

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

PLANS FOR PROPOSED HIGHWAY BRIDGE PROGRAM

T.R. 296B HAMILTON COUNTY SECTION 08-09114-00-BR
PROJECT NO. BROS-065(047) JOB NO. C-99-529-08
CONTRACT # 99454 SOUTHERN OUTLET

INDEX OF SHEETS

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

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

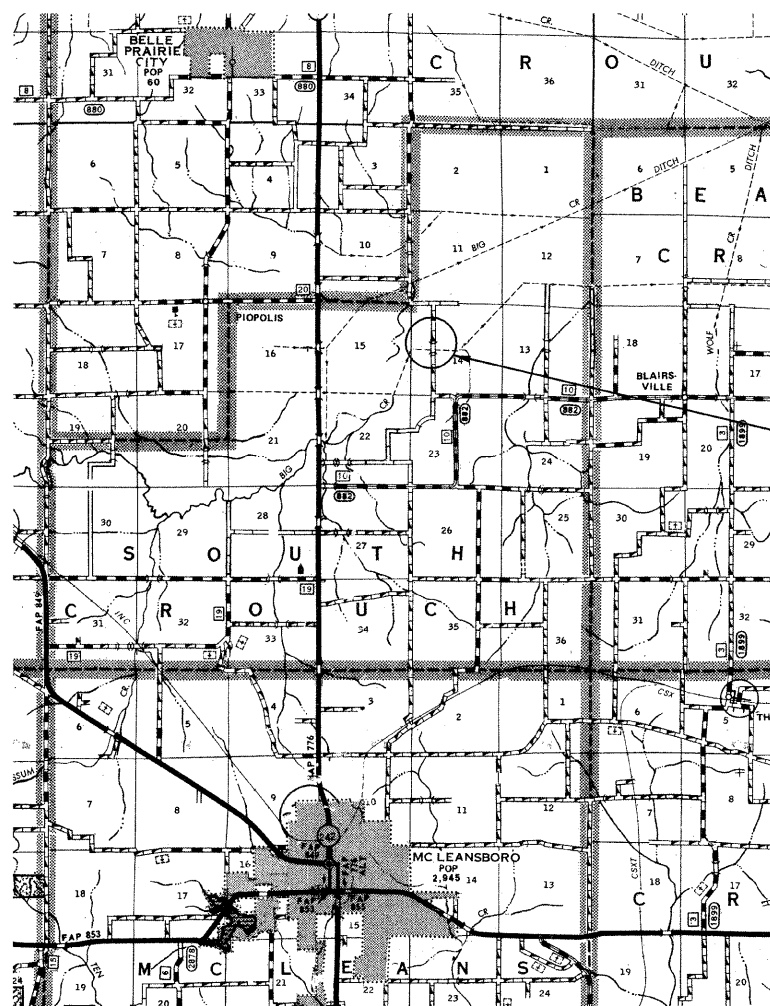
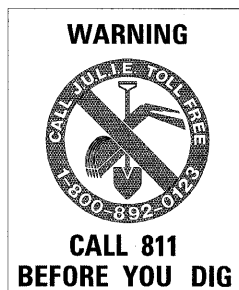
000001-06	STANDARD SYMBOLS, ABBREVIATIONS & PATTERNS
280001-05	TEMPORARY EROSION CONTROL SYSTEMS
515001-03	NAME PLATE FOR BRIDGES
701901-01	TRAFFIC CONTROL DEVICES
B.L.R. 21-8	TYPICAL APPLICATION OF TRAFFIC CONTROL DEVICES FOR CONSTRUCTION ON RURAL LOCAL HIGHWAYS
B.L.R. 22-6	TYPICAL APPLICATION OF TRAFFIC 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	6.00
20200100	EARTH EXCAVATION	CU YD	79.00
20300100	CHANNEL EXCAVATION	CU YD	144.00
20400800	FURNISHED EXCAVATION	CU YD	2089.00
28000305	TEMPORARY DITCH CHECKS	FOOT	28.00
28100807	STONE DUMPED RIPRAP, CLASS A4	TON	360.00
40200800	AGGREGATE SURFACE COURSE, TYPE B	TON	440.00
50100100	REMOVAL OF EXISTING STRUCTURES	EACH	1.00
50300225	CONCRETE STRUCTURES	CU YD	25.40
50300280	CONCRETE ENCASEMENT	CU YD	2.80
50400605	PRECAST PRESTRESSED CONCRETE DECK BEAMS (33" DEPTH)	SQ FT	1800.00
50800105	REINFORCEMENT BARS	POUND	2540.00
Δ 50900205	STEEL RAILING, TYPE S1	FOOT	148.00
51201600	FURNISHING STEEL PILES HP12X53	FOOT	160.00
51202305	DRIVING PILES	FOOT	160.00
51500100	NAME PLATES	EACH	1.00
*54201063	PIPE CULVERTS, CLASS D, TYPE 2 18"	FOOT	40.00
67100100	MOBILIZATION	L SUM	1.00
*X2501000	SEEDING, CLASS 2 (SPECIAL)	ACRE	0.60
*Z0068900	STONE LINED DITCH	TON	31.00

Δ SPECIALTY ITEMS

DESIGN DESIGNATION:
DESIGN SPEED: 30 MPH
HIGHWAY CLASS - LOCAL ROAD
EXISTING STRUCTURE NO.: 033-3100
PROPOSED STRUCTURE NO.: 033-3314
CURRENT A.D.T. = 80
CONTRACT NO. 99454



LAYOUT
APPROXIMATE SCALE 1 INCH = 1 MILE



GROSS LENGTH	660.00 FT	0.125 MILES
OMISSIONS	0.00 FT	0.000 MILES
NET LENGTH	660.00 FT	0.125 MILES

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

SECTION 06-09114-00-BR
BEGINS STATION 1+70

STATION 5+00, STRUCTURE NO. 033-3314
A 75' LONG SINGLE SPAN PRECAST
PRESTRESSED CONCRETE DECK BEAM
BRIDGE (33" DEPTH), 24' ROADWAY,
0.00% GRADE, 0° SKEW.

SECTION 08-09114-00-BR
ENDS STATION 8+30

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

APPROVED 2/24/2011

COUNTY ENGINEER

PASSED 3/24/2011

ENGINEER OF LOCAL ROADS AND STREETS

RELEASING FOR BID
BASED ON LIMITED
REVIEW 3/24/11

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

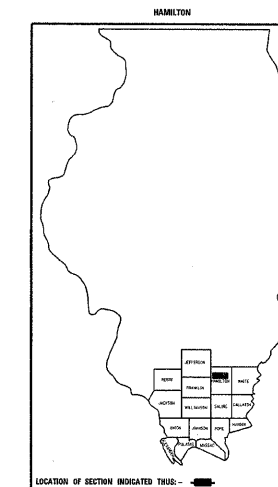
T.R.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
296B	08-09114-00-BR	HAMILTON	12	1

FED. ROAD DIST. NO. 9 ILLINOIS
PROJECT * BROS-065(047)
JOB * C-99-529-08

FED. AID PROJECT
CONTRACT * 99454
SOUTHERN OUTLET

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

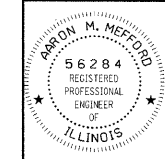
LEC JOB * H091101THM



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
2-24-11
DATE
11-30-11
EXPIRES

TOWNSHIP ROUTE 296B
OVER SOUTHERN OUTLET
HAMILTON COUNTY, ILLINOIS

SHEET TITLE:

TITLE SHEET

SCALE:	VARIES
BY:	AMM
DATE:	2/2/11
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, 2007.

THE WORK INVOLVED ON THIS SECTION CONSISTS OF THE REMOVAL OF THE EXISTING STRUCTURE, THE CONSTRUCTION OF A 75 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.

AGGREGATE SURFACE COURSE, TYPE B INCLUDES 24 TON FOR FILL NEXT TO THE BRIDGE, 56 TON FOR FIELD ENTRANCES, AND 360 TON FOR THE ROADWAY.

NOTE: CONSTRUCTION TRANSITION
STA. 1+70 TO STA 2+20
STA. 7+80 TO STA 8+30

ALL QUANTITIES ARE INCLUDED IN THE PROPOSAL

P.I. STA= 2+38.4
Δ= 00°32'07" LT

P.I. STA= 7+42.5
Δ= 00°37'08" RT

T.R.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
296B	08-09114-00-BR	HAMILTON	12	2
FED. ROAD DIST. NO. 9 ILLINOIS		FED. AID PROJECT		
PROJECT# BROS 0651047		CONTRACT# 99454		
JOB NO. C-99-511-09		SOUTHERN OUTLET		
LEC JOB # H081017M				

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



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 296B
OVER SOUTHERN OUTLET
HAMILTON COUNTY, ILLINOIS

SHEET TITLE:

PLAN & PROFILE

SCALE: VARIES

BY: AMM

DATE: 2/11

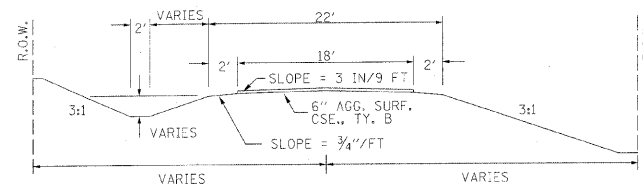
REV:

2 OF 12 SHEETS

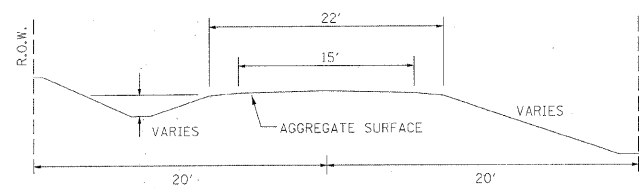
SHEET NO.

2

TYPICAL CROSS SECTION PROPOSED



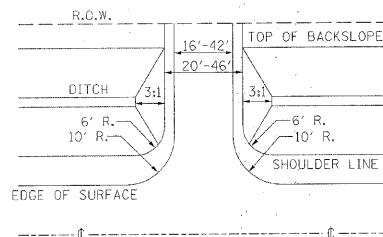
TYPICAL CROSS SECTION EXISTING



UTILITIES:

JULI.E. 1-800-892-0123

FIELD ENTRANCE DETAIL



NOTE: CONSTRUCT SPECIAL DITCH

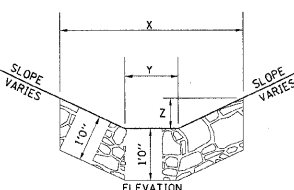
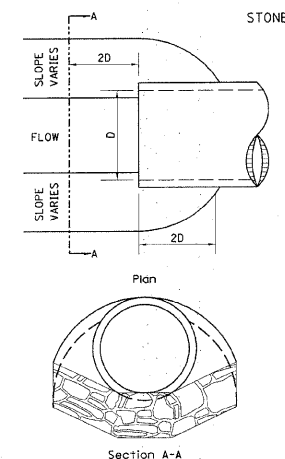
STA 2+50 TO STA 4+67 LT
STA 2+00 TO STA 4+15 RT
STA 6+50 TO STA 8+30 LT
STA 6+50 TO STA 8+30 RT

NOTE: CONSTRUCT STONE LINED DITCH

STA 4+17 TO STA 4+67 LT (0.62 TON/LIN FT)
31 TON STONE LINED DITCH.

SEE STONE LINED DITCH DESIGN.

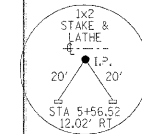
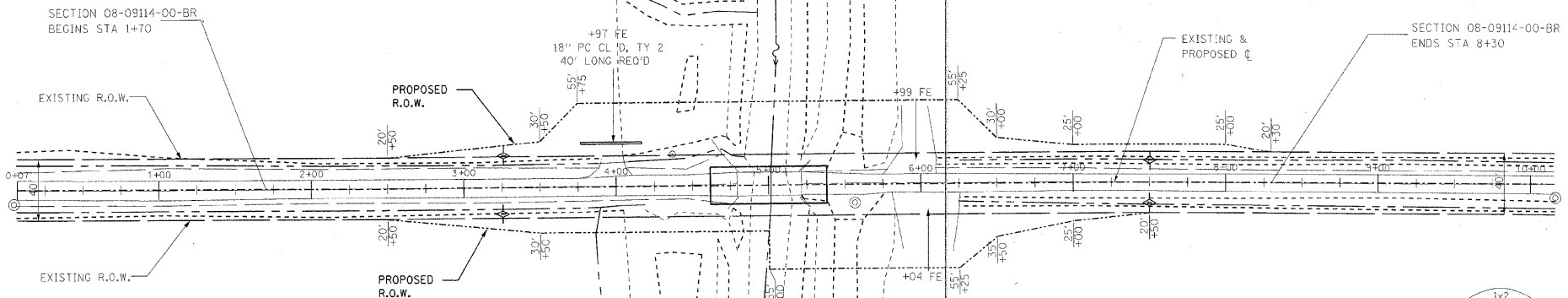
STONE LINED DITCH DESIGN



NOTE:

BOTTOM OF DITCH	SLOPE		
	1 1/2:1	2:1	3:1
2 FT	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+00.5; STRUCTURE NUMBER: 033-3100
A 40' LONG SINGLE SPAN BRIDGE WITH A 6" CONCRETE DECK ON
9-20" I BEAMS ON CONCRETE ABUTMENTS WITH CONCRETE WINGWALLS.

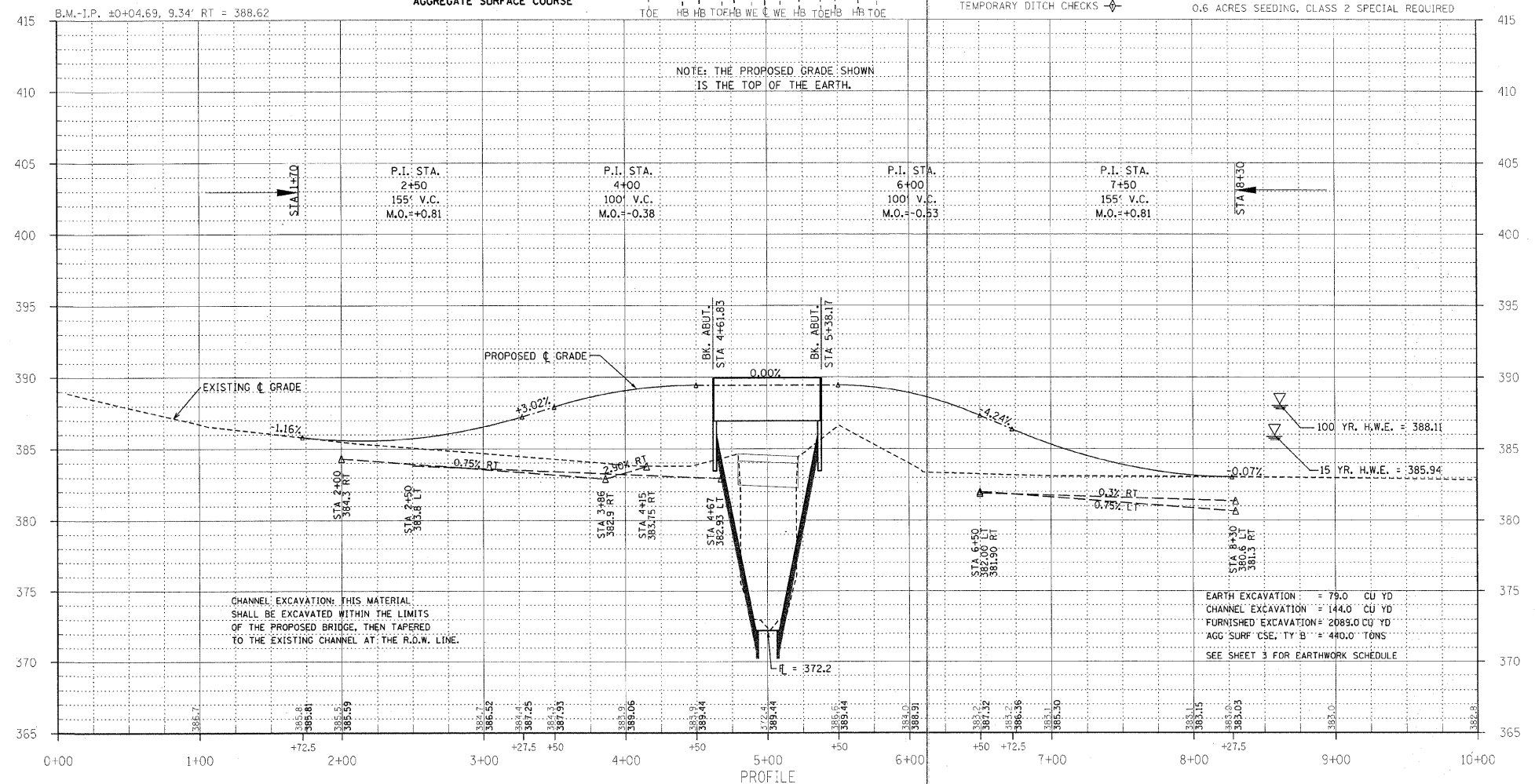
ONE (1) EACH-REMOVAL OF EXISTING STRUCTURES ALLOWED IN THIS PROPOSAL.

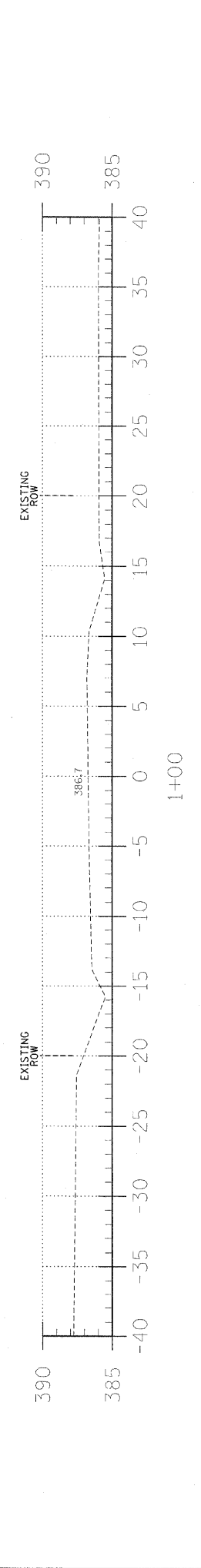
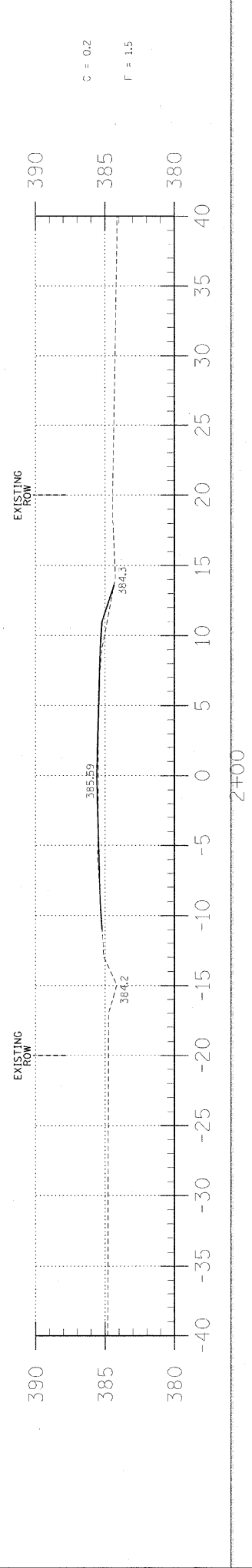
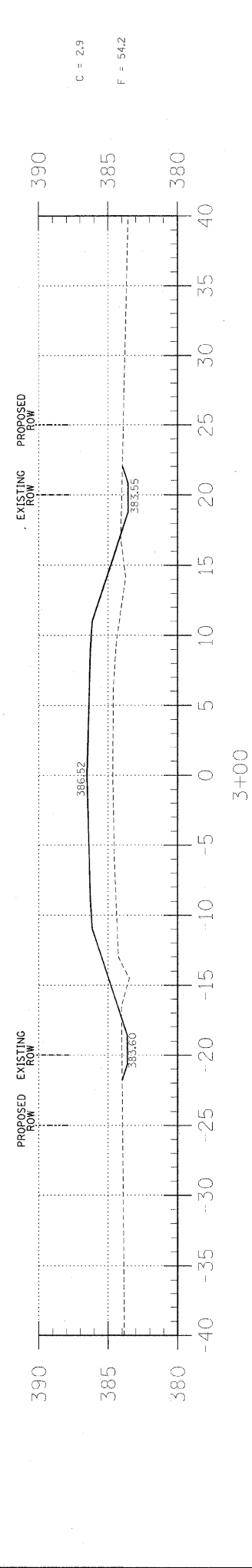
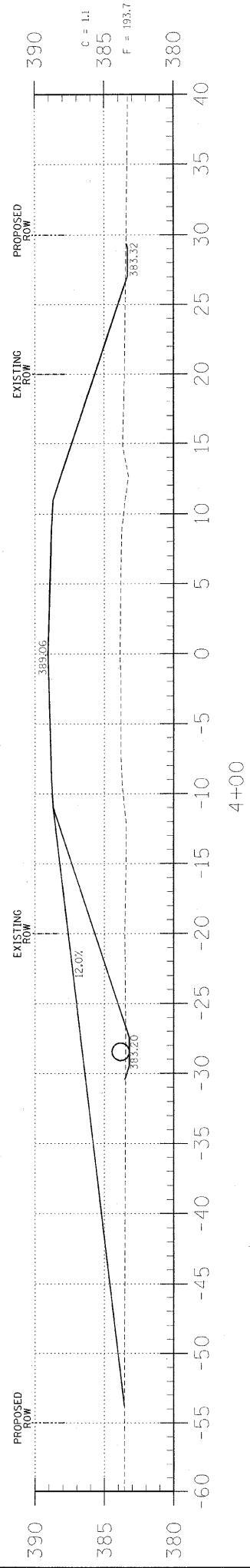
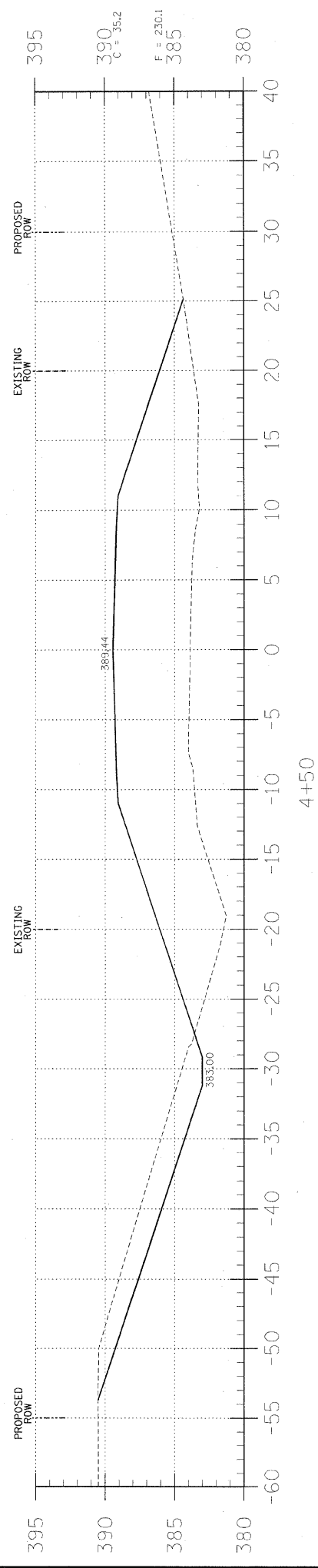
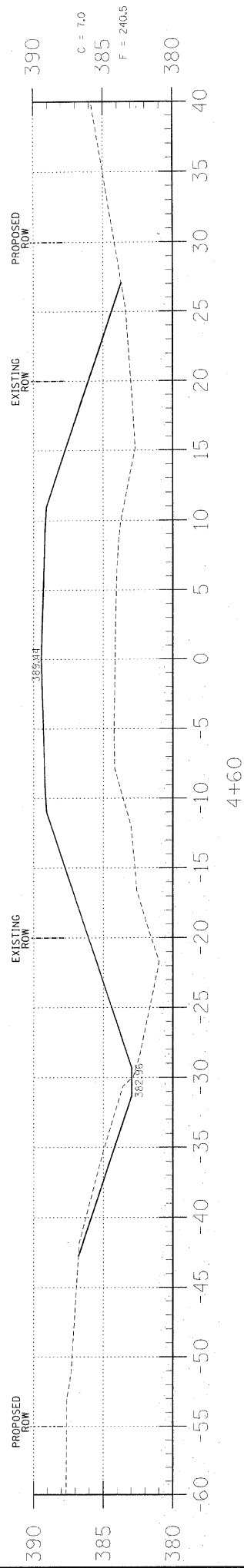
PROPOSED STRUCTURE: NO. 033-3314, STA 5+00,
A 75' LONG SINGLE SPAN P.P.C.D.B. BRIDGE
WITH 33" DEPTH BEAMS, SPILL THROUGH TYPE
ABUTMENTS, 24' WIDTH, 0° SKEW.

SEE BRIDGE PLAN SHEETS FOR THE DESIGN AND BILL OF MATERIALS.

NOTE: FILL NEXT TO BRIDGE TO BE
AGGREGATE SURFACE COURSE

6.0 UNITS TREE REMOVAL (6 TO 15 UNITS DIAMETER)
28.0 EACH TEMPORARY DITCH CHECKS
0.6 ACRES SEEDING, CLASS 2 SPECIAL REQUIRED





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+61.8	52.9	0.0	0.0	0.0	0.0	39.7	1026.1	-986.4				
STA 4+61.8 TO 5+38.2	0.0	144.4	0.0	0.0	72.2	54.2	0.0	0.0	889.1	-869.7		
STA 5+38.2 TO 10+00	25.8	0.0	0.0	0.0	0.0	19.4	889.1	-869.7				
3 FIELD ENTRANCES	0.0	0.0	0.0	0.0	0.0	0.0	286.8	-286.8				
TOTAL	78.7	144.4	72.2	113.3	2202.0	-2088.7						

TOWNSHIP ROUTE 296B
OVER SOUTHERN OUTLET
HAMILTON COUNTY, ILLINOIS

SHEET TITLE:
CROSS-SECTIONS

SCALE: 1" = 5'
BY: AMM
DATE: 2/21
REV:

3 OF 12 SHEETS

SHEET NO. 3

T.R. SECTION COUNTY TOTAL SHEETS SHEE NO.
296B 08-09114-00-BR HAMILTON 12 3

FED. ROAD DIST. NO. 9 ILLINOIS FED. AID PROJECT
PROJECT# BROS-0651047 CONTRACT# 99454

JOB NO. C-99-511-09 SOUTHERN OUTLET

LEC JOB # H09L007HM

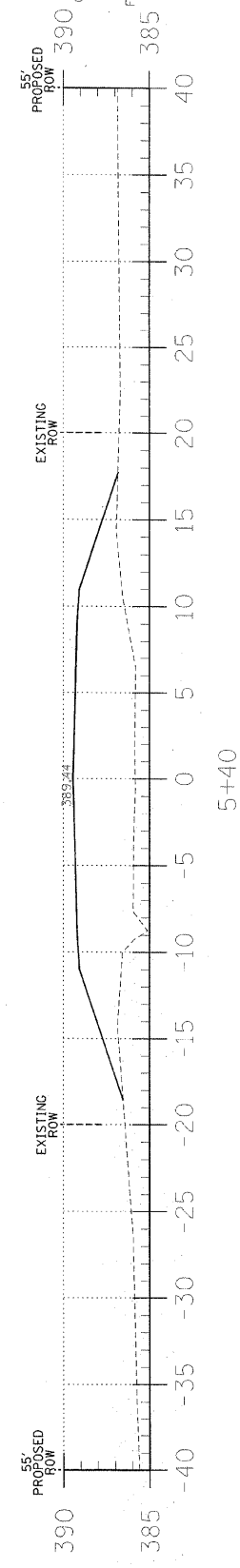
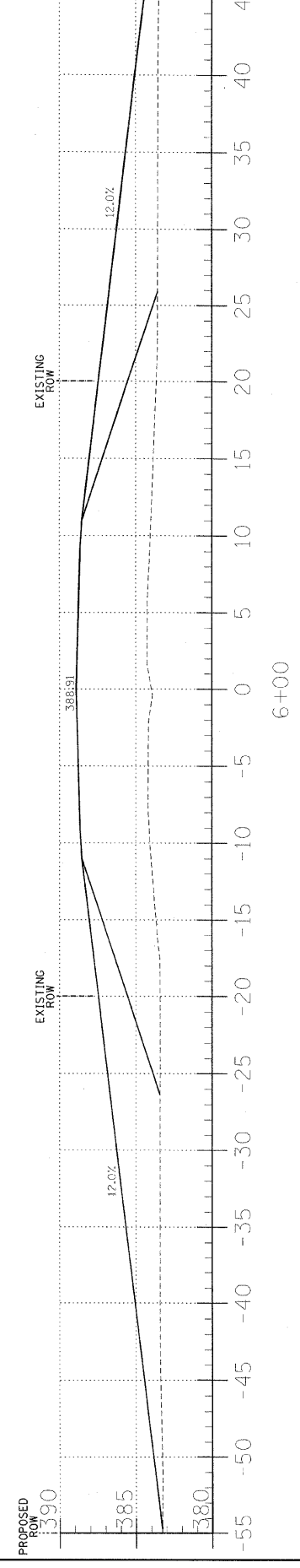
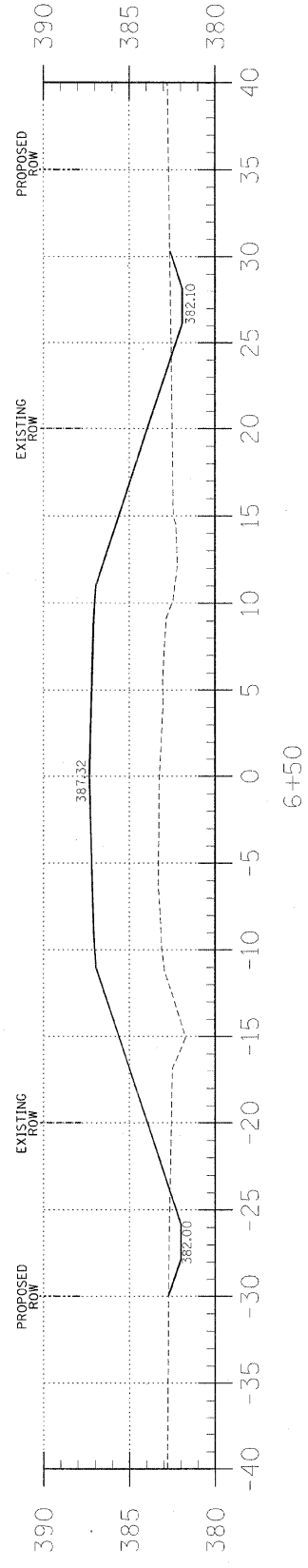
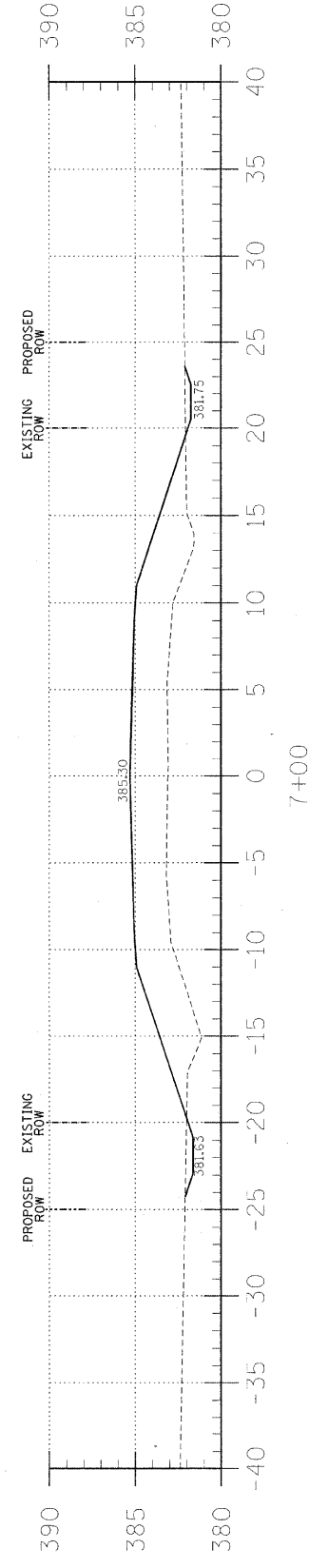
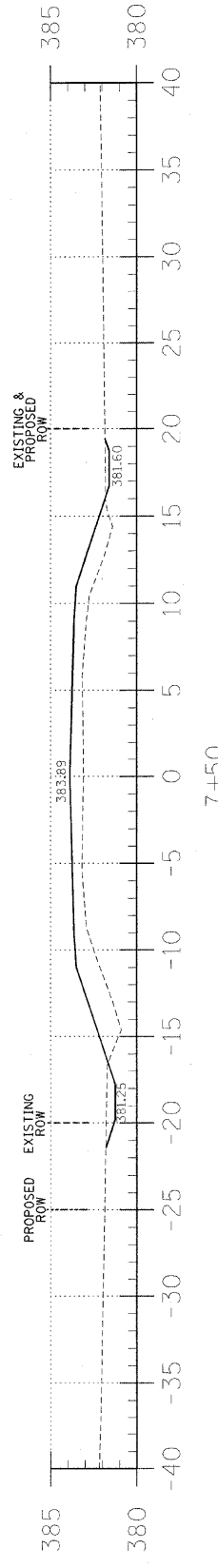
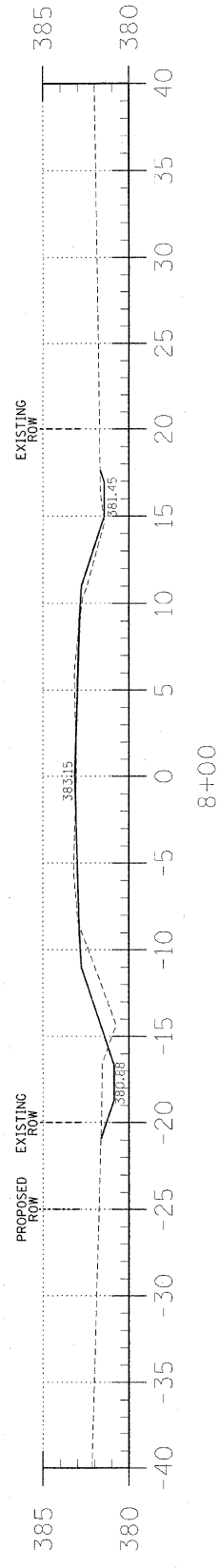
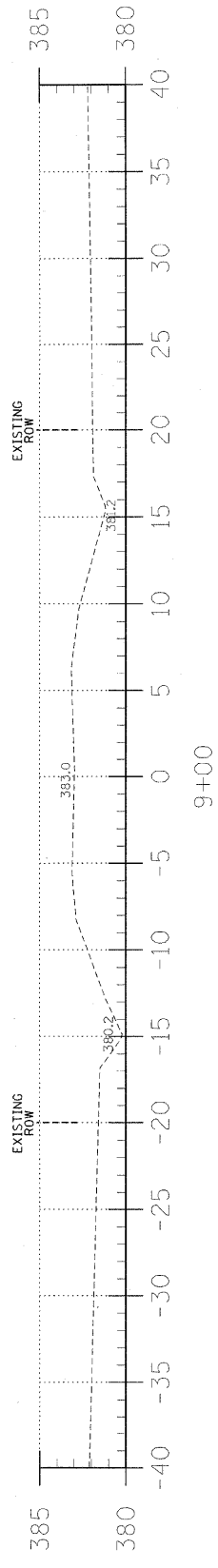
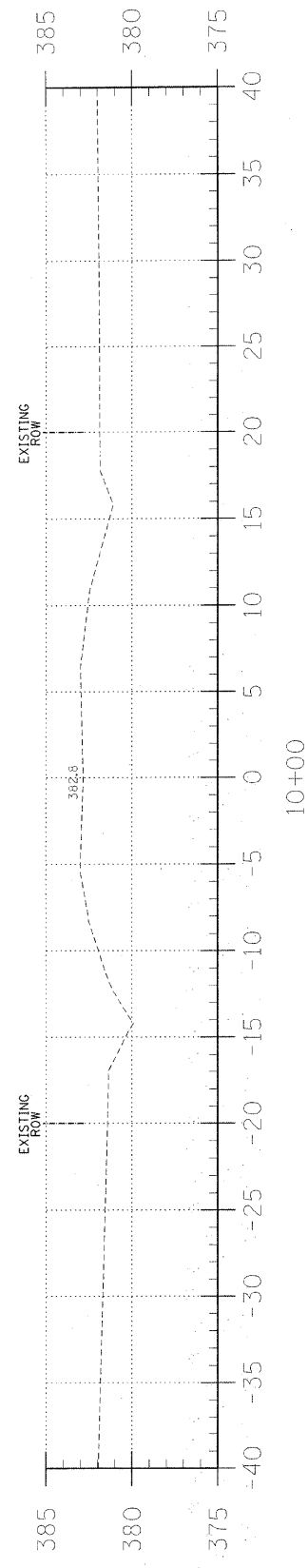
405 W. STATE ST.
SUITE 1
PRINCETON, IN 47160
PHONE: (812)-386-7611
FAX: (812)-385-2812

PROFESSIONAL DESIGN FIRM
LAND SURVEY & PROFESSIONAL ENGINEERING CORPORATION
184-00887
(82-032+35)(35-002769)

AARON M. MEFFORD
REGISTERED PROFESSIONAL ENGINEER
OF ILLINOIS
56284

AARON M. MEFFORD
NAME
SIGNATURE
2-21-11
DATE
11-30-11
EXPIRES

LAMAC ENGINEERING CO.



C = 4.5
F = 5.6

C = 2.4
F = 26.6

C = 2.4
F = 74.6

C = 5.5
F = 150.6

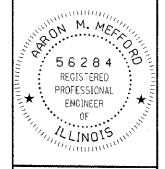
T.R.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
296B	08-09114-00-BR	HAMILTON	2	4
FED. ROAD DIST. NO. 9	ILLINOIS	FED. AID PROJECT		
PROJECT #	BR05-065(047)	CONTRACT #	99454	
JOB NO.	C-99-511-09	SOUTHERN OUTLET		
LEC JOB #	H09107HM			

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

405 W. STATE ST.
SLUET
PRINCETON, IN
47670
PHONE:
(612)-386-7611
FAX:
(612)-385-2812



PROFESSIONAL DESIGN FIRM
LAND SURVEY & PROFESSIONAL ENGINEERING CORPORATION
184-00887
(62-032435)(35-002769)



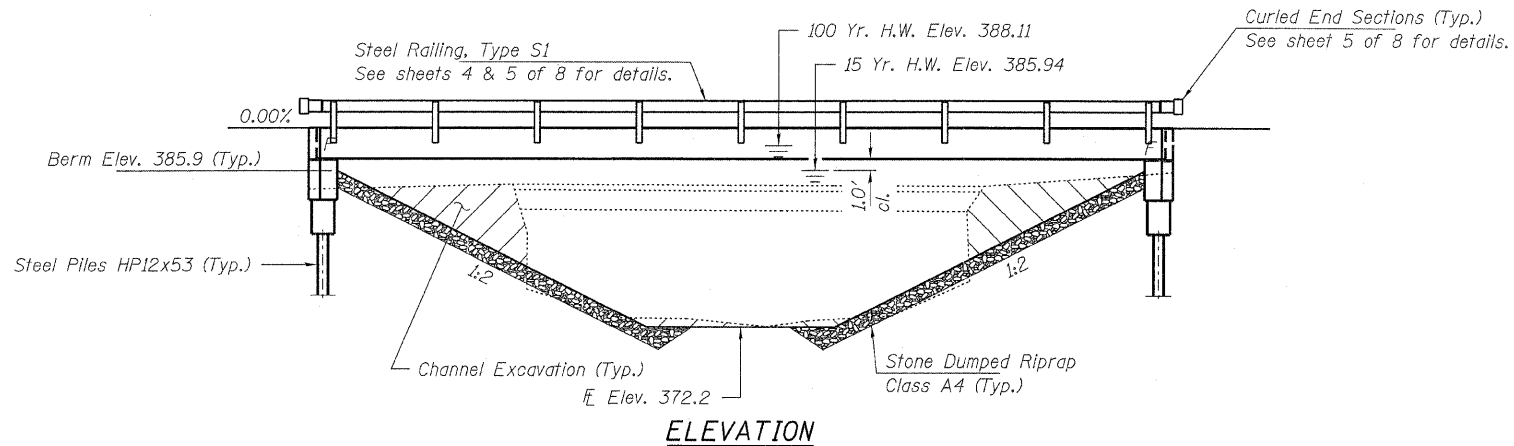
AARON M. MEFFORD
NAME
SIGNATURE
DATE
11-30-11
EXPIRES

TOWNSHIP ROUTE 296B
OVER SOUTHERN OUTLET
HAMILTON COUNTY, ILLINOIS

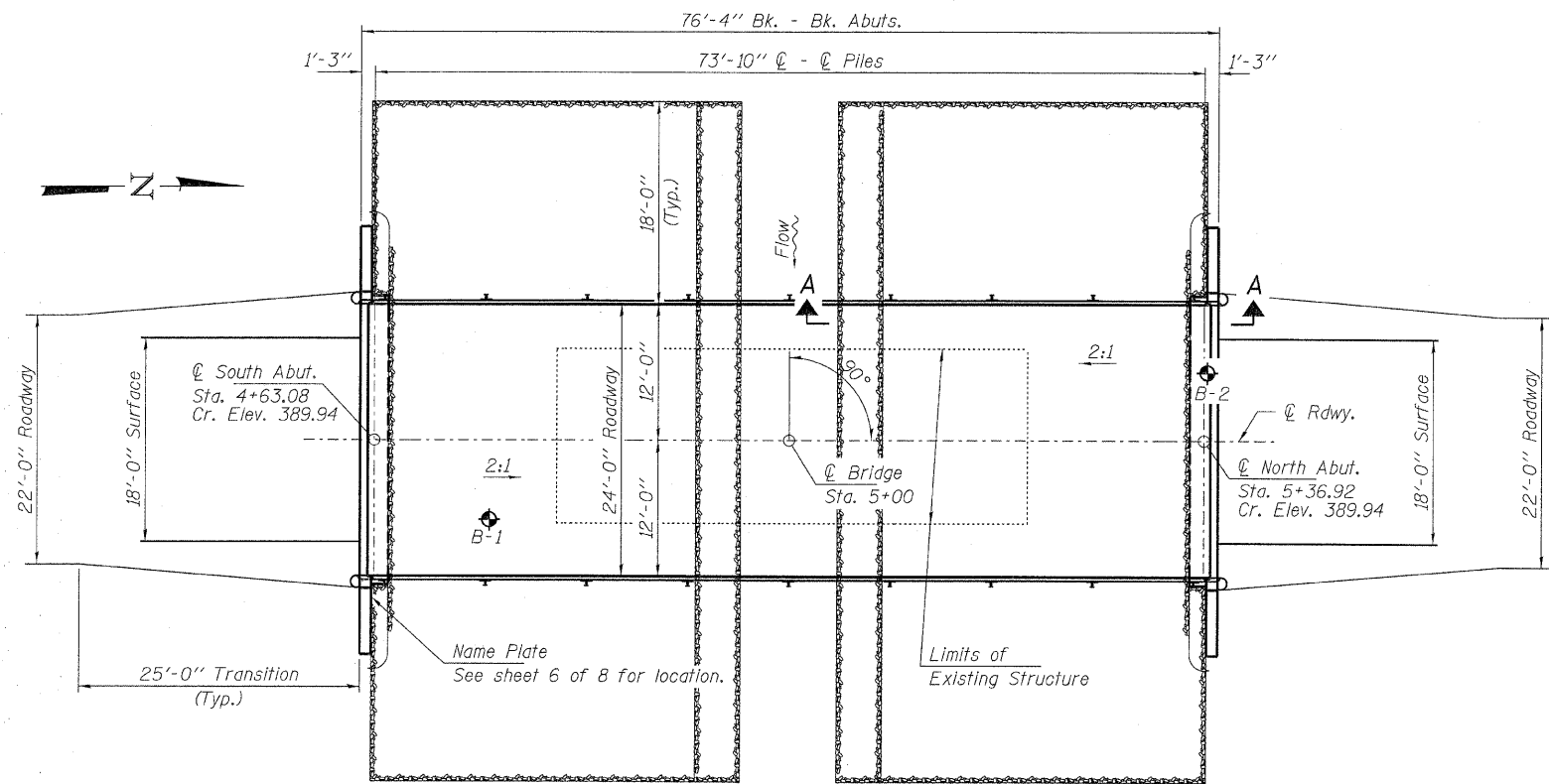
SHEET TITLE:	
CROSS-SECTIONS	
SCALE:	1" = 5'
BY:	AMM
DATE:	2/11
REV:	
4	OF 12
SHEETS	
SHEET NO.	
4	

EXISTING STRUCTURE: Sta. 5+00.50, Str. No. 033-3100. 40' Single span I beam bridge on concrete abutments with concrete wingwalls. Structure closed to traffic.

No Salvage



ELEVATION



PLAN

DESIGN STRESSES

FIELD UNITS

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

PRECAST PRESTRESSED UNITS

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

LOADING HL-93

Design Specifications: 2010 AASHTO LRFD with all applicable Interims. 50#/Sq. Ft. included in dead load for future wearing surface.

SEISMIC DATA

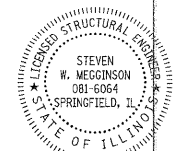
Seismic Performance Zone (SPZ) = 2
Design Spectral Acceleration at 1.0 sec. (Sd1) = 0.225g
Design Spectral Acceleration at 0.2 sec. (Sds) = 0.629g
Soil Site Class = C

WATERWAY INFORMATION

Drainage Area = 7.24 Sq. Mi.		Existing Low Grade Elev. 328.8 @ Sta. 10+00		Proposed Low Grade Elev. 328.8 @ Sta. 10+00	
Flood	Freq. Yr.	Q C.F.S.	Opening Sq. Ft. Exist. Prop.	Natural H.W.E. Exist. Prop.	Headwater El. Exist. Prop.
Design/Overtop	15	2210	352 602	385.94 -	0.00 - 385.94
Base	100	3800	352 674	388.11 0.56	0.29 388.67 388.40
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 2/16/2011
ILLINOIS STRUCTURAL ENGINEER NO. 081-6064

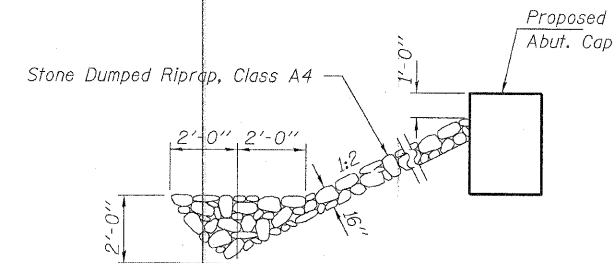


GENERAL NOTES

Layout of the slope protection system may be varied to suit ground conditions in the field as directed by the Engineer.
Reinforcement bars shall conform to the requirements of ASTM A 706 Gr 60. 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.

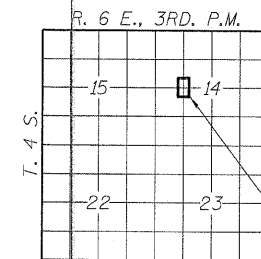
INDEX OF STRUCTURE SHEETS

1. General Plan & Elevation
2. 33"x36" PPC Deck Beam
3. 33"x36" PPC Deck Beam Details
4. Superstructure Details
5. Steel Railing, Type S-1
6. Abutments
7. HP Pile Details
8. Borings



SECTION A-A

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



LOCATION SKETCH

SOUTHERN OUTLET
BUILT 2011 BY
SOUTH CROUCH ROAD DISTRICT
HAMILTON COUNTY
SEC. 08-09114-00-BR
STR. NO. 033-3314
LOADING HL-93

NAME PLATE

See Std. 515001

TOTAL BILL OF MATERIAL

ITEM	UNIT	SUPER	SUB	TOTAL
Channel Excavation	Cu. Yd.			144
Stone Dumped Riprap, Class A4	Ton			360
Removal of Existing Structures	Each			1
Concrete Structures	Cu. Yd.		25.4	25.4
Concrete Encasement	Cu. Yd.		2.8	2.8
Precast Prestressed Concrete Deck Beams (33" Depth)	Sq. Ft.	1,800		1,800
Reinforcement Bars	Pound		2,540	2,540
Steel Railing, Type S1	Foot	148		148
Furnishing Steel Piles HP12x53	Foot		160	160
Driving Piles	Foot		160	160
Name Plates	Each		1	1

FILE NAME = 090262-ah-bridge.dgn	USER NAME =
HAMPTON, LENZINI AND RENWICK, INC.	DESIGNED - A.S.L.
1033 STEVENSON DRIVE, SUITE 201 SPRINGFIELD, ILLINOIS 62703	CHECKED - S.W.M.
ILLINOIS PROFESSIONAL DESIGN FIRM LS/PE/SE CORP. 194-00093	DRAWN - D.A.B.
	REVISIONS -
	CHECKED - S.W.M.
	REVISIONS -

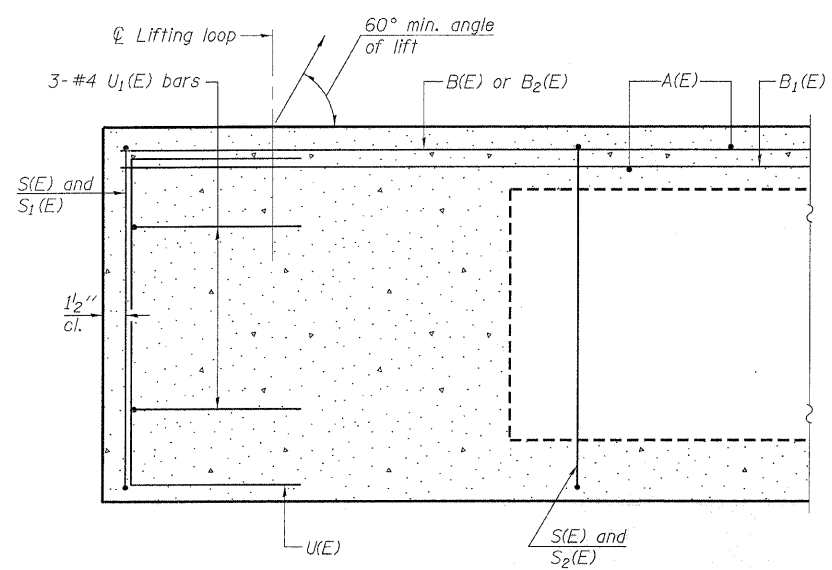
DESIGNED - A.S.L.	REVISED -
CHECKED - S.W.M.	REVISED -
DRAWN - D.A.B.	REVISED -
CHECKED - S.W.M.	REVISED -

STATE OF ILLINOIS
HAMILTON COUNTY HIGHWAY DEPARTMENT

GENERAL PLAN & ELEVATION
STRUCTURE NO. 033-3314

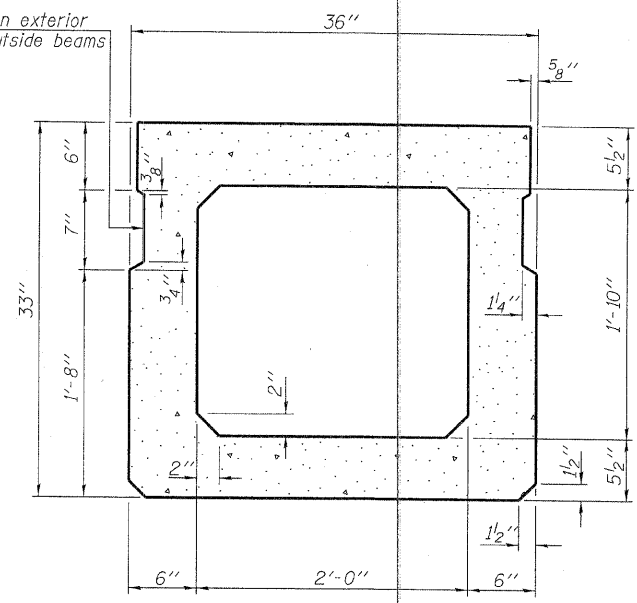
SHEET NO. 1 OF 8 SHEETS

T.R.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
296B	08-09114-00-BR	HAMILTON	12	5
SOUTH CROUCH ROAD DISTRICT		CONTRACT NO. 99454		
[ILLINOIS] FED. AID PROJECT BROS-0105(049)				

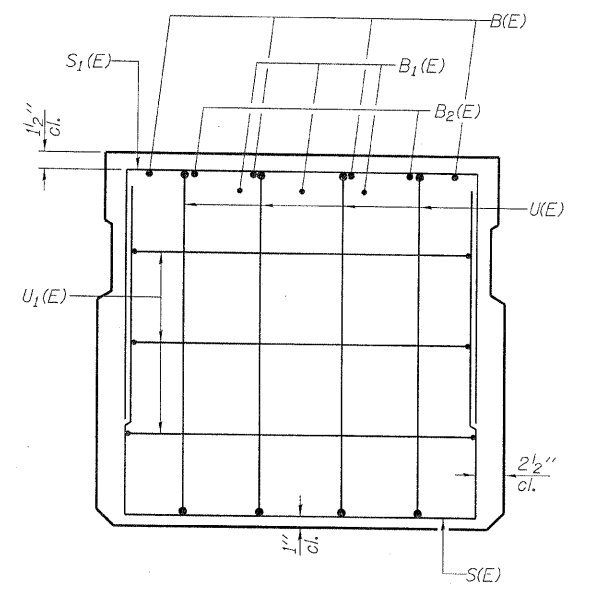


SECTION A-A

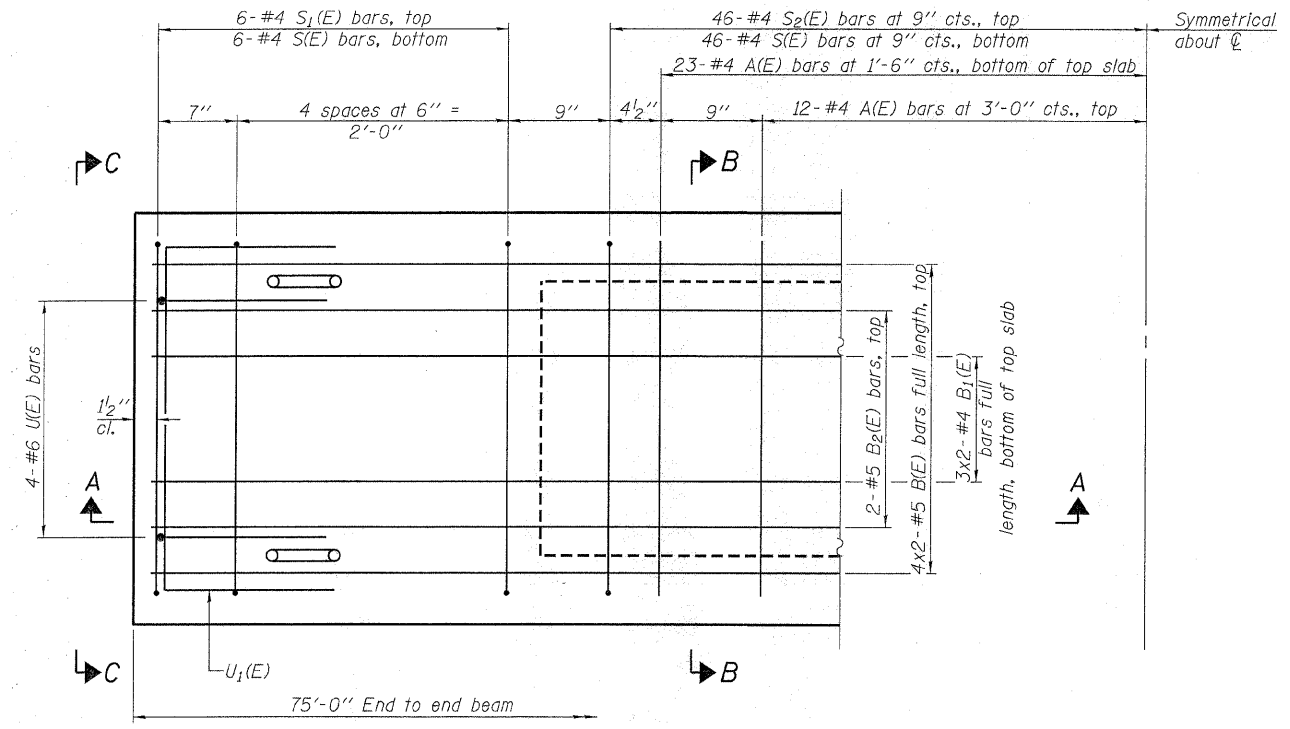
Omit key on exterior face of outside beams



SECTION B-B
(Showing dimensions)

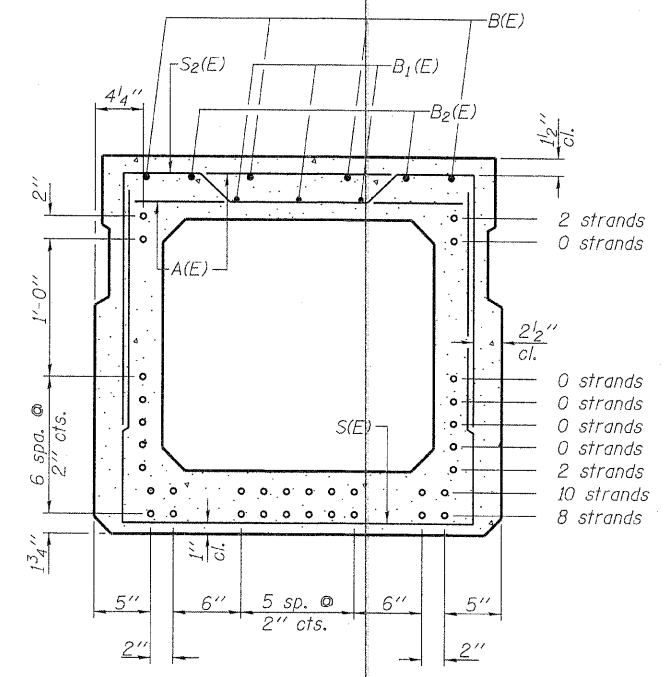


VIEW C-C



PLAN VIEW

Symmetrical about \bar{C}



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)	70	#4	2'-7"	—
B(E)	8	#5	38'-8"	—
B1(E)	6	#4	38'-8"	—
B2(E)	4	#5	10'-0"	—
S(E)	104	#4	7'-5"	—
S1(E)	12	#4	6'-3"	U
S2(E)	92	#4	6'-6"	U
U(E)	8	#6	5'-0"	C
U1(E)	6	#4	5'-0"	U

Note: See sheets 3 & 4 of 8 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.
Bars indicated thus 4x2-#5 etc. indicates 4 lines of bars with 2 lengths per line.

MINIMUM BAR LAP

#4 bar = 2'-0"
#5 bar = 2'-6"

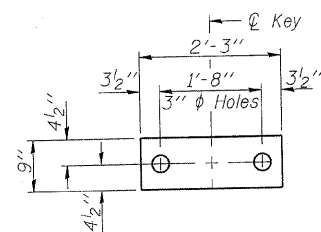
PD-3336-0 7-1-10

FILE NAME = 090262-sht-bridge.dgn	USER NAME =	DESIGNED - A.S.L.	REVISED -
HAMPTON LENZINI AND RENWICK, INC. 3033 STEVENSON DRIVE, SUITE 201 SPRINGFIELD, ILLINOIS 62703	PLOT SCALE =	CHECKED - S.W.M.	REVISED -
ILLINOIS PROFESSIONAL DESIGN FIRM L3 / P.E. / S.E. CORP. 184-00009	PLOT DATE = 2/16/2011	DRAWN - D.A.B.	REVISED -
		CHECKED - S.W.M.	REVISED -

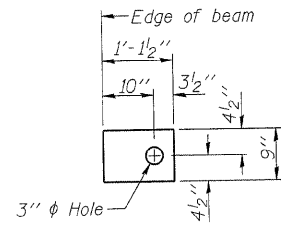
STATE OF ILLINOIS
HAMILTON COUNTY HIGHWAY DEPARTMENT

33" x 36" PPC DECK BEAM
STRUCTURE NO. 033-3314
SHEET NO. 2 OF 8 SHEETS

T.R.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
296B	08-09114-00-BR	HAMILTON	12	6
SOUTH CROUCH ROAD DISTRICT		CONTRACT NO. 99454		
ILLINOIS FED. AID PROJECT BROS-0105(049)				



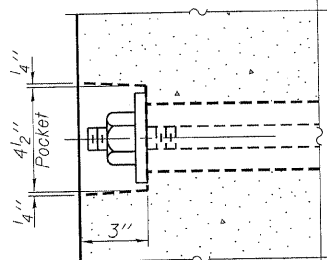
FABRIC BEARING PAD
(Interior - 14 Req'd)



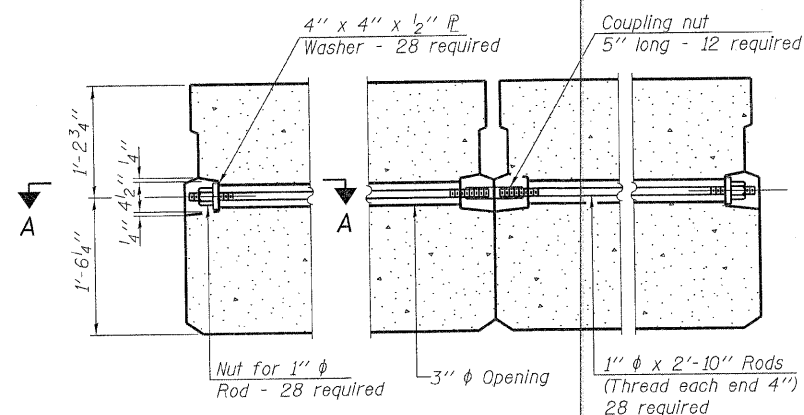
FABRIC BEARING PAD
(Exterior - 4 Req'd)

FIXED

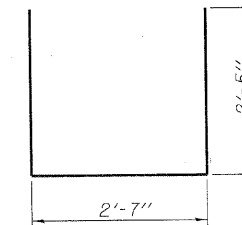
Notes:
All bearing pads shall be 1" thick.
Omit holes when using expansion bearings.
Expansion bearing pad shall be bonded to the substructure.



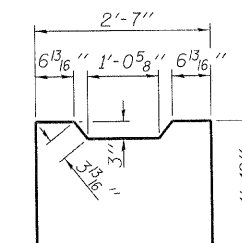
SECTION A-A



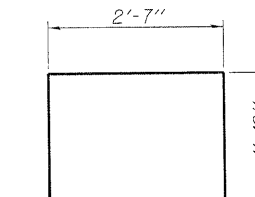
TYPICAL TRANSVERSE TIE ASSEMBLY



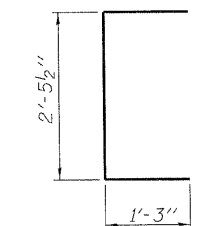
BAR S(E)



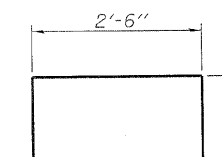
BAR S₂(E)



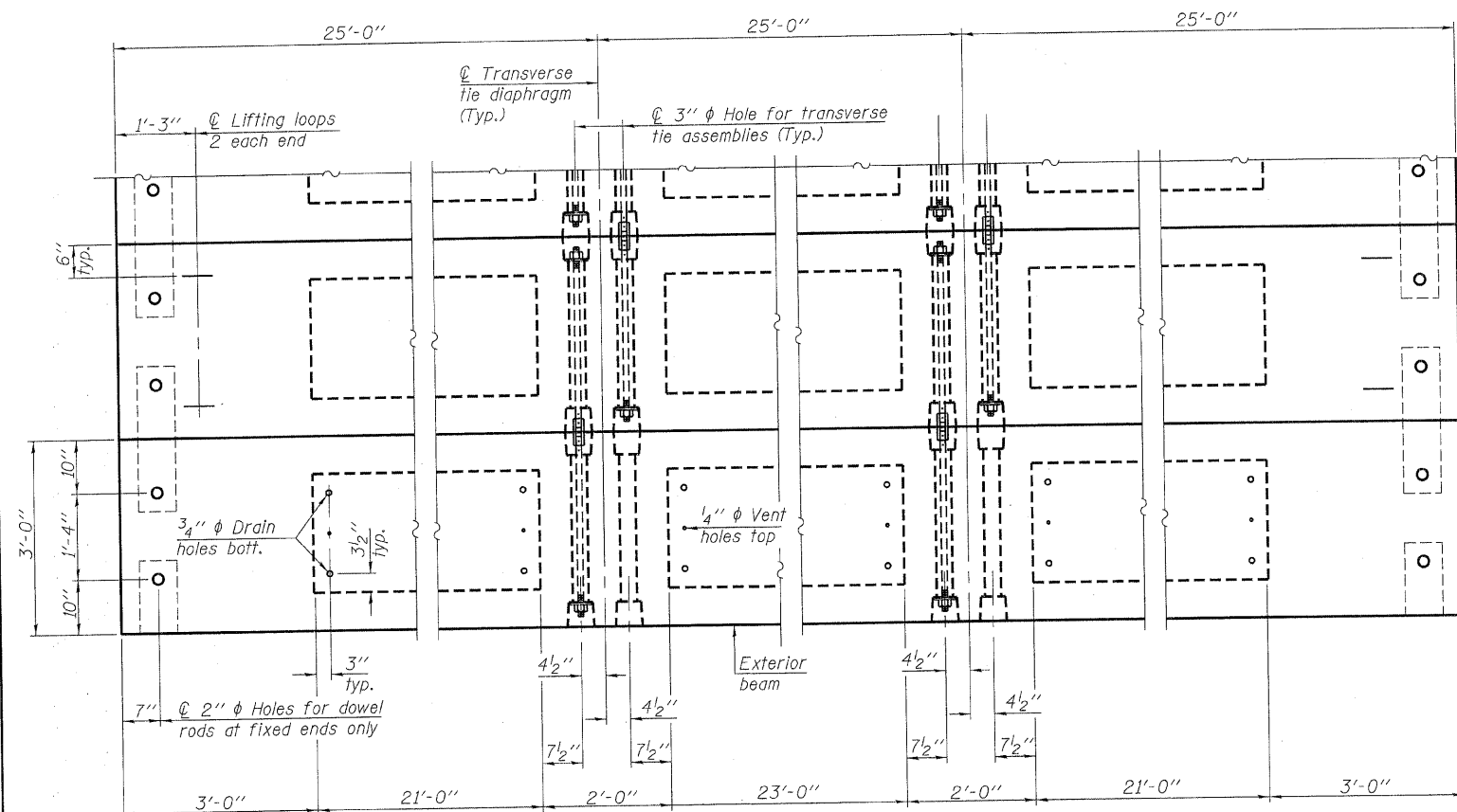
BAR S₁(E)



BAR UE(E)



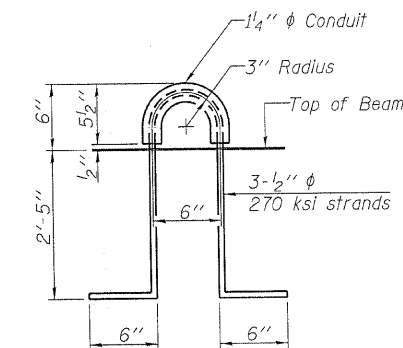
BAR U₁(E)



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" diameter 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" 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.
All reinforcement shall be epoxy coated.



LIFTING LOOP DETAIL

BILL OF MATERIAL

Precast Prestressed Conc. Deck Bms. (33" depth)	Sq. Ft.	1,800
---	---------	-------

PD-3336-OD 7-1-10

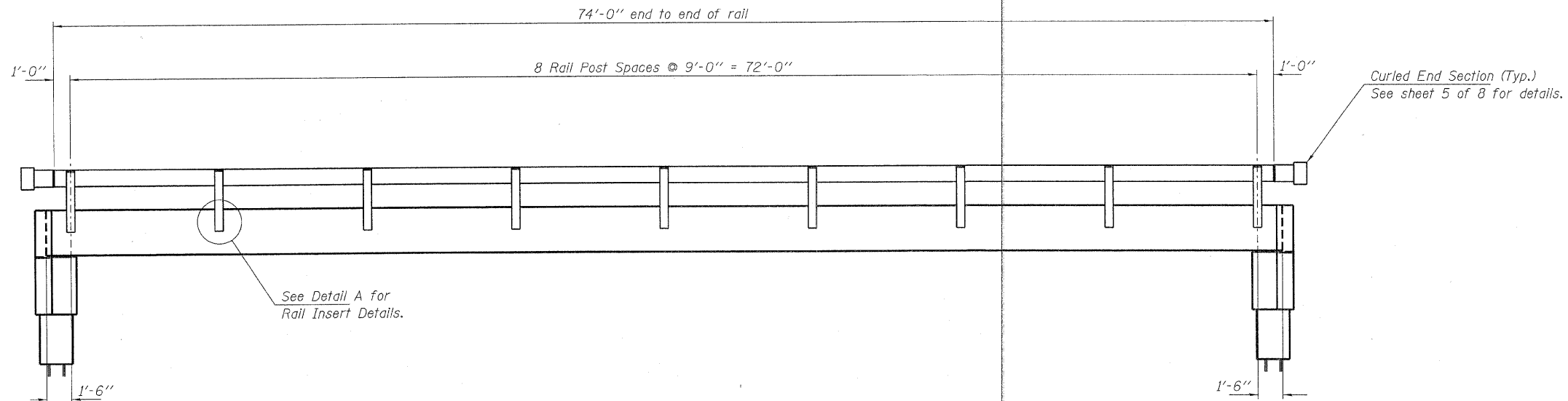
FILE NAME = 090262-ah-bridge.dgn	USER NAME =	DESIGNED - A.S.L.	REVISED -
HAMPTON, LENZINI AND RENWICK, INC.		CHECKED - S.W.M.	REVISED -
268 STEVENSON DRIVE, SUITE 201		DRAWN - D.A.B.	REVISED -
SPRINGFIELD, ILLINOIS 62703		CHECKED - S.W.M.	REVISED -
ILLINOIS PROFESSIONAL DESIGN FIRM	PLOT SCALE =		
LS / PE / SE CORP. 194.00058	PLOT DATE = 2/15/2011		

STATE OF ILLINOIS
HAMILTON COUNTY HIGHWAY DEPARTMENT

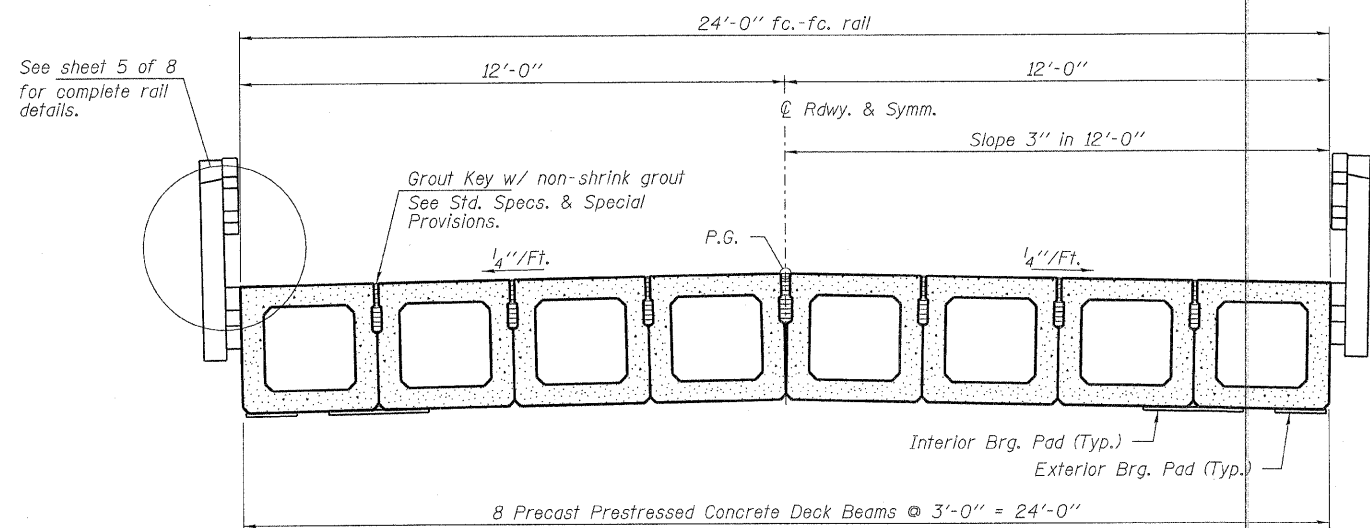
33" x 36" PPC DECK BEAM DETAILS
STRUCTURE NO. 033-3314

SHEET NO. 3 OF 8 SHEETS

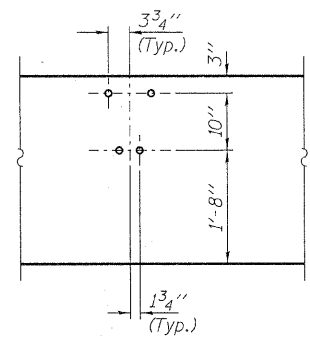
T.R.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
296B	08-09114-00-BR	HAMILTON	12	7
SOUTH CROUCH ROAD DISTRICT			CONTRACT NO. 99454	
[ILLINOIS] FED. AID PROJECT BROS-0105(049)				



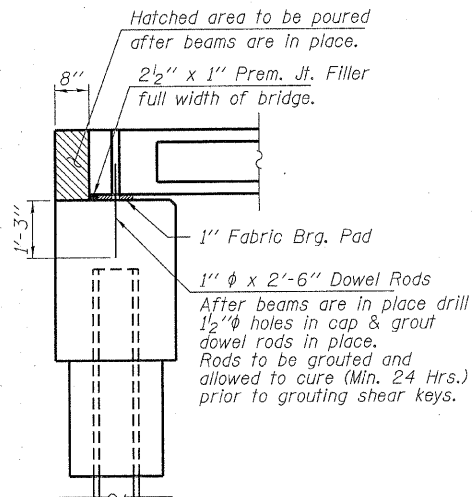
ELEVATION
Showing Rail Post Spaces
See sheet 5 of 8 for Railing Details.



CROSS SECTION
See sheets 2 & 3 of 8 for Superstructure.

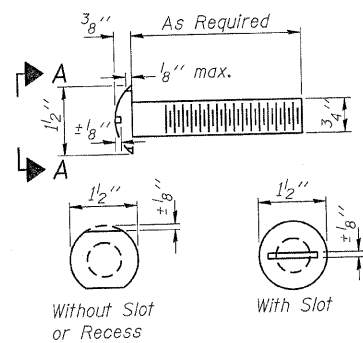


DETAIL A

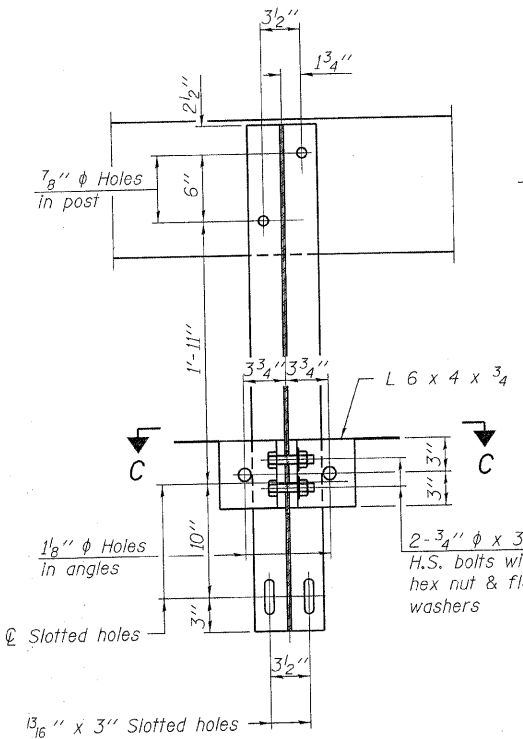
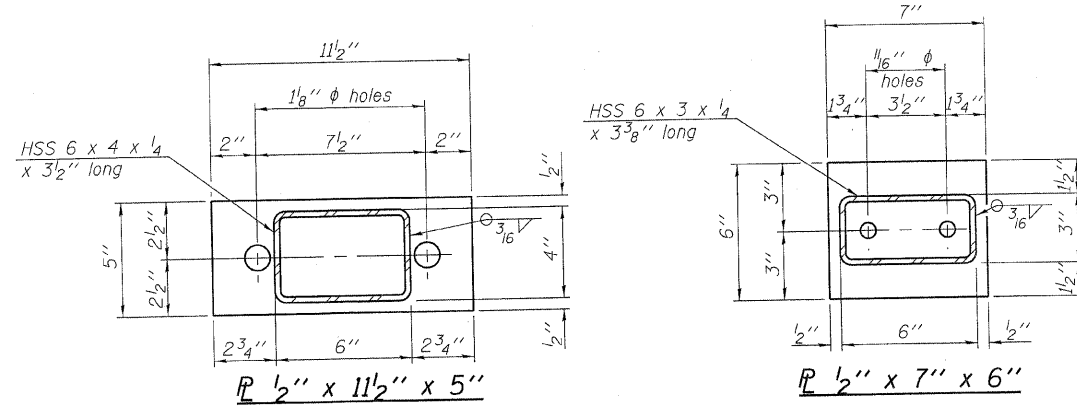


SECTION AT ABUTMENTS
© Rt. L's

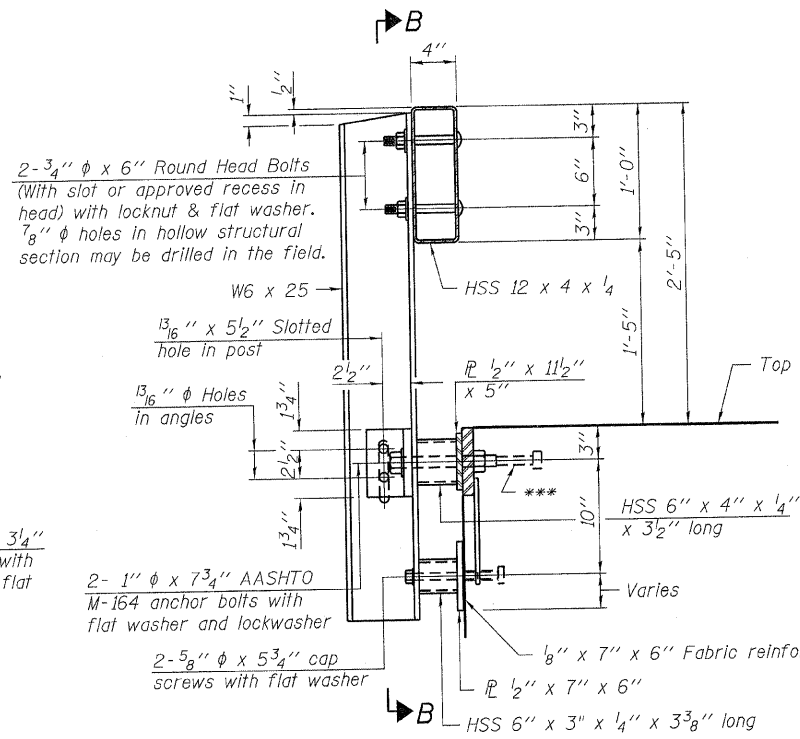
FILE NAME = 090262-sht-bridge.dgn	USER NAME =	DESIGNED - A.S.L.	REVISED -	STATE OF ILLINOIS HAMILTON COUNTY HIGHWAY DEPARTMENT	SUPERSTRUCTURE DETAILS STRUCTURE NO. 033-3314	T.R.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	
HAMPTON, LENZINI AND RENWICK, INC. 2005 STEVENSON DRIVE, SUITE 201 SPRINGFIELD, ILLINOIS 62703	PLOT SCALE =	CHECKED - S.W.M.	REVISED -			296B	08-09114-00-BR	HAMILTON	12	8	
HLR ILLINOIS PROFESSIONAL DESIGN FIRM 157 P.E. / REG. COMP. 184-000269	PLOT DATE = 2/16/2011	DRAWN - D.A.B.	REVISED -			SOUTH CROUCH ROAD DISTRICT		CONTRACT NO. 99454		ILLINOIS FED. AID PROJECT BRCS-0105(049)	
		CHECKED - S.W.M.	REVISED -			SHEET NO. 4 OF 8 SHEETS					



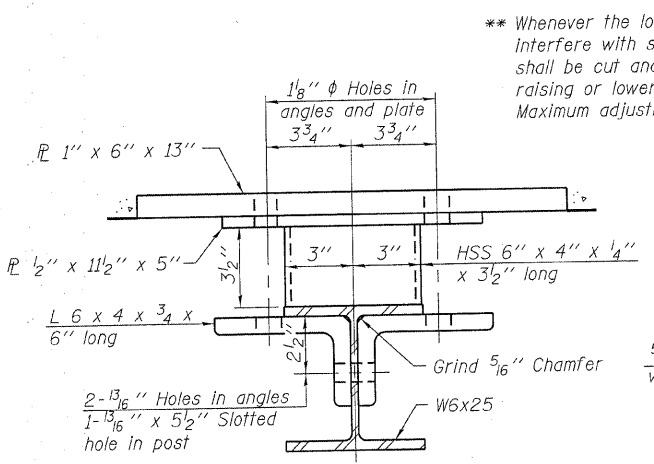
**VIEW A-A
ROUND HEAD BOLT**



SECTION B-B

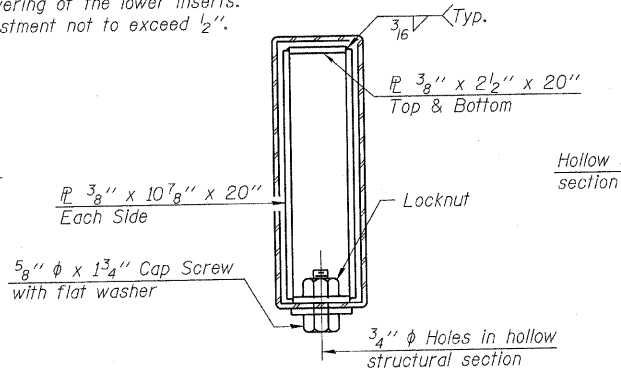


SECTION AT RAILING POST

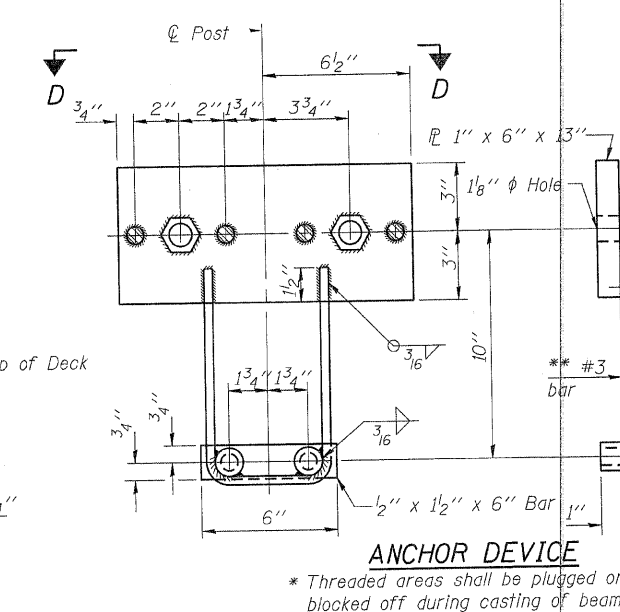


SECTION C-C

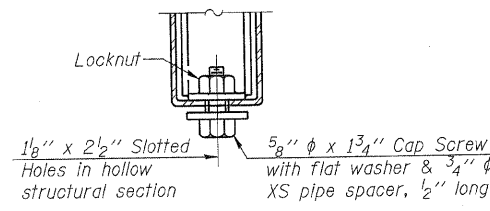
** Whenever the lower insert assemblies interfere with strand locations, the #3 bars shall be cut and adjusted in order to allow raising or lowering of the lower inserts. Maximum adjustment not to exceed 1/2".



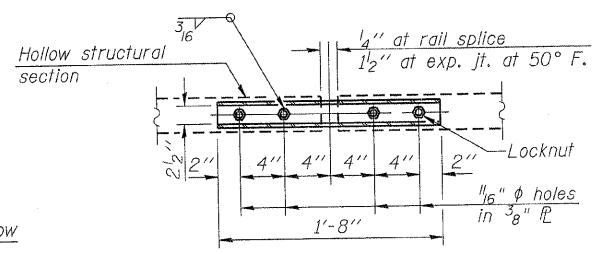
SECTIONS AT RAIL SPLICE



ANCHOR DEVICE

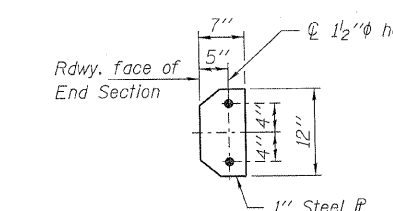


**RAIL SPLICE CONNECTION
AT EXPANSION JT.**

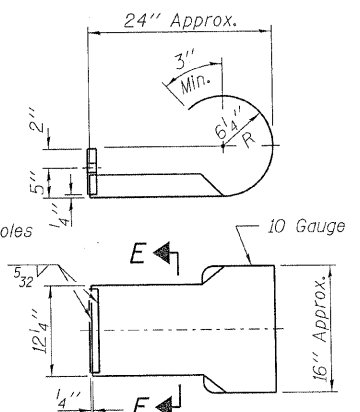


**PLAN-BOTT. SPLICE R
TYPICAL**

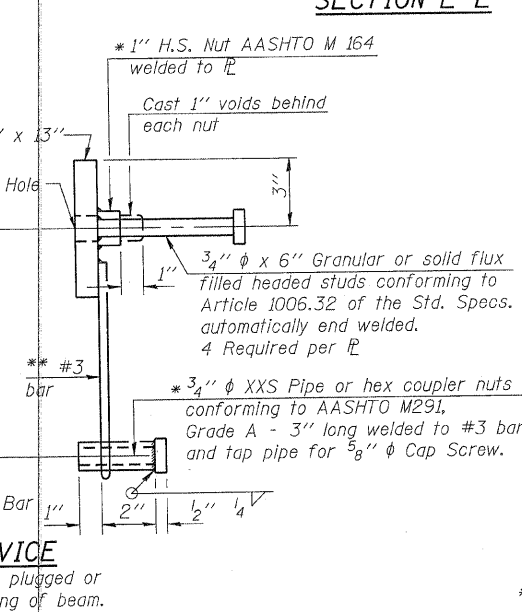
Note: Cost of curled end sections shall be included with the Steel Railing. (4 Required)



SECTION E-E

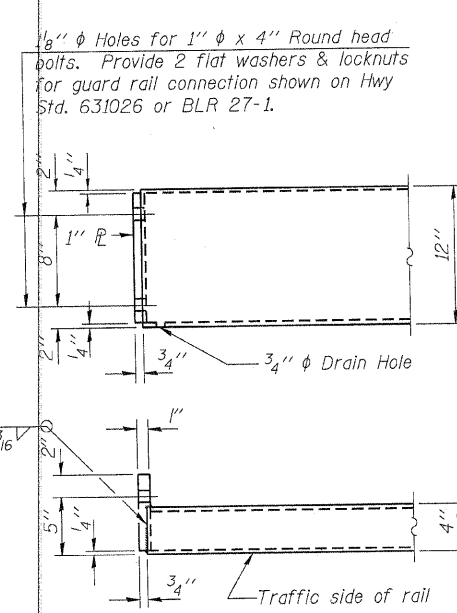


CURLED END SECTION DETAILS



END OF RAIL DETAILS

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

BILL OF MATERIAL

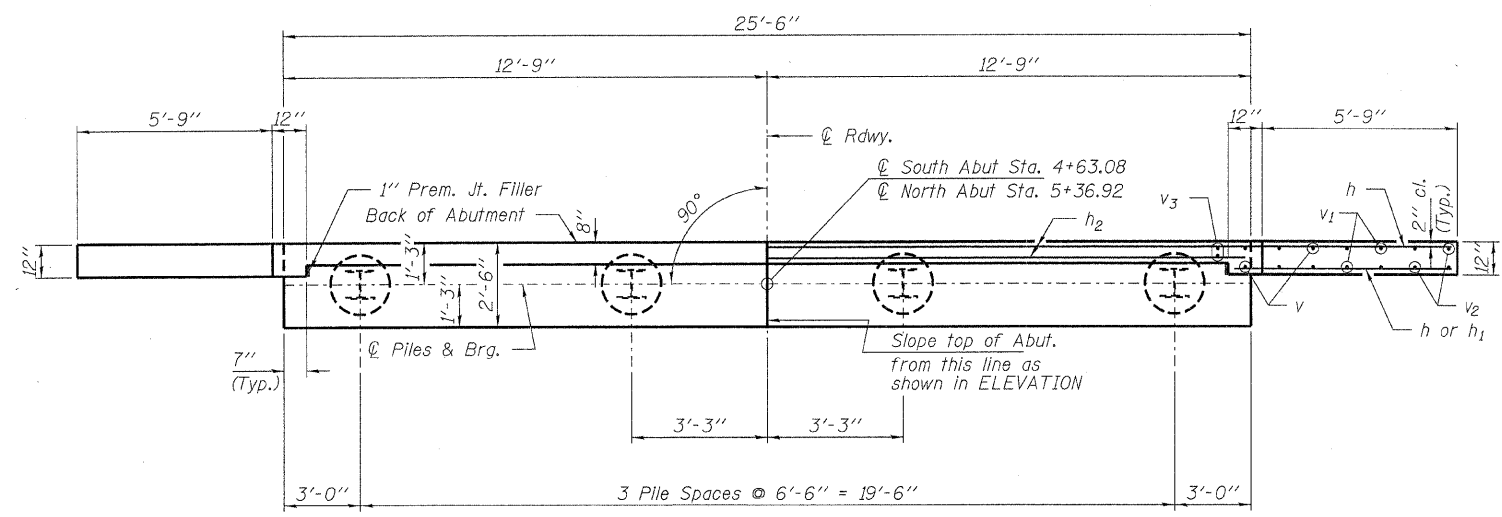
Item	Unit	Quantity
Steel Railing, Type S-1	Foot	148

R-23A 7-1-10 (10'-9" Maximum Post Spacing)
FILE NAME = 090262-shr-bridge.dgn USER NAME =
DESIGNED - A.S.L. CHECKED - S.W.M. REVISED -
DRAWN - D.A.B. REVISED -
PLOT SCALE = CHECKED - S.W.M. REVISED -
PLOT DATE = 2/16/2011

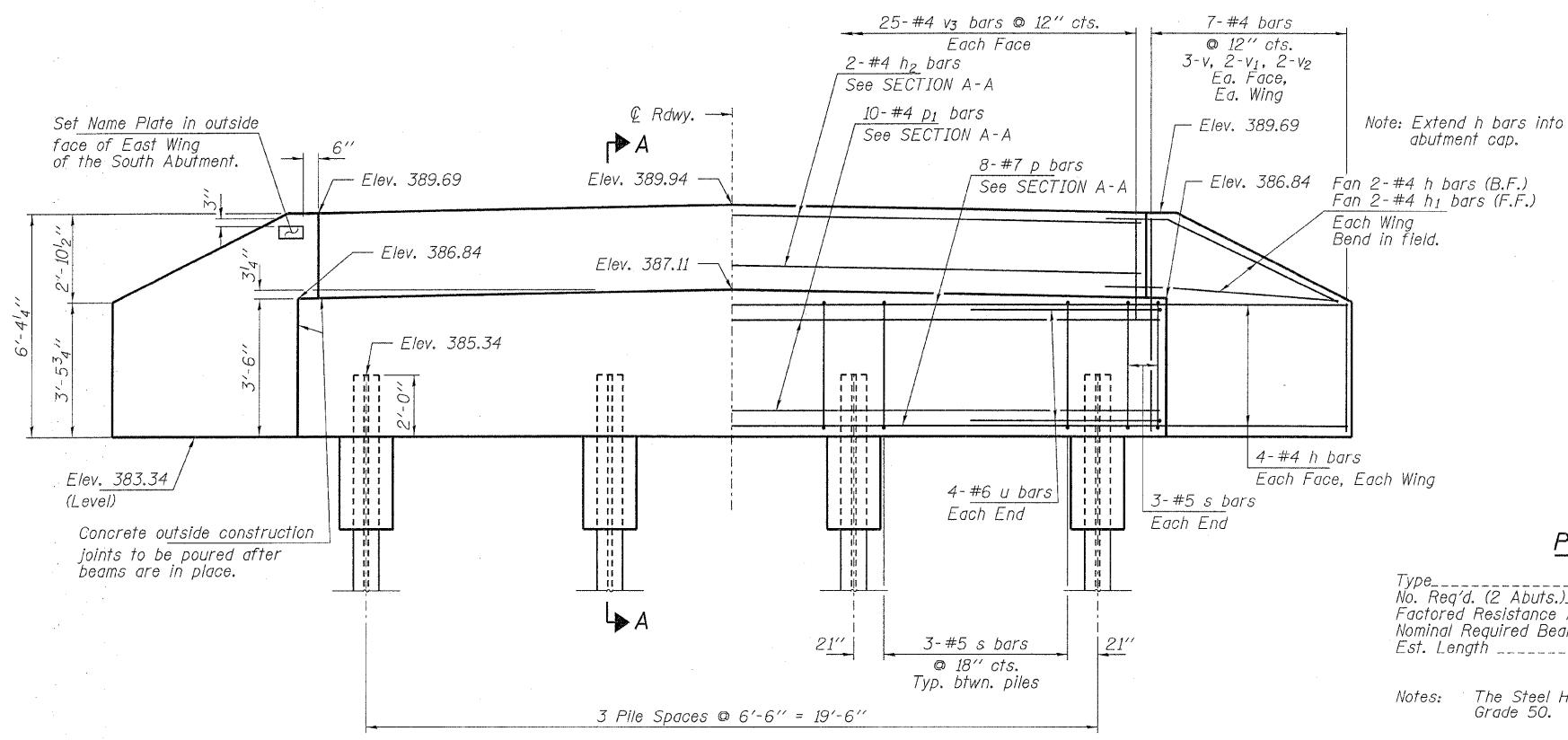
STATE OF ILLINOIS
HAMILTON COUNTY HIGHWAY DEPARTMENT

STEEL RAILING, TYPE S-1
STRUCTURE NO. 033-3314
SHEET NO. 5 OF 8 SHEETS

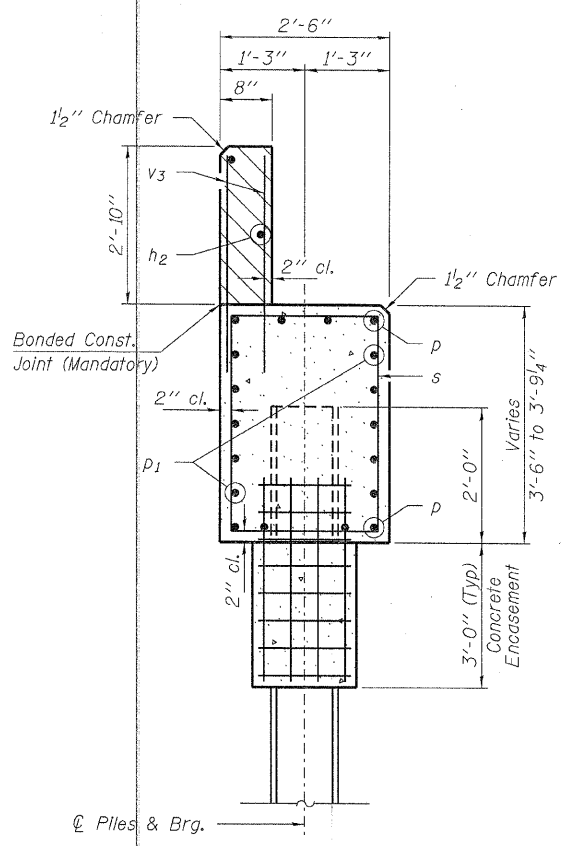
T.R.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
296B	08-09114-00-BR	HAMILTON	12	9
SOUTH CROUCH ROAD DISTRICT		CONTRACT NO. 99454		
ILLINOIS FED. AID PROJECT BROS-0105(49)				



PLAN

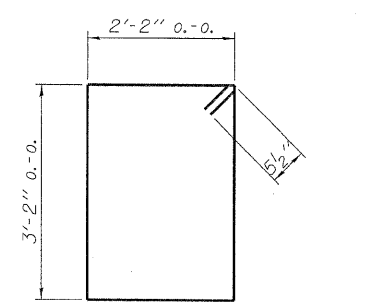


ELEVATION

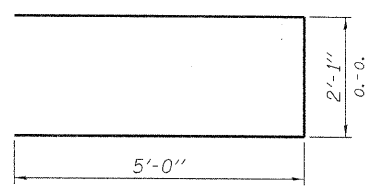


SECTION A-A

Hatched area to be poured after beams are in place.



BAR s



BAR u

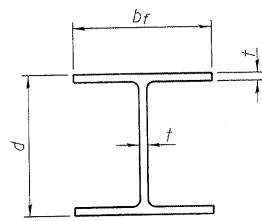
PILE DATA

Type	Steel HP12x53
No. Req'd. (2 Abuts.)	8
Factored Resistance Available (Rf)	230 Kips/Pile
Nominal Required Bearing (Rn)	419 Kips/Pile
Est. Length	20 Ft/Pile

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

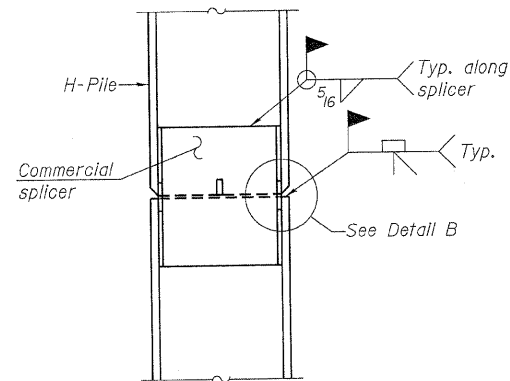
BILL OF MATERIAL - 2 ABUTS.

BAR	NO.	SIZE	LENGTH	SHAPE
h	40	#4	8'-0"	—
h1	8	#4	6'-6"	—
h2	4	#4	25'-2"	—
p	16	#7	25'-2"	—
p1	20	#4	25'-2"	—
s	30	#5	11'-7"	□
u	16	#6	12'-1"	U
v	24	#4	5'-3"	—
v1	16	#4	4'-3"	—
v2	16	#4	3'-3"	—
v3	100	#4	3'-8"	—
Concrete Structures			Cu. Yd.	25.4
Concrete Encasement			Cu. Yd.	2.8
Reinforcement Bars			Pound	2,540
Steel Piles HP12x53			Foot	160
Name Plates			Each	1

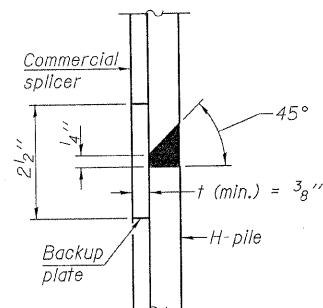


STEEL PILE TABLE

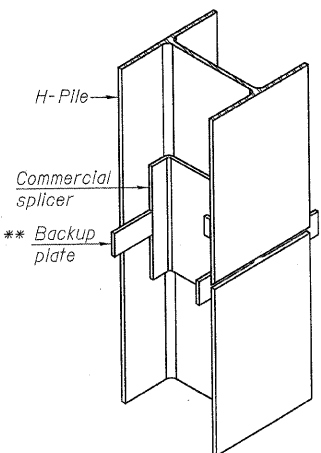
Designation	Depth d	Flange width bf	Web and Flange thickness t	Encasement diameter A
HP 14x117	14 1/4"	14 7/8"	1 3/16"	30"
x102	14"	14 3/4"	1 1/16"	30"
x89	13 7/8"	14 3/4"	5/8"	30"
x73	13 5/8"	14 5/8"	1/2"	30"
HP 12x84	12 1/4"	12 1/4"	1 1/16"	24"
x74	12 1/8"	12 1/4"	5/8"	24"
x63	12"	12 9/8"	1/2"	24"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

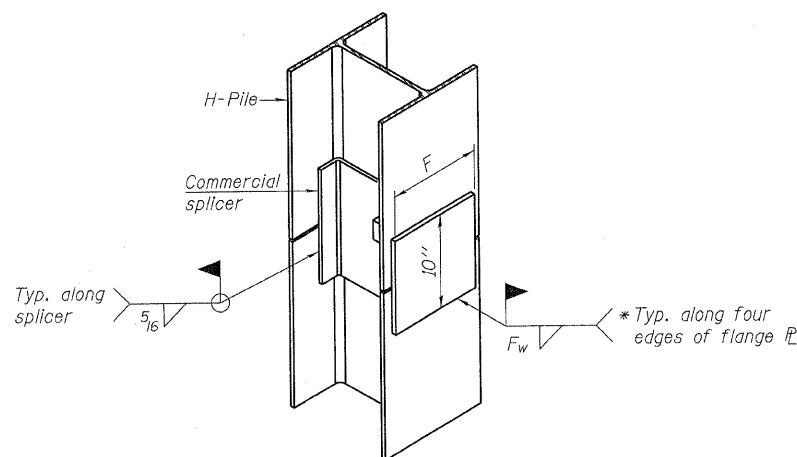


DETAIL "B"



ISOMETRIC VIEW

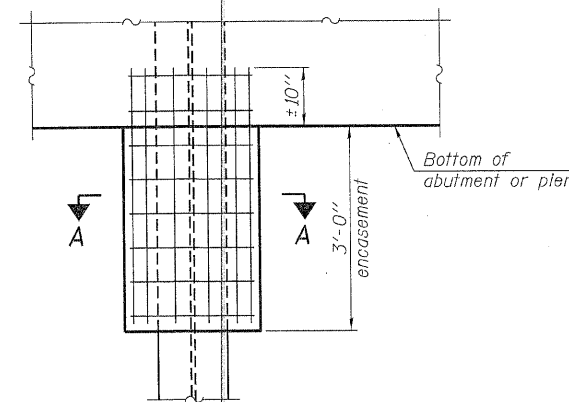
WELDED COMMERCIAL SPLICE



ISOMETRIC VIEW

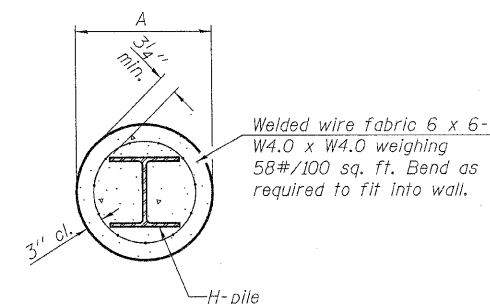
WELDED COMMERCIAL SPLICE ALTERNATE

- * 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.).



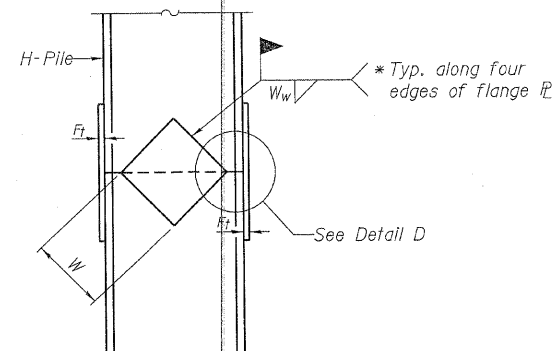
ELEVATION

PILE ENCASEMENT

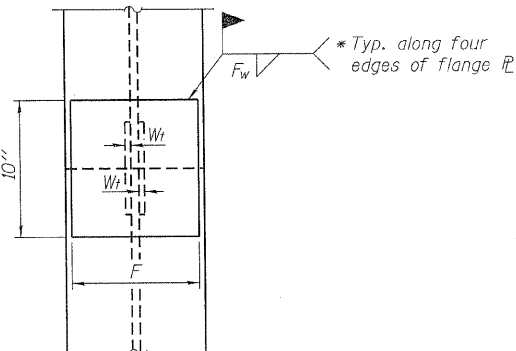


SECTION A-A

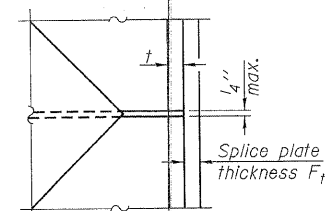
Note:
Forms for encasement may be omitted when soil conditions permit.



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"	1/2"
x102	12 1/2"	7/8"	3/4"	7 3/4"	5/8"	1/2"
x89	12 1/2"	3/4"	1/16"	7 3/4"	5/8"	1/2"
x73	12 1/2"	5/8"	9/16"	7 3/4"	5/8"	1/2"
HP 12x84	10"	7/8"	1/16"	6 1/2"	5/8"	1/2"
x74	10"	7/8"	1/16"	6 1/2"	5/8"	1/2"
x63	10"	5/8"	1/2"	6 1/2"	1/2"	3/8"
x53	10"	5/8"	1/2"	6 1/2"	1/2"	3/8"
HP 10x57	8"	3/4"	9/16"	5 1/4"	1/2"	3/8"
x42	8"	5/8"	9/16"	5 1/4"	1/2"	3/8"
HP 8x36	7"	5/8"	7/16"	4 1/4"	1/2"	3/8"

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

F-HP 7-1-10

FILE NAME = 090262-ah-bridge.dgn	USER NAME =
HAMPTON, LENZINI AND RENWICK, INC. 3035 STEVENSON DRIVE, SUITE 201 SPRINGFIELD, ILLINOIS 62703	PLOT SCALE =
ILLINOIS PROFESSIONAL DESIGN FIRM L3 / PE / CE CORP. 134-000559	PLOT DATE = 2/16/2011

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

STATE OF ILLINOIS
HAMILTON COUNTY HIGHWAY DEPARTMENT

HP PILE DETAILS
STRUCTURE NO. 033-3314

SHEET NO. 7 OF 8 SHEETS

T.R.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
296B	08-09114-00-BR	HAMILTON	12	11
SOUTH CROUCH ROAD DISTRICT		CONTRACT NO. 99454		
ILLINOIS FED. AID PROJECT BR05-0105(049)				

