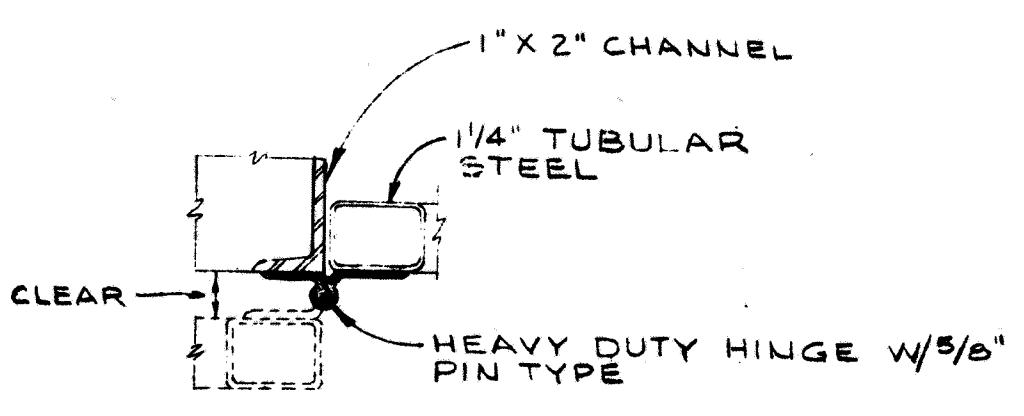
WEST ELEVATION



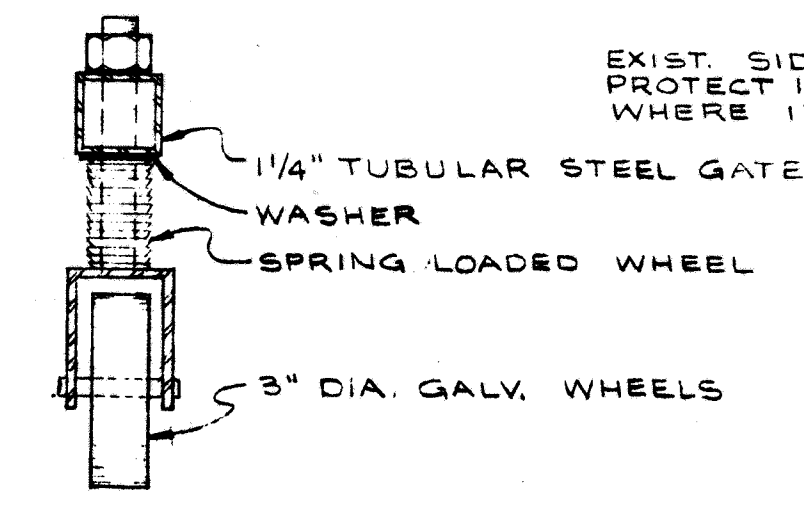
EAST ELEVATION



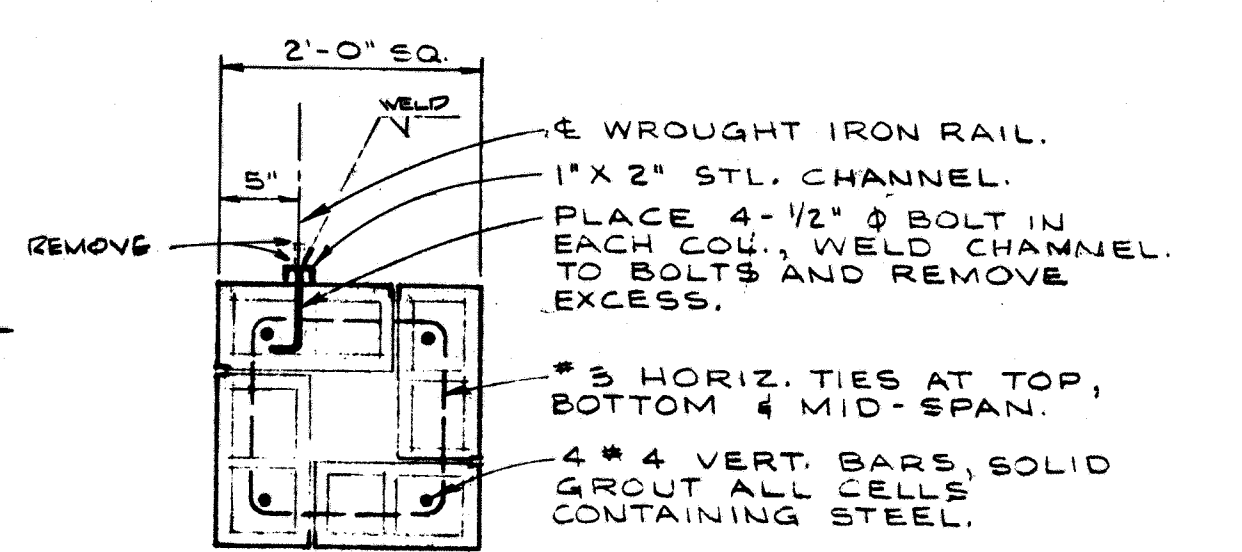
PLAN SCALE 1"=20'



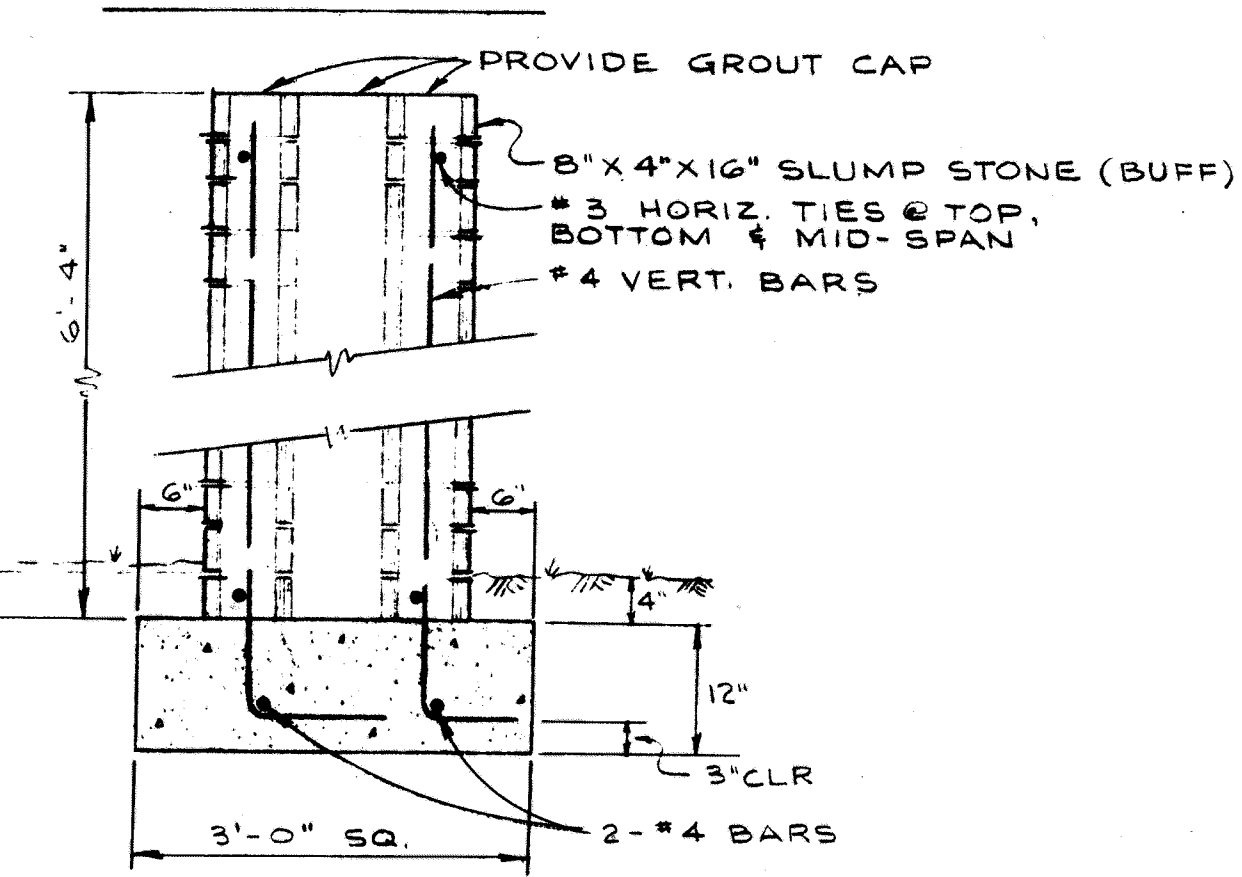
TYPICAL HINGE DETAIL (E)



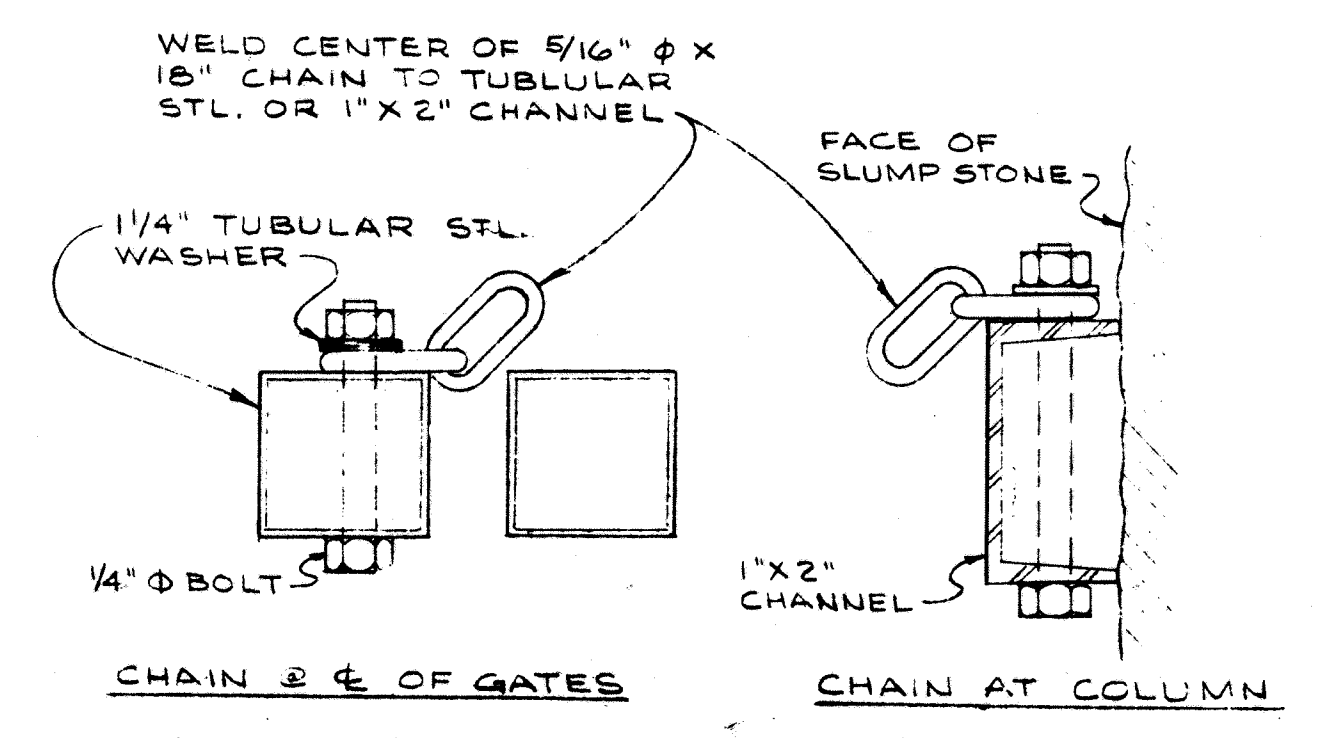
TYP. SPRING LOADED WHEEL FOR 7'± GATES DETAIL (F)



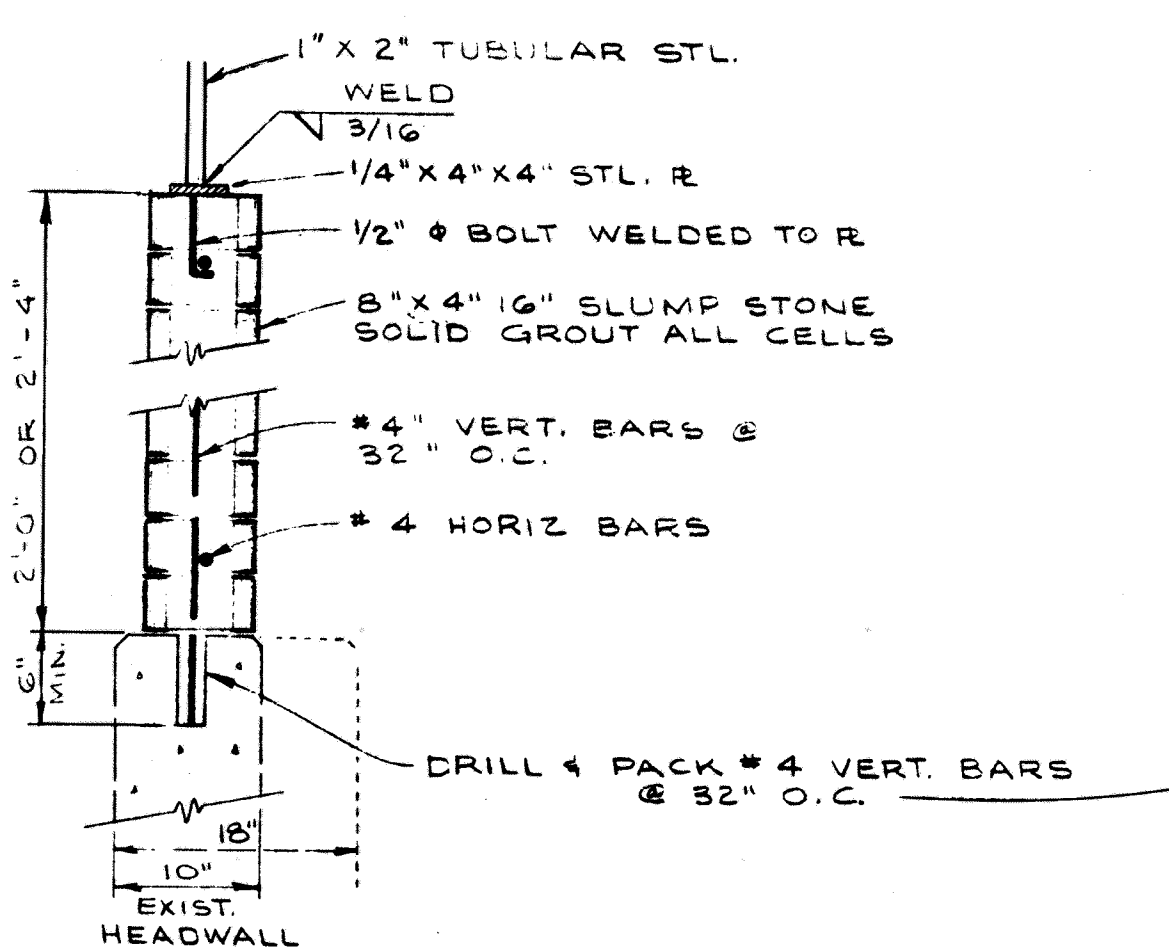
PLAN VIEW



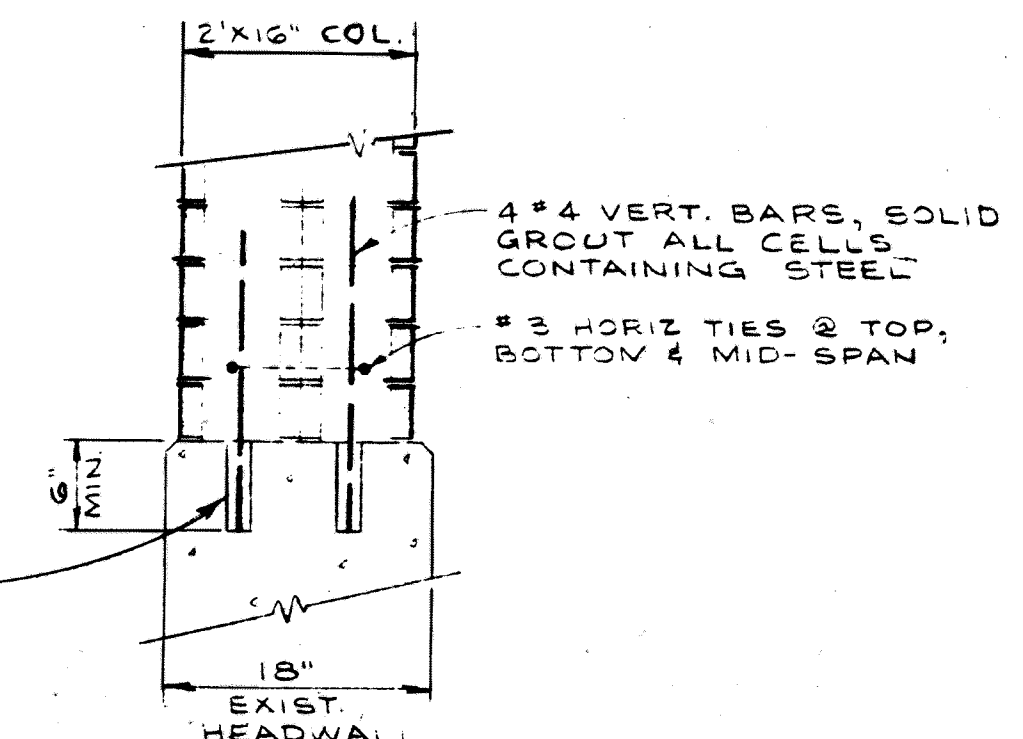
TYP. 2' SQ. COLUMN (A) SCALE: 3/4"=1'-0"



TYPICAL CHAIN LOCK DETAIL (D)



DETAIL (B) SCALE: 1"=1'-0"



DETAIL (C) SCALE: 1"=1'-0"

ORANGE COUNTY FLOOD CONTROL DISTRICT

All installations and work affecting flood control district facilities shall conform with district's standard specifications and with the provisions of the construction permit granted by district. Contractor shall maintain a copy of said permit and stamped plans on the job site. Use of district property and compliance with the above shall be subject to inspection and approval by district's duly assigned inspector.

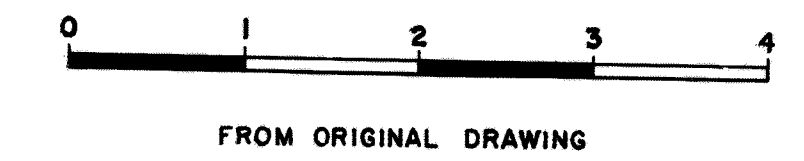
DISTRICT INSPECTOR SHALL BE NOTIFIED PRIOR TO COMMENCEMENT OF ANY WORK IN ACCORDANCE WITH PERMIT PROVISIONS.

ORANGE COUNTY FLOOD CONTROL DISTRICT NOTES

1. All existing chain link fence, posts and gates to be removed shall be delivered to district's maintenance yard, 14852 Douglas Road, Anaheim, California.

NOTE

THIS SHEET TO BE USED FOR REFERENCE ONLY. FOR INFO REFER TO SPECS.



FROM ORIGINAL DRAWING

"AS BUILT DWG. FOR WALL & FENCE"

NO.	REVISIONS	BY	APP'D
1			
2			
3			

ASSESSMENT DISTRICT NO. 72-1 (TRACT 6473)

CITY OF TUSTIN ORANGE COUNTY CALIFORNIA

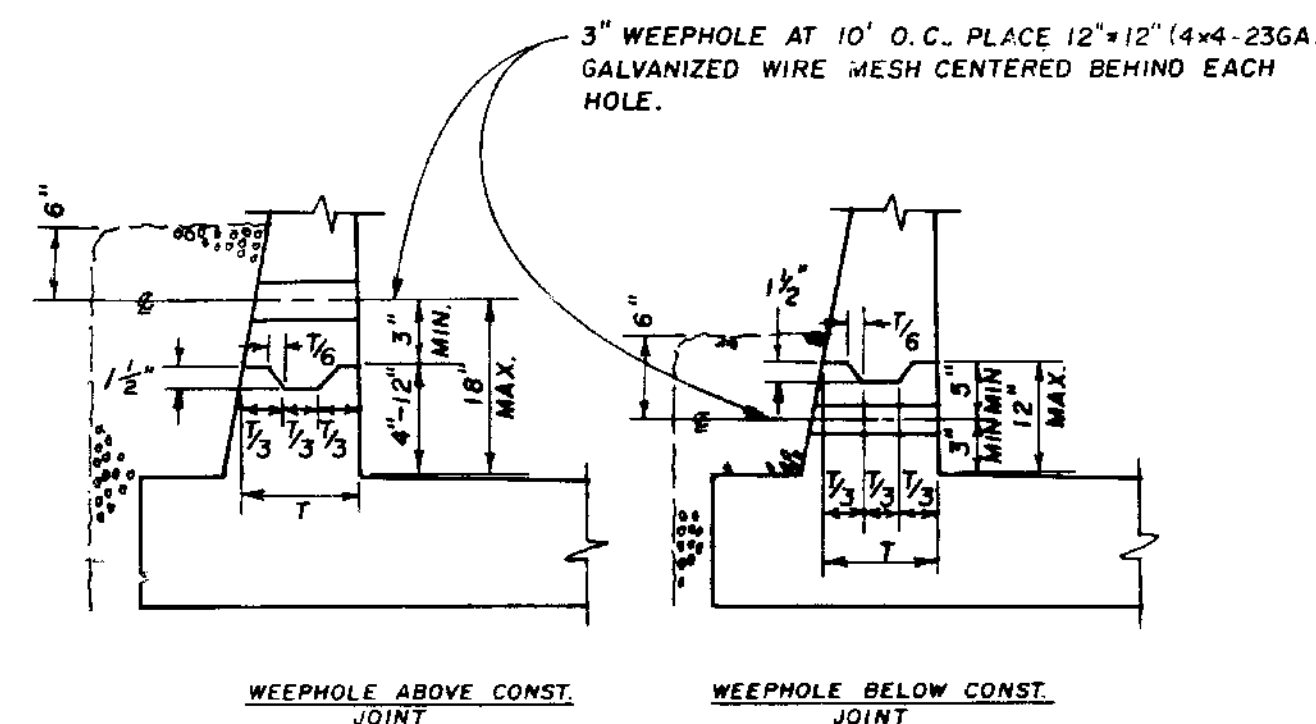
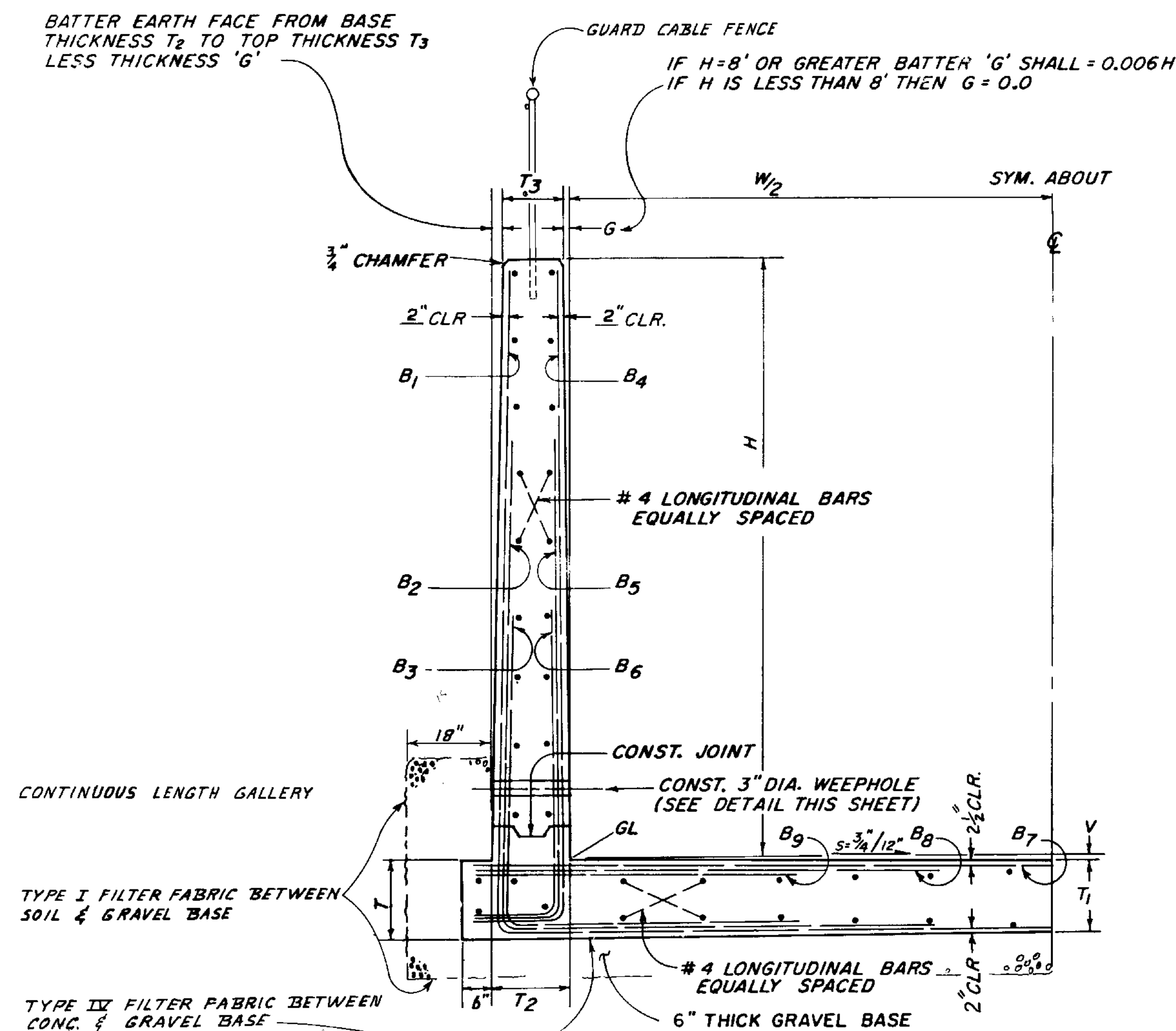
WILLIAMSON & SCHMID
CIVIL ENGINEERS
1555 EAST FIRST STREET
SANTA ANA, CALIFORNIA 92701
(714) 547-3986

DESIGNED BY: J.W.M.
DRAWN BY: J.W.M.
CHECKED BY: J.W.M.
DATE: 12/13/83
JOB NO: 73143

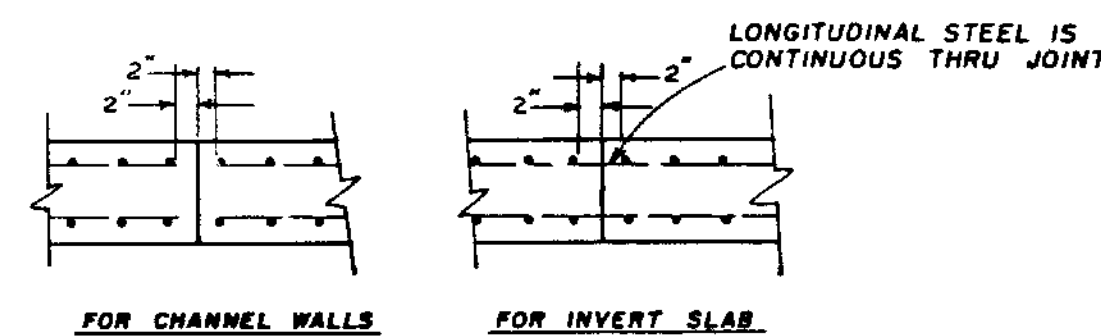
SHEET 5 OF 10
F13-101-5

REINFORCED CONCRETE RECTANGULAR CHANNEL

SECTION DATA												QUANTITIES		REINFORCEMENT STEEL SCHEDULE																															
STATION LIMITS		SIZE						THICKNESS (INCHES)					CONCRETE	STEEL	B ₁			B ₂			B ₃			B ₄			B ₅			B ₆			B ₇		B ₈		B ₉		LONGITUDINAL BARS						
		H	W	L	M	N	V	T	T ₁	T ₂	T ₃	C			CU. YDS./ LIN. FT.	LBS./ LIN. FT.	BAR NO. SPACING	VERT. LENGTH	HORIZ. LENGTH	BAR NO. SPACING	VERT. LENGTH	HORIZ. LENGTH	BAR NO. SPACING	VERT. LENGTH	HORIZ. LENGTH	BAR NO. SPACING	VERT. LENGTH	HORIZ. LENGTH	BAR NO. SPACING	VERT. LENGTH	HORIZ. LENGTH	BAR NO. SPACING	VERT. LENGTH	HORIZ. LENGTH	BAR NO. SPACING	VERT. LENGTH	HORIZ. LENGTH	BAR NO. SPACING	VERT. LENGTH	HORIZ. LENGTH	TOTAL	WALLS	SLAB		
7+06.80	7+95.44	10.41 TO 10'	22'				0.69	9 3/4"	8"	9 3/4"	8"	6"	1.22	175.5	#4 @ 18"	10'-5 3/4"	12'-7"	#6 @ 18"	8'-11 1/2"	6'-1 3/4"	#8 @ 18"	5'-6 1/2"	4'-2"	#4 @ 18"	10'-5 3/4"	0'-11 3/4"	#4 @ 18"	4'-6 1/2"	0'-11 3/4"	#5 @ 18"	2'-10"	0'-11 3/4"	#4 @ 18"	12'-1 3/4"	7'-7"	#6 @ 18"	6'-0"			60	28	36			
7+95.44	9+66.99	10' TO 7'	22'				0.69 TO 0.90	9 3/4"	8"	9 3/4"	8"	6"	1.23	169.3	#4 @ 18"	10'-5 3/4" TO 7'-5 3/4"	12'-7" TO 15'-9 1/2"	#6 @ 18"	8'-11 1/2" TO 5'-9 3/4"	6'-1 3/4" TO 4'-7"	#8 @ 18"	5'-6 1/2" TO 4'-9"	4'-2" TO 3'-9"	#4 @ 18"	10'-5 3/4" TO 7'-5 3/4"	0'-11 3/4"	#4 @ 18"	4'-6 1/2" TO 1'-9 3/4"	0'-11 3/4"	#5 @ 18"	1'-9 3/4"	0'-11 3/4"	#4 @ 18"	12'-1 3/4" TO 15'-6"	7'-7" TO 5'-2"	#6 @ 18"	6'-0" TO 5'-2"			60	29 TO 16	36 TO 44			
10+12.64	11+12.64	7.5' TO 5'	28.7' TO 18'				0.90 TO 0.56	9"	8"	9"	8"	6"	1.11	198.0	#5 @ 18"	7'-11" TO 9'-5"	15'-9 1/2" TO 10'-9"	#6 @ 18"	6'-6" TO 7'-0 1/2"	5'-0" TO 4'-10"	#7 @ 18"	3'-7" TO 3'-11"	2'-10 3/4" TO 3'-1 1/4"	#4 @ 18"	7'-11" TO 9'-5"	0'-11"	#4 @ 18"	2'-3" TO 3'-6 3/4"	0'-11"	#4 @ 18"	1'-11"	0'-11"	#4 @ 18"	15'-5" TO 10'-1"	5'-6" TO 6'-5 3/4"	#5 @ 18"	3'-2" TO 4'-10 3/4"			64 TO 54	20 TO 24	44 TO 30			
11+12.64	20+75	9'	18'				0.56"	9"	8"	9"	8"	6"	1.01	144.5	#5 @ 18"	9'-5"	10'-9"	#6 @ 18"	7'-0 1/2"	4'-10"	#7 @ 18"	3'-11"	3'-1 1/4"	#4 @ 18"	9'-5"	0'-11"	#4 @ 18"	3'-6 3/4"	0'-11"	#4 @ 18"	1'-11"	0'-11"	#4 @ 18"	10'-1"	#4 @ 18"	6'-5 3/4"	#5 @ 18"	4'-10 3/4"			54	24	30		
20+75.0	21+18.43	9' TO 10.8'	18' TO 20'				0.56" TO 0.63"	12"	8"	12"	10"	6"	1.43	252.3	#7 @ 18"	9'-8" TO 11'-6"	10'-9" TO 12'-3"	#7 @ 18"	7'-3 1/2" TO 7'-7 3/4"	4'-10" TO 5'-8"	#8 @ 18"	4'-2 3/4"	3'-9 3/4" TO 3'-9 3/4"	#4 @ 18"	9'-8" TO 13'-8"	1'-2"	#6 @ 18"	3'-9 3/4" TO 7'-4"	1'-2"	#7 @ 18"	2'-2" TO 3'-11 3/4"	1'-2"	#5 @ 18"	10'-4" TO 11'-4"	#5 @ 18"	6'-8 1/4" TO 8'-10"	#8 @ 18"	5'-1 3/4" TO 7'-5 3/4"			54 TO 78	24 TO 40	30 TO 38		
HEADWALL @ 21+18.43	L=8'	10.8'								10"	10"		0.41	33.2	#4 @ 12"	13' ±							#4 @ 12"	13' ±																	INCLUDES DOWELS	22	HEADWALL 22		
HEADWALL @ 21+18.43	L=12'	4' ±								10"	10"		0.21	15.4	#4 @ 12"	4' ±							#4 @ 12"	4' ±																		INCLUDES DOWELS	8	HEADWALL 8	
RAMP @ 21+18.43	L=20'	4' ±								6"	6"		0.08	7.7	CENTERED DIAG. #4 @ 12"	4' ±																										INCLUDES DOWELS	4	RAMP 4	



LONGITUDINAL CONST. JOINT
AND WEEPHOLE DETAIL
NO SCALE



TRANSVERSE CONST. JOINT

DETAIL

NO SCALE

NOTES

1. Dimensions from face of concrete to steel shall be 1 1/2" clear unless otherwise shown.
2. Concrete dimensions shall be measured horizontally or vertically on the profile, and parallel to or at right angles (or radially) to centerline of conduit on the plan except as otherwise shown.
3. Joint finish for channel face shall be chamfered 1/4" on walls and rounded with edger tool on invert.
4. Transverse const. joints shall not be placed within 30" of inlets.
5. Transverse const. joints in walls & slabs shall be in the same plane. No staggering of joints will be permitted. Transverse const. joints shall be normal or radial to the centerline of const.
6. The longitudinal & transverse reinforcing steel shall terminate 2" from the concrete surfaces unless otherwise shown on detail.
7. Exposed edges of concrete members shall be rounded or beveled.
8. No splices in transverse steel reinforcement will be permitted other than those shown on the drawing without approval of the engineer. No more than two splices will be permitted in any longitudinal bar between transverse joints. Splices shall be staggered.
9. Steel shall be lapped 30 bar diameters at splices, but not less than 12". Lap length shall be based on the larger bar diameter.
10. Transverse joints shall be spaced not to exceed 50' nor be less than 10', measured along the centerline of construction, except as otherwise shown on the drawings.
11. Transverse joints shall be placed at the junction of rectangular open channel sections with closed conduit sections.
12. All rectangular open channel shall be fenced in accordance with standard dwg. 1413, except as otherwise shown on the drawings.
13. Unless otherwise shown on the drawings, in curved sections, the maximum spacing of bars shall not exceed that shown on the typical sections. Steel shall be placed radially from the max. spacing.
14. At the beginning and ending of all pours, a complete curtain of reinforcement composed of B₁, B₄ & B₇ bars shall be placed 3" from transverse const. joint.
15. See DETAIL THIS SHT. for transverse joint details.
16. Elevation of weephole above invert shall be uniform through entire reach of project.
17. Channel invert surface shall be given a steel trowel finish.
18. HORIZ. LENGTH DIMENSIONS FOR B-1 BARS INCLUDE ENOUGH STEEL TO LAP & SPLICE BARS AT CENTER OF CHANNEL. LENGTH DIMENSION FOR B-7 BARS IS CALCULATED TO CENTER OF CHANNEL & DOES NOT INCLUDE STEEL TO LAP & SPLICE. ONE CONTINUOUS BAR, OR LAPPED & SPLICED BAR, TWICE THIS LENGTH SHALL BE PLACED THE WIDTH OF THE CHANNEL. CONTRACTOR MAY LAP FOR HIS CONVENIENCE. COUNTY DOES NOT PAY.
19. THE VERTICAL PORTION OF BARS B-1 & B-4 MAY BE SPLICED. THE CUT SHALL BE MADE AT THE REQUIRED LAP LENGTH PLUS 2 INCHES ABOVE THE STARTER WALL CONST. JOINT ELEV.

RECTANGULAR CHANNEL DESIGN DATA

Loads:

External	43 PSF EFP + H20 -44
Internal	40 PSF EFP

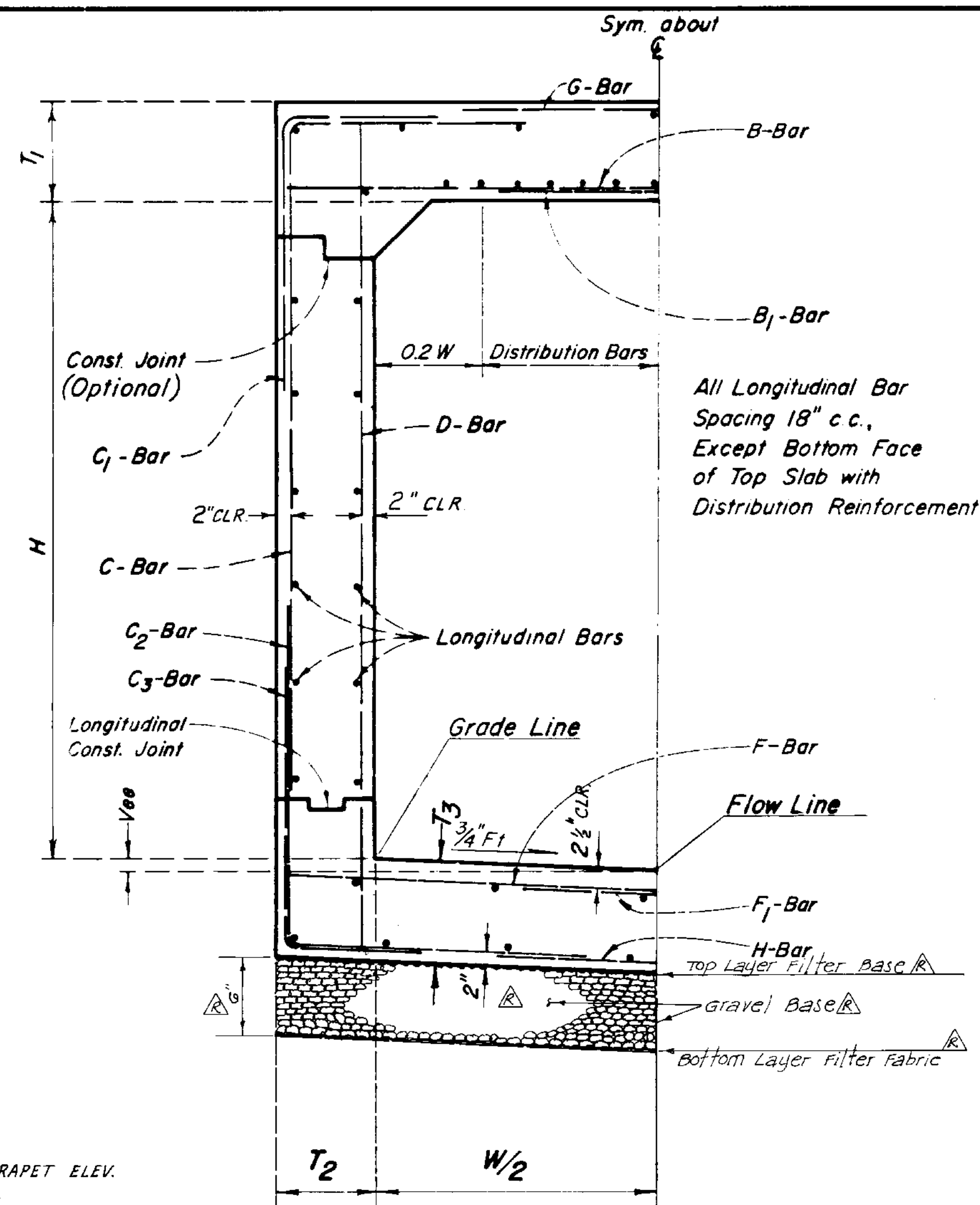
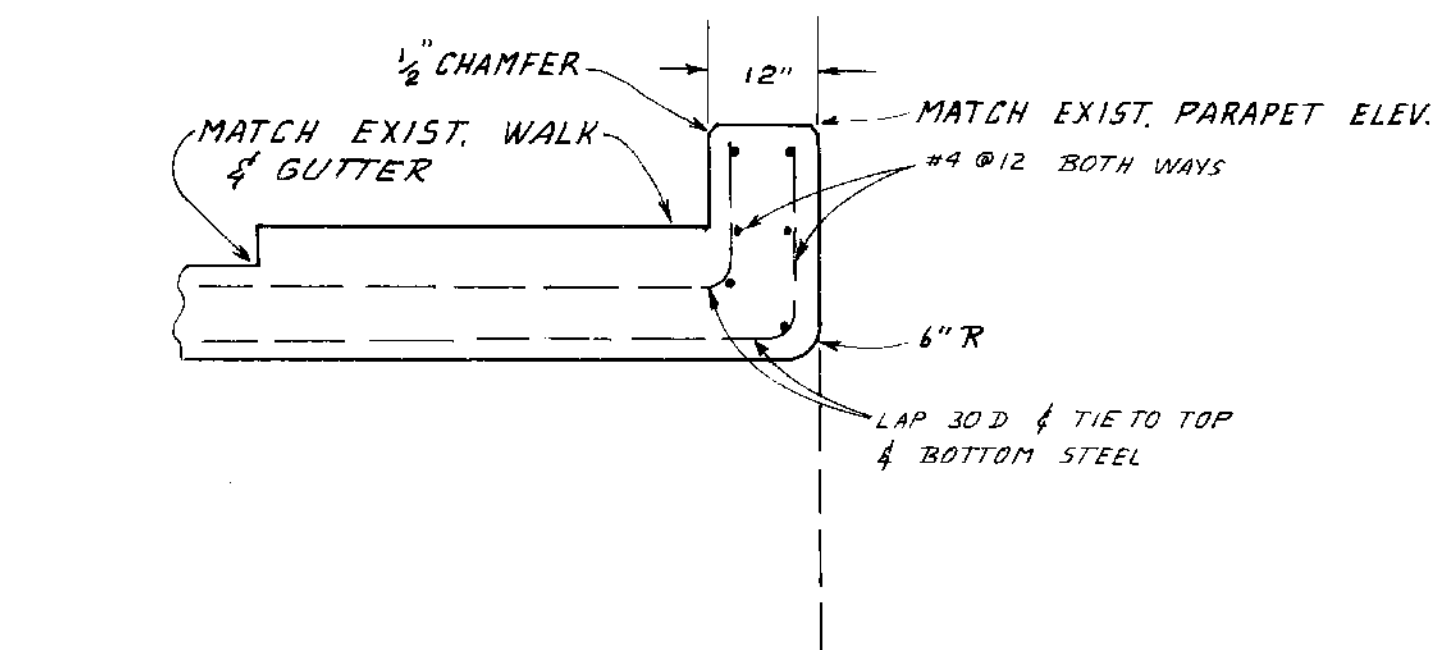
$f'_c = 3250 \text{ PSI}$

$f_c = 1460 \text{ PSI}$

$f_s = 24,000 \text{ PSI}$

$n = 8.8$

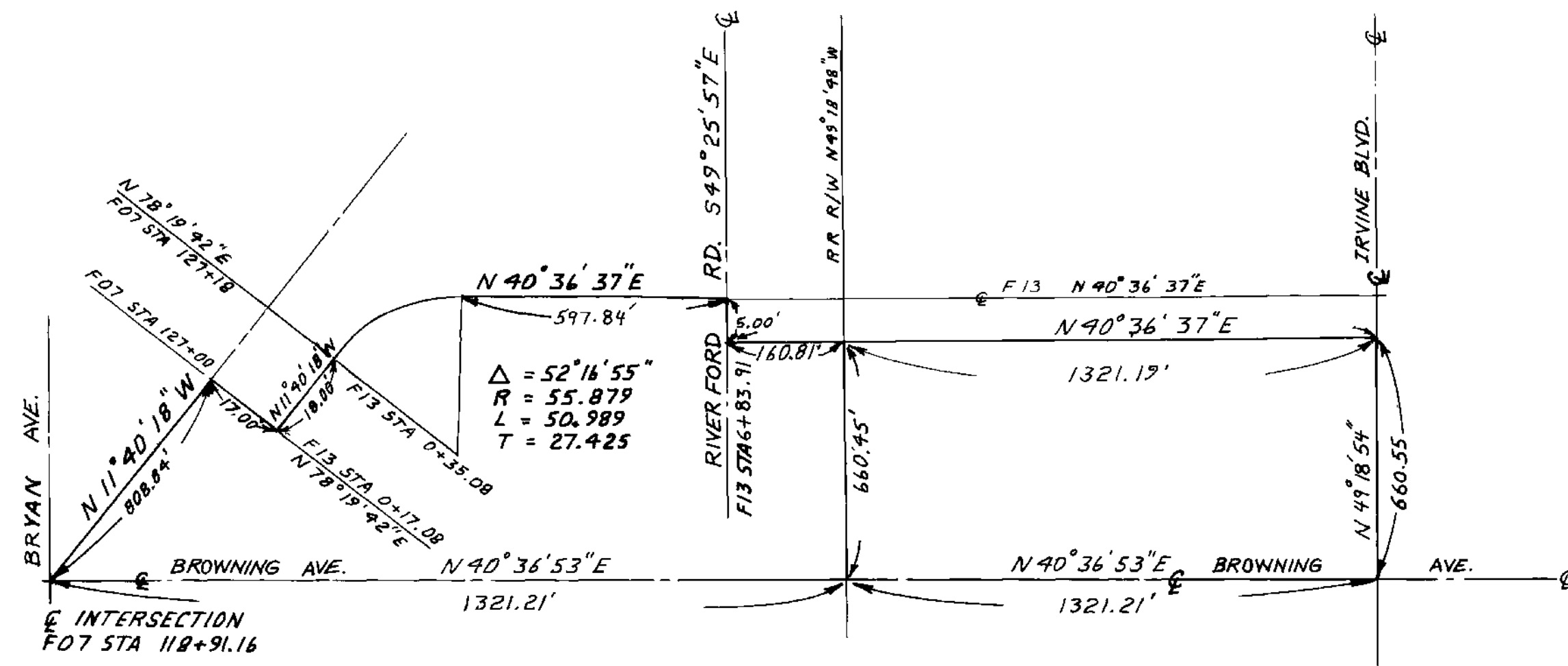
7		ORANGE COUNTY ENVIRONMENTAL MANAGEMENT AGENCY	
HES		<u>REDHILL CHANNEL</u> F-13 RC RECTANGULAR CHANNEL SCHEDULE AND DETAILS	
 1/13/91 Record Drawings		PREPARED UNDER SUPERVISION OF <u>Robert L. Young</u> ¹⁻²⁵⁻⁸⁹ R.C.E. 31037 EXP. 3-31-92 DATE	
MARK	DATE	DESCRIPTION	SHEET
REVISIONS DESIGNED <u>N. JORDAN</u> DRAWN <u> </u> CHECKED <u>R.L.Y.</u>			SCALE AS SHOWN DATE 1/89 DWG. NO. E13-101-5
			7/10



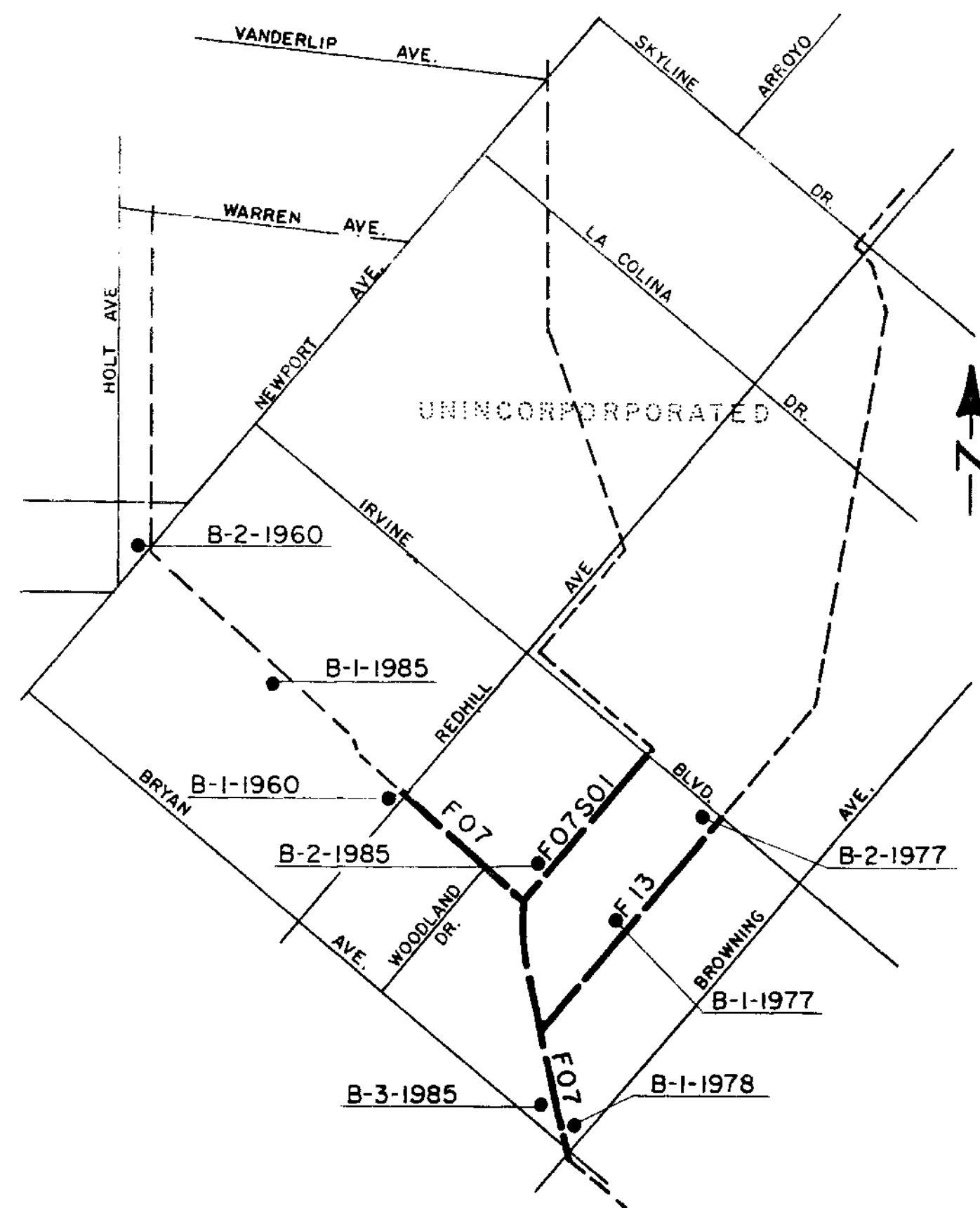
BOX SECTION		A	B		
Design Cover		1.0'	1.0'		
Width	W	8.50'	9.00'		
Height	H	8.00'	5.50'		
Top Slab Thickness	T ₁	8 1/4"	9 1/2"		
Side Wall Thickness	T ₂	8"	8"		
Bottom Slab Thickness	T ₃	9"	8"		
B Bars	Bar No & Spacing	#6 @18"	#7 @18"		
	Length	9'-8"	10'-2"		
B ₁ Bars	Bar No & Spacing	#8 @18"	#7 @18"		
	Length	9'-8"	10'-2"		
C Bars	Bar No & Spacing	#5 @18"	#7 @18"		
	Horiz. Length	3'-10"	4'-0"		
	Vert. Length	8'-2"	5'-8"		
C ₁ Bars	Bar No & Spacing	#5 @18"			
	Horiz. Length	1'-9"			
	Vert. Length	2'-9"			
C ₂ Bars	Bar No & Spacing	#5 @18"	#5 @18"		
	Horiz. Length	3'-5"	2'-7"		
	Vert. Length	3'-4"	3'-3"		
C ₃ Bars	Bar No & Spacing				
	Horiz. Length				
	Vert. Length				
D Bars	Bar No & Spacing	#4 @18"	#4 @18"		
	Length	9'-2"	6'-8"		
F Bars	Bar No & Spacing	#5 @18"	#7 @18"		
	Length	9'-8"	10'-2"		
F ₁ Bars	Bar No & Spacing	#5 @18"			
	Length	7'-2"			
G Bars	Bar No & Spacing	#4 @18"	#5 @18"		
	Length	4'-3"	4'-6"		
H Bars	Bar No & Spacing				
	Length				
NUMBER OF LONGITUDINAL REINFORCEMENT #4 BARS					
Top Slab (Excludes Distrib.)		19	20		
Top Slab (Distribution)		8	8		
Bottom Slab		15	14		
Side Walls		20	16		
TOTAL		62	58		
QUANTITIES					
Concrete Cu. Yds./Lin Ft.		0.98	0.87		
Steel Lbs./Lin Ft.		123.8	125.6		

MARK	1/31/91	Record Drawings	PREPARED UNDER SUPERVISION OF	Robert L. Young	11/25/90	SHEET
DATE		DESCRIPTION				
REVISIONS			R.C.E. 31037 EXP 3-31-92 DATE			8 10
DESIGNED	N. JORDAN		SCALE	DATE	DWG. NO.	
DRAWN	L. WILSON		AS SHOWN	1/89	F13-101-5	
CHECKED	R.L.Y.					

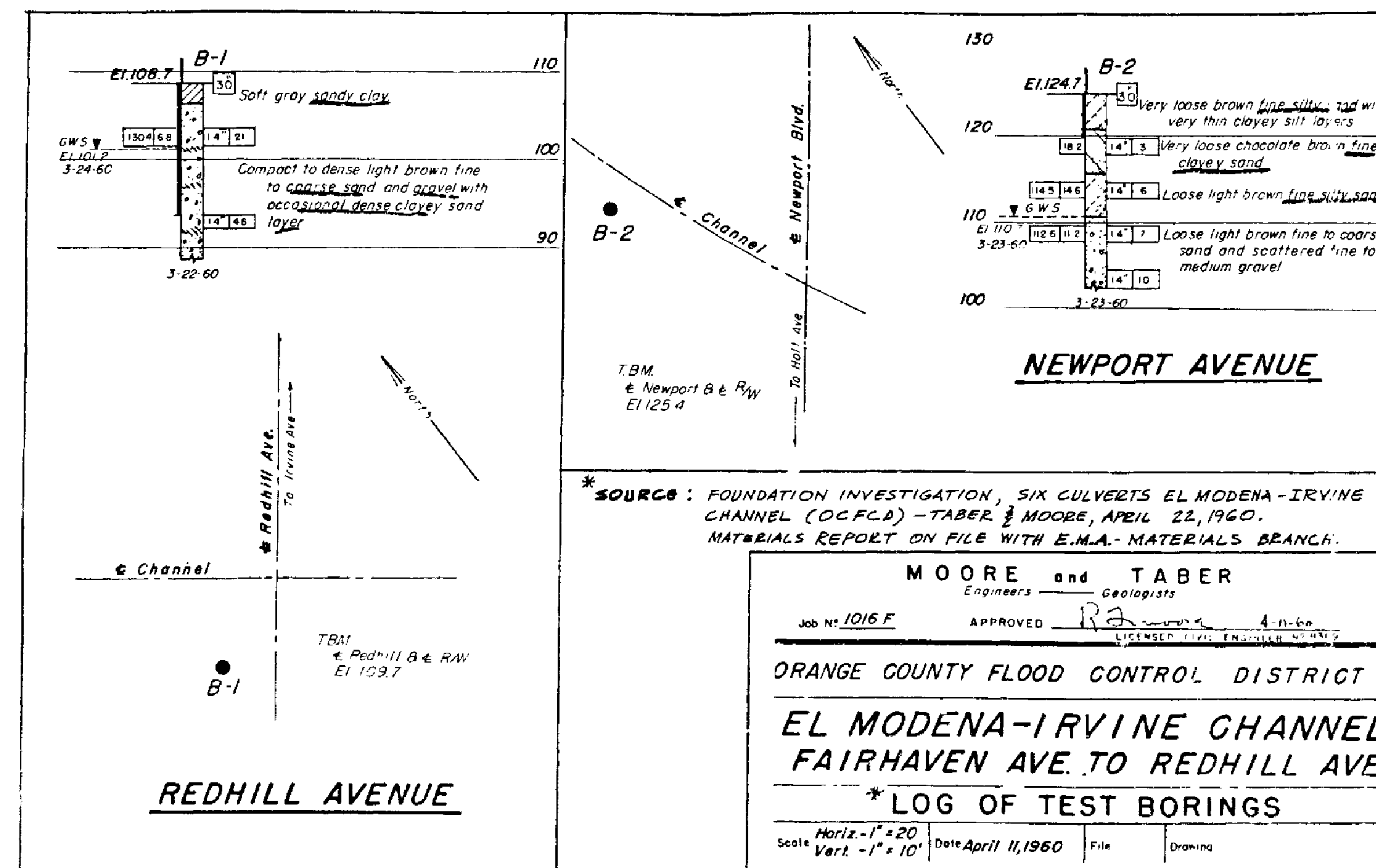
shear and bond stresses per A.C.I. 318-63



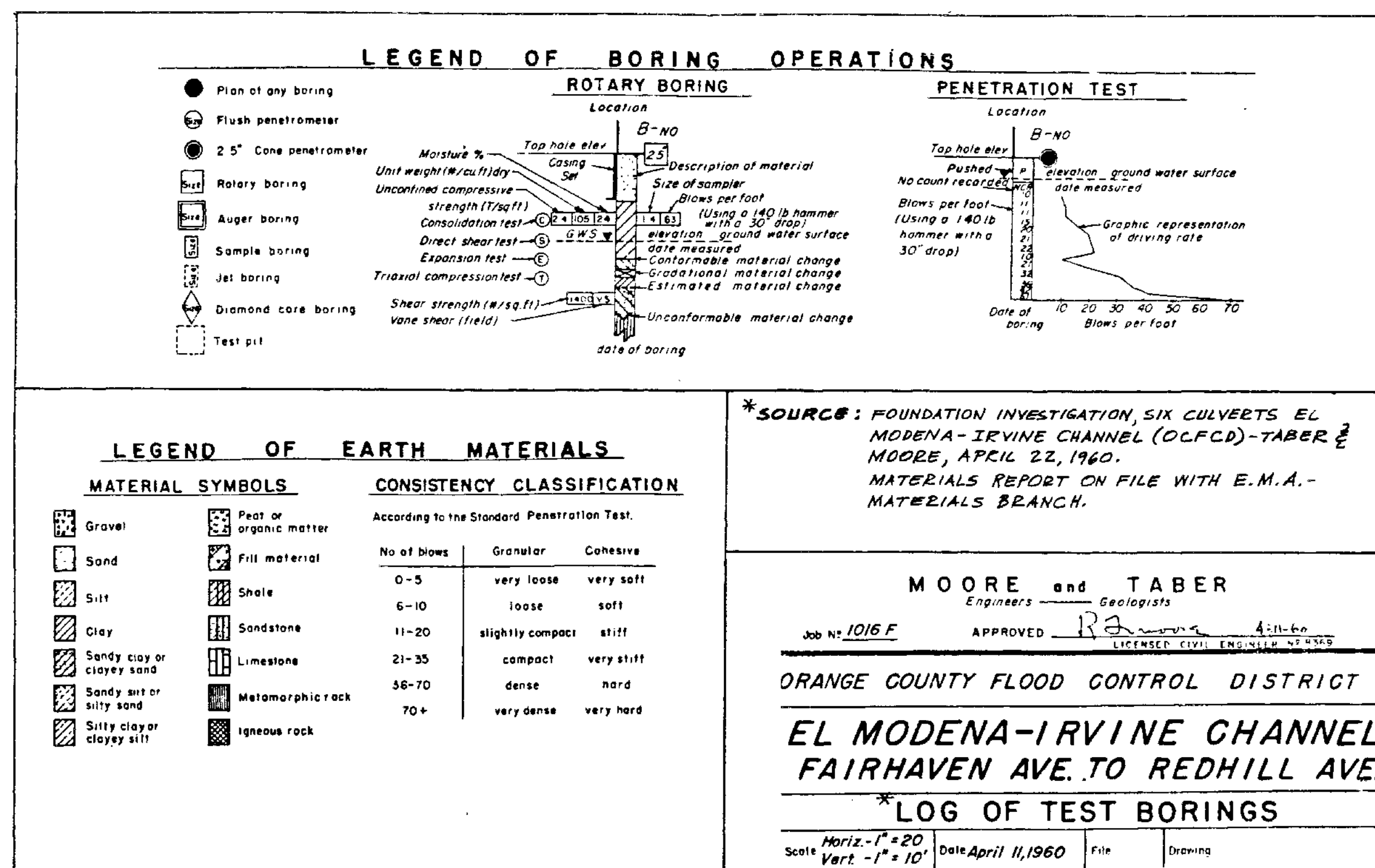
SURVEY TIES
NO SCALE
PER R/S 85-1065



LOCATION MAP
SOIL BORINGS



SHEET 1 OF 2

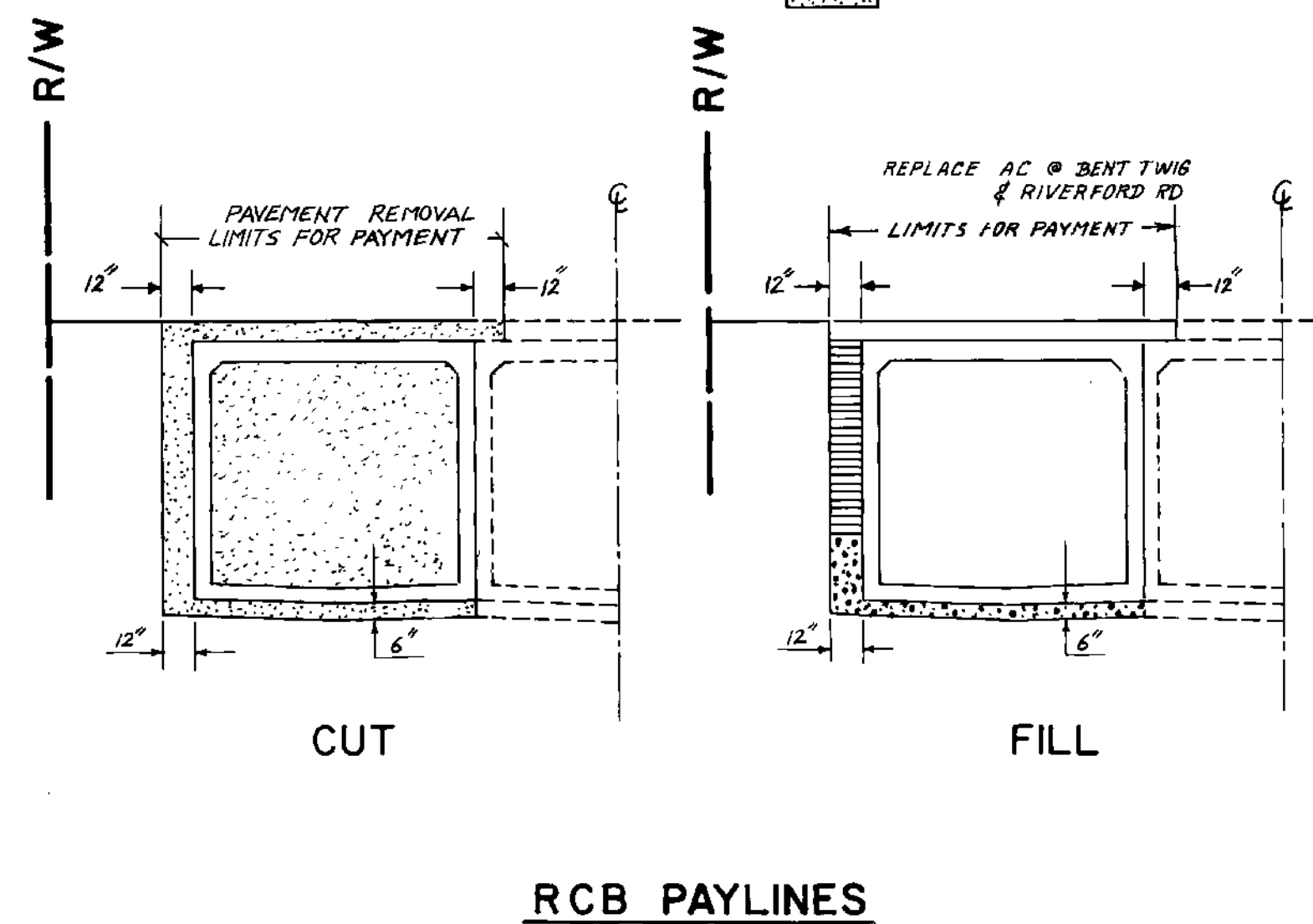
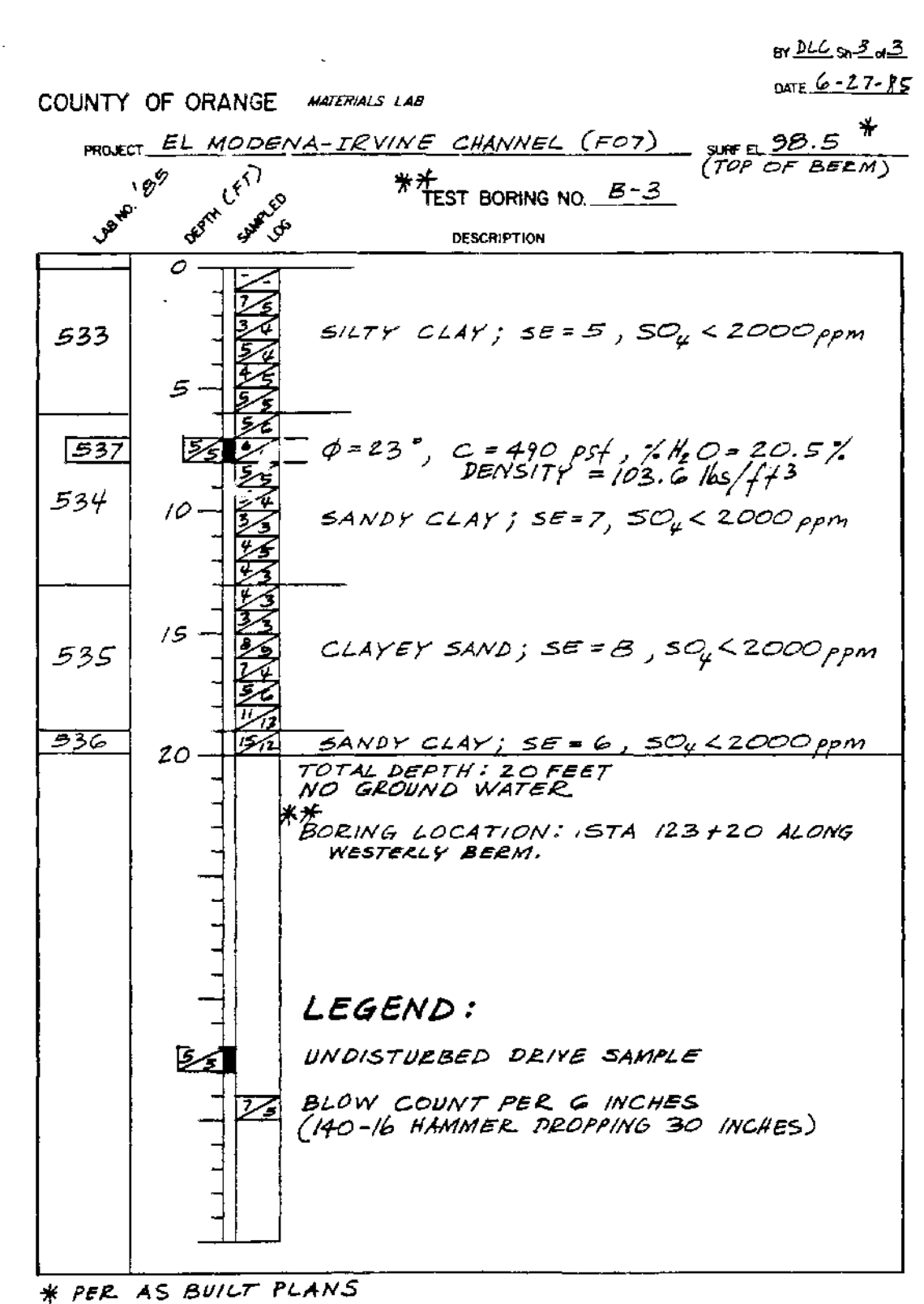
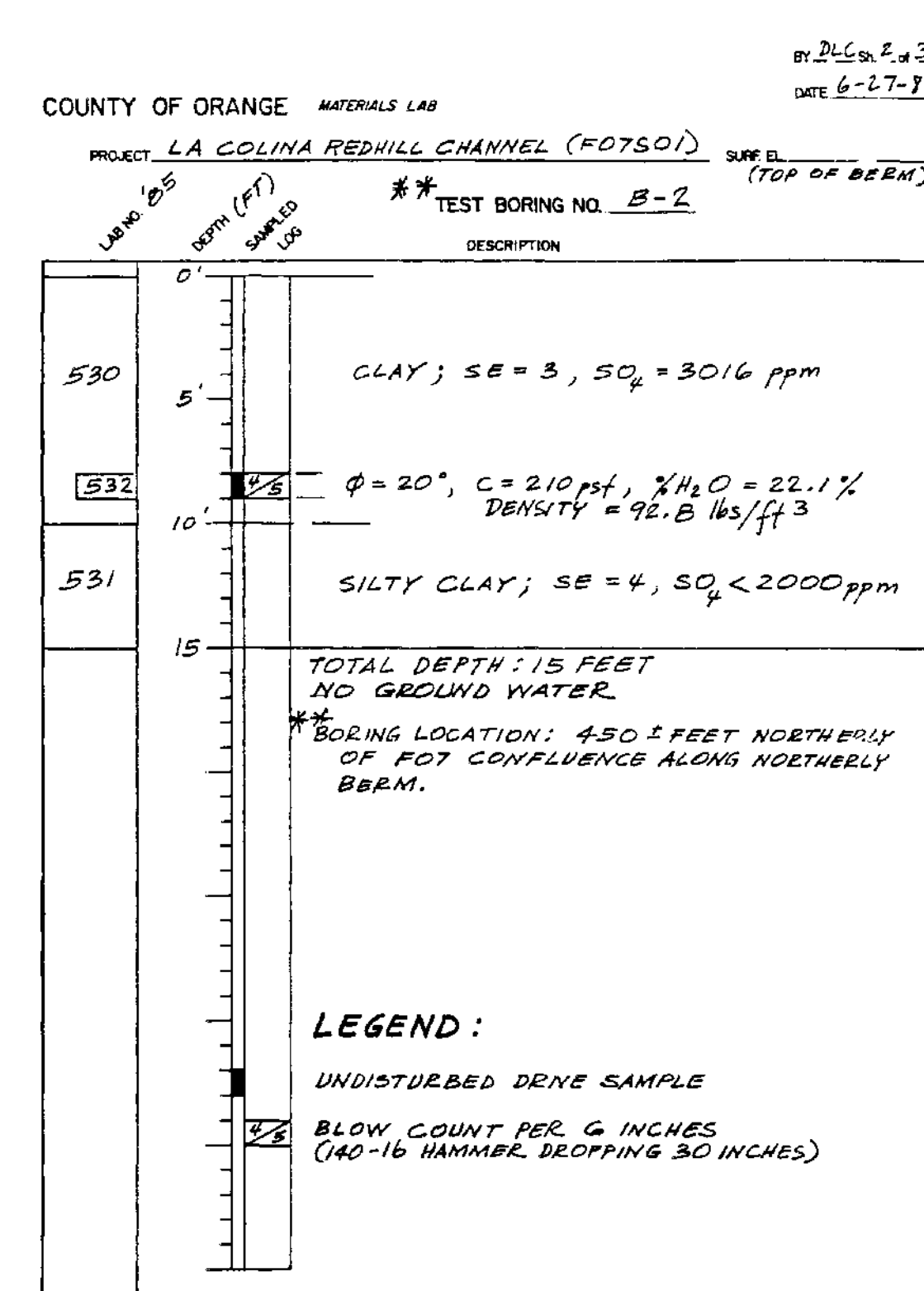
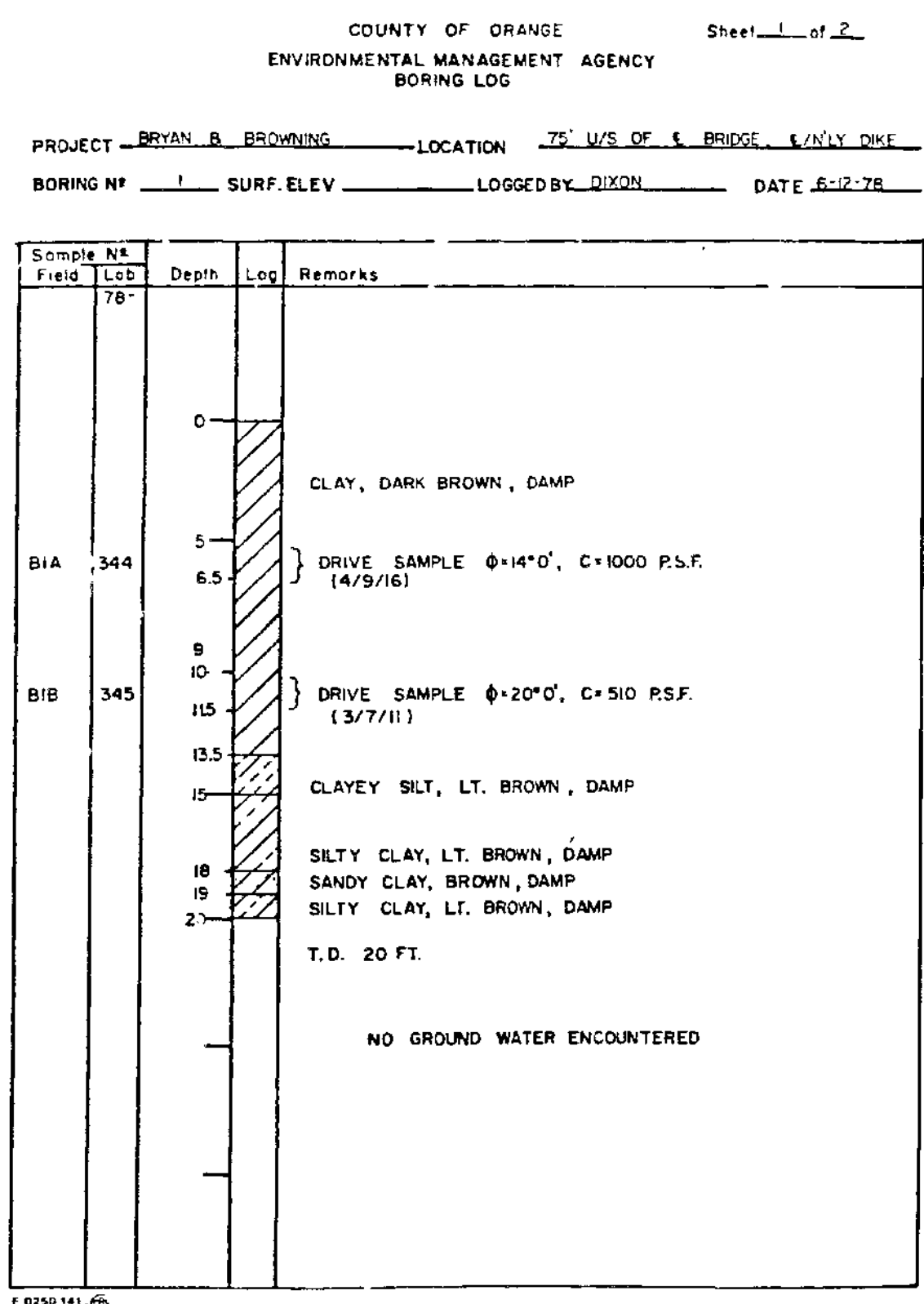
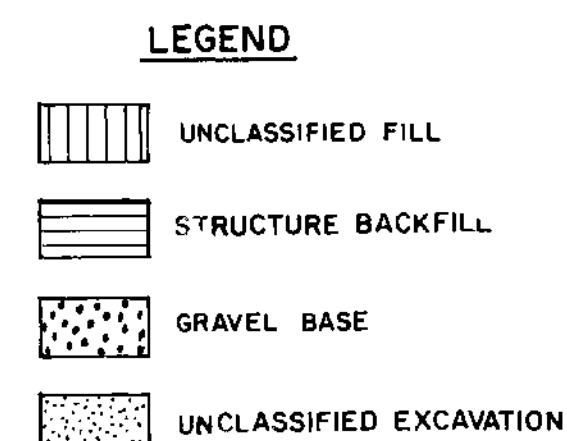
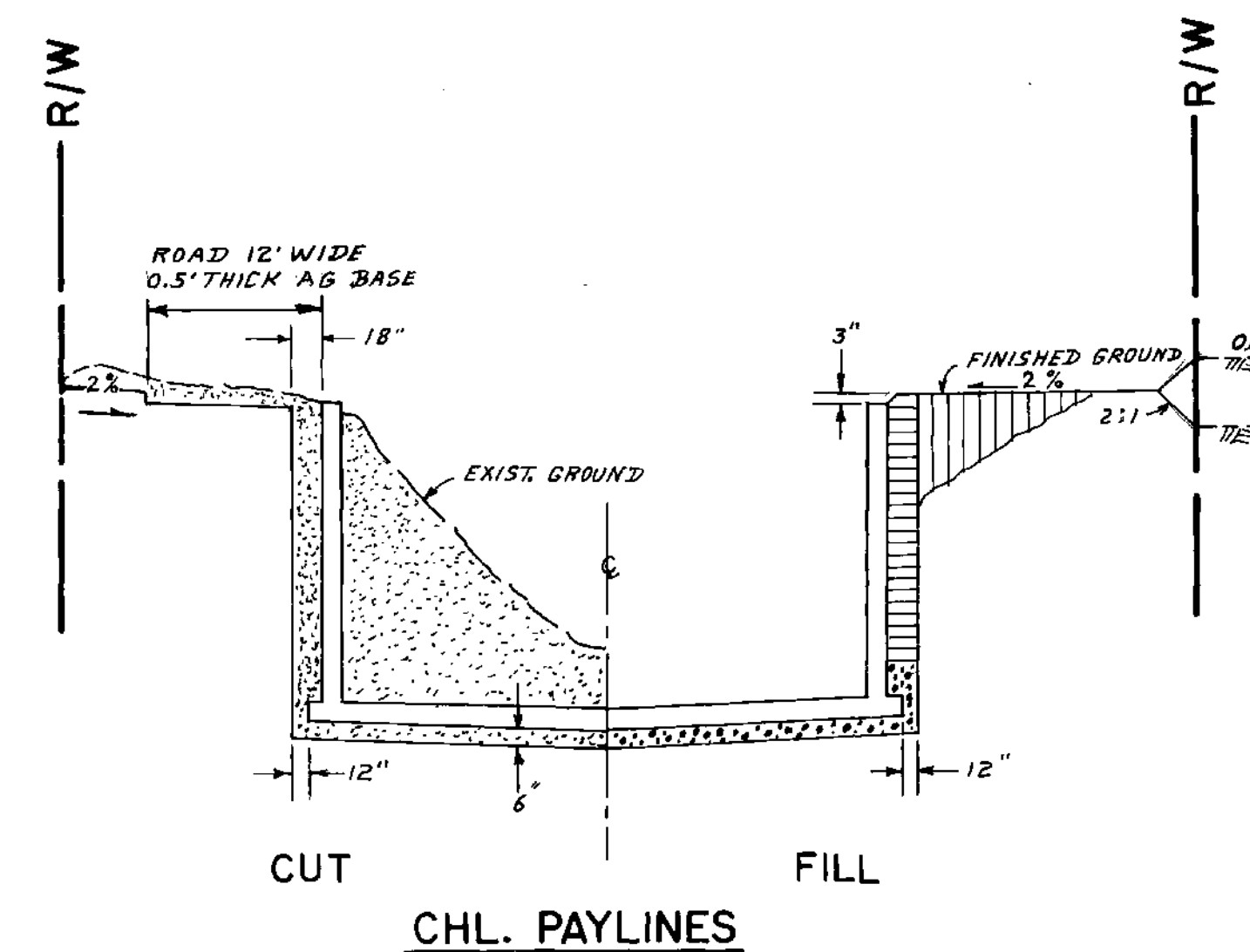
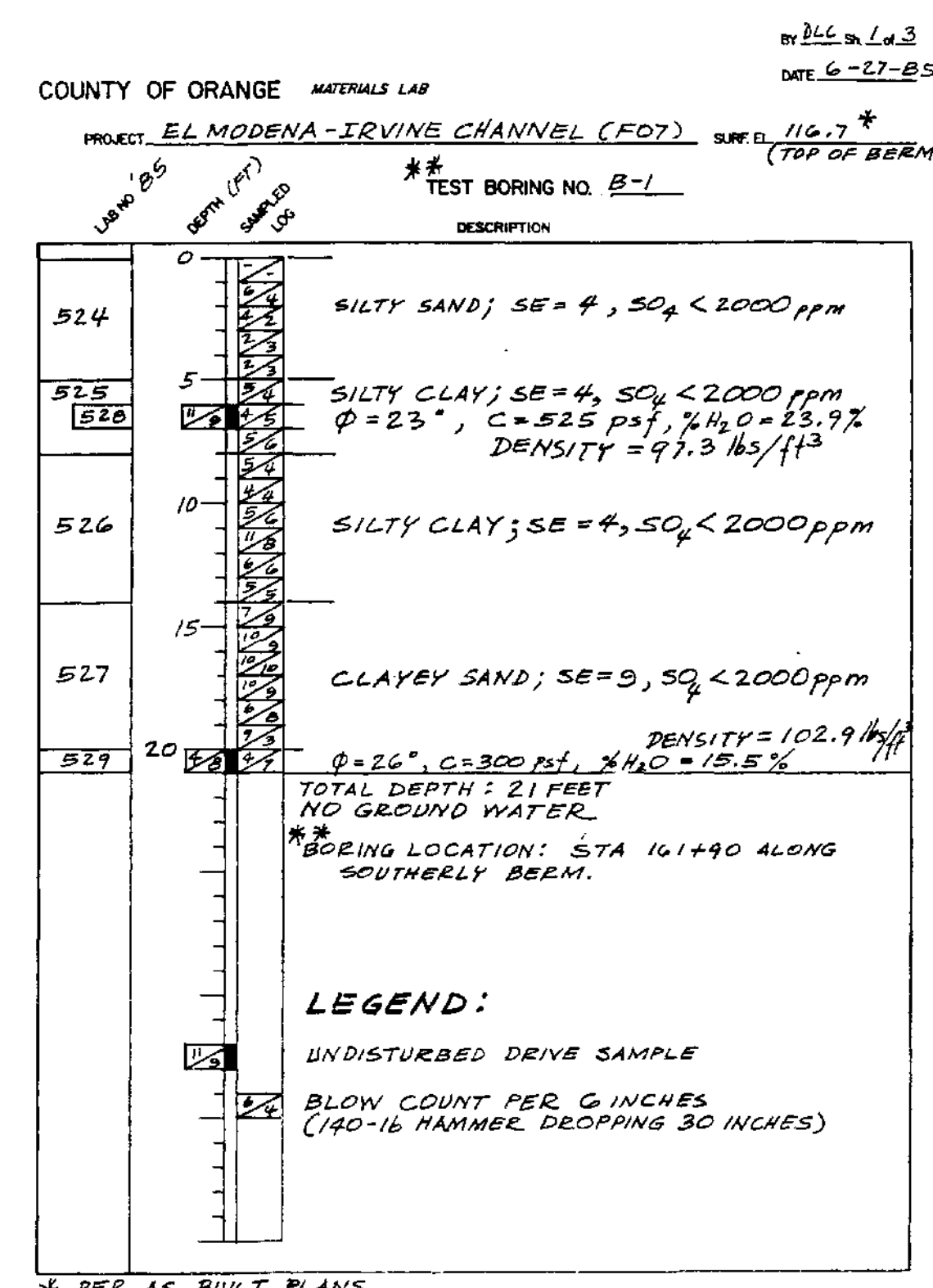
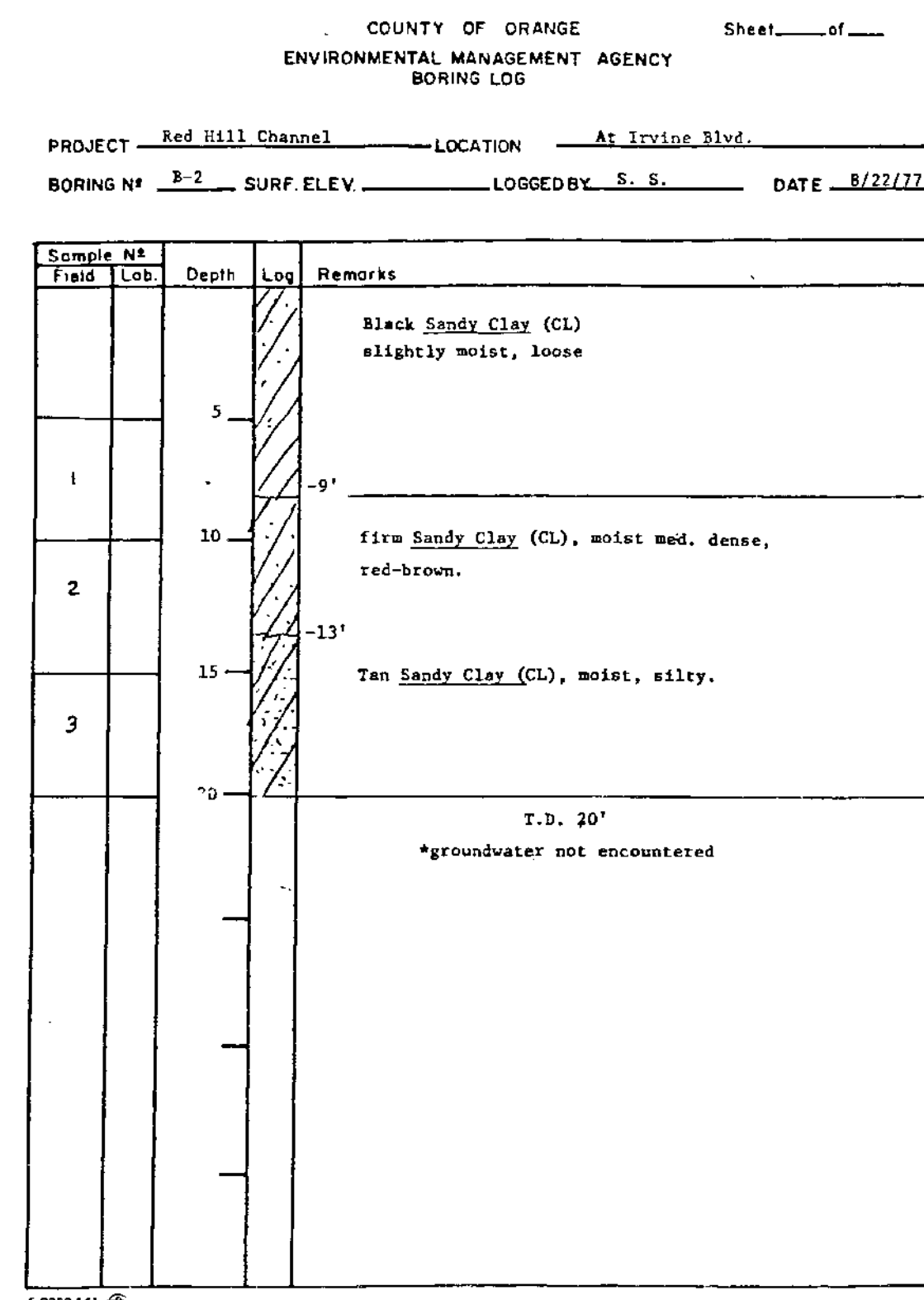
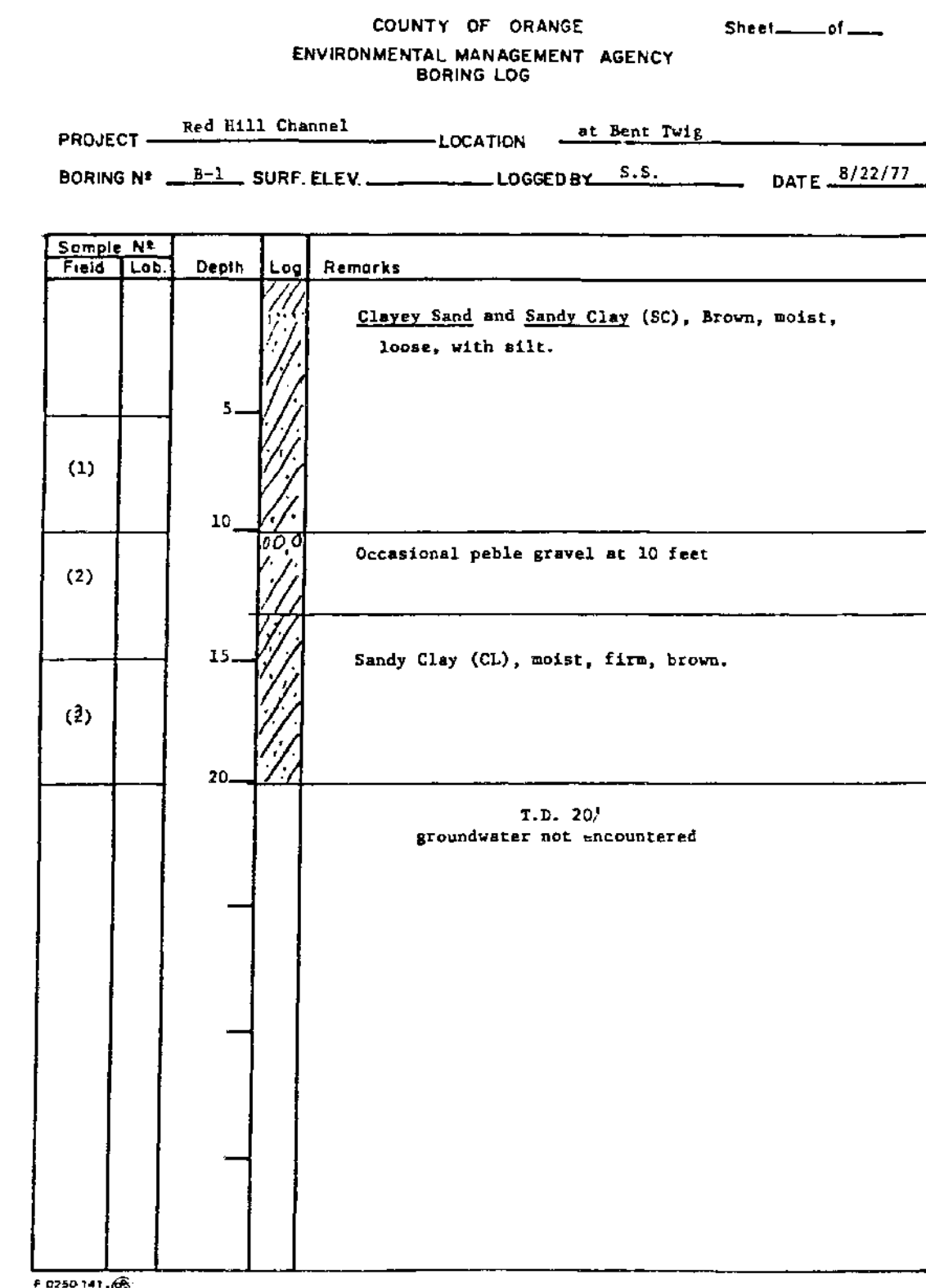


SHEET 2 OF 2

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

BENCK MARK F07-21, ADJ 1984, EL=97.967'

ORANGE COUNTY ENVIRONMENTAL MANAGEMENT AGENCY			SHEET	
REDHILL CHANNEL			9	
F13			10	
SOIL BORINGS & SURVEY TIES				
MARK	DATE	DESCRIPTION	PREPARED UNDER SUPERVISION OF	DATE
REVISIONS				
DESIGNED	N. JORDAN	SCALE	DATE	DWG. NO.
DRAWN	CHECKED R.L.Y.	AS SHOWN	1/89	F13-101-5



1 1/2 0 1 2
3 inches on original drawing
BENCH MARK F07-21, ADJ 1984, EL=97.967

ORANGE COUNTY ENVIRONMENTAL MANAGEMENT AGENCY	
REDHILL CHANNEL	
F13	
SOIL BORINGS & PAYLINES	
MARK DATE	DESCRIPTION
PREPARED UNDER SUPERVISION OF Robert L. Young, Jr. R.C.E. 31037 EXP. 3-31-92 DATE 10/10	
DESIGNED N. JORDAN	SCALE DATE DWG. NO.
DRAWN	CHECKED R.L.Y. AS SHOWN 1/89 F13-101-5