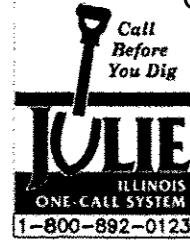


06-13-14 LETTING ITEM 193



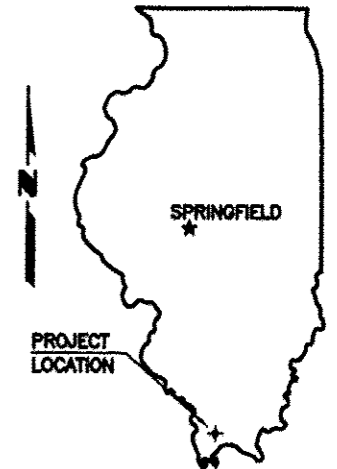
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PLANS FOR PROPOSED
HIGHWAY BRIDGE PROGRAM

TOWNSHIP ROUTE 196 (FISHER ROAD)
SECTION 10-01196-00-BR
PROJECT NO. BROS-0181(54)
JOB NO. C-99-523-11
TRIBUTARY TO BIG CREEK

UNION COUNTY

ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
TR 196	10-01196-00-BR	UNION	12	1
PROJECT NO. BROS-0181(54)		CONTRACT NO. 99490		



INDEX OF SHEETS

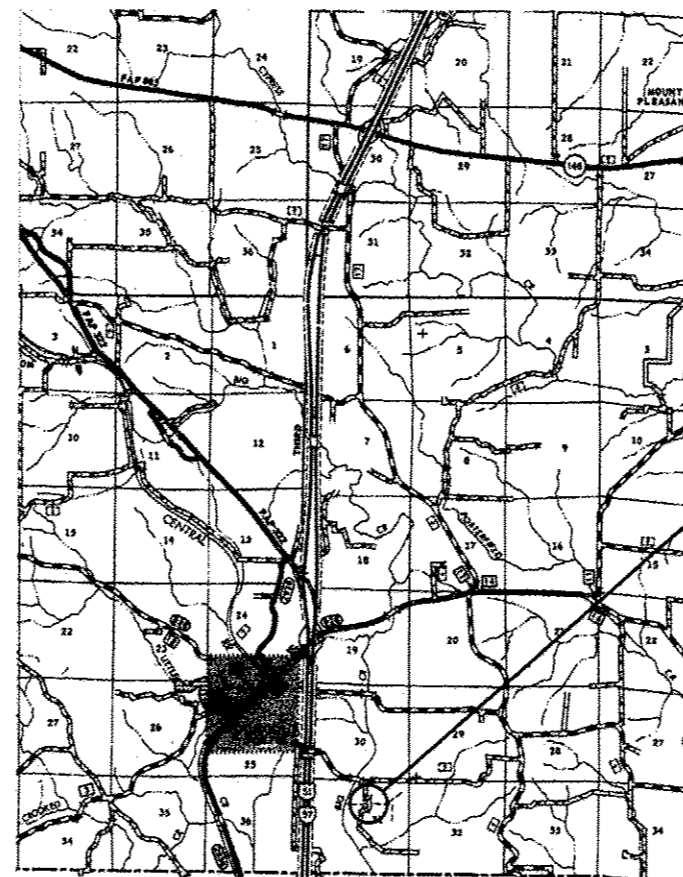
- COVER SHEET
- PLAN AND PROFILE SHEET
- GENERAL PLAN AND ELEVATION
- 17" X 36" PPC DECK BEAM
- 17" X 36" PPC DECK BEAM DETAILS
- 17" X 48" PPC DECK BEAM
- 17" X 48" PPC DECK BEAM DETAILS
- ABUTMENT
- STEEL RAILING, TYPE S1
- NAME PLATES
- PILING DETAILS
- CROSS SECTIONS

STANDARDS 000001-06 STANDARD SYMBOLS, ABBREVIATIONS PATTERNS
280001-07 TEMPORARY EROSION CONTROL SYSTEMS
635006-03 REFLECTOR AND TERMINAL MARKER
701901-03 TRAFFIC CONTROL DEVICES
BLR 21-9 TYPICAL APPLICATION OF TRAFFIC CONTROL DEVICES

SUMMARY OF QUANTITIES

CODE NO.	PAY ITEM	UNIT	TOTAL
* X2501000	SEEDING, CLASS 2 (SPECIAL)	ACRE	0.1
* 20100110	TREE REMOVAL (6 TO 15 UNITS DIAMETER)	UNIT	53
* 20100210	TREE REMOVAL (OVER 15 UNITS DIAMETER)	UNIT	22
20200100	EARTH EXCAVATION	CU YD	74
* 20300100	CHANNEL EXCAVATION	CU YD	51
* 28100807	STONE DUMPED RIPRAP, CLASS A4	TON	108
* 40200800	AGGREGATE SURFACE COURSE, TYPE B	TON	106
* 50100100	REMOVAL OF EXISTING STRUCTURES	EACH	1
50200100	STRUCTURE EXCAVATION	CU YD	66
50300225	CONCRETE STRUCTURES	CU YD	16.2
50300280	CONCRETE ENCASEMENT	CU YD	2.7
50400305	PRECAST PRESTRESSED CONCRETE DECK BEAMS (17" DEPTH)	SQ FT	866
50800105	REINFORCEMENT BARS	POUND	2,226
A 50900205	STEEL RAILING, TYPE S1	FOOT	74
51201400	FURNISHING STEEL PILES HP10X42	FOOT	348
51202305	DRIVING PILES	FOOT	348
51500100	NAME PLATES	EACH	1
67100100	MOBILIZATION	L SUM	1
A 78201000	TERMINAL MARKER - DIRECT APPLIED	EACH	4

* SEE SPECIAL PROVISIONS Δ SPECIALTY ITEMS



LOCATION MAP

SCALE: 1" = 2 MILES

NET LENGTH OF IMPROVEMENT = 155.00 FT. = 0.0294 MILES

CLASSIFICATION : LOCAL ROAD (RURAL)
ADT : 25

CONTRACT NO. 99490

E. MILLER ENGINEERING, INC.
CONSULTING ENGINEERS
HARRISBURG, ILLINOIS



Edward W. Miller
Edward W. Miller
PROFESSIONAL ENGINEER
#062-025277
EXPIRES NOV. 30, 2015

ILLINOIS DEPARTMENT OF TRANSPORTATION	
Approved	<u>2-26-14</u> <i>Thomas Hammer</i> Union County Engineer
Passed	<u>3/4/2014</u> <i>Dennis W. Hill</i> District 9 Engineer of Local Roads and Streets
Releasing for Bid Based on Limited Review	<u>3/4/2014</u> <i>Jeffrey L. Keim</i> Deputy Director of Highways, Region 5 Engineer Illinois Department of Transportation

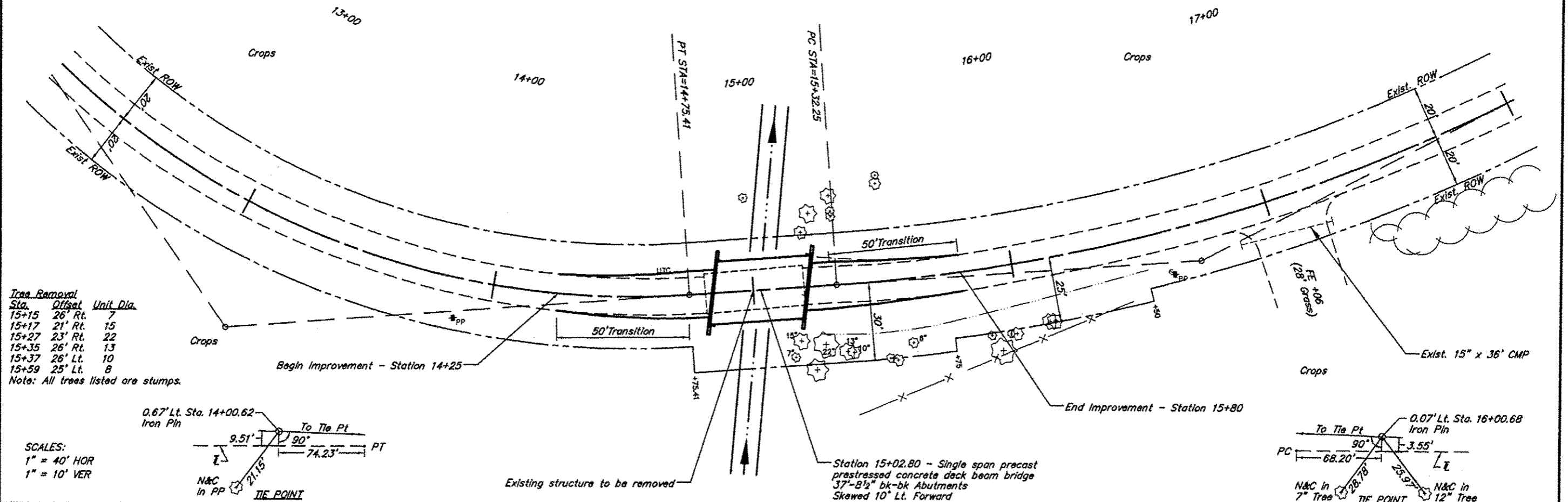
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TR 196	10-01186-00-BR	UNION	12	2
PROJECT NO. BROS-0181(54)			CONTRACT NO. 99490	

B.M. - Dbl. Nails in Power Pole
 15' Rt. Sta. 13+87
 Elev. 365.00

Existing Structure - Timber deck with steel stringers on timber pile bent abutments.
 15.3' Wide x 38.0' Long

CURVE DATA - PI STA=13+29.03
 $\Delta = 59^{\circ}14'14''$ $T = 178.82'$
 $D = 18^{\circ}12'57''$ $L = 325.20'$
 $R = 314.54'$ $E = 47.28'$
 $S.E. = 0.040'/ft.$
 Remove Sta. 14+01.5 to Sta. 14+75.41

CURVE DATA - PI STA=16+72.83
 $\Delta = 23^{\circ}36'48''$ $T = 140.59'$
 $D = 8^{\circ}31'09''$ $L = 277.18'$
 $R = 672.55'$ $E = 14.54'$
 $S.E. = 0.035'/ft.$
 Attain Sta. 15+32.25 to Sta. 16+00.1

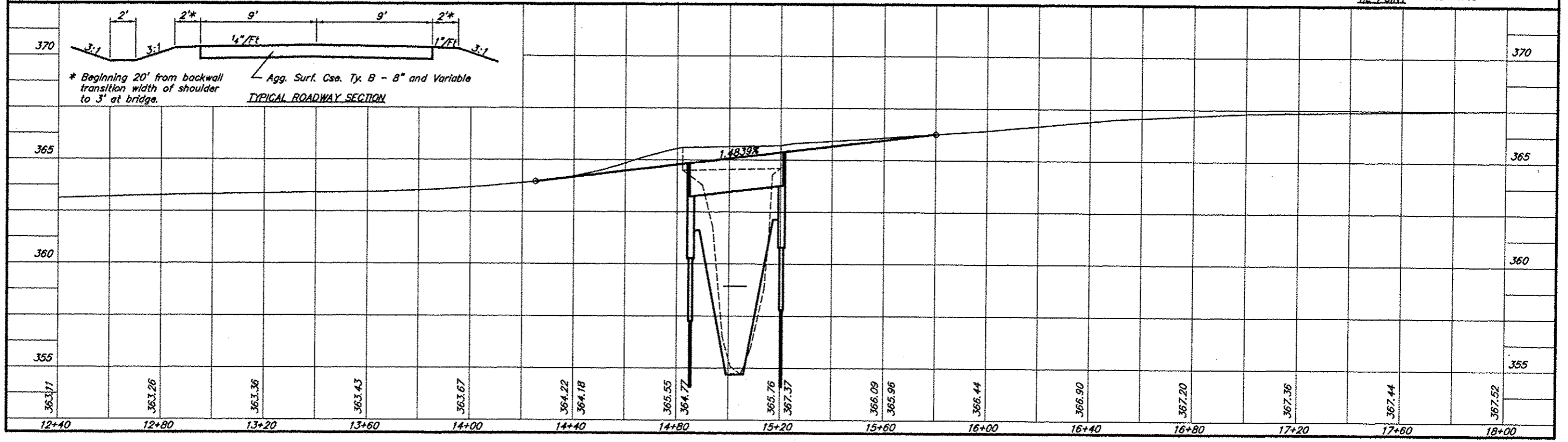
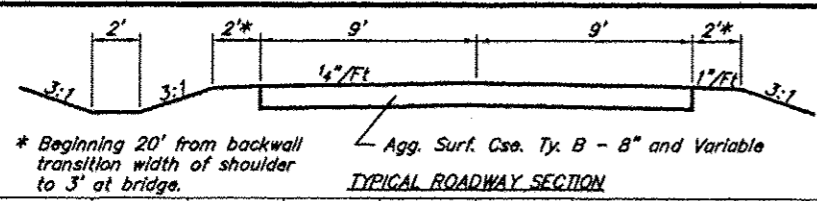
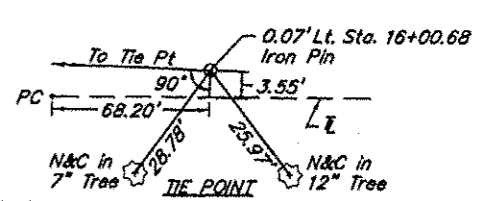
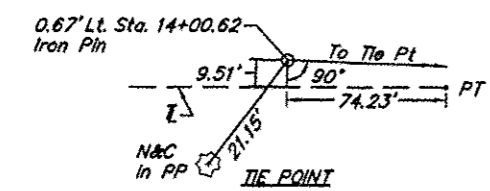


Tree Removal

Sta.	Offset	Unit Dia.
15+15	26' Rt.	7
15+17	21' Rt.	15
15+27	23' Rt.	22
15+35	26' Rt.	13
15+37	26' Lt.	10
15+59	25' Lt.	8

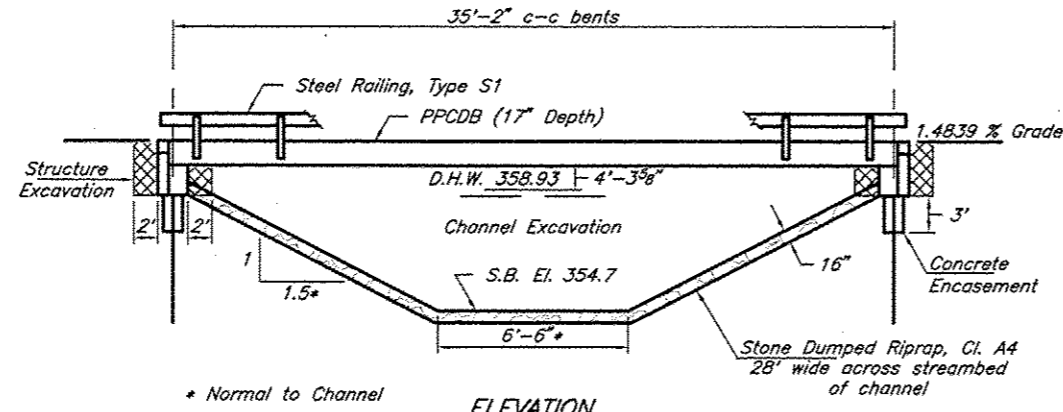
Note: All trees listed are stumps.

SCALES:
 1" = 40' HOR
 1" = 10' VER



B.M. - Dbl. nail in Power Pole
15' Rt. Station 13+87
Elev. 365.00

ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
TR 196	10-01196-00-BR	UNION	12	3
PROJECT NO. BROS-0181(54)			CONTRACT NO. 99490	



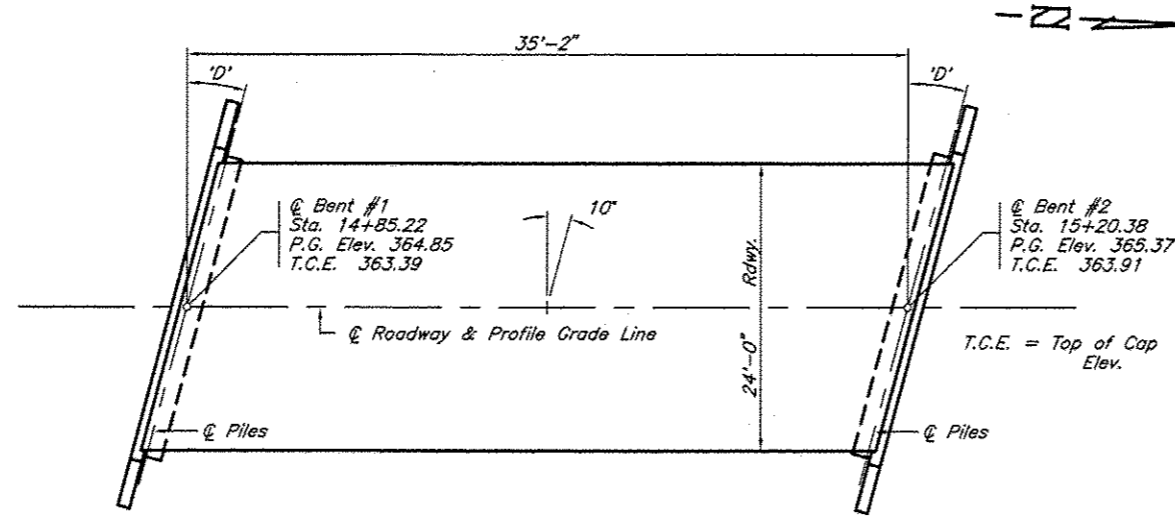
Existing Structure - Single span timber deck with steel stringers on timber pile bent abutments. 15.3' Wide x 38.0' Long

* Normal to Channel

ELEVATION

GENERAL NOTES

1. Steel H piles shall meet AASHTO M270 Grade 50 specifications.
2. See special provisions for boring logs.
3. A Corrosion inhibitor, as covered in the Standard Specifications, shall be used in the precast prestressed concrete deck beams.



PLAN

Skew Angle "D" = 10° Left Forward

Boring 2
21.3' Lt. Sta. 14+69.5
Rock El. 319.45

Boring 1
14.0' Lt. Sta. 15+50.9
Rock El. 322.55

TOTAL BILL OF MATERIAL

Item	Unit	Super	Sub.		Total
			Piers	Abuts.	
Channel Excavation	Cu. Yds.			51	51
Stone Dumped Riprap, Cl. A4	Tons			108	108
Removal of Existing Structures	Each				1
Structure Excavation	Cu. Yds.			66	66
Concrete Structures	Cu. Yds.			16.2	16.2
Concrete Encasement	Cu. Yds.			2.7	2.7
P.P. Conc. Dk. Bm. 17" Dp.	Sq. Ft.	866			866
Reinforcement Bars	Pound			2,226	2,226
Steel Railing, Type S1	Foot	74			74
Furnishing Steel Piles HP10X42	Foot			348	348
Driving Piles	Foot			348	348
Name Plates	Each			1	1

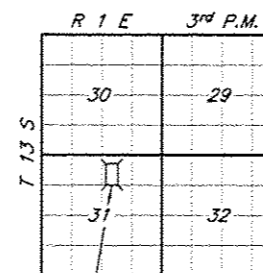
PILE DATA (2-ABUTS.)

Type & Size : HP10X42
Nominal Required Bearing : 205 kips
Factored Resistance Available : Refusal
Estimated Length : 44 Feet Bent #1, 43 Feet Bent #2
Number Required : 8

TRIBUTARY TO BIG CREEK
SEC. 10-01196-00-BR BUILT 20
COUNTY UNIT ROAD DISTRICT
UNION COUNTY
LOADING HL-93
STR. NO. 091-3236

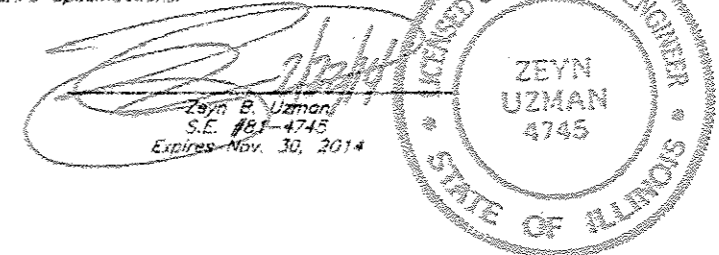
LETTERING FOR NAME PLATE

Locate Name Plate at southeast Corner of Bridge (See Sheet 8)



LOCATION SKETCH

I certify that to the best of my knowledge, information and belief, this bridge design is structurally adequate for the design loading shown on the plans. The design is an economical one for the type of structure and comply with the requirements of the current AASHTO LRFD Specifications.



DESIGN SPECIFICATIONS

2007 AASHTO LRFD Bridge Design Specifications and all applicable interims.

LOADING HL-93

Allow 50#/sq. ft. for future wearing surface

SEISMIC DATA

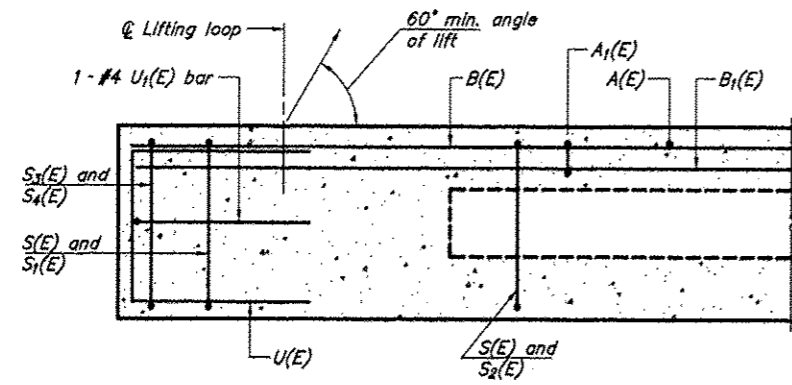
Soil Site Class = D
Design Spectral Acceleration at 0.2 sec. (S_{ps}) = 1.416
Design Spectral Acceleration at 1.0 sec. (S_{p1}) = 0.603
Seismic Performance Zone (SPZ) = 4

WATERWAY INFORMATION

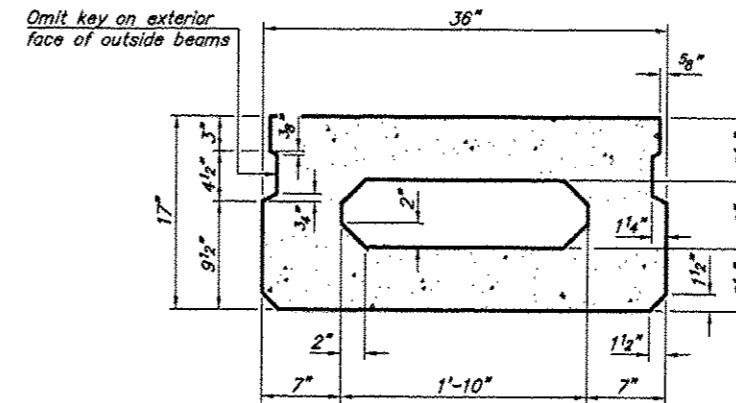
		Drainage Area = 0.46 Sq. Mi.		Low Grade Elev. = 362.6		At Sta. 11+00	
Flood	Freq. Yr.	Q C.F.S.	Opening Sq. Ft. Exist. Prop.	Natural H.W.E.	Head-Ft. Exist. Prop.	Headwater El. Exist. Prop.	
Design	15	351	49.7 54.3	358.93	0.69 0.44	359.62 359.37	
Base	100	546	73.5 81.4	360.21	0.57 0.32	360.78 360.53	
Overtopping	±						
Max. Calc.	500	727	92.4 105.4	361.19	0.59 0.25	361.78 361.44	

GENERAL PLAN & ELEVATION
TOWNSHIP ROUTE 196 (FISHER ROAD)
TRIBUTARY TO BIG CREEK
SECTION 10-01196-00-BR
UNION COUNTY
STRUCTURE NO. 091-3236

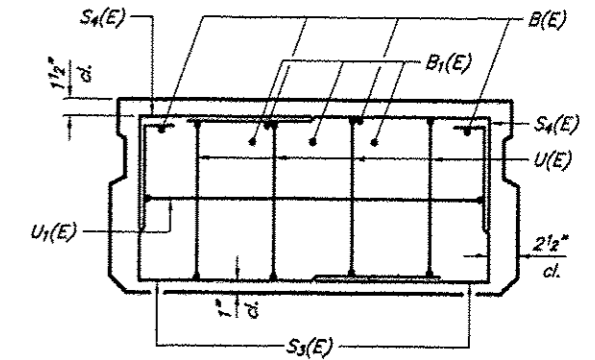
ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO
TR 196	10-01196-00-BR	UNION	12	4
PROJECT NO. BROS-0181(54)			CONTRACT NO. 99490	



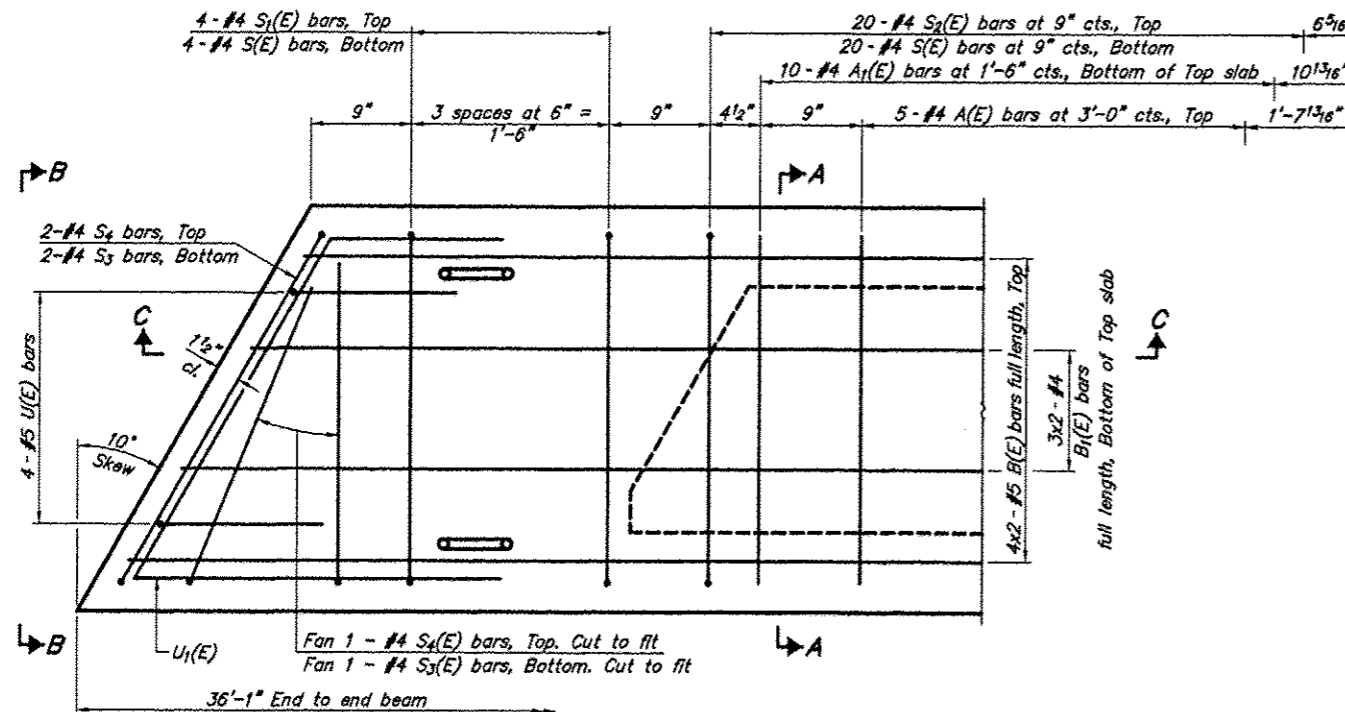
SECTION C-C



SECTION A-A
(Showing dimensions)

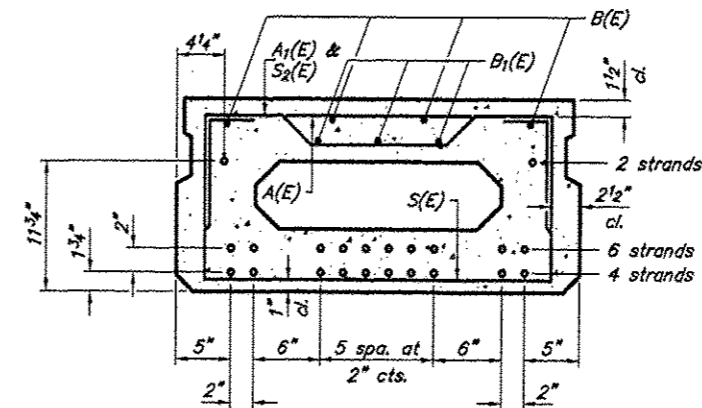


VIEW B-B



PLAN VIEW

Note: 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.



SECTION A-A

(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)

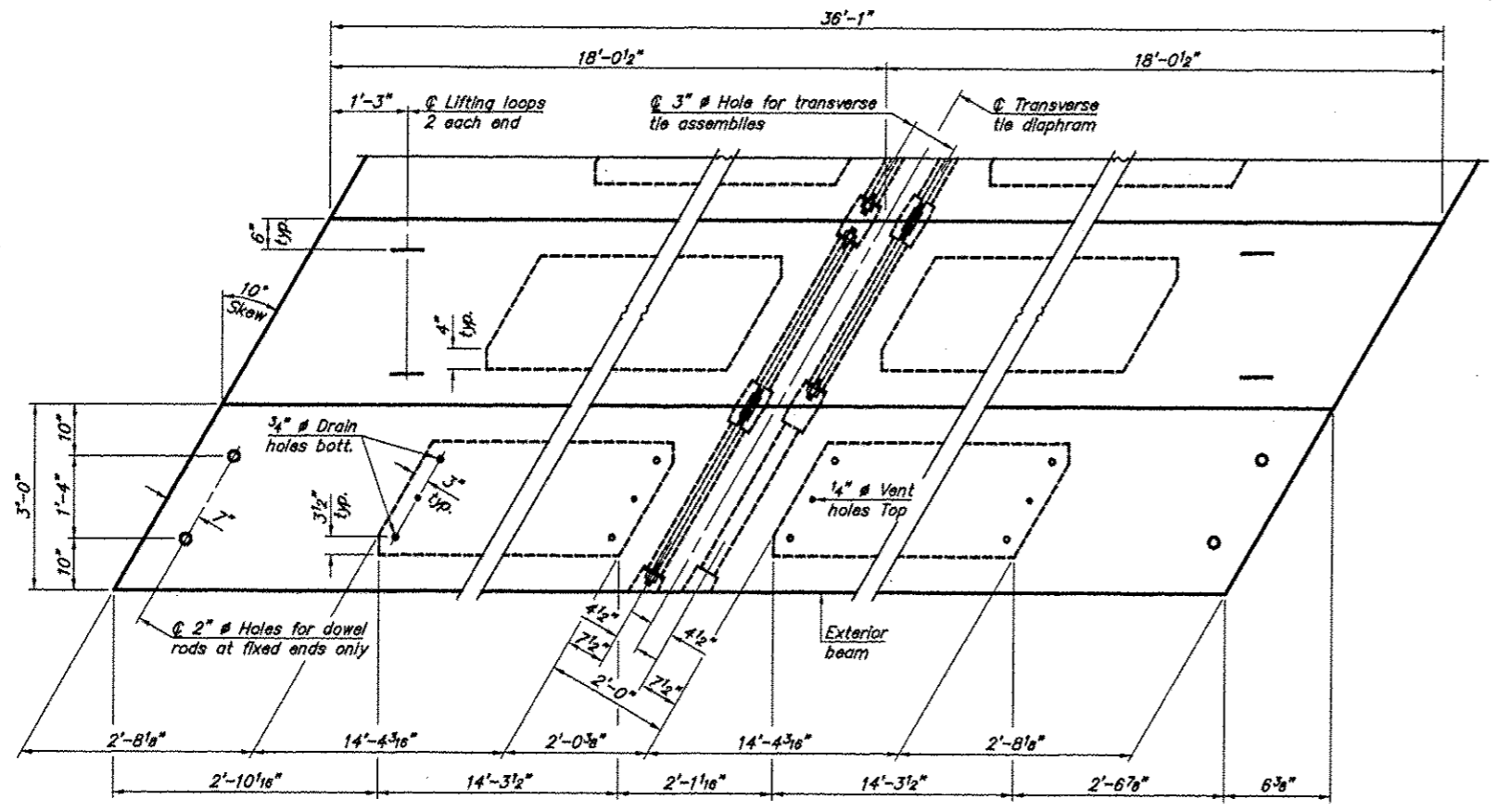
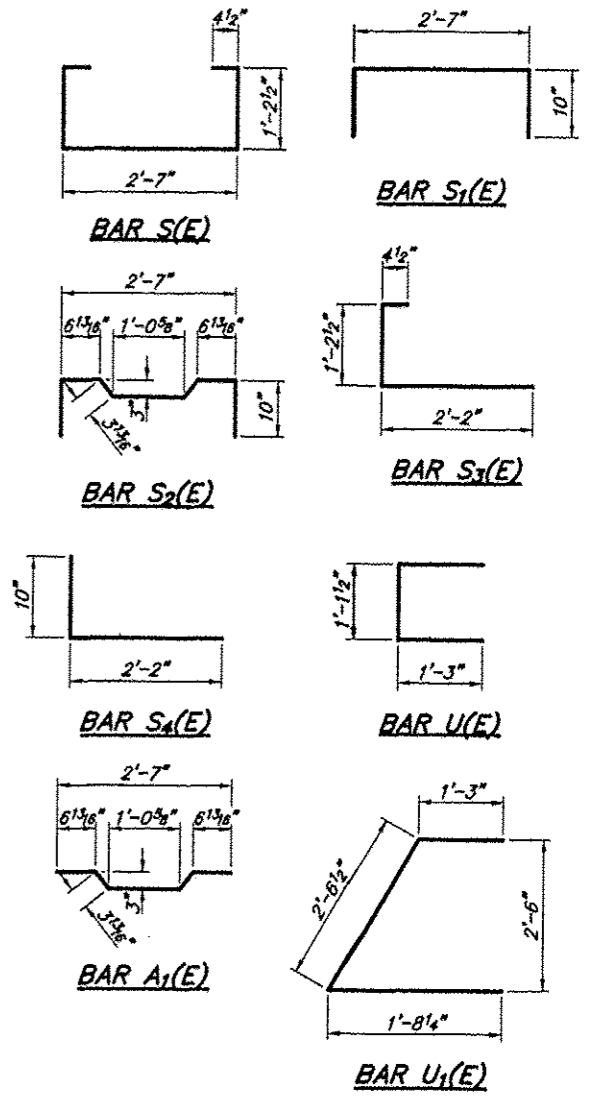
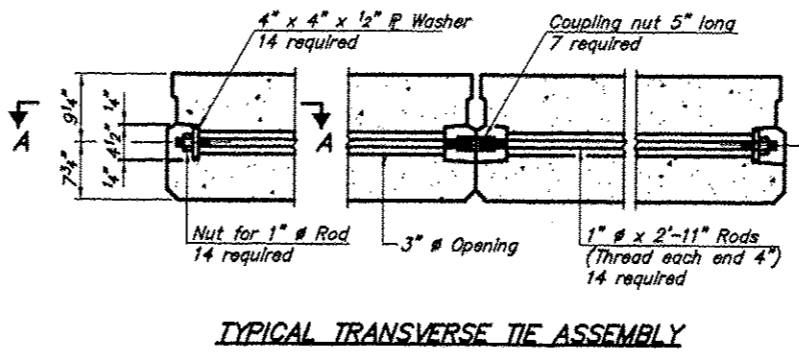
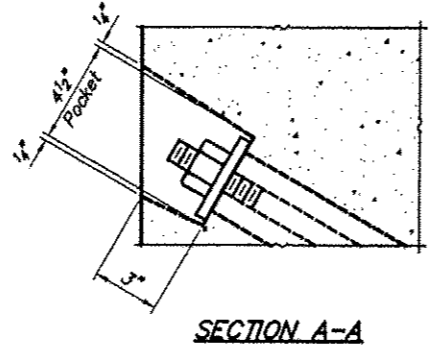
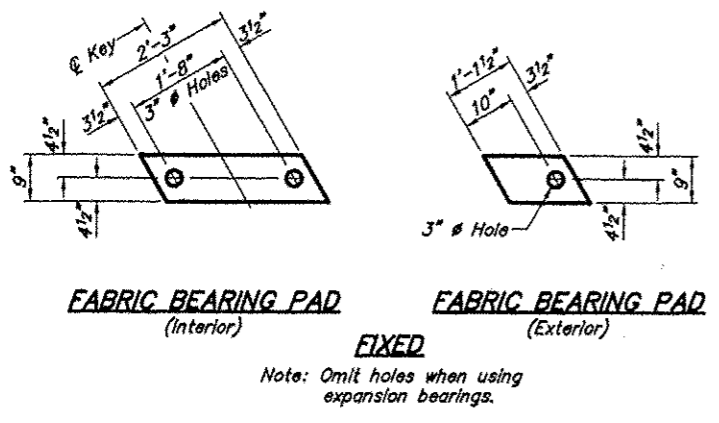
Bar	No.	Size	Length	Shape
A(E)	10	#4	2'-7"	—
A1(E)	20	#4	2'-10"	—
B(E)	8	#5	18'-11"	—
B1(E)	6	#4	18'-8"	—
S(E)	48	#4	5'-9"	□
S1(E)	8	#4	4'-3"	□
S2(E)	40	#4	4'-6"	□
S3(E)	6	#4	3'-9"	□
S4(E)	6	#4	3'-0"	□
U(E)	8	#5	3'-8"	□
U1(E)	2	#4	5'-6"	□

Bars noted thus 4x2-#5 etc. indicates 4 lines of bars with 2 lengths per line.

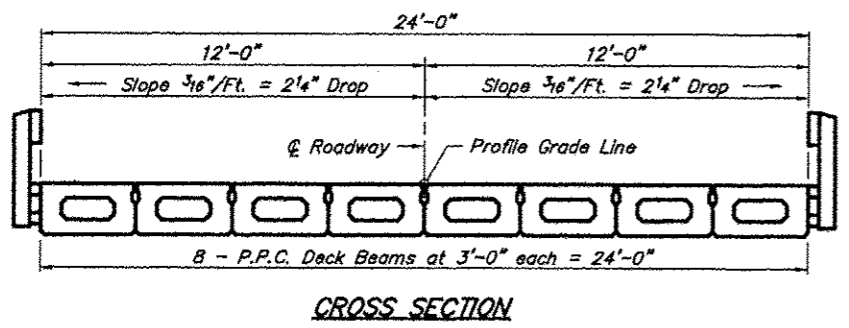
MINIMUM BAR LAP
#4 bar = 1'-8"
#5 bar = 2'-2"

17" X 36" PPC DECK BEAM
TOWNSHIP ROUTE 196 (FISHER ROAD)
TRIBUTARY TO BIG CREEK
SECTION 10-01196-00-BR
UNION COUNTY
STRUCTURE NO. 091-3236

ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO
TR 196	10-01196-00-BR	UNION	12	5
PROJECT NO. BROS-0181(54)			CONTRACT NO. 99490	



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.

Reinforcement bars shall conform to ASTM A 706, Grade 60. (See Special Provisions).

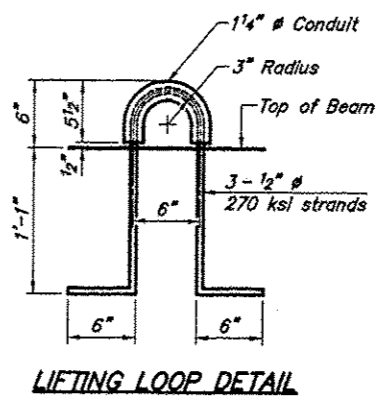
Two 1/8" fabric adjusting shims of the dimensions of the exterior bearing pad shall be provided for each bearing pad location.

A minimum 2 1/2" # lifting pin shall be used to engage the lifting loops during handling.

Corrosion Inhibitor, per Article 1020.05(b)(12) and 1021.06 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.

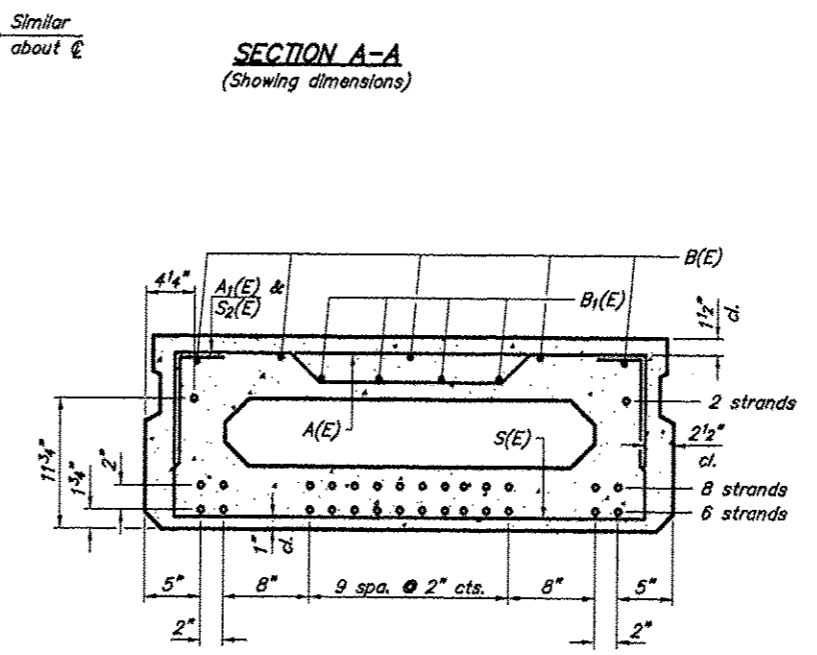
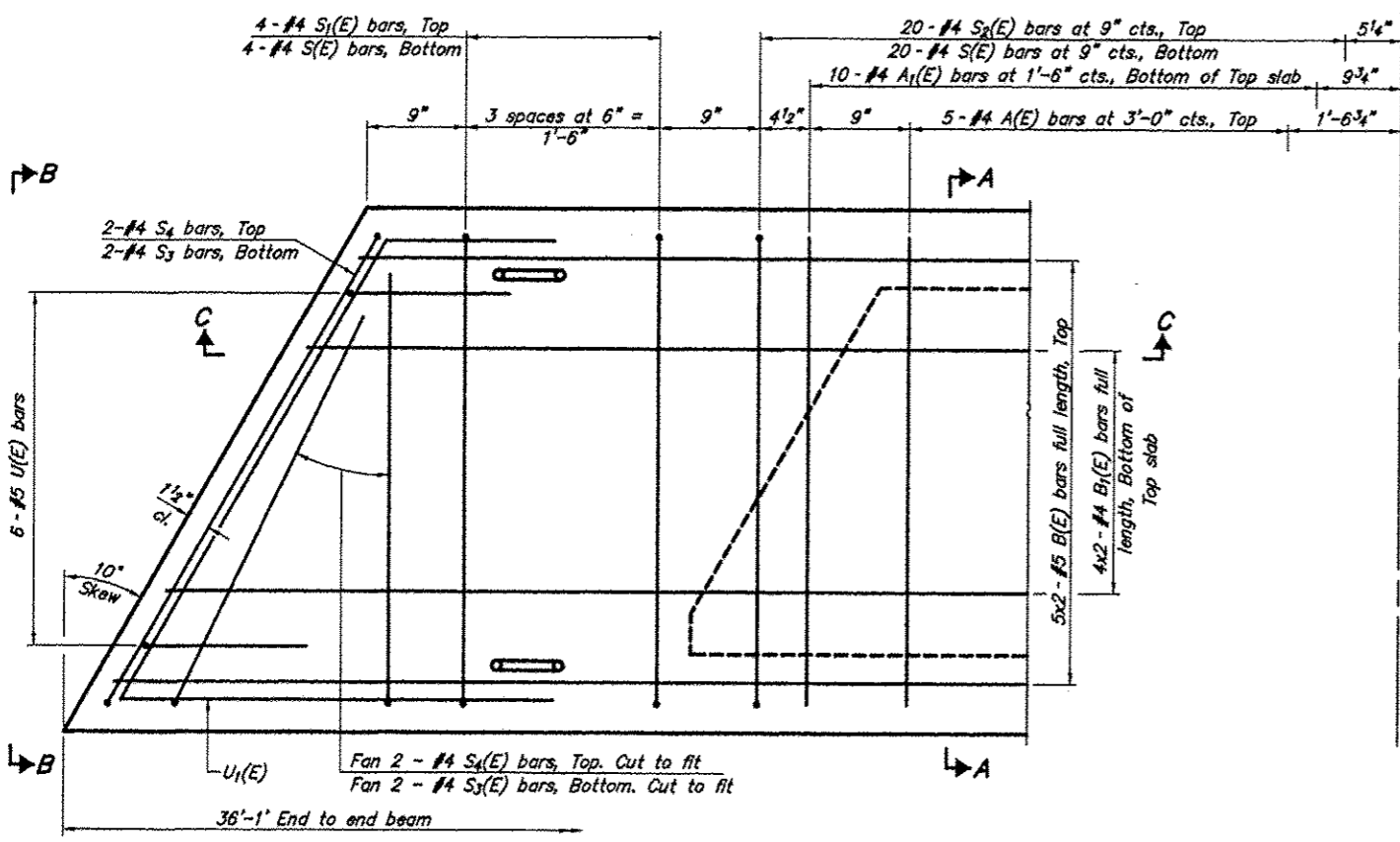
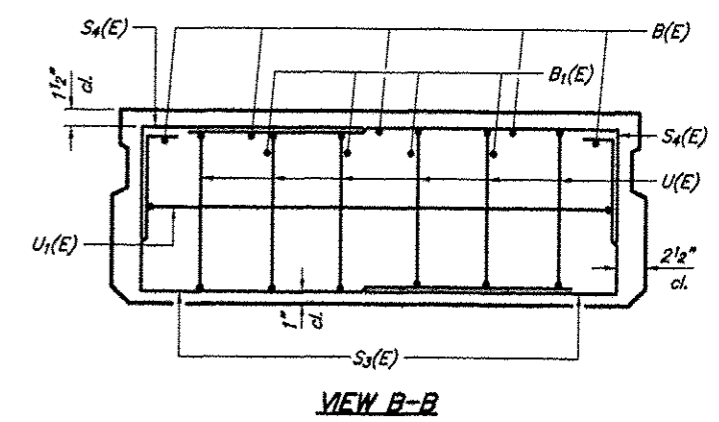
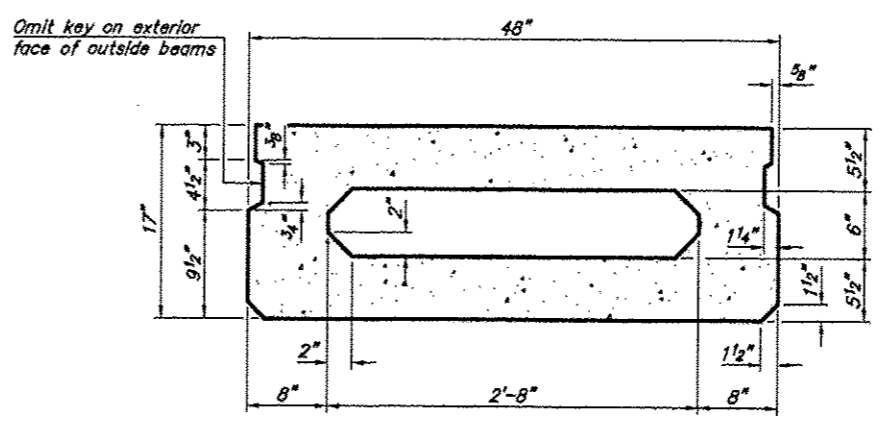
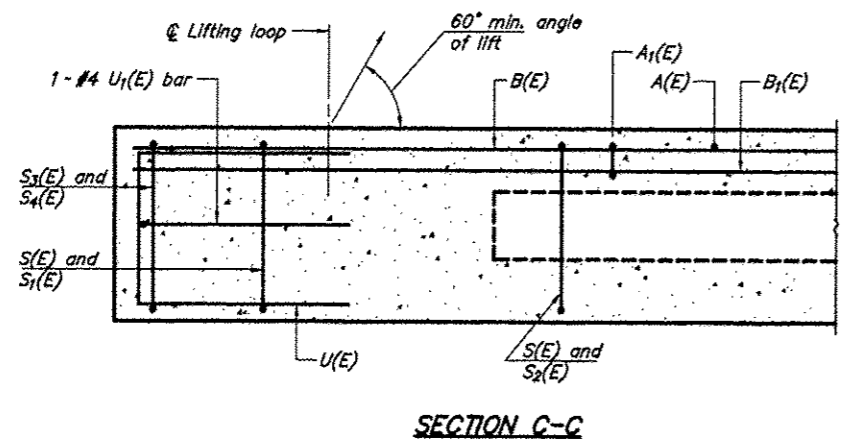


BILL OF MATERIAL

Precast Prestressed Concrete Deck Beams (17" depth)	Sq. Ft.	866
-----------------------------------------------------	---------	-----

17" X 36" PPC DECK BEAM DETAILS
 TOWNSHIP ROUTE 196 (FISHER ROAD)
 TRIBUTARY TO BIG CREEK
 SECTION 10-01196-00-BR
 UNION COUNTY
 STRUCTURE NO. 091-3236

ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO
TR 196	10-01196-00-BR	UNION	12	6
PROJECT NO. BROS-0181(54)			CONTRACT NO. 99490	



SECTION A-A
(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)	10	#4	3'-7"	—
A1(E)	20	#4	3'-10"	—
B(E)	10	#5	18'-11"	—
B1(E)	8	#4	18'-8"	—
S(E)	48	#4	6'-9"	□
S1(E)	8	#4	5'-3"	□
S2(E)	40	#4	5'-6"	□
S3(E)	8	#4	4'-3"	□
S4(E)	8	#4	3'-6"	□
U(E)	12	#5	3'-8"	□
U1(E)	2	#4	6'-8"	□

Bars noted thus 4x2-#5 etc. indicates 4 lines of bars with 2 lengths per line.

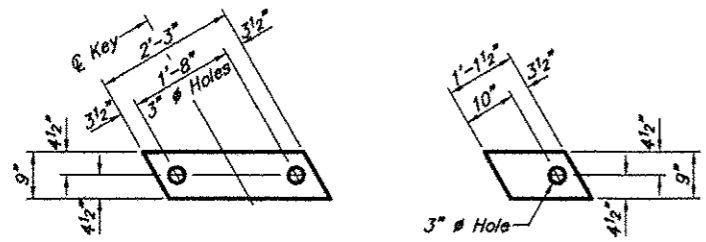
MINIMUM BAR LAP
#4 bar = 1'-8"
#5 bar = 2'-2"

PLAN VIEW

Note: 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.

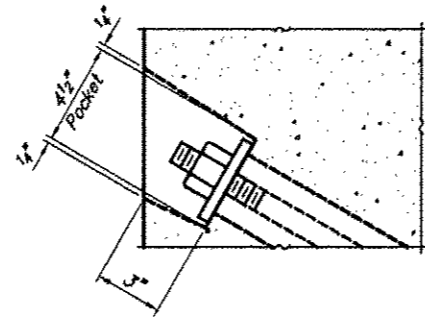
17" X 48" PPC DECK BEAM
TOWNSHIP ROUTE 196 (FISHER ROAD)
TRIBUTARY TO BIG CREEK
SECTION 10-01196-00-BR
UNION COUNTY
STRUCTURE NO. 091-3236

ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO
TR 196	10-01196-00-BR	UNION	12	7
PROJECT NO. BROS-0181(54)		CONTRACT NO. 9949D		

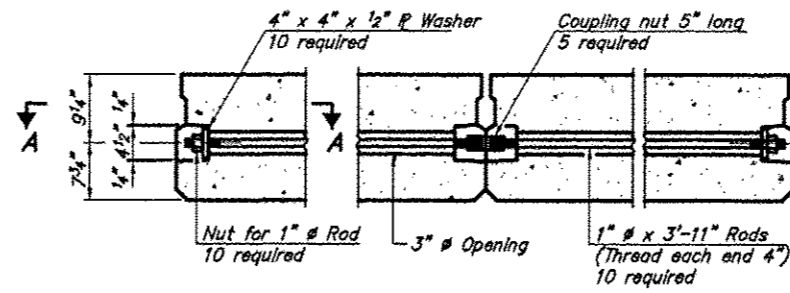


FABRIC BEARING PAD
(Interior) **FABRIC BEARING PAD**
(Exterior)

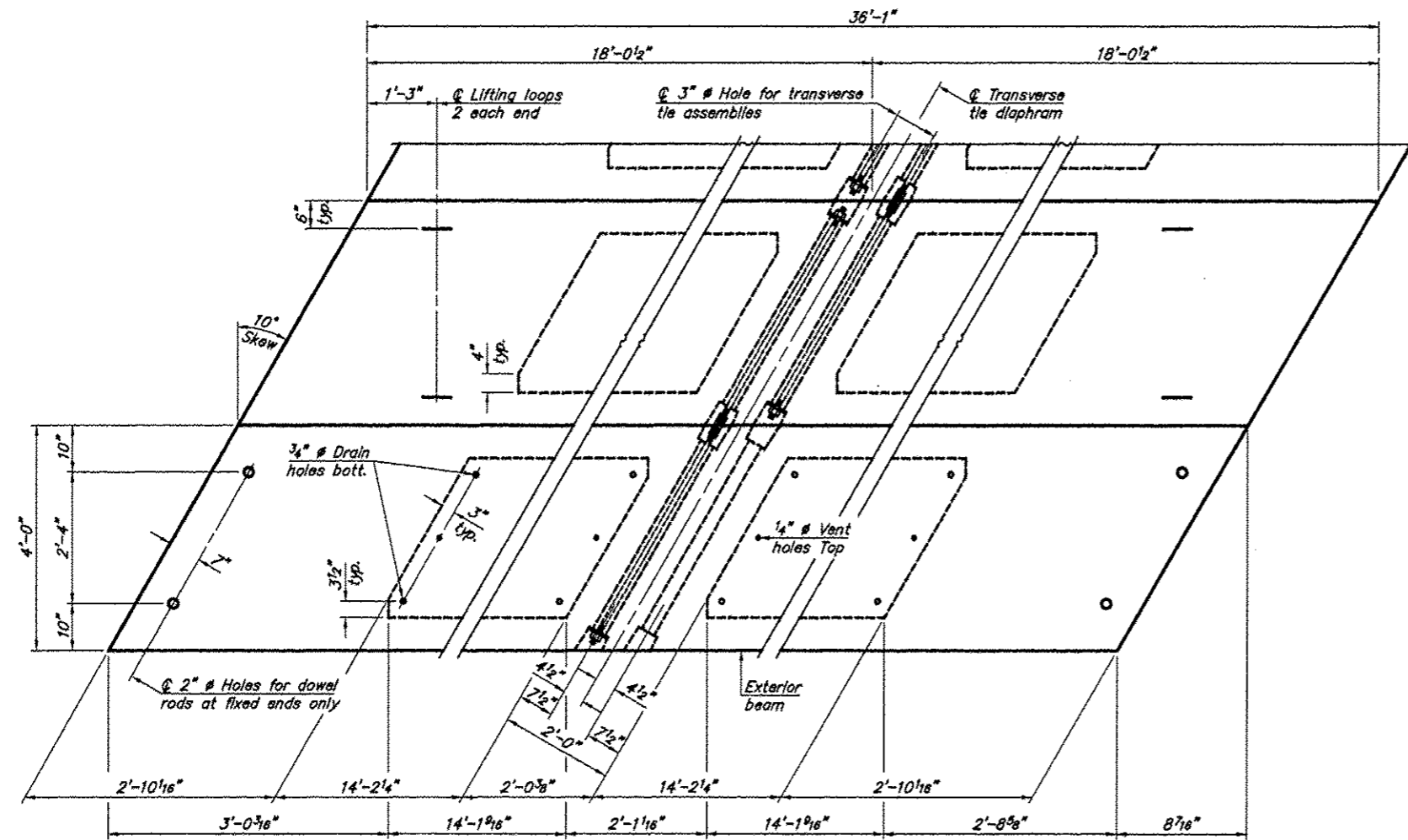
FIXED
Note: Omit holes when using expansion bearings.



SECTION A-A

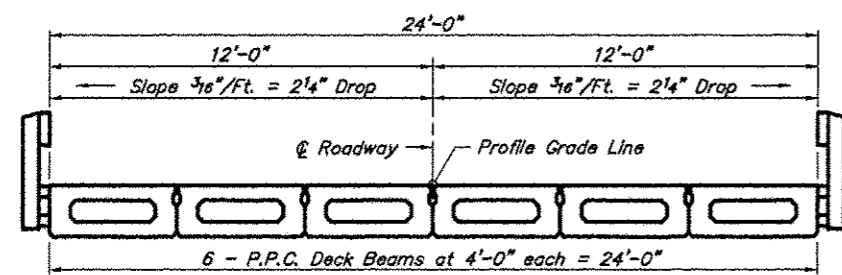


TYPICAL TRANSVERSE TIE ASSEMBLY



PLAN VIEW

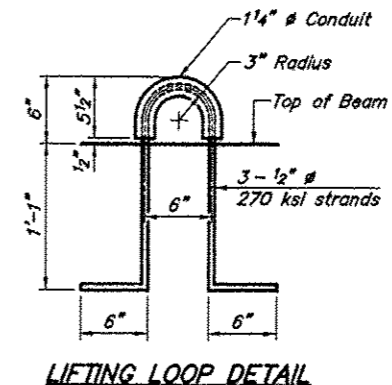
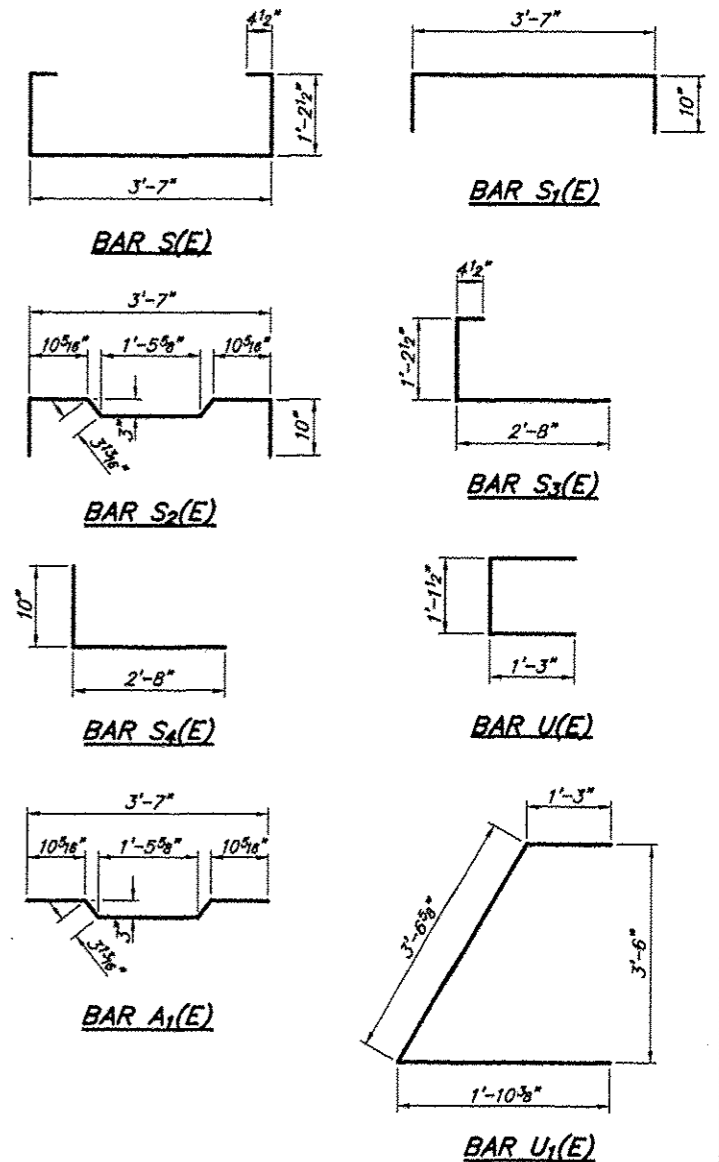
Note: Connect beams in pairs with the transverse tie configuration shown.



CROSS SECTION

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.
Reinforcement bars shall conform to ASTM A 706, Grade 60. (See Special Provisions).
Two 1/8" fabric adjusting shims of the dimensions of the exterior bearing pad shall be provided for each bearing pad location.
A minimum 2 1/2" # lifting pin shall be used to engage the lifting loops during handling.
Corrosion Inhibitor, per Article 1020.05(b)(12) and 1021.06 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.



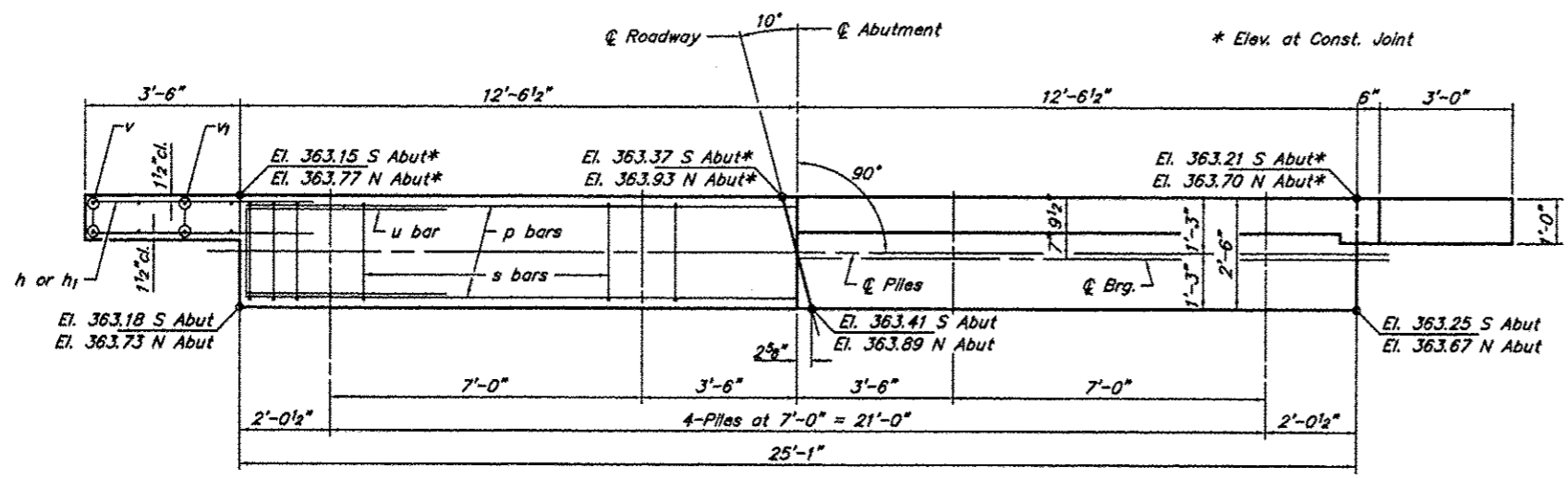
LIFTING LOOP DETAIL

BILL OF MATERIAL

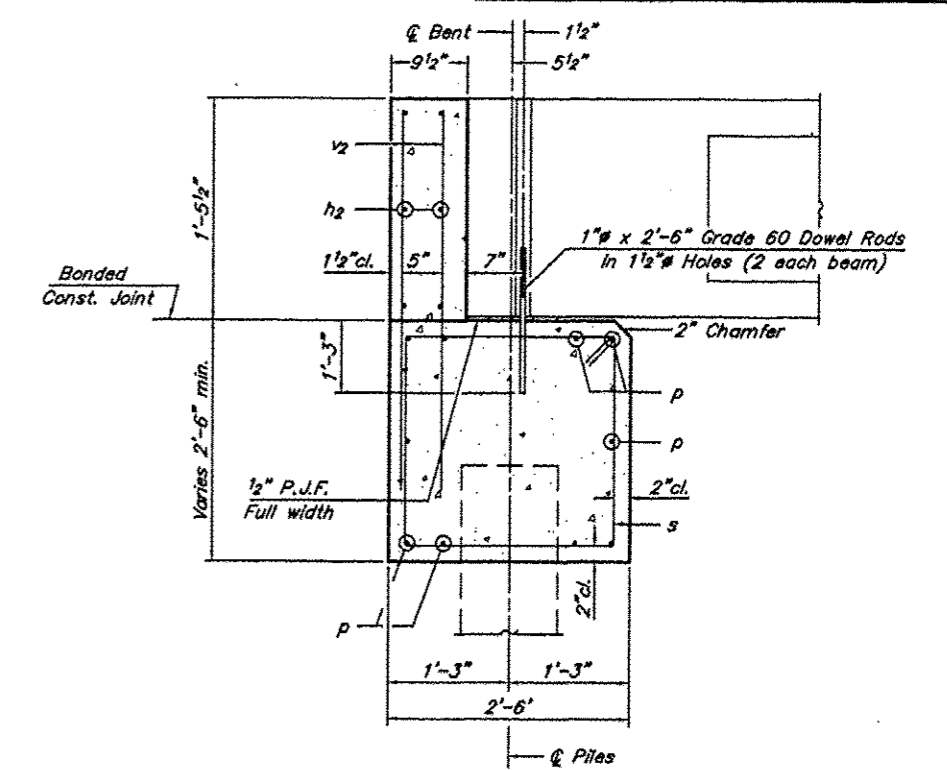
Precast Prestressed Concrete Deck Beams (17" depth)	Sq. Ft.	866
-----------------------------------------------------	---------	-----

17" X 48" PPC DECK BEAM DETAILS
TOWNSHIP ROUTE 196 (FISHER ROAD)
TRIBUTARY TO BIG CREEK
SECTION 10-01196-00-BR
UNION COUNTY
STRUCTURE NO. 091-3236

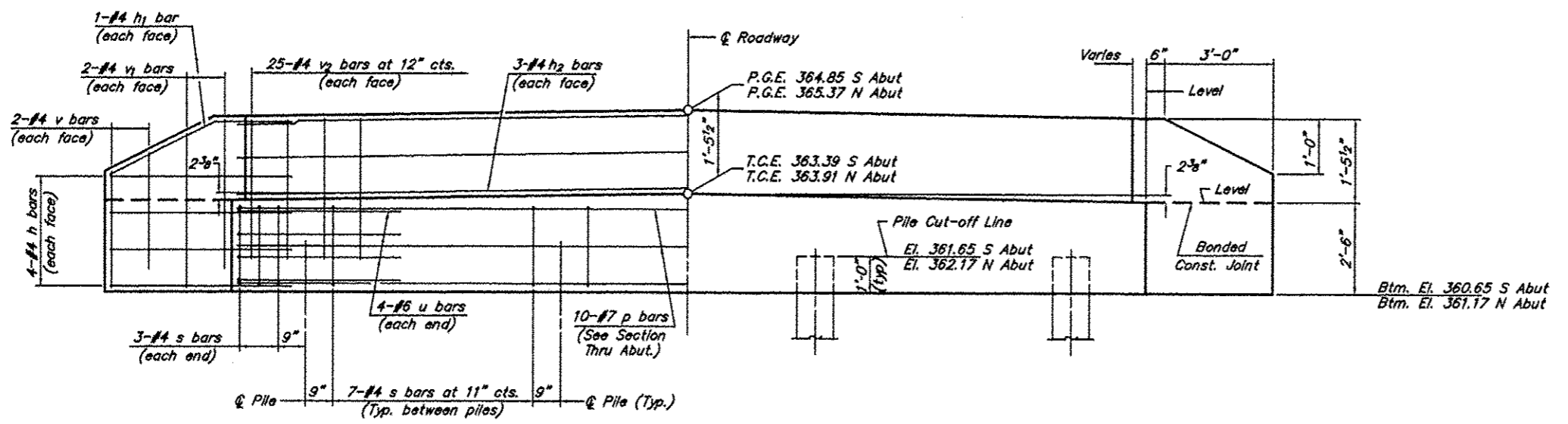
ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO
TR 196	10-01196-00-BR	UNION	12	8
PROJECT NO. BROS-0181(54)			CONTRACT NO. 99490	



PLAN



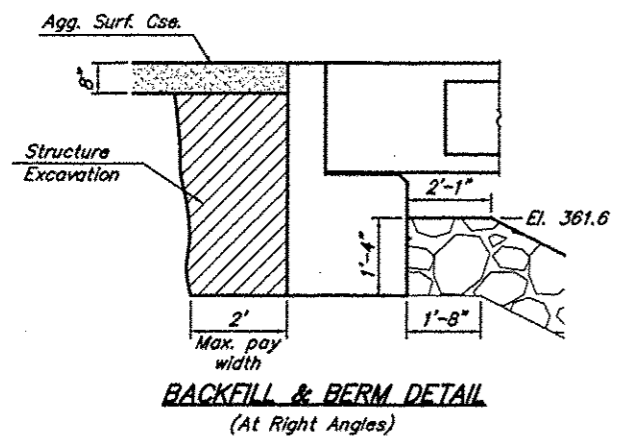
SECTION THRU ABUT.
(At Right Angles)



ELEVATION

BILL OF MATERIAL FOR ONE ABUTMENT

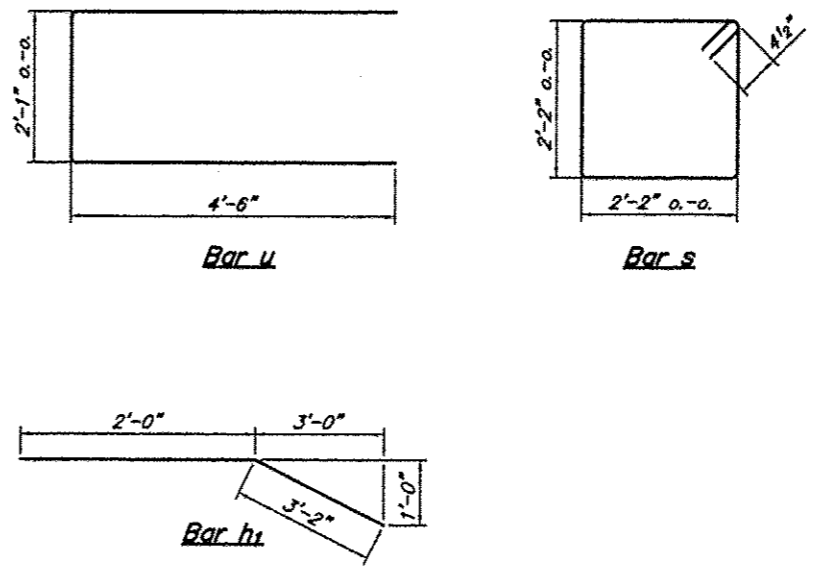
Bar	No.	Size	Length	Shape
h	16	#4	5'-0"	—
h1	4	#4	5'-2"	—
h2	6	#4	24'-9"	—
p	10	#7	24'-9"	—
s	27	#4	9'-5"	□
u	8	#6	11'-1"	—
v	8	#4	2'-10"	—
v1	8	#4	3'-7"	—
v2	50	#4	3'-1"	—
Concrete Structures			8.1	Cu. Yds.
Reinforcement Bars			1,113	Lbs.



BACKFILL & BERM DETAIL
(At Right Angles)

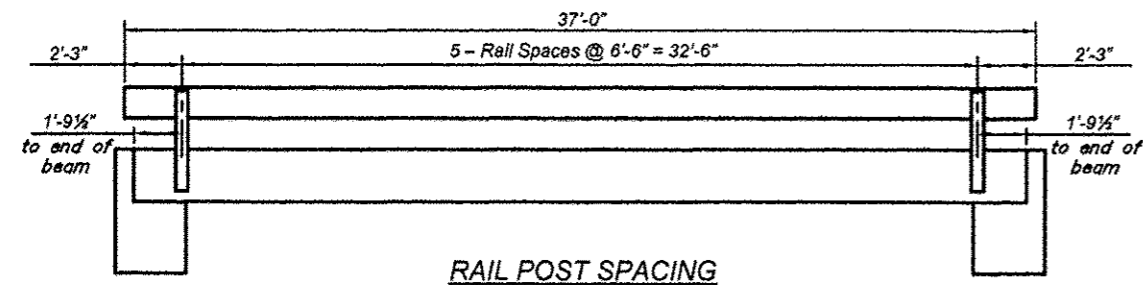
- NOTES**
- The Backwall and the portion of the Wingwalls above the bonded construction joint shall be cast against the in-place beam.
 - Reinforcement bars shall conform to A.A.S.H.T.O. M-31, M-42 or M-53, Grade 60.

DESIGN STRESSES
 $f'_c = 3,500 \text{ psi}$
 $f_y = 60,000 \text{ psi}$

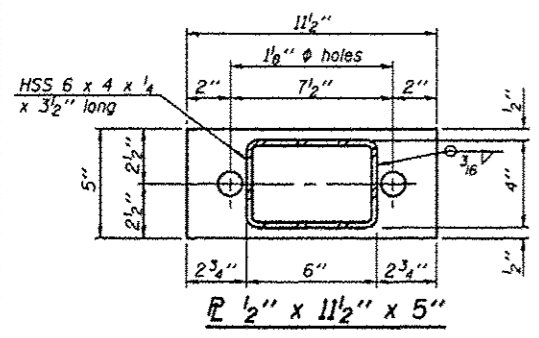


ABUTMENT
 TOWNSHIP ROUTE 196 (FISHER ROAD)
 TRIBUTARY TO BIG CREEK
 SECTION 10-01196-00-BR
 UNION COUNTY
 STRUCTURE NO. 091-3236

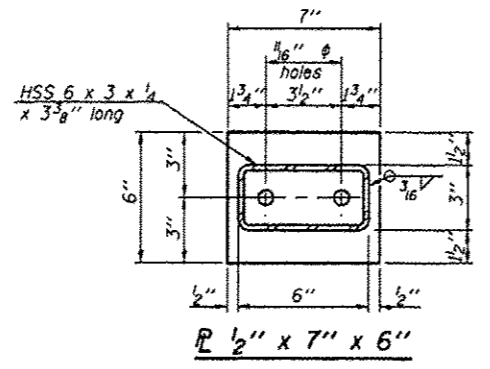
ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
TR 196	10-01196-00-BR	UNION	12	9
PROJECT NO. BROS-0181(54)			CONTRACT NO. 99480	



RAIL POST SPACING

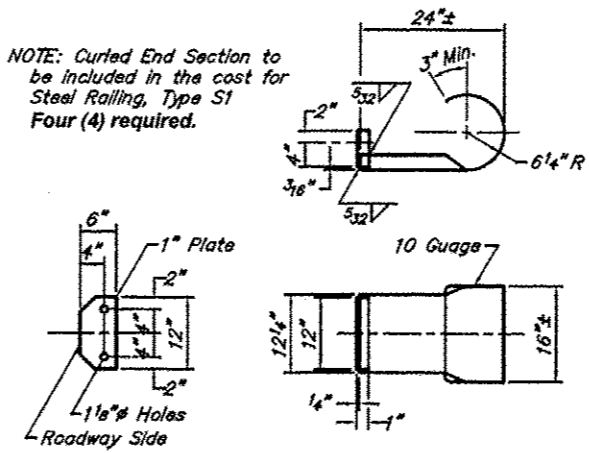


1/2" x 11 1/2" x 5"

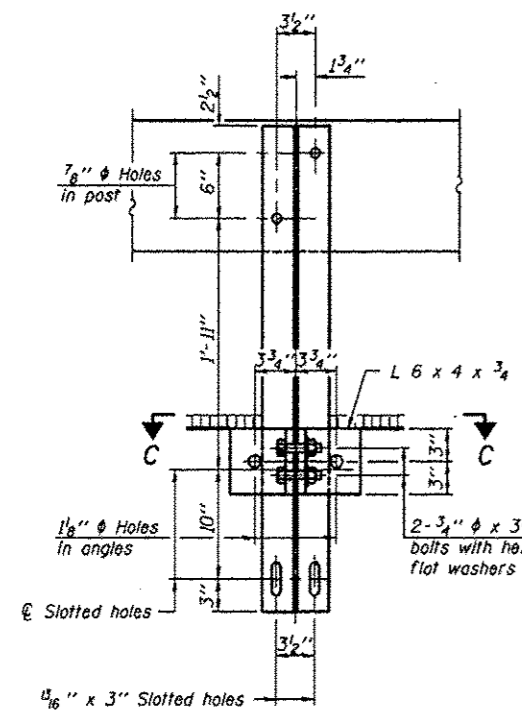


1/2" x 7" x 6"

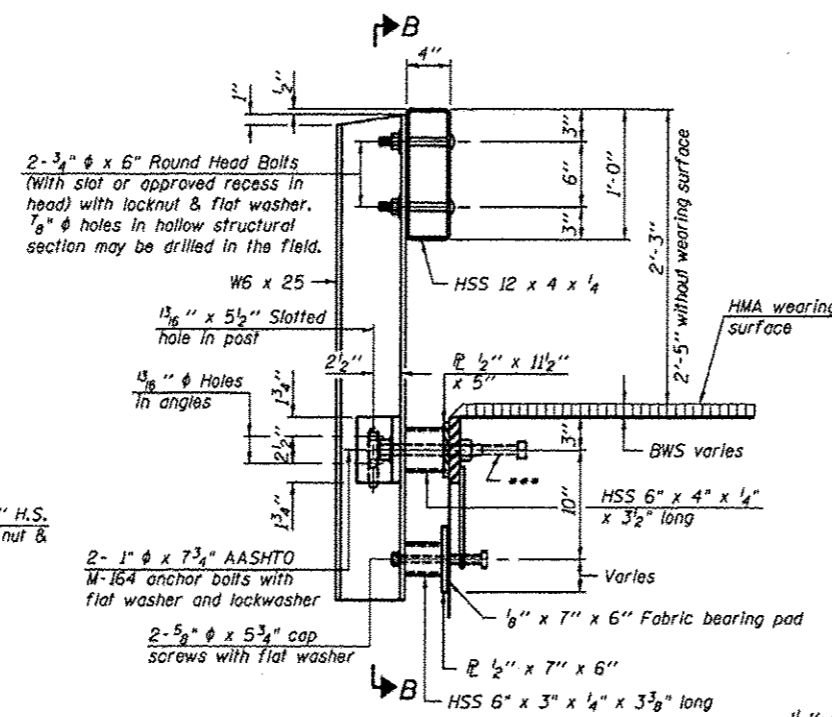
NOTE: Curled End Section to be included in the cost for Steel Railing, Type S1 Four (4) required.



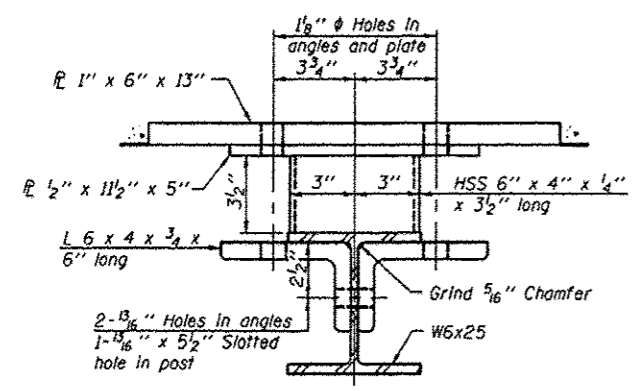
CURLLED END SECTION DETAILS



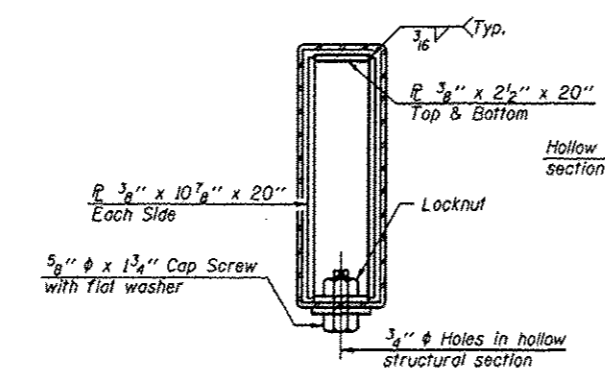
SECTION B-B



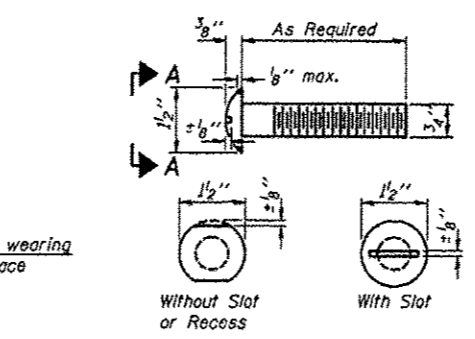
SECTION AT RAILING POST



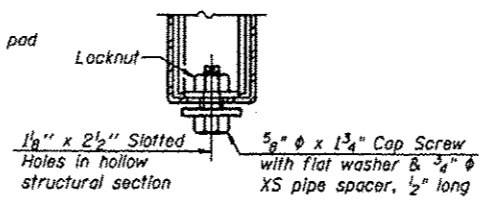
SECTION C-C



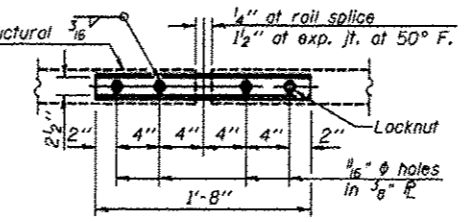
SECTIONS AT RAIL SPLICE



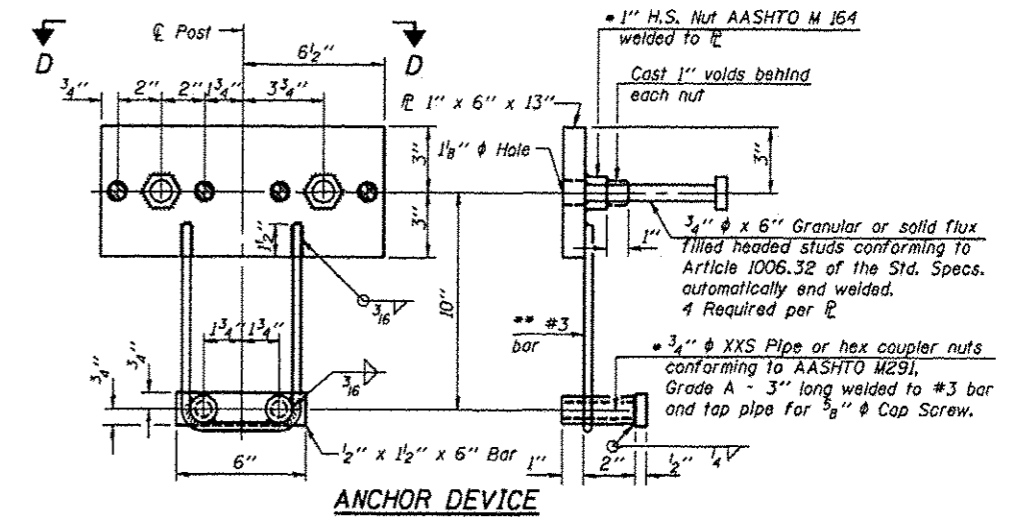
VIEW A-A ROUND HEAD BOLT



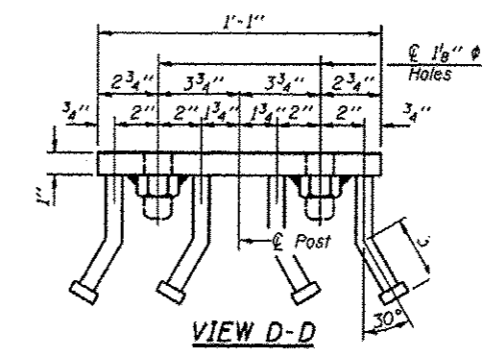
RAIL SPLICE CONNECTION AT EXPANSION JT.



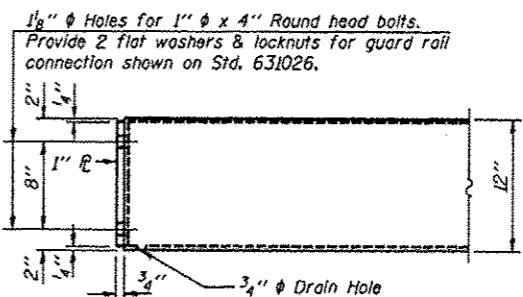
PLAN-BOTT. SPLICE TYPICAL



ANCHOR DEVICE



VIEW D-D



END OF RAIL DETAILS

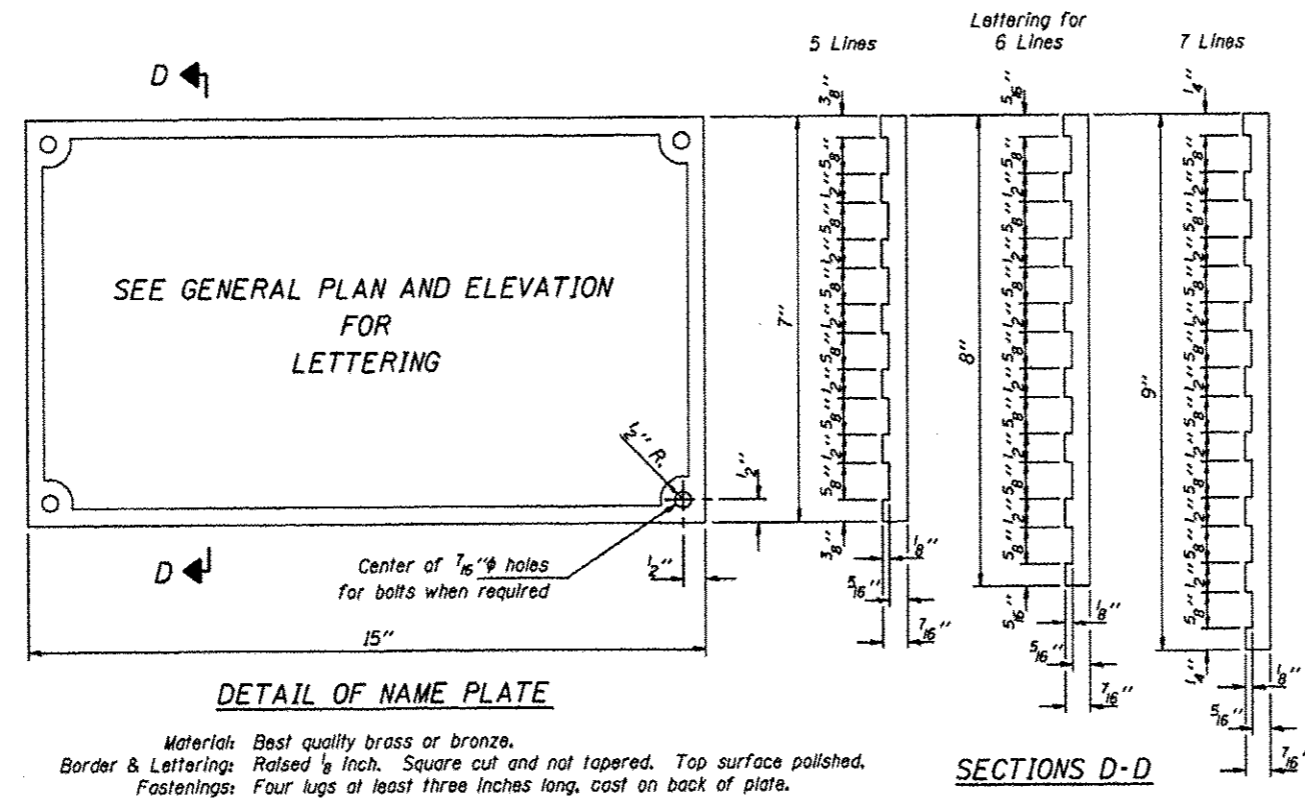
- Notes:
- All field drilled holes shall be coated with an approved zinc rich paint before erection.
 - For multi-span bridges, sufficient 1/4" x 6" x 1'-2" galvanized steel shims shall be provided to align rail between adjacent spans. Cost included with Steel Railing, Type S-1.
 - All steel rail elements shall be galvanized according to Article 509.05 of the Standard Specifications.
 - Threaded areas shall be plugged or blocked off during casting of beam.
 - 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".
 - 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.
 - 10'-9" Maximum Post Spacing

BILL OF MATERIAL

Item	Unit	Quantity
Steel Railing, Type S-1	Foot	74

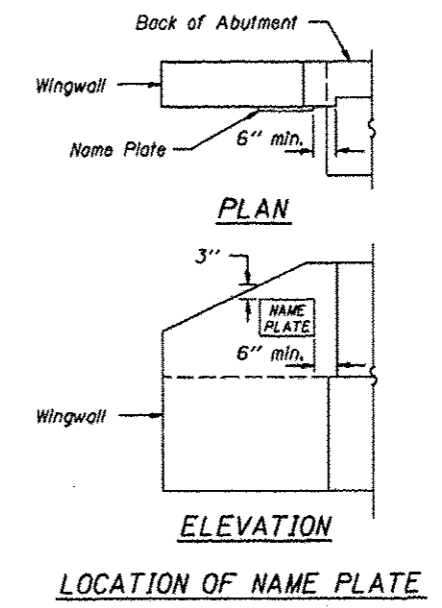
STEEL RAILING, TYPE S-1
TOWNSHIP ROUTE 196 (FISHER ROAD)
TRIBUTARY TO BIG CREEK
SECTION 10-01196-00-BR
UNION COUNTY
STRUCTURE NO. 91-3236

ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
TR 196	10-01196-00-BR	UNION	12	10
PROJECT NO. BROS-0181(54)			CONTRACT NO. 99490	



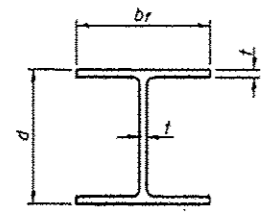
DETAIL OF NAME PLATE

Material: Best quality brass or bronze.
 Border & Lettering: Raised $\frac{1}{8}$ inch. Square cut and not tapered. Top surface polished.
 Fastenings: Four lugs at least three inches long, cast on back of plate.



NAME PLATES
 TOWNSHIP ROUTE 196 (FISHER ROAD)
 TRIBUTARY TO BIG CREEK
 SECTION 10-01196-00-BR
 UNION COUNTY
 STRUCTURE NO. 91-3236

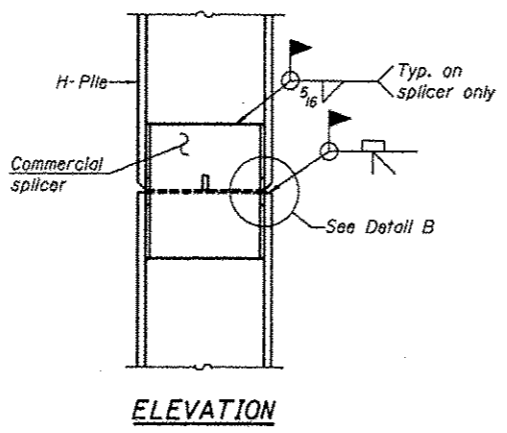
ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
TR 196	10-01196-00-BR	UNION	12	11
PROJECT NO. BROS-0181(54)			CONTRACT NO. 99490	



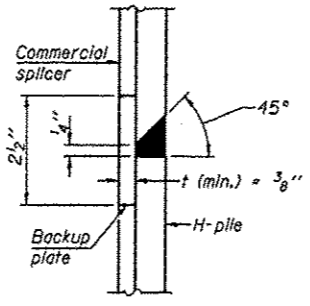
STEEL PILE TABLE

Designation	Depth d	Flange width br	Web and Flange thickness t	Encasement diameter A	Encasement Quantity/Ft. C.Y.
HP 14x117	14 1/4"	14 7/8"	1 3/16"	30"	0.173
x102	14"	14 3/4"	1 1/16"	30"	0.174
x89	13 7/8"	14 3/4"	5/8"	30"	0.175
x73	13 5/8"	14 3/8"	1/2"	30"	0.176
HP 12x84	12 1/4"	12 1/4"	1 1/16"	24"	0.110
x74	12 1/8"	12 1/4"	5/8"	24"	0.111
x63	12"	12 1/8"	1/2"	24"	0.112
x53	11 3/4"	12"	7/16"	24"	0.112
HP 10x57	10"	10 1/4"	9/16"	24"	0.112
x42	9 3/4"	10 1/8"	7/16"	24"	0.113
HP 8x36	8"	8 1/8"	7/16"	18"	0.063

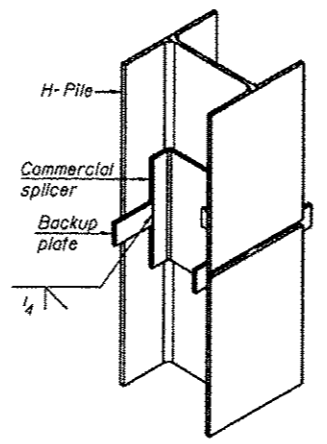
Note: The steel H-piles shall be according to AASHTO M270 Grade 50.



ELEVATION

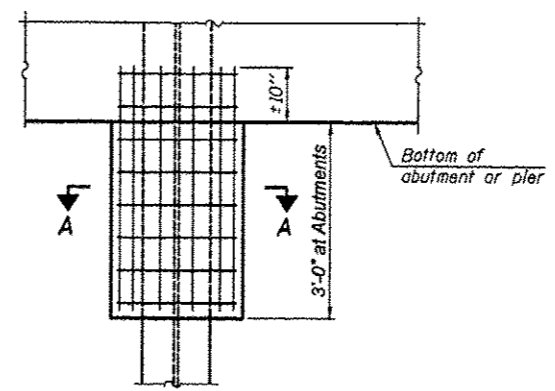


DETAIL "B"



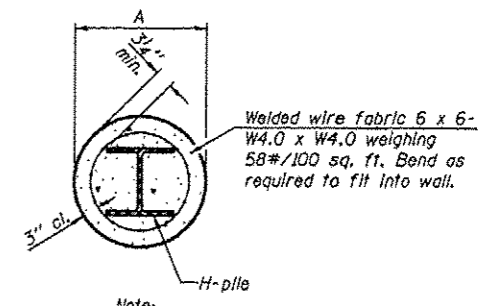
ISOMETRIC VIEW

WELDED COMMERCIAL SPLICE



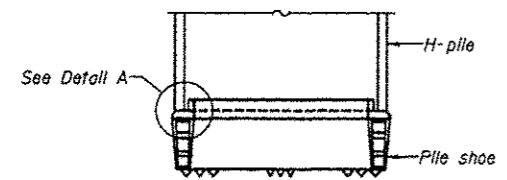
ELEVATION

PILE ENCASEMENT



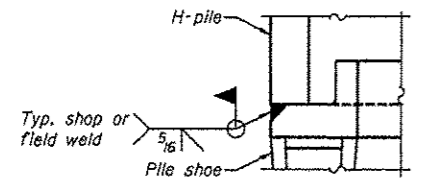
SECTION A-A

Note: Forms for encasement may be omitted when soil conditions permit.

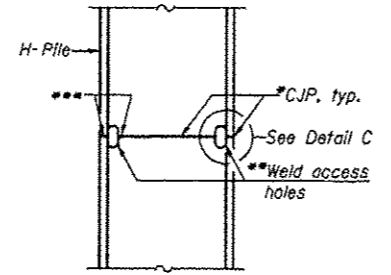


ELEVATION

H-PILE SHOE ATTACHMENT

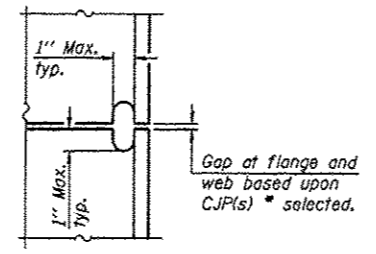


DETAIL A

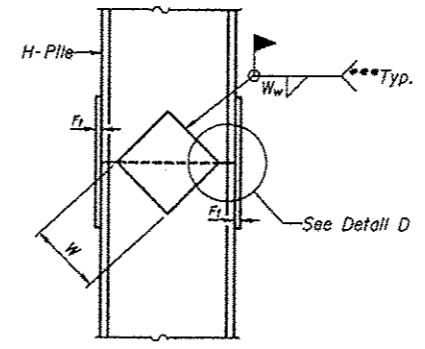


ELEVATION

COMPLETE PENETRATION WELD SPLICE

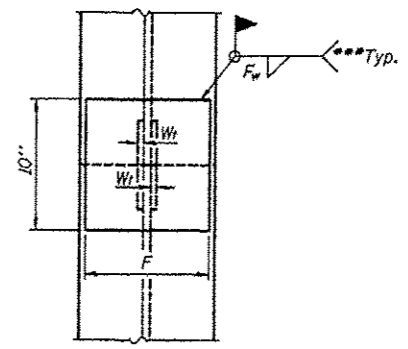


DETAIL C



ELEVATION

WELDED PLATE FIELD SPLICE



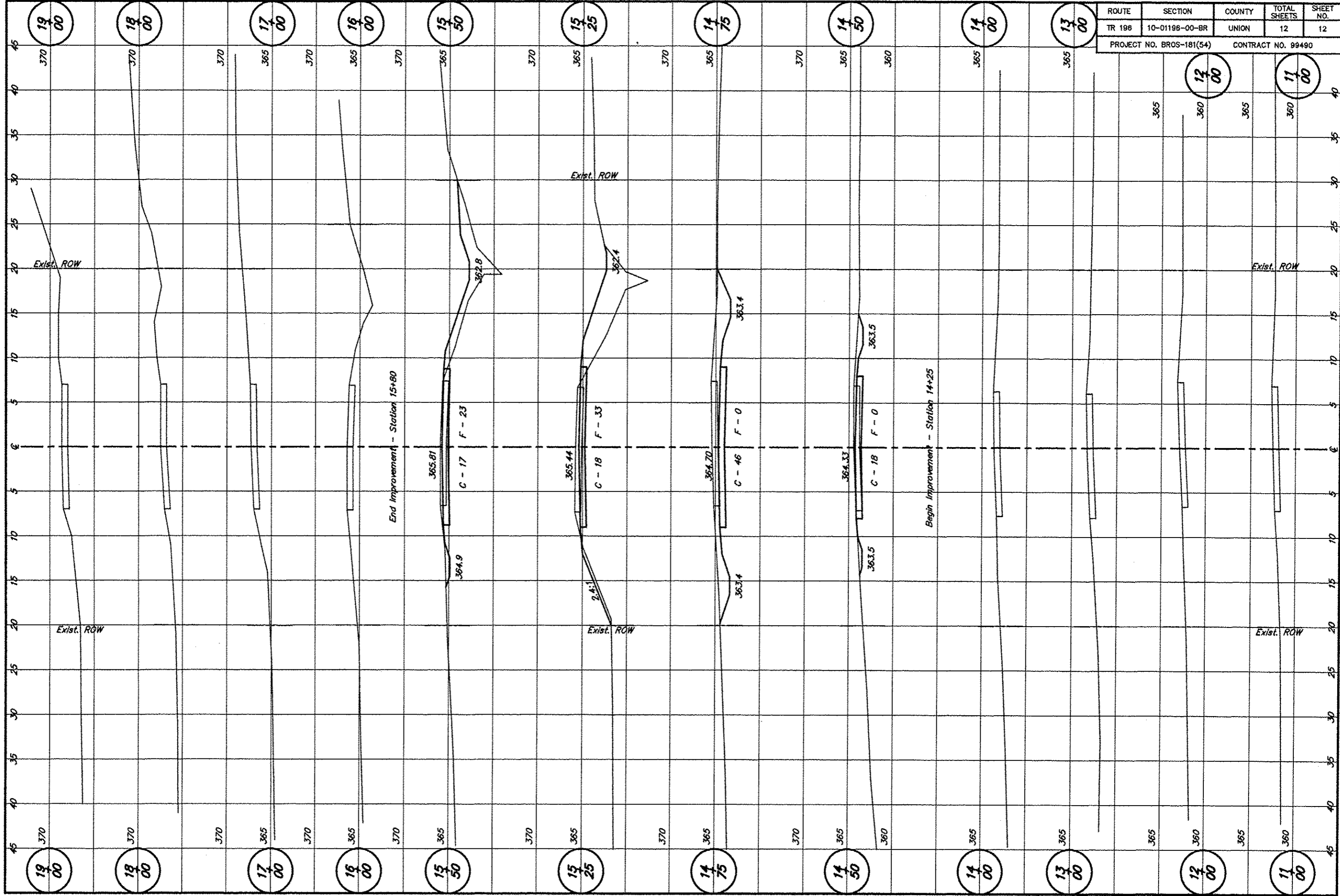
END VIEW

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

*Use joint conforming to Figure 3.4 in AWS D1.1, Structure Welding Code - Steel.
 **Preparation per Fig. 5.2 in AWS D1.1, Structure Welding Code - Steel.
 ***Interrupt welds 1/4" from end of each pile.

PILING DETAILS
 TOWNSHIP ROUTE 196 (FISHER ROAD)
 TRIBUTARY TO BIG CREEK
 SECTION 10-01196-00-BR
 UNION COUNTY
 STRUCTURE NO. 91-3236

ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
TR 198	10-01198-00-BR	UNION	12	12
PROJECT NO. BROS-181(54)		CONTRACT NO. 99490		



19
00

18
00

17
00

16
00

15
50

15
25

14
75

14
50

14
00

13
00

12
00

11
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19
00

18
00

17
00

16
00

15
50

15
25

14
75

14
50

14
00

13
00

12
00

11
00