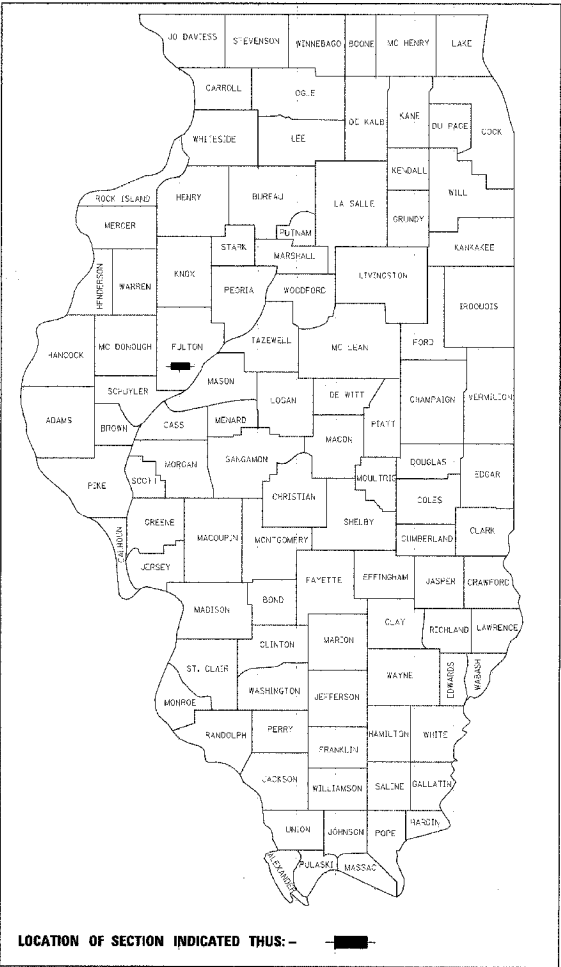


FAP RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
685	(39BR)	FULTON	22	1
FED. ROAD DIST. NO. 4		ILLINOIS	FED. AID PROJECT	

CONTRACT NO. 68497  
 CATALOG NO. 033095-00D  
 D-94-079-05



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

FAP ROUTE 685 (IL RTE 9)  
 SECTION (39BR)I  
 PROJECT NO. BHF-0685(022)  
 FULTON COUNTY  
 DECK BEAM REPLACEMENT  
 C-94-105-05

INDEX OF SHEETS

- 1 COVER SHEET
- 2 GENERAL NOTES
- 3 SUMMARY OF QUANTITIES
- 4 TYPICAL SECTIONS
- 5 GENERAL SITE PLAN
- 6 RESURFACING DETAIL (BRIDGE APPROACH TAPERBUTT JOINT)
- 7-8 STAGING PLANS
- 9 WIDE LOAD SIGNING
- 10-22 BRIDGE PLANS

STANDARDS

- 420401-05
- 630001-06
- 630301-03
- 631032-02
- 635006-02
- 635011-01
- 701306-01
- 701321-08
- 702001-06
- 704001-02
- 780001-01
- 781001-02
- 615001-02

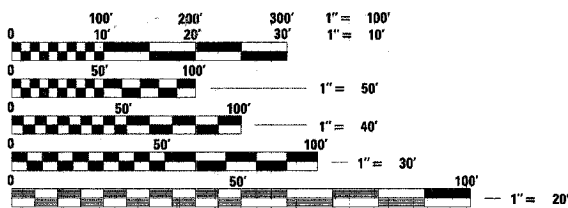
COMMITMENTS

NONE

PLAN = 1" = 30'  
 PROFILE HORIZ. = 1" = 30'  
 PROFILE VERT. = 1" = 5'  
 CROSS SECTIONS = 1" = 10' HORIZ.  
 1" = 5' VERT.

DESCRIPTION OF WORK

THE PROPOSED IMPROVEMENTS CONSIST OF REMOVAL OF THE EXISTING BRIDGE SUPERSTRUCTURE AND REPLACING WITH PRECAST, PRESTRESSED CONCRETE DECK BEAMS, CONCRETE WEARING SURFACE AND OTHER APPURTENANT ITEMS OF WORK. THE CONTRACTOR SHALL BE RESPONSIBLE FOR FURNISHING ALL LABOR, EQUIPMENT AND MATERIALS NECESSARY TO SATISFACTORILY CONSTRUCT THE PROJECT IN ACCORDANCE WITH THE PLANS, SPECIFICATIONS AND PROVISIONS STATED HEREIN.

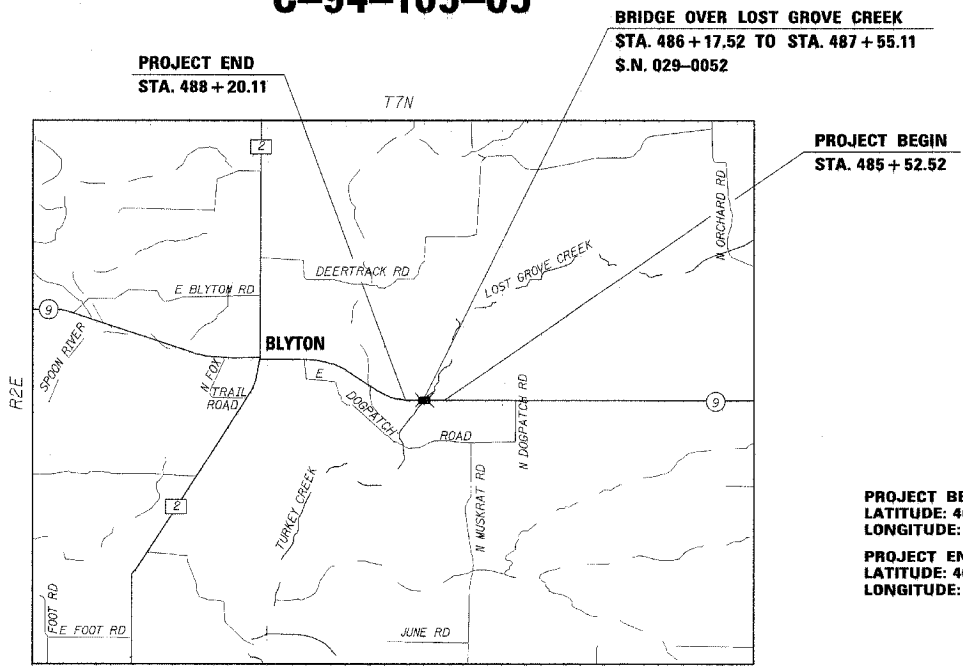


FULL SIZE PLANS HAVE BEEN PREPARED USING STANDARD ENGINEERING SCALES. REDUCED SIZED PLANS WILL NOT CONFORM TO STANDARD SCALES, IN MAKING MEASUREMENTS ON REDUCED PLANS, THE ABOVE SCALES MAY BE USED.

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

CONTRACT NO. 68497

LENGTH OF PROJECT  
 GROSS LENGTH: 286 FT = 0.05 MILES  
 NET LENGTH: 268 FT = 0.05 MILES

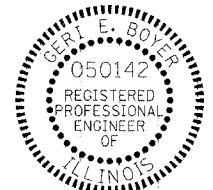


LOCATION MAP LAYOUT



2004 ADT = 1500  
 2024 ADT = 1830

PROJECT BEGIN (APPROX.)  
 LATITUDE: 40° 33' 38" N  
 LONGITUDE: 91° 15' 27" W  
 PROJECT END (APPROX.)  
 LATITUDE: 40° 33' 38" N  
 LONGITUDE: 90° 15' 27" W



STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION  
 DIVISION OF HIGHWAYS

SUBMITTED FEB 10 20 06  
 DEPUTY DIRECTOR OF HIGHWAYS, REGION 3 ENGINEER

PASSED March 24, 20 06  
 ENGINEER OF DESIGN AND ENVIRONMENT

APPROVED March 24, 20 06  
 DIRECTOR, DIVISION OF HIGHWAYS

PRINTED BY THE AUTHORITY OF THE STATE OF ILLINOIS

Gert E. Boyer 2/9/2006  
 GERT E. BOYER, P.E.  
 LICENSE NO. 062-050142  
 DATE EXPIRES 11-30-2007

PREPARED BY:  
 THOUVENOT, WADE & MOERCHEN, INC.

PROJECT ENGINEER: JAMES MILLER  
 SQUAD CONTACT: (309) 671-3451

QA/QC BITUMINOUS SUPERPAVE PROJECT

FAP ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
685	(39BR)I	FULTON	22	2
STA.	TO STA.			
EXISTING CONDITIONS:				
CONTRACT NO. 68497				

**GENERAL NOTES**

ANY REFERENCE TO A STANDARD IN THESE PLANS SHALL BE INTERPRETED TO MEAN THE EDITION, AS INDICATED BY THE SUB-NUMBER LISTED IN THE INDEX OF SHEETS, OR THE COPY OF THE STANDARD INCLUDED IN THESE PLANS.

ANY FACILITIES OR APPURTENANCES WHICH ARE THE PROPERTY OF ANY PUBLIC UTILITY LOCATED WITHIN THE LIMITS OF CONSTRUCTION SHALL BE RELOCATED OR ADJUSTED BY THEIR RESPECTIVE OWNERS. THE CONTRACTOR SHALL NOTIFY AND COOPERATE WITH THE OWNERS OF ANY SUCH FACILITY IN THEIR REMOVAL AND REARRANGE HIS OPERATIONS IN ORDER THAT THE UTILITY'S OPERATIONS AND THE CONSTRUCTION OF THIS PROJECT MAY PROGRESS IN A REASONABLE MANNER.

THE ENGINEER AND OWNER FURTHER DO NOT WARRANT THAT ALL UTILITIES HAVE BEEN ILLUSTRATED ON THESE DOCUMENTS. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR CONTACTING J.U.L.I.E. FOR FIELD VERIFICATION OF ALL UTILITIES ON THE SITE PRIOR WHERE SECTION OR SUBSECTION MONUMENTS ARE ENCOUNTERED, THE ENGINEER SHALL BE NOTIFIED BEFORE SUCH MONUMENTS ARE REMOVED. THE CONTRACTOR SHALL PROTECT AND CAREFULLY PRESERVE ALL PROPERTY MARKERS AND MONUMENTS UNTIL THE OWNER AND AN AUTHORIZED SURVEYOR OR AGENT, HAVE WITNESSED OR OTHERWISE REFERENCED THEIR LOCATION.

EVERY TREE SHALL BE SAVED IF POSSIBLE. THE ENGINEER IN THE FIELD WILL VERIFY AND MARK ALL TREES REQUIRED TO BE REMOVED. SHOULD THE ENGINEER'S DECISION INCREASE OR DECREASE THE QUANTITIES OF WORK TO BE PERFORMED FROM THE PLANS, THE CONTRACTOR SHALL ACCEPT PAYMENT AS STATED IN ARTICLE 104.03 OF THE STANDARD SPECIFICATIONS. TREES OUTSIDE THE LIMITS OF CONSTRUCTION SHALL NOT BE DISTURBED UNLESS DESIGNATED BY THE ENGINEER.

THE CONTRACTOR SHALL CONFINE HIS OPERATIONS TO THE AREA LOCATED WITHIN THE CONSTRUCTION LIMIT LINES, AS SHOWN PER PLANS. ANY AREA DISTURBED BEYOND THESE LIMITS SHALL BE RESTORED TO ITS ORIGINAL CONDITION AT THE CONTRACTOR'S EXPENSE.

IT IS INTENDED THAT ANY CULVERTS DAMAGED BY OR REMOVED BY THE CONTRACTOR OTHER THAN THOSE NOTED ON THE PLANS TO BE REMOVED WILL HAVE TO BE REMOVED AND/OR REPLACED AT THE CONTRACTOR'S SOLE EXPENSE.

ALL MATERIALS SUCH AS FRAMES AND GRATES AND STORM SEWER PIPE SCHEDULED FOR REMOVAL, THAT ARE CONSIDERED TO BE SUITABLE FOR FUTURE USE, SHALL BE SALVAGED AND STOCKPILED AS DIRECTED BY THE ENGINEER. ALL OTHER MATERIALS SCHEDULED FOR REMOVAL BUT NOT SALVAGED, SHALL BE DISPOSED OF BY THE CONTRACTOR AT HIS EXPENSE.

ALL STORM SEWER AND CULVERT PIPE TO BE REMOVED WHICH THE ENGINEER DEEMS FIT FOR RE-USE SHALL BE SALVAGED IN ACCORDANCE WITH ARTICLES 501.02 OF THE IDOT STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION. ALL OTHER STORM SEWER AND CULVERT PIPE SHALL BE DISPOSED OF IN ACCORDANCE WITH ARTICLE 202.03.

ALL TEMPORARY PAVEMENT MARKINGS SHALL BE PLACED IN SUCH A MANNER SO AS NOT TO INTERFERE WITH THE PLACEMENT OF PERMANENT PAVEMENT MARKINGS.

THE THICKNESS OF THE BITUMINOUS MIXTURE SHOWN ON THE PLANS IS THE NOMINAL THICKNESS. DEVIATIONS FROM THE NOMINAL THICKNESS WILL BE PERMITTED WHEN SUCH DEVIATIONS OCCUR DUE TO IRREGULARITIES IN THE EXISTING SURFACE OR THE BASE COURSE ON WHICH THE BITUMINOUS MIXTURE IS PLACED.

NO VIBRATORY ROLLER WILL BE ALLOWED.

ILLINOIS STATE LAW REQUIRES A 48-HOUR NOTICE BE GIVEN TO ALL UTILITIES BEFORE DIGGING. FIELD MARKING OF FACILITIES MAY ALSO BE OBTAINED BY CALLING J.U.L.I.E. AND FOR NON-J.U.L.I.E. MEMBERS, THE UTILITY COMPANY DIRECTLY. AGENCIES KNOWN TO HAVE FACILITIES WITHIN THE PROJECT AREA ARE AS FOLLOWS:

- \*ILLINOIS-AMERICAN WATER COMPANY
- \*SPOON RIVER ELECTRIC COOPERATIVE, INC.
- \*CHARTER COMMUNICATIONS
- \*MID-CENTURY TELEPHONE COMPANY
- \*SBC COMMUNICATIONS
- \*AMEREN CILCO/CIPS

(MEMBERS OF J.U.L.I.E. (800) 892-0123 ARE INDICATED BY \*  
NON-MEMBERS OF J.U.L.I.E. MUST BE NOTIFIED INDIVIDUALLY)

**FARM ACCESS**

IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO ALLOW FARMERS ACCESS TO FIELDS DURING VARIOUS STAGES OF CONSTRUCTION IF ACCESS CANNOT BE ATTAINED BY OTHER ROADS.

**UTILITIES - LOCATIONS/INFORMATION ON PLANS**

UNLESS NOTED OTHERWISE, THE LOCATION OF EXISTING WATER MAINS, GAS MAINS, SEWERS, ELECTRIC POWER LINES, TELEPHONE LINES AND OTHER UTILITIES AS SHOWN ON THE PLANS ARE BASED ON CAREFUL FIELD INVESTIGATION AND THE INFORMATION AVAILABLE, BUT THEY ARE NOT GUARANTEED. SOME UTILITY LOCATIONS ARE SHOWN AS FUTURE. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO ASCERTAIN THEIR EXACT LOCATION FROM THE UTILITY COMPANIES AND BY FIELD INSPECTION.

**BUTT JOINT CUTTING TIME RESTRICTION**

BUTT JOINTS SHALL NOT BE MILLED MORE THAN THREE (3) DAYS PRIOR TO PLACEMENT OF THE BITUMINOUS SURFACE COURSE.

**NAME PLATE RELOCATION**

NAME PLATES THAT WILL BE REMOVED AS A RESULT OF THIS WORK SHALL BE RELOCATED ON THE STEEL BRIDGE RAIL, TYPE SM AS DIRECTED BY THE ENGINEER. THE COST OF REMOVING AND REPLACING THE NAME PLATE(S), INCLUDING ALL NECESSARY FASTENERS, WILL NOT BE MEASURED OR PAID FOR SEPARATELY, BUT WILL BE CONSIDERED AS INCIDENTAL TO THE CONTRACT.

**COMMITMENTS:**

NONE

THE FOLLOWING MIXTURE REQUIREMENTS ARE APPLICABLE FOR THIS PROJECT:

MIXTURE USE(S):	SURFACE (1 1/2" LIFT)	BINDER COURSE (1 3/4" LIFT)
AC/PG	PG 64-22	PG 64-22
RAP % (MAX)	15%	15%
DESIGN AIR VOIDS	4.2% @ N=50	4.2% @ N=50
MIX COMPOSITION (GRADATION MIXTURE)	IL 9.5 OR 12.5	IL 9.5 OR 12.5
FRICITION AGG	Mixture D	N.A.

PLAN QUANTITIES FOR BITUMINOUS CONCRETE SURFACE COURSE ITEMS ARE CALCULATED USING A UNIT WEIGHT OF 112 LB/SQ YD/IN.

REVISIONS		ILLINOIS DEPARTMENT OF TRANSPORTATION
NAME	DATE	
		GENERAL NOTES FAP ROUTE 685 SECTION (39BR)I FULTON COUNTY  SCALE: NONE DATE: 2/10/2006 DRAWN BY: KBF CHECKED BY: BWP

# SUMMARY OF QUANTITIES

FAP ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
685	(39BR)I	FULTON	22	3
STA.		TO STA.		
EXISTING CONDITIONS:				
CONTRACT NO. 68497				

SUMMARY OF QUANTITIES			CONSTRUCTION TYPE CODE									
CODE NO	ITEM	UNIT	TOTAL QUANTITIES	X080-2A 80% FED 20% STATE								
40600100	BITUMINOUS MATERIALS (PRIME COAT)	GALLON	148	148								
40600300	AGGREGATE (PRIME COAT)	TON	1	1								
40600980	BITUMINOUS SURFACE REMOVAL - BUTT JOINT	SQ YD	160	160								
48101200	AGGREGATE SHOULDERS, TYPE B	TON	2	2								
50101500	REMOVAL OF EXISTING SUPERSTRUCTURES	EACH	1		1							
50102400	CONCRETE REMOVAL	CU YD	4.8		4.8							
50300225	CONCRETE STRUCTURES	CU YD	6.1		6.1							
50300260	BRIDGE DECK GROOVING	SQ YD	506		506							
50300300	PROTECTIVE COAT	SQ YD	537		537							
50400405	PRECAST PRESTRESSED CONCRETE DECK BEAMS (21" DEPTH)	SQ FT	4,824		4,824							
50800205	REINFORCEMENT BARS, EPOXY COATED	POUND	8,290		8,290							
*50901005	STEEL BRIDGE RAIL, TYPE SM	FOOT	269			269						
51500100	NAME PLATES	EACH	1		1							
60300105	FRAMES AND GRATES TO BE ADJUSTED	EACH	4	4								
*63000000	STEEL PLATE BEAM GUARD RAIL, TYPE A	FOOT	100			100						
*63100087	TRAFFIC BARRIER TERMINAL, TYPE 6A	EACH	4			4						
*63100167	TRAFFIC BARRIER TERMINAL TYPE 1, SPECIAL (TANGENT)	EACH	3			3						
63200305	STEEL PLATE BEAM GUARD RAIL REMOVAL	FOOT	160			160						
67000400	ENGINEER'S FIELD OFFICE, TYPE A	CAL MO	4	4								
67100100	MOBILIZATION	L SUM	1	1								
70100405	TRAFFIC CONTROL AND PROTECTION, STANDARD 701321	EACH	1	1								
70100460	TRAFFIC CONTROL AND PROTECTION, STANDARD 701306	L SUM	1	1								
70103815	TRAFFIC CONTROL SURVEILLANCE	CAL DA	120	120								
70106500	TEMPORARY BRIDGE TRAFFIC SIGNALS	EACH	1				1					
70106700	TEMPORARY RUMBLE STRIP	EACH	12	12								
70300100	SHORT-TERM PAVEMENT MARKING	FOOT	176									
70300220	TEMPORARY PAVEMENT MARKING - LINE 4"	FOOT	7,040									
70301000	WORK ZONE PAVEMENT MARKING REMOVAL	SQ FT	2,405	2,405				176				
70400100	TEMPORARY CONCRETE BARRIER	FOOT	500	500				7,040				
70400200	RELOCATE TEMPORARY CONCRETE BARRIER	FOOT	500	500								
*78005110	EPOXY PAVEMENT MARKING - LINE 4"	FOOT	3,520									
78200410	GUARDRAIL MARKERS, TYPE A	EACH	4			4						
78200510	BARRIER WALL MARKERS, TYPE A	EACH	4	4				3,520				
78201000	TERMINAL MARKER - DIRECT APPLIED	EACH	3			3						
78300100	PAVEMENT MARKING REMOVAL	SQ FT	1,173	1,173								

SUMMARY OF QUANTITIES			CONSTRUCTION TYPE CODE									
CODE NO	ITEM	UNIT	TOTAL QUANTITIES	X080-2A 80% FED 20% STATE								
Z0002600	BAR SPLICERS	EACH	151					151				
○ Z0030255	IMPACT ATTENUATORS, TEMPORARY (FULLY REDIRECTIVE, NARROW), TEST LEVEL 2	EACH	2									2
○ Z0030320	IMPACT ATTENUATORS, RELOCATE (FULLY REDIRECTIVE), TEST LEVEL 2	EACH	2									2
X0325294	PREFORMED JOINT STRIP SEAL	FOOT	41.5					41.5				
X4066614	BITUMINOUS CONCRETE BINDER COURSE, SUPERPAVE, IL-19.0, N50	TON	8					8				
X4066424	BITUMINOUS CONCRETE SURFACE COURSE, SUPERPAVE, MIX "D", N50	TON	37					37				
X5030305	CONCRETE WEARING SURFACE, 5"	SQ YD	537					537				
* X7200200	WIDE LOAD SIGNING	L SUM	1					1				

\* SPECIALTY ITEMS  
○ SFTY-3N

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION

## SUMMARY OF QUANTITIES

FAP ROUTE 685  
SECTION (39BR)I  
FULTON COUNTY

SCALE: NONE DRAWN BY: KBF  
DATE: 2/10/2006 CHECKED BY: BWP

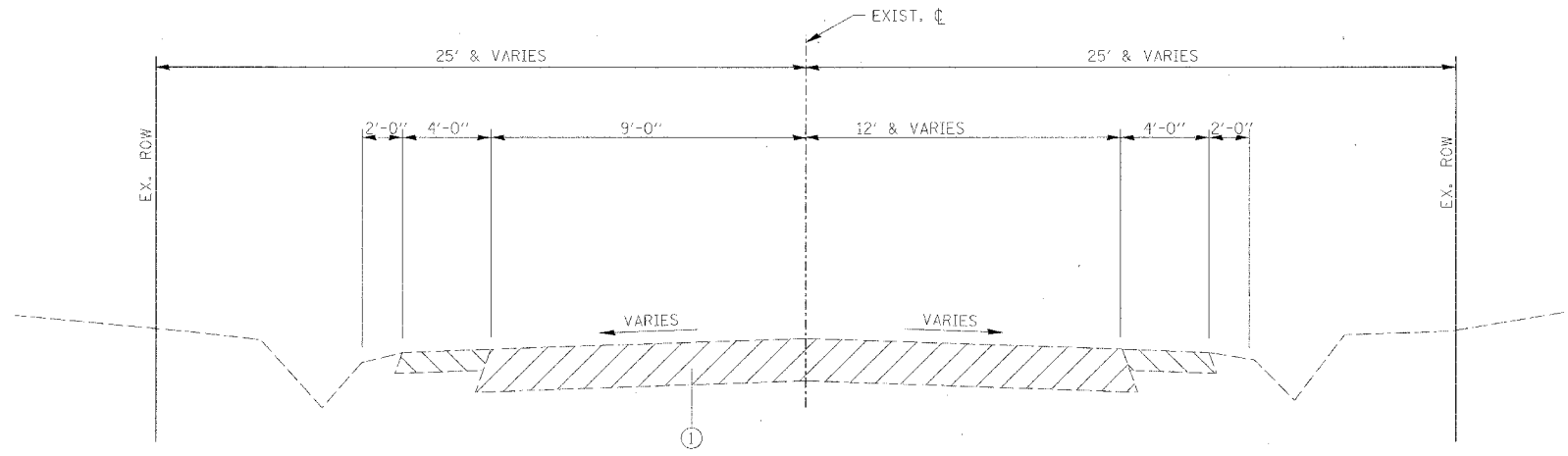
FAP ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
685	(39BR)I	FULTON	22	4
STA.	TO STA.			

EXISTING CONDITIONS:  
CONTRACT NO. 68497

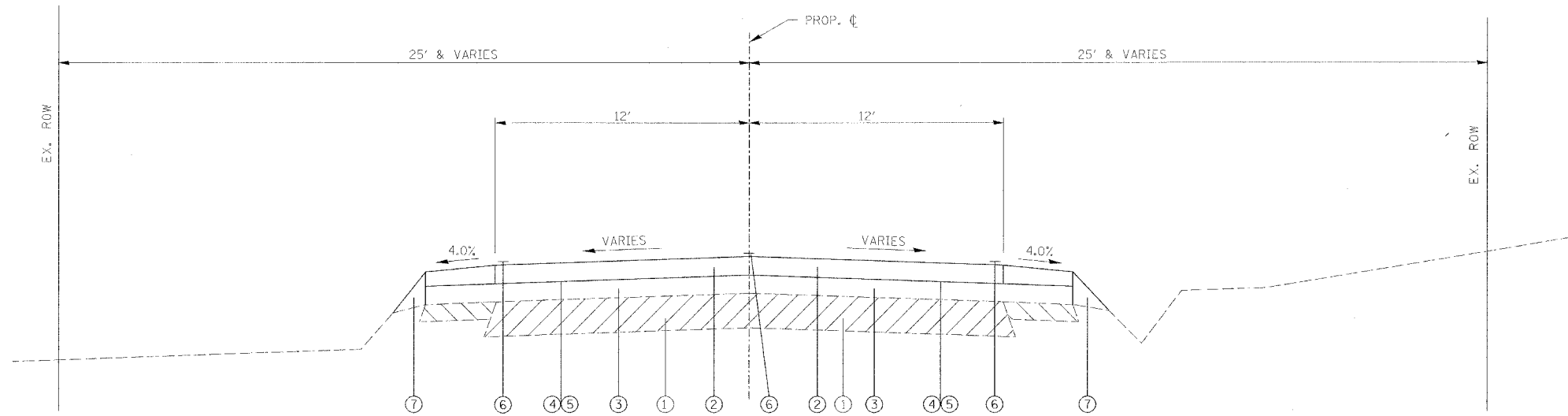
LEGEND

- ① EXISTING ROADWAY
- ② PROPOSED BITUMINOUS CONCRETE SURFACE COURSE SUPERPAVE, MIX "D" N50 - 1 1/2"
- ③ PROPOSED BITUMINOUS CONCRETE BINDER COURSE SUPERPAVE, IL 19.0, N50 - 1 3/4"
- ④ PROPOSED BITUMINOUS MATERIALS (PRIME COAT)
- ⑤ PROPOSED AGGREGATE (PRIME COAT)
- ⑥ PROPOSED PAVEMENT MARKING
- ⑦ AGGREGATE SHOULDERS, TYPE B

 INDICATES EXISTING ROADWAY



EXISTING TYPICAL SECTION IL ROUTE 9  
STA. 482+00 TO STA. 489+80



PROPOSED TYPICAL SECTION IL RTE 9  
STA. 485+52.52 TO STA. 486+17.52  
STA. 487+55.11 TO STA. 488+20.11

\$FILE\$  
\$DATE\$

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION

TYPICAL SECTIONS

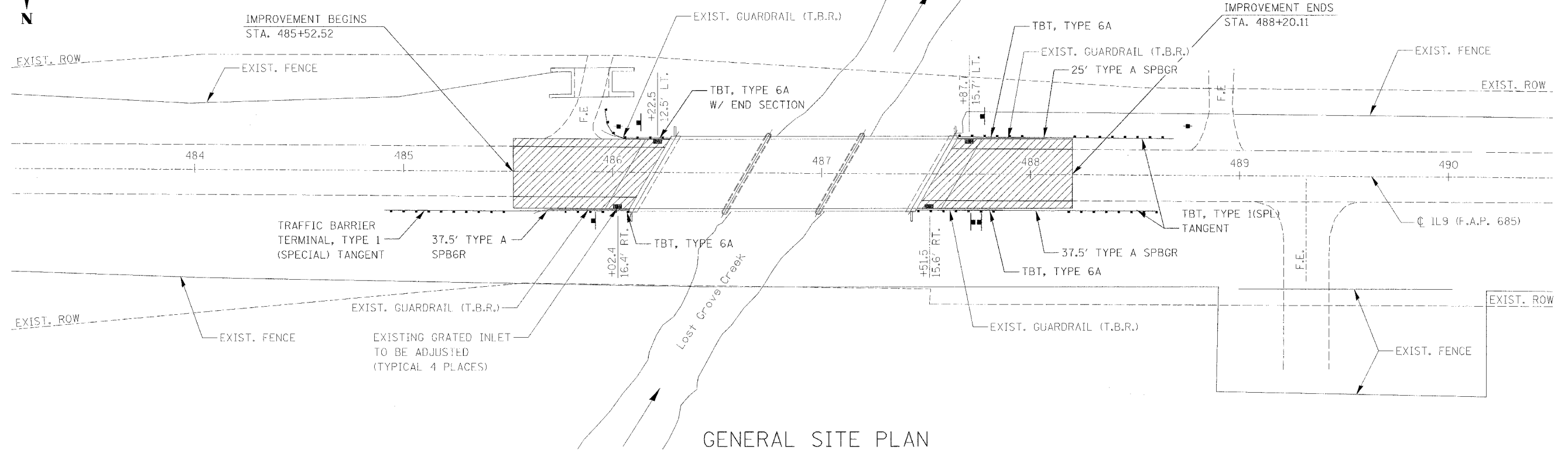
FAP ROUTE 685  
SECTION (39BR)I  
FULTON COUNTY

SCALE: NONE  
DATE: 2/10/2006

DRAWN BY: KBF  
CHECKED BY: BWP

FAP ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
685	(39BR)	FULTON	22	5
STA.	TO STA.			
EXISTING CONDITIONS:				
CONTRACT NO. 68497				

NOTE:  
CONTRACTOR SHALL MAINTAIN ACCESS TO FIELD ENTRANCES AT ALL TIMES DURING CONSTRUCTION.



GENERAL SITE PLAN

STATION TO STATION		SPBGR TYPE A (FOOT)	TRAF. BARRIER TERM. TYPE 1 (SPECIAL) (TANGENT) (EACH)	TRAF. BARRIER TERM., TYPE 6A (EACH)	SPBGR REMOVAL (FOOT)	GUARDRAIL MARKERS T-A (EACH)	BARRIER WALL MARKER T-A (EACH)	TERM. MARKER DIRECT APPLIED (EACH)
485+63.00 RT.	486+08.00 RT.				45			
486+02.00 LT.	486+27.00 LT.				25			
487+46.00 RT.	487+91.00 RT.				45			
487+63.00 LT.	488+10.00 LT.				45			
484+90.00 RT.	486+08.00 RT.	37.5	1	1		1		1
486+02.00 LT.	486+27.00 LT.			1		1		
487+46.00 RT.	488+65.00 RT.	37.5	1	1		1		1
487+65.00 RT.	488+72.00 RT.	25	1	1		1		1
486+08.00 RT.	487+46.00 RT.						2	
486+27.00 LT.	487+65.00 LT.						2	
TOTAL:		100	3	4	160	4	4	3

STATION TO STATION		BIT MATERIALS PRIME COAT (GALLON)	AGGREGATE PRIME COAT (TON)	BITUMINOUS SURFACE REMOVAL BUTT JOINT (SQ YD)	AGGREGATE SHOULDERS TYPE B (TON)	BIT. CONC. SURFACE COURSE SUPERPAVE MIX D (TON)	BINDER COURSE SUPERPAVE N50 (TON)
485+52.52	486+17.52	74	0.5	80	1	18.5	4
487+55.11	488+20.11	74	0.5	80	1	18.5	4
TOTAL:		148	1	160	2	37	8

STATION TO STATION	EARTH EXCAVATION (CU. YD.)	EARTH EXCAVATION ADJUSTED FOR SHRINKAGE BARRIER (CU. YD.)	EMBANKMENT (CU. YD.)	EARTHWORK BALANCE WASTE (+), SHORTAGE (-) (CU. YD.)
484+90.00 RT. TO 486+08.00 RT.	0	0	25.2	-25.2
487+46.00 RT. TO 488+65.00 RT.	0	0	25.2	-25.2
487+65.00 LT. TO 488+72.00 LT.	0	0	25.2	-25.2
TOTAL:	0	0	75.6	-75.6

STATION TO STATION	SHORT TERM PAVEMENT MARKINGS (SQ FT)	TEMPORARY PAVEMENT MARKING LINE 4" (FT)	WORK ZONE PVMT. MARKING REMOVAL (SQ FT)	EPOXY PVMT. MARKING LINE 4" (FOOT)	PAVMENT MARKING REMOVAL (SQ FT)
482+45.00 C TO 491+25.00 C			59	1760	
482+45.00 RT. TO 491+25.00 RT.	176	1760	586.5	880	
482+45.00 LT. TO 491+25.00 LT.		1760	586.5	880	
482+45.00 RT. TO 491+25.00 RT. (STAGE 1 & 2)		1760	586.5		586.5
482+45.00 LT. TO 491+25.00 LT. (STAGE 1 & 2)		1760	586.5		586.5
SUB TOTAL:					
TOTAL:	176	7040	2405	3520	1173

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION  
**GENERAL SITE PLAN**  
 FAP ROUTE 685  
 SECTION (39BR)  
 FULTON COUNTY  
 SCALE: NONE  
 DATE: 2/10/2006  
 DRAWN BY: KBF  
 CHECKED BY: BWP

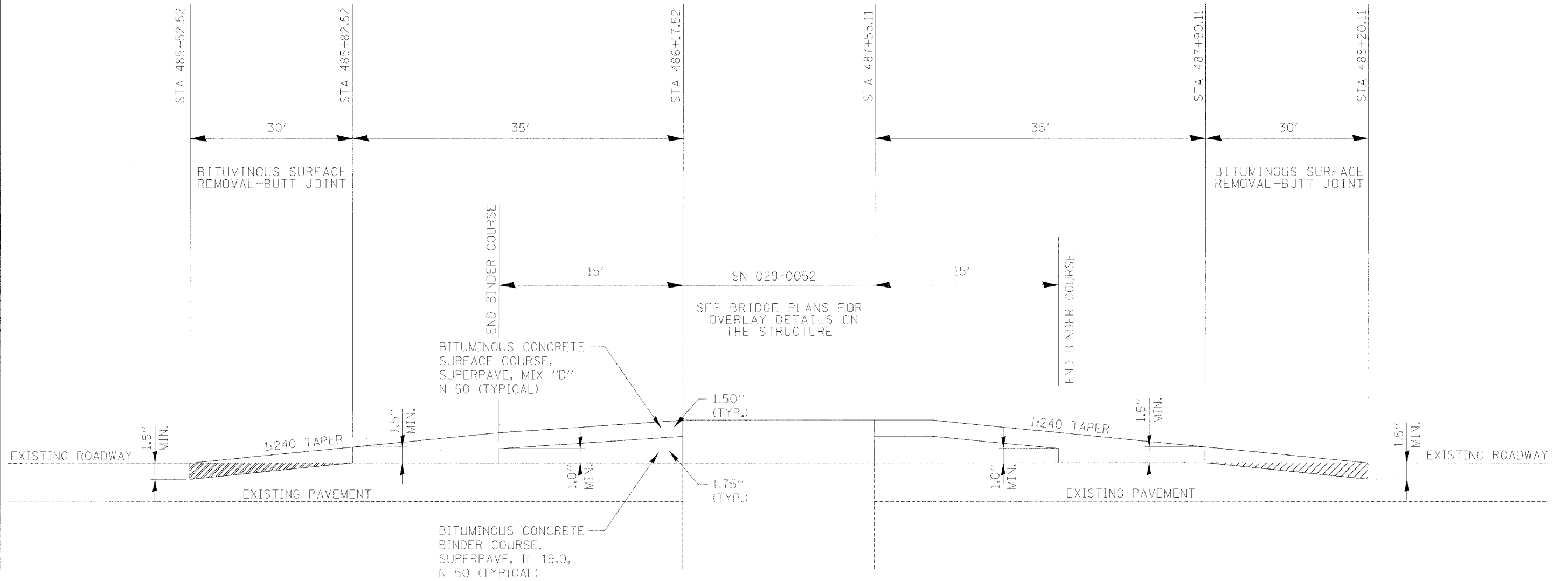
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FAP ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
685	(39BR)I	FULTON	22	6
STA. _____		TO STA. _____		
EXISTING CONDITIONS:				
CONTRACT NO. 68497				

NOTES:

FULL-DEPTH SAW CUTS ARE REQUIRED FOR ALL REMOVAL ITEMS AND THAT THE COST FOR SUCH IS INCLUDED IN THE REMOVAL ITEM.

'ROAD CONSTRUCTION AHEAD' SIGNS ARE REQUIRED ON ALL INTERSECTING ROADS AND HIGHWAYS. THE COST FOR SUCH IS INCLUDED IN THE APPLICABLE TRAFFIC CONTROL PAY ITEM.



BITUMINOUS SURFACE REMOVAL-BUTT JOINT

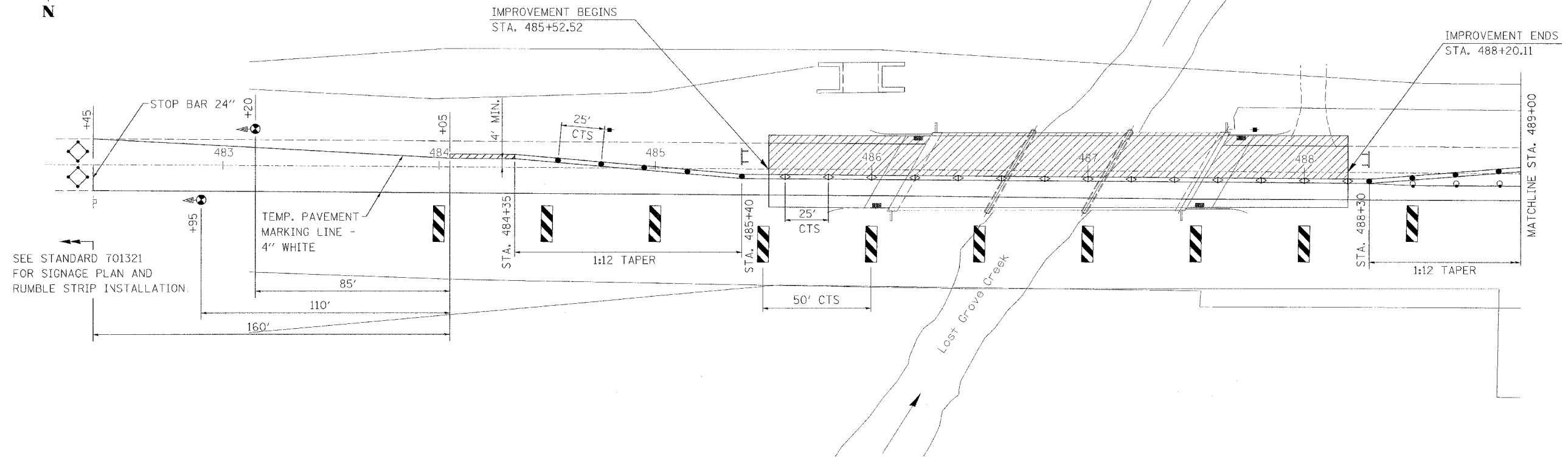
REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION  
**BRIDGE APPROACH RESURFACING  
 DETAIL (TAPER/BUTT JOINT)**  
 FAP ROUTE 685  
 SECTION (39BR)I  
 FULTON COUNTY  
 SCALE: NONE  
 DATE: 2/10/2006  
 DRAWN BY: KBF  
 CHECKED BY: BWP

\$FILES\$ \$TIMES\$

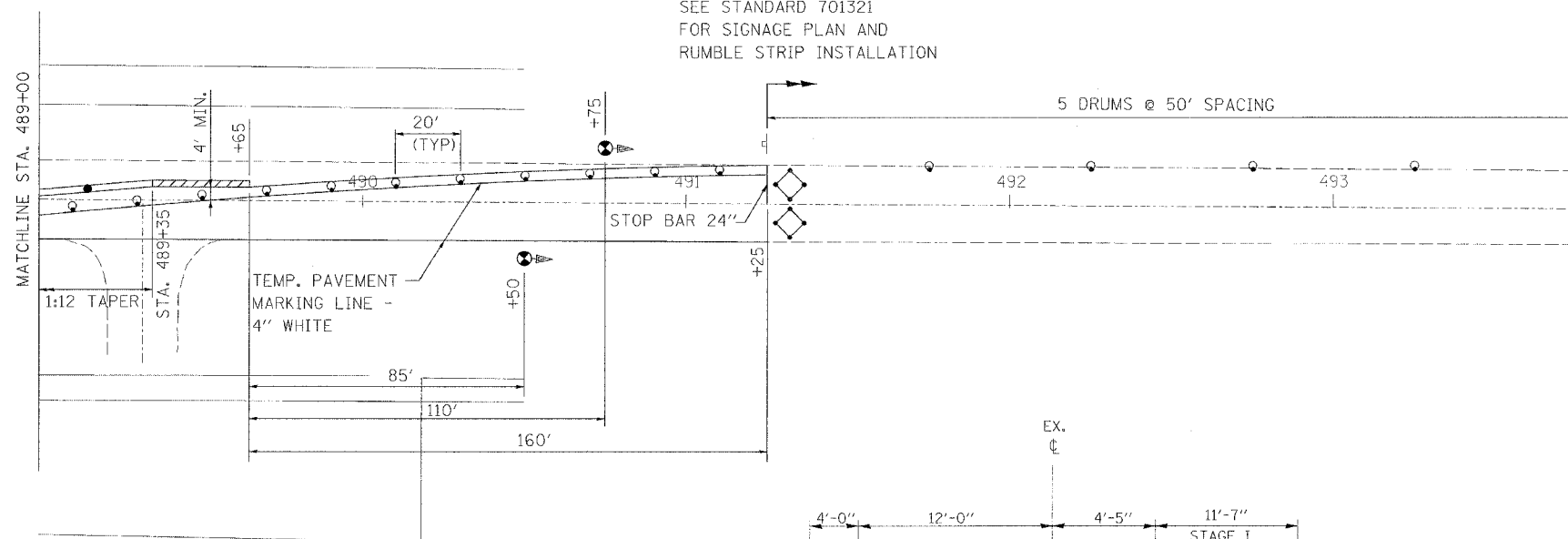
STAGE I TRAFFIC CONTROL

FAP ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
685	(39BR)I	FULTON	22	7
STA. TO STA.		EXISTING CONDITIONS:		
		CONTRACT NO. 68497		



SEE STANDARD 701321 FOR SIGNAGE PLAN AND RUMBLE STRIP INSTALLATION.

SEE STANDARD 701321 FOR SIGNAGE PLAN AND RUMBLE STRIP INSTALLATION

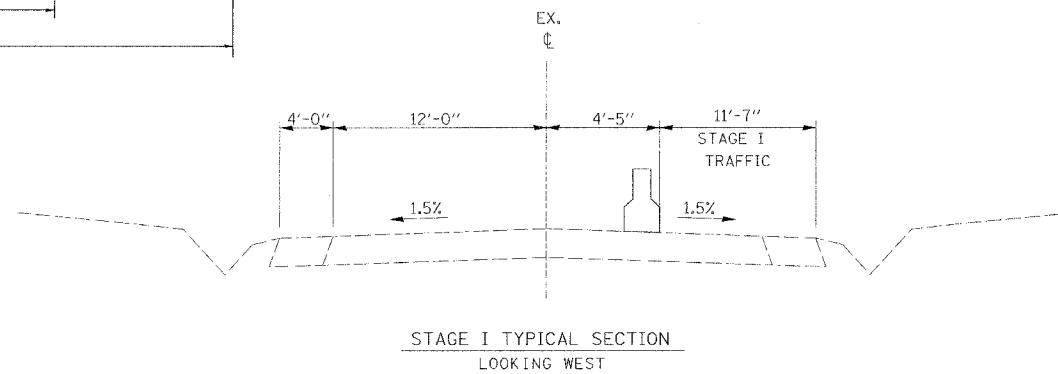


NOTES

TRAFFIC CONTROL SHALL CONFORM TO HIGHWAY STANDARD 701321.  
 CONTRACTOR TO ADJUST TRAFFIC CONTROL AS NECESSARY TO MAINTAIN ACCESS TO FIELD ENTRANCES.

SYMBOLS

- DRUM WITH STEADY BURNING LIGHT
- ▲ TRAFFIC SIGNAL
- INDUCTION LOOP DETECTOR
- ▨ DOUBLE VERTICAL PANEL
- ◇ TYPE C BIDIRECTIONAL REFLECTOR
- STEADY BURNING LIGHTS AND DOUBLE VERTICAL PANELS
- ▭ TEMPORARY CONCRETE BARRIER
- ▨ IMPACT ATTENUATOR TEMP., (FULLY REDIRECTIVE), TEST LEVEL 2
- ⊥ TYPE III BARRICADE
- ▨ WORK AREA



REVISIONS	
NAME	DATE

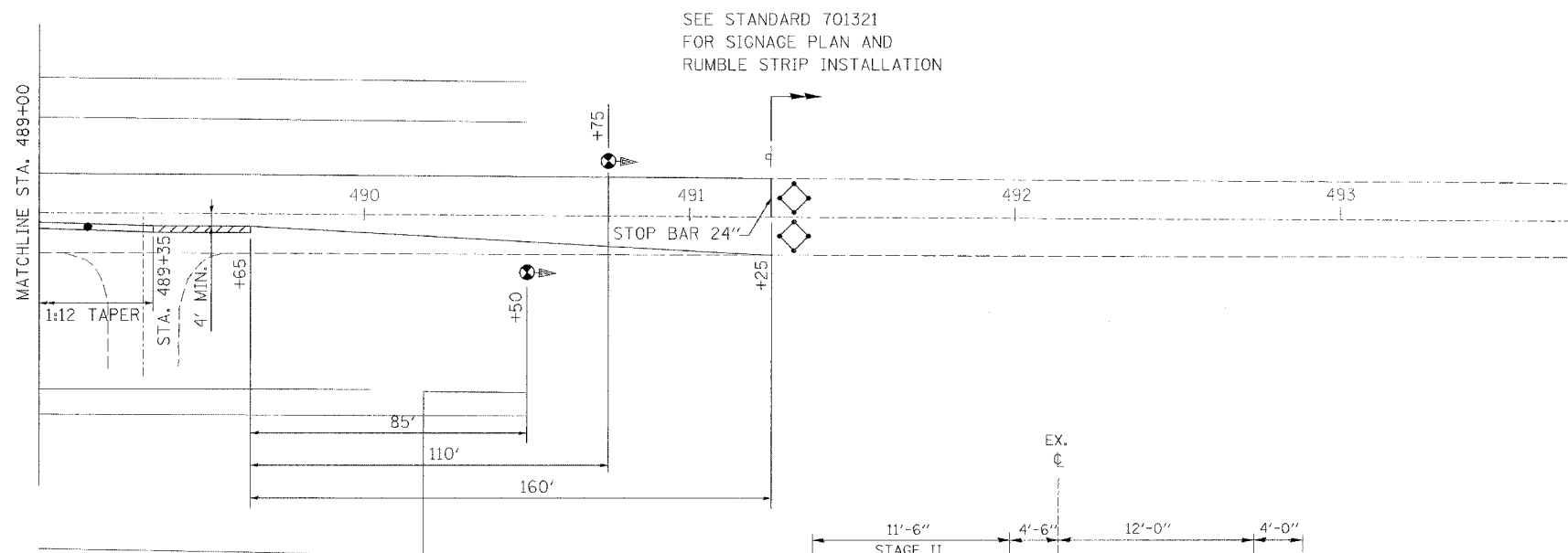
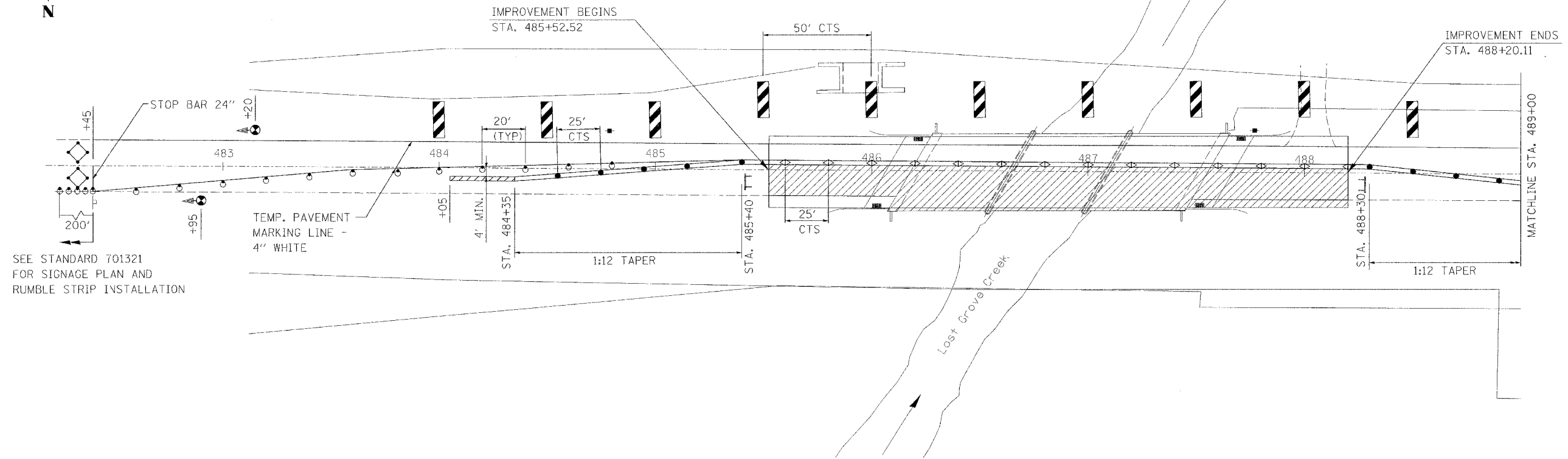
ILLINOIS DEPARTMENT OF TRANSPORTATION  
 STAGE I TRAFFIC CONTROL  
 STANDARD 701321  
 FAP ROUTE 685  
 SECTION (39BR)I  
 FULTON COUNTY

SCALE: NONE  
 DATE: 2/10/2006  
 DRAWN BY: KBF  
 CHECKED BY: BWP

\$FILES\$  
 \$DATES\$

STAGE II TRAFFIC CONTROL

FAP ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
685	(39BR)I	FULTON	22	8
STA. TO STA.		EXISTING CONDITIONS:		
		CONTRACT NO. 68497		



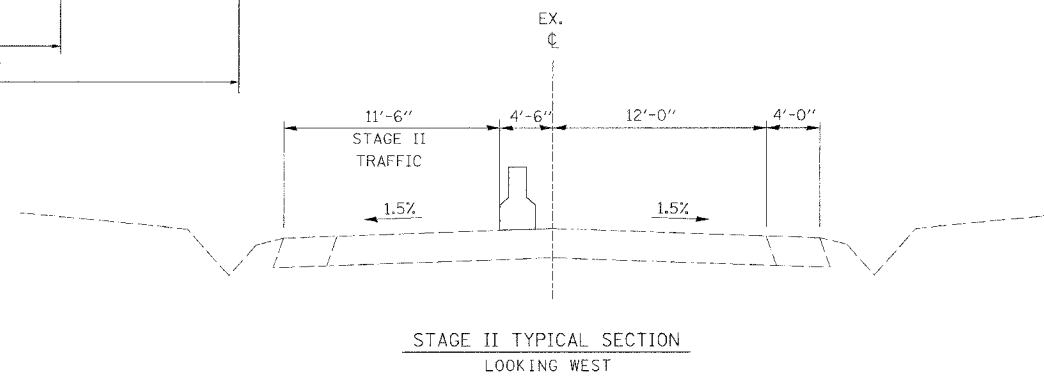
NOTES

TRAFFIC CONTROL SHALL CONFORM TO HIGHWAY STANDARD 701321.

CONTRACTOR TO ADJUST TRAFFIC CONTROL AS NECESSARY TO MAINTAIN ACCESS TO FIELD ENTRANCES.

SYMBOLS

- DRUM WITH STEADY BURNING LIGHT
- ▲ TRAFFIC SIGNAL
- INDUCTION LOOP DETECTOR
- ▨ DOUBLE VERTICAL PANEL
- ◇ TYPE C BIDIRECTIONAL REFLECTOR
- STEADY BURNING LIGHTS AND DOUBLE VERTICAL PANELS
- ▭ TEMPORARY CONCRETE BARRIER
- ▨ IMPACT ATTENUATOR TEMP., (FULLY REDIRECTIVE), TEST LEVEL 2
- ⊥ TYPE III BARRICADE
- ▨ WORK AREA



REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION  
STAGE II TRAFFIC CONTROL  
STANDARD 701321  
FAP ROUTE 685  
SECTION (39BR)I  
FULTON COUNTY

SCALE: NONE  
DATE: 2/10/2006

DRAWN BY: KBF  
CHECKED BY: BWP

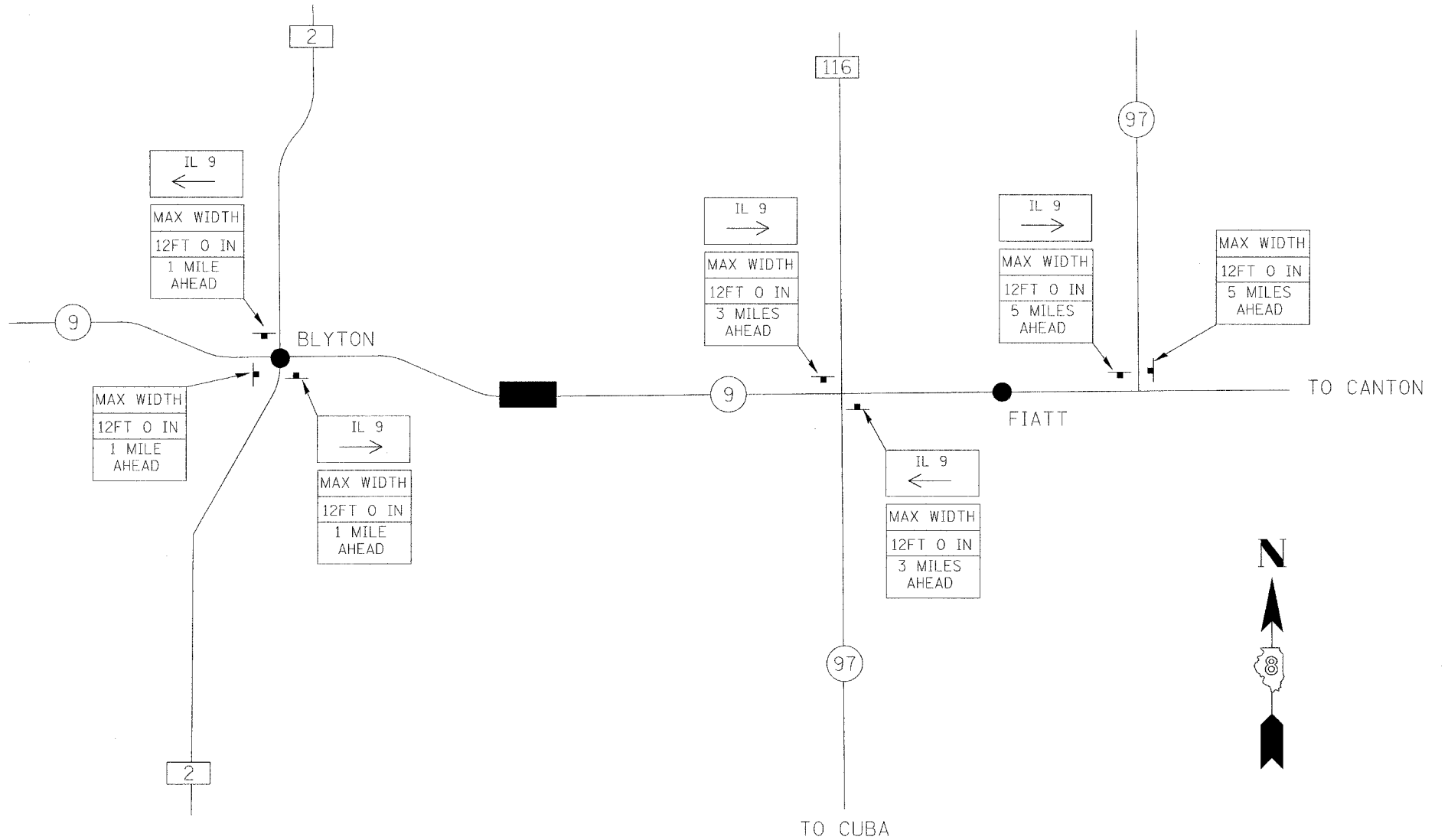
\$FILES\$  
\$DATES\$



FAP ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO
685	(39BR)I	FULTON	22	9
STA.	TO STA.			
EXISTING CONDITIONS:				
CONTRACT NO. 68497				

Notes

1. All signs required will be supplied to the contractor by I.D.O.T.
2. The contractor shall furnish the posts and erect signs at the locations shown on this sheet, as directed by the R.E./R.T. The posts shall remain the property of the contractor.
3. The contractor shall give Illinois Department of Transportation, Bureau of Operations two weeks notice for signs. The contractor shall pick up the signs at the T.M. building in Fairview Hgts., and return them upon completion of the contract.
4. The above noted work shall be paid for at the contract unit price, Lump Sum, for Wide Load Signing and no other compensation will be allowed.
5. Sign spacing will be 400' or to fit field conditions.
6. The height to the bottom of the lowest sign shall not be less than 6'.



SIGNS REQUIRED

MAX WIDTH  
12FT 0 IN (3)  
1 MILE  
AHEAD

MAX WIDTH  
12FT 0 IN (2)  
5 MILES  
AHEAD

MAX WIDTH  
12FT 0 IN (2)  
3 MILES  
AHEAD

IL 9  
→ (3)

IL 9  
← (2)

BRIDGE DECK REPLACEMENT  
IL RT 9

REVISIONS	
NAME	DATE

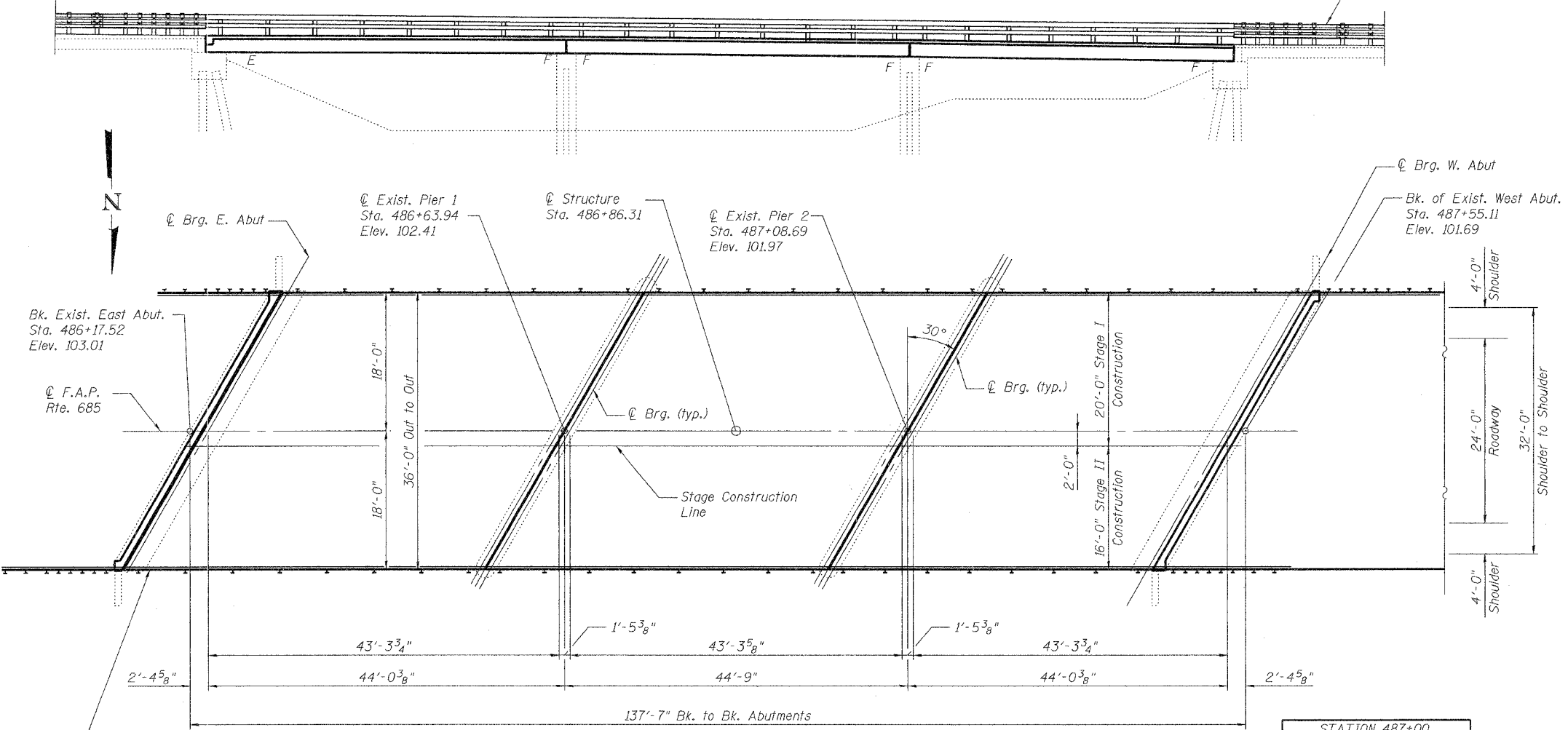
ILLINOIS DEPARTMENT OF TRANSPORTATION  
**WIDE LOAD SIGN LOCATION**  
FAP ROUTE 685  
SECTION (39BR)I  
FULTON COUNTY  
SCALE: NONE  
DATE: 2/10/2006  
DRAWN BY: KBF  
CHECKED BY: BWP

\$FILE\$  
\$DATE\$

Existing Structure: S.N. 029-0052 was built in 1980 as F.A. 685, Section 39BR at Sta.487+00. The structure consists of 3 simple span PPC-deck beams on pile bent abutments and pile bent piers with solid encasement. The bk. to bk. abutment length is 137'-7" and the out to out bridge width is 36'-0". The existing superstructure is to be removed and replaced. Staged construction shall be used during construction.

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	SHEET NO.	SHEET NO.
F.A.P. 685	39BR1	FULTON	22	10
Contract # 68497				



GENERAL NOTES

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 for the work.

All construction joints shall be bonded.

The cut strands at each beam end shall be given two coats of zinc dust spray or paint meeting the requirements of ASTM A 780. The zinc dust spray or paint shall be applied before corrosion appears and allowed to dry according to the manufacturer's specifications prior to another coat of zinc. A concrete sealer meeting the requirements of Section 587 of the Standard Specifications shall be applied to the exterior face and 9" in on the underside of the fascia beams. The sealer shall be applied after visible crack growth has subsided. This work shall be performed by the producer and included with the cost of the beam.

The minimum thickness of the Concrete overlay shall be 5" and varies as required to adjust for the new profile grade and beam camber.

The contractor is advised that the existing PPC Deck Beams are in a deteriorated condition with reduced load carrying capacity. It is the contractors responsibility to account for the condition of the beams when developing construction procedures for removal and replacement of the superstructure.

If the contractor's procedure for existing beam removal or placement of new beams involves placement of cranes or other heavy equipment on new beams, a detailed procedure shall be submitted to the Engineer for approval. The procedure shall include calculations, prepared and sealed by an Illinois Licensed Structural Engineer, verifying that the equipment and procedure used will not overstress the new beams. To distribute load to multiple beams and protect the concrete, in all cases a double layer mat of heavy timbers shall be used at all times under crane tracks or wheels and any outriggers in the down position. If necessary, shims shall be used under the crane mat to ensure uniform contact with the underlying beams. Prior to placement of the timber mats the following shall be done: placement and tightening of transverse tie assemblies, grouting and curing the dowel rods 24 hours minimum and grouting and curing the shear keys. A temporary means of lateral restraint will be required for fascia beams at expansion ends of beams to prevent movement of the beams.

No instream work will be allowed on this project.

Attach new Name Plate to back side of the 8" rail element.

STATION 487+00  
REBUILT 200 BY  
STATE OF ILLINOIS  
F.A.P. RT. 685  
SEC. (39BR)I  
LOADING HS20  
STR. NO. 029-0052

NAME PLATE  
See Std. 515001

Existing Name Plate shall be cleaned and relocated adjacent to new Name Plate. Cost included with Name Plates.

TOTAL BILL OF MATERIAL

ITEM	UNIT	SUPER	SUB	TOTAL
Removal of Existing Superstructures	Each	1		1
Concrete Removal	Cu. Yd.		4.8	4.8
Prefomed Joint Strip Seal	Foot	41.5		41.5
Concrete Structures	Cu. Yd.		6.1	6.1
Bridge Deck Grooving	Sq. Yd.	506		506
Protective Coat	Sq. Yd.	537		537
Concrete Wearing Surface, 5"	Sq. Yd.	537		537
Precast Prestressed Concrete Deck Beams (21" Depth)	Sq. Ft.	4824		4824
Reinforcement Bars, Epoxy Coated	Pound	6930	1360	8290
Steel Bridge Rail, Type SM	Foot	269		269
Name Plates	Each	1		1
Bar Splicers	Each	139	12	151

- Index of Sheets
1. Plan and Elevation
  2. Stage Construction
  3. Temporary Concrete Barrier and Stage Construction Details
  4. Superstructure
  5. Superstructure Details
  6. Concrete Overlay Details
  7. Type SM Steel Bridge Rail Side Mounted
  8. Strip Seal Expansion Joint Assembly
  9. Concrete Removal
  10. East Abutment
  11. West Abutment
  12. Substructure Details
  13. Bar Splicer Assembly Details

LOADING HS20-44  
Allow 50#/sq. ft. for future wearing surface.  
DESIGN SPECIFICATIONS  
2002 AASHTO 17th Edition

DESIGN STRESSES

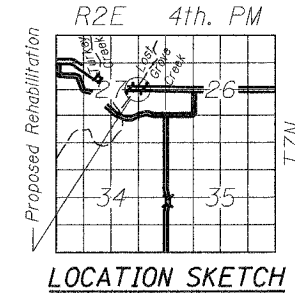
FIELD UNITS

$f'_c = 3,500$  psi  
 $f'_c = 5,000$  psi (Concrete Wearing Surface)  
 $f_y = 60,000$  psi (reinforcement)

PRECAST PRESTRESSED UNITS

$f'_c = 5,000$  psi  
 $f'_{ci} = 4,000$  psi  
 $f'_s = 270,000$  psi ( $\frac{1}{2}$ "  $\phi$  Low Relaxation Strands)  
 $f'_{si} = 201,960$  psi ( $\frac{1}{2}$ "  $\phi$  Low Relaxation Strands)

DESIGNED BWP	THOUVENOT, WADE & MOERCHEN, INC. ENGINEERS • SURVEYORS • PLANNERS   CORPORATE OFFICE 8940 OLD COLLINGSVILLE RD. SWANSEA, ILLINOIS 62226 TEL. (618) 624-4688 FAX (618) 624-6888 E-MAIL: CORP@TWM-INC.COM
CHECKED KPC	
DRAWN BWP	
CHECKED KPC	



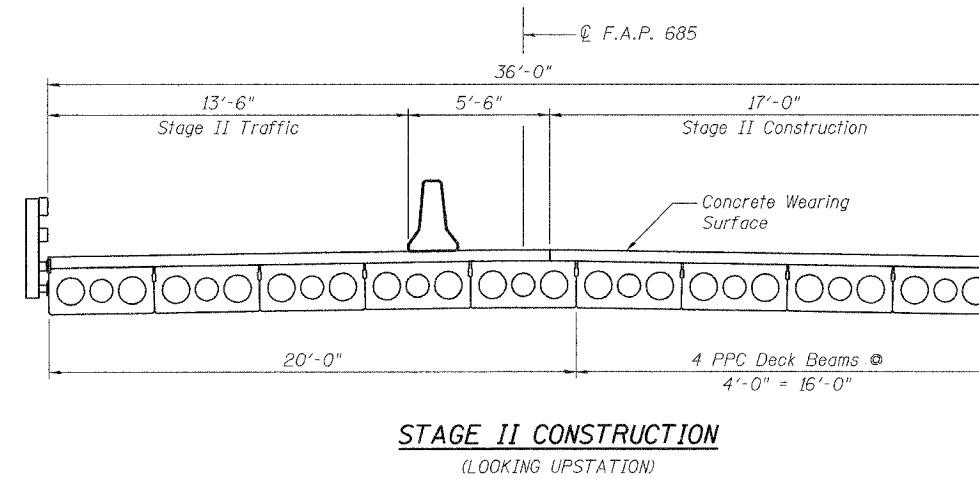
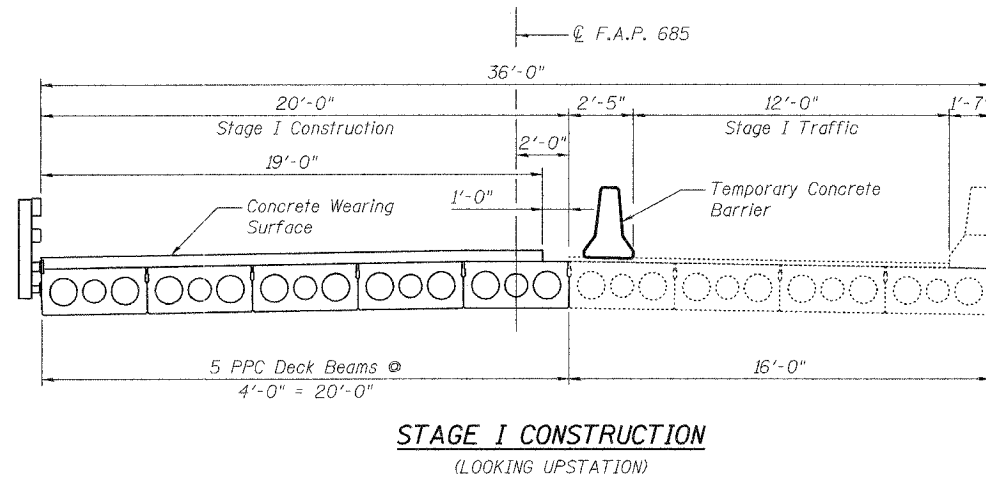
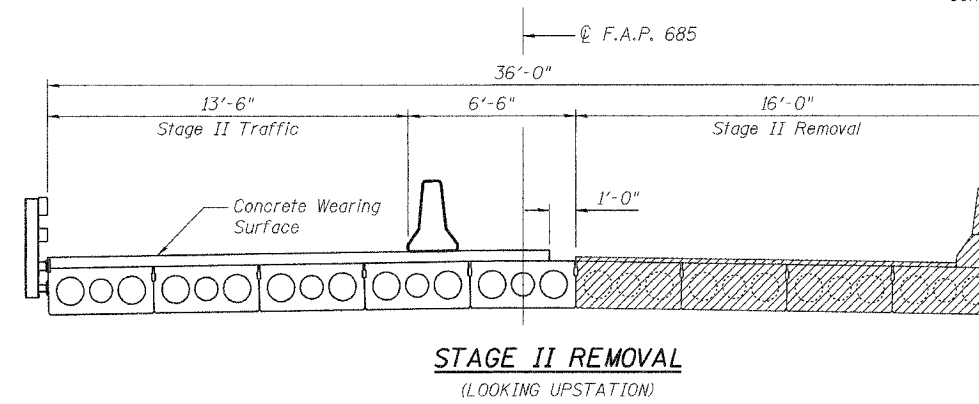
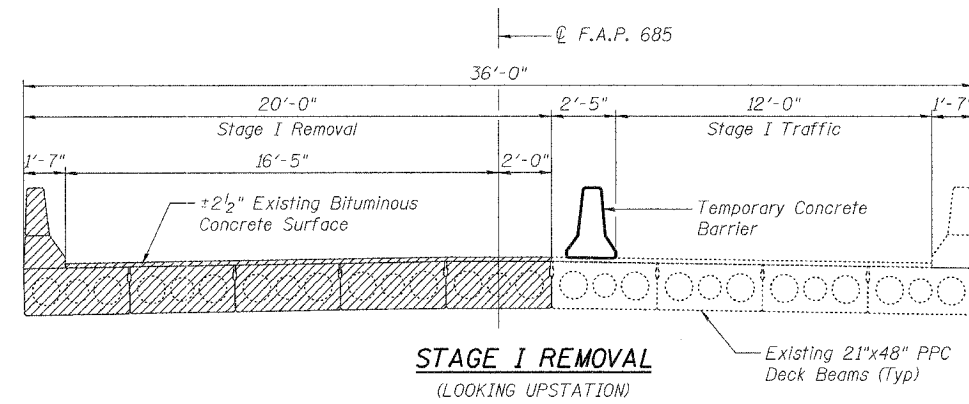
Kermit P. Christman  
Exp. 11/30/06


PLAN AND ELEVATION  
ILLINOIS ROUTE 9 OVER  
LOST GROVE CREEK  
F.A.P. ROUTE 685 SECTION (39BR)I  
FULTON COUNTY  
SN 029-0052

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

ROUTE NO. F.A.P. 685	SECTION (39BR)I	COUNTY FULTON	SHEET NO. 22	BHEET NO. 11	SHEET NO. 2 13 SHEETS
FED. ROAD DIST. NO. 7		ILLINOIS	FED. AID PROJECT		

Contract # 68497



 Indicates Removal of Existing Superstructures

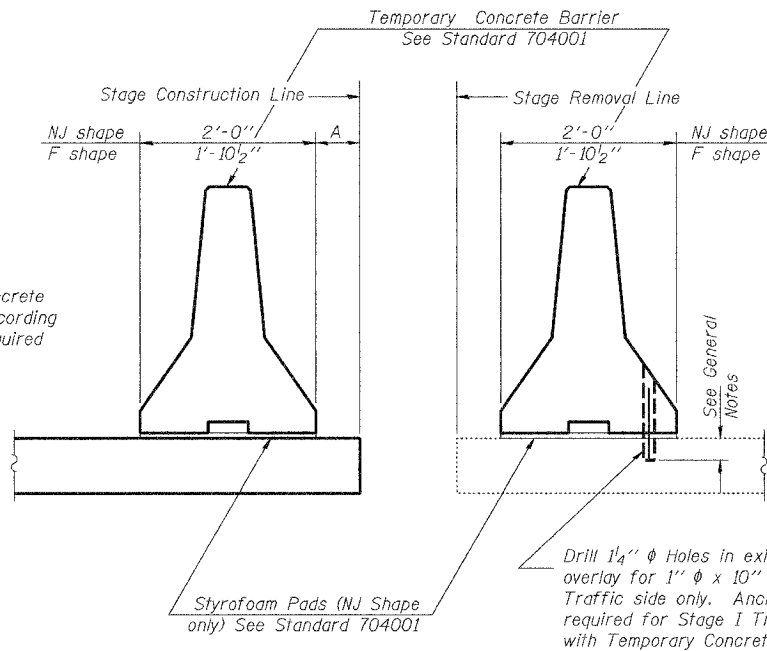
DESIGNED	BWP
CHECKED	KPC
DRAWN	BWP
CHECKED	KPC

**STAGE CONSTRUCTION**  
**ILLINOIS ROUTE 9 OVER**  
**LOST GROVE CREEK**  
**F.A.P. ROUTE 685 SECTION (39BR)I**  
**FULTON COUNTY**  
**SN 029-0052**

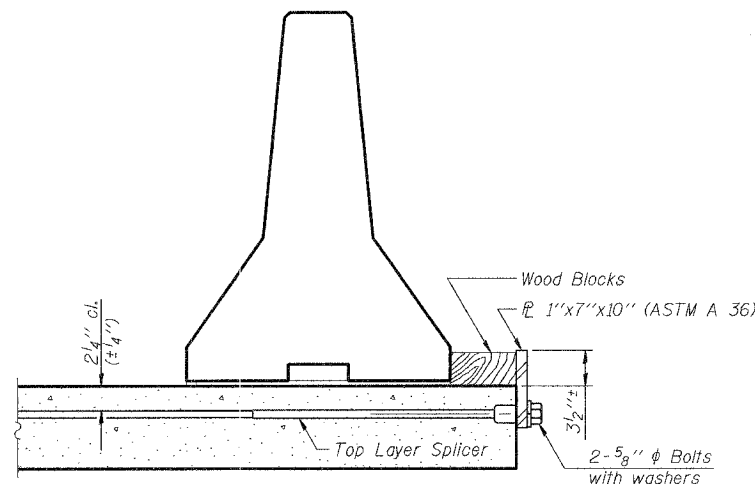
STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	SHEET NO. 3
F.A.P. 685	(39BR)I	FULTON	22	12	13 SHEETS
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT			

Contract # 68497

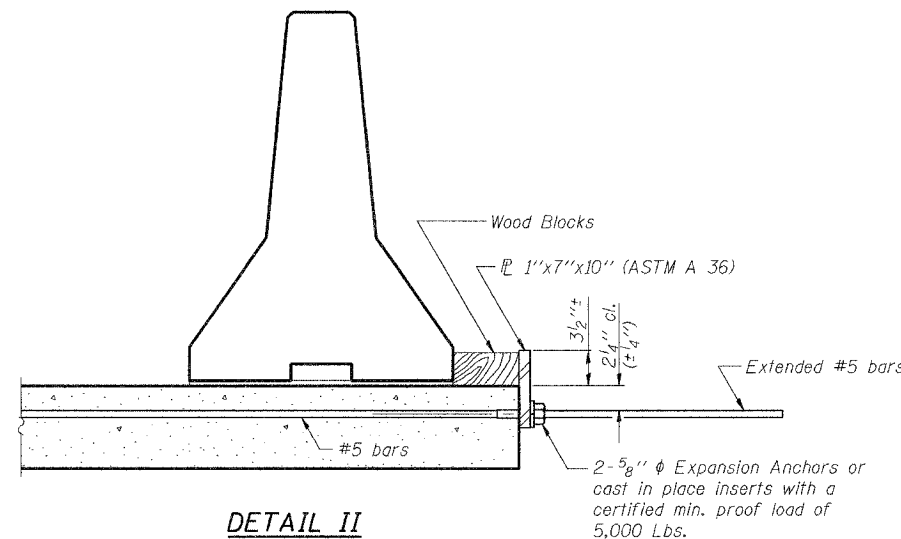


SECTIONS THRU SLAB



DETAIL I

The 1" x 7" x 10" Plate shall not be removed until Stage II Construction forms and reinforcement bars are in place.

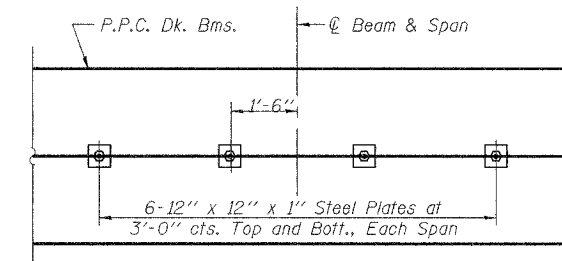


DETAIL II

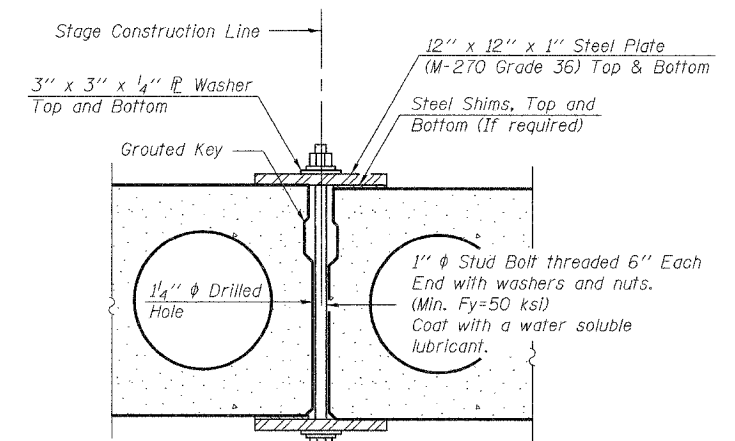
The 1" x 7" x 10" Plate shall not be removed until Stage II Construction forms and all reinforcement bars are in place and the concrete is ready to be placed.

NOTES

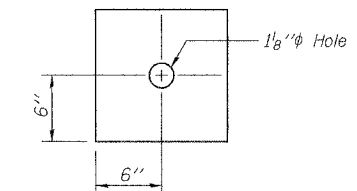
- Detail I - With Bar Splicer or Couplers:  
Connect one (1) 1" x 7" x 10" steel  $\bar{L}$  to the top layer of couplers with 2-5/8"  $\phi$  bolts screwed to coupler at approximate  $\bar{C}$  of each barrier panel.
- Detail II - With Extended Reinforcement Bars:  
Connect one (1) 1" x 7" x 10" steel  $\bar{L}$  to the concrete slab with 2-5/8"  $\phi$  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.



PLAN



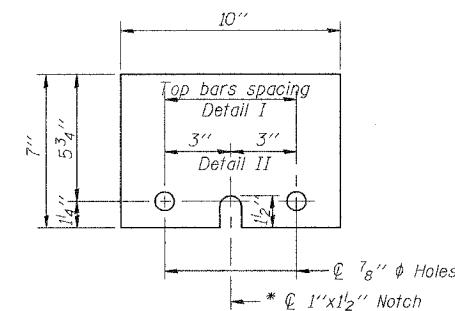
SECTION



CLAMPING PLATE

SHEAR KEY CLAMPING DETAILS AT STAGE CONST. JT.

See Special Provisions for Stage Construction of Precast Prestressed Concrete Deck Beams. Cost included with Precast Prestressed Concrete Deck Beams (21" Depth). See Stage Construction Details for traffic lanes.



1" x 7" x 10"

\* Required only with Detail II

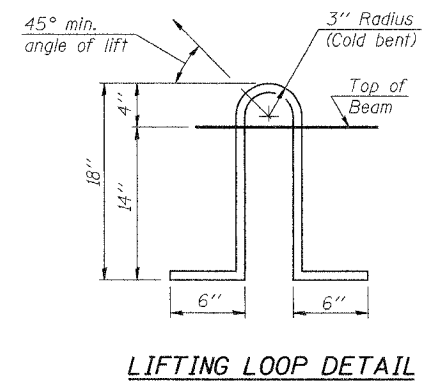
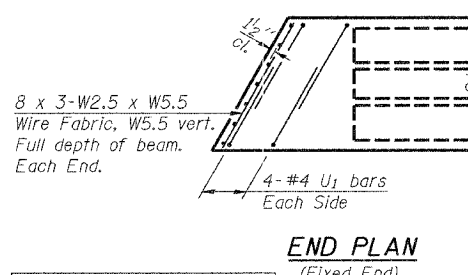
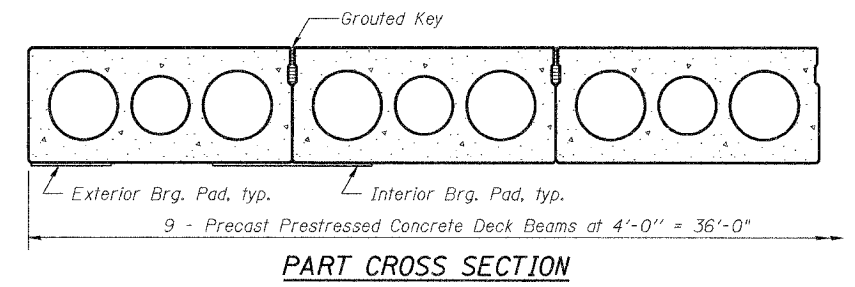
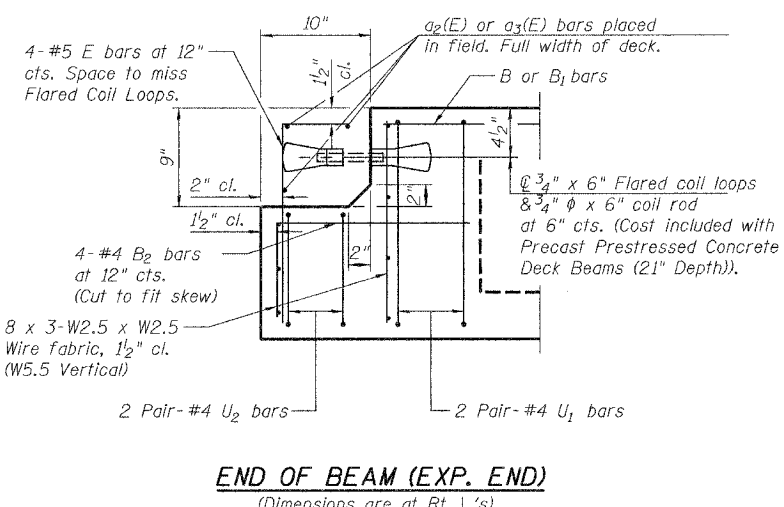
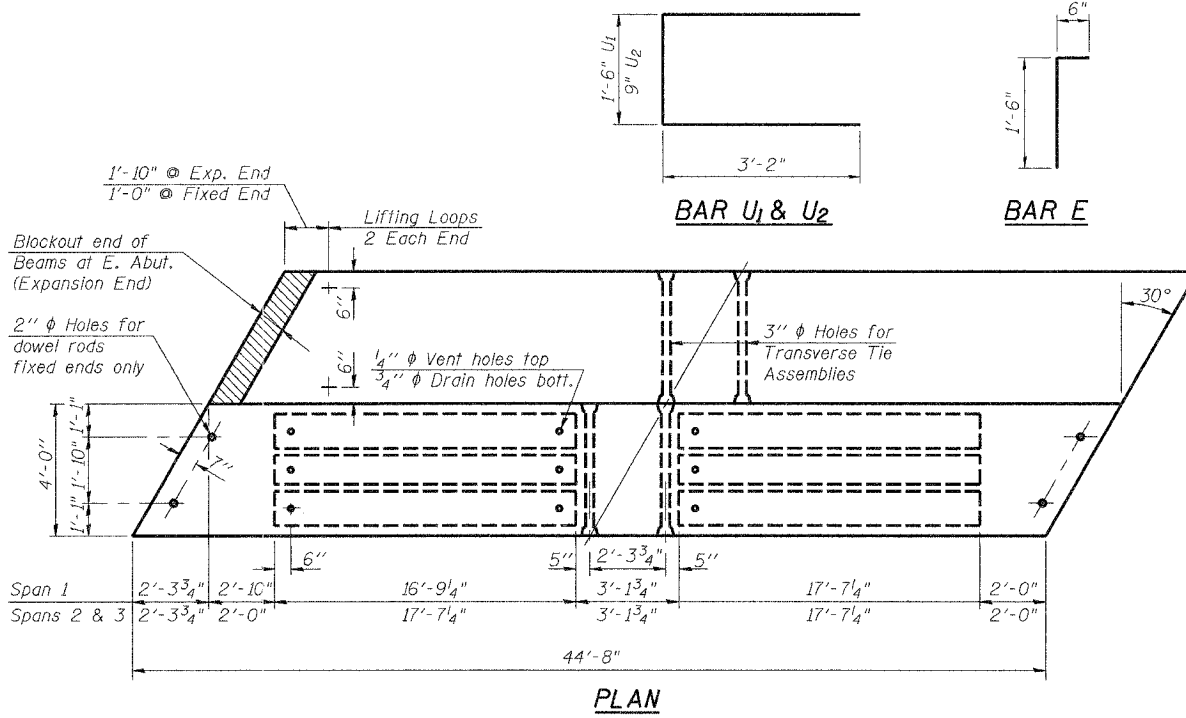
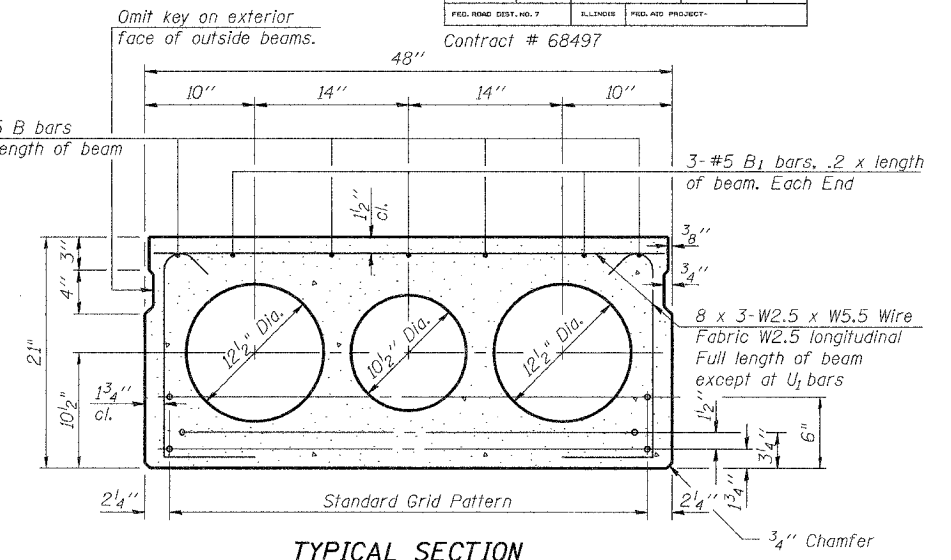
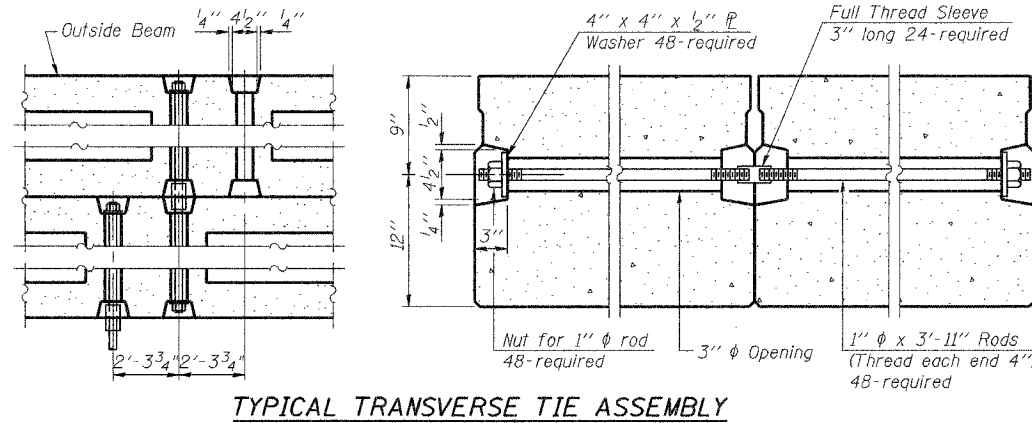
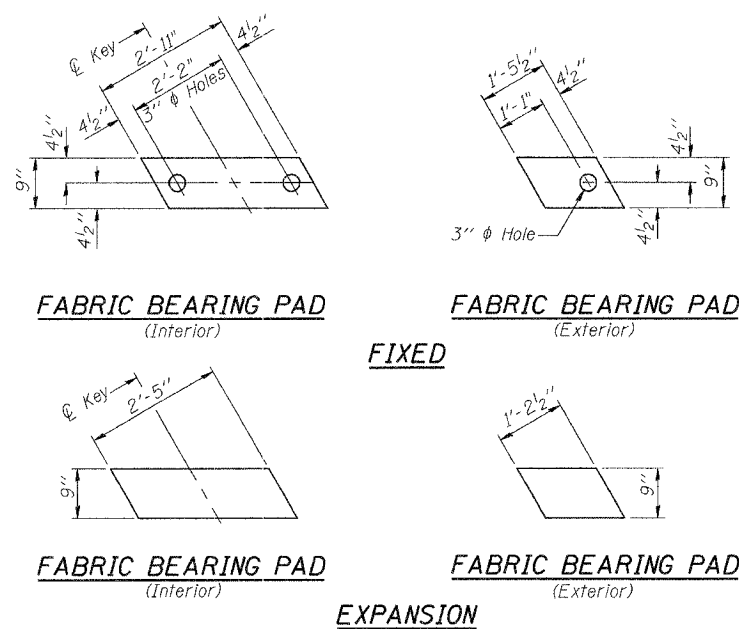
TEMPORARY CONCRETE BARRIER AND  
STAGE CONSTRUCTION DETAILS  
ILLINOIS ROUTE 9 OVER  
LOST GROVE CREEK  
F.A.P. ROUTE 685 SECTION (39BR)I  
FULTON COUNTY  
SN 029-0052

DESIGNED	BWP
CHECKED	KPC
DRAWN	BWP
CHECKED	KPC

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.P. 685	(39BR)	FULTON	22	13
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT	SHEET NO. 4 13 SHEETS	

Contract # 68497



**NOTES**

Prestressing steel shall be uncoated high strength, low relaxation 7-wire strand, Grade 270. The nominal diameter shall be 1/2" and the nominal cross-sectional area shall be 0.153 sq. in. Lifting loops shall be 2-1/2"  $\phi$  270 ksi strands, as shown.

The 1"  $\phi$  rods in the transverse tie assembly shall be tightened to a snug fit and the threads set. Pockets that receive transverse tie bar on outside shall be filled with grout after transverse tie assembly is in place.

The bearing seat surfaces shall be adjusted by shimming to assure firm and even bearing. Two 1/8" fabric adjusting shims of the dimensions of the Exterior Bearing Pad shall be provided for each bearing.

Keyway surfaces shall be cleaned to remove form oil or other bond breaking material prior to shipment of the beams. Cleaning shall be done by sandblasting the keyway areas between top of the beam and the bottom edge of the key.

Corrosion Inhibitor, as covered in the Special Provisions, shall be used in the concrete for precast prestressed concrete deck beams.

Required Release Strength, f'ci, shall be 4,000 p.s.i.

**BILL OF MATERIAL**

Precast Prestressed Concrete Deck Beams (21" Depth)	Sq. Ft.	4824
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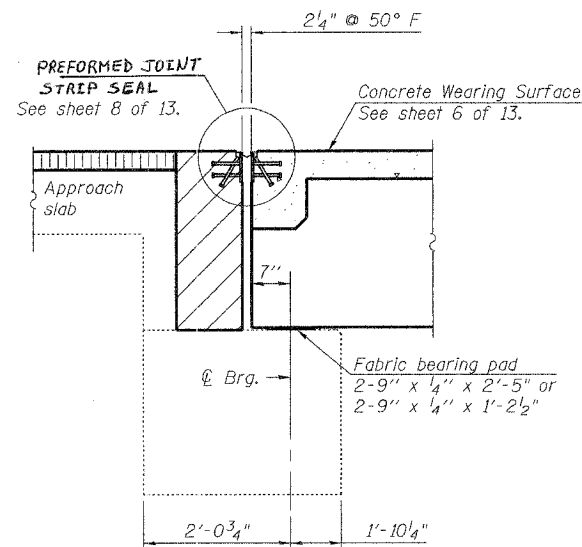
**SUPERSTRUCTURE**  
**ILLINOIS ROUTE 9 OVER**  
**LOST GROVE CREEK**  
**F.A.P. ROUTE 685 SECTION (39BR)**  
**FULTON COUNTY**  
**SN 029-0052**

DESIGNED	BWP
CHECKED	KPC
DRAWN	BWP
CHECKED	KPC

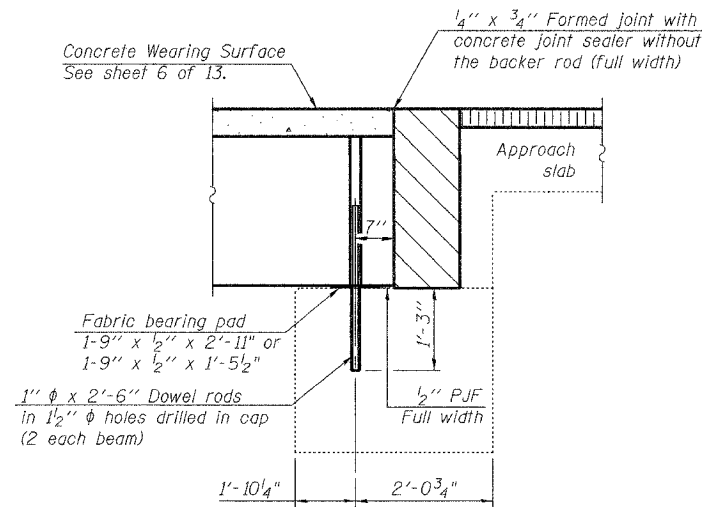
STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	SHEETS	SHEET NO.	SHEET NO. 5
F.A.P. 685	(39BR)I	FULTON	22	14	13 SHEETS
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT			

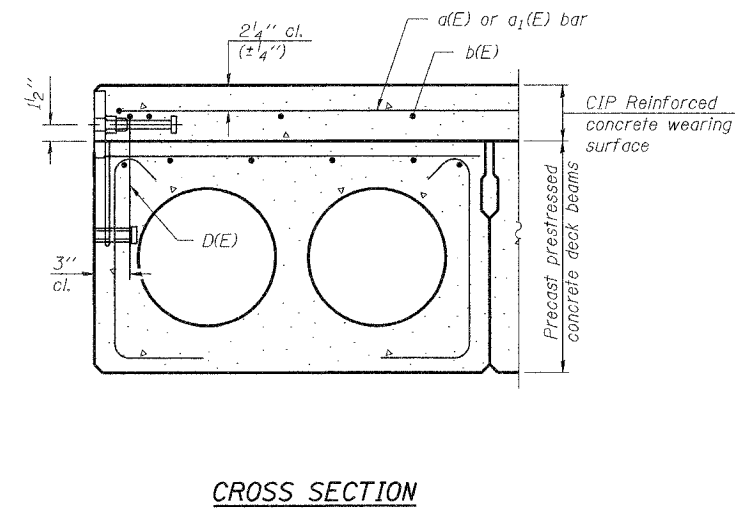
Contract # 68497



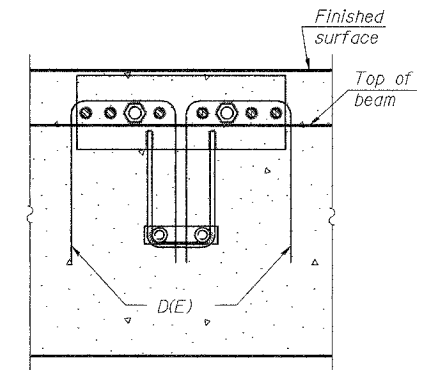
SECTION THRU EAST ABUTMENT



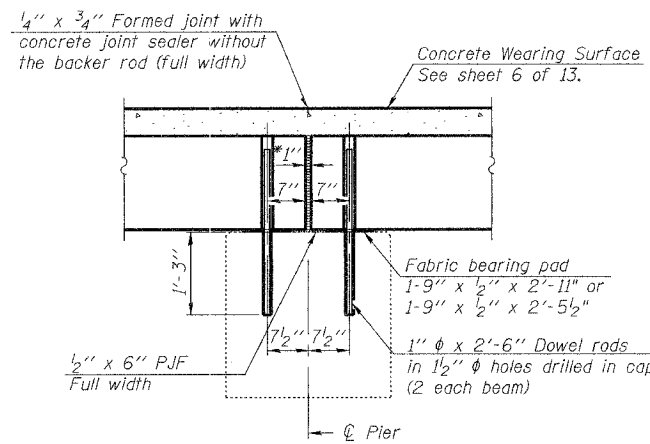
SECTION THRU WEST ABUTMENT



CROSS SECTION



SECTION A-A

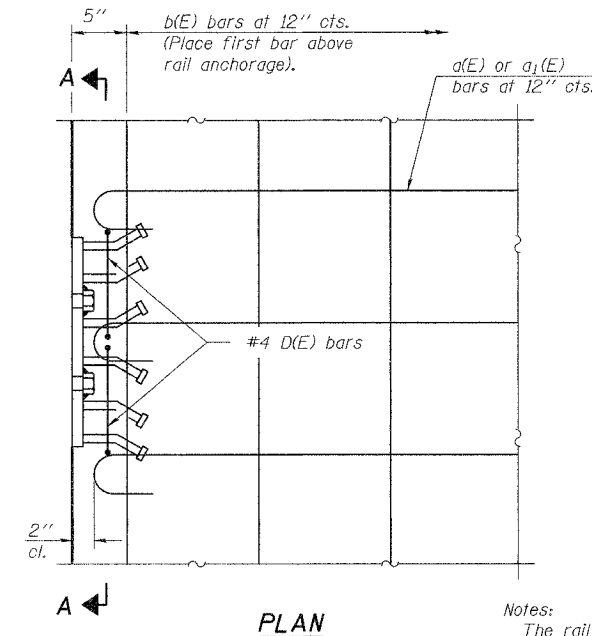


SECTION THRU PIERS

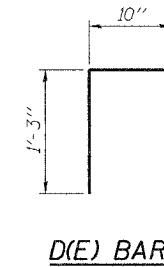
\* 1" Jt. shall be filled with non-shrink grout. 1" dimension may vary to accommodate tolerance in beam lengths.

Notes:

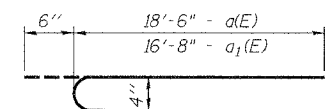
- Ends of beams shall be aligned at the expansion joint. Any lineal variation in the beam lengths shall be placed at the fixed joint (Pier I).
- After beams have been erected, temporary retainers shall be installed, holes shall be drilled into substructure and anchor dowels placed. Dowel holes shall be filled with non-shrink grout to top of beam and allowed to cure min. 24 hrs. prior to grouting the shear keys.
- Concrete wearing surface (including blockout) to be poured after grouting the shear keys.
- Hatched area to be poured after concrete wearing surface (including blockout) is in place.
- Dowel rods drilled in cap are included in the cost of Precast Prestressed Concrete Deck Beams (21" Depth).
- All horizontal dimensions are at right angles to beam ends. See sheet 4 of 13 for bearing pad details.



PLAN



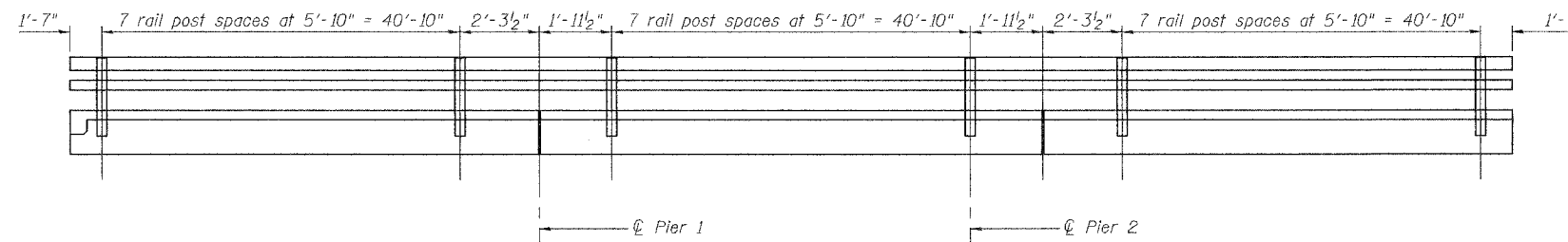
D(E) BAR



a(E), a1(E) BAR

Notes:

- The rail anchorage shall be cast with the beam and the wearing surface shall be cast in the field.
- Formwork necessary for the wearing surface may be secured utilizing the bottom rail anchorage inserts and/or additional inserts cast into the beam. Drilling into the beam will not be permitted.



RAIL POST SPACING

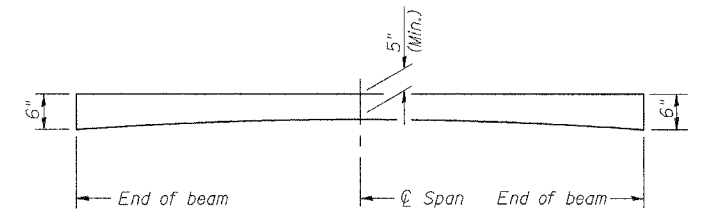
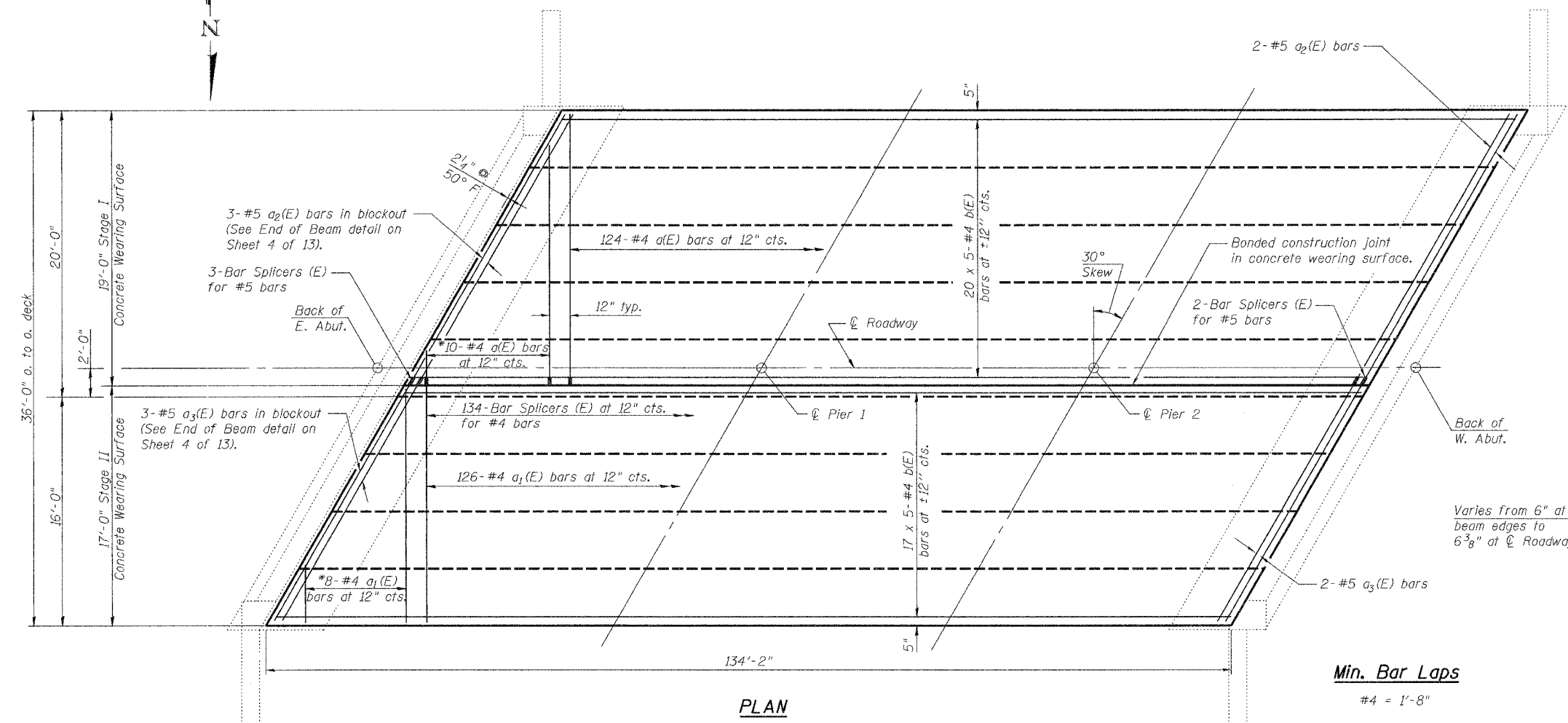
DESIGNED	BWP
CHECKED	KPC
DRAWN	BWP
CHECKED	KPC

SUPERSTRUCTURE DETAILS  
ILLINOIS ROUTE 9 OVER  
LOST GROVE CREEK  
F.A.P. ROUTE 685 SECTION (39BR)I  
FULTON COUNTY  
SN 029-0052

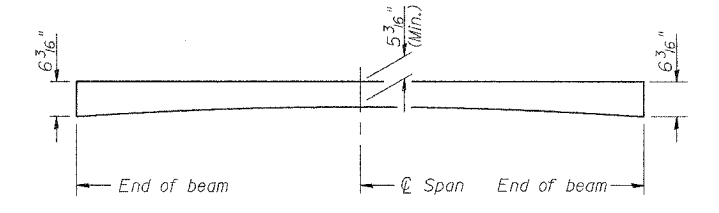
STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	SHEET NO.	SHEET NO.
F.A.P. 685	(39BR)I	FULTON	22	15
FED. ROAD DIST. NO. 7	BILLING	FED. AID PROJECT		

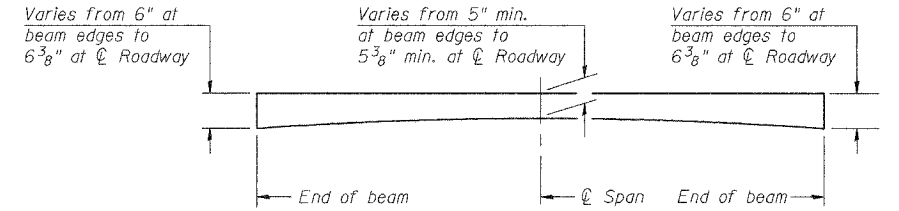
Contract # 68497



**REINFORCED CONCRETE WEARING SURFACE PROFILE**  
(Typical all three spans at all locations except Beam 5)



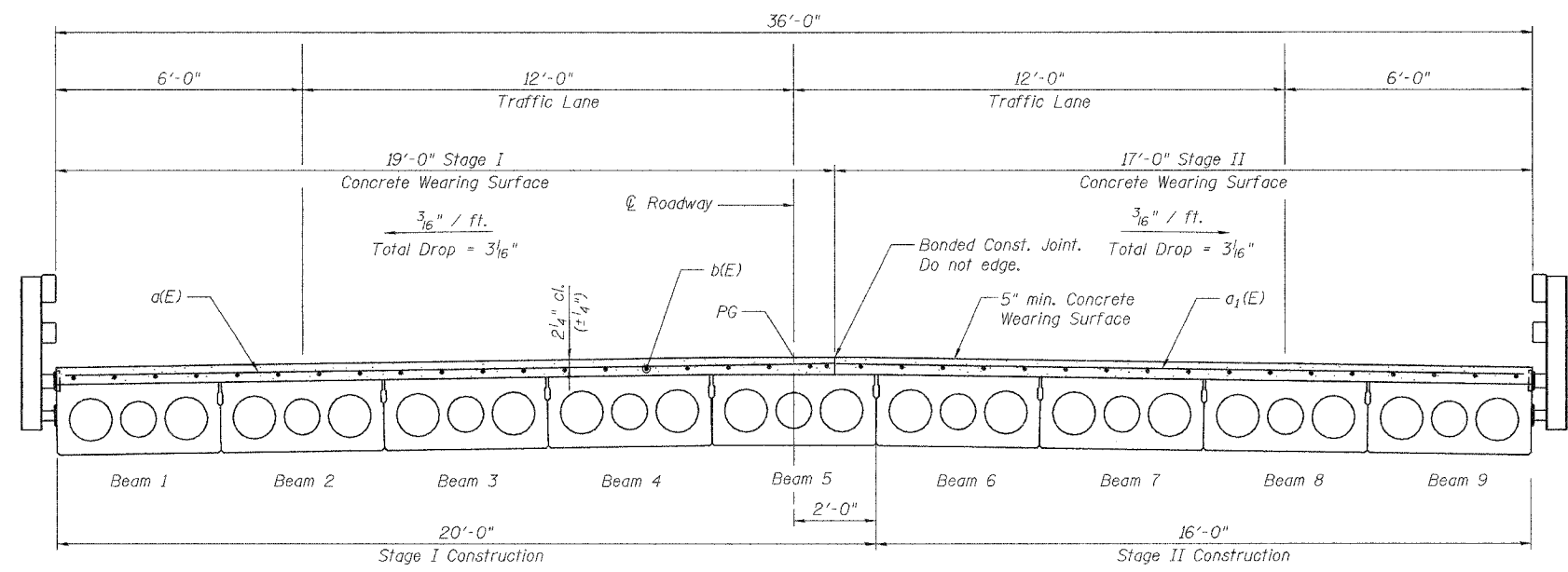
**REINFORCED CONCRETE WEARING SURFACE PROFILE**  
(Typical all three spans at stage construction line)



**REINFORCED CONCRETE WEARING SURFACE PROFILE**  
(Typical all three spans of Beam 5)

**Min. Bar Laps**  
#4 = 1'-8"

\* Order a(E) and a1(E) bars full length. Cut to fit skew and use remainder of bars in opposite end. Ensure hooked end is placed adjacent to outer edge of fascia beam.



**DECK CROSS SECTION**  
(Looking Upstation)

DESIGNED	BWP
CHECKED	KPC
DRAWN	BWP
CHECKED	KPC

**SUPERSTRUCTURE  
BILL OF MATERIAL**

Bar	No.	Size	Length	Shape	
a(E)	134	#4	19'-0"	C	
a1(E)	134	#4	17'-2"	C	
a2(E)	5	#5	21'-4"	—	
a3(E)	5	#5	19'-3"	—	
b(E)	185	#4	28'-2"	—	
Reinforcement Bars, Epoxy Coated				Pound	6930
Concrete Wearing Surface, 5"				Sq. Yds.	537

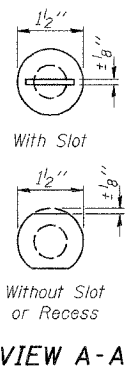
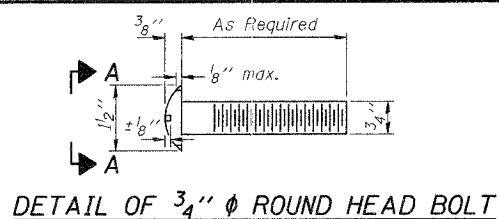
Reinforcement bars designated (E) shall be epoxy coated.  
Bars indicated thus 1 x 5-#5 etc. indicates 1 line of bars with 5 lengths per line.

**CONCRETE OVERLAY DETAILS  
ILLINOIS ROUTE 9 OVER  
LOST GROVE CREEK  
F.A.P. ROUTE 685 SECTION (39BR)I  
FULTON COUNTY  
SN 029-0052**

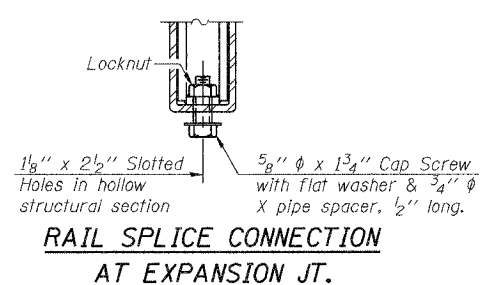
STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	SHEETS	SHEET NO.
F.A.P. 685	(39BR)1	FULTON	22	16
FED. AID DIST. NO. 7	ILLINOIS	FED. AID PROJECT		

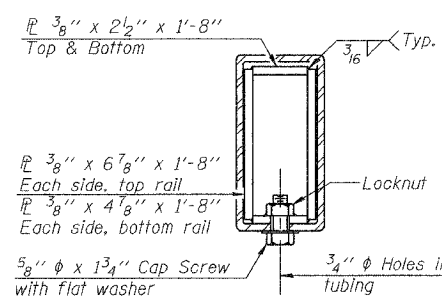
SHEET NO. 7  
13 SHEETS  
Contract # 68497



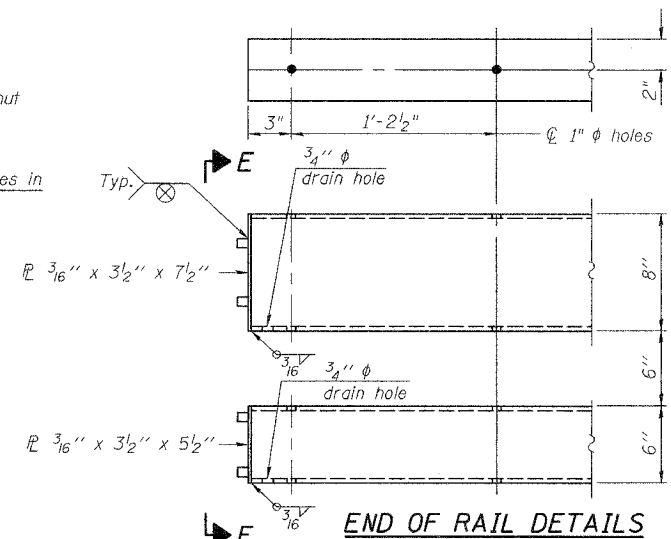
4- $\frac{3}{4}$ "  $\phi$  x 6" Round Head Bolts  
(With slot or approved recess in head) with locknut & flat washer.  
 $\frac{7}{8}$ "  $\phi$  holes in hollow structural section may be drilled in the field.



RAIL SPLICE CONNECTION  
AT EXPANSION JT.



SECTION AT  
RAIL SPLICE



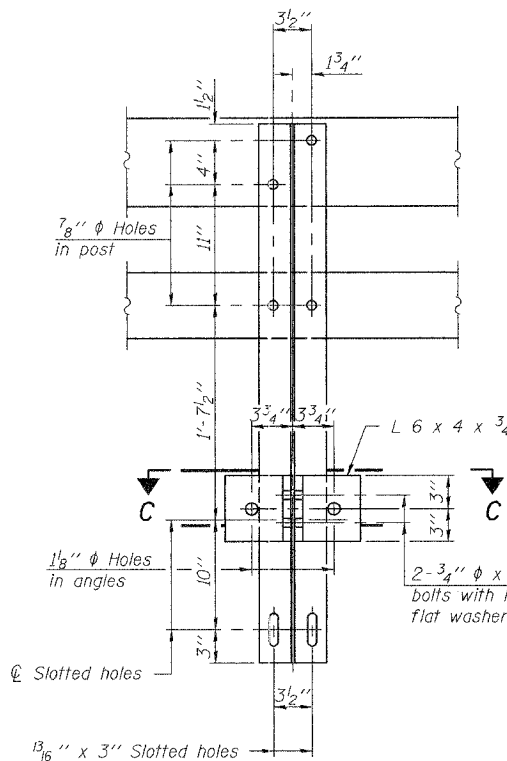
NOTES

Hollow structural sections shall conform to the requirements of ASTM designation A 500 Grade B Structural Steel Tubing and shall meet the longitudinal CVN requirements of 15 ft-lbs at 0° F.  
All other steel shapes and plates shall conform to the requirements of AASHTO M 270 Grade 36 except posts and angles shall conform to AASHTO M 270, Grade 50.  
Bolts, cap screws, and nuts shall conform to the requirements of ASTM designation A 307 except for high strength bolts, nuts and washers noted which shall conform to AASHTO M 164.  
All bolts, nuts, cap screws, washers and lock washers shall be galvanized according to AASHTO M 232.  
All posts, railing, rail splices, anchor devices and angles shall be galvanized after shop fabrication according to AASHTO M 111 and ASTM A 385. Galvanized rail shall not be painted.  
Railing shall be according to Section 509 of the Standard Specifications, except as noted, and will be paid for at the contract unit price per foot for Steel Bridge Rail, Type SM.  
All field drilled holes shall be coated with an approved zinc rich paint before erection.  
For multi-span bridges, sufficient  $\frac{1}{4}$ " x 6" x 1'-2" galvanized steel shims shall be provided to align rail between adjacent spans. Cost included with Steel Bridge Rail, Type SM.  
The  $\frac{3}{4}$ "  $\phi$  high strength bolts used to connect the 6 x 4 x  $\frac{3}{4}$  angles to the post shall be tightened according to Article 505.04(f)(2) of the Standard Specifications. The 1"  $\phi$  high strength bolts connecting the angles to the concrete shall be tightened to a snug fit and given an additional  $\frac{1}{8}$  turn. The  $\frac{5}{8}$ "  $\phi$  cap screws in bottom of posts shall be tightened to a snug fit only.

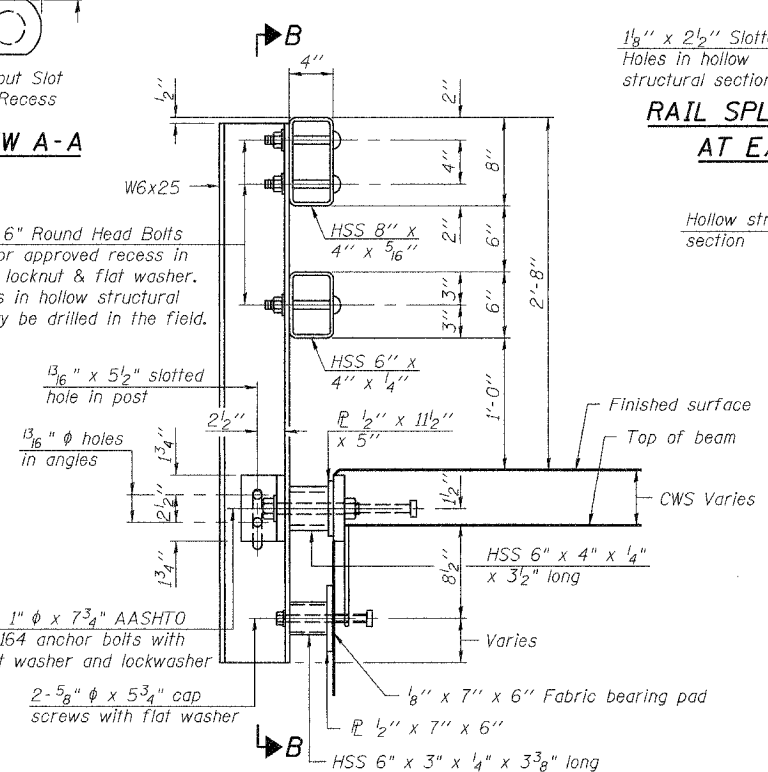
BILL OF MATERIAL

Item	Unit	Quantity
Steel Bridge Rail, Type SM	Foot	269

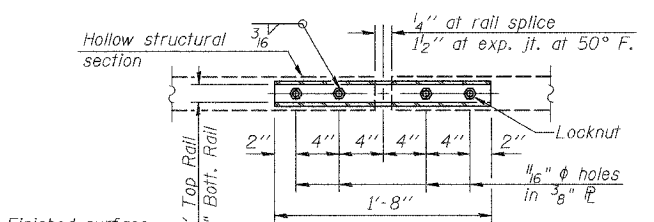
TYPE SM  
STEEL BRIDGE RAIL SIDE MOUNTED  
WITH CONCRETE WEARING SURFACE  
ILLINOIS ROUTE 9 OVER  
LOST GROVE CREEK  
F.A.P. ROUTE 685 SECTION (39BR)1  
FULTON COUNTY  
SN 029-0052



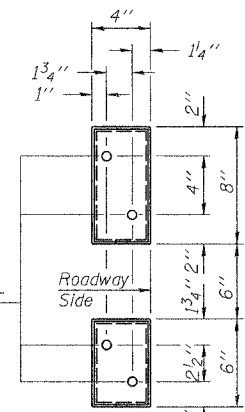
SECTION B-B



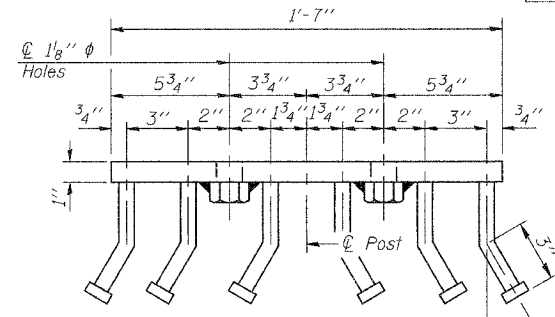
SECTION AT RAIL POST



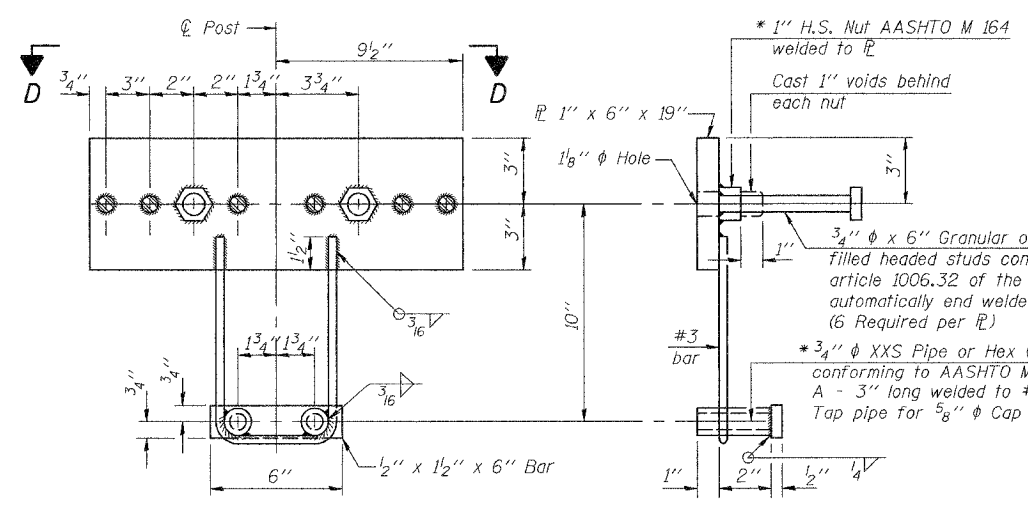
PLAN-BOTT. SPLICE  
TYPICAL



VIEW E-E

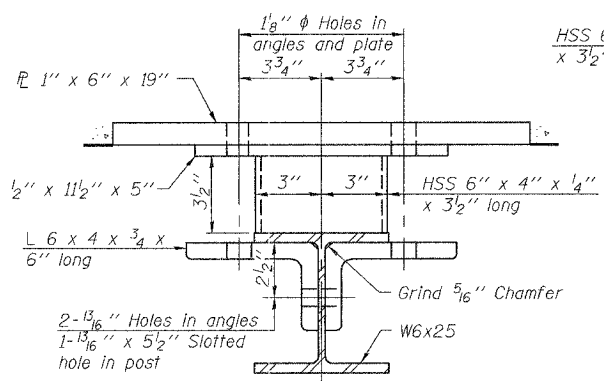


VIEW D-D

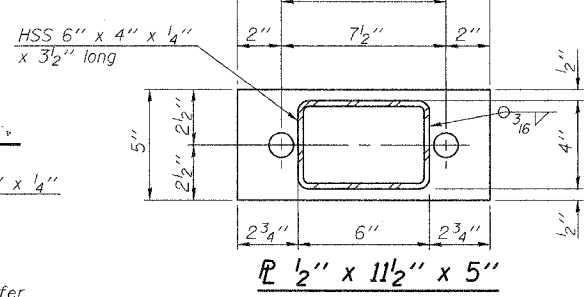


ANCHOR DEVICE

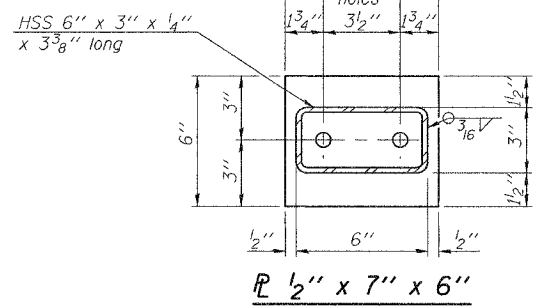
\* Threaded areas shall be plugged or blocked off during casting of beam. Galvanized after fabrication.



SECTION C-C



SECTION AT RAIL POST



SECTION AT RAIL POST

DESIGNED	BWP
CHECKED	KPC
DRAWN	BWP
CHECKED	KPC

R-34CWS 10-28-05 (6'-3" Maximum Post Spacing) (5" minimum to 7 $\frac{1}{8}$ " maximum CWS thickness)



STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET	SHEET NO.
F.A.P. 685	(39BR)I	FULTON	22	17	13 SHEETS
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-			

Contract # 68497

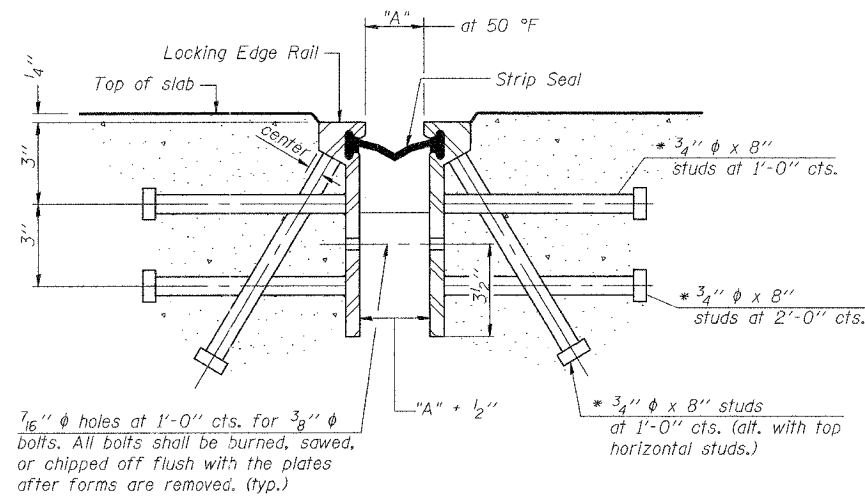
**GENERAL NOTES**

The strip seal shall be made continuous and shall have a minimum thickness of 1/4". The configuration of the strip seal shall match the configuration of the Locking Edge Rails.

The height and thickness of the Locking Edge Rails shown are minimum dimensions. The actual configuration of the Locking Edge Rails and matching strip seal may vary from manufacturer to manufacturer. Flanged edge rails will not be allowed.

Locking Edge Rails may be spliced at slope discontinuities and stage construction joints.

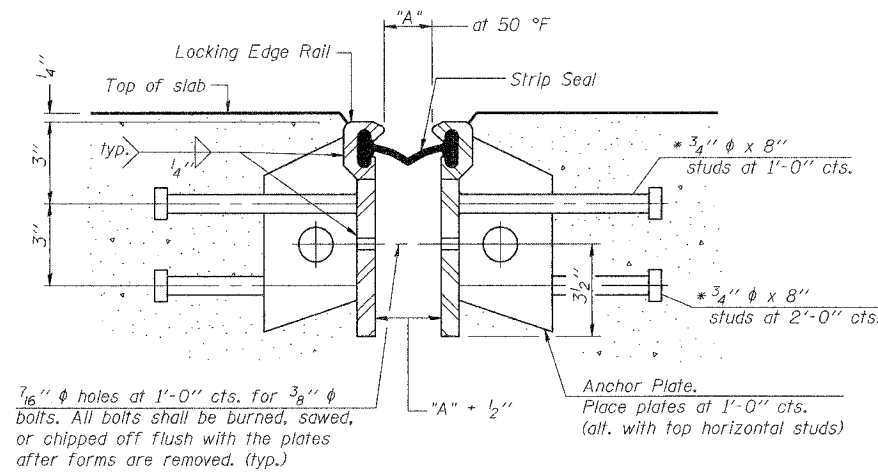
The manufacturer's recommended installation methods shall be followed.



**SECTION THRU ROLLED RAIL EXP. JOINT**

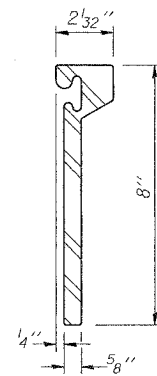
(94 Studs Required-Stage I)  
(84 Studs Required-Stage II)

\* Granular or solid flux filled headed studs conforming to Article 1006.32 of the Std. Specs., automatically end welded.

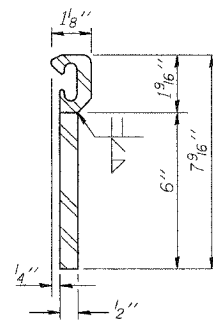


**SECTION THRU WELDED RAIL EXP. JOINT**

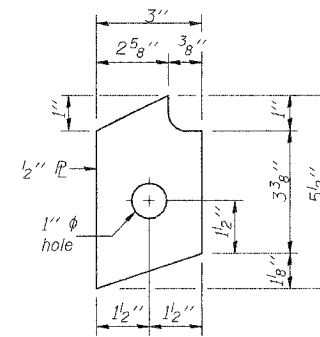
(58 Studs Required-Stage I, 52 Studs Required-Stage II)  
(36 Anchor Plates Required-Stage I), (32 Anchor Plates Required-Stage II)



**ROLLED (EXTRUDED) RAIL**

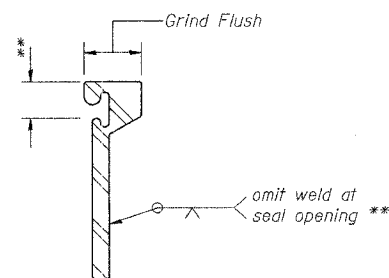


**WELDED RAIL**



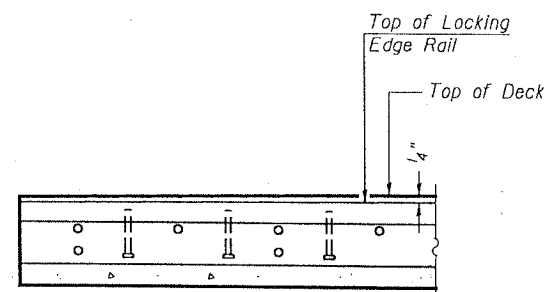
**ANCHOR PLATE**  
(for welded rail)

**LOCKING EDGE RAILS**



**LOCKING EDGE RAIL SPLICE**

The inside of the locking edge rail groove shall be free of weld residue.



**AT EDGE OF DECK**  
**TYPICAL END TREATMENTS**

DESIGNED	BWP
CHECKED	KPC
DRAWN	BWP
CHECKED	KPC

EJ-BJS

10-22-04

**STRIP SEAL EXPANSION JOINT ASSEMBLY**  
**ILLINOIS ROUTE 9 OVER**  
**LOST GROVE CREEK**  
**F.A.P. ROUTE 685 SECTION (39BR)I**  
**FULTON COUNTY**  
**SN 029-0052**

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

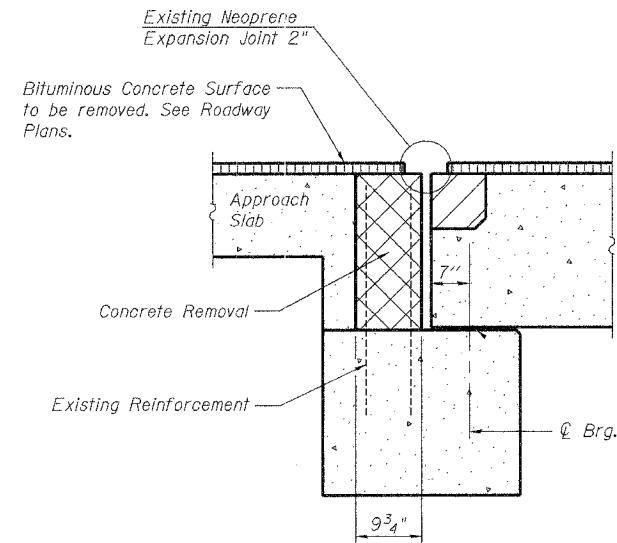
ROUTE NO.	SECTION	COUNTY	SHEET NO.	SHEET NO.
F.A.P. 685	(39BR)I	FULTON	22	18
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		

SHEET NO. 9

13 SHEETS

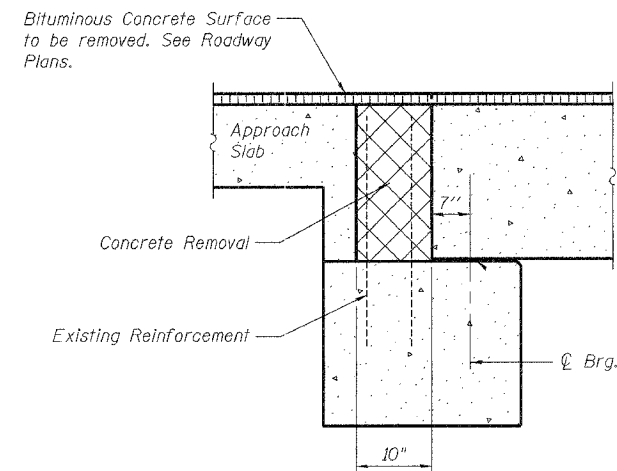
Contract # 68497

Notes:  
Hatched areas indicate Concrete Removal  
Existing reinforcement extending into new construction shall be cut off flush. Cost included with Concrete Removal.  
Removal of existing neoprene expansion joint is incidental to Concrete Removal.



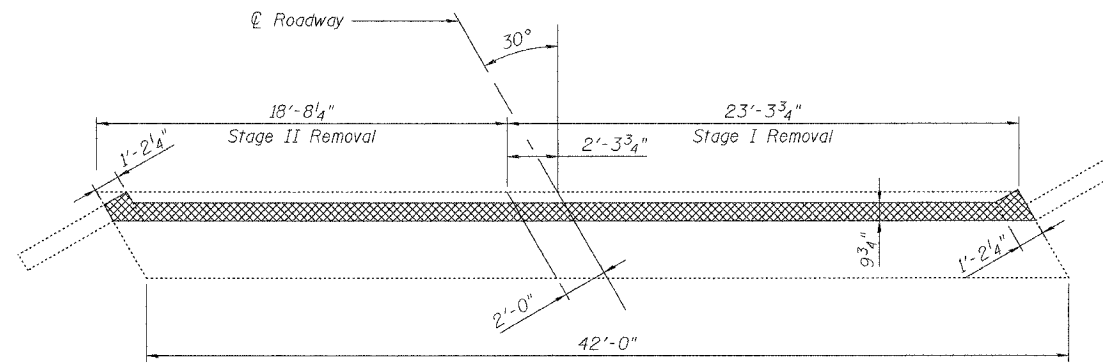
**SECTION THRU EXISTING EAST ABUTMENT**

All horizontal dimensions are at right angles to beam ends.

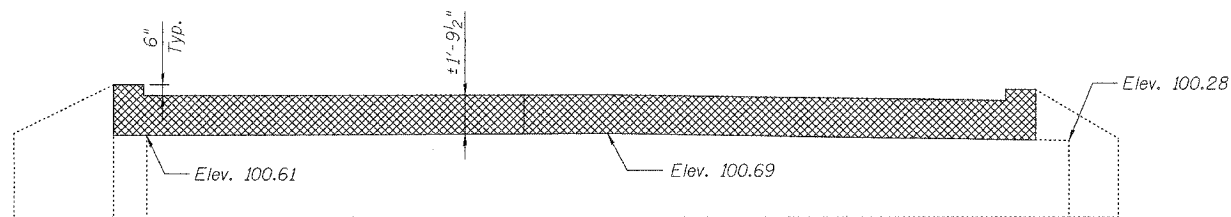


**SECTION THRU EXISTING WEST ABUTMENT**

All horizontal dimensions are at right angles to beam ends.

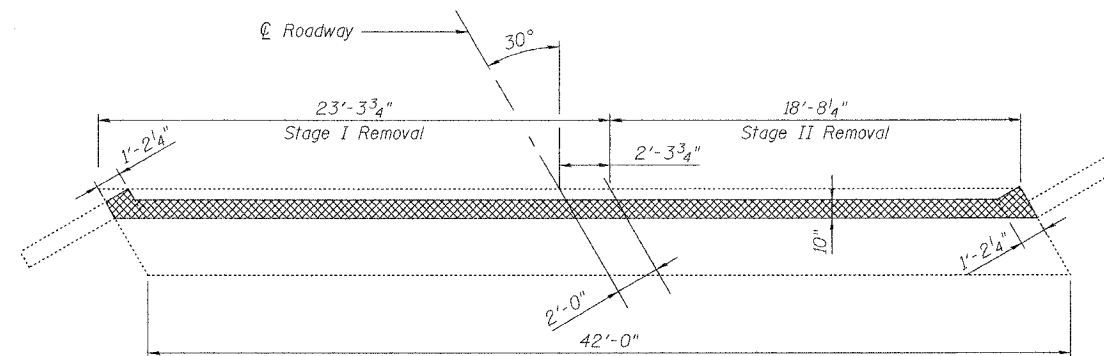


**PLAN-EAST ABUTMENT**

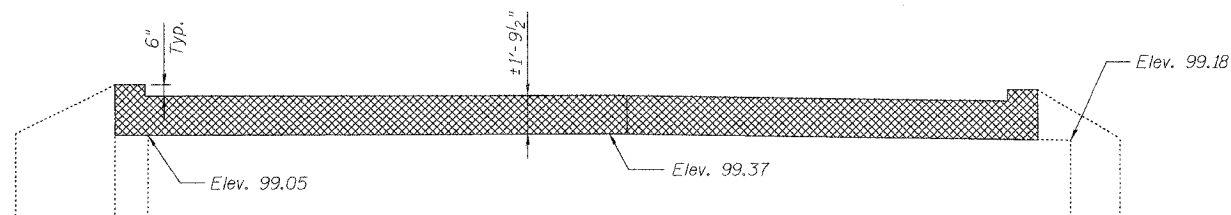


**ELEVATION- EAST ABUTMENT**

(LOOKING EAST)



**PLAN-WEST ABUTMENT**



**ELEVATION- WEST ABUTMENT**

(LOOKING WEST)

**BILL OF MATERIAL**

ITEM	UNIT	TOTAL
Concrete Removal	Cu. Yd.	4.8

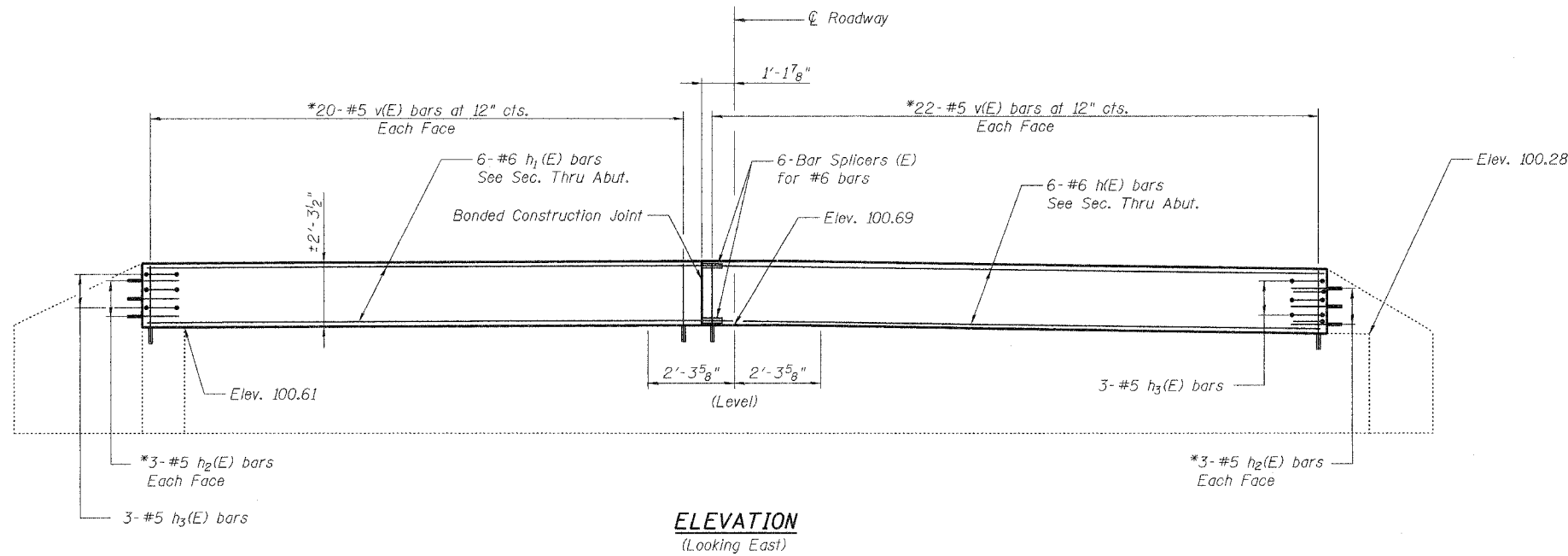
**CONCRETE REMOVAL  
ILLINOIS ROUTE 9 OVER  
LOST GROVE CREEK  
F.A.P. ROUTE 685 SECTION (39BR)I  
FULTON COUNTY  
SN 029-0052**

DESIGNED	BWP
CHECKED	KPC
DRAWN	BWP
CHECKED	KPC

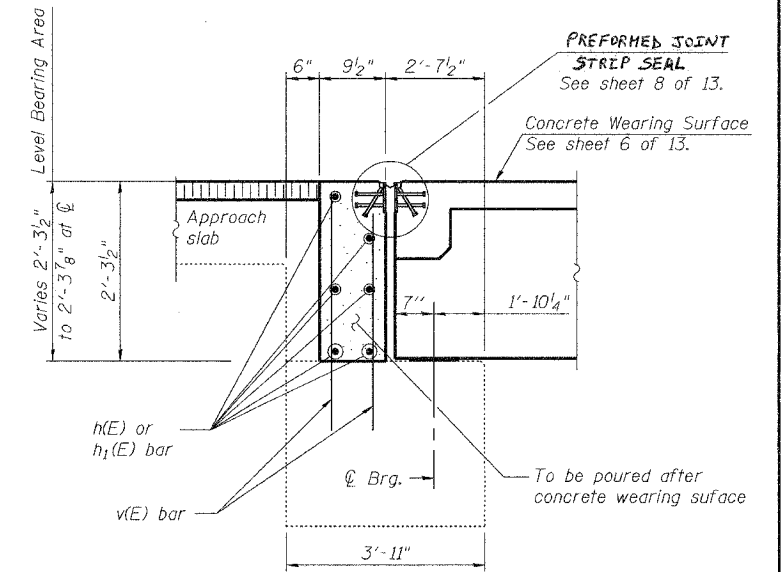
STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	SHEETS	SHEET	SHEET NO. 10 13 SHEETS
F.A.P. 685	(39BR)I	FULTON	22	19	
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-			

Contract # 68497

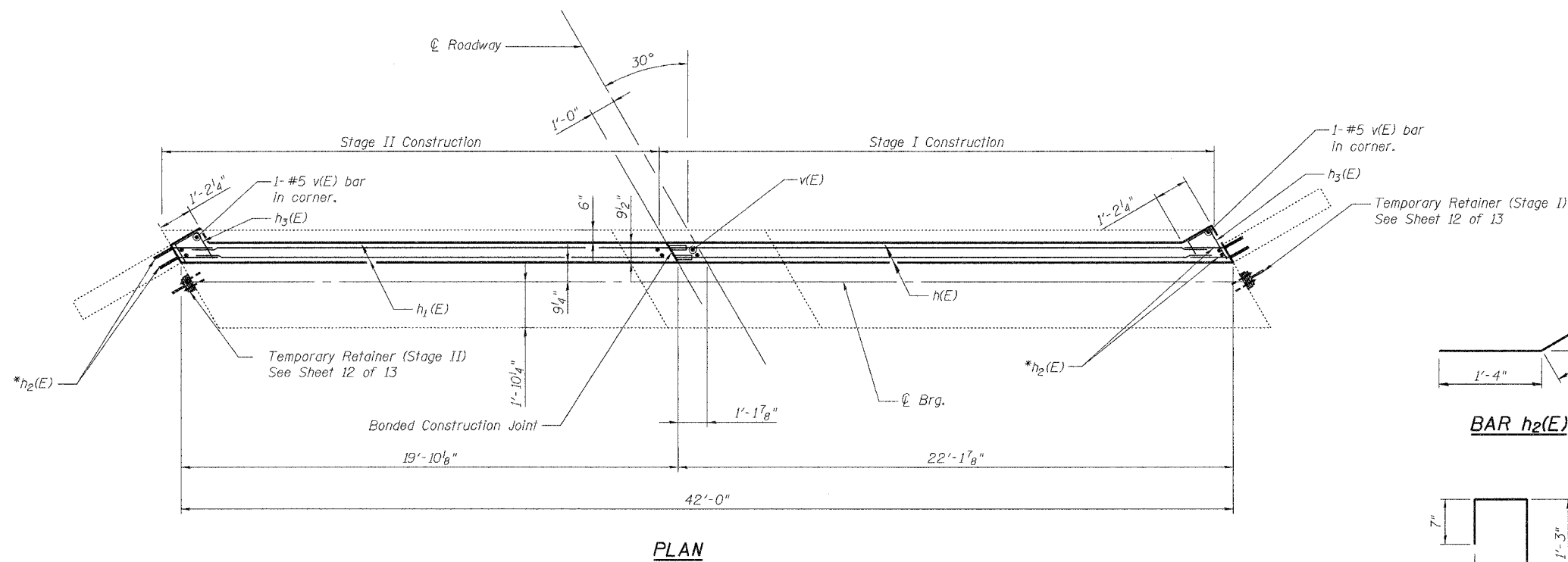


**ELEVATION**  
(Looking East)

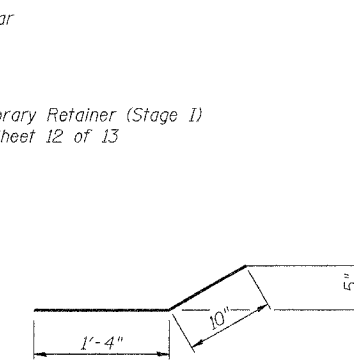


**SECTION THRU EAST ABUTMENT**

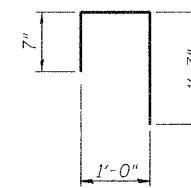
\* Epoxy grout v(E) and h2(E) bars in 9" (Min.) drilled holes according to Section 584 of the Standard Specification



**PLAN**



**BAR h2(E)**



**BAR h3(E)**

**BILL OF MATERIAL**

Bar	No.	Size	Length	Shape
h(E)	6	#6	21'-8"	—
h1(E)	6	#6	19'-6"	—
h2(E)	12	#5	2'-2"	—
h3(E)	6	#5	2'-10"	┌
v(E)	86	#5	2'-11"	—
Concrete Structures			Cu. Yd.	3.0
Reinforcement Bars, Epoxy Coated			Pound	680

**EAST ABUTMENT**  
**ILLINOIS ROUTE 9 OVER**  
**LOST GROVE CREEK**  
**F.A.P. ROUTE 685 SECTION (39BR)I**  
**FULTON COUNTY**  
**SN 029-0052**

DESIGNED	BWP
CHECKED	KPC
DRAWN	BWP
CHECKED	KPC



STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	SHEET NO.	SHEET NO.
F.A.P. 685	(39BR)	FULTON	22	21
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		

Contract # 68497

**ANCHOR BOLTS FOR RETAINERS**

**GENERAL NOTES**

Holes in the masonry for anchor bolts shall be drilled 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 including the epoxy grout or capsules shall not be paid for separately but shall be included in the unit bid price for Precast Prestressed Concrete Deck Beams (21" Depth).

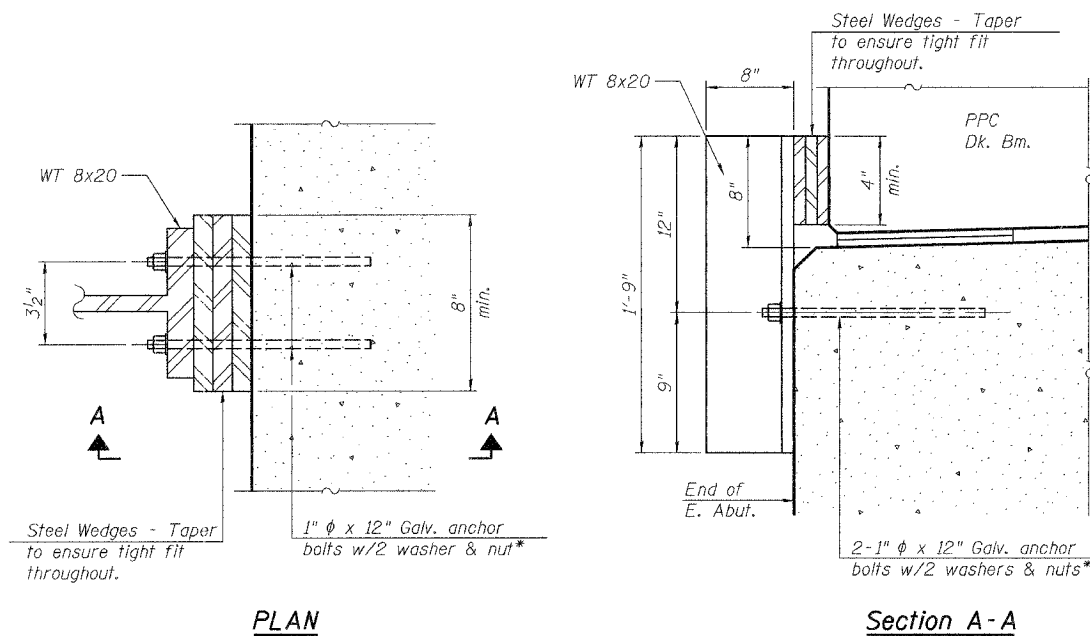
The Contractor may use, at his option, the capsule or the adhesive cartridge type anchor rods that have been previously tested and given a prior approval by the Department. The Contractor shall install these anchor rods in pre-drilled holes according to the manufacturer's recommendations and procedures.

The capsule or the adhesive cartridge type anchor rods shall be a two part system composed of:

1. A threaded rod stud with nut and washer of the type specified.
2. A sealed glass capsule or a sealed glass adhesive cartridge containing premeasured amounts of the adhesive chemical.

Location	Type
East Abut.	A325

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.



\* Epoxy grout anchor bolt in 9" (Min.) drilled holes according to Section 584 of the Standard Specification. Cost of retainer and accessories are included with Precast Prestressed Concrete Deck Beams (21" Depth).

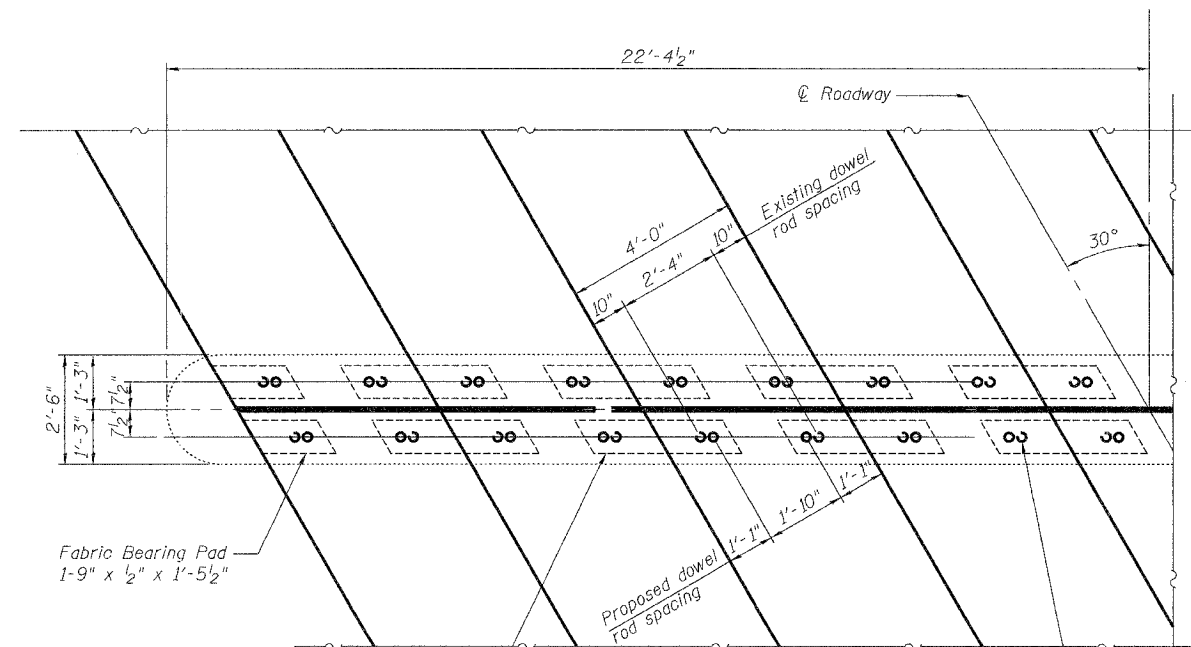
**PLAN**

**Section A-A**

**TEMPORARY RETAINER AT EXPANSION JOINT**

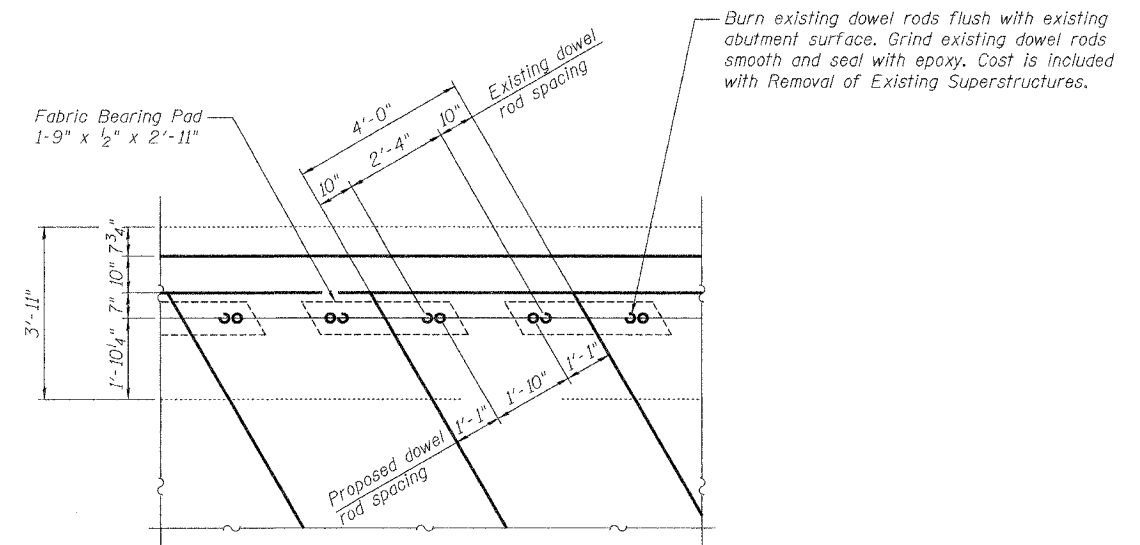
(East Abutment Only)

Note:  
After block-outs are poured and cured the retainer angles shall be removed. Anchor bolts may be left in place.



**PLAN**

(at piers)



**PLAN**

(at West Abutment)

**SUBSTRUCTURE DETAILS**  
**ILLINOIS ROUTE 9 OVER**  
**LOST GROVE CREEK**  
**F.A.P. ROUTE 685 SECTION (39BR)**  
**FULTON COUNTY**  
**SN 029-0052**

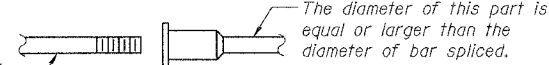
DESIGNED	BWP
CHECKED	KPC
DRAWN	BWP
CHECKED	KPC

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	SHEET NO.	SHEET	SHEET NO. 13
F.A.P. 685	(39BR)1	FULTON	22	22	13 SHEETS
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT			

Contract # 68497

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

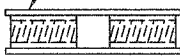


**ROLLED THREAD DOWEL BAR**



**\*\* ONE PIECE**

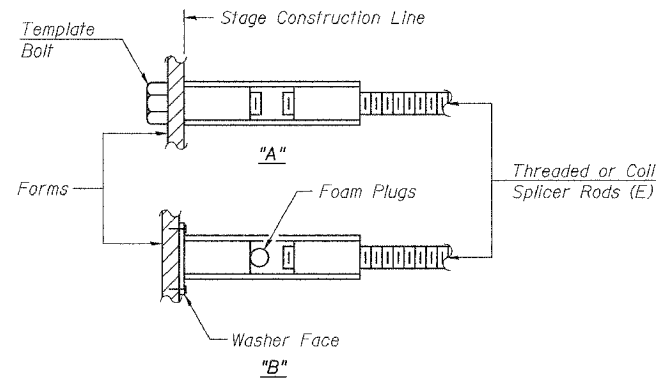
Wire Connector



**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.

**NOTES**

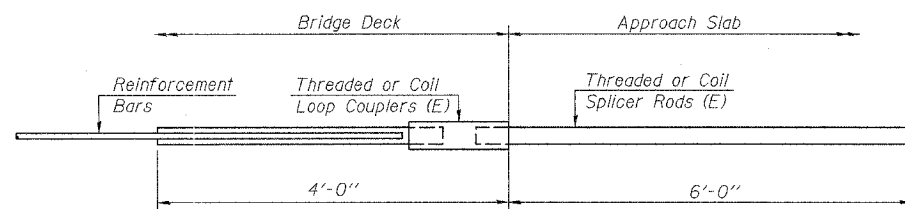
Bar splicer assemblies shall be of an approved type and shall develop in tension at least 125 percent of the yield strength of the lapped reinforcement bars.  
Splicer rods shall be of minimum 60 ksi yield strength, threaded or coiled full length.  
All reinforcement bars shall be lapped and tied to 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) =  $1.25 \times f_y \times A_1$
- ② Minimum \*Pull-out Strength =  $1.25 \times f_{s_{allow}} \times A_1$  (Tension in kips)

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)  
 $A_1$  = Tensile stress area of lapped reinforcement bars.  
\* = 28 day concrete

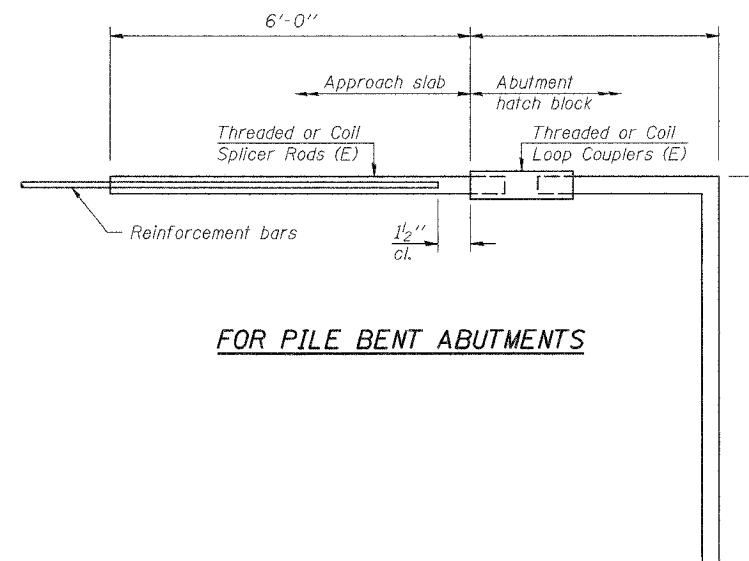
BAR SPLICER ASSEMBLIES			
Bar Size to be Spliced	Splicer Rod or Dowel Bar Length	Strength Requirements	
		Min. Capacity kips - tension	Min. Pull-Out Strength kips - tension
#4	1'-8"	14.7	5.9
#5	2'-0"	23.0	9.2
#6	2'-7"	33.1	13.3
#7	3'-5"	45.1	18.0
#8	4'-6"	58.9	23.6
#9	5'-9"	75.0	30.0
#10	7'-3"	95.0	38.0
#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."



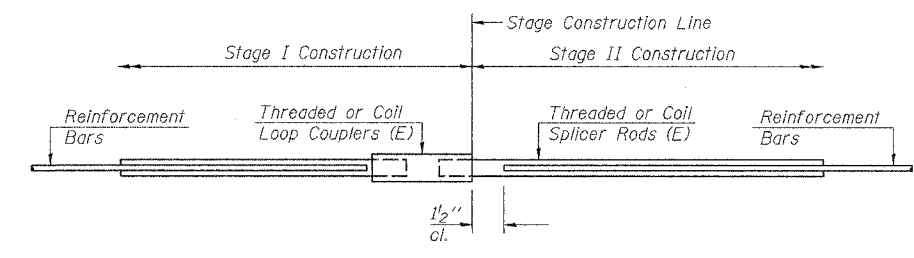
**FOR INTEGRAL OR SEMI-INTEGRAL ABUTMENTS**

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 =



**STANDARD**

Bar Size	No. Assemblies Required	Location
#4	134	Concrete Wearing Surface
#5	5	Expansion End Blockout & West End of Deck
#6	6	East Abutment
#6	6	West Abutment

**BAR SPLICER ASSEMBLY DETAILS**  
**ILLINOIS ROUTE 9 OVER LOST GROVE CREEK**  
**F.A.P. ROUTE 685 SECTION (39BR)1**  
**FULTON COUNTY**  
**SN 029-0052**

DESIGNED	BWP
CHECKED	KPC
DRAWN	BWP
CHECKED	KPC

BSD-1

10-22-04