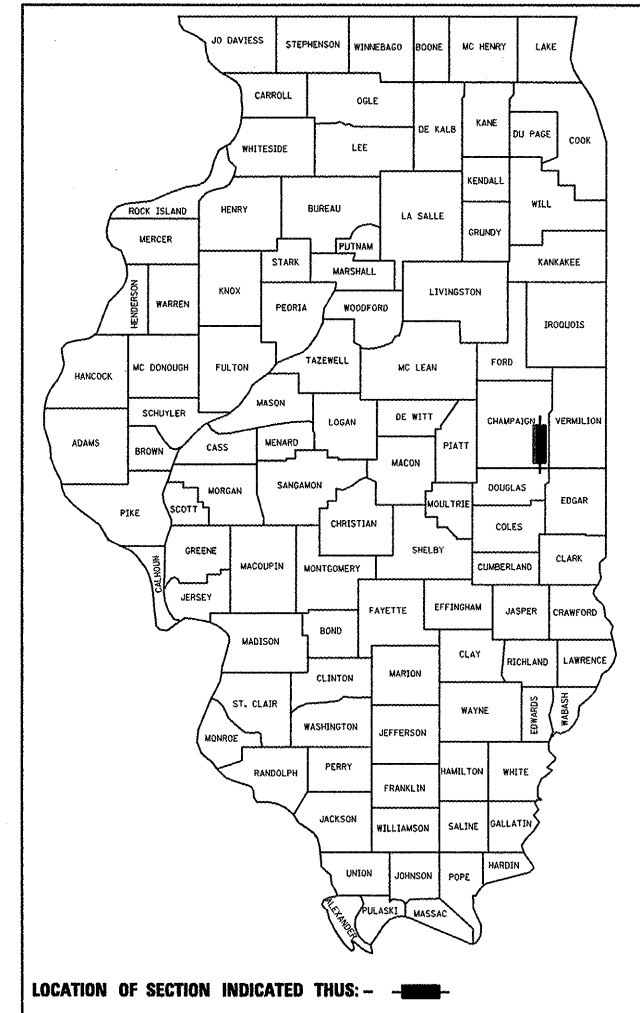


F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
836	118BR-2	CHAMPAIGN	45	1
FED. ROAD DIST. NO.	ILLINOIS	CONTRACT NO. 70600		

D-95-114-06



LOCATION OF SECTION INDICATED THIS: - - -

ADT = 2,750 (2007); 4,000 (2027)
 %SU = 6.5 (2007)
 %MU = 3.7 (2007)
 TOWNSHIP: AYERS
 FUNCTIONAL CLASSIFICATION:
 RURAL MINOR ARTERIAL

STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION
 DIVISION OF HIGHWAYS

SUBMITTED 8/10 20 08
Joseph G. Gowen
 DEPUTY DIRECTOR OF HIGHWAYS, REGION 3 ENGINEER

October 3, 20 08
Eric E. Harm
 ENGINEER OF DESIGN AND ENVIRONMENT

October 3, 20 08
Christine M. Reed
 DIRECTOR OF HIGHWAYS, CHIEF ENGINEER

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 OF THE STATE OF ILLINOIS

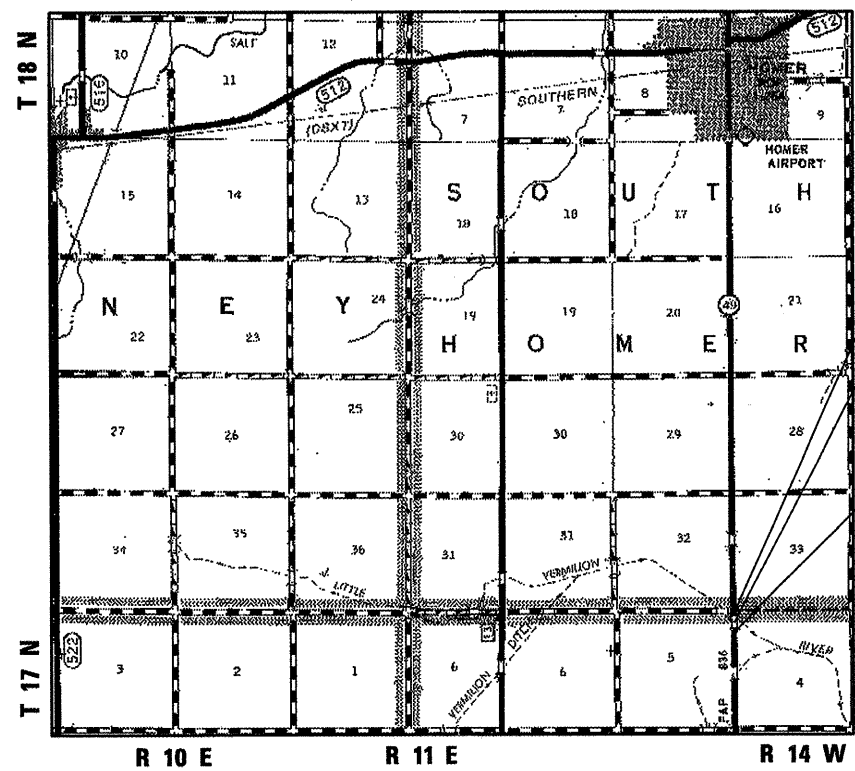
STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION
 DIVISION OF HIGHWAYS

PLANS FOR PROPOSED HIGHWAY IMPROVEMENT

F.A.P. ROUTE 836 (IL RTE 49)
 SECTION 118BR-2
 PROJECT: ACBRF-0836 (027)

BRIDGE REPLACEMENT LITTLE VERMILION RIVER 4 MI. S. OF HOMER CHAMPAIGN COUNTY

C-95-114-06



PROPOSED PROJECT ENDS
 STA. 691+00

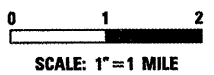
IL RTE. 49 OVER LITTLE VERMILION RIVER
 STA. 688+85 SN 010-0284
 THREE SPAN CONTINUOUS R.C. DECK ON
 STEEL BEAMS
 110'-0" BK-BK ABUTMENTS, 35'-2" O. TO O. DECK

PROPOSED PROJECT BEGINS
 STA. 687+00



M. Silvester
 MARTIN SILVESTER, P.E.
 LICENSE EXP. DATE 11-30-09

LOCATION MAP



TOTAL AND NET LENGTH OF PROJECT = 400 FT. = 0.076 MI.

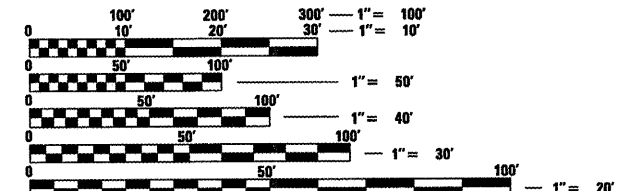
INDEX OF SHEETS

- 1 TITLE SHEET
- 2 GENERAL NOTES
- 3 SUMMARY OF QUANTITIES
- 4-5 TYPICAL SECTIONS
- 6 SCHEDULE OF QUANTITIES
- 7 PLAN & PROFILE
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- 12-32 STRUCTURE DETAILS
- 33-34 EXISTING STRUCTURE
- 35-42 ROADWAY DETAILS
- 43-45 CROSS SECTIONS

LIST OF ILLINOIS DOT HIGHWAY STANDARDS

- 000001-05 STANDARD SYMBOLS, ABBREVIATIONS, AND PATTERNS
- 001001-01 AREAS OF REINFORCEMENT BARS
- 001006 DECIMAL OF AN INCH AND OF A FOOT
- 280001-04 TEMPORARY EROSION CONTROL SYSTEMS
- 420001-07 PAVEMENT JOINTS
- 420401-06 BRIDGE APPROACH PAVEMENT
- 421001-02 BAR REINFORCEMENT FOR CRC PAVEMENT
- 482011-03 HMA SHOULDER STRIPS/SHOULDERS WITH RESURFACING OR WIDENING AND RESURFACING PROJECTS
- 515001-02 NAME PLATE FOR BRIDGES
- 542401 METAL END SECTIONS FOR PIPE CULVERTS
- 630001-07 STEEL PLATE BEAM GUARDRAIL
- 630301-04 SHOULDER WIDENING FOR TYPE I (SPECIAL) GUARDRAIL TERMINALS
- 631011-04 TRAFFIC BARRIER TERMINAL, TYPE 2
- 631031-06 TRAFFIC BARRIER TERMINAL, TYPE 6
- 635006-02 REFLECTOR AND TERMINAL MARKER PLACEMENT
- 635011-01 REFLECTOR MARKER AND MOUNTING DETAILS
- 667101 PERMANENT SURVEY MARKERS
- 701001-01 OFF-ROAD OPERATIONS, 2L, 2W, MORE THAN 15' AWAY
- 701006-02 OFF-ROAD OPERATIONS, 2L, 2W, 15' TO 24' FROM PAVEMENT EDGE
- 701201-02 LANE CLOSURE, 2L, 2W, DAY ONLY, FOR SPEEDS > 45 MPH
- 701301-02 LANE CLOSURE, 2L, 2W, SHORT TIME OPERATIONS
- 701311-02 LANE CLOSURE, 2L, 2W, MOVING OPERATIONS, DAY ONLY
- 701321-09 LANE CLOSURE, 2L, 2W, BRIDGE REPAIR WITH BARRIER
- 701326-02 LANE CLOSURE, 2L, 2W, PAVEMENT WIDENING, FOR SPEED >= 45 MPH
- 701901 TRAFFIC CONTROL DEVICES
- 704001-04 TEMPORARY CONCRETE BARRIER
- 780001-01 TYPICAL PAVEMENT MARKINGS
- 781001-02 TYPICAL APPLICATIONS RAISED PAVEMENT MARKERS
- 886001 DETECTOR LOOP INSTALLATIONS
- 886006 TYPICAL LAYOUT FOR DETECTION LOOPS
- 601101-01 CONCRETE HEADWALL FOR PIPE DRAIN

SCALE



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

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

CONTRACT NO. 70600

PROJECT ENGINEER: NANCY FASIG
 CONSULTANT LIAISON CONTACT: JASON STULTS
 CONSULTANT: THE UPCHURCH GROUP, INC.

GENERAL NOTES

G.N. 100
ENGLISH UNITS OF MEASUREMENT SHALL GOVERN OVER AND SUPERCEDE ANY METRIC UNITS SHOWN ON THIS CONTRACT. WHERE INCLUDED, METRIC UNITS ARE FOR INFORMATION ONLY.

G.N. 105.09A
ALL ELEVATIONS SHOWN IN THE PLANS ARE BASED ON NORTH AMERICAN VERTICAL DATUM OF 1988. (NAVD 88)

G.N. 107.31
UTILITY LINES WERE PLOTTED FROM INFORMATION FURNISHED BY THE VARIOUS UTILITY COMPANIES INVOLVED (QUALITY LEVEL C &/OR QUALITY LEVEL D) AND THE ACCURACY SHOULD BE CONSIDERED APPROXIMATE ONLY. UTILITY COMPANIES MAY BE ADJUSTING THEIR FACILITIES DURING CONSTRUCTION. THE CONTRACTOR SHALL COOPERATE WITH THESE ORGANIZATIONS WHILE THESE ADJUSTMENTS ARE BEING PERFORMED. J.U.L.I.E. - JOINT UTILITY LOCATION INFORMATION FOR EXCAVATORS SYSTEM (800)892-0123 OR 811.

G.N. 281
THE RIPRAP GRADATION SHALL BE IN ACCORDANCE WITH THE GRADATION SPECIFIED IN THE PLANS OR, WITH APPROVAL OF THE ENGINEER, A RIPRAP GRADATION MEETING A D50 GREATER THAN OR EQUAL TO 0.75 FEET. D50 IS DEFINED AS THE MEAN ROCK SIZE AS DESCRIBED IN THE FHWA HYDRAULIC ENGINEERING CIRCULARS (HEC 11, HEC 14, AND HEC 15).

IF GRAVEL IS USED FOR THE BEDDING MATERIAL UNDER RIPRAP, THE GRAVEL SHALL BE CRUSHED AS ALLOWED UNDER ARTICLE 1005.01.

G.N. 406
THE QUANTITIES INCLUDED IN THE PLANS FOR HOT-MIX ASPHALT RESURFACING ARE INTENDED TO GIVE THE COVERAGE SHOWN ON THE TYPICAL CROSS SECTIONS. IT IS NOT INTENDED TO INCREASE THE THICKNESS OF THE HOT-MIX ASPHALT MIXTURE IN ORDER TO USE ALL OF THE QUANTITIES INCLUDED IN THE CONTRACT.

G.N. 406H
THE FOLLOWING MIXTURE REQUIREMENTS ARE APPLICABLE FOR THIS PROJECT:

MIXTURE USE(S):	HMA SURFACE COURSE & HMA SHOULDER	HMA BASE COURSE OPTION & FLEX. CONN.	LEVELING BINDER (MACHINE METHOD), N50
AC/PG:	PG 64-22	PG 64-22	PG 64-22
RAP %: (MAX)	15%	25%	25%
DESIGN AIR VOIDS:	4.0% @ 50 GYRATIONS	4.0% @ 50 GYRATIONS	4.0% @ 50 GYRATIONS
MIXTURE COMPOSITION: (GRADATION MIXTURE)	IL-9.5	IL-19.0	IL-9.5
FRICTION AGGREGATE:	MIX C	N/A	N/A

G.N. 406.05b
ALL LEVELING BINDER OR BINDER SHALL BE GIVEN A FOG COAT OF PRIME BEFORE THE SURFACE COURSE IS PLACED WHEN DIRECTED BY THE ENGINEER.

THE FOG COAT WILL BE PAID FOR AT THE CONTRACT UNIT PRICE PER GALLON FOR BITUMINOUS MATERIAL (PRIME COAT) AND NO ADDITIONAL COMPENSATION WILL BE ALLOWED.

G.N. 482
ALL MATERIAL PLACED AS HOT-MIX ASPHALT SHOULDERS SHALL BE COMPACTED TO 94.0 - 98.4 PERCENT OF THE MAXIMUM THEORETICAL DENSITY. THIS REQUIREMENT SHALL APPLY TO IL 9.5L GRADATION SHOULDER MIXES AND OTHER MIXES (BOTTOM LIFT OF SHOULDERS). THIS MAXIMUM DENSITY SHALL BE DETERMINED FROM THE MOVING AVERAGE OF FOUR TESTS AS IN OTHER QC/QA TESTING. A NUCLEAR GAUGE DENSITY/CORE CORRELATION SHALL BE PERFORMED FOR THE IL 9.5L MIXES AND OTHER MIXES USING STANDARD CORRELATION PROCEDURES.

G.N. 542
BEFORE ORDERING PIPE CULVERTS, THE CONTRACTOR SHALL CONSULT THE ENGINEER FOR THE EXACT LENGTHS.

G.N. 542B
ALL THE ENTRANCE CULVERTS LENGTHS SHOWN IN THE PLANS WERE CALCULATED WITH THE ASSUMPTION THAT METAL PIPES AND METAL END SECTION WOULD BE USED.

G.N.542D
THIS WORK SHALL CONSIST OF REPLACING THE EXISTING ENTRANCE CULVERTS AT LOCATIONS SHOWN ON THE PLANS AND AS DIRECTED BY THE ENGINEER. PRIOR TO REPLACING THE CULVERT THE DITCH SHALL BE CLEANED FOR 25 FEET EACH WAY FROM THE ENDS OF THE CULVERT AS DIRECTED BY THE ENGINEER. THIS WORK WILL BE PAID FOR AT THE CONTRACT UNIT PRICE PER FOOT FOR PIPE CULVERTS OF THE TYPE AND SIZE SPECIFIED AND SHALL INCLUDE ALL MATERIALS AND LABOR NECESSARY TO COMPLETE THE WORK AS HEREIN SPECIFIED AND NO ADDITIONAL COMPENSATION WILL BE ALLOWED.

G.N. 631
IF THE CONTRACTOR ELECTS TO USE THE ALTERNATE MOUNTING METHOD OF THRU DRILLING OF THE MOUNTING HOLES FOR THE TRAFFIC BARRIER TERMINALS, TYPE 6, THE HOLES SHALL BE DRILLED USING A CORE DRILL. A HAMMER DRILL WILL NOT BE ALLOWED.

G.N. 703A
SHORT TERM PAVEMENT MARKING SHALL BE APPLIED TO THE PAVEMENT AFTER ANY OF THE FOLLOWING:
COLD MILLING AND/OR PLACING BITUMINOUS MATERIALS (PRIME COAT), LEVELING BINDER (MACHINE METHOD), BINDER AND SURFACE COURSES. SHORT TERM PAVEMENT MARKING PLACED ON THE SURFACE, SHALL COINCIDE WITH THE FINAL PAVEMENT STRIPING. SHORT TERM PAVEMENT MARKING PLACED PRIOR TO THE SURFACE SHALL COINCIDE WITH THE EXISTING PAVEMENT MARKINGS. USE 4 FEET PER 40 FEET (OR 10% PER STATION).

G.N. 1004.01
COARSE AGGREGATE GRADATION CA-10 MAY BE USED WHENEVER COARSE AGGREGATE CA-6 IS SPECIFIED IN THE STANDARD SPECIFICATIONS.

G.N. Z0038
AN ALUMINUM TABLET OF THE TYPE SHOWN ON STANDARD 667101 SHALL BE PLACED ON THE PROPOSED STRUCTURE AS DIRECTED BY THE ENGINEER. THE BENCH MARK ELEVATION WILL BE ESTABLISHED AND MARKED BY THE DEPARTMENT. THIS WORK WILL BE PAID FOR AT THE CONTRACT UNIT PRICE EACH FOR PERMANENT BENCH MARKS.

COMMITMENTS
THERE ARE NO COMMITMENTS ON THIS PROJECT.

FILE NAME * ...roadway\lvr_gennotes.dgn	USER NAME = #USER#	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	GENERAL NOTES			F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	PLOT SCALE = #SCALE#	DRAWN -	REVISED -		ILLINOIS ROUTE 49 OVER LITTLE VERMILION RIVER	836	118BR-2	CHAMPAIGN	45	2		
THE UPCHURCH GROUP, INC.	PLOT DATE = 8/19/2008 2:05:13 PM	CHECKED -	REVISED -	SCALE:	SHEET NO.	OF	SHEETS	STA.	TO STA.	CONTRACT NO. 70600		
		DATE -	REVISED -							FED. ROAD DIST. NO. 5 [ILLINOIS] FED. AID PROJECT		

SUMMARY OF QUANTITIES			FAP RTE 836 (IL RTE 49) RURAL TWO-LANE 80% FEDERAL, 20% STATE CONSTRUCTION CODE X071-2A
CODE NO.	ITEM	UNIT	TOTAL QUANTITY
20200100	EARTH EXCAVATION	CU YD	917
20300100	CHANNEL EXCAVATION	CU YD	42
20700400	POROUS GRANULAR EMBANKMENT, SPECIAL	CU YD	93
• 25000200	SEEDING, CLASS 2	ACRE	0.25
• 25000400	NITROGEN FERTILIZER NUTRIENT	POUND	23
• 25000500	PHOSPHORUS FERTILIZER NUTRIENT	POUND	23
• 25000600	POTASSIUM FERTILIZER NUTRIENT	POUND	23
25100630	EROSION CONTROL BLANKET	SQ YD	1210
28000250	TEMPORARY EROSION CONTROL SEEDING	POUND	25
28000300	TEMPORARY DITCH CHECKS	EACH	4
28000400	PERIMETER EROSION BARRIER	FOOT	1256
28000500	INLET AND PIPE PROTECTION	EACH	1
28100107	STONE RIPRAP, CLASS A4	SQ YD	801
28200200	FILTER FABRIC	SQ YD	801
40200800	AGGREGATE SURFACE COURSE , TYPE B	TON	33
40600100	BITUMINOUS MATERIALS (PRIME COAT)	GALLON	119
40600625	LEVELING BINDER (MACHINE METHOD), N50	TON	2
40600982	HOT-MIX ASPHALT SURFACE REMOVAL - BUTT JOINT	SQ YD	214
40600990	TEMPORARY RAMP	SQ YD	107
40603310	HOT-MIX ASPHALT SURFACE COURSE, MIX "C", N50	TON	53
42001300	PROTECTIVE COAT	SQ YD	225
42001400	BRIDGE APPROACH PAVEMENT (SPECIAL)	SQ YD	225
42001430	BRIDGE APPROACH PAVEMENT CONNECTOR (FLEXIBLE)	SQ YD	45
44000100	PAVEMENT REMOVAL	SQ YD	368
48203100	HOT-MIX ASPHALT SHOULDERS	TON	18
50100100	REMOVAL OF EXISTING STRUCTURES	EACH	1
50105220	PIPE CULVERT REMOVAL	FOOT	55
50200100	STRUCTURE EXCAVATION	CU YD	228
50300100	FLOOR DRAINS	EACH	8
50300225	CONCRETE STRUCTURES	CU YD	57.2
50300255	CONCRETE SUPERSTRUCTURE	CU YD	149
50300260	BRIDGE DECK GROOVING	SQ YD	367
50300280	CONCRETE ENCASMENT	CU YD	52.8
50300300	PROTECTIVE COAT	SQ YD	482
50500105	FURNISHING AND ERECTING STRUCTURAL STEEL	L SUM	1
50500505	STUD SHEAR CONNECTORS	EACH	2430
50800205	REINFORCEMENT BARS, EPOXY COATED	POUND	39040
50800515	BAR SPLICERS	EACH	432
51200958	FURNISHING METAL SHELL PILES 14"x0.250"	FOOT	1164
51202305	DRIVING PILES	FOOT	1164
51203200	TEST PILE METAL SHELLS	EACH	2
51205200	TEMPORARY SHEET PILING	SQ FT	1527
51500100	NAME PLATES	EACH	1

SUMMARY OF QUANTITIES			FAP RTE 836 (IL RTE 49) RURAL TWO-LANE 80% FEDERAL, 20% STATE CONSTRUCTION CODE X071-2A
CODE NO.	ITEM	UNIT	TOTAL QUANTITY
52100520	ANCHOR BOLTS, 1"	EACH	48
54201483	PIPE CULVERTS, TYPE 2, CORRUGATED STEEL OR ALUMINIUM CULVERT PIPE 18"	FOOT	85
54213453	END SECTIONS 18"	EACH	2
59100100	GEOCOMPOSITE WALL DRAIN	SQ YD	76
60109580	PIPE UNDERDRAINS FOR STRUCTURES 4"	FOOT	164
• 63000000	STEEL PLATE BEAM GUARDRAIL, TYPE A	FOOT	231.25
• 63100045	TRAFFIC BARRIER TERMINAL, TYPE 2	EACH	2
• 63100085	TRAFFIC BARRIER TERMINAL, TYPE 6	EACH	4
• 63100167	TRAFFIC BARRIER TERMINAL, TYPE 1 (SPECIAL) TANGENT	EACH	2
• 63200310	GUARDRAIL REMOVAL	FOOT	508
63300725	STEEL PLATE BEAM GUARDRAIL (SHORT RADIUS)	FOOT	92
67000500	ENGINEER'S FIELD OFFICE, TYPE B	CAL MO	6
67100100	MOBILIZATION	L SUM	1
70100405	TRAFFIC CONTROL AND PROTECTION, STANDARD 701321	EACH	1
70100450	TRAFFIC CONTROL AND PROTECTION, STANDARD 701201	L SUM	1
70100500	TRAFFIC CONTROL AND PROTECTION, STANDARD 701326	L SUM	1
70106500	TEMPORARY BRIDGE TRAFFIC SIGNALS	EACH	1
70300100	SHORT-TERM PAVEMENT MARKING	FOOT	147
70300220	TEMPORARY PAVEMENT MARKING - LINE 4"	FOOT	1084
70301000	WORK ZONE PAVEMENT MARKING REMOVAL	SQ FT	812
70400100	TEMPORARY CONCRETE BARRIER	FOOT	425
70400200	RELOCATE TEMPORARY CONCRETE BARRIER	FOOT	400
• 78001110	PAINT PAVEMENT MARKING - LINE 4"	FOOT	1084
• 78100100	RAISED REFLECTIVE PAVEMENT MARKER	EACH	5
• 78100105	RAISED REFLECTIVE PAVEMENT MARKER (BRIDGE)	EACH	1
• 78200420	GUARDRAIL MARKERS, TYPE B	EACH	15
• 78201000	TERMINAL MARKER - DIRECT APPLIED	EACH	2
78300100	PAVEMENT MARKING REMOVAL	SQ FT	358
78300200	RAISED REFLECTIVE PAVEMENT MARKER REMOVAL	EACH	6
X0324865	DIAMOND GRINDING (BRIDGE SECTION)	SQ YD	529
X5020501	UNDERWATER STRUCTURE EXCAVATION PROTECTION - LOCATION 1	EACH	1
X5020502	UNDERWATER STRUCTURE EXCAVATION PROTECTION - LOCATION 2	EACH	1
* X7200201	WIDTH RESTRICTION SIGNING	L SUM	1
Z0001900	ASBESTOS BEARING PAD REMOVAL	EACH	24
Z0002900	BASE COURSE(OPTION)	SQ YD	205
• Z0030250	IMPACT ATTENUATORS, TEMPORARY (NON-REDIRECTIVE), TEST LEVEL 3	EACH	2
• Z0030350	IMPACT ATTENUATORS, RELOCATE (NON-REDIRECTIVE), TEST LEVEL 3	EACH	2
Z0037300	PAVEMENT GROOVING	SQ YD	208
Z0038700	PERMANENT BENCH MARKS	EACH	1

* SPECIALTY ITEM

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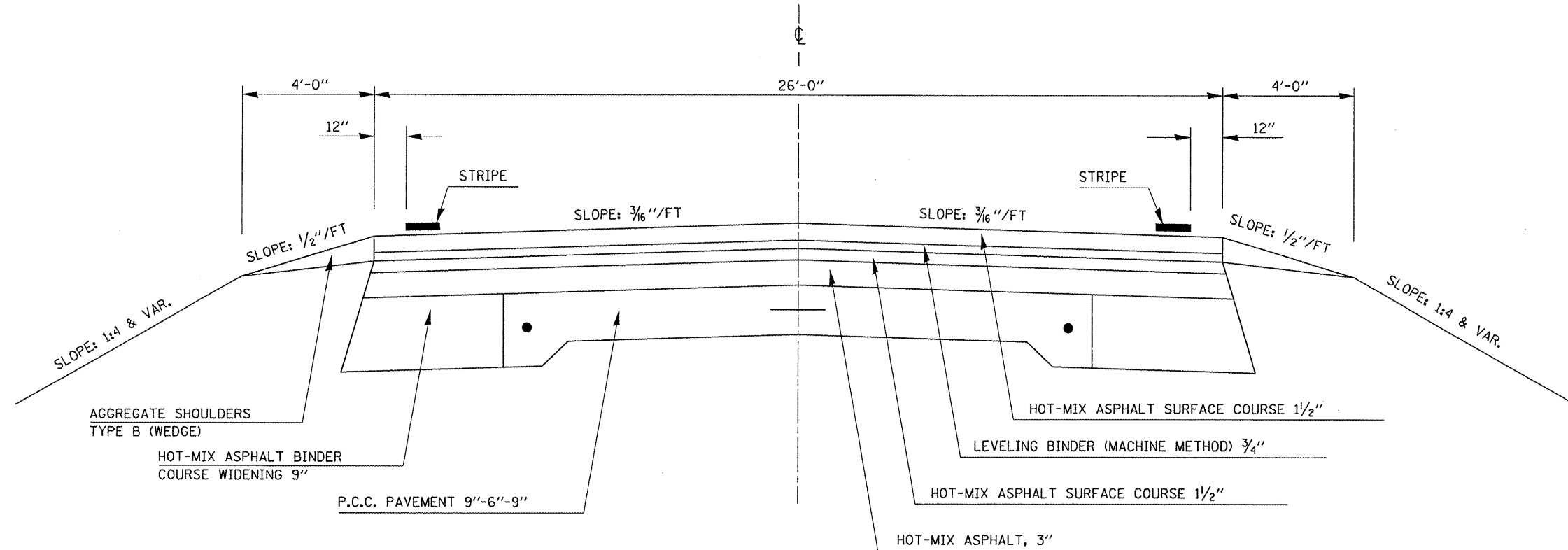
THE UPCHURCH GROUP, INC.

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SUMMARY OF QUANTITIES				F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
ILLINOIS ROUTE 49 OVER LITTLE VERMILION RIVER				836	118BR-2	CHAMPAIGN	45	3
SCALE: SHEET NO. OF SHEETS STA. TO STA.				CONTRACT NO. 70600				
FED. ROAD DIST. NO. 5 ILLINOIS FED. AID PROJECT								

EXISTING ROADWAY TYPICAL SECTION

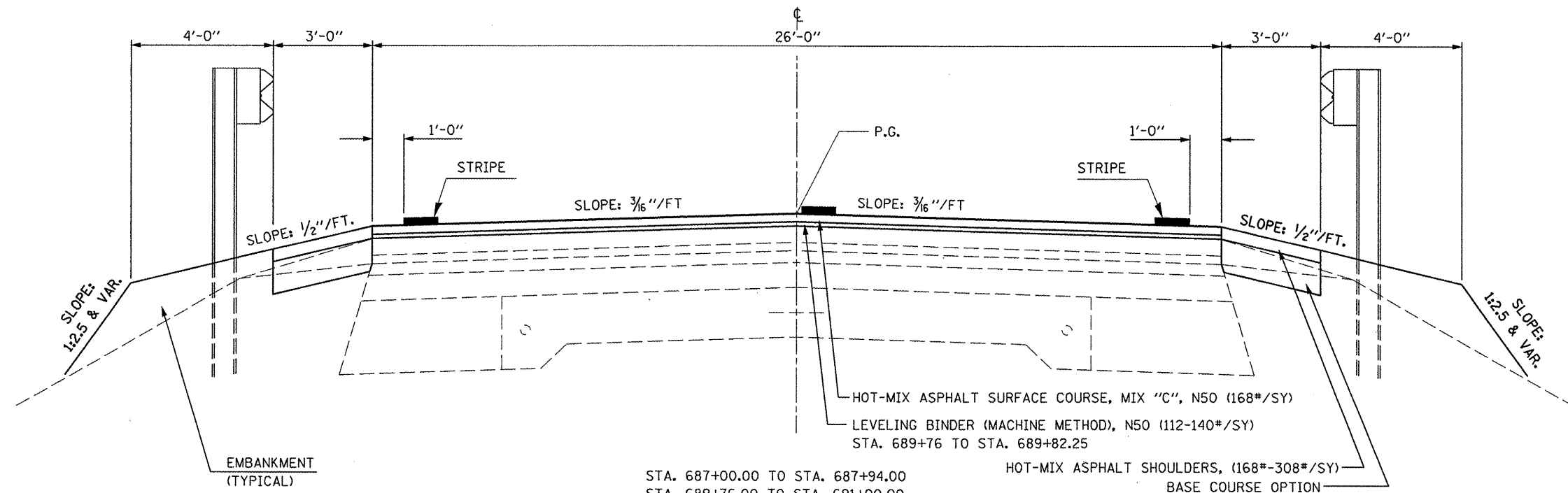
FAP 836 (IL RTE 49)



STA. 687+00.00 TO STA. 688+33.61
STA. 689+36.39 TO STA. 691+00.00

PROPOSED ROADWAY TYPICAL SECTION

FAP 836 (IL RTE 49)



STA. 687+00.00 TO STA. 687+94.00
STA. 689+76.00 TO STA. 691+00.00

HOT-MIX ASPHALT SHOULDERS, (168*-308#/SY)
BASE COURSE OPTION

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DESIGNED -
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**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

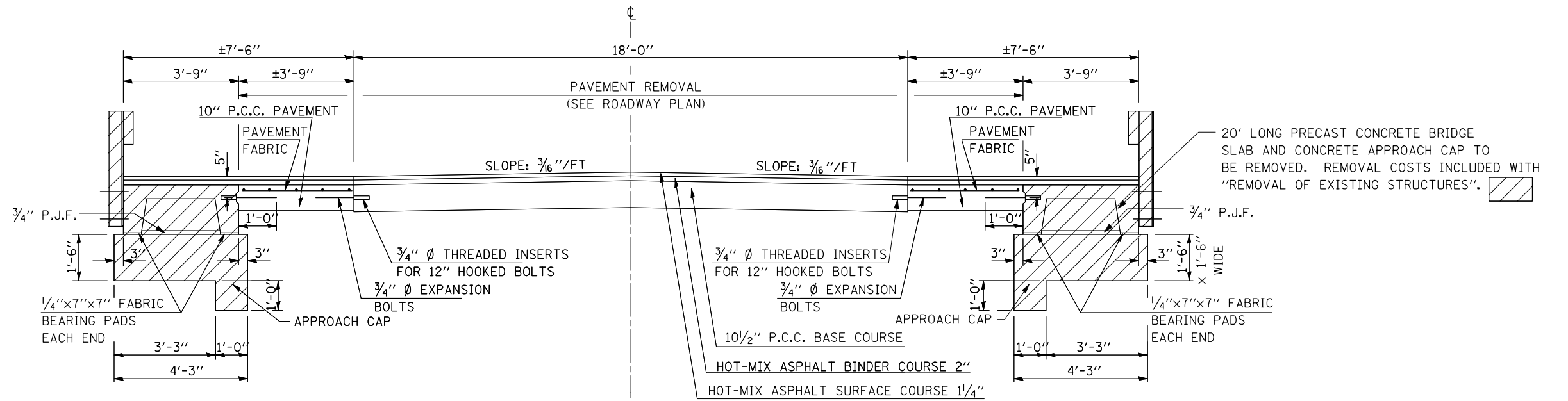
**TYPICAL SECTIONS
ILLINOIS ROUTE 49 OVER LITTLE VERMILION RIVER**

SCALE: SHEET NO. OF SHEETS STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
836	118BR-2	CHAMPAIGN	45	4
CONTRACT NO. 70600				
FED. ROAD DIST. NO. 5 [ILLINOIS] FED. AID PROJECT				

EXISTING APPROACH SLAB

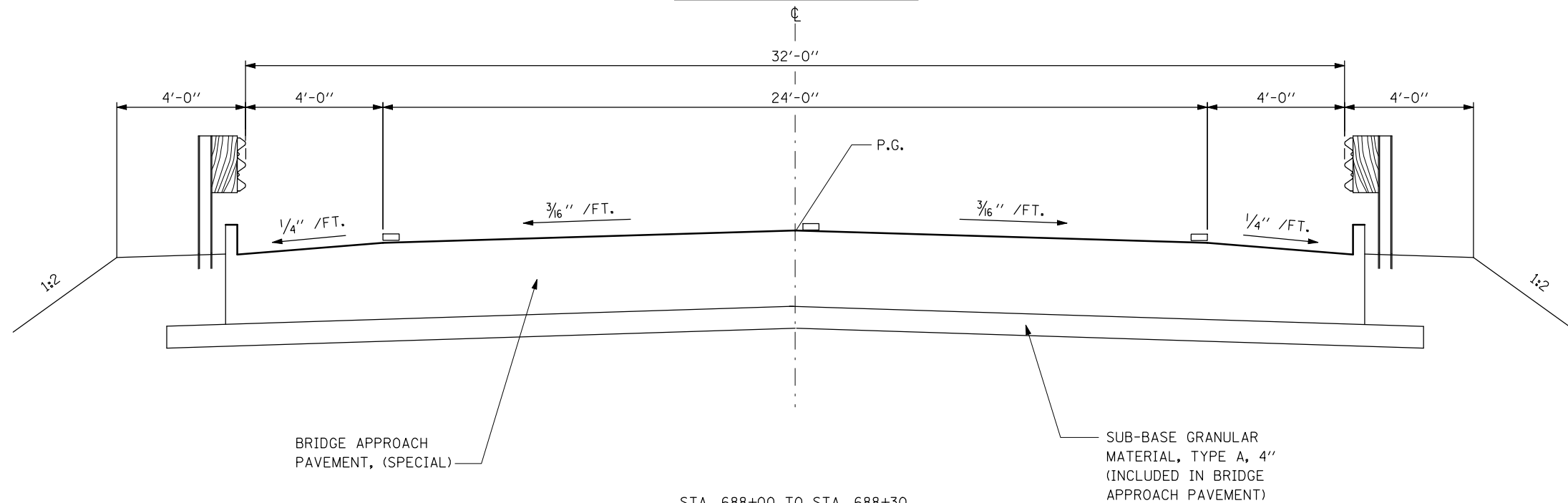
FAP 836 (IL RTE 49)



STA. 688+33.61 TO STA. 688+53.53
 STA. 689+16.47 TO STA. 689+36.39

PROPOSED APPROACH SLAB

FAP 836 (IL RTE 49)



STA. 688+00 TO STA. 688+30
 STA. 689+40 TO STA. 689+70
 (HIGHWAY STANDARD 420401)

FILE NAME = ...roadway\1vr_ttypsections.dgn	USER NAME = #USER#	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	TYPICAL SECTIONS ILLINOIS ROUTE 49 OVER LITTLE VERMILION RIVER			F.A.P. RTE. 836	SECTION 118BR-2	COUNTY CHAMPAIGN	TOTAL SHEETS 45	SHEET NO. 5
THE UPCHURCH GROUP, INC.	PLOT SCALE = #SCALE#	DRAWN -	REVISED -		SCALE:	SHEET NO.	OF SHEETS	STA.	TO STA.	CONTRACT NO. 70600		
	PLOT DATE = 8/19/2008 3:00:21 PM	CHECKED -	REVISED -							FED. ROAD DIST. NO. 5 ILLINOIS FED. AID PROJECT		
		DATE -	REVISED -									

EARTHWORK BALANCE					
STAGE 1					
LOCATION	EARTH EXCAVATION (CY)	STRUCTURE EXCAVATION	EXCAVATION ADJUSTED FOR SHRINKAGE	EMBANKMENT (CY)	EARTHWORK BALANCE WASTE(+) OR SHORTAGE(-)
STA 686+00 TO 688+30	427		320	546	-226
STA 689+40 TO 691+00	8		6	29	-23
BULK EXCAVATION BEHIND EX ABUTMENTS	220		165	-	+165
STRUCTURE EXCAVATION (FROM BRIDGE PLANS)		114	86	-	+86
TOTAL (STAGE 1)	655	114	577	575	+2
STAGE 2					
LOCATION	EARTH EXCAVATION (CY)	STRUCTURE EXCAVATION	EXCAVATION ADJUSTED FOR SHRINKAGE	EMBANKMENT (CY)	EARTHWORK BALANCE WASTE(+) OR SHORTAGE(-)
STA 686+00 TO 688+30	15		11	78	-67
STA 689+40 TO 691+30	27		20	26	-6
BULK EXCAVATION BEHIND EX ABUTMENTS	220		165	-	+165
STRUCTURE EXCAVATION (FROM BRIDGE PLANS)		114	86	-	+86
TOTAL (STAGE 2)	262	114	282	104	+178
TOTAL (STAGES 1 & 2)	917	228	859	679	+180
FURNISHED EXCAVATION = EMBANKMENT - (EXCAVATION x 0.75) [SHRINKAGE FACTOR = 25%]					

HMA SURFACE REMOVAL - BUTT JOINT			
LOCATION	LENGTH FOOT	WIDTH FOOT	AREA SQ YD
STA. 687+00 TO STA. 687+30	30	32	107
STA. 690+70 TO STA. 691+00	30	32	107
TOTAL			214

TEMPORARY DITCH CHECKS		
LOCATION	OFFSET	QUANTITY
STA 688+10.00	58' RT	1
STA 688+74.00	57' RT	1
STA 688+94.00	45' LT	1
STA 689+47.00	63' LT	1
TOTAL		4

TEMPORARY RAMP			
LOCATION	LENGTH FOOT	WIDTH FOOT	AREA SQ YD
STA. 687+00 TO STA. 687+05	5	32	18
STA. 688+00 TO STA. 687+90	10	32	36
STA. 689+70 TO STA. 689+80	10	32	36
STA. 690+95 TO STA. 691+00	5	32	18
TOTAL			108

BASE COURSE OPTION	
LOCATION	QUANTITY
STA. 686+50.00 TO STA. 688+43.76 LT	64 SQ YD
STA. 689+46.54 TO STA. 691+00.00 LT	51 SQ YD
STA. 686+50.00 TO STA. 687+83.85 RT	45 SQ YD
STA. 689+65.85 TO STA. 691+00.00 RT	45 SQ YD
TOTAL	205 SQ YD

HOT-MIX ASPHALT SURFACE & LEVELING BINDER COURSE YIELD						
STATION	THICKNESS (IN)		YIELD (LB/SY)		QUANTITY	
	BINDER	SURFACE	BINDER	SURFACE	LEVELING BINDER	HMA SURFACE COURSE
STA 687+00 TO STA 687+94		1/2"		168		23 T
STA 689+76 TO STA 689+82.25	1" TO 1 1/4"	1/2"	112 - 140	168	2 T	2 T
STA 689+82.25 TO STA 691+00		1/2"		168		28 T
TOTAL					2 T	53 T

GUARDRAIL SCHEDULE		
ITEM	LOCATION	QUANTITY
STEEL PLATE BEAM GUARDRAIL, TYPE A	LT STA 687+35.85 TO STA 687+98.35	62.50 LF
	RT STA 689+71.55 TO STA 690+34.05	62.50 LF
	LT STA 689+94.65 TO STA 691+00.90	106.25 LF
TRAFFIC BARRIER TERMINAL, TYPE 6	RT STA 687+75.25 TO STA 688+18.40*	1 EACH
	LT STA 687+98.35 TO STA 688+41.50*	1 EACH
	RT STA 689+28.40* TO STA 689+71.55	1 EACH
	LT STA 689+51.50* TO STA 689+94.65	1 EACH
TRAFFIC BARRIER TERMINAL, TYPE 1 SPECIAL (TANGENT)	LT STA 686+85.85 TO STA 687+35.85	1 EACH
	RT STA 690+34.05 TO STA 690+84.05	1 EACH
TRAFFIC BARRIER TERMINAL, TYPE 2	RT STA 687+55.29	1 EACH
	LT STA 691+35.37	1 EACH
STEEL PLATE BEAM GUARDRAIL (SHORT RADIUS)	RT STA 687+55.29 TO STA 687+75.25	43.75 LF
	LT STA 691+00.90 TO STA 691+35.37	48.00 LF
GUARDRAIL REMOVAL	RT STA 687+82.00 TO STA 688+42.00	71 LF (CURVE)
	LT STA 687+44.00 TO STA 688+65.00	121 LF
	RT STA 689+06.00 TO STA 690+27.00	121 LF
	LT STA 689+28.00 TO STA 691+23.00	195 LF
GUARDRAIL MARKERS, TYPE B	RT STA 687+46.84 TO STA 690+83.18	7 EACH
	LT STA 686+85.63 TO STA 691+33.37	8 EACH
TERMINAL MARKER - DIRECT APPLIED	RT STA 690+83.35	1 EACH
	LT STA 686+85.63	1 EACH

* END OF WINGWALL STATION

PAVEMENT MARKING SCHEDULE							
LOCATION	LENGTH (FOOT)	PVMT MARKING REMOVAL		SHORT TERM PVMT MARKING LINE - 4"		PAINT PVMT MARKING LINE - 4"	
		SOLID WHITE (SQ. FT.)	YELLOW SKIP DASH & NO PASSING (SQ. FT.)	WHITE (FOOT)	YELLOW (FOOT)	SOLID WHITE (FOOT)	YELLOW SKIP DASH & NO PASSING (FOOT)
STA 685+15.00 TO 692+50.00			61.00		147.0		184.0
STA RT 686+50.00 TO 691+00.00		148.0				450.0	
STA LT 686+50.00 TO 691+00.00		149.0				450.0	
TOTAL		297.0	61.00	0	147.0	900.0	184.0

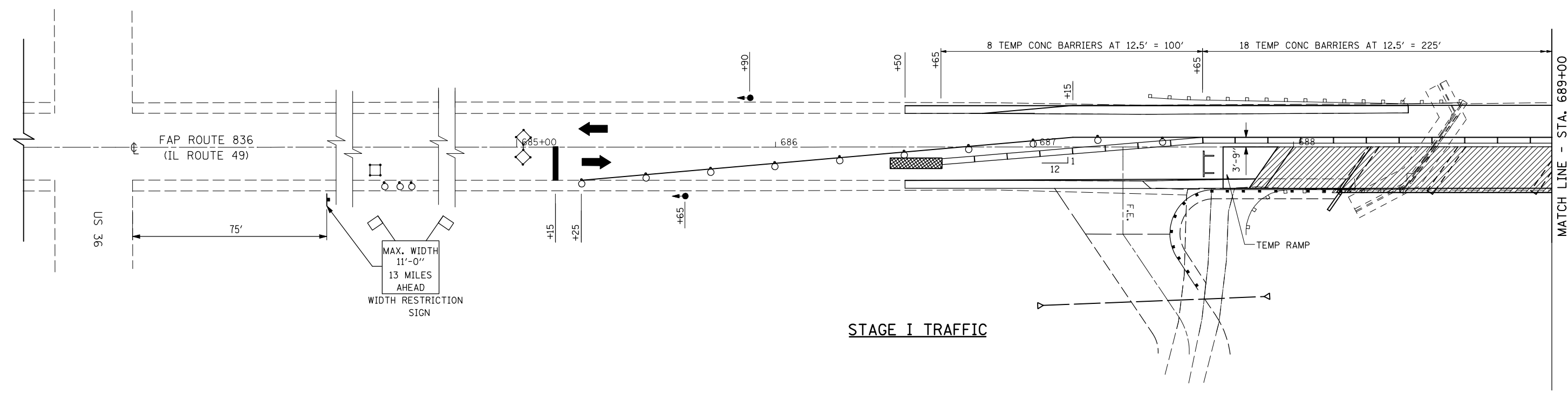
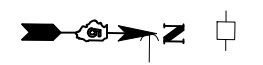
BRIDGE APPROACH PAVEMENT SCHEDULE		
ITEM	LOCATION	QUANTITY
BRIDGE APPROACH PAVEMENT (SPECIAL)/PROTECTIVE COAT	STA 688+00.00 TO STA 688+30.00	112.23 SQ YD
	STA 689+40.00 TO STA 689+70.00	112.23 SQ YD
BRIDGE APPROACH PAVEMENT CONNECTOR (FLEXIBLE)	STA 687+94.00 TO STA 688+00.00	22.45 SQ YD
	STA 689+70.00 TO STA 689+76.00	22.45 SQ YD
PAVEMENT REMOVAL	STA 687+94.00 TO STA 688+54.00	184 SQ YD
	STA 689+16.00 TO STA 689+76.00	184 SQ YD
PAVEMENT GROOVING	STA 688+00.00 TO STA 688+30.00	104 SQ YD
	STA 689+40.00 TO STA 689+70.00	104 SQ YD

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

QUANTITY SCHEDULES			
ILLINOIS ROUTE 49 OVER LITTLE VERMILION RIVER			
SCALE:	SHEET NO.	OF SHEETS	STA. TO STA.

F.A.P. RTE. 836	SECTION 118BR-2	COUNTY CHAMPAIGN	TOTAL SHEETS 45	SHEET NO. 6
FED. ROAD DIST. NO. 5 ILLINOIS FED. AID PROJECT			CONTRACT NO. 70600	



STAGE I TRAFFIC

SUGGESTED STAGE CONSTRUCTION SEQUENCE

STAGE I

1. CONSTRUCT BASE COURSE OPTION STA 686+50 LT TO STA. 691+00 LT.
2. ERECT TRAFFIC CONTROL FOR STAGE I.
3. REMOVE EXISTING BRIDGE AND PAVEMENT RT.
4. CONSTRUCT PROPOSED BRIDGE, BASE COURSE OPTION STA 686+50 RT TO STA 691+00 RT, FIELD ENTRANCE AND TEMPORARY RAMPS.
5. CONSTRUCT PROPOSED GUARDRAIL & TERMINALS RT.

GENERAL NOTES

1. THIS TRAFFIC CONTROL DETAIL SHALL BE USED IN CONJUNCTION WITH STANDARD 701321.
2. EXISTING PAVEMENT MARKING THAT CONFLICT WITH THE REVISED STAGE TRAFFIC PATTERNS DURING ALL PHASES OF STAGE CONSTRUCTION SHALL BE REMOVED AS SPECIFIED IN SECTION 783 OF THE STANDARD SPECIFICATIONS AND PAID FOR AS "PAVEMENT MARKING REMOVAL".
3. THE CONTRACTOR SHALL MAINTAIN ACCESS TO ALL PRIVATE AND COMMERCIAL PROPERTIES DURING ALL PHASES OF CONSTRUCTION.
4. EACH DETECTOR LOOP SHALL BE CONNECTED TO A SEPARATE DETECTOR AMPLIFIER.

TRAFFIC CONTROL SCHEDULE

LOCATION STATION TO STATION	TEMP. CONC. BARRIER (FOOT)	RELOCATE TEMP. CONC. BARRIER (FOOT)	IMPACT ATTENUATORS TEMPORARY (NR) TL3 (EACH)	IMPACT ATTENUATORS RELOCATE (NR) TL3 (EACH)
STAGE I STA. 686+65 TO 690+90	425.0		2	
STAGE II STA. 686+77.50 TO 690+77.50		400.0		2
TOTAL	425.0	400.0	2	2

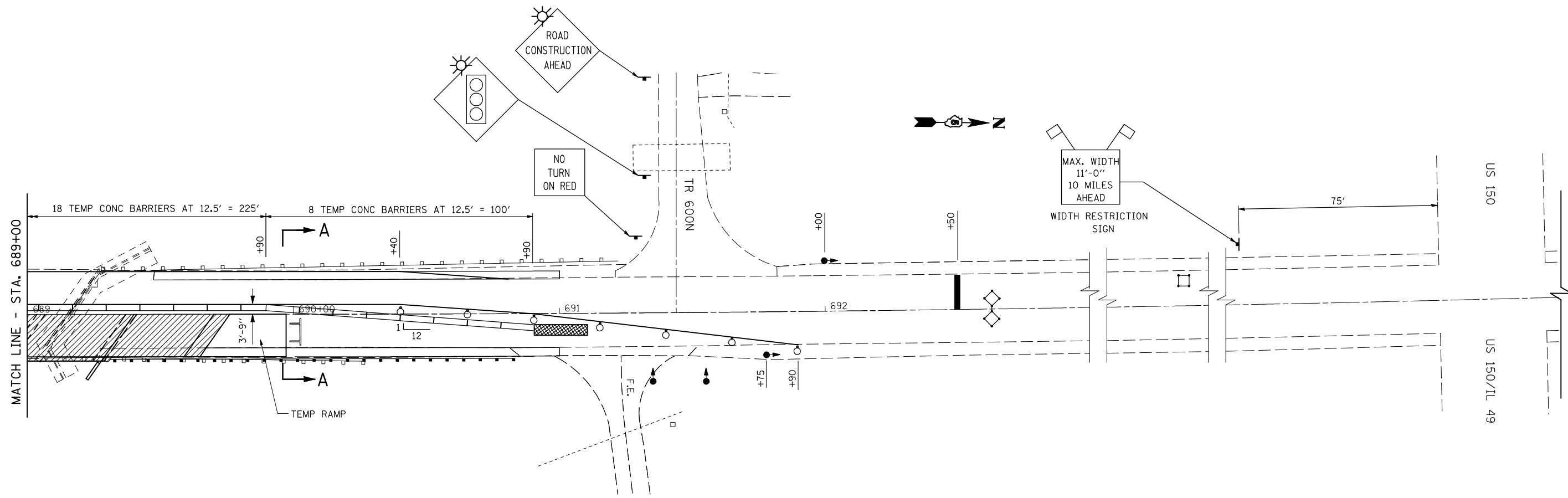
WORK ZONE PAVEMENT MARKING REMOVAL SCHEDULE

LOCATION STATION TO STATION	WORK ZONE PVMT. MARKING REMOVAL (SQ. FT.)
STAGE I STA. 686+80 TO STA. 690+80 LT STA. 685+25 TO STA. 691+90 RT	132 220
STAGE II STA. 685+15 RT STA. 692+50 LT STA. 685+75 TO STA. 691+40 LT STA. 691+59 TO STA. 692+40 LT STA. 686+80 TO STA. 690+80 RT	26 26 194 33 132
SHORT TERM C STA. 685+15 TO STA. 692+50	49
TOTAL	812

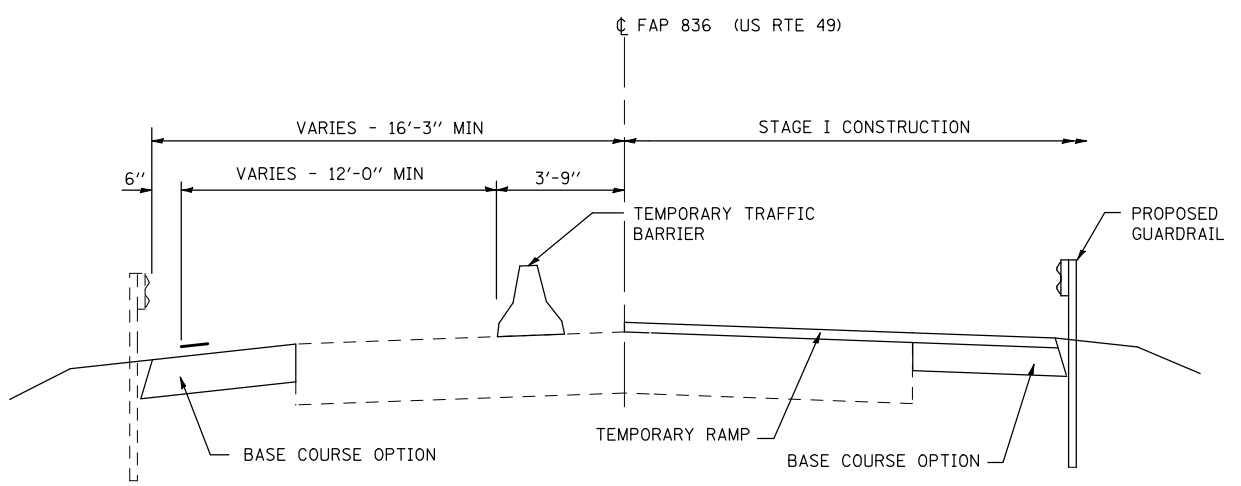
LEGEND

- BRIDGE WORK AREA
- IMPACT ATTENUATOR
- TYPE III BARRICADE
- DRUM WITH STEADY BURNING LIGHT
- TRAFFIC SIGNAL
- INDUCTION LOOP DETECTOR
- TEMPORARY CONCRETE BARRIER





STAGE I TRAFFIC



SECTION A-A

WORK THIS SHEET WITH SHEET 8 OF 45



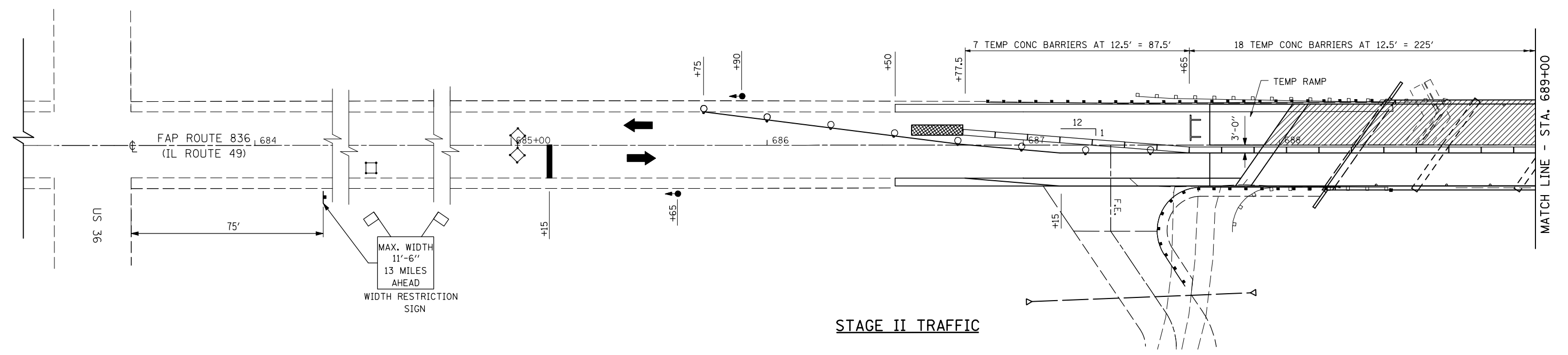
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**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**TRAFFIC CONTROL PLAN - STAGE I
ILLINOIS ROUTE 49 OVER LITTLE VERMILION RIVER**

SCALE: 1"=20' SHEET NO. OF SHEETS STA. 689+00 TO STA. 694+00

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
836	118BR-2	CHAMPAIGN	45	9
CONTRACT NO. 70600				
FED. ROAD DIST. NO. 5 ILLINOIS FED. AID PROJECT				



SUGGESTED STAGE CONSTRUCTION SEQUENCE

STAGE II

1. ERECT TRAFFIC CONTROL FOR STAGE II.
2. REMOVE EXISTING BRIDGE AND PAVEMENT LT.
3. REMOVE EXISTING BASE COURSE OPTION LT. BASE COURSE OPTION REMOVAL MEASURED AND PAID AS "PAVEMENT REMOVAL"
4. CONSTRUCT PROPOSED BRIDGE AND TEMPORARY RAMPS.
5. CONSTRUCT PROPOSED GUARDRAIL & TERMINALS LT.

FINAL

1. REMOVE ALL STAGE TRAFFIC CONTROL AND RE-ESTABLISH NORMAL TRAFFIC PATTERNS.
2. COMPLETE HOT- MIX ASPHALT SURFACE REMOVAL- BUTT JOINT, HMA SHOULDERS AND SURFACE COURSE UNDER TRAFFIC WITH FLAGGERS.
3. FINAL STRIPING, SEEDING AND MISCELLANEOUS CLEANUP.

GENERAL NOTES

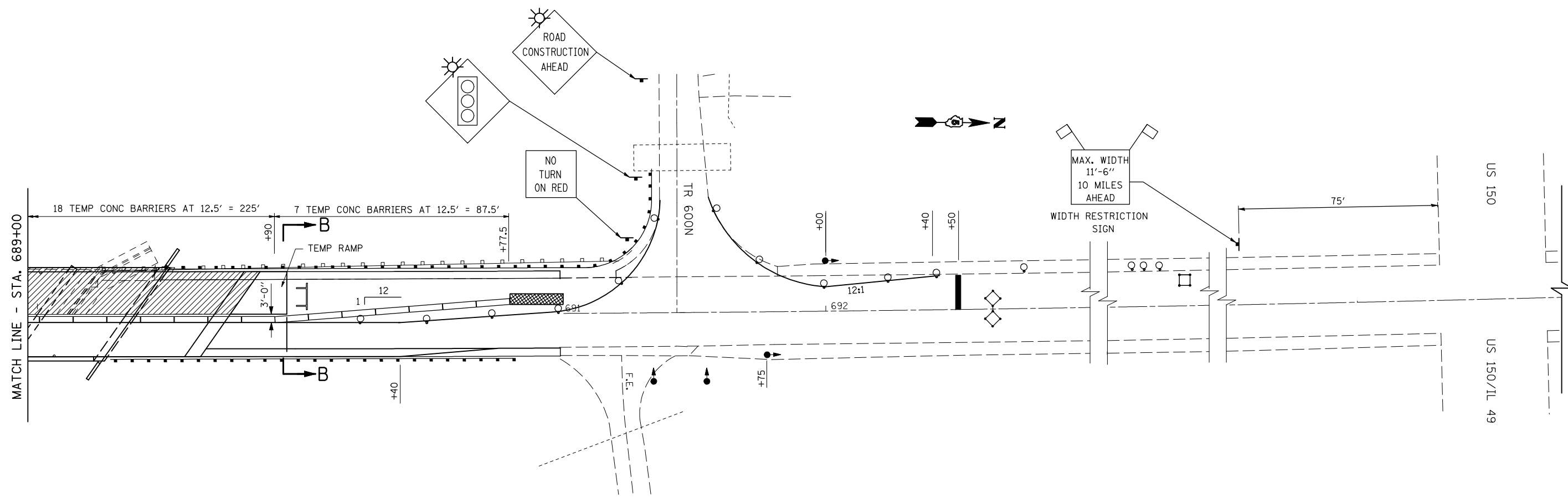
1. THIS TRAFFIC CONTROL DETAIL SHALL BE USED IN CONJUNCTION WITH STANDARD 701321.
2. EXISTING PAVEMENT MARKING THAT CONFLICT WITH THE REVISED STAGE TRAFFIC PATTERNS DURING ALL PHASES OF STAGE CONSTRUCTION SHALL BE REMOVED AS SPECIFIED IN SECTION 783 OF THE STANDARD SPECIFICATIONS AND PAID FOR AS "PAVEMENT MARKING REMOVAL".
3. THE CONTRACTOR SHALL MAINTAIN ACCESS TO ALL PRIVATE AND COMMERCIAL PROPERTIES DURING ALL PHASES OF CONSTRUCTION.
4. EACH DETECTOR LOOP SHALL BE CONNECTED TO A SEPARATE DETECTOR AMPLIFIER.

LEGEND

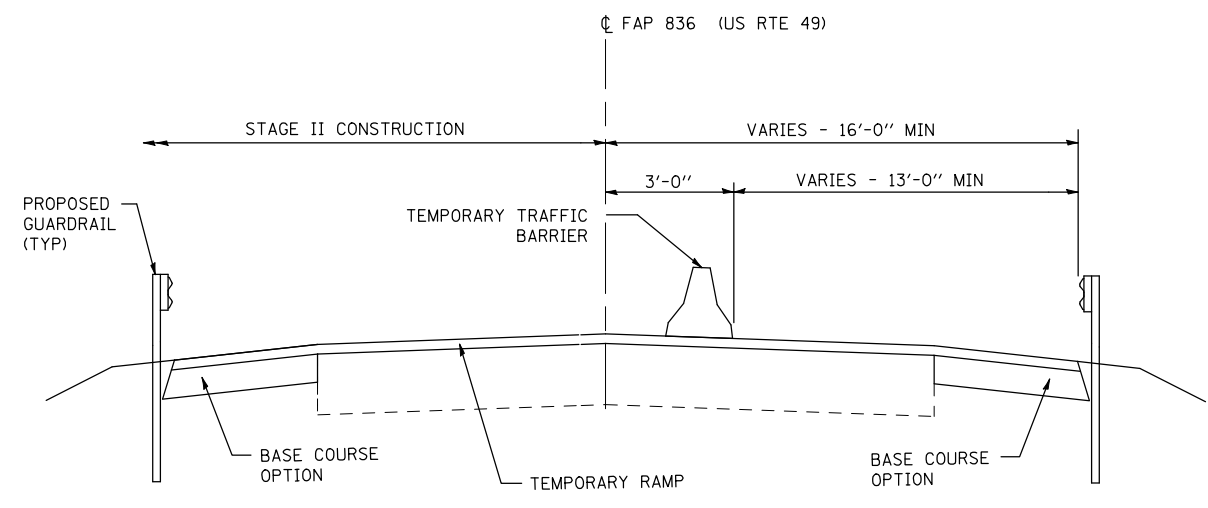
- BRIDGE WORK AREA
- IMPACT ATTENUATOR
- TYPE III BARRICADE
- DRUM WITH STEADY BURNING LIGHT
- TRAFFIC SIGNAL
- INDUCTION LOOP DETECTOR
- TEMPORARY CONCRETE BARRIER



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THE UPCHURCH GROUP, INC.	PLOT SCALE = \$SCALE*	CHECKED - MJS	REVISED -			SCALE: 1"=20'	SHEET NO. OF SHEETS	STA. 684+00	TO STA. 689+00	CONTRACT NO. 70600		
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STAGE II TRAFFIC



SECTION B-B

WORK THIS SHEET WITH SHEET 10 OF 45



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**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**TRAFFIC CONTROL PLAN - STAGE II
ILLINOIS ROUTE 49 OVER LITTLE VERMILION RIVER**

SCALE: 1"=20' SHEET NO. OF SHEETS STA. 689+00 TO STA. 694+00

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
836	118BR-2	CHAMPAIGN	45	11
CONTRACT NO. 70600				
FED. ROAD DIST. NO. 5 ILLINOIS FED. AID PROJECT				

EXISTING STRUCTURE: S.N. 010-0139 to be removed. Bench Mark: Chiseled "□" on the East Side of the top of the South Abutment of Built in 1928 as S.B.I. Route 49, Section 118B at Sta. 688+85. Reconstructed in 1971 as FA 836, Section 118 BR-1 at STA. 688+85 single span structure, PPC Deck Beams 62'-1 3/8" Bk. to Bk. of Abutments and 33'-0" O. to O. and skewed 35 degrees left forward.

APPROVED
For Structural Adequacy Only

Ralph E. Anderson
Engineer of Bridges & Structures

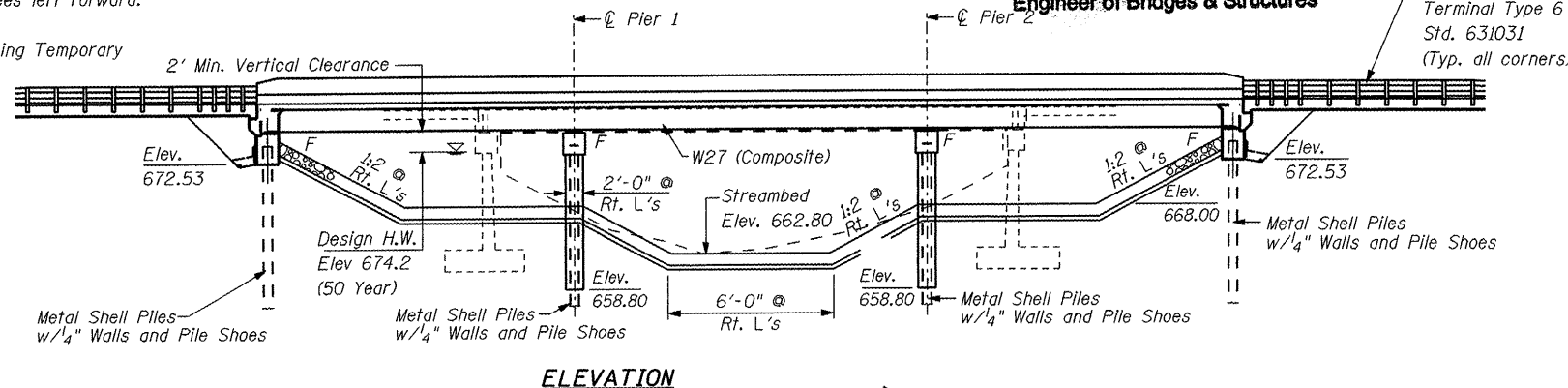
ROUTE NO.	SECTION	COUNTY	SHEET	SHEET NO.
FAP 836	118 BR-2	Champaign	45	12
FED. ROAD DIST. NO. 8		ILLINOIS	FED. AID PROJECT-	21 SHEETS

GENERAL NOTES

- Fasteners shall be AASHTO M164 Type 1, mechanically galvanized bolts in painted areas and M164, Type 3, in unpainted areas. Bolts 7/8" diameter, open holes 1 1/16" diameter, unless otherwise noted.
- Calculated weight of Structural Steel = 62990 lbs
- All Structural steel shall be AASHTO M270, GRADE 50W.
- No field welding is permitted except as specified in the contract documents.
- Reinforcement bars shall conform to the requirements of ASTM A706 Grade 60. (IL Modified)
- Reinforcement bars designated (E) shall be epoxy coated.
- Layout of slope protection system may be varied in the field to suit ground conditions as directed by the Engineer.
- Bearing seat surfaces shall be constructed or adjusted to the designated elevations within a tolerance of 1/8 inch. Adjustment shall be made either by grinding the surface or by shimming the bearings.
- Structural steel shall only be painted, for a distance equal to the depth of embedment into the concrete cap plus 3 inches. Those areas shall be primed. No field painting shall be required. All structural steel shall be cleaned as specified in the special provision for "Surface Preparation and Painting Requirements for Weathering Steel".
- The Contractor shall drive 2 test piles to 110% of the nominal required bearing specified in production locations, (one at Pier 1 and one at the North abutment) as directed by the Engineer before ordering the remainder of the piles.
- The Contractor is advised that the existing PCC Deck Beams are in a deteriorated condition with reduced load carrying capacity. It is the Contractor's responsibility to account for the condition of the beams when developing construction procedures for the removal of the superstructure.

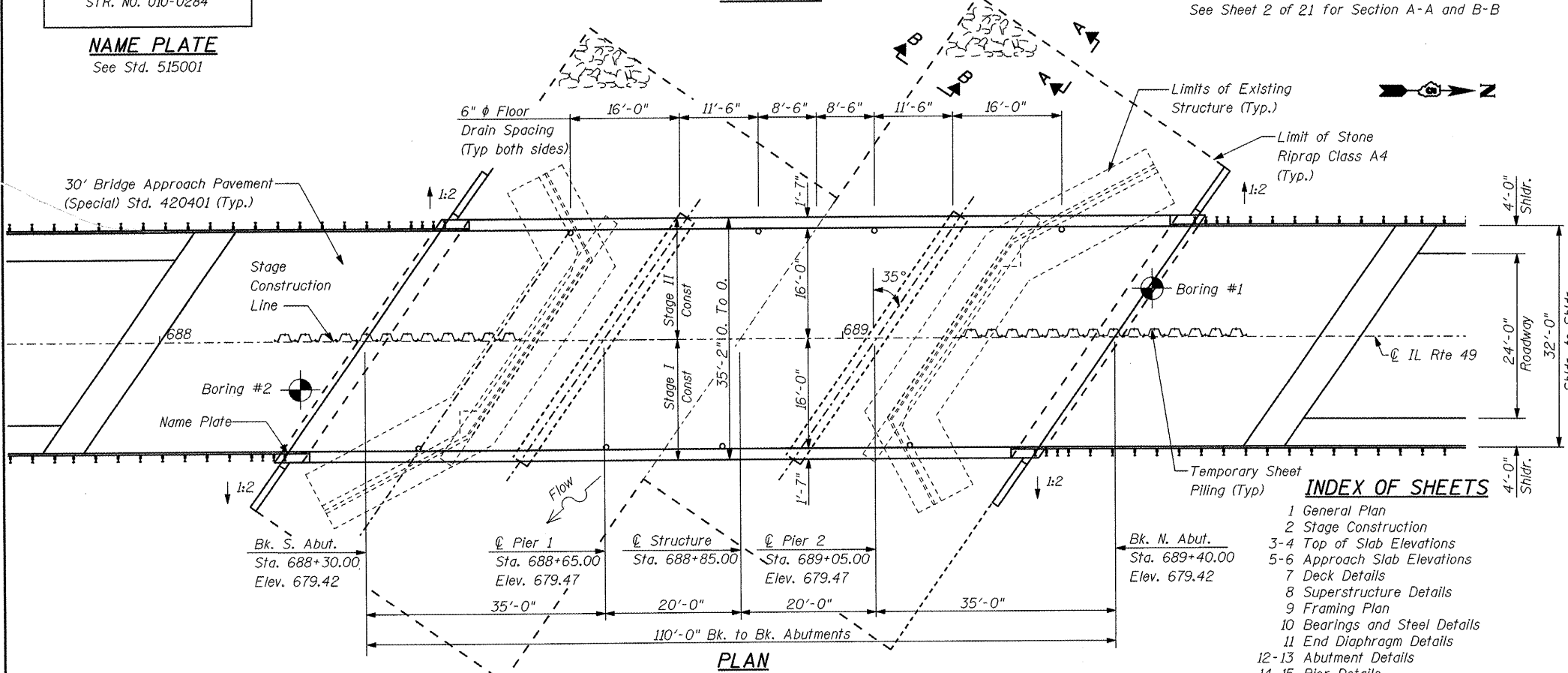
One lane of traffic to be maintained utilizing Temporary Signals and Stage Construction.

No salvage.



STATION 688+85
BUILT 20 BY
STATE OF ILLINOIS
F.A.P. RTE. 836 SEC. 118BR-2
LOADING HL 93
STR. NO. 010-0284

NAME PLATE
See Std. 515001



DESIGN STRESSES

FIELD UNITS
f_c = 3,500 psi
f_y = 60,000 psi (Reinf.)
F_y = 50,000 psi (M270 Grade 50W)

LOADING HL 93

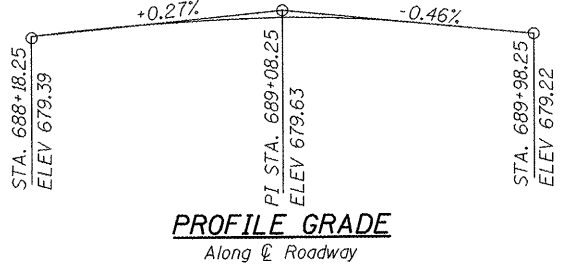
Allow 50 lb./sq. ft. for future wearing surface.

DESIGN SPECIFICATIONS

2007 LRFD AASHTO 4th Edition.

SEISMIC DATA

Seismic Performance Zone (SPZ) = 1
Bedrock Acceleration
Coefficient (A) = 0.047 g
Site Coefficient (S) = 1.0



DESIGN SCOUR ELEVATION TABLE

Design Scour Elevation (ft.)	Abutments	Piers
	672.53	658.80

WATERWAY INFORMATION

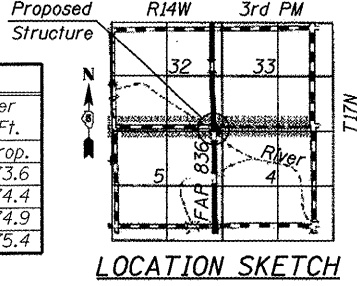
Drainage Area = 17.7 Sq. Mi. Low Grade Elev. 676.1 Ft. @ Sta. 698+00

Flood	Freq. Yr.	Q CFS	Opening Sq. Ft.		Nat. H.W.E. Ft.	Head - Ft.		Headwater Elev. - Ft.	
			Exist.	Prop.		Exist.	Prop.	Exist.	Prop.
Design	10	935	338	474	673.5	0.2	0.1	673.7	673.6
Base	50	1433	371	529	674.2	0.3	0.2	674.5	674.4
Max. Calc.	100	1646	385	553	674.5	0.6	0.4	675.1	674.9
	500	2149	404	585	674.9	0.8	0.5	675.7	675.4

10 Year Velocity through Existing Bridge = 2.8 fps
10 Year Velocity through Proposed Bridge = 2.0 fps

INDEX OF SHEETS

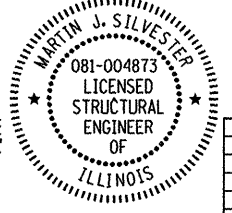
- General Plan
- Stage Construction
- 4-6 Top of Slab Elevations
- Deck Details
- Superstructure Details
- Framing Plan
- Bearings and Steel Details
- End Diaphragm Details
- 12-13 Abutment Details
- 14-15 Pier Details
- 16 Bar Splicer Assembly Details
- 17 Cantilever Forming Brackets
- 18 Concrete Piles
- 19 Temporary Concrete Barrier
- 20-21 Soil Borings



TOTAL BILL OF MATERIAL

ITEM	UNIT	SUPER	SUB	TOTAL
Porous Granular Embankment, Special	Yd ³		93	93
Pipe underdrains for Structures, 4 inch	Lf		164	164
Geocomposite Wall Drain	Yd ²		76	76
Stone Riprap, Class A4	Yd ²		801	801
Filter Fabric	Yd ²		801	801
Removal of Existing Structures	Each		1	1
Structure Excavation	Yd ³		228	228
Bridge Deck Grooving	Yd ²	367		367
Protective Coat	Yd ²	482		482
Concrete Structures	Yd ³		57.2	57.2
Concrete Superstructure	Yd ³	149		149
Reinforcement Bars, Epoxy Coated	Lb	32860	6180	39040
Floor Drains	Each	8		8
Name Plates	Each	1		1
Furnishing Metal Shell Piles, 14" x 0.250"	Ft.		1164	1164
Driving Piles	Ft.		1164	1164
Test Pile Metal Shells	Each		2	2
Concrete Encasement	Yd ³		52.8	52.8
Furnishing and Erecting Structural Steel	L. Sum	1		1
Stud Shear Connectors	Each	2430		2430
Temporary Sheet Piling	Ft ²		1527	1527
Underwater Structure Excavation Protection - Location 1	Each		1	1
Underwater Structure Excavation Protection - Location 2	Each		1	1
* Diamond Grinding (Bridge Section)	Yd ²	529		529
Bar Splicers	Each	400	32	432
Anchor Bolts, 1"	Each		48	48
Asbestos Bearing Pad Removal	Each		24	24

* Includes Bridge Approach Pavement



MARTIN J. SILVESTER
STRUCTURAL ENGINEER
LICENSE EXP. DATE 11-30-08

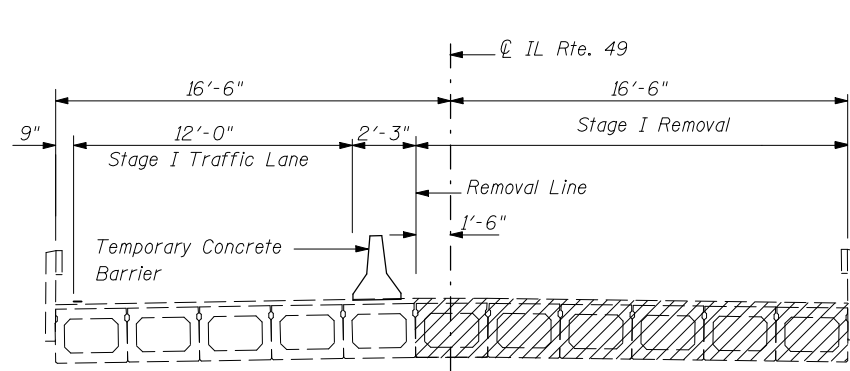
REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
GENERAL PLAN
IL RTE. 49 OVER LITTLE VERMILION RIVER
FAP 836 SECTION 118BR-2
CHAMPAIGN COUNTY
STA. 688+85 STR. NO. 010-0284
SCALE: VERT. HORIZ. DATE MAY 2008
DRAWN BY RMH
CHECKED BY MJS

TUG PROJ. # 307862-01
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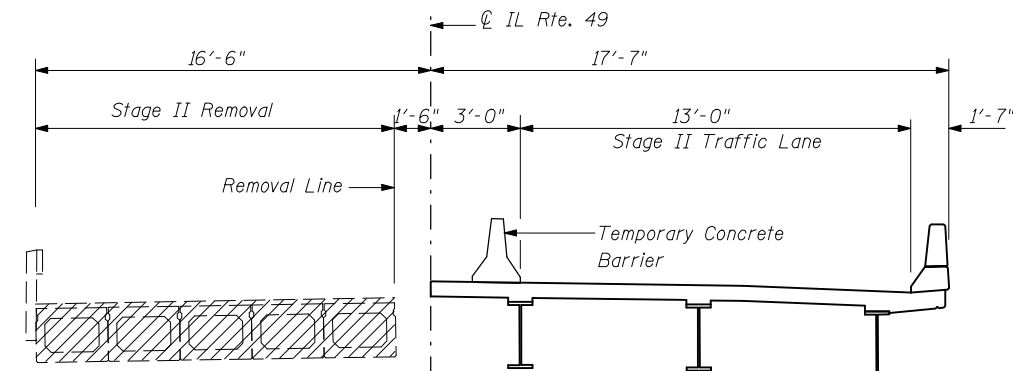
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAP 836	118 BR-2	Champaign	45	13
FED. ROAD DIST. NO. 5		ILLINOIS	FED. AID PROJECT-	

SHEET NO. 2
21 SHEETS

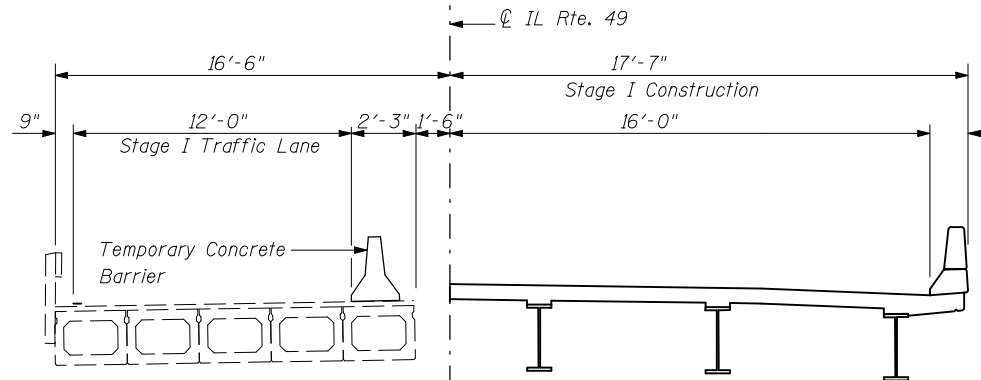


STAGE I REMOVAL
(Looking North)

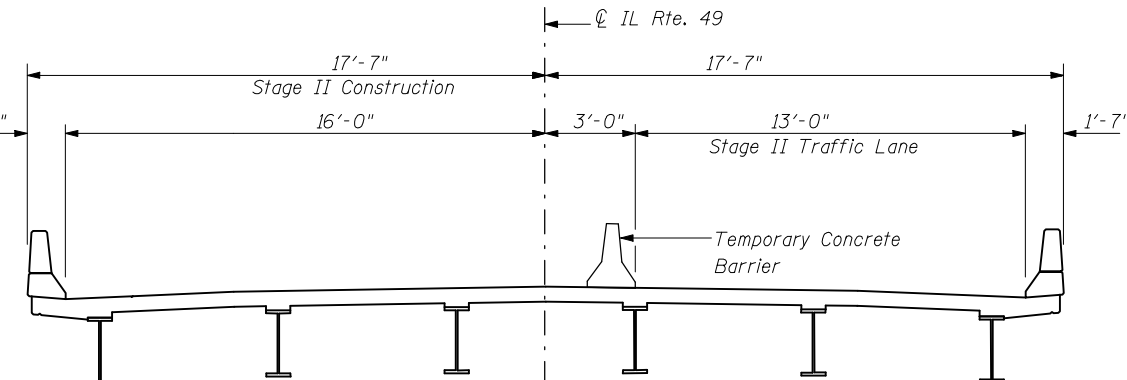
Notes:
1. Hatched area indicate Removal of Existing Structure.
2. For quantity of "Temporary Concrete Barrier" see Roadway Plans.
For details see Sheet 19 of 21



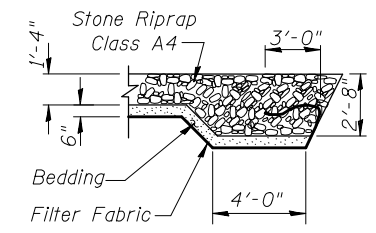
STAGE II REMOVAL
(Looking North)



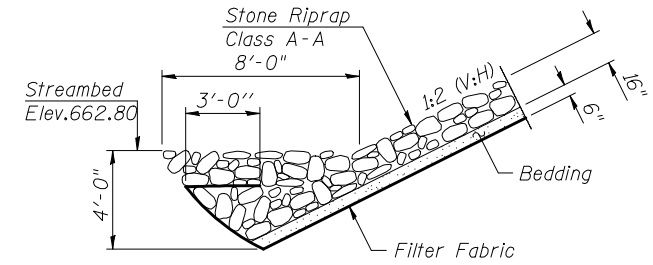
STAGE I CONSTRUCTION
(Looking North)



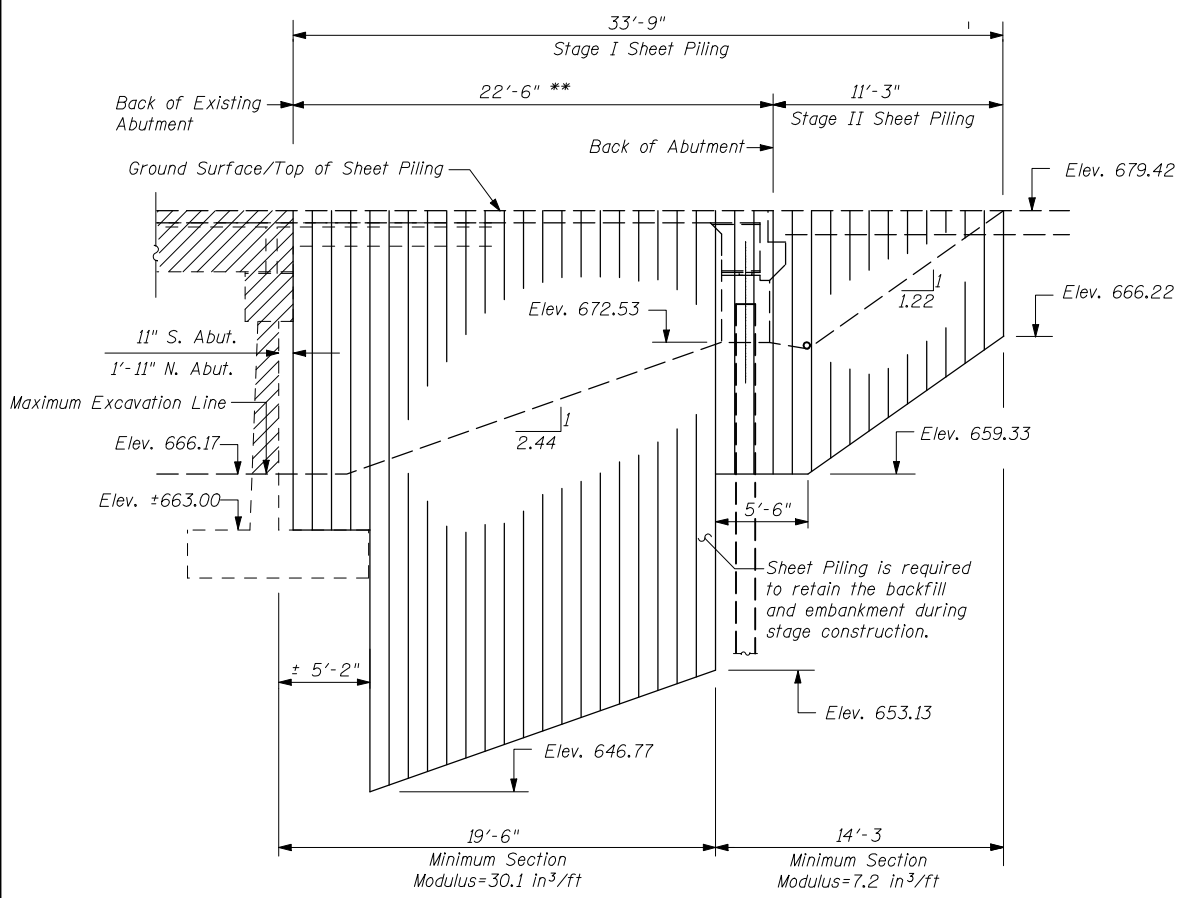
STAGE II CONSTRUCTION
(Looking North)



SECTION A-A
(Flank Treatment)



SECTION B-B
(Toe Treatment)

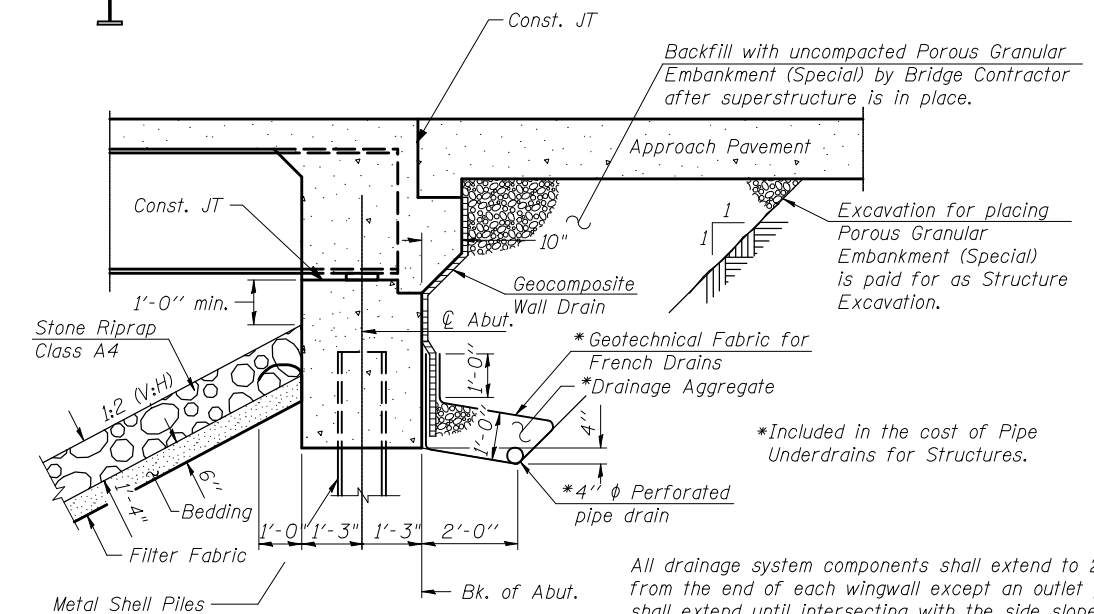


TEMPORARY SHEET PILING ELEVATION

(Slopes and Distances Shown Along Alignment of Sheet Piling)

Sheet Piling Notes:
1. If the Contractor chooses to alter the temporary cantilevered sheet piling design requirements shown on the plans a design submittal including plan details and calculations will be required for review and acceptance by the Engineer.
2. The Contractor shall connect the first sheet to the existing 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
** This Portion of Sheet Piling shall be removed after completion of Stage I Construction

Item	Unit	Qty
Temporary Sheet Piling	Sq. Ft.	1527



SECTION THRU INTEGRAL ABUTMENT
(© Rt. L's)

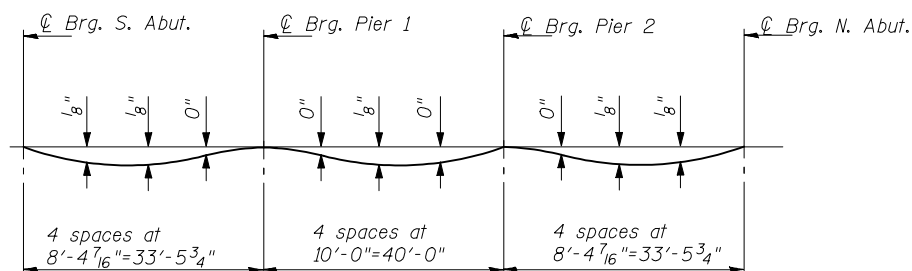
All drainage system components shall extend to 2'-0" from the end of each wingwall except an outlet pipe shall extend until intersecting with the side slopes. The pipes shall drain into concrete headwalls. (See Article 601.05 of the Standard Specifications and Highway Standard 60110).

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
STAGE CONSTRUCTION
IL RTE. 49 OVER LITTLE VERMILION RIVER
FAP 836 SECTION 118BR-2
CHAMPAIGN COUNTY
STA. 688+85 STR. NO. 010-0284
SCALE: VERT. HORIZ. DATE MAY 2008 DRAWN BY RMH CHECKED BY MJS

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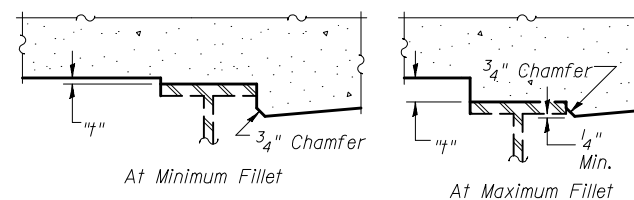
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAP 836	118 BR-2	Champaign	45	14
FED. ROAD DIST. NO. 5	ILLINOIS	FED. AID PROJECT-		



DEAD LOAD DEFLECTION DIAGRAM

(Includes weight of concrete only)

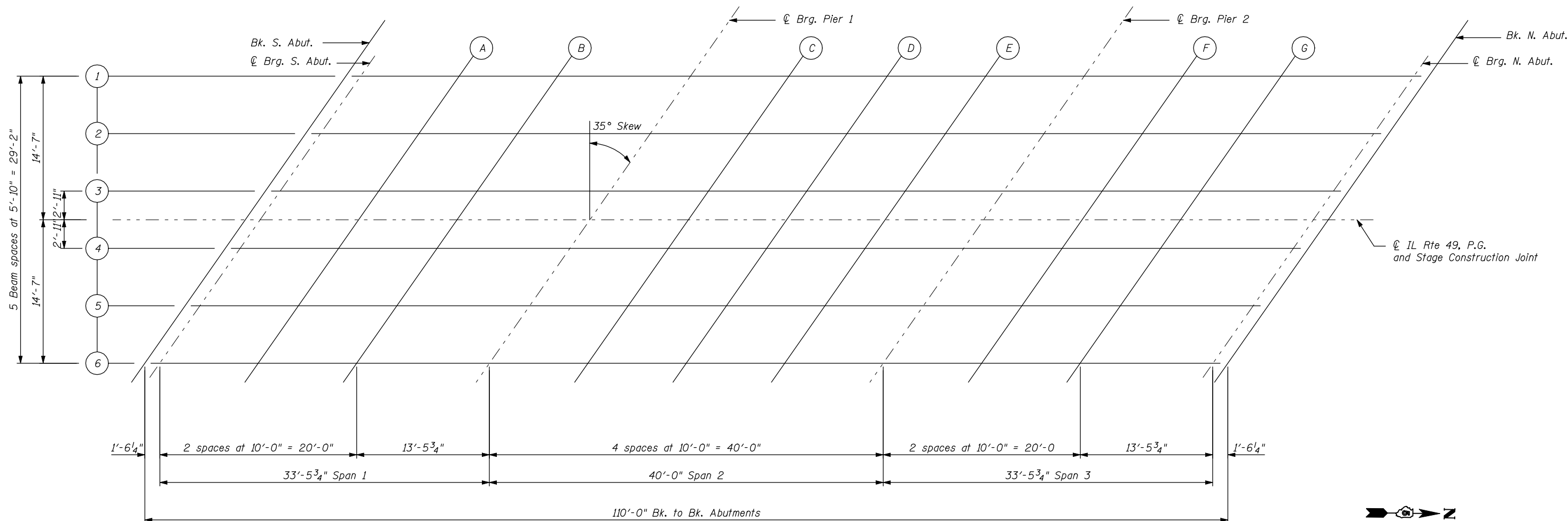
Note: The above deflections are not to be used in the field if the engineer is working from the grade elevations adjusted for dead load deflections and grinding as shown on sheet 4 of 19.



To determine "t": After the existing Steel Beams have been raised, elevations of the top flanges of the beams shall be taken at intervals shown below. These elevations subtracted from the "Theoretical Grade Elevations Adjusted for Dead Load Deflection and Grinding" shown below, minus the 8 1/4" Slab thickness, equals the fillet heights "t" above Top of Flange of Beams. The Slab is to be ground after curing to achieve smoothness, but the Slab is not to be ground to elevations below the "Theoretical Grade Elevations" shown below. For Grinding the Deck, See special provisions.

FILLET HEIGHTS

Note: Expected Fillet Height "t" varies from 1/2" to 1 1/4"



Note: Work this Sheet with Sheet 4 of 21

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
TOP OF SLAB ELEVATIONS
IL RTE. 49 OVER LITTLE VERMILION RIVER
FAP 836 SECTION 118BR-2
CHAMPAIGN COUNTY
STA. 688+85 STR. NO. 010-0284
 SCALE: VERT. HORIZ.
 DATE MAY 2008
 DRAWN BY LP
 CHECKED BY MJS

TUG PROJ. # 3107012-01
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ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAP 836	118 BR-2	Champaign	45	16
FED. ROAD DIST. NO. 5	ILLINOIS	FED. AID PROJECT-		

WEST CURB LINE

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Grinding
Bk. N. Abut.	689+51.20	16.00	679.12	679.14
A	689+61.20	16.00	679.09	679.11
B	689+71.20	16.00	679.06	679.08
End N. Appr. Pav't.	689+81.20	16.00	679.02	679.04

WEST EDGE OF PAVEMENT

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Grinding
Bk. N. Abut.	689+48.40	12.00	679.21	679.23
A	689+58.40	12.00	679.18	679.21
B	689+68.40	12.00	679.15	679.17
End N. Appr. Pav't.	689+78.40	12.00	679.11	679.13

☉ ROADWAY, P.G. AND STAGE CONSTRUCTION JOINT

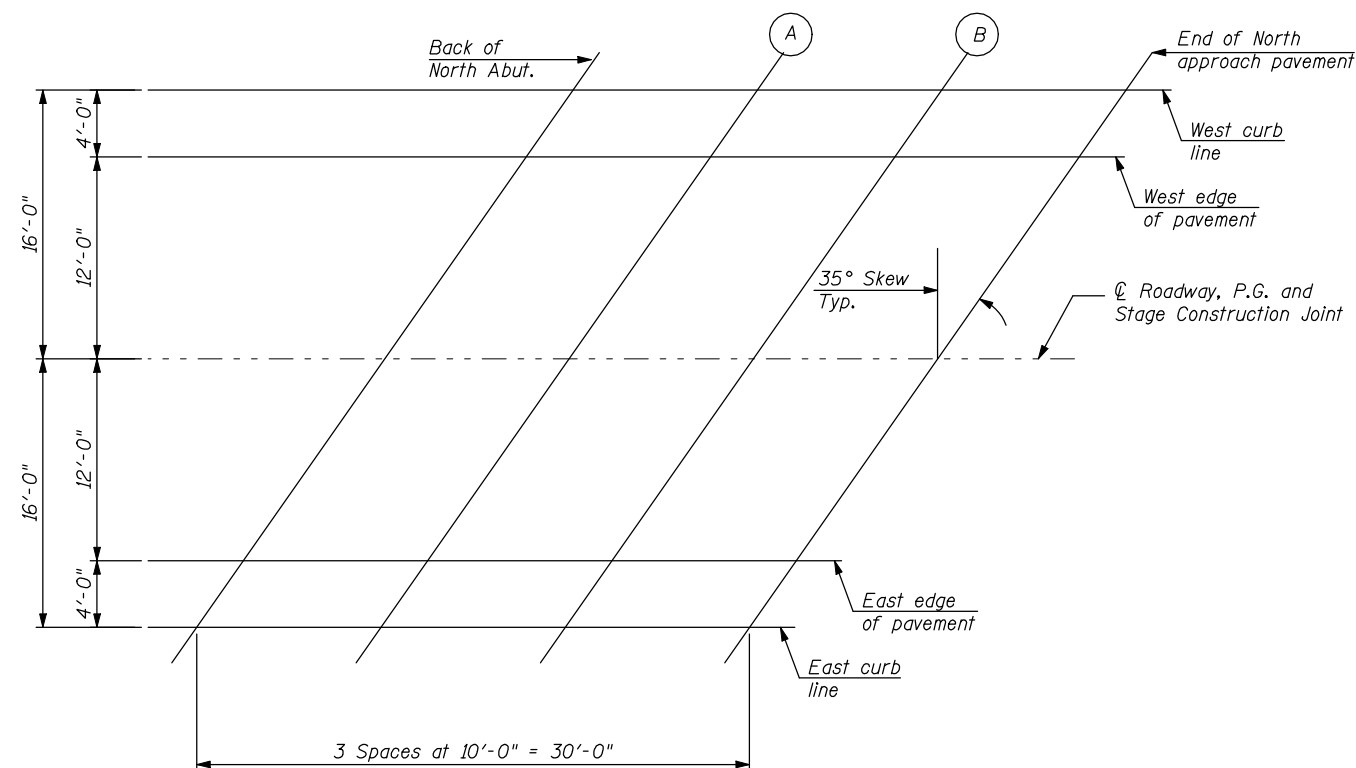
Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Grinding
Bk. N. Abut.	689+40.00	0.00	679.42	679.44
A	689+50.00	0.00	679.39	679.41
B	689+60.00	0.00	679.36	679.38
End N. Appr. Pav't.	689+70.00	0.00	679.33	679.35

EAST EDGE OF PAVEMENT

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Grinding
Bk. N. Abut.	689+31.60	12.00	679.25	679.27
A	689+41.60	12.00	679.23	679.25
B	689+51.60	12.00	679.20	679.22
End N. Appr. Pav't.	689+61.60	12.00	679.17	679.19

EAST CURB LINE

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Grinding
Bk. N. Abut.	689+28.80	16.00	679.17	679.19
A	689+38.80	16.00	679.15	679.17
B	689+48.80	16.00	679.12	679.14
End N. Appr. Pav't.	689+58.80	16.00	679.10	679.12



REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
TOP OF NORTH APPROACH SLAB ELEVATIONS
IL RTE. 49 OVER LITTLE VERMILION RIVER
FAP 836 SECTION 118BR-2
CHAMPAIGN COUNTY
STA. 688+85 STR. NO. 010-0284
 SCALE: VERT. DRAWN BY LP
 HORIZ. CHECKED BY MJS
 DATE MAY 2008

TUG PROJ. # 3107012-01
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ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAP 836	118 BR-2	Champaign	45	17
FED. ROAD DIST. NO. 6	ILLINOIS	FED. AID PROJECT-		

WEST CURB LINE

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Grinding
End S. Appr. Pav't.	688+11.20	16.00	679.10	679.12
A	688+21.20	16.00	679.12	679.14
B	688+31.20	16.00	679.15	679.17
Bk. S. Abut.	688+41.20	16.00	679.17	679.19

WEST EDGE OF PAVEMENT

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Grinding
End S. Appr. Pav't.	688+08.40	12.00	679.17	679.19
A	688+18.40	12.00	679.20	679.22
B	688+28.40	12.00	679.23	679.25
Bk. S. Abut.	688+38.40	12.00	679.25	679.27

☉ ROADWAY, P.G. AND STAGE CONSTRUCTION JOINT

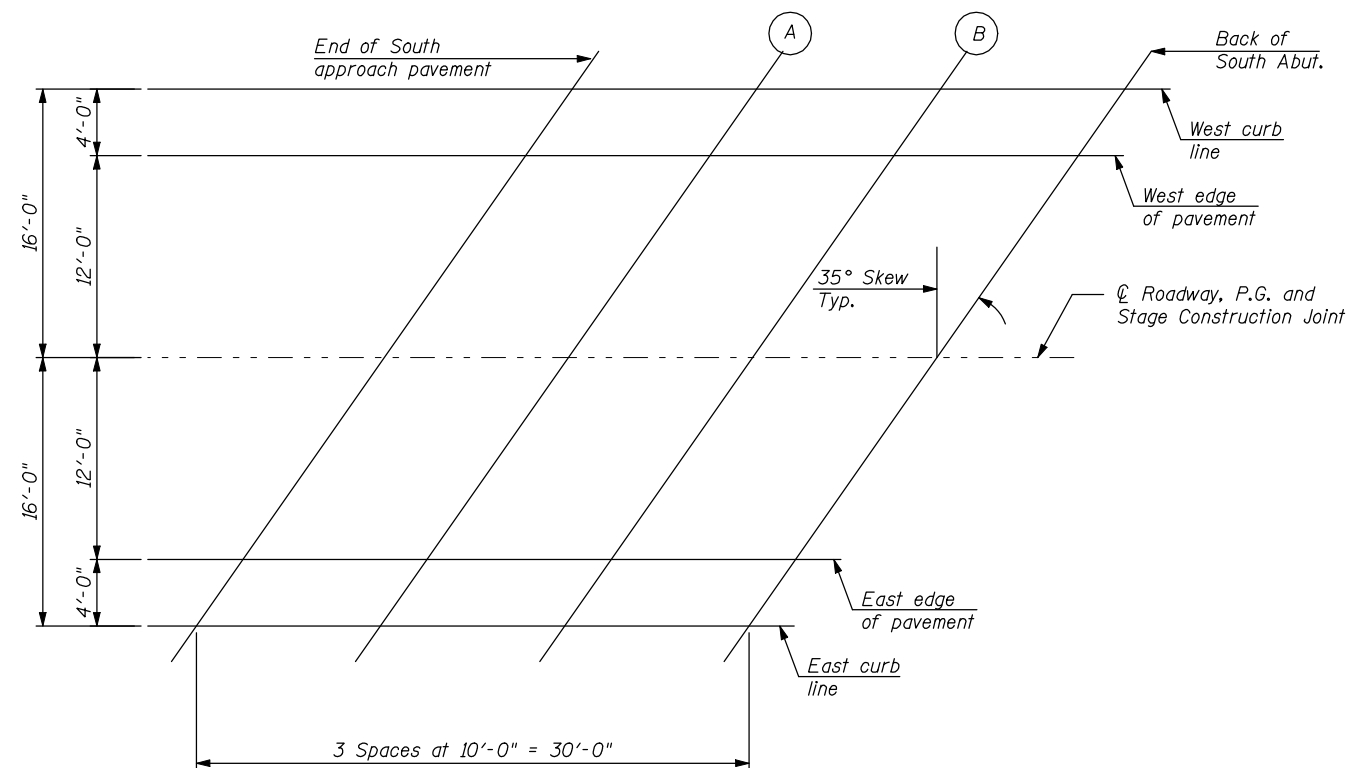
Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Grinding
End S. Appr. Pav't.	688+00.00	0.00	679.33	679.35
A	688+10.00	0.00	679.36	679.38
B	688+20.00	0.00	679.39	679.41
Bk. S. Abut.	688+30.00	0.00	679.42	679.44

EAST EDGE OF PAVEMENT

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Grinding
End S. Appr. Pav't.	687+91.60	12.00	679.11	679.13
A	688+01.60	12.00	679.15	679.17
B	688+11.60	12.00	679.18	679.20
Bk. S. Abut.	688+21.60	12.00	679.21	679.23

EAST CURB LINE

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Grinding
End S. Appr. Pav't.	687+88.80	16.00	679.02	679.04
A	687+98.80	16.00	679.06	679.08
B	688+08.80	16.00	679.09	679.11
Bk. S. Abut.	688+18.80	16.00	679.12	679.14

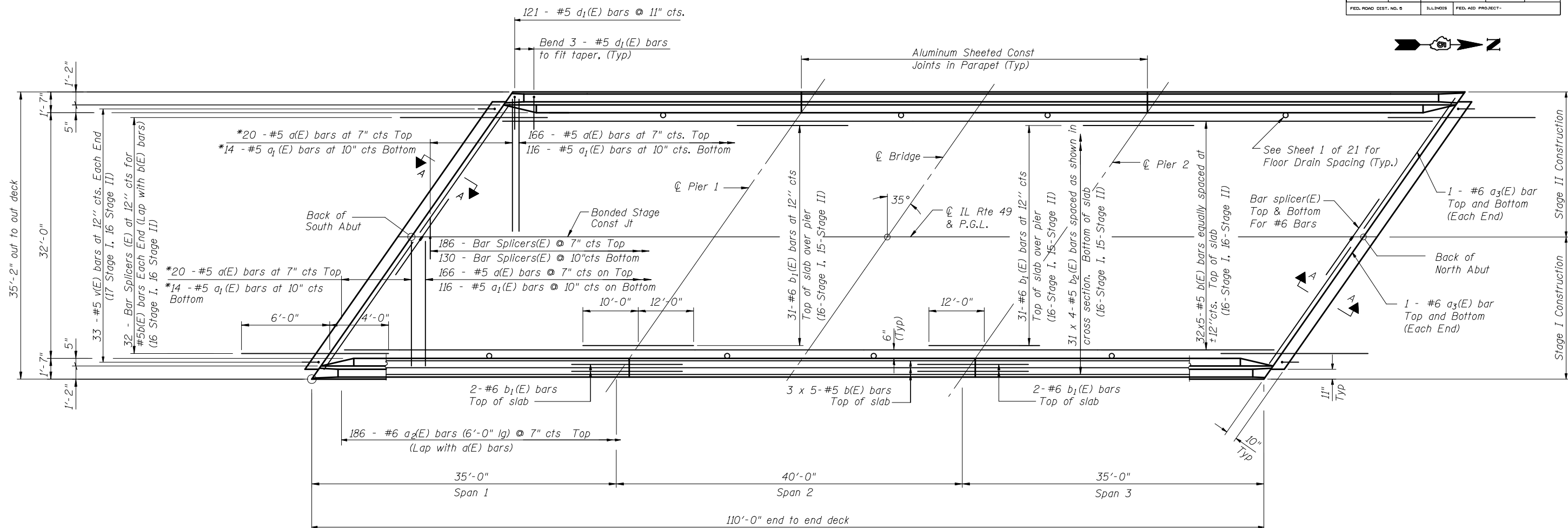


REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
TOP OF SOUTH APPROACH SLAB ELEVATIONS
IL RTE. 49 OVER LITTLE VERMILION RIVER
FAP 836 SECTION 118BR-2
CHAMPAIGN COUNTY
STA. 688+85 STR. NO. 010-0284
 SCALE: VERT. DRAWN BY LP
 HORIZ. CHECKED BY MJS
 DATE MAY 2008

TUG PROJ. # 3107012-01
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ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAP 836	118 BR-2	Champaign	45	18
FED. ROAD DIST. NO. 5		ILLINOIS	FED. AID PROJECT	



PLAN

* Order a(E) and a₁(E) bars full length. Cut to fit skew and use remainder of bars in opposite end.

** Before grinding according to Bridge Smoothness Specification

Notes:

See Sheet 8 of 21 for superstructure details and Bill of Material.

Bars indicated thus 31 x 4-#5 etc. indicates 31 lines of bars with 4 lengths per line.

See Sheet 8 of 21 for parapet reinforcement.

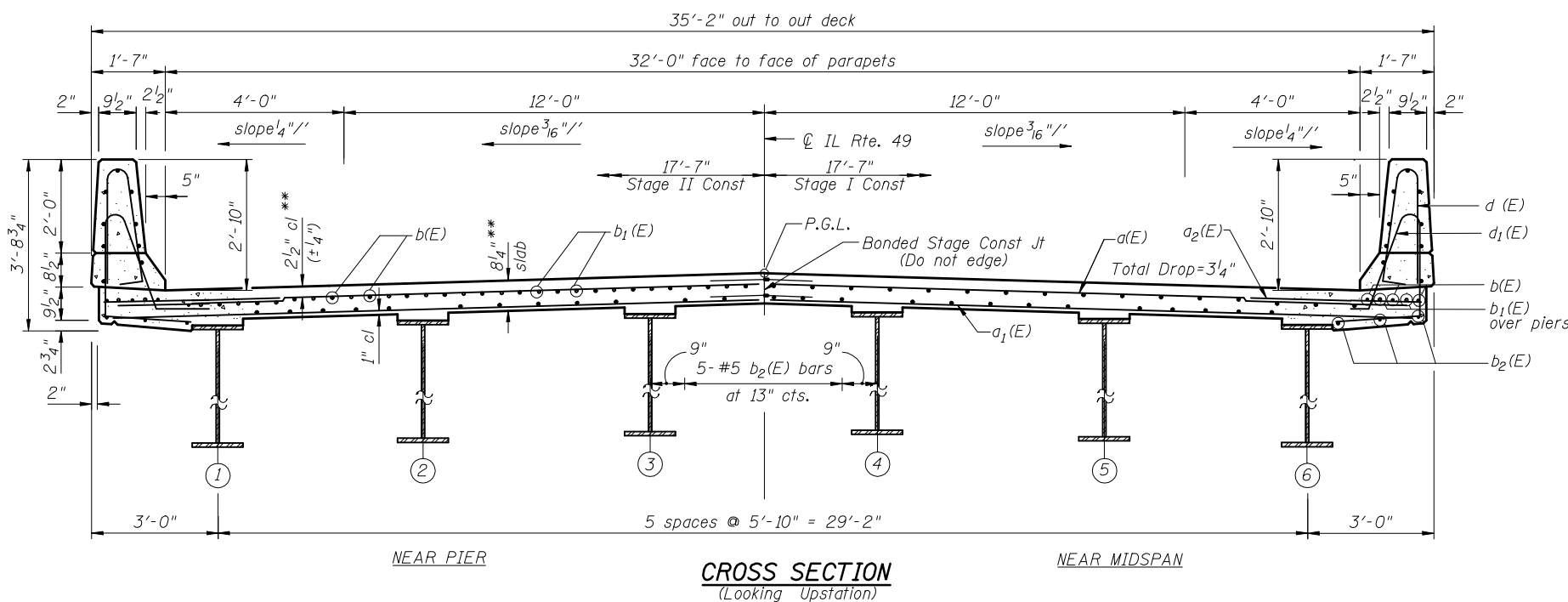
Reinforcement bars shown on this sheet are included in Bill of Material on Sheet 8 of 21.

See Sheet 11 of 21 for Section A-A.

Work this sheet with sheet 11 of 21.

MIN. BAR LAP

#5 Bar = 1'-8"



CROSS SECTION
(Looking Upstation)

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
DECK DETAILS
IL RTE. 49 OVER LITTLE VERMILION RIVER
FAP 836 SECTION 118BR-2
CHAMPAIGN COUNTY
STA. 688+85 STR. NO. 010-0284
SCALE: VERT. HORIZ.
DATE MAY 2008
DRAWN BY AGG
CHECKED BY MJS

TUG PROJ. # 3107012-01
PLOT DATE = 8/19/2008 3:55:42 PM
FILE NAME = ...bridge\1\vr_deck.dgn

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	SHEET NO. 8 21 SHEETS
FAP 836	118 BR-2	Champaign	45	19	
FED. ROAD DIST. NO. 5	ILLINOIS	FED. AID PROJECT-			

**SUPERSTRUCTURE
BILL OF MATERIAL**

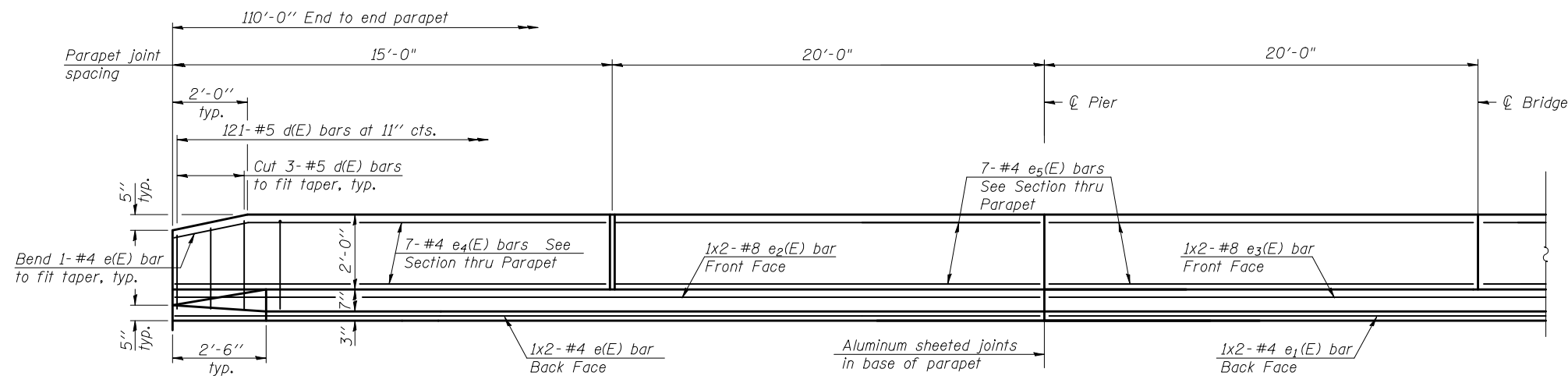
Bar	No.	Size	Length	Shape
a(E)	372	#5	17'-0"	—
a ₁ (E)	260	#5	17'-0"	—
a ₂ (E)	372	#6	6'-0"	—
a ₃ (E)	8	#6	20'-10"	—
b(E)	190	#5	23'-3"	—
b ₁ (E)	70	#6	22'-0"	—
b ₂ (E)	124	#5	28'-8"	—
d(E)	242	#5	5'-7"	—
d ₁ (E)	242	#5	7'-9"	—
e(E)	8	#4	18'-0"	—
e ₁ (E)	4	#4	20'-6"	—
e ₂ (E)	8	#8	19'-0"	—
e ₃ (E)	4	#8	21'-6"	—
e ₄ (E)	28	#4	14'-8"	—
e ₅ (E)	56	#4	19'-8"	—
m(E)	8	#6	19'-11"	—
m ₁ (E)	12	#6	19'-0"	—
m ₂ (E)	24	#6	8'-10"	—
m ₃ (E)	8	#6	6'-6"	—
m ₄ (E)	4	#6	3'-3"	—
m ₅ (E)	4	#6	3'-0"	—
s(E)	92	#5	5'-6"	—
s ₁ (E)	84	#4	8'-7"	—
v(E)	66	#5	3'-4"	—
Bridge Deck Grooving	Sq. Yds.		367	
Protective Coat	Sq. Yds.		482	
Floor Drain	Each		8	
Reinforcement Bars, Epoxy Coated	Pound		32860	
Concrete Superstructure	Cu. Yds.		149	

Bars indicated thus 1 x 2 - #4 etc. indicates 1 line of bars with 2 lengths per line.

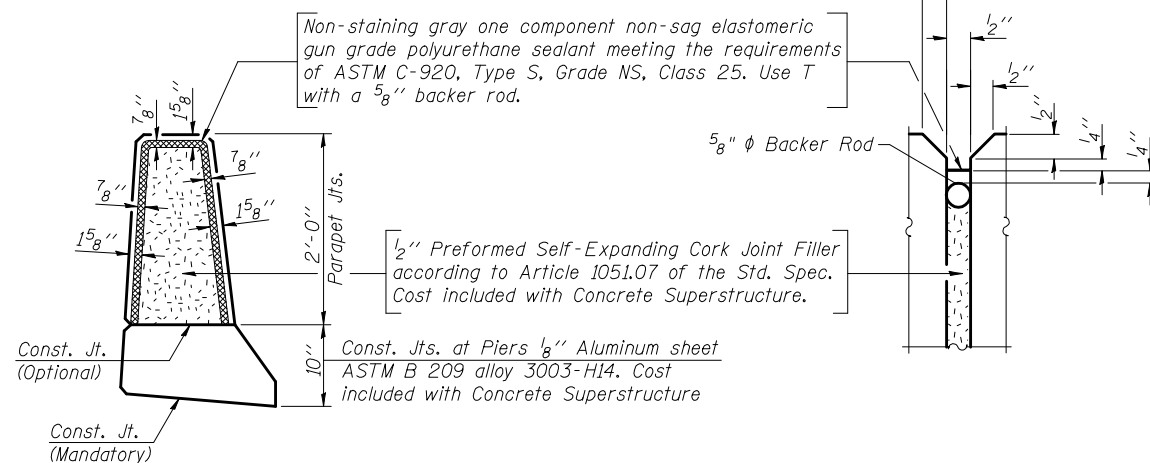
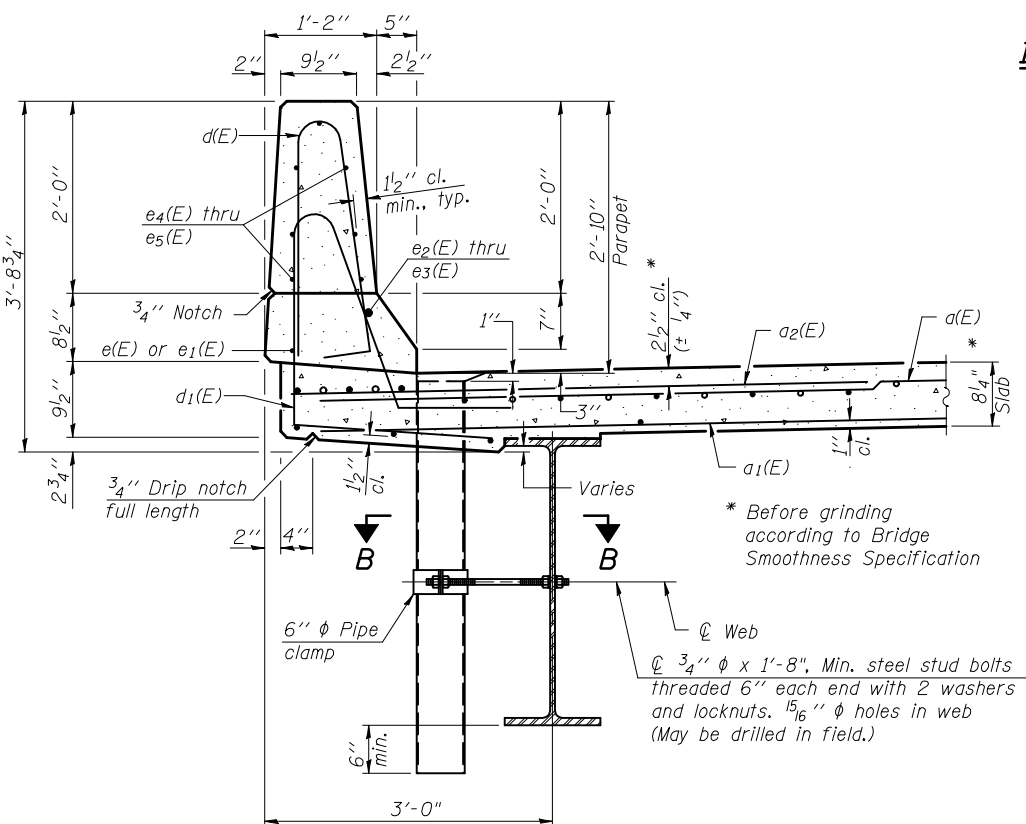
Work this sheet with sheet 7 of 21

MIN. BAR LAP PARAPET

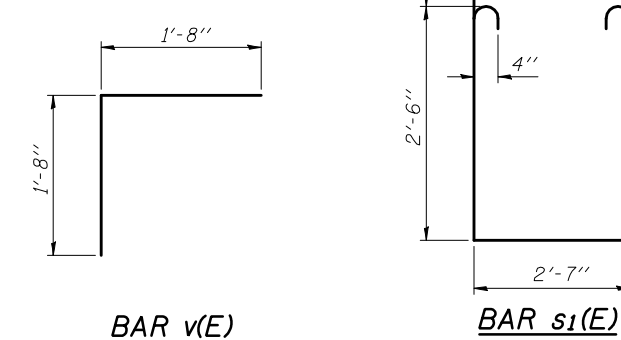
#4 bars = 1'-4"
#8 bars = 3'-5"



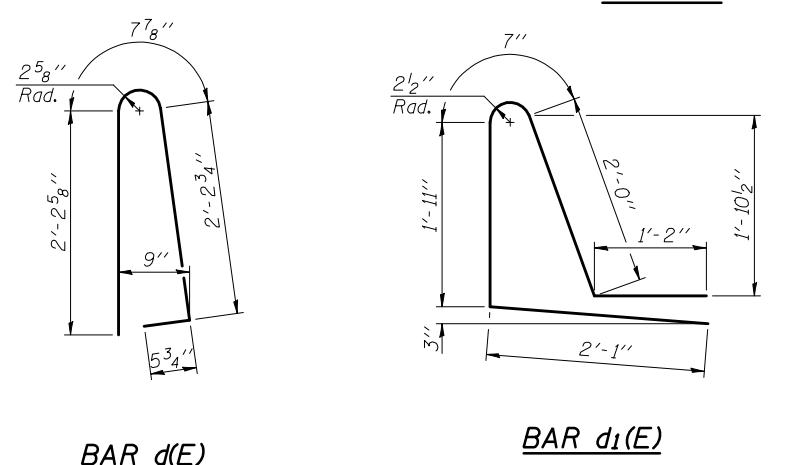
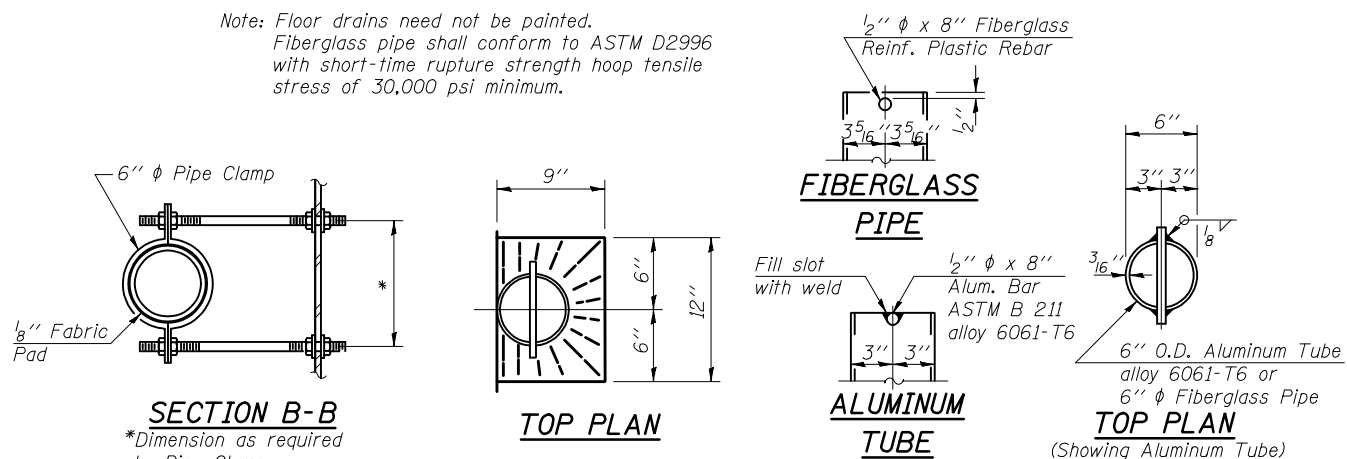
INSIDE ELEVATION OF PARAPET



PARAPET JOINT DETAILS



Note: Floor drains need not be painted. Fiberglass pipe shall conform to ASTM D2996 with short-time rupture strength hoop tensile stress of 30,000 psi minimum.

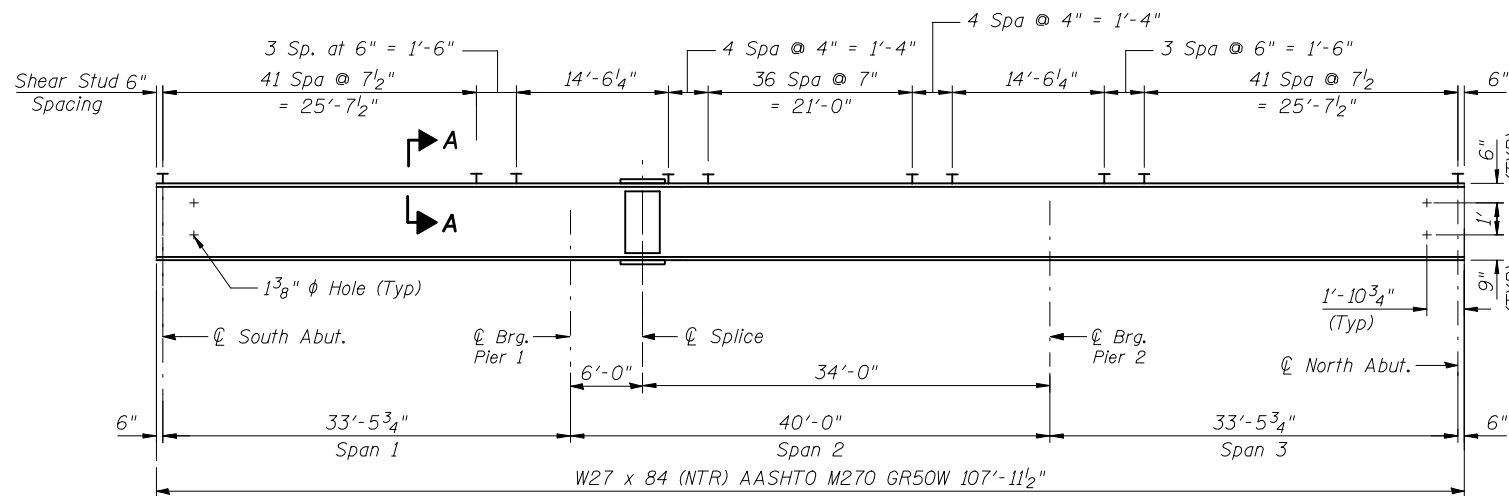


REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
SUPERSTRUCTURE DETAILS
IL RTE. 49 OVER LITTLE VERMILION RIVER
FAP 836 SECTION 118BR-2
CHAMPAIGN COUNTY
STA. 688+85 STR. NO. 010-0284
SCALE: VERT. DRAWN BY GEW
 HORIZ. CHECKED BY MJS
DATE MAY 2008

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAP 836	118 BR-2	Champaign	45	20
FED. ROAD DIST. NO. 5		ILLINOIS	FED. AID PROJECT-	

SHEET NO. 9
21 SHEETS



ELEVATION

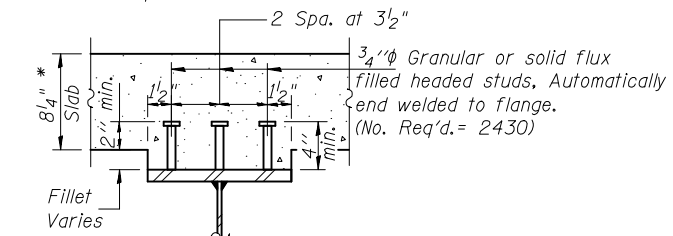
- I_s, S_s : Non-composite moment of inertia and section modulus of the steel section used for computing f_s (Total-Strength I, and Service II) due to non-composite dead loads (in.⁴ and in.³).
- $I_c(n), S_c(n)$: Composite moment of inertia and section modulus of the steel and deck based upon the modular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

		0.4 Sp 1	Pier	0.5 Sp 2
I_s	(in. ⁴)	2850	2850	2850
$I_c(n)$	(in. ⁴)	8523		8523
$I_c(3n)$	(in. ⁴)	6363		6363
S_s	(in. ³)	213	213	213
$S_c(n)$	(in. ³)	331		331
$S_c(3n)$	(in. ³)	299		299
Z	(in. ³)			
DC1	(k/')	0.694	0.694	0.694
M _{DC1}	(k)	56	94	45
DC2	(k/')	0.147	0.147	0.147
M _{DC2}	(k)	14	15	14
DW	(k/')	0.267	0.267	0.267
M _{DW}	(k)	25	27	26
M \ddot{L} + imp	(k)	313	172	331
M _u (Strength I)	(k)	673	477	692
$\phi_r M_n, \phi_r M_{nc}$	(k)	1796	750	1796
f_s DC1	(ksi)	3.2	5.3	2.5
f_s DC2	(ksi)	0.6	0.8	0.6
f_s DW	(ksi)	1.0	1.5	1.1
f_s 1.3(L+I)	(ksi)	14.8	12.6	15.6
f_s (Service II)	(ksi)	19.6	20.2	19.8
f_s (Total)(Strength I)	(ksi)		26.8	
V _r	(k)	23		20

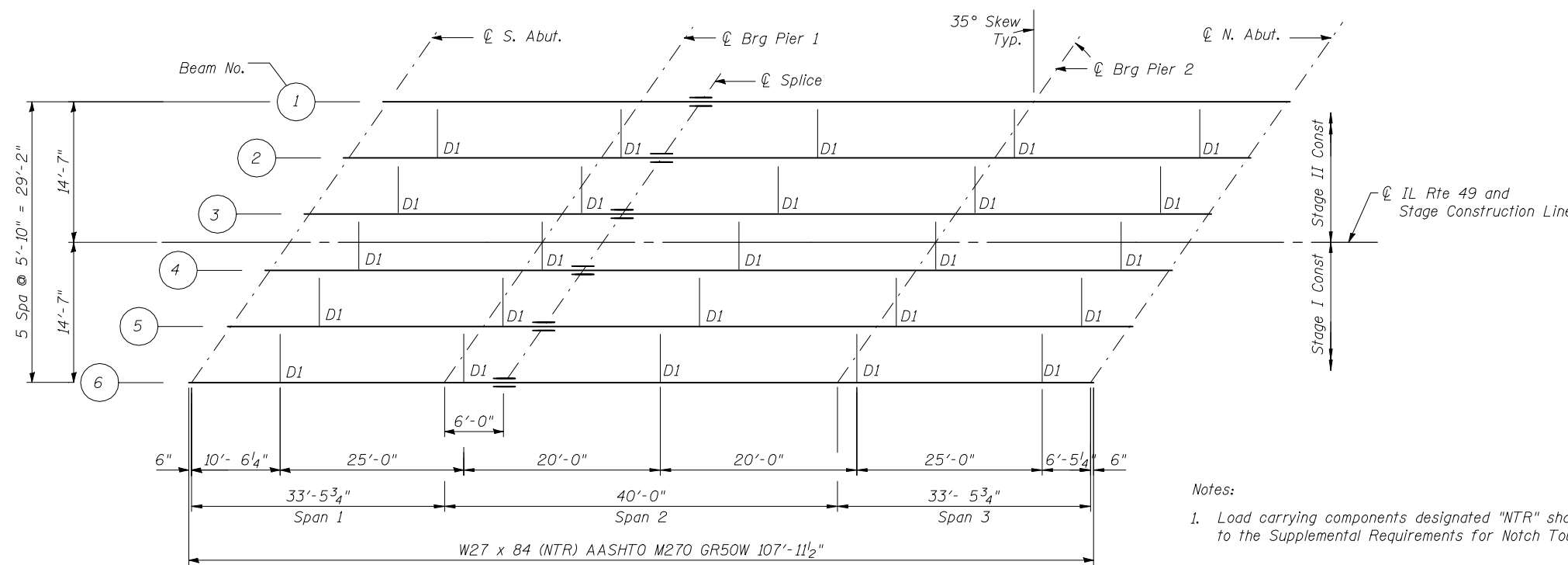
	Abut.	Pier
R _{DC1}	(k) 9.2	29.5
R _{DC2}	(k) 2.0	5.8
R _{DW}	(k) 3.7	10.6
R \ddot{L} + imp	(k) 57.2	72.5
R _{Total}	(k) 72.1	118.4

	S. Abut.	Q Pier 1	Q Splice	Q Pier 2	N. Abut.
Beam 1	678.46	678.46	678.46	678.44	678.43
Beam 2	678.57	678.57	678.57	678.56	678.55
Beam 3	678.65	678.65	678.65	678.65	678.65
Beam 4	678.65	678.65	678.65	678.65	678.65
Beam 5	678.55	678.55	678.55	678.56	678.57
Beam 6	678.43	678.43	678.43	678.46	678.48

* Before grinding according to Bridge Smoothness Specifications.



SECTION A-A



FRAMING PLAN

Notes:

- Load carrying components designated "NTR" shall conform to the Supplemental Requirements for Notch Toughness Zone 2.
- All cross frames or diaphragms shall be installed as steel is erected and secured with erection pins and bolts except as otherwise noted. Individual cross frames or diaphragms at supports may be temporarily disconnected to install bearing anchor rods.

NAME	DATE

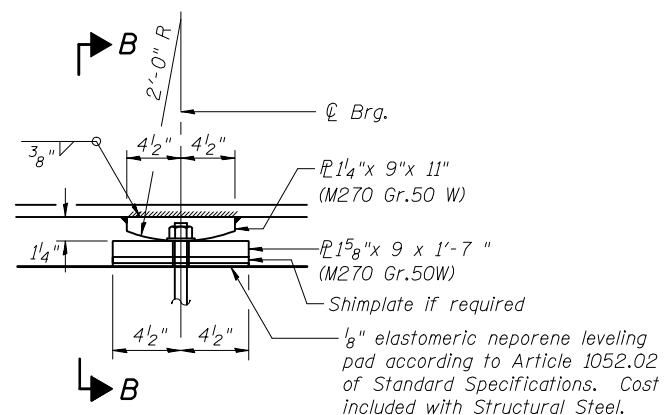
ILLINOIS DEPARTMENT OF TRANSPORTATION
FRAMING PLAN
IL RTE. 49 OVER LITTLE VERMILION RIVER
FAP 836 SECTION 118BR-2
CHAMPAIGN COUNTY
STA. 688+85 STR. NO. 010-0284

SCALE: VERT. _____
HORIZ. _____
DATE MAY 2008

DRAWN BY GEW
CHECKED BY MJS

TUG PROJ. # 3107012-01
PLOT DATE = 8/19/2008 4:10:02 PM
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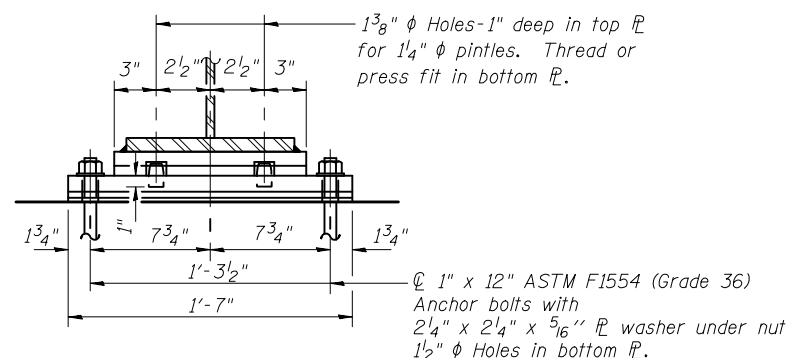
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAP 836	118 BR-2	Champaign	45	21
FED. ROAD DIST. NO. 5		ILLINOIS	FED. AID PROJECT-	



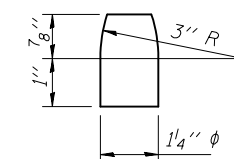
ELEVATION AT PIER

(12 Required)

FIXED BEARING



SECTION B-B



PINTLE

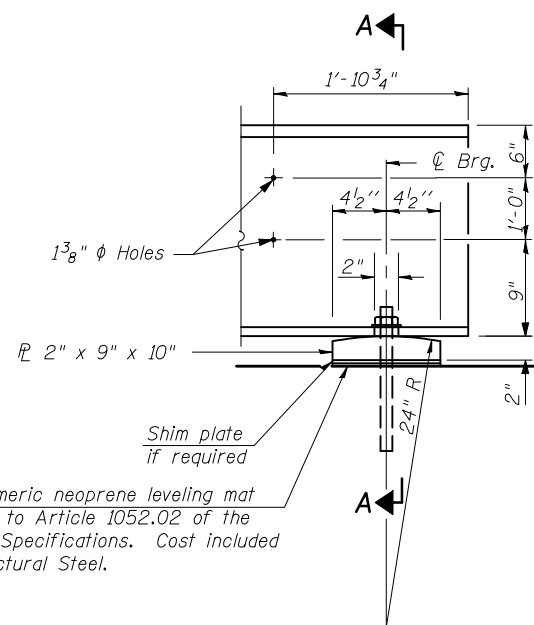
Notes:
Anchor bolts shall be ASTM F1554 all-thread (or an Engineer-approved alternate material) of the grade(s) and diameter(s) specified. ASTM A307 Grade C anchor bolts may be used in lieu of ASTM F1554 Grade 36 (Fy=36ksi). The corresponding specified grade of AASHTO M314 anchor bolts may be used in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

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

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

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

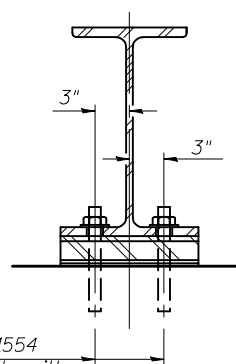
Load carrying components designated "NTR" shall conform to the Supplemental Requirements for Notch Toughness Zone 2.



ELEVATION AT ABUTMENT

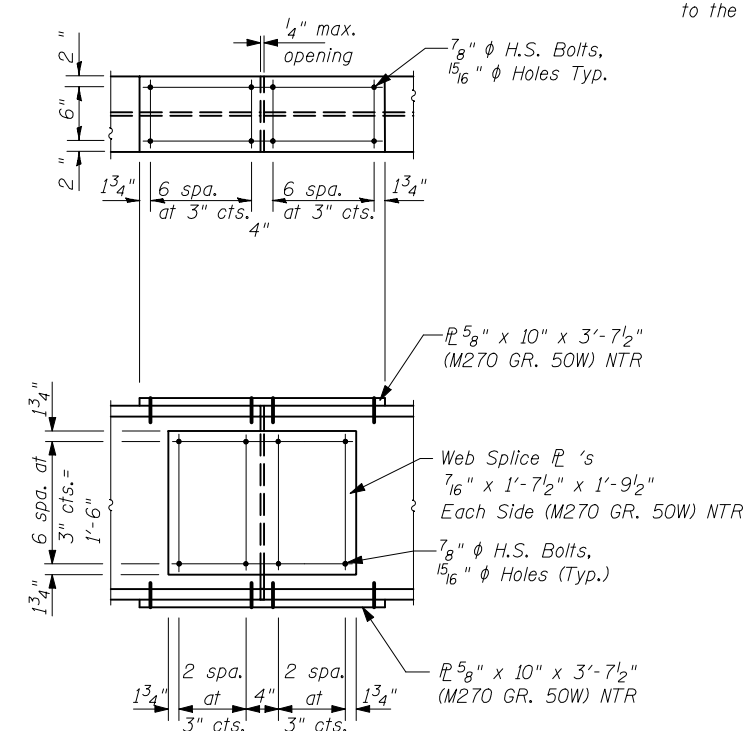
(12 - Required)

FIXED BEARING

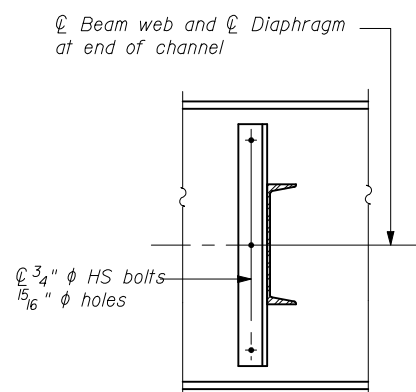


SECTION A-A

1" ϕ x 12" ASTM F1554 (Grade 36) Anchor bolts with 2 1/4" x 2 1/4" x 5/16" \mathbb{R} washer under nut. 1 3/8" x 2" slotted hole in flange. 1 1/2" ϕ holes in bearing plate. Contractor has the option of cast in place or drilled installation.

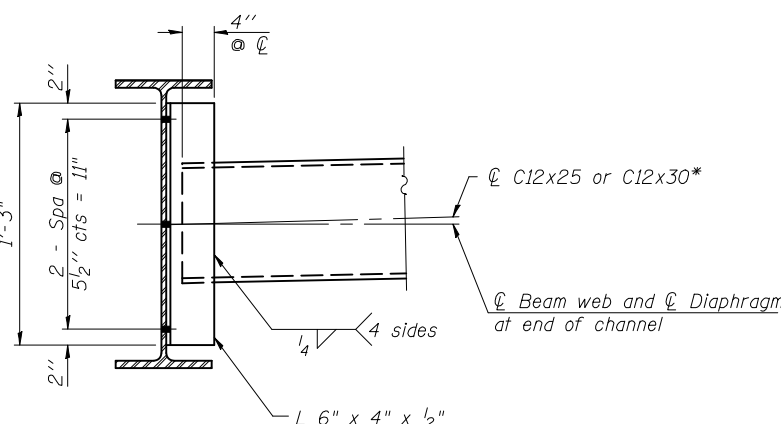


SPLICE DETAIL



INTERIOR DIAPHRAGM D1

(25 Required)



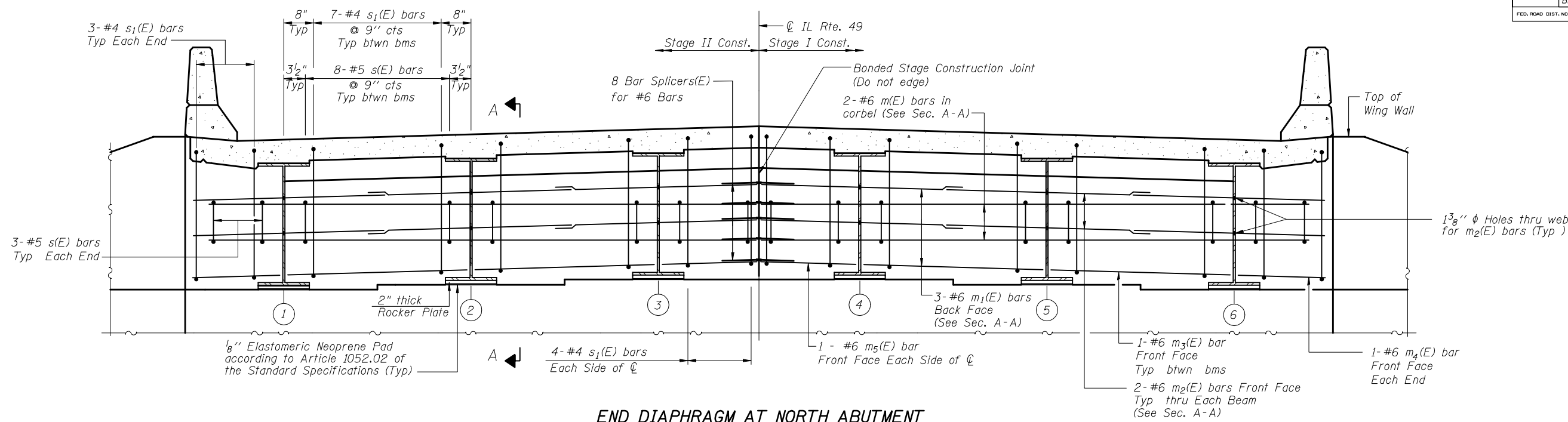
Note: Two hardened washers required for each set of oversized holes.

* Alternate channels are permitted to facilitate material acquisition. Calculated weight of structural steel is based on the lighter section.

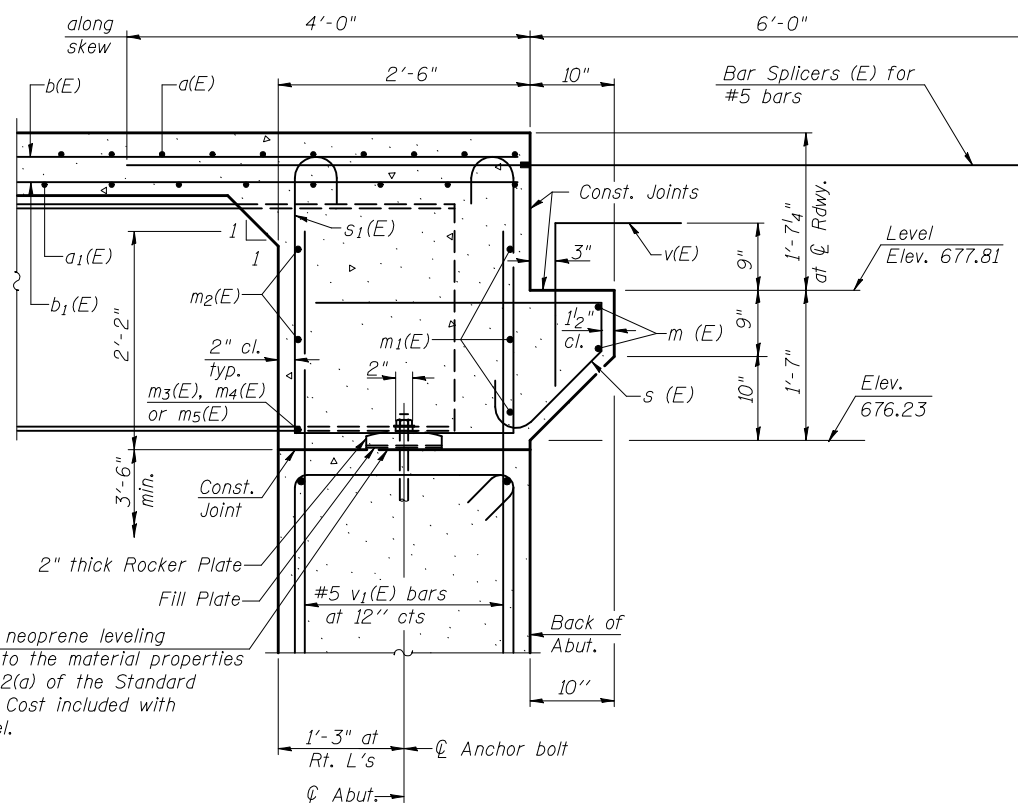
REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
BEARING AND STEEL DETAILS
IL RTE. 49 OVER LITTLE VERMILION RIVER
FAP 836 SECTION 118BR-2
CHAMPAIGN COUNTY
STA. 688+85 STR. NO. 010-0284
 SCALE: VERT. _____ HORIZ. _____
 DATE MAY 2008 DRAWN BY GEW
 CHECKED BY MJS

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	SHEET NO. 11 21 SHEETS
FAP 836	118 BR-2	Champaign	45	22	
FED. ROAD DIST. NO. 5	ILLINOIS	FED. AID PROJECT-			



END DIAPHRAGM AT NORTH ABUTMENT
 (Looking North)
 (South Abutment Similar)
 (Dimensions are perpendicular to ϕ Roadway)



SECTION A-A

Dimensions at right angles to abutment, except as shown.

Notes:

Reinforcement bars in diaphragm are billed with superstructure on sheet 8 of 21.

Concrete in diaphragm is included with Concrete Superstructure on sheet 8 of 21.

For details of bars s(E) & s₁(E) see sheet 8 of 21

The s(E) and s₁(E) bars shall be placed parallel to the beams. Spacing for these bars shall be at right angles to the beams.

For anchor bolt details see sheet 10 of 21.

Work this sheet with sheets 7 and 8 of 21.

Pour Abutment Diaphragms monolithically with Slab.

For Bar Splicer Details see Sheet 16 of 21.

MIN. BAR LAP

#6 bars = 2'-9"

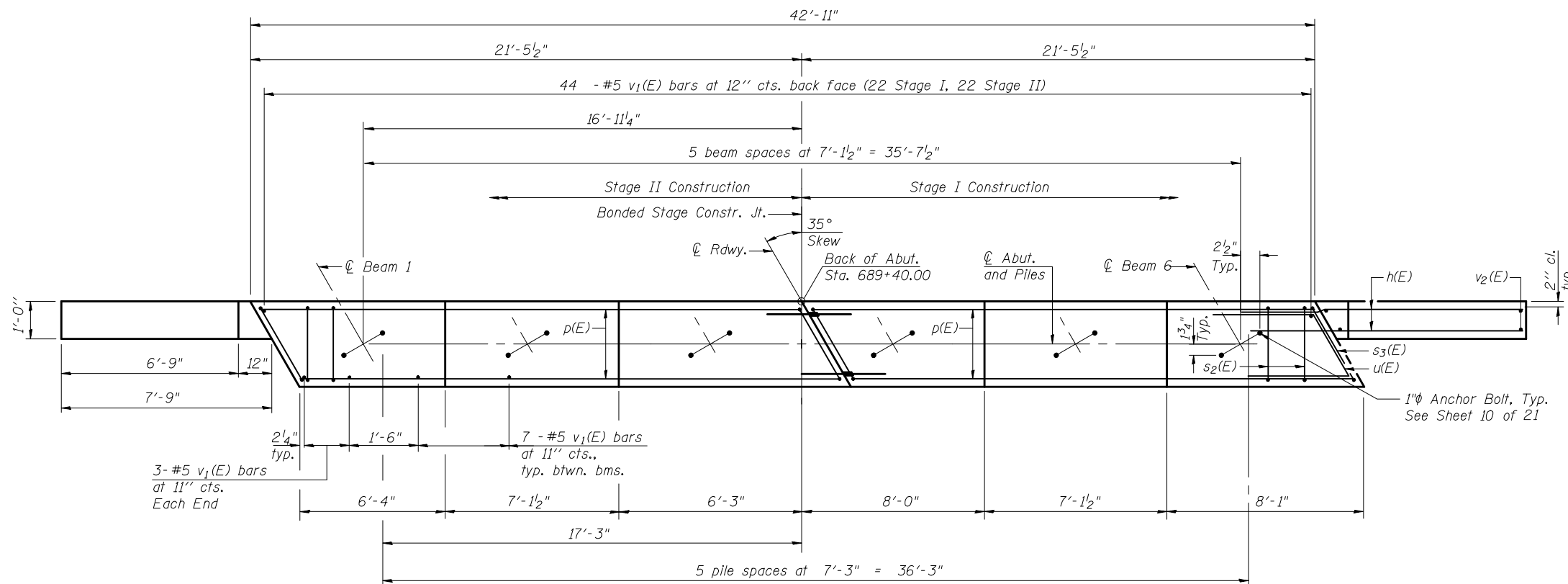
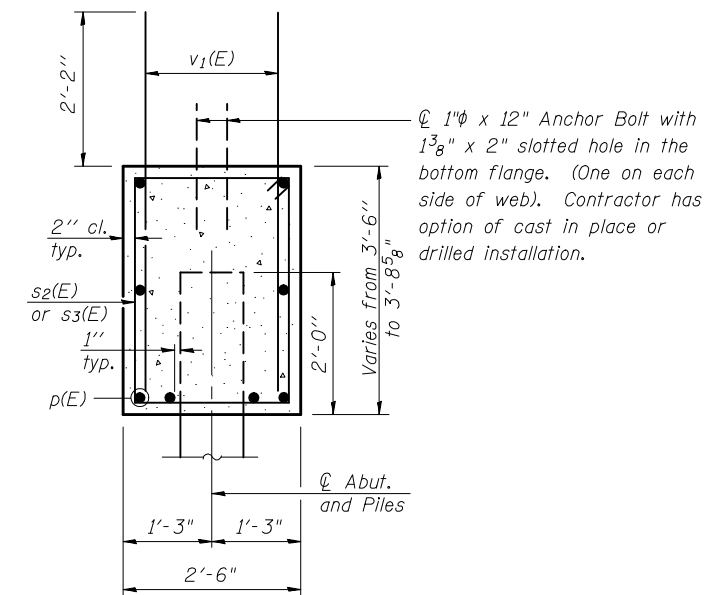
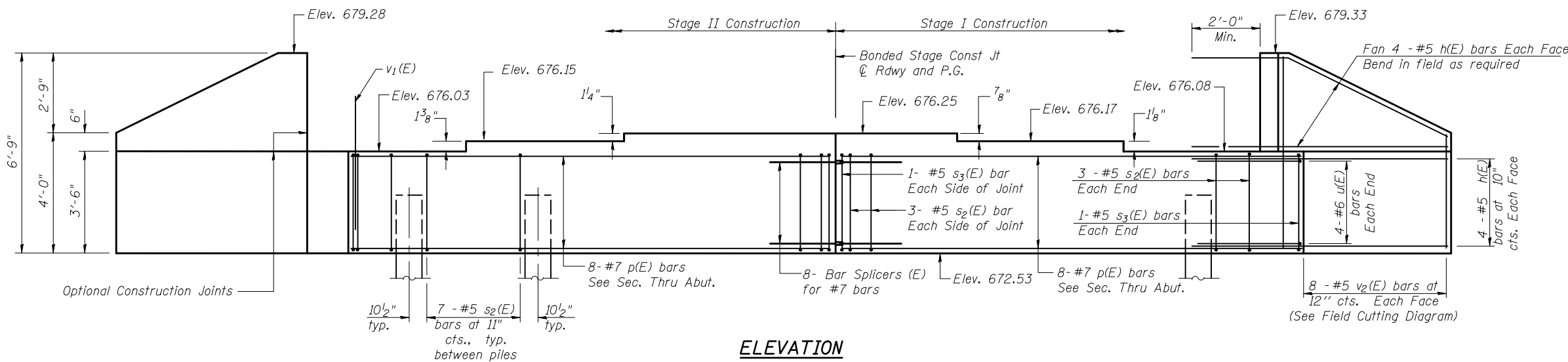
REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
END DIAPHRAGM DETAILS
IL RTE. 49 OVER LITTLE VERMILION RIVER
FAP 836 SECTION 118BR-2
CHAMPAIGN COUNTY
STA. 688+85 STR. NO. 010-0284
 SCALE: VERT. _____
 HORIZ. _____
 DATE MAY 2008
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ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAP 836	118 BR-2	Champaign	45	23
FED. ROAD DIST. NO. 5		ILLINOIS	FED. AID PROJECT	

SHEET NO. 12
21 SHEETS



BILL OF MATERIAL

Bar	No.	Size	Length	Shape
h(E)	32	#5	10'-0"	—
p(E)	16	#7	21'-0"	—
s ₂ (E)	40	#5	11'-7"	□
s ₃ (E)	4	#5	12'-7"	□
u(E)	8	#6	10'-6"	┘
v ₁ (E)	85	#5	4'-4"	—
v ₂ (E)	16	#5	10'-1"	—
Concrete Structures		Cu. Yd.	17.3	
Reinforcement Bars, Epoxy Coated		Pound	2235	
Structure Excavation		Cu. Yd.	114	
Furnishing Metal Shell Piles 14"x0.250"		Ft	155	
Driving Piles		Ft	155	
Test Pile, Metal Shells		Each	1	

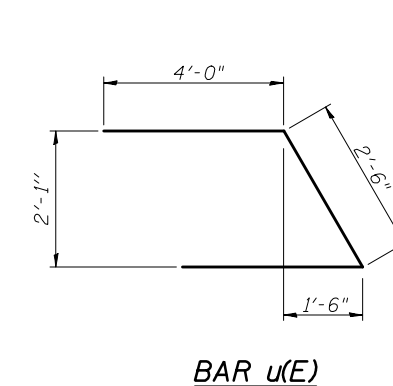
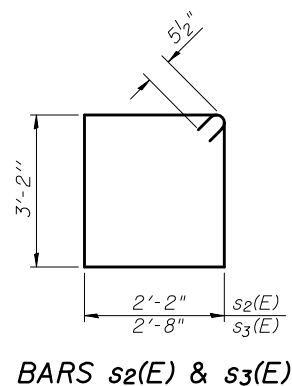
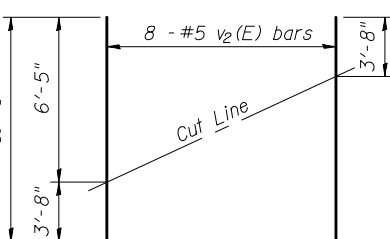
For details of Bar Splicers, see sheet 16 of 21.
For details of piles, see sheet 18 of 21.

All edges to have 3/4" chamfer except as noted.
Pour steps monolithically with cap.
Space reinforcement to miss anchor bolts.

PILE DATA

Type: Metal Shell Pile, 14" x 0.250"
Nominal Required Bearing: 240 kips
Factored Resistance Available: 120 kips
Est. Length: 31 ft.
No. Production Piles: 5
No. Test Piles: 1

FIELD CUTTING DIAGRAM



REVISIONS	
NAME	DATE

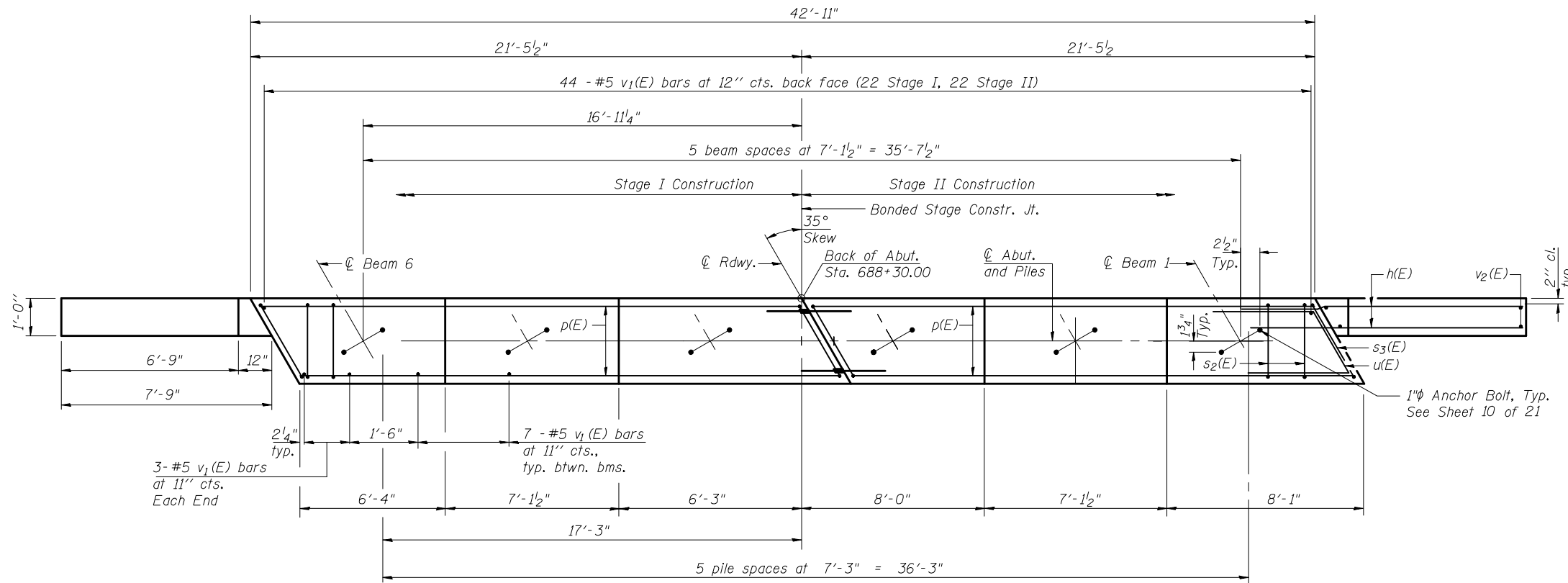
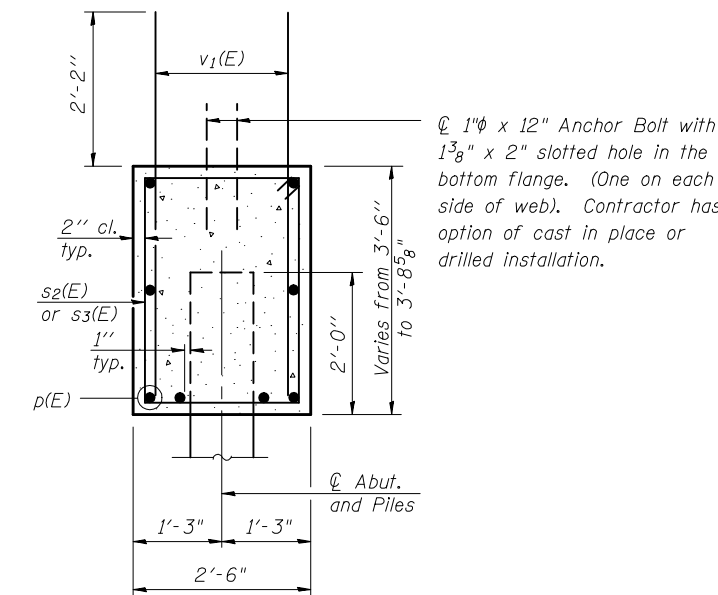
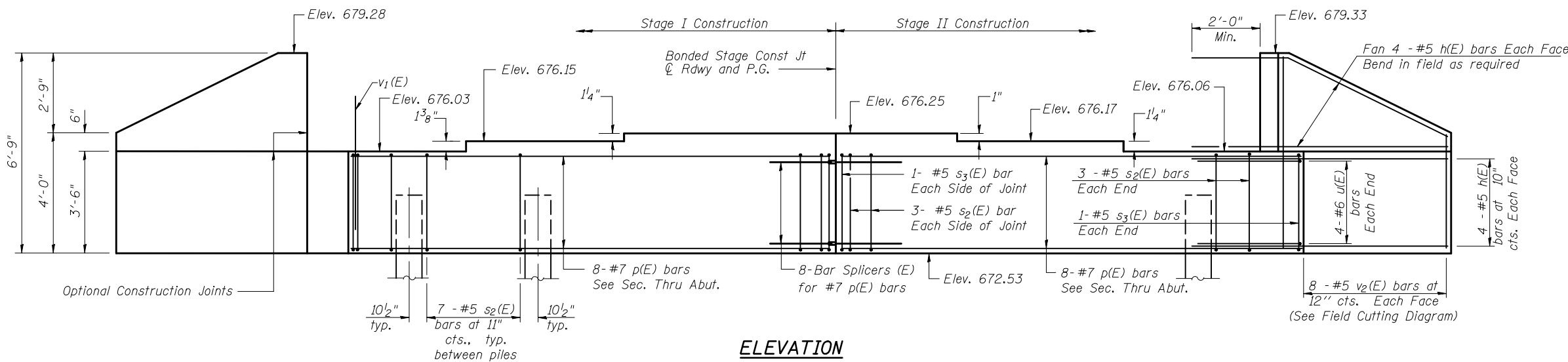
ILLINOIS DEPARTMENT OF TRANSPORTATION
NORTH ABUTMENT DETAILS
IL RTE. 49 OVER LITTLE VERMILION RIVER
FAP 836 SECTION 118BR-2
CHAMPAIGN COUNTY
STA. 688+85 STR. NO. 010-0284

SCALE: VERT. HORIZ.
DATE MAY 2008

DRAWN BY RMH
CHECKED BY MJS

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAP 836	118 BR-2	Champaign	45	24
FED. ROAD DIST. NO. 5		ILLINOIS	FED. AID PROJECT-	

SHEET NO. 13
21 SHEETS



BILL OF MATERIAL

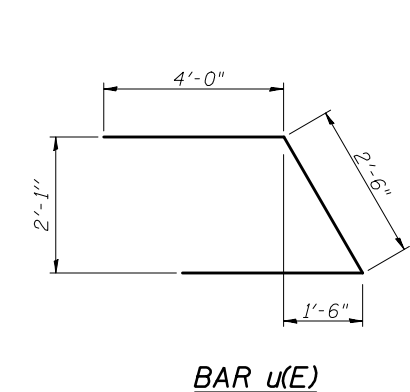
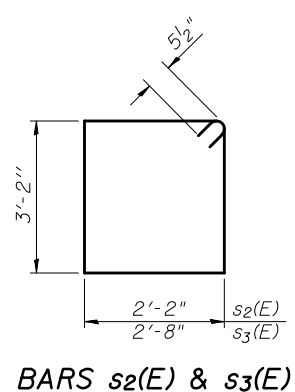
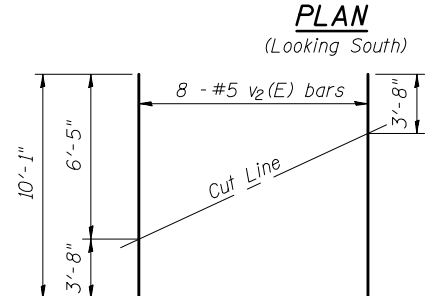
Bar	No.	Size	Length	Shape
h(E)	32	#5	10'-0"	—
p(E)	16	#7	21'-0"	—
s ₂ (E)	40	#5	11'-7"	□
s ₃ (E)	4	#5	12'-7"	□
u(E)	8	#6	10'-6"	┘
v ₁ (E)	85	#5	4'-4"	—
v ₂ (E)	16	#5	10'-1"	—
Concrete Structures		Cu. Yd.	17.3	
Reinforcement Bars, Epoxy Coated		Pound	2235	
Structure Excavation		Cu. Yd.	114	
Furnishing Metal Shell Piles 14"x0.250"		Ft	162	
Driving Piles		Ft	162	

For details of Bar Splicers, see sheet 16 of 21.
For details of piles, see sheet 18 of 21.

All edges to have 3/4" chamfer except as noted.
Pour steps monolithically with cap.
Space reinforcement to miss anchor bolts.

PILE DATA

Type: Metal Shell Pile, 14" x 0.250"
Nominal Required Bearing: 240 kips
Factored Resistance Available: 120 kips
Est. Length: 27 ft.
No. Production Piles: 6



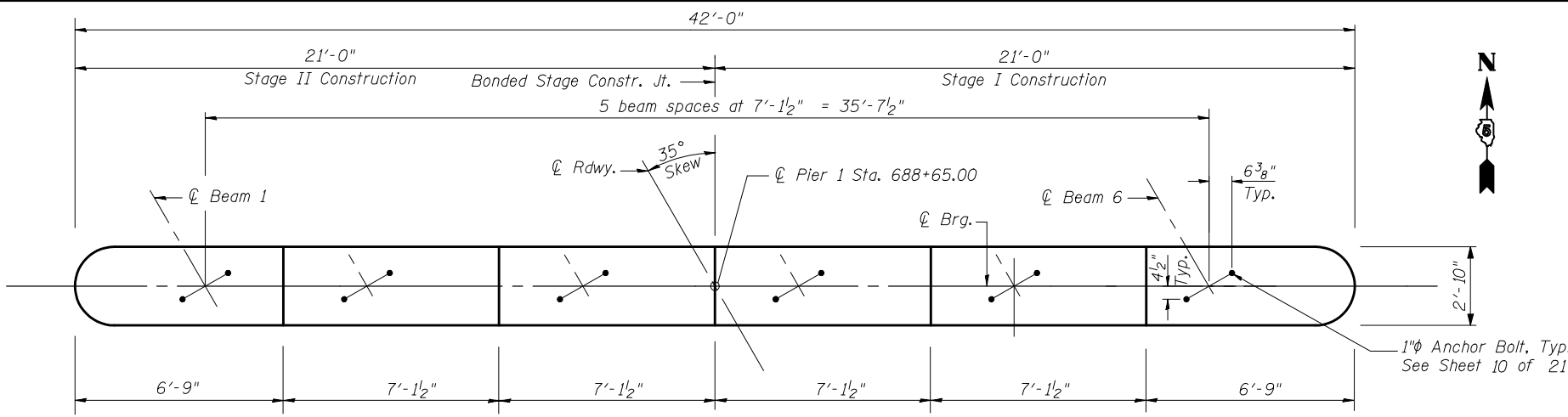
REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
SOUTH ABUTMENT DETAILS
IL RTE. 49 OVER LITTLE VERMILION RIVER
FAP 836 SECTION 118BR-2
CHAMPAIGN COUNTY
STA. 688+85 STR. NO. 010-0284

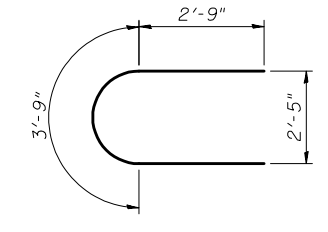
SCALE: VERT. HORIZ.
DATE MAY 2008

DRAWN BY RMH
CHECKED BY MJS

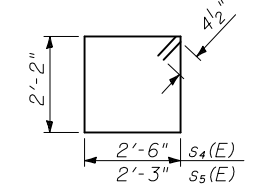
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FED. ROAD DIST. NO. 5	ILLINOIS	FED. AID PROJECT-			



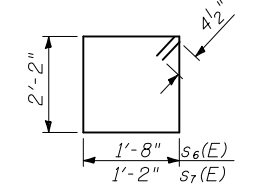
TOP PLAN



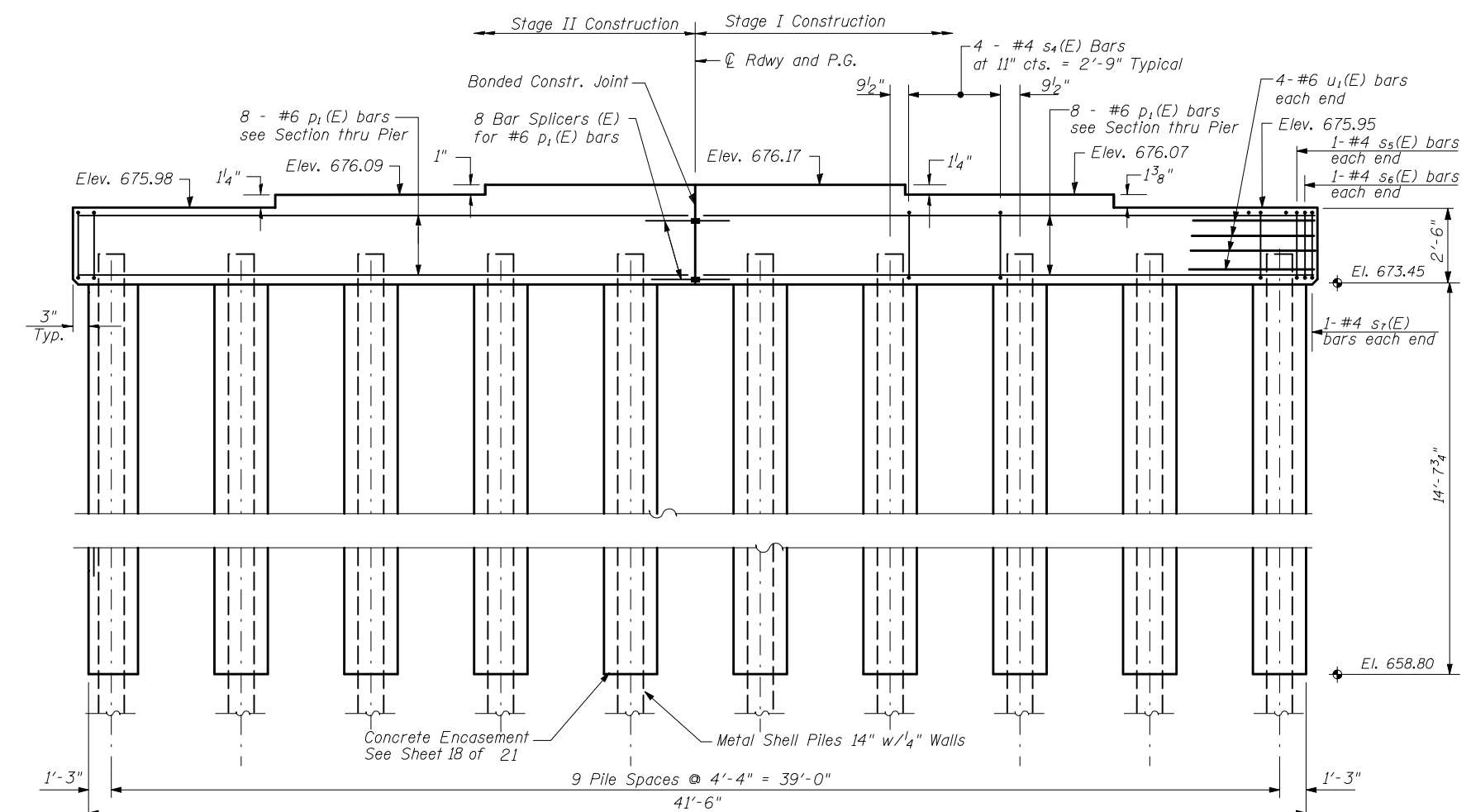
BAR u₁(E)



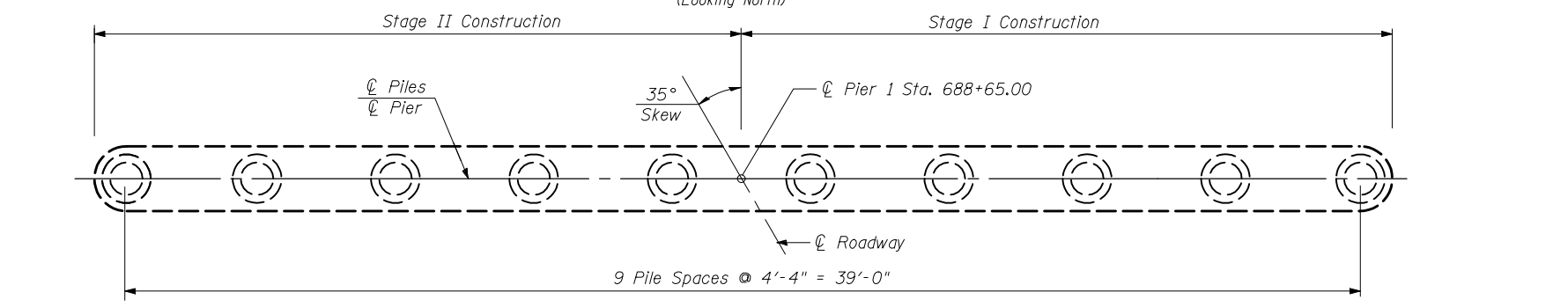
BAR s₄(E), s₅(E)



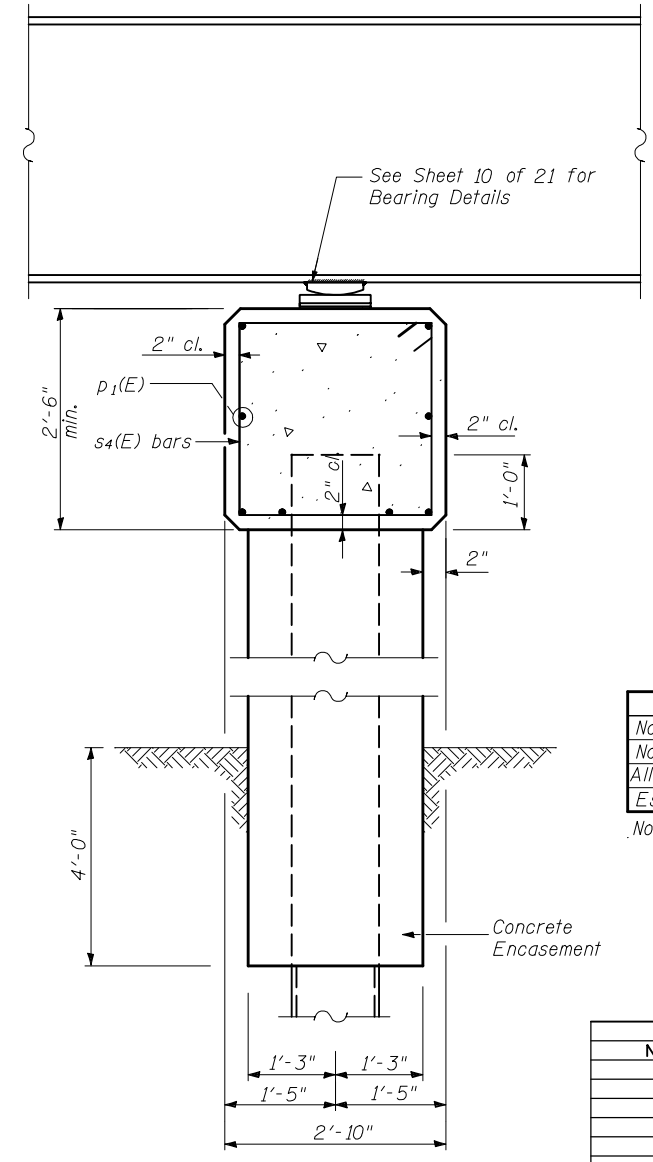
BAR s₆(E), s₇(E)



ELEVATION
(Looking North)



PILE LAYOUT



SECTION THRU PIER

BILL OF MATERIAL

PIER 1				
Bar	No.	Size	Length	Shape
p ₁ (E)	16	#6	19'-5"	—
s ₄ (E)	36	#4	10'-1"	□
s ₅ (E)	2	#4	9'-7"	□
s ₆ (E)	2	#4	8'-5"	□
s ₇ (E)	2	#4	7'-5"	□
u ₁ (E)	8	#6	9'-3"	U
Concrete Structures			Cu.Yd.	11.3
Reinforcement Bars, Epoxy Coated			Lbs.	855
Furnishing Metal Shell Piles, 14 in. x 0.250"			Ft.	387
Driving Piles			Ft.	387
Test Pile Metal Shells			Each	1
Concrete Encasement			Cu.Yd.	26.4
Underwater Structure Excavation Protection Location 1			Each	1

PILE DATA

Type & Size	Metal Shell 14 in. dia. x 0.250 in. walls
No. Required	9+1 Test Pile
Nominal Required Bearing	220 Kips
Allowable Resistance Available	110 Kips
Est. Length Pier 1	43 Ft.

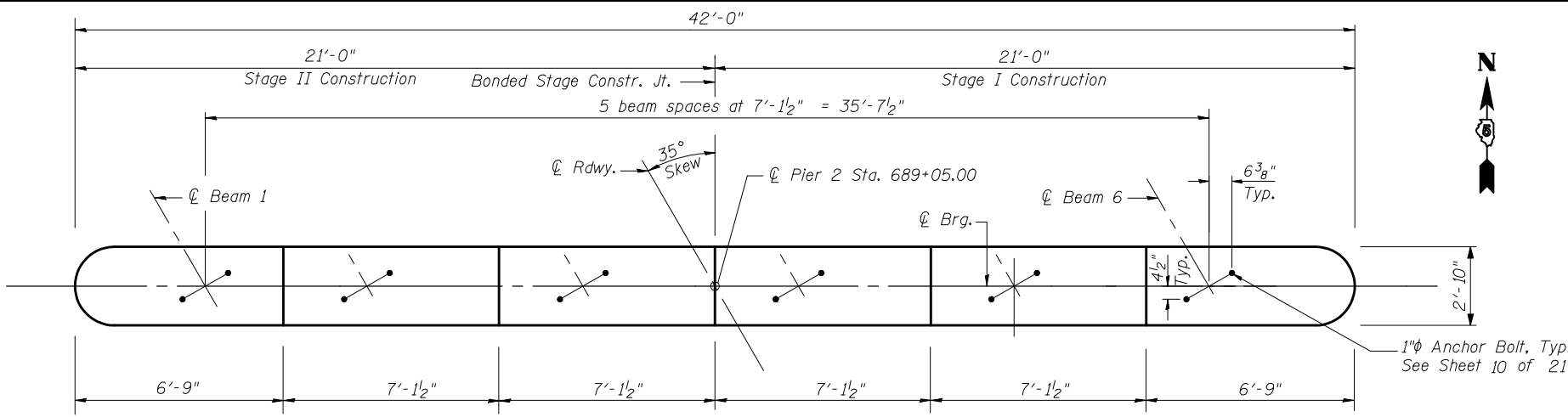
Note: Do not overdrive Piles

REVISIONS	
NAME	DATE

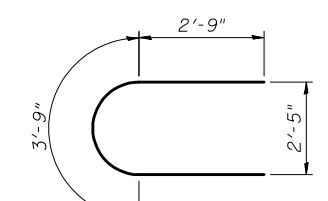
ILLINOIS DEPARTMENT OF TRANSPORTATION
PIER 1 DETAILS
 IL RTE. 49 OVER LITTLE VERMILION RIVER
 FAP 836 SECTION 118BR-2
 CHAMPAIGN COUNTY
 STA. 688+85 STR. NO. 010-0284
 SCALE: VERT. _____
 HORIZ. _____
 DATE MAY 2008
 DRAWN BY GEW
 CHECKED BY MJS

TUG PROJ. # 3107012-01
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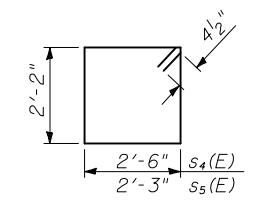
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FAP 836	118 BR-2	Champaign	45	26	
FED. ROAD DIST. NO. 5	ILLINOIS	FED. AID PROJECT-			



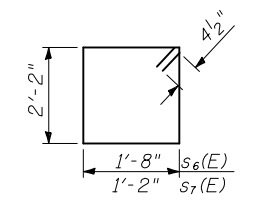
TOP PLAN



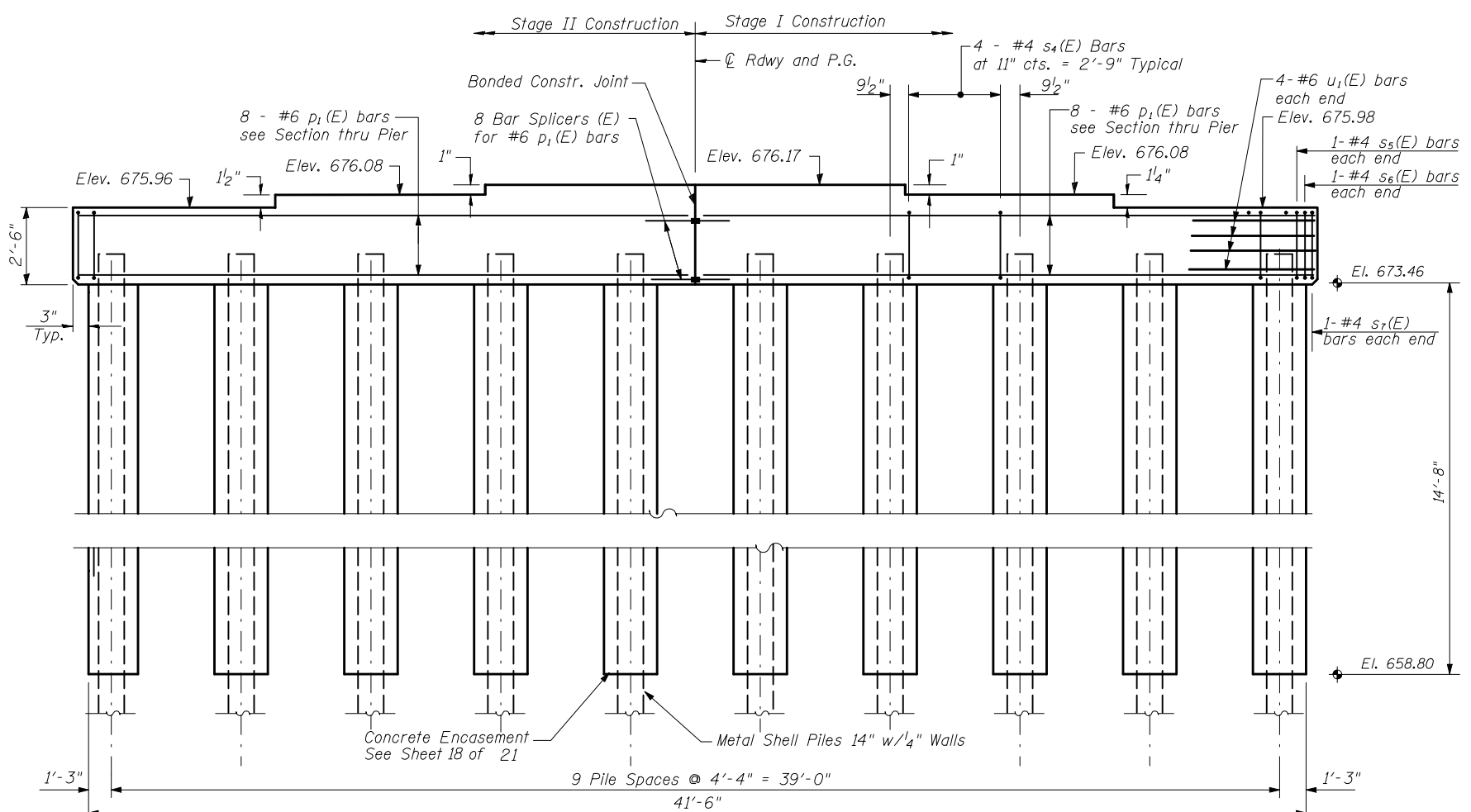
BAR u₁(E)



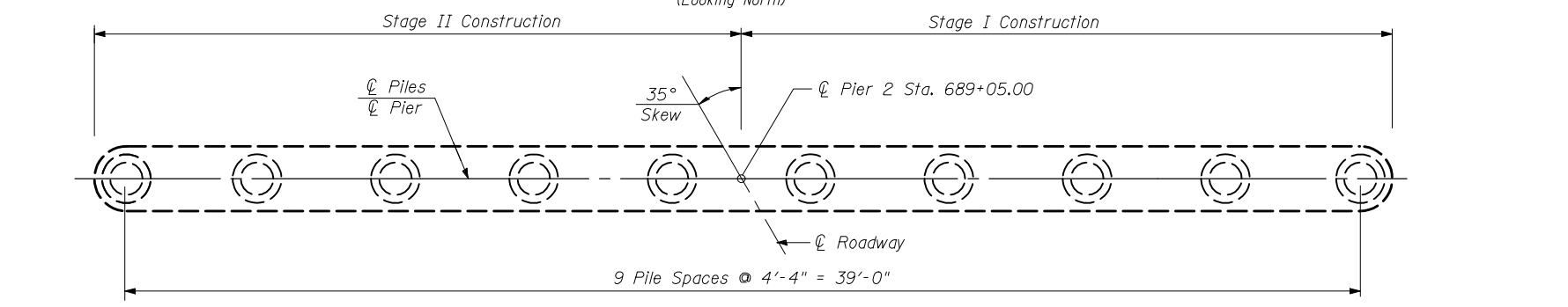
BAR s₄(E), s₅(E)



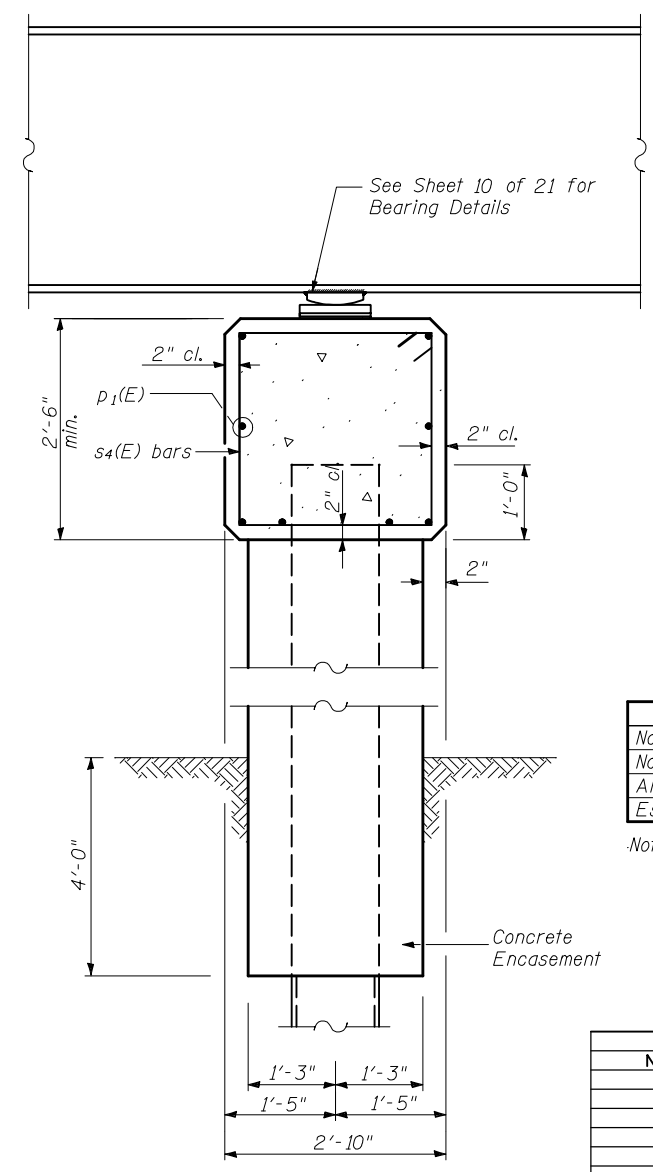
BAR s₆(E), s₇(E)



ELEVATION
(Looking North)



PILE LAYOUT



SECTION THRU PIER

BILL OF MATERIAL

PIER 2				
Bar	No.	Size	Length	Shape
p ₁ (E)	16	#6	19'-5"	—
s ₄ (E)	36	#4	10'-1"	□
s ₅ (E)	2	#4	9'-7"	□
s ₆ (E)	2	#4	8'-5"	□
s ₇ (E)	2	#4	7'-5"	□
u ₁ (E)	8	#6	9'-3"	U
Concrete Structures			Cu.Yd.	11.3
Reinforcement Bars, Epoxy Coated			Lbs.	855
Furnishing Metal Shell Piles, 14 in. x 0.250"			Ft.	460
Driving Piles			Ft.	460
Concrete Encasement			Cu.Yd.	26.4
Underwater Structure Excavation Protection Location 2			Each	1

PILE DATA

Type & Size	Metal Shell 14 in. dia. x 0.250 in. walls
No. Required	10
Nominal Required Bearing	220 Kips
Allowable Resistance Available	110 Kips
Est. Length Pier 2	46 Ft.

Note: Do not overdrive Piles

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
PIER 2 DETAILS
 IL RTE. 49 OVER LITTLE VERMILION RIVER
 FAP 836 SECTION 118BR-2
 CHAMPAIGN COUNTY
 STA. 688+85 STR. NO. 010-0284
 SCALE: VERT. _____
 HORIZ. _____
 DATE MAY 2008
 DRAWN BY GEW
 CHECKED BY MJS

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ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	SHEET NO. 16 21 SHEETS
FAP 836	118 BR-2	Champaign	45	27	
FED. ROAD DIST. NO. 5	ILLINOIS	FED. AID PROJECT-			

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.

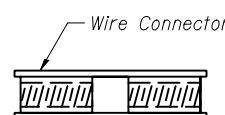
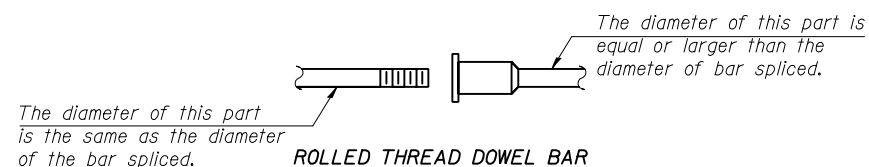
Bar splicer assemblies shall be epoxy coated according to the requirements for reinforcement bars.

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) = $0.66 \times f_y \times A_t$

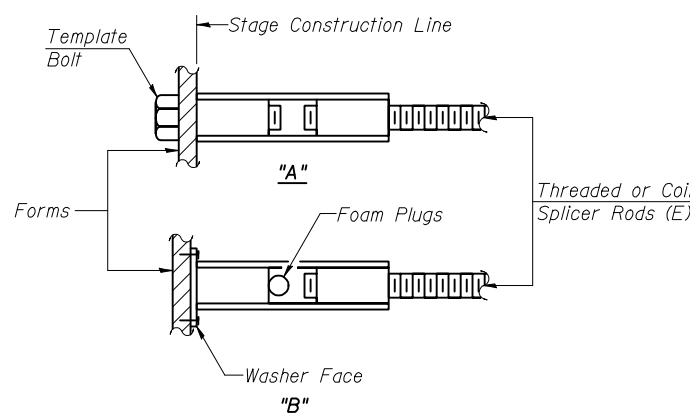
Where f_y = Yield strength of lapped reinforcement bars in ksi.
 A_t = Tensile stress area of lapped reinforcement bars.
 * = 28 day concrete

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	7.9
#5	2'-0"	23.0	12.3
#6	2'-7"	33.1	17.4
#7	3'-5"	45.1	23.8
#8	4'-6"	58.9	31.3
#9	5'-9"	75.0	39.6
#10	7'-3"	95.0	50.3
#11	9'-0"	117.4	61.8



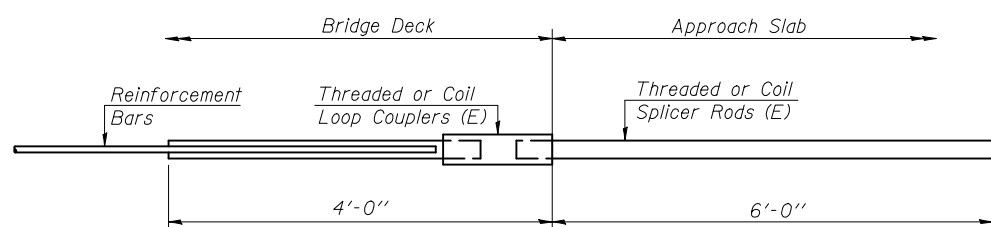
BAR SPLICER ASSEMBLY ALTERNATIVES

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



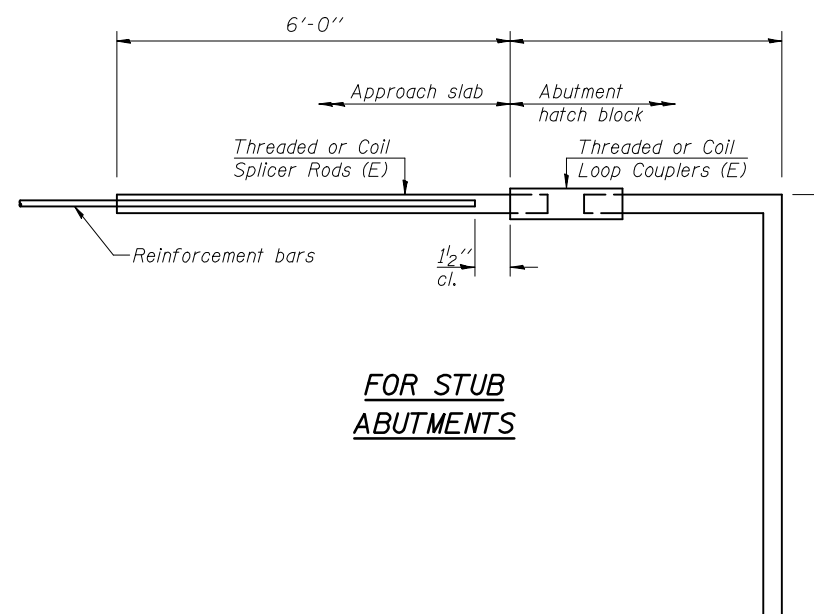
INSTALLATION AND SETTING METHODS

"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.



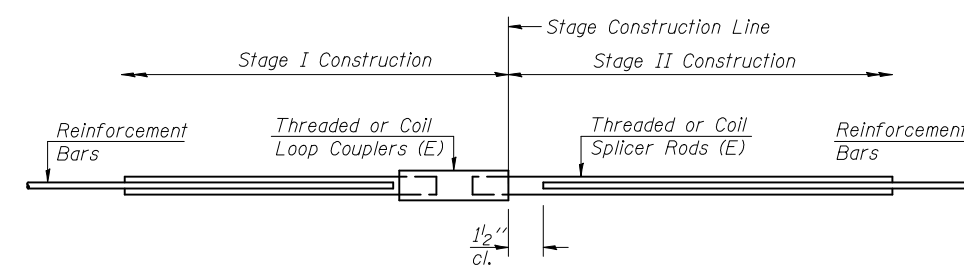
FOR INTEGRAL OR SEMI-INTEGRAL ABUTMENTS

Bar Splicer for #5 bar
Min. Capacity = 23.0 kips - tension
Min. Pull-out Strength = 12.3 kips - tension
No. Required = 64



FOR STUB ABUTMENTS

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



STANDARD

Bar Size	No. Assemblies Required	Location
#5	316	Deck
#6	4	Deck
#6	16	End Diaphragm
#7	16	Abutments
#6	16	Piers

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
BAR SPLICER ASSEMBLY DETAILS
 IL RTE. 49 OVER LITTLE VERMILION RIVER
 FAP 836 SECTION 118BR-2
 CHAMPAIGN COUNTY
 STA. 688+85 STR. NO. 010-0284

SCALE: VERT. _____
 HORIZ. _____
 DATE MAY 2008

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 CHECKED BY MJS

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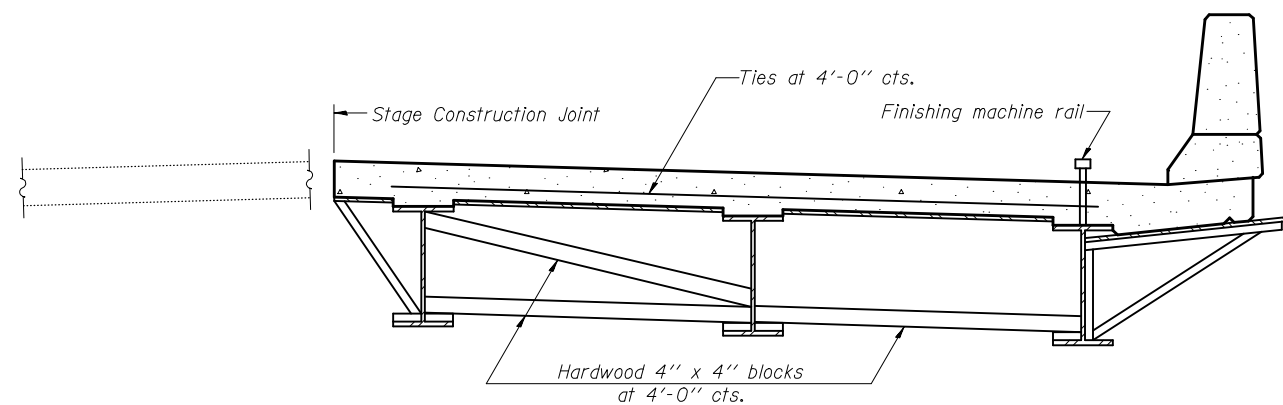
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAP 836	118 BR-2	Champaign	45	28
FED. ROAD DIST. NO. 5	ILLINOIS	FED. AID PROJECT		

When cantilever forming brackets are used, the work shall be done according to Article 503.06(b) of the Standard Specifications, except as modified below and in the details shown on this sheet.

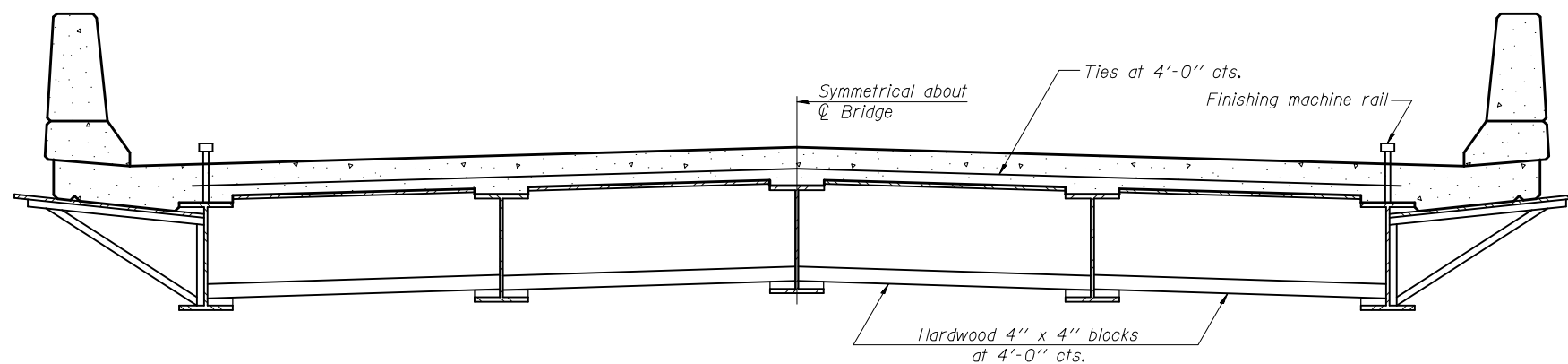
The finishing machine rails shall be placed on the top flange of the exterior beams.

The beams or girders, supporting cantilever forming brackets, shall be tied together at 4 foot intervals.

For Standard construction, or Stage Construction the Hardwood bracing materials shall be placed as shown between webs of beams in each bay.



**FORM BRACES FOR
STAGE CONSTRUCTION**



**FORM BRACES FOR
STANDARD CONSTRUCTION**

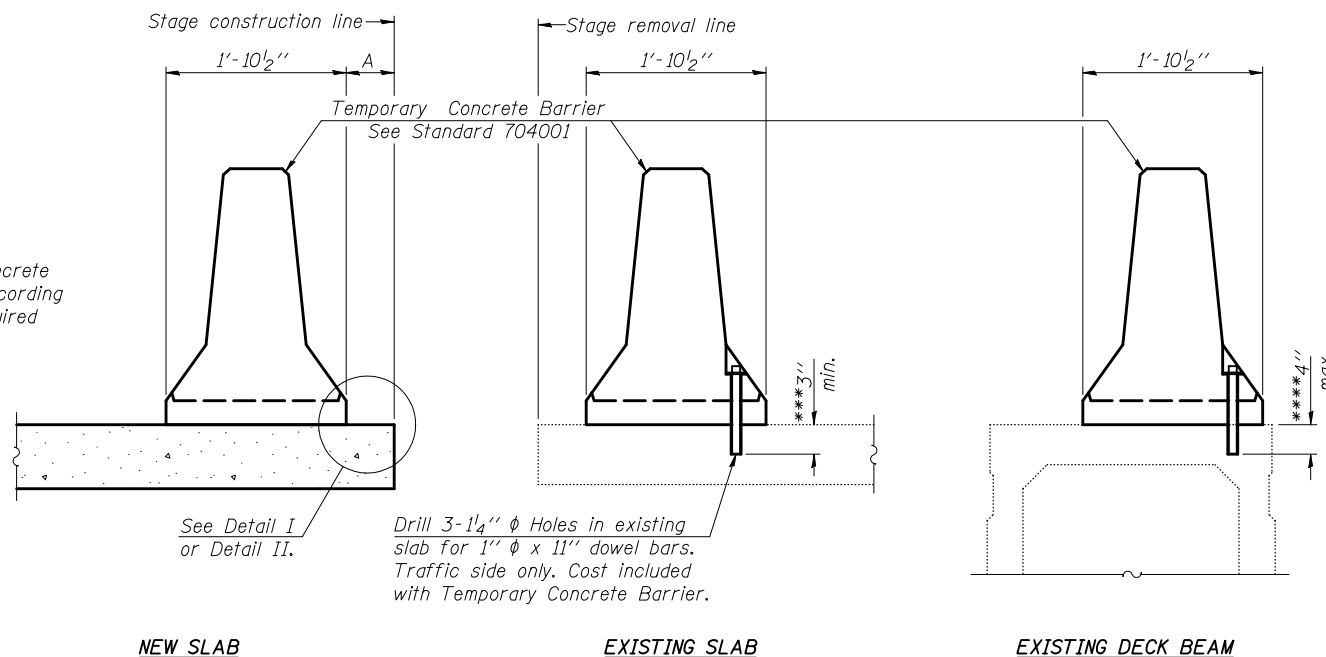
REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
CANTILEVER FORMING BRACKETS
IL RTE. 49 OVER LITTLE VERMILION RIVER
FAP 836 SECTION 118BR-2
CHAMPAIGN COUNTY
STA. 688+85 STR. NO. 010-0284
 SCALE: VERT. DRAWN BY GEW
 HORIZ. CHECKED BY MJS
 DATE MAY 2008

TUG PROJ. # 3107012-01
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ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAP 836	118 BR-2	Champaign	45	30
FED. ROAD DIST. NO. 5	ILLINOIS	FED. AID PROJECT		

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".

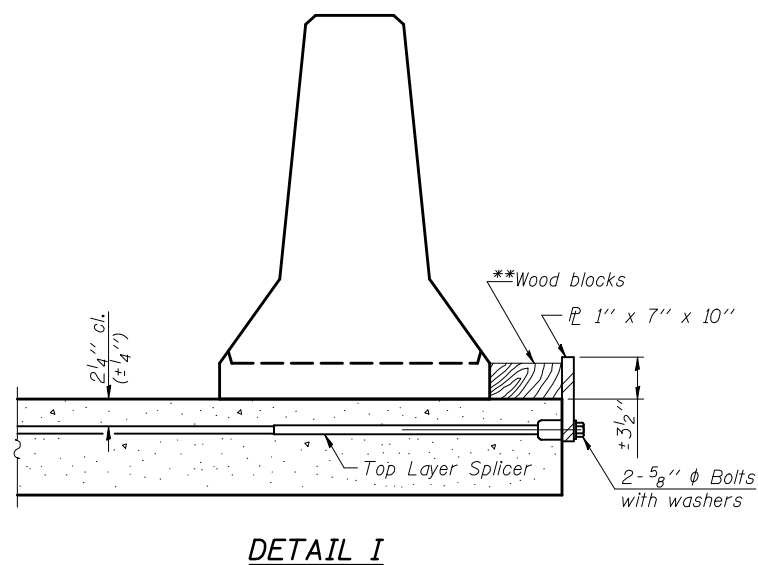


NOTES

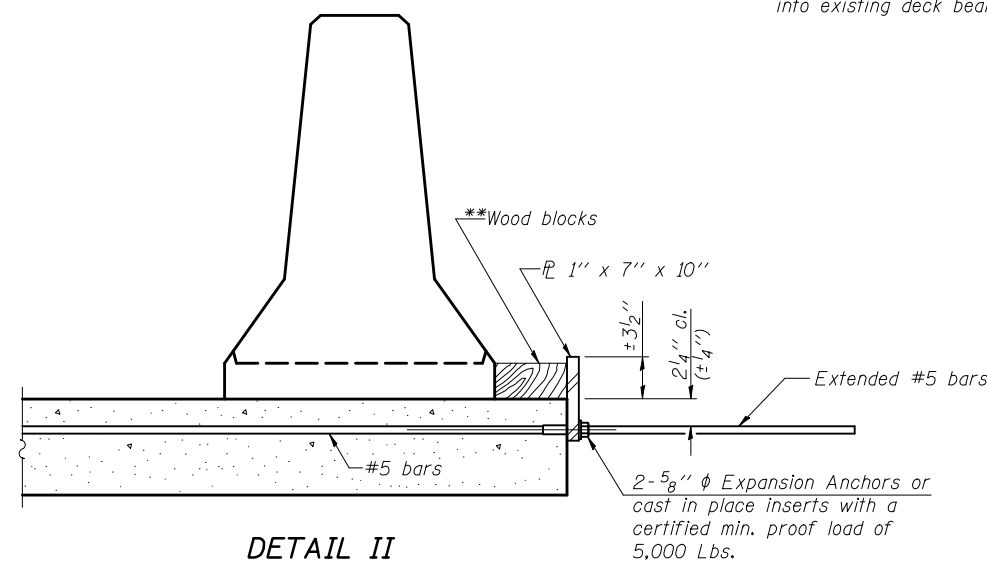
- Detail I - With Bar Splicer or Couplers:
Connect one (1) 1"x7"x10" steel PL to the top layer of couplers with 2-5/8" φ bolts screwed to coupler at approximate C of each barrier panel.
 - Detail II - With Extended Reinforcement Bars:
Connect one (1) 1"x7"x10" steel PL to the concrete slab or concrete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

SECTIONS THRU SLAB OR DECK BEAM

- ***Dimension shown is minimum required embedment into concrete. If hot-mix asphalt wearing surface is present, minimum embedment shall be in addition to wearing surface depth.
- ***If existing deck beam is to remain in place after stage construction, embedment shall only be into wearing surface and not into existing deck beam concrete.

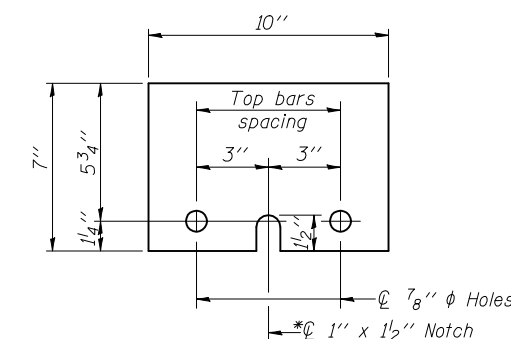


DETAIL I



DETAIL II

**Wood blocks may be omitted when required to provide minimum stage traffic lane width. When the wood blocks are omitted, the concrete barrier shall be in direct contact with the steel retainer plate.



STEEL RETAINER PL 1" x 7" x 10"

* Required only with Detail II

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
TEMPORARY CONCRETE BARRIER
 IL RTE. 49 OVER LITTLE VERMILION RIVER
 FAP 836 SECTION 118BR-2
 CHAMPAIGN COUNTY
 STA. 688+85 STR. NO. 010-0284

SCALE: VERT. _____
 HORIZ. _____
 DATE MAY 2008

DRAWN BY GEW
 CHECKED BY MJS

B.M. Sq. in top S.E. wall 15' Rt Sta. 688+42 Elev. 678.25
 Exist. Structure Built 1928 as 3B1 49 Sec. 11B.B
 Sta. 688+85 R.C. thru Girder, Closed Conc. Abut.

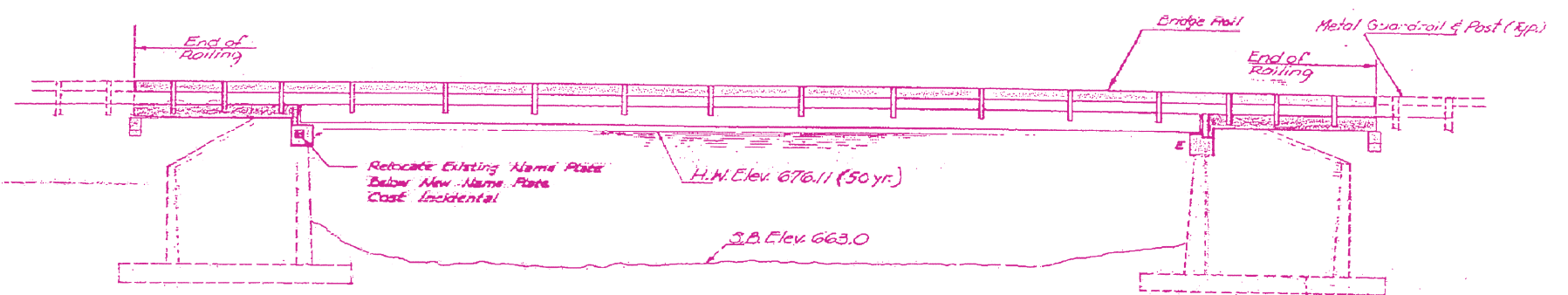
STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

PROJECT NO.	DISTRICT	COUNTY	TOTAL SHEETS	SHEET NO.
118BR-1	183R-1	CHAMPAIGN	24	14

6 SHEETS

GENERAL NOTES

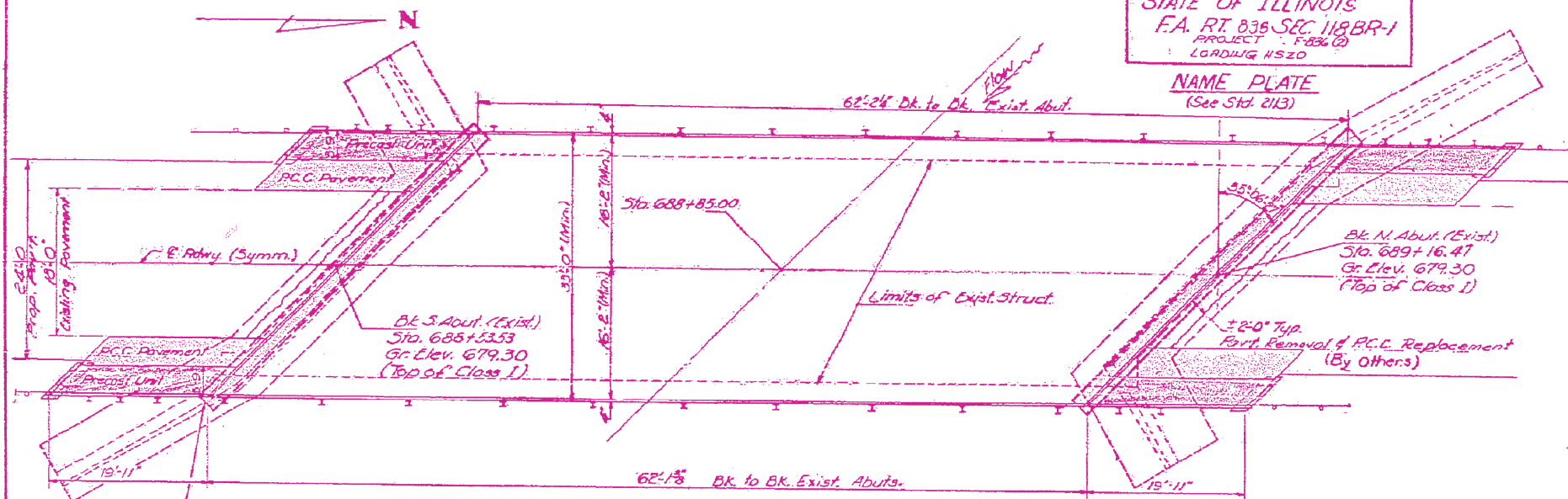
All reinforcement bars shall be lapped 24 diameters unless otherwise shown.
 It shall be the responsibility of the Contractor to verify all dimensions and conditions existing in the field prior to construction and ordering of materials.
 All structural steel shall be shop painted with two coats of basic lead silico chromate paint.
 Expansion bolts shall consist of self drilling expansion anchors and 3/4" hooked bolts.
 The top surface of the beams shall be finished in accordance with Article 505.06 of the Standard Specifications except that the surface shall not be roughened by brooming. The finished surface shall be free of depressions or high spots with sharp corners.
 Expansion guards which are not cast in the precast unit shall be fabricated and erected in accordance with Article 503.07(c) of the Standard Specifications and are included in quantity of structural steel.
 Shoulder transition to wingwall shall be shaped with broken concrete. Cost incidental.
 Limits of Waterproofing Membrane System shall be back to back of abutments and out to out of deck, except as shown.
 Hooked bolts shall extend a minimum of 12" into new concrete as shown on sheet 9.



ELEVATION

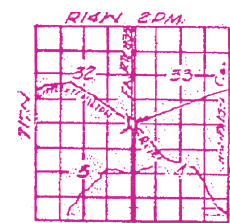
STATION 688+8500
 REBUILT 19 BY
 STATE OF ILLINOIS
 F.A. RT. 836 SEC. 11B BR-1
 PROJECT - F-836 (2)
 LOADING HS20

NAME PLATE
 (See Std. 213)



PLAN

Relocate Existing Name Plate Below New Name Plate This Location - Cost Incidental



LOCATION SKETCH

PROP. PROFILE GRADE
 F.A. RTE. 836
 (Top of Class I)

DESIGN STRESSES

FIELD UNITS	PRECAST PRESTR. UNITS	PRECAST UNITS
$f_c = 1400$ psi (super)	$f_c = 5000$ psi	$f_c = 4500$ psi
$f_c = 1000$ psi (sub)	$f_{ci} = 4000$ psi	$f_c = 1800$ psi
$f_s = 20,000$ psi (road)	$f_s = 27,000$ psi	$f_s = 20,000$ psi
$v_c = 75$ psi (footing)	$f_{ci} = 189,700$ psi	$n = 8$
$n = 10$		

LOADING HS 20-44

TOTAL BILL OF MATERIAL

Items	Unit	Super	Sub.	Total
Bituminous Concrete Binder Course	Tons	24		24
Portland Cement Mortar Facing Course	Lin. Ft.	618		618
Bituminous Concrete Surface Course Class I	Tons	16		16
Portland Cement Concrete Pavement (10")	Sq. Yds.	33		33
Pavement Fabric	Sq. Yds.	33		33
Concrete Removal	Cu. Yds.		10	10
Expansion Bolts (3/4")	Each	48	42	90
Class X Concrete	Cu. Yds.	0.9	27.5	28.4
Precast Concrete Bridge Slab	Sq. Ft.	279		279
Precast Prestressed Concrete Deck Beams (2TD)	Sq. Ft.	2040		2040
Steel Rolling, Type S	Lin. Ft.	206		206
Reinforcement Bars	Lbs.	120	5190	5310
Removal of Existing Superstructures	Each	1		1
Waterproofing Membrane System	Sq. Yds.	245		245
Preformed Joint Sealer (2 1/2")	Lin. Ft.	40		40
Temporary Bridge - Complete	Ea.	1		1
Structural Steel	Lbs.	2820		2820
Name Plate	Ea.	1		1

* See Special Provisions
 PROJECT - F-836 (2)
 GENERAL PLAN & ELEVATION
 LITTLE VERMILION RIVER
 F.A. RTE. 836 SEC. 11B BR-1
 CHAMPAIGN COUNTY
 STA. 688+85.00

DESIGNED: *Kusin (Noble, Ill.)*
 CHECKED: *Stanley S. ...*
 DRAWN: *A. Darfozo*
 CHECKED: *Stanley S. ...*

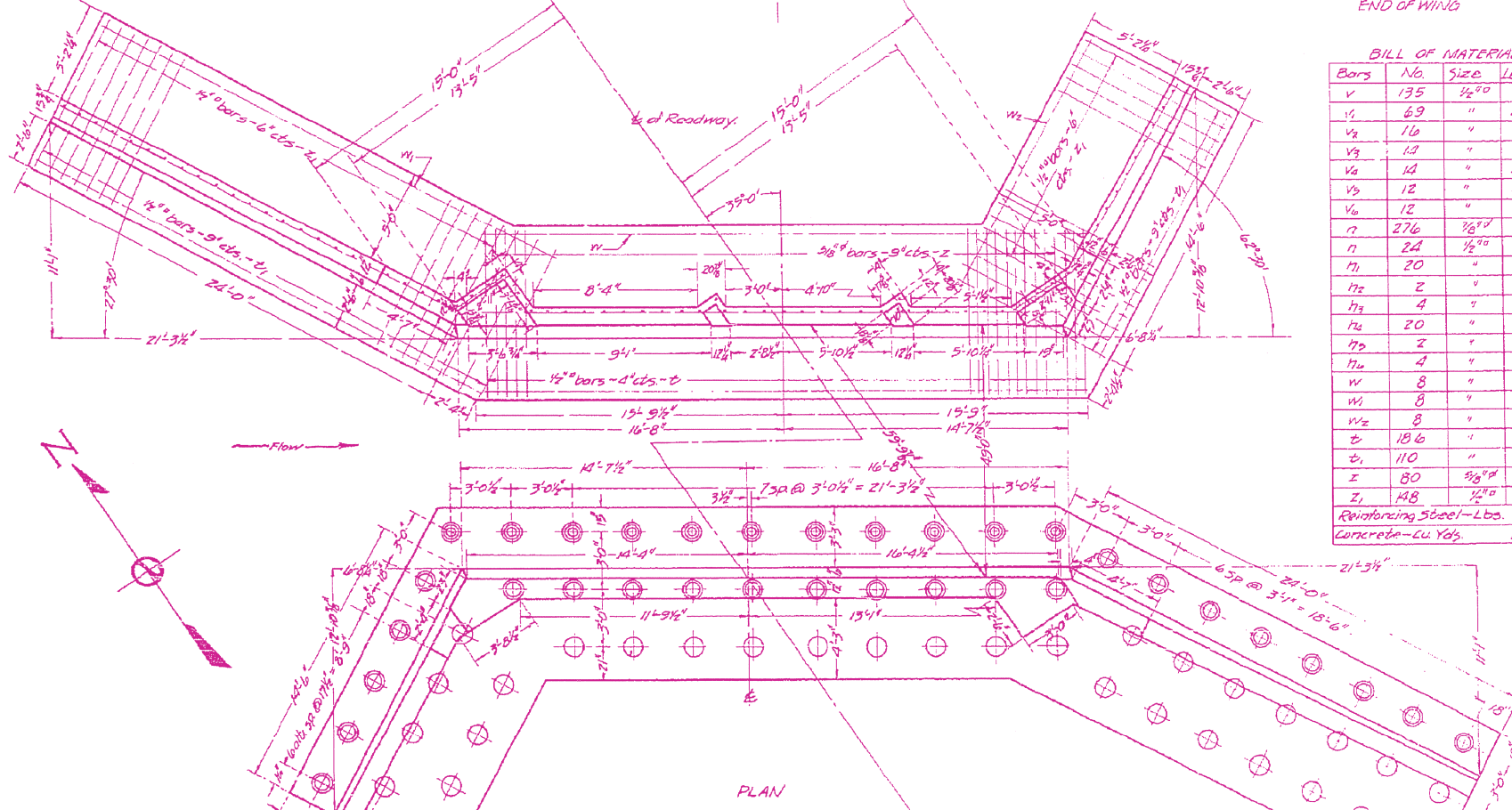
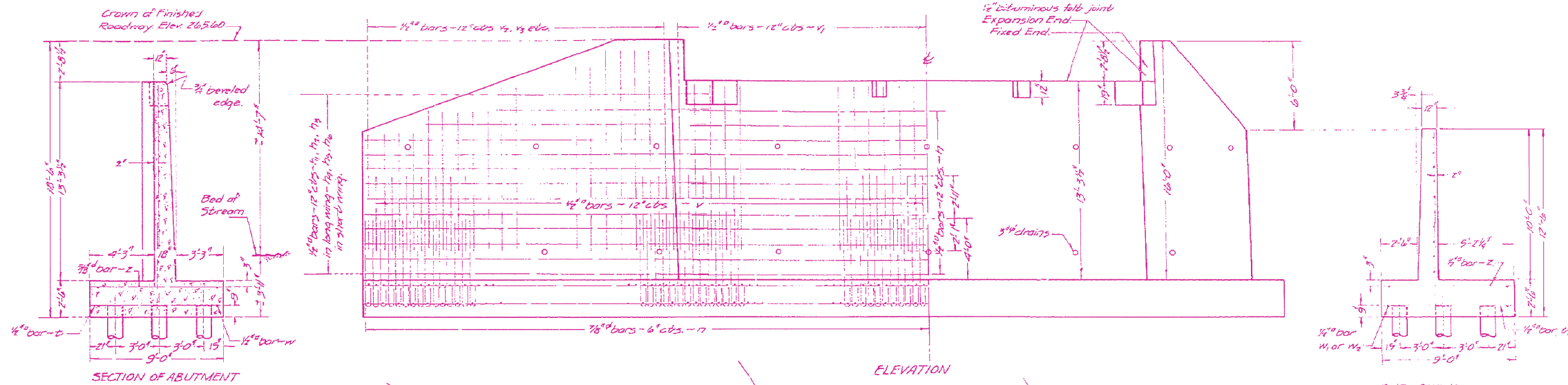
EXAMINED: *August 9, 1971*
 PASSED: *Richard A. Holtzman*
 APPROVED: *Richard A. Holtzman*
 DIRECTOR OF HIGHWAYS

FOR INFORMATION ONLY

Existing Structure - Steel - Span 58'.
 Roadway 14' to be removed by the
 Bridge Contractor.
 B.M. - S&W in T.P. Lts. 580, 696+55
 Elev. 261.33.

STATE OF ILLINOIS
 DEPARTMENT OF PUBLIC WORKS & BUILDINGS
 DIVISION OF HIGHWAYS

BOND ISSUE ROUTE NO.	COUNTY	SECTION	TOTAL SHEETS	SHEET NO.	SHEET NO.
49	Champaign	118B	42	40	2 SHEETS



BILL OF MATERIAL

Bars	No.	Size	Length
V	135	1/2"Ø	5'-0"
V1	69	"	11'-0"
V2	16	"	5'-0"
V3	12	"	9'-6"
V4	14	"	11'-0"
V5	12	"	12'-6"
V6	12	"	13'-6"
V7	276	3/8"Ø	7'-9"
V8	24	1/2"Ø	30'-0"
V9	20	"	25'-6"
V10	2	"	20'-6"
V11	4	"	15'-6"
V12	20	"	15'-0"
V13	2	"	12'-0"
V14	4	"	10'-0"
V15	8	"	3'-0"
V16	8	"	26'-0"
V17	8	"	15'-0"
V18	186	"	8'-9"
V19	110	"	8'-9"
V20	80	3/8"Ø	8'-9"
V21	148	1/2"Ø	8'-9"

Reinforcing Steel - Lbs. 12,170
 Concrete - Cu Yds. 202.1

Note-
 Class A concrete to be used
 throughout. Proportions
 1:2 1/4:4.
 All reinforcing steel to be securely
 wired in place before concrete is
 poured.

- 13 ton untreated pile, 12" butt, 10" tip. Estimated length 20'-0". 22 piles required = 440 lin. ft.
- 12 ton untreated pile, 12" butt, 10" tip. Estimated length 20'-0". 46 piles required = 920 lin. ft.
- 10 ton untreated pile, 10" butt, 8" tip. Estimated length 15'-0". 62 piles required = 930 lin. ft.

Long Wing - 22 V, 3 V1, 3 V2, 4 V3, 4 V4, 4 V5, 4 V6, 4 V7, 4 V8, 4 V9, 4 V10, 4 V11, 4 V12, 4 V13, 4 V14, 4 V15, 4 V16, 4 V17, 4 V18, 4 V19, 4 V20, 4 V21, 4 V22.

Short Wing - 12 V, 3 V1, 2 V2, 3 V3, 2 V4, 2 V5, 2 V6, 2 V7, 10 V8, 1 V9, 2 V10, 2 V11, 2 V12, 2 V13, 2 V14, 2 V15, 2 V16, 2 V17, 2 V18, 2 V19, 2 V20, 2 V21, 2 V22.

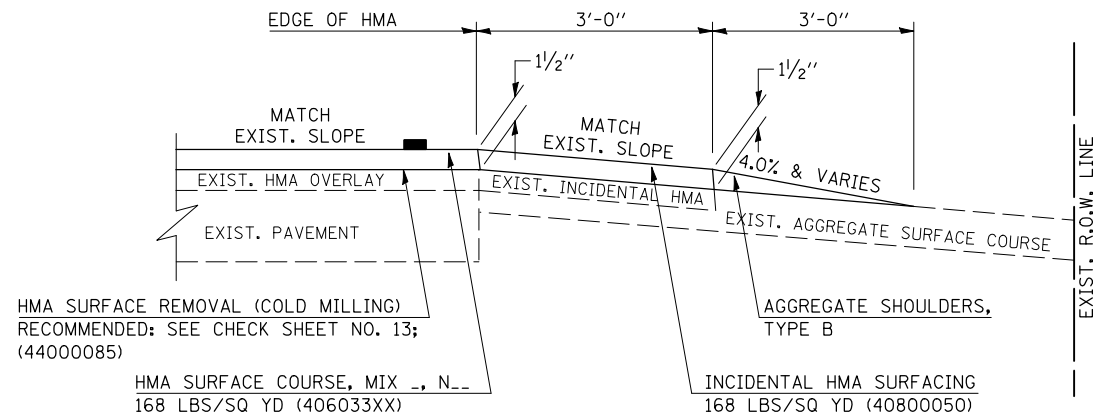
COMPUTED	<i>D. S. Garrison</i>	EXAMINED	March 27, 1928
CHECKED	<i>H. J. P. [Signature]</i>	BRIDGE ENGINEER	
DRAWN	<i>D. S. Garrison</i>	PASSED	<i>H. J. P. [Signature]</i>
CHECKED	<i>H. J. P. [Signature]</i>	ENGINEER OF DESIGN	
ASSEMBLED	<i>H. J. P. [Signature]</i>	APPROVED	<i>Paul [Signature]</i>
CHECKED		CHIEF HIGHWAY ENGINEER	

FOR INFORMATION ONLY

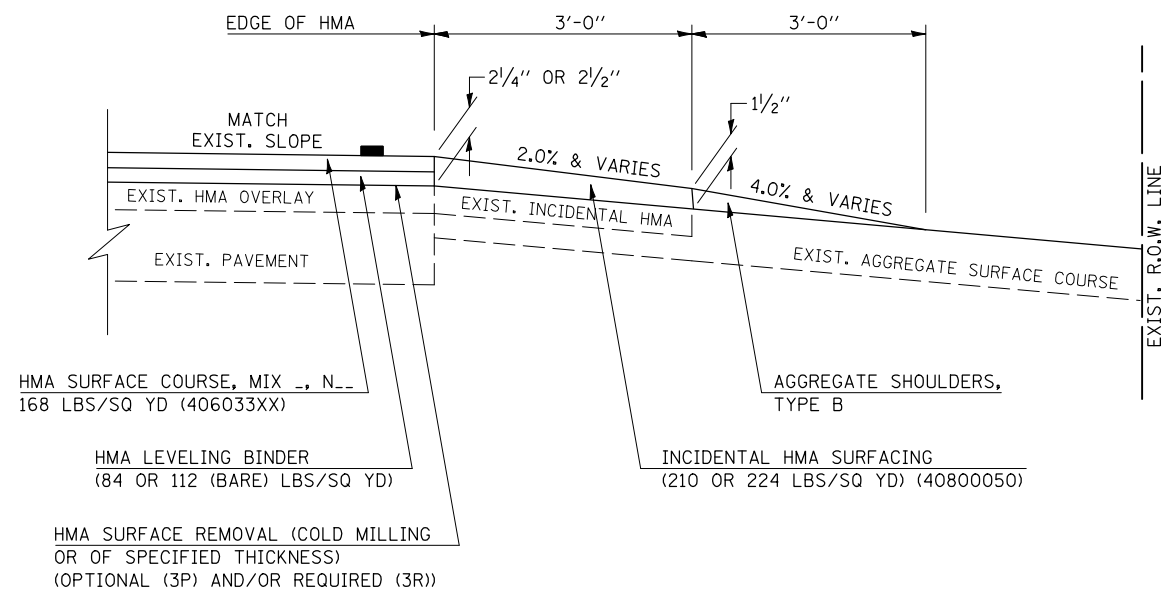
58.1 ROUTE 49 SEC. 118 B
 CHAMPAIGN COUNTY
 STA. 688+85

PROJECTS WITHOUT RECONSTRUCTION
 ("3R" WITHOUT RECONSTRUCTION, 3P, SMART AND CM)

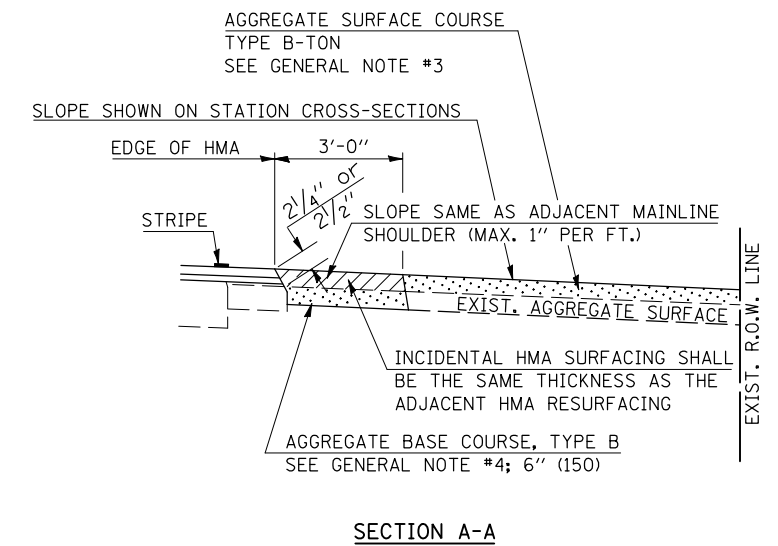
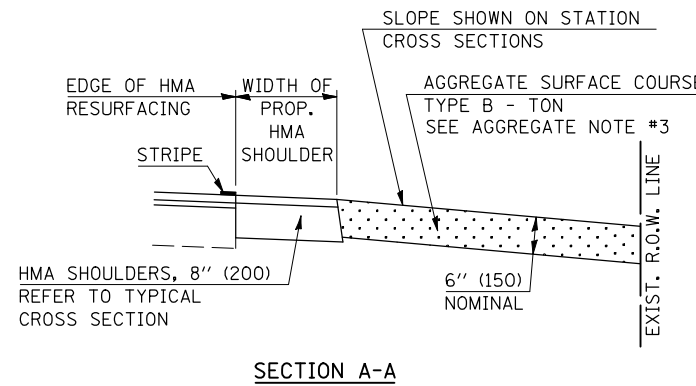
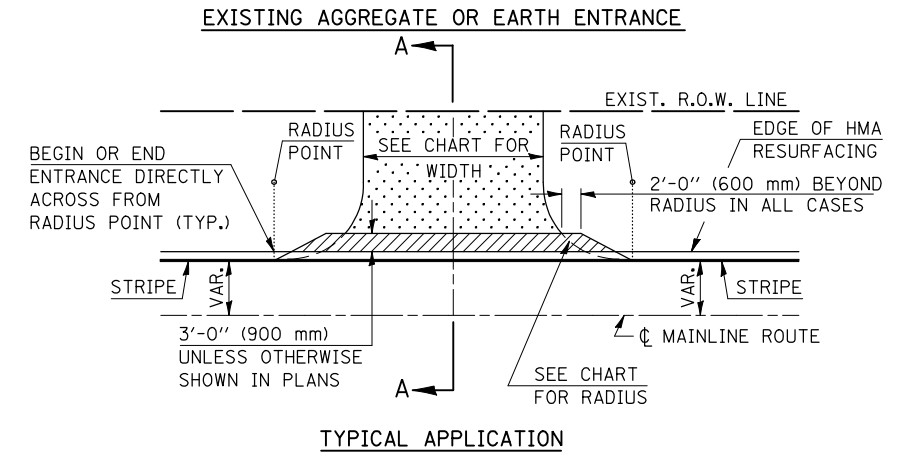
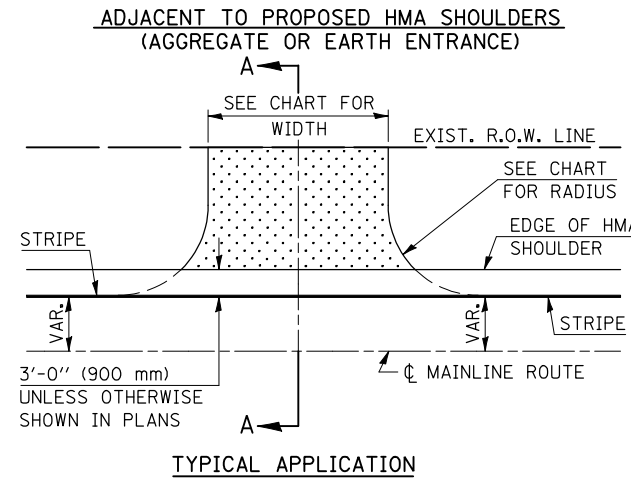
S.M.A.R.T. IMPROVEMENTS
 (POLICY RESURFACING; BDE 53-4.03; 1/2")



"3P" OR "3R" IMPROVEMENTS
 (POLICY RESURFACING; BDE 53-4.02; 2/4" OR 2/2" ON BARE CONCRETE)



PROJECTS WITH RECONSTRUCTION
 ("3R" IMPROVEMENTS AND SMART/3P "SPOT" LOCATIONS)



Note: All dimensions are in INCHES (millimeters) unless otherwise shown.

DISTRICT 5 DETAIL NO. 40800050A

FILE NAME =	USER NAME = #USER#	DESIGNED -	REVISED - 12/01/06 TJB
#FILEL#		DRAWN -	REVISED - 09/21/07 KAG
	PLOT SCALE = #SCALE#	CHECKED -	REVISED -
	PLOT DATE = 8/20/2008	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

FIELD ENTRANCES (NONCOMMERCIAL RURAL)			
SCALE: NA	SHEET NO. 1 OF 2 SHEETS	STA.	TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
836	118BR-2	CHAMPAIGN	45	36
FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT			CONTRACT NO. 70600	

GENERAL NOTES

1. THE EXISTING SURFACE SHALL BE PREPARED IN ACCORDANCE WITH SECTION 408 OF THE STANDARD SPECIFICATIONS.
2. ANY NECESSARY WORK BEHIND THE HMA SHOULDER OR THE INCIDENTAL HMA SURFACING SHALL BE AS SHOWN IN THE PLANS AND/OR AS DIRECTED BY THE ENGINEER.
3. EARTH EXCAVATION REQUIRED FOR THE CONSTRUCTION OF THE AGGREGATE SURFACE COURSE SHALL BE INCLUDED IN THE COST OF AGGREGATE SURFACE COURSE.
4. AGGREGATE BASE COURSE, TYPE B, 6" (150 mm) MIN. SHALL BE USED WHERE IN THE OPINION OF THE ENGINEER THERE IS NOT SUFFICIENT BASE MATERIAL FOR THE PROPOSED ENTRANCES. THIS MATERIAL SHALL GENERALLY BE USED TO WIDEN ANY EXISTING RETURN OR TO CONSTRUCT NEW ENTRANCES WHERE NONE NOW EXISTS.
5. THE AGGREGATE BASE COURSE SHALL BE CONSTRUCTED 12" (300 mm) WIDER THAN THE SURFACE DIMENSIONS AS SHOWN ABOVE.
6. EXISTING FIELD ENTRANCES OF AGGREGATE OR EARTH WITH NO HMA APRON SHALL NOT RECEIVE A NEW HMA APRON WITHOUT PROPER APPROVAL THROUGH THE BUREAU OF OPERATIONS "POLICY ON PERMITS FOR ACCESS DRIVEWAYS TO STATE HIGHWAYS".
7. TO ASSURE APPROPRIATE ACCESS POLICIES ARE FOLLOWED ALL NEW ACCESS SHALL BE APPLIED FOR THROUGH THE BUREAU OF OPERATIONS PERMIT APPLICATION PROCESS. PLAN PREPARATION MEMORANDUMS 40-09 AND 40-11 ALONG WITH DISTRICT CONSTRUCTION MEMORANDUM 03/14 DISCUSS THIS PROCEDURE.

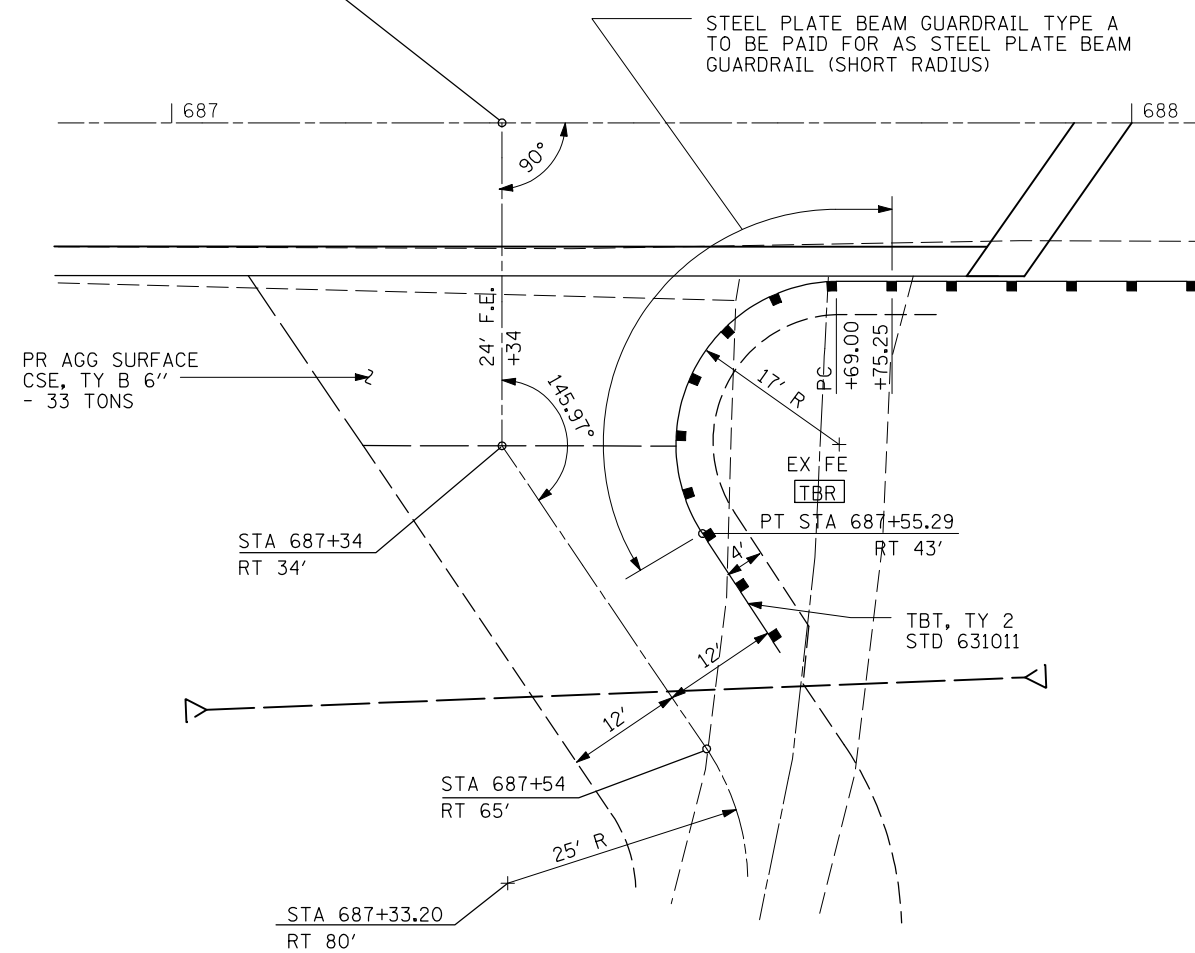
RURAL ENTRANCE DESIGN STANDARDS (PPM 40-09)																
DESIGN ELEMENT	NEW CONSTRUCTION & 3R with RECONSTRUCTION						3R w/out RECONSTRUCTION, 3P, SMART & CM									
	NONCOMMERCIAL			FIELD W/ FARM IMPLEMENTS			COMMERCIAL			NONCOMMERCIAL			COMMERCIAL			
	PRIVATE & FIELD			FIELD W/ FARM IMPLEMENTS			COMMERCIAL			PRIVATE & FIELD			COMMERCIAL			
	min.	des.	max.	min.	max.	min.	des.	max.	min.	des.	max.	min.	des.	max.		
SURFACE WIDTH (FT)	12	16	24	24	30	1 LANE, 1 WAY						1 LANE, 1 WAY				
						14 16 24						1 LANE, 1 WAY				
						2 LANE, 2 WAY						2 LANE, 2 WAY				
						24 30 35						2 LANE, 2 WAY				
RADIUS (FT)	15	25	40	30		20	30	50	resurface existing configuration; existing aggregate or earth entrances shall have the continuation of aggregate shoulders placed behind them							
SHOULDER WIDTH (FT)	2	2		2		1	3									
SHOULDER SLOPE (%)	2	4	6	4		2	4	6								
ENTRANCE GRADE (%)	0	2 to 5	10 or 12	2 to 5	10 or 12	0	2 to 5	8 or 10								
SIDE SLOPE (FT)	1:4	1:6	1:10	1:4	1:6	1:4	1:6	1:10								
SURFACE TYPE																
INCIDENTAL HMA SURFACING (INCH)		2		2		3 or 4			taper from hma resurfacing thickness (2 1/2", 2 1/4" or 1 1/2") to 1 1/2" to minimize aggregate shoulder							
AGGREGATE SURFACE COURSE, TYPE A (INCH)		6		6		8			if applicable use items: Preparation of Base & Aggregate Base Repair; see PPM 30-02							
PCC DRIVEWAY PAVEMENT (INCH)		6						6 or 8								

Note: All dimensions are in INCHES (millimeters) unless otherwise shown.

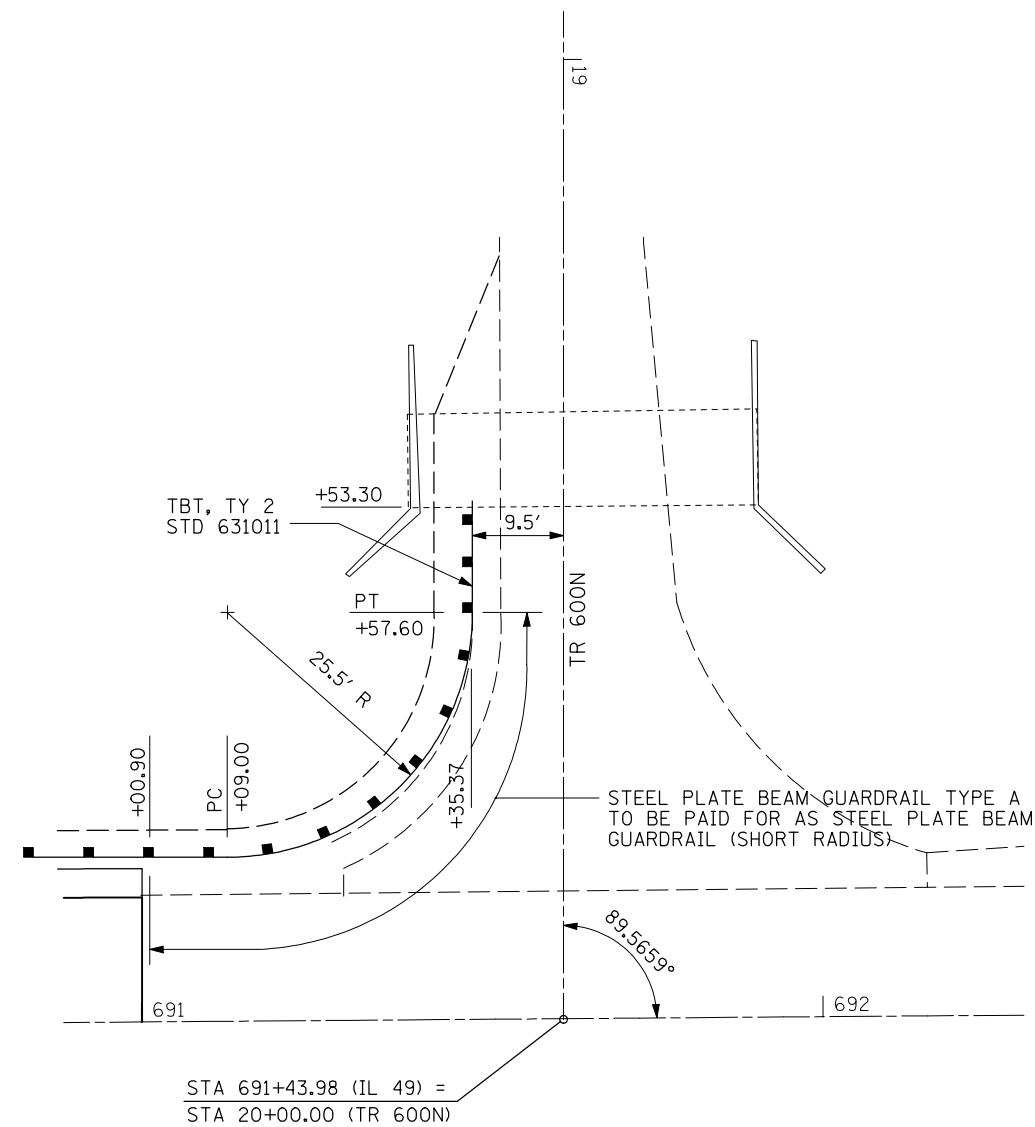
DISTRICT 5 DETAIL NO. 40800050A

FILE NAME =	USER NAME = \$USER*	DESIGNED -	REVISED - 12/01/06 TJB	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	FIELD ENTRANCES (NONCOMMERCIAL RURAL)			F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
\$FILEL\$		DRAWN -	REVISED - 09/21/07 KAG					836	118BR-2	CHAMPAIGN	45	37
PLOT SCALE = \$SCALE*		CHECKED -	REVISED -		SCALE: NA			SHEET NO. 2 OF 2 SHEETS	STA.	TO STA.	CONTRACT NO. 70600	
PLOT DATE = 8/20/2008		DATE -	REVISED -		FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT							

STA 687+34 (IL 49) =
STA 00+00.00 (FE)



GUARDRAIL LAYOUT AT ENTRANCE



GUARDRAIL LAYOUT AT SIDE ROAD (TR 600N)

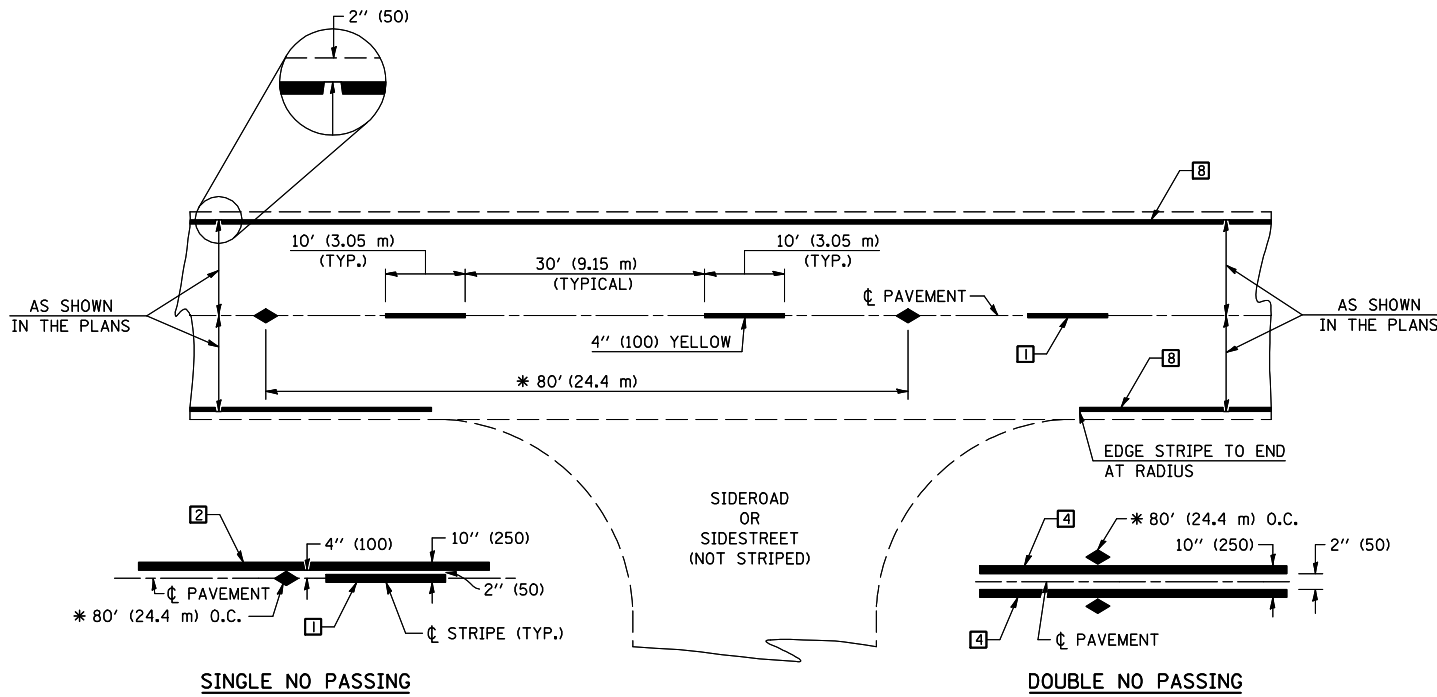
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		DRAWN -	REVISED -
	PLOT SCALE = *SCALE*	CHECKED -	REVISED -
	PLOT DATE = 8/20/2008	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

STEEL PLATE BEAM GUARDRAIL, SHORT RADIUS

SCALE: SHEET NO. OF SHEETS STA. TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
836	118BR-2	CHAMPAIGN	45	38
CONTRACT NO. 70600				
FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT				



* REDUCE TO 40' (12.2 m) O.C. ON CURVES WITH POSTED OR ADVISORY SPEEDS OF 45 mph (70 km/h) OR LESS.

TWO LANE/TWO WAY

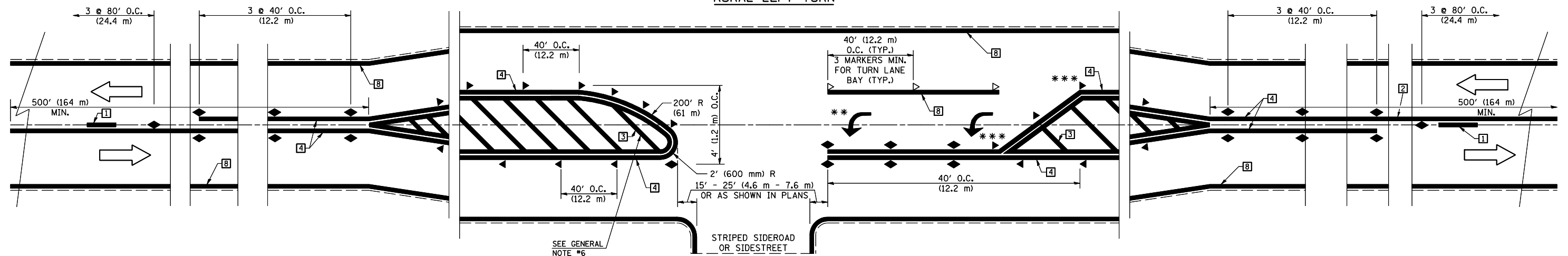
TYPICAL PAVEMENT MARKING LEGEND

- 1 4" (100) SKIP-DASH (YELLOW)
- 2 4" (100) SOLID (YELLOW)
- 3 12" (300) DIAGONAL (YELLOW)
- 4 4" (100) DOUBLE YELLOW (NARROW)
- 5 RESERVED
- 6 RESERVED
- 7 4" (100) SKIP-DASH (WHITE)
- 8 4" (100) SOLID (WHITE)
- 9 12" (300) DIAGONAL (WHITE)
- 10 6" (150) SOLID (WHITE)
- 11 24" (600) STOP BAR (WHITE)
- 12 8" (200) SOLID (WHITE)
- 13 4" (100) LANE LINE EXTENSIONS (WHITE)
- 14 4" (100) PARKING WHITE

TYPICAL PAVEMENT MARKERS LEGEND

- ◆ TWO-WAY AMBER MARKER
- ▶ ONE-WAY AMBER MARKER
- ▷ ONE-WAY CRYSTAL MARKER

RURAL LEFT TURN



*** REDUCE SPACING IF NECESSARY TO ASSURE MARKERS AT CORNER POINTS.

** TURN ARROWS SHALL BE PLACED AS SHOWN ON SHEET #2.

Note: All dimensions are in INCHES (millimeters) unless otherwise shown.

DISTRICT 5 DETAIL NO. 7800AAA

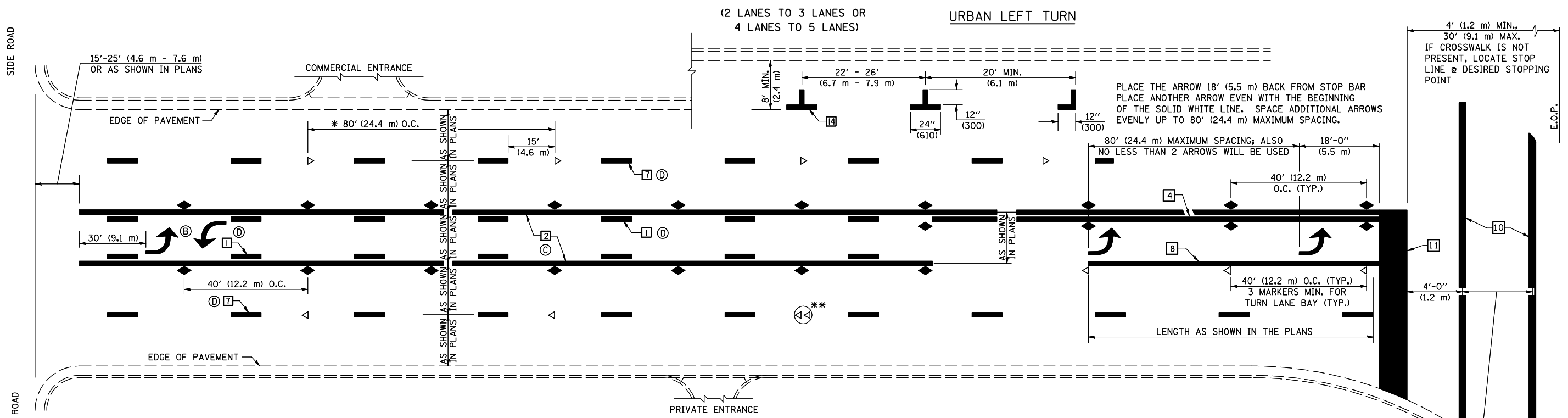
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#FILEL#		DRAWN -	REVISED -
	PLOT SCALE = #SCALE#	CHECKED -	REVISED -
	PLOT DATE = 8/20/2008	DATE -	REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**PAVEMENT MARKING AND MARKERS
(RURAL & URBAN APPLICATIONS)**

SCALE: SHEET NO. 1 OF 4 SHEETS STA. TO STA.

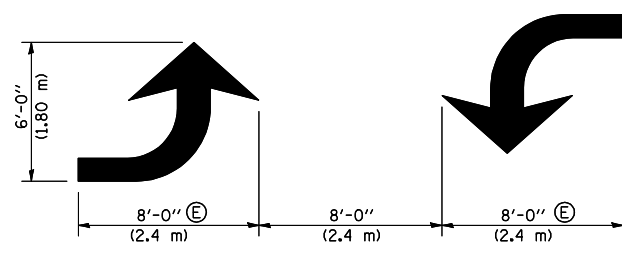
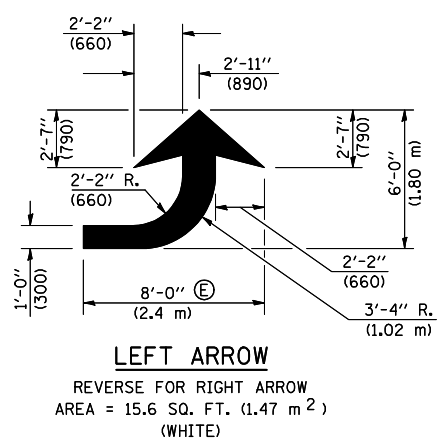
F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
836	118BR-2	CHAMPAIGN	45	39
FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT			CONTRACT NO. 70600	



* REDUCE TO 40 FEET (12.2 METERS) ON CENTER ON CURVES WHERE ADVISORY SPEEDS ARE 10 MPH (15 km/h) LOWER THAN POSTED SPEEDS.

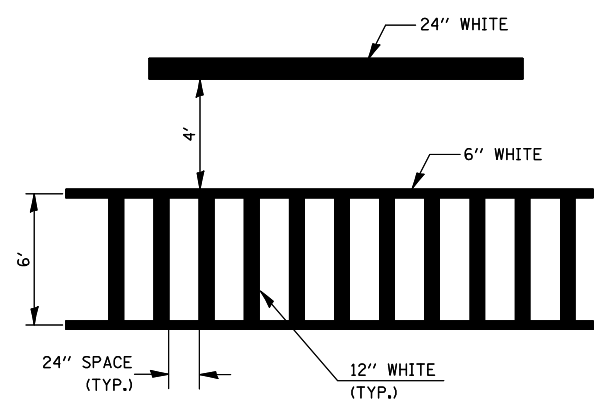
** DOUBLE LANE LINE MARKERS SHALL BE SPECIFIED AND SPACED AS SHOWN IN HIGHWAY STANDARD 781001 FOR MULTI-LANE DIVIDED AND UNDIVIDED HIGHWAYS.

- GENERAL NOTES:**
- ⓑ TURN ARROW PAIRS SHALL BE PLACED AT 250' (75 m) INTERVALS AND SHALL BE EVENLY SPACED BETWEEN BOTH ENDS OF THE BIDIRECTIONAL LEFT TURN LANE.
 - ⓒ THE SOLID YELLOW PAVEMENT MARKINGS [2] SHOULD GENERALLY START OR END NEAR THE RADIUS POINT OF EACH STREET RETURN EXCEPT WHERE ONE OR BOTH ENDS WOULD INCLUDE STOP BARS.
 - ⓓ THE SKIP-DASH PAVEMENT MARKINGS [1] OR [7] SHOULD BE CENTERED BETWEEN BOTH ENDS OF EACH CITY BLOCK AND SHALL BE PLACED SO THEY LINE UP ACROSS FROM EACH OTHER. SEE EXAMPLE ON SHEET 2 OF 3.
 - ⓔ USE LARGE ARROW SIZE FOR BOTH RURAL AND URBAN LOCATIONS. (SEE LAST PAGE OF SECTION 780x FOR SYMBOLS TABLE)

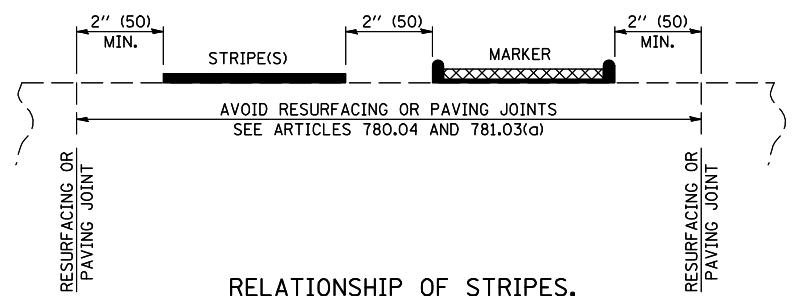


TYPICAL DOUBLE TURN ARROWS (WHITE)

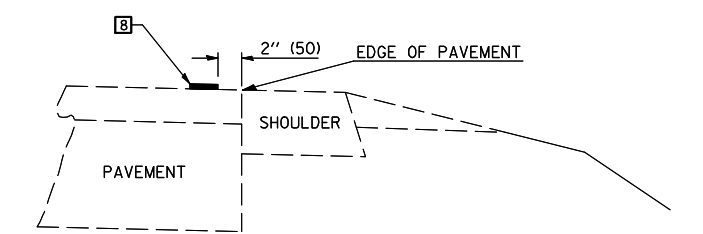
BLOOMINGTON-NORMAL CITY LIMITS ONLY



TYPICAL SPACING FOR CROSSWALKS & STOP BARS



RELATIONSHIP OF STRIPES, MARKERS AND JOINTS

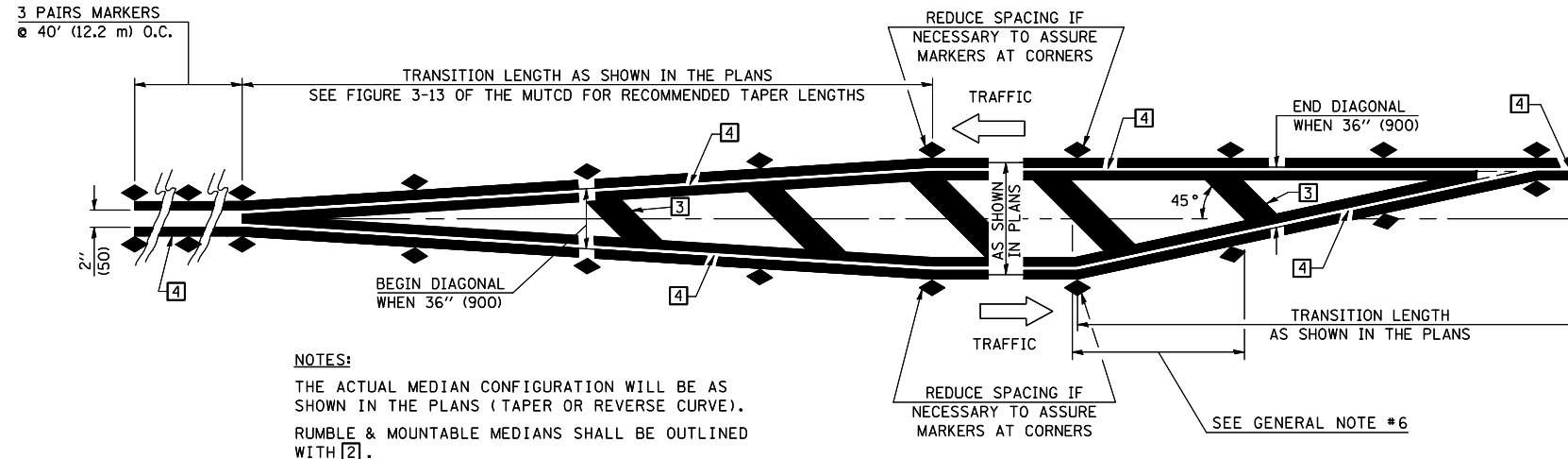


RELATIONSHIP OF EDGE LINE TO EDGE OF PAVEMENT (SAFETY SHOULDER OR PAVED SURFACE) SEE ARTICLE 780.04

Note: All dimensions are in INCHES (millimeters) unless otherwise shown.

DISTRICT 5 DETAIL NO. 7800AAA

FILE NAME = #FILE#	USER NAME = #USER#	DESIGNED -	REVISED - 11/06	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	PAVEMENT MARKING AND MARKERS (RURAL & URBAN APPLICATIONS)		F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	PLOT SCALE = #SCALE#	DRAWN -	REVISED -				836	118BR-2	CHAMPAIGN	45	40
	PLOT DATE = 8/20/2008	CHECKED -	REVISED -				CONTRACT NO. 70600				
		DATE -	REVISED -				FED. ROAD DIST. NO.	ILLINOIS FED. AID PROJECT			

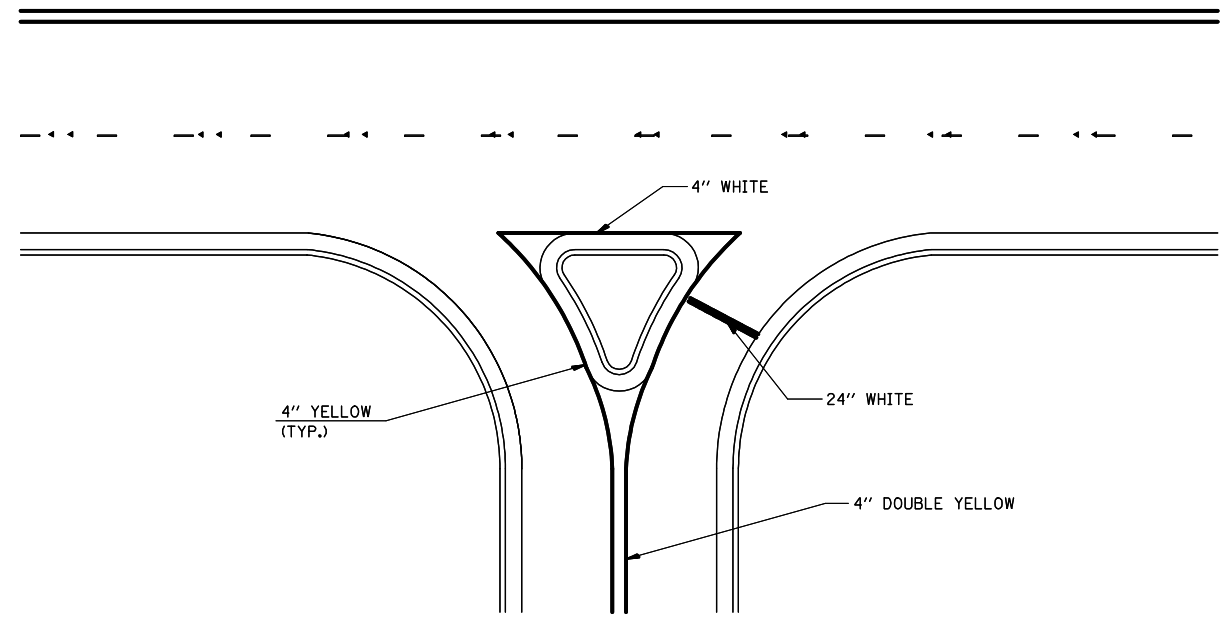


NOTES:
 THE ACTUAL MEDIAN CONFIGURATION WILL BE AS SHOWN IN THE PLANS (TAPER OR REVERSE CURVE).
 RUMBLE & MOUNTABLE MEDIANS SHALL BE OUTLINED WITH [2].

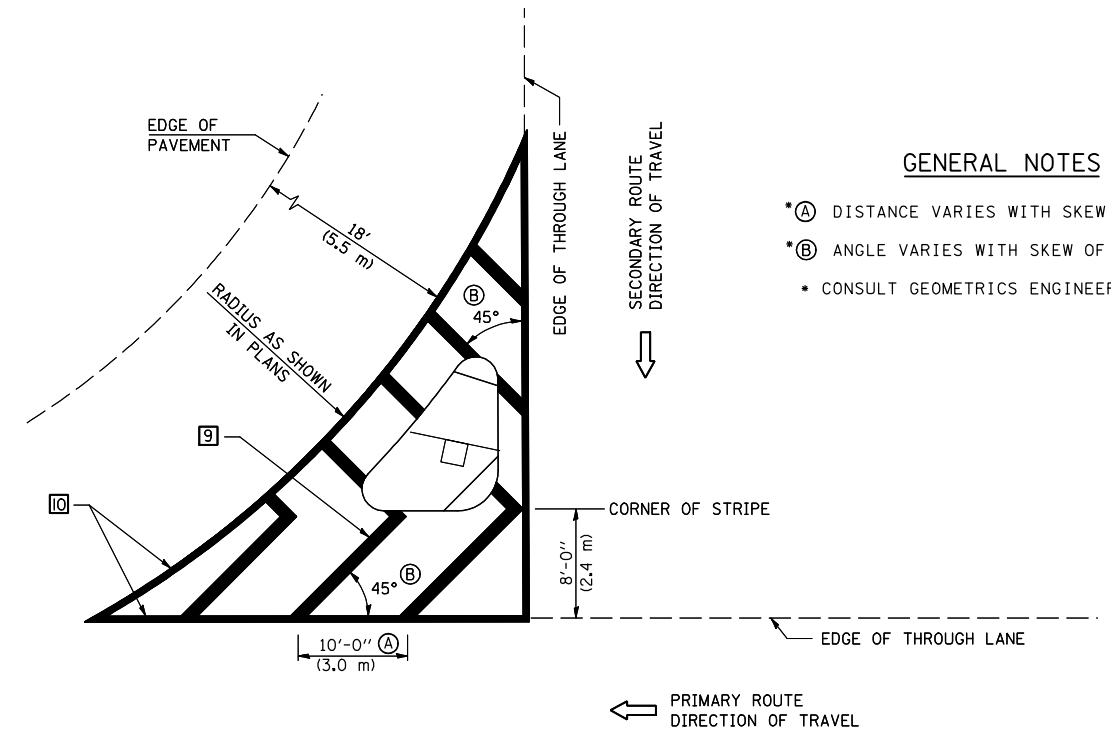
TYPICAL MEDIAN TRANSITIONS

GENERAL NOTES

1. WHEN MEDIANS ARE PRESENT, PAVEMENT MARKINGS ARE TO BE PLACED ADJACENT TO MEDIANS.
2. SOME OF THE INFORMATION INCLUDED WITH THIS DETAIL MAY NOT BE APPLICABLE TO THIS IMPROVEMENT.
3. PAVEMENT MARKINGS ARE TO BE EXTENDED THROUGH OMISSIONS WHEN APPLICABLE.
4. A STRIPING KEY IS AVAILABLE ELSEWHERE AND SHALL BE SHOWN WHERE THE QUANTITIES ARE LISTED.
5. FINAL PAVEMENT MARKINGS SHALL BE IN PLACE PRIOR TO PLACING ANY RAISED REFLECTIVE PAVEMENT MARKERS.
6. THE FOLLOWING CRITERIA SHALL BE USED FOR SELECTING THE DIAGONAL PAVEMENT MARKING SPACING,
 < 30 MPH USE 15' (< 50 km/h USE 4.5 m)
 30-45 MPH USE 20' (50-75 km/h USE 6.0 m)
 > 45 MPH USE 30' (> 75 km/h USE 9.0 m)



RIGHT IN - RIGHT OUT ACCESS



GENERAL NOTES

- *A DISTANCE VARIES WITH SKEW OF INTERSECTION.
- *B ANGLE VARIES WITH SKEW OF INTERSECTION.
- CONSULT GEOMETRICS ENGINEER

ISLAND

Note: All dimensions are in INCHES (millimeters) unless otherwise shown.

FILE NAME = #FILEL#	USER NAME = #USER#	DESIGNED -	REVISED - 11/06
		DRAWN -	REVISED -
	PLOT SCALE = #SCALE#	CHECKED -	REVISED -
	PLOT DATE = 8/20/2008	DATE -	REVISED -

**STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION**

**PAVEMENT MARKING AND MARKERS
 (RURAL & URBAN APPLICATIONS)**

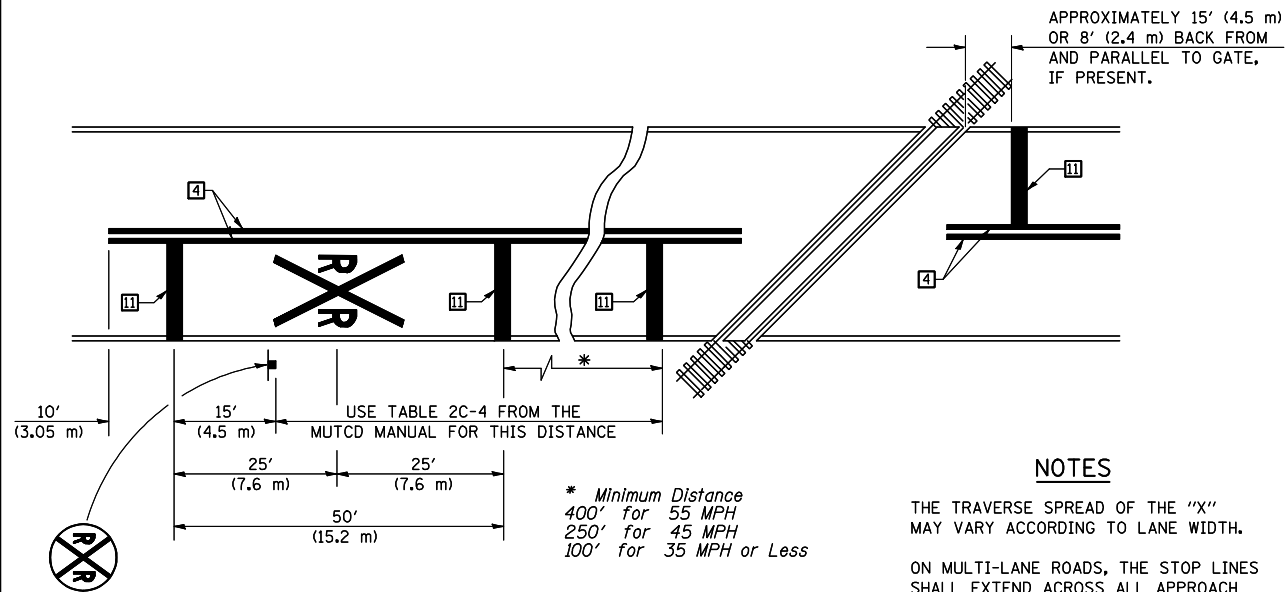
SCALE: SHEET NO. 3 OF 4 SHEETS STA. TO STA.

DISTRICT 5 DETAIL NO. 7800AAA

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
836	118BR-2	CHAMPAIGN	45	41
FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT			CONTRACT NO. 70600	

RAILROAD CROSSING WITH INTERCONNECT ONLY

RAILROAD CROSSING WITH INTERCONNECT AND PRE-SIGNALS



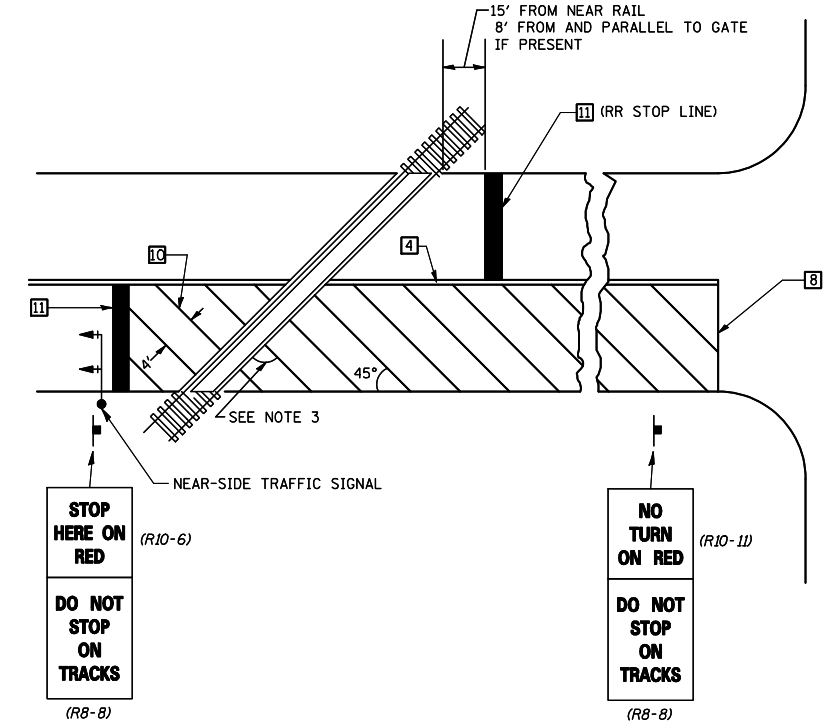
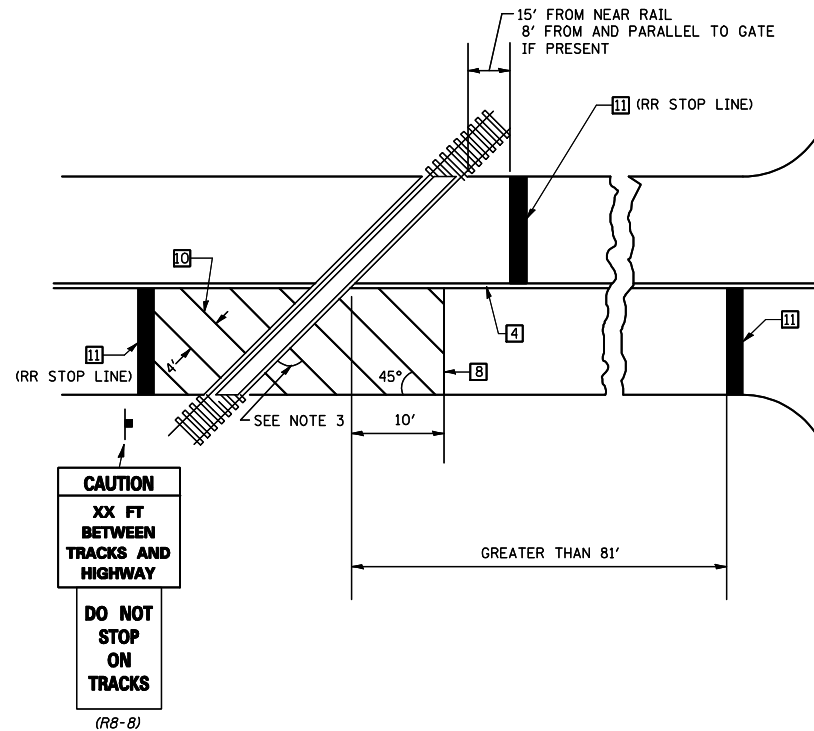
PAVEMENT MARKINGS AT RAILROAD-HIGHWAY GRADE CROSSING

NOTES

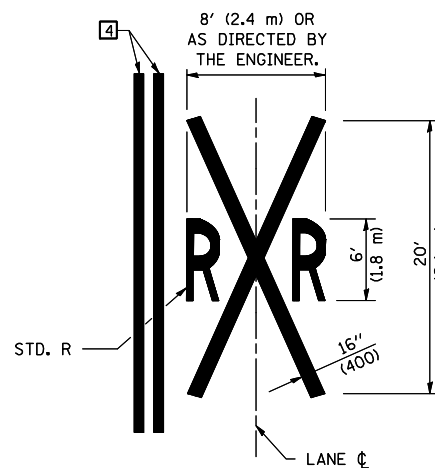
THE TRAVERSE SPREAD OF THE "X" MAY VARY ACCORDING TO LANE WIDTH.

ON MULTI-LANE ROADS, THE STOP LINES SHALL EXTEND ACROSS ALL APPROACH LANES AND SEPARATE RXR SYMBOLS SHALL BE PLACED ADJACENT TO EACH OTHER IN EACH LANE.

WHEN THE PAVEMENT MARKING SYMBOL IS USED, A PORTION OF THE SYMBOL SHOULD BE LOCATED DIRECTLY ADJACENT TO THE ADVANCE WARNING SIGN (W10-1) AS PLACED BY TABLE II-1, CONDITION B OF THE MUTCD.



SUPPLEMENTAL PAVEMENT MARKING TREATMENT FOR RAILROAD-HIGHWAY GRADE CROSSING



GENERAL NOTES

- SUPPLEMENTAL PAVEMENT MARKINGS TO BE INSTALLED ONLY ON APPROACHES TO INTERSECTIONS CONTROLLED BY TRAFFIC SIGNALS WHICH ARE INTERCONNECTED WITH THE RAILROAD WARNING SIGNALS.
- EXTEND PAVEMENT MARKINGS TO THE INTERSECTION ONLY WHERE NEAR-SIDE TRAFFIC SIGNALS ARE USED.
- WHERE THE ANGLE BETWEEN THE DIAGONAL PAVEMENT MARKINGS AND THE TRACK WOULD BE LESS THAN 20°, THE PAVEMENT MARKINGS SHOULD BE PLACED IN THE OPPOSITE DIRECTION FROM THAT SHOWN.

Note: All dimensions are in INCHES (millimeters) unless otherwise shown.

DISTRICT 5 DETAIL NO. 7800AAAA

FILE NAME =	USER NAME = #USER*	DESIGNED -	REVISED - 11/06
#FILEL#		DRAWN -	REVISED -
	PLOT SCALE = #SCALE#	CHECKED -	REVISED -
	PLOT DATE = 8/20/2008	DATE -	REVISED -

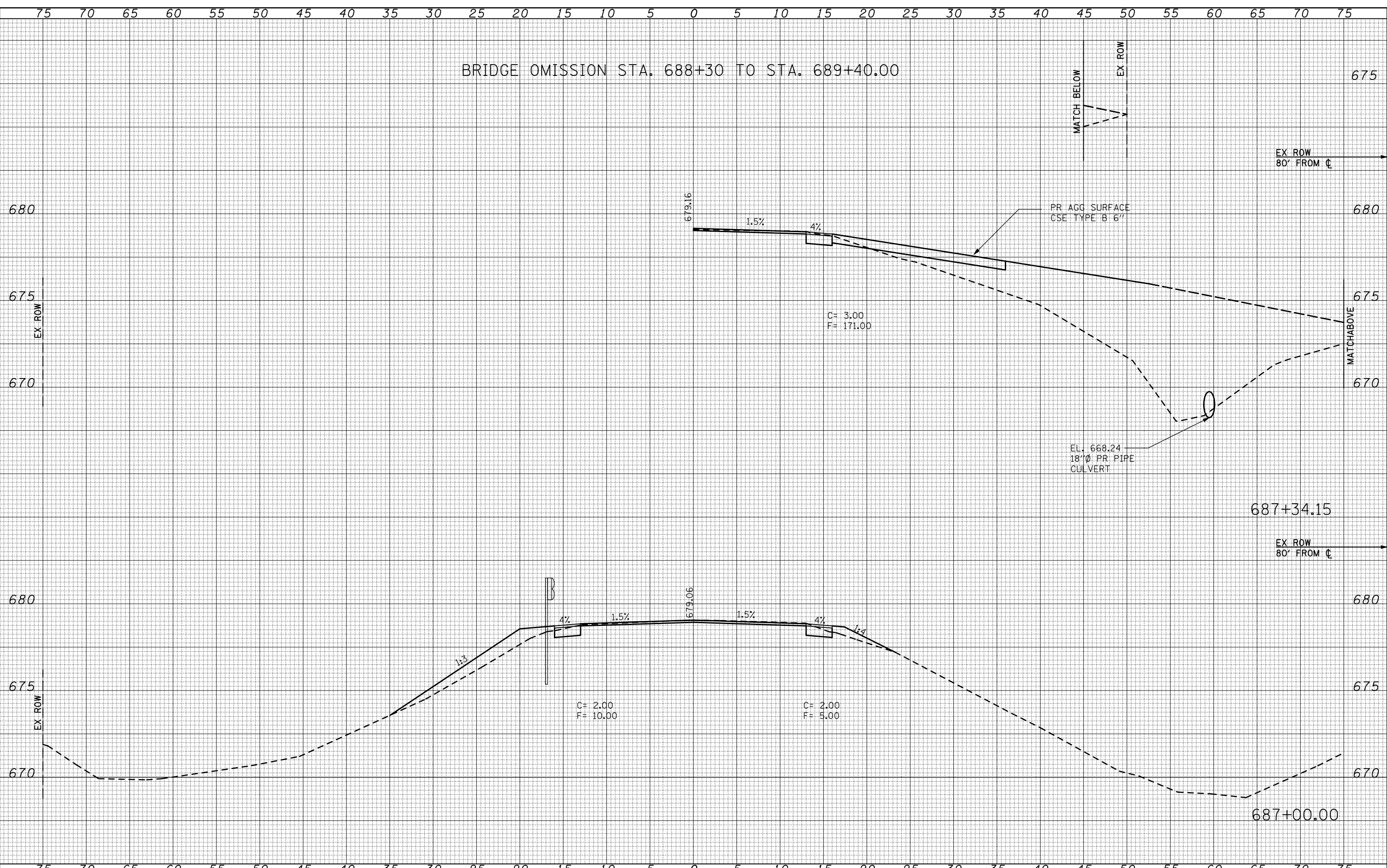
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PAVEMENT MARKING AND MARKERS
(RURAL & URBAN APPLICATIONS)

SCALE: SHEET NO. 4 OF 4 SHEETS STA. TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
836	118BR-2	CHAMPAIGN	45	42
FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT			CONTRACT NO. 70600	

BRIDGE OMISSION STA. 688+30 TO STA. 689+40.00



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

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

FILE NAME =	USER NAME = *USER*	DESIGNED -	REVISED -	<p align="center">STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION</p> <p align="center">CROSS SECTIONS ILLINOIS ROUTE 49 OVER LITTLE VERMILION RIVER</p>	F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FILEL		DRAWN -	REVISED -		836	118BR-2	CHAMPAIGN	45	44
		CHECKED -	REVISED -		CONTRACT NO. 70600				
		DATE -	REVISED -		FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT				
THE UPCHURCH GROUP, INC.	PLOT SCALE = *SCALE*			SCALE:	SHEET NO.	OF	SHEETS	STA. 687+00.00	TO STA. 687+34.15

