

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
T.R. 69	12-03130-00-BR	MOULTRIE	18	1
FED. ROAD DIST. NO.		ILLINOIS CONTRACT NO. 95866		

**INDEX OF SHEETS**

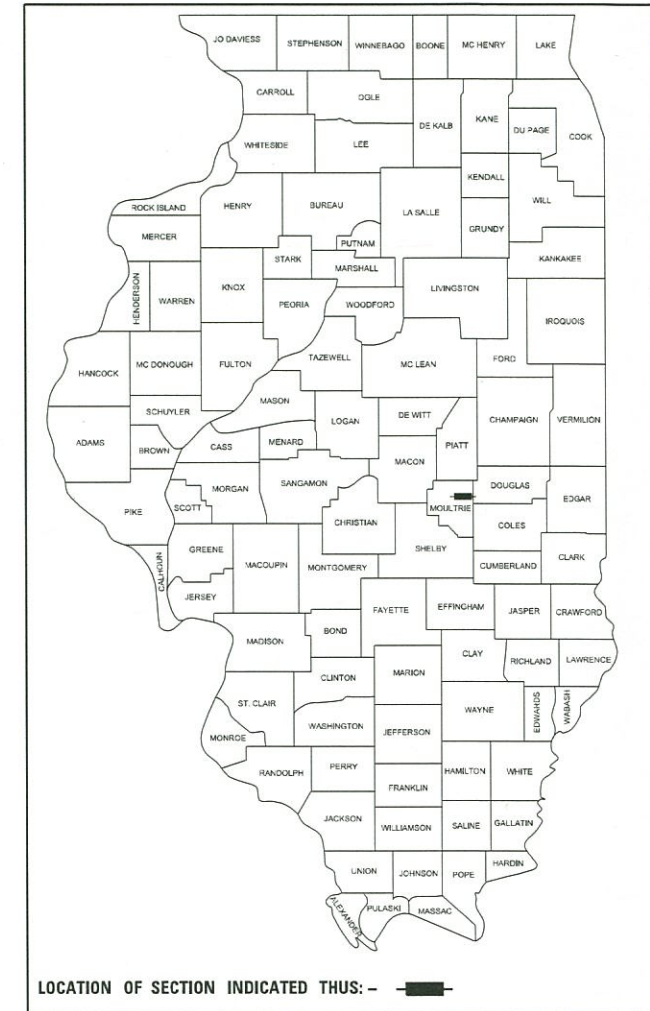
SHEET NO.	DESCRIPTION
1.	COVER SHEET
2.	SUMMARY OF QUANTITIES AND GENERAL NOTES
3.	TYPICAL CROSS SECTIONS
4.	PLAN AND PROFILE
5-11.	BRIDGE PLANS
12.	BORINGS
13-18.	STATION CROSS SECTIONS

HIGHWAY STANDARDS:

000001-07	STANDARD SYMBOLS, ABBREVIATIONS, AND PATTERNS
280001-07	TEMPORARY EROSION CONTROL SYSTEMS
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

# PLANS FOR PROPOSED SURFACE TRANSPORTATION PROGRAM – BRIDGE

**PROJECT 7QVM(489)  
SECTION 12-03130-00-BR  
JONATHAN CREEK ROAD DISTRICT  
MOULTRIE COUNTY  
T.R. 69  
PROPOSED STRUCTURE NO. 070-4337  
C-97-062-19**



**UTILITIES**

COLES-MOULTRIE ELECTRIC CO-OP  
104 DEWITT AVE. EAST, POX BOX 709  
MATTOON, IL 61938

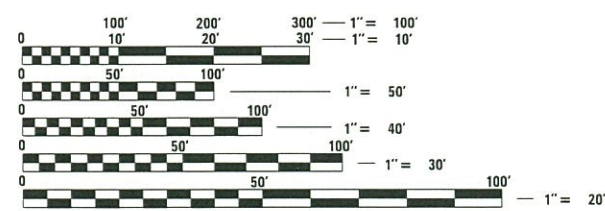
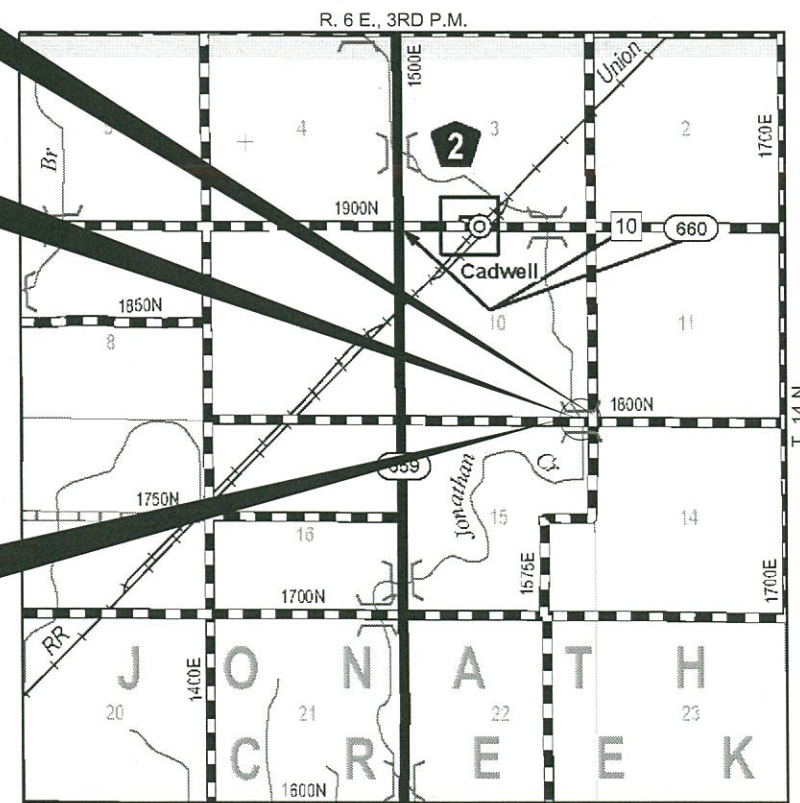
CONSOLIDATED COMMUNICATIONS  
121 S. 17TH ST.  
MATTOON, IL. 61938

MOULTRIE CO. RURAL WATER DISTRICT  
1070 ILLINOIS 32  
SULLIVAN, IL. 61951

STA. 10+00  
PRECAST PRESTRESSED CONCRETE DECK BEAM  
BRIDGE. SINGLE SPAN 1 @ 54'-0"  
28'-0" RDWY.; SKEW = 10°  
EXISTING STRUCTURE NO. 070-4314  
PROPOSED STRUCTURE NO. 070-4337

IMPROVEMENT ENDS  
STATION 8+00

IMPROVEMENT BEGINS  
STATION 12+00



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: 125 ADT

**LOCATION MAP**



**WARNING**

**CALL 811 BEFORE YOU DIG**  
DIG NO: A1791960

APPROVED 11/4/2019  
*Jeffrey Birch*  
COUNTY ENGINEER

APPROVED 11/4/19  
*Neil S.*  
TOWNSHIP COMMISSIONER

PASSED 11-14-19  
*S. Phelan*  
DISTRICT SEVEN ENGINEER OF LOCAL ROADS & STREETS  
11-14-19  
*Jeffrey Myers*  
REGION FOUR ENGINEER

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

DATE: 11/01/2019

**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  
184.000959  
ILLINOIS PROFESSIONAL DESIGN FIRM LS / PE / SE CORPORATION

EXPIRES: 11/30/2021 PROJECT NUMBER: 17.0793.130 DATE: 11/01/19

SUMMARY OF QUANTITIES			
CODE NO.	ITEM	CONSTRUCTION TYPE CODE 0011	
		UNIT	TOTAL
20200100	EARTH EXCAVATION	CU YD	154
20300100	CHANNEL EXCAVATION	CU YD	100
20400800	FURNISHED EXCAVATION	CU YD	129
28100207	STONE RIPRAP, CLASS A4	TON	260
28200200	FILTER FABRIC	SQ YD	275
35100100	AGGREGATE BASE COURSE, TYPE A	TON	484
35101400	AGGREGATE BASE COURSE, TYPE B	TON	88
50100100	REMOVAL OF EXISTING STRUCTURES	EACH	1
50300225	CONCRETE STRUCTURES	CU YD	26.4
50400405	PRECAST PRESTRESSED CONCRETE DECK BEAMS (21" DEPTH)	SQ FT	1,512
50800205	REINFORCEMENT BARS, EPOXY COATED	POUND	3,060
50900205	STEEL RAILING, TYPE S1	FOOT	104
51201400	FURNISHING STEEL PILES HP10X42	FOOT	385
51202305	DRIVING PILES	FOOT	385
51203400	TEST PILE STEEL HP10X42	EACH	1
51500100	NAME PLATES	EACH	1
542D0223	PIPE CULVERTS, CLASS D, TYPE 1 18"	FOOT	336
59300100	CONTROLLED LOW-STRENGTH MATERIAL	CU YD	104
67100100	MOBILIZATION	L SUM	1
72501000	TERMINAL MARKER - DIRECT APPLIED	EACH	4
X2501000	SEEDING, CLASS 2 (SPECIAL)	ACRE	0.3
X7011800	TRAFFIC CONTROL AND PROTECTION, STANDARD BLR 21	L SUM	1

^ SEE SPECIAL PROVISIONS  
\* SPECIALTY ITEMS

### GENERAL NOTES

- ALL CONSTRUCTION SHALL BE DONE IN ACCORDANCE WITH THE STATE OF ILLINOIS "STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, ADOPTED APRIL 1, 2016", (HEREIN AFTER REFERRED TO AS THE STANDARD SPECIFICATIONS; THE "SUPPLEMENTAL SPECIFICATIONS AND RECURRING SPECIAL PROVISIONS" ADOPTED JANUARY 1, 2020; 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.
- ALL CLEARING, GRUBBING, FENCE REMOVAL, PAVEMENT REMOVAL, AND REMOVAL OF EXISTING DRAINAGE STRUCTURES SHALL BE INCLUDED IN THE COST OF EARTH EXCAVATION. ALL BITUMINOUS MATERIAL SHALL BE REMOVED AND PROPERLY DISPOSED OF BY THE CONTRACTOR IN A METHOD APPROVED BY THE ENGINEER. REMOVAL AND DISPOSAL OF BITUMINOUS MATERIAL SHALL BE INCLUDED IN THE COST OF EARTH EXCAVATION AND NO ADDITIONAL COMPENSATION WILL BE ALLOWED.
- 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.
- ANY REFERENCE TO STANDARDS THROUGHOUT THE PLANS OR SPECIAL PROVISIONS SHALL BE INTERPRETED TO BE THE LATEST STANDARD OF THE DEPARTMENT.
- 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.
- THE CONTRACTOR SHALL PROVIDE ACCESS TO ADJACENT PROPERTY AT ALL TIMES DURING CONSTRUCTION OF THE PROJECT.
- THE FOLLOWING RATES OF APPLICATION HAVE BEEN USED IN CALCULATING PLAN QUANTITIES
 

AGGREGATE BASE COURSE	2.05 TON/CU YD
STONE RIPRAP, CLASS A4	1.75 TON/CU YD
COVER/SEAL COAT AGGREGATE	25 LB/SQ YD
BITUMINOUS MATERIALS (PRIME COAT)	0.25 LB/SQ FT
BITUMINOUS MATERIALS (COVER AND SEAL COATS)	0.30 LB/SQ FT
- 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.
- 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) = 0.3 ACRES
- ALL WASTE MATERIAL FROM EXCAVATIONS SHALL BE DISPOSED OF BY THE CONTRACTOR. NO ADDITIONAL COMPENSATION WILL BE ALLOWED.
- COMMITMENTS:  
NONE

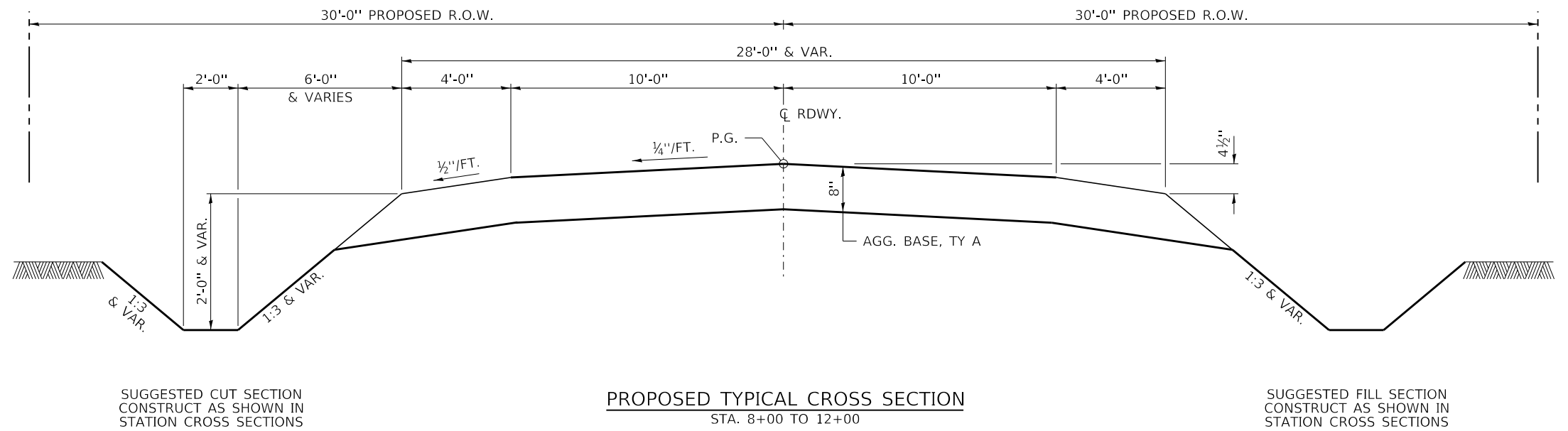
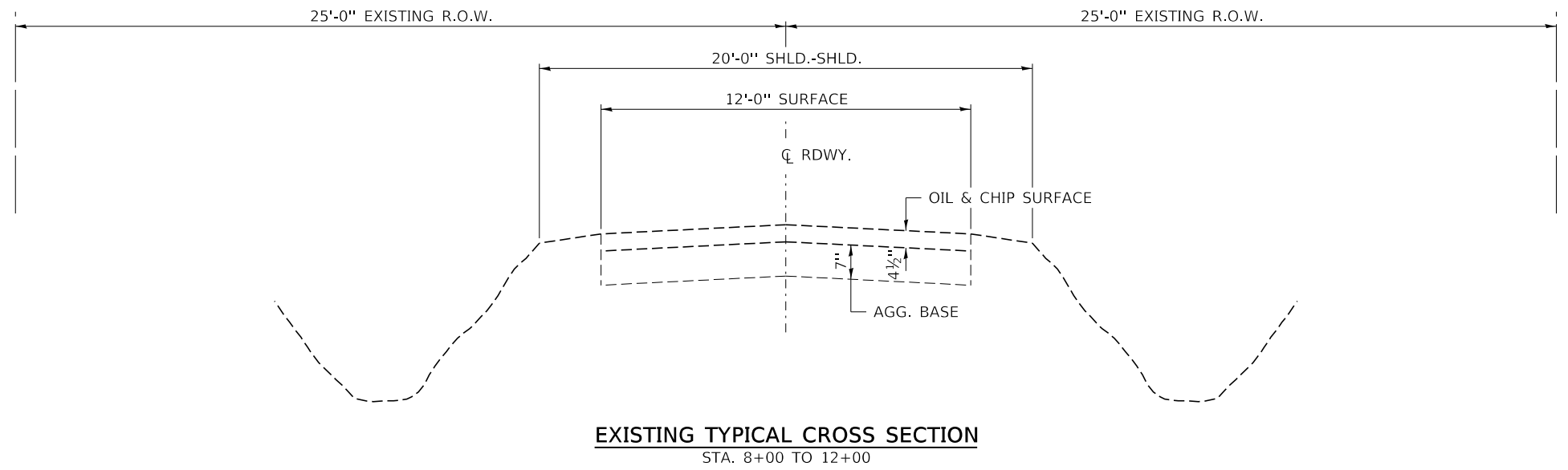
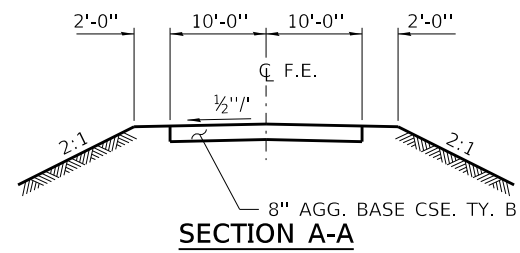
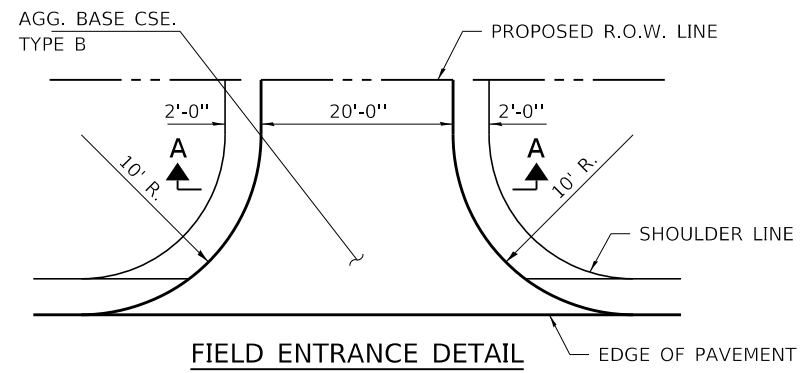
### EARTHWORK SCHEDULE

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.
TR 69							
STA 8+00 TO STA 9+73.59	80		25.00%	100.00%	60	117	-57
STA 9+73.59 TO STA 10+26.41		100	25.00%	70.00%	53		53
STA 10+26.41 TO STA 12+00	74		25.00%	100.00%	55	106	-51
ENTRANCE EMBANKMENT						74	-74
TOTAL	154	100			168	297	-129
USE	154	100					129

FURNISHED 129 CU YDS

### ROADWAY SCHEDULE

LOCATION	AGGREGATE BASE COURSE TYPE A	AGGREGATE BASE COURSE TYPE B	CONTROLLED LOW-STRENGTH MATERIAL
	35100100	35101500	59300100
	TON	TON	TON
TR 69			
STA 8+00 TO STA 9+73.59	242		52
STA 9+73.59 TO STA 10+26.41			
STA 10+26.41 TO STA 12+00	242		52
ENTRANCES		88	
TOTAL	484	88	104



SUGGESTED CUT SECTION  
CONSTRUCT AS SHOWN IN  
STATION CROSS SECTIONS

TRANSITIONS FROM THE PROPOSED PAVEMENT TO THE EXISTING  
PAVEMENT ARE TO BE CONSTRUCTED FROM STA. 8+00 TO 9+00 AND  
STA. 11+00 TO 12+00. SEE SHEET 5 FOR TRANSITION AT BRIDGE.

SUGGESTED FILL SECTION  
CONSTRUCT AS SHOWN IN  
STATION CROSS SECTIONS

FILE NAME = 170793-shi-tysecdtkns.dgn	USER NAME = rmosick	DESIGNED - J.W.F.	REVISED -	<b>STATE OF ILLINOIS MOULTRIE COUNTY HIGHWAY DEPARTMENT</b>	<b>TYPICAL CROSS SECTIONS</b>		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 LS / PE / SE CORP. 184.000959	PLOT SCALE = \$SCALE\$	DRAWN - M.M.P.	REVISED -				69	12-03130-00-BR	MOULTRIE	18	3
PLOT DATE = 11/5/2019	DATE = 11/01/19	CHECKED - S.W.M.	REVISED -		SCALE:		SHEET NO. 1 OF 1 SHEETS	STA.	TO STA.	JONATHAN CREEK ROAD DISTRICT CONTRACT NO. 95866	
										ILLINOIS FED. AID PROJECT 7QVM(489)	



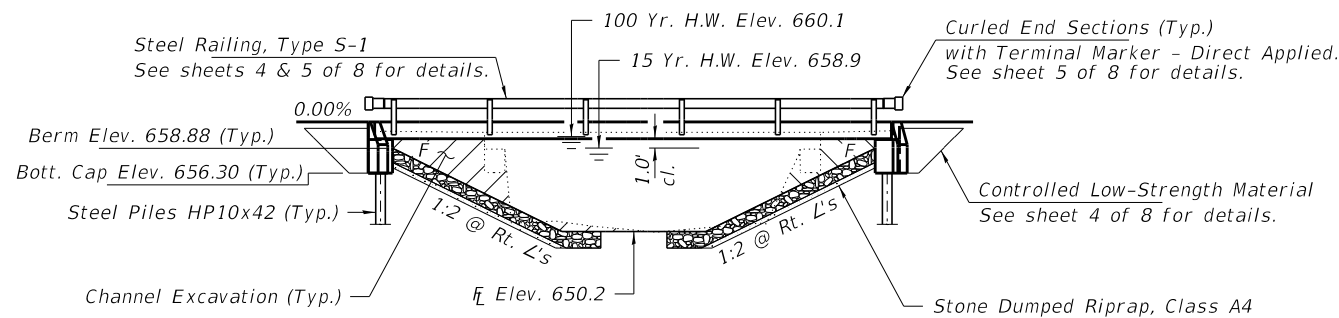




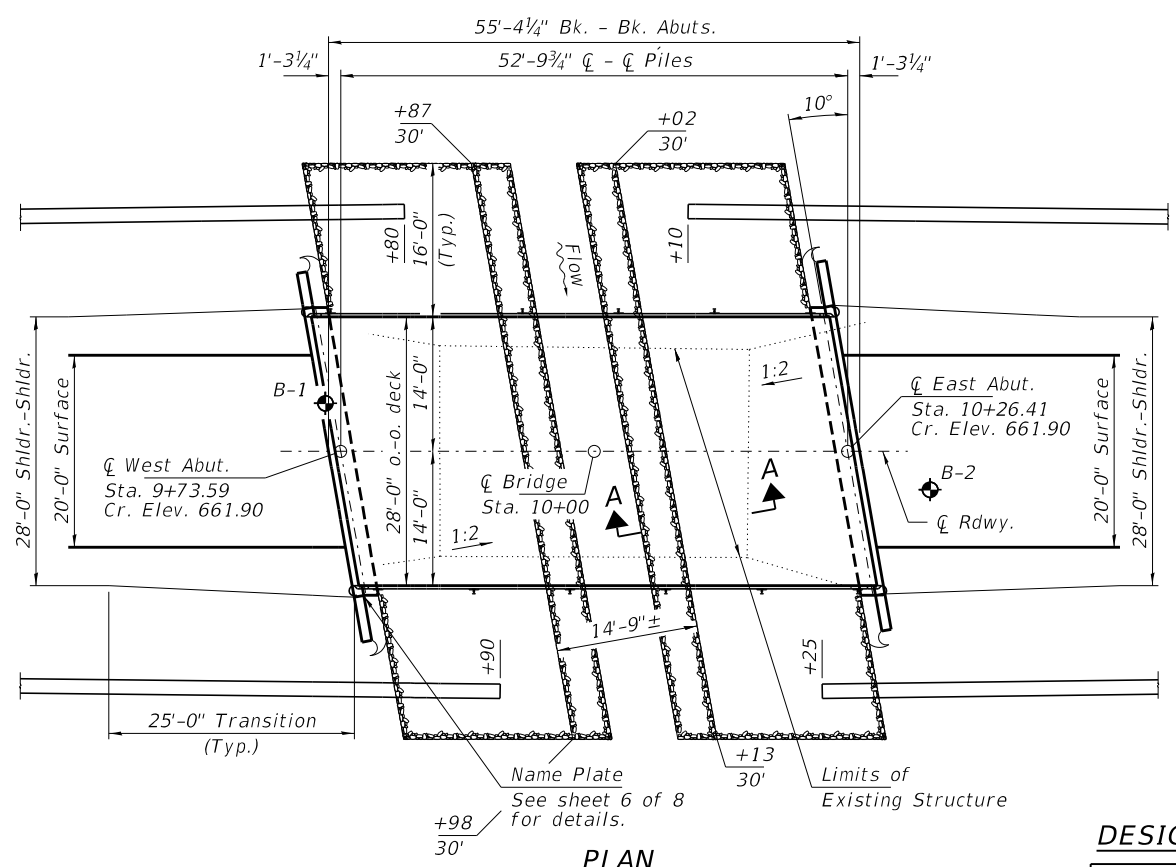
EXISTING STRUCTURE NO. 070-4314; Sta. 10+00 - Reinforced concrete slab bridge on closed timber abutments. 32.5' bk.-bk. Abuts; 23.3' o.-o. deck.

Structure closed to traffic during construction.

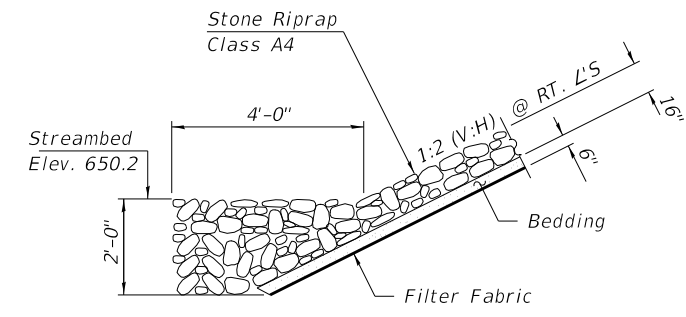
No Salvage



**ELEVATION**



**PLAN**



**SECTION A-A**

Note: See Special Provisions for Stone Riprap, Class A4.

**GENERAL NOTES**

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

The Contractor shall drive test piles to 110% of the nominal required bearing specified in production locations at West Abutment or approved by the Engineer before ordering the remainder of piles.

Reinforcement bars shall conform to the requirements of ASTM A 706 Gr 60 (IL Modified). See Special Provisions.

All bars to 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.

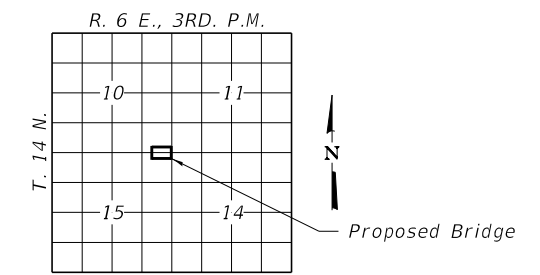
**INDEX OF STRUCTURE SHEETS**

1. General Plan & Elevation
2. 21"x48" PPC Deck Beam
3. 21"x48" PPC Deck Beam Details
4. Superstructure Details
5. Steel Railing, Type S-1
6. Abutments
7. HP Pile Details
8. Borings

JONATHAN CREEK  
BUILT 201\_ BY  
MOULTRIE COUNTY  
SEC. 12-03130-00-BR  
JONATHAN CREEK ROAD DISTRICT  
STR. NO. 070-4337  
LOADING HL-93

**NAME PLATE**

See Std. 515001



**LOCATION SKETCH**

**DESIGN SPECIFICATIONS**

2017 AASHTO LRFD Bridge Design Specifications, 8th Edition with all interims.

**LOADING HL-93**

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

**DESIGN STRESSES**

**FIELD UNITS**

f'c = 3,500 psi  
fy = 60,000 psi (Reinf.)

**PRECAST PRESTRESSED UNITS**

f'c = 6,000 psi  
f'ci = 5,000 psi  
fpu = 270,000 psi (1/2"Ø low lax. strands)  
fpbt = 201,960 psi (1/2"Ø low lax. strands)  
fy = 60,000 psi (Reinf.)

**SEISMIC DATA**

Seismic Performance Zone (SPZ) = 1  
Design Spectral Acceleration at 1.0 sec. (SD1) = 0.116g  
Design Spectral Acceleration at 0.2 sec. (SDS) = 0.239g  
Soil Site Class = C

**DESIGN SCOUR ELEVATION TABLE**

Event/Limit State	Design Scour Elev. (ft.)		Item 113
	W. Abut.	E. Abut.	
Q100	656.4	656.4	8
Q500	656.4	656.4	
Design	656.4	656.4	
Check	656.4	656.4	

**WATERWAY INFORMATION**

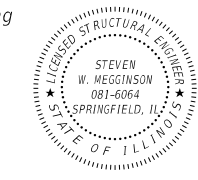
Flood	Freq. Yr.	Q C.F.S.	Opening Sq. Ft.		Nat. H.W.E.		Head - Ft.		Headwater El.	
			Exist.	Prop.	Exist.	Prop.	Exist.	Prop.		
Design	15	1140	220	280	658.85	0.34	0.02	659.19	658.87	
Base	100	1820	240	330	660.08	0.36	0.11	660.44	660.19	
Scour Check	200	2070	240	330	660.29	0.31	0.18	660.60	660.47	
Max. Calc.	500	2410	240	330	660.53	0.21	0.20	660.74	660.73	

Existing Overtopping Elev. 659.7 @ Sta. 11+50  
Drainage Area = 13.7 Sq. Mi. Proposed Overtopping Elev. 659.8 @ Sta. 12+00

10 Year Velocity through Existing Bridge = 5.2 fps      10 Year Velocity through Proposed Bridge = 4.1 fps

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* 11/01/19  
ILLINOIS STRUCTURAL ENGINEER NO. 081-6064



Expires 11-30-2020

**TOTAL BILL OF MATERIAL**

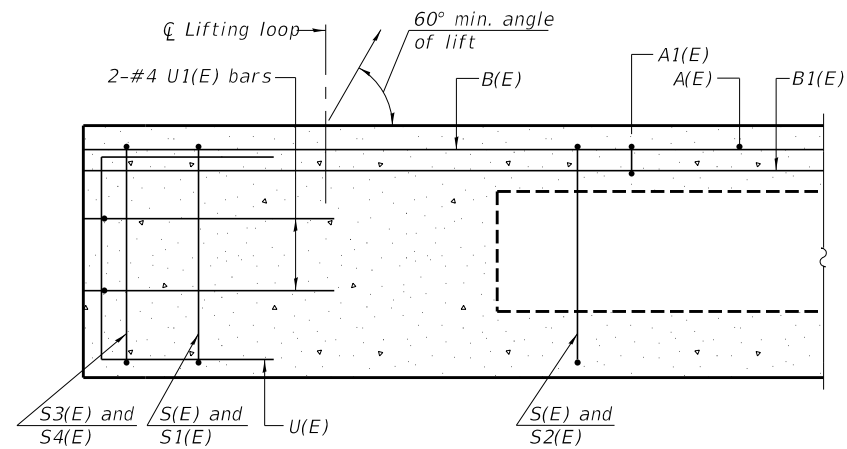
ITEM	UNIT	SUPER	SUB	TOTAL
Stone Riprap, Class A4	Ton			260
Filter Fabric	Sq. Yd.			275
Removal of Existing Structures	Each			1
Concrete Structures	Cu. Yd.		26.4	26.4
Precast Prestressed Conc. Deck Beams (21" Depth)	Sq. Ft.	1,512		1,512
Reinforcement Bars, Epoxy Coated	Pound		3,060	3,060
Steel Railing, Type S-1	Foot	104		104
Furnishing Steel Piles HP10x42	Foot		385	385
Driving Piles	Foot		385	385
Test Pile Steel HP10x42	Each		1	1
Name Plates	Each		1	1
Controlled Low-Strength Material	Cu. Yd.			104
Terminal Marker - Direct Applied	Each	4		4

FILE NAME = 170793-shl-bridge.dgn	USER NAME = rmosck	DESIGNED - J.R.B.	REVISED -
HAMPTON, LENZINI AND RENWICK, INC. 3085 STEVENSON DRIVE, SUITE 201 SPRINGFIELD, ILLINOIS 62703 ILLINOIS PROFESSIONAL DESIGN FIRM LS / PE / SE CORP. 184.009959	PLOT SCALE =	CHECKED - S.W.M.	REVISED -
PLOT DATE = 11/5/2019		DRAWN - M.M.P.	REVISED -
		CHECKED - S.W.M.	REVISED -

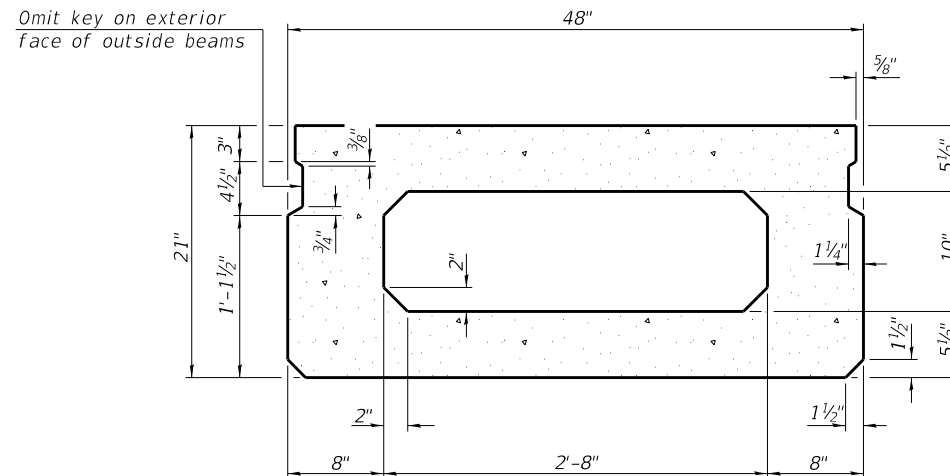
STATE OF ILLINOIS  
MOULTRIE COUNTY HIGHWAY DEPARTMENT

GENERAL PLAN & ELEVATION  
STRUCTURE NO. 070-4337  
SHEET NO. 1 OF 8 SHEETS

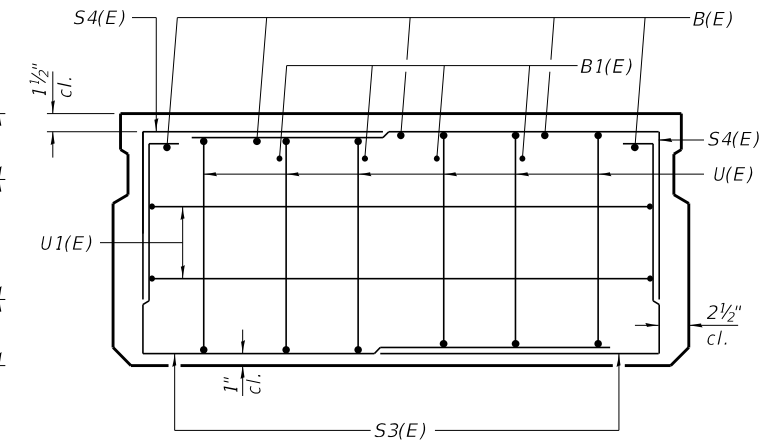
T.R.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
69	12-03130-00-BR	MOULTRIE	18	5
JONATHAN CREEK ROAD DISTRICT			CONTRACT NO. 95866	
ILLINOIS   FED. AID PROJECT 7QVM(489)				



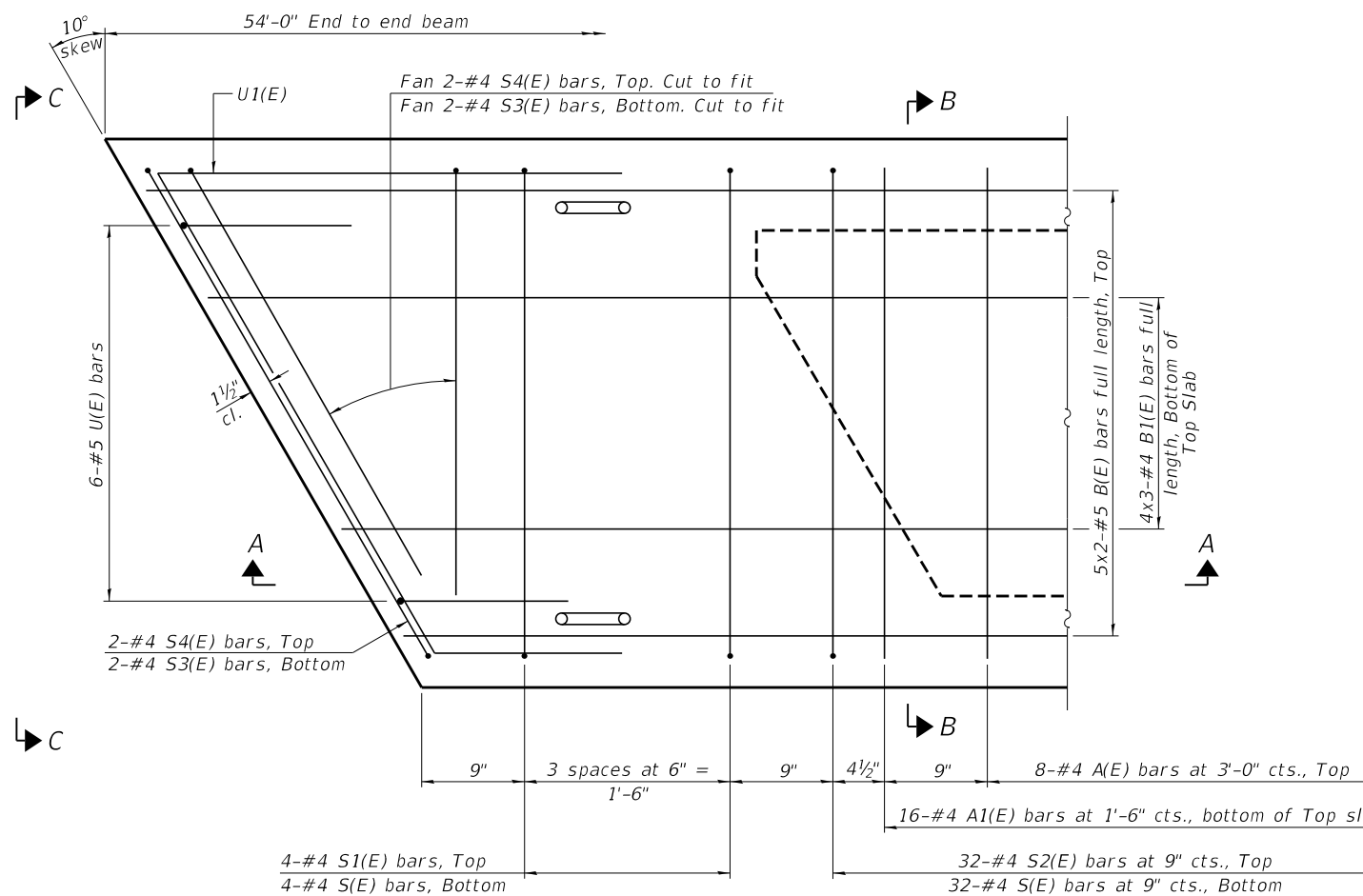
SECTION A-A



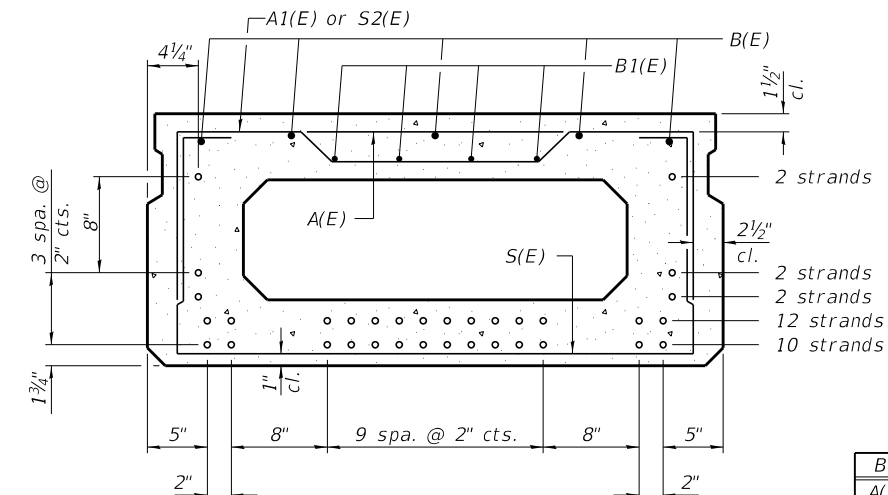
SECTION B-B  
(Showing dimensions)



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)	17	#4	3'-7"	—
A1(E)	33	#4	3'-10"	—
B(E)	10	#5	28'-2"	—
B1(E)	12	#4	19'-2"	—
S(E)	73	#4	7'-5"	⌊
S1(E)	8	#4	5'-11"	⌊
S2(E)	65	#4	6'-2"	⌊
S3(E)	8	#4	4'-8"	⌊
S4(E)	8	#4	3'-11"	⌊
U(E)	12	#5	4'-0"	⌊
U1(E)	4	#4	6'-8"	⌊

Note:  
See sheet 3 of 8 for additional details and Bill of Material.

**MINIMUM BAR LAP**

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

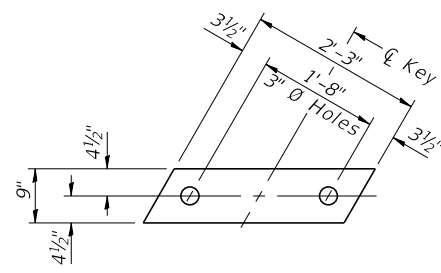
Notes:  
Spacing of S(E) and S2(E) bars may be adjusted up to 4" in the immediate area of the transverse tie diaphragms to miss the block outs for the transverse ties.  
Bars indicated thus 5x2-#5 etc. indicates 5 lines of bars with 2 lengths per line.

PD-2148-R

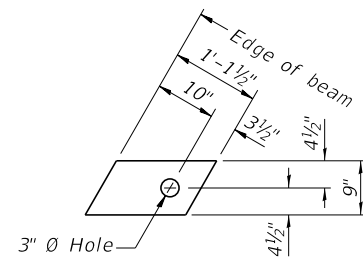
2-17-2017

FILE NAME = 170793-shl-bridge.dgn	USER NAME = rmosick	DESIGNED - J.R.B.	REVISED -	<b>STATE OF ILLINOIS</b> <b>MOULTRIE COUNTY HIGHWAY DEPARTMENT</b>	<b>21" x 48" PPC DECK BEAM</b> <b>STRUCTURE NO. 070-4337</b>	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 =	CHECKED - S.W.M.	REVISED -			69	12-03130-00-BR	MOULTRIE	18	6
	PLOT DATE = 11/5/2019	DRAWN - M.M.P.	REVISED -			JONATHAN CREEK ROAD DISTRICT		CONTRACT NO. 95866		
		CHECKED - S.W.M.	REVISED -			ILLINOIS		FED. AID PROJECT 7QVM(489)		

SHEET NO. 2 OF 8 SHEETS



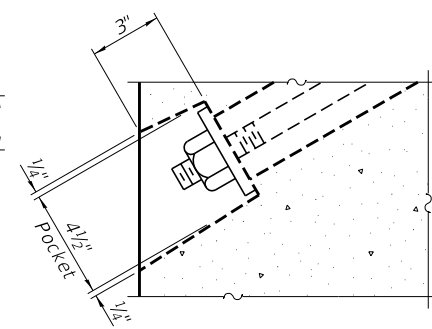
**FABRIC BEARING PAD**  
(Interior - 12 Req'd.)



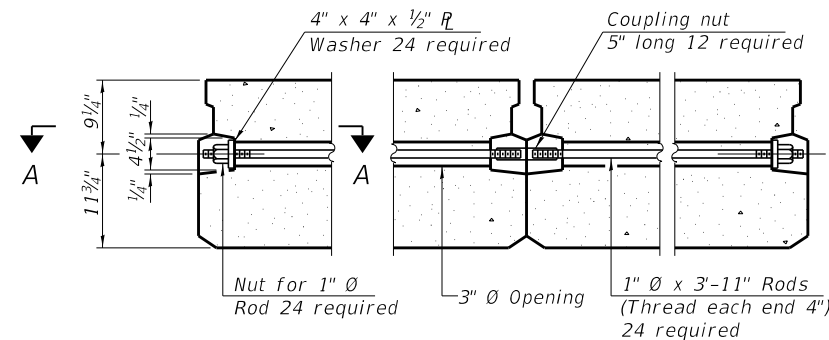
**FABRIC BEARING PAD**  
(Exterior - 4 Req'd.)

**FIXED**

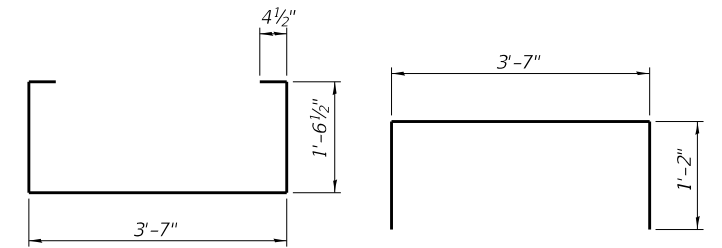
Notes:  
All bearing pads shall be 1" thick.  
Omit holes when using expansion bearings.  
Expansion bearing pad shall be bonded to the substructure.



**SECTION A-A**

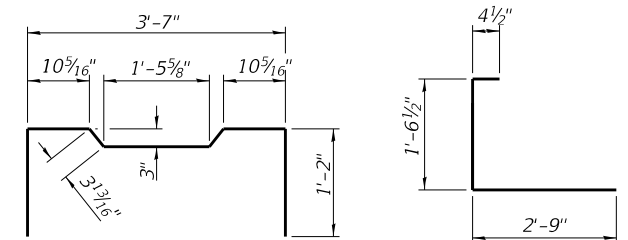


**TYPICAL TRANSVERSE TIE ASSEMBLY**



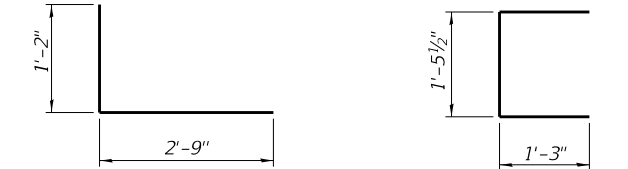
**BAR S(E)**

**BAR S1(E)**



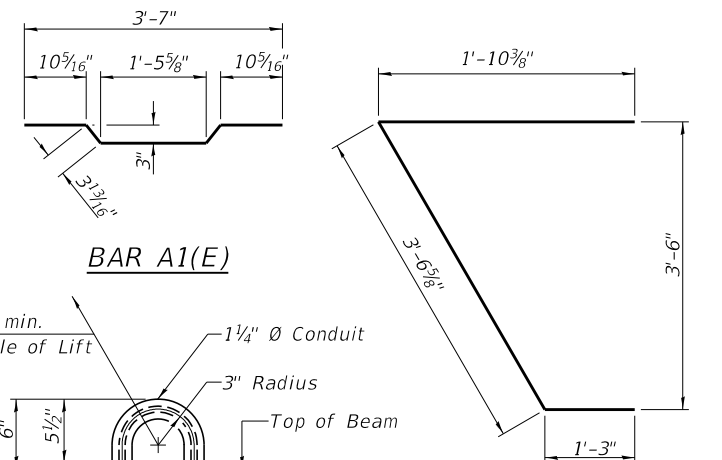
**BAR S2(E)**

**BAR S3(E)**



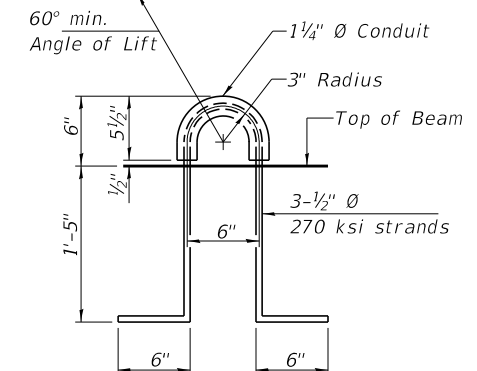
**BAR S4(E)**

**BAR U(E)**

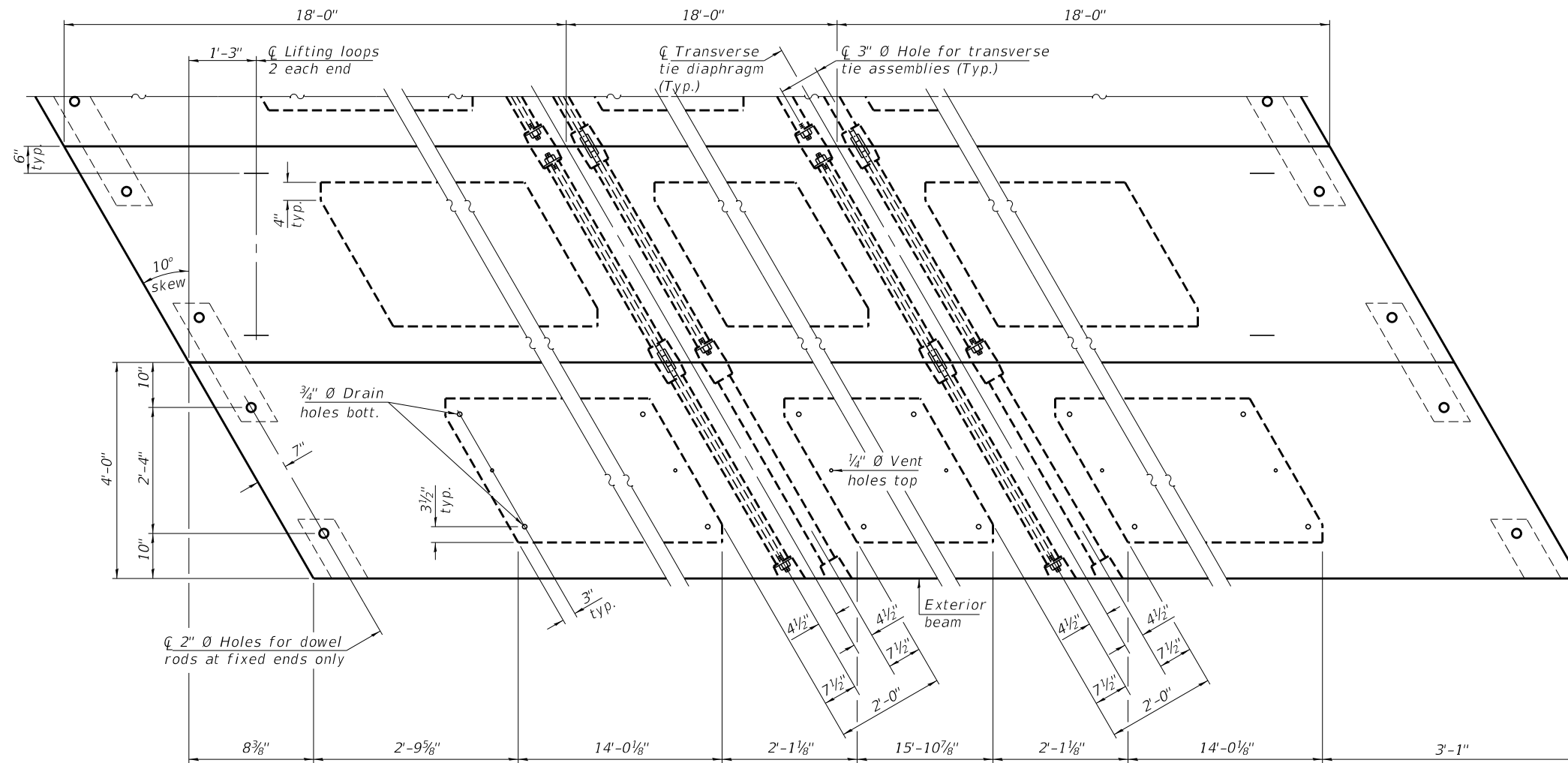


**BAR A1(E)**

**BAR U1(E)**



**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" Ø rods in the transverse tie assembly shall be tightened to a snug fit and the threads set. Pockets on exterior faces of bridge shall be filled with grout after transverse tie assembly is in place.  
Two 1#8" fabric adjusting shims of the dimensions of the exterior bearing pad shall be provided for each bearing pad location.  
A minimum 21#2" Ø lifting pin shall be used to engage the lifting loops during handling.  
Corrosion Inhibitor, per Article 1020.05(b)(10) and 1021.07 of the Standard Specifications, shall be used in the concrete for precast prestressed concrete deck beams.  
Compressive strength of prestressed concrete, f'c, shall be 6000 psi.  
Compressive strength of prestressed concrete at release, f'ci, shall be 5000 psi.  
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.	1,512
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PD-2148-RD

2-17-2017

FILE NAME = 170793-shl-bridge.dgn	USER NAME = rmosick	DESIGNED - J.R.B.	REVISED -
HAMPTON, LENZINI AND RENWICK, INC. 3085 STEVENSON DRIVE, SUITE 201 SPRINGFIELD, ILLINOIS 62703 ILLINOIS PROFESSIONAL DESIGN FIRM LS / PE / SE CORP. 184.000959	PLOT SCALE =	CHECKED - S.W.M.	REVISED -
	PLOT DATE = 11/5/2019	DRAWN - M.M.P.	REVISED -
		CHECKED - S.W.M.	REVISED -

**STATE OF ILLINOIS**  
**MOULTRIE COUNTY HIGHWAY DEPARTMENT**

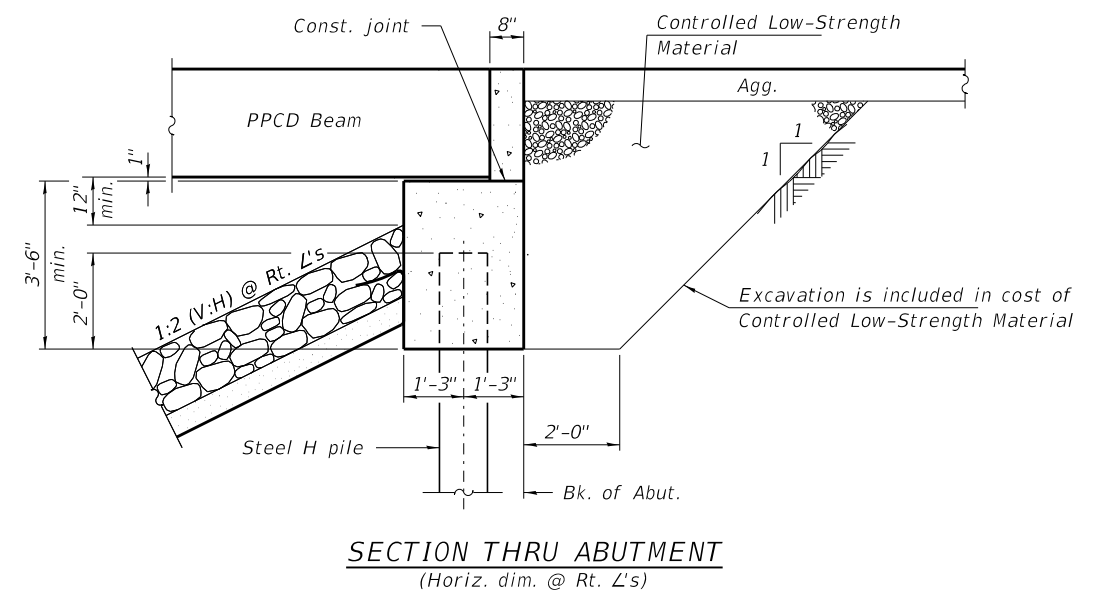
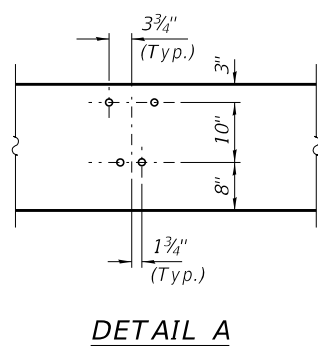
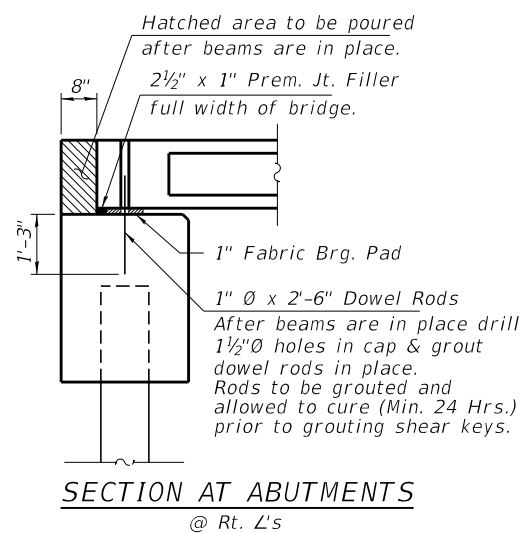
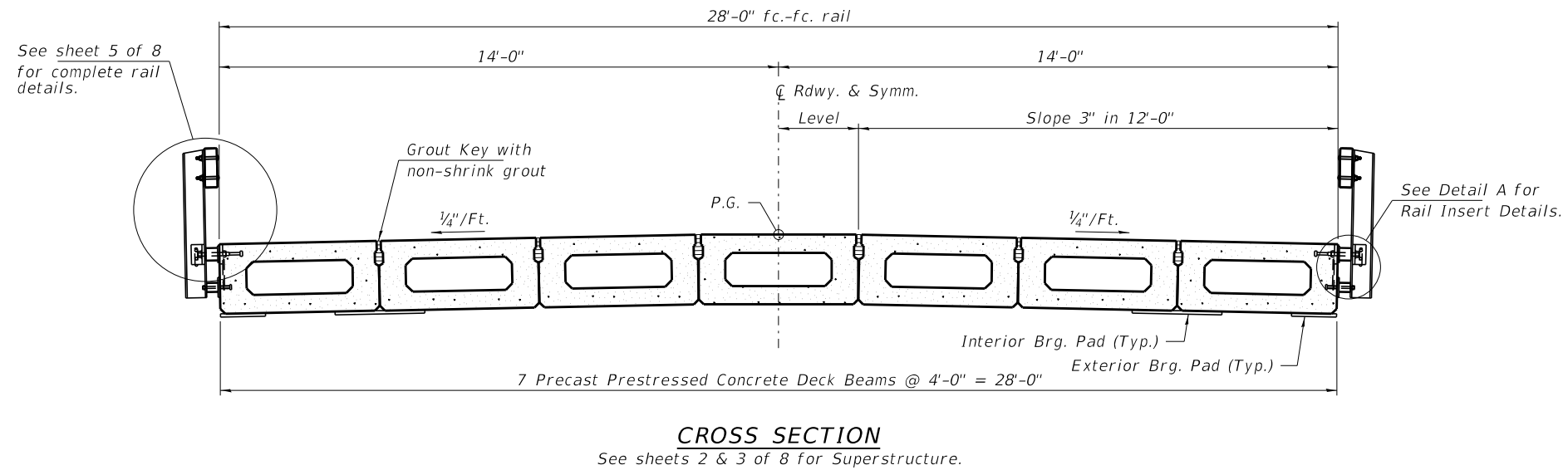
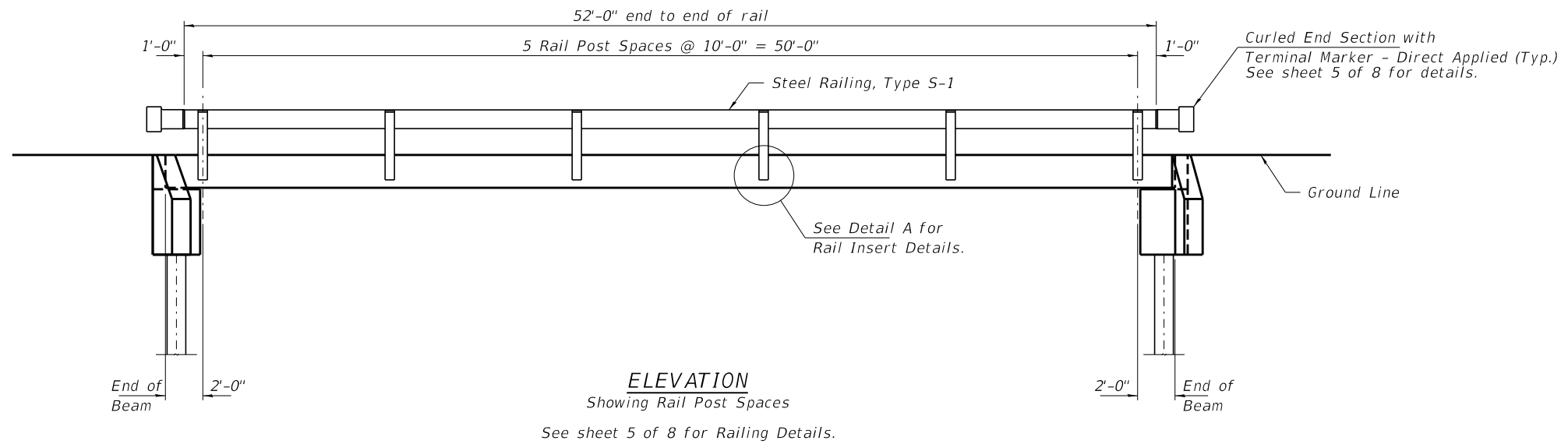
**21" x 48" PPC DECK BEAM DETAILS**  
**STRUCTURE NO. 070-4337**

SHEET NO. 3 OF 8 SHEETS

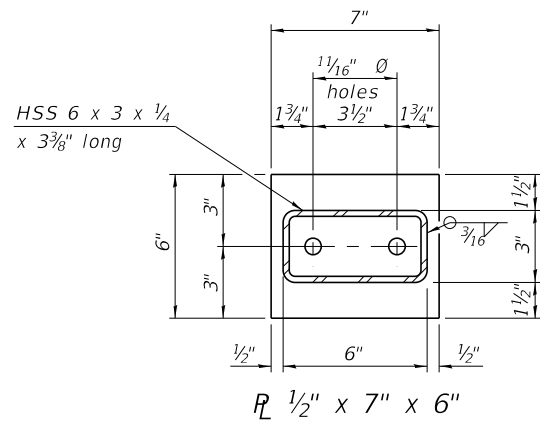
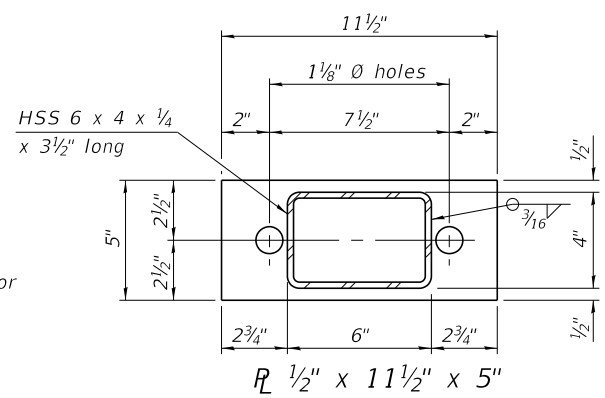
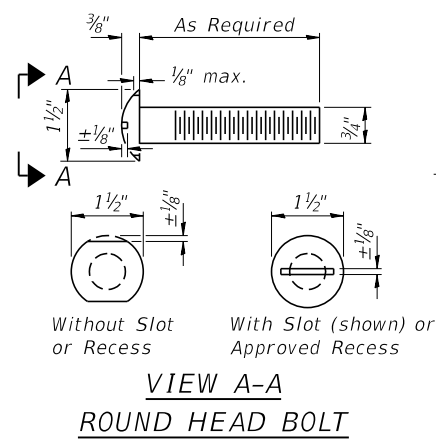
T.R.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
69	12-03130-00-BR	MOULTRIE	18	7
JONATHAN CREEK ROAD DISTRICT		CONTRACT NO. 95866		

ILLINOIS FED. AID PROJECT 7QVM(489)

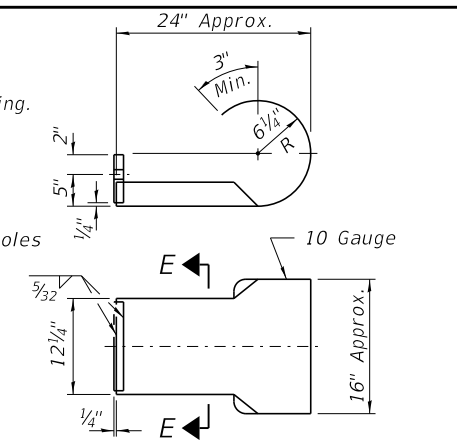
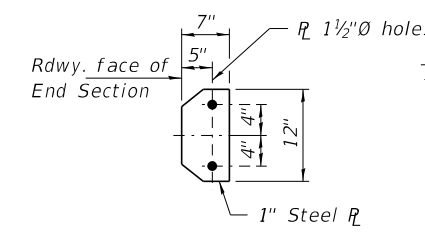




FILE NAME = 170793-shl-bridge.dgn	USER NAME = rmosick	DESIGNED - J.R.B.	REVISED -	<b>STATE OF ILLINOIS</b> <b>MOULTRIE COUNTY HIGHWAY DEPARTMENT</b>	<b>SUPERSTRUCTURE DETAILS</b> <b>STRUCTURE NO. 070-4337</b>	T.R.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
<b>HAMPTON, LENZINI AND RENWICK, INC.</b> 3035 STEVENSON DRIVE, SUITE 201 SPRINGFIELD, ILLINOIS 62703 ILLINOIS PROFESSIONAL DESIGN FIRM LS / PE / SE CORP. 184.000959		CHECKED - S.W.M.	REVISED -			69	12-03130-00-BR	MOULTRIE	18	8
	PLOT SCALE =	DRAWN - M.M.P.	REVISED -			JONATHAN CREEK ROAD DISTRICT		CONTRACT NO. 95866		
	PLOT DATE = 1/8/2020	CHECKED - S.W.M.	REVISED -							ILLINOIS   FED. AID PROJECT 7QVM(489)

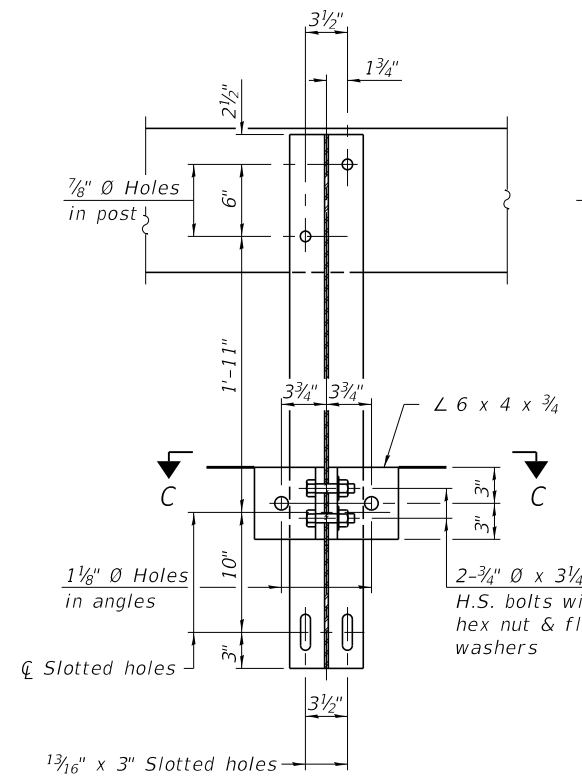


Note: Cost of curled end sections shall be included with the Steel Railing. (4 Required)

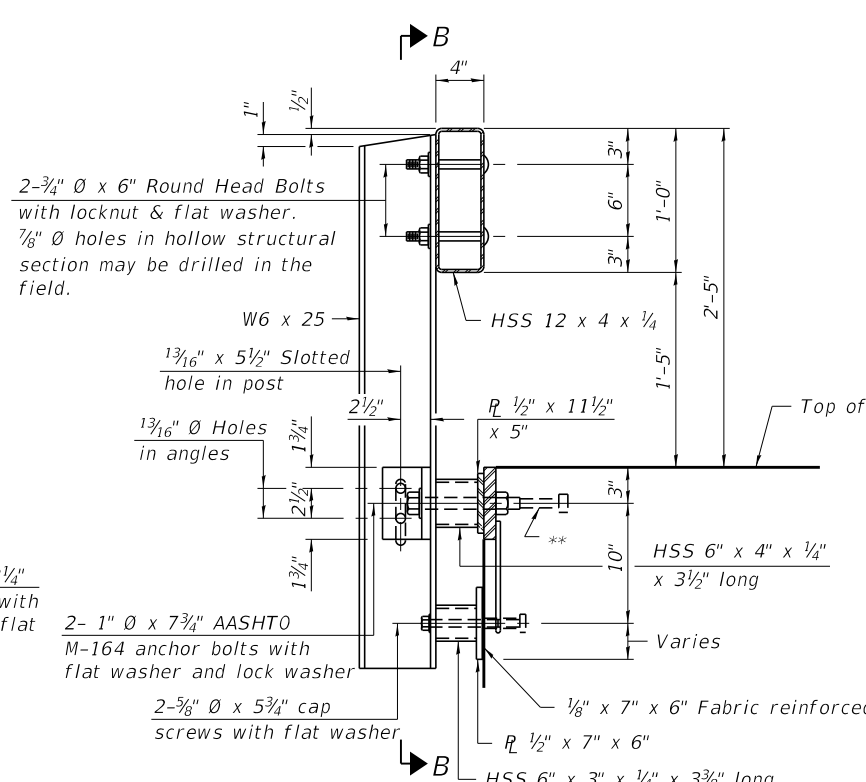


SECTION E-E

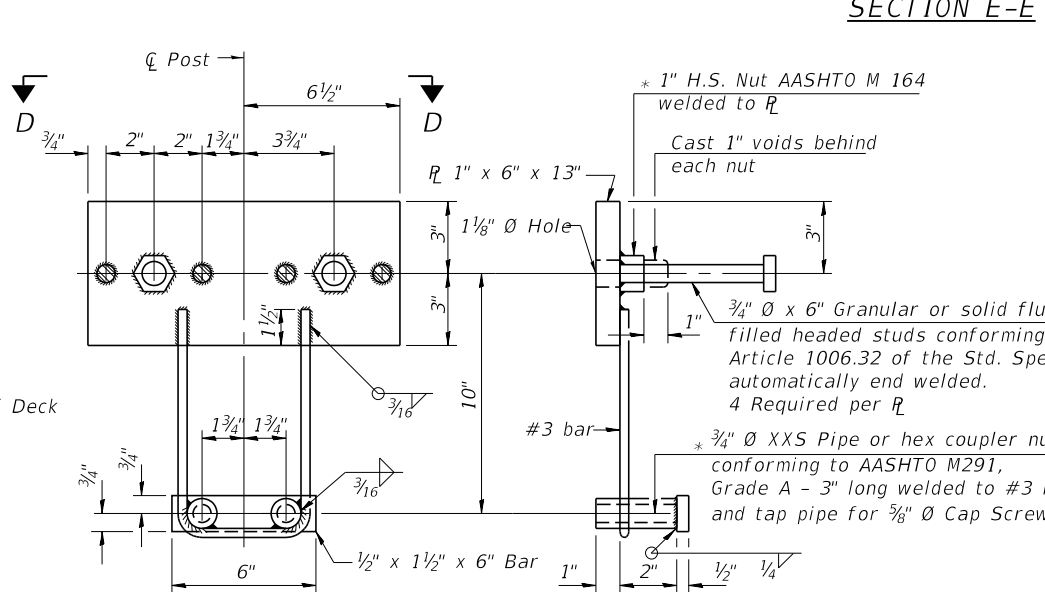
CURLED END SECTION DETAILS



SECTION B-B



SECTION AT RAILING POST



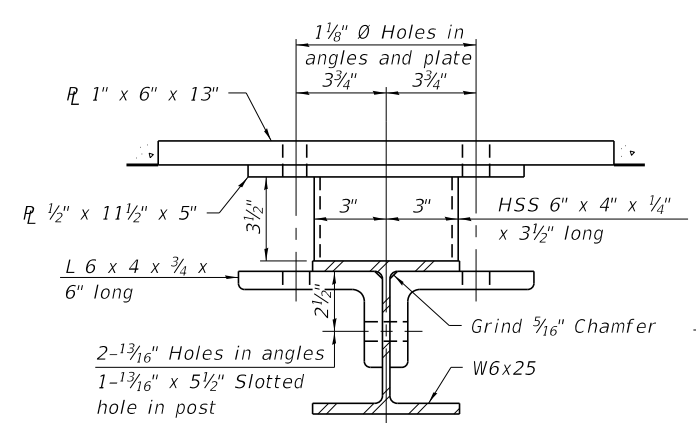
ANCHOR DEVICE

**SPLICE DIMENSIONS**

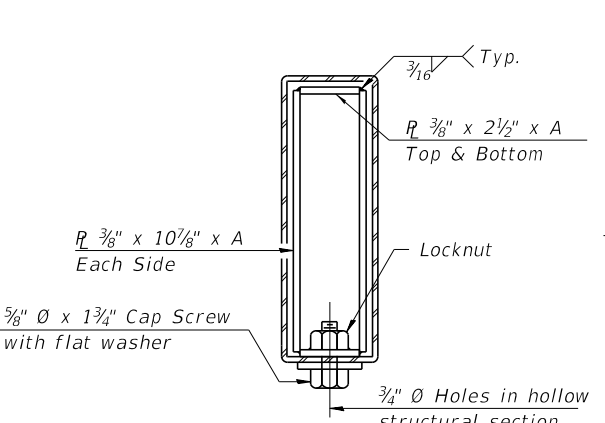
T	D	A	B	C	E
≤ 4"	2 1/2"	1'-8"	2"	4"	2 1/2"
> 4" ≤ 6 1/2"	3 3/4"	2'-0"	2 1/2"	5 1/2"	3 1/2"
> 6 1/2" ≤ 9"	5"	2'-4"	3 1/2"	6 1/2"	9"
> 9" ≤ 13"	7"	2'-10"	4 1/2"	8 1/2"	11"
Rail Splice	1/4"	1'-8"	2"	4"	—

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

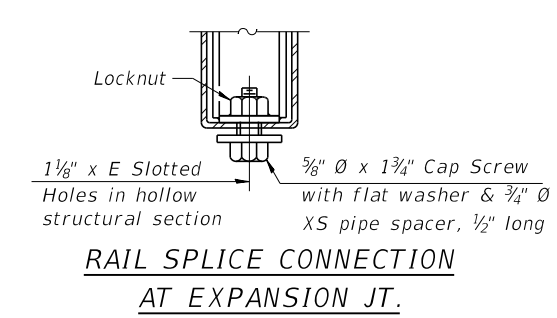
Notes:  
For multi-span bridges, sufficient 1/4" x 6" x 1'-2" galvanized steel shims shall be provided to align rail between adjacent spans. Cost included with Steel Railing, Type S-1.  
All steel rail elements shall be galvanized according to Article 509.05 of the Standard Specifications.



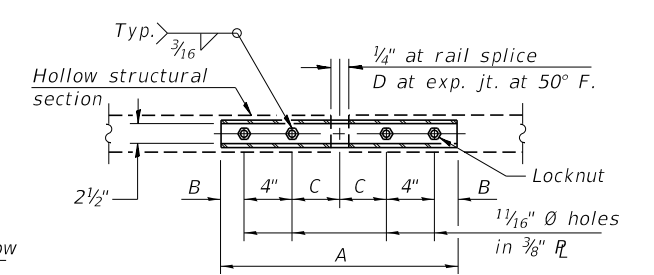
SECTION C-C



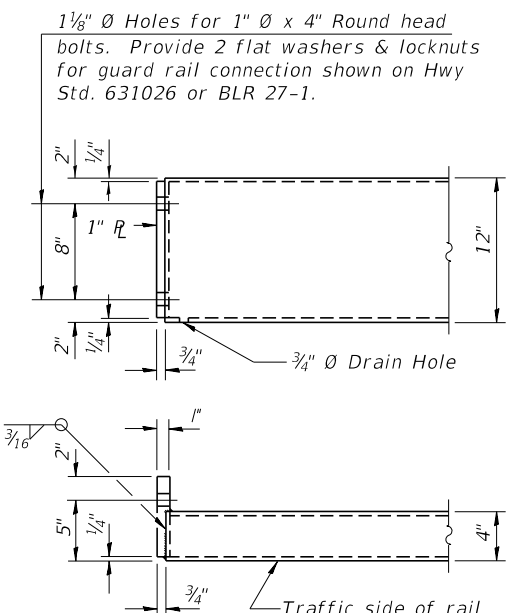
SECTIONS AT RAIL SPLICE



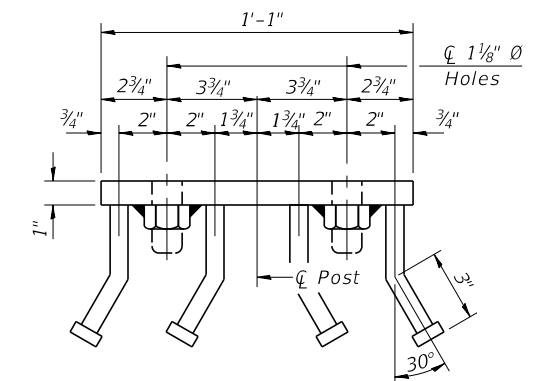
RAIL SPLICE CONNECTION AT EXPANSION JT.



PLAN-BOTT. SPLICE R TYPICAL



END OF RAIL DETAILS



VIEW D-D

BILL OF MATERIAL

Item	Unit	Quantity
Steel Railing, Type S-1	Foot	104

R-23A 8-11-2017 (10'-9" Maximum Post Spacing)

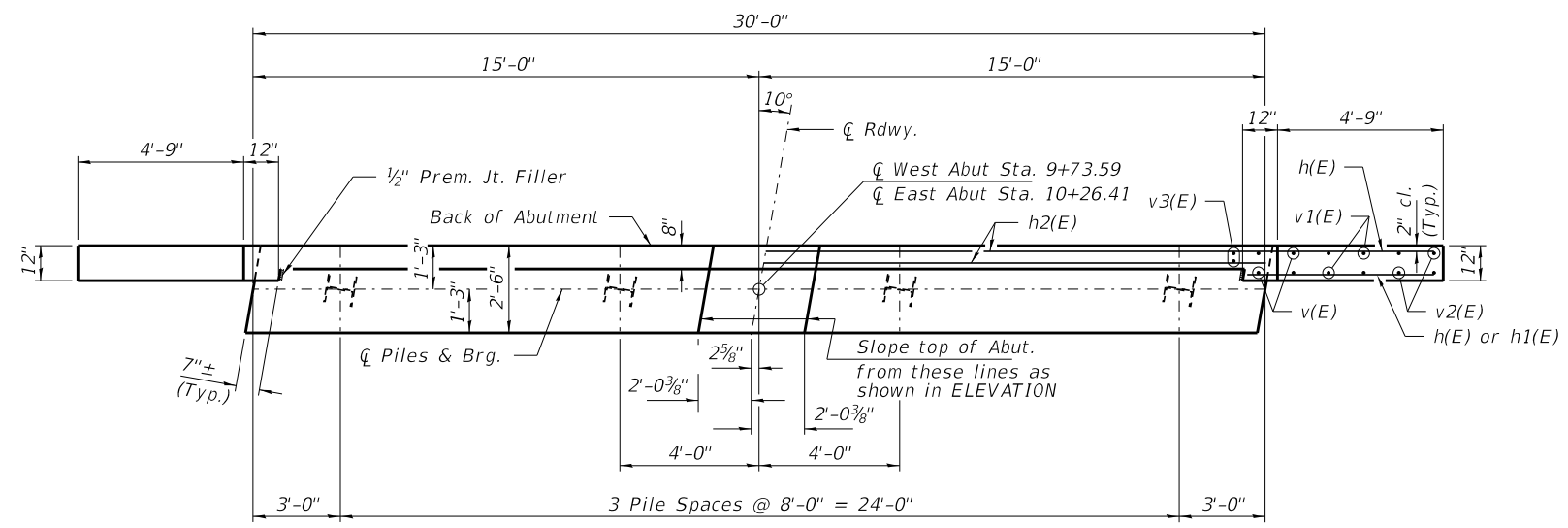
FILE NAME = 170793-shl-bridge.dgn	USER NAME = rmosck	DESIGNED - J.R.B.	REVISED -
HAMPTON, LENZINI AND RENWICK, INC. 3035 STEVENSON DRIVE, SUITE 201 SPRINGFIELD, ILLINOIS 62703 ILLINOIS PROFESSIONAL DESIGN FIRM LS / PE / SE CORP. 184.009959	PLOT SCALE =	CHECKED - S.W.M.	REVISED -
	PLOT DATE = 11/5/2019	DRAWN - M.M.P.	REVISED -
		CHECKED - S.W.M.	REVISED -

STATE OF ILLINOIS  
MOULTRIE COUNTY HIGHWAY DEPARTMENT

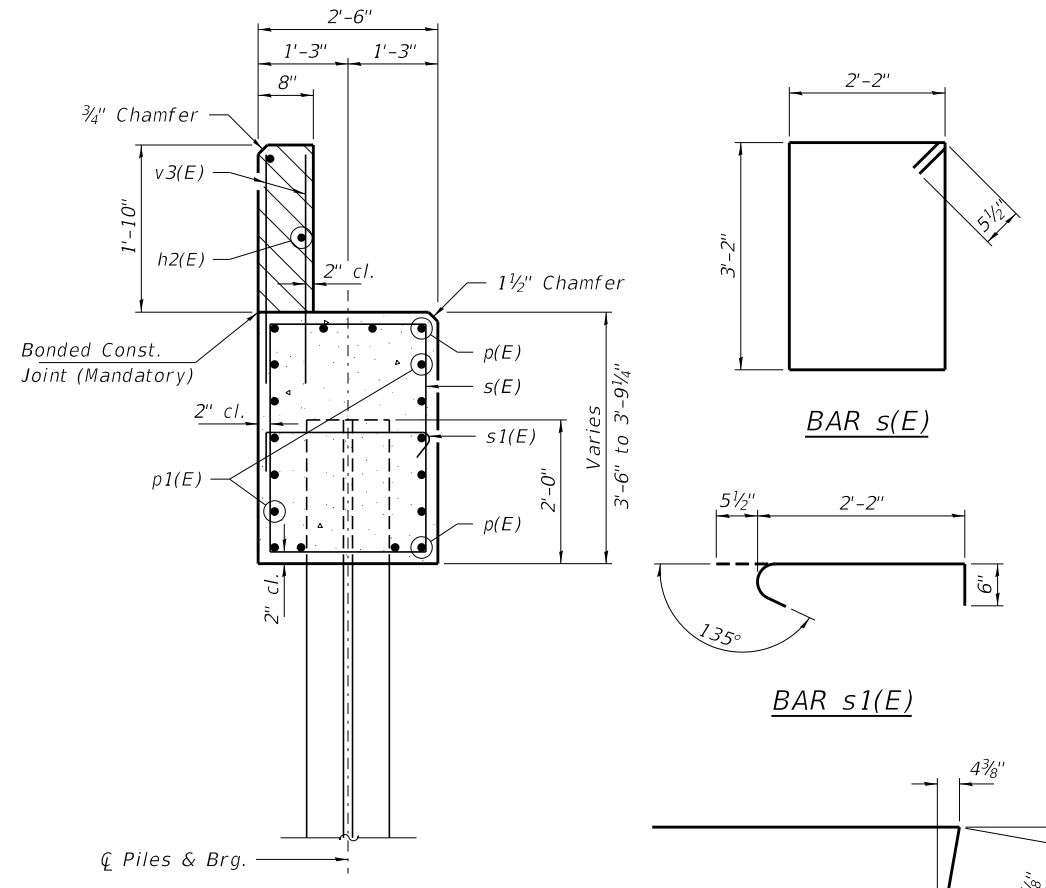
STEEL RAILING, TYPE S-1  
STRUCTURE NO. 070-4337  
SHEET NO. 5 OF 8 SHEETS

T.R.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
69	12-03100-00-BR	MOULTRIE	18	9
JONATHAN CREEK ROAD DISTRICT		CONTRACT NO. 95866		

ILLINOIS FED. AID PROJECT 7QVM(489)



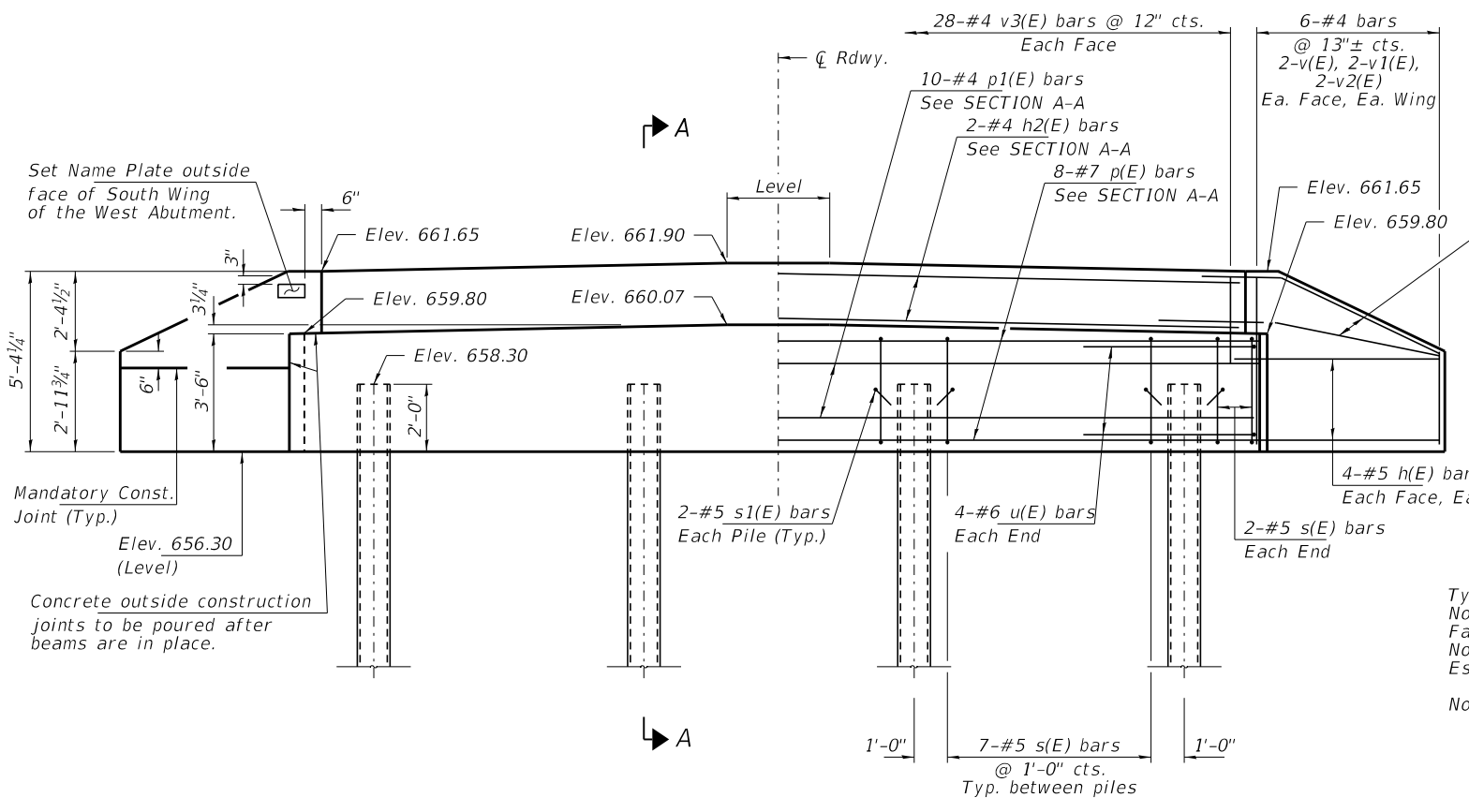
PLAN



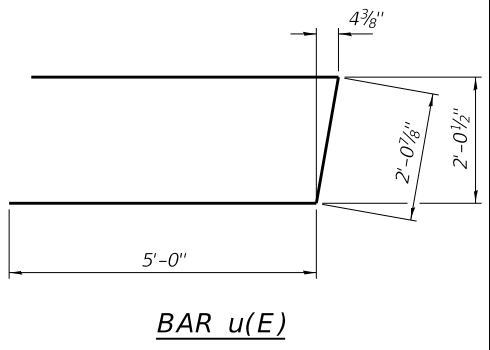
SECTION A-A

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



Note: Extend h(E) bars into abutment cap.

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	#4	29'-8"	—
p(E)	16	#7	29'-8"	—
p1(E)	20	#4	29'-8"	—
s(E)	50	#5	11'-7"	□
s1(E)	16	#5	3'-2"	┌
u(E)	16	#6	12'-2"	└
v(E)	16	#4	4'-11"	—
v1(E)	16	#4	3'-10"	—
v2(E)	16	#4	2'-9"	—
v3(E)	112	#4	2'-8"	—
Concrete Structures			Cu. Yd.	26.4
Reinf. Bars, Epoxy Coated			Pound	3,060
Steel Piles HP10x42			Foot	385
Test Pile Steel HP10x42			Each	1
Name Plates			Each	1

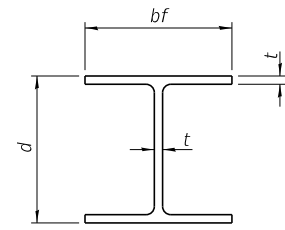
PILE DATA

Type: Steel HP10x42  
 No. Req'd. (2 Abuts.): 8\*  
 Factored Resistance Available (Rf): 165 Kips/Pile  
 Nominal Required Bearing (Rn): 300 Kips/Pile  
 Est. Length: 55 Ft/Pile

Notes: \* Includes one test pile to be driven in a permanent location at the West Abutment.

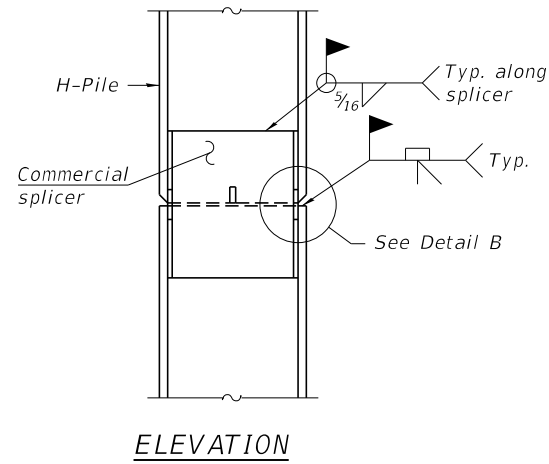
The test pile shall be driven to 110 percent of the Nominal Required Bearing indicated in the pile data information.



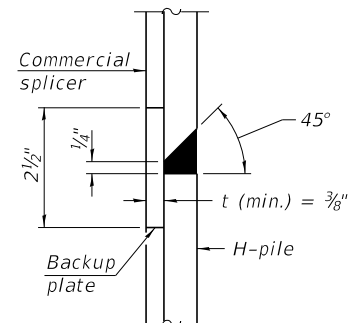


**STEEL PILE TABLE**

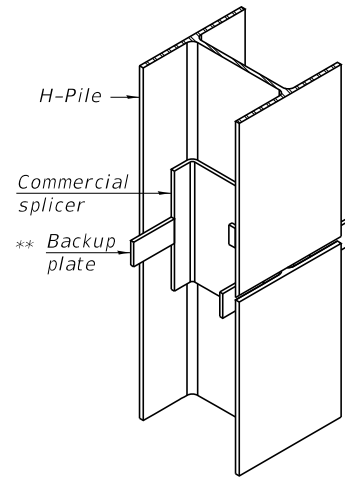
Designation	Depth d	Flange width bf	Web and Flange thickness t	Encasement diameter A
HP 14x117	14 1/4"	14 7/8"	1 3/16"	30"
x102	14"	14 3/4"	1 1/16"	30"
x89	13 7/8"	14 3/4"	5/8"	30"
x73	13 3/8"	14 3/8"	1/2"	30"
HP 12x84	12 1/4"	12 1/4"	1 1/16"	24"
x74	12 1/8"	12 1/4"	5/8"	24"
x63	12"	12 1/8"	1/2"	24"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

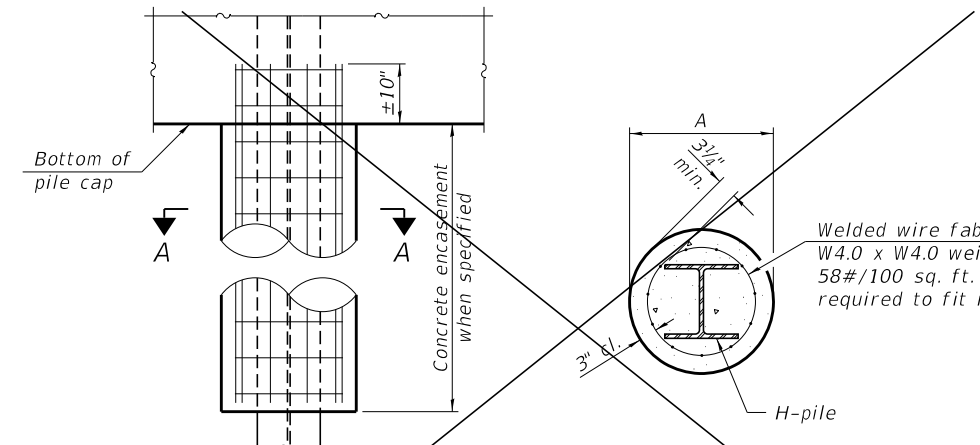


**DETAIL "B"**



**ISOMETRIC VIEW**

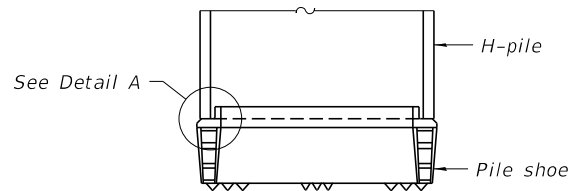
**WELDED COMMERCIAL SPLICE**



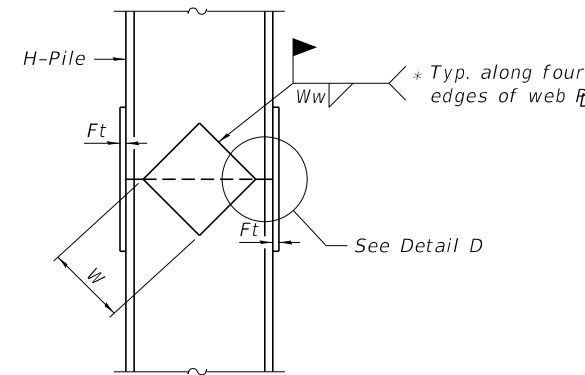
**ELEVATION**

**SECTION A-A**

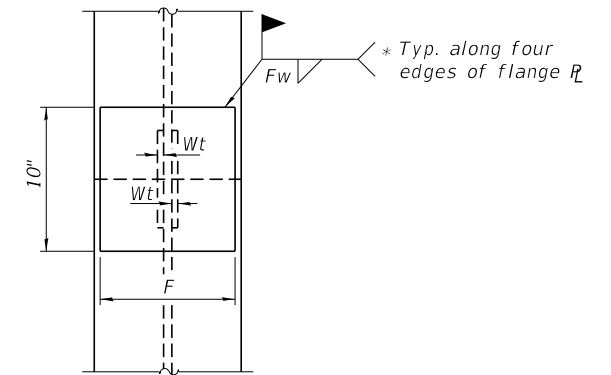
**INDIVIDUAL PILE CONCRETE ENCASEMENT - (NOT REQUIRED)**  
(Forms for encasement may be omitted when soil conditions permit).



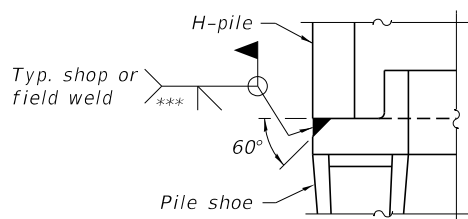
**ELEVATION**



**ELEVATION**

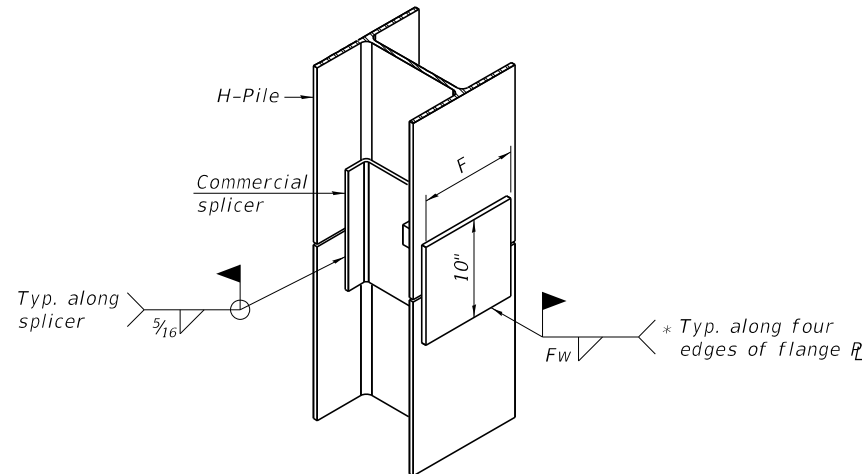


**END VIEW**



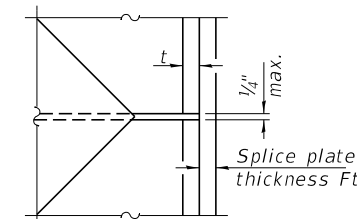
**DETAIL A**

**SHOE ATTACHMENT**



**ISOMETRIC VIEW**

**WELDED COMMERCIAL SPLICE ALTERNATE**



**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"

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

\* 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.).

F-HP 8-11-2017

FILE NAME = 170793-shl-brldge.dgn	USER NAME = rmosck	DESIGNED - J.R.B.	REVISED -	<b>STATE OF ILLINOIS MOULTRIE COUNTY HIGHWAY DEPARTMENT</b>	<b>HP PILE DETAILS STRUCTURE NO. 070-4337</b>	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 LS / PE / SE CORP. 184.000959	PLOT SCALE =	CHECKED - S.W.M.	REVISED -			69	12-03130-00-BR	MOULTRIE	18	11
	PLOT DATE = 11/5/2019	DRAWN - M.M.P.	REVISED -			JONATHAN CREEK ROAD DISTRICT		CONTRACT NO. 95866		
		CHECKED - S.W.M.	REVISED -			ILLINOIS		FED. AID PROJECT 7QVM(489)		

SHEET NO. 7 OF 8 SHEETS

BRIDGE FOUNDATION SOIL BORING LOG

MET Midwest Engineering and Testing, Inc.

Route: County Road 1800 N  
 Section: 12-03130-00-BR  
 County: Moultrie County, Illinois  
 Structure No.: Existing SN: 070-4314  
 Station: 09+72  
 Offset: 5' L

Boring: B-1  
 Page: Page 1 of 1  
 Date of Boring: December 16, 2015  
 Drilled By: Zach Wilcoxon  
 Checked By: Nick Wendling  
 MET Project No: 53115

Surface Water Elevation: 90.0 Ground Water Elevation: when drilling: 60.12 at completion: N/A	DEPTH (ft.)	BLOWS (6")	Q <sub>u</sub> (tsf)	MC (%)	Center of Bridge: STA 10+00, Elevation: 100.00	DEPTH (ft.)	BLOWS (6")	Q <sub>u</sub> (tsf)	MC (%)
Ground Surface Elevation: 100.12									
4.5" Oil and Chip over 7" Oil and Chip and Soil Mix				15					
			7.5B	11					
Dark brown silty CLAY (CL), Fill	2 2 2		2.5P	13	30				
			1.8B	21					
El: 94.12	1 2 2		1.0P	24					
Brown and gray silty CLAY (CL)	1 2 2		1.0B	23	35				
			3.4B	17					
El: 88.12	2 4 5		4.0B	15					
Gray silty CLAY (CL) with sand and small gravel, Till	6 10 13		5.4B	11	40				
			8.8S	9					
	9 14 19		7.5S	10					
	6 12 17		12.4B	9	45				
			4.5P	8					
	7 10 13		10.0B	10	20				
	10 12 17		7.6B	9	50				
	9 11 12		9.4B	11	End of Boring El: 48.62				

N - Standard Penetration Test (SPT) = Sum of last two blow values in sample  
 MC- Moisture Content - Percent of dry weight  
 Qu- Unconfined Compressive Strength- tons per square foot (tsf)  
 Type Failure Qu test  
 B-Bulge S-Shear P-Penetrometer

BORING-1

BRIDGE FOUNDATION SOIL BORING LOG

MET Midwest Engineering and Testing, Inc.

Route: County Road 1800 N  
 Section: 12-03130-00-BR  
 County: Moultrie County, Illinois  
 Structure No.: Existing SN: 070-4314  
 Station: 10+35  
 Offset: 4' R

Boring: B-2  
 Page: Page 1 of 1  
 Date of Boring: December 18, 2015  
 Drilled By: Zach Wilcoxon  
 Checked By: Nick Wendling  
 MET Project No: 53115

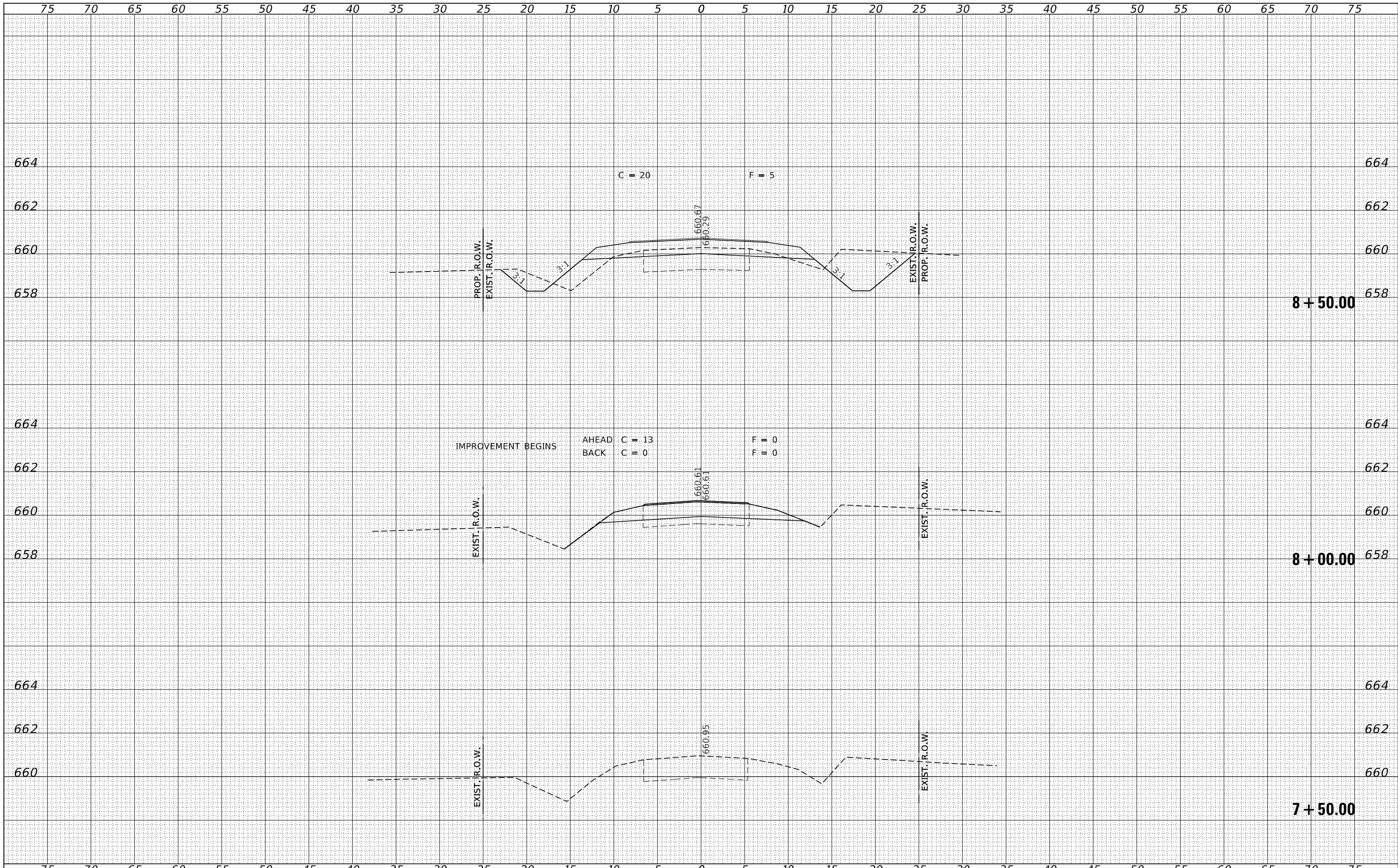
Surface Water Elevation: 90.0 Ground Water Elevation: when drilling: 83.17 at completion: N/A	DEPTH (ft.)	BLOWS (6")	Q <sub>u</sub> (tsf)	MC (%)	Center of Bridge: STA 10+00, Elevation: 100.00	DEPTH (ft.)	BLOWS (6")	Q <sub>u</sub> (tsf)	MC (%)
Ground Surface Elevation: 100.17									
4.5" Oil and Chip over 7" Oil and Chip and Soil Mix over 10" Crushed Stone				13					
Gray silty CLAY (CL) with sand and small gravel, Till	6 6 8		3.8B	22	30				
El: 70.67	3 2 3		4.5P	11					
Brown and dark brown mixed silty CLAY (CL) with sand and gravel, Fill	3 2 3		4.5P	11					
El: 93.17	2 1 3		-	11					
Brown and gray silty CLAY (CL)	2 2 3		1.2B	11	35				
El: 90.67	4 8 10		3.4B	17					
Gray silty CLAY (CL) with sand and small gravel, Till	5 7 8		2.8B	15	40				
	12 21 26		2.8S	12					
Gray silty CLAY (CL) with intermittent sand seams and small gravel, Till	14 20 24		0.8S	12	45				
	17 21 24		-	12					
	26 38 51		4.5P	8	50				
	12 13 14		8.8B	14					
El: 88.17	8 11 11		4.4B	15	50				
Gray silty CLAY (CL) with sand and small gravel, Till	27 36 54		4.5P	25					
	29 43 50		4.5P	12	End of Boring El: 48.67				

N - Standard Penetration Test (SPT) = Sum of last two blow values in sample  
 MC- Moisture Content - Percent of dry weight  
 Qu- Unconfined Compressive Strength- tons per square foot (tsf)  
 Type Failure Qu test  
 B-Bulge S-Shear P-Penetrometer

BORING-2

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 = 170793-shl-xssheets.dgn  
 USER NAME = rmosick  
 DESIGNED - J.W.F.  
 DRAWN - T.W.K.  
 CHECKED - S.W.M.  
 DATE - 11/01/19  
 PLOT SCALE = \$SCALES  
 PLOT DATE = 11/5/2019

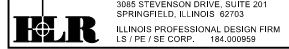
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 REVISIED -

STATE OF ILLINOIS  
 MOULTRIE COUNTY HIGHWAY DEPARTMENT

STATION CROSS SECTIONS

SCALE: 5H:2V  
 SHEET NO. 1 OF 6 SHEETS  
 STA. 7+50.00 TO STA. 8+50.00

T.R.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
69	12-03130-00-BR	MOULTRIE	18	13
JONATHAN CREEK ROAD DISTRICT			CONTRACT NO. 95866	
ILLINOIS FED. AID PROJECT 7QVM(489)				



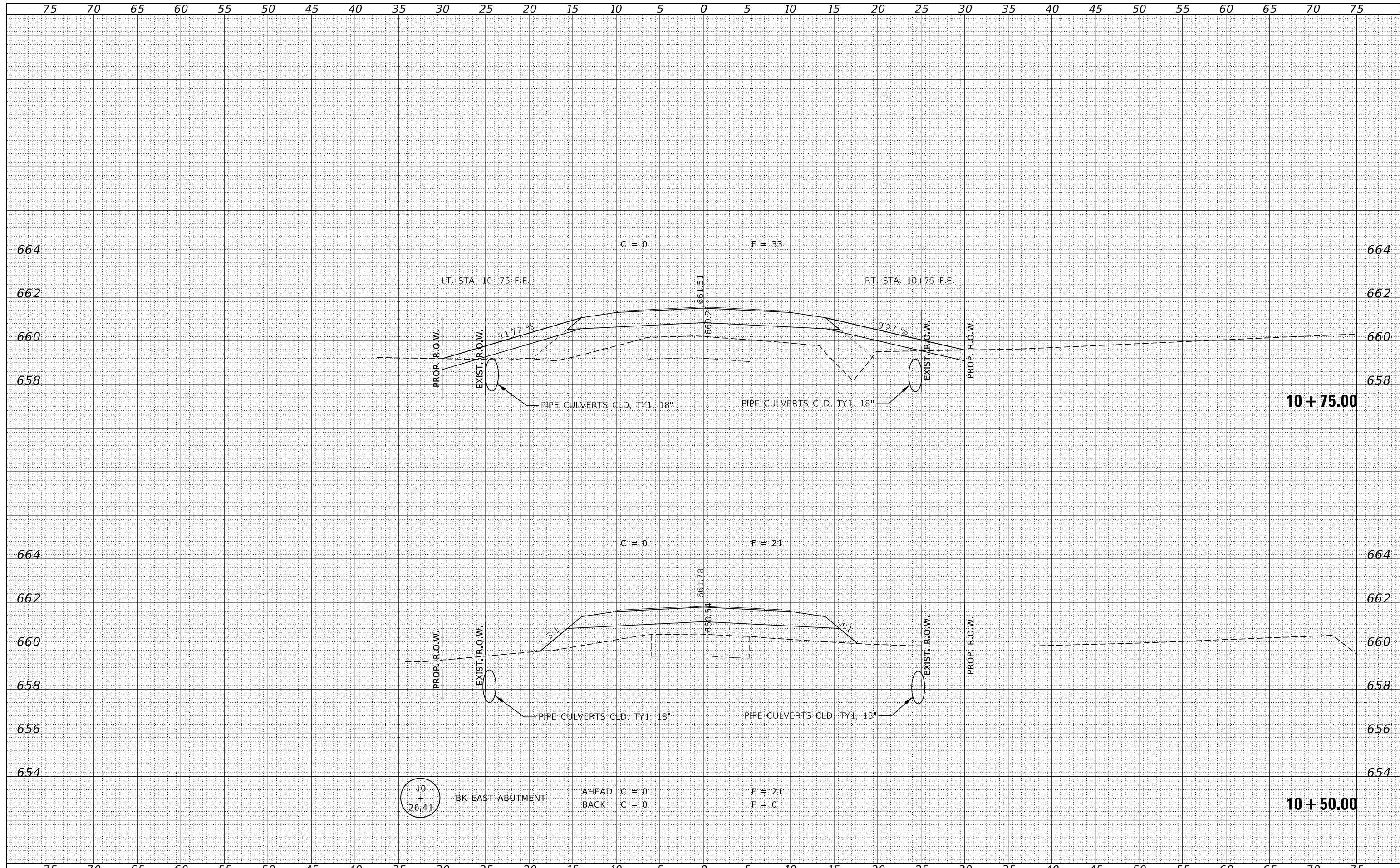






DATE	
BY	
FINAL SURVEY	SURVEYED
NOTE BOOK	PLOTTED
NO.	TEMPLATE
	AREAS CHECKED
	AREAS CHECKED

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



FILE NAME = 170793-ehf-xssheets.dgn	USER NAME = rmosck	DESIGNED - J.W.F.	REVISED -	<b>STATE OF ILLINOIS</b> <b>MOULTRIE COUNTY HIGHWAY DEPARTMENT</b>	<b>STATION CROSS SECTIONS</b>			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 LS / PE / SE CORP. 184.009958	PLOT SCALE = \$SCALES	DRAWN - T.W.K.	REVISED -		69	12-03130-00-BR	MOULTRIE	18	16			
PLOT DATE = 11/5/2019	DATE - 11/01/19	CHECKED - S.W.M.	REVISED -		JONATHAN CREEK ROAD DISTRICT			CONTRACT NO. 95866				
		REVISOR -	REVISED -		SCALE: 5H:2V	SHEET NO. 4 OF 6 SHEETS	STA. 10+50.00 TO STA. 10+75.00	ILLINOIS FED. AID PROJECT 7QVM(489)				

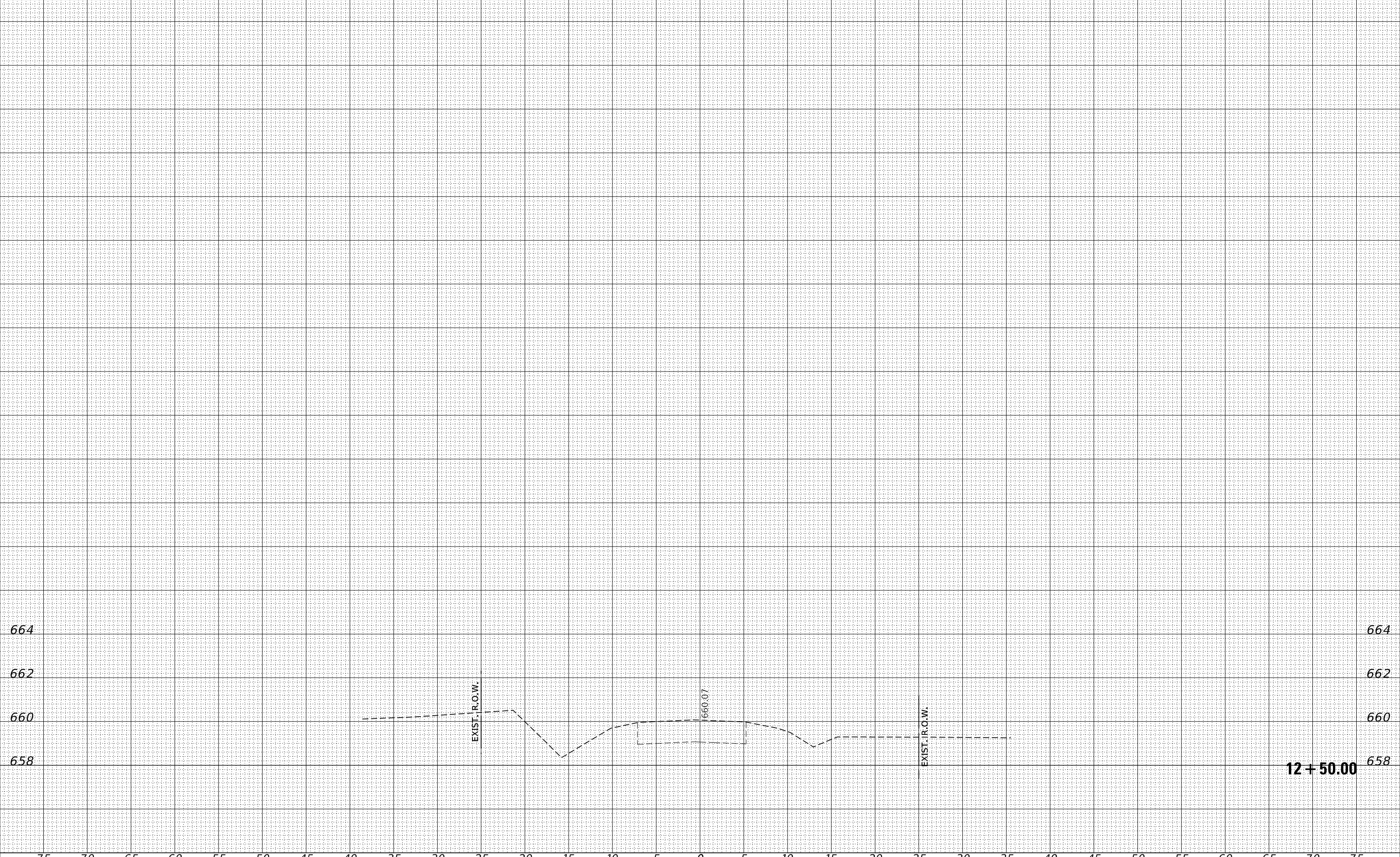




75 70 65 60 55 50 45 40 35 30 25 20 15 10 5 0 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75

FINAL SURVEY NO.	SURVEYED PLOTTED AREAS CHECKED	BY	DATE

ORIGINAL SURVEY NO.	SURVEYED PLOTTED AREAS CHECKED	BY	DATE



FILE NAME = 170793-shl-xssheets.dgn  
 USER NAME = rmosck  
 DESIGNED - J.W.F.  
 DRAWN - T.W.K.  
 CHECKED - S.W.M.  
 DATE - 11/01/19  
 PLOT SCALE = \$SCALES  
 PLOT DATE = 11/05/2019

DESIGNED - J.W.F.  
 DRAWN - T.W.K.  
 CHECKED - S.W.M.  
 DATE - 11/01/19  
 REVISIONS:  
 REVISED -  
 REVISED -  
 REVISED -  
 REVISED -

**STATE OF ILLINOIS**  
**MOULTRIE COUNTY HIGHWAY DEPARTMENT**

**STATION CROSS SECTIONS**

SCALE: 5H:2V SHEET NO. 6 OF 6 SHEETS STA. 12+50.00 TO STA. 12+50.00

T.R.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
69	12-03130-00-BR	MOULTRIE	18	18
JONATHAN CREEK ROAD DISTRICT			CONTRACT NO. 95866	
ILLINOIS FED. AID PROJECT 7QVM(489)				

