



04-25-14 LETTING ITEM 101

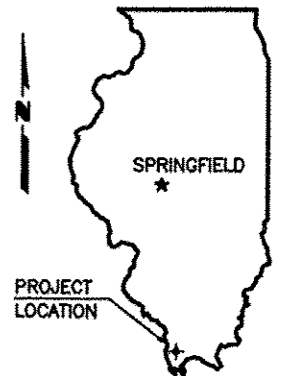
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PLANS FOR PROPOSED HIGHWAY BRIDGE PROGRAM

TOWNSHIP ROUTE 3 (COUNTY LINE ROAD)
SECTION 10-01163-00-BR
PROJECT NO. BROS-0003(125)
JOB NO. C-99-540-11
TRIBUTARY TO COOPER CREEK

ALEXANDER COUNTY

ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
TR 3	10-01163-00-BR	ALEXANDER	12	1
PROJECT NO. BROS-0003(125)			CONTRACT NO. 99521	



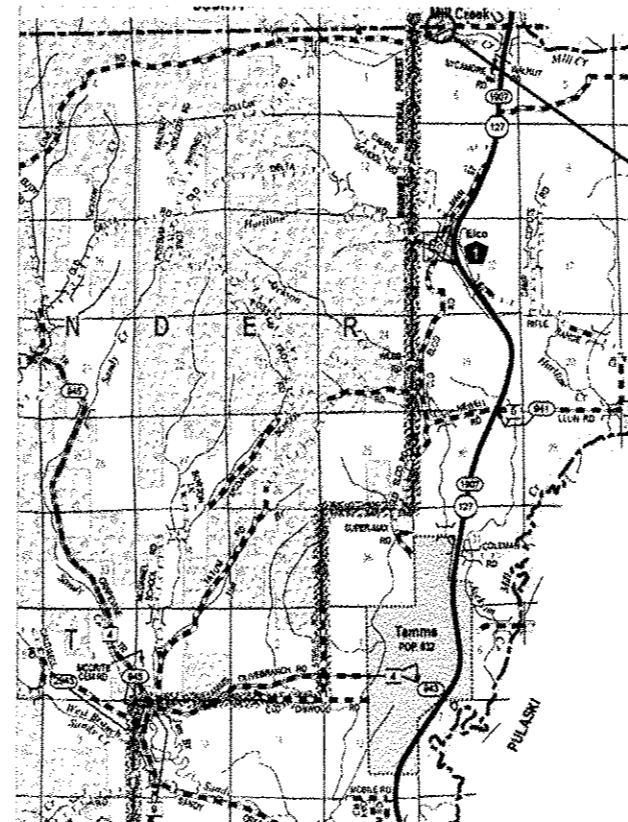
SUMMARY OF QUANTITIES

CODE NO.	PAY ITEM	UNIT	TOTAL
X250100*	SEEDING, CLASS 2 (SPECIAL)	ACRE	0.2
20200100	EARTH EXCAVATION	CU YD	73
20300100	CHANNEL EXCAVATION	CU YD	66
28100809	STONE DUMPED RIPRAP, CLASS A5	TON	182
40200800	AGGREGATE SURFACE COURSE, TYPE B	TON	98
50100100	REMOVAL OF EXISTING STRUCTURES	EACH	1
50200100	STRUCTURE EXCAVATION	CU YD	92
50300225	CONCRETE STRUCTURES	CU YD	23
50300280	CONCRETE ENCASEMENT	CU YD	2.7
50400505	PRECAST PRESTRESSED CONCRETE DECK BEAMS (27' DEPTH)	SQ FT	1,634
50800105	REINFORCEMENT BARS	POUND	2,766
Δ 50900205	STEEL RAILING, TYPE S1	FOOT	140
51201500	FURNISHING STEEL PILES HP10X57	FOOT	576
51202305	DRIVING PILES	FOOT	576
51500100	NAME PLATES	EACH	1
Δ 63000001	STEEL PLATE BEAM GUARDRAIL, TYPE A, 6 FOOT POSTS	FOOT	150
Δ 63100075	TRAFFIC BARRIER TERMINAL, TYPE 5A	EACH	2
Δ 63100167	TRAFFIC BARRIER TERMINAL, TYPE 1 (SPECIAL) TANGENT	EACH	1
67100100	MOBILIZATION	L SUM	1
Δ 78201000	TERMINAL MARKER - DIRECT APPLIED	EACH	3

* SEE SPECIAL PROVISIONS
Δ SPECIALTY ITEMS

INDEX OF SHEETS

- COVER SHEET
 - PLAN & PROFILE
 - GENERAL PLAN & ELEVATION
 - 27" X 36" PPC DECK BEAM
 - 27" X 36" PPC DECK BEAM DETAILS
 - 27" X 48" PPC DECK BEAM
 - 27" X 48" PPC DECK BEAM DETAILS
 - ABUTMENTS
 - STEEL RAILING, TYPE S1
 - NAME PLATES
 - PILING DETAILS
 - CROSS SECTIONS
- STANDARDS
- 000001-06 STD SYMBOLS, ABBREVIATIONS & PATTERNS
 - 280001-07 TEMPORARY EROSION CONTROL SYSTEMS
 - 630301-06 SHLDR WIDENING FOR TY 1 (SP) TERMINALS
 - 635008-03 REFLECTOR & TERMINAL MARKER PLACEMENT
 - 701901-03 TRAFFIC CONTROL DEVICES
 - BLR 21-9 TYP APPLICATION OF TRAF CONTR DEVICES
 - BLR 26-3 STEEL PLATE BEAM GUARDRAIL 28" HEIGHT
 - BLR 27-1 TRAFFIC BARRIER TERMINAL, TYPE 5A



LOCATION MAP

SCALE: 1" = 2 MILES

NET LENGTH OF IMPROVEMENT = 361.00 FT. = 0.0684 MILES

CLASSIFICATION : MINOR COLLECTOR
ADT : 450
DESIGN SPEED : 40 MPH

CONTRACT NO. 99521

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



Edward W. Miller
PROFESSIONAL ENGINEER
#062-025277
EXPIRES NOV. 30, 2014

1-16-14

ILLINOIS DEPARTMENT OF TRANSPORTATION	
Approved	January 21, 2014 <i>John Denny</i> Alexander County Engineer
Passed	JAN. 30, 2014 <i>Dennis W. Hillel</i> District 9 Engineer of Local Roads and Streets
Releasing for Bid Based on Limited Review	January 30, 2014 <i>Jeffrey L. Kevin</i> Deputy Director of Highways, Region 5 Engineer

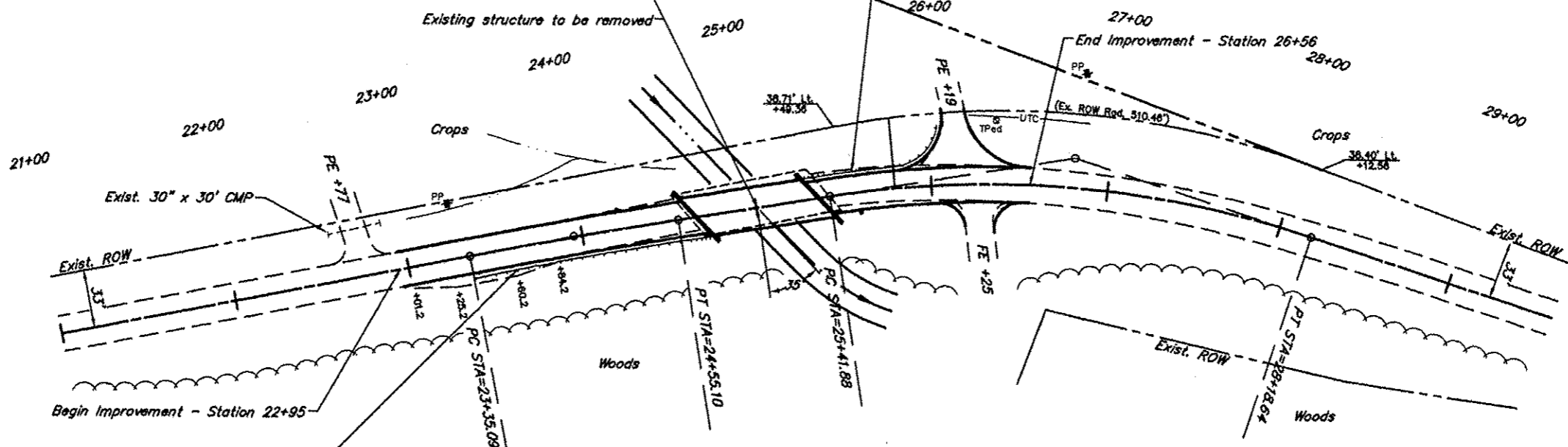
ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
TR 3	10-01183-00-BR	ALEXANDER	12	2
PROJECT NO. BROS-0003(125)			CONTRACT NO. 98521	

B.M. - Dbl. Nails in Power Pole
66' Lt. Sta. 26+82
Elev. 383.00

Existing Structure - Precast reinforced concrete deck beams on concrete caps with timber piling.
3 Span - 26.4' W x 78.0' L

Station 25+00.5 - Single span precast prestressed concrete deck beam bridge
70'-1 3/4" bk-bk Abutments
Skewed 35° Rt. Forward

Approach Guardrail
Traffic Barrier Terminal, Type 5A - 1 Ea
Steel Plate Beam Guardrail, Type A, 6 Foot Posts - 75 Ft
with End Section. 35.5 Ft of Guardrail to be placed around a 28 Ft radius.



Approach Guardrail
Traffic Barrier Terminal, Type 1 (Special) Tangent - 1 Ea
Steel Plate Beam Guardrail, Type A, 6 Foot Posts - 75 Ft
Traffic Barrier Terminal, Type 5A - 1 Ea
See Std. 630301 for shoulder widening details.

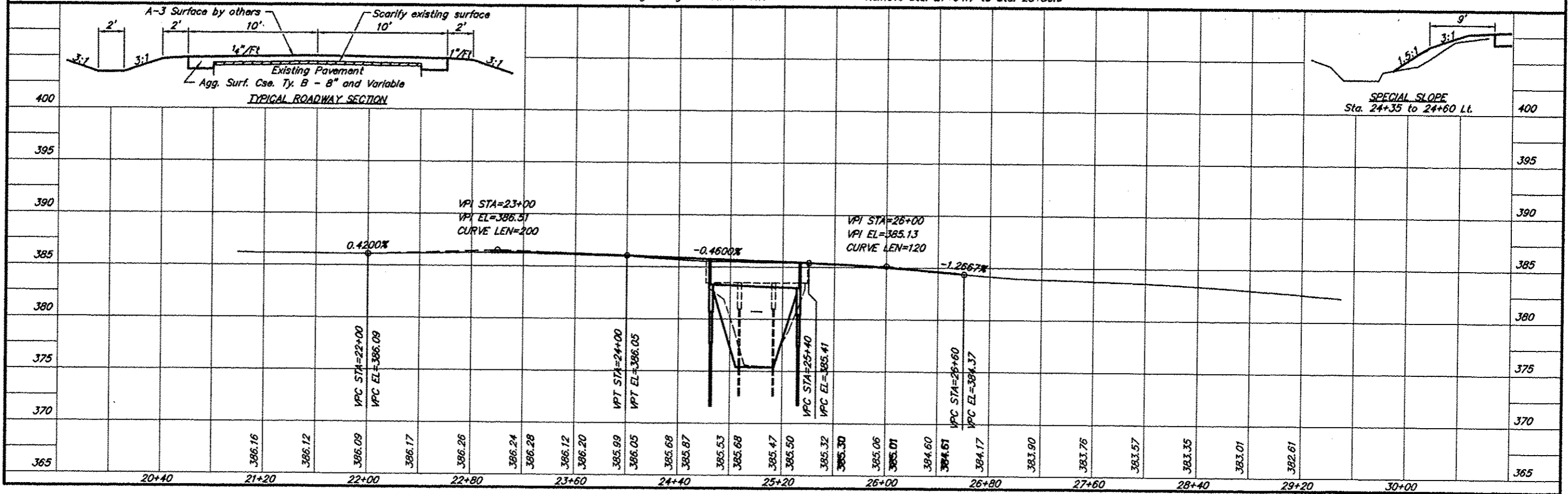
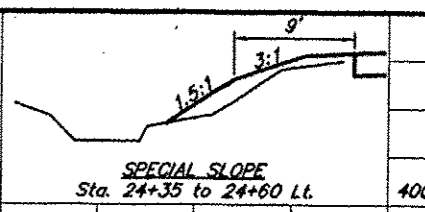
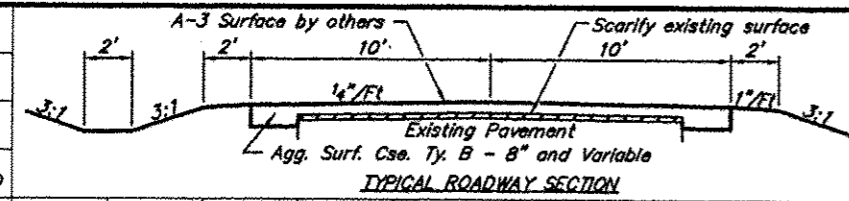
CURVE DATA

PI Sta = 23+95.10
Δ = 2°00'00" T = 60.01'
D = 1°40'00" L = 120.00'
R = 3,437.97' E = 0.52'
S.E. = 0.0156'/Ft.
Attain Sta. 22+95.0 to Sta. 23+48.8
Maintain SE through bridge to Sta. 25+41.9

CURVE DATA

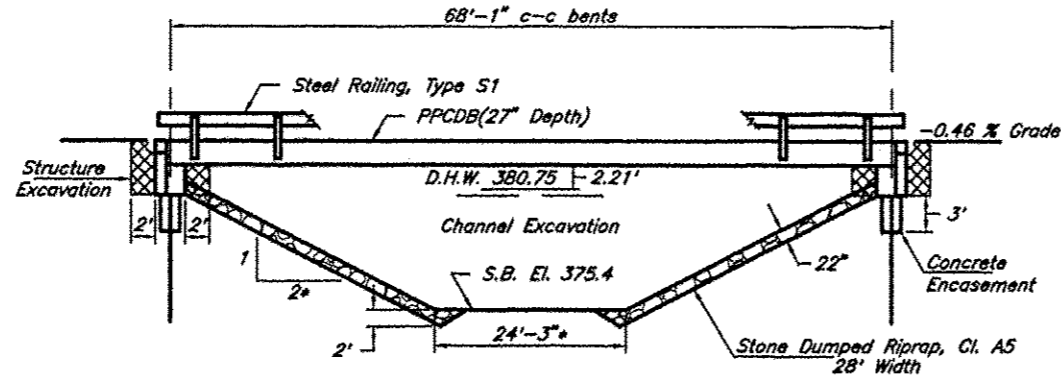
PI Sta = 26+82.94
Δ = 27°17'42" T = 141.06'
D = 9°51'44" L = 276.76'
R = 580.97' E = 16.88'
S.E. = 0.040'/Ft.
Attain Sta. 25+41.9 to Sta. 25+83.8
Remove Sta. 27+94.7 to Sta. 28+36.6

SCALES:
1" = 80' HOR
1" = 10' VER



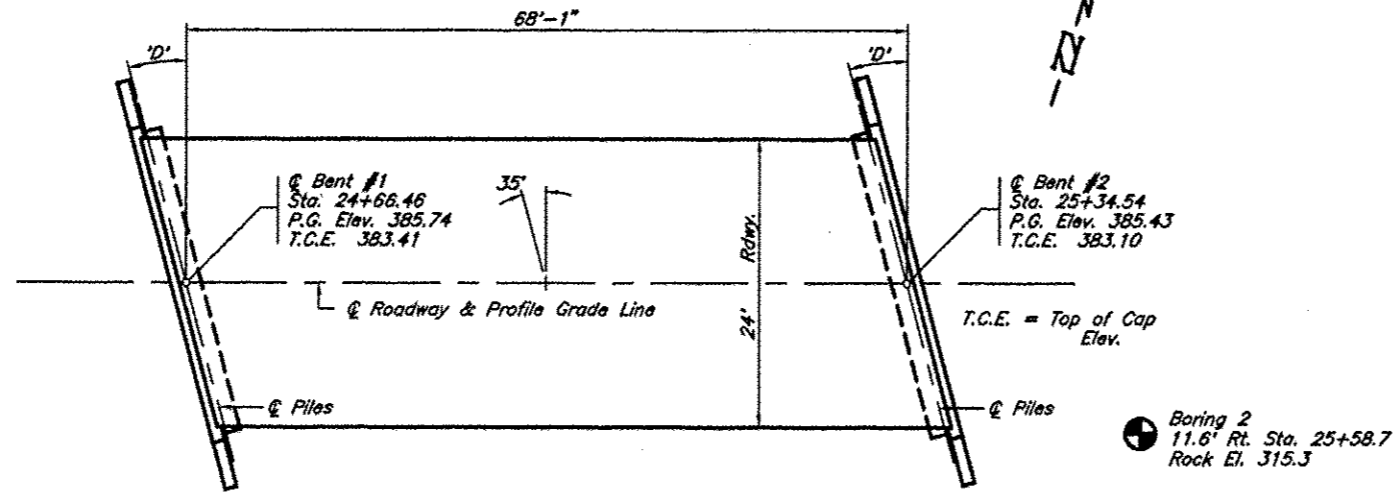
B.M. - Dbl. nail in Power Pole
 06' Lt. Sta. 26+82
 Elev. 383.00

ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
TR 3	10-01163-00-BR	ALEXANDER	12	3
PROJECT NO. BROS-0003(125) CONTRACT NO. 99521				



Existing Structure - Three span precast reinforced concrete deck beams on concrete caps with timber piling, 26.4' W x 78.0' L.

* Normal to Channel
ELEVATION



Boring 1
 10.2' Lt. Sta. 24+21.6
 Rock El. 310.9

Boring 2
 11.6' Rt. Sta. 25+58.7
 Rock El. 315.3

PLAN
 Skew Angle "D" = 35° Right Forward

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.

TOTAL BILL OF MATERIAL

Item	Unit	Super	Sub.		Total
			Piers	Abuts.	
Channel Excavation	Cu. Yds.			66	66
Stone Dumped Riprap, Class A5	Tons			182	182
Removal of Existing Structures	Each				1
Structure Excavation	Cu. Yds.			92	92
Concrete Structures	Cu. Yds.			23.0	23.0
Concrete Encasement	Cu. Yds.			2.7	2.7
P.P. Conc. Dk. Bm. 27" Dp.	Sq. Ft.	1,634			1,634
Reinforcement Bars	Pound			2,766	2,766
Steel Railing, Type S1	Foot	140			140
Furnishing Steel Piles HP10X57	Foot			576	576
Driving Piles	Foot			576	576
Name Plates	Each			1	1

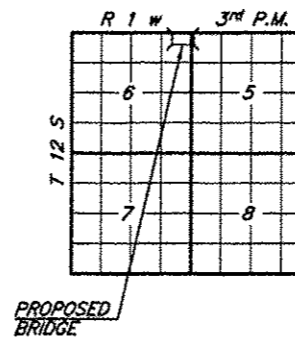
STATION 25+00.5
 TRIBUTARY TO COOPER CREEK
 SEC. 10-01163-00-BR BUILT 20
 COUNTY UNIT ROAD DISTRICT
 ALEXANDER COUNTY
 LOADING HL-93
 STR. NO. 002-3111

PILE DATA (2-ABUTS.)

Type & Size : HP10X57
 Nominal Required Bearing : 307 kips
 Factored Resistance Available : 169 kips
 Estimated Length : 74 Feet Bent #1, 70 Feet Bent #2
 Number Required : 8

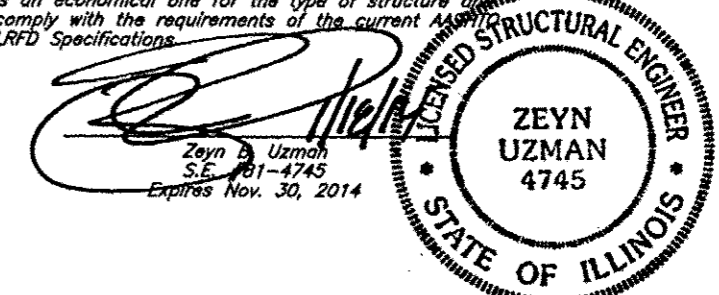
LETTERING FOR NAME PLATE

Locate Name Plate at southwest 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 complies 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 = E
 Design Spectral Acceleration at 0.2 sec. (S_{0.2}) = 1.214
 Design Spectral Acceleration at 1.0 sec. (S_{1.0}) = 0.909
 Seismic Performance Zone (SPZ) = 4

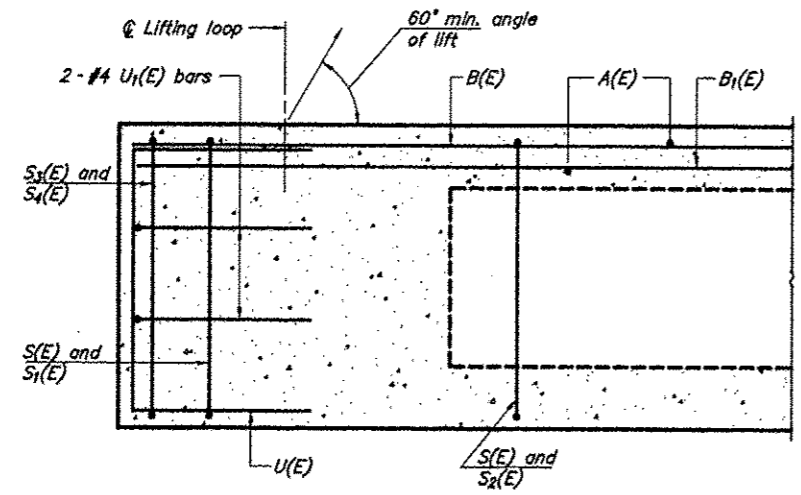
WATERWAY INFORMATION

Drainage Area = 2.49 Sq. Mi.		Low Grade Elev. = 385.43		At Sta. 25+34.54		
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	20	1,710	167.2 188.0	380.75	1.55 0.07	382.30 380.82
Base	100	2,500	218.2 238.8	381.81	3.29 0.74	385.10 382.55
Overtopping	±400	3,270		241.5		382.51 2.92 385.43
Max. Calc.	500					

Note: Deck elevation used for overtopping to allow for future raising of the approaches

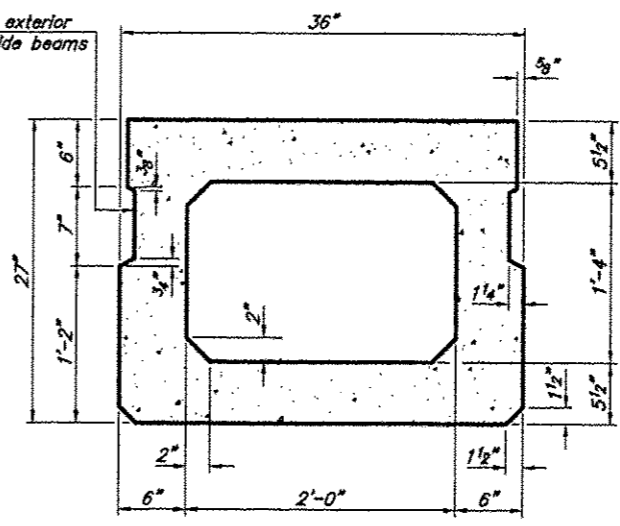
GENERAL PLAN & ELEVATION
 TOWNSHIP ROUTE 3 (COUNTY LINE ROAD)
 TRIBUTARY TO COOPER CREEK
 SECTION 10-01163-00-BR
 ALEXANDER COUNTY
 STRUCTURE NO. 002-3111

ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO
TR 3	10-01163-00-BR	ALEXANDER	12	4
PROJECT NO. BROS-0003(125)			CONTRACT NO. 99521	

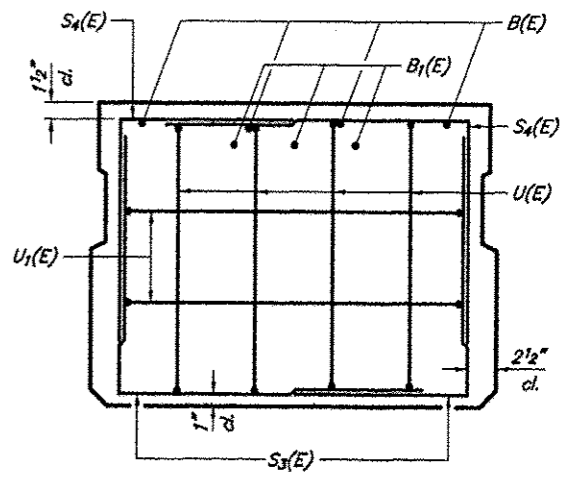


SECTION C-C

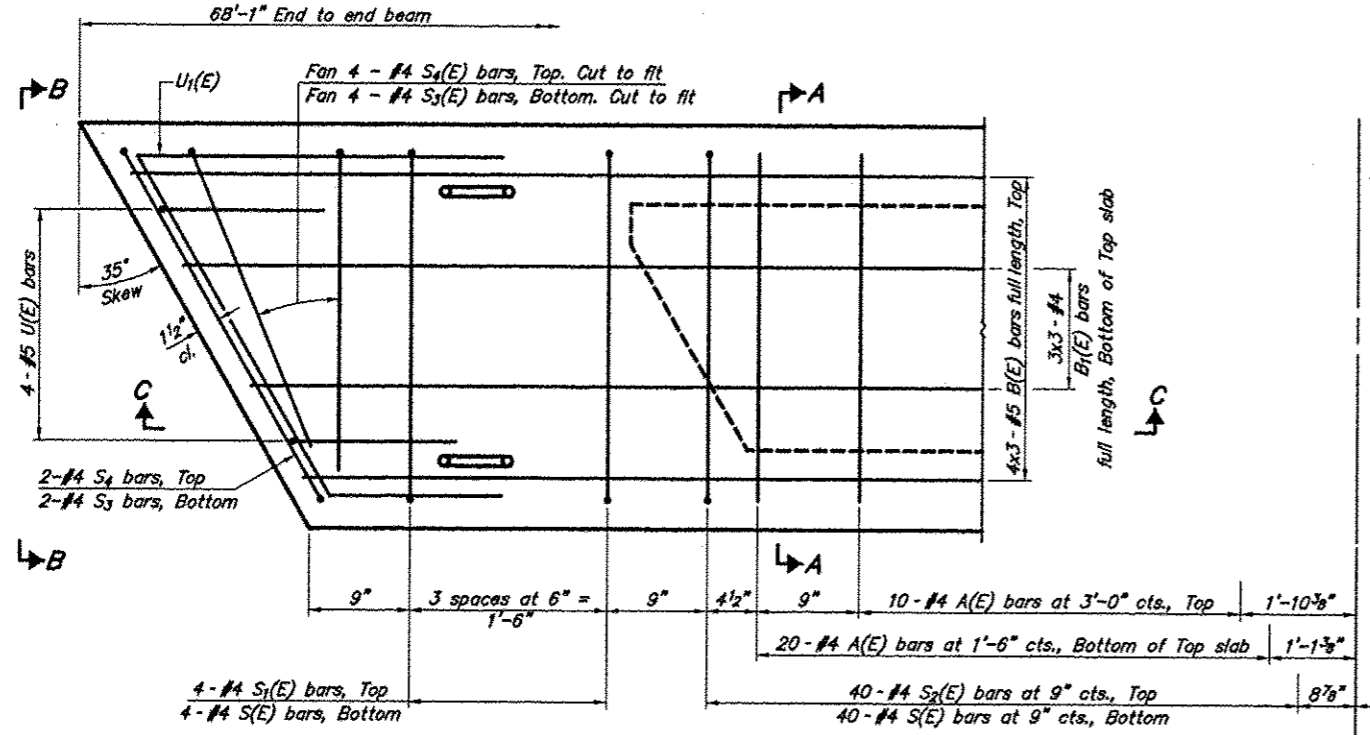
Omit key on exterior face of outside beams



SECTION A-A
(Showing dimensions)

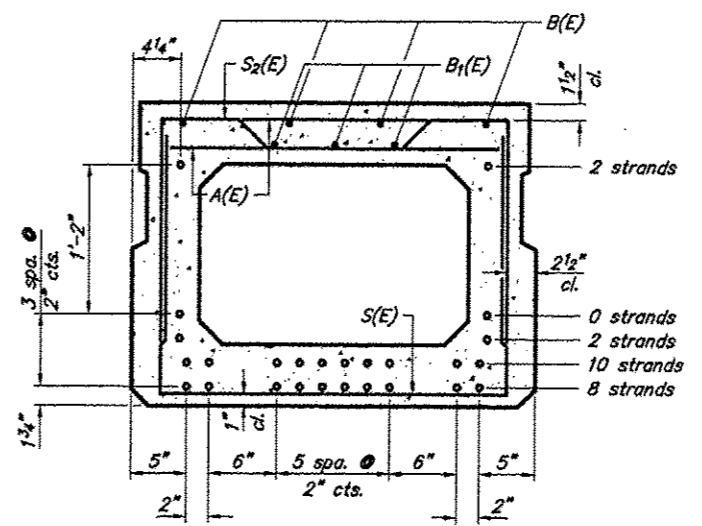


VIEW B-B



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)

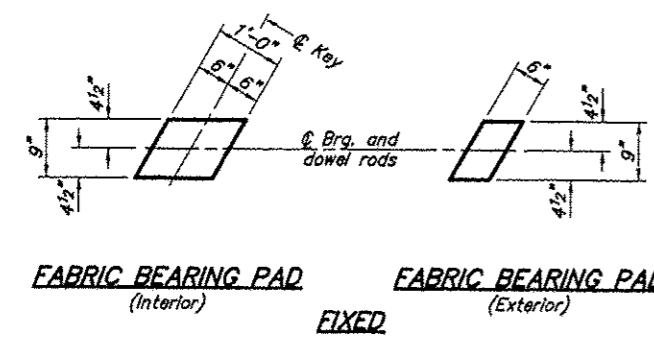
Bar	No.	Size	Length	Shape
A(E)	60	#4	2'-7"	—
B(E)	12	#5	24'-0"	—
B1(E)	9	#4	23'-8"	—
S(E)	89	#4	6'-5"	┌
S1(E)	8	#4	5'-11"	┌
S2(E)	81	#4	6'-2"	┌
S3(E)	12	#4	4'-4"	┌
S4(E)	12	#4	4'-1"	┌
U(E)	8	#5	4'-6"	┌
U1(E)	4	#4	7'-4"	┌

Bars noted thus 4x3-#5 etc. indicates 4 lines of bars with 3 lengths per line.

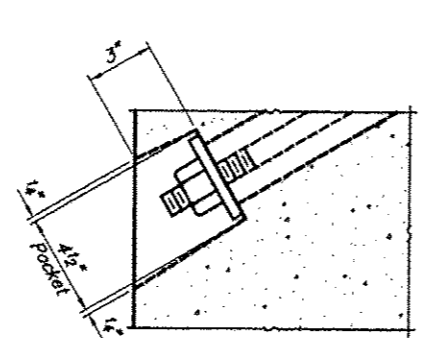
MINIMUM BAR LAP
#4 bar = 1'-8"
#5 bar = 2'-2"

27" X 36" PPC DECK BEAM
TOWNSHIP ROUTE 3 (COUNTY LINE ROAD)
TRIBUTARY TO COOPER CREEK
SECTION 10-01163-00-BR
ALEXANDER COUNTY
STRUCTURE NO. 002-3111

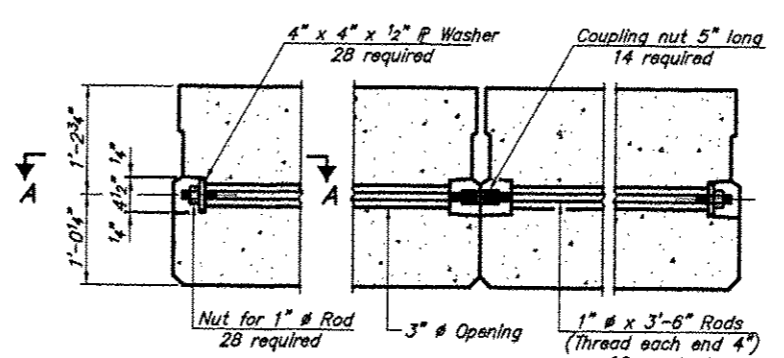
ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO
TR 3	10-01163-00-BR	ALEXANDER	12	5
PROJECT NO. BROS-0003(125)			CONTRACT NO. 99521	



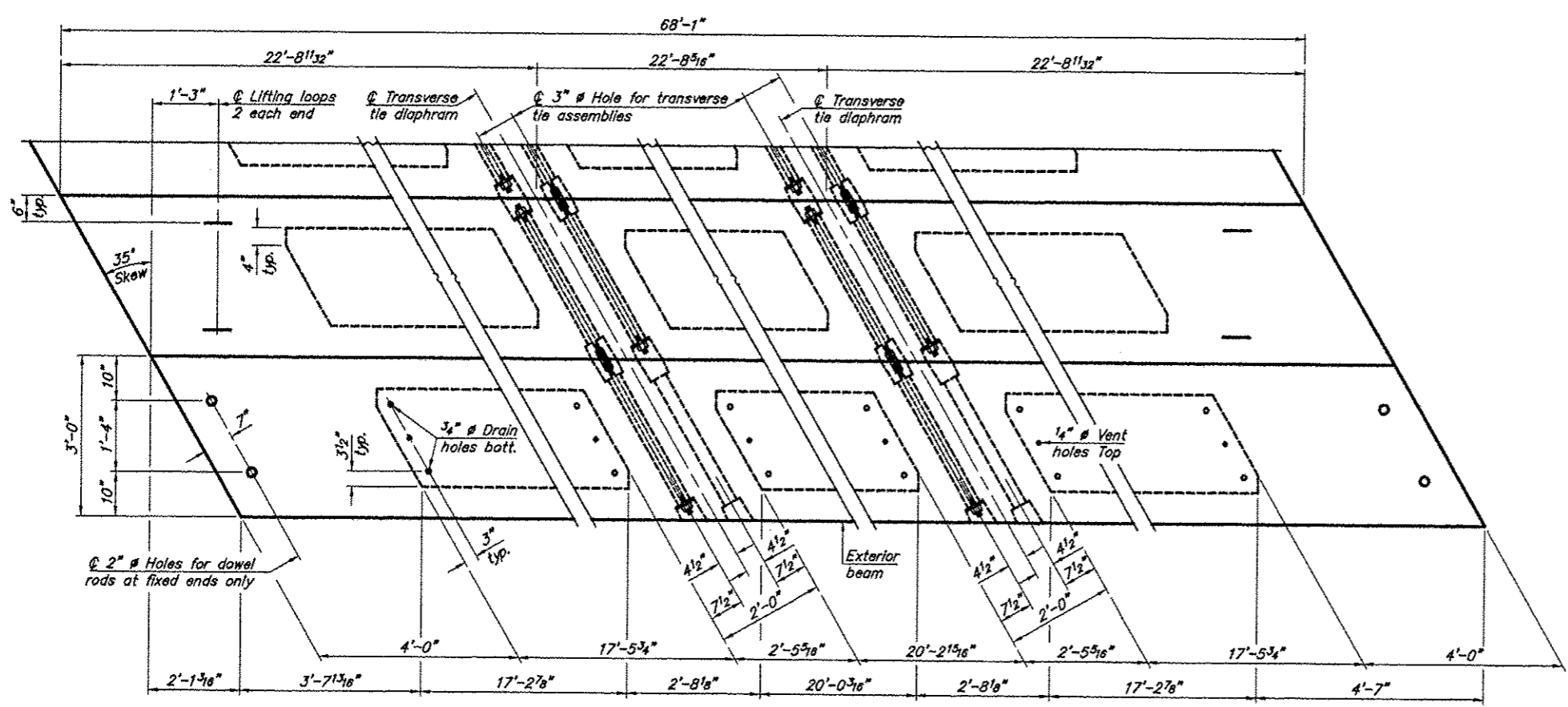
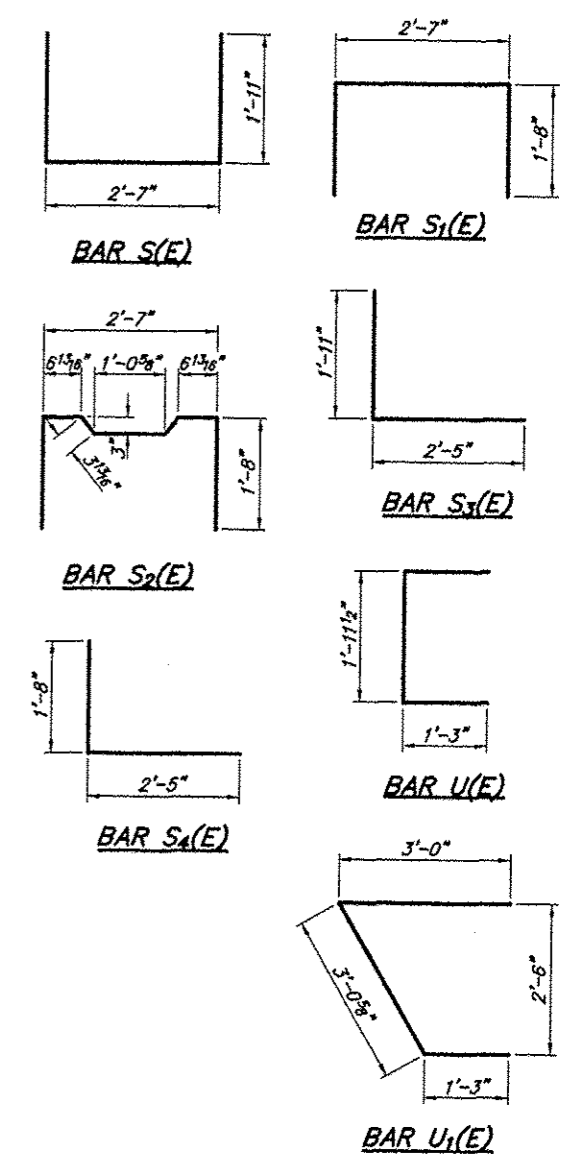
FABRIC BEARING PAD
(Interior) **FABRIC BEARING PAD**
(Exterior)
FIXED



SECTION A-A

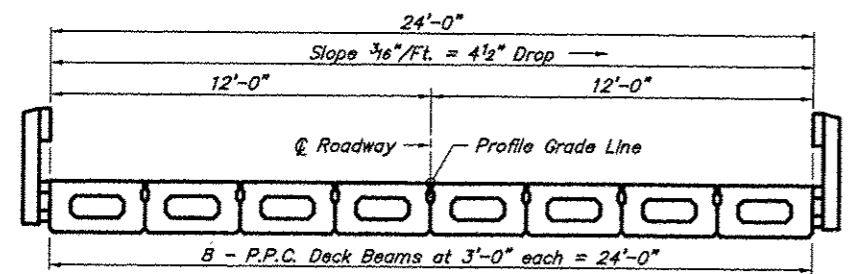


TYPICAL TRANSVERSE TIE ASSEMBLY



PLAN VIEW

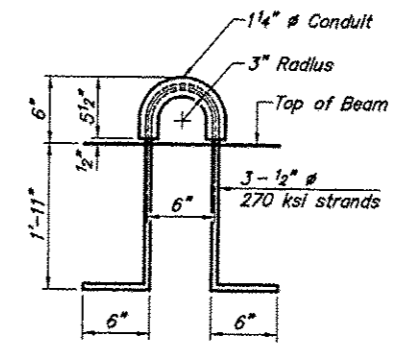
Note: Connect beams in pairs with the transverse tie configuration shown.



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.



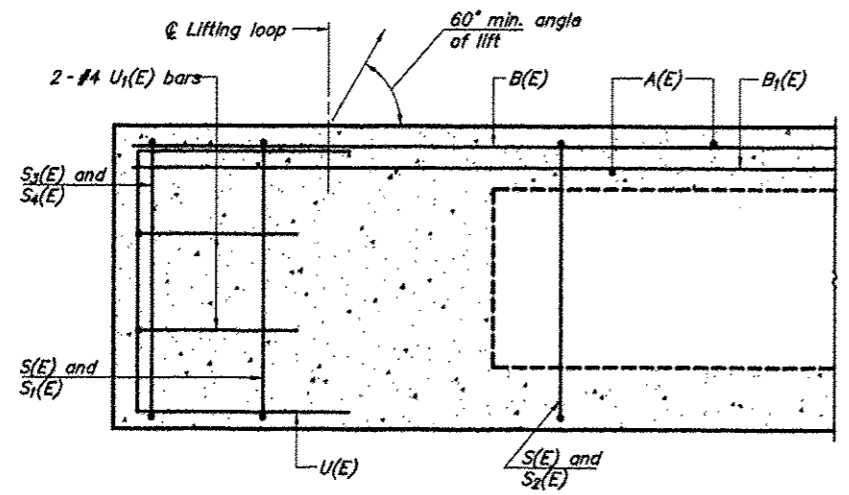
LIFTING LOOP DETAIL

BILL OF MATERIAL

Precast Prestressed Conc. Deck Bms. (27" depth)	Sq. Ft.	1,634
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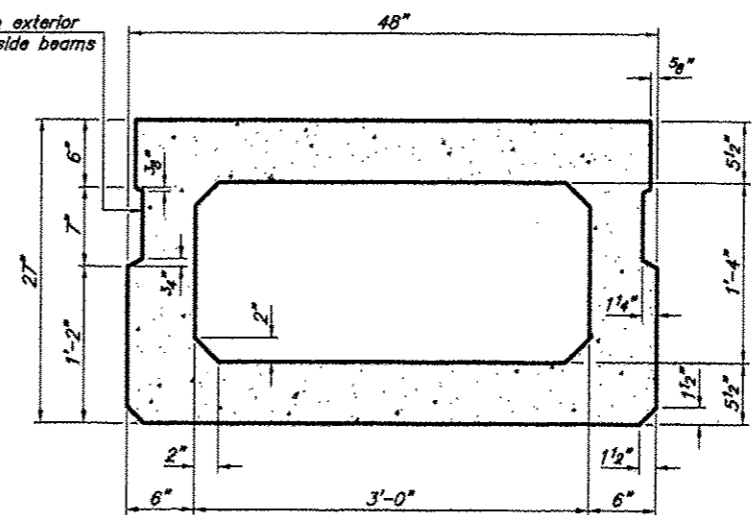
27" X 36" PPC DECK BEAM DETAILS
TOWNSHIP ROUTE 3 (COUNTY LINE ROAD)
TRIBUTARY TO COOPER CREEK
SECTION 10-01163-00-BR
ALEXANDER COUNTY
STRUCTURE NO. 002-3111

ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO
TR 3	10-01163-00-BR	ALEXANDER	12	8
PROJECT NO. BROS-0003(125)			CONTRACT NO. 99521	

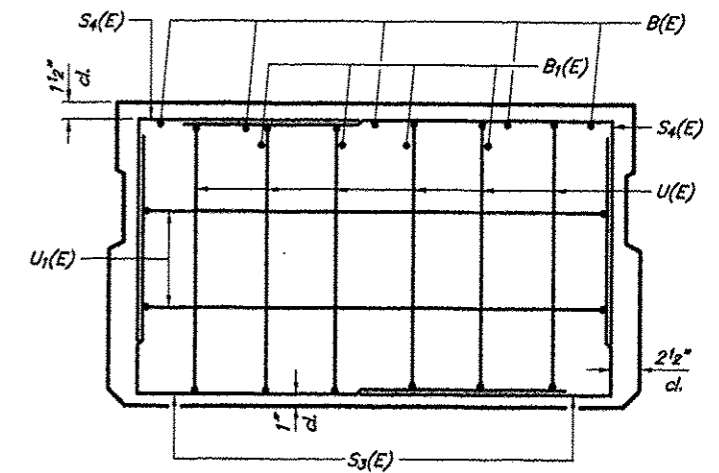


SECTION C-C

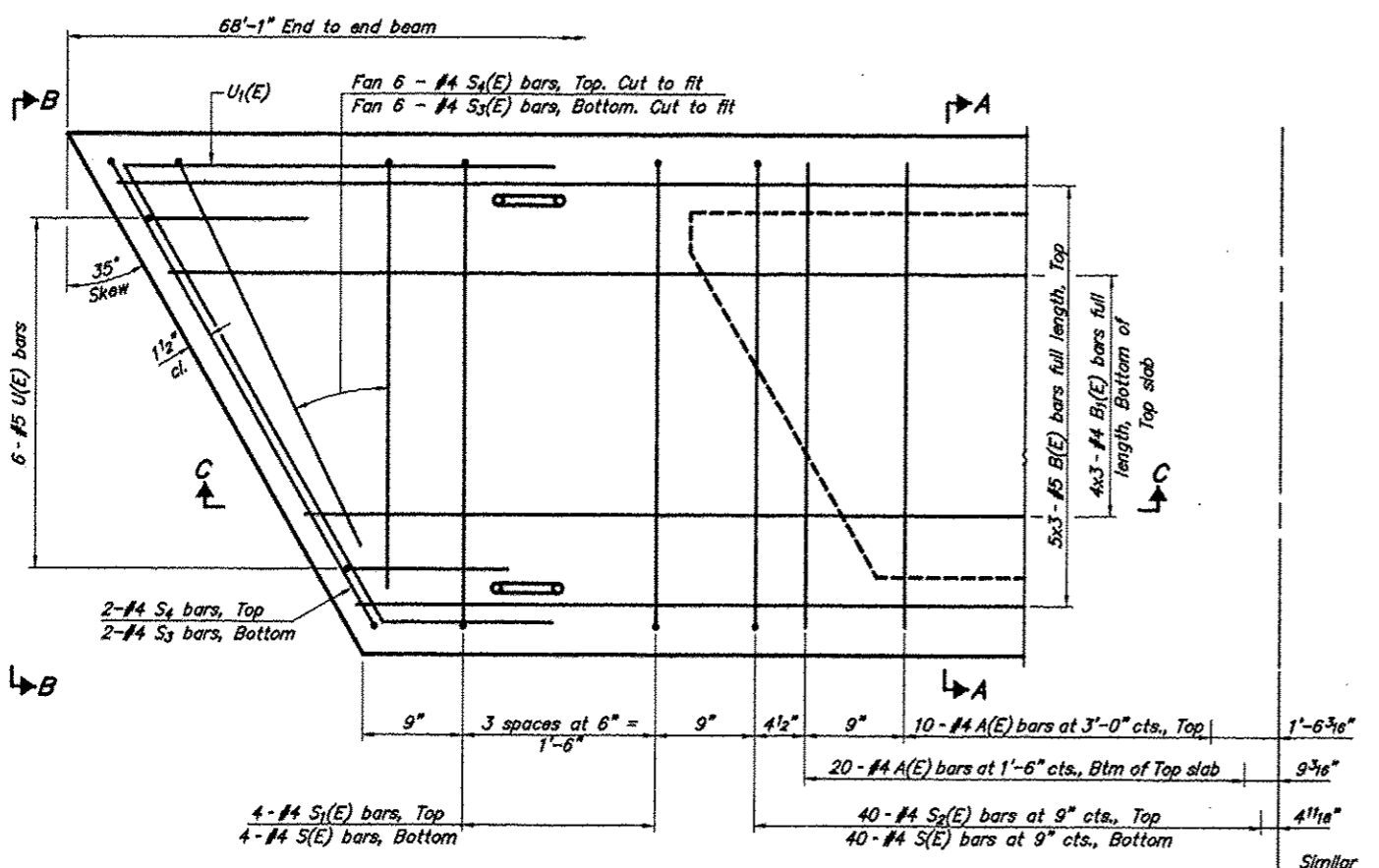
Omit key on exterior face of outside beams



SECTION A-A
(Showing dimensions)

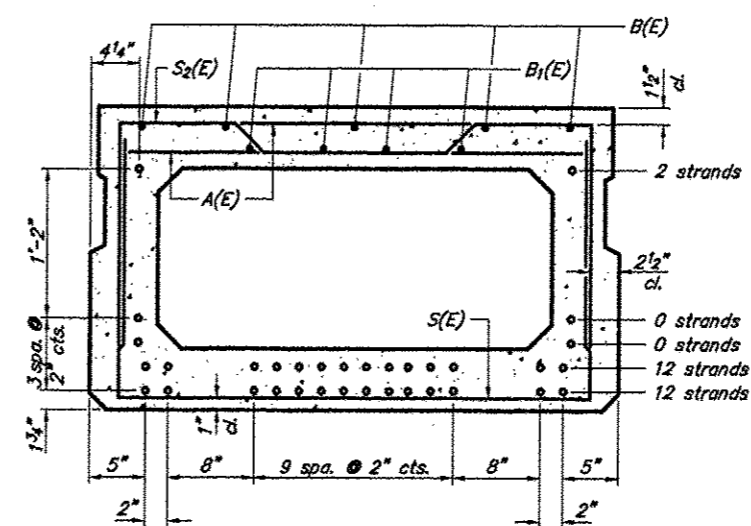


VIEW B-B



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)

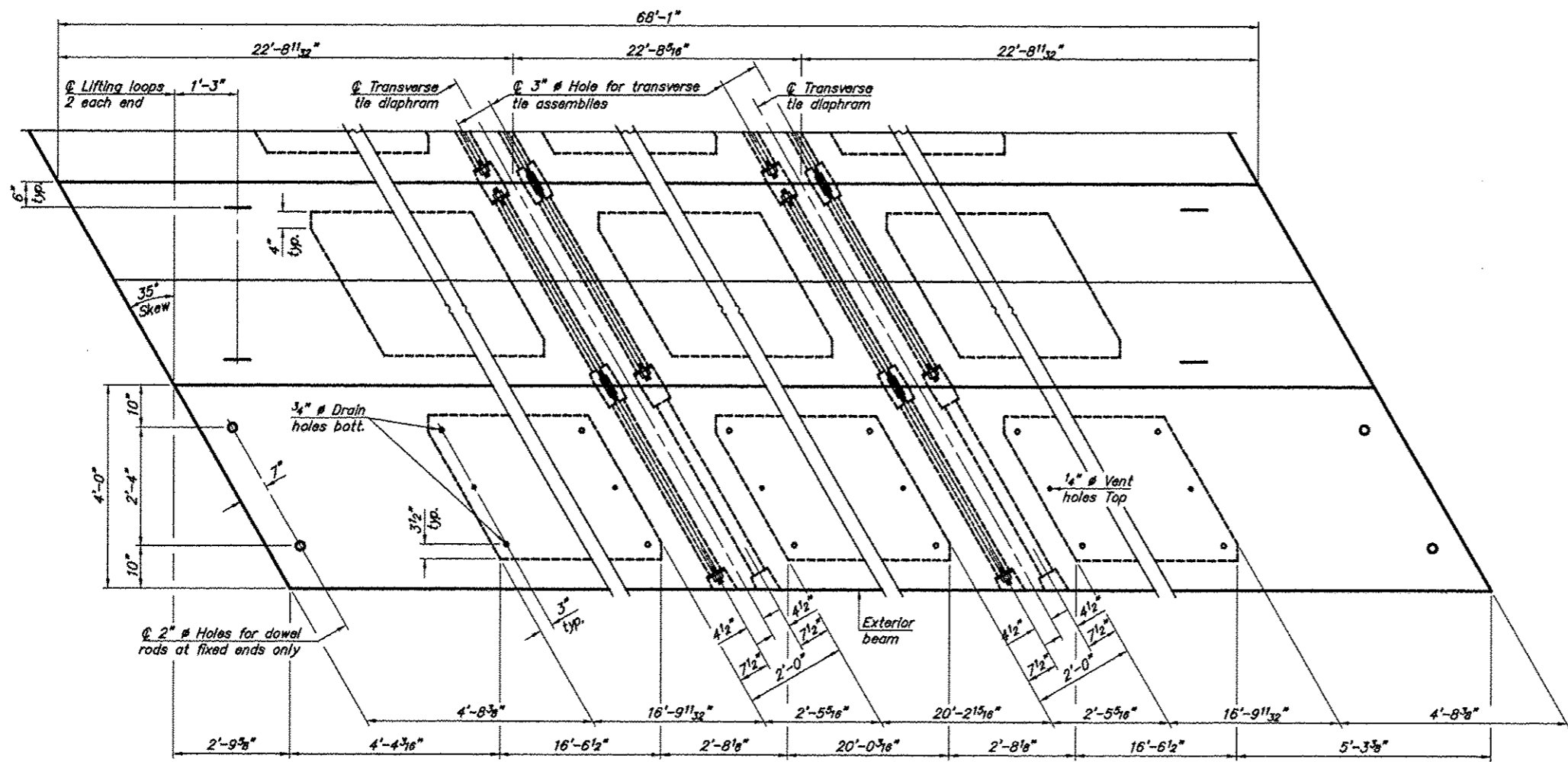
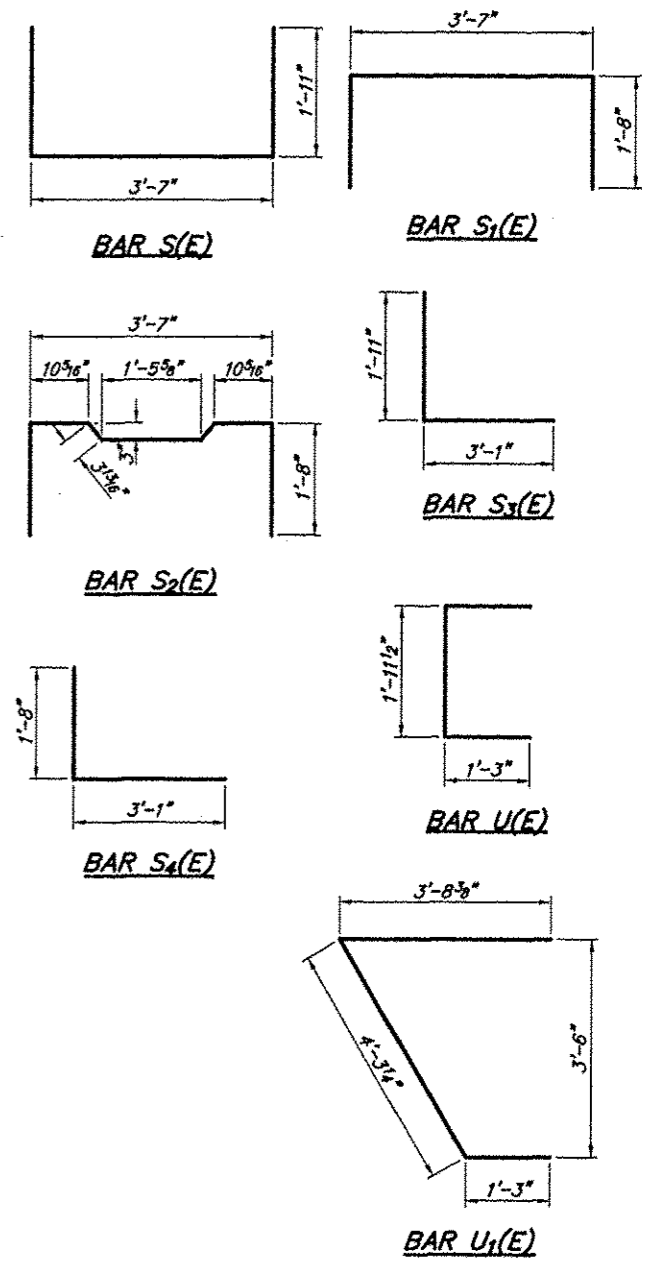
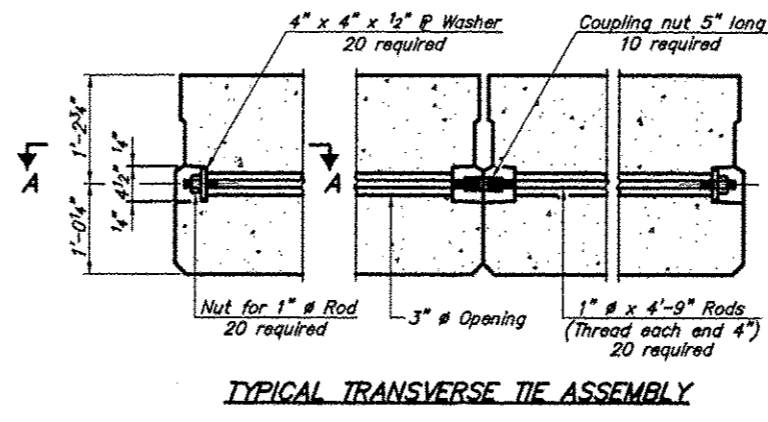
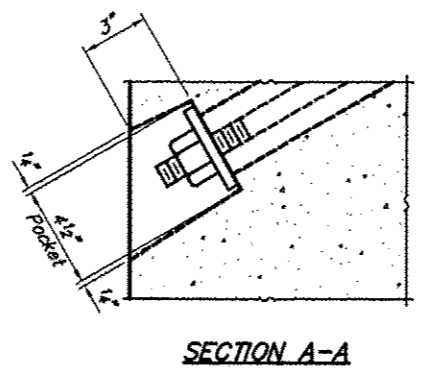
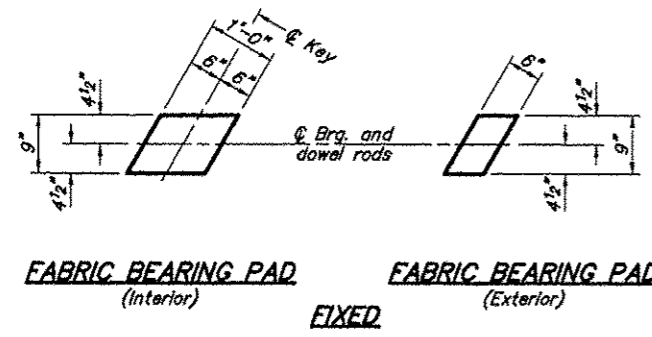
Bar	No.	Size	Length	Shape
A(E)	80	#4	3'-7"	—
B(E)	15	#5	24'-0"	—
B1(E)	12	#4	23'-8"	—
S(E)	88	#4	7'-5"	┘
S1(E)	8	#4	6'-11"	┘
S2(E)	80	#4	7'-2"	┘
S3(E)	16	#4	5'-0"	┘
S4(E)	16	#4	4'-9"	┘
U(E)	12	#5	4'-6"	┘
U1(E)	4	#4	9'-3"	┘

Bars noted thus 4x3-#5 etc. Indicates 4 lines of bars with 3 lengths per line.

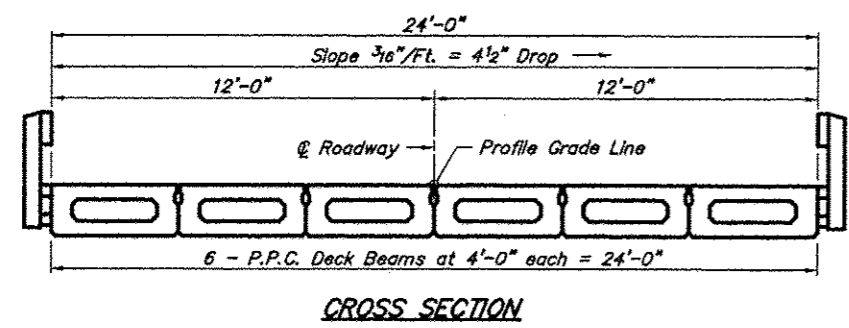
MINIMUM BAR LAP
#4 bar = 1'-8"
#5 bar = 2'-2"

27" X 48" PPC DECK BEAM
TOWNSHIP ROUTE 3 (COUNTY LINE ROAD)
TRIBUTARY TO COOPER CREEK
SECTION 10-01163-00-BR
ALEXANDER COUNTY
STRUCTURE NO. 002-3111

ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO
TR 3	10-01163-00-BR	ALEXANDER	12	7
PROJECT NO. BROS-0003(125)			CONTRACT NO. 99521	



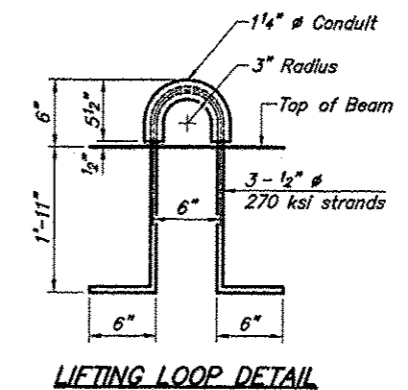
Note: Connect beams in pairs with the transverse tie configuration shown.



PLAN VIEW

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. Packets 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.

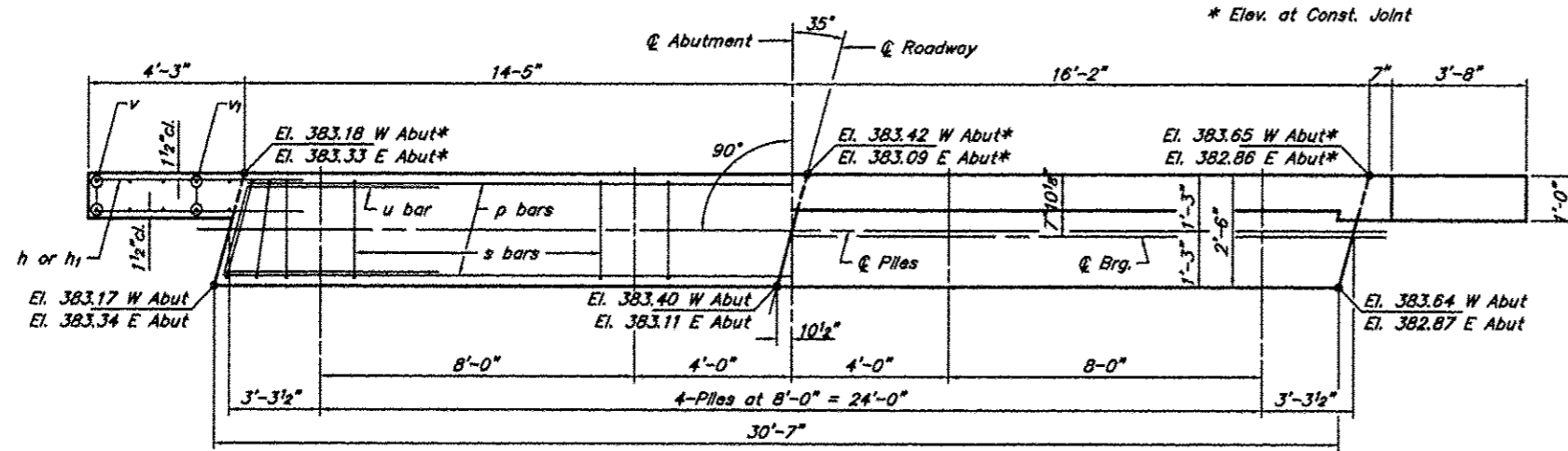


BILL OF MATERIAL

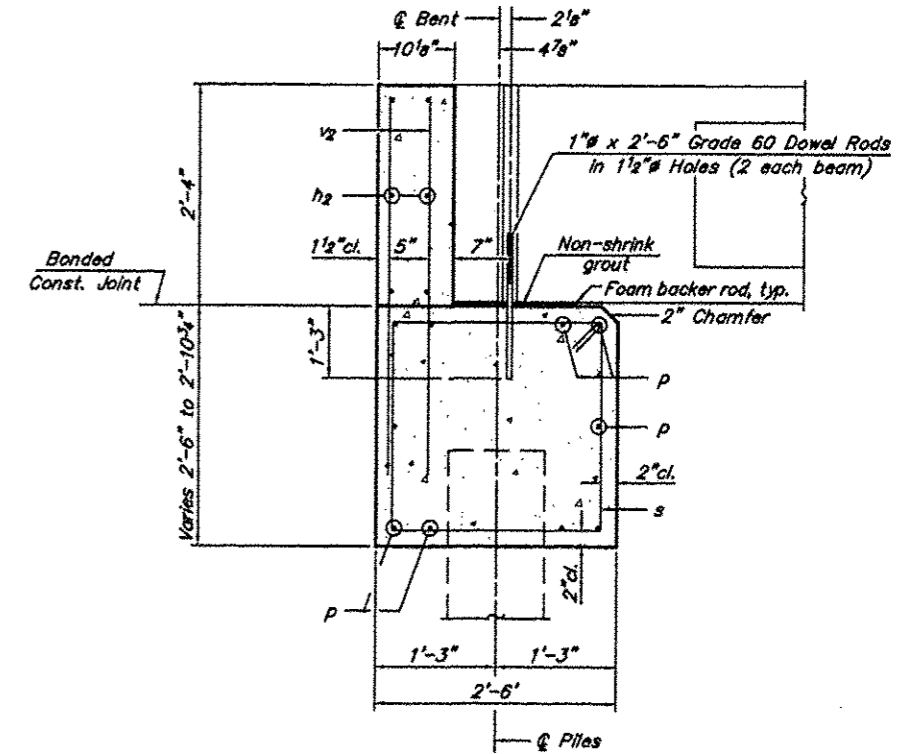
Precast Prestressed Conc. Deck Bms. (27" depth)	Sq. Ft.	1,634
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27" X 48" PPC DECK BEAM DETAILS
TOWNSHIP ROUTE 3 (COUNTY LINE ROAD)
TRIBUTARY TO COOPER CREEK
SECTION 10-01163-00-BR
ALEXANDER COUNTY
STRUCTURE NO. 002-3111

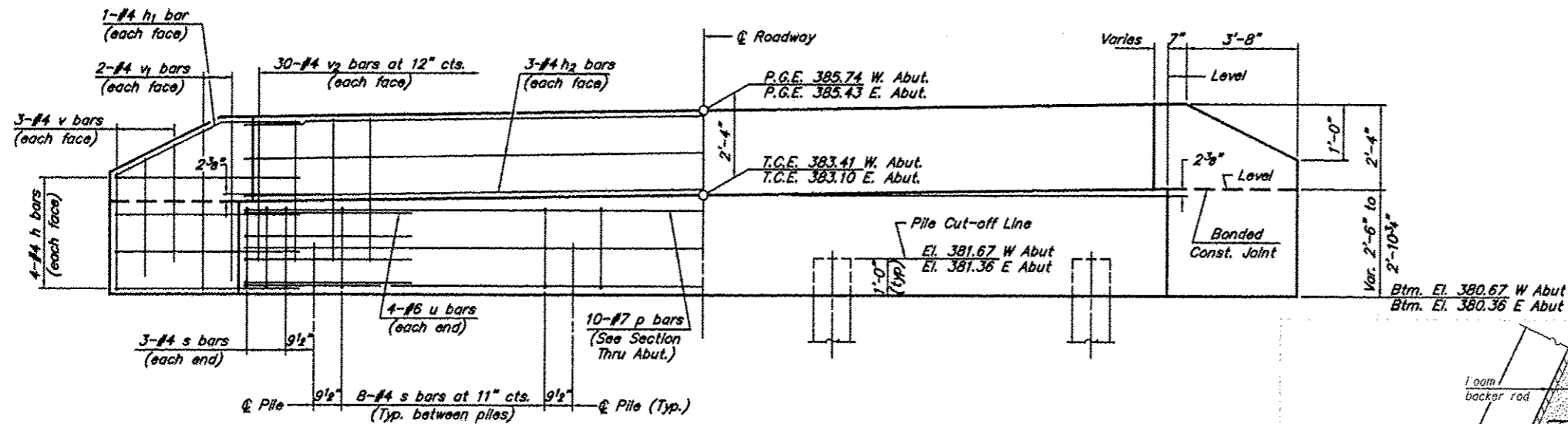
ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO
TR 3	10-01163-00-BR	ALEXANDER	12	8
PROJECT NO. BROS-0003(125)			CONTRACT NO. 99521	



PLAN



SECTION THRU ABUT.
(At Right Angles)



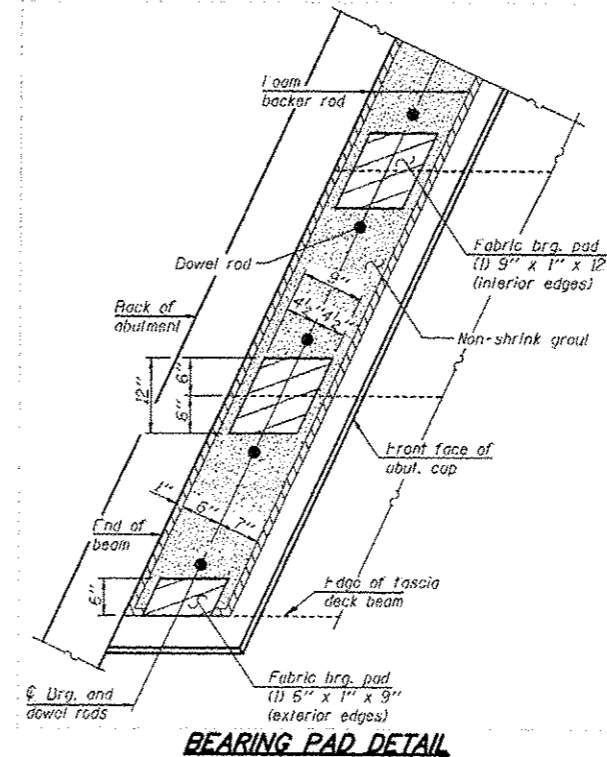
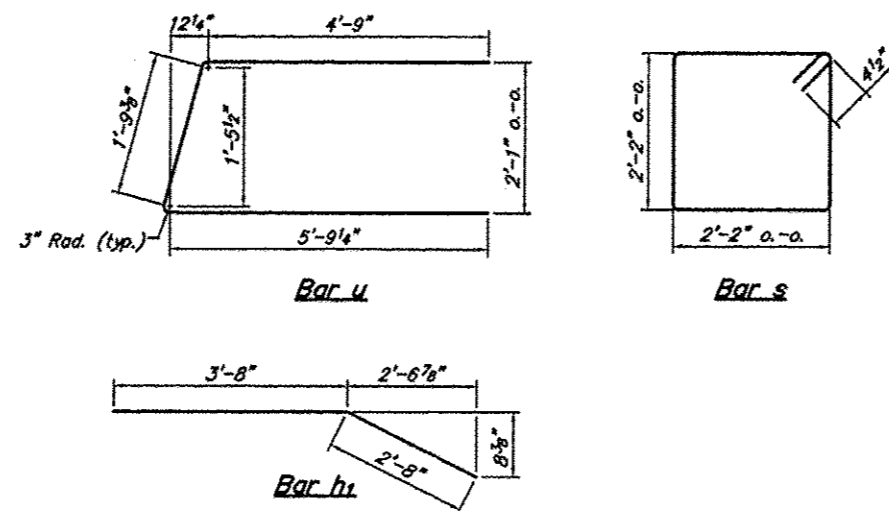
ELEVATION

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

$f_c = 3,500 \text{ psi}$
 $f_y = 60,000 \text{ psi}$

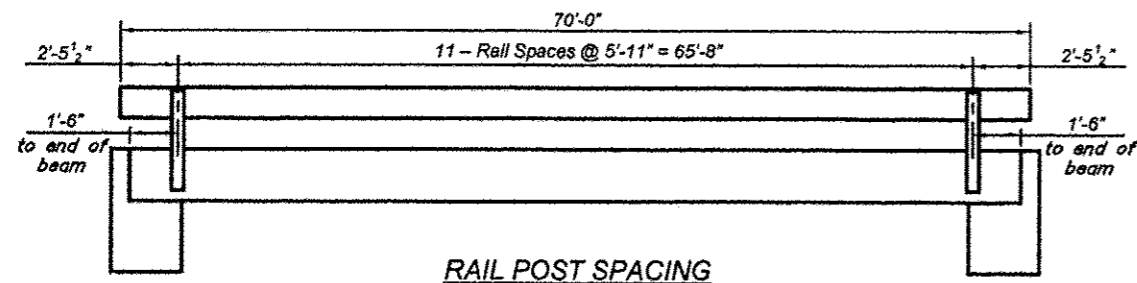


BILL OF MATERIAL FOR ONE ABUTMENT

Bar	No.	Size	Length	Shape
h	16	#4	6'-4"	—
h1	4	#4	6'-4"	—
h2	6	#4	30'-3"	—
P	10	#7	30'-3"	—
s	30	#4	9'-5"	□
u	8	#6	13'-1"	—
v	12	#4	3'-9"	—
v1	8	#4	4'-7"	—
v2	60	#4	4'-0"	—
Concrete Structures			11.5	Cu. Yds.
Reinforcement Bars			1,383	Lbs.

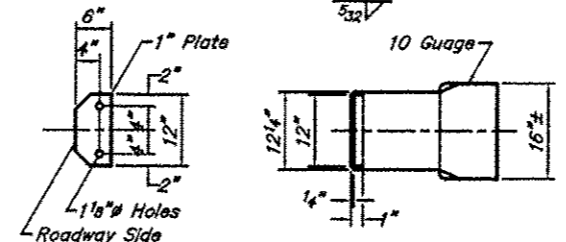
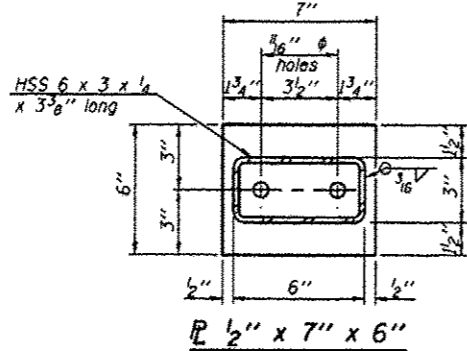
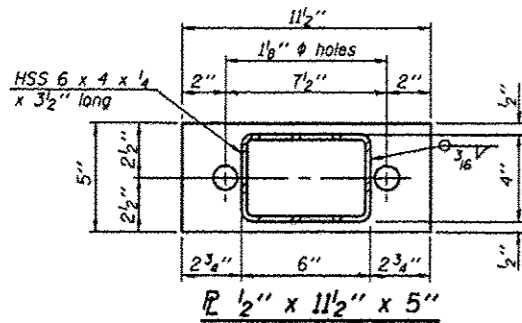
ABUTMENT
TOWNSHIP ROUTE 3 (COUNTY LINE ROAD)
TRIBUTARY TO COOPER CREEK
SECTION 10-01163-00-BR
ALEXANDER COUNTY
STRUCTURE NO. 002-3111

ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
TR 3	10-01163-00-BR	ALEXANDER	12	9
PROJECT NO. BROS-003(125)			CONTRACT NO. 99521	

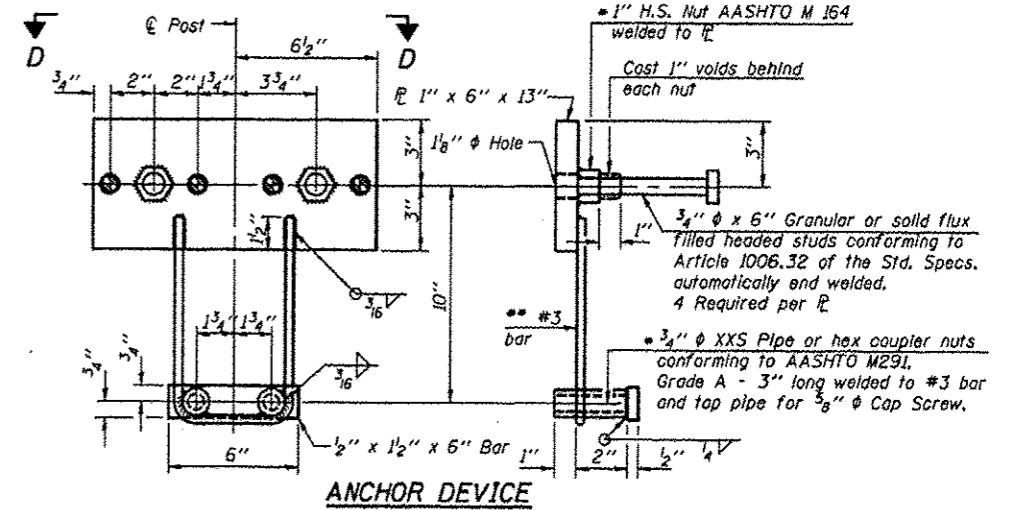


RAIL POST SPACING

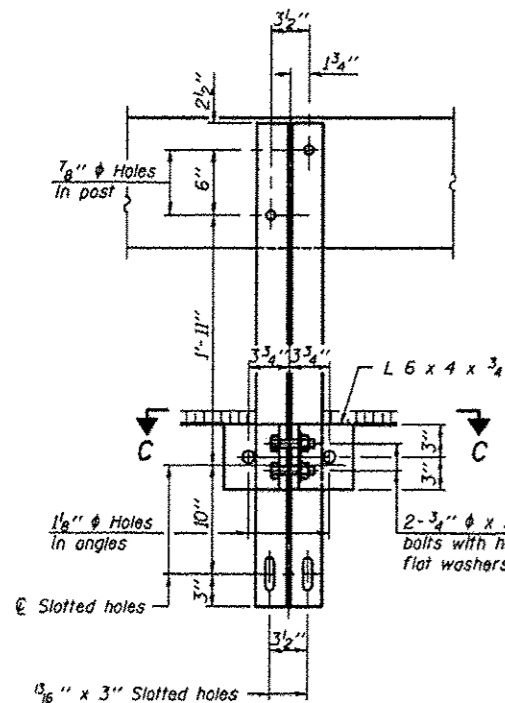
NOTE: Curled End Section to be included in the cost for Steel Railing, Type S1 Two (2) required.



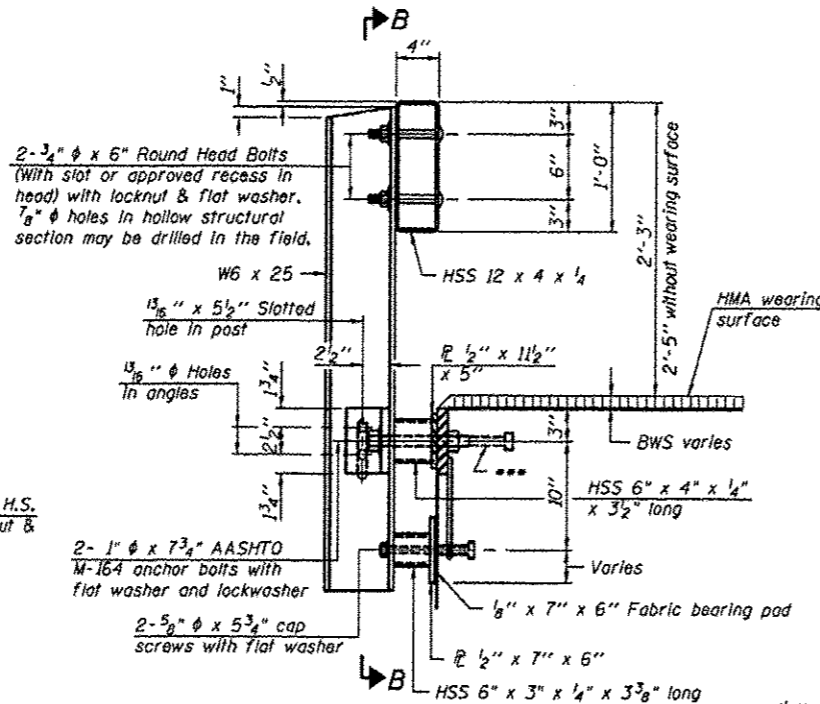
CURLLED END SECTION DETAILS



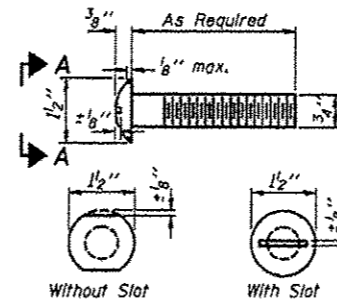
ANCHOR DEVICE



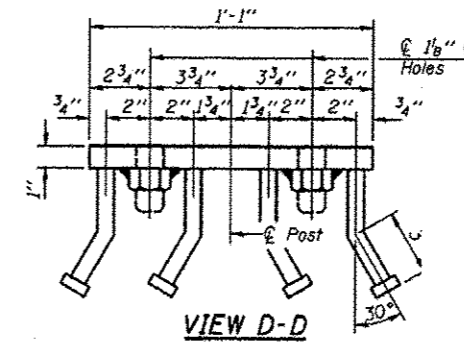
SECTION B-B



SECTION AT RAILING POST



VIEW A-A ROUND HEAD BOLT

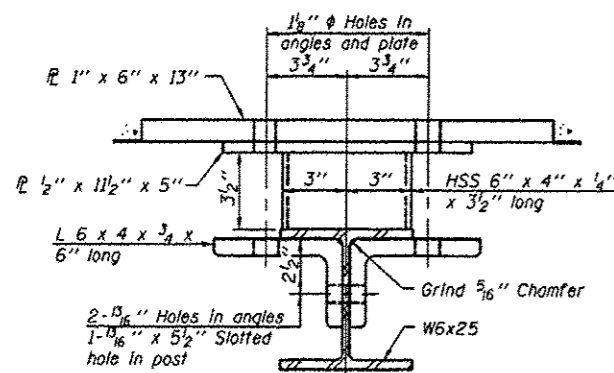


VIEW D-D

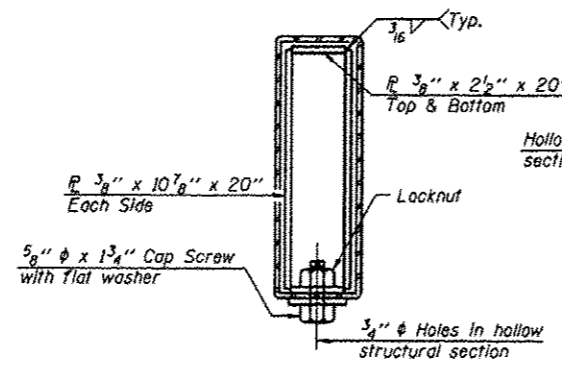
- Notes:
- All field drilled holes shall be coated with an approved zinc rich paint before erection.
 - For multi-span bridges, sufficient 1/4" x 6" x 1'-2" galvanized steel shims shall be provided to align rail between adjacent spans. Cost included with Steel Railing, Type S-1.
 - All steel rail elements 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

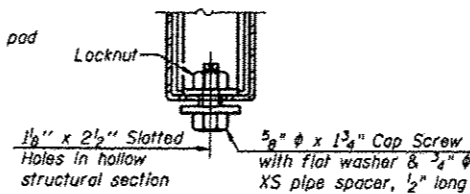
Item	Unit	Quantity
Steel Railing, Type S-1	Foot	140



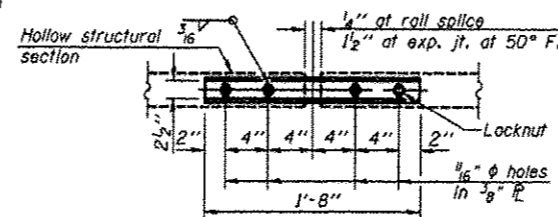
SECTION C-C



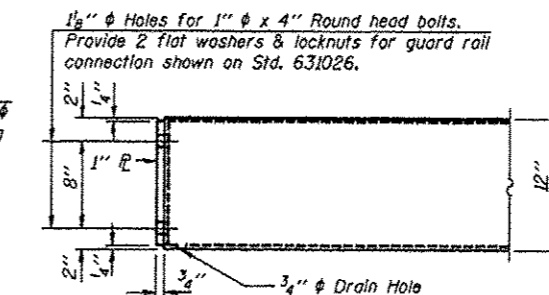
SECTIONS AT RAIL SPLICE



RAIL SPLICE CONNECTION AT EXPANSION JT.



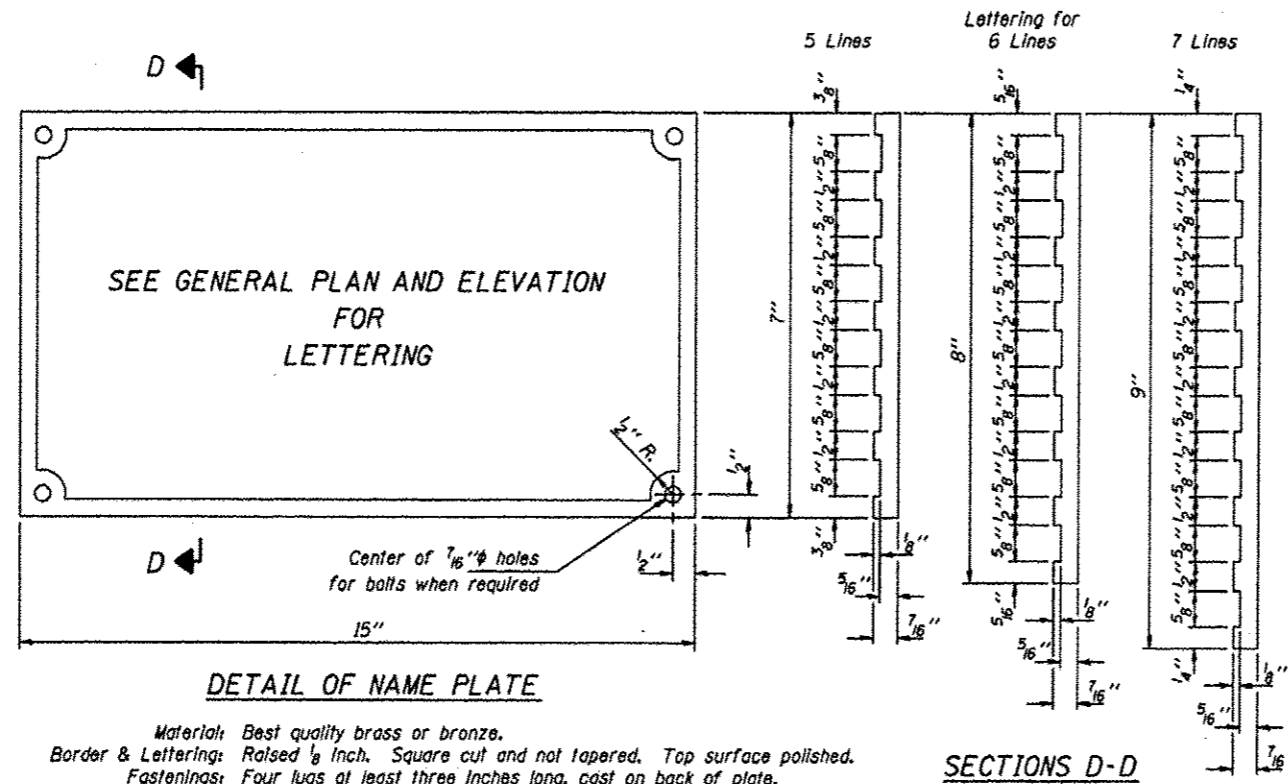
PLAN-BOTT. SPLICE P TYPICAL



END OF RAIL DETAILS

**STEEL RAILING, TYPE S-1
TOWNSHIP ROUTE 3 (COUNTY LINE ROAD)
TRIBUTARY TO COOPER CREEK
SECTION 10-01163-00-BR
ALEXANDER COUNTY
STRUCTURE NO. 002-3111**

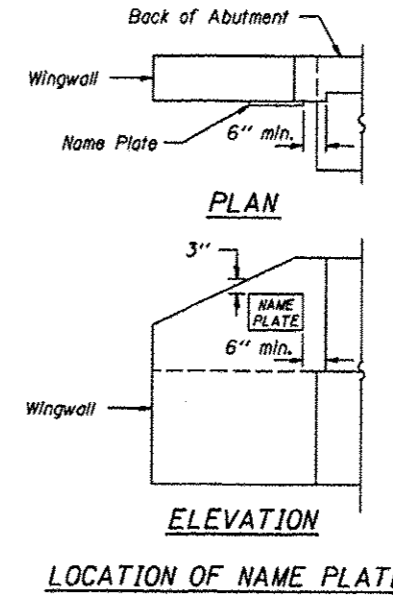
ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
TR 3	10-01163-00-BR	ALEXANDER	12	10
PROJECT NO. BROS-003(125)			CONTRACT NO. 99521	



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.

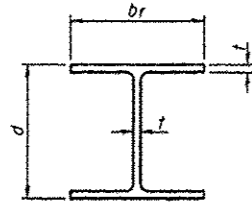
SECTIONS D-D



LOCATION OF NAME PLATE

NAME PLATES
 TOWNSHIP ROUTE 3 (COUNTY LINE ROAD)
 TRIBUTARY TO COOPER CREEK
 SECTION 10-01163-00-BR
 ALEXANDER COUNTY
 STRUCTURE NO. 002-3111

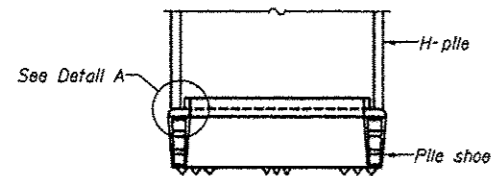
ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
TR 3	10-01163-00-BR	ALEXANDER	12	11
PROJECT NO. BROS-003(125)			CONTRACT NO. 99521	



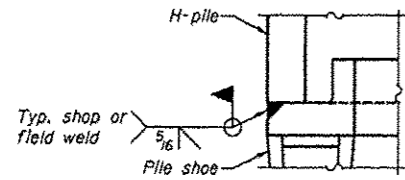
STEEL PILE TABLE

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"	13/16"	30"	0.173
x102	14"	14 3/4"	1/8"	30"	0.174
x89	13 7/8"	14 3/4"	5/8"	30"	0.175
x73	13 5/8"	14 5/8"	1/2"	30"	0.176
HP 12x84	12 1/4"	12 1/4"	1/8"	24"	0.110
x74	12 1/2"	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 1/2"	7/16"	18"	0.063

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

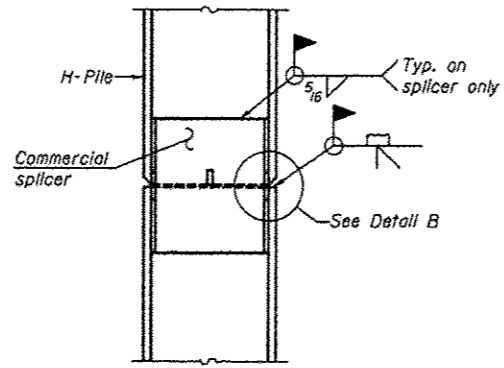


ELEVATION

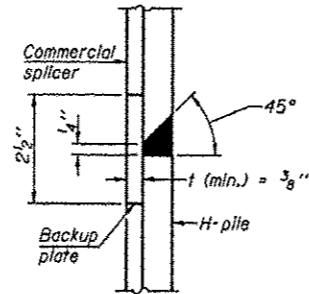


DETAIL A

H-PILE SHOE ATTACHMENT

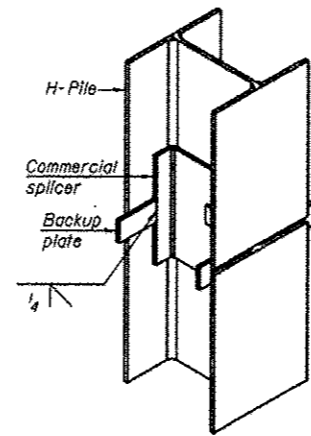


ELEVATION

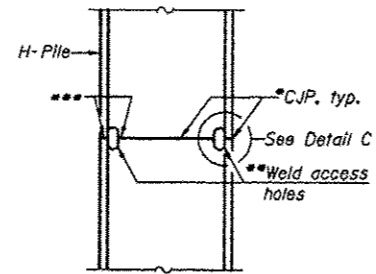


DETAIL "B"

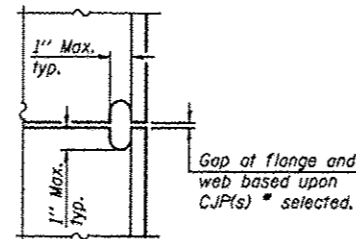
WELDED COMMERCIAL SPLICE



ISOMETRIC VIEW



ELEVATION



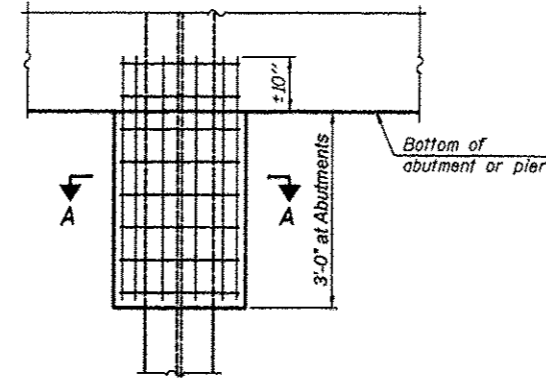
DETAIL C

COMPLETE PENETRATION WELD SPLICE

*Use joint conforming to Figure 3.4 in AWS D1.1, Structure Welding Code - Steel.

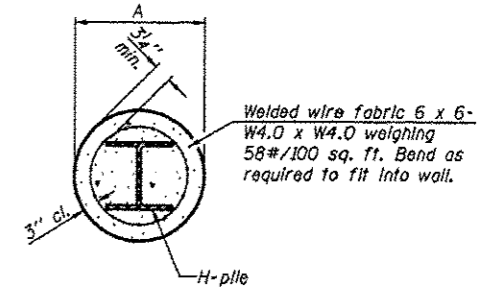
**Preparation per Fig. 5.2 in AWS D1.1, Structure Welding Code - Steel.

***Interrupt welds 1/4" from end of each pile.



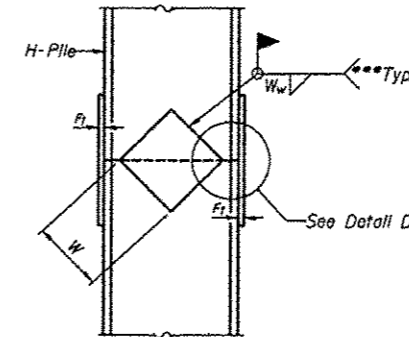
ELEVATION

PILE ENCASEMENT

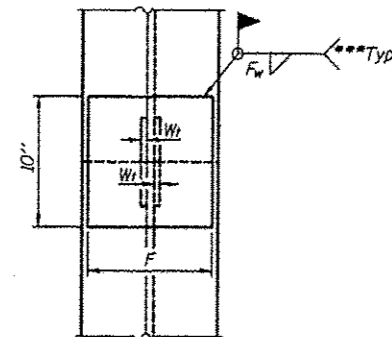


SECTION A-A

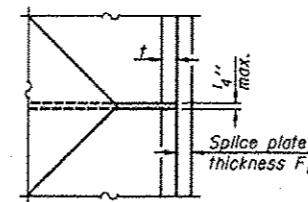
Note: Forms for encasement may be omitted when soil conditions permit.



ELEVATION



END VIEW



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 1/2"	1/2"
x102	12 1/2"	7/8"	3/4"	7 3/4"	5 1/2"	1/2"
x89	12 1/2"	3/4"	1/8"	7 3/4"	5 1/2"	1/2"
x73	12 1/2"	5/8"	9/16"	7 3/4"	5 1/2"	1/2"
HP 12x84	10"	7/8"	1/8"	6 1/2"	5 1/2"	1/2"
x74	10"	7/8"	1/8"	6 1/2"	5 1/2"	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"

PILING DETAILS
 TOWNSHIP ROUTE 3 (COUNTY LINE ROAD)
 TRIBUTARY TO COOPER CREEK
 SECTION 10-01163-00-BR
 ALEXANDER COUNTY
 STRUCTURE NO. 002-3111

ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
TR 3	10-01183-00-BR	ALEXANDER	12	12
PROJECT NO. BROS-0003(125)			CONTRACT NO. 99521	

