01/19/2018 LETTING ITEM 083

INDEX OF SHEETS

COVER SHEET

DESCRIPTION

SUMMARY OF QUANTITIES, SCHEDULES OF QUANTITIES

TRAFFIC CONTROL PLAN EROSION CONTROL PLAN PLAN AND PROFILE STRUCTURE PLANS

GENERAL NOTES, TYPICAL SECTIONS

SHEET NO.

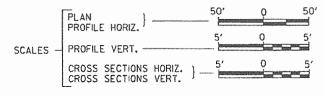
2.

STATE OF ILLINOIS **DEPARTMENT OF TRANSPORTATION** PLANS FOR PROPOSED SURFACE TRANSPORTATION PROGRAM-BRIDGE

MERCER COUNTY SECTION 15-00103-05-BR

F.A.S. 212 (CH 9) OVER CAMP CREEK PROJECT NO. AEZ5(403)

JOB NUMBER C-94-049-15



REQUIRED HIGHWAY STANDARDS

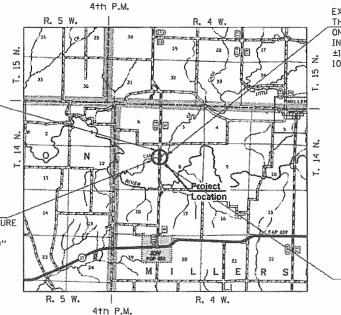
17. -21. CROSS SECTIONS

000001-06 280001-07 515001-03 630301**-08** 631032-09 701901-07 725001-01 BLR 21-9

国国

SECTION 15-00103-05-BR ENDS STATION 22+00.00

PROPOSED STRUCTURE SN 066-3165
THREE SPAN 17" PPC DECK BM SUPERSTRUCTURE ON SPILL THRU PILE BENT ABUTMENTS AND CONCRETE ENCASED PILE BENT PIERS, 120'-0" BK TO BK, AND 30'-0" O TO O DECK. 15° RT. AH. SKEW.



EXISTING STRUCTURE SN 066-3093 THREE SPAN NELSON BEAM SUPERSTRUCTURE ON CONCRETE PILE BENT ABUTMENTS AND INDIVIDUALLY ENCASED CONCRETE PILE BENT PIERS, ±107'-10" BK. TO BK., ±30'-0" O. TO O., 10° RT. AH. SKEW. (TO BE REMOVED)

SECTION 15-00103-05-BR BEGINS STATION 18+00.00

UTILITY COMPANIES

FRONTIER COMMUNICATIONS SYCAMORE, ILLINOIS

MIDAMERICA ENERGY ROCK ISLAND, ILLINOIS

OR 811

JOINT UTILITY LOCATION INFORMATION FOR EXCAVATION 1-800-892-0123

LOCATION MAP

1 MI 0 1 MI APPROXIMATE SCALE

NET LENGTH OF PROJECT = 400.00 FEET = 0.076 MILES

DESIGN CLASSIFICATION: MAJOR COLLECTOR (NON-URBAN) DESIGN ADT = 385(17)DESIGN SPEED = 40 MPH

Hutchison Engineering, Inc. JACKSONVILLE-SHOREWOOD PEORIA-QUAD CITIES

J08=4052

ic Gp. 11/30/201 SIGNATURE

ENGINEER'S SEAL

KANTAKET CLARK D. INTEN LOCATION OF SECTION INDICATED THUS: - -

15-00103-05-BR

COUNTY

MERCER 21

ILLINOIS CONTRACT NO. 89734

TOTAL SHEET

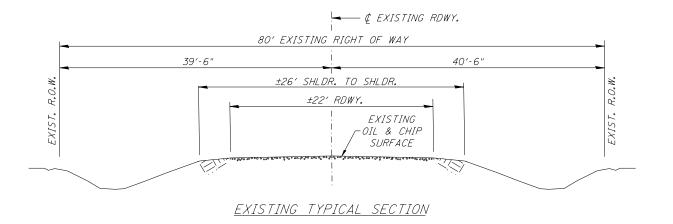
DEPTEMBER 20 2017 APPROVED MERCER COUNTY ENGINEER

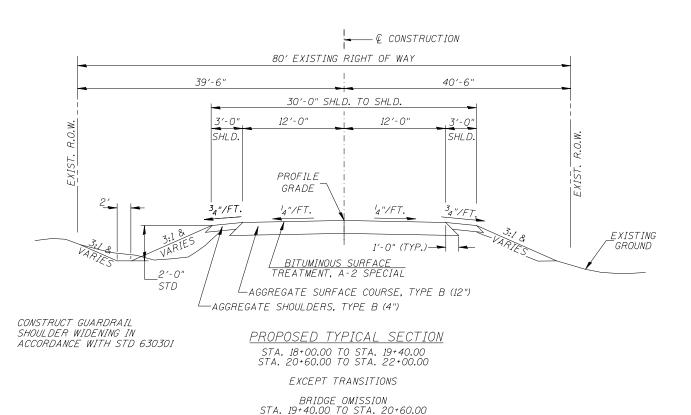
09-22 PASSED OIS FICT FOUR ENGINEER OF OCAL ROADS & STREETS Released For Bid Based on Limited Review September 26

- Dorman REGION THREE ENGINEER STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

CONTRACT NO. 89734

CATALOG NO. 034788-03





<u>GENERAL NOTES</u>

THE REMOVAL OF EXISTING OIL & CHIP SURFACE AND GRAVEL OR CRUSHED STONE BASE COURSE WHICH MAY BE NECESSARY FOR THE CONSTRUCTION OF THE PROJECT SHALL BE REMOVED AS EARTH EXCAVATION AND NO COMPENSATION WILL BE ALLOWED FOR ADDITIONAL LABOR OR EQUIPMENT REQUIRED.

ALL WASTE OR UNDESIRABLE MATERIAL AS IDENTIFIED BY THE ENGINEER SHALL BE DISPOSED OF OUTSIDE THE LIMITS OF THE RIGHT OF WAY AT THE CONTRACTOR'S EXPENSE.

ALL EXISTING PRIVATELY OWNED UTILITIES REQUIRING ADJUSTMENT WILL BE MADE BY THE UTILITY COMPANY INVOLVED. WHERE NO PROVISIONS HAVE BEEN MADE FOR ADJUSTMENTS ON THE PLANS, NO ADDITIONAL COMPENSATION WILL BE ALLOWED DUE TO DELAYS OR INCONVENIENCES CAUSED BY THE SAID UTILITY ADJUSTMENTS.

THE PROFILE GRADE ELEVATIONS SHOWN ON THE PLAN AND PROFILE SHEETS AND IN THE STATION CROSS SECTIONS ARE TO THE TOP OF THE FINISHED SURFACE.

ANY REFERENCE TO STANDARDS THROUGHOUT THE PLANS SHALL BE INTERPRETED TO BE THE LATEST STANDARDS OF THE ILLINOIS DEPARTMENT OF TRANSPORTATION

THE LOCATION OF UNDERGROUND UTILITIES SHOWN ON THE PLANS REPRESENTS THE BEST KNOWLEDGE OF THE COUNTY. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO VERIFY LOCATIONS OF UNDERGROUND INSTALLATIONS BEFORE STARTING CONSTRUCTION OPERATIONS. THE CONTRACTOR SHALL INDEMNIFY THE COUNTY, ITS OFFICERS AND EMPLOYEES AGAINST ALL CLAIMS DUE TO DAMAGE TO CORPORATE OR PRIVATE PROPERTY RESULTING FROM HIS CONSTRUCTION OPERATIONS AS DESCRIBED IN ARTICLES 107.20 AND 107.26 OF THE STANDARD SPECIFICATIONS.

THE CONTRACTOR MAY BE REQUIRED TO CONDUCT SOME OF HIS GRADING AND TRENCHING OPERATIONS AROUND TRANSMISSION POLES AND UNDER TRANSMISSION LINES. THE ADDED COST OF SO DOING SHALL BE INCLUDED IN THE COST OF EARTH EXCAVATION.

WHERE SECTION OR SUBSECTION MONUMENTS ARE ENCOUNTERED, THE ENGINEER SHALL BE NOTIFIED BEFORE SUCH MONUMENTS ARE REMOVED. THE CONTRACTOR SHALL PROTECT AND PRESERVE PROPERTY MARKERS UNTIL THE OWNER, AN AUTHORIZED SURVEYOR, OR AGENT, HAS WITNESSED OR OTHERWISE REFERENCED THEIR LOCATION.

THE FINAL SURFACE OF ALL DISTURBED/EMBANKMENT AREAS SHALL BE SEEDED. THE TOP 4 INCHES OF THE SEEDED AREAS SHALL BE COHESIVE VEGETATION SUSTAINING SOIL SUBJECT TO THE APPROVAL OF THE ENGINEER. THE COST OF SHAPING THE SLOPES AND PROVIDING VEGETATION SUSTAINING SOIL WILL NOT BE PAID FOR SEPARATELY BUT SHALL BE INCLUDED IN THE COST OF FURNISHED EXCAVATION. TOPSOIL MAY BE STRIPPED AND STOCKPILED FROM THE SITE OR HAULED IN FROM AN ALTERNATE LOCATION AS APPROVED BY THE ENGINEER.

ALL ELEVATIONS SHOWN REFER TO U.S.G.S. MEAN SEA LEVEL DATUM.

FILE NAME =	USER NAME = JHutchison	DESIGNED -	REVISED -
V:\4052 - CH9 over Camp Crk (Mercer)\CA	DD\CADD Sheets\4052t001.dgn	DRAWN -	REVISED -
	PLOT SCALE = 2.0000 '/ in.	CHECKED -	REVISED -
	PLOT DATE = 9/26/2017	DATE -	REVISED -

MERCER COUNTY COUNTY HIGHWAY 9 OVER CAMP CREEK

SCALE: NONE

CENERAL NOTES TYPICAL SECTIONS		F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	
GENERAL NOTES, TYPIC	CAL SECTIONS		212	15-00103-05-BR	MERCER	21	2
					CONTRACT	NO. 8	9734
SHEET NO. 1 OF 1 SHEETS	STA. 18+00.00	TO STA.22+00.00	FED. RO	AD DIST, NO. 7 ILLINOIS	FED. AID PROJECT	AEZ5(403)

SUMMARY OF QUANTITIES

	CODE NO.	ITEM	UNIT	QUANTITY
	20200100	EARTH EXCAVATION	CU YD	220
	20300100	CHANNEL EXCAVATION	CU YD	575
1	20400800	FURNISHED EXCAVATION	CU YD	30
	28000305	TEMPORARY DITCH CHECKS	FOOT	24
	28000400	PERIMETER EROSION BARRIER	FOOT	555
	28100209	STONE RIPRAP, CLASS A5	TON	1,235
	28200200	FILTER FABRIC	SQ YD	1,105
1	40200800	AGGREGATE SURFACE COURSE, TYPE B	TON	512
	48101200	AGGREGATE SHOULDERS, TYPE B	TON	92
1	50100100	REMOVAL OF EXISTING STRUCTURES	EACH	1
	50200100	STRUCTURE EXCAVATION	CU YD	60
	50200300	COFFERDAM EXCAVATION	CU YD	155
	50201101	COFFERDAM (TYPE 1) (LOCATION-1) (PIER #1)	EACH	1
	50201102	COFFERDAM (TYPE 1) (LOCATION-2) (PIER #2)	EACH	1
	50300225	CONCRETE STRUCTURES	CU YD	135.9
	50300280	CONCRETE ENCASEMENT	CU YD	3.5
	50400305	PRECAST PRESTRESSED CONCRETE DECK BEAMS (17" DEPTH)	SQ FT	3,538
	50800105	REINFORCEMENT BARS	POUND	10,950
Δ	50901050	STEEL RAILING, TYPE SM	FOOT	240
	51201400	FURNISHING STEEL PILES HP10X42	FOOT	990
	51202305	DRIVING PILES	FOOT	990
	51203400	TEST PILE STEEL HP10X42	EACH	2
	51500100	NAME PLATES	EACH	1
Δ	63100087	TRAFFIC BARRIER TERMINAL, TYPE 6A	EACH	4
A (1)	63100167	TRAFFIC BARRIER TERMINAL, TYPE 1 (SPECIAL) TANGENT	EACH	4
4	63200310	GUARDRAIL REMOVAL	FOOT	295
	67100100	MOBILIZATION	L SUM	1
Δ	72501000	TERMINAL MARKER - DIRECT APPLIED	EACH	4
① [X2501000	SEEDING, CLASS 2 (SPECIAL)	ACRE	0.4
① [X7010216	TRAFFIC CONTROL AND PROTECTION (SPECIAL)	L SUM	1
1	XX004450	BITUMINOUS SURFACE TREATMENT, A-2 SPECIAL	SQ YD	736
1	Z0013798	CONSTRUCTION LAYOUT	L SUM	1
	1 CEE COE	CIAL PROVISIONS CO	ONETBUCTION CODE T	

① SEE SPECIAL PROVISIONS

CONSTRUCTION CODE TYPE: 0010

A SPECIALTY ITEMS

TRAFFIC BARRIER TERMINAL, TYPE 6A

SIDE	STATION TO STATION	EACH
LEFT	18+98.48 - 19+35.98	1
RIGHT	19+06.52 - 19+44.02	1
LEFT	20+55.98 - 20+93.48	1
RIGHT	20+64.02 - 21+01.52	1
	TOTAL	4
	LEFT RIGHT	LEFT 18+98.48 - 19+35.98 RIGHT 19+06.52 - 19+44.02 LEFT 20+55.98 - 20+93.48 RIGHT 20+64.02 - 21+01.52

TRAFFIC BARRIER TERMINAL, TYPE 1 (SPECIAL) TANGENT

I (S) LUIAL) TAN	<u>ULIVI</u>
STATION TO STATION	EACH
18+48 . 48 - 18+98.48	1
18+56.52 - 19+06.52	1
20+93.48 - 21+43.48	1
21+01.52 - 21+51.52	1
TOTAL	4
	STATION TO STATION 18+48.48 - 18+98.48 18+56.52 - 19+06.52 20+93.48 - 21+43.48 21+01.52 - 21+51.52

EARTHWORK SUMMARY

	ETTITIOTITY COMMITTEE						
STATION TO STATION		EARTH EXCAVATION	CHANNEL EXCAVATION	STRUCTURE EXCAVATION	COFFERDAM EXCAVATION	FILL	WASTE (SHORTAGE)
		CU YD	CU YD	CU YD	CU YD	CU YD	CU YD
RDWY 18+00.00 -	19+40.00	135				72	29
RDWY 20+60.00 - 22+00.00 CHANNEL STRUCTURE COFFERDAM		87				121	(56)
			575				
				60			
					155		
	TOTAL	222	575	60	155	193	(27)
	USE	220	575	60	155	-	(30)

(@ 25% SHRINKAGE)

PERIMETER EROSION BARRIER

STATION TO STATION	SIDE	F00T
18+00 - 19+35	LEFT	155
18+00 - 18+75	RIGHT	80
19+25 - 19+45	RIGHT	45
20+55 - 22+00	LEFT	175
20+65 - 21+50	RIGHT	100
	TOTAL	555

AGGREGATE SURFACE COURSE, TYPE B

STATION TO STATION	THICKNESS	WIDTH	LENGTH	TON
18+00.00 - 18+50.00	1.00′	24.41' AVG.	50.00'	85
18+50.00 - 19+40.00	1.00′	25.00'	90.00'	158
ABUTMENT BACKFILL -	SEE SPECIAL	PROVISIONS		28
20+60.00 - 21+50.00	1.00′	25.00′	90.00'	158
21+50.00 - 22+00.00	1.00′	23.73' AVG.	50.00′	83
			TOTAL	512

TEMPORARY DITCH CHECKS

STATION	SIDE	F00T
19+25	RIGHT	12
21+50	RIGHT	12
	TOTAL	24

GUARDRAIL REMOVAL

STATION TO STATION	SIDE	FOOT
18+72 - 19+43	LEFT	71
18+73 - 19+49	RIGHT	76
20+52 - 21+26	LEFT	74
20+57 - 21+31	RIGHT	74
	TOTAL	295

BITUMINOUS SURFACE TREATMENT, A-2 SPECIAL

STATION TO STATION	WIDTH	LENGTH	SQ YD
18+00.00 - 18+50.00	23.41' AVG.	50.00′	130
18+50.00 - 19+40.00	24.00'	90.00'	240
20+60.00 - 21+50.00	24.00'	90.00′	240
21+50.00 - 22+00.00	22.73' AVG.	50.00′	126
		TOTAL	736

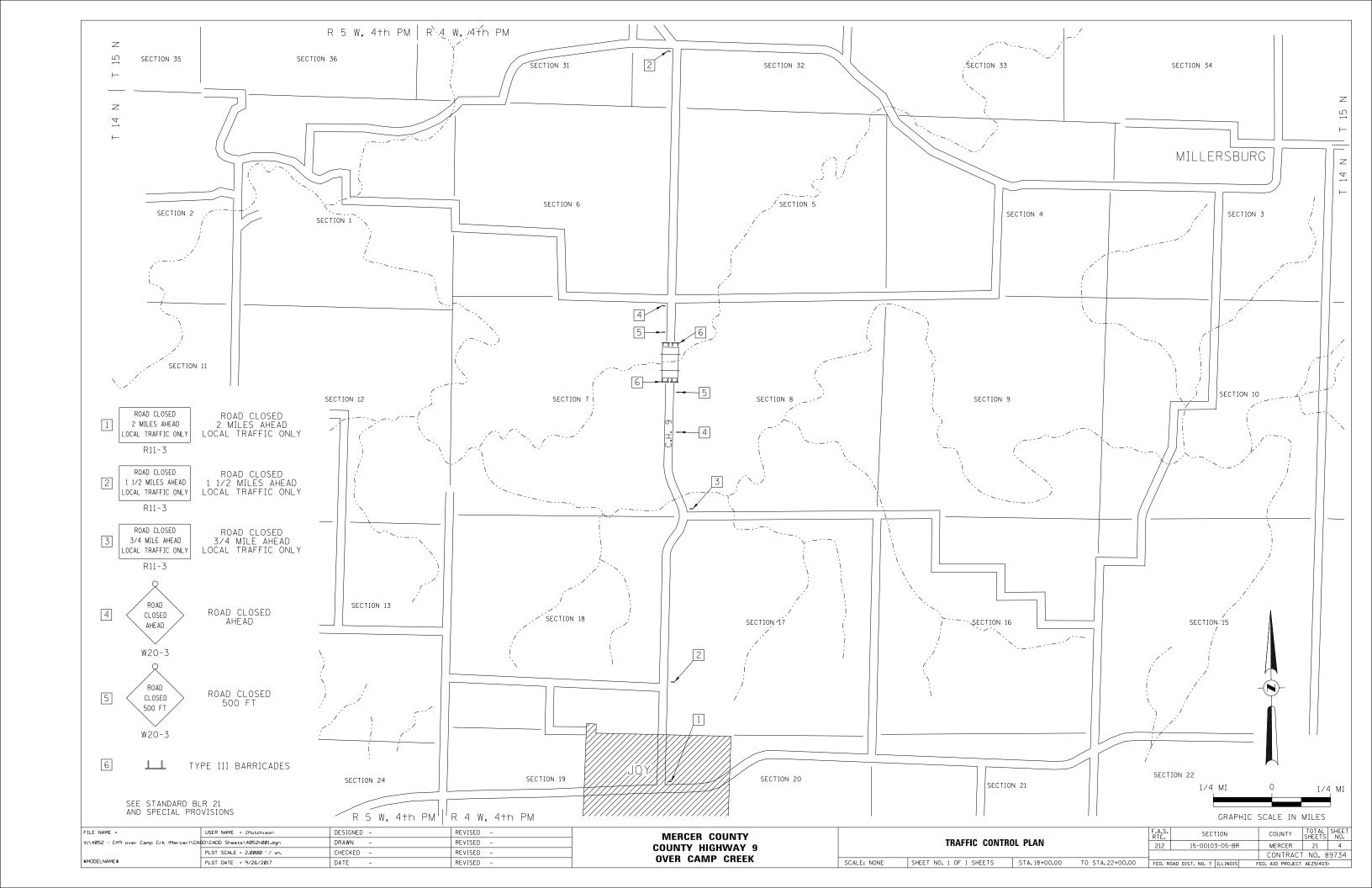
AGGREGATE SHOULDERS, TYPE B

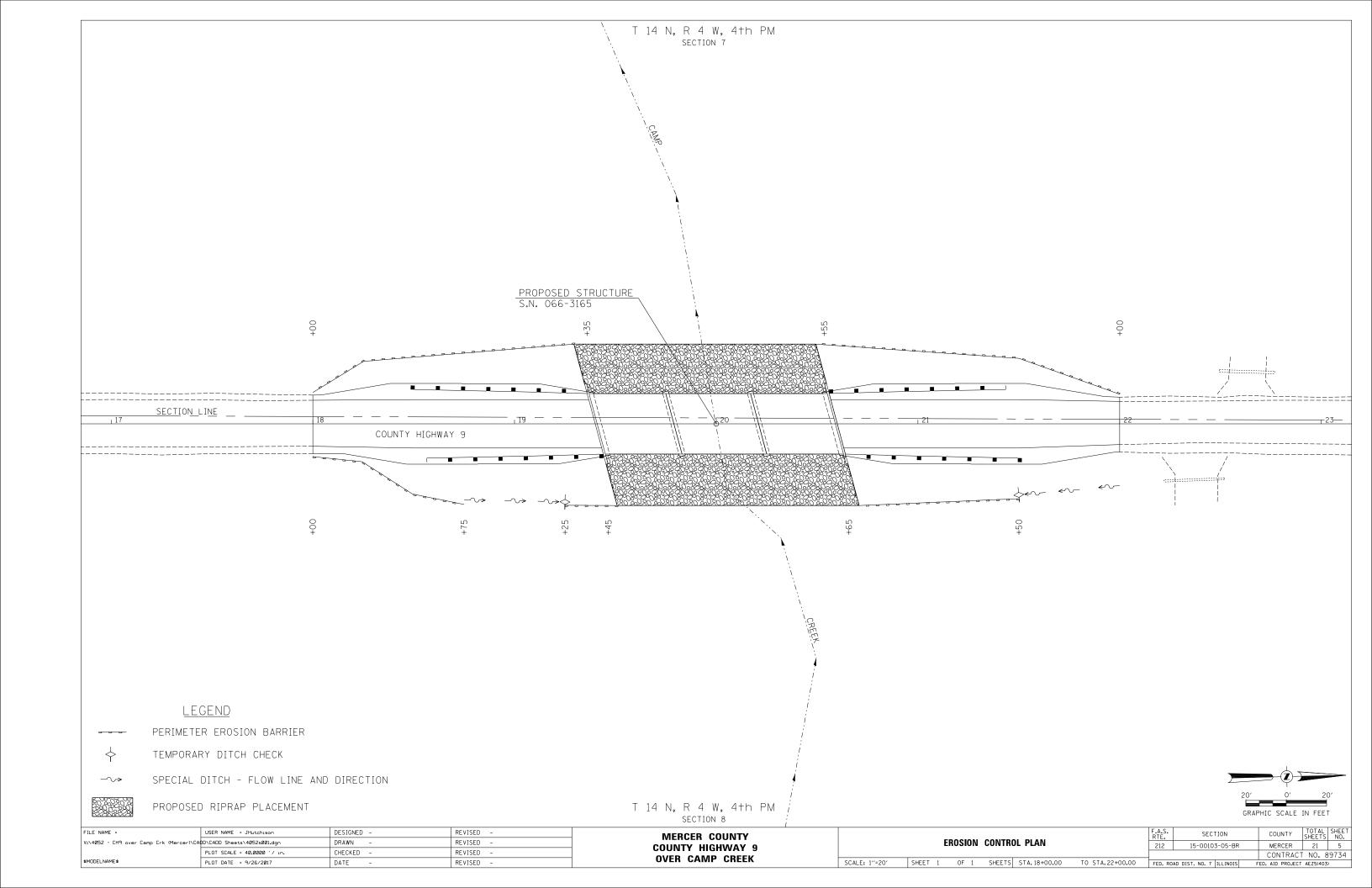
STATION TO STATION	SIDE	WIDTH	LENGTH	TON
18+00.00 - 18+04.13	LEFT	2.53' AVG.	4.13'	1
18+00.00 - 18+15.77	RIGHT	3.59' AVG.	15.77′	1
18+04.13 - 18+38.48	LEFT	5.31' AVG.	34.35'	4
18+15.77 - 18+46.52	RIGHT	5.77' AVG.	30.75′	4
18+38.48 - 18+50.00	LEFT	8.04' AVG.	11.52′	2
18+46.52 - 18+50.00	RIGHT	8.03' AVG.	3.48′	1
18+50.00 - 18+73.48	LEFT	8.00′	23.48'	4
18+50.00 - 18+81.52	RIGHT	8.00′	31.52'	6
18+73.48 - 18+74.98	LEFT	7.88' AVG.	1.50'	1
18+81.52 - 18+83.02	RIGHT	7.88' AVG.	1.50'	1
18+74.98 - 19+12.81	LEFT	7.75′	37.83′	7
18+83.02 - 19+22.39	RIGHT	7.75′	39.37'	7
19+12.81 - 19+36.26	LEFT	5.84' AVG.	23.45'	3
19+22.39 - 19+43.76	RIGHT	5.93' AVG.	21.37'	3
20+56.24 - 20+77.62	LEFT	5.93' AVG.	21.38'	3
20+63.74 - 20+87.19	RIGHT	5.84' AVG.	23.45′	3
20+77.62 - 21+16.98	LEFT	7.75′	39.36′	7
20+87.19 - 21+25.02	RIGHT	7.75′	37.83′	7
21+16.98 - 21+18.48	LEFT	7.88' AVG.	1.50'	1
21+25.02 - 21+26.52	RIGHT	7.88' AVG.	1.50'	1
21+18.48 - 21+50.00	LEFT	8.00′	31.52'	6
21+26.52 - 21+50.00	RIGHT	8.00′	23.48'	4
21+50.00 - 21+53.48	LEFT	8.03' AVG.	3.48′	1
21+50.00 - 21+61.52	RIGHT	8.20' AVG.	11.52'	2
21+53.48 - 21+92.44	LEFT	5.15' AVG.	38.96′	<i>2</i> 5
21+61.52 - 21+97.30	RIGHT	6.02' AVG.	35.78′	5
21+92.44 - 22+00.00	LEFT	2.17' AVG.	7.56′	1
21+97.30 - 22+00.00	RIGHT	3.66' AVG.	2.70'	1
			TOTAL	92

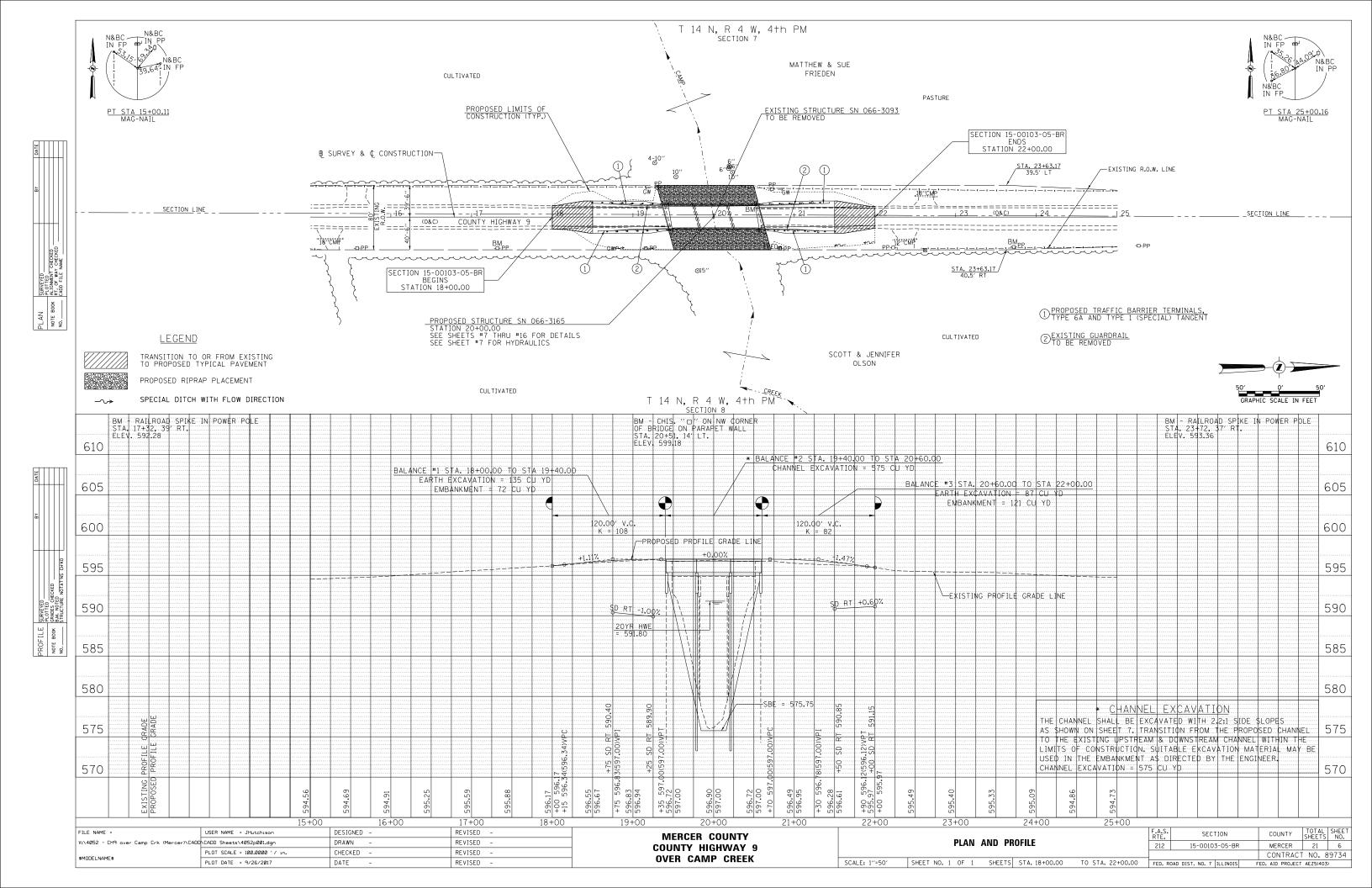
FILE NAME =	USER NAME = JHutchison	DESIGNED -	REVISED -	MERCER COUNTY
V:\4052 - CH9 over Camp Crk (Mercer)\CA	DNCADD Sheets\4052q001.dgn	DRAWN -	REVISED -	
	PLOT SCALE = 2.0000 '/ in.	CHECKED -	REVISED -	COUNTY HIGHWAY 9
\$MDDELNAME\$	PLOT DATE = 10/23/2017	DATE -	REVISED -	OVER CAMP CREEK

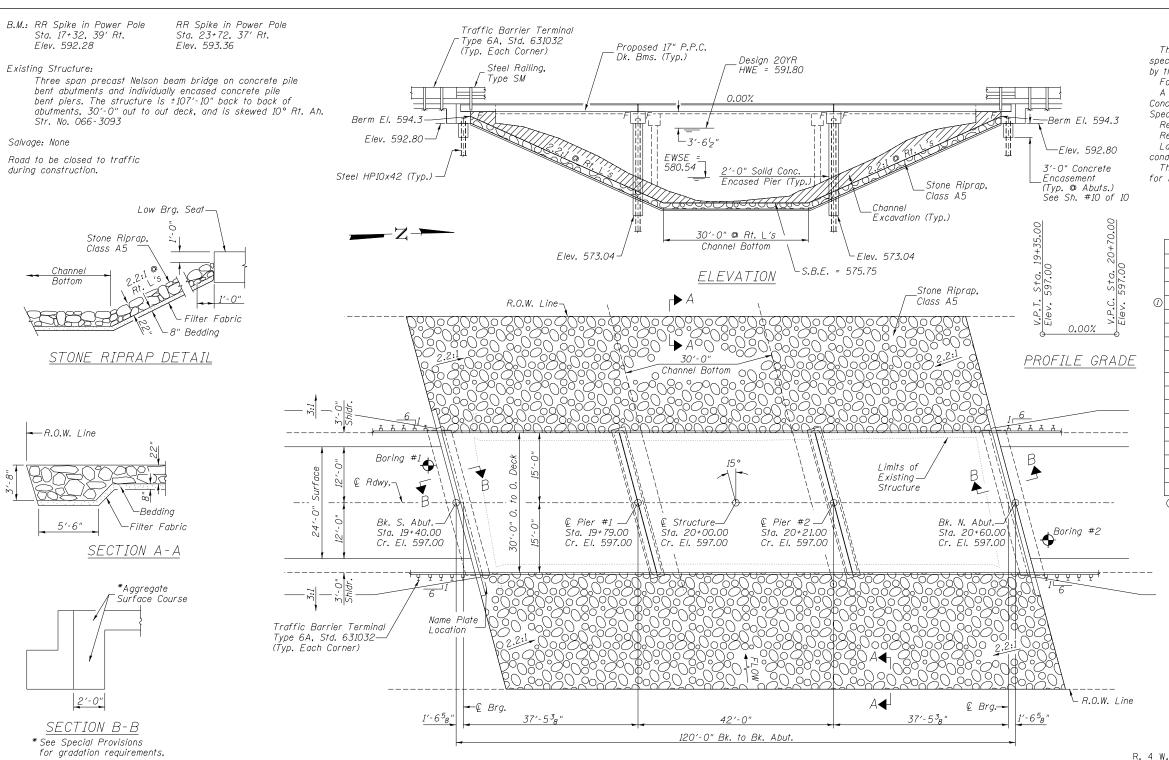
MERCER	COUNTY
COUNTY H	IGHWAY 9
OVER CAN	/IP CREEK

	SUMMARY OF QUA	ANTITIES, &		F.A.S. RTE.	SECTION	COUNTY	TOTAL	SHEET NO.
	SCHEDULES OF O	212	15-00103-05-BR	MERCER	21	3		
				CONTRAC	T NO. 8	9734		
SCALE: NONE	SHEET NO. 1 OF 1 SHEETS	STA. 18+00.00	TO STA.22+00.00	FED. ROA	AD DIST. NO. 7 ILLINOIS	FED. AID PROJECT	AEZ5(403)









GENERAL NOTES

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

For Soil Boring Logs, See Special Provisions.

A Corrosion Inhibitor shall be used in the concrete for Precast Prestressed Concrete Deck Beams according to Article 1020.05(b)(10) of the Standard Specifications.

Reinforcement Bars shall conform to the requirements of ASTM A706 Grade 60. Reinforcement Bars designated (E) shall be epoxy coated.

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

The top surface of the beams shall be finished according to the IDOT Manual for Fabrication of Precast Prestressed Concrete Products.

TOTAL BILL OF MATERIAL

UNIT	SUPER	SUB	TOTAL
CU YD		575	575
TON		<i>1,23</i> 5	<i>1,23</i> 5
SQ YD		1 , 105	1 , 105
EACH			1
CU YD		60	60
CU YD		<i>1</i> 55	155
CU YD		135.9	135.9
SQ FT	3,538		3,538
POUND		10,950	10,950
F00T	240		240
FOOT		990	990
FOOT		990	990
EACH		2	2
CU YD		3.5	3.5
EACH		1	1
EACH		1	1
EACH		1	1
	CU YD TON SO YD EACH CU YD CU YD SO FT POUND FOOT FOOT EACH CU YD EACH EACH EACH	CU YD	CU YD — 575 TON — 1,235 SQ YD — 1,105 EACH — — CU YD — 60 CU YD — 135.9 SQ FT 3,538 — POUND — 10,950 FOOT 240 — FOOT — 990 FOOT — 990 EACH — 2 CU YD — 3.5 EACH — 1 EACH — 1

① See Special Provisions

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

This design complies with all requirements of the current AASHTO Guide Specifications for Seismic Design of highway bridges.

9/8/2017 Illinois Structural No. 6440 Expires 11/30/2018

Lic. Exp. 11/30/2018

PLAN

DESIGN SCOUR ELEVATION TABLE

	2201011 000011 22211111011 11122										
		Design	Scour Eleva	tions (ft.)		Item 113					
		S. Abut.	Pier 1	Pier 2	N. Abut.	116111 113					
	Q100	592.8	570.0	570.0	592.8						
	Q200	592.8	569.0	569.0	592.8	5					
ı	Design	592.8	570.0	570.0	592.8						
	Check	592.8	569.0	569.0	592.8						

DESIGN SPECIFICATIONS

2014 AASHTO LRFD Bridge Design Specifications, 7th Edition with 2015 & 2016 Interims

WATERWAY INFORMATION

		ICNED S.T.M.		Drainage Area = 56.66 Sq. Mi.				Low Grade Elev. = 594.56 © Sta. 15+00.00					
DESIGNED	DESIGNED	J. 1 . W.		Flood	Freq.	0	Opening	Sq. Ft.	Nat.	Head	- Ft.	Headwo	iter El.
l	CHECKED	C.T.M.		F1000	Yr.	C.F.S.	Exist.	Prop.	H.W.E.	Exist.	Prop.	Exist.	Prop.
l	CHECKED			Design	20	5,262	777	982	591.80	0.53	0.17	592.33	591.97
l	DRAWN	S.T.M.		Base	100	7,500	852	1,064	592.64	1.17	0.55	593.81	593 . 19
	CHECKED	C.T.M.					n of this						

Office of Water Resources Statewide Permit No. 2

DESIGN STRESSES

(PRECAST PRESTRESSED UNITS) f'c = 6,000 p.s.i. f'ci = 5,000 p.s.i. $f's = 270,000 \text{ p.s.i. } ({}^{l}_{2}" \text{ Strands})$ $f'si = 201,960 \text{ p.s.i. } ({}^{l}_{2}" \text{ Strands})$ (FIELD UNITS)

> f'c = 3,500 p.s.i. fy = 60,000 p.s.i. (Rein.) LOADING HL-93

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

CAMP CREEK BUILT 201_ BY MERCER COUNTY SEC. 15-00103-05-BR C.H. 9 STATION 20+00.00 F.A. PROJ. AEZ5(403) STR. NO. 066-3165 LOADING HL-93

Corner of Bridge (See Std. 515001)

NAME PLATE Locate Name Plate at S.E. Wingwall

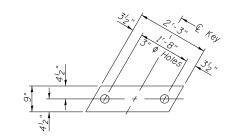


4th P.M.

GENERAL PLAN & ELEVATION MERCER COUNTY SECTION 15-00103-05-BR C.H. 9 OVER CAMP CREE.

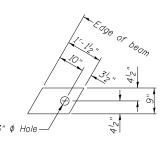
SHEET NO.1	F.A.S. ROUTE	SECTION			COUNTY	TOTAL SHEETS	SHEET NO.
311221 143.1	212	15-00103-05-BR			MERCER	21	7
10 SHEETS		S.N. 066-3	165		CONTRACT	NO. 89	734
	FED. RO	AD DIST. NO. 7	ILLINOIS	F	ED. AID PROJECT	AEZ5(403)

CHECKED 40525001

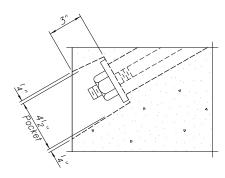


¹2" FABRIC BEARING PAD
(Interior) 36 Required

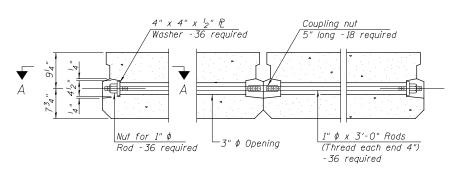
FIXED



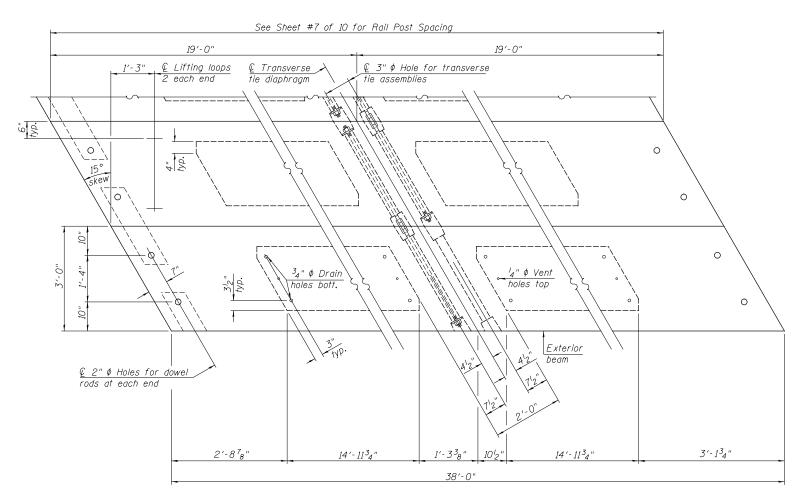
1₂" FABRIC BEARING PAD (Exterior) 8 Required



SECTION A-A



TYPICAL TRANSVERSE TIE ASSEMBLY



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 $\frac{1}{2}$ " and the nominal cross-sectional area shall be 0.153 sq. in. The 1" ϕ 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.

Reinforcement bars shall conform to ASTM A706, Grade 60.

Two 'g" fabric adjusting shims of the dimensions of the exterior bearing pad shall be provided for each bearing pad location.

A minimum 2^l_2 " ϕ 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.

 $30'-0" \ F. \ to \ F. \ Rail$ $15'-0" \qquad \qquad Symm. \ About$ $4" \qquad Total \ Crown \ Drop= \ 2^{l3}{}_{l6}"$ $Steel \ Railing,$ $Type \ SM \qquad Slope \ 3_{l6}" \ per \ ft.$ $See \ Detail \ Sh. \#6 \ of \ lo$ $Exterior \ Brg.$ $Pad \ (Typ.)$ $Pad \ (Typ.)$ $10-Precast \ Prestressed \ Concrete \ Deck \ Beams \ at \ 3'-0" \ each = \ 30'-0"$

HALF CROSS SECTION

BILL OF MATERIAL

ITEM	UNIT	QUANTITY
Precast Prestressed Concrete Deck Beams (17" Depth)	SQ FT	2,280

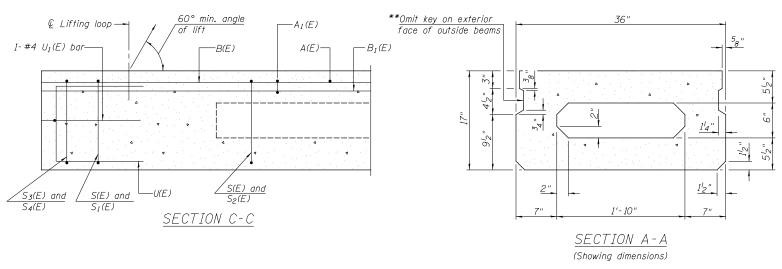
SUPERSTRUCTURE - SPANS 1 & 3

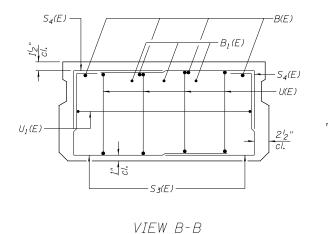
MERCER COUNTY

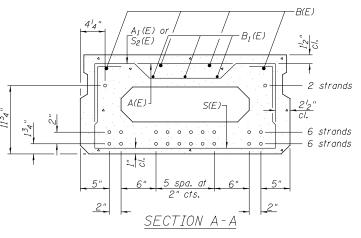
SECTION 15-00103-05-BR

C.H. 9 OVER CAMP CREEK

SHEET NO.2	F.A.S. ROUTE	SEC ⁻	SECTION		COUNTY	TOTAL SHEETS	SHEET NO.
011221 11012	212	15-00103-05-BR			MERCER	21	8
10 SHEETS	S.N. 066-3165				CONTRACT	NO. 89	734
	FED. ROA	AD DIST. NO. 7	ILLINOIS	F	ED. AID PROJECT	AEZ5(403)



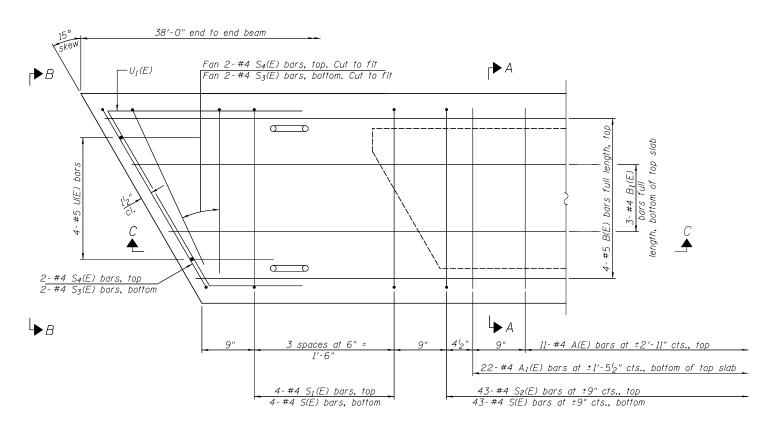


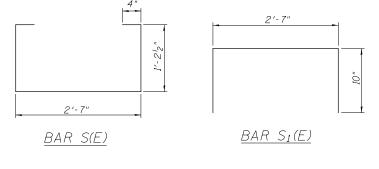


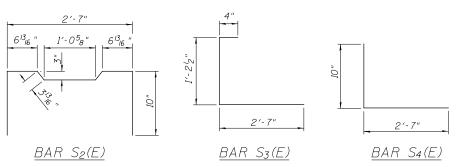
**Rail post anchor devices (Sheet 6 of 10) to be cast into exterior face of outside beams.

14-½"Φ Strands Each Strand Stressed to 30,900 Lbs. 6-Strands 1^3 ₄" up, 6-Strands 3^3 ₄" up, 2-Strands 11^3 ₄" up

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







−1¼" ¢ Conduit

BAR LIST - ONE BEAM ONLY

(For Information Only)

BAR	NO.	SIZE	LENGTH	SHAPE
A(E)	11	#4	2'-7"	
$A_I(E)$	22	#4	2'-10"	~
B(E)	4	#5	*37′-9"	
B1(E)	3	#4	*37′-9"	
S(E)	51	#4	5′-8"	
$S_I(E)$	8	#4	4'-3"	
$S_2(E)$	43	#4	4'-6"	~
S ₃ (E)	8	#4	4'-2"	
S4(E)	8	#4	3′-5"	
U(E)	8	#5	3′-8"	
$U_1(E)$	2	#4	5′-9"	

Note: See Sheet 2 of 10 for additional details and Bill of Material.

* Total Length, Lap as necessary

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

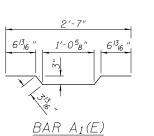
#5 bar = 2'-6"

SUPERSTRUCTURE DETAILS - SPANS 1 & 3 MERCER COUNTY

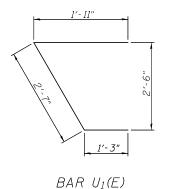
SECTION 15-00103-05-BR C.H. 9 OVER CAMP CREE.

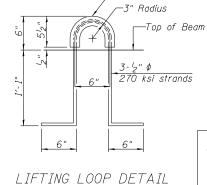
TOTAL SHEETS NO. F.A.S. ROUTE SECTION COUNTY SHEET NO. 3 15-00103-05-BR MERCER 21 10 SHEETS S.N. 066-3165 CONTRACT NO. 89734 FED. ROAD DIST. NO. 7 ILLINOIS FED. AID PROJECT AEZ5(403)

PLAN VIEW

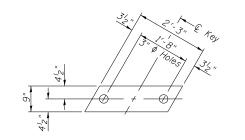


1'-3" BAR U(E)

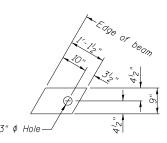




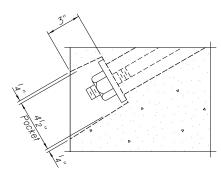
Note: Spacing of S(E) and $S_2(E)$ bars may be adjusted up to 4" in the immediate area of the transverse tie diaphragms to miss the block outs for the transverse ties.



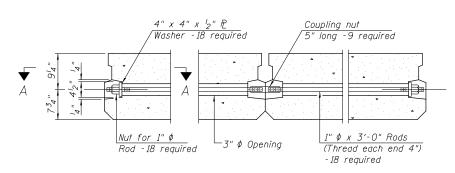




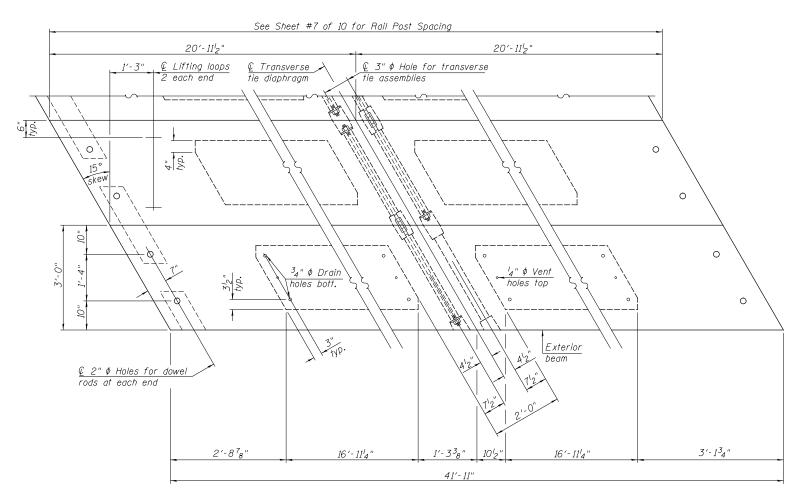
5" FABRIC BEARING PAD (Exterior) 4 Required



SECTION A-A



TYPICAL TRANSVERSE TIE ASSEMBLY



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 $^{l}_{2}$ " and the nominal cross-sectional area shall be 0.153 sq. in. The 1" ϕ 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.

Reinforcement bars shall conform to ASTM A706, Grade 60.

bearing pad location.

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.

Two $^{\prime}_8$ " fabric adjusting shims of the dimensions of the exterior bearing pad shall be provided for each A minimum $2\frac{l}{2}$ " ϕ 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

Symm. About € Rdwy. Total Crown Drop= 2¹³16 " *⊂Grouted Key* <u>Steel Railing,</u> Type SM _Slope 3₁₆" per ft. See Detail Sh.#6 of -Interior Brg. Pad (Typ.) Exterior Brg. Pad (Typ.) 10-Precast Prestressed Concrete Deck Beams at 3'-0" each = 30'-0"

HALF CROSS SECTION

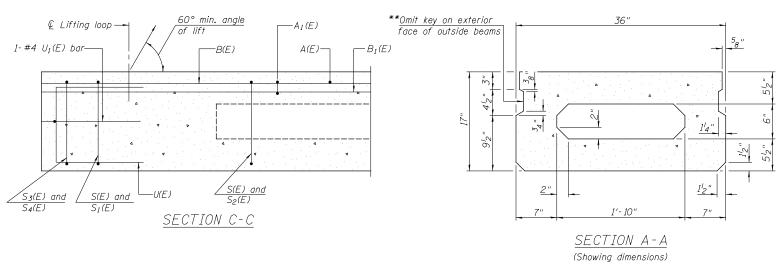
30'-0" F. to F. Rail

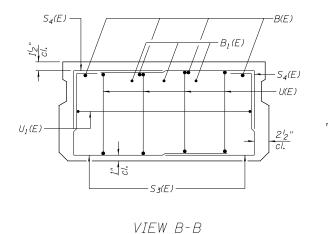
BILL OF MATERIAL

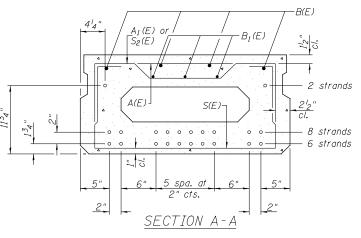
ITEM	UNIT	QUANTITY
Precast Prestressed Concrete Deck Beams (17" Depth)	SQ FT	1,258

SUPERSTRUCTURE - SPAN 2 MERCER COUNTY SECTION 15-00103-05-BR C.H. 9 OVER CAMP CREEK

SHEET NO.4	F.A.S. ROUTE	SEC ⁻	ΓΙΟΝ		COUNTY	TOTAL SHEETS	SHEET NO.
311221 140. 1	212	15-00103-05-BR			MERCER	21	10
10 SHEETS		S.N. 066-3	165		CONTRACT	NO. 89	734
	FED. RO	ROAD DIST. NO. 7 ILLINOIS			ED. AID PROJECT	AEZ5(403)



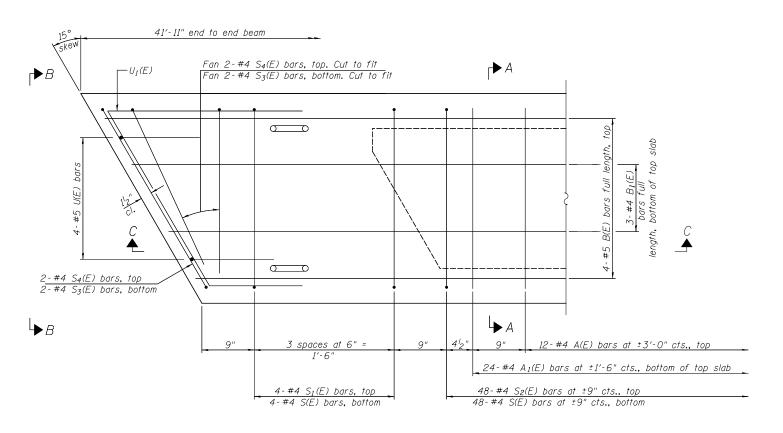


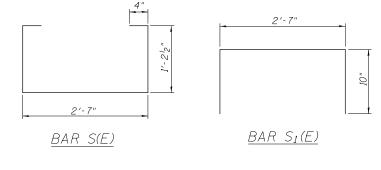


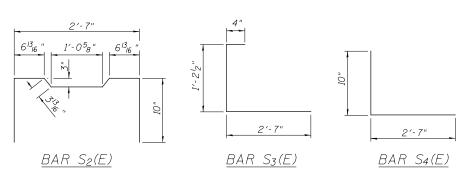
**Rail post anchor devices (Sheet 6 of 10) to be cast into exterior face of outside beams.

16-12" Strands Each Strand Stressed to 30,900 Lbs. 6-Strands 1^{3}_{4} " up, 8-Strands 3^{3}_{4} " up, 2-Strands 11^{3}_{4} " up

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







−1¼" ¢ Conduit

BAR LIST - ONE BEAM ONLY

(For Information Only)

BAR	NO.	SIZE	LENGTH	SHAPE
A(E)	12	#4	2'-7"	
$A_I(E)$	24	#4	2'-10"	~~
B(E)	4	#5	*41′-8"	
B1(E)	3	#4	*41′-8"	
S(E)	56	#4	5′-8"	
$S_I(E)$	8	#4	4'-3"	
$S_2(E)$	48	#4	4'-6"	
S3(E)	8	#4	4'-2"	
S4(E)	8	#4	3′-5"	
U(E)	8	#5	3′-8"	
$U_1(E)$	2	#4	5′-9"	

Note: See Sheet 4 of 10 for additional details and Bill of Material.

* Total Length, Lap as necessary

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

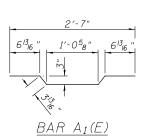
#5 bar = 2'-6"

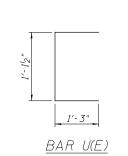
SUPERSTRUCTURE DETAILS - SPAN 2 MERCER COUNTY

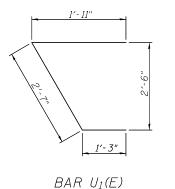
> SECTION 15-00103-05-BR C.H. 9 OVER CAMP CREE.

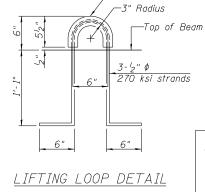
TOTAL SHEETS NO. F.A.S. ROUTE SECTION COUNTY SHEET NO.5 15-00103-05-BR MERCER 21 11 10 SHEETS S.N. 066-3165 CONTRACT NO. 89734 FED. ROAD DIST. NO. 7 ILLINOIS FED. AID PROJECT AEZ5(403)

PLAN VIEW





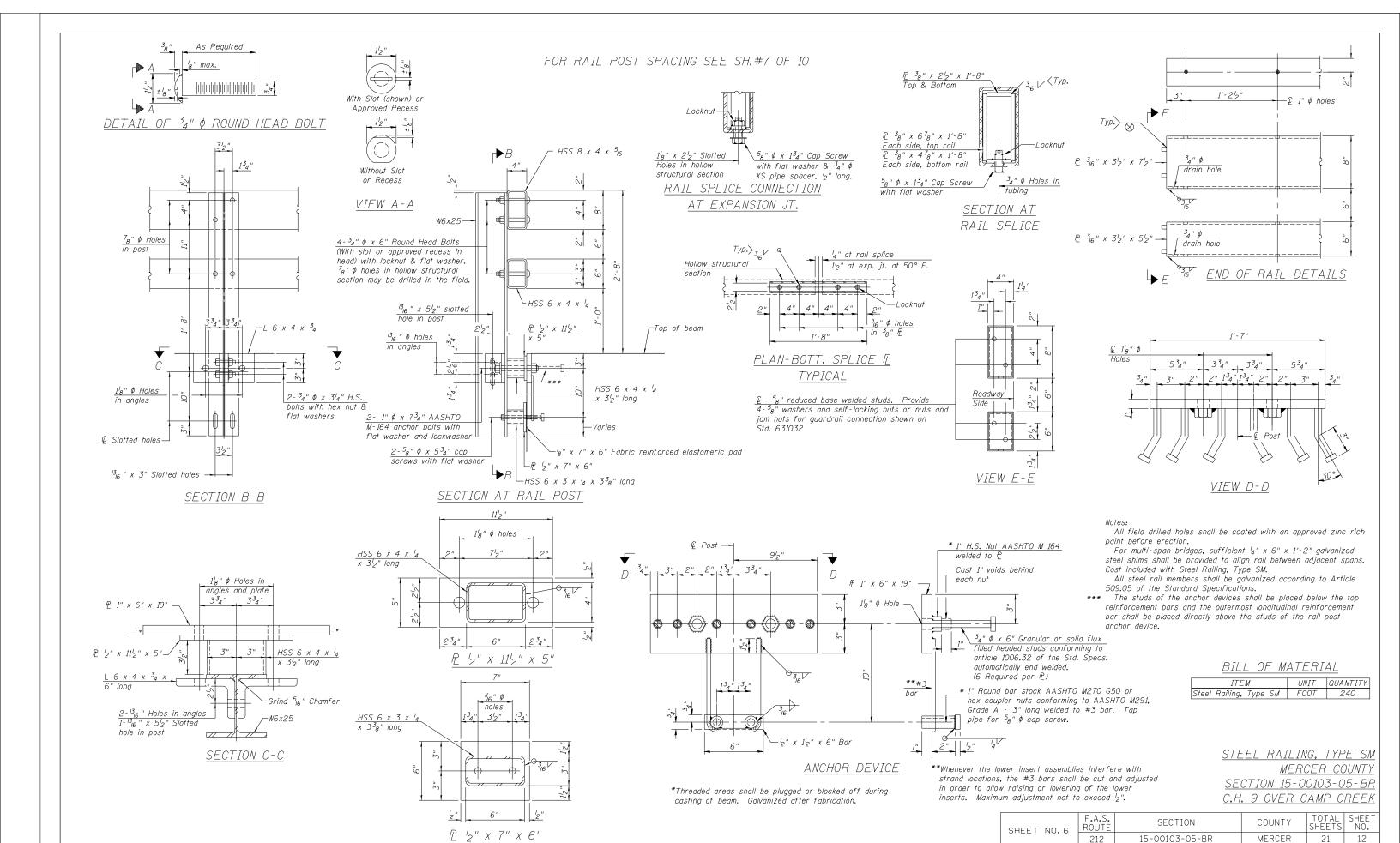




Note: Spacing of S(E) and $S_2(E)$ bars may be adjusted

tie diaphragms to miss the block outs for the

up to 4" in the immediate area of the transverse



10 SHEETS

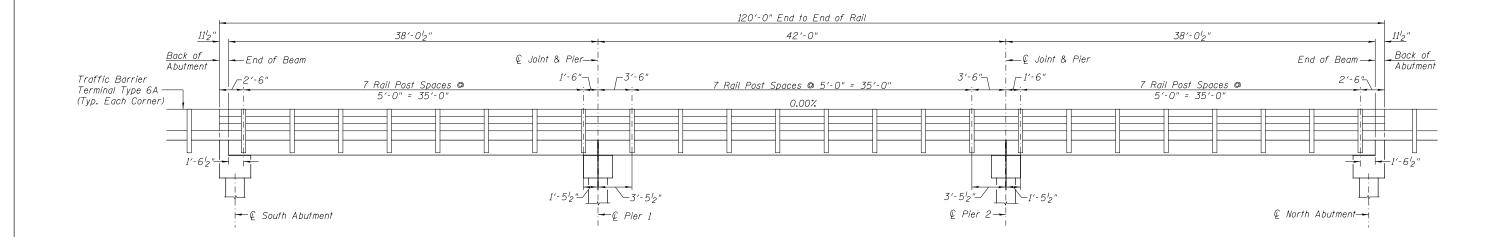
S.N. 066-3165

FED. ROAD DIST. NO. 7 ILLINOIS

CONTRACT NO. 89734

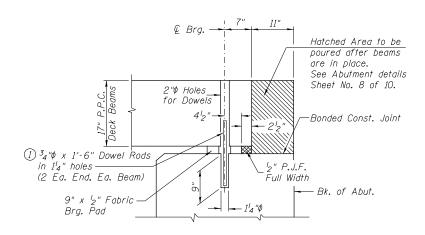
FED. AID PROJECT AEZ5(403)

4052b006



RAIL POST SPACING

<u>SECTION THRU PIERS</u> (At Right Angles)



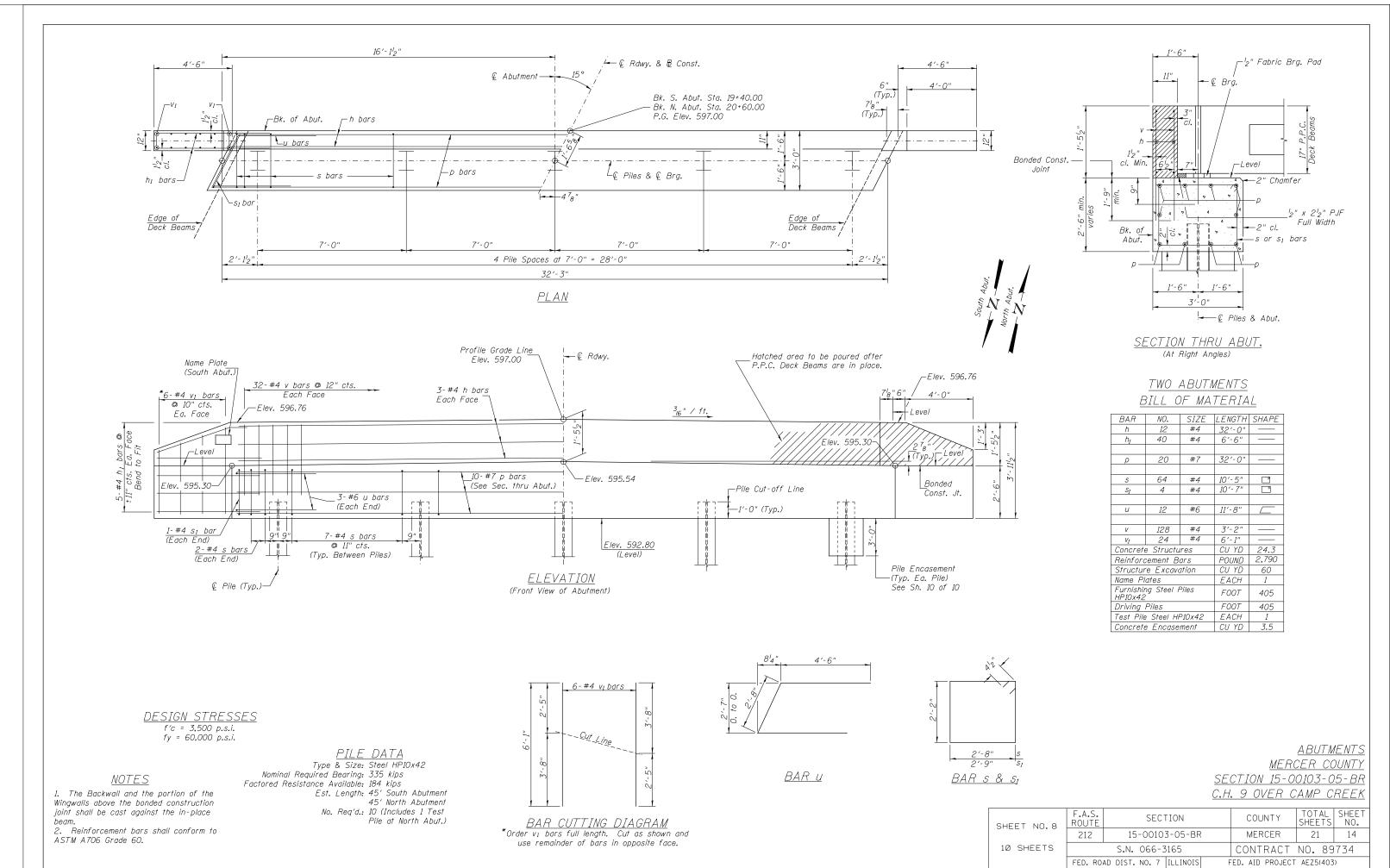
<u>SECTION THRU ABUTMENTS</u> (At Right Angles)

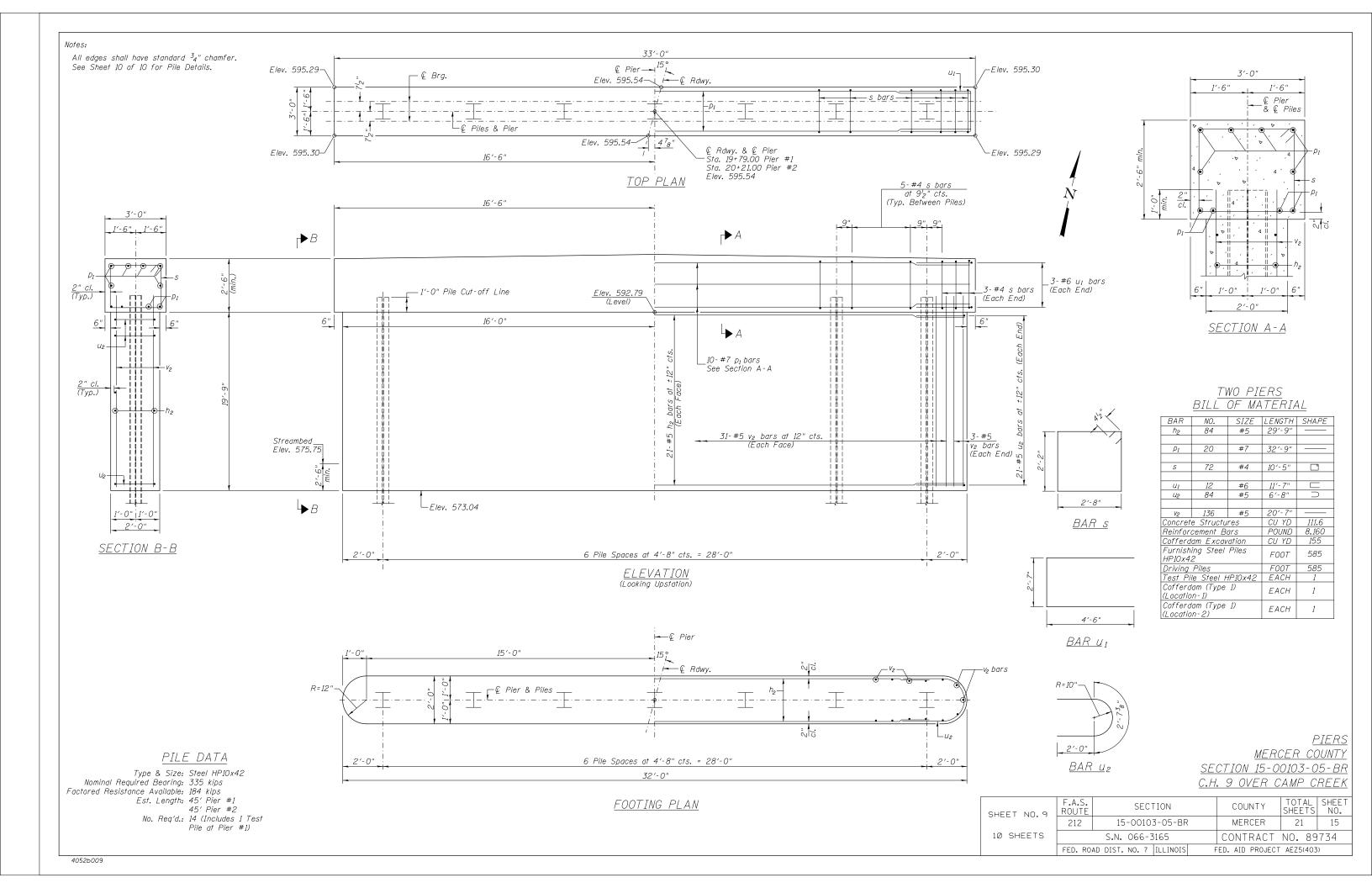
- ① Dowel Rods to be grouted after beams are in place and allowed to cure (Min. 24 hr.) prior to grouting the shear keys.
- ② 1" Joint shall be packed with nonshrink grout in accordance with Standard Specifications.
 1" Dimension may vary plus or minus to accommodate tolerance in beam lengths.

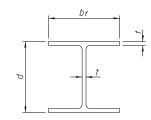
RAIL POST SPACING AND SUPERSTRUCTURE DETAILS MERCER COUNTY SECTION 15-00103-05-BR C.H. 9 OVER CAMP CREEK

SHEET NO.7	F.A.S. ROUTE	SECTION			COUNTY	TOTAL SHEETS	SHEET NO.	
	212	15-00103-05-BR			MERCER	21	13	
10 SHEETS		S.N. 066-3165			CONTRACT NO. 89734			
	FED. ROAD DIST. NO. 7 ILLINOIS			FED. AID PROJECT AEZ5(403)				

4052b007



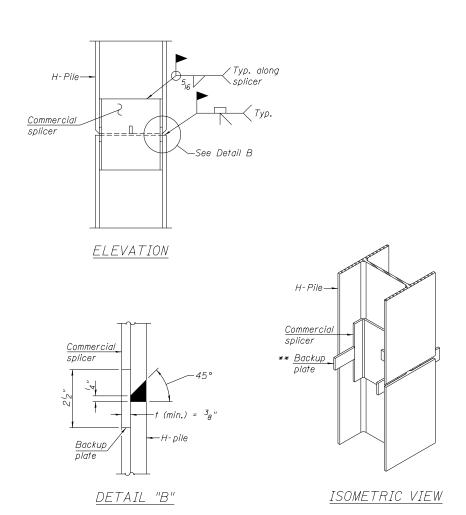




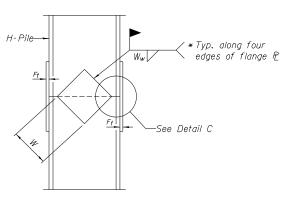
STEEL PILE TABLE

Designation	Depth d	Flange width b _f	Web and Flange thickness t	Encasement diameter
HP 14x117	14 4"	14 ⁷ 8"	¹³ 16 "	30"
x102	14"	14 ³ 4"	¹¹ 16 "	30"
x89	13 ⁷ 8"	14 ³ 4"	58"	30"
x73	13 ⁵ 8"	14 ⁵ 8 "	2"	30"
HP 12x84	12 1/4"	12 4"	¹¹ 16 "	24"
x74	12 ^l 8"	12 4"	⁵ 8"	24"
x63	12"	12 %"	12"	24"
x53	11 ³ 4"	12"	⁷ 16 "	24"
HP 10x57	10"	1014"	⁹ 16 "	24"
x42	9 ³ 4"	1018"	⁷ 16 "	24"
HP 8x36	8"	818"	⁷ 16 "	18"

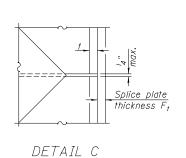
The steel H-piles shall be according to AASHTO M270 Grade 50.



WELDED COMMERCIAL SPLICE



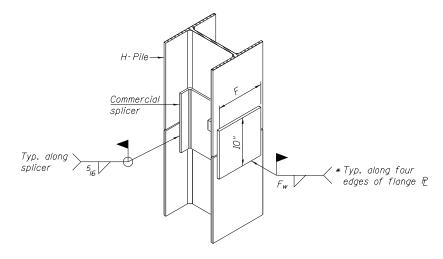




ELEVATION

Designation	F	F _t	F _w	W	W _t	Ww
HP 14x117	12 ¹ 2"	1"	⁷ 8"	7 ³ 4"	⁵ 8"	12"
x102	12 ¹ 2"	⁷ 8"	34"	734"	58"	12"
x89	12 ¹ 2"	34"	16"	7 ³ 4"	58"	¹ 2"
x73	1212"	⁵ 8"	9 ₁₆ "	7 ³ 4"	58"	12"
HP 12x84	10"	⁷ 8"	"16"	6½"	5 ₈ "	12"
x74	10"	⁷ 8"	"16"	6½"	58"	12"
x63	10"	5 ₈ "	2"	6 ¹ 2"	2"	3 ₈ "
x53	10"	5 ₈ "	2"	6½"	2"	3 ₈ "
HP 10x57	8"	34"	916 "	54"	2"	3 ₈ "
x42	8"	5 ₈ "	916 "	54"	2"	3 ₈ "
HP 8x36	7"	5 ₈ "	⁷ 16 "	414"	2"	3 ₈ "

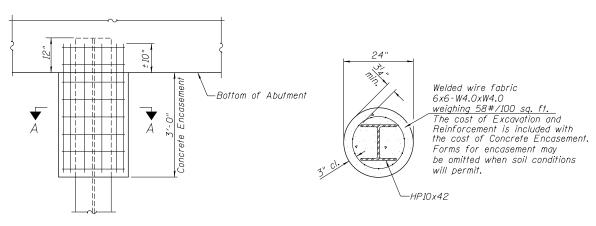
WELDED PLATE FIELD SPLICE



ISOMETRIC VIEW

WELDED COMMERCIAL SPLICE ALTERNATE

- * Interrupt welds $\frac{1}{4}$ " from end of web and/or each flange.
- ** Remove portions of backup plates that extend outside the flanges.



ABUTMENT ELEVATION

SECTION A-A

PILE DETAILS MERCER COUNTY <u>SECTION 15-00103-05-BR</u> C.H. 9 OVER CAMP CREEK

∕ * Typ. along four ∖ edges of flange ₽

PILE ENCASEMENT

SHEET NO.10	F.A.S. ROUTE	SEC ⁻	CO	COUNTY		SHEET NO.	
	212	15-0010	ME	MERCER		16	
10 SHEETS	S.N. 066-3165			CON	TRACT	NO. 89	734
	FED. ROAD DIST. NO. 7 ILLINOIS			FED. AID	PROJECT	AEZ5(403	5)

4052b010

