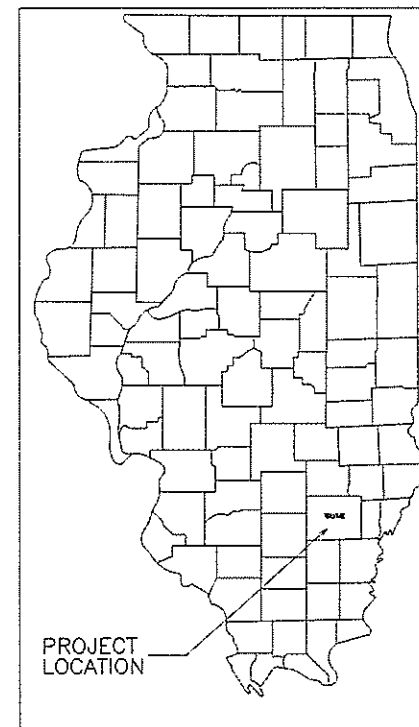


03-08-2019 LETTING ITEM 185

ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
T.R. 383	11-04130-00-BR	WAYNE	18	1
CONTRACT NO. 95845		ILLINOIS		

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

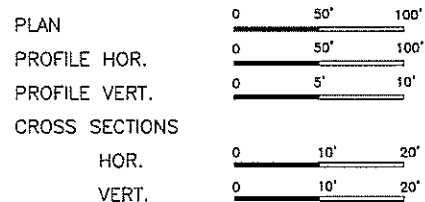
SECTION 11-04130-00-BR WAYNE COUNTY
 PROJECT V4WY(432)
 JOB NO. C-97-004-19
 BERRY ROAD DISTRICT
 T.R. 383



INDEX OF SHEETS

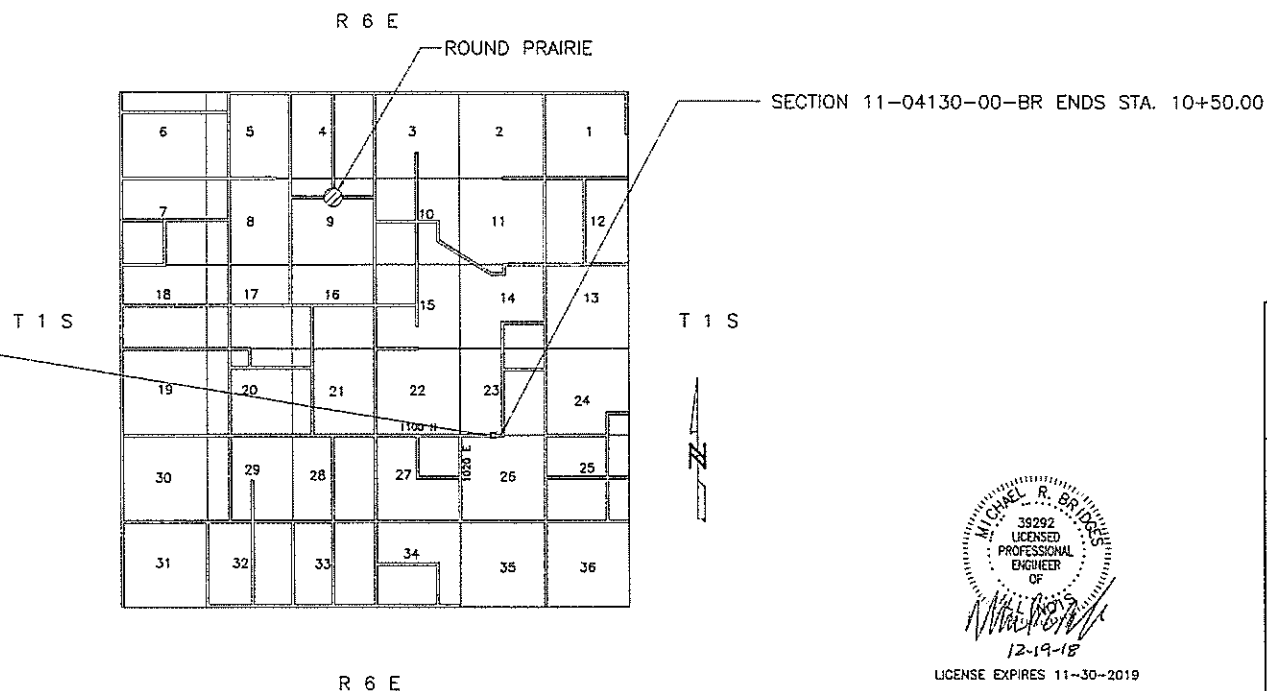
SHEET	ITEM
1	COVER SHEET
2	SUMMARY OF QUANTITIES
3	ROADWAY PLAN AND PROFILE
4	GENERAL PLAN AND ELEVATION
5	PRECAST PRESTRESSED CONCRETE DECK BEAM DETAILS - SPANS 1 OR 3
6	PRECAST PRESTRESSED CONCRETE DECK BEAM DETAILS - SPANS 1 OR 3
7	PRECAST PRESTRESSED CONCRETE DECK BEAM DETAILS - SPAN 2
8	PRECAST PRESTRESSED CONCRETE DECK BEAM DETAILS - SPAN 2
9	STEEL RAILING, TYPE S-1
10	ABUTMENT DETAILS
11	PIER DETAILS
12	HP PILE DETAILS
13	BORING LOGS
14-18	CROSS SECTIONS

- STANDARD DRAWINGS
- STANDARD 000001-07
 - STANDARD 280001-07
 - STANDARD 515001-03
 - STANDARD 542401-03
 - STANDARD 701901-08
 - STANDARD 725001-01
 - STANDARD BLR 21-9
 - STANDARD BLR 23-4
 - STANDARD BLR 27-1



SECTION 11-04130-00-BR BEGINS STA. 2+00.00

THREE SPAN PRECAST PRESTRESSED CONCRETE DECK BEAM BRIDGE
 130'-0" BK - BK ABUTMENTS
 STEEL PILE / SPILLTHROUGH ABUTMENTS
 STEEL PILE / CONCRETE PIERS
 24' DECK
 45' SKEW RT. FORWARD
 EXISTING STRUCTURE NO. 096-3148
 PROPOSED STRUCTURE NO. 096-3459



NET LENGTH SECTION 11-04130-00-BR = 850.00 Ft. = 0.161 Mi.

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

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

APPROVED 12-20-2018

 COUNTY ENGINEER

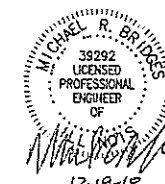
STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

PASSED 1-8 2019

 DISTRICT SEVEN ENGINEER OF
 LOCAL ROADS AND STREETS

Releasing For
 Bid Based on
 Limited Review
1-8 2019

 REGION FOUR ENGINEER

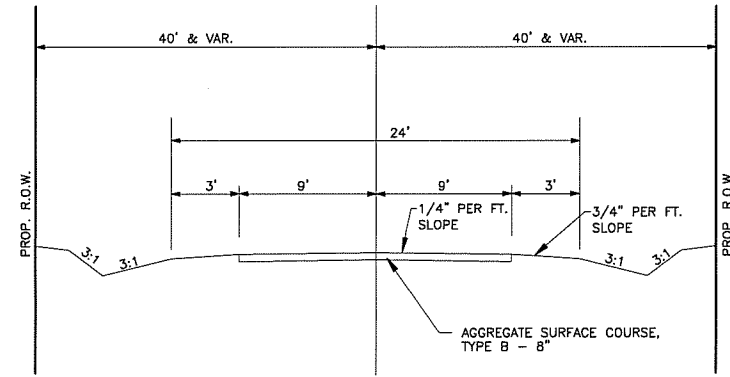


FUNCTIONAL CLASSIFICATION - LOCAL ROAD
 ADT = 75
 DESIGN SPEED = 30 MPH

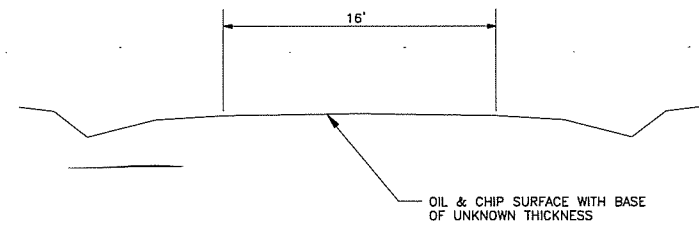
ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
T.R. 383	11-04130-00-BR	WAYNE	18	2
CONTRACT NO. 95845		ILLINOIS		

DESIGN DATA

LOCAL ROAD
ADT = 75



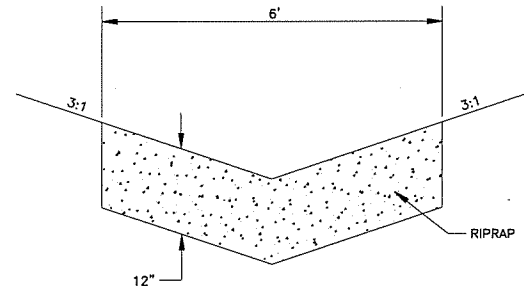
TYPICAL SECTION
PROPOSED



TYPICAL SECTION
EXISTING

GENERAL NOTES

- SEEDING: THIS WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE APPLICABLE PORTIONS OF SECTION 250 OF THE STANDARD SPECIFICATIONS AND SHALL BE PAID FOR AT THE CONTRACT UNIT PRICE FOR SEEDING CLASS 2 (SPECIAL).
 - SPRING SEEDING SHALL EXTEND FROM JANUARY 1 TO JUNE 30
FALL SEEDING SHALL EXTEND FROM JULY 1 TO DECEMBER 31
 - FERTILIZER NUTRIENTS SHALL BE APPLIED AT THE RATE OF 100 LB/ACRE
 - MULCHING SHALL BE DONE IN ACCORDANCE WITH ARTICLE 251 OF THE STANDARD SPECIFICATIONS AND SHALL BE DONE BY METHOD 2, PROCEDURE 2 AT THE RATE OF 2 TONS PER ACRE.
- NO PAYMENT FOR OVERHAUL WILL BE MADE ON THIS SECTION.



AGGREGATE DITCH DETAIL
LT. & RT. STA. 9+25 TO 10+50

SUMMARY OF QUANTITIES			
CODE NO.	ITEM	UNIT	QUANTITY
△ LR631020	TRAFFIC BARRIER TERMINAL, TYPE 1	EACH	2
X2501000	SEEDING, CLASS 2 (SPECIAL)	ACRE	0.90
X2830495	AGGREGATE DITCH (SPECIAL)	TON	50
X7010216	TRAFFIC CONTROL AND PROTECTION, (SPECIAL)	L SUM	1
20100500	TREE REMOVAL, ACRES	ACRE	1.5
20200100	EARTH EXCAVATION	CU YD	410
20300100	CHANNEL EXCAVATION	CU YD	360
20400800	FURNISHED EXCAVATION	CU YD	3390
20700110	POROUS GRANULAR EMBANKMENT	TON	210
28000305	TEMPORARY DITCH CHECKS	FOOT	63
28000250	TEMPORARY EROSION CONTROL SEEDING	POUND	150
28000400	PERIMETER EROSION BARRIER	FOOT	420
28100807	STONE DUMPED RIPRAP, CLASS A4	TON	525
28200200	FILTER FABRIC	SQ YD	312
40200800	AGGREGATE SURFACE COURSE, TYPE B	TON	600
50100100	REMOVAL OF EXISTING STRUCTURES	EACH	1
50105220	PIPE CULVERT REMOVAL	FOOT	38
50300225	CONCRETE STRUCTURES	CU YD	60.2
50300280	CONCRETE ENCASEMENT	CU YD	38.8
50400405	PRECAST PRESTRESSED CONCRETE DECK BEAMS (21" DEPTH)	SQ FT	3064
50800105	REINFORCEMENT BARS	POUND	7620
△ 50900205	STEEL RAILING, TYPE S1	FOOT	260
51201800	FURNISHING STEEL PILES HP 14 X 73	FOOT	1217
51202305	DRIVING PILES	FOOT	1217
51203800	TEST PILE STEEL HP 14 X 73	EACH	1
51500100	NAME PLATES	EACH	1
542D0229	PIPE CULVERTS, CLASS D, TYPE 1 24"	FOOT	74
54261724	STEEL FLARED END SECTIONS 24"	EACH	2
△ 63100075	TRAFFIC BARRIER TERMINAL, TYPE 5A	EACH	2
67100100	MOBILIZATION	L SUM	1
△ 72501000	TERMINAL MARKER - DIRECT APPLIED	EACH	4

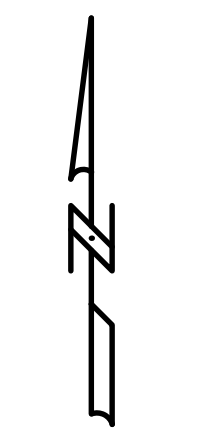
△ SPECIALTY ITEMS

ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
T.R. 383	11-04130-00-BR	WAYNE	18	3
CONTRACT NO. 95845		ILLINOIS		

P.I. STA. 8+00.94 P.O.T. STA. 10+50.00
 N: 636,825.68 N: 636,826.42
 E: 935,204.48 E: 935,454.09
 COORDINATES BASED ON NAD83 ILLINOIS EAST STATE PLANE COORDINATE SYSTEM

SECTION 11-04130-00-BR BEGINS STA. 2+00.00

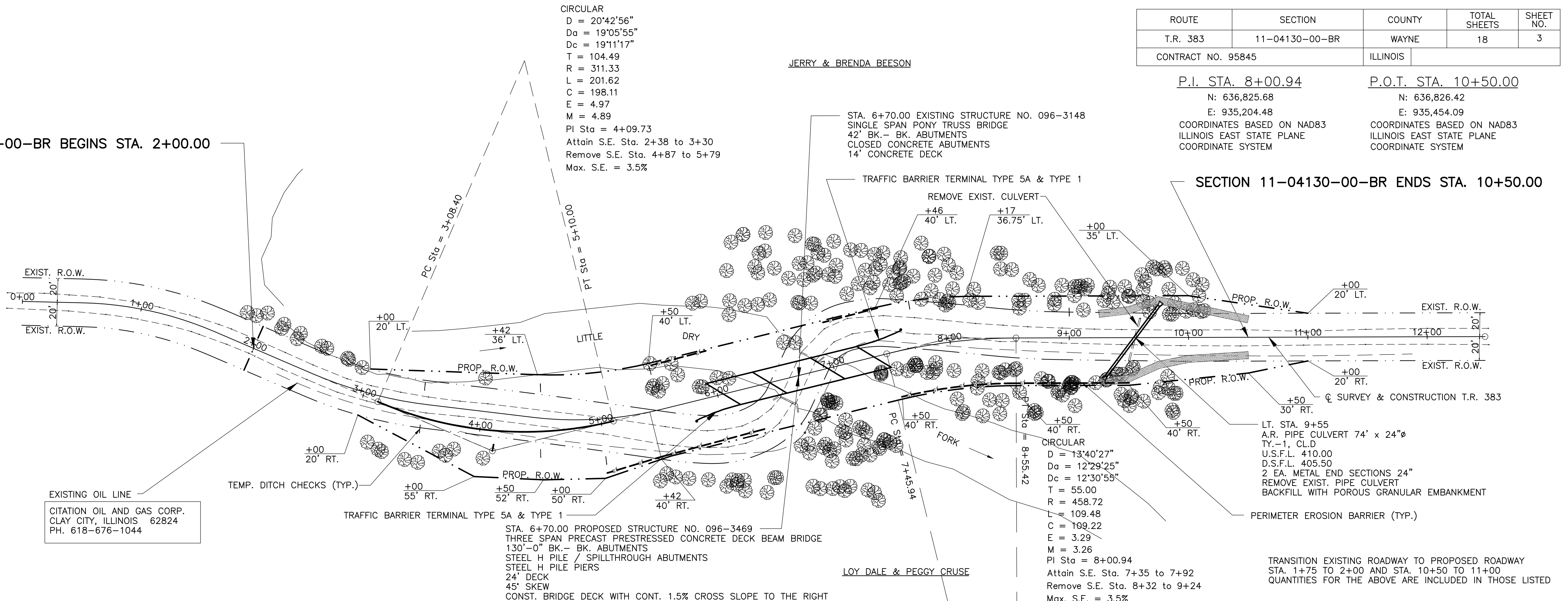
SECTION 11-04130-00-BR ENDS STA. 10+50.00



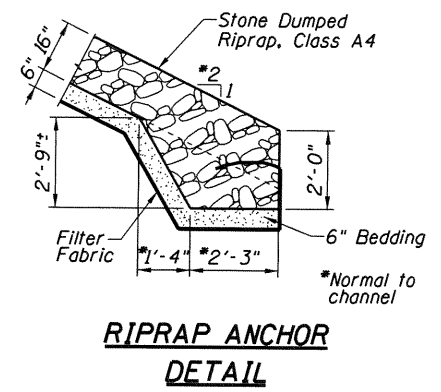
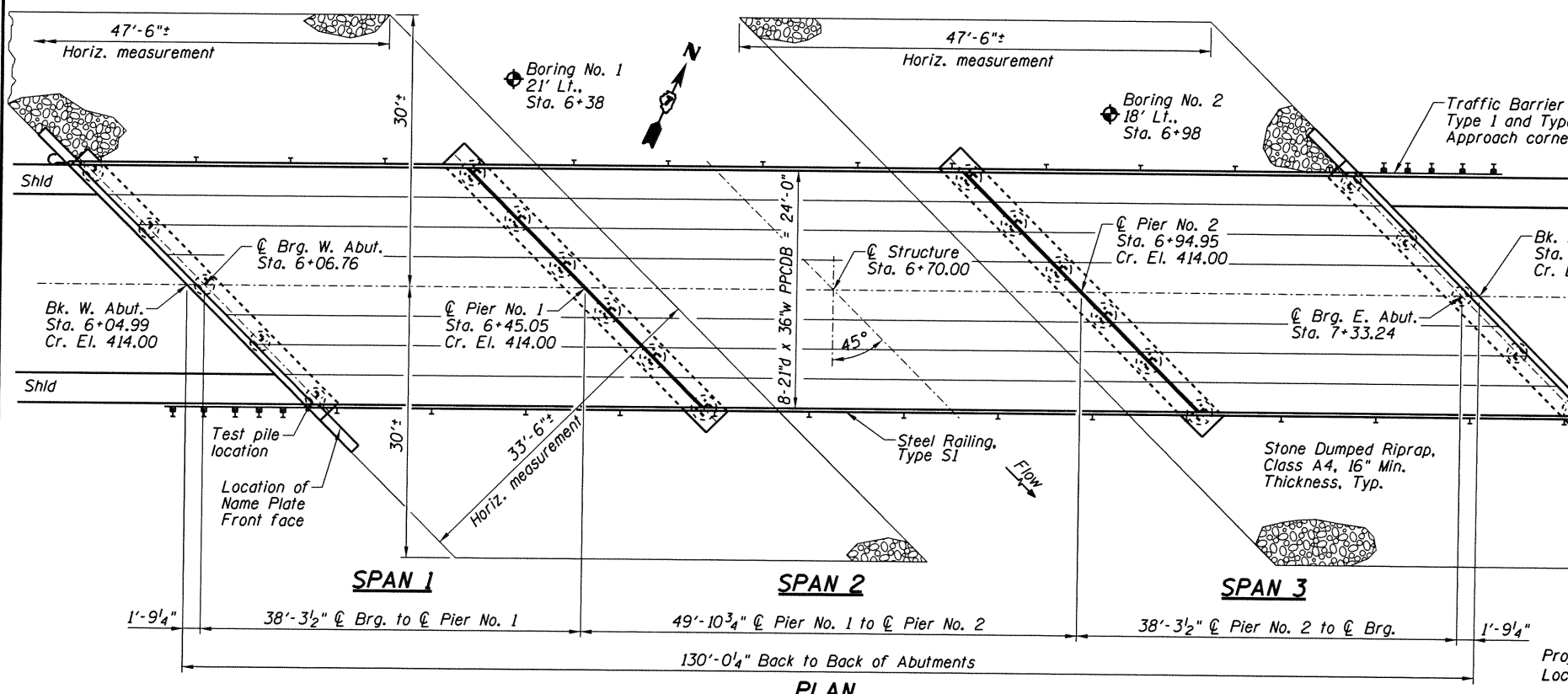
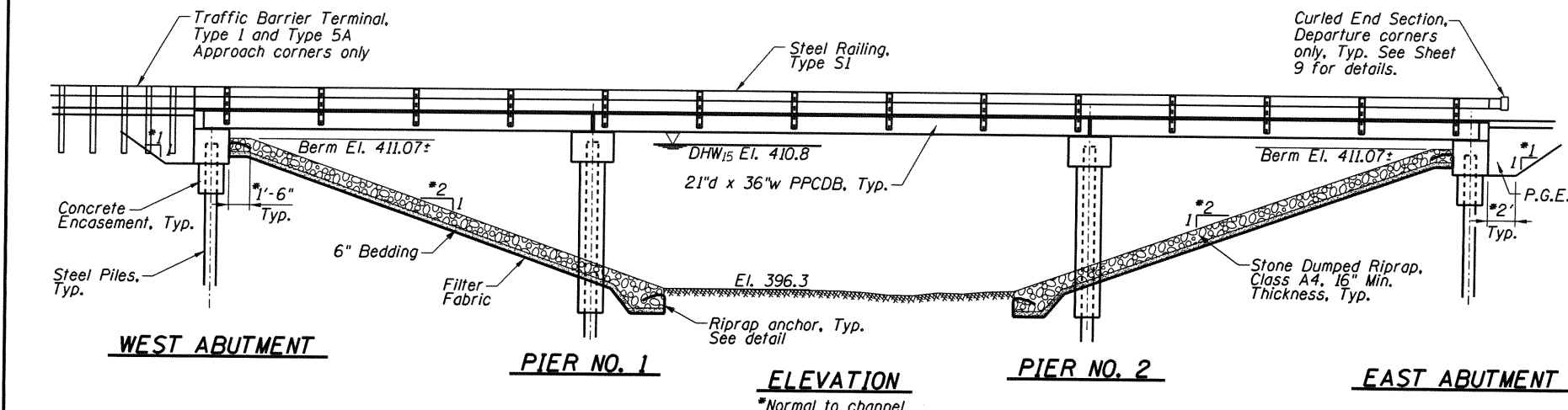
SCALES:
 1" = 50' HOR
 1" = 5' VER

P.O.T. STA. 2+00.00
 N: 636,817.11
 E: 934,620.38
 COORDINATES BASED ON NAD83 ILLINOIS EAST STATE PLANE COORDINATE SYSTEM

P.I. STA. 4+09.73
 N: 636,731.07
 E: 934,820.43
 COORDINATES BASED ON NAD83 ILLINOIS EAST STATE PLANE COORDINATE SYSTEM



STATION	DESCRIPTION	QUANTITY	UNIT	STATION
430	EARTHWORK			430
	CHANNEL EXCAVATION	360	CU. YD.	
	EARTH EXCAVATION	410		
	EMBANKMENT	3830		
	FURNISHED EXCAVATION	3390		
425	AGGREGATE SURFACE COURSE, TYPE B	600	TON	425
420	SEEDING, CLASS 2 (SPECIAL)	0.90	ACRE	420
415	PERIMETER EROSION BARRIER	420	FOOT	415
410	TRAFFIC BARRIER TERMINAL, TYPE 1	2	EACH	410
405	PIPE CULVERTS, CLASS D, TYPE 24"	74	FOOT	405
400	TEMPORARY DITCH CHECKS	63	FOOT	400
395	TRAFFIC BARRIER TERMINAL, TYPE 5A	2	EACH	395
390	PIPE CULVERT REMOVAL	38	FOOT	390
385	TOTAL			385



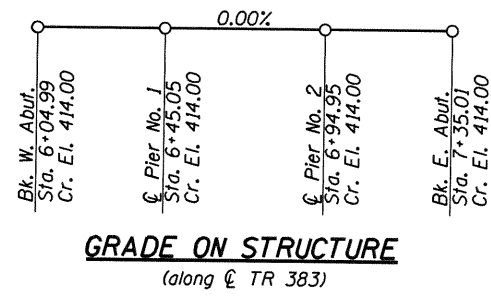
DESIGN SCOUR TABLE

Event/Limit State	Design Scour Elevations (ft.)				Item
	W. Abut.	Pier 1	Pier 2	E. Abut.	
Q100	NA	393.0	393.0	NA	113
Q200	NA	393.0	393.0	NA	
Design	408.5	393.0	393.0	408.5	
Check	408.5	393.0	393.0	408.5	

WATERWAY INFORMATION
(Hydraulic information furnished by Charleston Engineering, Inc.)

Drainage Area = 39.8 sq. mi. Existing Low Grade Elev. 406.9 @ Sta. 8+75
Proposed Low Grade Elev. 407.8 @ Sta. 2+50

Flood	Freq. Yr.	C.F.S.	Opening Sq. Ft.		Nat. Head - Ft.		Headwater El.	
			Exist.	Prop.	H.W.E. Exist.	Prop.	Exist.	Prop.
Design	15	5227	580	1107	410.8	-	410.8	410.8
Base	100	8240	580	1254	412.0	0.1	412.1	412.1



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

DESIGN SPECIFICATIONS
2014 (7th ED.) w/2015 & 2016 Revisions
AASHTO LRFD Bridge Design Specifications.

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

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

SEISMIC DATA
Seismic Performance Zone (SPZ) = 3
Soil Site Classification = E
 $S_{D1} = 0.419$ $S_{D5} = 0.846$

Existing Structure: Structure No. 096-3148. Single span pony truss bridge. 42' Bk.-Bk. Abutments. Closed concrete abutments. 14' W. concrete deck.

BILL OF MATERIALS (BRIDGE ONLY)

ITEM	UNIT	TOTAL
Porous Granular Embankment	Ton	130
Stone Dumped Riprap, Class A4	Ton	525
Filter Fabric	Sq Yd	312
Removal of Existing Structures	Each	1
Concrete Structures	Cu Yd	60.2
Concrete Encasement	Cu Yd	38.8
PPCDB (21" Depth)	Sq Ft	3064
Reinforcement Bars	Pound	7620
Steel Railing, Type S1	Foot	260
Furnishing Steel Piles HP14x73	Foot	1217
Driving Piles	Foot	1217
Test Pile Steel HP14x73	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.

See Section 502 of the Standard Specifications for Structural Excavation.

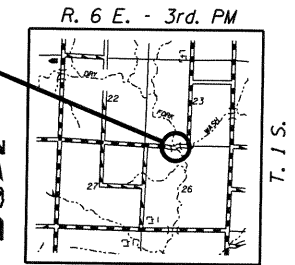
Channel excavation shall be excavated as shown within the limits of the proposed bridge, then tapered to the existing channel at the R.O.W. line. See Roadway Plan and Profile sheet (Sheet 3) for Channel Excavation quantity.

The cost of the bedding material shall be included in the cost of the Stone Dumped Riprap, Class A4 (per the Standard Specifications) and no additional compensation will be allowed. The estimated quantity for the bedding material is 110 tons (For information only).

See Special Provisions for Soil Borings.

Do not scale these drawings.

The bearing seat surfaces for the precast prestressed concrete deck beams shall be adjusted by shimming to assure firm and even bearing. As required, 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.



LOCATION SKETCH

LITTLE DRY FORK
BUILT 20__ BY
WAYNE COUNTY
SEC. 11-04130-00-BR
TR 383 STA. 6+70.00
LOADING HL-93
STRUCTURE NO. 096-3469

NAME PLATE

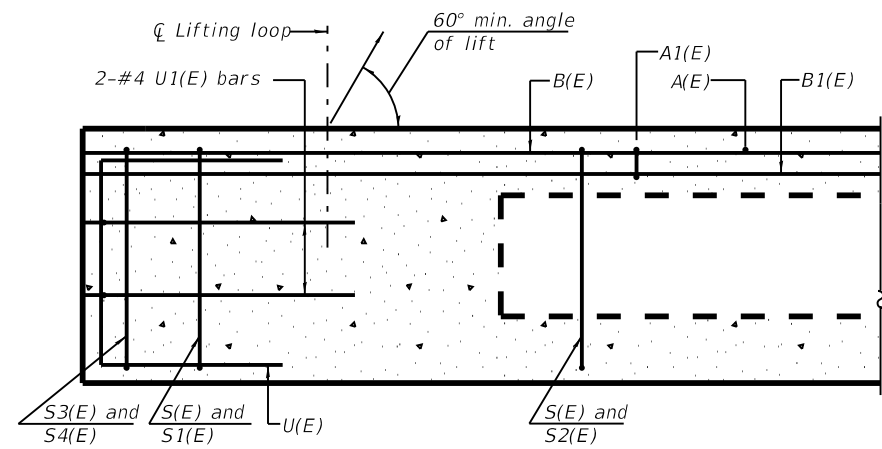
See Std. 515001



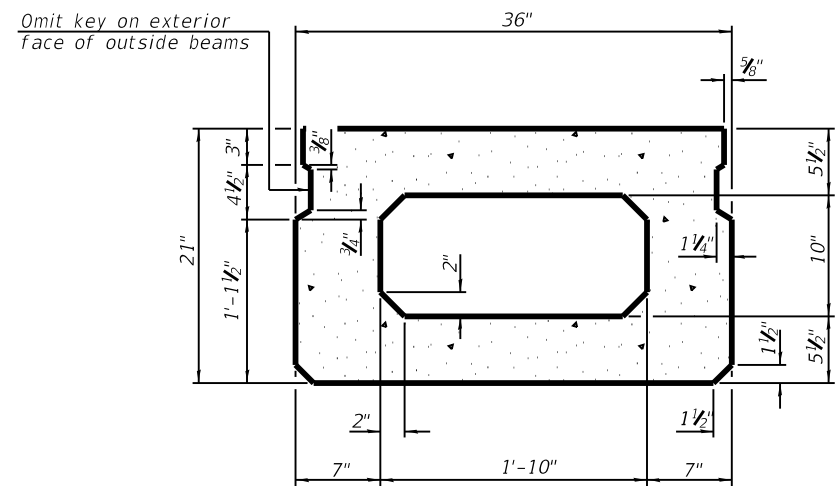
William D. Lyeking
William D. Lyeking
01/02/2019
Date of Signing
11/30/2020
Date of License Expiration

DESIGNED - WDL	REVISED -
DRAWN - JN	REVISED -
CHECKED - WDL / GLH	REVISED -
DATE - 12/31/2018	REVISED -

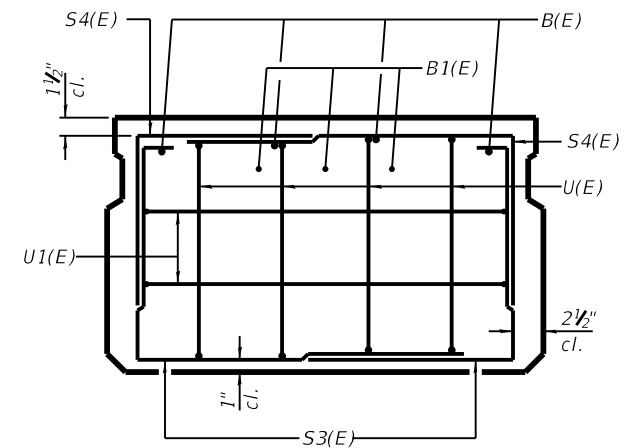
ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
TR 383	11-04130-00-BR	WAYNE	18	4
CONTRACT NO. 95845				



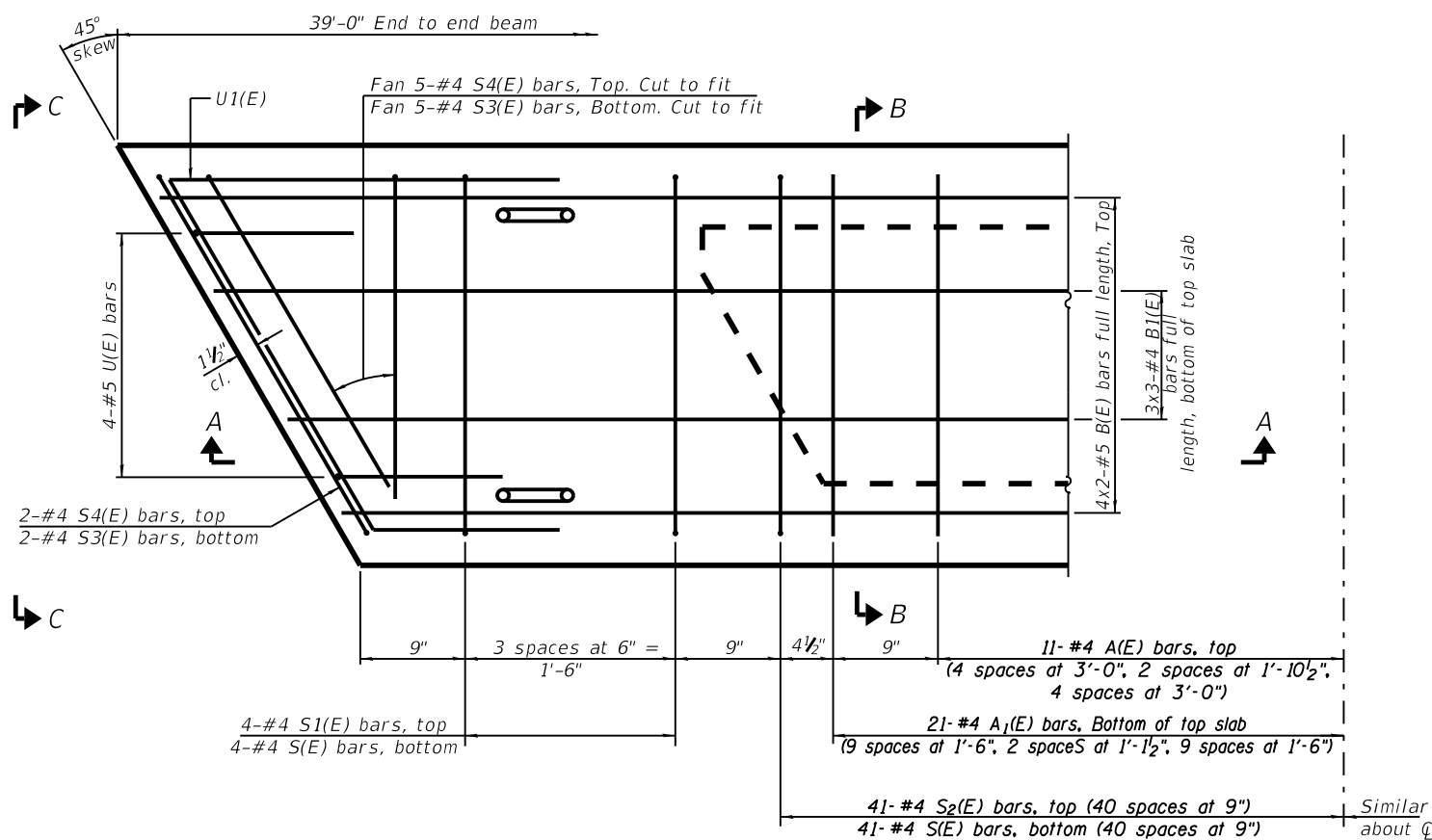
SECTION A-A



SECTION B-B
(Showing dimensions)

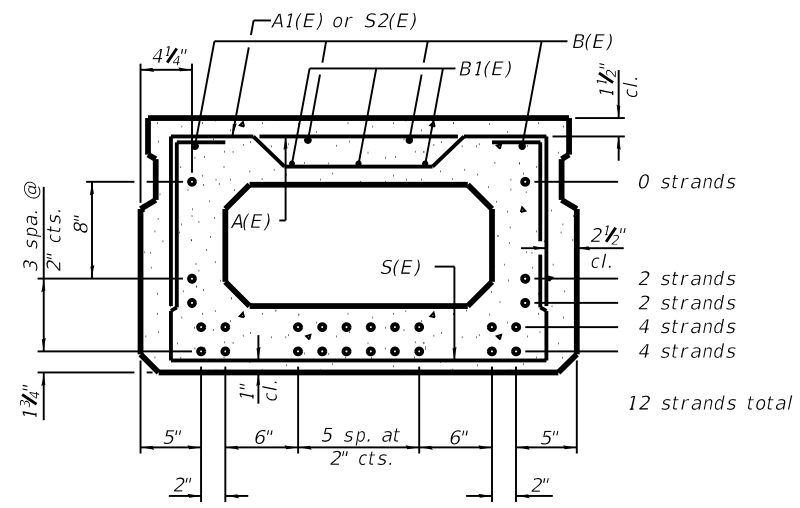


VIEW C-C



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.

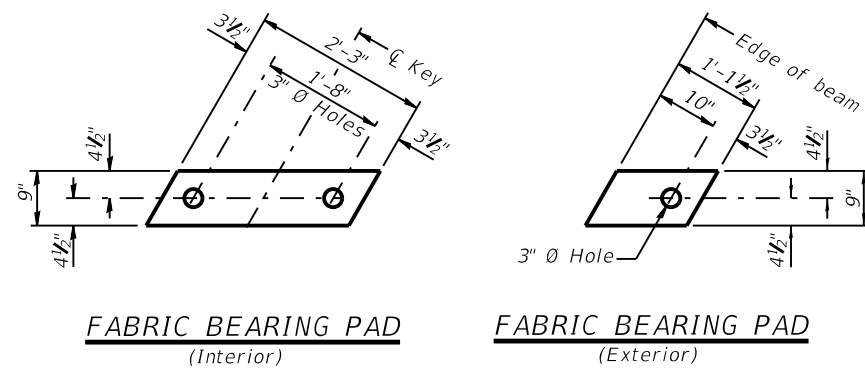
MINIMUM BAR LAP
#4 bar = 1'-11"
#5 bar = 2'-6"

BAR LIST
ONE BEAM ONLY
(For information only)

Bar	No.	Size	Length	Shape
A(E)	11	#4	2'-7"	⌌
A1(E)	21	#4	2'-10"	⌌
B(E)	8	#5	20'-7"	⌌
B1(E)	9	#4	14'-2"	⌌
S(E)	49	#4	6'-5"	⌌
S1(E)	8	#4	4'-11"	⌌
S2(E)	41	#4	5'-2"	⌌
S3(E)	14	#4	5'-2"	⌌
S4(E)	14	#4	4'-5"	⌌
U(E)	8	#5	4'-0"	⌌
U1(E)	4	#4	8'-6"	⌌

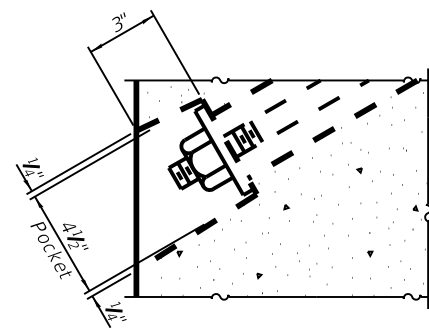
Note: See sheet 6 for additional details and Bill of Material.

SPAN 1 OR 3

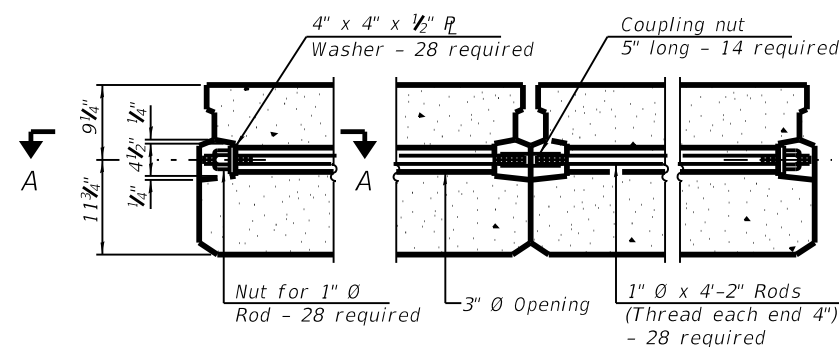


FIXED

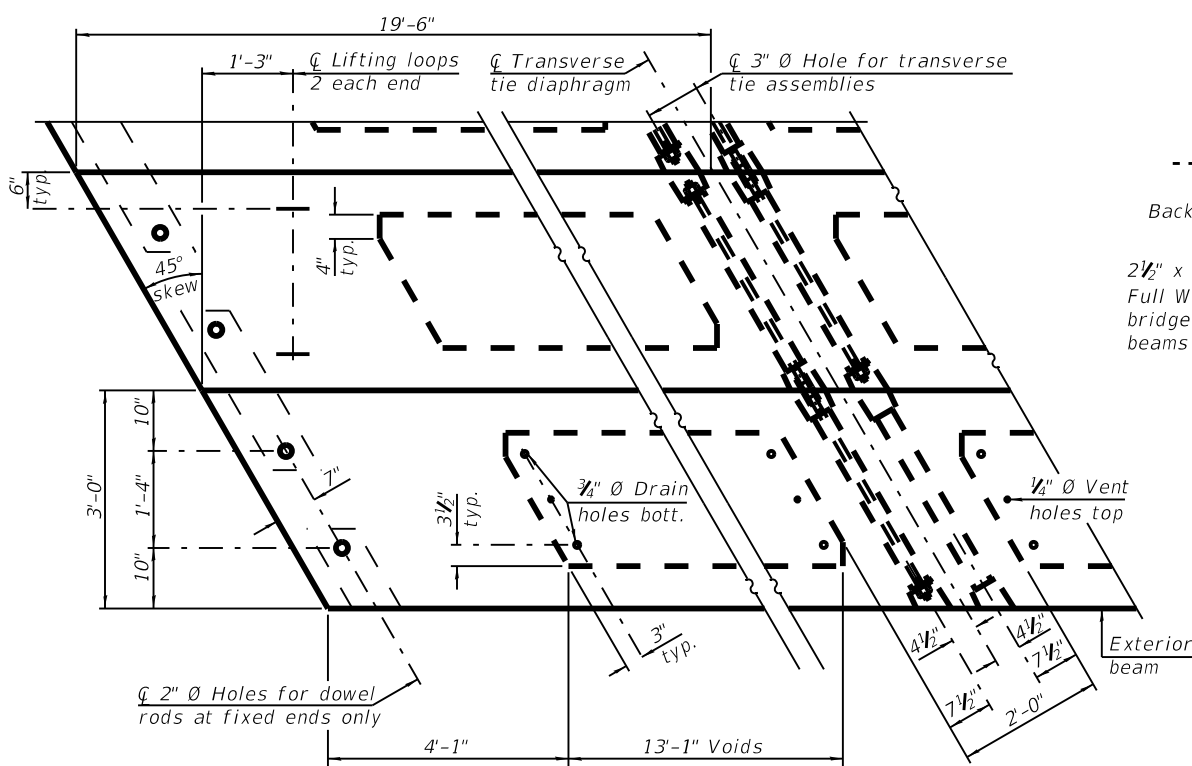
Notes: All bearing pads shall be 1" thick.



SECTION A-A

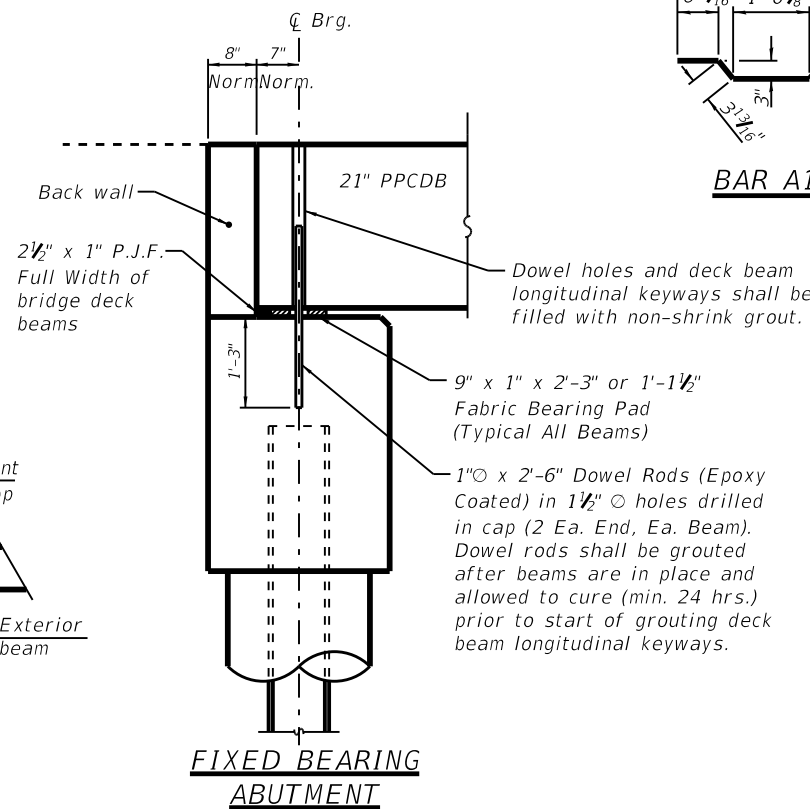


TYPICAL TRANSVERSE TIE ASSEMBLY
(Totals for both Span 1 and Span 3)



PLAN VIEW

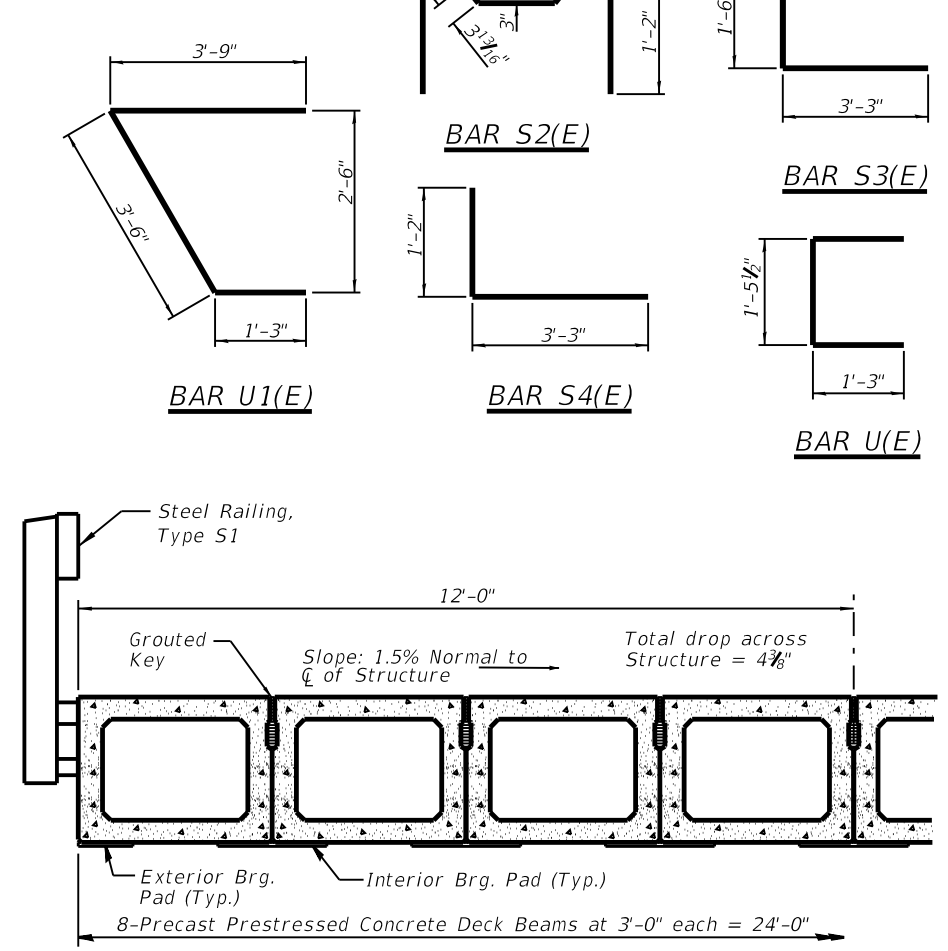
Note: Connect beams in pairs with the transverse tie configuration shown.



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" 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. 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)(10) and 1021.07 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.

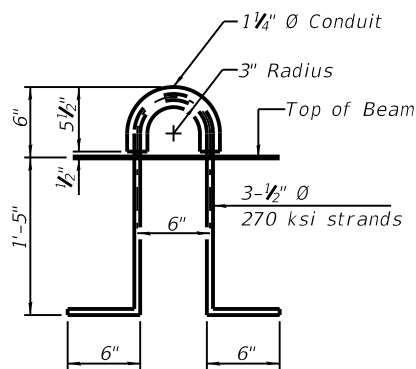


HALF CROSS SECTION

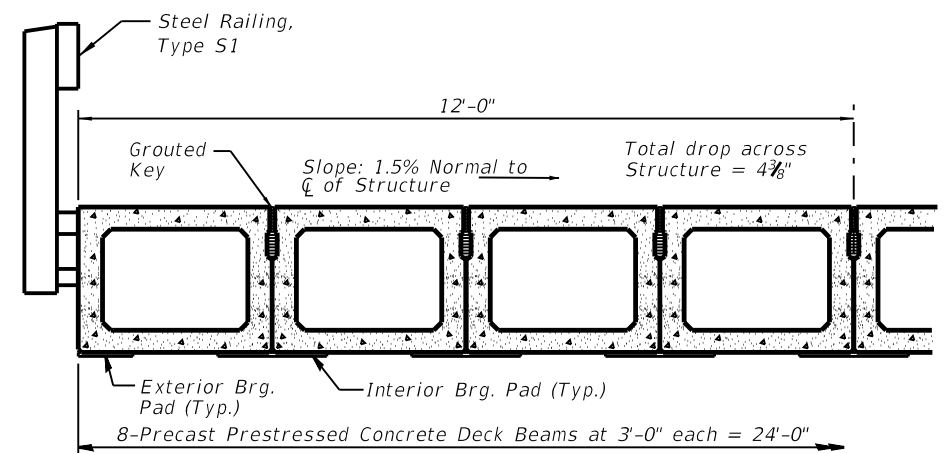
See Sheet 9 for the details showing the spacing and mounting of posts and rails to the PPCDB.

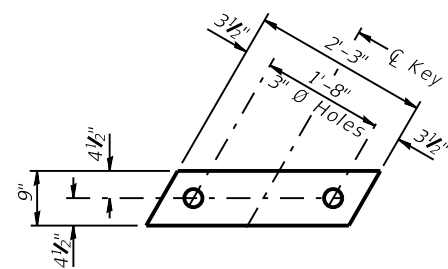
BILL OF MATERIAL

Precast Prestressed Conc. Deck Bms. (21" depth)	Sq. Ft.	1872
16 Beams		

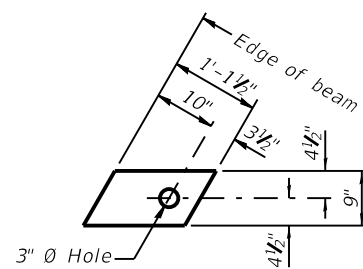


LIFTING LOOP DETAIL





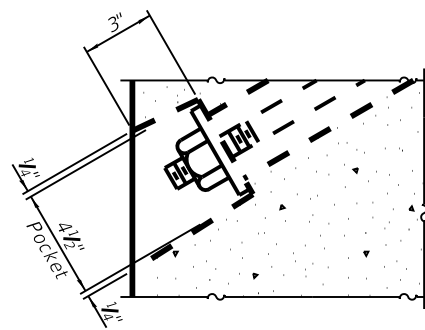
FABRIC BEARING PAD
(Interior)



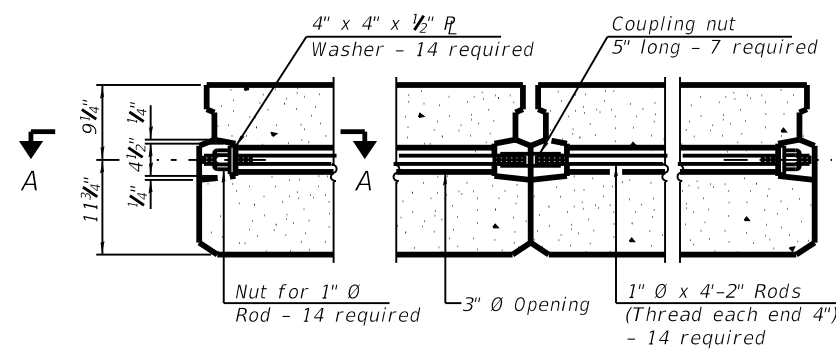
FABRIC BEARING PAD
(Exterior)

FIXED

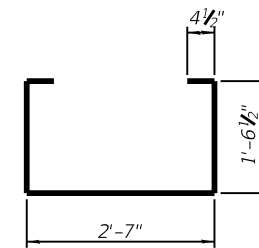
Notes: All bearing pads shall be 1" thick.



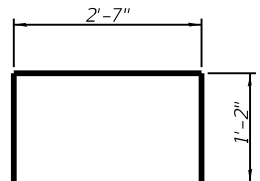
SECTION A-A



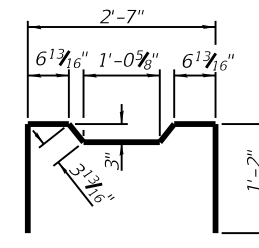
TYPICAL TRANSVERSE TIE ASSEMBLY



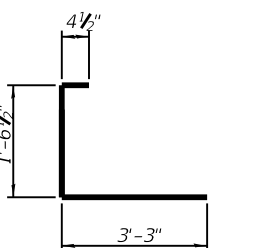
BAR S(E)



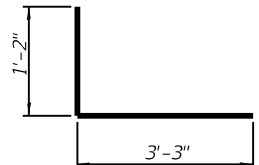
BAR S1(E)



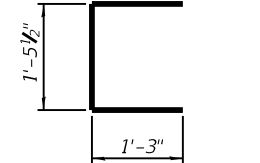
BAR S2(E)



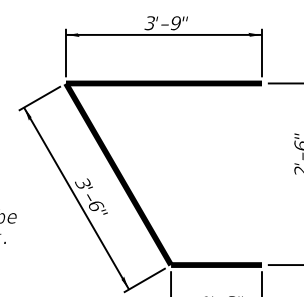
BAR S3(E)



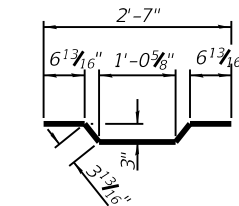
BAR S4(E)



BAR U(E)

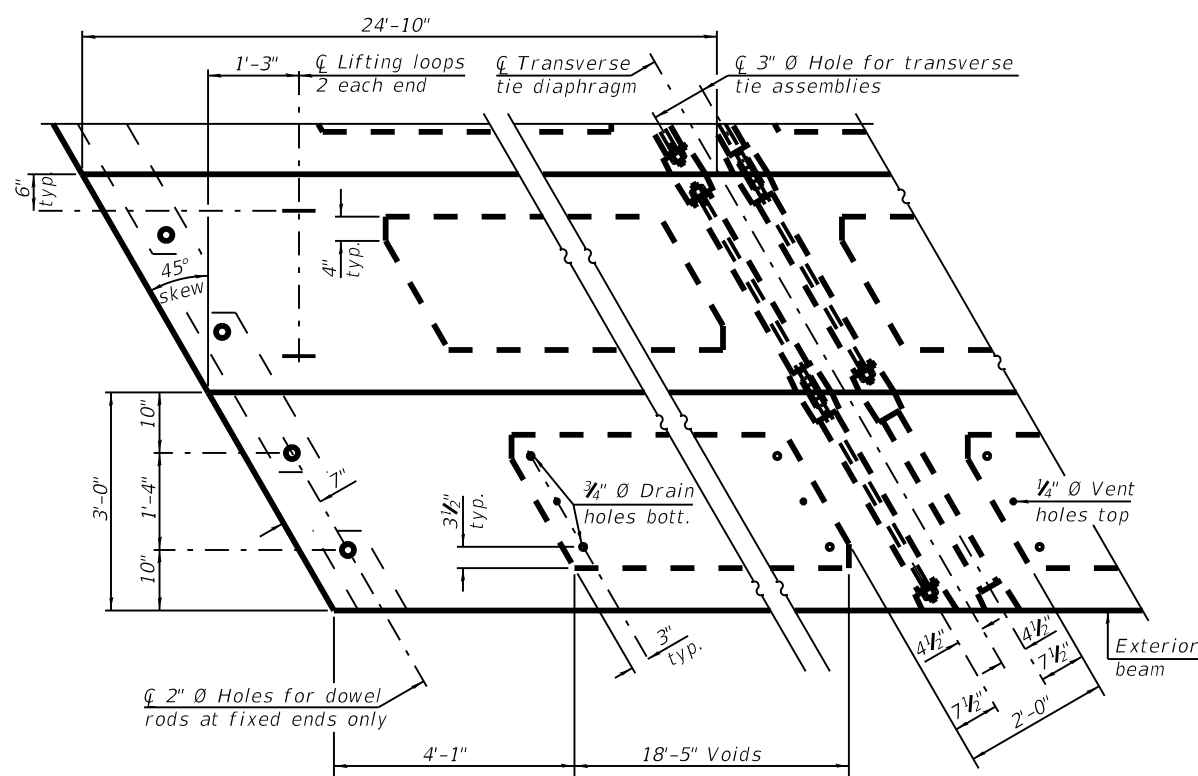


BAR U1(E)

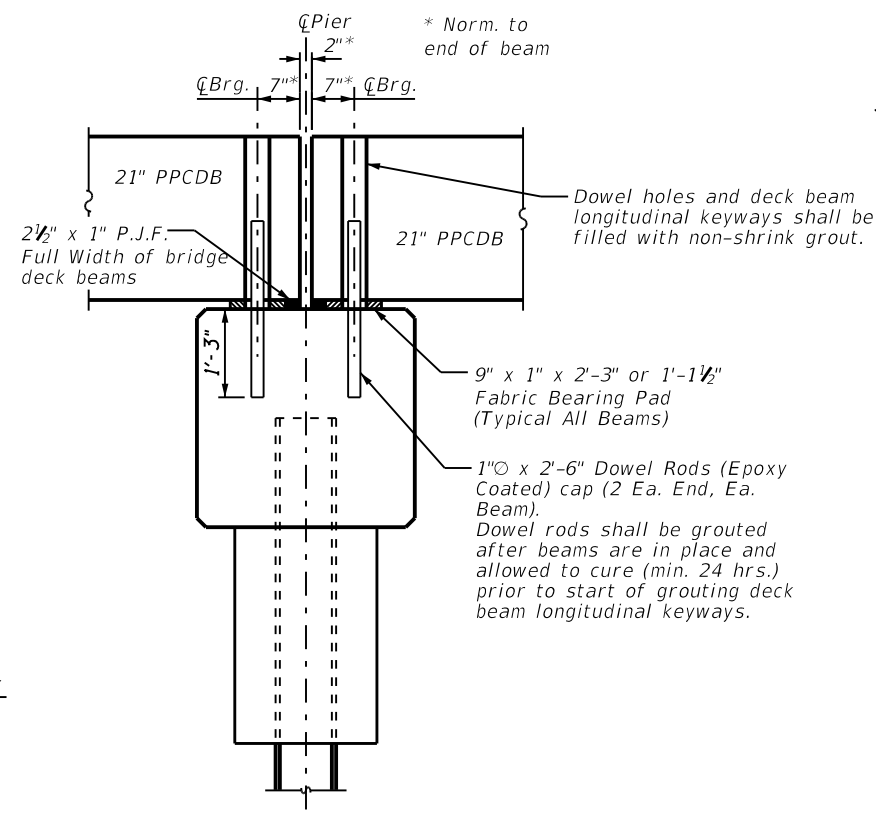


BAR A1(E)

SEE SHEET 6 FOR
HALF CROSS SECTION THRU DECK



PLAN VIEW

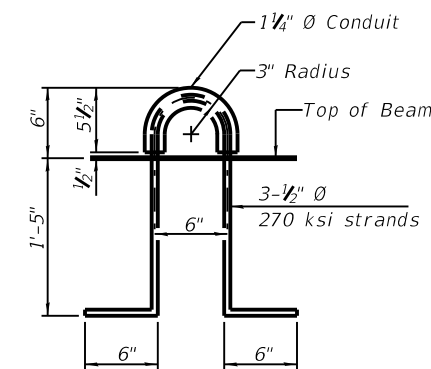


FIXED BEARING PIER

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" Ø 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.
- 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" Ø lifting pin shall be used to engage the lifting loops during handling.
- Corrosion Inhibitor, per Article 1020.05(b)(10) and 1021.07 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.

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

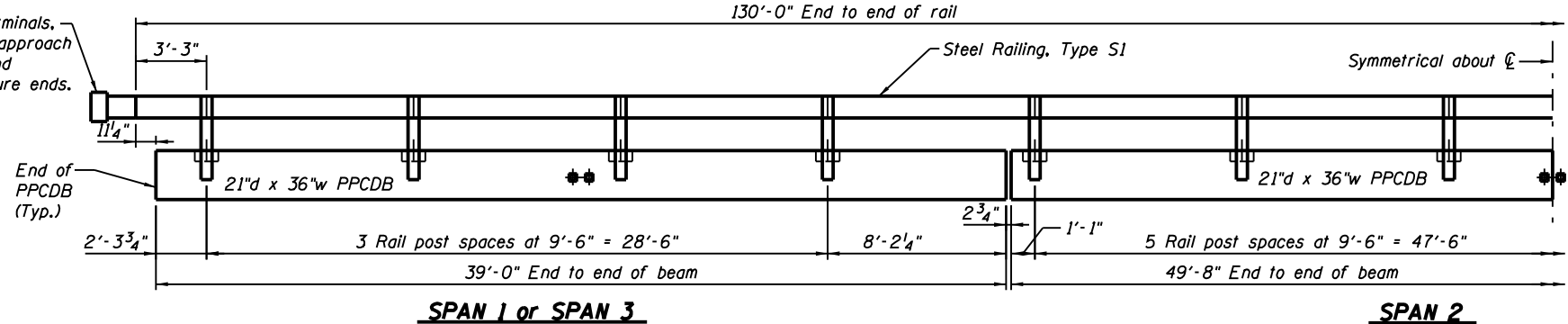
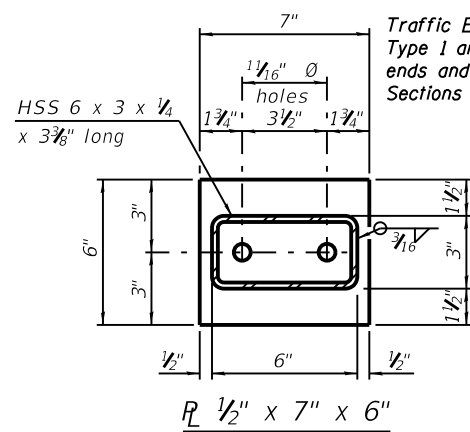
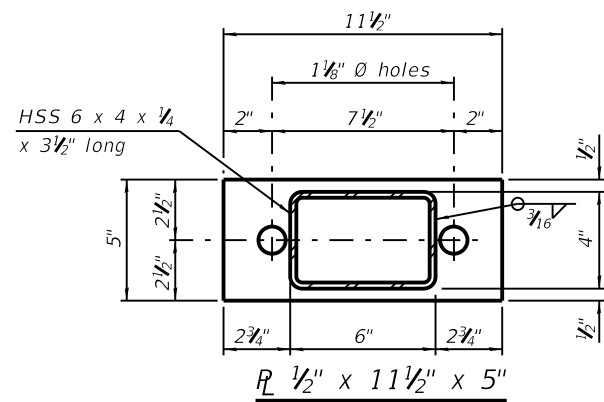


LIFTING LOOP DETAIL

BILL OF MATERIAL

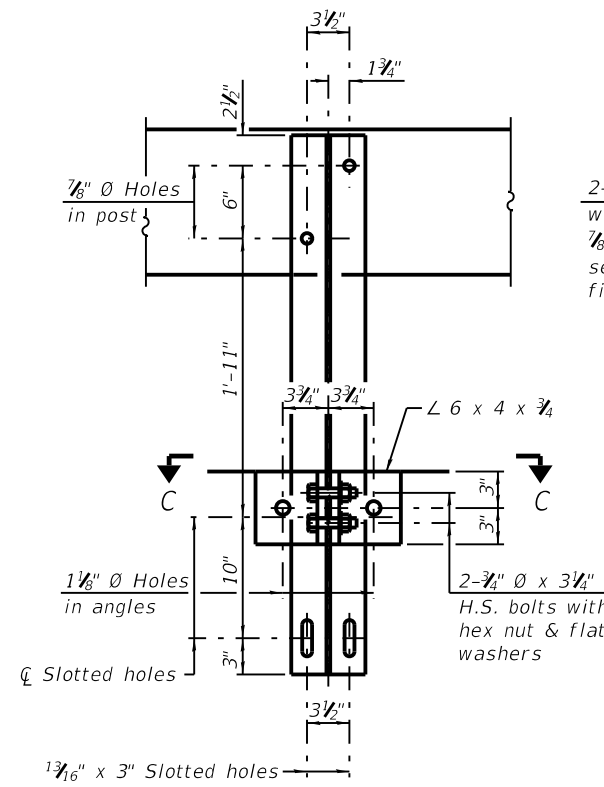
Precast Prestressed Conc. Deck Bms. (21" depth)	Sq. Ft.	1192
8 Beams		

SPAN 2

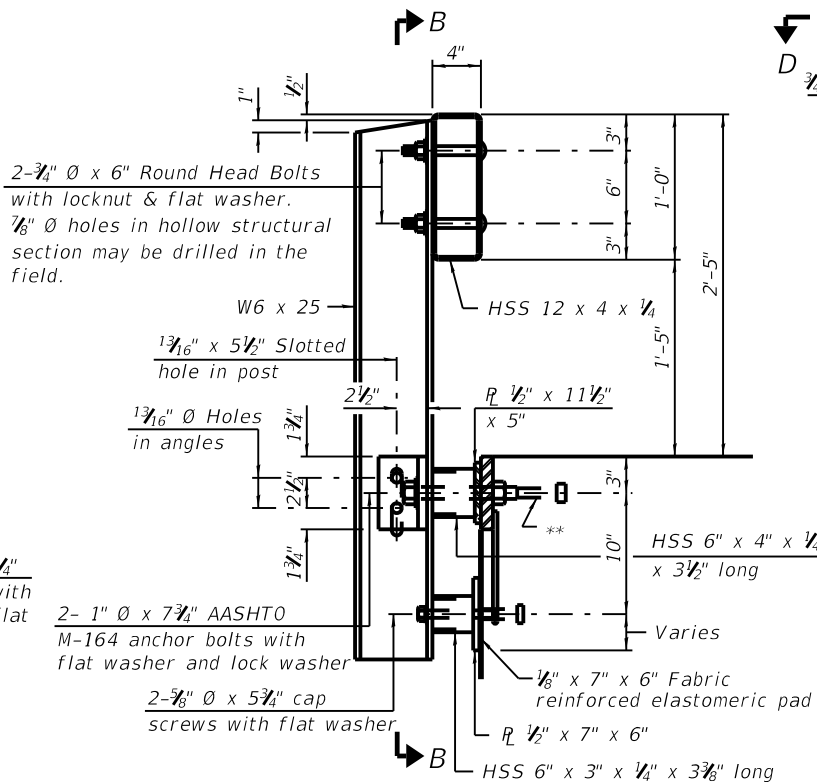


RAIL POST SPACING

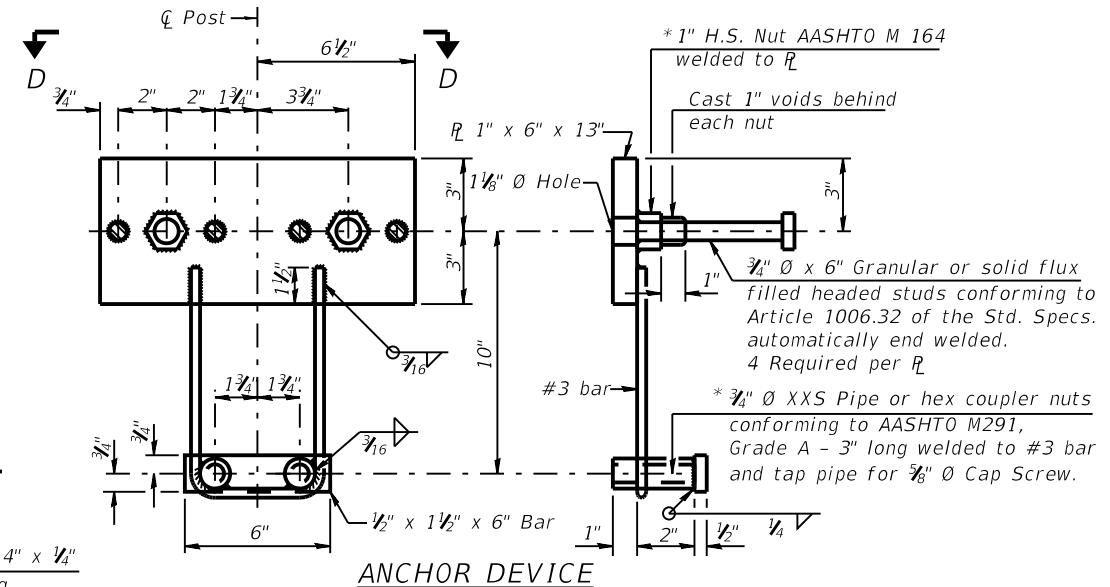
Note: The cost of the Curled End Sections shall be included in the contract unit price per foot for "STEEL RAILING, TYPE S1", and no additional compensation will be allowed.



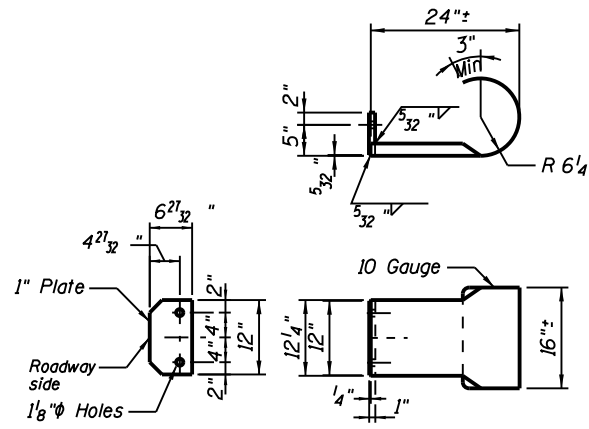
SECTION B-B



SECTION AT RAILING POST



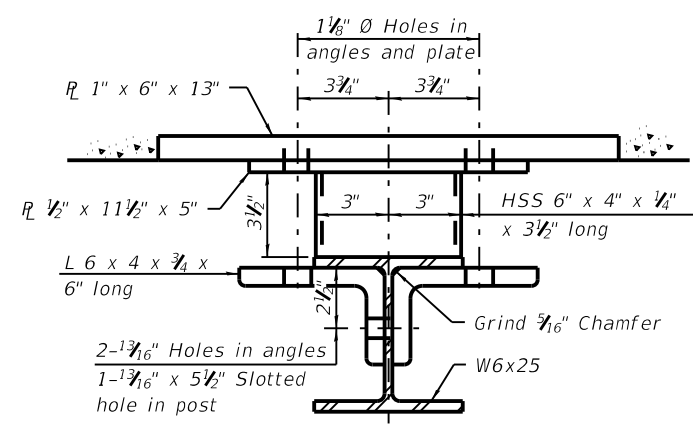
ANCHOR DEVICE



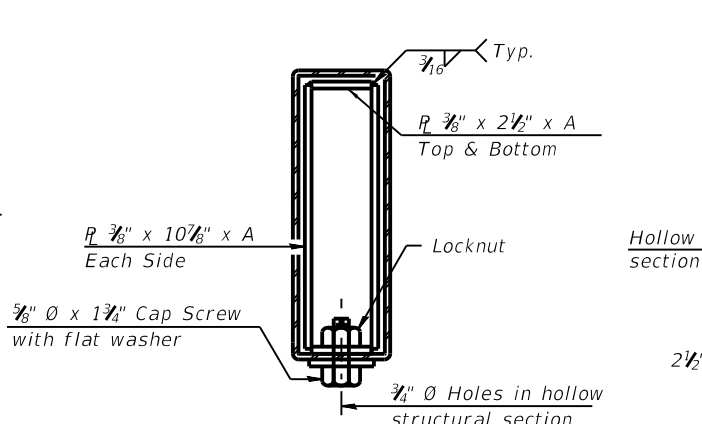
CURLLED END SECTION DETAILS

Notes:
For multi-span bridges, sufficient 1/2 inch x 6 inch x 1'-2 inch galvanized steel shims shall be provided to align rail between adjacent spans. Cost included with Steel Railing, Type S1.
All steel rail elements shall be galvanized according to Article 509.05 of the Standard Specifications.

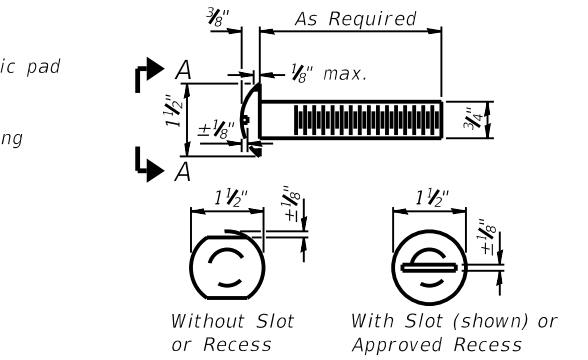
**The studs of the anchor devices shall be placed below the top reinforcement bars and the outermost longitudinal reinforcement bar shall be placed directly above the studs of the rail post anchor device. The anchorage studs may be bent down 1/2 inch to accommodate the top reinforcement bar placement.



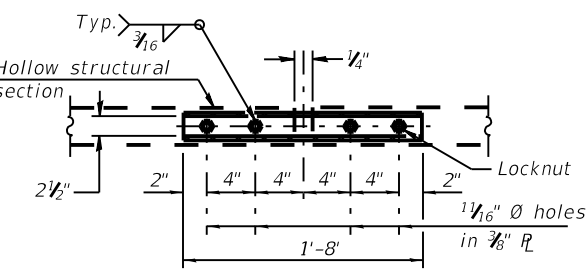
SECTION C-C



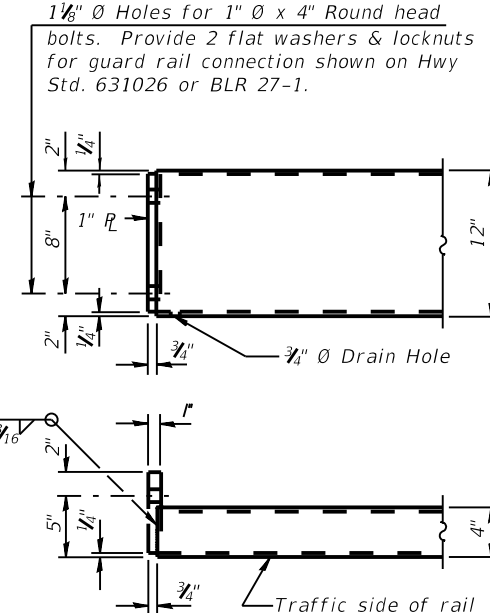
SECTIONS AT RAIL SPLICE



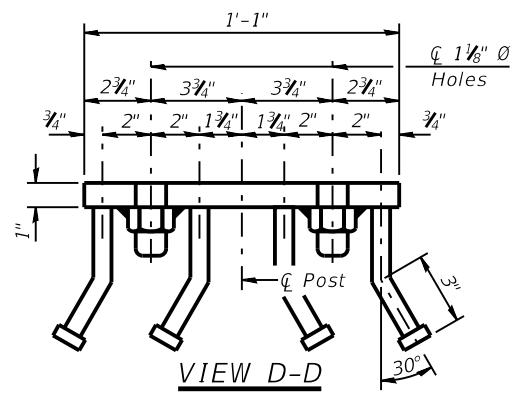
VIEW A-A ROUND HEAD BOLT



PLAN-BOTT. SPLICE R TYPICAL



END OF RAIL DETAILS

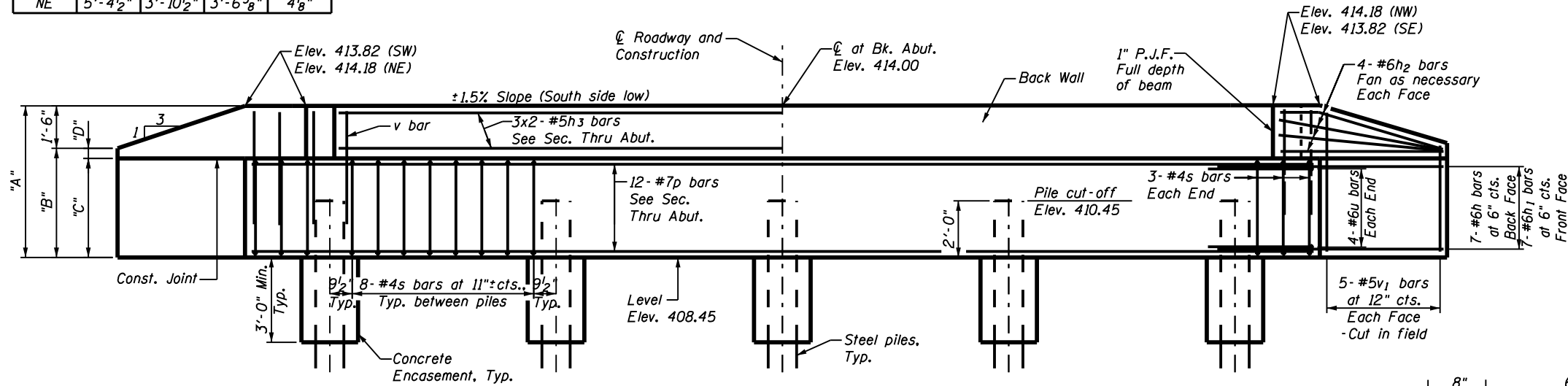


VIEW D-D

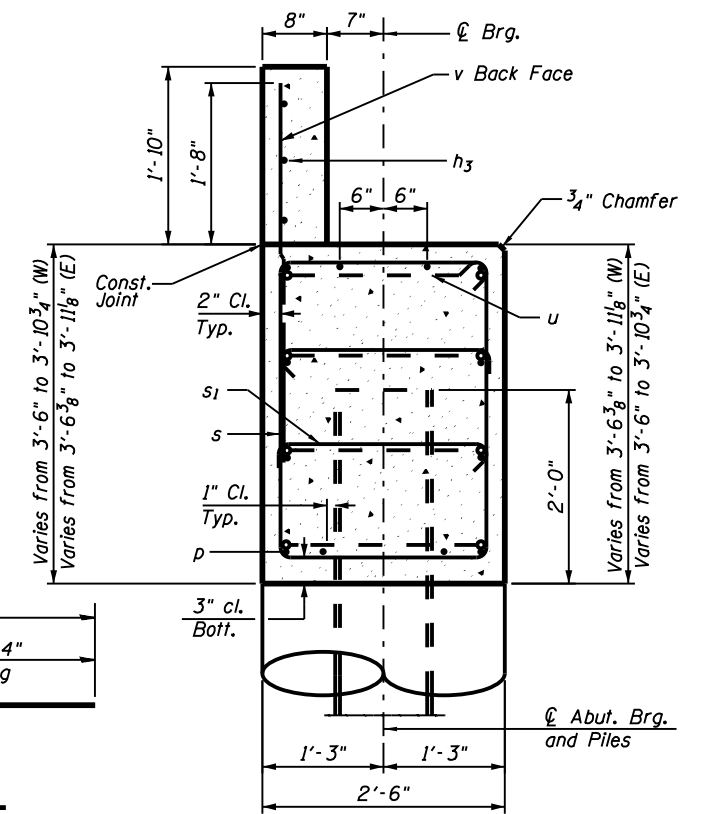
BILL OF MATERIAL

Item	Unit	Quantity
Steel Railing, Type S-1	Foot	260

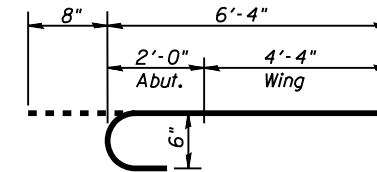
Corner	"A"	"B"	"C"	"D"
SW	5'-4 1/2"	3'-10 1/2"	3'-6"	4 1/2"
NW	5'-8 3/4"	4'-2 3/4"	3'-10 3/4"	4"
SE	5'-8 3/4"	4'-2 3/4"	3'-11 8"	3 5/8"
NE	5'-4 1/2"	3'-10 1/2"	3'-6 3/8"	4 1/8"



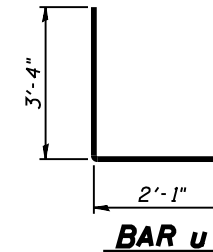
ELEVATION



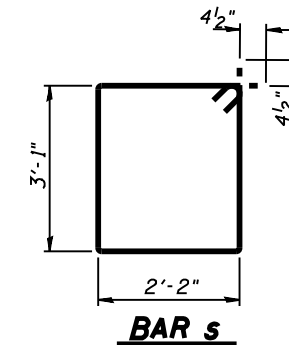
SEC. THRU ABUT.
(Normal to \bar{C})



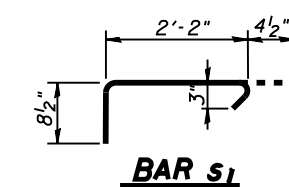
BAR h1



BAR u



BAR s

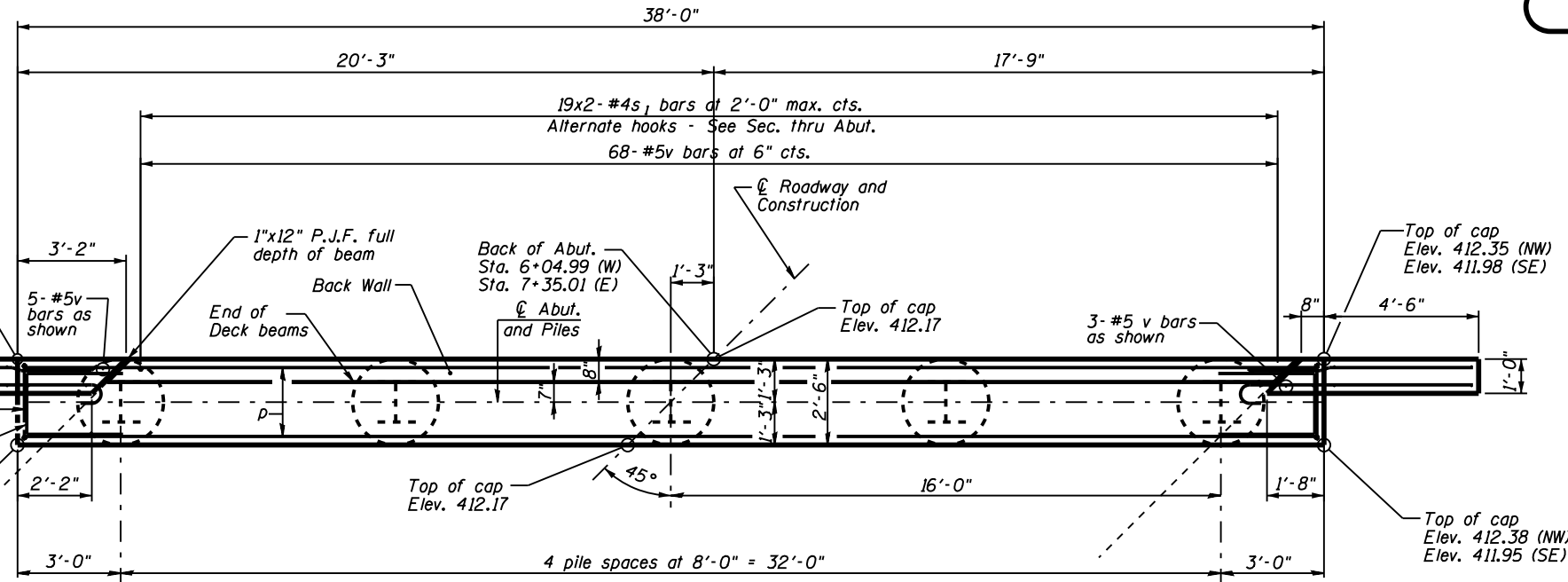


BAR s1

BILL OF MATERIAL FOR ONE ABUTMENT

Bar	No.	Size	Length	Shape
h	14	#6	7'-10"	—
h1	14	#6	7'-0"	—
h2	16	#6	7'-3"	—
h3	6	#5	18'-0"	—
p	12	#7	37'-8"	—
s	38	#4	11'-3"	—
s1	38	#4	3'-3"	—
u	8	#6	8'-9"	—
v	76	#5	4'-0"	—
v1	20	#5	5'-0"	—
Concrete Structures	Cu Yd	W Abut	16.5	
Concrete Encasement	Cu Yd	E Abut	16.5	
Concrete Encasement	Cu Yd	W Abut	2.8	
Reinforcement Bars	Pound	E Abut	2410	
Furnishing Steel Piles, HP14x73	Foot	W Abut	236	
Driving Piles	Foot	E Abut	285	
Test Pile, Steel HP14x73	Each	W Abut	1	
		E Abut	0	

For details of piles and Concrete Encasement, see HP Pile Details Sheet.



PLAN

PILE DATA WEST ABUTMENT

Type: Steel HP14x73
 Nominal Required Bearing: 578 kips
 Factored Resistance Available: 318 kips
 Estimated Length: 59'/pile
 No. Production Piles: 4
 No. Test Piles: 1

PILE DATA EAST ABUTMENT

Type: Steel HP14x73
 Nominal Required Bearing: 578 kips
 Factored Resistance Available: 318 kips
 Estimated Length: 57'/pile
 No. Production Piles: 5
 No. Test Piles: 0

GENERAL NOTES

Reinforcement bars shall conform to the requirements of ASTM A 706 Grade 60 (Illinois Modified).

All exposed edges shall have standard 3/4" chamfer, unless otherwise noted or as directed by the Engineer.

All clearances between rebar and form surface shall be 2", unless otherwise noted.

Space reinforcement in cap to miss PPCDB dowel rods.

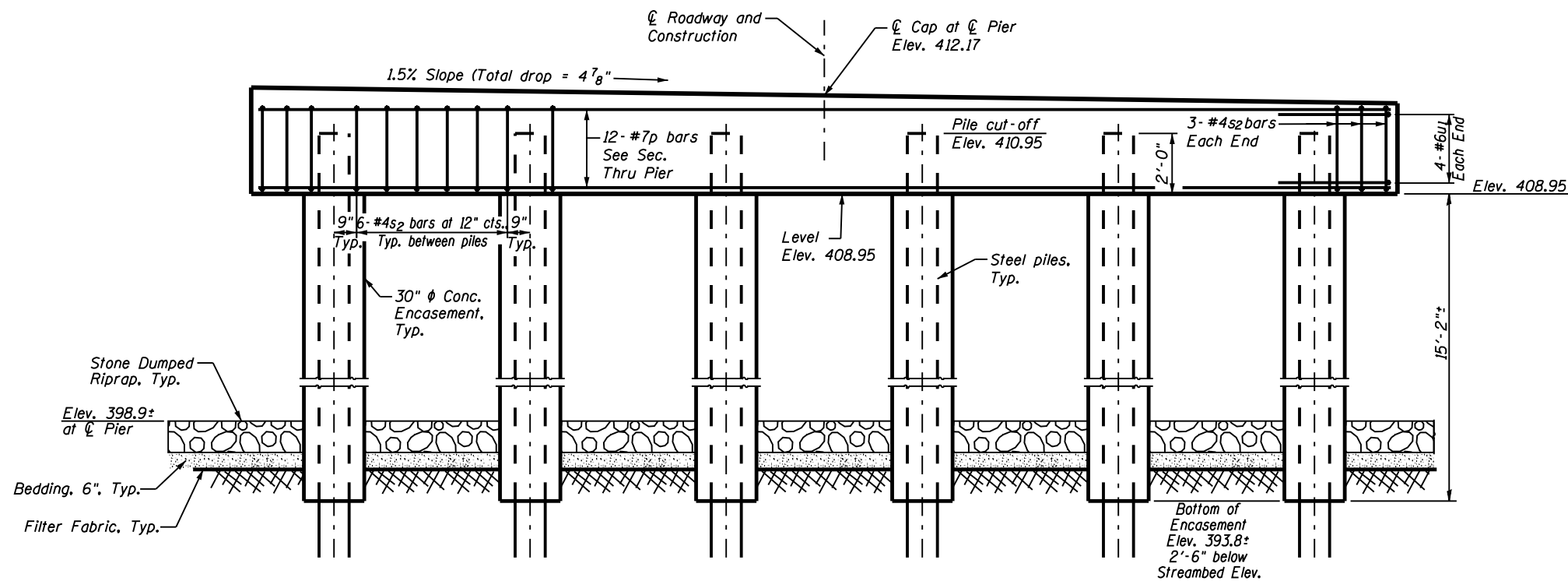
The position of the 90° & 135° hooked ends of the s1 bar shall be alternated between adjacent bars as shown, both vertically and horizontally.

The back wall and portion of the wingwalls above the construction joint shall be cast against the in-place deck beams.

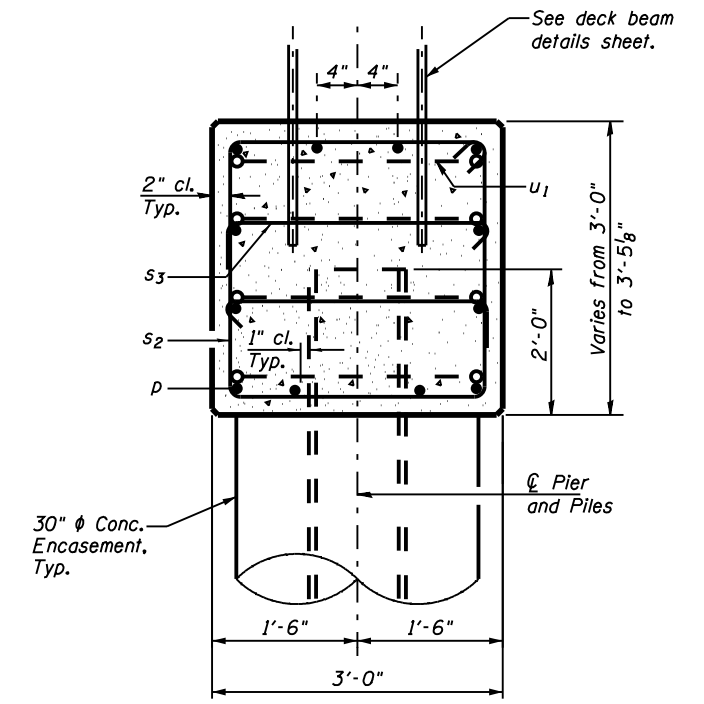
The Steel H-piles shall be according to AASHTO M270 Grade 50.

The Contractor shall drive Test Piles in a production location of the type, size, and location as indicated on the plans and as directed by the Engineer before ordering the remainder of the piles.

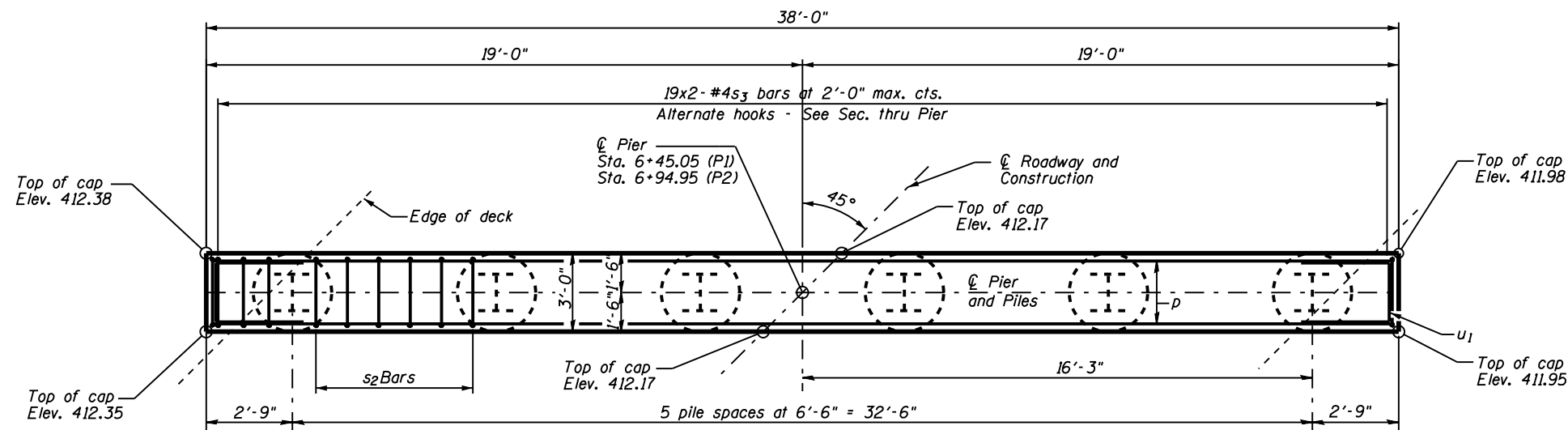
The Test Pile shall be driven to 110 percent of the Nominal Required Bearing indicated in the pile data information.



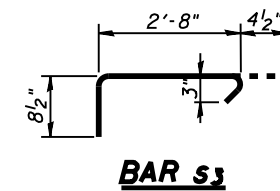
ELEVATION



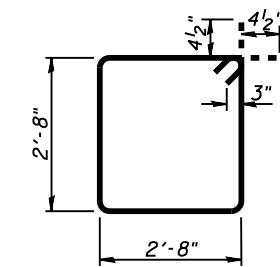
SEC. THRU PIER
(Normal to C)



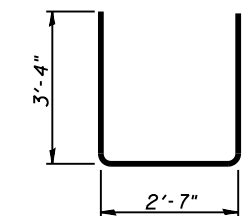
PLAN



BAR s3



BAR s2



BAR u1

BILL OF MATERIAL FOR ONE PIER

Bar	No.	Size	Length	Shape
p	12	#7	37'-8"	—
s2	36	#4	11'-5"	□
s3	38	#4	3'-9"	□
u1	8	#6	9'-3"	U
Concrete Structures				
	Cu	Yd	Pier 1	13.6
			Pier 2	13.6
Concrete Encasement				
	Cu	Yd	Pier 1	16.6
			Pier 2	16.6
Reinforcement Bars				
	Pound		Pier 1	1400
			Pier 2	1400
Furnishing Steel Piles, HP14x73				
	Foot		Pier 1	354
			Pier 2	342
Driving Piles				
	Foot		Pier 1	354
			Pier 2	342

For details of piles and Concrete Encasement, see HP Pile Details Sheet.

PILE DATA PIER NO. 1 (WEST)

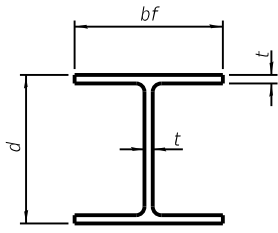
Type: Steel HP14x73
 Nominal Required Bearing: 578 kips
 Factored Resistance Available: 318 kips
 Estimated Length: 59'/pile
 No. Production Piles: 6
 No. Test Piles: 0

PILE DATA PIER NO. 2 (EAST)

Type: Steel HP14x73
 Nominal Required Bearing: 578 kips
 Factored Resistance Available: 318 kips
 Estimated Length: 57'/pile
 No. Production Piles: 6
 No. Test Piles: 0

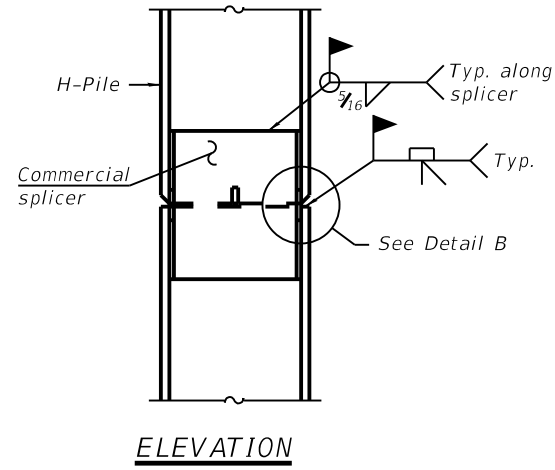
GENERAL NOTES

Reinforcement bars shall conform to the requirements of ASTM A 706 Grade 60 (Illinois Modified).
 All exposed edges shall have standard 3/4" chamfer, unless otherwise noted or as directed by the Engineer.
 All clearances between rebar and form surface shall be 2", unless otherwise noted.
 Space reinforcement in cap to miss PPCDB dowel rods.
 The position of the 90° & 135° hooked ends of the s1 bar shall be alternated between adjacent bars as shown, both vertically and horizontally.
 The Steel H-piles shall be according to AASHTO M270 Grade 50.

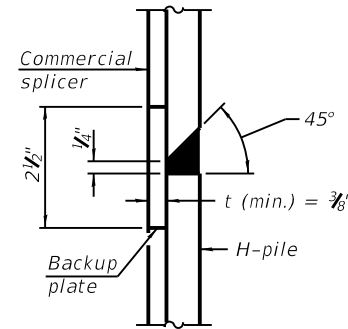


STEEL PILE TABLE

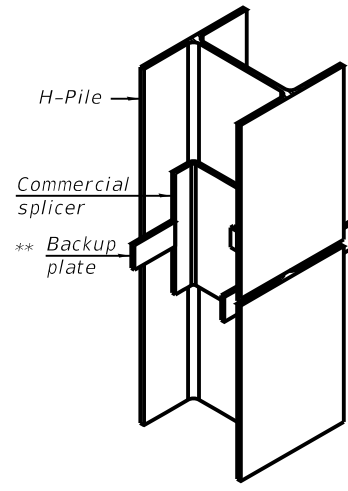
Designation	Depth d	Flange width bf	Web and Flange thickness t	Encasement diameter A
HP 14x117	14 1/4"	14 7/8"	1 3/16"	30"
x102	14"	14 3/4"	1 1/16"	30"
x89	13 7/8"	14 3/4"	7/8"	30"
x73	13 3/8"	14 3/8"	1/2"	30"
HP 12x84	12 1/4"	12 1/4"	1 1/16"	24"
x74	12 1/8"	12 1/4"	5/8"	24"
x63	12"	12 1/8"	1/2"	24"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



ELEVATION

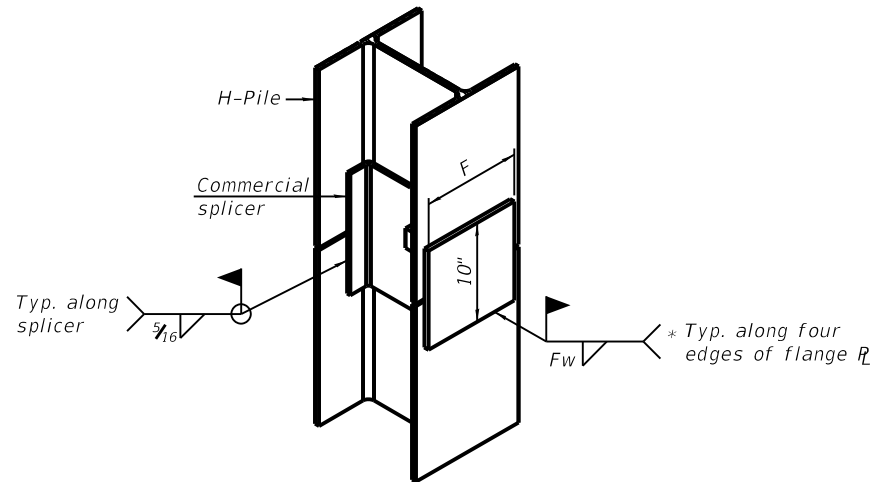


DETAIL "B"



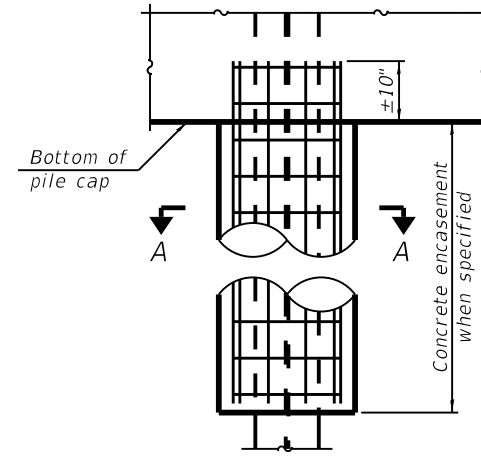
ISOMETRIC VIEW

WELDED COMMERCIAL SPLICE

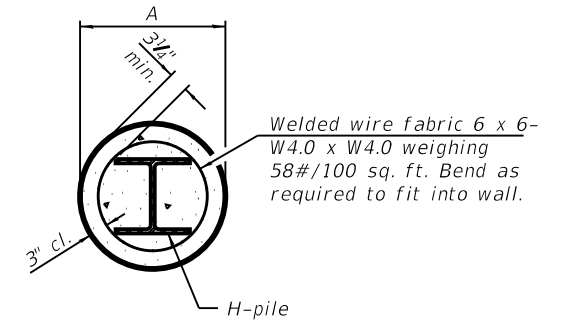


WELDED COMMERCIAL SPLICE ALTERNATE

- * 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 (7/16" min.).

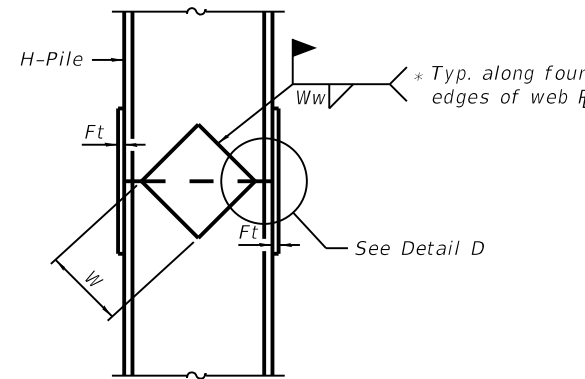


ELEVATION

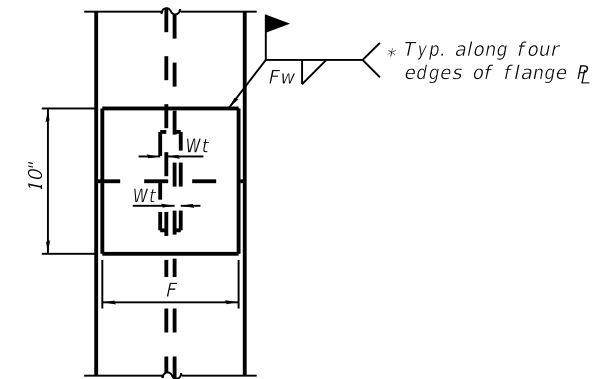


SECTION A-A

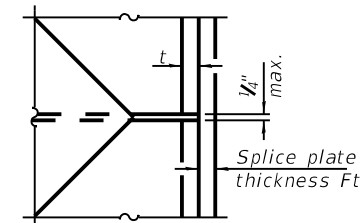
INDIVIDUAL PILE CONCRETE ENCASUREMENT
 (Forms for encasement may be omitted when soil conditions permit).



ELEVATION



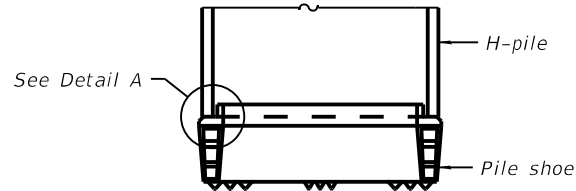
END VIEW



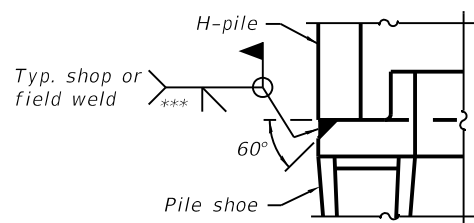
DETAIL D

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 1/16"	7 3/4"	5/8"	1/2"
x73	12 1/2"	5/8"	7/16"	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"	7/16"	5 1/4"	1/2"	3/8"
x42	8"	5/8"	7/16"	5 1/4"	1/2"	3/8"
HP 8x36	7"	5/8"	7/16"	4 1/4"	1/2"	3/8"

WELDED PLATE FIELD SPLICE



ELEVATION



DETAIL A

SHOE ATTACHMENT

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

F-HP 8-11-2017

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

DESIGNED -	WDL	REVISED -	
DRAWN -	JN	REVISED -	
CHECKED -	WDL / GLH	REVISED -	
DATE -	12/31/2018	REVISED -	

STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

HP PILE DETAILS

ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
TR 383	11-04130-00-BR	WAYNE	18	12
CONTRACT NO. 95845				

RAAI JOB NO. 51818

ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
T.R.383	11-04130-00-BR	WAYNE	18	13
CONTRACT NO. 95845		ILLINOIS		

HOLCOMB FOUNDATION ENGINEERING INC.
P.O. Box 88 618-529-5262
Carbondale, Il. 62903 618-457-8991 fax Page 1 of 2

Bridge Foundation Boring Log

Project: H-13096 Bridge TR-383 over Little Dry Fork Date: 5/9/2013
Section: 11-04130-00-BR Station 6+70 Bored by: B. Schwartz
Structure: 096-3469 Checked By: J. Holcomb
County: Wayne

Boring No: 2
Station: 6+98
Offset: 18' Lt

Elevation	Surface Water Elev.		Elevation	N	Qu tsf	M	W
	Ground Water Elev.	During Drilling					
407.8			407.8				
401.8			401.8				
395.8			395.8				
364.3			364.3				

Ground Surface 407.8
Brown Silty CLAY to Clayey SILT (A-6 to A-4)
401.8
Brown Mottled Gray Silty CLAY (A-6) with sand
395.8
Gray Silty CLAY (A-6) with sand
364.3
Gray Sandy CLAY (A-6)

N = Standard Penetration Test Blows per foot to drive 2" O.D. Split Spoon Sampler 12" with a 140 lbs. hammer falling 30"
Qu = Unconfined Compressive Strength in tons/sq.ft.
w = Water Content - percentage of oven dry weight-%
B = Bulge Failure
S = Shear Failure
E = Estimated Value
P = Penetrometer

HOLCOMB FOUNDATION ENGINEERING INC.
P.O. Box 88 618-529-5262
Carbondale, Il. 62903 618-457-8991 fax Page 1 of 2

Bridge Foundation Boring Log

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Section: 11-04130-00-BR Station 6+70 Bored by: B. Schwartz
Structure: 096-3469 Checked By: J. Holcomb
County: Wayne

Boring No: 1
Station: 6+38
Offset: 21' Lt

Elevation	Surface Water Elev.		Elevation	N	Qu tsf	M	W
	Ground Water Elev.	During Drilling					
408.2			408.2				
402.2			402.2				
393.7			393.7				
387.2			387.2				

Ground Surface 408.2
Brown Silty CLAY to Clayey SILT (A-6 to A-4)
402.2
Gray Mottled Brown Silty CLAY to Clayey SILT (A-6 to A-4) with sand
393.7
Brown Fine to Medium SAND (A-2-4)
387.2
Gray Clayey SAND (A-2-4) with pebbles
387.2
Gray Silty CLAY (A-6) with sand

N = Standard Penetration Test Blows per foot to drive 2" O.D. Split Spoon Sampler 12" with a 140 lbs. hammer falling 30"
Qu = Unconfined Compressive Strength in tons/sq.ft.
w = Water Content - percentage of oven dry weight-%
B = Bulge Failure
S = Shear Failure
E = Estimated Value
P = Penetrometer

HOLCOMB FOUNDATION ENGINEERING INC.
P.O. Box 88 618-529-5262
Carbondale, Il. 62903 618-457-8991 fax Page 2 of 2

Bridge Foundation Boring Log

Project: H-13096 Bridge TR-383 over Little Dry Fork Date: 5/9/2013
Section: 11-04130-00-BR Station 6+70 Bored by: B. Schwartz
Structure: 096-3469 Checked By: J. Holcomb
County: Wayne

Boring No: 2
Station: 6+98
Offset: 18' Lt

Elevation	Surface Water Elev.		Elevation	N	Qu tsf	M	W
	Ground Water Elev.	During Drilling					
407.8			407.8				
401.8			401.8				
356.8			356.8				
351.3			351.3				

clay (continued)
356.8
Gray SANDSTONE
351.3
End of Boring @ -56.5'

N = Standard Penetration Test Blows per foot to drive 2" O.D. Split Spoon Sampler 12" with a 140 lbs. hammer falling 30"
Qu = Unconfined Compressive Strength in tons/sq.ft.
w = Water Content - percentage of oven dry weight-%
B = Bulge Failure
S = Shear Failure
E = Estimated Value
P = Penetrometer

HOLCOMB FOUNDATION ENGINEERING INC.
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Carbondale, Il. 62903 618-457-8991 fax Page 2 of 2

Bridge Foundation Boring Log

Project: H-13096 Bridge TR-383 over Little Dry Fork Date: 5/9/2013
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County: Wayne

Boring No: 1
Station: 6+38
Offset: 21' Lt

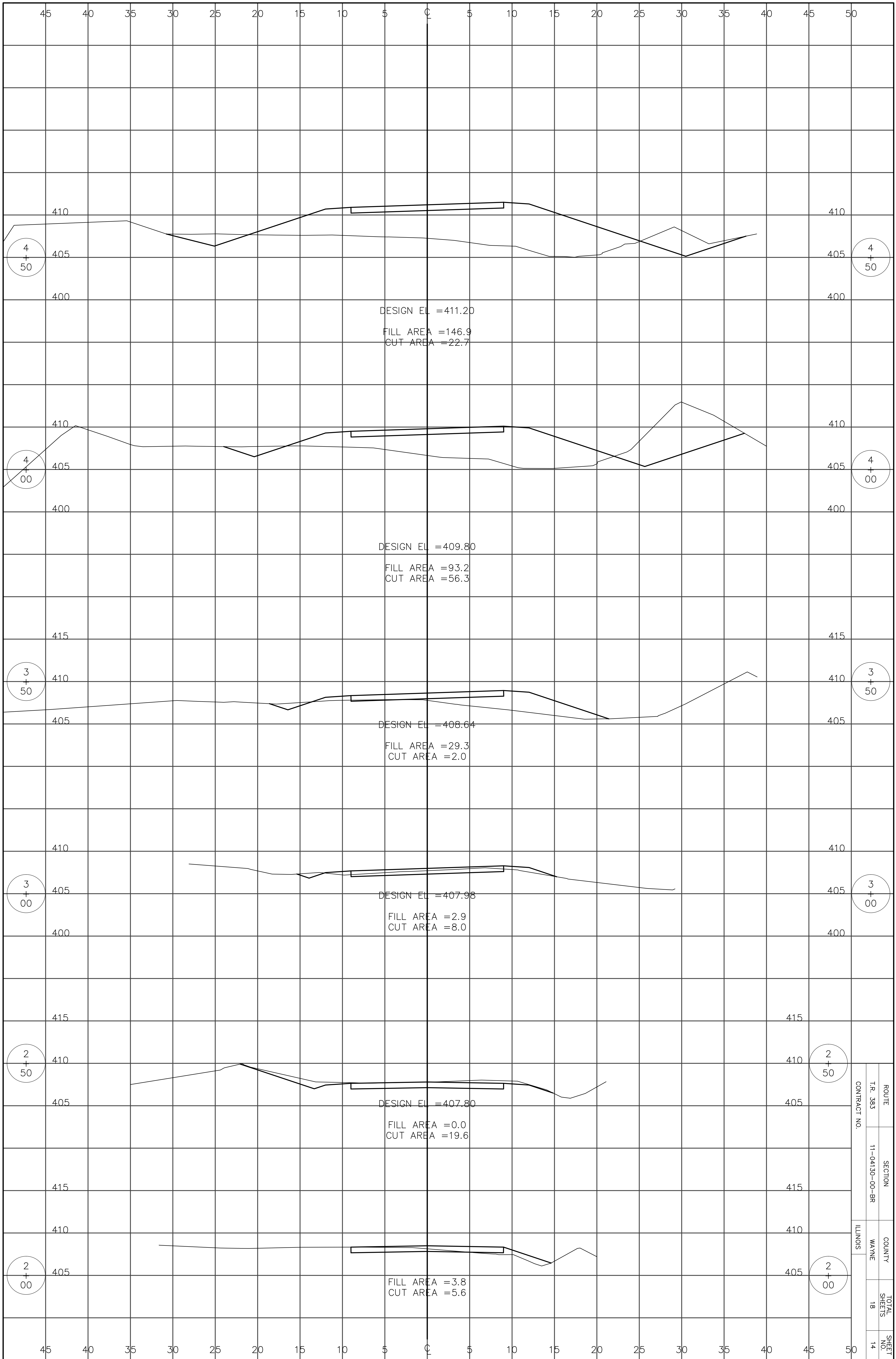
Elevation	Surface Water Elev.		Elevation	N	Qu tsf	M	W
	Ground Water Elev.	During Drilling					
408.2			408.2				
402.2			402.2				
359.7			359.7				
354.7			354.7				
349.2			349.2				

clay (continued)
359.7
Gray Clayey SAND (A-2-4)
354.7
Gray SANDSTONE
349.2
End of Boring @ -59.0'

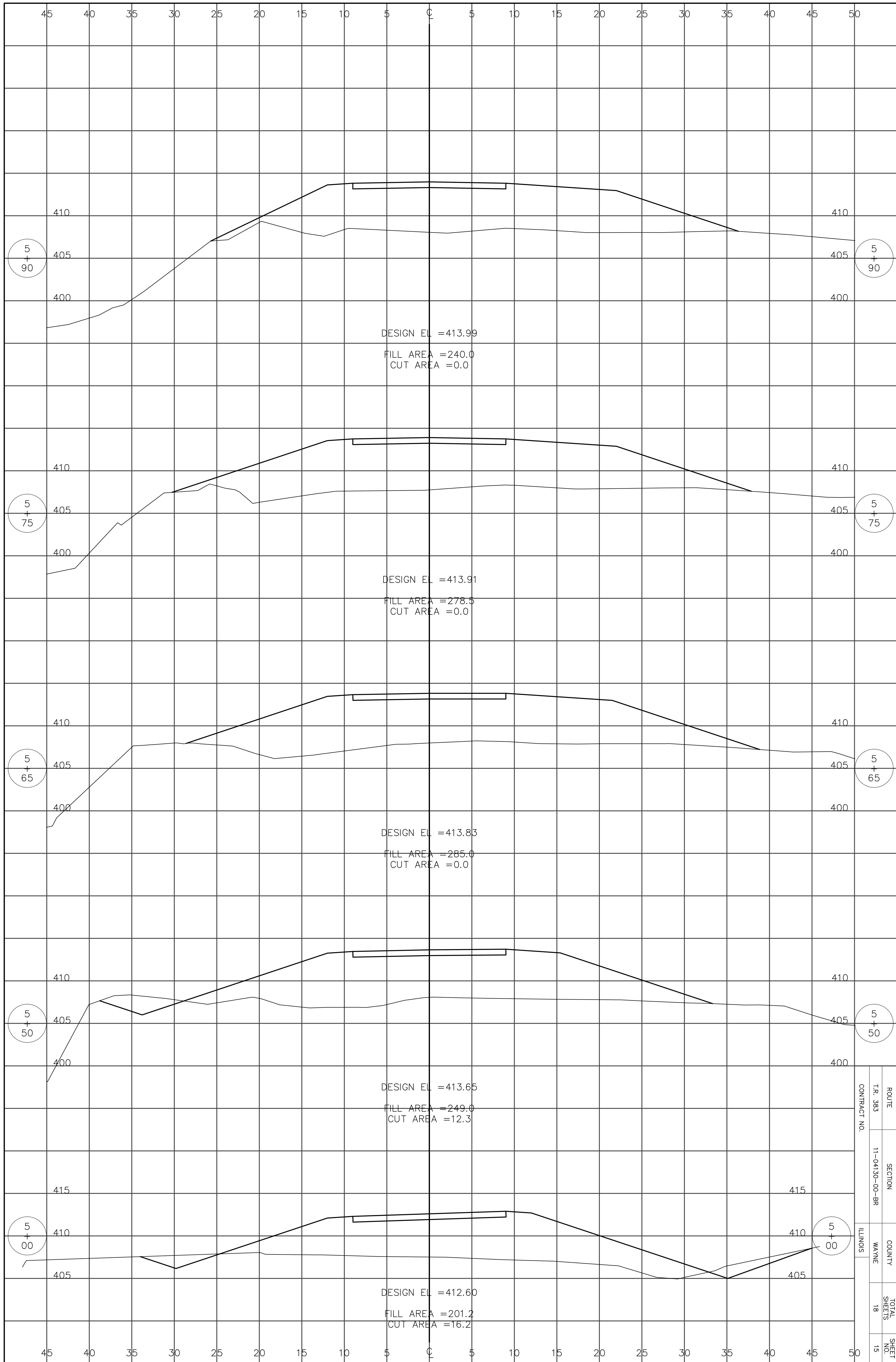
N = Standard Penetration Test Blows per foot to drive 2" O.D. Split Spoon Sampler 12" with a 140 lbs. hammer falling 30"
Qu = Unconfined Compressive Strength in tons/sq.ft.
w = Water Content - percentage of oven dry weight-%
B = Bulge Failure
S = Shear Failure
E = Estimated Value
P = Penetrometer

CHARLESTON ENGINEERING, INC.
CONSULTING ENGINEERS
105 NORTH KITCHELL
P.O. BOX 397
OLNEY, ILLINOIS 62450
(618) 392-0796
ILLINOIS DEPARTMENT OF PROFESSIONAL REGULATION REGISTRATION #184.003513

BORING LOGS
STRUCTURE NO. 096-3469
T.R. 383
LITTLE DRY FORK
SECTION 11-04130-00-BR
WAYNE COUNTY
STATION 6+70.00



ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
I.R. 383	11-04130-00-BR	WAYNE	18	14
CONTRACT NO. ILLINOIS				



5
+
90

5
+
90

5
+
75

5
+
75

5
+
65

5
+
65

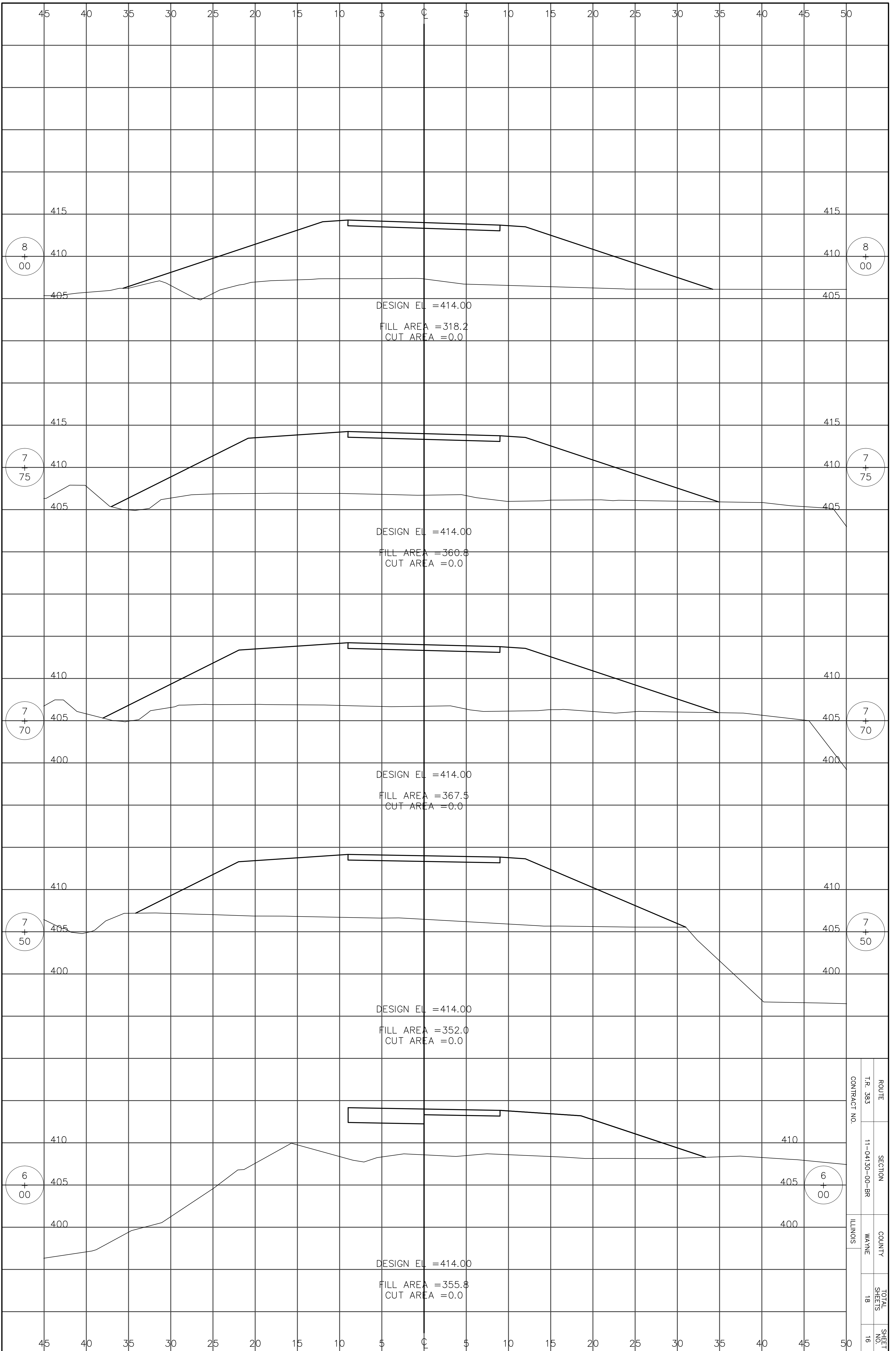
5
+
50

5
+
50

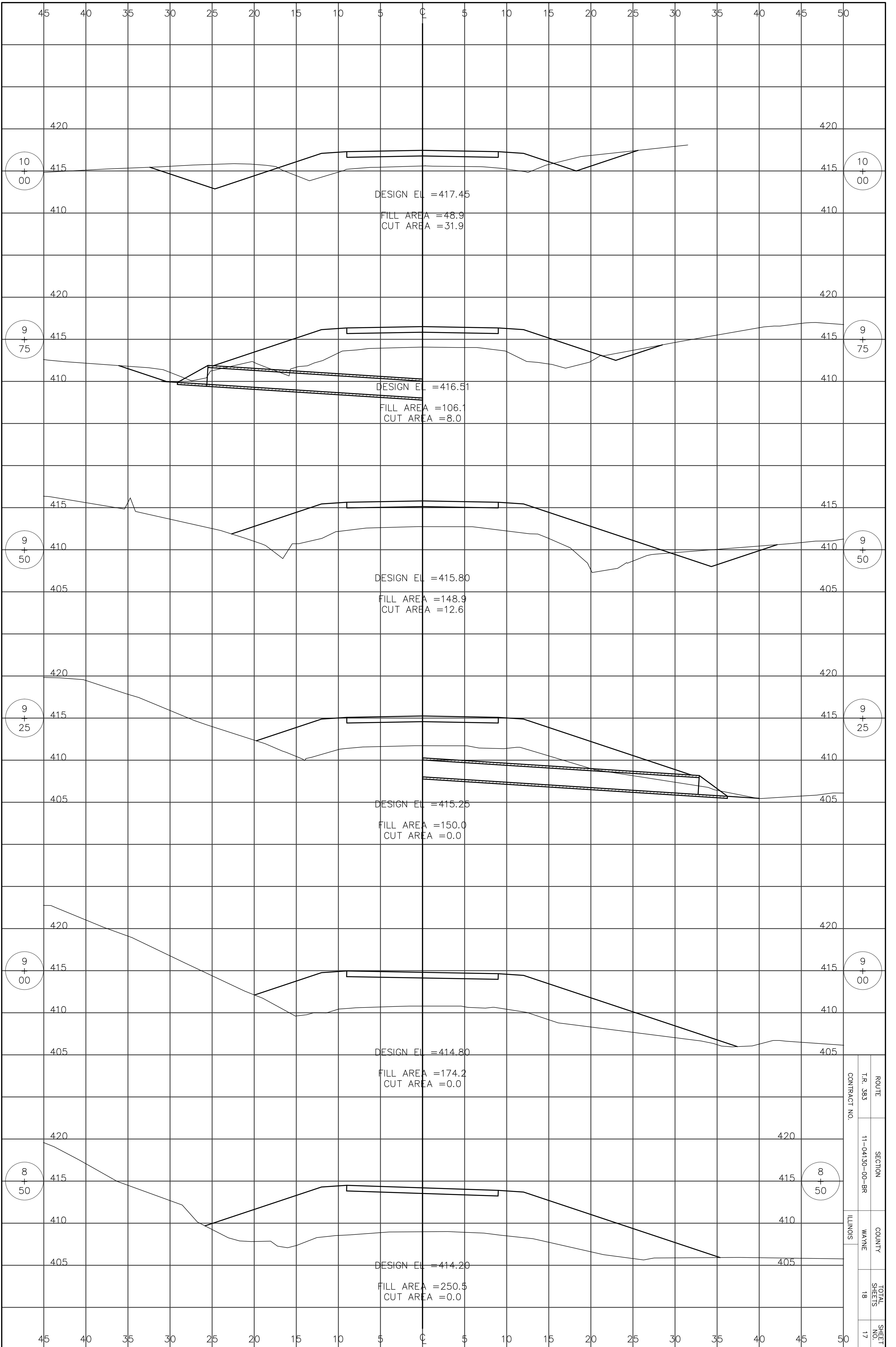
5
+
00

5
+
00

ROUTE	SECTION	COUNTY	TOTALS	SHEET
I.R. 383	11-04130-00-BR	WAYNE	18	15
CONTRACT NO.		ILLINOIS		



ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET
T.R. 383	11-04130-00-BR	WAYNE	18	16
CONTRACT NO.	ILLINOIS			





ROUTE	11-04130-00-BR	SECTION	11-04130-00-BR	COUNTY	WAYNE	TOTAL SHEETS	18	SHEET NO.	18
CONTRACT NO.		ILLINOIS							