

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

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

000001-05	STANDARD SYMBOLS, ABBREVIATIONS & PATTERNS
280001-05	TEMPORARY EROSION CONTROL SYSTEMS
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
20200100	EARTH EXCAVATION	CU YD	9.00
20300100	CHANNEL EXCAVATION	CU YD	192.00
*25001000	SEEDING, CLASS 2 (SPECIAL)	ACRE	0.10
28001000	AGGREGATE (EROSION CONTROL)	TON	18.00
28100807	STONE DUMPED RIPRAP, CLASS A4	TON	230.00
*28102600	STONE RIPRAP DITCH	TON	45.00
28200200	FILTER FABRIC	SQ YD	170.00
40200800	AGGREGATE SURFACE COURSE, TYPE B	TON	85.00
50100100	REMOVAL OF EXISTING STRUCTURES	EACH	1.00
50300225	CONCRETE STRUCTURES	CU YD	22.20
50300280	CONCRETE ENCASEMENT	CU YD	2.80
50400405	PRECAST PRESTRESSED CONCRETE DECK BEAMS (21" DEPTH)	SQ FT	1200.00
50800105	REINFORCEMENT BARS	POUND	2430.00
Δ 50900205	STEEL RAILING, TYPE S1	FOOT	95.00
51201400	FURNISHING STEEL PILES 10X42	FOOT	490.00
51202305	DRIVING PILES	FOOT	490.00
51203400	TEST PILE STEEL HP10X42	EACH	1.00
51500100	NAME PLATES	EACH	1.00
59300100	CONTROLLED LOW-STRENGTH MATERIAL	CU YD	12.00
*67100100	MOBILIZATION	L SUM	1.00

Δ SPECIALTY ITEMS

DESIGN DESIGNATION:
 DESIGN SPEED: 40 MPH
 HIGHWAY CLASS - MAJOR COLLECTOR
 EXISTING STRUCTURE NO.: 097-3132
 PROPOSED STRUCTURE NO.: 097-3267
 CURRENT A.D.T. = 110
 CONTRACT NO. 99408



STATE OF ILLINOIS

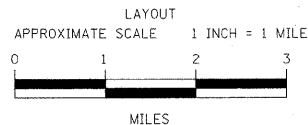
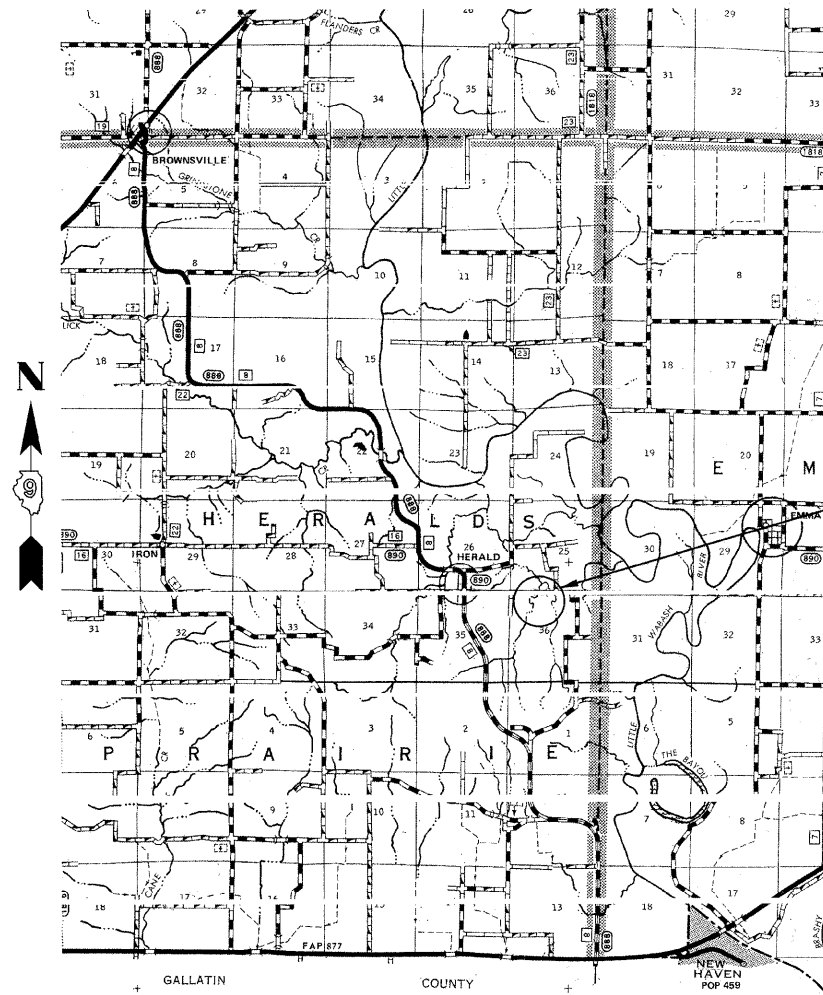
DEPARTMENT OF TRANSPORTATION

PLANS FOR PROPOSED FEDERAL AID - H.B.P. PROJECT

F.A.S. 890 WHITE COUNTY SECTION 08-07120-00-BR

PROJECT NO. BROS-193(042) JOB NO. C-99-519-09

CONTRACT # 99408 LITTLE WABASH TRIBUTARY



GROSS LENGTH	150.00 FT	0.028 MILES
OMISSIONS	0.00 FT	0.000 MILES
NET LENGTH	150.00 FT	0.028 MILES

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

SECTION 08-07120-00-BR BEGINS STATION 4+25

STATION 5+00, STRUCTURE NO. 097-3267
 A 50' LONG SINGLE SPAN PRECAST PRESTRESSED CONCRETE DECK BEAM BRIDGE (21" DEPTH), 24' ROADWAY, 0.00% GRADE, 0° SKEW.

SECTION 08-07120-00-BR ENDS STATION 5+75

STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

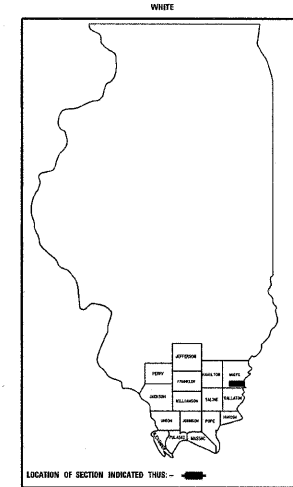
APPROVED 8/26/2009
Brian A. Ray
 COUNTY ENGINEER

PASSED 11/20/2009
Richard W. Melcher
 ENGINEER OF LOCAL ROADS AND STREETS

RELEASING FOR BID
 BASED ON LIMITED REVIEW: 11/20/09
Mary C. Lamie
 MARY C. LAMIE, P.E.
 DEPUTY DIRECTOR OF HIGHWAYS
 REGION FIVE ENGINEER

FAS	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
890	08-07120-00-BR	WHITE	12	1

323 W. 3RD ST.
 P.O. BOX 160
 MT. CARMEL, IL 62863
 PHONE: (618)-262-8651
 FAX: (618)-263-3327
 LEC JOB # H091001WH



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
Aaron Mefford
 SIGNATURE
 9-28-09
 DATE
 11-30-09
 EXPIRES

FAS 890
 OVER LITTLE WABASH TRIBUTARY
 WHITE COUNTY, ILLINOIS

SHEET TITLE:

TITLE SHEET

SCALE: VARIES

BY: AMM

DATE: 8/4/09

REV:

1 OF 12 SHEETS

SHEET NO. 1

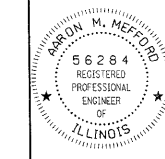
FAS SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
890 08-07120-00-BR	WHITE	12	2
FED. ROAD DIST. NO. 9	ILLINOIS	LITTLE WABASH TRIBUTARY	
PROJECT #	BROS-1931042	CONTRACT #	99408
LEC JOB #	H091001WH		

323 W. 3RD ST.
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LAND SURVEY & PROFESSIONAL ENGINEERING CORPORATION
184-00087
(62-032435)(35-002769)



AARON M. MEFFORD
NAME
SIGNATURE
9-28-09
DATE
11-30-11
EXPIRES

FAS 890
OVER LITTLE WABASH TRIBUTARY
WHITE COUNTY, ILLINOIS

SHEET TITLE:
PLAN & PROFILE
SCALE: VARIES
BY: AMM
DATE: 9/28/09
REV:
2 OF 12
SHEETS
SHEET NO. 2

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 50 FOOT LONG SINGLE SPAN PRECAST, PRESTRESSED CONCRETE DECK BEAM BRIDGE, EARTH APPROACHES, AGGREGATE SURFACE COURSE AND OTHER MISCELLANEOUS ITEMS NECESSARY TO COMPLETE THIS SECTION.

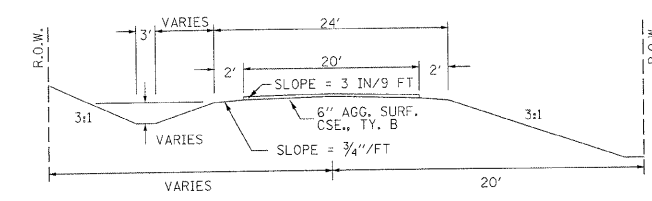
ALL ELEVATIONS ARE BASED ON U.S.G.S. MEAN SEA LEVEL DATUM.

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

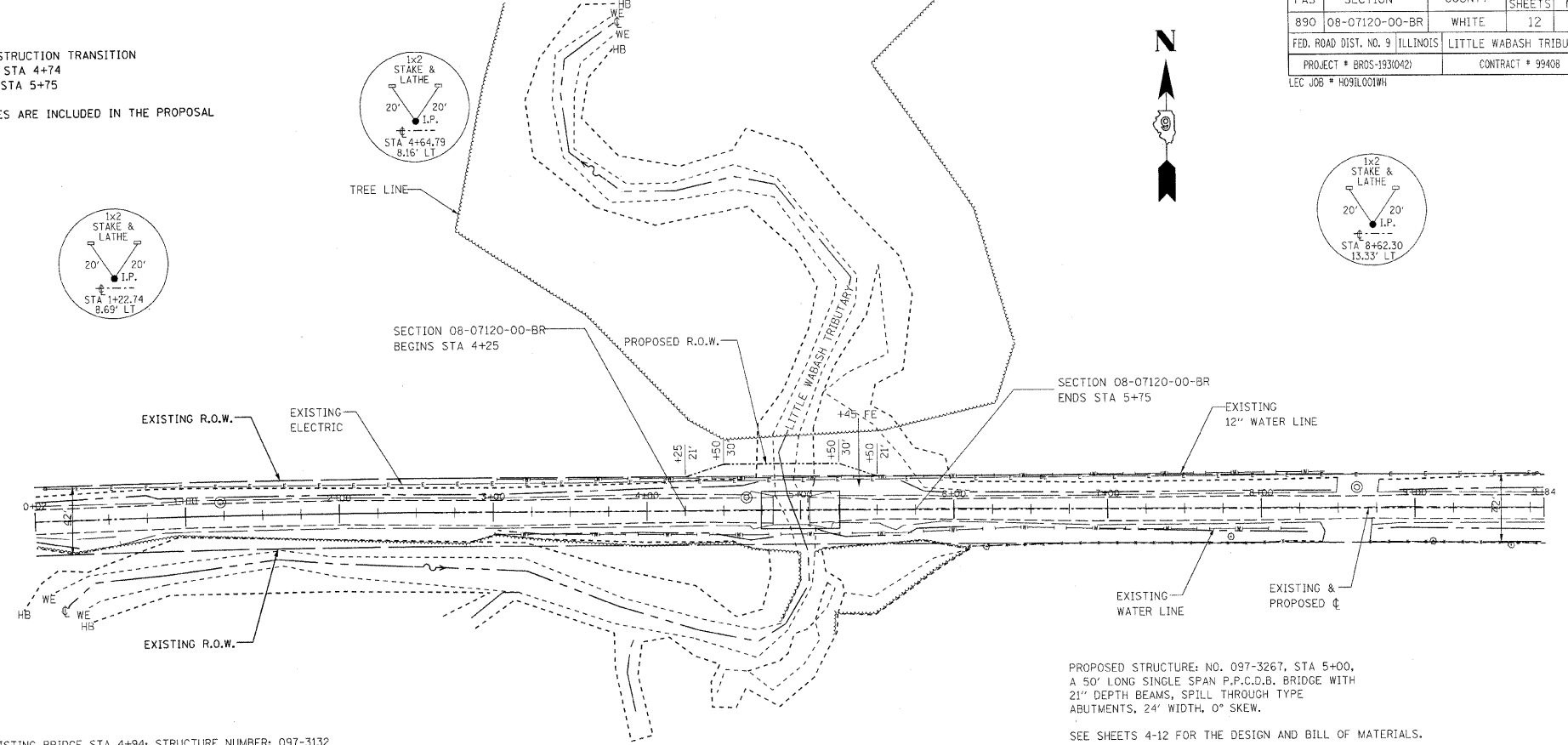
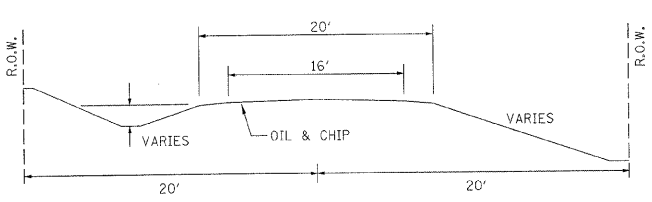
NOTE: CONSTRUCTION TRANSITION
STA. 4+25 TO STA 4+74
STA 5+26 TO STA 5+75

ALL QUANTITIES ARE INCLUDED IN THE PROPOSAL

TYPICAL CROSS SECTION PROPOSED



TYPICAL CROSS SECTION EXISTING



PROPOSED STRUCTURE: NO. 097-3267, STA 5+00, A 50' LONG SINGLE SPAN P.P.C.D.B. BRIDGE WITH 21" DEPTH BEAMS, SPILL THROUGH TYPE ABUTMENTS, 24" WIDTH, 0° SKEW.

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

EXISTING BRIDGE STA 4+94; STRUCTURE NUMBER: 097-3132
AN OIL & CHIP COVERED 24' 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.

NOTE: CONSTRUCT SPECIAL DITCH

UTILITIES:
J.U.L.I.E. 1-800-892-0123
VERIZON 1-618-997-0707
WAYNE-WHITE ELECTRIC CO-OP 1-618-842-2196
GALLATIN-WHITE WATER DISTRICT 1-618-962-3454
VILLAGE OF NORRIS CITY 1-618-378-3611

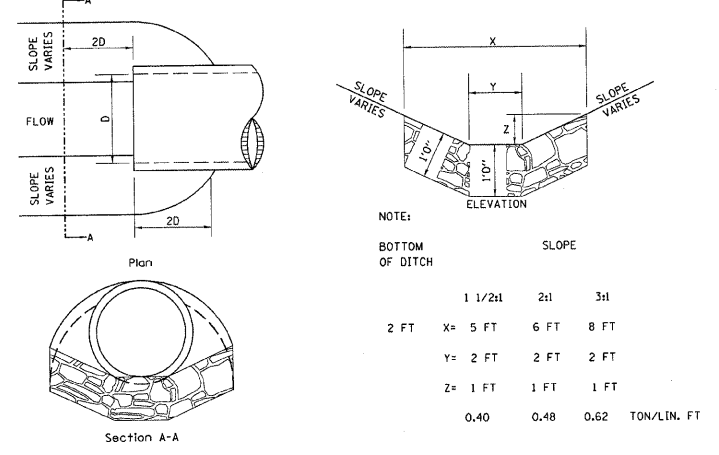
NOTE: CONSTRUCT STONE RIPRAP DITCH

STA 4+25 TO STA 4+74 LT
STA 4+25 TO STA 4+74 RT
STA 5+25 TO STA 5+75 RT

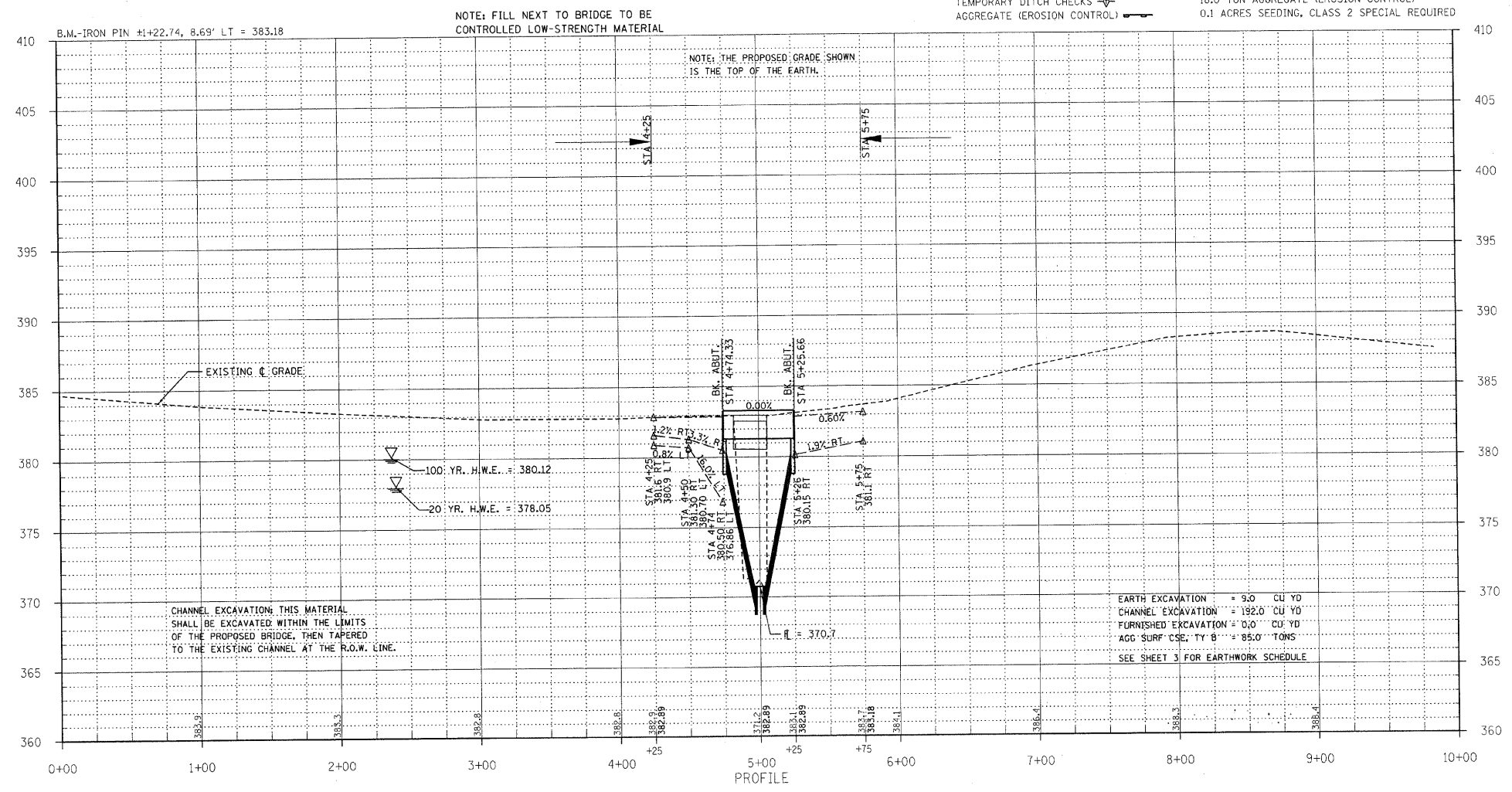
STA 4+50 TO STA 4+74 LT (0.62 TON/LIN FT)
STA 4+50 TO STA 4+74 RT (0.62 TON/LIN FT)
STA 5+25 TO STA 5+50 RT (0.62 TON/LIN FT)
45 TON STONE RIPRAP DITCH ALLOWED IN PROPOSAL.

SEE STONE RIPRAP DITCH DETAIL.

STONE RIPRAP DITCH DESIGN



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



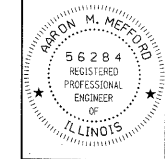
FAS	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
890	08-07120-00-BR	WHITE	12	3
FED. ROAD DIST. NO. 9 ILLINOIS		FED. AID PROJECT		
PROJECT# BROS-1931049		CONTRACT# 99408		
JOB NO. C-99-519-09		LITTLE WABASH TRIB		
LEC JOB # HD91001WH				

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(812)-385-2812



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



AARON M. MEFFORD
NAME
Aaron Mefford
SIGNATURE
9-28-09
DATE
11-30-11
EXPIRES

FAS 890
OVER LITTLE WABASH TRIBUTARY
WHITE COUNTY, ILLINOIS

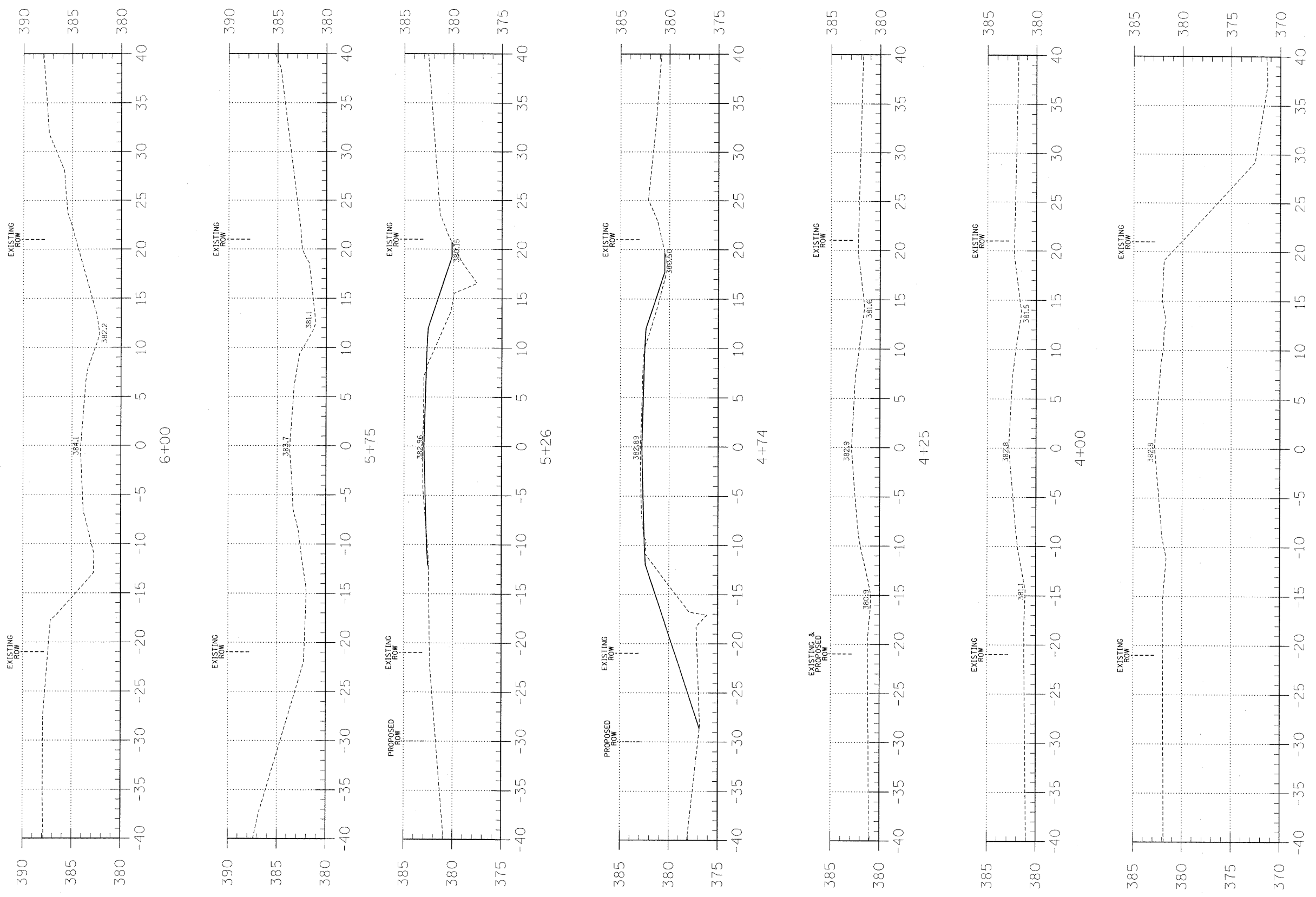
SHEET TITLE:

CROSS-SECTIONS

SCALE: 1" = 5'
BY: AMM
DATE: 9/29/09
REV:

3 OF 12 SHEETS

SHEET NO. 3



C = 2.5
F = 17.9

C = 2.8
F = 34.4

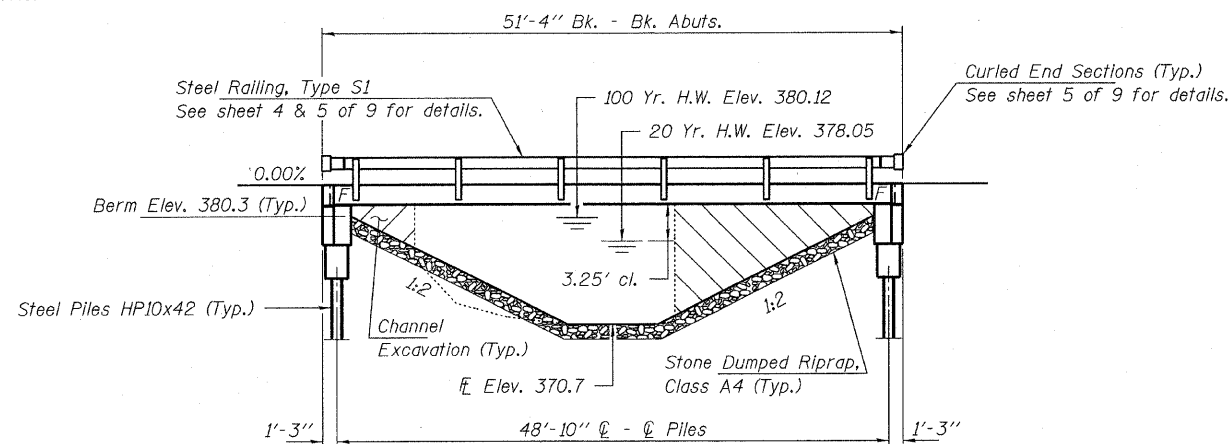
EARTHWORK SCHEDULE

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+74.3	2.9	0.0	0.0	0.0	0.0	2.2	24.5	-22.3				
STA 4+74.3 TO 5+25.7	0.0	192.0	192.0	0.0	96.0	72.0	0.0	+72.0				
STA 5+25.7 TO 10+00	5.7	0.0	0.0	0.0	0.0	4.3	16.2	-11.9				
1 FIELD ENTRANCE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0				
TOTAL	8.6	192.0	192.0	96.0	78.5	40.7	+37.8					

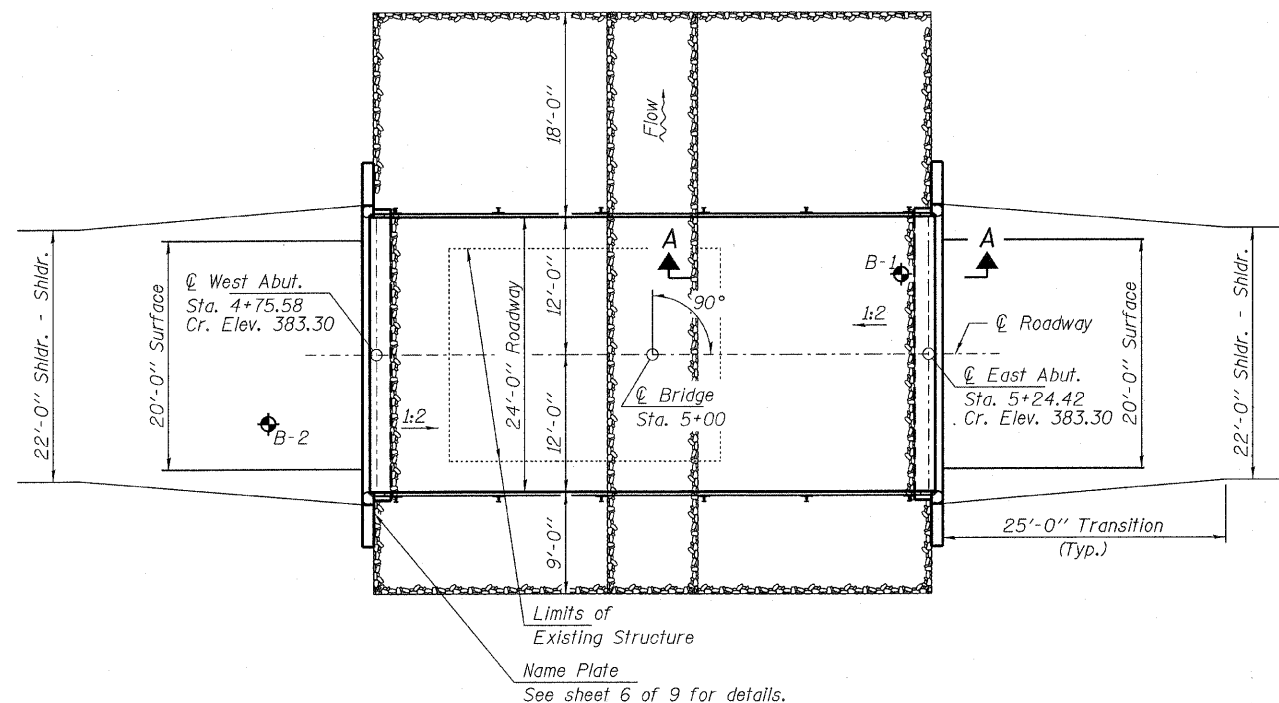
BENCHMARK:

EXISTING STRUCTURE: 24' single span concrete deck beam bridge with timber caps, mudwalls and piling.
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 ($\frac{1}{2}$ " ϕ low lax. strands)
 $f_{pbt} = 201,960$ psi ($\frac{1}{2}$ " ϕ 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) = 2
Design Spectral Acceleration at 1.0 sec. (S_{D1}) = 0.225g
Design Spectral Acceleration at 0.2 sec. (S_{D5}) = 0.617g
Soil Site Class = C

WATERWAY INFORMATION

Drainage Area = 1.3 Sq. Mi.		Existing Low Grade Elev. 382.80 @ Sta. 3+00		Proposed Low Grade Elev. 382.80 @ Sta. 3+00	
Flood	Freq. Yr.	Q C.F.S.	Opening Sq. Ft.	Natural Head - Ft.	Headwater El.
Design	20	770	130.9	159.5	378.05
Max. Calc.	100	1230	165.8	239.5	380.12
				0.10	0.04
				378.15	378.09
				0.26	0.03
				380.38	380.15

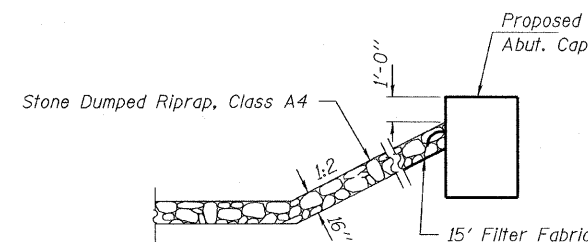
GENERAL NOTES

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 20__ BY
WHITE COUNTY
SEC. 08-07120-00-BR
HERALDS PRAIRIE ROAD DISTRICT
STR. NO. 097-3267
LOADING HL-93

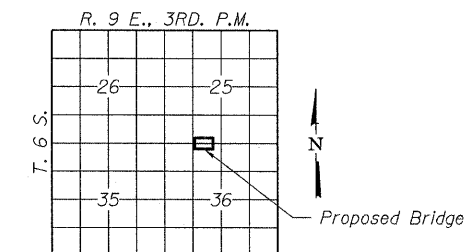
NAME PLATE

See Std. 515001



SECTION A-A

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



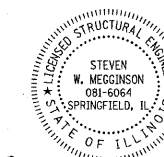
LOCATION SKETCH

TOTAL BILL OF MATERIAL

ITEM	UNIT	SUPER	SUB	TOTAL
Channel Excavation	Cu. Yd.			192
Stone Riprap, Class A4	Ton			230
Filter Fabric	Sq. Yd.			170
Removal of Existing Structures	Each			1
Concrete Structures	Cu. Yd.		22.2	22.2
Concrete Encasement	Cu. Yd.		2.8	2.8
Precast Prestressed Concrete Deck Beams (21" Depth)	Sq. Ft.	1,200		1,200
Reinforcement Bars	Pound		2,430	2,430
Steel Railing, Type S1	Foot	95		95
Furnishing Steel Piles HP10x42	Foot		490	490
Driving Piles	Foot		490	490
Test Pile Steel HP10x42	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. Mugginson 8/19/2009
ILLINOIS STRUCTURAL NO. 081-6064

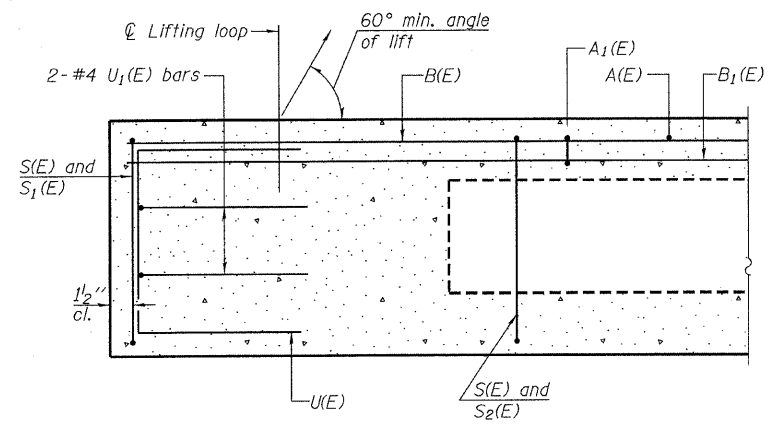


Expires 11-30-2010

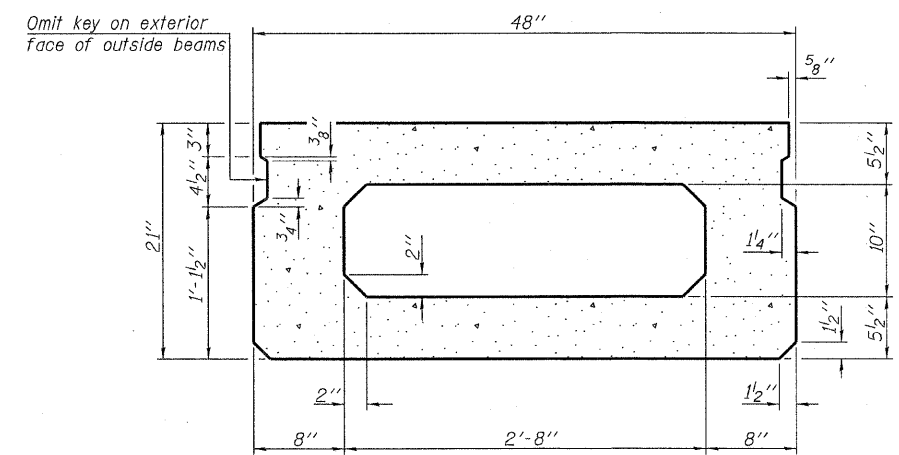
**GENERAL PLAN AND ELEVATION
STRUCTURE NO. 097-3267**

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

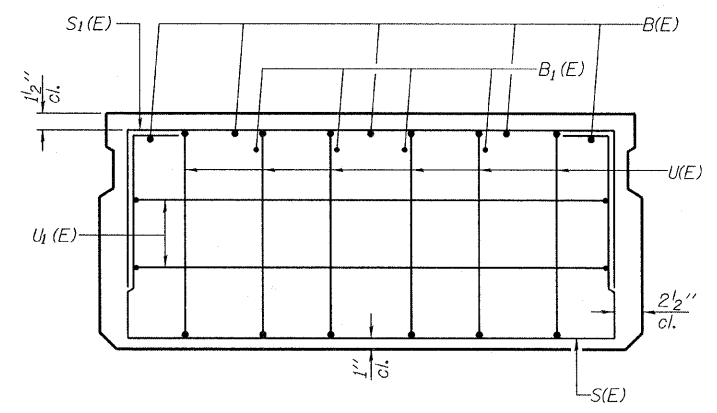
HAMPTON, LENZINI & RENWICK, INC. CIVIL & STRUCTURAL ENGINEERS LAND SURVEYORS HLR 3085 STEVENSON DRIVE, SUITE 201 SPRINGFIELD, ILLINOIS 62703 (217) 548-3400 PROJECT NUMBER: 09.0074.130 DATE: 07/08/09	SHEET NO. 1	FAS	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	9 SHEETS	890	08-07120-00-BR	WHITE	12	4
		HERALDS PRAIRIE ROAD DISTRICT		CONTRACT NO. 99408		
		FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT BROS-01931042		



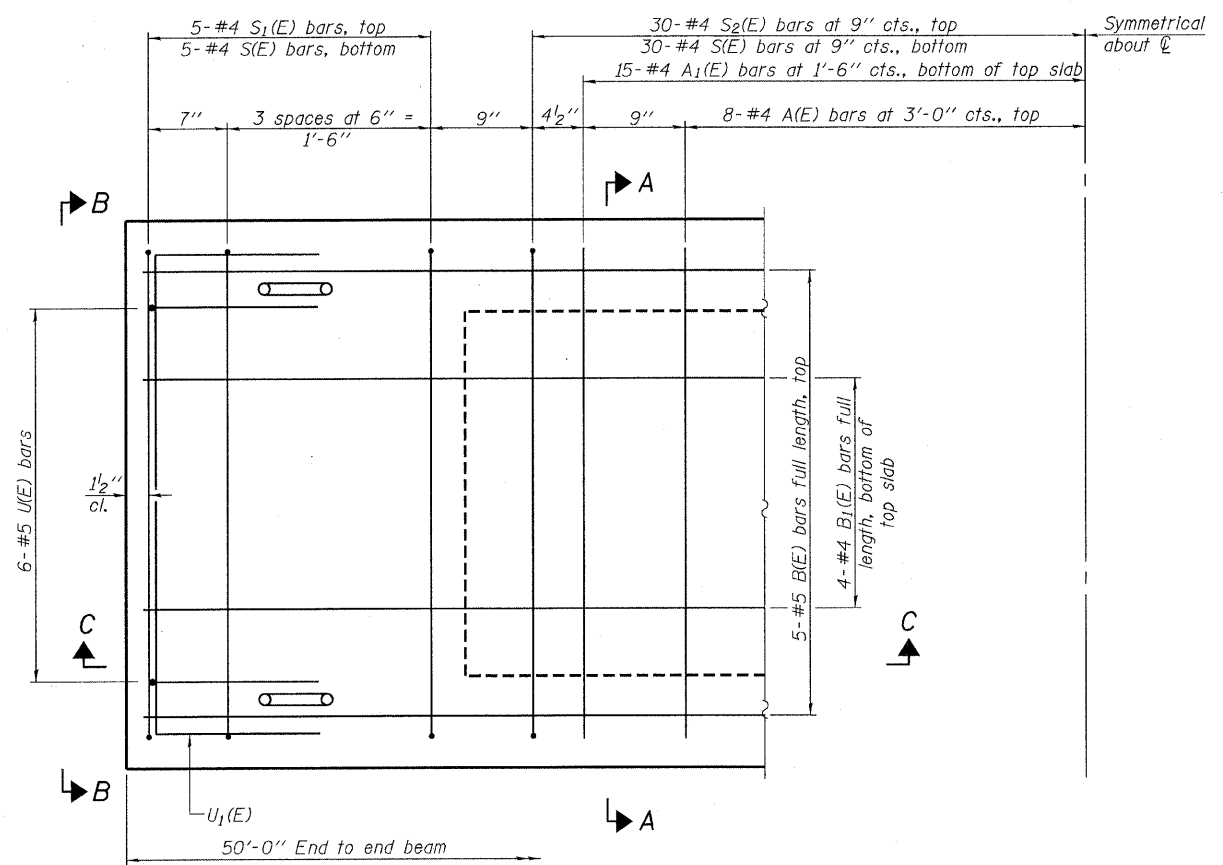
SECTION C-C



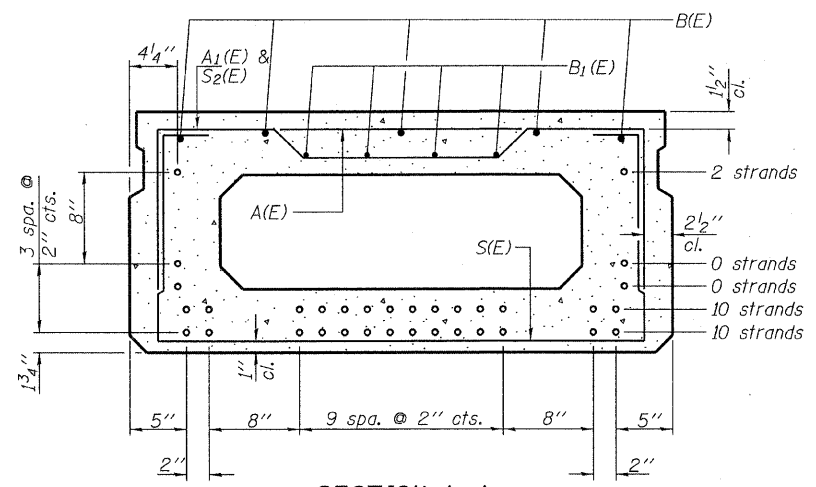
SECTION A-A
(Showing dimensions)



VIEW B-B



PLAN VIEW



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)	16	#4	3'-7"	—
A1(E)	30	#4	3'-10"	—
B(E)	5	#5	49'-8"	—
B1(E)	4	#4	49'-8"	—
S(E)	70	#4	7'-5"	□
S1(E)	10	#4	5'-11"	□
S2(E)	60	#4	6'-2"	□
U(E)	12	#5	4'-0"	□
U1(E)	4	#4	6'-0"	□

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

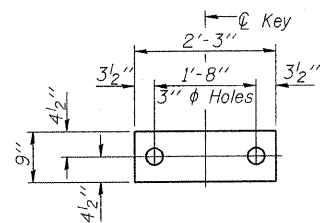
Note: Spacing of S(E) and S2(E) bars may be adjusted up to 4" in the immediate area of the transverse tie diaphragms to miss the block outs for the transverse ties.

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

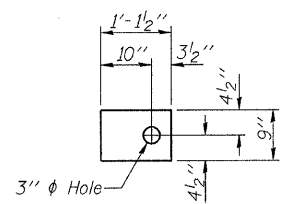
PD-2148-0 10-1-08

SUPERSTRUCTURE
21" x 48" PPC DECK BEAM
STRUCTURE NO. 097-3267

HAMPTON, LENZINI & RENWICK, INC. CIVIL & STRUCTURAL ENGINEERS LAND SURVEYORS 3085 STEVENSON DRIVE, SUITE 201 SPRINGFIELD, ILLINOIS 62703 (217) 546-3400 PROJECT NUMBER: 09.0074.130 DATE: 07/08/09	SHEET NO. 2	FAS	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	9 SHEETS	890	08-07120-00-BR	WHITE	12	5
			HERALDS PRAIRIE ROAD DISTRICT	CONTRACT NO. 99408		
			FED. ROAD DIST. NO.	ILLINOIS FED. AID PROJECT BROS-0193(042)		



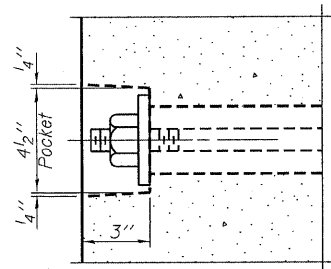
FABRIC BEARING PAD
(Interior - 10 Req'd.)



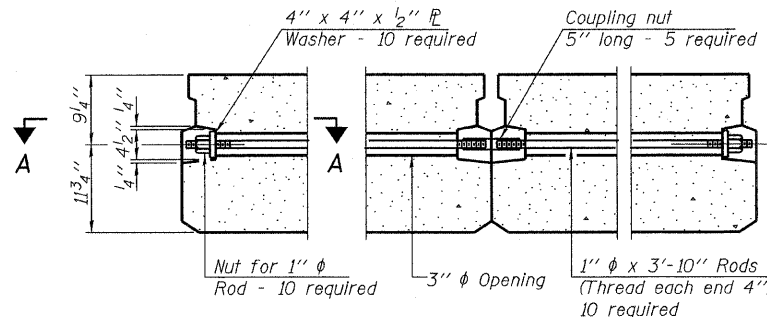
FABRIC BEARING PAD
(Exterior - 4 Req'd.)

FIXED

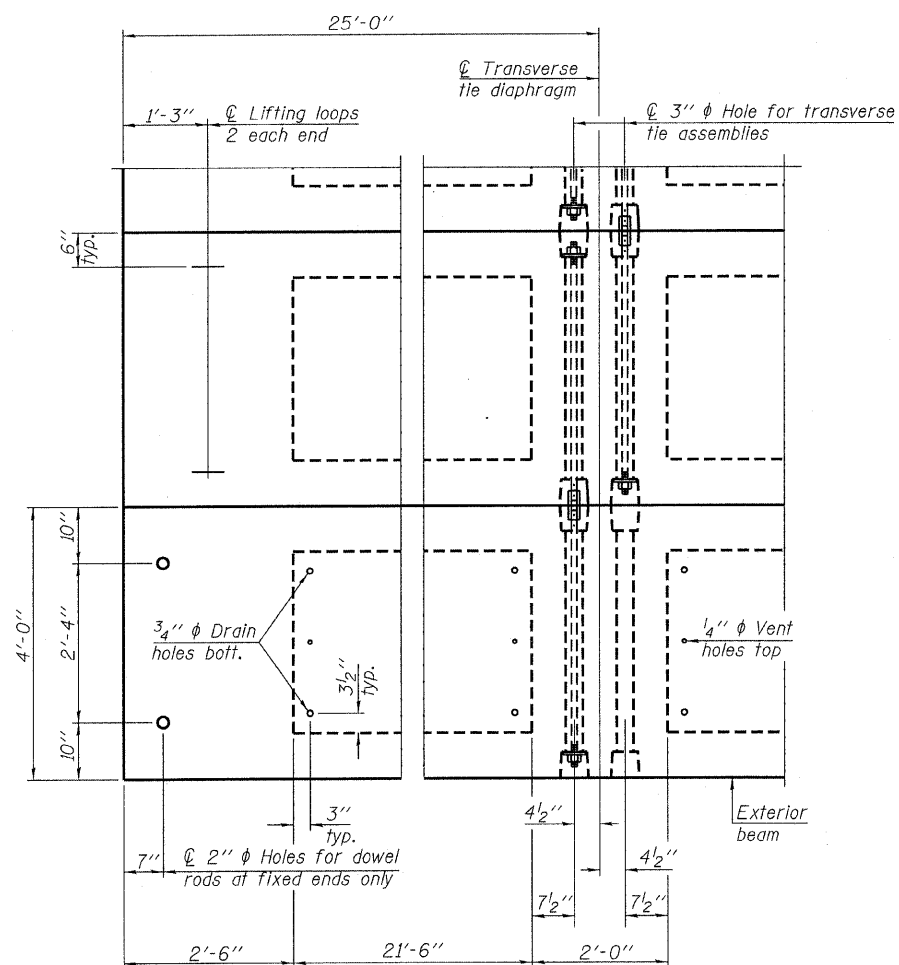
Note: Omit holes when using expansion bearings.



SECTION A-A



TYPICAL TRANSVERSE TIE ASSEMBLY

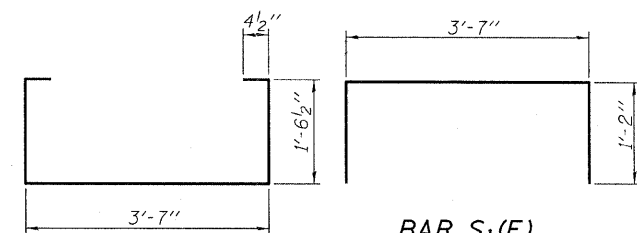


PLAN VIEW

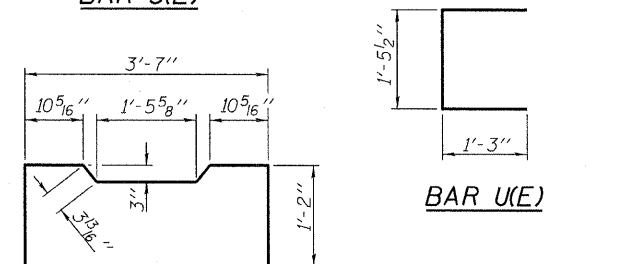
Note: Connect beams in pairs with the transverse tie configuration shown.

NOTES

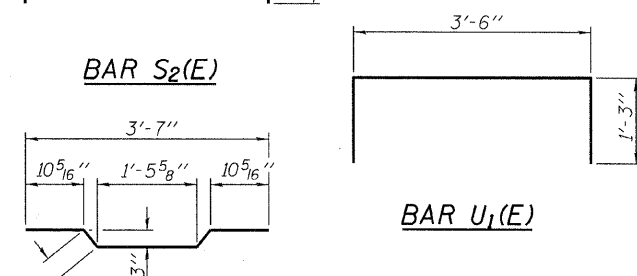
- Prestressing steel shall be uncoated high strength, low relaxation 7-wire strand, Grade 270. The nominal diameter shall be 1/2 inch and the nominal cross-sectional area shall be 0.153 sq. in.
- The 1 inch rods in the transverse tie assembly shall be tightened to a snug fit and the threads set. Pockets 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.



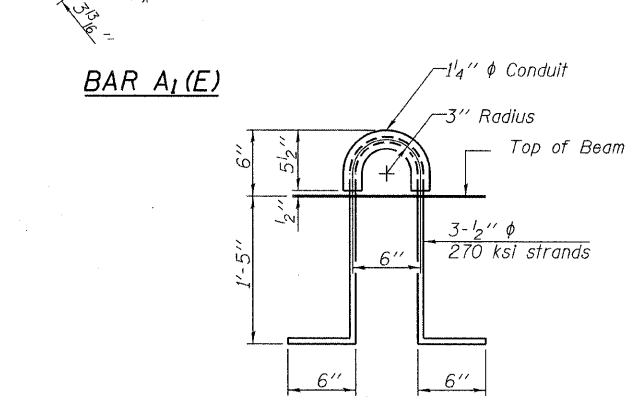
BAR S(E)



BAR U(E)



BAR S2(E)



LIFTING LOOP DETAIL

BILL OF MATERIAL

Precast Prestressed Conc. Deck Bms. (21' depth)	Sq. Ft.	1,200
---	---------	-------

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

PD-2148-0D

10-1-08

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

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

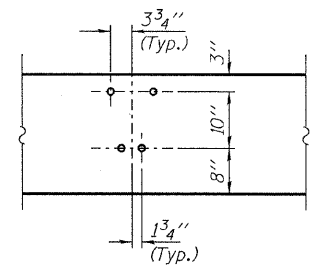
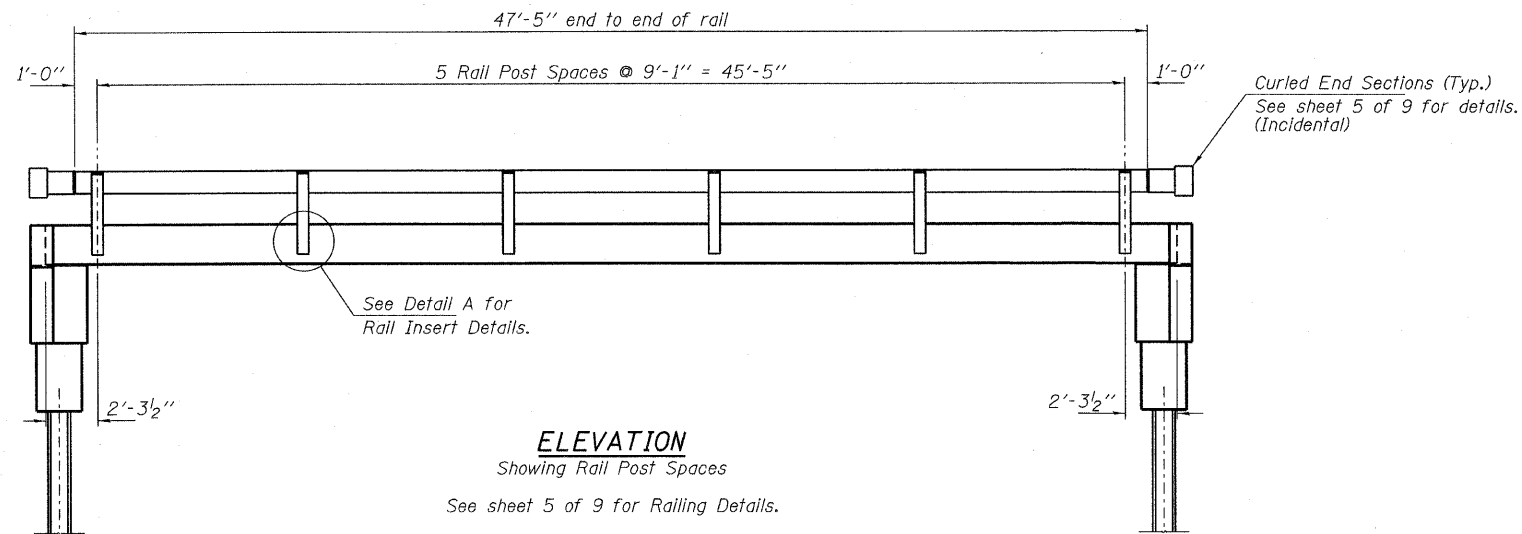
PROJECT NUMBER: 09.0074.130 DATE: 07/08/09

SHEET NO. 3

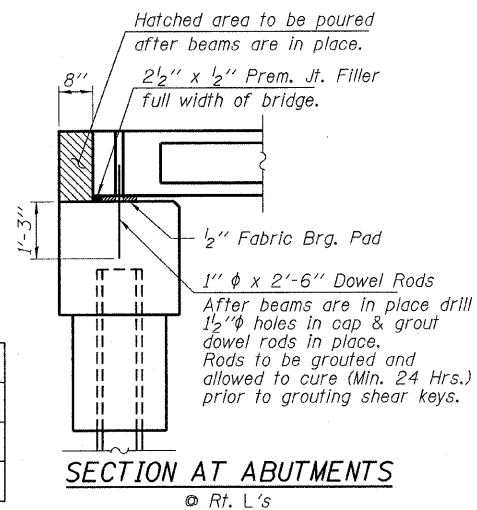
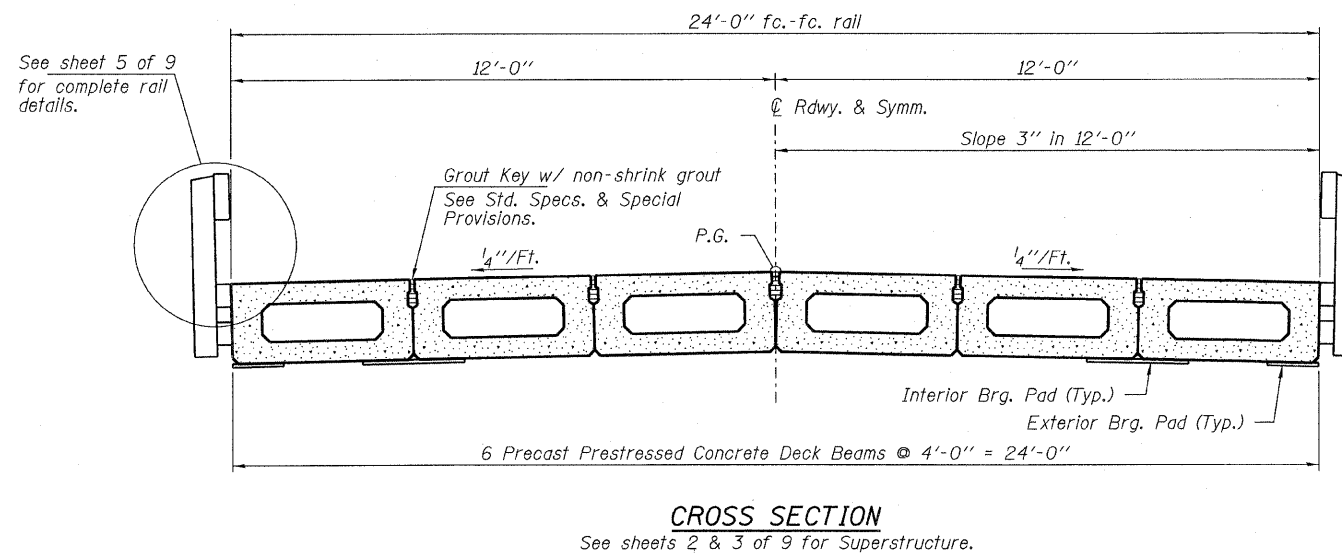
9 SHEETS

FAS	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
890	08-07120-00-BR	WHITE	12	6
HERALDS PRAIRIE ROAD DISTRICT		CONTRACT NO. 99408		
FED. ROAD DIST. NO.		ILLINOIS FED. AID PROJECT BROS-0193(042)		

SUPERSTRUCTURE DETAILS
21' x 48' PPC DECK BEAM DETAILS
STRUCTURE NO. 097-3267



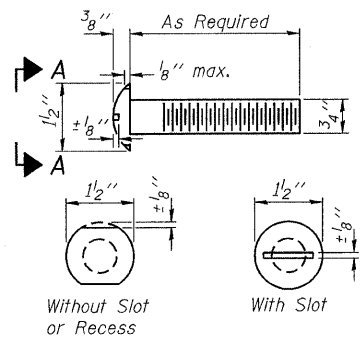
DETAIL A



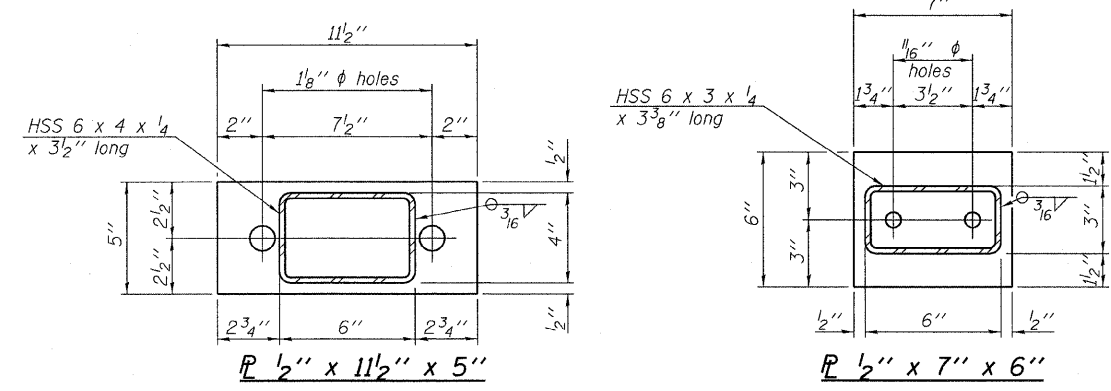
DESIGNED - A.S.L.
CHECKED - S.W.M.
DRAWN - D.A.B.
CHECKED - D.T.M.

SUPERSTRUCTURE DETAILS
STRUCTURE NO. 097-3267

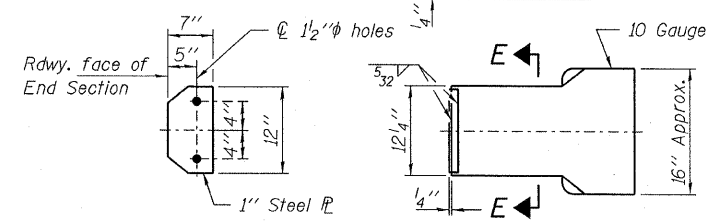
HAMPTON, LENZINI & RENWICK, INC. CIVIL & STRUCTURAL ENGINEERS LAND SURVEYORS HLR 3085 STEVENSON DRIVE, SUITE 201 SPRINGFIELD, ILLINOIS 62703 (217) 546-3400 PROJECT NUMBER: 09.0074.130 DATE: 07/08/09	SHEET NO. 4 9 SHEETS	FAS	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		890	08-07120-00-BR	WHITE	12	7
		HERALDS PRAIRIE ROAD DISTRICT		CONTRACT NO. 99408		
		FED. ROAD DIST. NO.	ILLINOIS FED. AID PROJECT BROS-0193(042)			



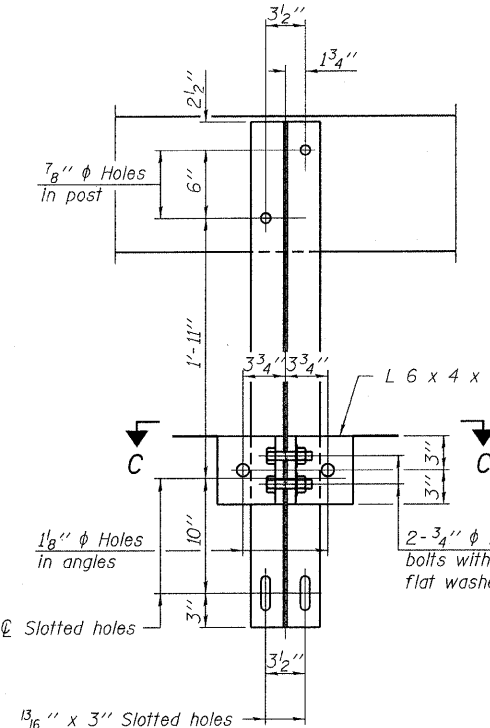
**VIEW A-A
ROUND HEAD BOLT**



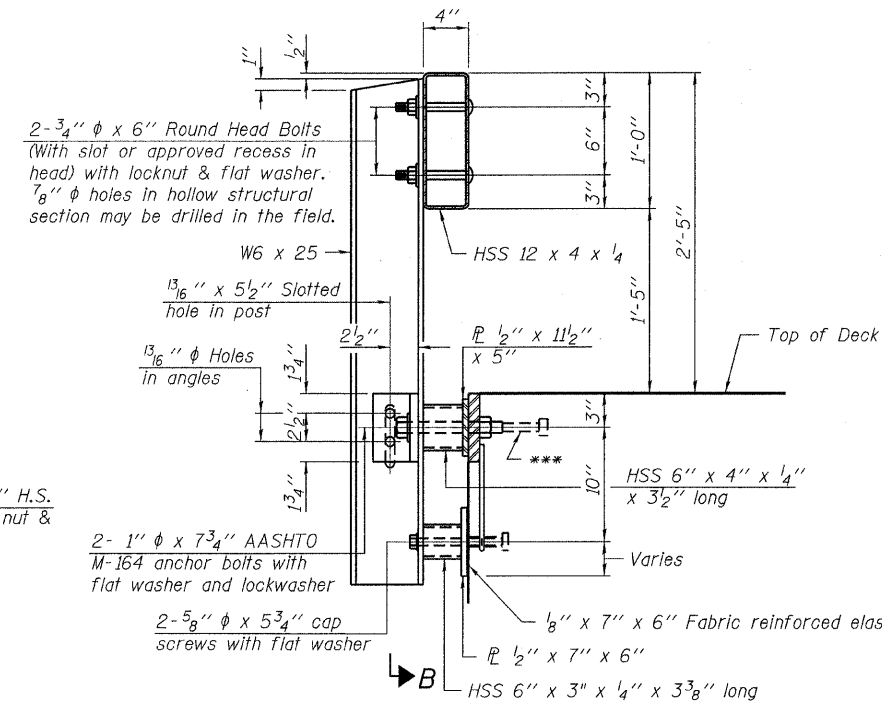
Note: Cost of curled end sections shall be included with the Steel Railing. (4 Required)



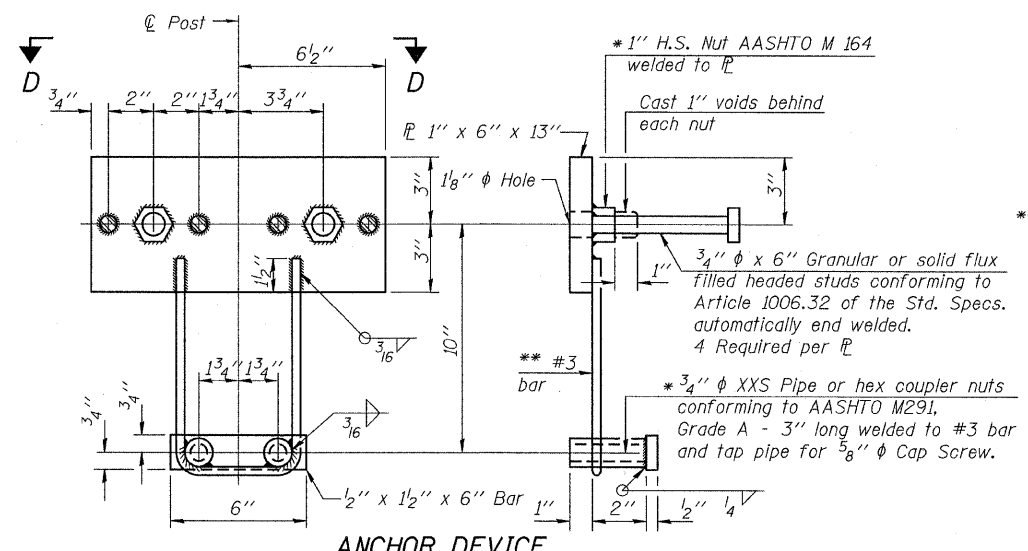
SECTION E-E CURLED END SECTION DETAILS



SECTION B-B

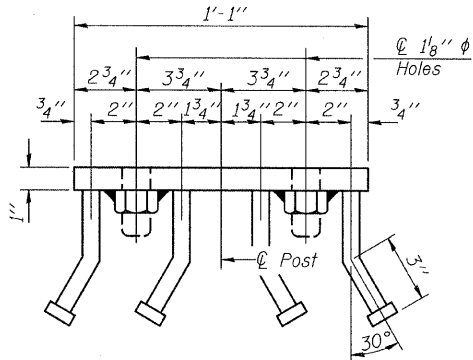


SECTION AT RAILING POST

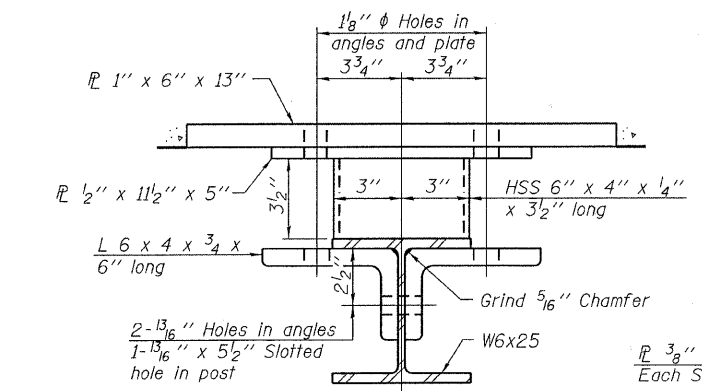


ANCHOR DEVICE

Notes:
All field drilled holes shall be coated with an approved zinc rich paint before erection.
For multi-span bridges, sufficient 1/4 inch x 6 inch x 1-2 inch 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.

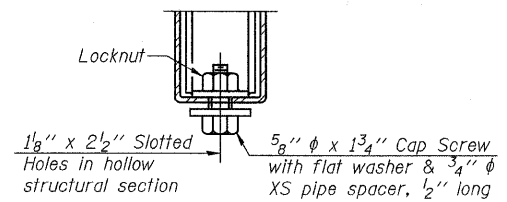


VIEW D-D

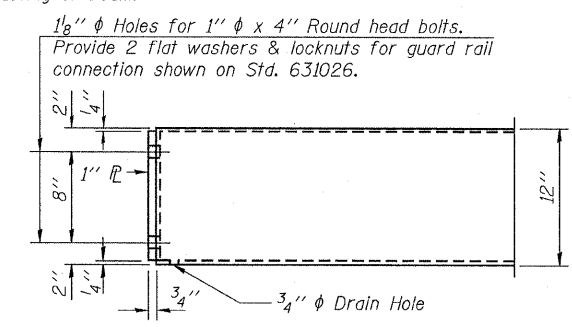


SECTION C-C

** 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 inch.



RAIL SPLICE CONNECTION AT EXPANSION JT.



END OF RAIL DETAILS

BILL OF MATERIAL

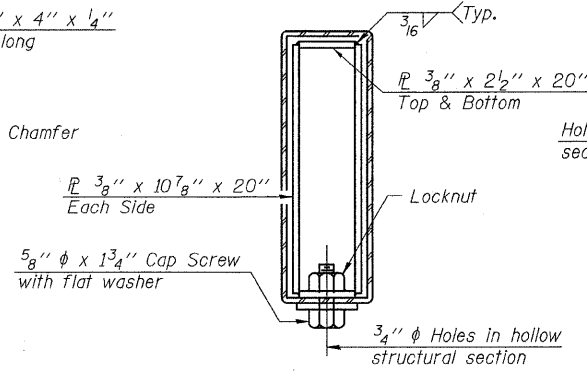
Item	Unit	Quantity
Steel Railing, Type S-1	Foot	95

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

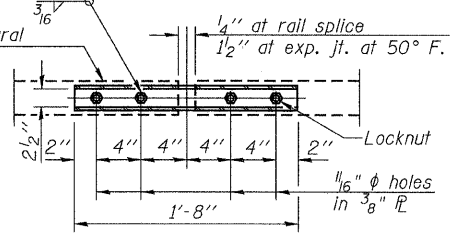
R-23A

10-1-08

(10'-9" Maximum Post Spacing)



SECTIONS AT RAIL SPLICE



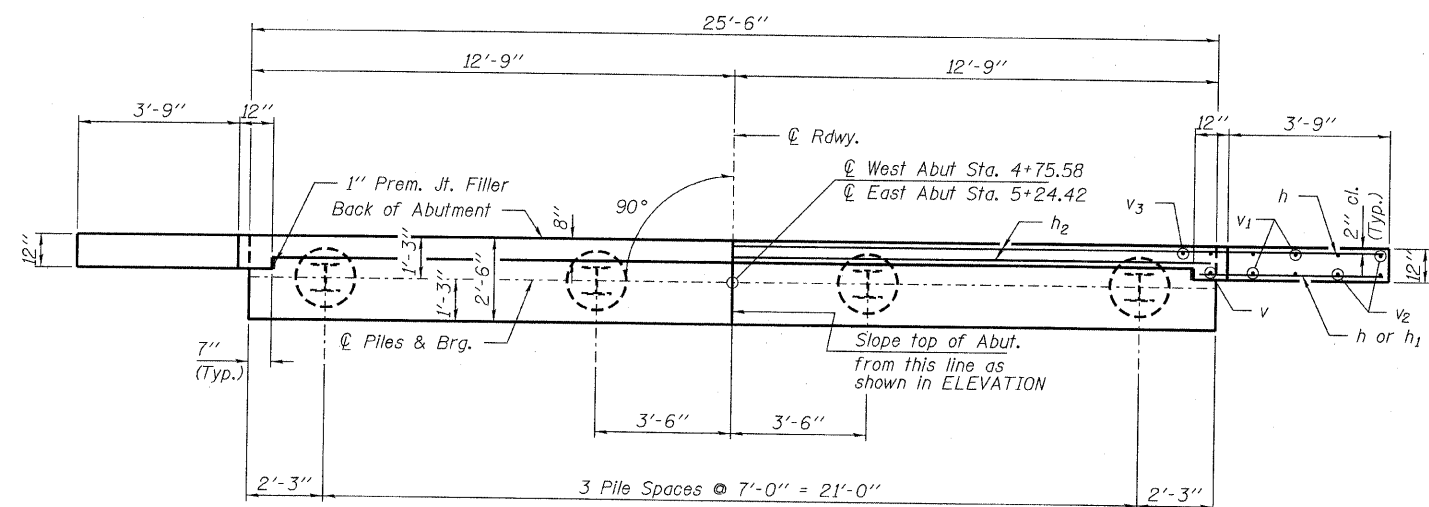
PLAN-BOTT. SPLICE TYPICAL

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

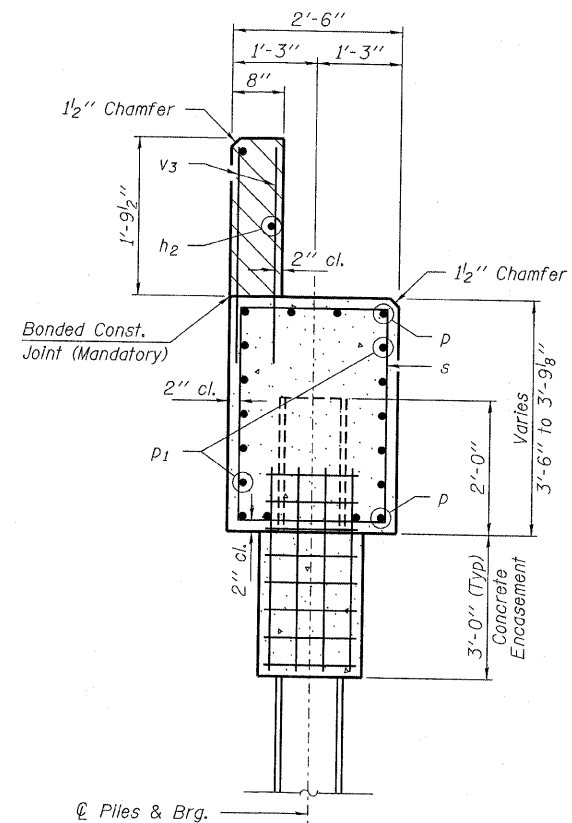
HLR
3085 STEVENSON DRIVE, SUITE 201
SPRINGFIELD, ILLINOIS 62703
(217) 546-3400

PROJECT NUMBER: 09.0074.130 DATE: 07/08/09

SHEET NO. 5 9 SHEETS	FAS	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	890	08-07120-00-BR	WHITE	12	8
	HERALDS PRAIRIE ROAD DISTRICT		CONTRACT NO. 99408		
	FED. ROAD DIST. NO.		ILLINOIS FED. AID PROJECT BROS-0193(042)		

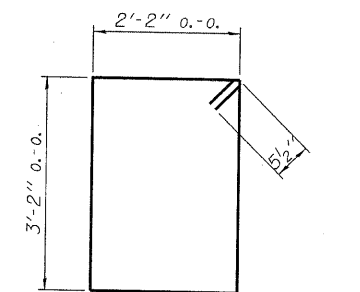


PLAN

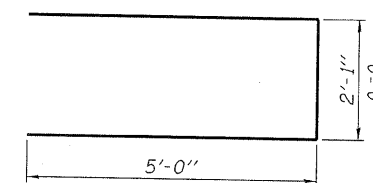


SECTION A-A

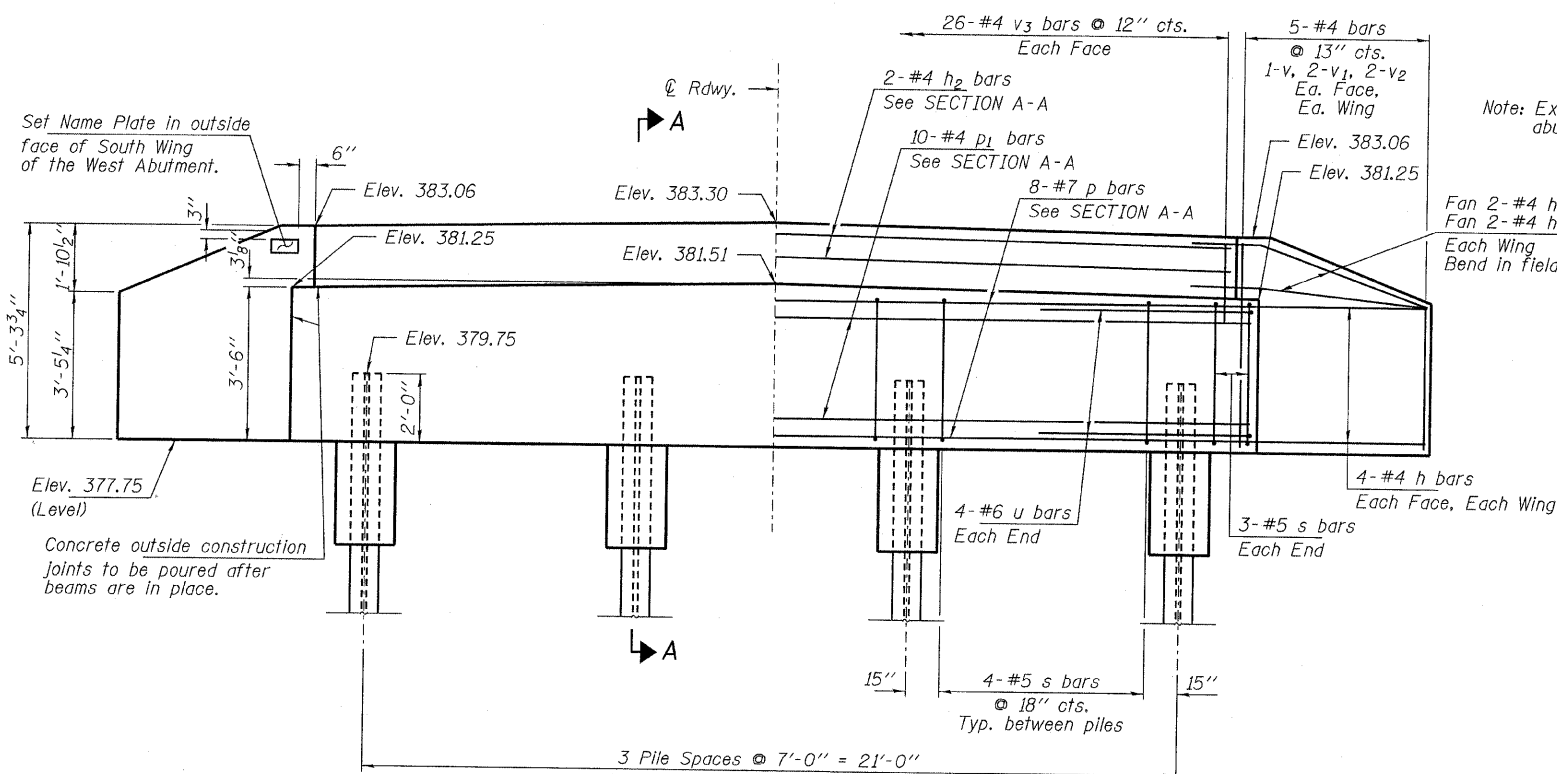
Hatched area to be poured after beams are in place.



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.

BILL OF MATERIAL - 2 ABUTS.

BAR	NO.	SIZE	LENGTH	SHAPE
h	40	#4	6'-0"	—
h1	8	#4	4'-6"	—
h2	4	#4	25'-2"	—
p	16	#7	25'-2"	—
p1	20	#4	25'-2"	—
s	36	#5	11'-7"	□
u	16	#6	12'-1"	—
v	8	#4	4'-11"	—
v1	16	#4	4'-3"	—
v2	16	#4	3'-2"	—
v3	104	#4	2'-8"	—
Concrete Structures			Cu. Yd.	22.2
Concrete Encasement			Cu. Yd.	2.8
Reinforcement Bars			Pound	2,430
Steel Piles HPI0x42			Foot	490
Test Pile Steel HPI0x42			Each	1
Name Plates			Each	1

PILE DATA

Type: Steel HPI0x42
No. Req'd. (2 Abuts.): 8
Factored Resistance Available (Rf): 167 Kips/Pile
Nominal Required Bearing (Rn): 335 Kips/Pile
Est. Length: 70 Ft/Pile

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

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

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

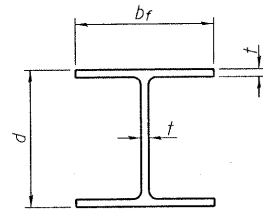
DESIGNED - A.S.L.
CHECKED - S.W.M.
DRAWN - D.A.B.
CHECKED - D.T.M.

HAMPTON, LENZINI & RENWICK, INC.
CIVIL & STRUCTURAL ENGINEERS
LAND SURVEYORS
3085 STEVENSON DRIVE, SUITE 201
SPRINGFIELD, ILLINOIS 62703
(217) 546-3400

SHEET NO. 6
9 SHEETS

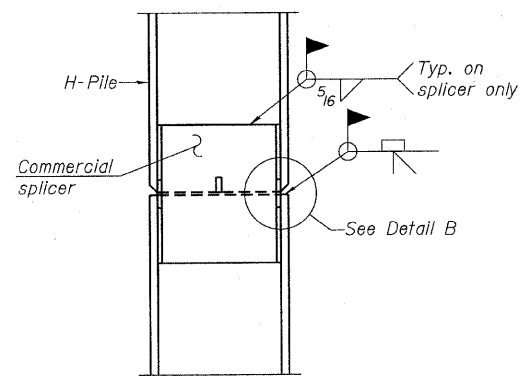
FAS	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
890	08-07120-00-BR	WHITE	12	9
HERALDS PRAIRIE ROAD DISTRICT		CONTRACT NO. 99408		
FED. ROAD DIST. NO.	ILLINOIS FED. AID PROJECT BROS-01931042			

ABUTMENTS
STRUCTURE NO. 097-3267

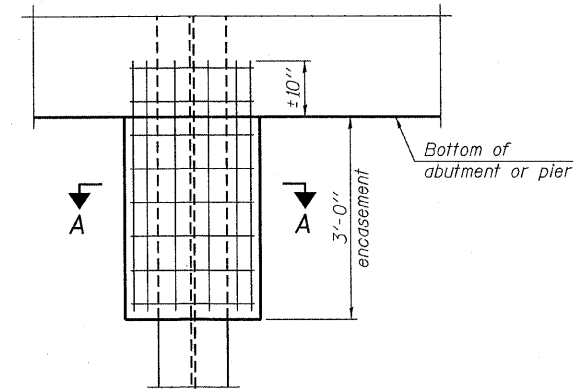


STEEL PILE TABLE

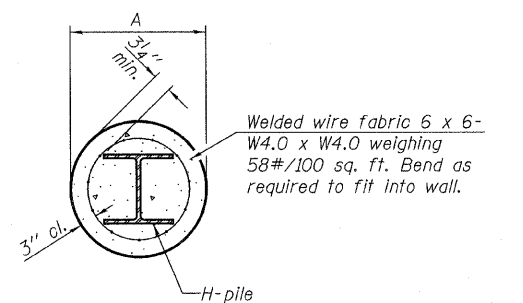
Designation	Depth d	Flange width bf	Web and Flange thickness t	Encasement diameter A
HP 14x117	14 1/4"	14 7/8"	13/16"	30"
x102	14"	14 3/4"	1/6"	30"
x89	13 7/8"	14 3/4"	5/8"	30"
x73	13 5/8"	14 5/8"	1/2"	30"
HP 12x84	12 1/4"	12 1/4"	1/6"	24"
x74	12 1/8"	12 1/4"	5/8"	24"
x63	12"	12 1/8"	1/2"	24"
x53	11 3/4"	12"	7/16"	24"
HP 10x57	10"	10 1/4"	9/16"	24"
x42	9 3/4"	10 1/8"	7/16"	24"
HP 8x36	8"	8 1/8"	7/16"	18"



ELEVATION



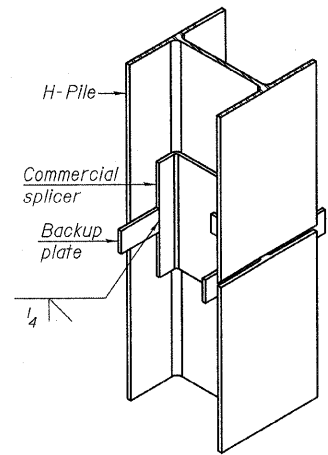
ELEVATION



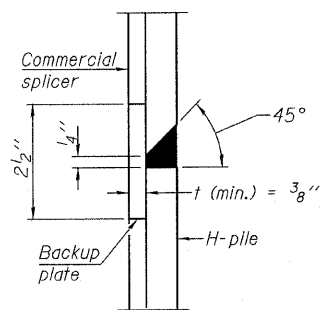
SECTION A-A

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

PILE ENCASEMENT

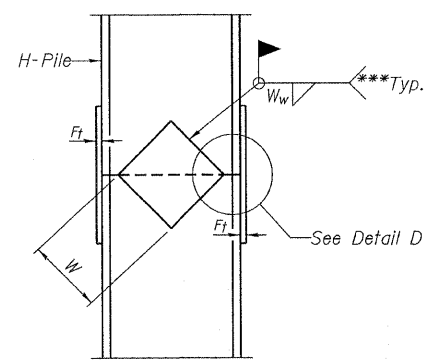


ISOMETRIC VIEW

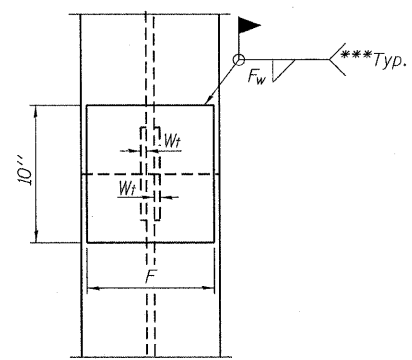


DETAIL "B"

WELDED COMMERCIAL SPLICE

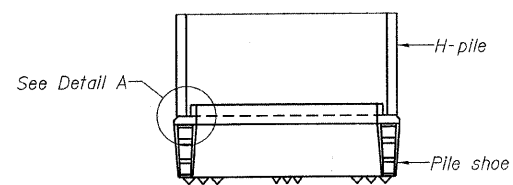


ELEVATION

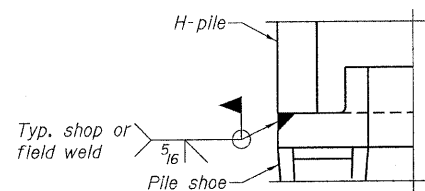


END VIEW

WELDED PLATE FIELD SPLICE

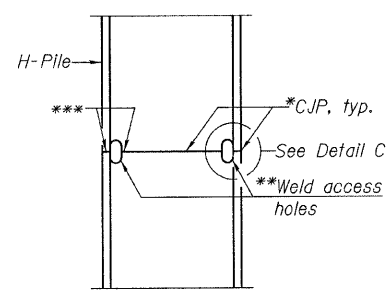


ELEVATION



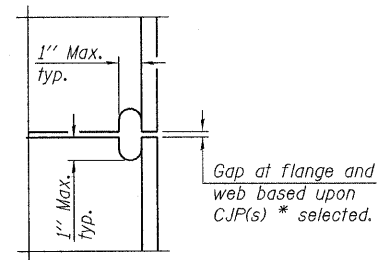
DETAIL A

H-PILE SHOE ATTACHMENT

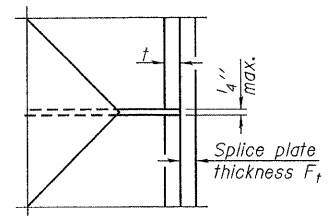


ELEVATION

COMPLETE PENETRATION WELD SPLICE



DETAIL C



DETAIL D

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

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

**HP PILE DETAILS
STRUCTURE NO. 097-3267**

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

F-HP 10-1-08

- * Use joint conforming to Figure 3.4 in AWS D1.1, Structure Welding Code - Steel.
- ** Preparation per Fig. 5.2 in AWS D1.1, Structure Welding Code - Steel.
- *** Interrupt welds 1/4" from end of each pile.

HAMPTON, LENZINI & RENWICK, INC. CIVIL & STRUCTURAL ENGINEERS LAND SURVEYORS HLR 3085 STEVENSON DRIVE, SUITE 201 SPRINGFIELD, ILLINOIS 62703 (217) 546-3400 PROJECT NUMBER: 09.0074.130 DATE: 07/08/09	SHEET NO. 7	FAS	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	9 SHEETS	890	08-07120-00-BR	WHITE	12	10
		HERALDS PRAIRIE ROAD DISTRICT		CONTRACT NO. 99408		
		FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT BROS-0193(042)		

HOLCOMB FOUNDATION ENGINEERING INC.
P.O. Box 88 618-529-5262
Carbondale, Il. 62903 618-457-8991 fax Page 1 of 2

Bridge Foundation Boring Log

Project: H-09056 Bridge Co Rd 600 N Date: 3/11/09
Section: 08-07120-00-BR Station _____ Bored by: D. Russell
Structure: _____ Checked By: J. Holcomb
County: White

Boring No: 1
Station: _____
Offset: _____

Elevation	N	Cu tsf	w %	Surface Water Elev.		Elevation	N	Cu tsf	w %
				Ground Water Elev.	Upon Completion				
382.56	0			372.56	plugged				
378.56	7	1.15	20	89.6					
376.06	2	0.65	26						
376.06	4	1.55	24	353.56					
371.06	6	2.55	28						
371.06	4	1.45	30						
371.06	4	1.25	30						
343.56	3	1.05	29	60.6					
363.56	2	0.98	28						
361.06	6	1.08	16						

Ground Surface 382.56 89.6
Brown Mottled Gray Silty CLAY to Clayey SILT (A-6 to A-4)
Brown Clayey SILT (A-6)
Gray Mottled Brown Silty CLAY (A-6)
Gray Silty CLAY (A-6) with sand
Gray Silty CLAY (A-6)
Gray Silty CLAY (A-6)
Gray Silty CLAY (A-6)
Gray-Brown Sandy CLAY (A-6)

Ground Water Elev. 372.56
During Drilling 89.6
Upon Completion plugged

Surface Water Elev. 372.56
During Drilling 89.6
Upon Completion plugged

End of Boring @ -69.0'

N = Standard Penetration Test Blows per foot to drive 2" O.D. Split Spoon Sampler 12" with a 140 lbs. hammer falling 30"
Cu - 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

HOLCOMB FOUNDATION ENGINEERING INC.
P.O. Box 88 618-529-5262
Carbondale, Il. 62903 618-457-8991 fax Page 2 of 2

Bridge Foundation Boring Log

Project: H-09056 Bridge Co Rd 600 N Date: 3/11/09
Section: 08-07120-00-BR Station _____ Bored by: D. Russell
Structure: _____ Checked By: J. Holcomb
County: White

Boring No: 1
Station: _____
Offset: _____

Elevation	N	Cu tsf	w %	Surface Water Elev.		Elevation	N	Cu tsf	w %
				Ground Water Elev.	Upon Completion				
313.56	100			372.56	plugged				
328.56	5	0.58	48	89.6					
328.56	11	1.78	19						
318.56	38	5.95	17						
318.56	100								
316.56	76	4.85	13						
316.56	100								
316.56	76		7						

clay (continued)
shale (continued)
End of Boring @ -69.0'

Ground Water Elev. 372.56
During Drilling 89.6
Upon Completion plugged


Surface Water Elev. 372.56
During Drilling 89.6
Upon Completion plugged

N = Standard Penetration Test Blows per foot to drive 2" O.D. Split Spoon Sampler 12" with a 140 lbs. hammer falling 30"
Cu - 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

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

BORING 1

BORINGS
STRUCTURE NO. 097-3267

 HAMPTON, LENZINI & RENWICK, INC. <small>CIVIL & STRUCTURAL ENGINEERS LAND SURVEYORS</small> 3085 STEVENSON DRIVE, SUITE 201 SPRINGFIELD, ILLINOIS 62703 (217) 546-3400	SHEET NO. 8	FAS	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	9 SHEETS	890	08-07120-00-BR	WHITE	12	11
PROJECT NUMBER: 09.0074.130	DATE: 07/08/09	HERALDS PRAIRIE ROAD DISTRICT		CONTRACT NO. 99408		
		FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT BROS-0193(042)		

