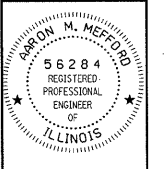


TR	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
269	07-03119-00-BR	WHITE	12	1
FED. ROAD DIST. NO. 9 ILLINOIS		FED. AID PROJECT		323 W. 3RD ST. P.O. BOX 160 MT. CARMEL, IL 62863
PROJECT # BROS-193(35)		CONTRACT # 99370		PHONE: (618)-262-8651
JOB # C-99-543-07		WABASH LEVEE DITCH		FAX: (618)-263-3327
LEC JOB # H081.023WH				

405 W. STATE ST
SUITE 1
PRINCETON, IN
47670
PHONE:
(812)-386-7611
FAX:
(812)-385-2812



PROFESSIONAL DESIGN FIRM
LAND SURVEY &
PROFESSIONAL ENGINEERING
CORPORATION
184-000887
(62-032435)(35-002769)



AARON M. MEFFORD
NAME
SIGNATURE
DATE
11-30-11
EXPIRES

TOWNSHIP ROUTE 269
OVER WABASH LEVEE DITCH
WHITE COUNTY, ILLINOIS

SHEET TITLE:

TITLE SHEET

SCALE: VARIES

BY: AMM

DATE: 2010

REV:

1 OF 12 SHEETS

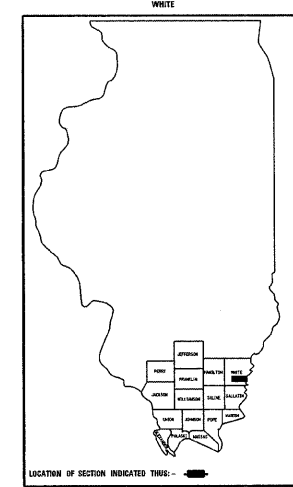
SHEET NO. 1

STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION PLANS FOR PROPOSED FEDERAL AID - H.B.P. PROJECT

T.R. 269 WHITE COUNTY SECTION 07-03119-00-BR

PROJECT NO. BROS-193(35) JOB NO. C-99-543-07

CONTRACT # 99370 WABASH LEVEE DITCH



INDEX OF SHEETS

SHEET NO.	DESCRIPTION
1	TITLE SHEET & SUMMARY OF QUANTITIES
2	PLAN & PROFILE, TYPICAL SECTIONS, GENERAL NOTES & STONE RIPRAP DITCH DESIGN
3	ROADWAY CROSS SECTIONS
4-12	BRIDGE DESIGN

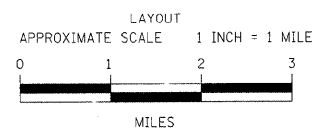
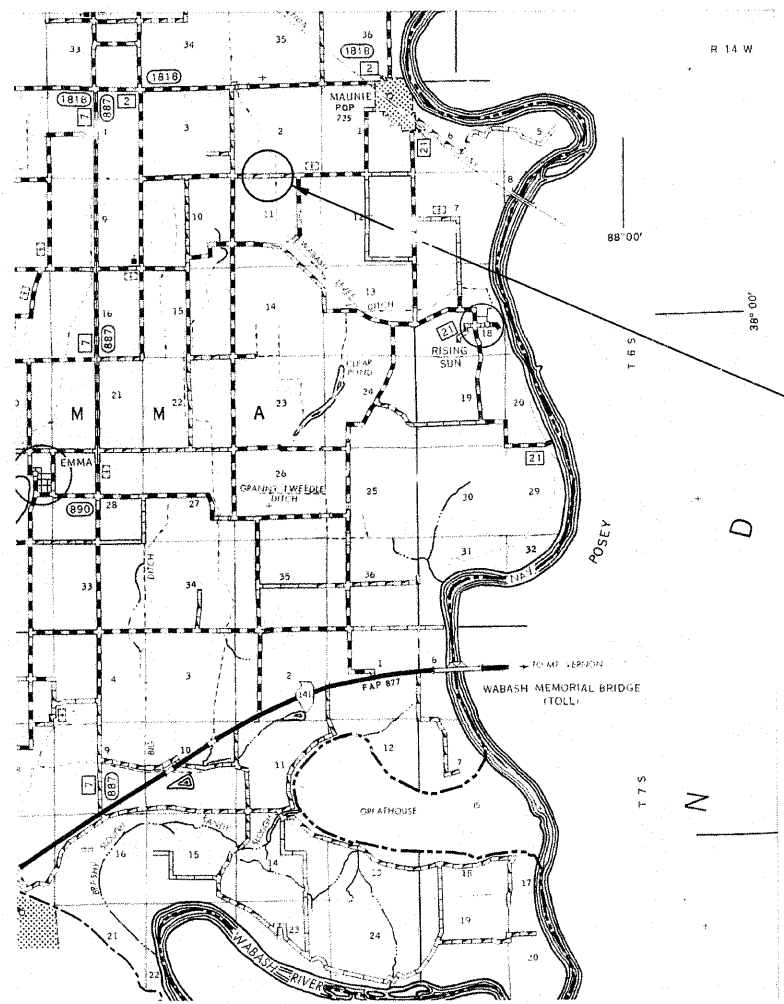
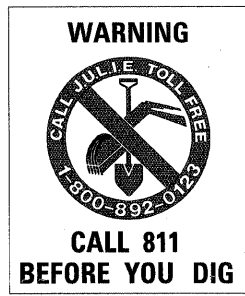
000001-05	STANDARD SYMBOLS, ABBREVIATIONS & PATTERNS
280001-05	TEMPORARY EROSION CONTROL SYSTEMS
542301-02	PRECAST REINFORCED CONCRETE FLARED END SECTION
701901-01	TRAFFIC CONTROL DEVICES
B.L.R. 21-8	TYPICAL APPLICATION OF TRAFFIC CONTROL DEVICES FOR CONSTRUCTION ON RURAL LOCAL HIGHWAYS
B.L.R. 22-6	TYPICAL APPLICATION OF TRAFFIC CONTROL DEVICES FOR CONSTRUCTION ON RURAL LOCAL HIGHWAYS (TWO-LANE TWO-WAY RURAL TRAFFIC) (ROAD CLOSED TO THRU TRAFFIC)

SUMMARY OF QUANTITIES

CODE NO.	ITEM	UNIT	QUANTITY
20100110	TREE REMOVAL (6 TO 15 UNITS DIAMETER)	UNIT	12.00
20200100	EARTH EXCAVATION	CU YD	71.00
20300100	CHANNEL EXCAVATION	CU YD	90.00
20400800	FURNISHED EXCAVATION	CU YD	112.00
*25001000	SEEDING, CLASS 2 (SPECIAL)	ACRE	0.20
28000305	TEMPORARY DITCH CHECKS	FOOT	12.00
28001000	AGGREGATE (EROSION CONTROL)	TON	18.00
28100807	STONE DUMPED RIPRAP, CLASS A4	TON	350.00
28102600	STONE RIPRAP DITCH	TON	44.00
40200800	AGGREGATE SURFACE COURSE, TYPE B	TON	190.00
50100100	REMOVAL OF EXISTING STRUCTURES	EACH	1.00
50300225	CONCRETE STRUCTURES	CU YD	21.00
50300280	CONCRETE ENCASEMENT	CU YD	3.60
50400305	PRECAST PRESTRESSED CONCRETE DECK BEAMS (17" DEPTH)	SQ FT	1080.00
50800105	REINFORCEMENT BARS	POUND	2450.00
Δ 50900205	STEEL RAILING, TYPE S1	FOOT	88.00
51200957	FURNISHING METAL SHELL PILES 12"X0.25"	FOOT	345.00
51202305	DRIVING PILES	FOOT	345.00
51203200	TEST PILE METAL SHELLS	EACH	1.00
51500100	NAME PLATES	EACH	1.00
54200220	PIPE CULVERTS, CLASS D, TYPE 1 15"	FOOT	50.00
54200241	PIPE CULVERTS, CLASS D, TYPE 1 36"	FOOT	60.00
*67100100	MOBILIZATION	L SUM	1.00

Δ SPECIALTY ITEMS

DESIGN DESIGNATION:
DESIGN SPEED: 30 MPH
HIGHWAY CLASS - LOCAL ROAD
EXISTING STRUCTURE NO.: 097-3106
PROPOSED STRUCTURE NO.: 097-3265
CURRENT A.D.T. = 80
CONTRACT NO. 99370



GROSS LENGTH	300.00 FT	0.057 MILES
OMISSIONS	0.00 FT	0.000 MILES
NET LENGTH	300.00 FT	0.057 MILES

PLAN	1" = 50'	0 50' 100'
PROFILE	1" = 50'	0 50' 100'
PROFILE VERT.	1" = 5'	0 5' 10'
CROSS SECTION	1" = 5'	0 5' 10'

SECTION 07-03119-00-BR
BEGINS STATION 3+50

STATION 5+00, STRUCTURE NO. 097-32...
A 45' LONG SINGLE SPAN PRECAST PRESTRESSED
CONCRETE DECK BEAM BRIDGE (17" DEPT.),
24" ROADWAY, 0.00% GRADE, 0° SKEW.

SECTION 07-03119-00-BR
ENDS STATION 6+50

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

APPROVED February 4th, 2010
Brian A. R...
COUNTY ENGINEER

PASSED March 10, 2010
Dennis Hillman
ENGINEER OF LOCAL ROADS AND STREETS

RELEASING FOR BID
BASED ON LIMITED
REVIEW: March 10, 2010
Mary C. Lamie

MARY C. LAMIE, P.E.
DEPUTY DIRECTOR OF HIGHWAYS
REGION FIVE ENGINEER

GENERAL NOTES:

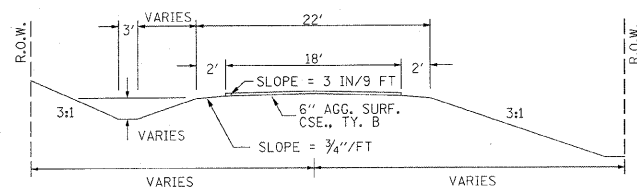
THIS SECTION SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE PLANS, SPECIAL PROVISIONS AND "STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION", ADOPTED JANUARY 1, 2007.

THE WORK INVOLVED ON THIS SECTION CONSISTS OF THE REMOVAL OF THE EXISTING STRUCTURE, THE CONSTRUCTION OF A 45 FOOT LONG SINGLE SPAN PRECAST, PRESTRESSED CONCRETE DECK BEAM BRIDGE, EARTH APPROACHES, AGGREGATE SURFACE COURSE AND OTHER MISCELLANEOUS ITEMS NECESSARY TO COMPLETE THIS SECTION.

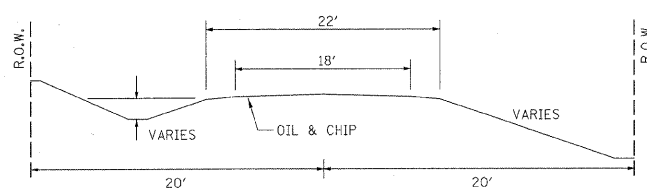
ALL ELEVATIONS ARE BASED ON U.S.G.S. MEAN SEA LEVEL DATUM.

IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO CONTACT ALL THE UTILITIES, AFFECTING THE PROJECT, PRIOR TO CONSTRUCTION.

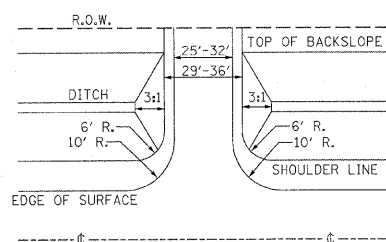
TYPICAL CROSS SECTION PROPOSED



TYPICAL CROSS SECTION EXISTING



FIELD ENTRANCE DETAIL



NOTE: CONSTRUCT SPECIAL DITCH

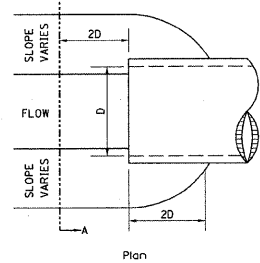
STA 4+00 TO STA 4+81 LT
STA 5+14 TO STA 6+50 LT
STA 5+15 TO STA 6+50 RT

NOTE: CONSTRUCT STONE RIPRAP DITCH

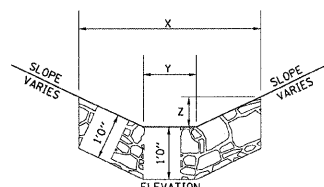
STA 4+50 TO STA 4+81 LT (0.62 TON/LIN FT)
STA 5+15 TO STA 5+55 RT (0.62 TON/LIN FT)
44 TON STONE RIPRAP DITCH ALLOWED IN PROPOSAL.

SEE STONE RIPRAP DITCH DETAIL.

STONE RIPRAP DITCH DESIGN



Plan



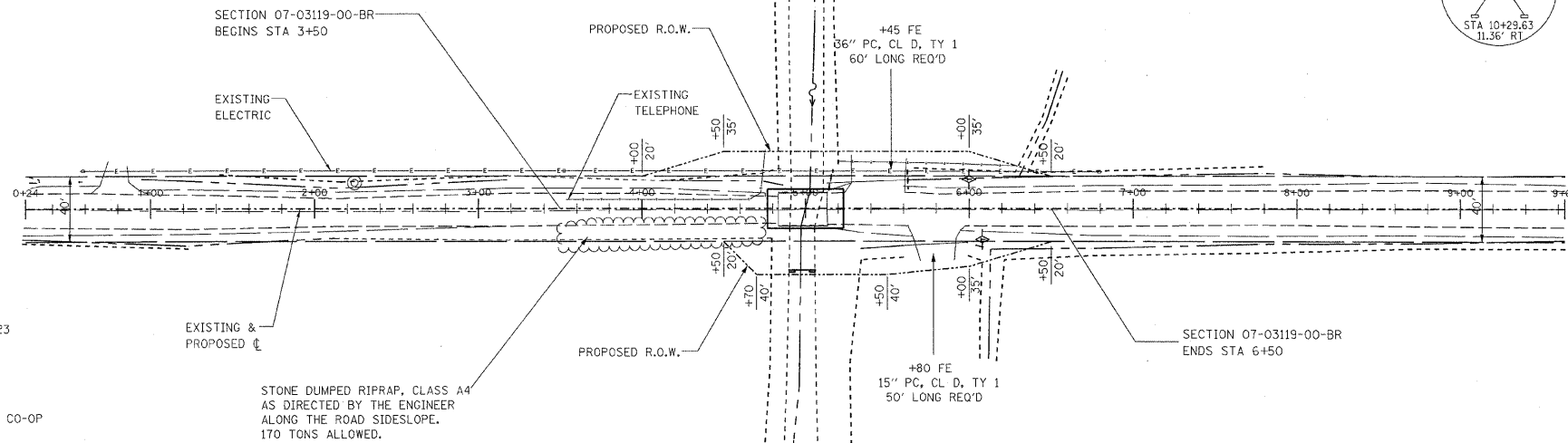
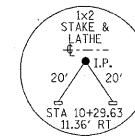
ELEVATION

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

NOTE: FOR PLACEMENT, QUALITY GRADATION AND OTHER MISCELLANEOUS REQUIREMENTS FOR STONE RIPRAP DITCH-SEE SPECIAL PROVISIONS.

NOTE: CONSTRUCTION TRANSITION
STA. 3+50 TO STA 4+00
STA 6+00 TO STA 6+50

ALL QUANTITIES ARE INCLUDED IN THE PROPOSAL



UTILITIES:
J.U.L.I.E. 1-800-892-0123
VERIZON
1-618-997-0707

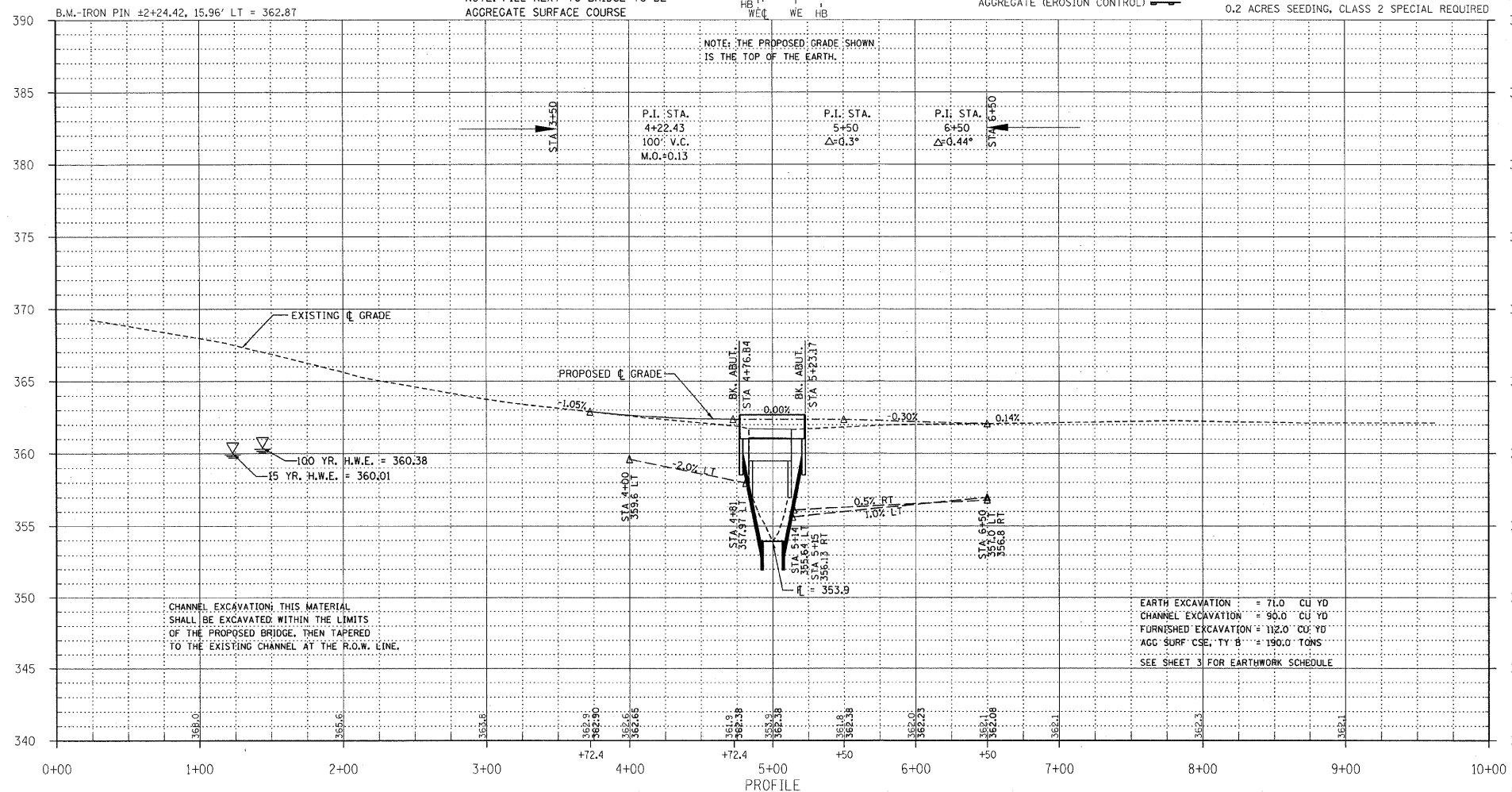
WAYNE-WHITE ELECTRIC CO-OP
1-618-842-2196

STONE DUMPED RIPRAP, CLASS A4 AS DIRECTED BY THE ENGINEER ALONG THE ROAD SIDESLOPE. 170 TONS ALLOWED.

EXISTING BRIDGE STA 4+98.3; STRUCTURE NUMBER: 097-3106 AN OIL & CHIP COVERED 30' LONG SINGLE SPAN CONCRETE DECK BEAM BRIDGE WITH 9" CONCRETE CURBS ON CONCRETE CAP AND WOODEN PILING.

ONE (1) EACH-REMOVAL OF EXISTING STRUCTURES ALLOWED IN THIS PROPOSAL.

NOTE: FILL NEXT TO BRIDGE TO BE AGGREGATE SURFACE COURSE

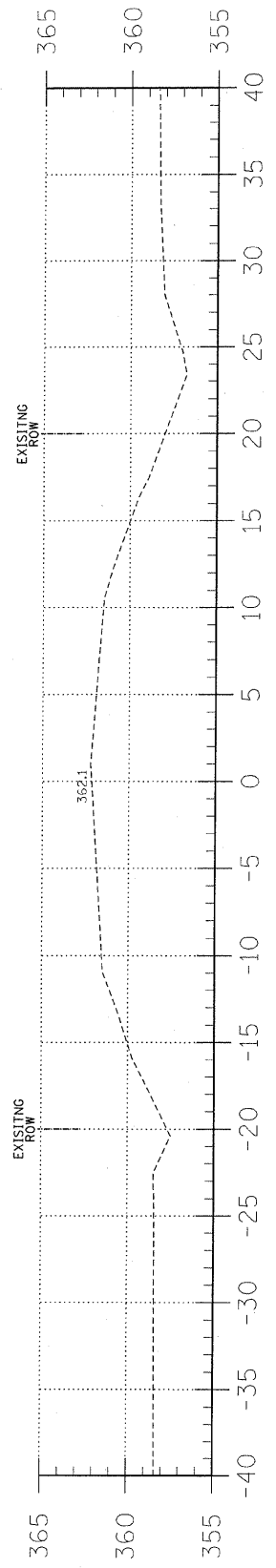


PROPOSED STRUCTURE: NO. 097-3265, STA 5+00, A 45' LONG SINGLE SPAN P.P.C.D.B. BRIDGE WITH 17" DEPTH BEAMS, SPILL THROUGH TYPE ABUTMENTS, 24' WIDTH, 0° SKEW.

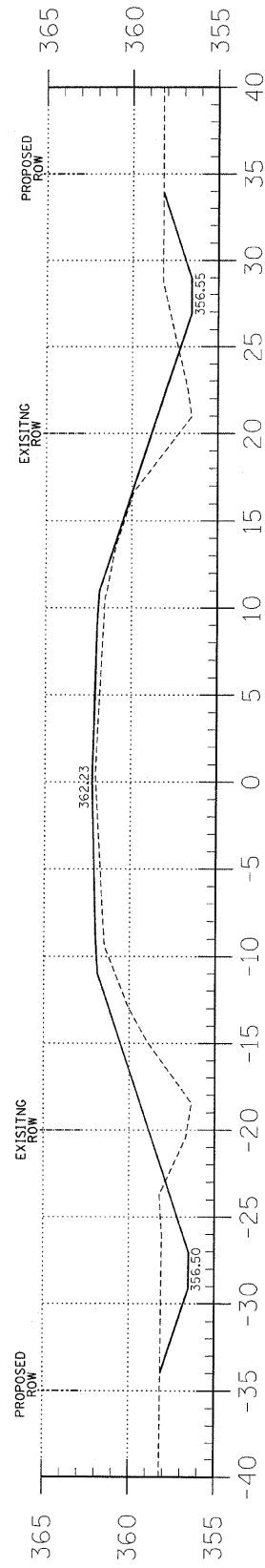
SEE SHEETS 4-12 FOR THE DESIGN AND BILL OF MATERIALS.

12.0 UNITS-TREE REMOVAL (6 TO 15 UNITS DIAMETER)
12.0 FOOT TEMPORARY DITCH CHECKS
18.0 TON AGGREGATE (EROSION CONTROL)
0.2 ACRES SEEDING, CLASS 2 SPECIAL REQUIRED

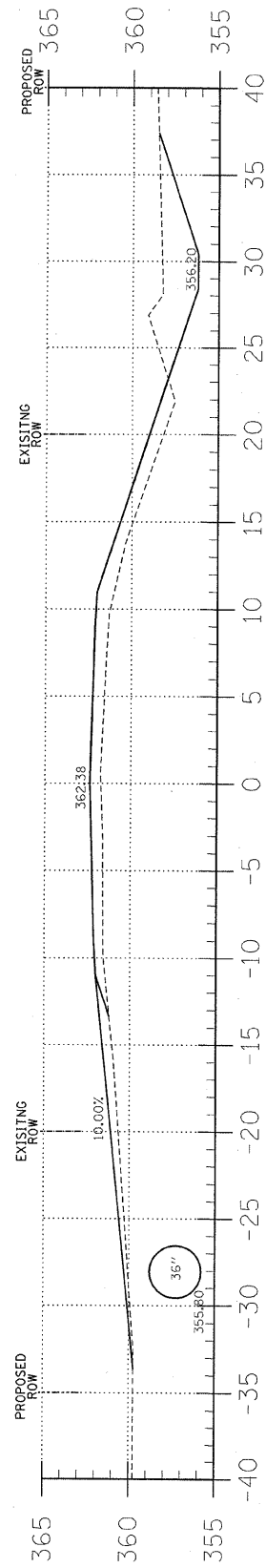
TR	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	323 W. 3RD ST. P.O. BOX 160 MT. CARMEL, IL 62863 PHONE: (618)-262-8661 FAX: (618)-263-3327	
269	07-03119-00-BR	WHITE	12	2		
FED. ROAD DIST. NO. 9 ILLINOIS		WABASH LEEVEE DITCH				405 W. STATE ST. SUITE 1 PRINCETON, IN 47670 PHONE: (812)-386-7611 FAX: (812)-385-2812
PROJECT # 0805-193351		CONTRACT # 99370				LEC JOB # H081023W1
LAMAC ENGINEERING CO.						
PROFESSIONAL DESIGN FIRM LAND SURVEY & PROFESSIONAL ENGINEERING CORPORATION 184-000887 (62-032435)(35-002769)						
AARON M. MEFFORD REGISTERED PROFESSIONAL ENGINEER OF ILLINOIS						
NAME: Aaron M. Mefford SIGNATURE: <i>[Signature]</i> DATE: 2-4-10 11-30-11 EXPIRES						
TOWNSHIP ROUTE 269 OVER WABASH LEEVEE DITCH WHITE COUNTY, ILLINOIS						
SHEET TITLE:						
PLAN & PROFILE						
SCALE: VARIES						
BY: AMM						
DATE: 12/9/09						
REV:						
2 OF 12 SHEETS						
SHEET NO. 2						



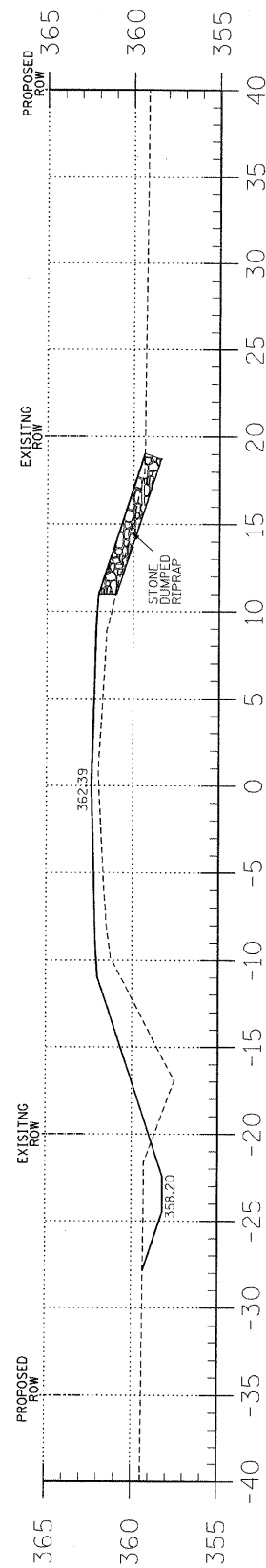
7+00



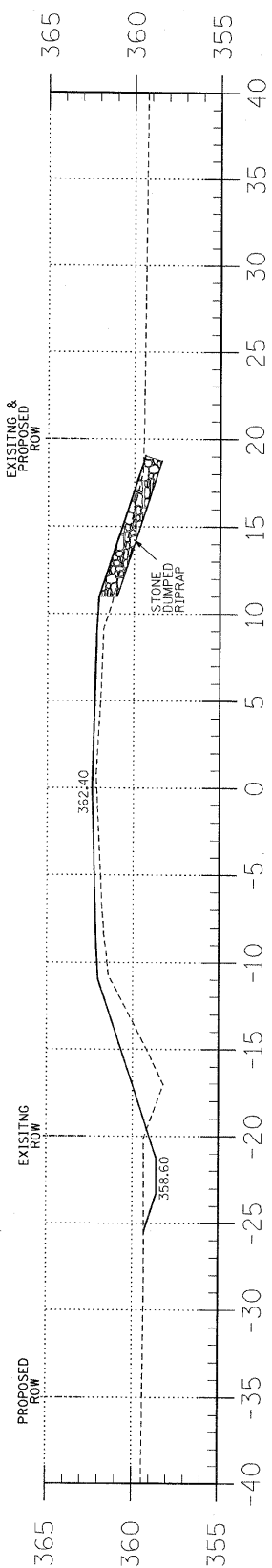
6+00



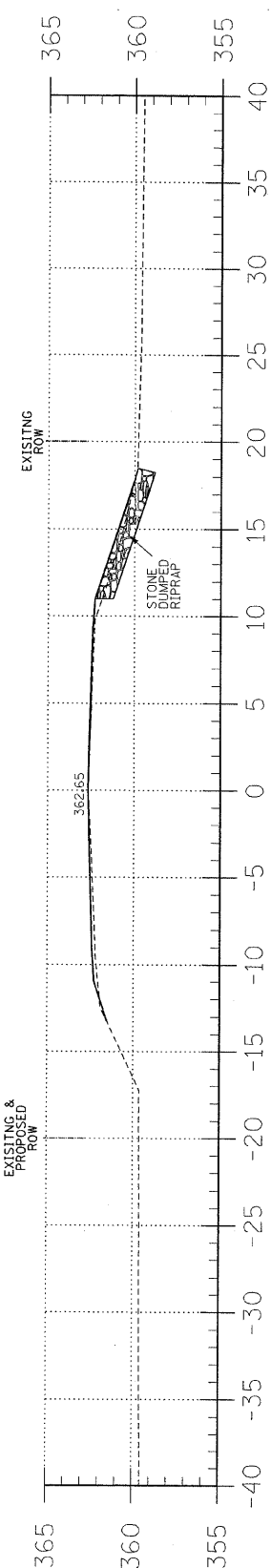
5+30



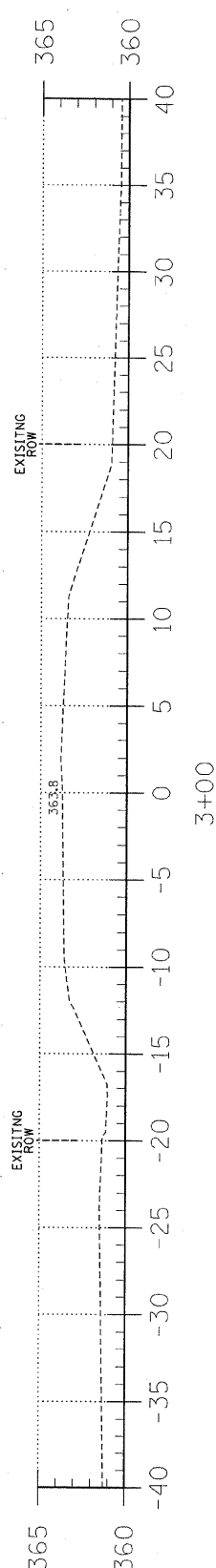
4+70



4+50



4+00



3+00

EARTHWORK SCHEDULE

LOCATION	EARTH EXCAVATION		CHANNEL EXCAVATION		ESTIMATED UNSUITABLE MATERIAL		SUITABLE MATERIAL ADJUSTED FOR SHRINKAGE		EMBANKMENT		EARTHWORK BALANCE WASTE (+) OR SHORTAGE (-)	
	CUBIC YARD	CUBIC YARD	CUBIC YARD	CUBIC YARD	CUBIC YARD	CUBIC YARD	CUBIC YARD	CUBIC YARD	CUBIC YARD	CUBIC YARD	CUBIC YARD	CUBIC YARD
STA 0+00 TO 4+76.8	5.9	0.0	0.0	0.0	0.0	4.4	49.6	-45.2				
STA 4+76.8 TO 5+23.2	0.0	90.0	0.0	0.0	45.0	33.7	0.0	35.7				
STA 5+23.2 TO 10+00	65.4	0.0	0.0	0.0	0.0	49.1	112.0	-63.0				
2 FIELD ENTRANCES	0.0	0.0	0.0	0.0	0.0	0.0	37.7	-37.7				
TOTAL	71.3	90.0	90.0	87.3	45.0	199.3	-112.2					

TOWNSHIP ROUTE 269
OVER WABASH LEVEE DITCH
WHITE COUNTY, ILLINOIS

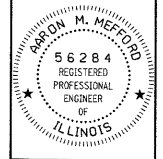
SHEET TITLE:
CROSS-SECTIONS
SCALE: 1" = 5'
BY: AMM
DATE: 1/28/10
REV:
3 OF 12 SHEETS
SHEET NO. 3

T.R.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
269	07-03119-00-BR	WHITE	12	3
FED. ROAD DIST. NO. 9	ILLINOIS	FED. AID PROJECT		
PROJECT# BROS-193(35)	CONTRACT# 99370			
JOB NO. C-99-543-07	WABASH LEVEE DITCH			
LEC JOB # H08L023WH				

405 W. STATE ST.
SUITE 1
PRINCETON, IN 47670
PHONE: (812)-386-7611
FAX: (812)-385-2812



PROFESSIONAL DESIGN FIRM
LAND SURVEY & PROFESSIONAL ENGINEERING CORPORATION
184-00087
(62-032435)(35-002769)

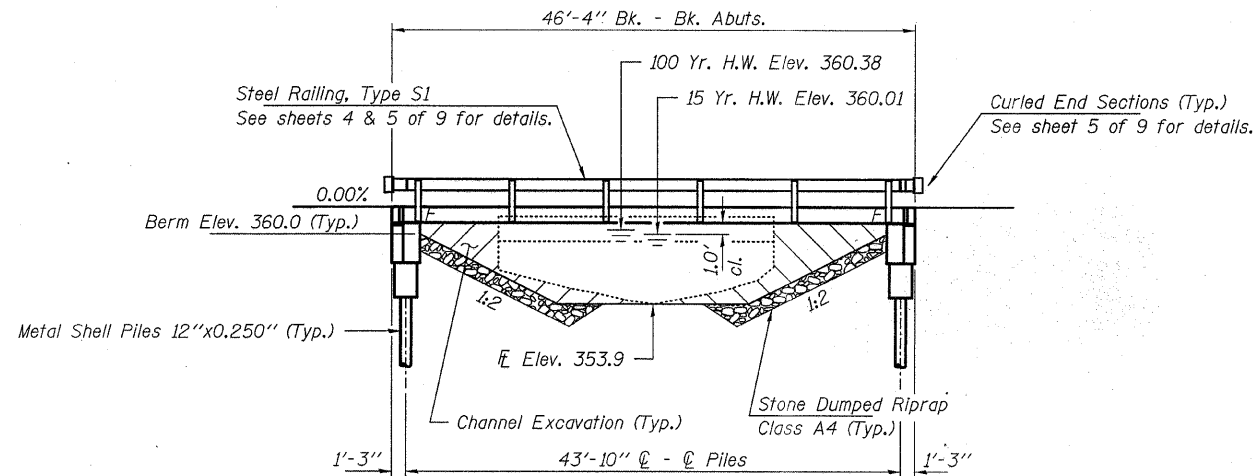


AARON M. MEFFORD
NAME
SIGNATURE
DATE 2-4-10
11-30-11 EXPIRES

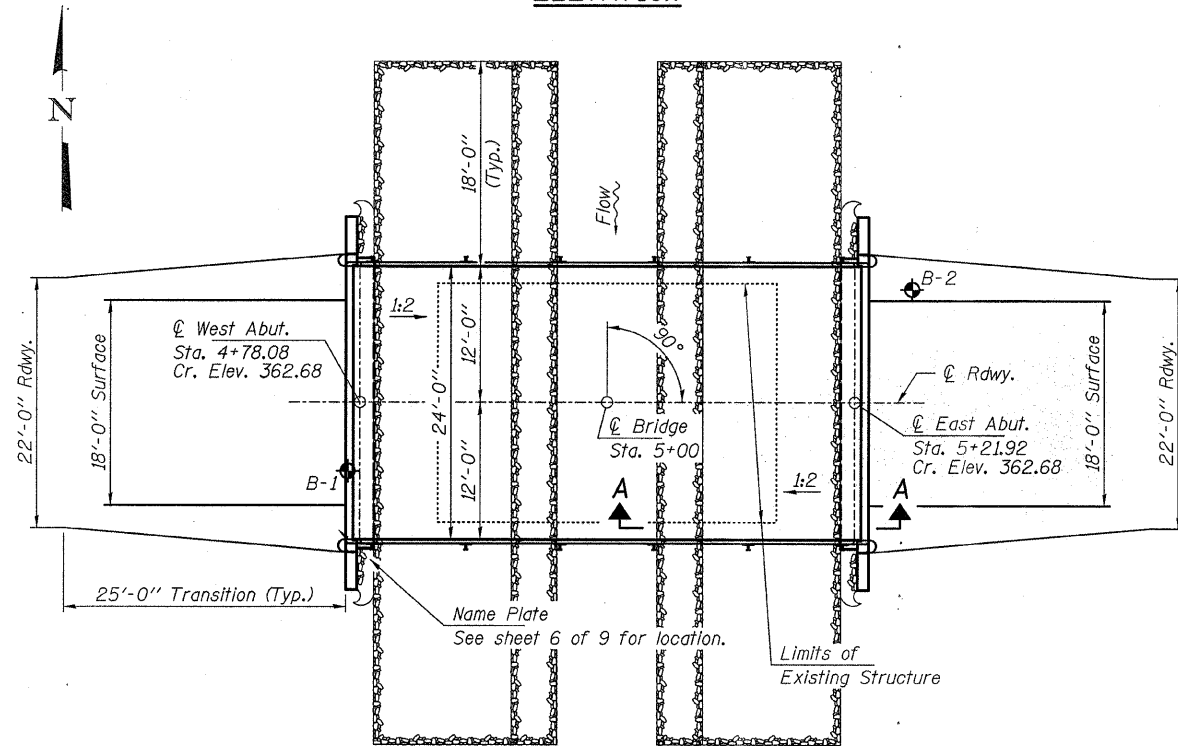
BENCHMARK: Iron Pin, Sta. ±2.24.42, 15.96' Lt., Elev. 362.87

EXISTING STRUCTURE: Sta. 5+00 - Single span concrete deck beam bridge with concrete abutments & wingwalls on timber piles. 30.0 bk.- bk. abuts.; 21.0' o.-o. deck. Structure closed to traffic.

No Salvage



ELEVATION



PLAN

DESIGN STRESSES

FIELD UNITS

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

PRECAST PRESTRESSED UNITS

$f'_c = 6,000$ psi
 $f'_{ci} = 5,000$ psi
 $f_{pu} = 270,000$ psi ($\frac{1}{2}$ " low lax. strands)
 $f_{pbt} = 201,960$ psi ($\frac{1}{2}$ " low lax. strands)
 $f_y = 60,000$ psi (Reinf.)

LOADING HL-93

Design Specifications: 2007 AASHTO LRFD with all applicable interims. 50#/Sq. Ft. included in dead load for future wearing surface.

DESIGNED - A.S.L.
CHECKED - S.W.M.
DRAWN - D.A.B.
CHECKED - D.T.M.

SEISMIC DATA

Seismic Performance Zone (SPZ) = 3
Design Spectral Acceleration at 1.0 sec. (S_{D1}) = 0.442g
Design Spectral Acceleration at 0.2 sec. (S_{D5}) = 0.850g
Soil Site Class = E

WATERWAY INFORMATION

Drainage Area = 5.7 Sq. Mi.		Existing Low Grade Elev. 361.70 @ Sta. 4+98.30		Proposed Low Grade Elev. 362.08 @ Sta. 6+50.0		
Flood	Freq. Yr.	Q C.F.S.	Opening Sq. Ft. Exst. Prop.	Natural H.W.E. Exst. Prop.	Head - Ft. Exst. Prop.	Headwater El. Exst. Prop.
Design	15	655	104 176	360.01 360.01	0.52 0.17	360.33 360.18
Base	100	1,060	104 192	360.38 360.38	2.30 0.47	362.68 360.85

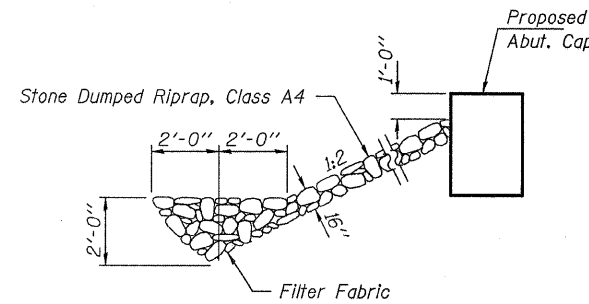
GENERAL NOTES

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. 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. See sheets 8 & 9 of 9 for Borings.

BUILT 200_ BY
WHITE COUNTY
SEC. 07-03119-00-BR
EMMA ROAD DISTRICT
STR. NO. 097-3265
LOADING HL-93

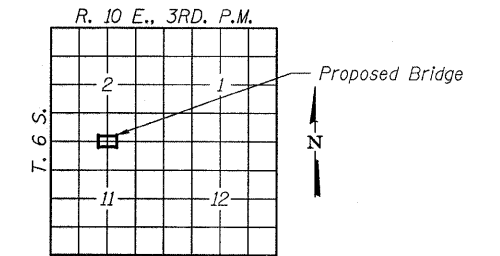
NAME PLATE

See Std. 515001



SECTION A-A

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



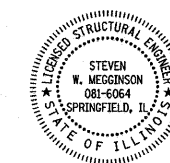
LOCATION SKETCH

TOTAL BILL OF MATERIAL

ITEM	UNIT	SUPER	SUB	TOTAL
Channel Excavation	Cu. Yd.			90
Stone Dumped Riprap, Class A4	Ton			180
Removal of Existing Structures	Each			1
Concrete Structures	Cu. Yd.		21.0	21.0
Concrete Encasement	Cu. Yd.		3.6	3.6
Precast Prestressed Concrete Deck Beams (17" Depth)	Sq. Ft.	1,080		1,080
Reinforcement Bars	Pound		2,450	2,450
Steel Railing, Type S1	Foot	88		88
Furnishing Metal Shell Piles 12" x 0.250"	Foot		345	345
Test Pile Metal Shells	Each		1	1
Name Plates	Each		1	1

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."

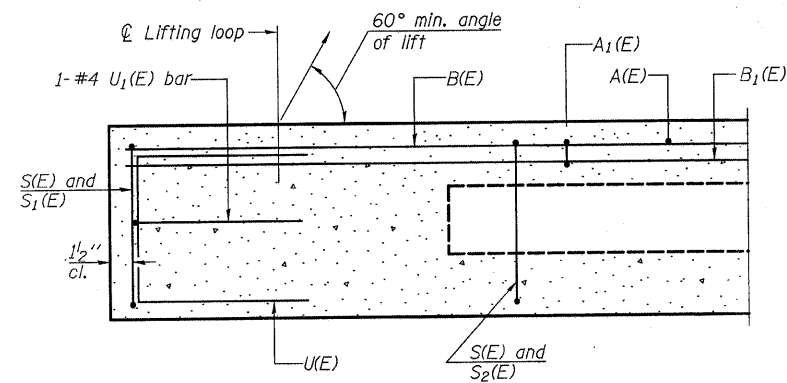
Steven W. Megginson 2/26/2007
ILLINOIS STRUCTURAL NO. 081-6064



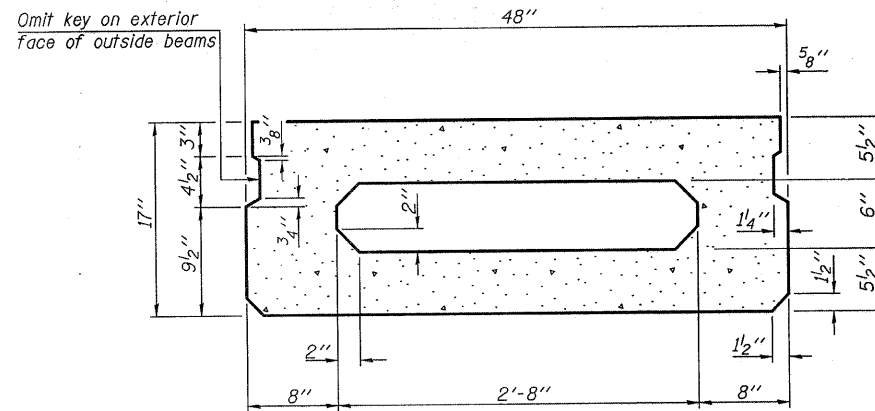
Expires 11-30-10

**GENERAL PLAN AND ELEVATION
STRUCTURE NO. 097-3265**

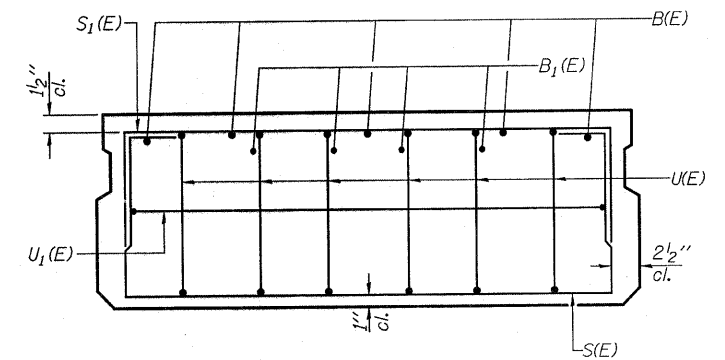
HAMPTON, LENZINI & RENWICK, INC. CIVIL & STRUCTURAL ENGINEERS LAND SURVEYORS HLR 3085 STEVENSON DRIVE, SUITE 201 SPRINGFIELD, ILLINOIS 62703 (217) 546-3400	SHEET NO. 1 9 SHEETS	T.R.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		269	07-03119-00-BR	WHITE	12	4
PROJECT NUMBER: 08.0256.130		DATE: 02/26/09		EMMA ROAD DISTRICT CONTRACT NO. 99370 FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT BROS-193(35)		



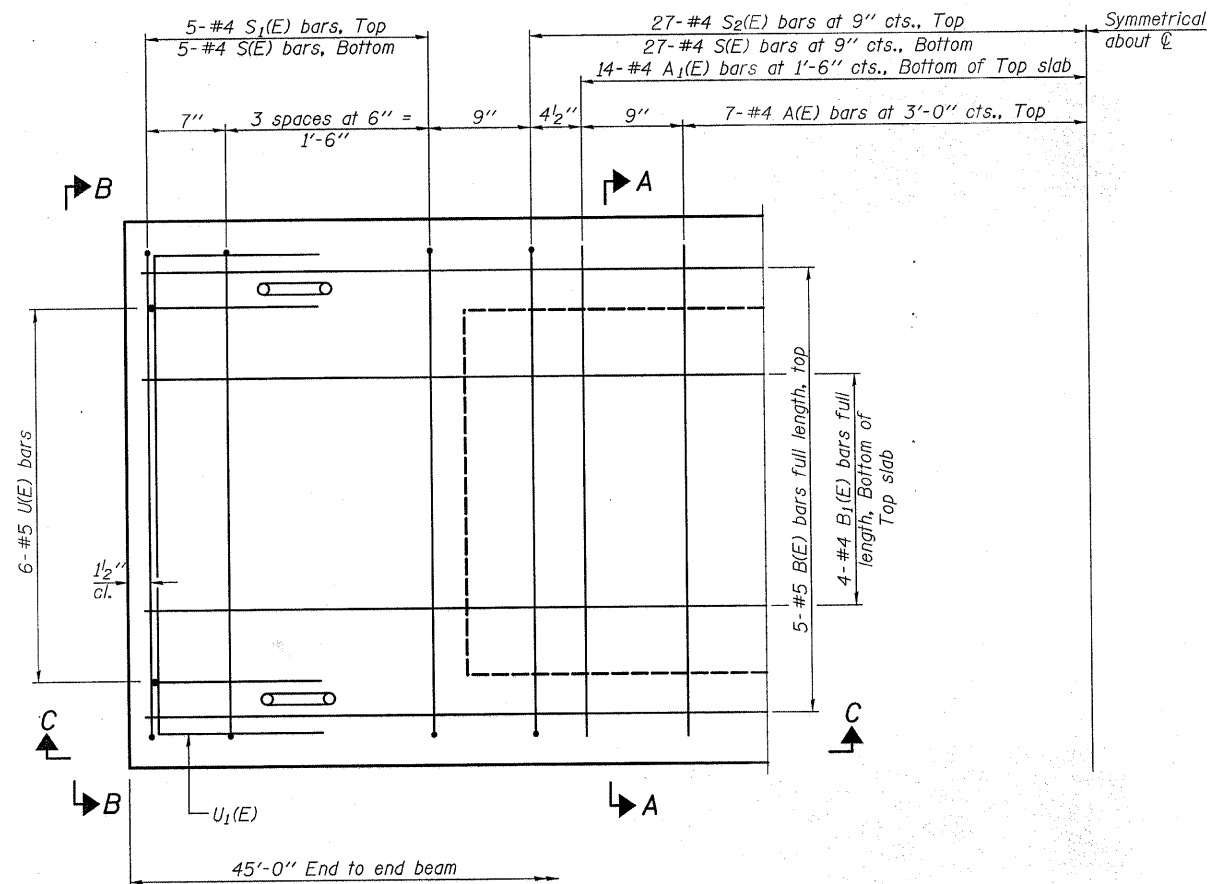
SECTION C-C



SECTION A-A
(Showing dimensions)

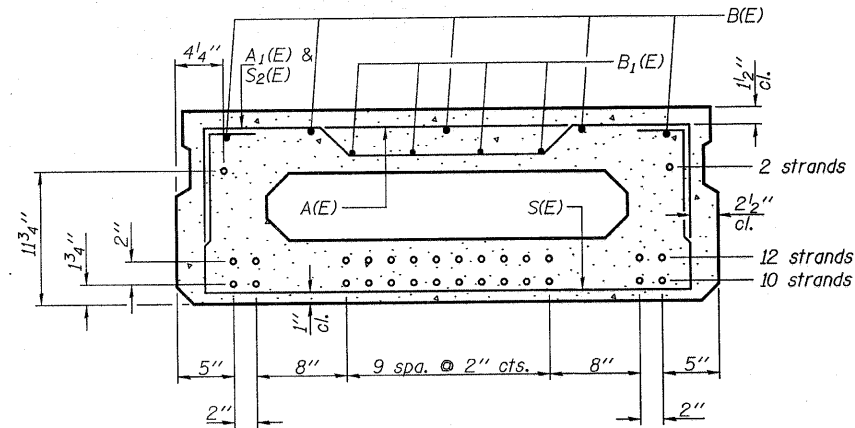


VIEW B-B



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.



SECTION A-A
(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)	14	#4	3'-7"	—
A1(E)	28	#4	3'-10"	—
B(E)	5	#5	44'-8"	—
B1(E)	4	#4	44'-8"	—
S(E)	64	#4	6'-9"	┌
S1(E)	10	#4	5'-3"	┌
S2(E)	54	#4	5'-6"	┌
U(E)	12	#5	3'-8"	┌
U1(E)	2	#4	6'-0"	┌

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

SUPERSTRUCTURE
17" X 48" PPC DECK BEAM
STRUCTURE NO. 097-3265

DESIGNED - A.S.L.
CHECKED - S.W.M.
DRAWN - D.A.B.
CHECKED - D.T.M.

PD-1748-0

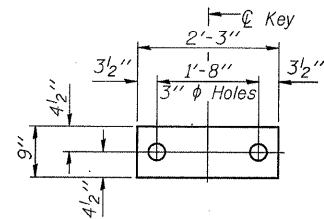
10-1-08

HAMPTON, LENZINI & RENWICK, INC.
CIVIL & STRUCTURAL ENGINEERS
LAND SURVEYORS

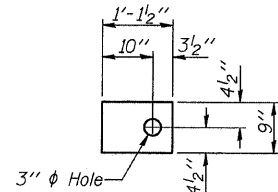
HLR 3085 STEVENSON DRIVE, SUITE 201
SPRINGFIELD, ILLINOIS 62703
(217) 546-3400

PROJECT NUMBER: 08.0256.130 DATE: 02/25/09

SHEET NO. 2	T.R.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	269	07-03119-00-BR	WHITE	12	5
9 SHEETS	EMMA ROAD DISTRICT		CONTRACT NO. 99370		
	FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT	BROS-193(35)	



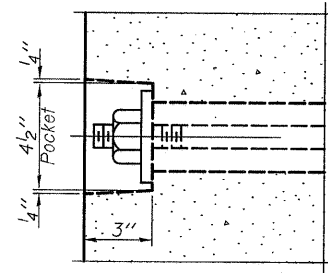
FABRIC BEARING PAD
(Interior - 10 Req'd.)



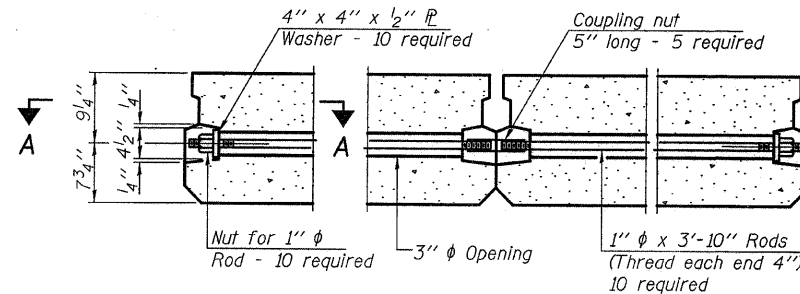
FABRIC BEARING PAD
(Exterior - 4 Req'd.)

FIXED

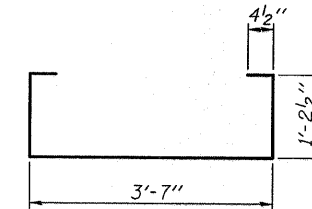
Note: Omit holes when using expansion bearings.



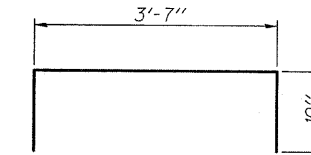
SECTION A-A



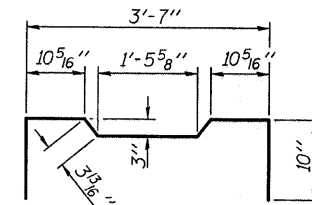
TYPICAL TRANSVERSE TIE ASSEMBLY



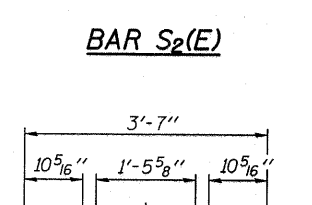
BAR S(E)



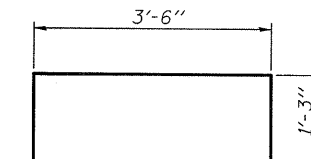
BAR S1(E)



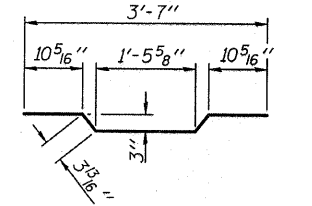
BAR U(E)



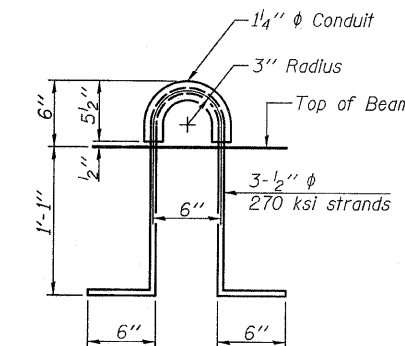
BAR S2(E)



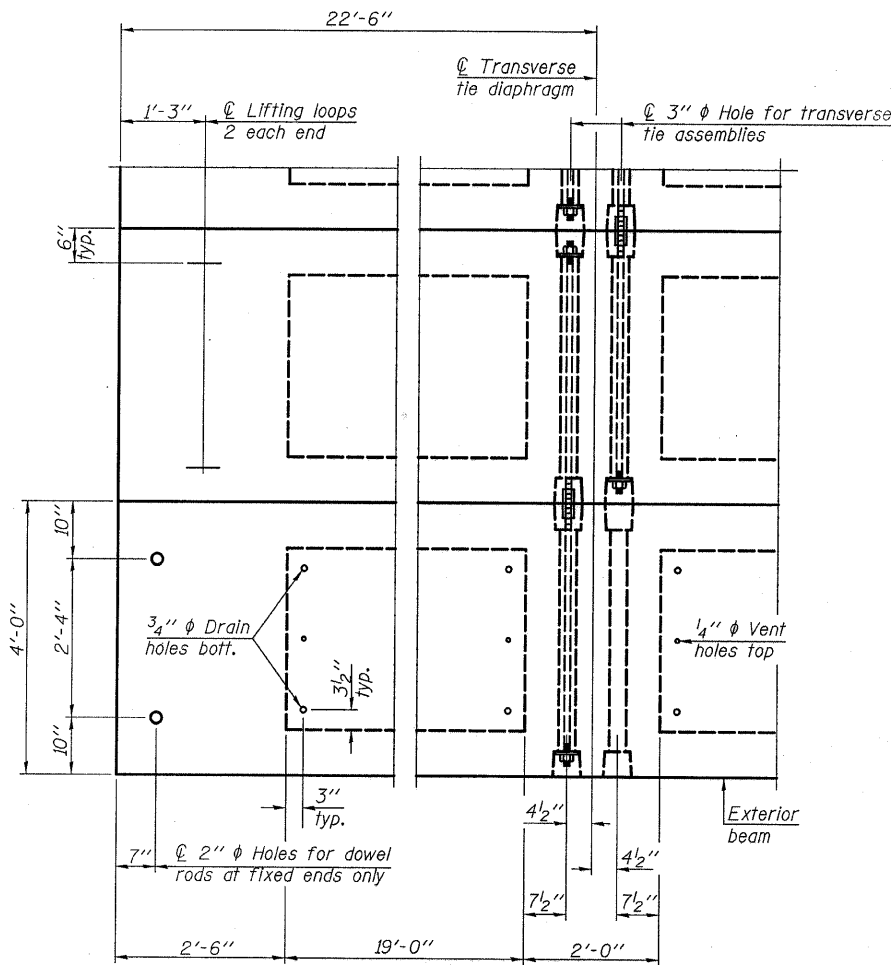
BAR U1(E)



BAR A1(E)



LIFTING LOOP DETAIL



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 inch and the nominal cross-sectional area shall be 0.153 sq. in.
- The 1 inch rods in the transverse tie assembly shall be tightened to a snug fit and the threads set. Pockets on exterior faces of bridge shall be filled with grout after transverse tie assembly is in place.
- Reinforcement bars shall conform to ASTM A 706, Grade 60. (See Special Provisions).
- Two 1/8 inch fabric adjusting shims of the dimensions of the exterior bearing pad shall be provided for each bearing pad location.
- A minimum 2 1/2 inch diameter lifting pin shall be used to engage the lifting loops during handling.
- Corrosion Inhibitor, per Article 1020.05(b)(12) and 1021.06 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.

BILL OF MATERIAL

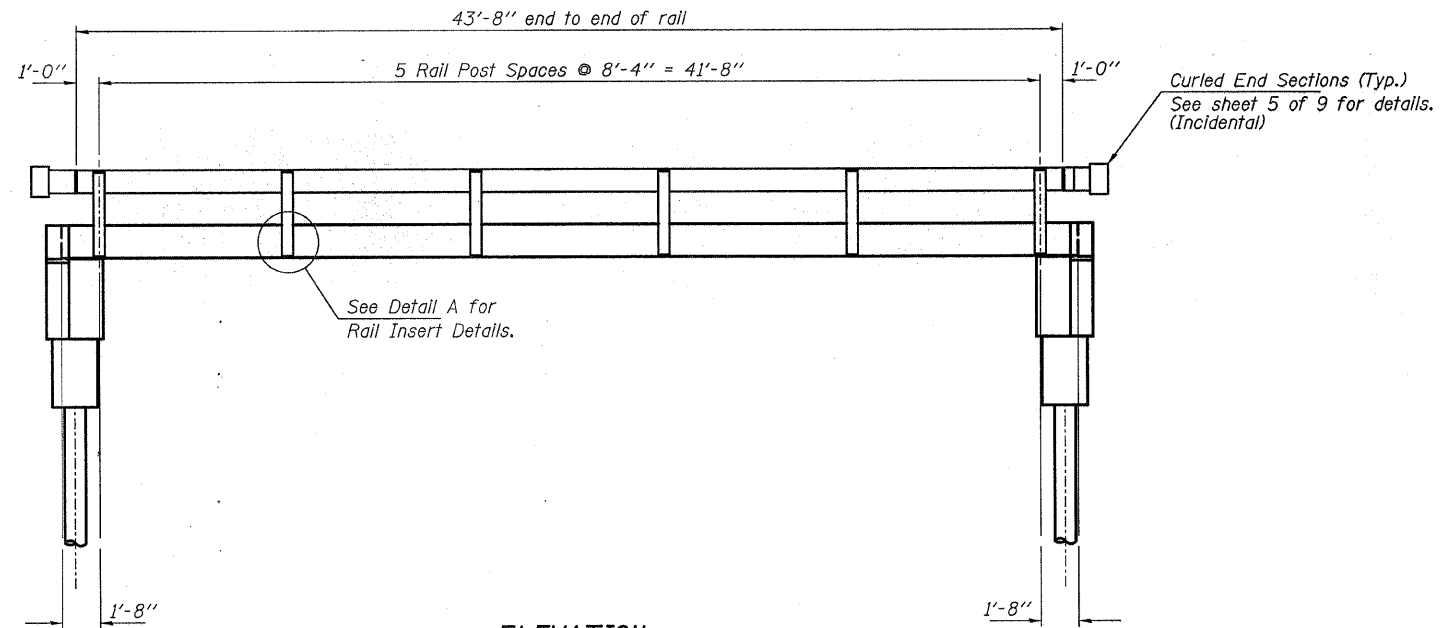
Precast Prestressed Conc. Deck Bms. (17" depth)	Sq. Ft.	1,080
-------------------------------------------------	---------	-------

DESIGNED - A.S.L.
CHECKED - S.W.M.
DRAWN - D.A.B.
CHECKED - D.T.M.

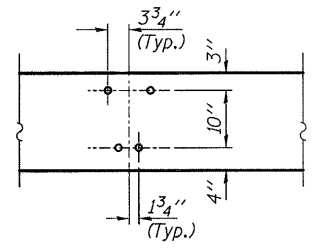
PD-1748-0D 10-1-08

**SUPERSTRUCTURE DETAILS
17" X 48" PPC DECK BEAM DETAILS
STRUCTURE NO. 097-3265**

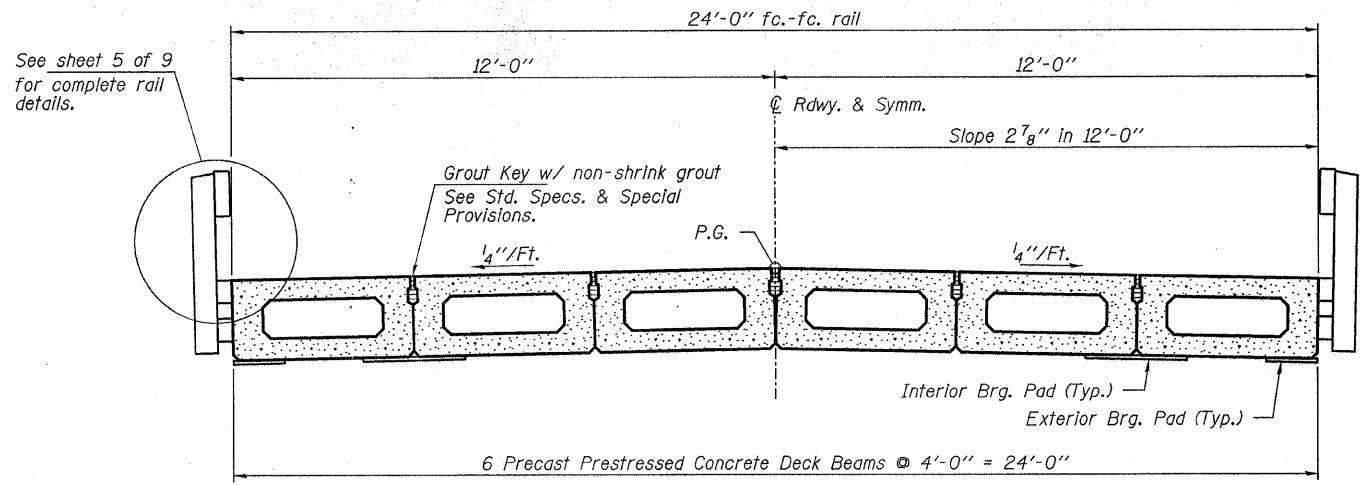
HAMPTON, LENZINI & RENWICK, INC. CIVIL & STRUCTURAL ENGINEERS LAND SURVEYORS 3086 STEVENSON DRIVE, SUITE 201 SPRINGFIELD, ILLINOIS 62703 (217) 546-3400 PROJECT NUMBER: 08.0256.130 DATE: 02/25/09	SHEET NO. 3	T.R.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	9 SHEETS	269	07-03119-00-BR	WHITE	12	6
EMMA ROAD DISTRICT			CONTRACT NO. 99370			
FED. ROAD DIST. NO.			ILLINOIS FED. AID PROJECT BROS-193(35)			



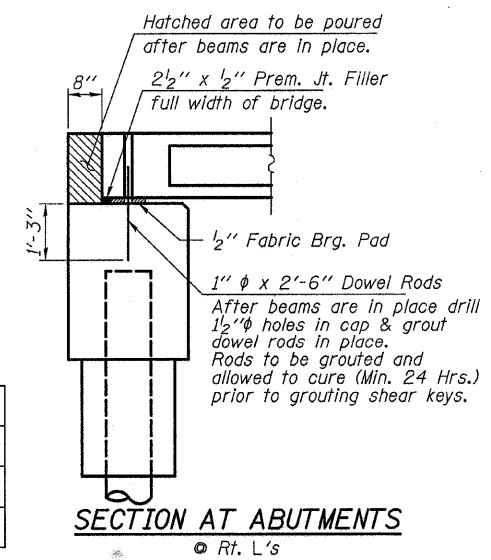
ELEVATION
Showing Rail Post Spaces
See sheet 5 of 9 for Railing Details.



DETAIL A



CROSS SECTION
See sheets 2 & 3 of 9 for Superstructure.

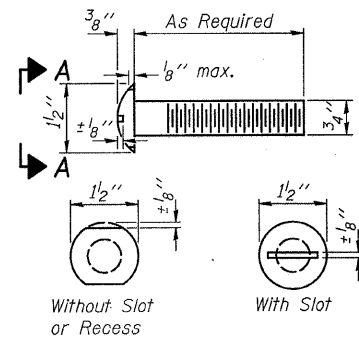


SECTION AT ABUTMENTS
© Rt. L's

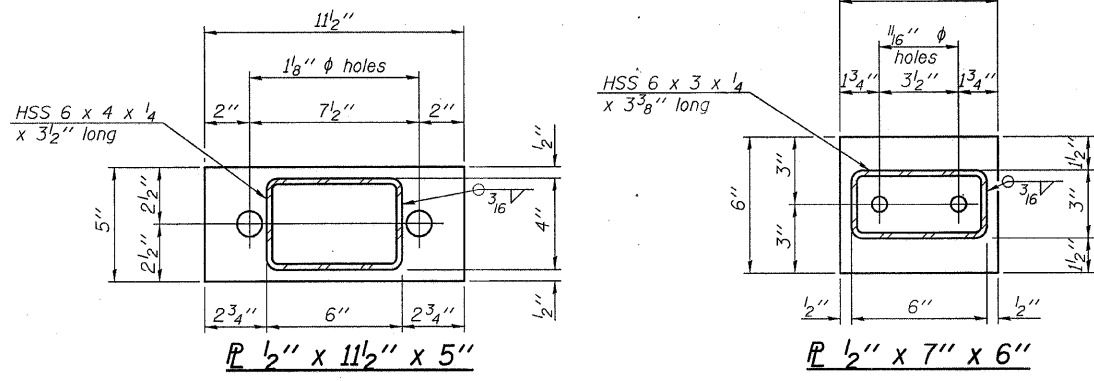
DESIGNED - A.S.L.
CHECKED - S.W.M.
DRAWN - D.A.B.
CHECKED - D.T.M.

SUPERSTRUCTURE DETAILS
STRUCTURE NO. 097-3265

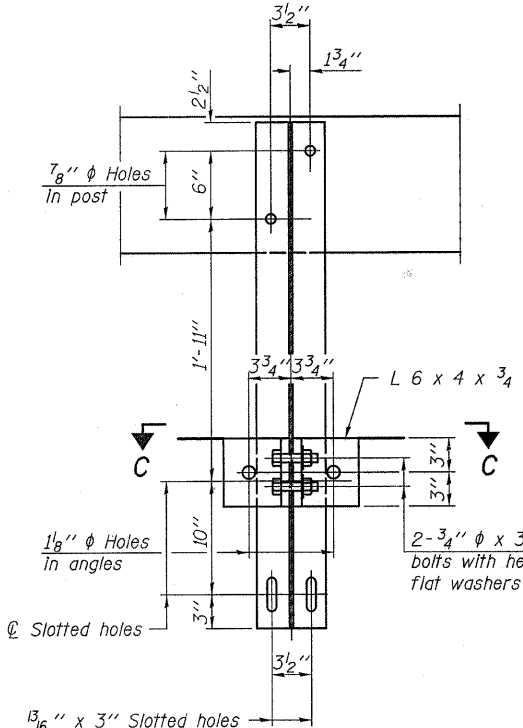
HAMPTON, LENZINI & RENWICK, INC. CIVIL & STRUCTURAL ENGINEERS LAND SURVEYORS HLR 3085 STEVENSON DRIVE, SUITE 201 SPRINGFIELD, ILLINOIS 62703 (217) 546-3400 PROJECT NUMBER: 08.0266.130 DATE: 02/26/09	SHEET NO. 4	T.R.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	9 SHEETS	269	07-03119-00-BR	WHITE	12	7
		EMMA ROAD DISTRICT		CONTRACT NO. 99370		
		FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT BROS-193(35)		



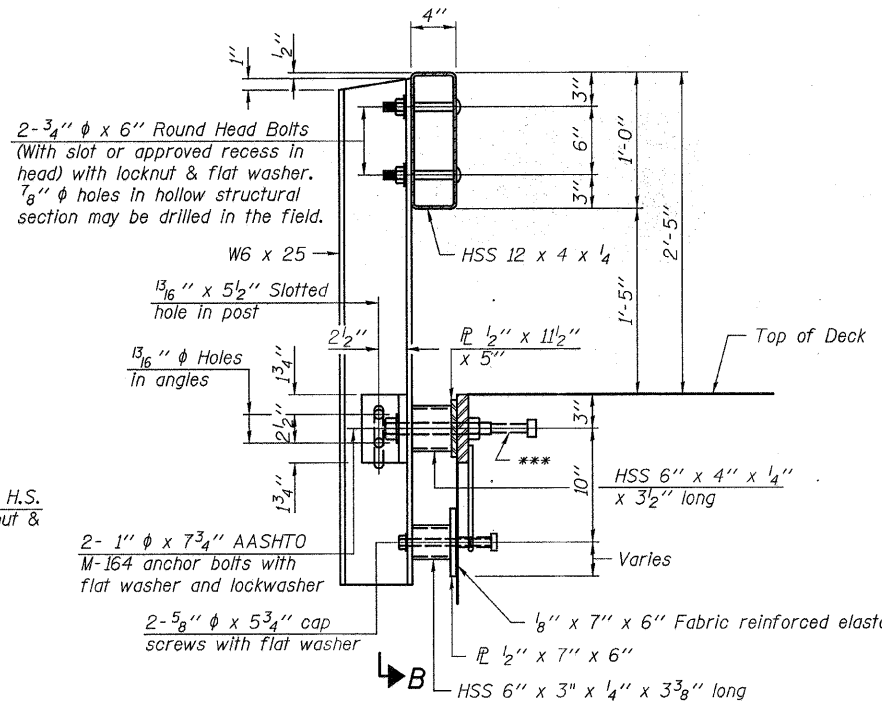
**VIEW A-A
ROUND HEAD BOLT**



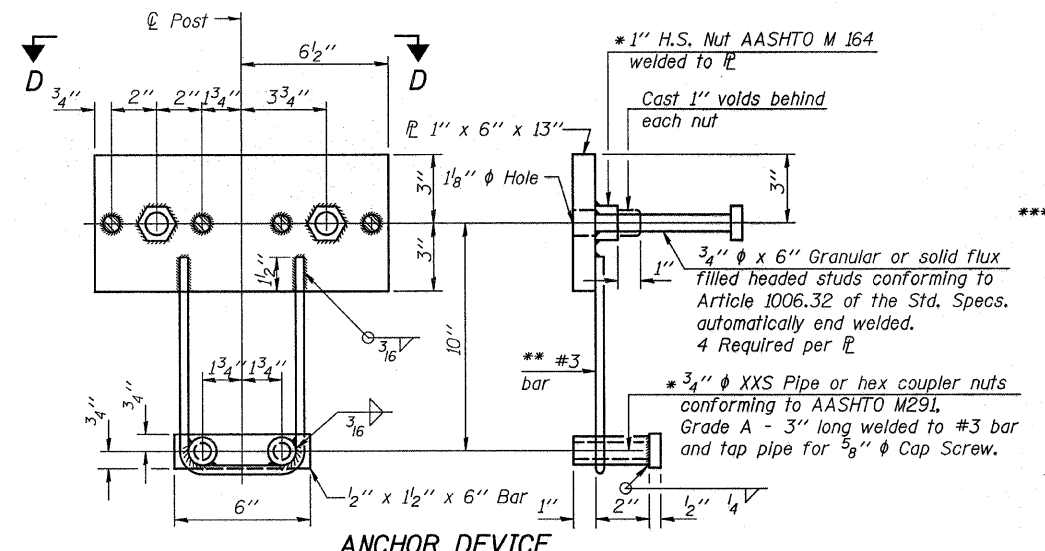
SECTION B-B **SECTION AT RAILING POST**



SECTION B-B

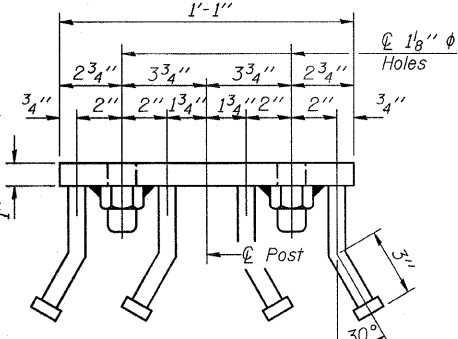


SECTION AT RAILING POST

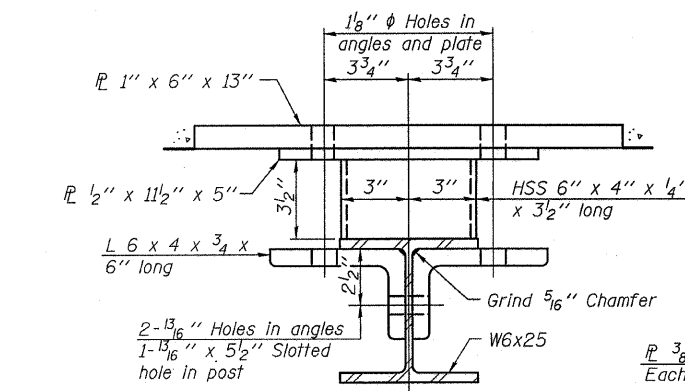


ANCHOR DEVICE

Notes:
All field drilled holes shall be coated with an approved zinc rich paint before erection.
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.
*** The studs of the anchor devices shall be placed below the top reinforcement bars and the outermost longitudinal reinforcement bar shall be placed directly above the studs of the rail post anchor device.

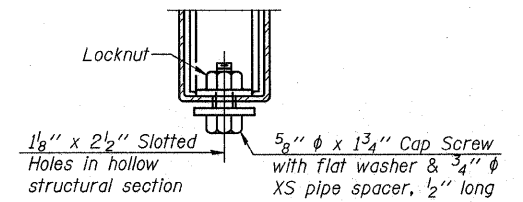


VIEW D-D

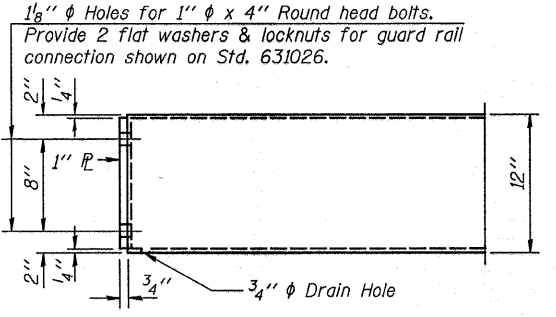


SECTION C-C

*** Whenever the lower insert assemblies interfere with strand locations, the #3 bars shall be cut and adjusted in order to allow raising or lowering of the lower inserts. Maximum adjustment not to exceed 1/2".



**RAIL SPLICE CONNECTION
AT EXPANSION JT.**

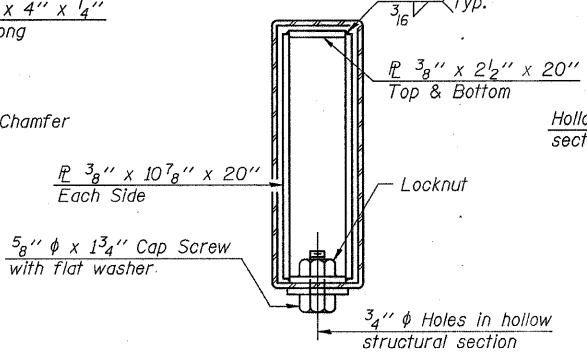


END OF RAIL DETAILS

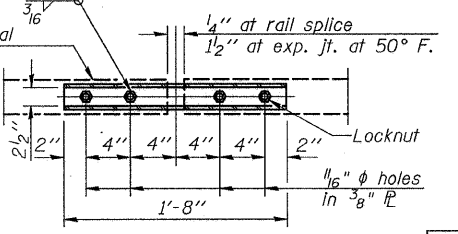
BILL OF MATERIAL

Item	Unit	Quantity
Steel Railing, Type S-1	Foot	88

**STEEL RAILING, TYPE S-1
STRUCTURE NO. 097-3265**



SECTIONS AT RAIL SPLICE

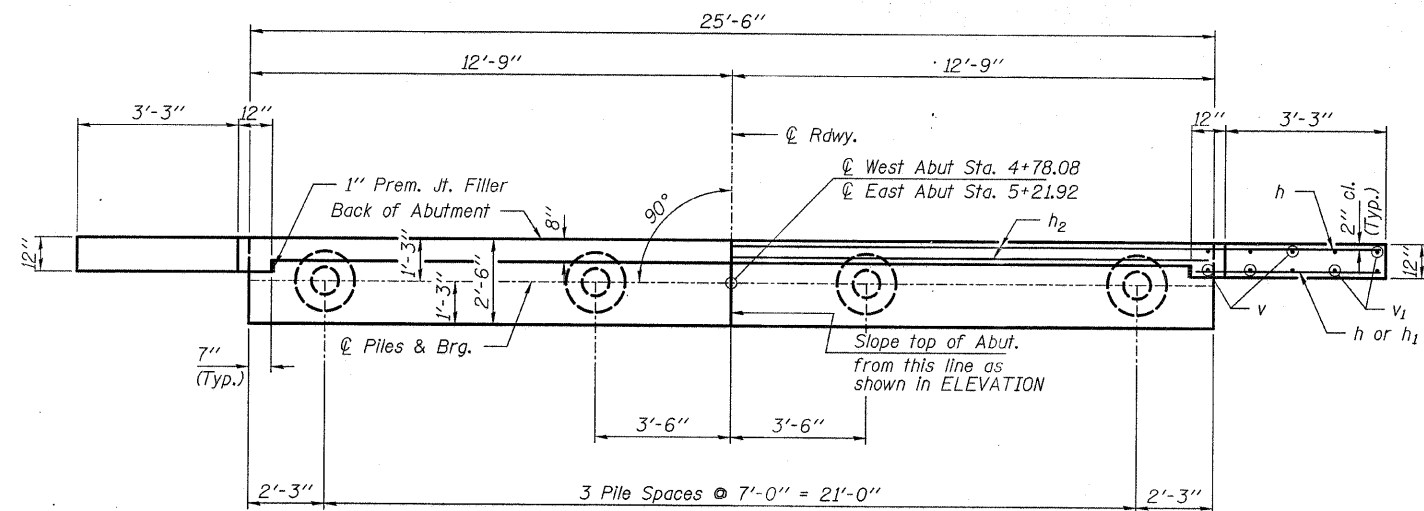


**PLAN-BOTT. SPLICE P
TYPICAL**

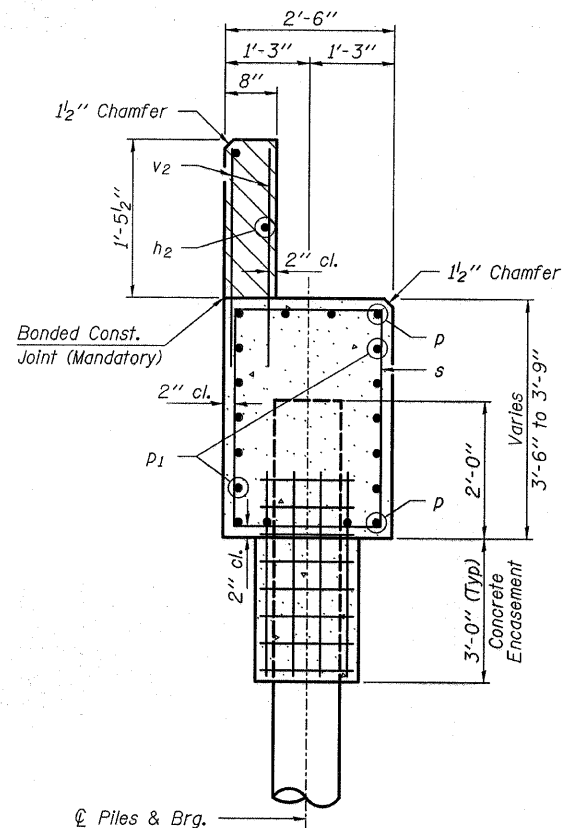
DESIGNED - A.S.L.
CHECKED - S.W.M.
DRAWN - D.A.B.
CHECKED - D.T.M.

R-23A 10-1-08 (10'-9" Maximum Post Spacing)

HAMPTON, LENZINI & RENWICK, INC. CIVIL & STRUCTURAL ENGINEERS LAND SURVEYORS HLR 3085 STEVENSON DRIVE, SUITE 201 SPRINGFIELD, ILLINOIS 62703 (217) 546-3400 PROJECT NUMBER: 08.0256.130 DATE: 02/25/09	SHEET NO. 5	T.R.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	9 SHEETS	269	07-03119-00-BR	WHITE	12	8
		EMMA ROAD DISTRICT		CONTRACT NO. 99370		
		FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT BROS-193(35)		

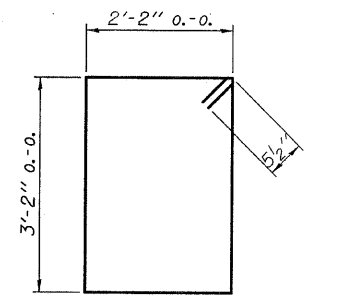


PLAN

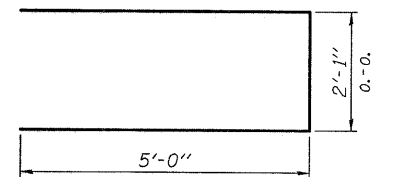


SECTION A-A

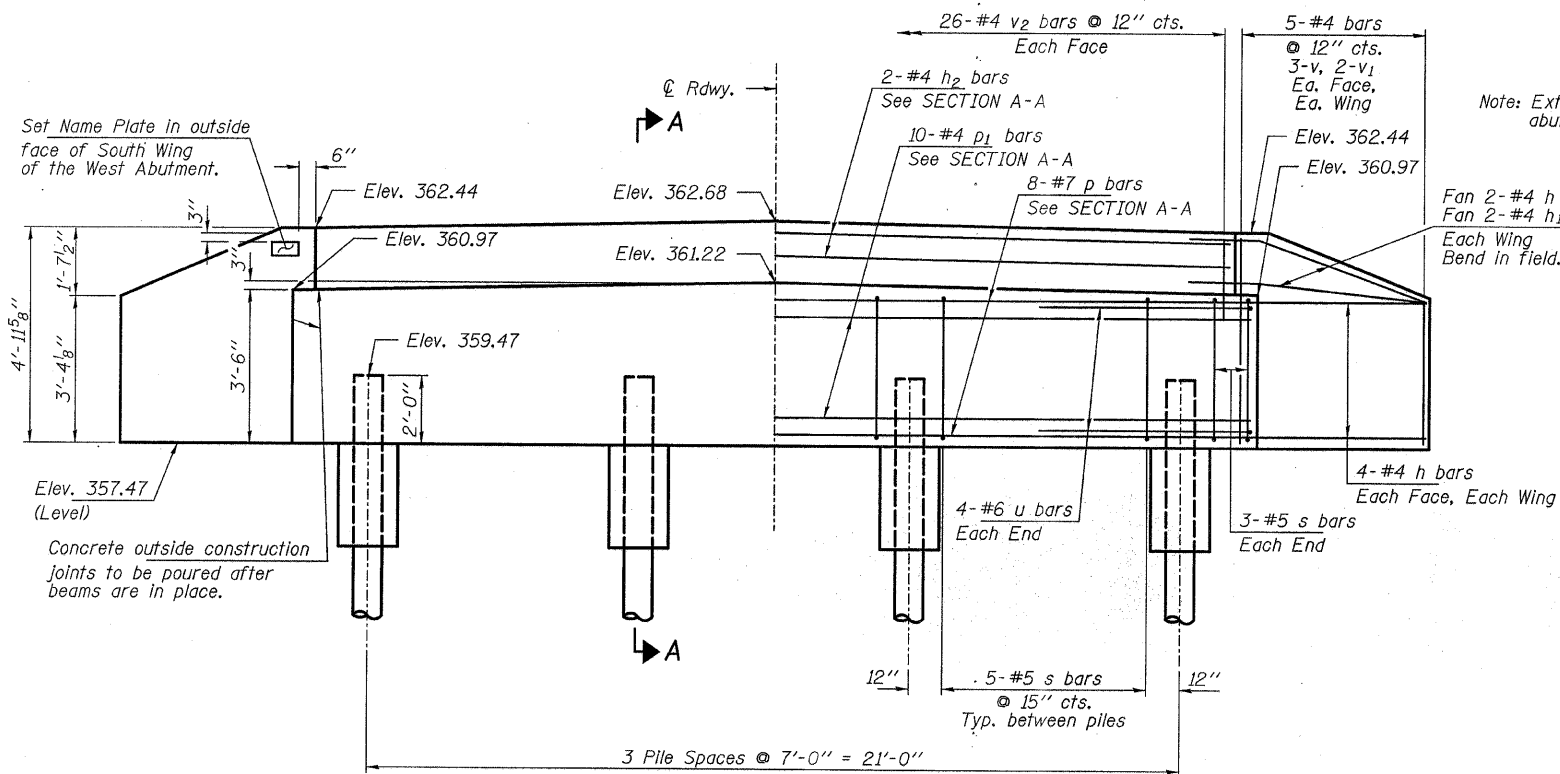
Hatched area to be poured after beams are in place.



BAR s



BAR u



ELEVATION

Note: Extend h bars into abutment cap.

Fan 2-#4 h bars (B.F.)
Fan 2-#4 h1 bars (F.F.)
Each Wing Bend in field.

PILE DATA

Type: Metal Shell Piles 12" X 0.250"
No. Req'd. (2 Abuts.): 8
Factored Resistance Available (Rf): 144 Kips/Pile
Nominal Required Bearing (Rn): 288 Kips/Pile
Est. Length: 55 Ft./Pile (W. Abut.)
45 Ft./Pile (E. Abut.)

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

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

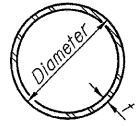
BILL OF MATERIAL - 2 ABUTS.

BAR	NO.	SIZE	LENGTH	SHAPE
h	40	#4	5'-6"	—
h1	8	#4	4'-0"	—
h2	4	#4	25'-2"	—
p	16	#7	25'-2"	—
p1	20	#4	25'-2"	—
s	42	#5	11'-7"	□
u	16	#6	12'-1"	—
v	24	#4	4'-1"	—
v1	16	#4	3'-1"	—
v2	104	#4	2'-4"	—
Concrete Structures			Cu. Yd.	21.0
Concrete Encasement			Cu. Yd.	3.6
Reinforcement Bars			Pound	2,450
Metal Shell Piles 12" X 0.250"			Foot	345
Test Pile Metal Shells			Each	1
Name Plates			Each	1

DESIGNED -	A.S.L.
CHECKED -	S.W.M.
DRAWN -	D.A.B.
CHECKED -	D.T.M.

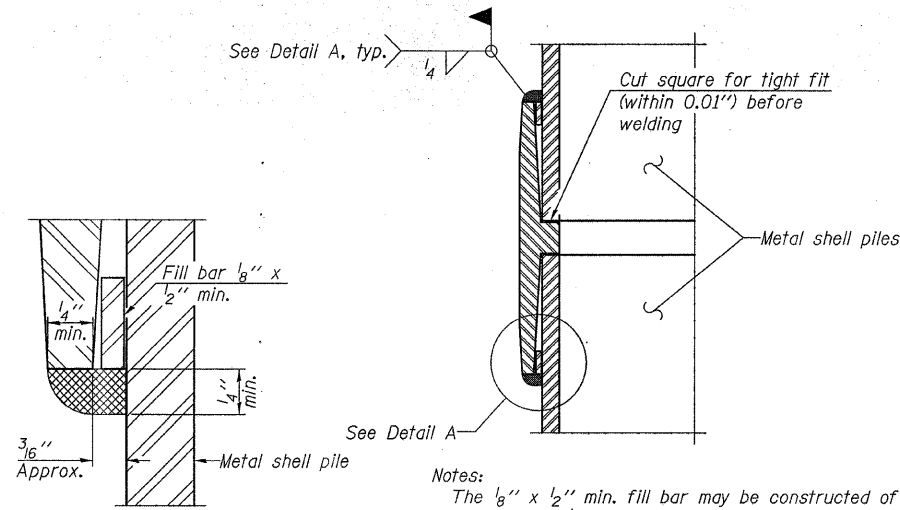
**ABUTMENTS
STRUCTURE NO. 097-3265**

HAMPTON, LENZINI & RENWICK, INC. CIVIL & STRUCTURAL ENGINEERS LAND SURVEYORS 3085 STEVENSON DRIVE, SUITE 201 SPRINGFIELD, ILLINOIS 62703 (217) 548-3400	SHEET NO. 6 9 SHEETS	T.R.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		269	07-03119-00-BR	WHITE	12	9
PROJECT NUMBER: 08.0256.130		DATE: 02/25/09		EMMA ROAD DISTRICT		CONTRACT NO. 99370
		FED. ROAD DIST. NO.		ILLINOIS FED. AID PROJECT BROS-193(35)		



METAL SHELL PILE TABLE

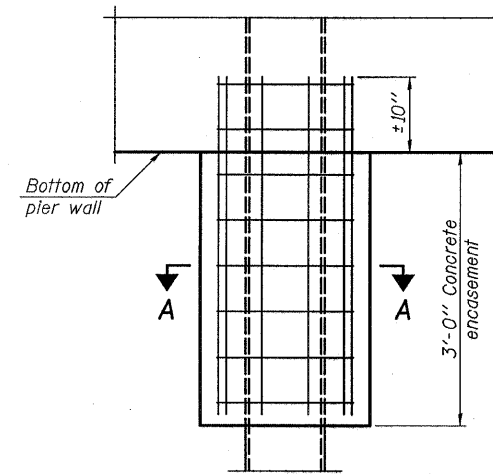
Designation and outside diameter	Wall thickness <i>t</i>	Weight per foot (Lbs./ft.)	Inside volume (yd. ³ /ft.)
PP12	0.179"	22.60	0.0274
PP12	0.250"	31.37	0.0267
PP14	0.250"	36.71	0.0368
PP14	0.312"	45.61	0.0361



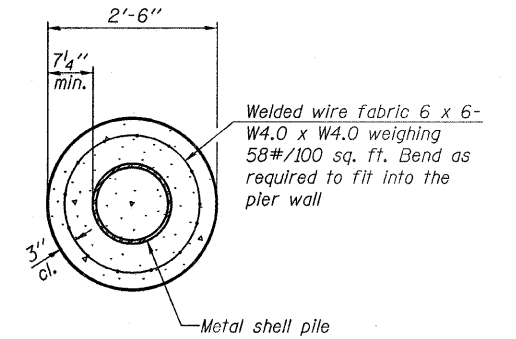
DETAIL A

Notes:
 The 1/8" x 1/2" min. fill bar may be constructed of 2 bars with a 1/8" max. gap between them.
 Pile segments shall be driven to solid contact with splicer before welding.

WELDED COMMERCIAL SPLICE



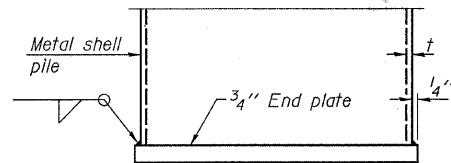
ELEVATION



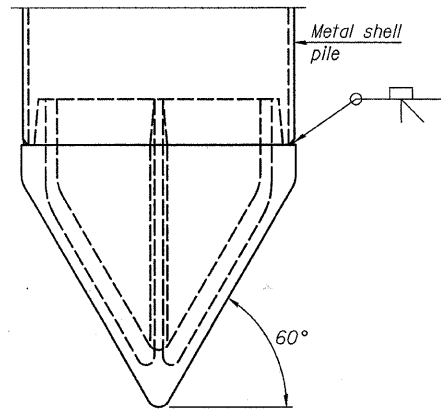
SECTION A-A

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

CONCRETE ENCASEMENT AT PIERS



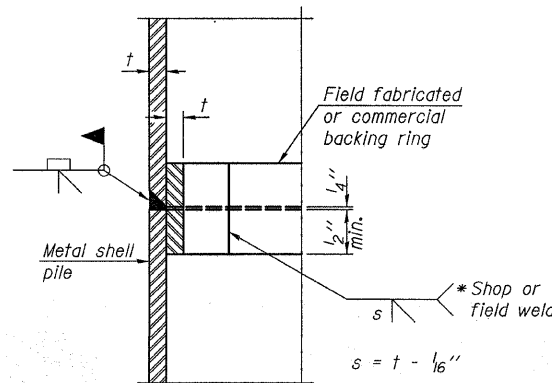
END PLATE ATTACHMENT



METAL SHELL PILE SHOE ATTACHMENT

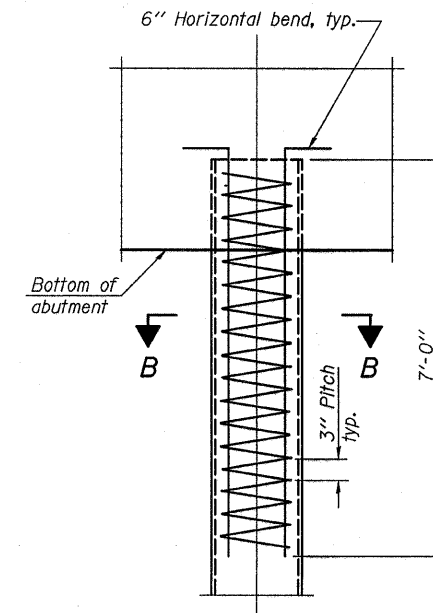
(See Note A)

Note A:
 When called for on the plans, the Contractor shall furnish metal shell pile shoes consisting of a single piece conical pile point as shown. The pile shoes shall be cast in one piece steel according to either ASTM A 148 Grade 90-60 or AASHTO M 103 Grade 65-35 and shall provide full bearing over the full circumference of the metal shell pile. The pile shoe shall have tapered leads to assure proper alignment and fitting and shall be secured to the pile with a circumferential weld.

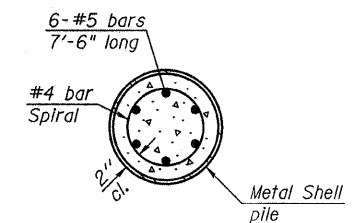


COMPLETE PENETRATION WELD SPLICE

* Field fabricated backing ring may be made from pile shell by removing segment to allow reducing circumference and vertically rejoin with partial joint penetration weld.



ELEVATION



SECTION B-B

METAL SHELL REINFORCEMENT AT ABUTMENTS

DESIGNED - A.S.L.
CHECKED - S.W.M.
DRAWN - D.A.B.
CHECKED - D.T.M.

F-MS

10-1-08

Note:
 The metal shell piles shall be according to ASTM A 252 Grade 3.

HAMPTON, LENZINI & RENWICK, INC. CIVIL & STRUCTURAL ENGINEERS LAND SURVEYORS HLR 3085 STEVENSON DRIVE, SUITE 201 SPRINGFIELD, ILLINOIS 62703 (217) 548-3400 PROJECT NUMBER: 08.0256.130 DATE: 02/25/09	SHEET NO. 7 9 SHEETS	T.R.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		269	07-03119-00-BR	WHITE	12	10
		EMMA ROAD DISTRICT		CONTRACT NO. 99370		
		FED. ROAD DIST. NO.	ILLINOIS FED. AID PROJECT BR05-193(35)			

**METAL SHELL PILE DETAILS
 STRUCTURE NO. 097-3265**

