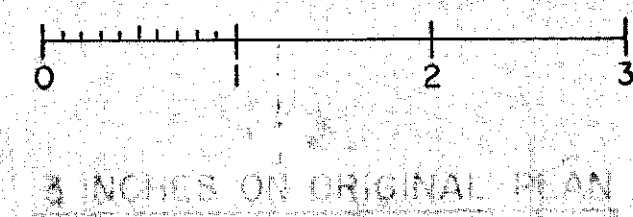


1997



100

PHONE NO.

714-542-4121

714-557-1226

714-834-4922

714-835-3833

714-540-2910

SHEET
NO.

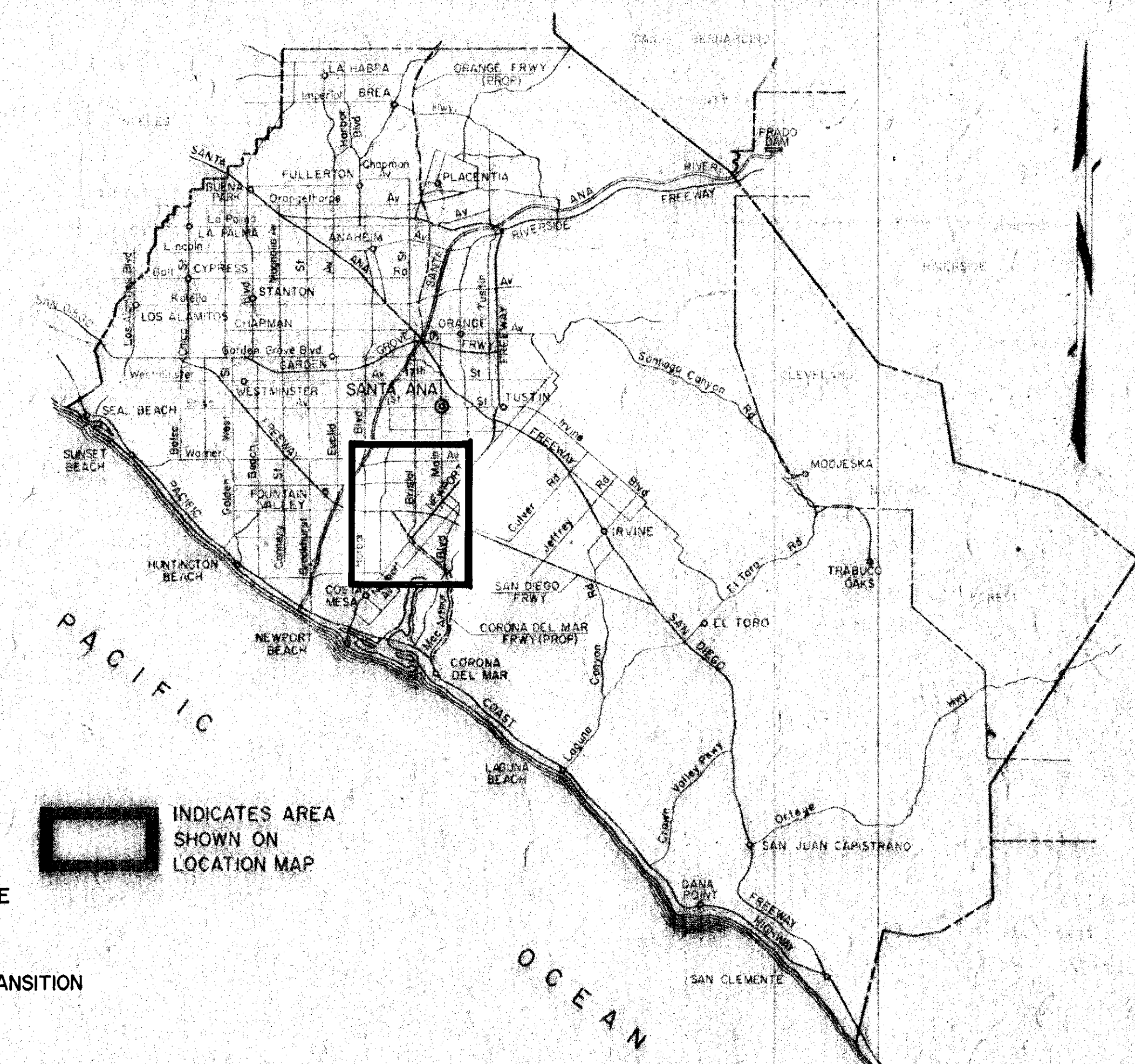
1. TITLE SHEET
2. PLAN AND PROFILE 174+76 TO 184+00
3. PLAN AND PROFILE 184+00 TO 190+14.37 AND F02 38+06.46
TO 39+89.80 *+15.21*
4. SUNFLOWER AVE CROSSING AND TRANSITION STRUCTURE
5. STRUCTURAL DETAILS: FIVE BARREL R.C.B. CULVERT AND DOUBLE R.C.B. TRANSITION
6. STRUCTURAL DETAILS: FIVE BARREL & TRIPLE BARREL R.C.B. TRANSITION
7. TRANSITION DETAILS 175+06.08 TO 175+36.08
8. STRUCTURAL DETAILS: SINGLE R.C.B. CULVERT & TRANSITION
9. PAYLINES & DEBRIS WALL
10. SOIL BORING

APPROVED: C.R. Nelson
for CHIEF ENGINEER

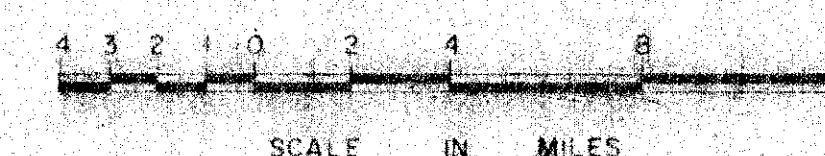
APPROVED: Ronald E. Wolford
As to portions within the City of Santa Ana

ORANGE COUNTY FLOOD CONTROL DISTRICT
SANTA ANA CALIFORNIA

DWG. NO. FOI-101-6-A
SHEET 1 OF 10 SHEETS



ORANGE COUNTY, CALIFORNIA
VICINITY MAP



PLANS FOR
THE CONSTRUCTION OF
THAT PORTION OF

SANTA ANA - DELHI CHANNEL

FROM ANTON BLVD. TO SUNFLOWER AVE.

FACILITY NO. FOI

AND

SANTA ANA GARDENS CHANNEL

AT SUNFLOWER AVE.

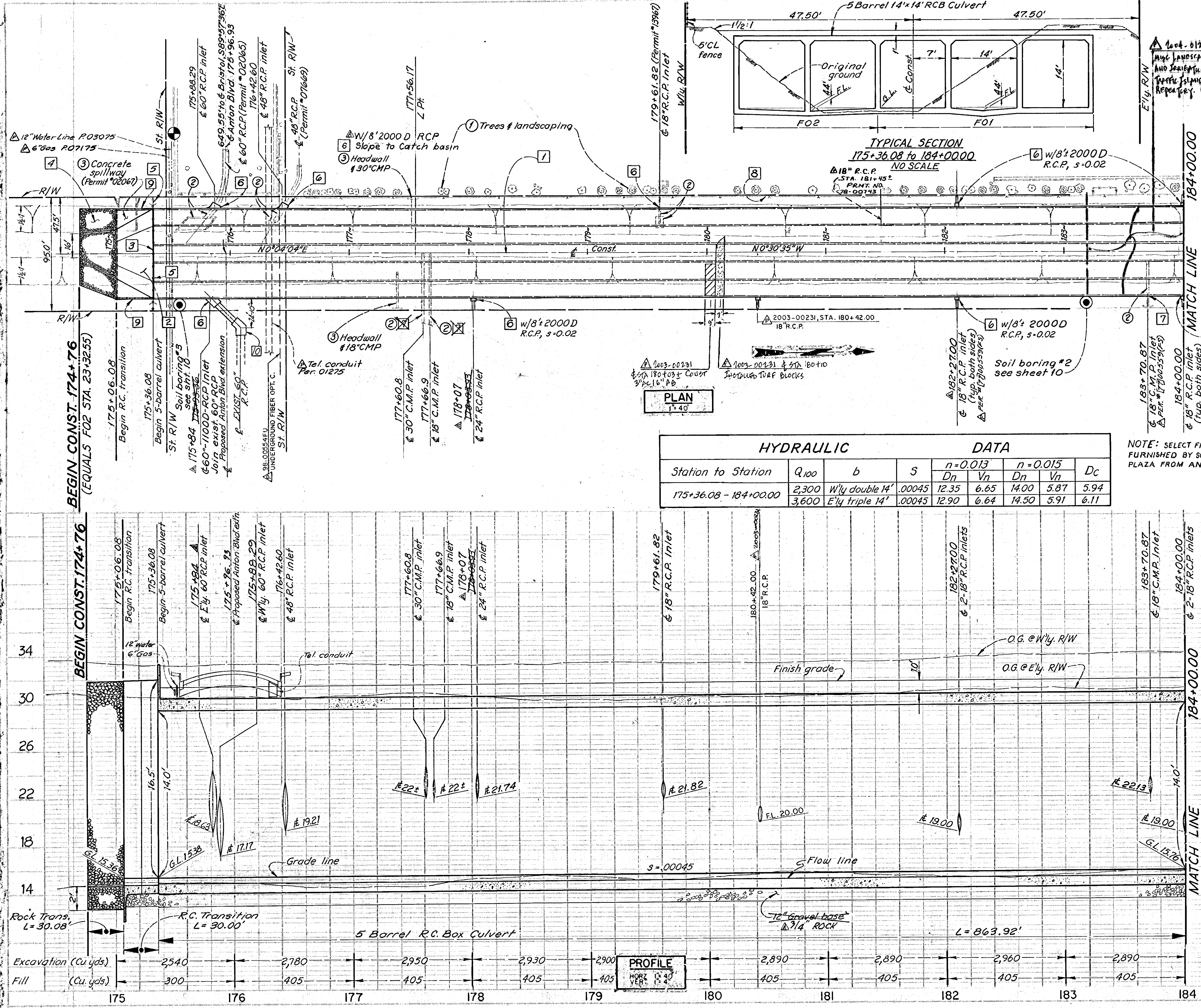
FACILITY NO. F02

DECEMBER 1974

ORANGE COUNTY FLOOD CONTROL DISTRICT
SANTA ANA CALIFORNIA

FOHID16A

2 10



- ### CONSTRUCTION NOTES
- Construct 14.0' x 14.0' 5 Barrel R.C. Box Culvert per details sht. 5.
 - Construct R.C. Transition.
 - Construct parapet wall per details sht. 5.
 - Construct 2' thick riprap in invert and sides. Grade to join existing channel. Use salvaged riprap plus new riprap as required.
 - Install CL-5 chain link fence with 4' gate each side per Standard Plans.
 - Construct R.C.P. Junction Structure. See Standard Plans and table hereon for details.
 - Construct inlet. See Std. Plan Std-11-1 for details and sheet 9 for pipe bedding details.
 - Remove and salvage fence. Set aside, roll fabric and wire, clean concrete from posts. To be picked up by District Forces. Do not roll fabric around posts.
 - Construct 30± L.F. guard cable fence each side of transition. See sht. 7 for details.
 - CONSTRUCT COLLAR TO EXIST. 60" R.C.P.

GENERAL NOTE
Const. stationing is F01 stationing unless otherwise noted.

- ### LEGEND
- ① Protect
 - ② Remove interfering portions
 - ③ Remove

- Bench Mark
- Soil Boring

JUNCTION STRUCTURE DETAILS

Refer to Standard Drawing Junction Structure #2 and pipe bedding detail, sheet 9.

Station	Side	Size (B)	Angle (A)	Elev (ft)		C
				S	R	
175+88.29	West	60"	45°	17.17	17.19	7'
175+84	East	60"	45°	18.63	19.34	6'-3"
176+42.60	West	48"	60°	19.21	19.35	5'
178+07*	East	24"	90°	21.74	22.00	2'
179+61.82	West	18"	90°	21.82	22.12	2'
182+27.00*	East & West	18"	90°	19.00	19.04	2'
184+00.00*	East & West	18"	90°	19.00	19.04	2'

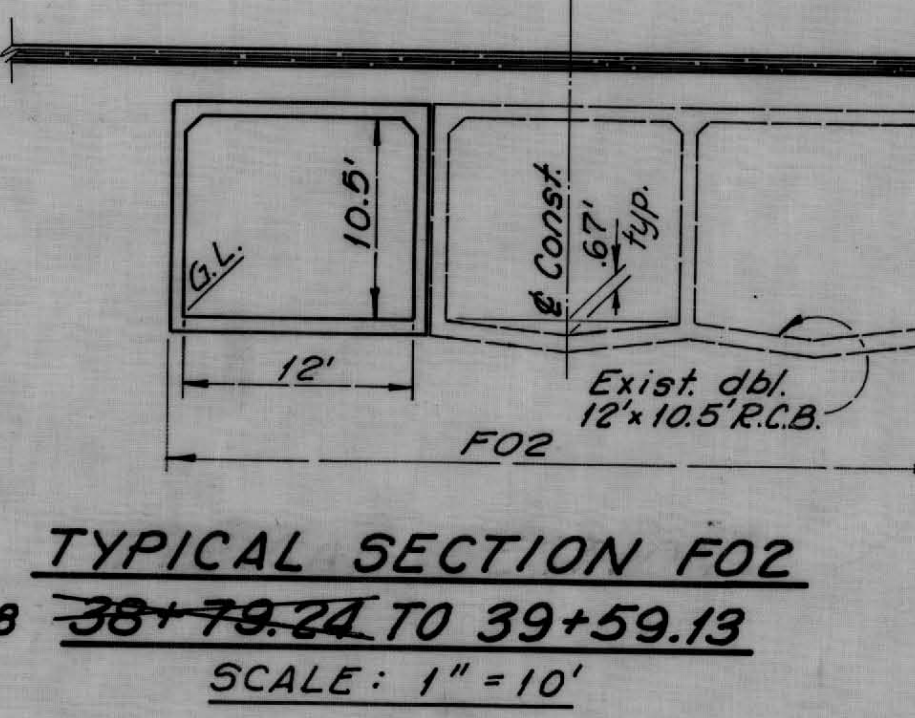
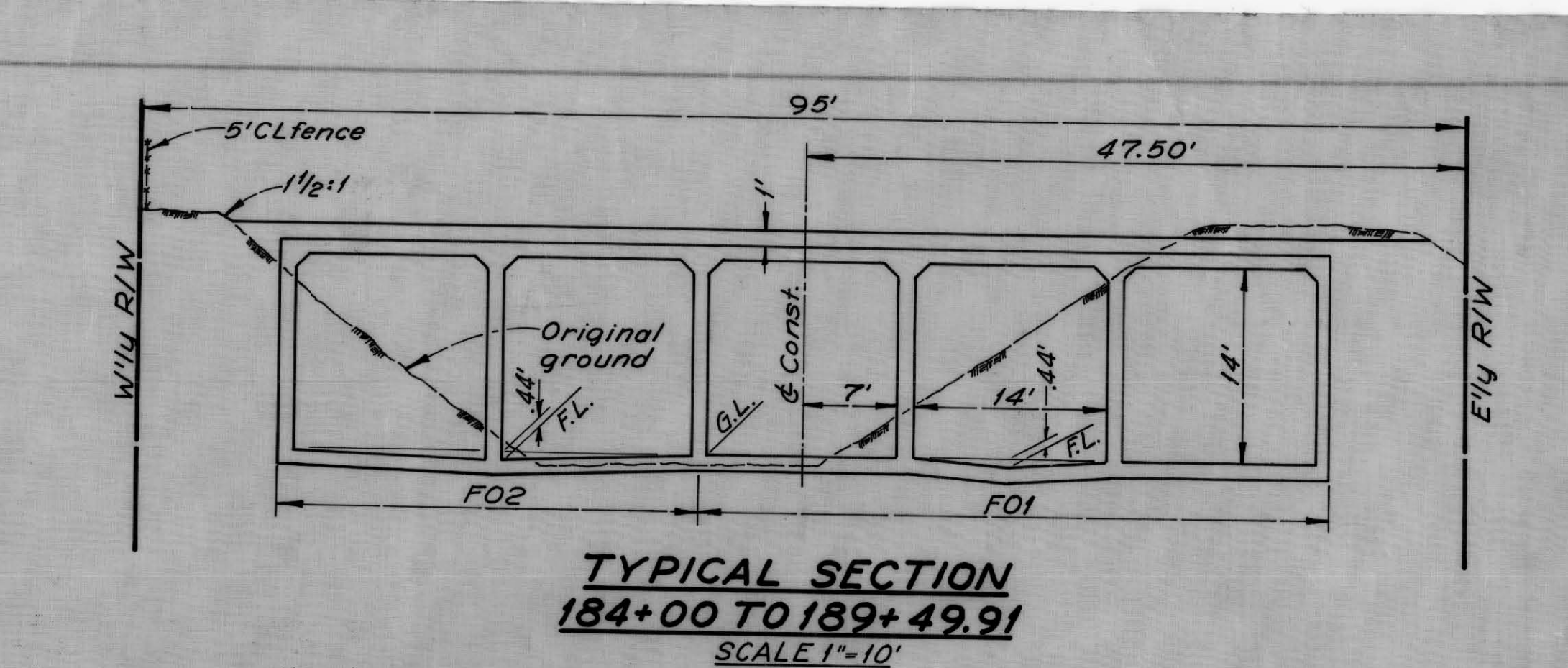
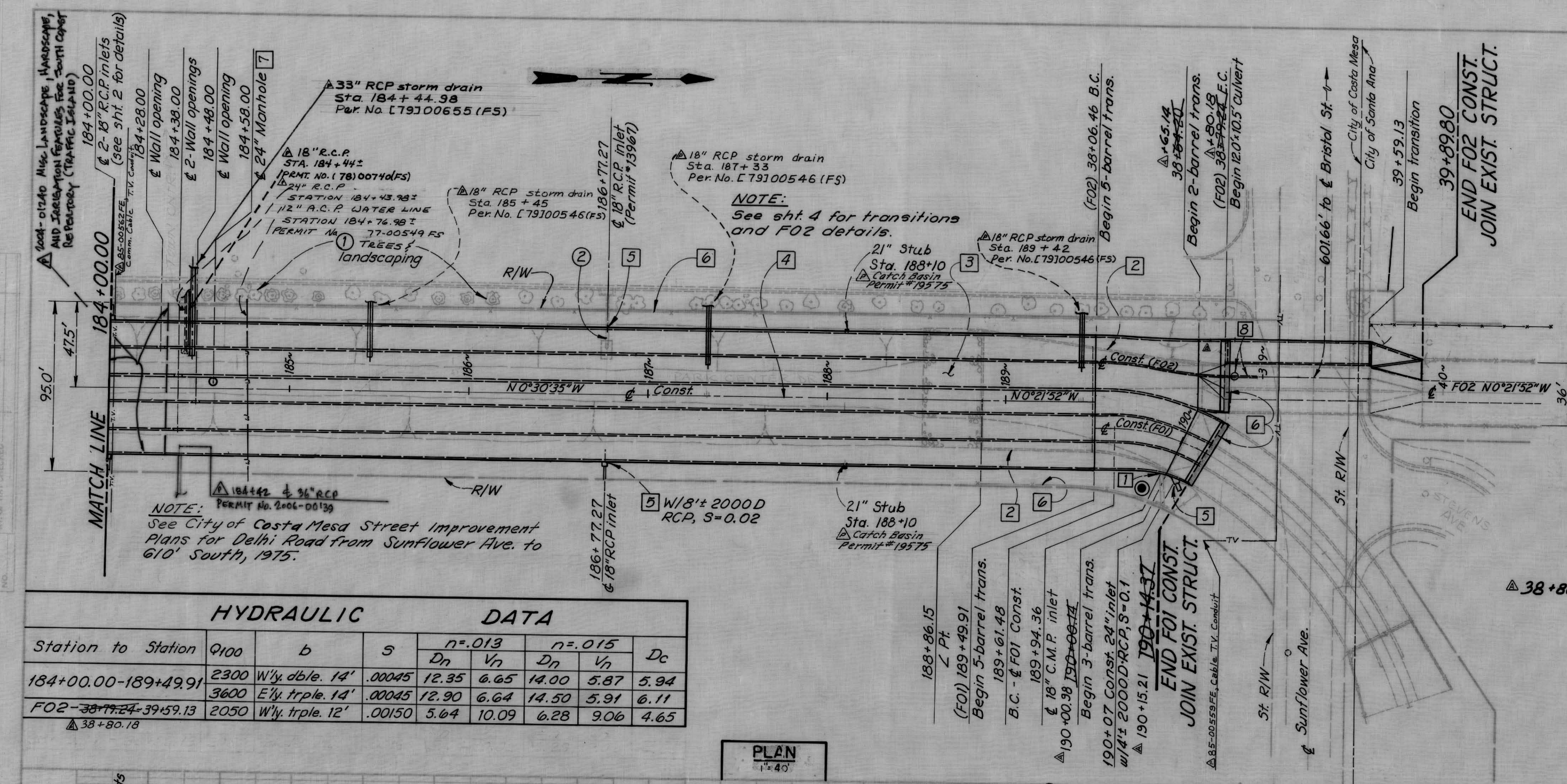
*NOTE: Const. brick & mortar plug at end of 6" R.C.P.

DATUM: O.C.F.C.D. = O.C.S. ADJUSTED: 1970
BENCH MARK: FOI-119 ELEVATION: 32.21
Lead and Tack in south curb of Anton Blvd, 53'± west of w'y FOI R/W and 11' east of ornamental street light.

1 1/2 0 2
3 inches on original drawing

PRELIMINARY REVISION CODE		A	B	C
Disregard Prints Bearing Earlier Codes		12/2/74	12/13/74	12/18/74
REVISIONS		ORANGE COUNTY FLOOD CONTROL DISTRICT		
MARK	DATE	DESCRIPTION		
△	8-75	Permits		
△	2-76	"AS BUILT"		
△	6-76	"AS BUILT"		
△	12-65	02065		
△	10-67	02067		
△	2-68	13967		
△	8-69	07669		
DESIGNED: W.J. Reicht & D.R.R.		RECOMMENDED: [Signature]		
DRAWN: W.D.A.		CHECKED: H.H. PIII		
SUBMITTED: [Signature]		SCALE: AS SHOWN		DATE: DEC. 1974
DESIGN ENGINEER		DWG. NO. FOI-101-6-A		

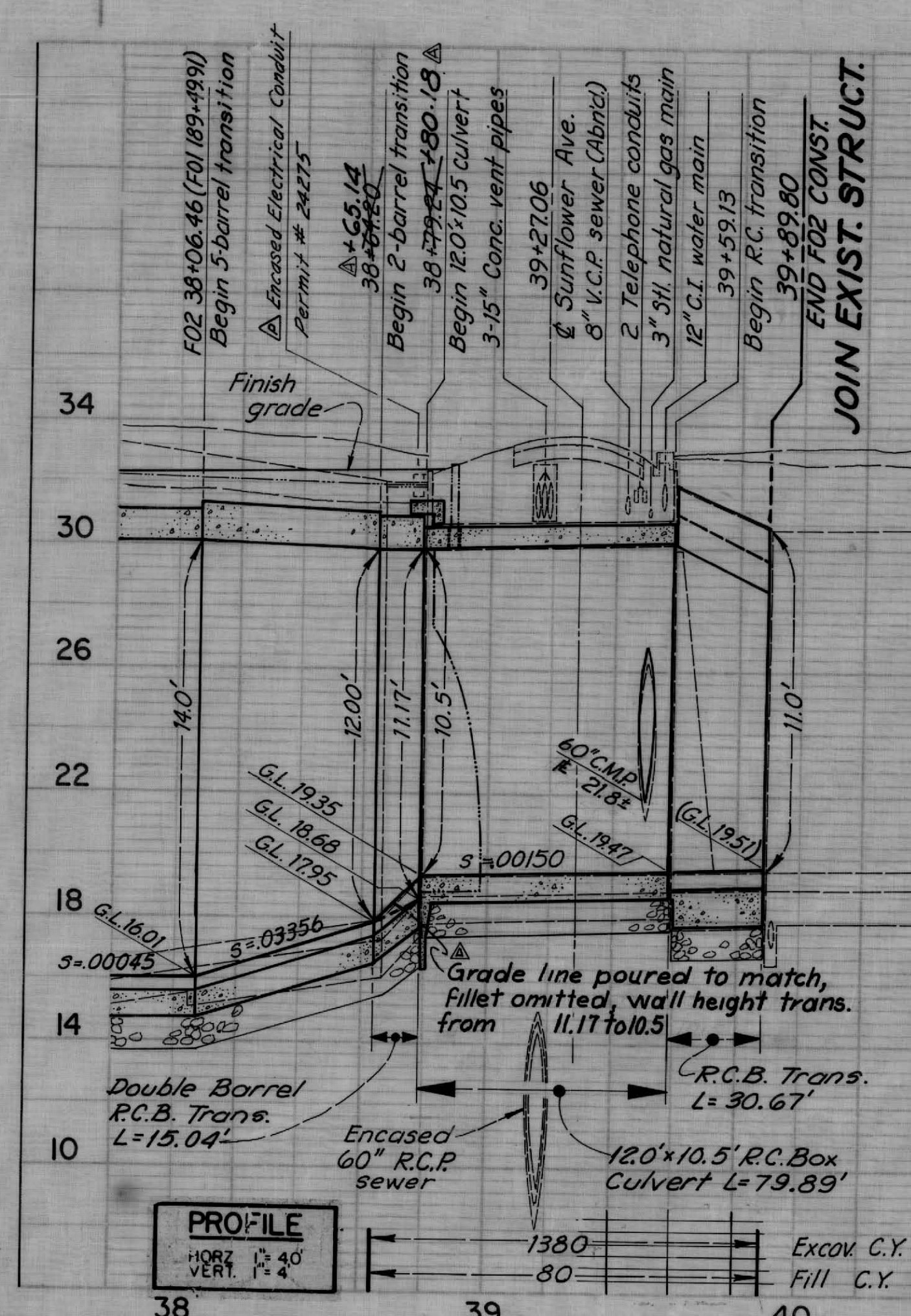
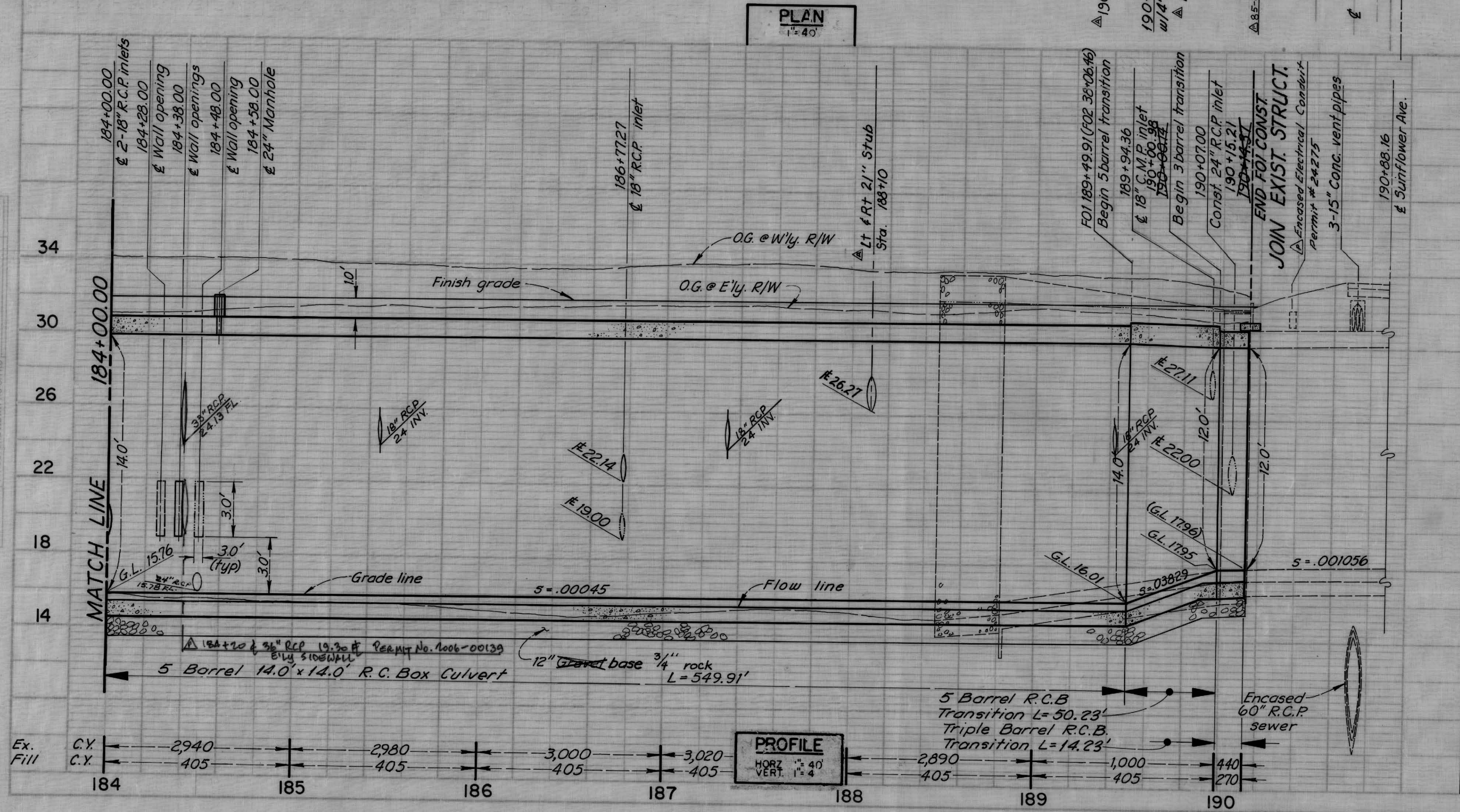
FDI-101-6A



- ### CONSTRUCTION NOTES
- Construct inlet. See Standard Plan STD-11-1 for details. See sht. 9 for pipe bedding detail.
 - Remove exist. R.C. confluence structure and transition structures.
 - Remove riprap, clean and place between sta. 174+76 and sta. 175+06.08.
 - Construct 14.0' x 14.0' 5 Barrel R.C. Box Culvert per details sht. 5.
 - Construct R.C.P. Junction Structure. See Standard Plans and table hereon for details.
 - Remove & salvage fence and gates. Clean concrete from posts, roll fabric & wire, and set aside to be picked up by district forces. Do not roll fabric around posts.
 - Const. 24" manhole and steps per Standard Drawing STD-MH3-1 for "Y"-1'-0". Const. manhole frame and cover per Standard Drawing STD-MCI-1.
 - Const. 24" manhole & debris wall. See sht. 9 for details.

GENERAL NOTE
Const. stationing is F01 stationing unless otherwise noted.

HYDRAULIC DATA								
Station to Station	Q100	b	S	n=.013		n=.015		Dc
				Dn	Vn	Dn	Vn	
184+00.00-189+49.91	2300	W'y. dble. 14'	.00045	12.35	6.65	14.00	5.87	5.94
F02-38+80.18-39+59.13	3600	E'y. triple 14'	.00045	12.90	6.64	14.50	5.91	6.11
F02-38+80.18	2050	W'y. triple 12'	.00150	5.64	10.09	6.28	9.06	4.65



INLET DETAILS						
Refer to Standard Drawing "Junction Structure #2" and pipe bedding detail, sheet 9.						
Station	Side	Size (B)	Angle (A)	Elev. (ft.)		C
186+77.27	West	18"	90°	22.14	22.48	2'
	East	18"	90°	19.00	19.04	2'
190+07.00	East	24"	45°	22.00	22.25	2.5'

*NOTE: Const. brick & mortar plug @ end of RCP

DATUM: O.C.F.C.D. = O.C.S. ADJ.: 1970
BENCH MARK: SA 202 70 ELEV.: 32.55
Aluminum Cap in the N.E. part of the intersection of Bristol St. and Sunflower Ave.; 38.5 ft. North of the prolongation of the north curb of Sunflower; 1 ft. East of the east curb of Bristol, in the top of the S.W. corner of a 4 ft. by 5 ft. conc. catch basin, level with the sidewalk.

1/2 0 1 2		3 inches on original drawing			
PRELIMINARY REVISION CODE		A	B	C	D
Disregard Prints Bearing Earlier Codes		12/2/74	12/9/74	12/13/74	12/18/74
REVISIONS		ORANGE COUNTY FLOOD CONTROL DISTRICT			
MARK	DATE	DESCRIPTION			
2/76	2/76	"As Built"			
6/76	6/76	"As Built"			
1/76	1/76	Permit 24275			
3/76	3/76	Permit 19575			
7/76	7/76	Permit 19575			
6-78	6-78	Permit 77-00549 FS			
1-81	1-81	Per. 79100655 (FS)			
1-81	1-81	Per. 79100655 (FS)			
DESIGNED		W. J. Recht & D.R.R.			
DRAWN		W. J. Recht & D.R.R.			
SUBMITTED		W. J. Recht & D.R.R.			
DESIGN ENGINEER		DESIGN DIVISION ENGINEER			
SCALE		AS SHOWN			
DATE		DEC. 1974			
DWG. NO.		FOI-101-6-A			

CONSTRUCTION NOTES

- So. Calif. Gas Co. (Permit *38172)
Pacific T. & T. Co. (Permit *10572)
City of Santa Ana (Permit *20672)
So. Calif. Edison Co. (Permit *00466)
Or. Co. Sanitation Dist. *7 (Permit *11471)
(Permit *20969)
(Permit *06171)

- 1 Remove existing R.C. confluence structure and transition structures.
- 2 Construct 58±L.F. five-barrel R.C.B. transition per detail, sht. 6.
- 3 Construct 14±L.F. triple-barrel R.C.B. transition per detail, sht. 6.
- 4 Construct 15±L.F. two-barrel R.C.B. transition per detail, sht. 5.
- 5 Construct 79.89 L.F. 12 ft. wide by 10.5 ft high R.C.B. culvert per detail, sht. 8.
- 6 Remove indicated portion of existing transition structure. Protect remainder. See sht. 8 for details.
- 7 Construct 30.67 L.F. covered trans. addition to existing transition per detail, sht. 8.
- 8 Construct distribution slab per detail, sht. 8.
- 9 Construct distribution slab per detail, this sht.
- 10 Remove interfering portions of 60 inch C.M.P. & const. inlet per detail, this sht.
- 11 Remove interfering portions of 18 inch C.M.P. & const. inlet per stand drawing.
- 12 Remove and salvage fence and gates. Clean concrete from posts, roll fabric & wire, and set aside to be picked up by district forces. Do not roll fabric around posts.
- 13 Remove interfering portions of fence & gate. Replace in original location.
- 14 Saw cut pavement. Remove and reconstruct per limits and details, sht. 9.
- 15 Construct R.C.P. Junction Structure. See table, sht. 3, for details.
- 16 Construct 24" manhole and debris wall. See sht. 9 for details.

- ① *Protect*
- ② *Remove interfering portions. Plug end.*
- ③ *Remove*
- ④ *To be relocated by others.*
- *Soil Boring*

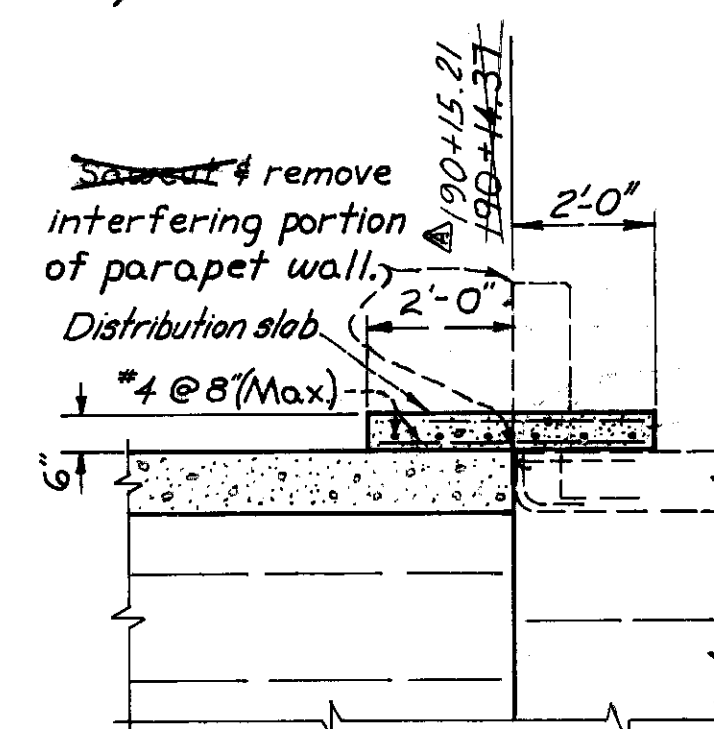
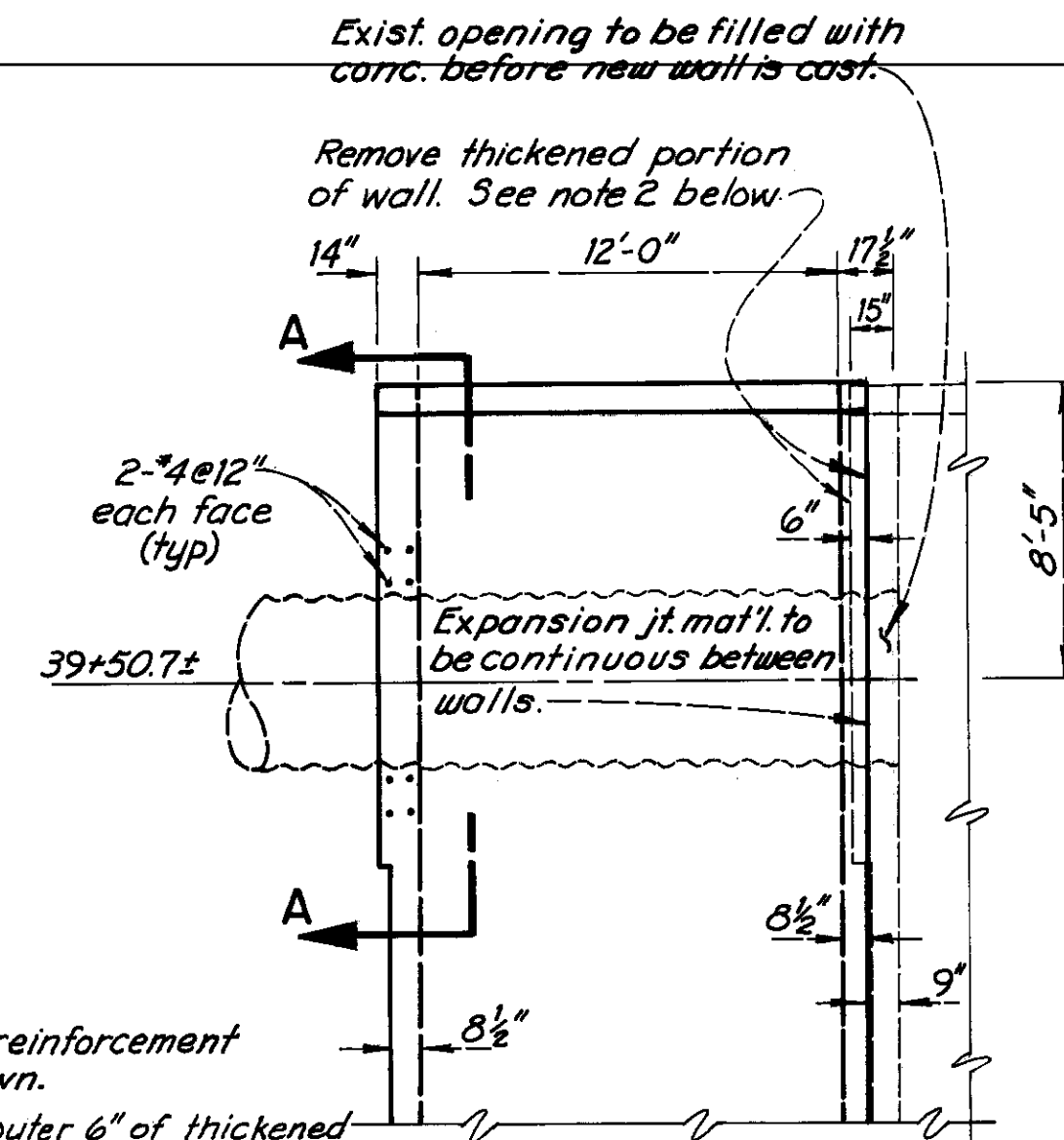
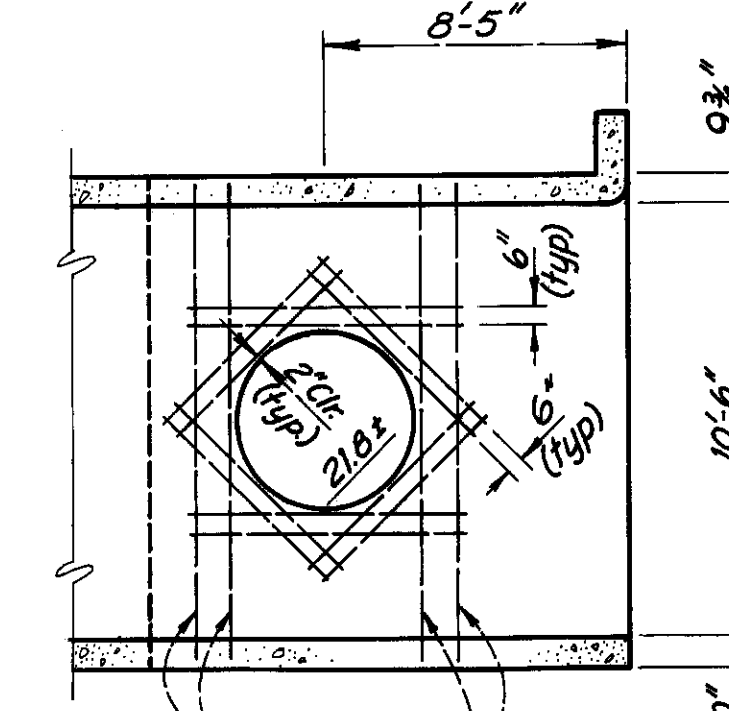
CURVE DATA				
Sta	Δ	R	T	L
1	30°12'44"	58.10'	15.68'	30.63'
2	30°12'44"	86.26'	23.29'	45.49'
3	30°12'44"	100.31'	27.08'	52.90'
4	30°12'44"	114.35'	30.87'	60.29'
5	30°12'44"	142.43'	38.45'	75.10'
6	19°10'23"	77.42'	13.08'	25.91'
7	12°29'37"	157.26'	11.21'	34.25'
8	12°29'37"	176.52'	19.32'	38.49'
9	4°-35'25"	172.11'	6.90'	13.79'
10	4°-35'25"	730.16'	29.26'	58.56'

Size of fillet may be adjusted for working space.

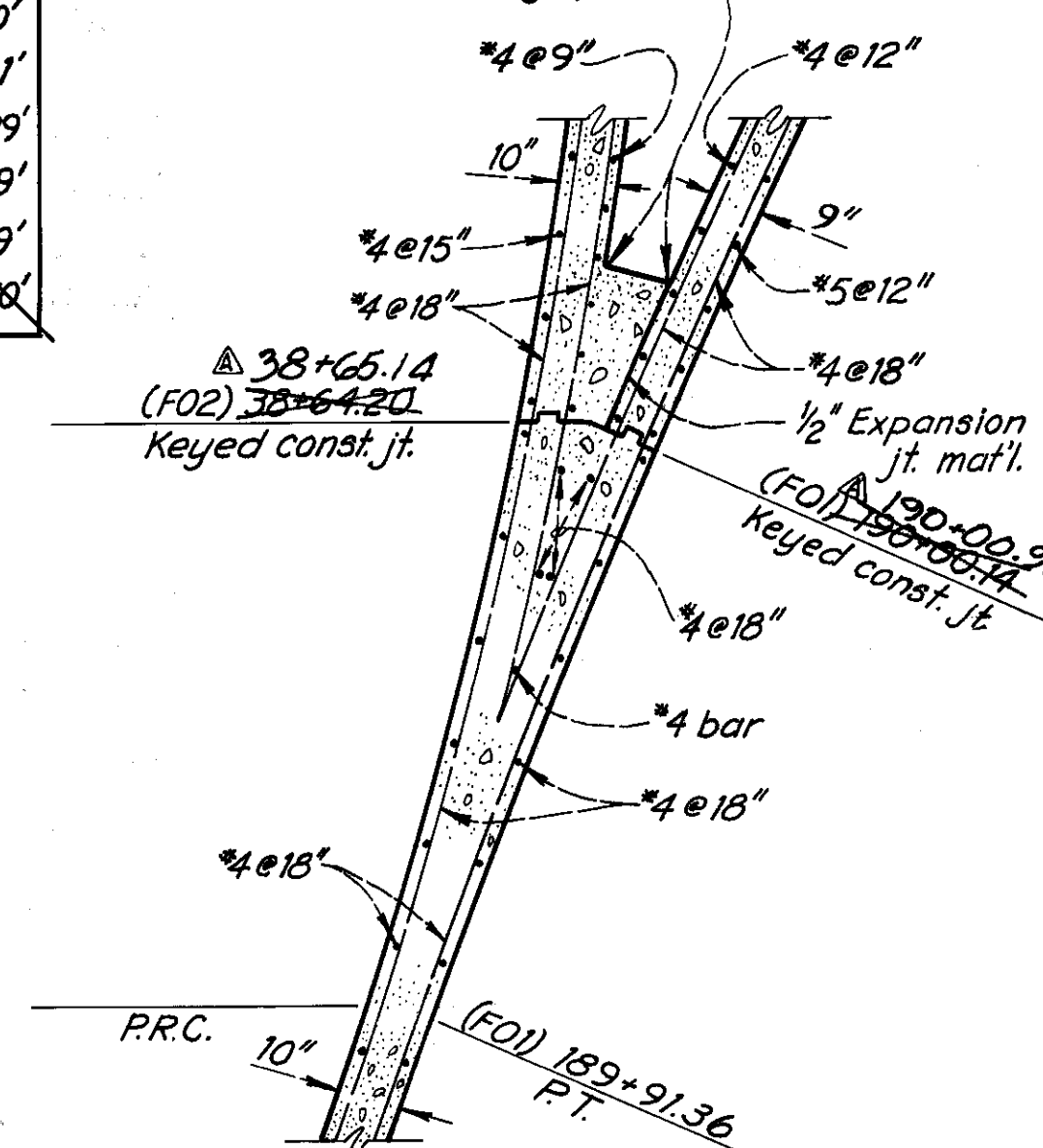
NOTES:

1. Culvert reinforcement not shown.
2. Remove outer 6" of thickened wall section. If remaining 9" thick section is damaged, remove entire 15" thick wall, salvage steel, and recast to 9" thickness.
3. Remove interfering portions of 60" C.M.P.
4. Cage around 60" C.M.P., fabricated from #4 bars placed at each face of wall, spaced as shown.

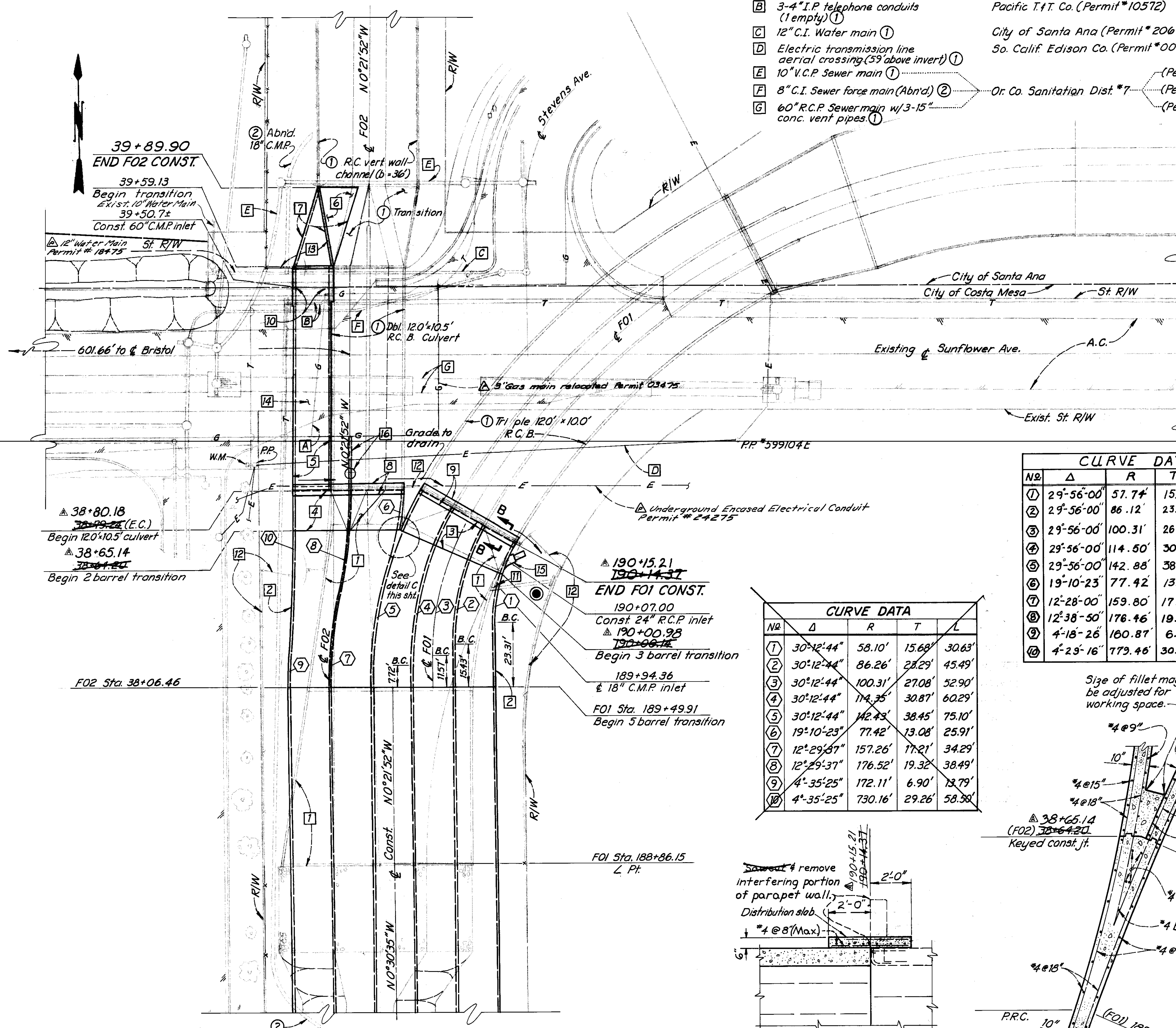
No Scale



Scale: $\frac{3}{8}'' = 1'-0''$



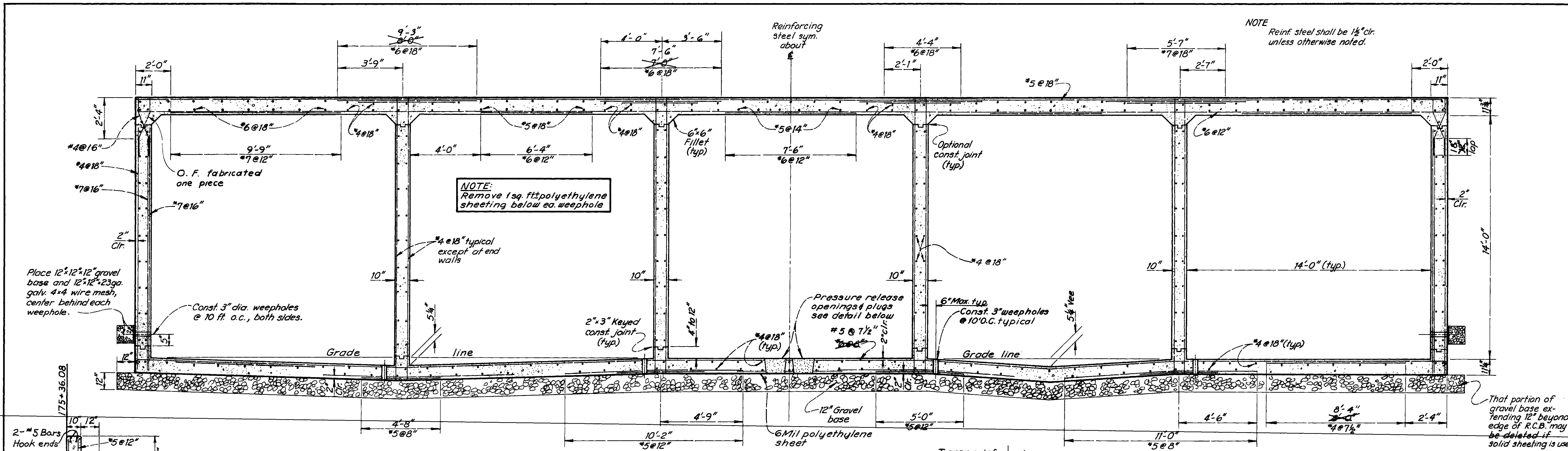
DETAIL C
Scale: $\frac{3}{8}'' = 1'-0''$



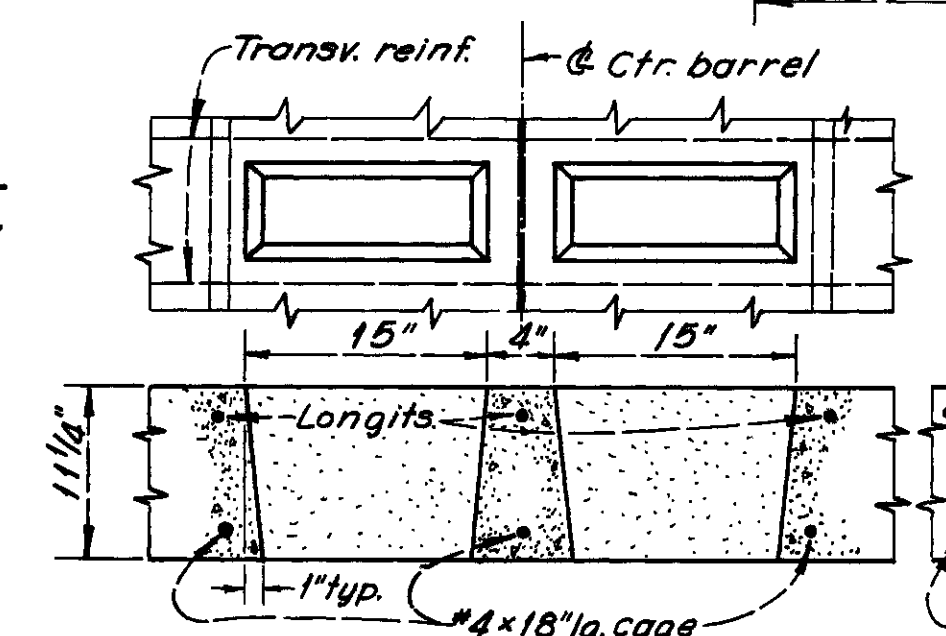
PLAN
SUNFLOWER AVENUE CROSSING
AND TRANSITION DETAILS

Scale: 1"=20'

PRELIMINARY REVISION CODE Disregard Prints Bearing Earlier Codes		A B C D 12/27/74 12/9/74 12/13/74 12/18/74			
REVISIONS		ORANGE COUNTY FLOOD CONTROL DISTRICT			
MARK ▲ ▲ ▲ ▲	DATE 8-75 2-76 6/76 9/76 1/76		DESCRIPTION Permits "As BUILT" "As BUILT" Permit 18475 Permit 24275		
DESIGNED <u>W. J. Rehm</u> & D. R. R.			RECOMMENDED <u>J. N. Williams</u>		
DRAWN <u>W. D. A.</u>		CHECKED <u>R. H. PILL</u>		DESIGN DIVISION ENGINEER	
SUBMITTED <u>[Signature]</u>		SCALE AS SHOWN		DATE DEC. 1974	
DESIGN ENGINEER		DWG. NO. F01-101-6-A			

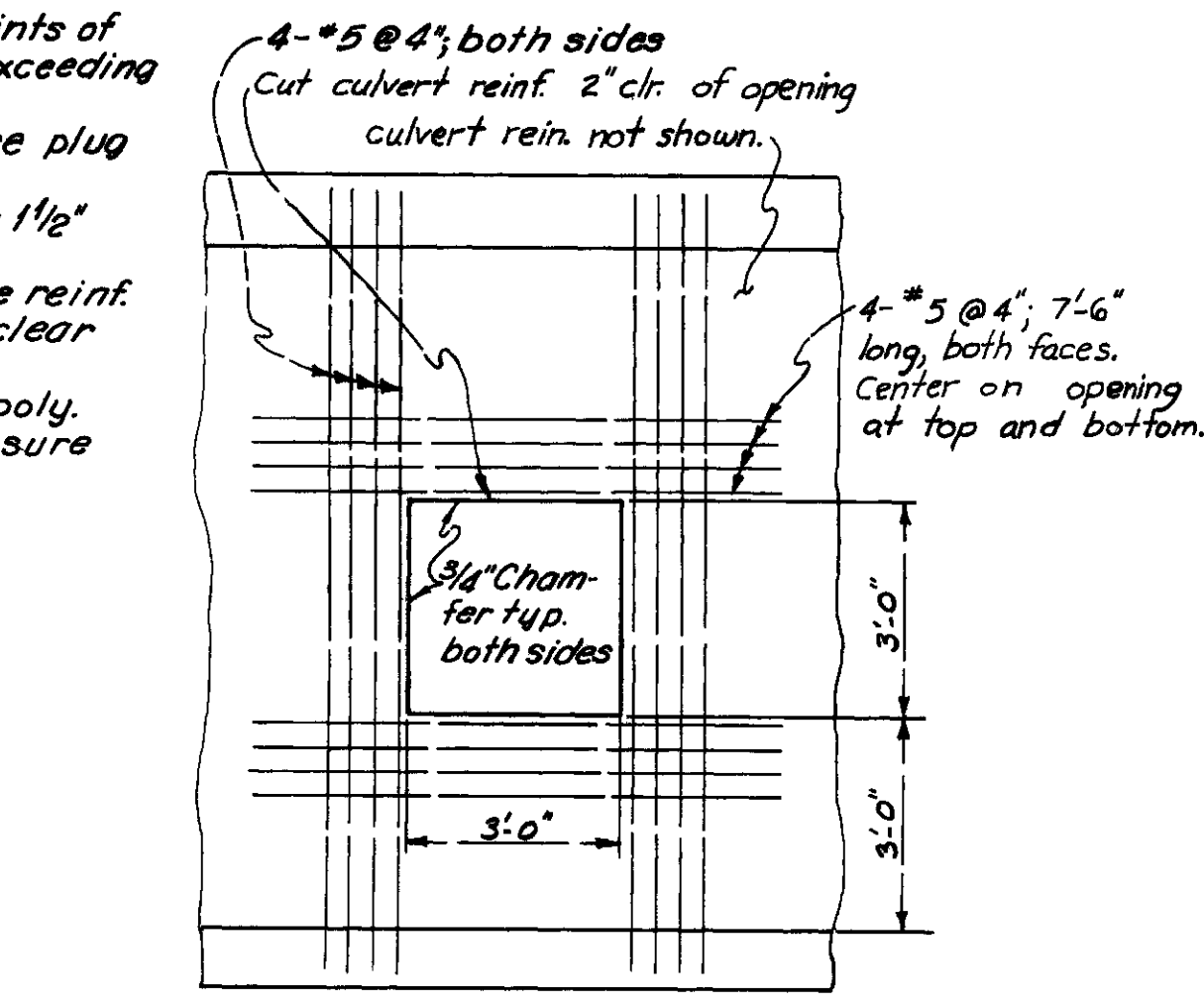


**TYPICAL SECTION
FIVE-BARREL R.C.B. CULVERT**
175+36.08 to 189+49.91
Scale: 3/8" = 1'-0"



PRESSURE RELEASE OPENING AND PLUG
SCALE 1" = 1'-0"

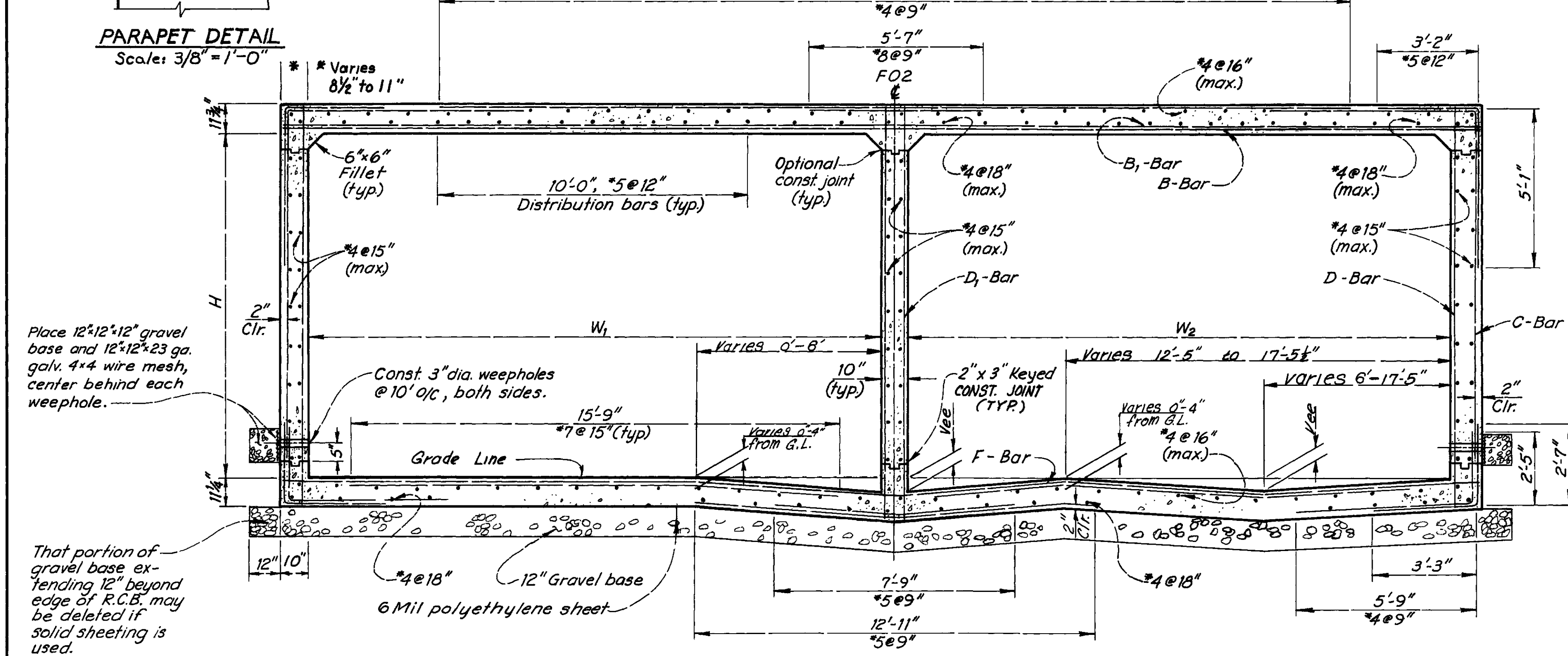
FO2 DOUBLE R.C.B. TRANSITION STRUCTURAL DATA			
BEGINNING STATION		38+64.20	38+65.14
ENDING STATION		38+80.18	38+79.24
Width (W ₁)		18'-6 1/2"	19'-0 1/4"
Width (W ₂)		17'-5 1/2"	18'-3 1/2"
Height (H)		12'-0"	11'-2"
Vee		5 1/4"	0"
B Bar	bar no. & spacing	#4@12"	#4@12"
	length	38'-3"	39'-6 3/4"
B ₁ Bar	bar no. & spacing	#9@12"	#9@12"
	length	38'-3"	39'-6 3/4"
C Bar	bar no. & spacing	#4@9"	#4@9"
	horiz. length	6'-7 1/2"	6'-7 1/2"
	vert. length	12'-5 1/4"	11'-7 1/4"
D Bar	bar no. & spacing	#4@15"	#4@15"
	length	13'-8"	12'-10"
D ₁ Bar	bar no. & spacing	#4@18"	#4@18"
	length	14'-1 1/4"	12'-10"
F Bar	bar no. & spacing	#4@15"	#4@15"
	length	38'-3"	39'-6 3/4"



MAINTENANCE OPENING REINFORCEMENT
No Scale

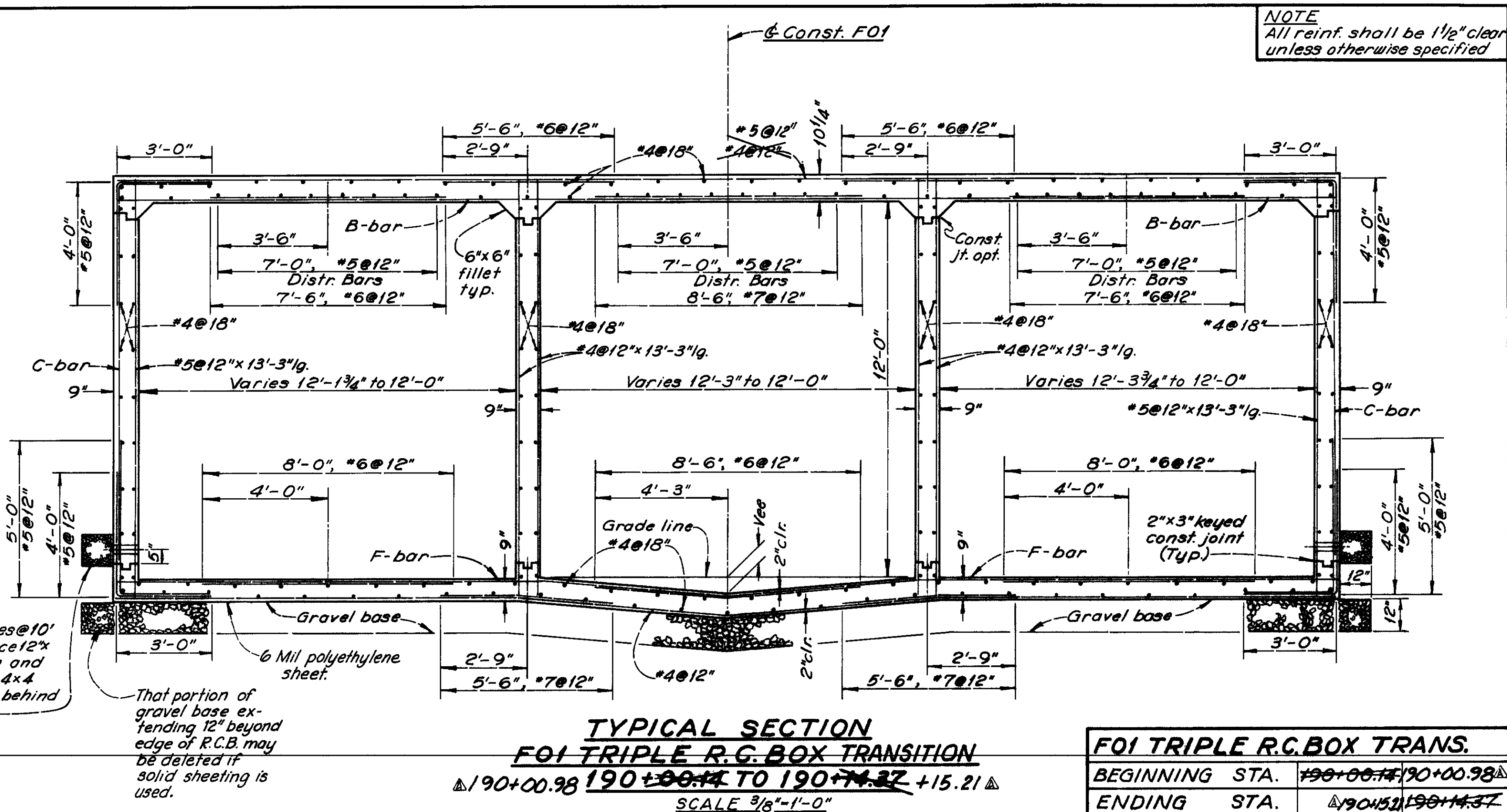
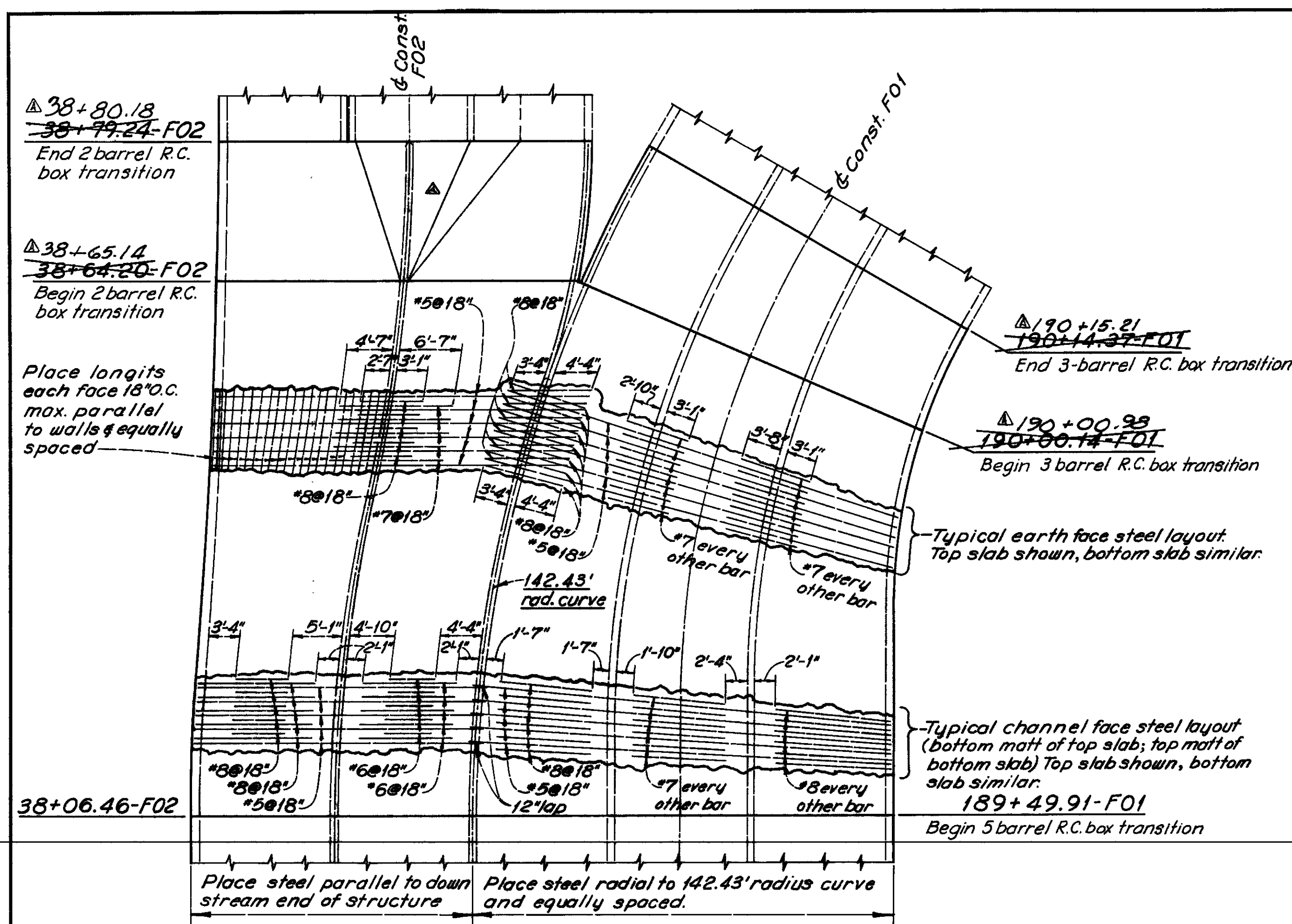
DESIGN CRITERIA
f_c = 3,000 psi @ 28 days
f_c = 1,350 psi
f_s = 24,000 psi
v = 60 psi shear
n = 9.2
Loading: HS 20-44 with cover = 1'

1 1/2 0 2
3 inches on original drawing

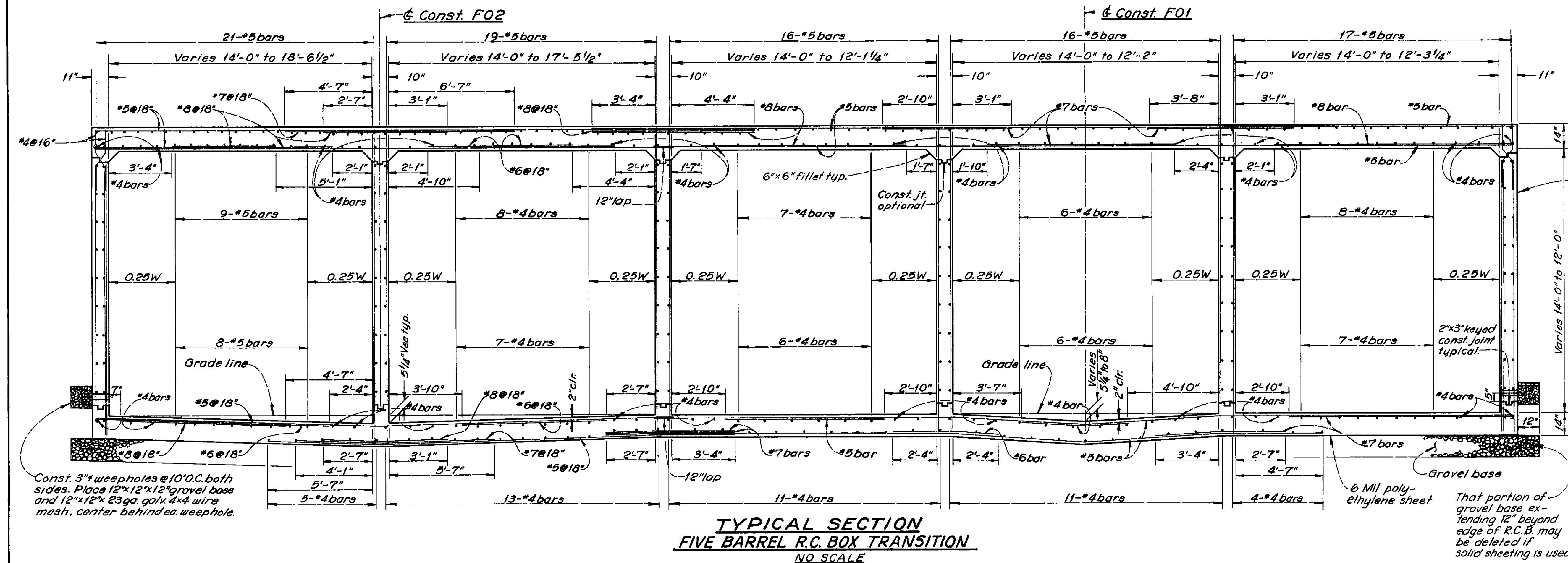


**TYPICAL SECTION
FO2 DOUBLE R.C.B. TRANSITION**
38+65.14 to 38+79.24 38+80.18
Scale: 3/8" = 1'-0"

PRELIMINARY REVISION CODE			
MARK	DATE	DESCRIPTION	REVISIONS
Δ	6/76	"As Built"	
DESIGNED: W.J. Reicht & D.R.R.			
DRAWN: W.D.A.			
SUBMITTED: [Signature]			
RECOMMENDED: [Signature]			
DESIGN DIVISION ENGINEER			
SCALE: AS SHOWN			
DATE: DEC. 1974			
DWG. NO. FOI-101-6-A			



FOI TRIPLE R.C.BOX TRANS.			
BEGINNING STA.		190+00.74	190+00.98
ENDING STA.		190+51.32	190+14.32
Vee		8"	8"
B bar	bar no. spacing	*6@12"	*6@12"
	length	39'-5 1/2"	38'-9"
C bar	bar no. spacing	*4@12"	*4@12"
	horiz. length	3'-0"	3'-0"
	vert. length	12'-6"	10'-6"
F bar	bar no. spacing	*4@12"	*4@12"
	length	39'-5 1/2"	38'-9"



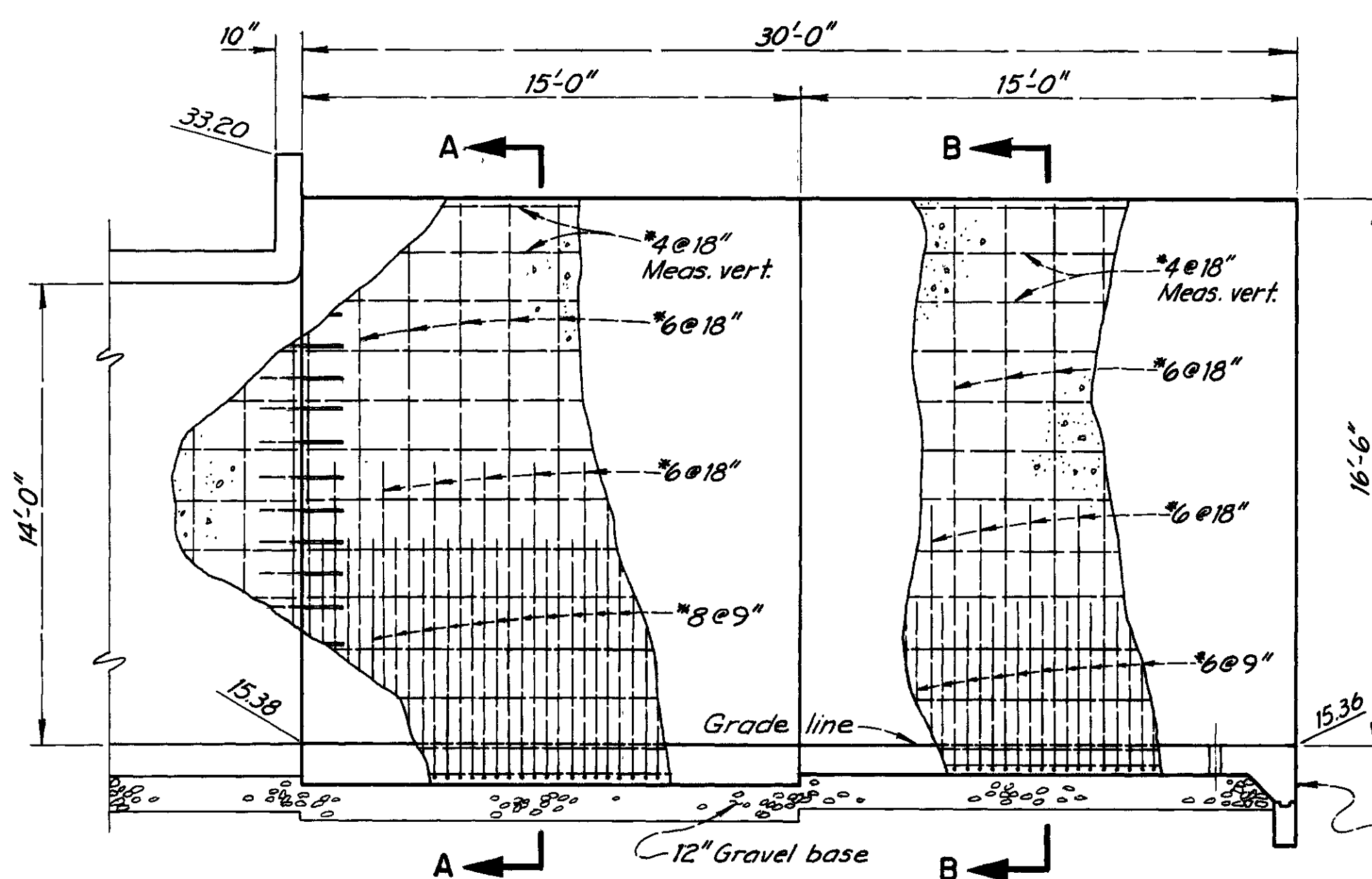
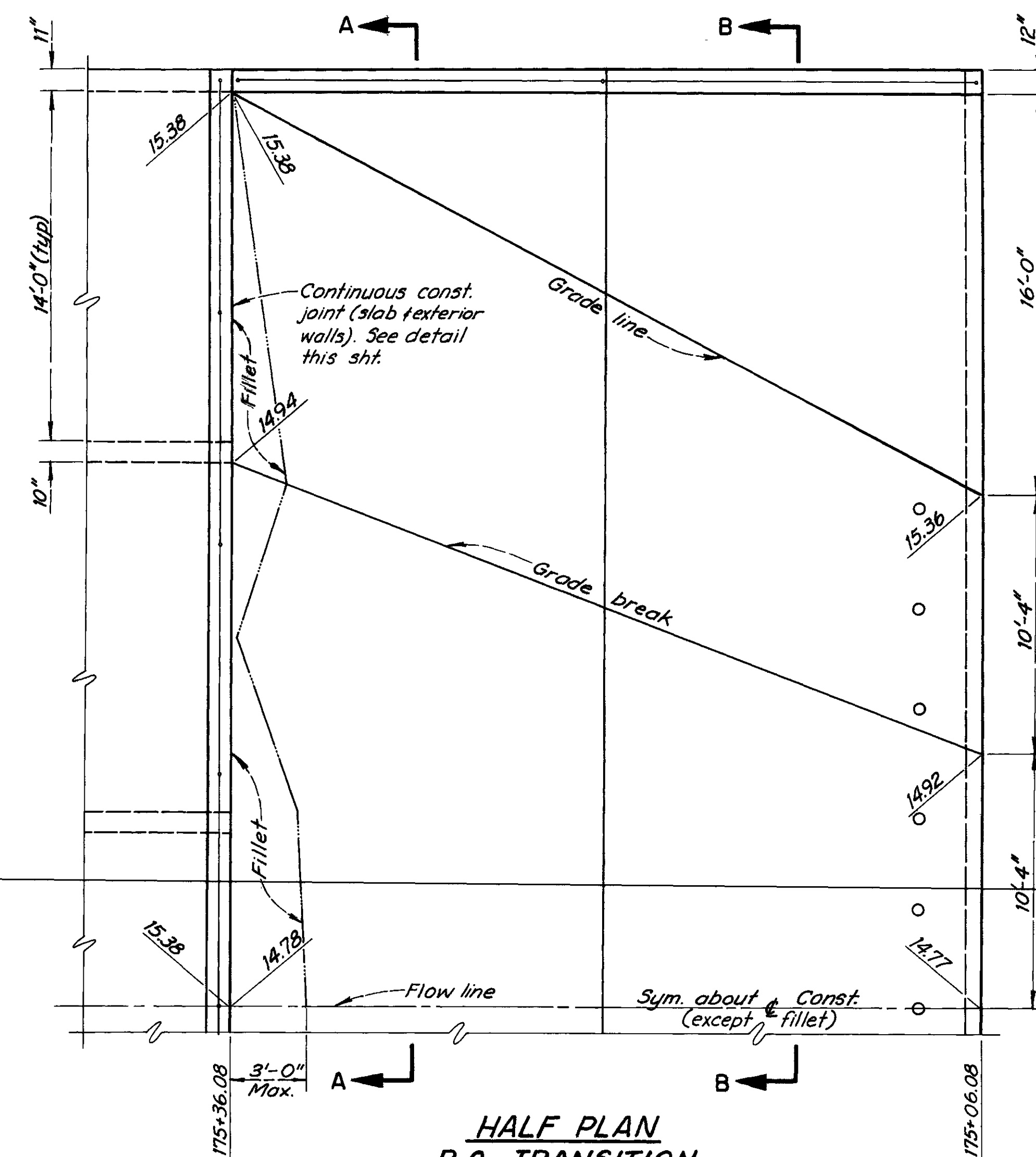
DESIGN CRITERIA

$f'_c = 3,000 \text{ psi @ 28 days}$
 $f_c = 1,350 \text{ psi}$
 $f_s = 24,000 \text{ psi}$
 $v = 60 \text{ psi shear}$
 $n = 9.2$

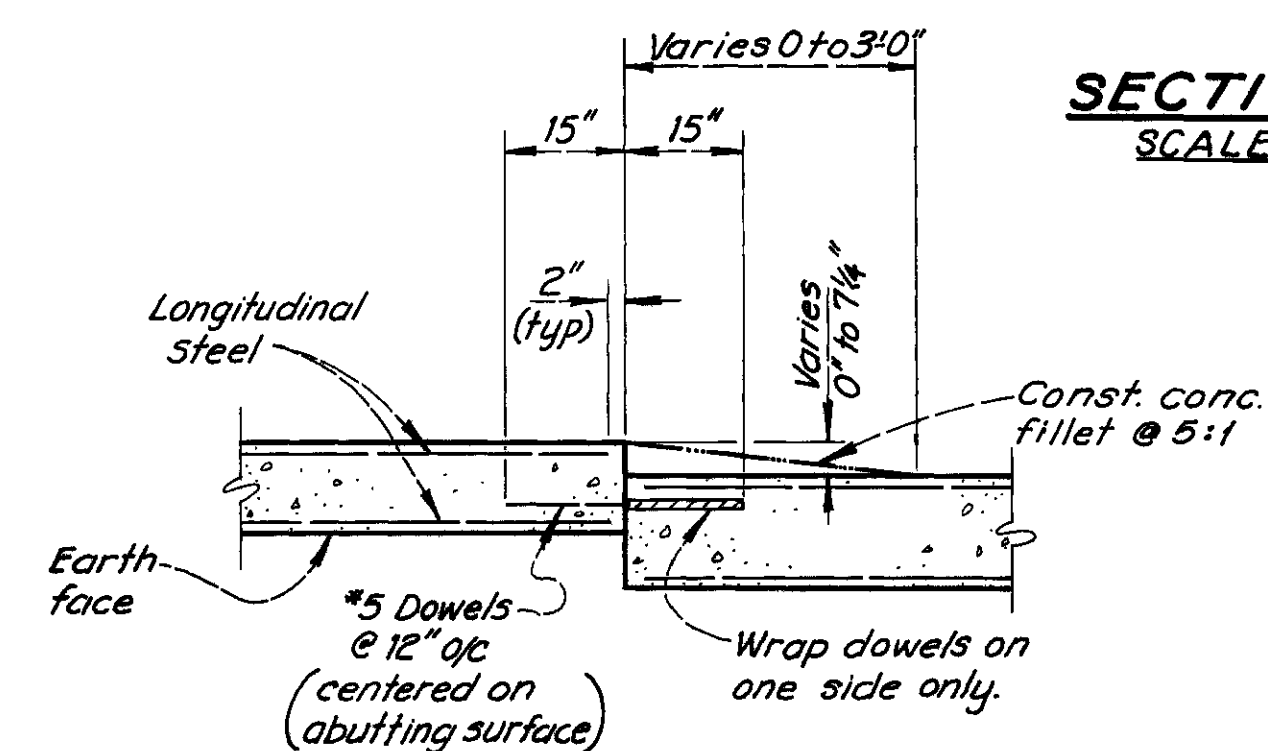
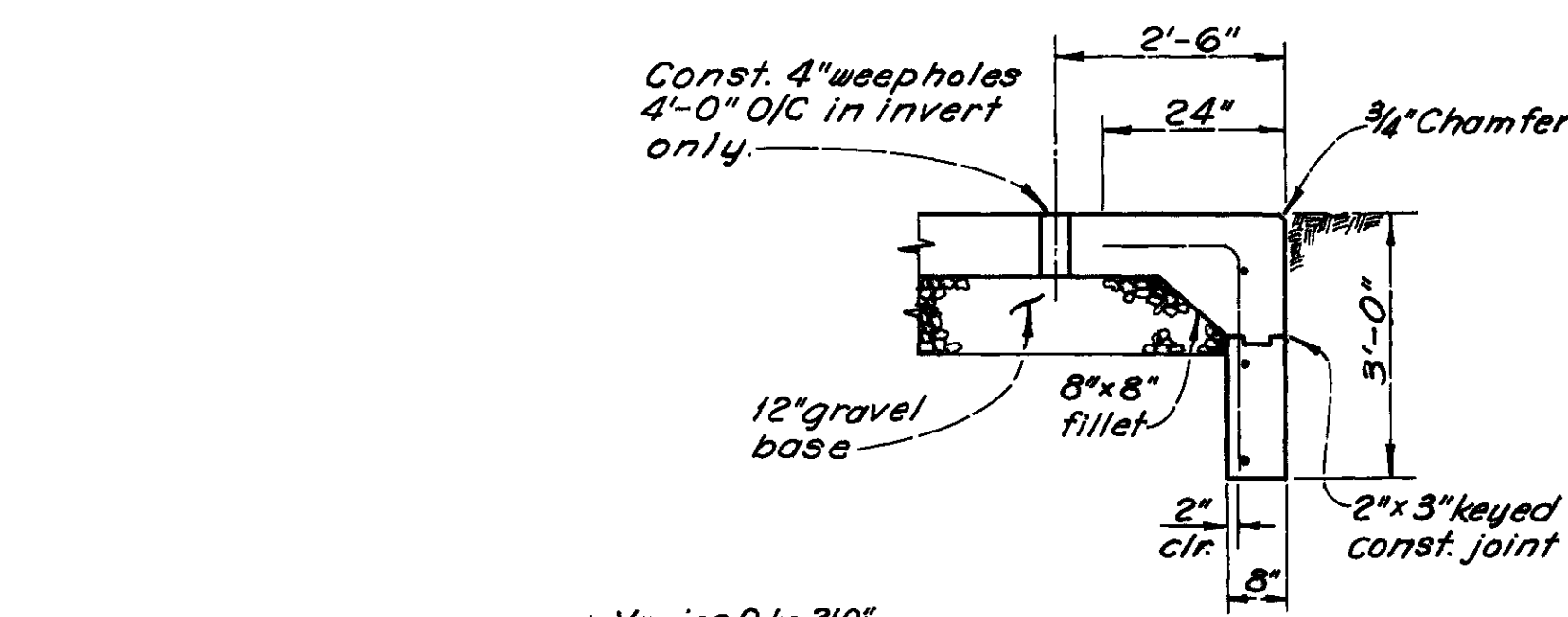
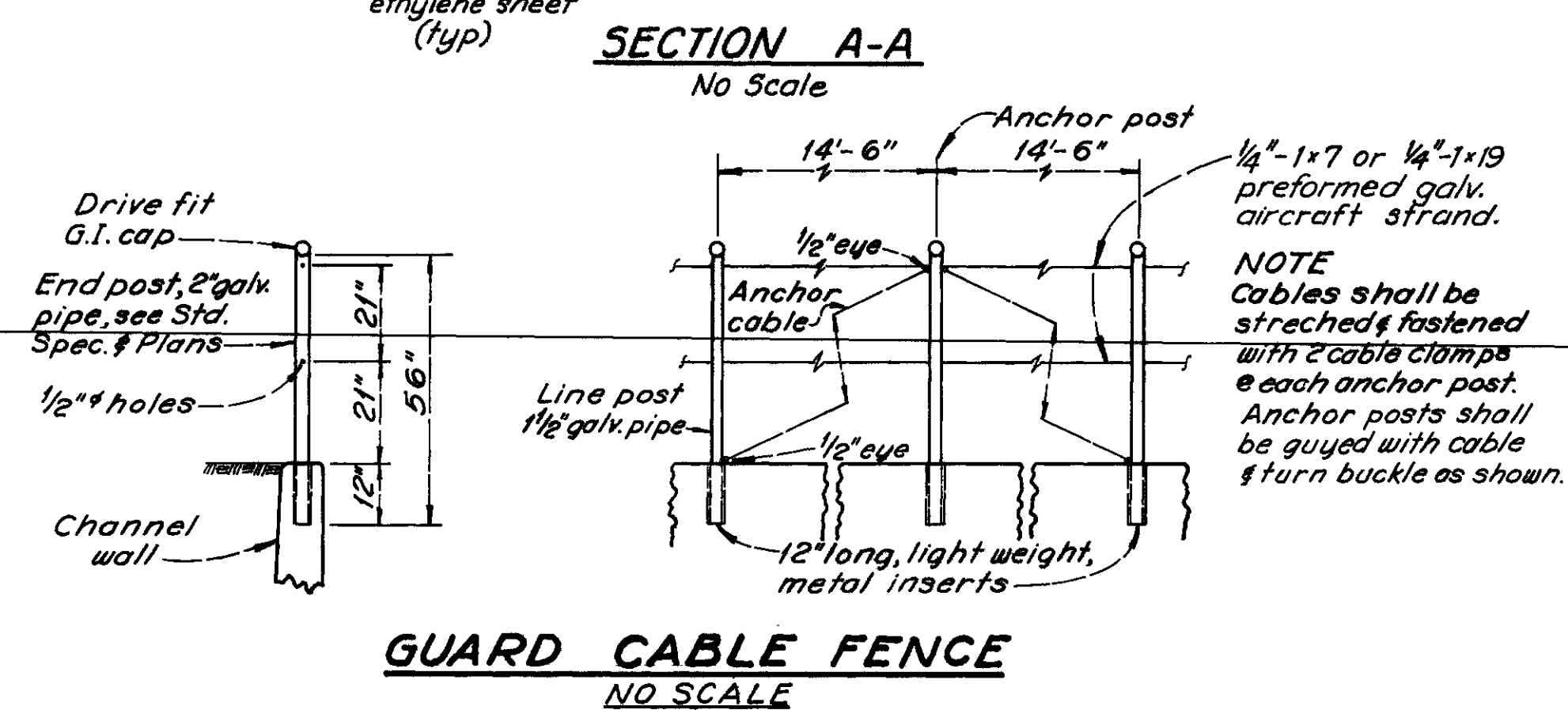
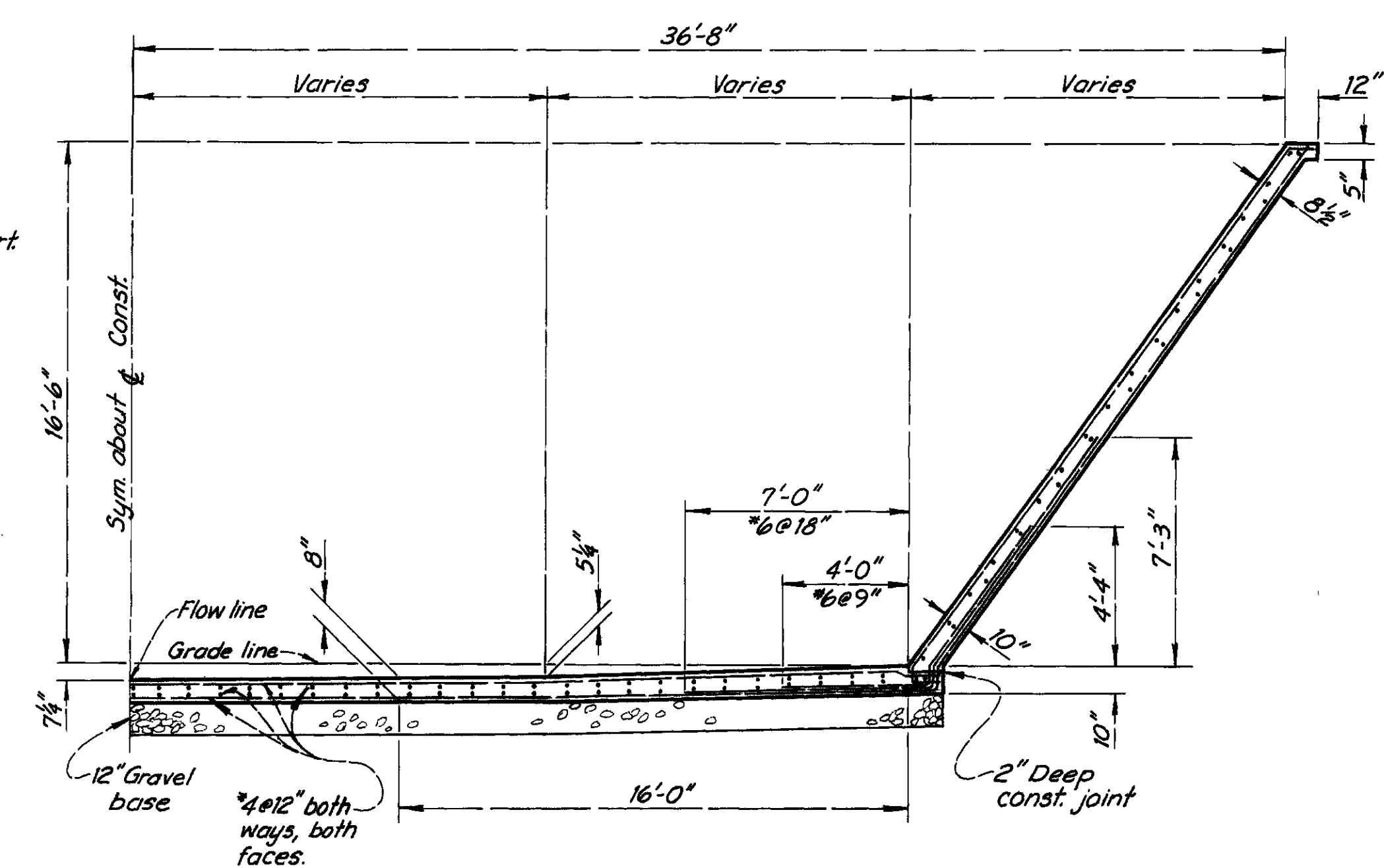
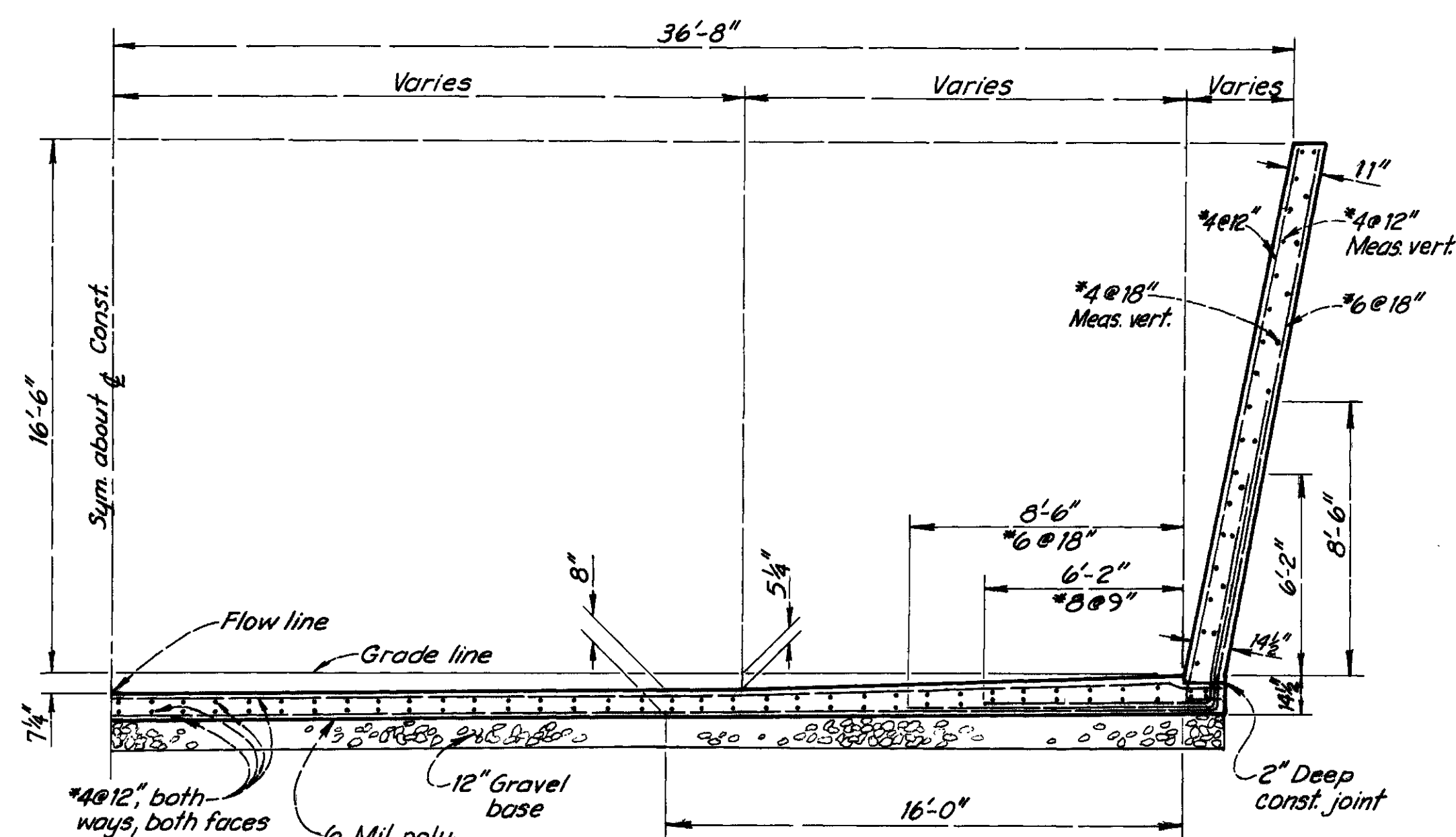
LOAD: HS20-44 with cover = 1'



PRELIMINARY REVISION CODE		A		B					
Disregard Prints Bearing Earlier Codes		2/2/74		2/18/74					
REVISIONS				ORANGE COUNTY FLOOD CONTROL DISTRICT					
MARK	DATE	DESCRIPTION							
A	6-76	*AS BUILT*							
				SANTA ANA - DELHI CHANNEL STRUCTURAL DETAILS FIVE BARREL & TRIPLE BARREL R.C. BOX TRANSITIONS					
DESIGNED <u>W.J.R. & D.R.R.</u>				RECOMMENDED		<u>J.W. Williams</u> DESIGN DIVISION ENGINEER			
DRAWN <u>LOVE</u>		CHECKED <u>HPP III</u>		SCALE		DATE		DWG. NO.	
SUBMITTED <u>J.W. Williams</u>		DESIGN ENGINEER		AS SHOWN		DEC. 1974		FOI-101-6-A	



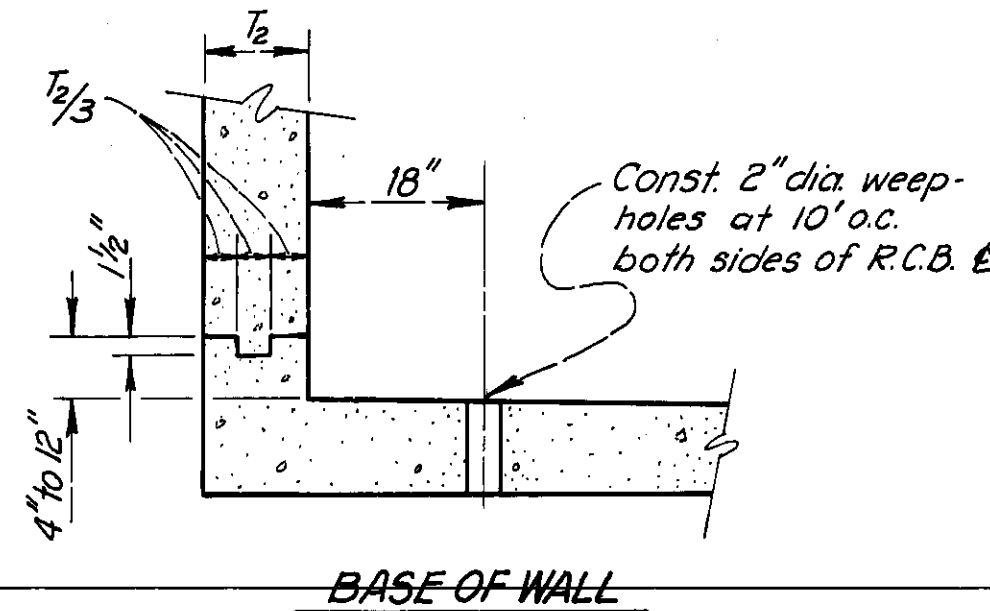
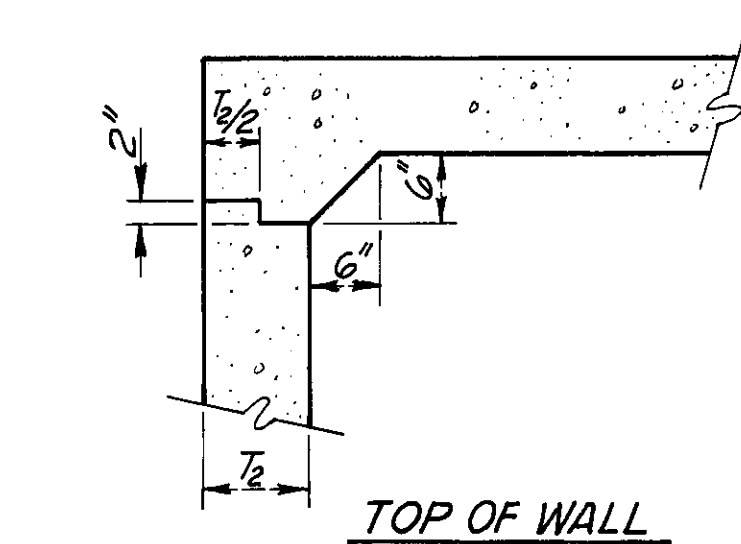
*Note:
Only earth face
reinf. shown. For
channel face see
sections this sht.*



DESIGN CRITERIA

Loading: 33 p.c.f. e.f.p. $n = 9.2$
 $f_c = 1,350$ P.S.I. $u = 350$ P.S.I. bond
 $f_s = 24,000$ P.S.I. $v = 60$ P.S.I. shear

PRELIMINARY REVISION CODE				A		B													
Disregard Prints Bearing Earlier Codes				12/27/74		12/18/74													
REVIEWS				ORANGE COUNTY FLOOD CONTROL DISTRICT															
MARK	DATE	DESCRIPTION																	
SANTA ANA - DELHI CHANNEL																			
TRANSITION DETAILS																			
STA 175 + 06.08 to STA 175 + 36.08																			
DESIGNED <u>W. J. Bacht A.D.R.R.</u>				RECOMMENDED <u>F. W. W. [Signature]</u>															
DRAWN <u>W.D.A.</u>				CHECKED <u>H.H.P.M.</u>				DESIGN DIVISION ENGINEER											
SUBMITTED <u>[Signature]</u>				SCALE AS SHOWN				DATE DEC. 1974				DWG. NO. FOI-101-6-A							
DESIGN ENGINEER																			



That portion of gravel base extending 12" beyond edge of R.C.B. may be deleted if solid sheeting is used.

6 Mil poly-ethylene sheet (Remove 1 sq. ft. ± below each weep hole)

F02 R.C. BOX SECTION
Scale: 1/2"=1'-0"

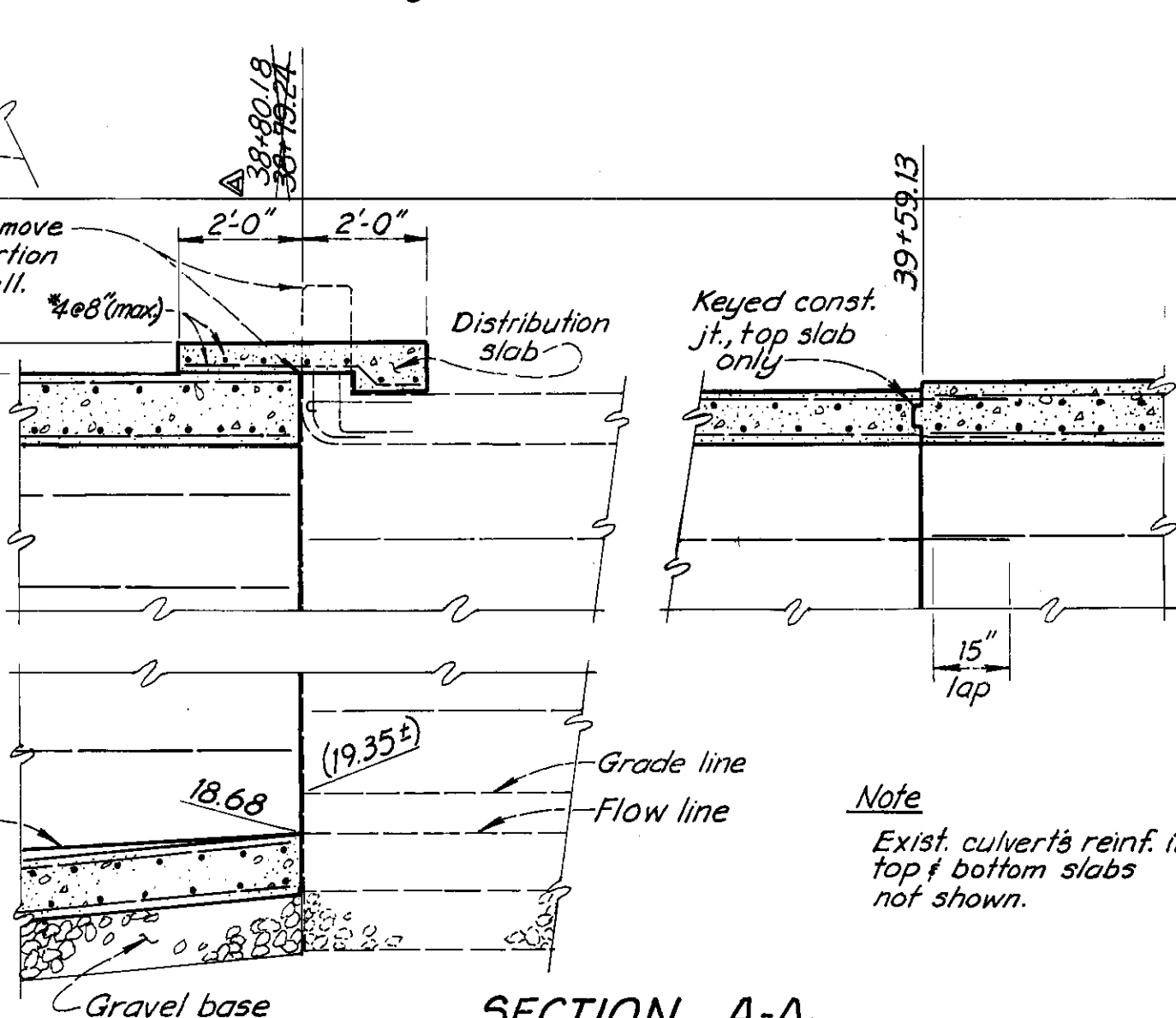
STRUCTURAL NOTES

- GENERAL**
1. DIMENSIONS FROM FACE OF CONCRETE TO STEEL SHALL BE 1/2" UNLESS OTHERWISE SHOWN.
 2. CONCRETE DIMENSIONS SHALL BE MEASURED HORIZONTALLY OR VERTICALLY ON THE PROFILE, AND PARALLEL TO OR AT RIGHT ANGLES (OR RADIAL) TO CENTERLINE OF CONDUIT ON THE PLAN EXCEPT AS OTHERWISE SHOWN.
 3. TRANSVERSE CONSTRUCTION JOINTS SHALL NOT BE PLACED WITHIN 30" OF HOLE OR JUNCTION STRUCTURE OPENINGS.
 4. TRANSVERSE CONSTRUCTION JOINTS IN WALLS AND SLABS SHALL BE IN THE SAME PLANE. NO STAGGERING OF JOINTS WILL BE PERMITTED. TRANSVERSE CONSTRUCTION JOINTS SHALL BE NORMAL OR QUAD TO THE CENTERLINE OF CONSTRUCTION.
 5. THE TRANSVERSE REINFORCING STEEL SHALL TERMINATE ONE AND ONE-HALF INCHES FROM THE CONCRETE SURFACES UNLESS OTHERWISE SHOWN ON THE STRUCTURAL DETAILS.
 6. EXPOSED EDGES OF CONCRETE MEMBERS SHALL BE FINISHED OR BEVELED.
 7. NO SPLICES IN TRANSVERSE STEEL REINFORCEMENT WILL BE PERMITTED OTHER THAN 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.
 8. LONGITUDINAL STEEL SHALL BE LAPPED. BAR DIAMETERS AT SPLICES. TRANSVERSE STEEL SHALL BE LAPPED TO BAR DIAMETERS AT SPLICES.

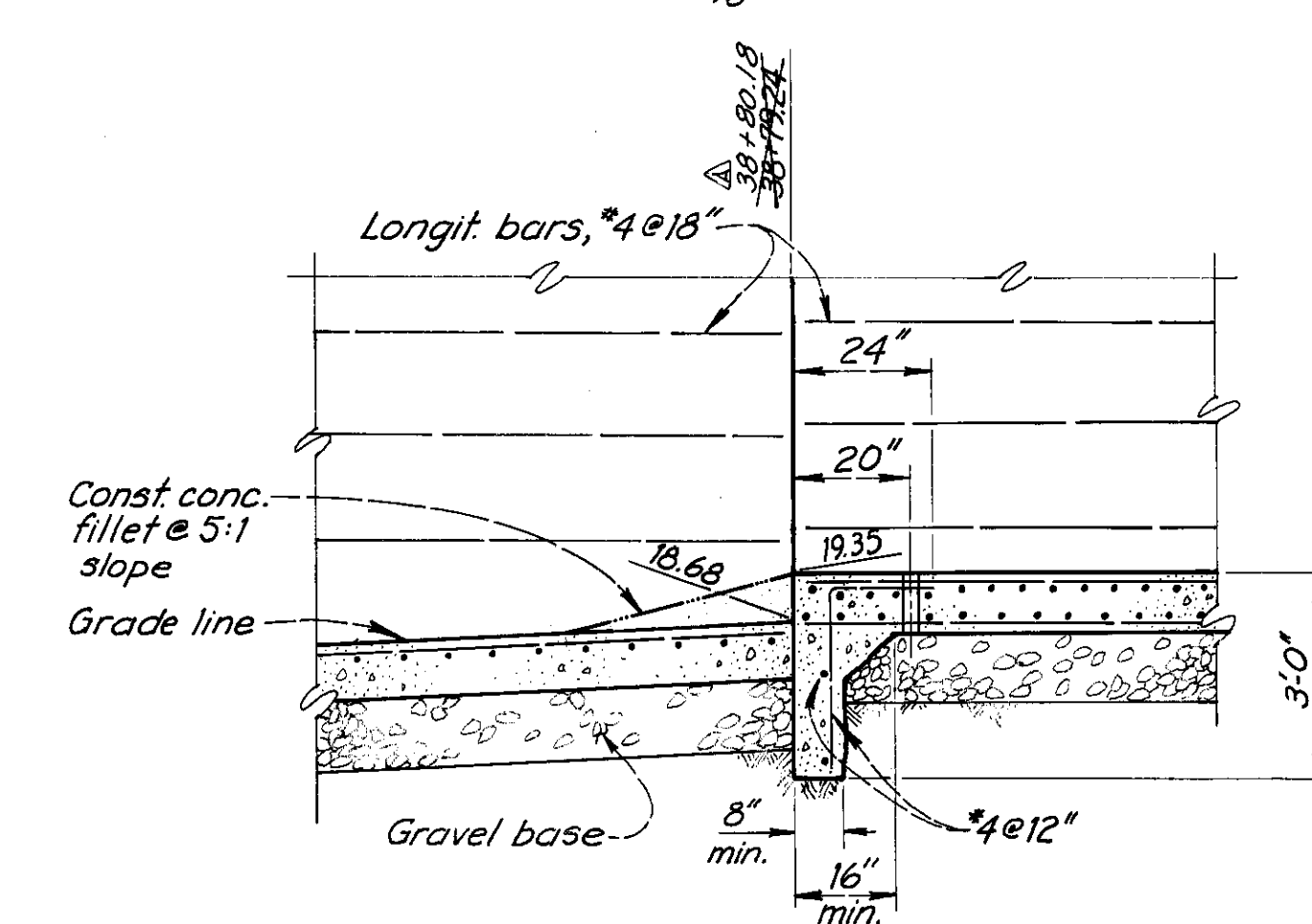
ADDITIONAL NOTES FOR BOX SECTIONS

1. LONGITUDINAL STEEL SHALL BE CONTINUOUS AND EXTEND THROUGH ALL CONSTRUCTION JOINTS.
2. UNLESS OTHERWISE SHOWN ON THE DRAWINGS, TRANSVERSE JOINT KEYWAYS (IN BOTH SLABS AND WALLS), AS DETAILLED THEREOF SHALL NOT EXCEED 30 FEET OR BE LESS THAN 10 FEET. ALL CONSTRUCTION JOINTS IN BOTTOM SLAB, TOP SLAB, AND SIDE WALLS SHALL BE IN THE SAME PLANE. NO STAGGERING OF JOINTS WILL BE PERMITTED.
3. UNLESS OTHERWISE SHOWN ON THE DETAILS, IN CURVED SECTIONS TRANSVERSE BARS SHALL BE PLACED RADIAL. STRAIGHT TRANSVERSE BARS IN TOP AND BOTTOM SLABS SHALL BE SPACED AS SHOWN ON THE TYPICAL SECTIONS. SPACING SHALL BE AT THE CENTERLINE OF CONSTRUCTION FOR SINGLE-BARREL BOXES. STRAIGHT BARS AND L-BARS IN WALLS SHALL BE SPACED AS SHOWN ON THE TYPICAL SECTIONS, WITH THE SPACING MEASURED BETWEEN THE VERTICAL LEGS OF BARS.
4. AT THE BEGINNING AND ENDING OF ALL MOORS, A CURTAIN OF REINFORCEMENT COMPOSED OF 3, 4, 5, 6, 7, AND 8 BARS SHALL BE PLACED THREE INCHES FROM THE TRANSVERSE CONSTRUCTION JOINT.
5. THE VERTICAL WALL STEEL IN THE INTERIOR FACE OF WALLS MAY BE SPACED AT THE CONSTRUCTION JOINT AT THE BASE OF THE WALL. THE SPICE SHALL BE 20 BAR DIAMETERS IN LENGTH.
6. IN ALL SECTIONS (A, B, AND C), BARS. THE CRITICAL LENGTH OF THE C AND G BARS HAS BEEN CALCULATED FOR A FOUR INCH STARTER WALL. IF THE HEIGHT OF THE STARTER WALL IS VARYED, THE VERTICAL LENGTH OF THE C AND G BARS SHALL BE VARYED CORRESPONDINGLY TO THE HORIZONTAL LENGTH OF THE STARTER WALL. THE LAPS SHALL BE BASED ON THE SMALLER BAR.
7. CONCRETE QUANTITIES ARE BASED ON A 14'-0" HIGH WALL. ANY WALL HIGHER THAN 14' SHALL BE NOT INCLUDE AN ADDITIONAL SPLICES.

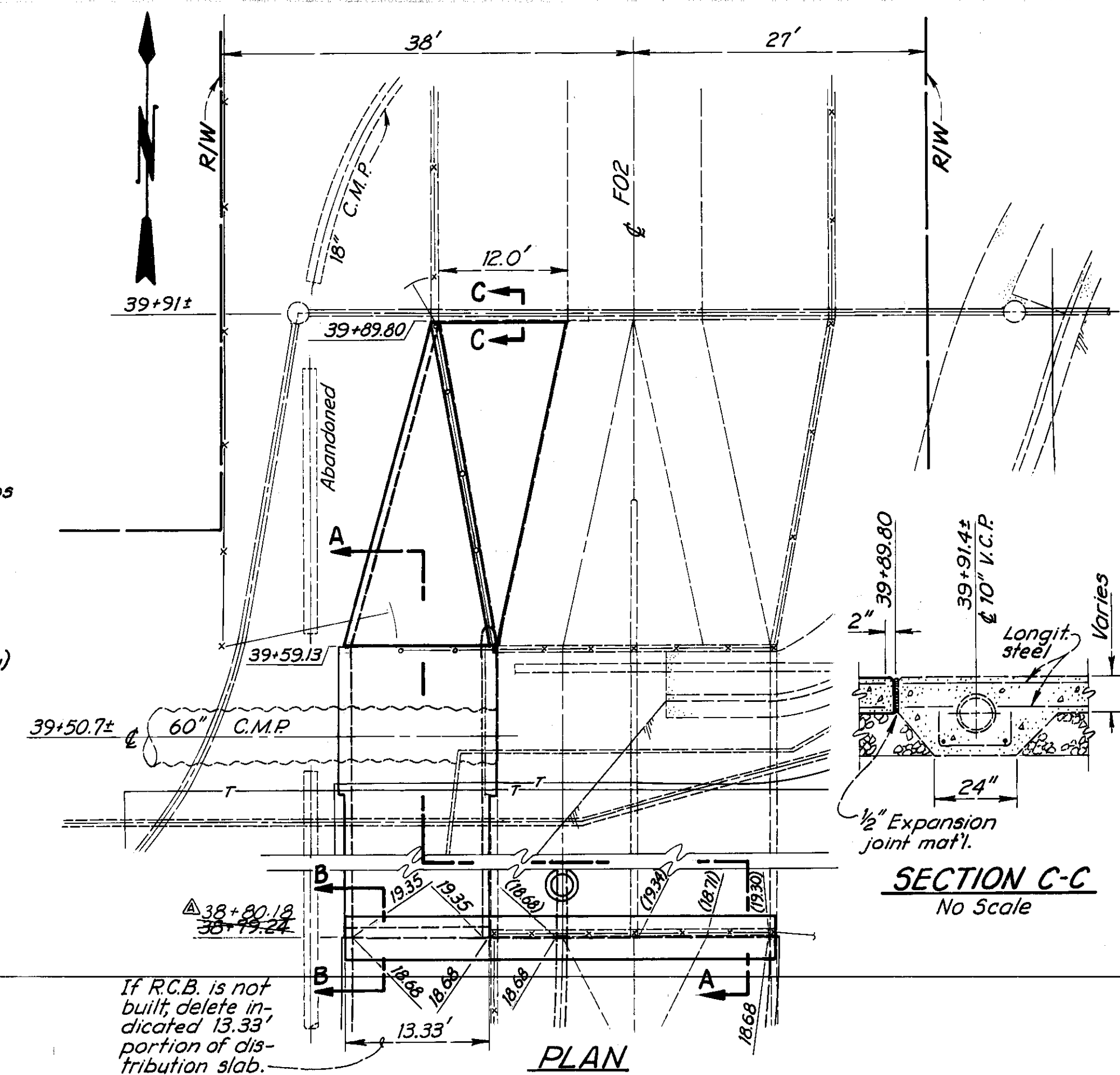
**DETAIL
TRANSITION SLAB, BEAM & COLUMN**
Scale: 3/8"=1'-0"



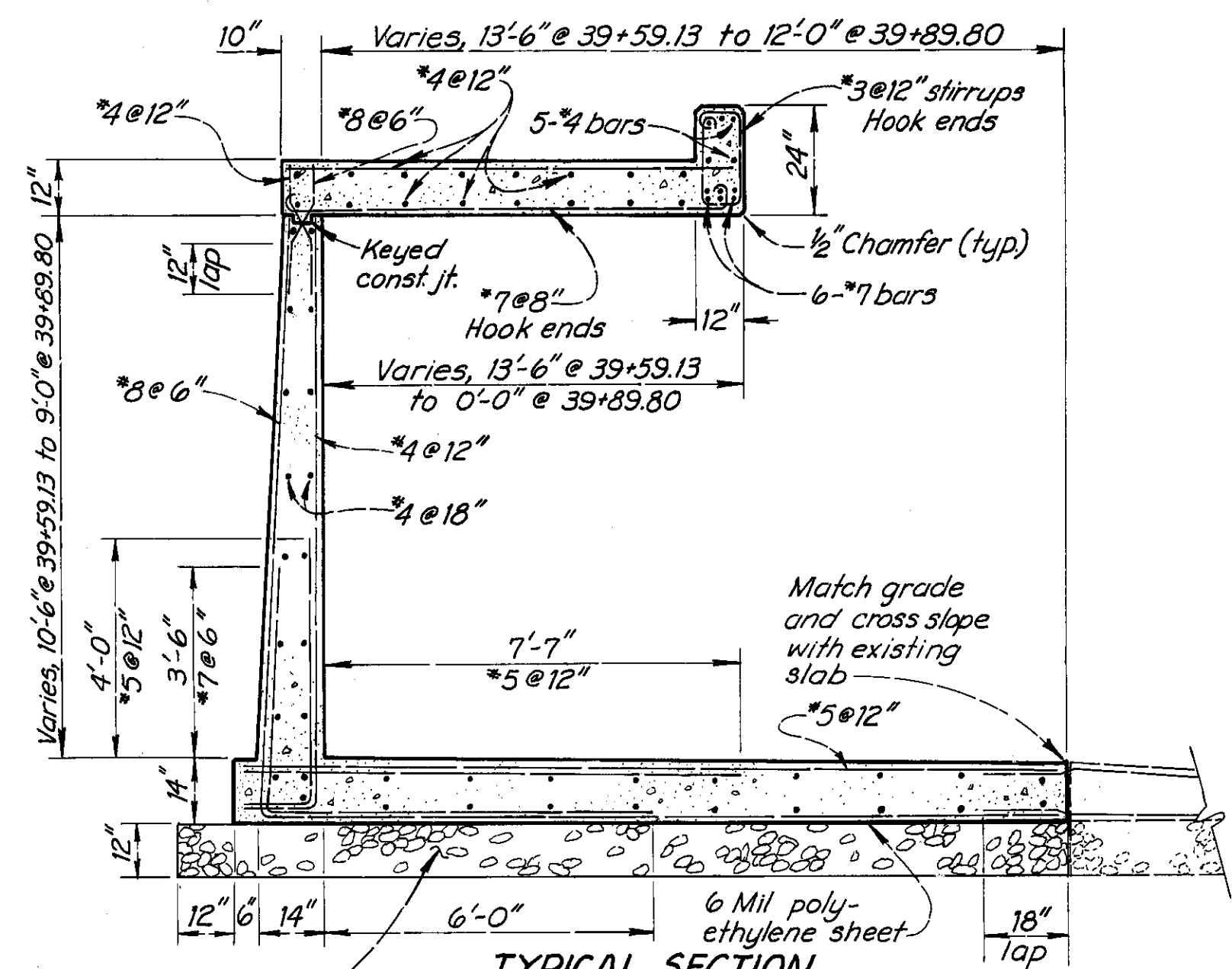
**SECTION A-A
DISTRIBUTION SLAB & CONST. JOINT DETAILS**
Scale: 3/8"=1'-0"



**SECTION B-B
CUT-OFF WALL DETAIL**
Scale: 3/8"=1'-0"



**PLAN
VERTICAL WALL TRANSITION**
Scale: 1"=10'



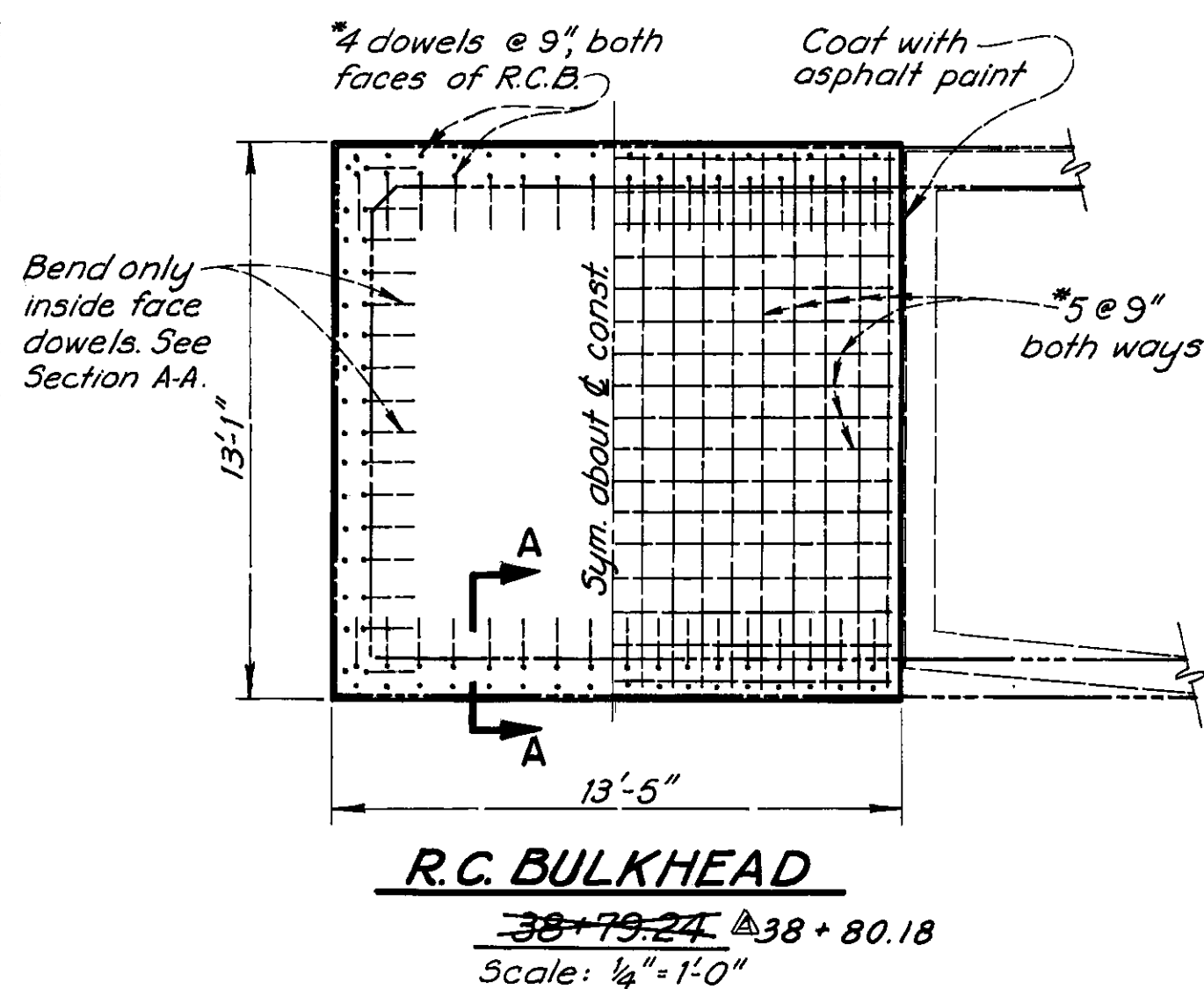
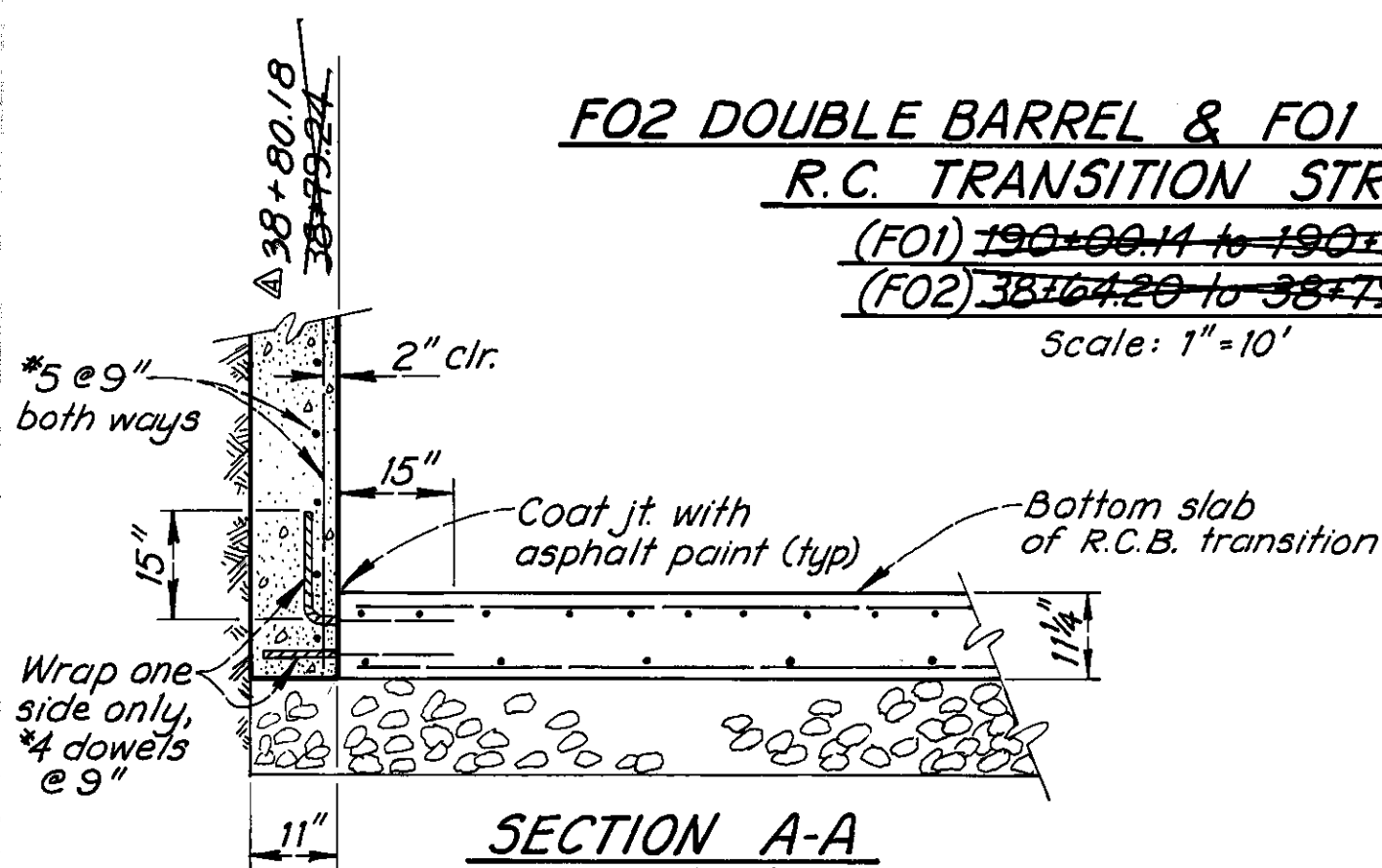
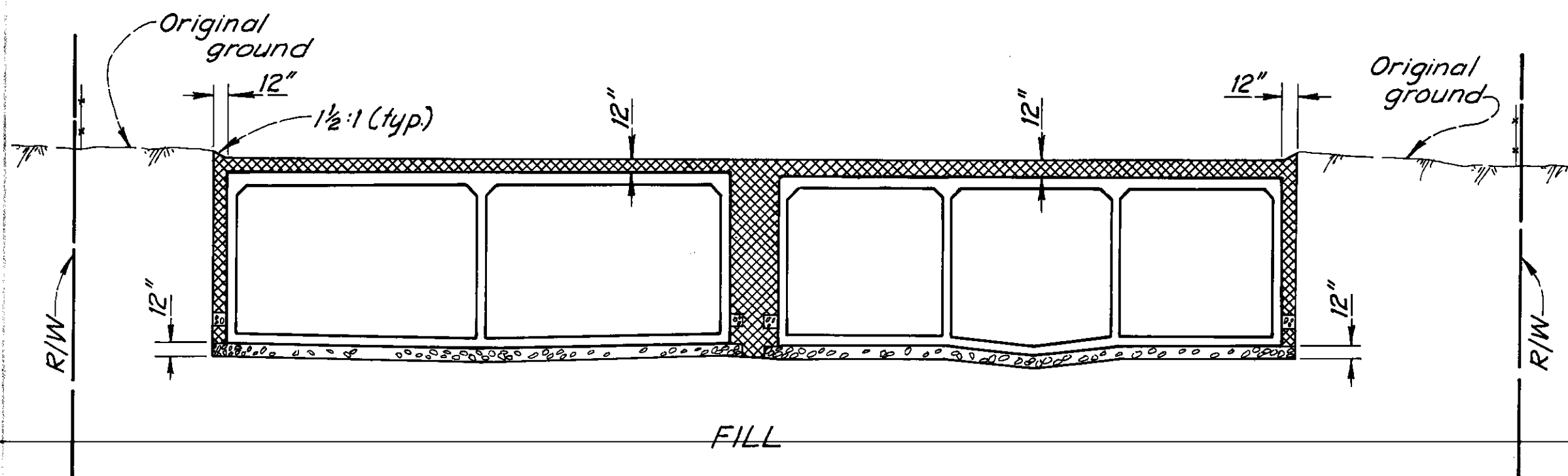
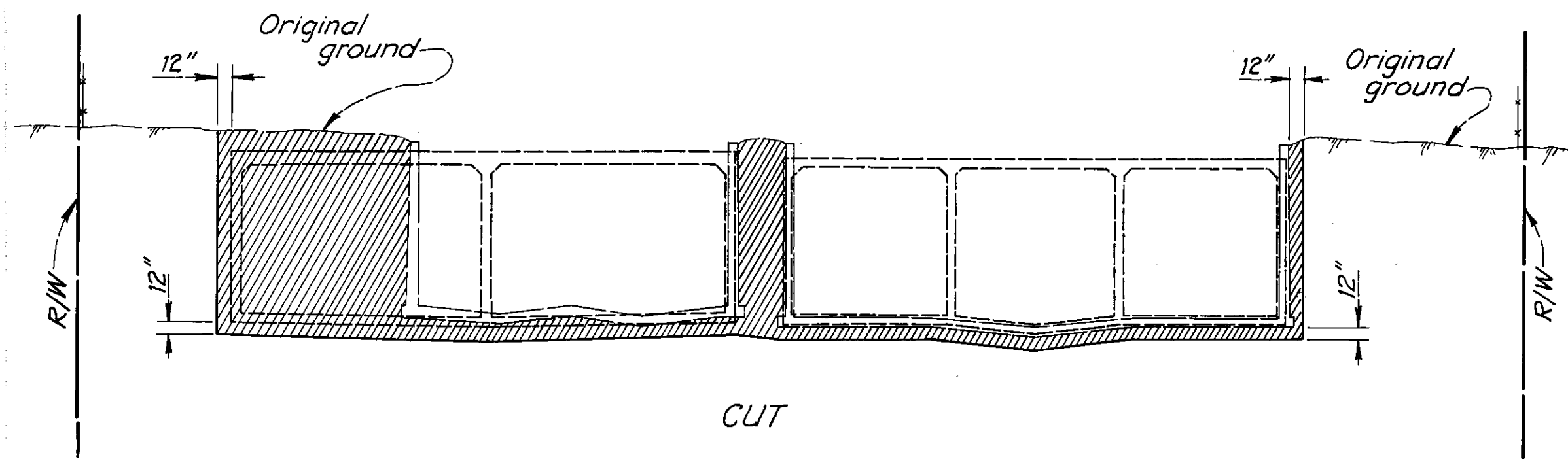
**TYPICAL SECTION
39+59.13 TO 39+89.80**
Scale: 3/8"=1'-0"

PRELIMINARY REVISION CODE		A B	
12/2/74 12/15/74		12/2/74 12/15/74	
DESIGNED BY: W.J. RECHT & D.R.P.		CHECKED BY: H.H. III	
DRAWN BY: W.J. RECHT & D.R.P.		DATE: 12/2/74	
PROJECT: SANTA ANA - DELHI CHANNEL		SHEET: 8 OF 10	
STRUCTURAL DETAILS		SINGLE R.C.B. CULVERT & TRANSITION	
STA 38+79.24 TO STA 39+89.80		DEC-1974	

CONSTRUCTION JOINT DETAILS NOT TO SCALE

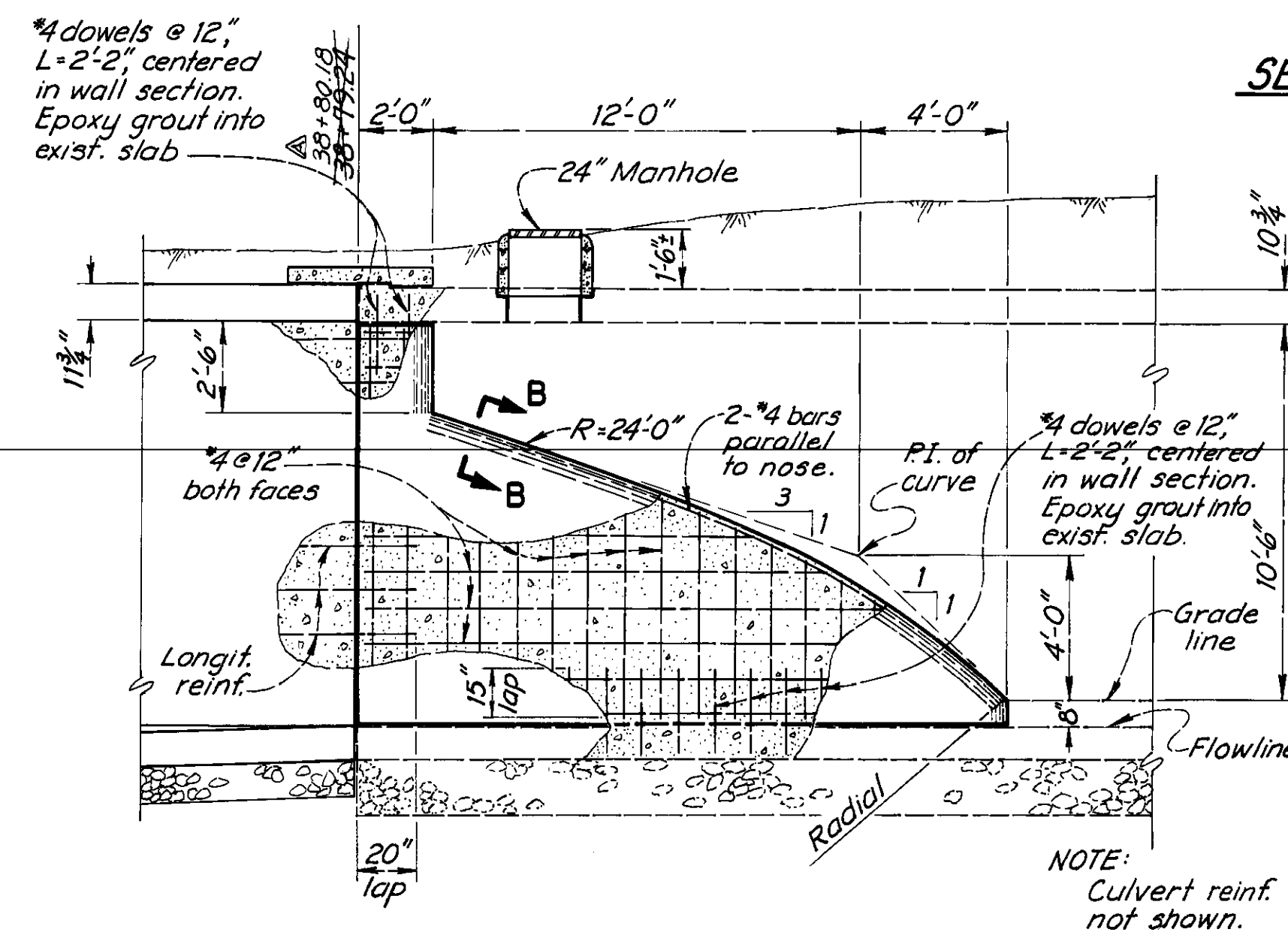
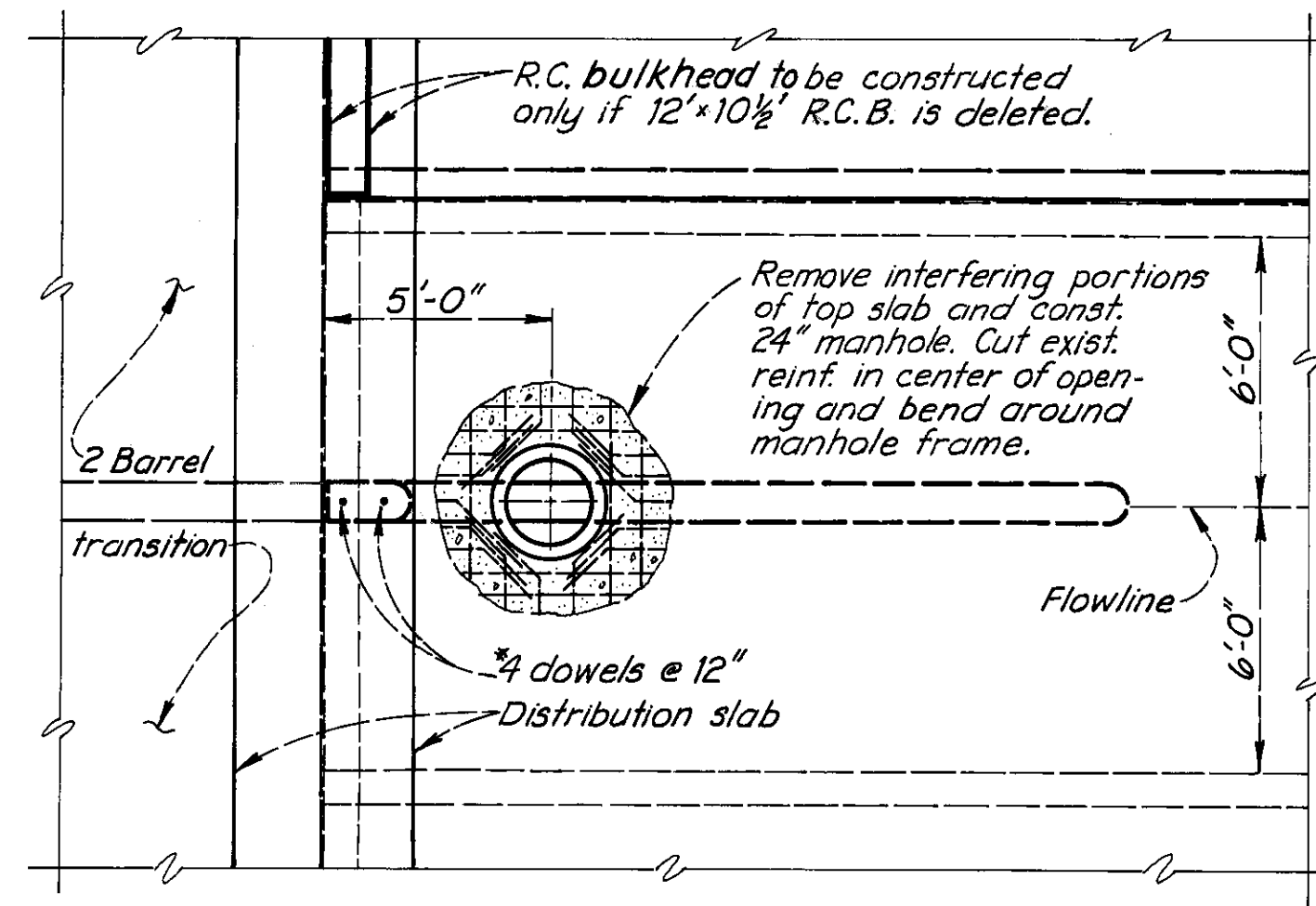
DESIGN DATA

- LIVE LOAD**
H20-44 unless otherwise noted
- DEAD LOAD**
Earth load per Marston's formula $w = 110$ p.s.f.
 $K_u = K_d = 0.150$
Bo - Outside width of box plus 3 feet
Side earth 36 p.s.f. per foot of depth
- Weight of concrete 150 p.s.f.
- ALLOWABLE STRESSES**
 $f_c = 3000$ p.s.i. at 28 days
 $f_s = 350$ p.s.i.
 $f_s = 24,000$ p.s.i.
 $n = 9.2$
shear and bond stresses per A.C.I. 318-63



BEDDING NOTES

1. Bedding for structure shall be prepared by the contractor in accordance with the specifications and approved by the engineer.
2. Bedding shall be prepared by the contractor in accordance with the specifications and approved by the engineer.
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4. Bedding shall be prepared by the contractor in accordance with the specifications and approved by the engineer.
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10. Bedding shall be prepared by the contractor in accordance with the specifications and approved by the engineer.



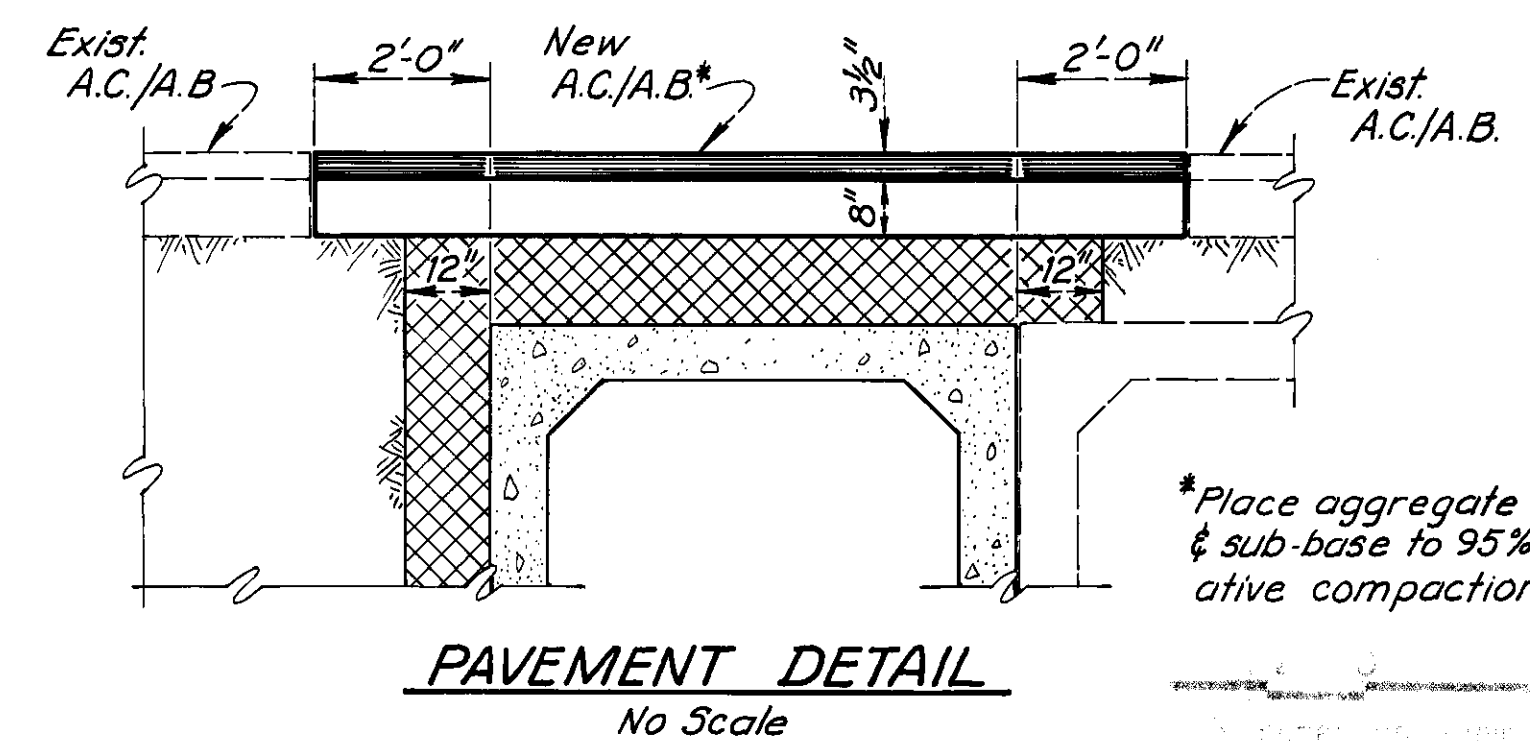
R.C. DEBRIS WALL & MANHOLE

FO2 STA. 38+79.24

38+80.18

Scale: 1/4" = 1'-0"

SECTION B-B



LEGEND

- Structure excavation
- Structure backfill
- Gravel base

A B
12/2/74 12/17/74

6-76 "AS BUILT"

W.J. Recht & D.R.R.
W.D. Adams H.H.P.III

DEBRIS WALL

DEC. 1974

FOI-101-6-A

