

**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

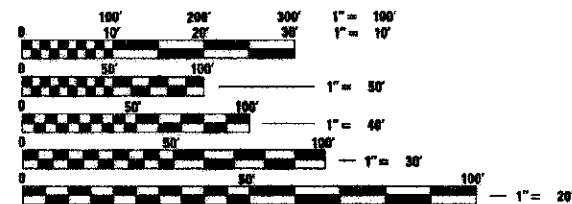
**HIGHWAY STANDARDS**

- 000001-06 STANDARD SYMBOLS, ABBREVIATIONS AND PATTERNS
- 280001-06 TEMPORARY EROSION CONTROL SYSTEMS
- 515001-03 NAME PLATE FOR BRIDGES
- 635006-03 REFLECTOR AND TERMINAL MARKER PLACEMENT
- 701901-02 TRAFFIC CONTROL DEVICES
- B.L.R. 21-9 TYPICAL APPLICATION OF TRAFFIC CONTROL DEVICES FOR CONSTRUCTION ON RURAL LOCAL HIGHWAYS
- B.L.R. 27-1 TRAFFIC BARRIER TERMINAL, TYPE 5A

SOIL BORINGS (SEE SPECIFICATIONS)

DESIGN CLASSIFICATION: RURAL LOCAL ROAD

ADT<sub>2012</sub> : 75  
 ADT<sub>2032</sub> : 100  
 DESIGN SPEED - 30 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  
 1-800-892-8123 or 811 Website: <http://www.illinois1call.com>

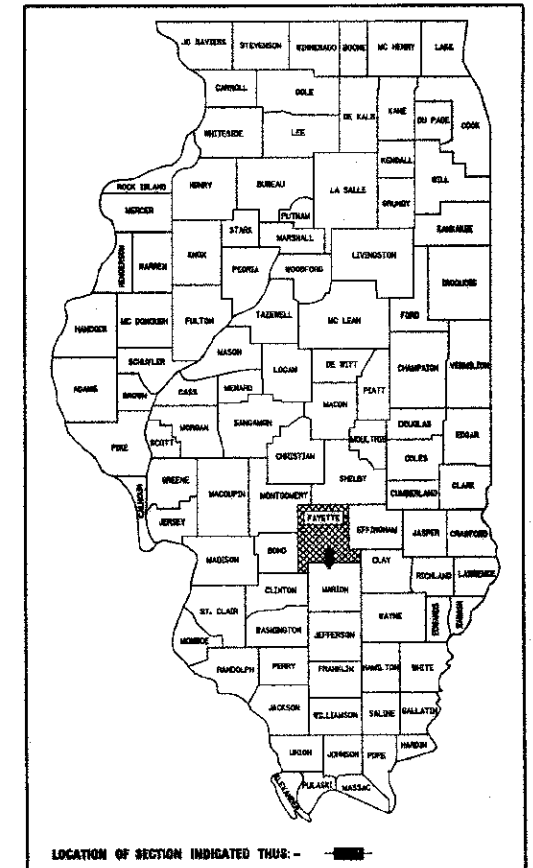


*Gary L. Mahn* 5-18-12  
 GARY L. MAHN  
 CENTRALIA, ILLINOIS  
 ILLINOIS LICENSED PROFESSIONAL  
 ENGINEER NO. 62-42606  
 EXPIRES NOV. 30, 2013

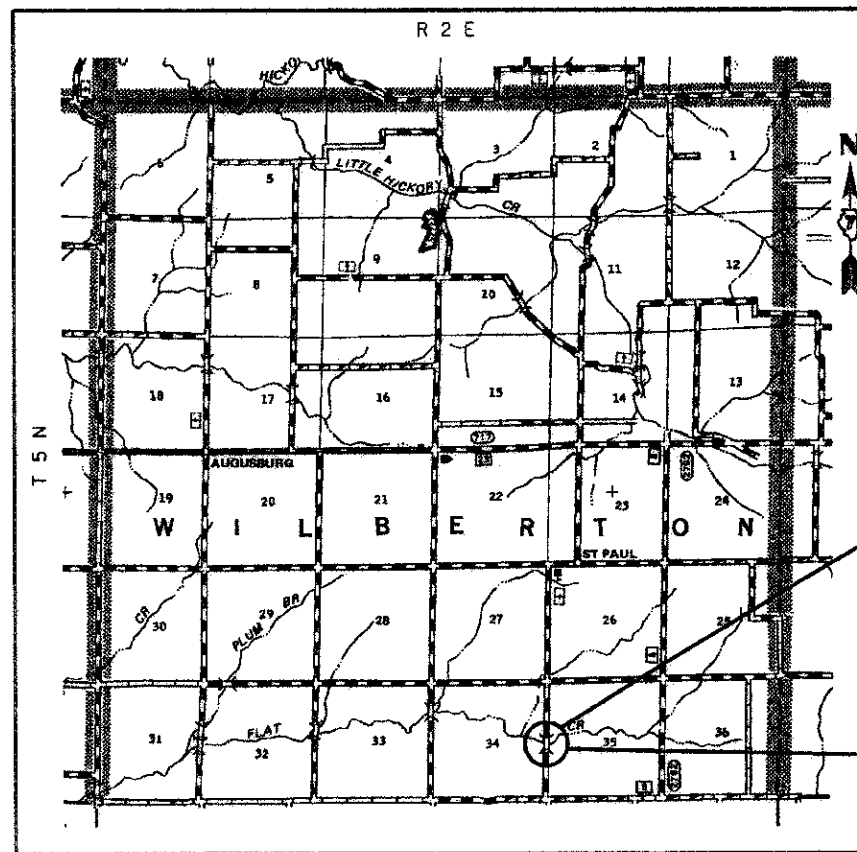
STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION

**PLANS FOR PROPOSED  
 HIGHWAY BRIDGE PROGRAM**

**TR 352  
 FLAT CREEK  
 SECTION 10-20128-00-BR  
 PROJECT NO. BROS-0051(091)  
 WILBERTON ROAD DISTRICT  
 FAYETTE COUNTY  
 JOB NO. C-97-067-12**



LOCATION OF SECTION INDICATED THUS: - [shaded box] -



SECTION BEGINS  
 STA. 7+70.00

SECTION 10-20128-00-BR INCLUDES THE CONSTRUCTION OF A SINGLE SPAN PRECAST PRESTRESSED CONCRETE DECK BEAM BRIDGE CARRYING TR 352 OVER FLAT CREEK, 50'-4" BK. TO BK. ABUTMENTS X 24' WIDE, NO SKEW. EXISTING STRUCTURE NO. 026-3167 PROPOSED STRUCTURE NO. 026-3453

SECTION ENDS  
 STA. 12+55.00

LOCATION: NEAR THE NW CORNER OF THE SW 1/4 OF SECTION 35, T 5 N, R 2 E, 3rd P.M.  
 NET LENGTH OF PROJECT: 485.00 FT = 0.092 MI

STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION

APPROVED: *W. J. [Signature]* 5-21, 2012  
 FAYETTE COUNTY ENGINEER

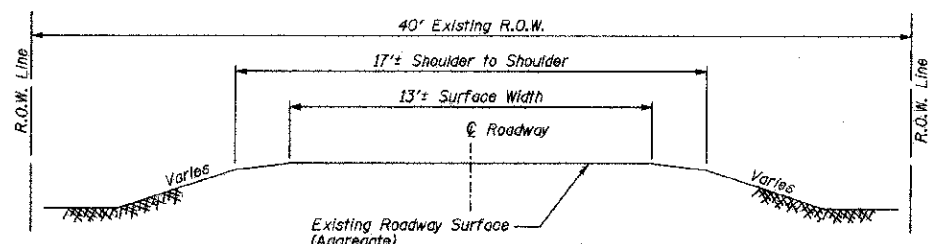
PASSED: *M. [Signature]* 6-4, 2012  
 DISTRICT SEVEN ENGINEER OF LOCAL ROADS & STREETS

RELEASING FOR BID  
 BASED ON LIMITED  
 REVIEW: *R. [Signature]* 6/4, 2012  
 DEPUTY DIRECTOR OF HIGHWAYS, REGION FOUR ENGINEER

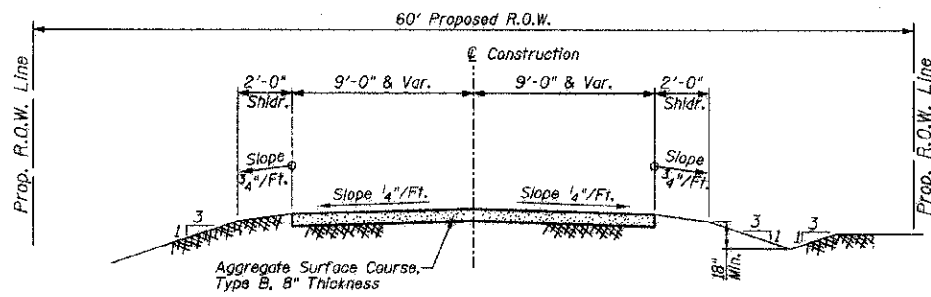
**PRINTED BY THE AUTHORITY  
 OF THE STATE OF ILLINOIS**

CONTRACT NO. 95692

ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
TR 352	10-20128-00-BR	FAYETTE	10	1
				CONTRACT NO. 95692
RAAF JOB NO. 5101		ILLINOIS FED. AID PROJECT		

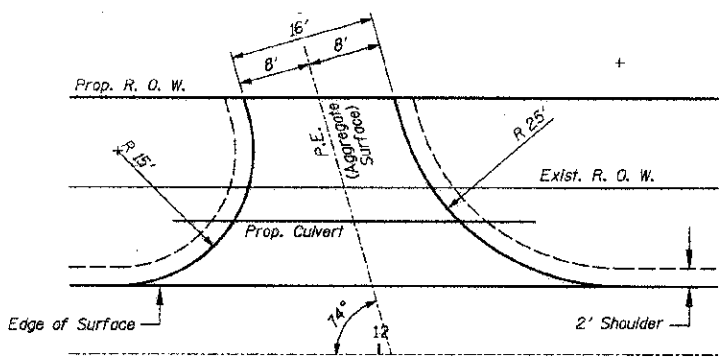


**TYPICAL SECTION  
EXISTING APPROACH ROADWAY**



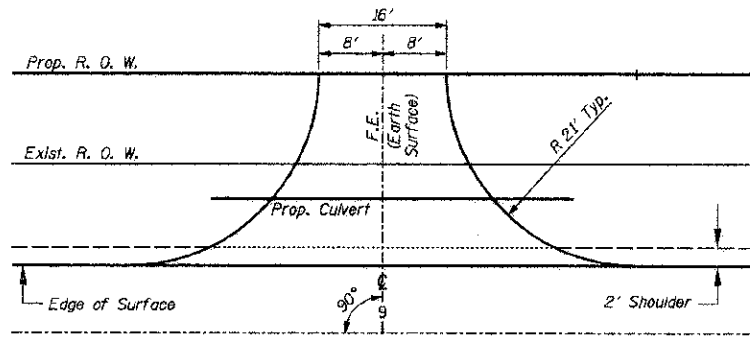
**TYPICAL SECTION  
PROPOSED APPROACH ROADWAY**

Sta. 7+70.00 to Sta. 9+77.77  
Sta. 10+28.11 to Sta. 12+55.00  
75' Transitions to existing at each end



**PRIVATE ENTRANCE DETAIL - LT. STA. 12+02**

Aggregate Surface Course, Type B 6" Depth  
20 Ton (Included in Summary of Quantities)



**FIELD ENTRANCE DETAIL - LT. STA. 9+00**

**UTILITIES**

Telephone:  
Frontier Communications  
Mark Burks  
Phone: 217-854-2222

Electric:  
Southwestern Electric Cooperative, Inc.  
Annette Brown  
Phone: 618-664-1025x5911

Water:  
Fayette Water Company  
Mike Casey  
618-347-2430

**SUMMARY OF QUANTITIES**

Location			
Code No.	Item	Unit	Quantity
20100110	TREE REMOVAL (6 TO 15 UNITS DIAMETER)	UNIT	39
20100210	TREE REMOVAL (OVER 15 UNITS DIAMETER)	UNIT	36
20200100	EARTH EXCAVATION	CU YD	215
20300100	CHANNEL EXCAVATION	CU YD	180
20400800	FURNISHED EXCAVATION	CU YD	530
20700110	POROUS GRANULAR EMBANKMENT	TON	66
28000305	TEMPORARY DITCH CHECKS	FOOT	40
28100807	STONE DUMPED RIPRAP, CLASS A4	TON	290
40200800	AGGREGATE SURFACE COURSE, TYPE B	TON	547
50100100	REMOVAL OF EXISTING STRUCTURES	EACH	1
50300225	CONCRETE STRUCTURES	CU YD	19.6
50300280	CONCRETE ENCASEMENT	CU YD	2.8
50400405	PRECAST PRESTRESSED CONCRETE DECK BEAMS (21" DEPTH)	SQ FT	1176
50800105	REINFORCEMENT BARS	POUND	3380
* 50900205	STEEL RAILING, TYPE S1	FOOT	100
51201600	FURNISHING STEEL PILES HP12X53	FOOT	315
51202305	DRIVING PILES	FOOT	315
51203600	TEST PILE STEEL HP12X53	EACH	1
51204650	PILE SHOES	EACH	8
51500100	NAME PLATES	EACH	1
542C1060	PIPE CULVERTS, CLASS C, TYPE 2 15"	FOOT	80
67100100	MOBILIZATION	L SUM	1
* 78201000	TERMINAL MARKER - DIRECT APPLIED	EACH	4
X2501000	SEEDING, CLASS 2 (SPECIAL)	ACRE	0.5

\* Specialty Item

**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.
- If Ash trees are removed on the Project, the Contractor shall become familiar with and comply with measures specified by the Illinois Department of Agriculture (IDOA) to prevent the spread of the Emerald Ash Borer. The IDOA information for Ash tree removal can be found on the IDOA website at [www.agr.state.il.us/eab](http://www.agr.state.il.us/eab).
- 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 or 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 of as May 17, 2012.

**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 -	GLH	REVISED -	
DATE -	05/18/2012	REVISED -	

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**SUMMARY OF QUANTITIES, GENERAL NOTES, AND TYPICAL SECTIONS  
STRUCTURE NO. 026-3453**

ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
TR 352	10-20128-00-BR	FAYETTE	10	2
CONTRACT NO. 95692				
RAAT JOB NO. 51031 ILLINOIS FED. AID PROJECT				

EXISTING STRUCTURE: SINGLE SPAN BRIDGE WITH CONCRETE DECK ON STEEL BEAMS ON CLOSED CONCRETE ABUTMENTS. TO BE REMOVED. 22' L. x 15' W. NO SKEW. NO SALVAGE.

**EARTHWORK SCHEDULE**

LOCATION	EARTH EXCAVATION CU. YD.	EARTH EXCAVATION ADJUSTED FOR SHRINKAGE* CU. YD.	EMBANKMENT CU. YD.	EARTHWORK BALANCE** WASTE (+) OR SHORTAGE (-) CU. YD.
STA. 6+95.00 TO STA. 9+77.77	141	106	284	-178
STA. 10+28.11 TO STA. 13+30.00	74	56	408	-352
<b>TOTAL</b>	<b>215</b>	<b>162</b>	<b>692</b>	<b>-530</b>

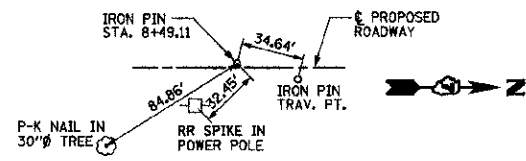
\*25% SHRINKAGE  
\*\*FURNISHED EXCAVATION

**TREE REMOVAL (6 TO 15 UNITS DIAMETER)**

LOCATION	UNIT
27.8' LT., STA. 9+81.0	12
19.8' RT., STA. 10+19.4 (STUMP)	12
19.5' LT., STA. 10+34.7	15
<b>TOTAL</b>	<b>39</b>

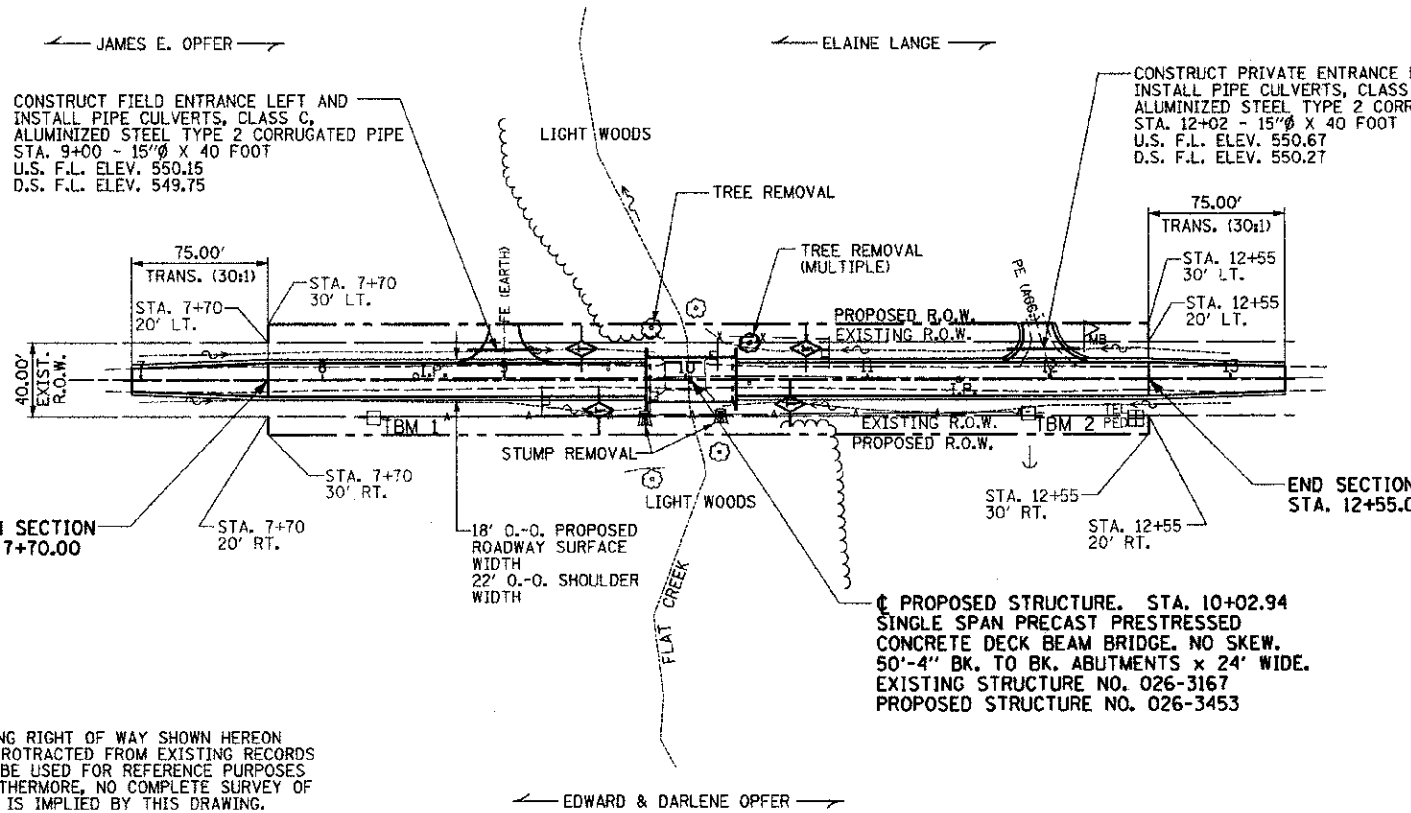
**TREE REMOVAL (OVER 15 UNITS DIAMETER)**

LOCATION	UNIT
21.7' RT., STA. 9+77.9 (STUMP)	18
19.9' LT., STA. 10+35.7	18
<b>TOTAL</b>	<b>36</b>

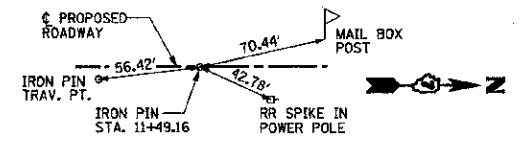
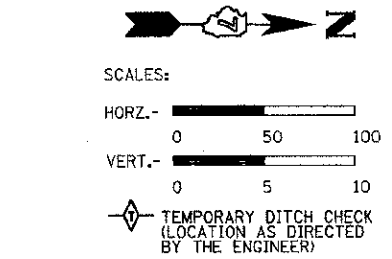


**LINE TIES**

2.10' LT., STA. 8+51.35

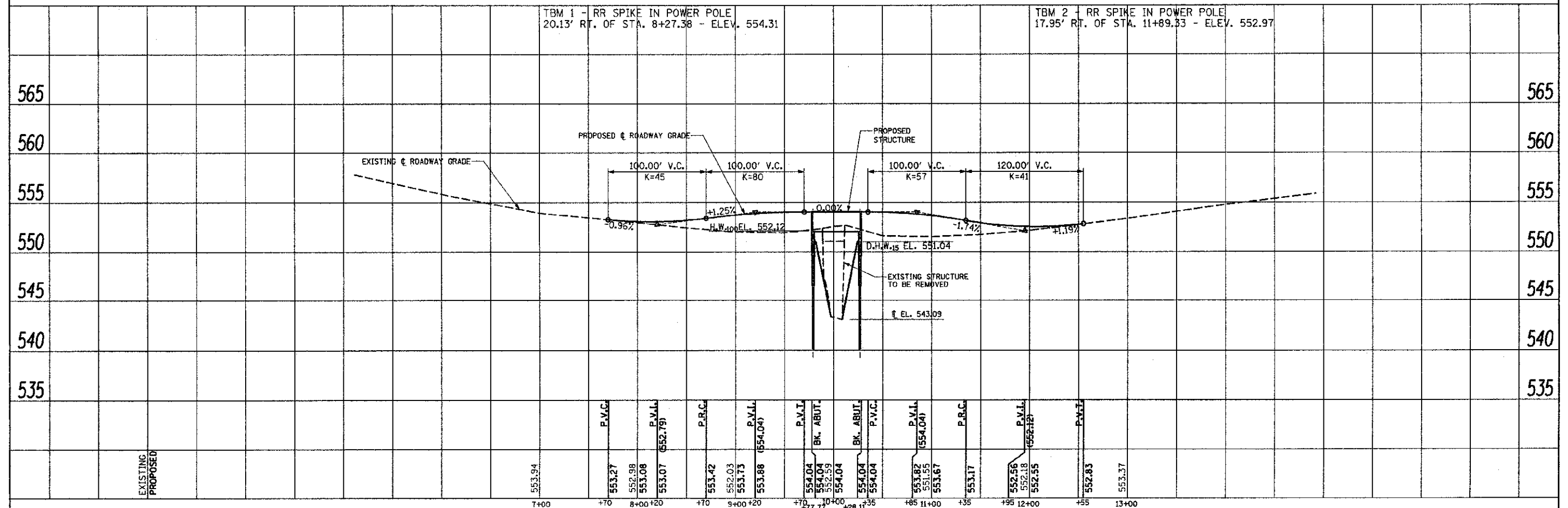


THE EXISTING RIGHT OF WAY SHOWN HEREON HAS BEEN PROTRACTED FROM EXISTING RECORDS AND IS TO BE USED FOR REFERENCE PURPOSES ONLY. FURTHERMORE, NO COMPLETE SURVEY OF SAID R.O.W. IS IMPLIED BY THIS DRAWING.



**LINE TIES**

0.22' RT., STA. 11+50.40

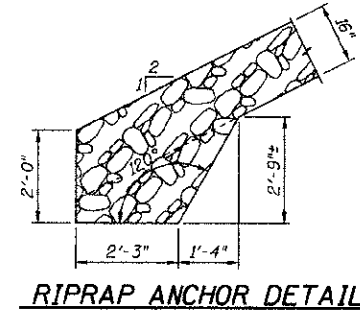
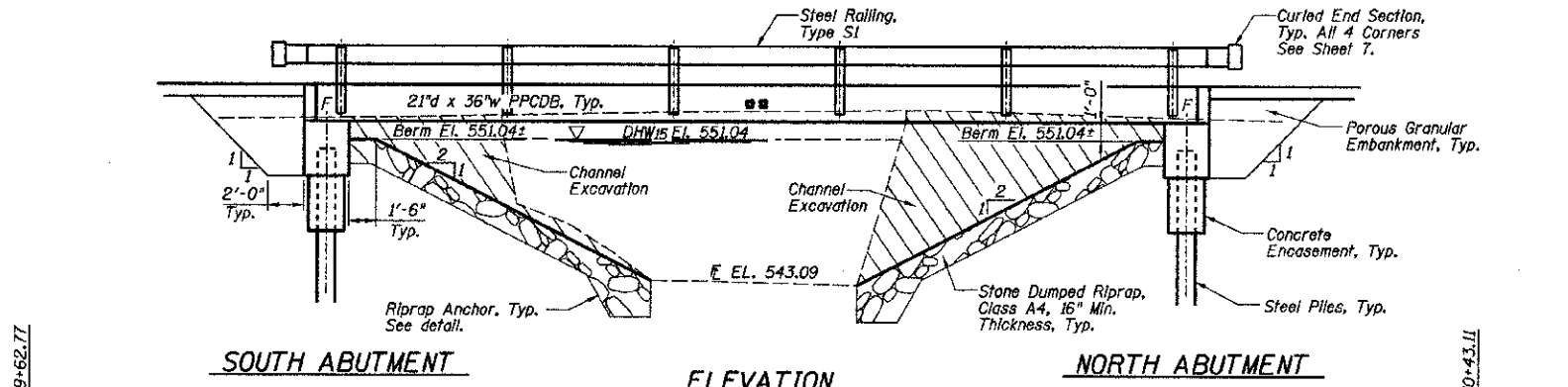


<p>RHUTASEL and ASSOCIATES, INC. CONSULTING ENGINEERS • LAND SURVEYORS CENTRALIA, ILLINOIS    FREEBURG, ILLINOIS ILLINOIS DESIGN FIRM LICENSE NO. 184-000287</p>	DESIGNED - BLT	REVISED -	<p><b>STATE OF ILLINOIS</b> <b>DEPARTMENT OF TRANSPORTATION</b></p>	<p><b>PLAN AND PROFILE OF ROADWAY</b> <b>STRUCTURE NO. 026-3453</b></p>	ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	DRAWN - JN	REVISED -			TR 352	10-20128-00-BR	FAYETTE	10	3
	CHECKED - GLH	REVISED -			CONTRACT NO. 95692				
	DATE - 05/18/2012	REVISED -			RAAF JOB NO. 61011 ILLINOIS FED. AID PROJECT				

TBM 1 - RR spike in power pole,  
20.13' Rt. of Sta. 8+27.38 - Elev. 554.31

TBM 2 - RR spike in power pole,  
17.95' Rt. of Sta. 11+89.33 - Elev. 552.97

Existing Structure: Single span bridge with concrete deck on steel beams on closed concrete abutments. To be removed. 22' L. x 15' W. No skew. No salvage.



**BILL OF MATERIALS (BRIDGE ONLY)**

ITEM	UNIT	TOTAL
Channel Excavation	Cu Yd	180
Porous Granular Embankment	Ton	66
Stone Dumped Riprap, Class A4	Ton	290
Removal of Existing Structures	Each	1
Concrete Structures	Cu Yd	19.6
Concrete Encasement	Cu Yd	2.8
PPCDB (21" Depth)	Sq Ft	1176
Reinforcement Bars	Pound	3380
Steel Railing, Type S1	Foot	100
Furnishing Steel Piles HP12x53	Foot	315
Driving Piles	Foot	315
Test Pile Steel HP12x53	Each	1
Pile Shoes	Each	8
Name Plates	Each	1
Terminal Marker - Direct Applied	Each	4

**FLAT CREEK  
BUILT 201 BY  
FAYETTE COUNTY  
SEC. 10-20128-00-BR  
LOADING HL-93  
STRUCTURE NO. 026-3453**

**NAME PLATE**

(See State Standard 515001 for details)

**LOADING HL-93**

50#/sq. ft. included in dead load for future wearing surface.

**DESIGN SPECIFICATIONS**

2010 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 ( $\frac{1}{2}$ "  $\phi$  low lax. strands)  
 $f_{pbt} = 201,960$  psi ( $\frac{1}{2}$ "  $\phi$  low lax. strands)  
 $f_y = 60,000$  psi (reinforcement)

**SEISMIC DATA**

Seismic Performance Zone (SPZ) = 2  
Soil Site Classification = D  
 $S_{01} = 0.244$   $S_{ps} = 0.558$

**GENERAL NOTES**

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.

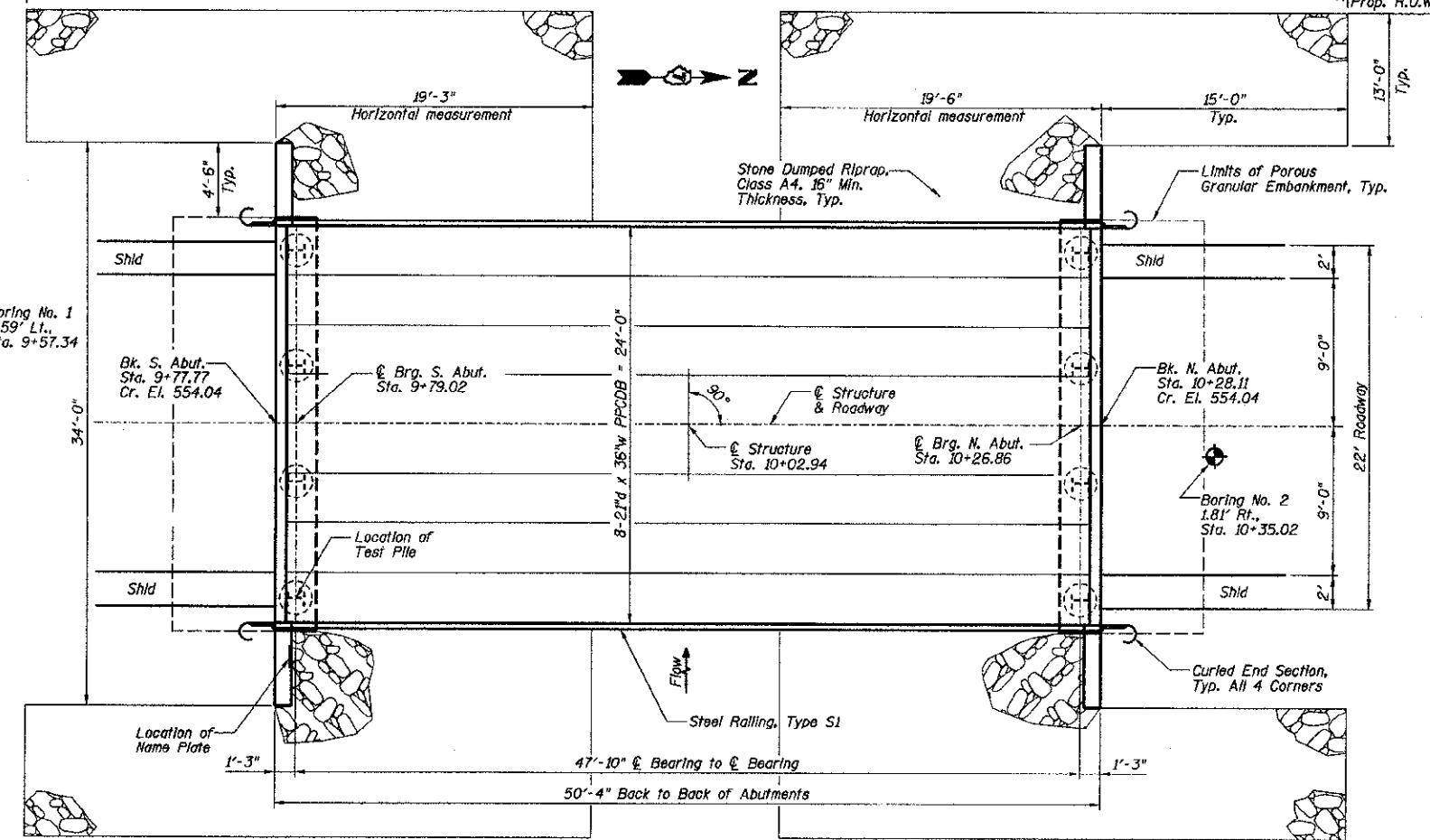
Channel excavation shall be excavated as shown within the limits of the proposed bridge, then tapered to the existing channel of the ROW line. If the Engineer deems the material satisfactory, it may be used to construct the roadway embankment.

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

See Specifications 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.



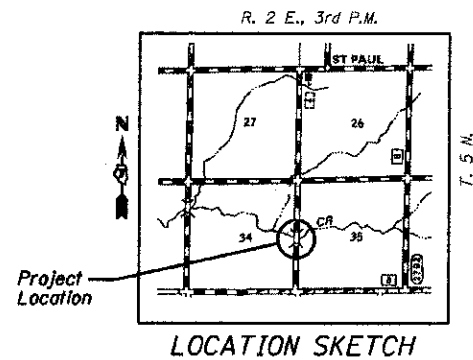
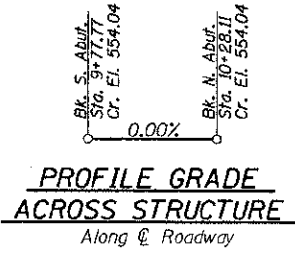
Boring No. 1  
5.59' Lt.,  
Sta. 9+57.34

Boring No. 2  
1.81' Rt.,  
Sta. 10+35.02

**WATERWAY DATA**

Drainage Area = 2.33 Sq. Mi. Low Grade Elev. 551.55 @ Sta. 10+00

Flood Yr.	Freq.	Q	Opening	Natural	Head - Ft.	Headwater El.
		C.F.S.	Sq. Ft.	H.W.E.	Exist. Prop.	Exist. Prop.
Design	15	760	140	210	551.04	0.59 0.02 551.63 551.06
Base	100	1300	141	255	552.12	0.48 0.40 552.60 552.52
Max. Calc.	500	1760	141	255	552.77	0.26 0.66 553.03 553.43



*Gary L. Hahn*  
Gary L. Hahn  
05-18-2012  
Date of Signing  
11-30-2012  
Date of License Expiration

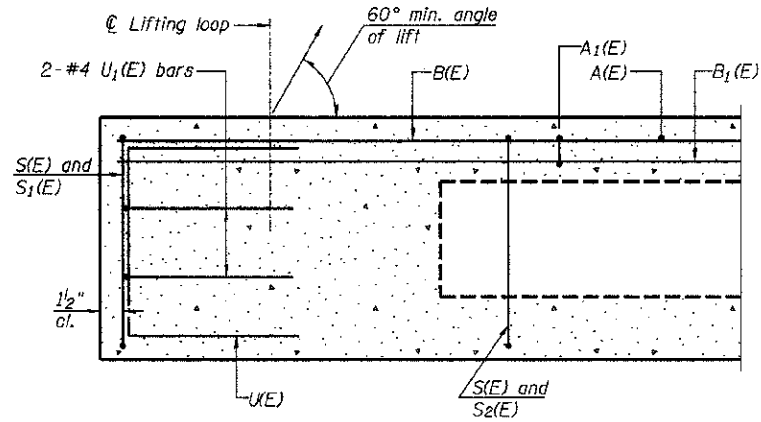
**RHUTASEL and ASSOCIATES, INC.**  
CONSULTING ENGINEERS • LAND SURVEYORS  
CENTRALIA, ILLINOIS FREEBURG, ILLINOIS  
ILLINOIS DESIGN FIRM LICENSE NO. 184-000287

DESIGNED - BLT	REVISED -
DRAWN - JN	REVISED -
CHECKED - GLH	REVISED -
DATE - 05/18/2012	REVISED -

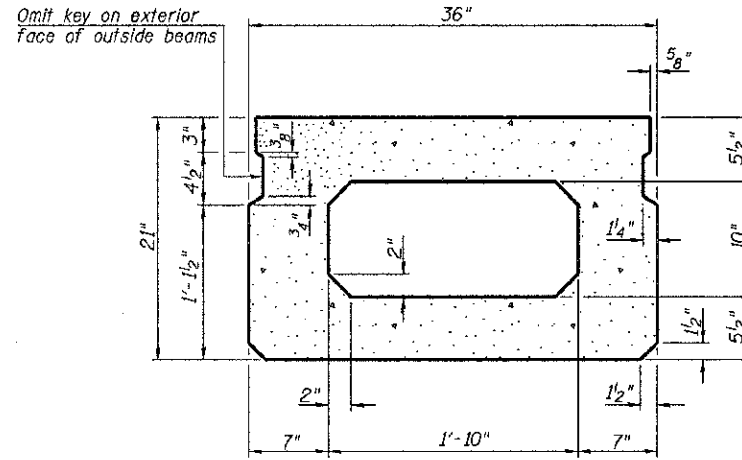
**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**GENERAL PLAN AND ELEVATION  
STRUCTURE NO. 026-3453**

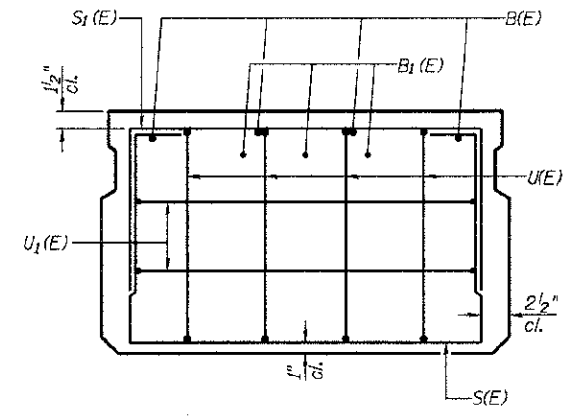
ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
TR 352	10-20128-00-BR	FAYETTE	10	4
RAAI JOB NO. 5101 ILLINOIS FED. AID PROJECT			<b>CONTRACT NO. 95692</b>	



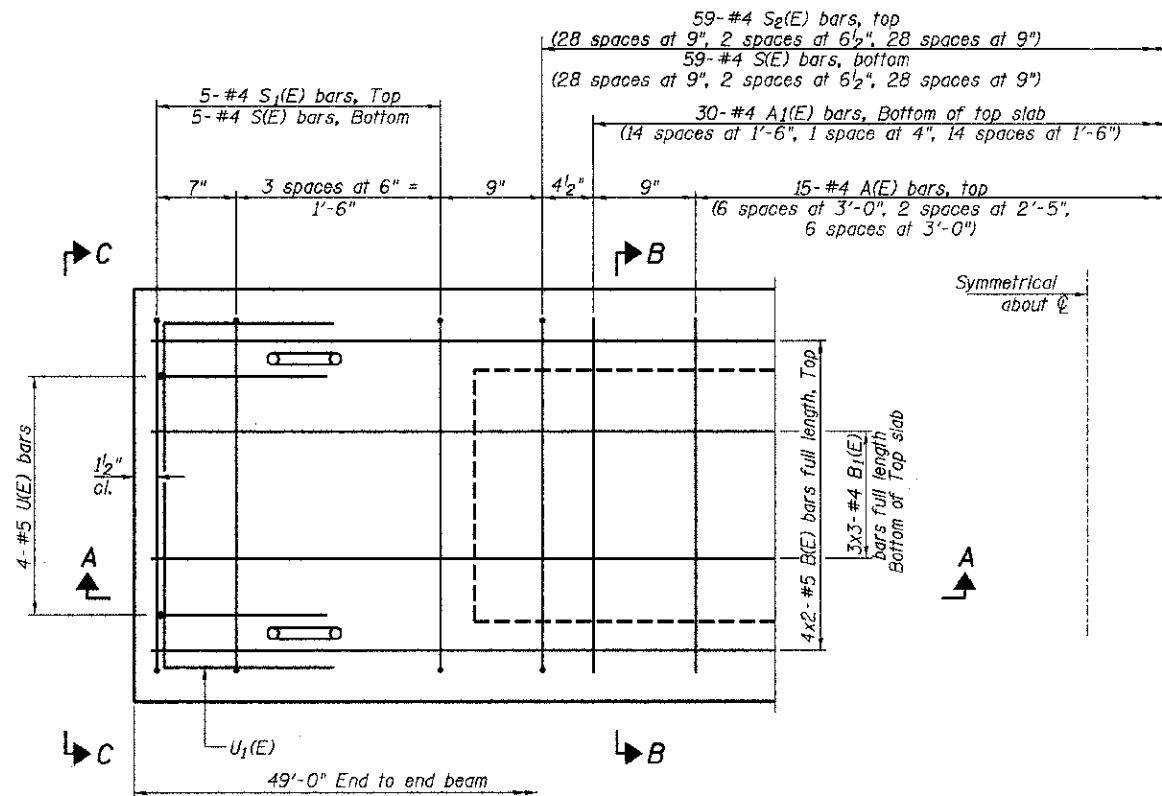
**SECTION A-A**



**SECTION B-B**  
(Showing dimensions)

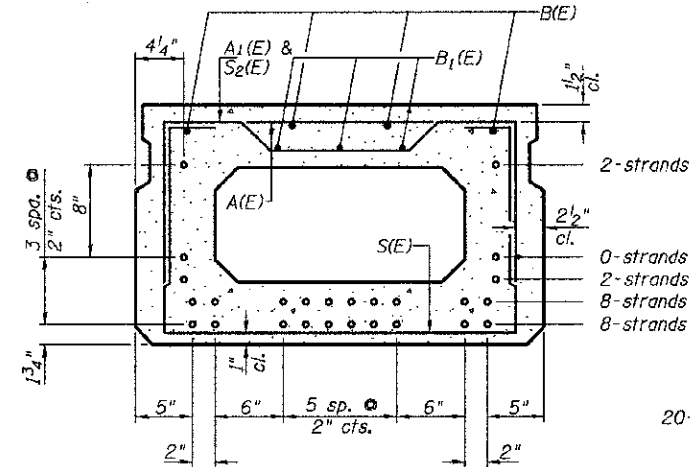


**VIEW C-C**



**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 B-B**

(Showing reinforcement and permissible strand locations)

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

20-strands total

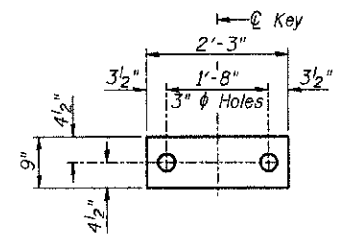
**BAR LIST**  
**ONE BEAM ONLY**  
(For information only)

Bar	No.	Size	Length	Shape
A(E)	15	#4	2'-7"	—
A1(E)	30	#4	2'-10"	—
B(E)	8	#5	25'-8"	—
B1(E)	9	#4	17'-7"	—
S(E)	69	#4	6'-5"	□
S1(E)	10	#4	4'-11"	□
S2(E)	59	#4	5'-2"	□
U(E)	8	#5	4'-0"	□
U1(E)	4	#4	5'-0"	□

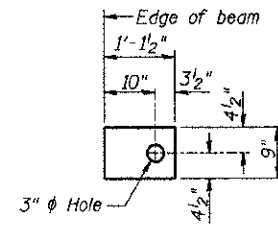
Note: See Sheet 6 of 10 for additional details and Bill of Material.

**MINIMUM BAR LAP**

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



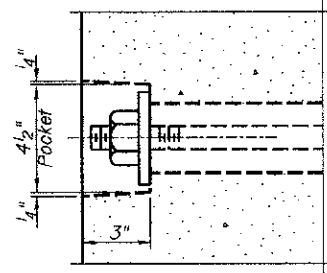
**FABRIC BEARING PAD**  
(Interior)



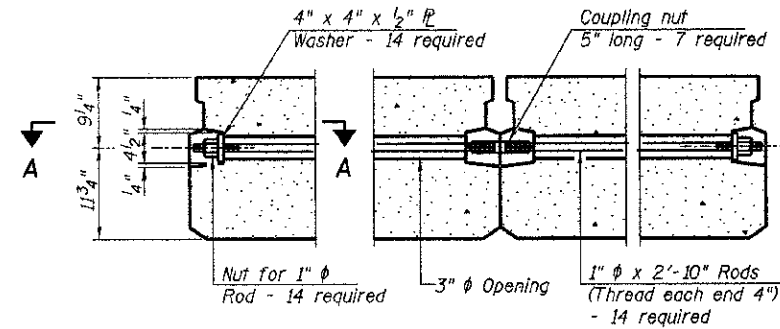
**FABRIC BEARING PAD**  
(Exterior)

**FIXED**

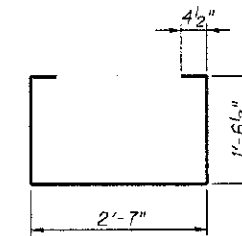
Notes:  
All bearing pads shall be 1" thick.



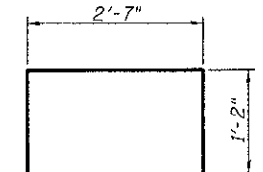
**SECTION A-A**



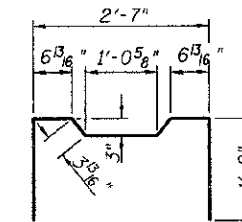
**TYPICAL TRANSVERSE TIE ASSEMBLY**



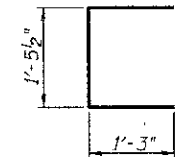
**BAR S(E)**



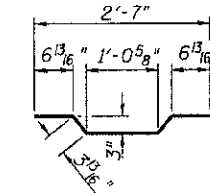
**BAR S1(E)**



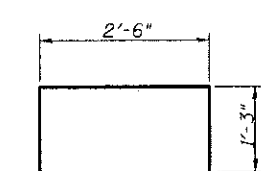
**BAR S2(E)**



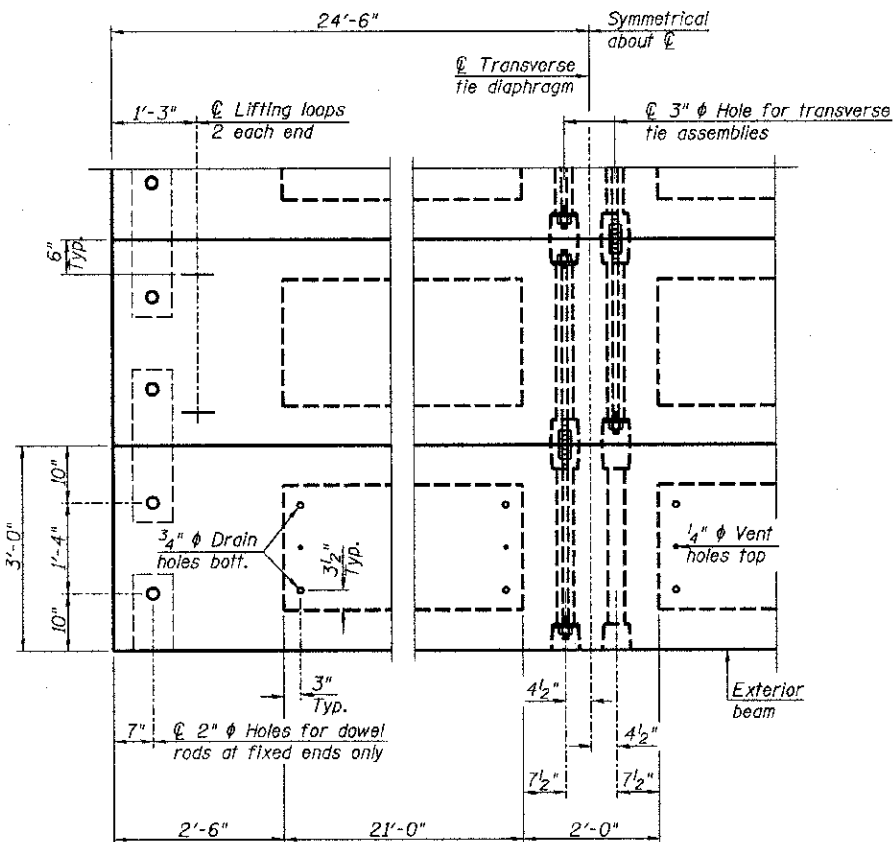
**BAR U(E)**



**BAR A1(E)**

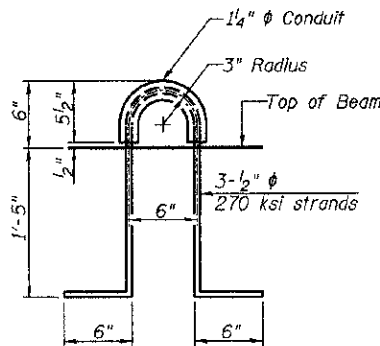


**BAR U1(E)**

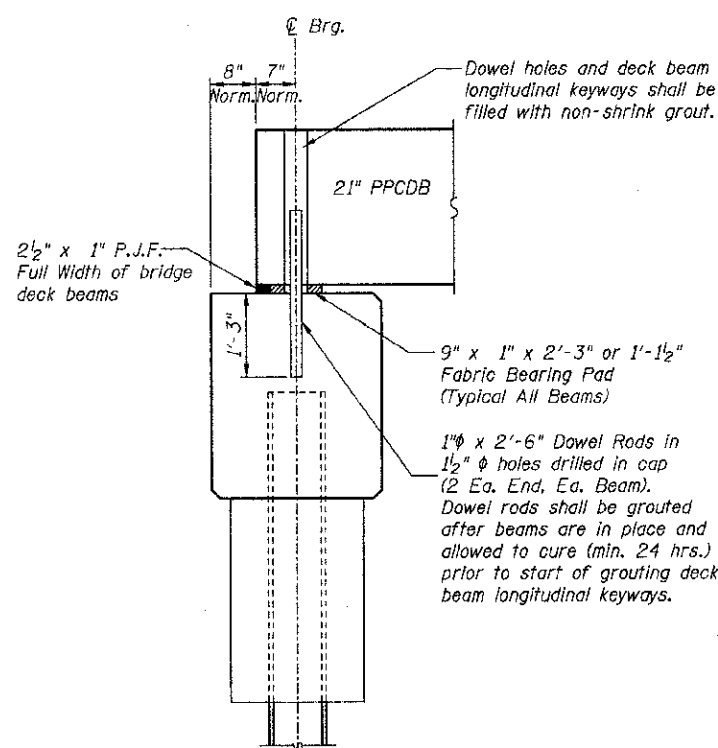


**PLAN VIEW**

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



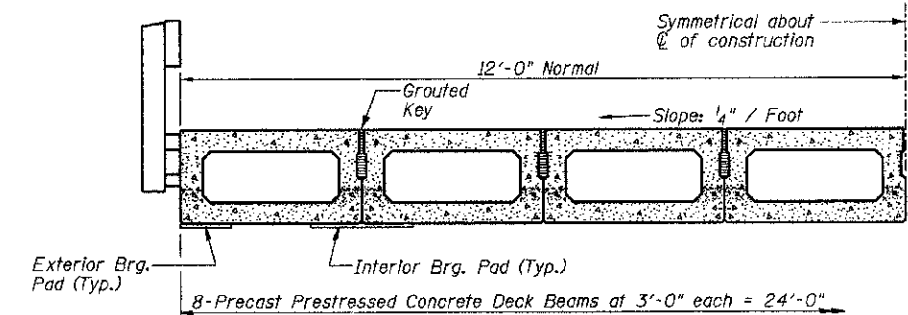
**LIFTING LOOP DETAIL**



**FIXED BEARING ABUTMENT**

**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" phi 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.  
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" phi 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.



**HALF CROSS SECTION**

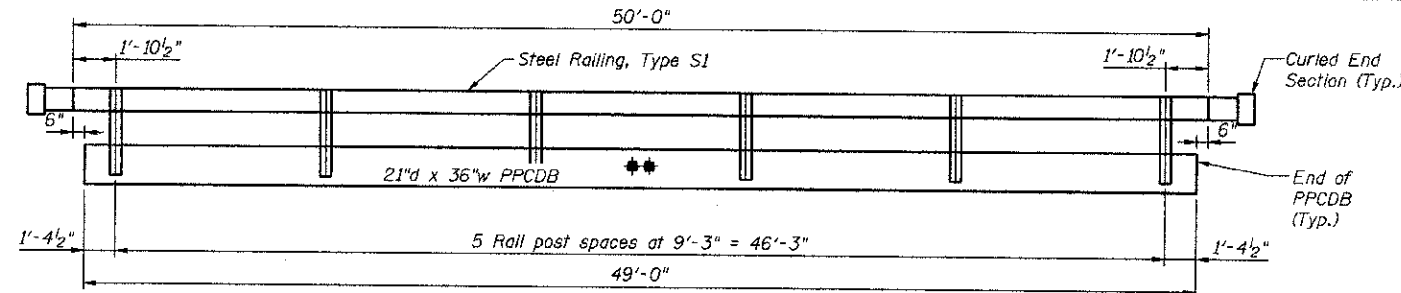
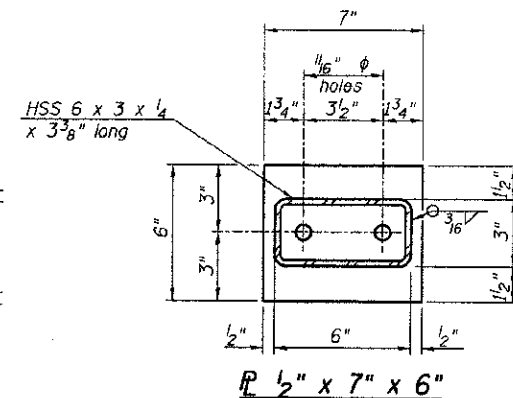
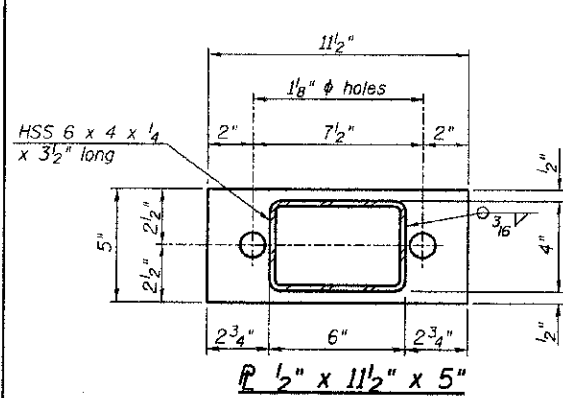
See Sheet 7 for the details showing the spacing and mounting of posts and rails to the PPCDB.

**BILL OF MATERIAL**

Precast Prestressed Conc. Deck Bms. (21" depth)	Sq. Ft.	1176
---	---------	------

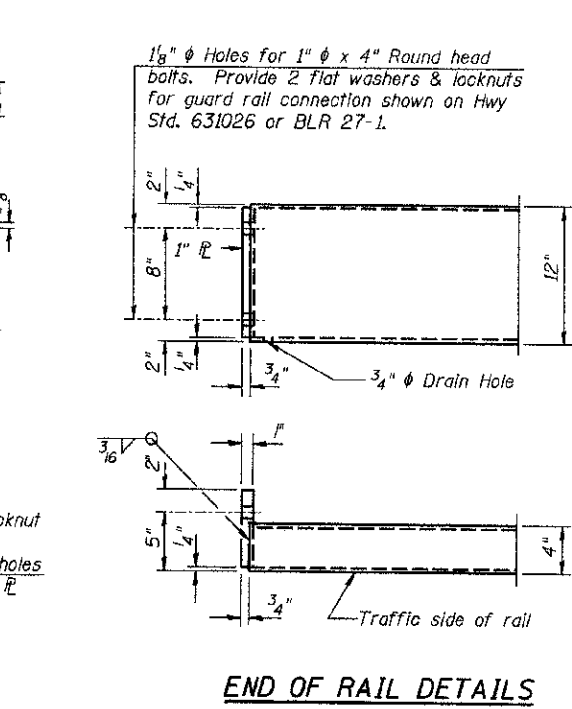
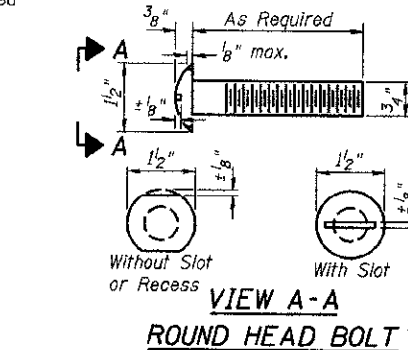
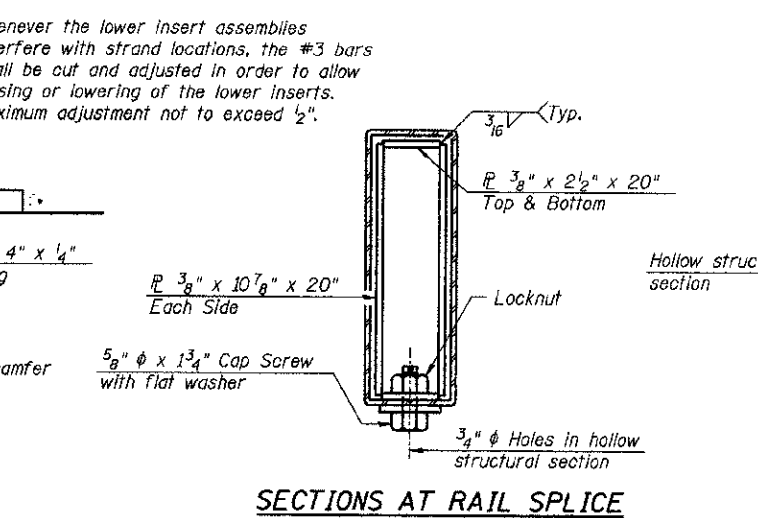
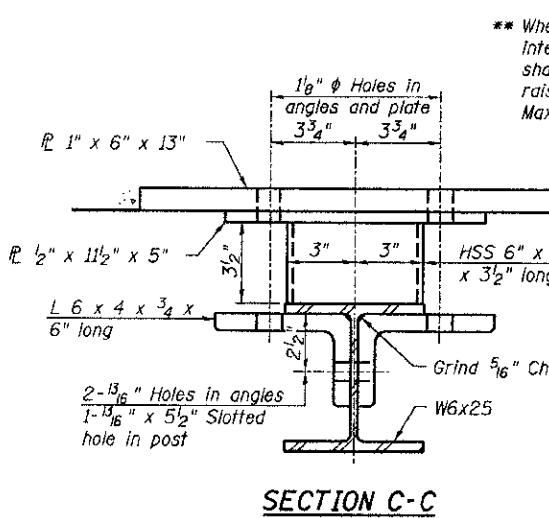
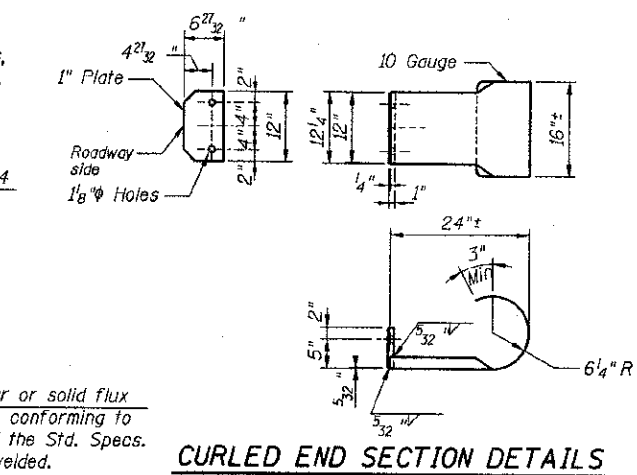
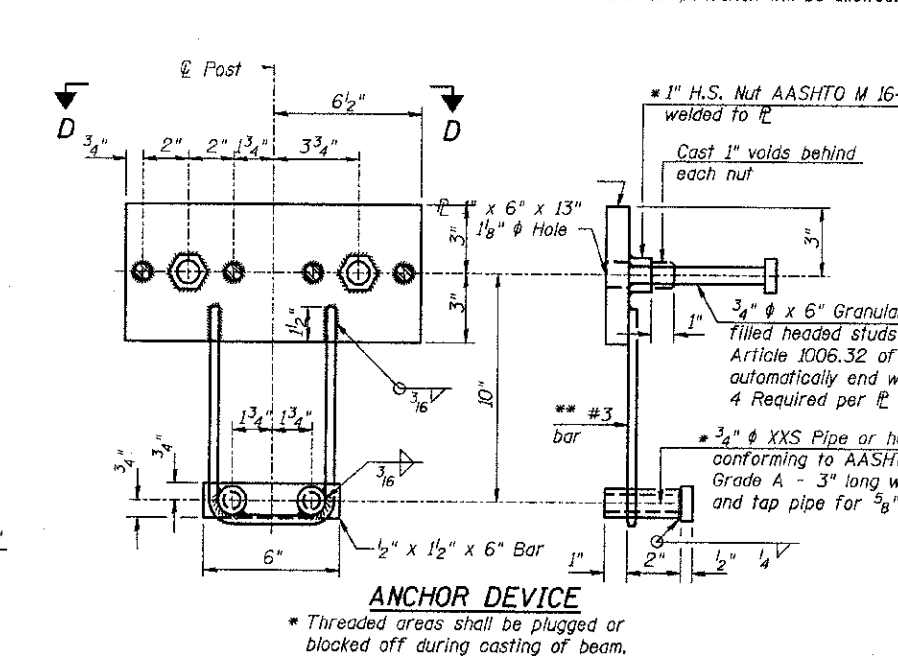
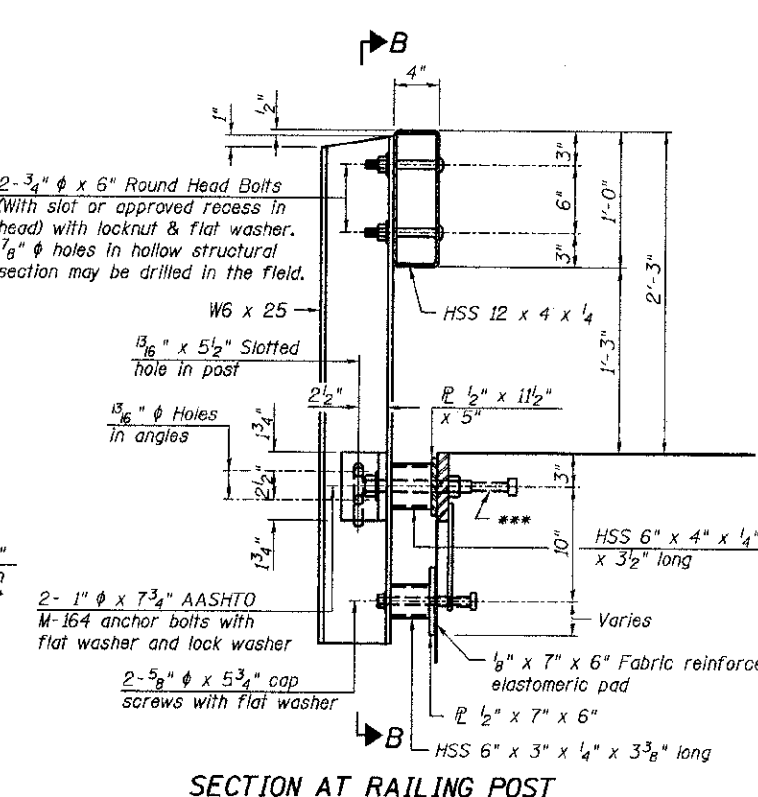
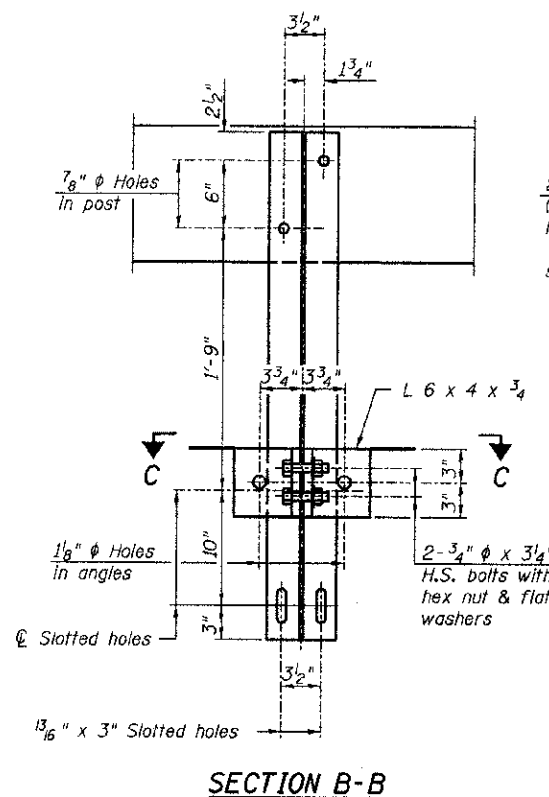
DESIGNED - BLT	REVISED -
DRAWN - JN	REVISED -
CHECKED - GLH	REVISED -
DATE - 05/18/2012	REVISED -

ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
TR 352	10-20128-00-BR	FAYETTE	10	6
RAAI JOB NO. 8101			ILLINOIS FED. AID PROJECT	
			CONTRACT NO. 95692	



**RAIL POST SPACING**

Note: The cost of the Curled End Sections shall be included in the contract unit price per foot for "STEEL RAILING, TYPE S1", and no additional compensation will be allowed.



Notes:  
 All field drilled holes shall be coated with an approved zinc rich paint before erection.  
 All steel rail elements shall be galvanized according to Article 509.05 of the Standard Specifications.  
 \*\*\* 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.

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 - GLH	REVISED -
DATE - 05/18/2012	REVISED -

STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION

STEEL RAILING, TYPE S1 DETAILS  
 STRUCTURE NO. 026-3453

**BILL OF MATERIAL**

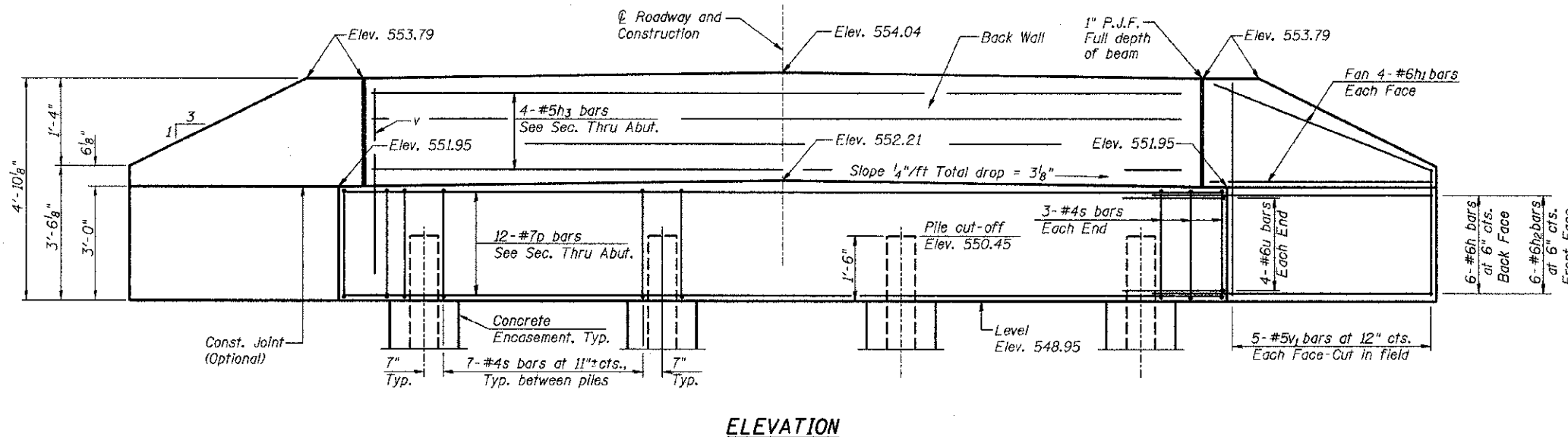
Item	Unit	Quantity
Steel Railing, Type S1	Foot	100

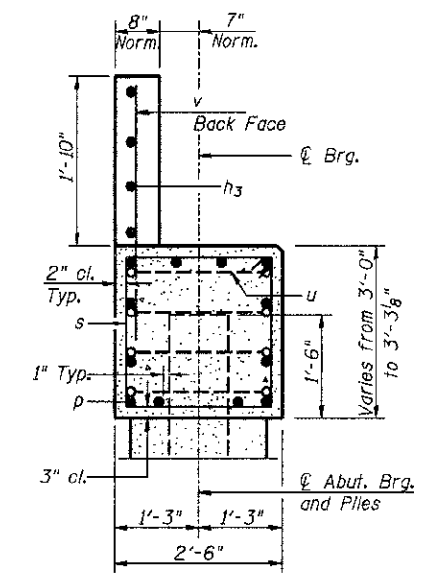
ROUTE	SECTION	COUNTY	TOTAL SHEET NO.
TR 352	10-20128-00-BR	FAYETTE	10 7

CONTRACT NO. 95692  
 RAIL JOB NO. S101 ILLINOIS FED. AID PROJECT

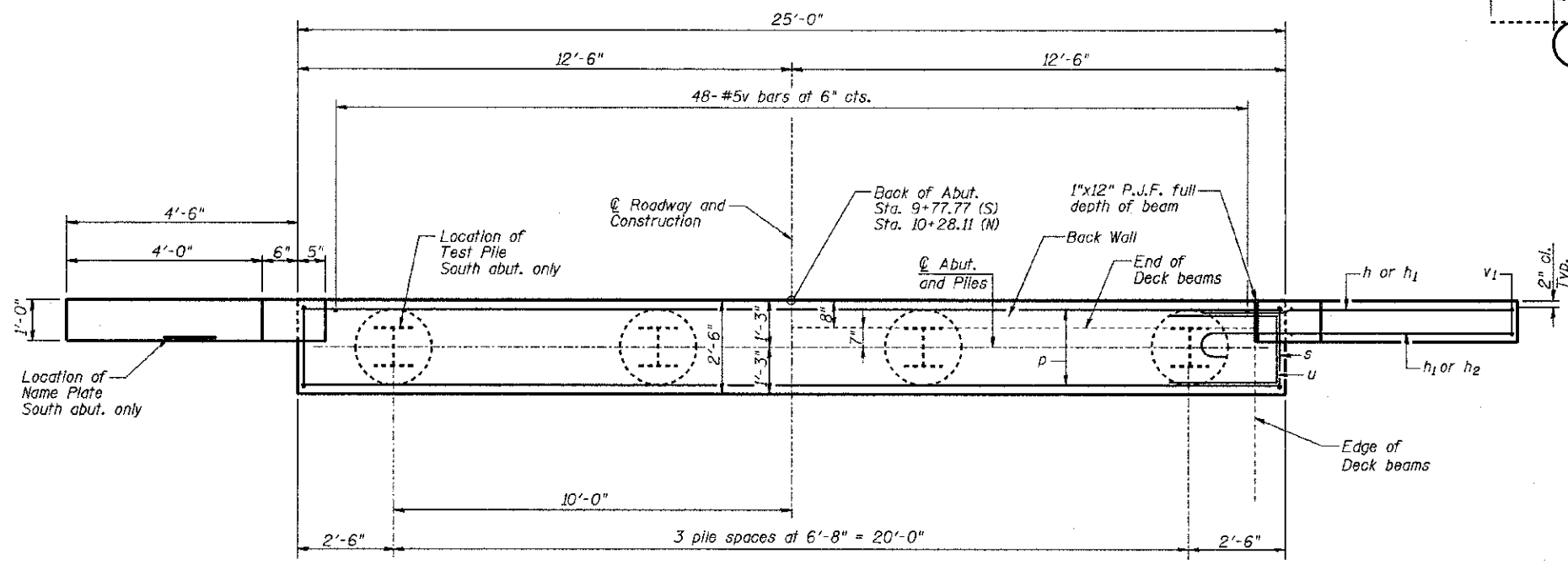




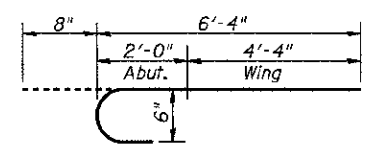
**ELEVATION**



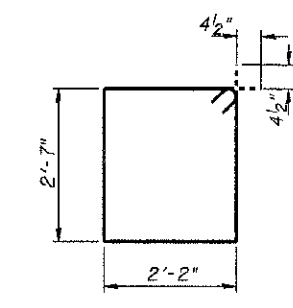
**SEC. THRU ABUT.**  
(Normal to  $\text{C}$ )



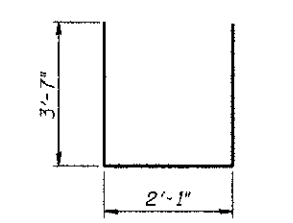
**PLAN**



**BAR h2**



**BAR s**



**BAR u**

**BILL OF MATERIAL FOR ONE ABUTMENT**

Bar	No.	Size	Length	Shape
h	12	#6	8'-0"	—
h1	16	#6	4'-9"	—
h2	12	#6	7'-0"	—
h3	4	#5	23'-8"	—
p	12	#7	24'-8"	—
s	27	#4	10'-3"	□
u	8	#6	9'-3"	—
v	48	#5	3'-9"	—
v1	20	#5	4'-6"	CUT IN FIELD
Concrete Structures			Cu. Yd.	9.8
Concrete Encasement			Cu. Yd.	1.4
Reinforcement Bars			Pound	1690
Furnishing Steel			S. Abut.	135
Piles, HP12x53			N. Abut.	180
Driving Piles			S. Abut.	135
			N. Abut.	180
Test Pile, Steel HP12x53			Each	S. Abut. 1 N. Abut. 0
Pile Shoes			Each	S. Abut. 4 N. Abut. 4

For details of piles and Concrete Encasement, see Sheet 9 of 10.

**GENERAL NOTES**

All exposed edges shall have standard  $\frac{3}{4}$ " chamfer, unless otherwise noted.  
 Reinforcement bars shall conform to ASTM A 706 (IL Modified), Grade 60.  
 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 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 production location at the South abutment 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.

**PILE DATA SOUTH ABUTMENT**

Type: Steel HP12x53  
 Nominal Required Bearing: 239 kips  
 Factored Resistance Available: 131 kips  
 Estimated Length: 45'/pile  
 No. Production Piles w/ Pile Shoes: 3  
 No. Test Piles w/ Pile Shoes: 1

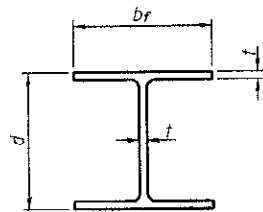
**PILE DATA NORTH ABUTMENT**

Type: Steel HP12x53  
 Nominal Required Bearing: 241 kips  
 Factored Resistance Available: 132 kips  
 Estimated Length: 45'/pile  
 No. Production Piles w/ Pile Shoes: 4  
 No. Test Piles w/ Pile Shoes: 0

DESIGNED - BLT	REVISED -
DRAWN - JN	REVISED -
CHECKED - GLH	REVISED -
DATE - 05/18/2012	REVISED -

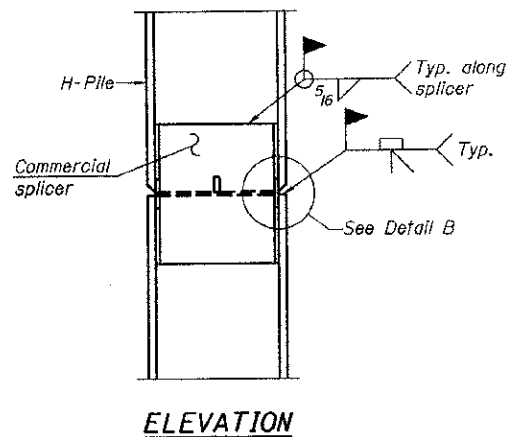
ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
TR 352	10-2012B-00-BR	FAYETTE	10	8
CONTRACT NO. 95692				
RAAT JOB NO. 5101		ILLINOIS FED. AID PROJECT		



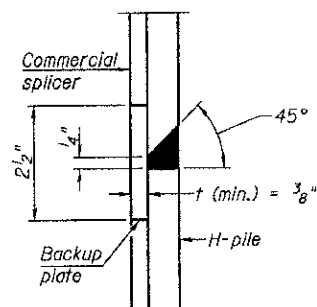


**STEEL PILE TABLE**

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"	1/16"	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 1/8"	7/16"	18"

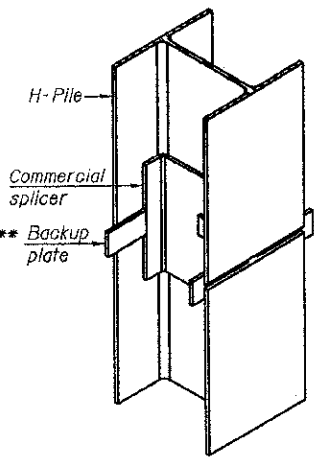


**ELEVATION**

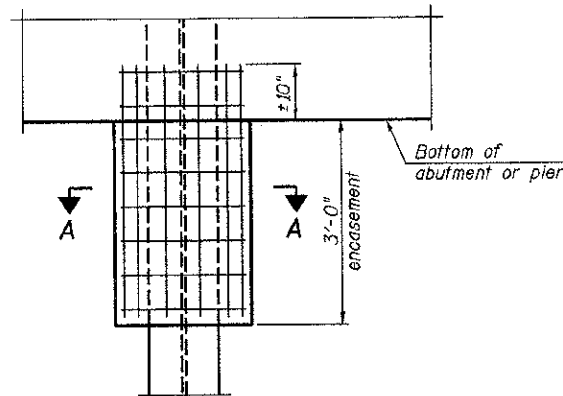


**DETAIL "B"**

**WELDED COMMERCIAL SPLICE**

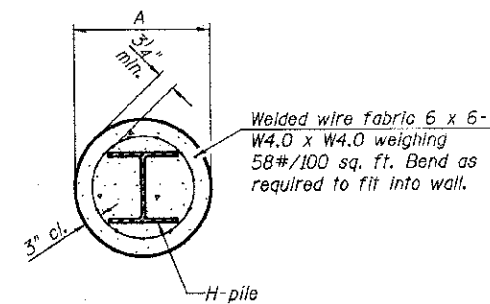


**ISOMETRIC VIEW**



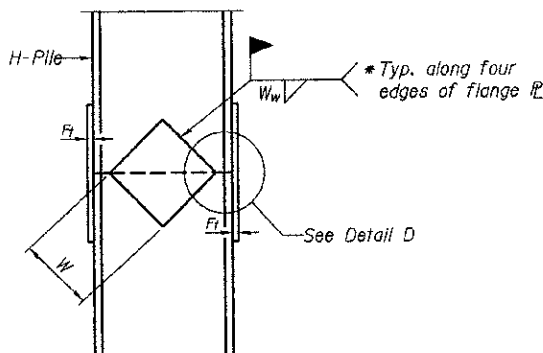
**ELEVATION**

**PILE ENCASEMENT**

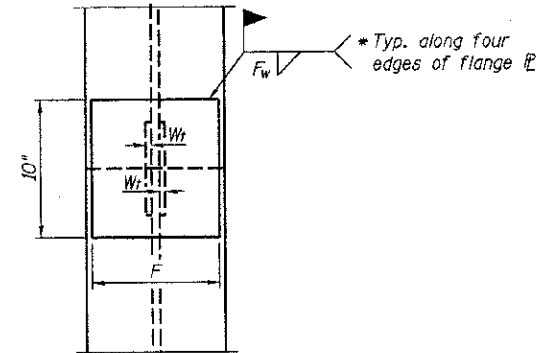


**SECTION A-A**

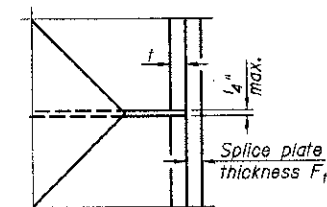
Note:  
Forms for encasement may be omitted when soil conditions permit.



**ELEVATION**



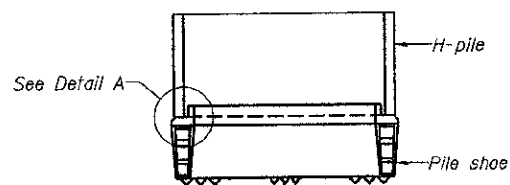
**END VIEW**



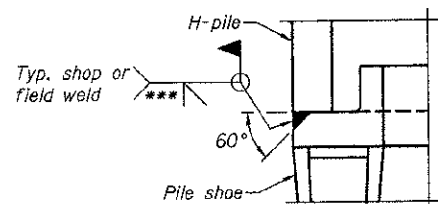
**DETAIL D**

**WELDED PLATE FIELD SPLICE**

Designation	F	F <sub>t</sub>	F <sub>w</sub>	W	W <sub>t</sub>	W <sub>w</sub>
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"	1/16"	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"	1/16"	6 1/2"	5 1/2"	1/2"
x74	10"	7/8"	1/16"	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"

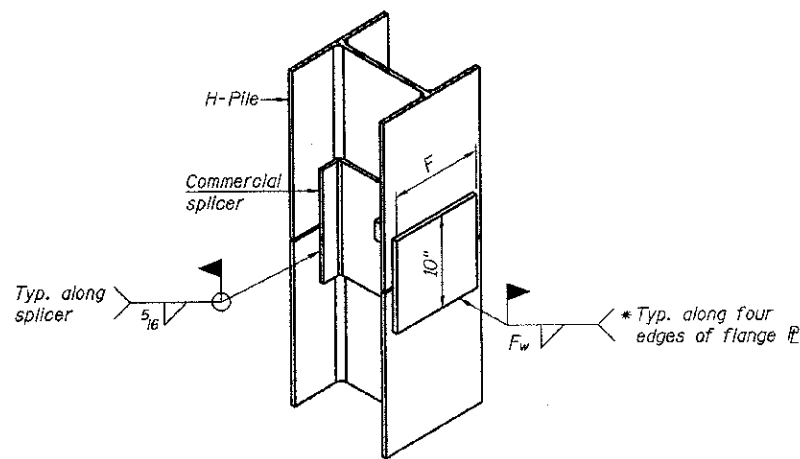


**ELEVATION**



**DETAIL A**

**H-PILE SHOE ATTACHMENT**



**ISOMETRIC VIEW**

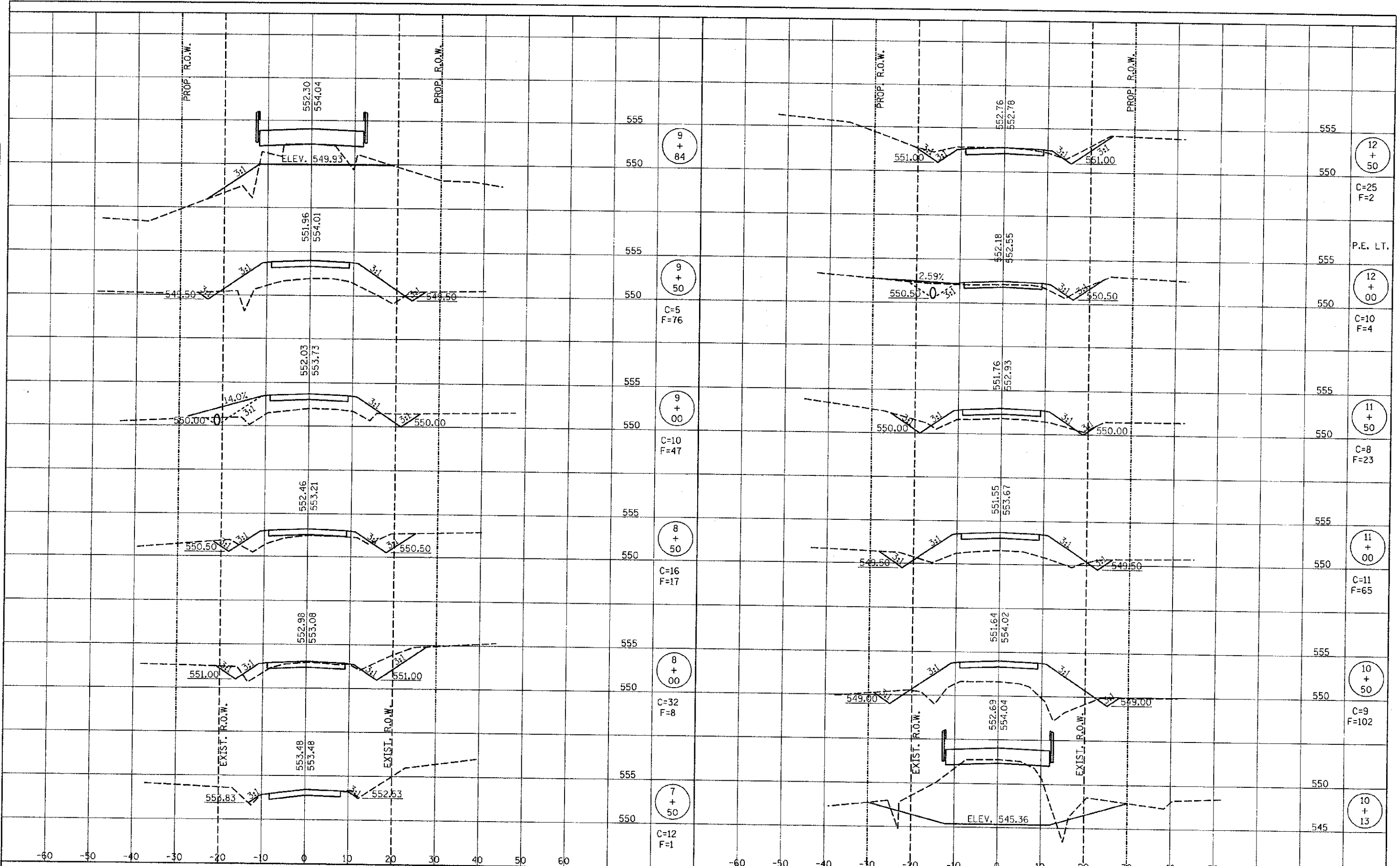
**WELDED COMMERCIAL SPLICE ALTERNATE**

- \* Interrupt welds 1/4" from end of web and/or each flange.
- \*\* Remove portions of backup plates that extend outside the flanges.
- \*\*\* Weld size per pile shoe manufacturer (5/16" min.).

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

FINAL SURVEY	BY	DATE
SUBMITTED		
PLOTTED		
TEMPLATE		
NOTE BOOK		
AREAS CHECKED		
AREAS CHECKED		
NO.		

ORIGINAL SURVEY	BY	DATE
SUBMITTED		
PLOTTED		
TEMPLATE		
NOTE BOOK		
AREAS CHECKED		
AREAS CHECKED		
NO.		



**RHUTASEL and ASSOCIATES, INC.**  
 CONSULTING ENGINEERS • LAND SURVEYORS  
 CENTRALIA, ILLINOIS      FREEBURG, ILLINOIS

DESIGNED -	BLT	REVISED -	
DRAWN -	JN	REVISED -	
CHECKED -	GLH	REVISED -	
DATE -	05/18/2012	REVISED -	

**STATE OF ILLINOIS**  
**DEPARTMENT OF TRANSPORTATION**

**CROSS SECTIONS OF ROADWAY**  
**STRUCTURE NO. 026-3453**

ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
TR 352	10-20128-00-BR	FAYETTE	10	10
RAAT JOB NO. 5101			ILLINOIS FED. AID PROJECT	
			CONTRACT NO. 95692	

STA. 7+50 TO STA. 12+50