

INDEX OF SHEETS

SHEET NO.	DESCRIPTION
1	TITLE SHEET & SUMMARY OF QUANTITIES
2	PLAN & PROFILE, TYPICAL SECTIONS, GENERAL NOTES & STONE RIPRAP DITCH DESIGN
3-4	ROADWAY CROSS SECTIONS
5-12	BRIDGE DESIGN

THE FOLLOWING STANDARDS ARE A PART OF THESE PLANS AND ARE INCLUDED IN THE PROPOSAL:

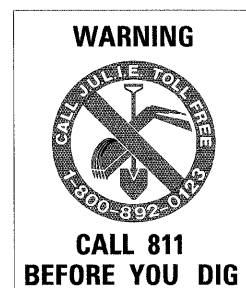
000001-06	STANDARD SYMBOLS, ABBREVIATIONS & PATTERNS
280001-06	TEMPORARY EROSION CONTROL SYSTEMS
701901-02	TRAFFIC CONTROL DEVICES
B.L.R. 21-9	TYPICAL APPLICATION OF TRAFFIC CONTROL DEVICES FOR CONSTRUCTION ON RURAL LOCAL HIGHWAYS
B.L.R. 22-7	TYPICAL APPLICATION OF TRAFFIC CONTROL DEVICES FOR CONSTRUCTION ON RURAL LOCAL HIGHWAYS (TWO-LANE TWO-WAY RURAL TRAFFIC) (ROAD CLOSED TO THRU TRAFFIC)

SUMMARY OF QUANTITIES

CODE NO.	ITEM	UNIT	QUANTITY
20200100	EARTH EXCAVATION	CU YD	279.00
20300100	CHANNEL EXCAVATION	CU YD	388.00
20400800	FURNISHED EXCAVATION	CU YD	631.00
28000305	TEMPORARY DITCH CHECKS	FOOT	28.00
28001000	AGGREGATE (EROSION CONTROL)	TON	13.00
28100807	STONE DUMPED RIPRAP, CLASS A4	TON	390.00
40200800	AGGREGATE SURFACE COURSE, TYPE B	TON	390.00
50100100	REMOVAL OF EXISTING STRUCTURES	EACH	1.00
50300225	CONCRETE STRUCTURES	CU YD	32.80
50300280	CONCRETE ENCASMENT	CU YD	3.50
50400505	PRECAST PRESTRESSED CONCRETE DECK BEAMS (27" DEPTH)	SQ FT	1680.00
50800105	REINFORCEMENT BARS	POUND	3290.00
Δ 50900205	STEEL RAILING, TYPE 'S1'	FOOT	135.00
51201400	FURNISHING STEEL PILES 10X42	FOOT	400.00
51202305	DRIVING PILES	FOOT	400.00
51500100	NAME PLATES	EACH	1.00
54201060	PIPE CULVERTS, CLASS D, TYPE 2 15"	FOOT	60.00
54205059	PIPE CULVERTS, SPECIAL 24"	FOOT	40.00
*67100100	MOBILIZATION	L SUM	1.00
*X2501000	SEEDING, CLASS 2 (SPECIAL)	ACRE	0.50
*XX008385	CONCRETE REMOVAL (SPECIAL)	EACH	1.00
*20068900	STONE LINED DITCH	TON	92.00

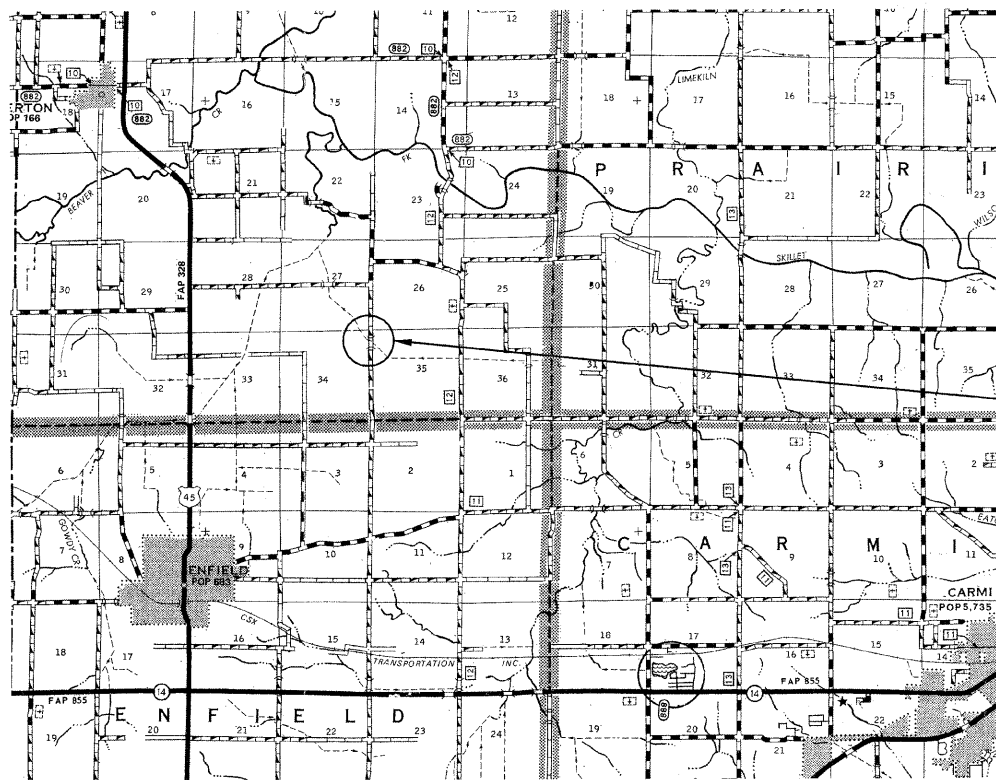
Δ SPECIALTY ITEMS

DESIGN DESIGNATION:
DESIGN SPEED: 30 MPH
HIGHWAY CLASS - LOCAL ROAD
EXISTING STRUCTURE NO.: 097-3057
PROPOSED STRUCTURE NO.: 097-3270
CURRENT A.D.T. = 50
CONTRACT NO. 99445



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

T.R. 112 WHITE COUNTY SECTION 09-09126-00-BR
PROJECT NO. BROS-193(051) JOB NO. C-99-537-09
CONTRACT # 99445 BROAD RUN



LAYOUT
APPROXIMATE SCALE 1 INCH = 1 MILE

GROSS LENGTH	600.00 FT	0.114 MILES
OMISSIONS	0.00 FT	0.000 MILES
NET LENGTH	600.00 FT	0.114 MILES

SECTION 09-09126-00-BR
BEGINS STATION 1+75

STATION 5+00, STRUCTURE NO. 097-3270
A 70' LONG SINGLE SPAN PRECAST PRESTRESSED
CONCRETE DECK BEAM BRIDGE (27" DEPTH),
24' ROADWAY, 0.00% GRADE, 45° LT. FWD. SKEW.

SECTION 09-09126-00-BR
ENDS STATION 7+75

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

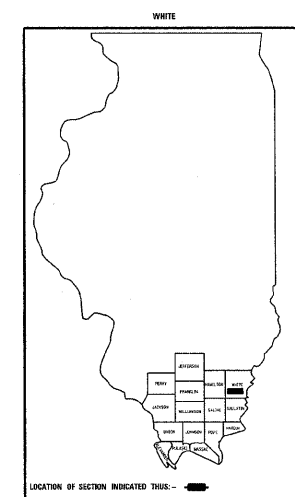
APPROVED 10/18/2011
Brian Ray
COUNTY ENGINEER

PASSED 11/1/2011
Dennis W. Hill
ENGINEER OF LOCAL ROADS AND STREETS

RELEASING FOR BID
BASED ON LIMITED
REVIEW: 11/1/2011
Omer M. Osman
OMER M. OSMAN, P.E.
ACTING DEPUTY DIRECTOR OF HIGHWAYS
REGION FIVE ENGINEER

TR	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
112	09-09126-00-BR	WHITE	12	1

FED. ROAD DIST. NO. 9 ILLINOIS FED. AID PROJECT
PROJECT# BROS-193(051) CONTRACT# 99445
JOB # C-99-537-09 BROAD RUN
LEC JOB # H0911006WH

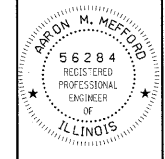


823 W. 3RD ST.
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LAND SURVEY &
PROFESSIONAL
ENGINEERING
CORPORATION
184-000887
(62-032435)(35-002769)



AARON M. MEFFORD
NAME
Aaron M. Mefford
SIGNATURE
10/18/11
DATE
11-30-13
EXPIRES

T.R. 112
OVER BROAD RUN
WHITE COUNTY, ILLINOIS

SHEET TITLE:
TITLE SHEET

SCALE:	VARES
BY:	AMM
DATE:	10/21/11
REV:	

1 OF 12 SHEETS
SHEET NO. 1

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, 2012.

THE WORK INVOLVED ON THIS SECTION CONSISTS OF THE REMOVAL OF THE EXISTING STRUCTURE, THE CONSTRUCTION OF A 70 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.

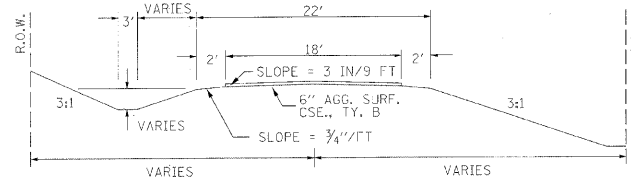
IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO CONTACT ALL THE UTILITIES, AFFECTING THE PROJECT, PRIOR TO CONSTRUCTION.

NOTE: CONSTRUCTION TRANSITION
STA. 1+75 TO STA 2+25
STA 7+25 TO STA 7+75

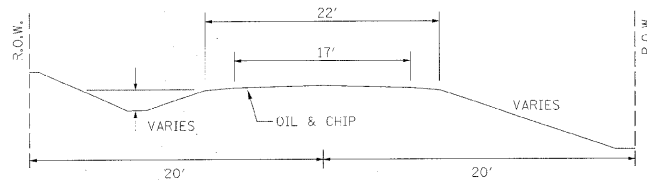
ALL QUANTITIES ARE INCLUDED IN THE PROPOSAL

TR	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
112	09-09126-00-BR	WHITE	12	2
FED. ROAD DIST. NO. 9		ILLINOIS		BROAD RUN
PROJECT # BROS-1930501		CONTRACT # 99445		
323 W. 3RD ST. P.O. BOX 160 MT. CARMEL, IL 62863				
PHONE: (618)-262-8651 FAX: (618)-263-3327				
405 W. STATE ST SUITE 1 PRINCETON, IN 47670				
PHONE: (812)-386-7611 FAX: (812)-385-2812				

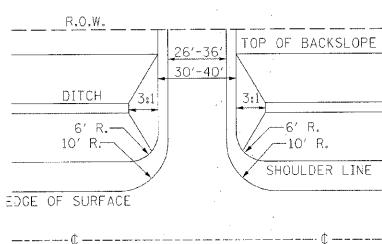
TYPICAL CROSS SECTION PROPOSED



TYPICAL CROSS SECTION EXISTING



FIELD ENTRANCE DETAIL



NOTE: CONSTRUCT SPECIAL DITCH

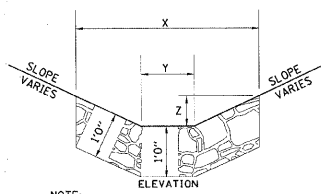
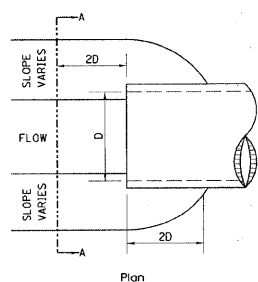
STA 2+00 TO STA 4+75 LT
STA 2+00 TO STA 4+32 RT
STA 5+70 TO STA 7+50 LT
STA 5+25 TO STA 7+50 RT

NOTE: CONSTRUCT STONE LINED DITCH

STA 4+25 TO STA 4+75 LT (0.62 TON/LIN FT)
STA 4+17 TO STA 4+32 RT (0.62 TON/LIN FT)
STA 5+70 TO STA 6+20 LT (0.62 TON/LIN FT)
STA 5+25 TO STA 5+59 RT (0.62 TON/LIN FT)
92 TON STONE LINED DITCH.

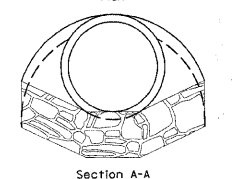
SEE STONE LINED DITCH DESIGN.

STONE LINED DITCH DESIGN

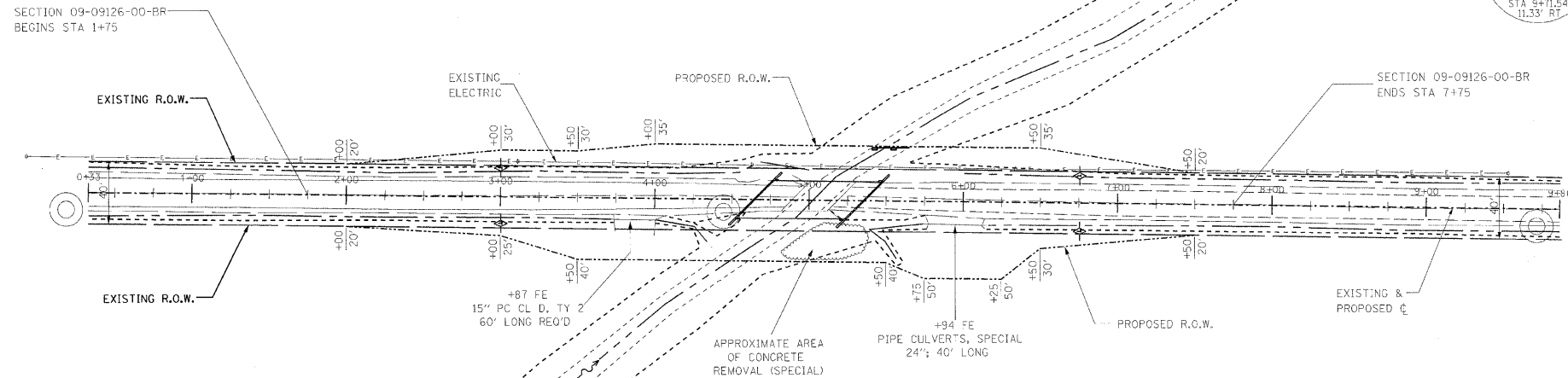
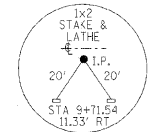
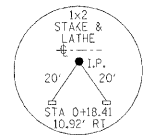


NOTE:

BOTTOM OF DITCH	SLOPE		
2 FT	1 1/2:1	2:1	3:1
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 LINED DITCH-SEE SPECIAL PROVISIONS.

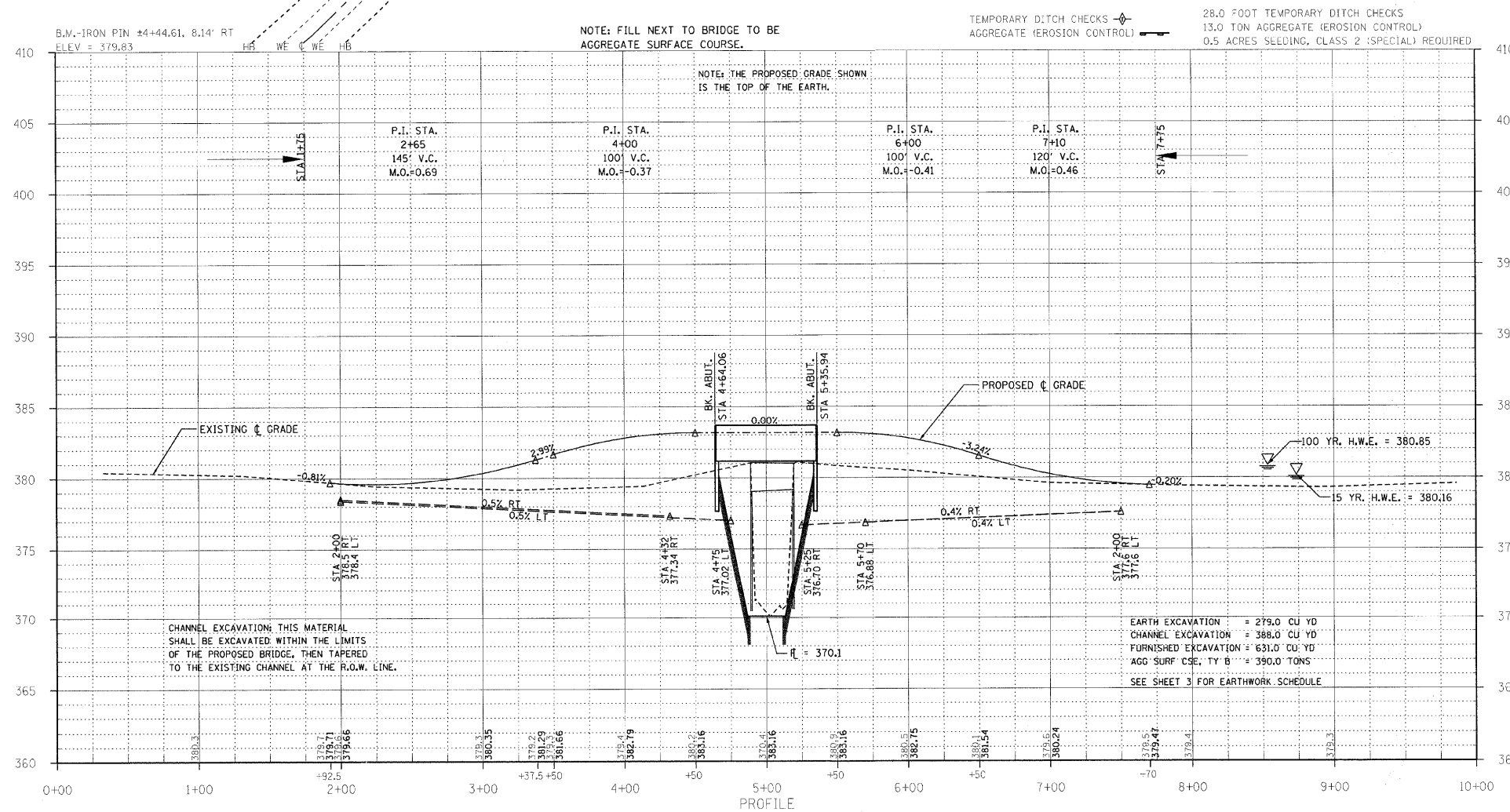


EXISTING BRIDGE STA 5+06.8; STRUCTURE NUMBER: 097-3057
22' LONG SINGLE SPAN CONCRETE DECK BEAM BRIDGE WITH WOOD CAPS, WOOD MUDWALLS, AND WOODEN PILING.

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

PROPOSED STRUCTURE: NO. 097-3270, STA 5+00,
A 70' LONG SINGLE SPAN P.P.C.D.B. BRIDGE WITH 27" DEPTH BEAMS, SPILL THROUGH TYPE ABUTMENTS, 24" WIDTH, 45° LT. FWD SKEW.

SEE SHEETS 5-12 FOR THE DESIGN AND BILL OF MATERIALS.



NOTE: FILL NEXT TO BRIDGE TO BE AGGREGATE SURFACE COURSE.

TEMPORARY DITCH CHECKS
AGGREGATE (EROSION CONTROL)

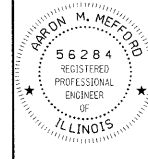
28.0 FOOT TEMPORARY DITCH CHECKS
13.0 TON AGGREGATE (EROSION CONTROL)
0.5 ACRES SEEDING, CLASS 2 (SPECIAL) REQUIRED

CHANNEL EXCAVATION: THIS MATERIAL SHALL BE EXCAVATED WITHIN THE LIMITS OF THE PROPOSED BRIDGE, THEN TAPERED TO THE EXISTING CHANNEL AT THE R.O.W. LINE.

EARTH EXCAVATION = 279.0 CU YD
CHANNEL EXCAVATION = 388.0 CU YD
FURNISHED EXCAVATION = 631.0 CU YD
AGG SURF CSE, TY B = 390.0 TONS
SEE SHEET 3 FOR EARTHWORK SCHEDULE



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PROFESSIONAL
ENGINEERING
CORPORATION



AARON M. MEFFORD
NAME
SIGNATURE
10-15-11
DATE
11-30-13
EXPIRES

T.R. 112
OVER BROAD RUN
WHITE COUNTY, ILLINOIS

SHEET TITLE:

PLAN & PROFILE

SCALE: VARIES

BY: AMM

DATE: 10/11

REV:

2 OF 12
SHEETS

SHEET NO.

2

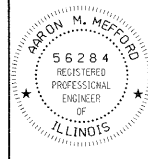
TR	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
112	09-09126-00-BR	WHITE	12	3
FED. ROAD DIST. NO. 9 ILLINOIS		FED. AID PROJECT		
PROJECT # BROS-193(051)		CONTRACT # 99445		
JOB NO. C-99-537-09		BROAD RUN		
LEC JOB # H091066WH				

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AARON M. MEFFORD
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DATE
10-18-11
11-30-13
EXPIRES

T.R. 112
OVER BROAD RUN
WHITE COUNTY, ILLINOIS

SHEET TITLE:

CROSS-SECTIONS

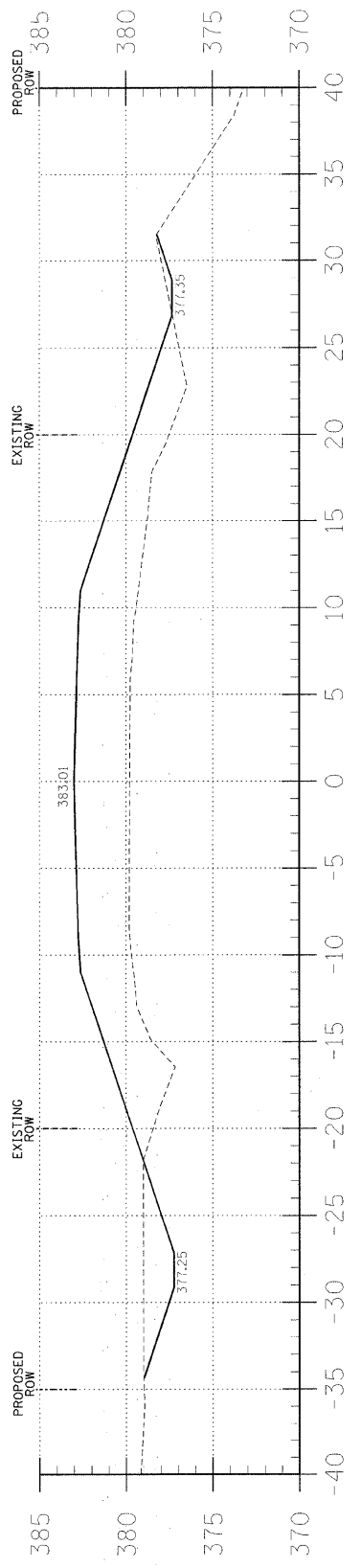
SCALE: 1" = 5'
BY: AMM
DATE: 10/2/11
REV:

3 OF 12
SHEETS

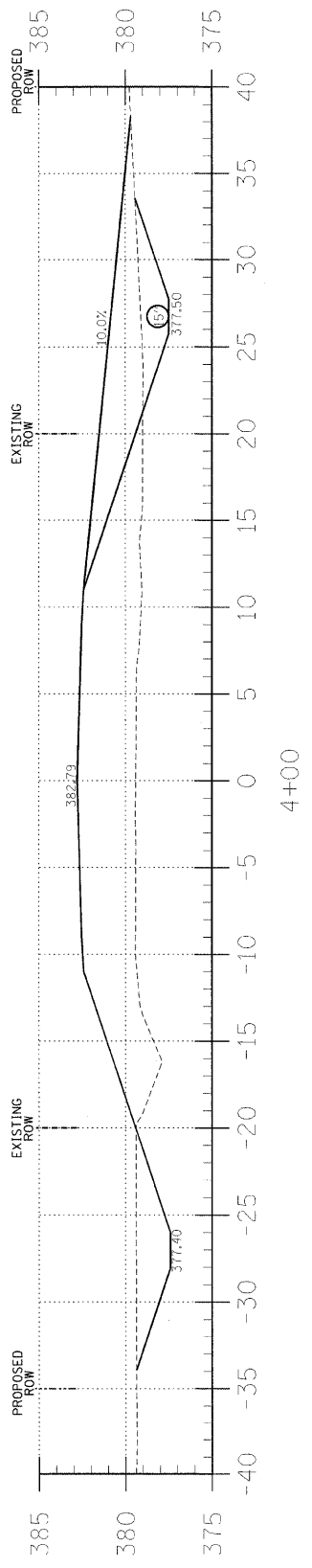
SHEET NO.
3

EARTHWORK SCHEDULE

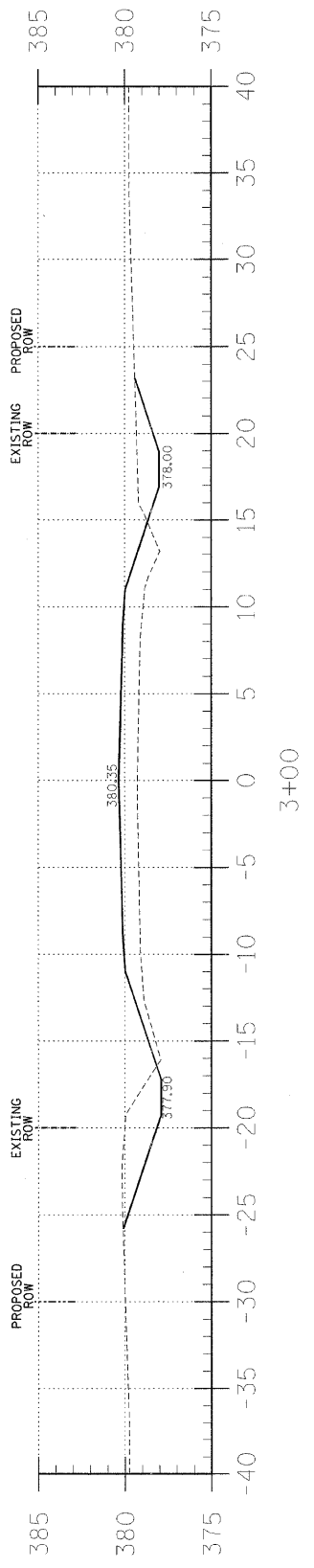
LOCATION	EARTH EXCAVATION	CHANNEL EXCAVATION	ESTIMATED UNSUITABLE MATERIAL	SUITABLE MATERIAL ADJUSTED FOR SHRINKAGE	EMBANKMENT	EARTHWORK BALANCE WASTE (+) OR SHORTAGE (-)
	CUBIC YARD	CUBIC YARD	CUBIC YARD	CUBIC YARD	CUBIC YARD	CUBIC YARD
STA 0+00 TO 4+64.1	152.3	0.0	0.0	114.2	499.0	-384.8
STA 4+64.1 TO 5+35.9	0.0	387.8	193.9	145.4	0.0	+145.4
STA 5+35.9 TO 10+00	126.9	0.0	0.0	95.2	364.7	-269.5
2 FIELD ENTRANCES	0.0	0.0	0.0	0.0	122.2	-122.2
TOTAL	279.2	387.8	193.9	354.8	985.9	-631.1



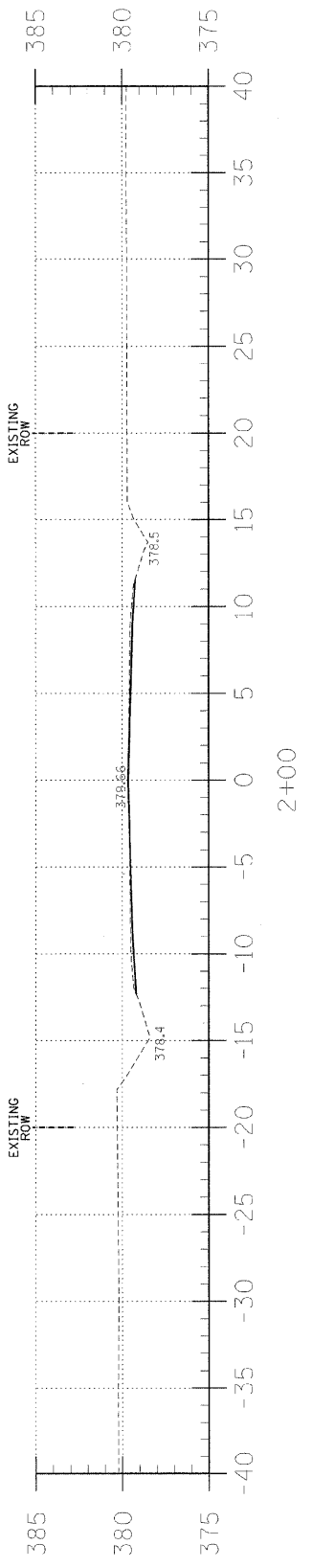
C = 13.7
F = 127.0



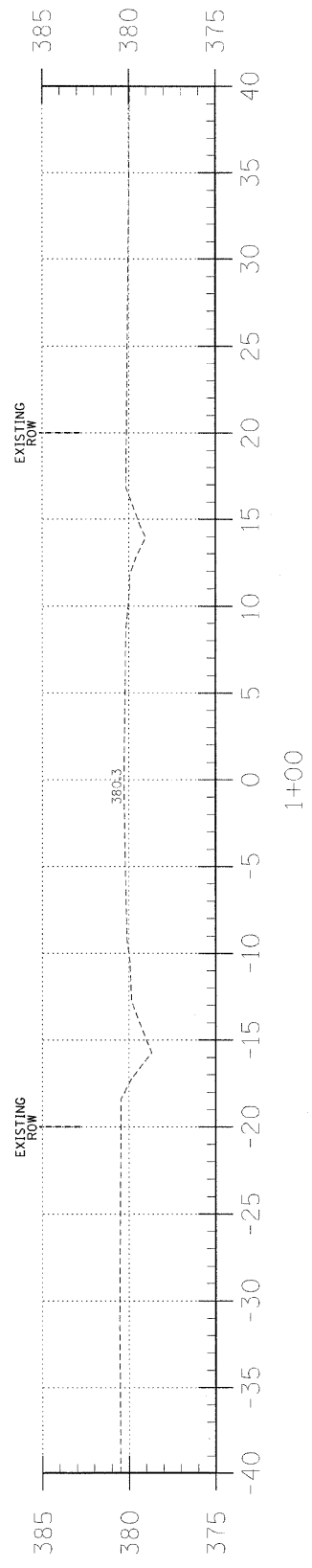
C = 27.0
F = 105.8



C = 17.0
F = 29.3



C = 1.7
F = 0.0



4+30

4+00

3+00

2+00

1+00

TR	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
112	09-09126-00-BR	WHITE	12	4
FED. ROAD DIST. NO. 9 ILLINOIS		FED. AID PROJECT		
PROJECT # BROS-193(051)		CONTRACT # 99445		
JOB NO. C-99-537-09		BROAD RUN		

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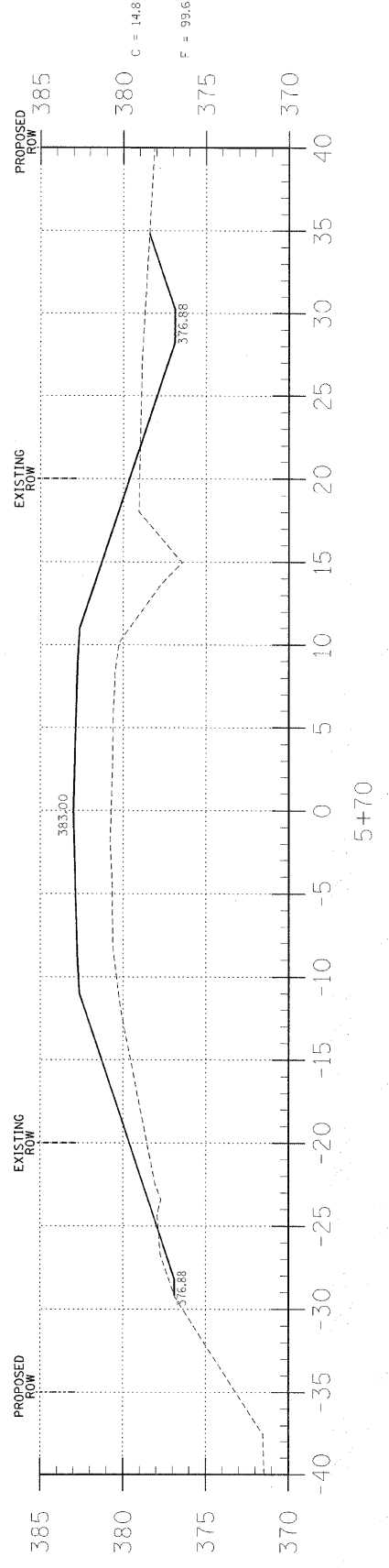
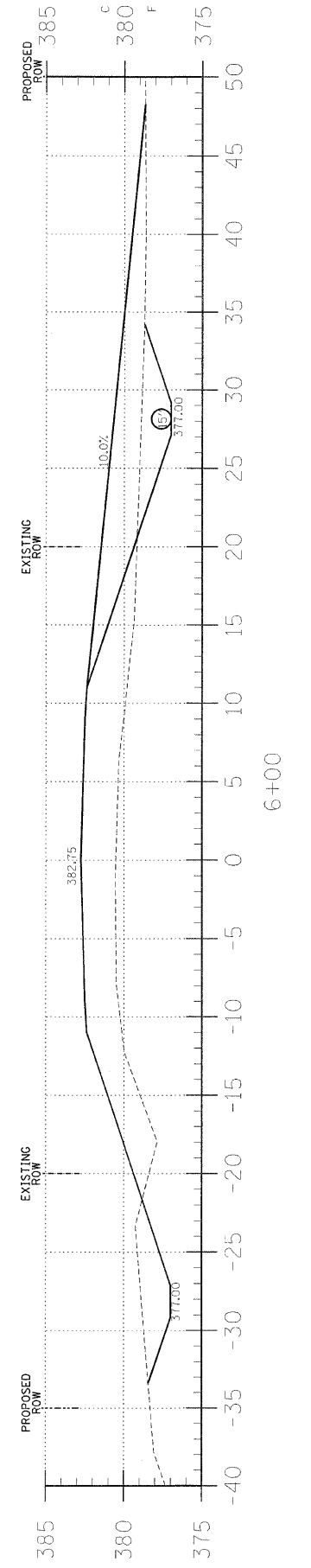
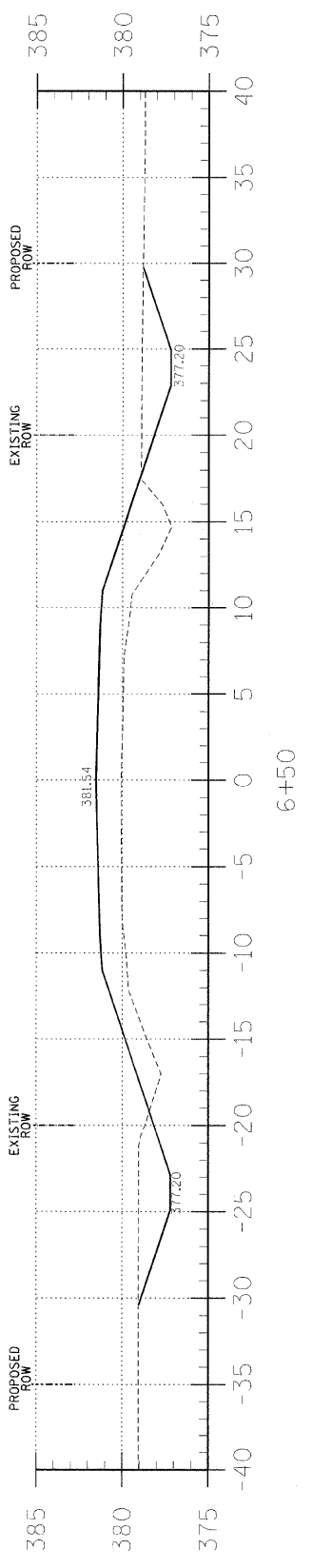
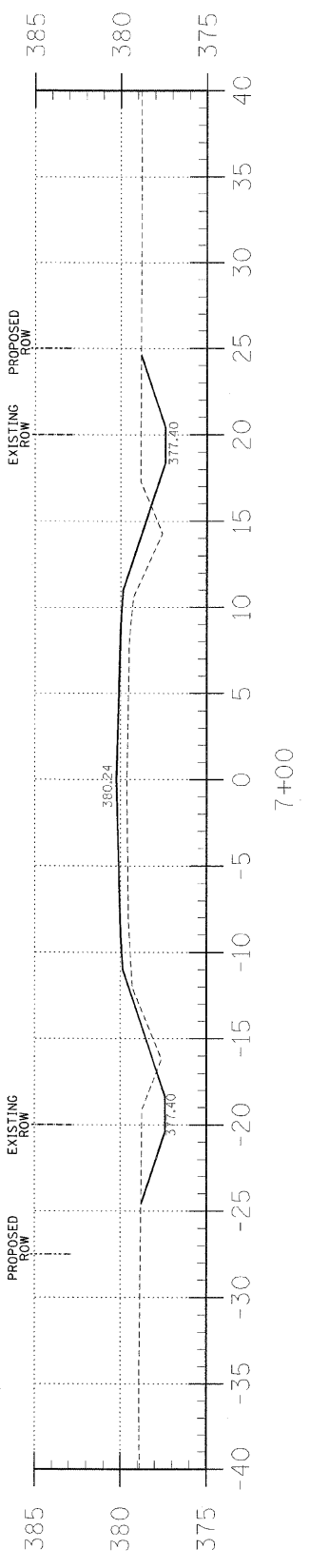
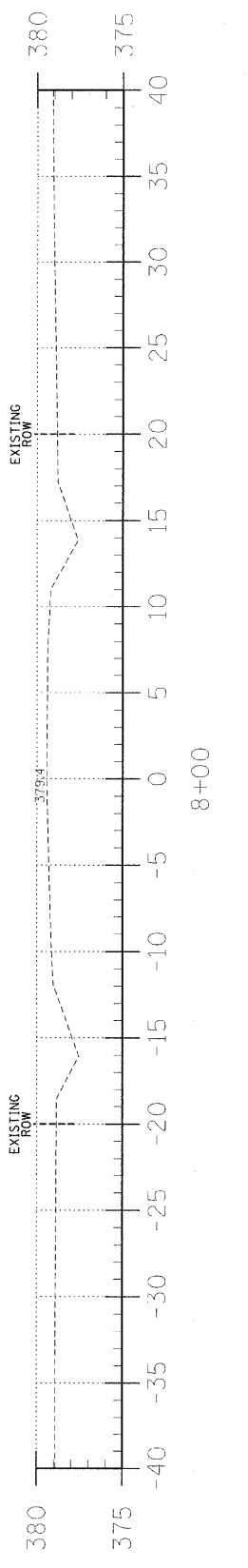
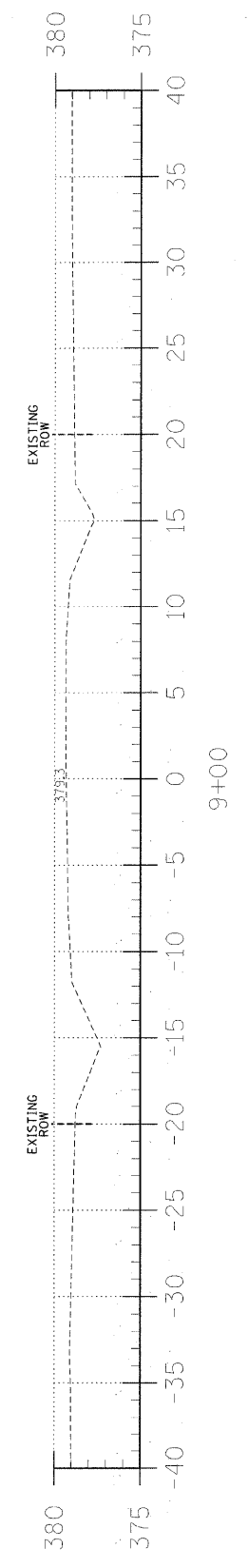
PROFESSIONAL DESIGN FIRM
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(62-032435)(35-002769)



AARON M. MEFFORD
NAME
Aaron M. Mefford
SIGNATURE
10-18-11
DATE
11-30-13
EXPIRES

T.R. 112
OVER BROAD RUN
WHITE COUNTY, ILLINOIS

SHEET TITLE:
CROSS-SECTIONS
SCALE: 1" = 5'
BY: AMM
DATE: 10/2/11
REV:
4 OF 12 SHEETS
SHEET NO. 4

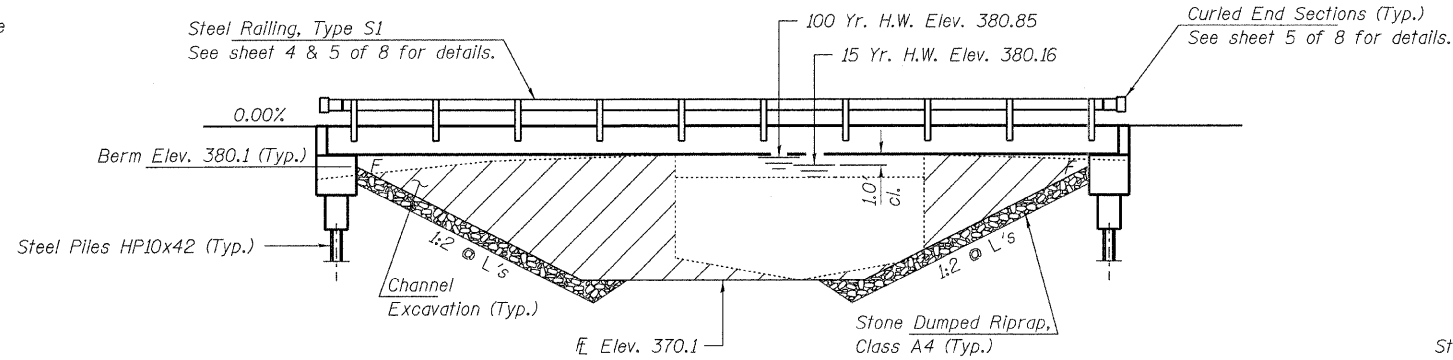


BENCHMARK: Iron Pin, Sta. +4+44.61, 8.14' Rt., Elev. 379.83

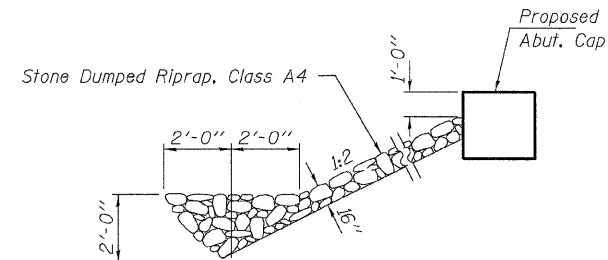
EXISTING STRUCTURE NO. 097-3057: Sta. 5+06.8; A single span Precast concrete channel beam bridge on wood caps, wood mudwalls, and timber piling.

Structure closed to traffic.

No Salvage

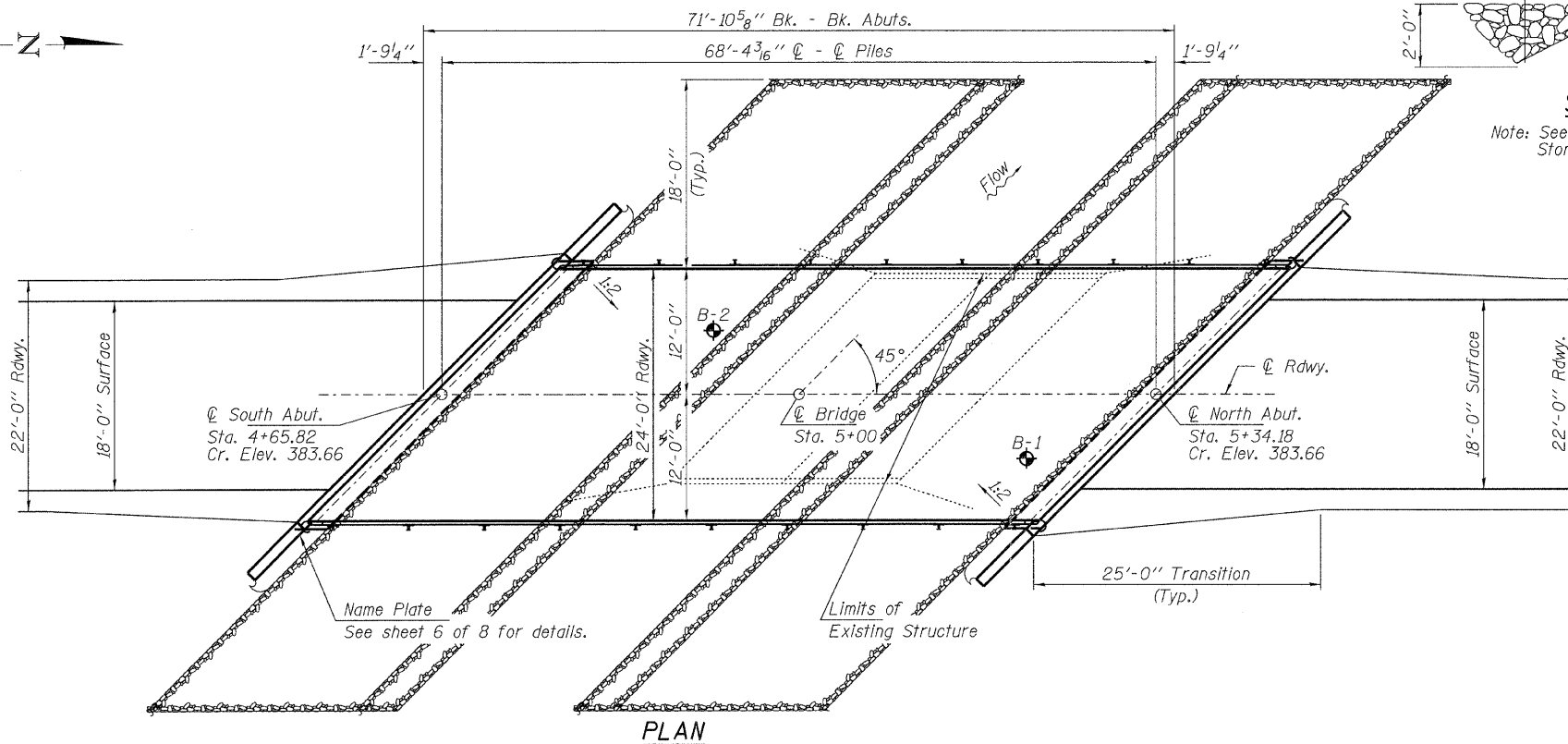
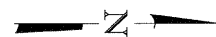


ELEVATION

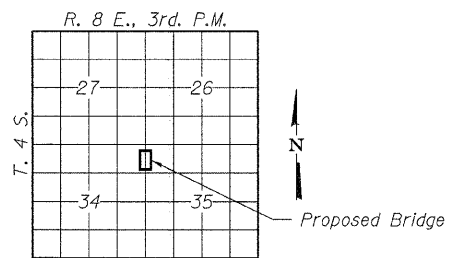


SECTION A-A

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



PLAN



LOCATION SKETCH

INDEX OF STRUCTURE SHEETS

1. General Plan & Elevation
2. 27" x 48" PPC Deck Beam
- 3.-4. 27" x 48" PPC Deck Beam Details
5. Steel Railing, Type S-1
6. Abutments
7. HP Pile Details
8. Borings

BUILT 2011 BY
WHITE COUNTY
SEC. 09-09126-00-BR
MILL SHOALS ROAD DISTRICT
STR. NO. 097-3270
LOADING HL-93

NAME PLATE
See Std. 515001

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 ($1/2"$ low lax. strands)
 $f_{pbt} = 201,960$ psi ($1/2"$ 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.

SEISMIC DATA

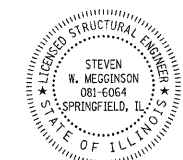
Seismic Performance Zone (SPZ) = 3
Design Spectral Acceleration at 1.0 sec. (S_{D1}) = 0.355g
Design Spectral Acceleration at 0.2 sec. (S_{D5}) = 0.839g
Soil Site Class = D

WATERWAY INFORMATION

Drainage Area = 4.15 Sq. Mi.		Existing Low Grade Elev. 379.2 @ Sta. 3+25		Proposed Low Grade Elev. 379.3 @ Sta. 9+00		
Flood	Freq. Yr.	Q C.F.S.	Opening Sq. Ft. Exist. Prop.	Natural H.W.E. Exist. Prop.	Head - Ft. Exist. Prop.	Headwater El. Exist. Prop.
Design	15	1380	217 332.6	380.16 380.16	- 0.00	- 380.16
Base	100	2350	217 365.3	380.85 380.85	0.23 0.03	381.08 380.88
Max. Calc.	500					

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 10/14/11
ILLINOIS STRUCTURAL NO. 081-6064



Expires 11-30-2012

TOTAL BILL OF MATERIAL

ITEM	UNIT	SUPER	SUB	TOTAL
Channel Excavation	Cu. Yd.			388
Stone Dumped Riprap, Class A4	Ton			390
Removal of Existing Structures	Each			1
Concrete Structures	Cu. Yd.		32.8	32.8
Concrete Encasement	Cu. Yd.		3.5	3.5
Precast Prestressed Concrete Deck Beams (27" Depth)	Sq. Ft.	1,680		1,680
Reinforcement Bars	Pound		3,290	3,290
Steel Railing, Type S1	Foot	135		135
Furnishing Steel Piles HP10x42	Foot		400	400
Driving Piles	Foot		400	400
Name Plates	Each		1	1

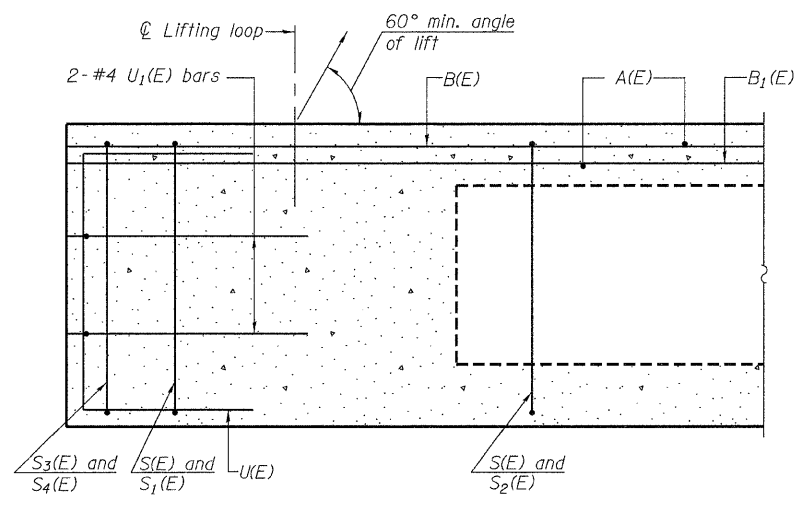
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HAMPTON, LENZINI AND RENWICK, INC.		CHECKED - S.W.M.	REVISED -
3038 STEVENSON DRIVE, SUITE 201 SPRINGFIELD, ILLINOIS 62703	PLOT SCALE =	DRAWN - D.T.M.	REVISED -
ILLINOIS PROFESSIONAL DESIGN FIRM LS / PE / SE CORP. 18430099	PLOT DATE = 10/14/2011	CHECKED - S.W.M.	REVISED -

STATE OF ILLINOIS
WHITE COUNTY HIGHWAY DEPARTMENT

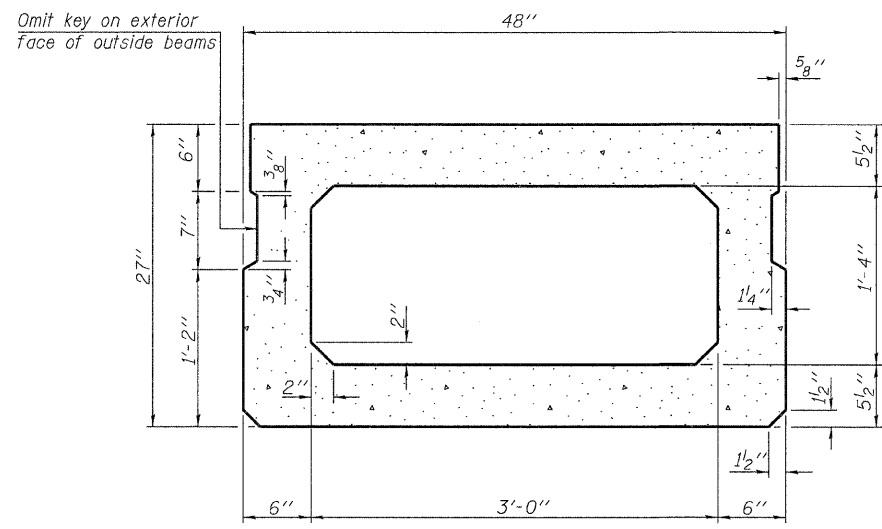
GENERAL PLAN & ELEVATION
STRUCTURE NO. 097-3270

SHEET NO. 1 OF 8 SHEETS

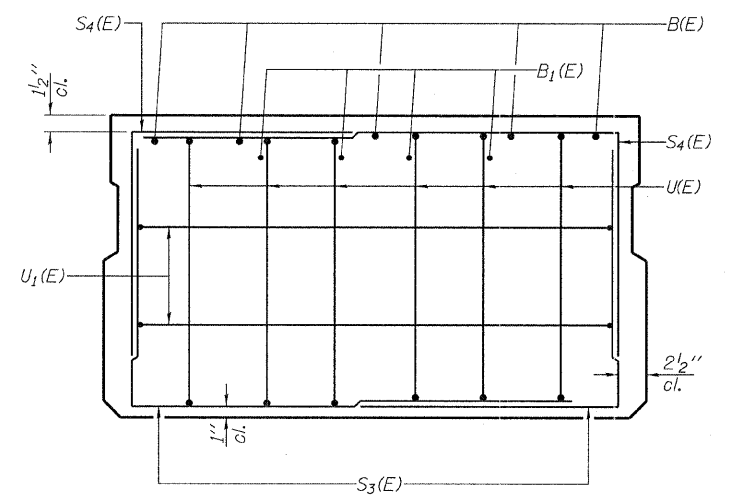
T.R.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
112	09-09126-00-BR	WHITE	12	5
MILL SHOALS ROAD DISTRICT			CONTRACT NO. 99445	
ILLINOIS FED. AID PROJECT				



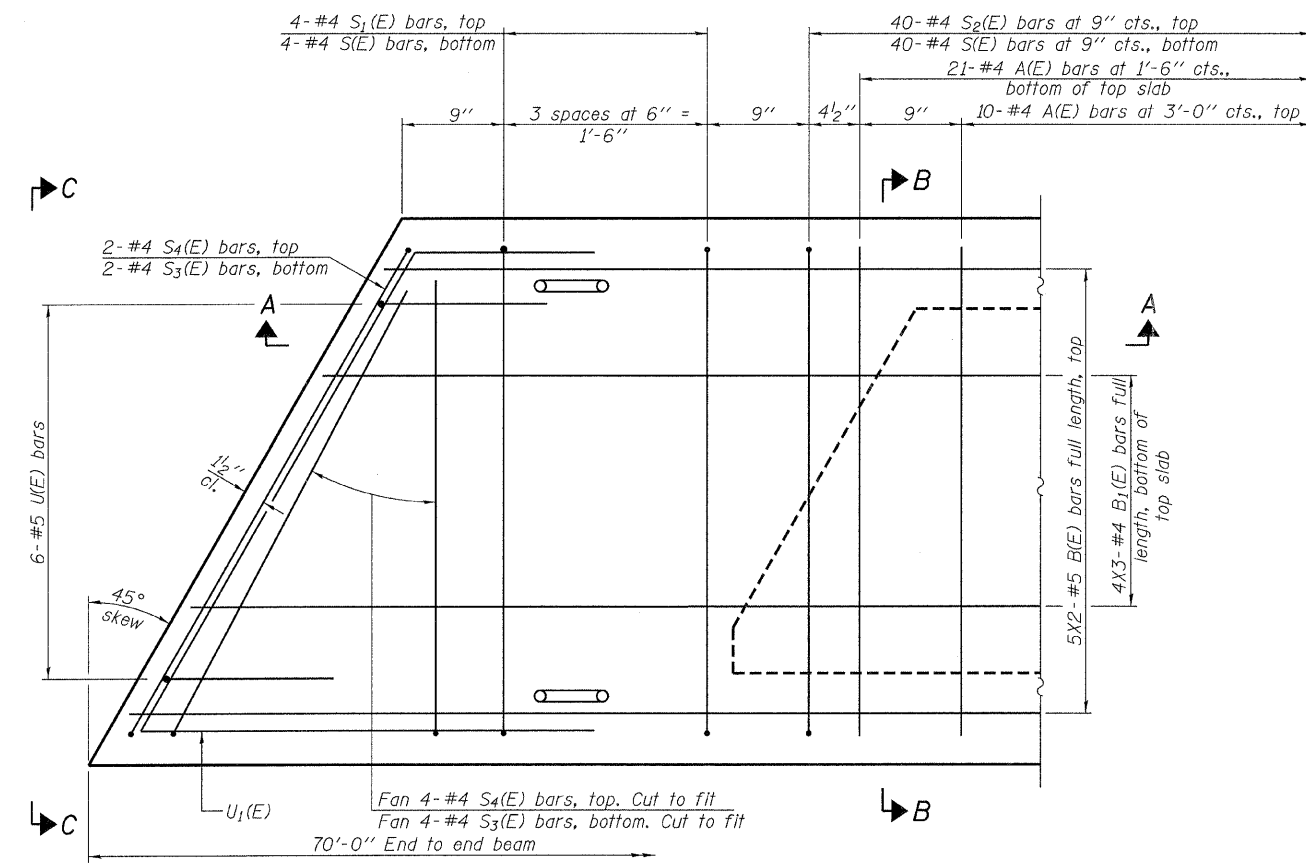
SECTION A-A



SECTION B-B
(Showing dimensions)

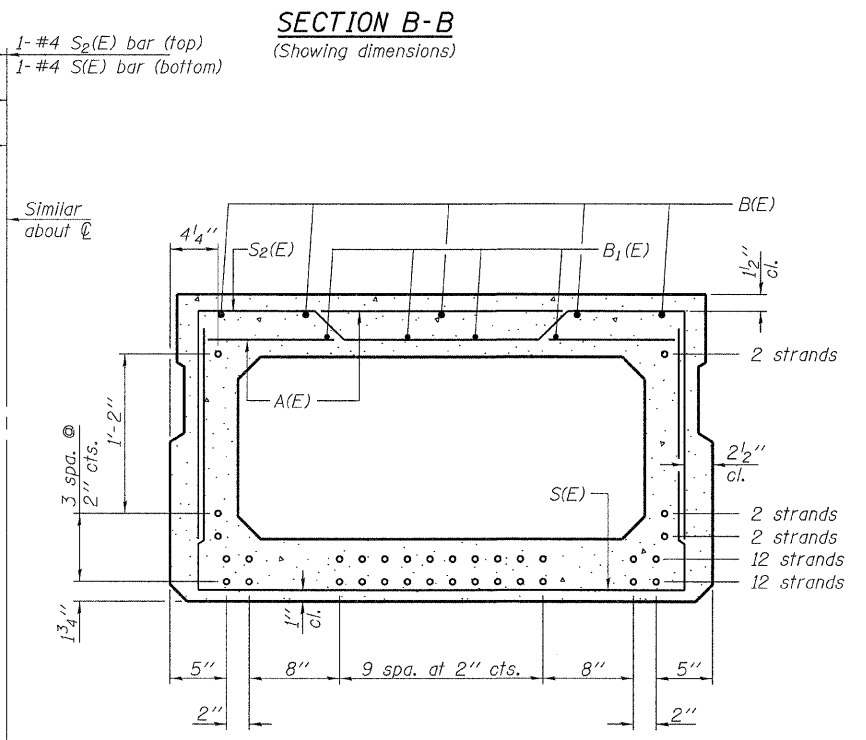


VIEW C-C



PLAN VIEW

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



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)	62	#4	3'-7"	—
B(E)	10	#5	36'-1"	—
B1(E)	12	#4	24'-7"	—
S(E)	89	#4	7'-5"	┌
S1(E)	8	#4	6'-11"	┌
S2(E)	81	#4	7'-2"	┌
S3(E)	12	#4	5'-5"	┌
S4(E)	12	#4	5'-2"	┌
U(E)	12	#5	4'-6"	┌
U1(E)	4	#4	11'-0"	┌

Note: See sheets 3 & 4 of 8 for additional details and Bill of Material.

MINIMUM BAR LAP
#4 bar = 2'-0"
#5 bar = 2'-6"

PD-2748-L 7-1-10

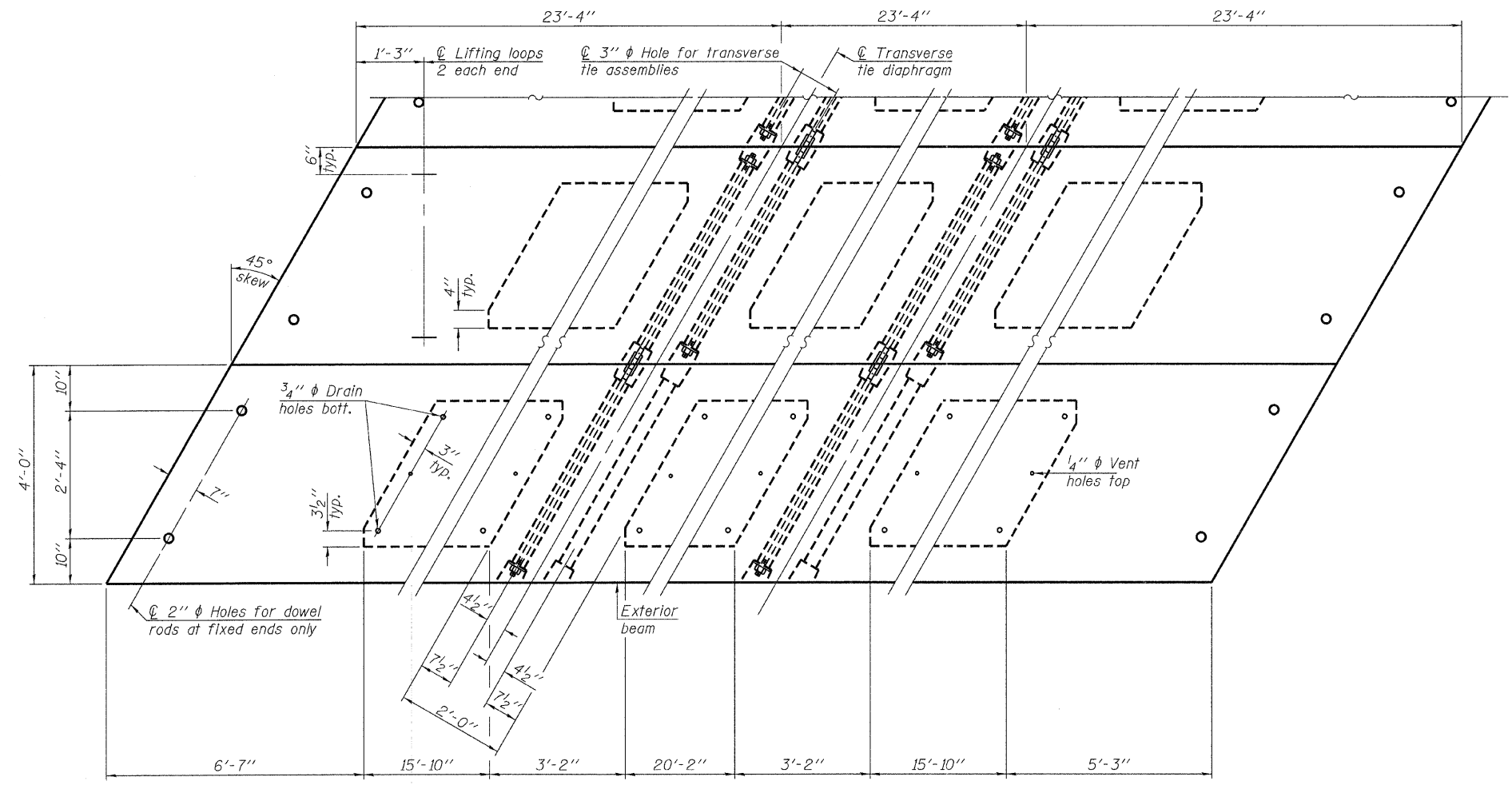
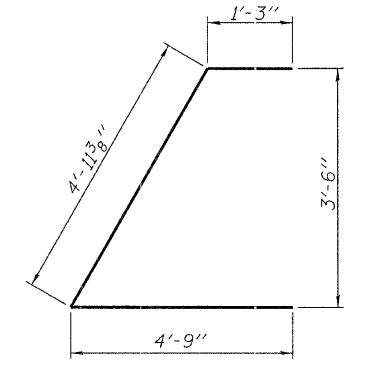
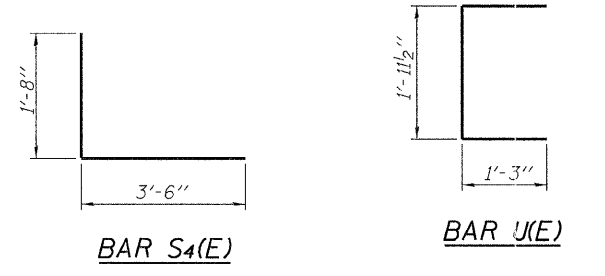
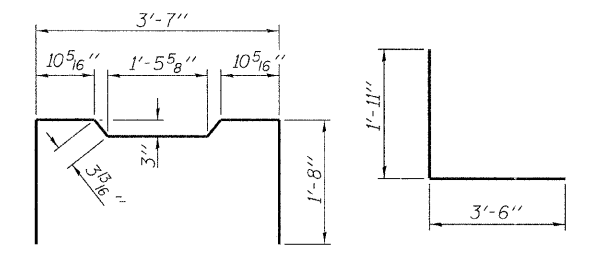
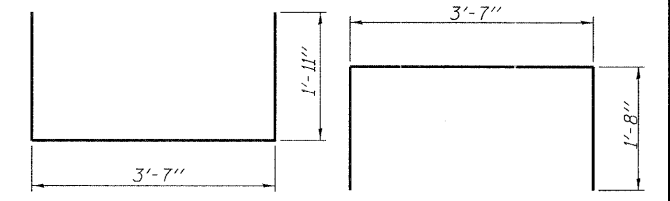
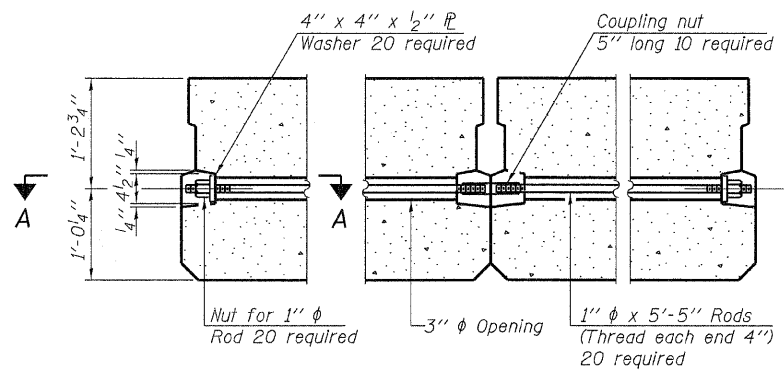
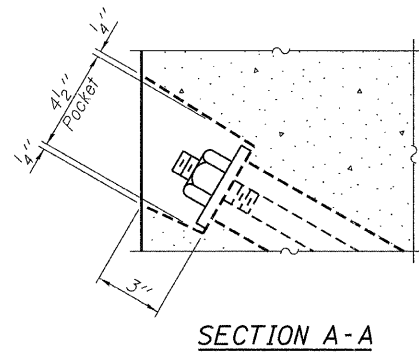
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3805 STEVENSON DRIVE, SUITE 201 SPRINGFIELD, ILLINOIS 62781	PLOT SCALE =	DRAWN - D.T.M.	REVISED -
ILLINOIS PROFESSIONAL DESIGN FIRM LS / PE / SE CORP. 184-000859	PLOT DATE = 10/7/2011	CHECKED - S.W.M.	REVISED -

STATE OF ILLINOIS
WHITE COUNTY HIGHWAY DEPARTMENT

27" x 48" PPC DECK BEAM
STRUCTURE NO. 097-3270

SHEET NO. 2 OF 8 SHEETS

T.R.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
112	09-09126-00-BR	WHITE	12	6
MILL SHOALS ROAD DISTRICT			CONTRACT NO. 99445	
ILLINOIS FED. AID PROJECT				



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" 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 A 706, Grade 60. (See Special Provisions). Two 1/8" fabric adjusting shims of the dimensions of the exterior bearing pad shall be provided for each bearing pad location.

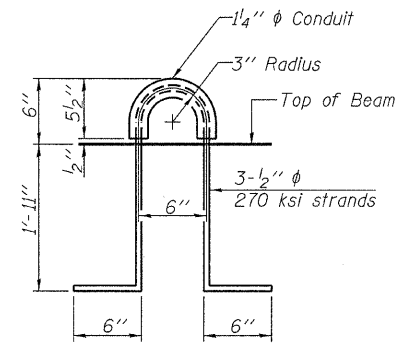
A minimum 2 1/2" ϕ lifting pin shall be used to engage the lifting loops during handling.

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.

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



LIFTING LOOP DETAIL

BILL OF MATERIAL

Precast Prestressed Conc. Deck Bms. (27" depth)	Sq. Ft.	1,680
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PD-2748-LD 7-1-10

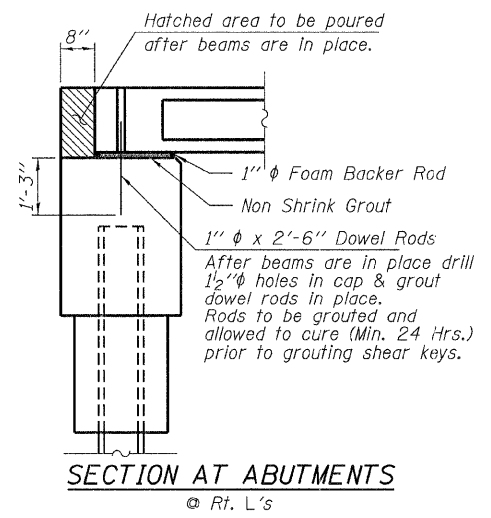
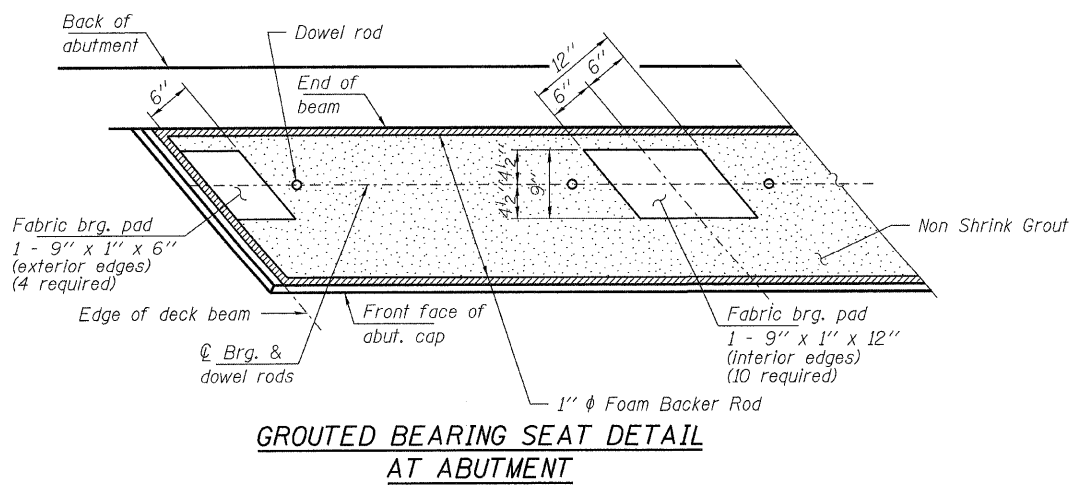
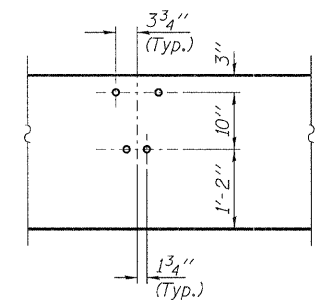
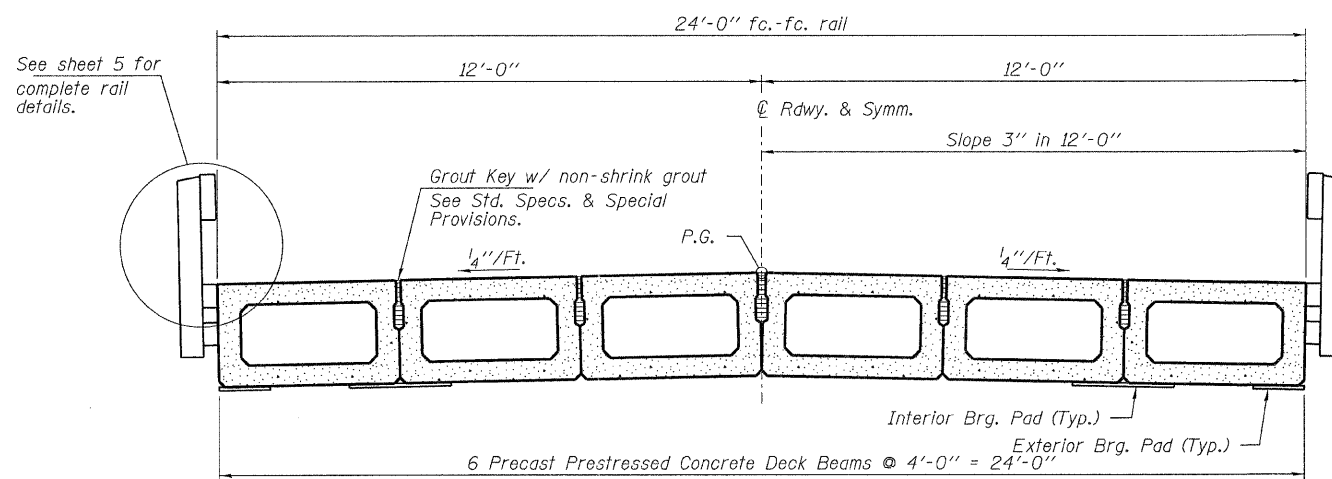
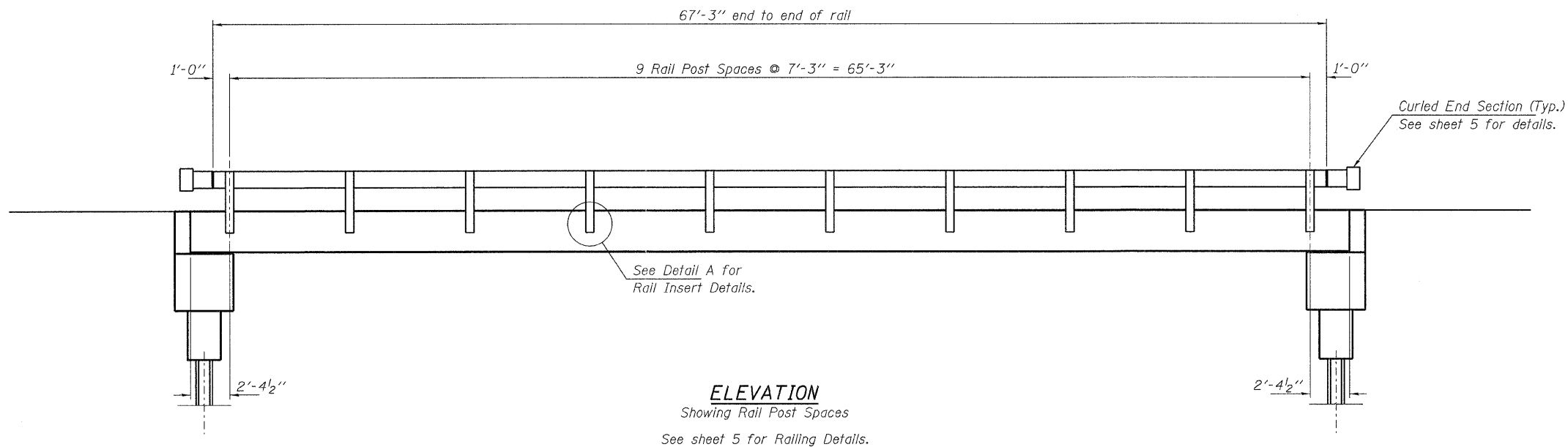
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HAMPTON, LENZINI AND RENWICK, INC.		CHECKED - S.W.M.	REVISED -
3448 STEVENSON DRIVE, SUITE 201 SPRINGFIELD, ILLINOIS 62703	PLOT SCALE =	DRAWN - D.T.M.	REVISED -
ILLINOIS PROFESSIONAL DESIGN FIRM L.S./P.E./S.E. CORP. 184.000999	PLOT DATE = 10/7/2011	CHECKED - S.W.M.	REVISED -

STATE OF ILLINOIS
WHITE COUNTY HIGHWAY DEPARTMENT

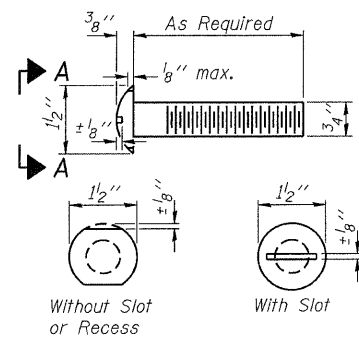
27" x 48" PPC DECK BEAM DETAILS
STRUCTURE NO. 097-3270

SHEET NO. 3 OF 8 SHEETS

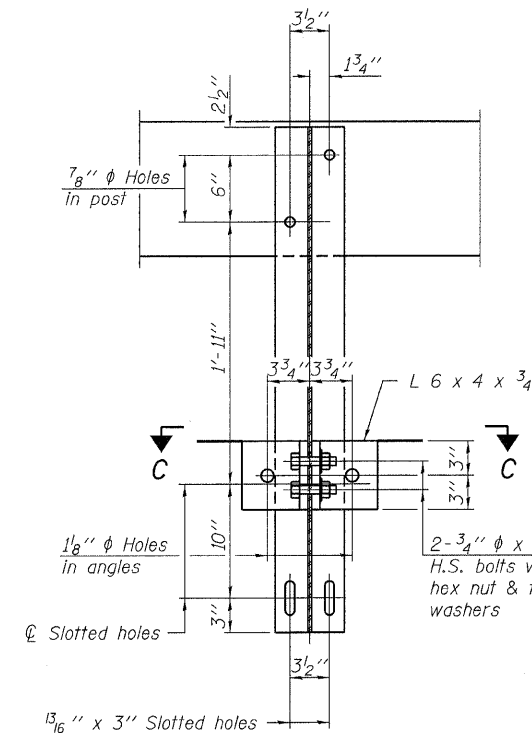
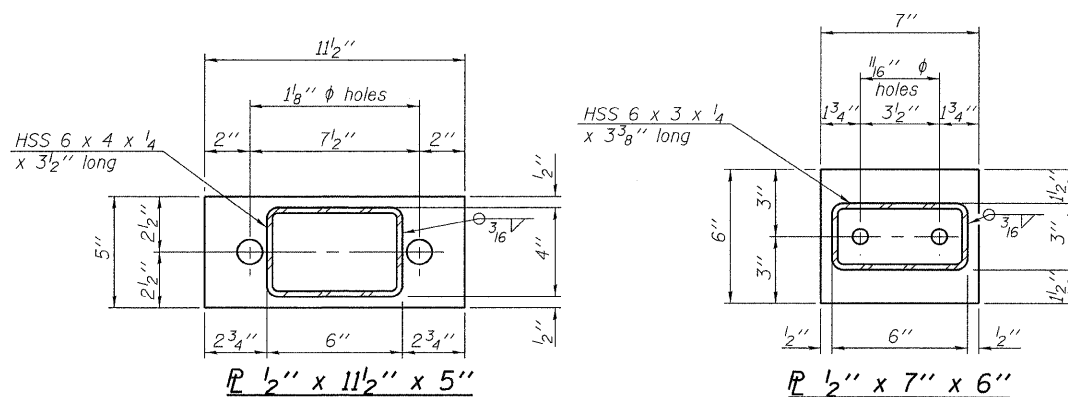
T.R.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
112	09-09126-00-BR	WHITE	12	7
MILL SHOALS ROAD DISTRICT		CONTRACT NO. 99445		
ILLINOIS FED. AID PROJECT				



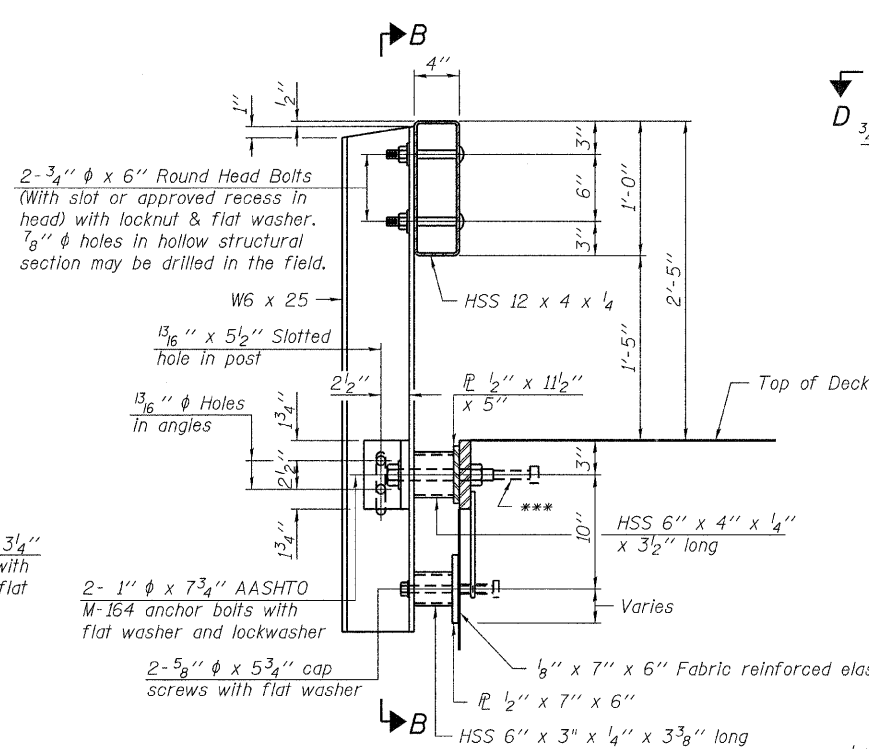
FILE NAME =	USER NAME =	DESIGNED - A.S.L.	REVISED - 08/30/10	STATE OF ILLINOIS WHITE COUNTY HIGHWAY DEPARTMENT	27" x 48" PPC DECK BEAM DETAILS STRUCTURE NO. 097-3270	T.R.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	
HAMPTON, LENZINI AND RENWICK, INC. <small>2045 STEVENSON DRIVE, SUITE 201 SPRINGFIELD, ILLINOIS 62708</small>		CHECKED - S.W.M.	REVISED -			112	09-09126-00-BR	WHITE	12	8	
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						ILLINOIS FED. AID PROJECT					



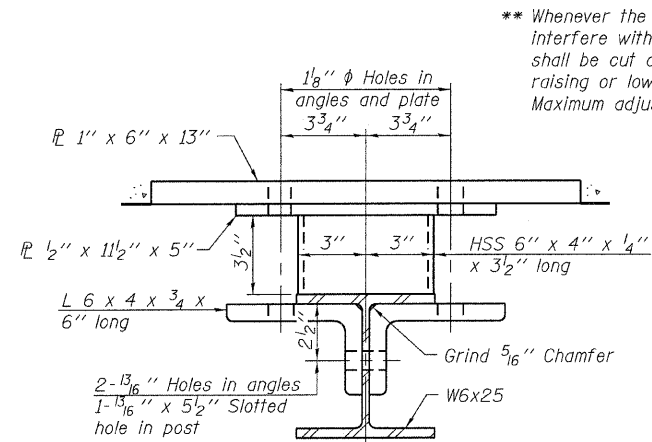
**VIEW A-A
ROUND HEAD BOLT**



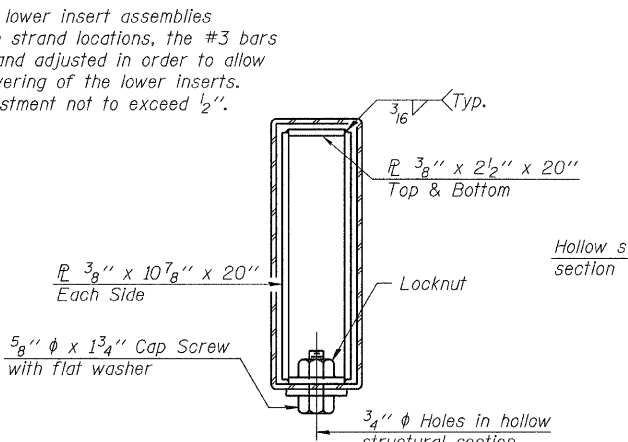
SECTION C-C



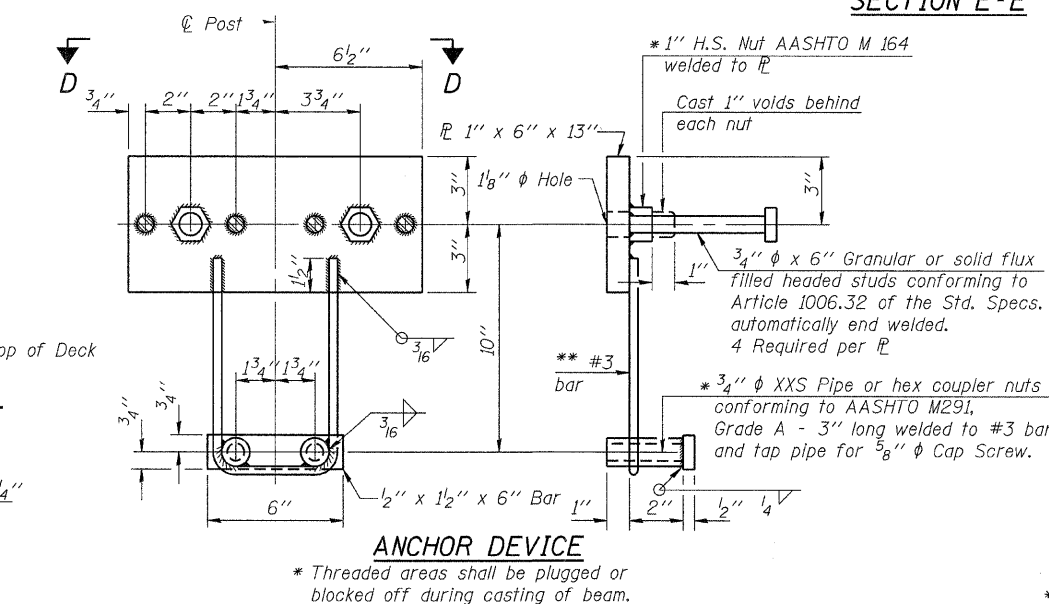
SECTION AT RAILING POST



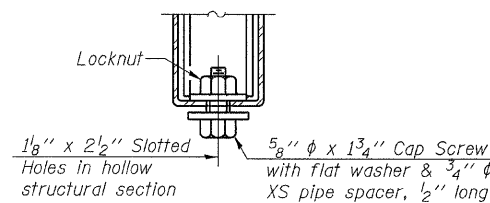
SECTION C-C



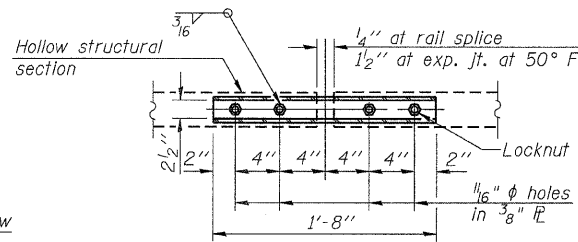
SECTIONS AT RAIL SPLICE



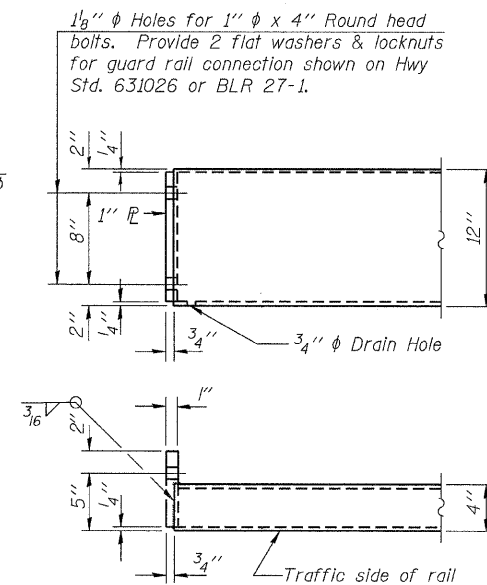
ANCHOR DEVICE



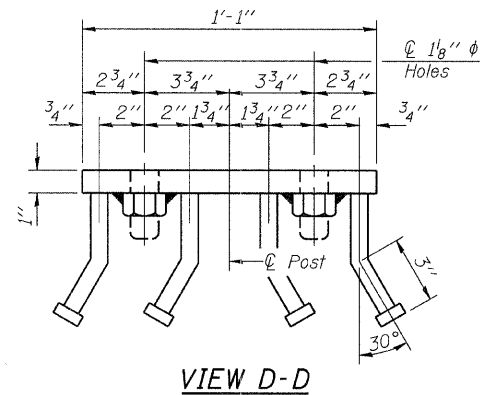
**RAIL SPLICE CONNECTION
AT EXPANSION JT.**



**PLAN-BOTT. SPLICE R
TYPICAL**

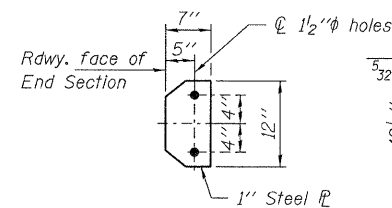


END OF RAIL DETAILS

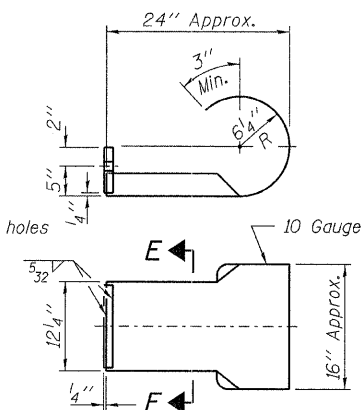


VIEW D-D

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



SECTION E-E



CURLED END SECTION DETAILS

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.

BILL OF MATERIAL

Item	Unit	Quantity
Steel Railing, Type S-1	Foot	135

R-23A 7-1-10 (10'-9" Maximum Post Spacing)

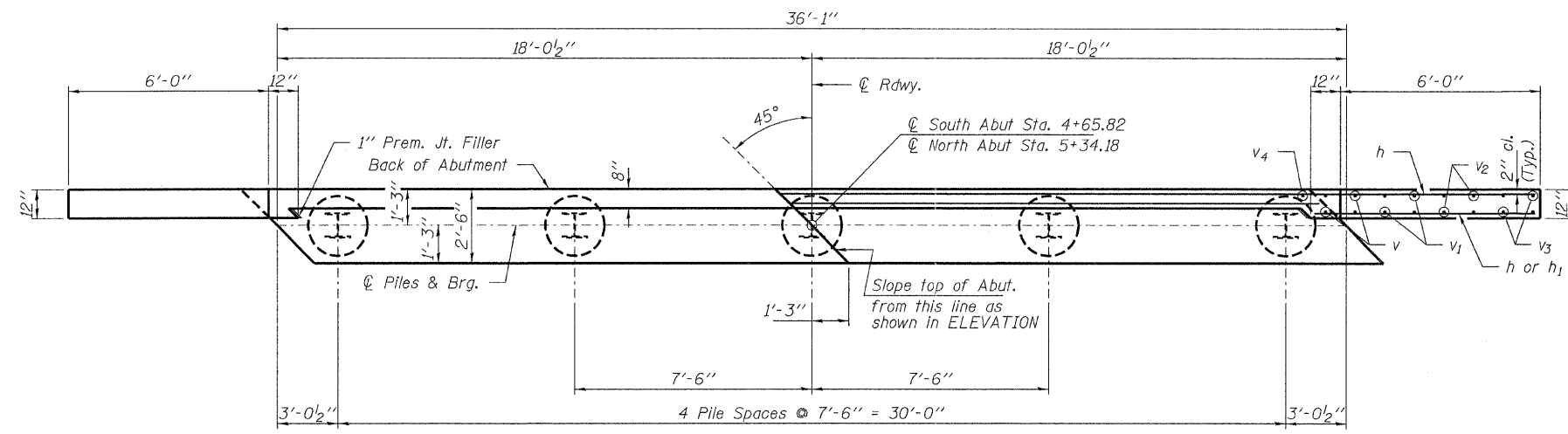
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HAMPTON, LENZINI AND RENWICK, INC.		A.S.L.	08/30/10
3085 STEVENSON DRIVE, SUITE 201 SPRINGFIELD, ILLINOIS 62703		S.W.M.	
ILLINOIS PROFESSIONAL DESIGN FIRM L.S./P.E./S.E. CORP. 184-900999		D.T.M.	
		S.W.M.	

**STATE OF ILLINOIS
WHITE COUNTY HIGHWAY DEPARTMENT**

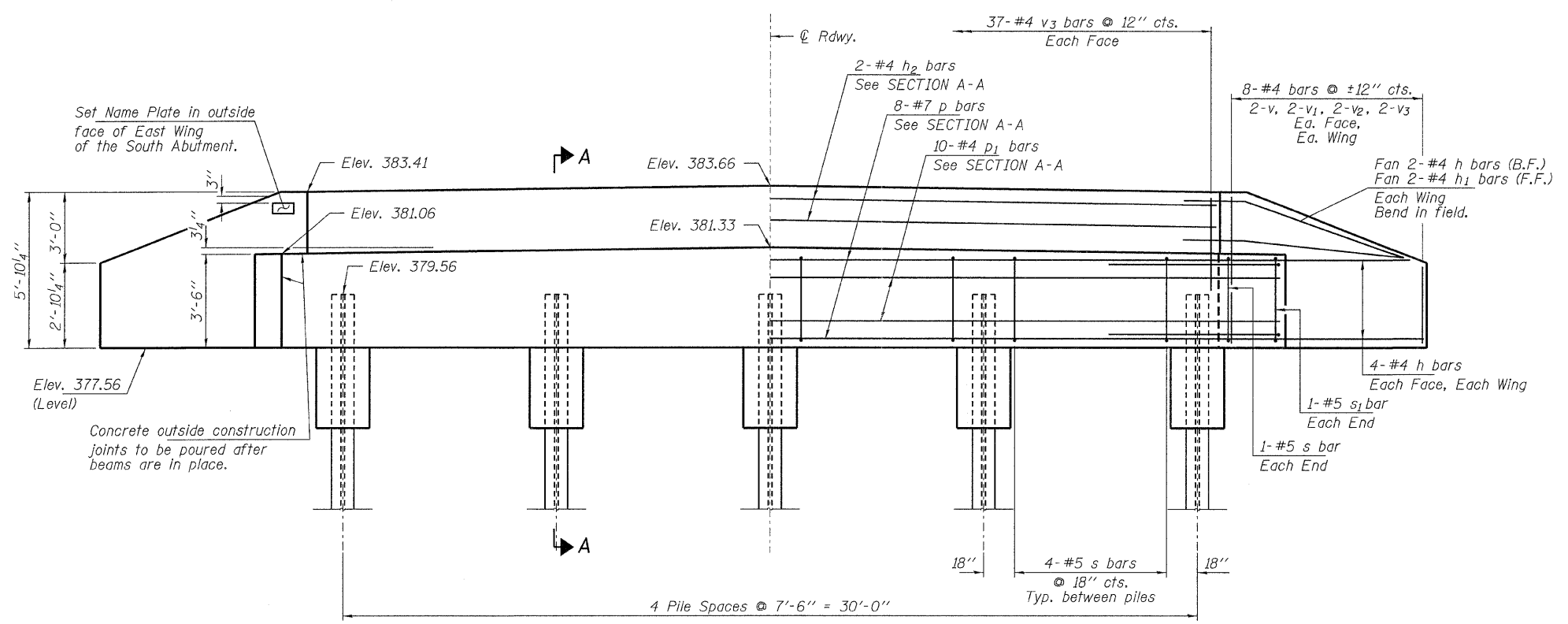
**STEEL RAILING, TYPE S1
STRUCTURE NO. 097-3270**

SHEET NO. 5 OF 8 SHEETS

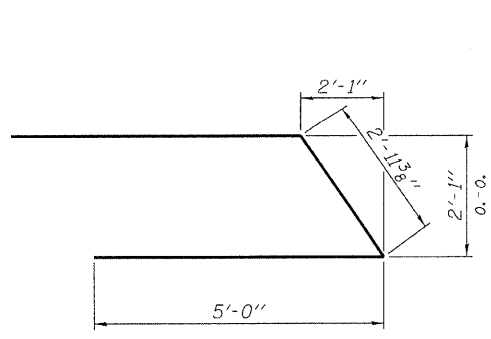
T.R.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
112	09-09126-00-BR	WHITE	12	9
MILL SHOALS ROAD DISTRICT				CONTRACT NO. 99445
ILLINOIS FED. AID PROJECT				



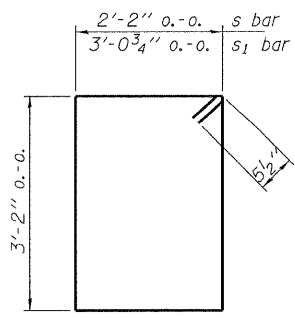
PLAN



ELEVATION



BAR u

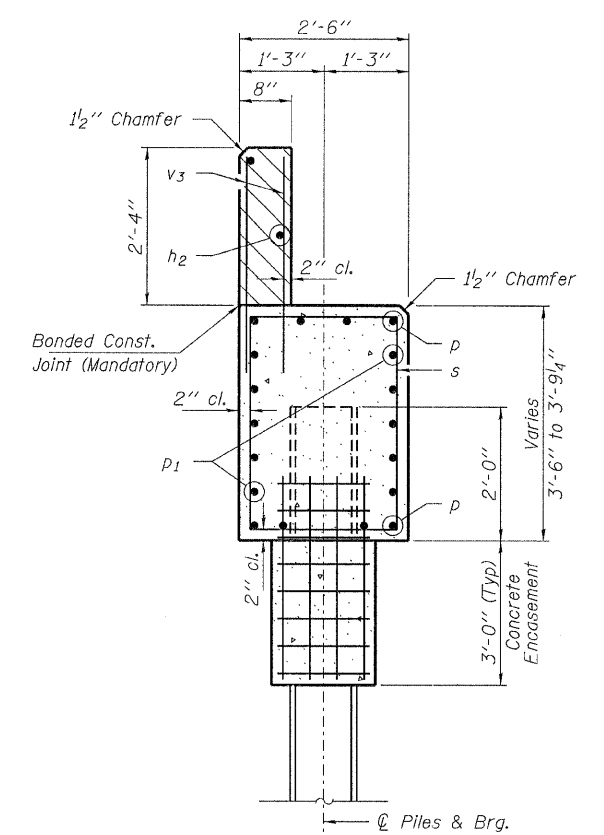


BAR s & s1

PILE DATA

Type ----- Steel HP10x42
 No. Req'd. (2 Abuts.) ----- 10
 Factored Resistance Available (RF) ----- 184 Kips/Pile
 Nominal Required Bearing (Rn) ----- 335 Kips/Pile
 Est. Length ----- 40 Ft./Pile

Notes: The Steel H-Piles shall be according to AASHTO M270 Grade 50.

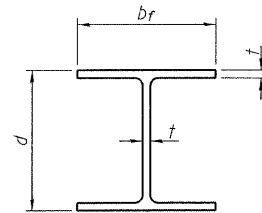


SECTION A-A

Hatched area to be poured after beams are in place.

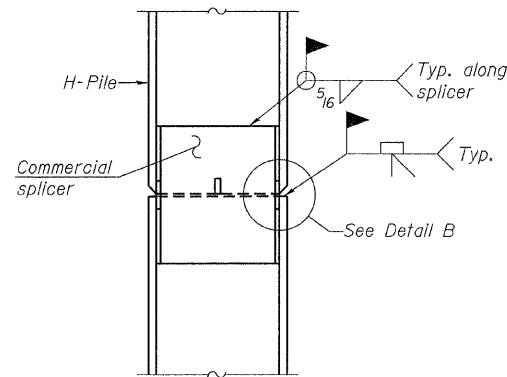
BILL OF MATERIAL - 2 ABUTS.

BAR	NO.	SIZE	LENGTH	SHAPE
h	40	#4	8'-3"	—
h1	8	#4	6'-9"	—
h2	4	#4	35'-9"	—
p	16	#7	35'-9"	—
p1	20	#4	35'-9"	—
s	36	#5	11'-7"	□
s1	4	#5	13'-5"	□
u	16	#6	13'-0"	—
v	16	#4	5'-6"	—
v1	16	#4	4'-7"	—
v2	16	#4	3'-7"	—
v3	16	#4	2'-7"	—
v4	148	#4	3'-2"	—
Concrete Structures			Cu. Yd.	32.8
Concrete Encasement			Cu. Yd.	3.5
Reinforcement Bars			Pound	3,290
Steel Piles HP10x42			Foot	400
Name Plates			Each	1

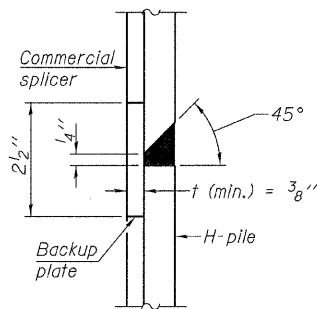


STEEL PILE TABLE

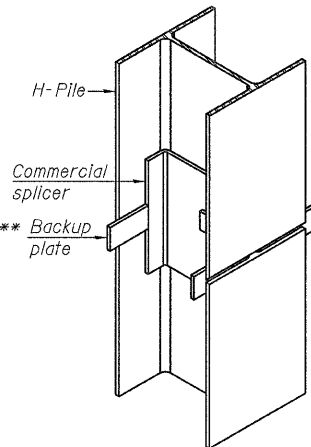
Designation	Depth d	Flange width br	Web and Flange thickness t	Encasement diameter A
HP 14x117	14 1/4"	14 7/8"	13/16"	30"
x102	14"	14 3/4"	1/16"	30"
x89	13 7/8"	14 3/4"	5/8"	30"
x73	13 5/8"	14 5/8"	1/2"	30"
HP 12x84	12 1/4"	12 1/4"	1/16"	24"
x74	12 1/8"	12 1/4"	5/8"	24"
x63	12"	12 9/8"	1/2"	24"
x53	11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



ELEVATION

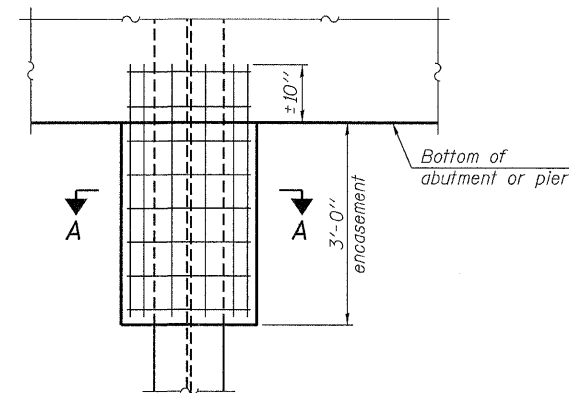


DETAIL "B"



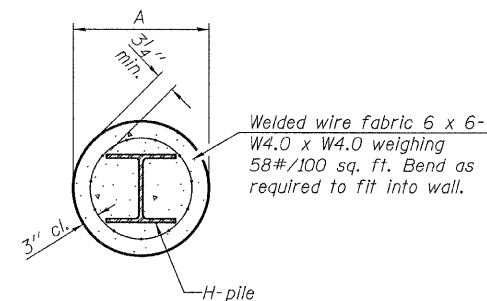
ISOMETRIC VIEW

WELDED COMMERCIAL SPLICE



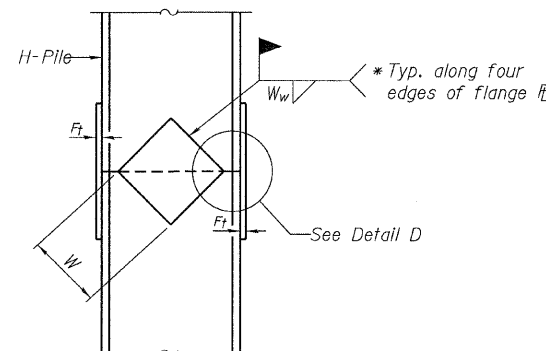
ELEVATION

PILE ENCASEMENT

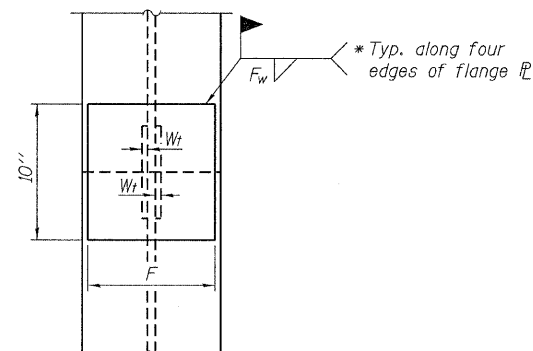


SECTION A-A

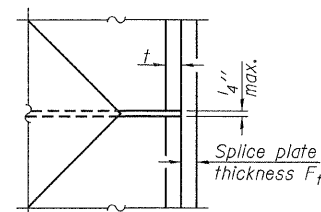
Note:
Forms for encasement may be omitted when soil conditions permit.



ELEVATION



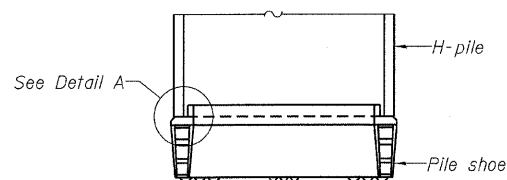
END VIEW



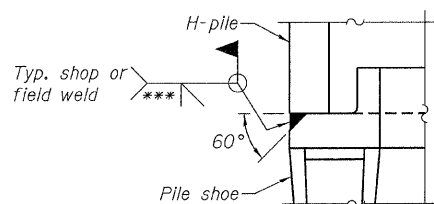
DETAIL D

WELDED PLATE FIELD SPLICE

Designation	F	Ft	Fw	W	Wt	Ww
HP 14x117	12 1/2"	1"	7/8"	7 3/4"	5 8/8"	1/2"
x102	12 1/2"	7/8"	3/4"	7 3/4"	5 8/8"	1/2"
x89	12 1/2"	3/4"	1/16"	7 3/4"	5 8/8"	1/2"
x73	12 1/2"	5/8"	9/16"	7 3/4"	5 8/8"	1/2"
HP 12x84	10"	7/8"	1/16"	6 1/2"	5 8/8"	1/2"
x74	10"	7/8"	1/16"	6 1/2"	5 8/8"	1/2"
x63	10"	5/8"	1/2"	6 1/2"	1/2"	3/8"
x53	10"	5/8"	1/2"	6 1/2"	1/2"	3/8"
HP 10x57	8"	3/4"	9/16"	5 1/4"	1/2"	3/8"
x42	8"	5/8"	9/16"	5 1/4"	1/2"	3/8"
HP 8x36	7"	5/8"	7/16"	4 1/4"	1/2"	3/8"

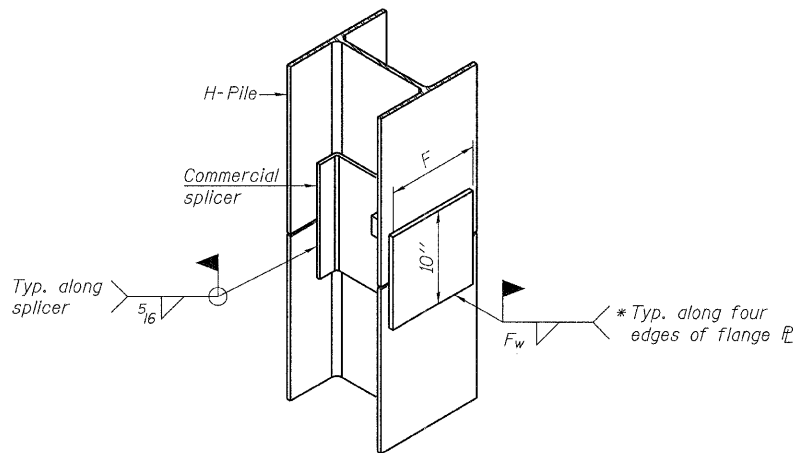


ELEVATION



DETAIL A

H-PILE SHOE ATTACHMENT



ISOMETRIC VIEW

WELDED COMMERCIAL SPLICE ALTERNATE

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

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

F-HP 7-1-10

FILE NAME =	USER NAME =	DESIGNED - A.S.L.	REVISED - 08/30/10	STATE OF ILLINOIS WHITE COUNTY HIGHWAY DEPARTMENT	HP PILE DETAILS STRUCTURE NO. 097-3270	T.R.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	
HAMPTON, LENZINI AND RENWICK, INC. 3885 STEVENSON DRIVE, SUITE 201 SPRINGFIELD, ILLINOIS 62781 ILLINOIS PROFESSIONAL DESIGN FIRM L3 / PE / SE CORP. 184300899	PLOT SCALE =	CHECKED - S.W.M.	REVISED -			112	09-09126-00-BR	WHITE	12	11	
	PLOT DATE = 10/7/2011	DRAWN - D.T.M.	REVISED -			CONTRACT NO. 99445					
		CHECKED - S.W.M.	REVISED -			ILLINOIS FED. AID PROJECT					

Bridge Foundation Boring Log

Project: H-09188 Bridge Co Rd 400 E Date: 8/4/09
 Section: 09-09126-00-BR Station _____ Bored by: J. Carter
 Structure: _____ Checked By: T. Holcomb
 County: White

Boring No. <u>1</u>	Elevation	N	Qu	tsf	w %	Surface Water Elev.	Elevation	N	Qu	tsf	w %
Station: _____						Ground Water Elev. During Drilling <u>355.0</u>					
Offset: _____						Upon Completion <u>plugged</u>					
Ground Surface	<u>381.0</u>	0				clay (continued)					
4" A-3 Surface											
Brown Silty CLAY (A-6)		8	2.65	23			-25	5	1.2B	26	
	<u>377.5</u>										
Gray Mottled Brown Silty CLAY (A-6)		6	1.6B	29			-5	4	0.6S	35	
	<u>352.5</u>										
Gray Mottled Brown CLAY (A-7-6)		8	1.8S	25			-30	10	2.5B	21	
	<u>352.5</u>										
		8	1.9S	29			-10				
		7	1.6B	25			-35	3	--	24	
		7	1.5B	26			-15				
Gray Mottled Brown CLAY (A-7-6)	<u>365.0</u>										
		5	0.8B	31			-40	100	/3"	1.8S	10
	<u>344.0</u>										
		8	2.3B	27			-20	100	/1"	--	4
	<u>338.5</u>							100	/1"	--	20
		6	1.2B	26							

N = Standard Penetration Test Blows per foot to drive 2" O.D. Split Spoon Sampler 12" with a 140 lbs. hammer falling 30"
 Qu—Unconfined Compressive Strength in tons/sq.ft.
 w—Water Content—percentage of oven dry weight—%
 B = Bulge Failure
 S = Shear Failure
 E = Estimated Value
 P = Penetrometer

BORING 1

Bridge Foundation Boring Log

Project: H-09188 Bridge Co Rd 400 E Date: 8/4/09
 Section: 09-09126-00-BR Station _____ Bored by: J. Carter
 Structure: _____ Checked By: T. Holcomb
 County: White

Boring No. <u>2</u>	Elevation	N	Qu	tsf	w %	Surface Water Elev.	Elevation	N	Qu	tsf	w %
Station: _____						Ground Water Elev. During Drilling <u>353.0</u>					
Offset: _____						Upon Completion <u>plugged</u>					
Ground Surface	<u>380.5</u>	0				clay (continued)					
3" A-3 Surface											
Brown Silty CLAY (A-6)		8	1.6S	19			-25	5	0.4B	32	
	<u>374.5</u>										
Gray Mottled Brown CLAY (A-7-6)		5	1.2S	31			-5	5	2.0B	27	
	<u>374.5</u>										
Gray Mottled Brown CLAY (A-7-6)		8	1.7S	29			-30	5	0.8B	30	
	<u>352.0</u>										
		8	1.4S	31			-10				
	<u>347.0</u>										
		7	1.3B	26			-35	22	2.7B	15	
Brown Mottled Gray CLAY (A-7-6)	<u>368.0</u>										
		9	1.7B	27			-15				
	<u>344.5</u>							100	/3"	--	14
		5	1.2B	27			-40	100	/2"	--	7
	<u>363.0</u>										
		9	2.1B	24			-20	100	/1"	--	7
	<u>339.0</u>										
		8	1.0B	25							

N = Standard Penetration Test Blows per foot to drive 2" O.D. Split Spoon Sampler 12" with a 140 lbs. hammer falling 30"
 Qu—Unconfined Compressive Strength in tons/sq.ft.
 w—Water Content—percentage of oven dry weight—%
 B = Bulge Failure
 S = Shear Failure
 E = Estimated Value
 P = Penetrometer

BORING 2