

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
---	01-03130-00-BR	VERMILION	17	1
		ILLINOIS	CONTRACT NO. -----	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
**PROPOSED
HIGHWAY PLANS**

SECTION: 01-03130-00-BR
PROJECT: BROS-183(093)
JOB NO. C-95-314-06
VERMILION COUNTY
T.R. # 427
HIGHWAY BRIDGE PROGRAM

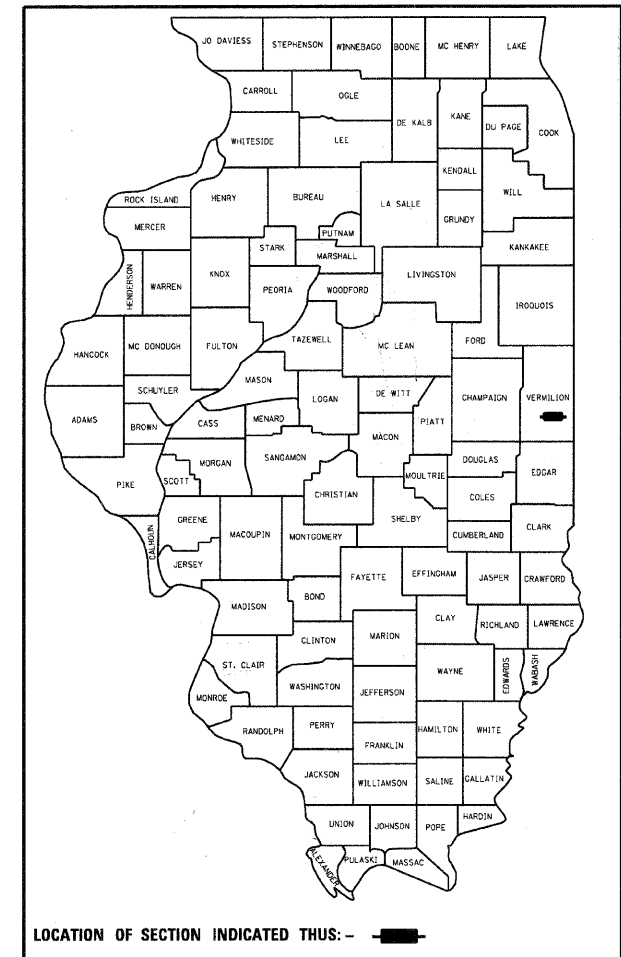
INDEX OF SHEETS

- 1 COVER SHEET
- 2 GENERAL NOTES / DETAILS / QUANTITIES
- 3-4 PLAN AND PROFILE
- 5 GENERAL PLAN & ELEVATION
- 6 SUPERSTRUCTURE
- 7 SUPERSTRUCTURE DETAILS
- 8 BRIDGE RAIL DETAILS
- 9 ABUTMENT DETAILS
- 10 PILE DETAILS
- 11 BORING LOGS
- 12-17 CROSS SECTIONS

HIGHWAY STANDARDS

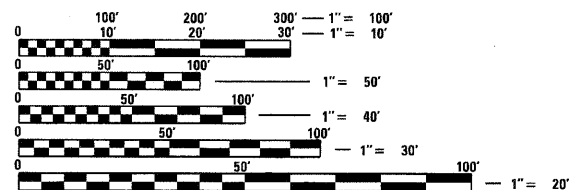
- 000001-05 STANDARD SYMBOLS
- 280001-05 TEMPORARY EROSION CONTROL SYSTEMS
- 515001-03 NAME PLATE FOR BRIDGES
- 635006-03 REFLECTOR AND TERMINAL MARKER PLACEMENT
- 701001-02 OFF-ROAD OPERATIONS LESS THAN 15'
- 701006-03 OFF-ROAD OPERATIONS GREATER THAN 15'
- 701901-01 TRAFFIC CONTROL DEVICES
- BLR 21-8 APPLICATION OF TRAFFIC CONTROL DEVICES

CONTRACT NO. 91366



ENGINEERING PLAN SUBMITTAL	
<small>THESE ENGINEERING PLANS AND SUPPORTING DOCUMENTS ARE ISSUED FOR THE FOLLOWING PURPOSE ONLY</small>	
<input type="checkbox"/>	PRELIMINARY PLAN REVIEW NO. 1
<input type="checkbox"/>	PRE-FINAL PLAN REVIEW NO.
<input checked="" type="checkbox"/>	FINAL PLAN REVIEW NO.
<input type="checkbox"/>	PERMIT APPLICATION
<input type="checkbox"/>	BIDDING
<input type="checkbox"/>	CONSTRUCTION

DATE: 11-20-2009



FULL SIZE PLANS HAVE BEEN PREPARED USING STANDARD ENGINEERING SCALES. REDUCED SIZED PLANS WILL NOT CONFORM TO STANDARD SCALES. IN MAKING MEASUREMENTS ON REDUCED PLANS, THE ABOVE SCALES MAY BE USED.

J.U.L.I.E.
JOINT UTILITY LOCATION INFORMATION FOR EXCAVATION
1-800-892-0123
OR 811

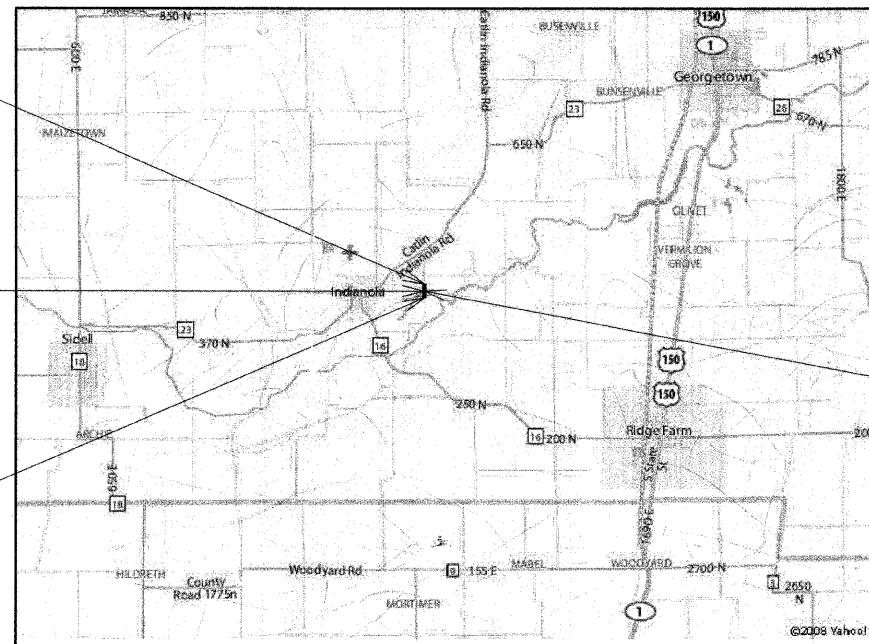
PROJECT ENGINEER - JOE HICKOX
PROJECT MANAGER - DAN FEUERBORN

CONTRACT NO. 91366

PROJECT ENDS
STA 13 + 75.0

ROADWAY OMISSION
FROM STA 9 + 72.0
TO STA 10 + 28.0

PROJECT BEGINS
STA 7 + 00.0



R12W
LOCATION MAP



TOTAL LENGTH OF PROJECT = 647.96 FEET = 0.128
NET LENGTH = 647.96 FEET = 0.128
ADT = 150
FUNCTIONAL CLASSIFICATION = LOCAL ROAD

ESI ESI CONSULTANTS, LTD

750 WINDSOR ROAD
CHARLESTON, IL 61820
(217) 340-3900
WWW.ESICONSULTANTS.LTD.COM
ILLINOIS DEPARTMENT OF PROFESSIONAL REGULATION REGISTRATION #184-003689
** THIS DOCUMENT IS THE PROPERTY OF ESI CONSULTANTS, LTD. AND NO PART HEREIN SHALL BE USED **
EXCEPT FOR THIS SPECIFIC PROJECT WITHOUT THE WRITTEN CONSENT OF ESI CONSULTANTS, LTD.

**PROPOSED STRUCTURE
REPLACEMENT OVER
FAYETTE CREEK
DISTRICT 5
SEC 01-03130-00-BR
STATION 10+00
NEW SN: 092-3493
OLD SN: 092-3224**

STATE OF ILLINOIS
VERMILION COUNTY
HIGHWAY DEPARTMENT

APPROVED December 7 20 09
Dary Stucke
COUNTY ENGINEER

PASSED 12/16 20 09
Daryl Seal
DISTRICT 5 LOCAL ROADS & STREETS ENGINEER

RELEASING FOR BID BASED
ON LIMITED REVIEW 12/16 20 09
Joseph E. Luttrell
DEPUTY DIRECTOR OF HIGHWAYS, REGION 3 ENGINEER



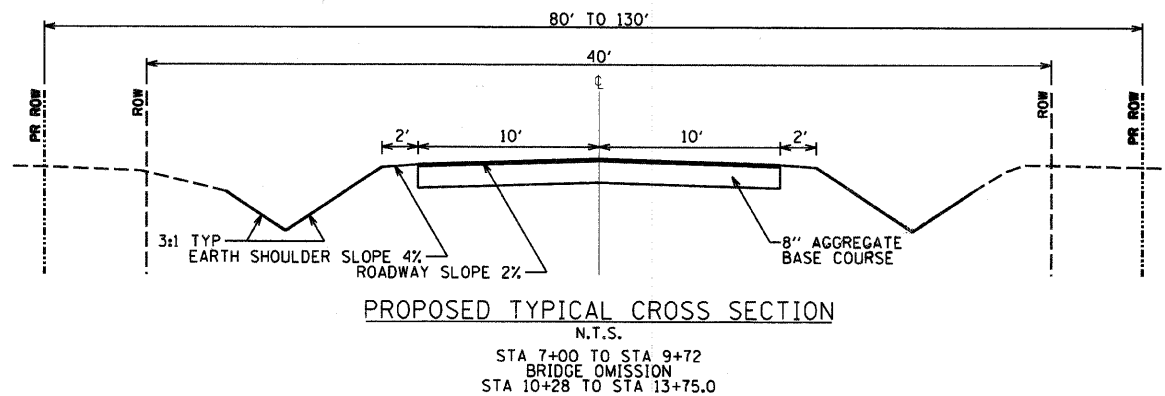
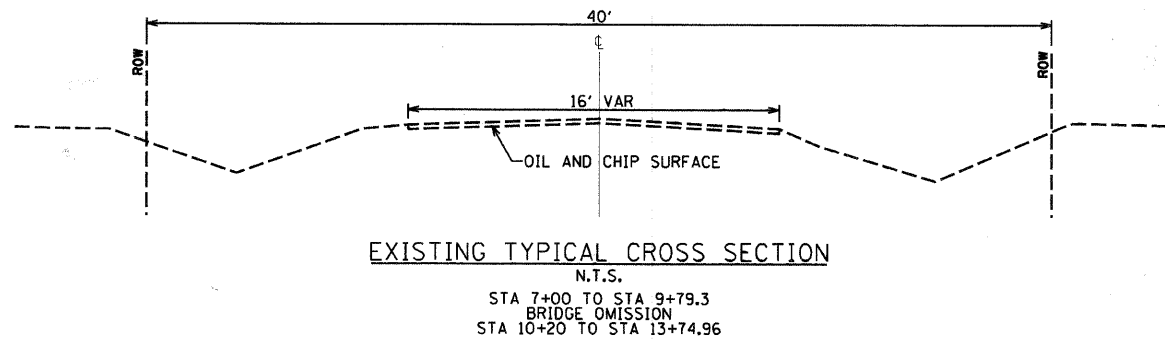
Dan Feuerborn
Daniel Feuerborn
License Expires 11-30-2009
Date 11.23.2009

PRINTED DATE: 11/20/2009
FILE NAME: N:\PROJECTS\91366\Drawings\Sheets\01-03130-00-BR\Tr427.dwg

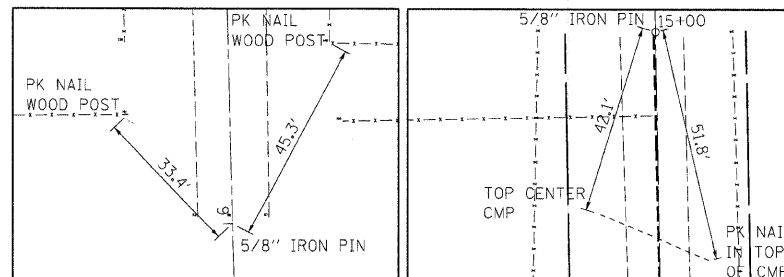
GENERAL NOTES

- ALL CONSTRUCTION SHALL BE DONE IN ACCORDANCE WITH THE STATE OF ILLINOIS "STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, ADOPTED JANUARY 1, 2007," THESE PLANS AND THE SPECIAL PROVISIONS INCLUDED IN THE CONTRACT DOCUMENTS.
- THE REVISION NUMBER INDICATED FOR THE STANDARDS LISTED IN THE INDEX OF SHEETS SHALL BE USED IN CONSTRUCTION OF THIS SECTION.
- THE FOLLOWING RATES OF APPLICATION HAVE BEEN USED IN CALCULATING PLAN QUANTITIES...
AGGREGATE SURFACE COURSE, TYPE B - 1.8 TON/CU YD
- THE AREA TO BE SEEDED SHALL CONSIST OF ALL EARTH SURFACES DISTURBED DURING CONSTRUCTION AS DIRECTED BY THE ENGINEER.
- THE LOCATIONS OF EXISTING UTILITIES AS SHOWN ON THE PLANS ARE BASED ON CAREFUL FIELD INVESTIGATION AND THE BEST INFORMATION AVAILABLE, BUT ARE NOT GUARANTEED. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO DETERMINE THEIR EXACT LOCATIONS FROM THE UTILITY COMPANIES AND BY FIELD INSPECTION. THE CONTRACTOR IS REQUIRED TO CONTACT J.U.L.I.E AT, 1-800-892-0123, PRIOR TO PROCEEDING WITH ANY EXCAVATION AND WORK ON THE PROJECT.
- THE PIPE CULVERTS SPECIFIED IN THIS CONTRACT SHALL BE ALUMINIZED STEEL.

TYPICALS



CENTERLINE TIE INFORMATION



P.O.T. STA 6+00.00
NORTHING 1192580.07
EASTING 1162409.35

⊕ TIE INFORMATION

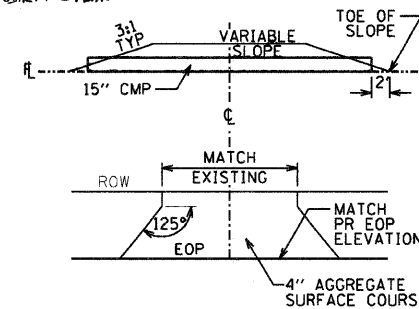
P.O.T. STA 15+00.00
NORTHING 1193479.91
EASTING 1162395.88

⊕ TIE INFORMATION

SUMMARY OF QUANTITIES

ITEM NO.	DESCRIPTION	UNIT	QUANTITY
20200100	EARTH EXCAVATION	CU YD	900
20300100	CHANNEL EXCAVATION	CU YD	60
20400800	FURNISHED EXCAVATION	CU YD	354
25001000	SEEDING, CLASS 2 (SPECIAL)	ACRE	0.59
28000255	TEMPORARY EROSION CONTROL SEEDING	ACRE	0.59
28000305	TEMPORARY DITCH CHECKS	FOOT	96
28000400	PERIMETER EROSION BARRIER	FOOT	270
28000500	INLET AND PIPE PROTECTION	EACH	2
28100108	STONE RIPRAP, CLASS A4 (SPECIAL)	SQ YD	269
35101400	AGGREGATE BASE COURSE, TYPE B	TON	577
50100100	REMOVAL OF EXISTING STRUCTURES	EACH	1
50105220	PIPE CULVERT REMOVAL	FOOT	20
50200100	STRUCTURE EXCAVATION	CU YD	76.5
50300225	CONCRETE STRUCTURES	CU YD	19.4
50400605	PRECAST PRESTRESSED CONCRETE DECK BEAMS (27" DEPTH)	SQ FT	1470
50800205	REINFORCEMENT BARS, EPOXY COATED	POUND	2500
50900205	STEEL RAILING, TYPE S1	FOOT	109
51201800	FURNISHING STEEL PILES HP12X53	FOOT	425
51202305	DRIVING PILES	FOOT	425
51203800	TEST PILE STEEL HP12X53	EACH	2
51204650	PILE SHOES	EACH	12
51500100	NAME PLATES	EACH	1
542D0223	PIPE CULVERTS, CLASS D, TYPE 1 18"	FOOT	45
59300100	CONTROLLED LOW-STRENGTH MATERIAL	CU YD	45.2
67100100	MOBILIZATION	L SUM	1
70101700	TRAFFIC CONTROL AND PROTECTION	L SUM	1
XX004566	CONCRETE CUT-OFF WALL	CU YD	6.2
Z0013798	CONSTRUCTION LAYOUT	L SUM	1

* SPECIALTY ITEMS



TYP FEILD ENTRANCE DETAIL
N.T.S.

EARTHWORK SCHEDULE

STATION	CUT		FILL		TOTAL
	SQ FT	CU YD	SQ FT	CU YD	
7+00	21.1		1.3		
		19.5		1.2	20.7
7+25	40.2		2.4		
		37.2		2.2	39.4
7+50	54.6		5.3		
		50.6		4.9	55.5
7+75	66.6		15.2		
		61.7		14.1	75.8
8+00	36.9		42.0		
		34.2		38.9	73.1
8+25	0.3		81.7		
		0.3		75.6	75.9
8+50	0.0		109.6		
		0.0		101.5	101.5
8+75	0.0		131.3		
		0.0		121.6	121.6
9+00	0.0		141.9		
		0.0		131.4	131.4
9+25	0.0		134.9		
		0.0		124.9	124.9
9+50	0.0		115.9		
		0.0		94.4	94.4
9+72	0.0		0.0		
BRIDGE OMISSION					
10+28	38.4		126.3		
		40.5		84.4	124.9
10+50	61.0		80.8		
		53.1		64.2	117.3
10+75	53.8		57.8		
		45.6		42.2	87.8
11+00	44.7		33.3		
		42.9		28.6	71.5
11+25	47.9		28.4		
		43.3		25.1	68.4
11+50	45.7		25.8		
		41.9		22.6	64.5
11+75	44.8		22.9		
		39.6		19.7	59.3
12+00	40.7		19.7		
		45.9		15.6	61.5
12+25	58.4		13.8		
		64.9		10.0	74.9
12+50	81.8		7.8		
		94.4		4.5	98.9
12+75	122.2		1.9		
		78.4		1.0	79.4
13+00	47.1		0.2		
		43.1		0.1	43.2
13+25	46.1		0.0		
		39.2		0.0	39.2
13+50	38.5		0.0		
		23.6		0.0	23.6
13+75	12.5		0.0		
TOTAL CUT		TOTAL FILL		TOTAL	
EARTH EXCAVATION		EMBANKMENT		EARTHWORK	
899.9 CU YD		1028.7 CU YD		1928.6 CU YD	
FURNISHED EXCAVATION =		353.8 CU YD			

ESI CONSULTANTS, LTD
753 WINDSOR ROAD
CHARLESTON, IL 61920
(217) 348-1800
WWW.ESI-CONSULTANTS.LTD.COM
ILLINOIS DEPARTMENT OF PROFESSIONAL REGULATION REGISTRATION #184-003685

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
---	01-03130-00-BR	VERMILION	17	2
CONTRACT NO. 91366				
ILLINOIS FED. AID PROJECT				

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

GENERAL NOTES & QUANTITIES

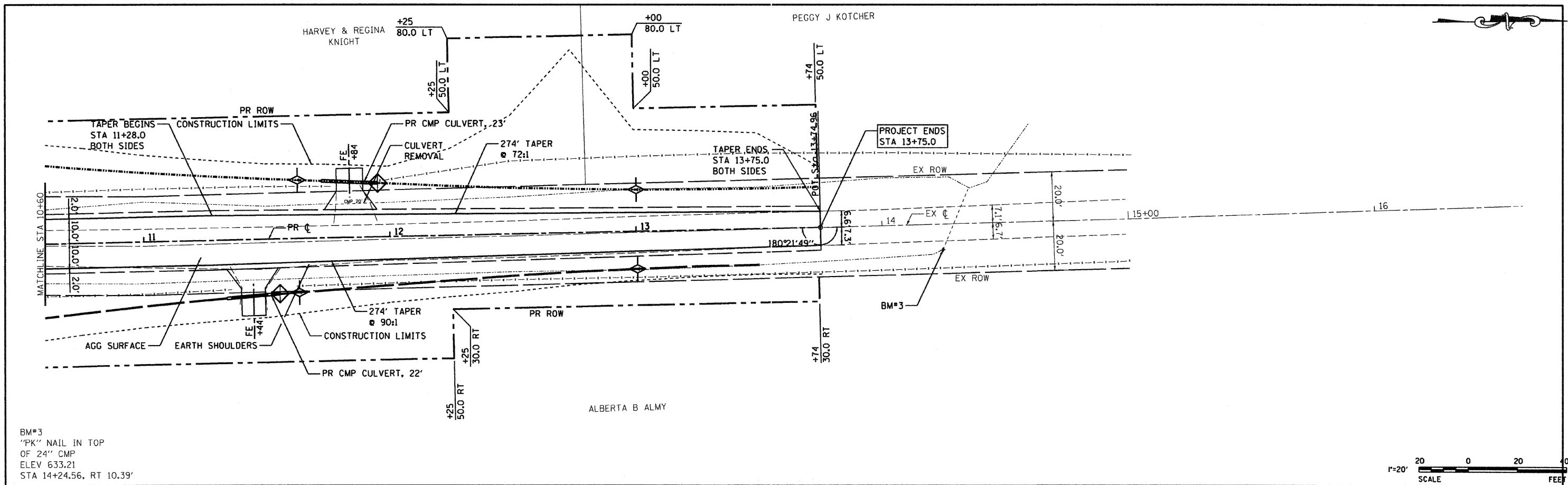
SCALE: NTS SHEET NO. 1 OF 1 SHEETS

USER NAME = #USER#	DESIGNED - JEH	REVISED -
	DRAWN - JEH	REVISED -
PLOT SCALE = 20,000' / IN.	CHECKED - DF	REVISED -
PLOT DATE = 11/20/2009	DATE - 10-23-09	REVISED -

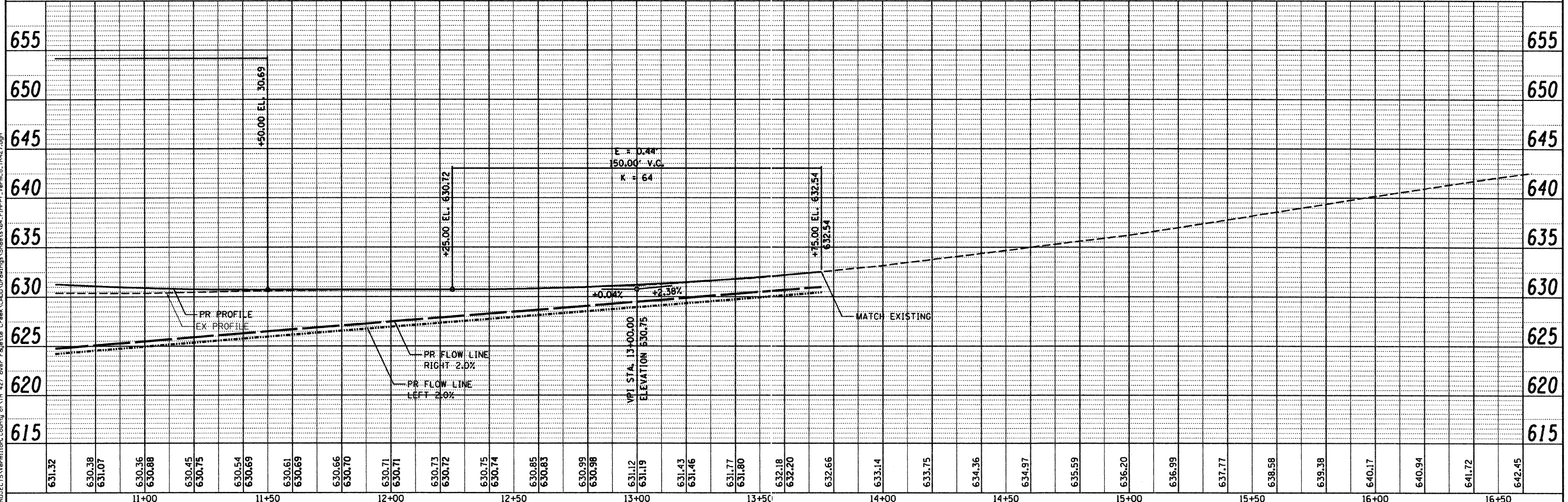
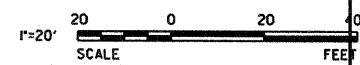
PLAN	SURVEYED	BY	DATE
	ALIGNED		
	NOTED		
	REVISIONS		
	NO. / DATE		

PROFILE	SURVEYED	BY	DATE
	PLOTTED		
	NOTED		
	REVISIONS		
	NO. / DATE		

PRINTED DATE: 12/7/2009
 FILE NAME: N:\PROJECTS\Vermillion, County of Vtr 427 over Fayette Creek\000\Drawings\Sheets\04_Plan_Profile_VermCo_IR427.dgn



BM#3
 "PK" NAIL IN TOP
 OF 24" CMP
 ELEV 633.21
 STA 14+24.56, RT 10.39'



631.32	630.38	631.07	630.36	630.88	630.45	630.75	630.54	630.69	630.61	630.69	630.66	630.70	630.71	630.71	630.73	630.72	630.75	630.74	630.85	630.83	630.99	630.98	631.12	631.19	631.43	631.46	631.77	631.80	632.18	632.20	632.66	633.14	633.75	634.36	634.97	635.59	636.20	636.99	637.77	638.58	639.38	640.17	640.94	641.72	642.45
--------	--------	--------	--------	--------	--------	--------	--------	--------	--------	--------	--------	--------	--------	--------	--------	--------	--------	--------	--------	--------	--------	--------	--------	--------	--------	--------	--------	--------	--------	--------	--------	--------	--------	--------	--------	--------	--------	--------	--------	--------	--------	--------	--------	--------	--------

ESI
 CONSULTANTS, LTD.
 Esplanade, Saratoga, Illinois

DESIGNED	-	JEH	REVISED	-	
DRAWN	-	JEH	REVISED	-	
CHECKED	-	DF	REVISED	-	
DATE	-	11-03-09	REVISED	-	

STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

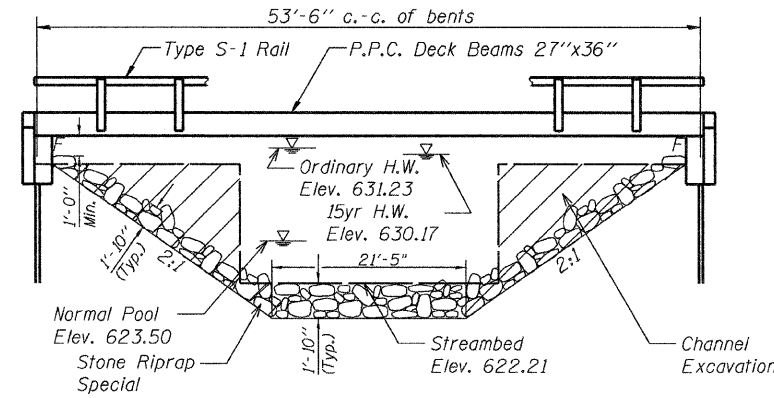
PLAN & PROFILE
 SCALE: 1"=20' SHEET NO. 2 OF 2 SHEETS STA. 10+60.0 TO STA. 13+75.0

F.A.R.T.E.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	01-03130-00-BR	VERMILION	17	4
		CONTRACT NO.	91366	
ILLINOIS FED. AID PROJECT				

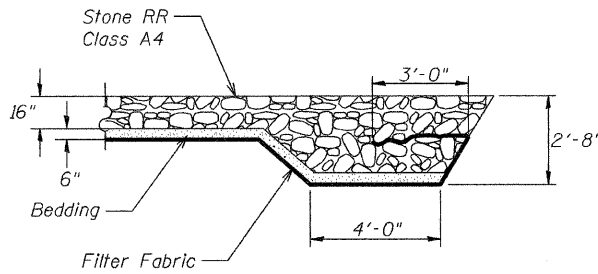
B.M. #1 - Sta. 6+24.68, 22.49' Left, Nail in wood post, Elev. 652.56
 B.M. #2 - Sta. 9+81.59, 10.0' Left, Cut " " in Conc. Deck, Elev. 629.14
 B.M. #3 - Sta. 14+24.56, 10.39' Right, "PK" Nail in 24" CMP, Elev. 633.21

Existing Structure - Structure 092-3224 consists of single span reinforced concrete deck on steel I-beams on closed concrete abutments. The bk. to bk. of abutments length is 30' and the out-to-out width is 18'. The existing structure shall be completely replaced. Road closure shall be used during construction.

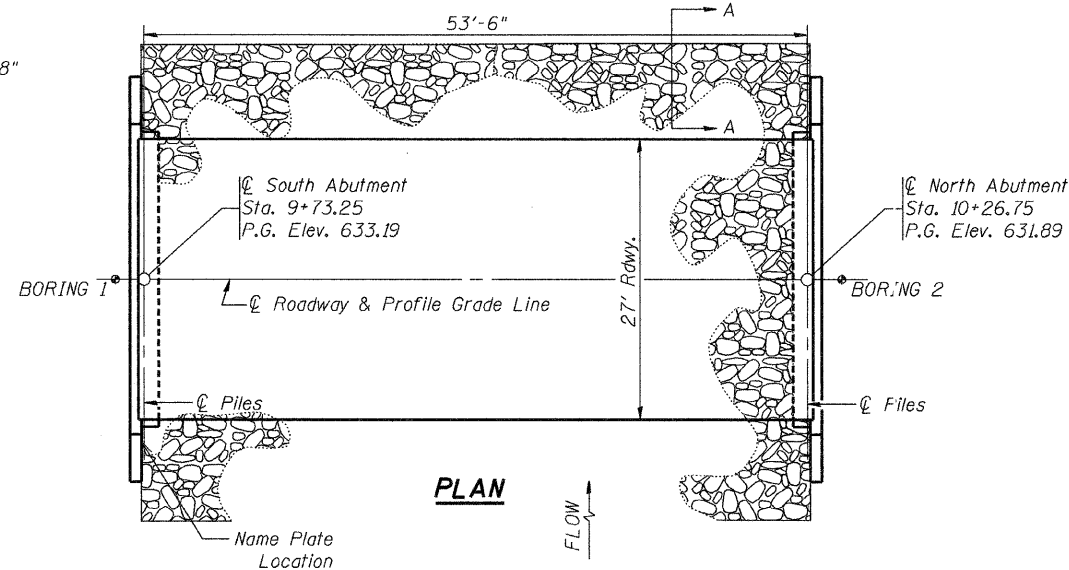
Salvage - Any material deemed salvageable by the Engineer shall be stockpiled on the R.O.W. and shall become the property of Vermilion County. The Contractor shall dispose of all remaining material.



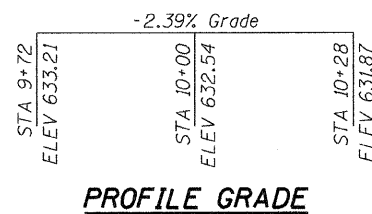
ELEVATION



SECTION A-A



PLAN



PROFILE GRADE

DESIGN STRESSES

FIELD UNITS

$f'_c = 3,500$ psi
 $F_y = 60,000$ psi (reinforcement)

PRECAST PRESTRESSED UNITS

$f'_c = 6,000$ psi
 $f'_{ci} = 5,000$ psi
 $F'_s = 270,000$ psi ($\frac{1}{2}$ " low relax. strands)
 $F_{sl} = 201,960$ psi ($\frac{1}{2}$ " low relax. strands)

DESIGN SPECIFICATIONS

2007 AASHTO LRFD Bridge Design Specifications - 4th ed.

LOADING HL-93

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

SEISMIC DATA

Seismic Performance Zone (SPZ) = 1
 Design Spectral Acceleration at 1.0 sec. (S_{D1}) = 0.100
 Design Spectral Acceleration at 0.2 sec. (S_{D2}) = 0.189
 Soil Site Class = C

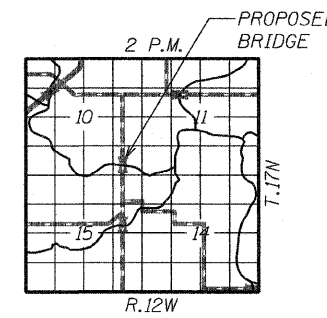
PILE DATA (2-ABUTS.)

Type STEEL HP 12x53
 Nominal Required Bearing 319 kips
 Factored Resistance Available 160 kips
 Estimated Pile Length 43 Feet North Abut. and 42 Feet South Abut.
 Number of Production Piles 10
 Number of Test Piles 2 (1 In Each Abutment)

FAYETTE CREEK
 BUILT 200_ BY
 VERMILION COUNTY
 SEC. 01-03130-00-BR
 PROJECT NO. BROS-183(092)
 TR 427 STA. 10+00
 STR. NO. 092-3493 LOADING HL-93

LETTERING FOR NAME PLATE

Locate Name Plate on the outside face of the Southeast Wingwall.



LOCATION SKETCH

WATERWAY INFORMATION

Drainage Area = 12.8 SQ MI		Low Grade Elev. = 630.69 @ Sta. 11+50							
Flood	Freq. Yr.	Q C.F.S.	Opening Exist.	Sq. Ft. Prop.	Nat. H.W.E.	Head - Ft. Exist.	Headwater El. Prop.		
Design	15	1321	106.1	295.0	630.17	1.47	0.52	631.64	630.69
Base	100	2060	106.1	318.0	631.23	1.07	0.69	632.30	631.92
Overtopping									
Max. Calc.	500								

GENERAL NOTES

- The Contractor shall drive 1 test pile at each abutment, as specified, in a permanent location as directed by the Engineer before ordering the remaining piles.
- See Bridge Plan Sheet 7 for boring logs.
- A Corrosion inhibitor, as covered in the Special Provisions, shall be used in the concrete for precast prestressed concrete deck beams.
- Concrete sealer shall be applied to exterior face of each fascia beam.
- The Steel H-piles shall be according to AASHTO M270 grade 50.
- Reinforcement bars shall conform to the requirements of ASTM A 706 Gr 60. See Special Provisions.
- Reinforcement bars designated (E) shall be epoxy coated.
- 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 the production location at substructures specified or approved by the engineer before ordering the remainder of piles.

TOTAL BILL OF MATERIAL

Item	Unit	Super	Total	
			Sub. Abuts.	Total
Removal of Existing Structures	Each	-	-	1
Concrete Structures	Cu. Yd.	-	19.4	19.4
Precast Prestressed Concrete Deck Beams (27" Depth)	Sq. Ft.	1470	-	1470
Steel Bridge Railing, Type S-1	Foot	109	-	109
Reinforcement Bars, Epoxy Coated	Pound	-	2500	2500
Furnishing Steel Piles HP 12x53	Foot	-	425	425
Driving Piles	Foot	-	425	425
Test Piles Steel HP 12x53	Each	-	2	2
Name Plates	Each	1	-	1
Concrete Cut-off Wall	Cu. Yd.	-	6.2	6.2
Structure Excavation	Cu. Yd.	-	76.5	76.5
Stone Riprap Class A4 (Special)	Sq. Yd.	-	269	269
Channel Excavation	Cu. Yd.	-	-	-
Controlled Low-Strength Material	Cu. Yd.	-	45.2	45.2
Pile Shoes	Each	-	12	12

INDEX OF SHEETS

- General Plan & Elevation
- Superstructure
- Superstructure Details
- Steel Railing
- Abutment Details
- Pile Details
- Boring Logs



Daniel Feuerborn
 Daniel Feuerborn
 License Expires 11-30-2010
 12.10.2009
 Date

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

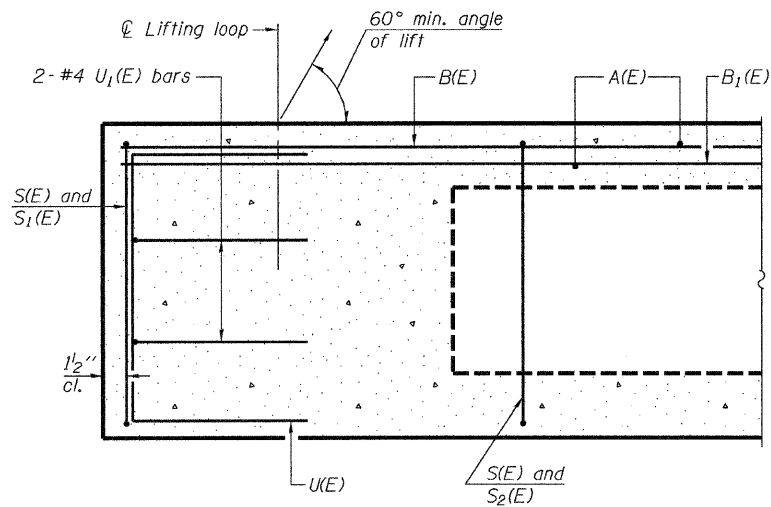
**GENERAL PLAN & ELEVATION
 TR 427 OVER FAYETTE CREEK**

DATE: 11-03-09 DRAWN BY: JEH CHECKED BY: DF

SHEET NO. 1 OF 7 SHEETS	F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	-	01-03130-00-BR	VERMILION	17	5
		SN 092-3493	CONTRACT NO. 91366		
		FED. ROAD DIST. NO. -	ILLINOIS FED. AID PROJECT		

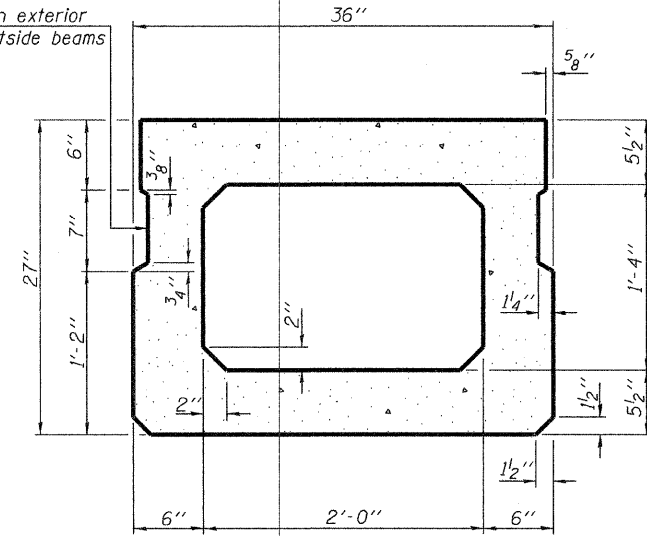


DRAWN BY: JEH CHECKED BY: DF DATE: xx-xx-xx

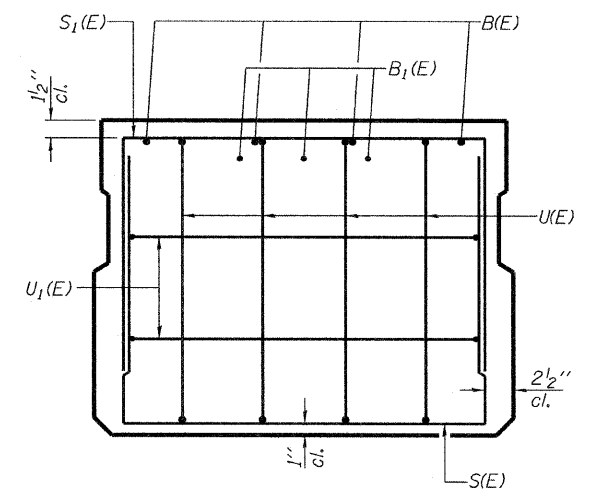


SECTION C-C

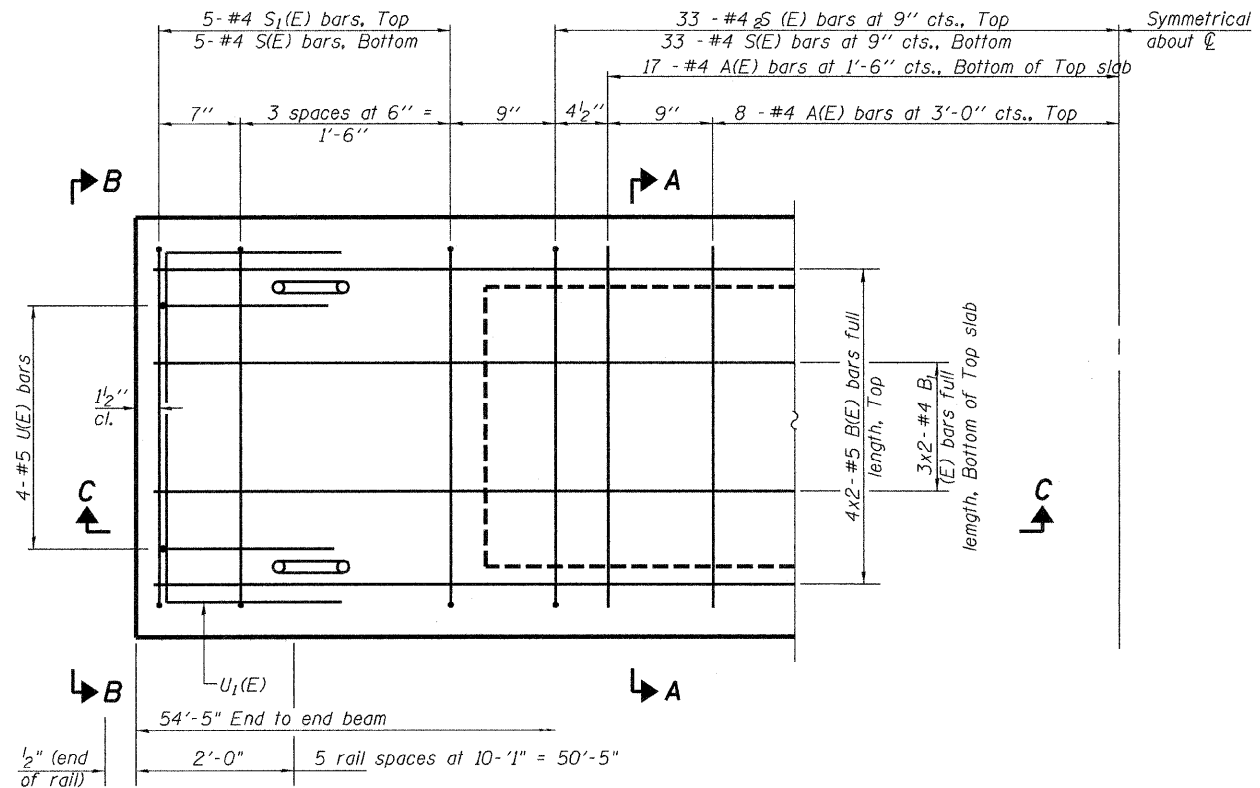
Omit key on exterior face of outside beams



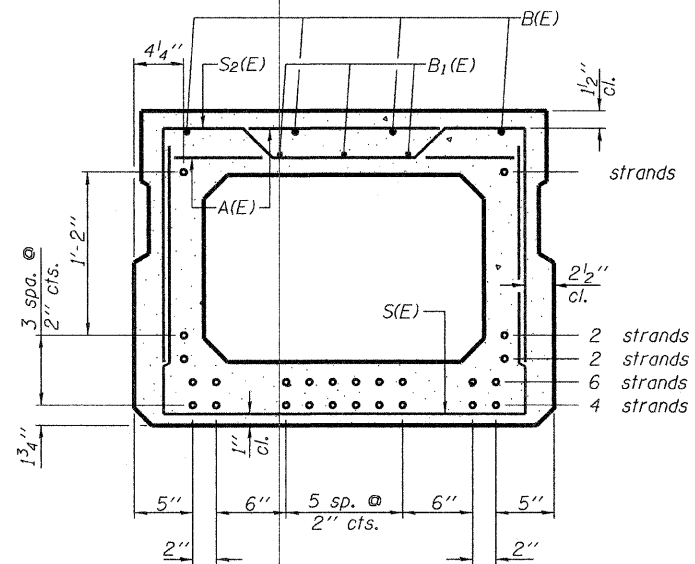
SECTION A-A
(Showing dimensions)



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)	48	#4	2'-7"	—
B(E)	8	#5	28'-1"	—
B1(E)	6	#4	27'-10"	—
S(E)	65	#4	6'-5"	U
S1(E)	10	#4	5'-11"	U
S2(E)	65	#4	6'-2"	U
UK(E)	8	#5	4'-6"	C
U1(E)	4	#4	5'-0"	C

Note: See sheet 3 of 7 for additional details and Bill of Material.

Min BAR LAP

- #4 - 1'-8"
- #5 - 2'-2"

27" X 36" PPC DECK BEAMS

SUPERSTRUCTURE
TR 427 OVER FAYETTE CREEK

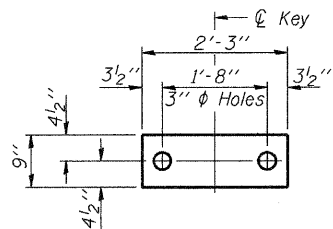
DATE: 11-03-09 DRAWN BY: JEH CHECKED BY: DF

SHEET NO. 2 OF 7 SHEETS	F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	-	01-03130-00-BR	VERMILION	17	6
		SN 092-3493	CONTRACT NO. 91366		
		FED. ROAD DIST. NO. -	ILLINOIS FED. AID PROJECT		

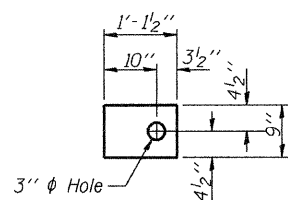
ESI CONSULTANTS, LTD
73 WINDSOR ROAD
CHARLESTON, IL 61820
(217) 348-1800
WWW.ESICONSULTANTS.LTD.COM
ILLINOIS DEPARTMENT OF PROFESSIONAL REGULATION REGISTRATION #184-003885

PD-2736-0 5-16-08

PRINTED DATE: 11/15/2009 FILE NAME: H:\PROJECTS\VERMILION, COUNTY OF\TR 427 OVER FAYETTE CREEK\CADD\Drawings\Sheets\06_SUPER\VERMILION\CC-TR427.dgn



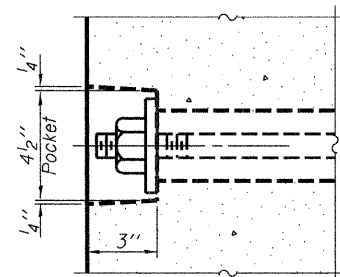
FABRIC BEARING PAD
(Interior)



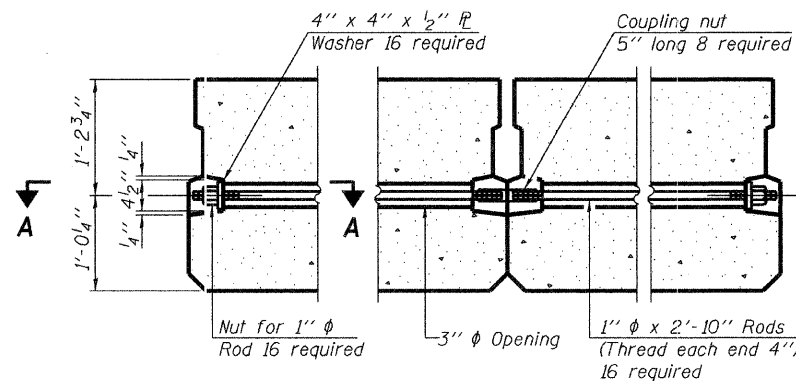
FABRIC BEARING PAD
(Exterior)

FIXED

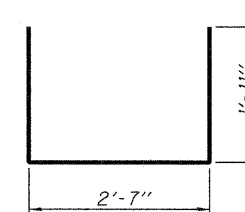
Note: Omit holes when using expansion bearings.



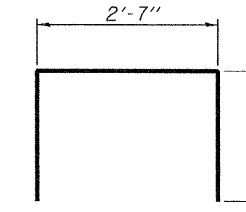
SECTION A-A



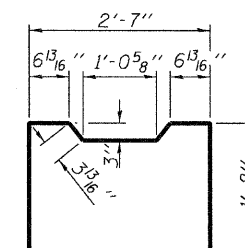
TYPICAL TRANSVERSE TIE ASSEMBLY



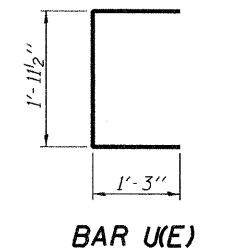
BAR S1(E)



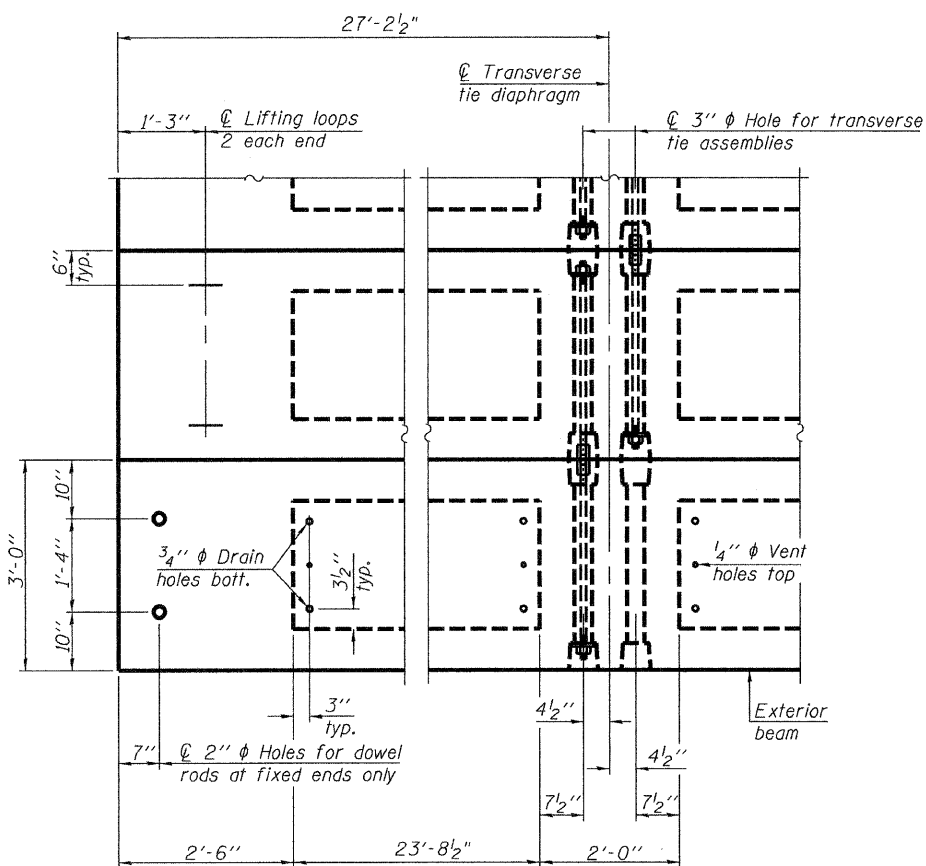
BAR S2(E)



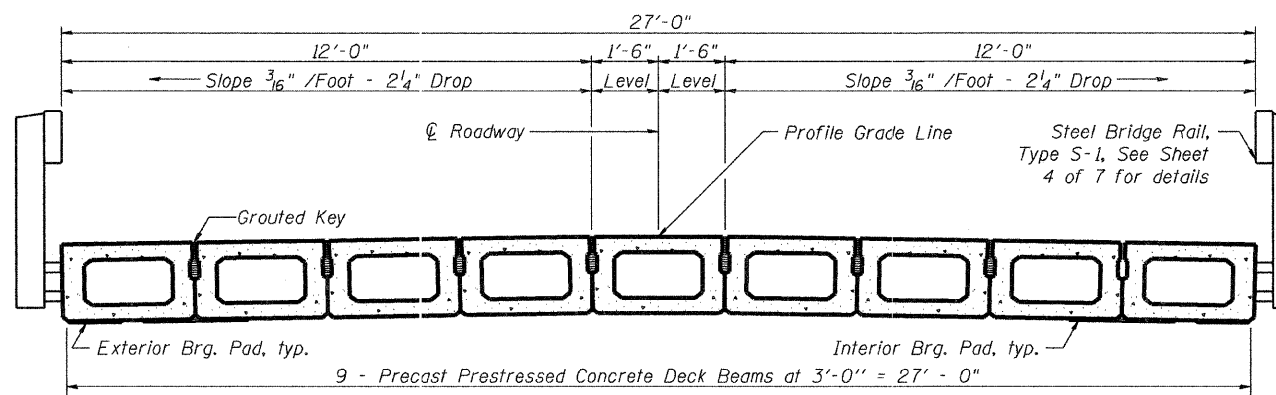
BAR U1(E)



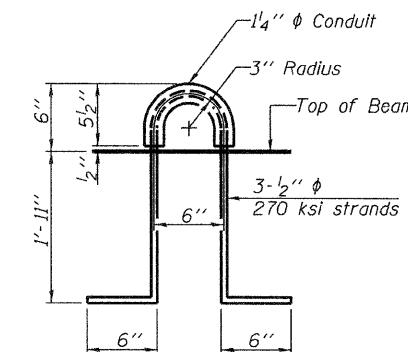
BAR U2(E)



PLAN VIEW



CROSS SECTION



LIFTING LOOP DETAIL

BILL OF MATERIAL

Precast Prestressed Conc. Deck Bms. (27" depth)	Sq. Ft.	1470
---	---------	------

27" X 36" PPC DECK BEAM DETAILS

SUPERSTRUCTURE DETAILS
TR 427 OVER FAYETTE CREEK
DATE: 11-03-09 DRAWN BY: JEH CHECKED BY: DF

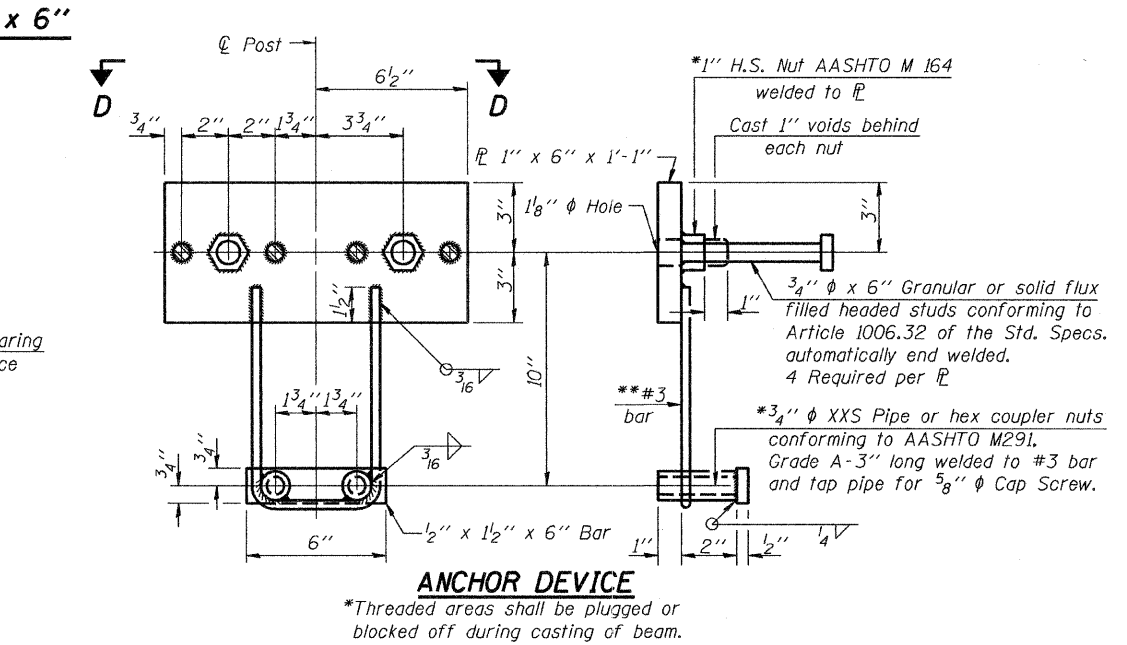
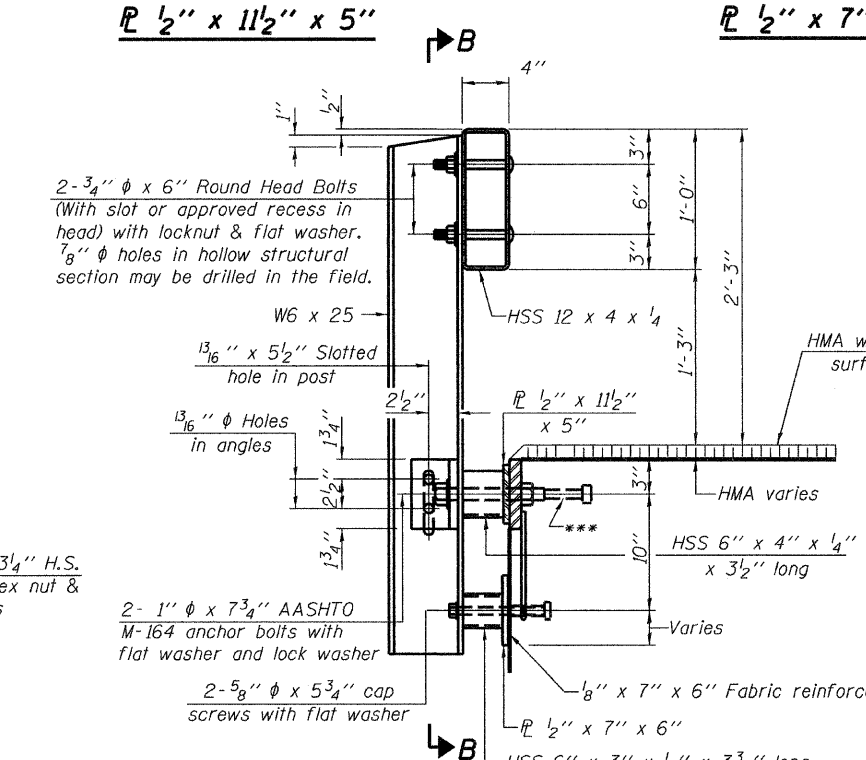
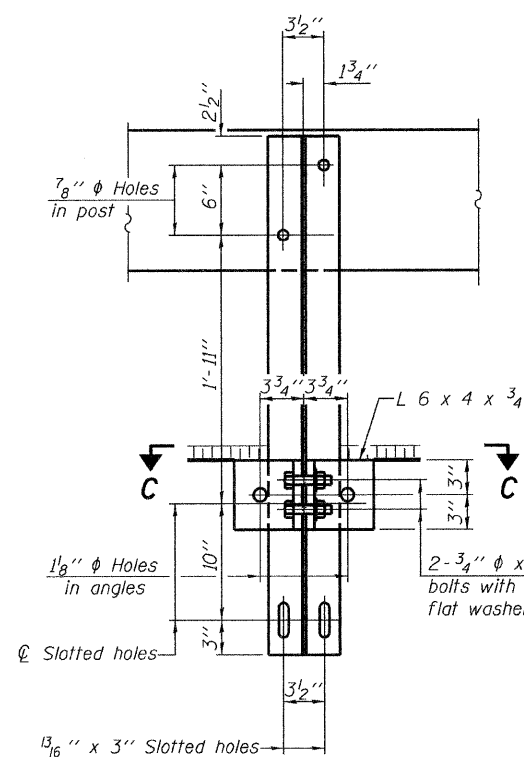
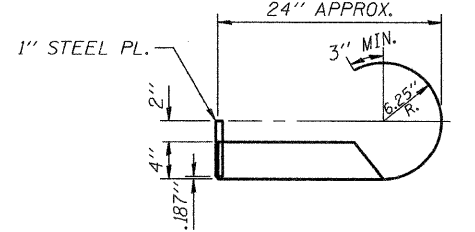
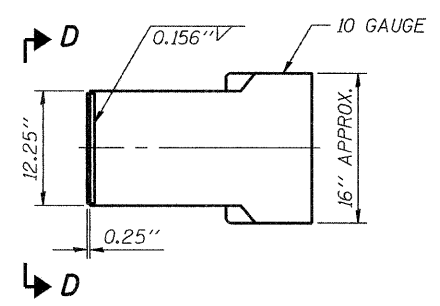
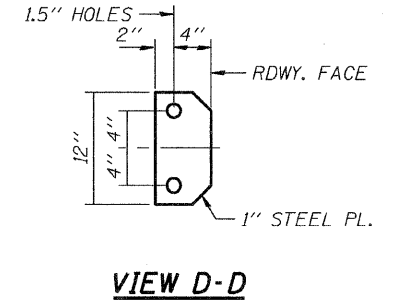
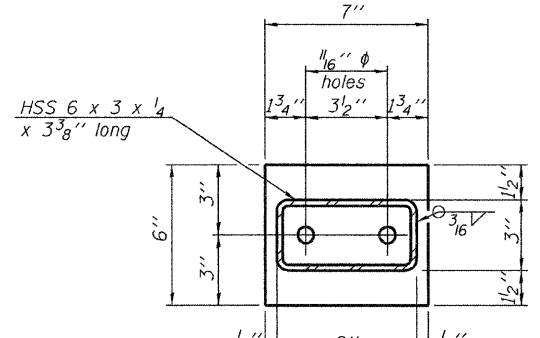
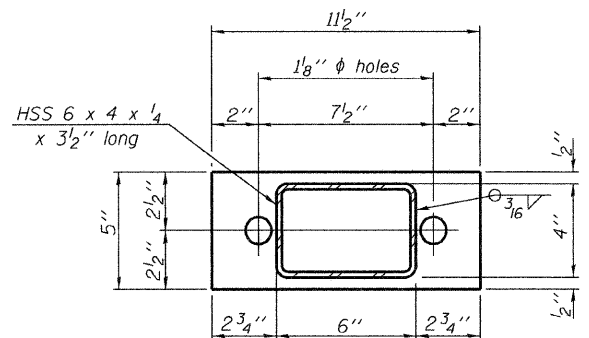
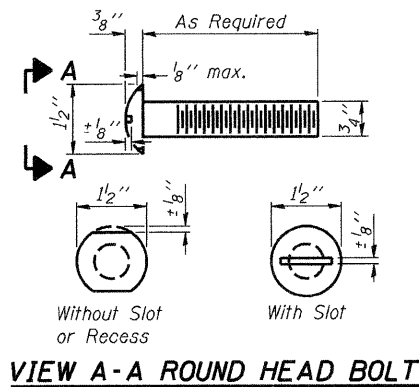
SHEET NO. 3 OF 7 SHEETS	F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	-	01-03130-00-BR	VERMILION	17	I
		SN 092-3493	CONTRACT NO. 91366		
		FED. ROAD DIST. NO. -	ILLINOIS	FED. AID PROJECT	

NOTES

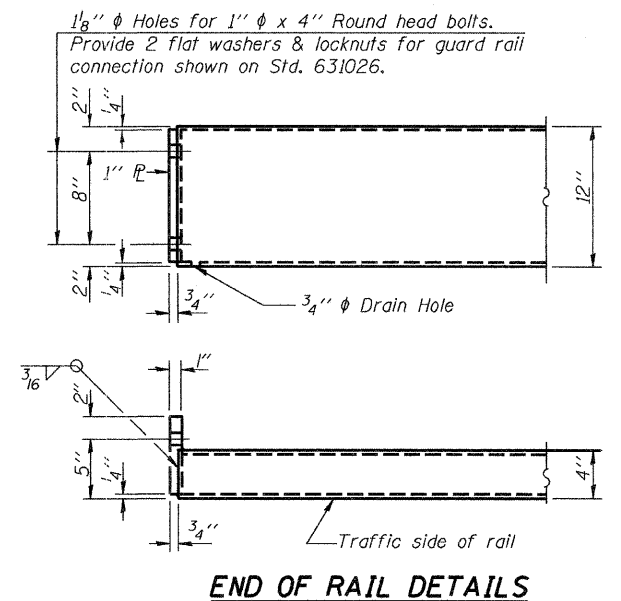
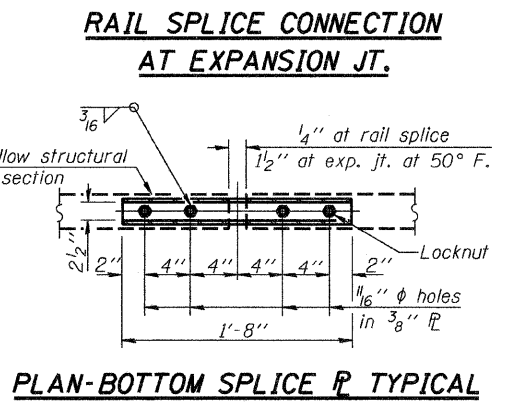
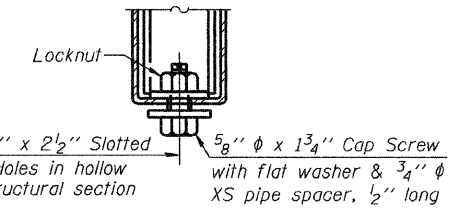
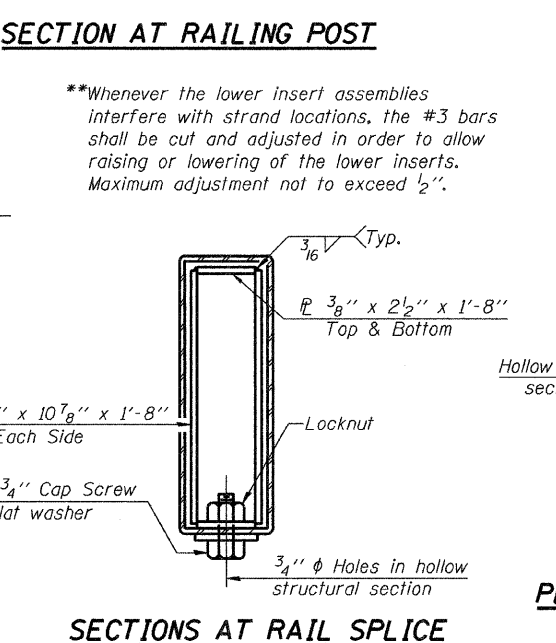
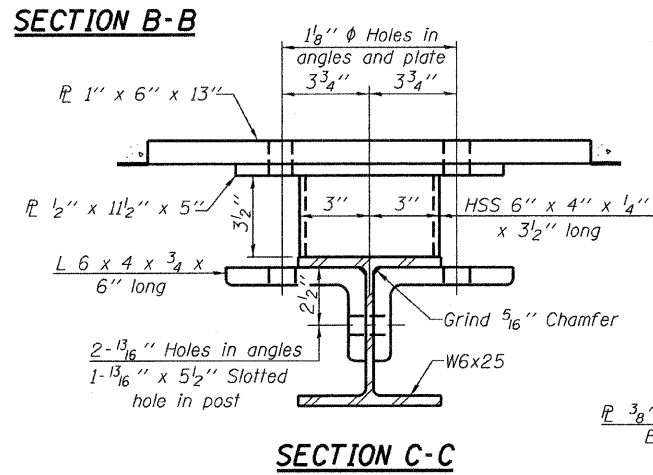
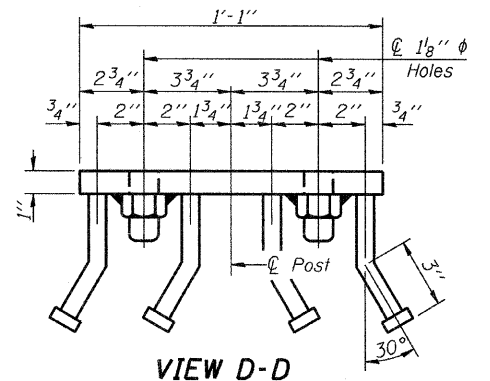
- Prestressing steel shall be uncoated high strength, low relaxation 7-wire strand, Grade 270. The nominal diameter shall be 1/2" and the nominal cross-sectional area shall be 0.153 sq. in.
- The 1" diameter rods in the transverse tie assembly shall be tightened to a snug fit and the threads set. Pockets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

ESI CONSULTANTS, LTD
753 WINDSOR ROAD
CHICAGO, IL 60620
(312) 348-1986
WWW.ESICONSULTANTS.LTD.COM
ILLINOIS DEPARTMENT OF PROFESSIONAL REGULATION REGISTRATION #184-003885

PD-2736-OD 5-16-08



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	109

STEEL RAILING, TYPE S-1
 TR 427 OVER FAYETTE CREEK

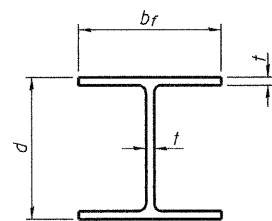
DATES: 11-03-09 DRAWN BY: JEH CHECKED BY: DF

SHEET NO. 4	F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
OF 7 SHEETS	-	01-03130-00-BR	VERMILION	17	8
		SN 092-3493	CONTRACT NO. 91366		
		FED. ROAD DIST. NO. -	ILLINOIS FED. AID PROJECT		

ESI CONSULTANTS, LTD
 753 WIMBOR ROAD
 CHICAGO, IL 60611
 (312) 348-1800
 WWW.ESI-CONSULTANTS.COM
 ILLINOIS DEPARTMENT OF PROFESSIONAL REGULATION #184-063885

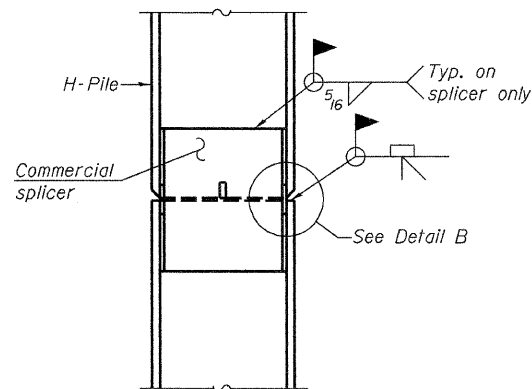
R-23A 5-16-08 (10'-9" Maximum Post Spacing)

PRINTED DATE: 11/19/2009
 FILE NAME: I:\PROJECTS\13\VERMILION COUNTY OF ITR 427 OVER FAYETTE CREEK\04DD\Drawings\Sheets\08_RAIL_VermCo_ITR427.dgn

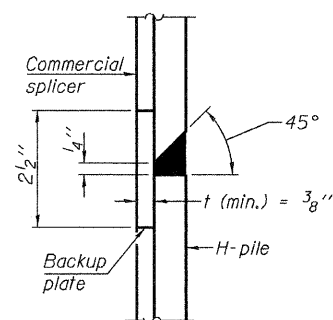


STEEL PILE TABLE

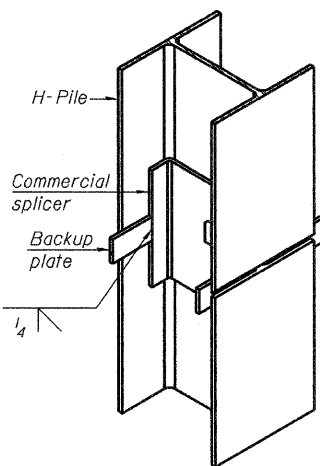
Designation	Depth d	Flange width br	Web and Flange thickness t	Encasement diameter A
HP 14x117	14 1/4"	14 7/8"	13/16"	30"
x102	14"	14 3/4"	1/16"	30"
x89	13 7/8"	14 3/4"	5/8"	30"
x73	13 5/8"	14 5/8"	1/2"	30"
HP 12x84	12 1/4"	12 1/4"	11/16"	24"
x74	12 1/8"	12 1/4"	5/8"	24"
x63	12"	12 1/8"	1/2"	24"
x53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



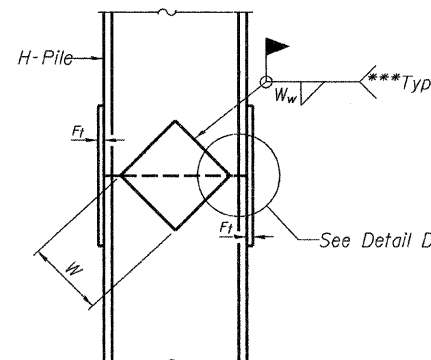
ELEVATION



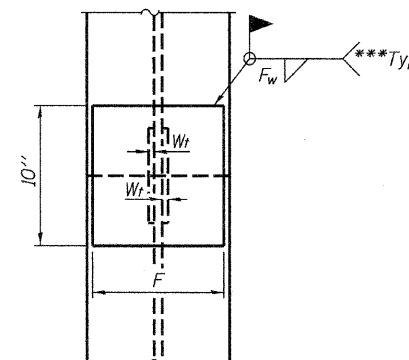
DETAIL "B"



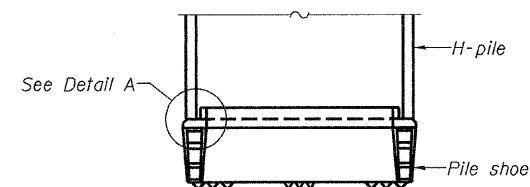
ISOMETRIC VIEW



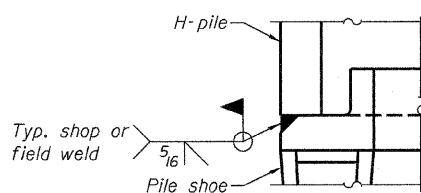
ELEVATION



END VIEW

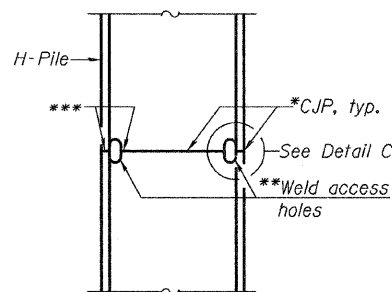


ELEVATION

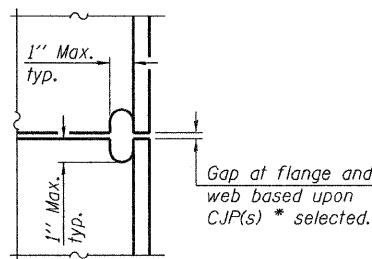


DETAIL A

H-PILE SHOE ATTACHMENT

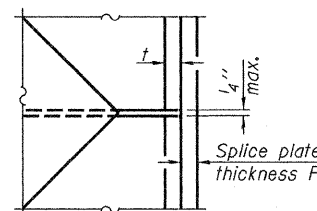


ELEVATION



DETAIL C

COMPLETE PENETRATION WELD SPLICE



DETAIL D

WELDED PLATE FIELD SPLICE

Designation	F	F _t	F _w	W	W _t	W _w
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.

HP PILE DETAILS
TR 427 OVER FAYETTE CREEK
 DATE: 11-03-09 DRAWN BY: JEH CHECKED BY: DF

*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.



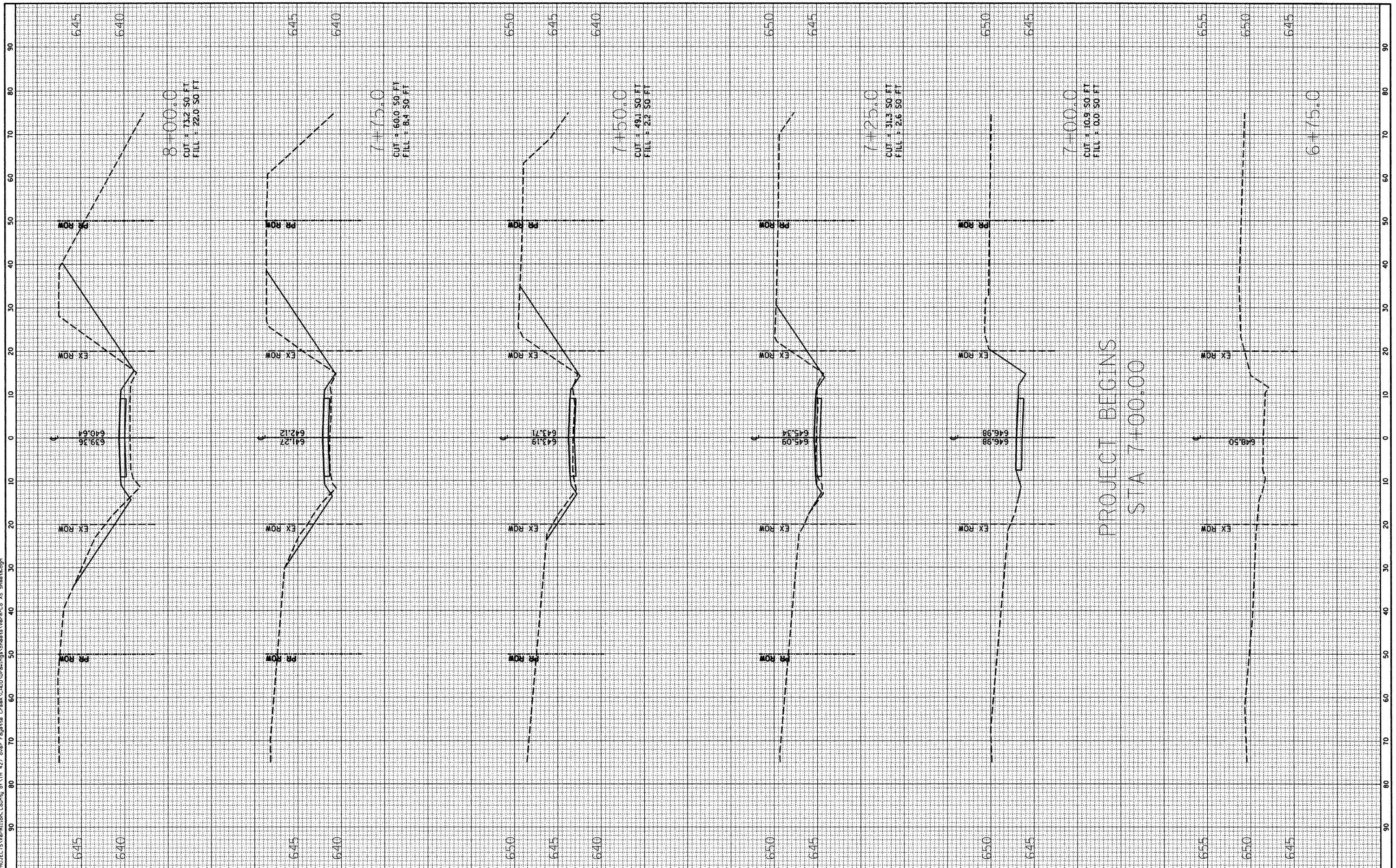
SHEET NO. 6 OF 7 SHEETS	F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	-	01-03130-00-BR	VERMILION	17	10
		SN 092-3493	CONTRACT NO. 91366		
		FED. ROAD DIST. NO. -	ILLINOIS FED. AID PROJECT		

PRINTED DATE: 11/19/2009 FILE NAME: W:\PROJECTS\VERMILION COUNTY OF TR 427 OVER FAYETTE CREEK\HADD\Drawings\Sheets\HP_PILE DET_VermCo_TR427.dwg

FINAL SURVEY	SURVEYED	BY	DATE
NOTE BOOK	PLOTTED		
AREAS CHECKED	TEMPLATE		
NO.			

ORIGINAL SURVEY	SURVEYED	BY	DATE
NOTE BOOK	PLOTTED		
AREAS CHECKED	TEMPLATE		
NO.			

PRINTED DATE: 11/19/2009
 FILE NAME: N:\PROJECTS\Vermillion, County of\17R 427 over Fayette Creek\CADD\Drawings\Sheets\Vermon-Co XS Sheets.dgn



PROJECT BEGINS
 STA 7+00.00



USER NAME = *USER*
 PLOT SCALE = 1/8"=1' / IN.
 PLOT DATE = 11/19/2009

DESIGNED - JEH
 DRAWN - JEH
 CHECKED - DF
 DATE - 11-03-09

REVISED -
 REVISED -
 REVISED -
 REVISED -

STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

CROSS SECTIONS

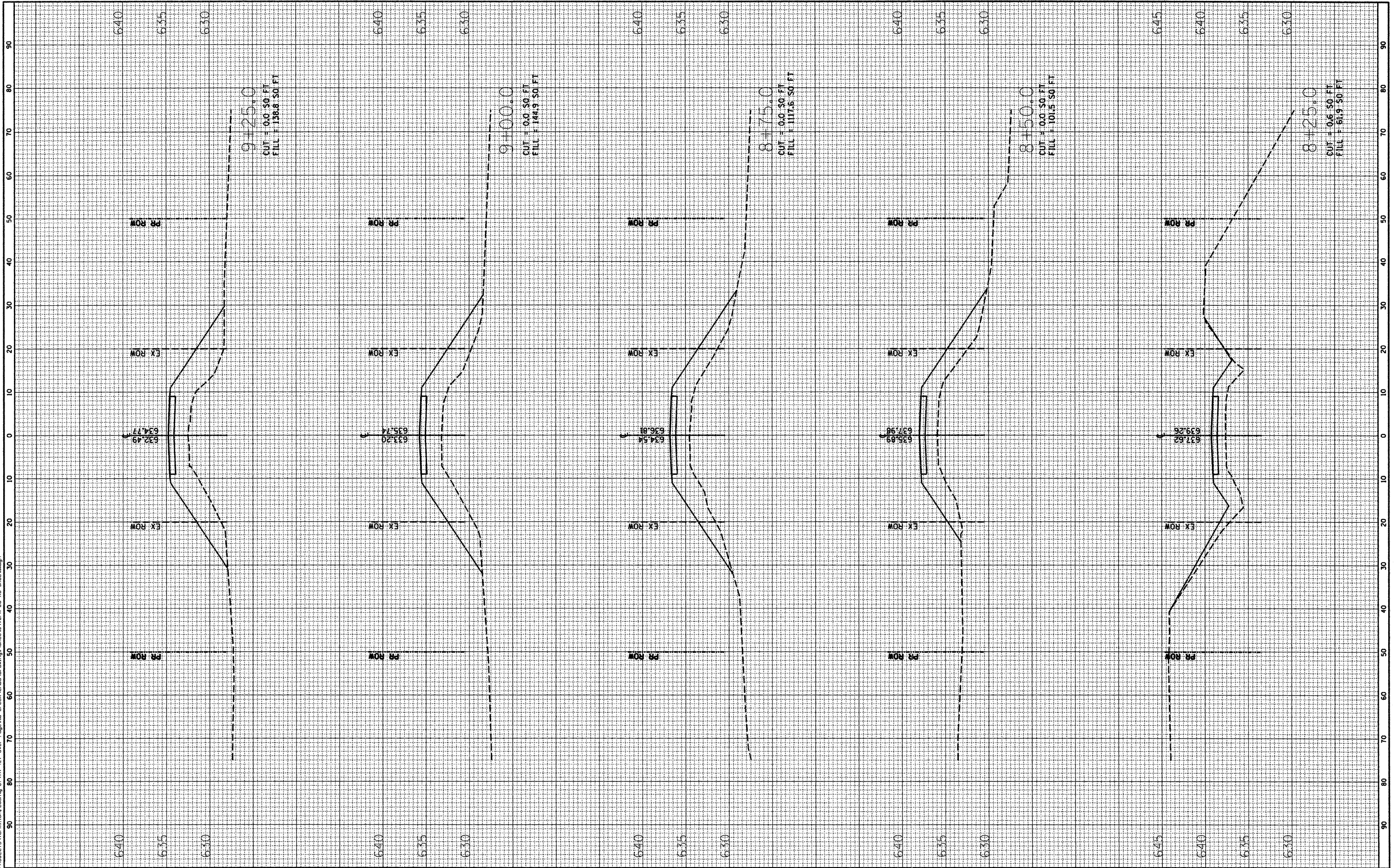
SCALE: 1"=10' 1"=5' SHEET NO. 1 OF 6 SHEETS STA. 6+75.0 TO STA. 8+00.0

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
---	01-03130-00-BR	VERMILION	17	12
CONTRACT NO. 91366				
ILLINOIS FED. AID PROJECT				

FINISH	DATE
SURVEYED	
PLOTTED	
TEMPLATE	
NOTE BOOK	
AREAS CHECKED	
NO.	

ORIGINAL	DATE
SURVEYED	
PLOTTED	
TEMPLATE	
NOTE BOOK	
AREAS CHECKED	
NO.	

PRINTED DATE: 11/19/2009
 FILE NAME: N:\PROJECTS\Vermillion, County of\TR 427 over Eggleston Creek\ROAD\Drawings\Sheets\Vermon Co XS Sheets.dgn



USER NAME = *USER*
 PLOT SCALE = 10.0000' / IN.
 PLOT DATE = 11/19/2009

DESIGNED - JEH
 DRAWN - JEH
 CHECKED - DF
 DATE - 11-03-09

REVISED -
 REVISED -
 REVISED -
 REVISED -

STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

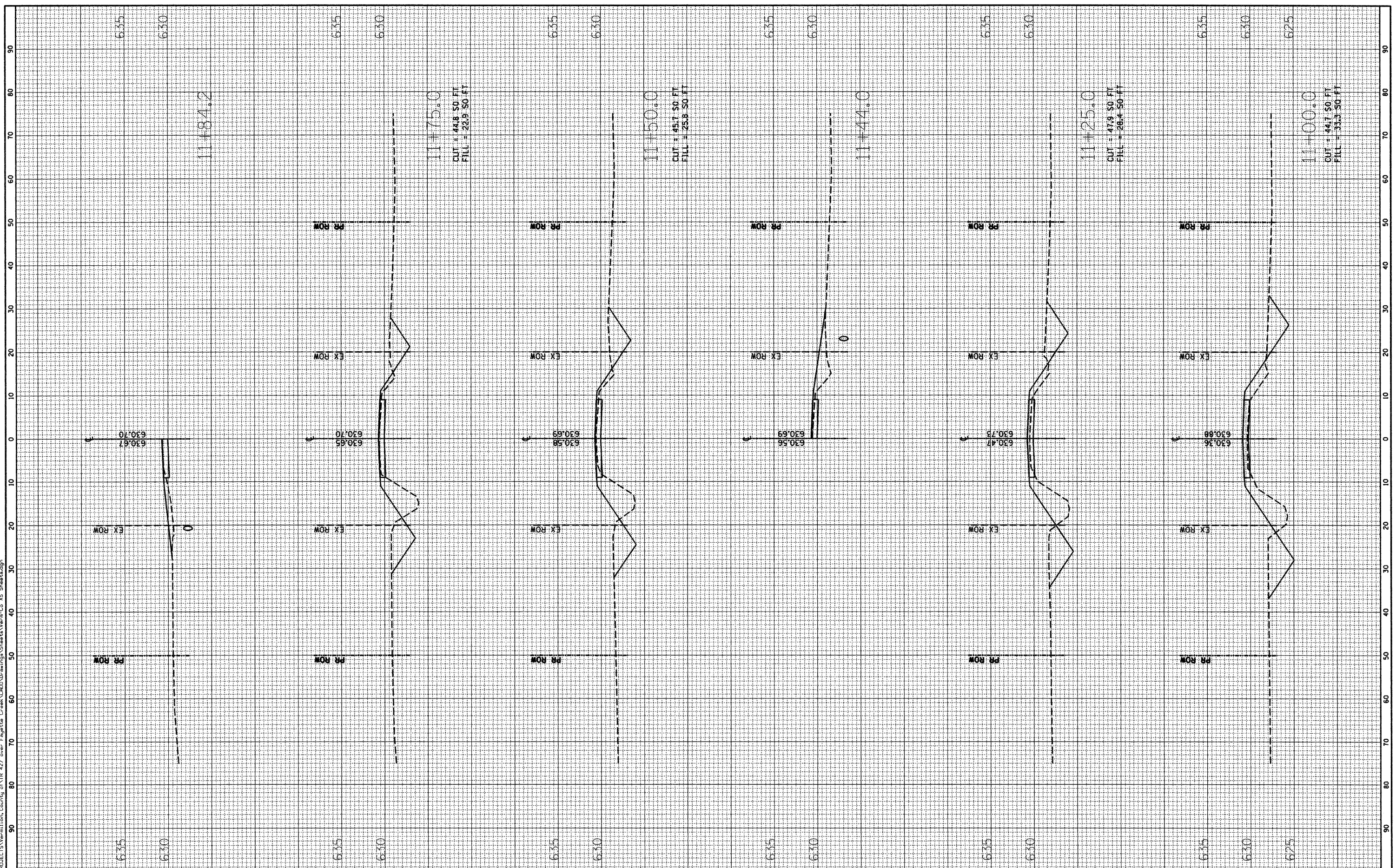
CROSS SECTIONS
 SCALE: 1"=10' 1"=5' SHEET NO. 2 OF 6 SHEETS STA. 8+25.0 TO STA. 9+25.0

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
---	01-03130-00-BR	VERMILION	17	13
ILLINOIS FED. AID PROJECT			CONTRACT NO. 91366	

FINAL	SURVEYED	DATE
SURVEY	PLOTTED	BY
NOTE BOOK	TEMPLATE	
NO.	AREAS CHECKED	

ORIGINAL	SURVEYED	DATE
SURVEY	PLOTTED	BY
NOTE BOOK	TEMPLATE	
NO.	AREAS CHECKED	

PRINTED DATE: 11/19/2009
 FILE NAME: \\PROJECTS\Vermillion_County\11R_427 over Eagle Creek\ROAD\Drawings\Sheets\Vermon-Co XS Sheets.dgn



USER NAME = \$USER\$
 PLOT SCALE = 10.0000' / IN.
 PLOT DATE = 11/19/2009

DESIGNED - JEH
 DRAWN - JEH
 CHECKED - DF
 DATE - 11-03-09

REVISED -
 REVISED -
 REVISED -
 REVISED -

STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

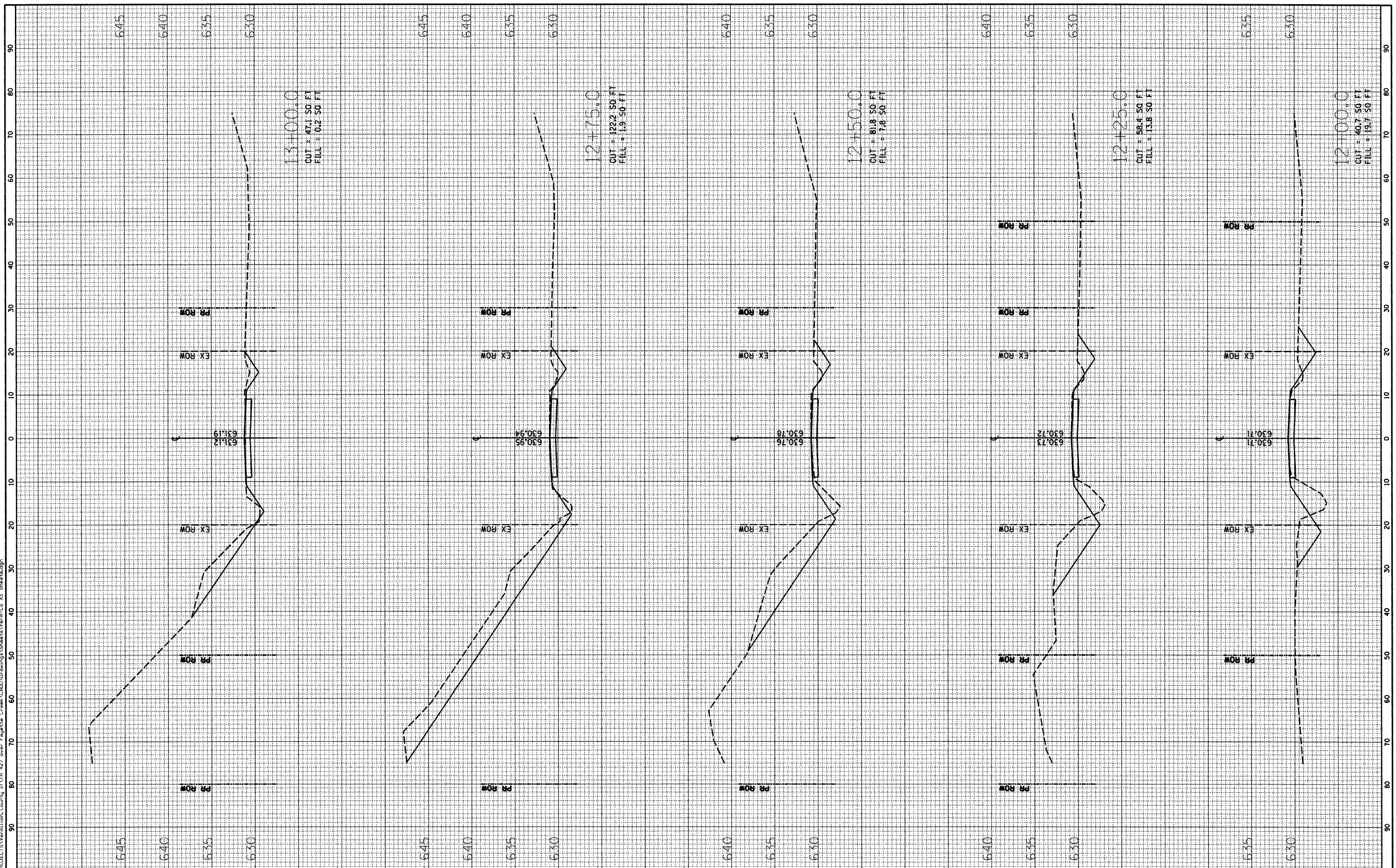
CROSS SECTIONS
 SCALE: 1"=10' 1"=5' SHEET NO. 4 OF 6 SHEETS
 STA. 11+00.0 TO STA. 11+84.2

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
---	01-05130-00-BR	VERMILION	17	15
ILLINOIS FED. AID PROJECT			CONTRACT NO. 91366	

FINAL SURVEY	DATE
SURVEYED	
PLOTTED	
TEMPLATE	
NOTE BOOK	
AREAS CHECKED	
NO.	

ORIGINAL SURVEY	DATE
SURVEYED	
PLOTTED	
TEMPLATE	
NOTE BOOK	
AREAS CHECKED	
NO.	

PRINTED DATE: 11/19/2009
 FILE NAME: N:\PROJECTS\Vermillion\County of Vt 427 over Fajate Creek\ROAD\Drawings\Sheets\Vermon-Co XS Sheets.dgn



USER NAME = *USER*
 PLOT SCALE = 10.0000" / 1"
 PLOT DATE = 11/19/2009

DESIGNED - JEH	REVISED -
DRAWN - JEH	REVISED -
CHECKED - DF	REVISED -
DATE - 11-03-09	REVISED -

STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

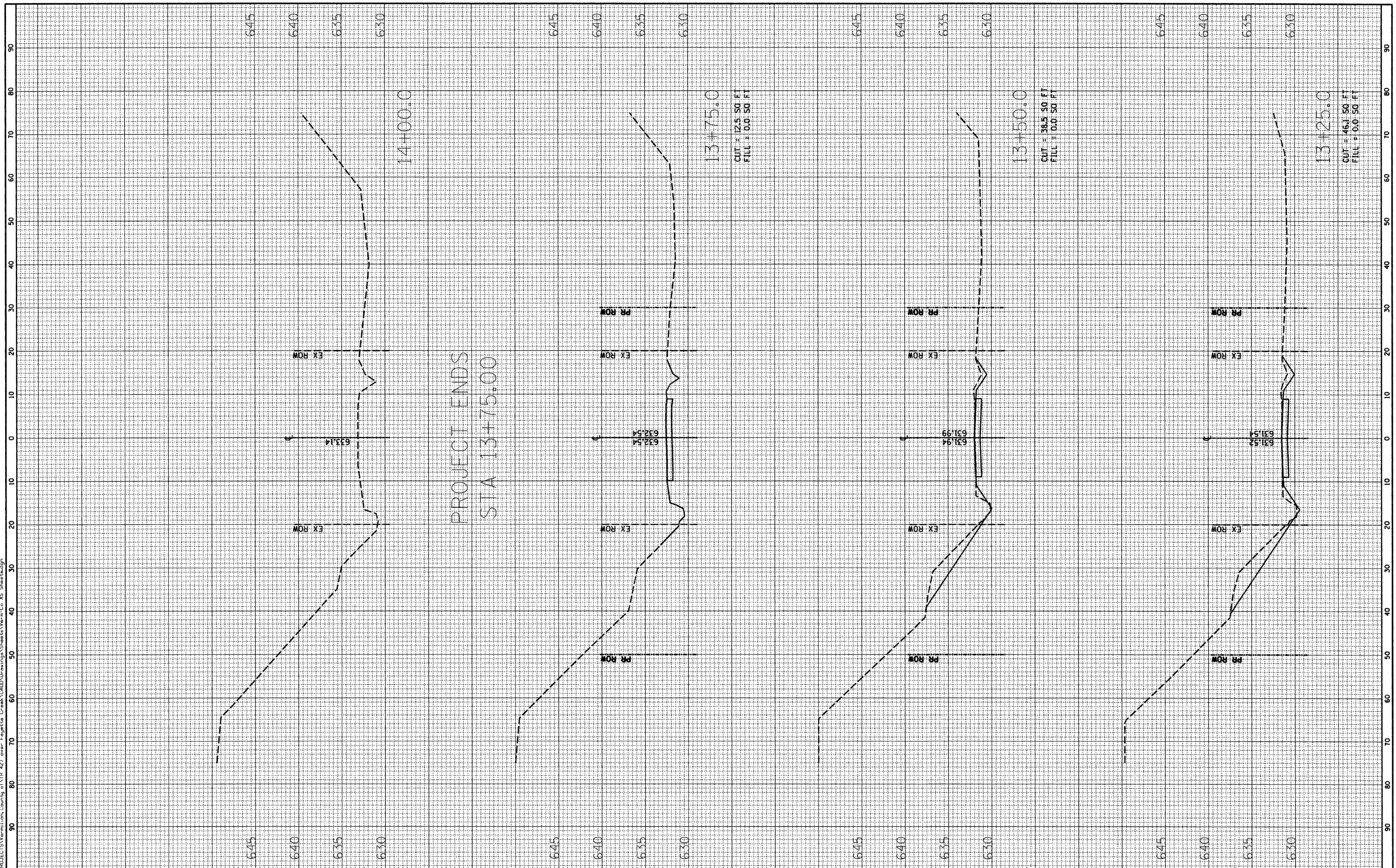
CROSS SECTIONS
 SCALE: 1"=10' 1"V=5' SHEET NO. 5 OF 6 SHEETS
 STA. 12+00.0 TO STA. 13+00.0

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
---	01-03130-00-BR	VERMILION	17	16
CONTRACT NO. 91366			ILLINOIS FED. AID PROJECT	

FINAL SURVEY	SURVEYED	BY	DATE
NOTE BOOK	PLOTTED		
AREAS CHECKED	TEMPLATE		
NO.			

ORIGINAL SURVEY	SURVEYED	BY	DATE
NOTE BOOK	PLOTTED		
AREAS CHECKED	TEMPLATE		
NO.			

PRINTED DATE: 11/19/2009
 FILE NAME: N:\PROJECTS\Vermillion, County of\11-19-09\Drawings\Sheet\Ver-03-Sheet.dgn



PROJECT ENDS
 STA 13+75.00

CUT = 12.5 50 FT
 FILL = 0.0 50 FT

CUT = 38.5 50 FT
 FILL = 0.0 50 FT

CUT = 46.5 50 FT
 FILL = 0.0 50 FT



USER NAME = #USER#
 PLOT SCALE = 10.0000" = 1"
 PLOT DATE = 11/19/2009

DESIGNED - JEH
 DRAWN - JEH
 CHECKED - DF
 DATE - 11-03-09

REVISED -
 REVISED -
 REVISED -
 REVISED -

STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

CROSS SECTIONS
 SCALE: 1"=10' 1"=5' SHEET NO. 6 OF 6 SHEETS

SECTION 01-03130-00-BR
 COUNTY VERMILION
 CONTRACT NO. 91366

TOTAL SHEETS	17
SHEET NO.	17
ILLINOIS FED. AID PROJECT	