

STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION  
 DIVISION OF HIGHWAYS

**PROPOSED  
 HIGHWAY PLANS**

SBI ROUTE 12 (OLD U.S. RTE. 50)

SECTION 10B-1

PROJECT: ACBROS-0025(067)

BRIDGE REPLACEMENT

CLAY COUNTY

C-97-051-03

S.B.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
12	10B-1	CLAY	39	1
		ILLINOIS	CONTRACT NO. 74004	

# 39 + 1 = 40

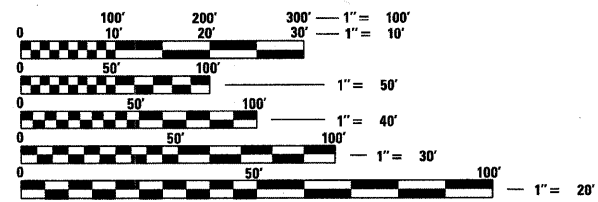
D-97-038-03



**PROJECT LOCATION:**  
 SECTION 10B-1  
 STRUCTURE #13-0040  
 STATION 1037 + 48.00

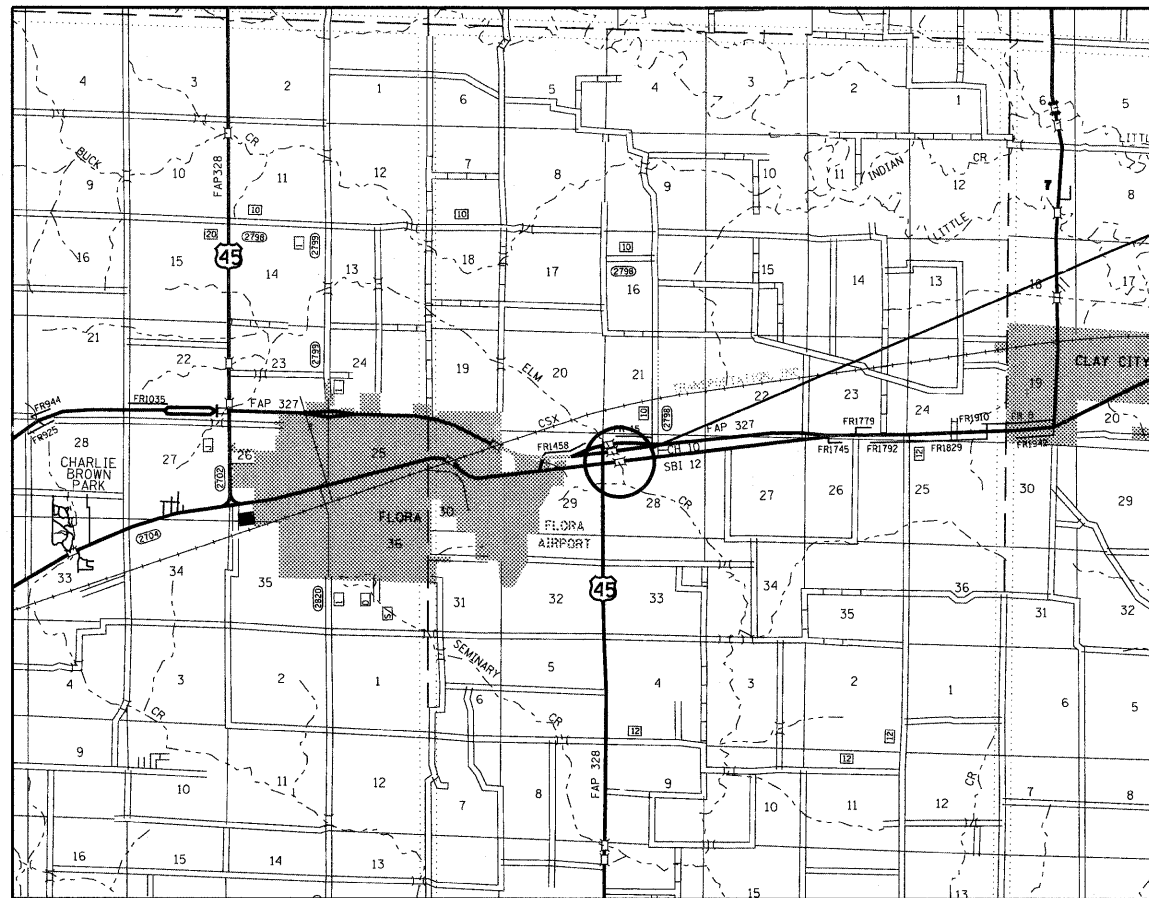
FOR INDEX OF SHEETS, SEE SHEET NO. 2

ADT = 325



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



GROSS LENGTH = 650.00 FT. = .12 MILE  
 NET LENGTH = 650.00 FT. = .12 MILE

PROJECT ENGINEER: TOM RONAN  
 PROJECT MANAGER: JENNIFER WENTHE

CONTRACT NO. 74004

STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION  
 DIVISION OF HIGHWAYS

SUBMITTED 8-12-2010  
*Ray J. Duskall*  
 DEPUTY DIRECTOR OF HIGHWAYS, REGION ENGINEER

October 1 2010  
*Scott E. Stitt P.E. & Co.*  
 acting ENGINEER OF DESIGN AND ENVIRONMENT

October 1 2010  
*Christine M. Reed & Co.*  
 DIRECTOR OF HIGHWAYS, CHIEF ENGINEER

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 OF THE STATE OF ILLINOIS**

## GENERAL NOTES

THIS SECTION SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE PLANS; THE "STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION" ADOPTED JANUARY 1, 2007; AND THE SPECIAL PROVISIONS INCLUDED IN THE PROPOSAL.

THIS PROJECT IS LOCATED ON SBI 12 (OLD US 50) IN CLAY COUNTY AT EXISTING STRUCTURE NUMBER 013-0026, OVER ELM CREEK .2 MILES EAST OF US 45. THE WORK INCLUDED IN SECTION 10B-1 CONSISTS OF THE COMPLETE REMOVAL AND REPLACEMENT OF THE EXISTING STRUCTURE WITH A GRADE CHANGE, BITUMINOUS CONCRETE BINDER AND SURFACE COURSE, BASE COURSE WIDENING, BITUMINOUS SHOULDERS, EARTHWORK, GUARDRAIL, AND ANY OTHER WORK NECESSARY TO COMPLETE THIS SECTION. THE WORK SHALL BE COMPLETED USING A TEMPORARY ROAD CLOSURE.

PAVEMENT MARKING SHALL BE APPLIED IN ACCORDANCE WITH SECTION 780 OF THE STANDARD SPECIFICATIONS. SHORT TERM PAVEMENT MARKING SHALL BE APPLIED TO THE MILLED SURFACE, BITUMINOUS MATERIALS (PRIME COAT), HOT-MIX ASPHALT BINDER, AND HOT-MIX ASPHALT SURFACE COURSE AS SPECIFIED IN SECTION 703 OF THE STANDARD SPECIFICATIONS. TEMPORARY TAPE SHALL BE USED ON THE SURFACE COURSE AND PAINT SHALL BE USED ON MILLED SURFACES.

THE TOTAL QUANTITY OF PAINT PAVEMENT MARKING-LINE 4" CONSISTS OF 163 FEET OF YELLOW AND 1,300 FEET OF WHITE.

THE MATERIAL USED FOR AGGREGATE SHOULDERS, TYPE B SHALL BE CRUSHED STONE, CRUSHED CONCRETE, OR RAP.

THE RESIDENT ENGINEER SHALL BE THE SOLE JUDGE CONCERNING THE CURING TIME FOR THE VARIOUS HOT-MIX ASPHALT LIFTS.

THE CONTRACTOR SHALL PROVIDE INTERNET ACCESSIBILITY TO THE HOT-MIX ASPHALT PLANT QUALITY CONTROL LAB SO THAT HOT-MIX ASPHALT PLANT REPORTS CAN BE E-MAILED TO THE DISTRICT HEADQUARTERS. THIS WORK SHALL BE INCLUDED IN THE COST OF ALL HOT-MIX ASPHALT ITEMS.

THE CONTRACTOR SHALL USE EITHER RC-70, SS-1H, OR SS-1HP APPLIED AT THE RATE DIRECTED BY THE ENGINEER FOR THE PAY ITEM BITUMINOUS MATERIALS (PRIME COAT).

A UNIFORMLY STRAIGHT SAW CUT SHALL BE MADE AT LOCATIONS WHERE PROPOSED NEW CONSTRUCTION WILL ABUT EXISTING HOT-MIX ASPHALT SURFACES. THE SAW CUT SHALL BE MADE FULL DEPTH THROUGH THE EXISTING SURFACE. THIS WORK WILL BE CONSIDERED INCLUDED IN THE COST OF THE CONTRACT ITEMS INVOLVED AND NO EXTRA COMPENSATION WILL BE ALLOWED.

ALL DRIVEWAYS AND FIELD ENTRANCES BEING RECONSTRUCTED SHALL BE COMPLETED IN STAGES TO ALLOW ACCESS AT ALL TIMES. ACCESS TO PRIVATE PROPERTIES SHALL BE MAINTAINED THROUGHOUT THE CONSTRUCTION PERIOD AT ALL TIMES. IF NECESSARY, TEMPORARY DRIVEWAYS SHALL BE CONSTRUCTED BY THE CONTRACTOR AS DESIGNATED BY THE ENGINEER. THIS WORK WILL BE MEASURED AND PAID FOR AT THE CONTRACT UNIT PRICE PER EACH FOR TEMPORARY ACCESS (PRIVATE ENTRANCES).

PIPE DRAINS ARE INCLUDED TO EXTEND ABUTMENT DRAINS TO TOE OF THE SLOPE. ALL WORK NECESSARY TO ATTACH ONTO THE ABUTMENT DRAIN PIPE, TRENCHING AND INSTALLING THE PIPE INTO THE HEADWALLS WILL BE INCLUDED IN THE PAY ITEM PIPE DRAINS 4".

THE LOCATIONS AND/OR DEPTHS OF UNDERGROUND UTILITIES SHOWN HAVE BEEN TAKEN FROM INFORMATION FURNISHED BY THE UTILITY OWNERS AND MUST BE CONSIDERED APPROXIMATE. FIELD MARKINGS OF FACILITIES IN CRITICAL AREAS MAY BE OBTAINED BY PROVIDING A MINIMUM OF 96 HOURS ADVANCE NOTICE THROUGH THE J.U.L.I.E. SYSTEM BY CALLING 800-892-0123.

THE FOLLOWING MIXTURE REQUIREMENTS ARE APPLICABLE FOR THIS PROJECT:

MIXTURE USE:	SURFACE COURSE	BINDER COURSE
PG GRADE:	PG 64-22	PG 64-22
DESIGN AIR VOIDS:	4.0% @ Ndesign = 70	4.0% @ Ndesign = 70
MIXTURE COMPOSITION:	IL-9.5	IL-19.0
FRICTION AGGREGATE:	Mixture C	N/A

THE FOLLOWING RATES OF APPLICATION HAVE BEEN USED IN THE CALCULATING PLAN QUANTITIES:

AGGREGATE SHOULDERS	2.05 TONS/CU YD
BITUMINOUS MATERIALS (PRIME COAT)	0.10 GAL/SQ YD
AGGREGATE (PRIME COAT)	4 LBS/SQ YD
HOT-MIX ASPHALT	112 LBS/SQ YD/INCH

## INDEX OF SHEETS

SHEET NO.	ITEM
1	COVER SHEET
2	INDEX OF SHEETS AND GENERAL NOTES
3	SUMMARY OF QUANTITIES
4	TYPICAL SECTIONS
5	BUTT JOINT DETAIL & ALIGNMENT TIES
6-7	QUANTITY SCHEDULES
8	ENTRANCE SCHEDULE
9-10	PLAN & PROFILE
11-12	ROW PLANS
13-33A	BRIDGE PLANS
34-35	EROSION CONTROL DETAILS
36-39	CROSS SECTIONS

THE FOLLOWING STANDARDS ARE A PART OF THESE PLANS AND ARE INCLUDED AFTER SHEET NO. 39:

STD. NO.	DESCRIPTION
000001-05	STANDARD SYMBOLS, ABBREVIATIONS AND PATTERNS
001001-02	AREAS OF REINFORCEMENT BARS
001006	DECIMAL OF AN INCH AND OF A FOOT
280001-05	TEMPORARY EROSION CONTROL SYSTEMS
420001-07	PAVEMENT JOINTS
420401-08	BRIDGE APPROACH PAVEMENT CONNECTOR
421001-02	BAR REINFORCEMENT FOR CRC PAVEMENT
515001-03	NAME PLATE FOR BRIDGES
542401-01	METAL END SECTION FOR PIPE CULVERTS
601101-01	CONCRETE HEADWALL FOR PIPE DRAIN
630001-08	STEEL PLATE BEAM GUARDRAIL
630301-05	SHOULDER WIDENING FOR TYPE 1 (SPECIAL) GUARDRAIL TERMINALS
631011-06	TRAFFIC BARRIER TERMINAL TYPE 2
631031-08	TRAFFIC BARRIER TERMINAL, TYPE 6
635006-03	REFLECTOR AND TERMINAL MARKER PLACEMENT
635011-02	REFLECTOR MARKER AND MOUNTING DETAILS
666001-01	RIGHT OF WAY MARKERS
701001-02	OFF-RD OPERATIONS, 2L, 2W MORE THAN 15' AWAY
701006-03	OFF-RD OPERATIONS, 2L, 2W, 15' TO 24" FROM PAVEMENT EDGE
701301-03	LANE CLOSURE, 2L, 2W SHORT TIME OPERATIONS
701306-02	LANE CLOSURE, 2L, 2W, SLOW MOVING OPERATIONS DAY ONLY, FOR SPEEDS >= 45 MPH
701311-03	LANE CLOSURE, 2L, 2W MOVING OPERATIONS - DAY ONLY
701901-01	TRAFFIC CONTROL DEVICES
780001-02	TYPICAL PAVEMENT MARKINGS
BLR 21-8	TYPICAL APPLICATION OF TRAFFIC CONTROL DEVICES FOR CONSTRUCTION ON RURAL LOCAL HIGHWAYS

FILE NAME =	USER NAME = #USER#	DESIGNED -	REVISED -	<b>STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION</b>	<b>GENERAL NOTES AND INDEX OF SHEETS</b>			S.B.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	
#FILE#		DRAWN -	REVISED -		SCALE: NA	SHEET NO. 1 OF 1 SHEETS	STA.	TO STA.	12	10B-1	CLAY	39	2
		CHECKED -	REVISED -		CONTRACT NO. 74004								
		DATE -	REVISED -		ILLINOIS FED. AID PROJECT								

80% FED.  
20% STATE

SUMMARY OF QUANTITIES			TOTAL QUANTITIES	CONSTRUCTION TYPE CODE 0011
CODE NO	ITEM	UNIT		
20200100	EARTH EXCAVATION	CU YD	82	82
20400800	FURNISHED EXCAVATION	CU YD	1039	1039
28000250	TEMPORARY EROSION CONTROL SEEDING	POUND	36	36
28000305	TEMPORARY DITCH CHECKS	FOOT	14	14
28000400	PERIMETER EROSION BARRIER	FOOT	405	405
28100107	STONE RIPRAP, CLASS A4	SQ YD	730	730
28200200	FILTER FABRIC	SQ YD	730	730
35101400	AGGREGATE BASE COURSE, TYPE B	TON	26	26
40600100	BITUMINOUS MATERIALS (PRIME COAT)	GALLON	152	152
40600982	HOT-MIX ASPHALT SURFACE REMOVAL - BUTT JOINT	SQ YD	290	290
40603085	HOT-MIX ASPHALT BINDER COURSE, IL-19.0, N70	TON	282	282
40603315	HOT-MIX ASPHALT SURFACE COURSE, MIX "C", N70	TON	76	76
40800050	INCIDENTAL HOT-MIX ASPHALT SURFACING	TON	13	13
42001430	BRIDGE APPROACH PAVEMENT CONNECTOR (FLEXIBLE)	SQ YD	37	37
44000100	PAVEMENT REMOVAL	SQ YD	207	207
X4401198	HOT-MIX ASPHALT SURFACE REMOVAL, VARIABLE DEPTH	SQ YD	616	616
48101500	AGGREGATE SHOULDERS, TYPE B 6"	SQ YD	763	763
50100100	REMOVAL OF EXISTING STRUCTURES	EACH	1	1
50200100	STRUCTURE EXCAVATION	CU YD	134	134
50300100	FLOOR DRAINS	EACH	14	14
50300225	CONCRETE STRUCTURES	CU YD	69.6	69.6
50300255	CONCRETE SUPERSTRUCTURE	CU YD	242	242
50300260	BRIDGE DECK GROOVING	SQ YD	535	535
50300280	CONCRETE ENCASEMENT	CU YD	8.6	8.6
50300300	PROTECTIVE COAT	SQ YD	713	713
50500105	FURNISHING AND ERECTING STRUCTURAL STEEL	L SUM	1	1
50500505	STUD SHEAR CONNECTORS	EACH	2034	2034
50800205	REINFORCEMENT BARS, EPOXY COATED	POUND	64100	64100
50800515	BAR SPLICERS	EACH	68	68
51201400	FURNISHING STEEL PILES HP10X42	FOOT	820	820
51201800	FURNISHING STEEL PILES HP14X73	FOOT	430	430
51202305	DRIVING PILES	FOOT	1250	1250
51203400	TEST PILE STEEL HP10X42	EACH	2	2

80% FED.  
20% STATE

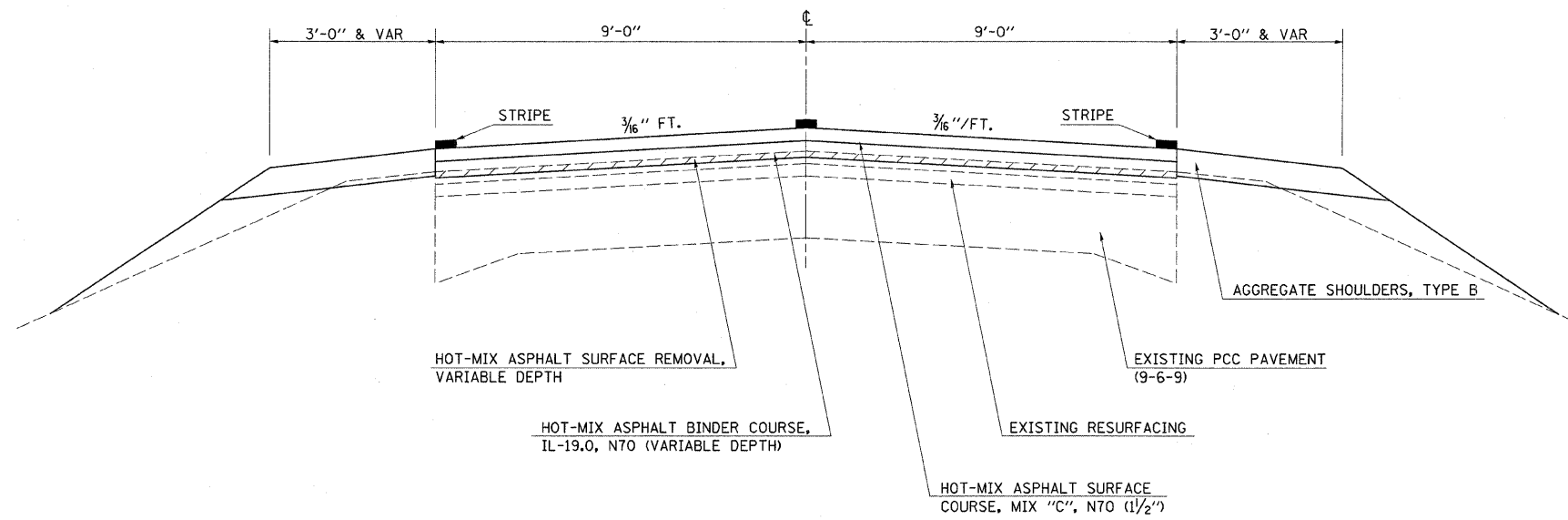
SUMMARY OF QUANTITIES (Cont'd)			TOTAL QUANTITIES	CONSTRUCTION TYPE CODE 0011
CODE NO	ITEM	UNIT		
51203800	TEST PILE STEEL HP14X73	EACH	1	1
51204650	PILE SHOES	EACH	18	18
51500100	NAME PLATES	EACH	1	1
52100520	ANCHOR BOLTS, 1"	EACH	36	36
54213453	END SECTIONS 18"	EACH	2	2
542D0223	PIPE CULVERTS, CLASS D, TYPE 1 18"	FOOT	24	24
59100100	GEOCOMPOSITE WALL DRAIN	SQ YD	50	50
60100060	CONCRETE HEADWALL FOR PIPE DRAINS	EACH	4	4
60100905	PIPE DRAINS 4"	FOOT	80	80
Z0046304	PIPE UNDERDRAINS FOR STRUCTURES 4"	FOOT	131	131
60900515	CONCRETE THRUST BLOCKS	EACH	8	8
* 63000001	STEEL PLATE BEAM GUARD RAIL, TYPE A, 6 FOOT POSTS	FOOT	312.5	312.5
* 63100045	TRAFFIC BARRIER TERMINAL, TYPE 2	EACH	1	1
* 63100085	TRAFFIC BARRIER TERMINAL, TYPE 6	EACH	4	4
* 63100167	TRAFFIC BARRIER TERMINAL, TYPE 1 (SPECIAL) TANGENT	EACH	3	3
63200310	GUARDRAIL REMOVAL	FOOT	152	152
* 63300725	STEEL PLATE BEAM GUARDRAIL (SHORT RADIUS)	FOOT	12.5	12.5
66600105	FURNISHING AND ERECTING RIGHT-OF-WAY MARKERS	EACH	9	9
67000500	ENGINEER'S FIELD OFFICE, TYPE B	CAL MO	5	5
67100100	MOBILIZATION	L SUM	1	1
70100460	TRAFFIC CONTROL AND PROTECTION, STANDARD 701306	L SUM	1	1
70101830	TRAFFIC CONTROL AND PROTECTION, STANDARD BLR 21	L SUM	1	1
70300100	SHORT-TERM PAVEMENT MARKING	FOOT	65	65
70301000	WORK ZONE PAVEMENT MARKING REMOVAL	SQ FT	22	22
* 78001110	PAINT PAVEMENT MARKING - LINE 4"	FOOT	1463	1463
* 78200410	GUARDRAIL MARKERS, TYPE A	EACH	9	9
* 78200520	BARRIER WALL MARKERS, TYPE B	EACH	2	2
* 78201000	TERMINAL MARKER - DIRECT APPLIED	EACH	3	3
X2070304	POROUS GRANULAR EMBANKMENT, SPECIAL	CU YD	81	81
X2501000	SEEDING, CLASS 2 (SPECIAL)	ACRE	0.4	0.4
X4021000	TEMPORARY ACCESS (PRIVATE ENTRANCE)	EACH	2	2
X5020501	UNDERWATER STRUCTURE EXCAVATION PROTECTION - LOCATION 1	EACH	1	1

FILE NAME =	USER NAME = swartzw	DESIGNED -	REVISED -	<b>STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION</b>	<b>SUMMARY OF QUANTITIES</b>	S.B.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	
ca:\pw\work\p\dot\swartzw\d0127784\077	004-ahs:soq.dgn	DRAWN -	REVISED -			12	10B-1	CLAY	39	3	
PLOT SCALE = 48,0000' / IN.		CHECKED -	REVISED -			CONTRACT NO. 74004					
PLOT DATE = 8/12/2010		DATE -	REVISED -			SCALE: NA	SHEET NO. 1 OF 1 SHEETS	STA.	TO STA.	ILLINOIS FED. AID PROJECT	

\*Specialty Items Rev.

### TYPICAL CROSS SECTION

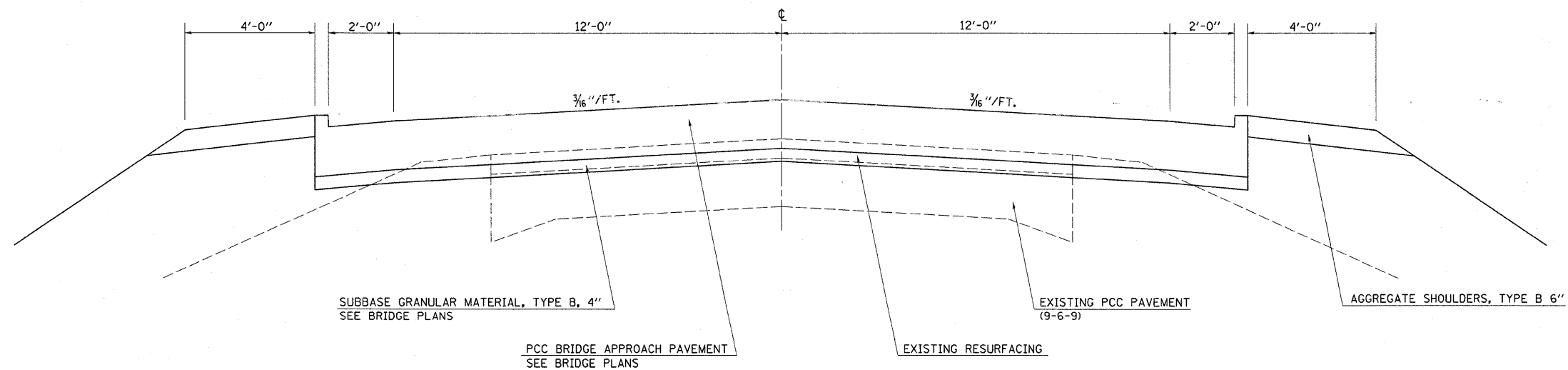
STATION 1034+20.0 TO STATION 1036+55.5  
STATION 1038+40.5 TO STATION 1040+70.0



NOTE: NOT DRAWN TO SCALE

### TYPICAL CROSS SECTION

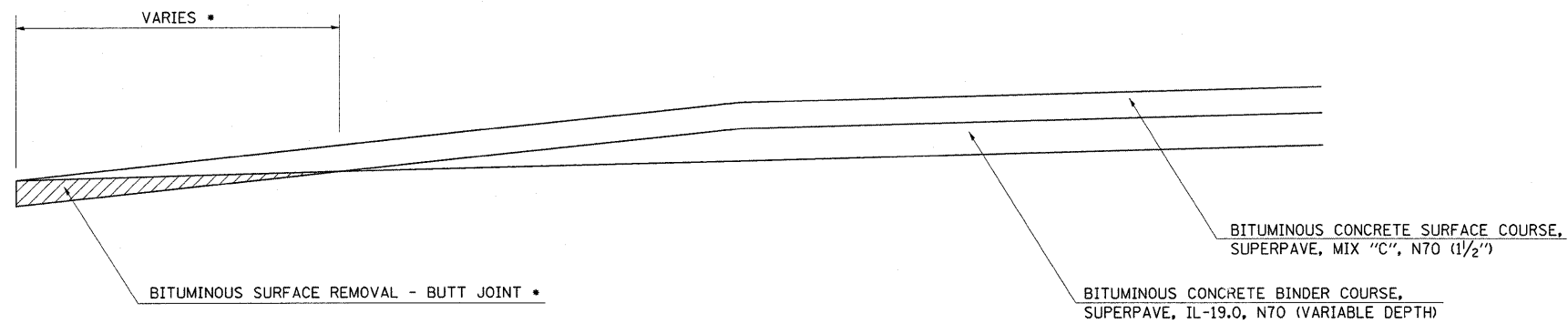
STATION 1036+55.5 TO STATION 1036+85.5  
STATION 1038+10.5 TO STATION 1038+40.5



NOTE: NOT DRAWN TO SCALE

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	PLOT SCALE = 20,000 ' / IN.	CHECKED -	REVISED -		SCALE: NA	SHEET NO. 1 OF	SHEETS	STA.	TO STA.	CONTRACT NO. 74004		
	PLOT DATE = 8/6/2010	DATE -	REVISED -		ILLINOIS FED. AID PROJECT							



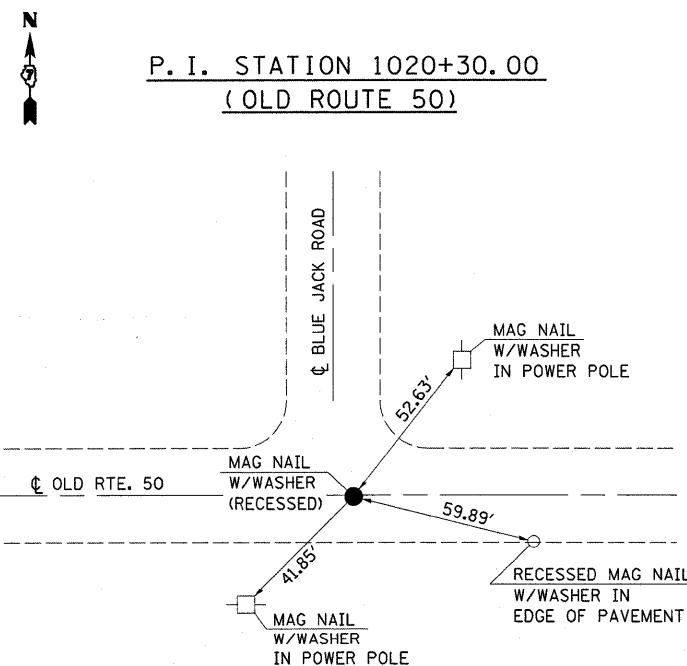


**BUTT JOINT DETAIL**

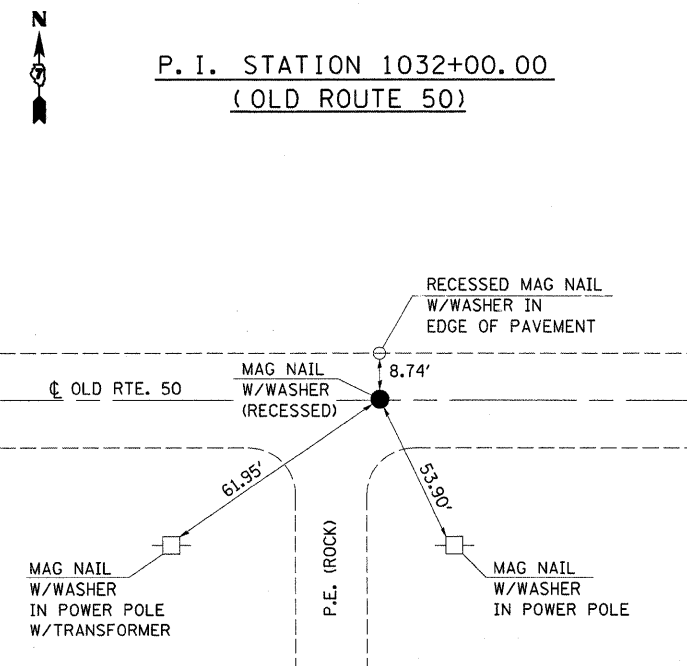
STA. 1034+20 TO STA. 1034+85 • 65'  
 STA. 1039+90 TO STA. 1040+70 • 80'

**BENCHMARKS**

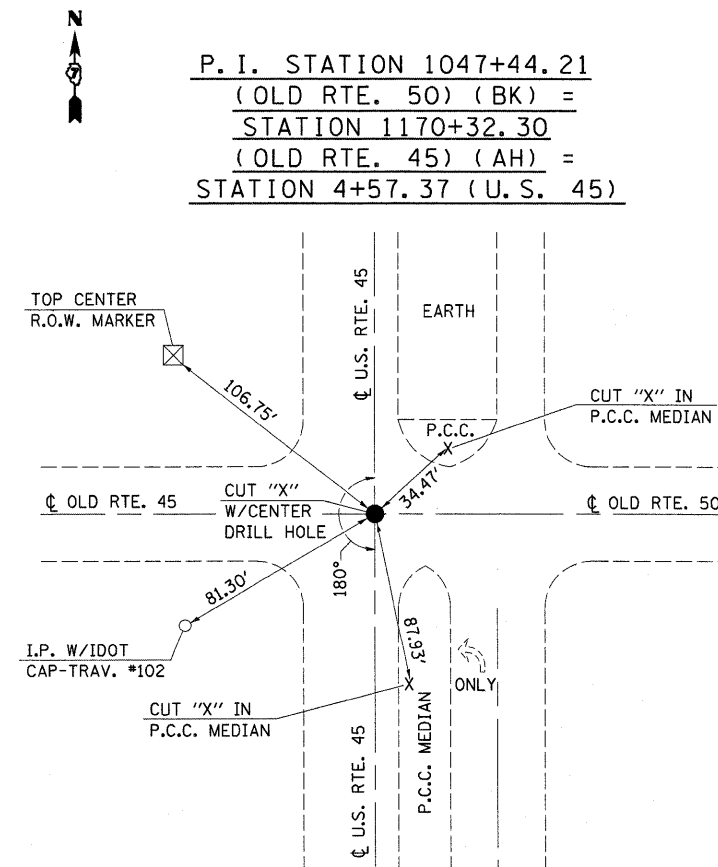
BENCHMARK	ELEVATION	STATION	OFFSET	DESCRIPTION
200	441.04	1036+07	32.4'	RR SPIKE IN PP #6 S SIDE OF OLD 50
201	443.26	1037+01	12.5'	CUT '6' TOP SE WING WALL SN 013-0026
202	455.96	1181+94	32.0'	RR SPIKE IN LIGHT POLE S SIDE OF OLD 50
203	471.32	1241+55	93.3'	CHIS X ON S BOLT ON S SIDE OF OLD 50



NOTE: NOT DRAWN TO SCALE



NOTE: NOT DRAWN TO SCALE



NOTE: NOT DRAWN TO SCALE

FILE NAME =	USER NAME = swa-tzrw	DESIGNED -	REVISED -
ct:\pw_work\pwidot\swa-tzrw\d0127784\0774004-shd-details.dgn		DRAWN -	REVISED -
PLOT SCALE = 20,000' / IN.		CHECKED -	REVISED -
PLOT DATE = 8/6/2010		DATE -	REVISED -

**STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION**

<b>BUTT JOINT DETAIL AND ALIGNMENT TIES</b>		S.B.I. RTE. 12	SECTION 10B-1	COUNTY CLAY	TOTAL SHEETS 39	SHEET NO. 5
SCALE: NA	SHEET NO. 1 OF 1 SHEETS	STA.	TO STA.	CONTRACT NO. 74004		
ILLINOIS FED. AID PROJECT						

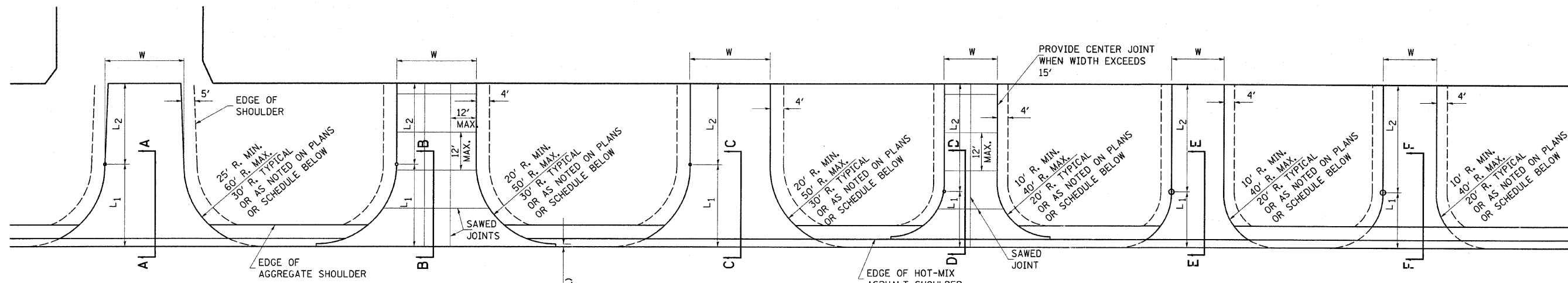
RESURFACING SCHEDULE			LENGTH	PAVEMENT WIDTH	HOT-MIX ASPHALT SURFACE REMOVAL, VARIABLE DEPTH	HOT-MIX ASPHALT SURFACE REMOVAL - BUTT JOINT	PAVEMENT REMOVAL	BITUMINOUS MATERIALS (PRIME COAT)	HOT-MIX ASPHALT SURFACE COURSE, MIX "C", N70	HOT-MIX ASPHALT BINDER COURSE, IL-19.0, N70	AGGREGATE SHOULDERS, TYPE B 6"	BRIDGE APPROACH PAVEMENT CONNECTOR (FLEXIBLE)	PAINT PAVEMENT MARKING - LINE 4"	SHORT-TERM PAVEMENT MARKING	WORK ZONE PAVEMENT MARKING REMOVAL
1034+20.00	TO	1034+85.00	65.0	18.0	0.0	130.0	0.0	13.0	10.9	0.0	75.4	0.0	146.3	6.5	2.2
1034+85.00	TO	1036+49.50	164.5	18.0	329.0	0.0	0.0	65.8	27.6	130.4	232.9	0.0	370.1	16.5	5.5
1036+49.50	TO	1036+55.50	6.0	28.0	0.0	0.0	12.0	0.0	0.0	0.0	5.6	18.7	13.5	0.6	0.2
1036+55.50	TO	1036+85.50	30.0	28.0	0.0	0.0	60.0	0.0	0.0	0.0	27.8	0.0	67.5	3.0	1.0
1036+85.50	TO	1038+10.50	125.0	28.0	0.0	0.0	63.4	0.0	0.0	0.0	0.0	0.0	281.3	12.5	4.2
1038+10.50	TO	1038+40.50	30.0	28.0	0.0	0.0	60.0	0.0	0.0	0.0	27.8	0.0	67.5	3.0	1.0
1038+40.50	TO	1038+46.50	6.0	28.0	0.0	0.0	12.0	0.0	0.0	0.0	5.6	18.7	13.5	0.6	0.2
1038+46.50	TO	1039+90.00	143.5	18.0	287.0	0.0	0.0	57.4	24.1	151.6	287.9	0.0	322.9	14.4	4.8
1039+90.00	TO	1040+70.00	80.0	18.0	0.0	160.0	0.0	16.0	13.4	0.0	99.7	0.0	180.0	8.0	2.7
TOTALS			650.0		616.0	290.0	207.0	152.0	76.0	282.0	763.0	37.0	1463.0	65.0	22.0

GUARDRAIL SCHEDULE									
LOCATION	GUARDRAIL REMOVAL	TRAFFIC BARRIER TERMINAL TYPE 1, SPECIAL (TANGENT)	TRAFFIC BARRIER TERMINAL, TYPE 6	STEEL PLATE BEAM GUARD RAIL, TYPE A, 6 FOOT POSTS	STEEL PLATE BEAM GUARD RAIL (SHORT RADIUS)	TRAFFIC BARRIER TERMINAL, TYPE 2	GUARDRAIL MARKERS, TYPE A	BARRIER WALL MARKERS, TYPE B	TERMINAL MARKERS - DIRECT APPLIED
	FOOT	EACH	EACH	FOOT	FOOT	EACH	EACH	EACH	EACH
NW CORNER	40.0	1.0	1.0	62.5	0.0	0.0	2.0		1.0
SW CORNER	41.0	1.0	1.0	125.0	0.0	0.0	3.0		1.0
NORTH PARAPET								1.0	
SOUTH PARAPET								1.0	
NE CORNER	41.0	1.0	1.0	125.0	12.5	1.0	3.0		1.0
SE CORNER	30.0	0.0	1.0	0.0	0.0	0.0	1.0		0.0
TOTALS=	152.0	3.0	4.0	312.5	12.5	1.0	9.0	2.0	3.0

SEEDING SCHEDULE	SEEDING, CLASS 2 (SPECIAL)	TEMPORARY EROSION CONTROL SEEDING	NITROGEN FERTILIZER NURTIENT*	PHOSPHORUS FERTILIZER NURTIENT*	POTASSIUM FERTILIZER NURTIENT*	MULCH, METHOD 2*	AGRICULTURAL GROUND LIMESTONE*
	ACRE	POUND	POUND	POUND	POUND	ACRE	TON
STATION TO STATION							
1034+20.0 TO 1034+50.0	0.02	2.00	1.80	1.80	1.80	0.02	0.04
1034+50.0 TO 1035+00.0	0.03	3.00	2.70	2.70	2.70	0.03	0.06
1035+00.0 TO 1035+50.0	0.01	1.00	0.90	0.90	0.90	0.01	0.02
1035+50.0 TO 1036+00.0	0.02	2.00	1.80	1.80	1.80	0.02	0.04
1036+00.0 TO 1036+50.0	0.04	4.00	3.60	3.60	3.60	0.04	0.08
1036+50.0 TO 1036+85.5	0.03	3.00	2.70	2.70	2.70	0.04	0.06
1038+10.5 TO 1038+50.0	0.05	5.00	4.50	4.50	4.50	0.05	0.10
1038+50.0 TO 1039+00.0	0.05	5.00	4.50	4.50	4.50	0.05	0.10
1039+00.0 TO 1039+50.0	0.04	4.00	3.60	3.60	3.60	0.04	0.08
1039+50.0 TO 1040+00.0	0.03	3.00	2.70	2.70	2.70	0.03	0.06
1040+00.0 TO 1040+50.0	0.03	3.00	2.70	2.70	2.70	0.03	0.06
1040+50.0 TO 1040+70.0	0.01	1.00	0.90	0.90	0.90	0.01	0.02
TOTAL =	0.40	36.00	32.00	32.00	32.00	0.40	0.70

\* QUANTITY IS FOR INFORMATION ONLY. INCLUDED IN THE COST OF SEEDING, CLASS 2 (SPECIAL)

EARTHWORK SCHEDULE	EARTH EXCAVATION	EARTH EXCAVATION ADJUSTED FOR SHRINKAGE (25%)	EARTH FILL	EARTHWORK BALANCE, WASTE (+) OR SHORTAGE (-)
	CU YD	CU YD	CU YD	CU YD
LOCATION				
1034+20.00 TO 1034+50.00	10.8	8.1	3.4	4.7
1034+50.00 TO 1035+00.00	23.1	17.4	23.2	-5.9
1035+00.00 TO 1035+50.00	5.5	4.1	50.6	-46.6
1035+50.00 TO 1036+00.00	0.4	0.3	82.1	-81.9
1036+00.00 TO 1036+50.00	3.7	2.8	171.0	-168.2
1036+50.00 TO 1036+85.50	5.3	3.9	173.2	-169.2
1038+10.50 TO 1038+50.00	0.3	0.2	203.6	-203.4
1038+50.00 TO 1039+00.00	0.5	0.3	214.2	-213.8
1039+00.00 TO 1039+50.00	0.6	0.5	126.5	-126.0
1039+50.00 TO 1040+00.00	5.7	4.3	46.9	-42.5
1040+00.00 TO 1040+50.00	20.4	15.3	5.6	9.6
1040+50.00 TO 1040+70.00	6.0	4.5	0.0	4.5
TOTALS =	82.0	62.0	1100.0	-1039.0



**PUBLIC ROAD**

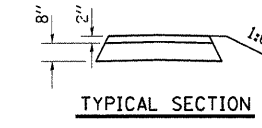
**COMMERCIAL (P.C.C.)**

**COMMERCIAL (HOT-MIX ASPHALT)**

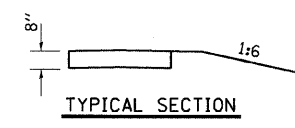
**PRIVATE ENTRANCE (P.C.C.)**

**PRIVATE ENTRANCE (HOT-MIX ASPHALT)**

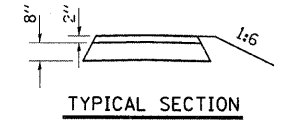
**FIELD ENTRANCE (AGGREGATE)**



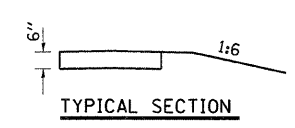
**TYPICAL SECTION**



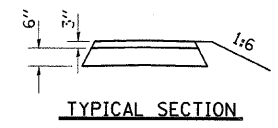
**TYPICAL SECTION**



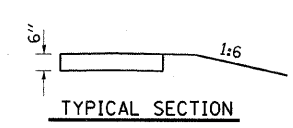
**TYPICAL SECTION**



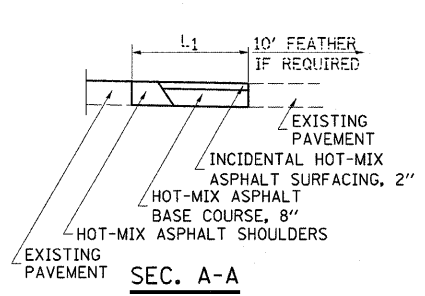
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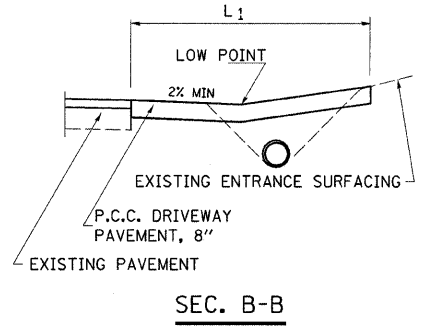
**TYPICAL SECTION**



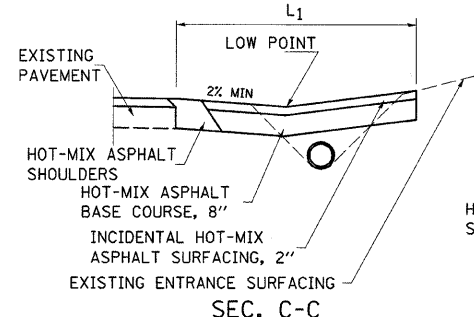
**TYPICAL SECTION**



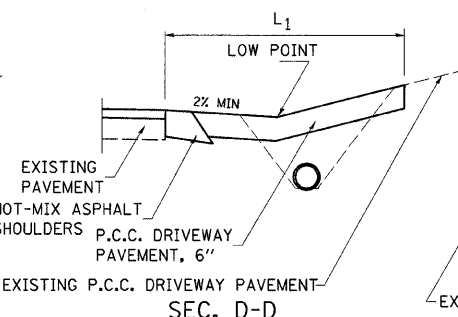
**SEC. A-A**



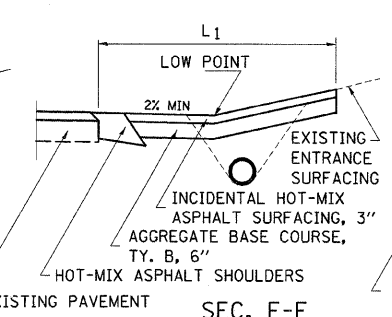
**SEC. B-B**



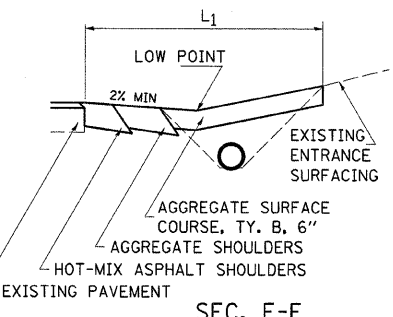
**SEC. C-C**



**SEC. D-D**



**SEC. E-E**



**SEC. F-F**

**ENTRANCE SCHEDULE**

TYPE	SIDE/ STATION	WIDTH	LENGTH		RADIUS	AGGREGATE BASE, COURSE, TY. B, 6"	HOT-MIX ASPHALT BASE COURSE, 8"	AGGREGATE SURFACE COURSE, TYPE B	INCIDENTAL HOT-MIX ASPHALT SURFACING	P.C.C. DRIVEWAY PAVEMENT		PCC PAVEMENT 8"
			L1	L2						6"	8"	
PE	LT 1034+60	14	10	16	10	9.9			4.9			
PE	LT 1036+29	10	10	11	10	15.6			7.7			

**CULVERT SCHEDULE**

STATION	PIPE CULVERTS, CLASS D, TYPE I 18"	
	FOOT	EACH
LT 1034+60	24.0	2.0
TOTAL	24.0	2.0

**NOTES**

L1 = DISTANCE FROM EDGE OF PAVEMENT TO RADIUS POINT OR MAXIMUM DISTANCE OF 30'.  
L2 = DISTANCE FROM RADIUS POINT OR MAXIMUM DISTANCE OF 30' FROM EDGE OF PAVEMENT TO R.O.W. LINE  
MATERIAL USED TO CONSTRUCT L2 LENGTH SHALL BE THE SAME TYPE OF MATERIAL AS THE EXISTING ENTRANCE

THE THICKNESS OF THE HOT-MIX ASPHALT SHOULDERS THROUGH COMMERCIAL ENTRANCES (HOT-MIX ASPHALT) AND PUBLIC ROADS SHALL BE 10". THE COST OF THE EXTRA THICKNESS SHALL BE INCLUDED WITH THE HOT-MIX ASPHALT SHOULDERS PAY ITEM.

THE COST OF THE BITUMINOUS MATERIALS AND AGGREGATE (PRIME COAT) FOR ENTRANCES AND PUBLIC ROAD APPROACHES SHALL BE INCLUDED IN THE PAY ITEM INCIDENTAL HOT-MIX ASPHALT SURFACING.

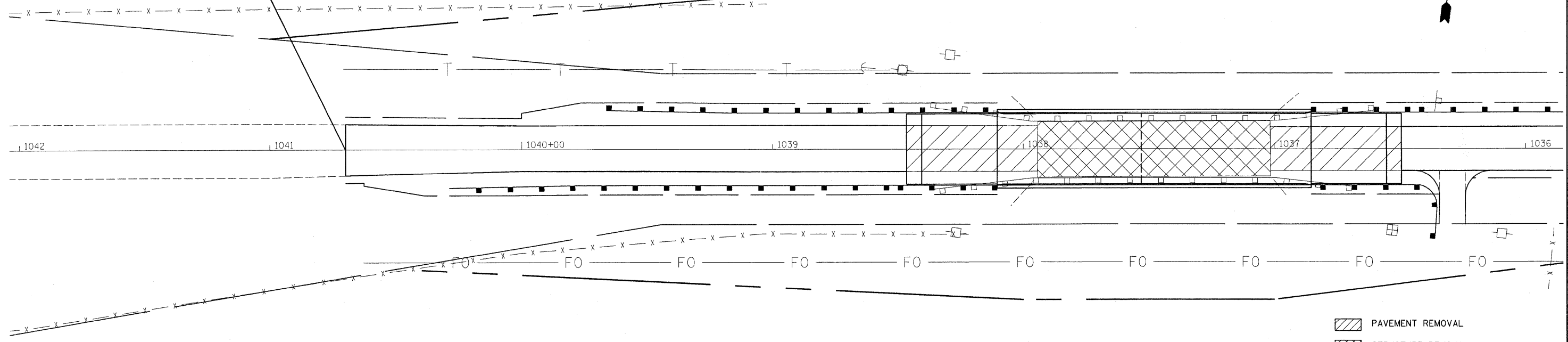
HOT-MIX ASPHALT SHOULDERS SHALL NOT BE CONSTRUCTED THROUGH PCC ENTRANCE OR PUBLIC ROAD APPROACH.

FE=FIELD ENTRANCE      PRA - PUBLIC ROAD APPROACH  
PE=PRIVATE ENTRANCE    MBT - MAILBOX TURNOUT  
CE=COMMERCIAL ENTRANCE

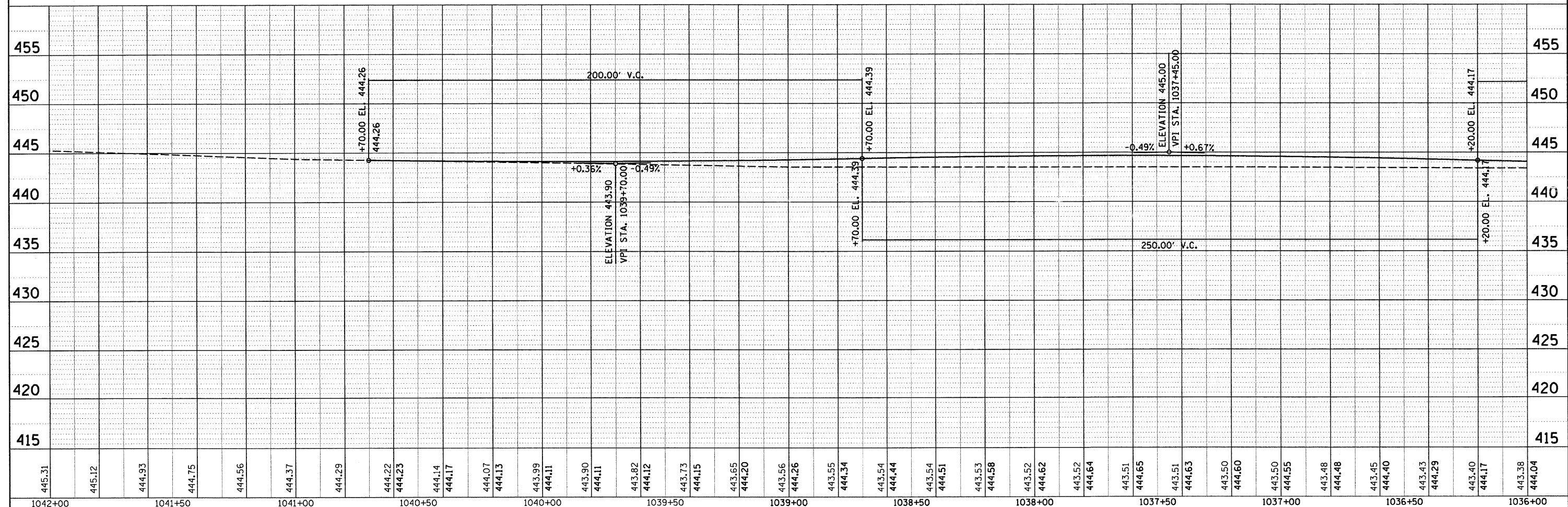
PROJECT ENDS STATION 1040+70  
 SBI ROUTE 12 (OLD U.S. RTE. 50)  
 SECTION 10B-1  
 CLAY COUNTY



PLAN	SURVEYED	DATE
	PLOTTED	
	GRADES CHECKED	
	STRUCTURE NOTATIONS CHKD	
	NO.	
	CADD FILE NAME	



PROFILE	SURVEYED	DATE
	PLOTTED	
	GRADES CHECKED	
	STRUCTURE NOTATIONS CHKD	
	NO.	



FILE NAME =	USER NAME = swartzw	DESIGNED -	REVISED -	<b>STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION</b>	<b>BRIDGE PLAN PROFILE</b>	S.B.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
c:\pwork\pwork\swartzw\d8127784\d774804-sht-plan.dgn		DRAWN -	REVISED -			12	10B-1	CLAY	39	9
PLOT SCALE = 28.0000' / IN.		CHECKED -	REVISED -			CONTRACT NO. 74004				
PLOT DATE = 8/6/2010		DATE -	REVISED -			ILLINOIS FED. AID PROJECT				



S.B.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
12	10B-1	CLAY	39	11
		ILLINOIS	CONTRACT NO. 74004	

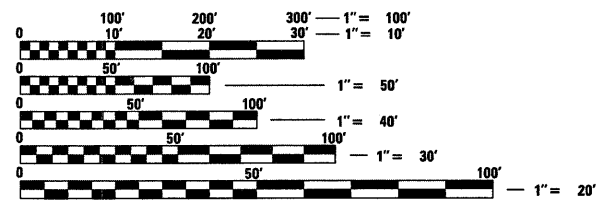
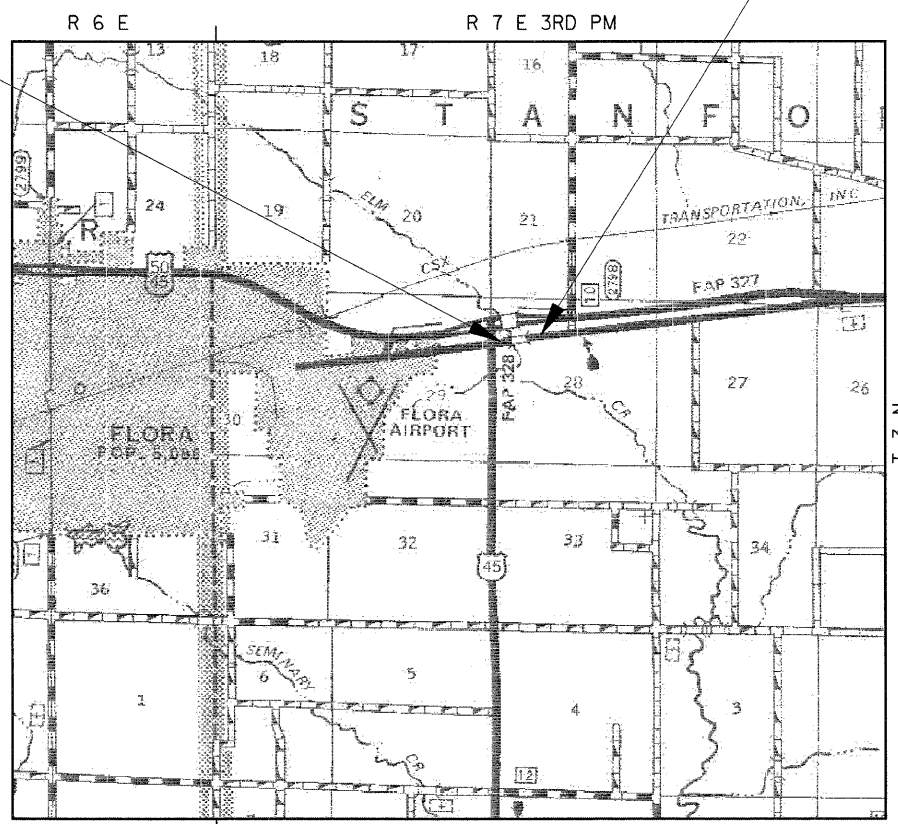
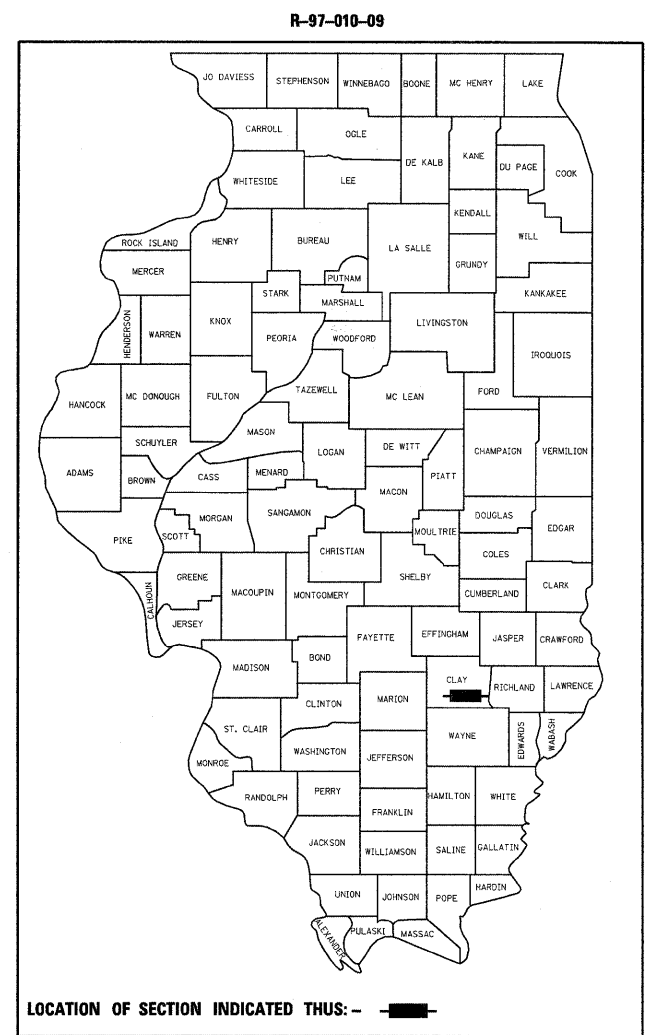
STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION  
DIVISION OF HIGHWAYS  
**PROPOSED  
RIGHT OF WAY PLANS**

SBI ROUTE 12 (OLD US ROUTE 50)  
SECTION 10B-1  
PROJECT  
CLAY COUNTY

R-97-010-09

SBI ROUTE 12  
SECTION 10B-1  
CLAY COUNTY  
BEGINS STATION 1031+00.00

SBI ROUTE 12  
SECTION 10B-1  
CLAY COUNTY  
ENDS STATION 1042+00.00



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: TOM RONAN  
PROJECT MANAGER: JENNIFER WENTHE

GROSS LENGTH = 1,100.00 FT. = 0.208 MILE  
NET LENGTH = 1,100.00 FT. = 0.208 MILE

CONTRACT NO. 74004

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION  
DIVISION OF HIGHWAYS

SUBMITTED \_\_\_\_\_ 20 \_\_\_\_\_  
DEPUTY DIRECTOR OF HIGHWAYS, REGION ENGINEER

EXAMINED \_\_\_\_\_ 20 \_\_\_\_\_  
CHIEF OF PLATS AND PLANS

PASSED \_\_\_\_\_ 20 \_\_\_\_\_  
DISTRICT LAND ACQUISITION ENGINEER

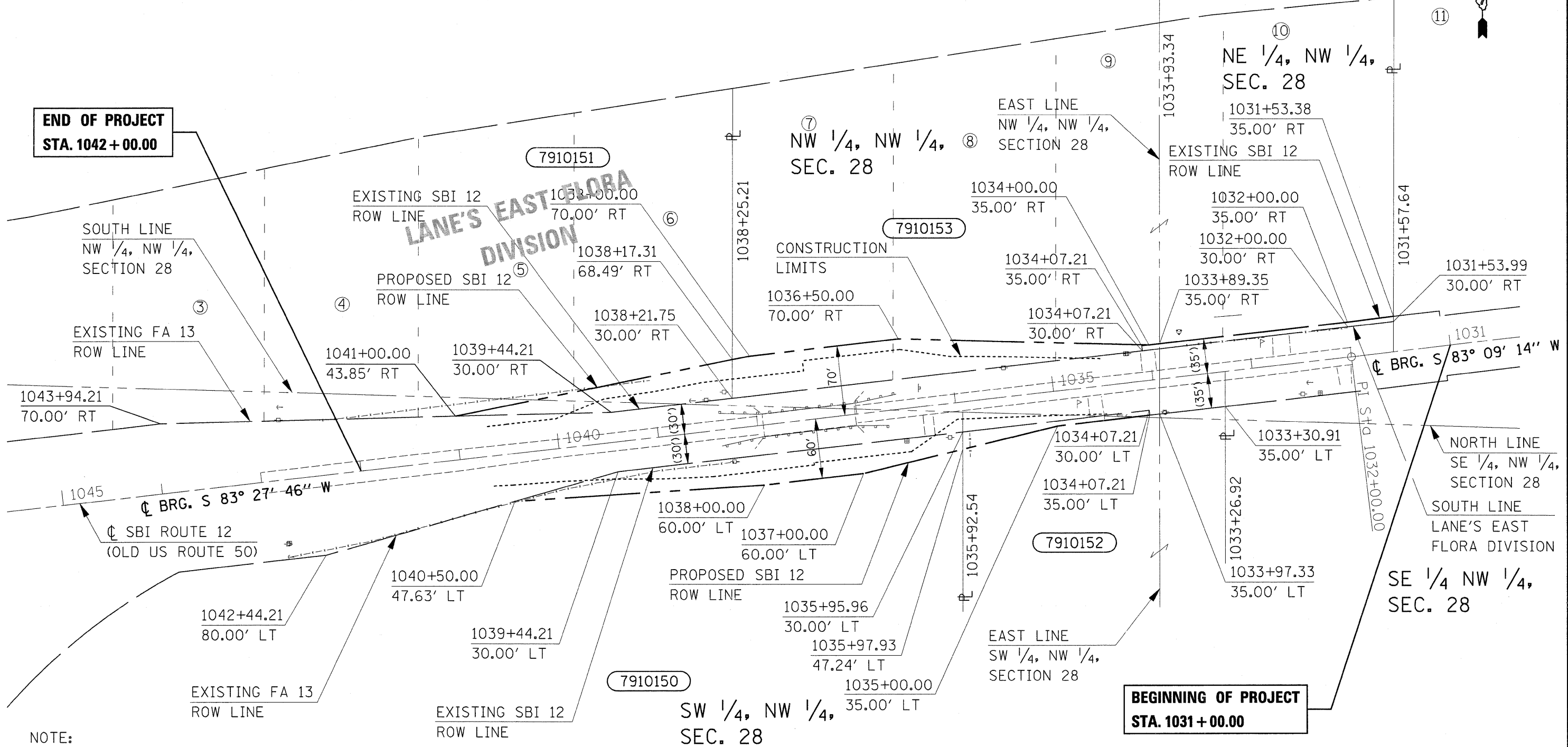
REVIEWED \_\_\_\_\_ 20 \_\_\_\_\_  
CENTRAL BUREAU RIGHT OF WAY PLANS ENGINEER

APPROVED \_\_\_\_\_ 20 \_\_\_\_\_  
ENGINEER OF LAND ACQUISITION

**PRINTED BY THE AUTHORITY  
OF THE STATE OF ILLINOIS**



# T.3N.-R.7E., 3rd P.M. STANFORD TOWNSHIP



**END OF PROJECT  
STA. 1042+00.00**

**BEGINNING OF PROJECT  
STA. 1031+00.00**

NOTE:

BEARINGS ARE REFERENCED TO THE ILLINOIS STATE PLANE COORDINATE SYSTEM EAST ZONE DATUM OF 1983.

⊙ - IRON PIN  
(R) RECORDED DISTANCE

PARCEL	OWNER	AREA TAKEN		EASEMENT	AREA REM	INST	RECORDED				AREA TAKEN		
		ADD	EXIST				MICRO FILM NO	DATE	BOOK	PAGE	ADD	EXIST	
7910150	A LIFE ESTATE IN SAMUEL J. MINK, REMAINDER INTEREST IN STEVE MINK	0.240 AC.	0.241 AC.		33.179 AC.								
7910151	JOHN W. NEWBY, JR. & BRANDIE E. NEWBY	0.143 AC.	0.000 AC.		4.683 AC.								
7910152	JAMES W. FRY	0.035 AC.	0.192 AC.		3.714 AC.								
7910153	JAMES FRY	0.284 AC.	0.029 AC.		4.585 AC.								

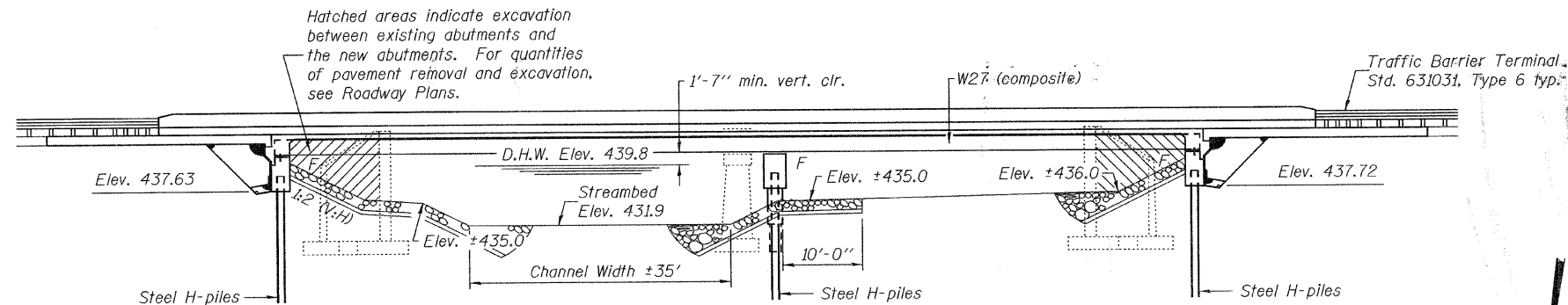


STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

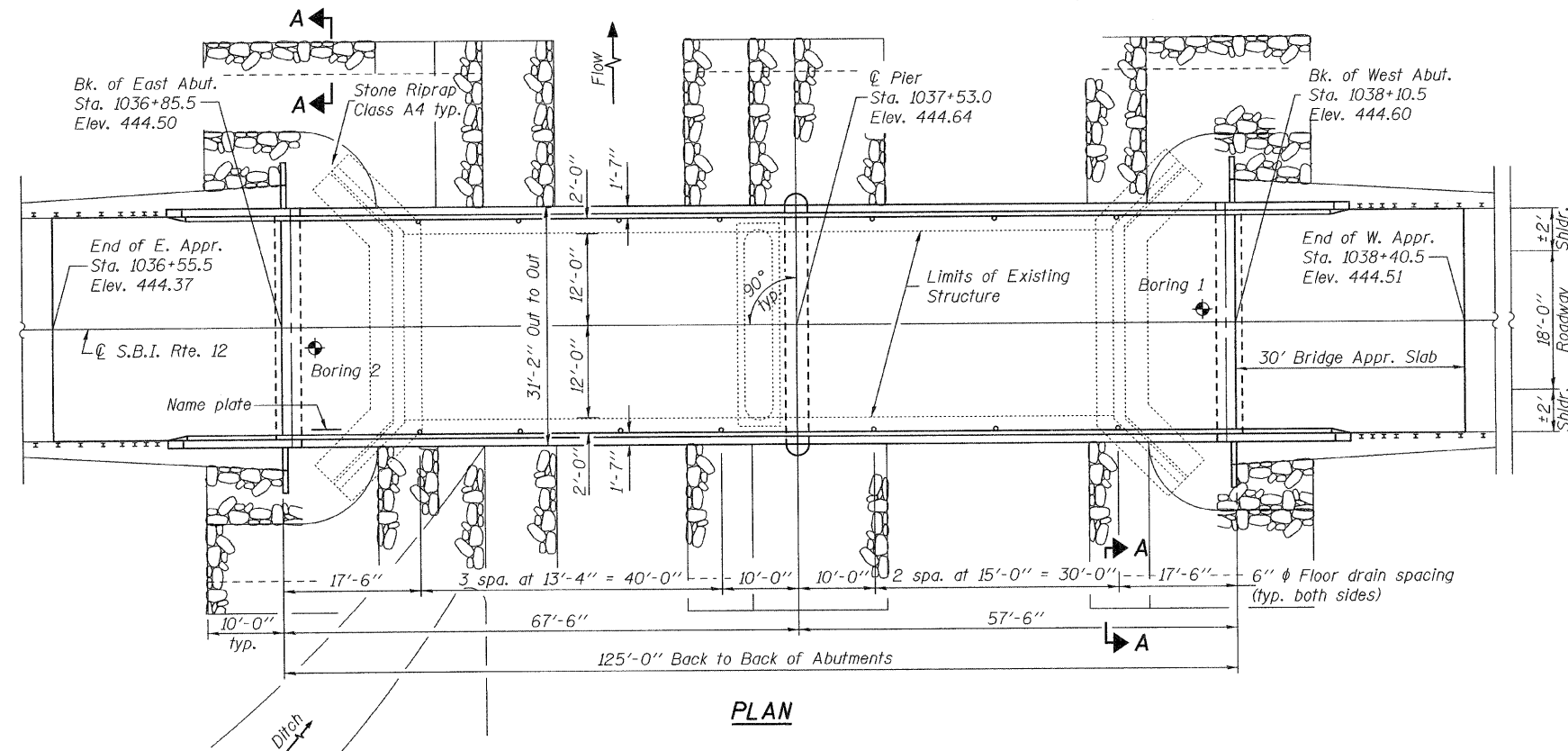
Bench Mark: Chiseled □ on top of southeast wing wall of S.N. 013-0026, Sta. 1037+01, 12.5 ft. Left Elev. 443.26

Existing Structure: S.N. 013-0026 Built in 1923 as S.B.I. Rt. 12, Sec. 10 at Sta. 1037+48 as a 2-span R.C. T-beam 96'-2" Bk.-Bk. of abutments. Out to out of deck is 24'-4". Closed abutments and pier is supported on untreated timber piles.  
Existing bridge to be removed and replaced. Traffic to be detoured during construction.

No salvage



ELEVATION



PLAN

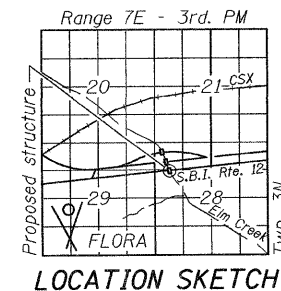
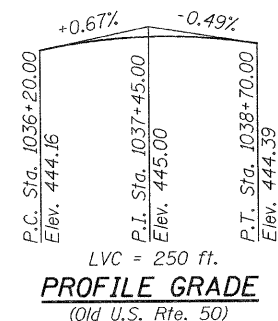
Design Scour Elevation (feet)	East Abut. 437.63	Pier 426.9	West Abut. 437.72
-------------------------------	-------------------	------------	-------------------

WATERWAY INFORMATION

Exist. Low Grade Elev. 443.4 ft. @ Sta. 1036+00  
 Drainage Area = 12.4 mi.<sup>2</sup> Prop. Low Grade Elev. 443.7 ft. @ Sta. 1029+00

Flood	Freq. Yr.	C.F.S.	Opening Sq. Ft.		Head - Ft.		Headwater El.		
			Exist.	Prop.	H.W.E.	Exist.	Prop.	Exist.	Prop.
Design	10	1467	517	537	439.1	0.5	0.5	439.6	439.6
Base	50	2206	581	611	439.8	1.0	0.8	440.8	440.6
Max. Calc.	100	2513	592	632	440.0	1.2	0.8	441.2	440.8
	500	3242	592	686	440.5	1.5	1.0	442.0	441.5

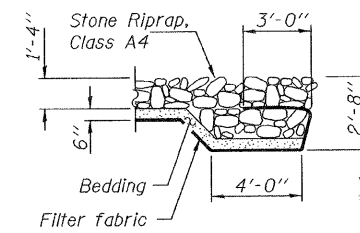
10 Year Velocity through Existing Bridge = 2.8 fps  
 10 Year Velocity through Proposed Bridge = 2.7 fps



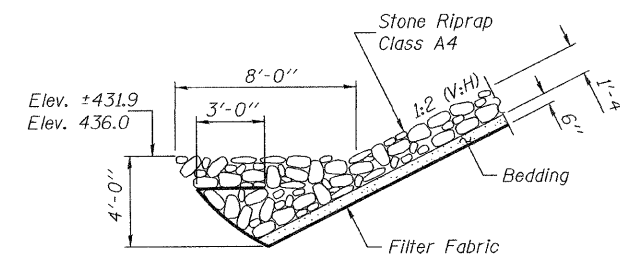
LOCATION SKETCH

INDEX OF SHEETS

- 1 General Plan & Elevation
- 2 General Data
- 3-5 Top of Slab Elevations
- 6 Top of East Approach Pavement Elevations
- 7 Top of West Approach Pavement Elevations
- 8 Superstructure
- 9 Superstructure Details
- 10 Diaphragm Details
- 11 Structural Steel
- 12 Bearing & Structural Steel Details
- 13 East Abutment
- 14 West Abutment
- 15 Pier
- 16-17 Bridge Approach Slab Details
- 18 Steel H Pile Details
- 19 Bar Splicer Assembly Details
- 20 Cantilever Forming Brackets for Superstructures with W27 Beams and Smaller
- 21-22 Soil Boring Logs



SECTION A-A



STONE RIPRAP ANCHOR DETAIL

STATION 1037+48.00  
 BUILT 20 BY  
 STATE OF ILLINOIS  
 S.B.I. RTE. 12 SEC. 10B-1  
 LOADING HL-93  
 STRUCTURE NO. 013-0040

NAME PLATE  
 See Std. 515001

LOADING HL-93

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

DESIGN SPECIFICATIONS

2004 LRFD AASHTO w/ 2005 & 2006 Interims

DESIGN STRESSES

FIELD UNITS

- $f'_c = 3,500$  psi
- $f_y = 60,000$  psi (reinforcement)
- $f_y = 50,000$  psi (AASHTO M270 Grade 50)
- $f_y = 36,000$  psi (AASHTO M270 Grade 36)

SEISMIC DATA

- Seismic Performance Zone (SPZ) = 1
- Bedrock Acceleration Coefficient (A) = .09g
- Site Coefficient (S) = 1.5

GENERAL PLAN AND ELEVATION  
 OLD U.S. 50 OVER ELM CREEK  
 S.B.I. ROUTE 12 - SECTION 10B-1  
 CLAY COUNTY  
 STATION 1037+48.00  
 STRUCTURE NO. 013-0040

DESIGNER: [Signature]  
 CHECKED: [Signature]  
 DRAWN: Gregory D. Farmer  
 CHECKED: G.R.A.

EXAMINED: [Signature]  
 PASSED: [Signature]  
 ENGINEER OF BRIDGE DESIGN  
 ENGINEER OF BRIDGES AND STRUCTURES



EXPIRES 11-30-2010

SHEET NO. 1 22 SHEETS	S.B.I. RTE. 12	SECTION 10B-1	COUNTY CLAY	TOTAL SHEETS 39	SHEET NO. 13
	FED. ROAD DIST. NO. - ILLINOIS			FED. AID PROJECT	

CONTRACT NO. 74004

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

**GENERAL NOTES**

Fasteners shall be AASHTO M164 Type 1, mechanically galvanized bolts.  
Bolts  $\frac{7}{8}$  in.  $\phi$ , holes  $\frac{9}{16}$  in.  $\phi$ , unless otherwise noted.  
Calculated weight of Structural Steel = 113110 lbs. (M 270 Grade 50)  
= 6580 lbs. (M 270 Grade 36)

No field welding is permitted except as specified in the contract documents.  
Reinforcement bars shall conform to the requirements of ASTM A 706 Gr 60.  
See Special Provisions

Reinforcement bars designated (E) shall be epoxy coated.  
The Inorganic Zinc Rich Primer/Acrylic/Acrylic Paint System shall be used for shop and field painting of new structural steel except where otherwise noted. The color of the final finish coat for all interior steel surfaces shall be gray, Munsell No. 5B 7/1. The color of the final finish coat for the exterior and bottom flange of the fascia beams shall be gray, Munsell No. 5B 7/1. See Special Provision for "Cleaning and Painting New Metal Structures".  
Layout of slope protection system may be varied in the field to suit ground conditions as directed by the Engineer.

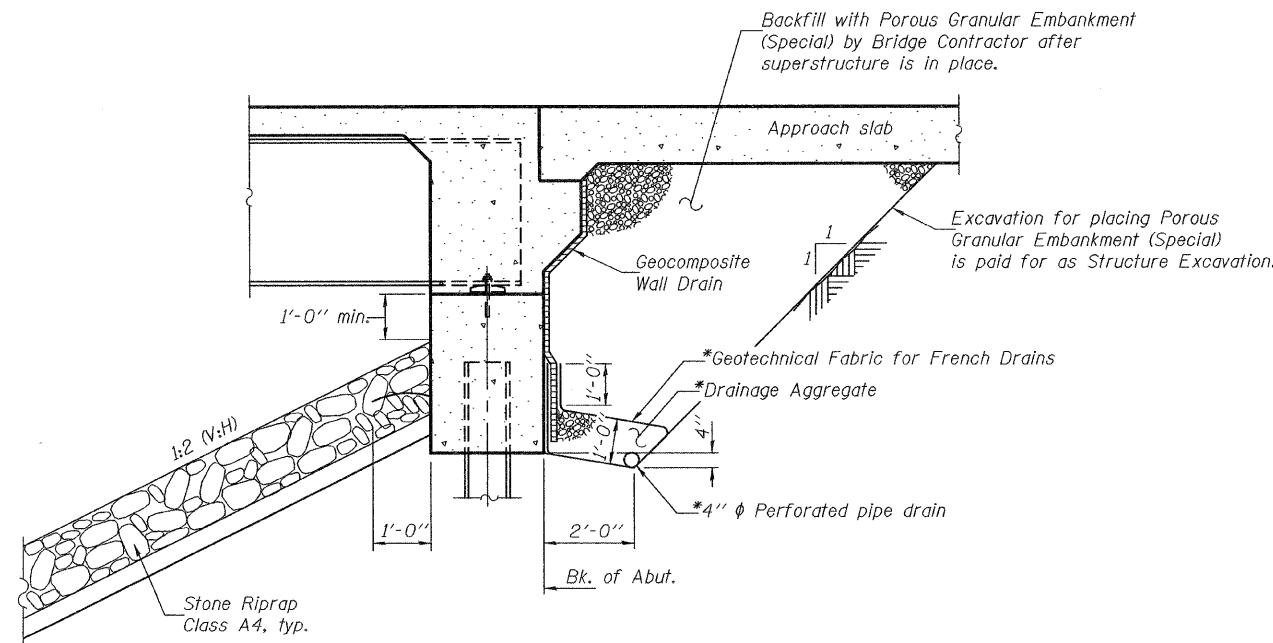
The Contractor shall drive test piles to 110% of the nominal required bearing specified in production locations at substructures specified or approved by the Engineer before ordering the remainder of piles.

If the Contractor elects to use cantilever forming brackets on the exterior beams or girders, the brackets shall be placed at the same locations as required for the hardwood blocks in Article 503.06(b) of the Standard Specifications. If additional cantilever forming brackets are required, hardwood blocking shall be wedged between the exterior and first interior beam at each of these additional bracket locations.

Bearing seat surfaces shall be constructed or adjusted to their designated elevations within a tolerance of  $\frac{1}{8}$  inch (0.01 ft.). Adjustment shall be made either by grinding the surface or by shimming the bearings.  
Slipforming of parapets is not allowed.

**TOTAL BILL OF MATERIAL**

ITEM	UNIT	SUPER	SUB	TOTAL
Porous Granular Embankment (Special)	Cu. Yd.		81	81
Stone Riprap, Class A4	Sq. Yd.		730	730
Filter Fabric	Sq. Yd.		730	730
Removal of Existing Structures	Each	1		1
Structure Excavation	Cu. Yd.		134	134
Floor Drains	Each	14		14
Concrete Structures	Cu. Yd.		69.6	69.6
Concrete Superstructure	Cu. Yd.	242		242
Bridge Deck Grooving	Sq. Yd.	535		535
Concrete Encasement	Cu. Yd.		8.6	8.6
Protective Coat	Sq. Yd.	713		713
Furnishing and Erecting Structural Steel	L. Sum	1		1
Stud Shear Connectors	Each	2034		2034
Reinforcement Bars, Epoxy Coated	Pound	58100	6000	64100
Bar Splicers	Each	68		68
Furnishing Steel Piles HP10x42	Foot		820	820
Furnishing Steel Piles HP14x73	Foot		430	430
Driving Piles	Foot		1250	1250
Test Pile Steel HP10x42	Each		2	2
Test Pile Steel HP14x73	Each		1	1
Pile Shoes	Each		18	18
Name Plates	Each	1		1
Anchor Bolts, 1" $\phi$	Each		36	36
Geocomposite Wall Drain	Sq. Yd.		50	50
Pipe Underdrains for Structures, 4"	Foot		131	131
Underwater Structure Excavation Protection, Location 1	Each		1	1



**SECTION THRU INTEGRAL ABUTMENT**

\*Included in the cost of Pipe Underdrains for Structures, 4".

Note:  
All drainage system components shall extend to 2'-0" from the end of each wingwall except an outlet pipe shall extend until intersecting with the side slopes. The pipes shall drain into concrete headwalls. (See Article 601.05 of the Standard Specifications and Highway Standard 601101).

**GENERAL DATA**  
**STRUCTURE NO. 013-0040**

DESIGNED Phillip R. Litchfield
CHECKED Ray Ahanchi
DRAWN Gregory D. Farmer htd
CHECKED PRL/GRA/JDE

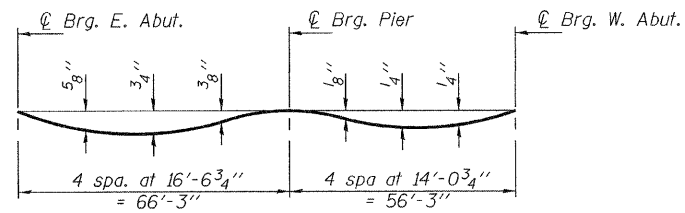
Sep. 9, 2010

EXAMINED Thomas J. Danagalaki
PASSED Ralph E. Anderson

ENGINEER OF BRIDGE DESIGN  
ENGINEER OF BRIDGES AND STRUCTURES

SHEET NO. 2	S.B.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	12	10B-1	CLAY	39	14
22 SHEETS	CONTRACT NO. 74004				
FED. ROAD DIST. NO. _ ILLINOIS FED. AID PROJECT					

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

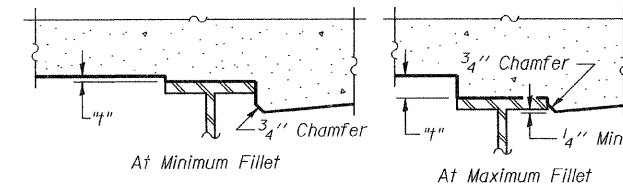


**DEAD LOAD DEFLECTION DIAGRAM**

(Includes weight of concrete only.)

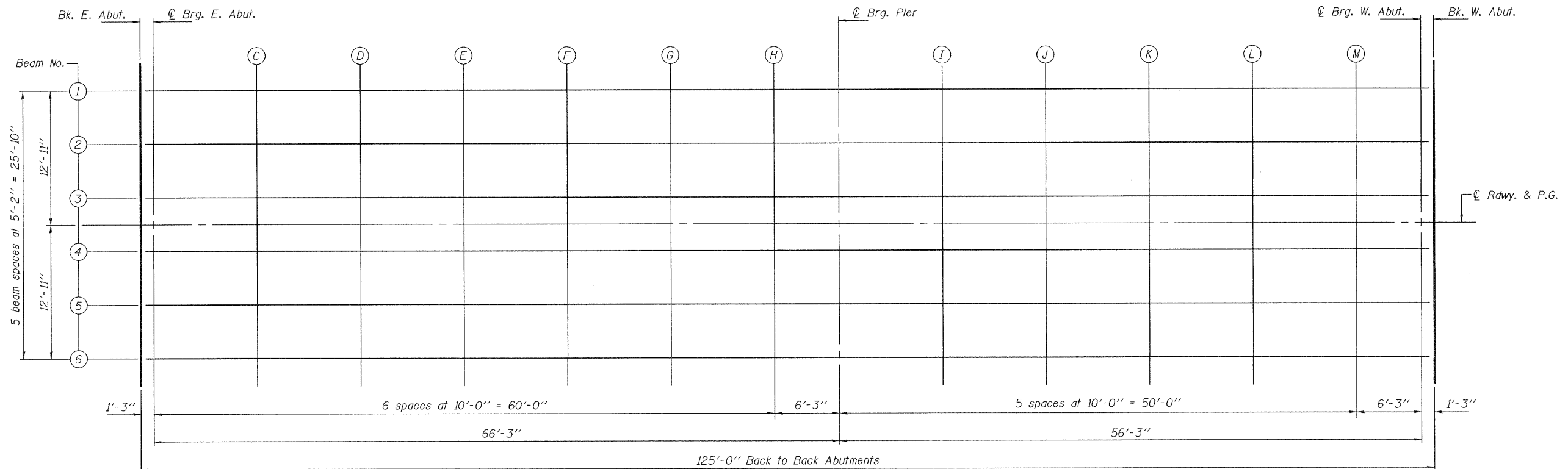
Note:

The above deflections are not to be used in the field if the engineer is working from the grade elevations adjusted for dead load deflections as shown on sheets 4 & 5 of 22.



To determine "t": After all structural steel has been erected, elevations of the top flanges of the beams shall be taken at intervals shown below. These elevations subtracted from the "Theoretical Grade Elevations Adjusted for Dead Load Deflection" shown on sheets 4 & 5 of 22, minus slab thickness, equals the fillet heights "t" above top flange of beams.

**FILLET HEIGHTS**



**PLAN**

DESIGNED <i>Phillip R. Litchfield</i>
CHECKED <i>Ray Ahanchi</i>
DRAWN <i>Gregory D. Farmer</i> htd
CHECKED <i>PRL/GRA/JDE</i>

EXAMINED <i>Thomas J. Domagalaki</i> ENGINEER OF BRIDGE DESIGN	Sep. 9, 2010
PASSED <i>Ralph E. Anderson</i> ENGINEER OF BRIDGES AND STRUCTURES	

**TOP OF SLAB ELEVATIONS  
STRUCTURE NO. 013-0040**

SHEET NO. 3	S.B.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
22 SHEETS	12	10B-1	CLAY	39	15
			CONTRACT NO. 74004		
FED. ROAD DIST. NO. _ ILLINOIS FED. AID PROJECT					

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

**BEAM 1**

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. E. Abut.	103685.50	-12.92	444.30	444.30
☉ Brg. E. Abut.	103686.75	-12.92	444.30	444.30
C	103696.75	-12.92	444.33	444.36
D	103706.75	-12.92	444.36	444.42
E	103716.75	-12.92	444.39	444.45
F	103726.75	-12.92	444.41	444.46
G	103736.75	-12.92	444.42	444.45
H	103746.75	-12.92	444.43	444.44
☉ Brg. Pier	103753.00	-12.92	444.44	444.44
I	103763.00	-12.92	444.44	444.45
J	103773.00	-12.92	444.44	444.45
K	103783.00	-12.92	444.43	444.45
L	103793.00	-12.92	444.42	444.44
M	103803.00	-12.92	444.41	444.41
☉ Brg. W. Abut.	103809.25	-12.92	444.39	444.39
Bk. W. Abut.	103810.50	-12.92	444.39	444.39

**BEAM 2**

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. E. Abut.	103685.50	-7.75	444.38	444.38
☉ Brg. E. Abut.	103686.75	-7.75	444.39	444.39
C	103696.75	-7.75	444.42	444.45
D	103706.75	-7.75	444.45	444.50
E	103716.75	-7.75	444.47	444.53
F	103726.75	-7.75	444.49	444.54
G	103736.75	-7.75	444.51	444.54
H	103746.75	-7.75	444.52	444.53
☉ Brg. Pier	103753.00	-7.75	444.52	444.52
I	103763.00	-7.75	444.53	444.53
J	103773.00	-7.75	444.52	444.54
K	103783.00	-7.75	444.52	444.54
L	103793.00	-7.75	444.51	444.53
M	103803.00	-7.75	444.49	444.50
☉ Brg. W. Abut.	103809.25	-7.75	444.48	444.48
Bk. W. Abut.	103810.50	-7.75	444.48	444.48

**BEAM 3**

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. E. Abut.	103685.50	-2.58	444.46	444.46
☉ Brg. E. Abut.	103686.75	-2.58	444.47	444.47
C	103696.75	-2.58	444.50	444.53
D	103706.75	-2.58	444.53	444.58
E	103716.75	-2.58	444.55	444.61
F	103726.75	-2.58	444.57	444.62
G	103736.75	-2.58	444.59	444.62
H	103746.75	-2.58	444.60	444.61
☉ Brg. Pier	103753.00	-2.58	444.60	444.60
I	103763.00	-2.58	444.61	444.61
J	103773.00	-2.58	444.60	444.62
K	103783.00	-2.58	444.60	444.62
L	103793.00	-2.58	444.59	444.61
M	103803.00	-2.58	444.57	444.58
☉ Brg. W. Abut.	103809.25	-2.58	444.56	444.56
Bk. W. Abut.	103810.50	-2.58	444.56	444.56

**☉ ROADWAY & PROFILE GRADE**

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. E. Abut.	103685.50	0.00	444.50	444.50
☉ Brg. E. Abut.	103686.75	0.00	444.51	444.51
C	103696.75	0.00	444.54	444.57
D	103706.75	0.00	444.57	444.62
E	103716.75	0.00	444.59	444.65
F	103726.75	0.00	444.61	444.66
G	103736.75	0.00	444.63	444.66
H	103746.75	0.00	444.64	444.65
☉ Brg. Pier	103753.00	0.00	444.64	444.64
I	103763.00	0.00	444.65	444.65
J	103773.00	0.00	444.64	444.66
K	103783.00	0.00	444.64	444.66
L	103793.00	0.00	444.63	444.65
M	103803.00	0.00	444.61	444.62
☉ Brg. W. Abut.	103809.25	0.00	444.60	444.60
Bk. W. Abut.	103810.50	0.00	444.60	444.60

DESIGNED Phillip R. Litchfield  
CHECKED Roy Ahanchi  
DRAWN Gregory D. Farmer  
CHECKED PRL/GRA/JDE

Sep. 9, 2010  
EXAMINED *Thomas J. Demagalicki*  
PASSED *Ralph E. Anderson*  
ENGINEER OF BRIDGES AND STRUCTURES

**TOP OF SLAB ELEVATIONS  
STRUCTURE NO. 013-0040**

SHEET NO. 4 22 SHEETS	S.B.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	12	10B-1	CLAY	39	16
CONTRACT NO. 74004					
FED. ROAD DIST. NO. _ ILLINOIS FED. AID PROJECT					

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

**BEAM 4**

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. E. Abut.	103685.50	2.58	444.46	444.46
☉ Brg. E. Abut.	103686.75	2.58	444.47	444.47
C	103696.75	2.58	444.50	444.53
D	103706.75	2.58	444.53	444.58
E	103716.75	2.58	444.55	444.61
F	103726.75	2.58	444.57	444.62
G	103736.75	2.58	444.59	444.62
H	103746.75	2.58	444.60	444.61
☉ Brg. Pier	103753.00	2.58	444.60	444.60
I	103763.00	2.58	444.61	444.61
J	103773.00	2.58	444.60	444.62
K	103783.00	2.58	444.60	444.62
L	103793.00	2.58	444.59	444.61
M	103803.00	2.58	444.57	444.58
☉ Brg. W. Abut.	103809.25	2.58	444.56	444.56
Bk. W. Abut.	103810.50	2.58	444.56	444.56

**BEAM 5**

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. E. Abut.	103685.50	7.75	444.38	444.38
☉ Brg. E. Abut.	103686.75	7.75	444.39	444.39
C	103696.75	7.75	444.42	444.45
D	103706.75	7.75	444.45	444.50
E	103716.75	7.75	444.47	444.53
F	103726.75	7.75	444.49	444.54
G	103736.75	7.75	444.51	444.54
H	103746.75	7.75	444.52	444.53
☉ Brg. Pier	103753.00	7.75	444.52	444.52
I	103763.00	7.75	444.53	444.53
J	103773.00	7.75	444.52	444.54
K	103783.00	7.75	444.52	444.54
L	103793.00	7.75	444.51	444.53
M	103803.00	7.75	444.49	444.50
☉ Brg. W. Abut.	103809.25	7.75	444.48	444.48
Bk. W. Abut.	103810.50	7.75	444.48	444.48

**BEAM 6**

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. E. Abut.	103685.50	12.92	444.30	444.30
☉ Brg. E. Abut.	103686.75	12.92	444.30	444.30
C	103696.75	12.92	444.33	444.36
D	103706.75	12.92	444.36	444.42
E	103716.75	12.92	444.39	444.45
F	103726.75	12.92	444.41	444.46
G	103736.75	12.92	444.42	444.45
H	103746.75	12.92	444.43	444.44
☉ Brg. Pier	103753.00	12.92	444.44	444.44
I	103763.00	12.92	444.44	444.45
J	103773.00	12.92	444.44	444.45
K	103783.00	12.92	444.43	444.45
L	103793.00	12.92	444.42	444.44
M	103803.00	12.92	444.41	444.41
☉ Brg. W. Abut.	103809.25	12.92	444.39	444.39
Bk. W. Abut.	103810.50	12.92	444.39	444.39

DESIGNED Phillip R. Litchfield  
 CHECKED Ray Ahanchi  
 DRAWN Gregory D. Farmer *htd*  
 CHECKED PRL/GRA/JDE

Sep. 9, 2010  
 EXAMINED *Thomas J. Donagale*  
 PASSED *Ralph E. Anderson*  
ENGINEER OF BRIDGES AND STRUCTURES

**TOP OF SLAB ELEVATIONS  
STRUCTURE NO. 013-0040**

SHEET NO. 5	S.B.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	12	10B-1	CLAY	39	17
22 SHEETS	CONTRACT NO. 74004				
FED. ROAD DIST. NO. _ ILLINOIS FED. AID PROJECT					

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

**SOUTH CURB LINE**

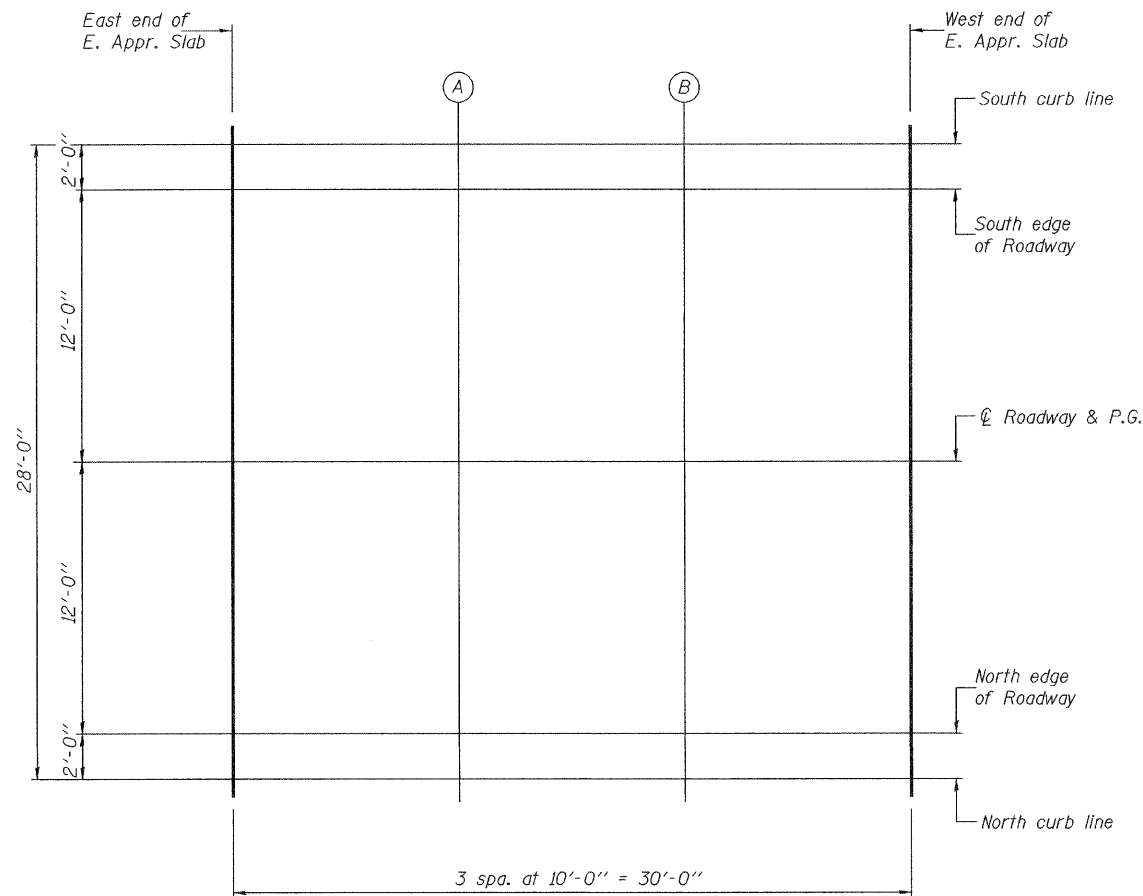
Location	Station	Offset	Theoretical Grade Elevations
East end of E. Apr. Slab	103655.50	-14.00	444.14
A	103665.50	-14.00	444.19
B	103675.50	-14.00	444.23
West end of E. Apr. Slab	103685.50	-14.00	444.27

**SOUTH EDGE OF ROADWAY**

Location	Station	Offset	Theoretical Grade Elevations
East end of E. Apr. Slab	103655.50	-12.00	444.18
A	103665.50	-12.00	444.23
B	103675.50	-12.00	444.28
West end of E. Apr. Slab	103685.50	-12.00	444.31

**☉ ROADWAY & P.G.**

Location	Station	Offset	Theoretical Grade Elevations
East end of E. Apr. Slab	103655.50	0.00	444.37
A	103665.50	0.00	444.42
B	103675.50	0.00	444.46
West end of E. Apr. Slab	103685.50	0.00	444.50



**PLAN**

**NORTH EDGE OF ROADWAY**

Location	Station	Offset	Theoretical Grade Elevations
East end of E. Apr. Slab	103655.50	12.00	444.18
A	103665.50	12.00	444.23
B	103675.50	12.00	444.28
West end of E. Apr. Slab	103685.50	12.00	444.31

**NORTH CURB LINE**

Location	Station	Offset	Theoretical Grade Elevations
East end of E. Apr. Slab	103655.50	14.00	444.14
A	103665.50	14.00	444.19
B	103675.50	14.00	444.23
West end of E. Apr. Slab	103685.50	14.00	444.27

**TOP OF EAST APPROACH SLAB ELEVATIONS  
STRUCTURE NO. 013-0040**

SHEET NO. 6	S.B.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
22 SHEETS	12	10B-1	CLAY	39	18
CONTRACT NO. 74004					
FED. ROAD DIST. NO. _ ILLINOIS FED. AID PROJECT					

DESIGNED Phillip R. Litchfield  
CHECKED Ray Ahanchi  
DRAWN Gregory D. Farmer htd  
CHECKED PRL/GRA/JDE

Sep. 9, 2010  
EXAMINED Thomas J. Danagalaki  
PASSED Ralph E. Anderson  
ENGINEER OF BRIDGES AND STRUCTURES

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

SOUTH CURB LINE

Location	Station	Offset	Theoretical Grade Elevations
East end of W. Appr. Slab	103810.50	-14.00	444.37
N	103820.50	-14.00	444.34
O	103830.50	-14.00	444.32
West end of W. Appr. Slab	103840.50	-14.00	444.28

SOUTH EDGE OF ROADWAY

Location	Station	Offset	Theoretical Grade Elevations
East end of W. Appr. Slab	103810.50	-12.00	444.41
N	103820.50	-12.00	444.39
O	103830.50	-12.00	444.36
West end of W. Appr. Slab	103840.50	-12.00	444.32

☉ ROADWAY & P.G.

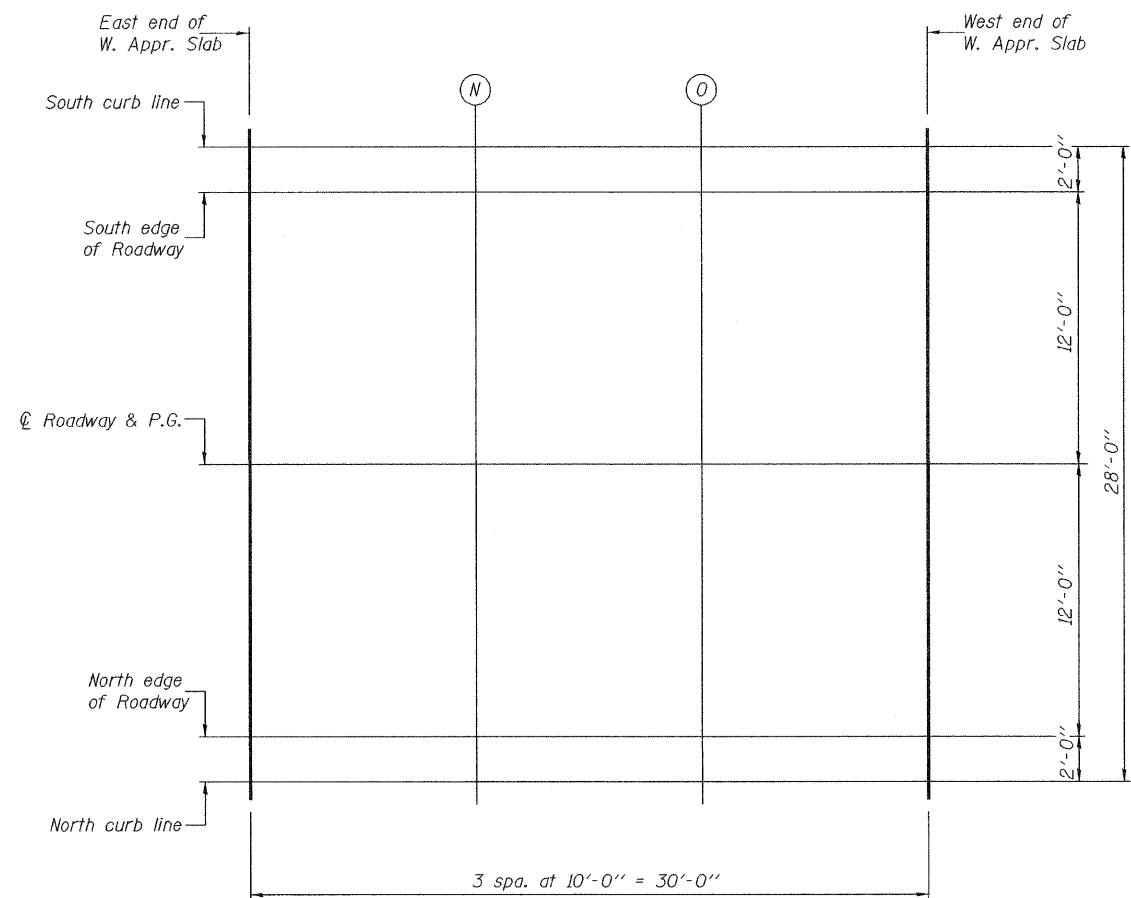
Location	Station	Offset	Theoretical Grade Elevations
East end of W. Appr. Slab	103810.50	0.00	444.60
N	103820.50	0.00	444.57
O	103830.50	0.00	444.54
West end of W. Appr. Slab	103840.50	0.00	444.51

NORTH EDGE OF ROADWAY

Location	Station	Offset	Theoretical Grade Elevations
East end of W. Appr. Slab	103810.50	12.00	444.41
N	103820.50	12.00	444.39
O	103830.50	12.00	444.36
West end of W. Appr. Slab	103840.50	12.00	444.32

NORTH CURB LINE

Location	Station	Offset	Theoretical Grade Elevations
East end of W. Appr. Slab	103810.50	14.00	444.37
N	103820.50	14.00	444.34
O	103830.50	14.00	444.32
West end of W. Appr. Slab	103840.50	14.00	444.28



PLAN

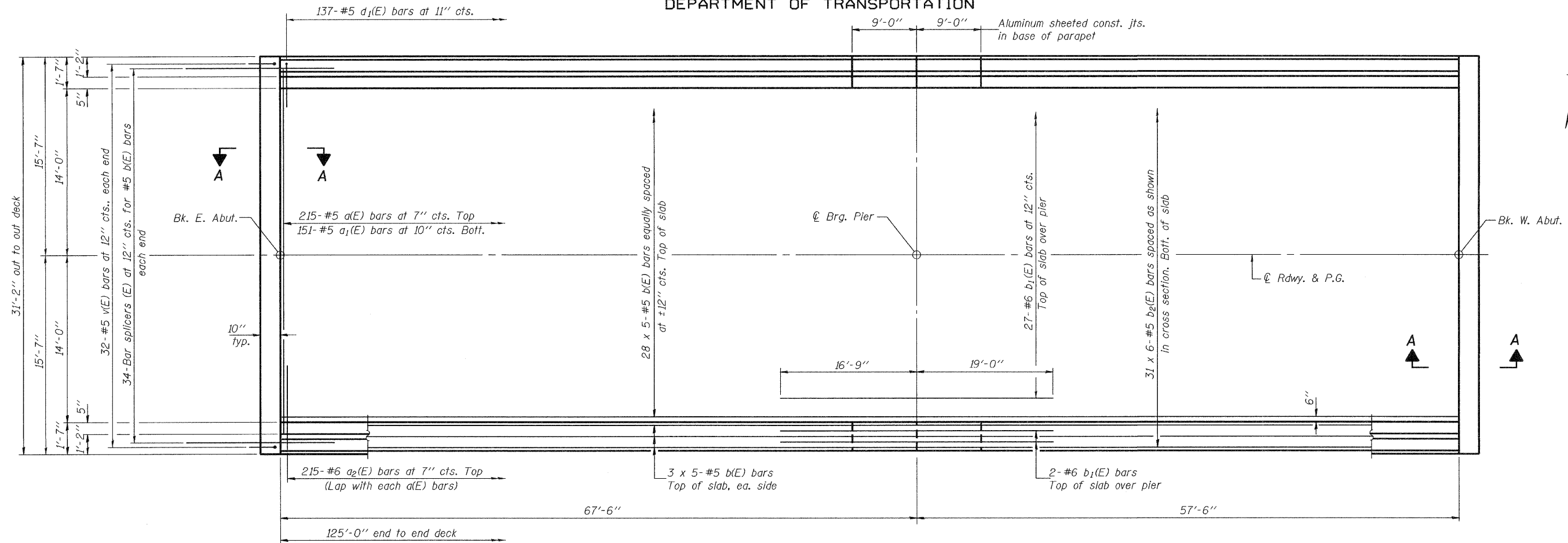
DESIGNED Phillip R. Litchfield  
CHECKED Roy Ahanchi  
DRAWN Gregory D. Farmer  
CHECKED PRL/GDF/JDE

Sep. 9, 2010  
EXAMINED Thomas J. Domagalaki  
PASSED Ralph E. Anderson

TOP OF WEST APPROACH SLAB ELEVATIONS  
STRUCTURE NO. 013-0040

SHEET NO. 7	S.B.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
22 SHEETS	12	10B-1	CLAY	39	19
CONTRACT NO. 74004					
FED. ROAD DIST. NO. _ ILLINOIS FED. AID PROJECT					

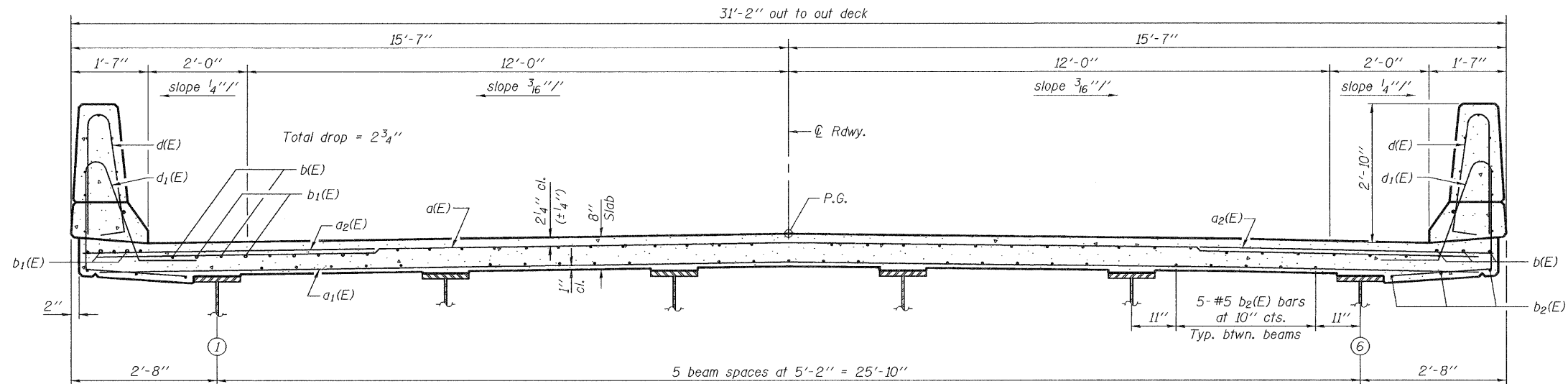
STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION



PLAN

**MIN. BAR LAP**  
#5 bar = 2'-2"

Notes:  
See sheet 9 of 22 for superstructure details and Bill of Material.  
Bars indicated thus 20 x 3-#5 etc. indicates 20 lines of bars with 3 lengths per line.  
See sheet 9 of 22 for parapet reinforcement.  
See sheet 10 of 22 for Section A-A.



CROSS SECTION  
(Looking west)

**SUPERSTRUCTURE**  
**STRUCTURE NO. 013-0040**

DESIGNED Phillip R. Litchfield
CHECKED Roy Ahanchi
DRAWN Gregory D. Farmer <i>htd</i>
CHECKED PRL/GRA/JDE

Sep. 9, 2010

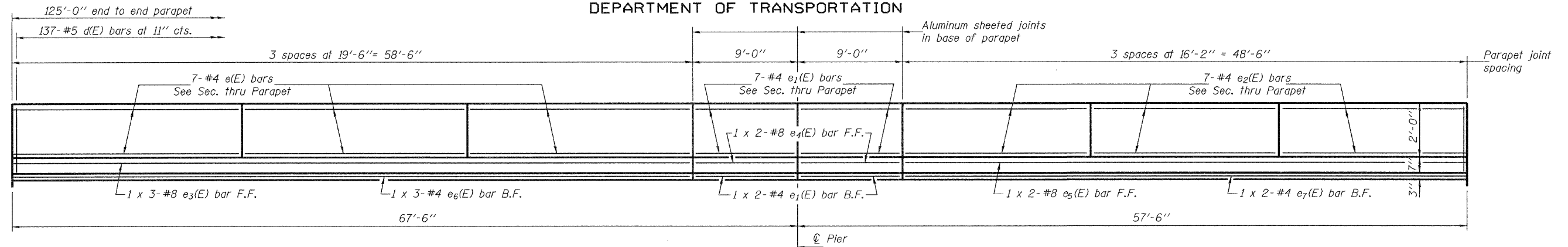
EXAMINED <i>Thomas J. Danagalaki</i>
PASSED <i>Ralph E. Anderson</i>

ENGINEER OF BRIDGES AND STRUCTURES

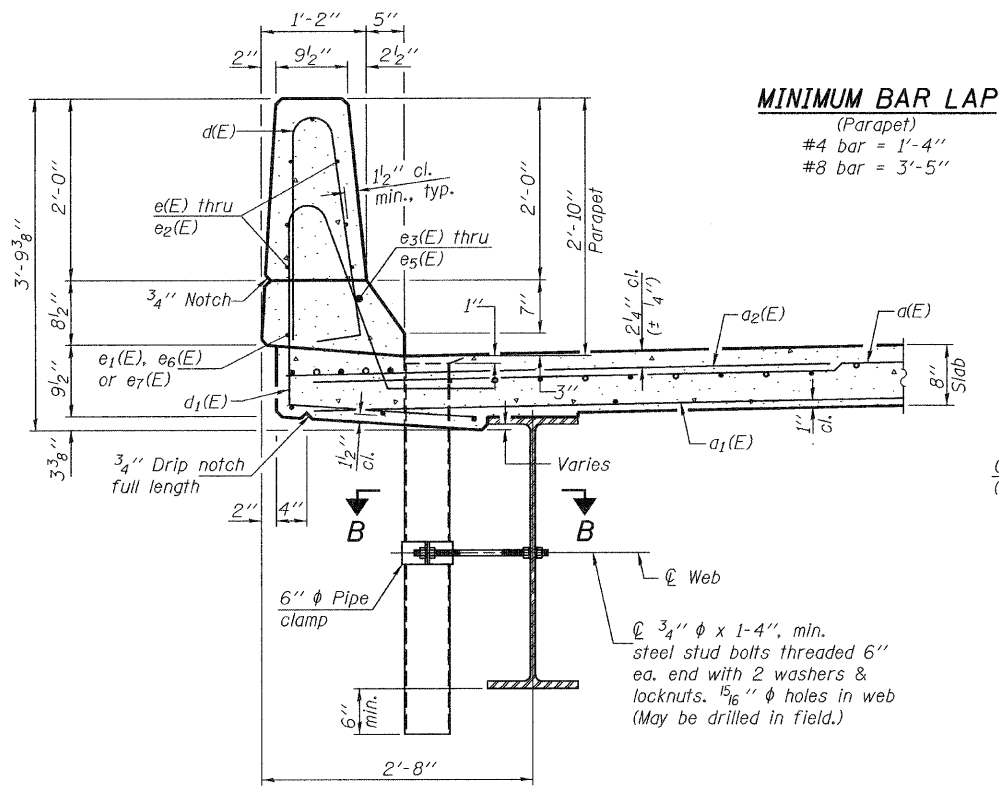
SHEET NO. 8 22 SHEETS	S.B.I. RTE. 12	SECTION 10B-1	COUNTY CLAY	TOTAL SHEETS 39	SHEET NO. 20
	CONTRACT NO. 74004				
FED. ROAD DIST. NO. - ILLINOIS FED. AID PROJECT					



STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

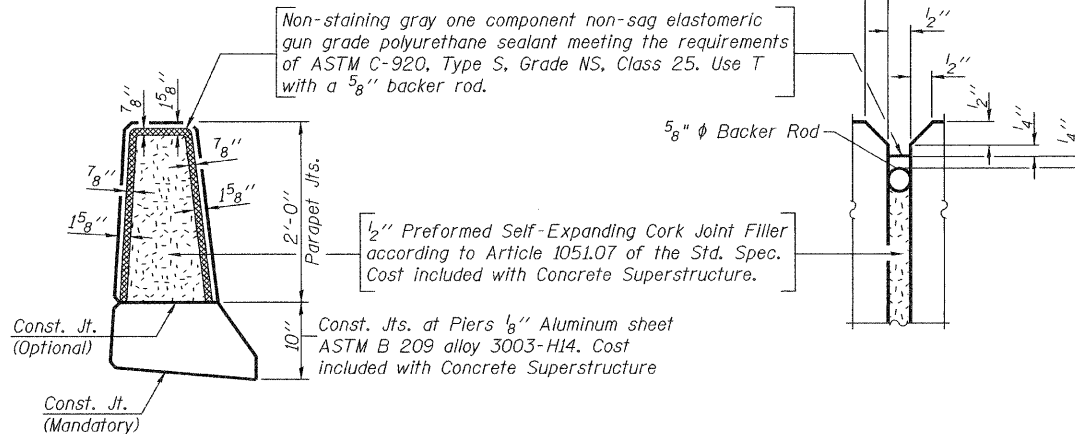


**INSIDE ELEVATION OF SOUTH PARAPET**  
(Looking south; North parapet similar)



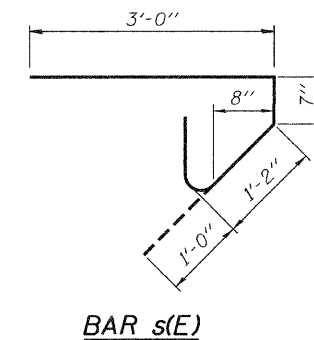
**SECTION THRU PARAPET**

**MINIMUM BAR LAP**  
(Parapet)  
#4 bar = 1'-4"  
#8 bar = 3'-5"

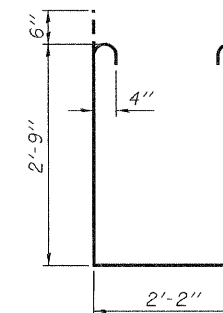


**PARAPET JOINT DETAILS**

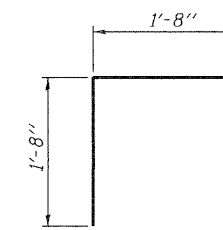
Notes:  
The exterior surfaces of the floor drains shall be painted with the finish coat as specified in the special provisions for Cleaning and Painting New Metal Structures. The exterior surfaces of the drains shall be cleaned according to Society of Protective Coating Spec. SSPC-SP1 prior to painting.  
Fiberglass pipe shall conform to ASTM D 2996, with short-time rupture strength hoop tensile stress of 30,000 p.s.i. minimum. Galvanize clamping device according to AASHTO M 232.



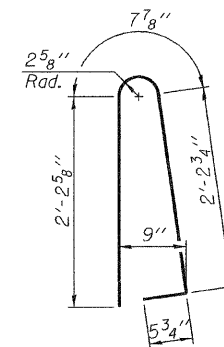
**BAR s(E)**



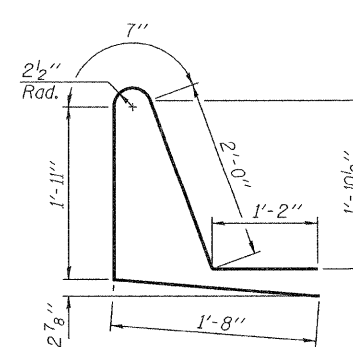
**BAR s1(E)**



**BAR v(E)**



**BAR d(E)**



**BAR d1(E)**

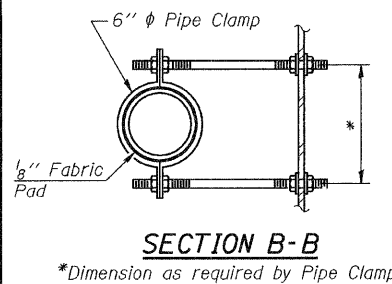
**SUPERSTRUCTURE  
BILL OF MATERIAL**

Bar	No.	Size	Length	Shape
a(E)	215	#5	30'-6"	—
a1(E)	151	#5	28'-10"	—
a2(E)	430	#6	6'-0"	—
b(E)	170	#5	26'-9"	—
b1(E)	31	#6	35'-9"	—
b2(E)	186	#5	22'-8"	—
d(E)	274	#5	5'-7"	U
d1(E)	274	#5	7'-4"	U
e(E)	42	#4	19'-2"	—
e1(E)	32	#4	8'-8"	—
e2(E)	42	#4	15'-10"	—
e3(E)	6	#8	21'-10"	—
e4(E)	4	#8	8'-8"	—
e5(E)	4	#8	25'-11"	—
e6(E)	6	#4	20'-4"	—
e7(E)	4	#4	24'-10"	—
m(E)	10	#6	30'-10"	—
m1(E)	24	#6	7'-9"	—
m2(E)	10	#6	4'-11"	—
m3(E)	4	#6	2'-5"	—
s(E)	62	#5	5'-9"	U
s1(E)	52	#4	8'-8"	U
v(E)	64	#5	3'-4"	T
Reinforcement Bars, Epoxy Coated			Pound	33570
Concrete Superstructure			Cu. Yds.	147.9

Bars indicated thus 1 x 3-#5 etc. indicates 1 line of bars with 3 lengths per line.

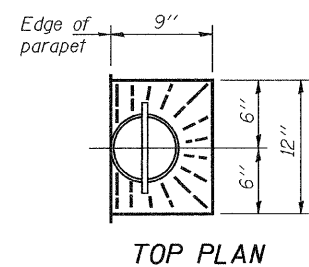
**SUPERSTRUCTURE DETAILS  
STRUCTURE NO. 013-0040**

SHEET NO. 9 22 SHEETS	S.B.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	12	10B-1	CLAY	39	21
CONTRACT NO. 74004					
FED. ROAD DIST. NO. _ ILLINOIS FED. AID PROJECT					

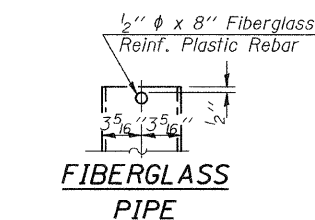


**SECTION B-B**

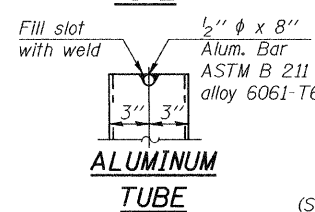
\*Dimension as required by Pipe Clamp



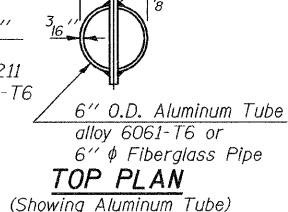
**TOP PLAN**



**FIBERGLASS PIPE**



**ALUMINUM TUBE**



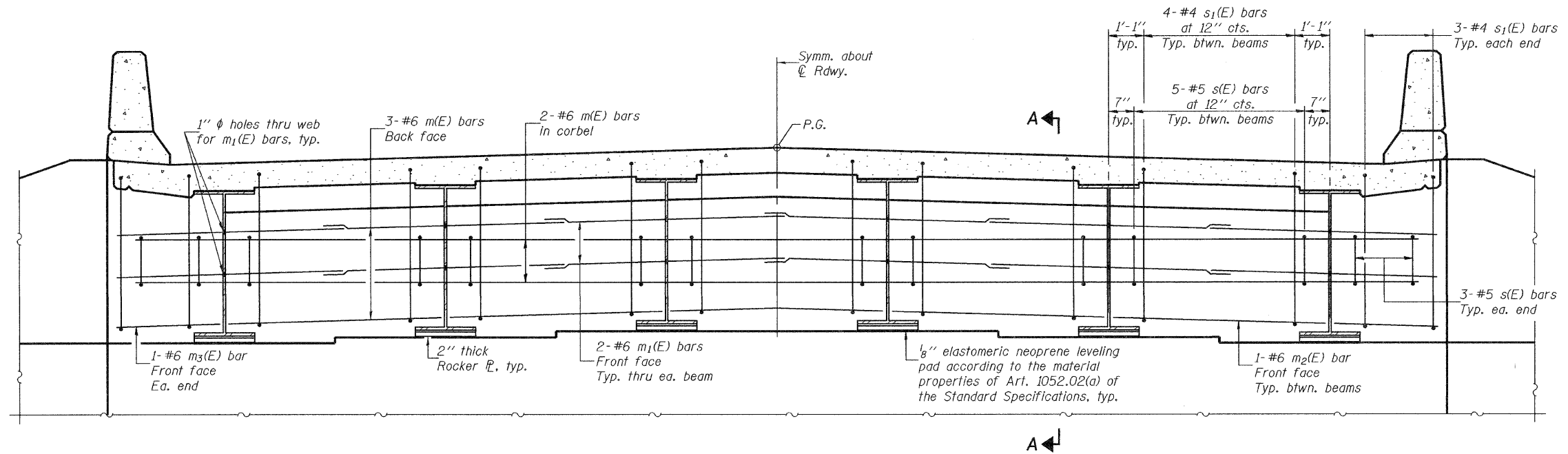
**TOP PLAN**  
(Showing Aluminum Tube)

DESIGNED Phillip R. Litchfield  
CHECKED Roy Ahanchi  
DRAWN Gregory D. Farmer  
CHECKED PRL/GRA/JDE

EXAMINED Thomas J. Domagalaki  
PASSED Ralph E. Anderson  
ENGINEER OF BRIDGES AND STRUCTURES

Sep. 9, 2010

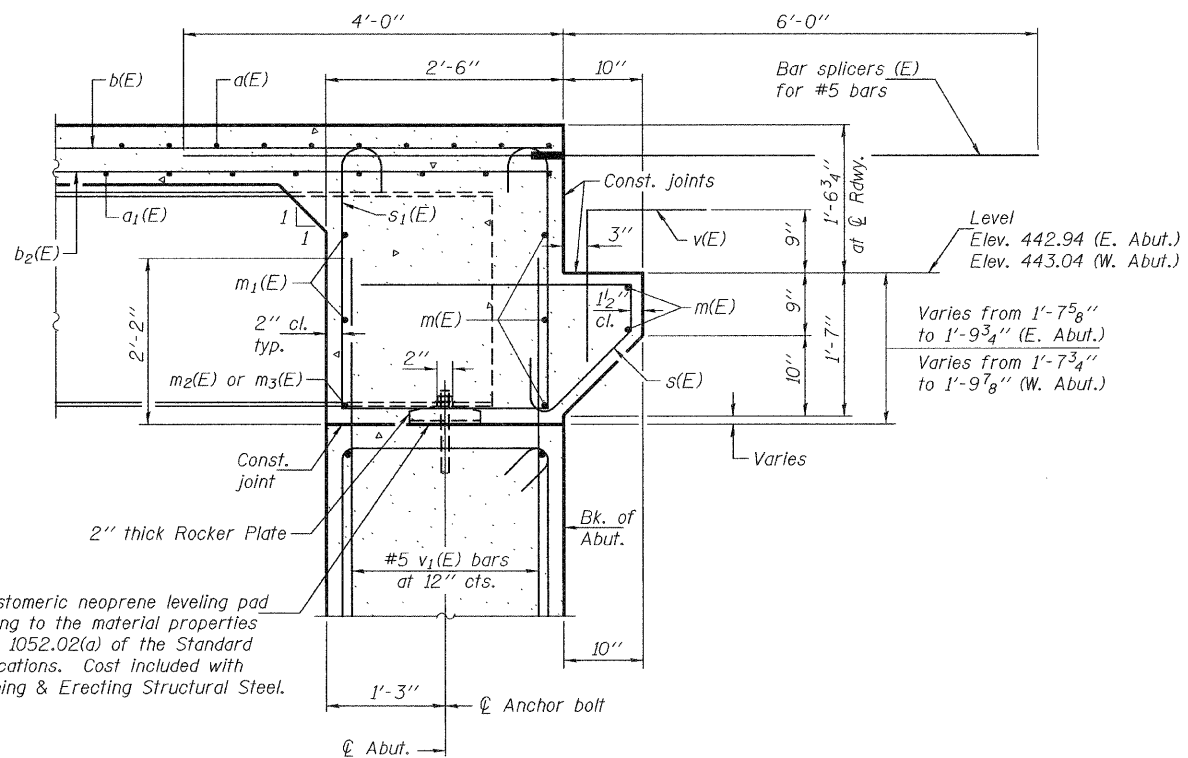
STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION



**DIAPHRAGM ELEVATION AT WEST ABUTMENT**

(Looking West - East Abutment similar)

Notes: Reinforcement bars in diaphragm are billed with superstructure on sheet 9 of 22.  
Concrete in diaphragm is included with Concrete Superstructure on sheet 9 of 22.  
For details of bars s(E) & s<sub>1</sub>(E) see sheet 9 of 22.  
The s(E) and s<sub>1</sub>(E) bars shall be placed parallel to the beams.  
For bar splicer details see sheet 19 of 22.



**SECTION A-A**

**MIN. BAR LAP**  
#6 bar = 2'-7"

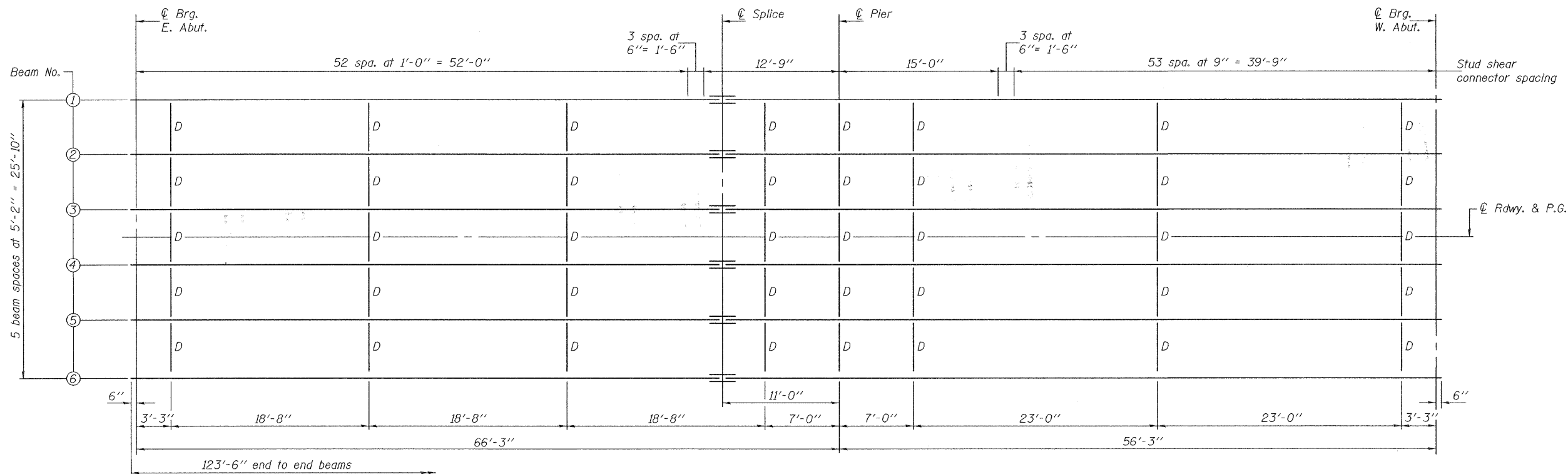
DESIGNED Phillip R. Litchfield  
CHECKED Ray Ahanchi  
DRAWN Gregory D. Farmer  
CHECKED PRL/GRA/JDE

EXAMINED Thomas J. Danagalaki  
PASSED Ralph E. Anderson  
ENGINEER OF BRIDGES AND STRUCTURES

**SUPERSTRUCTURE  
STRUCTURE NO. 013-0040**

SHEET NO. 10	S.B.I. RTE. 12	SECTION 10B-1	COUNTY CLAY	TOTAL SHEETS 39	SHEET NO. 22
22 SHEETS	CONTRACT NO. 74004				
FED. ROAD DIST. NO. _ ILLINOIS FED. AID PROJECT					

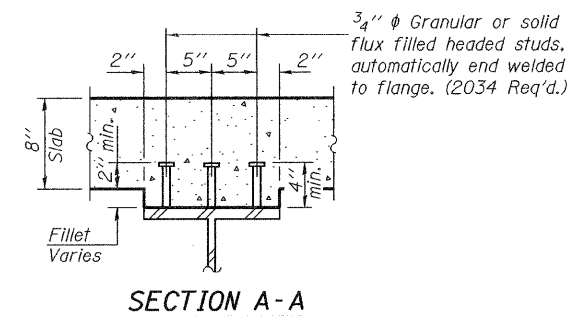
STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION



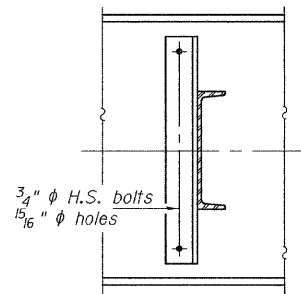
PLAN

All beams shall be W27x146 AASHTO M270 Grade 50 (NTR)  
\*\*All splice plate material shall be AASHTO M270 Grade 50.

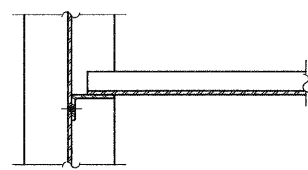
Notes: Load carrying components designated "NTR" shall conform to the Supplemental Requirements for Notch Toughness, Zone 2.  
All diaphragms shall be installed as steel is erected and secured with erection pins and bolts except as otherwise noted. Individual diaphragms at supports may be temporarily disconnected to install bearing anchor rods.  
Two hardened washers required for each set of oversized holes.



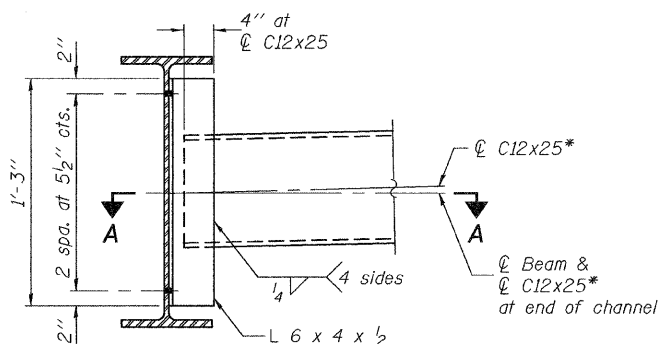
SECTION A-A



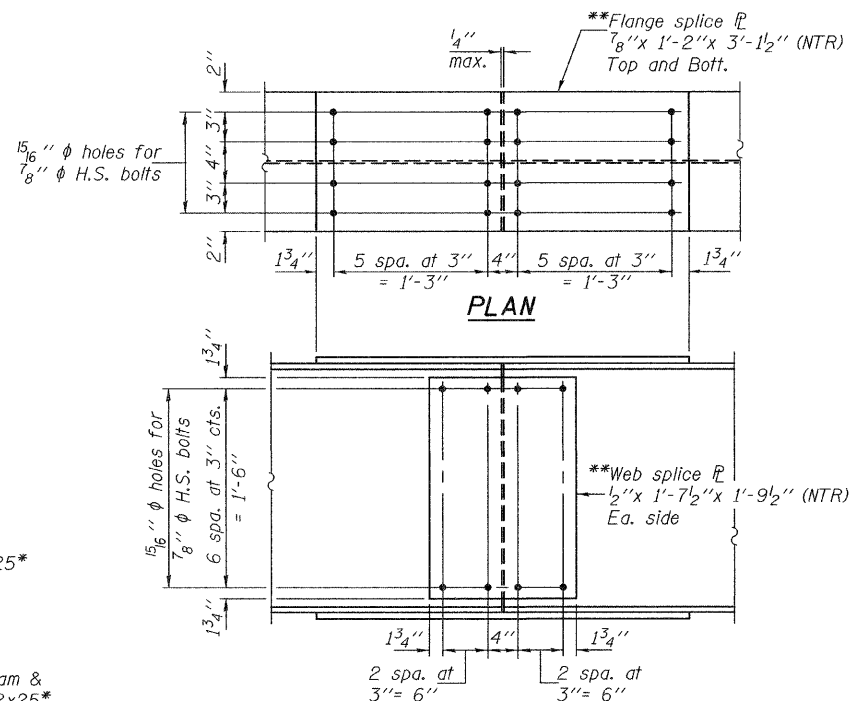
DIAPHRAGM D  
(40 Required)



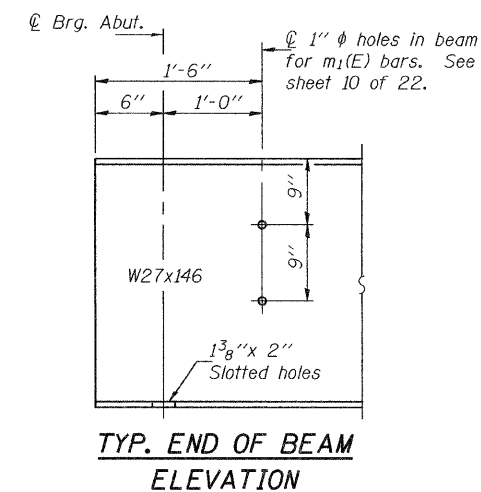
SECTION A-A



DIAPHRAGM D  
(40 Required)



ELEVATION  
SPlice DETAIL  
(6 Required)



TYP. END OF BEAM  
ELEVATION

DESIGNED	Phillip R. Litchfield
CHECKED	Ray Ahanchi
DRAWN	Gregory D. Farmer
CHECKED	PRL/GRA/JDE

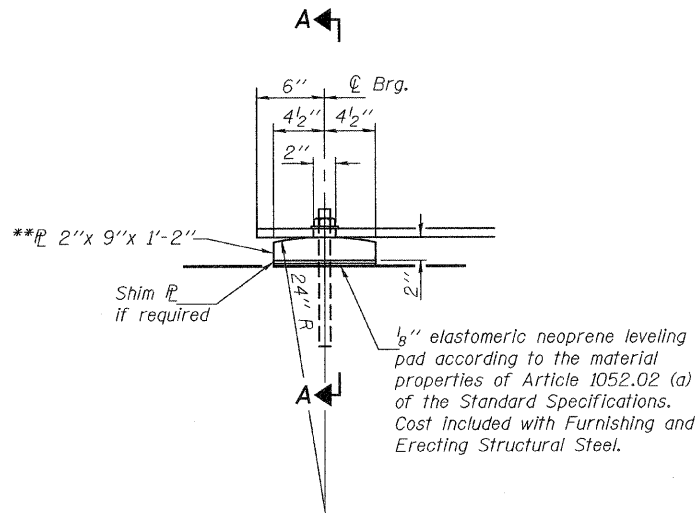
EXAMINED	Thomas J. Damagalki
PASSED	Ralph E. Anderson

Sep. 9, 2010

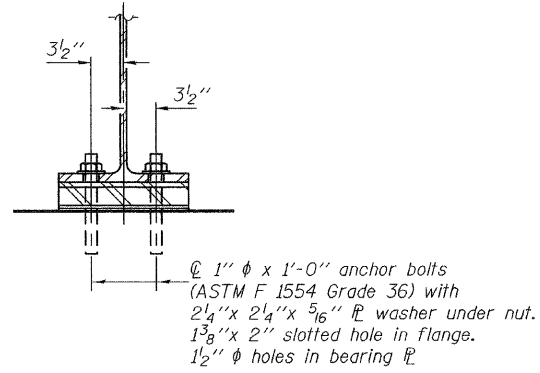
\*Alternate channel C12x30 is permitted to facilitate material acquisition. Calculated weight of structural steel is based on the lighter section. The alternate, if utilized, shall be provided at no additional cost to the Department.

SHEET NO. 11 22 SHEETS	S.B.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	12	10B-1	CLAY	39	23
CONTRACT NO. 74004					
FED. ROAD DIST. NO. - ILLINOIS FED. AID PROJECT					

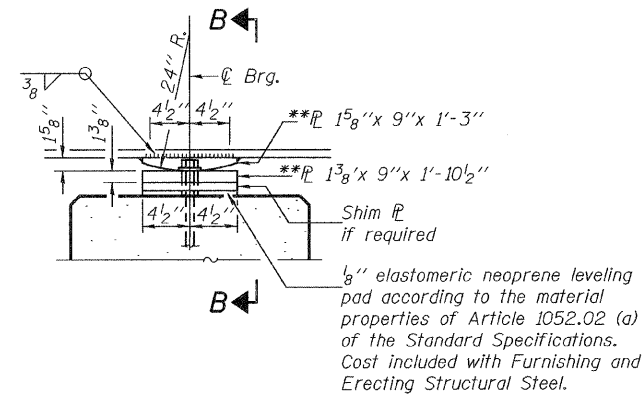
STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION



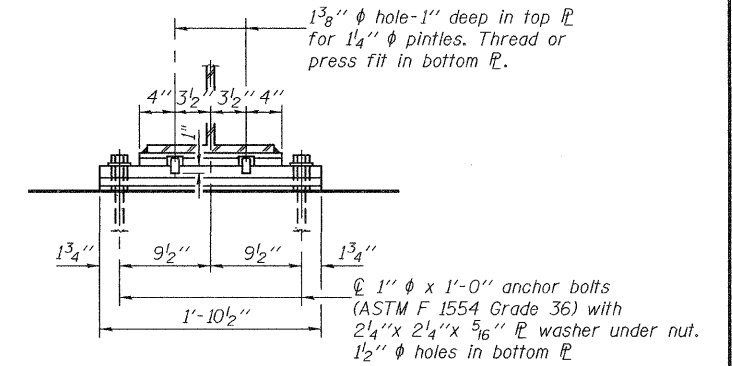
ELEVATION AT ABUTMENTS



SECTION A-A



ELEVATION AT PIER



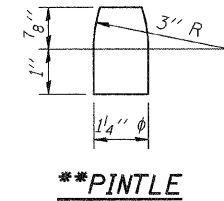
SECTION B-B

**FIXED BEARING**  
(12 Required)

INTERIOR BEAM MOMENT TABLE			
	0.4 Sp. 1	Pier	0.6 Sp. 2
$I_s$	(in <sup>4</sup> ) 5660	5660	5660
$I_c(n)$	(in <sup>4</sup> ) 13976	—	13976
$I_c(3n)$	(in <sup>4</sup> ) 10043	—	10043
$S_s$	(in <sup>3</sup> ) 414	414	414
$S_c(n)$	(in <sup>3</sup> ) 584	—	584
$S_c(3n)$	(in <sup>3</sup> ) 524	—	524
Z	(in <sup>3</sup> ) —	461	—
DC1	(k/ft) 0.699	0.699	0.699
M <sub>DC1</sub>	(k) 234.4	334.3	131.7
DC2	(k/ft) 0.150	0.150	0.150
M <sub>DC2</sub>	(k) 57.7	53.2	35.7
DW	(k/ft) 0.258	0.258	0.258
M <sub>DW</sub>	(k) 99.3	91.4	61.4
M <sub>Σ + Imp</sub>	(k) 606.7	347.1	498.6
M <sub>u</sub> (Strength I)	(k) 1576	1229	1174
$\phi_r M_n$ , $\phi_r M_{nc}$	(k) 2734	1921	2734
$f_s$ DC1	(ksi) 6.8	9.7	3.8
$f_s$ DC2	(ksi) 1.3	1.5	0.8
$f_s$ DW	(ksi) 2.3	2.7	1.4
$f_s$ 1.3(Σ+I)	(ksi) 16.2	13.1	13.3
$f_s$ (Service II)	(ksi) 26.6	27.0	19.3
V <sub>r</sub>	(k) 21.3	—	20.7

INTERIOR BEAM REACTION TABLE HL93 Loading			
	East Abut.	Pier	West Abut.
R <sub>DC1</sub>	(k) 18.1	53.8	13.7
R <sub>DC2</sub>	(k) 4.2	10.9	3.3
R <sub>DW</sub>	(k) 7.2	18.8	5.6
R <sub>Σ + Imp</sub>	(k) 60.5	84.3	57.2
R <sub>Total</sub>	(k) 90.0	167.8	79.8

- $I_s, S_s$ : Non-composite moment of inertia and section modulus of the steel section used for computing  $f_s$  (Total-Strength I, and Service II) due to non-composite dead loads (in<sup>4</sup> and in<sup>3</sup>).
- $I_c(n), S_c(n)$ : Composite moment of inertia and section modulus of the steel and deck based upon the modular ratio, "n", used for computing  $f_s$  (Total-Strength I, and Service II) due to short-term composite live loads (in<sup>4</sup> and in<sup>3</sup>).
- $I_c(3n), S_c(3n)$ : Composite moment of inertia and section modulus of the steel and deck based upon 3 times the modular ratio, "3n", used for computing  $f_s$  (Total-Strength I, and Service II) due to long-term composite (superimposed) dead loads (in<sup>4</sup> and in<sup>3</sup>).
- Z: Plastic Section Modulus of the steel section in non-composite areas. Omit line in Moment Table if not used in design calculations (in<sup>3</sup>).
- DC1: Un-factored non-composite dead load (kips/ft.).
- M<sub>DC1</sub>: Un-factored moment due to non-composite dead load (kip-ft.).
- DC2: Un-factored long-term composite (superimposed excluding future wearing surface) dead load (kips/ft.).
- M<sub>DC2</sub>: Un-factored moment due to long-term composite (superimposed excluding future wearing surface) dead load (kip-ft.).
- DW: Un-factored long-term composite (superimposed future wearing surface only) dead load (kips/ft.).
- M<sub>DW</sub>: Un-factored moment due to long-term composite (superimposed future wearing surface only) dead load (kip-ft.).
- M<sub>Σ + Imp</sub>: Un-factored live load moment plus dynamic load allowance (impact) (kip-ft.).
- M<sub>u</sub> (Strength I): Factored design moment (kip-ft.).  
1.25 (M<sub>DC1</sub> + M<sub>DC2</sub>) + 1.5 M<sub>DW</sub> + 1.75 M<sub>Σ + Imp</sub>
- $\phi_r M_n$ : Compact composite positive moment capacity computed according to Article 6.10.7.1 (kip-ft.).
- $\phi_r M_{nc}$ : Compact non-composite negative moment capacity computed according to Article A6.1.1 (kip-ft.).
- $f_s$  (Service II): Sum of stresses as computed from the moments below (ksi).  
M<sub>DC1</sub> + M<sub>DC2</sub> + M<sub>DW</sub> + 1.3 M<sub>Σ + Imp</sub>
- V<sub>r</sub>: Factored shear range computed according to Article 6.10.10.



**\*TOP OF BEAM ELEVATIONS**

Location	Ø Brg. E. Abut.	Ø Splice	Ø Brg. Pier	Ø Brg. W. Abut.
Beam 1	443.59	443.65	443.65	443.68
Beam 2	443.68	443.73	443.74	443.77
Beam 3	443.76	443.81	443.82	443.85
Beam 4	443.76	443.81	443.82	443.85
Beam 5	443.68	443.73	443.74	443.77
Beam 6	443.59	443.65	443.65	443.68

\*For fabrication use only.

Notes: Two 1/8 in. adjusting shims shall be provided for each bearing in addition to all other plates or shims and placed as shown on bearing details.

\*\*All bearing plates, splice plates and pintles shall be AASHTO M 270, Grade 50.

Anchor bolts shall be ASTM F1554 all-thread (or an Engineer-approved alternate material) of the grade(s) and diameter(s) specified. ASTM A307 Grade C anchor bolts may be used in lieu of ASTM F1554 Grade 36 (F<sub>y</sub>=36 ksi). The corresponding specified grade of AASHTO M314 anchor bolts may be used in lieu of ASTM F1554.

Anchor bolts at fixed bearings may be either cast in place or installed in holes drilled after the supported member is in place.

Drilled and set anchor bolts shall be installed according to Article 521.06 of the Standard Specifications.

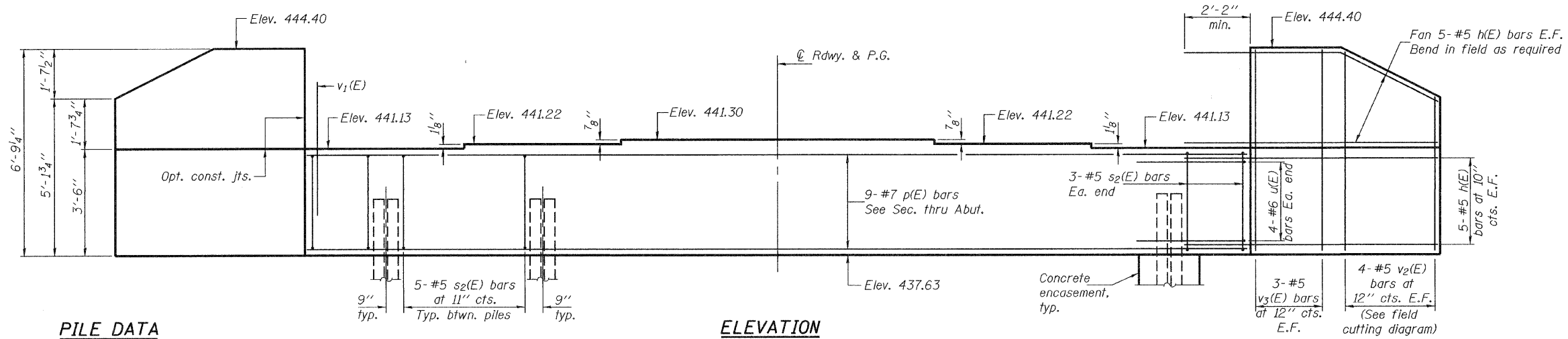
DESIGNED Phillip R. Litchfield  
CHECKED Ray Ahanchi  
DRAWN Gregory D. Farmer  
CHECKED PRL/GRA/JDE

Sep. 9, 2010  
EXAMINED Thomas J. Donagale  
PASSED Ralph E. Anderson

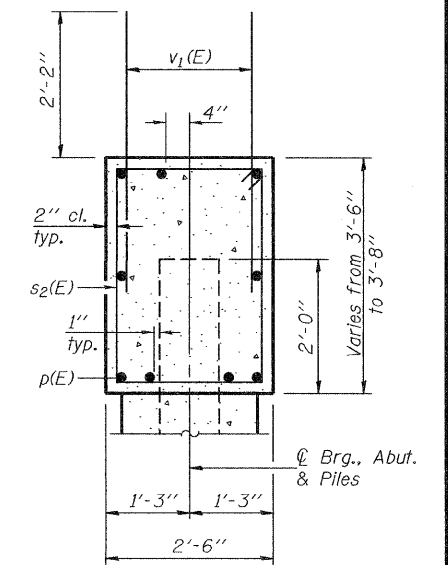
**BEARING & STRUCTURAL STEEL DETAILS**  
STRUCTURE NO. 013-0040

SHEET NO. 12	S.B.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
22 SHEETS	12	10B-1	CLAY	39	24
CONTRACT NO. 74004					
FED. ROAD DIST. NO. _ ILLINOIS FED. AID PROJECT					

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION



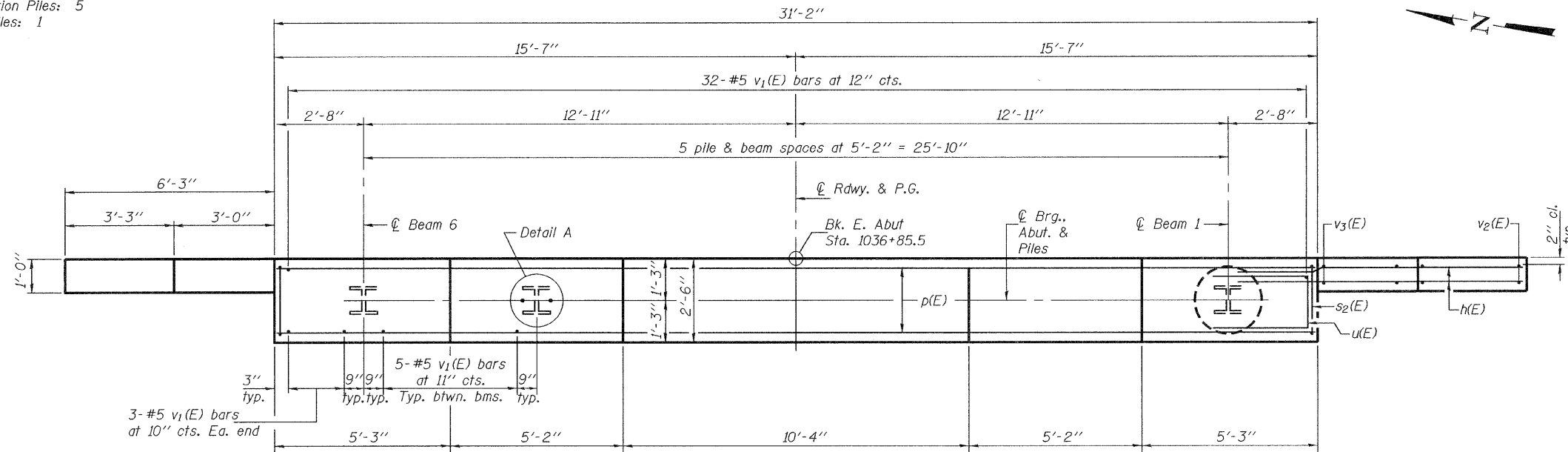
**ELEVATION**



**SEC. THRU ABUT.**

**PILE DATA**

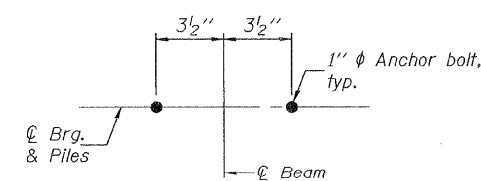
Type: Steel HP10x42 with pile shoes  
Nominal Required Bearing: 280 Kips  
Factored Resistance Available: 140 Kips  
Est. Length: 81'  
No. Production Piles: 5  
No. Test Piles: 1



**PLAN**

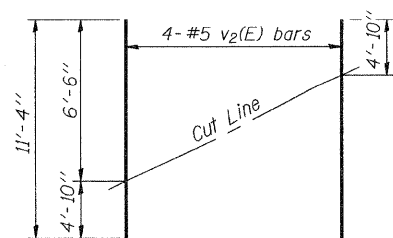
**BILL OF MATERIAL**

Bar	No.	Size	Length	Shape
h(E)	40	#5	8'-7"	—
p(E)	9	#7	30'-10"	—
s2(E)	31	#5	11'-7"	□
u(E)	8	#6	8'-0"	—
v1(E)	63	#5	4'-4"	—
v2(E)	8	#5	11'-4"	—
v3(E)	12	#5	6'-6"	—
Structure Excavation		Cu. Yd.	58	
Concrete Structures		Cu. Yd.	13.3	
Reinforcement Bars, Epoxy Coated		Pound	1860	
Furnishing Steel Piles, HP 10x42		Foot	405	
Driving Piles		Foot	405	
Test Pile, HP 10x42		Each	1	
Pile Shoes		Each	6	
Concrete Encasement		Cu. Yd.	2.1	
Anchor Bolts, 1" φ		Each	12	



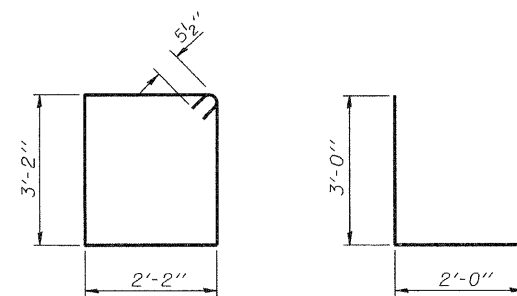
**DETAIL A**

Notes: Four steps monolithically with cap.  
For details of piles and concrete encasement, see sheet 18 of 22.  
For details of bar splicers, see sheet 19 of 22.



**FIELD CUTTING DIAGRAM**

Order v2(E) full length. Cut as shown and use remainder of bars in opposite face.



**BAR s2(E)**

**BAR u(E)**

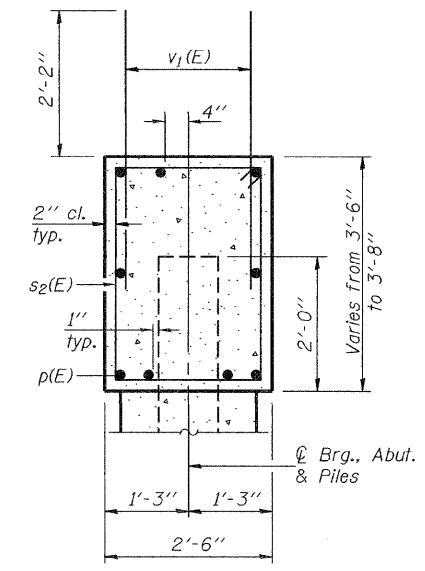
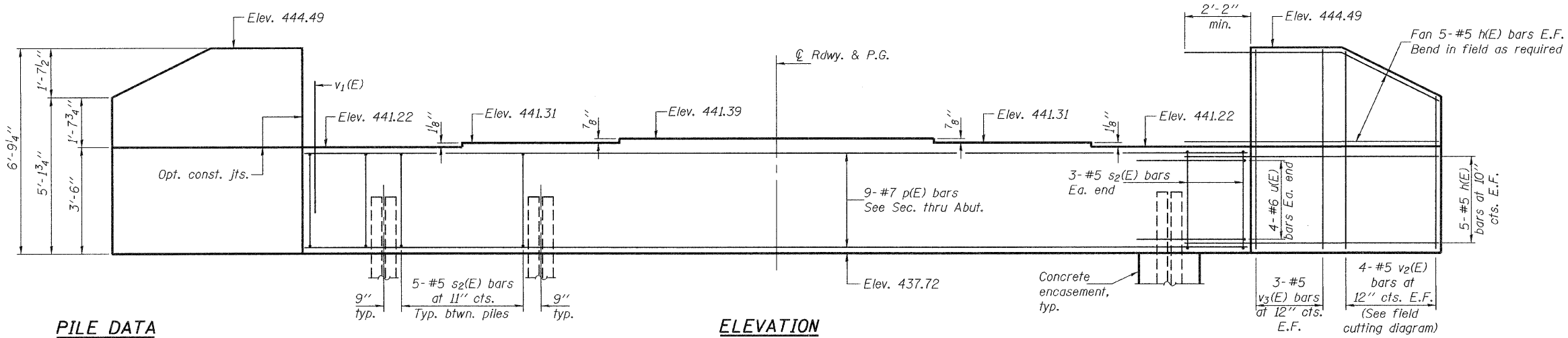
DESIGNED	Phillip R. Litchfield
CHECKED	Roy Ahanchi
DRAWN	Gregory D. Farmer
CHECKED	PRL/GRA/JDE

Sep. 9, 2010  
EXAMINED *Thomas J. Damagalki*  
PRINCIPAL ENGINEER OF BRIDGE DESIGN  
PASSED *Ralph E. Anderson*  
ENGINEER OF BRIDGES AND STRUCTURES

**EAST ABUTMENT  
STRUCTURE NO. 013-0040**

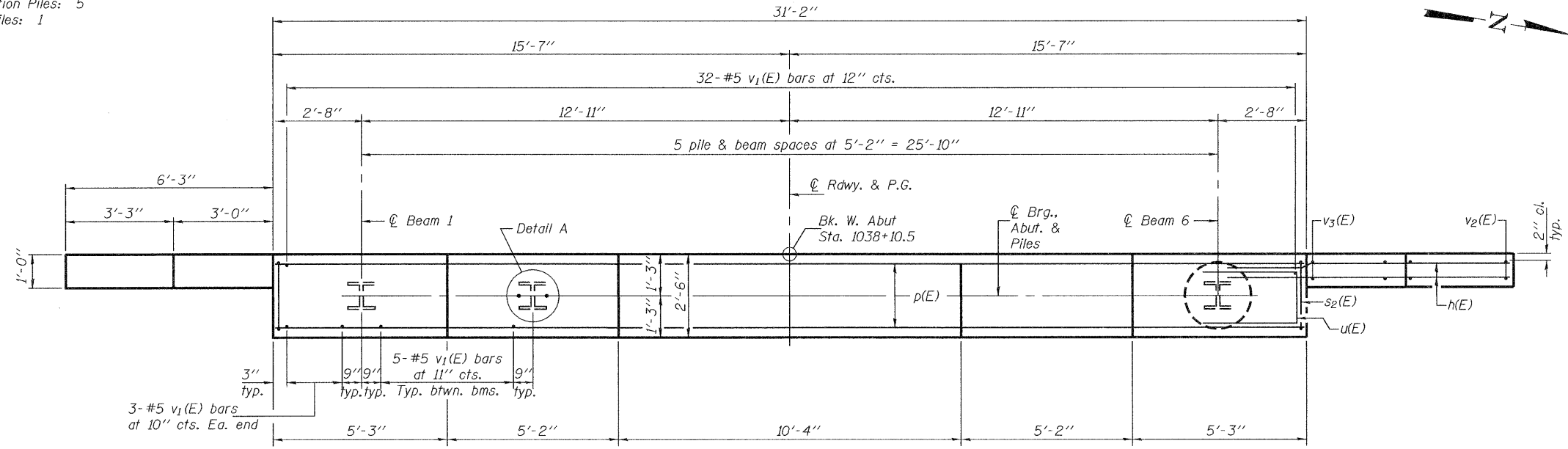
SHEET NO. 13	S.B.I. RTE. 12	SECTION 10B-1	COUNTY CLAY	TOTAL SHEETS 39	SHEET NO. 25
22 SHEETS					
CONTRACT NO. 74004					
FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT					

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION



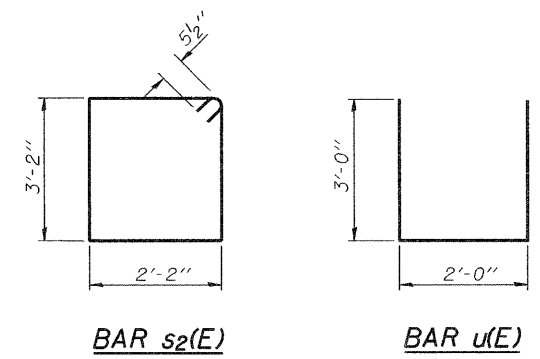
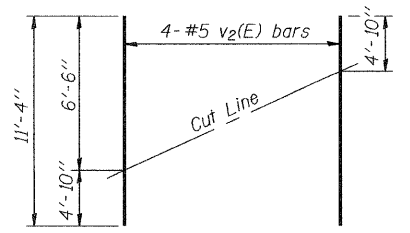
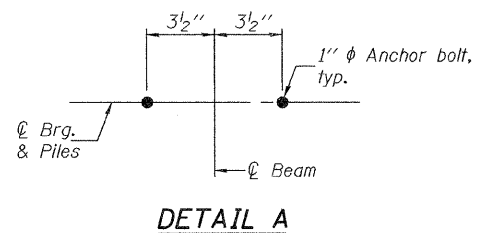
**PILE DATA**

Type: Steel HP10x42 with pile shoes  
Nominal Required Bearing: 280 Kips  
Factored Resistance Available: 140 Kips  
Est. Length: 83'  
No. Production Piles: 5  
No. Test Piles: 1



**BILL OF MATERIAL**

Bar	No.	Size	Length	Shape
h(E)	40	#5	8'-7"	—
p(E)	9	#7	30'-10"	—
s <sub>2</sub> (E)	31	#5	11'-7"	□
u(E)	8	#6	8'-0"	□
v <sub>1</sub> (E)	63	#5	4'-4"	—
v <sub>2</sub> (E)	8	#5	11'-4"	—
v <sub>3</sub> (E)	12	#5	6'-6"	—
Structure Excavation	Cu. Yd.		58	
Concrete Structures	Cu. Yd.		13.3	
Reinforcement Bars, Epoxy Coated	Pound		1860	
Furnishing Steel Piles, HP 10x42	Foot		415	
Driving Piles	Foot		415	
Test Pile, HP 10x42	Each		1	
Pile Shoes	Each		6	
Concrete Encasement	Cu. Yd.		2.1	
Anchor Bolts, 1" ∅	Each		12	



Notes: Four steps monolithically with cap.  
For details of piles and concrete encasement, see sheet 18 of 22.  
For details of bar splicers, see sheet 19 of 22.

DESIGNED Phillip R. Litchfield  
CHECKED Roy Ahanchi  
DRAWN Gregory D. Farmer  
CHECKED PRL/GRA/JDE

Sep. 9, 2010  
EXAMINED Thomas J. Damagalki  
PASSED Ralph E. Anderson

**WEST ABUTMENT  
STRUCTURE NO. 013-0040**

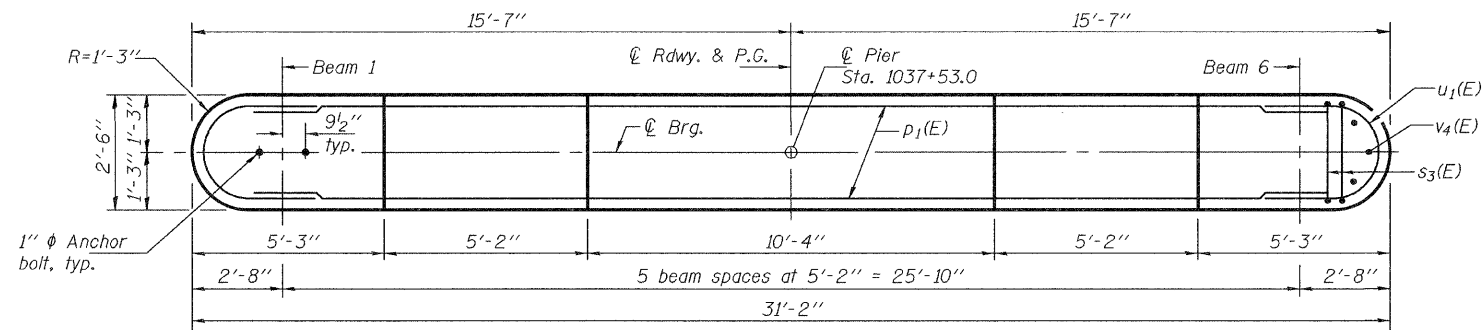
SHEET NO. 14	S.B.I. RTE. 12	SECTION 10B-1	COUNTY CLAY	TOTAL SHEETS 39	SHEET NO. 26
22 SHEETS	CONTRACT NO. 74004				
FED. ROAD DIST. NO. _ ILLINOIS FED. AID PROJECT					

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

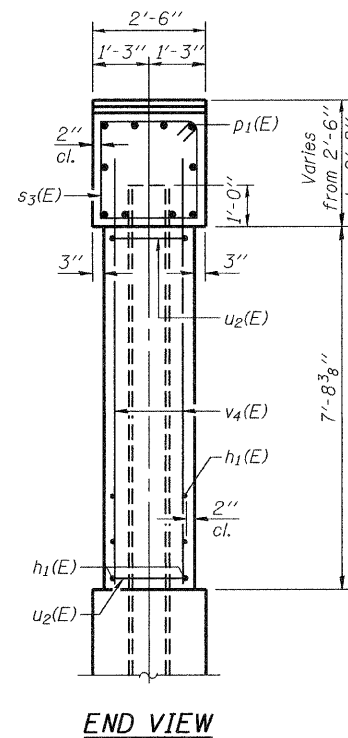
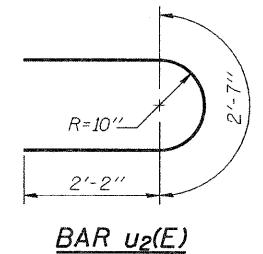
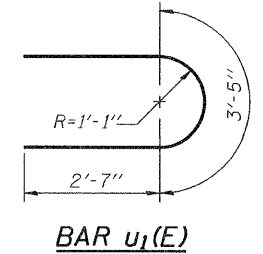
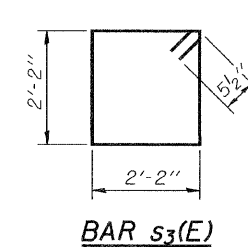
Notes: Space reinforcement in cap to miss anchor bolts.  
Pour steps monolithically with cap.  
For details of piles, see sheet 18 of 22.

**PILE DATA**

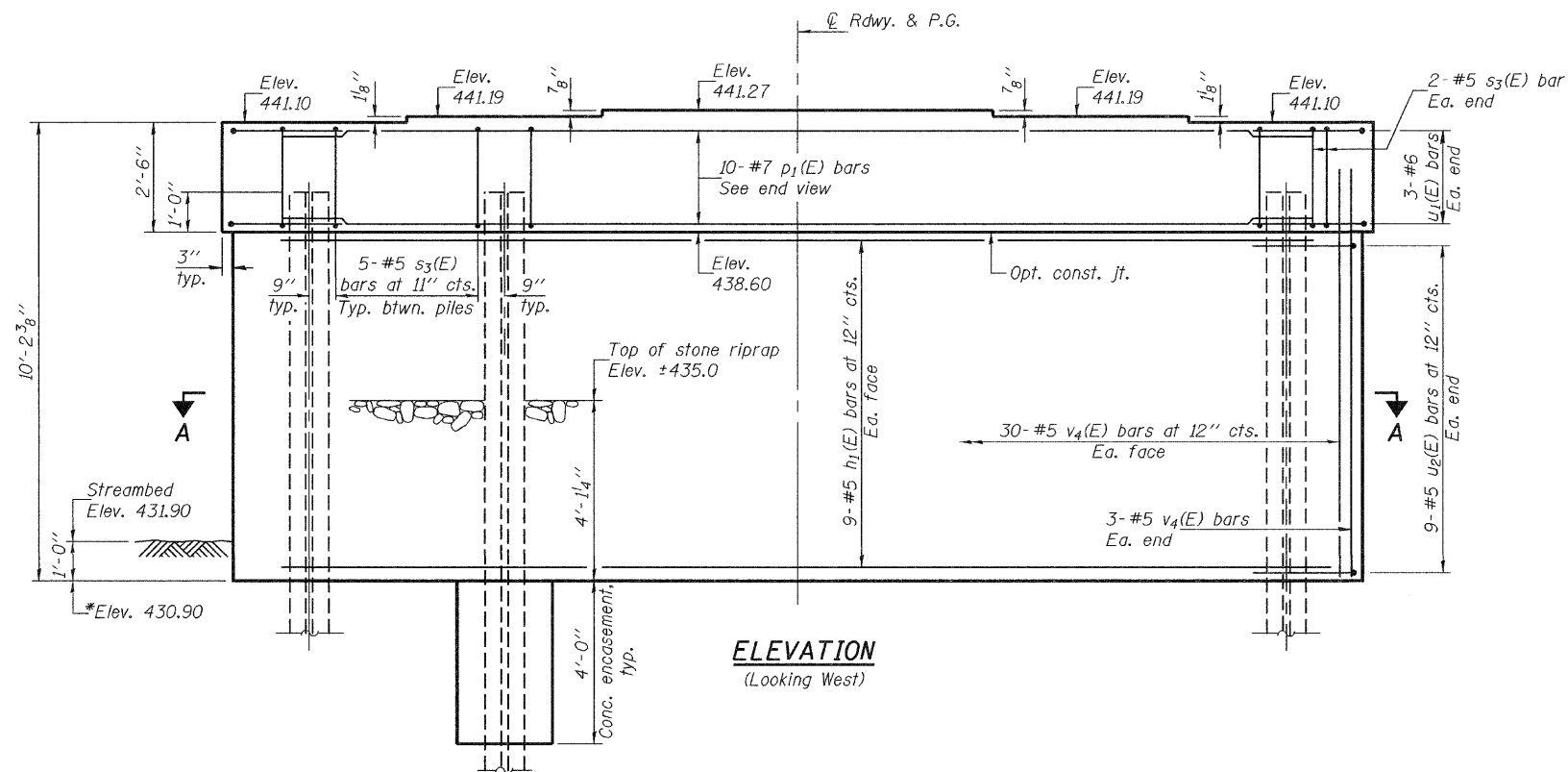
Type: Steel HP14x73 with Pile Shoes  
Nominal Required Bearing: 551 Kips  
Factored Resistance Available: 200 Kips  
Est. Length: 86'  
No. Production Piles: 5  
No. Test Piles: 1



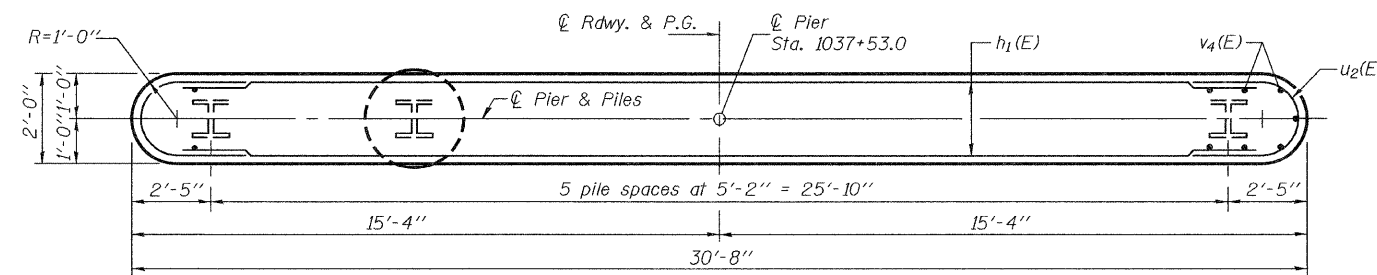
TOP PLAN



END VIEW



ELEVATION  
(Looking West)



SECTION A-A

**BILL OF MATERIAL**

Bar	No.	Size	Length	Shape
$h_1(E)$	18	#5	28'-8"	—
$p_1(E)$	10	#7	28'-8"	—
$s_3(E)$	29	#5	9'-7"	□
$u_1(E)$	6	#6	8'-7"	U
$u_2(E)$	18	#5	6'-11"	U
$v_4(E)$	66	#5	9'-6"	—
Structure Excavation		Cu. Yd.	18	
Concrete Structures		Cu. Yd.	24.6	
Reinforcement Bars, Epoxy Coated		Pound	2280	
Furnishing Steel Piles, HP14x73		Foot	430	
Driving Piles		Foot	430	
Test Pile, HP14x73		Each	1	
Pile Shoes		Each	6	
Concrete Encasement		Cu. Yd.	4.4	
Underwater Structure Excavation Protection, Location 1		Each	1	
Anchor Bolts, 1" $\phi$		Each	12	

\* Forms shall be placed below Elev. 430.90 after excavation for pier wall. Reinforcement may be placed and concrete encasement shall be poured underwater into forms. If a portion of the pier wall is underwater, concrete shall be tremied underwater into forms according to Art. 503.08 of the Std. Spec's. Concrete shall be tremied to an elevation 1'-0" above the water level at the time of construction.

DESIGNED Phillip R. Litchfield  
CHECKED Ray Ahanchi  
DRAWN Gregory D. Farmer  
CHECKED PRL/GRA/JDE

EXAMINED Thomas J. Demagala  
PASSED Ralph E. Anderson  
ENGINEER OF BRIDGES AND STRUCTURES

PIER  
STRUCTURE NO. 013-0040

SHEET NO.	S.B.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
15	12	10B-1	CLAY	39	27
22 SHEETS					
CONTRACT NO. 74004					
FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT					

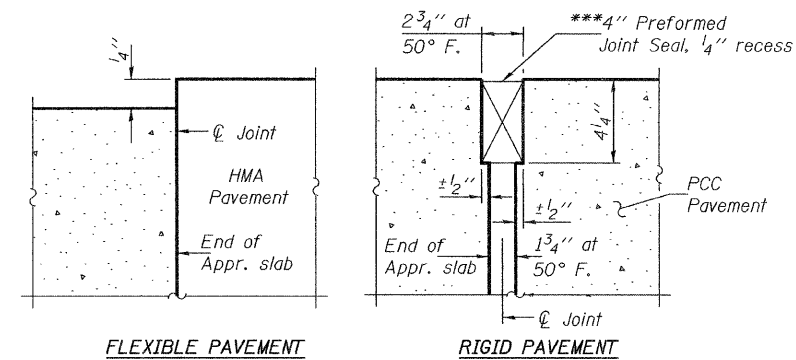


STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

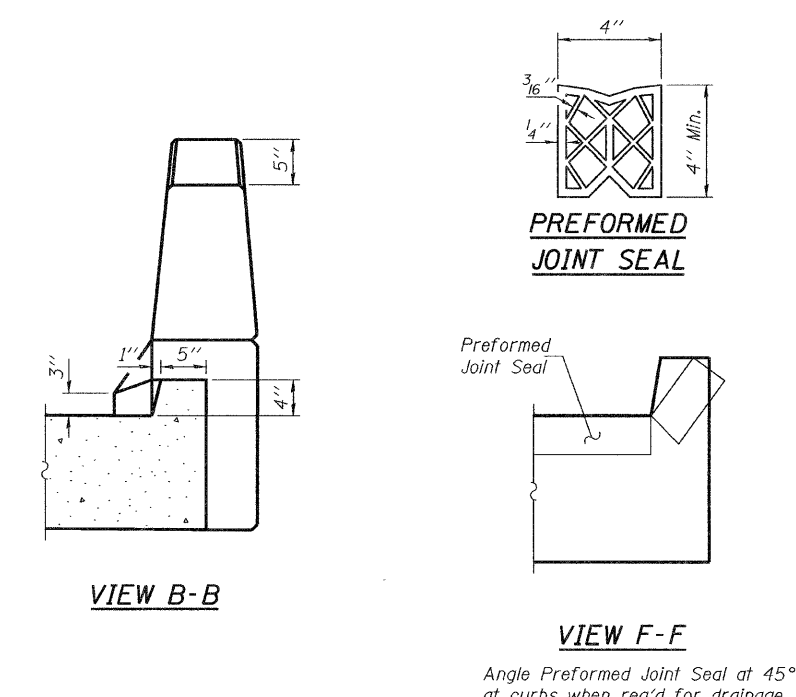
Notes: See sheet 17 of 22 for Sections C-C & D-D and View E-E.  
a<sub>100</sub> (E), a<sub>101</sub> (E), and w<sub>100</sub> (E) bar spacings measured perpendicular to  $\phi$  Rdwy.



\*\*\*Cost included with Concrete Superstructure.

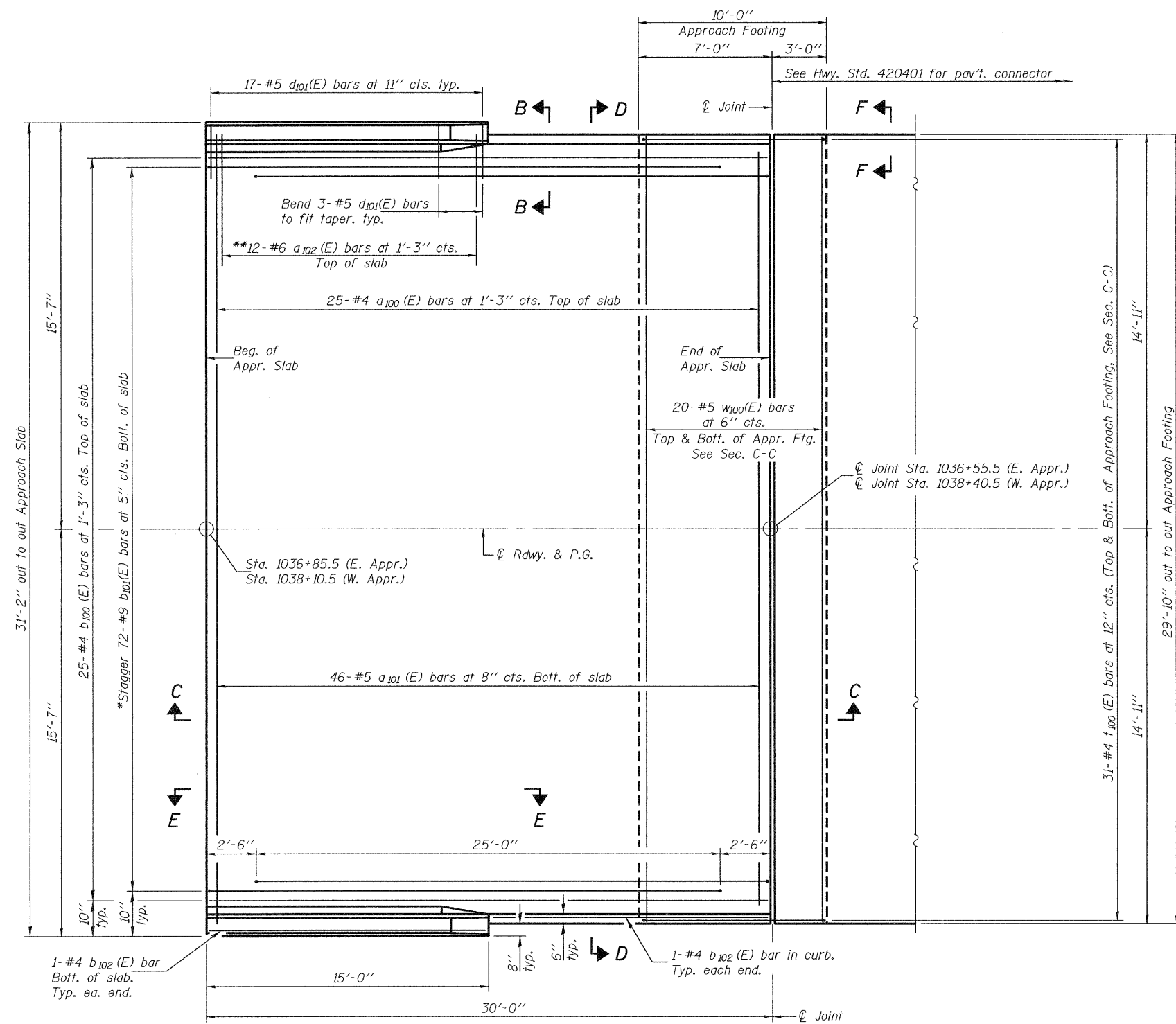


DETAIL A



VIEW B-B

VIEW F-F



PLAN

(West Approach shown - East Approach similar by mirror image)

DESIGNED	Jay Edwards
CHECKED	Ray Ahanchi
DRAWN	h.t. duong
CHECKED	GRA/JDE

Sep. 9, 2010  
EXAMINED *Thomas J. Domagalaki*  
PASSED *Ralph E. Anderson*  
ENGINEER OF BRIDGES AND STRUCTURES

\*Tilt #9 b<sub>101</sub> (E) bars as required to maintain clearance.  
\*\*Spaced between a<sub>100</sub> (E) bars, typ. ea. parapet.

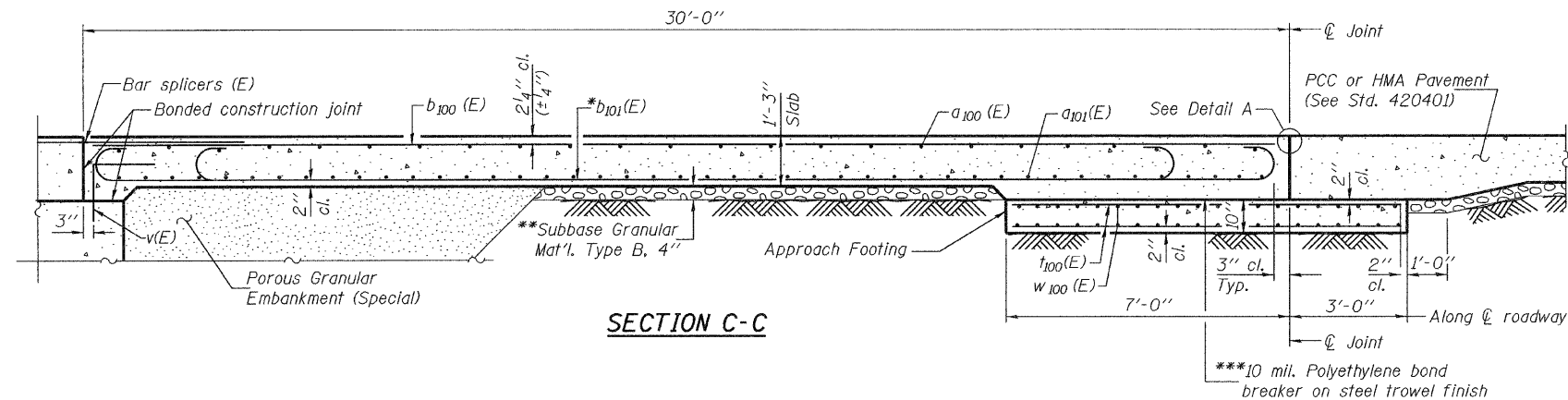
BRIDGE APPROACH SLAB DETAILS  
STRUCTURE NO. 013-0040

SHEET NO. 16 22 SHEETS	S.B.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	12	10B-1	CLAY	39	28
CONTRACT NO. 74004					
FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT					



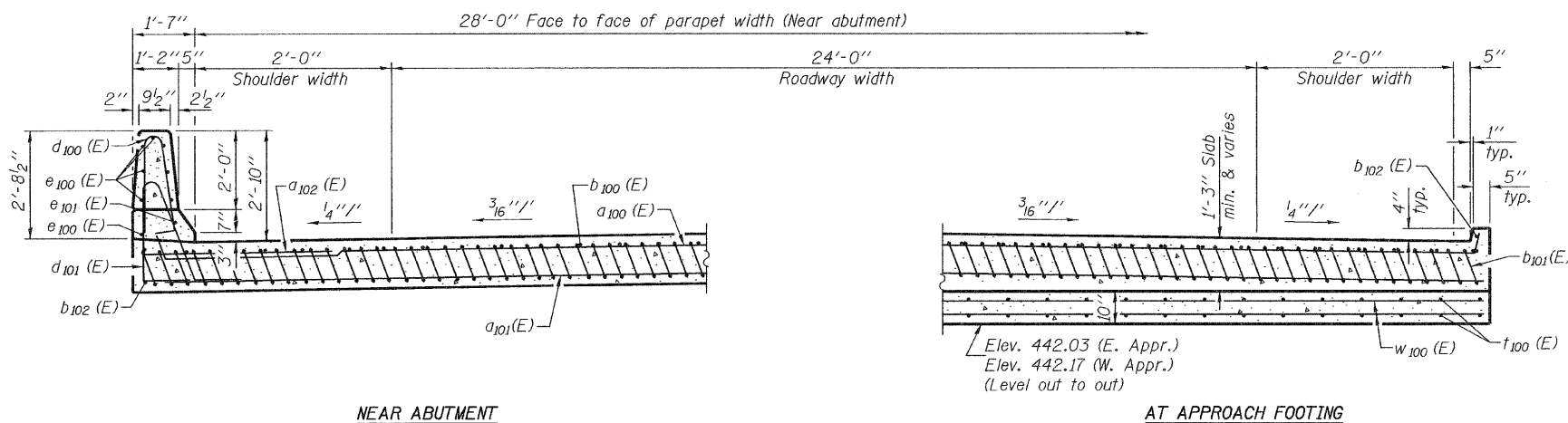
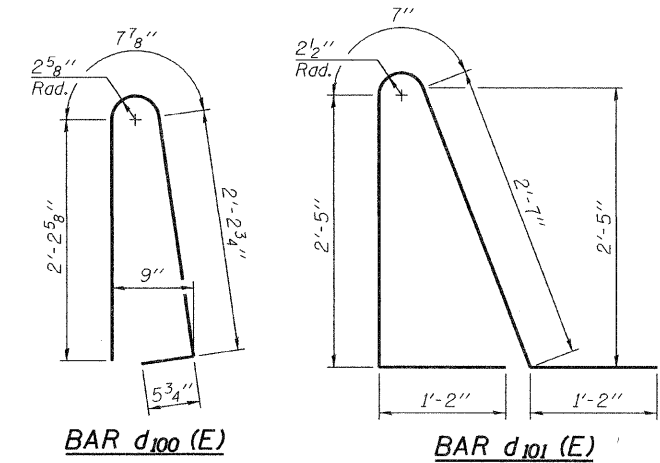
STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

Notes:  
See sheet 16 of 22 for Detail A and View B-B.  
Approach slab and parapet concrete shall be paid for as Concrete Superstructure.  
Approach footing concrete shall be paid for as Concrete Structures.  
Reinforcement shall be paid for as Reinforcement Bars, Epoxy Coated.  
For v(E) bar details, see sheets 9 of 22.  
The approach footing maximum applied service bearing pressure ( $Q_{max}$ ) = 2.0 ksf.  
For bar splicer details, see sheet 19 of 22.  
Cost of excavation for approach footing included with Concrete Structures.  
For Porous Granular Embankment (Special) and drainage treatment details, see sheet 2 of 22.



SECTION C-C

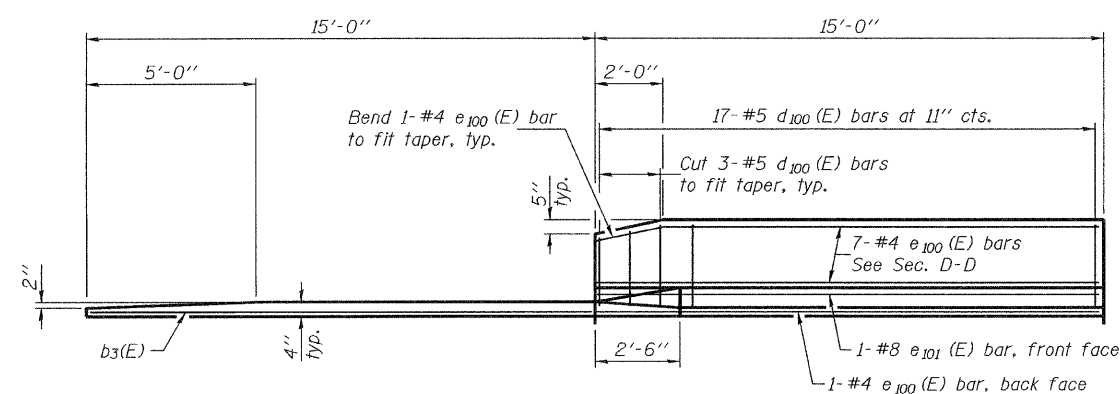
\*Tilt #9 b101(E) bars as required to maintain clearance.  
\*\*\*Cost included with Concrete Superstructure.



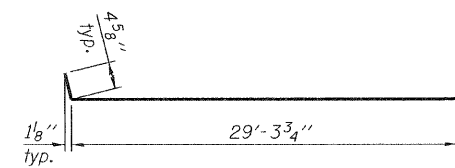
NEAR ABUTMENT

SECTION D-D  
(See Plan for dimensions not shown)

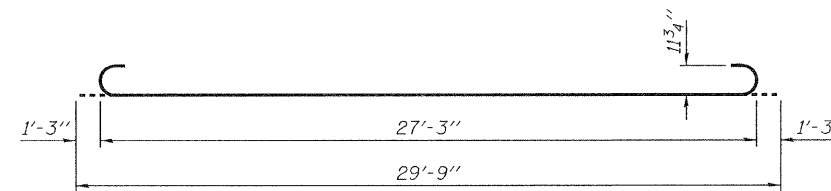
AT APPROACH FOOTING



VIEW E-E



BAR a100(E)



BAR b101(E)

TWO APPROACHES  
BILL OF MATERIAL

Bar	No.	Size	Length	Shape
a100(E)	50	#4	30'-1"	U
a101(E)	92	#5	29'-6"	U
a102(E)	48	#6	6'-0"	U
b100(E)	50	#4	29'-8"	U
b101(E)	144	#9	29'-9"	U
b102(E)	8	#4	14'-8"	U
d100(E)	68	#5	5'-7"	U
d101(E)	68	#5	7'-11"	U
e100(E)	32	#4	14'-8"	U
e101(E)	4	#8	14'-8"	U
t100(E)	124	#4	9'-8"	U
w100(E)	80	#5	29'-6"	U
Concrete Superstructure		Cu. Yd.	94.1	
Concrete Structures		Cu. Yd.	18.4	
Reinforcement Bars, Epoxy Coated		Pound	24590	

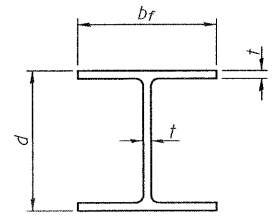
BRIDGE APPROACH SLAB DETAILS  
STRUCTURE NO. 013-0040

DESIGNED	Jay Edwards
CHECKED	Ray Ahanchi
DRAWN	h.t. duong
CHECKED	GRA/JDE

Sep. 9, 2010  
EXAMINED *Thomas J. Demagalicki*  
PASSED *Ralph E. Anderson*  
ENGINEER OF BRIDGES AND STRUCTURES

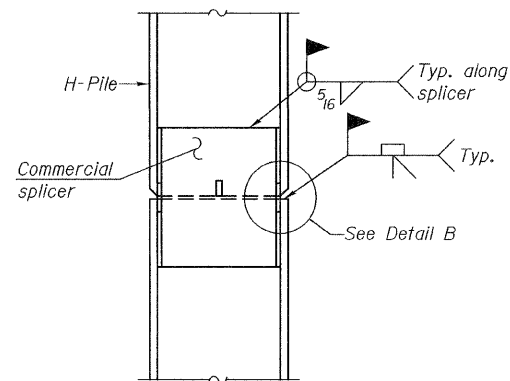
SHEET NO. 17	S.B.I. RTE. 12	SECTION 10B-1	COUNTY CLAY	TOTAL SHEETS 39	SHEET NO. 29
22 SHEETS	CONTRACT NO. 74004		FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT		

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

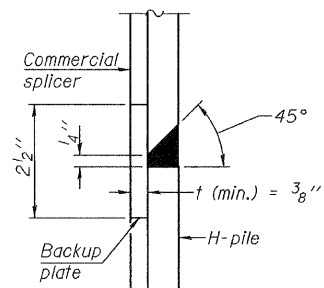


STEEL PILE TABLE

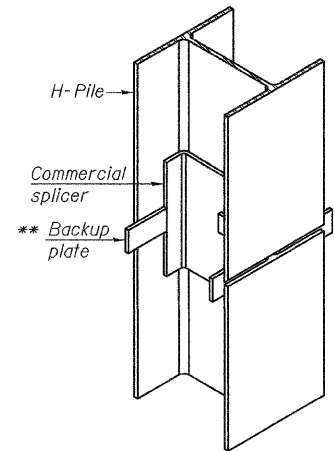
Designation	Depth d	Flange width b <sub>f</sub>	Web and Flange thickness t	Encasement diameter A
HP 14x117	14 1/4"	14 7/8"	13/16"	30"
x102	14"	14 3/4"	1/16"	30"
x89	13 7/8"	14 3/4"	5/8"	30"
x73	13 5/8"	14 5/8"	1/2"	30"
HP 12x84	12 1/4"	12 1/4"	1/16"	24"
x74	12 1/8"	12 1/4"	5/8"	24"
x63	12"	12 1/8"	1/2"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

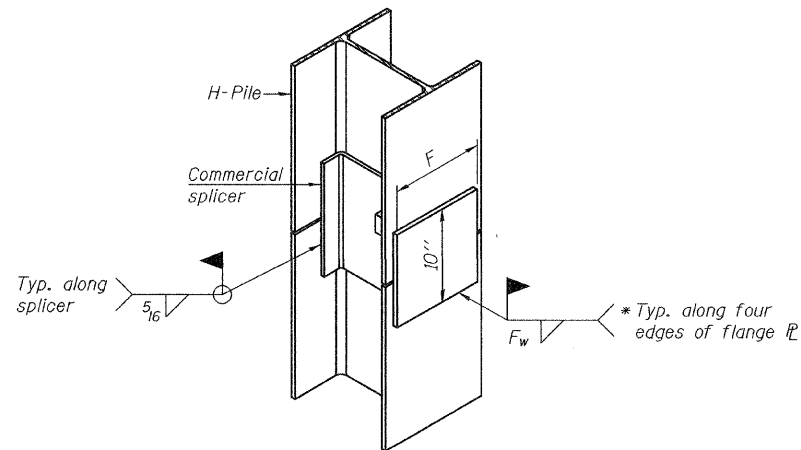


DETAIL "B"



ISOMETRIC VIEW

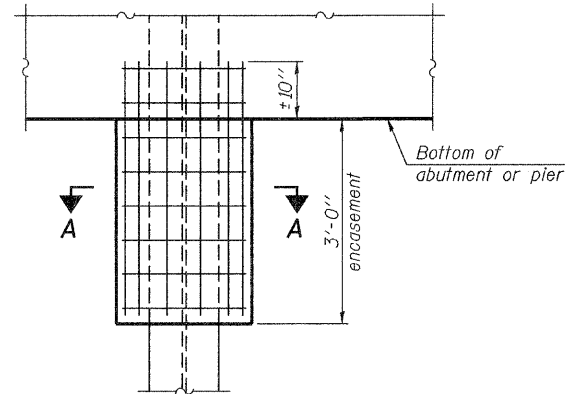
WELDED COMMERCIAL SPLICE



ISOMETRIC VIEW

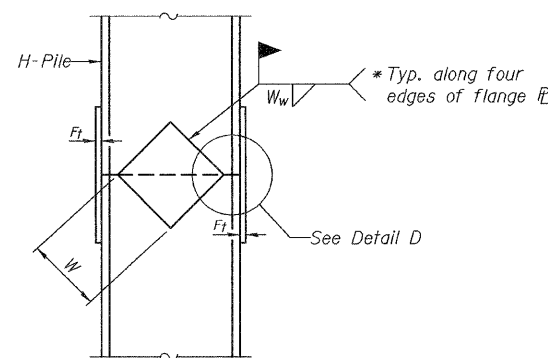
WELDED COMMERCIAL SPLICE ALTERNATE

- \* 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.).

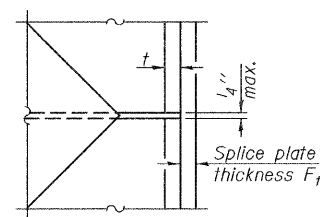


ELEVATION

PILE ENCASEMENT

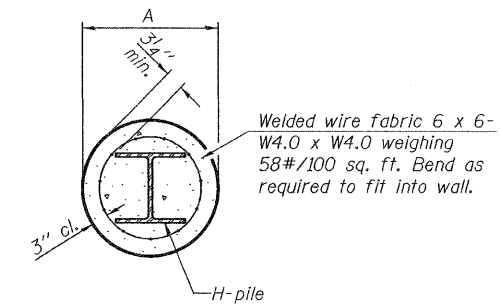


ELEVATION



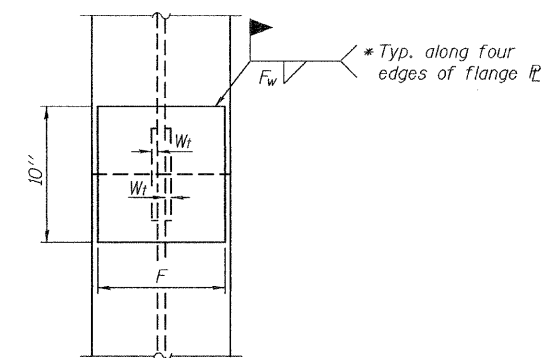
DETAIL D

WELDED PLATE FIELD SPLICE



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

SECTION A-A



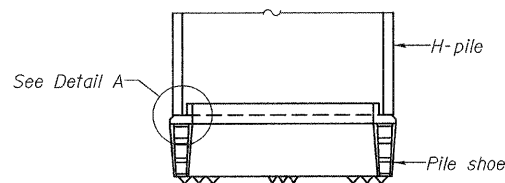
END VIEW

Designation	F	F <sub>t</sub>	F <sub>w</sub>	W	W <sub>t</sub>	W <sub>w</sub>
HP 14x117	12 1/2"	1"	7/8"	7 3/4"	5 1/8"	1/2"
x102	12 1/2"	7/8"	3/4"	7 3/4"	5 1/8"	1/2"
x89	12 1/2"	3/4"	1/16"	7 3/4"	5 1/8"	1/2"
x73	12 1/2"	5/8"	9/16"	7 3/4"	5 1/8"	1/2"
HP 12x84	10"	7/8"	1/16"	6 1/2"	5 1/8"	1/2"
x74	10"	7/8"	1/16"	6 1/2"	5 1/8"	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"

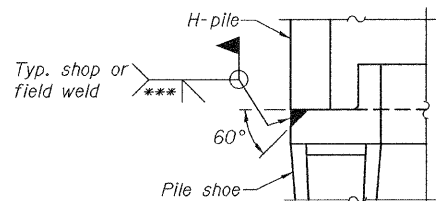
HP PILE DETAILS  
STRUCTURE NO. 013-0040

SHEET NO.	S.B.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
18	12	10B-1	CLAY	39	30
22 SHEETS					
CONTRACT NO. 74004					
FED. ROAD DIST. NO. - ILLINOIS FED. AID PROJECT					

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



ELEVATION



DETAIL A

H-PILE SHOE ATTACHMENT

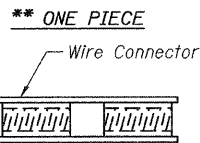
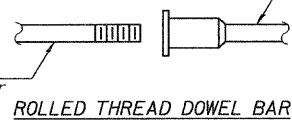
DESIGNED Phillip R. Litchfield	Sep. 9, 2010
CHECKED Ray Ahanchi	EXAMINED Thomas J. Donagabadi
DRAWN Gregory D. Farmer htd	PASSED Ralph E. Anderson
CHECKED PRL/GRA/JDE	

F-HP 7-1-10

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

The diameter of this part is equal or larger than the diameter of bar spliced.

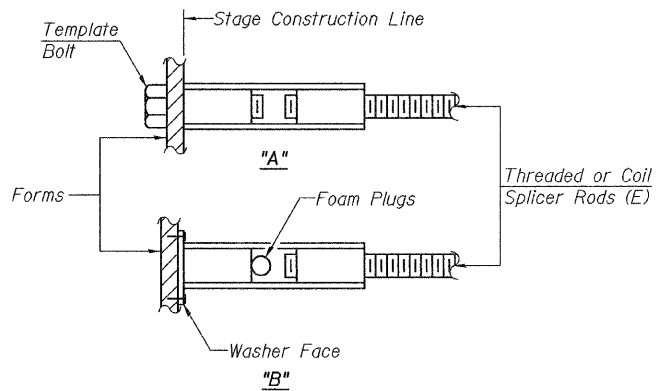
The diameter of this part is the same as the diameter of the bar spliced.



WELDED SECTIONS

**BAR SPLICER ASSEMBLY ALTERNATIVES**

\*\*Heavy Hex Nuts conforming to ASTM A 563, Grade C, D or DH may be used.



**INSTALLATION AND SETTING METHODS**

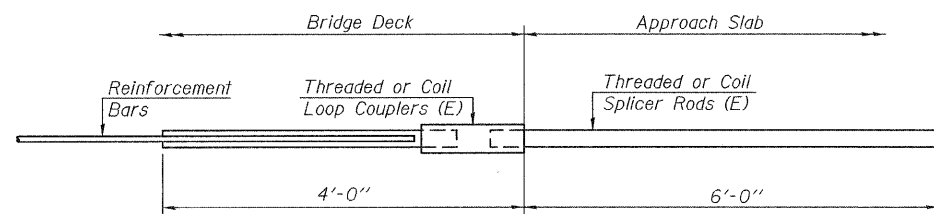
"A" : Set bar splicer assembly by means of a template bolt.  
"B" : Set bar splicer assembly by nailing to wood forms or cementing to steel forms.  
(E) : Indicates epoxy coating.

**NOTES**

Bar splicer assemblies shall be of an approved type and shall develop in tension at least 125 percent of the yield strength of the lapped reinforcement bars.  
Splicer rods shall be of minimum 60 ksi yield strength, threaded or coiled full length.  
All reinforcement bars shall be lapped and tied to the splicer rods or dowel bars.  
Bar splicer assemblies shall be epoxy coated according to the requirements for reinforcement bars.  
Other systems of similar design may be submitted to the Engineer for approval. Approval shall be based on certified test results from an approved testing laboratory that the proposed bar splicer assembly satisfies the following requirements:

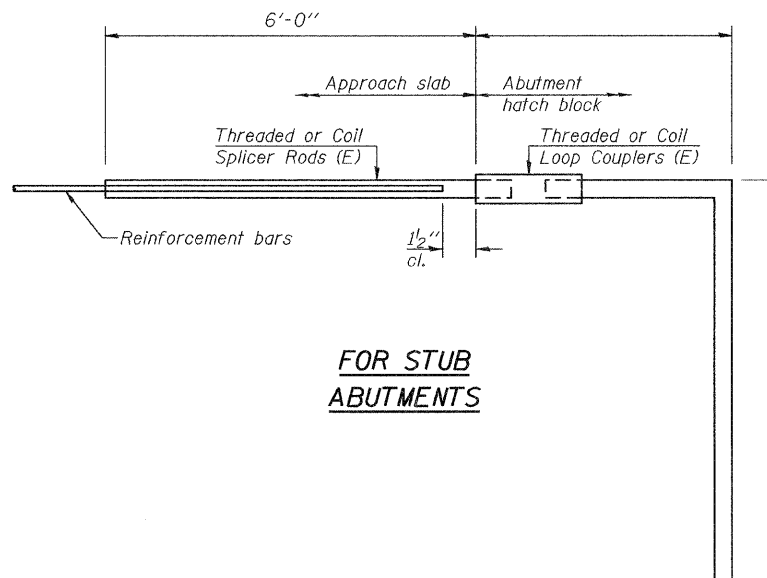
- ① Minimum Capacity =  $1.25 \times f_y \times A_t$   
(Tension in kips)
  - ② Minimum \*Pull-out Strength =  $0.66 \times f_y \times A_t$   
(Tension in kips)
- Where  $f_y$  = Yield strength of lapped reinforcement bars in ksi.  
 $A_t$  = Tensile stress area of lapped reinforcement bars.  
\* = 28 day concrete

Bar Size to be Spliced	Splicer Rod or Dowel Bar Length	Strength Requirements	
		Min. Capacity kips - tension	Min. Pull-Out Strength kips - tension
#4	1'-8"	14.7	7.9
#5	2'-2"	23.0	12.3
#6	2'-7"	33.1	17.4
#7	3'-5"	45.1	23.8
#8	4'-6"	58.9	31.3
#9	5'-9"	75.0	39.6
#10	7'-3"	95.0	50.3
#11	9'-0"	117.4	61.8



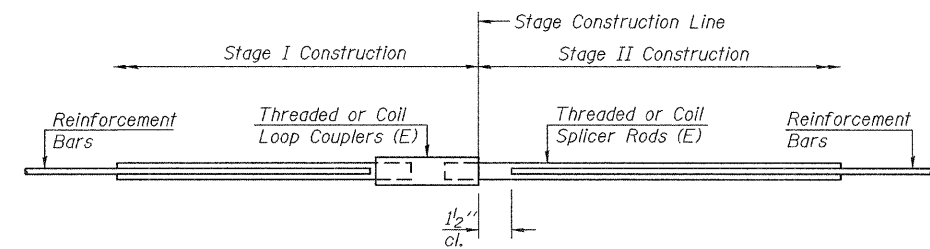
**FOR INTEGRAL OR SEMI-INTEGRAL ABUTMENTS**

Bar Splicer for #5 bar
Min. Capacity = 23.0 kips - tension
Min. Pull-out Strength = 12.3 kips - tension
No. Required = 68



**FOR STUB ABUTMENTS**

Bar Splicer for #5 bar
Min. Capacity = 23.0 kips - tension
Min. Pull-out Strength = 12.3 kips - tension
No. Required =



**STANDARD**

Bar Size	No. Assemblies Required	Location

DESIGNED Phillip R. Litchfield  
CHECKED Ray Ahanchi  
DRAWN Gregory D. Farmer  
CHECKED PRL/GRA/JDE

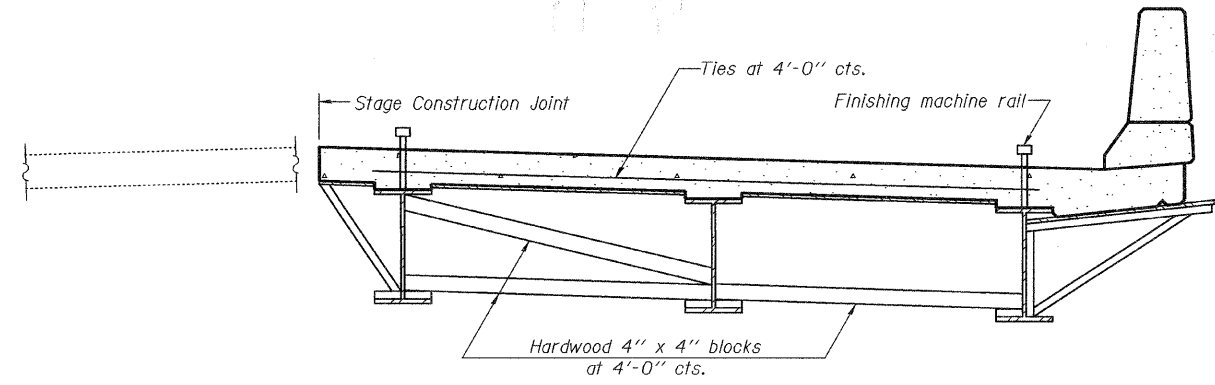
EXAMINED Thomas J. Danagalski  
PASSED Ralph E. Anderson

BSD-1 10-1-08

**BAR SPLICER ASSEMBLY DETAILS  
STRUCTURE NO. 013-0040**

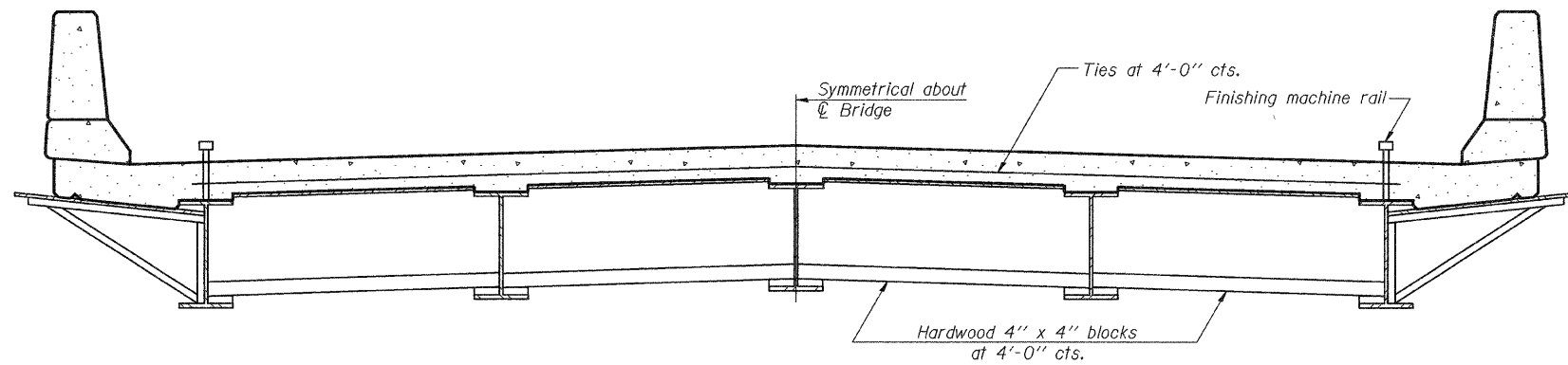
SHEET NO. 19	S.B.I. RTE. 12	SECTION 10B-1	COUNTY CLAY	TOTAL SHEETS 39	SHEET NO. 31
22 SHEETS	CONTRACT NO. 74004			FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT	

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION



**FORM BRACES FOR  
STAGE CONSTRUCTION**

When cantilever forming brackets are used, the work shall be done according to Article 503.06(b) of the Standard Specifications, except as modified below and in the details shown on this sheet.  
The finishing machine rails shall be placed on the top flange of the exterior beams.  
The beams or girders, supporting cantilever forming brackets, shall be tied together at 4 foot intervals.  
For Standard construction, or Stage Construction the Hardwood bracing materials shall be placed as shown between webs of beams in each bay.



**FORM BRACES FOR  
STANDARD CONSTRUCTION**

**CANTILEVER FORMING BRACKETS  
FOR SUPERSTRUCTURES  
WITH W27 BEAMS AND SMALLER  
STRUCTURE NO. 013-0040**

DESIGNED Phillip R. Litchfield  
CHECKED Ray Ahanchi  
DRAWN Gregory D. Farmer htd  
CHECKED PRL/GRA/JDE

Sep. 9, 2010  
EXAMINED Thomas J. Domagala  
PASSED Ralph E. Anderson  
ENGINEER OF BRIDGES AND STRUCTURES

SB-1 7-1-10

SHEET NO. 20 22 SHEETS	S.B.I. RTE. 12	SECTION 10B-1	COUNTY CLAY	TOTAL SHEETS 39	SHEET NO. 32
	CONTRACT NO. 74004				
FED. ROAD DIST. NO. _ ILLINOIS FED. AID PROJECT					

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

**Illinois Department of Transportation**  
Division of Highways  
District 7 Materials

### SOIL BORING LOG

Page 1 of 4  
Date 7/25/06

ROUTE Old US 50 DESCRIPTION Elm River LOGGED BY E. Sandschafer

SECTION 10B-1 LOCATION Sec 22 - NE 14, Sec 23 - NW 14, SEC., TWP. 3 N, RNG. 8 E, 3 PM

COUNTY Clay DRILLING METHOD Hollow stem auger & split spoon HAMMER TYPE Auto 140#

STRUCT. NO. 013-0026  
Station 1037+48

BORING NO. 1  
Station 1038+08  
Offset 6.00ft Lt  
Ground Surface Elev. 443.52 ft

DEPTH (ft)	DRILLING METHOD	DESCRIPTION	WATER ELEV. (ft)	DEPTH (ft)	DRILLING METHOD	DESCRIPTION	WATER ELEV. (ft)
0		4 12" asphalt over 13 12" concrete pavement.		0			
0		Medium, damp, gray marbled red, SILTY CLAY.		0			
2	B		420.5	1	B		
3	B	Very soft, very damp, gray, SANDY LOAM.		1	B		
5	B		417.7	2	B		
6	B	Very loose, wet, gray, coarse grained, SAND, 5% passing #200 sieve.		3	B		
10	B		414.0	4	B		
11	B	Very stiff, damp, gray, CLAY TILL.		5	B		
12	B			6	B		
13	B			9	B		
14	B			10	B		
15	B			11	B		
16	B			12	B		
17	B			13	B		
18	B			14	B		
19	B			15	B		
20	B			16	B		

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)  
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T208)

**Illinois Department of Transportation**  
Division of Highways  
District 7 Materials

### SOIL BORING LOG

Page 2 of 4  
Date 7/25/06

ROUTE Old US 50 DESCRIPTION Elm River LOGGED BY E. Sandschafer

SECTION 10B-1 LOCATION Sec 22 - NE 14, Sec 23 - NW 14, SEC., TWP. 3 N, RNG. 8 E, 3 PM

COUNTY Clay DRILLING METHOD Hollow stem auger & split spoon HAMMER TYPE Auto 140#

STRUCT. NO. 013-0026  
Station 1037+48

BORING NO. 1  
Station 1038+08  
Offset 6.00ft Lt  
Ground Surface Elev. 443.52 ft

DEPTH (ft)	DRILLING METHOD	DESCRIPTION	WATER ELEV. (ft)	DEPTH (ft)	DRILLING METHOD	DESCRIPTION	WATER ELEV. (ft)
0		Very stiff, damp, gray, CLAY TILL. (continued)		0			
1	B			1	B		
2	B			2	B		
3	B			3	B		
4	B			4	B		
5	B			5	B		
6	B			6	B		
7	B			7	B		
8	B			8	B		
9	B			9	B		
10	B			10	B		
11	B			11	B		
12	B			12	B		
13	B			13	B		
14	B			14	B		
15	B			15	B		
16	B			16	B		
17	B			17	B		
18	B			18	B		
19	B			19	B		
20	B			20	B		

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)  
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T208)

**Illinois Department of Transportation**  
Division of Highways  
District 7 Materials

### SOIL BORING LOG

Page 3 of 4  
Date 7/25/06

ROUTE Old US 50 DESCRIPTION Elm River LOGGED BY E. Sandschafer

SECTION 10B-1 LOCATION Sec 22 - NE 14, Sec 23 - NW 14, SEC., TWP. 3 N, RNG. 8 E, 3 PM

COUNTY Clay DRILLING METHOD Hollow stem auger & split spoon HAMMER TYPE Auto 140#

STRUCT. NO. 013-0026  
Station 1037+48

BORING NO. 1  
Station 1038+08  
Offset 6.00ft Lt  
Ground Surface Elev. 443.52 ft

DEPTH (ft)	DRILLING METHOD	DESCRIPTION	WATER ELEV. (ft)	DEPTH (ft)	DRILLING METHOD	DESCRIPTION	WATER ELEV. (ft)
0		Soft, very damp, gray, SANDY LOAM w/ many wood chunks. (continued)		0			
1	B			1	B		
2	B			2	B		
3	B			3	B		
4	B			4	B		
5	B			5	B		
6	B			6	B		
7	B			7	B		
8	B			8	B		
9	B			9	B		
10	B			10	B		
11	B			11	B		
12	B			12	B		
13	B			13	B		
14	B			14	B		
15	B			15	B		
16	B			16	B		
17	B			17	B		
18	B			18	B		
19	B			19	B		
20	B			20	B		

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)  
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T208)

**Illinois Department of Transportation**  
Division of Highways  
District 7 Materials

### ROCK BORING LOG

Page 4 of 4  
Date 7/25/06

ROUTE Old US 50 DESCRIPTION Elm River LOGGED BY E. Sandschafer

SECTION 10B-1 LOCATION Sec 22 - NE 14, Sec 23 - NW 14, SEC., TWP. 3 N, RNG. 8 E, 3 PM

COUNTY Clay CORING METHOD Rotary, surf set diamond bit

STRUCT. NO. 013-0026  
Station 1037+48

BORING NO. 1  
Station 1038+08  
Offset 6.00ft Lt  
Ground Surface Elev. 443.52 ft

DEPTH (ft)	DESCRIPTION	WATER ELEV. (ft)	DEPTH (ft)	DESCRIPTION	WATER ELEV. (ft)
0	Soft, gray, SANDSTONE. Average 1 1/2" layers throughout sample.	357.1	0		
1			1		
2			2		
3			3		
4			4		
5			5		
6			6		
7			7		
8			8		
9			9		
10			10		
11			11		
12			12		
13			13		
14			14		
15			15		
16			16		
17			17		
18			18		
19			19		
20			20		

Depth 96.0' to 96.4' = Qu on rock core 214 tsf.  
Extent of exploration.

Benchmark: BM 200, RR spike in PP #6, SE of existing structure = 441.04', provided by Program Development.

Color pictures of the cores \_\_\_\_\_  
Cores will be stored for examination until \_\_\_\_\_  
The "Strength" column represents the uniaxial compressive strength of the core sample (ASTM D-2938)

SOIL BORING LOGS  
STRUCTURE NO. 013-0040

SHEET NO. 21	S.B.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
22 SHEETS	12	10B-1	CLAY	39	33
			CONTRACT NO. 74004		
FED. ROAD DIST. NO. _ ILLINOIS FED. AID PROJECT					

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

Page 1 of 3

**Soil Boring Log**

ROUTE Old US 50 DESCRIPTION Elm River LOGGED BY E. Sandschafer

SECTION 10B-1 LOCATION Sec 22 - NE 14, Sec 23 - NW 14, SEC., TWP. 3 N, RNG. 8 E, 3 PM

COUNTY Clay DRILLING METHOD Hollow stem auger & split spoon HAMMER TYPE Auto 140#

STRUCT. NO. 013-0026 Station 1037+48

BORING NO. 2 Station 1036+89 Offset 5.00 ft Ground Surface Elev. 443.46 ft

DEPTH (ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)
0	1	0.3	19																	
0	2	B																		
0	3	0.3	24																	
0	3	B																		
0	4	0.3	18																	
0	1	B																		
0	0	0.4	34																	
0	0	B																		
0	4	1.5	20																	
0	4	BS																		
0	2	0.8	26																	
0	2	B																		
0	1	0.6	25																	
0	2	B																		
0	3	0.7	22																	
0	3	B																		
0	0																			

4" asphalt over 10 1/2" concrete pavement.

Soft, damp, brown, SILTY CLAY.

Soft, damp, gray, SILTY LOAM.

Very stiff, damp, gray, CLAY TILL.

Stiff, damp, gray, SILTY CLAY.

Medium, damp, gray, SILTY LOAM.

Medium, damp, gray mottled red, CLAY LOAM.

Very soft, wet, gray, SANDY LOAM. (continued)

Very stiff, damp, gray, CLAY w/ trace silt. (continued)

Medium, wet, gray, SAND w/ many wood fragments. 15% passing #200 sieve.

Very dense, damp, gray, SANDSTONE. Extent of exploration.

Benchmark: BM 200, RR spike in PP #6, SE of existing structure = 441.04', provided by Program Development.

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)  
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)

Page 2 of 3

**Soil Boring Log**

ROUTE Old US 50 DESCRIPTION Elm River LOGGED BY E. Sandschafer

SECTION 10B-1 LOCATION Sec 22 - NE 14, Sec 23 - NW 14, SEC., TWP. 3 N, RNG. 8 E, 3 PM

COUNTY Clay DRILLING METHOD Hollow stem auger & split spoon HAMMER TYPE Auto 140#

STRUCT. NO. 013-0026 Station 1037+48

BORING NO. 2 Station 1036+89 Offset 5.00 ft Ground Surface Elev. 443.46 ft

DEPTH (ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)
0	6	1.9	16																	
0	9	B																		
0	2																			
0	3	1.1	25																	
0	3	B																		
0	2																			
0	3	1.1	22																	
0	4	B																		
0	2																			
0	3	1.1	22																	
0	4	B																		
0	10	3.5	15																	
0	14	B																		
0	6																			
0	10	3.5	15																	
0	14	B																		
0	4																			

Very stiff, damp, gray, CLAY TILL. (continued)

Medium, damp, gray, CLAY w/ trace silt. (continued)

Medium, wet, gray, SAND w/ many wood fragments. 15% passing #200 sieve.

Very dense, damp, gray, SANDSTONE. Extent of exploration.

Benchmark: BM 200, RR spike in PP #6, SE of existing structure = 441.04', provided by Program Development.

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)  
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)

Page 3 of 3

**Soil Boring Log**

ROUTE Old US 50 DESCRIPTION Elm River LOGGED BY E. Sandschafer

SECTION 10B-1 LOCATION Sec 22 - NE 14, Sec 23 - NW 14, SEC., TWP. 3 N, RNG. 8 E, 3 PM

COUNTY Clay DRILLING METHOD Hollow stem auger & split spoon HAMMER TYPE Auto 140#

STRUCT. NO. 013-0026 Station 1037+48

BORING NO. 2 Station 1036+89 Offset 5.00 ft Ground Surface Elev. 443.46 ft

DEPTH (ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)
0	8																			
0	7																			
0	359.0																			
0	356.8																			
0	502'																			
0	500'																			
0	500'																			
0	374.0																			
0	12																			
0	15																			
0	12																			
0	76																			
0	80																			
0	86																			
0	90																			
0	100																			

Medium, wet, gray, SAND w/ Gravel. (continued)

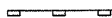

Very dense, damp, gray, SANDSTONE. Extent of exploration.

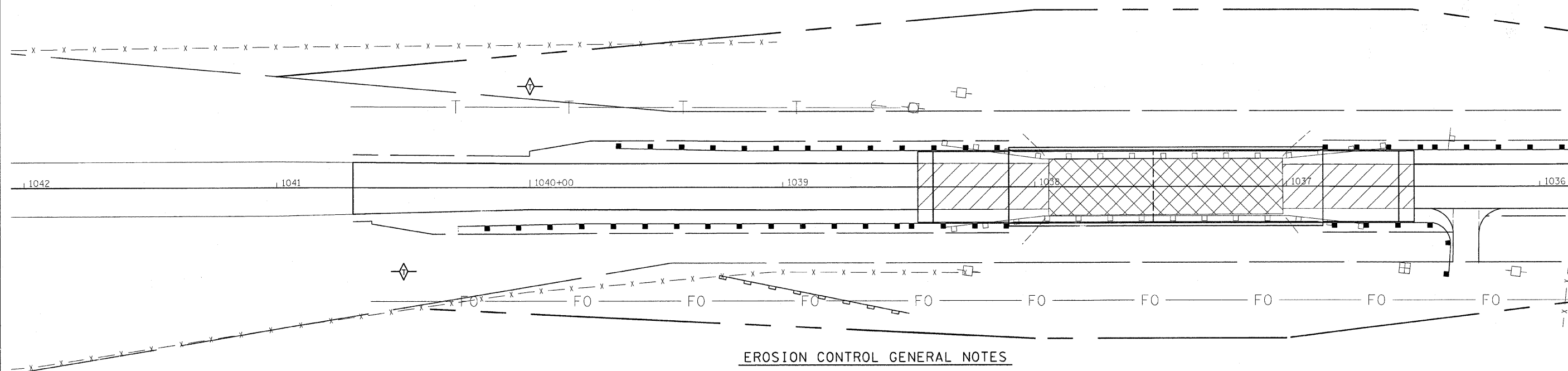
Benchmark: BM 200, RR spike in PP #6, SE of existing structure = 441.04', provided by Program Development.

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)  
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)

**SOIL BORING LOGS  
STRUCTURE NO. 013-0040**

SHEET NO. 22	S.B.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	12	10B-1	CLAY	39	33A.
22 SHEETS	CONTRACT NO. 74004				
FED. ROAD DIST. NO. _ ILLINOIS FED. AID PROJECT					

-  PERIMETER EROSION BARRIER
-  TEMPORARY DITCH CHECK



**EROSION CONTROL GENERAL NOTES**

**EROSION CONTROL MEASURES AT THE START OF CONSTRUCTION:**

1. THE AREAS OF EXCAVATION AND EMBANKMENT PLACEMENT SHALL BE MANAGED FOR THE PURPOSES OF CONTROLLING EROSION WITHIN THE IMPROVEMENT AREA, REDUCING WATER FLOW BY TEMPORARY DIVERSION, MINIMIZING SILTATION AT THE RIGHT-OF-WAY LINE, AND ESTABLISHING VEGETATIVE COVER WHICH WILL BECOME PERMANENT VEGETATION AND ACT AS AN EROSION CONTROL BARRIER. WORK AT THE START OF CONSTRUCTION SHALL CONSIST OF THE FOLLOWING:
  - (a) AREAS OF EXISTING VEGETATION (WOODS AND GRASSLANDS) OUTSIDE THE PROPOSED CONSTRUCTION LIMITS SHALL BE IDENTIFIED FOR PRESERVING AND SHALL BE PROTECTED FROM MOWING, BRUSH CUTTING, TREE REMOVAL, AND OTHER ACTIVITIES THAT WOULD BE DETRIMENTAL TO THEIR MAINTENANCE AND DEVELOPMENT.
  - (b) DEAD, DISEASED, OR UNSUITABLE VEGETATION WITHIN THE SITE SHALL BE REMOVED AS DIRECTED BY THE ENGINEER.
  - (c) BARE AND SPARSELY VEGETATED GROUND IN HIGHLY ERODIBLE AREAS AS DETERMINED BY THE ENGINEER SHALL BE TEMPORARILY SEEDED AT THE START OF CONSTRUCTION WHEN NO CONSTRUCTION ACTIVITIES ARE EXPECTED WITHIN SEVEN CALENDAR DAYS.

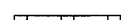

**EROSION CONTROL MEASURES DURING CONSTRUCTION:**

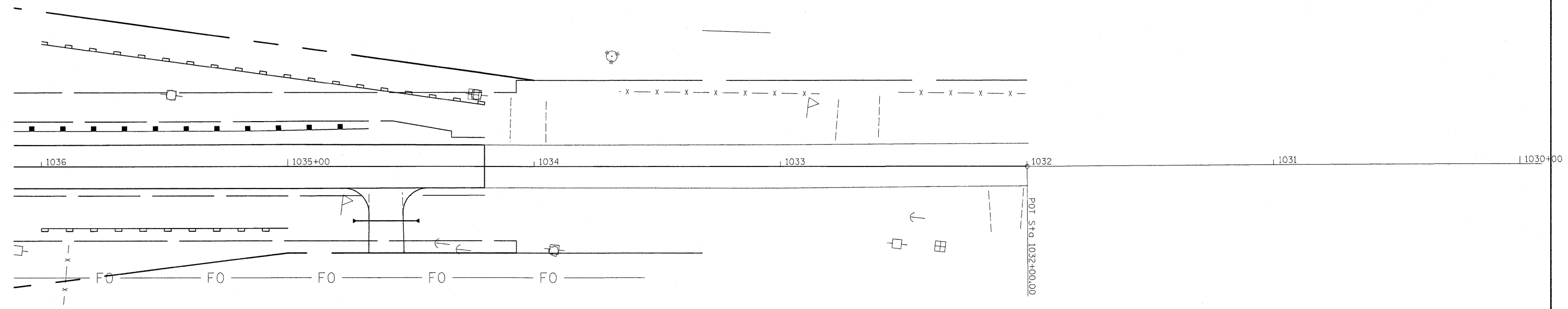
1. DURING CONSTRUCTION, AREAS OUTSIDE THE CONSTRUCTION LIMITS AS OUTLINED PREVIOUSLY HEREIN SHALL BE PROTECTED FROM DAMAGING EFFECTS OF CONSTRUCTION. THE CONTRACTOR SHALL NOT USE THIS AREA FOR PARKING OF VEHICLES OR CONSTRUCTION EQUIPMENT, STORAGE OF MATERIALS, OR OTHER CONSTRUCTION RELATED ACTIVITIES.
  - (a) WITHIN THE CONSTRUCTION ZONE, CRITICAL AREAS WHICH HAVE A HIGH FLOW OF WATER, AS DETERMINED BY THE ENGINEER, SHALL REMAIN UNDISTURBED UNTIL CONTINUOUS OPERATIONS CAN ENSURE TIMELY COMPLETION OF WORK IN THESE AREAS TO MINIMIZE SOIL EROSION.
  - (b) EARTH STOCKPILES SHALL BE TEMPORARILY SEEDED IF THEY ARE TO REMAIN UNUSED FOR MORE THAN FOURTEEN CALENDAR DAYS.

**EROSION CONTROL MEASURES AFTER FINAL GRADING:**

1. EXCAVATION AND EMBANKMENT AREAS SHALL BE PERMANENTLY SEEDED WHEN FINAL GRADED.
  - (a) TEMPORARY EROSION CONTROL SYSTEMS SHALL REMAIN IN PLACE WITH PROPER MAINTENANCE UNTIL PERMANENT EROSION CONTROL IS IN PLACE AND WORKING PROPERLY WITH ALL PROPOSED TURF AREAS SEEDED AND A PROPER STAND ESTABLISHED.

FILE NAME =	USER NAME = swartzw	DESIGNED -	REVISED -	<b>STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION</b>	<b>EROSION CONTROL</b>	S.B.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	
c:\pwwork\pvidot\swartzw\d8127784\d774	004-shr-plan.dgn	DRAWN -	REVISED -			12	10B-1	CLAY	39	34	
	PLOT SCALE = 20.0000' / IN.	CHECKED -	REVISED -			CONTRACT NO. 74004					
	PLOT DATE = 8/6/2010	DATE -	REVISED -			ILLINOIS FED. AID PROJECT					
					SCALE: 20	SHEET NO. 1 OF 2 SHEETS		STA. 1042+00 TO STA. 1036+00			

-  PERIMETER EROSION BARRIER
-  TEMPORARY DITCH CHECK



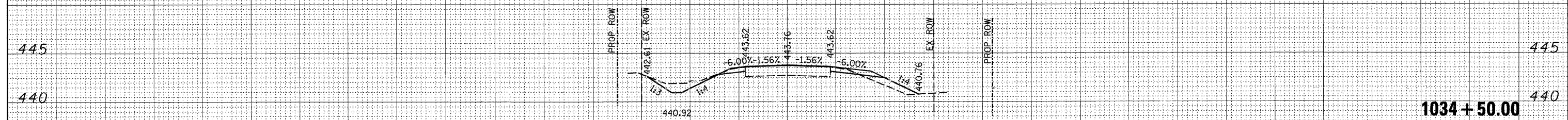
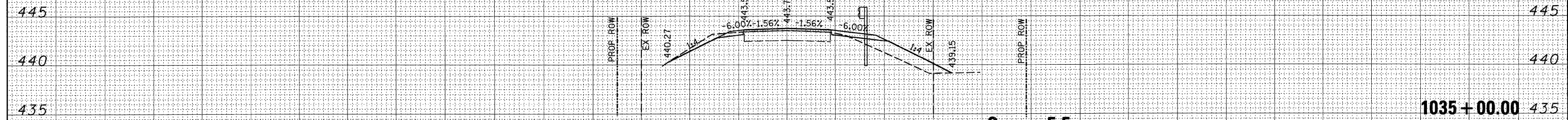
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	PLOT SCALE = 20,0000' / IN.	CHECKED -	REVISED -	SCALE: 20	SHEET NO. 2 OF 2 SHEETS	STA. 1036+00 TO STA. 1033+00		CONTRACT NO. 74004		
	PLOT DATE = 8/6/2010	DATE -	REVISED -	ILLINOIS FED. AID PROJECT						



150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

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

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



1034+00.00

150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

FILE NAME =  
 USER NAME = swartzw  
 c:\pwwork\pwwork\swartzw\d0127768\0774004-sh

DESIGNED -  
 DRAWN -  
 CHECKED -  
 DATE -

REVISIED -  
 REVISIED -  
 REVISIED -  
 REVISIED -

REVISIED -  
 REVISIED -  
 REVISIED -  
 REVISIED -

**STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION**

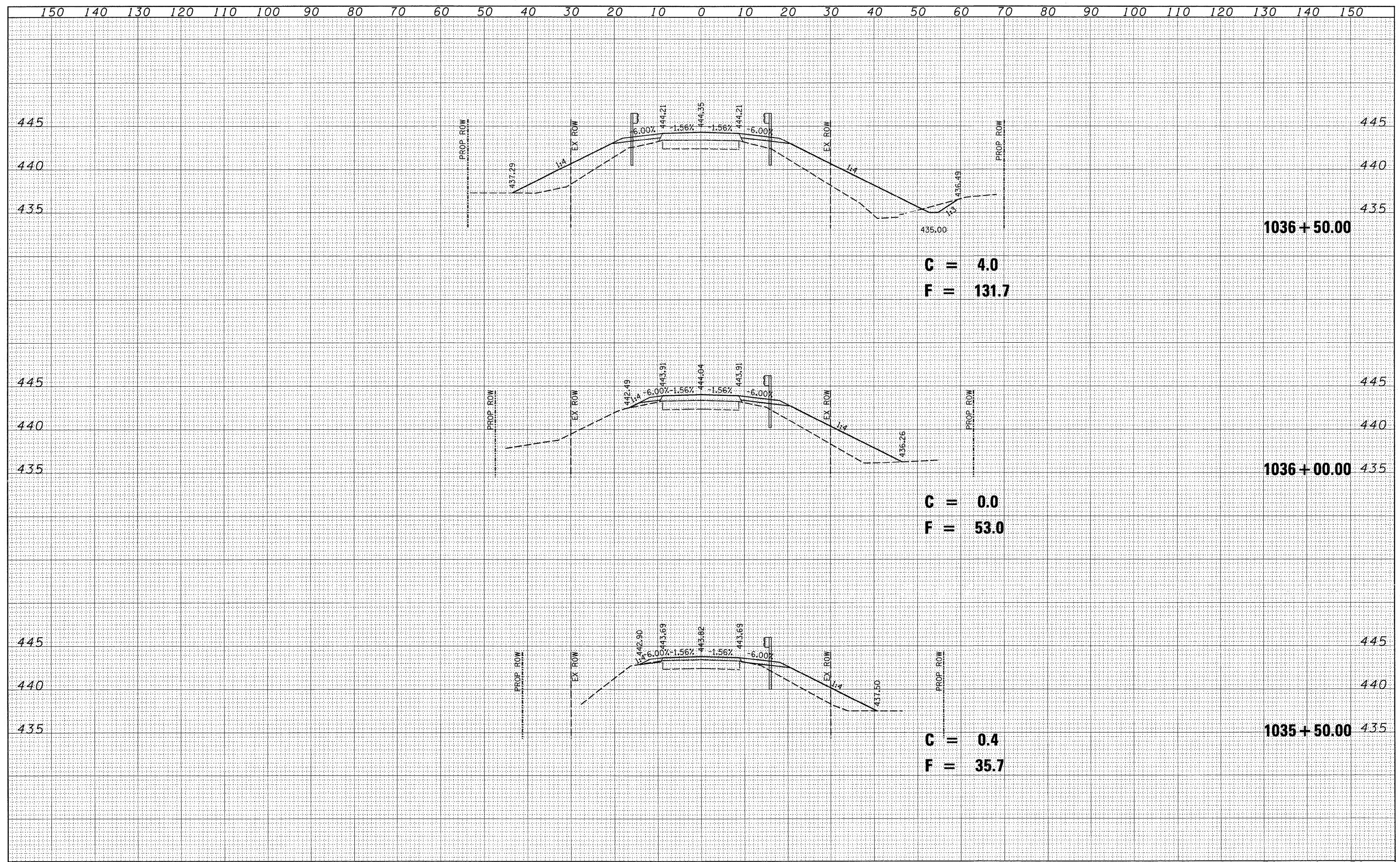
**CROSS SECTIONS**

SCALE: 10      SHEET NO. 1 OF 4 SHEETS      STA. 1034+00.00 TO STA. 1035+00.00

S.B.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
12	10B-1	CLAY	39	36
CONTRACT NO. 74004			ILLINOIS FED. AID PROJECT	

DATE	
BY	
CURVED	
PLOTTED	
TEMPLATE	
AREAS	
CHECKED	
NO.	

DATE	
BY	
ORIGINAL	
SURVEY	
NOTE BOOK	
AREAS	
CHECKED	
NO.	



**C = 4.0**  
**F = 131.7**

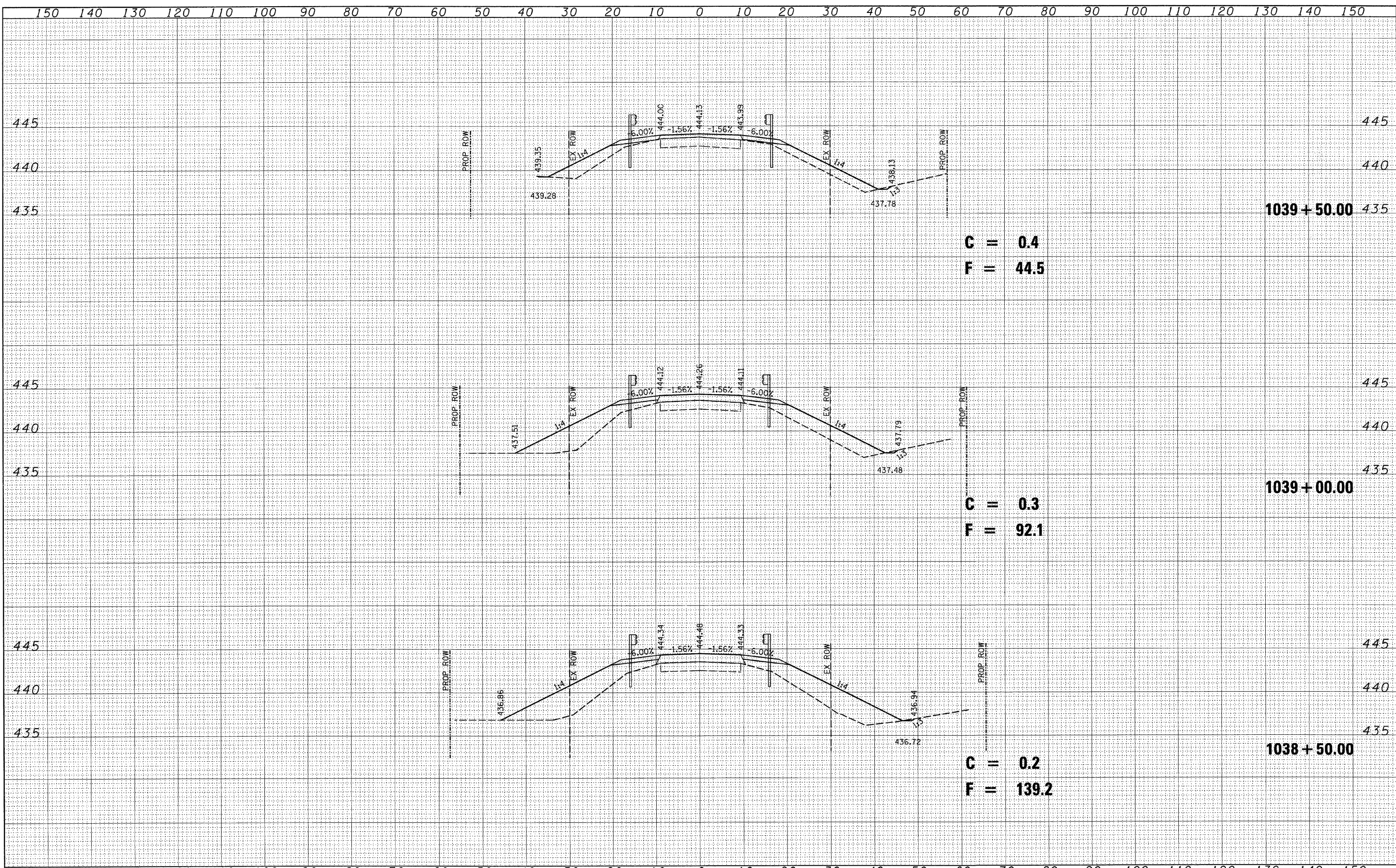
**C = 0.0**  
**F = 53.0**

**C = 0.4**  
**F = 35.7**



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

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



**C = 0.4**  
**F = 44.5**

**C = 0.3**  
**F = 92.1**

**C = 0.2**  
**F = 139.2**

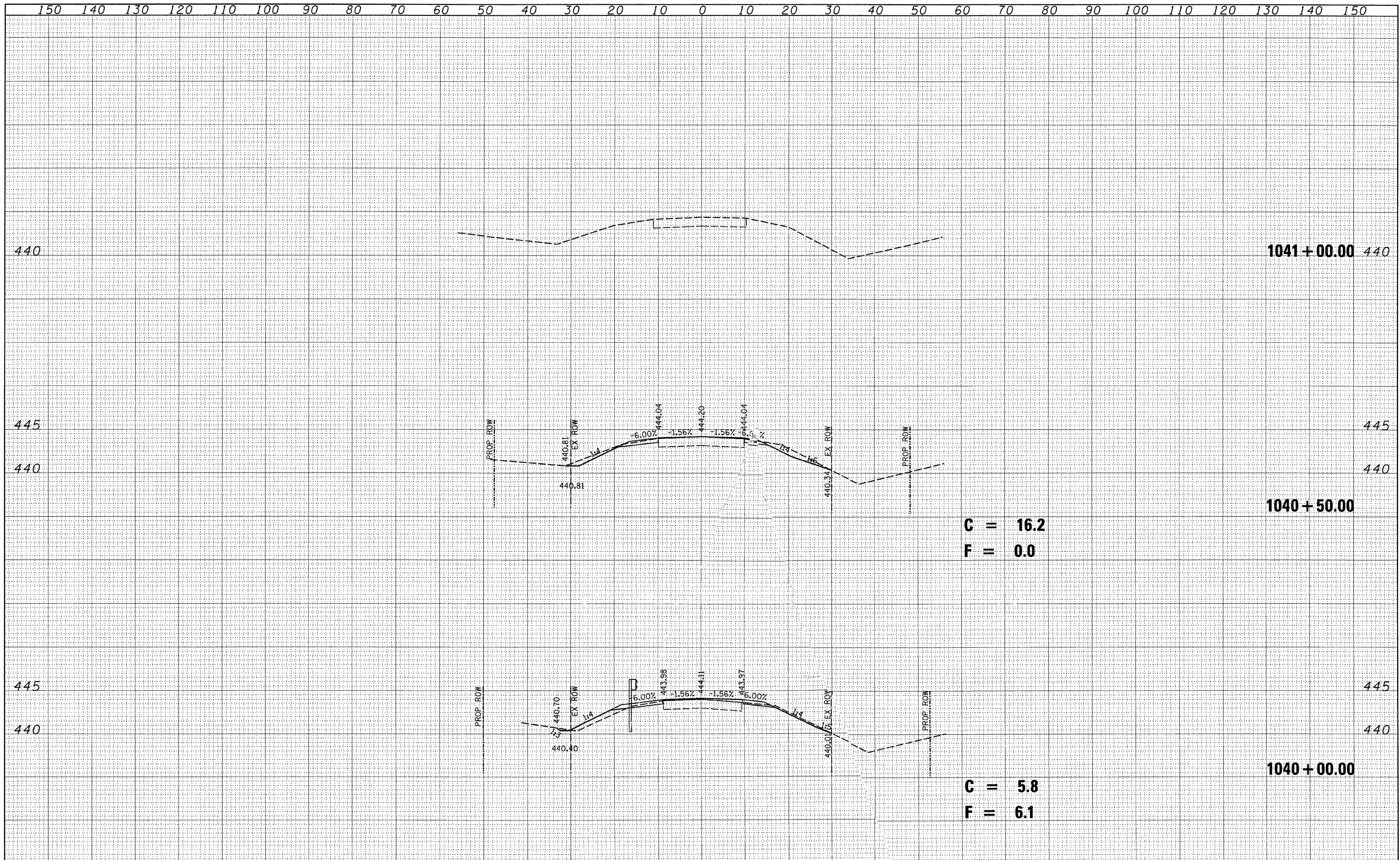
**1039 + 50.00**

**1039 + 00.00**

**1038 + 50.00**

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

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



FILE NAME =	USER NAME = swartzw	DESIGNED -	REVISED -	<b>STATE OF ILLINOIS</b> <b>DEPARTMENT OF TRANSPORTATION</b>	<b>CROSS SECTIONS</b> SCALE: 10	S.B.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
ca:\pw\work\pww\d0127768\0774004-sh	xssh.dgn	DRAWN -	REVISED -			12	108-1	CLAY	39	39
PLOT SCALE = 10.0000' / IN.	CHECKED -	REVISED -	REVISED -			CONTRACT NO. 74004		ILLINOIS FED. AID PROJECT		
PLOT DATE = 8/6/2018	DATE -	REVISED -	REVISED -			SHEET NO. 4 OF 4 SHEETS		STA. 1040+00.00 TO STA. 1041+00.00		