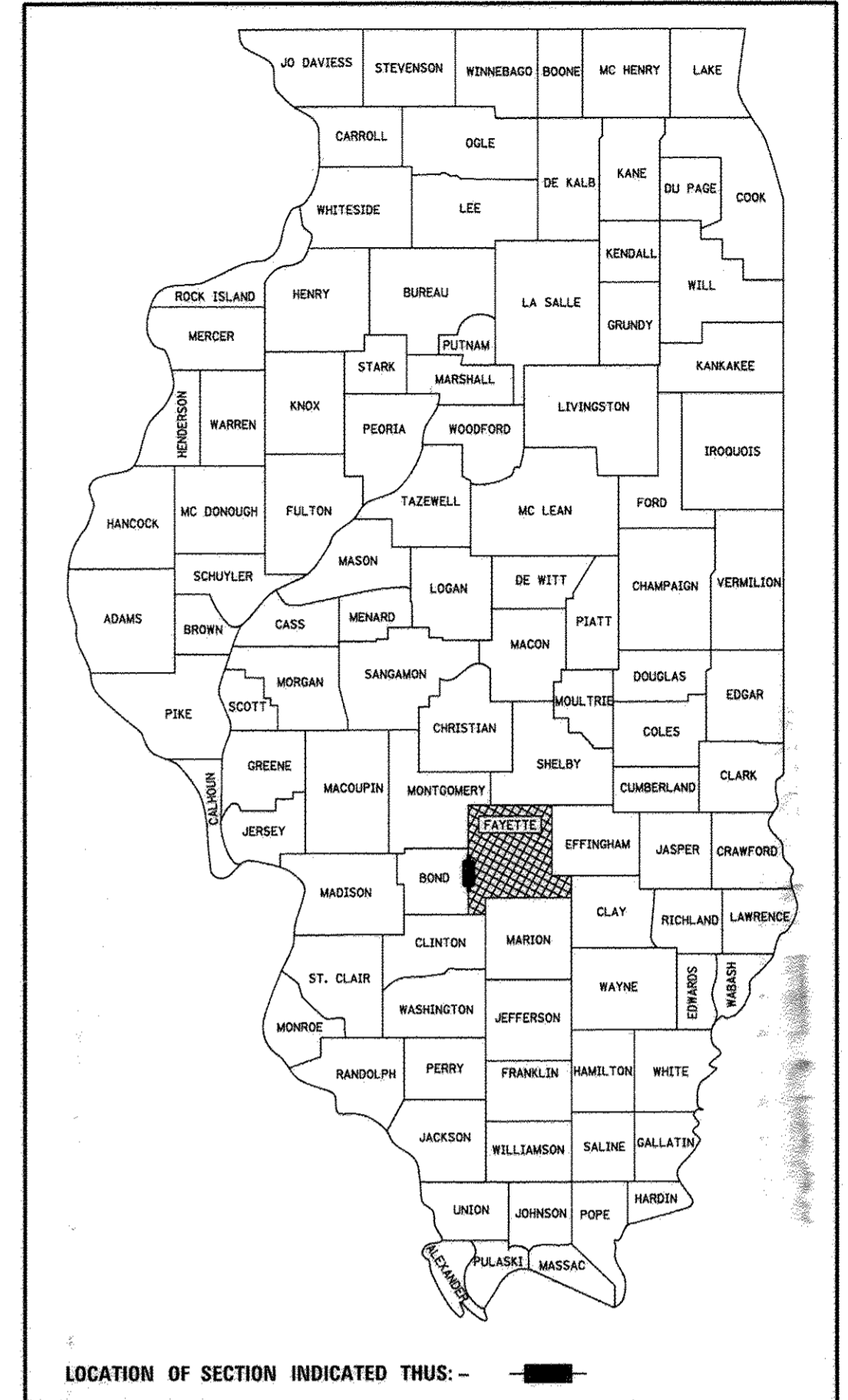


STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
PLANS FOR PROPOSED
STP-BRIDGE
TR 4 (COUNTY LINE ROAD)
BRIDGE OVER OWL CREEK
SECTION 14-02128-00-BR
FAYETTE COUNTY
BEAR GROVE ROAD DISTRICT
SECTION 14-05122-00-BR
BOND COUNTY
PROJECT NO. BROS-0051(101)
JOB NO. C-97-023-16

ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
TR 4	14-02128-00-BR 14-05122-00-BR	FAYETTE BOND	11	1
CONTRACT NO. 95800				

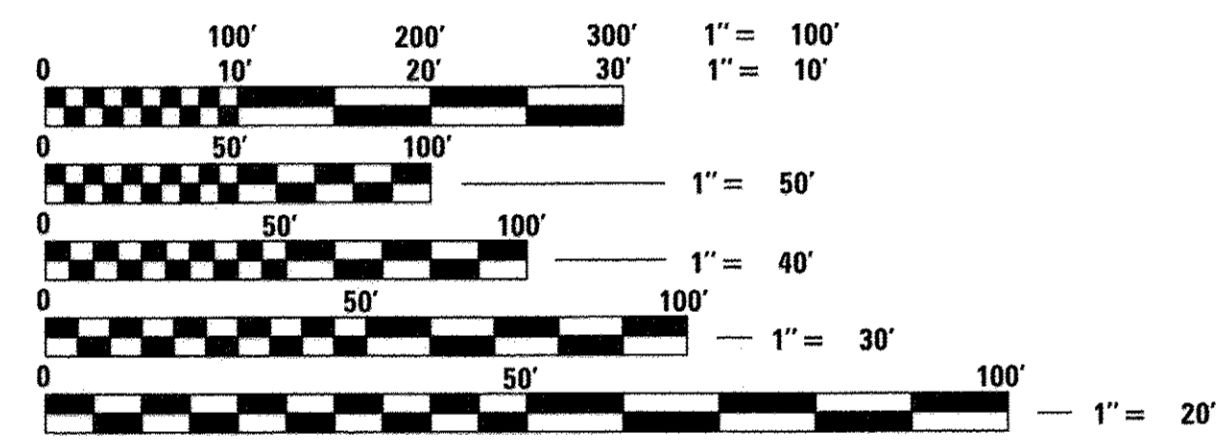
RAAI JOB NO. 54014



LOCATION OF SECTION INDICATED THIS: - [shaded box]

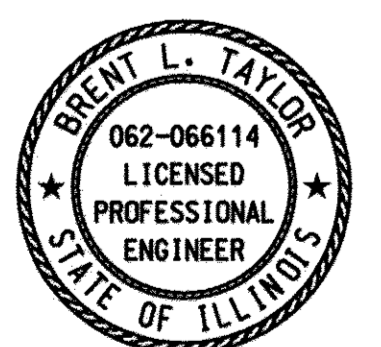
- INDEX OF SHEETS**
1. COVER SHEET
 2. SUMMARY OF QUANTITIES, GENERAL NOTES, AND TYPICAL SECTIONS
 3. PLAN AND PROFILE OF ROADWAY
 4. GENERAL PLAN AND ELEVATION
 - 5.-6. PRECAST PRESTRESSED CONCRETE DECK BEAM DETAILS
 7. STEEL RAILING, TYPE S1 DETAILS
 8. ABUTMENT DETAILS
 9. HP PILE DETAILS
 - 10.-11. CROSS SECTIONS OF ROADWAY
- HIGHWAY STANDARDS (SEE SPECIFICATIONS)
- 000001-06 STANDARD SYMBOLS, ABBREVIATIONS AND PATTERNS
 - 515001-03 NAME PLATE FOR BRIDGES
 - 701901-06 TRAFFIC CONTROL DEVICES
 - 725001-01 OBJECT AND TERMINAL MARKERS
 - BLR 21-9 TYPICAL APPLICATION OF TRAFFIC CONTROL DEVICES FOR CONSTRUCTION ON RURAL LOCAL HIGHWAYS
- SOIL BORINGS (SEE SPECIFICATIONS)

DESIGN CLASSIFICATION: RURAL LOCAL ROAD
 ADT₂₀₁₆ : 175
 DESIGN SPEED: 30 MPH

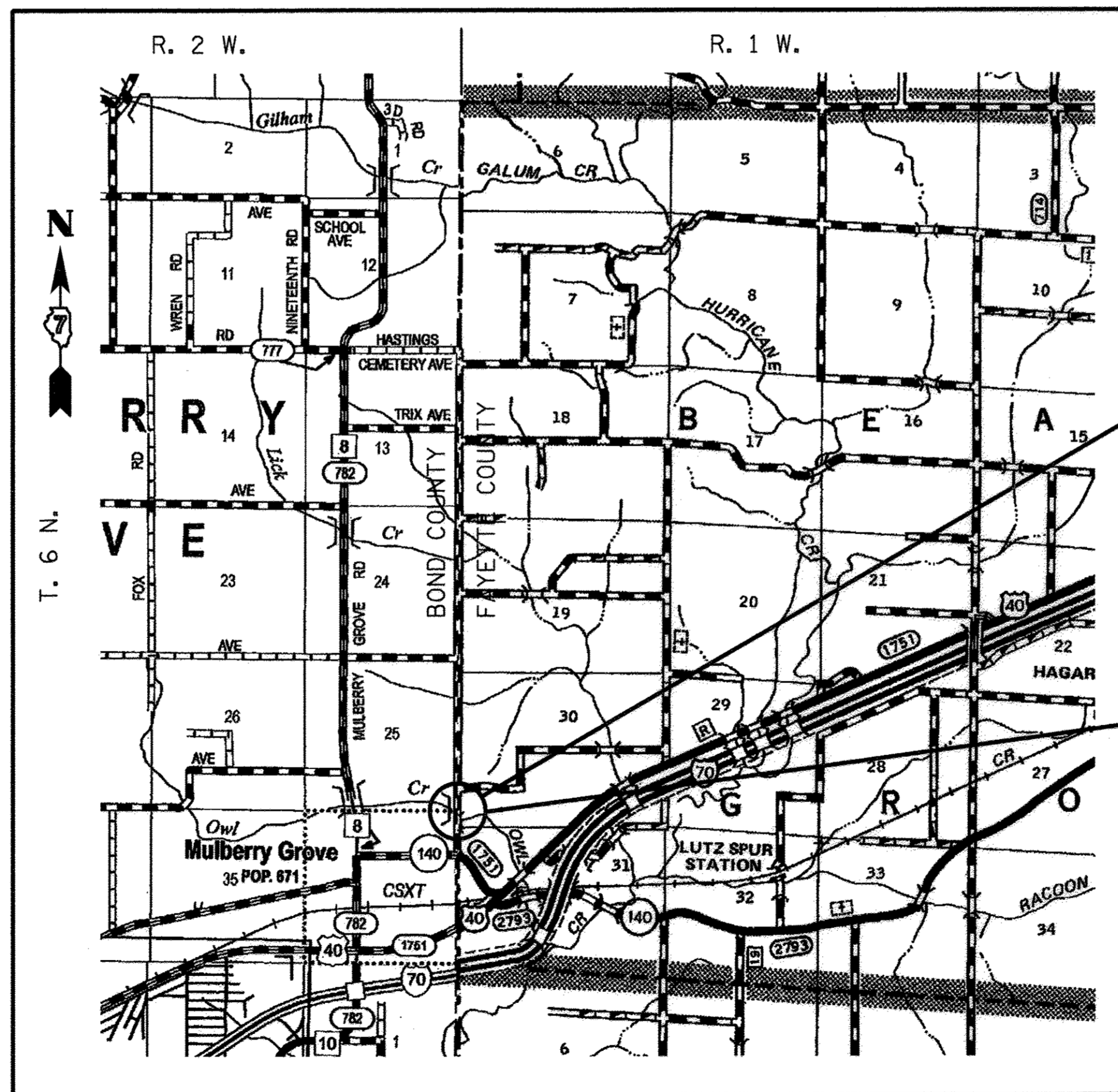


FULL SIZE PLANS HAVE BEEN PREPARED USING STANDARD ENGINEERING SCALES, REDUCED SIZED PLANS WILL NOT CONFORM TO STANDARD SCALES, IN MAKING MEASUREMENTS ON REDUCED PLANS, THE ABOVE SCALES MAY BE USED.

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



Brent L. Taylor 09/22/2016
 BRENT L. TAYLOR
 CENTRALIA, ILLINOIS
 ILLINOIS LICENSED PROFESSIONAL
 ENGINEER NO. 062-066114
 EXPIRES NOV. 30, 2017



SECTION ENDS
 STA. 53+70.00

FAYETTE COUNTY SECTION 14-02128-00-BR AND BOND COUNTY SECTION 14-05122-00-BR INCLUDES THE CONSTRUCTION OF A SINGLE SPAN PRECAST PRESTRESSED CONCRETE DECK BEAM BRIDGE CARRYING TR 4 OVER OWL CREEK, 75'-0" BK. TO BK. ABUTMENTS X 24' WIDE, NO SKEW. EXISTING STRUCTURE NO. 026-3306 PROPOSED STRUCTURE NO. 026-3466

SECTION BEGINS
 STA. 48+94.50

LOCATION: NEAR THE SW CORNER OF SECTION 30, T6N, R1W, 3RD P.M.
 NET LENGTH OF PROJECT: 475.50 FT. = 0.090 MI.

FAYETTE COUNTY
 HIGHWAY DEPARTMENT

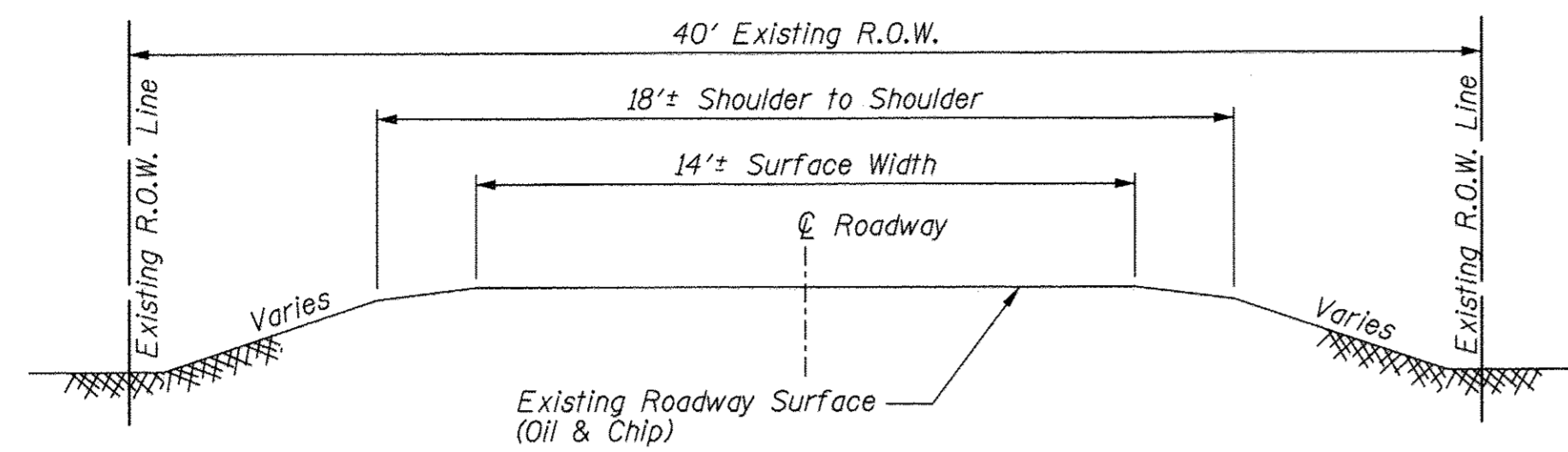
APPROVED 9-22, 2016
Michael D. ...
 FAYETTE COUNTY, COUNTY ENGINEER

PASSED 11-4, 2016
Maureen ...
 DISTRICT SEVEN ENGINEER OF LOCAL ROADS & STREETS

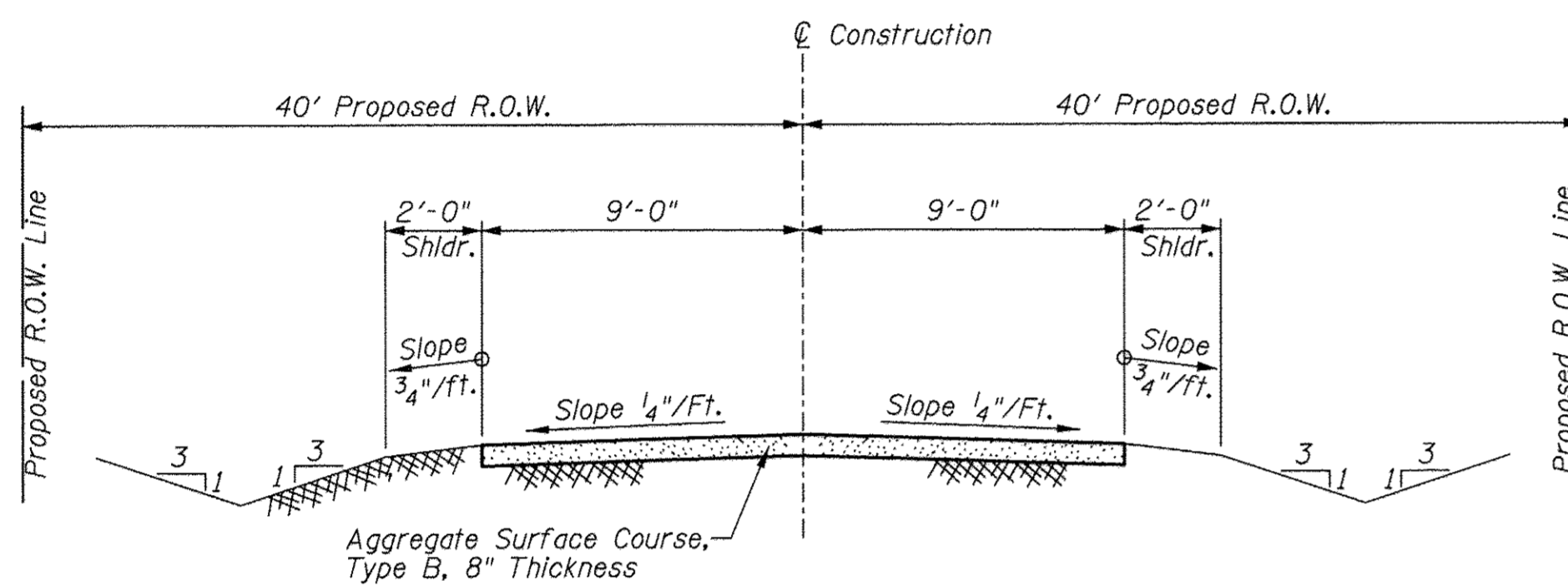
RELEASING FOR BID
 BASED ON LIMITED
 REVIEW 11/4, 2016
Jeffrey ...
 REGION FOUR ENGINEER

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

CONTRACT NO. 95800

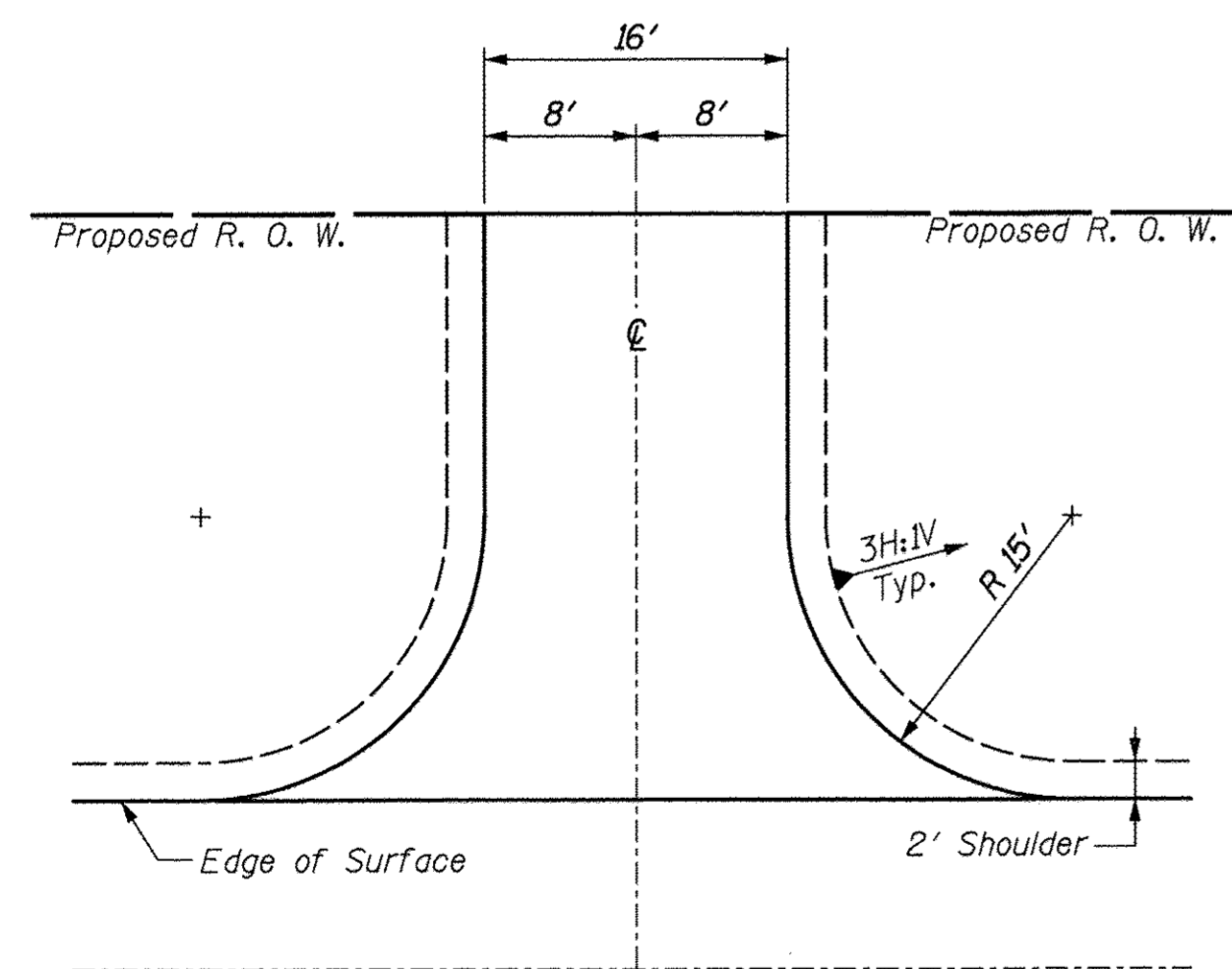


**TYPICAL SECTION
EXISTING APPROACH ROADWAY**



**TYPICAL SECTION
PROPOSED APPROACH ROADWAY**

Looking North (Upstation)
See Sheet 3 for limits
of Proposed R.O.W.



TYPICAL FIELD ENTRANCE

Earth Surface [with Seeding,
Class 2 (Special)]
Rt., Sta. 52+70

UTILITIES

J.U.L.I.E.: Design Phase Locate
Dig No.: X2212021
Telephone: Frontier Communications
Attn: Mr. Rod Eller
801 West Jackson Street
Altamont, IL 62411
Phone: 618-483-6205
Electric: Southwestern Electric Co-Op
Attn: Ms. Kim Jackson
525 U.S. Route 40
Greenville, IL 62246
Phone: 618-664-5922

SUMMARY OF QUANTITIES

Code No.	Item	Unit	Quantity
20100110	TREE REMOVAL (6 TO 15 UNITS DIAMETER)	UNIT	39
20100210	TREE REMOVAL (OVER 15 UNITS DIAMETER)	UNIT	18
20200100	EARTH EXCAVATION	CU YD	165
20300100	CHANNEL EXCAVATION	CU YD	340
20400800	FURNISHED EXCAVATION	CU YD	521
20700110	POROUS GRANULAR EMBANKMENT	TON	162
28100807	STONE DUMPED RIPRAP, CLASS A4	TON	180
40200800	AGGREGATE SURFACE COURSE, TYPE B	TON	362
50100100	REMOVAL OF EXISTING STRUCTURES	EACH	1
50105220	PIPE CULVERT REMOVAL	FOOT	21
50300225	CONCRETE STRUCTURES	CU YD	32.2
50300280	CONCRETE ENCASEMENT	CU YD	2.8
50400605	PRECAST PRESTRESSED CONCRETE DECK BEAMS (33" DEPTH)	SQ FT	1768
50800105	REINFORCEMENT BARS	POUND	4940
* 50900205	STEEL RAILING, TYPE S1	FOOT	150
51201600	FURNISHING STEEL PILES HP12X53	FOOT	182
51202305	DRIVING PILES	FOOT	182
51203600	TEST PILE STEEL HP12X53	EACH	1
51500100	NAME PLATES	EACH	1
54200220	PIPE CULVERTS, CLASS C, TYPE 1 15"	FOOT	36
67100100	MOBILIZATION	L SUM	1
* 72501000	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 April 1, 2016.
- 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 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.
- Areas to be seeded shall consist of all disturbed earth surfaces within the Right-of-way as directed by the Engineer.
- Commitments: The removal and replacement of existing fence within the limits of construction will be done by others and will be coordinated by the Bear Grove Road District. The removal will be completed prior to the start of construction. No work should be conducted on the existing bridge from April 1 through August 15 of any construction year in order to protect nesting birds under the bridge. If the bridge work cannot be started until after April 1, netting or other obstructions will be placed under the bridge prior to April 1 to prevent birds or bats from nesting under the bridge. The Fayette County Engineer will perform a final inspection of the bridge for bats prior to construction. No tree clearing will be allowed or performed from April 1 through September 30 as part of the effort to conserve the Indiana and Northern Long-Eared bat. The Fayette County Engineer will notify public service providers prior to the start of construction.

To date, no other commitments have been made.

RAAI JOB NO. 54014

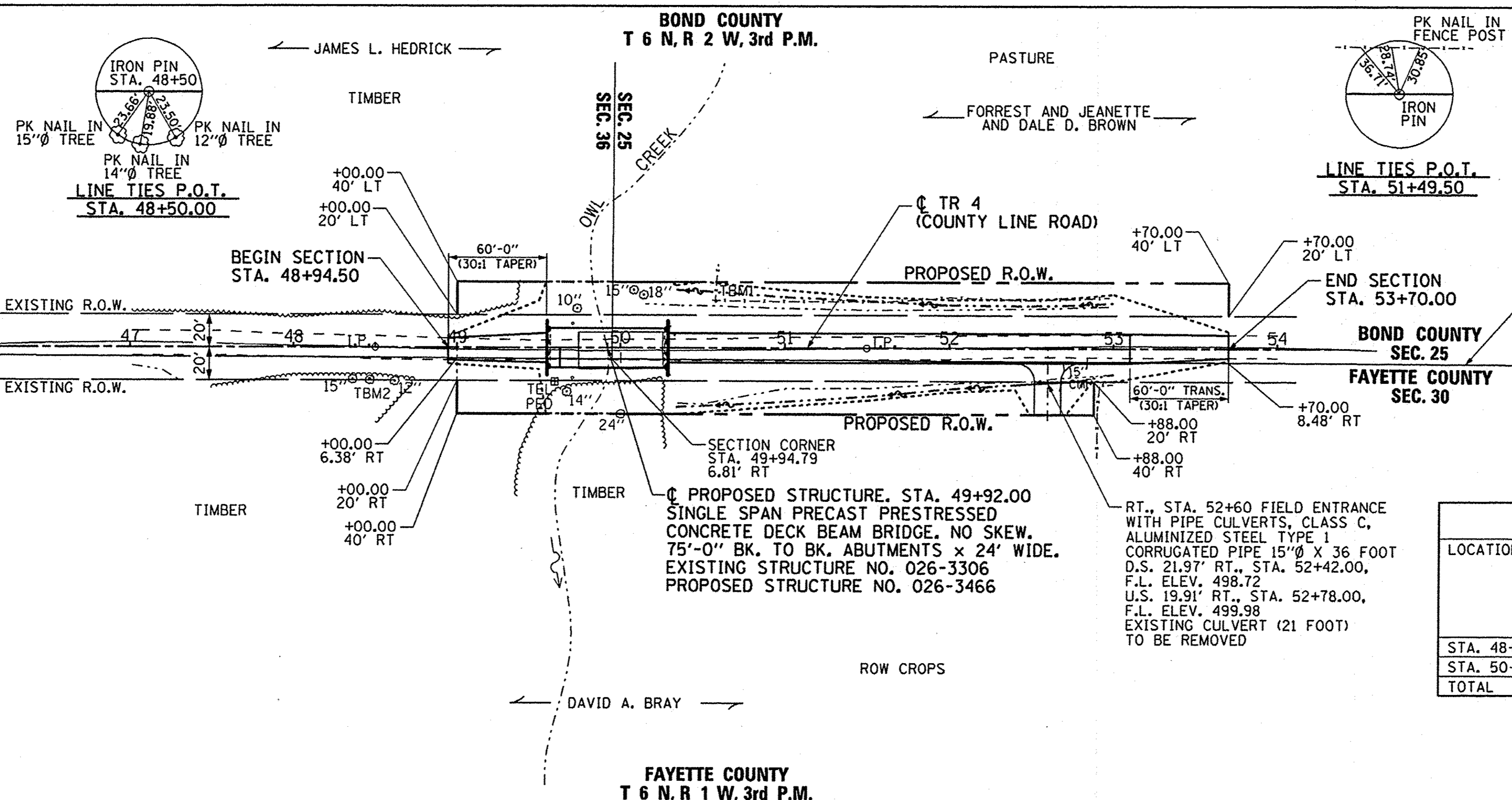
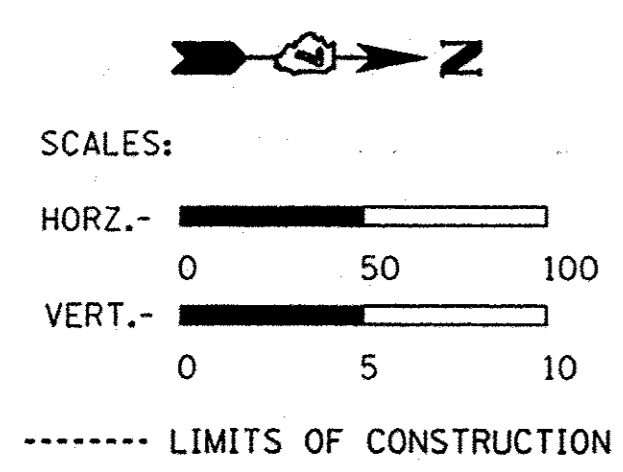
RHUTASEL and ASSOCIATES, INC.
CONSULTING ENGINEERS • LAND SURVEYORS
CENTRALIA, ILLINOIS FREEBURG, ILLINOIS
ILLINOIS DESIGN FIRM LICENSE NO. 184-000287

DESIGNED - BLT	REVISED -
DRAWN - JN	REVISED -
CHECKED - GLH	REVISED -
DATE - 09/21/2016	REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

SUMMARY OF QUANTITIES, GENERAL NOTES, AND TYPICAL SECTIONS

ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
TR 4	14-02128-00-BR 14-05122-00-BR	FAYETTE	11	2
			CONTRACT NO. 95800	



TREE REMOVAL (6 TO 15 UNITS DIAMETER)

LOCATION	UNIT
27' RT., STA. 49+67	14"
24' LT., STA. 49+73	10"
35' LT., STA. 50+08	15"
TOTAL	39"

TREE REMOVAL (OVER 15 UNITS DIAMETER)

LOCATION	UNIT
32' LT., STA. 50+14	18"
TOTAL	18"

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. 48+94.50 TO STA. 49+54.50	28	21	20	1
STA. 50+29.50 TO STA. 53+70.00	137	103	625	-522
TOTAL	165	124	645	-521

*25% SHRINKAGE **FURNISHED EXCAVATION

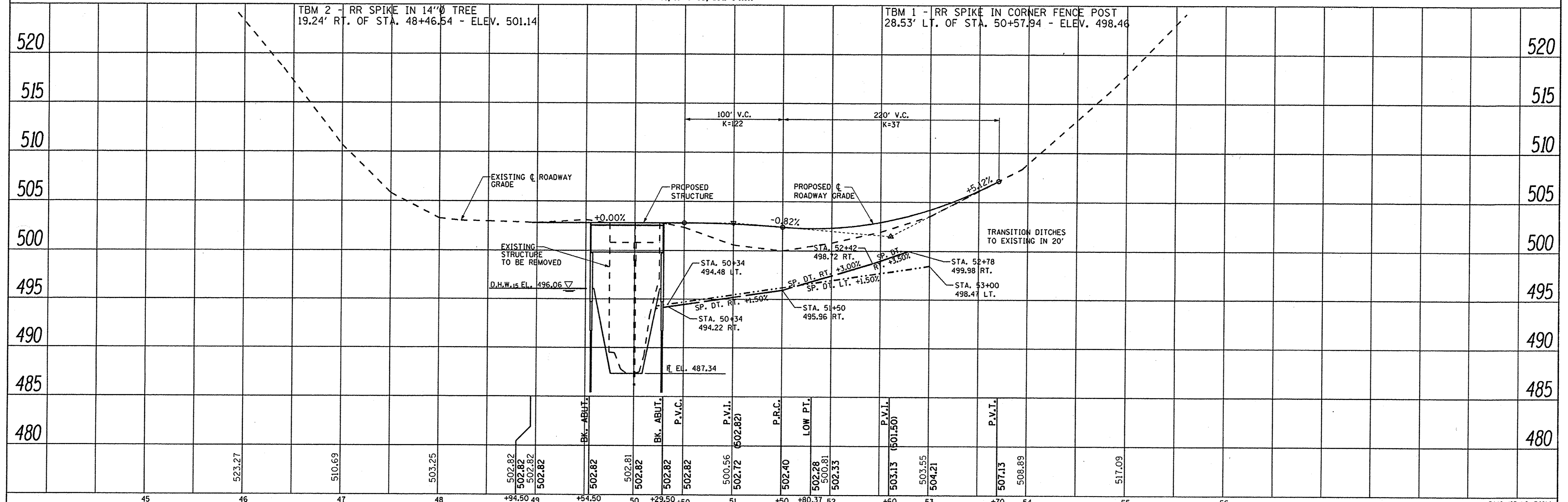
THE EXISTING RIGHT OF WAY SHOWN HEREON HAS BEEN PROTRACTED FROM EXISTING RECORDS AND IS TO BE USED FOR REFERENCE PURPOSES ONLY. FURTHERMORE, NO COMPLETE SURVEY OF SAID R.O.W. IS IMPLIED BY THIS DRAWING.

PLAN

DATE	
BY	
REVISION	
NO.	
DATE	
BY	
REVISION	
NO.	
DATE	
BY	
REVISION	
NO.	

PROFILE

DATE	
BY	
REVISION	
NO.	
DATE	
BY	
REVISION	
NO.	
DATE	
BY	
REVISION	
NO.	



DESIGNED - BLT	REVISED -	ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
DRAWN - JN	REVISED -	TR 4	14-02128-00-BR	FAYETTE	11	3
CHECKED - GLH	REVISED -					CONTRACT NO. 95800
DATE - 09/21/2016	REVISED - 11/21/2016	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION				

PLAN AND PROFILE OF ROADWAY

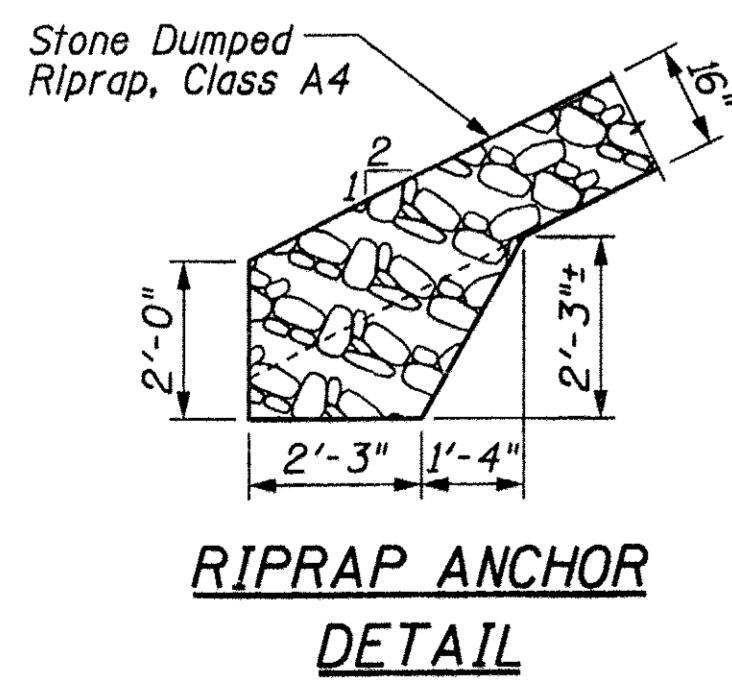
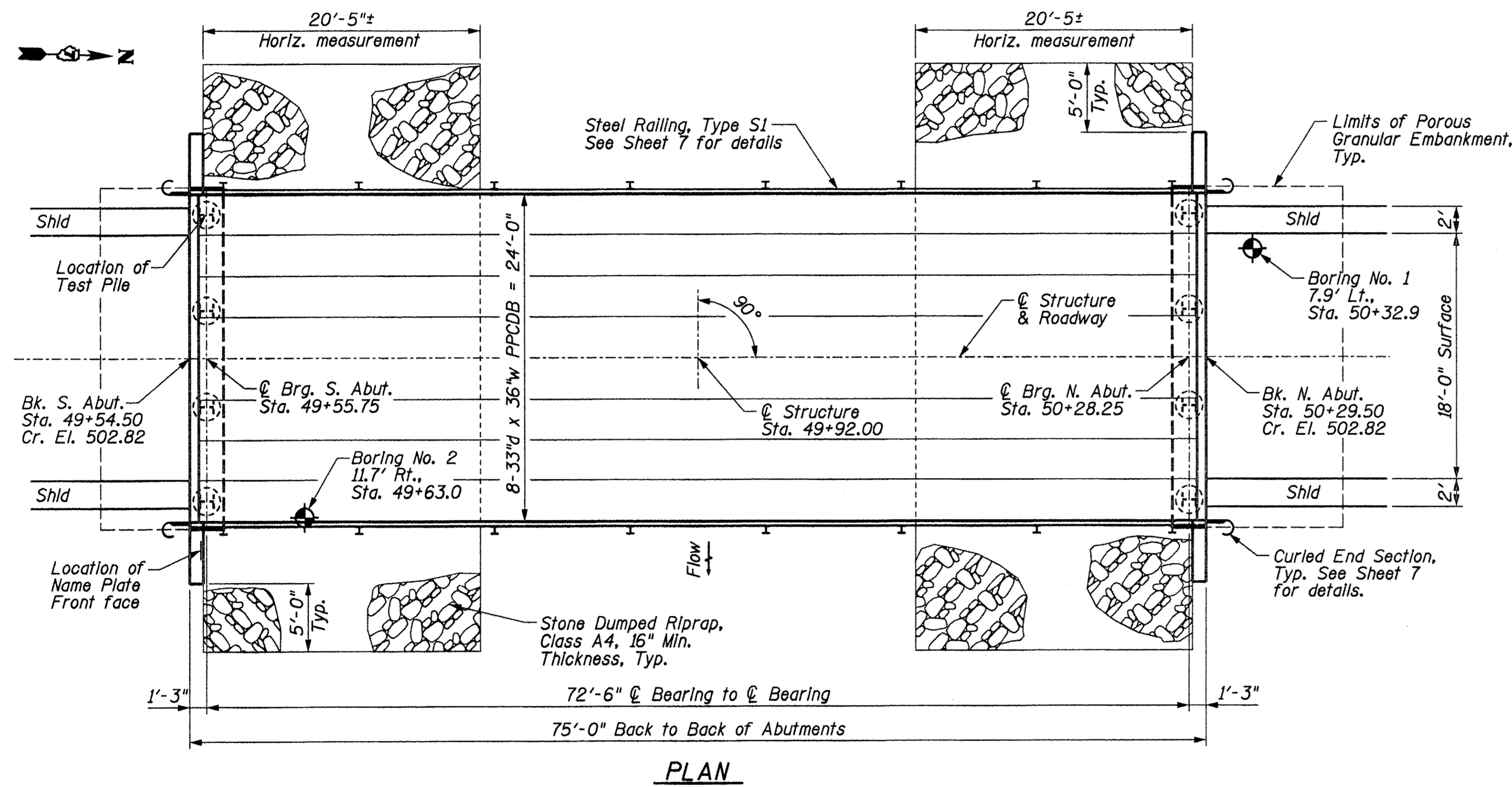
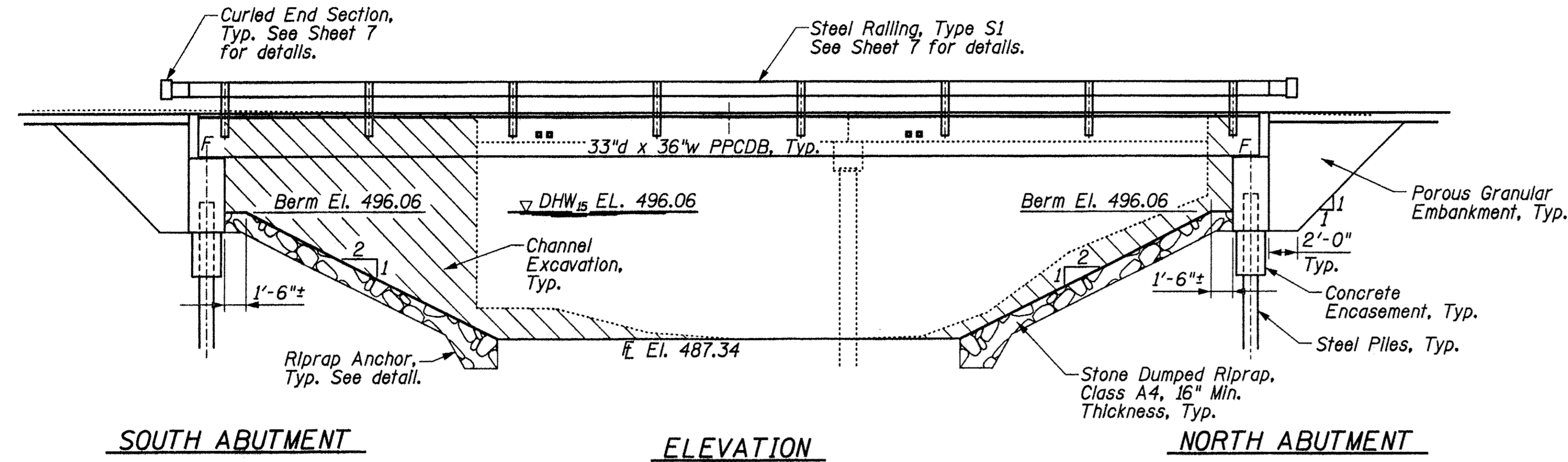
STA. 46+00 TO STA. 55+50

RAAI JOB NO. 54014

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

TBM #1: RR Spike in corner fence post
28.53' Lt. of Sta. 50+57.94 - Elev. 498.46

TBM #2: RR Spike in 14" tree
19.24' Rt. of Sta. 48+46.54 - Elev. 501.14



WATERWAY INFORMATION

Drainage Area = 5.01 sq. mi. Existing Low Grade Elev. 500.00 @ Sta. 51+50
Proposed Low Grade Elev. 502.28 @ Sta. 51+80

Flood Yr.	Freq.	Q C.F.S.	Opening Sq. Ft.		Nat. H.W.E.	Head - Ft.		Headwater El.	
			Exst.	Prop.		Exst.	Prop.	Exst.	Prop.
Design	15	1600	309	432	496.06	0.42	0.30	496.48	496.36
Base	100	2730	360	506	497.11	1.14	0.87	498.25	497.98
Base	500	3750	391	550	497.75	1.86	1.40	499.61	499.15

LOADING HL-93

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

DESIGN SPECIFICATIONS

2014 (7th Ed.) AASHTO LRFD Bridge Design Specifications with 2015 Interims

DESIGN STRESSES

FIELD UNITS

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

PRECAST PRESTRESSED UNITS

$f'_c = 6,000$ psi
 $f'_d = 5,000$ 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)

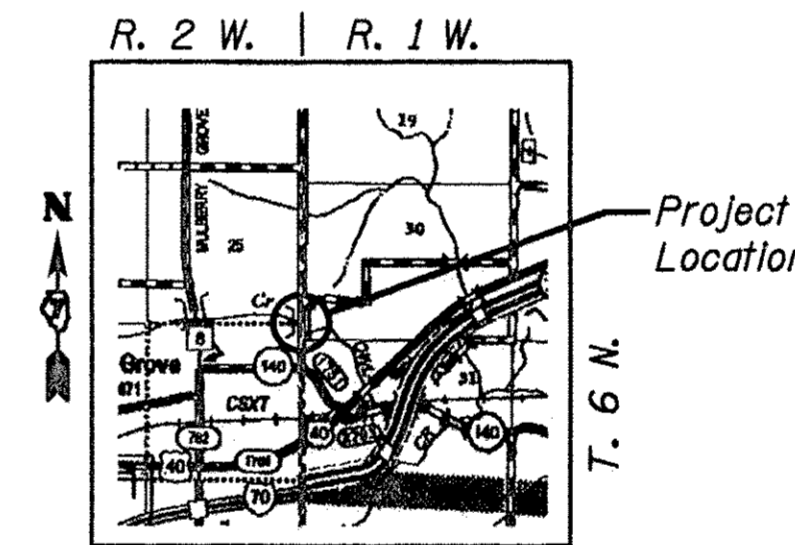
SEISMIC DATA

Seismic Performance Zone (SPZ) = 2
Soil Site Classification = D
 $S_{D1} = 0.232$ $S_{ps} = 0.519$

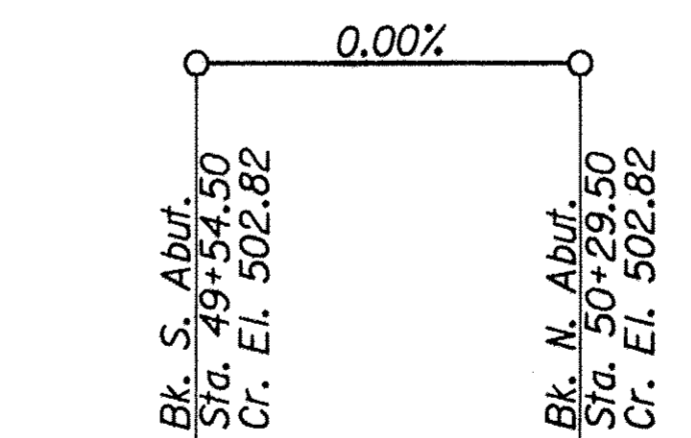
**OWL CREEK
BUILT 201 BY
FAYETTE COUNTY
SEC. 14-02128-00-BR
TR 4 STA. 49+92.00
LOADING HL-93
STRUCTURE NO. 026-3466**

NAME PLATE

See Std. 515001



LOCATION SKETCH



GRADE ON STRUCTURE
(along ϕ TR 4)

Existing Structure: Sta. 50+00, S.N. 026-3306. Two span bridge with precast concrete channel beams supported on closed timber and steel pile bent abutments w/conc. caps and timber pile bent pier w/conc. cap. 53.0' L. x 22.8' W. To be removed. See Special Provisions.

BILL OF MATERIALS (BRIDGE ONLY)

ITEM	UNIT	TOTAL
Channel Excavation	Cu Yd	340
Porous Granular Embankment	Ton	162
Stone Dumped Riprap, Class A4	Ton	180
Removal of Existing Structures	Each	1
Concrete Structures	Cu Yd	32.2
Concrete Encasement	Cu Yd	2.8
PPCDB (33" Depth)	Sq Ft	1768
Reinforcement Bars	Pound	4940
Steel Railing, Type S1	Foot	150
Furnishing Steel Piles HP12x53	Foot	182
Driving Piles	Foot	182
Test Pile Steel HP12x53	Each	1
Name Plates	Each	1
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.

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

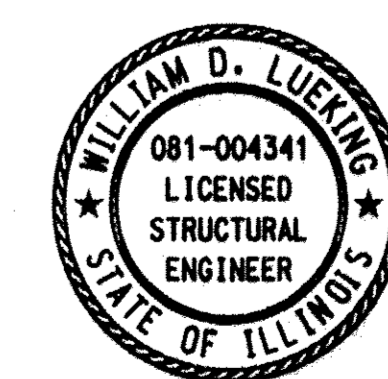
See Section 502 of the Standard Specifications for Structural Excavation.

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.

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
09/22/2016
Date of Signing
11/30/2016
Date of License Expiration

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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 - 09/21/2016	REVISED -

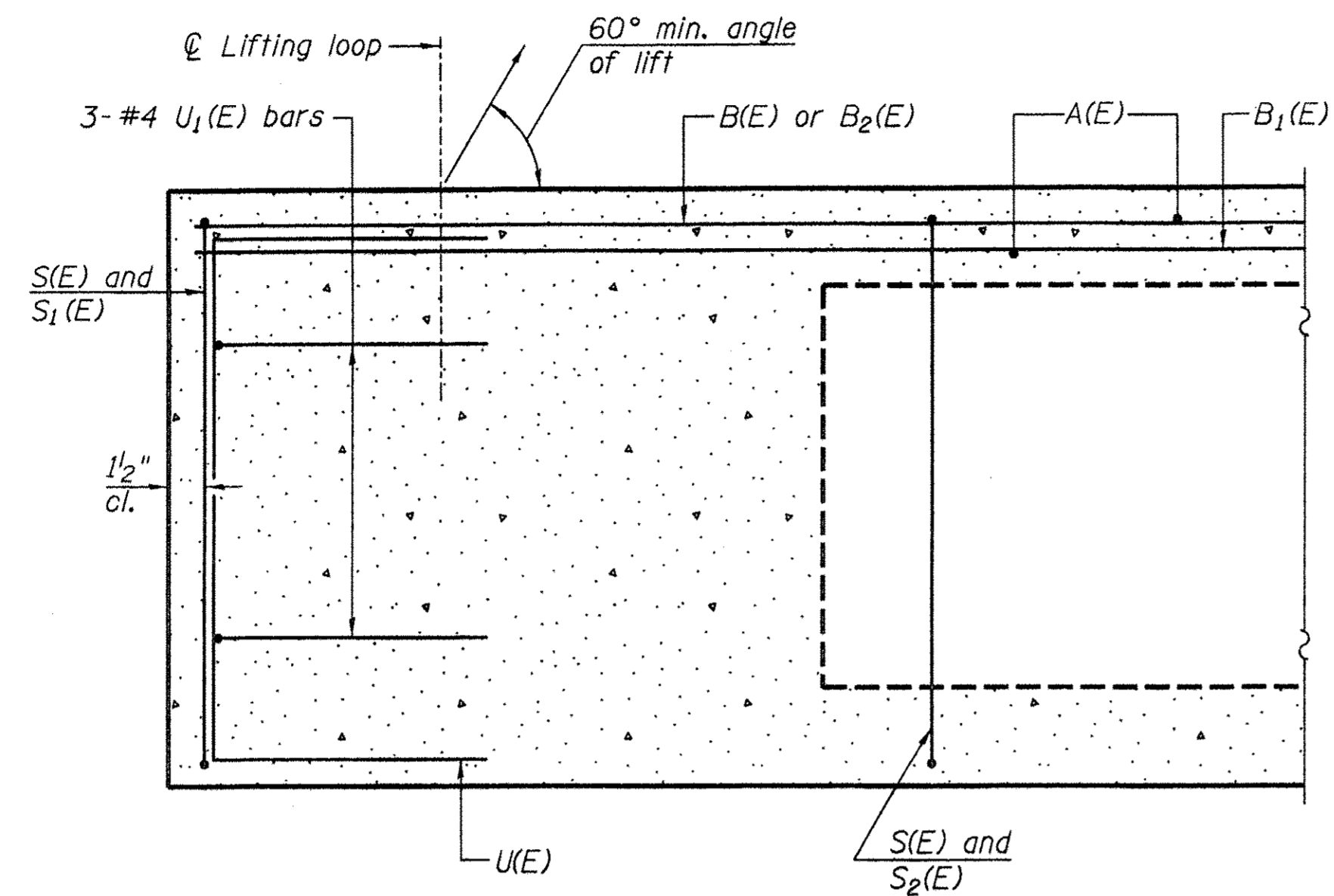
**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

GENERAL PLAN AND ELEVATION

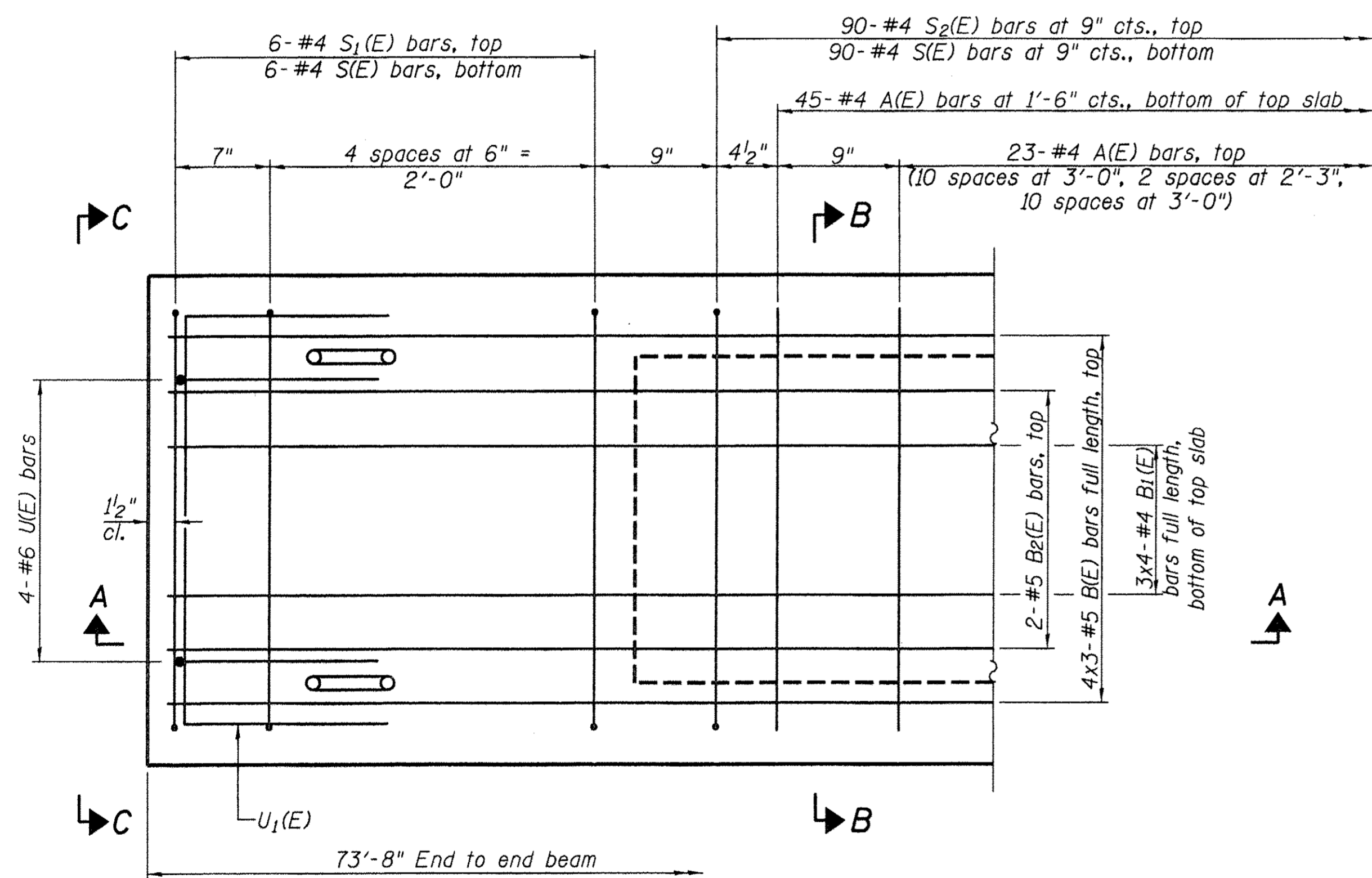
RAAI JOB NO. 54014

ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
TR 4	14-02128-00-BR 14-05122-00-BR	FAYETTE	11	4

CONTRACT NO. 95800



SECTION A-A



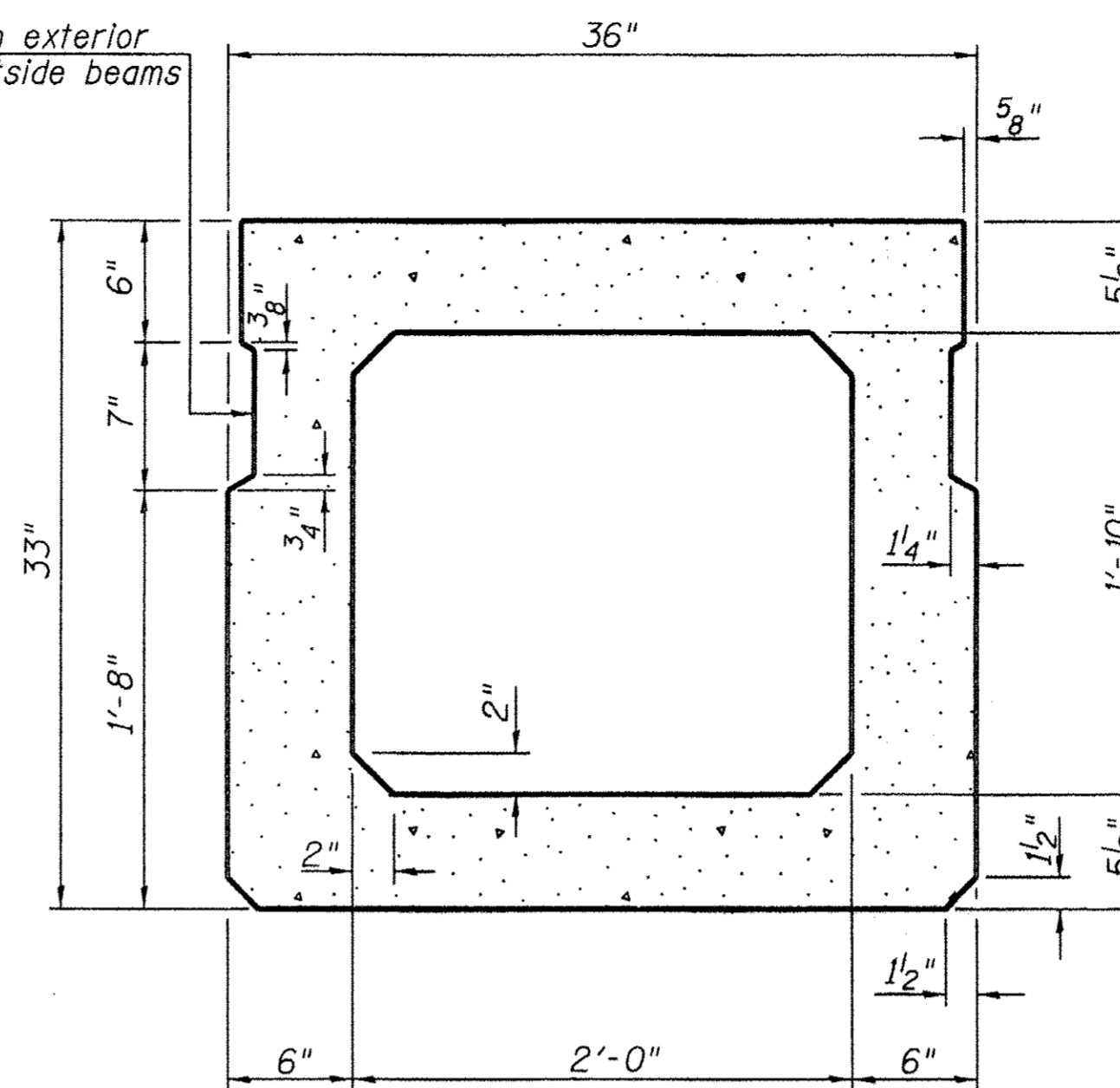
PLAN VIEW

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.

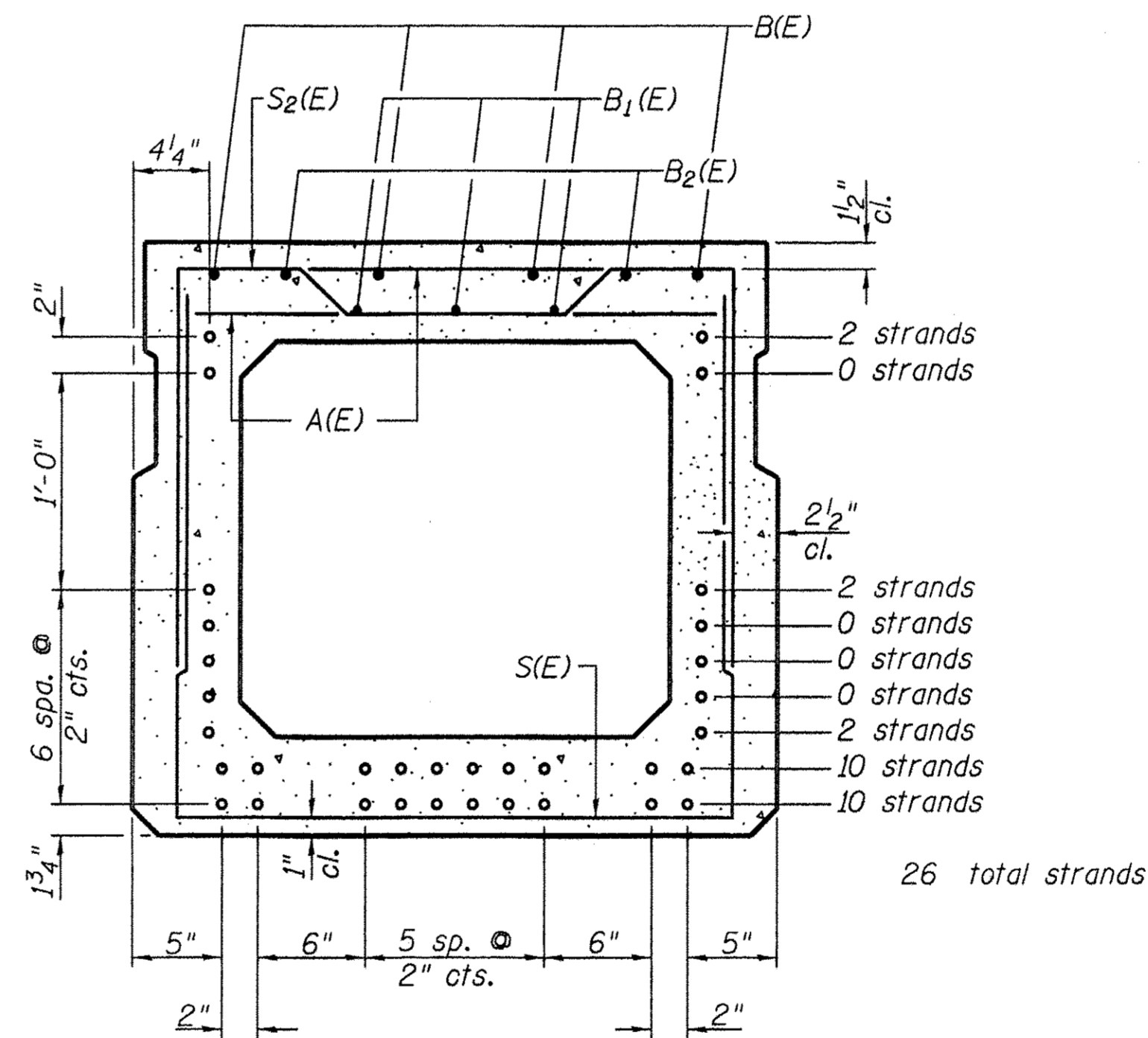
Bars indicated thus: 4x3-#5 etc. indicates 4 lines of bars with 3 lengths per line.

Symmetrical about \bar{C}

Omit key on exterior face of outside beams



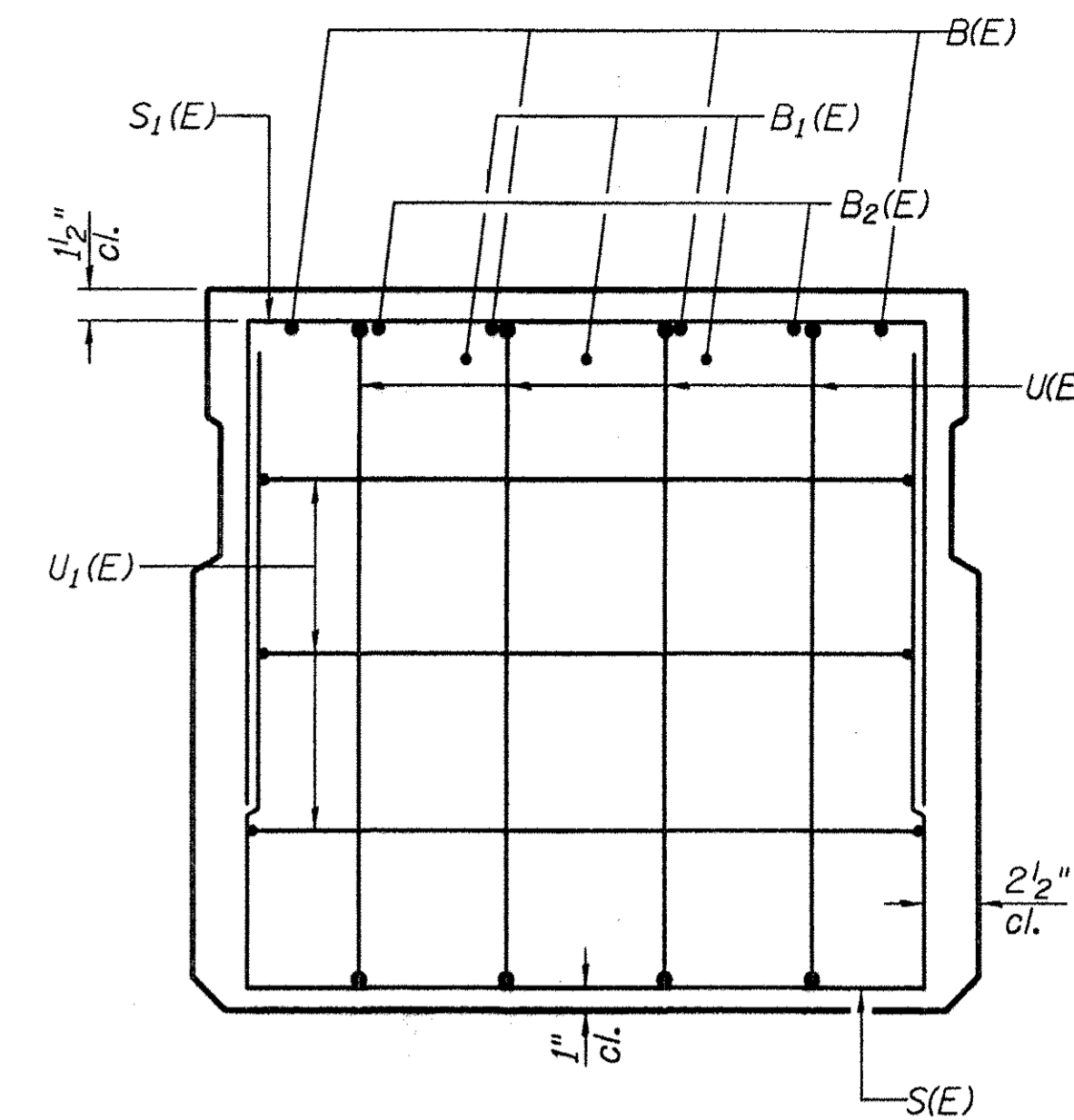
SECTION B-B
(Showing dimensions)



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.



VIEW C-C

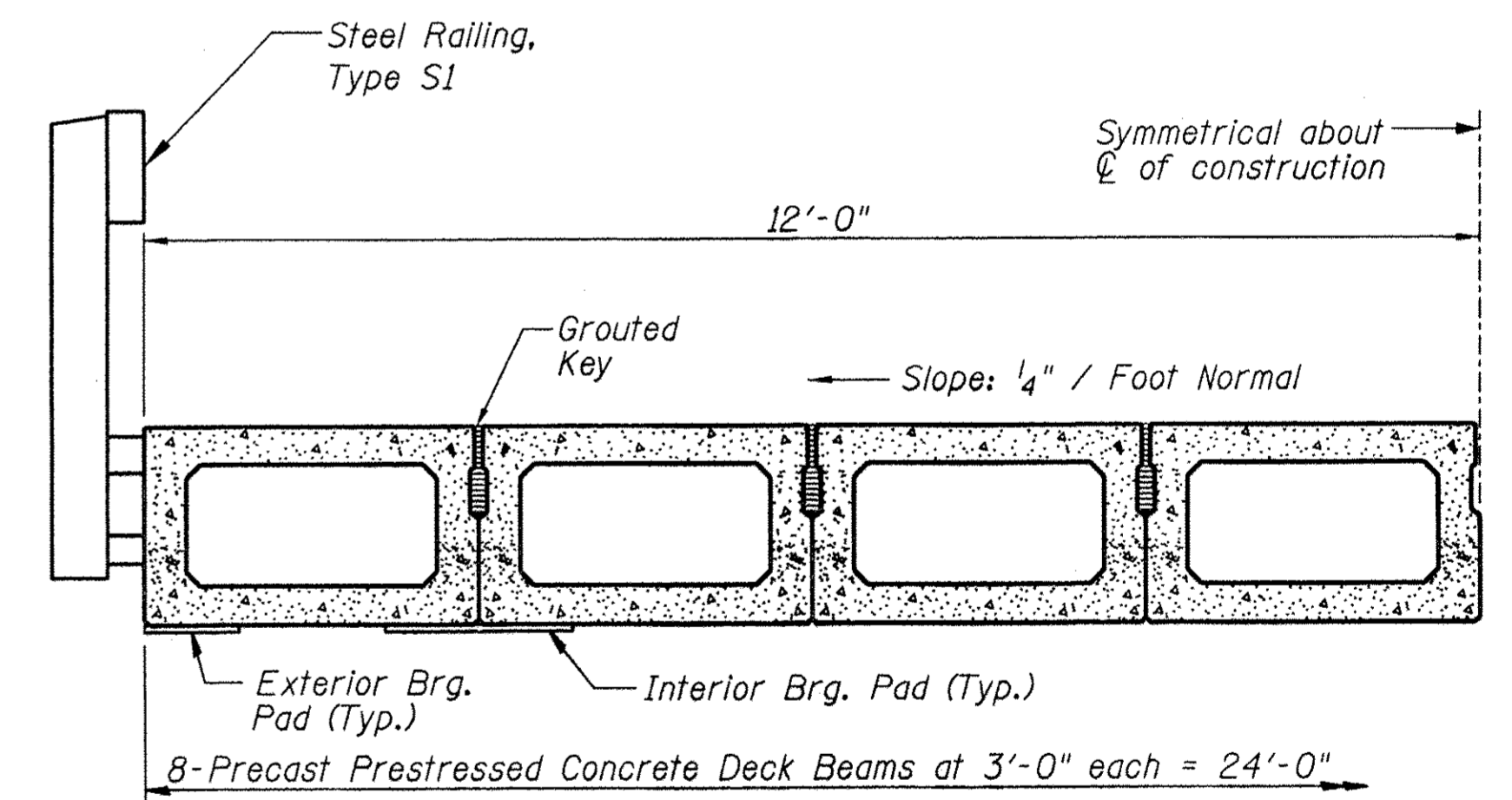
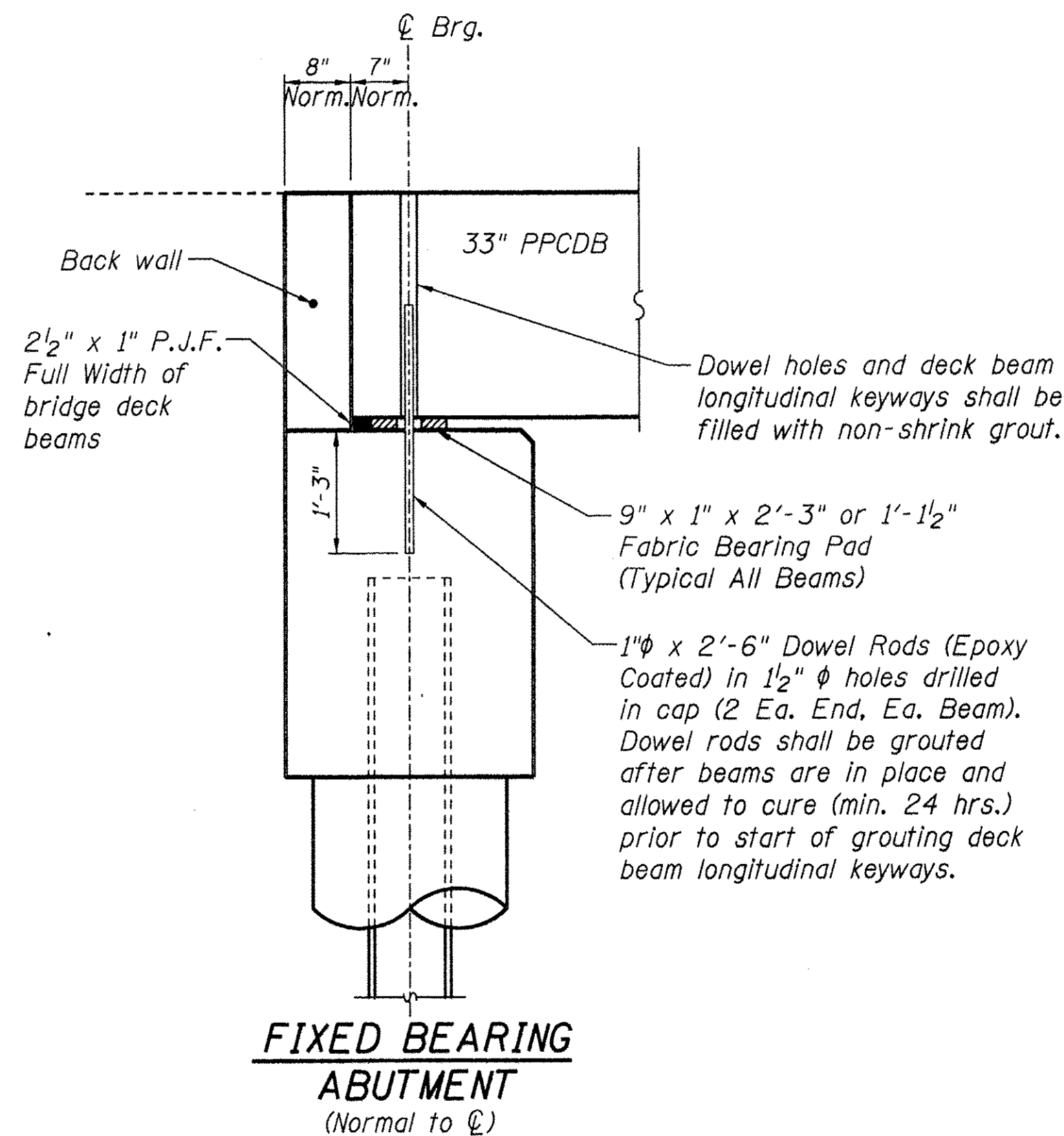
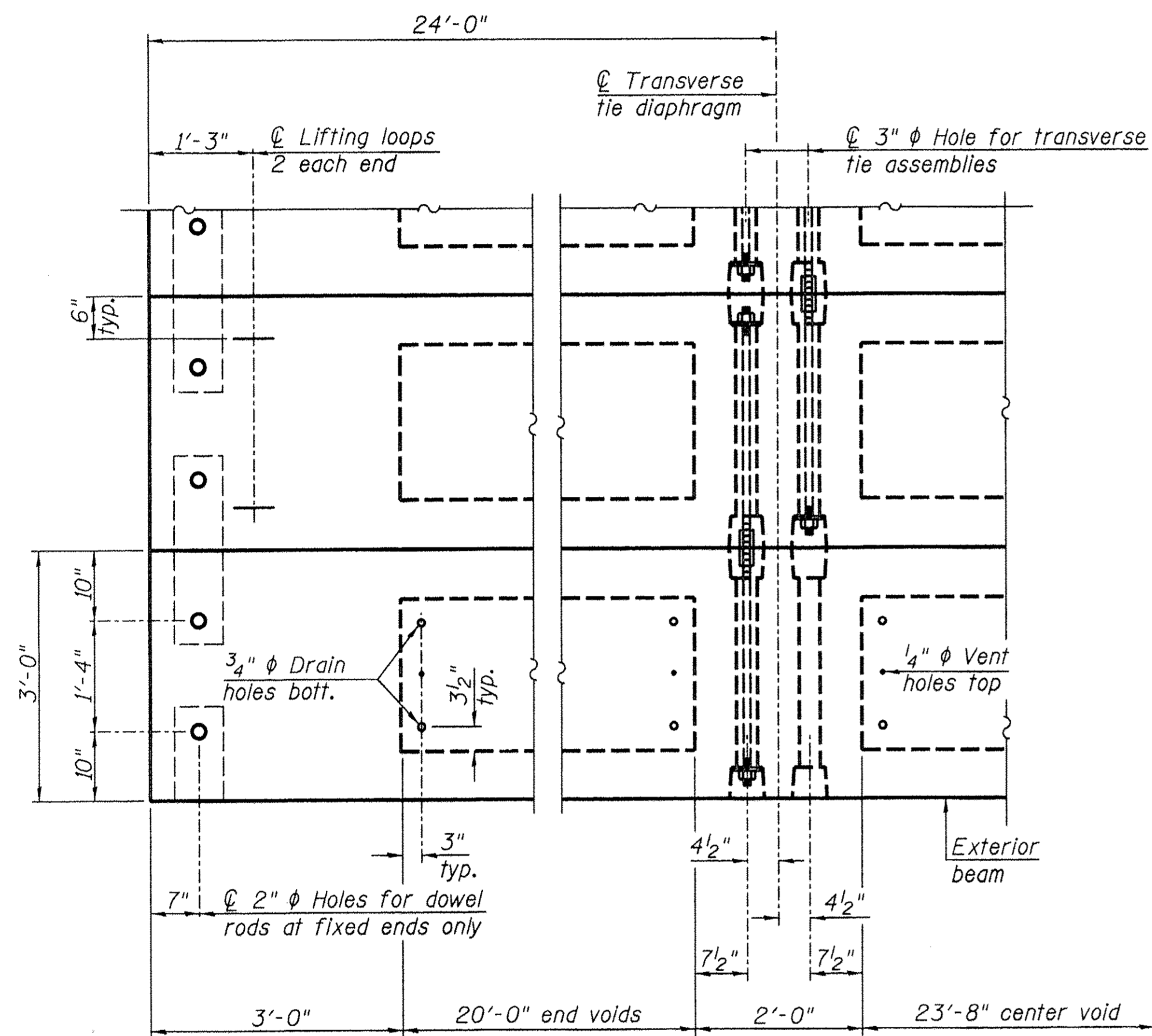
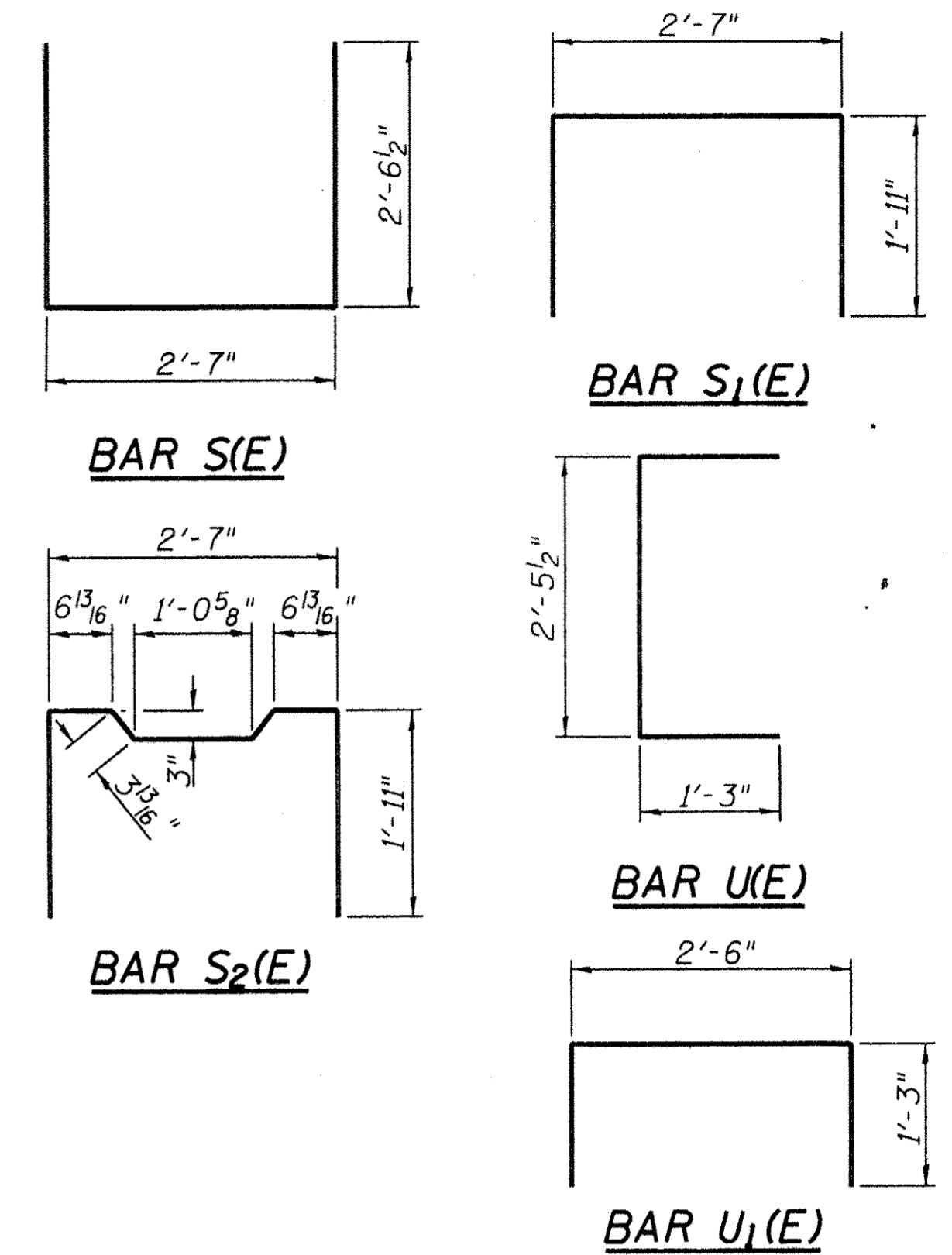
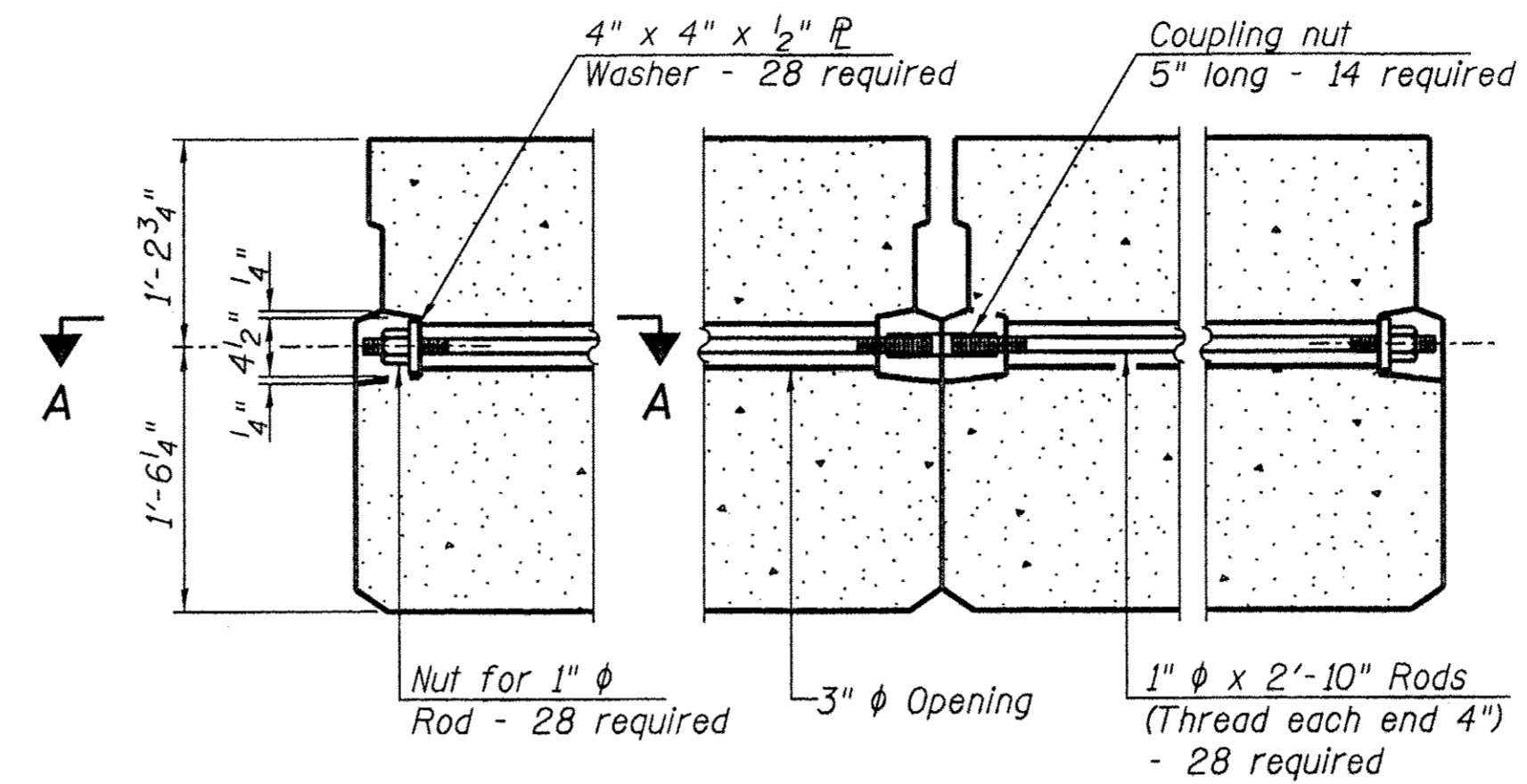
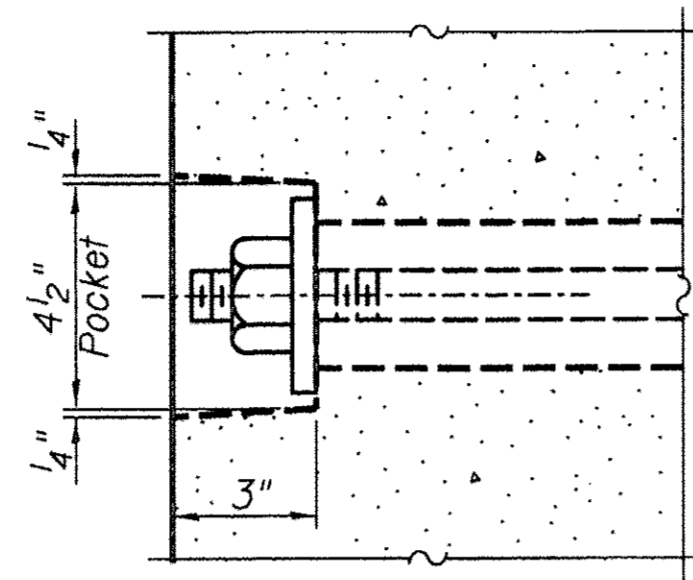
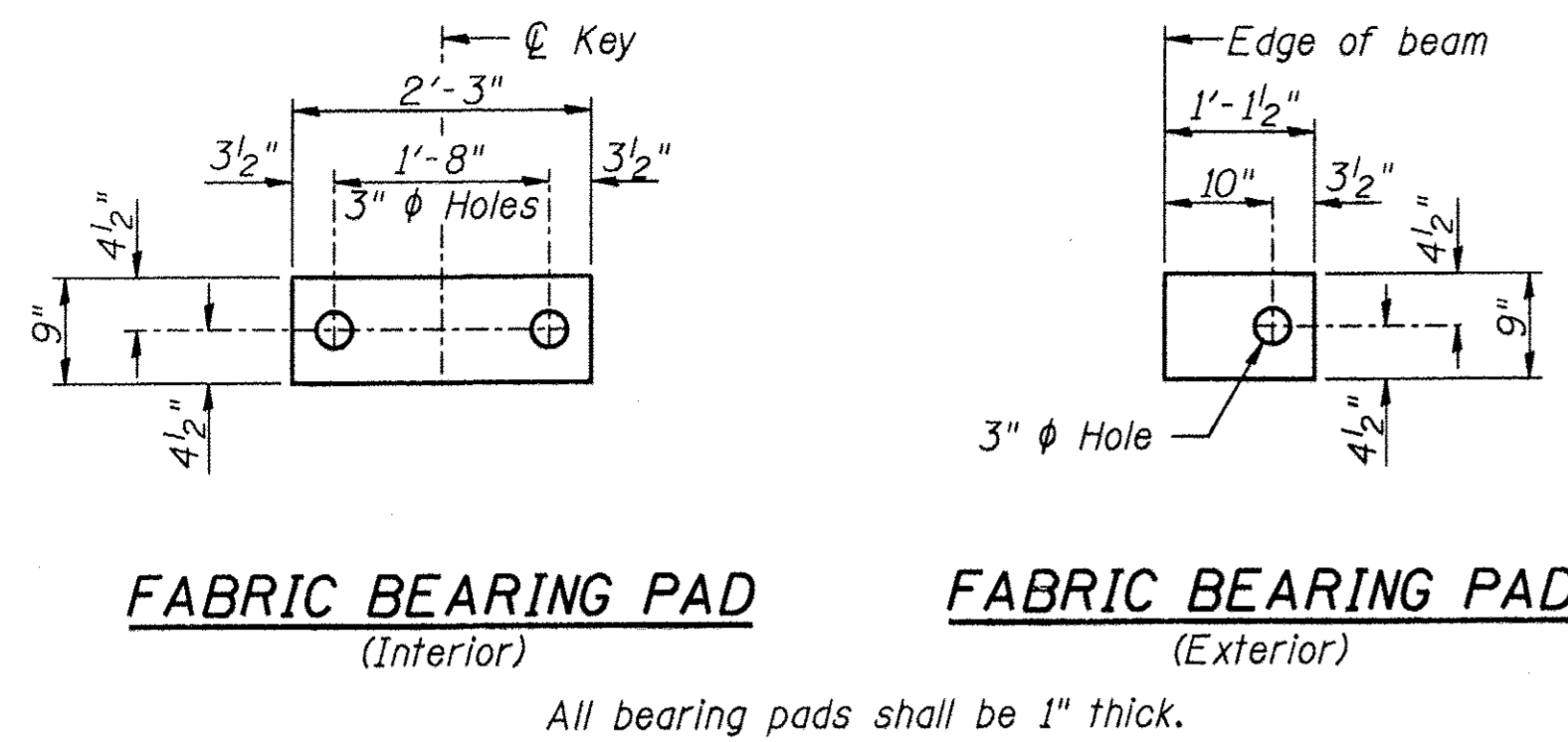
BAR LIST
ONE BEAM ONLY
(For information only)

Bar	No.	Size	Length	Shape
A(E)	68	#4	2'-7"	—
B(E)	12	#5	26'-2"	—
B1(E)	12	#4	19'-11"	—
B2(E)	4	#5	10'-0"	—
S(E)	102	#4	7'-8"	—
S1(E)	12	#4	6'-5"	—
S2(E)	90	#4	6'-8"	—
U(E)	8	#6	5'-0"	—
U1(E)	6	#4	5'-0"	—

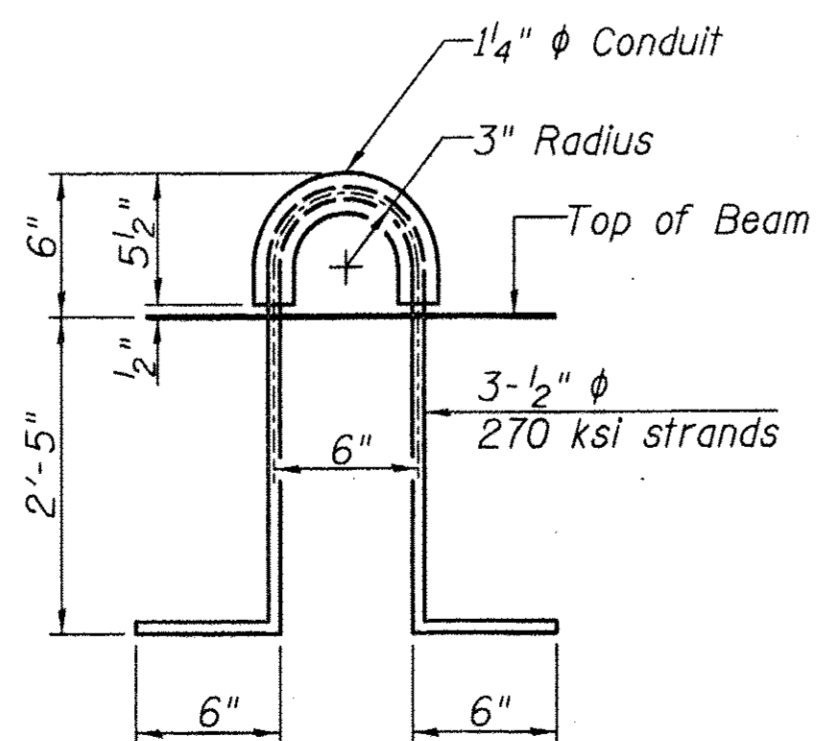
Note: See sheet 6 for additional details and Bill of Material.

MINIMUM BAR LAP

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



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



NOTES

Prestressing steel shall be uncoated high strength, low relaxation 7-wire strand, Grade 270. The nominal diameter shall be 1/2" and the nominal cross-sectional area shall be 0.153 sq. in.
 The 1" rods in the transverse tie assembly shall be tightened to a snug fit and the threads set. Pockets on exterior faces of bridge shall be filled with grout after transverse tie assembly is in place.
 Reinforcement bars shall conform to ASTM A 706, Grade 60, (IL Modified).
 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" diameter 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.	1768
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 CONSULTING ENGINEERS • LAND SURVEYORS
 CENTRALIA, ILLINOIS
 ILLINOIS DESIGN FIRM LICENSE NO. 184-000287

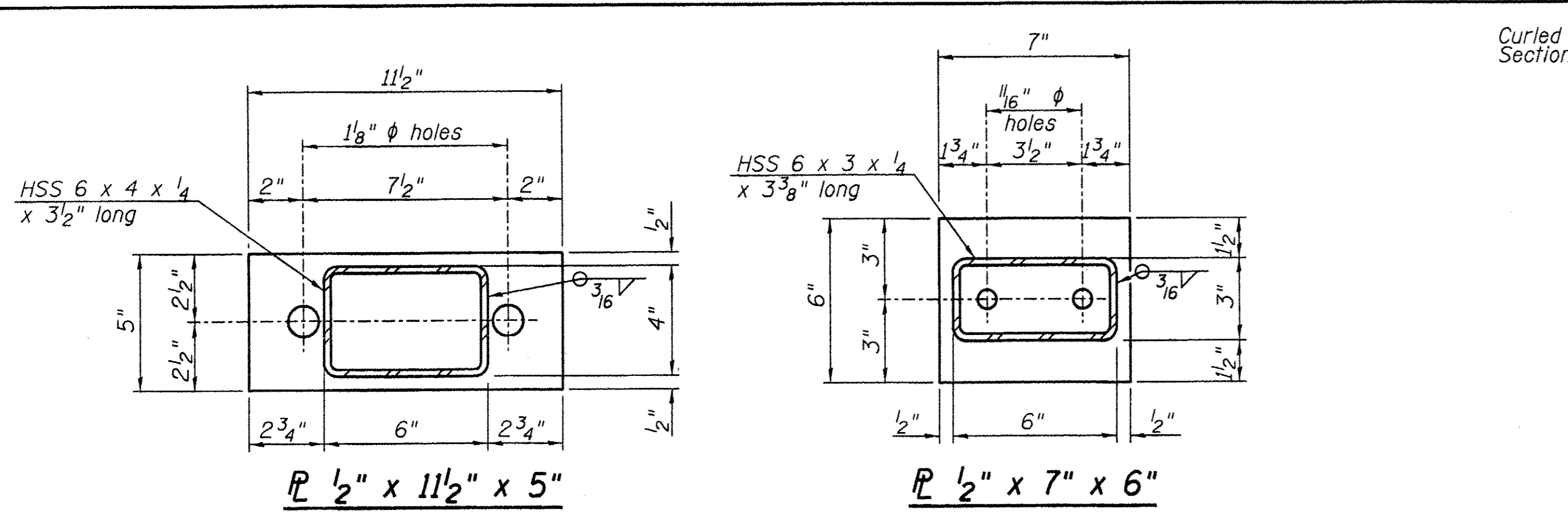
DESIGNED - BLT	REVISED -
DRAWN - JN	REVISED -
CHECKED - WDL	REVISED -
DATE - 09/21/2016	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PRECAST PRESTRESSED CONCRETE DECK BEAM DETAILS

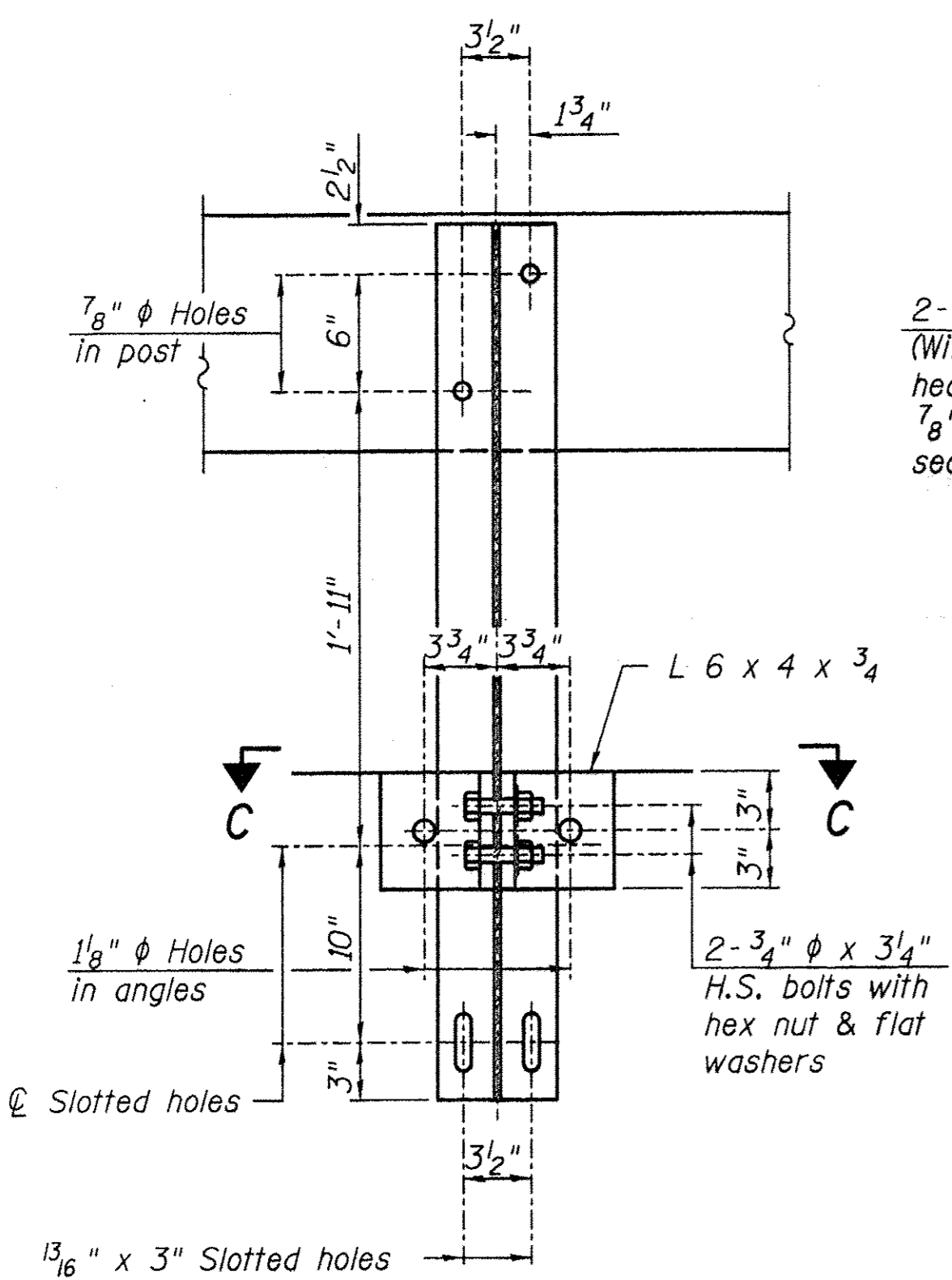
ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
TR 4	14-02128-00-BR 14-05122-00-BR	FAYETTE BOND	11	6
			CONTRACT NO. 95800	

RAAI JOB NO. 54014

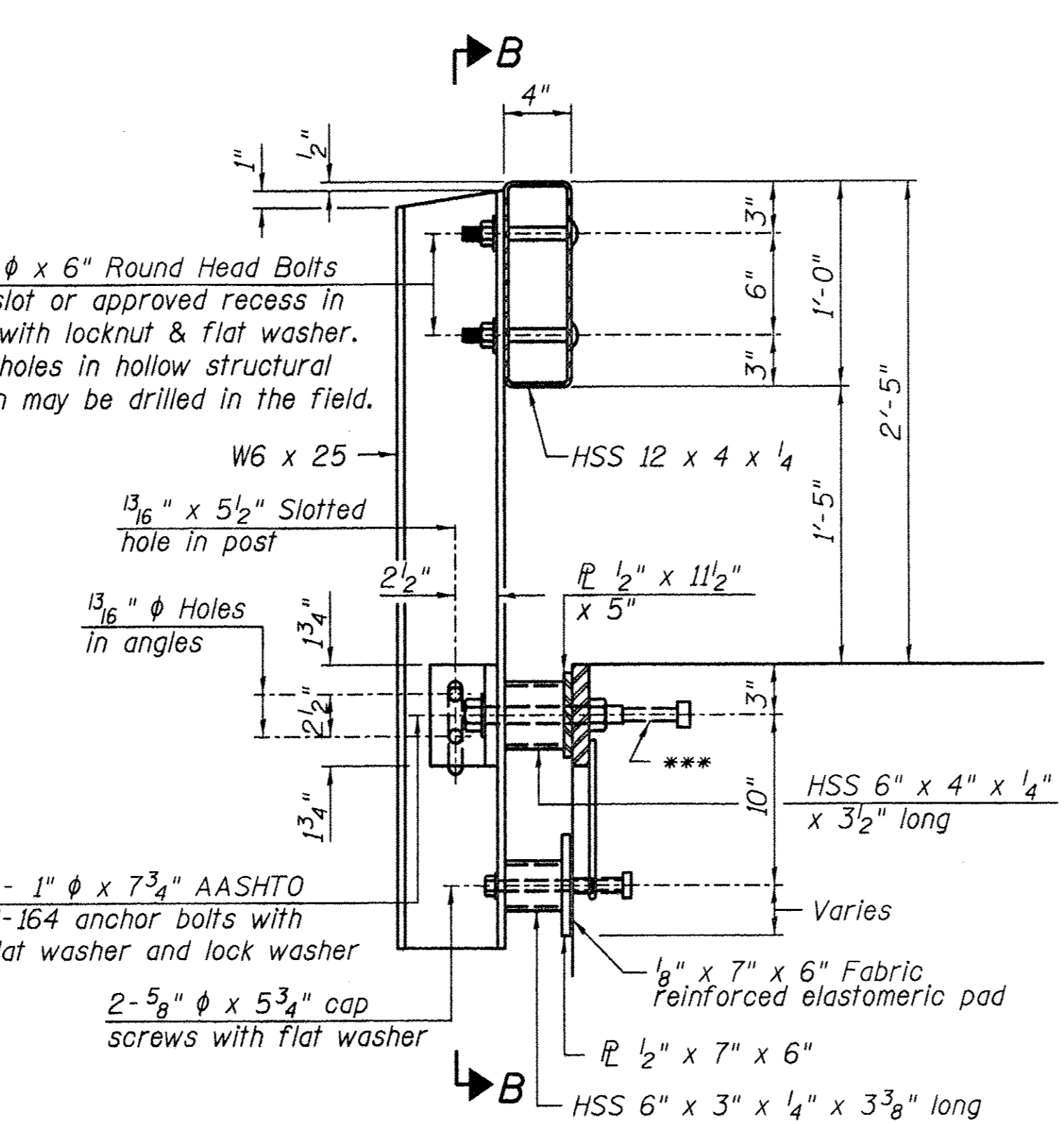


R 1/2" x 11 1/2" x 5"

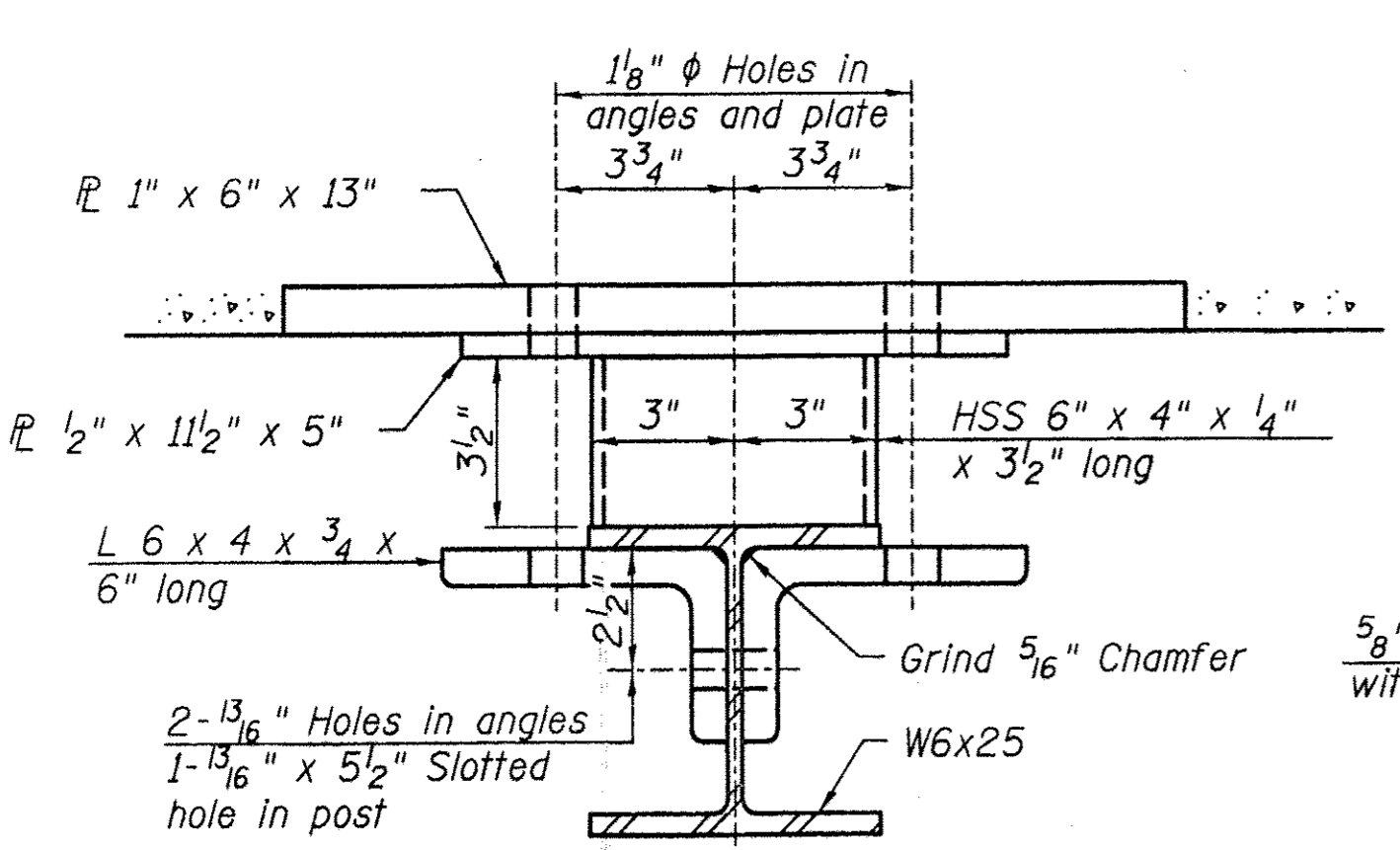
R 1/2" x 7" x 6"



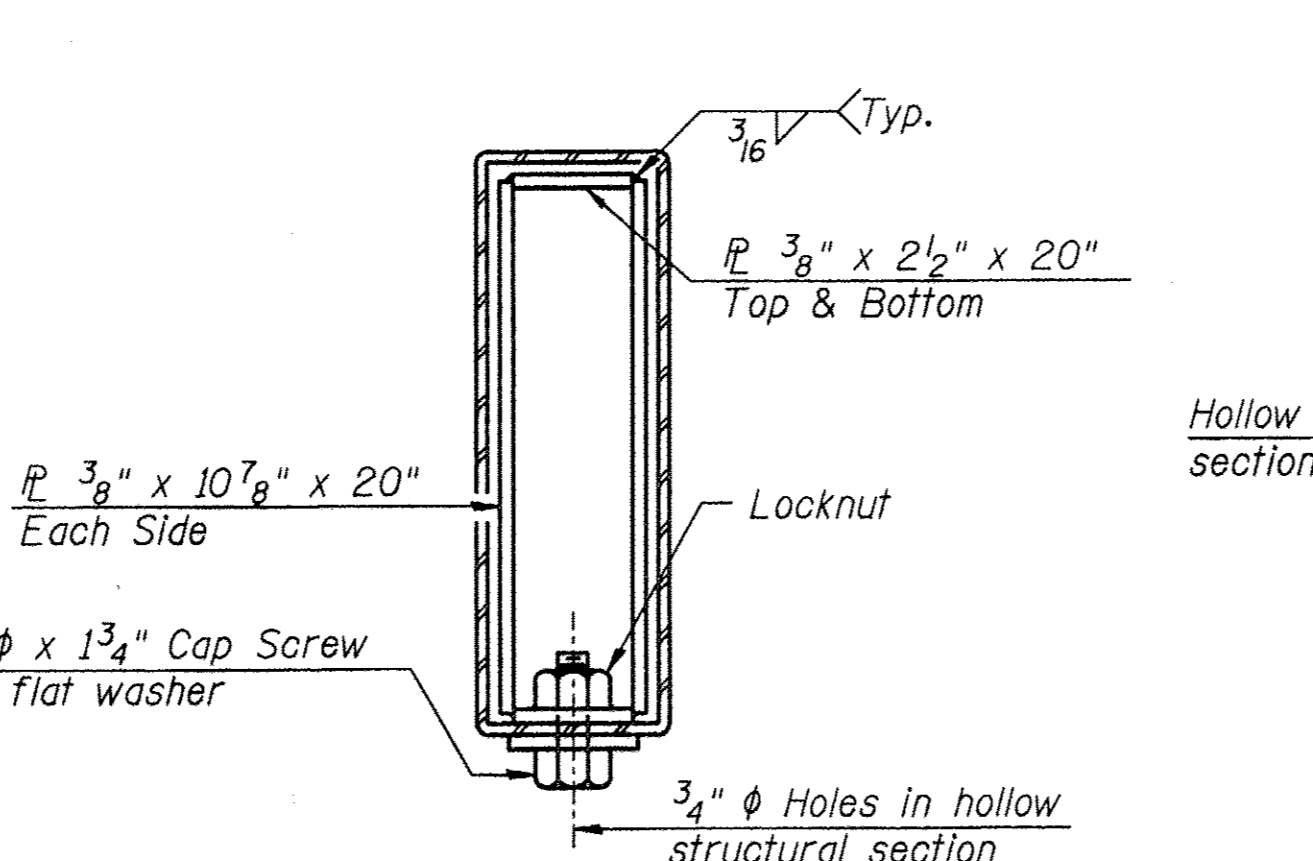
SECTION B-B



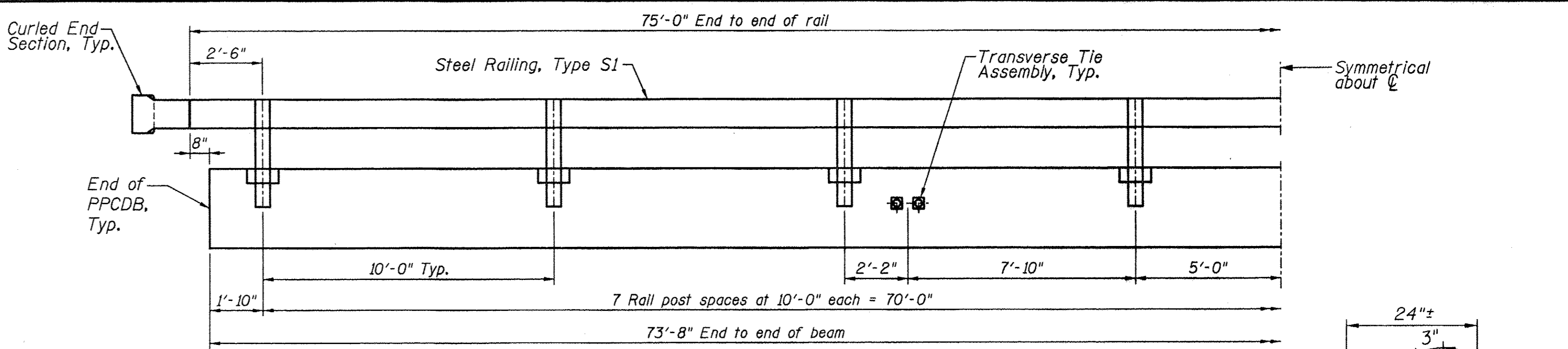
SECTION AT RAILING POST



SECTION C-C

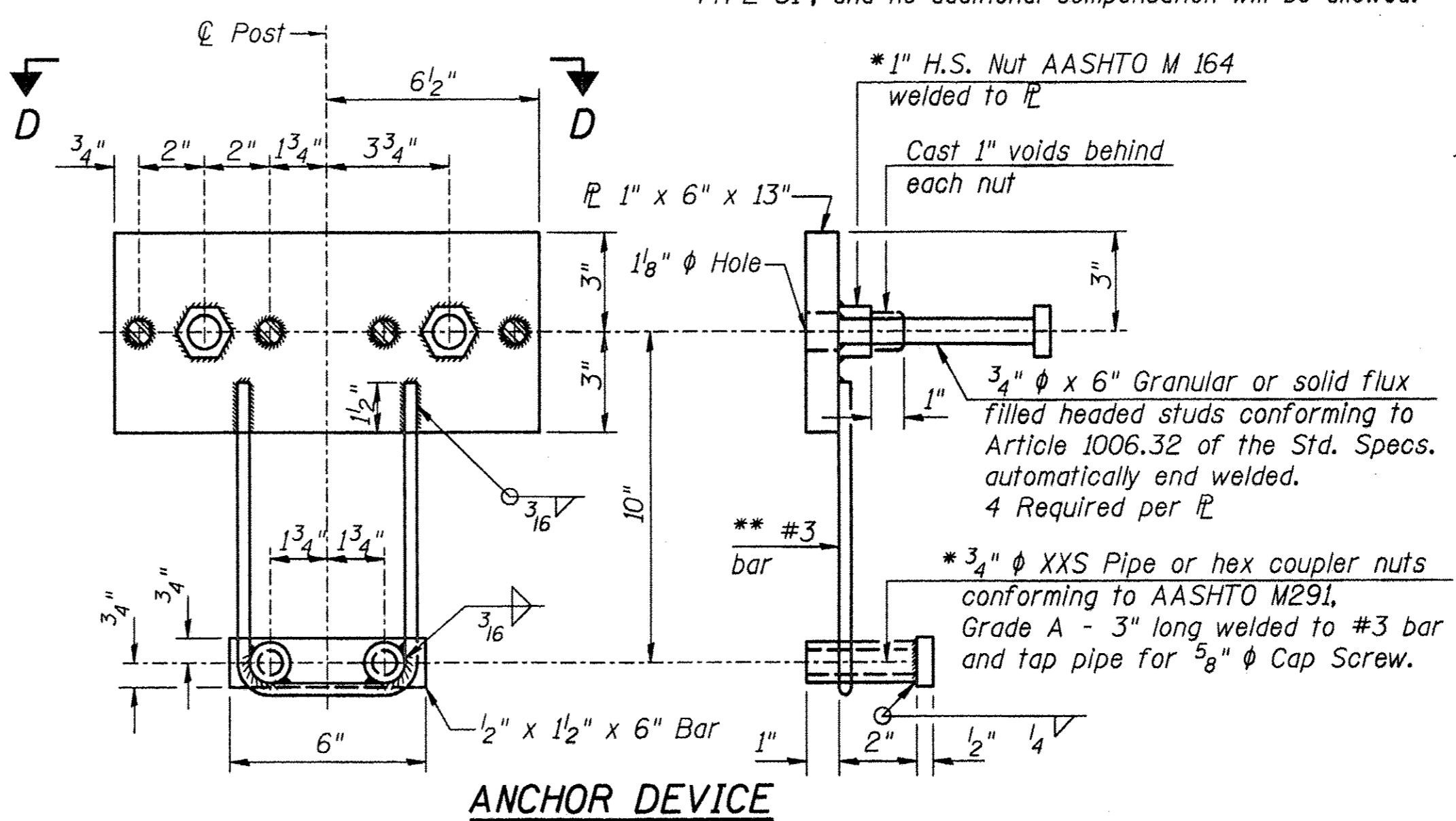


SECTIONS AT RAIL SPLICE

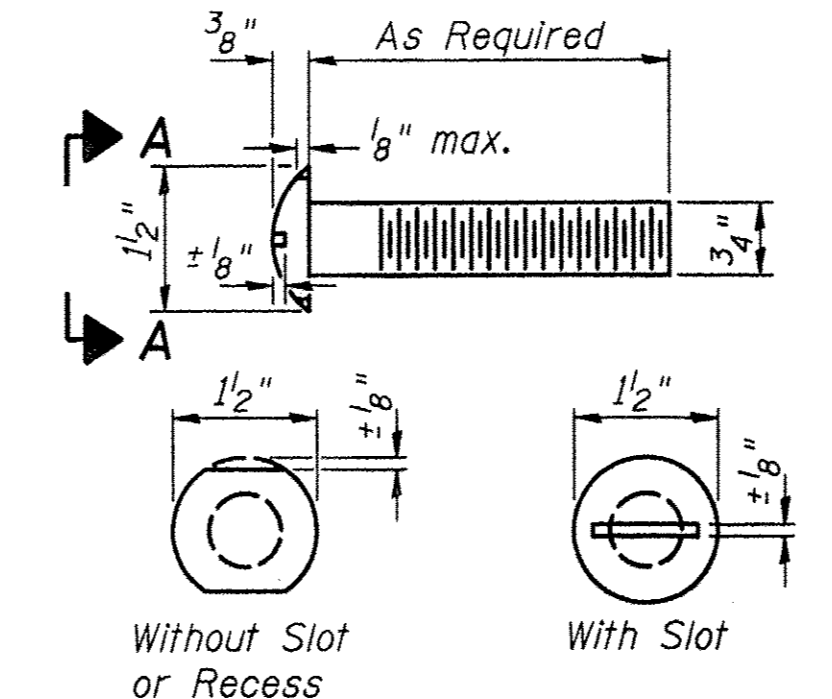


HALF ELEVATION

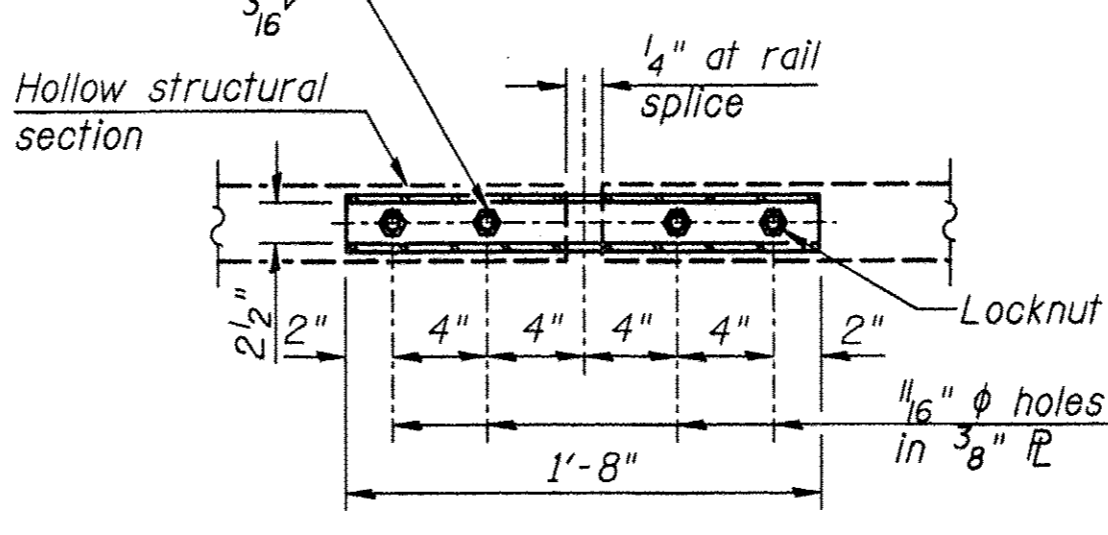
Note: The cost of the Curled End Sections shall be included in the contract unit price per foot for "STEEL RAILING, TYPE S1", and no additional compensation will be allowed.



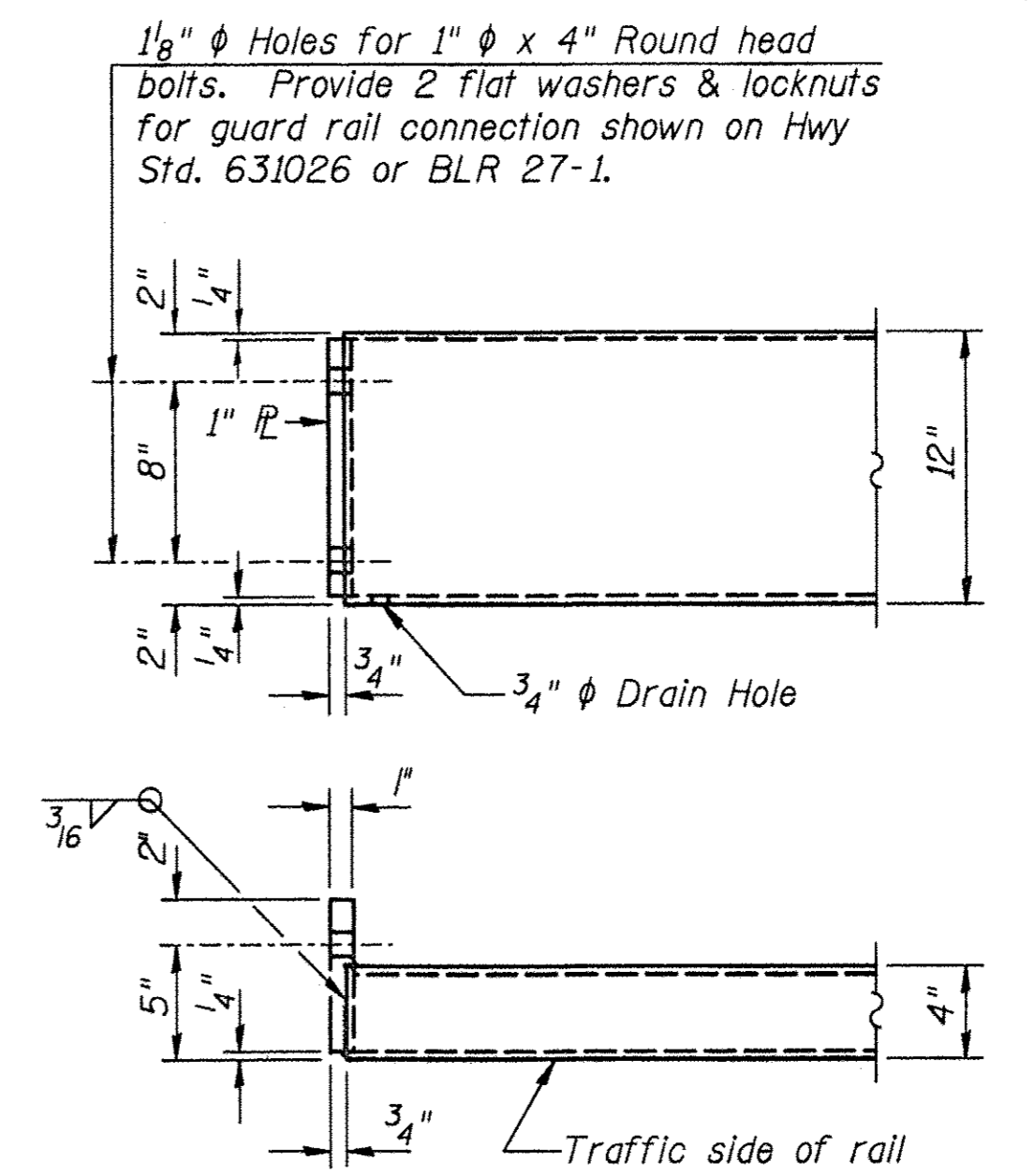
ANCHOR DEVICE



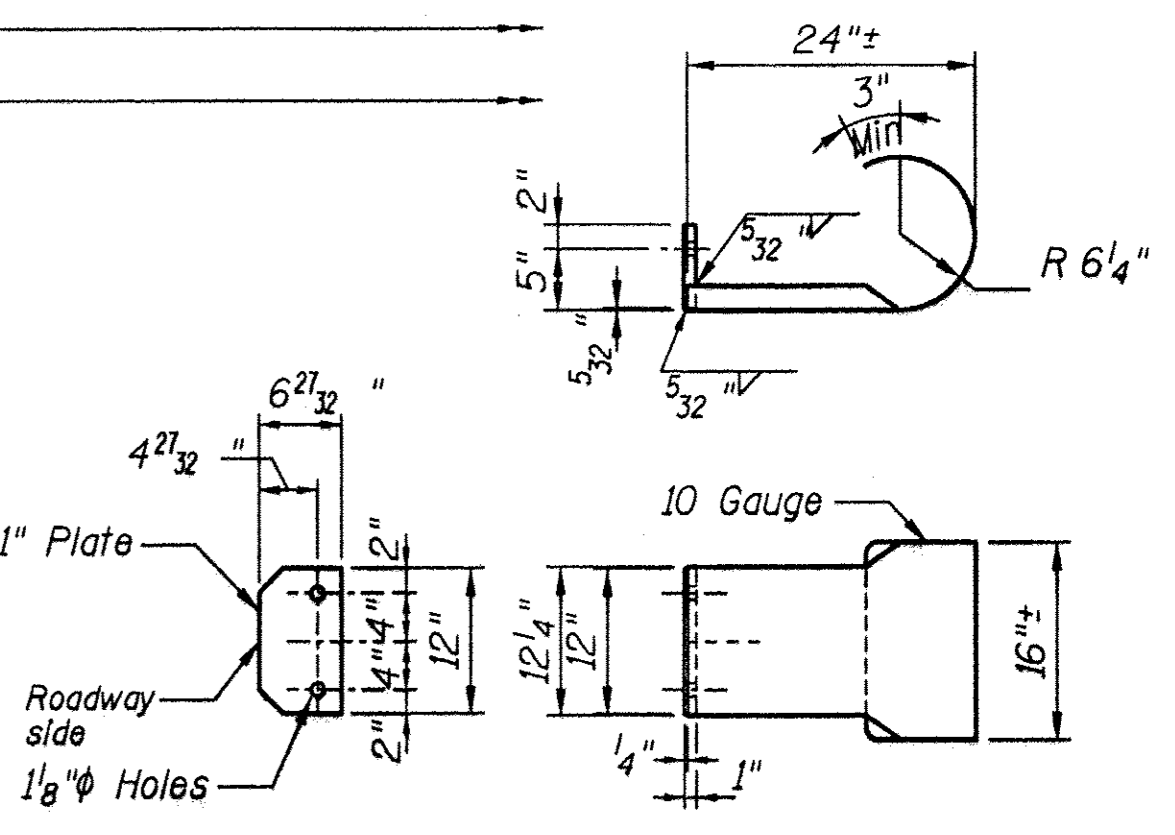
VIEW A-A ROUND HEAD BOLT



PLAN-BOTT. SPLICE P TYPICAL



END OF RAIL DETAILS

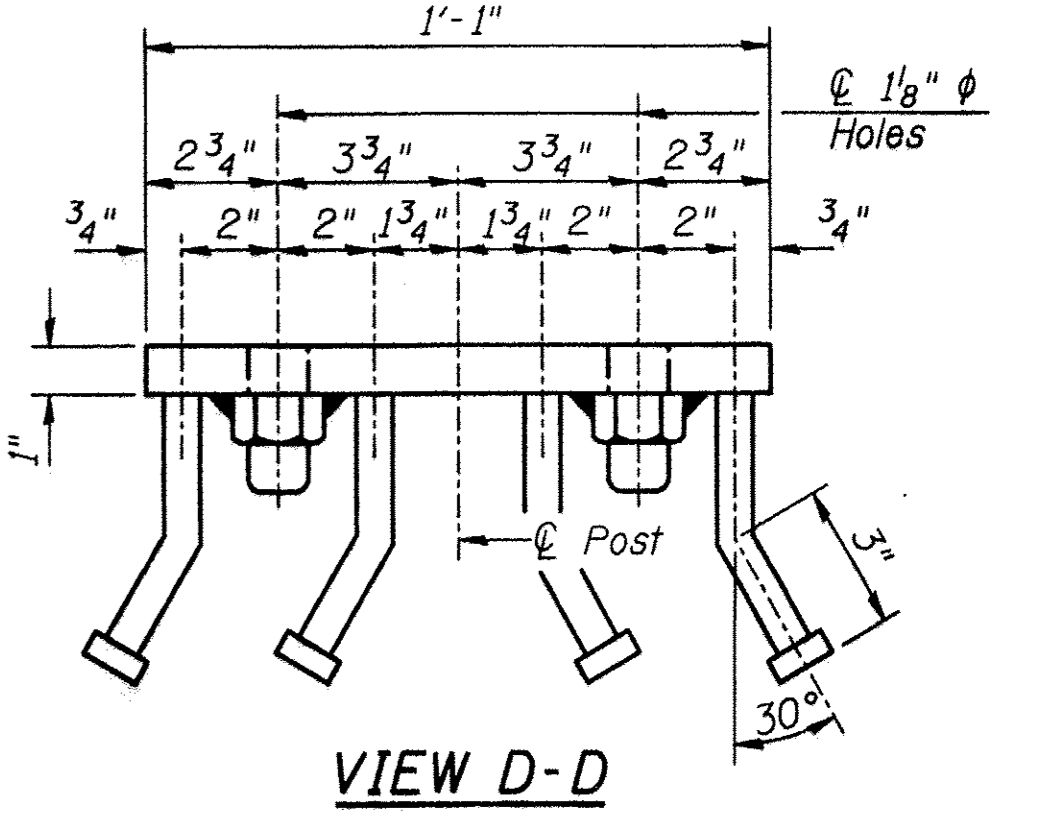


CURLLED END SECTION DETAILS

4 Each Required

NOTES

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



VIEW D-D

BILL OF MATERIAL

Item	Unit	Quantity
Steel Railing, Type S1	Foot	150

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ILLINOIS DESIGN FIRM LICENSE NO. 184-000287

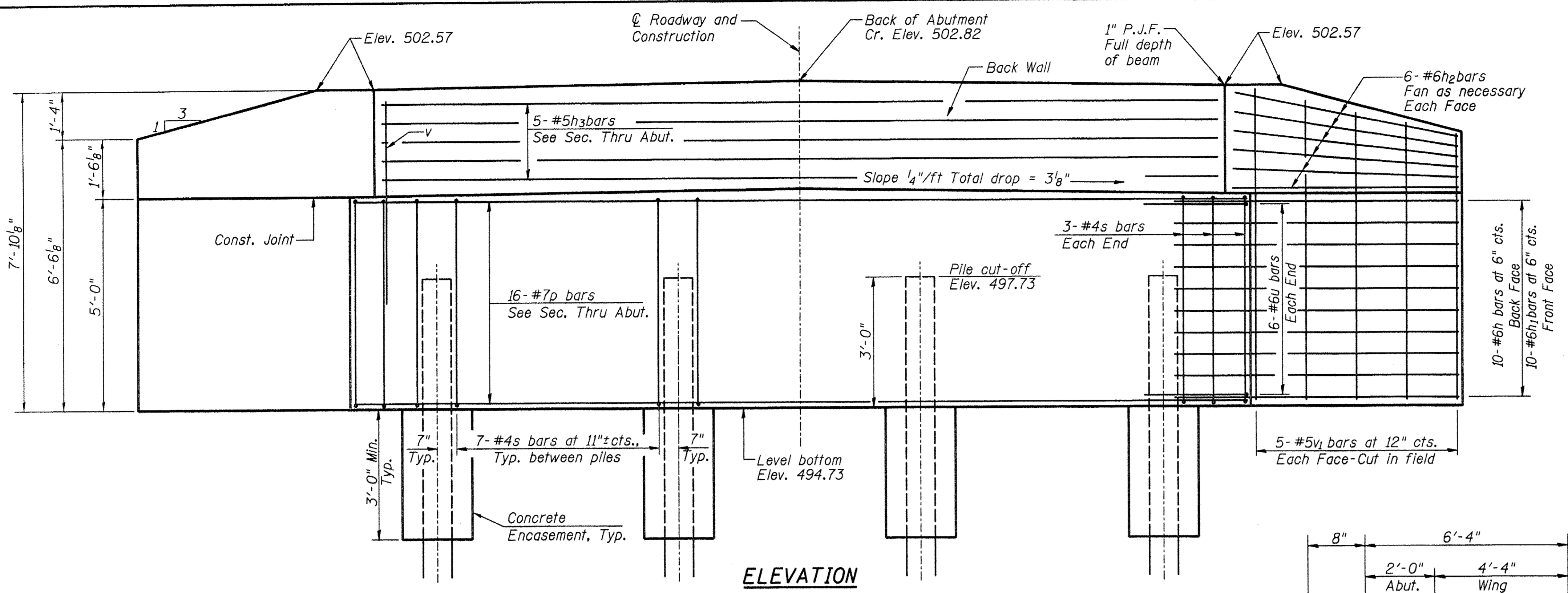
DESIGNED	BLT	REVISED	
DRAWN	JN	REVISED	
CHECKED	WDL	REVISED	
DATE	09/21/2016	REVISED	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

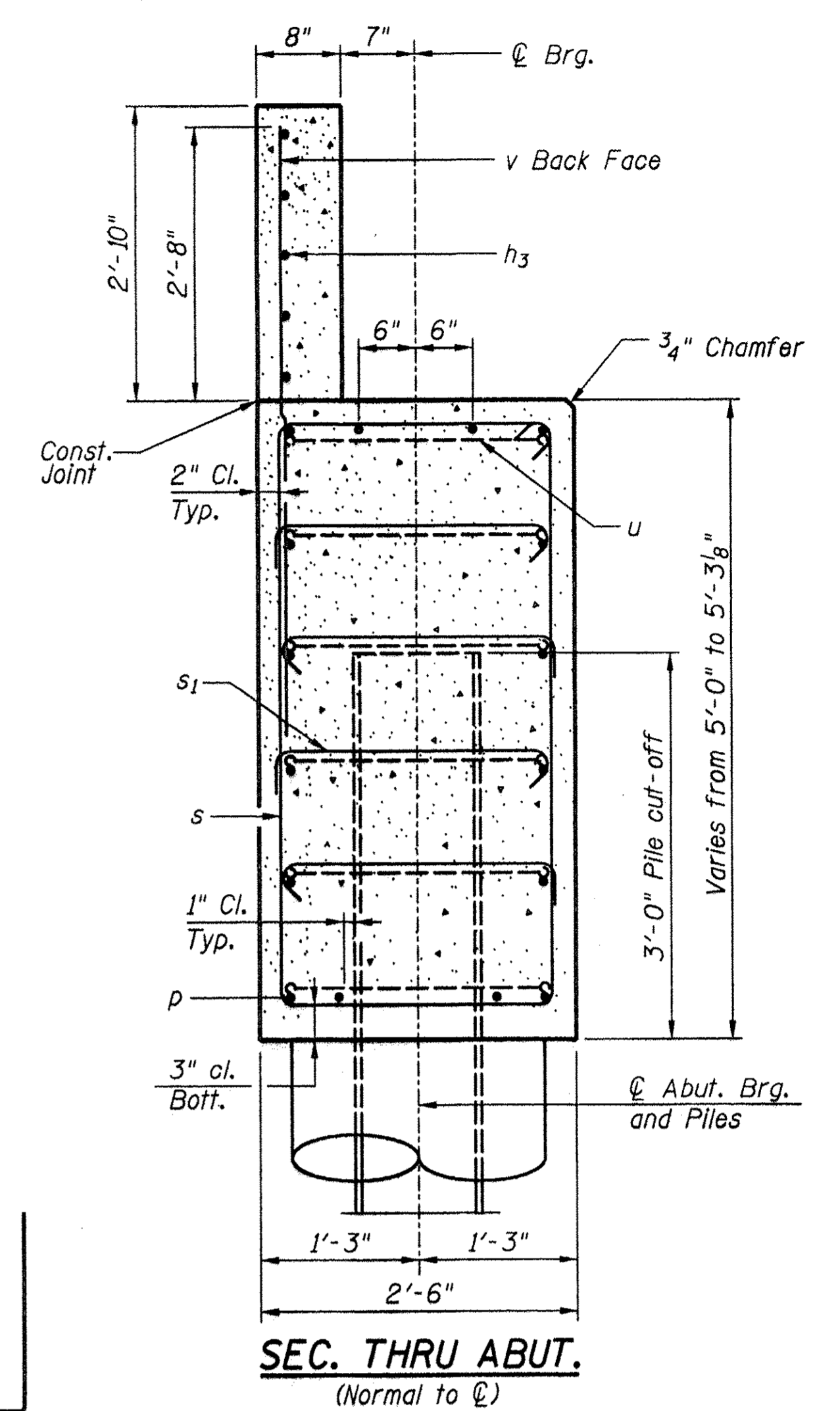
STEEL RAILING, TYPE S1 DETAILS

ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
TR 4	14-02128-00-BR 14-05122-00-BR	FAYETTE	11	7

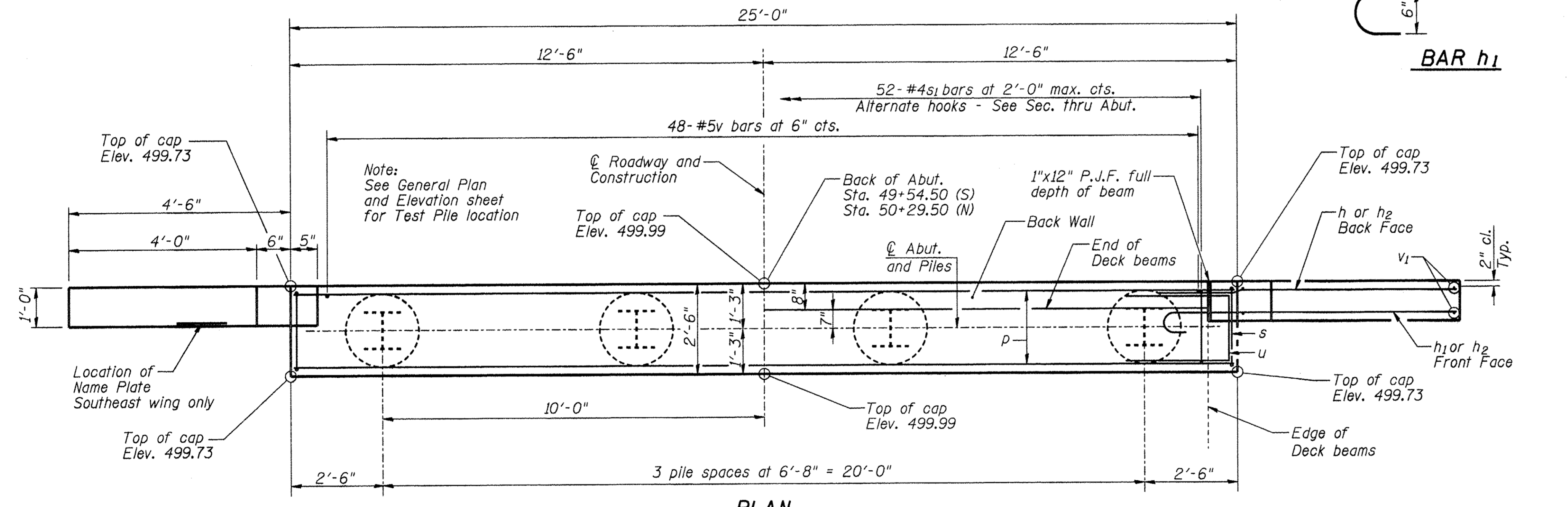
RAAI JOB NO. 54014
CONTRACT NO. 95800



ELEVATION



SEC. THRU ABUT.
(Normal to C)



PLAN

GENERAL NOTES

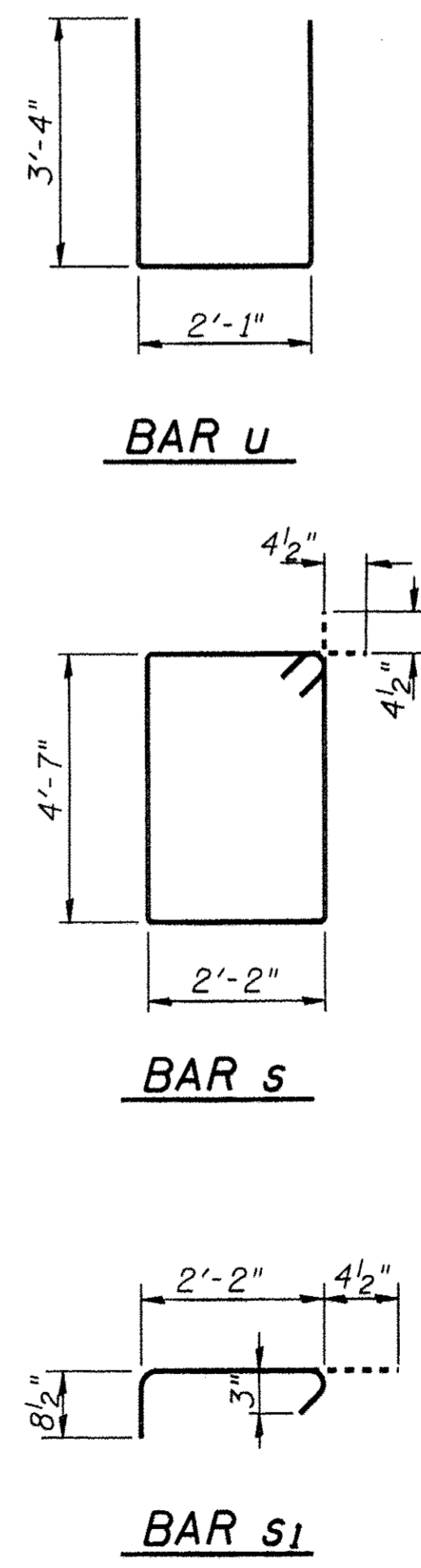
Reinforcement bars shall conform to the requirements of ASTM A 706 Grade 60 (Illinois Modified).
 The back wall and portion of the wingwalls above the construction joint shall be cast against the in-place deck beams.
 All exposed edges shall have standard 3/4" chamfer, unless otherwise noted or as directed by the Engineer.
 The Steel H-piles shall be according to AASHTO M270 Grade 50.
 All clearances between rebar and form surface shall be 2", unless otherwise noted.
 The Contractor shall drive one (1) Steel HP12x53 Test Pile in a production location as directed by the Engineer before ordering the remainder of the piles.
 Space reinforcement in cap to miss PPCDB dowel rods.
 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: 418 kips
 Factored Resistance Available: 230 kips
 Estimated Length: 26'/pile
 No. Production Piles: 3
 No. Test Piles: 1

PILE DATA NORTH ABUTMENT

Type: Steel HP12x53
 Nominal Required Bearing: 418 kips
 Factored Resistance Available: 230 kips
 Estimated Length: 26'/pile
 No. Production Piles: 4
 No. Test Piles: 0



BILL OF MATERIAL FOR ONE ABUTMENT

Bar	No.	Size	Length	Shape	
h	20	#6	7'-8"	—	
h1	20	#6	7'-0"	U	
h2	24	#6	4'-8"	—	
h3	5	#5	23'-8"	—	
p	16	#7	24'-8"	—	
s	27	#4	14'-3"	□	
s1	52	#4	3'-3"	U	
u	12	#6	8'-9"	—	
v	48	#5	5'-0"	—	
v1	20	#5	7'-5"	CUT IN FIELD	
Concrete Structures				Cu Yd	16.1
Concrete Encasement				Cu Yd	1.4
Reinforcement Bars				Pound	2470
Furnishing Steel				S Abut	78
Piles, HP12x53				N Abut	104
Driving Piles				S Abut	78
				N Abut	104
Test Pile, Steel HP12x53				S Abut	1
				N Abut	0

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

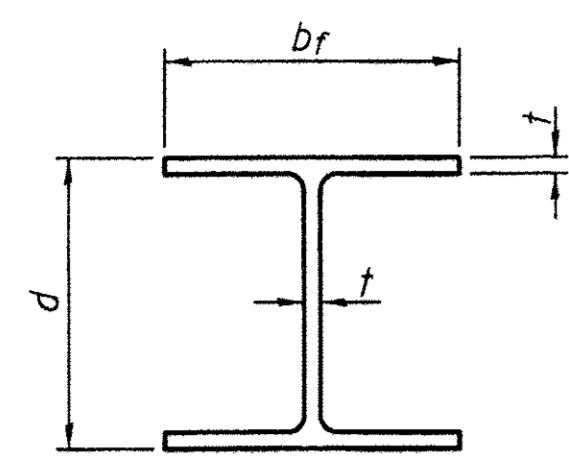
RHUTASEL and ASSOCIATES, INC.
 CONSULTING ENGINEERS • LAND SURVEYORS
 CENTRALIA, ILLINOIS FREEBURG, ILLINOIS
 ILLINOIS DESIGN FIRM LICENSE NO. 184-000287

DESIGNED - BLT	REVISED -
DRAWN - JN	REVISED -
CHECKED - WDL	REVISED -
DATE - 09/21/2016	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

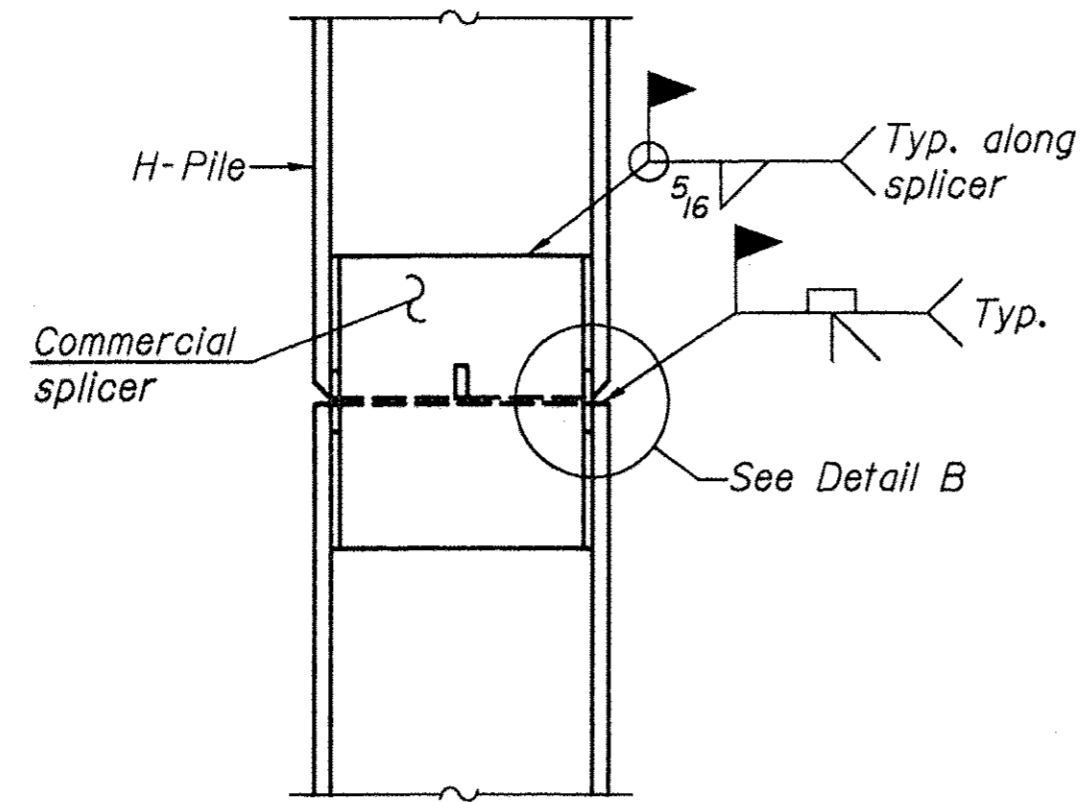
ABUTMENT DETAILS

ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
TR 4	14-02128-00-BR 14-05122-00-BR	FAYETTE BOND	11	8
CONTRACT NO. 95800				

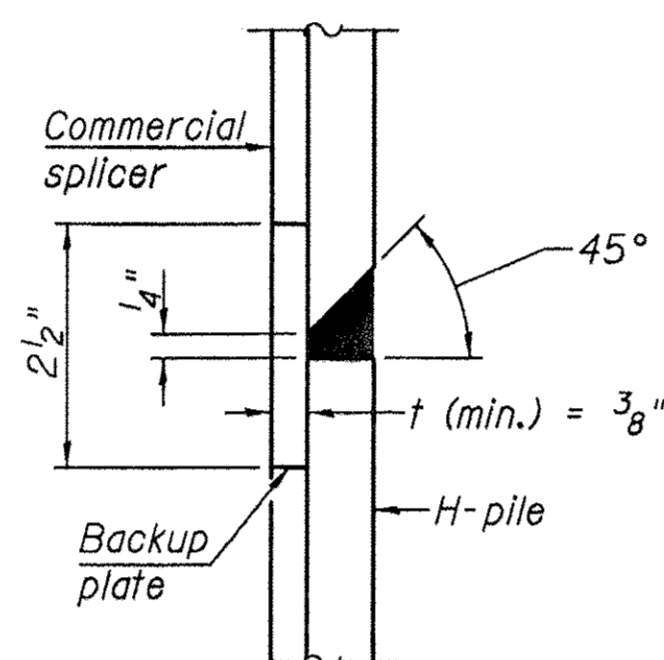


STEEL PILE TABLE

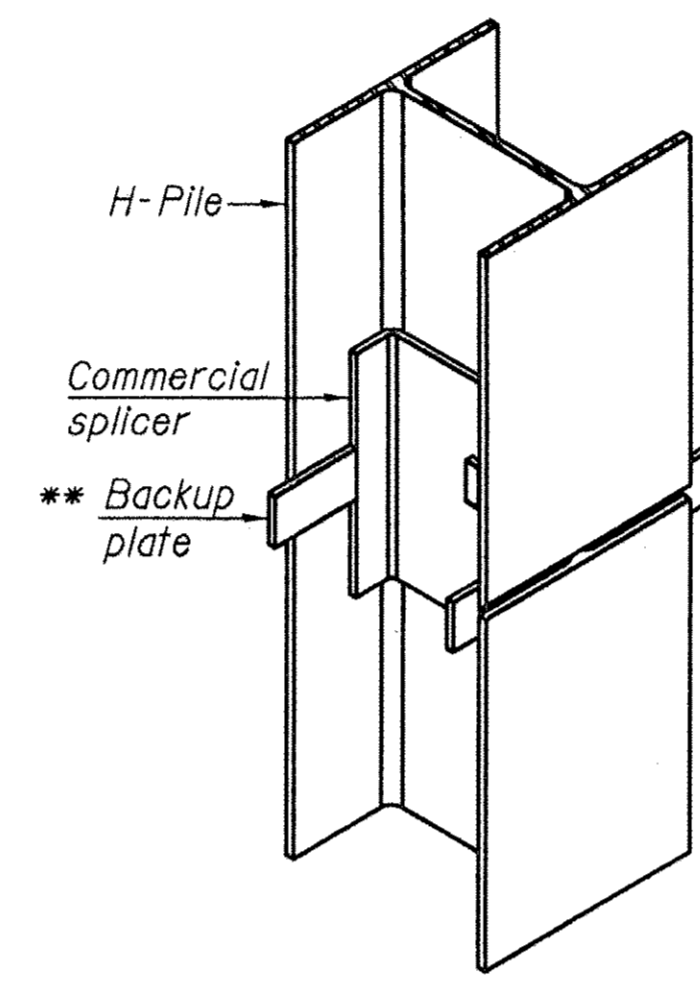
Designation	Depth d	Flange width br	Web and Flange thickness t	Encasement diameter A
HP 14x117	14 1/4"	14 7/8"	13/16"	30"
x102	14"	14 3/4"	1/6"	30"
x89	13 7/8"	14 3/4"	5/8"	30"
x73	13 5/8"	14 5/8"	1/2"	30"
HP 12x84	12 1/4"	12 1/4"	1/6"	24"
x74	12 1/8"	12 1/4"	5/8"	24"
x63	12"	12 1/8"	1/2"	24"
x53	11 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

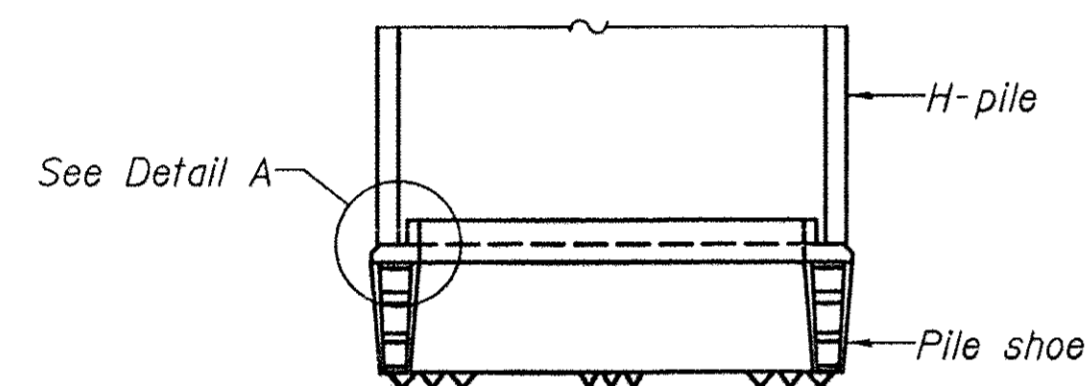


DETAIL "B"

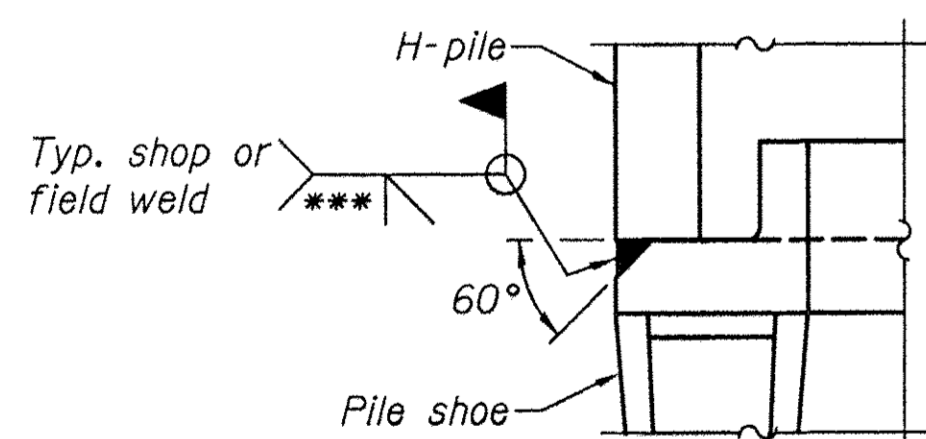


ISOMETRIC VIEW

WELDED COMMERCIAL SPLICE

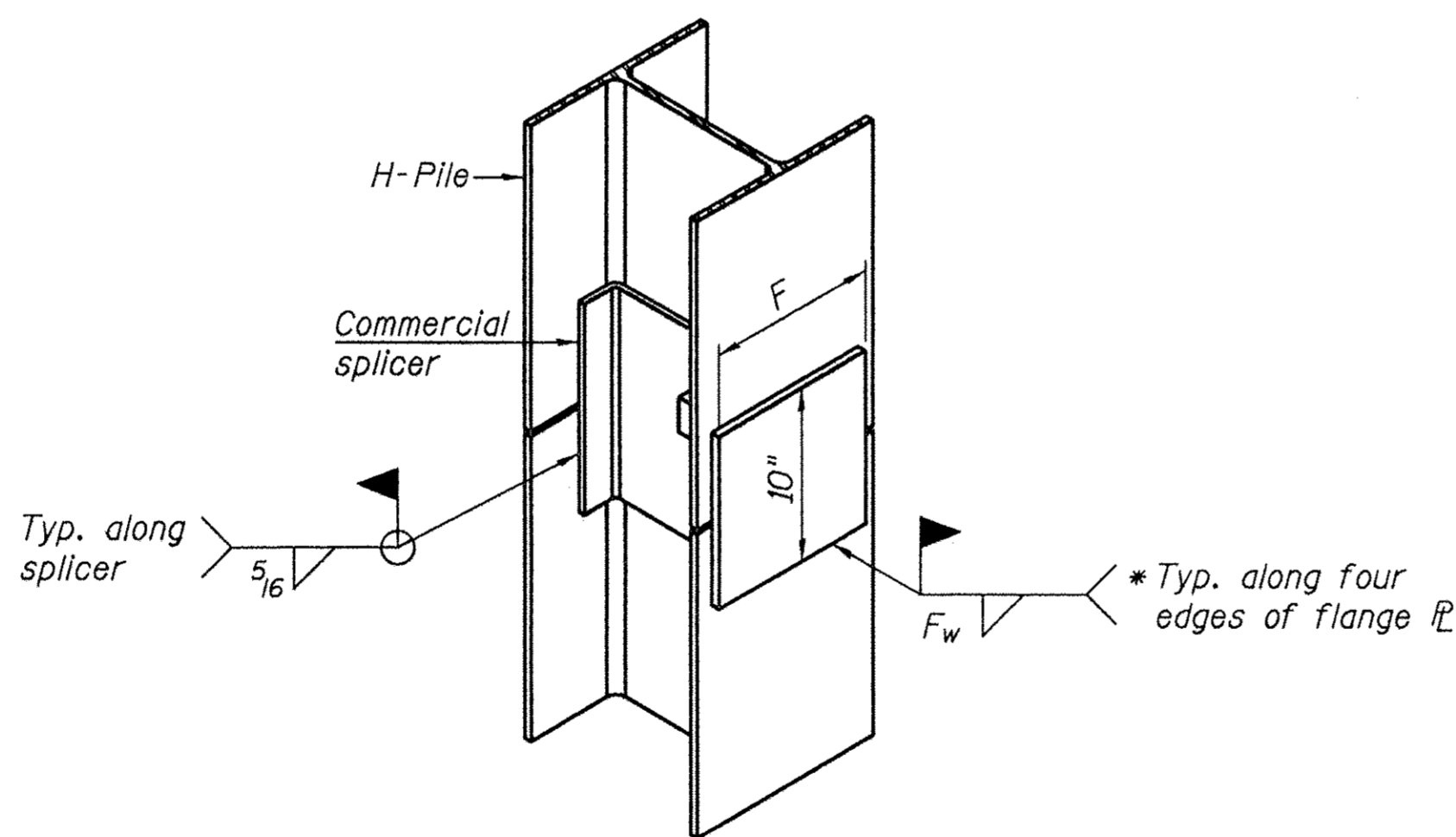


ELEVATION



DETAIL A

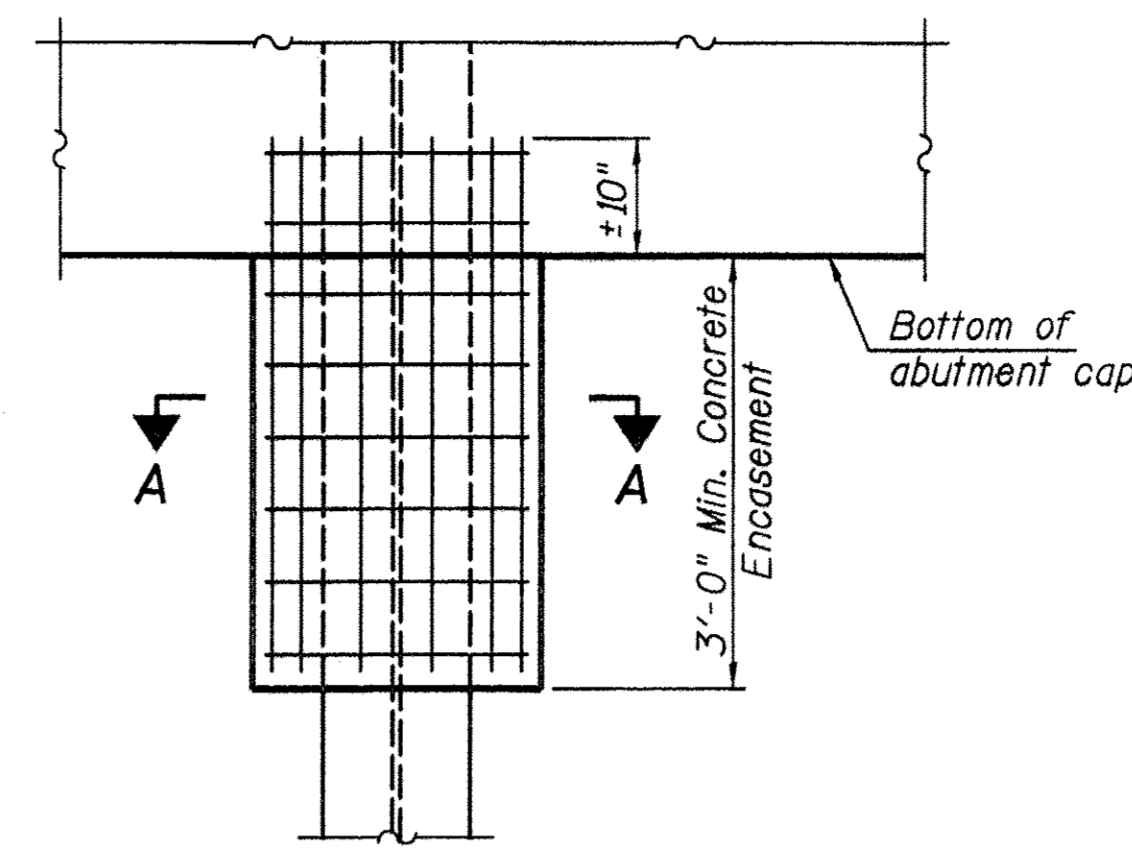
H-PILE SHOE ATTACHMENT



ISOMETRIC VIEW

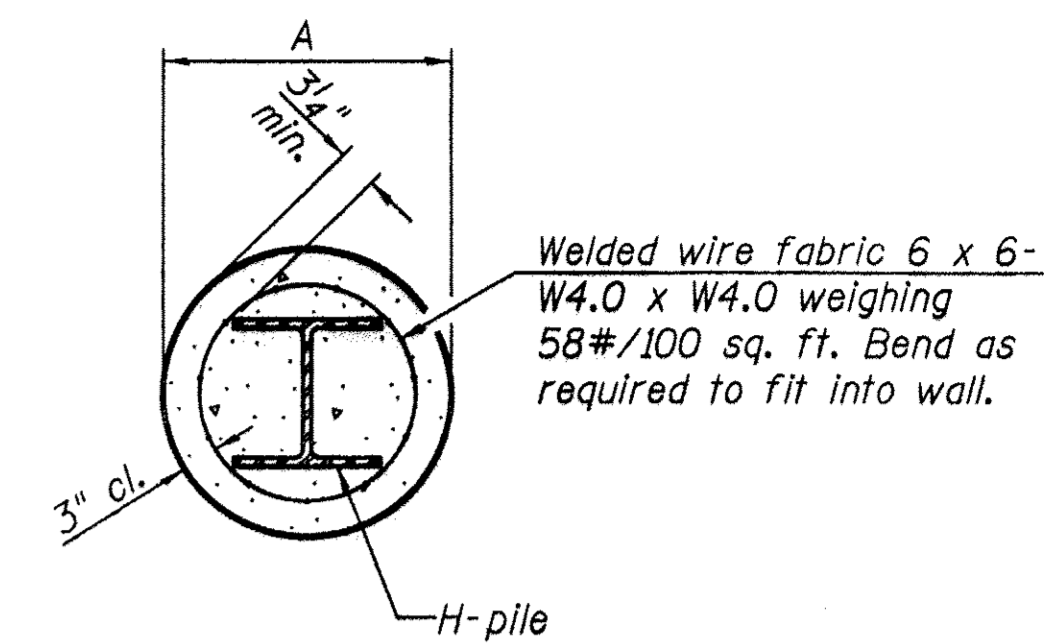
WELDED COMMERCIAL SPLICE ALTERNATE

- * 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.).



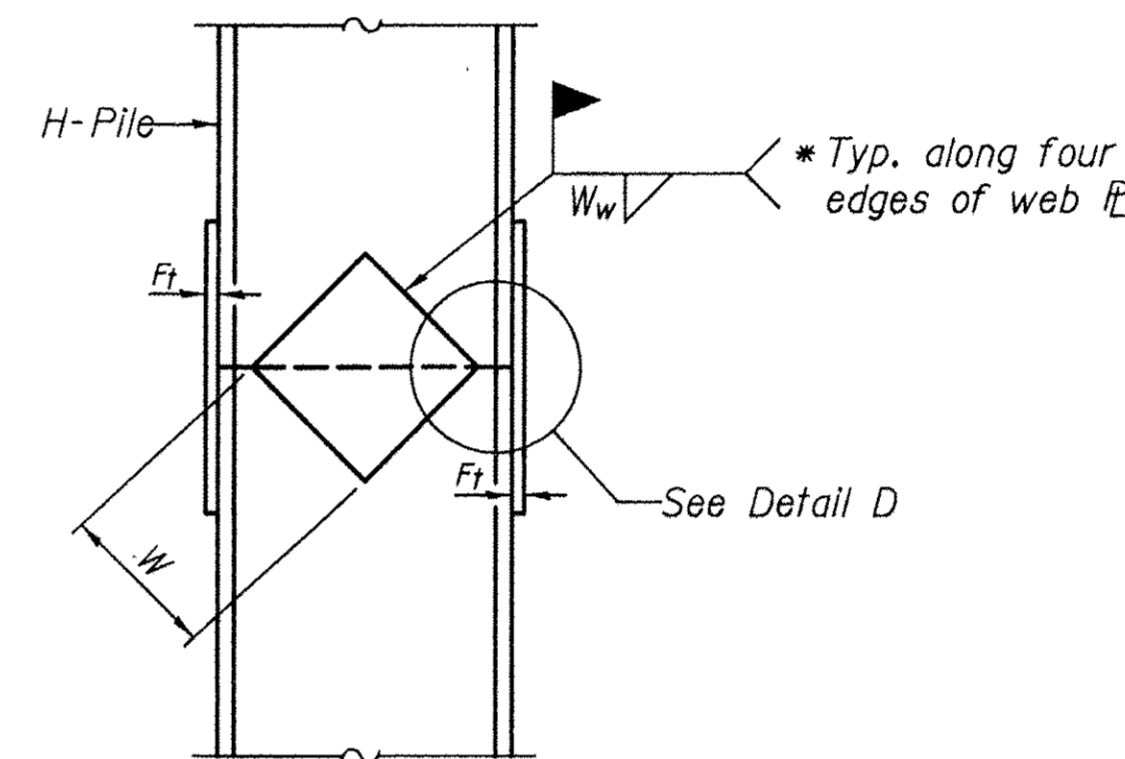
ELEVATION

PILE ENCASEMENT

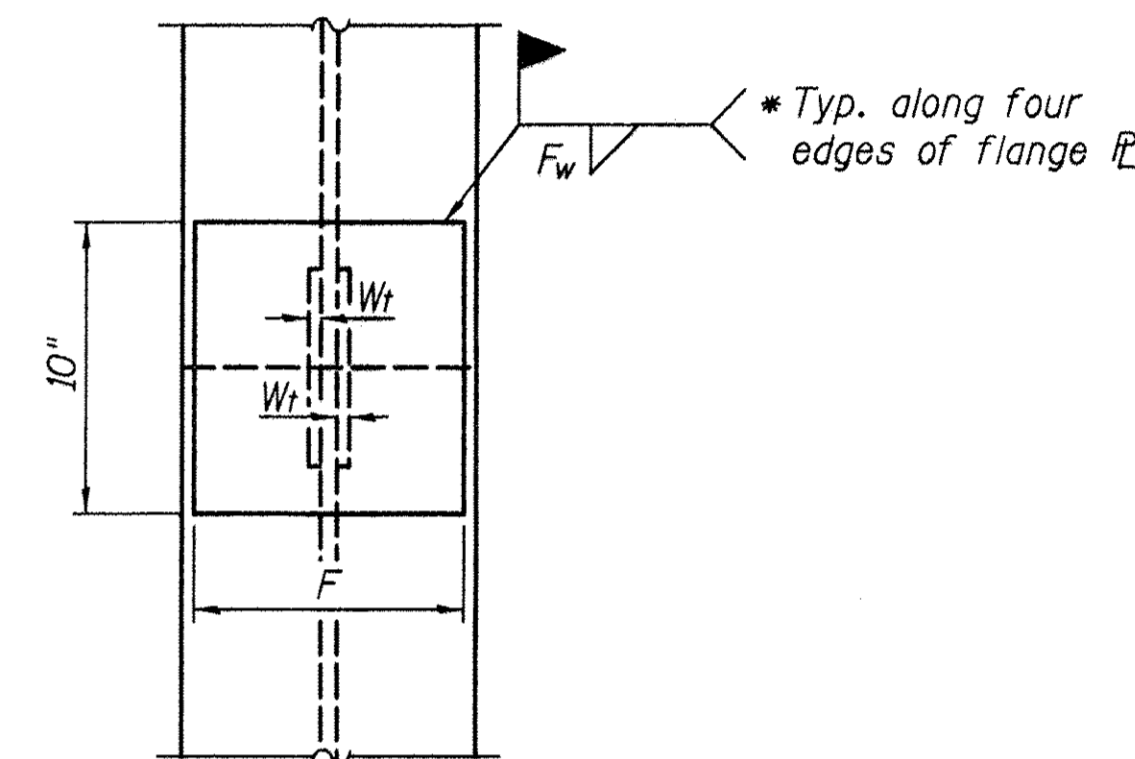


Note:
Forms for encasement may be omitted when soil conditions permit.

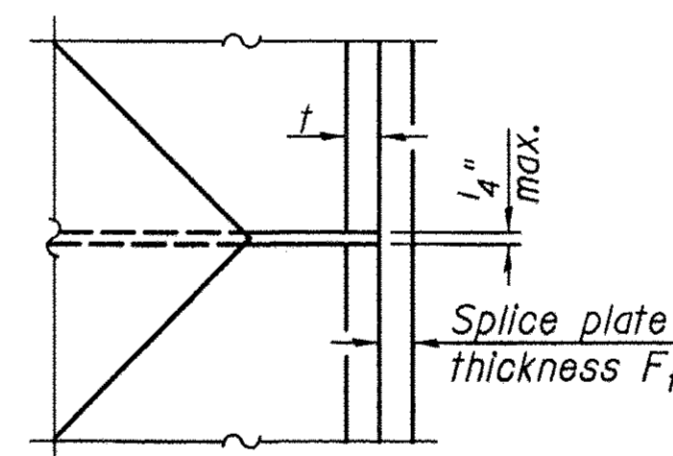
SECTION A-A



ELEVATION



END VIEW



DETAIL D

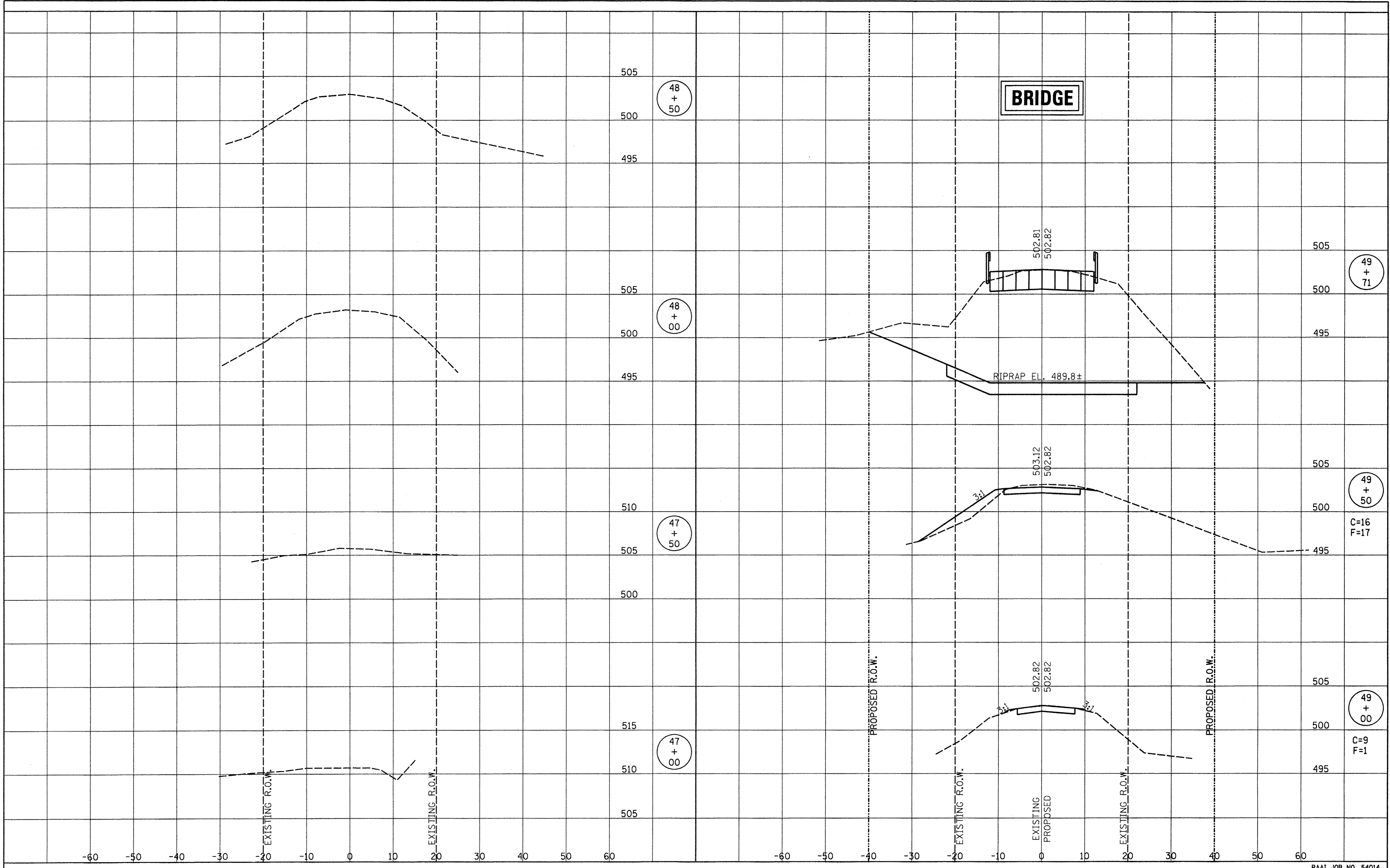
WELDED PLATE FIELD SPLICE

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

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

FINAL SURVEY	DATE
SURVEYED	BY
NOTE BOOK	
TEMPLATE	
AREAS	
AREAS CHECKED	
NO.	

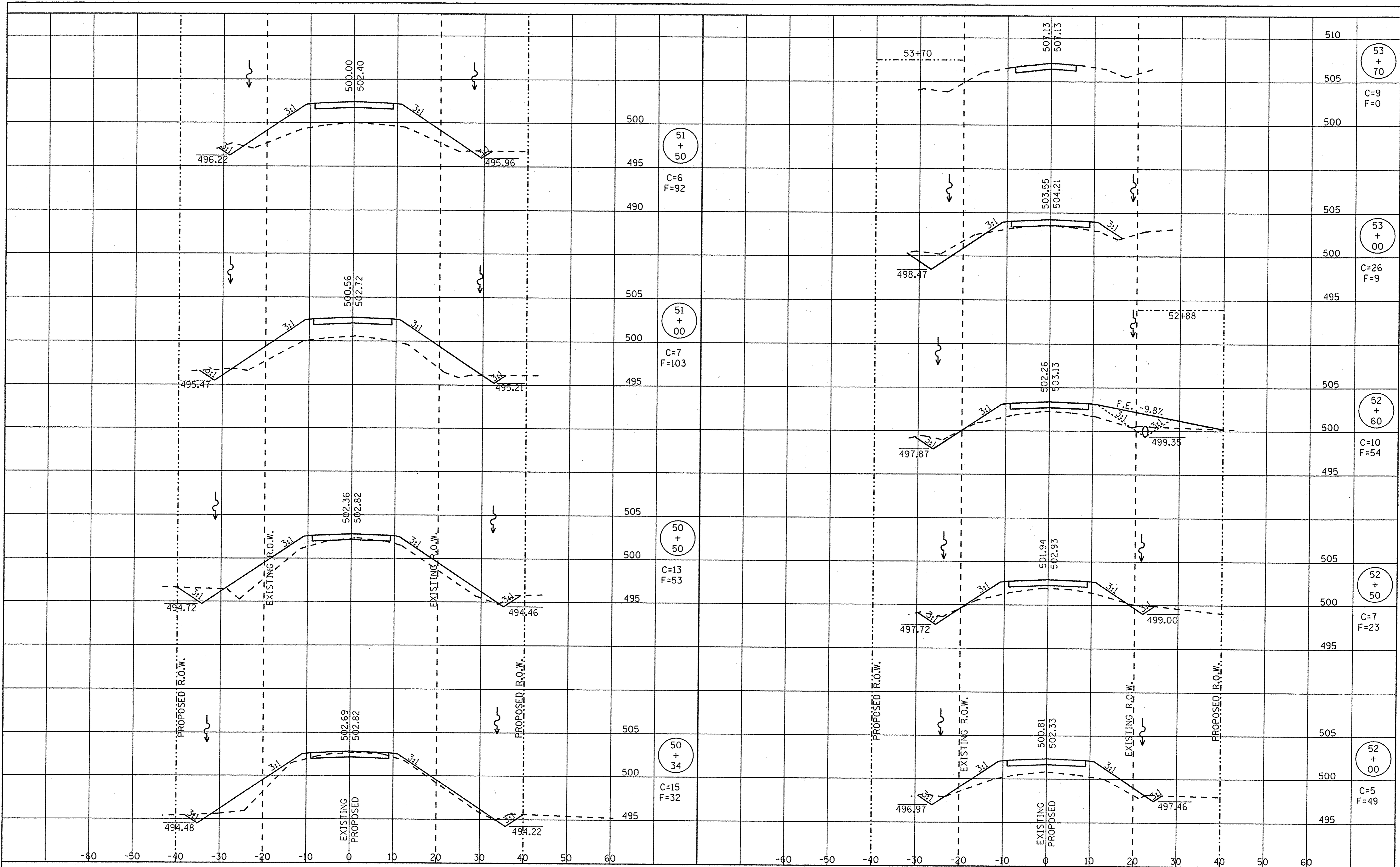
ORIGINAL SURVEY	DATE
SURVEYED	BY
NOTE BOOK	
TEMPLATE	
AREAS	
AREAS CHECKED	
NO.	



RHUTASEL and ASSOCIATES, INC. CONSULTING ENGINEERS • LAND SURVEYORS CENTRALIA, ILLINOIS FREEBURG, ILLINOIS ILLINOIS DESIGN FIRM LICENSE NO. 184-000287	DESIGNED - BLT	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	CROSS SECTIONS OF ROADWAY	ROUTE	SECTION	COUNTY	RAAI JOB NO. 54014	
	DRAWN - JN	REVISED -			TR 4	14-02128-00-BR	FAYETTE	TOTAL SHEETS	NO.
	CHECKED - GLH	REVISED -				14-05122-00-BR	BOND	11	10
	DATE - 09/21/2016	REVISED -							CONTRACT NO. 95800

DATE	
BY	
FINAL SURVEY	SURVEYED
NOTE BOOK	PLOTTED
NO.	AREAS CHECKED

DATE	
BY	
ORIGINAL SURVEY	SURVEYED
NOTE BOOK	PLOTTED
NO.	AREAS CHECKED



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ILLINOIS DESIGN FIRM LICENSE NO. 184-000287

DESIGNED -	BLT	REVISED -	
DRAWN -	JN	REVISED -	
CHECKED -	GLH	REVISED -	
DATE -	09/21/2016	REVISED -	11/21/2016

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

CROSS SECTIONS OF ROADWAY

STA. 50+34 TO STA. 53+70

ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
TR 4	14-02128-00-BR 14-05122-00-BR	FAYETTE BOND	11	11
CONTRACT NO. 95800				

RAAI JOB NO. 54014