

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
57	•	EFFINGHAM	17	1

CONTRACT NO. 74119

• D-7 JOINT REPAIRS 2006-2

D-97-050-05

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

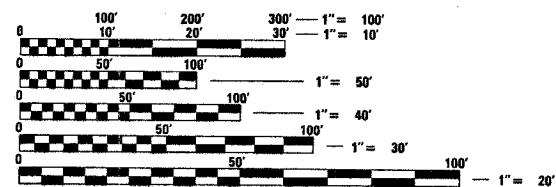
F.A.I. ROUTE 57
D-7 JOINT REPAIRS 2006-2
EFFINGHAM COUNTY
C-97-085-05

FOR INDEX OF SHEETS, SEE SHEET NO. 2



LOCATION OF SECTION INDICATED THUS: — ■ —

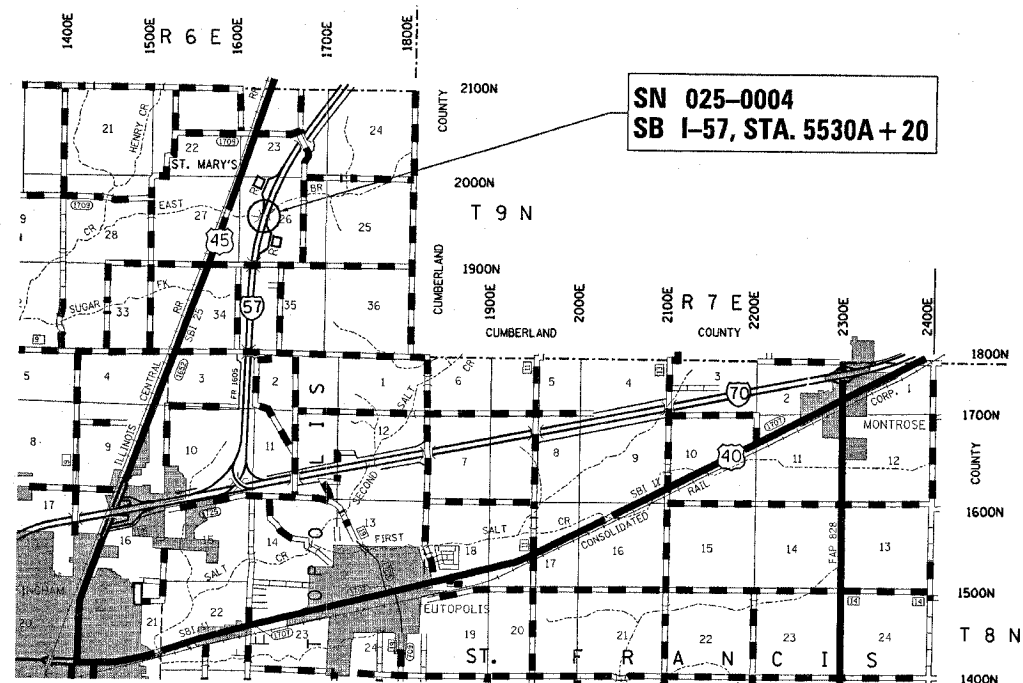
2004 ADT = 8,550 SB



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

CONTRACT NO. 74119
TOWNSHIP: DOUGLAS



GROSS LENGTH = 1243 FEET = 0.24 MILES
NET LENGTH = 1243 FEET = 0.24 MILES



STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

SUBMITTED FEB 10, 20 06
Deputy H. Reed
DEPUTY DIRECTOR OF HIGHWAYS, REGION ENGINEER
March 24, 20 06
Mike Line PD
ENGINEER OF DESIGN AND ENVIRONMENT
March 24, 20 06
Milton L. Sear P.E. PD
DIRECTOR OF HIGHWAYS, CHIEF ENGINEER

PRINTED BY THE AUTHORITY
OF THE STATE OF ILLINOIS

PROJECT ENGINEER : MARK DAUGHTERY
SQUAD LEADER : BRIAN LEWIS
DESIGNER : BRIAN BIERMAN
TELEPHONE : 217/342-3951 EX 313

CONTRACT NO. 74119				
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
57	•	EFFINGHAM	17	2
STA.		TO STA.		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

• D-7 JOINT REPAIRS 2006-2

INDEX OF SHEETS

SHEET NO.	TITLE
1	COVER SHEET
2	GENERAL NOTES, INDEX OF SHEETS & LIST OF STANDARDS
3	SUMMARY OF QUANTITIES
4	SCHEDULE OF QUANTITIES
5	STAGE CONSTRUCTION DETAILS
6	DECK PATCHING
7-17	STRUCTURE PLANS AND DETAILS

STANDARDS IN THE PLANS

THE FOLLOWING STANDARDS ARE A PART OF THESE PLANS AND ARE INCLUDED AFTER SHEET NO. 17:

STD. NO.	DESCRIPTION
000001-04	STANDARD SYMBOLS, ABBREVIATIONS AND PATTERNS
001001	AREAS OF REINFORCEMENT BARS
001006	DECIMAL OF AN INCH AND OF A FOOT
420401-05	BRIDGE APPROACH PAVEMENT
420701-01	PAVEMENT FABRIC
609001-02	BRIDGE APPROACH SHOULDER PAVEMENT AND DRAIN
635011-01	REFLECTOR MARKER AND MOUNTING DETAILS
701101-01	OFF-RD OPERATIONS, MULTILANE, 15' TO 24" FROM PAVEMENT EDGE
701106-01	OFF-RD OPERATIONS, MULTILANE, MORE THAN 15' AWAY
701400-02	APPROACH TO LANE CLOSURE, FREEWAY/EXPRESSWAY
701401-03	LANE CLOSURE, FREEWAY/EXPRESSWAY
701402-05	LANE CLOSURE, FREEWAY/EXPRESSWAY, WITH BARRIER
701411-03	LANE CLOSURE, MULTILANE, AT ENTRANCE OR EXIT RAMP, FOR SPEEDS >= 45 MPH
701426-02	LANE CLOSURE, MULTILANE, INTERMITTENT OR MOVING OPER., FOR SPEEDS >= 45 MPH
702001-06	TRAFFIC CONTROL DEVICES
704001-02	TEMPORARY CONCRETE BARRIERS
780001-01	TYPICAL PAVEMENT MARKINGS
781001-02	TYPICAL APPLICATIONS RAISED REFLECTIVE PAVEMENT MARKERS

GENERAL NOTES

PLAN DIMENSIONS AND DETAILS RELATIVE TO THE EXISTING STRUCTURE HAVE BEEN TAKEN FROM EXISTING PLANS AND ARE SUBJECT TO NORMAL CONSTRUCTION VARIATIONS. IT SHALL BE THE CONTRACTORS RESPONSIBILITY TO VERIFY SUCH DIMENSIONS AND DETAILS IN THE FIELD AND MAKE NECESSARY APPROVED ADJUSTMENTS PRIOR TO CONSTRUCTION OR ORDERING OF MATERIAL. SUCH VARIATIONS SHALL NOT BE CAUSE FOR ADDITIONAL COMPENSATION OR FOR A CHANGE IN THE SCOPE OF THE WORK; HOWEVER, THE CONTRACTOR WILL BE PAID FOR THE QUANTITY ACTUALLY FURNISHED AT THE UNIT PRICE FOR THE WORK.

THE GUARDRAIL LOCATED WITHIN THE LIMITS OF THE BRIDGE APPROACH SHOULDER PAVEMENT SHALL BE REMOVED AND RE-ERECTED. THE COST OF REMOVING AND RE-ERECTING THE GUARDRAIL WILL NOT BE PAID FOR SEPERATELY BUT SHALL BE INCLUDED IN THE COST OF THE BRIDGE APPROACH SHOULDER PAVEMENT.

THE TOTAL NUMBER OF TEMPORARY CONCRETE BARRIERS (STATE OWNED) REQUIRED FOR THIS PROJECT IS 33 - 10' SECTIONS. THE TEMPORARY CONCRETE BARRIERS (STATE OWNED) WHICH ARE TO BE USED ON THIS PROJECT ARE STORED AT THE EFFINGHAM MAINTENANCE YARD. STATE MAINTENANCE FORCES WILL NOT LOAD OR UNLOAD THE BARRIERS.

THE INSTALLATION OF TEMPORARY PAVEMENT MARKING AS SHOWN ON STANDARDS 701401 AND 701402 IS INCLUDED IN THE COST OF EACH RESPECTIVE TRAFFIC CONTROL PAY ITEM. THE REMOVAL OF THIS STRIPING SHALL BE PAID FOR AS WORK ZONE PAVEMENT MARKING REMOVAL.

PORTLAND CEMENT CONCRETE BASE COURSE WIDENING 8" (SQ. YD.) SHALL INCLUDE ALL EXCAVATION FOR CONSTRUCTION OF THE WIDENING. THE WIDENING SHALL REMAIN IN PLACE AT THE CONCLUSION OF THE JOB.

PLOT DATE = 2/18/2006
FILE NAME = #FILE#
PLOT SCALE = #SCALE#
USER NAME = dmsrict

REVISIONS		ILLINOIS DEPARTMENT OF TRANSPORTATION	
NAME	DATE	INDEX OF SHEETS STANDARDS IN THE PLANS GENERAL NOTES	
SCALE:	VERT. DATE	DRAWN BY CHECKED BY	
	HORIZ.		

PLOT DATE = 2/18/2006
 USER NAME = dstr-101
 PLOT SCALE = 1/8"=1'-0"
 USER NAME = dstr-101

SUMMARY OF QUANTITIES			100% STATE	
CODE NO	ITEM	UNIT	TOTAL QUANTITIES	CONSTRUCTION
				TYPE CODE
				SFTY-2A
20700400	POROUS GRANULAR EMBANKMENT (SPECIAL)	CU YD	79	79
35400300	PORTLAND CEMENT CONCRETE BASE COURSE WIDENING 8"	SQ YD	690	690
42001500	P.C. CONCRETE BRIDGE APPROACH SHOULDER PAVEMENT	SQ YD	40	40
44000910	BITUMINOUS CONCRETE REMOVAL (DECK)	SQ YD	672	672
50102400	CONCRETE REMOVAL	CU YD	16.1	16.1
50200100	STRUCTURE EXCAVATION	CU YD	79	79
50300225	CONCRETE STRUCTURES	CU YD	16.5	16.5
50300260	BRIDGE DECK GROOVING	SQ YD	671.5	671.5
50300300	PROTECTIVE COAT	SQ YD	672	672
50300310	ELASTOMERIC BEARING ASSEMBLY, TYPE I	EACH	6	6
50300320	ELASTOMERIC BEARING ASSEMBLY, TYPE II	EACH	6	6
50500405	FURNISHING AND ERECTING STRUCTURAL STEEL	POUND	2080	2080
50500715	JACK AND REMOVE EXISTING BEARINGS	EACH	12	12
50800205	REINFORCEMENT BARS, EPOXY COATED	POUND	1820	1820
51205200	TEMPORARY SHEET PILING	SQ FT	88	88
60109580	PIPE UNDERDRAINS FOR STRUCTURES 4"	FOOT	94	94
67100100	MOBILIZATION	L SUM	1	1
70100800	TRAFFIC CONTROL AND PROTECTION, STANDARD 701401	L SUM	1	1
70100805	TRAFFIC CONTROL AND PROTECTION, STANDARD 701402	L SUM	1	1
70300220	TEMPORARY PAVEMENT MARKING - LINE 4"	FOOT	1730	1730
70301000	WORK ZONE PAVEMENT MARKING REMOVAL	SQ FT	1700	1700
70400500	TEMPORARY CONCRETE BARRIER (STATE OWNED)	FOOT	330	330
70400600	RELOCATE TEMPORARY CONCRETE BARRIER (STATE OWNED)	FOOT	330	330
*78001110	PAINT PAVEMENT MARKING - LINE 4"	FOOT	1780	1780
*78100100	RAISED REFLECTIVE PAVEMENT MARKER	EACH	12	12
78300100	PAVEMENT MARKING REMOVAL	SQ FT	580	580
78300200	RAISED REFLECTIVE PAVEMENT MARKER REMOVAL	EACH	12	12

SUMMARY OF QUANTITIES

SUMMARY OF QUANTITIES			100% STATE	
CODE NO	ITEM	UNIT	TOTAL QUANTITIES	CONSTRUCTION
				TYPE CODE
				SFTY-2A
X0300136	BRIDGE APPROACH SHOULDER REMOVAL	SQ YD	40	40
X0320887	POLYMER CONCRETE	CU FT	7.4	7.4
X0323076	SILICONE JOINT SEALER, 1 3/4"	FOOT	43	43
X0323077	SILICONE JOINT SEALER, 2 3/4"	FOOT	43	43
X0323988	TEMPORARY SOIL RETENTION SYSTEM	SQ FT	31.8	31.8
X7011420	TRAFFIC CONTROL AND PROTECTION, STANDARD 701411	L SUM	1	1
XZ193500	BRIDGE DECK MICROSILICA CONCRETE OVERLAY 2 1/4"	SQ YD	672	672
Z0001500	APPROACH SLAB REMOVAL & REPLACEMENT	SQ YD	60	60
Z0002600	BAR SPLICERS	EACH	108	108
Z0006204	BRIDGE DECK HYDRO-SCARIFICATION 1/2"	SQ YD	672	672
Z0016001	DECK SLAB REPAIR (FULL DEPTH, TYPE I)	SQ YD	1	1
Z0016002	DECK SLAB REPAIR (FULL DEPTH, TYPE II)	SQ YD	66	66
Δ Z0030250	IMPACT ATTENUATORS, TEMPORARY (NON-REDIRECTIVE), TEST LEVEL 3	EACH	1	1
Δ Z0030350	IMPACT ATTENUATORS, RELOCATE (NON-REDIRECTIVE), TEST LEVEL 3	EACH	1	1

Δ SFTY-3N
 * SPECIALTY ITEMS

Rev.

REVISIONS		ILLINOIS DEPARTMENT OF TRANSPORTATION	
NAME	DATE	SUMMARY OF QUANTITIES	
SCALE:	VERT. DATE	HORIZ.	DRAWN BY
			CHECKED BY

CONTRACT NO. 74119				
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
57	*	EFFINGHAM	17	3
STA.		TO STA.		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

• D-7 JOINT REPAIRS 2006-2

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SCHEDULE OF QUANTITIES

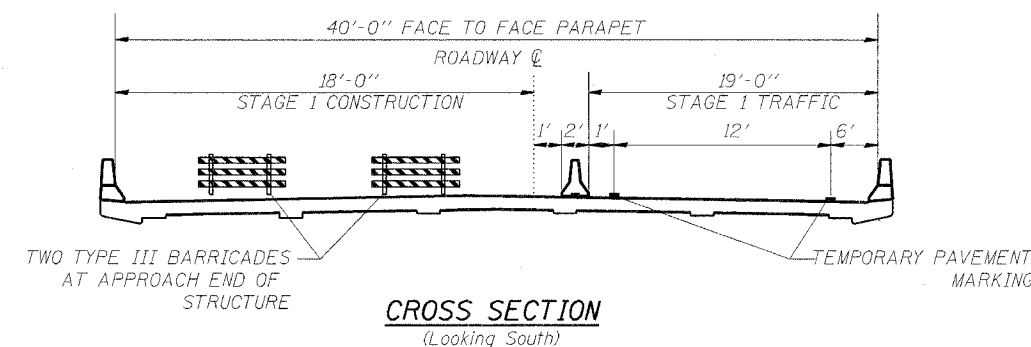
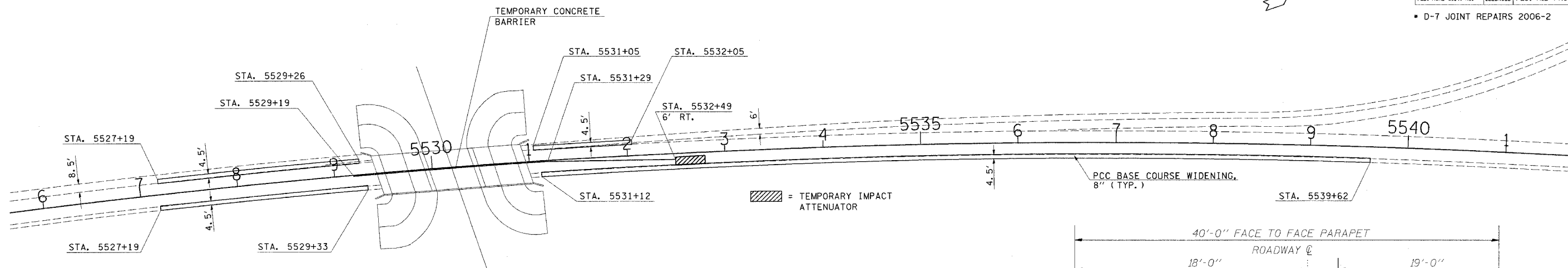
STATION TO STATION				TEMPORARY PAVEMENT MARKING - LINE 4"	WORK ZONE PAVEMENT MARKING REMOVAL	PAINT PAVEMENT MARKING - LINE 4"	PAVEMENT MARKING REMOVAL	RAISED REFLECTIVE PAVEMENT MARKER	RAISED REFLECTIVE PAVEMENT MARKER REMOVAL	
				LIN FT	FOOT	SQ FT	FOOT	SQ FT	EACH	EACH
DRIVING LANE										
5527+19	TO	5529+19		200	200	67	200	67	0	0
5529+19	TO	5532+05		286	286	191	286	96	0	0
5532+05	TO	5533+00		95	0	32	0	0	0	0
5533+00	TO	5546+29		1329	0	424	0	0	0	0
BRIDGE DECK (CENTERLINE ONLY)										
5529+32	TO	5531+08		176	0	0	50	0	0	0
BRIDGE DECK (RRPM'S ONLY)										
5529+32	TO	5531+08		176	0	0	0	0	12	12
PASSING LANE										
5527+19	TO	5529+19		200	200	67	200	67	0	0
5529+19	TO	5539+62		1043	1044	698	1044	350	0	0
5539+62	TO	5546+29		667	0	223	0	0	0	0
TOTALS:					1730	1700	1780	580	12	12

CONTRACT NO. 74119				
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
57	▪	EFFINGHAM	17	4
STA.		TO STA.		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		
▪ D-7 JOINT REPAIRS 2006-2				

REVISIONS	
NAME	DATE

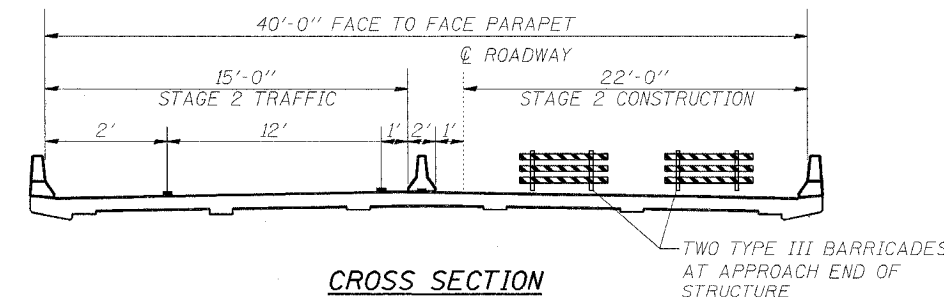
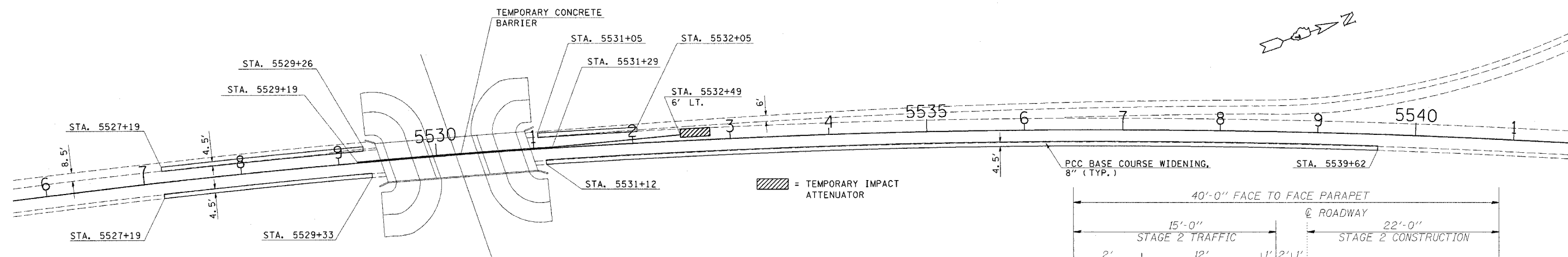
ILLINOIS DEPARTMENT OF TRANSPORTATION	
SCHEDULE OF QUANTITIES	
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CONTRACT NO. 74119				
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
57	•	EFFINGHAM	17	5
STA.		TO STA.		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		
▪ D-7 JOINT REPAIRS 2006-2				



- STAGE I**
- 1) PLACE YIELD SIGNS AS DIRECTED BY THE ENGINEER AT REST AREA RAMP TO MERGE REST AREA TRAFFIC WITH INTERSTATE DRIVING LANE TRAFFIC.
 - 2) PLACE TRAFFIC CONTROL STDS. 701400 AND 701402 TO CLOSE PASSING LANE.
 - 3) PLACE TEMPORARY CONCRETE BARRIERS AND IMPACT ATTENUATOR.
 - 4) CONSTRUCT STAGE I IN THE PASSING LANE.
 - 5) REMOVE EXISTING PAVEMENT MARKING LINE AT EDGE OF PASSING LANE PAVEMENT AND PLACE TEMPORARY PAVEMENT MARKING LINE PER TRAFFIC CONTROL STD. 701402.

STAGE I



- STAGE II**
- 1) PLACE TRAFFIC CONTROL STD. 701411 AT REST AREA RAMP TO MERGE REST AREA TRAFFIC WITH INTERSTATE PASSING LANE TRAFFIC.
 - 2) SWITCH TRAFFIC CONTROL STDS. 701400 AND 701402 TO CLOSE DRIVING LANE.
 - 3) RELOCATE TEMPORARY CONCRETE BARRIERS AND IMPACT ATTENUATOR.
 - 4) CONSTRUCT STAGE II IN THE DRIVING LANE.
 - 5) REMOVE ALL TRAFFIC CONTROL.
 - 6) PAINT PAVEMENT MARKING LINE AT PAVEMENT EDGES.
 - 7) REMOVE TEMPORARY MARKING LINE FROM SHOULDER.

STAGE II

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION

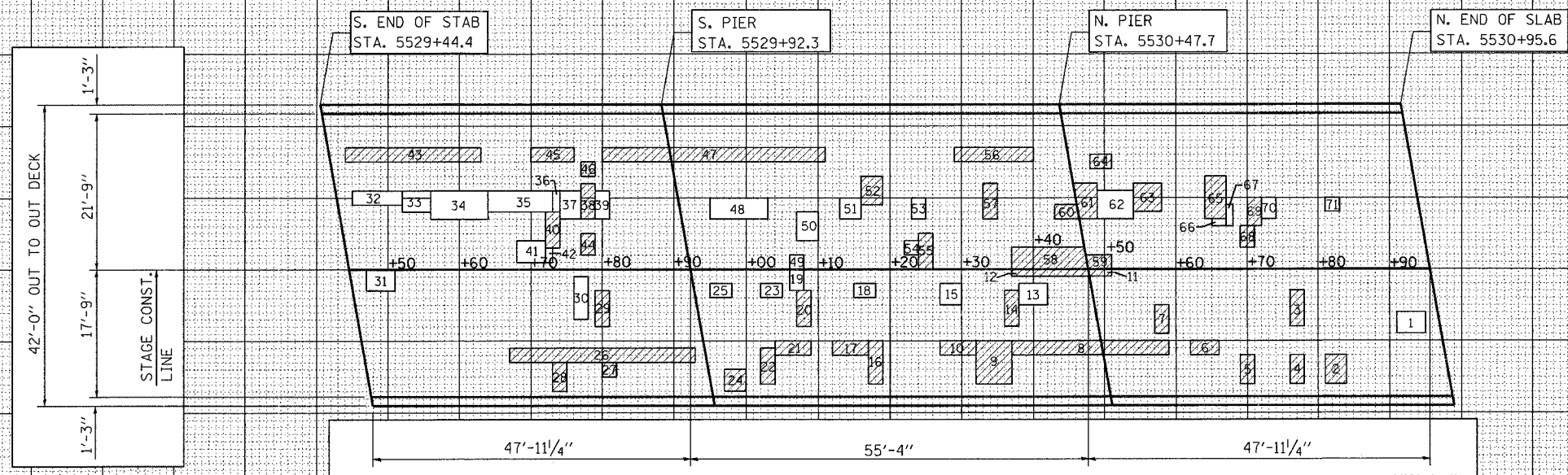
STAGE CONSTRUCTION

SCALE: VERT.
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DATE

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CONTRACT NO. 74119				
F.A.I. R/L	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
57	*	EFFINGHAM	17	6
FED. ROAD DIST. NO. 7				
ILLINOIS				
FED. AID PROJECT NO.				
D-7 JOINT REPAIRS 2006-2				



PATCH NO.	SIZE	DECK SLAB REPAIR (PART DEPTH)	DECK SLAB REPAIR (FD TY 1)	DECK SLAB REPAIR (FD TY 2)	
		SQ YD	SQ YD	SQ YD	
1	4 X 3	12			
2	3 X 4			12	
3	2 X 5			10	
4	2 X 4			8	
5	2 X 4			8	
6	4 X 2			8	
7	2 X 4			8	
8-10	22 X 2			44	
	5 X 6			30	
	5 X 2			10	
			TOTAL:	84	
11-12	3 X 1			3	
	9 X 1			9	
			TOTAL:	12	
13	4 X 3	12			
14	2 X 5			10	
15	3 X 3	9			
16-17	2 X 6			12	

PATCH NO.	SIZE	DECK SLAB REPAIR (PART DEPTH)	DECK SLAB REPAIR (FD TY 1)	DECK SLAB REPAIR (FD TY 2)	
		SQ YD	SQ YD	SQ YD	
	5 X 2			10	
			TOTAL:	22	
18	3 X 2	6			
19	2 X 3	6			
20	2 X 5			10	
21-22	6 X 2			12	
	2 X 5			10	
			TOTAL:	22	
23	3 X 2	6			
24	3 X 3			9	
25	3 X 2	6			
26-28	26 X 2			52	
	2 X 2			4	
	2 X 4			8	
			TOTAL:	64	
29	2 X 5			10	
30	2 X 6	12			
31	4 X 3	12			

PATCH NO.	SIZE	DECK SLAB REPAIR (PART DEPTH)	DECK SLAB REPAIR (FD TY 1)	DECK SLAB REPAIR (FD TY 2)	
		SQ YD	SQ YD	SQ YD	
32-37	7 X 2	14			
	4 X 3	12			
	8 X 4	32			
	9 X 3	27			
	1 X 3	3			
	3 X 4	12			
		TOTAL:	100		
38	2 X 5			10	
39	2 X 4	8			
40	2 X 5			10	
41-42	4 X 3	12			
	1 X 2	2			
		TOTAL:	14		
43	19 X 2			38	
44	2 X 3			6	
45	6 X 2			12	
46	2 X 2		4		
47	31 X 2			62	

PATCH NO.	SIZE	DECK SLAB REPAIR (PART DEPTH)	DECK SLAB REPAIR (FD TY 1)	DECK SLAB REPAIR (FD TY 2)	
		SQ YD	SQ YD	SQ YD	
48	8 X 3	24			
49	2 X 2	4			
50	3 X 4	12			
51	3 X 3	9			
52	3 X 4			12	
53	2 X 3	6			
54	2 X 2	4			
55	2 X 5			10	
56	11 X 2			22	
57	2 X 5			10	
58-59	9 X 3			27	
	3 X 2			6	
			TOTAL:	33	
60-61	3 X 2			6	
	3 X 5			15	
			TOTAL:	21	
62	5 X 4	20			
63	4 X 4			16	

PATCH NO.	SIZE	DECK SLAB REPAIR (PART DEPTH)	DECK SLAB REPAIR (FD TY 1)	DECK SLAB REPAIR (FD TY 2)	
		SQ YD	SQ YD	SQ YD	
64	3 X 2			6	
65	3 X 6			18	
66-67	2 X 1	2			
	1 X 3	3			
		TOTAL:	5		
68-69	2 X 3			6	
	2 X 4			8	
			TOTAL:	14	
70	2 X 3	6			
71	2 X 2	4			
	PROJECT TOTALS:	297	4	597	
	PARTIAL DEPTH:				
	297/9 = 33 SQ YD				
	FULL DEPTH (TY 1):				
	4/9 = 1 SQ YD				
	FULL DEPTH (TY 2):				
	597/9 = 66 SQ YD				

THE LOCATIONS AND SIZES SHOWN GRAPHICALLY ABOVE ARE APPROXIMATE. SEE THIS TABLE FOR ACTUAL SIZES.

PATCHING LEGEND

PARTIAL DEPTH

FULL DEPTH

BRIDGE DECK PATCHING
EFFINGHAM COUNTY
F.A.I. ROUTE 57 OVER GREEN CREEK
1.5 MILES SOUTH OF
SHELBY COUNTY LINE
SN 025-0004

B.M.: Railroad spike West side of base 8" Poplar Tree
200'-0" Right Station 5532+00 El. 578.56

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	SHEET NO.
		Effingham	17	7	11 SHEETS
FED. ROAD DIST. NO. 7 ILLINOIS FED. AID PROJECT-					
Contract Number: 74119					

GENERAL NOTES

All structural steel shall conform to AASHTO Classification M-270 Gr. 36, unless otherwise noted.
Fasteners shall be high strength bolts. Bolts $\frac{3}{4}$ " ϕ , open holes $\frac{1}{16}$ " ϕ , unless otherwise noted.
Plan dimensions and details relative to existing structure have been taken from existing plans and are subject to nominal construction variations. It shall be the Contractor's responsibility to verify such dimensions and details in the field and make necessary approved adjustments prior to construction or ordering of materials. Such variations shall not be cause for additional compensation for a change in the scope of the work, however, the Contractor will be paid for the quantity actually furnished at the unit price bid for the work.
The existing structural steel coating contains lead. The Contractor should take appropriate precautions to deal with the presence of lead on this project.
Existing structural steel that will be in contact with new structural steel shall be cleaned and painted prior to erection as required by the Special Provision "Cleaning and Painting Contact Surface Areas of Existing Steel Structures".
All structural steel shall be shop painted with the inorganic zinc rich primer per AASHTO M300, Type 1. Cost included with Furnishing and Erecting Structural Steel.
All construction joints shall be bonded.
See Roadway plans for quantity of Approach Slab Removal and Replacement, Temporary Concrete Barrier and P.C. Concrete Shoulder.

TOTAL BILL OF MATERIAL

ITEM	UNIT	QUANTITY
Porous Granular Embankment (Special)	Cu. Yd.	79
Structure Excavation	Cu. Yd.	79
Reinforcement Bars, Epoxy Coated	Pound	1,820
Concrete Removal	Cu. Yd.	16.1
Concrete Structures	Cu. Yd.	16.5
Elastomeric Bearing Assembly Type I	Each	6
Elastomeric Bearing Assembly Type II	Each	6
Furnishing and Erecting Structural Steel	Pound	2,080
Temporary Sheet Piling	Sq. Ft.	88
Protective Coat	Sq. Yd.	672
Polymer Concrete	Cu. Ft.	7.4
Silicone Joint Sealer, 1 $\frac{3}{4}$ "	Foot	43
Silicone Joint Sealer, 2 $\frac{3}{4}$ "	Foot	43
Jack and Remove Existing Bearings	Each	12
Bar Splicers	Each	108
Bridge Deck Microsilica Concrete Overlay, 2 $\frac{1}{4}$ "	Sq. Yd.	672
Bridge Deck Hydro-Scarification, $\frac{1}{2}$ "	Sq. Yd.	672
Bituminous Concrete Removal (Deck)	Sq. Yd.	672
Temporary Soil Retention System	Sq. Ft.	31.8
Bridge Deck Grooving	Sq. Yd.	671.5
Pipe Underdrains for Structures	Foot	94
Deck Slab Repair (Full Depth Type I)	Sq. Yd.	1
Deck Slab Repair (Full Depth Type II)	Sq. Yd.	66

PLAN AND ELEVATION
F.A.I. RT. 57 SOUTH BOUND
OVER GREEN CREEK
EFFINGHAM COUNTY
SN 025-0004

DESIGNED	William J. Hallenberger
CHECKED	John A. Morris
DRAWN	John A. Morris
CHECKED	A.T.H. S.J.B.

EXAMINED	March 6, 2006
PASSED	John A. Morris
	ENGINEER OF BRIDGES AND STRUCTURES



Expires: November 30, 2006

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		Effingham	17	8
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		

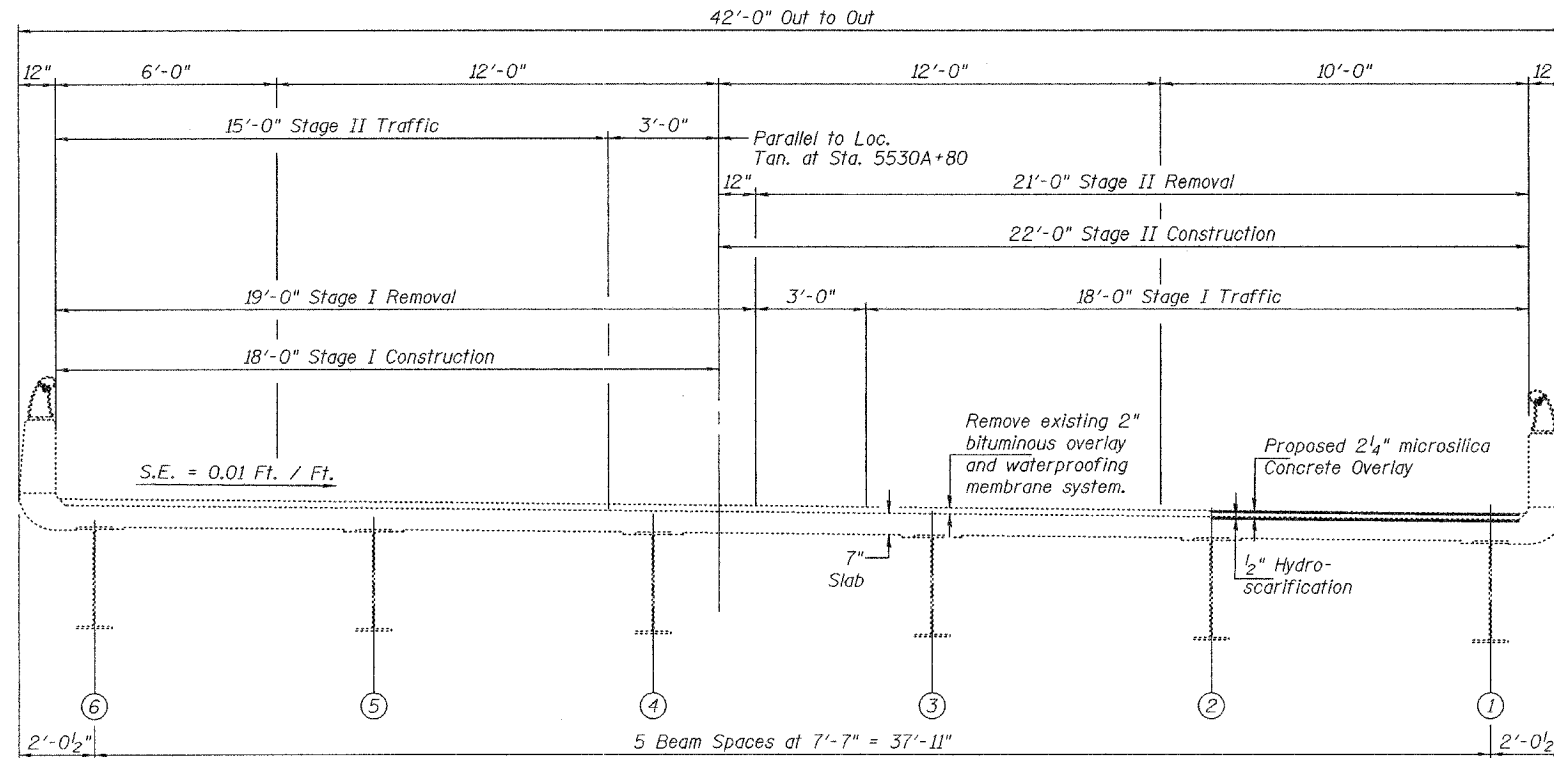
Contract Number: 74119

Notes:

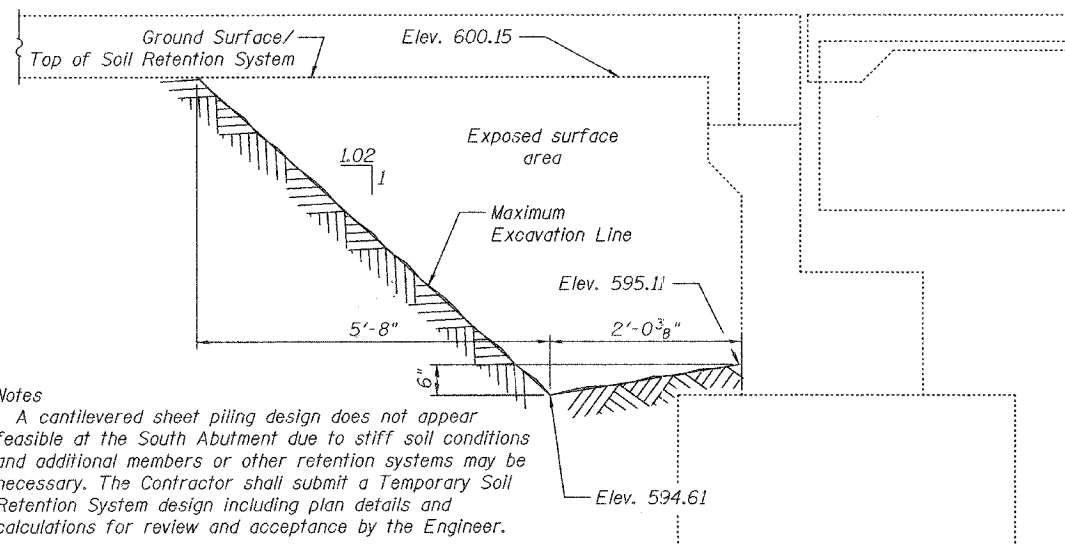
Minimum Section Modulus = 3.3 in.³/ft.

The Contractor shall connect the first sheet to the existing North abutment wall to ensure stability of sheets driven to the top of the existing footing. This connection shall be reviewed and accepted by the Engineer and included in the cost for Temporary Sheet Piling.

If the Contractor chooses to alter the temporary cantilivered sheet piling design requirements shown on the plans for the North Abutment, a design submittal including plan details and calculations will be required for review and acceptance by the Engineer.

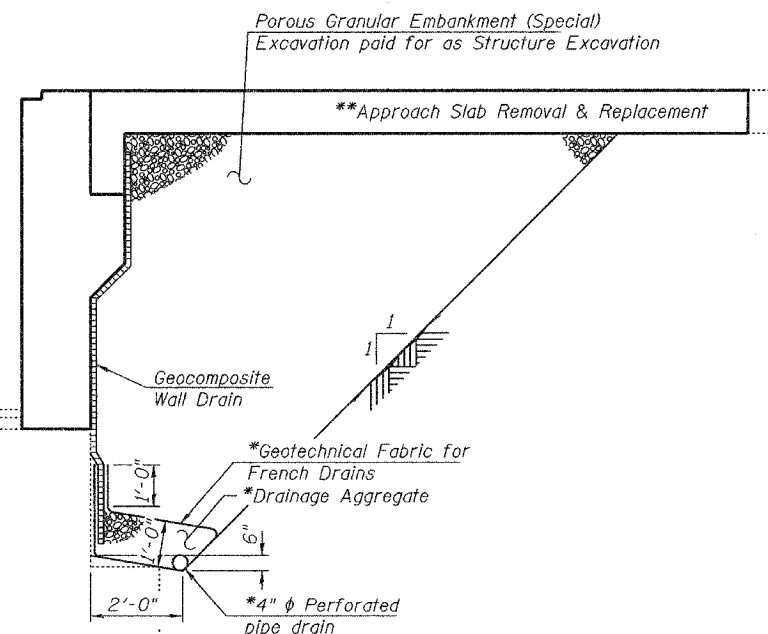


CONSTRUCTION STAGING
(Looking South)



Notes:
A cantilivered sheet piling design does not appear feasible at the South Abutment due to stiff soil conditions and additional members or other retention systems may be necessary. The Contractor shall submit a Temporary Soil Retention System design including plan details and calculations for review and acceptance by the Engineer.

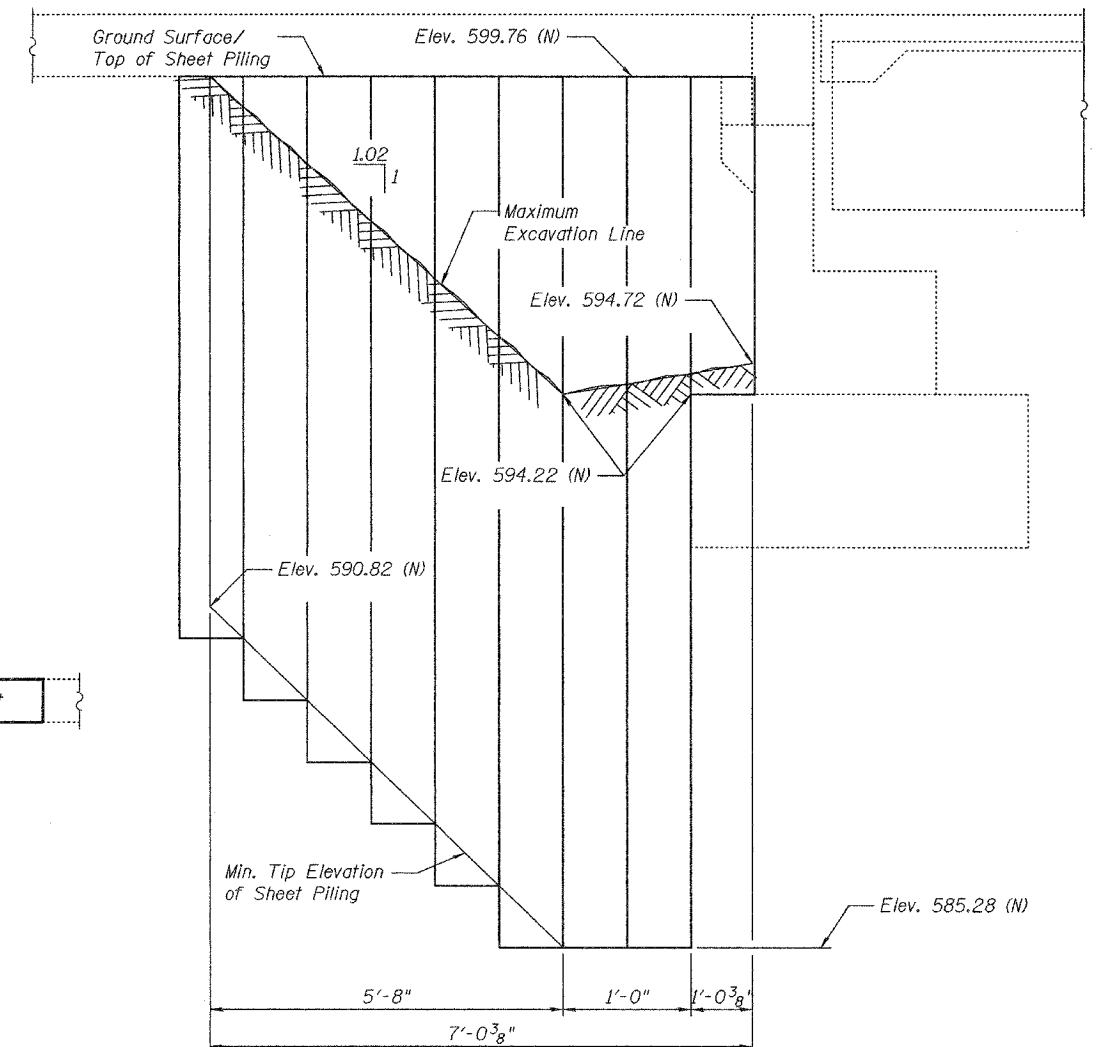
TEMPORARY SOIL RETENTION SYSTEM AT SOUTH ABUTMENT
Slopes and distances shown along sheeting alignment



*Included in the cost of Pipe Underdrains for Structures.
**For details see Roadway Plans

All drainage system components shall extend 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). Bore holes through wingwalls as required and seal gap around pipe. Cost Included with Pipe Underdrains for Structures.

SECTION THRU ABUTMENT
Dimensions are at Right Angles



TEMPORARY SHEET PILING AT NORTH ABUTMENT
Slopes and dimensions shown along sheeting alignment.

DESIGNED	A.T.H.
CHECKED	S.J.B.
DRAWN	Drew Christopher
CHECKED	A.T.H. S.J.B.

EXAMINED	March 6, 2006
John A. Morris	ENGINEER OF STRUCTURAL SERVICES
PASSED	Ralph E. Anderson
	ENGINEER OF BRIDGES AND STRUCTURES

STAGING DETAILS
F.A.I. RT. 57 SOUTH BOUND
OVER GREEN CREEK
EFFINGHAM COUNTY
SN 025-0004

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

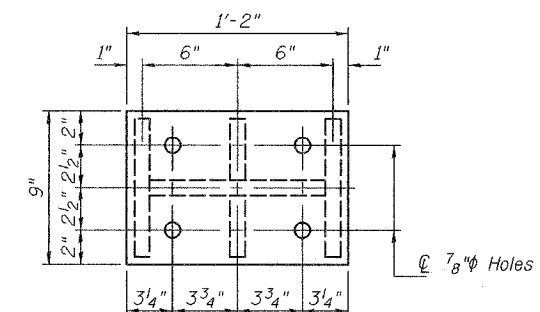
BEAM REACTIONS

R _L	(K)	18.0
R _R	(K)	37.8
Imp.	(K)	11.0

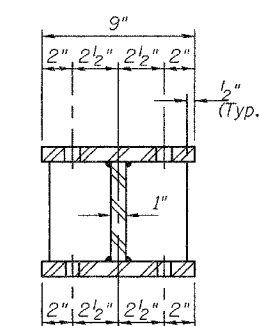
Notes:
Diaphragm removal and reinstallation may be required to facilitate drilling holes. Cost included with Furnishing and Erecting Structural Steel.
New steel extensions, side retainers, shim plates, connection bolts, and anchor bolts are included with Furnishing and Erecting Structural Steel.
See Sheet 9 of 11 for Anchor Bolt installation.
Prior to ordering any material, the Contractor shall verify in the field all bearing height and shim thickness dimensions. Min. jack capacity = 35 Tons.
For existing bearing removal details, see Sheet 4 of 11.

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		Effingham	17	9
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		

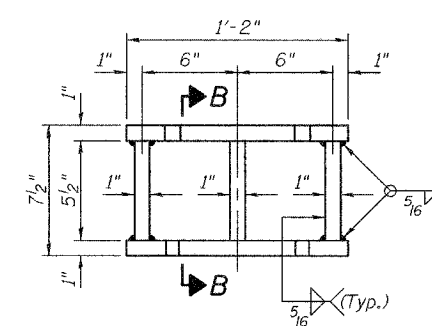
Contract Number: 74119



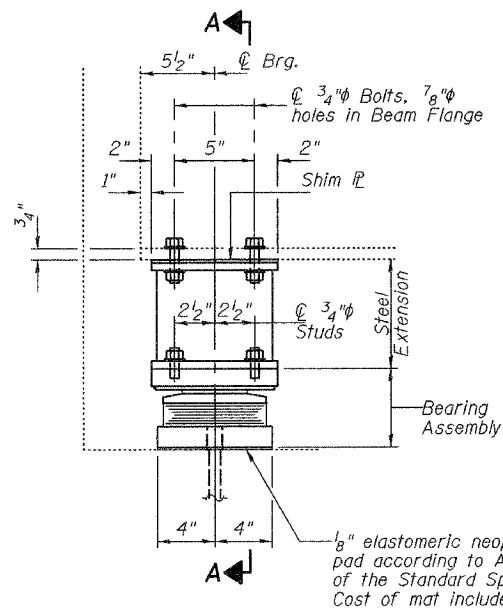
PLAN TOP AND BOTTOM PLATE



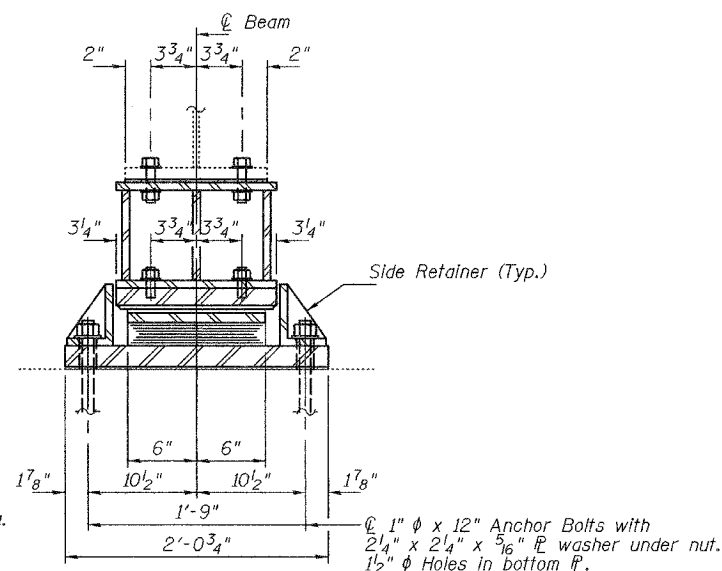
SECTION B-B



STEEL EXTENSION DETAIL

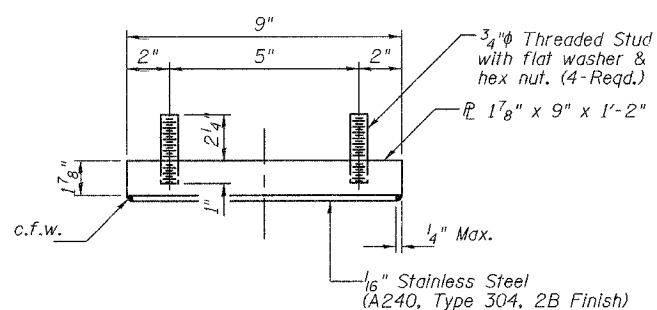


ELEVATION AT ABUTMENT

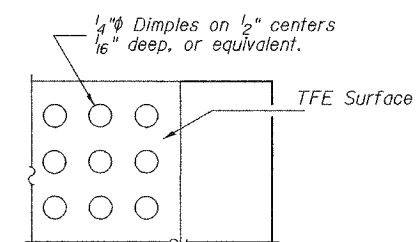


SECTION A-A

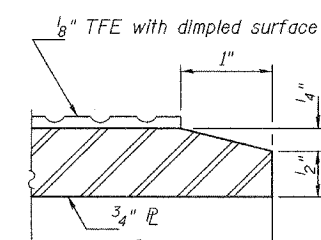
TYPE II TFE ELASTOMERIC EXP. BRG.



TOP BEARING ASSEMBLY



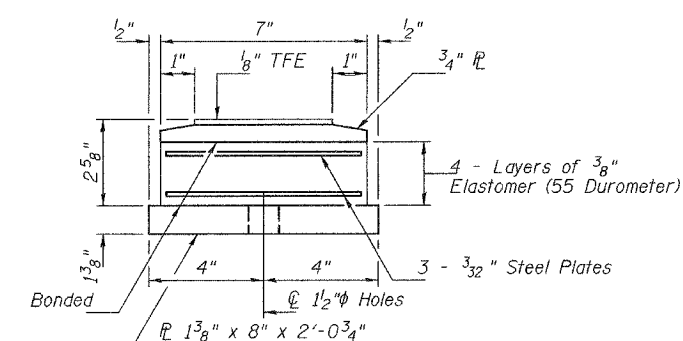
PLAN-TFE SURFACE



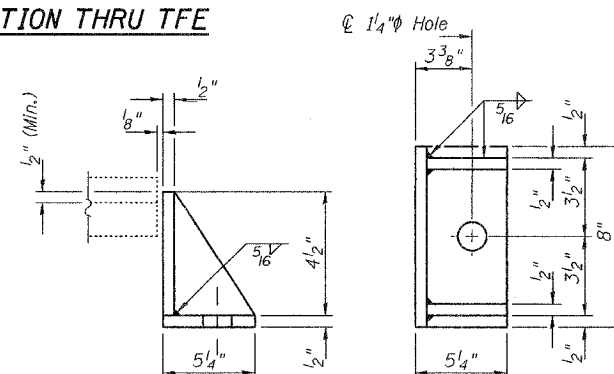
SECTION THRU TFE

Note: The 1/8" TFE sheet shall be bonded directly to the top steel plate with a two-component, medium viscosity epoxy resin, conforming to the requirements of the Federal Specification MMM-A-134, Type I. The bond agent shall be applied on the full area of the contact surfaces.

Bonding of 1/8" TFE sheet during vulcanizing process will be permitted provided the process and method of adjusting assembly height is approved by the Engineer.

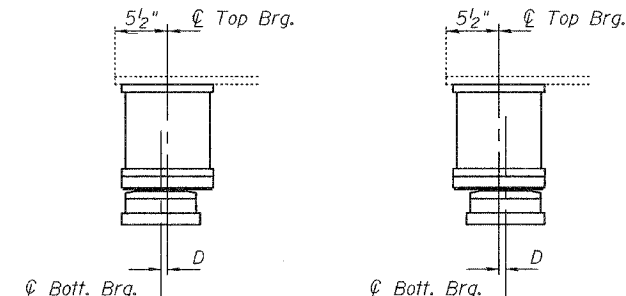


BOTTOM BEARING ASSEMBLY



SIDE RETAINER

Equivalent rolled angle with stiffeners will be allowed in lieu of welded plates.



SETTING ANCHOR BOLTS AT EXP. BRG.

D = 1/8" per each 100' of expansion for every 15° temp. change from the normal temp. of 50°F.

BILL OF MATERIAL

Item	Unit	Total
Elastomeric Bearing Assembly Type II	Each	6
Jack and Remove Existing Bearings	Each	6
Furnishing and Erecting Structural Steel	Pound	1,040

BEARING REPLACEMENT DETAILS

SOUTH ABUTMENT
F.A.I. RT. 57 SOUTH BOUND
OVER GREEN CREEK
EFFINGHAM COUNTY
SN 025-0004

DESIGNED	A.T.H.
CHECKED	S.J.B.
DRAWN	Drew Christopher
CHECKED	A.T.H. S.J.B.

March 6, 2006
EXAMINED John A. Morris
PASSED Ralph E. Anderson

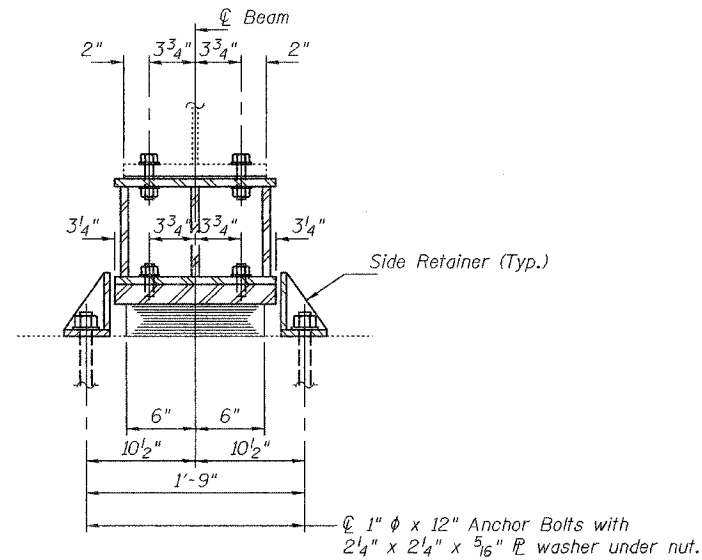
TYII/REPS 8-20-2002

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		Effingham	17	10
FED. ROAD DIST. NO. ?		ILLINOIS	FED. AID PROJECT-	

SHEET NO. 4
11 SHEETS

Contract Number: 74119

Notes:
 Diaphragm removal and reinstallation may be required to facilitate drilling holes. Cost included with Furnishing and Erecting Structural Steel.
 New steel extensions, side retainers, shim plates, connection bolts, and anchor bolts are included with Furnishing and Erecting Structural Steel.
 See Sheet 9 of 11 for Anchor Bolt installation.
 Prior to ordering any material, the Contractor shall verify in the field all bearing height and shim thickness dimensions.
 Min. jack capacity = 35 Tons.



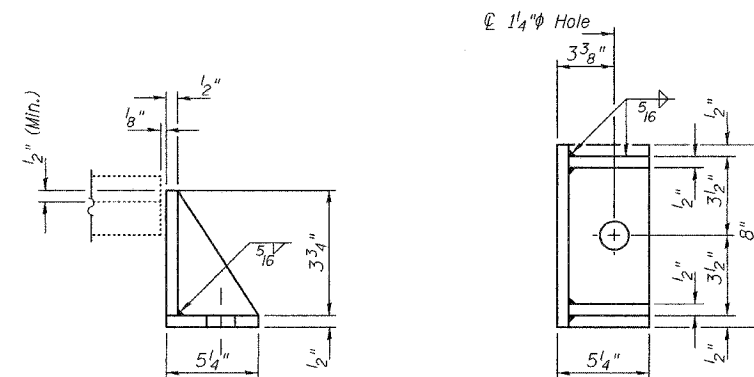
SECTION C-C

Figure 1 is a plan view of a square plate. The overall dimensions are 1'-2" by 8". There are four 7/8" diameter holes arranged in a 2x2 grid. The center-to-center distance between holes is 3 3/4". The distance from the center of the grid to the nearest edge is 3 1/4". The distance from the center of the grid to the nearest corner is 1". The distance from the center of the grid to the nearest edge is 2".

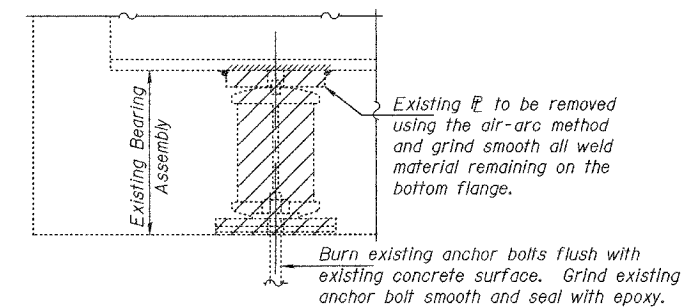
Diagram of a frame structure. The horizontal span is 8" with four 2" segments. The vertical height is 12" with four 3" segments. A horizontal load of 1.2" is applied at the top right corner. A horizontal load of 1" is applied at the midpoint of the vertical member. The structure is supported by a fixed support at the bottom left and a roller support at the bottom right.

Technical drawing of a bonded repair of a concrete beam. The drawing shows a cross-section of a beam with dimensions and labels for the repair materials. The beam is 8 inches wide and 13 3/4 inches high. The repair area is 4 inches wide and 2 inches high. The repair consists of 4 layers of 3/8 inch elastomer (55 Durometer) and 3 - 3/32 inch steel plates. The repair is bonded to the concrete beam. Labels include: "Bonded", "3/4 inch Threaded Stud with flat washer & hex nut. (4-Reqd.)", "1 1/2 inch x 8 inch x 1'-2 inch", "4 - Layers of 3/8 inch Elastomer (55 Durometer)", and "3 - 3/32 inch Steel Plates". Dimensions are given in inches: 8, 2, 4, 2, 2 1/4, 3 3/4, 2, 13 3/4, 1, 7, 1 1/2, 3, 8, 1 1/2, 7, 1 1/2.

Note:
Shim plates shall not be placed
under Bearing Assembly.



Equivalent rolled angle with stiffeners
will be allowed in lieu of welded plates.



Cost included with Jack and
Remove Existing Bearings.

Item	Unit	Total
Elastomeric Bearing Assembly Type I	Each	6
Jack and Remove Existing Bearings	Each	6
Furnishing and Erecting Structural Steel	Pound	1,040

NORTH ABUTMENT
F.A.I. RT. 57 SOUTH BOUND
OVER GREEN CREEK
EFFINGHAM COUNTY
SN 025-0004

March 6, 2006

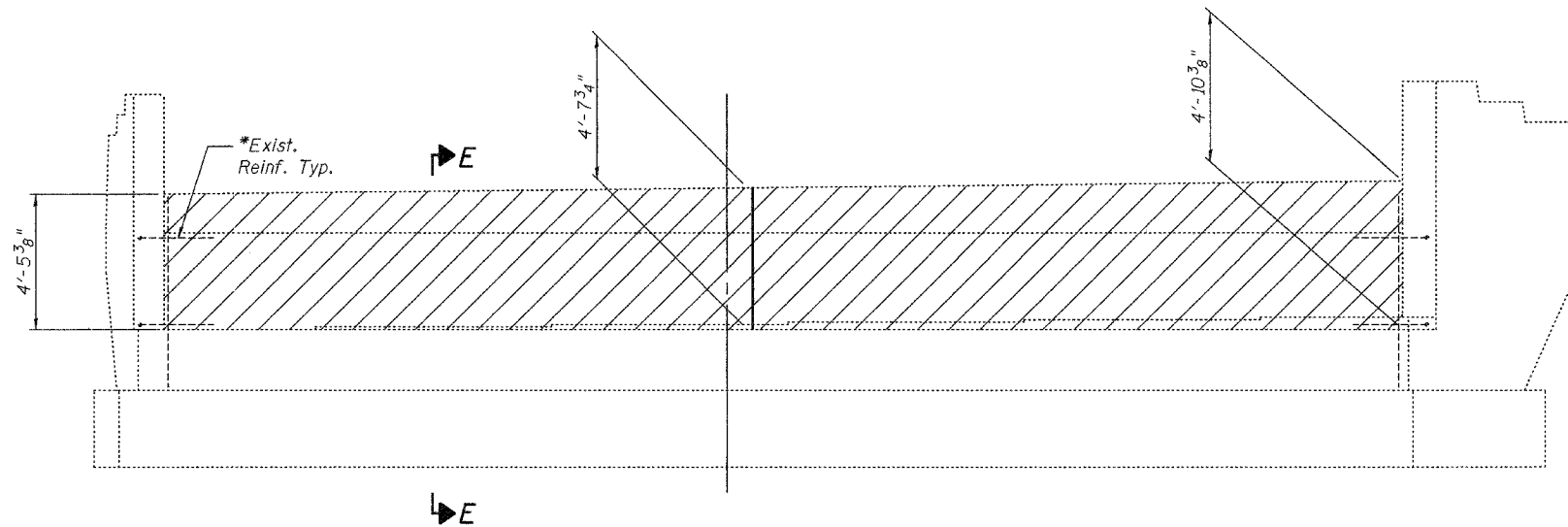
EXAMINED John A. Morris
ENGINEER OF STRUCTURAL SERVICES

PASSED Ralph E. Anderson
ENGINEER OF BRIDGES AND STRUCTURES

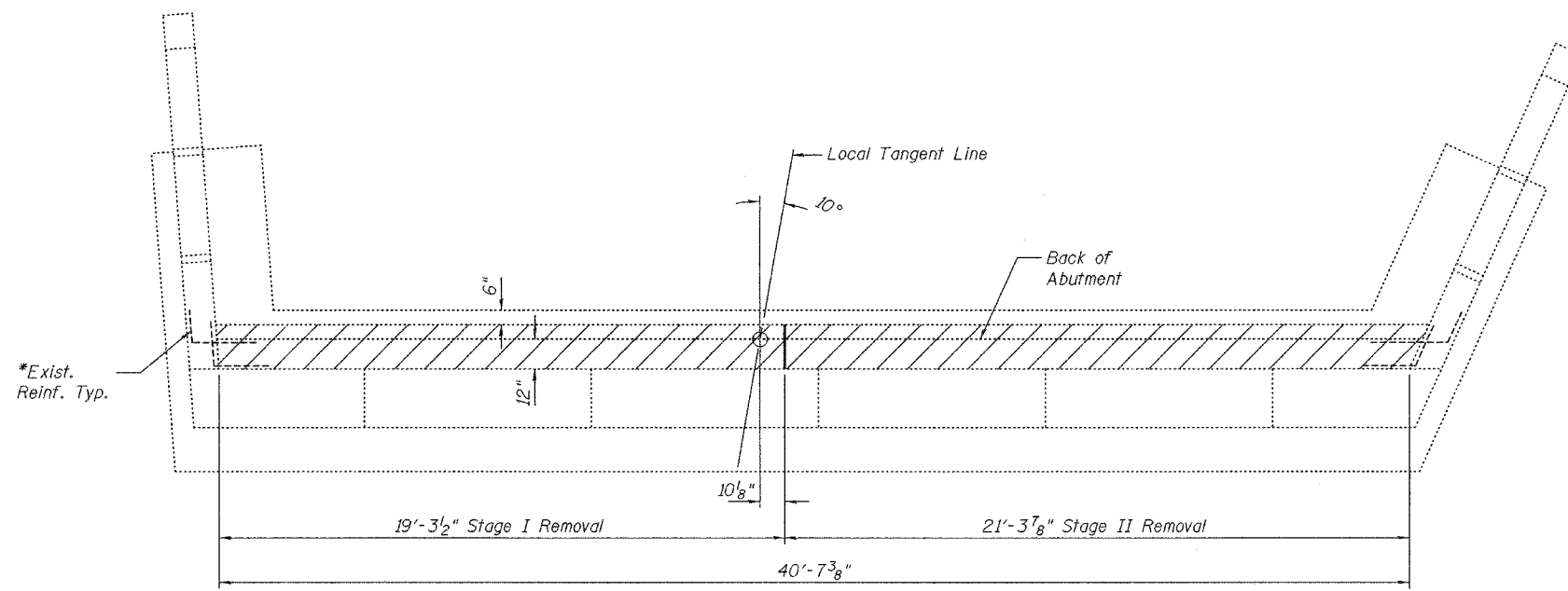
TYI/REPS 8-20-2002

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

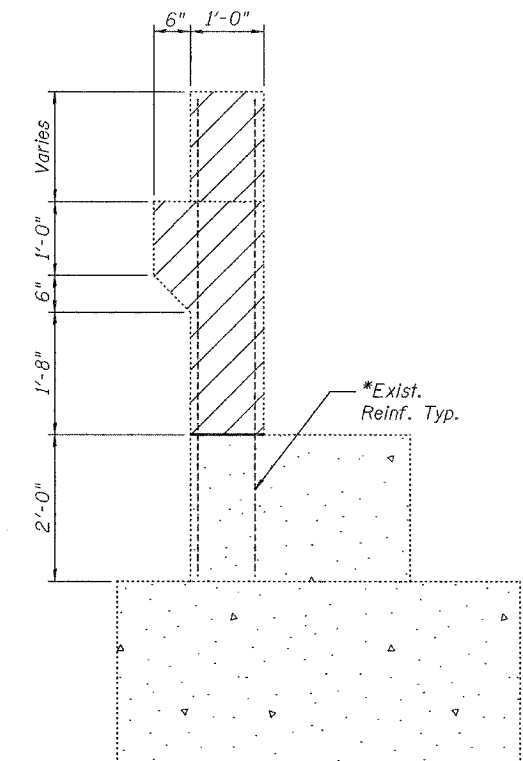
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	SHEET NO. 5
		Effingham	17	11	11 SHEETS
FED. ROAD DIST. NO. 7		ILLINOIS	FED. AID PROJECT-		
Contract Number: 74119					



ELEVATION



PLAN



SECTION E-E

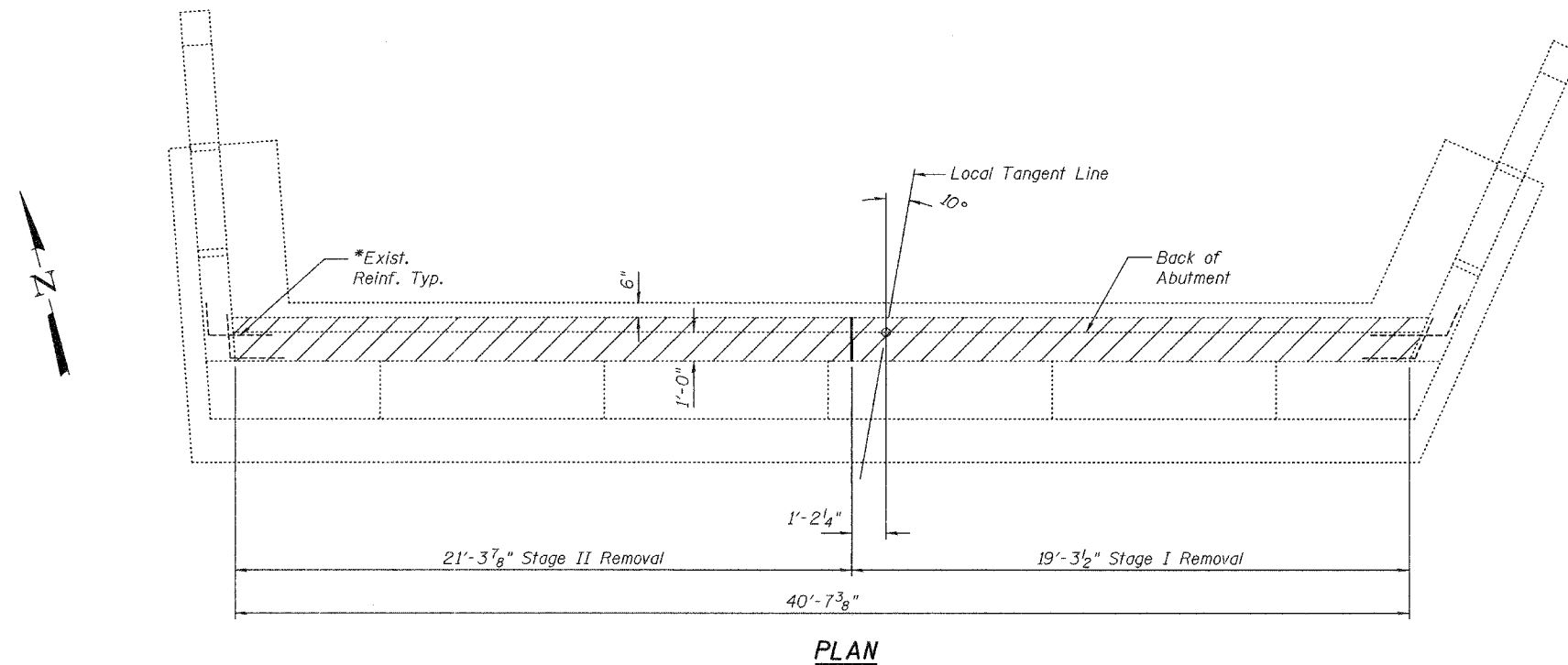
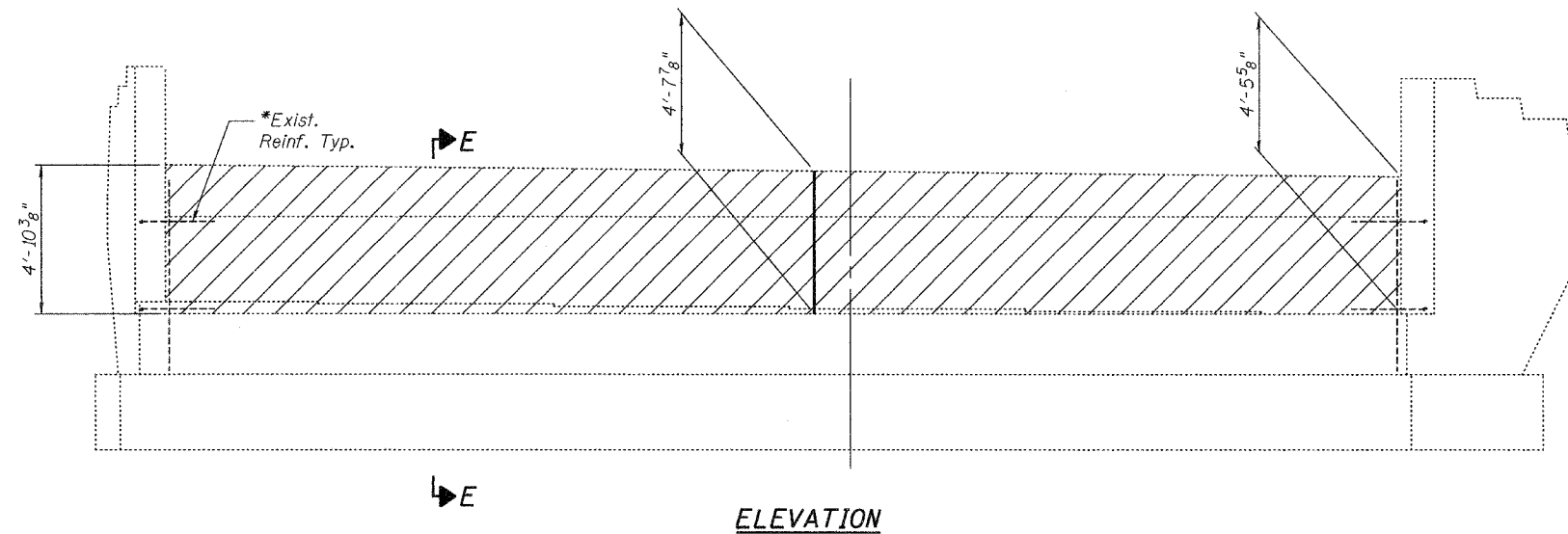
Notes:
Hatched areas indicate Concrete Removal.
*Existing reinforcement extending into the removal area shall be cleaned, straightened and incorporated into the new construction. Any reinforcement bars that are damaged during concrete removal shall be replaced with an approved bar splicer or anchorage system. Cost shall be included with Concrete Removal.

DESIGNED	A.T.H.	March 6, 2006
CHECKED	S.J.B.	EXAMINED <i>John A. Morris</i> ENGINEER OF STRUCTURAL SERVICES
DRAWN	Drew Christopher	PASSED <i>Ralph E. Anderson</i> ENGINEER OF BRIDGES AND STRUCTURES
CHECKED	A.T.H. S.J.B.	

SOUTH ABUTMENT CONCRETE REMOVAL
F.A.I. RT. 57 SOUTH BOUND
OVER GREEN CREEK
EFFINGHAM COUNTY
SN 025-0004

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	SHEET NO. 6
		Effingham	17	12	11 SHEETS
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT	Contract Number: 74119		



Notes:
Hatched areas indicate Concrete Removal.
For Section E-E see sheet 5 of 11.
*Existing reinforcement extending into the removal area shall be cleaned, straightened and incorporated into the new construction. Any reinforcement bars that are damaged during concrete removal shall be replaced with an approved bar splicer or anchorage system. Cost shall be included with Concrete Removal.

DESIGNED	A.T.H.
CHECKED	S.J.B.
DRAWN	Drew Christopher
CHECKED	A.T.H. S.J.B.

March 6, 2006

EXAMINED *John A. Morris*
ENGINEER OF STRUCTURAL SERVICES

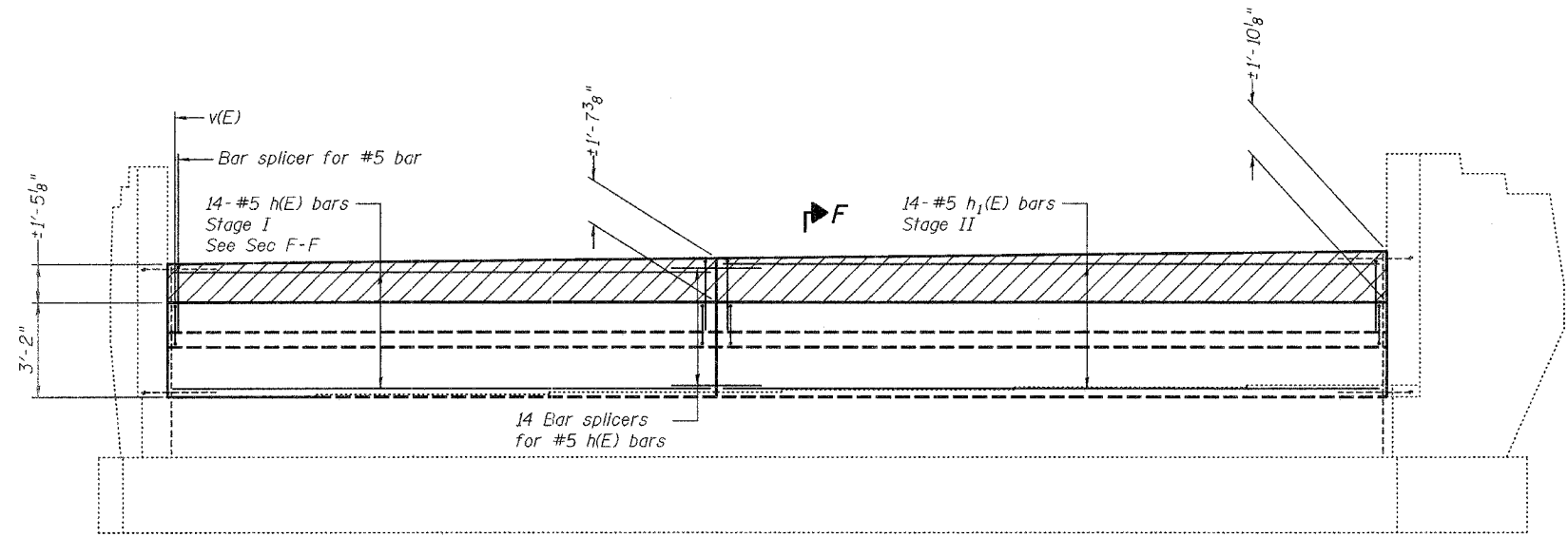
PASSED *Ralph E. Anderson*
ENGINEER OF BRIDGES AND STRUCTURES

NORTH ABUTMENT CONCRETE REMOVAL
F.A.I. RT. 57 SOUTH BOUND
OVER GREEN CREEK
EFFINGHAM COUNTY
SN 025-0004

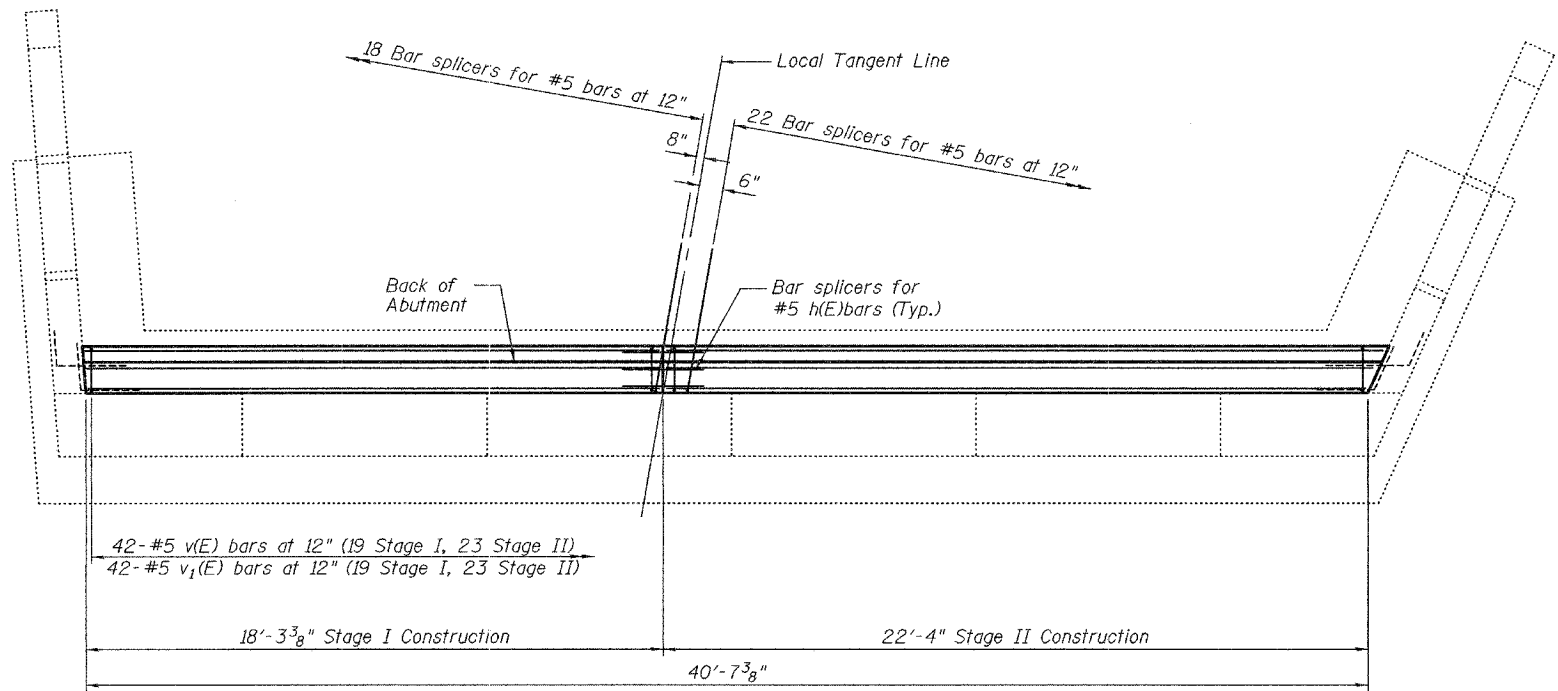
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	SHEET NO.
		Effingham	17	13	11 SHEETS
FED. ROAD DIST. NO. 7					
ILLINOIS					
FED. AID PROJECT					

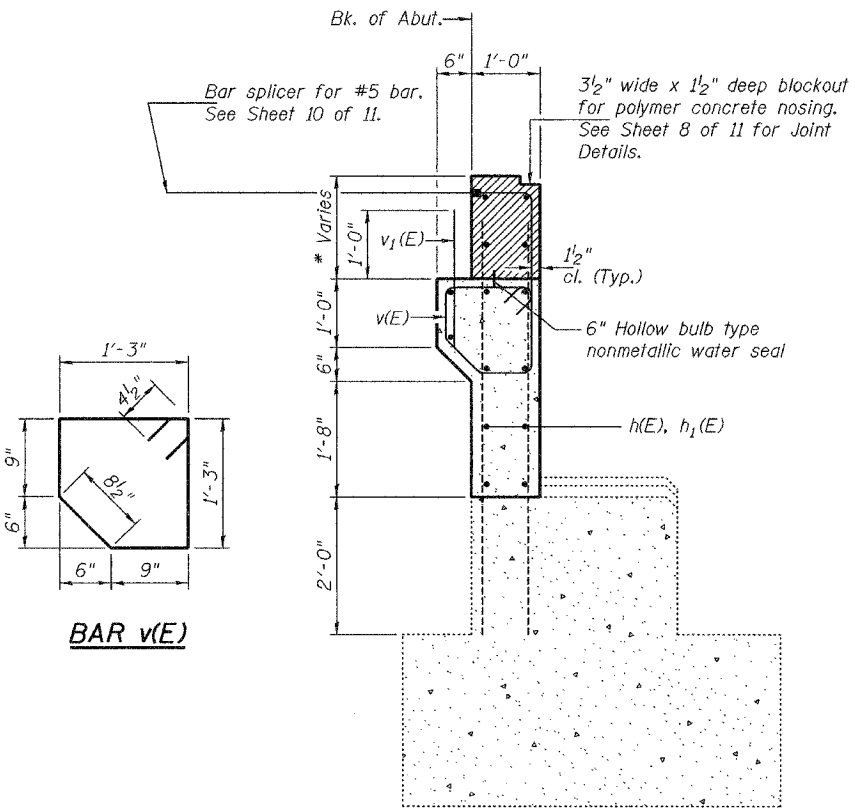
Contract Number: 74119



ELEVATION



PLAN



SECTION F-F

* Match superelevation of existing deck.

Hatch block is to be poured after overlay is complete. Quantity is included with Concrete Structures.

BILL OF MATERIAL

Bar	No.	Size	Length	Shape
h(E)	28	#5	18'-0"	
h1(E)	28	#5	22'-0"	
v(E)	84	#5	5'-5 1/2"	
v1(E)	84	#5	2'-0"	
Concrete Removal			Cu. Yd.	16.1
Concrete Structures			Cu. Yd.	16.5
Reinforcement Bars, Epoxy Coated			Lbs.	1,820

Reinforcement bars designated (E) shall be epoxy coated.

DESIGNED	A.T.H.
CHECKED	S.J.B.
DRAWN	Drew Christopher
CHECKED	A.T.H. S.J.B.

EXAMINED	March 6, 2006
PASSED	John A. Morris ENGINEER OF STRUCTURAL SERVICES
PASSED	Ralph E. Anderson ENGINEER OF BRIDGES AND STRUCTURES

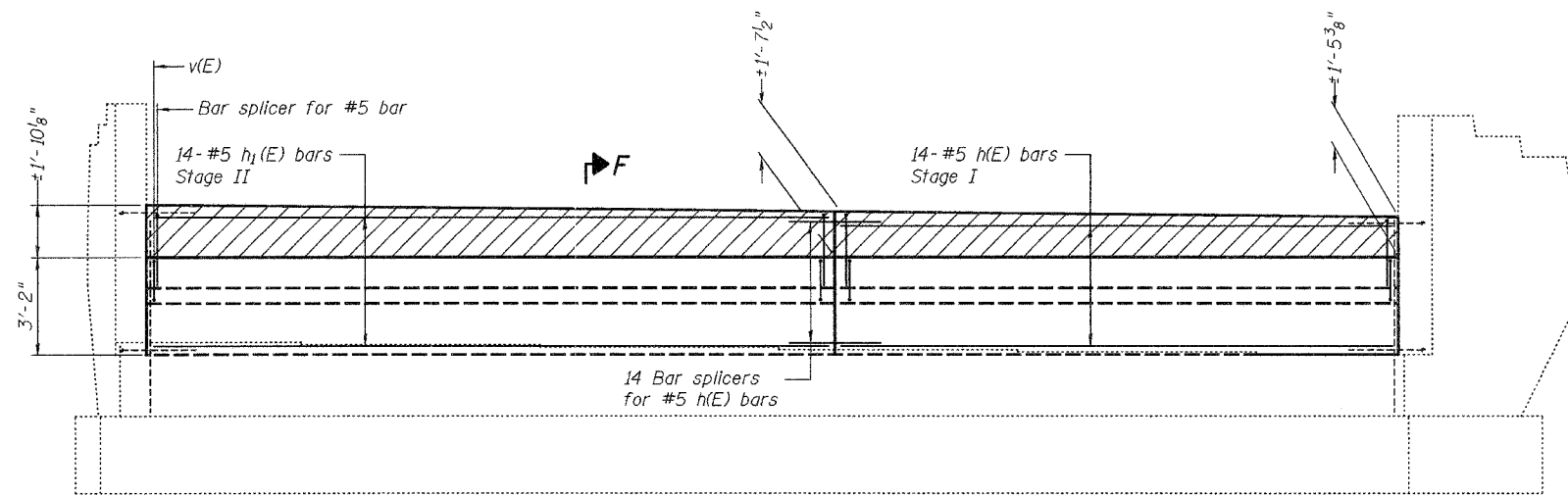
SOUTH ABUTMENT CONSTRUCTION
F.A.I. RT. 57 SOUTH BOUND
OVER GREEN CREEK
EFFINGHAM COUNTY
SN 025-0004

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

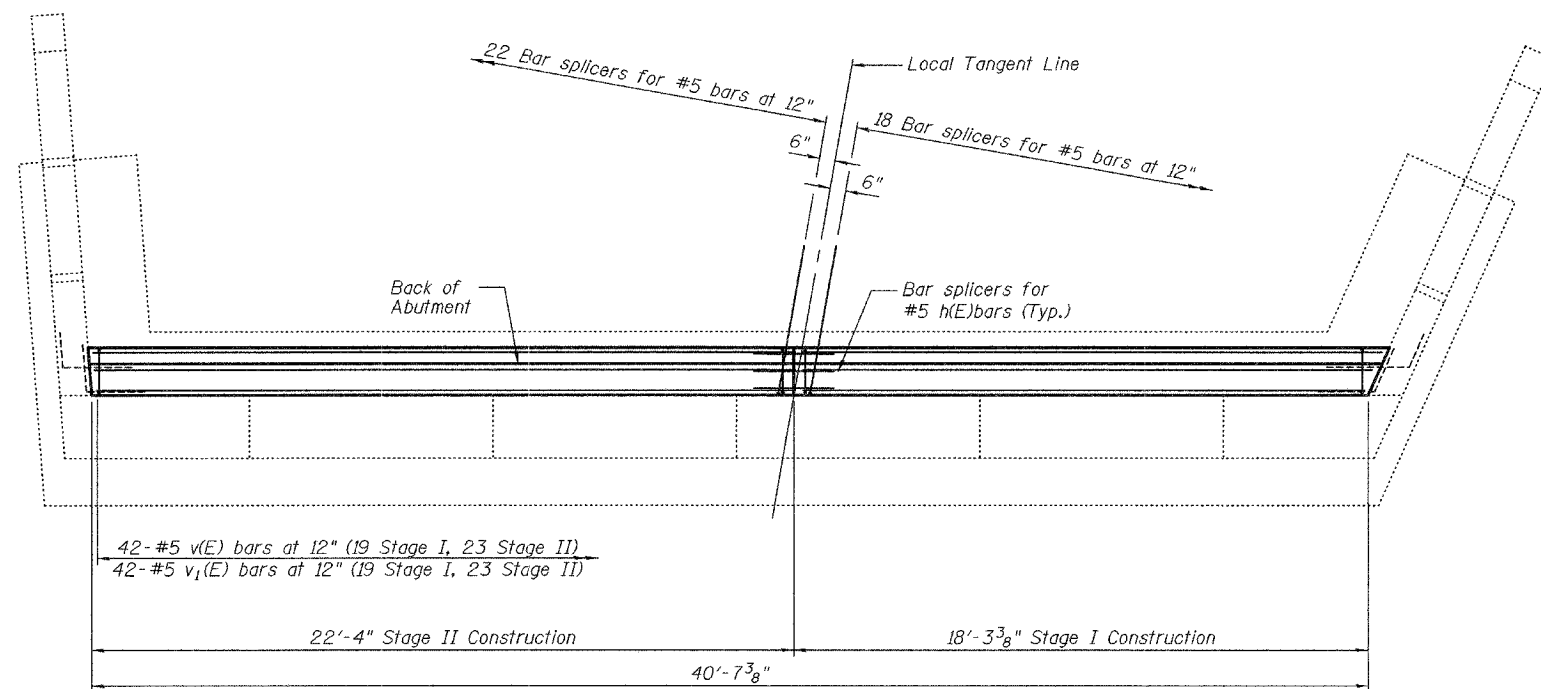
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		Effingham	17	14
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		

Contract Number: 74119

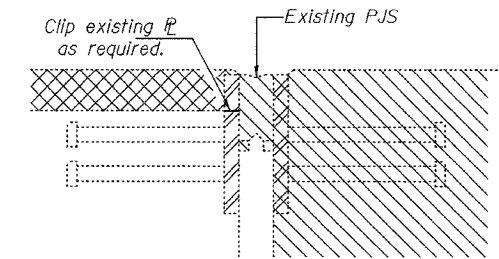
SHEET NO. 8
11 SHEETS



ELEVATION

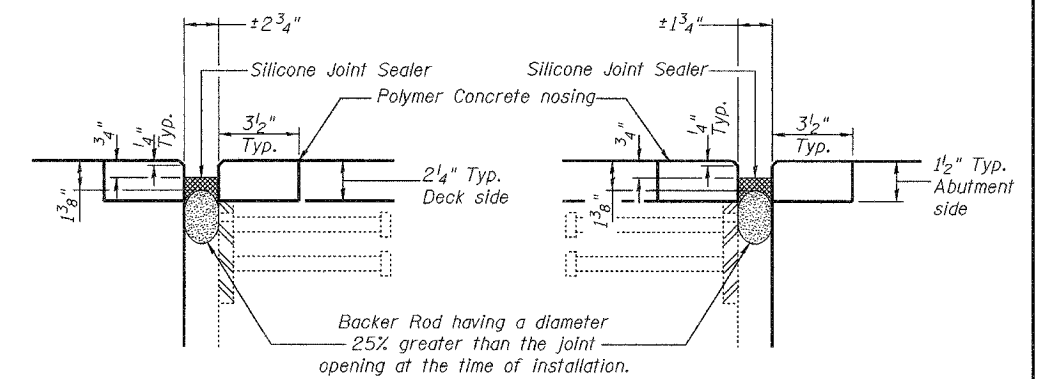


PLAN



ABUTMENT JOINT REMOVAL DETAILS

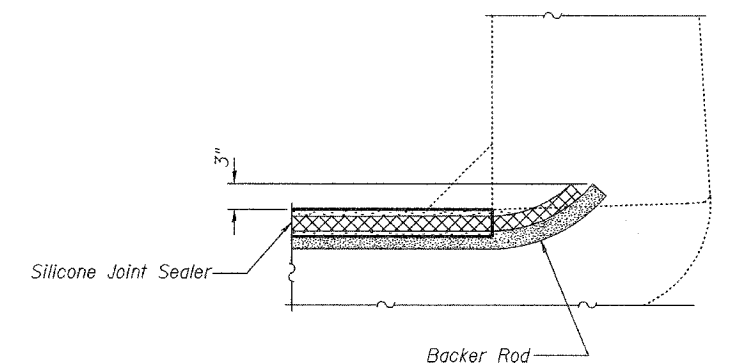
Hatched areas indicates concrete removal.
Cross-hatched areas indicates overlay and
waterproofing membrane system removal.



AT SOUTH ABUTMENT

AT NORTH ABUTMENT

SILICONE JOINT SEAL DETAILS



TYPICAL END OF SEAL TREATMENT

Notes:
For Section F-F see sheet 7 of 11.

DESIGNED	A.T.H.
CHECKED	S.J.B.
DRAWN	Drew Christopher
CHECKED	A.T.H. S.J.B.

EXAMINED	March 6, 2006
PASSED	John A. Morris ENGINEER OF STRUCTURAL SERVICES
	Ralph E. Anderson ENGINEER OF BRIDGES AND STRUCTURES

NORTH ABUTMENT CONSTRUCTION
F.A.I. RT. 57 SOUTH BOUND
OVER GREEN CREEK
EFFINGHAM COUNTY
SN 025-0004

The Illinois Coil-Lock Anchor Bolt is a proprietary item which is the property of the Illinois Department of Transportation. Use, reproduction or disclosure without express written permission is prohibited and protected under Federal copyright laws. The production and the fabrication of this bolt for use on highway projects in the State of Illinois shall be permitted and there shall be no incurred charges or fees to the manufacturer or the fabricator for producing or fabricating this bolt.

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	SHEET NO.	SHEET NO.
		Effingham	17	15
Contract Number: 74119				

GENERAL NOTES

Holes in the masonry for anchor bolts shall be drilled through the base plates to the diameter and depth shown or according to the manufacturer's recommendation after beams or girders have been erected and adjusted. Prior to setting the bolts, the holes shall be dry and all dust and loose particles shall be removed by the use of compressed air or vacuuming. The anchor bolts, furnished and installed and including the epoxy grout or capsules shall not be paid for separately but shall be included in the unit bid price for Furnishing and Erecting Structural Steel.

MATERIALS FOR ILLINOIS COIL-LOCK
ANCHOR BOLT

The anchor bolt shall be fabricated from cold drawn or hot finished seamless carbon steel mechanical tubing conforming to ASTM A 519, Grade 1026, CW and supplied with hexagonal nuts and cut washers. The coil wire shall be made of any suitable soft steel wire. The finished anchor bolt shall be cleaned of rust and other foreign materials and wrapped or packaged to prevent contamination until they are installed. The epoxy grout shall be a two-component, epoxy resin bonding system conforming to ASTM C 881, Type I, Grade 1 and of a Class suitable for the temperature at installation.

INSTALLATION PROCEDURE for the ILLINOIS
COIL-LOCK ANCHOR BOLT

- With the coil wire in place, the bolt shall be inserted into the hole and turned clockwise to a snug fit in the hole. Nut and washer shall be placed on the bolt. The nut shall be tensioned until the steel base plates are held securely to the concrete bearing seat.
- Epoxy grout shall be pumped through the zerk fitting with a pressure gun. Pumping shall continue until the epoxy overflows the hole around the bolt shank. After pumping is discontinued, excess epoxy shall be immediately wiped off.

ALTERNATE ANCHOR BOLTS

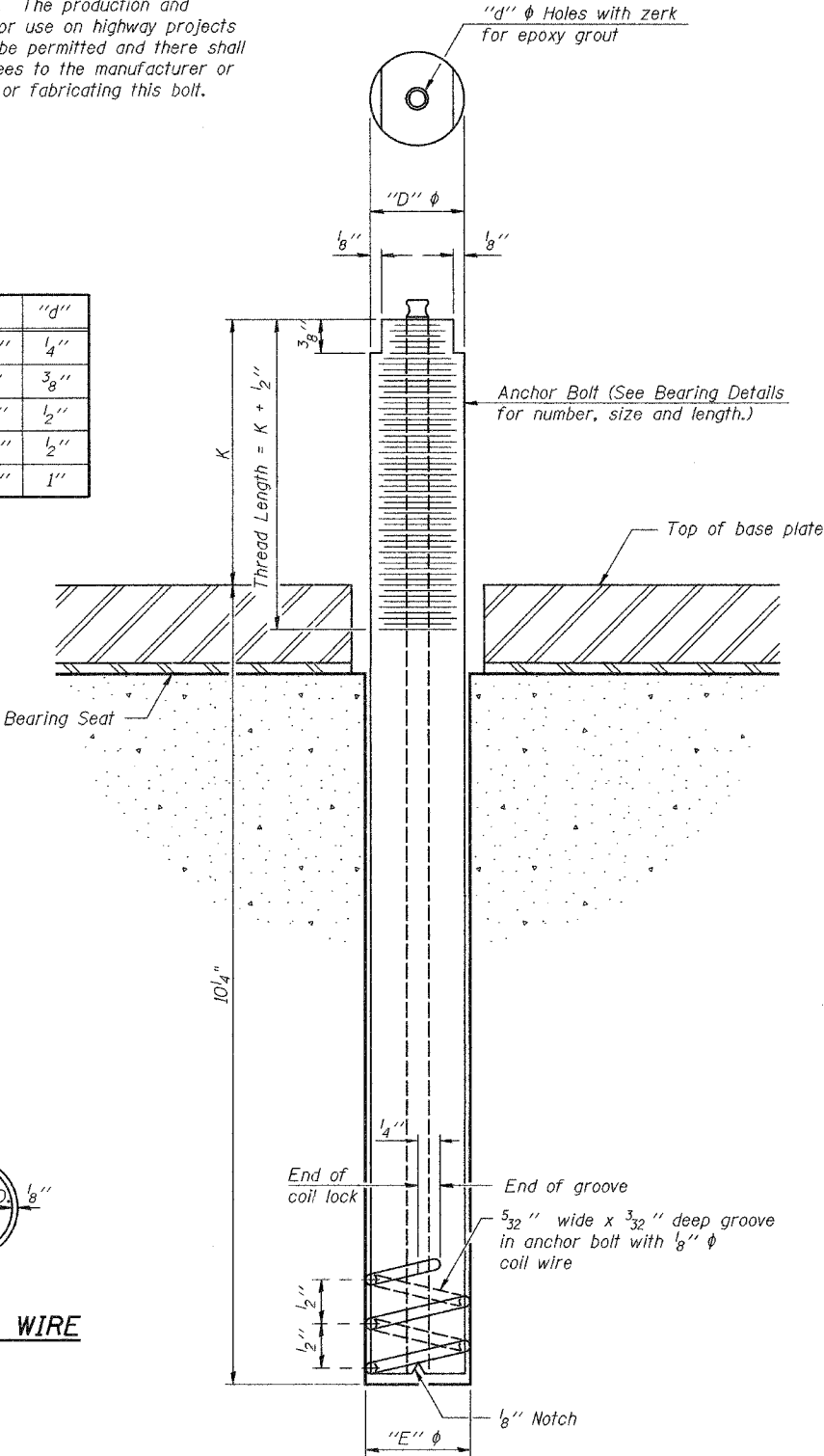
The Contractor may use, at his option, the capsule or the adhesive cartridge type anchor rods that have been previously tested and given a prior approval by the Department. The Contractor shall install these anchor rods in pre-drilled holes according to the manufacturer's recommendations and procedures.

- The capsule or the adhesive cartridge type anchor rods shall be a two part system composed of:
- A threaded rod stud with nut and washer of the type specified.
 - A sealed glass capsule or a sealed glass adhesive cartridge containing premeasured amounts of the adhesive chemical.

Location	Type
Abuts	A307

ASTM F 1554 Grade 105, ASTM A 449 and AASHTO M 314 Grade 105 anchor bolts may be substituted for the anchor bolts shown above.

D	E	H	K	"d"
1"	1 1/8"	1 3/16"	1 3/4"	1/4"
1 1/4"	1 3/8"	1 1/16"	2"	3/8"
1 1/2"	1 5/8"	1 5/16"	2 1/8"	1/2"
2"	2 1/8"	1 3/16"	2 7/8"	1/2"
2 1/2"	2 5/8"	2 5/16"	3 3/8"	1"



PLAN-COIL WIRE

DESIGNED	A.T.H.
CHECKED	S.J.B.
DRAWN	Drew Christopher
CHECKED	A.T.H. S.J.B.

ABB-1

March 6, 2006
EXAMINED John A. Morris
PASSED Ralph E. Anderson

10-22-04

ANCHOR BOLT DETAILS
F.A.I. RT. 57 SOUTH BOUND
OVER GREEN CREEK
EFFINGHAM COUNTY
SN 025-0004

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	SHEET NO. 10
		Effingham	17	16	11 SHEETS
FED. ROAD DIST. NO. 7		ILLINOIS	FED. AID PROJECT--		

Contract Number: 74119

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
(Tension in kips) = $1.25 \times f_y \times A_t$
- ② Minimum *Pull-out Strength
(Tension in kips) = $1.25 \times f_{s_{allow}} \times A_t$

Where f_y = Yield strength of lapped reinforcement bars in ksi.
 $f_{s_{allow}}$ = Allowable tensile stress in lapped reinforcement bars in ksi (Service Load)
 A_t = Tensile stress area of lapped reinforcement bars.
* = 28 day concrete

BAR SPLICER ASSEMBLIES			
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	5.9
#5	2'-0"	23.0	9.2
#6	2'-7"	33.1	13.3
#7	3'-5"	45.1	18.0
#8	4'-6"	58.9	23.6
#9	5'-9"	75.0	30.0
#10	7'-3"	95.0	38.0
#11	9'-0"	117.4	46.8

Bar splicer assemblies shall be according to Section 508 of the Standard Specifications, except as noted. The furnishing and installation of bar splicer assemblies will be measured and paid for at the contract unit price each for "BAR SPLICERS."

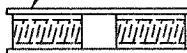
The diameter of this part is equal or larger than the diameter of bar spliced.

ROLLED THREAD DOWEL BAR



**** ONE PIECE**

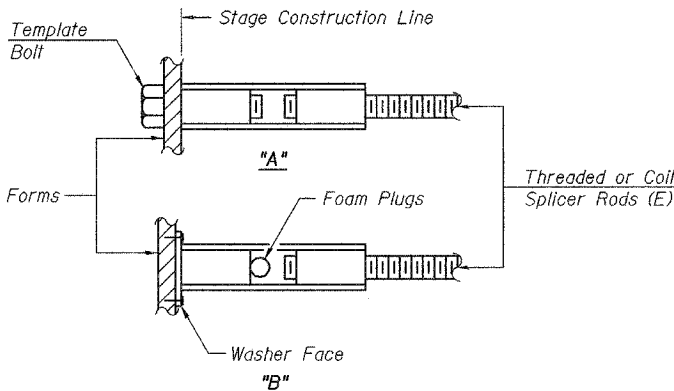
Wire Connector



WELDED SECTIONS

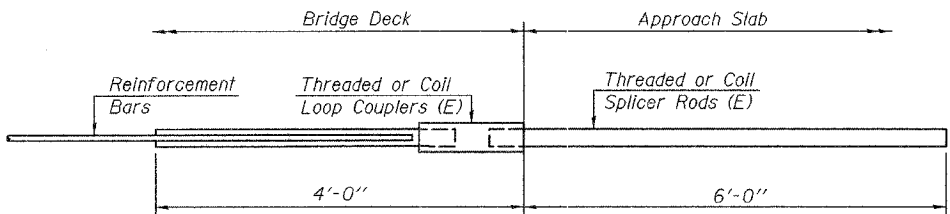
BAR SPLICER ASSEMBLY ALTERNATIVES

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



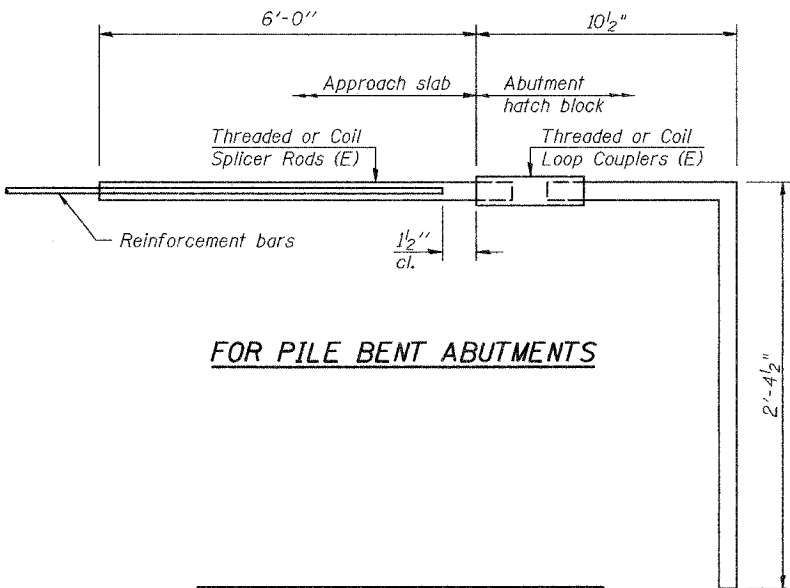
INSTALLATION AND SETTING METHODS

"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.



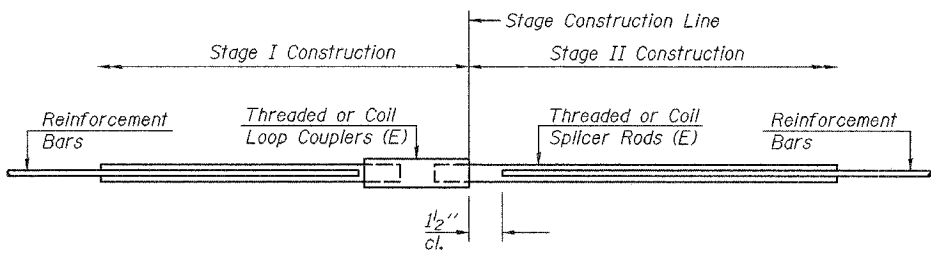
FOR INTEGRAL OR SEMI-INTEGRAL ABUTMENTS

Bar Splicer for #5 bar
Min. Capacity = 23.0 kips - tension
Min. Pull-out Strength = 9.2 kips - tension
No. Required =



FOR PILE BENT ABUTMENTS

Bar Splicer for #5 bar
Min. Capacity = 23.0 kips - tension
Min. Pull-out Strength = 9.2 kips - tension
No. Required = 80



STANDARD

Bar Size	No. Assemblies Required	Location
#5	28	Backwall

BAR SPLICER ASSEMBLY DETAILS
F.A.I. RT. 57 SOUTH BOUND
OVER GREEN CREEK
EFFINGHAM COUNTY
SN 025-0004

DESIGNED	A.T.H.
CHECKED	S.J.B.
DRAWN	Drew Christopher
CHECKED	A.T.H. S.J.B.

March 6, 2006
EXAMINED John A. Morris
ENGINEER OF STRUCTURAL SERVICES
PASSED Ralph E. Anderson
ENGINEER OF BRIDGES AND STRUCTURES

BSD-1 10-22-04

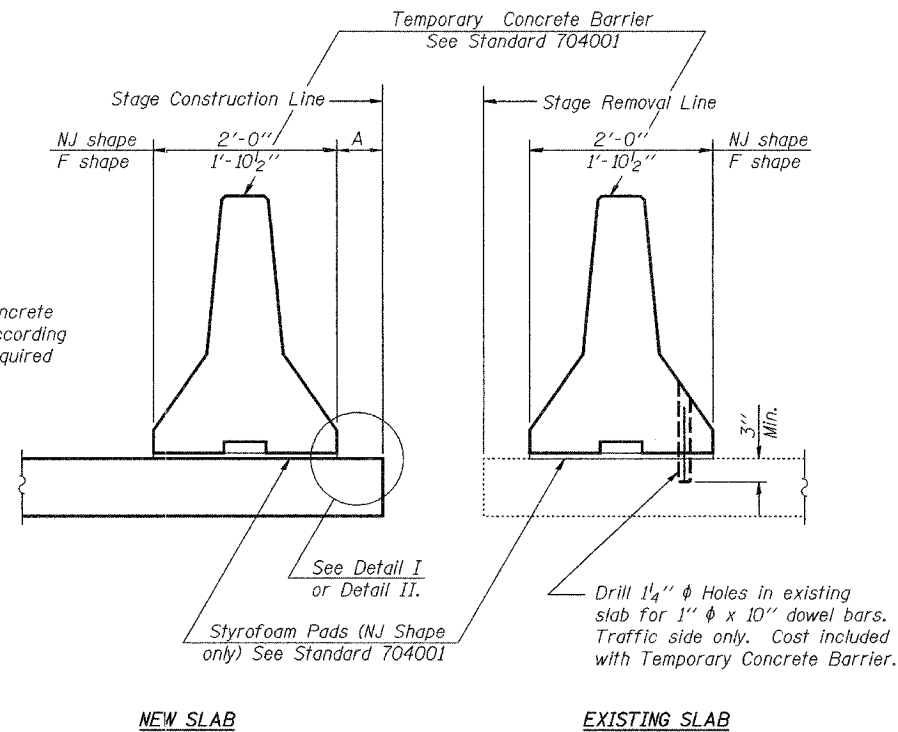
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		Effingham	17	17
FED. ROAD DIST. NO. 7		ILLINOIS	FED. AID PROJECT-	

Contract Number: 74119

SHEET NO. 11
11 SHEETS

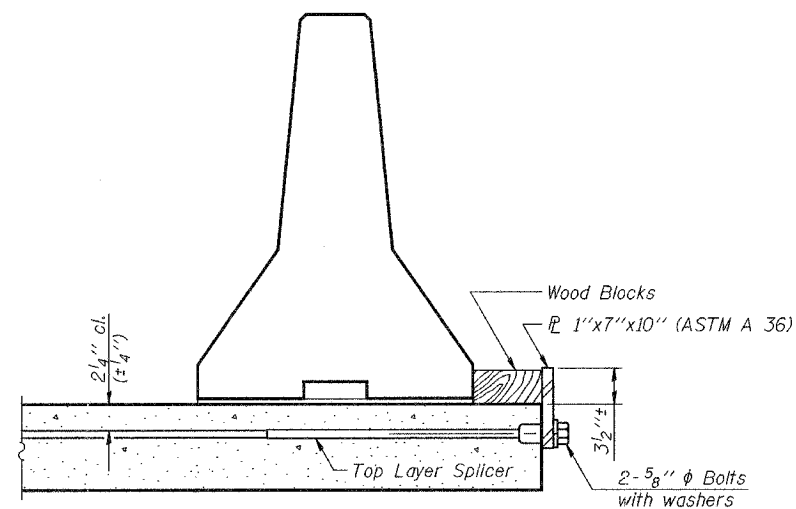
When "A" is 3'-6" or less, the temporary concrete barrier shall be anchored to the new slab according to Detail I or Detail II. No anchorage is required when "A" is greater than 3'-6".



SECTIONS THRU SLAB

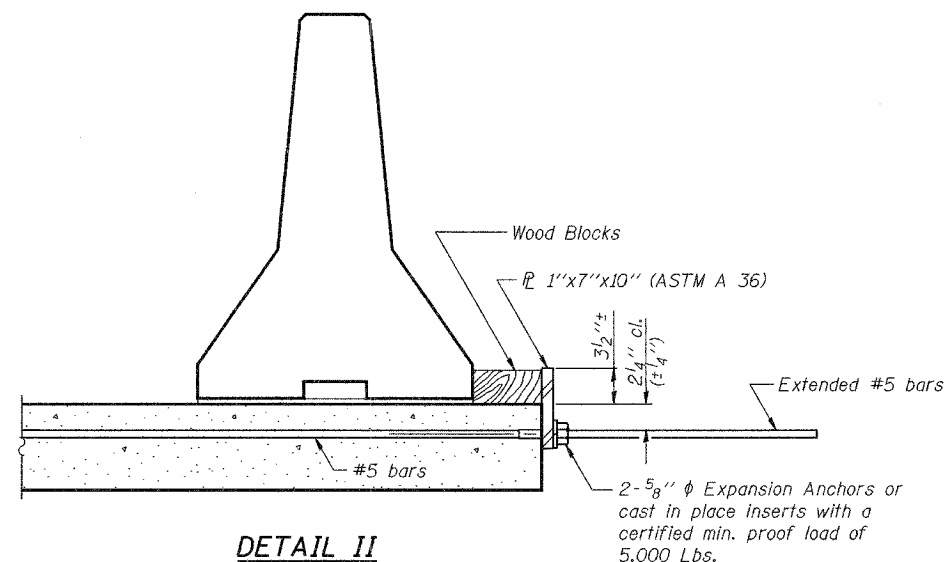
NOTES

- Detail I - With Bar Splicer or Couplers:
Connect one (1) 1"x7"x10" steel \bar{P} to the top layer of couplers with 2-5/8" ϕ bolts screwed to coupler at approximate \bar{C} of each barrier panel.
- Detail II - With Extended Reinforcement Bars:
Connect one (1) 1"x7"x10" steel \bar{P} to the concrete slab with 2-5/8" ϕ Expansion Anchors or cast in place inserts spaced between the top layer of reinforcement at approximate \bar{C} of each barrier panel.
- Cost of anchorage is included with Temporary Concrete Barrier.



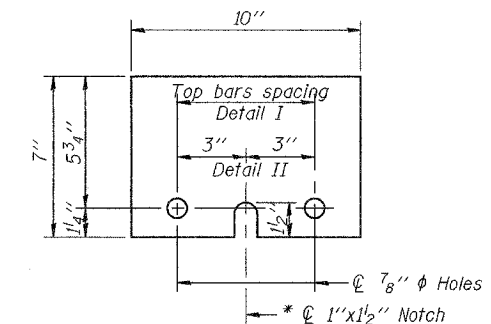
DETAIL I

The 1"x7"x10" Plate shall not be removed until Stage II Construction forms and reinforcement bars are in place.



DETAIL II

The 1"x7"x10" Plate shall not be removed until Stage II Construction forms and all reinforcement bars are in place and the concrete is ready to be placed.



1"x7"x10"

* Required only with Detail II

DESIGNED	A.T.H.
CHECKED	S.J.B.
DRAWN	Drew Christopher
CHECKED	A.T.H. S.J.B.

R-27

March 6, 2006
EXAMINED <i>John A. Morris</i> ENGINEER OF STRUCTURAL SERVICES
PASSED <i>Ralph E. Anderson</i> ENGINEER OF BRIDGES AND STRUCTURES

10-22-04

TEMPORARY CONCRETE BARRIER
F.A.I. RT. 57 SOUTH BOUND
OVER GREEN CREEK
EFFINGHAM COUNTY
SN 025-0004