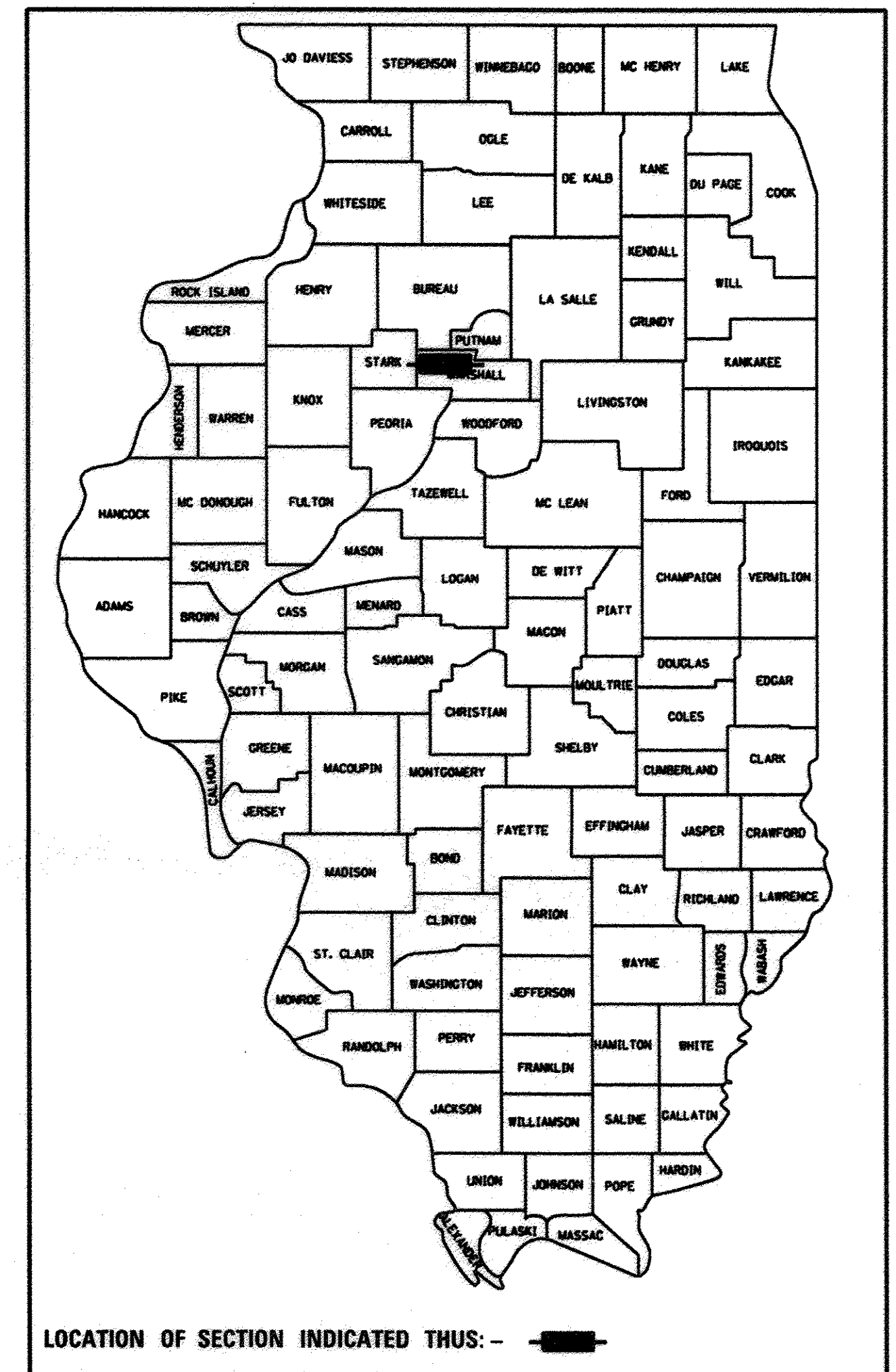


STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
PLANS FOR PROPOSED
SURFACE TRANSPORTATION PROGRAM
STEUBEN ROAD DISTRICT
SECTION 16-11124-00-BR
PROJECT NO. BROS-0123(030)
C-94-029-16
MARSHALL COUNTY
T.R. 63

CONTRACT NO. 89697



CLASSIFICATION: LOCAL ROADS (NON-URBAN)
DESIGN VOLUME: UNDER 250 ADT
CURRENT ADT: 27 (2016)
DESIGN SPEED: 20 MPH

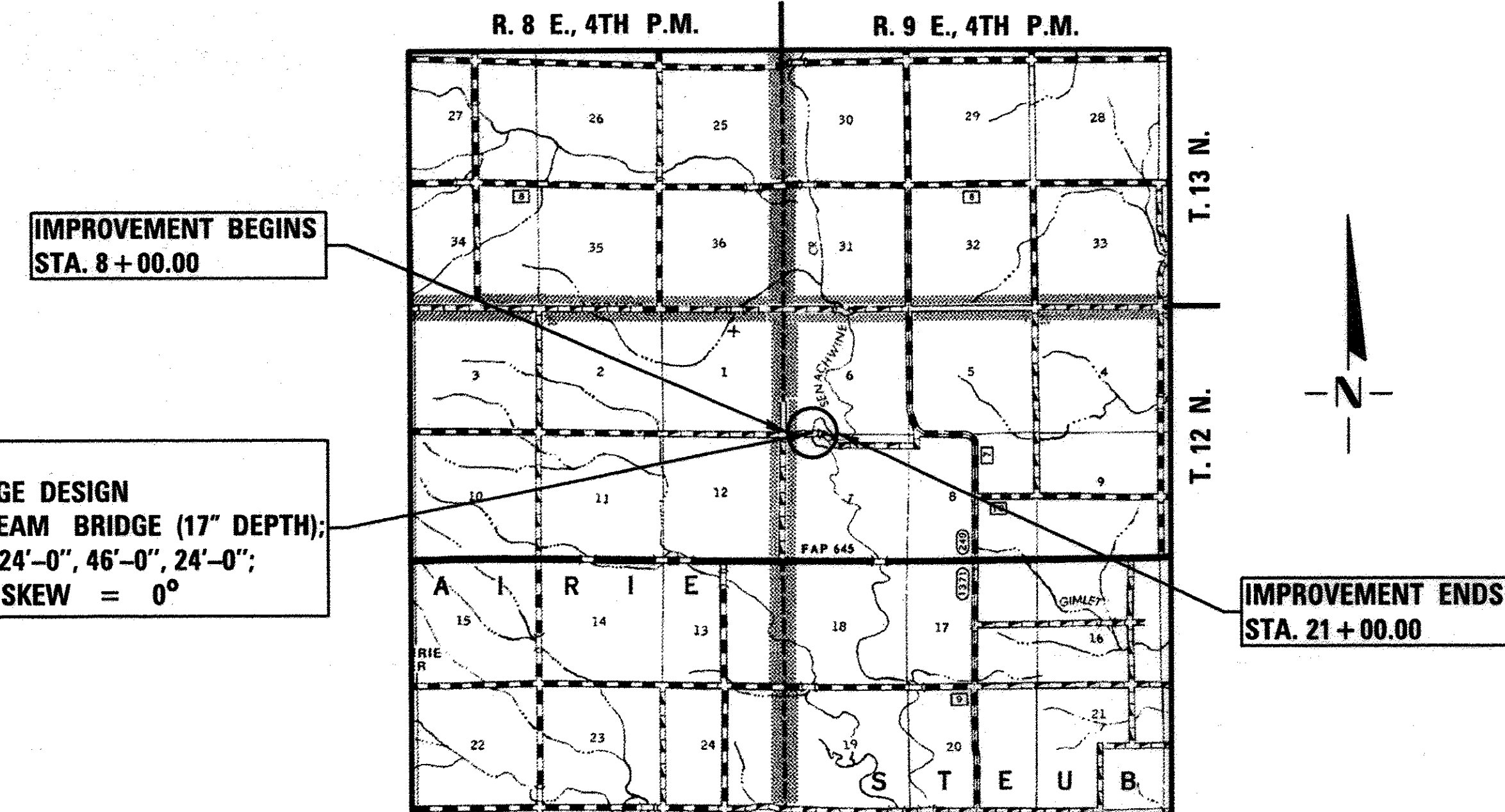
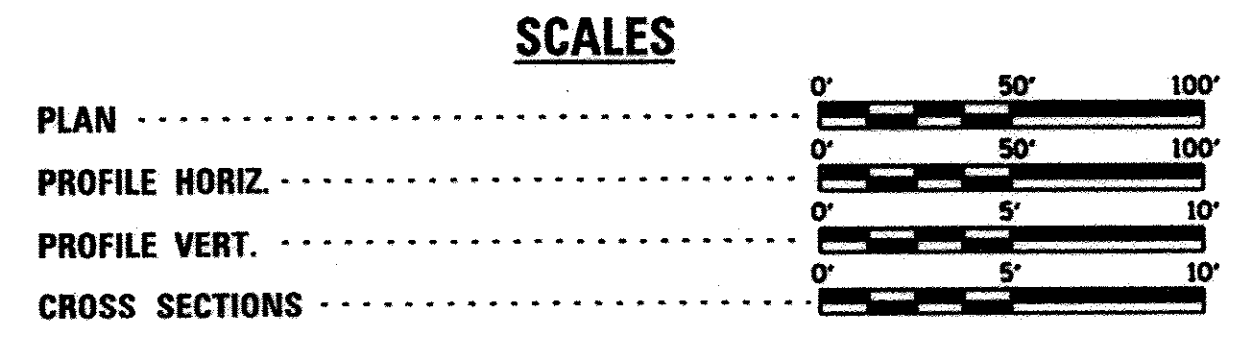
TOLL FREE JOINT UTILITY LOCATING
INFORMATION FOR EXCAVATORS (J.U.L.I.E.)
TELEPHONE NUMBER 1-800-892-0123

INDEX OF SHEETS

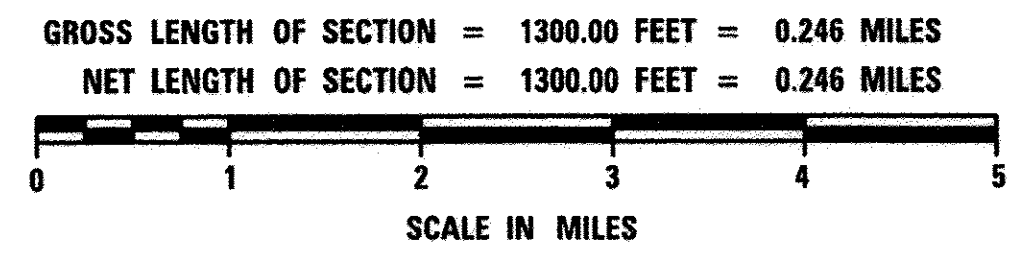
SHEET NO.	TITLE
1.	COVER SHEET
2.	SUMMARY OF QUANTITIES, GENERAL NOTES & TYPICAL SECTIONS
3.	PLAN AND PROFILE SHEET
4.	ENTRANCES
5.-19.	BRIDGE PLANS
20.-25.	STATION CROSS SECTIONS

STANDARDS

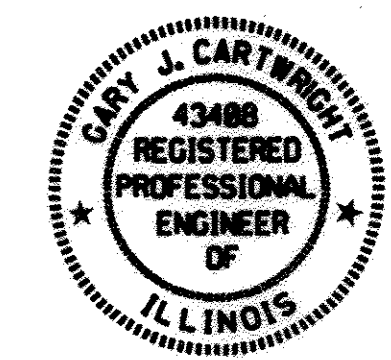
280001-07	TEMPORARY EROSION CONTROL SYSTEMS
515001-03	NAME PLATE FOR BRIDGES
701901-06	TRAFFIC CONTROL DEVICES
720011-01	METAL POSTS FOR SIGNS, MARKERS AND DELINEATORS
725001-01	OBJECT AND TERMINAL MARKERS
728001-01	TELESCOPING STEEL SIGN SUPPORT
729001-01	APPLICATIONS OF TYPES A & B METAL POSTS (FOR SIGNS AND MARKERS)
BLR 21-9	TYPICAL APPLICATION OF TRAFFIC CONTROL DEVICES FOR CONSTRUCTION ON RURAL LOCAL HIGHWAYS



LOCATION PLAN



FEHR GRAHAM
 ENGINEERING & ENVIRONMENTAL
 ILLINOIS IOWA WISCONSIN



Gary J. Cartwright 7-19-16
 ILLINOIS PROFESSIONAL NO. 43488
 EXPIRES 11-30-17

PASSED	<i>[Signature]</i> 7-21 2016
ROAD DISTRICT COMMISSIONER	
APPROVED	<i>[Signature]</i> 7-21 2016
COUNTY ENGINEER	
PASSED	<i>[Signature]</i> August 15 2016
DISTRICT FOUR ENGINEER OF LOCAL ROADS & STREETS	
RELEASED FOR BID	<i>[Signature]</i> August 15 2016
BASED ON LIMITED	
REVIEW	<i>[Signature]</i>
REGION THREE ENGINEER	
STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	

SUMMARY OF QUANTITIES

CODE NO.	ITEM	UNIT	TOTAL QUANTITY
20100110	TREE REMOVAL (6 TO 15 UNITS DIAMETER)	UNIT	30
20100210	TREE REMOVAL (OVER 15 UNITS DIAMETER)	UNIT	21
20100500	TREE REMOVAL, ACRES	ACRE	0.3
20200100	EARTH EXCAVATION	CU YD	3212
20300100	CHANNEL EXCAVATION	CU YD	903
28000250	TEMPORARY EROSION CONTROL SEEDING	POUND	105
28000305	TEMPORARY DITCH CHECKS	FOOT	1092
28000400	PERIMETER EROSION BARRIER	FOOT	2209
28000500	INLET AND PIPE PROTECTION	EACH	1
28100207	STONE RIPRAP, CLASS A4	TON	185
28200200	FILTER FABRIC	SQ YD	258
35101400	AGGREGATE SURFACE COURSE, TYPE B	TON	945
50100100	REMOVAL OF EXISTING STRUCTURES	EACH	1
50300225	CONCRETE STRUCTURES	CU YD	41.0
50300280	CONCRETE ENCASEMENT	CU YD	12.7
50400305	PRECAST PRESTRESSED CONCRETE DECK BEAMS (17" DEPTH)	SQ FT	2256
50800205	REINFORCEMENT BARS, EPOXY COATED	POUND	6060
50900205	STEEL RAILING, TYPE S1	FOOT	188
51201400	FURNISHING STEEL PILES HP10X42	EACH	296
51500100	NAME PLATES	EACH	1
542A0223	PIPE CULVERTS, CLASS A, TYPE 1 18"	FOOT	56
67100100	MOBILIZATION	L SUM	1
70101830	TRAFFIC CONTROL AND PROTECTION, STANDARD BLR 21	L SUM	1
72501000	TERMINAL MARKER - DIRECT APPLIED	EACH	4
X2501000	SEEDING, CLASS 2 (SPECIAL)	ACRE	0.9
X2830495	AGGREGATE DITCH (SPECIAL)	TON	906
Z0013798	CONSTRUCTION LAYOUT	L SUM	1
Z0065000	SETTING PILES IN ROCK	EACH	16

*SEE SPECIAL PROVISIONS
 Δ SPECIALTY ITEMS

GENERAL NOTES

WHERE SECTION OR SUBSECTION MONUMENTS ARE ENCOUNTERED. THE ENGINEER SHALL BE NOTIFIED BEFORE SUCH MONUMENTS ARE REMOVED. THE CONTRACTOR SHALL PROTECT AND CAREFULLY PRESERVE ALL PROPERTY MARKS AND MONUMENTS UNTIL THE OWNER AND AUTHORIZED SURVEYOR OR AGENT HAS WITNESSED OR OTHERWISE REFERENCED THEIR LOCATION.

THE AREA TO BE SEEDD SHALL CONSIST OF ALL DISTURBED EARTH SURFACES WITHIN THE RIGHT OF WAY, AS DIRECTED BY THE ENGINEER.

SEEDING, CLASS 2 (SPECIAL) = 0.9 ACRE

ALL TREES BETWEEN THE LIMITS SHOWN WHICH INTERFERE WITH THE CONSTRUCTION SHALL BE REMOVED ONLY AS DIRECTED BY THE ENGINEER.

TREE REMOVAL (6 TO 15 UNITS DIAMETER)
 1' RT. STA. 15+24= 15 UNIT
 3' RT. STA. 15+63= 15 UNIT
 TOTAL= 30 UNIT

TREE REMOVAL (OVER 15 UNITS DIAMETER)
 1.5' RT. STA. 15+60= 21 UNIT
 TOTAL= 21 UNIT

TREE REMOVAL, ACRES
 RT. STA. 11+00 TO RT. STA. 14+70
 RT. STA. 15+33 TO RT. STA. 15+80
 TOTAL= 0.3 ACRE

TREE REPLACEMENT WILL BE BY OTHERS.

APPLICATION RATES USED IN QUANTITY CALCULATIONS

AGGREGATE SURFACE COURSE.....	2.05 TON/CU YD
STONE RIPRAP.....	1.65 TON/CU YD
AGGREGATE DITCH (SPECIAL).....	1.65 TON/CU YD

TEMPORARY DITCH CHECKS

RT. STA. 8+14 = 14 FOOT	LT. STA. 11+18 = 14 FOOT
RT. STA. 8+28 = 14 FOOT	LT. STA. 11+32 = 14 FOOT
RT. STA. 8+41 = 14 FOOT	LT. STA. 11+45 = 14 FOOT
RT. STA. 8+54 = 14 FOOT	LT. STA. 11+59 = 14 FOOT
RT. STA. 8+67 = 14 FOOT	LT. STA. 11+73 = 14 FOOT
RT. STA. 8+80 = 14 FOOT	LT. STA. 11+86 = 14 FOOT
RT. STA. 8+93 = 14 FOOT	LT. STA. 12+00 = 14 FOOT
RT. STA. 9+06 = 14 FOOT	RT. STA. 11+19 = 14 FOOT
RT. STA. 9+17 = 14 FOOT	RT. STA. 11+30 = 14 FOOT
RT. STA. 9+29 = 14 FOOT	RT. STA. 11+42 = 14 FOOT
RT. STA. 9+40 = 14 FOOT	RT. STA. 11+53 = 14 FOOT
RT. STA. 9+52 = 14 FOOT	RT. STA. 11+65 = 14 FOOT
RT. STA. 9+63 = 14 FOOT	RT. STA. 11+77 = 14 FOOT
RT. STA. 9+75 = 14 FOOT	RT. STA. 11+88 = 14 FOOT
RT. STA. 9+86 = 14 FOOT	RT. STA. 12+00 = 14 FOOT
RT. STA. 9+97 = 14 FOOT	LT. & RT. STA. 12+13 = 28 FOOT
RT. STA. 10+09 = 14 FOOT	LT. & RT. STA. 12+28 = 28 FOOT
RT. STA. 10+20 = 14 FOOT	LT. & RT. STA. 12+42 = 28 FOOT
RT. STA. 10+31 = 14 FOOT	LT. & RT. STA. 12+56 = 28 FOOT
RT. STA. 10+42 = 14 FOOT	LT. & RT. STA. 12+71 = 28 FOOT
RT. STA. 10+54 = 14 FOOT	LT. & RT. STA. 12+85 = 28 FOOT
RT. STA. 10+65 = 14 FOOT	LT. & RT. STA. 13+00 = 28 FOOT
RT. STA. 10+76 = 14 FOOT	LT. & RT. STA. 13+12 = 28 FOOT
RT. STA. 10+87 = 14 FOOT	LT. & RT. STA. 13+29 = 28 FOOT
RT. STA. 11+00 = 14 FOOT	LT. & RT. STA. 13+46 = 28 FOOT
	LT. & RT. STA. 13+63 = 28 FOOT
	LT. & RT. STA. 13+81 = 28 FOOT
	LT. & RT. STA. 13+98 = 28 FOOT
	LT. & RT. STA. 14+15 = 28 FOOT
	LT. & RT. STA. 14+32 = 28 FOOT
	LT. & RT. STA. 14+50 = 28 FOOT
	LT. & RT. STA. 15+50 = 28 FOOT
	LT. & RT. STA. 18+00 = 28 FOOT
	LT. STA. 18+32 = 14 FOOT
	LT. STA. 18+49 = 14 FOOT
	TOTAL = 1092 FOOT

TEMPORARY EROSION CONTROL

THE FOLLOWING QUANTITIES ARE ESTIMATE ONLY. ACTUAL QUANTITIES FOR EROSION CONTROL WILL BE DETERMINED BY THE ENGINEER IN THE FIELD AND THERE WILL BE NO ADJUSTMENT IN ANY PRICE DUE TO A CHANGE IN PLAN QUANTITY

TEMPORARY EROSION CONTROL SEEDINGS	= 105 POUND
PERIMETER EROSION CONTROL BARRIER	= 2,209 FOOT
TEMPORARY DITCH CHECKS	= 1092 FOOT
INLET AND PIPE PROTECTION	= 1 EACH

EROSION CONTROL

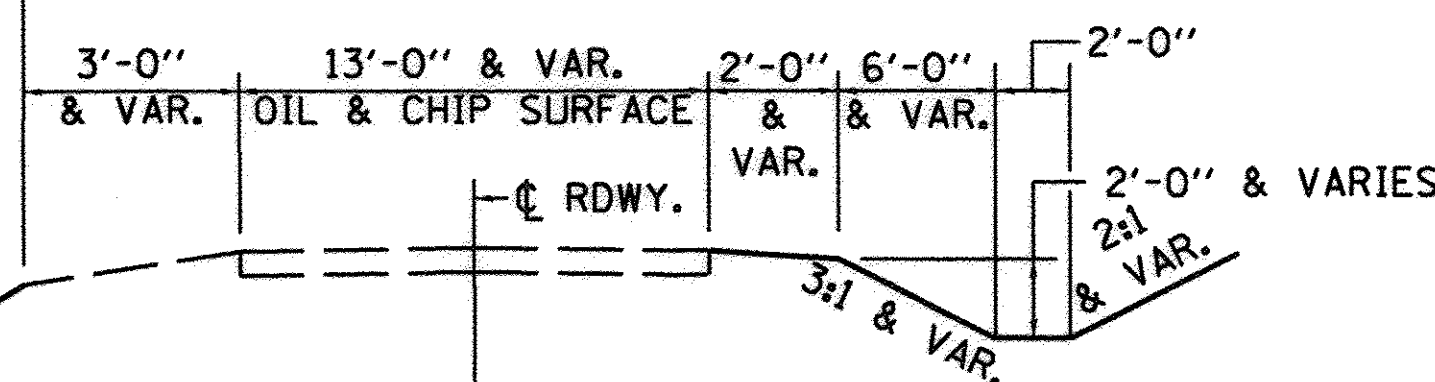
LOCATION	TEMPORARY EROSION CONTROL SEEDING	PERIMETER EROSION BARRIER
	POUND	FOOT
RT. STA. 8+00 TO RT. STA. 11+00	10	
LT. STA. 11+00 TO LT. STA. 14+48	12	
RT. STA. 11+00 TO RT. STA. 14+48	37	
LT. STA. 15+44 TO LT. STA. 18+95	12	
LT. STA. 19+09 TO LT. STA. 21+00	2	
RT. STA. 15+44 TO RT. STA. 21+00	32	
TOTAL	105	
RT. STA. 8+00 TO RT. STA. 11+00		300
LT. STA. 11+00 TO LT. STA. 14+81		387
RT. STA. 11+00 TO RT. STA. 14+81		407
LT. STA. 15+17 TO LT. STA. 18+95		364
LT. STA. 19+09 TO LT. STA. 21+00		212
RT. STA. 15+44 TO RT. STA. 19+50		401
RT. STA. 19+65 TO RT. STA. 21+00		138
TOTAL		2209

INLET AND PIPE PROTECTION

LT. STA. 19+34 = 1 EACH
TOTAL = 1 EACH

ROADWAY SCHEDULES

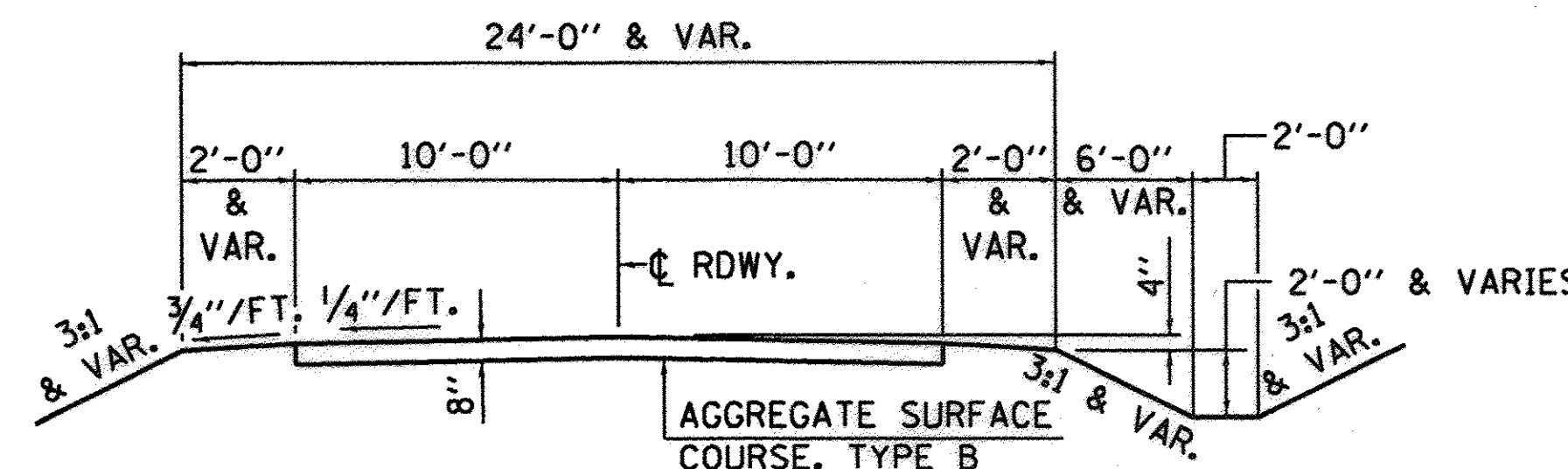
LOCATION	AGG. SURF. COURSE, TYPE B TON
STA. 11+00.00 TO STA. 11+50.00	45
STA. 11+50.00 TO STA. 13+98.12	251
STA. 13+98.12 TO STA. 14+48.12	53
STA. 15+43.87 TO STA. 15+93.87	53
STA. 15+93.87 TO STA. 20+50.00	462
STA. 20+50.00 TO STA. 21+00.00	49
P.E. LT. STA. 19+08.5	32
TOTAL	945



TYPICAL PROPOSED CROSS SECTION

RT. STA. 8+00 TO RT. STA. 11+00

SUGGESTED CUT SECTION
 CONSTRUCT AS SHOWN BY
 STATION CROSS SECTIONS



TYPICAL PROPOSED CROSS SECTION

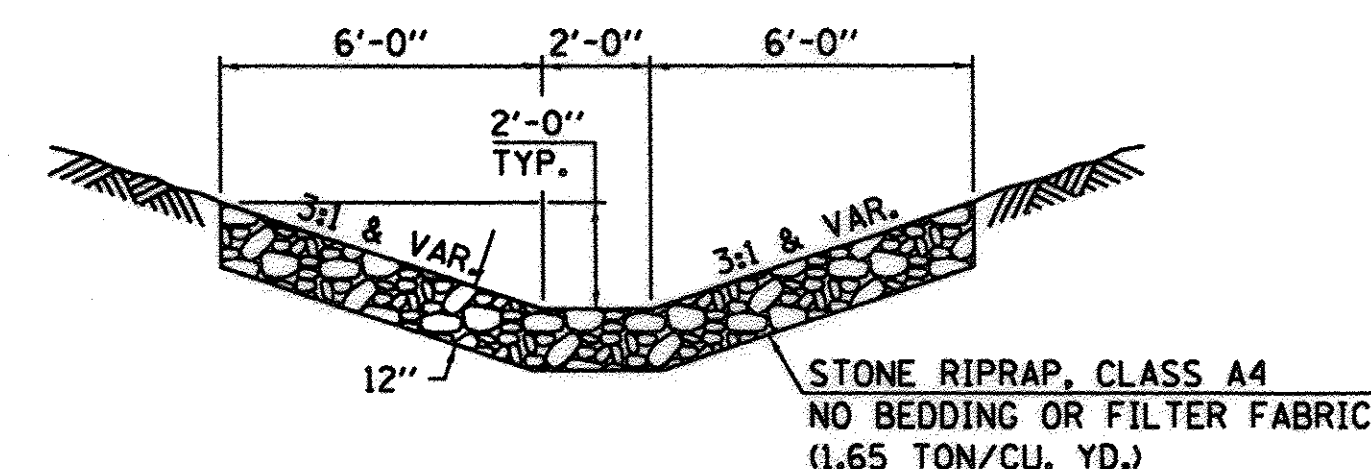
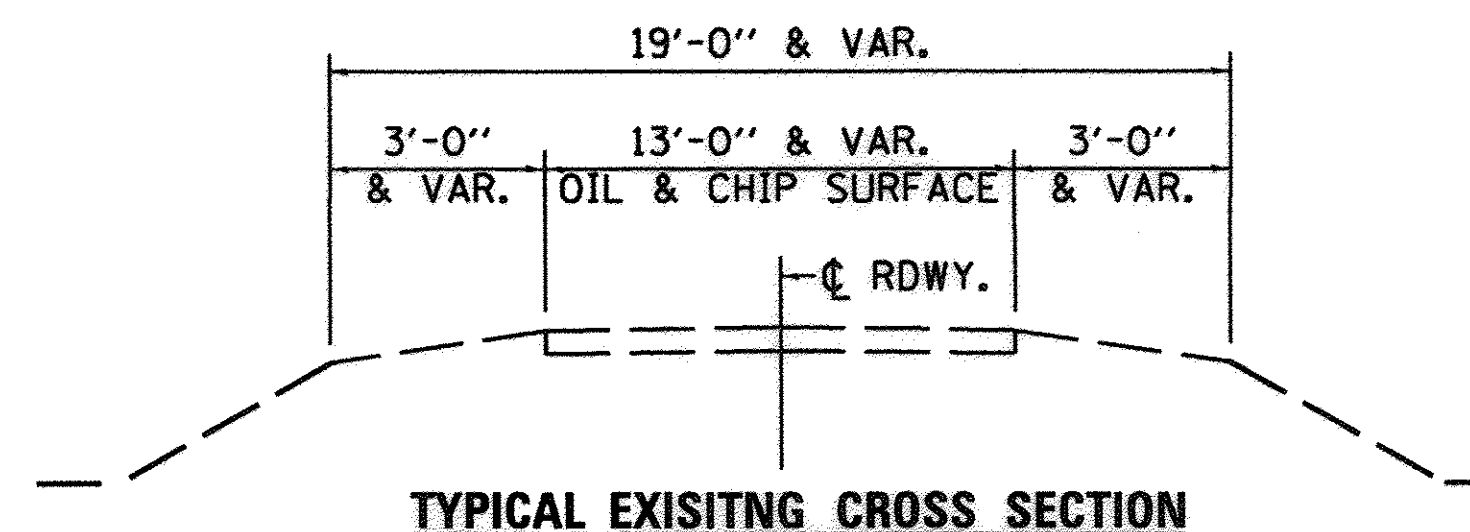
STA. 11+50.00 TO STA. 14+48.12 AND
 STA. 15+43.87 TO STA. 20+50.00

SUGGESTED FILL SECTION
 CONSTRUCT AS SHOWN BY
 STATION CROSS SECTIONS

SUGGESTED CUT SECTION
 CONSTRUCT AS SHOWN BY
 STATION CROSS SECTIONS

TRANSITION FROM EXISTING ROADWAY TO PROPOSED ROADWAY
 TO BE CONSTRUCTED FROM STA. 11+00 TO STA. 11+50 AND FROM
 STA. 20+50 TO STA. 21+00.

TYPICAL EXISTING CROSS SECTION



AGGREGATE DITCH (SPECIAL)

RT. STA. 8+00 TO RT. STA. 11+00	= 235 TON
LT. STA. 11+00 TO LT. STA. 14+50	= 313 TON
RT. STA. 11+00 TO RT. STA. 14+50	= 313 TON
LT. STA. 18+00 TO LT. STA. 18+50	= 45 TON
TOTAL	= 906 TON

FEHR GRAHAM

ENGINEERING & ENVIRONMENTAL

ILLINOIS DESIGN FIRM NO. 084-003525
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ILLINOIS
 IOWA
 WISCONSIN

AGENCY:
 MARSHALL COUNTY HWY. DEPT.
 STEUBEN ROAD DISTRICT

PROJECT:
 SECTION 16-11124-00-BR
 T.R. 63 OVER THE
 SENACHWINE CREEK

DESIGNED: G. J. C.
 CHECKED: R. D. F.
 DRAWN: A. D. S.
 CHECKED: R. D. F.

REVISIONS		
REV. NO.	DESCRIPTION	DATE

DRAWING:
 SUMMARY OF QUANTITIES, GENERAL NOTES
 AND TYPICAL CROSS SECTIONS

\$F ILES\$

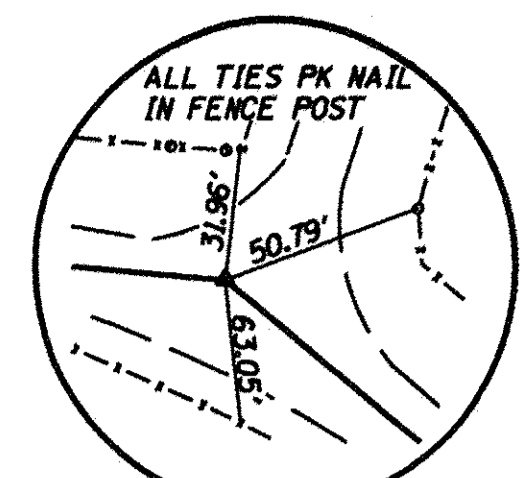
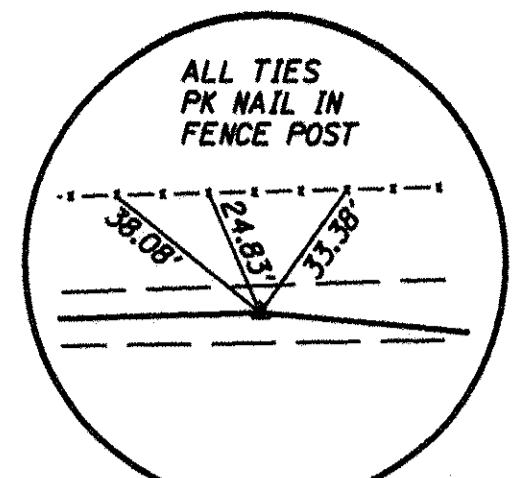
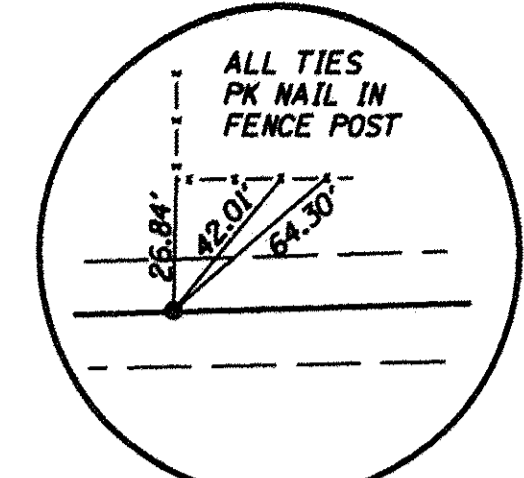
CONTRACT #: 89697

JOB NUMBER:
 15-863

SHEET NUMBER
 2 of 25

S.W. 1/4, SEC. 6, T. 12 N., R. 9 E., 4TH P.M.
ROBERT W. & JOE MONIER & MONIER BROTHERS

A.R. CULVERT STA. 19+20
PIPE CULVERTS, CLASS A, TYPE 1 18"
20' LT. STA. 19+34 ELEV. 145.86
23' RT. STA. 19+00 ELEV. 143.30



PIPE TO BE REMOVED
A.R. STA. 19+20, 15' CMP, 37" LONG
QUANTITIES INCLUDED IN "EARTH EXCAVATION"

P.O.T. STA. 7+53.25
IRON PIN (FLUSH)

P.I. STA. 12+50.00
IRON PIN (FLUSH)

P.I. STA. 18+96.15
IRON PIN (FLUSH)

ENTRANCES TO BE BUILT
LT. STA. 19+08.5, P.E., +2.3%, 20' ROADBED
RT. STA. 19+59, F.E., -15.0%, 14' ROADBED

IMPROVEMENT BEGINS
STA. 8+00

CHANNEL EXCAVATION

THE CHANNEL SHALL BE EXCAVATED AS SHOWN WITHIN THE LIMITS OF THE PROPOSED STRUCTURE THEN TAPER TO THE EXISTING CHANNEL AT 45' LT. & RT. OF CENTERLINE. SUITABLE EXCAVATED MATERIAL TO BE USED IN THE EMBANKMENT AS DIRECTED BY THE ENGINEER.

CHANNEL EXCAVATION = 903 CU YD

PROP. CURVE
PI STA. = 12+50.00
Δ = 6° 43' 50"
D = 3° 21' 55"
R = 1702.56'
T = 100.12'
L = 200.00'
E = 2.94'
P.C. STA = 11+49.88
P.T. STA = 13+49.88
S.E. = N.C.

STA. 14+96 - SPECIAL BRIDGE DESIGN
P.P.C. DECK BEAM BRIDGE (17" DEPTH)
3 SPANS AT 24'-0", 46'-0", 24'-0",
24'-0" RDWY., SKEW = 0°

PROP. CURVE
PI STA. = 18+96.15
Δ = 35° 0' 0"
D = 19° 05' 55"
R = 300.00'
T = 94.59'
L = 183.26'
E = 14.56'
P.C. STA = 18+01.56
P.T. STA = 19+84.82
S.E. = 3.5%
S.E. TRANS.
17+45.00 TO 18+19.00
19+66.00 TO 20+40.00

UTILITIES

AMEREN CILCO - (NORTH)
MARTIN FULLER
618-326-6281

FRONTIER COMMUNICATION (NORTH)
KALIN HINSHAW
815-895-1515

N.E. 1/4, N.W. 1/4, SEC. 7,
T. 12 N., R. 9 E., 4TH P.M.
WILLIAM J. RIDDELL TRUST

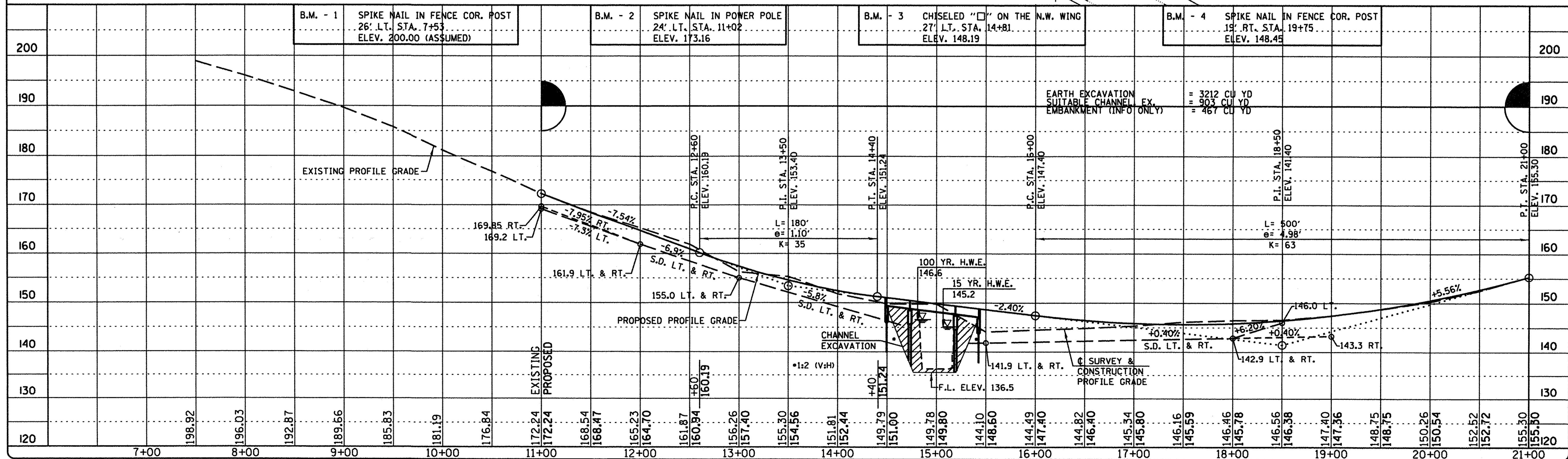
IMPROVEMENT ENDS
STA. 21+00

EXISTING STRUCTURE NO. 062-5008

STA. 15+00 - SINGLE SPAN
PRECAST CONCRETE BRIDGE SLAB BRIDGE
ON CLOSED CONCRETE ABUTS. AND
WINGS, 16.6' O.-O. DECK, 35' FC.-FC.
ABUT., 37.8' DECK LENGTH, NO SKEW
CONDUIT ATTACHED TO NORTH SIDE OF
STRUCTURE.

REMOVAL OF EXISTING STRUCTURES 1 EACH

N.W. 1/4, N.W. 1/4, SEC. 7, T. 12 N., R. 9 E., 4TH P.M.
ELEANOR L. MCGRATH



FEHR GRAHAM
ENGINEERING & ENVIRONMENTAL
ILLINOIS DESIGN FIRM NO. 04-003525

ILLINOIS
IOWA
WISCONSIN

AGENCY:
MARSHALL COUNTY HWY. DEPT.
STEBEN ROAD DISTRICT

PROJECT:
SECTION 16-11124-00-BR
T.R. 63 OVER THE
SENACHWINE CREEK

DESIGNED: G. J. C.
CHECKED: R. D. F.
DRAWN: A. D. S.
CHECKED: R. D. F.

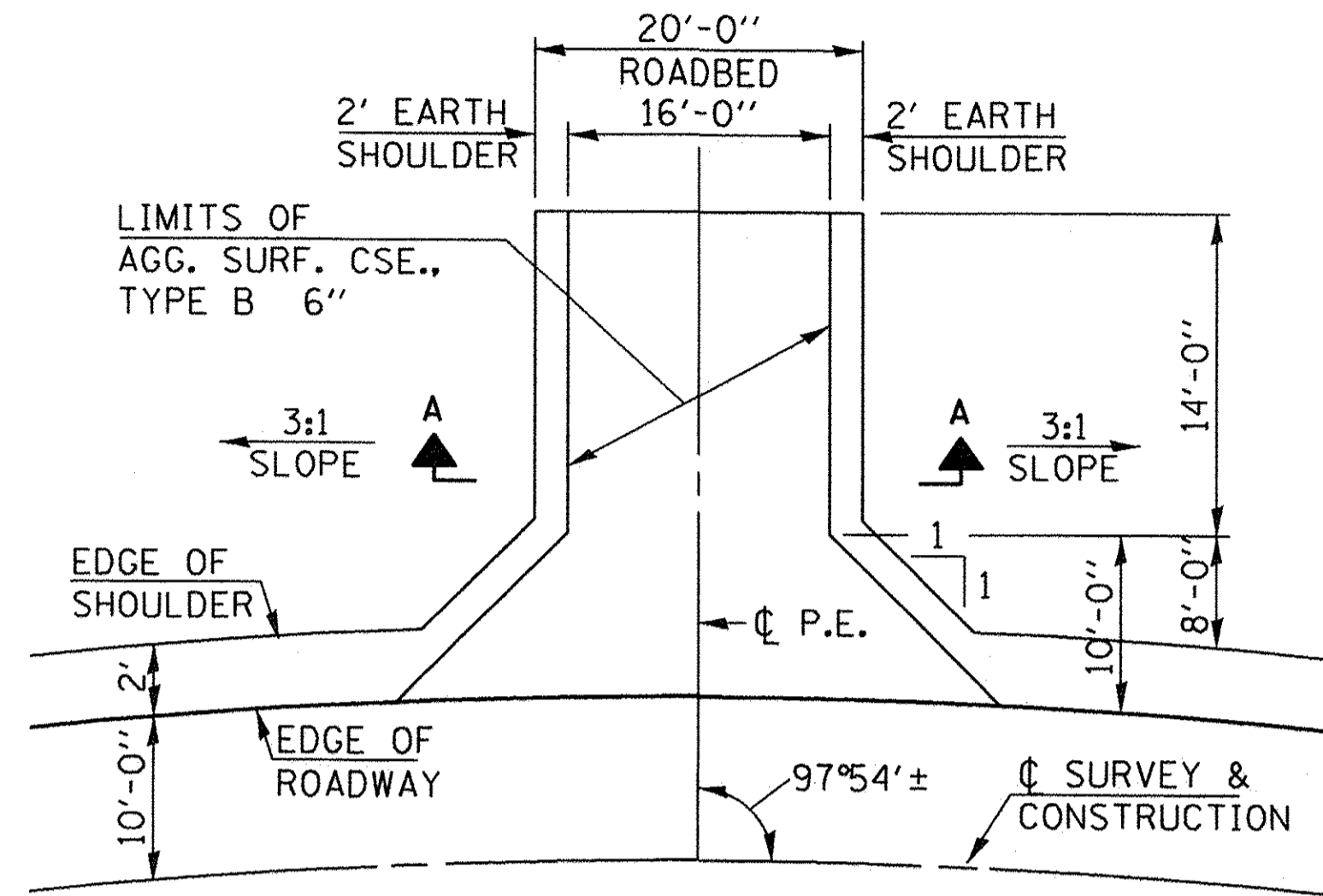
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REV. NO.	DESCRIPTION	DATE

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PLAN & PROFILE

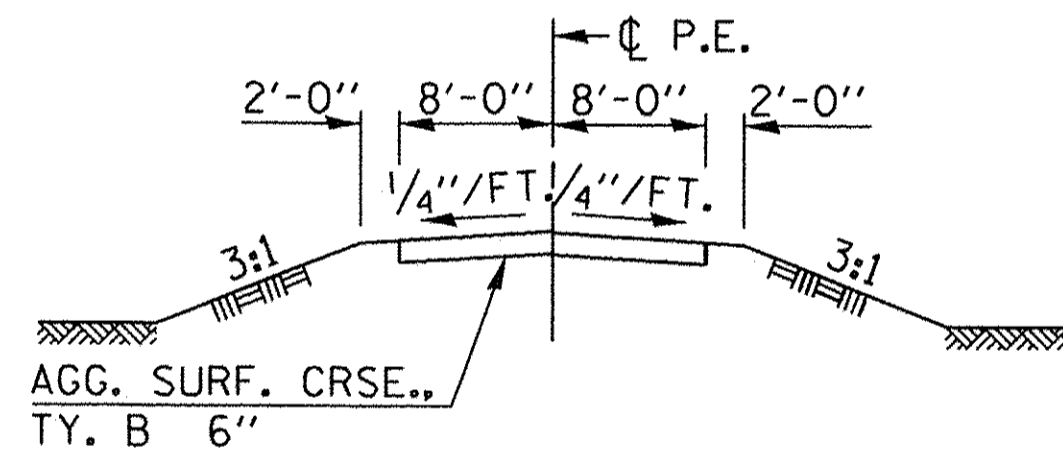
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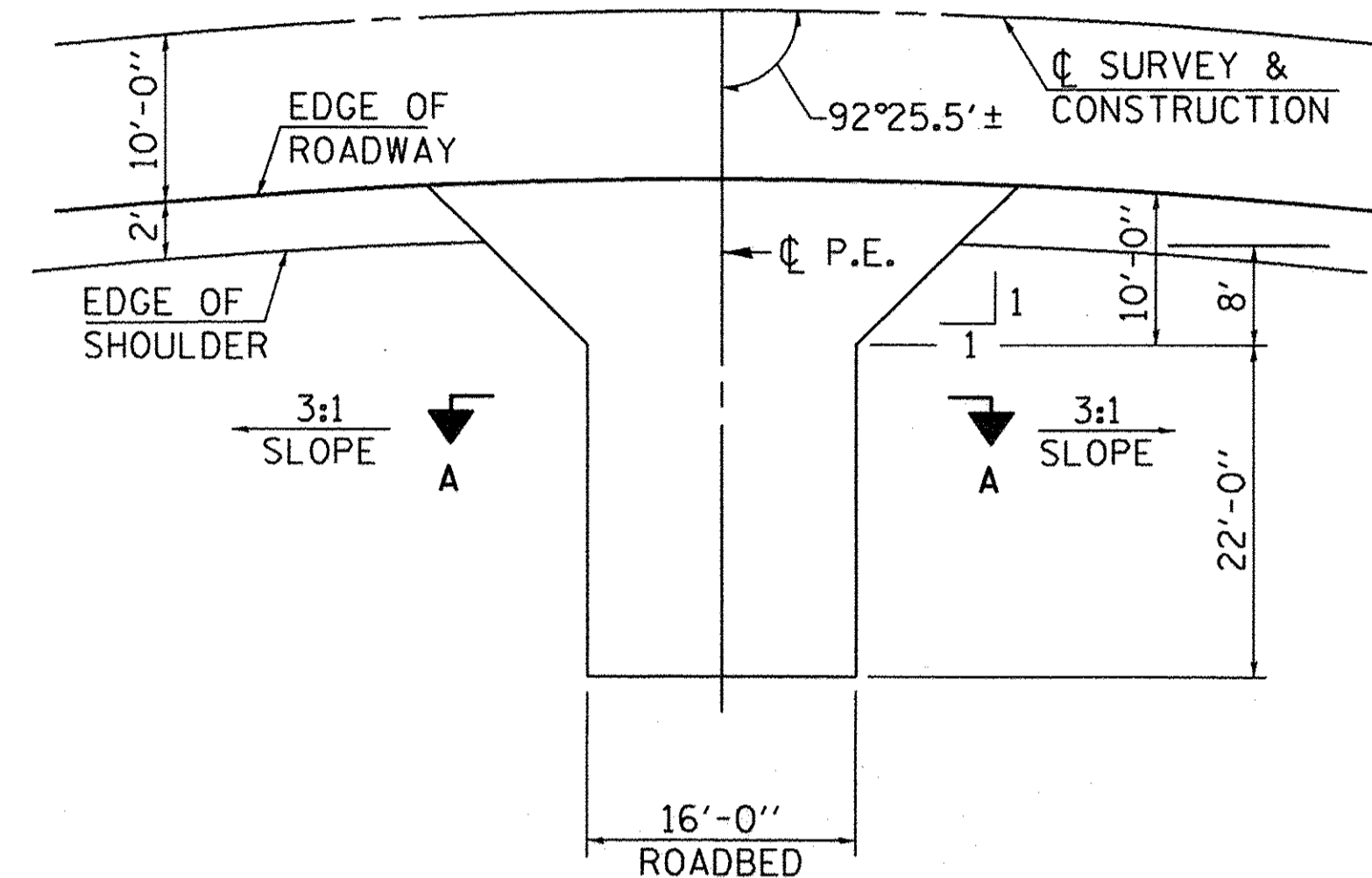
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3 of 25



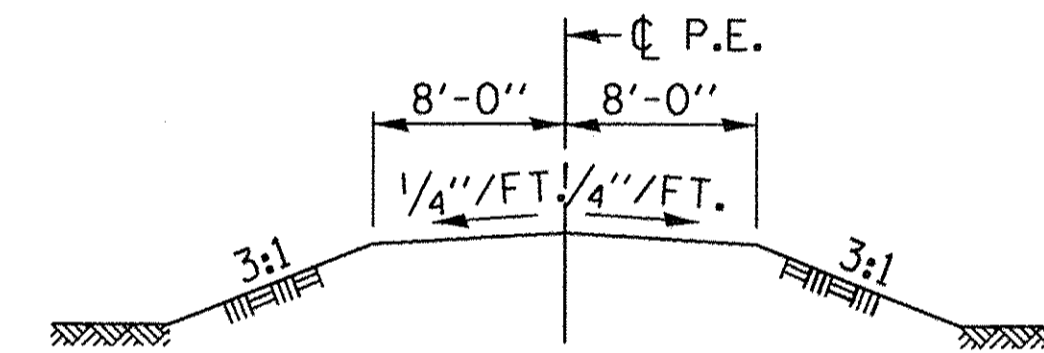
PRIVATE ENTRANCE DETAIL
P.E. LT. STA. 19+08.5



SECTION A-A



FIELD ENTRANCE DETAIL
F.E. RT. STA. 19+59



SECTION A-A

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AGENCY:
MARSHALL COUNTY HWY. DEPT.
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REV. NO.	DESCRIPTION	DATE

DRAWING:
ENTRANCES

CONTRACT #: 89697

JOB NUMBER:
15-863

SHEET NUMBER
4 of 25

GENERAL NOTES

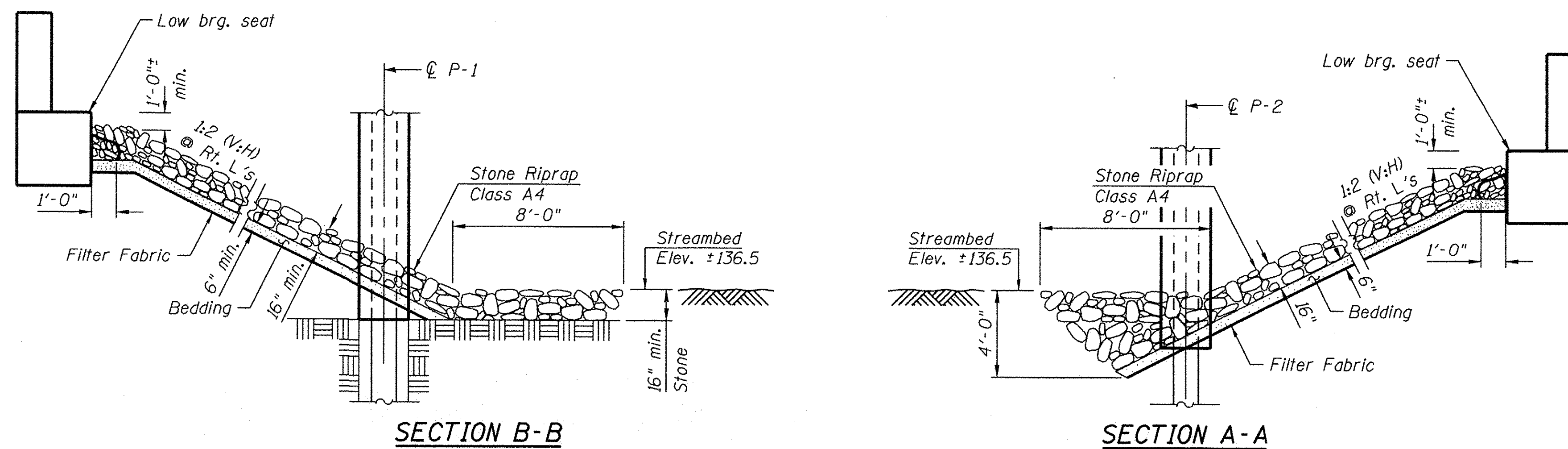
See sheet 19 of 24 for Boring data.

Reinforcement bars designated (E) shall be epoxy coated.

Structure Excavation will not be measured for payment but shall be included in the unit price bid for "Concrete Structures" or "Concrete Encasement."

Layout of slope protection system may be varied in the field to suit ground conditions as directed by the Engineer.

Reinforcement bars shall conform to the requirements of ASTM A706 Grade 60.



RIPRAP REPLACEMENT DETAILS

Note:
Excavation and aggregate bedding will not be paid for as separate items and shall be considered as included in Stone Riprap Class A4.

TOTAL BILL OF MATERIAL

ITEM	UNIT	SUPER	SUB	TOTAL
Stone Riprap, Class A4	Ton		185	185
Filter Fabric	Sq. Yd.		258	258
Concrete Structures	Cu. Yd.		41.0	41.0
Precast Prestressed Concrete Deck Beams (17" Depth)	Sq. Ft.	2256		2256
Reinforcement Bars, Epoxy Coated	Pound		6060	6060
Steel Railing, Type S1	Foot	188		188
Furnishing Steel Piles HP 10x42	Foot		296	296
Name Plates	Each		1	1
Concrete Encasement	Cu. Yd.		12.7	12.7
Setting Piles in Rock	Each		16	16

FEHR GRAHAM
ENGINEERING & ENVIRONMENTAL
ILLINOIS DESIGN FIRM NO. 184-003525

ILLINOIS
IOWA
WISCONSIN

AGENCY:
MARSHALL COUNTY HWY. DEPT.
STEBEN ROAD DISTRICT

PROJECT:
SECTION 16-11124-00-BR
T.R. 63 OVER THE
SENACHWINE CREEK

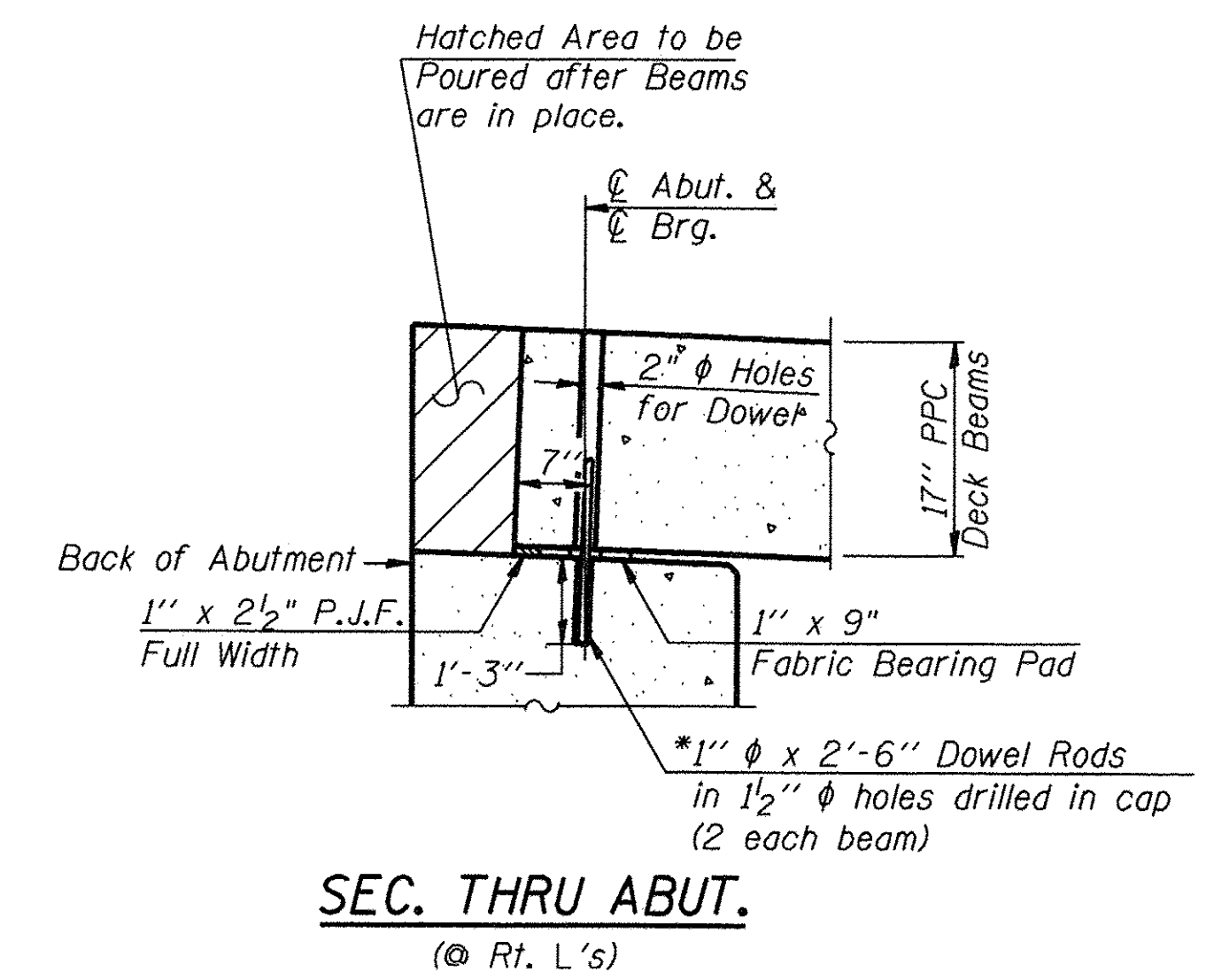
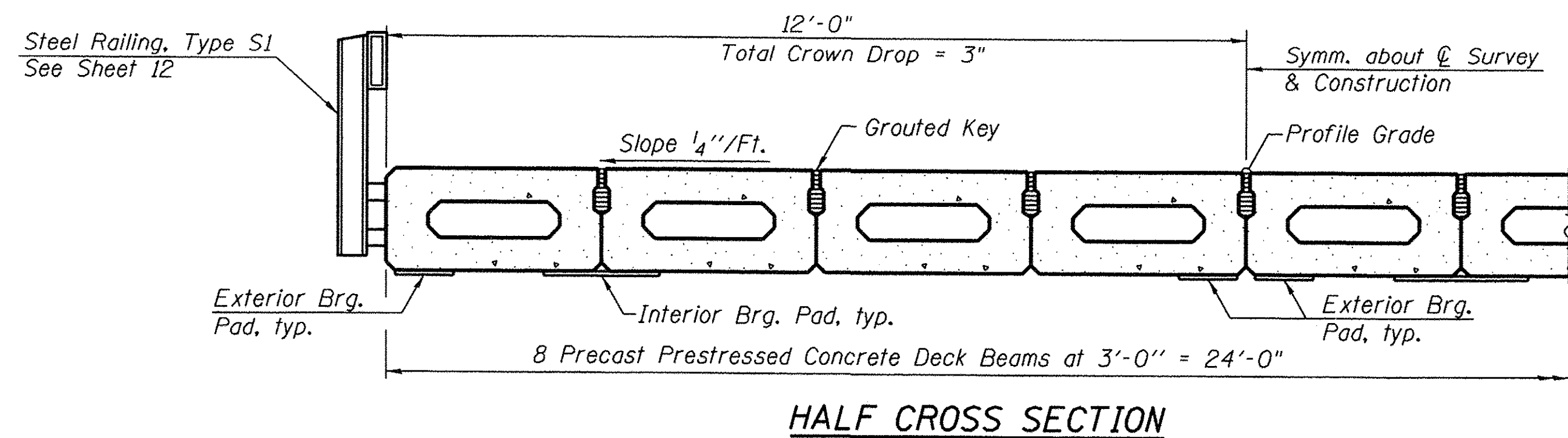
DESIGNED: ARK
CHECKED: GJB
DRAWN: ADS-CFC
CHECKED: ARK-MCB

REVISIONS		
REV. NO.	DESCRIPTION	DATE

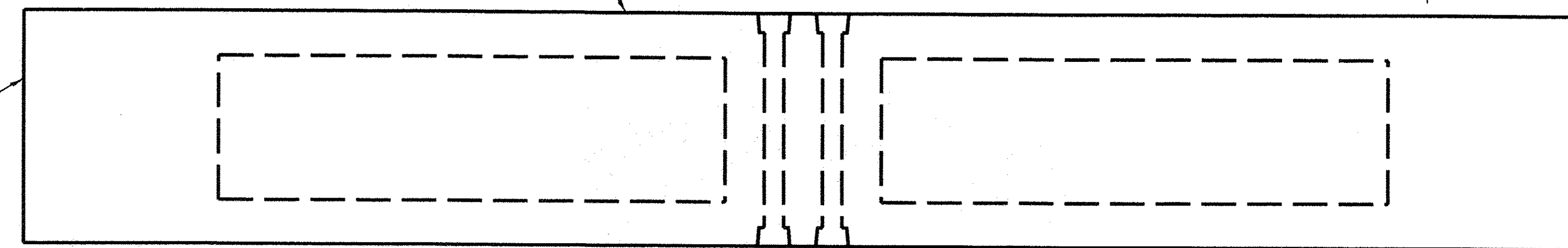
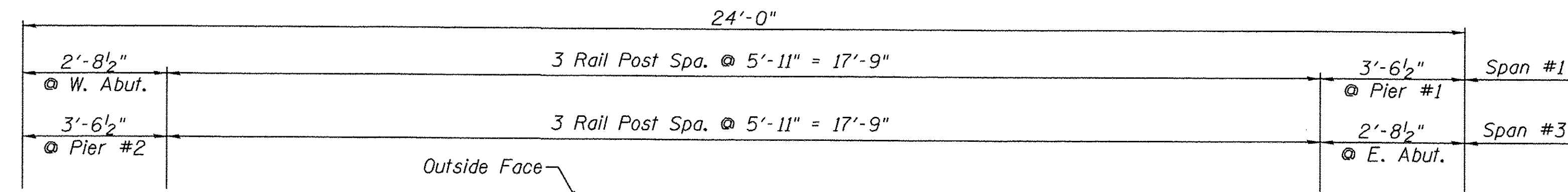
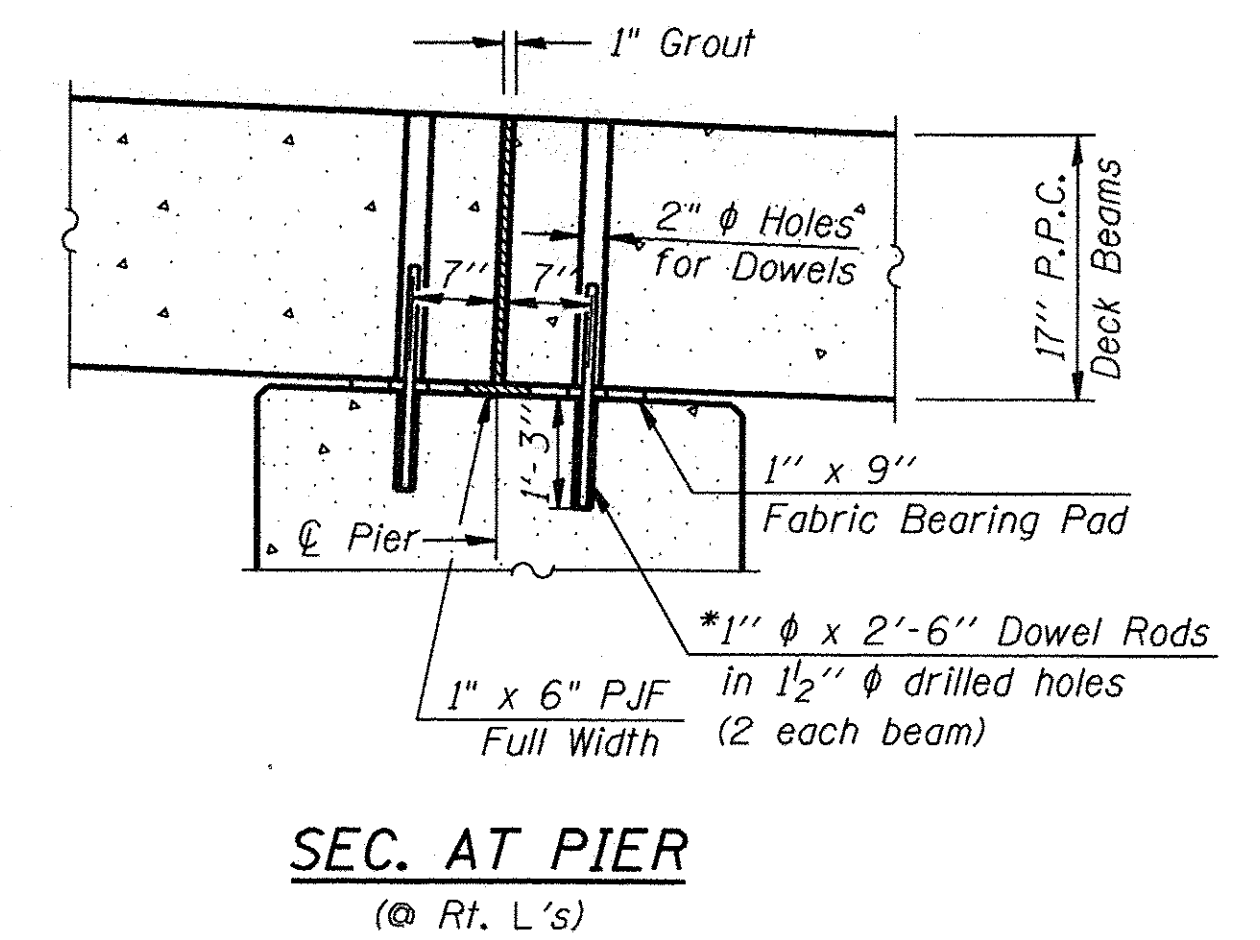
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15-863

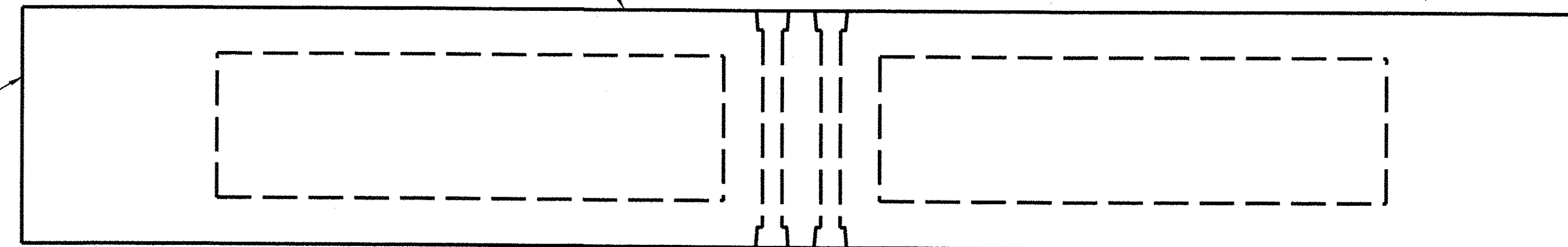
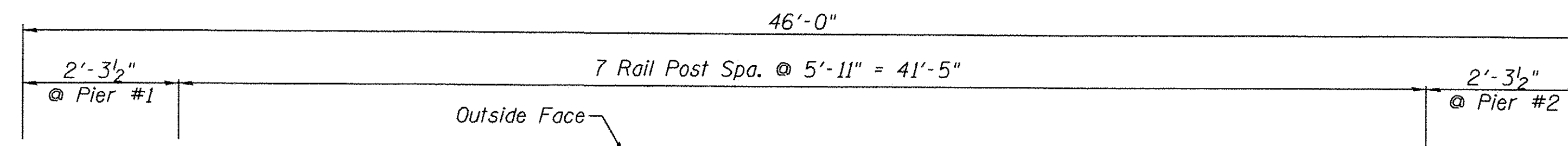
SHEET NUMBER
6 of 25



* Note: After beams are in place, 1/2" holes shall be drilled into the Substructure, and the dowel rods grouted in place and allowed to cure (Min. 24 Hrs.) prior to grouting shear key.



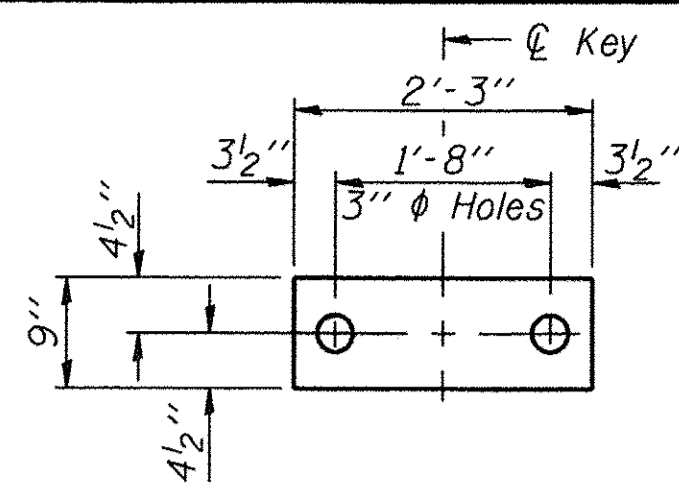
SPAN #1 OR #3



SPAN #2

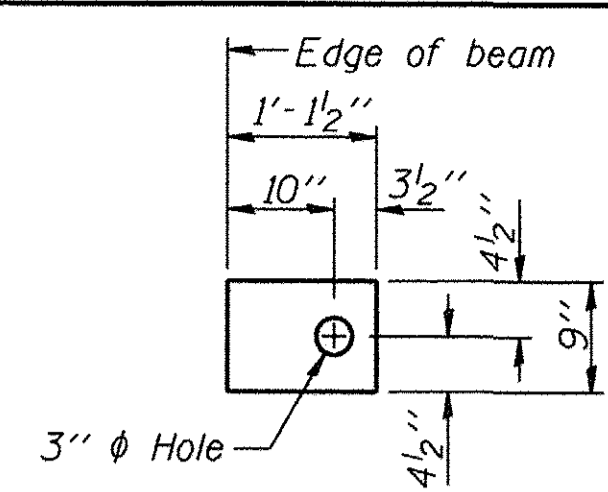
RAIL POST SPACING PLAN

REVISIONS		
REV. NO.	DESCRIPTION	DATE



FABRIC BEARING PAD

(Interior)
(24 - Required)



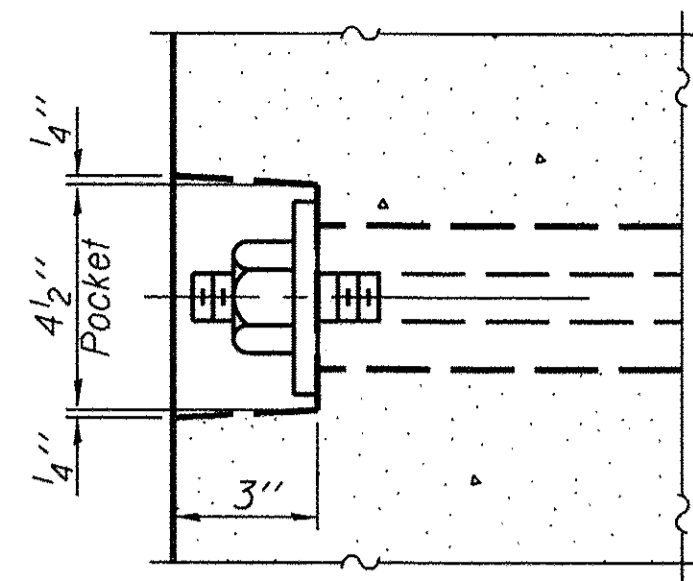
FABRIC BEARING PAD

FIXED

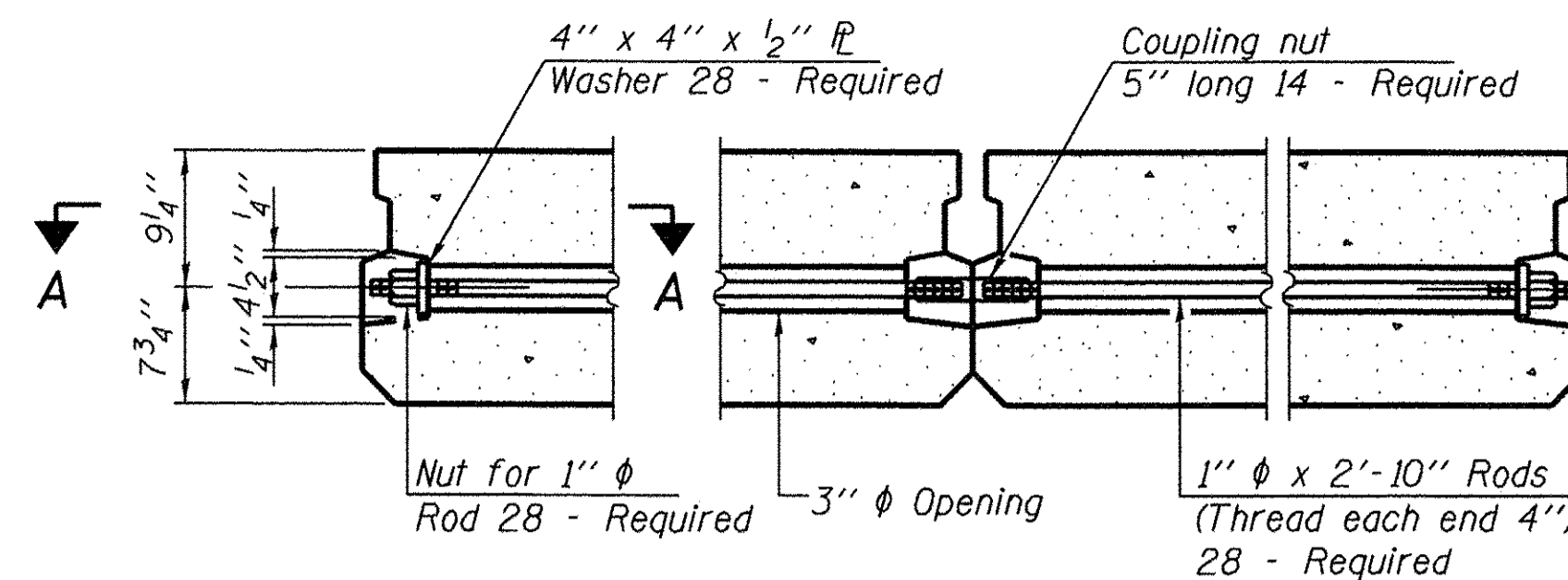
(Exterior)
(16 - Required)

Notes:

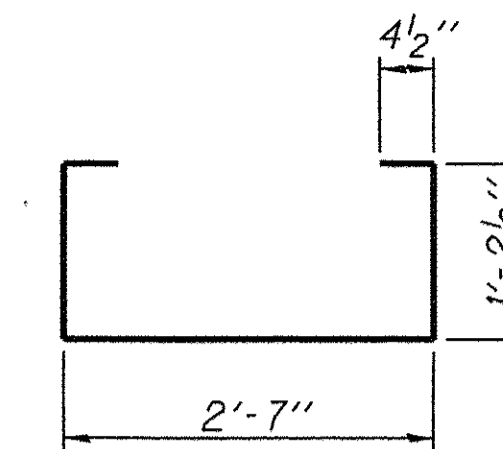
All bearing pads shall be 1" thick.
Omit holes when using expansion bearings.
Expansion bearing pad shall be bonded to the substructure.



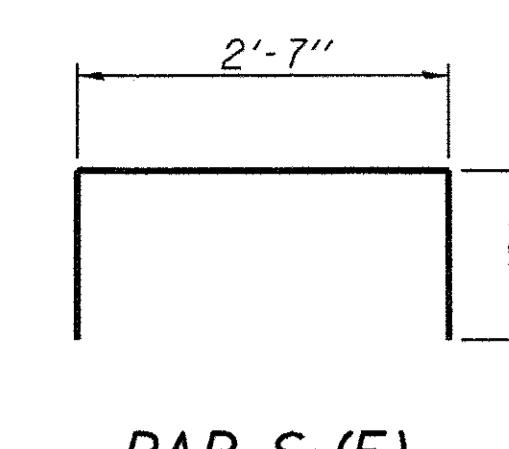
SECTION A-A



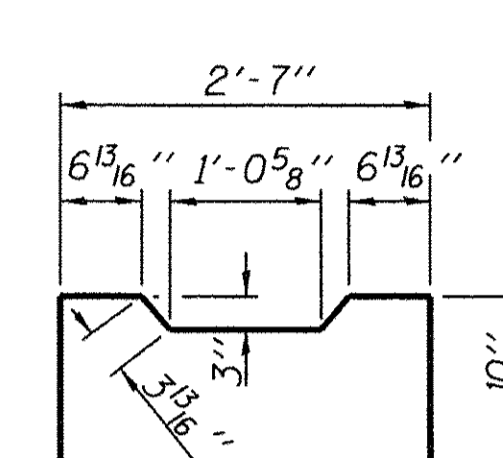
TYPICAL TRANSVERSE TIE ASSEMBLY



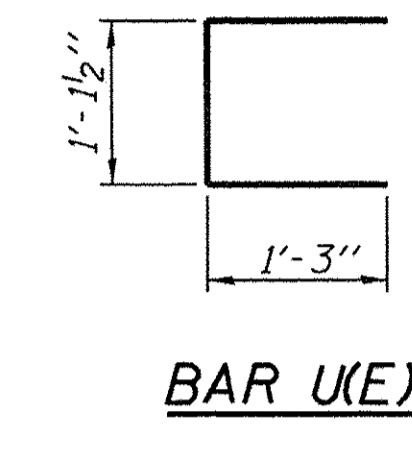
BAR S(E)



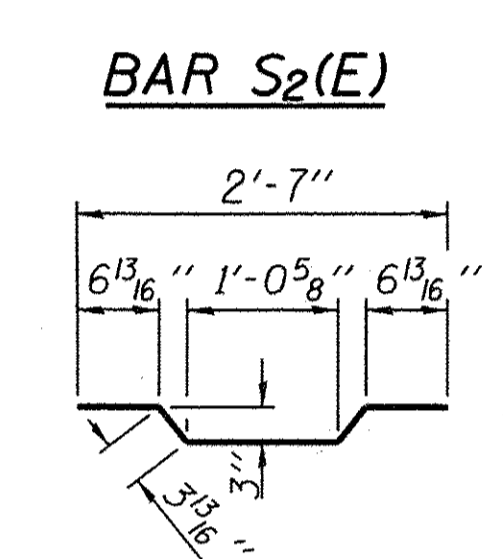
BAR S1(E)



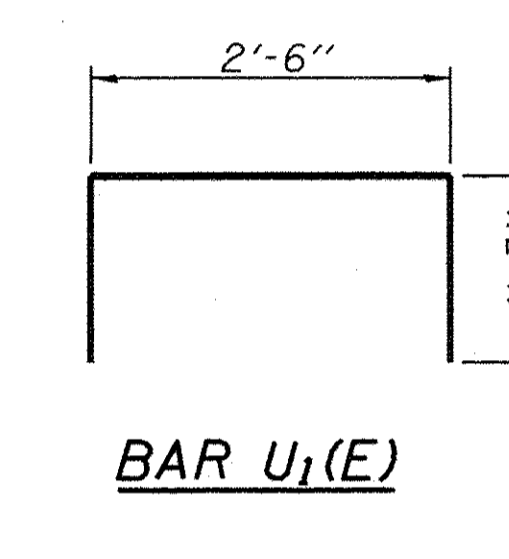
BAR S2(E)



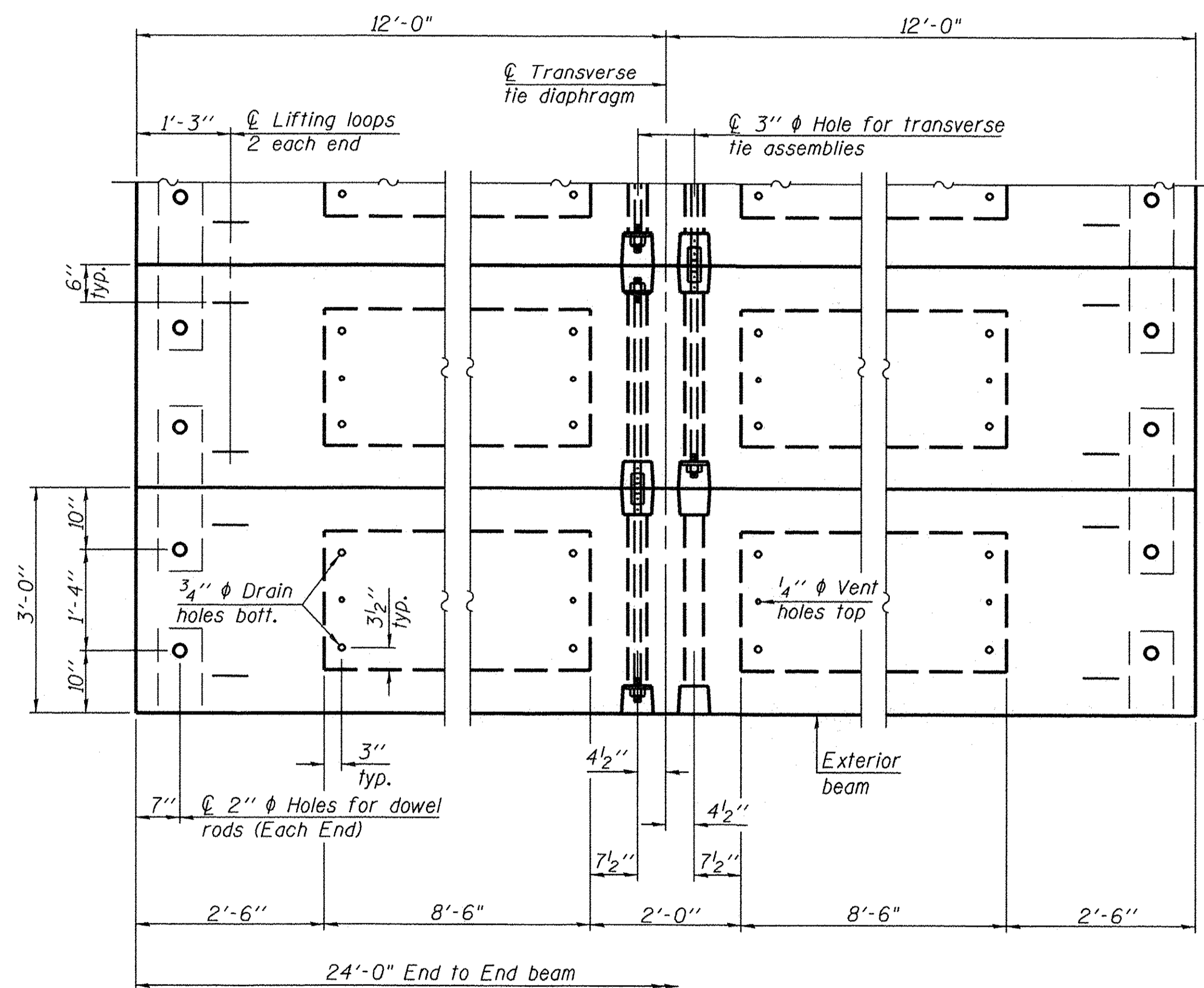
BAR U(E)



BAR A1(E)



BAR U1(E)

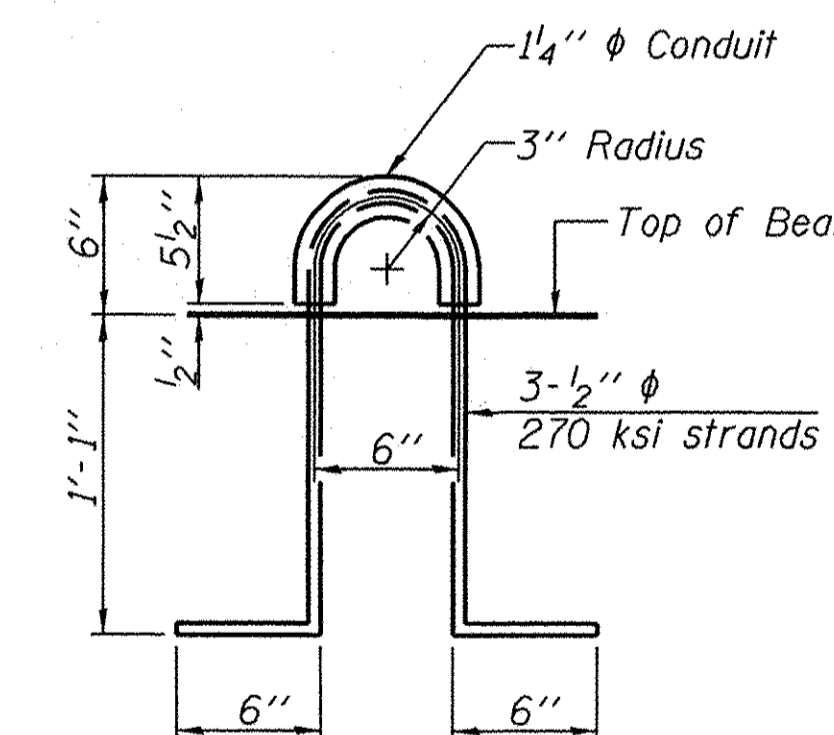


PLAN VIEW

Note: Connect beams in pairs with the transverse tie configuration shown.

NOTES

Prestressing steel shall be uncoated high strength, low relaxation 7-wire strand, Grade 270. The nominal diameter shall be 1/2" and the nominal cross-sectional area shall be 0.153 sq. in.
The 1" rods in the transverse tie assembly shall be tightened to a snug fit and the threads set. Pockets on exterior faces of bridge shall be filled with grout after transverse tie assembly is in place.
Two 1/8" fabric adjusting shims of the dimensions of the exterior bearing pad shall be provided for each bearing pad location. (80 - Required - Included in the cost of P.P.C. Deck Beams of the depth shown in the plans.)
A minimum 2 1/2" diameter lifting pin shall be used to engage the lifting loops during handling.
Corrosion Inhibitor, per Article 1020.05(b)(10) and 1021.07 of the Standard Specifications, shall be used in the concrete for precast prestressed concrete deck beams.
Compressive strength of prestressed concrete, f'c, shall be 6000 psi.
Compressive strength of prestressed concrete at release, f'ci, shall be 5000 psi.
Rail post inserts, specified elsewhere, shall be cast into the exterior face of the outside beams. See Special Provisions for review and distribution of shop drawings.



LIFTING LOOP DETAIL

BILL OF MATERIAL

Precast Prestressed Conc. Deck Bms. (17" depth)	Sq. Ft.	1152
---	---------	------

Estimated Total Weight (One Beam) = 13,350 Pounds

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AGENCY: MARSHALL COUNTY HWY. DEPT.
STUEBEN ROAD DISTRICT

PROJECT: SECTION 16-11124-00-BR
T.R. 63 OVER THE
SENACHWINE CREEK

DESIGNED: ARK
CHECKED: GJB
DRAWN: ADS-CFC
CHECKED: ARK-MCB

REVISIONS	
REV. NO.	DESCRIPTION

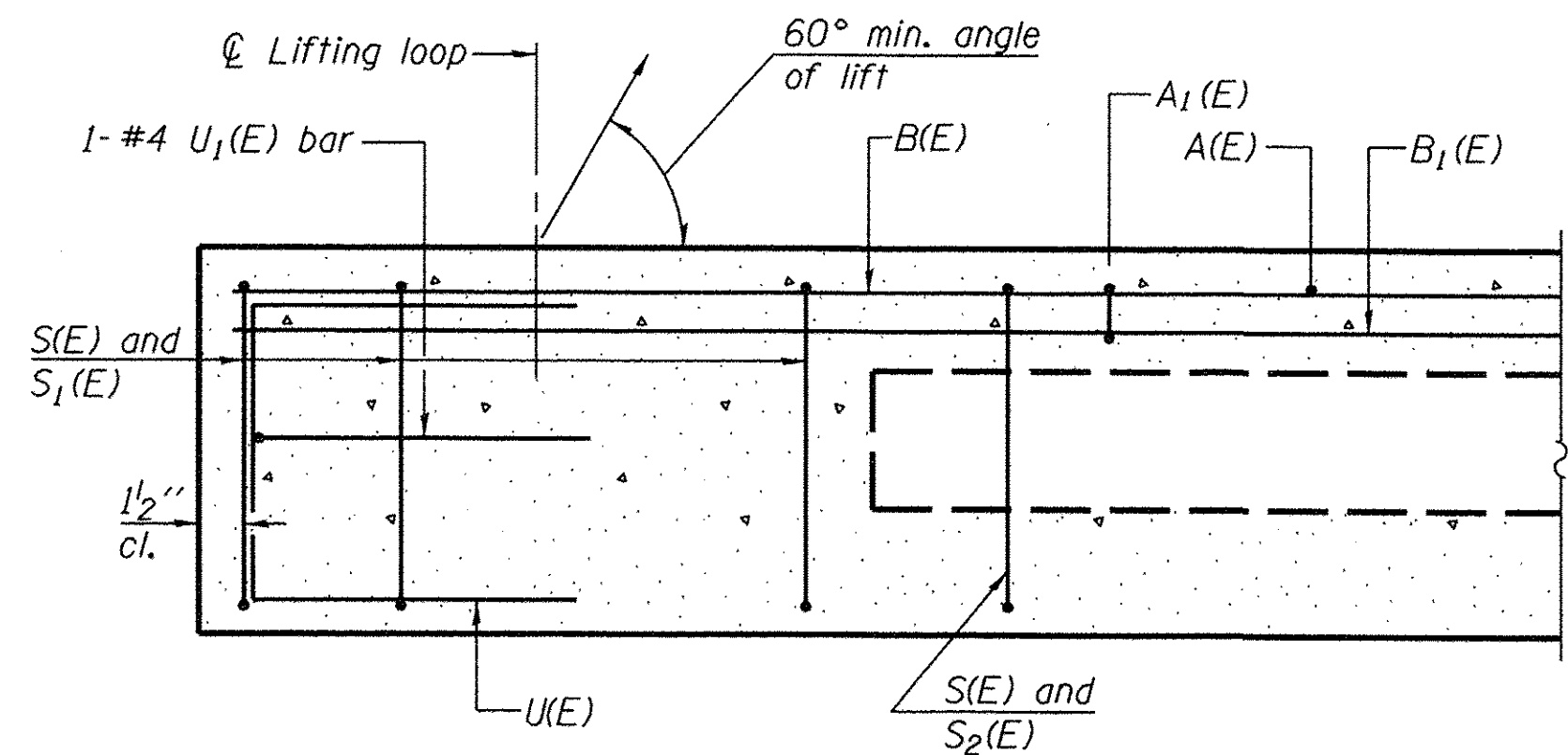
DRAWING: 17" X 36" PPC DECK BEAM
SPANS 1 & 3

\$FILES\$

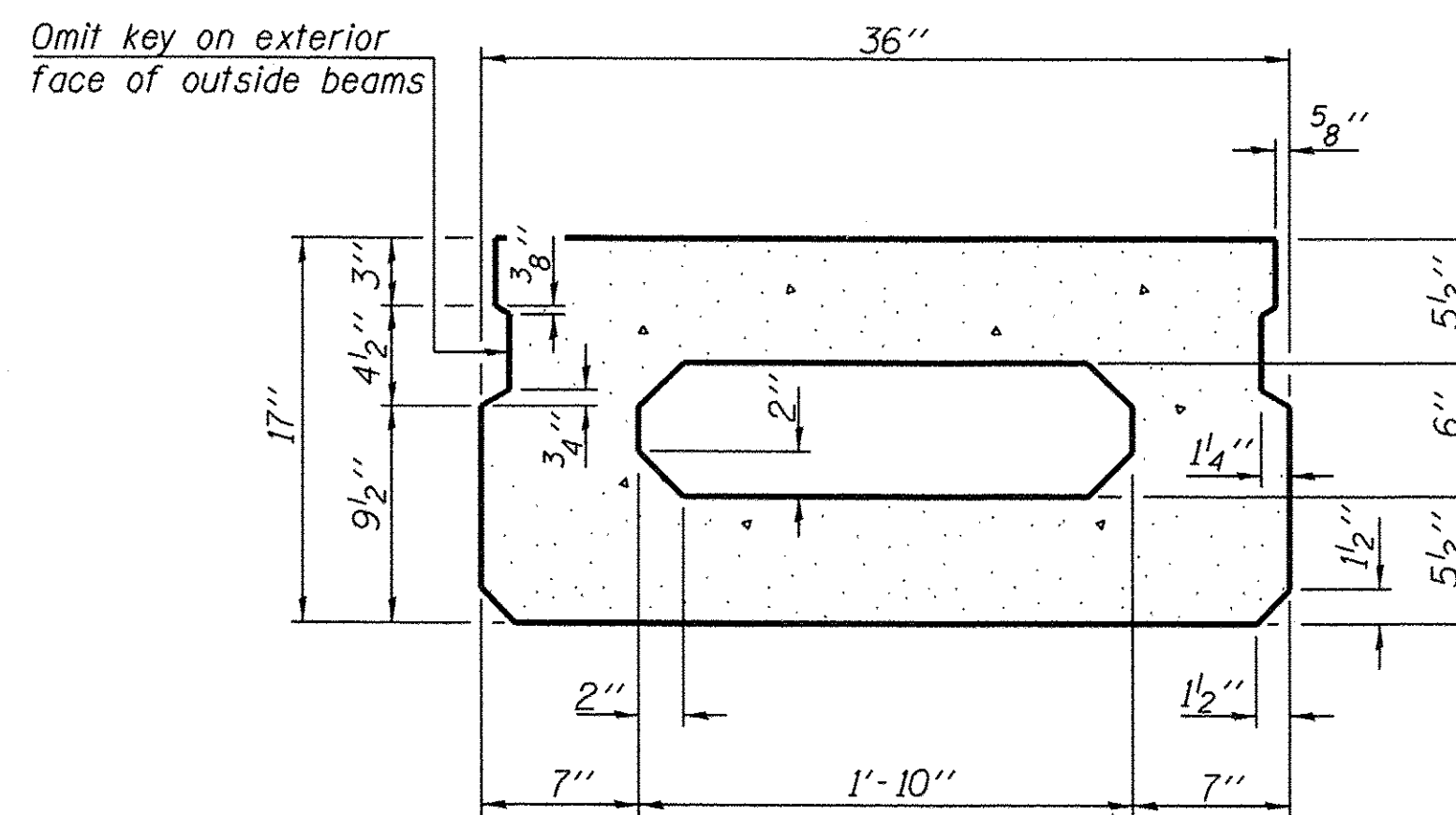
JOB NUMBER:
15-863

SHEET NUMBER
9 of 25

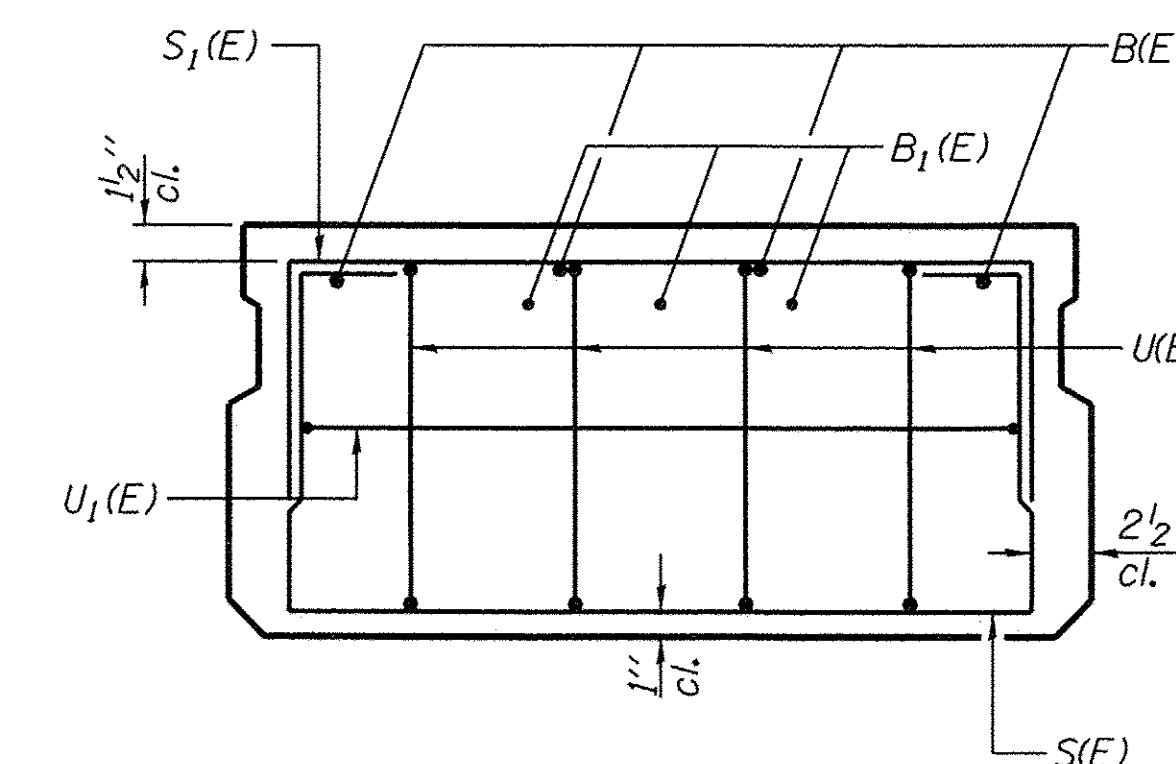
CONTRACT #: 89697



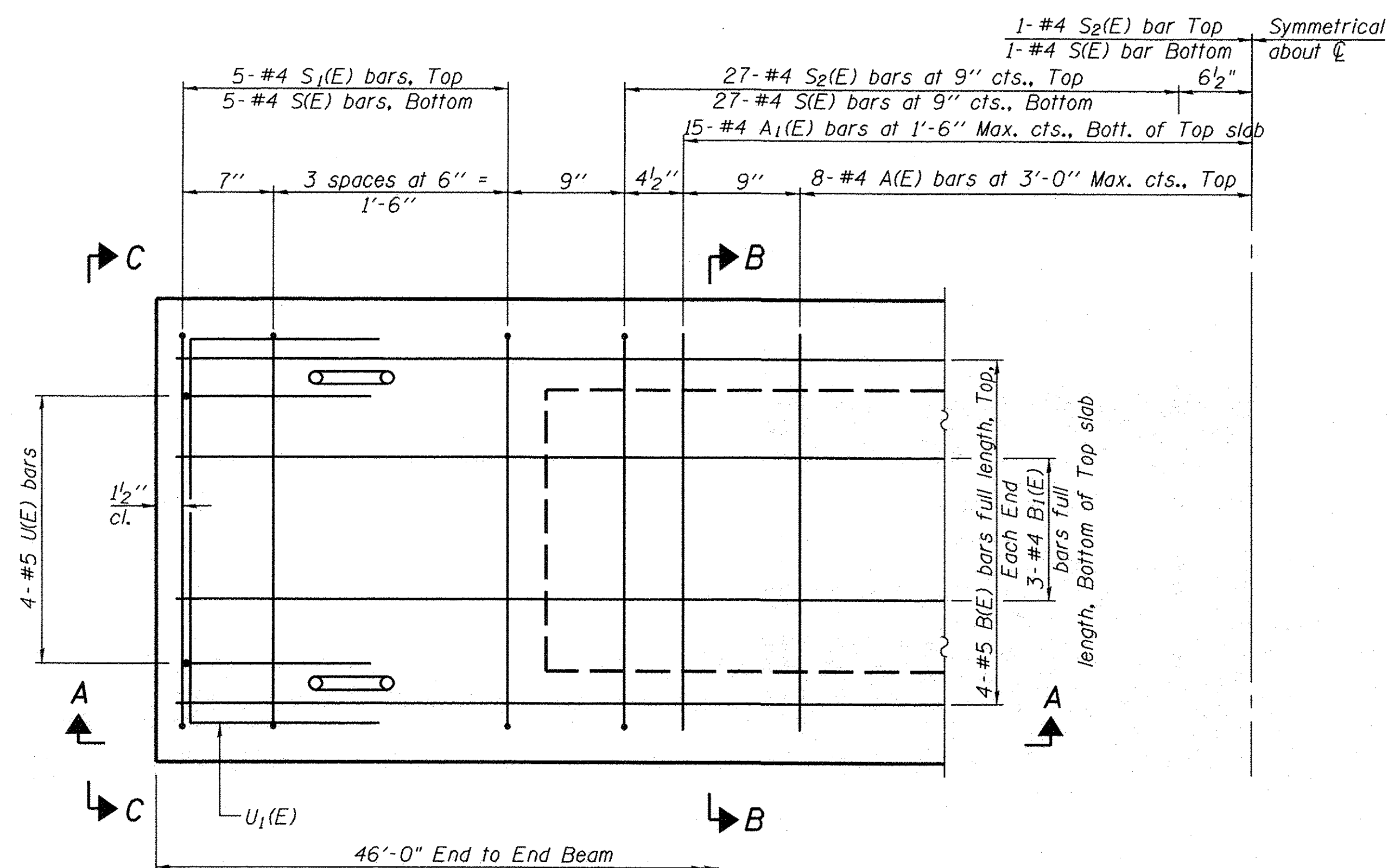
SECTION A-A



SECTION B-B
(Showing dimensions)



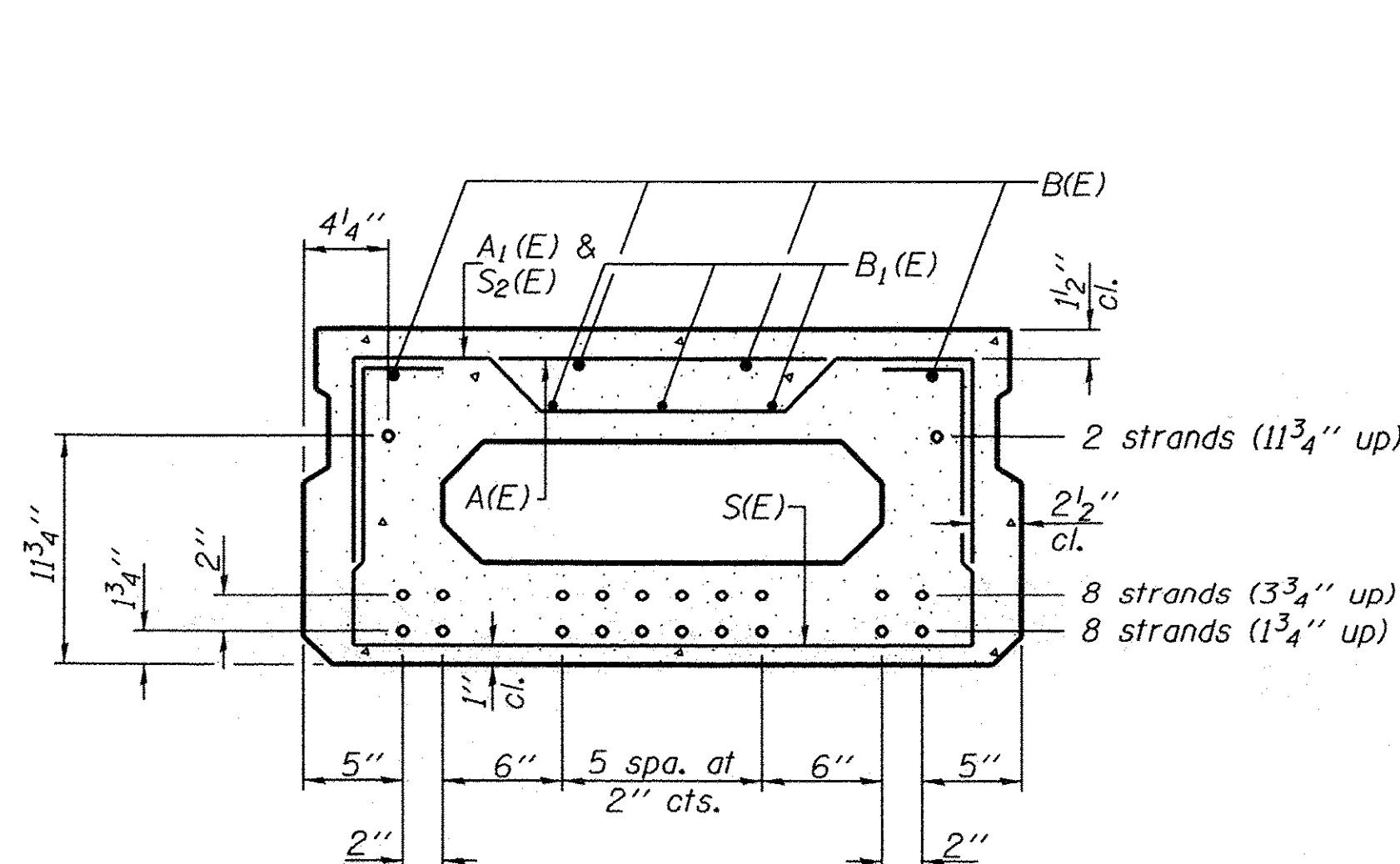
VIEW C-C



PLAN VIEW

Notes: Spacing of S(E) and S2(E) bars may be adjusted up to 4" in the immediate area of the transverse tie diaphragms to miss the block outs for the transverse ties.

Bars indicated thus, 3x2-#4 bars etc., indicates 3 lines of bars with 2 lengths per line.



Use 18 - 1/2" diameter strands at the locations shown.

SECTION B-B

(Showing reinforcement and permissible strand locations)

Note: Place the number of strands specified in each row symmetrically about the centerline of beam in the permissible strand locations shown.

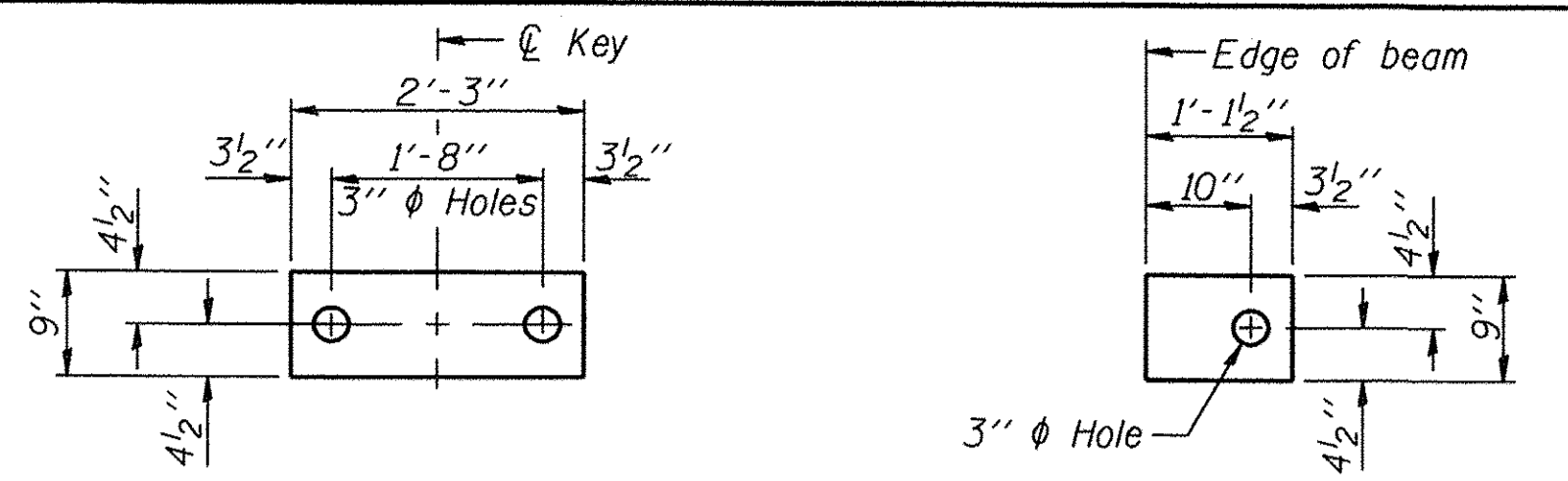
BAR LIST
ONE BEAM ONLY
(For information only)

Bar	No.	Size	Length	Shape
A(E)	15	#4	2'-7"	—
A1(E)	29	#4	2'-10"	—
B(E)	4	#5	45'-9"	—
B1(E)	3	#4	45'-9"	—
S(E)	65	#4	5'-9"	□
S1(E)	10	#4	4'-3"	□
S2(E)	55	#4	4'-6"	□
U(E)	8	#5	3'-8"	□
U1(E)	2	#4	5'-0"	□

Note: See sheet 11 for additional details and Bill of Material.

MINIMUM BAR LAP

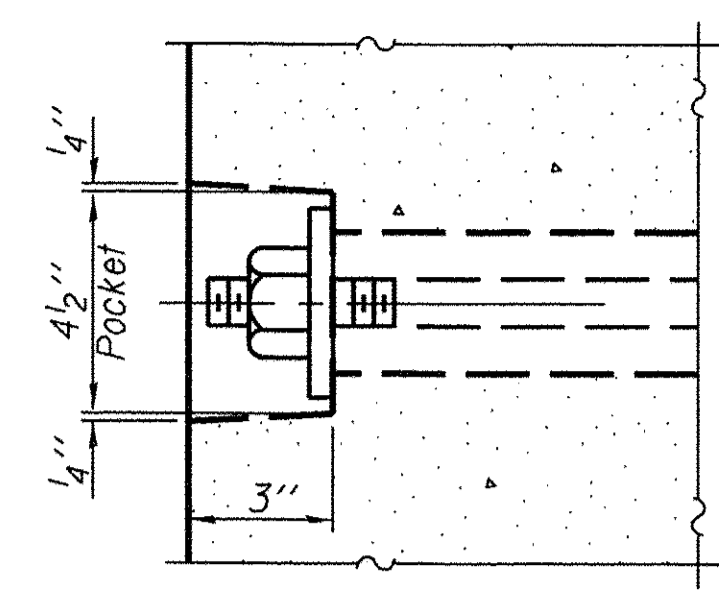
#4 bar = 1'-11"
#5 bar = 2'-6"



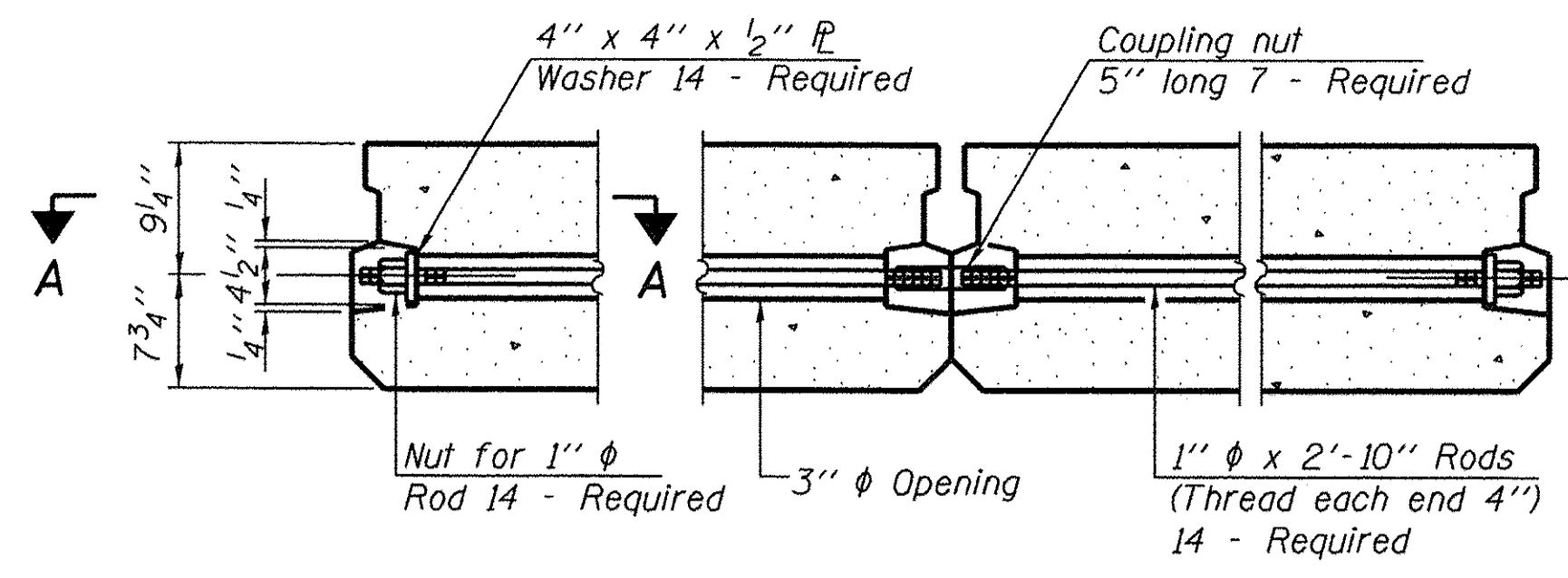
FABRIC BEARING PAD
(Interior) (12 - Required) **FIXED**

FABRIC BEARING PAD
(Exterior) (8 - Required) **FIXED**

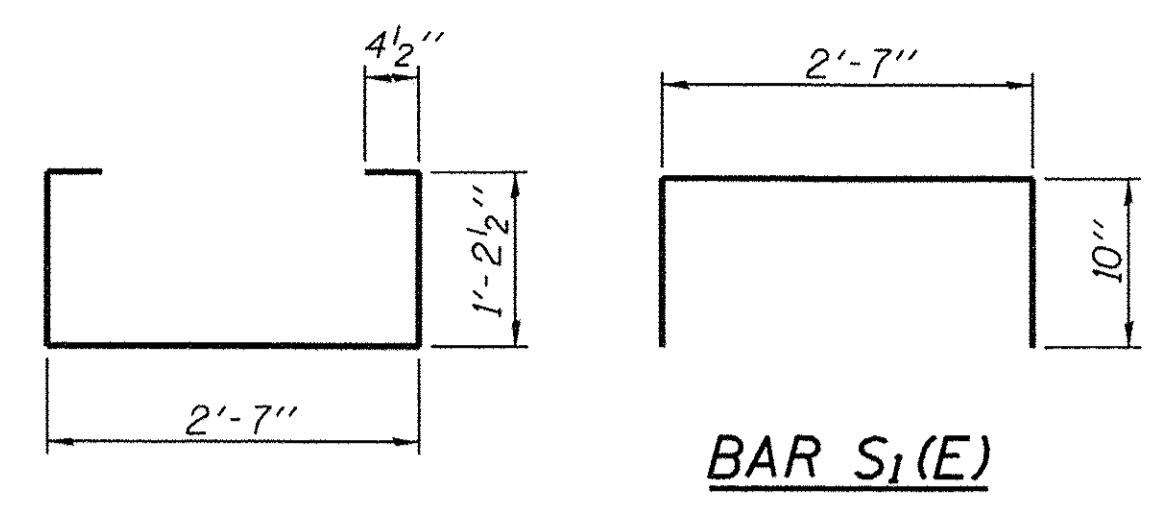
Notes:
All bearing pads shall be 1" thick.
Omit holes when using expansion bearings.
Expansion bearing pad shall be bonded to the substructure.



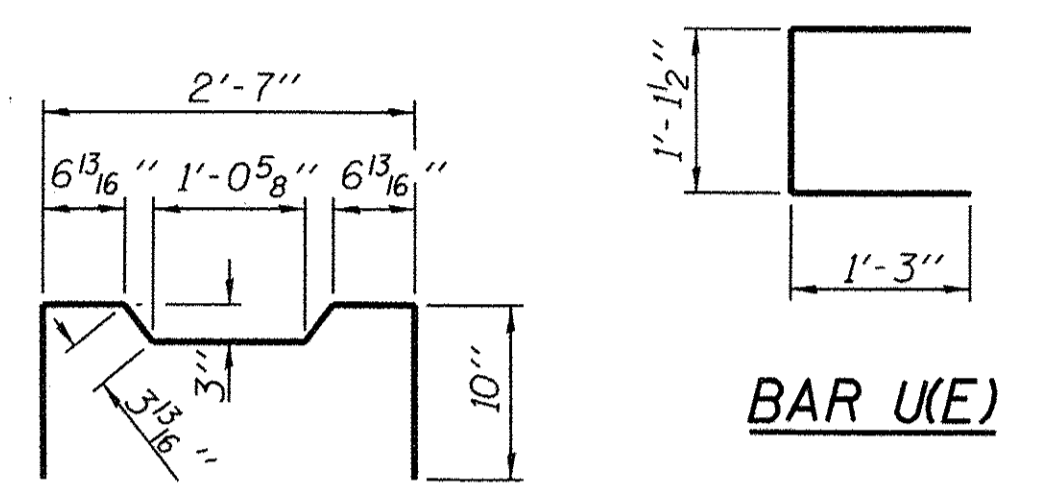
SECTION A-A



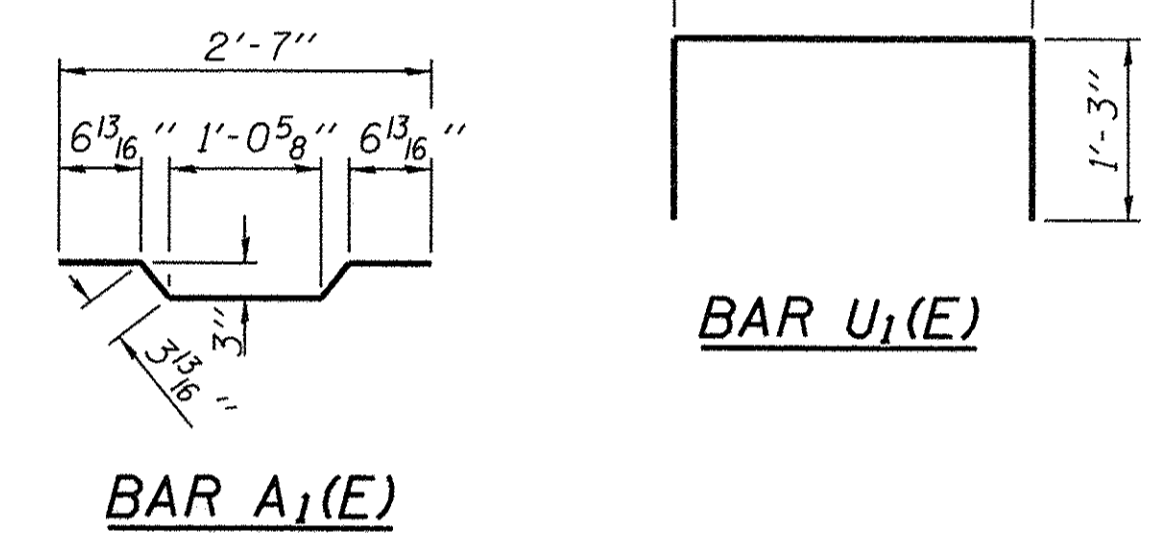
TYPICAL TRANSVERSE TIE ASSEMBLY



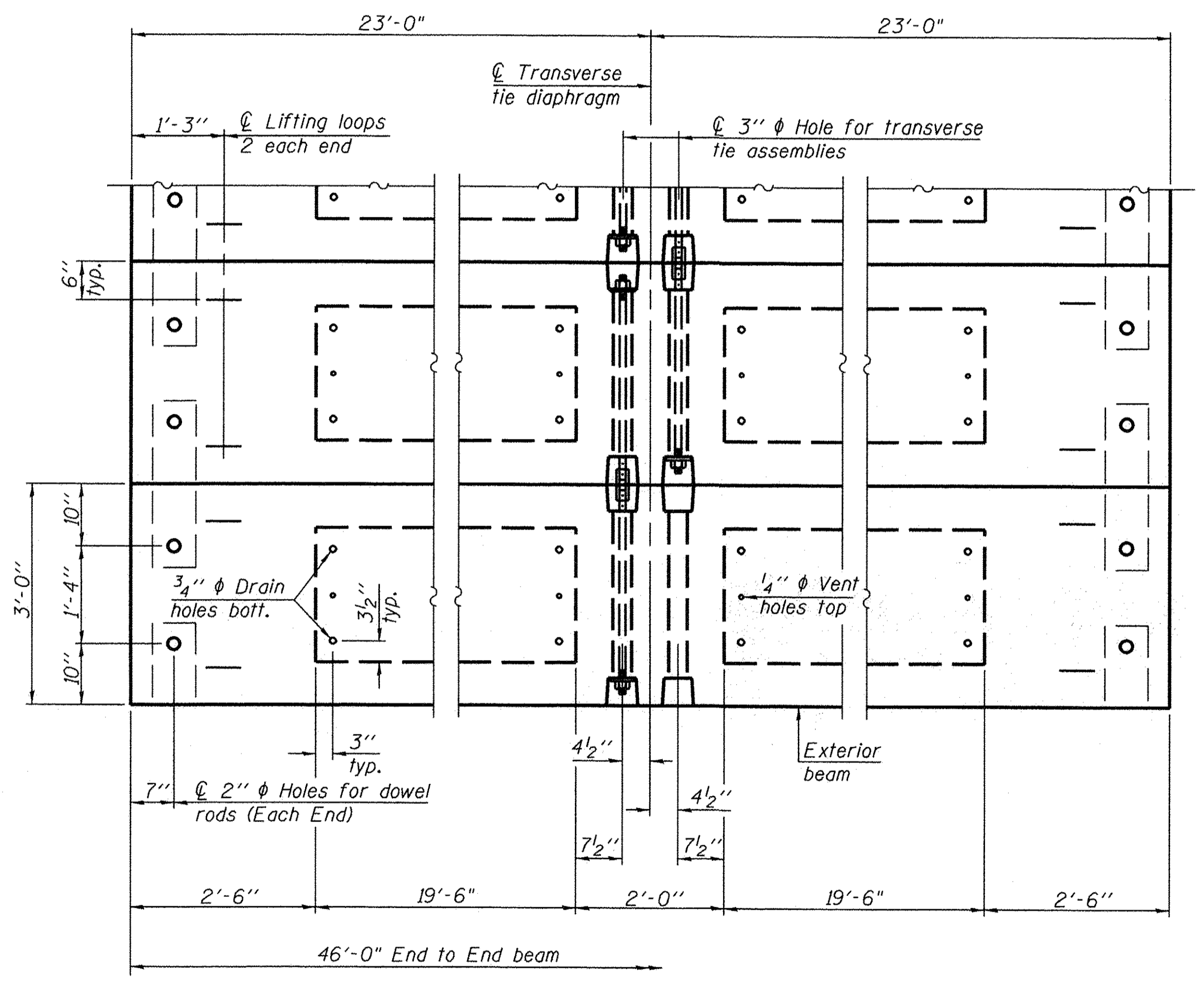
BAR S₁(E)
BAR S(E)



BAR U₁(E)
BAR S₂(E)



BAR A₁(E)
BAR U₁(E)

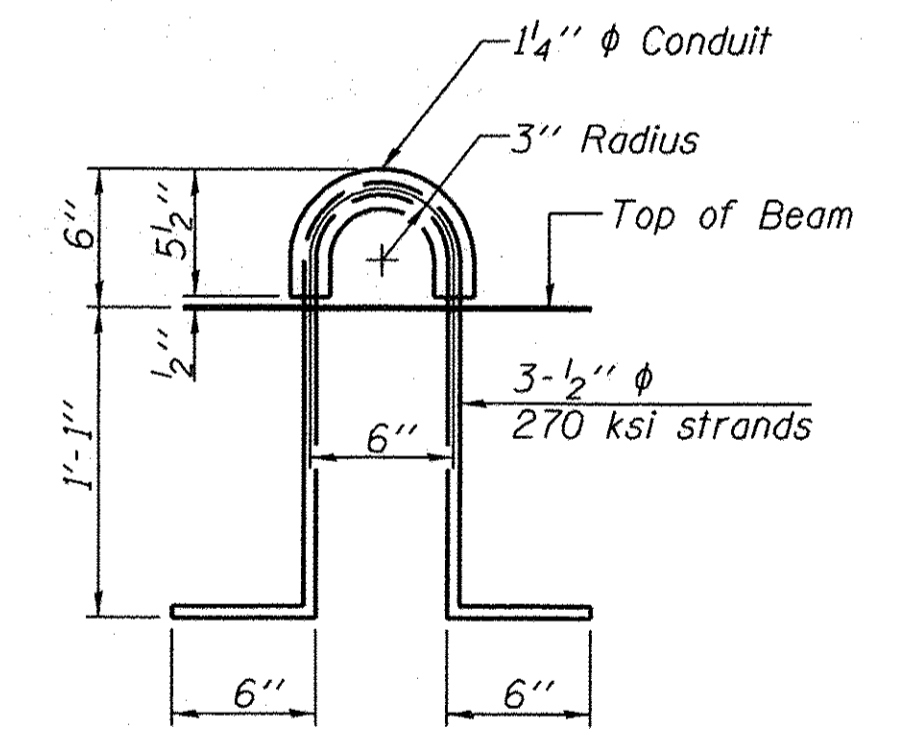


PLAN VIEW

Note: Connect beams in pairs with the transverse tie configuration shown.

NOTES

Prestressing steel shall be uncoated high strength, low relaxation 7-wire strand, Grade 270. The nominal diameter shall be 1/2" and the nominal cross-sectional area shall be 0.153 sq. in.
The 1" ϕ rods in the transverse tie assembly shall be tightened to a snug fit and the threads set. Pockets on exterior faces of bridge shall be filled with grout after transverse tie assembly is in place.
Two 1/8" fabric adjusting shims of the dimensions of the exterior bearing pad shall be provided for each bearing pad location. (40 - Required - Included in the cost of P.P.C. Deck Beams of the depth shown in the plans.)
A minimum 2 1/2" ϕ lifting pin shall be used to engage the lifting loops during handling.
Corrosion Inhibitor, per Article 1020.05(b)(10) and 1021.07 of the Standard Specifications, shall be used in the concrete for precast prestressed concrete deck beams.
Compressive strength of prestressed concrete, $f'c$, shall be 6000 psi.
Compressive strength of prestressed concrete at release, $f'ci$, shall be 5000 psi.
Rail post inserts, specified elsewhere, shall be cast into the exterior face of the outside beams.
See Special Provisions for review and distribution of shop drawings.



LIFTING LOOP DETAIL

BILL OF MATERIAL

Precast Prestressed Conc. Deck Bms. (17" depth)	Sq. Ft.	1104
Estimated Total Weight (One Beam) = 24,710 Pounds		

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AGENCY:
MARSHALL COUNTY HWY. DEPT.
STEBEN ROAD DISTRICT

PROJECT:
SECTION 16-11124-00-BR
T.R. 63 OVER THE
SENACHWINE CREEK

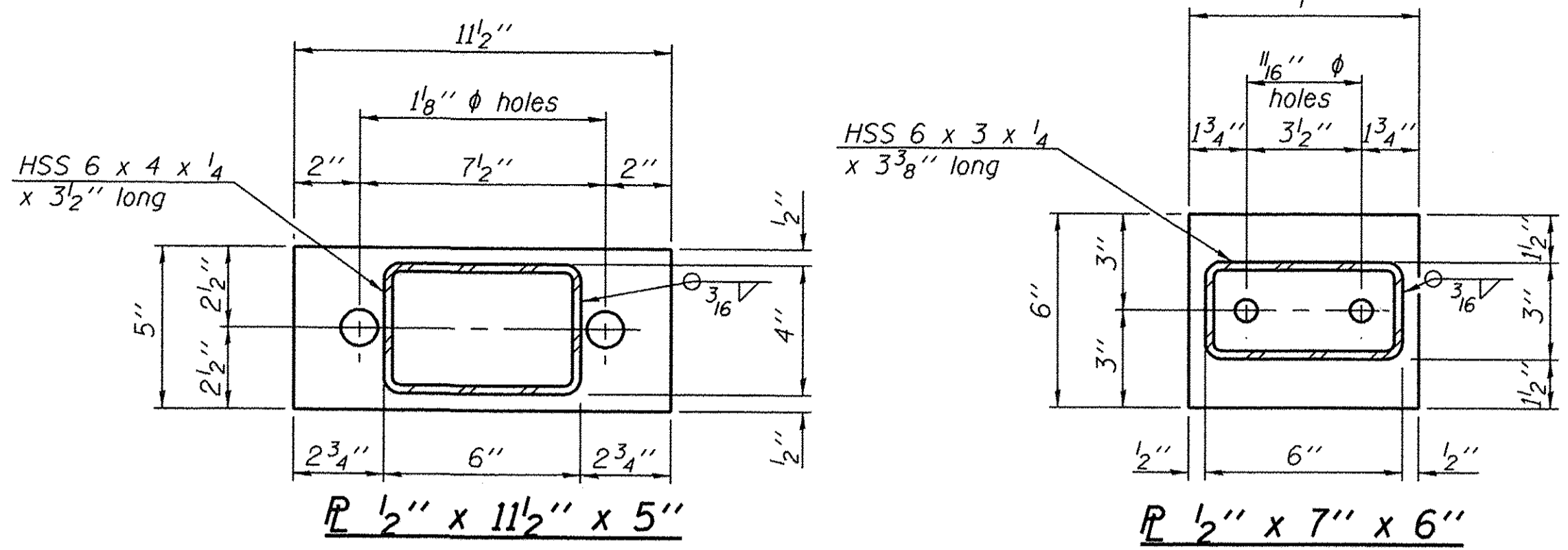
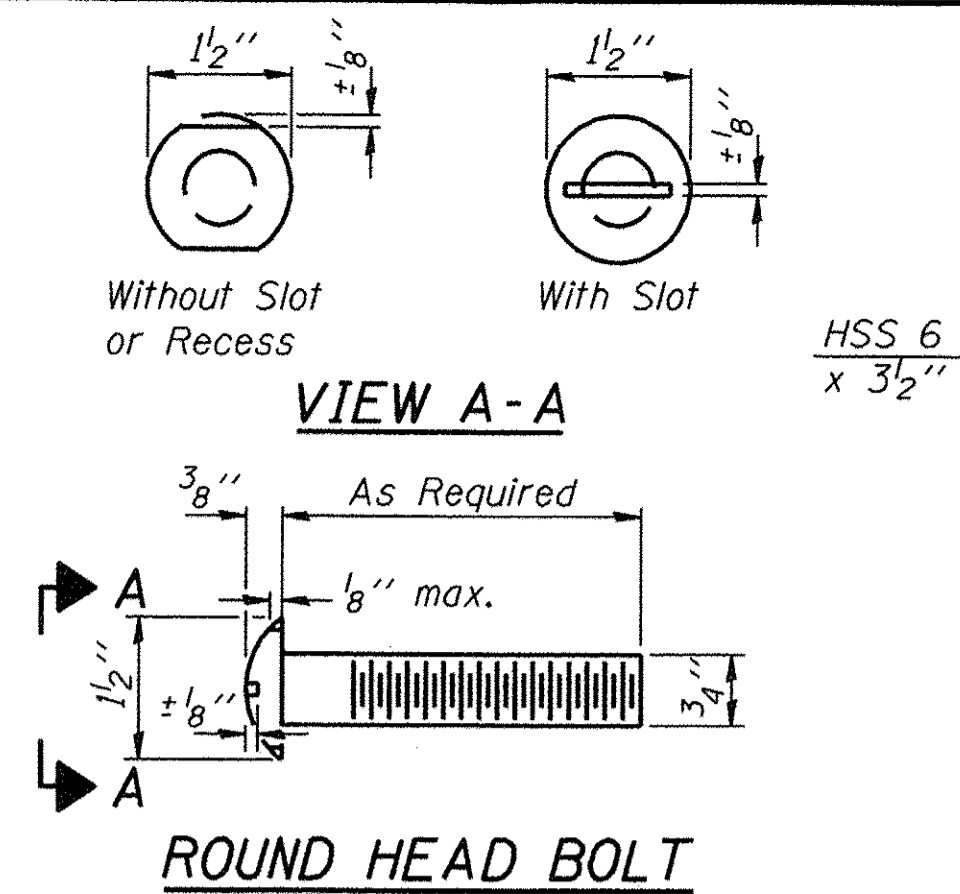
DESIGNED: ARK
CHECKED: GJB
DRAWN: ADS-CFC
CHECKED: ARK-MCB

REVISIONS		
REV. NO.	DESCRIPTION	DATE

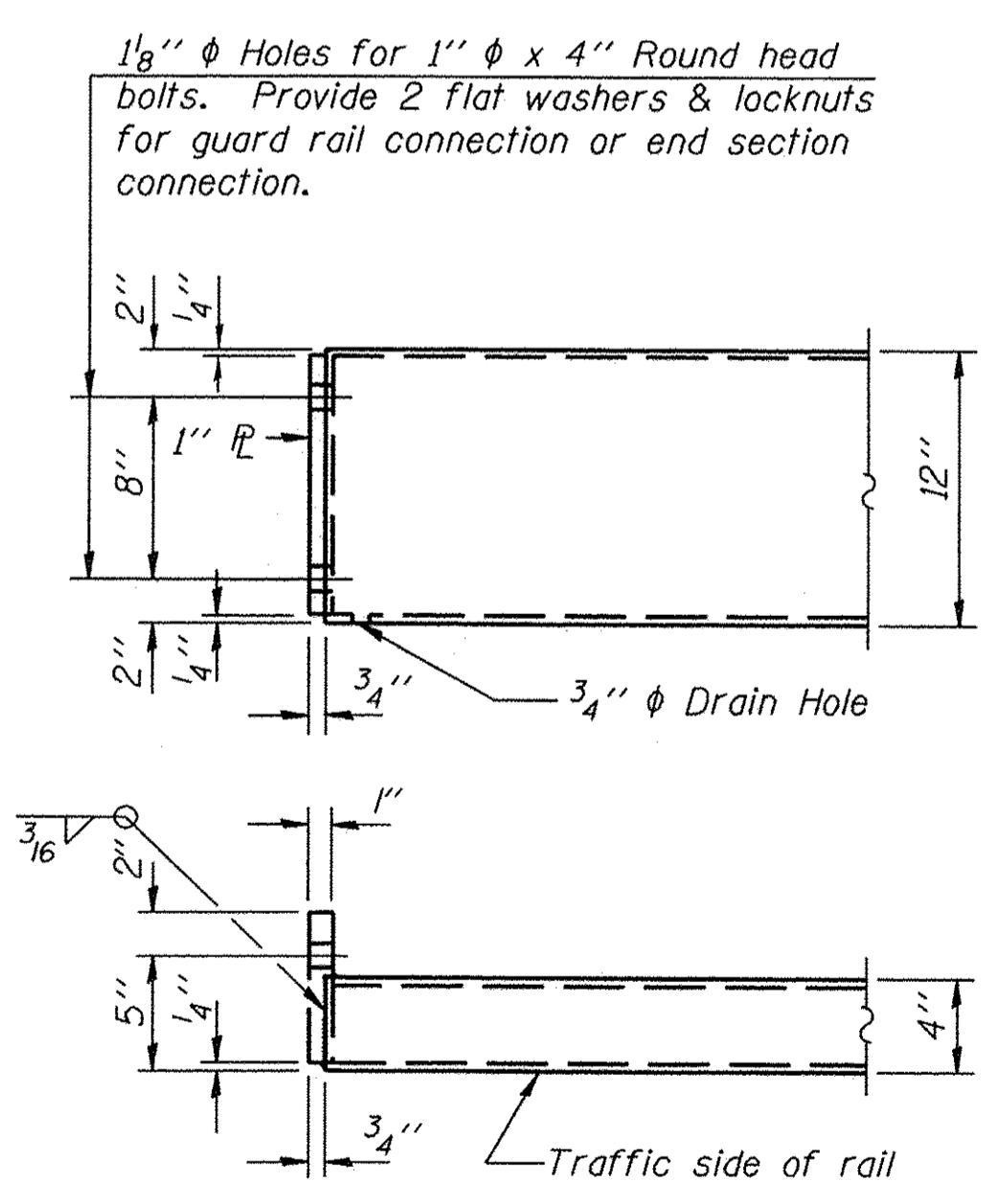
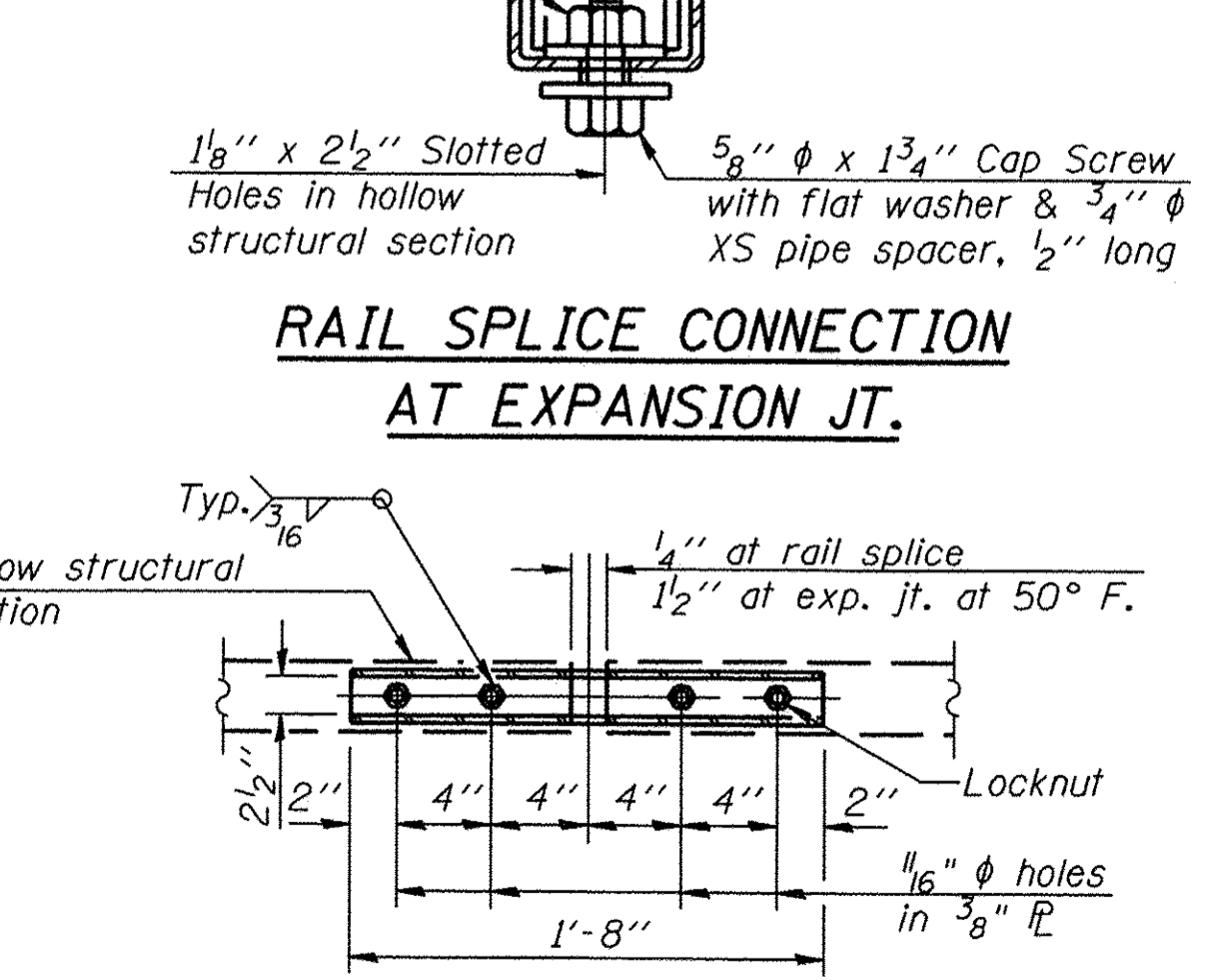
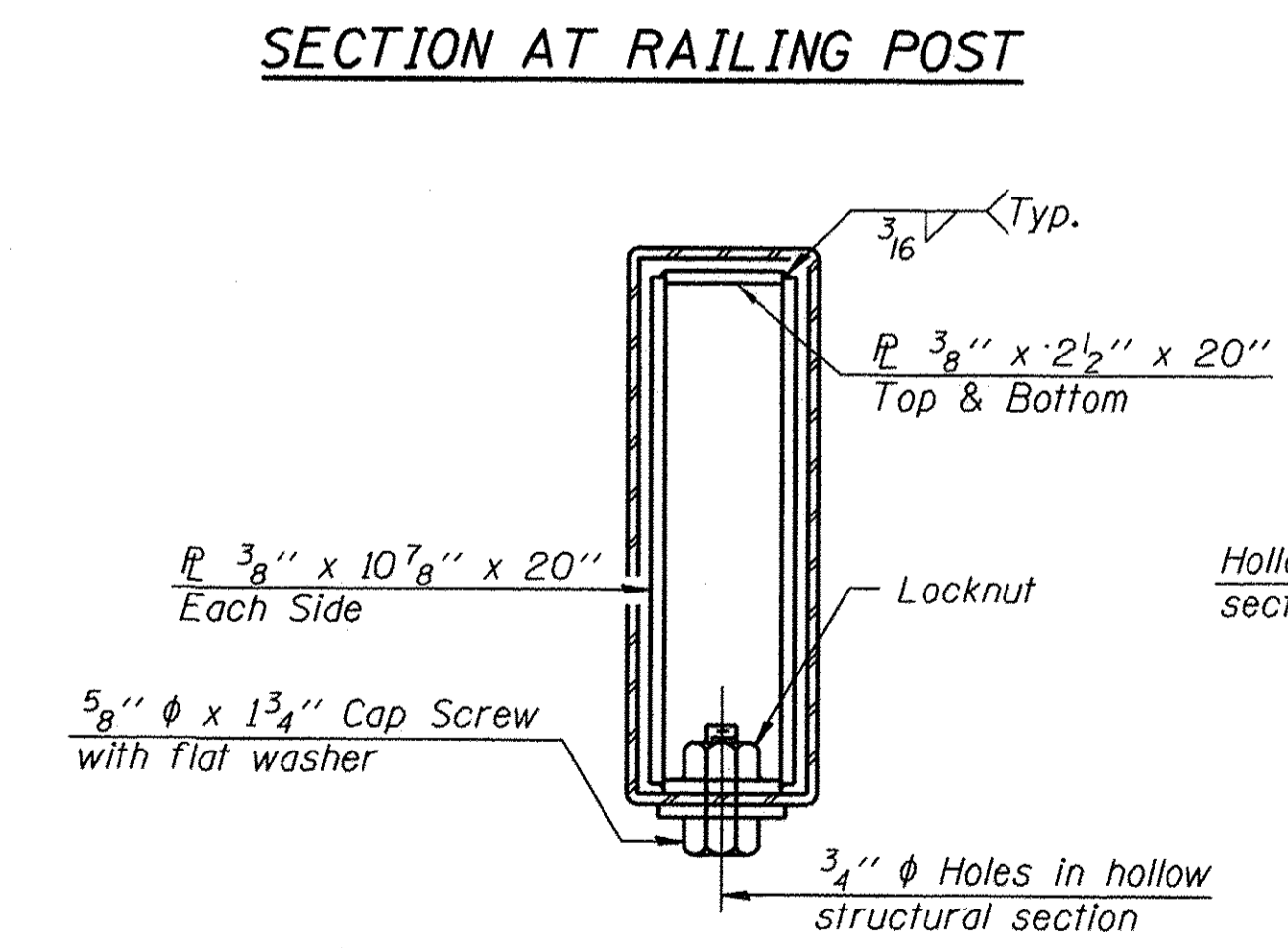
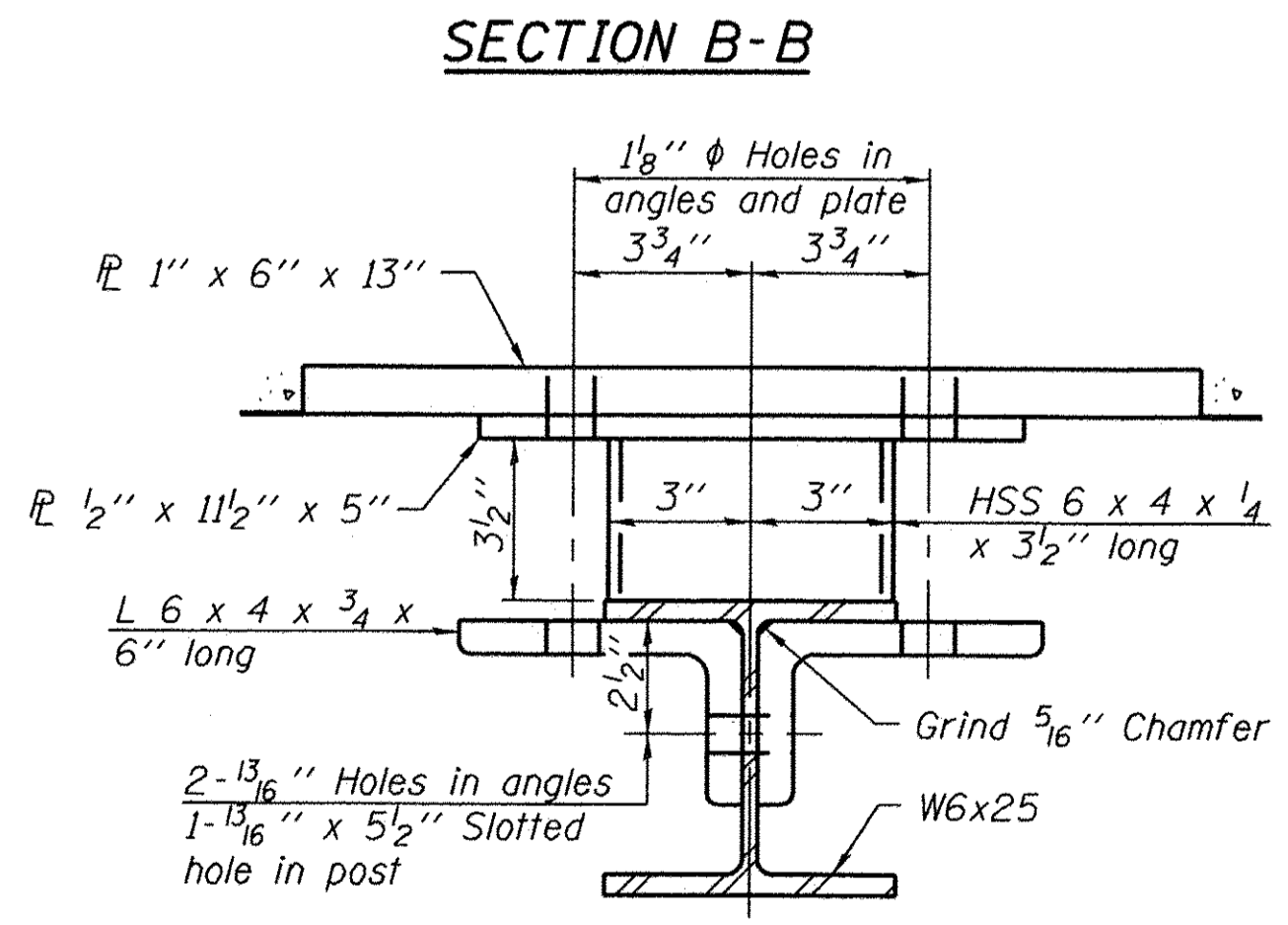
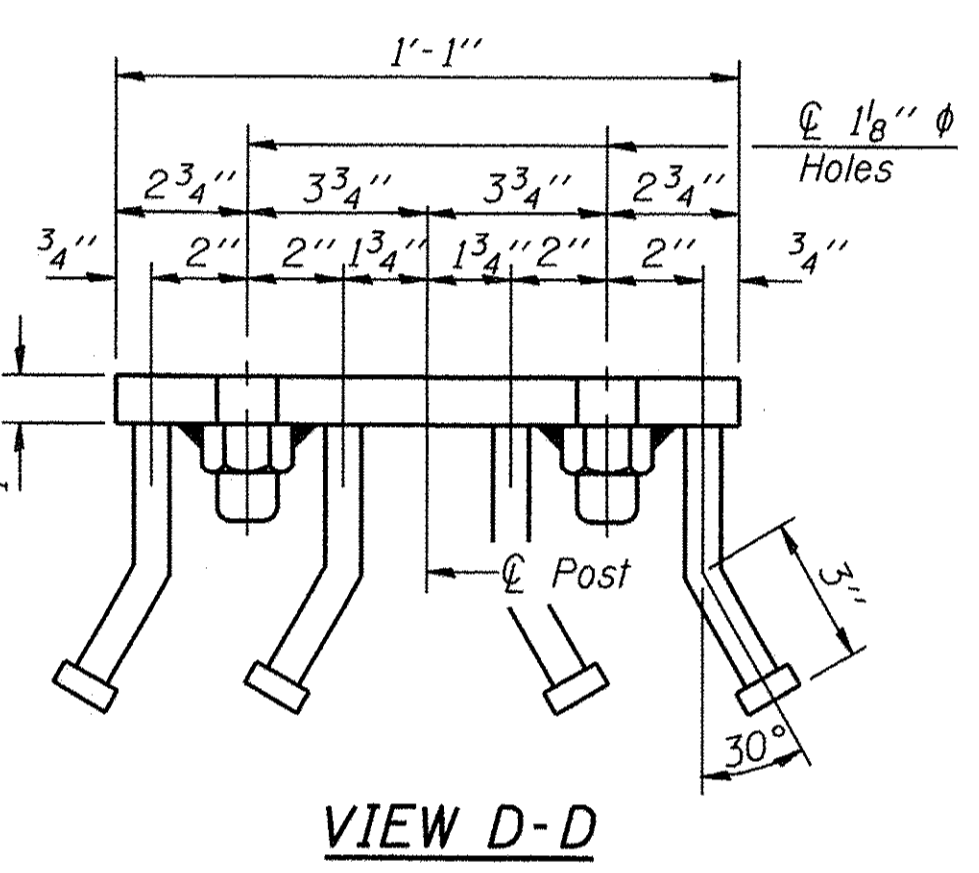
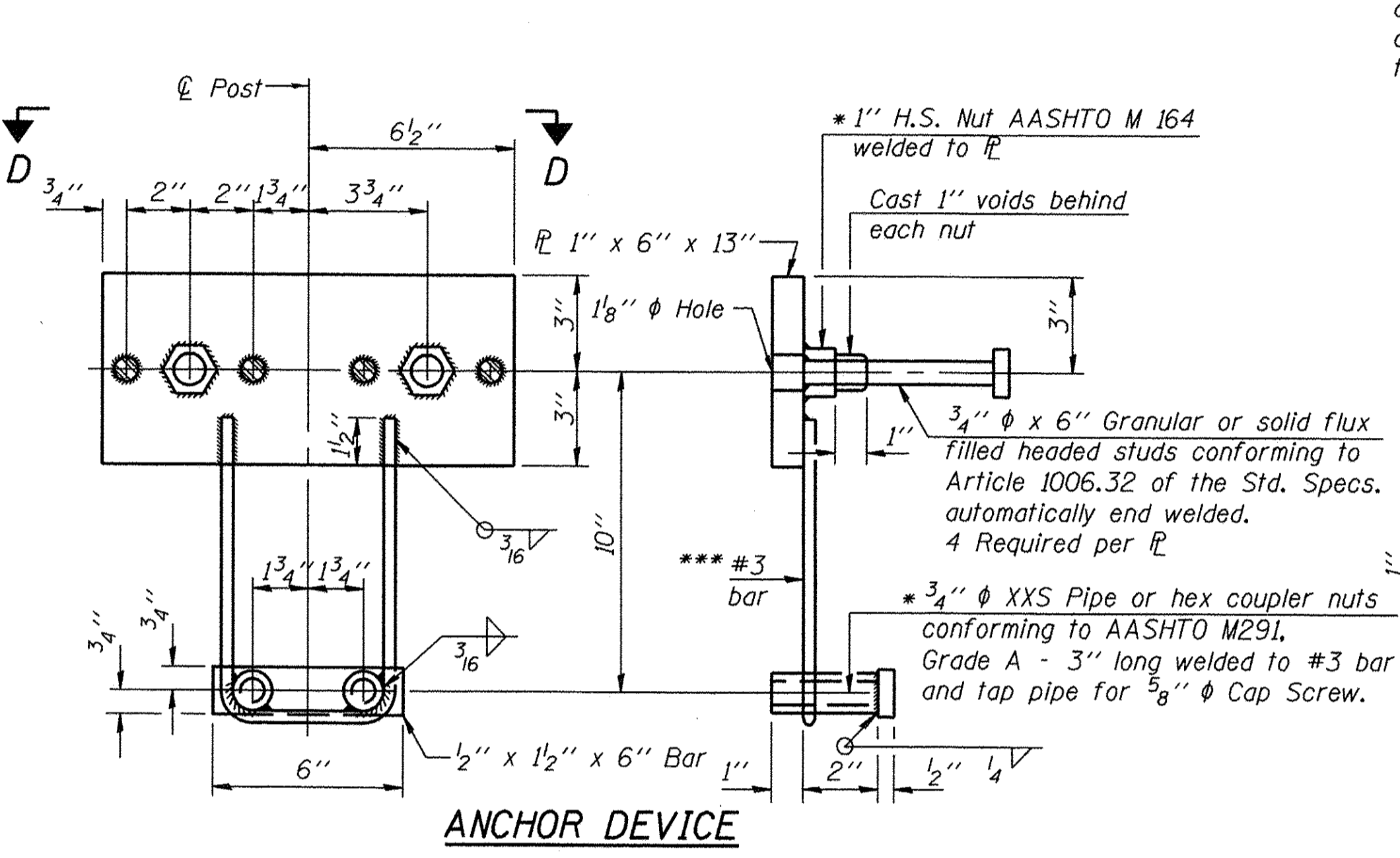
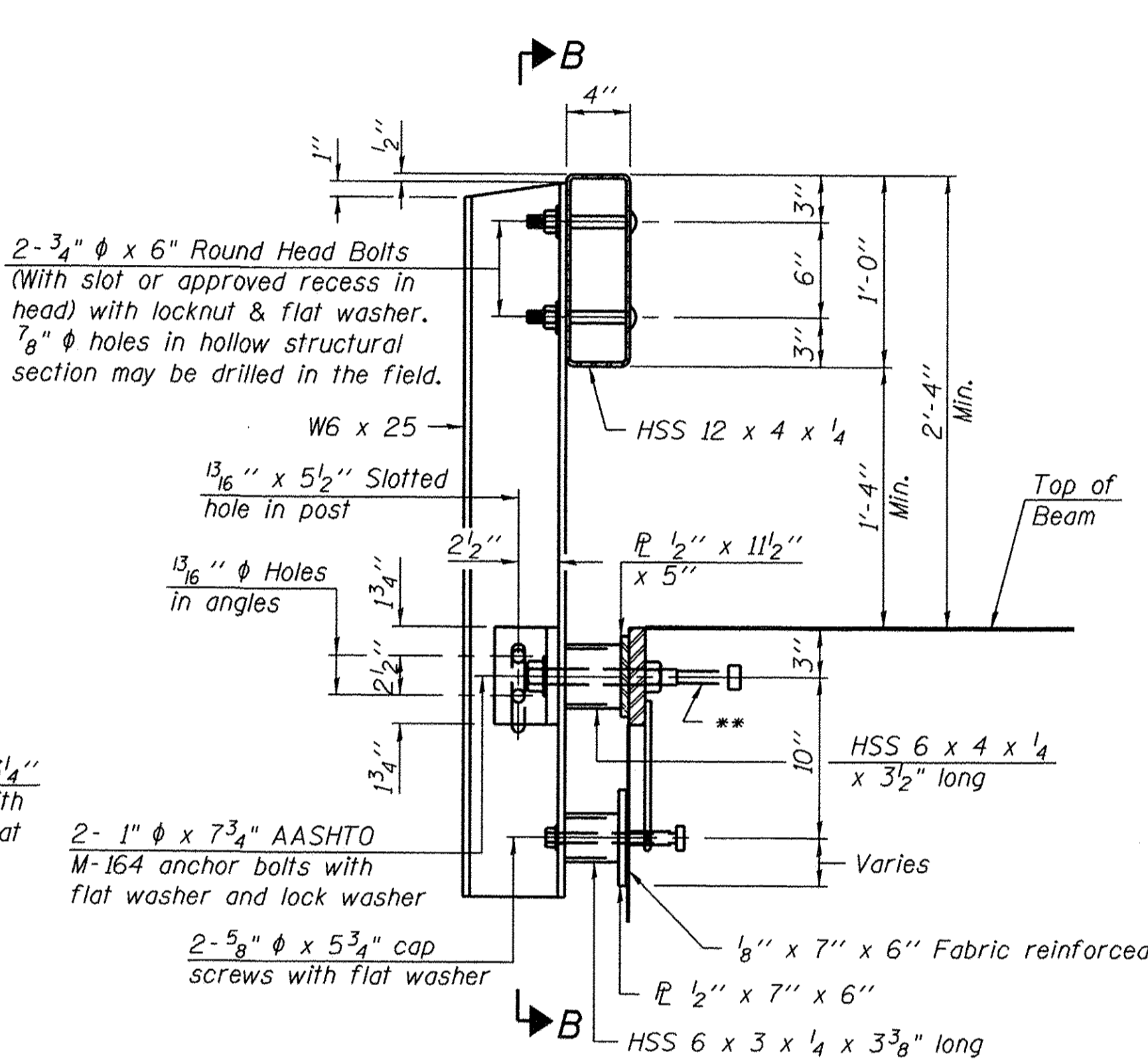
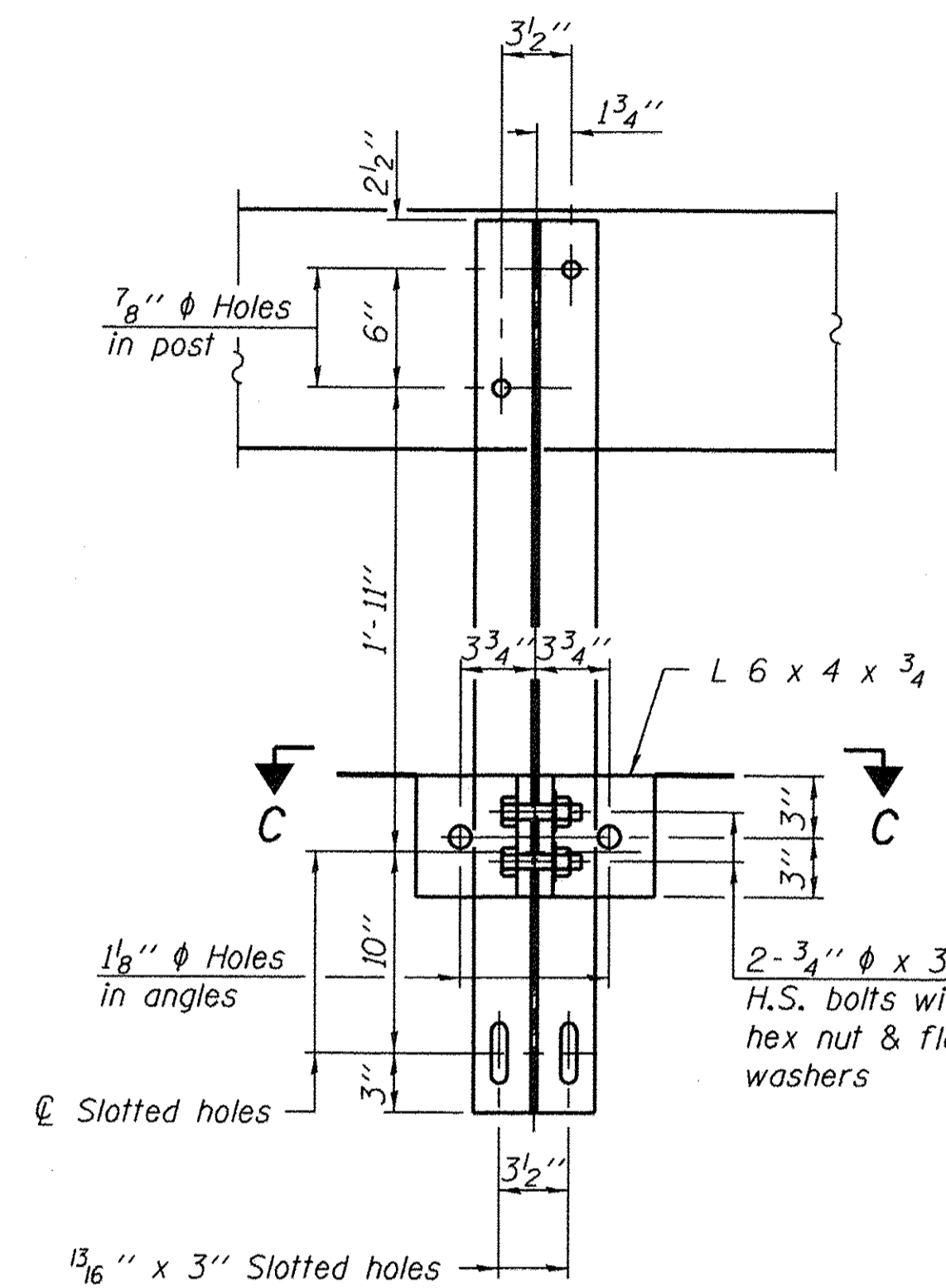
DRAWING:
17' X 36' PPC DECK BEAM
SPAN 2
\$FILES\$

JOB NUMBER:
15-863
SHEET NUMBER
11 of 25

CONTRACT #: 89697



Notes:
 All field drilled holes shall be coated with an approved zinc rich paint before erection.
 All steel rail elements shall be galvanized according to Article 509.05 of the Standard Specifications.
 * Threaded areas of nuts or pipes used for anchor devices shall be plugged or blocked off during casting of beam.
 ** The studs of the anchor devices shall be placed below the top reinforcement bars and the outermost longitudinal reinforcement bar shall be placed directly above the studs of the rail post anchor device.
 *** Whenever the lower insert assemblies interfere with strand locations, the #3 bars shall be cut and adjusted in order to allow raising or lowering of the lower inserts. Maximum adjustment not to exceed 1/2 inch.



BILL OF MATERIAL

Item	Unit	Quantity
Steel Railing, Type S-1	Foot	188

See sheet 13 for Rail Post Spacing and Curled End Section Details.

(10'-9" Maximum Post Spacing)

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AGENCY:
 MARSHALL COUNTY HWY. DEPT.
 STEUBEN ROAD DISTRICT

PROJECT:
 SECTION 16-11124-00-BR
 T.R. 63 OVER THE
 SENACHWINE CREEK

DESIGNED: ARK
 CHECKED: GJB
 DRAWN: ADS-CFC
 CHECKED: ARK-MCB

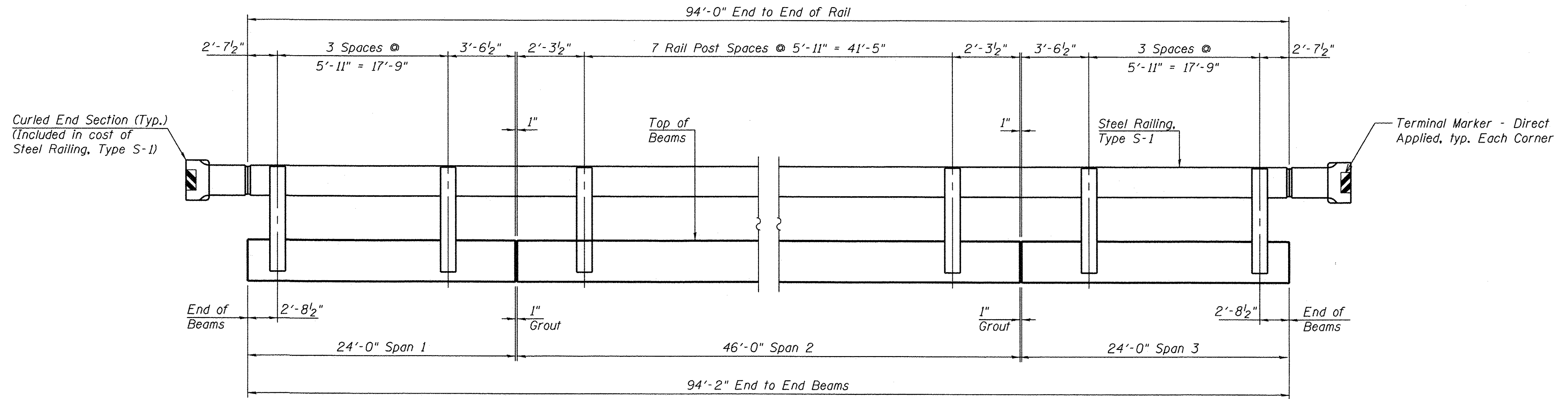
REVISIONS

REV. NO.	DESCRIPTION	DATE

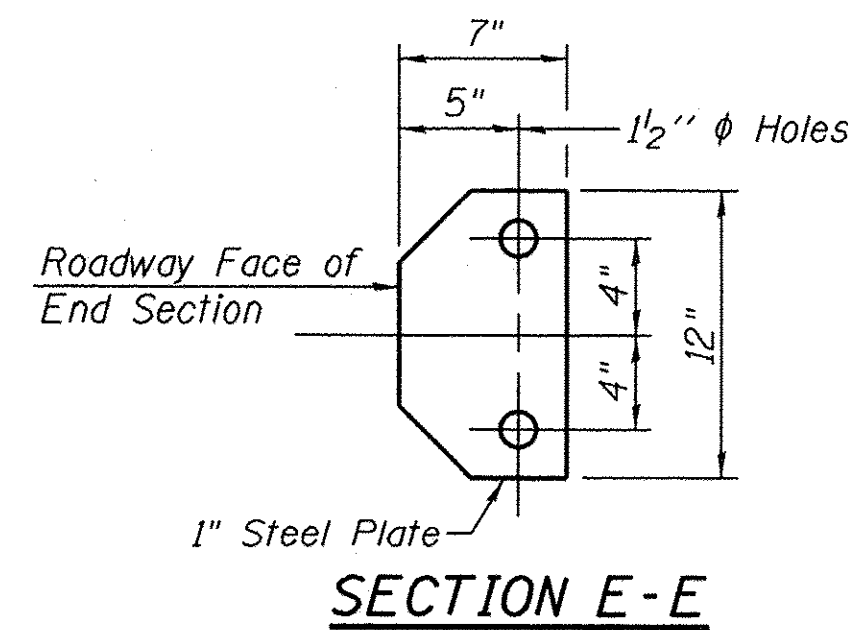
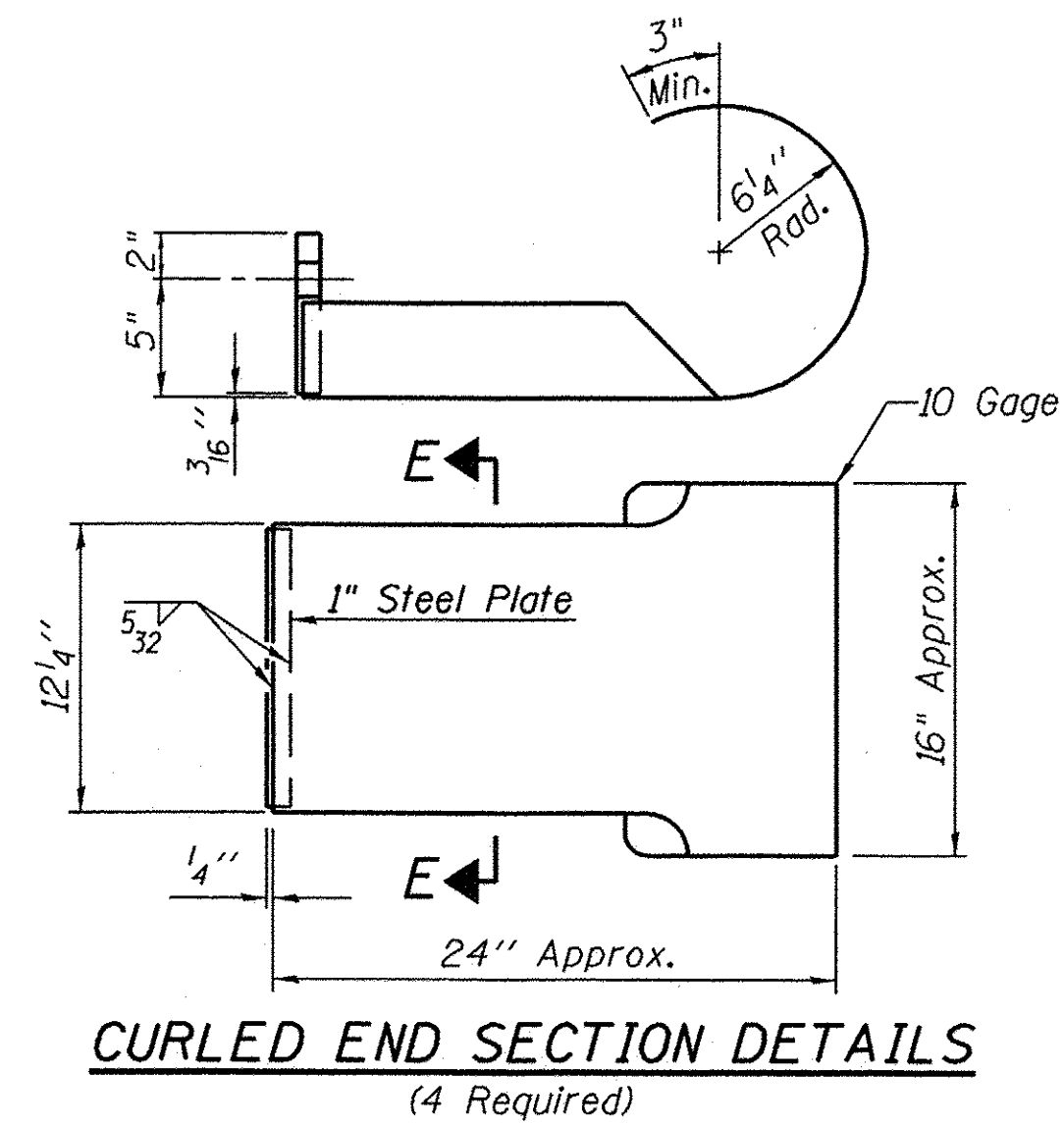
DRAWING:
 STEEL RAILING, TYPE S-1
 \$FILES\$

JOB NUMBER:
 15-863
 SHEET NUMBER
 12 of 25

CONTRACT #: 89697



ELEVATION



See sheet 12 for Steel Railing Details.

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AGENCY:
MARSHALL COUNTY HWY. DEPT.
STEBEN ROAD DISTRICT

PROJECT:
SECTION 16-11124-00-BR
T.R. 63 OVER THE
SENACHWINE CREEK

DESIGNED: ARK
CHECKED: GJB
DRAWN: ADS-CFC
CHECKED: ARK-MCB

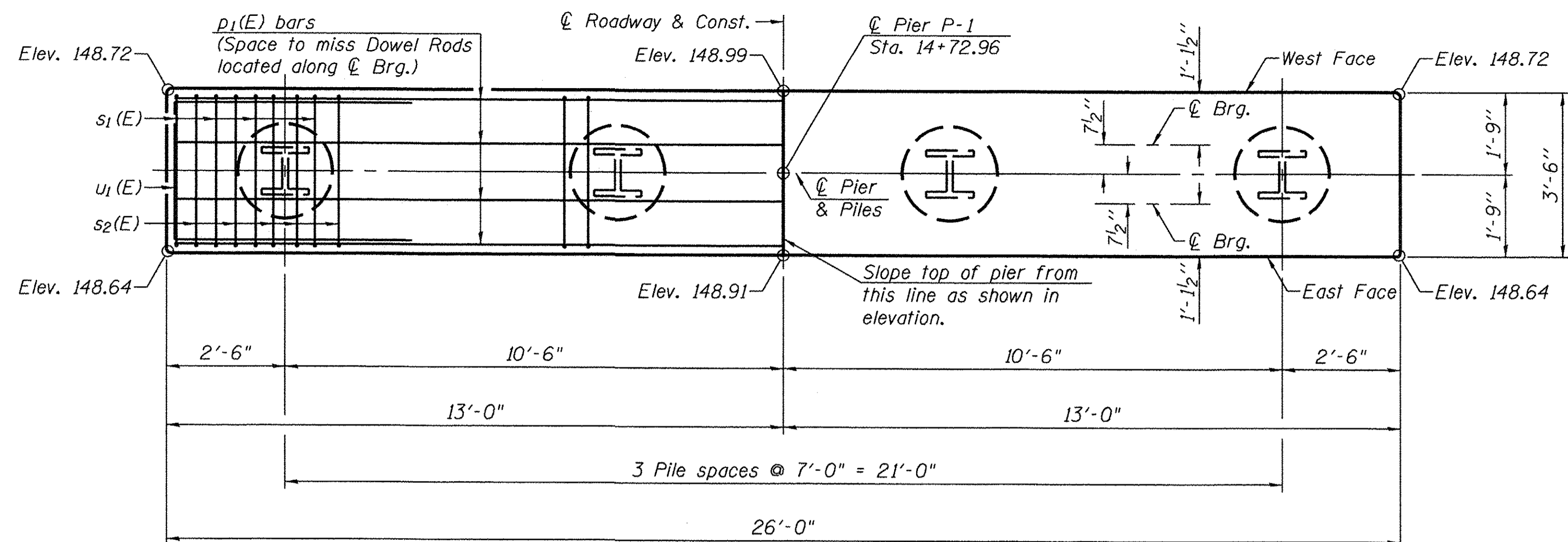
REVISIONS	
REV. NO.	DESCRIPTION

DRAWING:
STEEL RAILING, TYPE S-1

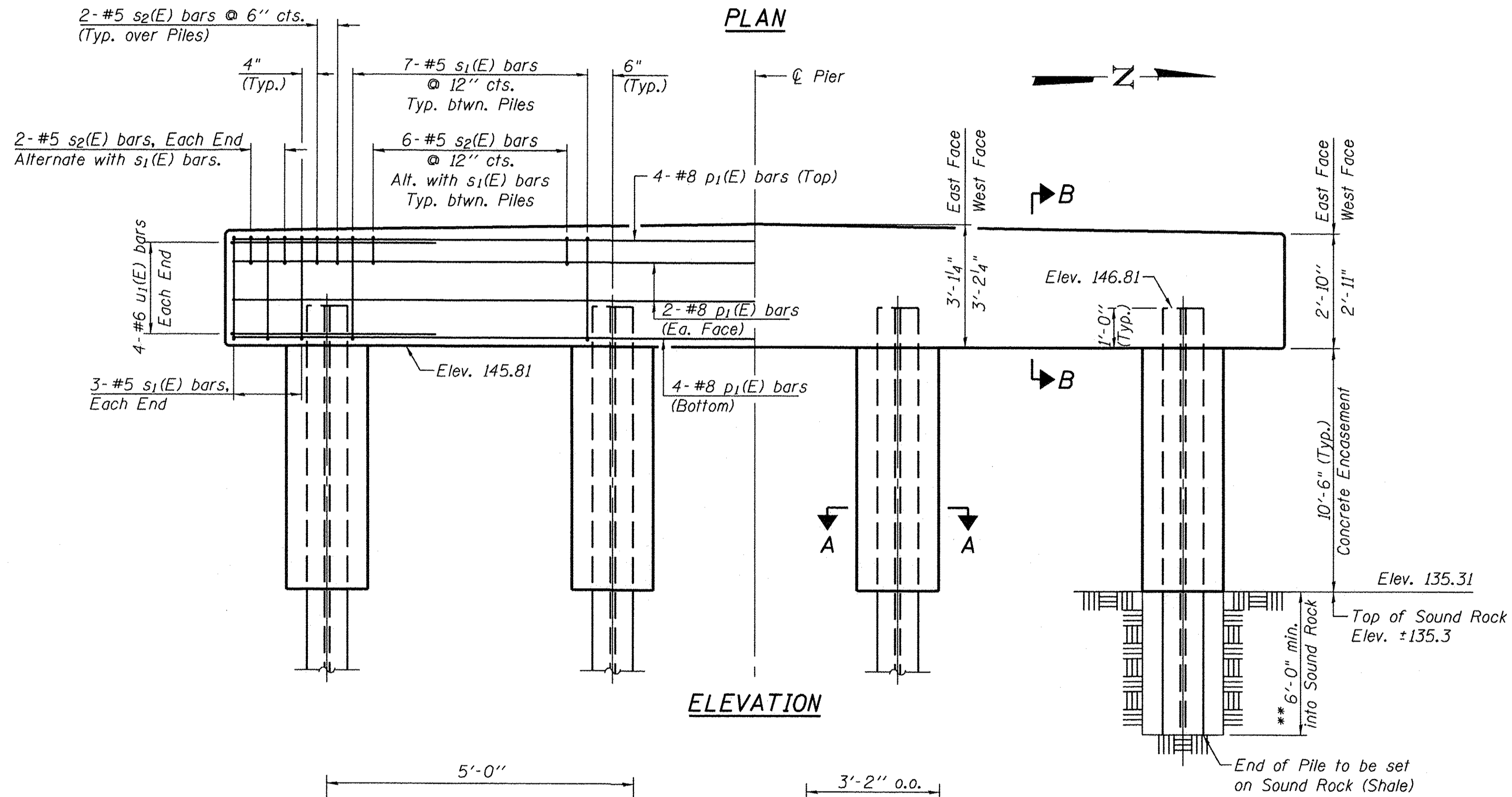
JOB NUMBER:
15-863

SHEET NUMBER
13 of 25

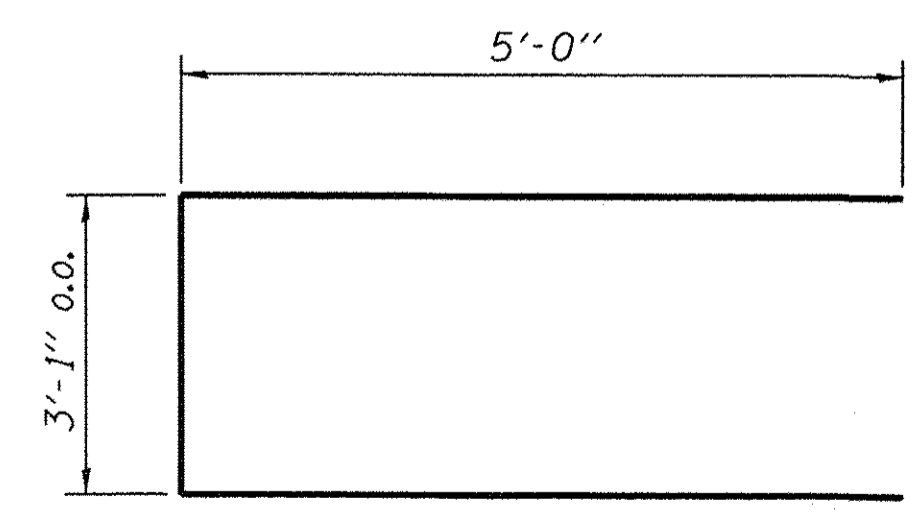
CONTRACT #: 89697



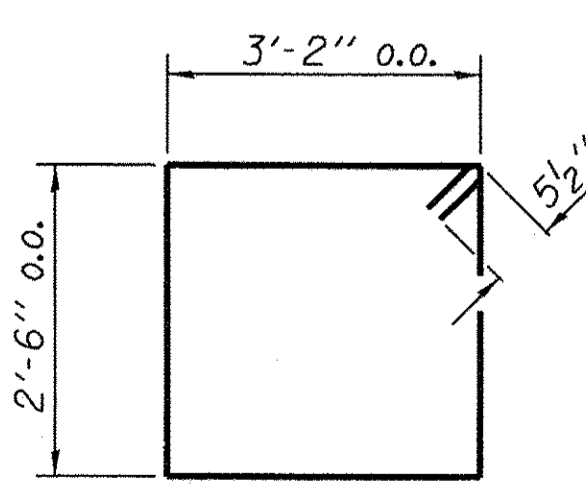
PLAN



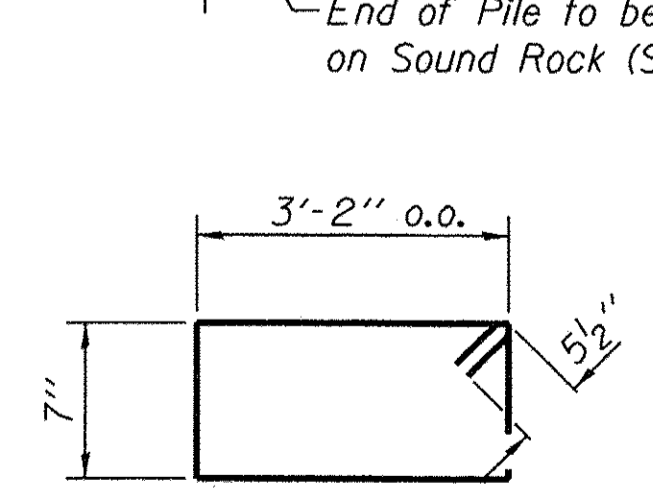
ELEVATION



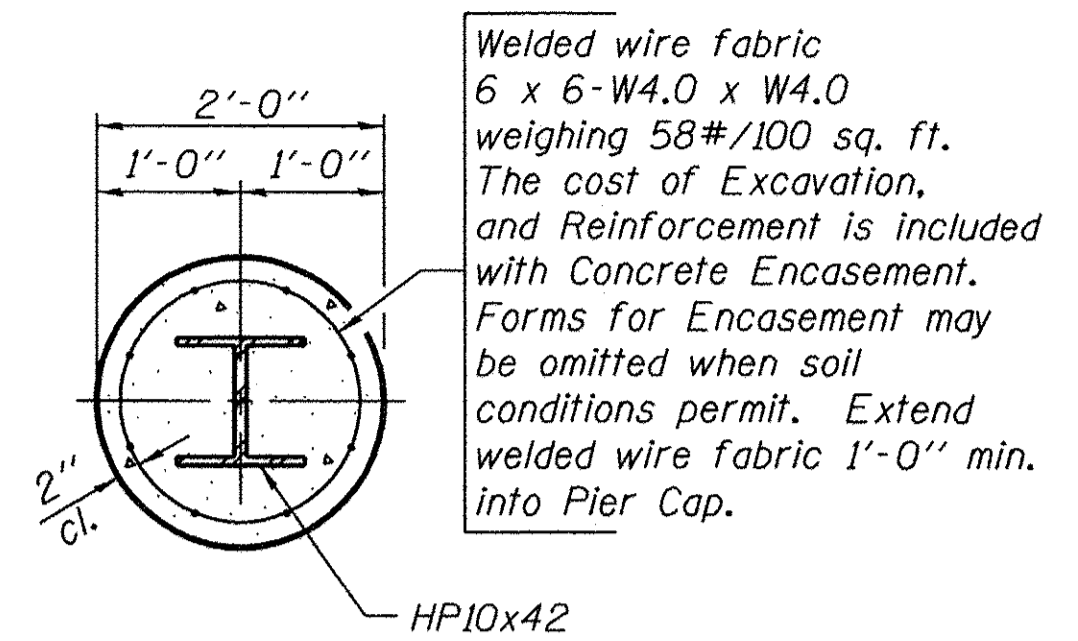
BAR u₁(E)



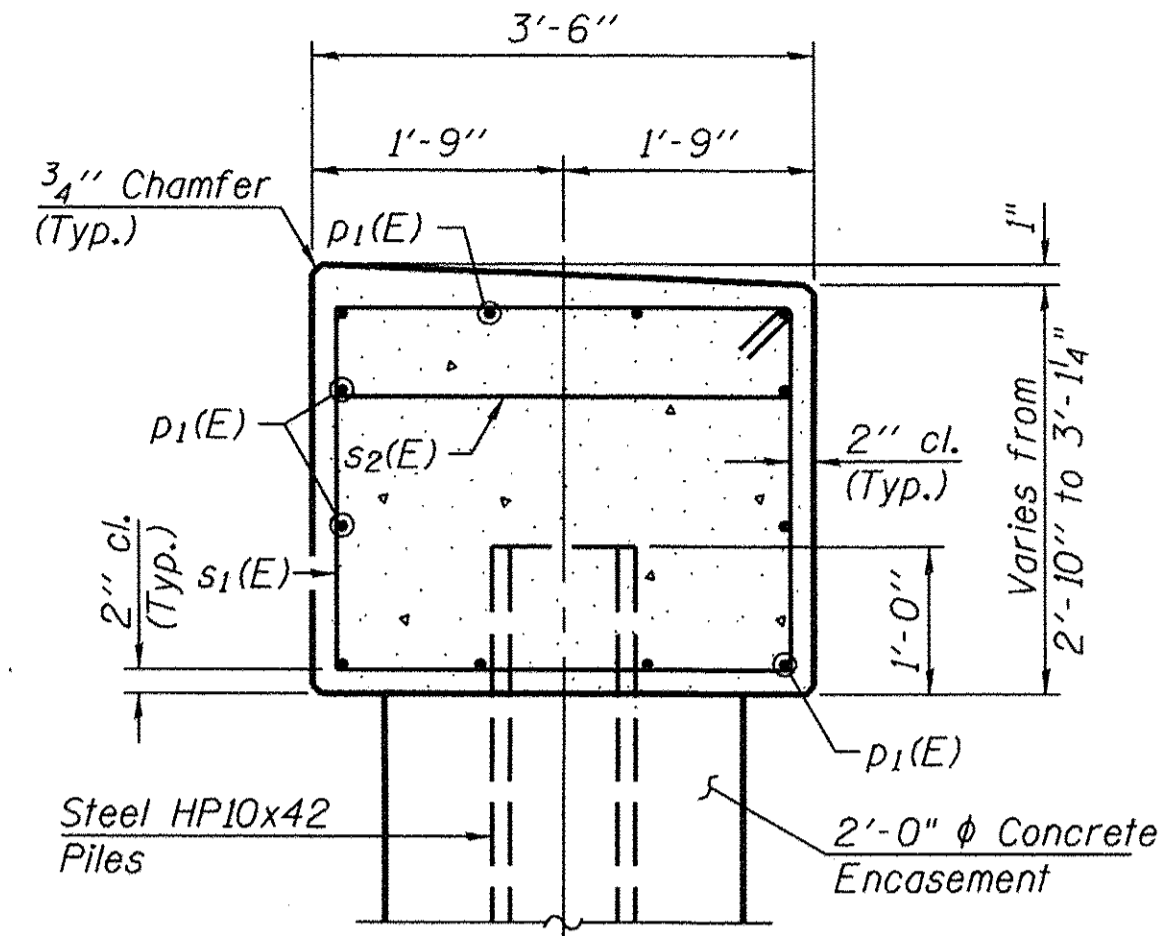
BAR s₁(E)



BAR s₂(E)



**SECTION A-A
PILE ENCASEMENT DETAIL**



**SECTION B-B
(Looking North)**

PILE DATA

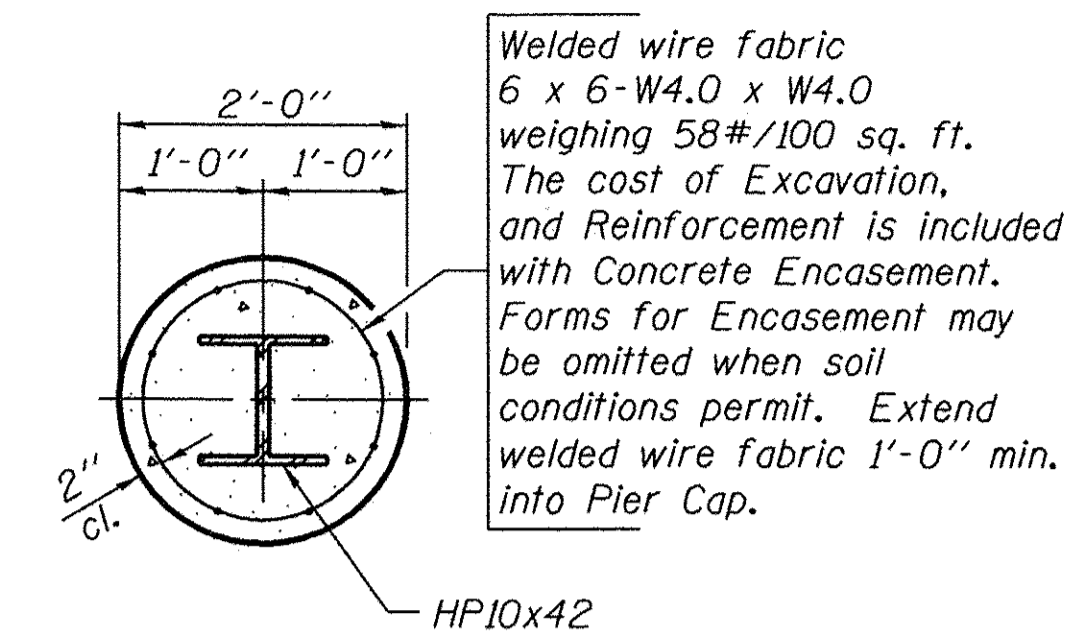
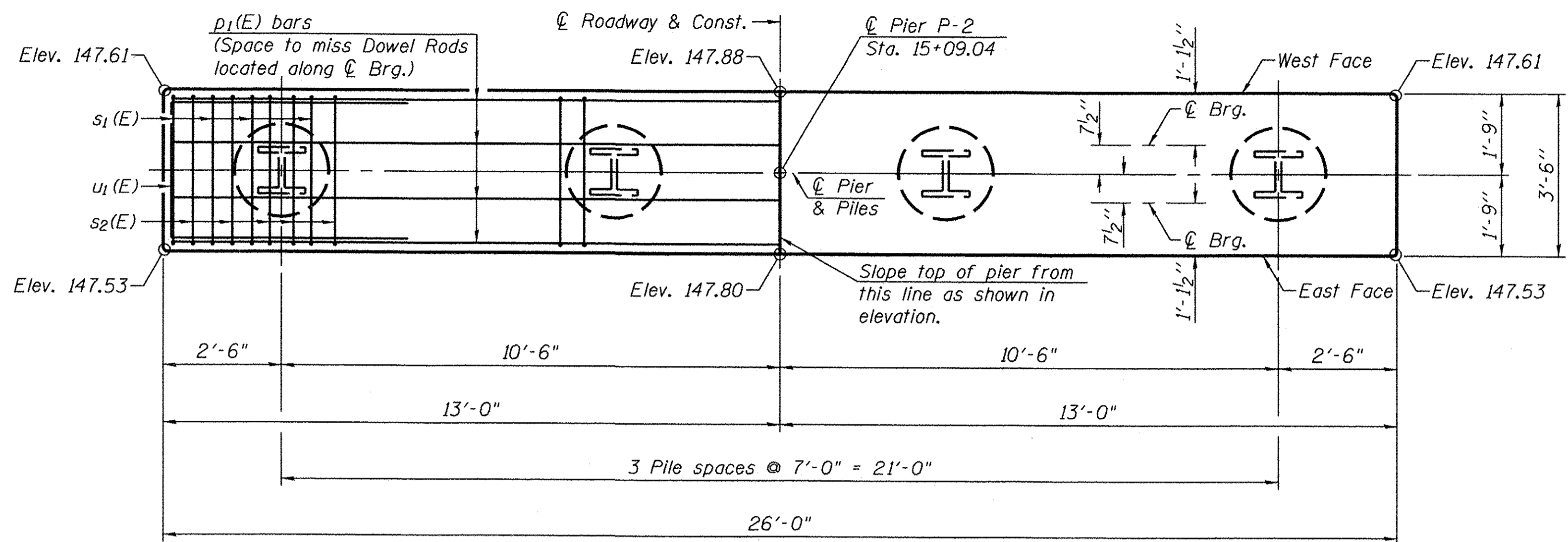
Type & Size	Steel HP10x42
No. Req'd.	4
Capacity	Set in Rock (See Special Provisions)
Estimated Length	18 Foot

** Note Precore through existing earth and rock as shown. Piles shall be grouted into rock with Class SI Concrete. Precored holes shall be clean at the time of placement and grouting. The Class SI Concrete used for grouting piles into rock and for filling cored holes is included in the price for "Setting Piles in Rock". See Special Provisions.

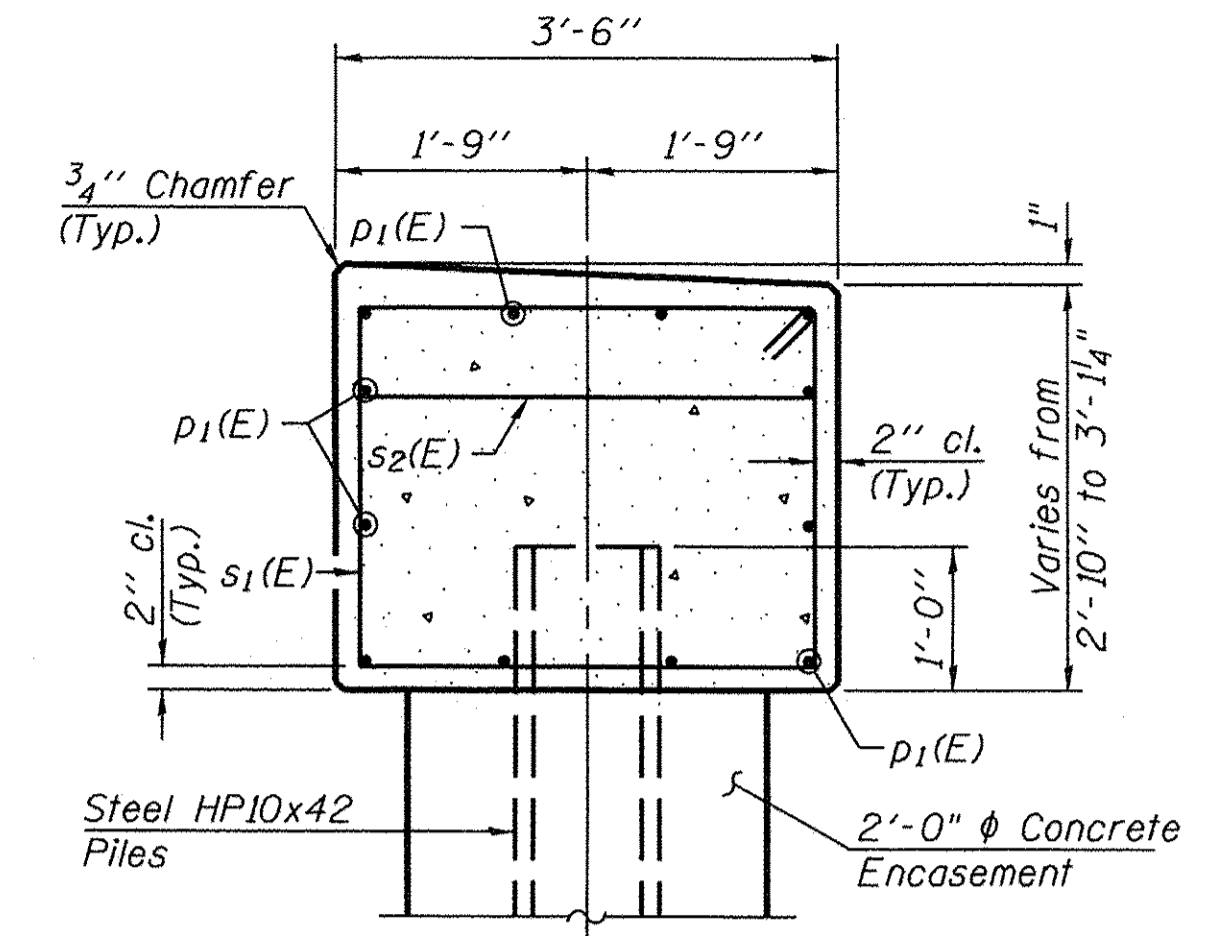
**PIER-1
BILL OF MATERIAL**

BAR	NO.	SIZE	LENGTH	SHAPE
p ₁ (E)	12	#8	25'-8"	—
s ₁ (E)	27	#5	12'-3"	□
s ₂ (E)	30	#5	8'-5"	□
u ₁ (E)	8	#6	13'-1"	U
Concrete Structures			Cu. Yd.	10.2
Reinforcement Bars, Epoxy Coated			Pound	1590
Furnishing Steel Piles HP10x42			Foot	72
Concrete Encasement			Cu. Yd.	4.9
Setting Piles in Rock			Foot	4

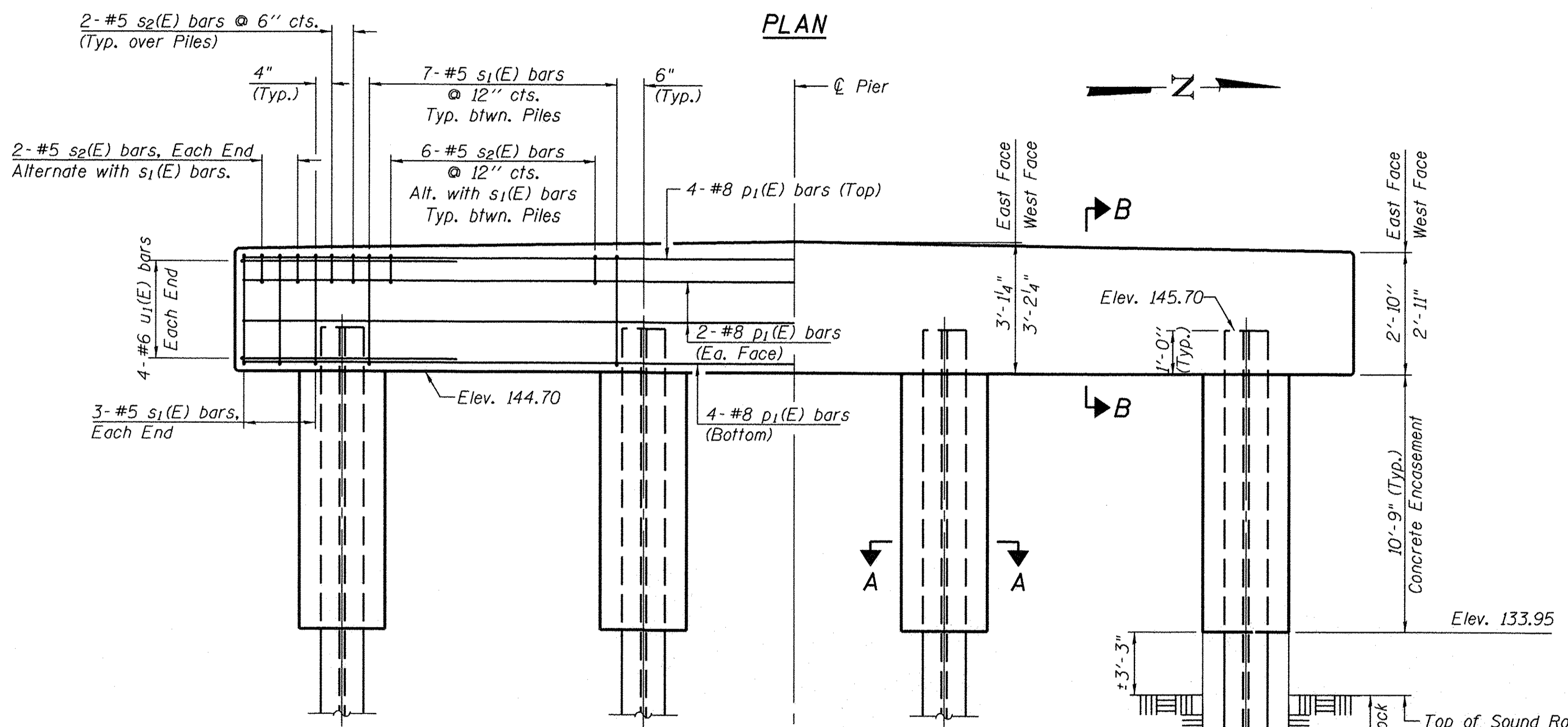
See Sheet 18 for Pile Details.



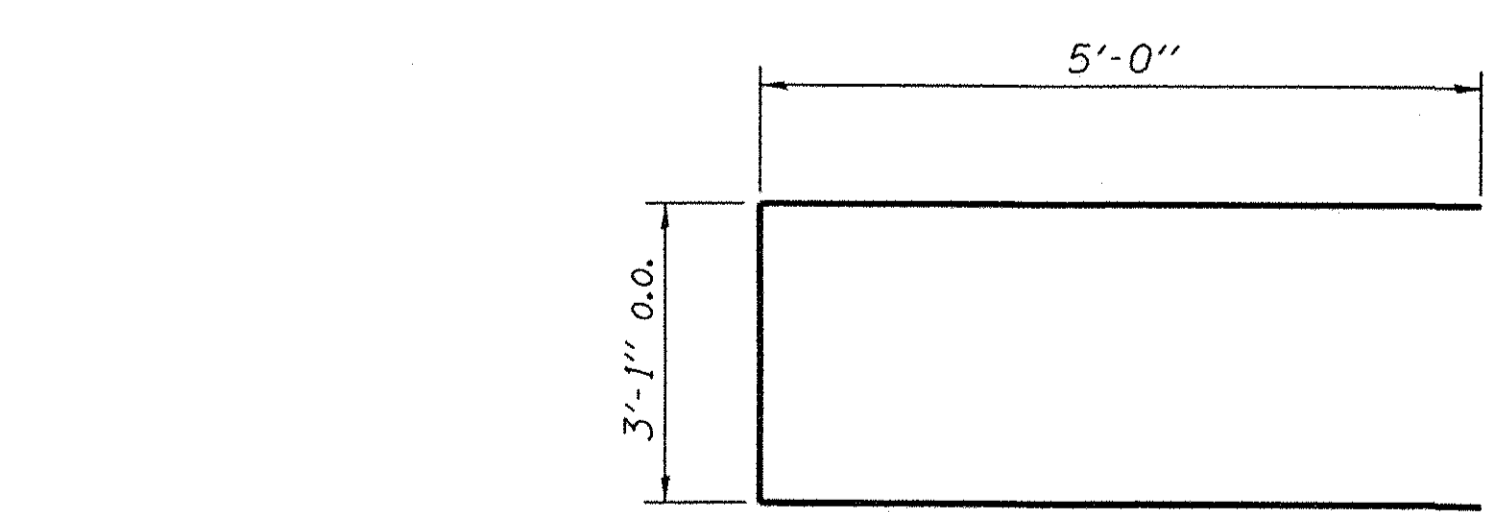
**SECTION A-A
PILE ENCASEMENT DETAIL**



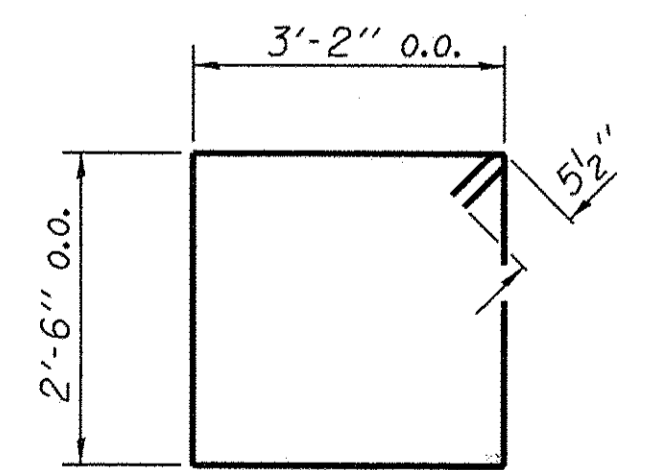
**SECTION B-B
(Looking North)**



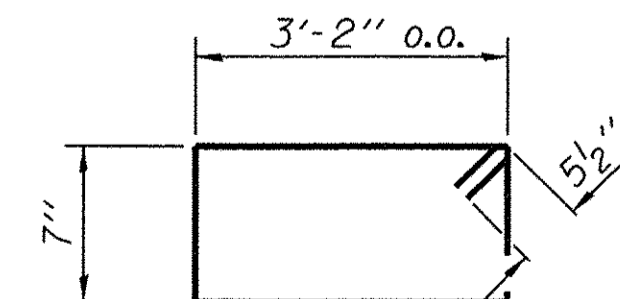
ELEVATION



BAR u₁(E)



BAR s₁(E)



BAR s₂(E)

PILE DATA

Type & Size..... Steel HPI0x42
 No. Req'd..... 4
 Capacity..... Set in Rock. (See Special Provisions)
 Estimated Length..... 21 Foot

** Note Precore through existing earth and rock as shown. Piles shall be grouted into rock with Class SI Concrete. Precored holes shall be clean at the time of placement and grouting. The Class SI Concrete used for grouting piles into rock and for filling cored holes is included in the price for "Setting Piles in Rock". See Special Provisions.

**PIER-2
BILL OF MATERIAL**

BAR	NO.	SIZE	LENGTH	SHAPE
p ₁ (E)	12	#8	25'-8"	—
s ₁ (E)	27	#5	12'-3"	□
s ₂ (E)	30	#5	8'-5"	□
u ₁ (E)	8	#6	13'-1"	U
Concrete Structures			Cu. Yd.	10.2
Reinforcement Bars, Epoxy Coated			Pound	1590
Furnishing Steel Piles HPI0x42			Foot	84
Concrete Encasement			Cu. Yd.	5.0
Setting Piles in Rock			Foot	4

See Sheet 18 for Pile Details.

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AGENCY:
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STUBEN ROAD DISTRICT

PROJECT:
SECTION 16-11124-00-BR
T.R. 63 OVER THE
SENACHWINE CREEK

DESIGNED: ARK
 CHECKED: GJB
 DRAWN: ADS-CFC
 CHECKED: ARK-MCB

REVISIONS	
REV. NO.	DESCRIPTION
REV. NO.	DESCRIPTION
REV. NO.	DESCRIPTION
REV. NO.	DESCRIPTION
REV. NO.	DESCRIPTION

DRAWING:
PIER-2 DETAILS

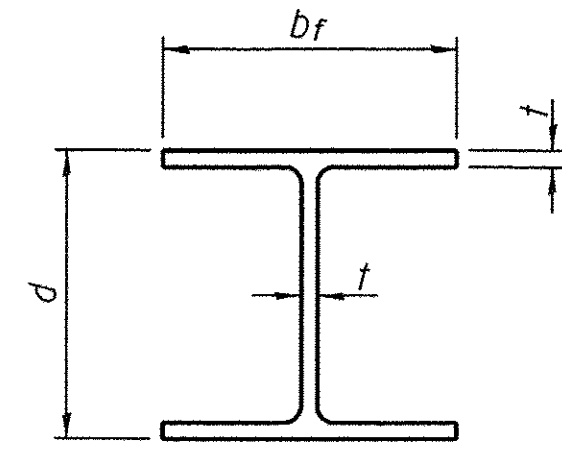
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JOB NUMBER:
15-863

SHEET NUMBER
17 of 25

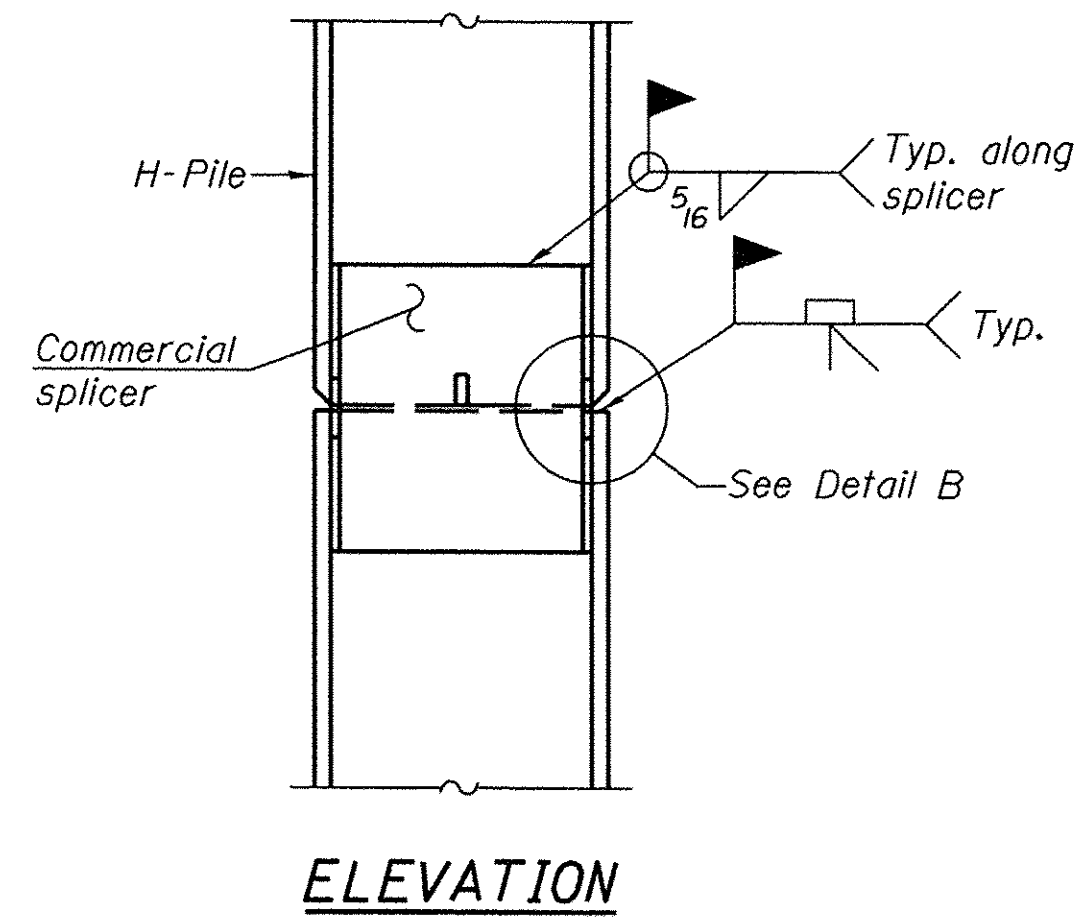
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CONTRACT #: 89697

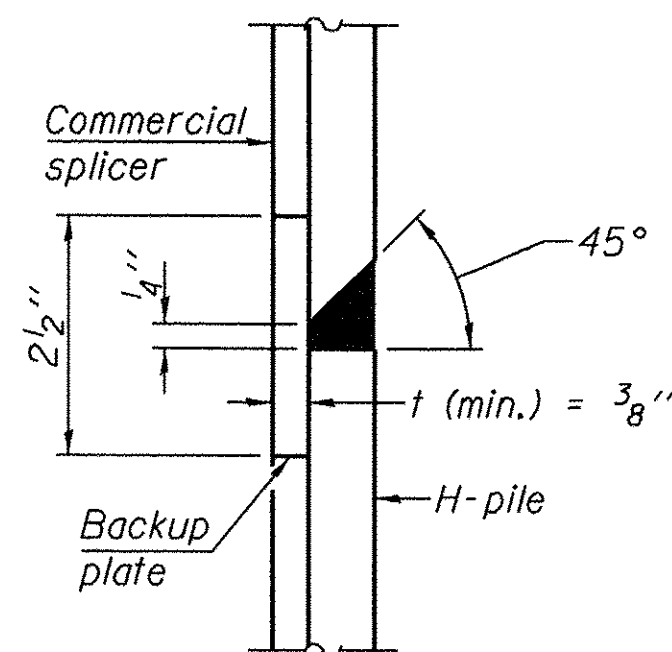


STEEL PILE TABLE

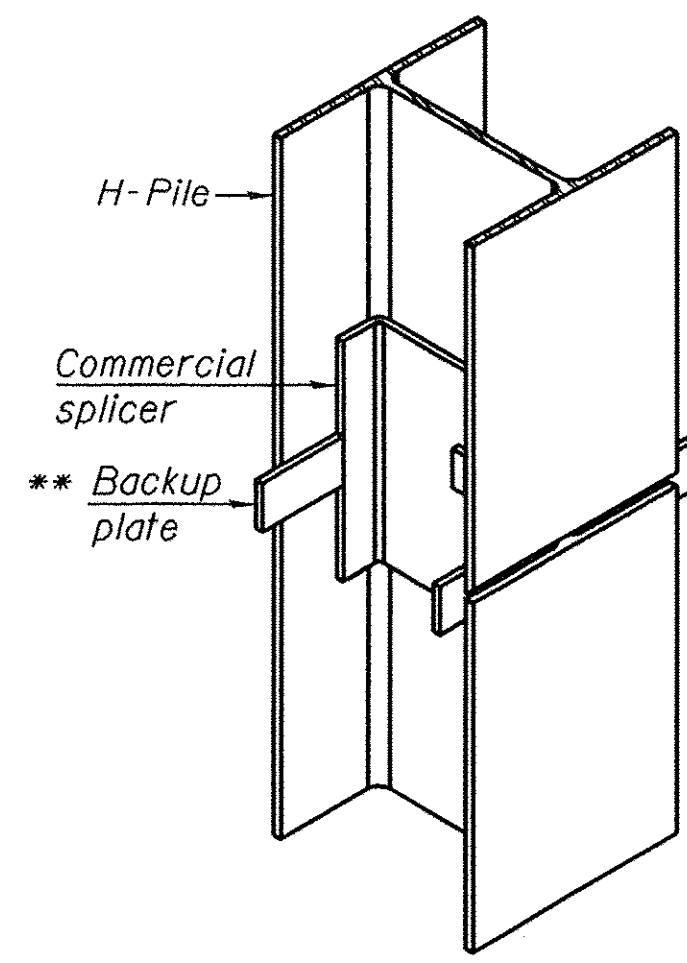
Designation	Depth <i>d</i>	Flange width <i>b_f</i>	Web and Flange thickness <i>t</i>
HP 14x117	14 1/4"	14 7/8"	13/16"
x102	14"	14 3/4"	1/16"
x89	13 7/8"	14 3/4"	5/8"
x73	13 5/8"	14 5/8"	1/2"
HP 12x84	12 1/4"	12 1/4"	1/16"
x74	12 1/8"	12 1/4"	5/8"
x63	12"	12 1/8"	1/2"
x53	11 3/4"	12"	7/16"
HP 10x57	10"	10 1/4"	9/16"
x42	9 3/4"	10 1/8"	7/16"
HP 8x36	8"	8 1/8"	7/16"



ELEVATION

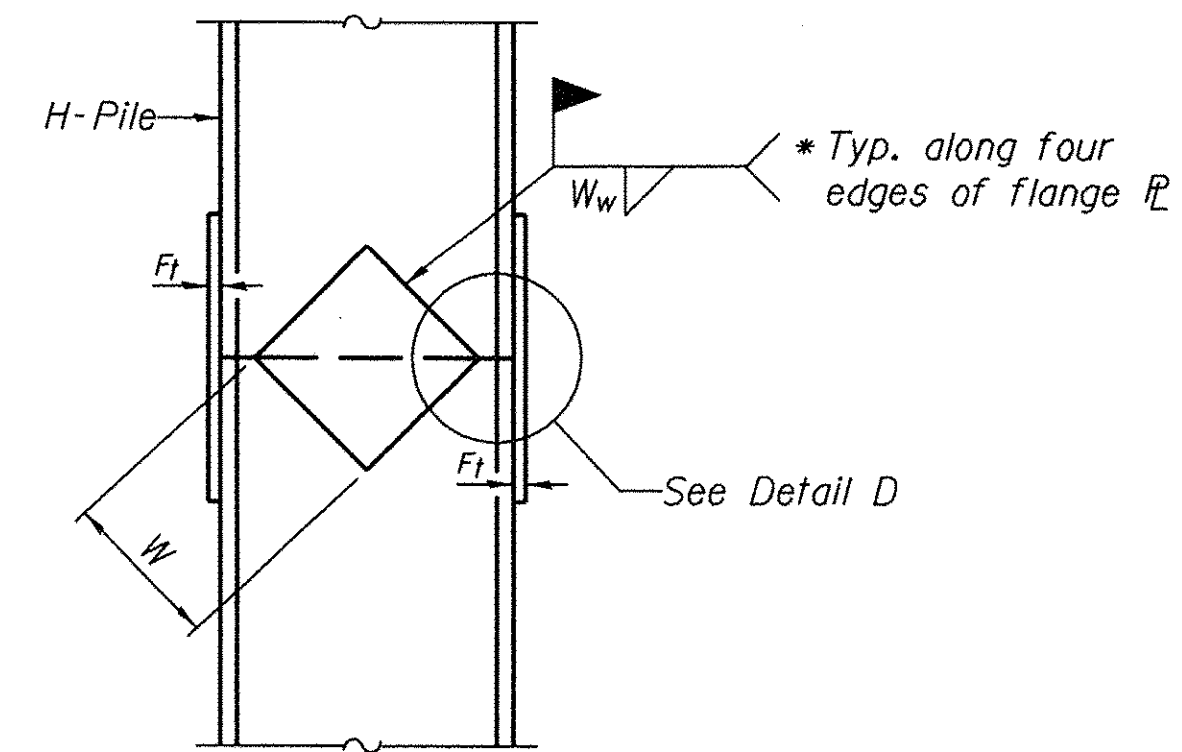


DETAIL "B"

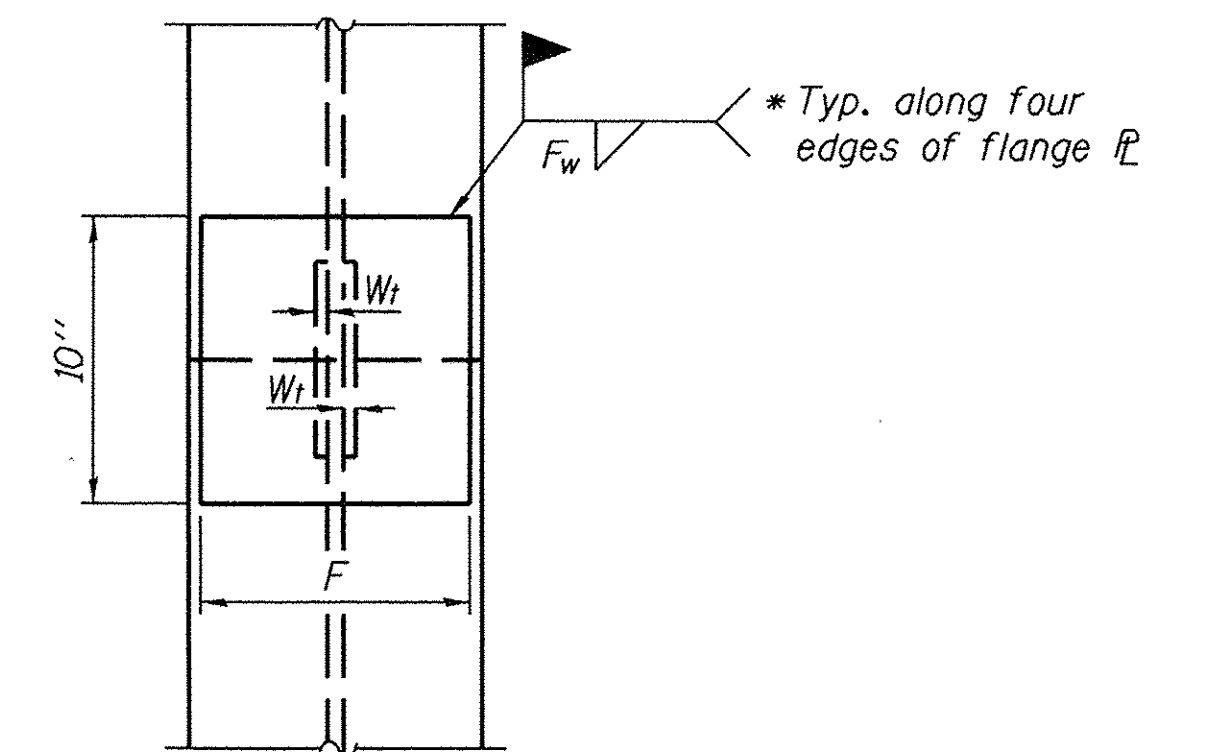


ISOMETRIC VIEW

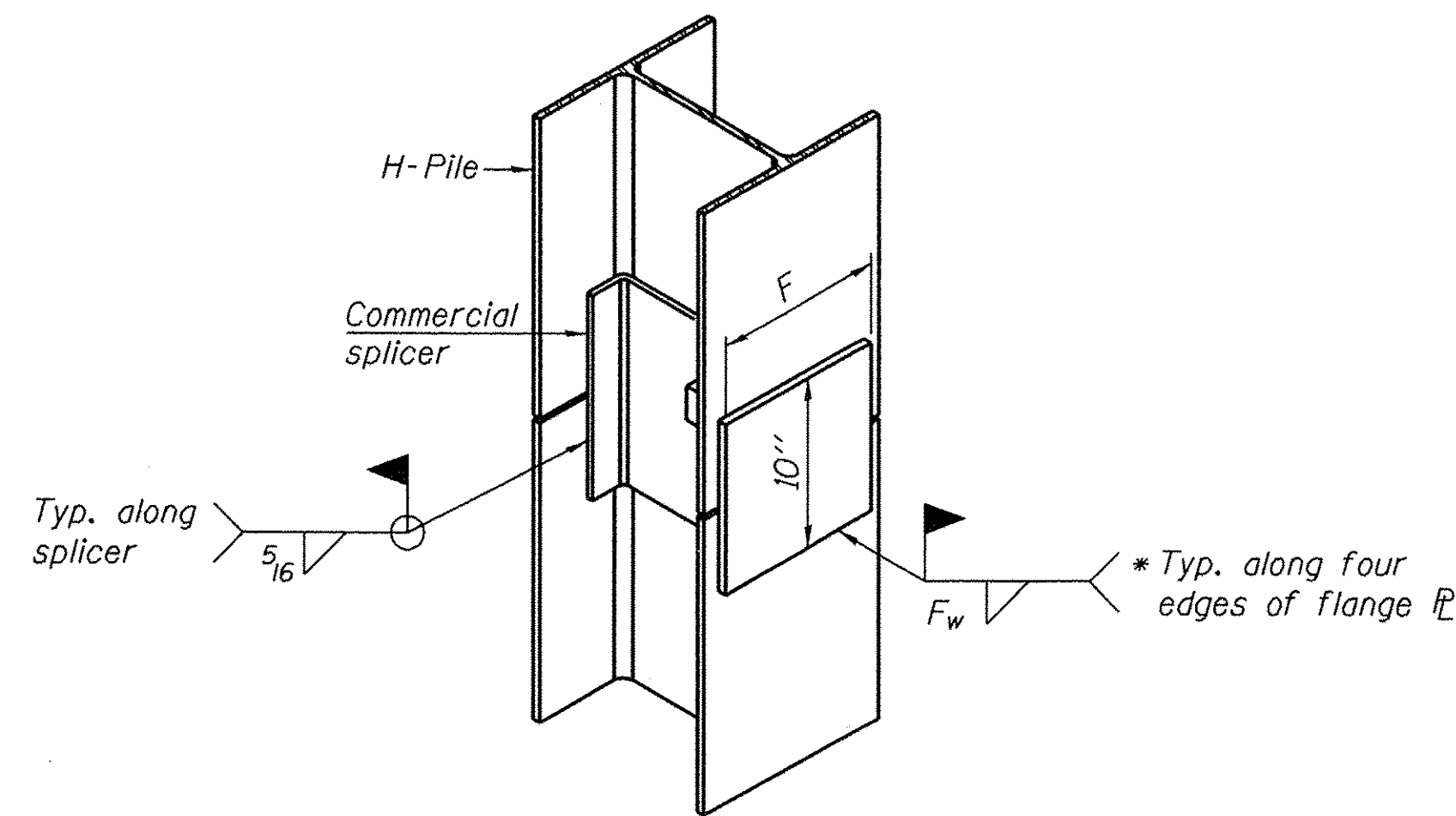
WELDED COMMERCIAL SPLICE



ELEVATION



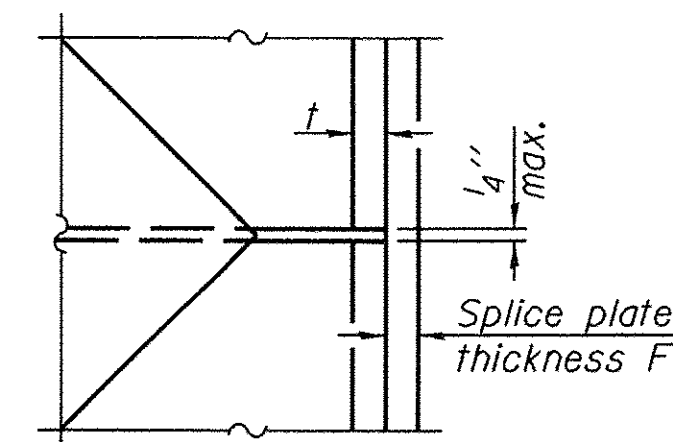
END VIEW



ISOMETRIC VIEW

WELDED COMMERCIAL SPLICE ALTERNATE

- * Interrupt welds 1/4" from end of web and/or each flange.
- ** Remove portions of backup plates that extend outside the flanges.



DETAIL D

WELDED PLATE FIELD SPLICE

Designation	F	F _t	F _w	W	W _t	W _w
HP 14x117	12 1/2"	1"	7/8"	7 3/4"	5/8"	1/2"
x102	12 1/2"	7/8"	3/4"	7 3/4"	5/8"	1/2"
x89	12 1/2"	3/4"	1/16"	7 3/4"	5/8"	1/2"
x73	12 1/2"	5/8"	9/16"	7 3/4"	5/8"	1/2"
HP 12x84	10"	7/8"	1/16"	6 1/2"	5/8"	1/2"
x74	10"	7/8"	1/16"	6 1/2"	5/8"	1/2"
x63	10"	5/8"	1/2"	6 1/2"	1/2"	3/8"
x53	10"	5/8"	1/2"	6 1/2"	1/2"	3/8"
HP 10x57	8"	3/4"	9/16"	5 1/4"	1/2"	3/8"
x42	8"	5/8"	9/16"	5 1/4"	1/2"	3/8"
HP 8x36	7"	5/8"	7/16"	4 1/4"	1/2"	3/8"

Note:
The steel H-piles shall be according to AASHTO M270 Grade 50.

FEHR GRAHAM

ENGINEERING & ENVIRONMENTAL

ILLINOIS DESIGN FIRM NO. 184-003525
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ILLINOIS
IOWA
WISCONSIN

AGENCY:
MARSHALL COUNTY HWY. DEPT.
STEBEN ROAD DISTRICT

PROJECT:
SECTION 16-11124-00-BR
T.R. 63 OVER THE
SENACHWINE CREEK

DESIGNED: ARK
CHECKED: GJB
DRAWN: ADS-CFC
CHECKED: ARK-MCB

REVISIONS	
REV. NO.	DATE
DESCRIPTION	
REV. NO.	DATE
DESCRIPTION	
REV. NO.	DATE
DESCRIPTION	
REV. NO.	DATE
DESCRIPTION	

DRAWING:
HP PILE DETAILS

\$FILES\$

CONTRACT #: 89697

JOB NUMBER:
15-863

SHEET NUMBER
18 of 25

BORING LOG

BORING NO. B-02
DATE 11-19-97
W & A. FILE NO. 9176
SHEET 2 OF 2

WHITNEY & ASSOCIATES
INCORPORATED
2406 West Nebraska Avenue
PEORIA, ILLINOIS 61604

PROJECT STEUBEN ROAD BRIDGE-SEC. #54-11124-00-BR LOCATION Marshall County, IL
BORING LOCATION Station 15+36; 5' Right of Centerline DRILLED BY Winslow
BORING TYPE Hollow-Stem Auger 14' Lt. of B WEATHER CONDITIONS Partly Cloudy & Mild

SOIL CLASSIFICATION SYSTEM U.S.B.S.C. SEEPAGE WATER ENCOUNTERED AT ELEVATION None
GROUND SURFACE ELEVATION 149.1 GROUND WATER ELEVATION AT HRS.
BORING DISCONTINUED AT ELEVATION 123.1 GROUND WATER ELEVATION AT COMPLETION None

DESCRIPTION	DEPTH IN FEET	SAMPLE TYPE	N	Qp	Qu	Dd	Mc
Brown Fine- To Medium-Grained GRAVEL							
<u>27"</u>							
Very Stiff, Brown SILTY CLAY With Fine- To Medium-Grained Sand							
<u>145.1</u>	04	SS	3 3 5(8)	2.3	2.2	106	14
Stiff, Brown SILTY CLAY With Medium- To Coarse-Grained Sand							
<u>143.1</u>		SS	3 5	1.2	1.1	100	19
Stiff, Brown And Orange-Brown SANDY CLAY							
	08	SS	7(12) 3 3 4(7)	1.7	1.5	105	19
			5				
<u>137.6</u>		SS	11 20(31)	1.5	1.2	108	15
Hard, Greenish-Brown, Near CLAY SHALE							
	12	SS	79	4.5+	4.1	115	8
<u>134.6</u>							
Stiff, Gray CLAY SHALE							
<u>132.6</u>	16	SS	77	3.2	2.9	113	8
Hard, Gray CLAY SHALE							
		SS	81	4.5+	-	-	8
	20	SS	36 71/3*	4.5+	-	-	9
		SS	55 68/4*	4.5+	-	-	9
<u>123.1</u>	24	SS	97	4.5+	-	-	8
EXPLORATORY BORING DISCONTINUED							

N - BLOWS DELIVERED PER FOOT BY A 140 LB. HAMMER FALLING 30 INCHES
SS - SPLIT SPOON SAMPLE
ST - SHELBY TUBE SAMPLE

Qp - CALIBRATED PENETROMETER READING - T.S.F.
Qu - UNCONFINED COMPRESSIVE STRENGTH - T.S.F.
Dd - NATURAL DRY DENSITY - P.C.F.
Mc - NATURAL MOISTURE CONTENT - %

WHITNEY & ASSOCIATES
PEORIA, ILLINOIS

BORING LOG

BORING NO. B-01
DATE 11-19-97
W & A. FILE NO. 9176
SHEET 1 OF 2

WHITNEY & ASSOCIATES
INCORPORATED
2406 West Nebraska Avenue
PEORIA, ILLINOIS 61604

PROJECT STEUBEN ROAD BRIDGE-SEC. #54-11124-00-BR LOCATION Marshall County, IL
BORING LOCATION Station 14+63; 19' Right of Centerline DRILLED BY Winslow
BORING TYPE Hollow-Stem Auger 3' Rt. of B WEATHER CONDITIONS Partly Cloudy & Mild

SOIL CLASSIFICATION SYSTEM U.S.B.S.C. SEEPAGE WATER ENCOUNTERED AT ELEVATION None
GROUND SURFACE ELEVATION 150.2 GROUND WATER ELEVATION AT HRS.
BORING DISCONTINUED AT ELEVATION 124.2 GROUND WATER ELEVATION AT COMPLETION None

DESCRIPTION	DEPTH IN FEET	SAMPLE TYPE	N	Qp	Qu	Dd	Mc
Brown SILTY CLAY With Fine- To Medium-Grained Gravel							
<u>10"</u>							
Stiff, Brown And Dark Brown SILTY CLAY With Trace Medium- To Coarse-Grained Sand							
<u>146.2</u>	04	SS	2 2 3(5)	1.5	1.3	98	18
Medium, Brown SILTY CLAY With Some Fine- To Medium-Grained Sand, Brick And Glass Debris							
<u>143.7</u>		SS	1 2 2(4)	0.8	0.7	93	24
Stiff, Brown SILTY CLAY With Trace Fine- To Medium-Grained Sand							
<u>141.2</u>	08	SS	2 3 6(9)	1.5	1.4	104	16
Stiff, Brown And Gray SILTY CLAY With Some Medium- To Coarse-Grained Sand							
<u>138.2</u>	12	SS	2 5 5(10)	1.6	1.4	103	19
Stiff, Greenish-Gray, Near CLAY SHALE							
<u>136.2</u>		SS	26 87 52/1*	2.0	1.9	113	9
Hard, Gray CLAY SHALE							
	16	SS	50 117	4.5	4.2	118	7
			66				
	20	SS	112/4*	4.5+	-	-	10
			68				
	20	SS	115	4.5+	-	-	9
			77				
	24	SS	110/6*	4.5+	-	-	9
<u>124.2</u>			68				
EXPLORATORY BORING DISCONTINUED		SS	95/5*	4.5+	-	-	8

N - BLOWS DELIVERED PER FOOT BY A 140 LB. HAMMER FALLING 30 INCHES
SS - SPLIT SPOON SAMPLE
ST - SHELBY TUBE SAMPLE

Qp - CALIBRATED PENETROMETER READING - T.S.F.
Qu - UNCONFINED COMPRESSIVE STRENGTH - T.S.F.
Dd - NATURAL DRY DENSITY - P.C.F.
Mc - NATURAL MOISTURE CONTENT - %

WHITNEY & ASSOCIATES
PEORIA, ILLINOIS



AGENCY:
MARSHALL COUNTY HWY. DEPT.
STEUBEN ROAD DISTRICT

PROJECT:
SECTION 16-11124-00-BR
T.R. 63 OVER THE
SENACHWINE CREEK

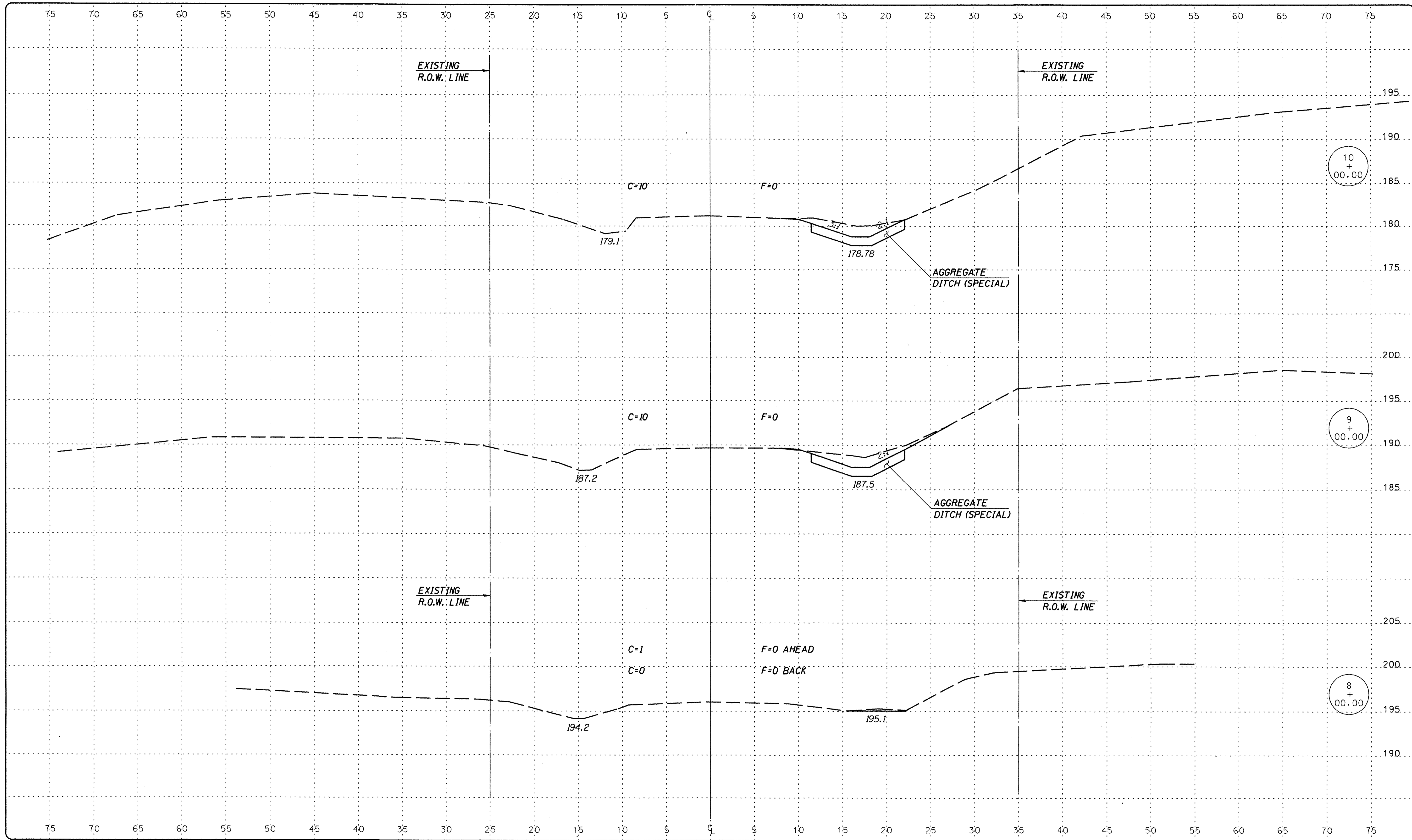
DESIGNED: ARK
CHECKED: GJB
DRAWN: ADS-CFC
CHECKED: ARK-MCB

REVISIONS	
REV. NO.	DATE

DRAWING:
BORING LOGS

JOB NUMBER:
15-863

SHEET NUMBER
19 of 25



FEHR GRAHAM
ENGINEERING & ENVIRONMENTAL
ILLINOIS DESIGN FIRM NO. 184-003823

ILLINOIS
IOWA
WISCONSIN

AGENCY:
MARSHALL COUNTY HWY. DEPT.
STEBEN ROAD DISTRICT

PROJECT:
SECTION 16-11124-00-BR
T.R. 63 OVER THE
SENACHWINE CREEK

DESIGNED: G. J. C.
CHECKED: R. D. F.
DRAWN: A. D. S.
CHECKED: R. D. F.

REVISIONS		
REV. NO.	DESCRIPTION	DATE

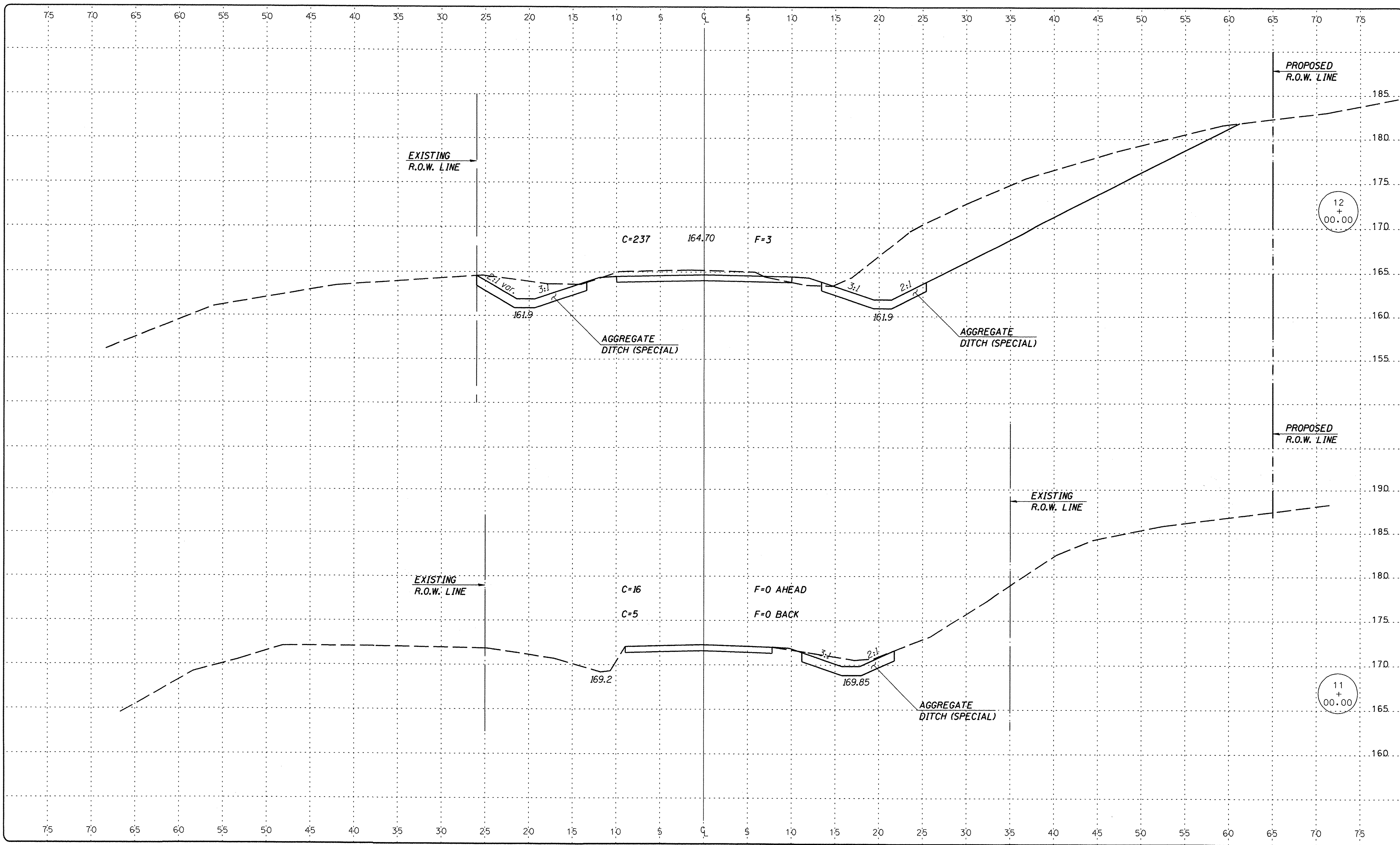
DRAWING:
STATION CROSS SECTIONS
8+00 TO 10+00

JOB NUMBER:
15-863

SHEET NUMBER
20 of 25

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CONTRACT #: 89697



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ENGINEERING & ENVIRONMENTAL
ILLINOIS DESIGN FIRM NO. 184-003925

ILLINOIS
IOWA
WISCONSIN

AGENCY:
MARSHALL COUNTY HWY. DEPT.
STEBEN ROAD DISTRICT

PROJECT:
SECTION 16-11124-00-BR
T.R. 63 OVER THE
SENACHWINE CREEK

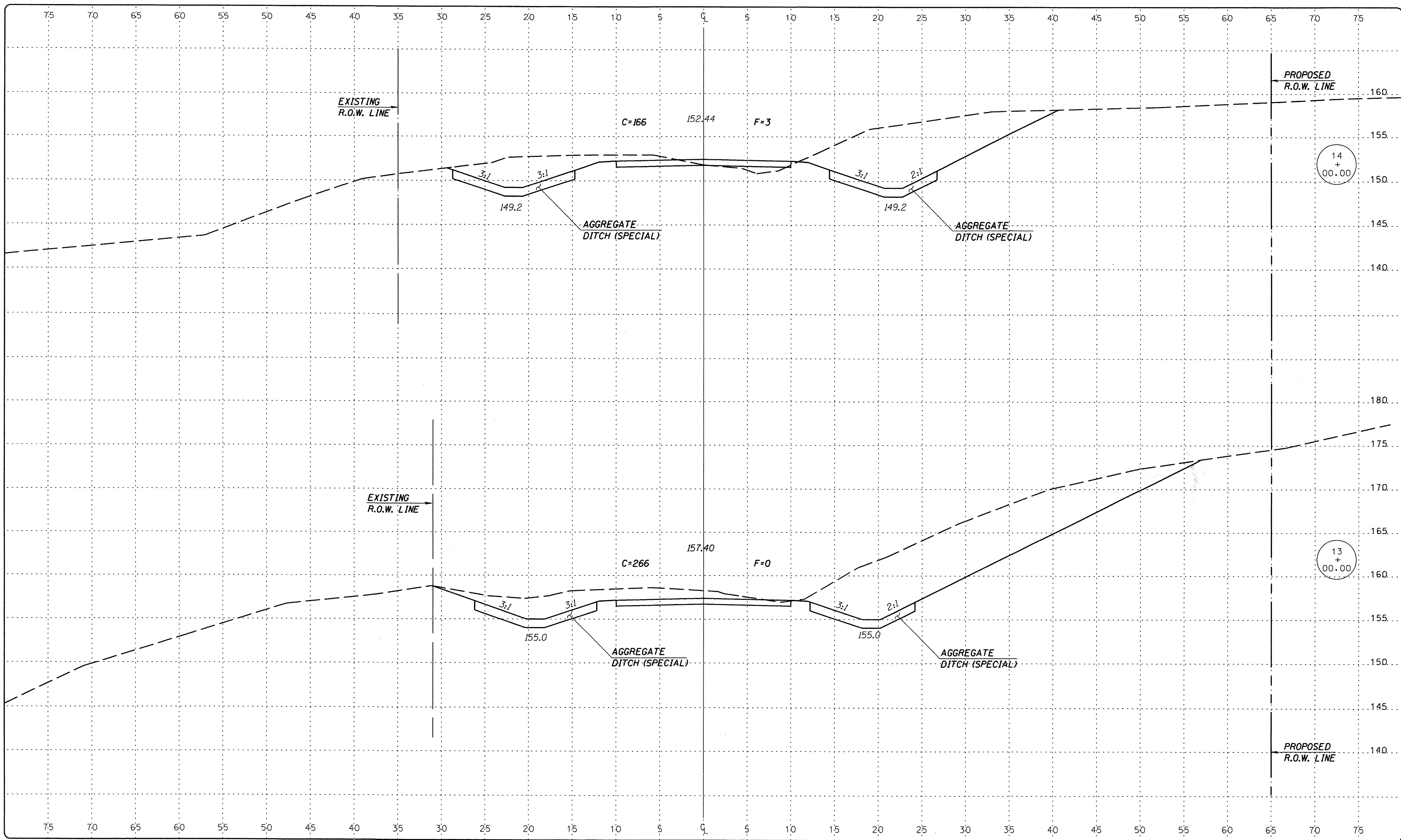
DESIGNED: G. J. C.
CHECKED: R. D. F.
DRAWN: A. D. S.
CHECKED: R. D. F.

REVISIONS		
REV. NO.	DESCRIPTION	DATE

DRAWING:
STATION CROSS SECTIONS
11+00 TO 12+00

JOB NUMBER:
15-863

SHEET NUMBER
21 of 25



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AGENCY:
MARSHALL COUNTY HWY. DEPT.
STEBEN ROAD DISTRICT

PROJECT:
SECTION 16-11124-00-BR
T.R. 63 OVER THE
SENACHWINE CREEK

DESIGNED: G. J. C.
CHECKED: R. D. F.
DRAWN: A. D. S.
CHECKED: R. D. F.

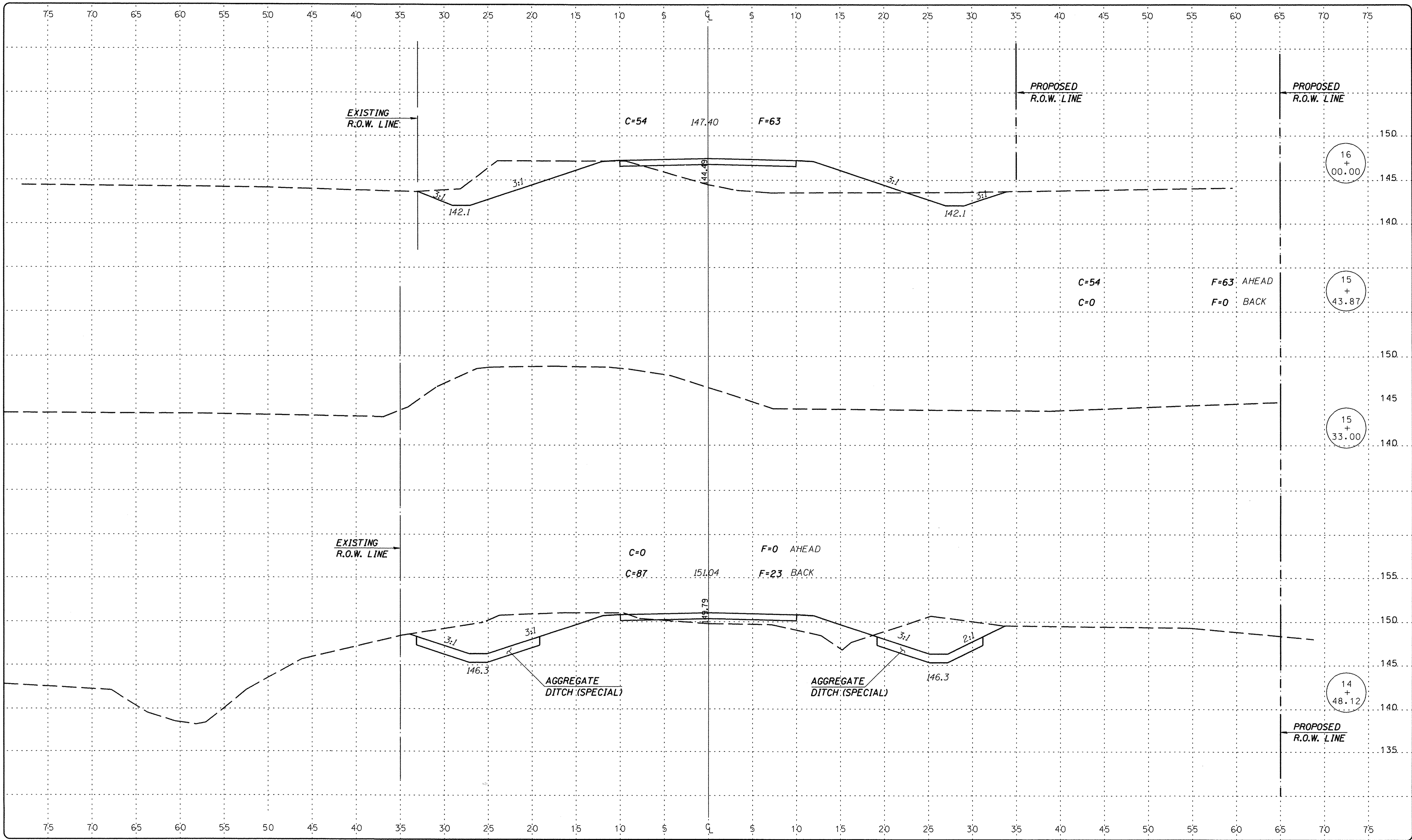
REVISIONS		
REV. NO.	DESCRIPTION	DATE

DRAWING:
STATION CROSS SECTIONS
13+00 TO 14+00

JOB NUMBER:
15-863

SHEET NUMBER
22 of 25

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AGENCY:
MARSHALL COUNTY HWY. DEPT.
STEBEN ROAD DISTRICT

PROJECT:
SECTION 16-11124-00-BR
T.R. 63 OVER THE
SENACHWINE CREEK

DESIGNED: G. J. C.
CHECKED: R. D. F.
DRAWN: A. D. S.
CHECKED: R. D. F.

REVISIONS		
REV. NO.	DESCRIPTION	DATE

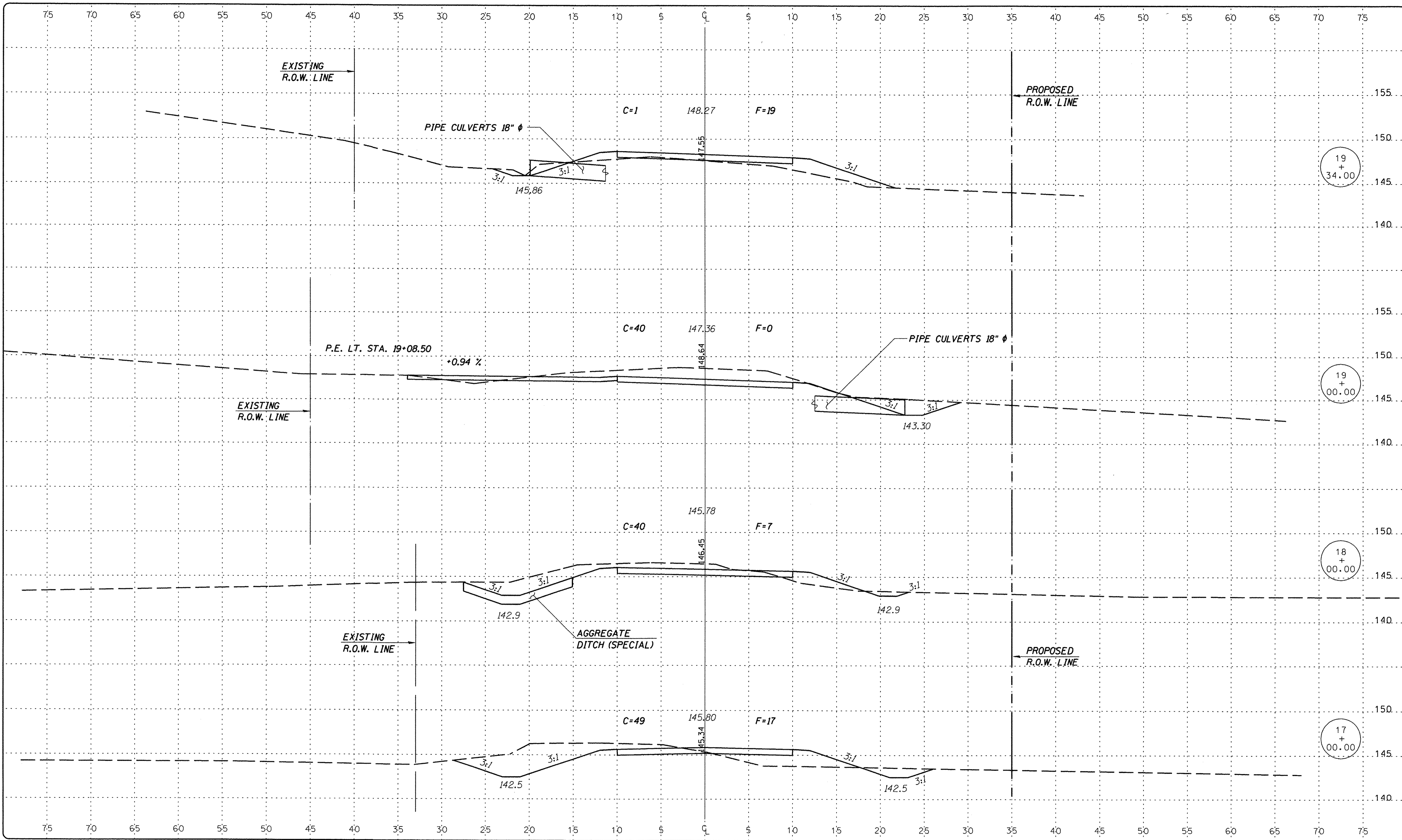
DRAWING:
STATION CROSS SECTIONS
14+48.12 TO 16+00

\$FILES\$

CONTRACT #: 89697

JOB NUMBER:
15-863

SHEET NUMBER
23 of 25



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AGENCY:
MARSHALL COUNTY HWY. DEPT.
STEBEN ROAD DISTRICT

PROJECT:
SECTION 16-11124-00-BR
T.R. 63 OVER THE
SENACHWINE CREEK

DESIGNED: G. J. C.
CHECKED: R. D. F.
DRAWN: A. D. S.
CHECKED: R. D. F.

REVISIONS		
REV. NO.	DESCRIPTION	DATE

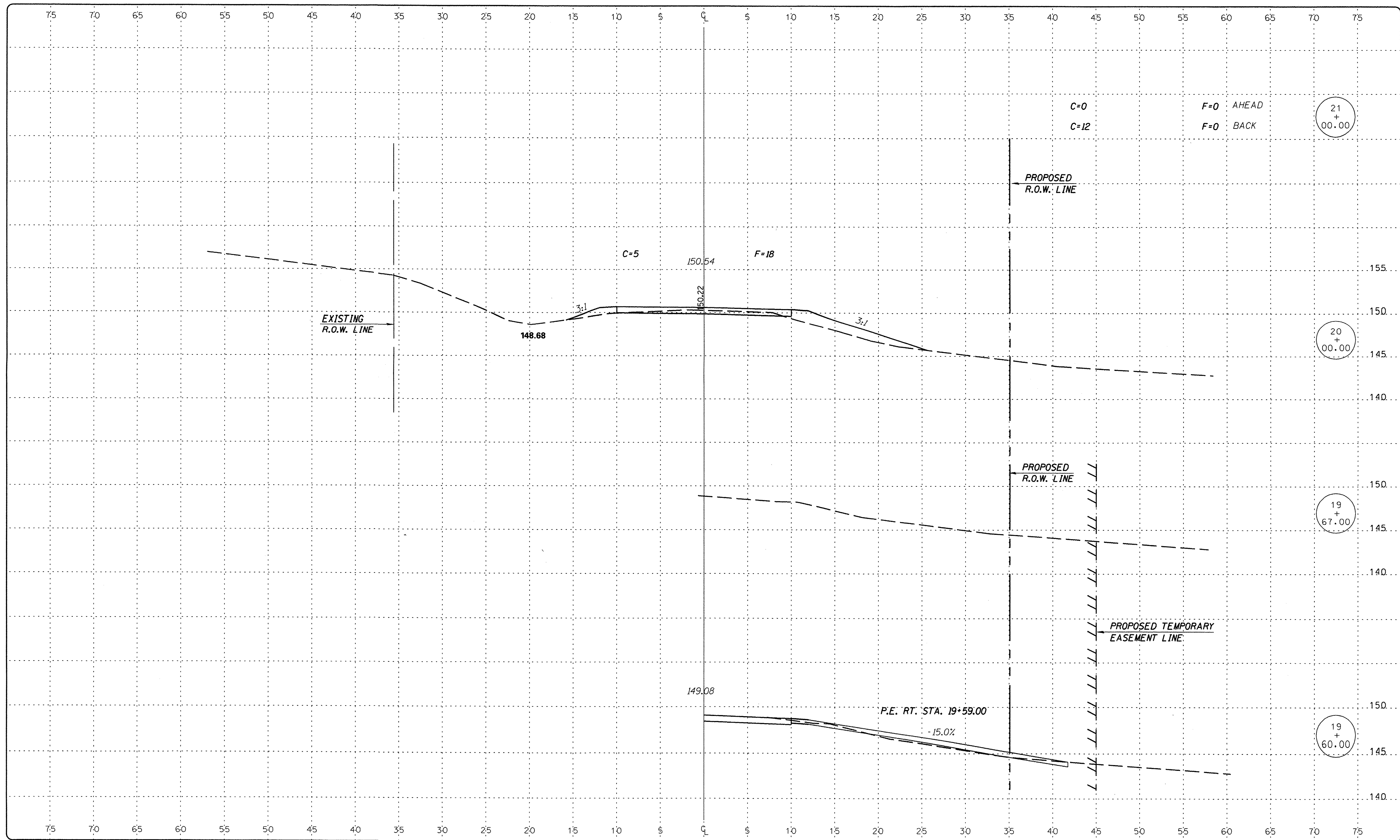
DRAWING:
STATION CROSS SECTIONS
17+00 TO 19+34

\$FILES\$

CONTRACT #: 89697

JOB NUMBER:
15-863

SHEET NUMBER
24 of 25



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 ENGINEERING & ENVIRONMENTAL
 ILLINOIS DESIGN FIRM NO. 184-003525

ILLINOIS
 IOWA
 WISCONSIN

AGENCY:
 MARSHALL COUNTY HWY. DEPT.
 STEUBEN ROAD DISTRICT

PROJECT:
 SECTION 16-11124-00-BR
 T.R. 63 OVER THE
 SENACHWINE CREEK

DESIGNED: G. J. C.
 CHECKED: R. D. F.
 DRAWN: A. D. S.
 CHECKED: R. D. F.

REVISIONS		
REV. NO.	DESCRIPTION	DATE

DRAWING:
 STATION CROSS SECTIONS
 19+60 TO 21+00

JOB NUMBER:
 15-863

SHEET NUMBER
 25 of 25

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