

PLANS FOR PROPOSED SURFACE TRANSPORTATION PROGRAM OFF SYSTEM BRIDGE

**PROJECT 9EXR(862)
SECTION 19-07116-00-BR
LOCUST ROAD DISTRICT
CHRISTIAN COUNTY
T.R. 196A /1600E ROAD
PROPOSED STRUCTURE NO. 011-3424
C-96-061-21**

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
T.R. 196A	19-07116-00-BR	CHRISTIAN	33	1
FED. ROAD DIST. NO.	ILLINOIS CONTRACT NO. 93789			

INDEX OF SHEETS

SHEET NO.	DESCRIPTION
1.	COVER SHEET
2.	SUMMARY OF QUANTITIES AND GENERAL NOTES
3.	TYPICAL CROSS SECTIONS
4-5.	PLAN AND PROFILE
6.	INTERSECTION DETAIL
7-19.	BRIDGE PLANS
20-33.	STATION CROSS SECTIONS

HIGHWAY STANDARDS:

515001-04	NAME PLATE FOR BRIDGES
701901-08	TRAFFIC CONTROL DEVICES
725001-01	OBJECT AND TERMINAL MARKERS
BLR 21-9	TYPICAL APPLICATION OF TRAFFIC CONTROL DEVICES FOR CONSTRUCTION ON RURAL LOCAL HIGHWAYS

UTILITIES

SHELBY ELECTRIC CO-OP
IL RTE & N. 6TH
P.O. BOX 166
SHELBYVILLE, IL 62565

CONSOLIDATED COMMUNICATIONS
P.O. BOX 220
TAYLORVILLE, IL 62568

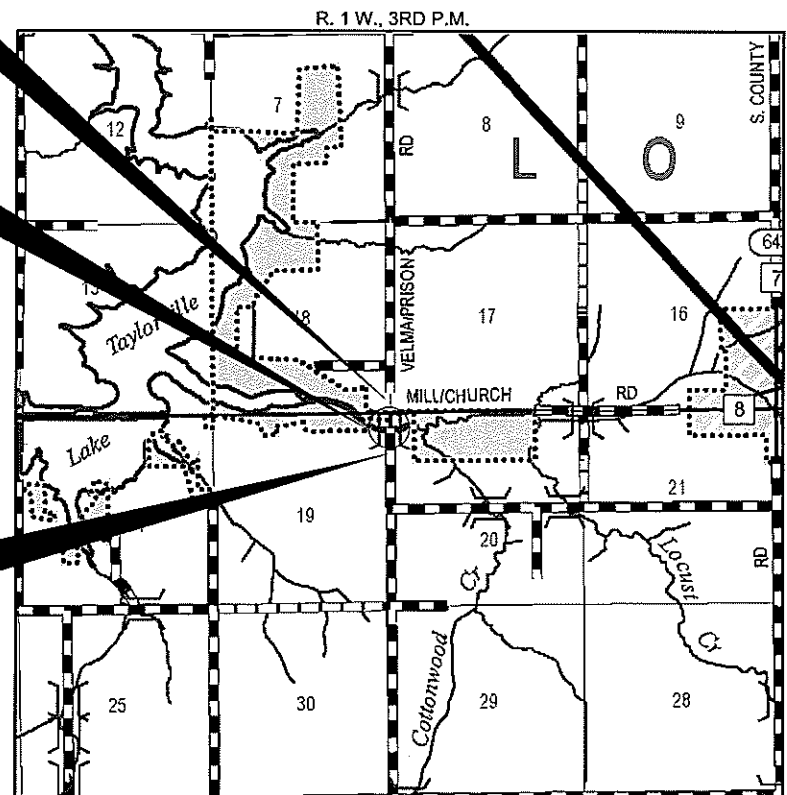
EJ WATER CO-OP
P.O. BOX 8
DIETERICH, IL 62424

NEW WAVE COMMUNICATIONS / SPARK LIGHT
1209 N. STATE ST.
WESTVILLE, IL 61883

STA. 10+08
PRECAST PRESTRESSED CONCRETE DECK BEAM BRIDGE.
3 SPANS: 35'-0", 50'-0", 35'-0"
27'-0" RDWY.; SKEW = 0°
EXISTING STRUCTURE NO. 011-3153
PROPOSED STRUCTURE NO. 011-3424

IMPROVEMENT ENDS
STATION 14+46

IMPROVEMENT BEGINS
STATION 6+50

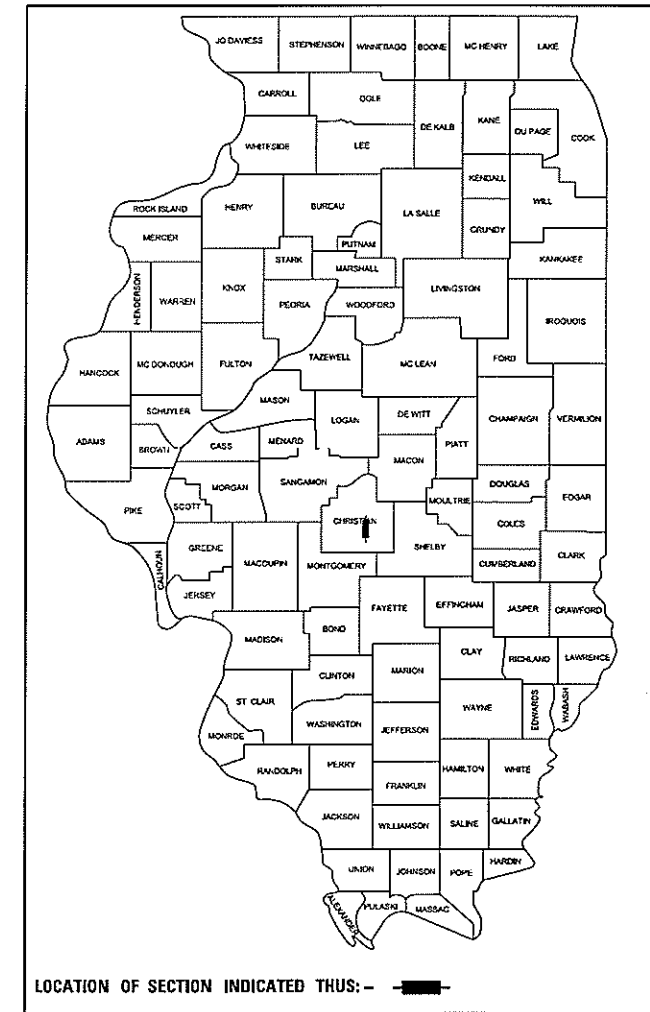


LOCATION MAP

APPROXIMATE SCALE: 0 1/2 MILE
NET LENGTH OF SECTION = 796 FEET = 0.151 MILES

FUNCTIONAL CLASSIFICATION: LOCAL ROAD (0-250 ADT)
DESIGN SPEED: 40 MPH
DESIGN TRAFFIC: 250 ADT

CONTRACT NO. 93789 PRINTED BY AUTHORITY OF THE STATE OF ILLINOIS



ILLINOIS DEPARTMENT OF TRANSPORTATION

APPROVED 3/18/22
Craig D. Fry
COUNTY ENGINEER

APPROVED 3-18-22
George A. Buerke, Jr.
TOWNSHIP COMMISSIONER

PASSED 3/31/2022
Bruce L. W. [Signature]
DISTRICT SIX ENGINEER OF LOCAL ROADS & STREETS
3/31/2022
Jeffrey P. [Signature]
REGIONAL FOUR ENGINEER

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

WARNING

**CALL 811
BEFORE YOU DIG**

DIG NO: X2091254

DATE: 03/18/2022

[Signature]
LICENSED PROFESSIONAL ENGINEER
STATE OF ILLINOIS

HAMPTON, LENZINI AND RENWICK, INC.
CIVIL ENGINEERS - STRUCTURAL ENGINEERS - LAND SURVEYORS
3085 STEVENSON DRIVE, SUITE 201
SPRINGFIELD, ILLINOIS 62703
217.546.3400 www.hlrengineering.com

184.00959
ILLINOIS PROFESSIONAL DESIGN FIRMS / PE / SE CORPORATION

EXPIRES: 11/30/2023 PROJECT NUMBER: 19.0657.130 DATE: 03/18/2022

SUMMARY OF QUANTITIES

CODE NO.	ITEM	CONSTRUCTION TYPE CODE 0010	
		UNIT	TOTAL QUANTITY
20100110	TREE REMOVAL (6 TO 15 UNITS DIAMETER)	UNIT	5
20200100	EARTH EXCAVATION	CU YD	165
20300100	CHANNEL EXCAVATION	CU YD	205
20400800	FURNISHED EXCAVATION	CU YD	2,960
20700110	POROUS GRANULAR EMBANKMENT	TON	70
28000400	PERIMETER EROSION BARRIER	FOOT	1,000
28100207	STONE RIPRAP, CLASS A4	TON	700
28200200	FILTER FABRIC	SQ YD	760
35101400	AGGREGATE BASE COURSE, TYPE B	TON	690
50100100	REMOVAL OF EXISTING STRUCTURES	EACH	1
50201101	COFFERDAM (TYPE 1) (LOCATION - 1)	EACH	1
50201102	COFFERDAM (TYPE 1) (LOCATION - 2)	EACH	1
50300225	CONCRETE STRUCTURES	CU YD	45
50300280	CONCRETE ENCASEMENT	CU YD	18
50400405	PRECAST PRESTRESSED CONCRETE DECK BEAMS (21" DEPTH)	SQ FT	3,240
50800205	REINFORCEMENT BARS, EPOXY COATED	POUND	5,270
50900205	STEEL RAILING, TYPE S1	FOOT	236
51201400	FURNISHING STEEL PILES HP10X42	FOOT	1,050
51202305	DRIVING PILES	FOOT	1,050
51203400	TEST PILE STEEL HP10X42	EACH	2
51500100	NAME PLATES	EACH	1
60146304	PIPE UNDERDRAINS FOR STRUCTURES 4"	FOOT	120
67100100	MOBILIZATION	L SUM	1
72501000	TERMINAL MARKER - DIRECT APPLIED	EACH	4
LR403200	BITUMINOUS MATERIALS (PRIME COAT)	TON	3
LR403400	BITUMINOUS MATERIALS (COVER AND SEAL COATS)	TON	7
LR403500	COVER COAT AGGREGATE	TON	45
LR403600	SEAL COAT AGGREGATE	TON	22
X2501000	SEEDING, CLASS 2 (SPECIAL)	ACRE	1.5
XX009290	TRAFFIC CONTROL AND PROTECTION, STANDARD BLR 21	EACH	1

^ SEE SPECIAL PROVISIONS

+ SPECIALTY ITEM

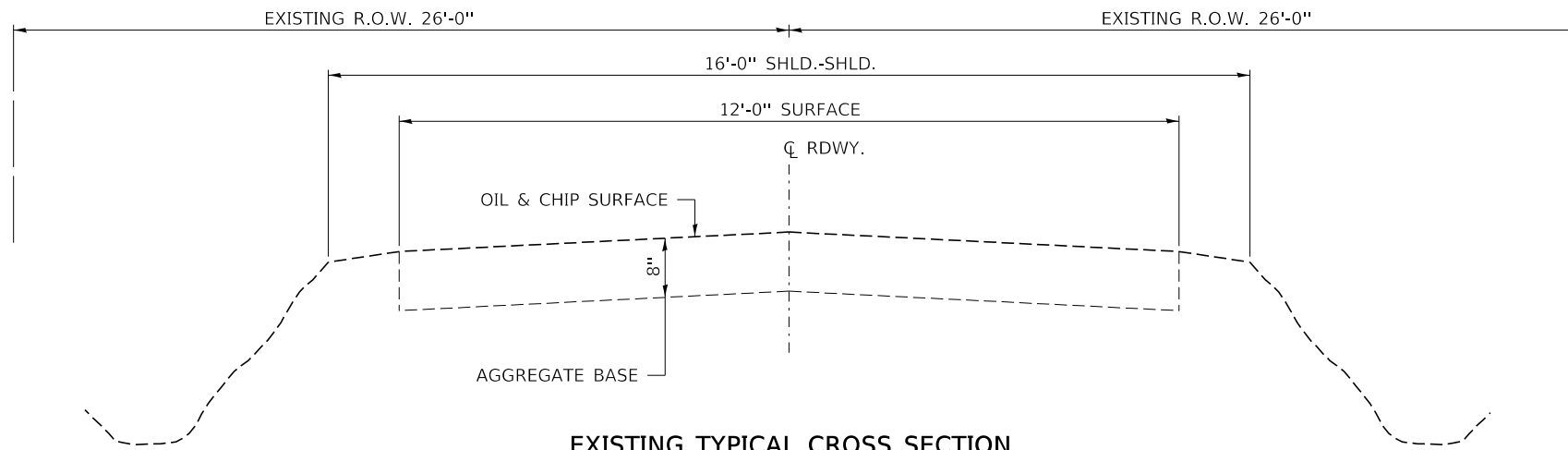
GENERAL NOTES

- 1) ALL CONSTRUCTION SHALL BE DONE IN ACCORDANCE WITH THE STATE OF ILLINOIS "STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, ADOPTED JANUARY 1, 2022", (HERE IN AFTER REFERRED TO AS THE STANDARD SPECIFICATIONS; THE ; THE LATEST EDITION OF THE "ILLINOIS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS"; THE DETAILS IN THE PLANS AND THE "SPECIAL PROVISIONS" INCLUDED IN THE DOCUMENTS.
- 2) ALL CLEARING, GRUBBING, FENCE REMOVAL, PAVEMENT REMOVAL, AND REMOVAL OF EXISTING DRAINAGE STRUCTURES SHALL BE INCLUDED IN THE COST OF EARTH EXCAVATION. ALL AGGREGATE AND BITUMINOUS PAVEMENT SHALL BE REMOVED AND PROPERLY DISPOSED OF BY THE CONTRACTOR IN A METHOD APPROVED BY THE ENGINEER. REMOVAL AND DISPOSAL OF PAVEMENT SHALL BE INCLUDED IN THE COST OF EARTH EXCAVATION AND NO ADDITIONAL COMPENSATION WILL BE ALLOWED.
- 3) WHERE SECTION OR SUBSECTION MONUMENTS ARE ENCOUNTERED, THE ENGINEER SHALL BE NOTIFIED BEFORE SUCH MONUMENTS ARE REMOVED. THE CONTRACTOR SHALL PROTECT AND CAREFULLY PRESERVE ALL PROPERTY MARKS AND MONUMENTS UNTIL THE OWNER, AN AUTHORIZED SURVEYOR OR AGENT HAS WITNESSED OR OTHERWISE REFERENCED THEIR LOCATION.
- 4) ANY REFERENCE TO STANDARDS THROUGHOUT THE PLANS OR SPECIAL PROVISIONS SHALL BE INTERPRETED TO BE THE LATEST STANDARD OF THE DEPARTMENT.
- 5) THE LOCATION ON THE PLANS OF EXISTING DRAINAGE STRUCTURES, TELEPHONE LINES, ELECTRIC LINES, WATER SERVICE LINES, GAS MAINS, AND OTHER UTILITY FACILITIES AS SHOWN ON THE PLANS ARE BASED ON FIELD INVESTIGATIONS AND THE BEST INFORMATION AVAILABLE, BUT THE LOCATIONS ARE NOT GUARANTEED. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO ASCERTAIN THEIR EXACT LOCATION FROM THE INDIVIDUAL UTILITY COMPANIES AND BY FIELD INSPECTION.
- 6) THE FOLLOWING RATES OF APPLICATION HAVE BEEN USED IN CALCULATING PLAN QUANTITIES

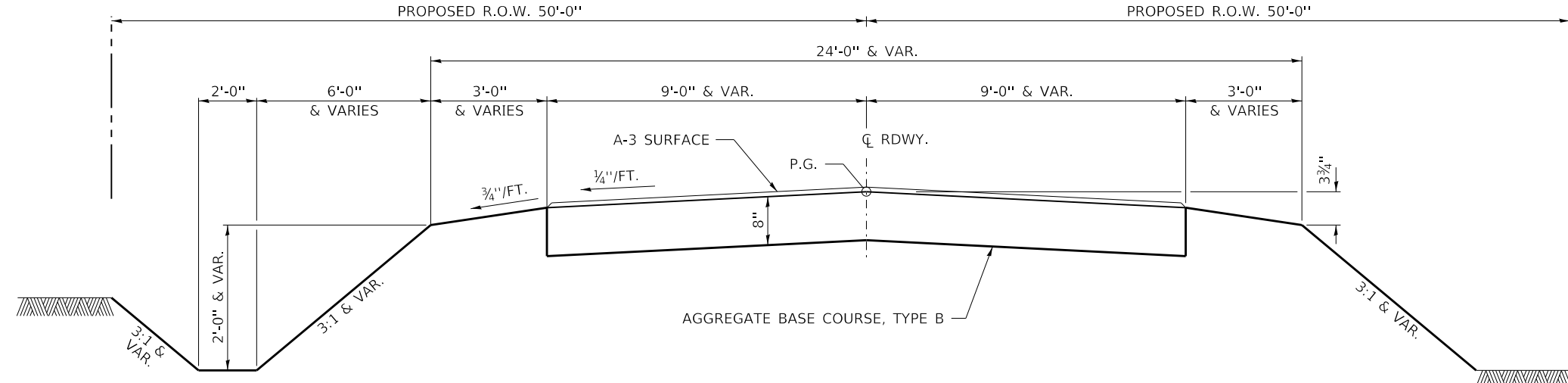
AGGREGATE BASE COURSE	2.05	TON/CU YD
BITUMINOUS MATERIALS (PRIME COAT)	0.25	LB/SQ FT
BITUMINOUS MATERIALS (COVER AND SEAL COATS)	0.3	LB/SQ FT
COVER COAT AGGREGATE	25	LB/SQ FT
SEAL COAT AGGREGATE	25	LB/SQ FT
POROUS GRANULAR EMBANKMENT	1.50	TON/CU YD
STONE RIPRAP	1.75	TON/CU YD
- 7) THE FINAL SURFACE OF ALL EMBANKMENT AREAS SHALL BE SEEDED. THE TOP 4 INCHES OF THE SEEDED AREAS SHALL BE TOPSOIL SUBJECT TO THE APPROVAL OF THE ENGINEER. THE COST OF SHAPING THE SLOPES AND PROVIDING TOP SOIL WILL NOT BE PAID FOR SEPARATELY BUT SHALL BE INCLUDED IN THE COST OF EARTH EXCAVATION.
- 8) THE AREA TO BE SEEDED SHALL CONSIST OF ALL DISTURBED EARTH SURFACES WITHIN THE RIGHT OF WAY OR AS DIRECTED BY THE ENGINEER.

SEEDING, CLASS 2 (SPECIAL) =	1.5 ACRES
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- 9) ALL WASTE MATERIAL FROM EXCAVATIONS SHALL BE DISPOSED OF BY THE CONTRACTOR. NO ADDITIONAL COMPENSATION WILL BE ALLOWED.
- 10) COMMITMENTS:
 - 1) TREES SHALL NOT BE CLEARED BETWEEN APRIL 1 AND SEPTEMBER 30.
 - 2) A BAT ASSESSMENT SHALL BE CONDUCTED IF WORK OCCURS TO EXISTING STRUCTURE AFTER OCTOBER 19, 2022.

PERIMETER EROSION BARRIER	
STATION	FOOT
RT. STA. 7+50 TO 13+00	500
LT. STA. 7+50 TO 13+00	500
TOTAL	1,000



EXISTING TYPICAL CROSS SECTION
STA. 6+50 TO 14+46



PROPOSED TYPICAL CROSS SECTION
STA. 6+50 TO 14+46

SUGGESTED CUT SECTION
CONSTRUCT AS SHOWN IN
STATION CROSS SECTIONS

SUGGESTED FILL SECTION
CONSTRUCT AS SHOWN IN
STATION CROSS SECTIONS

TRANSITIONS FROM THE PROPOSED ROADWAY TO THE EXISTING
ROADWAY ARE TO BE CONSTRUCTED FROM STA. 6+50 TO 7+00
AND STA. 14+00 TO STA. 14+46.
SEE SHEET 7 FOR TRANSITION AT BRIDGE.

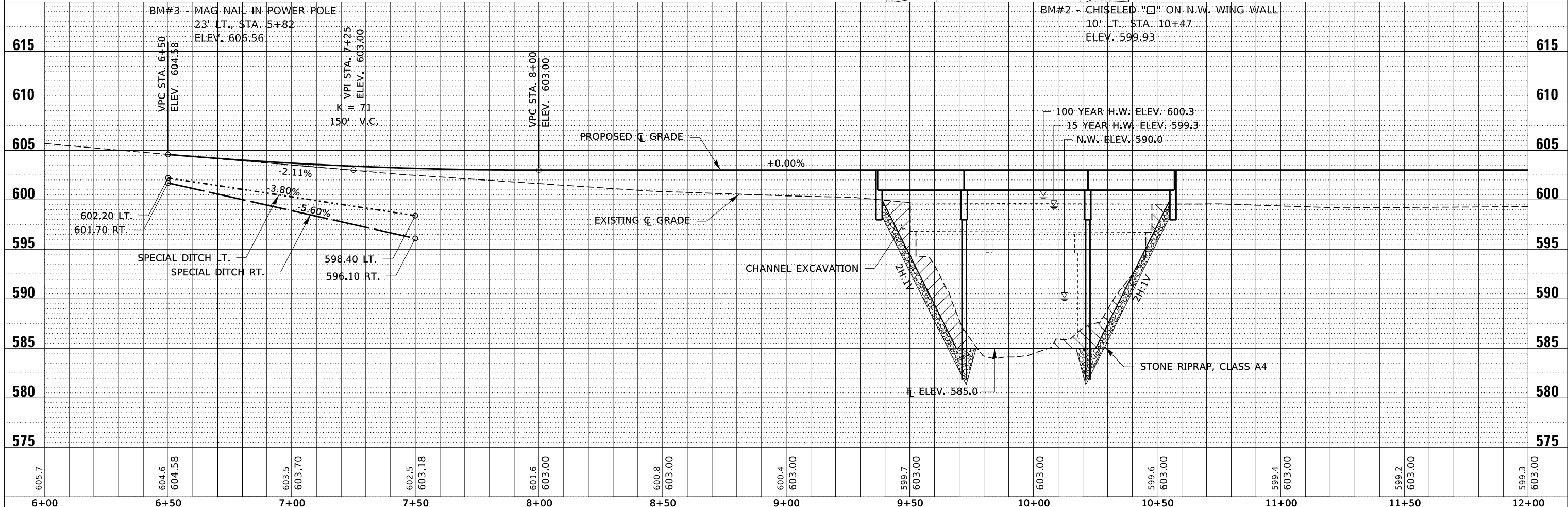
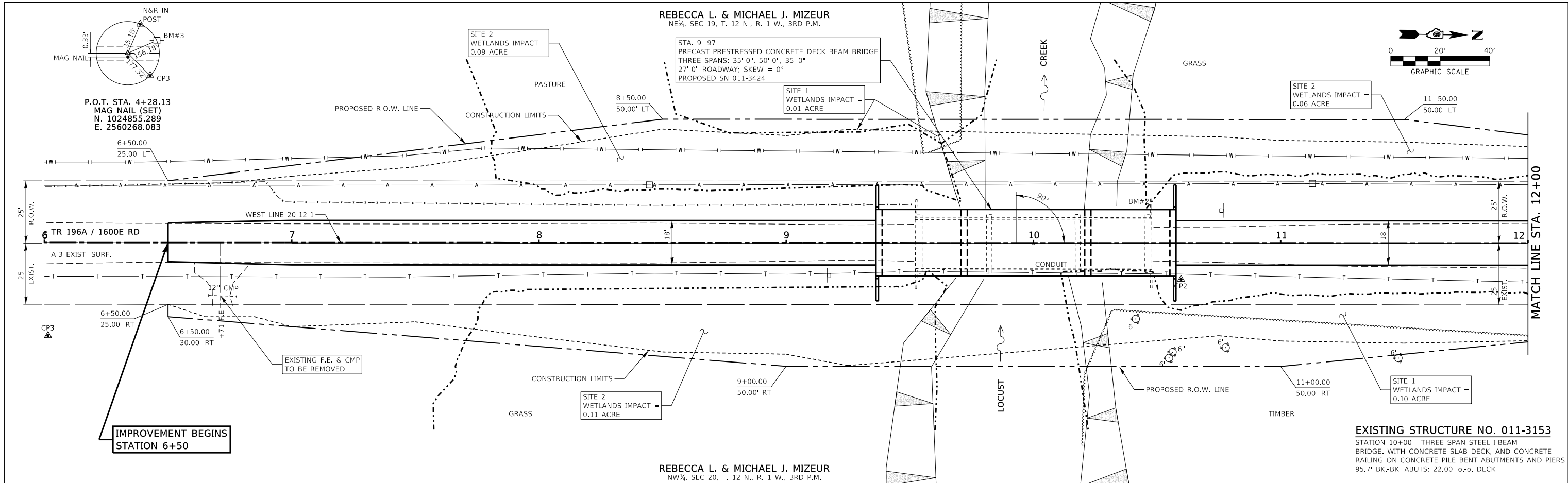
ROADWAY SCHEDULE					
LOCATION	AGGREGATE BASE COURSE, TYPE B 8"	BITUMINOUS MATERIALS (PRIME COAT)	BITUMINOUS MATERIALS (COVER AND SEAL COATS)	COVER COAT AGGREGATE	SEAL COAT AGGREGATE
	35101400	LR43200	LR43400	LR43500	LR43600
T.R. 196A / 1600 E ROAD	TON	TON	TON	TON	TON
STA. 6+50.00 TO STA. 9+36.25	260	1.0	2.0	14.0	7.0
STA. 9+36.25 TO STA. 10+57.75	0	1.0	1.0	9.0	4.0
STA. 10+57.75 TO STA. 14+46.00	430	1.0	4.0	22.0	11.0
TOTAL	690	3.0	7.0	45	22

EARTHWORK SCHEDULE							
LOCATION	EARTH EXCAVATION	CHANNEL EXCAVATION	SHRINKAGE FACTOR	PERCENT USED	EXCAVATION ADJUSTED FOR SHRINKAGE	EMBANKMENT REQUIRED	EARTHWORK BALANCE
	CU.YD.	CU.YD.			CU.YD.	CU.YD.	CU.YD.
T.R. 196A / 1600 E ROAD							
STA. 6+50.00 TO STA. 9+36.25	118		25.00%	100.00%	89	1419	-1330
STA. 9+36.25 TO STA. 10+57.75		205	25.00%	70.00%	108		108
STA. 10+57.75 TO STA. 14+46.00	48		25.00%	100.00%	36	1775	-1739
TOTAL	166	205			233	3194	-2961
USE	165	205					2960

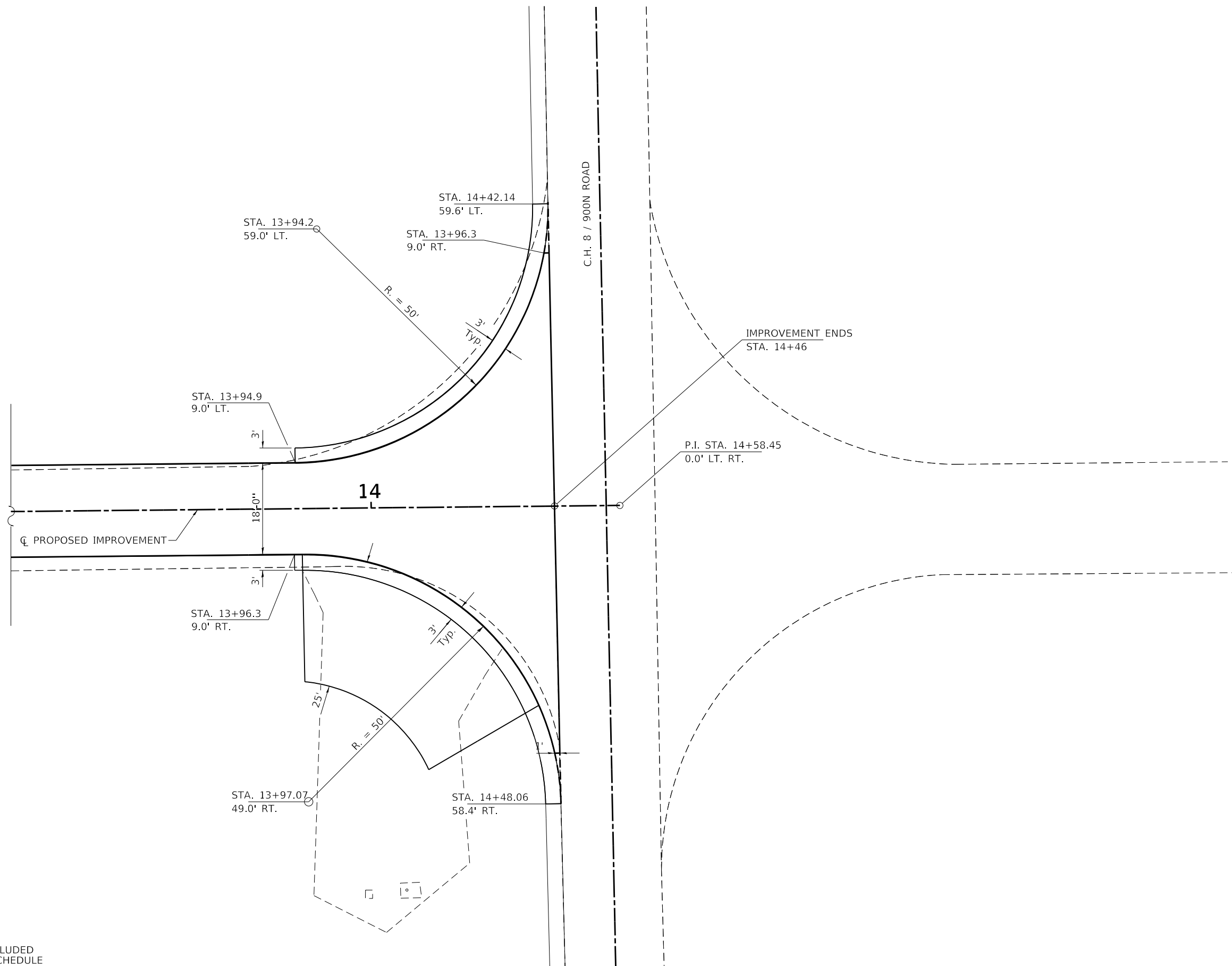
FUNISHED EXCAVATION 2960 CU YDS

DATE	
BY	
REVIEWED	
PLANNED	
ALIGNED	
CHECKED	
DESIGNED	
NO. _____	

DATE	
BY	
REVIEWED	
PLANNED	
ALIGNED	
CHECKED	
DESIGNED	
NO. _____	

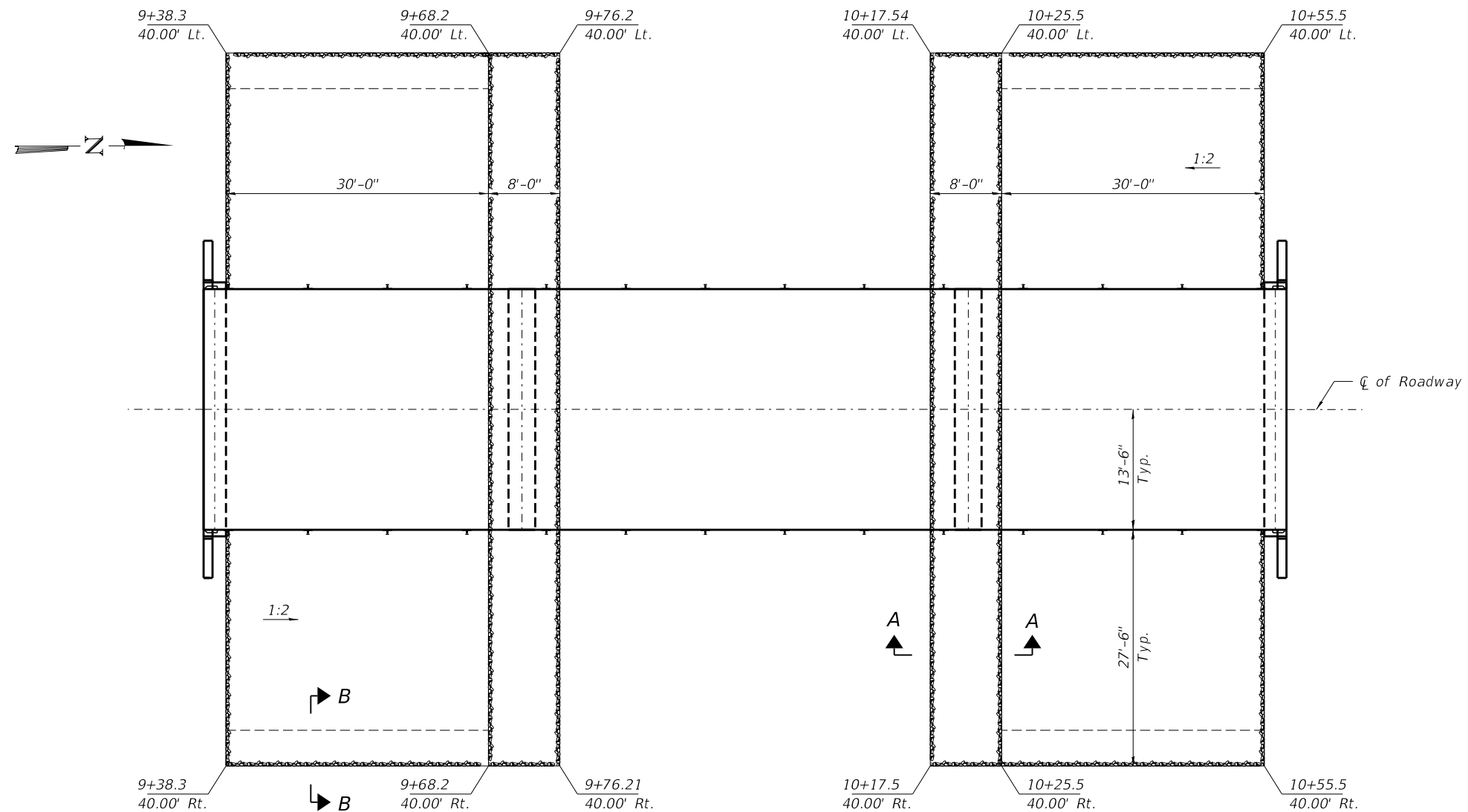


FILE NAME = 190657-shh-plnprf.dgn	USER NAME =	DESIGNED - S.A.A.	REVISED -	STATE OF ILLINOIS CHRISTIAN COUNTY HIGHWAY DEPARTMENT	PLAN & PROFILE 1600E ROAD	T.R.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	
HAMPTON, LENZINI AND RENWICK, INC. 3085 STEVENSON DRIVE, SUITE 201 SPRINGFIELD, ILLINOIS 62703 ILLINOIS PROFESSIONAL DESIGN FIRM L.S./P.E./S.E. CORP. 184.000959	PLLOT SCALE = \$SCALE\$	DRAWN - T.W.K.	REVISED -			196A	19-07116-00-BR	CHRISTIAN	33	4	
PLLOT DATE = 3/18/2022	DATE = 03/18/2022	CHECKED - J.W.F.	REVISED -			LOCUST ROAD DISTRICT	CONTRACT NO. 93789				
		SCALE: 5V:20H				SHEET NO. 1 OF 2 SHEETS		STA. 6+00.00 TO STA. 12+00.00		ILLINOIS FED. AID PROJECT 9EXR(862)	

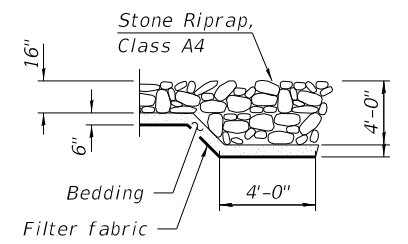


NOTE: QUANTITIES INCLUDED
IN ROADWAY SCHEDULE
AND EARTHWORK SCHEDULE

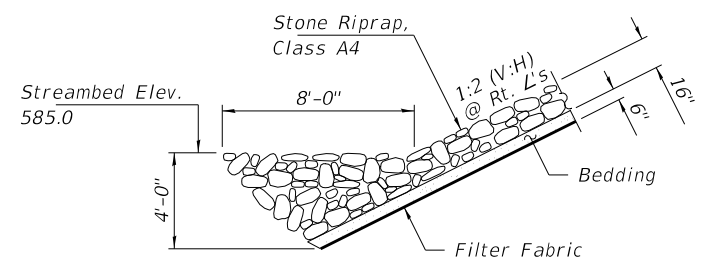
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HAMPTON, LENZINI AND RENWICK, INC. 3035 STEVENSON DRIVE, SUITE 201 SPRINGFIELD, ILLINOIS 62703 ILLINOIS PROFESSIONAL DESIGN FIRM L.S. / P.E. / S.E. CORP. 184.000959	DRAWN - T.D.S.	REVISED -	3				19-07116-00-BR	CHRISTIAN	33	6	
PLOT SCALE = \$SCALE\$	CHECKED - S.W.M.	REVISED -	LOCUST ROAD DISTRICT				CONTRACT NO. 93789				
PLOT DATE = 3/18/2022	DATE - 03/18/2022	REVISED -	SCALE: NONE				SHEET NO. 1 OF 1 SHEETS	STA. 6+50	TO STA. 14+46	ILLINOIS FED. AID PROJECT 9EXR(862)	



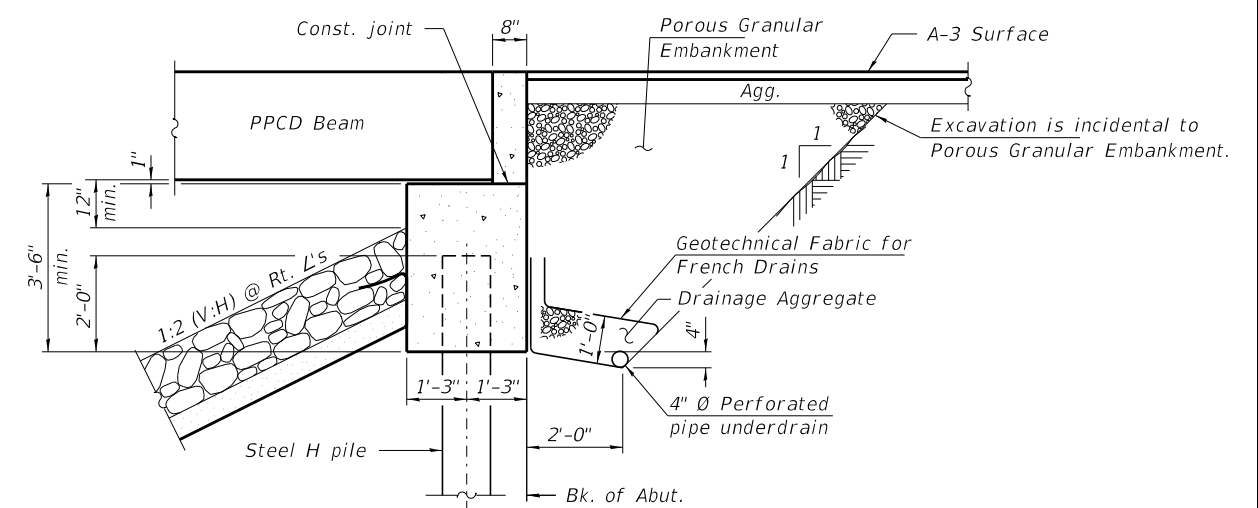
PLAN



SECTION B-B



SECTION A-A



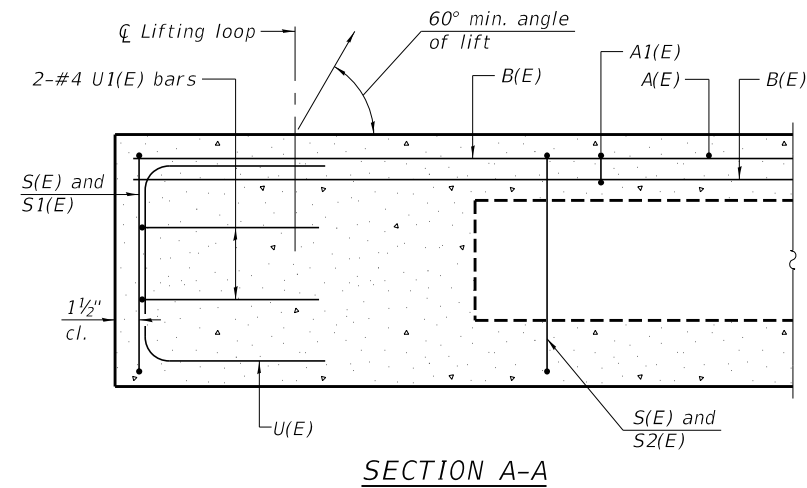
SECTION THRU ABUTMENT

(Horiz. dim. @ Rt. L's)

Precast Headwalls for pipe drains shall be provided at each outlet. Cost included in the cost of Pipe Underdrains for Structures.

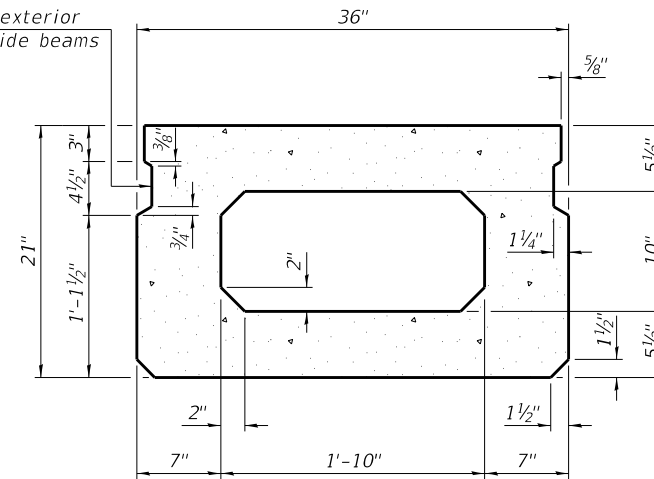
Note:
All drainage system components shall extend to 2'-0" from the end of each wingwall except an outlet pipe shall extend until intersecting with the side slopes. The pipes shall drain into concrete headwalls. (See Article 601.05 of the Standard Specifications and Highway Standard 601101).

FILE NAME = 190657-shi-bridge.dgn	USER NAME =	DESIGNED - J.R.B.	REVISED -	STATE OF ILLINOIS CHRISTIAN COUNTY HIGHWAY DEPARTMENT	RIPRAP DETAILS STRUCTURE NO. 011-3424	T.R.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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	PLOT SCALE = \$SCALE\$	CHECKED - S.W.M.	REVISED -			196A	19-07116-00-BR	CHRISTIAN	33	8
PLOT DATE = 3/18/2022	DRAWN - T.D.S.	CHECKED - S.W.M.	REVISED -			LOCUST ROAD DISTRICT		CONTRACT NO. 93789		
						ILLINOIS		FED. AID PROJECT 9EXR(862)		

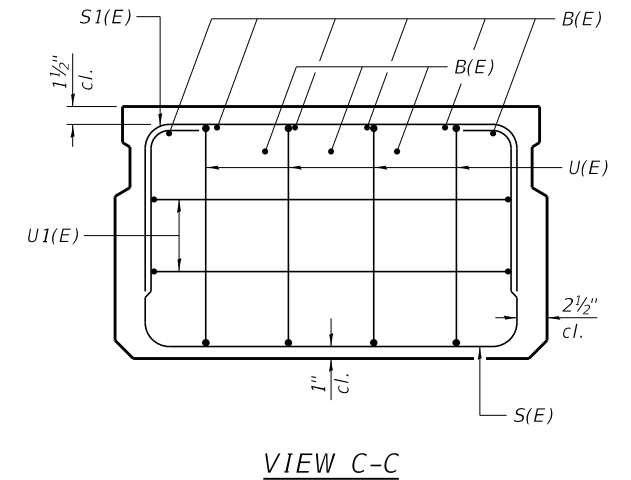


SECTION A-A

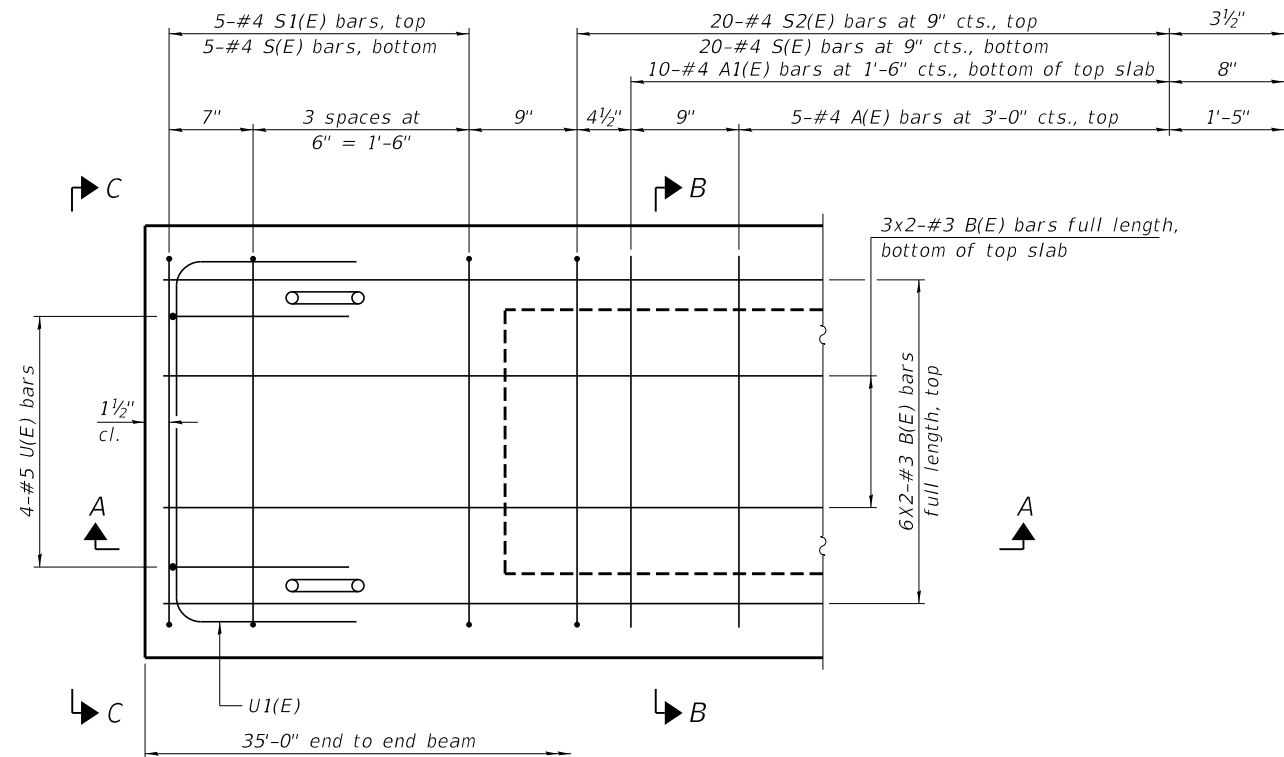
Omit key on exterior face of outside beams



SECTION B-B
(Showing dimensions)



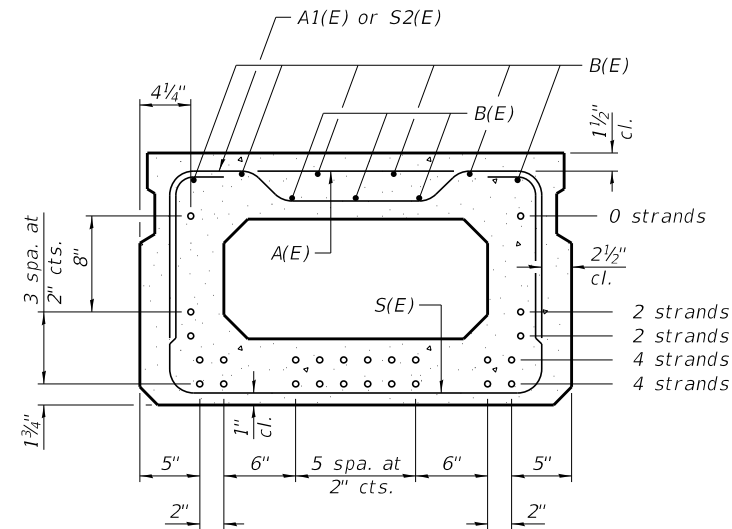
VIEW C-C



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.
Bars indicated thus 6x2-#3 etc. indicates 6 lines of bars with 2 lengths per line.

Symmetrical about \bar{C}



SECTION B-B

(Showing reinforcement and permissible strand locations)

Note:
Place the number of strands specified in each row symmetrically about the centerline of beam in the permissible strand locations shown.

BAR LIST
ONE BEAM ONLY
(For information only)

Bar	No.	Size	Length	Shape
A(E)	10	#4	2'-7"	—
A1(E)	20	#4	2'-10"	—
B(E)	18	#3	18'-2"	—
S(E)	50	#4	6'-5"	⌊
S1(E)	10	#4	4'-11"	⌊
S2(E)	40	#4	5'-2"	⌊
U(E)	8	#5	4'-0"	⌊
U1(E)	4	#4	5'-0"	⌊

Note:
See sheets 4 & 7 of 13 for additional details and Bill of Material.

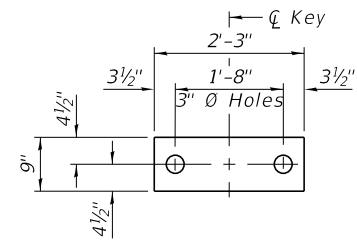
MINIMUM BAR LAP
#3 bar = 1'-6"

PD-2136-0

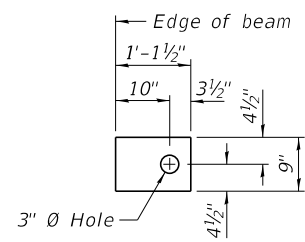
1-1-2020

FILE NAME = 190657-shi-bridge.dgn	USER NAME =	DESIGNED - J.R.B.	REVISED -	STATE OF ILLINOIS CHRISTIAN COUNTY HIGHWAY DEPARTMENT	21" x 36" PPC DECK BEAM SPANS 1 & 3 STRUCTURE NO. 011-3424	T.R.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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	PLOT SCALE = \$SCALE\$	CHECKED - S.W.M.	REVISED -			196A	19-07116-00-BR	CHRISTIAN	33	9
PLOT DATE = 3/18/2022	DRAWN - T.D.S.	CHECKED - S.W.M.	REVISED -			LOCUST ROAD DISTRICT	CONTRACT NO. 93789			
						SHEET NO. 3 OF 13 SHEETS				

ILLINOIS FED. AID PROJECT 9EXR(862)



FABRIC BEARING PAD
(Interior - 16 req'd)

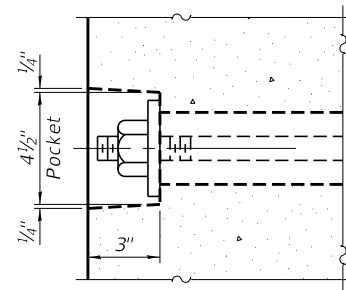


FABRIC BEARING PAD
(Exterior - 4 req'd)

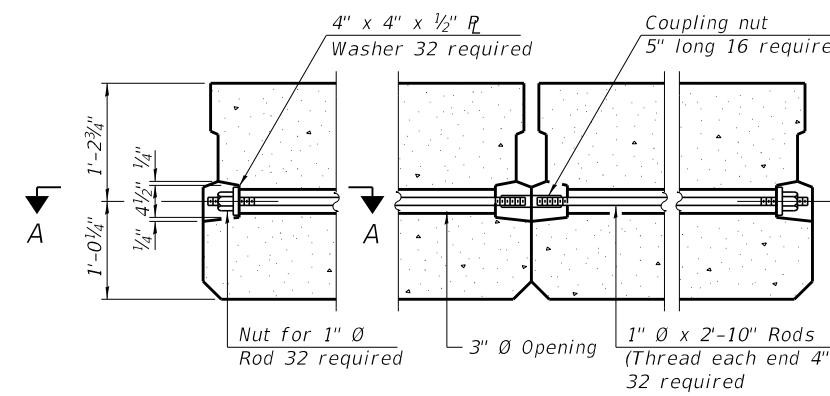
FIXED

Notes:

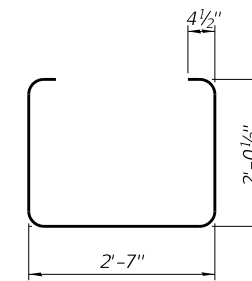
- All bearing pads shall be 1" thick.
- Omit holes when using expansion bearings.
- Expansion bearing pads shall be bonded to the substructure.



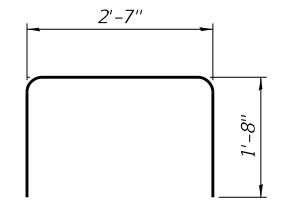
SECTION A-A



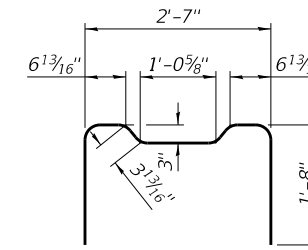
TYPICAL TRANSVERSE TIE ASSEMBLY



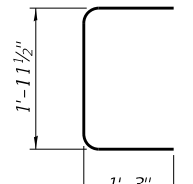
BAR S(E)



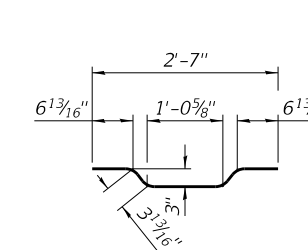
BAR S1(E)



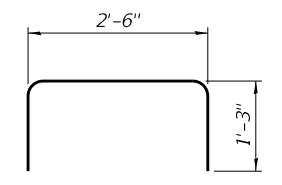
BAR S2(E)



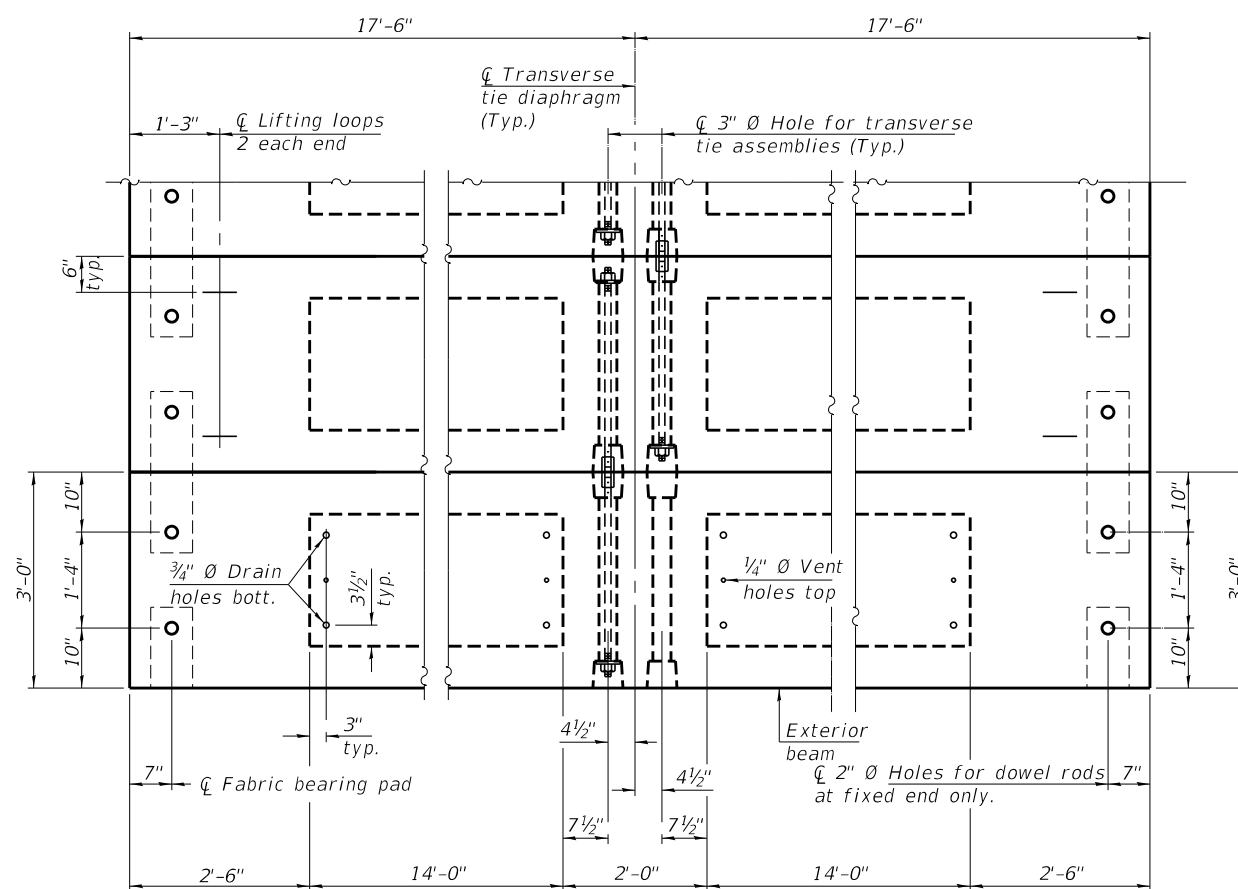
BAR U(E)



BAR A1(E)



BAR U1(E)

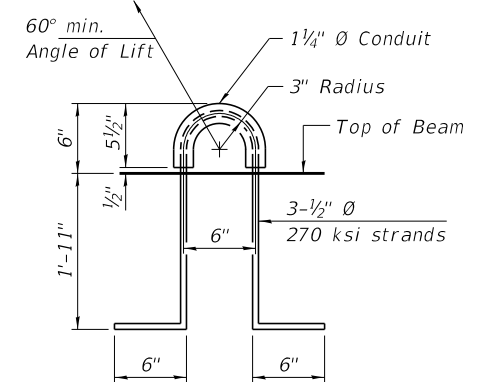


PLAN VIEW

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

NOTES

- Prestressing steel shall be uncoated high strength, low relaxation 7-wire strand, Grade 270. The nominal diameter shall be 1/2" and the nominal cross-sectional area shall be 0.153 sq. in.
- The 1" rods in the transverse tie assembly shall be tightened to a snug fit and the threads set. Pockets on exterior faces of bridge shall be filled with grout after transverse tie assembly is in place.
- 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.
- Reinforcement bars designated (E) shall be epoxy coated.



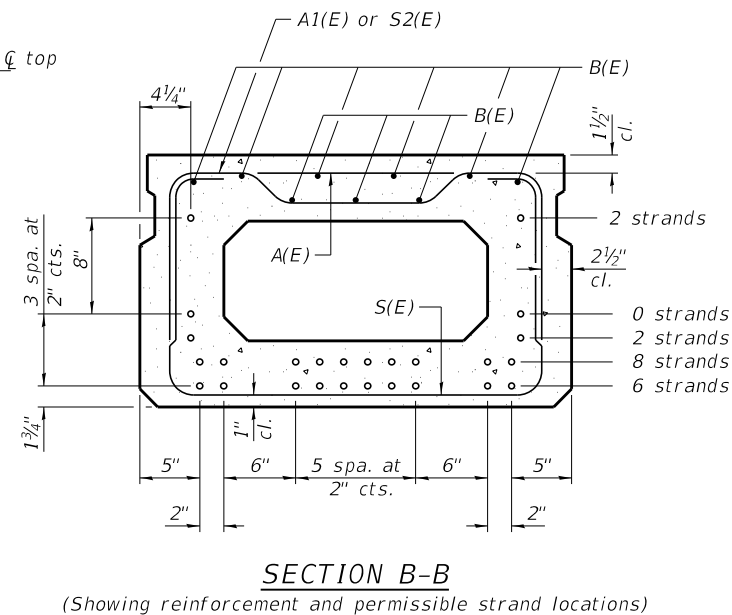
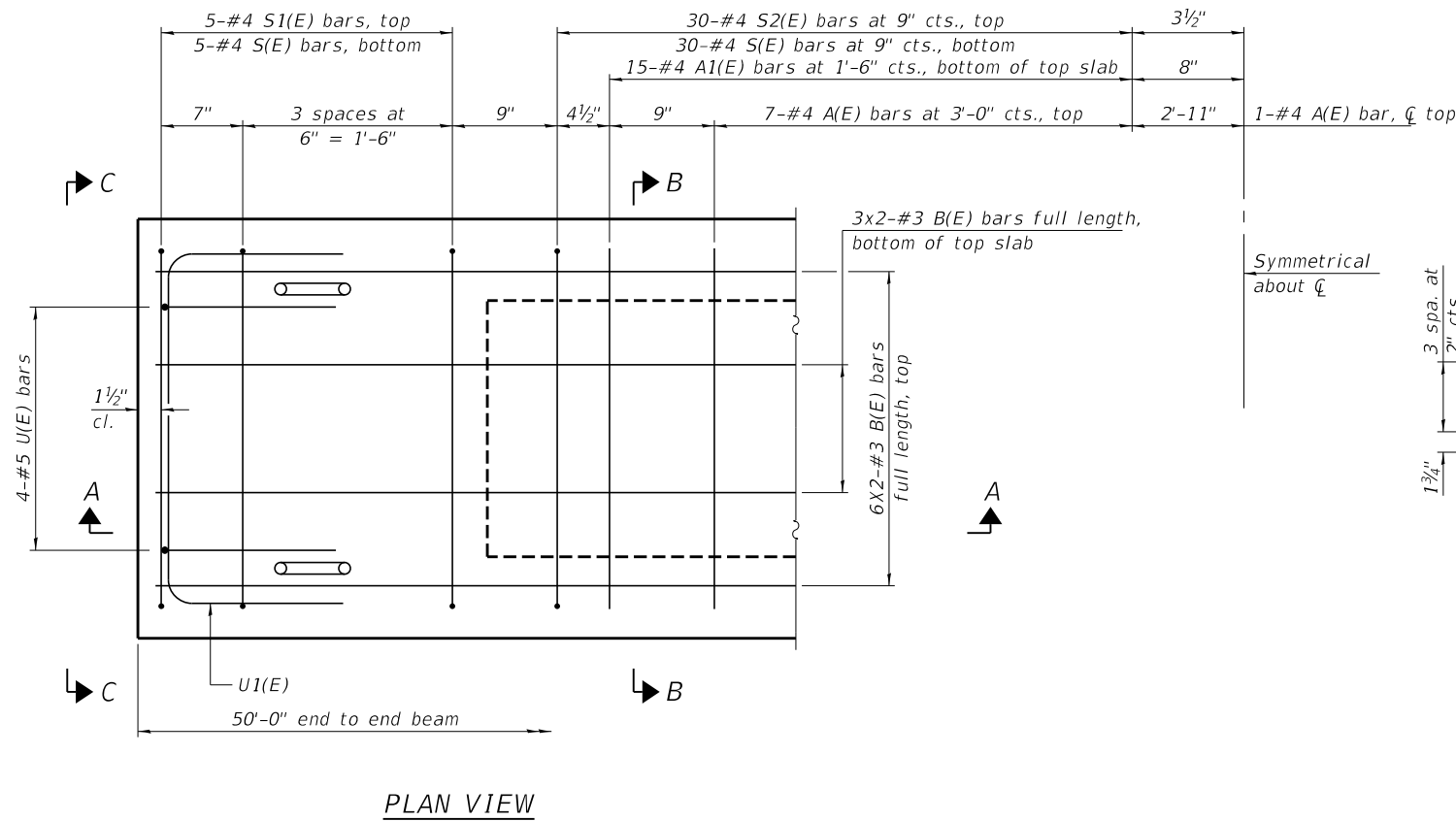
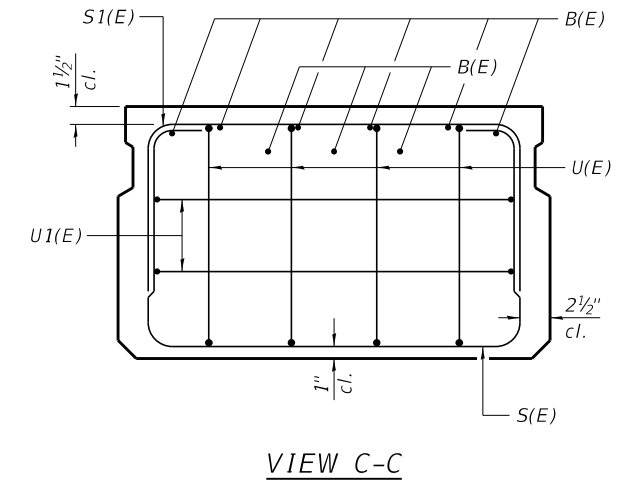
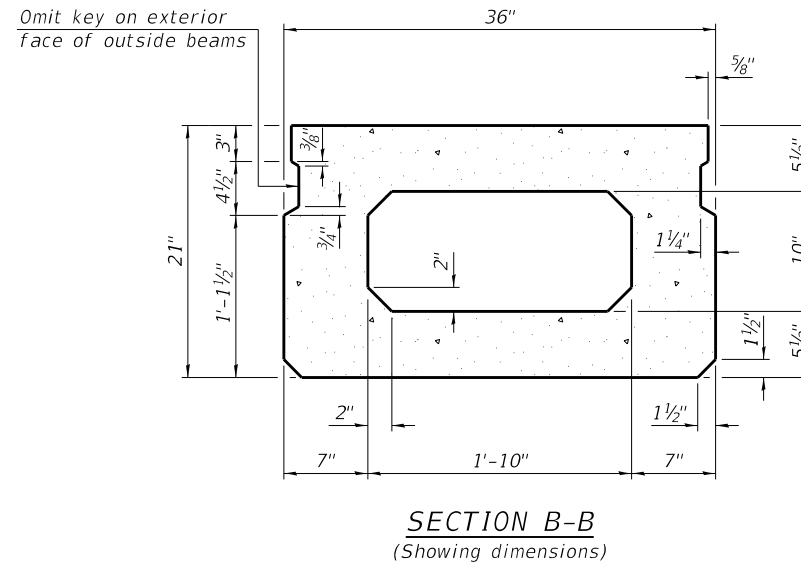
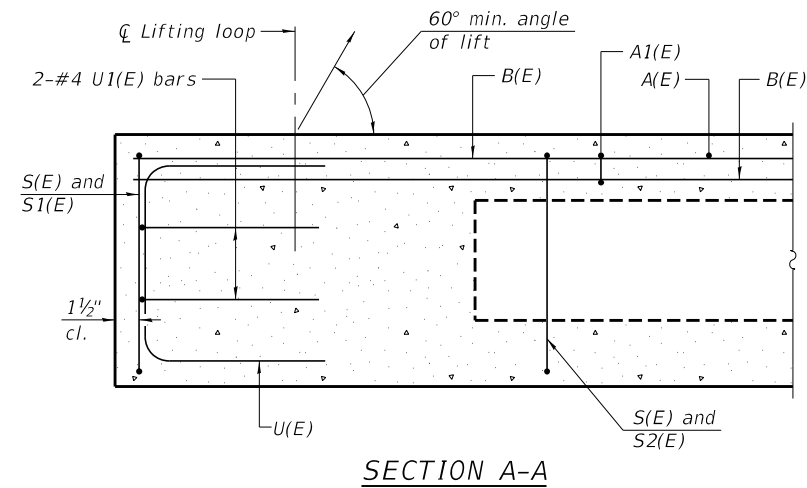
LIFTING LOOP DETAIL

BILL OF MATERIAL

Precast Prestressed Conc. Deck Bms. (21" depth)	Sq. Ft.	1,890
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PDD-2736-0 1-1-2020

FILE NAME = 190657-shit-bridge.dgn	USER NAME =	DESIGNED - J.R.B.	REVISED -	STATE OF ILLINOIS CHRISTIAN COUNTY HIGHWAY DEPARTMENT	21" x 36" PPC DECK BEAM DETAILS SPANS 1&3 STRUCTURE NO. 011-3424	T.R.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	
HAMPTON, LENZINI AND RENWICK, INC. 3035 STEVENSON DRIVE, SUITE 201 SPRINGFIELD, ILLINOIS 62703 ILLINOIS PROFESSIONAL DESIGN FIRM L5 / PE / SE CORP. 184.009959	PLOT SCALE = \$SCALE\$	CHECKED - S.W.M.	REVISED -			196A	19-07116-00-BR	CHRISTIAN	33	10	
	PLOT DATE = 3/18/2022	DRAWN - T.D.S.	REVISED -			LOCUST ROAD DISTRICT		CONTRACT NO. 93789			
		CHECKED - S.W.M.	REVISED -					ILLINOIS FED. AID PROJECT 9EXR(862)			



BAR LIST
ONE BEAM ONLY
(For information only)

Bar	No.	Size	Length	Shape
A(E)	15	#4	2'-7"	—
A1(E)	30	#4	2'-10"	—
B(E)	18	#3	25'-8"	—
S(E)	70	#4	6'-5"	□
S1(E)	10	#4	4'-11"	□
S2(E)	60	#4	5'-2"	□
U(E)	8	#5	4'-0"	□
U1(E)	4	#4	5'-0"	□

Note:
See sheets 6 & 7 of 13 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 6x2-#3 etc. indicates 6 lines of bars with 2 lengths per line.

MINIMUM BAR LAP
#3 bar = 1'-6"

PD-2136-0

1-1-2020

FILE NAME = 190657-shi-bridge.dgn	USER NAME =	DESIGNED - J.R.B.	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	PLOT SCALE = \$SCALE\$	CHECKED - S.W.M.	REVISED -
PLOT DATE = 3/18/2022		DRAWN - T.D.S.	REVISED -
		CHECKED - S.W.M.	REVISED -

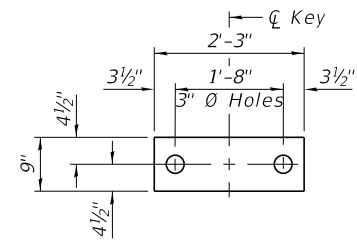
STATE OF ILLINOIS
CHRISTIAN COUNTY HIGHWAY DEPARTMENT

21" x 36" PPC DECK BEAM SPAN 2
STRUCTURE NO. 011-3424

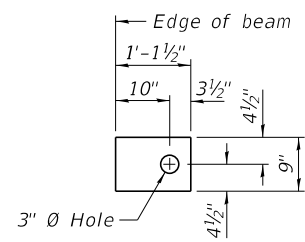
SHEET NO. 5 OF 13 SHEETS

T.R.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
196A	19-07116-00-BR	CHRISTIAN	33	11
LOCUST ROAD DISTRICT		CONTRACT NO. 93789		

ILLINOIS FED. AID PROJECT 9EXR(862)



FABRIC BEARING PAD
(Interior - 16 req'd)

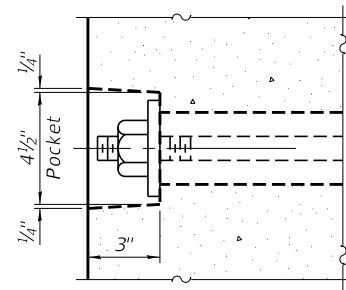


FABRIC BEARING PAD
(Exterior - 4 req'd)

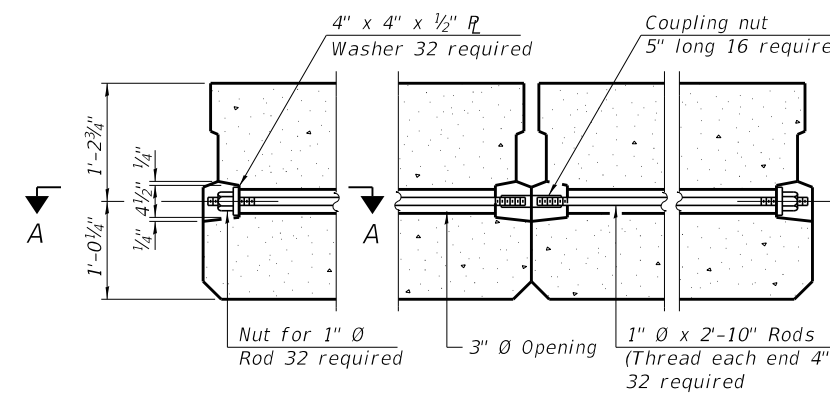
FIXED

Notes:

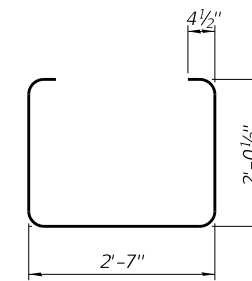
- All bearing pads shall be 1" thick.
- Omit holes when using expansion bearings.
- Expansion bearing pads shall be bonded to the substructure.



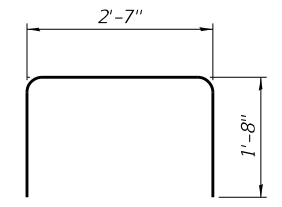
SECTION A-A



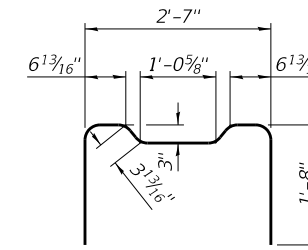
TYPICAL TRANSVERSE TIE ASSEMBLY



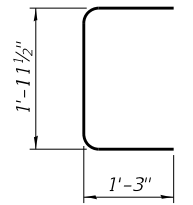
BAR S(E)



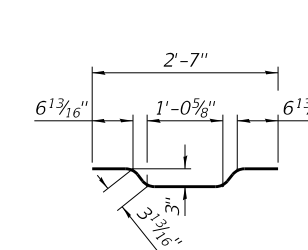
BAR S1(E)



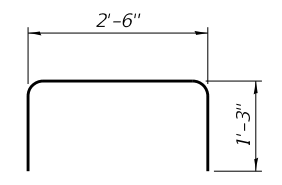
BAR S2(E)



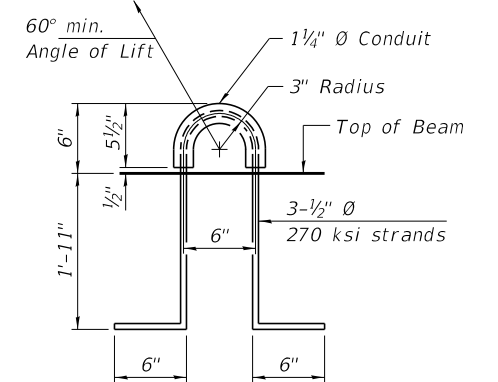
BAR U(E)



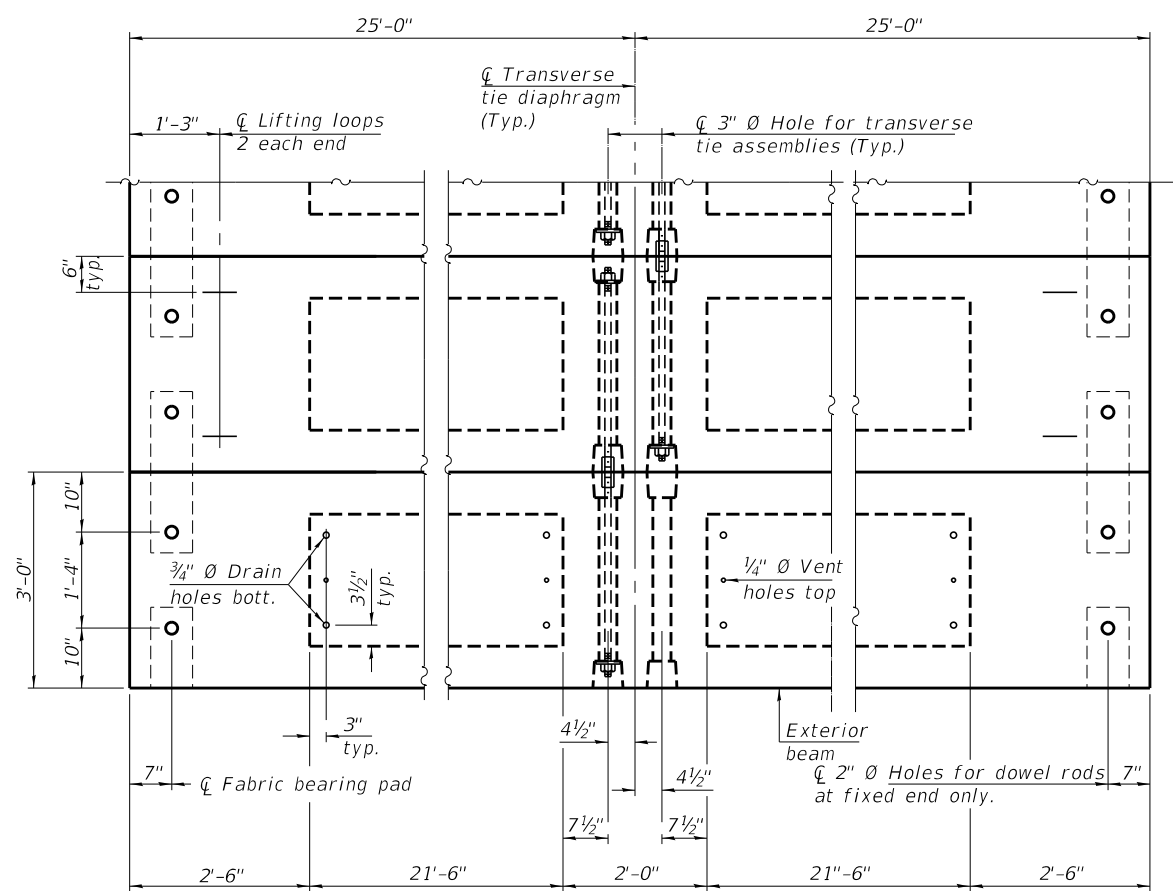
BAR A1(E)



BAR U1(E)



LIFTING LOOP DETAIL



PLAN VIEW

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.
- Reinforcement bars designated (E) shall be epoxy coated.

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

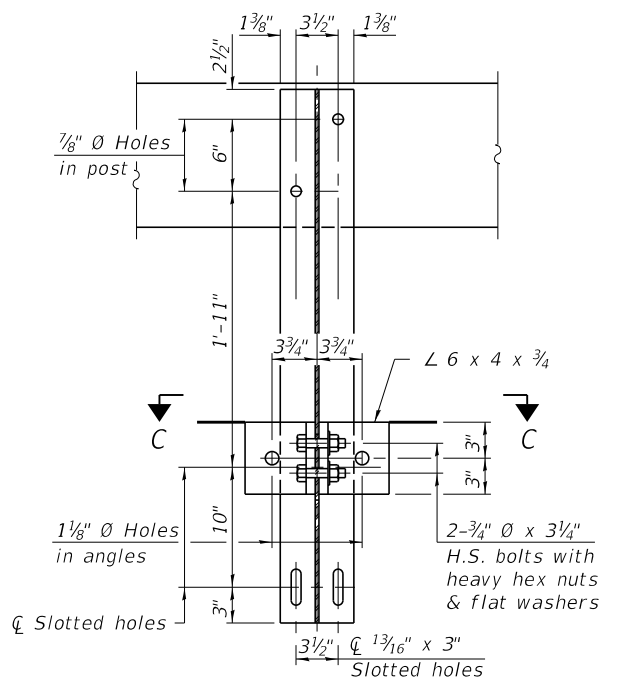
BILL OF MATERIAL

Precast Prestressed Conc. Deck Bms. (21" depth)	Sq. Ft.	1,350
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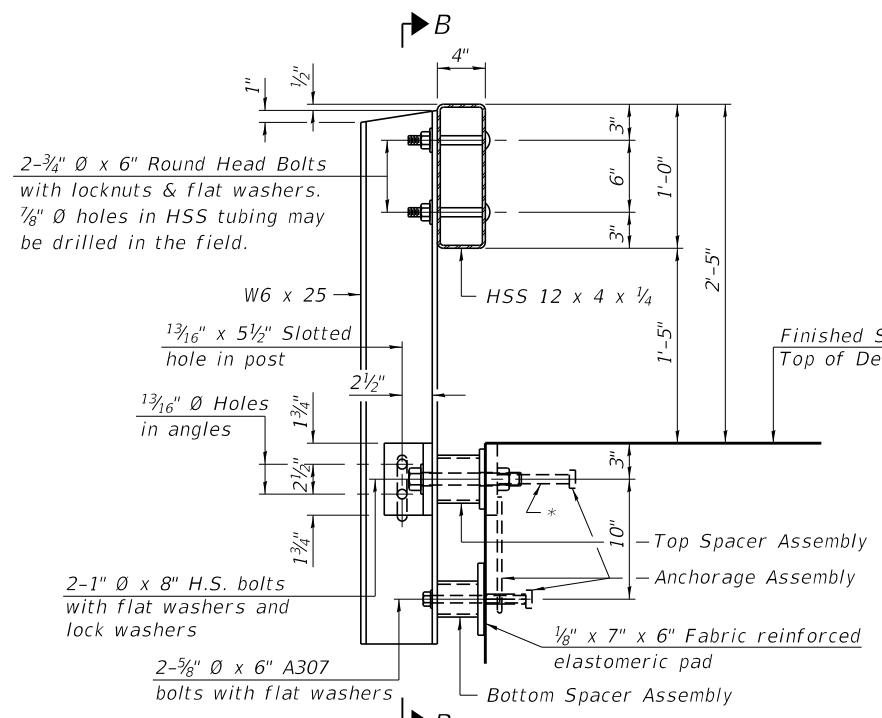
PDD-2736-0 1-1-2020

FILE NAME = 190657-shit-bridge.dgn	USER NAME =	DESIGNED - J.R.B.	REVISED -	STATE OF ILLINOIS CHRISTIAN COUNTY HIGHWAY DEPARTMENT	21" x 36" PPC DECK BEAM DETAILS SPAN 2 STRUCTURE NO. 011-3424	T.R.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
HAMPTON, LENZINI AND RENWICK, INC. 3035 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 -			196A	19-07116-00-BR	CHRISTIAN	33	12
	PLOT DATE = 3/18/2022	DRAWN - T.D.S.	REVISED -			LOCUST ROAD DISTRICT		CONTRACT NO. 93789		
		CHECKED - S.W.M.	REVISED -			SHEET NO. 6 OF 13 SHEETS		ILLINOIS		FED. AID PROJECT 9EXR(862)

Notes:
 A sufficient number of shims of various thicknesses, sized to fit behind the top spacer assembly, 5" x 11 1/2", and bottom spacer assembly, 6" x 7", shall be provided to adjust posts for proper alignment. If the summation of shims is greater than 1/4" (top) or 1/2" (bottom), longer bolts are required. Cost included with Steel Railing, Type S-1.
 All steel rail elements including shims shall be galvanized according to Article 509.05 of the Standard Specifications.
 All HSS tubing serving as railing shall be CVN tested according to Article 1006.34(b) of the Standard Specifications.
 Rail splice inserts may be built out of 2 - 3/8" bent plates in lieu of the 4 plate rail splice inserts shown, provided the outside dimensions are matched.
 All round head bolts shall be ASTM A307 with locknuts according to ASTM A563 grade A.

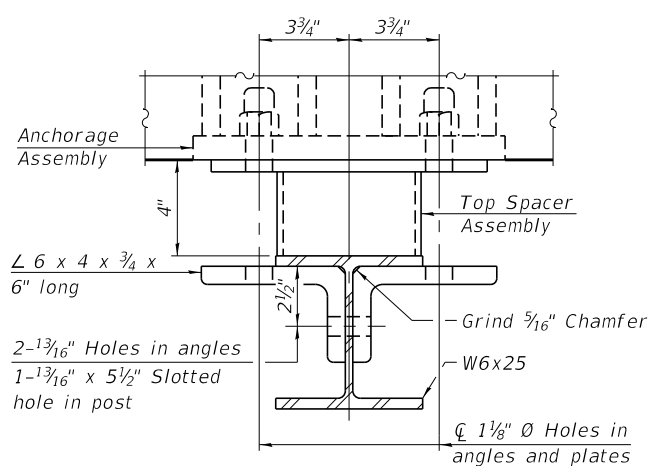


SECTION B-B

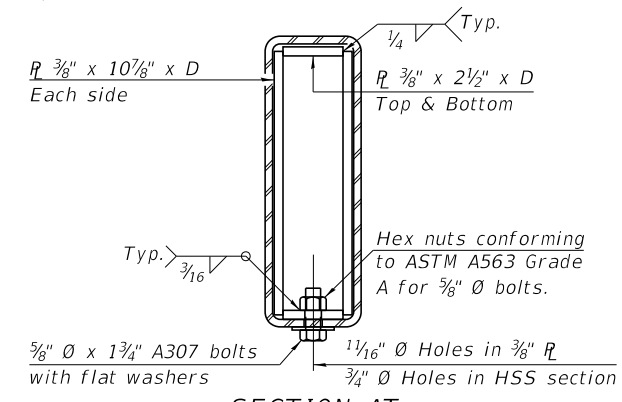


SECTION AT RAILING POST

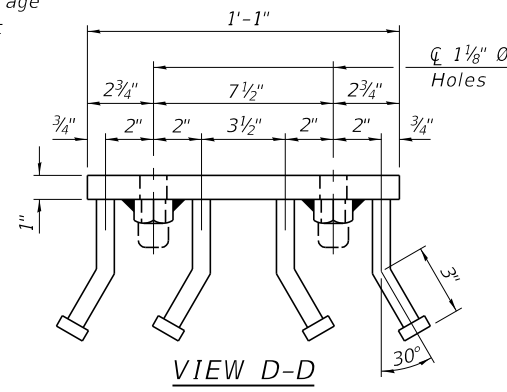
* The outermost longitudinal reinforcement bar shall be placed directly above the studs of the rail post anchorage assembly. The anchorage studs may be bent down 1/2" to accommodate the top reinforcement bar placement.



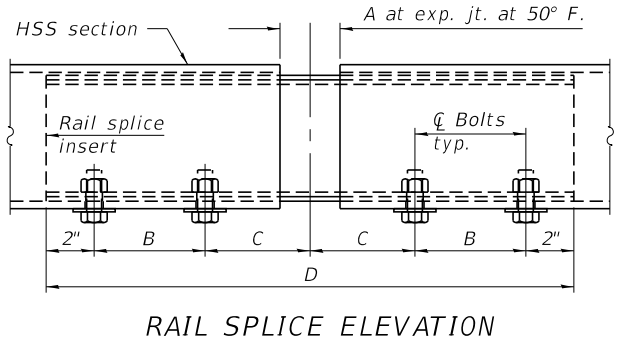
SECTION C-C



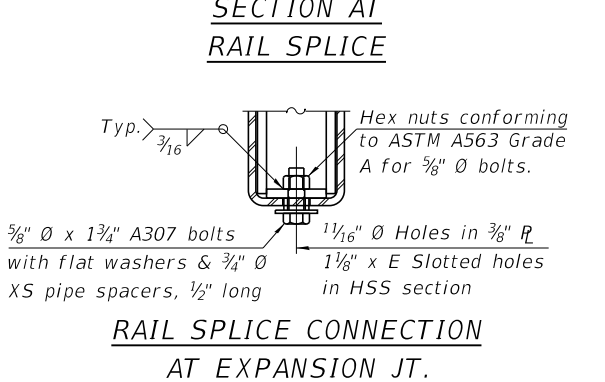
SECTION AT RAIL SPLICE



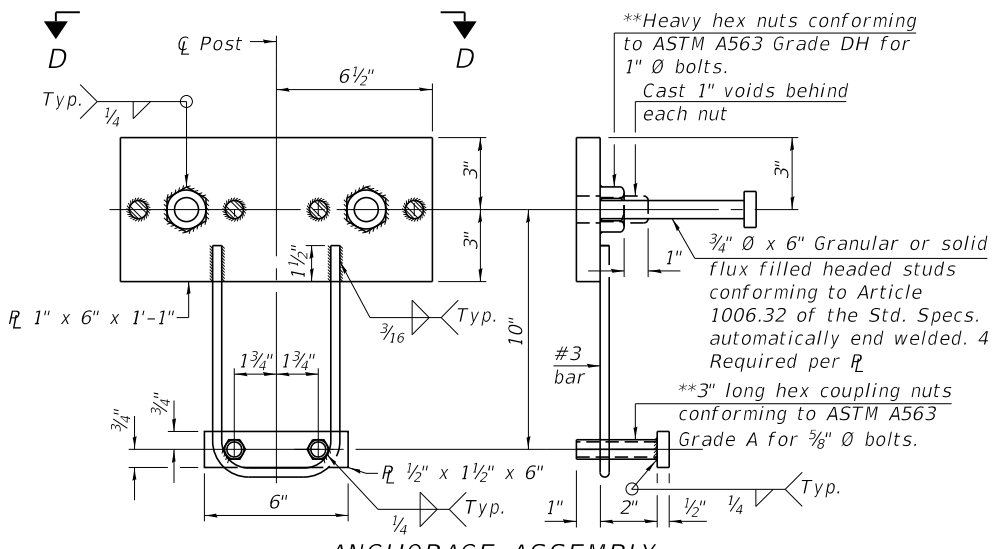
VIEW D-D



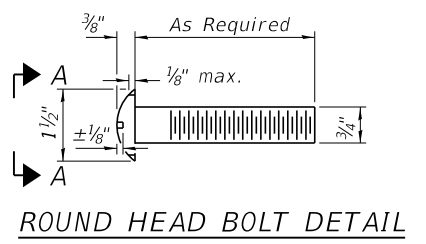
RAIL SPLICE ELEVATION



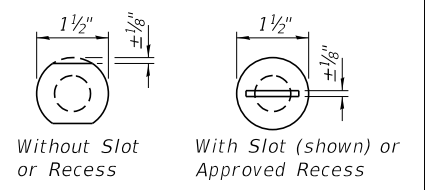
RAIL SPLICE CONNECTION AT EXPANSION JT.



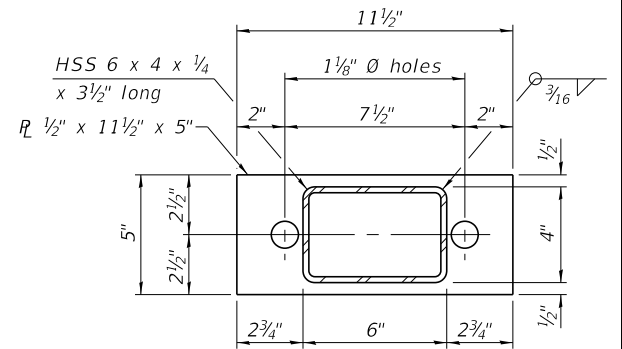
ANCHORAGE ASSEMBLY



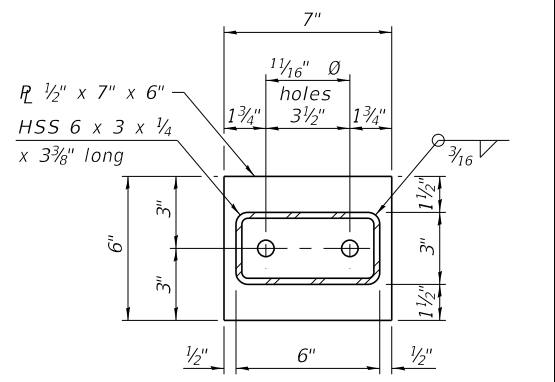
ROUND HEAD BOLT DETAIL



VIEW A-A



TOP SPACER ASSEMBLY



BOTTOM SPACER ASSEMBLY

RAILING CRITERIA

NCHRP 350 Test Level	2
Railing Weight (plf)	50
Max Post Spacing	10'-9"
HMA thickness range (in)	1 1/4" - 3 1/8"

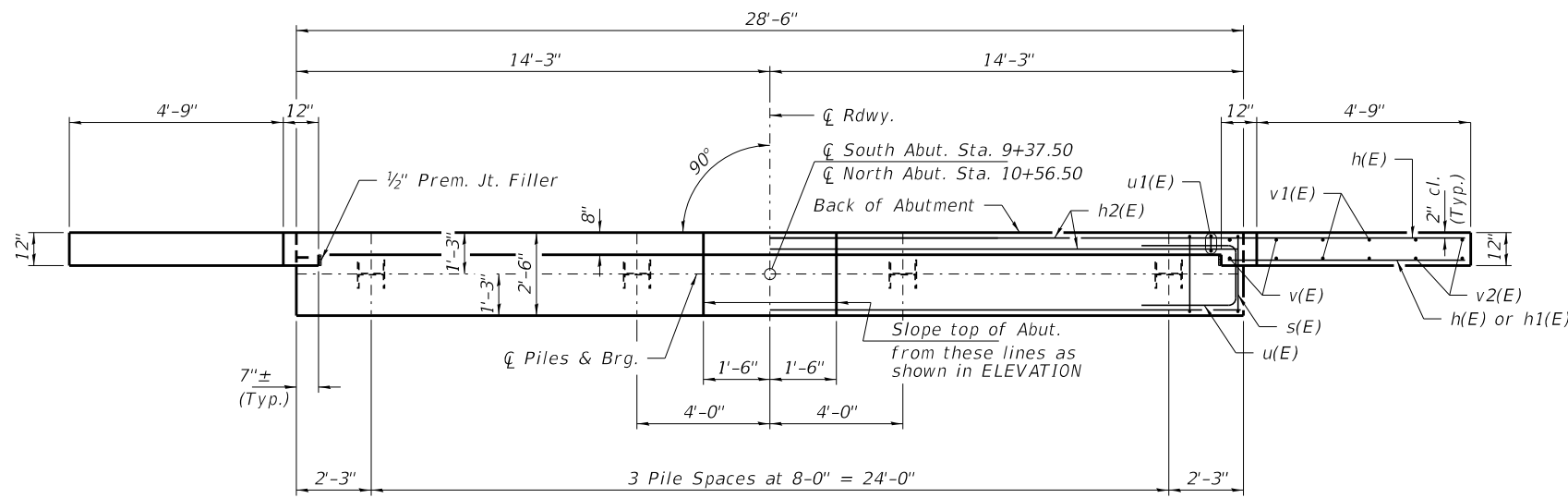
R-23A 10-12-2021

SPLICE DIMENSIONS

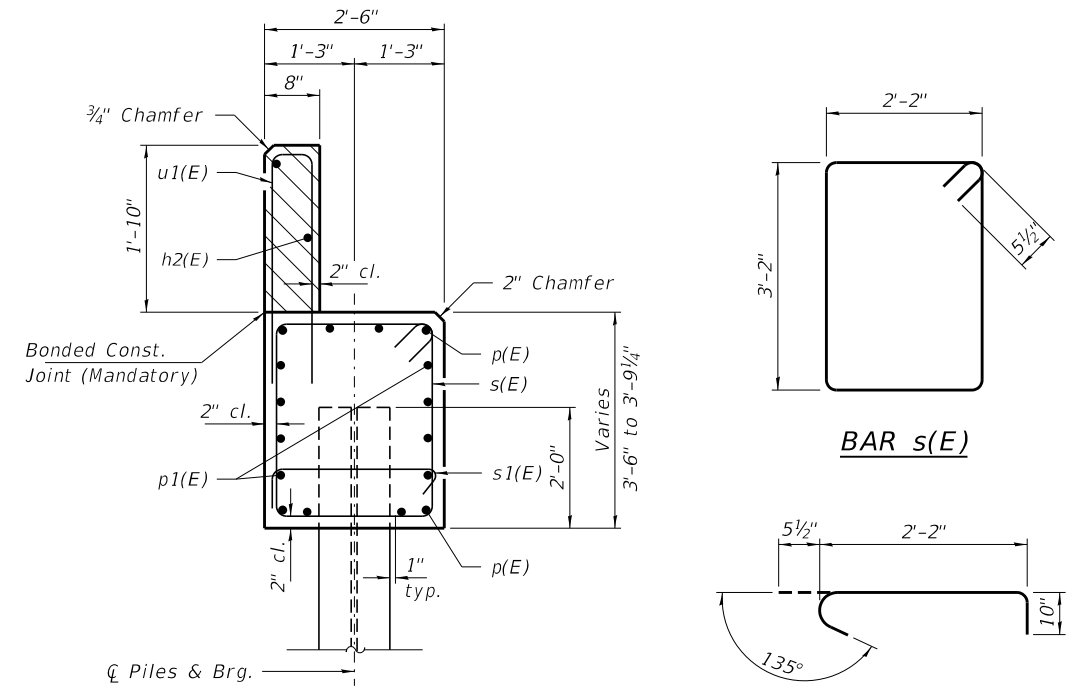
Location	T	A	B	C	D	E
All locs. not over exp. jts.	0	1/4"	4"	4"	1'-8"	-
Over Strip Seal Jt.	≤ 4"	2 1/2"	4 3/8"	4 3/8"	1'-10"	3 1/16"
Over Finger or Modular Jt.	≤ 9 1/2"	5 1/2"	7 3/8"	7 1/4"	2'-9 1/4"	5 1 3/16"
Over Finger or Modular Jt.	≤ 15"	8 1/4"	10 1/8"	10"	3'-8 1/4"	8 9/16"

T = ; total movement along centerline of roadway at expansion joint.

** Threaded areas shall be plugged or blocked off during casting of concrete.



PLAN

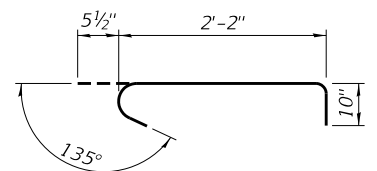


SECTION A-A

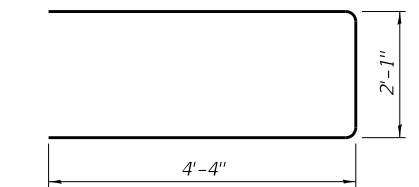
Hatched area to be poured after beams are in place.

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

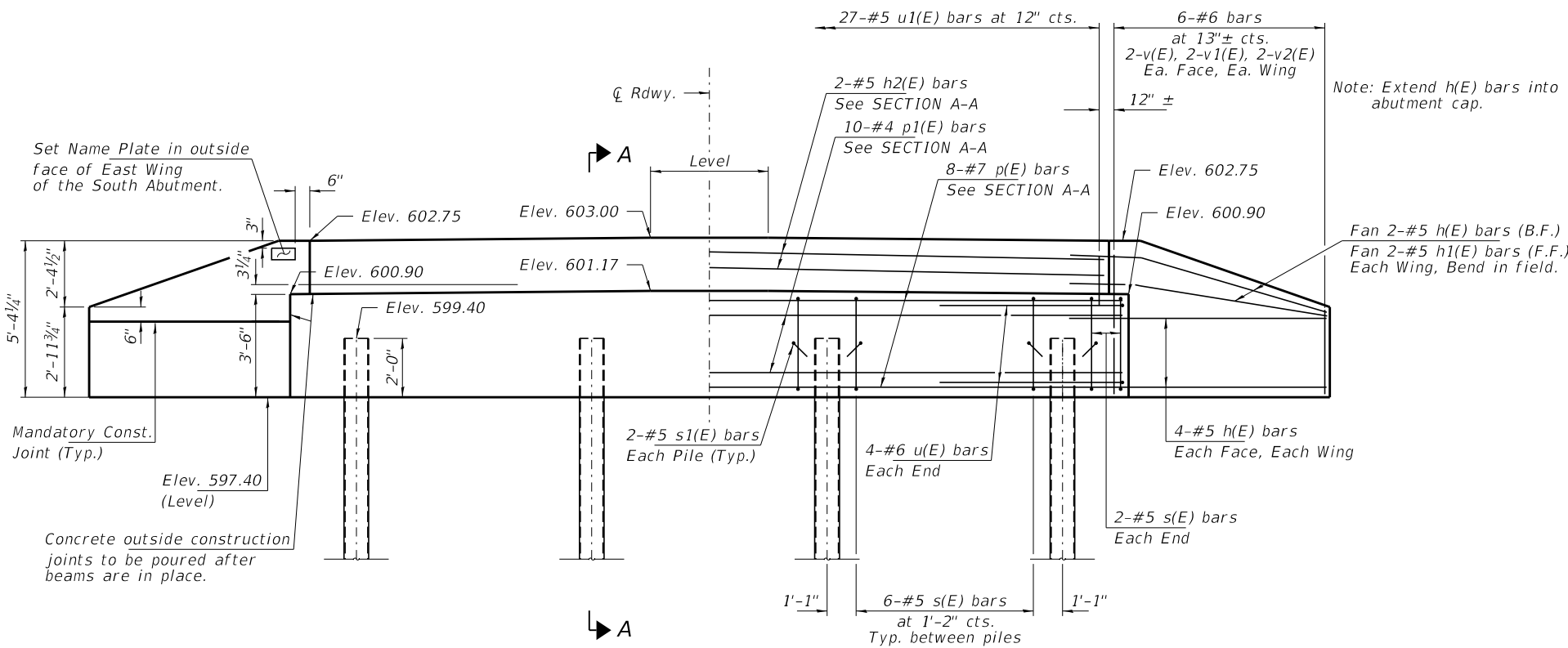
BAR s(E)



BAR s1(E)



BAR u(E)



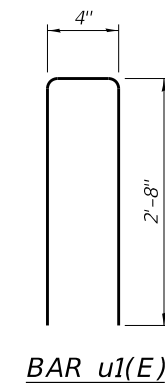
ELEVATION

PILE DATA

Type _____ Steel HP10x42
 No. Production Piles _____ 7
 No. Test Piles _____ 1
 Factored Resistance Available (Rf) _____ 129 Kips/Pile
 Nominal Required Bearing (Rn) _____ 184 Kips/Pile
 Est. Length _____ 60 Ft/Pile

Notes:
 Test pile to be driven in a permanent location at the North Abutment.

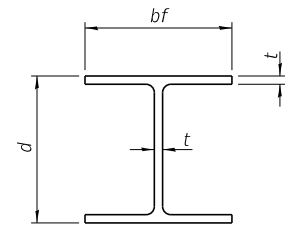
The test piles shall be driven to 110 percent of the Nominal Required Bearing indicated in the pile data information.



BAR u1(E)

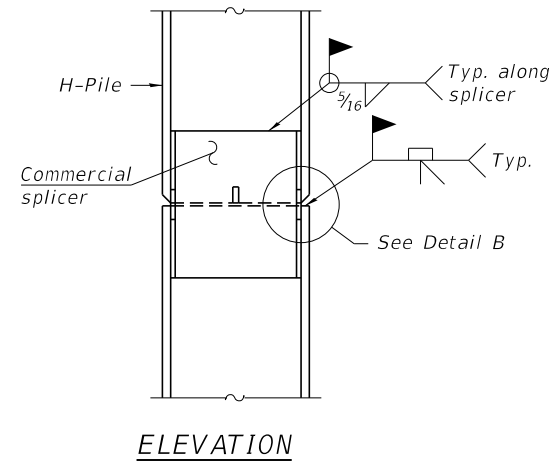
BILL OF MATERIAL - 2 ABUTS.

BAR	NO.	SIZE	LENGTH	SHAPE	
h(E)	40	#5	7'-0"	—	
h1(E)	8	#5	5'-6"	—	
h2(E)	4	#5	28'-2"	—	
p(E)	16	#7	28'-2"	—	
p1(E)	20	#4	28'-2"	—	
s(E)	44	#5	11'-7"	□	
s1(E)	16	#5	3'-6"	U	
u(E)	16	#6	10'-9"	—	
u1(E)	54	#5	5'-8"	—	
v(E)	16	#5	4'-11"	—	
v1(E)	16	#5	3'-10"	—	
v2(E)	16	#5	2'-9"	—	
Concrete Structures				Cu. Yd.	25.2
Reinf. Bars, Epoxy Coated				Pound	3,110
Furnishing Steel Piles HP10x42				Foot	420
Test Piles Steel HP10x42				Each	1
Name Plates				Each	1

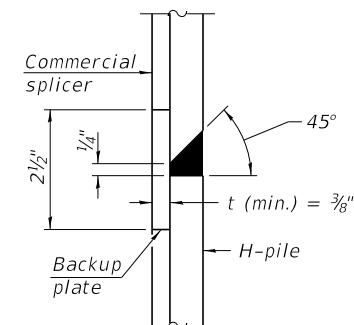


STEEL PILE TABLE

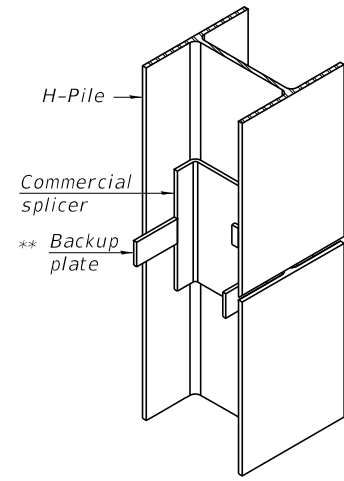
Designation	Depth d	Flange width bf	Web and Flange thickness t	Encasement diameter A
HP 14x117	14 1/4"	14 7/8"	1 3/16"	30"
x102	14"	14 3/4"	1 1/16"	30"
x89	13 7/8"	14 3/4"	5/8"	30"
x73	13 3/8"	14 3/8"	1/2"	30"
HP 12x84	12 1/4"	12 1/4"	1 1/16"	24"
x74	12 1/8"	12 1/4"	5/8"	24"
x63	12"	12 1/8"	1/2"	24"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



ELEVATION

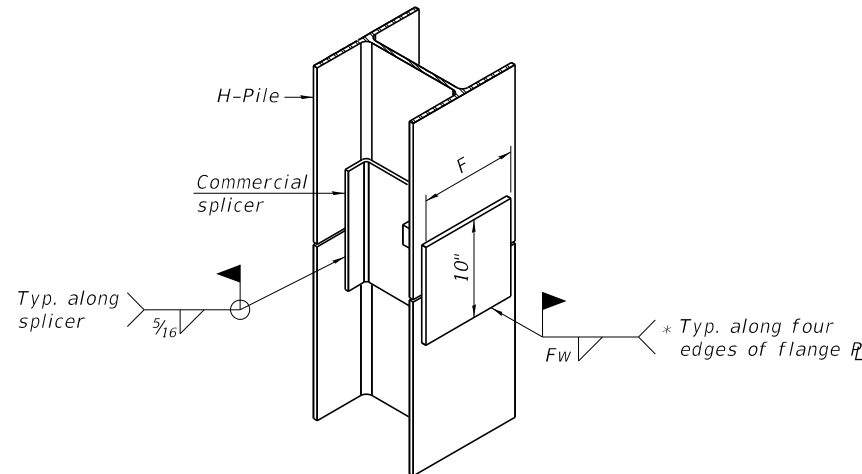


DETAIL "B"



ISOMETRIC VIEW

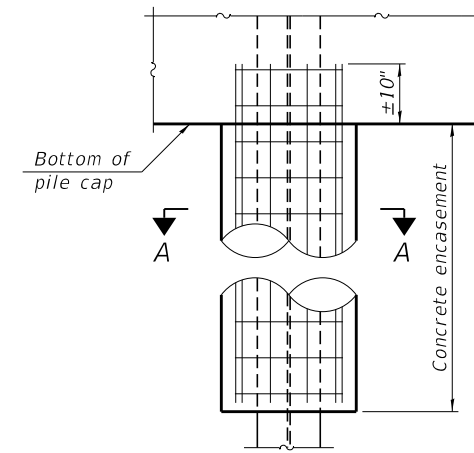
WELDED COMMERCIAL SPLICE



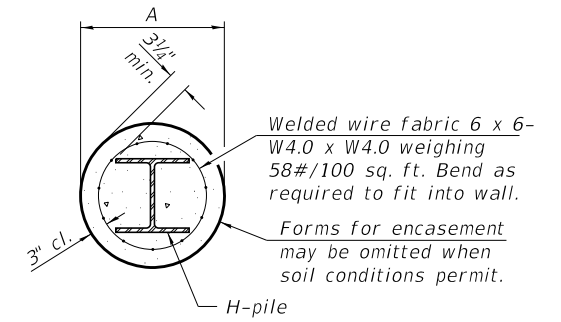
ISOMETRIC VIEW

WELDED COMMERCIAL SPLICE ALTERNATE

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

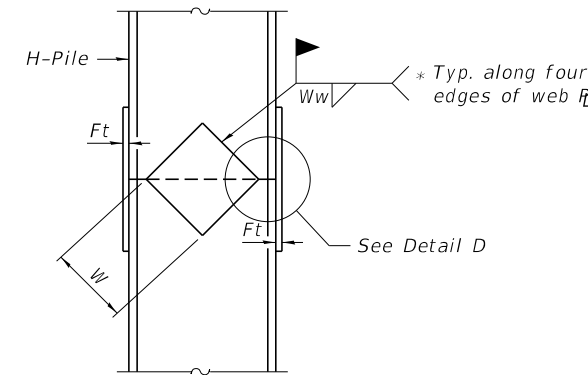


ELEVATION

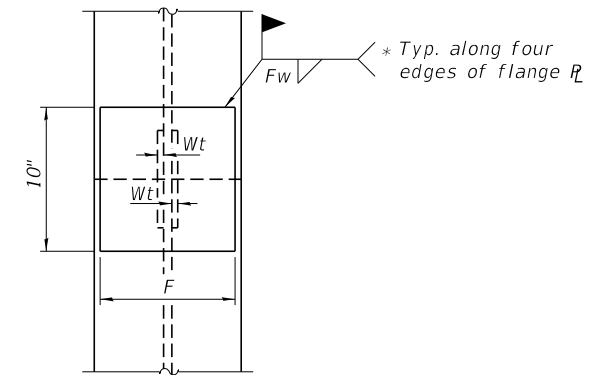


SECTION A-A

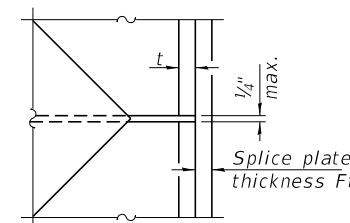
INDIVIDUAL PILE CONCRETE ENCASUREMENT (when specified)



ELEVATION



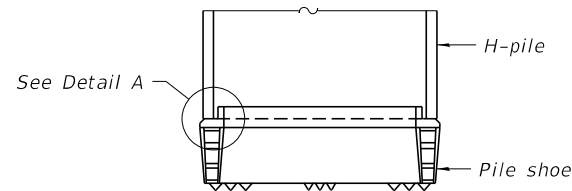
END VIEW



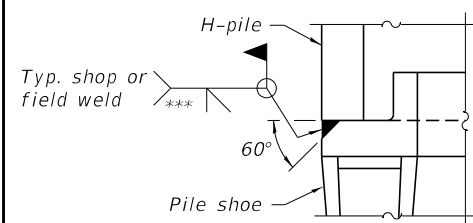
DETAIL D

WELDED PLATE FIELD SPLICE

Designation	F	Ft	Fw	W	Wt	Ww
HP 14x117	12 1/2"	1"	7/8"	7 3/4"	5/8"	1/2"
x102	12 1/2"	7/8"	3/4"	7 3/4"	5/8"	1/2"
x89	12 1/2"	3/4"	1 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"



ELEVATION



DETAIL A

SHOE ATTACHMENT

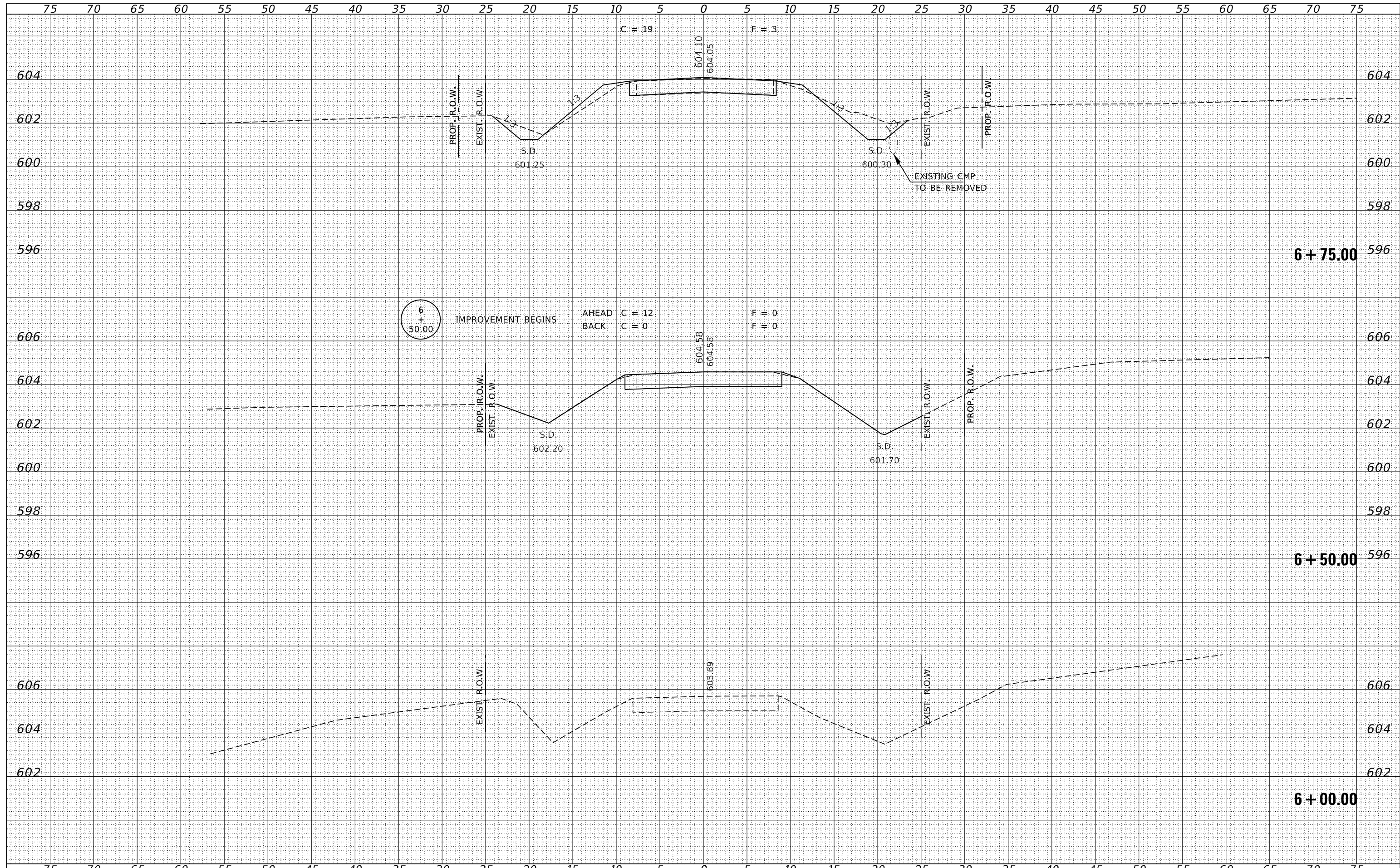
Note:
The steel H-piles shall be according to AASHTO M270 Grade 50.

F-HP 1-1-2020

FILE NAME = 190657-shi-bridge.dgn	USER NAME =	DESIGNED - J.R.B.	REvised -	STATE OF ILLINOIS CHRISTIAN COUNTY HIGHWAY DEPARTMENT	HP PILE DETAILS STRUCTURE NO. 011-3424	T.R.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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	PLOT SCALE = \$SCALE\$	CHECKED - S.W.M.	REvised -			196A	19-07116-00-BR	CHRISTIAN	33	17
PLOT DATE = 3/18/2022	DRAWN - T.D.S.	CHECKED - S.W.M.	REvised -			LOCUST ROAD DISTRICT		CONTRACT NO. 93789		
						ILLINOIS		FED. AID PROJECT 9EXR(862)		

DATE	
BY	
ORIGINAL SURVEY	
SURVEYED	
PLOTTED	
TEMPLATE	
AREAS	
CHECKED	
NO.	

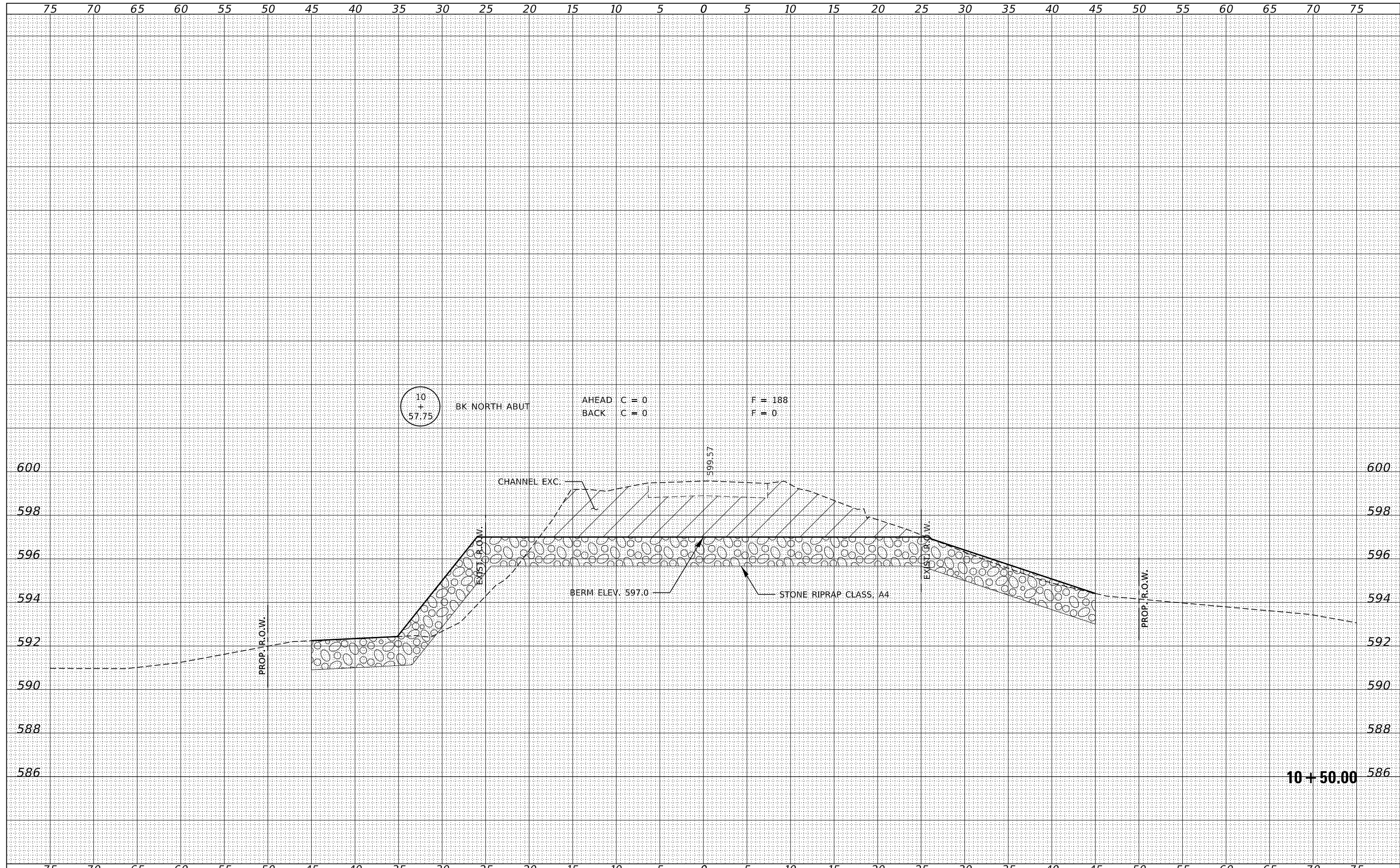
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AREAS	
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FILE NAME = 190657-shl-xssheets.dgn	USER NAME =	DESIGNED - S.A.A.	REVISED -	STATE OF ILLINOIS CHRISTIAN COUNTY HIGHWAY DEPARTMENT	STATION CROSS SECTIONS			T.R.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
HAMPTON, LENZINI AND RENWICK, INC. 3885 STEVENSON DRIVE, SUITE 201 SPRINGFIELD, ILLINOIS 62703 ILLINOIS PROFESSIONAL DESIGN FIRM L.S. / P.E. / S.E. CORP. 184.009958	PLOT SCALE = \$SCALES	DRAWN - T.W.K.	REVISED -		196A	19-07116-00-BR	CHRISTIAN	33	20			
PLOT DATE = 3/18/2022	DATE = 03/18/2022	CHECKED - J.W.F.	REVISED -		LOCUST ROAD DISTRICT	CONTRACT NO.			ILLINOIS FED. AID PROJECT			
		DATE - 03/18/2022	REVISED -		SCALE: 5H:2V	SHEET NO. 1 OF 14 SHEETS	STA. 6+00.00 TO STA. 6+75.00					

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

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



FILE NAME = 190657-shl-xssheets.dgn
 DESIGNED - S.A.A.
 DRAWN - T.W.K.
 CHECKED - J.W.F.
 DATE - 03/18/2022

USER NAME =
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 PLOT DATE = 3/18/2022

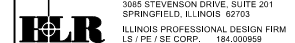
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STATE OF ILLINOIS
 CHRISTIAN COUNTY HIGHWAY DEPARTMENT

STATION CROSS SECTIONS

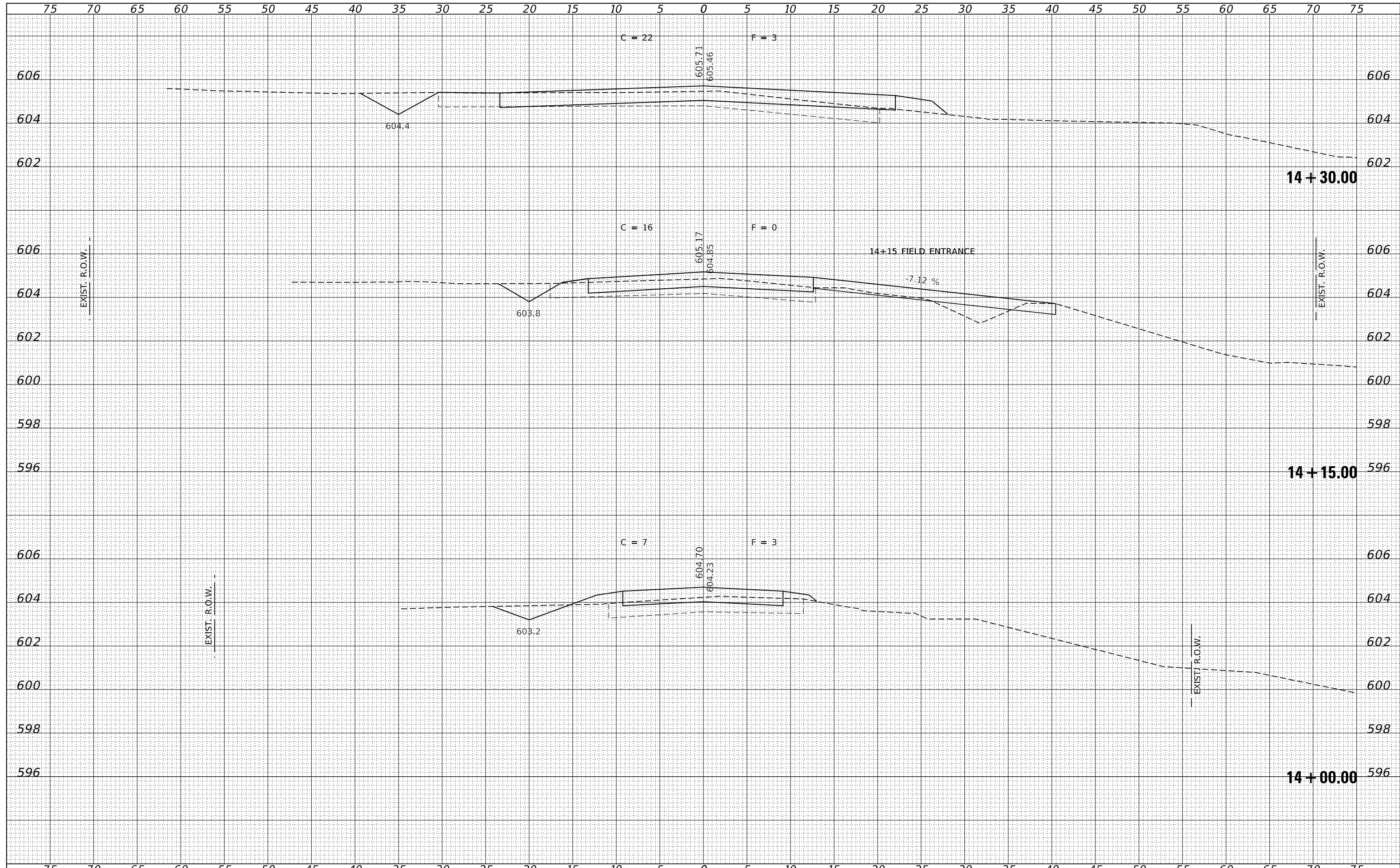
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T.R.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
196A	19-07116-00-BR	CHRISTIAN	33	26
LOCUST ROAD DISTRICT			CONTRACT NO.	
ILLINOIS FED. AID PROJECT				

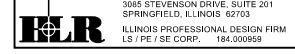


DATE	
BY	
ORIGINAL SURVEY	
SURVEYED	
PLOTTED	
TEMPLATE	
AREAS	
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NO.	

DATE	
BY	
ORIGINAL SURVEY	
SURVEYED	
PLOTTED	
TEMPLATE	
AREAS	
CHECKED	
NO.	



FILE NAME = 190657-oh-vssheets.dgn	USER NAME =	DESIGNED - S.A.A.	REVISED -	STATE OF ILLINOIS CHRISTIAN COUNTY HIGHWAY DEPARTMENT	STATION CROSS SECTIONS			T.R.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	
HAMPTON, LENZINI AND RENWICK, INC. 3885 STEVENSON DRIVE, SUITE 201 SPRINGFIELD, ILLINOIS 62703 ILLINOIS PROFESSIONAL DESIGN FIRM L.S. / P.E. / S.E. CORP. 184-009958		DRAWN - T.W.K.	REVISED -		SCALE: 5H:2V	SHEET NO. 13 OF 14 SHEETS	STA. 14+00.00 TO STA. 14+30.00	196A	19-07116-00-BR	CHRISTIAN	33	32	
		CHECKED - J.W.F.	REVISED -					LOCUST ROAD DISTRICT					
		DATE - 03/18/2022	REVISED -										



ILLINOIS FED. AID PROJECT

