

ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
T.R. 137	15-18111-00-BR	WAYNE	14	1
CONTRACT NO. 95811		ILLINOIS		

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
PLANS FOR PROPOSED
STP - BRIDGE

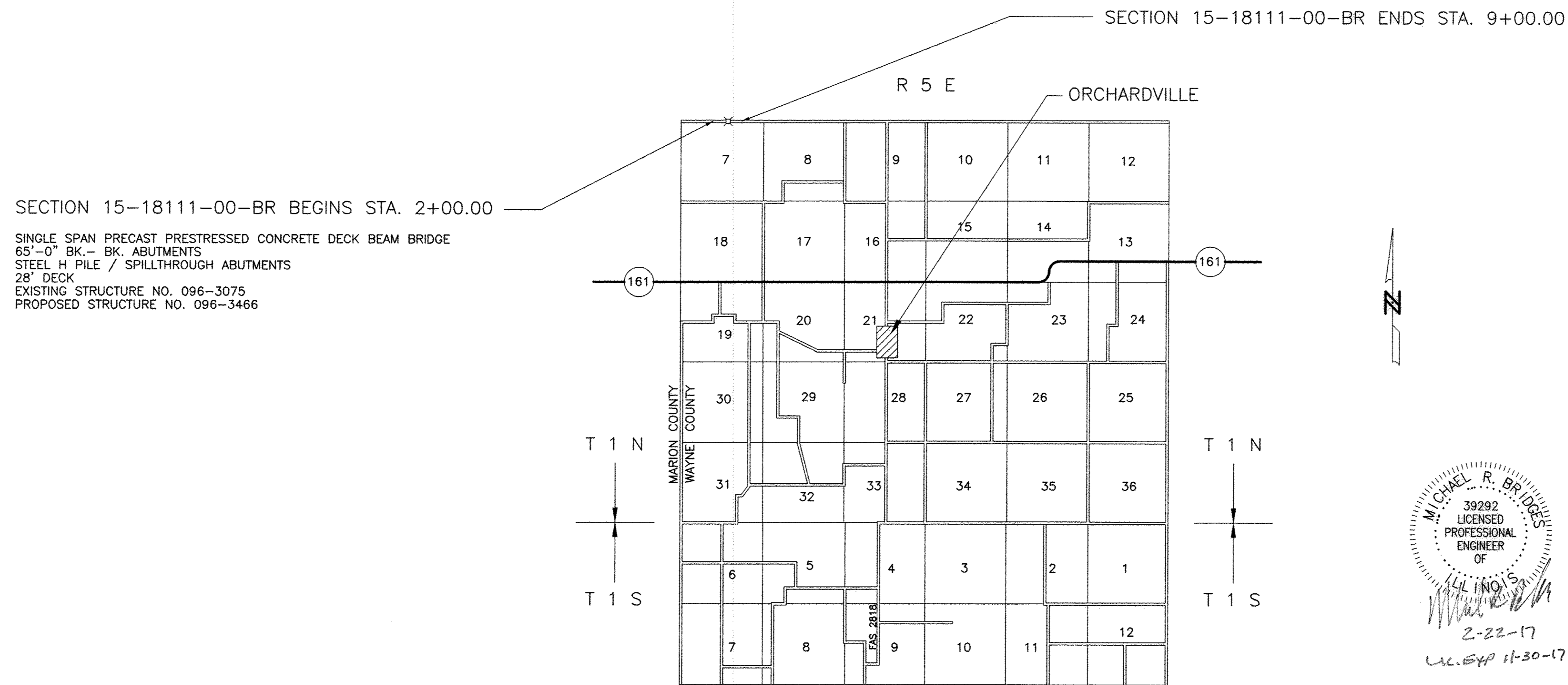
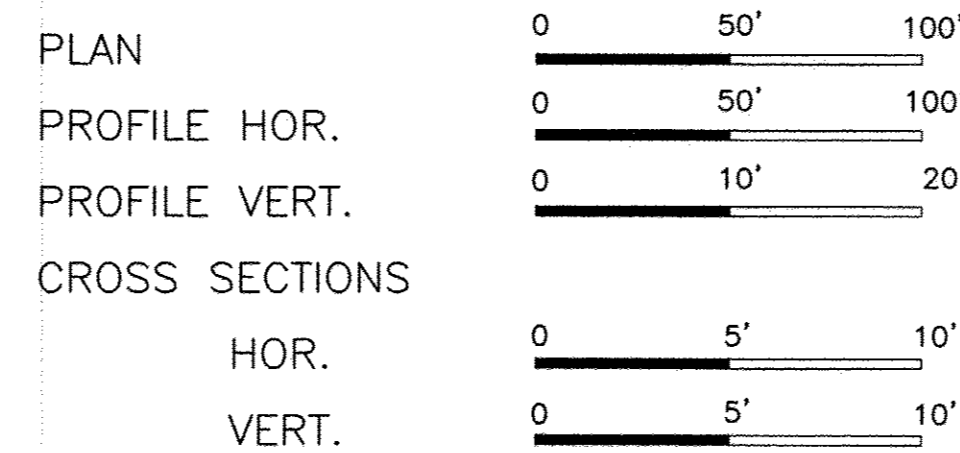
Joint Utility Locating Information for Excavators
JULIE 1-800-892-0123

CONTRACT NO. 95811

SECTION 15-18111-00-BR WAYNE COUNTY
ORCHARD ROAD DISTRICT
PROJECT BROS-0191(069)
JOB NO. C-97-036-16
T.R. 137

INDEX OF SHEETS

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7	ABUTMENTS
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	STANDARD 280001-07
	STANDARD 701901-06
	STANDARD BLR 21-9
	STANDARD BLR 23-4
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SINGLE SPAN PRECAST PRESTRESSED CONCRETE DECK BEAM BRIDGE
 65'-0" BK.- BK. ABUTMENTS
 STEEL H PILE / SPILLTHROUGH ABUTMENTS
 28" DECK
 EXISTING STRUCTURE NO. 096-3075
 PROPOSED STRUCTURE NO. 096-3466

FUNCTIONAL CLASSIFICATION - RURAL LOCAL ROAD
 ADT = 100
 DESIGN SPEED = 30 MPH

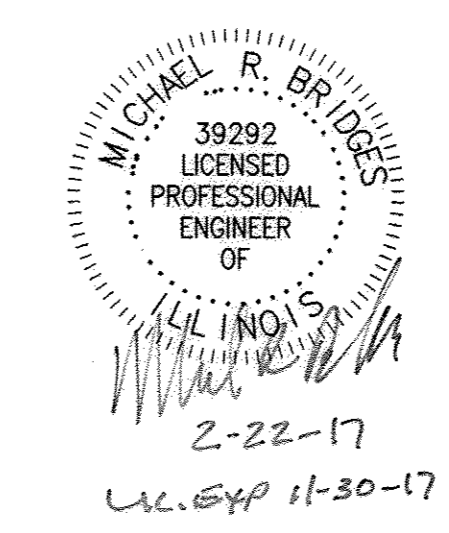
CHARLESTON ENGINEERING, INC.
 CONSULTING ENGINEERS
 105 NORTH KITCHELL
 P.O. BOX 397
 OLNEY, ILLINOIS 62450
 (618) 392-0736
ILLINOIS DEPARTMENT OF PROFESSIONAL REGULATION REGISTRATION #184.003513

APPROVED February 23, 2017
Don Seidel
 COUNTY ENGINEER

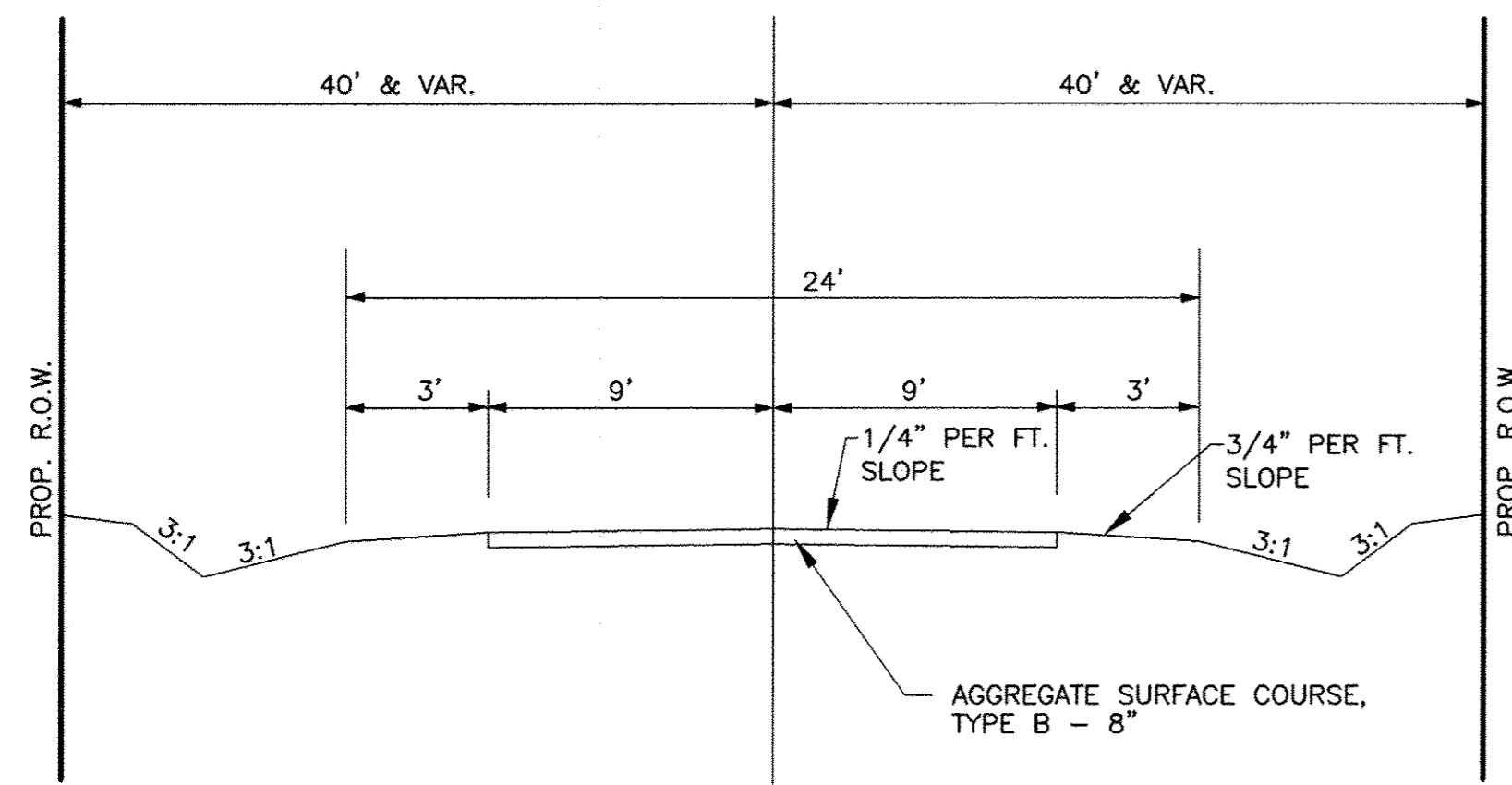
STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

PASSED February 24, 2017
Tom Hammer
 DISTRICT SEVEN ENGINEER OF
 LOCAL ROADS AND STREETS

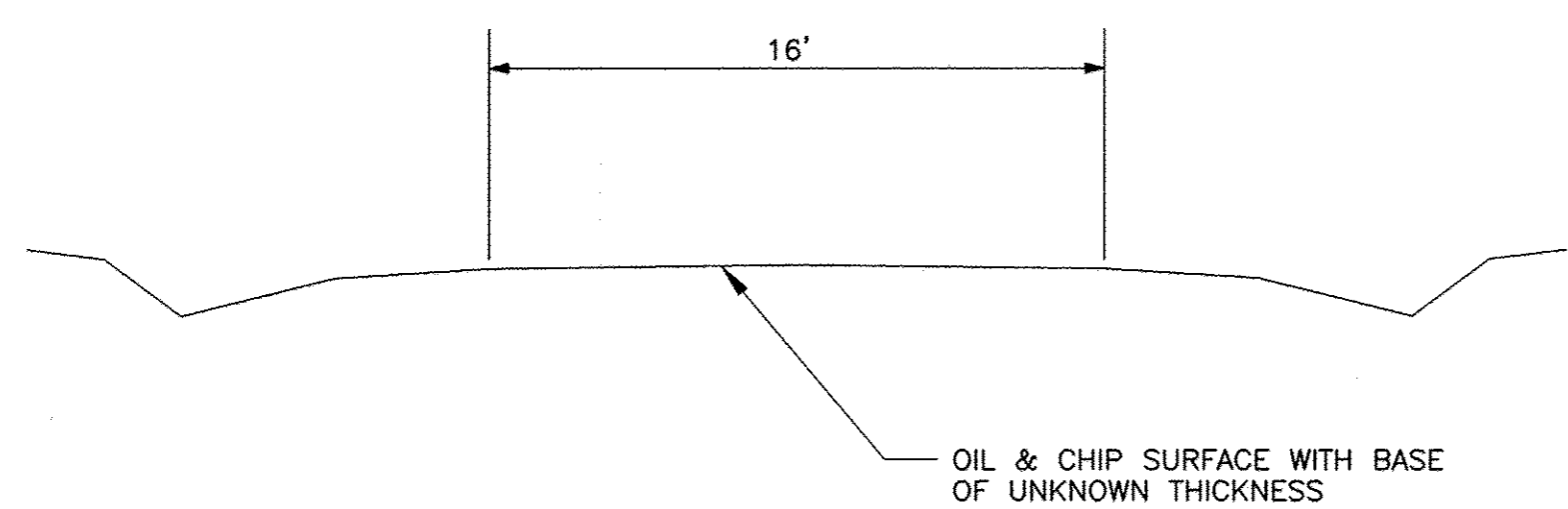
Releasing For
 Bid Based on
 Limited Review February 24, 2017
Jeffrey A. Southworth
 REGION FOUR ENGINEER



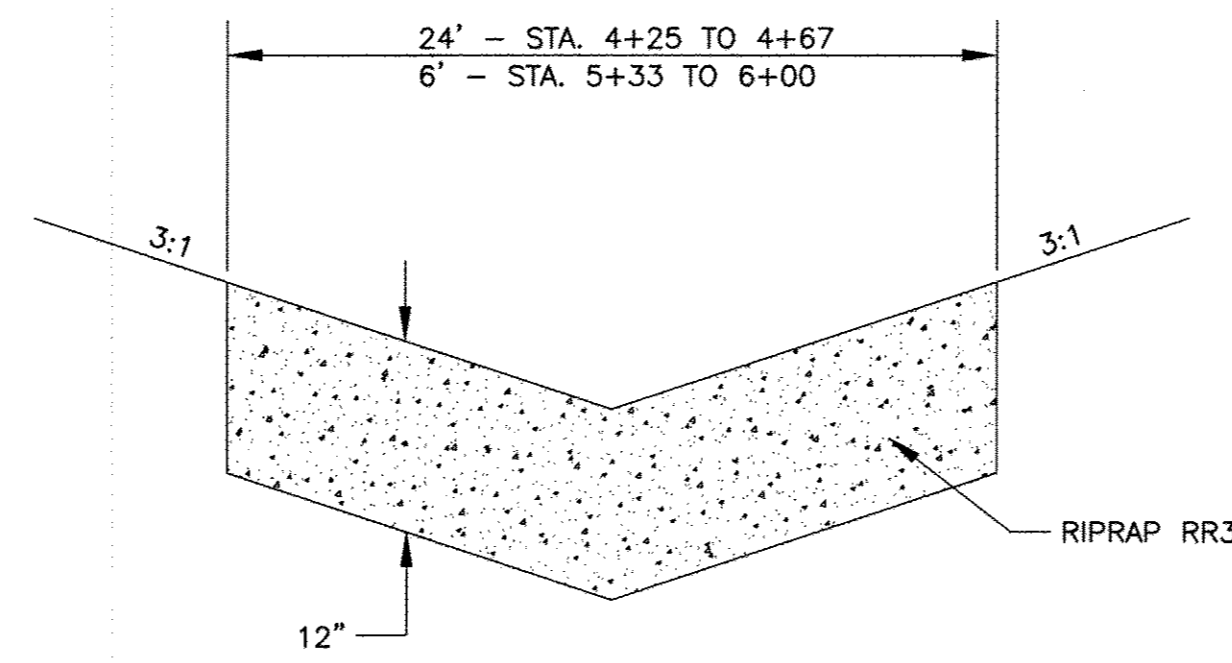
ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
T.R. 137	15-18111-00-BR	WAYNE	14	2
CONTRACT 95811		ILLINOIS		



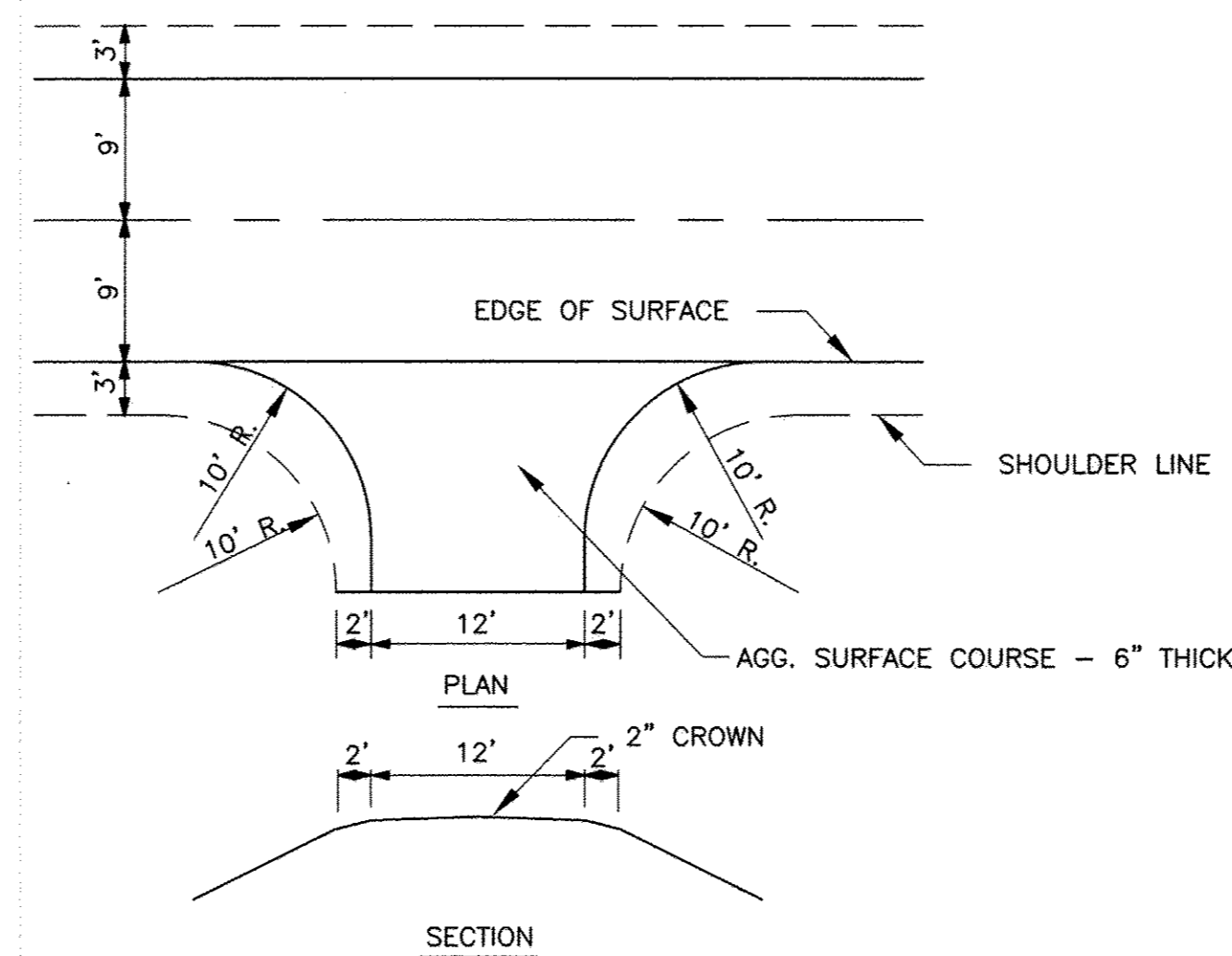
TYPICAL SECTION
PROPOSED



TYPICAL SECTION
EXISTING



AGGREGATE DITCH (SPECIAL) DETAIL



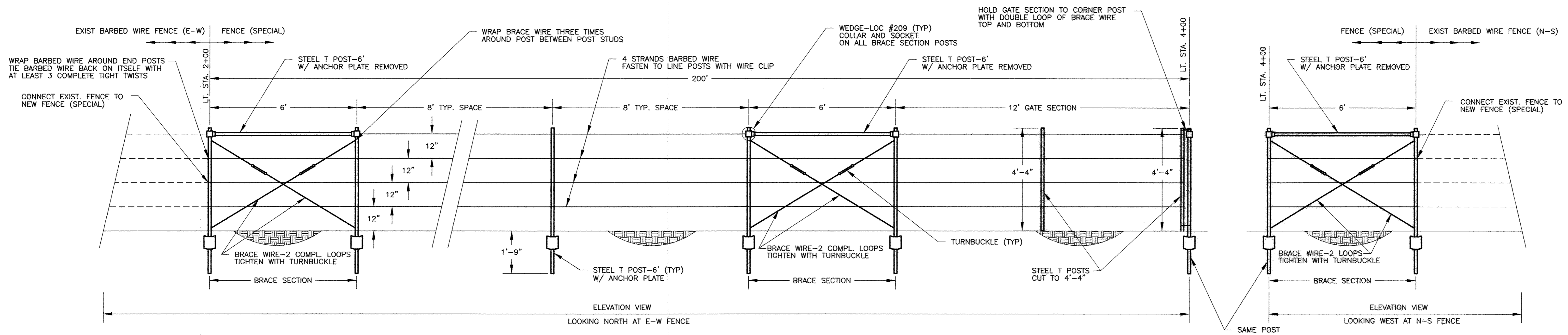
ENTRANCE DETAIL

SUMMARY OF QUANTITIES			
CODE NO.	ITEM	UNIT	QUANTITY
LR631020	TRAFFIC BARRIER TERMINAL, TYPE 1	EACH	2
X220003	FENCE (SPECIAL)	FOOT	206
X2501000	SEEDING, CLASS 2 (SPECIAL)	ACRE	0.90
X2830495	AGGREGATE DITCH (SPECIAL)	TON	70
X7010216	TRAFFIC CONTROL AND PROTECTION, (SPECIAL)	L SUM	1
Z0022800	FENCE REMOVAL	FOOT	505
20100110	TREE REMOVAL (6 TO 15 UNITS DIAMETER)	UNIT	247
20100210	TREE REMOVAL (OVER 15 UNITS DIAMETER)	UNIT	164
20200100	EARTH EXCAVATION	CU YD	160
20300100	CHANNEL EXCAVATION	CU YD	260
20400800	FURNISHED EXCAVATION	CU YD	3025
28000305	TEMPORARY DITCH CHECKS	FOOT	56
28000400	PERIMETER EROSION BARRIER	FOOT	1120
28100807	STONE DUMPED RIPRAP, CLASS A4	TON	300
35101400	AGGREGATE BASE COURSE, TYPE B	TON	65
40200800	AGGREGATE SURFACE COURSE, TYPE B	TON	590
50100100	REMOVAL OF EXISTING STRUCTURES	EACH	1
50105220	PIPE CULVERT REMOVAL	FOOT	40
50200100	STRUCTURE EXCAVATION	CU YD	10
50300225	CONCRETE STRUCTURES	CU YD	20.4
50300280	CONCRETE ENCASEMENT	CU YD	2.8
50400505	PRECAST PRESTRESSED CONCRETE DECK BEAMS (27" DEPTH)	SQ FT	1776
50800105	REINFORCEMENT BARS	POUND	2740
50900205	STEEL RAILING, TYPE S1	FOOT	130
51201400	FURNISHING STEEL PILES HP 10 X 42	FOOT	161
51202305	DRIVING PILES	FOOT	161
51203400	TEST PILE STEEL HP 10 X 42	EACH	1
51500100	NAME PLATES	EACH	1
542D0217	PIPE CULVERTS, CLASS D, TYPE 1 12"	FOOT	30
63100075	TRAFFIC BARRIER TERMINAL, TYPE 5A	EACH	2
67100100	MOBILIZATION	L. SUM	1

▲ SPECIALTY ITEMS

DESIGN DATA

LOCAL ROAD
ADT = 100

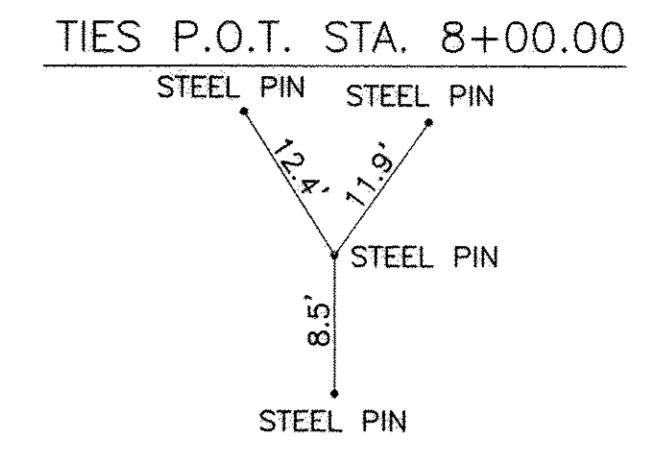
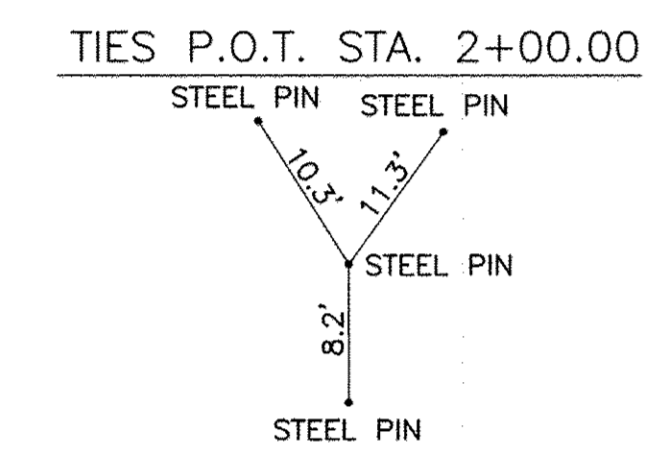
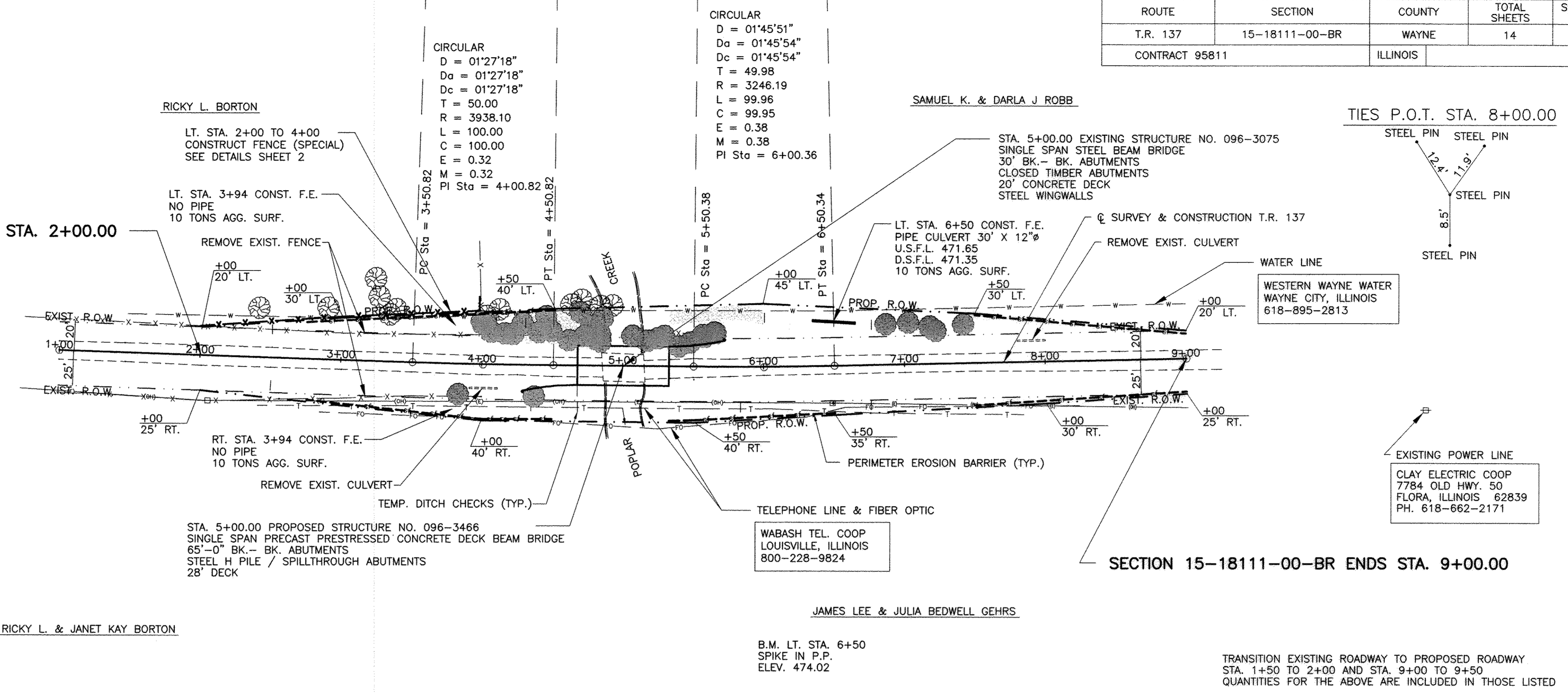


FENCE (SPECIAL) DETAIL

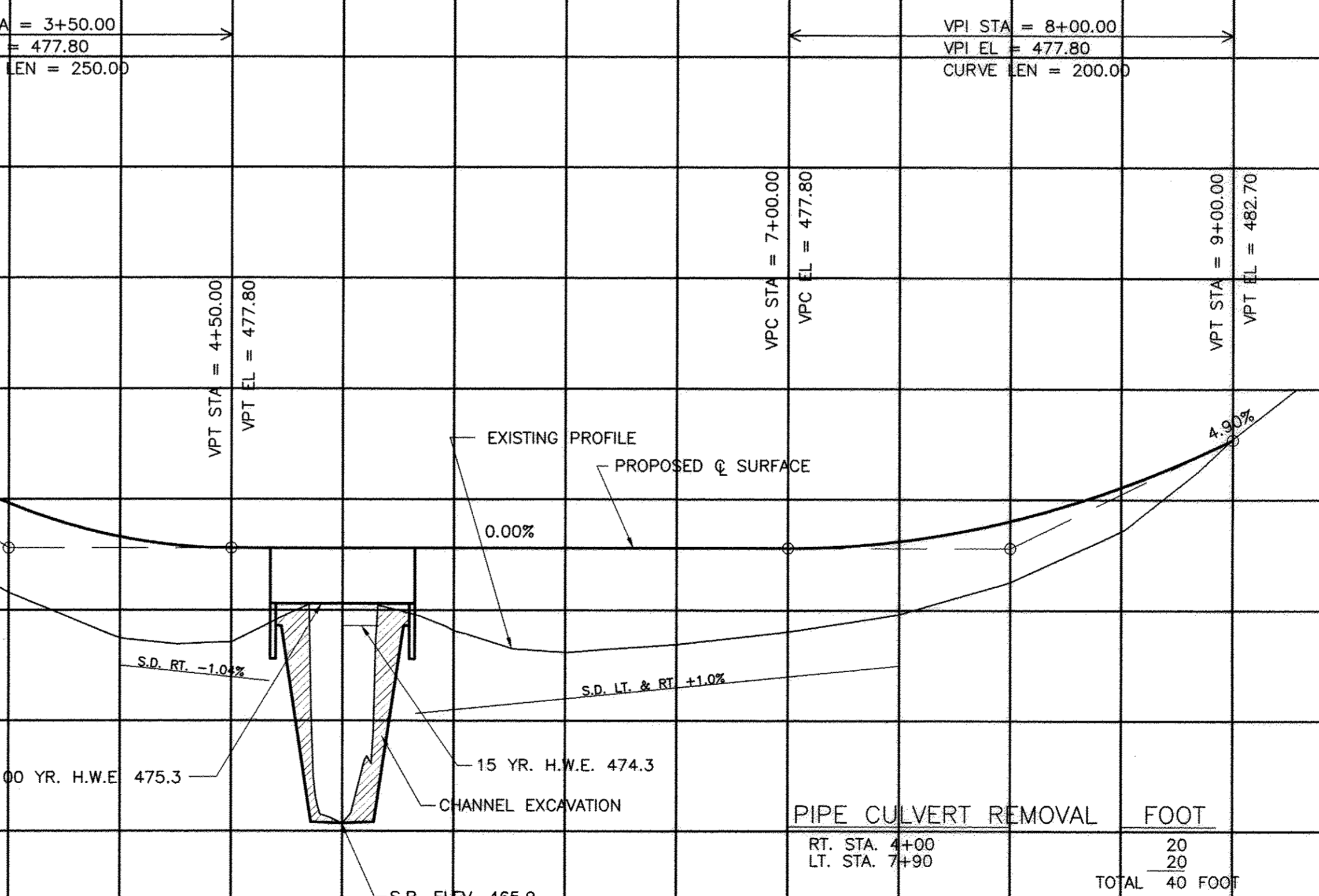
SCALES:
1" = 50' HOR
1" = 5' VER

SECTION 15-18111-00-BR BEGINS STA. 2+00.00

ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
T.R. 137	15-18111-00-BR	WAYNE	14	3
CONTRACT 95811		ILLINOIS		



STA	DESCRIPTION	UNIT	QUANTITY	STA	DESCRIPTION	UNIT	QUANTITY
500	EARTHWORK	CU. YD.			TEMPORARY DITCH CHECKS	FOOT	500
495	CHANNEL EXCAVATION		260		RT. STA. 2+50		
	EARTH EXCAVATION		180		LT. STA. 2+50		
	STRUCTURE EXCAVATION		10		RT. STA. 4+67		
	EMBANKMENT		3250		LT. STA. 4+30		
	FURNISHED EXCAVATION		3025		LT. STA. 6+00		
490	AGGREGATE SURFACE COURSE, TYPE B	TON	560		RT. STA. 6+75		
	STA. 2+00 TO 9+00		30		RT. STA. 6+75		
	ENTRANCES		590		LT. STA. 6+75		
	TOTAL		590		TOTAL	56	FOOT
485	SEEDING, CLASS 2 (SPECIAL)	ACRE	0.90		PERIMETER EROSION BARRIER	FOOT	485
480	TREE REMOVAL (6 TO 15 UNITS D.A.)	UNIT	247		RT. STA. 2+75 TO 4+30		575
	STA. 2+00 TO 9+00				LT. STA. 2+75 TO 4+30		575
					RT. STA. 3+30 TO 6+00		70
					LT. STA. 7+50 TO 9+00		150
					RT. STA. 7+50 TO 9+00		150
					TOTAL	1120	FOOT
475	TREE REMOVAL (OVER 15 UNITS D.A.)	UNIT	184		TRAFFIC BARRIER TERM., TY. 1	EACH	475
470	AGGREGATE DITCH (SPL)	TON	40		RT. STA. 4+29 TO 4+34		1
	LT. STA. 4+25 TO 4+67		30		LT. STA. 5+46 TO 5+71		1
	LT. STA. 5+33 TO 6+00		70		TOTAL	2	EACH
	TOTAL		70				
465	PIPE CULVERTS, CLASS D, TYPE 1 12"	FOOT	30		TRAFFIC BARRIER TERM., TY. 5A	EACH	465
	LT. STA. 6+50				RT. STA. 4+54 TO 4+67		1
					LT. STA. 5+33 TO 5+46		1
					TOTAL	2	EACH
460							
455							

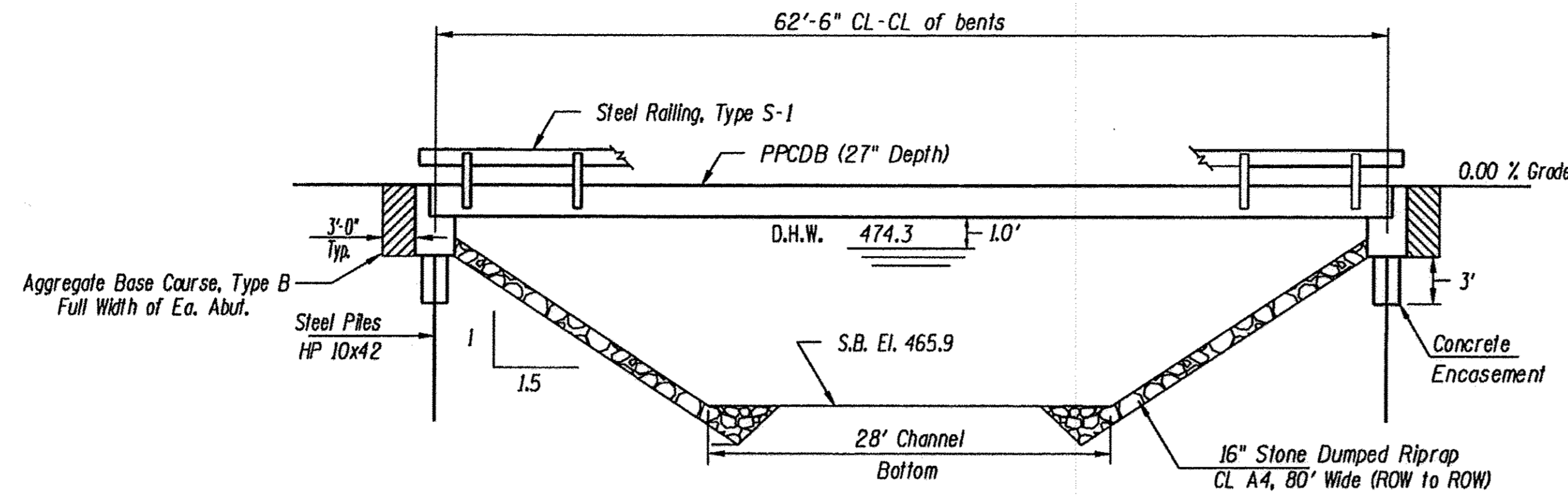


Existing Structure - Single span bridge with concrete deck on steel beams with closed timber abutments. 20' 0 to 0 Deck and 30' Bk to Bk Abutments. Existing Steel Beams Shall Be Salvaged To The Road District.

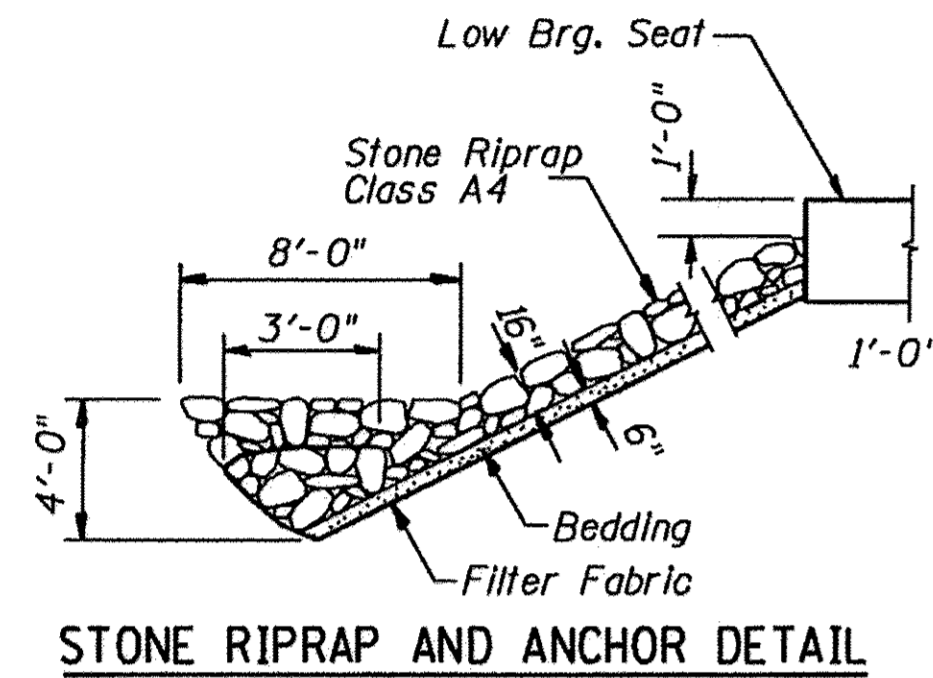
B.M. Spike in P.P.
Lt. Sta. 6+50
Elev. 474.02

GENERAL NOTES

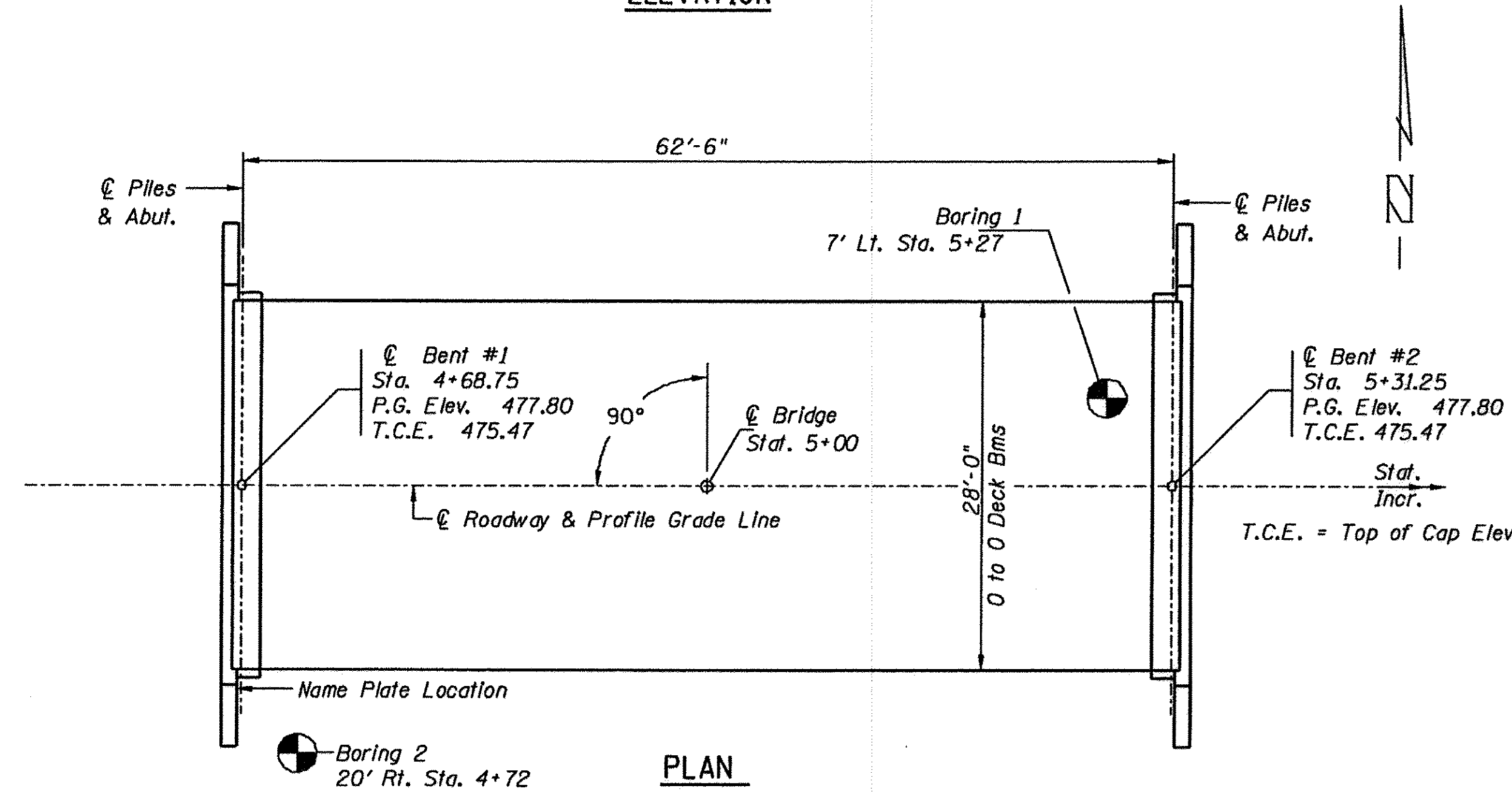
- Steel H piles shall meet AASHTO M270 Grade 50 specifications.
- Test Piles shall be driven to 110% the Nominal Required Bearing indicated in the pile data.
- The Contractor shall drive one test pile, as specified, in a permanent location as directed by the Engineer before ordering the remaining piles.
- See special provisions for boring logs.
- A Corrosion inhibitor, as covered in the Standard Specifications, shall be used in the precast prestressed concrete deck beams.



ELEVATION



STONE RIPRAP AND ANCHOR DETAIL



PLAN

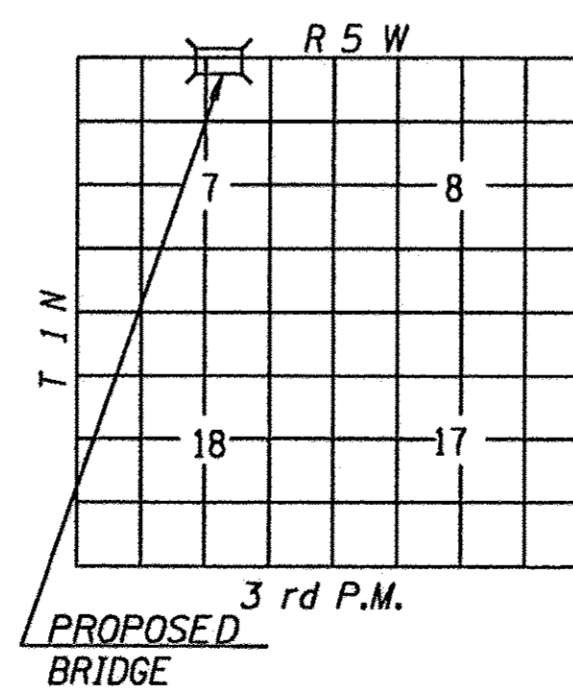
TOTAL BILL OF MATERIAL

Item	Unit	Super-Structure	Sub-Structure	Total
Channel Excavation	Cu. Yds.			260
Stone Dumped Riprap, Class A4	Tons		300	300
Removal of Existing Structures	Each			1
Structure Excavation	Cu. Yds.		10	10
Concrete Structures	Cu. Yds.		20.4	20.4
Concrete Encasement	Cu. Yds.		2.8	2.8
P.P. Conc. Dk. Bm. 27" Dp.	Sq. Ft.	1,776		1,776
Reinforcement Bars	Pound		2,740	2,740
Steel Railing, Type S1	Foot	130		130
Furnishing Steel Piles HP10X42	Foot		161	161
Driving Piles	Foot		161	161
Test Pile Steel HP10X42	Each		1	1
Name Plates	Each		1	1
Aggregate Base Course, Type B	Ton		65	65

POPLAR CREEK
SEC. 15-18111-00-BR BUILT 20___
ORCHARD ROAD DISTRICT
WAYNE COUNTY
LOADING HL-93
STR. NO. 096-3466

LETTERING FOR NAME PLATE

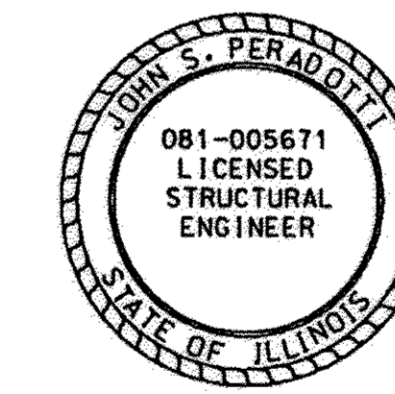
Locate Name Plate at southwest
Corner of Bridge (See Sheet 7)



LOCATION SKETCH

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

John S. Peradotti 2/7/17
John S. Peradotti



Expires Nov. 30, 2018

DESIGN SPECIFICATIONS

2010 AASHTO LRFD Bridge Design Specifications and all applicable interims.

LOADING HL-93

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

SEISMIC DATA

Soil Site Class = D
Design Spectral Acceleration at 0.2 sec. (S_v) = 0.647
Design Spectral Acceleration at 1.0 sec. (S₁) = 0.271
Seismic Performance Zone (SPZ) = B

WATERWAY INFORMATION

Drainage Area = 3.80 Sq. Mi.		Low Grade Elev. = 477.80		At Sta. 5+00					
Flood	Freq. Yr.	Q C.F.S.	Opening Sq. Ft.		Natural Head-Ft.		Headwater El.		
			Exist.	Prop.	Exist.	Prop.	Exist.	Prop.	
Design	15	155.3	223	375	474.3	--	--	448.80	448.80
Base	100	253.0	255	435	475.3	0.50	0.10	449.50	449.50
Overtopping									
Max. Calc.									
Freq. Yr.			(15)	(100)		(15)	(100)		
Over Road Flow (Sq Ft):			Exist.	171	487	Prop.	0	0	

Round Table Design, Inc.
1020 Main St.
Mt. Vernon, Illinois 62864
(618) 224-7819
round-table-design.com

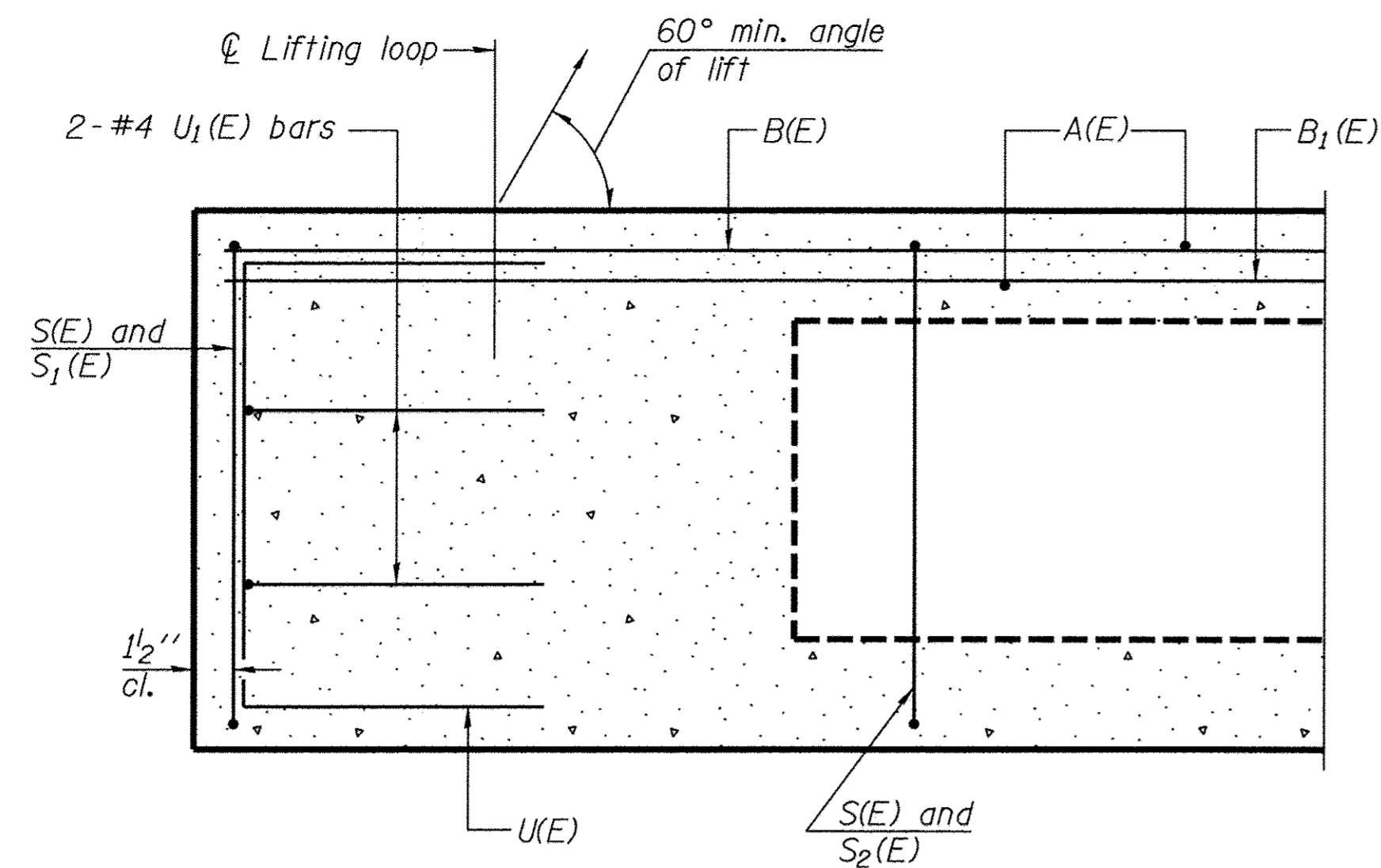
GENERAL PLAN & ELEVATION
TOWNSHIP ROUTE 137
POPLAR CREEK
SECTION 15-18111-00-BR
WAYNE COUNTY
STRUCTURE NO. 096-3466

USER NAME =	DESIGNED -	REVISED -
PLOT SCALE =	CHECKED -	REVISED -
PLOT DATE =	DRAWN -	REVISED -
	CHECKED -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

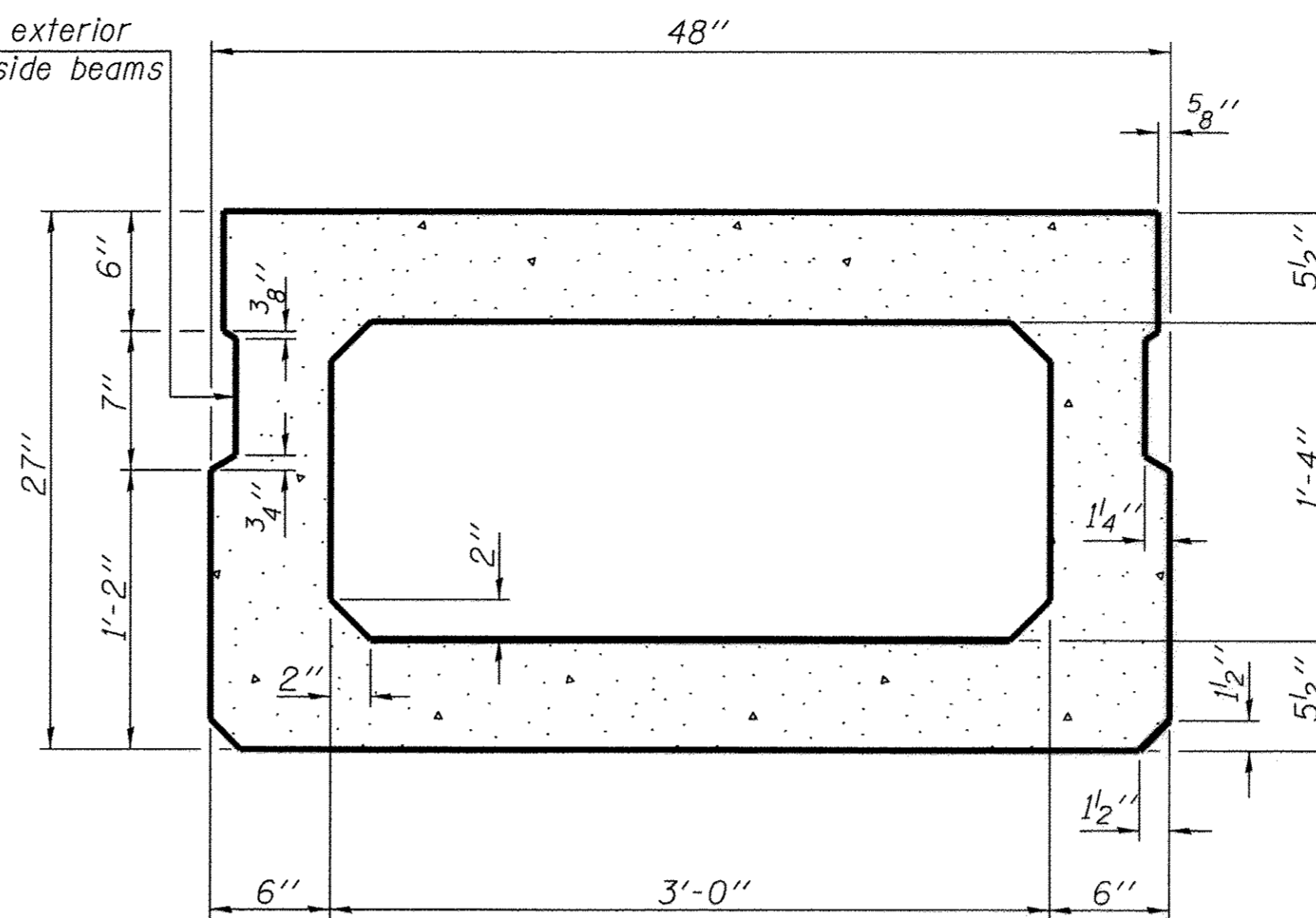
GENERAL PLAN AND ELEVATION
STRUCTRE NO. 096-3466

T.R. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
137	15-18111-00-BR	Wayne	4	14
CONTRACT NO. 95811				
ILLINOIS FED. AID PROJECT				

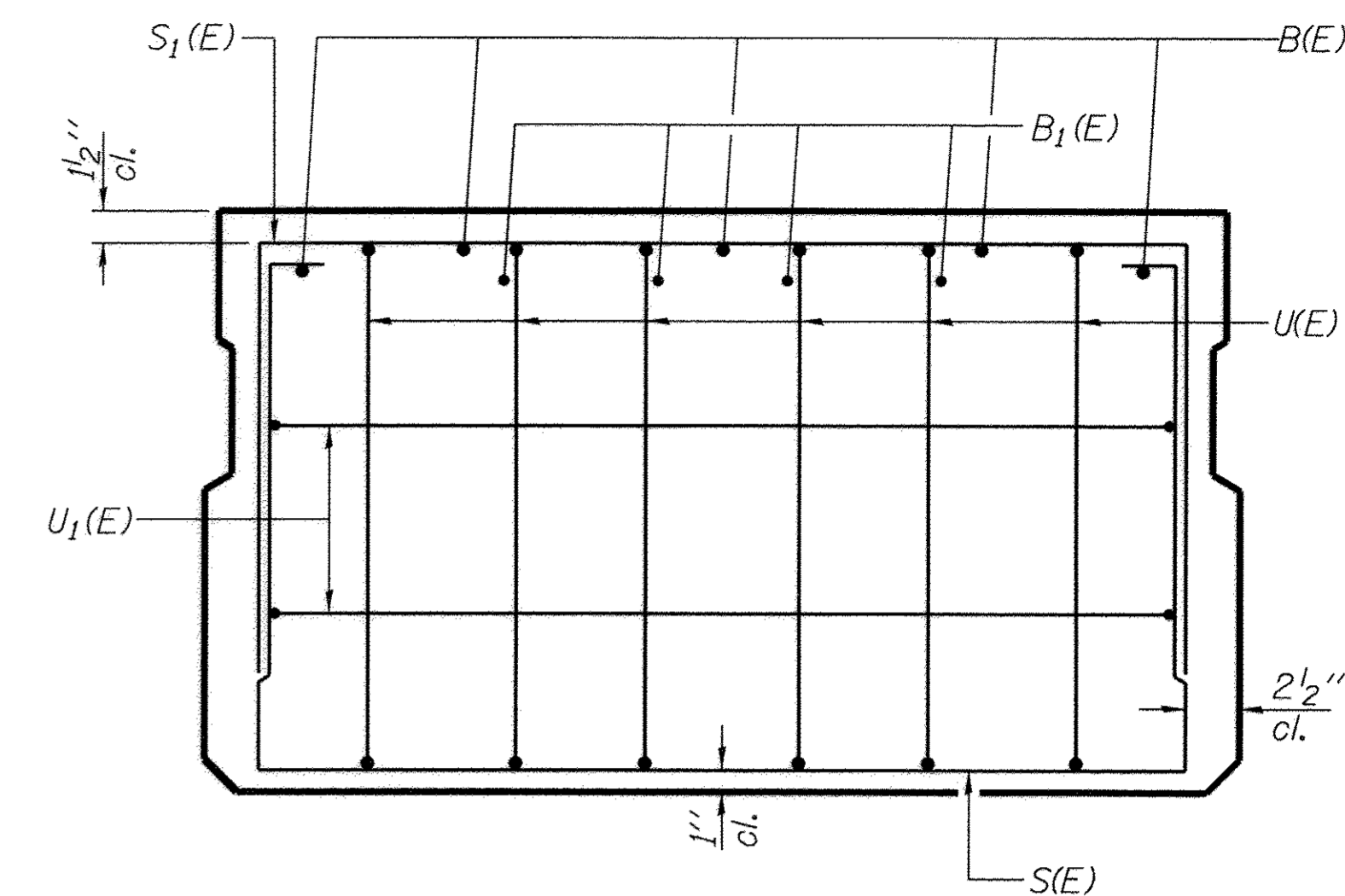


SECTION A-A

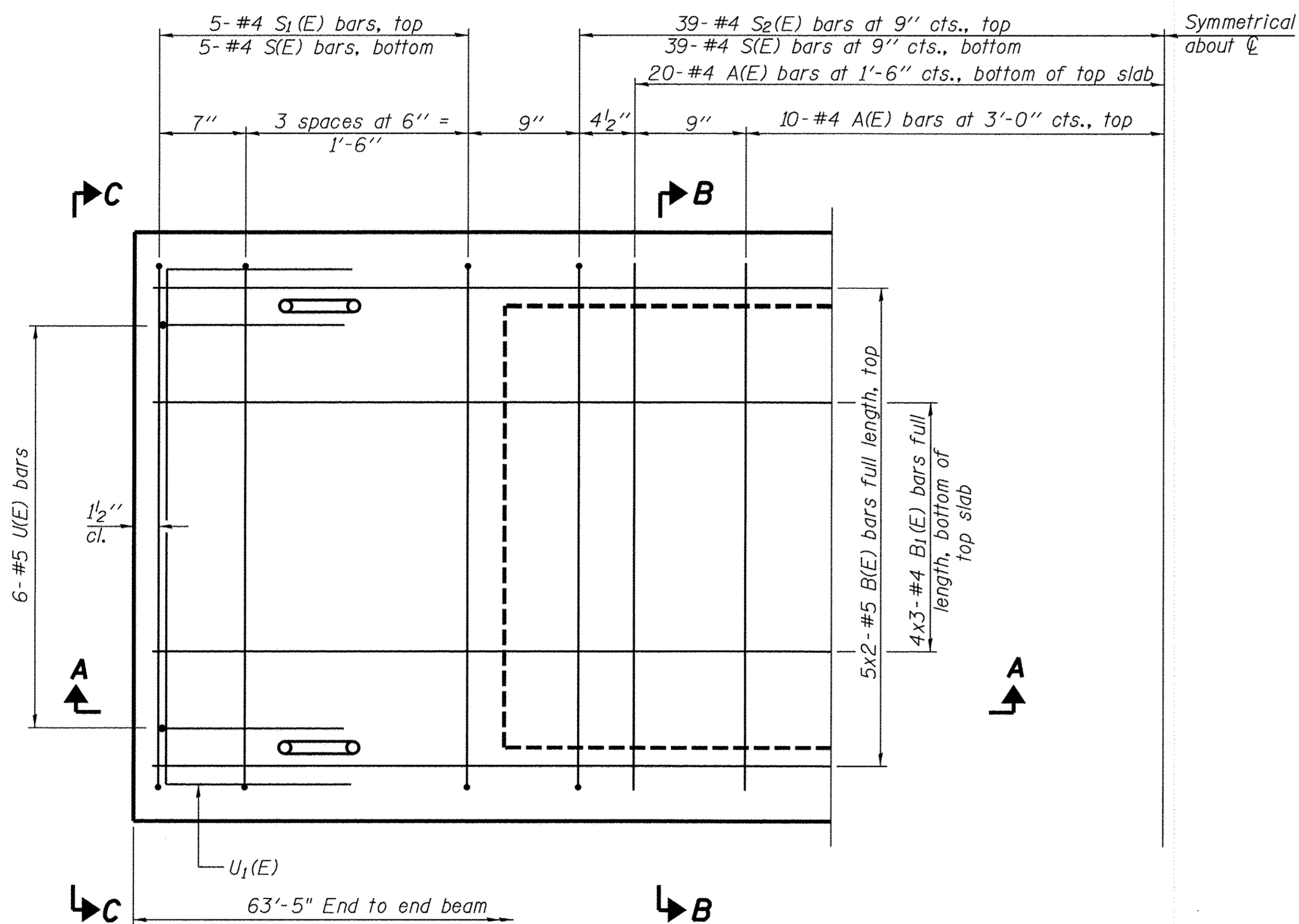
Omit key on exterior face of outside beams



SECTION B-B
(Showing dimensions)

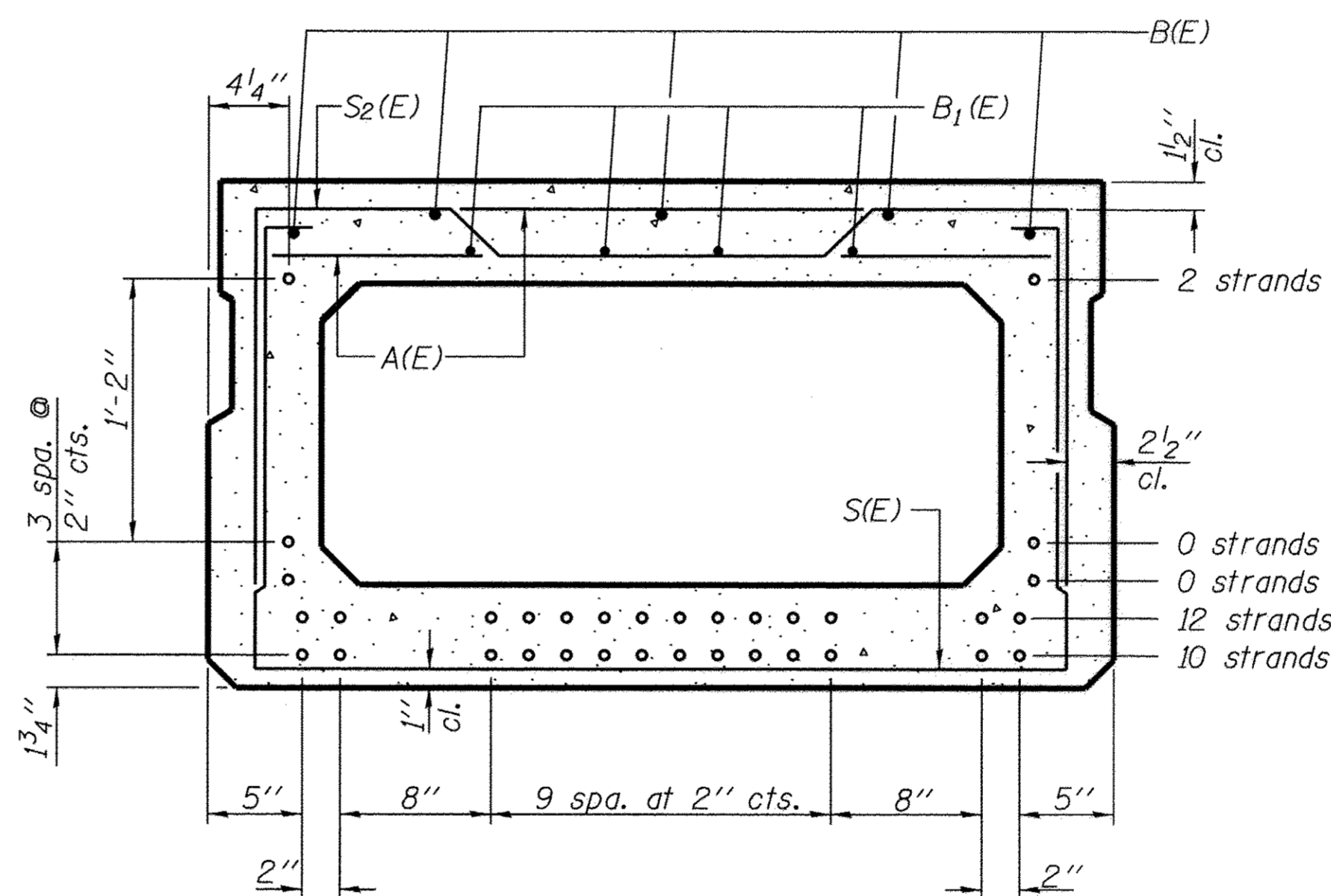


VIEW C-C



PLAN VIEW

Symmetrical about \bar{C}



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.

BAR LIST
ONE BEAM ONLY

(For information only)

Bar	No.	Size	Length	Shape
A(E)	60	#4	3'-7"	—
B(E)	10	#5	32'-10"	—
B1(E)	12	#4	22'-3"	—
S(E)	88	#4	8'-5"	U
S1(E)	10	#4	6'-11"	U
S2(E)	78	#4	7'-2"	U
U(E)	12	#5	4'-6"	C
U1(E)	4	#4	6'-0"	C

Note: See sheet 3 of 7 for additional details and Bill of Material.

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.

MINIMUM BAR LAP

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

PD-2748-0

6-8-15

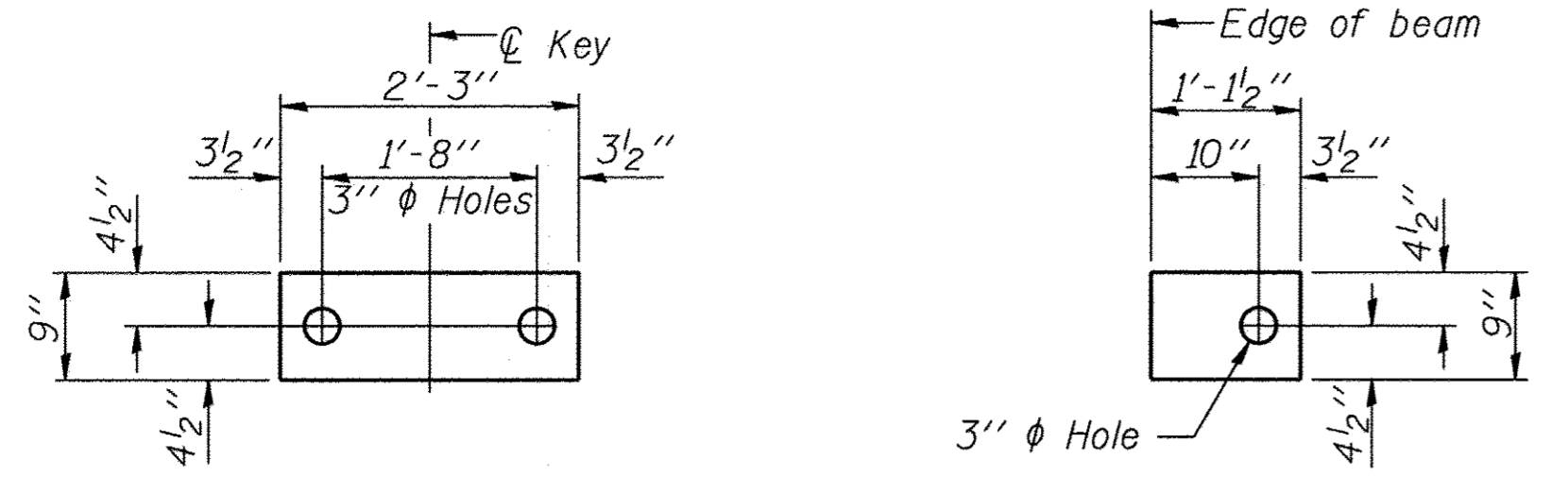
FILE NAME =	USER NAME =	DESIGNED -	REVISED -
		CHECKED -	REVISED -
	PLOT SCALE =	DRAWN -	REVISED -
	PLOT DATE =	CHECKED -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

27" x 48" PPC DECK BEAM
STRUCTURE NO. 096-3466

T.R. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
137	15-18111-00-BR	Wayne	5	14
				CONTRACT NO. 95811
ILLINOIS FED. AID PROJECT				

Sheet 2 of 7

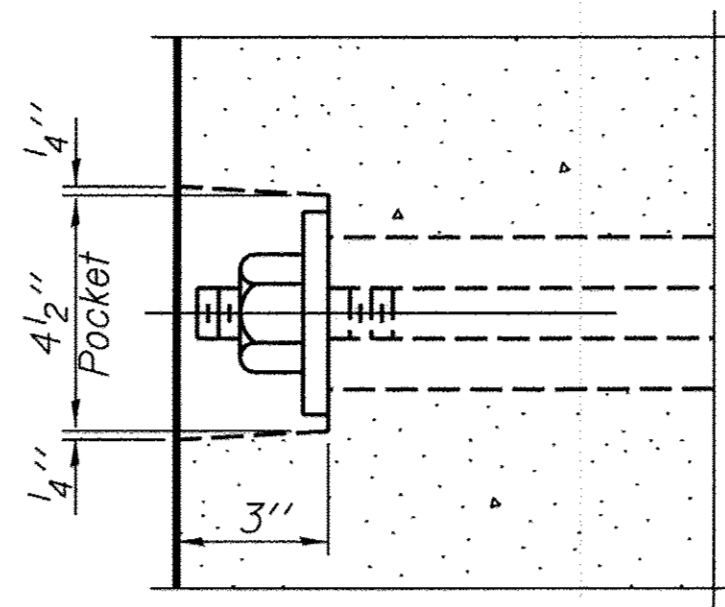


FABRIC BEARING PAD
(Interior)

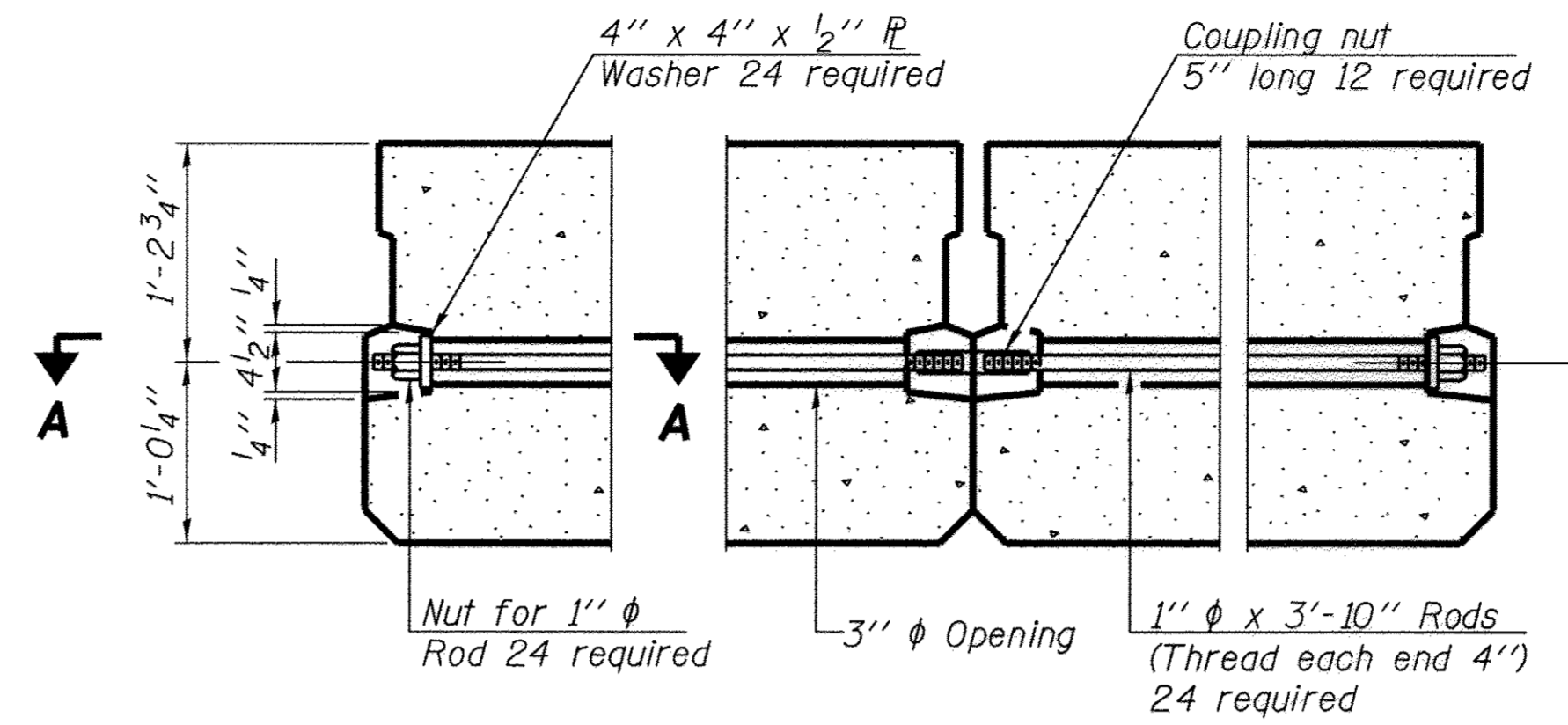
FABRIC BEARING PAD
(Exterior)

FIXED

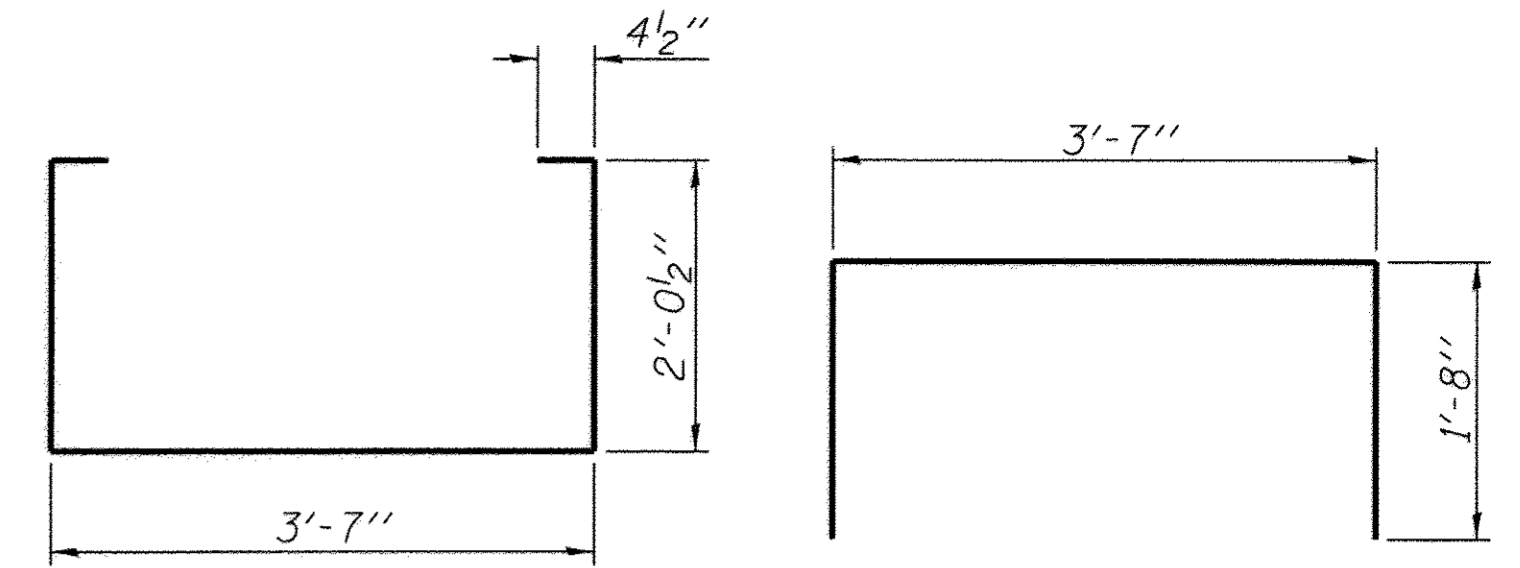
Notes:
All bearing pads shall be 1" thick.
Omit holes when using expansion bearings.
Expansion bearing pad shall be bonded to the substructure.



SECTION A-A

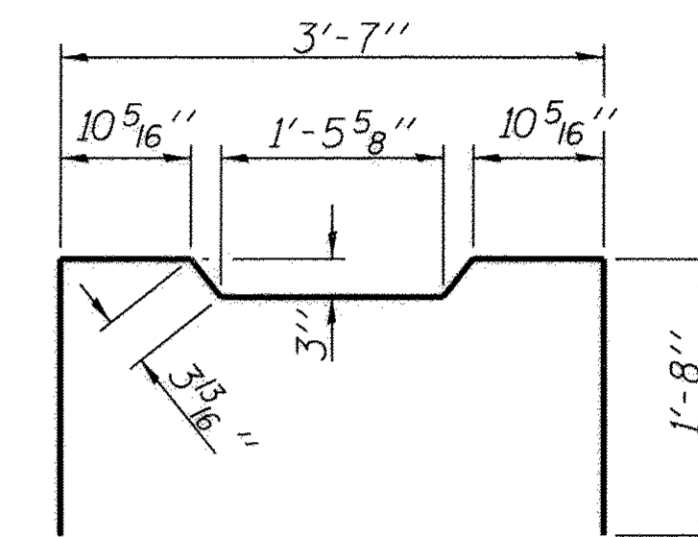


TYPICAL TRANSVERSE TIE ASSEMBLY



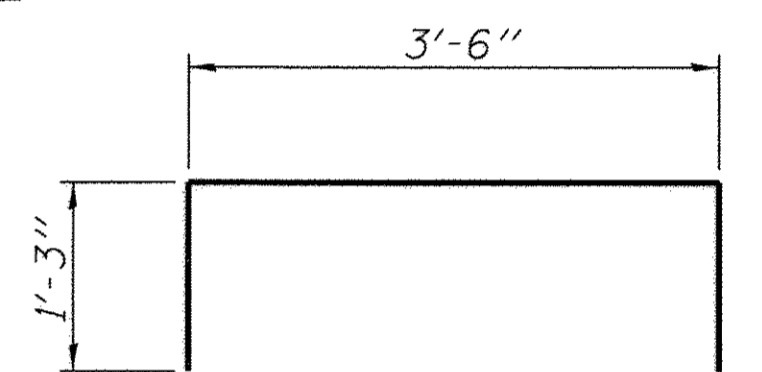
BAR S(E)

BAR S1(E)

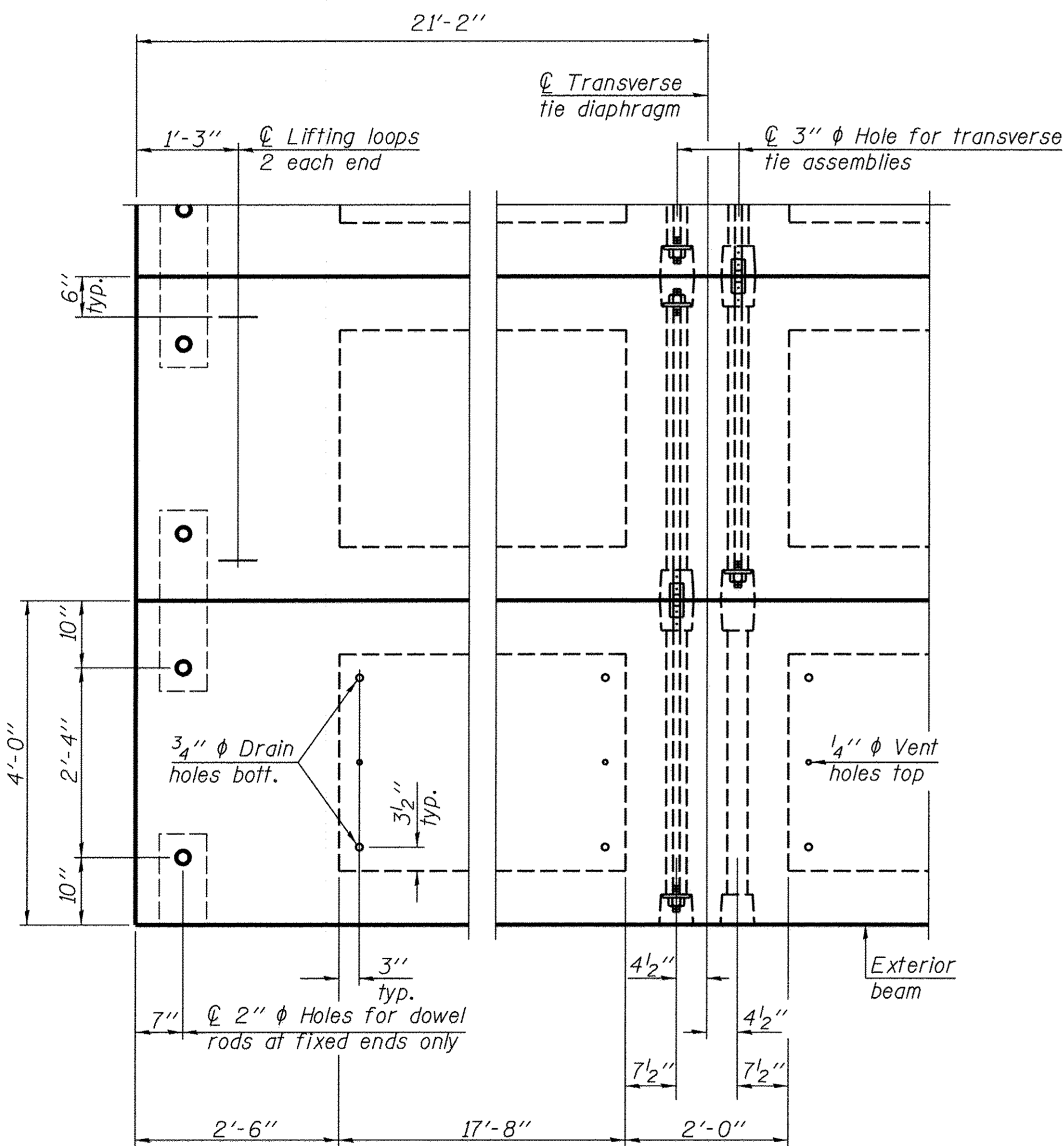


BAR S2(E)

BAR U(E)

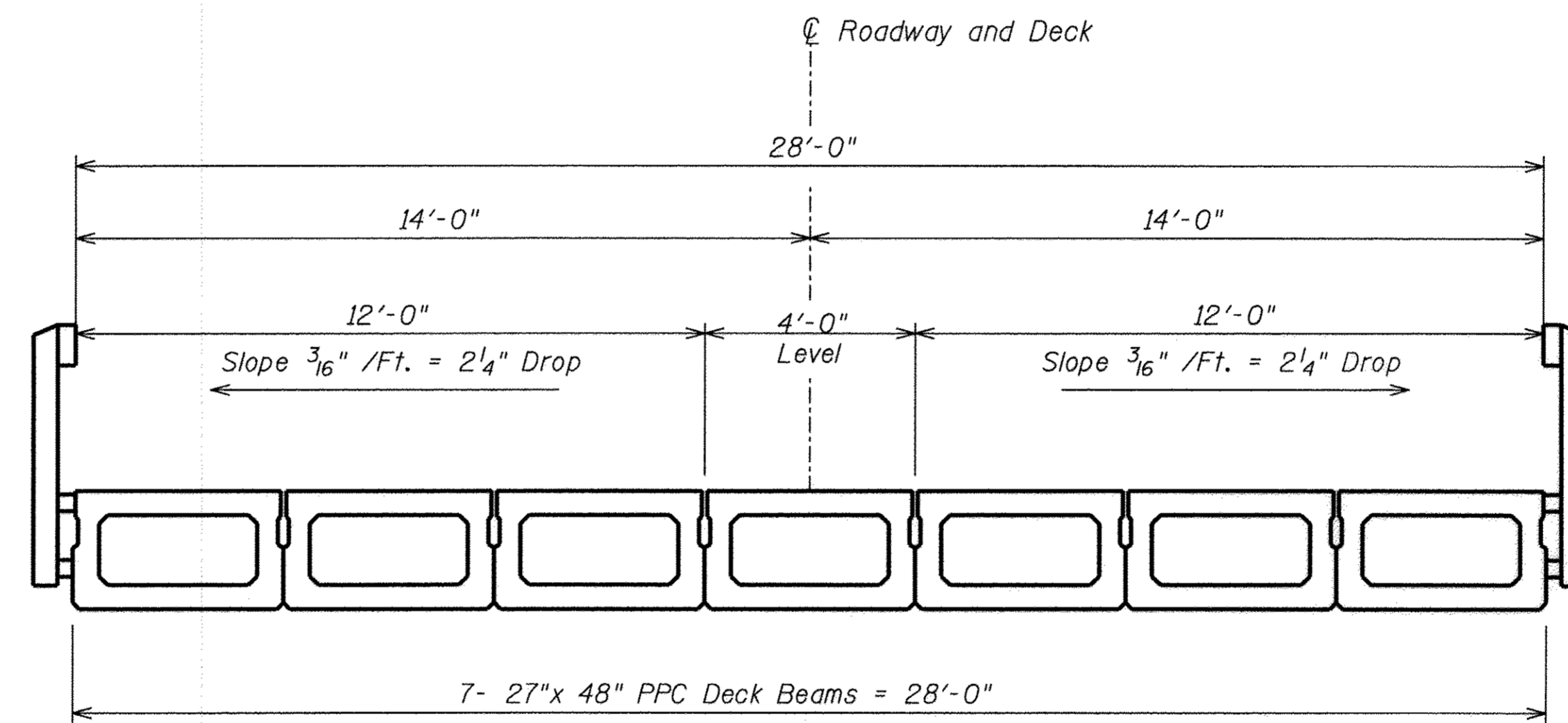


BAR U1(E)



PLAN VIEW

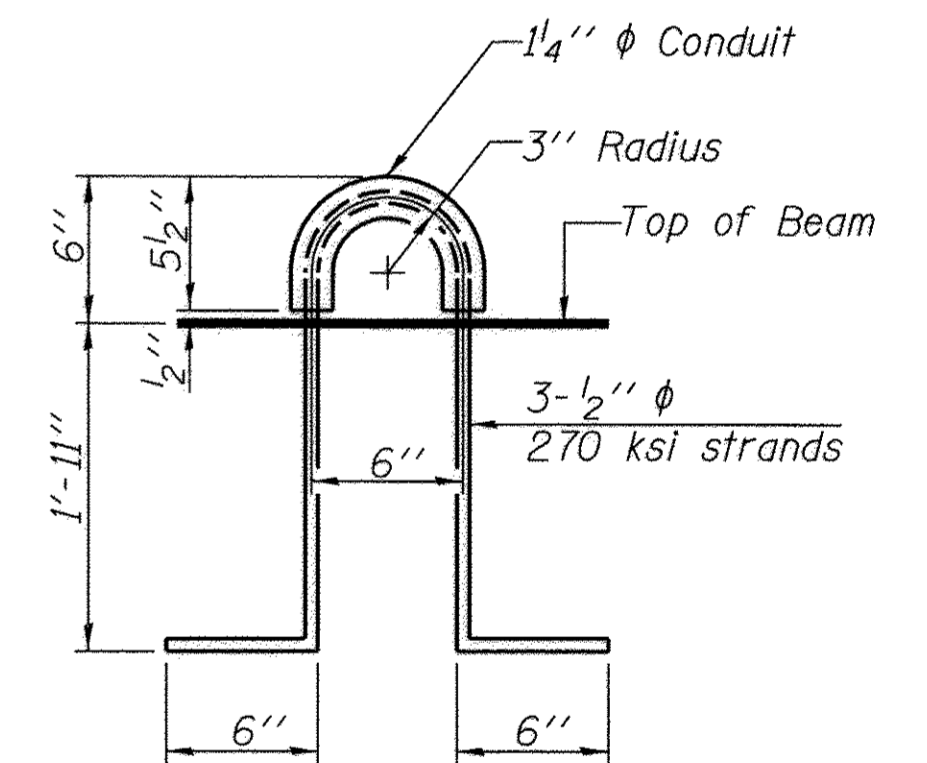
Note: Connect beams in pairs with the transverse tie configuration shown.



CROSS SECTION

NOTES

Prestressing steel shall be uncoated high strength, low relaxation 7-wire strand, Grade 270. The nominal diameter shall be 1/2" and the nominal cross-sectional area shall be 0.153 sq. in. The 1" ϕ rods in the transverse tie assembly shall be tightened to a snug fit and the threads set. Pockets on exterior faces of bridge shall be filled with grout after transverse tie assembly is in place. Reinforcement bars shall conform to ASTM A 706, Grade 60. (See Special Provisions). Two 1/8" fabric adjusting shims of the dimensions of the exterior bearing pad shall be provided for each bearing pad location. A minimum 2 1/2" ϕ lifting pin shall be used to engage the lifting loops during handling. Corrosion Inhibitor, per Article 1020.05(b)(12) and 1021.06 of the Standard Specifications, shall be used in the concrete for precast prestressed concrete deck beams. Compressive strength of prestressed concrete, $f'c$, shall be 6000 psi. Compressive strength of prestressed concrete at release, $f'ci$, shall be 5000 psi.



LIFTING LOOP DETAIL

BILL OF MATERIAL

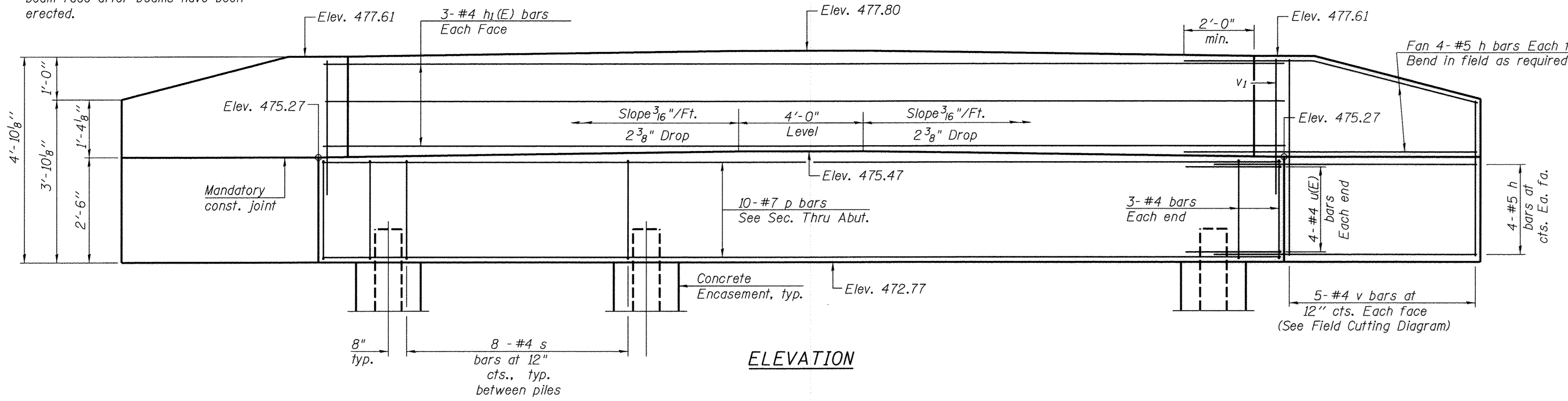
Precast Prestressed Conc. Deck Bms. (27" depth)	Sq. Ft.	1776
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27" x 48" PPC DECK BEAMS DETAILS
TOWNSHIP ROUTE 137
POPLAR CREEK
SECTION 15-18111-00-BR
WAYNE COUNTY
STRUCTURE NO. 096-3466

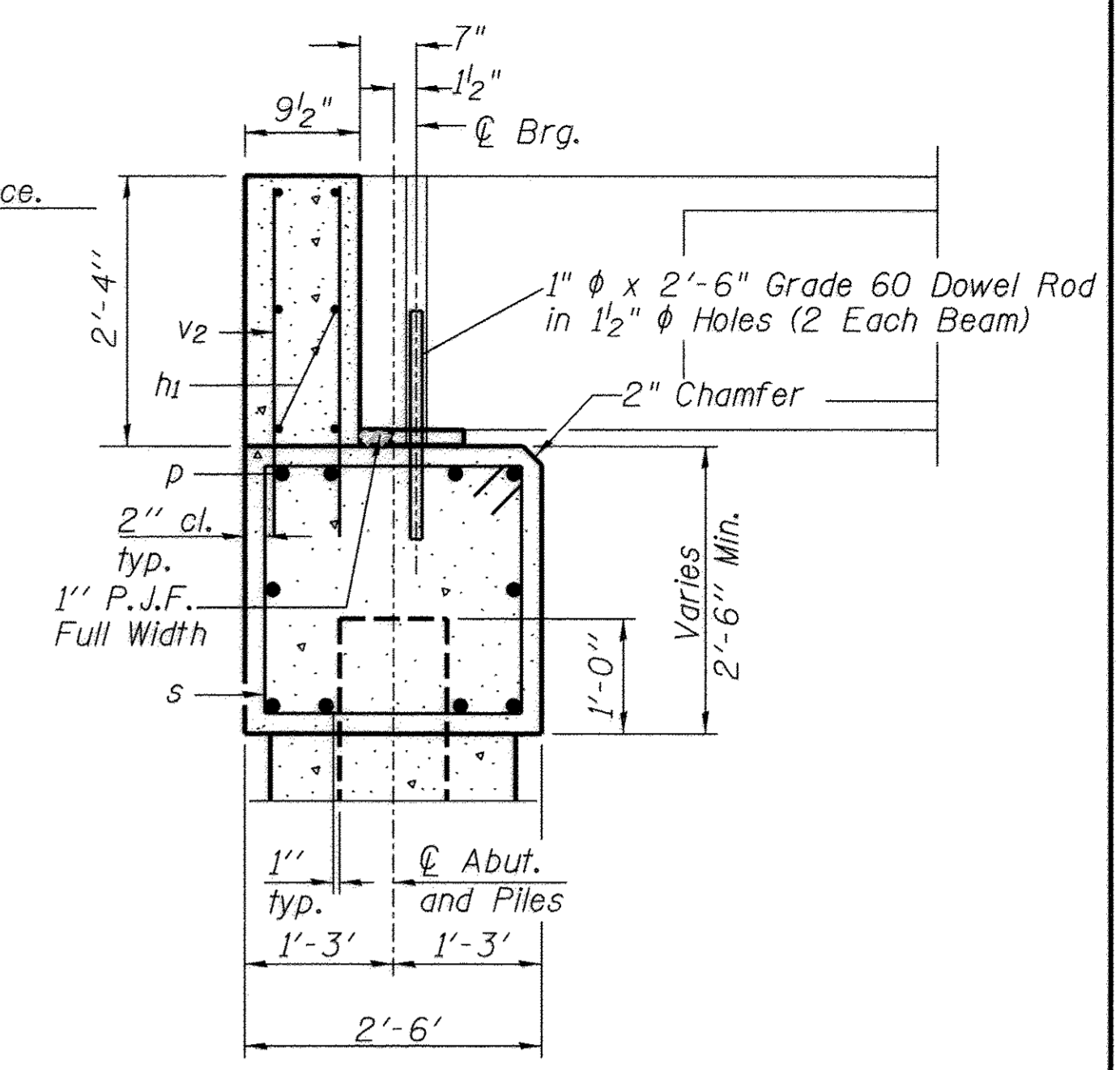
PD-2748-0D 6-8-15

FILE NAME =	USER NAME =	DESIGNED -	REVISD -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	27" x 48" PPC DECK BEAM DETAILS STRUCTURE NO. 096-3466	T.R. RT.E.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	
		CHECKED -	REVISD -			137	15-18111-00-BR	Wayne	6	14	
		DRAWN -	REVISD -			CONTRACT NO. 95811					
		CHECKED -	REVISD -			ILLINOIS FED. AID PROJECT					

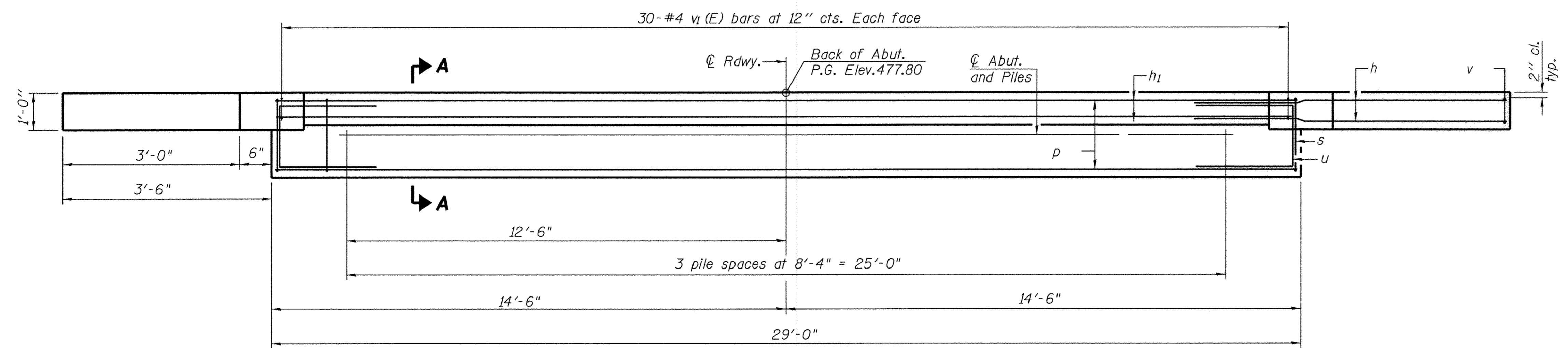
* Cast top of wingwall flush with exterior beam face after beams have been erected.



ELEVATION



SECTION A-A



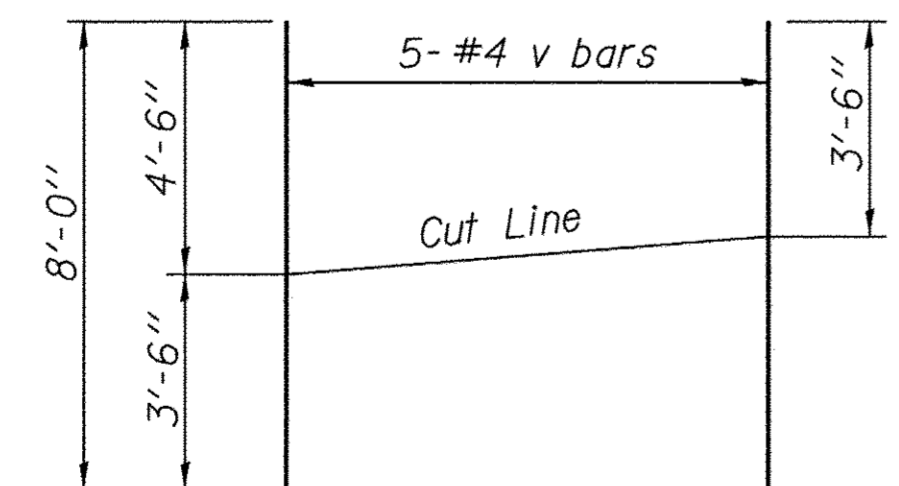
PLAN

BILL OF MATERIAL FOR TWO ABUTMENTS

Bar	No.	Size	Length	Shape
h	64	#5	5'-10"	—
h1	12	#4	29'-0"	—
p	20	#7	28'-8"	—
s	60	#4	9'-5"	□
u	16	#4	10'-1"	□
v	20	#4	8'-0"	—
v1	120	#4	4'-4"	—
Structure Excavation			Cu. Yd.	10
Concrete Structures			Cu. Yd.	20.4
Reinforcement Bars, Epoxy Coated			Pound	2740
Furnishing Steel Piles, HP10x42			Foot	161
Driving Piles			Foot	161
Test Pile,			Each	1
Concrete Encasement			Cu. Yd.	2.8

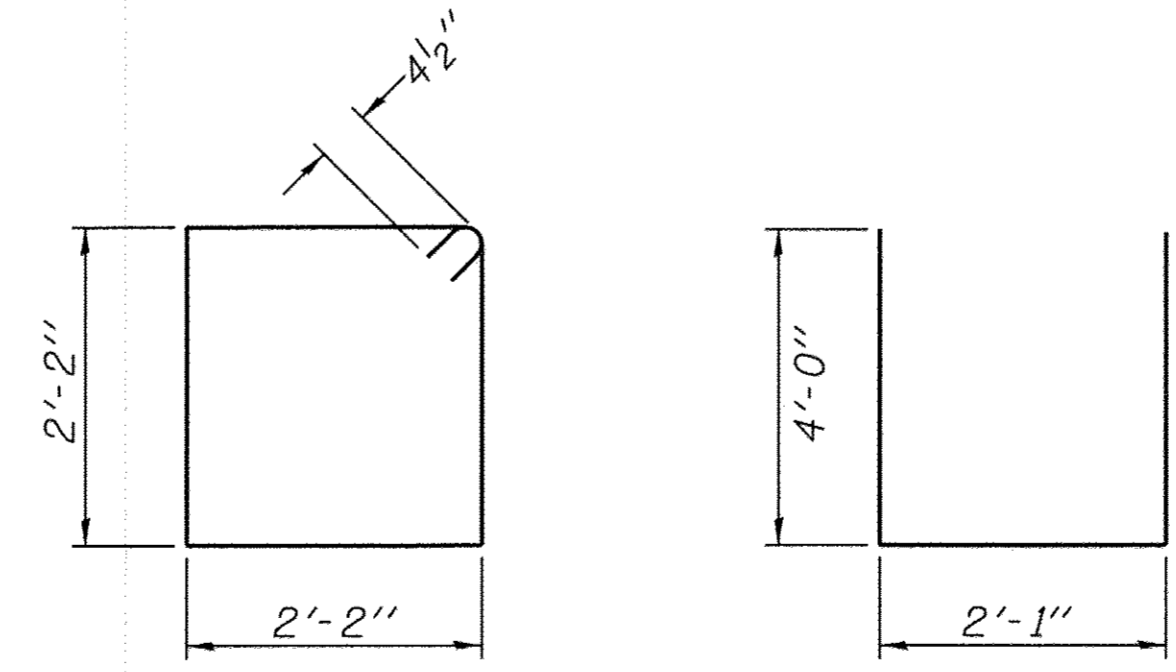
PILE DATA

Type: HP10x42
 Nominal Required Bearing: 326
 Factored Resistance Available: 180
 Est. Length: 23
 No. Production Piles: 7
 No. Test Piles: 1, West Abut.



FIELD CUTTING DIAGRAM

Order v(E) bars full length. Cut as shown and use remainder of bars in opposite face.



BAR s

BAR u

Notes:
 For details of piles and Concrete Encasement, see sheet 8 of 14.
 Cast backwall after beams and concrete wearing surface, if applicable, have been erected.

ABUTMENTS
 TOWNSHIP ROUTE 137
 POPLAR CREEK
 SECTION 15-18111-00-BR
 WAYNE COUNTY
 STRUCTURE NO. 096-3466

AD-2742-0

7-1-10

FILE NAME =	USER NAME =	DESIGNED -	REVISD -
		CHECKED -	REVISD -
		DRAWN -	REVISD -
		CHECKED -	REVISD -

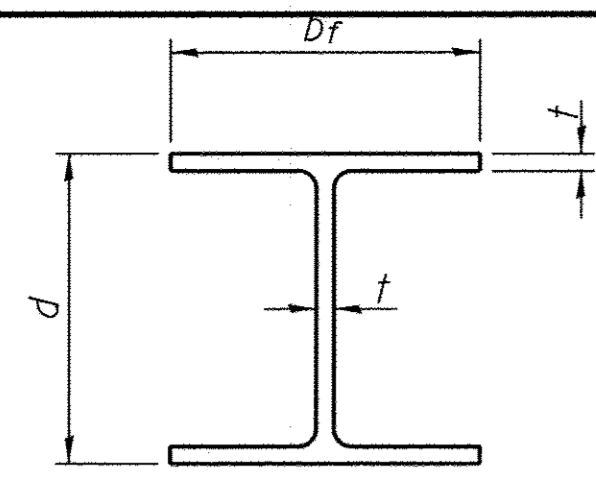
STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

ABUTMENTS
 STRUCTURE NO. 096-3466

T.R. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
137	15-18111-00-BR	WAYNE	7	14
				CONTRACT NO. 95811

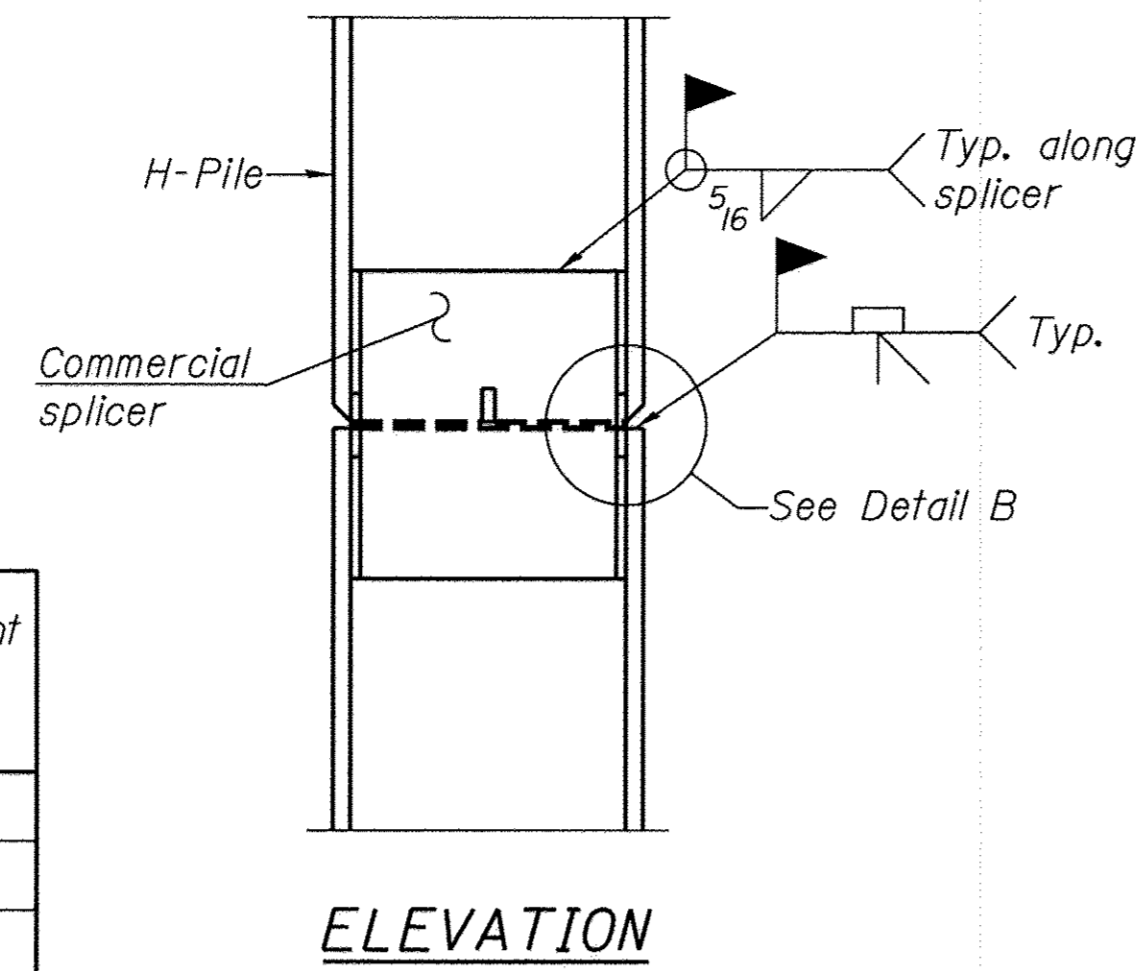
Sheet 4 of 7

ILLINOIS FED. AID PROJECT

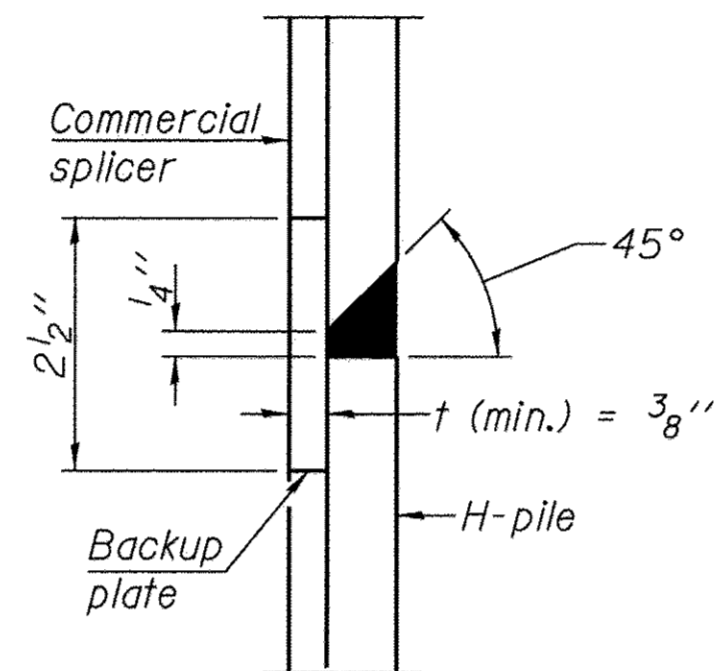


STEEL PILE TABLE

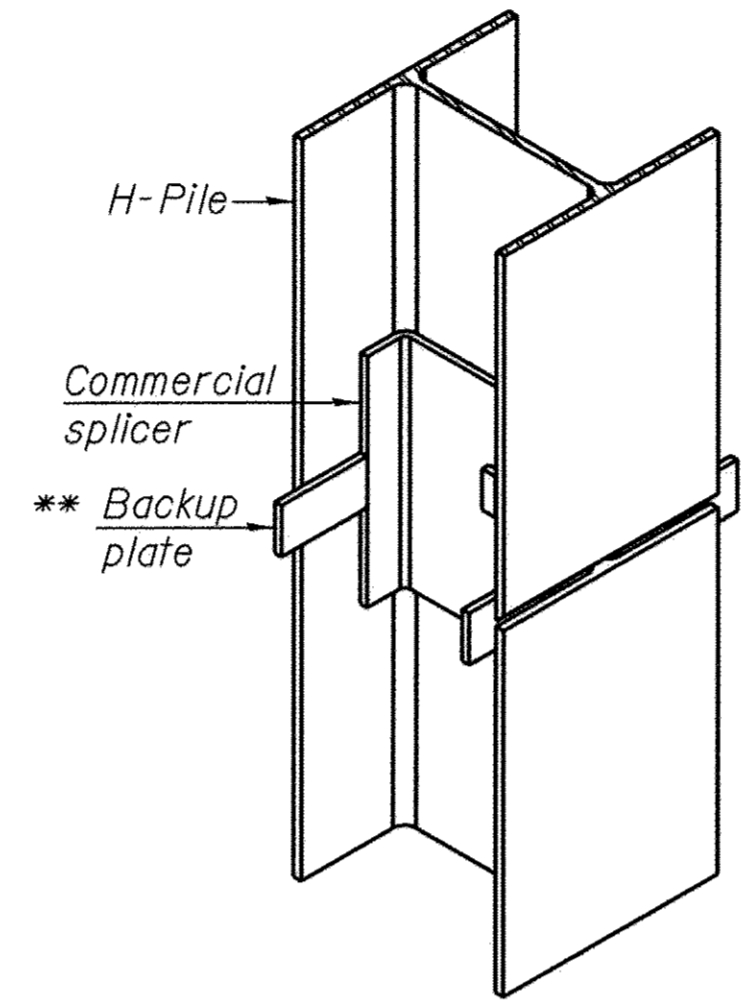
Designation	Depth d	Flange width b _f	Web and Flange thickness t	Encasement diameter A	Encasement Quantity C.Y./ft.
HP 14x117	14 1/4"	14 7/8"	1 3/16"	30"	0.173
x102	14"	14 3/4"	1 1/16"	30"	0.174
x89	13 7/8"	14 3/4"	5/8"	30"	0.175
x73	13 5/8"	14 5/8"	1/2"	30"	0.176
HP 12x84	12 1/4"	12 1/4"	1 1/16"	24"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



ELEVATION

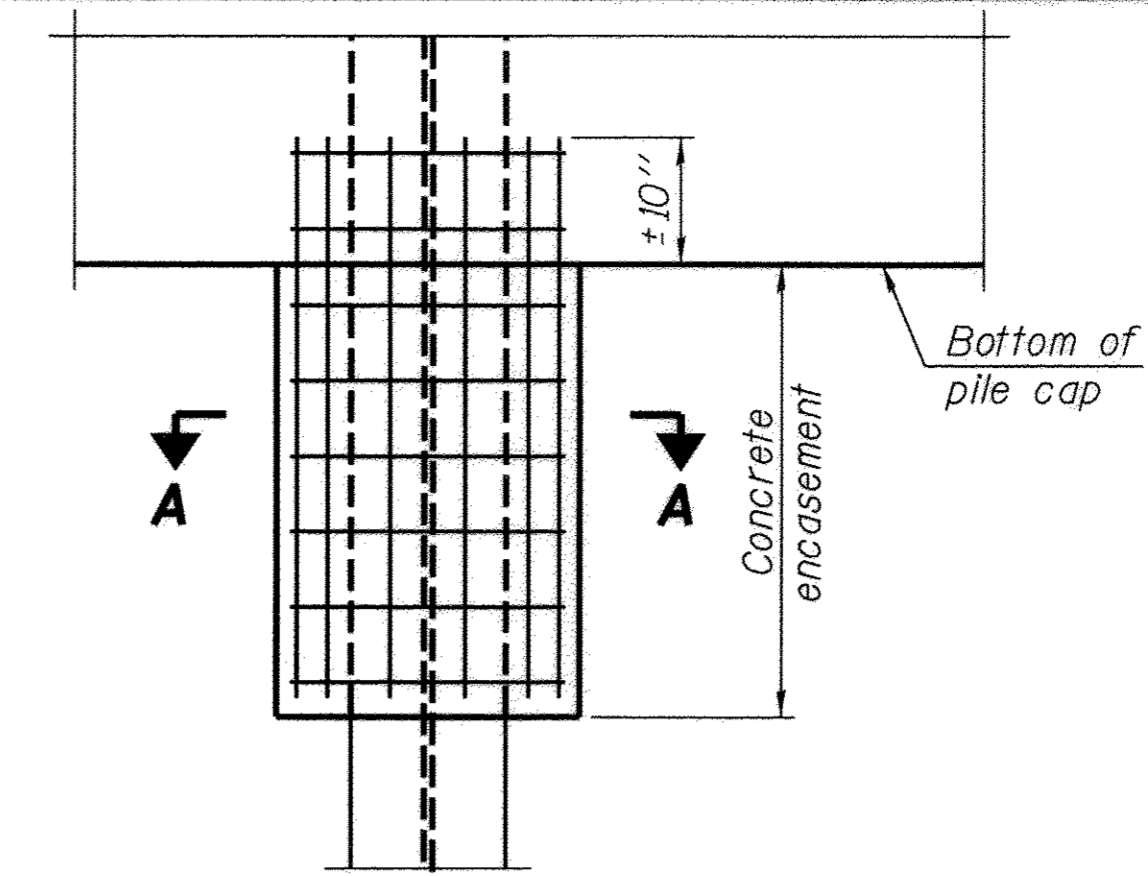


DETAIL "B"



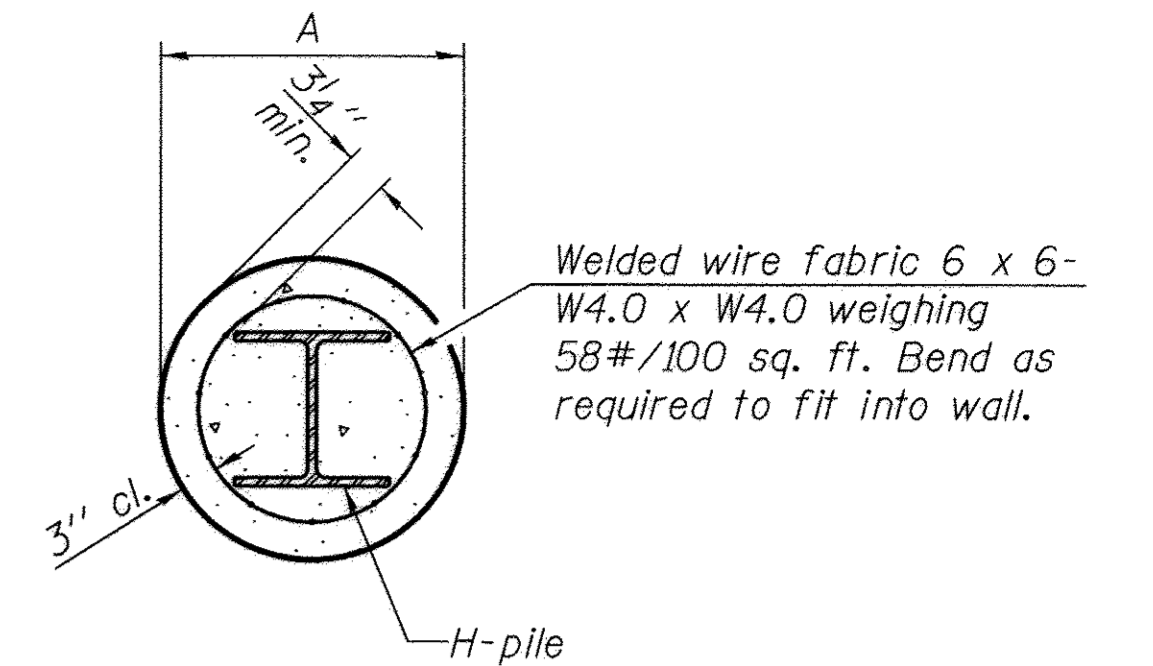
ISOMETRIC VIEW

WELDED COMMERCIAL SPLICE



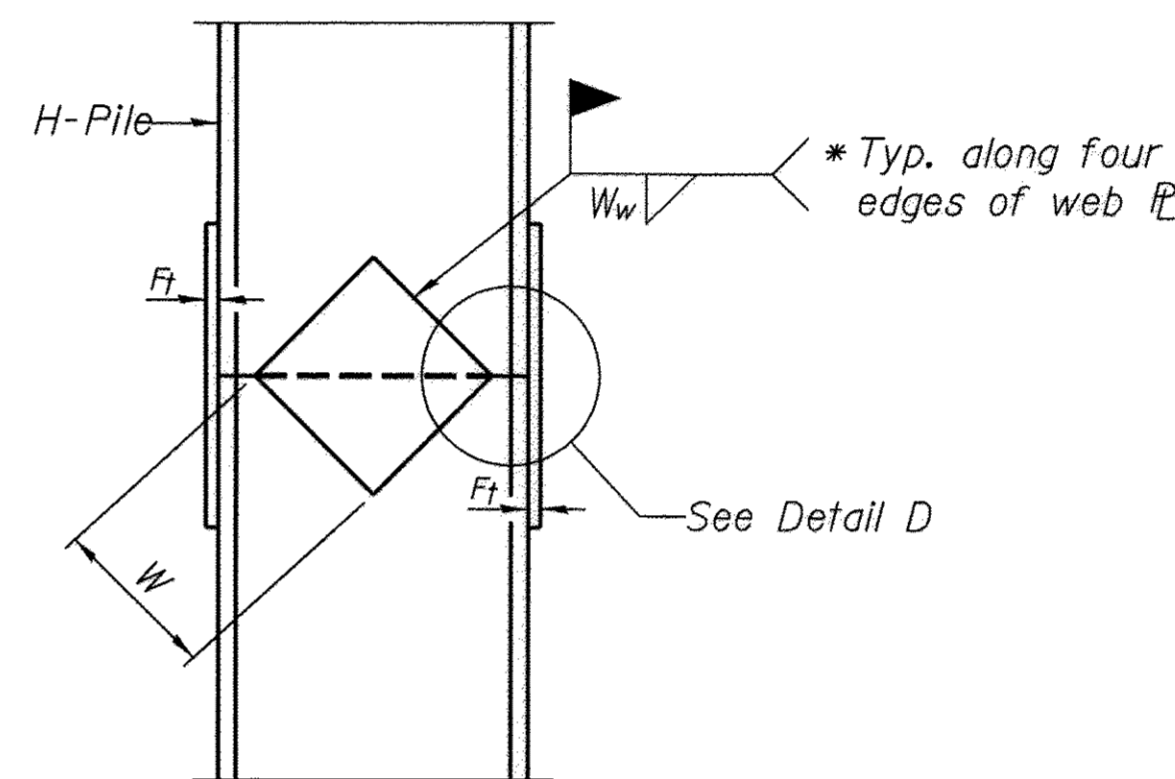
ELEVATION

PILE ENCASEMENT



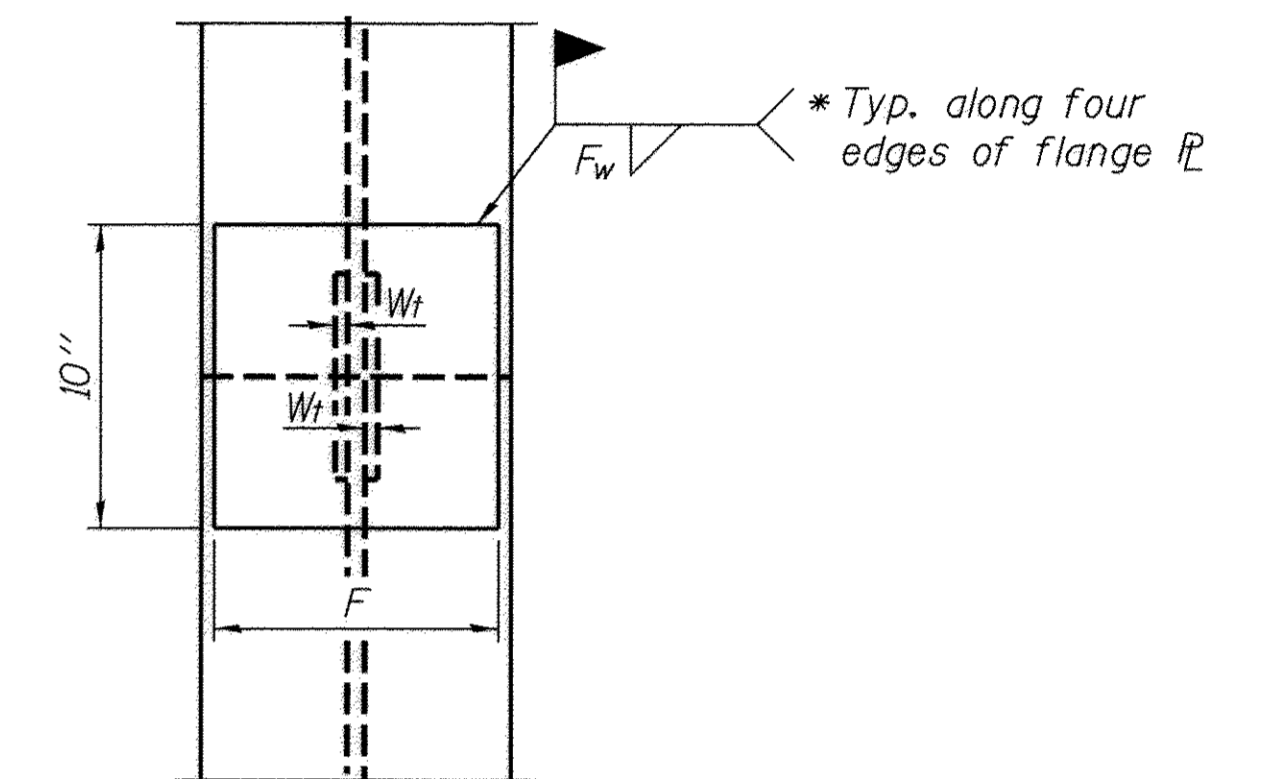
SECTION A-A

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



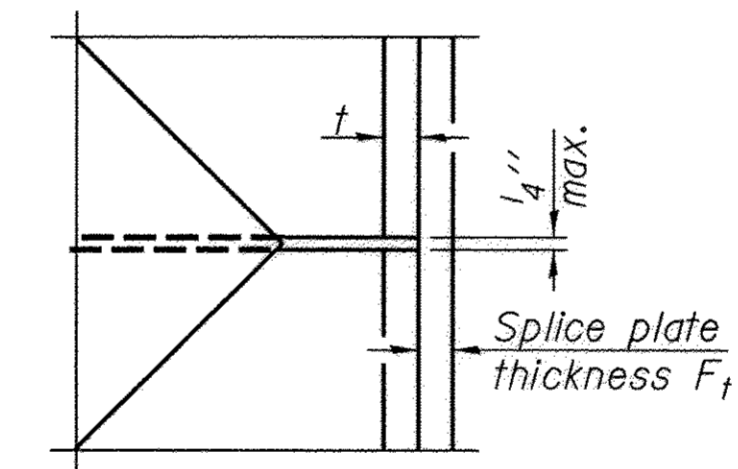
ELEVATION

WELDED PLATE FIELD SPLICE



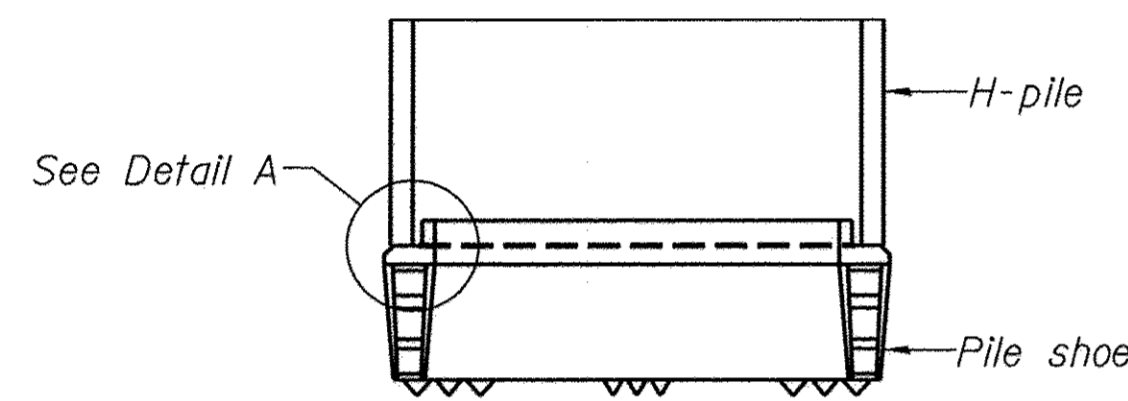
END VIEW

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



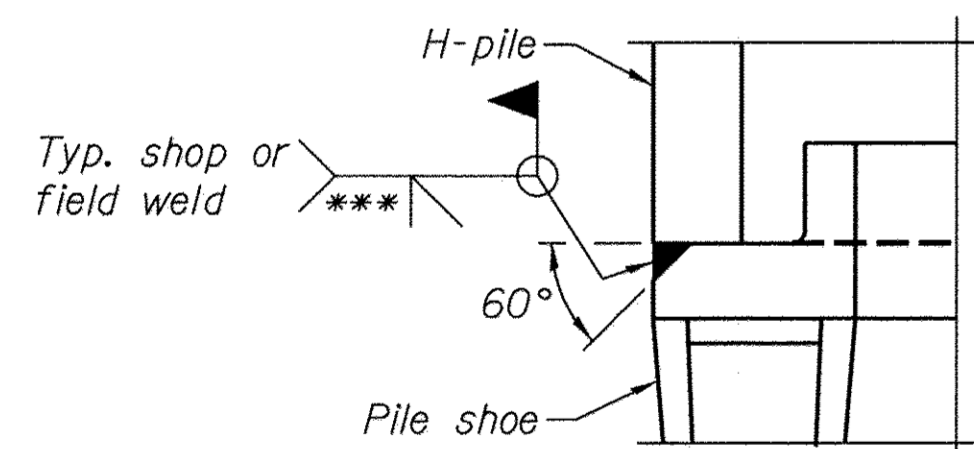
DETAIL D

WELDED PLATE FIELD SPLICE

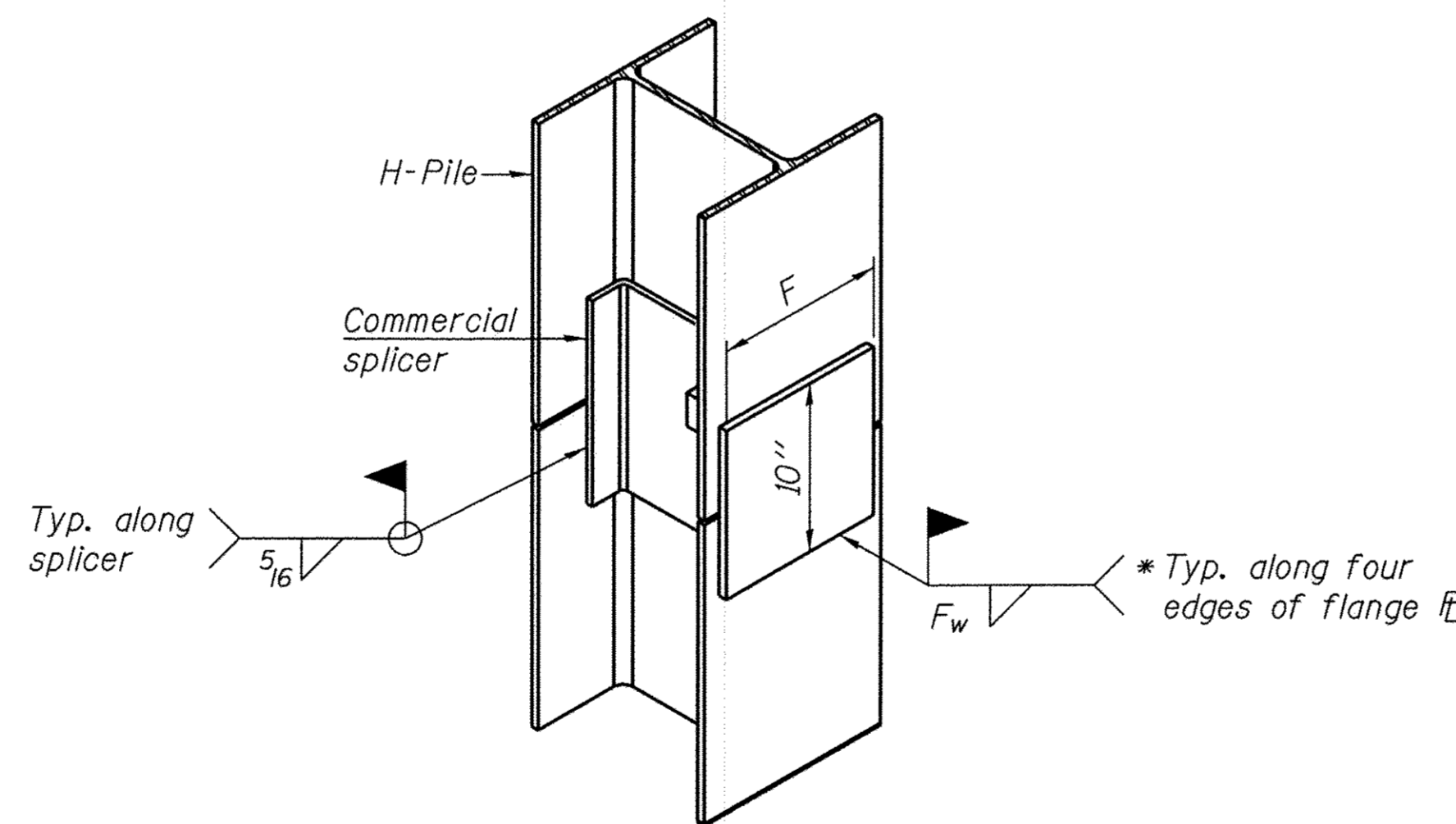


ELEVATION

H-PILE SHOE ATTACHMENT



DETAIL A



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.).

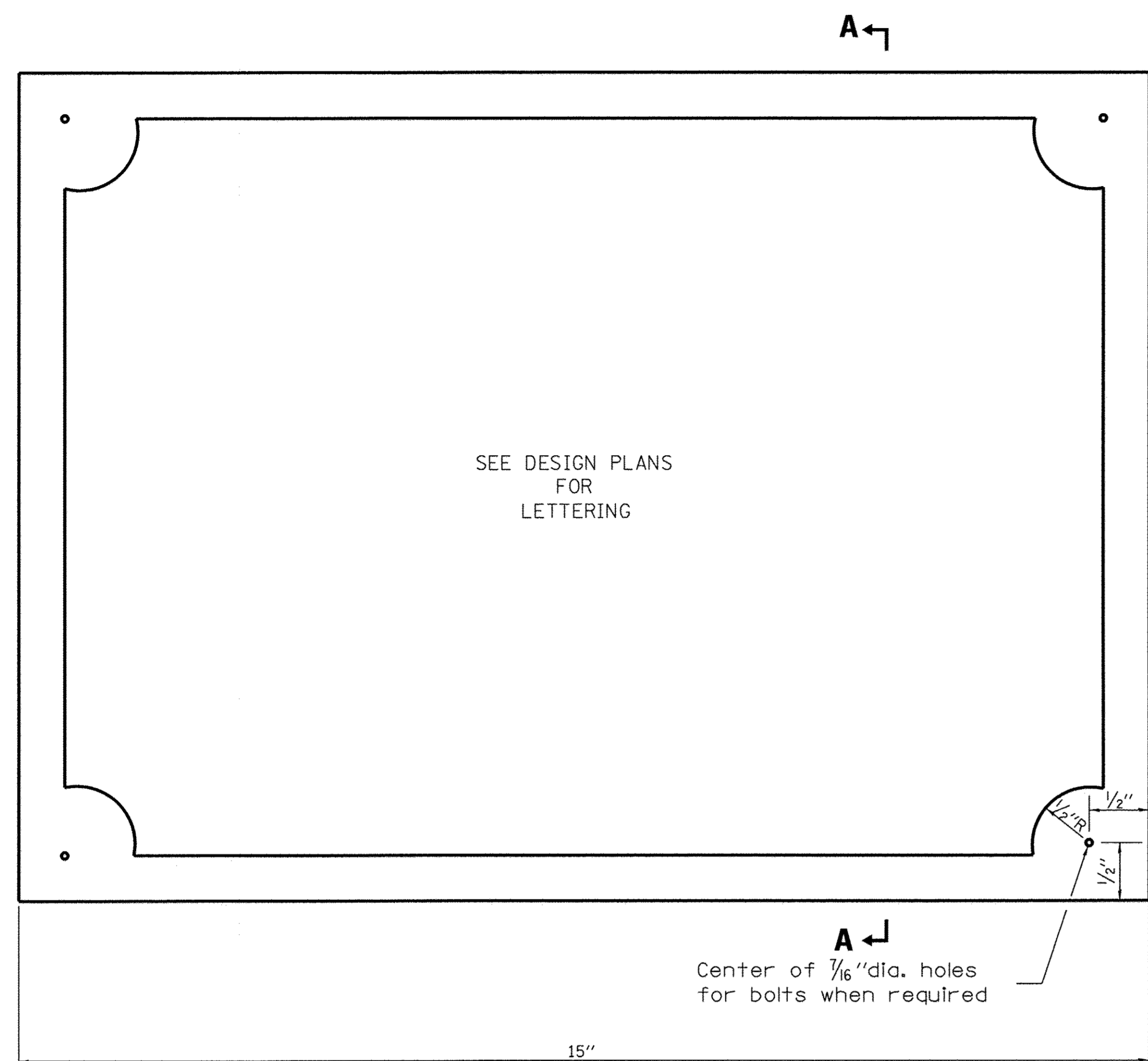
Note: The steel H-piles shall be according to AASHTO M270 Grade 50.

F-HP 1-27-12

HP PILES DETAILS
TOWNSHIP ROUTE 137
POPLAR CREEK
SECTION 15-18111-00-BR
WAYNE COUNTY
STRUCTURE NO. 096-3466

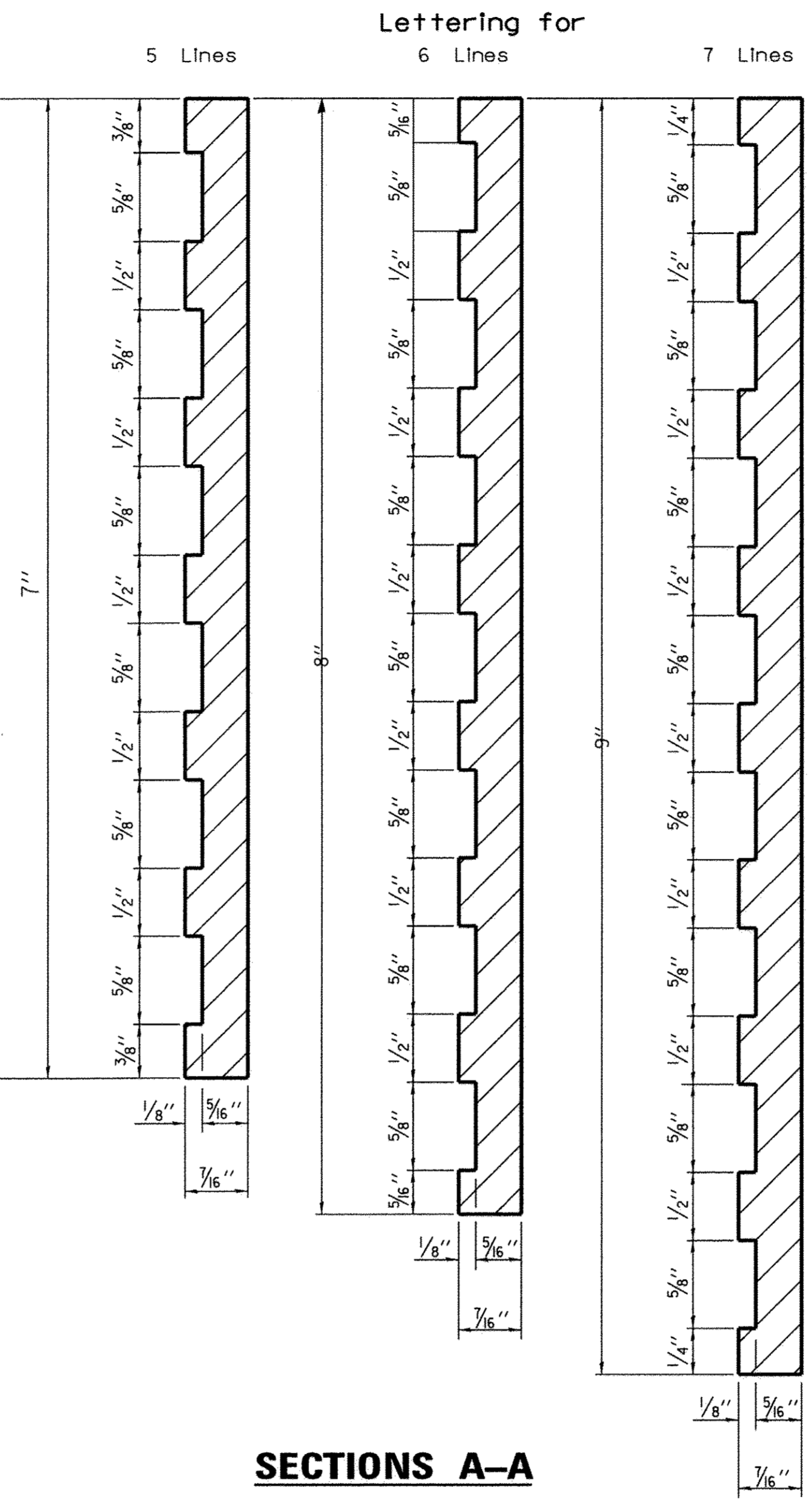
FILE NAME *	USER NAME =	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	HP PILE DETAILS STRUCTURE NO. 096-3466	T.R. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	PLOT SCALE =	CHECKED -	REVISED -			137	15-18111-00-BR	WAYNE	8	14
PLOT DATE =	DRAWN -	REVISED -	REVISED -	ILLINOIS FED. AID PROJECT						
	CHECKED -	REVISED -	REVISED -	CONTRACT NO. 95811						

Sheet 5 of 7

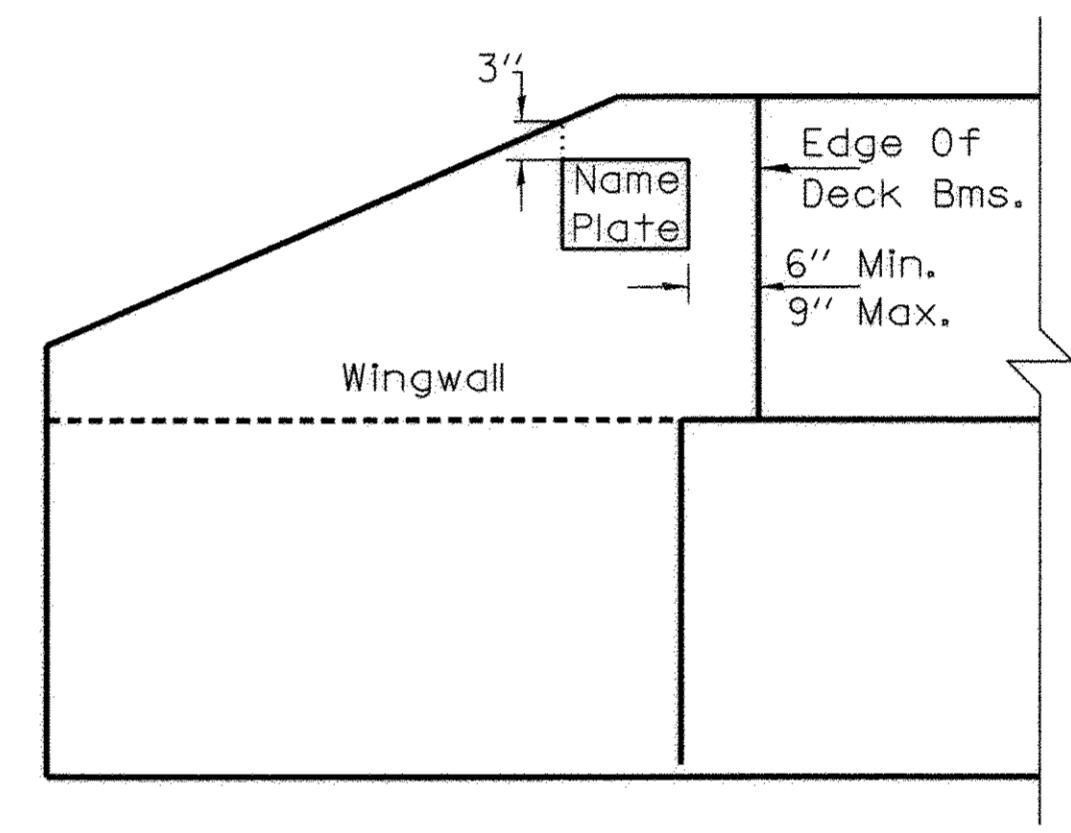


NAME PLATE ELEVATION

NOTE
 Border and lettering:
 Raised $\frac{1}{8}$ ", square cut and not tapered.



SECTIONS A-A



NAME PLATE PLACEMENT

NAME PLATE FOR BRIDGES
 TOWNSHIP ROUTE 137
 POPLAR CREEK
 SECTION 15-18111-00-BR
 WAYNE COUNTY
 STRUCTURE NO. 096-3466

Sheet 7 of 7

FILE NAME =	USER NAME =	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	NAME PLATE FOR BRIDGES STRUCTURE NO. 069-3466	T.R. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	PLOT SCALE =	CHECKED -	REVISED -			137	15-18111-00-BR	WAYNE	10	14
	PLOT DATE =	DRAWN -	REVISED -			CONTRACT NO. 95811				
		CHECKED -	REVISED -			ILLINOIS FED. AID PROJECT				

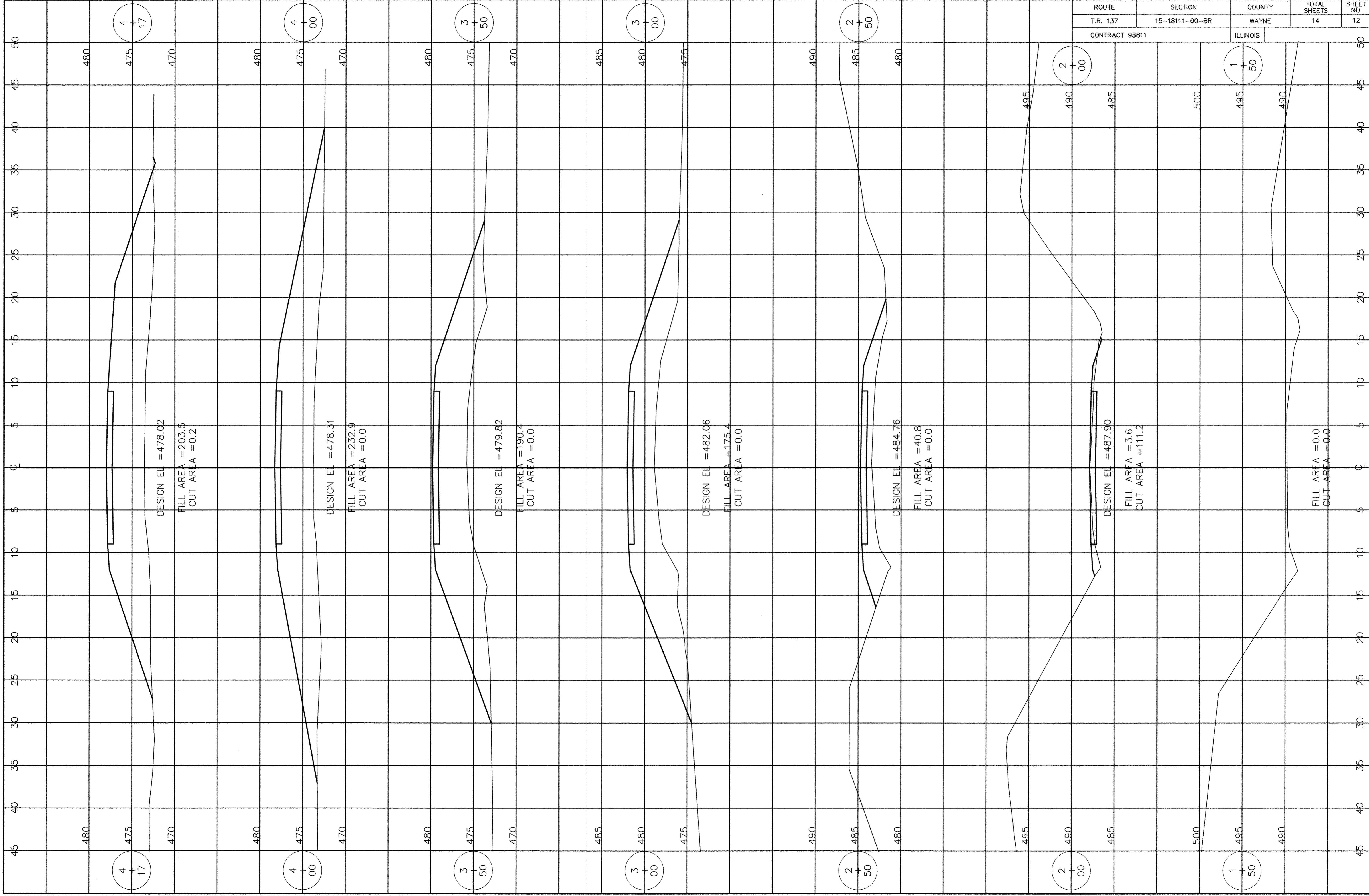
ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
T.R. 137	15-18111-00-BR	WAYNE	14	11
CONTRACT 95811		ILLINOIS		

NOBLE		BORING No. B-1		water level reading					
ENGINEERING CONSULTANTS		County: Wayne, IL	Sheet No. 1 of 1	1st encounter: 9'					
Client: Charleston Engineering		Weather: Sunny	Temperature: 70's	water level reading					
Driller: Noble Engineering Consultants		Date Start: 9-15-15	Surface Elevation: 474.5	@completion	Dry Cave				
Location: Sec. #15-18111-00-BR		Date Finished: 9-15-15	Driller: Tony Schocker	Backfill:	Soil cuttings				
Depth	Sample No.	Sample Depth	N-Value	Blow Count	Recovery (%)	Qp (tsf)*	Soil Description	USC Class.	Elev.**
1							0.0'-0.6' Asphalt and Crushed Rock FILL		473.5
2	SS-1	1.0'-2.5'	12	4-5-7	20	-	0.6'-5.0' silt, clay, sand, etc, FILL	FILL	472.5
3									471.5
4	SS-2	3.5'-5.0'	11	6-5-6	80	-		FILL	470.5
5									469.5
6	SS-3	6.0'-7.5'	8	3-4-4	70	1.0	5.0'-9.0' CLAYEY SILT, trace to some sand, stiff, brown	CL-ML	468.5
7									467.5
8									466.5
9	SS-4	8.5'-10.0'	6	2-3-3	100	-		SM	465.5
10									464.5
11									463.5
12									462.5
13									461.5
14	SS-5	13.5'-15.0'	2	1-1-1	100	-	9.0'-19.5' SILTY FINE SAND(heaving), trace gravel, loose to very loose, saturated, brown	SM	460.5
15									459.5
16									458.5
17									457.5
18									456.5
19	SS-6	18.5'-20.0'	29	4-14-15	100	-	19.5'-28.4' HIGHLY WEATHERED ROCK		455.5
20									454.5
21									453.5
22									452.5
23									451.5
24	SS-7	23.5'-25.0'	100+	100/5'	100	-			450.5
25									449.5
26									448.5
27									447.5
28									446.5
29							AR 28.4'		445.5
30									
Drilling Method: HSA (2-1/4" id)		comments		* Qp test is an estimate of the unconfined compressive strength performed by a compact calibrated spring loaded cylinder					
Depth: 0' to 28.4'									
Drill Rig: Mobile B-47									
Sampling: split-spoon (SS)									

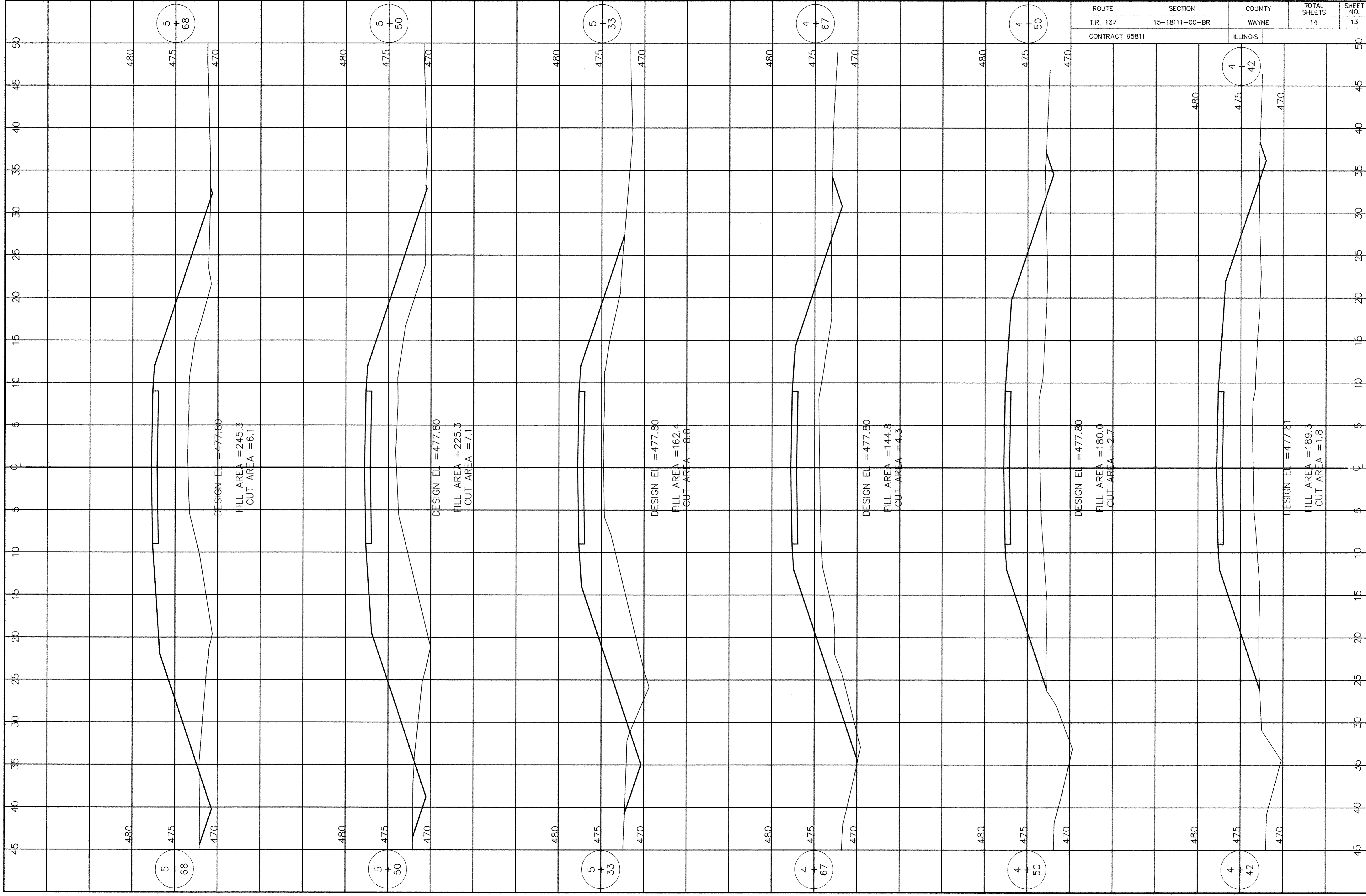
NOBLE		BORING No. B-2		water level reading					
ENGINEERING CONSULTANTS		County: Wayne, IL	Sheet No. 1 of 1	1st encounter: 10'					
Client: Charleston Engineering		Weather: Sunny	Temperature: 70's	water level reading					
Driller: Noble Engineering Consultants		Date Start: 9-15-15	Surface Elevation: 473.8	@completion	Dry Cave				
Location: Sec. #15-18111-00-BR		Date Finished: 9-15-15	Driller: Tony Schocker	Backfill:	Soil cuttings				
Depth	Sample No.	Sample Depth	N-Value	Blow Count	Recovery (%)	Qp (tsf)*	Soil Description	USC Class.	Elev.**
1							0.0'-0.7' Topsoil		472.8
2	SS-1	1.0'-2.5'	5	1-2-3	30	-	0.7'-3.0' silt, clay, sand, etc, FILL	FILL	471.8
3									470.8
4	SS-2	3.5'-5.0'	5	2-2-3	100	0.9	3.0'-10.0' CLAYEY SILT, trace to some sand, stiff, brown	C-ML	469.8
5									468.8
6	SS-3	6.0'-7.5'	6	3-3-3	80	0.9		CL-ML	467.8
7									466.8
8									465.8
9	SS-4	8.5'-10.0'	5	2-3-2	100	1.0		CL-ML	464.8
10									463.8
11									462.8
12									461.8
13									460.8
14	SS-5	13.5'-15.0'	6	2-3-3	100	-	10.0'-19.5' SILTY FINE SAND(heaving), trace gravel, loose, saturated, brown	SM	459.8
15									458.8
16									457.8
17									456.8
18									455.8
19	SS-6	18.5'-20.0'	37	9-16-21	100	-	19.5'-28.2' HIGHLY WEATHERED ROCK		454.8
20									453.8
21									452.8
22									451.8
23							AR 28.2'		450.8
24	SS-7	23.5'-25.0'	100+	100/5'	100	-			449.7
25									448.8
26									447.8
27									446.8
28									445.8
29									444.8
30									
Drilling Method: HSA (2-1/4" id)		comments		* Qp test is an estimate of the unconfined compressive strength performed by a compact calibrated spring loaded cylinder					
Depth: 0' to 28.2'									
Drill Rig: Mobile B-47									
Sampling: split-spoon (SS)									

CHARLESTON ENGINEERING, INC.
CONSULTING ENGINEERS
105 NORTH KITCHHELL
P.O. BOX 397
OLNEY, ILLINOIS 62450
(618) 392-0736
ILLINOIS DEPARTMENT OF PROFESSIONAL REGULATION REGISTRATION #184.003513

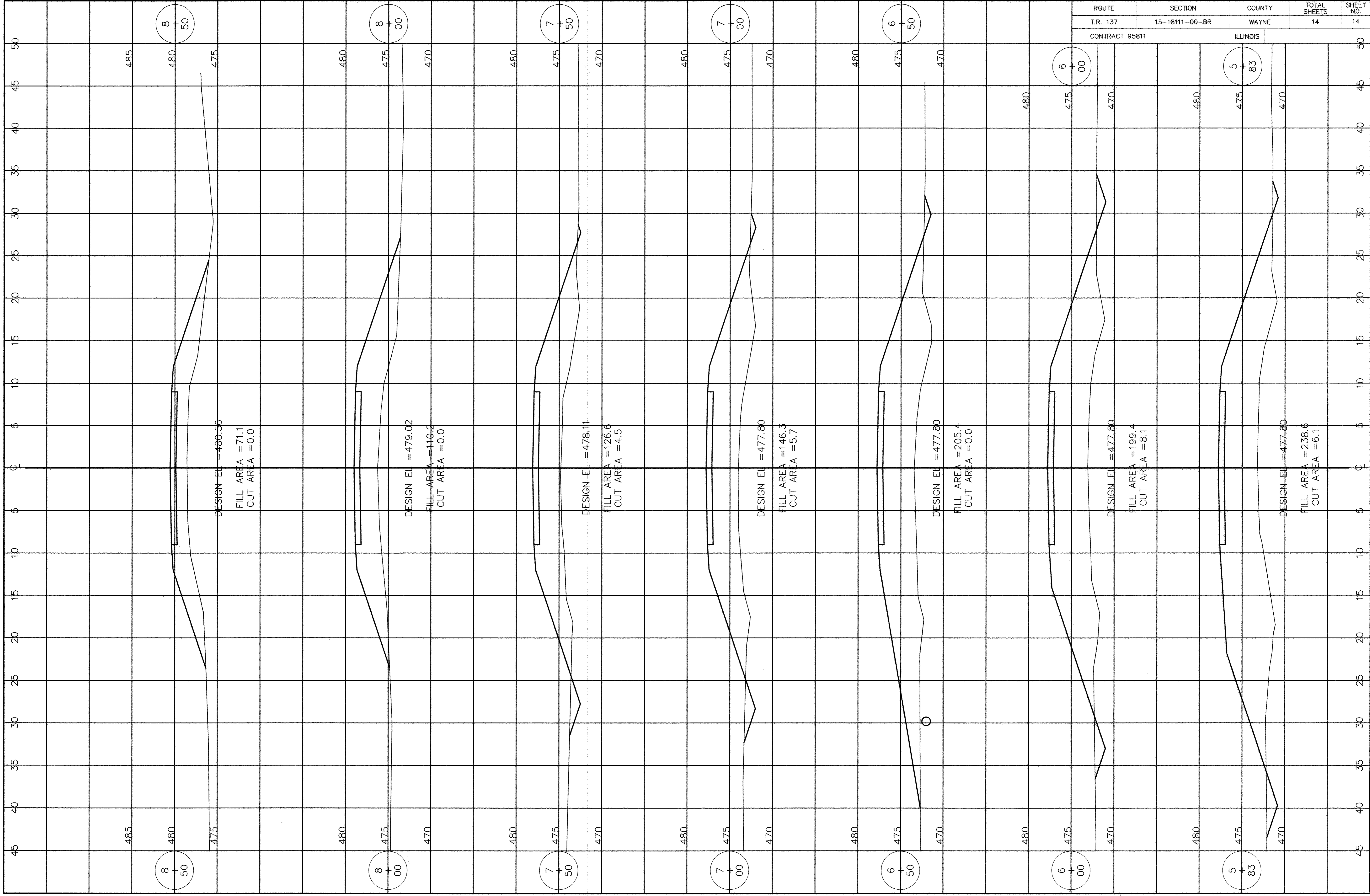
BORING LOGS
STRUCTURE NO. 096-3466
T.R. 137
POPLAR CREEK
SECTION 15-18111-00-BR
WAYNE COUNTY
STATION 5+00.00



ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
T.R. 137	15-18111-00-BR	WAYNE	14	12
CONTRACT 95811		ILLINOIS		



ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
T.R. 137	15-18111-00-BR	WAYNE	14	13
CONTRACT 95811		ILLINOIS		



ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
T.R. 137	15-18111-00-BR	WAYNE	14	14
CONTRACT 95811		ILLINOIS		50

DESIGN EL. = 480.56
 FILL AREA = 71.1
 CUT AREA = 0.0

DESIGN EL. = 479.02
 FILL AREA = 110.2
 CUT AREA = 0.0

DESIGN EL. = 478.11
 FILL AREA = 126.6
 CUT AREA = 4.5

DESIGN EL. = 477.80
 FILL AREA = 146.3
 CUT AREA = 5.7

DESIGN EL. = 477.80
 FILL AREA = 205.4
 CUT AREA = 0.0

DESIGN EL. = 477.80
 FILL AREA = 199.4
 CUT AREA = 8.1

DESIGN EL. = 477.80
 FILL AREA = 238.6
 CUT AREA = 6.1