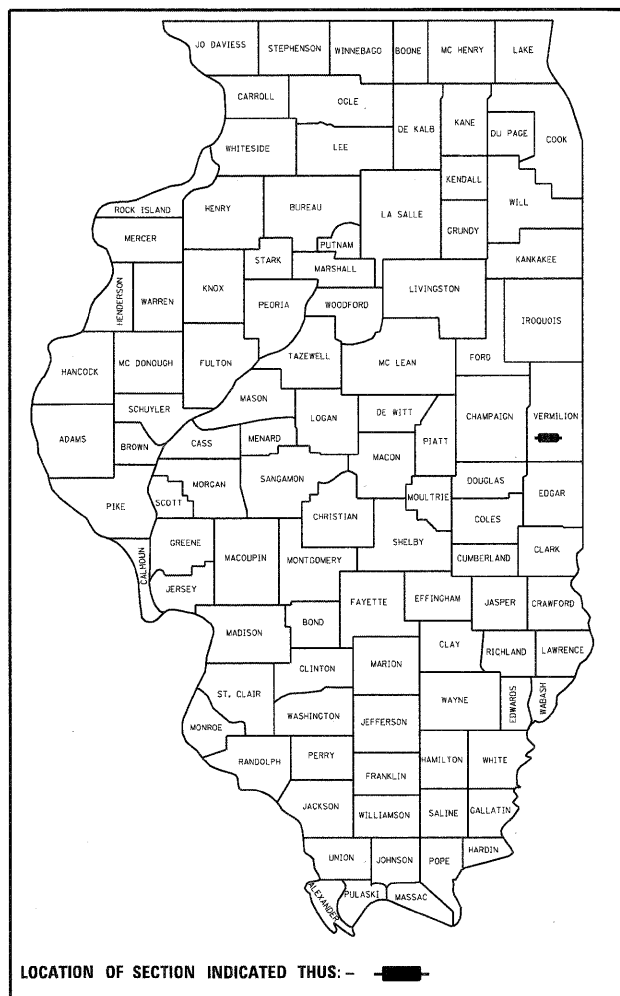


STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

PROPOSED HIGHWAY PLANS

SECTION: 08-09121-00-BR
PROJECT: BROS-0183(306)
JOB NO. C-95-321-10
VERMILION COUNTY
T.R. # 413
HBP FUNDS



INDEX OF SHEETS

- 1 COVER SHEET
- 2 GENERAL NOTES / DETAILS / QUANTITIES
- 3 PLAN AND PROFILE
- 4 GENERAL PLAN & ELEVATION
- 5 SUPERSTRUCTURE
- 6 SUPERSTRUCTURE DETAILS
- 7 BRIDGE RAIL DETAILS
- 8 ABUTMENT DETAILS
- 9 PILE DETAILS
- 10 BORING LOGS
- 11-14 CROSS SECTIONS

HIGHWAY STANDARDS

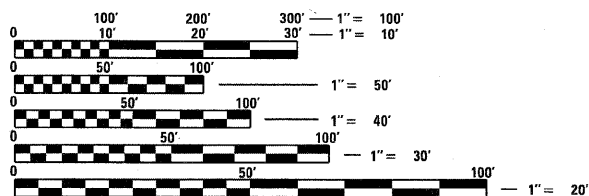
- 000001-05 STANDARD SYMBOLS
- 280001-05 TEMPORARY EROSION CONTROL SYSTEMS
- 515001-03 NAME PLATE FOR BRIDGES
- 635006-03 REFLECTOR AND TERMINAL MARKER PLACEMENT
- 701001-02 OFF-ROAD OPERATIONS LESS THAN 15'
- 701006-03 OFF-ROAD OPERATIONS GREATER THAN 15'
- 701901-01 TRAFFIC CONTROL DEVICES
- BLR 21-8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

ROADWAY OMISSION
FROM STA 49+77.5
TO STA 50+22.5

PROJECT ENDS
STA 52+00.0

ENGINEERING PLAN SUBMITTAL	
THESE ENGINEERING PLANS AND SUPPORTING DOCUMENTS ARE ISSUED FOR THE FOLLOWING PURPOSE ONLY	
<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: 02-22-2010

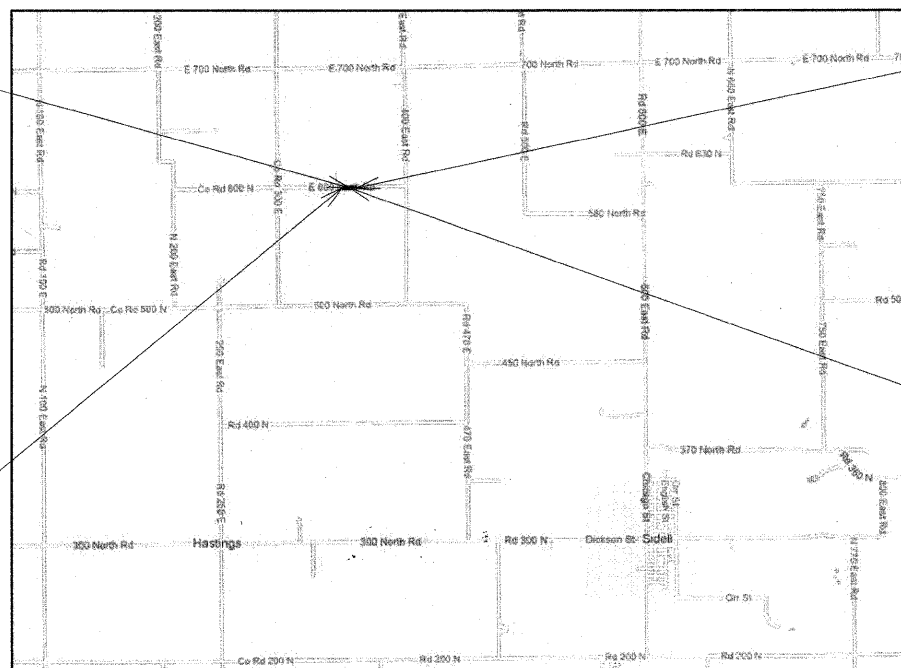


FULL SIZE PLANS HAVE BEEN PREPARED USING STANDARD ENGINEERING SCALES. REDUCED SIZED PLANS WILL NOT CONFORM TO STANDARD SCALES. IN MAKING MEASUREMENTS ON REDUCED PLANS, THE ABOVE SCALES MAY BE USED.

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. 91431



PROPOSED STRUCTURE
REPLACEMENT OVER
FREEDWELL BRANCH
STATION 50+00
NEW SN: 092-3514
OLD SN: 092-3217

LOCATION MAP

0 1 MILE
GROSS LENGTH = 400 FT. = 0.075 MILE
NET LENGTH = 357.5 FT. = 0.068 MILE
ADT = 50
FUNCTIONAL CLASSIFICATION = LOCAL ROAD

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753 WINDSOR ROAD
CHARLESTON, IL 61820
(217) 348-1900
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ILLINOIS DEPARTMENT OF PROFESSIONAL REGULATION REGISTRATION #184-003685
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EXCEPT FOR THIS SPECIFIC PROJECT WITHOUT THE WRITTEN CONSENT OF ESI CONSULTANTS, LTD.

VERMILION COUNTY HIGHWAY DEPARTMENT	
APPROVED	<u>MARCH 1 20 10</u> <i>Douglas R. Harker</i> COUNTY ENGINEER
APPROVED	<u>MARCH 1 20 10</u> <i>William E. Knight</i> JAMAICA TOWNSHIP ROAD COMMISSIONER
PASSED	<u>3/16 20 10</u> <i>[Signature]</i> DISTRICT 5 LOCAL ROADS & STREETS ENGINEER
RELEASING FOR BID BASED ON LIMITED REVIEW	<u>MARCH 16 20 10</u> <i>[Signature]</i> DEPUTY DIRECTOR OF HIGHWAYS, REGION 4 ENGINEER

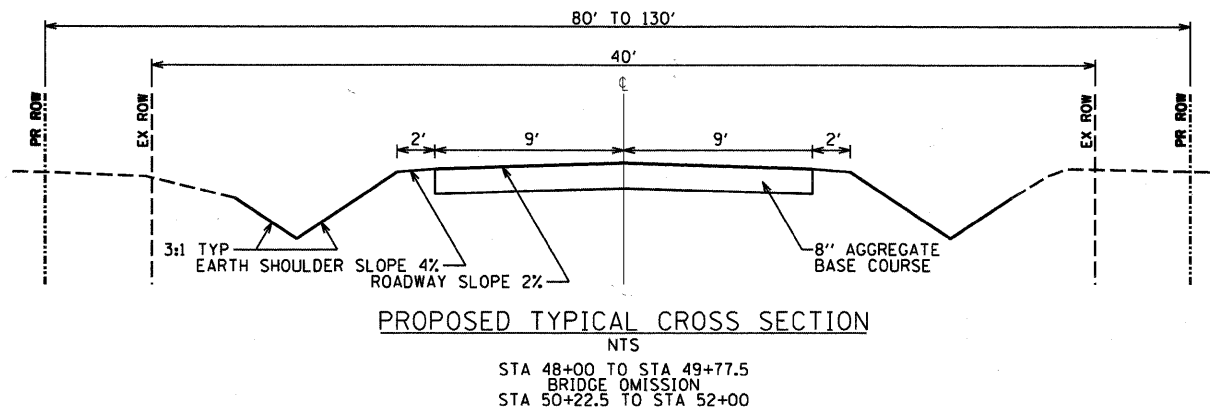
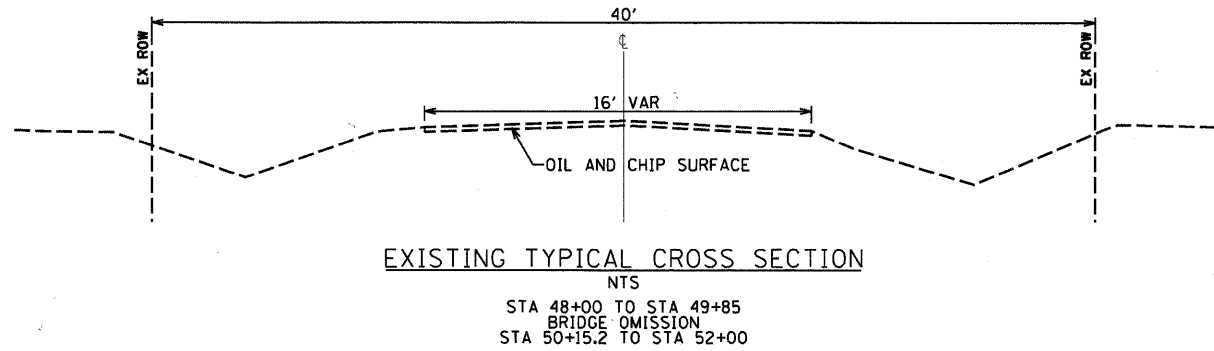


[Signature] 3/3/2010
Daniel Feuerborn
License Expires 11-30-2010
Date

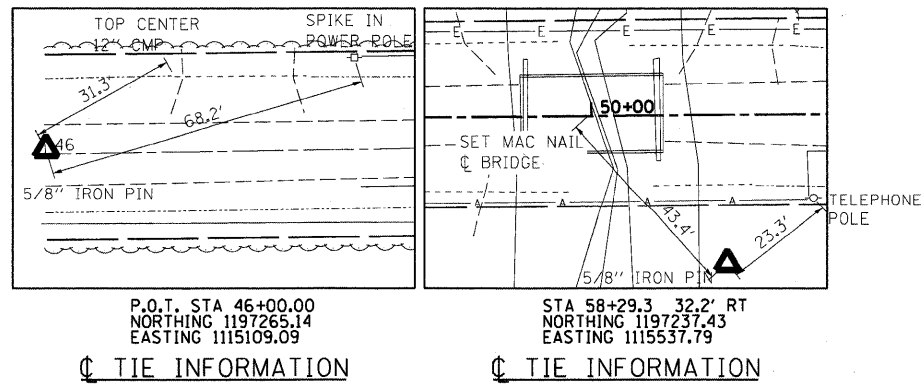
GENERAL NOTES

- 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

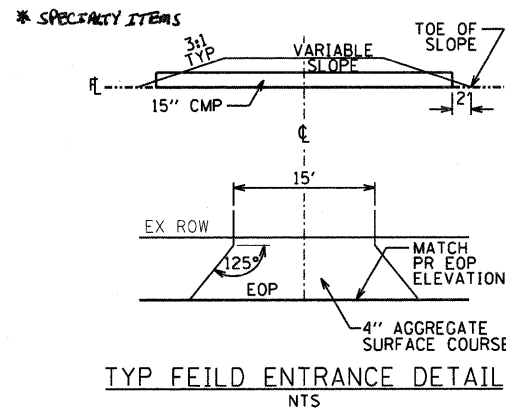


SUMMARY OF QUANTITIES

PAY CODE	ITEM	UNITS	QUANTITY
20200100	EARTH EXCAVATION	CU YD	71
20300100	CHANNEL EXCAVATION	CU YD	60
20400800	FURNISHED EXCAVATION	CU YD	276
25001000	SEEDING, CLASS 2 (SPECIAL)	ACRE	0.50
28000250	TEMPORARY EROSION CONTROL SEEDING	lbs	300
28000305	TEMPORARY DITCH CHECKS	FOOT	72
28000400	PERIMETER EROSION BARRIER	FOOT	718
28000500	INLET AND PIPE PROTECTION	EACH	3
28100108	STONE RIPRAP, CLASS A4 (SPECIAL)	SQ YD	273
40200800	AGGREGATE SURFACE COURSE, TYPE B	TON	283
50100100	REMOVAL OF EXISTING STRUCTURES	EACH	1
50105220	PIPE CULVERT REMOVAL	FOOT	140
50200100	STRUCTURE EXCAVATION	CU YD	77.7
50300225	CONCRETE STRUCTURES	CU YD	18.3
50400405	PRECAST PRESTRESSED CONCRETE DECK BEAMS (21" DEPTH)	SQ FT	1173
50800205	REINFORCEMENT BARS, EPOXY COATED	POUND	2440
50900205	STEEL RAILING, TYPE S1	FOOT	87
51201400	FURNISHING STEEL PILES HP10X42	FOOT	460
51202305	DRIVING PILES	FOOT	460
51203400	TEST PILE STEEL HP10X42	EACH	2
51204650	PILE SHOES	EACH	10
51500100	NAME PLATES	EACH	1
542D0220	PIPE CULVERTS, CLASS D, TYPE 1 15"	FOOT	84
59300100	CONTROLLED LOW-STRENGTH MATERIAL	CU YD	40.9
67100100	MOBILIZATION	L SUM	1
70101700	TRAFFIC CONTROL AND PROTECTION	L SUM	1
X0004566	CONCRETE CUT-OFF WALL	CU YD	5.2
Z0013798	CONSTRUCTION LAYOUT	L SUM	1

EARTHWORK SCHEDULE

STATION	FILL SQ. FT.	FILL CU YD.	CUT SQ. FT.	CUT CU YD.	TOTAL CU YD.
48+00	4.1		1.8		
48+25	6.3		2.1		
48+50	7.5		5.6		
48+75	8.6		13.2		
49+00	4.7		43.4		
49+25	12.8		52.6		
49+50	12.8		77.0		
49+77.5	0.0		117.6		
BRIDGE OMISSION					
50+22.5	9.6		52.1		
50+50	6.3		45.0		
50+75	0.9		42.1		
51+00	1.7		24.7		
51+25	1.1		13.3		
51+50	2.2		6.4		
51+75	2.2		1.9		
52+00	1.8		0.9		
TOTAL CUT EARTH EXCAVATION 71.4 CU YD					
TOTAL FILL EMBANKMENT 329.5 CU YD					
TOTAL EARTHWORK 400.9 CU YD					
FURNISHED EXCAVATION =			276.0 CU YD		



PRINTED DATE: 2/23/2010
FILE NAME: N:\Projects\Vermillion\County of VT\413 over Freedom\Bench\CD\Drawings\Sheets\02\Freedom11.dwg

USER NAME = #USER#	DESIGNED - JEH	REVISED -
PLOT SCALE = 20.0000' / IN.	DRAWN - JEH	REVISED -
PLOT DATE = 2/23/2010	CHECKED - ADG	REVISED -
	DATE - 02-22-2010	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

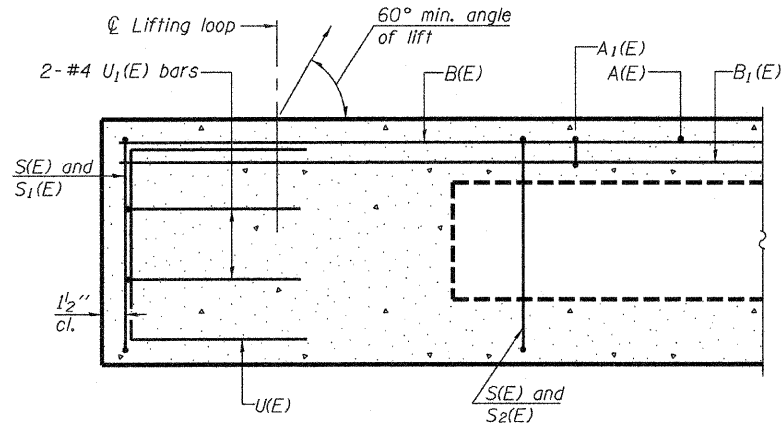
GENERAL NOTES & QUANTITIES

SCALE: NTS SHEET NO. 1 OF 1 SHEETS

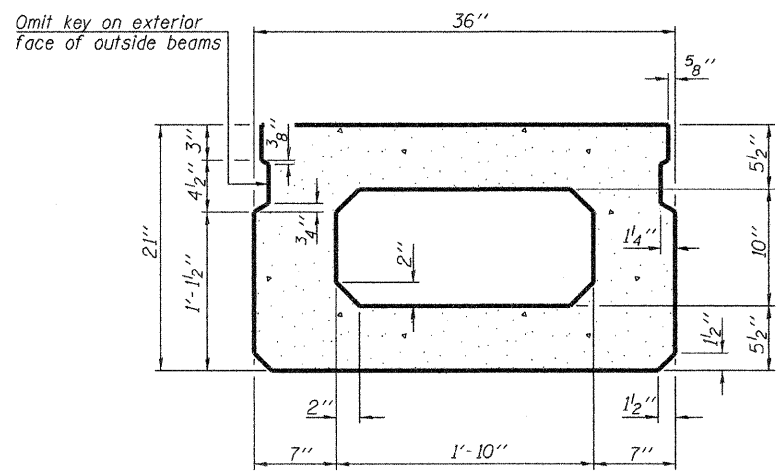
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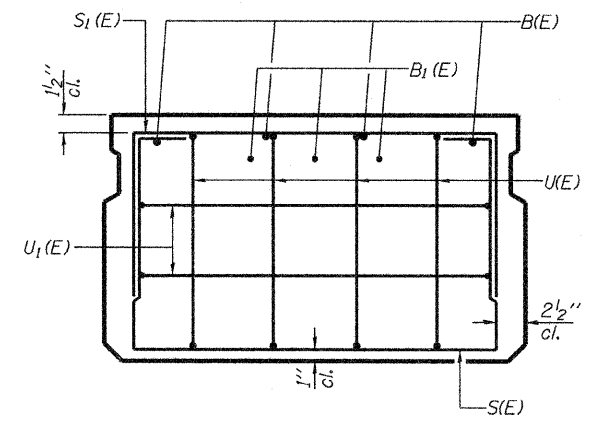
F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	08-09121-00-BR	VERMILION	14	2
			CONTRACT NO. 91431	
ILLINOIS FED. AID PROJECT				



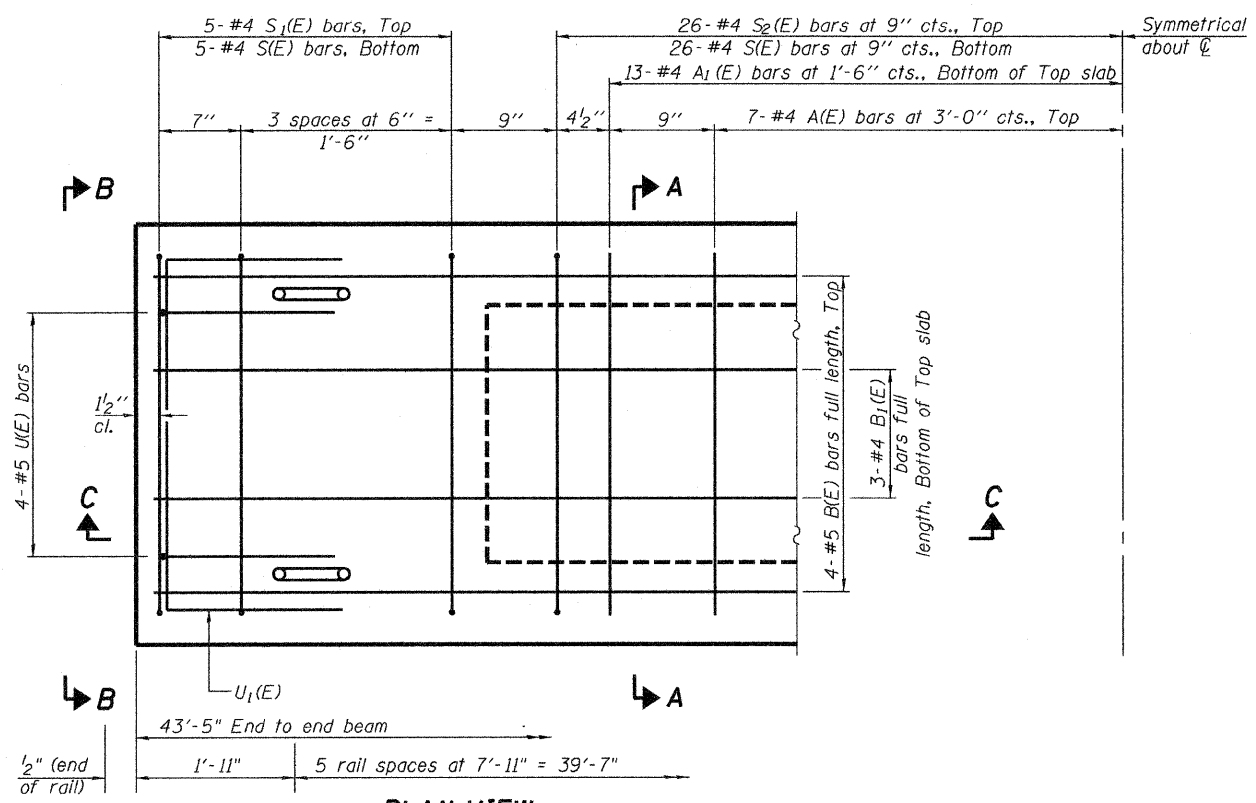
SECTION C-C



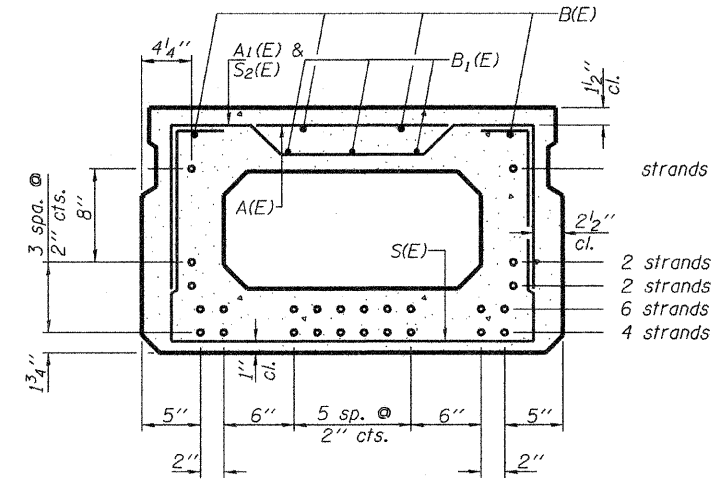
SECTION A-A
(Showing dimensions)



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)	38	#4	2'-7"	—
A1(E)	8	#4	2'-10"	—
B(E)	6	#5	22'-10"	—
B1(E)	61	#4	22'-7"	—
S(E)	10	#4	6'-5"	□
S1(E)	51	#4	4'-11"	□
S2(E)	10	#4	5'-2"	□
U(E)	8	#5	4'-0"	□
U1(E)	4	#4	5'-0"	□

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

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

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.

21" x 36" PPC DECK BEAM

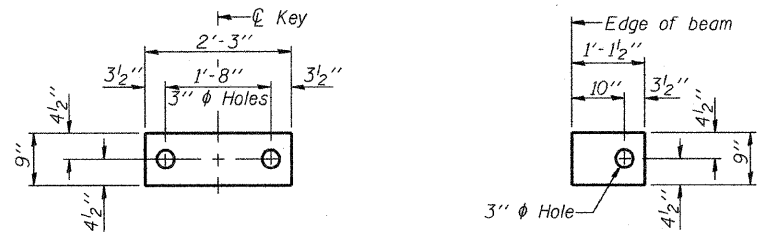
SUPERSTRUCTURE
TR 413 OVER FREEDWELL BRANCH

DATE: 02-05-10 DRAWN BY: JEH CHECKED BY: DF

SHEET NO. 2 OF 7 SHEETS	F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	-	08-09121-00-BR	VERMILION	14	5
SN 092-3514			CONTRACT NO. 91431		
FED. ROAD DIST. NO. - ILLINOIS FED. AID PROJECT					

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PRINTED DATE: 2/23/2010 FILE NAME: N:\Projects\Vermillion\County of VTR 413 over Freedwell Branch\CADD\Drawings\Sheets\05_Freedwell_SUPER.dgn

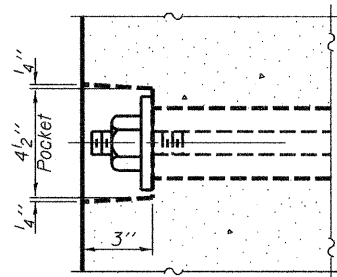


FABRIC BEARING PAD
(Interior)

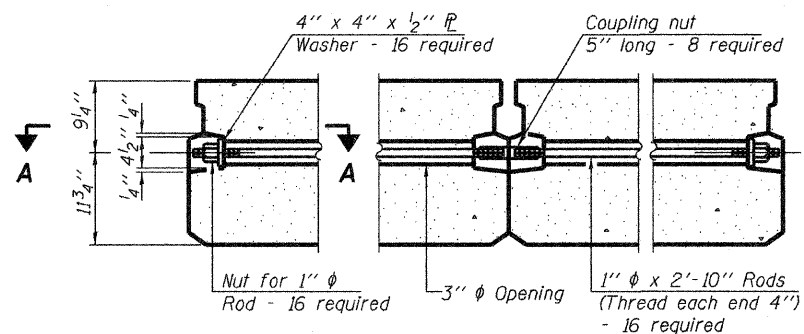
FABRIC BEARING PAD
(Exterior)

FIXED

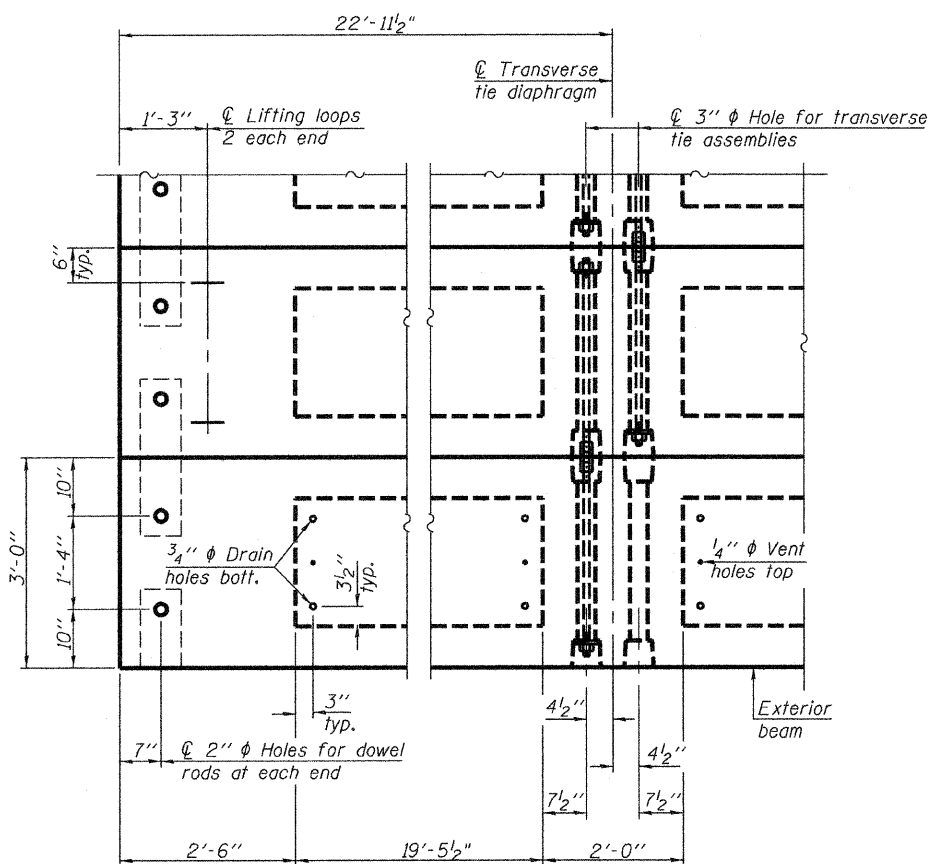
Notes:
All bearing pads shall be 1" thick.
Omit holes when using expansion bearings.
Expansion bearing pad shall be bonded to the substructure.



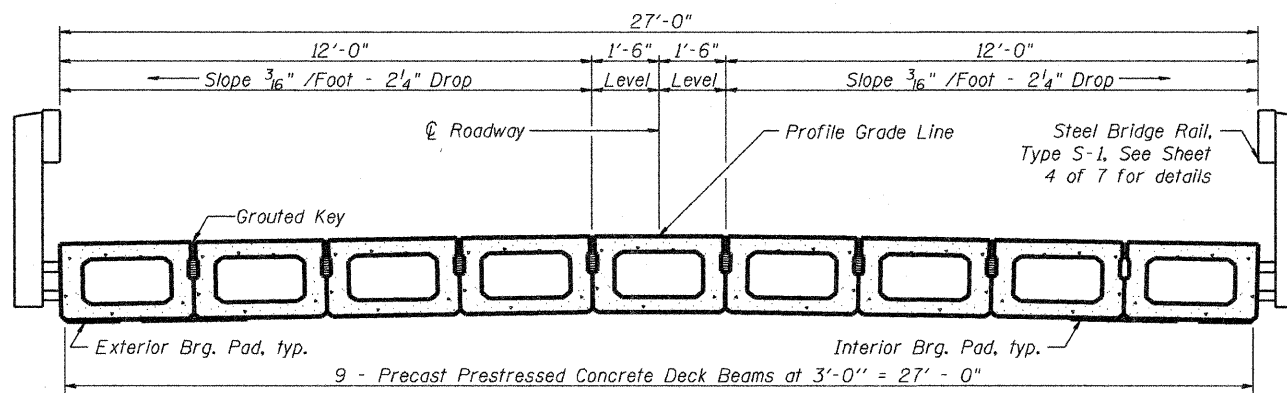
SECTION A-A



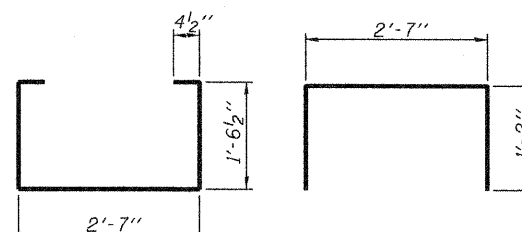
TYPICAL TRANSVERSE TIE ASSEMBLY



PLAN VIEW

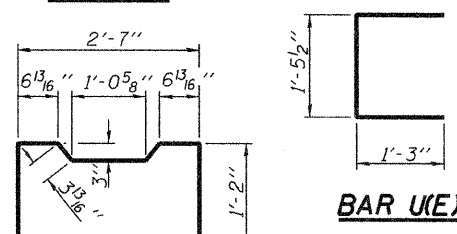


CROSS SECTION

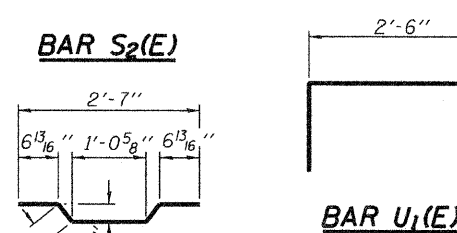


BAR S(E)

BAR S1(E)

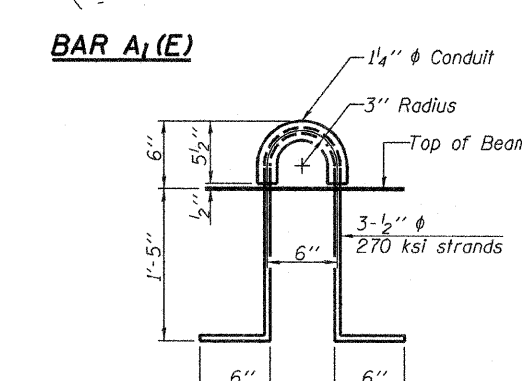


BAR U(E)



BAR S2(E)

BAR U1(E)



BAR A1(E)

LIFTING LOOP DETAIL

BILL OF MATERIAL

Precast Prestressed Conc. Deck Bms. (21" depth)	Sq. Ft.	1173
---	---------	------

21" X 36" PPC DECK BEAM DETAILS

SUPERSTRUCTURE DETAILS				
TR 413 OVER FREEDWELL BRANCH				
DATE: 02-05-10	DRAWN BY: JEH	CHECKED BY: DF		

SHEET NO. 3 OF 7 SHEETS	F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	-	08-09121-00-BR	VERMILION	14	6
SN 092-3514			CONTRACT NO. 91431		
FED. ROAD DIST. NO. - ILLINOIS FED. AID PROJECT					

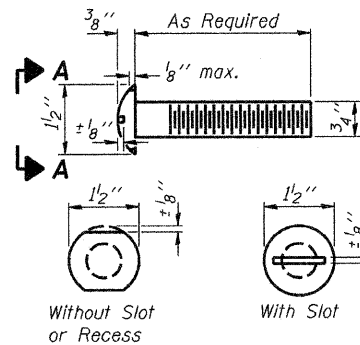
NOTES

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.

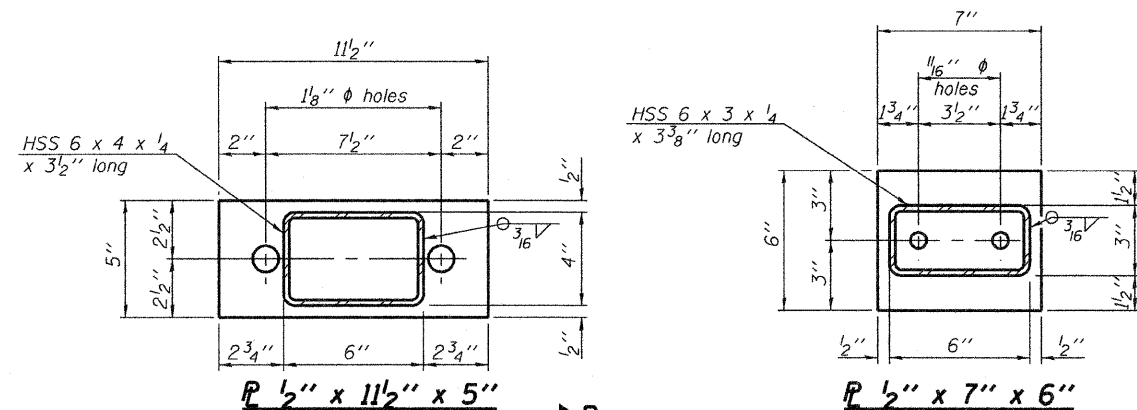
Note: Connect beams in pairs with the transverse tie configuration shown.

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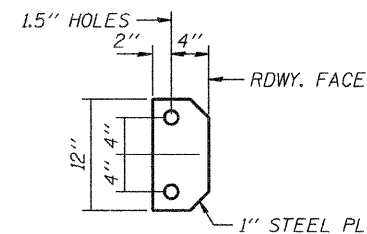
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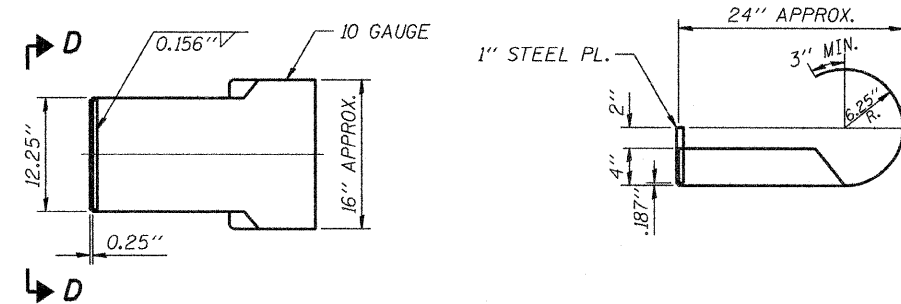
**VIEW A-A
ROUND HEAD BOLT**



1/2" x 11 1/2" x 5" **1/2" x 7" x 6"**

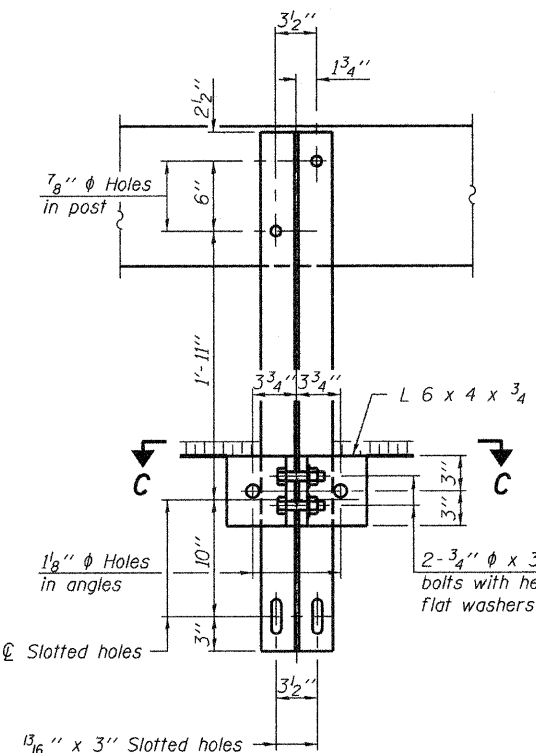


VIEW D-D

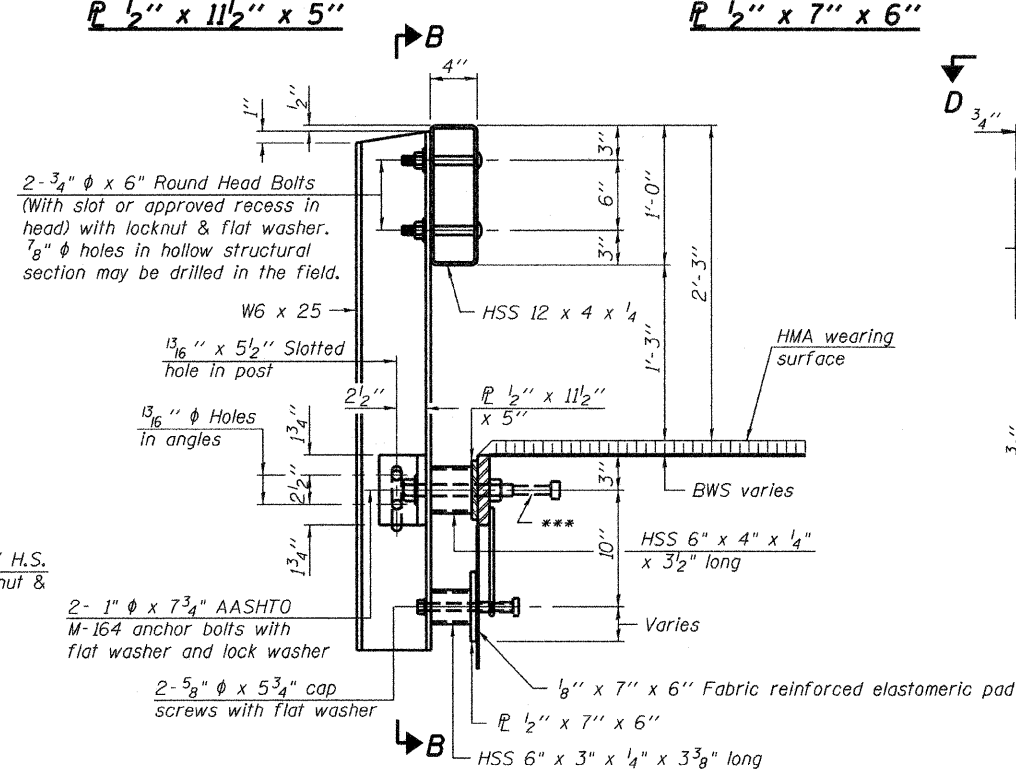


CURLED END SECTION DETAILS

4 REQUIRED - COST INCLUDED IN "STEEL RAILING, TYPE S-1"

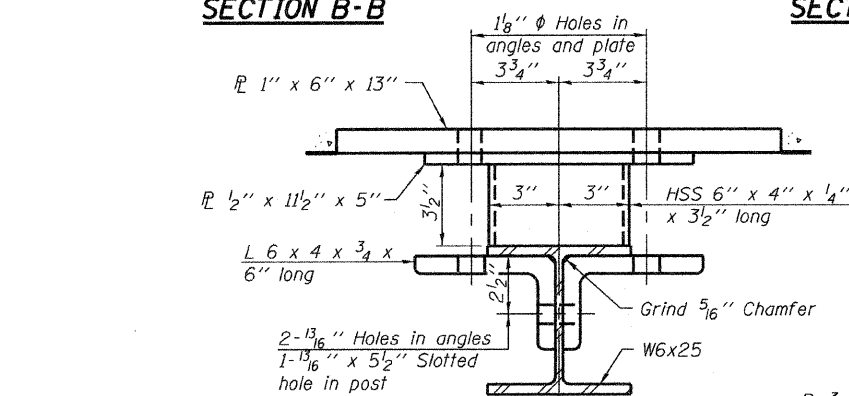


SECTION B-B

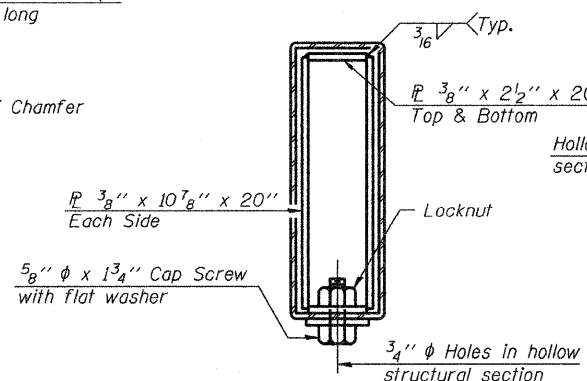


SECTION AT RAILING POST

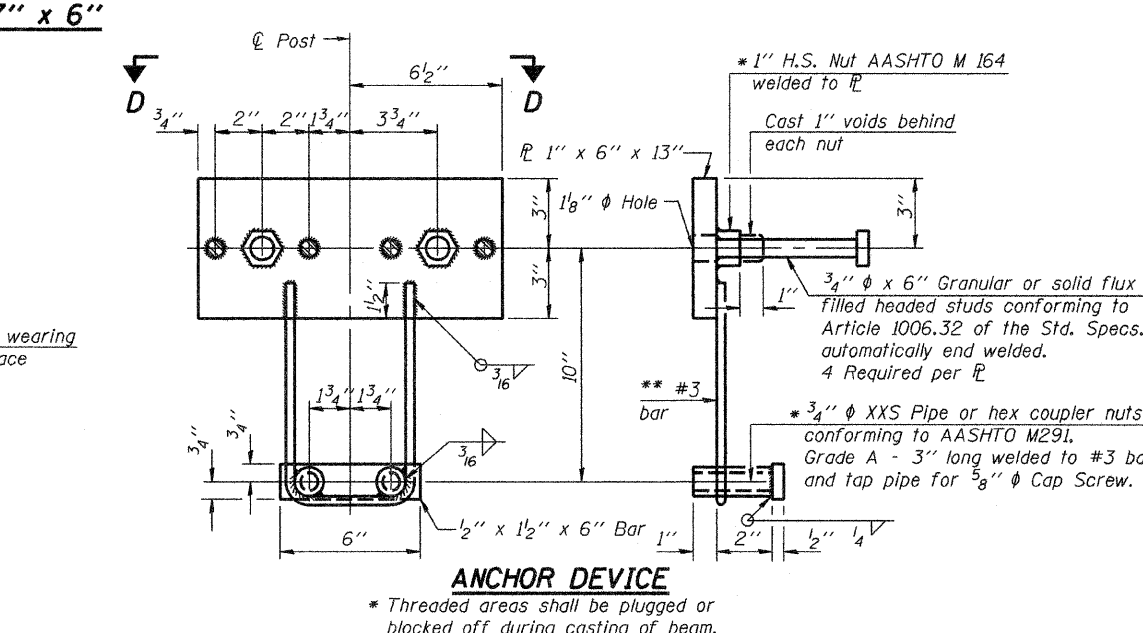
** Whenever the lower insert assemblies interfere with strand locations, the #3 bars shall be cut and adjusted in order to allow raising or lowering of the lower inserts. Maximum adjustment not to exceed 1/2".



SECTION C-C

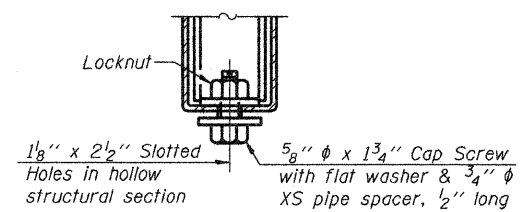


SECTIONS AT RAIL SPLICE

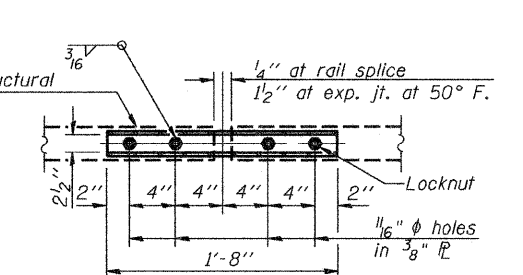


ANCHOR DEVICE

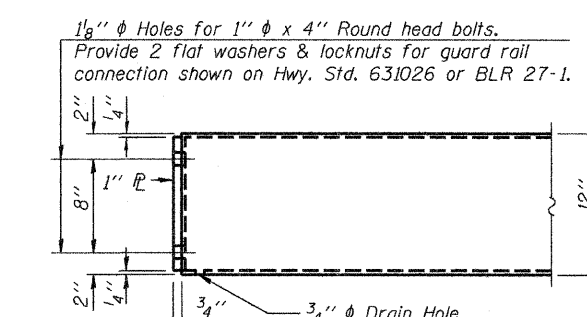
* Threaded areas shall be plugged or blocked off during casting of beam.



RAIL SPLICE CONNECTION AT EXPANSION JT.

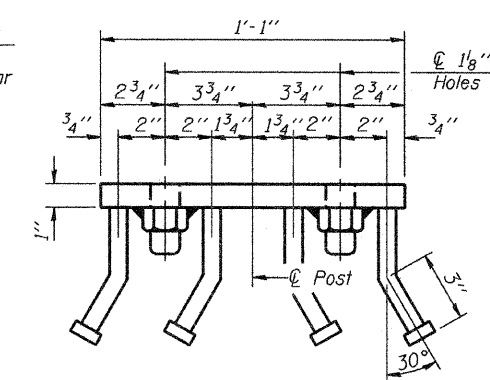


PLAN-BOTT. SPLICE R TYPICAL



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" x 6" x 1'-2" galvanized steel shims shall be provided to align rail between adjacent spans. Cost included with Steel Railing, Type S-1.
All steel rail elements shall be galvanized according to Article 509.05 of the Standard Specifications.
*** The studs of the anchor devices shall be placed below the top reinforcement bars and the outermost longitudinal reinforcement bar shall be placed directly above the studs of the rail post anchor device.



VIEW D-D

BILL OF MATERIAL

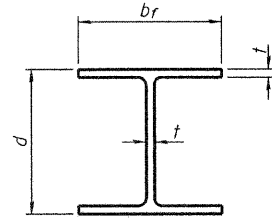
Item	Unit	Quantity
Steel Railing, Type S-1	Foot	87

**STEEL RAILING, TYPE S-1
TR 413 OVER FREEDWELL BRANCH**

DATE: 02-05-10	DRAWN BY: JEH	CHECKED BY: DF		
SHEET NO. 4	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
OF 7 SHEETS	08-09121-00-BR	VERMILION	14	7
	SN 092-3514	CONTRACT NO. 91431		
	FED. ROAD DIST. NO. -	ILLINOIS FED. AID PROJECT		

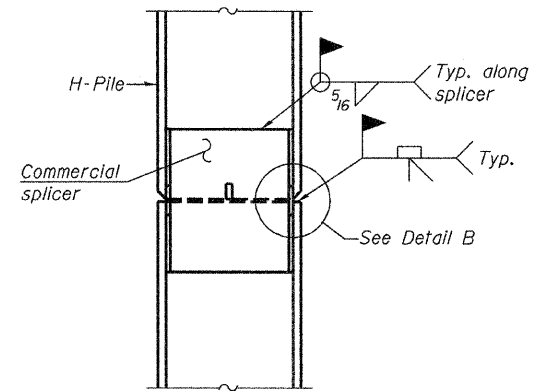
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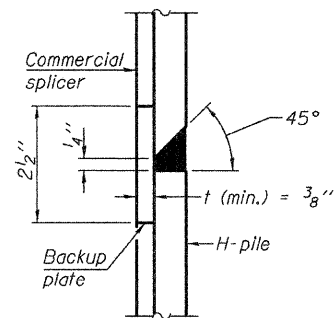


STEEL PILE TABLE

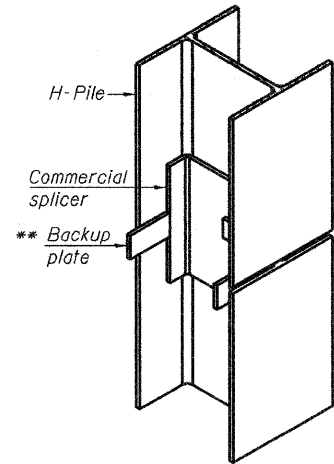
Designation	Depth <i>d</i>	Flange width <i>b_f</i>	Web and Flange thickness <i>t</i>	Encasement diameter <i>A</i>
HP 14x117	14 1/4"	14 7/8"	13/16"	30"
x102	14"	14 3/4"	1/16"	30"
x89	13 7/8"	14 3/4"	5/8"	30"
x73	13 5/8"	14 5/8"	1/2"	30"
HP 12x84	12 1/4"	12 1/4"	1/16"	24"
x74	12 1/8"	12 1/4"	5/8"	24"
x63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

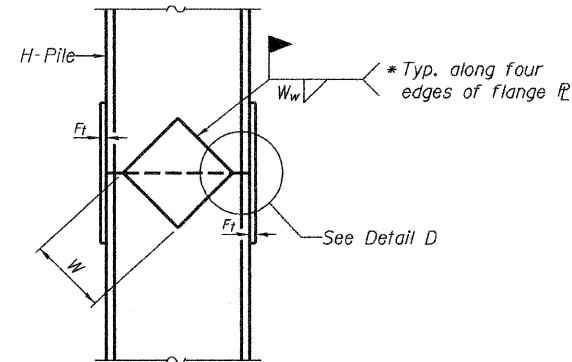


DETAIL "B"

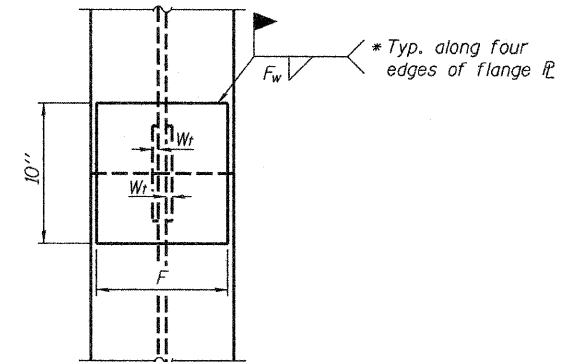


ISOMETRIC VIEW

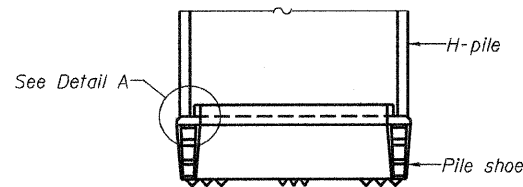
WELDED COMMERCIAL SPLICE



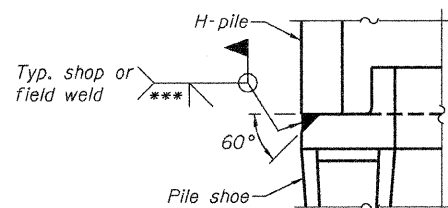
ELEVATION



END VIEW

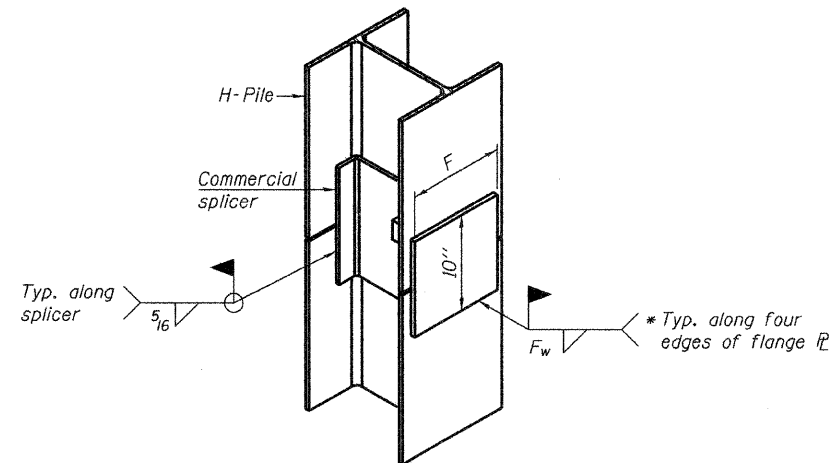


ELEVATION



DETAIL A

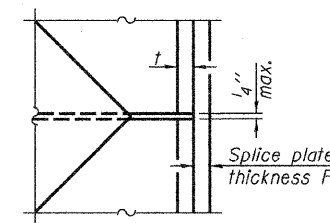
H-PILE SHOE ATTACHMENT



ISOMETRIC VIEW

WELDED COMMERCIAL SPLICE ALTERNATE

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



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

HP PILE DETAILS
TR 413 OVER FREEDWELL BRANCH
 DATE: 02-05-10 DRAWN BY: JEH CHECKED BY: DF

SHEET NO. 6 OF 7 SHEETS	F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	-	08-09121-00-BR	VERMILION	14	9
		SN 092-3514	CONTRACT NO. 91431		
		FED. ROAD DIST. NO. -	ILLINOIS	FED. AID PROJECT	

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

ESI ESI CONSULTANTS, LTD
 750 WINDSOR ROAD
 CHARLESTON, IL 61920
 (317) 548-1500
 WWW.ESICONSULTANTS.LTD.COM
 ILLINOIS DEPARTMENT OF PROFESSIONAL REGULATION REGISTRATION #184-003889

F-HP 11-1-09

PRINTED DATE: 2/23/2010
 FILE NAME: H:\Projects\Vermlion\County of ITR 413 over Freedwell\Branch\CADD\Drawings\Sheets\99_Freedwell_PILE_DET.dgn

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

Project: H-09146 Bridge over Freedwell Branch Date: 12/3/09
Section: 08-09121-00-BR Station Bored by: J. Gader
Route: Vermilion Checked By: J. Holcomb
County: Vermilion

Boring No. 1
Station: _____
Offset: _____

Elevation	Z	Q _u	N	Surface Water Elev.	
				During Drilling	Upon Completion
671.2	0				
A-1 Surface Cr. Stone					
Dark Brown Silty CLAY (A-6)					
667.2	12	3.35	23	642.7	
Brown Mottled Gray Silty CLAY (A-6)					
665.2	7	1.80	27		
Brown Silty CLAY (CL) with sand					
662.7	4	1.18	20		
Gray Mottled Brown Silty CLAY (A-6)					
	10				
	20				
	30				
	40				
	50				
	60				
	70				
	80				
	90				
	100				
	110				
	120				
	130				
	140				
	150				
	160				
	170				
	180				
	190				
	200				
	210				
	220				
	230				
	240				
	250				
	260				
	270				
	280				
	290				
	300				
	310				
	320				
	330				
	340				
	350				
	360				
	370				
	380				
	390				
	400				
	410				
	420				
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	850				
	860				
	870				
	880				
	890				
	900				
	910				
	920				
	930				
	940				
	950				
	960				
	970				
	980				
	990				
	1000				

N = Standard Penetration Test Blows per foot to drive 2" O.D. Split Spoon Sampler 12" with a 140 lbs. hammer falling 30"
 Qu - Unconfined Compressive Strength in tons/sq.ft.
 w - Water Content - percentage of oven dry weight - %
 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

Project: H-09146 Bridge over Freedwell Branch Date: 12/3/09
Section: 08-09121-00-BR Station Bored by: J. Gader
Route: Vermilion Checked By: J. Holcomb
County: Vermilion

Boring No. 1
Station: _____
Offset: _____

Elevation	Z	Q _u	N	Surface Water Elev.	
				During Drilling	Upon Completion
643.7	57	9.85	11		
sandy clay (continued)					
	60				
	70				
	80				
	90				
	100				
	110				
	120				
	130				
	140				
	150				
	160				
	170				
	180				
	190				
	200				
	210				
	220				
	230				
	240				
	250				
	260				
	270				
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	870				
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	910				
	920				
	930				
	940				
	950				
	960				
	970				
	980				
	990				
	1000				

N = Standard Penetration Test Blows per foot to drive 2" O.D. Split Spoon Sampler 12" with a 140 lbs. hammer falling 30"
 Qu - Unconfined Compressive Strength in tons/sq.ft.
 w - Water Content - percentage of oven dry weight - %
 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 1 of 2

Project: H-09146 Bridge over Freedwell Branch Date: 12/3/09
Section: 08-09121-00-BR Station Bored by: J. Gader
Route: Vermilion Checked By: J. Holcomb
County: Vermilion

Boring No. 2
Station: _____
Offset: _____

Elevation	Z	Q _u	N	Surface Water Elev.	
				During Drilling	Upon Completion
671.3	0				
A-1 Surface Cr. Stone					
Gray CLAY (A-7-B)					
	12	3.35	26		
	17	5.09	10		
	24	2.18	28		
	31	0.38	30		
	38	0.48	25		
	45	2.39	13		
	52	2.68	13		
	59	2.38	13		
	66	4.28	11		
	73	3.88	11		

N = Standard Penetration Test Blows per foot to drive 2" O.D. Split Spoon Sampler 12" with a 140 lbs. hammer falling 30"
 Qu - Unconfined Compressive Strength in tons/sq.ft.
 w - Water Content - percentage of oven dry weight - %
 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

Project: H-09146 Bridge over Freedwell Branch Date: 12/3/09
Section: 08-09121-00-BR Station Bored by: J. Gader
Route: Vermilion Checked By: J. Holcomb
County: Vermilion

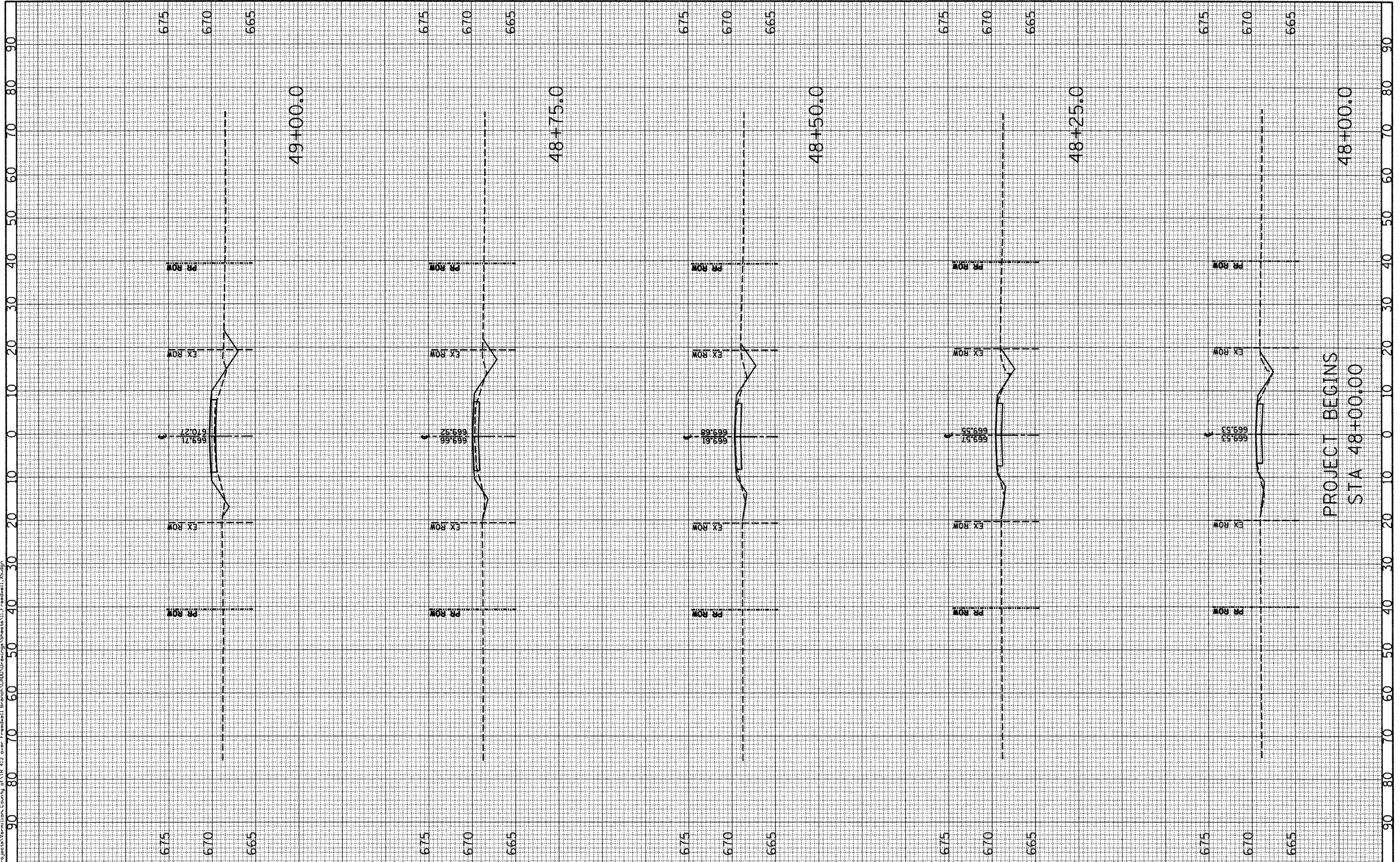
Boring No. 2
Station: _____
Offset: _____

Elevation	Z	Q _u	N	Surface Water Elev.	
				During Drilling	Upon Completion
602.8	98				
Black SHALE					
600.3	100				
Gray SHALE					
597.3	102				
End of Boring @ -74.0'					
	104				
	106				
	108				
	110				
	112				
	114				
	116				
	118				
	120				
	122				
	124				
	126				
	128				
	130				
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	168				
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	172				
	174				
	176				
	178				
	180				
	182				

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

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

PRINTED DATE: 2/22/2010
 FILE NAME: N:\Projects\Vermon, County of Tr 413 over Freedwell Branch\ADD\Drawings\Sheets\1\Freedwell.XSDgn



PROJECT BEGINS
 STA 48+00.00



USER NAME = #USER#
 PLOT SCALE = 10.0000' / IN.
 PLOT DATE = 2/22/2010

DESIGNED - JEH
 DRAWN - JEH
 CHECKED - DF
 DATE - 02-22-2010

REVISED -
 REVISED -
 REVISED -
 REVISED -

STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

CROSS SECTIONS
 TR 413 OVER FREEDWELL BRANCH

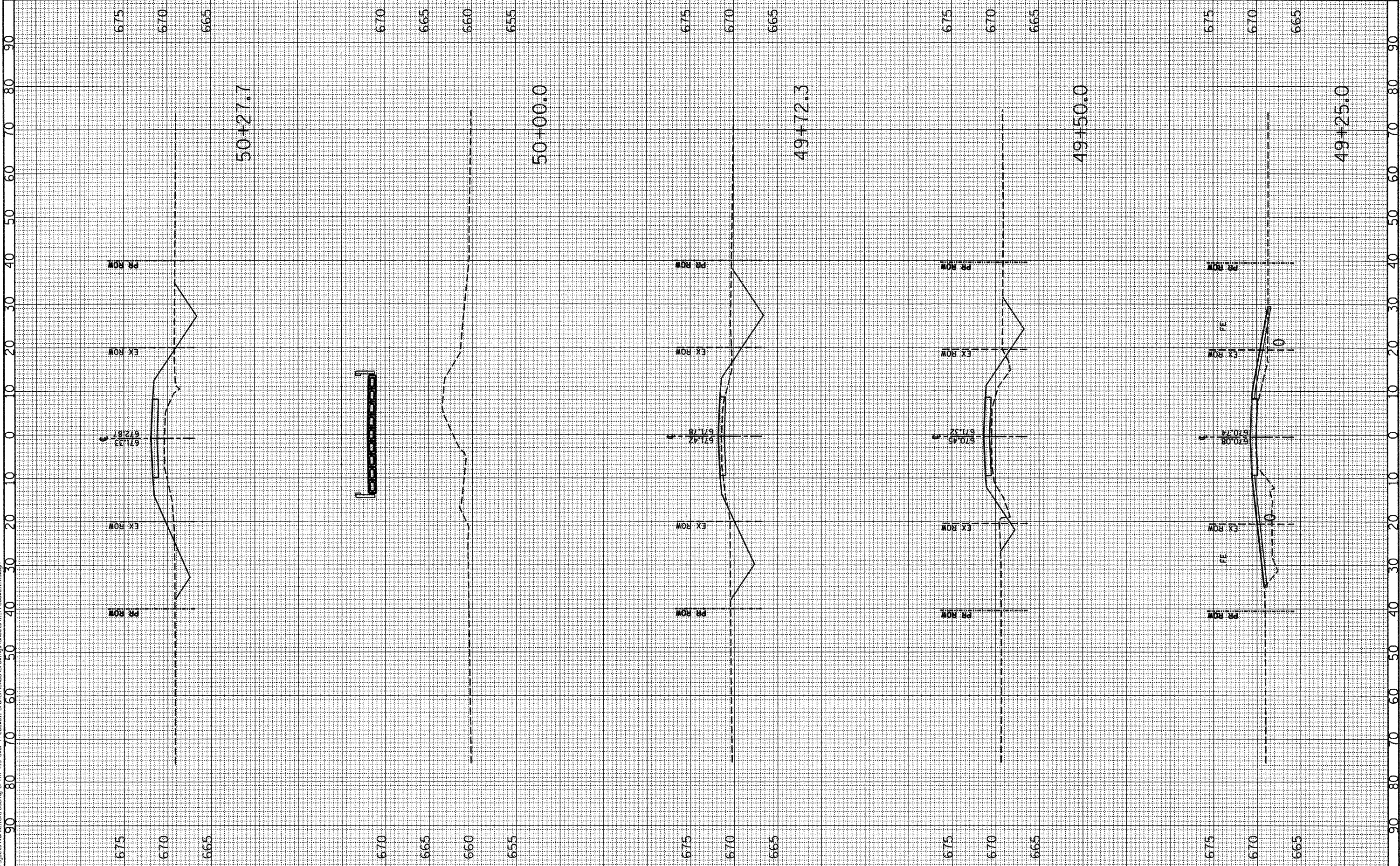
SCALE: 1"=10' 1"=5' SHEET NO. 1 OF 4 SHEETS STA. 48+00.0 TO STA. 49+00.0

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
---	08-09121-00-BR <td>VERMILION</td> <td>14</td> <td>11</td>	VERMILION	14	11
CONTRACT NO. 91431			ILLINOIS FED. AID PROJECT	

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

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

PRINTED DATE: 2/22/2010
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USER NAME = \$USER\$
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 PLOT DATE = 2/22/2010

DESIGNED - JEH
 DRAWN - JEH
 CHECKED - DF
 DATE - 02-22-2010

REVISED -
 REVISED -
 REVISED -
 REVISED -

STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

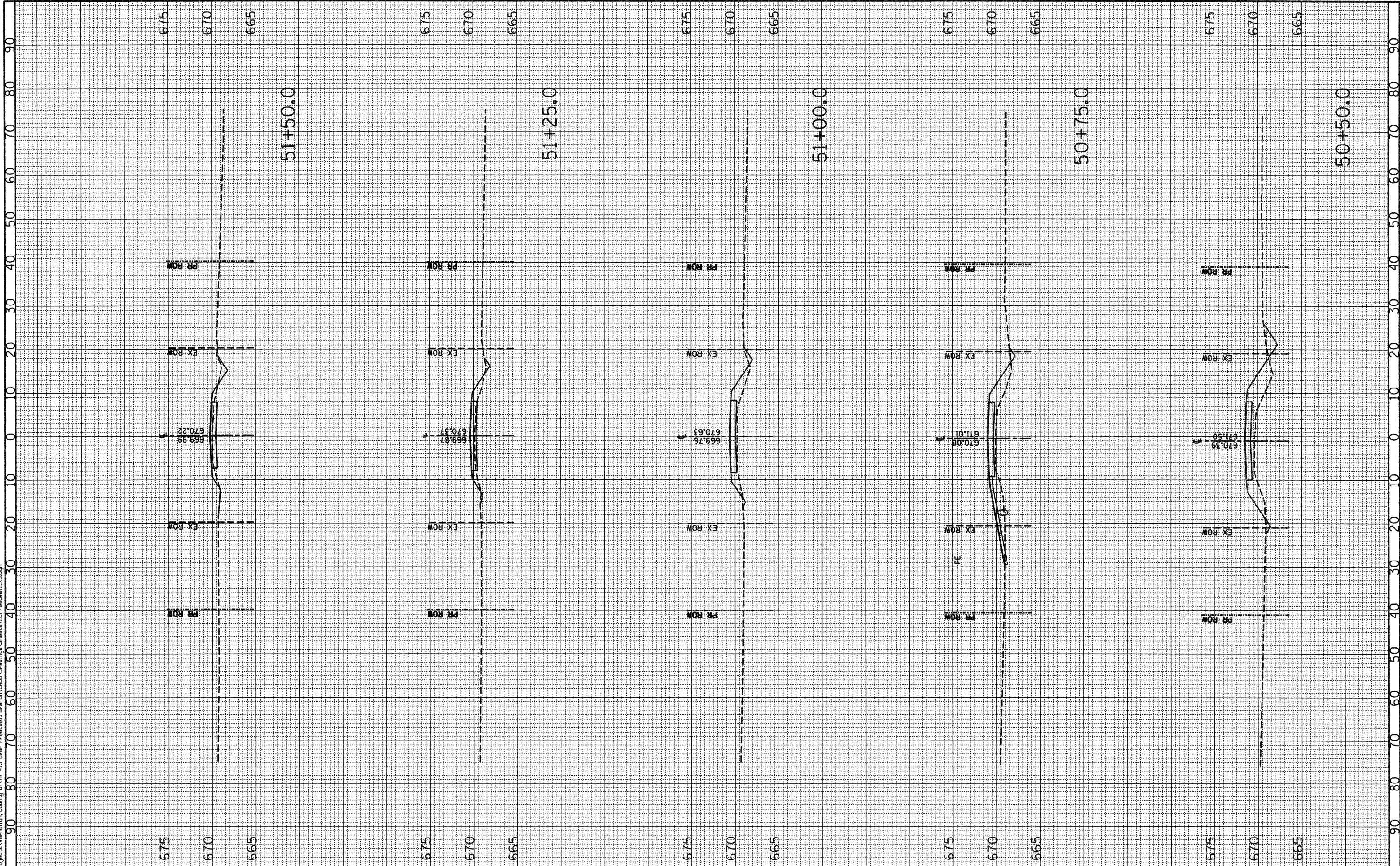
CROSS SECTIONS
 TR 413 OVER FREEDWELL BRANCH
 SCALE: 1"=10' 1"=5'
 SHEET NO. 2 OF 4 SHEETS
 STA. 49+25.0 TO STA. 50+21.7

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
---	08-09121-00-BR	VERMILION	14	12
			CONTRACT NO. 91431	
			ILLINOIS FED. AID PROJECT	

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

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

PRINTED DATE: 2/22/2010
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USER NAME = \$USER\$
 PLOT SCALE = 10.0000' / IN.
 PLOT DATE = 2/22/2010

DESIGNED - JEH
 DRAWN - JEH
 CHECKED - DF
 DATE - 02-22-2010

REVISED -
 REVISED -
 REVISED -
 REVISED -

STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

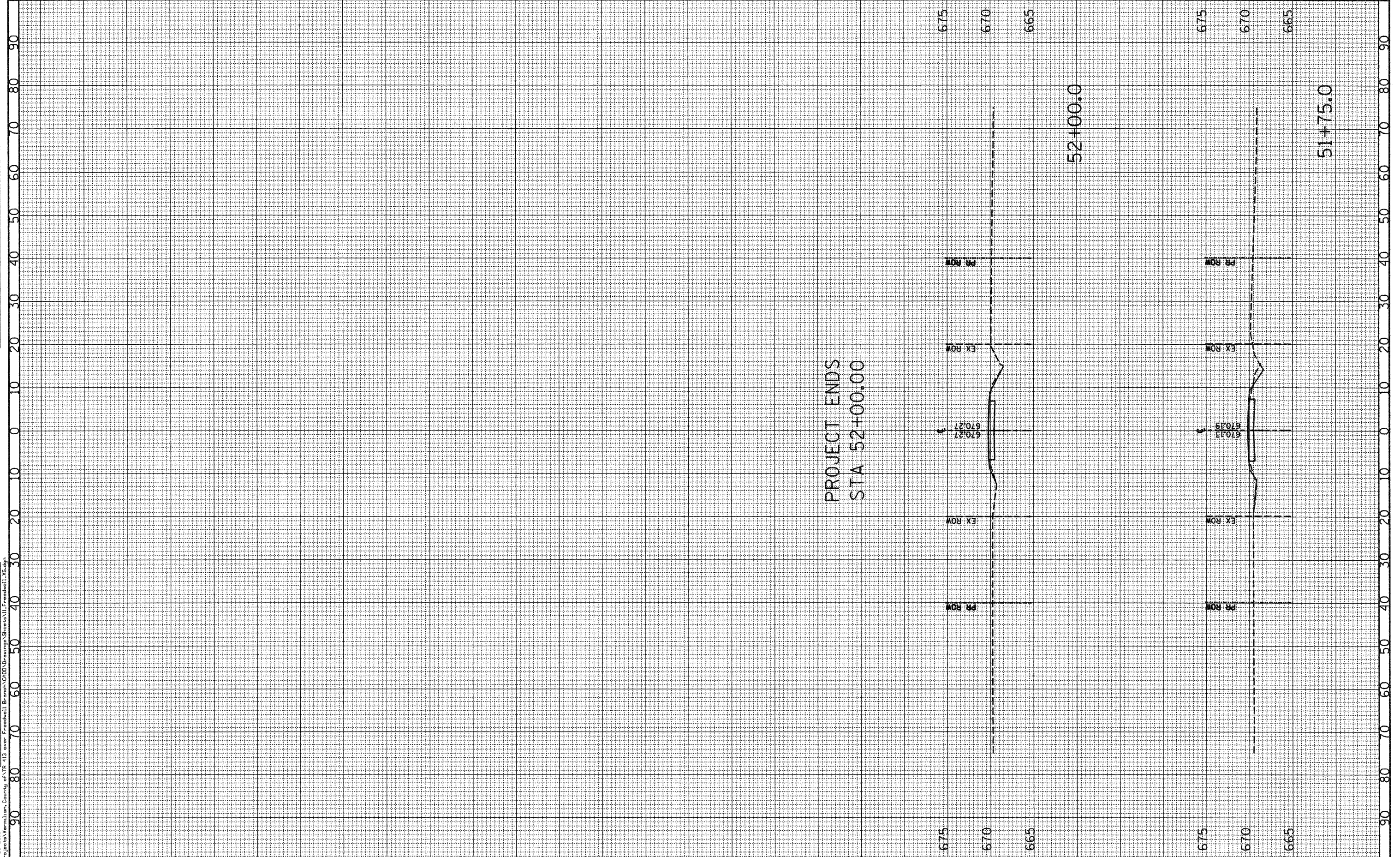
CROSS SECTIONS
 TR 413 OVER FREEDWELL BRANCH
 SCALE: 1"=10' 1"V=5' SHEET NO. 3 OF 4 SHEETS
 STA. 50+50.0... TO STA. 51+50.0...

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
---	08-09121-00-BR	VERMILION	14	13
			CONTRACT NO. 91431	
ILLINOIS FED. AID PROJECT				

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

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

PRINTED DATE: 2/22/2010
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USER NAME = *USER*
 PLOT SCALE = 10,0000' / IN.
 PLOT DATE = 2/22/2010

DESIGNED - JEH
 DRAWN - JEH
 CHECKED - DF
 DATE - 02-22-2010

REVISED -
 REVISED -
 REVISED -
 REVISED -

STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

CROSS SECTIONS
 TR 413 OVER FREEDWELL BRANCH
 SCALE: 1"=10' 1"V=5' SHEET NO. 4 OF 4 SHEETS STA. 51+75.0 TO STA. 52+00.0

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
----	08-09121-00-BR	VERMILION	14	14
		CONTRACT NO. 91431		
ILLINOIS FED. AID PROJECT				