

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

**PLANS FOR PROPOSED
STP-BRIDGE**

**FAS 720 (CH 10) OVER
MUDDY CREEK
SECTION 06-00115-00-BR
PROJECT NO. BRS-0720(108)
SEMINARY ROAD DISTRICT
FAYETTE COUNTY
JOB NO. C-97-025-14**



LOCATION OF SECTION INDICATED THUS: - ■ -

- INDEX OF SHEETS**
1. COVER SHEET
 2. SUMMARY OF QUANTITIES, GENERAL NOTES, AND TYPICAL SECTIONS
 3. PLAN AND PROFILE OF ROADWAY
 4. GENERAL PLAN AND ELEVATION
 - 5.-6. PRECAST PRESTRESSED CONCRETE DECK BEAM DETAILS
 7. STEEL RAILING, TYPE S1 DETAILS
 8. ABUTMENT DETAILS
 9. HP PILE DETAILS
 10. CROSS SECTIONS OF ROADWAY

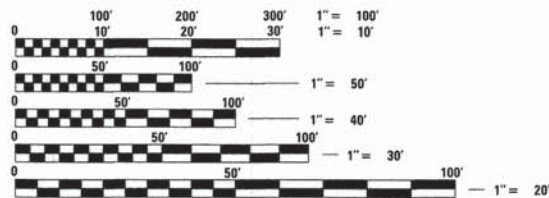
HIGHWAY STANDARDS (SEE SPECIFICATIONS)
 000001-06 STANDARD SYMBOLS, ABBREVIATIONS AND PATTERNS
 515001-03 NAME PLATE FOR BRIDGES
 630301-06 SHOULDER WIDENING FOR TYPE 1 (SPECIAL) GUARDRAIL TERMINALS
 635006-03 REFLECTOR AND TERMINAL MARKER PLACEMENT
 701901-03 TRAFFIC CONTROL DEVICES
 BLR 21-9 TYPICAL APPLICATION OF TRAFFIC CONTROL DEVICES FOR CONSTRUCTION ON RURAL LOCAL HIGHWAYS
 BLR 27-1 TRAFFIC BARRIER TERMINAL TYPE 5A

SOIL BORINGS (SEE SPECIFICATIONS)

DESIGN CLASSIFICATION: MAJOR COLLECTOR

ADT₂₀₀₇ : 150
 ADT₂₀₂₇ : 200

DESIGN SPEED: 40 MPH

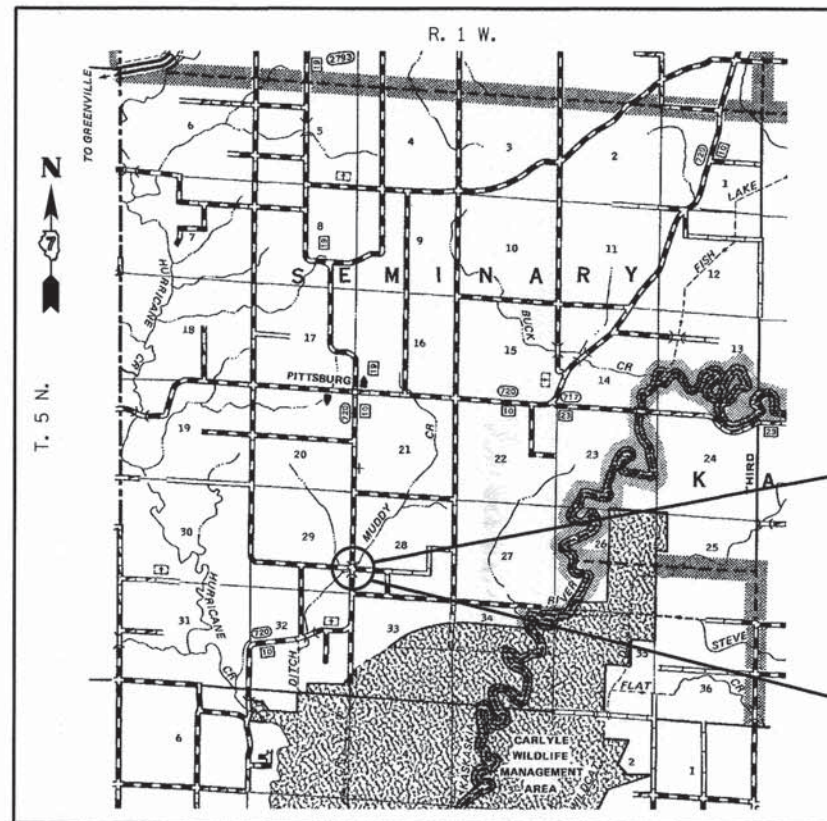


FULL SIZE PLANS HAVE BEEN PREPARED USING STANDARD ENGINEERING SCALES. REDUCED SIZED PLANS WILL NOT CONFORM TO STANDARD SCALES. IN MAKING MEASUREMENTS ON REDUCED PLANS, THE ABOVE SCALES MAY BE USED.

J.U.L.I.E.
 JOINT UTILITY LOCATING INFORMATION FOR EXCAVATORS
 1-800-892-0123 or 811 Website: <http://www.illinois1call.com>



Gary L. Hahn 02-12-2014
 GARY L. HAHN
 CENTRALIA, ILLINOIS
 ILLINOIS LICENSED PROFESSIONAL
 ENGINEER NO. 62-42606
 EXPIRES NOV. 30, 2015



SECTION ENDS
 STA. 104+00.75

SECTION 06-00115-00-BR INCLUDES THE CONSTRUCTION OF A SINGLE SPAN PRECAST PRESTRESSED CONCRETE DECK BEAM BRIDGE CARRYING FAS 720 OVER MUDDY CREEK, 71'-6" BK. TO BK. ABUTMENTS X 30' WIDE. NO SKEW. EXISTING STRUCTURE NO. 026-3013 PROPOSED STRUCTURE NO. 026-3439

SECTION BEGINS
 STA. 102+99.25

LOCATION: NEAR THE NW CORNER OF THE SW 1/4 OF THE SW 1/4, SECTION 28, T5N, R1W, 3RD P.M.
 NET LENGTH OF PROJECT: 101.50 FT. = 0.019 MI.

FAYETTE COUNTY
 HIGHWAY DEPARTMENT

APPROVED 2-13, 2014
Michael M. ...
 FAYETTE COUNTY, COUNTY ENGINEER

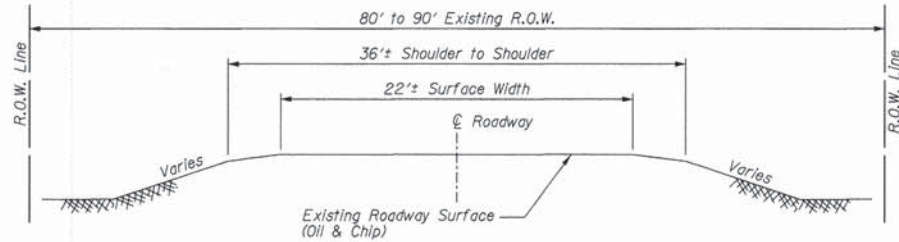
PASSED 2-20, 2014
Maureen E. Kestel
 DISTRICT SEVEN ENGINEER OF LOCAL ROADS & STREETS

RELEASING FOR BID
 BASED ON LIMITED
 REVIEW 2-20, 2014
Roger A. ...
 DEPUTY DIRECTOR OF HIGHWAYS, REGION FOUR ENGINEER

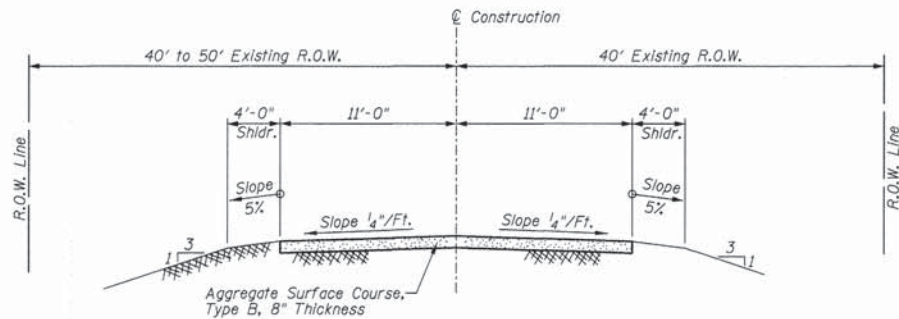
**PRINTED BY THE AUTHORITY
 OF THE STATE OF ILLINOIS**

CONTRACT NO. 95735

ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAS 720	06-00115-00-BR	FAYETTE	10	1
RAAI JOB NO. 52313			ILLINOIS FED. AID PROJECT	



**TYPICAL SECTION
EXISTING APPROACH ROADWAY**



**TYPICAL SECTION
PROPOSED APPROACH ROADWAY**
Looking North

GENERAL NOTES

- This section shall be constructed according to the plans, the Special Provisions, and the "Standard Specifications for Road and Bridge Construction", adopted January 1, 2012.
- Any reference to a Standard in these plans shall be interpreted to mean the edition as indicated by the sub-number listed in the Index of Sheets or the copy of the Standard included in these plans.
- Roadway Centerline profiles refer to the finished surface.
- Existing utilities shown are located from surface observations or information provided by the respective utilities and must be considered approximate. There may be others, the exact location of which are unknown and not shown. The Contractor will be responsible for notifying the respective utilities before work is begun. Field marking of underground utilities may be obtained by providing a minimum of 48 hours advance notice through the J.U.L.I.E. system by calling 1-800-892-0123, 811, or by direct contact with non-members of J.U.L.I.E.
- The Aggregate Surface Course, Type B gradation shall be CA 6 or CA 10. Only crushed stone will be approved for use on this project.
- The nominal thickness for surface course is shown on the Typical Sections, Standards, Schedules, or Special Details. The constructed thickness of the above item shall not be less than 90 percent of the nominal thickness at any location.
- Factors used for quantity calculations are as follows:
 Porous Granular Embankment 2.1 tons/cu. yd.
 Stone Dumped Riprap 130 pounds/cu. ft.
 Aggregate Surface Course 2.1 tons/cu. yd.
- Commitments: None as of December 31, 2013.

SUMMARY OF QUANTITIES

Code No.	Item	Unit	Quantity
20100210	TREE REMOVAL (OVER 15 UNITS DIAMETER)	UNIT	48
20200100	EARTH EXCAVATION	CU YD	19
20300100	CHANNEL EXCAVATION	CU YD	215
28100807	STONE DUMPED RIPRAP, CLASS A4	TON	325
40200800	AGGREGATE SURFACE COURSE, TYPE B	TON	35
44213200	SAW CUTS	FOOT	44
50100100	REMOVAL OF EXISTING STRUCTURES	EACH	1
50105220	PIPE CULVERT REMOVAL	FOOT	161
50300225	CONCRETE STRUCTURES	CU YD	29.2
50300280	CONCRETE ENCASEMENT	CU YD	2.8
50400605	PRECAST PRESTRESSED CONCRETE DECK BEAMS (33" DEPTH)	SQ FT	2105
50800105	REINFORCEMENT BARS	POUND	4700
* 50900205	STEEL RAILING, TYPE S1	FOOT	142
51201600	FURNISHING STEEL PILES HP12X53	FOOT	399
51202305	DRIVING PILES	FOOT	399
51203600	TEST PILE STEEL HP12X53	EACH	1
51204650	PILE SHOES	EACH	8
51500100	NAME PLATES	EACH	1
59300100	CONTROLLED LOW-STRENGTH MATERIAL	CU YD	64
* 63100075	TRAFFIC BARRIER TERMINAL, TYPE 5A	EACH	2
* 63100167	TRAFFIC BARRIER TERMINAL, TYPE 1 (SPECIAL) TANGENT	EACH	2
63200310	GUARDRAIL REMOVAL	FOOT	304
67100100	MOBILIZATION	L SUM	1
* 78201000	TERMINAL MARKER - DIRECT APPLIED	EACH	4
X2501000	SEEDING, CLASS 2 (SPECIAL)	ACRE	0.3

* Specialty Item

UTILITIES

J.U.L.I.E.: Design Phase Locate
Dig No.: A1931186

Telephone: Frontier Communications
Contact: Rod Fuller
Phone: 618-483-6205

Electric: Southwestern Electric
Contact: Kathleen Lewey
Phone: 618-664-1025 x5940

RHUTASEL and ASSOCIATES, INC.
CONSULTING ENGINEERS • LAND SURVEYORS
CENTRALIA, ILLINOIS FREEBURG, ILLINOIS
ILLINOIS DESIGN FIRM LICENSE NO. 184-000287

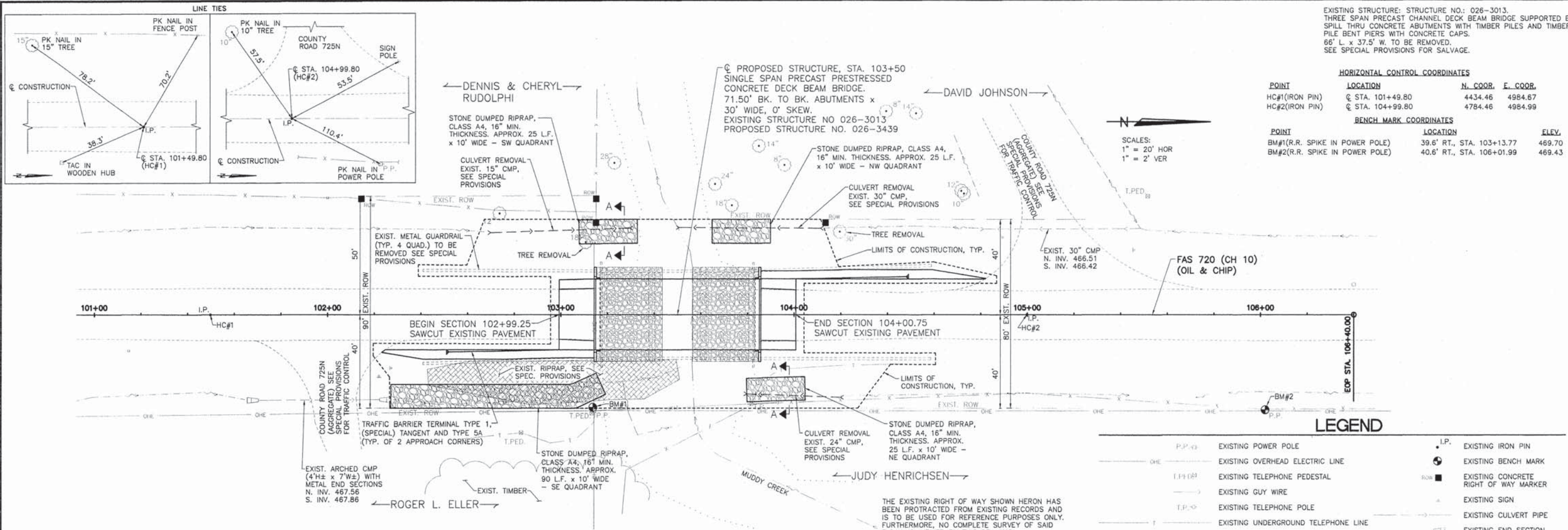
DESIGNED - BLT	REVISED -
DRAWN - JN	REVISED -
CHECKED - WDL	REVISED -
DATE - 02/12/2014	REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**SUMMARY OF QUANTITIES, GENERAL NOTES, AND TYPICAL SECTIONS
STRUCTURE NO. 026-3439**

ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAS 720	06-00115-00-BR	FAYETTE	10	2
RAAI JOB NO. 52313			ILLINOIS FED. AID PROJECT	
			CONTRACT NO. 95735	

EXISTING STRUCTURE: STRUCTURE NO. 026-3013.
THREE SPAN PRECAST CHANNEL DECK BEAM BRIDGE SUPPORTED BY
SPILL THRU CONCRETE ABUTMENTS WITH TIMBER PILES AND TIMBER
PILE BENT PIERS WITH CONCRETE CAPS.
66' L. x 37.5' W. TO BE REMOVED.
SEE SPECIAL PROVISIONS FOR SALVAGE.

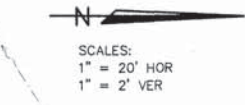


HORIZONTAL CONTROL COORDINATES

POINT	LOCATION	N. COOR.	E. COOR.
HC#1 (IRON PIN)	© STA. 101+49.80	4434.46	4984.67
HC#2 (IRON PIN)	© STA. 104+99.80	4784.46	4984.99

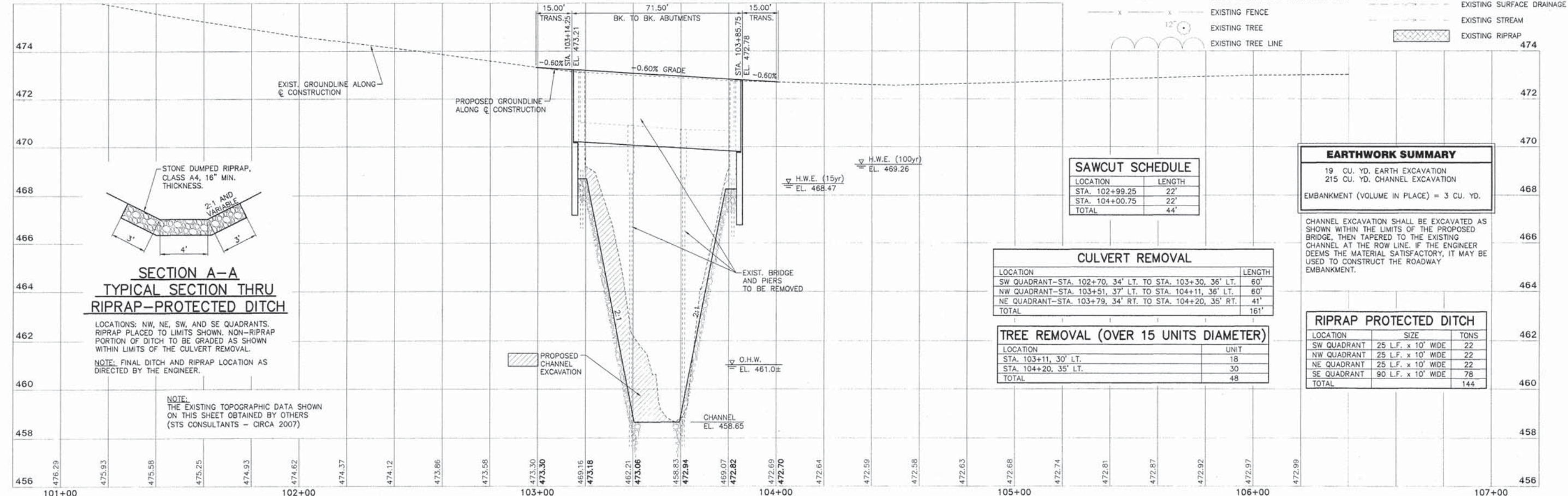
BENCH MARK COORDINATES

POINT	LOCATION	ELEV.
BM#1 (R.R. SPIKE IN POWER POLE)	39.6' RT., STA. 103+13.77	469.70
BM#2 (R.R. SPIKE IN POWER POLE)	40.6' RT., STA. 106+01.99	469.43



LEGEND

P.P. (circle with cross)	EXISTING POWER POLE	I.P. (circle with dot)	EXISTING IRON PIN
O.H.E. (line with cross)	EXISTING OVERHEAD ELECTRIC LINE	BM (circle with cross)	EXISTING BENCH MARK
T.P. (circle with cross)	EXISTING TELEPHONE PEDESTAL	ROW (line with cross)	EXISTING CONCRETE RIGHT OF WAY MARKER
G.W. (line with cross)	EXISTING GUY WIRE	SIGN (triangle)	EXISTING SIGN
T.P. (circle with cross)	EXISTING TELEPHONE POLE	CULV. (line with cross)	EXISTING CULVERT PIPE
U.T.L. (line with cross)	EXISTING UNDERGROUND TELEPHONE LINE	END SEC. (line with cross)	EXISTING END SECTION
O.H.T. (line with cross)	EXISTING OVERHEAD TELEPHONE LINE	DRG. (line with cross)	EXISTING SURFACE DRAINAGE
FENCE (line with cross)	EXISTING FENCE	STREAM (line with cross)	EXISTING STREAM
TREE (circle with cross)	EXISTING TREE	DRG. (line with cross)	EXISTING RIPRAP
TREE LINE (line with cross)	EXISTING TREE LINE		



**SECTION A-A
TYPICAL SECTION THRU
RIPRAP-PROTECTED DITCH**

LOCATIONS: NW, NE, SW, AND SE QUADRANTS.
RIPRAP PLACED TO LIMITS SHOWN. NON-RIPRAP
PORTION OF DITCH TO BE GRADED AS SHOWN
WITHIN LIMITS OF THE CULVERT REMOVAL.

NOTE: FINAL DITCH AND RIPRAP LOCATION AS
DIRECTED BY THE ENGINEER.

SAWCUT SCHEDULE

LOCATION	LENGTH
STA. 102+99.25	22'
STA. 104+00.75	22'
TOTAL	44'

EARTHWORK SUMMARY

19 CU. YD. EARTH EXCAVATION
215 CU. YD. CHANNEL EXCAVATION
EMBANKMENT (VOLUME IN PLACE) = 3 CU. YD.

CULVERT REMOVAL

LOCATION	LENGTH
SW QUADRANT-STA. 102+70, 34' LT. TO STA. 103+30, 36' LT.	60'
NW QUADRANT-STA. 103+51, 37' LT. TO STA. 104+11, 36' LT.	60'
NE QUADRANT-STA. 103+79, 34' RT. TO STA. 104+20, 35' RT.	41'
TOTAL	161'

TREE REMOVAL (OVER 15 UNITS DIAMETER)

LOCATION	UNIT
STA. 103+11, 30' LT.	18
STA. 104+20, 35' LT.	30
TOTAL	48

RIPRAP PROTECTED DITCH

LOCATION	SIZE	TONS
SW QUADRANT	25 L.F. x 10' WIDE	22
NW QUADRANT	25 L.F. x 10' WIDE	22
NE QUADRANT	25 L.F. x 10' WIDE	22
SE QUADRANT	90 L.F. x 10' WIDE	78
TOTAL		144

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CONSULTING ENGINEERS • LAND SURVEYORS
CENTRALIA, ILLINOIS FREEBURG, ILLINOIS
ILLINOIS DESIGN FIRM LICENSE NO. 184-000287

DESIGNED - BLT	REVISED -
DRAWN - JSD	REVISED -
CHECKED - GLH	REVISED -
DATE - 2/12/14	REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**PLAN AND PROFILE OF ROADWAY
STRUCTURE NO. 026-3439**

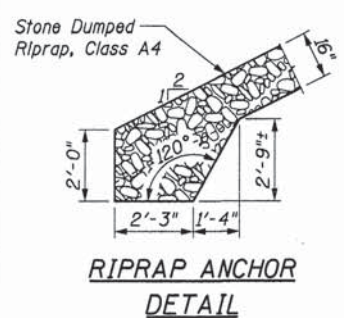
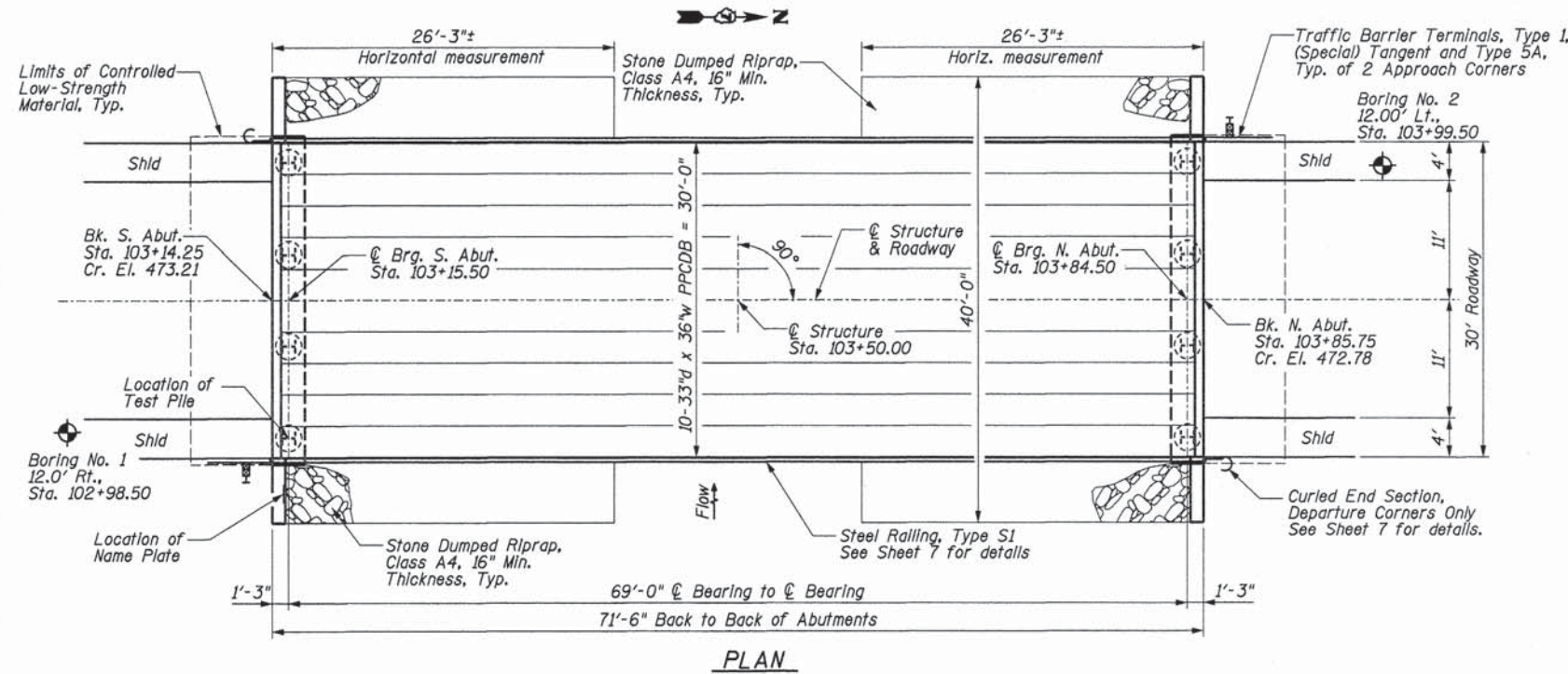
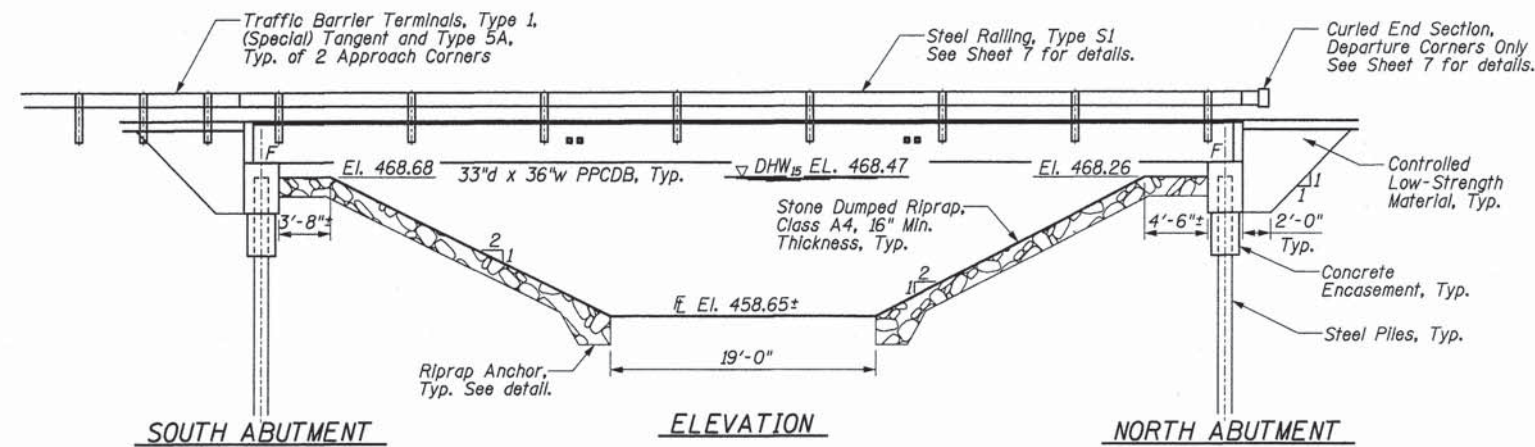
ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAS 720	06-00115-00-BR	FAYETTE	10	3
CONTRACT NO. 95735				

STA. 101+00 TO STA. 107+00

RAAI JOB NO. 52313 ILLINOIS FED. AID PROJECT

TBM #1 - RR spike in power pole,
39.6' Rt. of Sta. 103+13.77 - Elev. 469.70

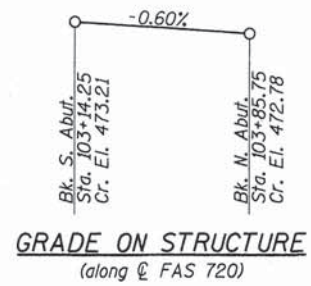
TBM #2 - RR spike in power pole,
40.6' Rt. of Sta. 106+01.99 - Elev. 469.43



WATERWAY INFORMATION

Drainage Area = 3.35 sq. mi. Low Grade Elev. 472.56 @ Sta. 104+50

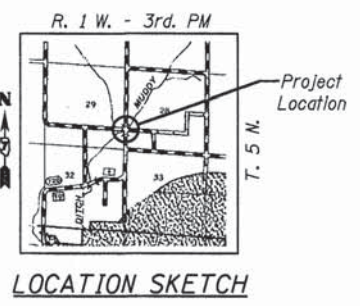
Flood	Freq. Yr.	Q C.F.S.	Opening Sq. Ft.		Nat. H.W.E.		Head - Ft.		Headwater El.	
			Exlst.	Prop.	H.W.E.	Exlst.	Prop.	Exlst.	Prop.	
Design	15	1102	276	380	468.47		0.12		468.59	
Base	100	1814	317	432	469.26		0.51		469.77	



I certify that to the best of 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 style of structure and complies with requirements of the current AASHTO Standard Specifications for Highway Bridges.



William D. Lueking
William D. Lueking
02/12/2014
Date of Signing
11/30/2014
Date of License Expiration



LOADING HL-93
50#/sq. ft. Included in dead load for future wearing surface.

DESIGN SPECIFICATIONS
2010 (5th Ed.) AASHTO LRFD Bridge Design Specifications

DESIGN STRESSES

FIELD UNITS
 $f'_c = 3,500$ psi
 $f_y = 60,000$ psi (reinforcement)

PRECAST PRESTRESSED UNITS
 $f'_c = 6,000$ psi
 $f'_{ci} = 5,000$ psi
 $f_{pu} = 270,000$ psi ($\frac{1}{2}$ " ϕ low lax. strands)
 $f_{pbt} = 201,960$ psi ($\frac{1}{2}$ " ϕ low lax. strands)
 $f_y = 60,000$ psi (reinforcement)

SEISMIC DATA
Seismic Performance Zone (SPZ) = 2
Soil Site Classification = D
 $S_{D1} = 0.241$ $S_{D5} = 0.546$

BILL OF MATERIALS (BRIDGE ONLY)

ITEM	UNIT	TOTAL
Stone Dumped Riprap, Class A4	Ton	181
Removal of Existing Structures	Each	1
Concrete Structures	Cu Yd	29.2
Concrete Encasement	Cu Yd	2.8
PPCDB (33" Depth)	Sq Ft	2105
Reinforcement Bars	Pound	4700
Steel Railing, Type S1	Foot	142
Furnishing Steel Piles HP12x53	Foot	399
Driving Piles	Foot	399
Test Pile Steel HP12x53	Each	1
Pile Shoes	Each	8
Name Plates	Each	1
Controlled Low-Strength Material	Cu Yd	64
Terminal Marker - Direct Applied	Each	4

GENERAL NOTES

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

See Section 502 of the Standard Specifications for Structural Excavation.

See Special Provisions for Soil Borings.

Do not scale these drawings.

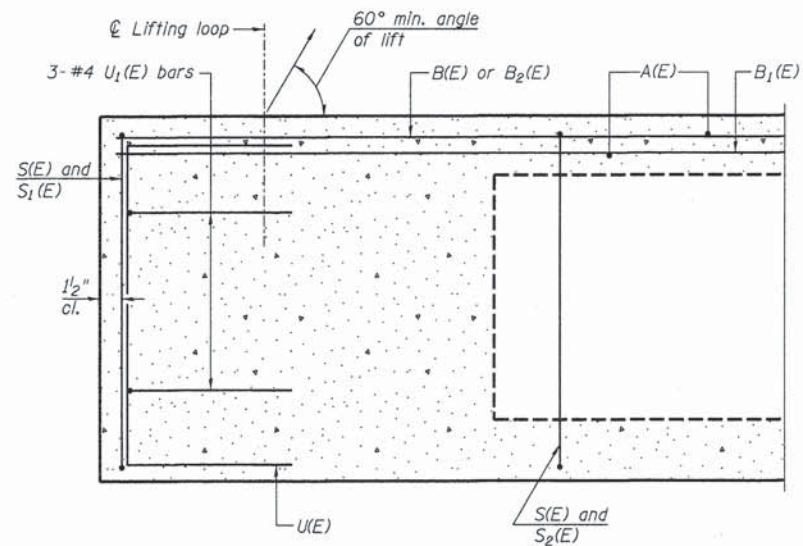
The abutment bearing seat surfaces for the precast prestressed concrete deck beams shall be adjusted by shimming to assure firm and even bearing. As required, $\frac{1}{8}$ " fabric adjusting shims of the dimensions of the Exterior Bearing Pad shall be provided for each bearing. The top surface of the beams shall be finished according to the IDOT Manual for Fabrication of Precast Prestressed Concrete Products.

See Plan and Profile Sheet for Channel Excavation.

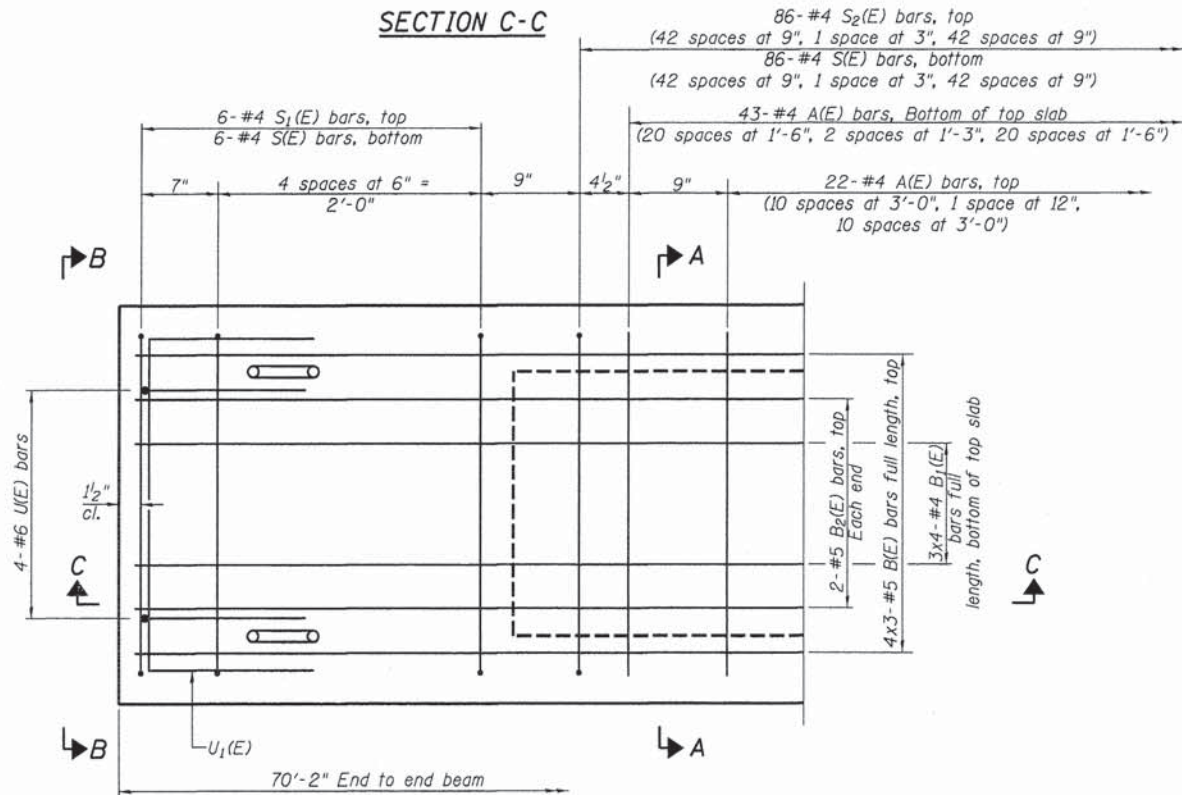
The Contractor is hereby advised that very stiff soils may be encountered prior to the location of anticipated nominal required bearing. See the soil borings for further information.

STATION 103+50
BUILT 201 BY
FAYETTE COUNTY
FAS 720 SEC. 06-00115-00-BR
LOADING HL-93
STRUCTURE NO. 026-3439

NAME PLATE
See Std. 515001



SECTION C-C



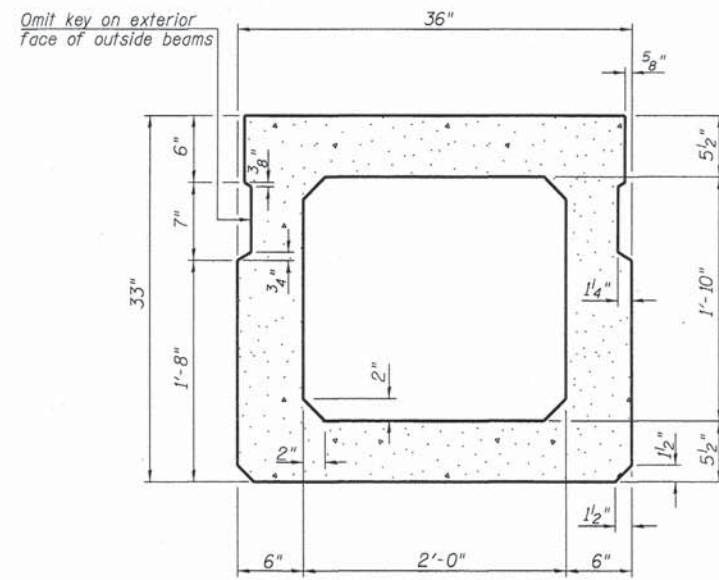
PLAN VIEW

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

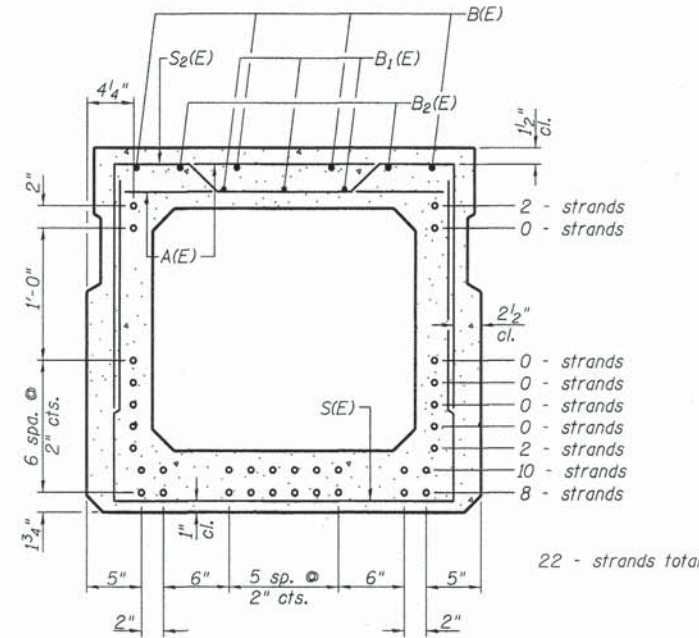
MINIMUM BAR LAP

- #4 bar = 2'-0"
- #5 bar = 2'-6"



SECTION A-A

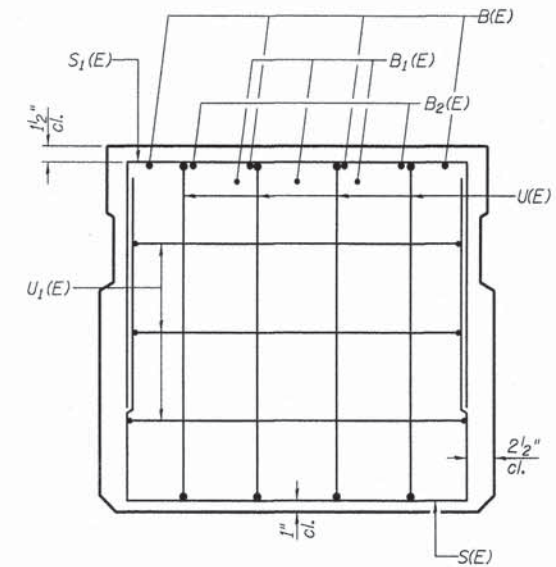
(Showing dimensions)



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.

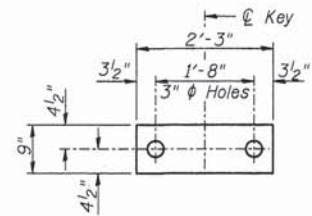


VIEW B-B

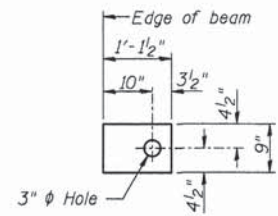
BAR LIST
ONE BEAM ONLY
(For information only)

Bar	No.	Size	Length	Shape
A(E)	65	#4	2'-7"	—
B(E)	12	#5	25'-0"	—
B ₁ (E)	12	#4	19'-0"	—
B ₂ (E)	4	#5	10'-0"	—
S(E)	98	#4	7'-5"	—
S ₁ (E)	12	#4	6'-3"	⌌
S ₂ (E)	86	#4	6'-6"	⌌
U(E)	8	#6	5'-0"	⌌
U ₁ (E)	6	#4	5'-0"	⌌

Note: See sheet 6 for additional details and Bill of Material.



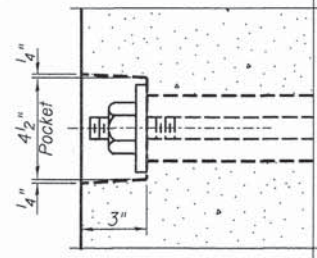
FABRIC BEARING PAD
(Interior)



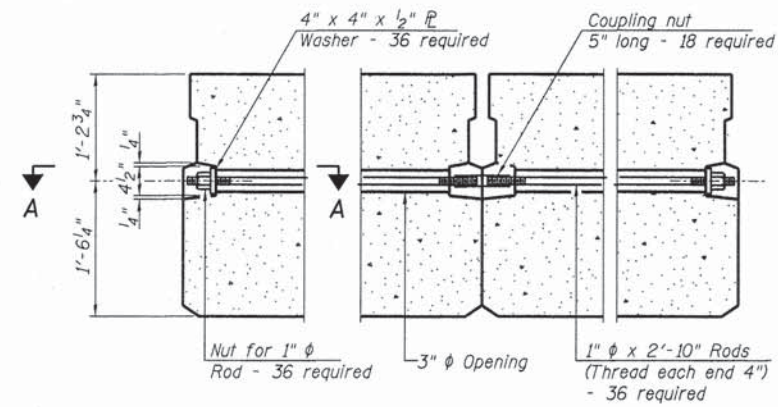
FABRIC BEARING PAD
(Exterior)

FIXED

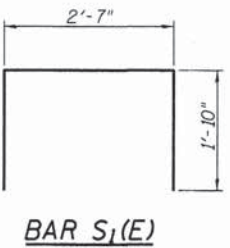
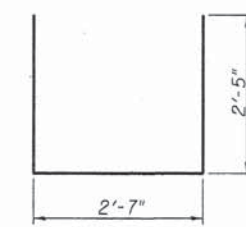
Note: All bearing pads shall be 1" thick.



SECTION A-A

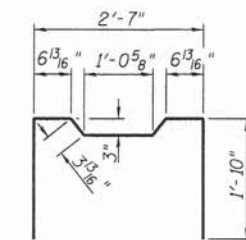


TYPICAL TRANSVERSE TIE ASSEMBLY

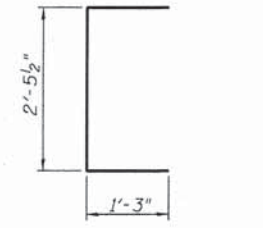


BAR S1(E)

BAR S1(E)

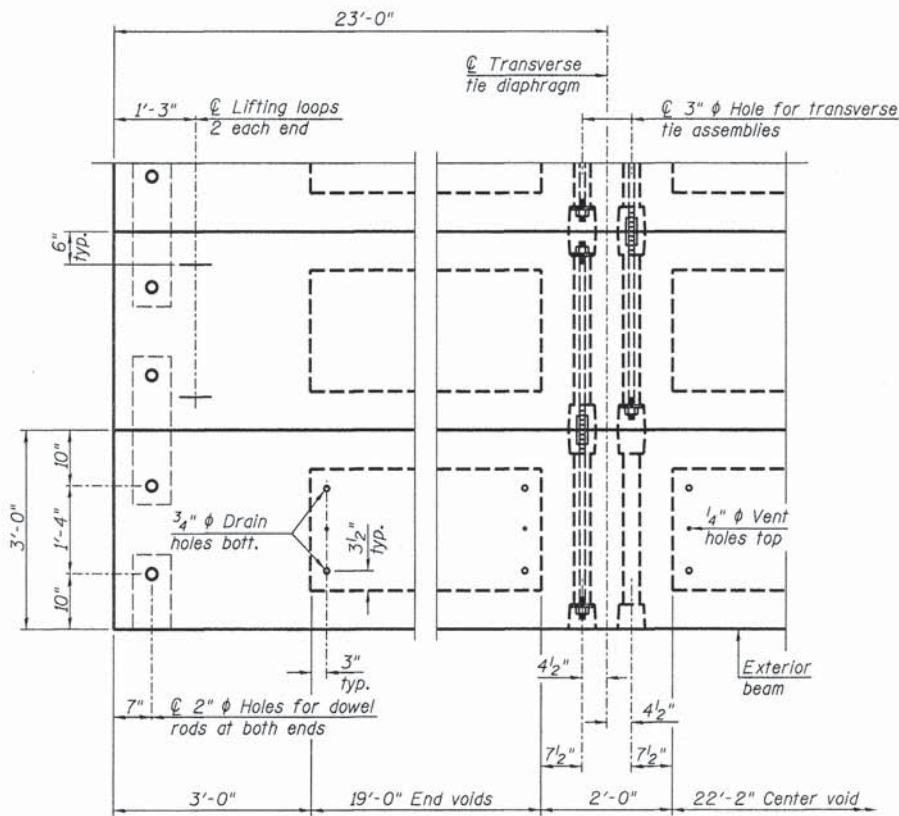


BAR S2(E)

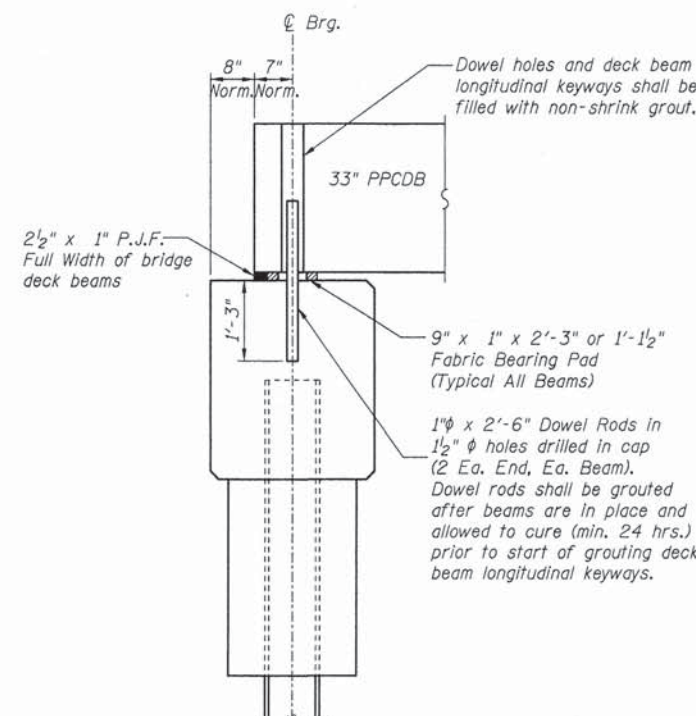


BAR U1(E)

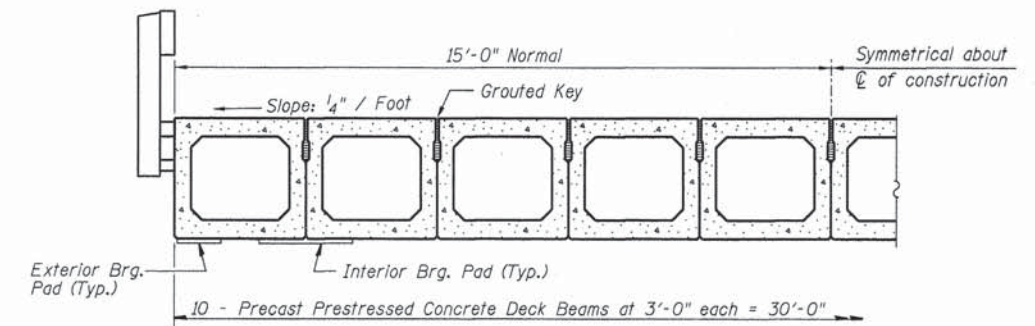
BAR U1(E)



PLAN VIEW



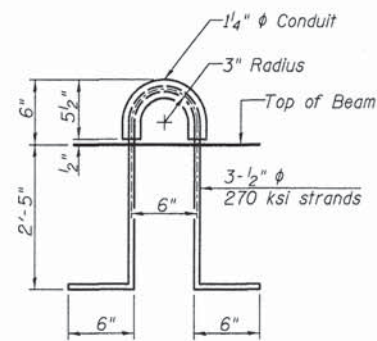
FIXED BEARING ABUTMENT



HALF CROSS SECTION

See Sheet 7 for the details showing the spacing and mounting of posts and rails to the PPCDB.

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



LIFTING LOOP DETAIL

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 the requirements of ASTM A 706 Grade 60 (IL Modified). Two 1/2" 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. (33" depth)	Sq. Ft.	2,105
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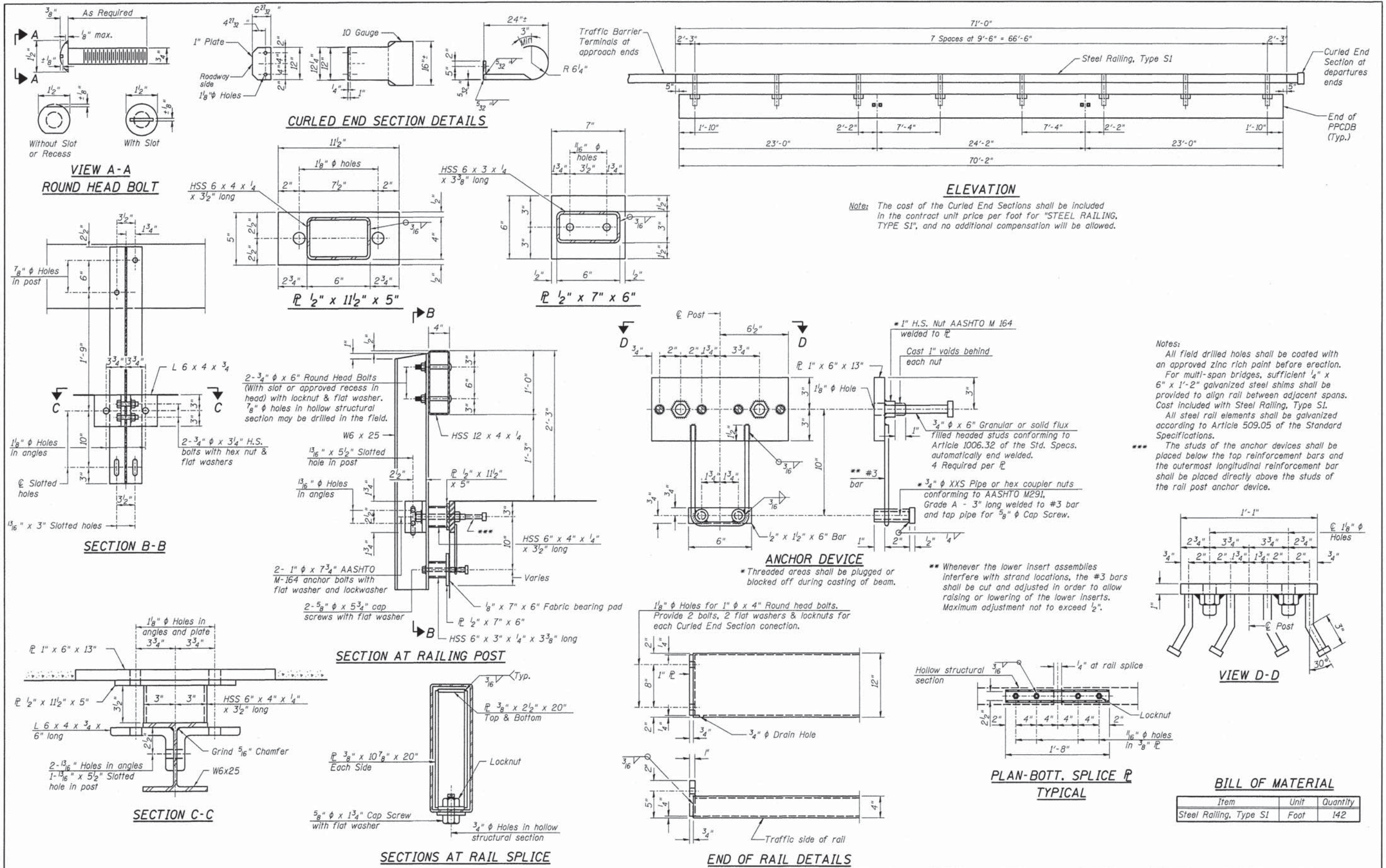
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CENTRALIA, ILLINOIS FREEBURG, ILLINOIS
ILLINOIS DESIGN FIRM LICENSE NO. 184-000287

DESIGNED - BLT	REVISED -
DRAWN - JN	REVISED -
CHECKED - WDL	REVISED -
DATE - 02/12/2014	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PRECAST PRESTRESSED CONCRETE DECK BEAM DETAILS
STRUCTURE NO. 026-3439

ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAS 720	06-00115-00-BR	FAYETTE	10	6
RAAI JOB NO. 52313			ILLINOIS FED. AID PROJECT	
			CONTRACT NO. 95735	



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 CENTRALIA, ILLINOIS FREETBURG, ILLINOIS
 ILLINOIS DESIGN FIRM LICENSE NO. 184-000287

DESIGNED - BLT
 DRAWN - JN
 CHECKED - WDL
 DATE - 02/12/2014

REVISED -
 REVISED -
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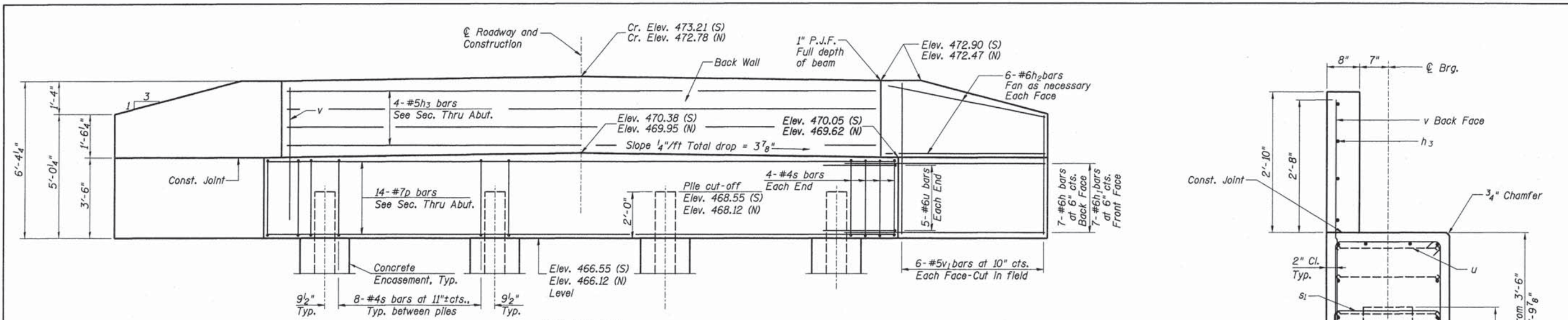
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

STEEL RAILING, TYPE S1 DETAILS
STRUCTURE NO. 026-3439

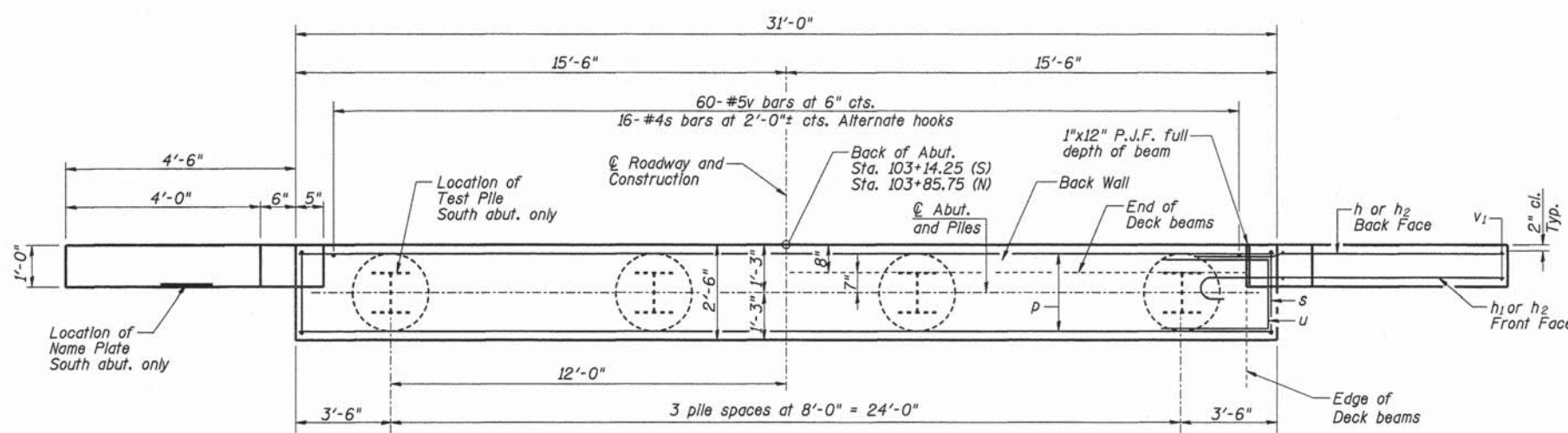
ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAS 720	06-00115-00-BR	FAYETTE	10	7
CONTRACT NO. 95735				
RAAT JOB NO. 52313 [ILLINOIS] FED. AID PROJECT				

BILL OF MATERIAL

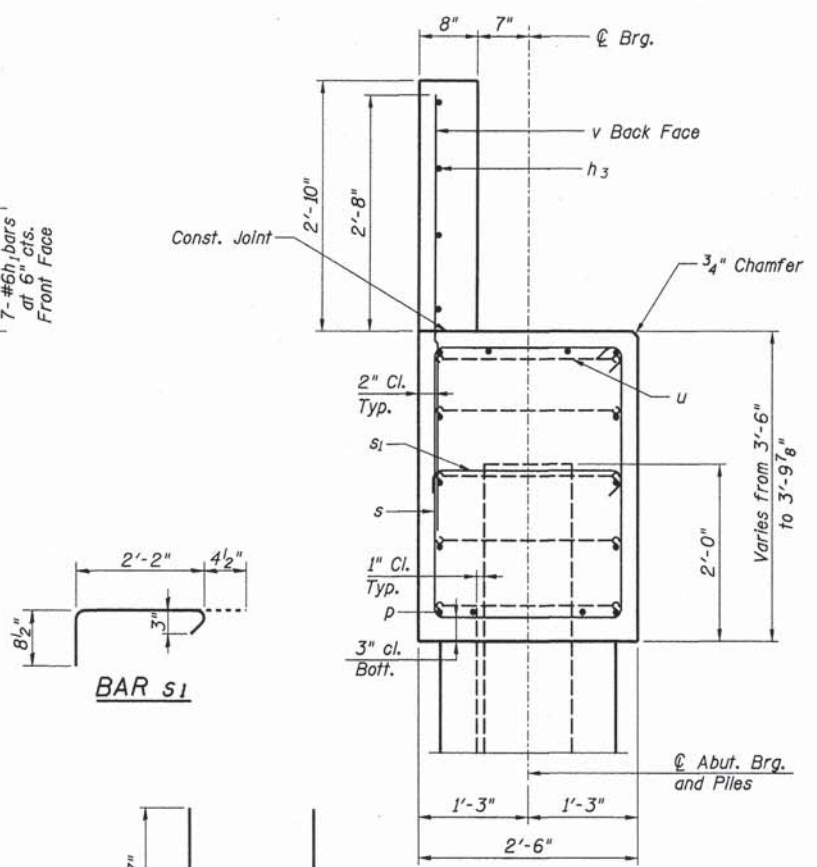
Item	Unit	Quantity
Steel Railing, Type S1	Foot	142



ELEVATION



PLAN



SEC. THRU ABUT.
(Normal to C)

**PILE DATA
SOUTH ABUTMENT**

Type: Steel HP12x53
 Nominal Required Bearing: 419 klps
 Factored Resistance Available: 230 klps
 Estimated Length: 57'/pile
 No. Production Piles w/Pile Shoes: 3
 No. Test Piles w/Pile Shoes: 1

**PILE DATA
NORTH ABUTMENT**

Type: Steel HP12x53
 Nominal Required Bearing: 419 klps
 Factored Resistance Available: 230 klps
 Estimated Length: 57'/pile
 No. Production Piles w/Pile Shoes: 4
 No. Test Piles w/Pile Shoes: 0

NOTES

- Reinforcement bars shall conform to the requirements of ASTM A 706 Grade 60 (IL Modified).
- All exposed edges shall have standard 3/4" chamfer, unless otherwise noted or as directed by the Engineer.
- All clearances between rebar and form surface shall be 2", unless otherwise noted.
- Space reinforcement in cap to miss PPCDB dowel rods.
- The Steel H-piles shall be according to AASHTO M270 Grade 50.
- The position of the 90° & 135° hooked ends of the s bar shall be alternated between adjacent bars.
- The Contractor is hereby advised that very stiff soils may be encountered prior to the location of anticipated nominal required bearing. See the soil borings for further information.
- The Contractor shall drive one (1) Steel HP12x53 Test Pile in a permanent location as shown on the drawings or as directed by the Engineer before ordering the remainder of the piles.
- The Test Pile shall be driven to 110 percent of the Nominal Required Bearing Indicated in the pile data information.
- The back wall and portion of the wingwalls above the construction joint shall be cast against the in-place deck beams.

**BILL OF MATERIAL
FOR ONE ABUTMENT**

Bar	No.	Size	Length	Shape
h	14	#6	8'-0"	—
h1	14	#6	7'-0"	C
h2	24	#6	4'-9"	—
h3	4	#5	29'-8"	—
p	14	#7	30'-8"	—
s	32	#4	11'-3"	□
s1	16	#4	3'-3"	┌
u	10	#6	9'-3"	□
v	60	#5	4'-9"	—
v1	24	#5	6'-0"	—
Concrete Structures Cu. Yd.				14.6
Reinforcement Bars Pound				2350
Furnishing Steel				S Abut. 171
Piles, HP12x53				N Abut. 228
Driving Piles				S Abut. 171
				N Abut. 228
Test Pile, Steel HP12x53				S Abut. 1
				N Abut. 0
Concrete Encasement Cu Yd				1.4
Pile Shoes				Each 4

For details of piles and Concrete Encasement, see Sheet 9.

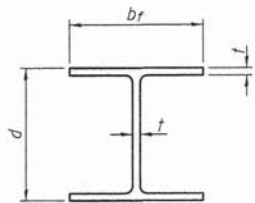
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DESIGNED - BLT	REVISED -
DRAWN - JN	REVISED -
CHECKED - WDL	REVISED -
DATE - 02/12/2014	REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

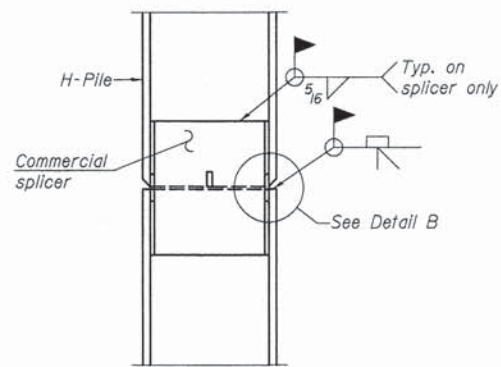
**ABUTMENT DETAILS
STRUCTURE NO. 026-3439**

ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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CONTRACT NO. 95735				
RAAI JOB NO. 52313 ILLINOIS FED. AID PROJECT				

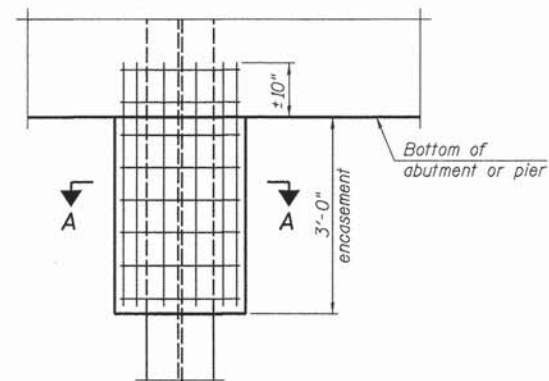


STEEL PILE TABLE

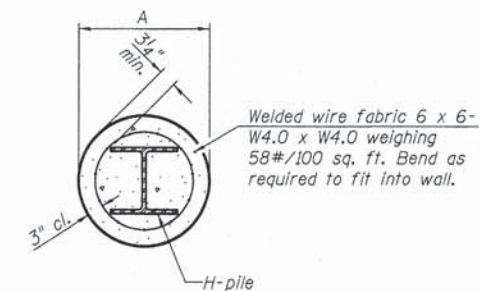
Designation	Depth d	Flange width br	Web and Flange thickness t	Encasement diameter A
HP 14x117	14 1/4"	14 7/8"	13/16"	30"
x102	14"	14 3/4"	1/16"	30"
x89	13 7/8"	14 3/4"	5/8"	30"
x73	13 5/8"	14 5/8"	1/2"	30"
HP 12x84	12 1/4"	12 1/4"	11/16"	24"
x74	12 1/8"	12 1/4"	5/8"	24"
x63	12"	12 1/8"	1/2"	24"
x53	11 3/4"	12"	7/16"	24"
HP 10x57	10"	10 1/4"	9/16"	24"
x42	9 3/4"	10 1/8"	7/16"	24"
HP 8x36	8"	8 3/8"	7/16"	18"



ELEVATION

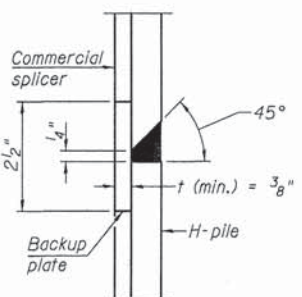


ELEVATION

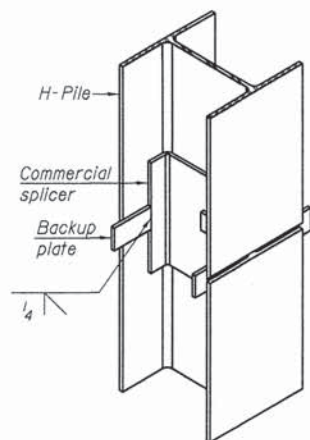


SECTION A-A

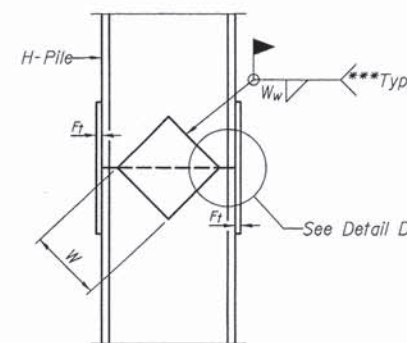
PILE ENCASEMENT



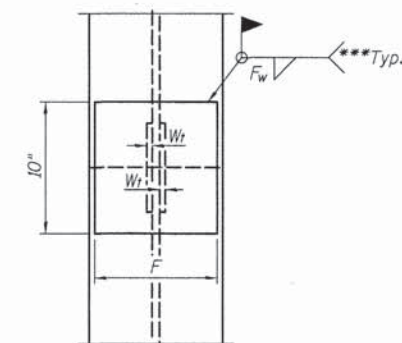
DETAIL "B"



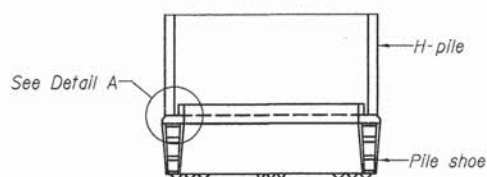
ISOMETRIC VIEW



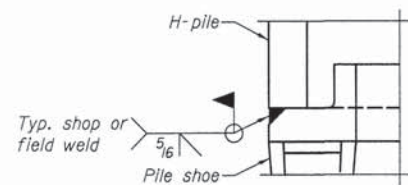
ELEVATION



END VIEW

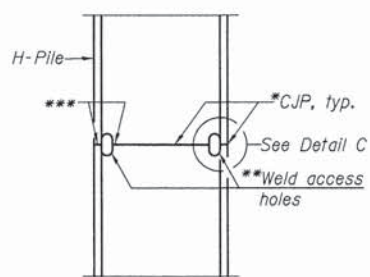


ELEVATION

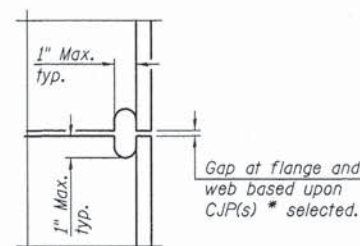


DETAIL A

H-PILE SHOE ATTACHMENT

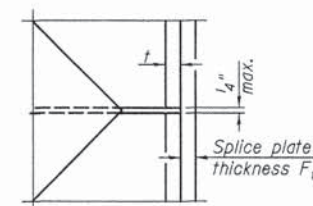


ELEVATION



DETAIL C

COMPLETE PENETRATION WELD SPLICE



DETAIL D

WELDED PLATE FIELD SPLICE

Designation	F	F _f	F _w	W	W _f	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"	11/16"	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"	11/16"	6 1/2"	5/8"	1/2"
x74	10"	7/8"	11/16"	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"

- * 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.

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

