

ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
TR 187	14-14118-00-BR	WASHINGTON	12	1
			CONTRACT NO. 97693	

RAAI JOB NO. 53417

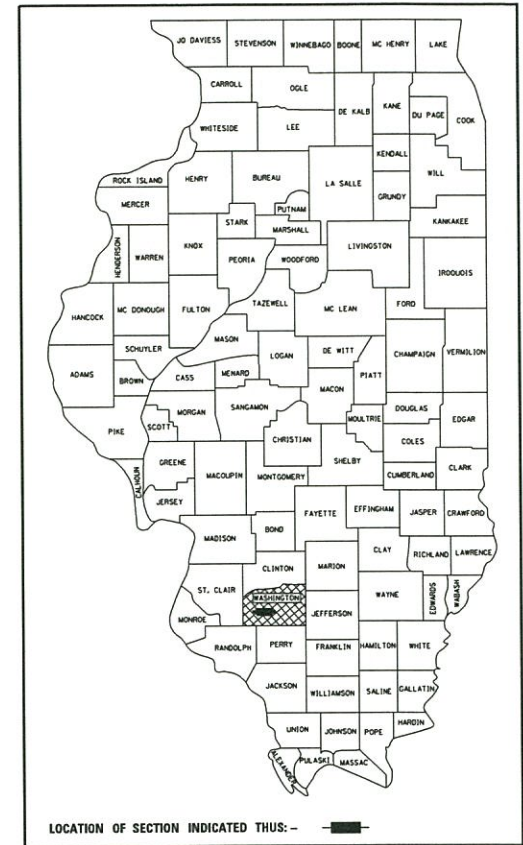
CONTRACT NO. 97693

11-08-2019 LETTING ITEM 089

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PLANS FOR PROPOSED
STP OFF-SYSTEM BRIDGE

TR 187 (JIMTOWN ROAD)
OVER ELKHORN CREEK
SECTION 14-14118-00-BR
PROJECT NO. 75NJ(010)
PLUM HILL TOWNSHIP
WASHINGTON COUNTY
JOB NO. C-98-342-16



LOCATION OF SECTION INDICATED THUS: - [Symbol] -

INDEX OF SHEETS

- COVER SHEET
- SUMMARY OF QUANTITIES AND GENERAL NOTES
- TYPICAL SECTIONS, MISCELLANEOUS DETAILS AND CONSTRUCTION SCHEDULES
- PLAN AND PROFILE OF ROADWAY
- GENERAL PLAN AND ELEVATION
- 6.-7. PRECAST PRESTRESSED CONCRETE DECK BEAM DETAILS
8. STEEL RAILING, TYPE S1 DETAILS
9. ABUTMENT DETAILS
10. HP PILE DETAILS
- 11.-12. CROSS SECTIONS OF ROADWAY

HIGHWAY STANDARDS (SEE PROPOSAL BOOKLET)

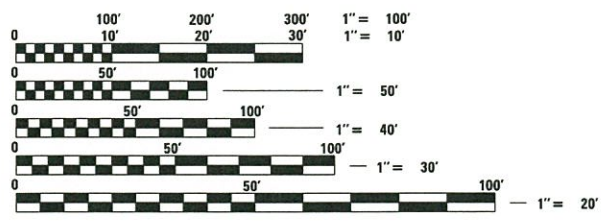
- 000001-07 STANDARD SYMBOLS, ABBREVIATIONS AND PATTERNS
- 280001-07 TEMPORARY EROSION CONTROL SYSTEMS
- 515001-03 NAME PLATE FOR BRIDGES
- 630301-09 SHOULDER WIDENING FOR TYPE 1 (SPECIAL) GUARDRAIL TERMINALS
- 701901-08 TRAFFIC CONTROL DEVICES
- 720006-04 SIGN PANEL ERECTION DETAILS
- 720011-01 METAL POSTS FOR SIGNS, MARKERS & DELINEATORS
- 725001-01 OBJECT AND TERMINAL MARKERS
- 729001-01 APPLICATIONS OF TYPES A & B METAL POSTS (FOR SIGNS & MARKERS)
- BLR 21-9 TYPICAL APPLICATION OF TRAFFIC CONTROL DEVICES FOR CONSTRUCTION ON RURAL LOCAL HIGHWAYS
- BLR 24-2 MAILBOX TURNOUT FOR LOCAL ROADS
- BLR 27-1 TRAFFIC BARRIER TERMINAL TYPE 5A

SOIL BORINGS (SEE SPECIFICATIONS)

DESIGN CLASSIFICATION: RURAL LOCAL ROAD

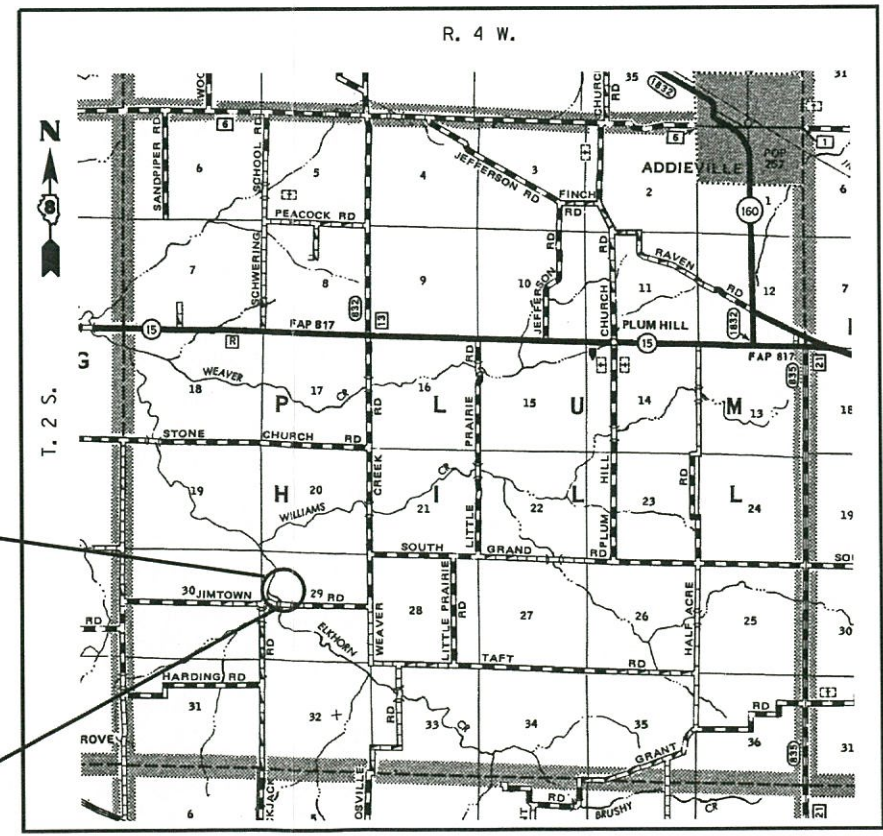
ADT₂₀₁₅ : 100

DESIGN SPEED: 30 MPH



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

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



SECTION BEGINS STA. 104+45.00

SECTION 14-14118-00-BR INCLUDES THE CONSTRUCTION OF A SINGLE SPAN PRECAST PRESTRESSED CONCRETE DECK BEAM BRIDGE CARRYING TR 187 OVER ELKHORN CREEK, 15' AHEAD RIGHT SKEW, 80'-0" BK. TO BK. ABUTMENTS X 24' WIDE EXISTING STRUCTURE NO. 095-3085 PROPOSED STRUCTURE NO. 095-3268

SECTION ENDS STA. 112+00.00

LOCATION: NEAR THE SW CORNER OF THE NW 1/4, SECTION 29, T2S, R4W, 3RD P.M.
GROSS LENGTH OF PROJECT: 755.00 FT. = 0.143 MI.
NET LENGTH OF PROJECT: 755.00 FT. = 0.143 MI.
NOT TO SCALE

APPROVED JUNE 18, 2019
[Signature]
WASHINGTON COUNTY, COUNTY ENGINEER

PASSED July 16, 2019
[Signature]
DISTRICT EIGHT ENGINEER OF LOCAL ROADS & STREETS

RELEASING FOR BID
BASED ON LIMITED
REVIEW July 16, 2019
[Signature]
REGION FIVE ENGINEER

PRINTED BY THE AUTHORITY
OF THE STATE OF ILLINOIS



Brent L. Taylor 06/17/2019

BRENT L. TAYLOR
SALEM, ILLINOIS
ILLINOIS LICENSED PROFESSIONAL
ENGINEER NO. 062-066114
EXPIRES NOV. 30, 2019

06/17/2019

UTILITIES

Design Phase Locate
Dig No.: X3301749-00X

Telephone:
Scott Gremmels
Egyptian Telephone Coop
1010 West Broadway
Steeleville, IL 62288
Phone: 618-774-1000

Electric:
Danny Hopfinger
Tri-County Electric Coop
3906 Broadway
Mount Vernon, IL 62864
Phone: 618-244-5151

Water:
Steve Fletcher
Washington County Water
17575 Connecticut Road
Nashville, IL 62263
Phone: 618-327-4454

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.
- 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 and are only included for the convenience of the bidder. 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.
- There is 1 mailbox within limits of construction. Relocate per Article 107.20 & Standard BLR 24-2. Utilize Aggregate Surface Course, Type B, 6" depth - 3 Ton each turnout (Included in Summary of Quantities). Contractor shall coordinate location of temporary and final mailbox locations with the Postmaster.
- Factors used for quantity calculations are as follows:

Stone Dumped Riprap	130 pounds/cu. ft.
Aggregate Surface Course	2.1 tons/cu. yd.
Bituminous Materials (Prime Coat)	0.35 gal/sq yd
Bituminous Materials (Cover and Seal Coats)	0.25 gal/sq yd
Cover and Seal Coat Aggregate	25 pound/sq yd

- Commitments:
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.

Existing fence removal and replacement within the limits of construction will be done by others and will be coordinated by the Township. The removal will be completed prior to the start of construction.

The County Engineer will notify public service providers prior to the start of construction.

Unused excavated material shall be placed on an upland site and should not impact any jurisdictional waters of the United States.

Temporary construction access, structures or fills within jurisdictional waters shall be removed once the activity is complete and the site shall be restored to pre-project conditions, including elevations, soil substrate and vegetation.

SUMMARY OF QUANTITIES			
Code No.	Item	Unit	Quantity
20100500	TREE REMOVAL, ACRES	ACRE	0.5
20200100	EARTH EXCAVATION	CU YD	955
20300100	CHANNEL EXCAVATION	CU YD	210
20400800	FURNISHED EXCAVATION	CU YD	2185
28000250	TEMPORARY EROSION CONTROL SEEDING	POUND	90
28000305	TEMPORARY DITCH CHECKS	FOOT	110
40200800	AGGREGATE SURFACE COURSE, TYPE B	TON	686
40300200	BITUMINOUS MATERIALS (PRIME COAT)	TON	8.9
40300400	BITUMINOUS MATERIALS (COVER AND SEAL COATS)	TON	4.7
40300500	COVER COAT AGGREGATE	TON	38
40300600	SEAL COAT AGGREGATE	TON	19
50100100	REMOVAL OF EXISTING STRUCTURES	EACH	1
50105220	PIPE CULVERT REMOVAL	FOOT	20
50300225	CONCRETE STRUCTURES	CU YD	24.8
50300280	CONCRETE ENCASEMENT	CU YD	2.8
50400605	PRECAST PRESTRESSED CONCRETE DECK BEAMS (33" DEPTH)	SQ FT	1888
50800105	REINFORCEMENT BARS	POUND	4140
Δ 50900205	STEEL RAILING, TYPE S1	FOOT	160
51201600	FURNISHING STEEL PILES HP12X53	FOOT	308
51202305	DRIVING PILES	FOOT	308
51203600	TEST PILE STEEL HP12X53	EACH	1
51500100	NAME PLATES	EACH	1
542C0235	PIPE CULVERTS, CLASS C, TYPE 1 30"	FOOT	44
59300100	CONTROLLED LOW-STRENGTH MATERIAL	CU YD	52.8
Δ 63100075	TRAFFIC BARRIER TERMINAL, TYPE 5A	EACH	2
Δ 63100167	TRAFFIC BARRIER TERMINAL, TYPE 1 (SPECIAL) TANGENT	EACH	2
67100100	MOBILIZATION	L SUM	1
Δ 72000100	SIGN PANEL - TYPE 1	SQ FT	18
Δ 72501000	TERMINAL MARKER - DIRECT APPLIED	EACH	4
Δ 72900200	METAL POST - TYPE B	FOOT	31
X2501000	SEEDING, CLASS 2 (SPECIAL)	ACRE	0.9
** X2810808	STONE DUMPED RIPRAP, CLASS A4 (SPECIAL)	TON	306
X7010216	TRAFFIC CONTROL AND PROTECTION, (SPECIAL)	L SUM	1
Z0013798	CONSTRUCTION LAYOUT	L SUM	1

Δ SPECIALTY ITEMS

** Stone Dumped Riprap, Class A4 as called out in the plans refers to Stone Dumped Riprap, Class A4 (Special).

RAA1 JOB NO. 55417

DESIGNED - BLT	REVISED -
DRAWN - JN	REVISED -
CHECKED - GLH	REVISED -
DATE - 05/08/2019	REVISED -

ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
TR 187	14-14118-00-BR	WASHINGTON	12	2
CONTRACT NO. 97693				

EARTHWORK SCHEDULE				
LOCATION	EARTH EXCAVATION (CUT)	EARTH EXCAVATION ADJUSTED FOR SHRINKAGE FACTOR (25%)	EMBANKMENT (FILL)	EARTHWORK BALANCE*** WASTE (+) OR SHORTAGE (-)
	CU. YD.	CU. YD.	CU. YD.	CU. YD.
STA. 104+45 TO STA. 107+05	104	78	1516	-1438
STA. 107+85 TO STA. 112+00	849	637	1385	-748
TOTALS:	953	715	2901	-2186

*** FURNISHED EXCAVATION

EROSION CONTROL SCHEDULE					
LOCATION	* TEMPORARY DITCH CHECK	INLET AND PIPE PROTECTION	PERIMETER EROSION BARRIER	FOOT	
				EACH	FOOT
BEGIN STATION	END STATION	OFFSET			
104+45	107+05	LT	20	0	0
104+45	107+05	RT	30	0	0
107+85	112+00	LT	30	0	0
107+85	112+00	RT	30	0	0
TOTAL			110	0	0

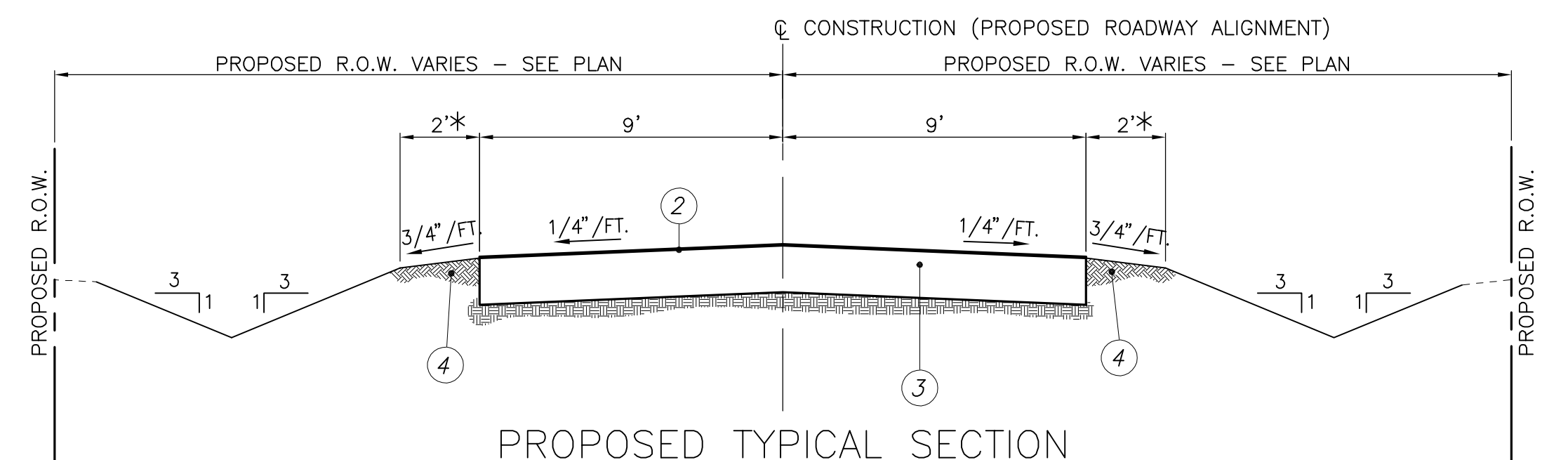
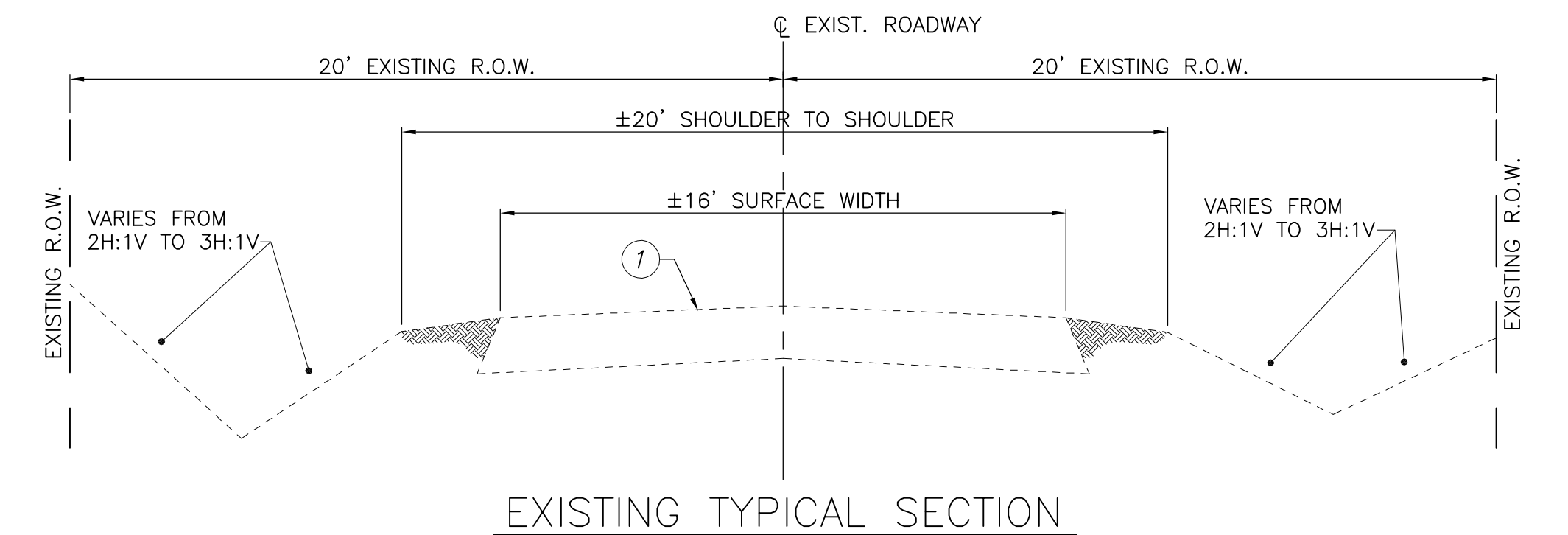
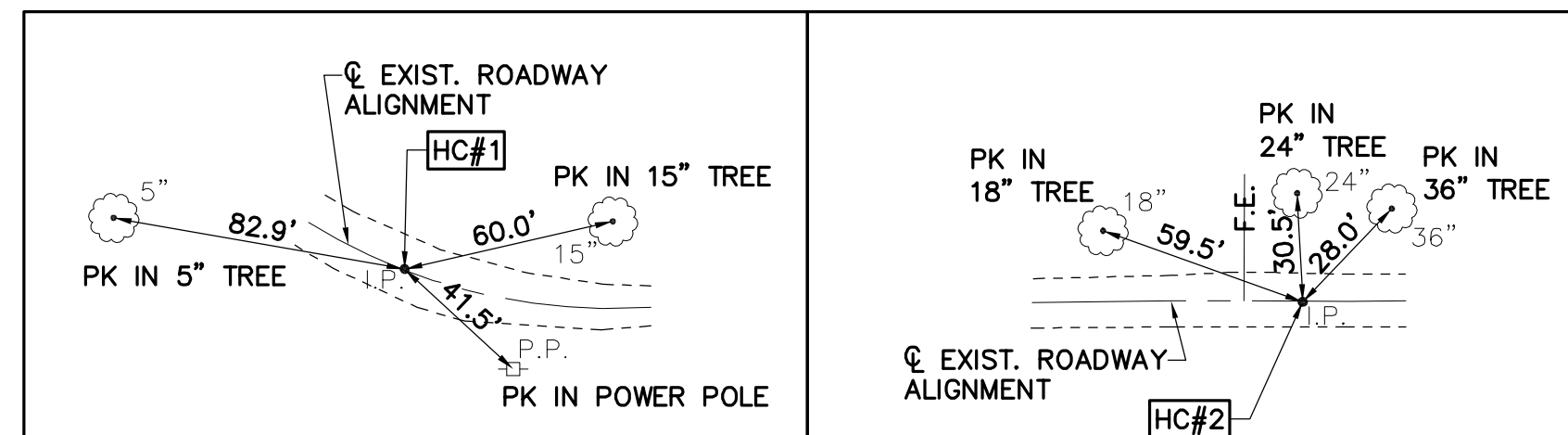
SEE PLANS FOR RIPRAP LOCATIONS
* TEMPORARY DITCH CHECKS ARE ASSUMED 10' LENGTH EACH LOCATION.

TREE REMOVAL SCHEDULE					
LOCATION	SIZE	TREE REMOVAL	ACRES		
			LENGTH	WIDTH	ACRES
BEGIN STATION	END STATION	OFFSET			
105+20	107+45	LT	225	VAR.	0.10
106+60	107+45	RT	85	VAR.	0.02
107+45	109+40	LT	195	VAR.	0.20
109+40	111+60	LT	220	VAR.	0.06
TOTAL					0.4

TREE REMOVAL AREA WITHIN LIMITS OF CONSTRUCTION

HORIZONTAL AND VERTICAL CONTROL SCHEDULE					
POINT	DESCRIPTION	LOCATION	NORTHING	EASTING	ELEVATION
HC#1	IRON PIN	29.9' RT., STA. 106+65.3	10054.30	9867.66	-
HC#2	IRON PIN	9.9' RT., STA. 109+54.1	10054.30	10159.01	-
TBM#1	RR SPIKE IN POWER POLE	54.1' RT., STA. 106+94.5	-	-	437.78
TBM#2	RR SPIKE IN POWER POLE	47.3' RT., STA. 108+29.3	-	-	437.93

LINE TIES

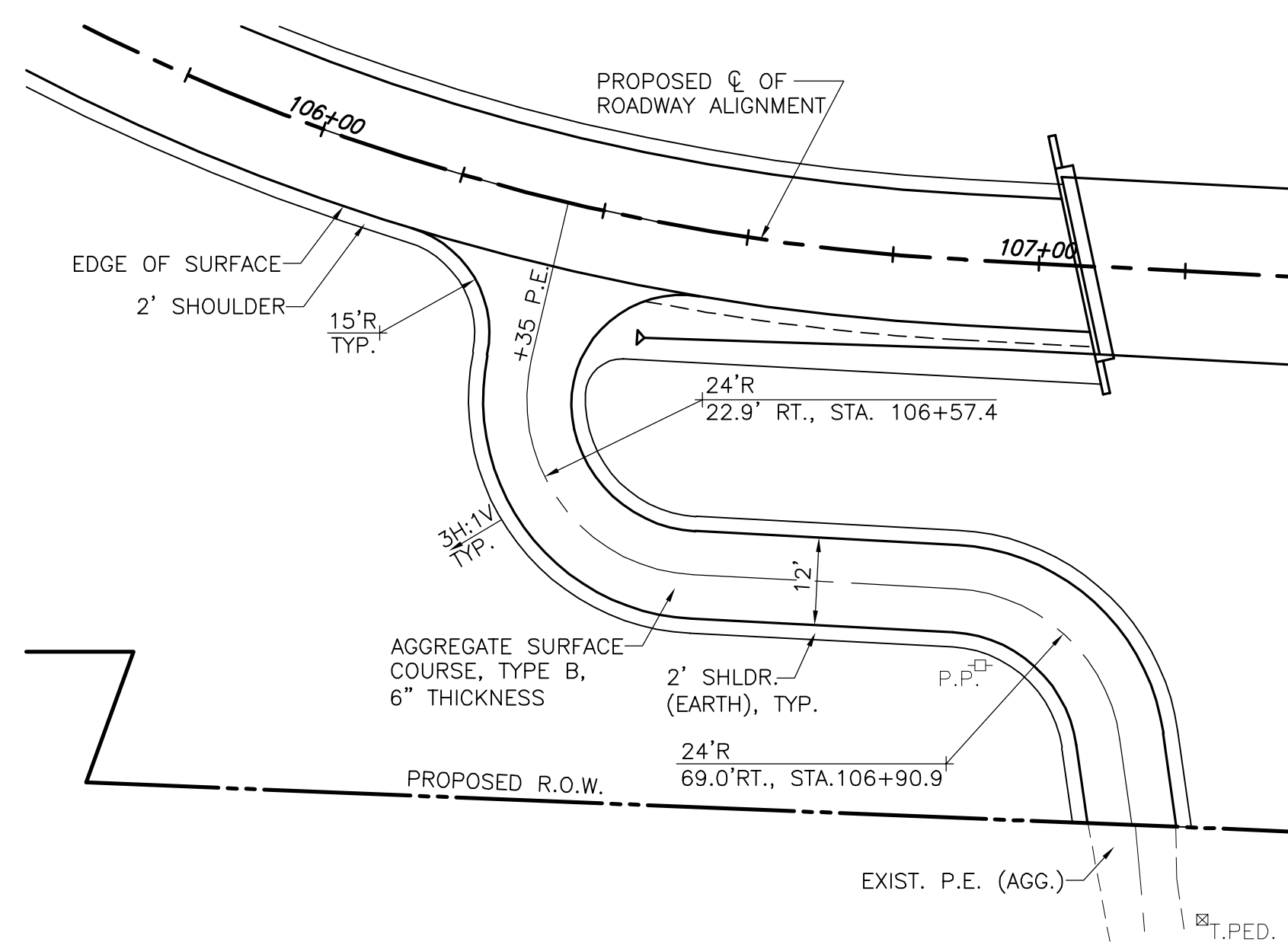


STA. 104+45.00 TO STA. 107+05.00
STA. 107+85.00 TO STA. 112+00.00
(SURFACE WIDTH VARIES IN TRANSITIONS)

* SHOULDER WIDTH VARIES AT BRIDGE - SEE PLAN AND PROFILE SHEET, CROSS SECTION SHEETS, AND HWY. STD. 630301.

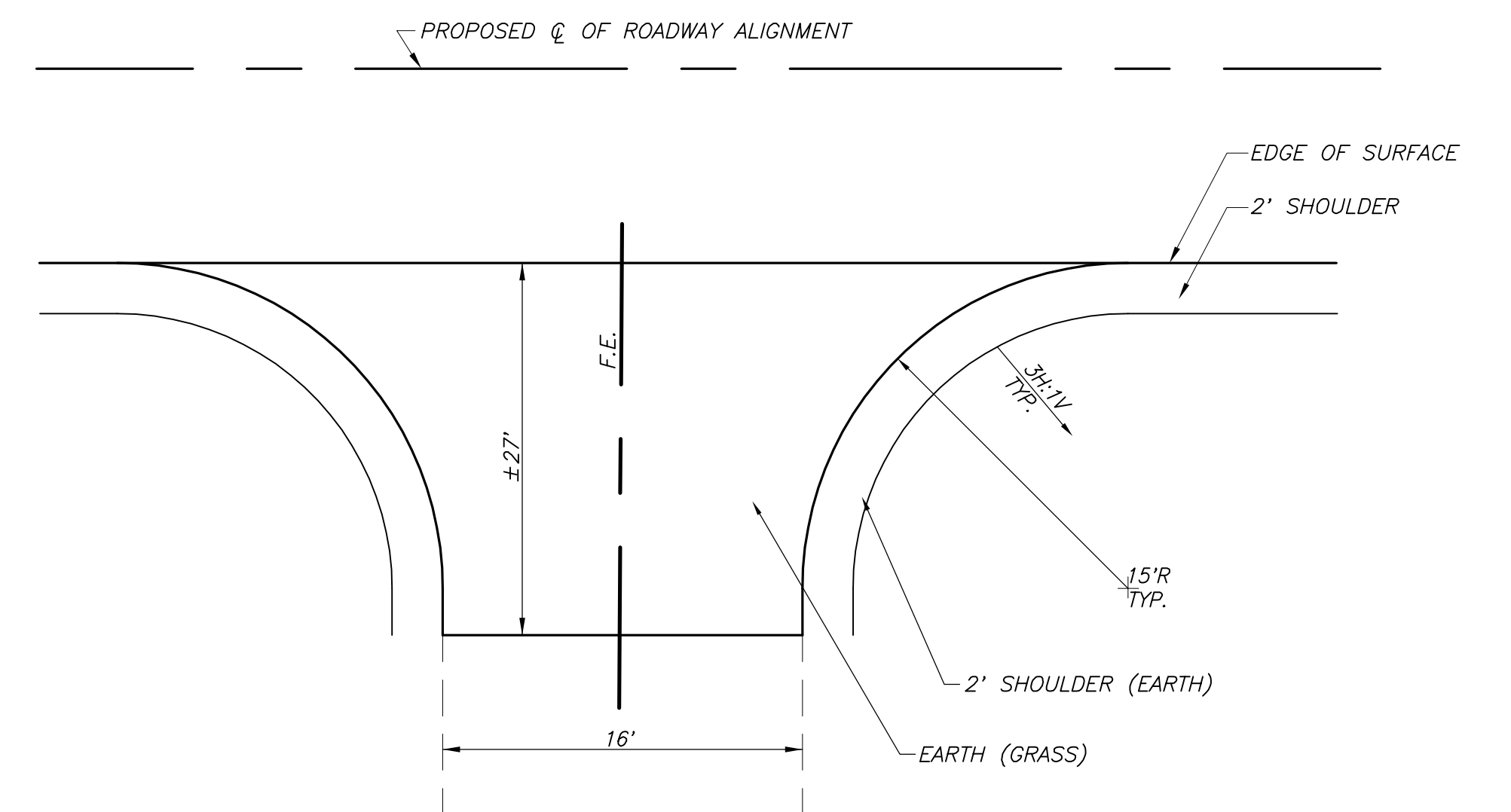
LEGEND

- ① EXISTING ROADWAY SURFACE (OIL & CHIP)
- ② BITUMINOUS SURFACE TREATMENT (CLASS A-3)
- ③ AGGREGATE SURFACE COURSE, TYPE B, 8"
- ④ EARTH SHOULDER



PRIVATE ENTRANCE (P.E.) DETAIL

P.E. RT., STA. 106+35
AGGREGATE SURFACE COURSE, TYPE B - 66 TON
(INCLUDED IN SUMMARY OF QUANTITIES)

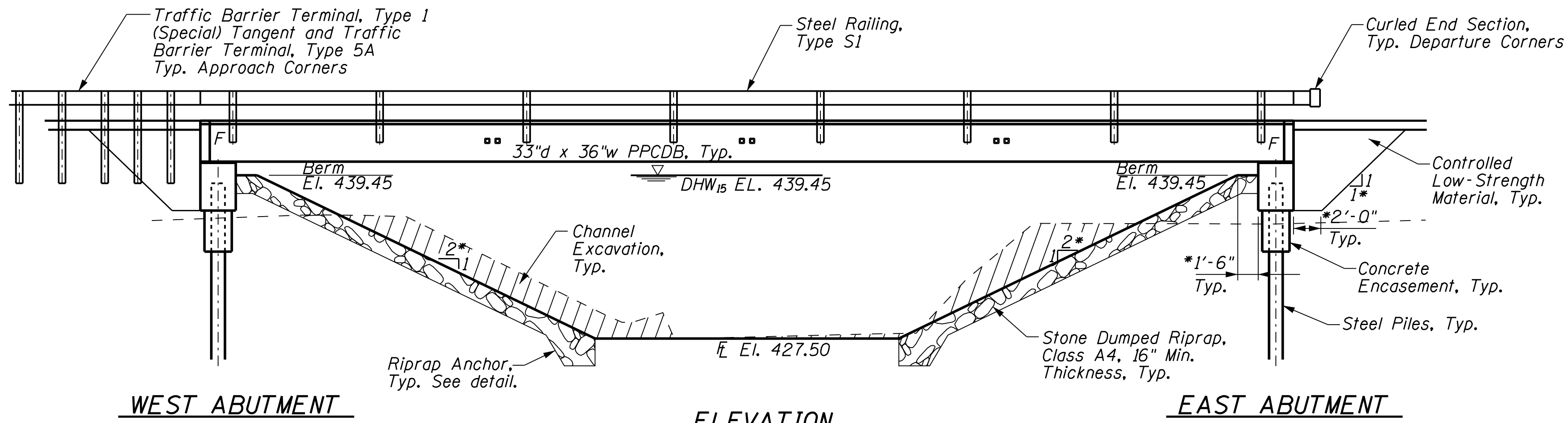


FIELD ENTRANCE (F.E.) DETAIL

F.E. RT., STA. 109+34

TBM #1 - RR spike in power pole,
54.1' Rt. of Sta. 106+94.5 - Elev. 437.78

TBM #2 - RR spike in power pole,
47.3' Rt. of Sta. 108+29.3 - Elev. 437.93



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
 $S_{D1} = 0.420$ $S_{D5} = 0.842$

BILL OF MATERIALS (BRIDGE ONLY)

ITEM	UNIT	TOTAL
Channel Excavation	Cu Yd	210
Removal of Existing Structures	Each	1
Concrete Structures	Cu Yd	24.8
Concrete Encasement	Cu Yd	2.8
PPCDB (33" Depth)	Sq Ft	1888
Reinforcement Bars	Pound	4140
Steel Railing, Type S1	Foot	160
Furnishing Steel Piles HPI2x53	Foot	308
Driving Piles	Foot	308
Test Pile Steel HPI2x53	Each	1
Name Plates	Each	1
Controlled Low-Strength Material	Cu Yd	52.8
Terminal Marker - Direct Applied	Each	4
* Stone Dumped Riprap, Class A4 (Special)	Ton	246

* At bridge only - See Plan and Profile for additional Riprap quantity. Stone Dumped Riprap, Class A4 as called out in the plans refers to Stone Dumped Riprap, Class A4 (Special).

GENERAL NOTES

Do not scale these drawings.

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

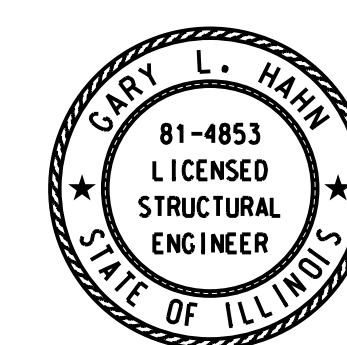
Channel excavation shall be excavated as shown within the limits of the proposed bridge, then tapered to the existing channel within 60' of the centerline of proposed roadway. If the Engineer deems the material satisfactory, it may be used to construct the roadway embankment.

See Section 502 of the Standard Specifications for Structural Excavation.

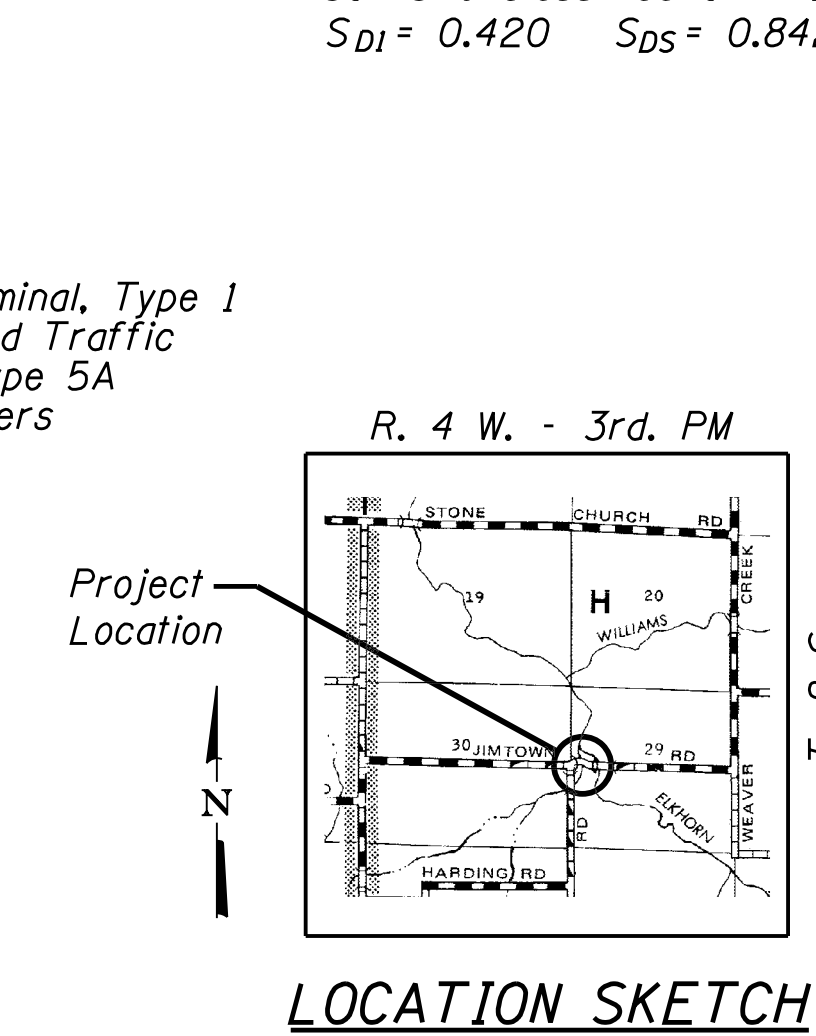
See Special Provisions for Soil Borings.

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.

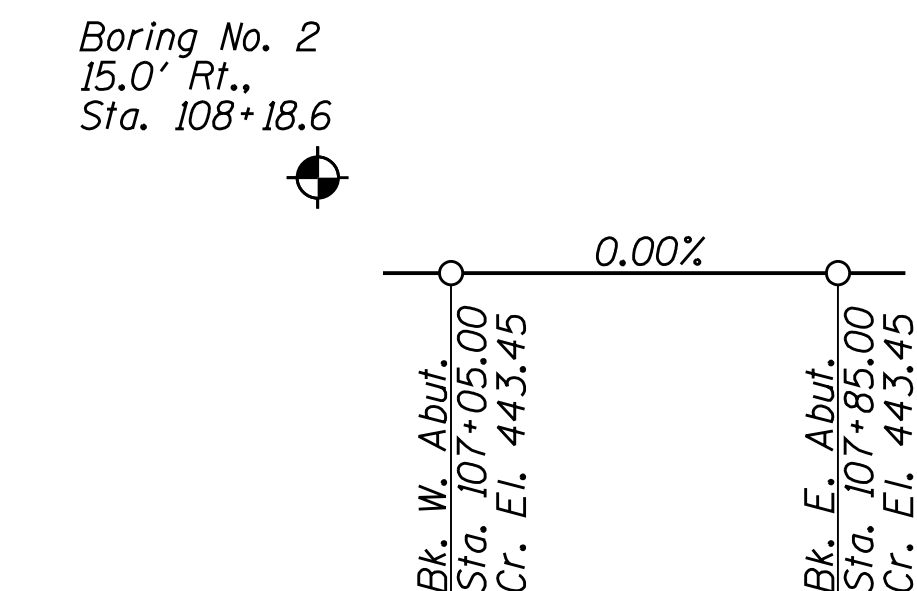
I certify that to the best of my knowledge, information and belief, this bridge design is structurally adequate for the design loading shown on the plans. The design is an economical one for the style of structure and complies with requirements of the current AASHTO Standard Specifications for Highway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



Gary L. Hahn 05.08.2019
Date of License Expiration



LOCATION SKETCH

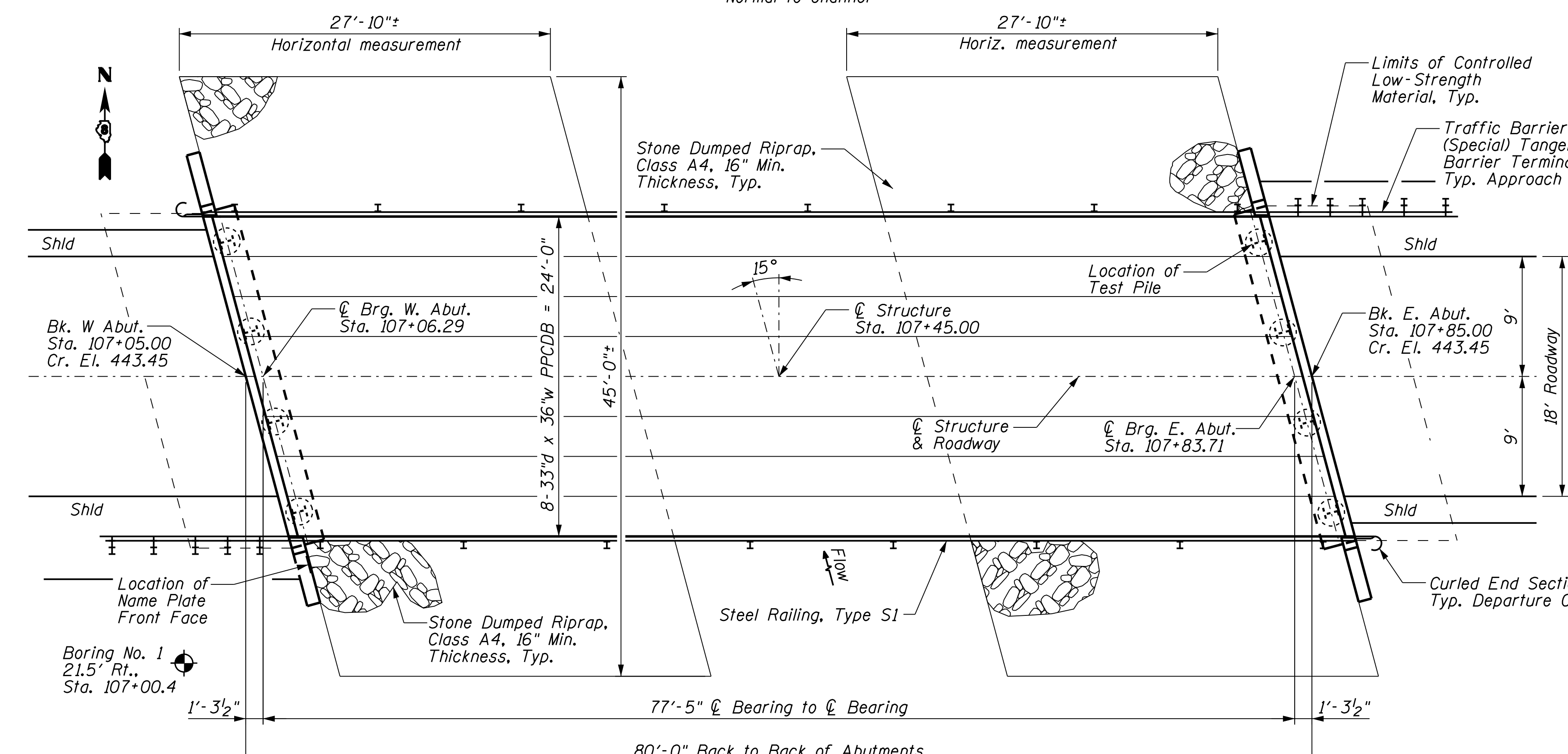


GRADE ON STRUCTURE
(along ϕ TR 187)

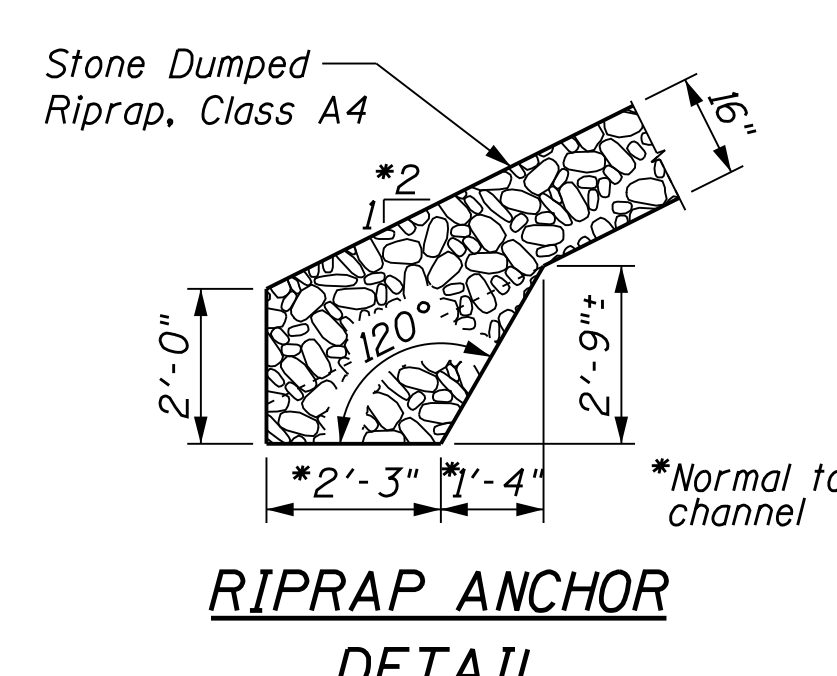
ELKHORN CREEK
BUILT 20__ BY
WASHINGTON COUNTY
SEC. 14-14118-00-BR
TR 187 STA. 107 + 45
LOADING HL-93
STRUCTURE NO. 095-3268

NAME PLATE

See Std. 515001



PLAN



RIPRAP ANCHOR DETAIL

DESIGN SCOUR TABLE

Event/Limit State	Design Scour Elevations (ft.)		Item 113
	West Abutment	East Abutment	
Q100	NA	NA	5
QOvertopping(±XXX)	NA	NA	
Design	436.85	436.85	
Check	436.85	436.85	

WATERWAY INFORMATION

Drainage Area = 27.3 sq. mi. Existing Low Grade Elev. 435.3 @ Sta. 113+50
Proposed Low Grade Elev. 435.3 @ Sta. 113+50

Flood	Freq. Yr.	Q C.F.S.	Opening Sq. Ft.		Nat. Head - Ft.		Headwater El.		
			Exist.	Prop.	H.W.E.	Exist.	Prop.	Exist.	Prop.
Design	15	3810	262	561	439.45	0.01	0.02	439.46	439.47
Base	100	6160	262	633	440.41	0.01	0.01	440.42	440.42
Max. Calc.	500	8280	262	636	441.07	0.01	0.01	441.08	441.08

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

DESIGNED - BLT	REVISED -
DRAWN - JN	REVISED -
CHECKED - GLH	REVISED -
DATE - 05/08/2019	REVISED -

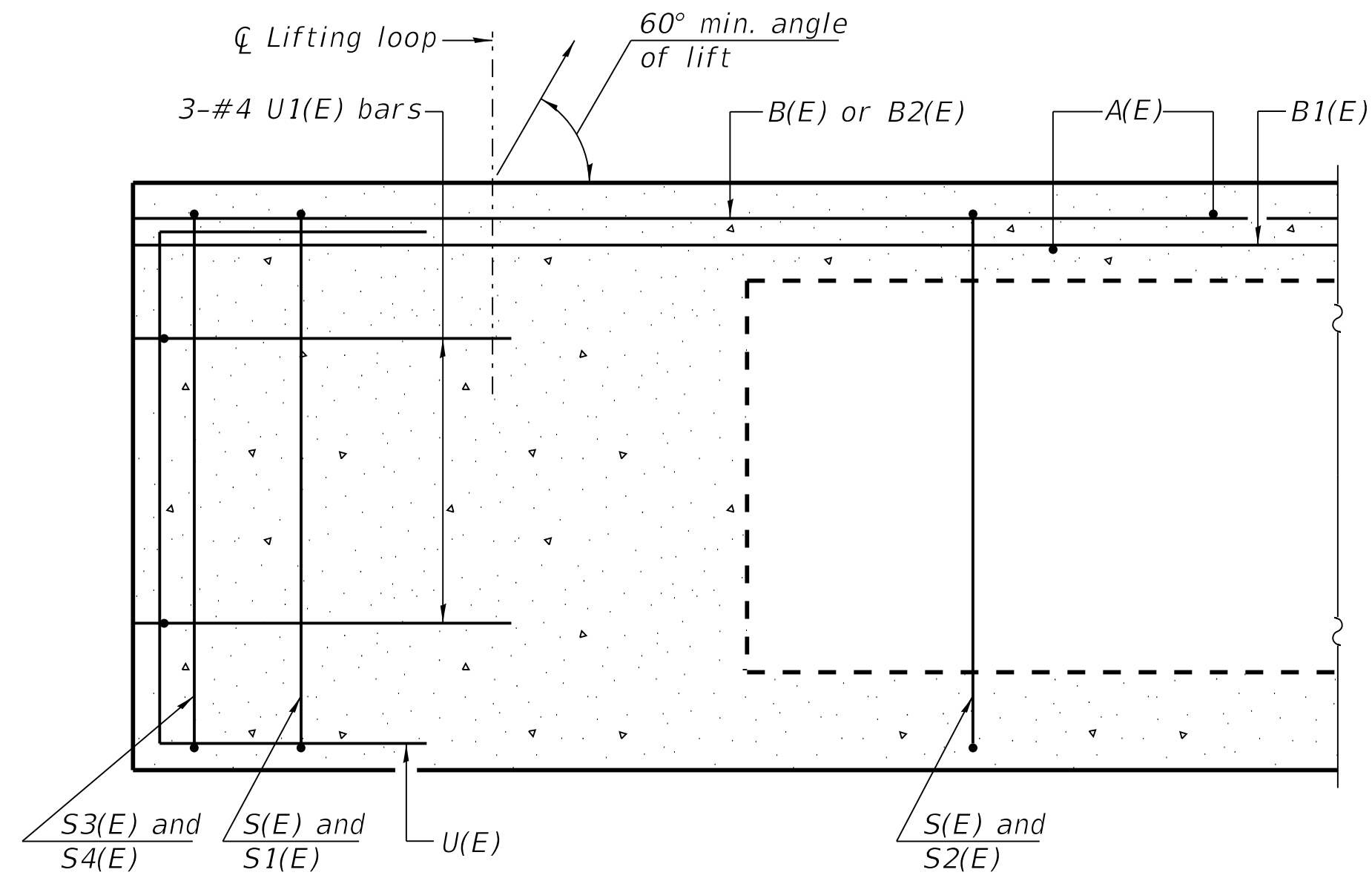
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

GENERAL PLAN AND ELEVATION

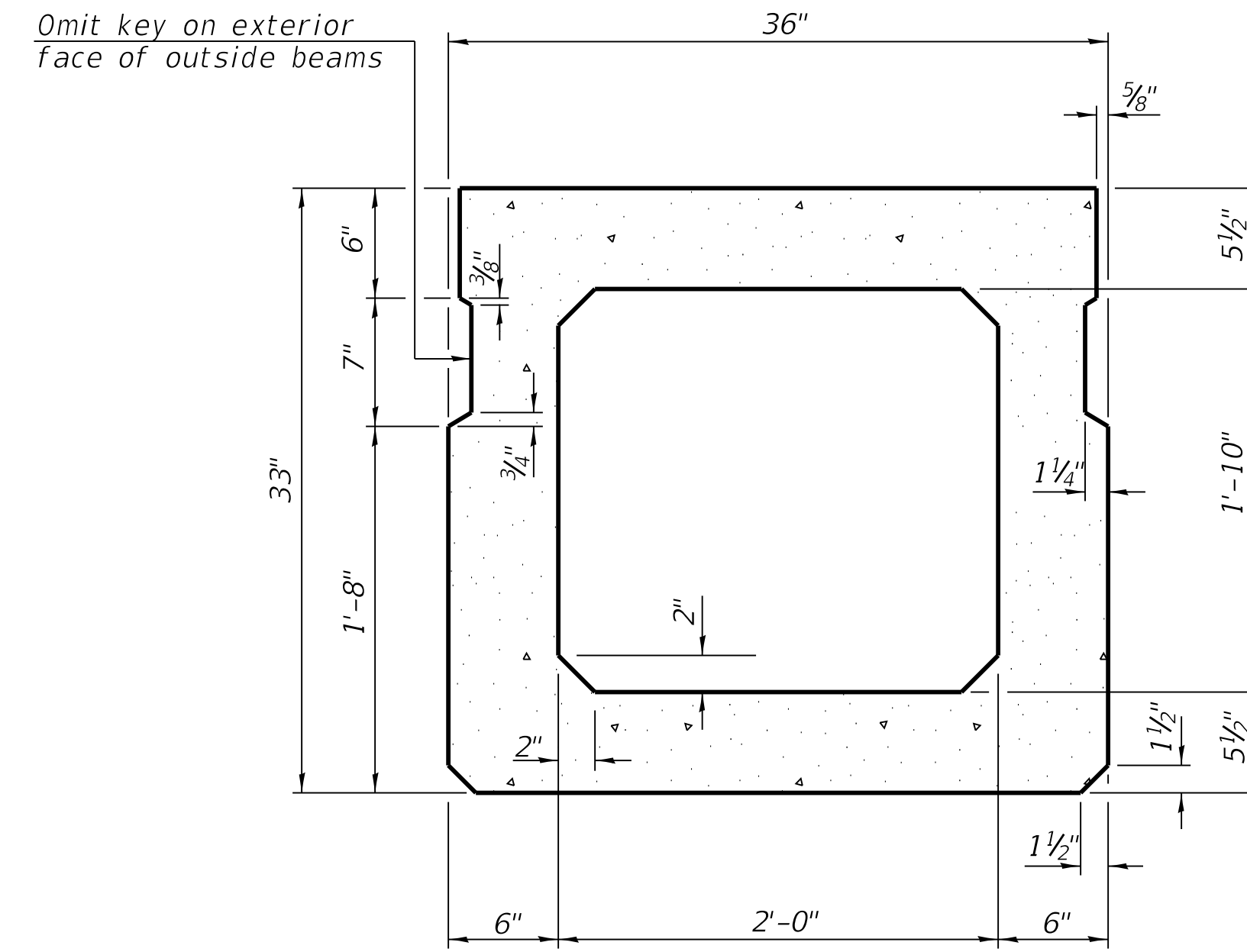
ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
TR 187	14-14118-00-BR	WASHINGTON	12	5

CONTRACT NO. 97693

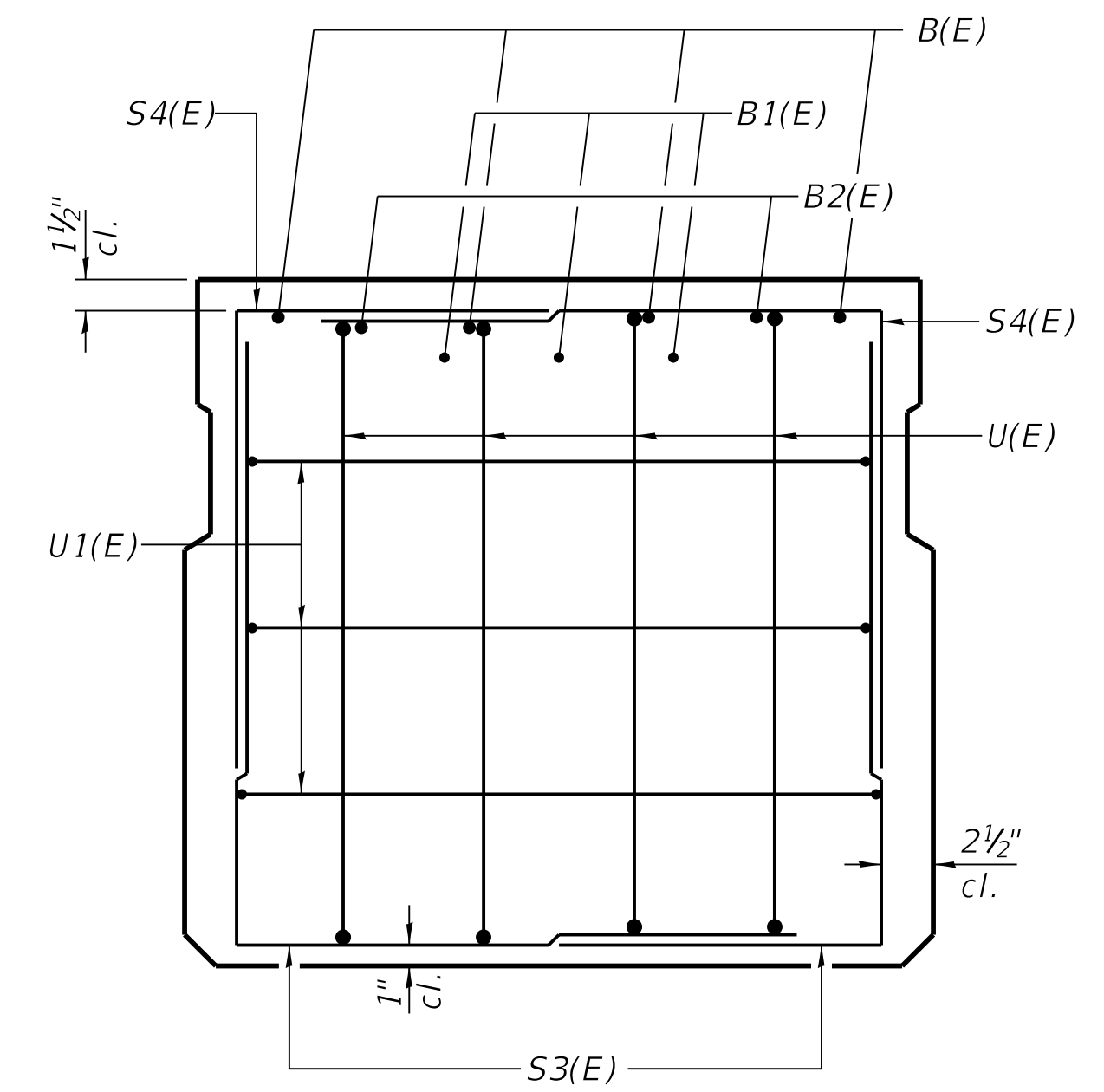
RAAI JOB NO. 53417



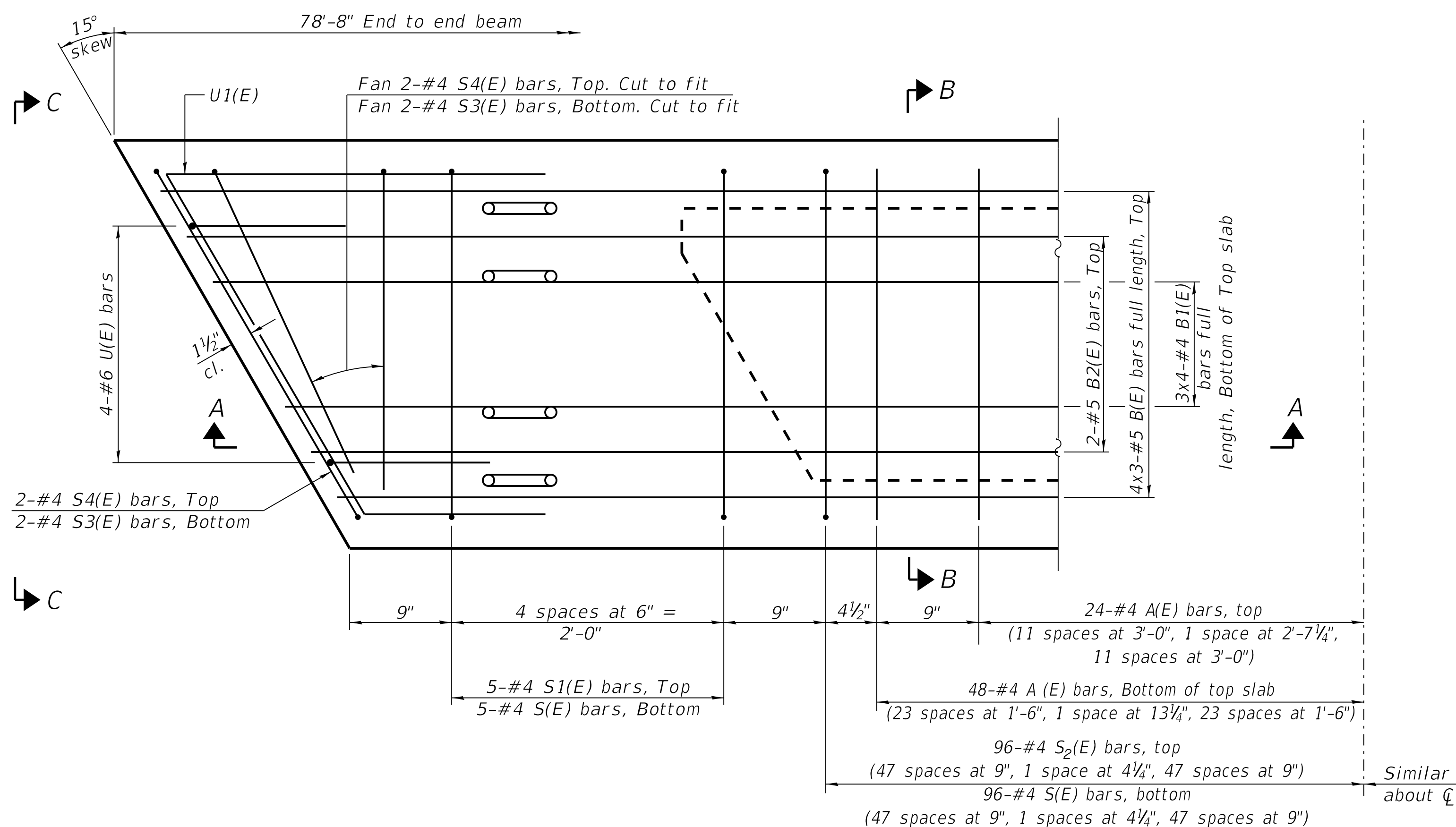
SECTION A-A



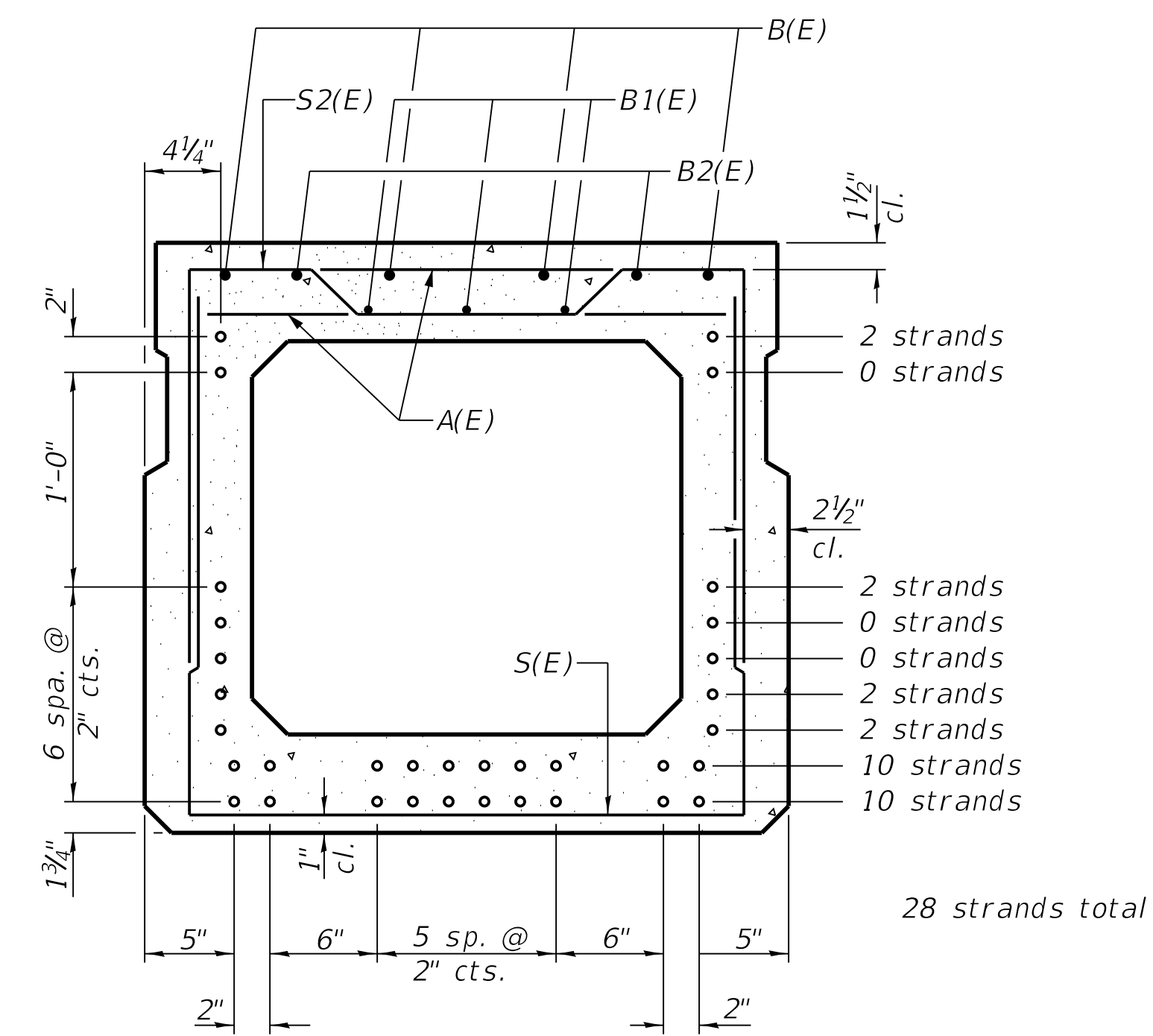
SECTION B-B
(Showing dimensions)



VIEW C-C



PLAN VIEW



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)

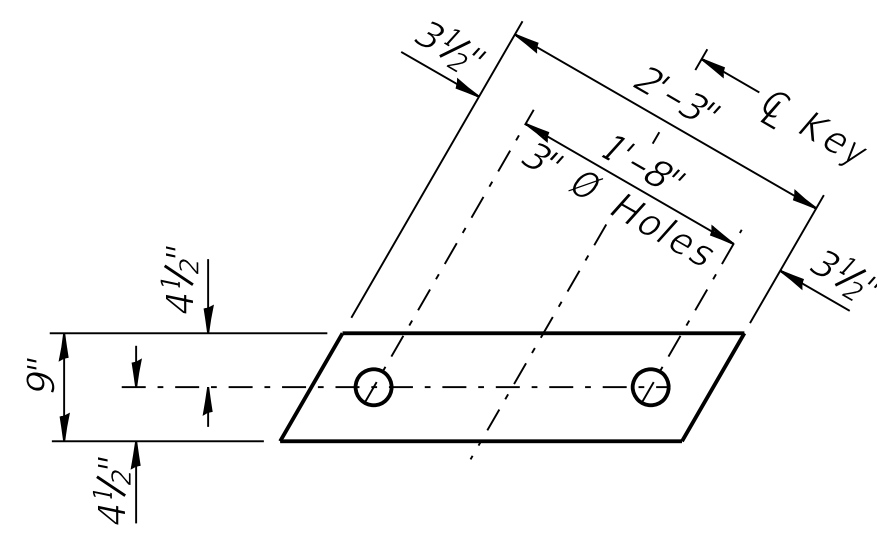
Bar	No.	Size	Length	Shape
A(E)	72	#4	2'-7"	—
B(E)	12	#5	27'-10"	—
B1(E)	12	#4	21'-1"	—
B2(E)	4	#5	10'-0"	—
S(E)	106	#4	7'-8"	┌
S1(E)	10	#4	6'-5"	┌
S2(E)	96	#4	6'-8"	┌
S3(E)	8	#4	5'-0"	┌
S4(E)	8	#4	4'-5"	┌
U(E)	8	#6	5'-0"	┌
U1(E)	6	#4	5'-9"	┌

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

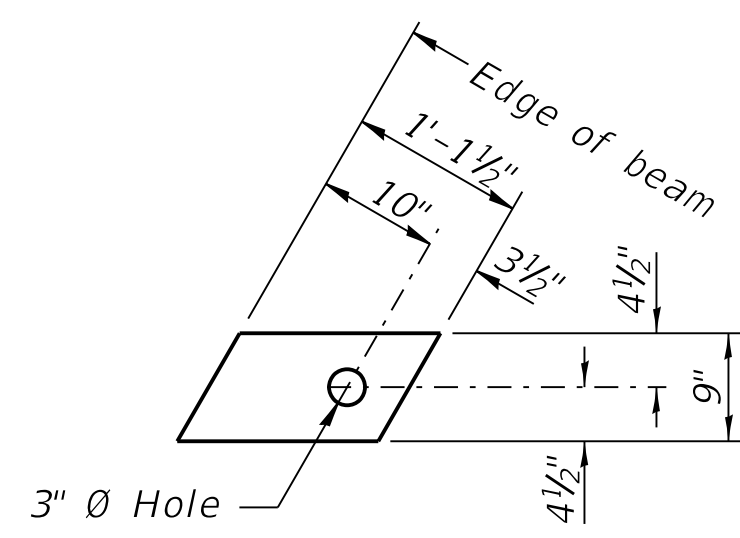
Note: Spacing of S(E) and S2(E) bars may be adjusted up to 4" in the immediate area of the transverse tie diaphragms to miss the block outs for the transverse ties.

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

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



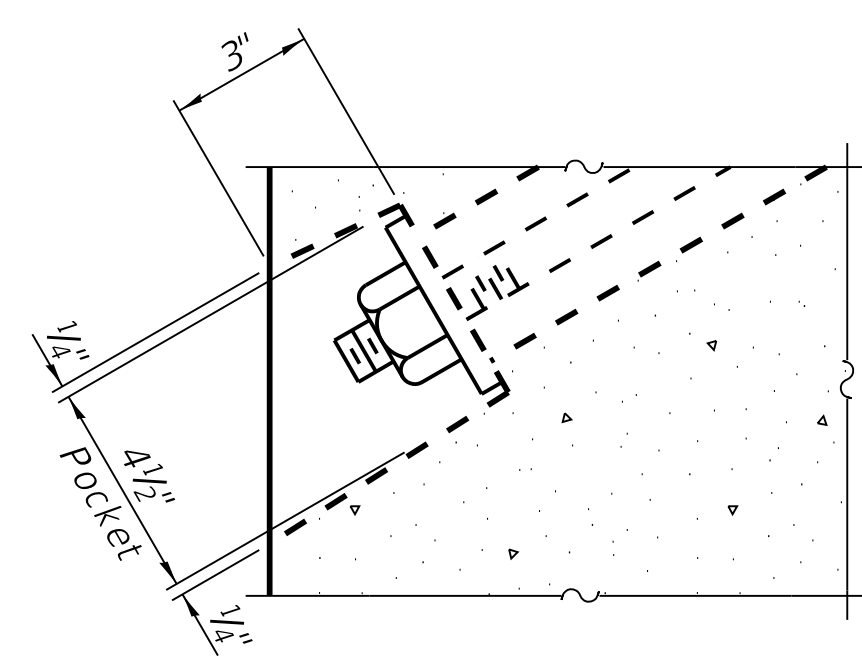
FABRIC BEARING PAD
(Interior)



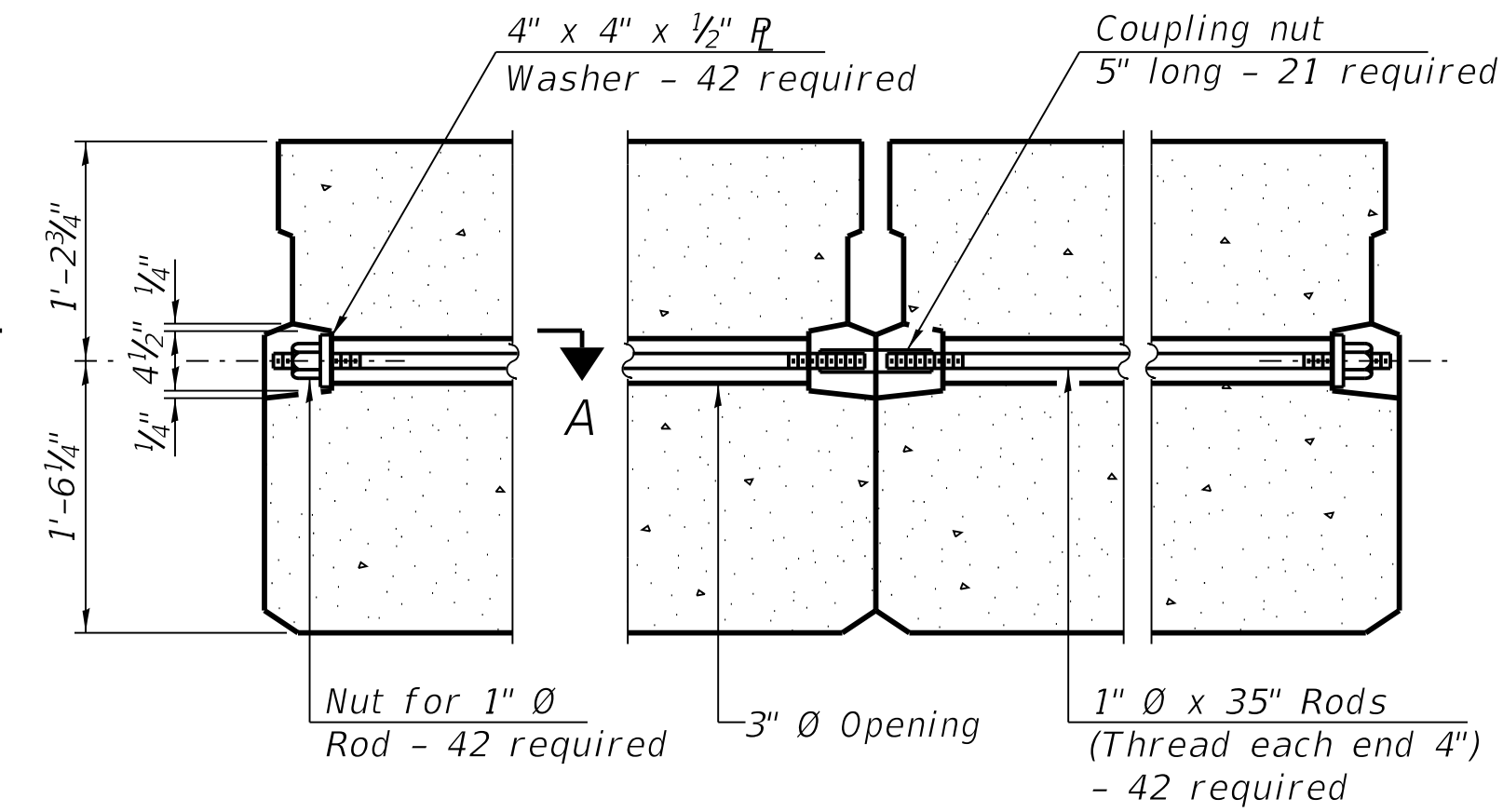
FABRIC BEARING PAD
(Exterior)

FIXED

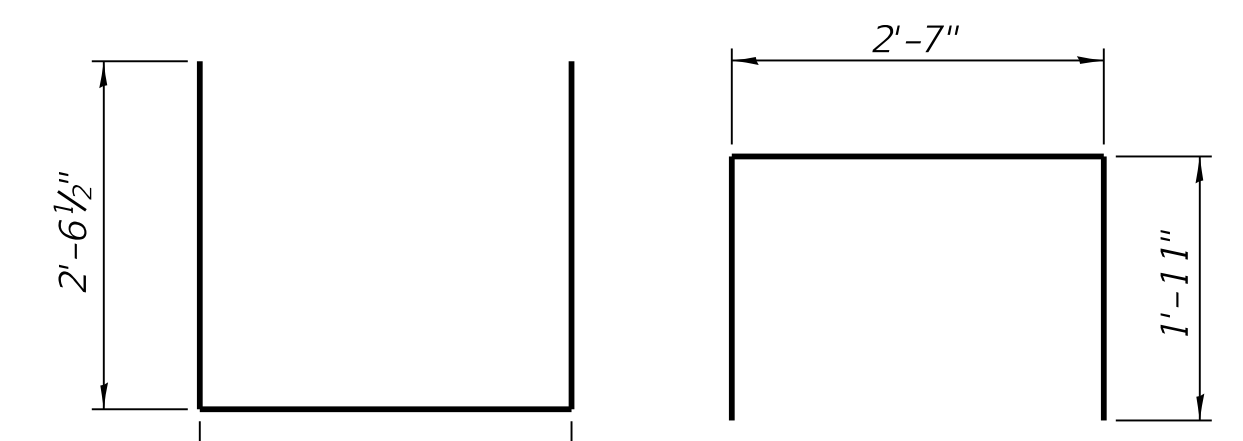
Note: All bearing pads shall be 1" thick.



SECTION A-A



TYPICAL TRANSVERSE TIE ASSEMBLY

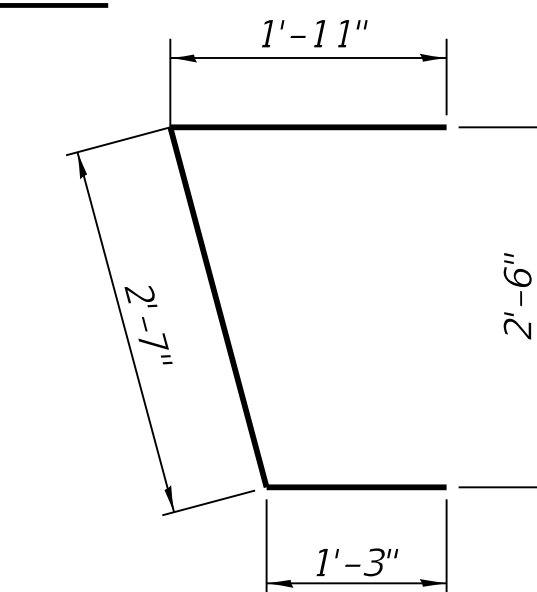


BAR S(E)

BAR S1(E)

BAR S2(E)

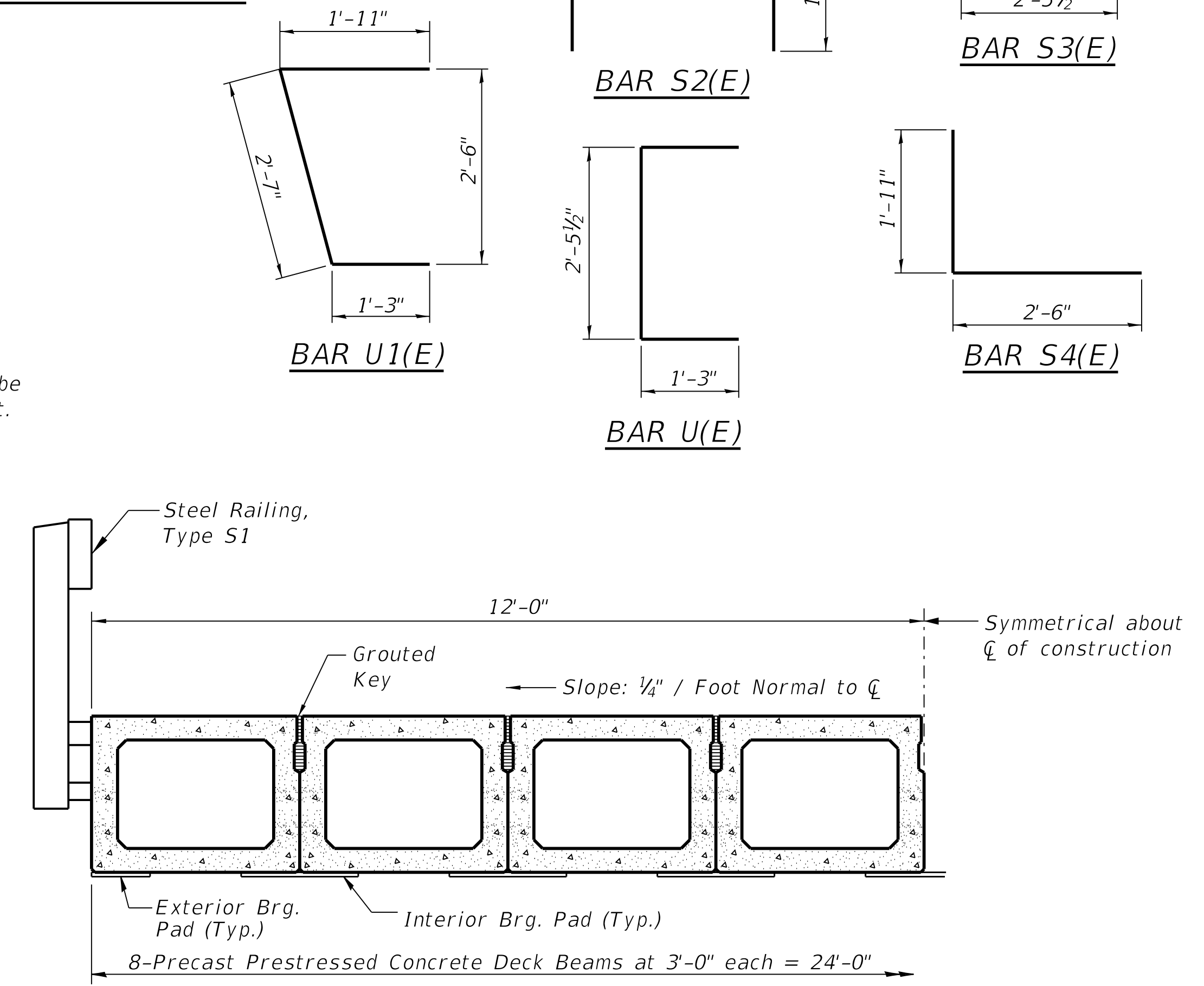
BAR S3(E)



BAR U1(E)

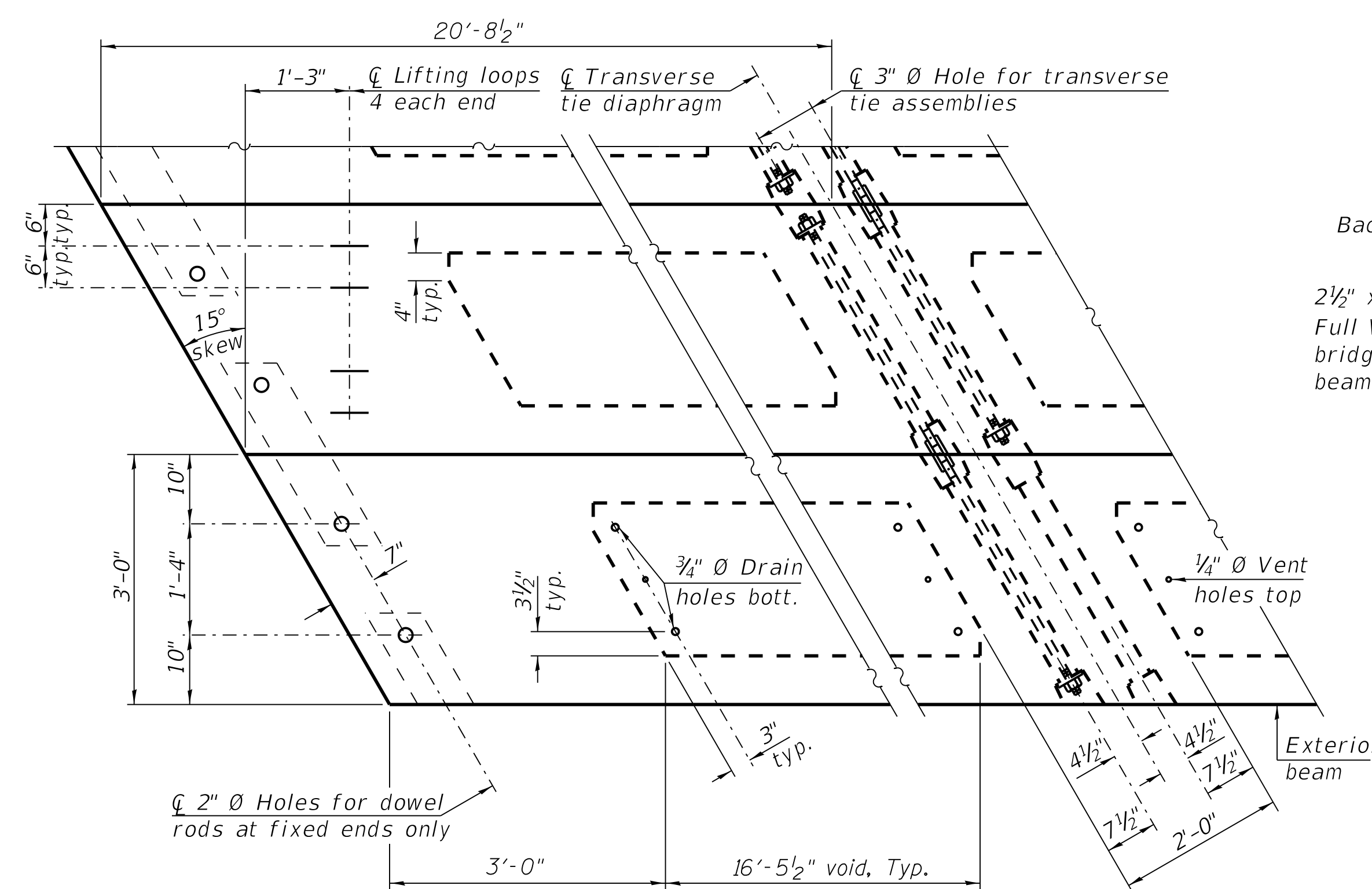
BAR U(E)

BAR S4(E)

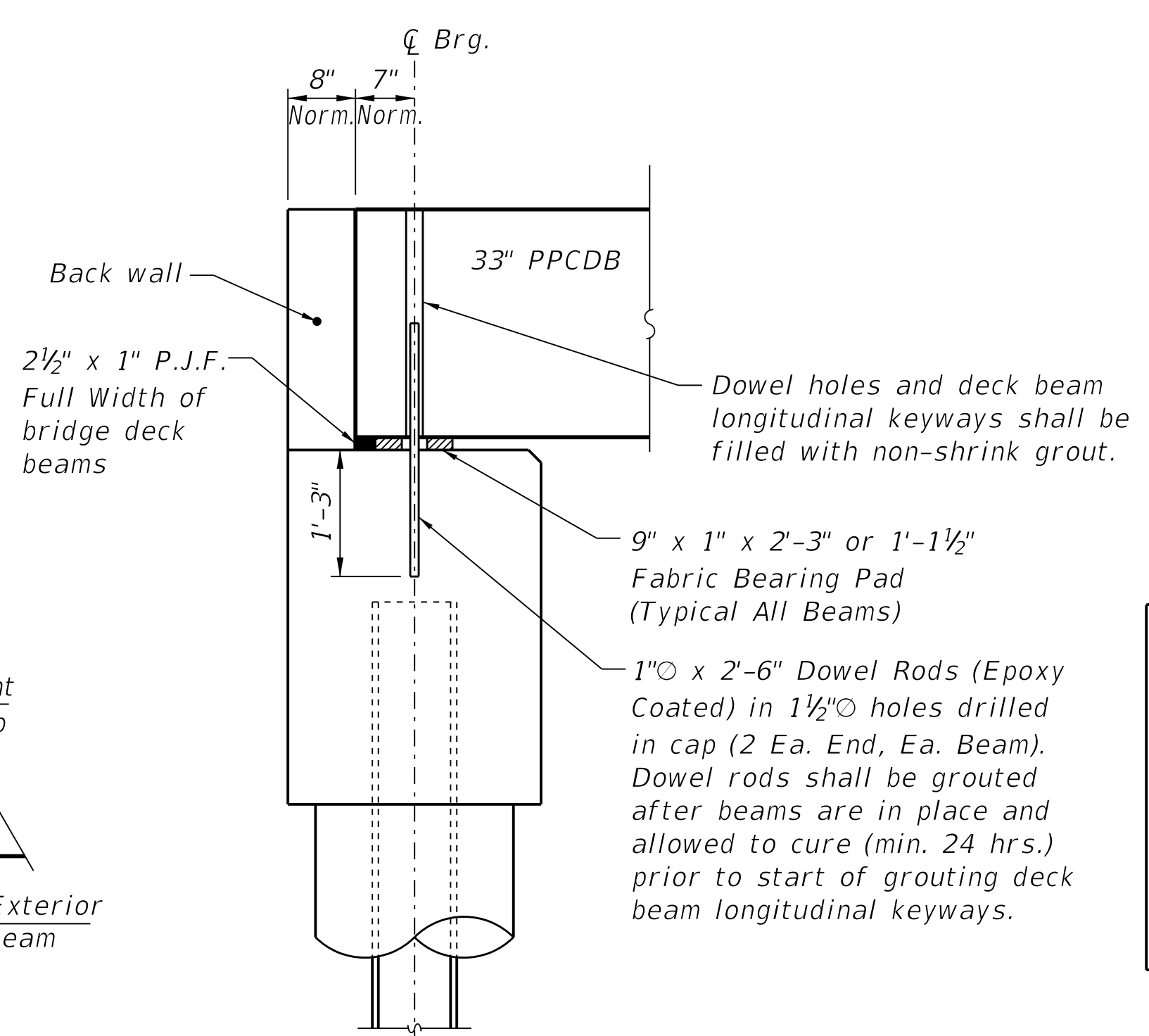


HALF CROSS SECTION

See Sheet 8 for the details showing the spacing and mounting of posts and rails to the PPCDB.



PLAN VIEW

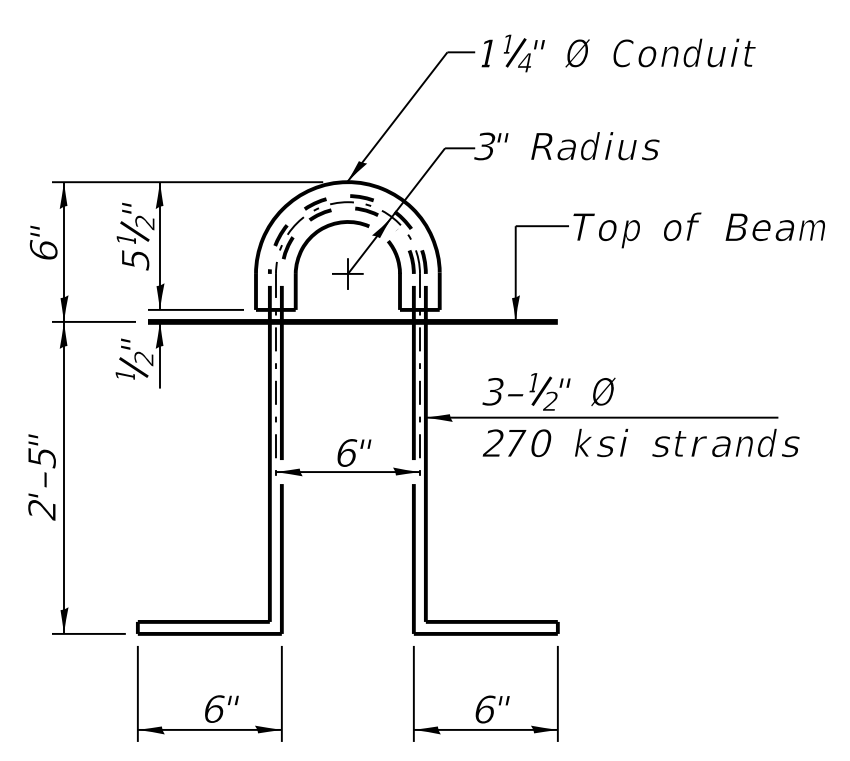


FIXED BEARING ABUTMENT
(Normal to CL)

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" diameter 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.
- Reinforcement bars shall conform to ASTM A 706, Grade 60. (IL Mod.)
- 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.



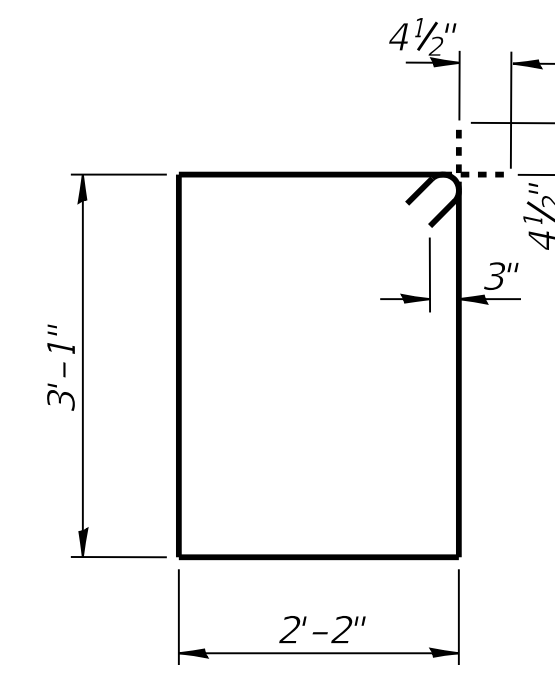
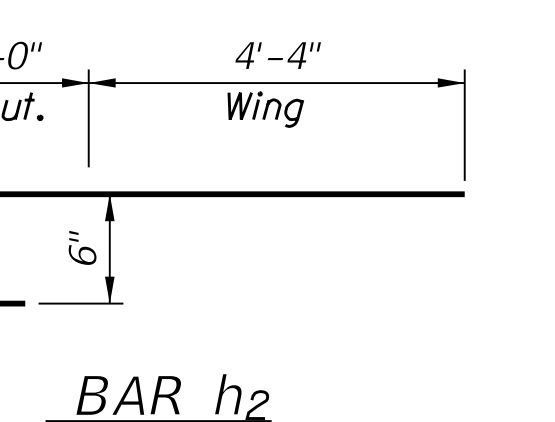
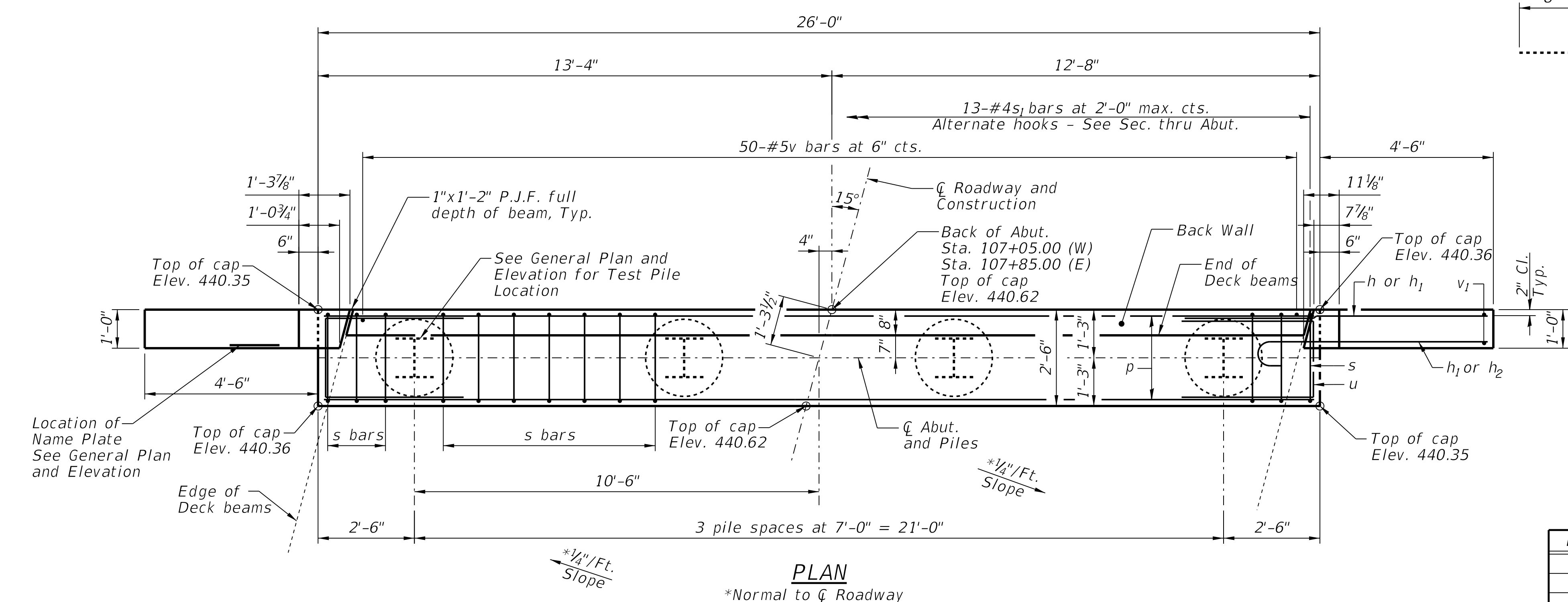
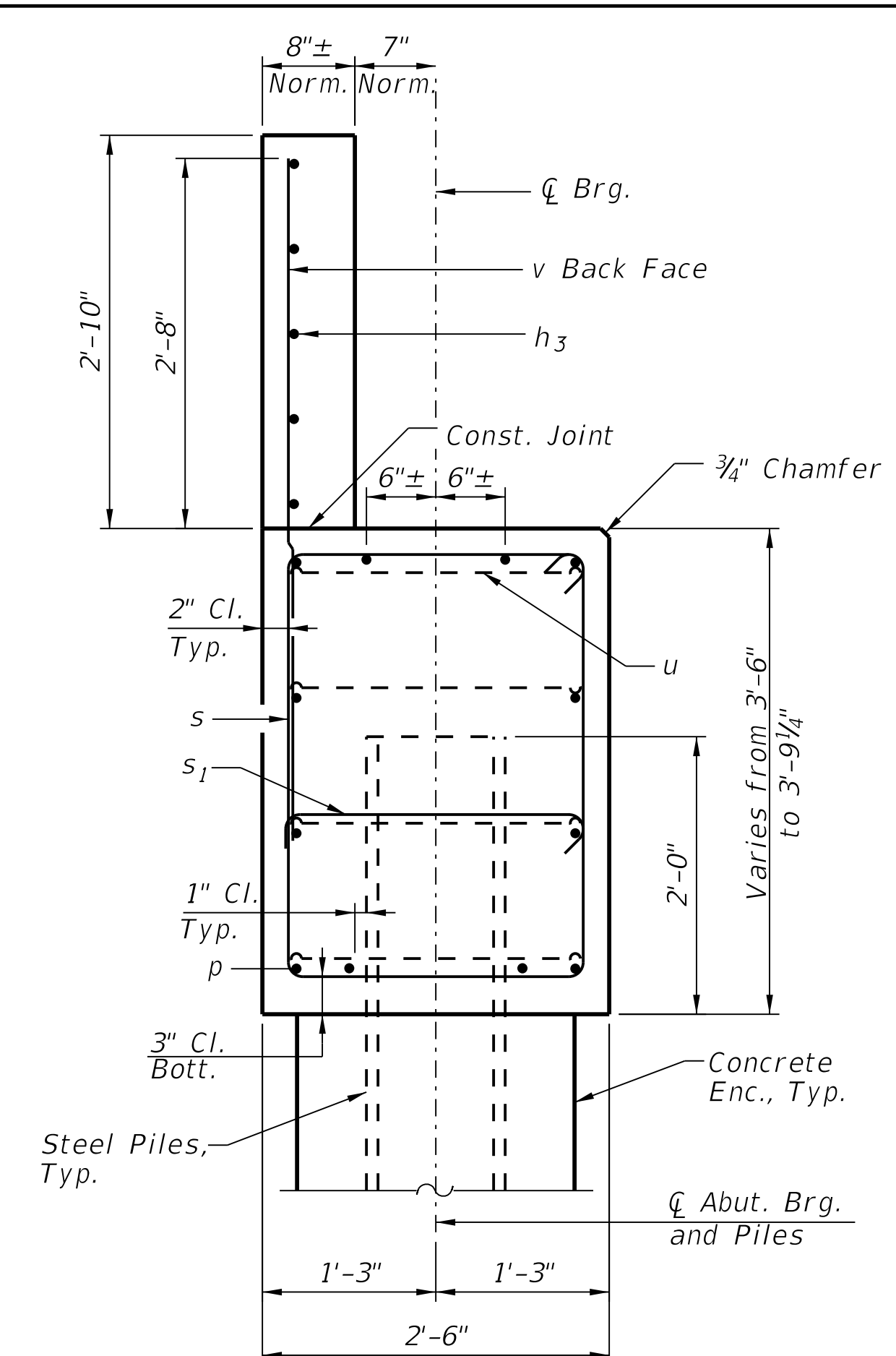
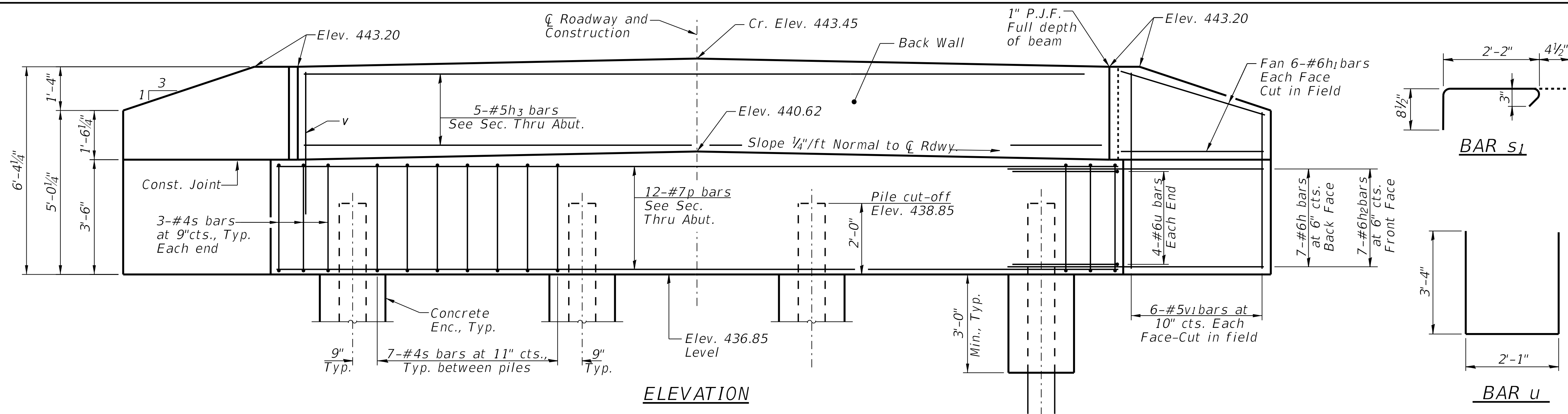
LIFTING LOOP DETAIL

BILL OF MATERIAL

Precast Prestressed Conc. Deck Bms. (33" depth)	Sq. Ft.	1888
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DESIGNED - BLT	REVISED -
DRAWN - JN	REVISED -
CHECKED - GLH	REVISED -
DATE - 05/08/2019	REVISED -

ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
TR 187	14-14118-00-BR	WASHINGTON	12	7
			CONTRACT NO. 97693	



EXTRA TEST BARS

Bar	No.	Size	Length	Shape
s	2	#4	11'-3"	
h ₃	1	#5	24'-6"	—
h	2	#6	8'-0"	—
p	1	#7	25'-8"	—
Reinforcement Bars			Pound	120

BILL OF MATERIAL FOR ONE ABUTMENT

Bar	No.	Size	Length	Shape
h	14	#6	8'-0"	—
h ₁	24	#6	5'-0"	CUT IN FIELD
h ₂	14	#6	7'-0"	—
h ₃	5	#5	24'-6"	—
p	12	#7	25'-8"	—
s	27	#4	11'-3"	
s ₁	13	#4	3'-3"	
u	8	#6	8'-9"	
v	50	#5	5'-3"	—
v ₁	24	#5	6'-0"	CUT IN FIELD
Concrete Structures		Cu. Yd.	12.4	
Concrete Encasement		Cu. Yd.	1.4	
Reinforcement Bars		Pound	2010*	
Furnishing Steel		Foot	176	
Piles, HP12x53		Foot	132	
Driving Piles		Foot	176	
Test Pile Steel		Foot	132	
HP12x53		Each	0	
		Foot	1	

PILE DATA WEST ABUTMENT

Type: Steel HP12x53
 Nominal Required Bearing: 418 kips
 Factored Resistance Available: 230 kips
 Estimated Length: 44'/pile
 No. Production Piles: 4
 No. Test Piles: 0

PILE DATA EAST ABUTMENT

Type: Steel HP12x53
 Nominal Required Bearing: 418 kips
 Factored Resistance Available: 230 kips
 Estimated Length: 44'/pile
 No. Production Piles: 3
 No. Test Piles: 1

GENERAL NOTES

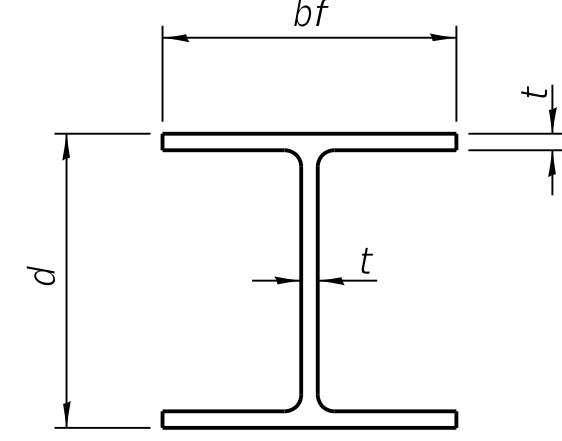
Reinforcement bars shall conform to the requirements of ASTM A 706 Grade 60 (1L Modified).
 The Contractor shall drive one (1) Test Pile of the size indicated in a permanent location as shown of the plans or as directed by the Engineer before ordering the remainder of the piles.
 The Test Pile shall be driven to 110 percent of the Nominal Required Bearing indicated in the pile data information.
 The back wall and portion of the wingwalls above the construction joint shall be cast against the in-place deck beams.
 All exposed edges shall have standard 3/4" chamfer, unless otherwise noted or as directed by the Engineer.
 All clearances between rebar and form surface shall be 2", unless otherwise noted.
 Space reinforcement in cap to miss PPCDB dowel rods.
 The Steel H-piles shall be according to AASHTO M270 Grade 50.
 The position of the 90° & 135° hooked ends of the s₁ bar shall be alternated between adjacent bars.

These bars shall be identical to and delivered with the bars of the same mark listed on the bridge sheets. This chart assumes that all bars of the same size on the job will have the same heat numbers. If bars of the same size on the job have different heat numbers, then the Contractor shall supply additional bars from other heat numbers for sampling by the Engineer at no additional cost.

The weight of these extra bars has been included in the Summary of Quantities for the project.

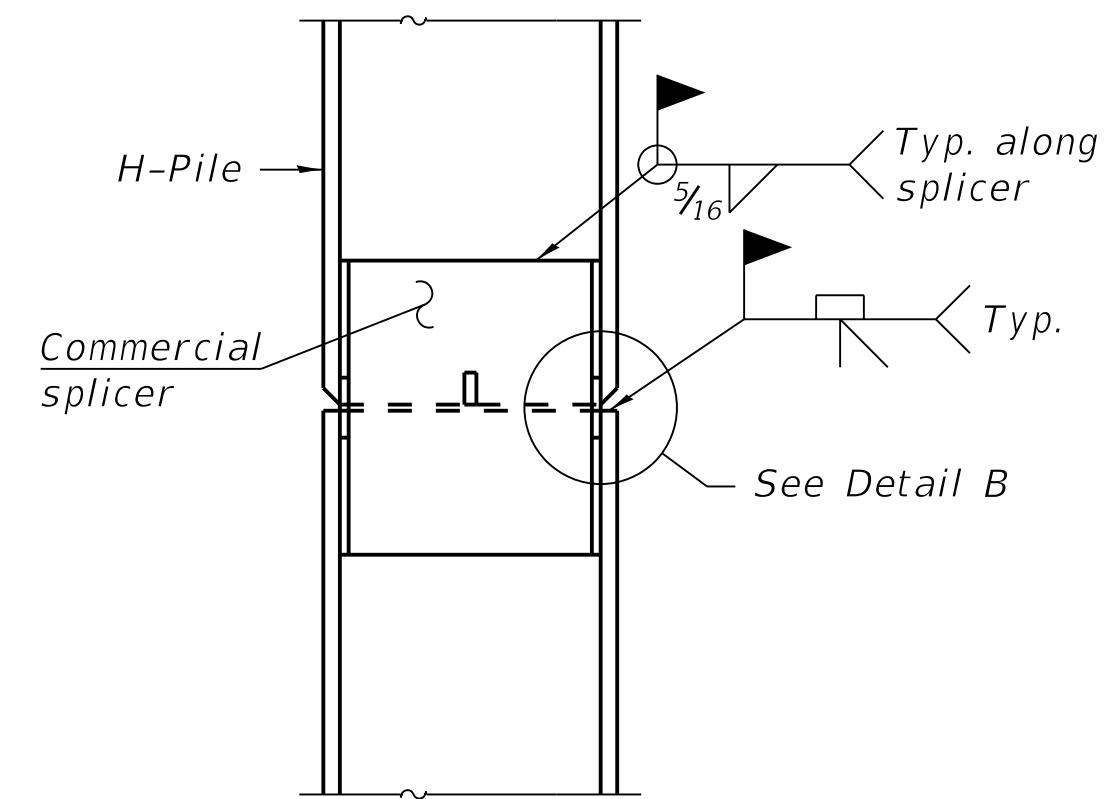
The Contractor shall cut test bars as directed by the Engineer (if required for transport, etc.) The cost for cutting the bars shall be included in Reinforcement Bars and no additional compensation will be allowed.

For details of piles and Concrete Encasement, see HP Pile Details sheet.
 *Does not include test bars.

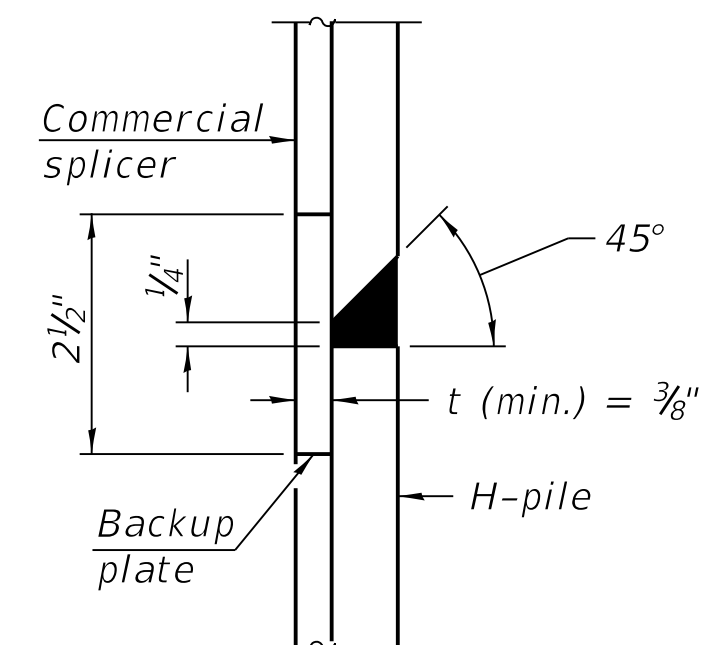


STEEL PILE TABLE

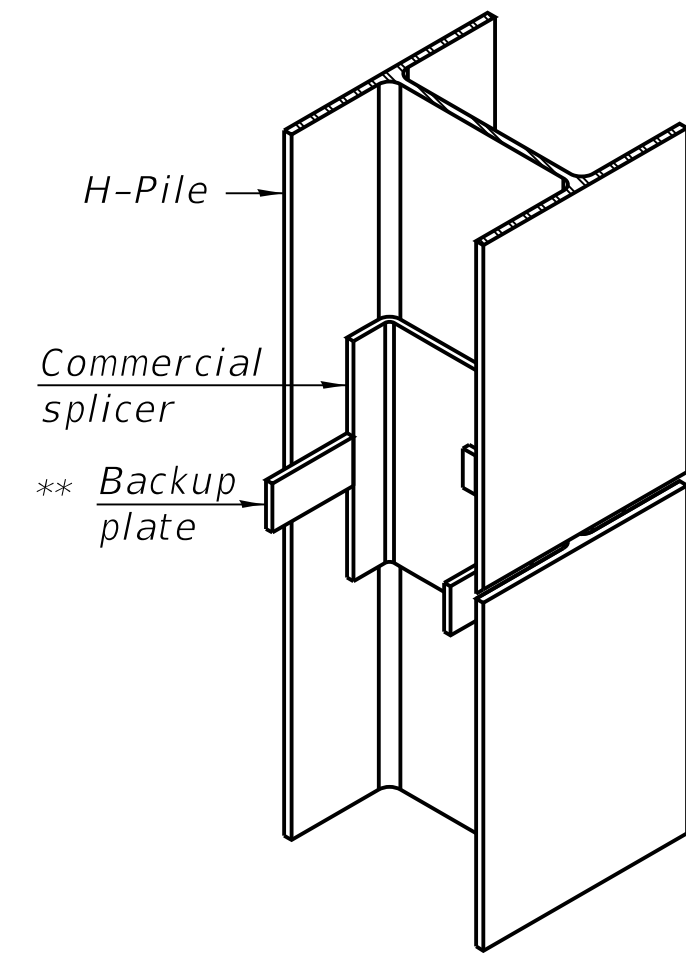
Designation	Depth d	Flange width bf	Web and Flange thickness t	Encasement diameter A
HP 14x117	14 1/4"	14 7/8"	1 3/16"	30"
x102	14"	14 3/4"	1 1/16"	30"
x89	13 3/8"	14 3/4"	5/8"	30"
x73	13 3/8"	14 5/8"	1/2"	30"
HP 12x84	12 1/4"	12 1/4"	1 1/16"	24"
x74	12 1/8"	12 1/4"	3/8"	24"
x63	12"	12 1/8"	1/2"	24"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

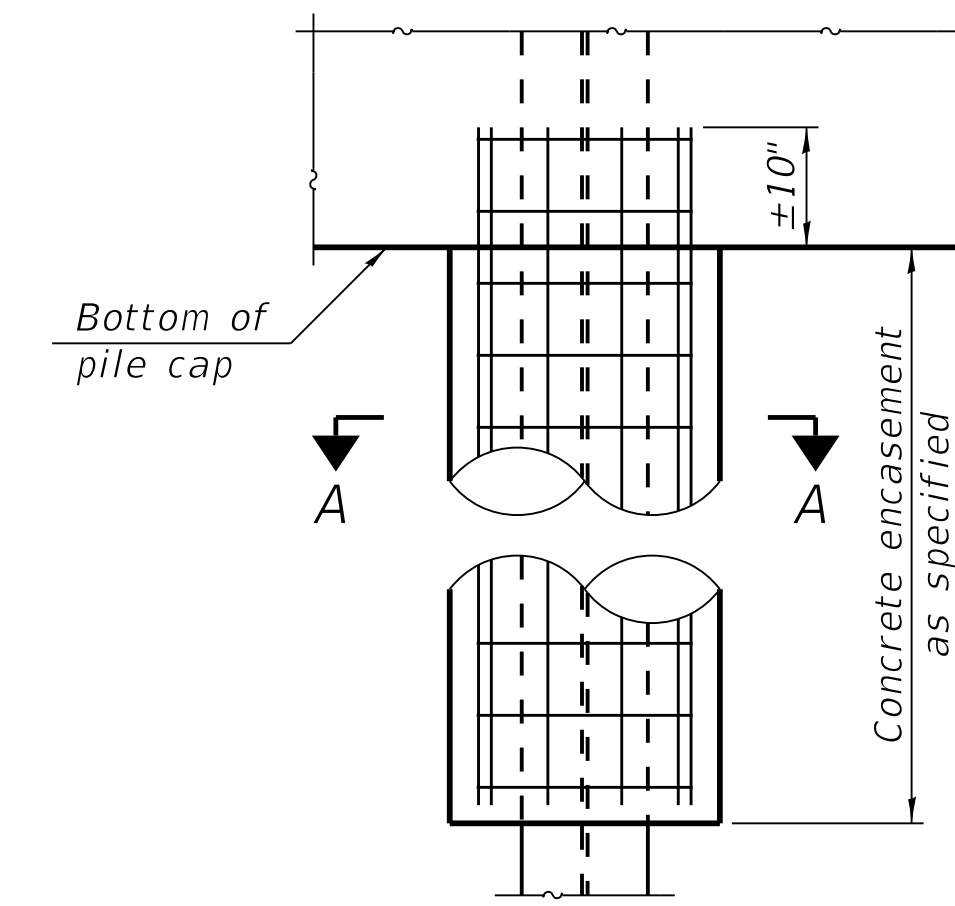


DETAIL "B"

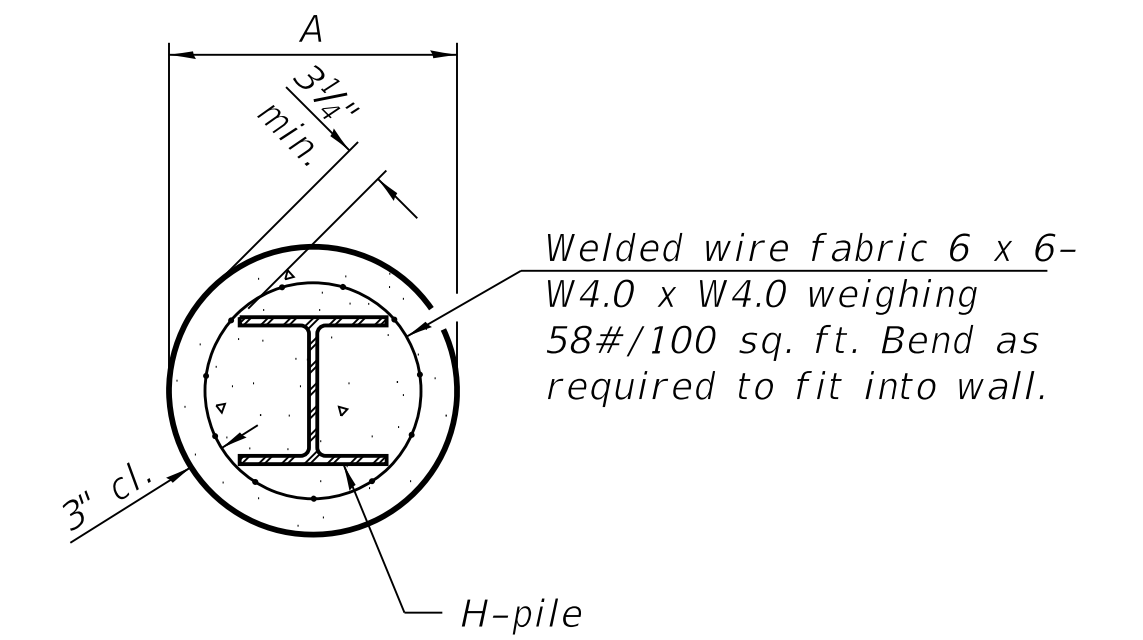


ISOMETRIC VIEW

WELDED COMMERCIAL SPLICE

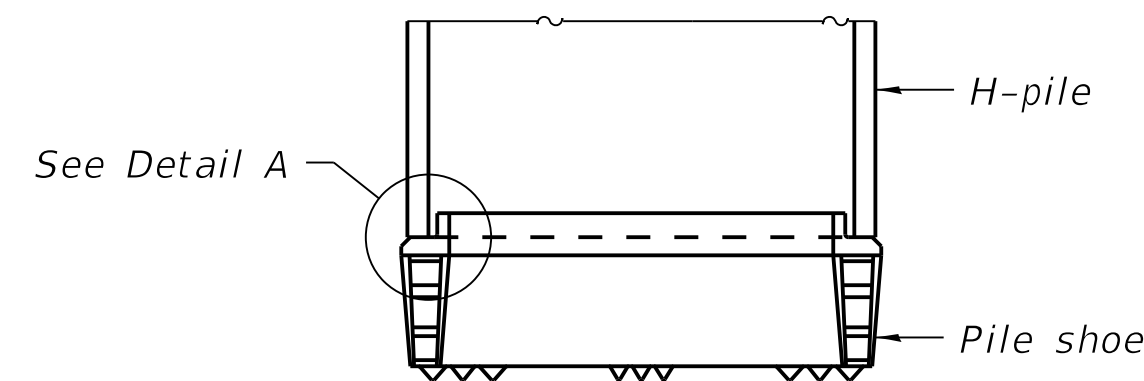


ELEVATION

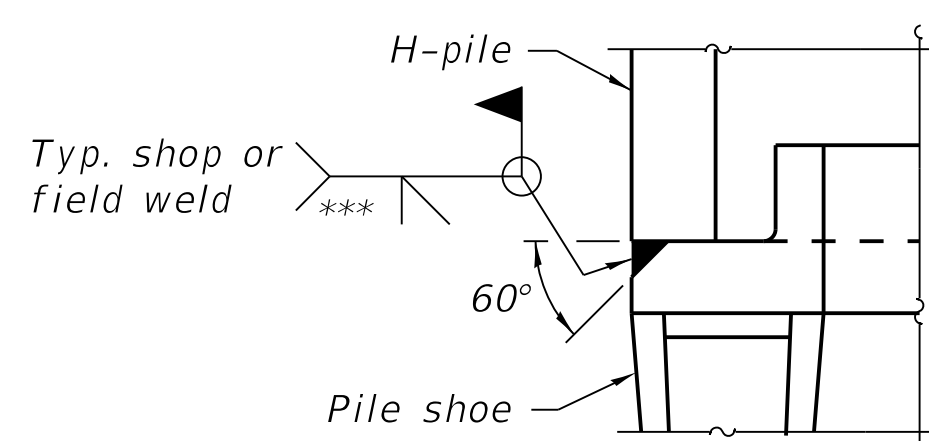


SECTION A-A

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



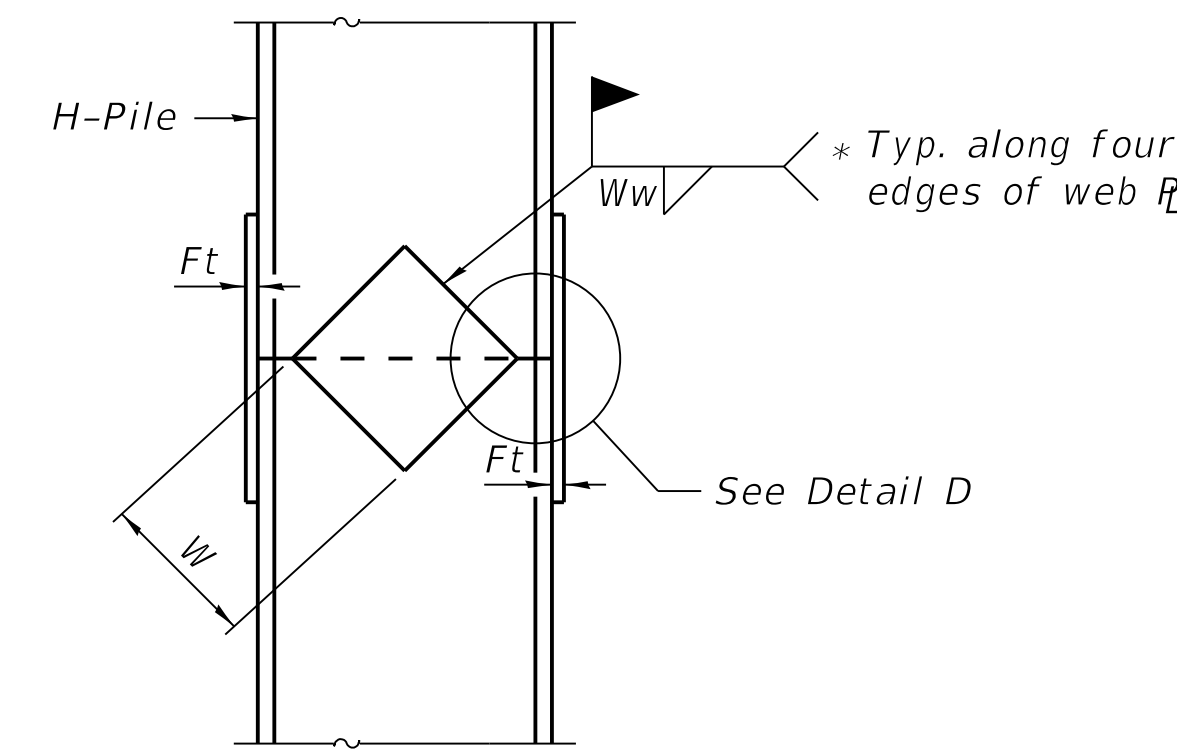
ELEVATION



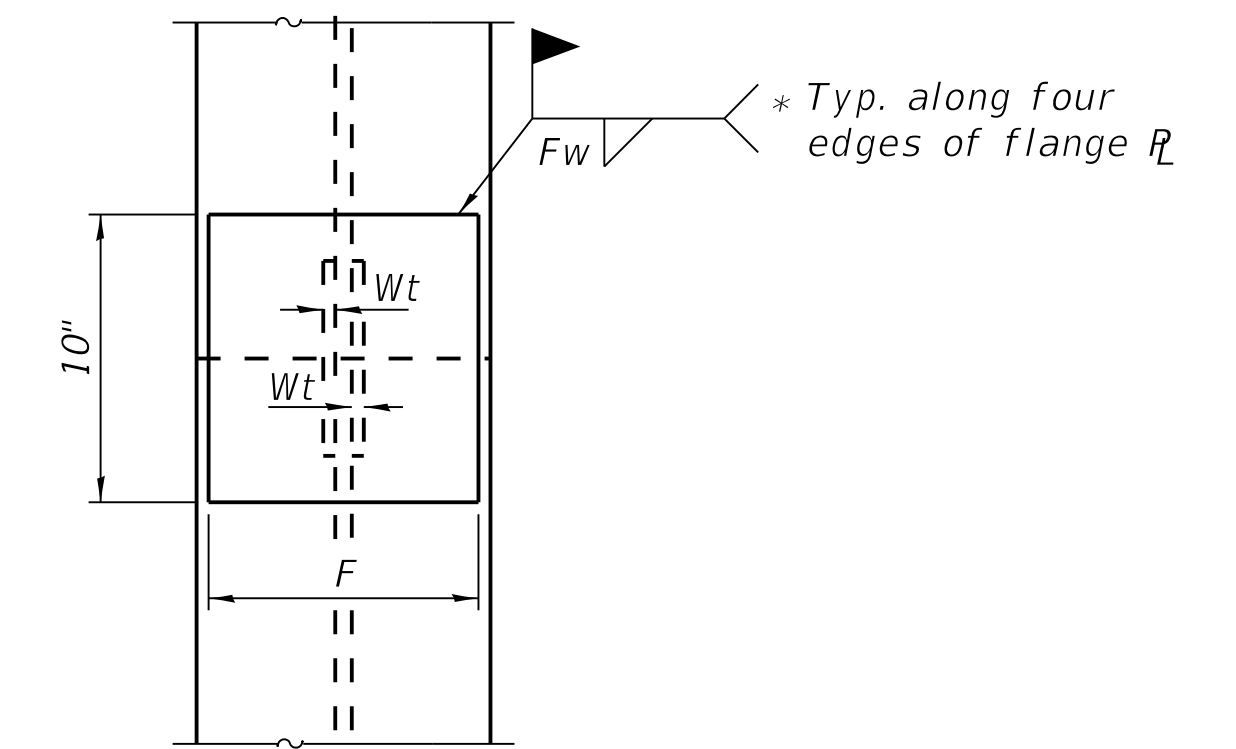
DETAIL A

SHOE ATTACHMENT

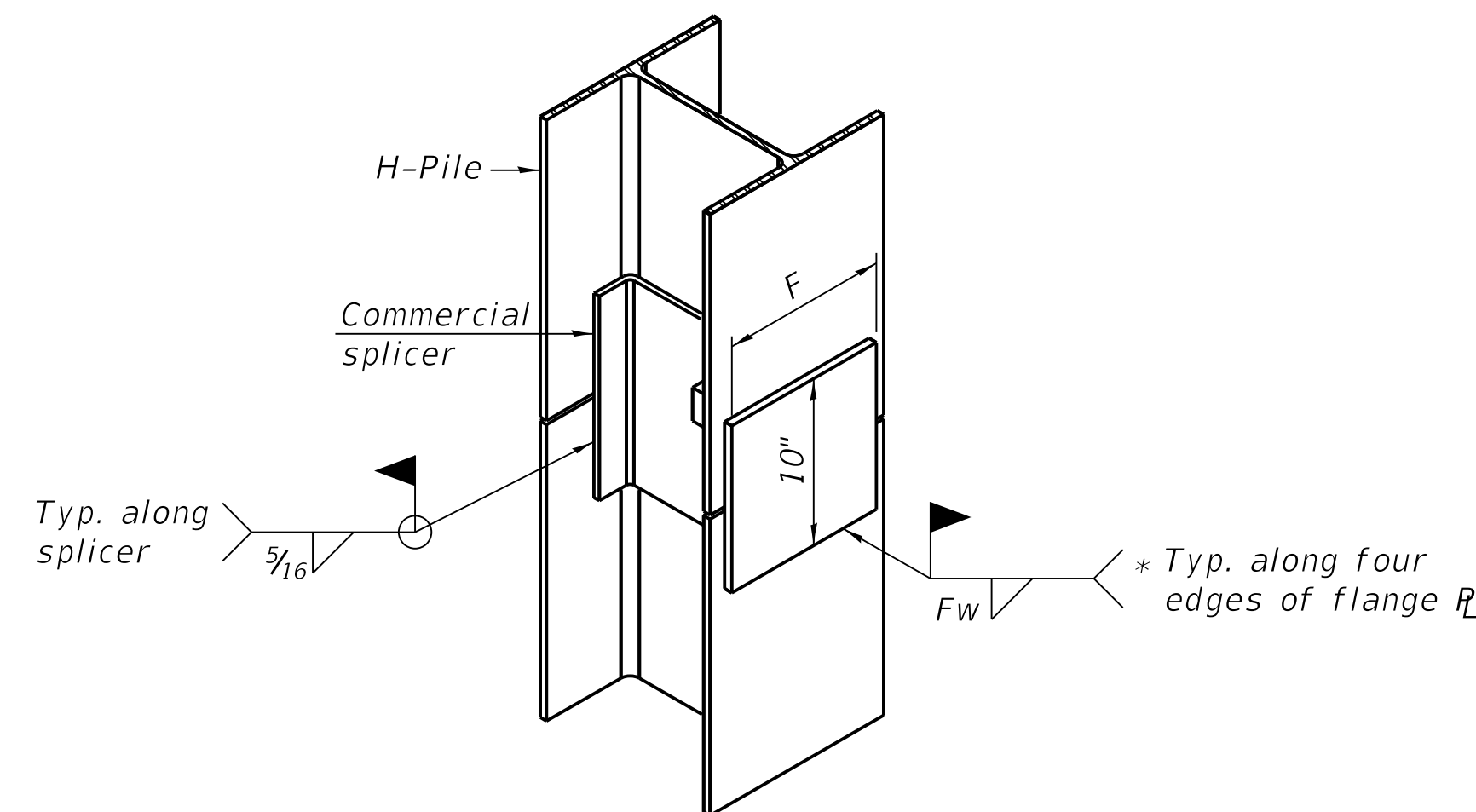
Note:
The steel H-piles shall be according to AASHTO M270 Grade 50.



ELEVATION



END VIEW



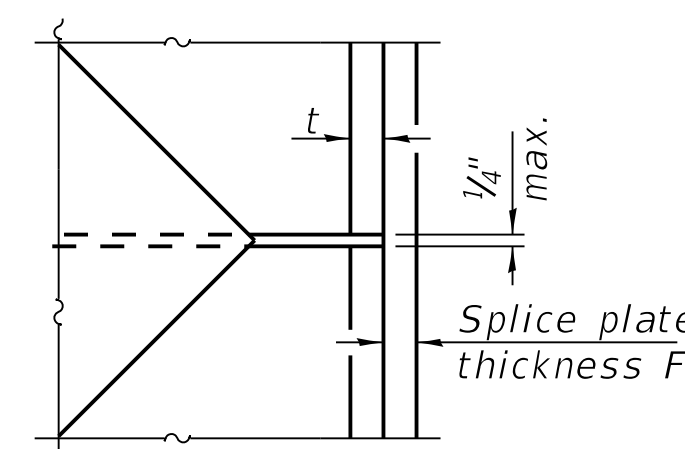
ISOMETRIC VIEW

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.

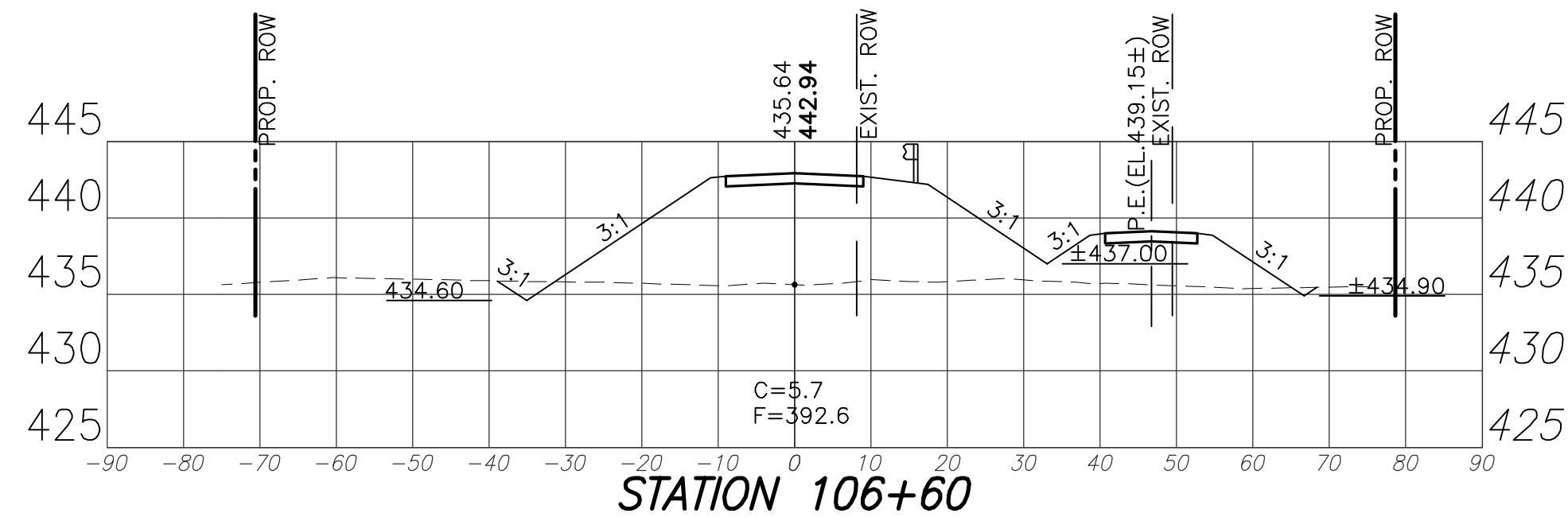
*** Weld size per pile shoe manufacturer (5/16" min.).



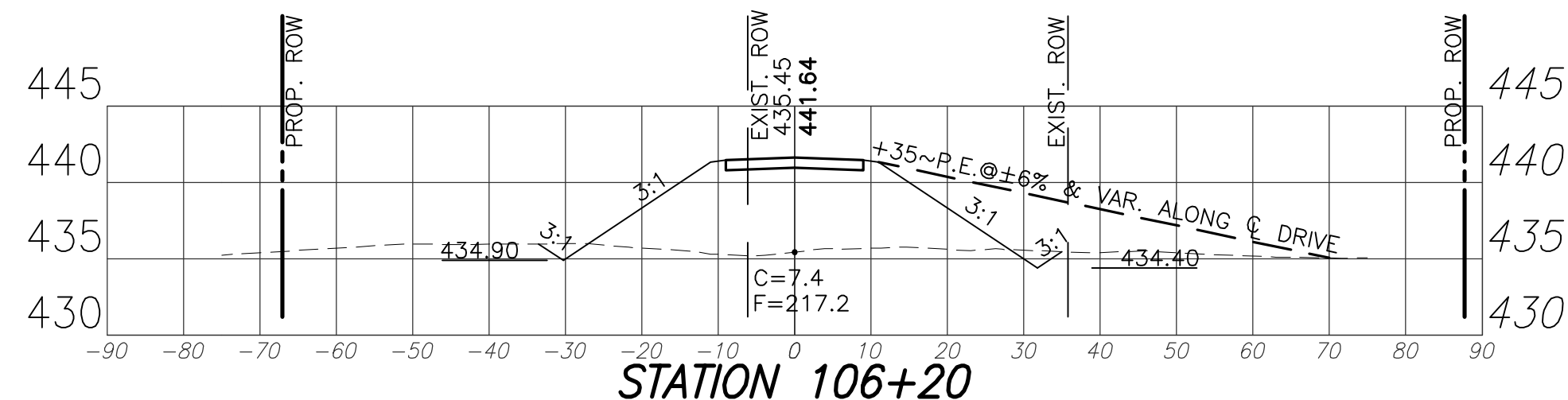
DETAIL D

WELDED PLATE FIELD SPLICE

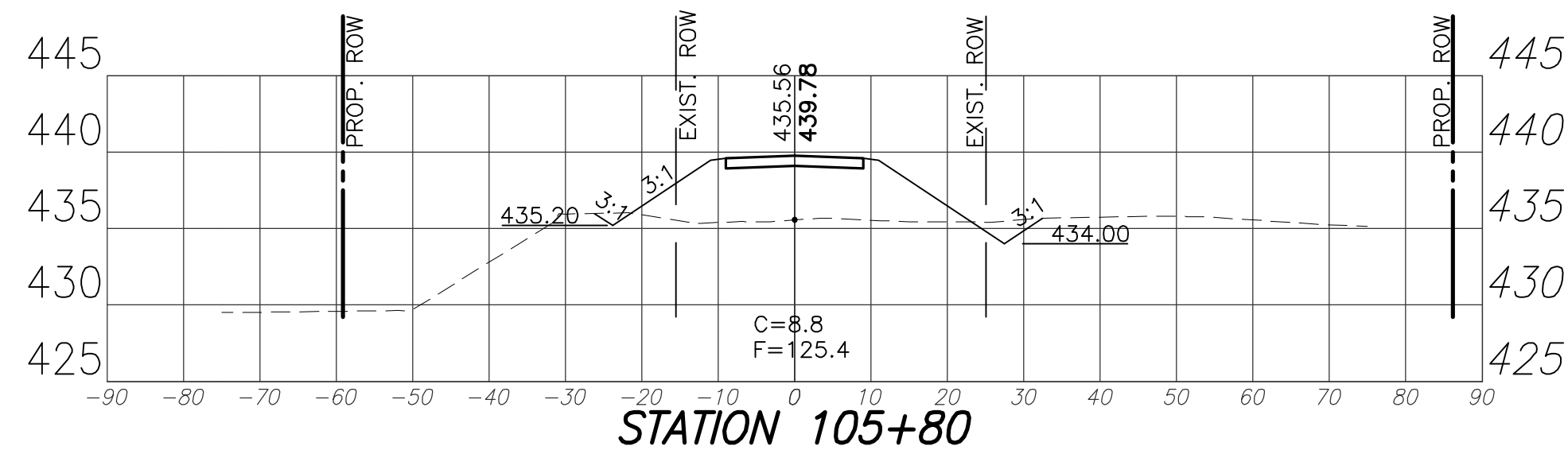
Designation	F	Ft	Fw	W	Wt	Ww
HP 14x117	12 1/2"	1"	7/8"	7 3/4"	5/8"	1/2"
x102	12 1/2"	7/8"	3/4"	7 3/4"	5/8"	1/2"
x89	12 1/2"	3/4"	1 1/16"	7 3/4"	5/8"	1/2"
x73	12 1/2"	5/8"	9/16"	7 3/4"	5/8"	1/2"
HP 12x84	10"	7/8"	1 1/16"	6 1/2"	5/8"	1/2"
x74	10"	7/8"	1 1/16"	6 1/2"	5/8"	1/2"
x63	10"	5/8"	1/2"	6 1/2"	1/2"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



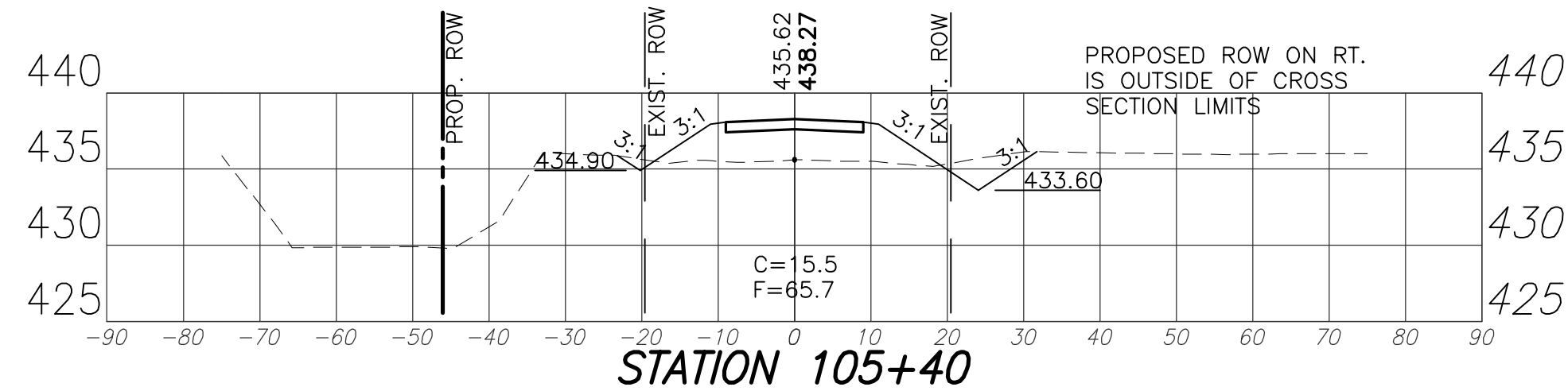
STATION 106+60



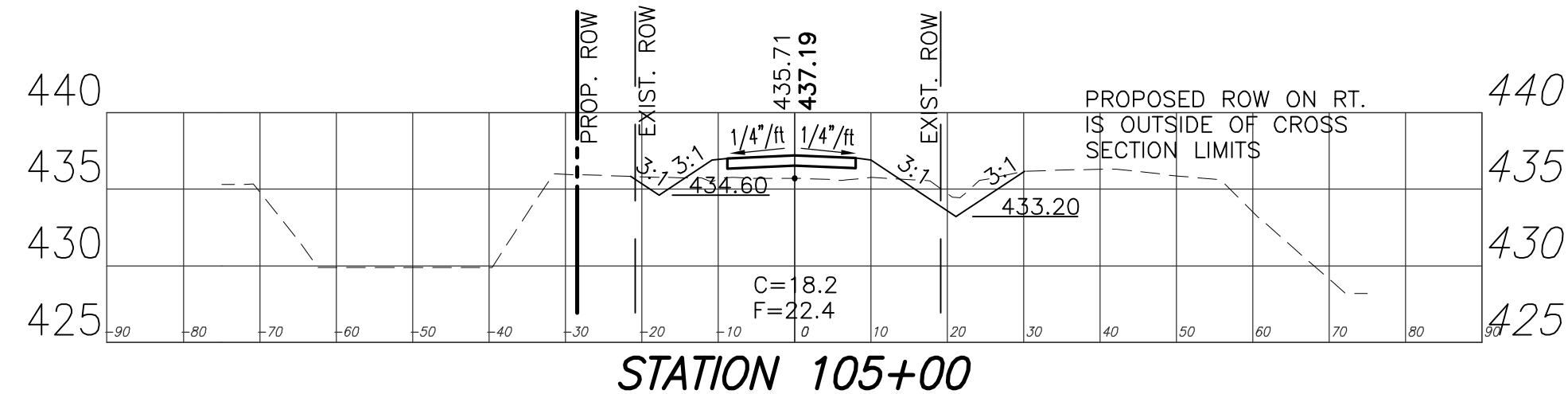
STATION 106+20



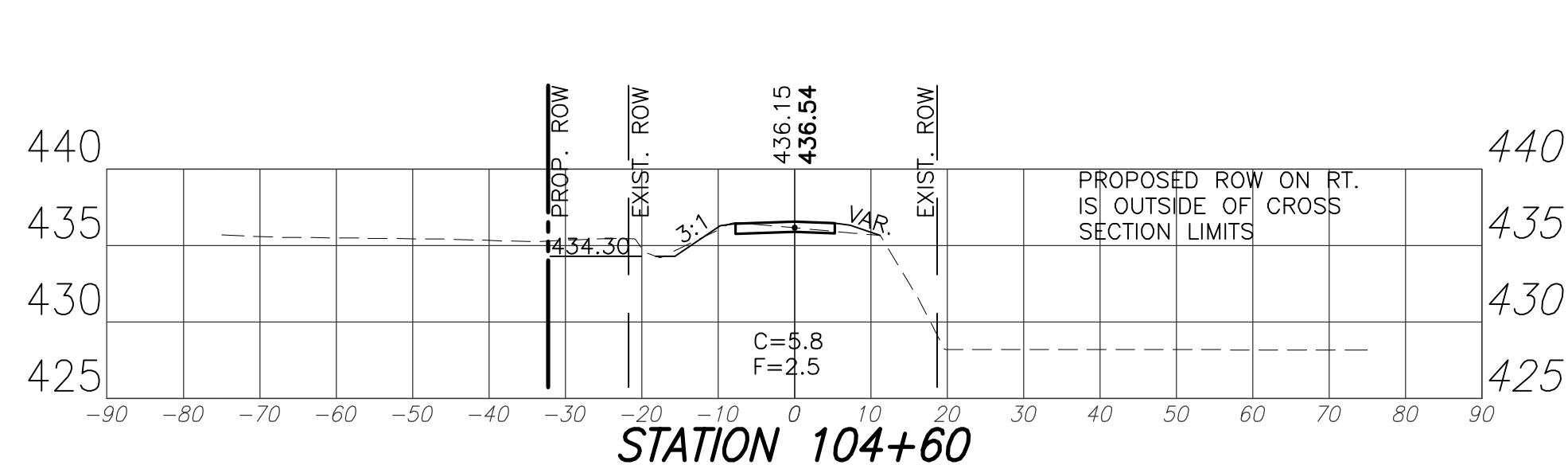
STATION 105+80



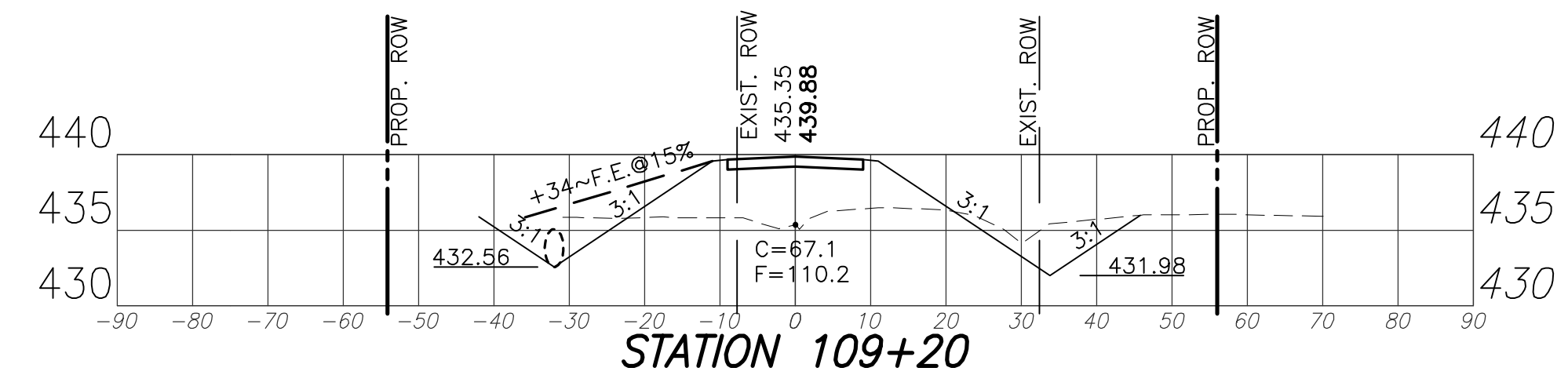
STATION 105+40



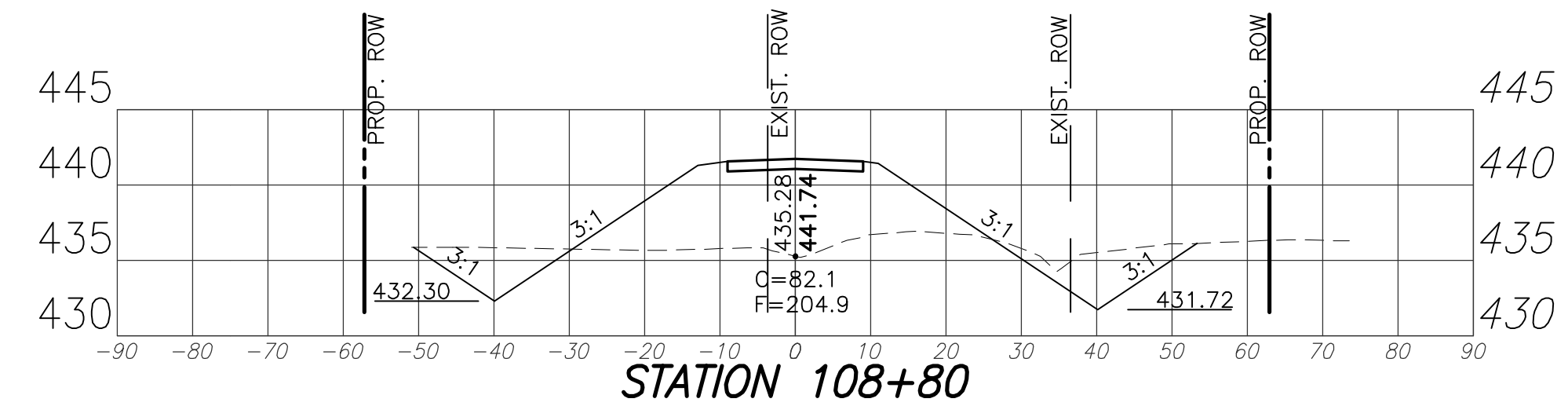
STATION 105+00



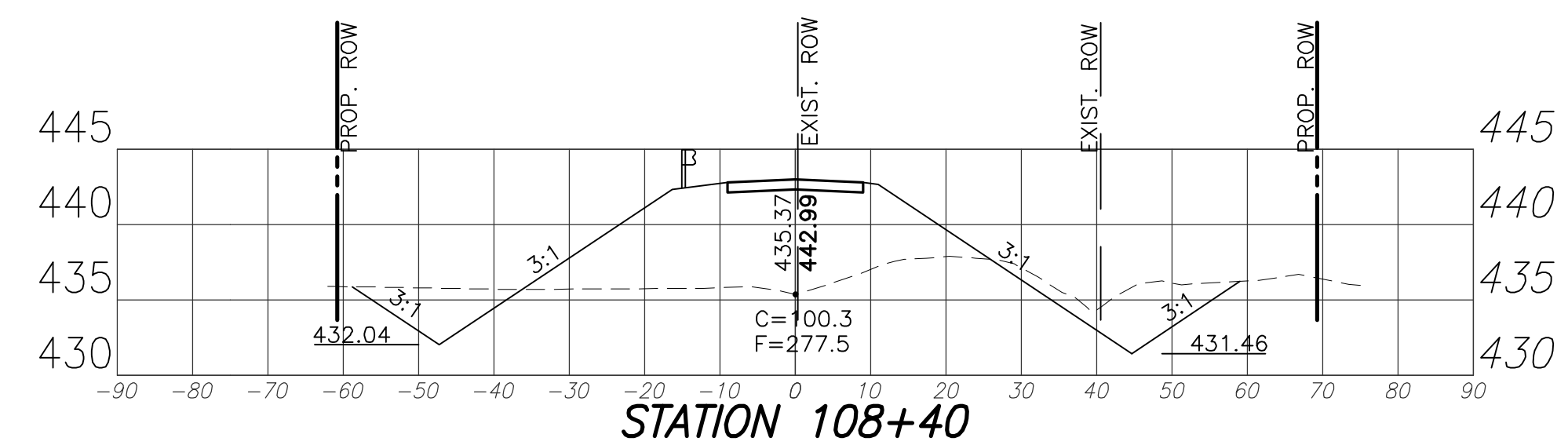
STATION 104+60



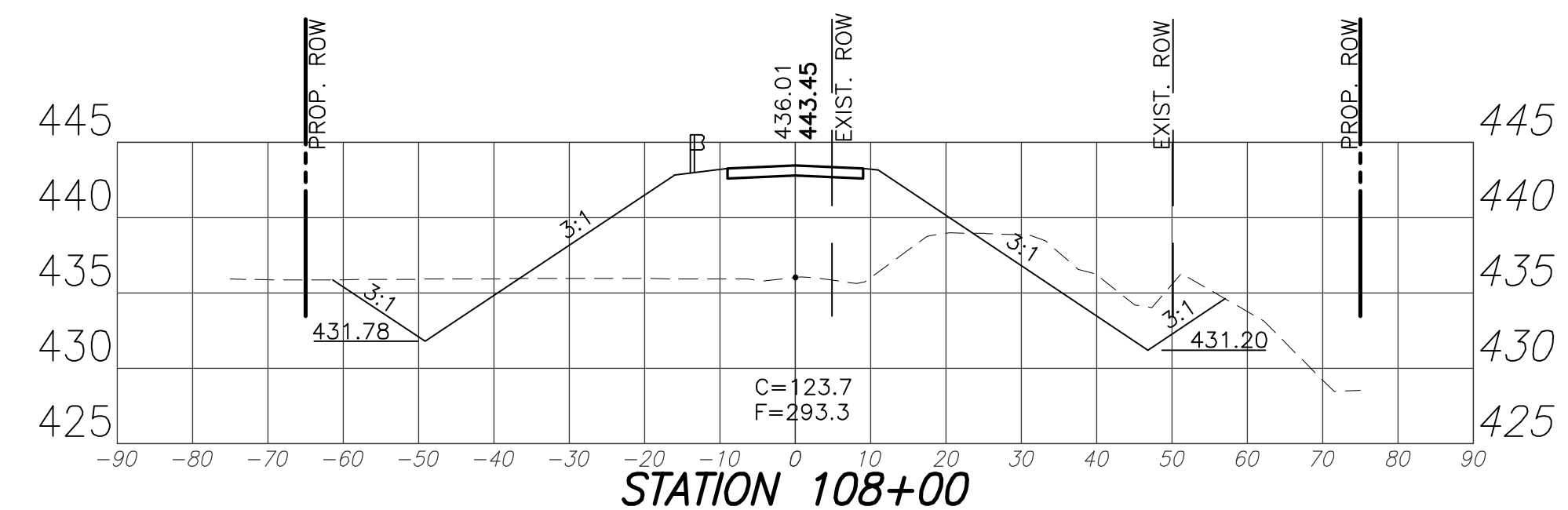
STATION 109+20



STATION 108+80



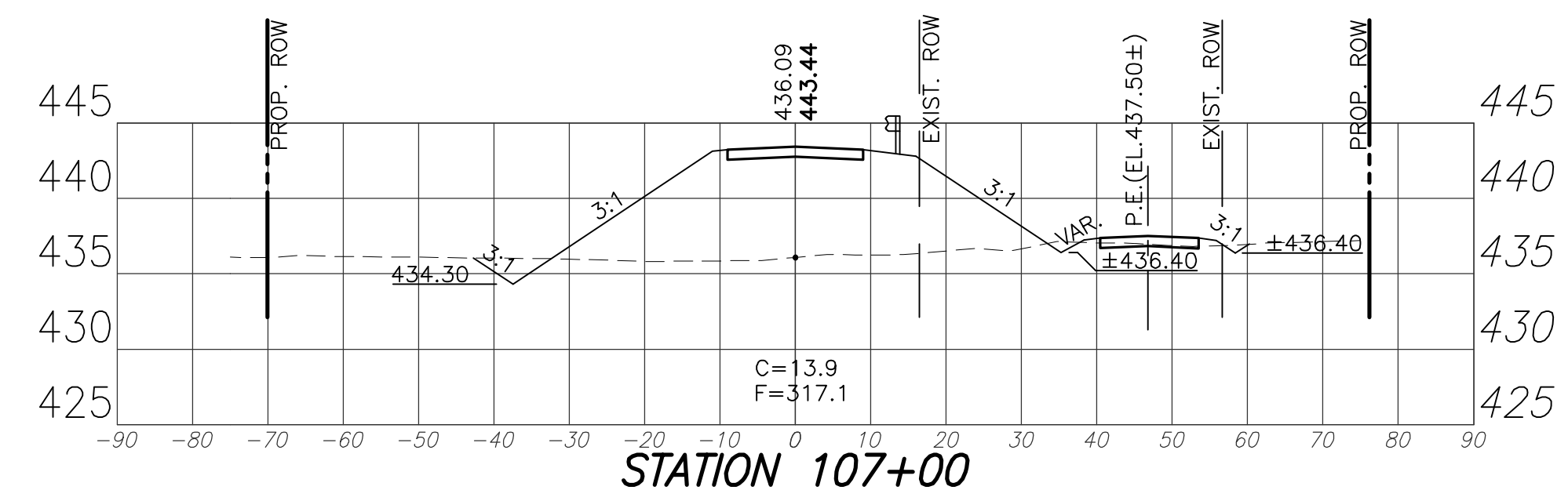
STATION 108+40



STATION 108+00

BRIDGE

NOTE:
RIPRAP IS NOT SHOWN IN THE CROSS SECTIONS.
SEE PLAN AND PROFILE SHEET AND GENERAL PLAN
AND ELEVATION SHEET FOR RIPRAP LOCATIONS.



STATION 107+00

DESIGNED -	BLT	REVISED -	
DRAWN -	JMW/BLT	REVISED -	
CHECKED -	GLH	REVISED -	
DATE	05/08/2019	REVISED -	

ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
TR 187	14-14118-00-BR	WASHINGTON	12	11
CONTRACT NO. 97693				

