

04-27-2018 LETTING ITEM 192

INDEX OF SHEETS

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2.	SUMMARY OF QUANTITIES AND GENERAL NOTES
3.	TYPICAL SECTIONS
4.	PLAN AND PROFILE
5.-8.	CROSS SECTIONS
9.-15.	BRIDGE PLANS
16.	BORINGS

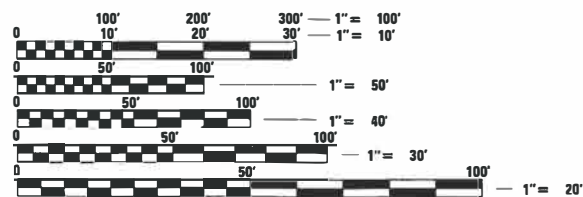
HIGHWAY STANDARDS:

000001-06	STANDARD SYMBOLS, ABBREVIATIONS AND PATTERNS
280001-07	TEMPORARY EROSION CONTROL SYSTEMS
515001-03	NAME PLATE FOR BRIDGES
701901-07	TRAFFIC CONTROL DEVICES
725001-01	OBJECT AND TERMINAL MARKERS
BLR 21-9	TYPICAL APPLICATION OF TRAFFIC CONTROL DEVICES FOR CONSTRUCTION ON RURAL LOCAL HIGHWAYS
BLR 22-7	TYPICAL APPLICATION OF TRAFFIC CONTROL DEVICES FOR CONSTRUCTION ON RURAL LOCAL HIGHWAY (TWO-LANE TWO WAY RURAL TRAFFIC) (ROAD CLOSED TO THRU TRAFFIC)

UTILITIES

FRONTIER COMMUNICATIONS
200 WEST CHERRY STREET
CARMi, IL 62821
618-382-2887

WAYNE-WHITE ELECTRIC
DRAWER E
FAIRFIELD, IL 62837
618-842-2196



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.

FUNCTIONAL CLASSIFICATION: LOCAL ROAD
DESIGN SPEED: 30 MPH
DESIGN TRAFFIC: 25 ADT (2016)

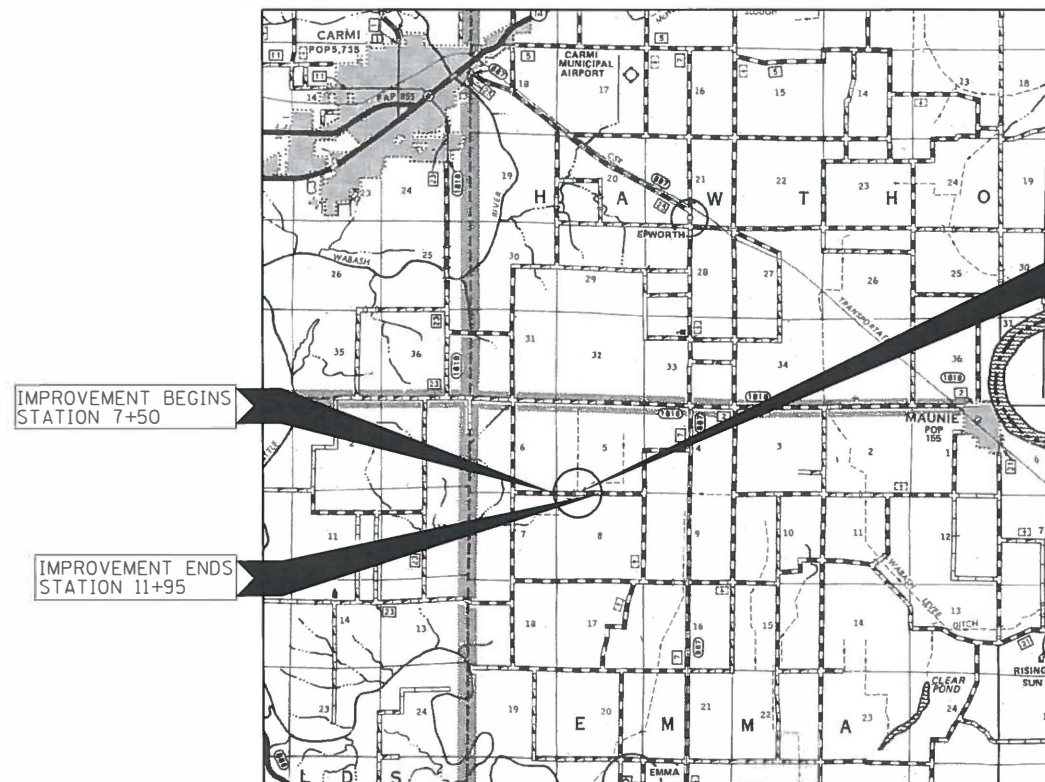
CONTRACT NO. 99592

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

**PLANS FOR PROPOSED
FEDERAL AID – S.T.P. BRIDGE**

**TOWNSHIP ROUTE 267
SECTION 14-03120-00-BR
PROJECT NO. DT6Z(565)
DRAINAGE DITCH
WHITE COUNTY**

C-99-512-15



STATION 10+00
PRECAST PRESTRESSED CONCRETE DECK
BEAM BRIDGE. SINGLE SPAN @ 65'-0"
24'-0" RDWY.; SKEW = 35°
EXISTING STRUCTURE NO. 097-3105
PROPOSED STRUCTURE NO. 097-3297



Know what's below.
Call before you dig.

APPROXIMATE SCALE: 0 1 MILE
NET LENGTH OF SECTION = 445 FT. = 0.084 MILE

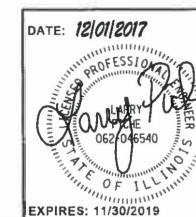
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
267	14-03120-00-BR	WHITE	17	1

WHITE



LOCATION OF SECTION INDICATED THUS: — ■ —

WHITE COUNTY HIGHWAY DEPARTMENT	
APPROVED	<i>December 8, 2017</i> <i>Kevin R. [Signature]</i> COUNTY ENGINEER
PASSED	<i>Dec. 18, 2017</i> <i>Don W. Hall</i> DISTRICT NINE ENGINEER OF LOCAL ROADS & STREETS
Releasing For Bid Based on Limited Review	<i>Dec. 18, 2017</i> <i>Jeffrey L. Kern</i> REGION FIVE ENGINEER STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION



LMAC
ENGINEERING
A division of Hampton, Lenzi and Renwick, Inc.
323 W. 3RD ST., P.O. BOX 160
MT. CARMEL, ILLINOIS 62863
184-00959 ILLINOIS PROFESSIONAL DESIGN FIRM LS / PE / SE CORP
PROJECT NUMBER: 15.1430 DATE: 12/11/17

SUMMARY OF QUANTITIES			
	ITEM	UNIT	TOTAL QUANTITY
20200100	EARTH EXCAVATION	CU YD	555.0
20300100	CHANNEL EXCAVATION	CU YD	320.0
28100807	STONE DUMPED RIPRAP, CLASS A4	TON	362.0
40200800	AGGREGATE SURFACE COURSE, TYPE B	TON	340.0
50100100	REMOVAL OF EXISTING STRUCTURES	EACH	1.0
50300225	CONCRETE STRUCTURES	CU YD	29.6
50300260	CONCRETE ENCASEMENT	CU YD	3.4
50400505	PRECAST PRESTRESSED CONCRETE DECK BEAMS (27" DEPTH)	SQ FT	1560.0
50800205	REINFORCEMENT BARS, EPOXY COATED	POUND	3110.0
* 50900205	STEEL RAILING, TYPE S1	FOOT	128.0
51201400	FURNISHING STEEL PILES HP10X42	FOOT	500.0
51202305	DRIVING PILES	FOOT	500.0
51500100	NAME PLATES	EACH	1.0
542A0229	PIPE CULVERTS, CLASS A, TYPE 1 24"	FOOT	50.0
542A0241	PIPE CULVERTS, CLASS A, TYPE 1 36"	FOOT	50.0
58700300	CONCRETE SEALER	SQ FT	115.0
67100100	MOBILIZATION	LSUM	1.0
* 72501000	TERMINAL MARKER - DIRECT APPLIED	EACH	4.0
X2501000	SEEDING, CLASS 2 (SPECIAL)	ACRE	0.4

^ SEE SPECIAL PROVISIONS

* SPECIALTY ITEMS

GENERAL NOTES

- THIS SECTION SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE PLANS, SPECIAL PROVISIONS AND STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, ADOPTED APRIL 1, 2016, THESE PLANS AND THE SPECIAL PROVISIONS INCLUDED IN THE CONTRACT DOCUMENTS.
- ALL CLEARING AND GRUBBING, FENCE REMOVAL, REMOVAL OF EXISTING DRAINAGE STRUCTURES, AND REMOVAL OF THE EXISTING ROADWAY SURFACE SHALL BE INCLUDED IN THE COST OF EARTH EXCAVATION.
- UTILITIES SHOWN WERE LOCATED PER QUALITY LEVEL "C", A.S.C.E. STANDARD CI/38-02, STANDARD GUIDELINE FOR THE COLLECTION AND DEPICTION OF EXISTING SUBSURFACE UTILITY DATA FROM SURFACE MARKINGS ONLY. UTILITIES SHALL BE FIELD LOCATED HORIZONTALLY AND VERTICALLY PRIOR TO BEGINNING ANY WORK. THE CONTRACTOR IS RESPONSIBLE FOR THE FIELD LOCATION OF THESE UTILITIES.
- IT SHALL BE THE CONTRACTORS RESPONSIBILITY TO VERIFY ALL EXISTING FIELD DIMENSIONS AND CONDITIONS PRIOR TO CONSTRUCTION AND ORDERING MATERIALS.
- ANY REFERENCE TO A STANDARD IN THESE PLANS SHALL BE INTERPRETED TO MEAN THE EDITION AS INDICATED BY THE SUBNUMBER LISTED ON THE INDEX OF SHEETS OR THE COPY OF THE STANDARD INCLUDED IN THE PLANS.
- THE FOLLOWING RATES OF APPLICATION HAVE BEEN USED IN CALCULATING PLAN QUANTITIES.
 AGGREGATE SURFACE COURSE 2.05 TONS/CU.YD.
 STONE RIPRAP 1.8 TONS/CU.YD.
- EARTHWORK COMPACTION SHALL BE TO THE SATISFACTION OF THE ENGINEER.
- THE AREA TO BE SEEDED SHALL CONSIST OF ALL EARTH SURFACES DISTURBED DURING CONSTRUCTION AS DIRECTED BY THE ENGINEER.
 ESTIMATED QUANTITY: SEEDING CLASS 2 (SPECIAL) = 0.4 ACRES
- ALL WASTE MATERIAL FROM EXCAVATIONS SHALL BE DISPOSED OF BY THE CONTRACTOR. NO ADDITIONAL COMPENSATION WILL BE ALLOWED.

AGGREGATE SURFACE COURSE, TYPE B

LOCATION	40200800 TON
T.R. 267	
STA 7+50 TO STA 9+66.68	135.0
STA 10+33.31 TO STA 11+95	105.0
FILL NEXT TO BRIDGE	50.0
FIELD ENTRANCE	
STA 9+39 LT	25.0
STA 11+76 RT	25.0
TOTAL	340

STONE DUMPED RIPRAP, CLASS A4	
LOCATION - DITCH AREAS	28100807 TON
T.R. 267	
STA 9+60 RT. TO STA 9+50 RT.	31.0
STA 9+59 LT TO STA 9+75 LT	10.0
STA 10+20 RT TO STA 11+51 LT	81.0
TOTAL	122

EARTHWORK SUMMARY

LOCATION	EARTH EXCAVATION	CHANNEL EXCAVATION	SHRINKAGE FACTOR	% USED	EARTH EXCAVATION ADJUSTED FOR SHRINKAGE(25%)	EMBANKMENT REQUIRED	EARTHWORK BALANCE WASTE (+) OR SHORTAGE (-)
	CU. YD.	CU. YD.			CU. YD.	CU. YD.	CU. YD.
T.R. 267							
STA 7+50 TO STA 9+66.68	80.9	0.0	25.00%	100.00%	61.0	190.0	-129.0
STA 9+66.68 TO STA 10+33.31	0.0	320.0	25.00%	50.00%	120.0	0.0	120.0
STA 10+33.31 TO STA 11+95	474.6	0.0	25.00%	100.00%	356.0	105.8	250.0
FIELD ENTRANCE							
STA 9+39 LT	0.0	0.0	25.00%	100.00%	0.0	15.4	-15.0
STA 11+76 RT	0.0	0.0	25.00%	100.00%	0.0	0.0	0.0
	555.5	320			537	311.2	226.0
						FURNISHED EXCAVATION	0 CU.YD.



303 W 7th ST
 PEORIA, IL 61604
 MC CARVE, L. 0206
 HLR JOB NO = 151430
 PLOT DATE = 12/1/17

DESIGNED - L.L.P.
 DRAWN - C.L.D.
 CHECKED -
 DATE - 12/1/17

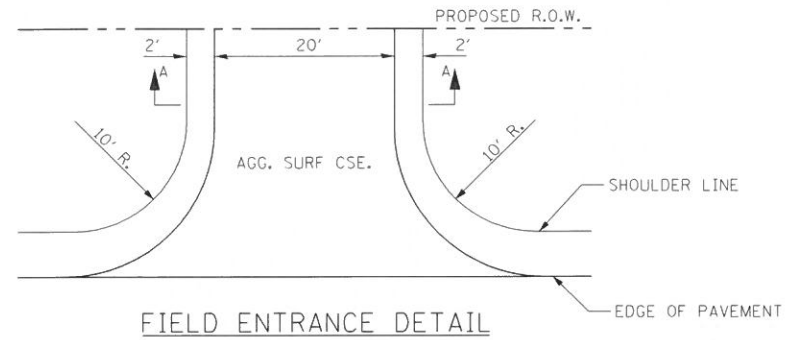
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STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

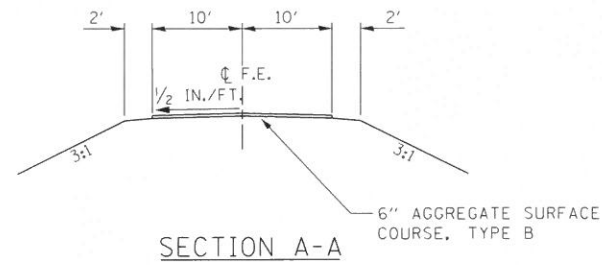
SUMMARY OF QUANTITIES AND GENERAL NOTES

SCALE: SHEET 1 OF 1 SHEETS STA. TO STA.

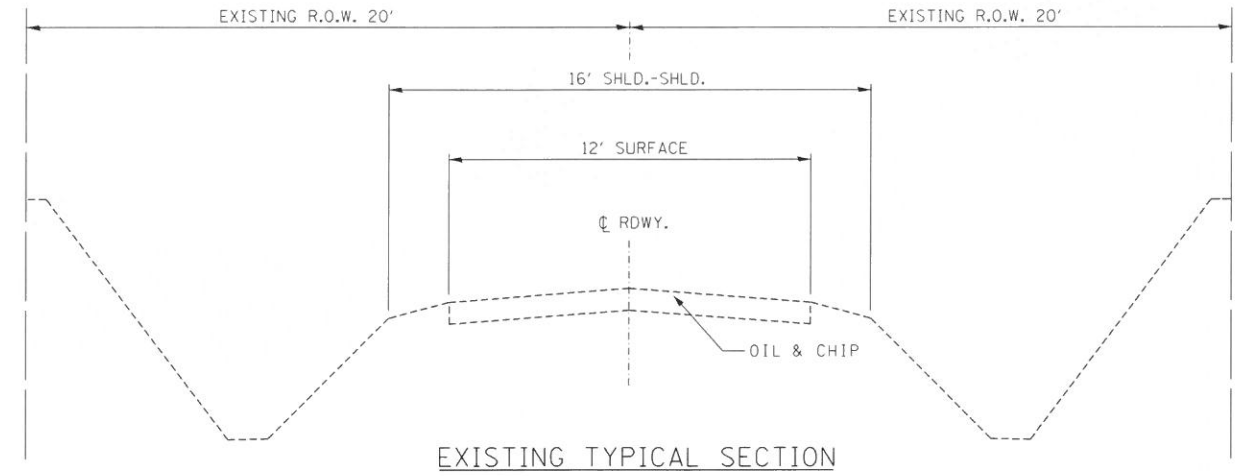
T.R.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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CONTRACT NO. 99592			ILLINOIS FED. AID PROJECT	



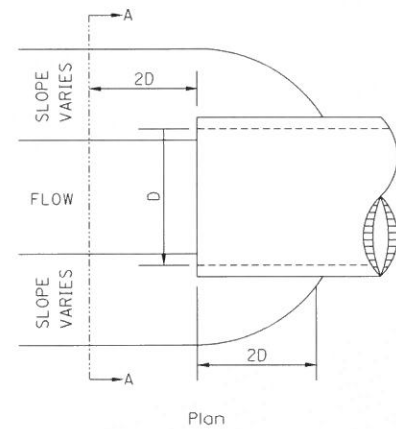
FIELD ENTRANCE DETAIL



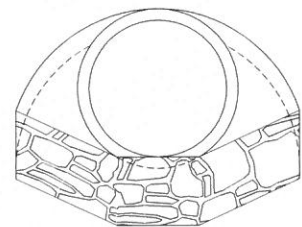
SECTION A-A



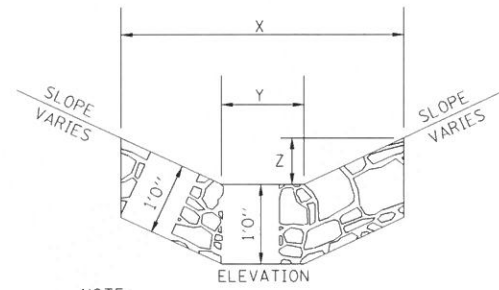
EXISTING TYPICAL SECTION



Plan



Section A-A

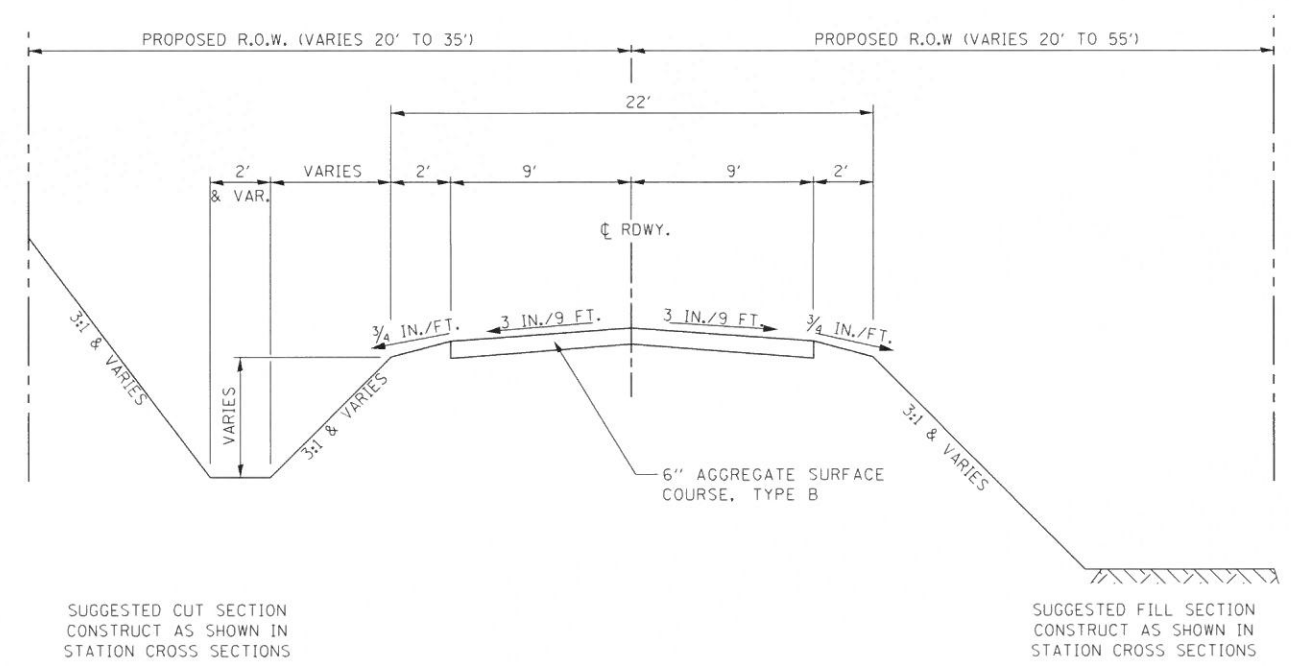


ELEVATION

NOTE:

	BOTTOM OF DITCH	SLOPE			
		1 1/2:1	2:1	3:1	
2 FT	X= 5 FT	6 FT	8 FT		
	Y= 2 FT	2 FT	2 FT		
	Z= 1 FT	1 FT	1 FT		
		0.40	0.48	0.62	TON/LIN. FT

STONE DUMPED RIPRAP, CLASS A4 DITCH AREA DETAILS

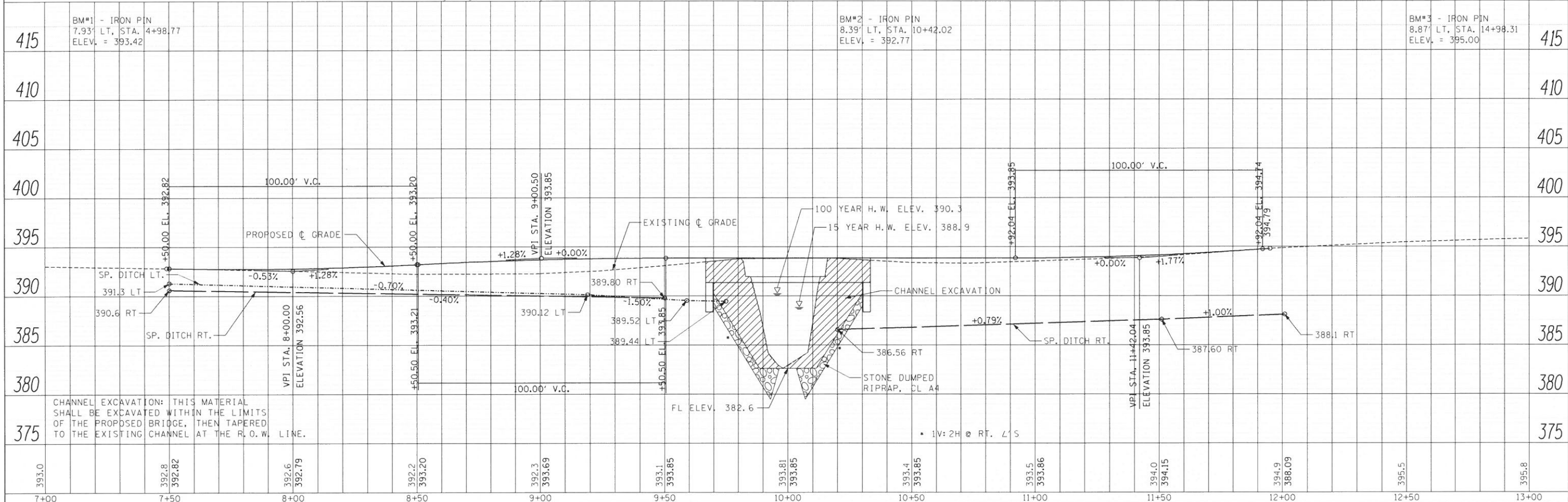
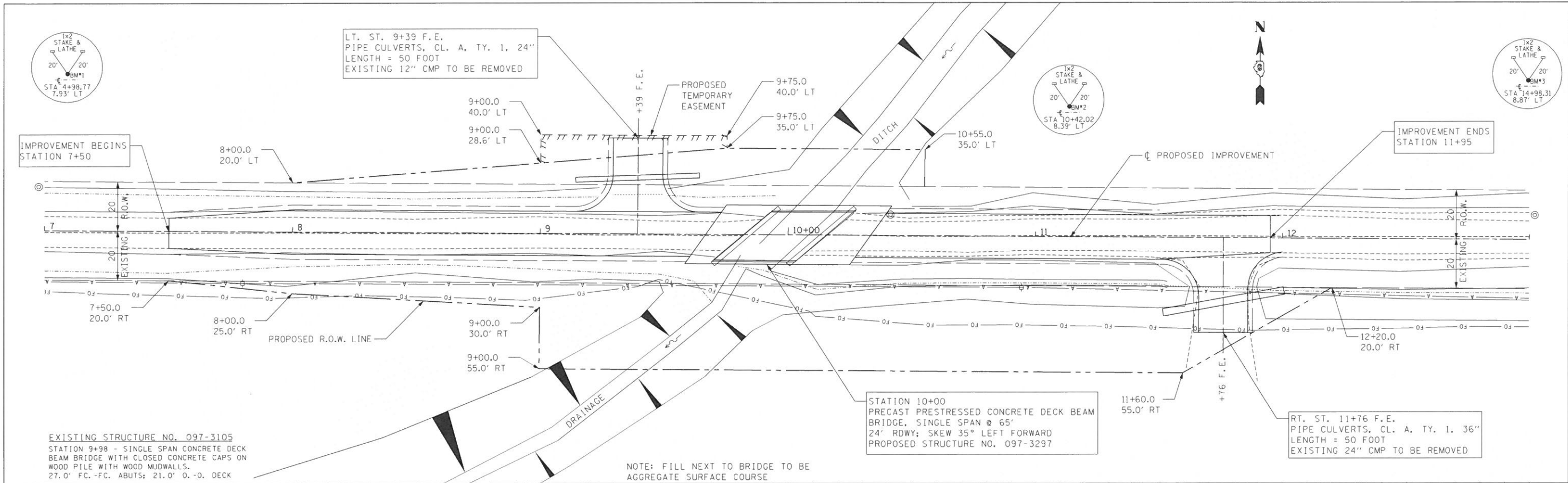


PROPOSED TYPICAL SECTION

TRANSITIONS FROM THE PROPOSED ROADWAY TO THE EXISTING ROADWAY ARE TO BE CONSTRUCTED FROM STA. 7+50 TO 8+00 AND STA. 11+50 TO 11+95. SEE SHEET 9 FOR TRANSITION AT BRIDGE.

DATE	
BY	
PLANNED	
DESIGNED	
DRAWN	
CHECKED	
DATE	

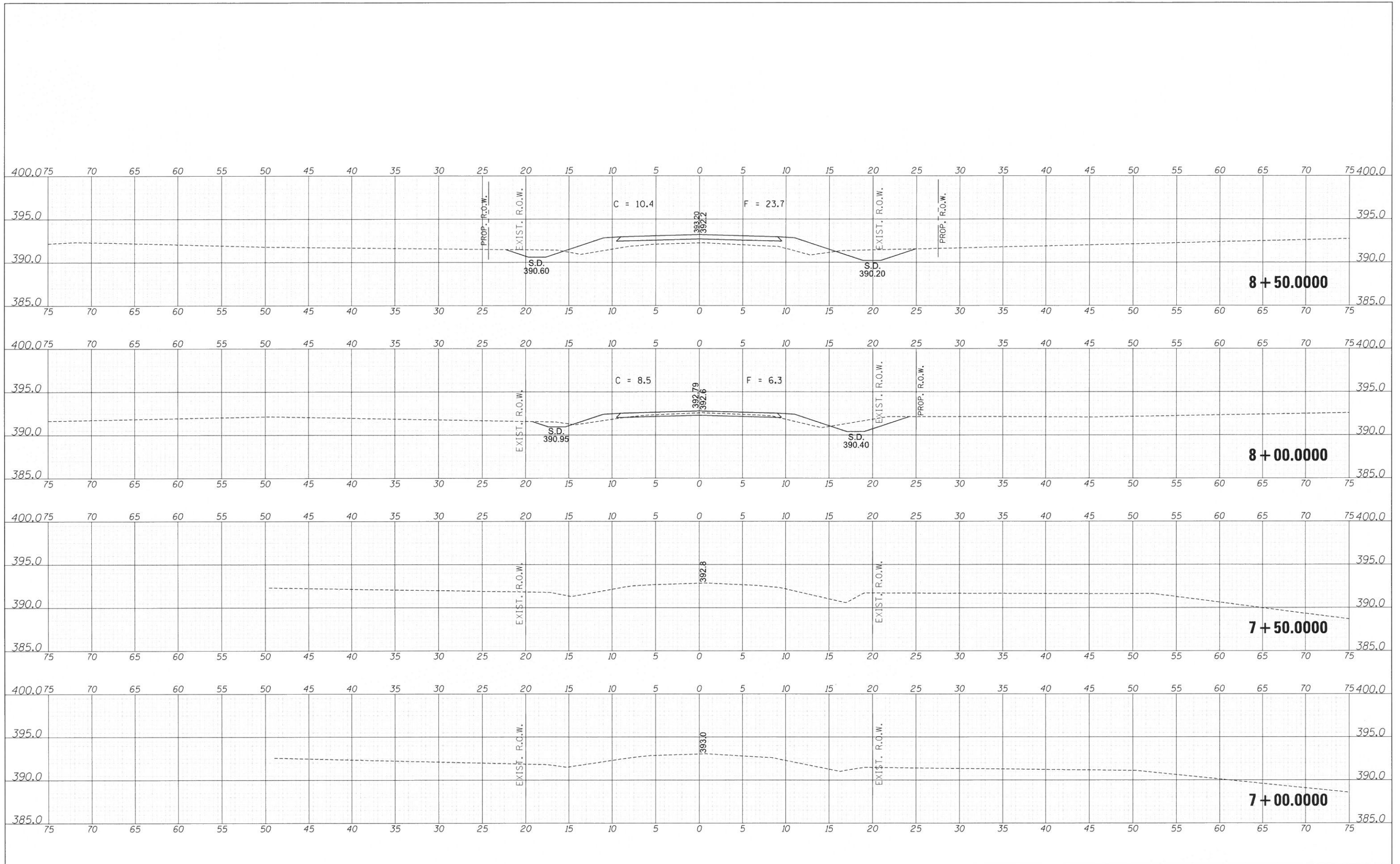
DATE	
BY	
PLANNED	
DESIGNED	
DRAWN	
CHECKED	
DATE	



LAMAC ENGINEERING A Division of Hampton, Lenz and Renwick, Inc. ILLINOIS PROFESSIONAL DESIGN FIRM LS / PE / SE CORP 18400569	323 W. 3RD ST. P.O. BOX 190 MT. CARMEL, IL 62883	HLR JOB NO = 15.1438 PLOT SCALE = 20.0000' / 1" = 20' PLOT DATE = 12/1/17	DESIGNED - A.M.M. DRAWN - A.M.M. CHECKED - DATE - 12/1/17	REVISED - REVISED - REVISED - REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	PLAN & PROFILE SCALE: 1" = 20' SHEET 1 OF 1 SHEETS STA. 7+00 TO STA. 13+00	TR SECTION COUNTY TOTAL SHEET NO. 267 14-03120-00-BR WHITE 17 4 CONTRACT NO. 99592 ILLINOIS FED. AID PROJECT
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DATE	
BY	
FINAL SURVEY	
SURVEYED	
PLOTTED	
NOTE BOOK	
NO.	
AREAS CHECKED	

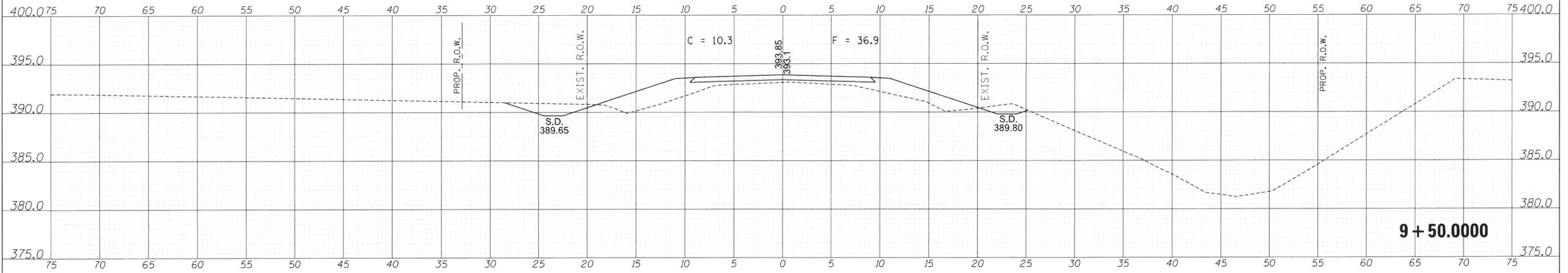
DATE	
BY	
ORIGINAL SURVEY	
SURVEYED	
PLOTTED	
NOTE BOOK	
NO.	
AREAS CHECKED	



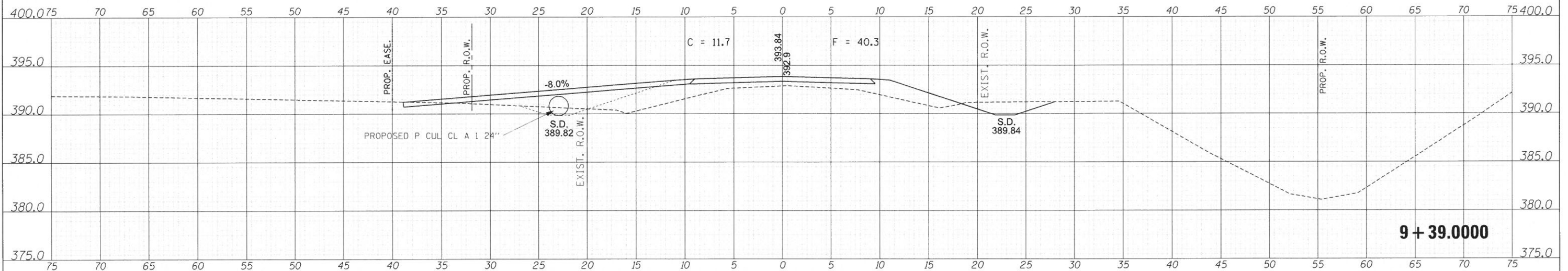
 323 W. 3RD ST. P.O. BOX 160 MT. CARMEL, IL 62863 A Division of Hampton, Lenzini and Remick, Inc. ILLINOIS PROFESSIONAL DESIGN FIRM LS / PE / SE CORP. 18400969	HLR JOB NO = 15.1438	DESIGNED - L.L.P.	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	STATION CROSS SECTIONS		TR	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	PLOT SCALE = 5,000' / 1"	DRAWN - C.L.D.	REVISED -		267	14-03120-00-BR	WHITE	17	5		
	PLOT DATE = 12/1/17	CHECKED -	REVISED -		SCALE: _____ SHEET 1 OF 4 SHEETS STA. 7+00,0000 TO STA. 8+50,0000			CONTRACT NO. 99592			
		DATE - 12/1/17	REVISED -		ILLINOIS FED. AID PROJECT						

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

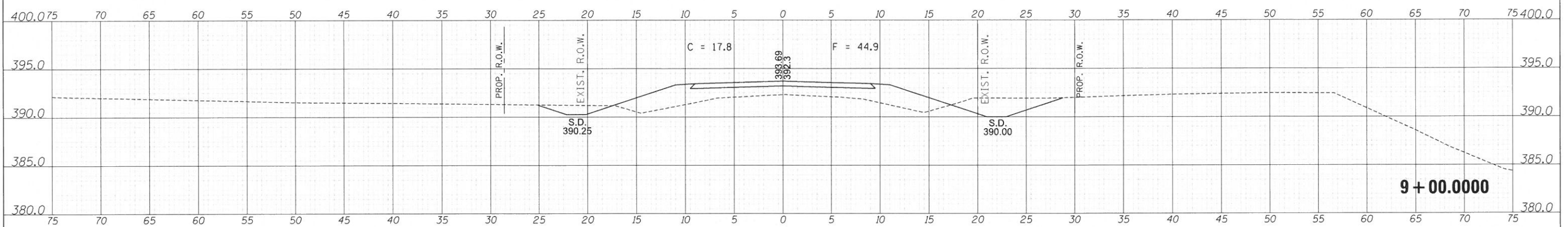
DATE	
BY	
ORIGINAL SURVEY	SURVEYED
NOTE BOOK	PLOTTED
NO.	TEMPLATE
	AREAS CHECKED



9 + 50.0000



9 + 39.0000



9 + 00.0000

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A Division of Hampton, Lenz & Renwick, Inc.
ILLINOIS PROFESSIONAL DESIGN FIRM LS / PE / SE CORP 18400869

HLR JOB NO = 15.1438
PLDT SCALE = 5,0000' / 1" =
PLDT DATE = 12/1/17

DESIGNED	-	L.L.P.	REVISED	-	_____
DRAWN	-	C.L.D.	REVISED	-	_____
CHECKED	-	_____	REVISED	-	_____
DATE	-	12/1/17	REVISED	-	_____

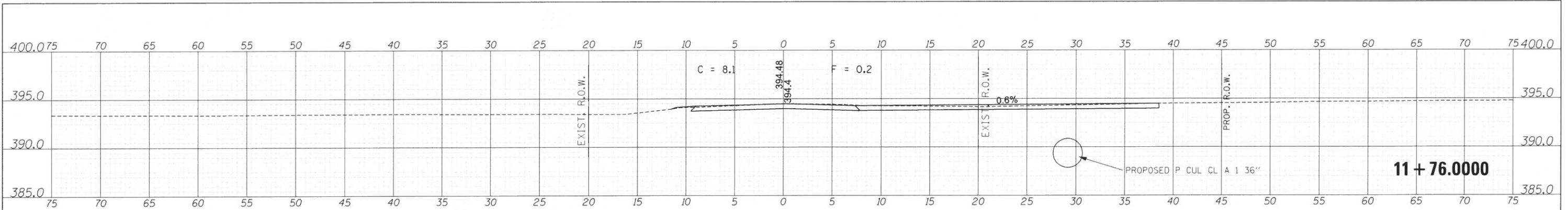
**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

STATION CROSS SECTIONS
SCALE: _____ SHEET 2 OF 4 SHEETS STA. 9+00.0000 TO STA. 9+50.0000

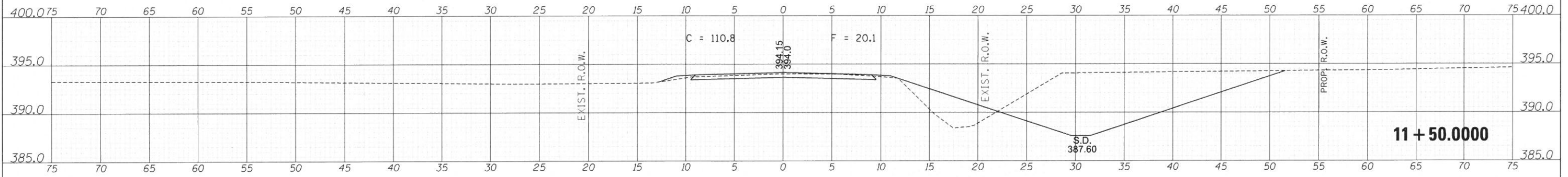
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267	14-03120-00-BR	WHITE	17	6
				CONTRACT NO. 99592
ILLINOIS FED. AID PROJECT				

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

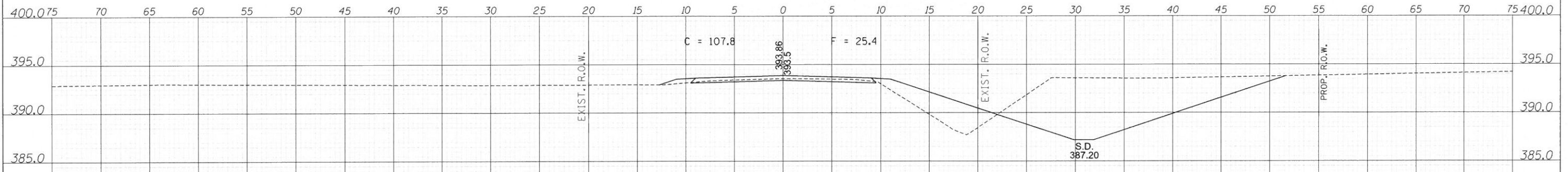
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	AREAS CHECKED



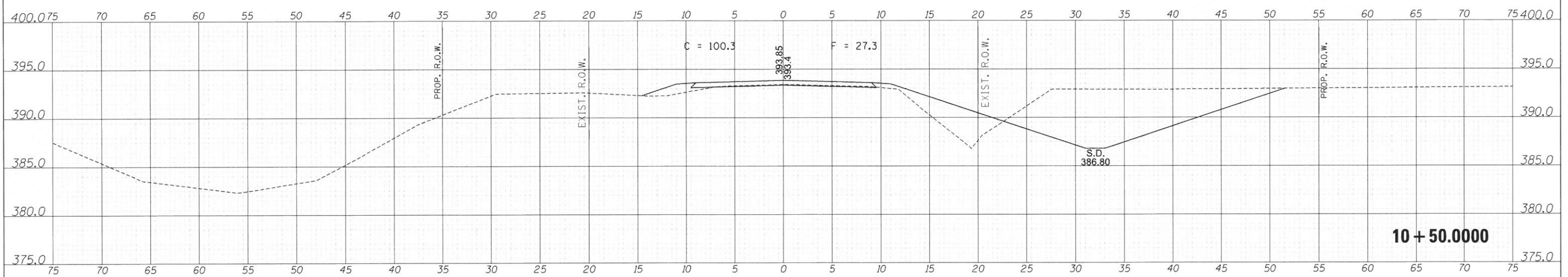
11 + 76.0000



11 + 50.0000



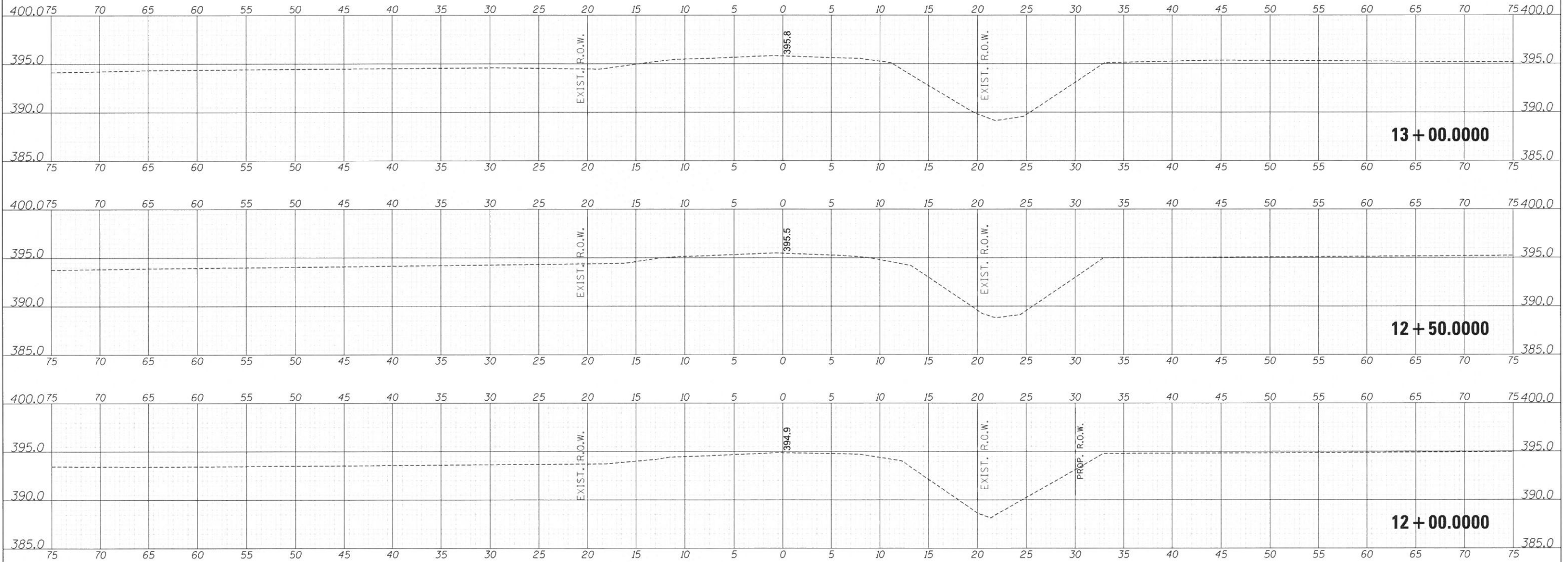
11 + 00.0000



10 + 50.0000

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

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



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ILLINOIS PROFESSIONAL DESIGN FIRM LS / PE / SE CORP 18400958

HLR JOB NO = 15.1438
DESIGNED - L.L.P.
DRAWN - C.L.D.
CHECKED -
DATE - 12/1/17

REVISED -
REVISED -
REVISED -
REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

STATION CROSS SECTIONS

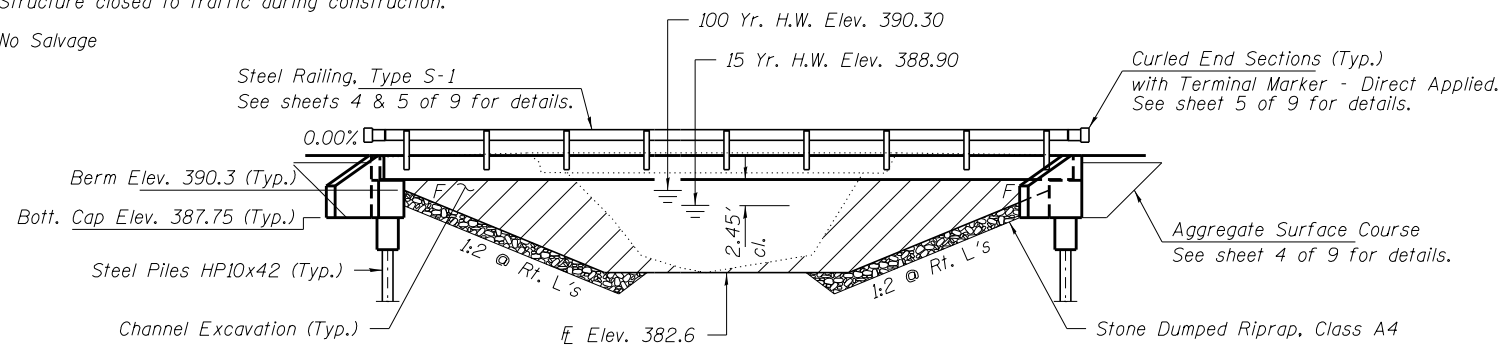
SCALE: SHEET 4 OF 4 SHEETS STA. 12+50.0000 TO STA. 13+00.0000

TR	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
267	14-03120-00-BR	WHITE	17	8
CONTRACT NO. 99592			ILLINOIS FED. AID PROJECT	

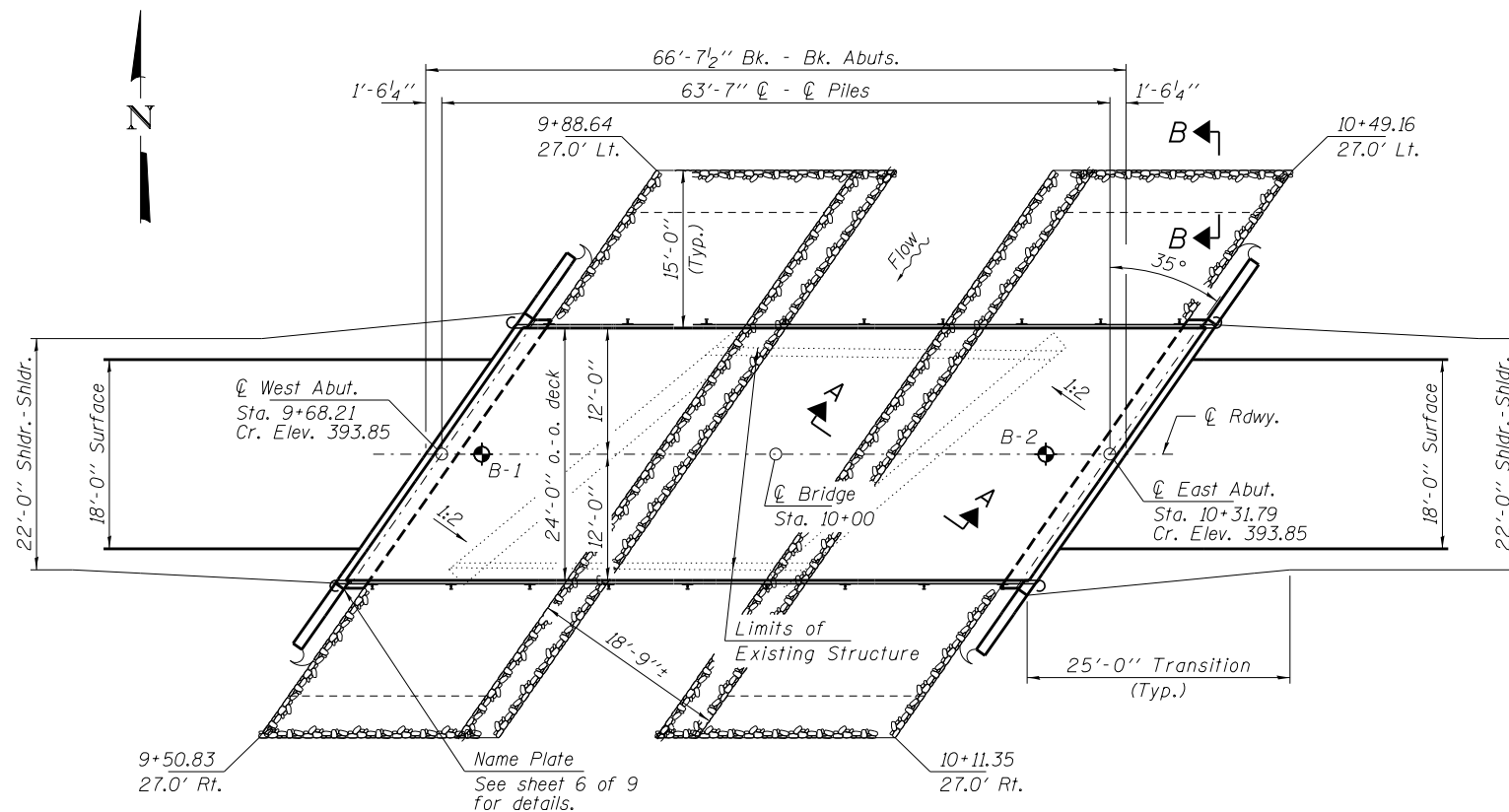
EXISTING STRUCTURE: SN 097-3105; Sta. 9+98; Single span concrete deck beam bridge with closed concrete caps on wood pile with wood mudwalls.
27.0' Fc.-Fc. abuts.; 21.0' o.-o. deck

Structure closed to traffic during construction.

No Salvage



ELEVATION



PLAN

DESIGN SPECIFICATIONS

2014 AASHTO LRFD Bridge Design Specifications, 7th Edition with all interims.

LOADING HL-93

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

DESIGN STRESSES

FIELD UNITS

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

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 (Reinf.)

SEISMIC DATA

Seismic Performance Zone (SPZ) = 2
Design Spectral Acceleration at 1.0 sec. (S_{D1}) = 0.220g
Design Spectral Acceleration at 0.2 sec. (S_{D5}) = 0.609g
Soil Site Class = C

WATERWAY INFORMATION

Drainage Area = 4.0 Sq. Mi.		Existing Low Grade Elev. 392.2 @ Sta. 8+50		Proposed Low Grade Elev. 392.75 @ Sta. 7+79		
Flood	Freq. Yr.	Q C.F.S.	Opening Sq. Ft.	Natural H.W.E.	Head - Ft.	Headwater El.
			Exist. Prop.	Exist. Prop.	Exist. Prop.	Exist. Prop.
Design	10	340	110 170	388.55	0.04 0.00	388.59 388.55
Base	15	380	120 180	388.87	0.06 0.00	388.93 388.87
Scour Check	100	590	140 240	390.25	0.14 0.00	390.39 390.25
Max. Calc.	200	660	150 260	390.64	0.18 0.00	390.82 390.64
	500	770	160 290	391.19	0.24 0.13	391.43 391.32

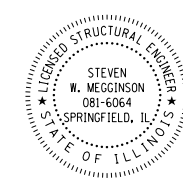
10 Year Velocity through Existing Bridge = 3.1 fps 10 Year Velocity through Proposed Bridge = 2.0 fps

DESIGN SCOUR ELEVATION TABLE

Event/Limit State	Design Scour Elevations (ft.)		Item 113
	W. Abut.	E. Abut.	
Q100	387.7	387.7	8
Q200	387.7	387.7	
Design	387.7	387.7	
Check	387.7	387.7	

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 LRFD Specifications."

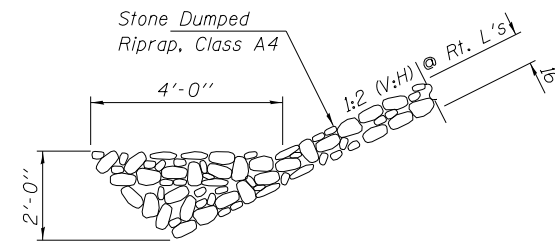
Steven W. Megginson 11/20/2017
ILLINOIS STRUCTURAL ENGINEER NO. 081-6064



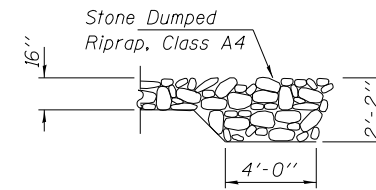
Expires 11-30-2018

GENERAL NOTES

Layout of the slope protection system may be varied to suit ground conditions in the field as directed by the Engineer.
Reinforcement bars designated (E) shall be epoxy coated.
Excavation required to construct the Abutments shall be included in the cost of Concrete Structures. No additional compensation will be allowed for Structure Excavation.
All proposed construction activities shall be in accordance with Nationwide Permit number 14 of the Department of the Army authorized under Section 404 of the Clean Water Act.
The IEPA has issued Section 401 Water Quality Certification for this activity. See Special Provisions for conditions.
Concrete Sealer shall be applied to the designated areas of the abutments.



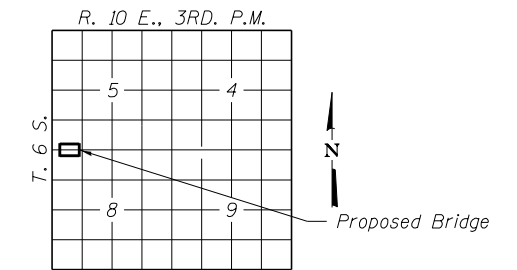
SECTION A-A



SECTION B-B

INDEX OF STRUCTURE SHEETS

1. General Plan & Elevation
2. 27"x48" PPC Deck Beam
3. 27"x48" PPC Deck Beam Details
4. Superstructure Details
5. Steel Railing, Type S-1
6. Abutments
7. HP Pile Details
- 8-9. Borings



LOCATION SKETCH

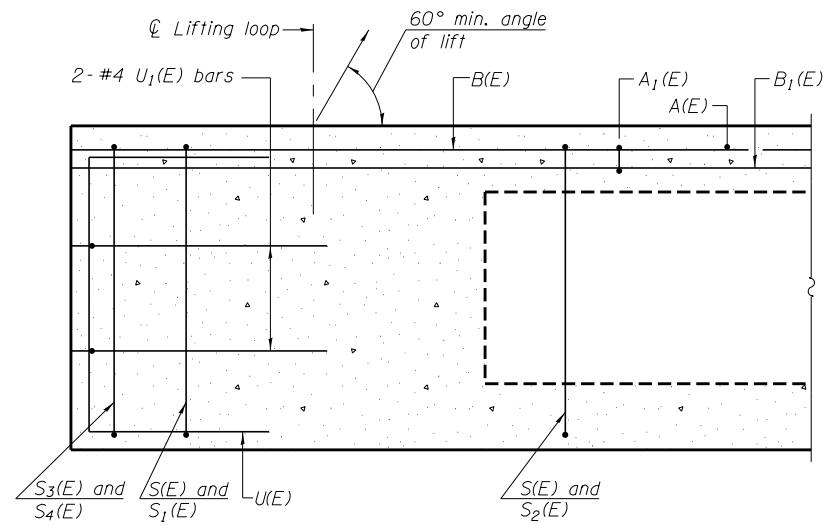
BUILT 2011 BY
WHITE COUNTY
SEC. 14-03120-00-BR
EMMA ROAD DISTRICT
STR. NO. 097-3297
LOADING HL-93

NAME PLATE

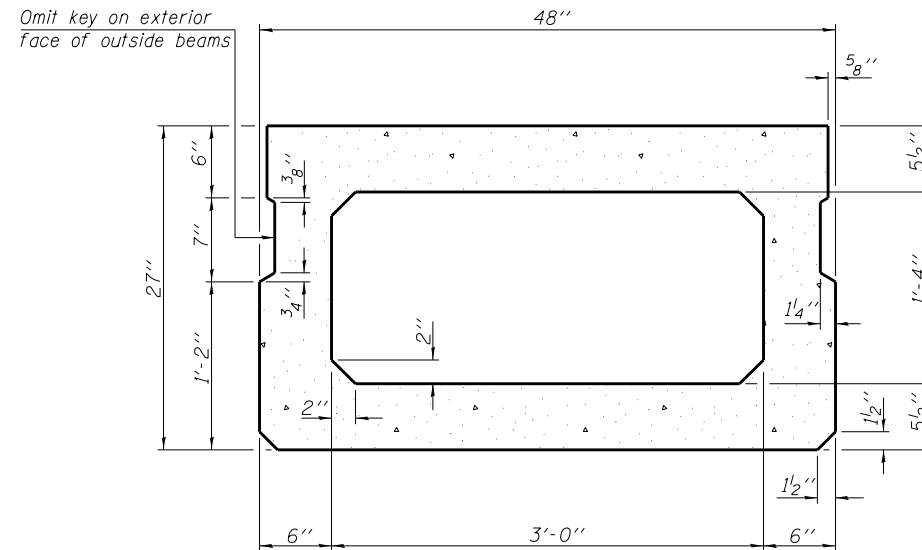
See Std. 515001

TOTAL BILL OF MATERIAL

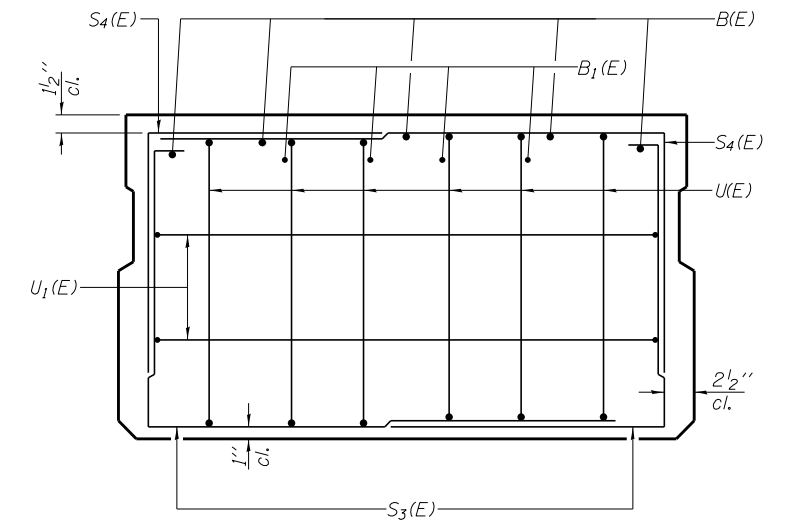
ITEM	UNIT	SUPER	SUB	TOTAL
Channel Excavation	Cu. Yd.			320
Stone Dumped Riprap, Class A4	Ton			240
Removal of Existing Structures	Each			1
Concrete Structures	Cu. Yd.		29.6	29.6
Concrete Encasement	Cu. Yd.		3.4	3.4
Precast Prestressed Concrete Deck Beams (27" Depth)	Sq. Ft.	1,560		1,560
Reinforcement Bars, Epoxy Coated	Pound		3,110	3,110
Steel Railing, Type S-1	Foot	128		128
Furnishing Steel Piles HP10x42	Foot		500	500
Driving Piles	Foot		500	500
Name Plates	Each		1	1
Concrete Sealer	Sq. Ft.		115	115
Terminal Marker - Direct Applied	Each	4		4



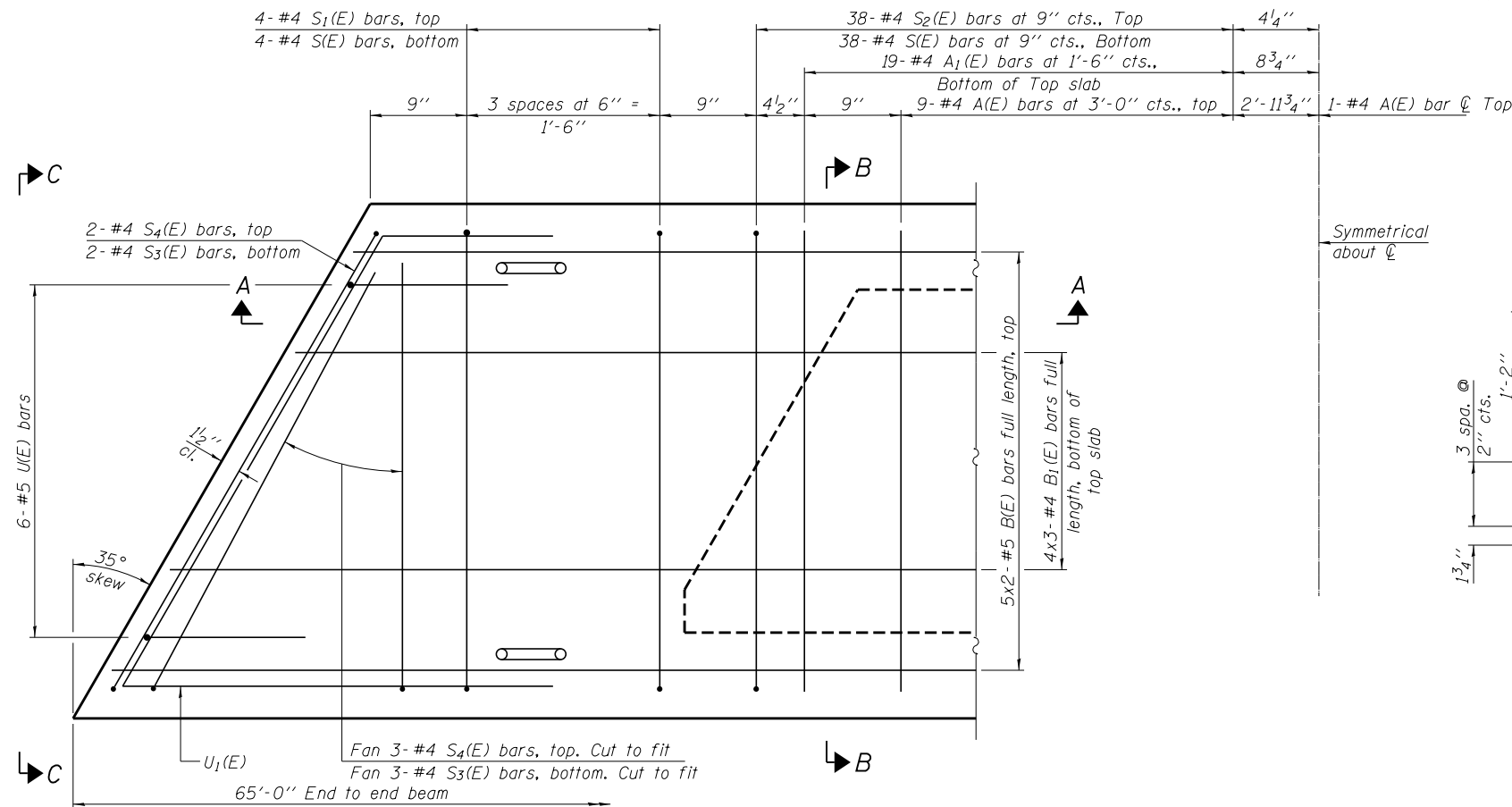
SECTION A-A



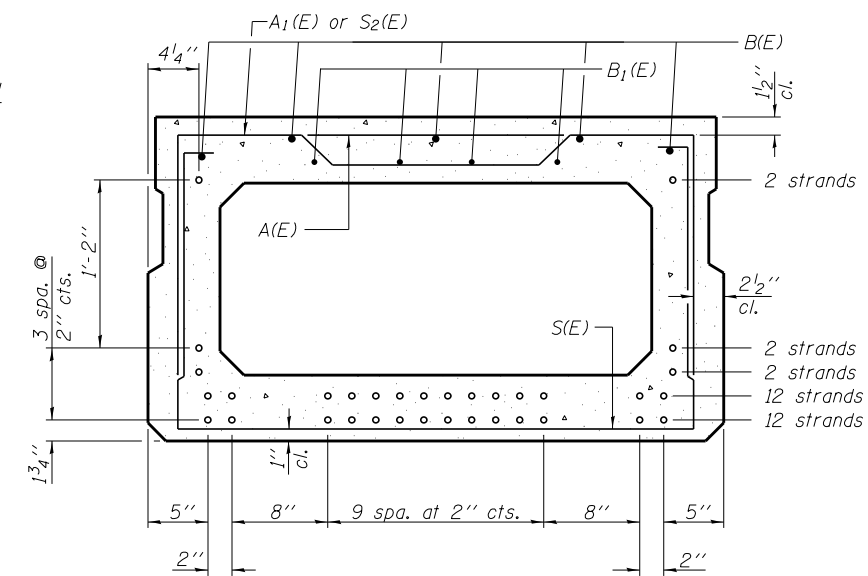
SECTION B-B
(Showing dimensions)



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)	19	#4	3'-7"	—
A1(E)	38	#4	3'-10"	~
B(E)	10	#5	33'-8"	—
B1(E)	12	#4	22'-11"	—
S(E)	84	#4	8'-5"	⌈
S1(E)	8	#4	6'-11"	⌈
S2(E)	76	#4	7'-2"	⌈
S3(E)	10	#4	5'-8"	⌈
S4(E)	10	#4	4'-11"	⌈
U(E)	12	#5	4'-6"	⌈
U1(E)	4	#4	9'-3"	⌈

Note: See sheet 3 & 4 of 9 for additional details and Bill of Material.

Notes:
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 5x2-#5 etc. indicates 5 lines of bars with 2 lengths per line.

MINIMUM BAR LAP

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

PD-2748-L

06-01-16

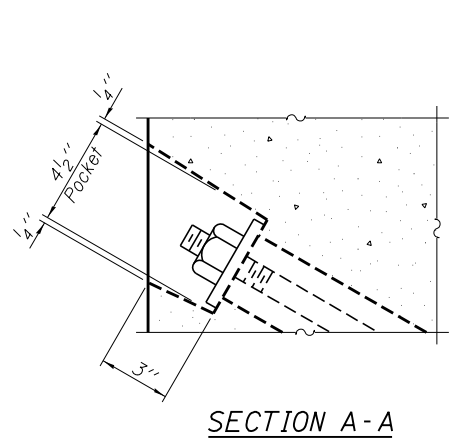
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HAMPTON, LENZINI AND RENWICK, INC. 3085 STEVENSON DRIVE, SUITE 201 SPRINGFIELD, ILLINOIS 62703 ILLINOIS PROFESSIONAL DESIGN FIRM L5 / PE / SE CORP. 184.000959	PLOT SCALE = #SCALE#	CHECKED - S.W.M.	REVISED -
PLOT DATE = 11/21/2017		DRAWN - R.D.H.	REVISED -
		CHECKED - S.W.M.	REVISED -

STATE OF ILLINOIS
WHITE COUNTY HIGHWAY DEPARTMENT

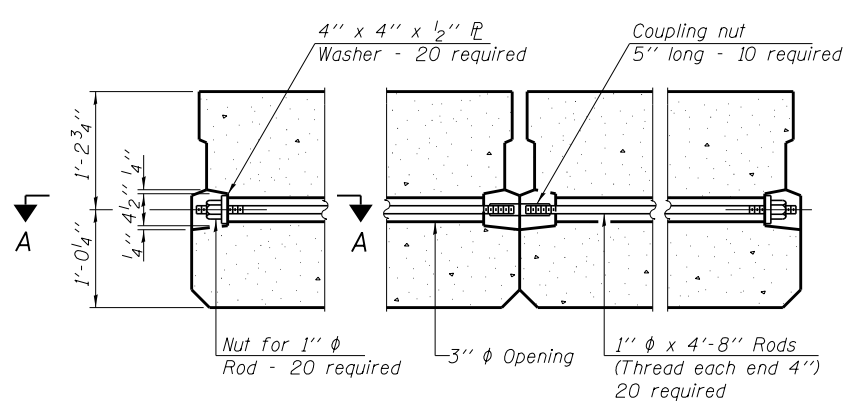
27" x 48" PPC DECK BEAM
STRUCTURE NO. 097-3297

SHEET NO. 2 OF 9 SHEETS

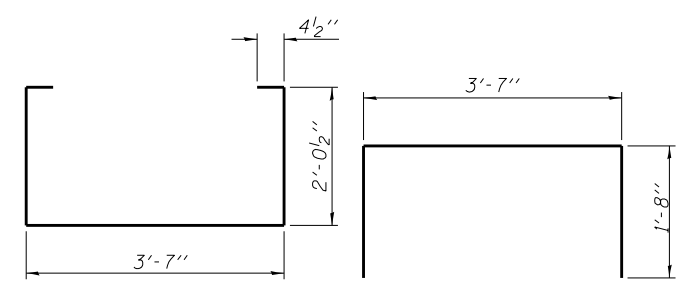
T.R.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
267	14-03120-00-BR	WHITE	17	10
EMMA ROAD DISTRICT		CONTRACT NO. 99592		
ILLINOIS FED. AID PROJECT				



SECTION A-A

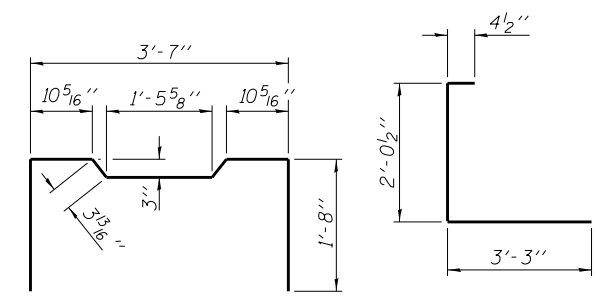


TYPICAL TRANSVERSE TIE ASSEMBLY



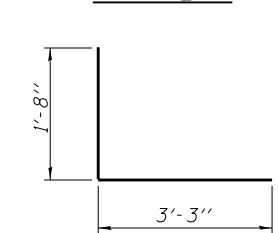
BAR S(E)

BAR S1(E)

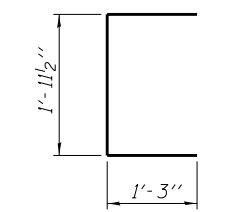


BAR S2(E)

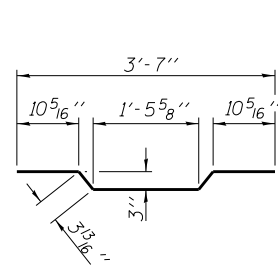
BAR S3(E)



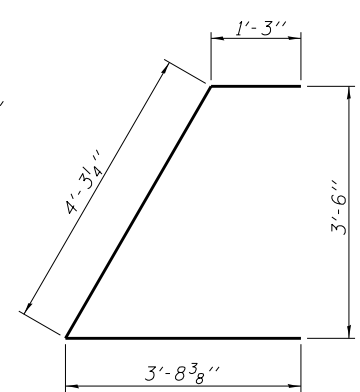
BAR S4(E)



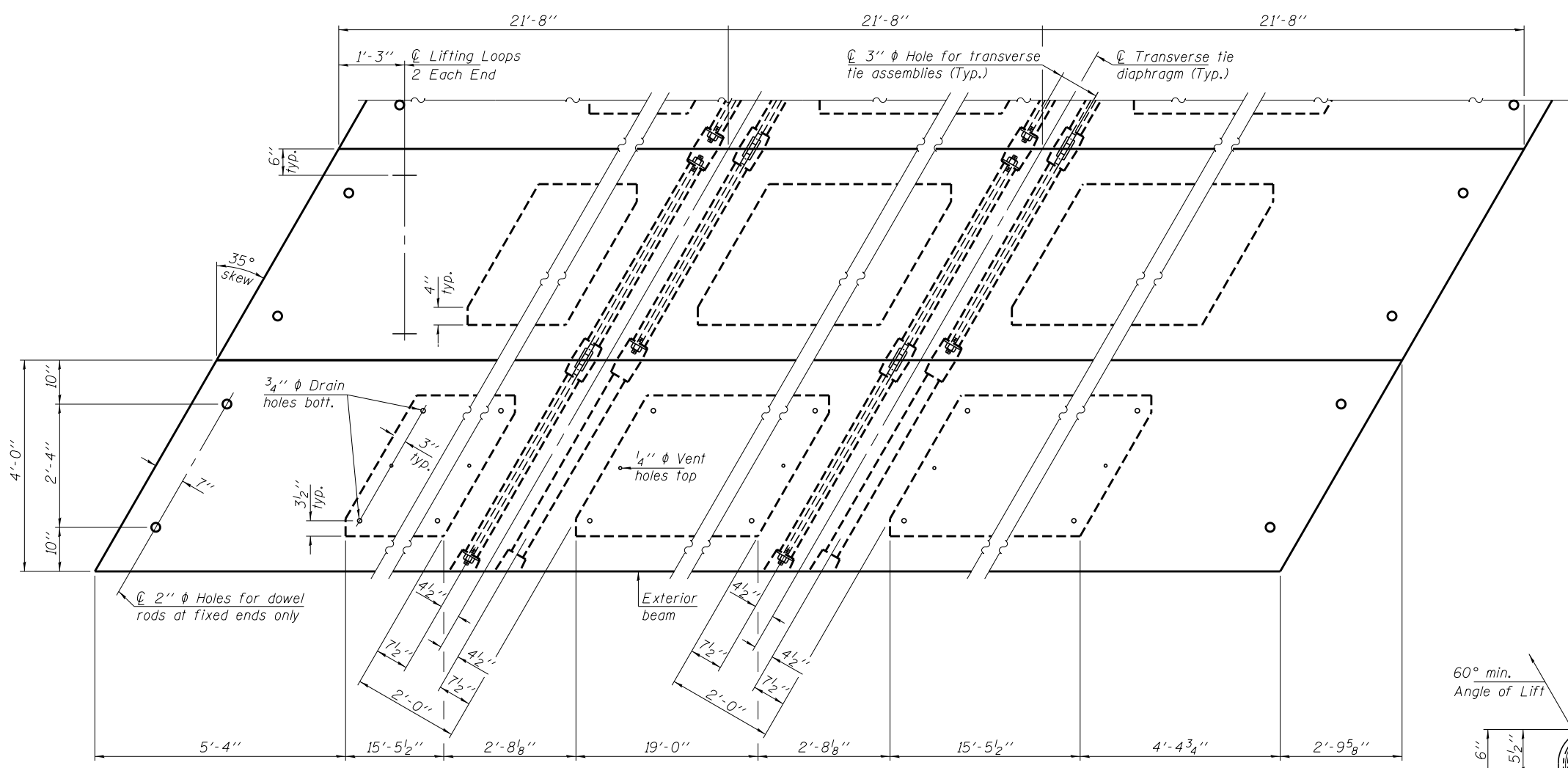
BAR U(E)



BAR A1(E)



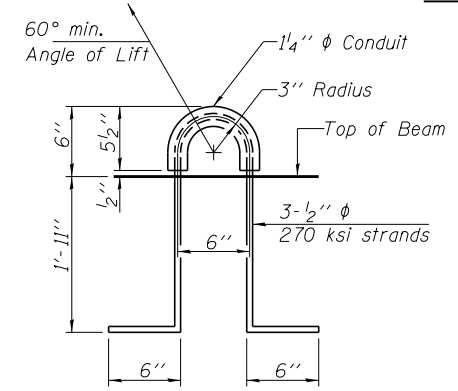
BAR U1(E)



NOTES

Prestressing steel shall be uncoated high strength, low relaxation 7-wire strand, Grade 270. The nominal diameter shall be 1/2 inch and the nominal cross-sectional area shall be 0.153 sq. in. The 1 inch 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 inch fabric adjusting shims of the dimensions of the exterior bearing pad shall be provided for each bearing pad location. A minimum 2 1/2 inch 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. Reinforcement bars designated (E) shall be epoxy coated.

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



LIFTING LOOP DETAIL

BILL OF MATERIAL

Precast Prestressed Conc. Deck Bms. (27" depth)	Sq. Ft.	1,560
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PD-2748-LD 06-01-16

FILE NAME = 151430-sht-bridge.dgn	USER NAME = rhosck	DESIGNED - L.A.P.	REVISED -
HAMPTON, LENZINI AND RENWICK, INC.		CHECKED - S.W.M.	REVISED -
3085 STEVENSON DRIVE, SUITE 201 SPRINGFIELD, ILLINOIS 62703 ILLINOIS PROFESSIONAL DESIGN FIRM LS / PE / SE CORP. 184.000959	PLOT SCALE = #SCALE#	DRAWN - R.D.H.	REVISED -
	PLOT DATE = 11/21/2017	CHECKED - S.W.M.	REVISED -

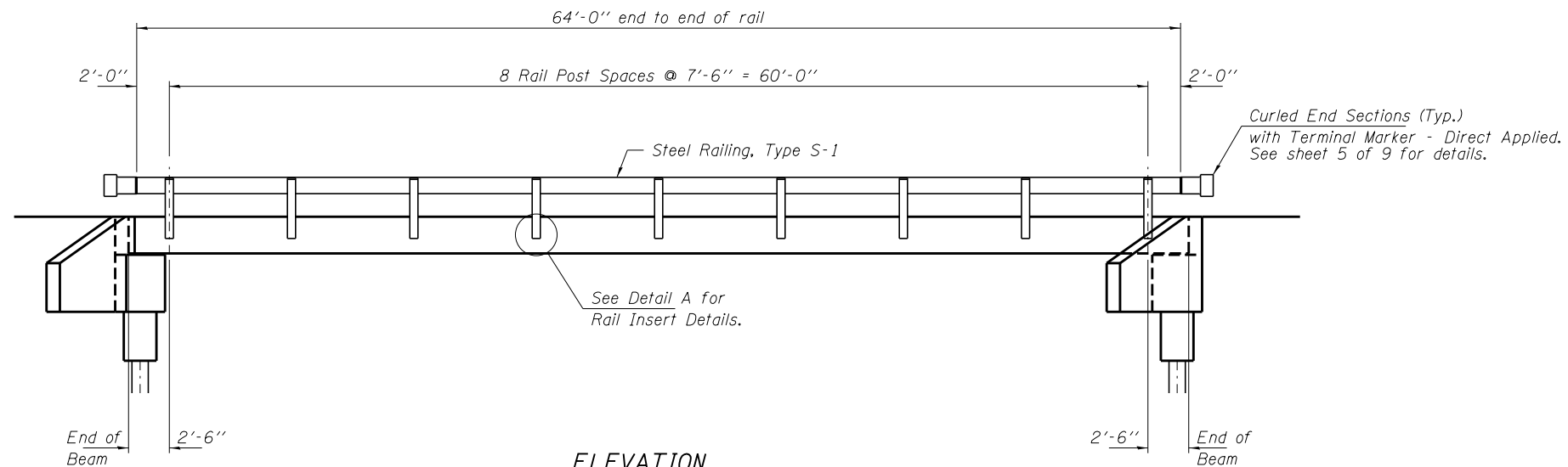
STATE OF ILLINOIS
WHITE COUNTY HIGHWAY DEPARTMENT

27" x 48" PPC DECK BEAM DETAILS
STRUCTURE NO. 097-3297

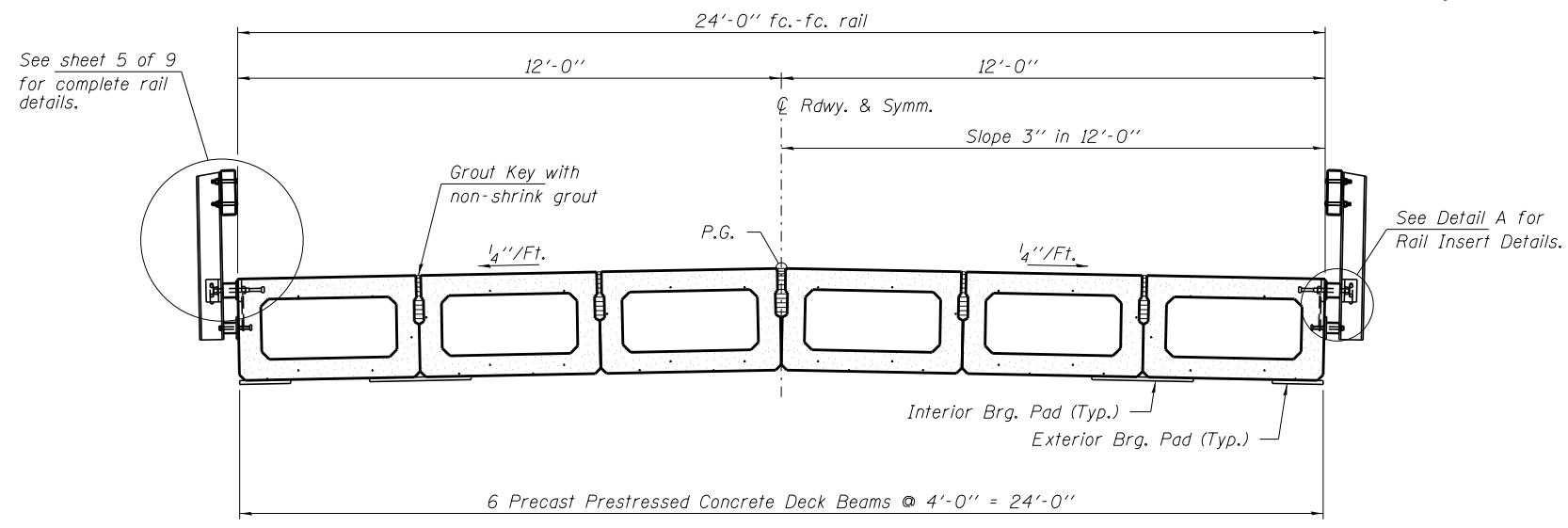
SHEET NO. 3 OF 9 SHEETS

T.R.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
267	14-03120-00-BR	WHITE	17	11
EMMA ROAD DISTRICT		CONTRACT NO. 99592		

ILLINOIS FED. AID PROJECT



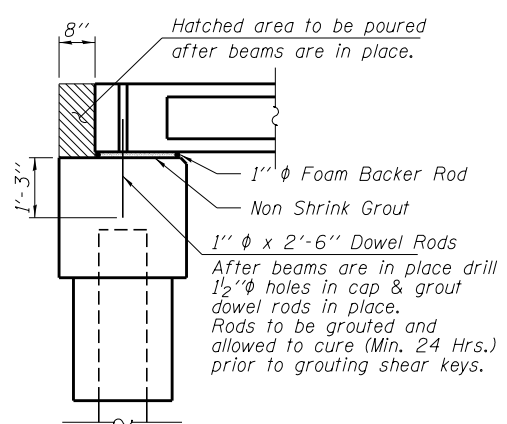
ELEVATION
Showing Rail Post Spaces
See sheet 5 of 9 for Railing Details.



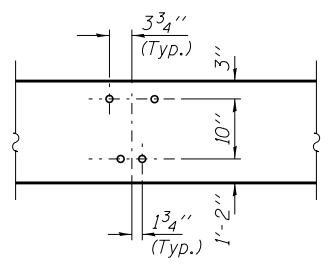
CROSS SECTION
See sheets 3 & 4 of 9 for Superstructure.

See sheet 5 of 9 for complete rail details.

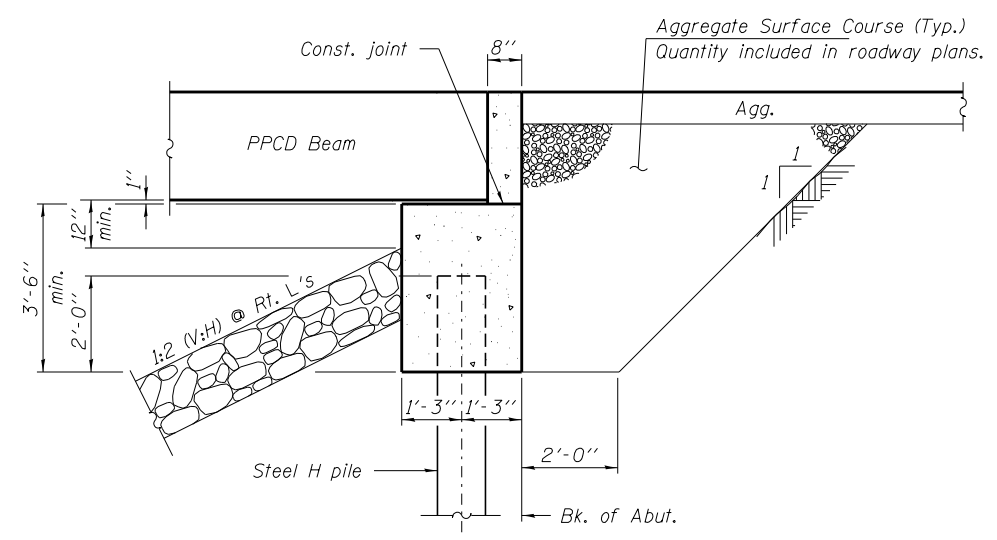
See Detail A for Rail Insert Details.



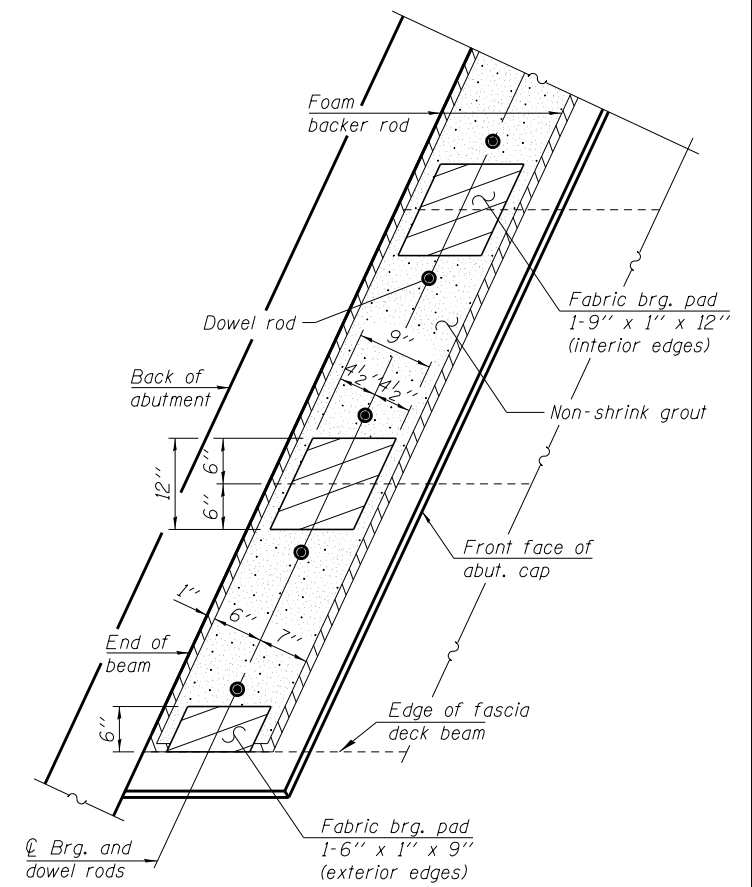
SECTION AT ABUTMENTS
@ Rt. L's



DETAIL A



SECTION THRU ABUTMENT
(Horiz. dim. @ Rt. L's)



PLAN
(Abutment)

Notes:
The bearing seat surfaces shall be adjusted by shimming the bearing to assure firm and even bearing prior to placement of grout. 2-1/8" fabric adjusting shims of the dimensions of the exterior bearing pad shown shall be provided for each bearing.

FILE NAME = 151430-sht-bridge.dgn	USER NAME = rhosck	DESIGNED - L.A.P.	REVISED -
HAMPTON, LENZINI AND RENWICK, INC. 3035 STEVENSON DRIVE, SUITE 201 SPRINGFIELD, ILLINOIS 62703 ILLINOIS PROFESSIONAL DESIGN FIRM L.S./P.E./S.E. CORP. 184.000959		CHECKED - S.W.M.	REVISED -
	PLOT SCALE = #SCALE#	DRAWN - R.D.H.	REVISED -
	PLOT DATE = 11/21/2017	CHECKED - S.W.M.	REVISED -

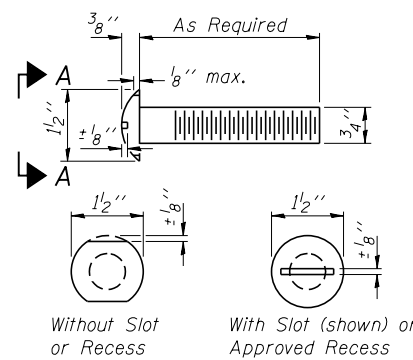
STATE OF ILLINOIS
WHITE COUNTY HIGHWAY DEPARTMENT

SUPERSTRUCTURE DETAILS
STRUCTURE NO. 097-3297

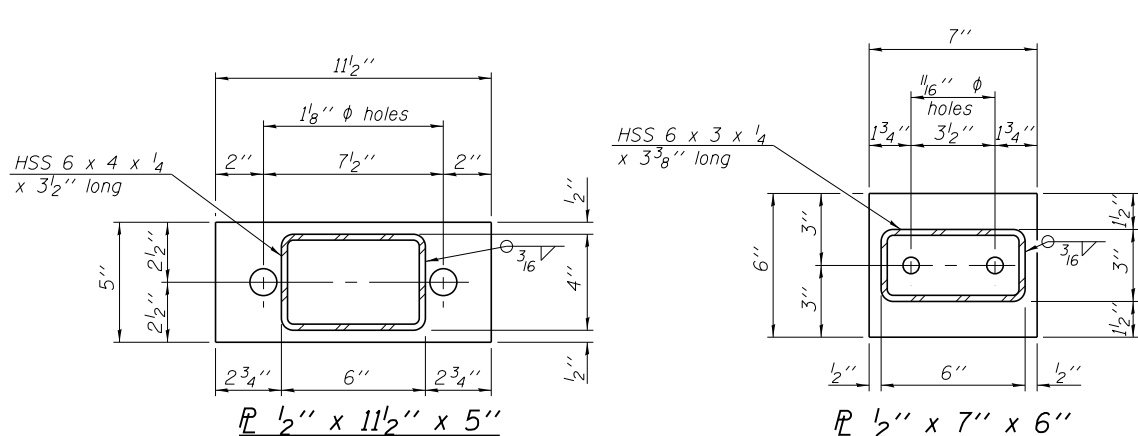
SHEET NO. 4 OF 9 SHEETS

T.R.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
267	14-03120-00-BR	WHITE	17	12
EMMA ROAD DISTRICT			CONTRACT NO. 99592	

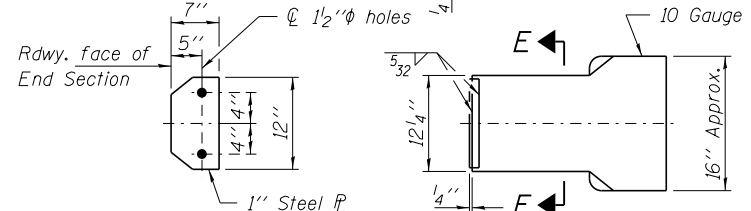
ILLINOIS FED. AID PROJECT



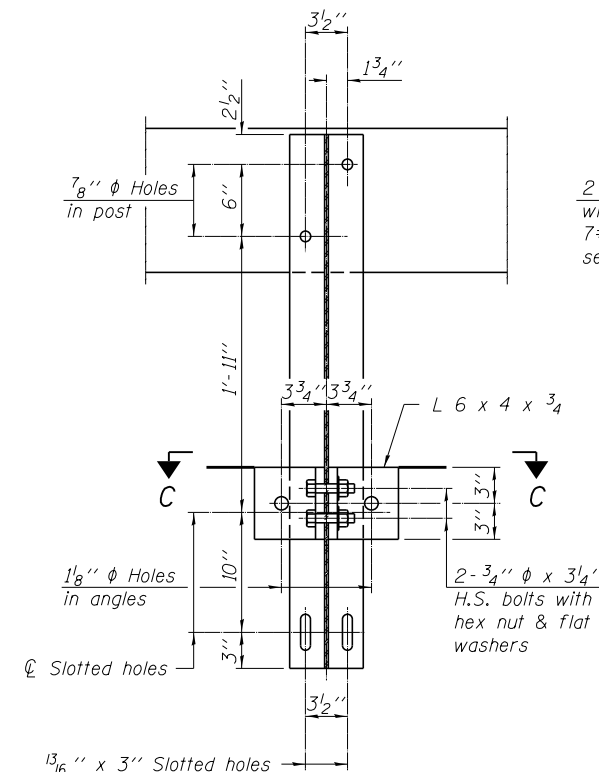
VIEW A-A
ROUND HEAD BOLT



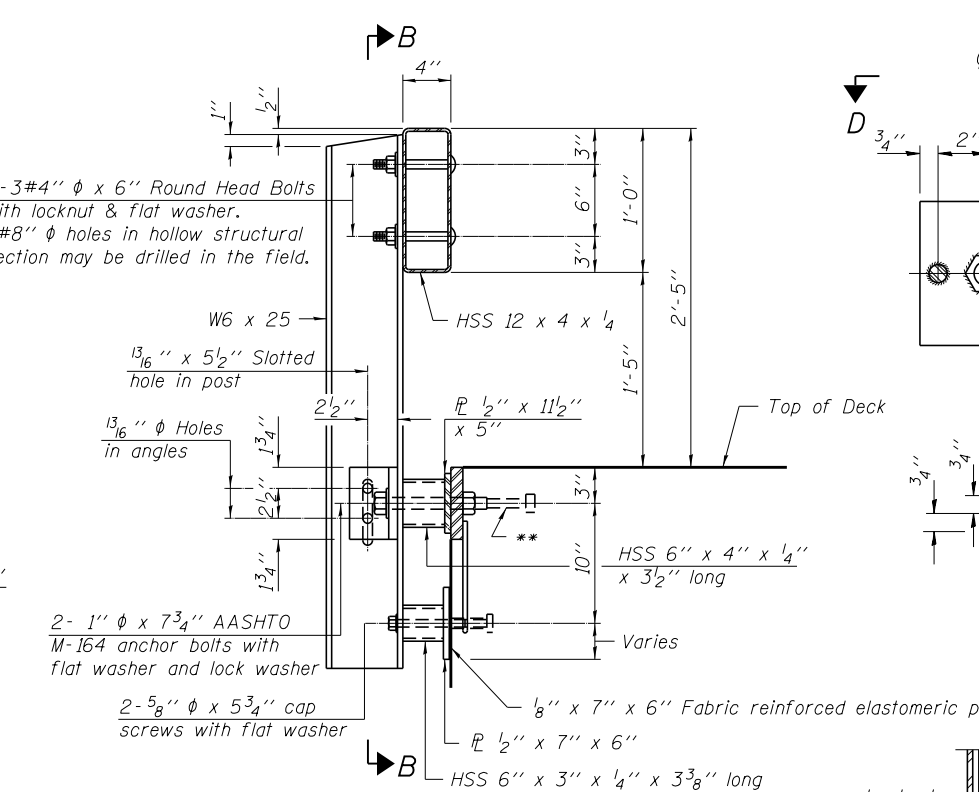
Note: Cost of curled end sections shall be included with the Steel Railing. (4 Required)



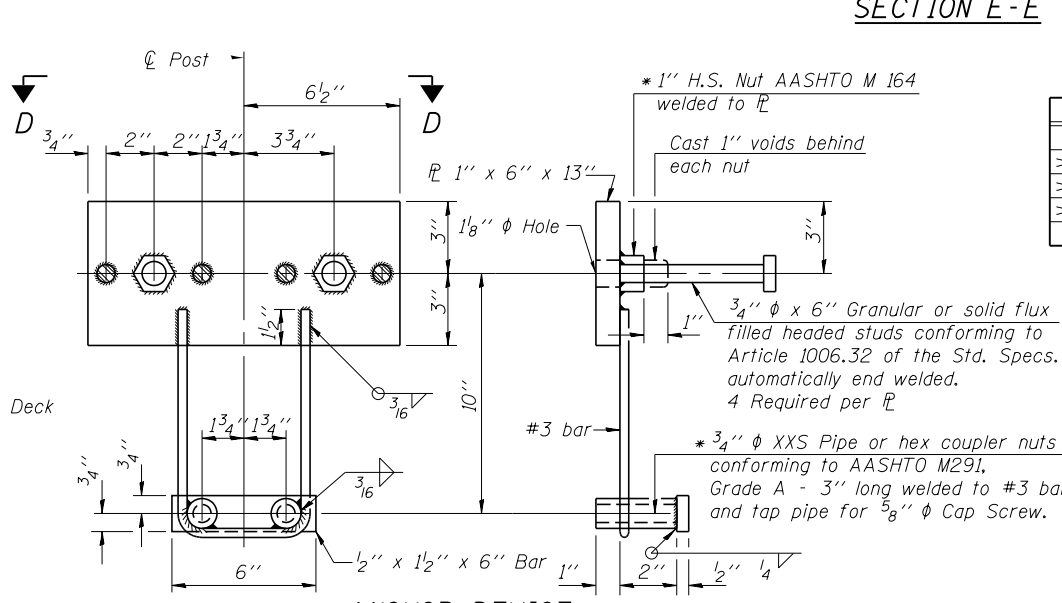
SECTION E-E CURLED END SECTION DETAILS



SECTION B-B



SECTION AT RAILING POST



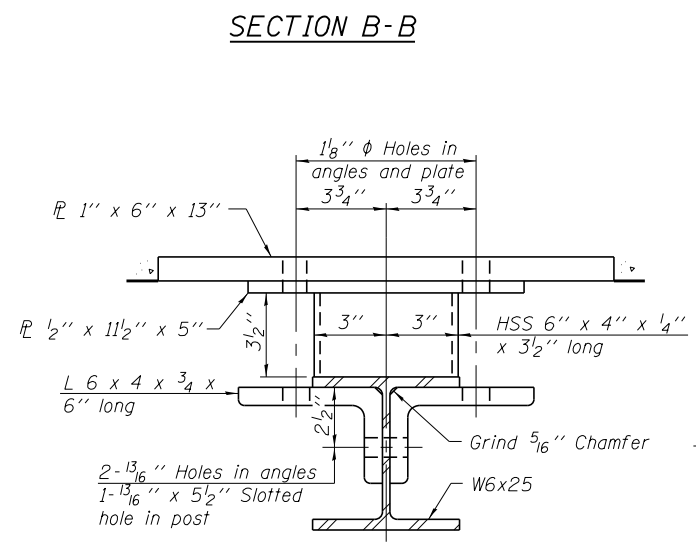
ANCHOR DEVICE

SPLICE DIMENSIONS

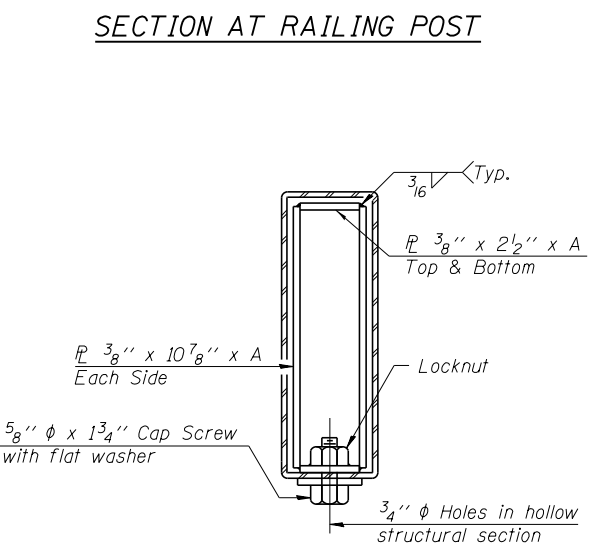
T	D	A	B	C	E
≤ 4"	2 1/2"	1'-8"	2"	4"	2 1/2"
> 4" ≤ 6 1/2"	3 3/4"	2'-0"	2 1/2"	5 1/2"	3 1/2"
> 6 1/2" ≤ 9"	5"	2'-4"	3 1/2"	6 1/2"	9"
> 9" ≤ 13"	7"	2'-10"	4 1/2"	8 1/2"	11"
Rail Splice	1 1/4"	1'-8"	2"	4"	—

T = Total movement at expansion joint as shown on the design plans.

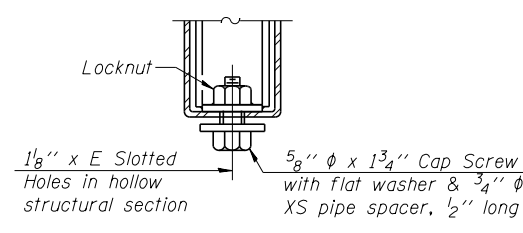
Notes:
 For multi-span bridges, sufficient 1/4 inch x 6 inch x 1'-2 inch galvanized steel shims shall be provided to align rail between adjacent spans. Cost included with Steel Railing, Type S-1.
 All steel rail elements shall be galvanized according to Article 509.05 of the Standard Specifications.
 * 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.



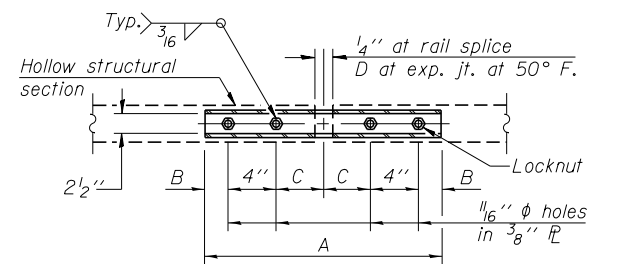
SECTION C-C



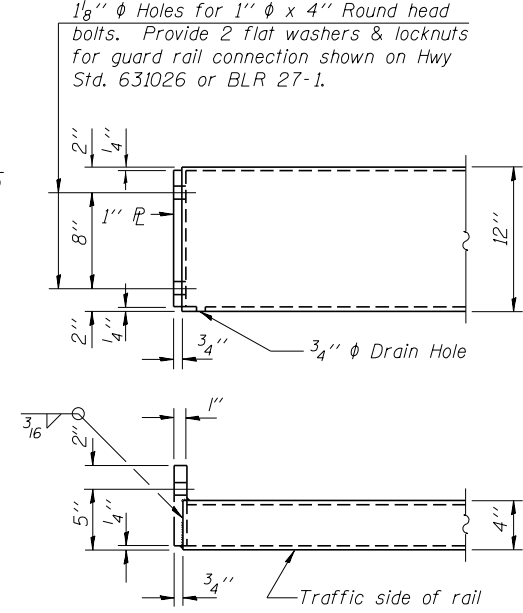
SECTIONS AT RAIL SPLICE



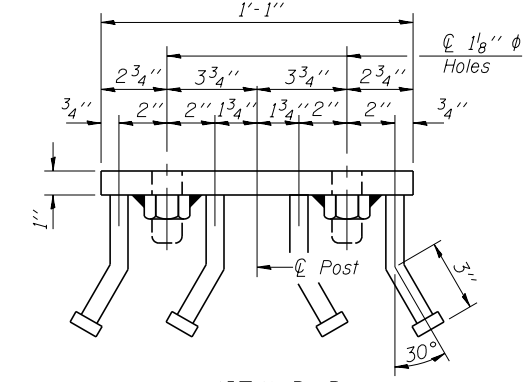
RAIL SPLICE CONNECTION AT EXPANSION JT.



PLAN-BOTT. SPLICE TYPICAL



END OF RAIL DETAILS



VIEW D-D

BILL OF MATERIAL

Item	Unit	Quantity
Steel Railing, Type S-1	Foot	128

R-23A 11-22-16 (10'-9" Maximum Post Spacing)

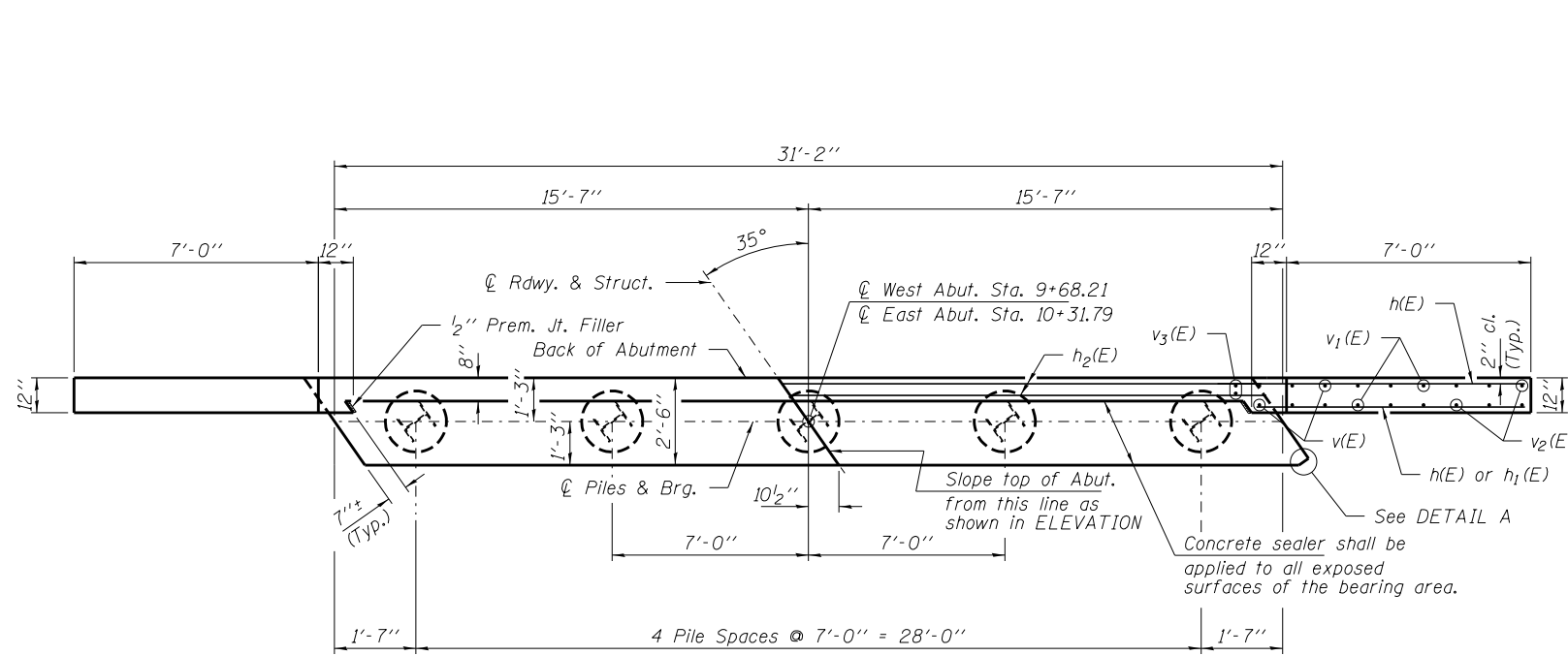
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HAMPTON, LENZINI AND RENWICK, INC. 3085 STEVENSON DRIVE, SUITE 201 SPRINGFIELD, ILLINOIS 62763 ILLINOIS PROFESSIONAL DESIGN FIRM L5 / PE / SE CORP. 184.000959	PLOT SCALE = #SCALE#	CHECKED - S.W.M.	REVISED -
	PLOT DATE = 11/21/2017	DRAWN - R.D.H.	REVISED -
		CHECKED - S.W.M.	REVISED -

STATE OF ILLINOIS
WHITE COUNTY HIGHWAY DEPARTMENT

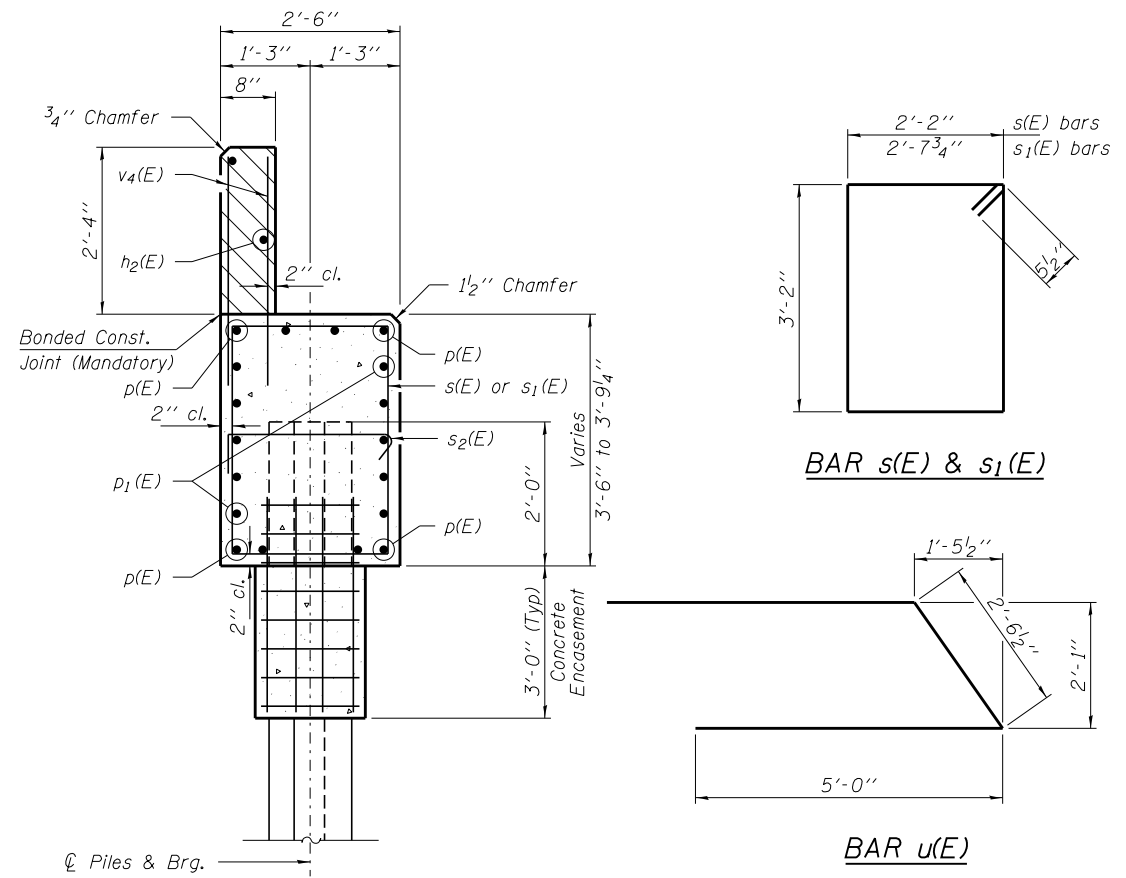
STEEL RAILING, TYPE S-1
STRUCTURE NO. 097-3297

SHEET NO. 5 OF 9 SHEETS

T.R.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
267	14-03120-00-BR	WHITE	17	13
EMMA ROAD DISTRICT			CONTRACT NO. 99592	
ILLINOIS FED. AID PROJECT				

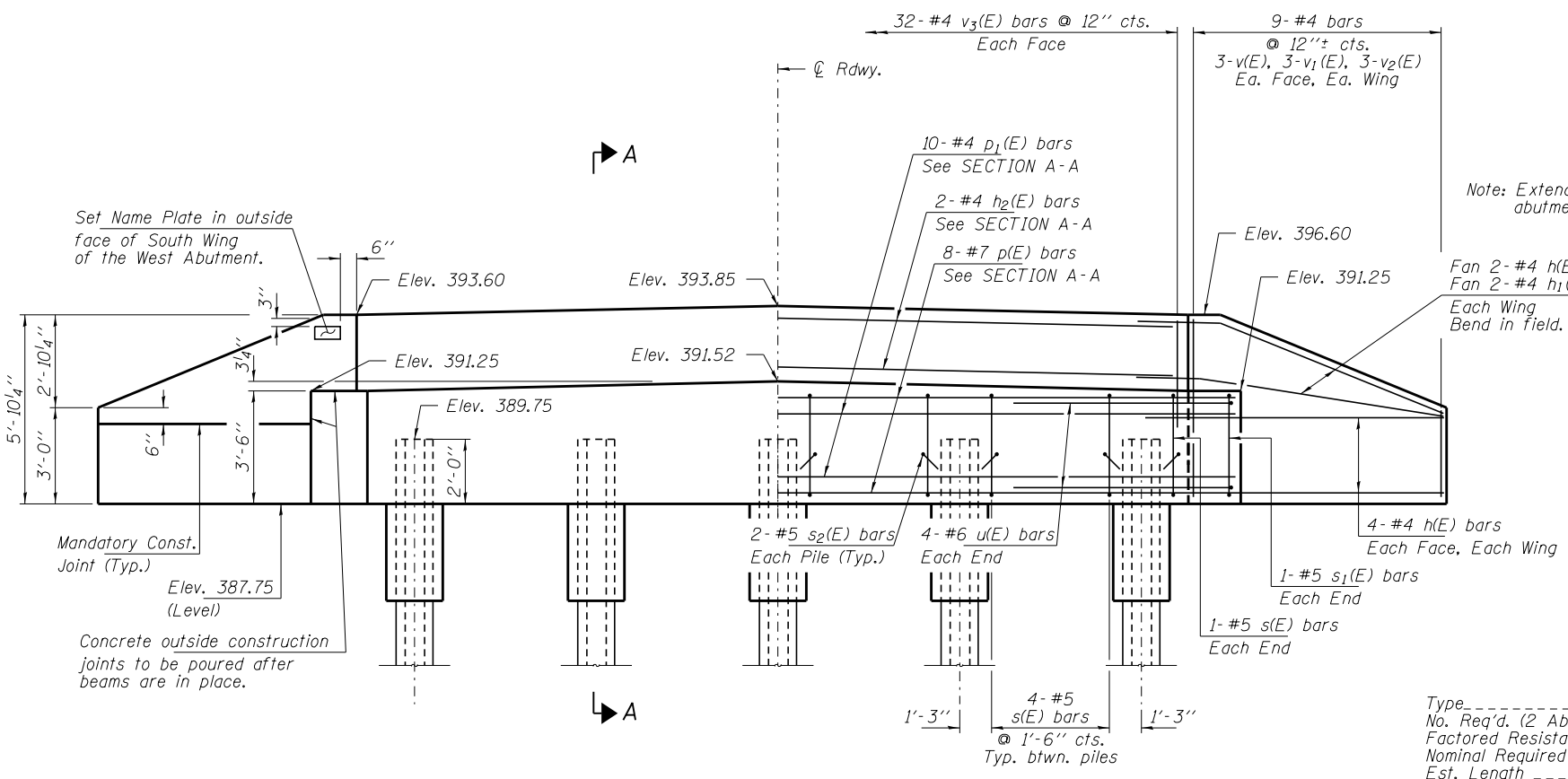


PLAN

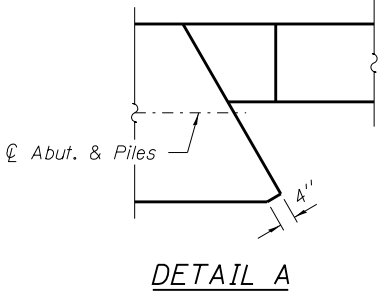


SECTION A-A

Hatched area to be poured after beams are in place.
Cast top of wingwall flush with exterior beam face after beams have been erected.



ELEVATION



DETAIL A

PILE DATA

Type ----- Steel HPI0x42
No. Req'd. (2 Abuts.) ----- 10
Factored Resistance Available (Rf) ----- 184 Kips/Pile
Nominal Required Bearing (Rn) ----- 335 Kips/Pile
Est. Length ----- 50 Ft/Pile

BILL OF MATERIAL - 2 ABUTS.

BAR	NO.	SIZE	LENGTH	SHAPE
h(E)	40	#4	9'-3"	—
h1(E)	8	#4	7'-9"	—
h2(E)	4	#4	30'-10"	—
p(E)	16	#7	30'-10"	—
p1(E)	20	#4	30'-10"	—
s(E)	36	#5	11'-7"	□
s1(E)	4	#5	12'-7"	□
s2(E)	20	#5	3'-4"	U
u(E)	16	#6	12'-7"	U
v(E)	24	#4	5'-0"	—
v1(E)	24	#4	3'-10"	—
v2(E)	24	#4	2'-8"	—
v3(E)	128	#4	3'-2"	—
Concrete Structures		Cu. Yd.	29.6	
Concrete Encasement		Cu. Yd.	3.4	
Reinforcement Bars, Epoxy Coated		Pound	3,110	
Furnishing Steel Piles HPI0x42		Foot	500	
Name Plates		Each	1	
Concrete Sealer		Sq. Ft.	115	

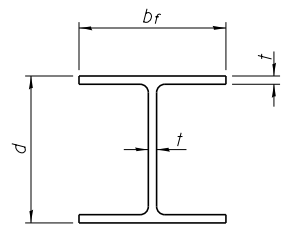
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HAMPTON, LENZINI AND RENWICK, INC.		CHECKED - S.W.M.	REVISED -
3035 STEVENSON DRIVE, SUITE 201		DRAWN - R.D.H.	REVISED -
SPRINGFIELD, ILLINOIS 62703		CHECKED - S.W.M.	REVISED -
ILLINOIS PROFESSIONAL DESIGN FIRM			
LS / PE / SE CORP. 184.000959			

STATE OF ILLINOIS
WHITE COUNTY HIGHWAY DEPARTMENT

ABUTMENTS
STRUCTURE NO. 097-3297

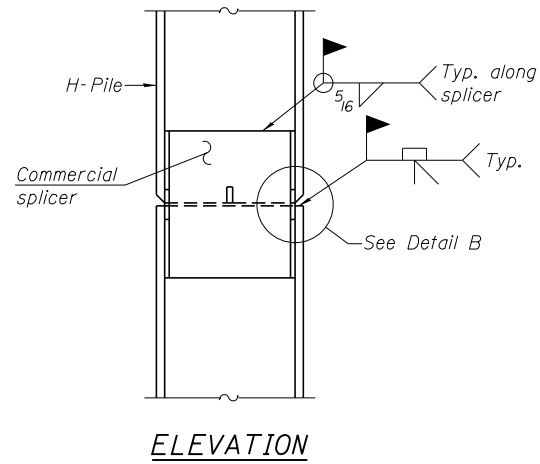
SHEET NO. 6 OF 9 SHEETS

T.R.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
267	14-03120-00-BR	WHITE	17	14
EMMA ROAD DISTRICT		CONTRACT NO. 99592		
ILLINOIS FED. AID PROJECT				

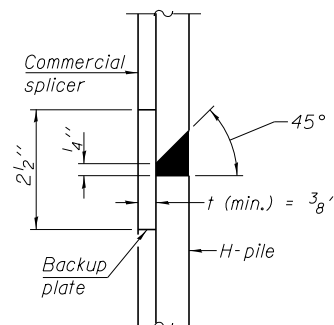


STEEL PILE TABLE

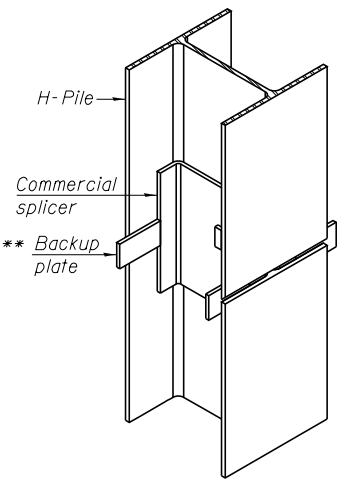
Designation	Depth d	Flange width br	Web and Flange thickness t	Encasement diameter A
HP 14x117	14 1/4"	14 7/8"	13/16"	30"
x102	14"	14 3/4"	1/16"	30"
x89	13 7/8"	14 3/4"	5/8"	30"
x73	13 5/8"	14 5/8"	1/2"	30"
HP 12x84	12 1/4"	12 1/4"	1/16"	24"
x74	12 1/8"	12 1/4"	5/8"	24"
x63	12"	12 1/8"	1/2"	24"
x53	11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



ELEVATION

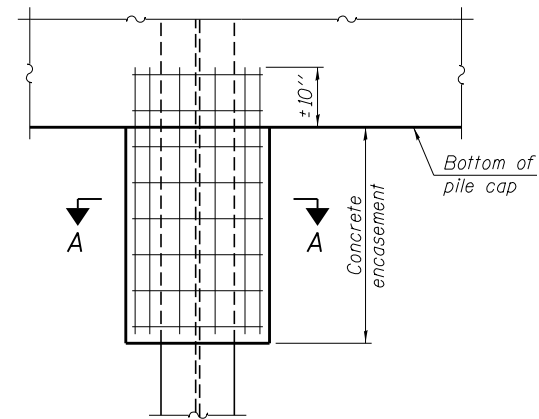


DETAIL "B"



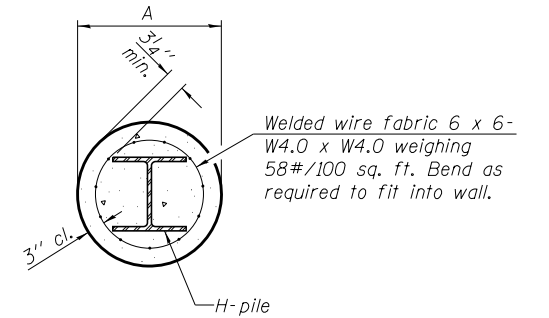
ISOMETRIC VIEW

WELDED COMMERCIAL SPLICE



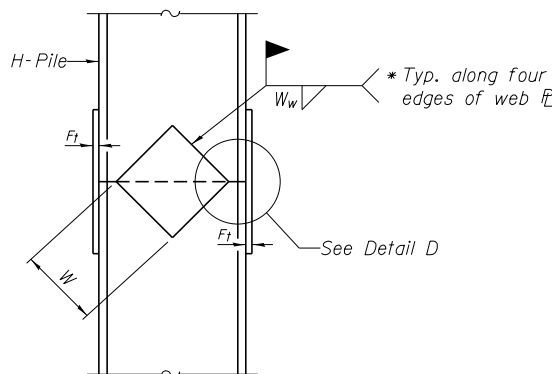
ELEVATION

PILE ENCASEMENT

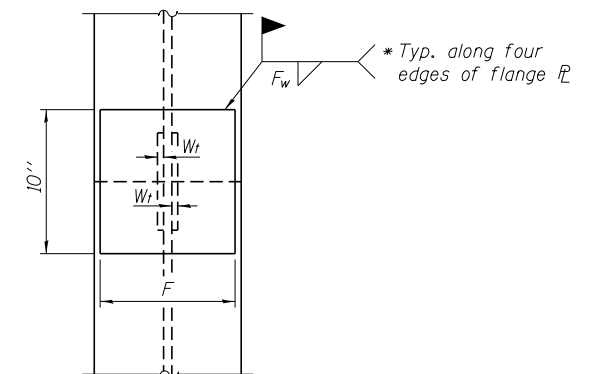


SECTION A-A

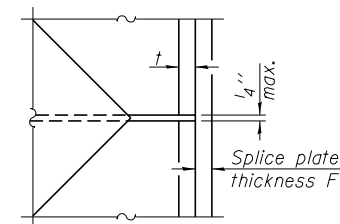
Note:
Forms for encasement may be omitted when soil conditions permit.



ELEVATION



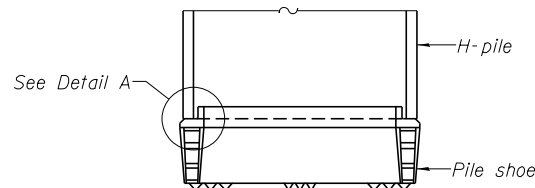
END VIEW



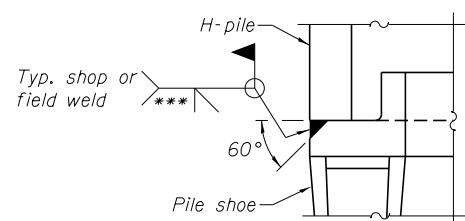
DETAIL D

WELDED PLATE FIELD SPLICE

Designation	F	F _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"	1/16"	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"	1/16"	6 1/2"	5/8"	1/2"
x74	10"	7/8"	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"

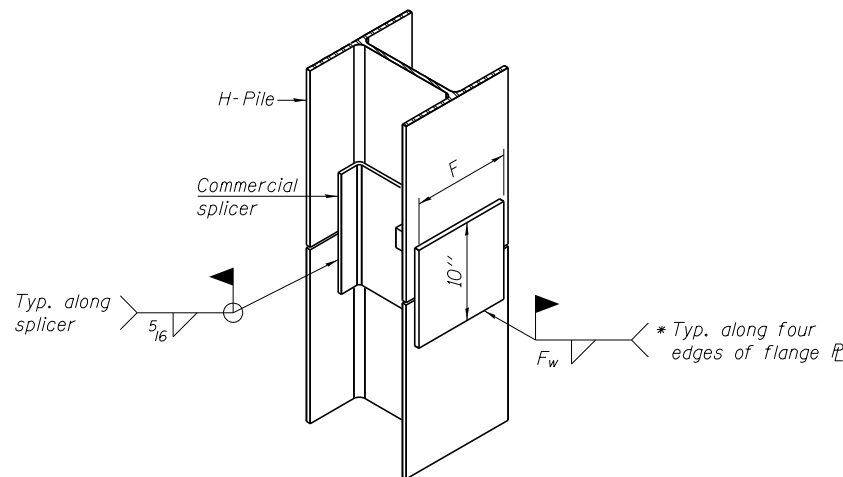


ELEVATION



DETAIL A

H-PILE SHOE ATTACHMENT



ISOMETRIC VIEW

WELDED COMMERCIAL SPLICE ALTERNATE

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

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

F-HP 1-27-12

