F.A.S RTE.	SECTION		COUNTY	TOTAL SHEETS	SHEET NO.
1536	125BR		MACON	45*	1
FED. ROAD DIST. NO.		ILLINOIS	CONTRACT NO. 74145		

*45+3=48

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

PROPOSED HIGHWAY PLANS

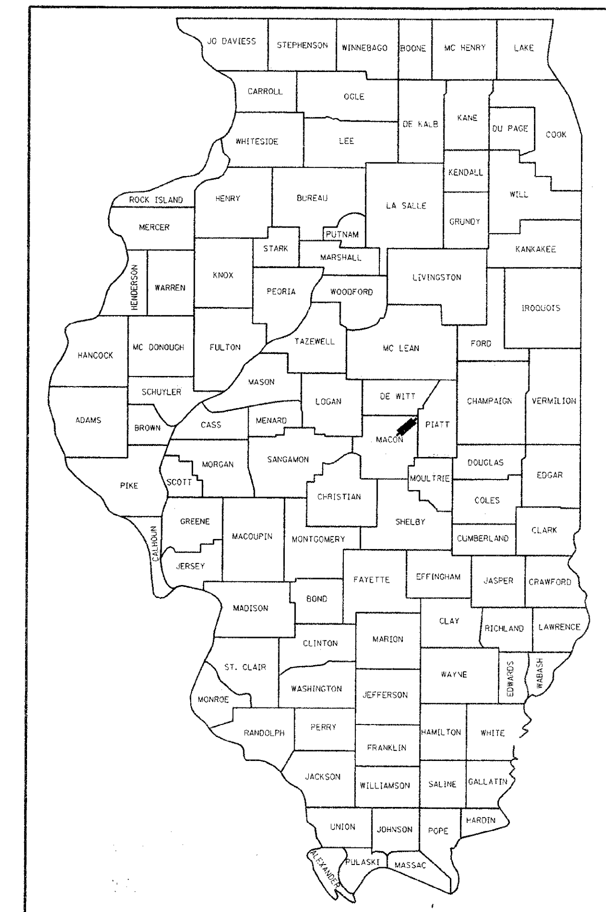
FAS ROUTE 1536 (IL 48)
SECTION 125BR
PROJECT: RS-1536(106)
BRIDGE REPLACEMENT
MACON COUNTY

C-97-038-06

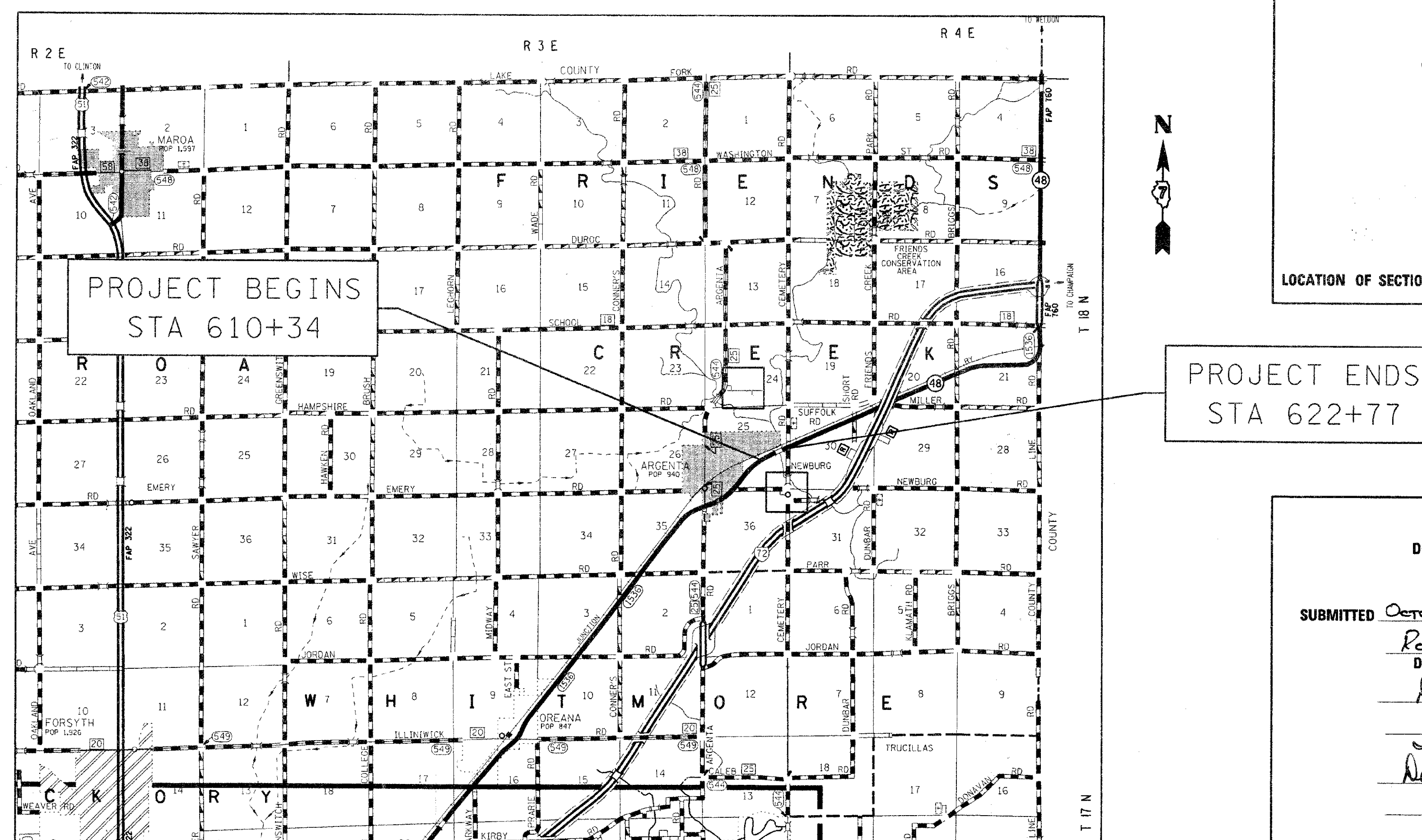
FOR INDEX OF SHEETS, SEE SHEET NO. 2

ADT = 850 (2007)

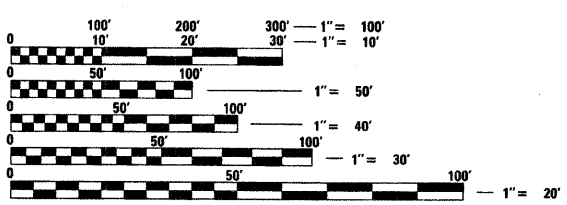
D-97-017-06



LOCATION OF SECTION INDICATED THUS:



GROSS LENGTH = 1243 FT (.24 MILES)
NET LENGTH = 1243 FT (.24 MILES)



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

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

PROJECT ENGINEER: MARK DAUGHERTY
PROJECT MANAGER: BRIAN LEWIS

CONTRACT NO. 74145

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

SUBMITTED October 14 20 08.
Roger I. Driskell
DEPUTY DIRECTOR OF HIGHWAYS, REGION ENGINEER
December 5, 20 08
Eric E. Harm
Interim **ENGINEER OF DESIGN AND ENVIRONMENT**
December 5, 20 08
Christine M. Reed
DIRECTOR OF HIGHWAYS, CHIEF ENGINEER

PRINTED BY THE AUTHORITY OF THE STATE OF ILLINOIS

GENERAL NOTES

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

THE WORK INCLUDED IN THIS SECTION CONSISTS OF TOTAL REPLACEMENT OF THE EXISTING STRUCTURE ALONG WITH NEW FULL-DEPTH ASPHALT PAVEMENT ON A RAISED VERTICAL PROFILE, EARTHWORK, SHOULDERS, GUTTER, GUARDRAIL, PAVEMENT MARKINGS, ETC.

THE PROPOSED PROJECT IS LOCATED ON IL48 0.8 MILES NORTHEAST OF ARGENTA IN MACON COUNTY.

ALL ELEVATIONS SHOWN IN PLANS ARE BASED ON U.S.G.S. DATUM.

AGGREGATE SHOULDERS TYPE B SHALL BE CRUSHED STONE, CRUSHED CONCRETE, OR RAP.

HMA SHOULDER IS THICKER ON THE RIGHT BECAUSE IT WILL BE USED TO SUPPORT TRAFFIC DURING STAGE 2.

CONSTRUCT SURFACE COURSE LIFT OF HMA STABILIZATION AROUND POSTS OF PROPOSED GUARDRAIL BEFORE ERECTING RAIL ELEMENTS. PROVIDE FOR DRAINAGE ON NORTH END OF BRIDGE APPROACH PAVEMENT.

TEMPORARY RUMBLE STRIPS SHALL BE USED AS SHOWN ON TRAFFIC CONTROL STANDARD 701321.

EXCAVATION FOR BASE COURSE WIDENING WILL NOT BE PAID FOR SEPARATELY BUT SHALL BE INCLUDED IN THE BID PRICE FOR THE WIDENING.

PAVEMENT BREAKING AT LOCATIONS SHOWN ON THE PLANS AND DESCRIBED IN SECTION 205 OF THE STANDARD SPECIFICATIONS WILL NOT BE PAID FOR SEPARATELY BUT SHALL BE INCLUDED IN THE COST OF OTHER CONTRACT ITEMS.

PROVIDE TRAFFIC SIGNALS FOR THE TWO PUBLIC ROAD APPROACHES AND ONE PRIVATE DRIVE THAT LIE OUTSIDE THE LIMITS OF THE SURVEY AND ARE NOT SHOWN ON THE PLANS.

ALL WORK NECESSARY TO ATTACH THE PIPE DRAIN TO THE ABUTMENT DRAIN PIPE, LAYING THE PIPE DRAINS AND INSTALLING THE PIPE DRAINS INTO THE CONCRETE HEADWALLS SHALL BE INCLUDED IN THE BID PRICE FOR PIPE DRAINS 4".

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

RIGHT-OF-WAY MARKERS SHALL BE ERECTED WITH THE BACK FACE OF THE MARKER ON THE RIGHT-OF-WAY LINE UNLESS THE NEW RIGHT-OF-WAY LINE HAS BEEN SURVEYED AND PINNED, IN WHICH INSTANCE THE RIGHT-OF-WAY MARKER WILL BE ERECTED 12 INCHES INSIDE THE NEW RIGHT-OF-WAY LINE.

THE PERMANENT SURVEY MARKER, TYPE II SHALL BE CONSTRUCTED USING THE CAST-IN-PLACE METHOD AT A LOCATION WITHIN THE RIGHT OF WAY SELECTED BY THE ENGINEER.

THE CONTRACTOR SHALL PROVIDE INTERNET ACCESS TO THE BITUMINOUS PLANT QUALITY CONTROL LAB SO THAT BITUMINOUS PLANT REPORTS CAN BE E-MAILED TO THE DISTRICT HEADQUARTERS. THIS WORK WILL NOT BE PAID FOR SEPARATELY BUT SHALL BE INCLUDED IN THE UNIT PRICES FOR OTHER ITEMS IN THE CONTRACT.

THE RESIDENT ENGINEER SHALL BE THE SOLE JUDGE CONCERNING THE CURING TIME FOR THE VARIOUS BITUMINOUS COURSES.

BITUMINOUS MATERIALS (PRIME COAT) SHALL BE EITHER RC-70 OR SS-1HP.

COST OF REMOVAL OF TEMPORARY RAMP SHALL BE INCLUDED IN THE UNIT PRICE FOR TEMPORARY RAMP.

THE FOLLOWING MIXTURE REQUIREMENTS ARE APPLICABLE TO THIS PROJECT:

APPLICATION	AC/PG	DESIGN AIR VOIDS	MIXTURE COMPOSITION	FRICTION AGGREGATE
SURFACE COURSE	PG 64-22	4.0% @ N=70	IL - 9.5	MIXTURE C
BINDER COURSE	PG 64-22	4.0% @ N=70	IL - 19.0	N/A
LEVELING BINDER	PG 64-22	4.0% @ N=70	IL - 9.5	MIXTURE C
SHOULDER (BOTTOM LIFT)	PG 58-22	4.0% @ N=70	IL - 19.0	N/A
SHOULDER (TOP LIFT)	PG 58-22	3.0% @ N=50	IL - 9.5	MIXTURE C
INCIDENTAL SURFACING	PG 64-22	4.0% @ N=50	IL - 9.5	MIXTURE C

INDEX OF SHEETS

2 * Added 11A.-11C.

2 THE FOLLOWING STANDARDS ARE A PART OF THESE PLANS AND ARE INCLUDED FOLLOWING THE LAST NUMBERED SHEET OF THE PLANS.

000001-05 STANDARD SYMBOLS, ABBREVIATIONS, AND PATTERNS
001001-02 AREAS OF REINFORCEMENT BARS
001006 DECIMAL OF AN INCH AND OF A FOOT
280001-04 TEMPORARY EROSION CONTROL SYSTEMS
406201-01 MAILBOX TURNOUT

442201-03 CLASS C AND D PATCHES
482001-02 BITUMINOUS SHOULDER ADJACENT TO FLEXIBLE PAVEMENT
515001-03 NAME PLATE FOR BRIDGES
542401-01 METAL END SECTION FOR PIPE CULVERTS
601101-01 CONCRETE HEADWALL FOR PIPE DRAIN
606201-02 TYPE B GUTTER (INLET, OUTLET & ENTRANCE)
606206-03 OUTLET TYPE 1 FOR TYPE B GUTTER
630001-08 STEEL PLATE BEAM GUARDRAIL
630201-06 PCC/BIT STABILIZATION AT STEEL PLATE BEAM GUARDRAIL
630301-05 SHOULDER WIDENING FOR TYPE 1 GUARDRAIL TERMINALS
631031-07 TRAFFIC BARRIER TERMINAL, TYPE 6
635006-03 REFLECTOR AND TERMINAL MARKER PLACEMENT
635011-02 REFLECTOR MARKER AND MOUNTING DETAILS
666001-01 RIGHT-OF-WAY MARKERS
667101-01 PERMANENT SURVEY MARKERS
701001-02 OFF-ROAD OPERATIONS, 2L, 2W, MORE THAN 15* AWAY
701006-03 OFF-ROAD OPERATIONS, 2L, 2W, 15* TO 24" FROM PAVEMENT EDGE
701011-02 OFF-ROAD MOVING OPERATIONS, 2L, 2W, DAY ONLY
701201-03 LANE CLOSURE, 2L, 2W, DAY ONLY, FOR SPEEDS >= 45 MPH
701301-03 LANE CLOSURE, 2L, 2W, SHORT TIME OPERATIONS
701306-02 LANE CLOSURE, 2L, 2W, SLOW MOVING OPERATIONS DAY ONLY, FOR SPEEDS >= 45 MPH
701311-03 LANE CLOSURE, 2L, 2W, MOVING OPERATIONS - DAY ONLY
701321-10 LANE CLOSURE, 2L, 2W, BRIDGE REPAIR WITH BARRIER
701326-03 LANE CLOSURE, 2L, 2W, PAVEMENT WIDENING, FOR SPEEDS >= 45 MPH
701336-05 LANE CLOSURE, 2L, 2W, WORK AREAS IN SERIES, FOR SPEEDS >= 45 MPH
701901-01 TRAFFIC CONTROL DEVICES
704001-05 TEMPORARY CONCRETE BARRIER
780001-02 TYPICAL PAVEMENT MARKINGS

2 Rev. 12-31-08 Rev.

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

GENERAL NOTES AND INDEX OF SHEETS

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

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1536	125BR	MACON	45	2
		CONTRACT NO. 74145		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

SUMMARY OF QUANTITIES

CODE NO	ITEM	UNIT	80% FED. 20% STATE TOTAL QUANTITIES	CONSTRUCTION TYPE CODE 1000	CONSTRUCTION TYPE CODE X081-2A
20100500	TREE REMOVAL, ACRES	ACRE	0.2	0.2	
20200100	EARTH EXCAVATION	CU YD	216	216	
20400800	FURNISHED EXCAVATION	CU YD	1590	1590	
20600110	GRANULAR EMBANKMENT, SPECIAL	TON	1431	1431	
20700400	POROUS GRANULAR EMBANKMENT, SPECIAL	CU YD	153		153
25001000	SEEDING, CLASS 2 (SPECIAL)	ACRE	0.8	0.8	
25100630	EROSION CONTROL BLANKET	SQ YD	1800	1800	
28000250	TEMPORARY EROSION CONTROL SEEDING	POUND	160	160	
28000300	TEMPORARY DITCH CHECKS	EACH	2	2	
28000400	PERIMETER EROSION BARRIER	FOOT	851	851	
28100107	STONE RIPRAP, CLASS A4	SQ YD	1680		1680
28200200	FILTER FABRIC	SQ YD	1680		1680
35400300	PORTLAND CEMENT CONCRETE BASE COURSE WIDENING 8"	SQ YD	142	142	
40600100	BITUMINOUS MATERIALS (PRIME COAT)	GALLON	645	645	
40600300	AGGREGATE (PRIME COAT)	TON	6	6	
40600635	LEVELING BINDER (MACHINE METHOD), N70	TON	83	83	
40600982	HOT-MIX ASPHALT SURFACE REMOVAL - BUTT JOINT	SQ YD	165	165	
40600990	TEMPORARY RAMP	SQ YD	64	64	
40603340	HOT-MIX ASPHALT SURFACE COURSE, MIX "D", N70	TON	148	148	
40701866	HOT-MIX ASPHALT PAVEMENT (FULL-DEPTH), 9 1/4"	SQ YD	1026	1026	
40800050	INCIDENTAL HOT-MIX ASPHALT SURFACING	TON	4	4	
42001165	BRIDGE APPROACH PAVEMENT	SQ YD	222	222	
44000100	PAVEMENT REMOVAL	SQ YD	104	104	
44000151	HOT-MIX ASPHALT SURFACE REMOVAL, 1/2"	SQ YD	1521	1521	
44002600	GUTTER OUTLET REMOVAL	FOOT	311	311	
44200120	PAVEMENT PATCHING, TYPE II, 10 INCH	SQ YD	52	52	
48101600	AGGREGATE SHOULDERS, TYPE B 8"	SQ YD	481	481	
48203029	HOT-MIX ASPHALT SHOULDERS, 8"	SQ YD	491	491	
48203034	HOT-MIX ASPHALT SHOULDERS, 9 1/4"	SQ YD	382	382	
50100100	REMOVAL OF EXISTING STRUCTURES	EACH	1		1
50200100	STRUCTURE EXCAVATION	CU YD	182		182
50300100	FLOOR DRAINS	EACH	34		34

SUMMARY OF QUANTITIES

CODE NO	ITEM	UNIT	80% FED. 20% STATE TOTAL QUANTITIES	CONSTRUCTION TYPE CODE 1000	CONSTRUCTION TYPE CODE X081-2A
50300225	CONCRETE STRUCTURES	CU YD	100.6		100.6
50300255	CONCRETE SUPERSTRUCTURE	CU YD	286		286
50300260	BRIDGE DECK GROOVING	SQ YD	923		923
50300280	CONCRETE ENCASEMENT	CU YD	30.4		30.4
50300300	PROTECTIVE COAT	SQ YD	1172		1172
50401005	FURNISHING AND ERECTING PRECAST PRESTRESSED CONCRETE I-BEAMS, 48 IN.	FOOT	1275		1275
50800205	REINFORCEMENT BARS, EPOXY COATED	POUND	78330		78330
50800515	BAR SPLICERS	EACH	800		800
51200959	FURNISHING METAL SHELL PILES 14" X 0.312"	FOOT	994		994
51201600	FURNISHING STEEL PILES HP12X53	FOOT	640		640
51202305	DRIVING PILES	FOOT	1634		1634
51203200	TEST PILE METAL SHELLS	EACH	2		2
51203600	TEST PILE STEEL HP12X53	EACH	2		2
51205200	TEMPORARY SHEET PILING	SQ FT	822		822
51500100	NAME PLATES	EACH	1		1
54213447	END SECTIONS 12"	EACH	2	2	
59100100	GEOCOMPOSITE WALL DRAIN	SQ YD	81		81
60100905	PIPE DRAINS 4"	FOOT	26	26	
60100945	PIPE DRAINS 12"	FOOT	49	49	
60109580	PIPE UNDERDRAINS FOR STRUCTURES 4"	FOOT	152		152
60403500	GRATES, TYPE B	EACH	2	2	
60600095	CLASS SI CONCRETE (OUTLET)	CU YD	4.7	4.7	
60602800	CONCRETE GUTTER, TYPE B	FOOT	799	799	
60900515	CONCRETE THRUST BLOCKS	EACH	2	2	
* 63000000	STEEL PLATE BEAM GUARD RAIL, TYPE A	FOOT	787.5	787.5	
* 63100085	TRAFFIC BARRIER TERMINAL, TYPE 6	EACH	4	4	
* 63100167	TRAFFIC BARRIER TERMINAL, TYPE 1 (SPECIAL) TANGENT	EACH	4	4	
63200310	GUARDRAIL REMOVAL	FOOT	1213	1213	
66600105	FURNISHING AND ERECTING RIGHT-OF-WAY MARKERS	EACH	6	6	
66700205	PERMANENT SURVEY MARKERS, TYPE I	EACH	1	1	
66700305	PERMANENT SURVEY MARKERS, TYPE II	EACH	1	1	
67000400	ENGINEER'S FIELD OFFICE, TYPE A	CAL MO	9	9	
67100100	MOBILIZATION	L SUM	1	1	

* Specialty Items

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	PLOT DATE = $DATE$	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SUMMARY OF QUANTITIES

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

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1536	125BR	MACON	45	3
		CONTRACT NO. 74145		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

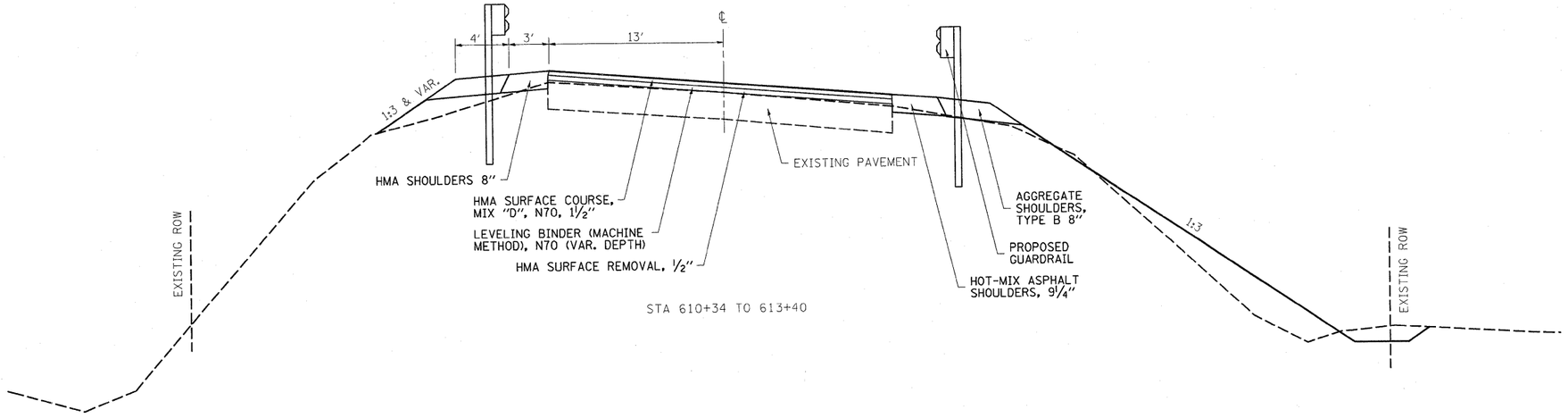
SUMMARY OF QUANTITIES

	CODE NO	ITEM	UNIT	80% FED. 20% STATE TOTAL QUANTITIES	CONSTRUCTION TYPE CODE 1000	CONSTRUCTION TYPE CODE X081-2A
	70100405	TRAFFIC CONTROL AND PROTECTION, STANDARD 701321	EACH	1	1	
	70100450	TRAFFIC CONTROL AND PROTECTION, STANDARD 701201	L SUM	1	1	
	70100460	TRAFFIC CONTROL AND PROTECTION, STANDARD 701306	L SUM	1	1	
	70100500	TRAFFIC CONTROL AND PROTECTION, STANDARD 701326	L SUM	1	1	
⚠	70100600	TRAFFIC CONTROL AND PROTECTION, STANDARD 701336	L SUM	1		
	70103815	TRAFFIC CONTROL SURVEILLANCE	CAL DA	4	4	
	70106500	TEMPORARY BRIDGE TRAFFIC SIGNALS	EACH	1	1	
	70106700	TEMPORARY RUMBLE STRIP	EACH	6	6	
	70300100	SHORT-TERM PAVEMENT MARKING	FOOT	250	250	
	70301000	WORK ZONE PAVEMENT MARKING REMOVAL	SQ FT	42	42	
	70400100	TEMPORARY CONCRETE BARRIER	FOOT	1013	1013	
	70400200	RELOCATE TEMPORARY CONCRETE BARRIER	FOOT	988	988	
*	78001110	PAINT PAVEMENT MARKING - LINE 4"	FOOT	4581	4581	
*	78200410	GUARDRAIL MARKERS, TYPE A	EACH	19	19	
*	78201000	TERMINAL MARKER - DIRECT APPLIED	EACH	4	4	
	78300100	PAVEMENT MARKING REMOVAL	SQ FT	623	623	
*	A2002316	TREE, BETULA NIGRA (RIVER BIRCH), 2" CALIPER, BALLED AND BURLAPPED	EACH	10	10	
*	B2001316	TREE, CORNUS FLORIDA (FLOWERING DOGWOOD), 2" CALIPER, TREE FORM, BALLED AND BURLAPPED	EACH	10	10	
*	D2002948	EVERGREEN, PINUS STROBUS (EASTERN WHITE PINE), 4' HEIGHT, BALLED AND BURLAPPED	EACH	5	5	
	X0321100	GEOTEXTILE RETAINING WALL	SQ FT	423		423
	X5020501	UNDERWATER STRUCTURE EXCAVATION PROTECTION - LOCATION 1	EACH	1		1
	X5020502	UNDERWATER STRUCTURE EXCAVATION PROTECTION - LOCATION 2	EACH	1		1
	Z0030250	IMPACT ATTENUATORS, TEMPORARY (NON-REDIRECTIVE), TEST LEVEL 3	EACH	2	2	
	Z0030350	IMPACT ATTENUATORS, RELOCATE (NON-REDIRECTIVE), TEST LEVEL 3	EACH	2	2	
	Z0048665	RAILROAD PROTECTIVE LIABILITY INSURANCE	L SUM	1	1	

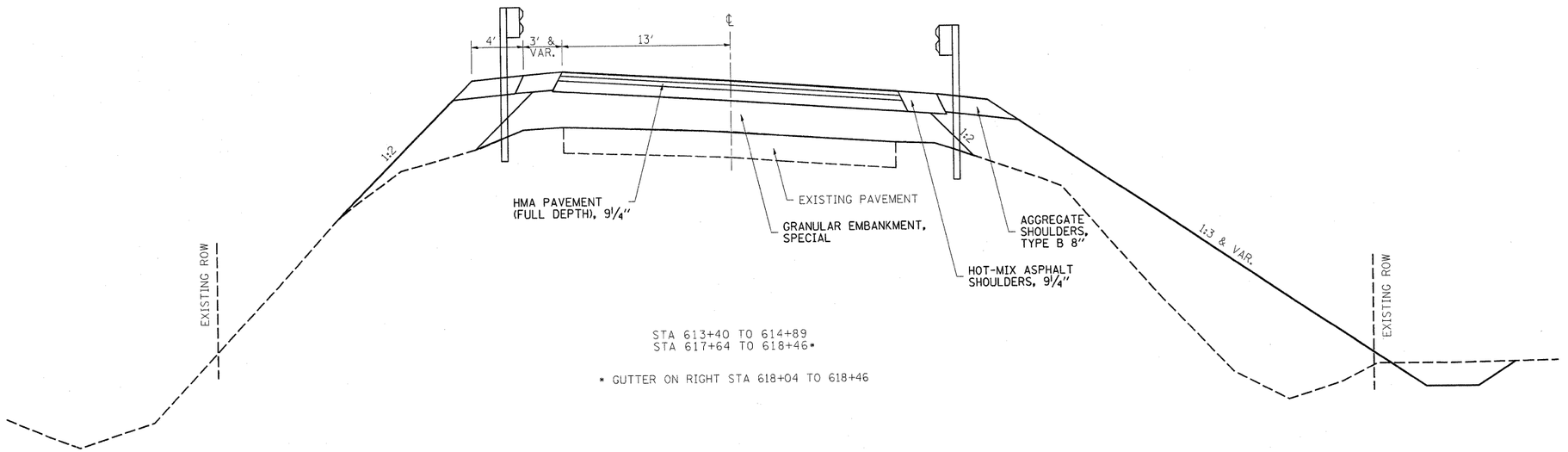
⚠ Rev. 12-19-08

* Specialty Items

FILE NAME = $FILEL$	USER NAME = $USER$	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	SUMMARY OF QUANTITIES			F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		DRAWN -	REVISED -					1536	125BR	MACON	45	4
	PLOT SCALE = $SCALE$	CHECKED -	REVISED -							CONTRACT NO. 74145		
	PLOT DATE = $DATE$	DATE -	REVISED -		SCALE:	SHEET NO. OF SHEETS	STA. TO STA.	FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		



STA 610+34 TO 613+40



STA 613+40 TO 614+89
STA 617+64 TO 618+46*

* GUTTER ON RIGHT STA 618+04 TO 618+46

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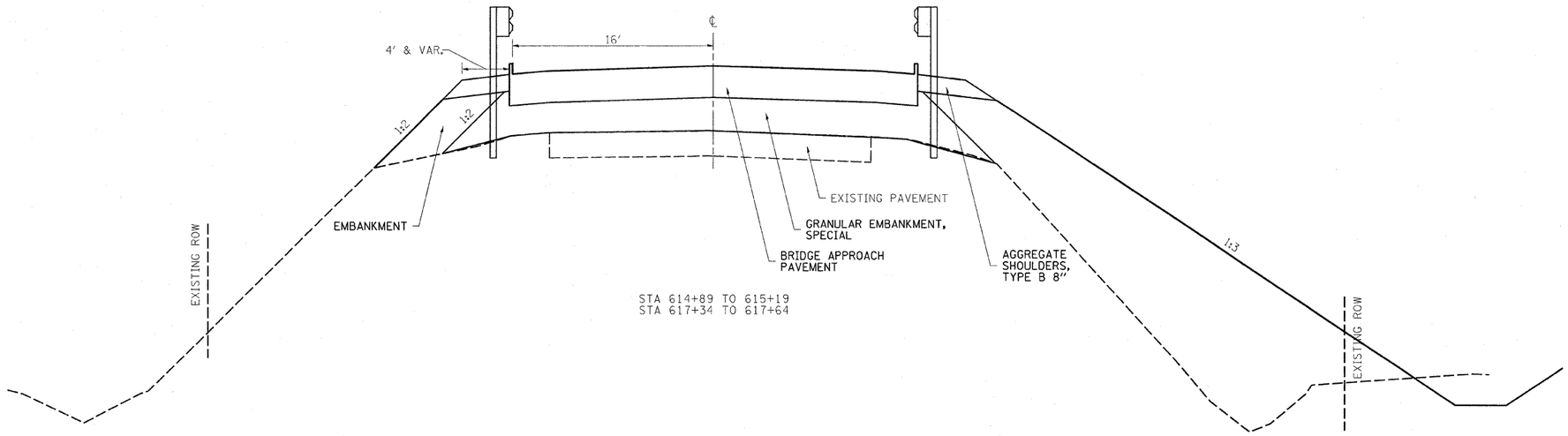
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

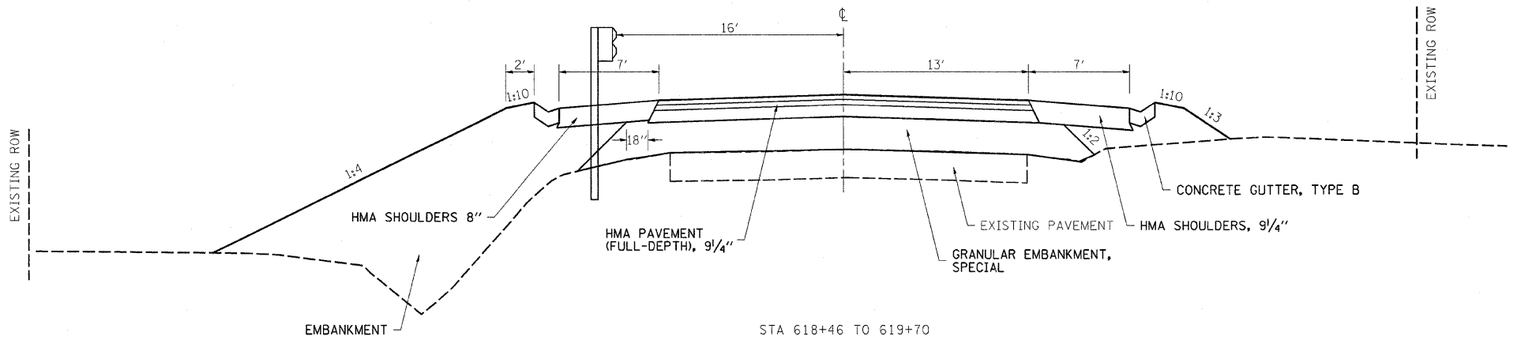
TYPICAL SECTIONS

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

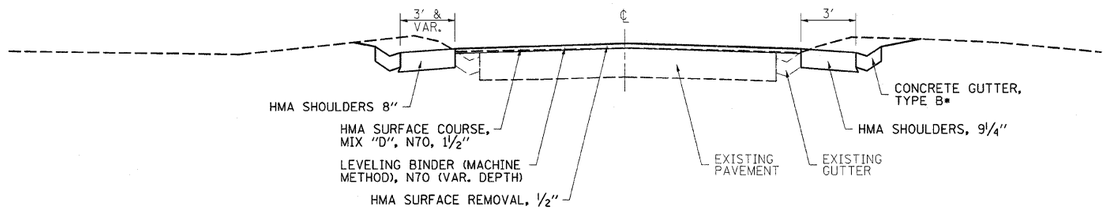
F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1536	125BR	MACON	45	5
		CONTRACT NO. 74145		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		



STA 614+89 TO 615+19
STA 617+34 TO 617+64



STA 618+46 TO 619+70



STA 619+70 TO 622+48 *

* GUTTER CONTINUES TO STA 622+77 ON LEFT

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

TYPICAL SECTIONS

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

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1536	125BR	MACON	45	6
		CONTRACT NO. 74145		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

EARTHWORK SCHEDULE

LOCATION	EARTH EXCAVATION	EXCAVATION TO BE USED IN EMBANKMENT ADJUSTED FOR SHRINKAGE	EMBANKMENT	EARTHWORK BALANCE WASTE(+) SHORTAGE(-)
	CU. YD.	CU. YD.	CU. YD.	CU. YD.
IL 48	216	162	1752	-1590

GUARDRAIL SCHEDULE

	STEEL PLATE BEAM GUARDRAIL, TYPE A	TRAFFIC BARRIER TERMINAL, TYPE 1 SPECIAL (TANGENT)	TRAFFIC BARRIER TERMINAL, TYPE 6	GUARDRAIL MARKER, TYPE A	TERMINAL MARKER, DIRECT APPLIED
	FOOT	EACH	EACH	EACH	EACH
LT STA 611+25 TO STA 611+75		1			1
LT STA 611+75 TO STA 614+75	300			6	
LT STA 614+75 TO STA 615+19			1		
RT STA 612+38 TO STA 612+88		1			1
RT STA 612+88 TO STA 614+75	187.5			5	
RT STA 614+75 TO STA 615+19			1		
LT STA 617+34 TO STA 617+78			1		
LT STA 617+78 TO STA 620+16	237.5			5	
LT STA 620+16 TO STA 620+66		1			1
RT STA 617+34 TO STA 617+78			1		
RT STA 617+78 TO STA 618+41	62.5			3	
RT STA 618+41 TO STA 618+91		1			1
TOTALS	787.5	4	4	19	4

RESURFACING SCHEDULE

STATION TO STATION	LENGTH	PAVEMENT WIDTH	AREA	BITUMINOUS MATERIAL (PRIME COAT)	AGGREGATE (PRIME COAT)	LEVELING BINDER (MACHINE METHOD) N70	HOT-MIX ASPHALT SURFACE COURSE, MIX "D", N70	HOT-MIX ASPHALT PAVEMENT (FULL DEPTH) 9 1/4"	SHORT-TERM PAVEMENT MARKING	WORK ZONE PAVEMENT MARKING REMOVAL
	FOOT	FOOT	SQ YD	GALLON	TON	TON	TON	SQ YD	FOOT	SQ FT
STA 61034.00TO STA 61280.00	246	26	711	71	1.4		59.7		49	8.2
STA 61280.00TO STA 61340.00	60	26	173	17	0.3	38	14.6		12	2.0
STA 61340.00TO STA 61489.00	149	26	430	215	0.9			431	31	5.0
BRIDGE OMISSION	275								55	9.2
STA 61764.00TO STA 61970.00	206	26	595	298	1.2			595	41	6.9
STA 61970.00TO STA 62030.00	60	26	173	17	0.3	45	14.6		12	2.0
STA 62030.00TO STA 62277.00	247	26	714	71	1.4		59.9		49	8.2
TOTAL QUANTITIES	1243		2796	690	6	83	148	1026	250	42

EROSION CONTROL BLANKET

	COMMENT	AREA
LT STA 613+00 TO 615+46	FORESLOPE	430 S.Y.
LT STA 617+58 TO 618+50	FORESLOPE	273 S.Y.
RT STA 614+00 TO 615+46	FORESLOPE	580 S.Y.
RT STA 617+58 TO 618+00	FORESLOPE	50 S.Y.
RT STA 612+00 TO 615+50	DITCH BOTTOM	467 S.Y.
TOTAL		1800 S.Y.

TEMPORARY DITCH CHECKS

RT STA 613+50	1 EACH
RT STA 615+00	1 EACH
TOTAL	2 EACH

POROUS GRANULAR EMBANKMENT

	VOLUME
STA 613+40 TO 615+19	282 C.Y.
STA 617+34 TO 619+70	416 C.Y.
TOTAL	698 C.Y.

TEMPORARY RAMP

610+34 TO 610+39	14 S.Y.
614+84 TO 614+89	18 S.Y.
617+64 TO 617+69	18 S.Y.
622+72 TO 622+77	14 S.Y.
TOTAL	64 S.Y.

PERIMETER EROSION BARRIER

LT STA 612+00 TO 615+19	319 FOOT
LT STA 617+34 TO 620+00	266 FOOT
RT STA 617+34 TO 620+00	266 FOOT
TOTAL	851 FOOT

GUARDRAIL REMOVAL

LT STA 610+35 TO 615+46	512.5 FOOT
RT STA 611+18 TO 615+46	425 FOOT
LT STA 617+58 TO 619+33	175.5 FOOT
RT STA 617+58 TO 618+59	100 FOOT
TOTAL	1213 FOOT

GUTTER OUTLET REMOVAL

RT STA 617+45 TO 619+80	237 FOOT
LT STA 619+09 TO 619+80	74 FOOT
TOTAL	311 FOOT

TREE REMOVAL

	LENGTH	WIDTH	AREA
LT STA 610+00 TO 612+25	225	17	0.09
LT STA 617+30 TO 619+15	185	26	0.11
TOTAL			0.2

PAINT PAVEMENT MARKING - LINE 4"

	COMMENT	LENGTH
STA 609+84 TO 623+27	EDGE LINES	2686 FOOT
STA 609+84 TO 623+27	SKIP DASH	264 FOOT
STA 609+84 TO 623+27	NPZ	1631 FOOT
TOTAL		4581 FOOT

PERMANENT SURVEY MARKERS, TYPE I

P.T. STA 614+13.50	1 EACH

AGGREGATE SHOULDERS, TYPE B 8"

	WIDTH	AREA
LT STA 610+34 TO 615+19	4'	216 S.Y.
RT STA 611+16 TO 615+19	4'	179 S.Y.
LT STA 617+34 TO 618+46	VAR.	53 S.Y.
RT STA 617+34 TO 618+04	VAR.	33 S.Y.
TOTAL		481 S.Y.

HMA SHOULDERS, 8"

	WIDTH	AREA
LT STA 610+34 TO 614+89	3'	152 S.Y.
LT STA 617+64 TO 618+46	VAR.	52 S.Y.
LT STA 618+46 TO 620+76	VAR.	192 S.Y.
LT STA 620+76 TO 621+00	VAR.	16 S.Y.
LT STA 621+00 TO 622+77	4'	79 S.Y.
TOTAL		491 S.Y.

HMA SHOULDERS, 9 1/4 "

	WIDTH	AREA
RT STA 611+16 TO 614+89	3'	124 S.Y.
RT STA 617+64 TO 618+04	VAR.	26 S.Y.
RT STA 618+04 TO 619+01	7'	75 S.Y.
RT STA 619+01 TO 619+25	VAR.	13 S.Y.
RT STA 619+25 TO 622+48	4'	144 S.Y.
TOTAL		382 S.Y.

GUTTER

LOCATION	CLASS SI CONCRETE (OUTLET)	CONCRETE GUTTER, TYPE B
RT STA 618+04 TO 618+30	1.7 C.Y.	
RT STA 618+30 TO 622+36		406 FOOT
LT STA 618+46 TO 618+72	1.7 C.Y.	
LT STA 618+72 TO 622+65		393 FOOT
RT STA 622+36 TO 622+48	0.65 C.Y.	
LT STA 622+65 TO 622+77	0.65 C.Y.	
TOTALS	4.7 C.Y.	799 FOOT

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REVISED - | REVISED - | REVISED -

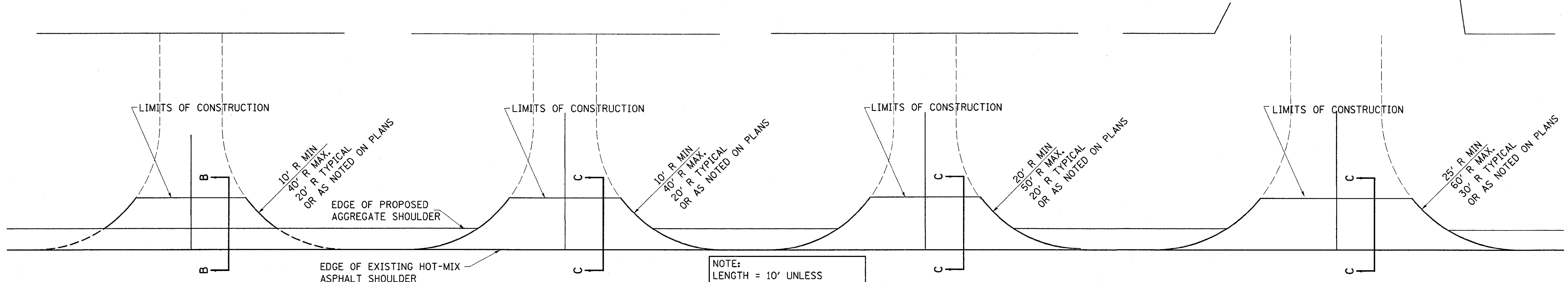
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SCHEDULES

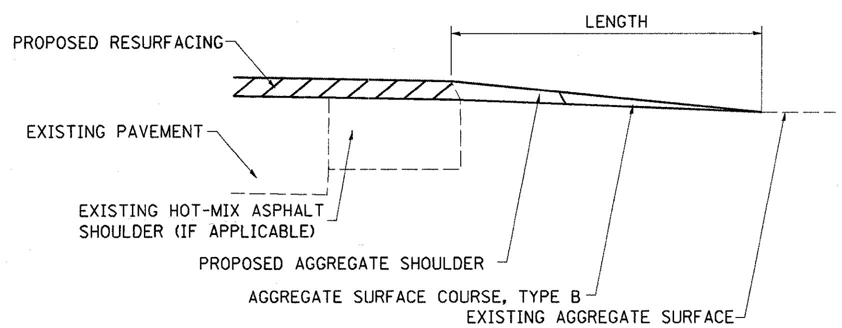
F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1536	125BR	MACON	45	7

CONTRACT NO. 74145

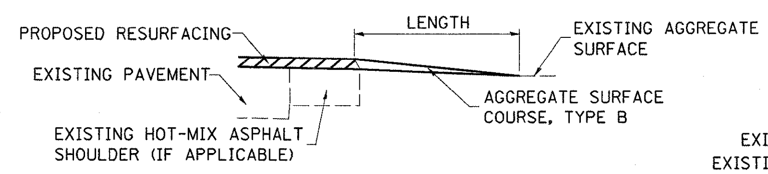
FIELD ENTRANCE | PRIVATE ENTRANCE | COMMERCIAL ENTRANCE | PUBLIC ROAD APPROACH

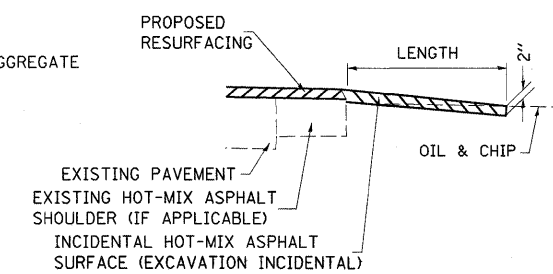


NOTE:
LENGTH = 10' UNLESS OTHERWISE NOTED ON PLANS.

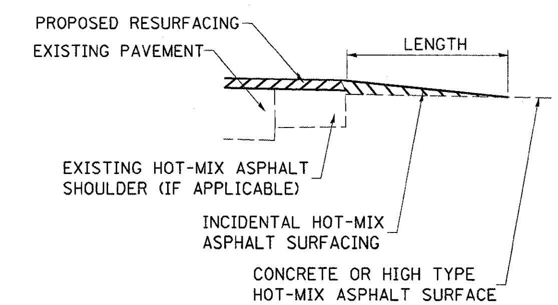


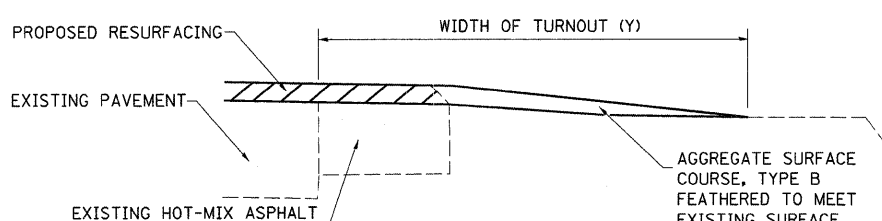
SECTION B-B





SECTION C-C





SECTION D-D

TYPICAL SECTION AT MAILBOX TURNOUT

NOTE: SEE STANDARD 406201 FOR MAILBOX TURNOUT DETAILS

NOTES

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

THE COST OF EXCAVATION IS INCLUDED IN THE PAY ITEM INCINDENTAL HOT-MIX ASPHALT SURFACING.

IF THERE IS NOT EXISTING HOT-MIX ASPHALT SHOULDER THEN THE ENTRANCE TAPER STARTS AT THE EDGE OF EXISTING PAVEMENT.

SIDE	STATION	TYPE	INCIDENTAL HOT-MIX ASPHALT SURFACING	AGGREGATE SURFACE COURSE, TYPE B
			TON	TON
RT	611+00	PE	1.7	
RT	622+60	PRA	2.3	
	TOTAL		4.0	

SIDE	STATION	TYPE	INCIDENTAL HOT-MIX ASPHALT SURFACING	AGGREGATE SURFACE COURSE, TYPE B
			TON	TON

SIDE	STATION	TYPE	INCIDENTAL HOT-MIX ASPHALT SURFACING	AGGREGATE SURFACE COURSE, TYPE B
			TON	TON

SIDE	STATION	TYPE	INCIDENTAL HOT-MIX ASPHALT SURFACING	AGGREGATE SURFACE COURSE, TYPE B
			TON	TON

SIDE	STATION	TYPE	INCIDENTAL HOT-MIX ASPHALT SURFACING	AGGREGATE SURFACE COURSE, TYPE B
			TON	TON

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

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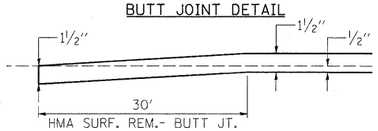
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

RURAL ENTRANCE SCHEDULE AND MAILBOX TURNOUT DETAILS WITH EXISTING HOT-MIX ASPHALT SHOULDERS

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1536	125BR	MACON	45	8
		CONTRACT NO. 74145		

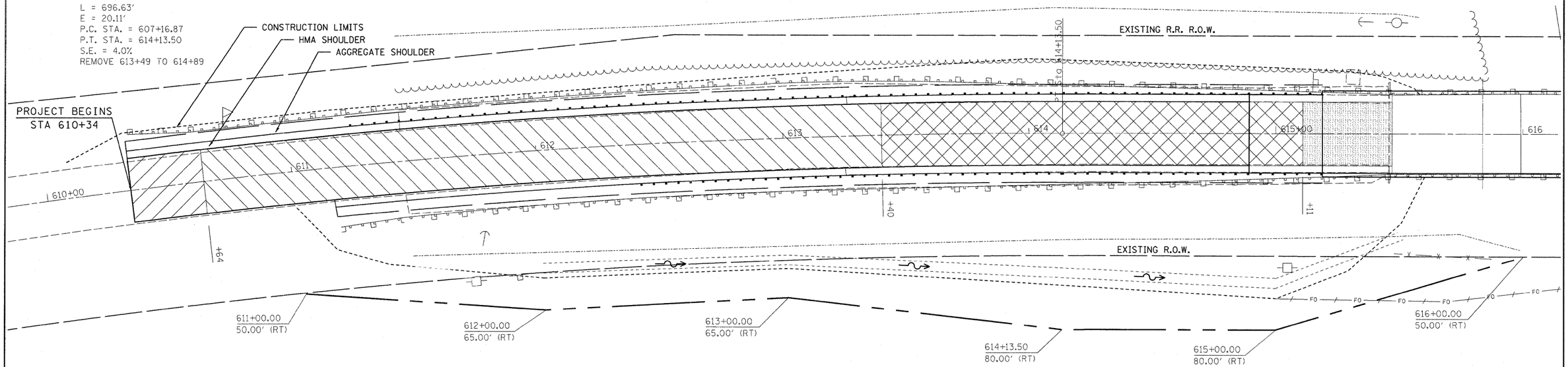
BUTT JOINT DETAIL



EXIST. CURVE C1
PI STA. = 610+66.73
Δ = 13° 09' 40" (RT)
D = 1° 53' 21"
R = 3,032.70'
T = 349.86'
L = 696.63'
E = 20.11'
P.C. STA. = 607+16.87
P.T. STA. = 614+13.50
S.E. = 4.0%
REMOVE 613+49 TO 614+89

PAVEMENT REMOVAL
BREAK EXISTING PAVEMENT (NO PAY)
HMA SURF. REM. 1/2"
HMA SURF. REM. - BUTT JT.

N



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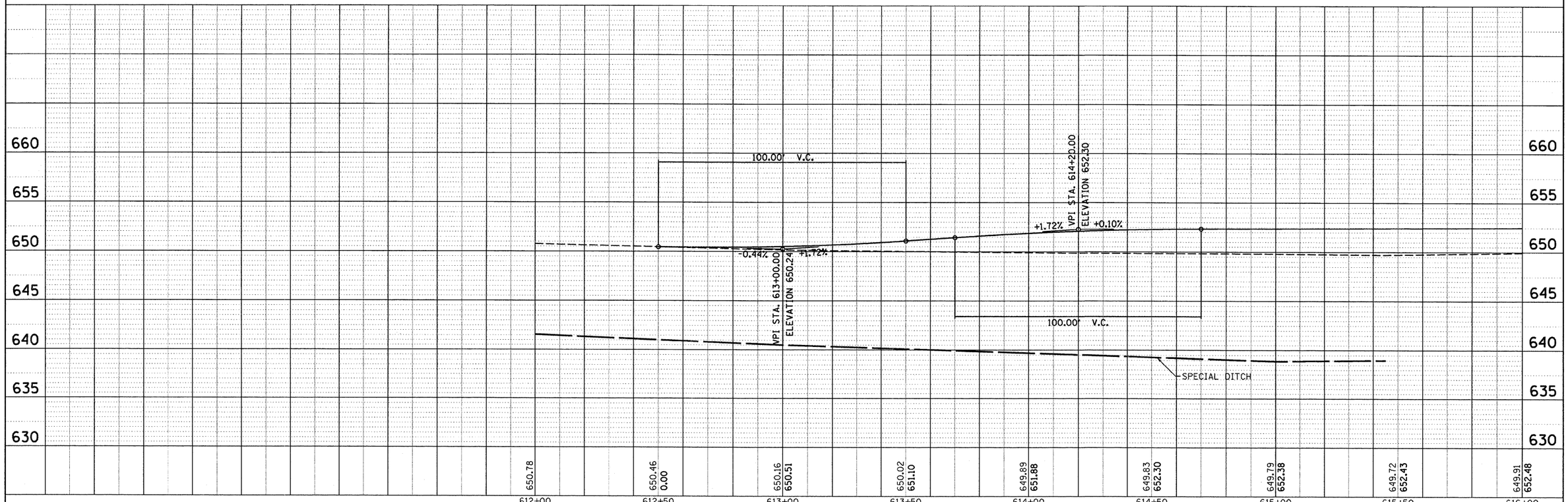
PLOTTED
ALIGNMENT CHECKED
RT. OF WAY CHECKED
CADD FILE NAME
NOTE BOOK
NO.
BY
DATE



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DRAWN
CHECKED
B.M. NOTED
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TAPING CHKD
NOTE BOOK
NO.
BY
DATE

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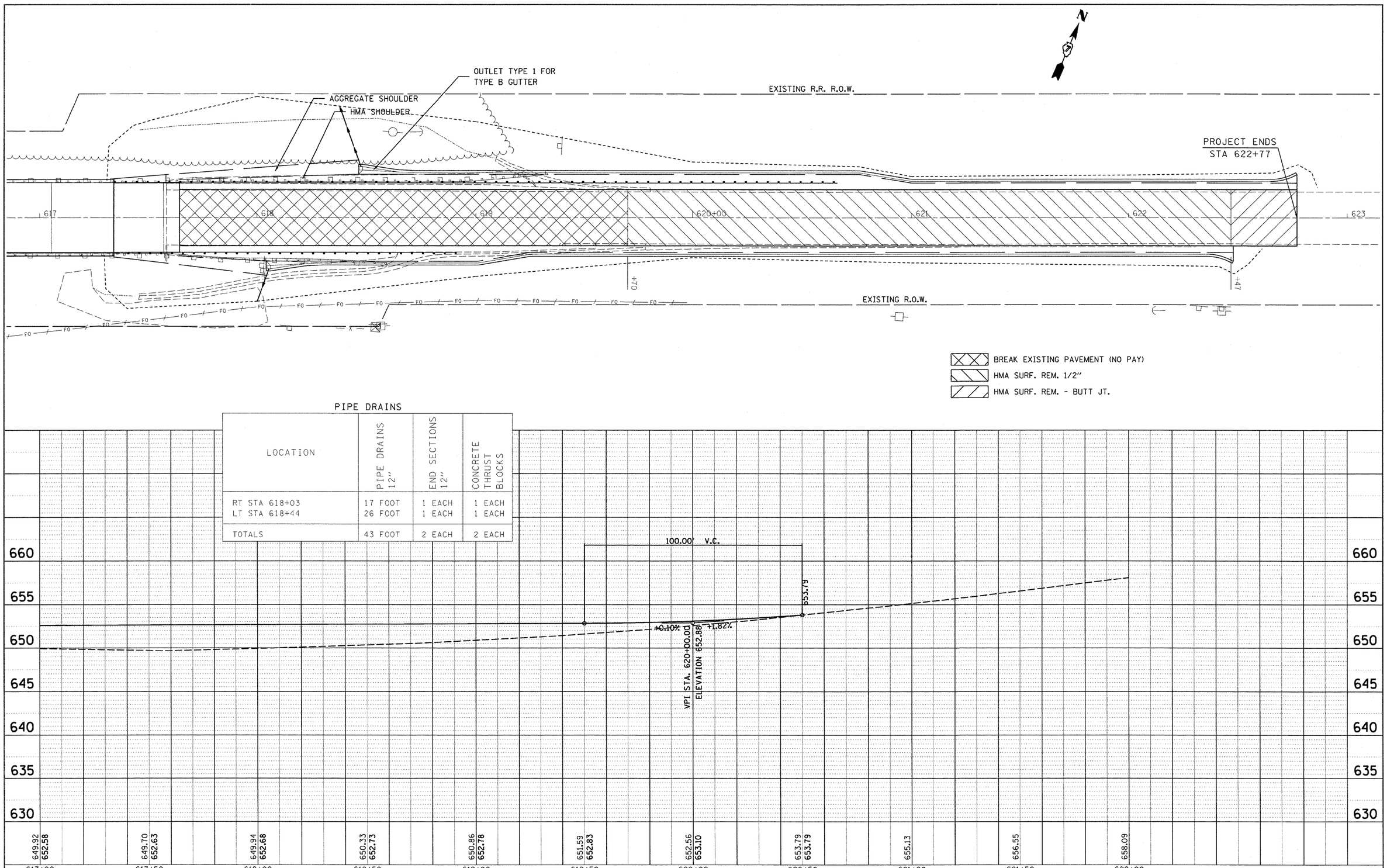
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PLAN & PROFILE
SHEET 1

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1536	125BR	MACON	45	9

CONTRACT NO. 74145



PLAN
SURVEYED BY
PLOTTED DATE
AUTHORIZED CHECKED
RT. OF WAY CHECKED
NOTE BOOK
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CADD FILE NAME

PIPE DRAINS

LOCATION	PIPE DRAINS 12"	END SECTIONS 12"	CONCRETE THRUST BLOCKS
RT STA 618+03	17 FOOT	1 EACH	1 EACH
LT STA 618+44	26 FOOT	1 EACH	1 EACH
TOTALS	43 FOOT	2 EACH	2 EACH

PROFILE
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AUTHORIZED CHECKED
R.R. NOTED
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STRUCTURE NOTATIONS GIVEN

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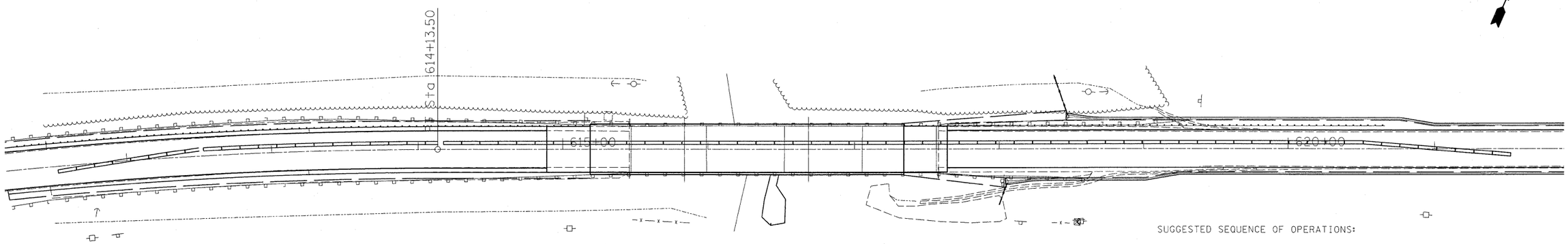
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PLAN & PROFILE
SHEET 2

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1536	125BR	MACON	45	10
		CONTRACT NO. 74145		



PAVEMENT MARKING REMOVAL

	COMMENT	AREA
LT STA 609+80 TO 623+14	EDGE LINE	445 S.F.
STA 609+80 TO 611+96	CENTERLINES	90 S.F.
STA 621+04 TO 623+14	CENTERLINES	88 S.F.
TOTAL		623 S.F.

PCC BASE COURSE WIDENING 8"

LT STA 611+48 TO 613+26	60 S.Y.
LT STA 619+05 TO 621+52	82 S.Y.
TOTAL	142 S.Y.

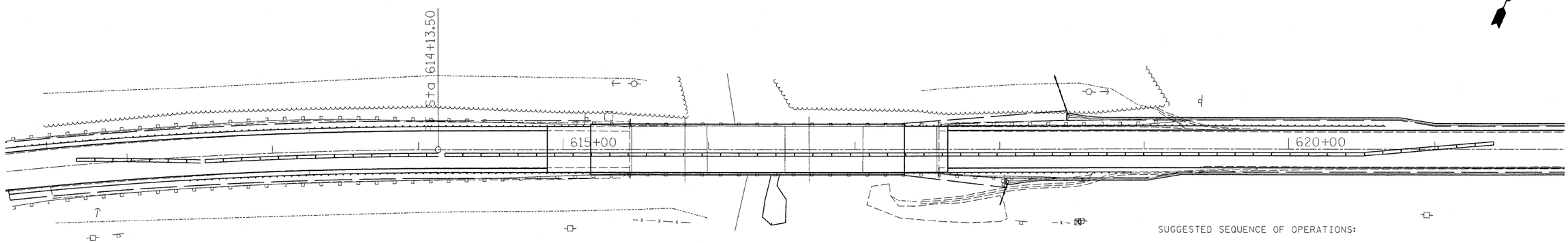
TEMPORARY BARRIER

LOCATION	TEMPORARY CONCRETE BARRIER	RELOCATE TEMPORARY CONCRETE BARRIER
STA 611+44 TO 621+57	1013 FOOT	
STA 611+56 TO 621+46		988 FOOT

SUGGESTED SEQUENCE OF OPERATIONS:

1. CONSTRUCT BASE COURSE WIDENING 3' WIDE TO SUPPLEMENT EXISTING WIDENING WEST OF BRIDGE AND TO REPLACE EXISTING GUTTER OUTLET EAST OF BRIDGE.
2. INSTALL STANDARD 701321 AND BARRIER FOR STAGE 1.
3. REMOVE A PORTION OF EXISTING STRUCTURE AND CONSTRUCT STAGE 1 OF PROPOSED STRUCTURE.
4. CONSTRUCT EARTHWORK FOR STAGE 1.
5. CONSTRUCT HMA FULL DEPTH PAVEMENT (EXCEPT SURFACE COURSE), BRIDGE APPROACHES, SHOULDERS AND GUTTERS.
6. CONSTRUCT PROPOSED GUARDRAIL.

STAGE 1



SUGGESTED SEQUENCE OF OPERATIONS:

1. RELOCATE BARRIER AND SWITCH TRAFFIC TO STAGE 2 CONFIGURATION.
2. REMOVE REMAINDER OF EXISTING STRUCTURE AND CONSTRUCT REMAINDER OF PROPOSED STRUCTURE.
3. CONSTRUCT NEW DITCHES AND EMBANKMENT.
4. CONSTRUCT HMA FULL DEPTH PAVEMENT (EXCEPT SURFACE COURSE), BRIDGE APPROACHES, SHOULDERS AND GUTTER.
5. CONSTRUCT PROPOSED GUARDRAIL.
6. OPEN BRIDGE TO TWO WAY TRAFFIC.
7. CONSTRUCT SURFACE COURSE.

STAGE 2

SEE STANDARD 701321 FOR ADDITIONAL TRAFFIC CONTROL REQUIREMENTS.

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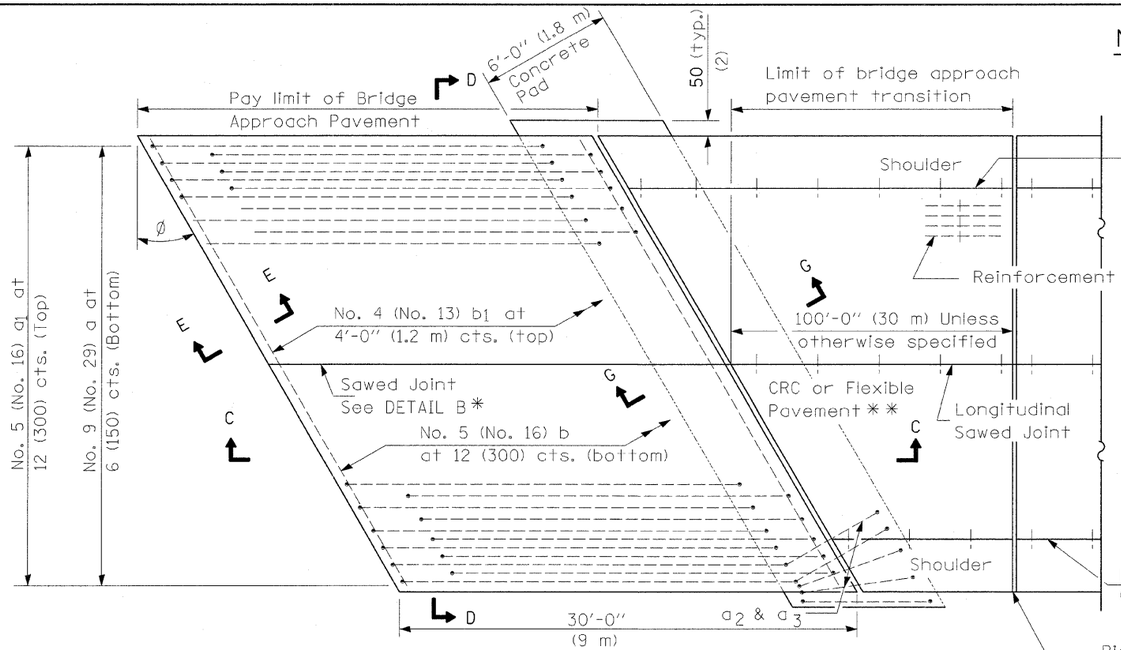
STAGE CONSTRUCTION

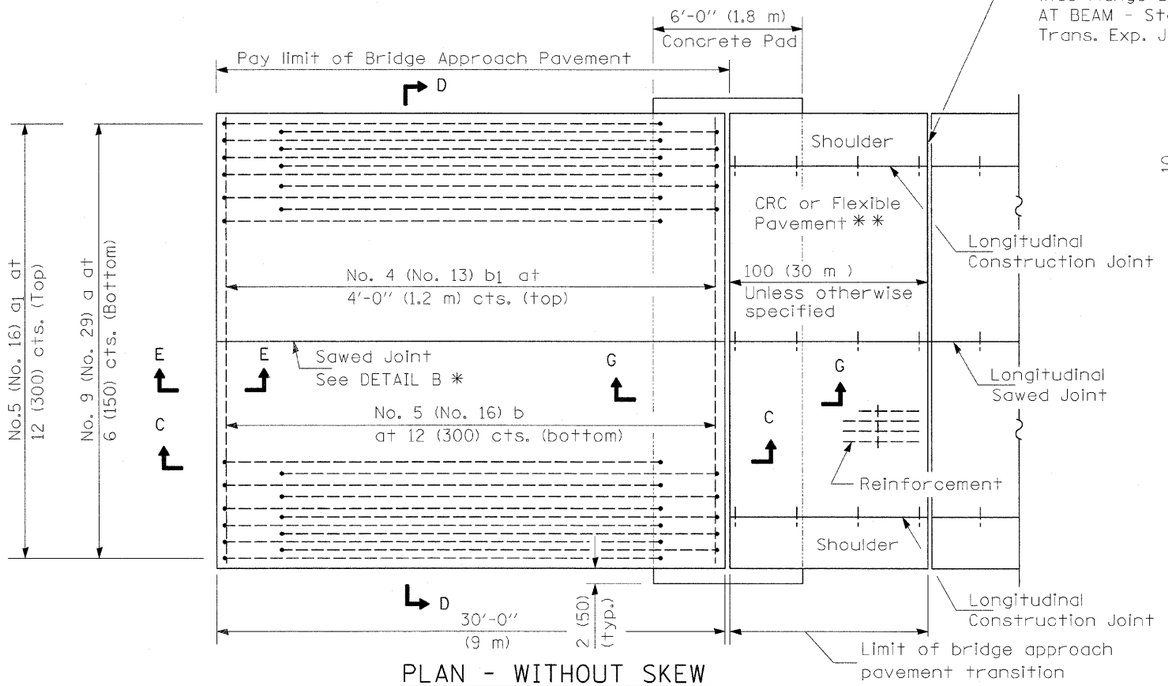
SCALE = | SHEET NO. OF SHEETS | STA. TO STA.

F.A.S RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1536	125BR	MACON	45	11
		CONTRACT NO. 74145		

NEW CONSTRUCTION



PLAN - WITH SKEW



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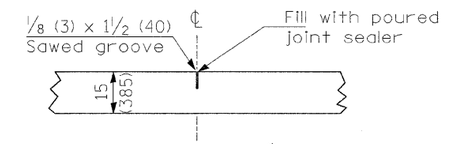
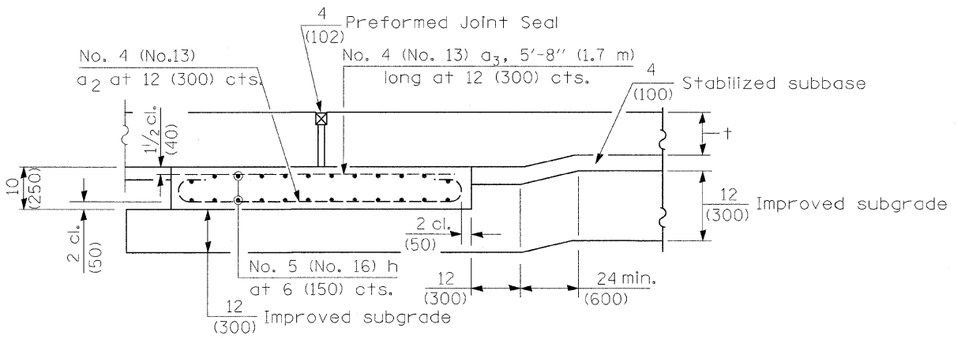


DETAIL B*

(Reinforcement Not Shown)

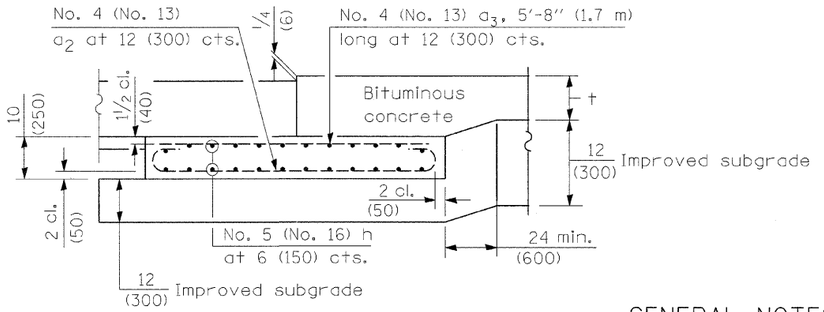


SECTION G-G - RIGID PAVEMENT

(Showing reinforcement)

Rigid Pavement only:

Wide Flange Beam Terminal Joint (See DETAIL AT BEAM - Standard 421101 or 421106) or 2 (50) Trans. Exp. Joint as detailed on Standard 420001.



SECTION G-G - FLEXIBLE PAVEMENT

(Showing reinforcement)

GENERAL NOTES

THICKNESS-"t"=Thickness of Pavement.

See Standard 421001 for reinforcement details not shown.

See Standard 420001 for joint details not shown.

All dimensions are in inches (millimeters) unless otherwise shown.

* Saw ℄ or lane edge if poured two or more lane widths at a time.

** Omit Reinforcement, tie bars and Long. sawed Jt. for Flexible Pavement.

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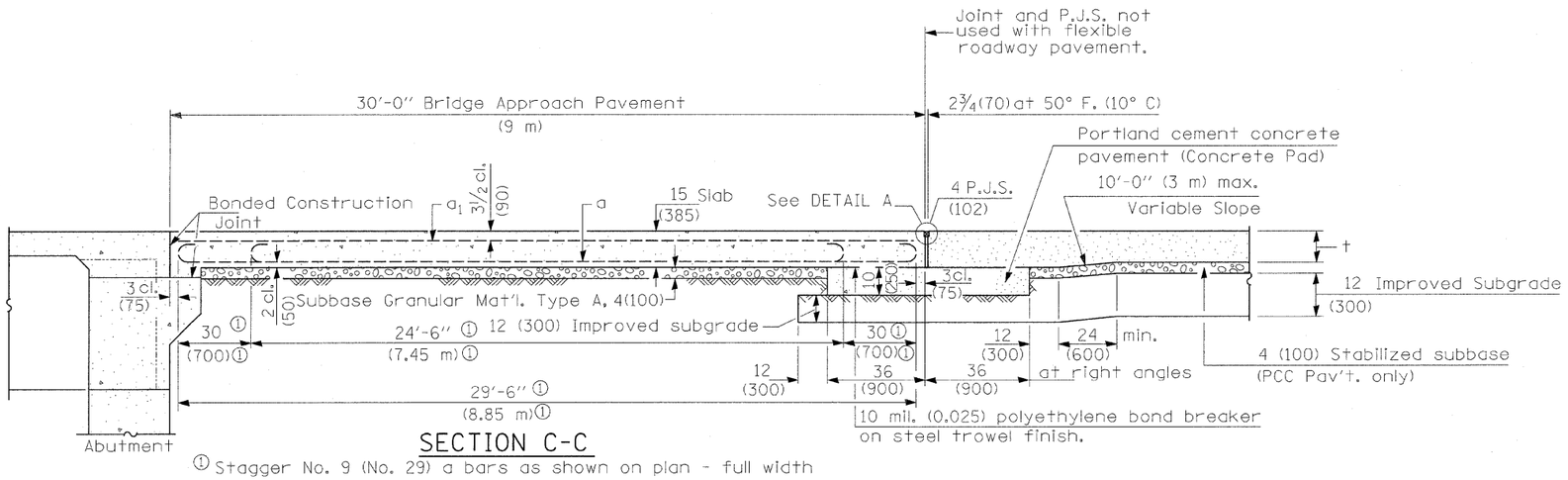
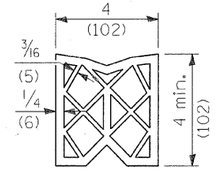
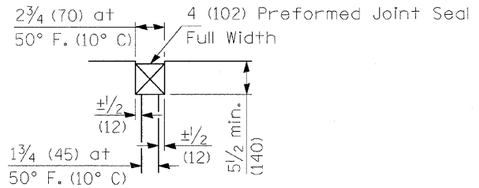


SECTION C-C

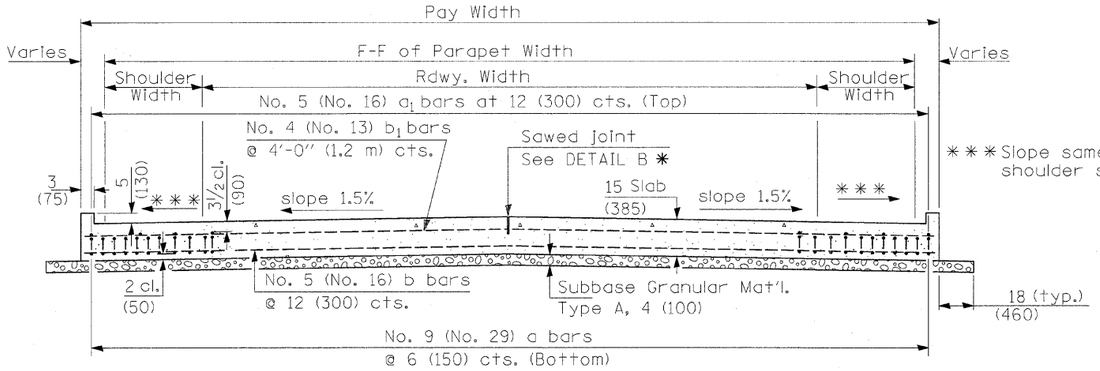
① Stagger No. 9 (No. 29) a bars as shown on plan - full width



PREFORMED JOINT SEAL

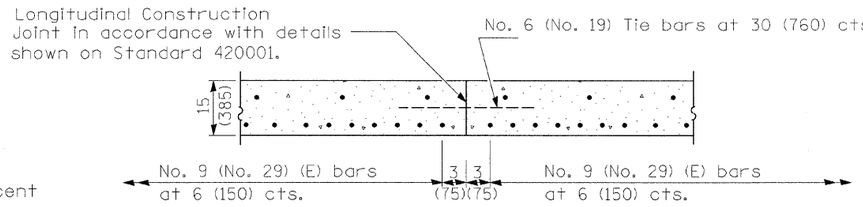


DETAIL A



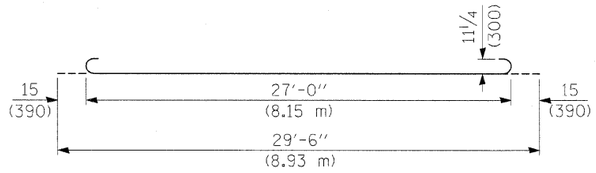
SECTION D-D

(See Plan for Dimensions not shown)

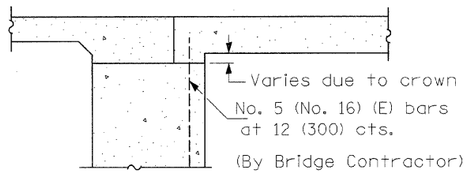


OPTIONAL LONGITUDINAL CONSTRUCTION JOINT

As approved by the Engineer, the Contractor may elect to reduce the widths of pour by use of the Optional Longitudinal Construction Joint shown. Joints shall be located at the edge of a traffic lane.

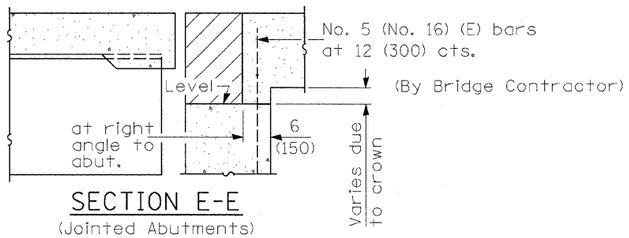


BAR a



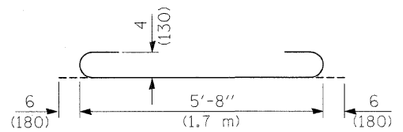
SECTION E-E

(Integral Abutments)



SECTION E-E

(Jointed Abutments)



BAR a_2

DESIGN STRESSES

fy = 60,000 p.s.i. (400 MPa)
f'c = 3,500 p.s.i. (24 MPa)
n = 8.5

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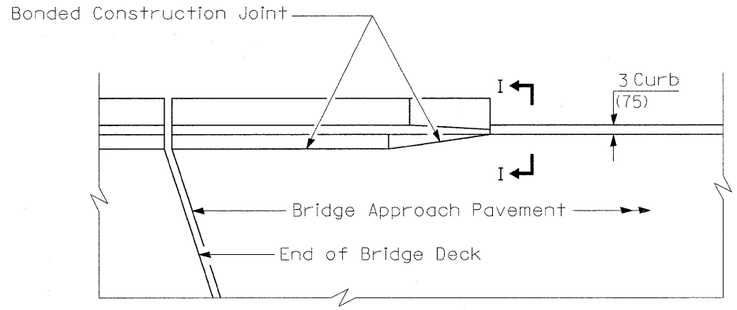
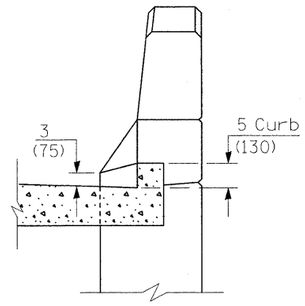
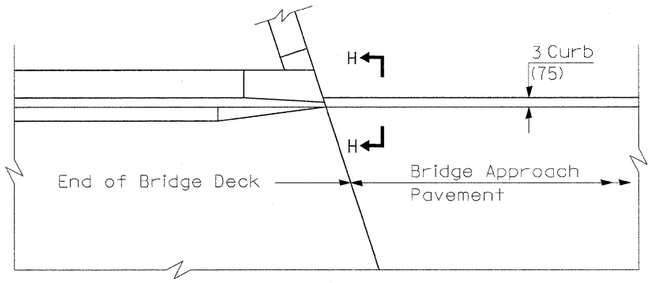
	PLOT DATE = 10/20/2008	CHECKED -	REVISED -					CONTRACT NO. 74145		
		DATE -	REVISED -		SCALE: SHEET NO. OF SHEETS STA. TO STA.	FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		



PARAPET TO CURB TRANSITION
PILE BENT ABUTMENT



SECTION I - I



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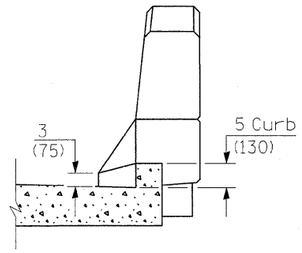

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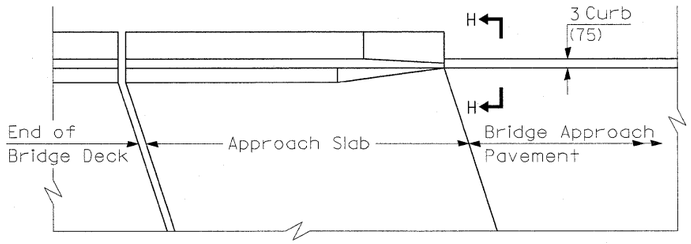

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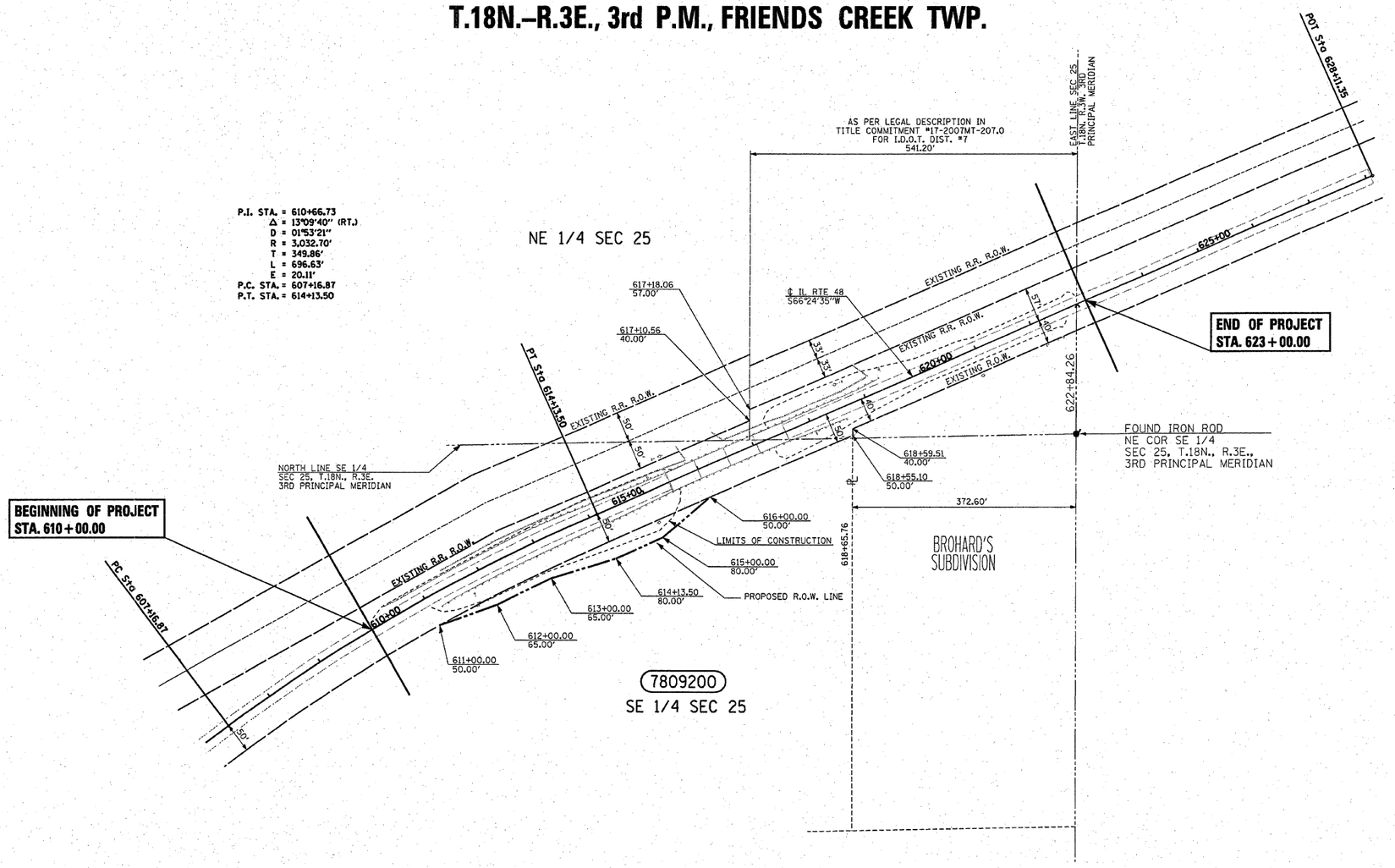
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BRIDGE APPROACH PAVEMENT DETAILS

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1536	125BR	MACON	45	11c
		CONTRACT NO. 74145		

T.18N.–R.3E., 3rd P.M., FRIENDS CREEK TWP.



PARCEL	OWNER	AREA TAKEN		EASEMENT	AREA REM	INST	RECORDED				EXCESS	
		ADD	EXIST				MICRO FILM NO.	DATE	BOOK	PAGE	AREA	SOLD
7809200	RICHARD MANLEY GARRIOTT	0.204 AC.	0.00 AC.		9.997 AC.							

BEARINGS REFERENCED TO ILLINOIS
STATE PLANE COORDINATE SYSTEM, NAD 83
ILLINOIS EAST ZONE

FILE NAME: c:\projects\74145cl\02-right of way plan.dgn	USER NAME = davidsonjs	DESIGNED - KES	REVISED -
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	PLOT DATE = 9/3/2008	DATE - 8/12/08	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

RIGHT OF WAY PLANS

	PROJECT	JOB NO. R-97-009-08
SCALE: 1"=100'	SHEET NO. 2 OF 2 SHEETS	STA. 611+00 TO STA. 616+00

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1536	125BR	MACON	45	12
		CONTRACT NO. 74145		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

Bench Mark: BM 4261-6: Chiseled square on the top of the Southwest wingwall of bridge, 16.7' RT. Elevation 649.44

Existing Structure: S.N. 058-0046 Built 1931 as S.B.I. Rt. 48 Sec. 125B at Station 616+52 as a four span reinforced concrete T-beam 212' Bk.-Bk. abutment and out to out of deck width of 32'-6" supported on untreated timber piles.
Bridge widening in 1970 with PPC deck beams & bituminous overlay.
Existing bridge to be removed & replaced.
Traffic to be maintained utilizing stage construction.

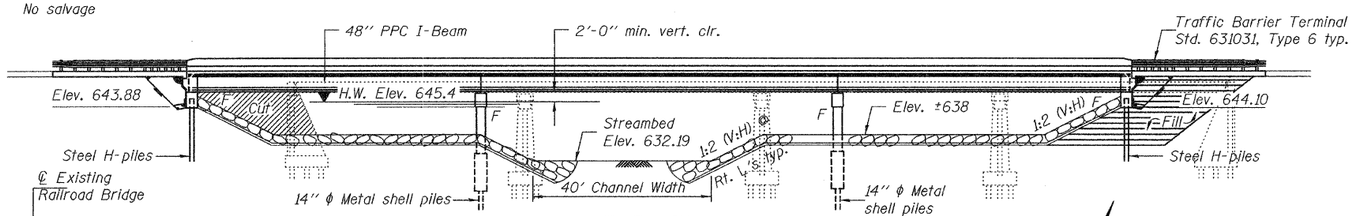
No salvage

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

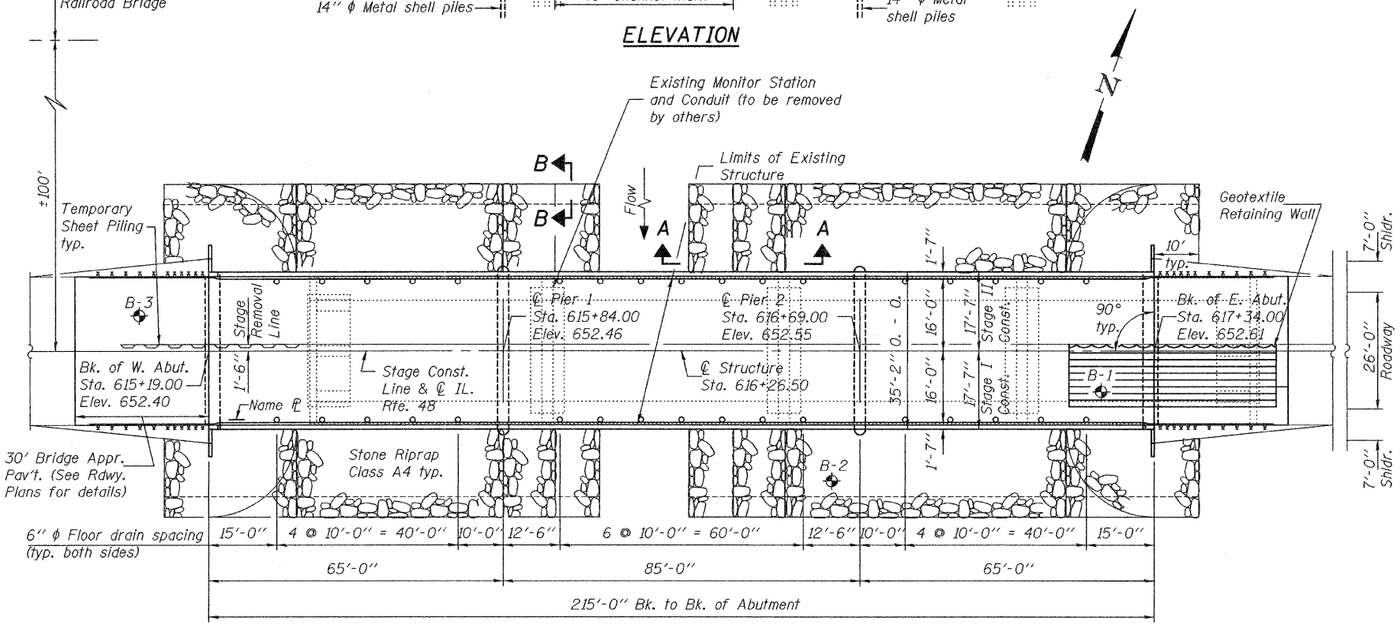
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAS 1536	125BR	Macon	45	13
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

SHEET NO. 1
29 SHEETS

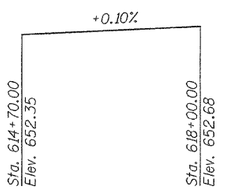
Contract #74145



ELEVATION



PLAN



PROFILE GRADE
(along ℄ Roadway)

STATION 616+26.50
BUILT 200 BY
STATE OF ILLINOIS
F.A.S. ROUTE 1536 - SECTION 125BR
LOADING HL93
STRUCTURE NO. 058-0132

NAME PLATE
See Std. 515001

DESIGNED				
CHECKED	Libbie R. Bartlett			
DRAWN	W.D. Collins	BML		
CHECKED	GREA	NRB		

EXAMINED November 14, 2008
ENGINEER OF BRIDGE DESIGN
PASSED
ENGINEER OF BRIDGES AND STRUCTURES

STATE OF ILLINOIS · RALPH E. ANDERSON · 081-004625 · LICENSED STRUCTURAL ENGINEER · SPRINGFIELD

EXPIRES 11-30-2010

Design Scour Elevation (feet)	West Abut.	Pier 1	Pier 2	East Abut.
	643.88	626.0	626.0	644.10

WATERWAY INFORMATION

Existing Low Grade Elev. 649.7 @ Sta. 617+50

Drainage Area = 114.5 mi.² Proposed Low Grade Elev. 652.1 @ Sta. 612+00

Flood	Freq. Yr.	Q C.F.S.	Opening Sq. Ft. Exist.	Opening Sq. Ft. Prop.	Nat. H.W.E.	Head - Ft. Exist.	Head - Ft. Prop.	Headwater El. Exist.	Headwater El. Prop.
	10	3760	1253	1274	643.3	0.4	0.3	643.7	643.6
Design	50	6130	1599	1605	645.4	0.5	0.4	645.9	645.8
Base	100	7260	1599	1767	646.3	0.6	0.4	646.9	646.7
Max. Calc.	500	10200	1599	2046	648.1	1.1	0.6	649.2	648.7

10 year velocity through Existing Bridge = 3.0 fps 10 year velocity through Proposed Bridge = 3.0 fps

GENERAL NOTES

Reinforcement bars shall conform to the requirements of ASTM A 706 Gr 60 (IL Modified). See Special Provisions

Reinforcement bars designated (E) shall be epoxy coated.

Layout of the slope protection system may be varied in the field to suit ground conditions as directed by the Engineer.

The embankment configuration shown shall be the minimum that must be placed and compacted prior to construction of the abutments.

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

The Contractor is advised that the existing concrete superstructure is a continuous structure and removal must be done in a proper sequence, possibly falsework support. See Special Provisions.

Slip-forming of the parapets is not allowed.

INDEX OF SHEETS

TOTAL BILL OF MATERIAL

ITEM	UNIT	SUPER	SUB	TOTAL
Porous Granular Embankment (Special)	Cu. Yd.		153.0	153.0
Stone Riprap, Class A4	Sq. Yd.		1680	1680
Filter Fabric	Sq. Yd.		1680	1680
Removal of Existing Structure	Each	1		1
Structure Excavation	Cu. Yd.		182	182
Floor Drains	Each	34		34
Concrete Structures	Cu. Yd.		100.6	100.6
Concrete Superstructure	Cu. Yd.	286.0		286.0
* Bridge Deck Grooving	Sq. Yd.	923		923
Concrete Encasement	Cu. Yd.		30.4	30.4
* Protective Coat	Sq. Yd.	1172		1172
Furnishing and Erecting Precast Prestressed Concrete I Beams, 48"	Foot	1275		1275
Reinforcement Bars, Epoxy Coated	Pound	66,050	12,280	78,330
Bar Splicers	Each	720	80	800
Furnishing Metal Shell Piles 14"x0.312"	Foot		994	994
Furnishing Steel Piles HP12x53	Foot		640	640
Driving Piles	Foot		1634	1634
Test Pile Metal Shells	Each		2	2
Test Pile Steel HP12x53	Each		2	2
Temporary Sheet Piling	Sq. Ft.		822	822
Name Plates	Each	1		1
Geocomposite Wall Drain	Sq. Yd.		81	81
Pipe Underdrains for Structures, 4"	Foot		152	152
Geotextile Retaining Wall	Sq. Ft.		395.0	395.0
Underwater Structure Excavation Protection, Location 1	Each		1	1
Underwater Structure Excavation Protection, Location 2	Each		1	1

*Quantities include bridge and approach pavement.

LOADING HL-93
Allow 50#/sq. ft. for future wearing surface.

DESIGN SPECIFICATIONS
2004 LRFD AASHTO w/2005 & 2006 Interims

DESIGN STRESSES

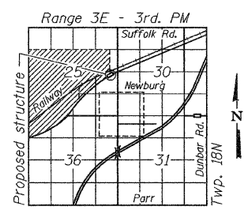
FIELD UNITS

f'_c = 3,500 psi
f_y = 60,000 psi (reinforcement)

PRECAST PRESTRESSED UNITS

f'_c = 6,000 psi
f'_{ci} = 5,000 psi
f'_s = 270,000 psi (½"ϕ low lax. strands)
f_{si} = 201,960 psi (½"ϕ low lax strands)

SEISMIC DATA
Seismic Performance Zone (SPZ) = 1
Bedrock Acceleration Coefficient (A) = 4.5%g
Site Coefficient (S) = 1.0



LOCATION SKETCH

GENERAL PLAN
IL. ROUTE 48 OVER
FRIENDS CREEK
F.A.S. ROUTE 1536 - SEC. 125BR
MACON COUNTY
STATION 616+26.50
STRUCTURE NO. 058-0132

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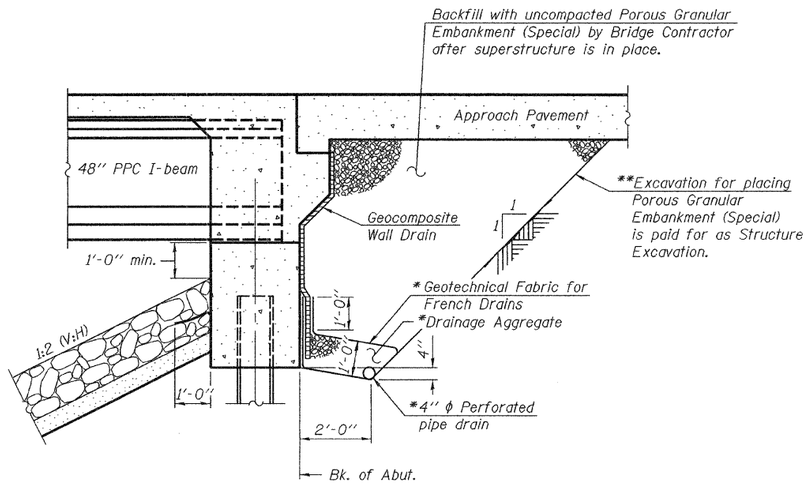
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

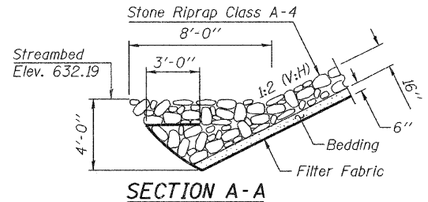
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAS 1536	125BR	Macon	45	14
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

SHEET NO. 2
29 SHEETS

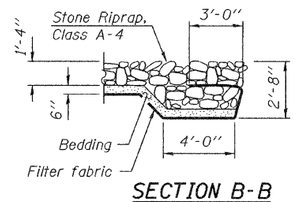
Contract #74145



SECTION THRU INTEGRAL ABUTMENT



SECTION A-A



SECTION B-B

* Included in the cost of Pipe Underdrains for Structures, 4".
** Excavation is not required within the limits of Geotextile Retaining Wall.

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

DESIGNED	Ray Ahanchi
CHECKED	Nick Barnett
DRAWN	BECKY M. LEACH
CHECKED	GRA & NRB

November 14, 2008
EXAMINED Thomas J. Domagalski
ENGINEER OF BRIDGE DESIGN
PASSED Ralph E. Anderson
ENGINEER OF BRIDGES AND STRUCTURES

GENERAL DETAILS
F.A.S. ROUTE 1536 - SEC. 125BR
MACON COUNTY
STATION 616+26.50
STRUCTURE NO. 058-0132

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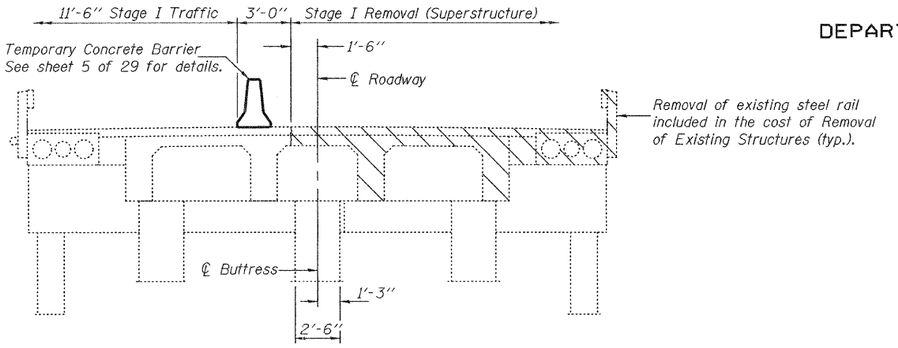
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

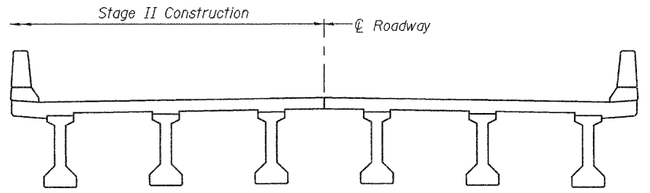
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAS 1536	125BR	Macon	45	15
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

SHEET NO. 3
29 SHEETS

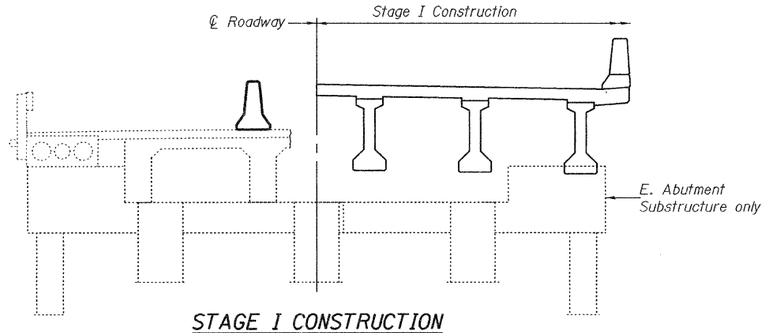
Contract #74145



STAGE I REMOVAL
(Superstructure)

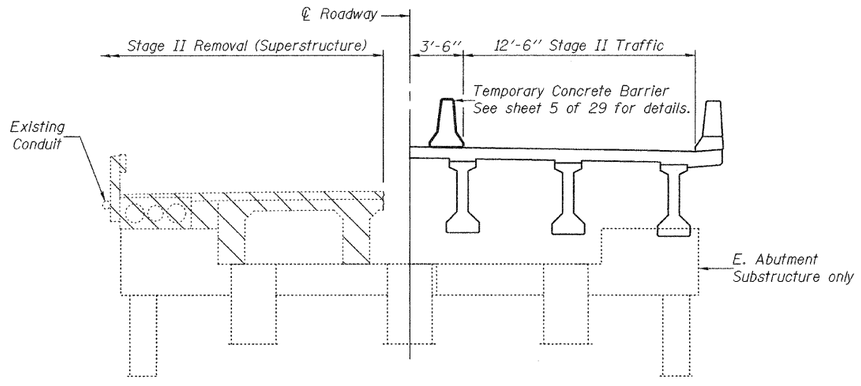


STAGE II CONSTRUCTION

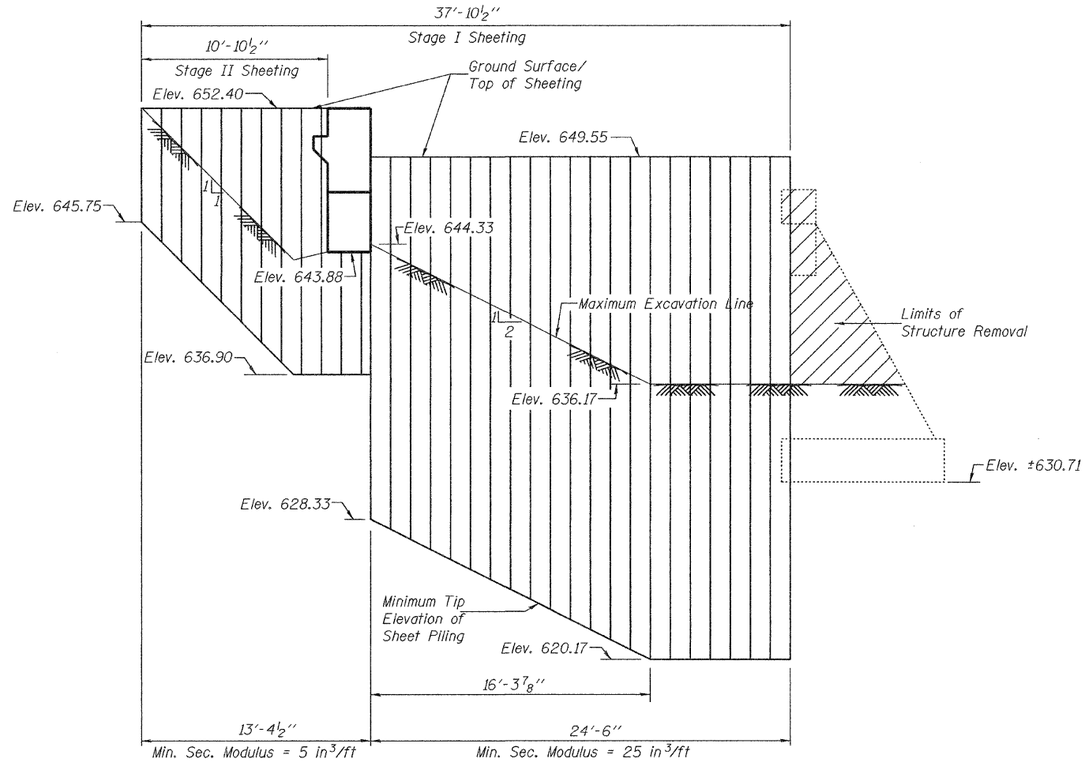


STAGE I CONSTRUCTION

Remove existing piers and existing West Abutment in each stage to the ground line. Existing East Abutment shall be removed to the elevation 647.48.



STAGE II REMOVAL
(Superstructure)



TEMPORARY SHEET PILING AT WEST ABUTMENT

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.

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.

DESIGNED	Ray Ahanchi
CHECKED	Nick Barnett
DRAWN	BECKY M. LEACH
CHECKED	GRA & NRB

November 14, 2008
EXAMINED Thomas J. Domagalski
ENGINEER OF BRIDGE DESIGN
PASSED Ralph E. Anderson
ENGINEER OF BRIDGES AND STRUCTURES

Notes:
All staging cross sections are looking East.
Hatched area indicates Removal of Existing Concrete Superstructure.
For quantity of Temporary Concrete Barrier see Roadway Plans.

STAGE CONSTRUCTION DETAILS
F.A.S. ROUTE 1536 - SEC. 125BR
MACON COUNTY
STATION 616+26.50
STRUCTURE NO. 058-0132

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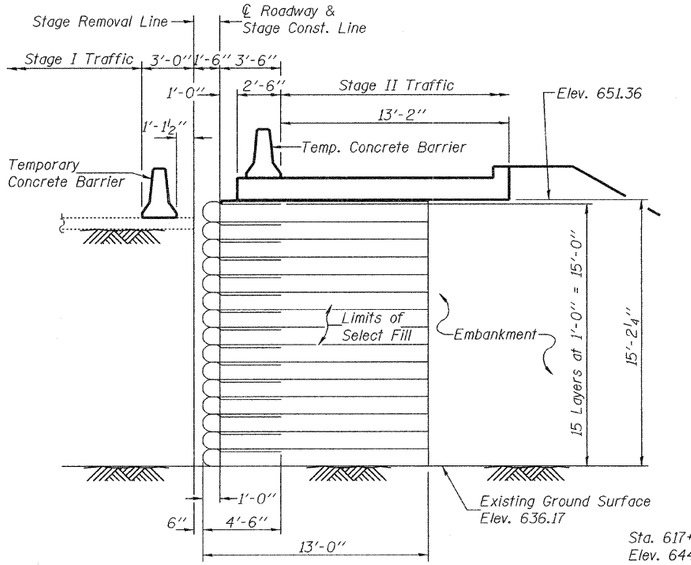
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAS 1536	125BR	Macon	45	16
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

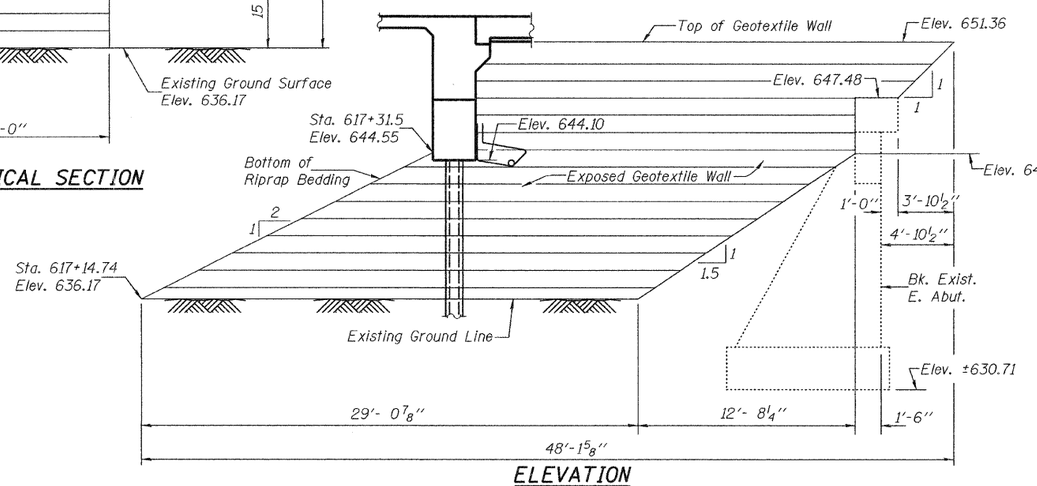
SHEET NO. 4
29 SHEETS

Contract #74145

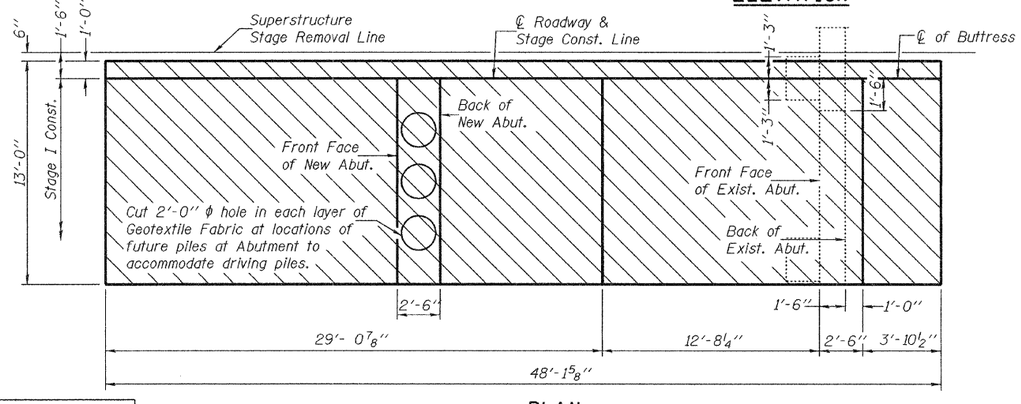


TYPICAL SECTION

Note:
The Contractor shall monitor the soil behind the existing East Abutment supporting the Stage I Approach Pavement and provide any necessary bracing to support the soil beneath the approach slab. Cost included with Geotextile Retaining Wall.



ELEVATION

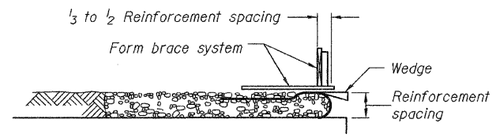


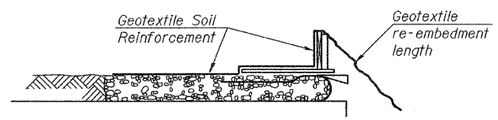
PLAN

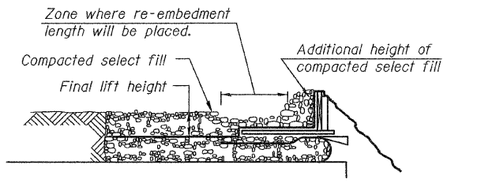
Note:
Hatched area indicates limits of Geotextile Retaining Wall.

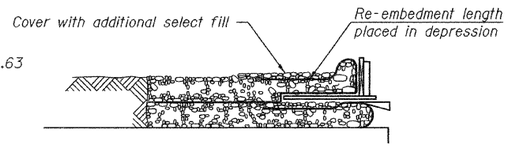
DESIGNED	Ray Ahanchi
CHECKED	Nick Barnett
DRAWN	BECKY M. LEACH
CHECKED	GRA & NRB

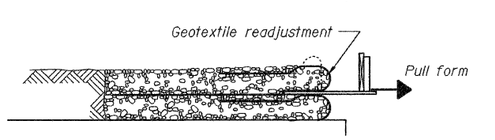
November 14, 2008
EXAMINED Thomas J. Domagalski
ENGINEER OF BRIDGE DESIGN
PASSED Ralph E. Anderson
ENGINEER OF BRIDGES AND STRUCTURES







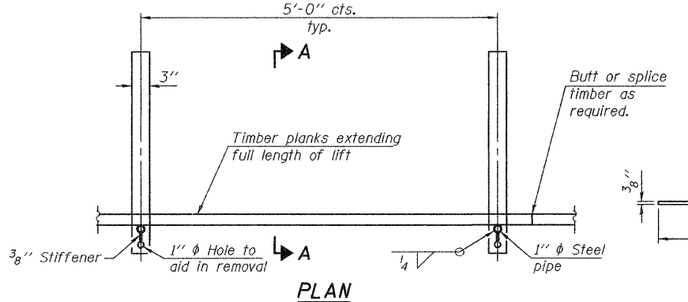




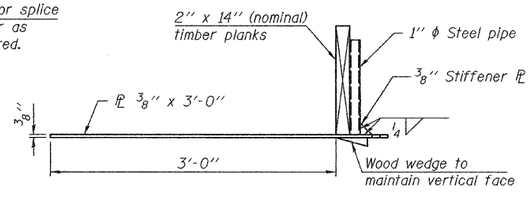
1. Place form brace system on completed reinforcement level; back from the finished fabric face a distance of 1/3 to 1/2 the geotextile reinforcement spacing.
2. Position fabric so that the required geotextile re-embedment length extends over the top of the form brace and the design reinforcement width is placed with no slack against the previous level.
3. Compact select fill material in lifts to final lift height, create (±3") depression in zone where re-embedment length will be located and place additional height of compacted select fill against form brace.
4. Fold geotextile re-embedment length back over form brace into zone where depression was made in select fill and place additional select fill (±3") to embed geotextile and bring to final lift height.
5. Pull form brace outward allowing geotextile face to slightly readjust to form tight round face level with plan reinforcement spacing.

TEMPORARY GEOTEXTILE WALL CONSTRUCTION SEQUENCE

The geotextile soil reinforcement shall have a minimum allowable tensile strength (T min.) of 58 lb./in. as determined by the procedure described in the Special Provision. The computations supporting the determination of (T min.) shall be submitted to the engineer for approval.



PLAN



SECTION A-A

TEMPORARY GEOTEXTILE FORM BRACE DETAIL

This is a suggested detail, the Contractor is responsible for the design of the form brace system to be used.

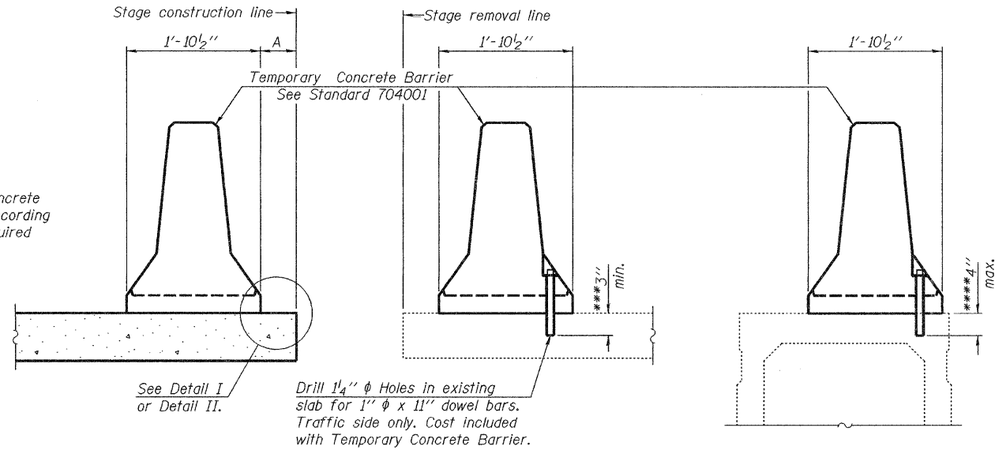
GEOTEXTILE RETAINING WALL AT EAST ABUTMENT
F.A.S. ROUTE 1536 - SEC. 125BR
MACON COUNTY
STATION 616+26.50
STRUCTURE NO. 058-0132

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAS 1536	125BR	Macon	45	17
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

SHEET NO. 5
29 SHEETS

Contract #74145



NEW SLAB | EXISTING SLAB | EXISTING DECK BEAM

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 ℄ to the top layer of couplers with 2-⅝" ϕ bolts screwed to coupler at approximate ℄ of each barrier panel.

Detail II - With Extended Reinforcement Bars:
Connect one (1) 1"x7"x10" steel ℄ to the concrete slab or concrete wearing surface with 2-⅝"ϕ Expansion Anchors or cast in place inserts spaced between the top layer of reinforcement at approximate ℄ of each barrier panel.

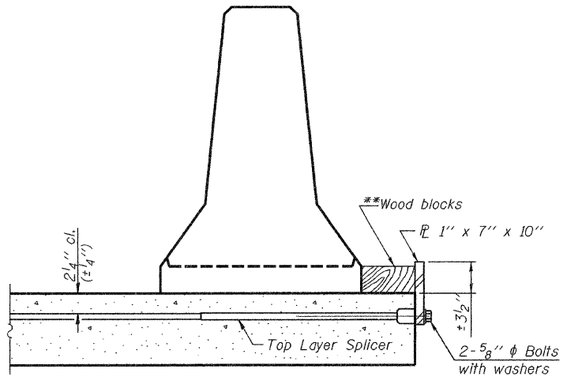
Cost of anchorage is included with Temporary Concrete Barrier.

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.

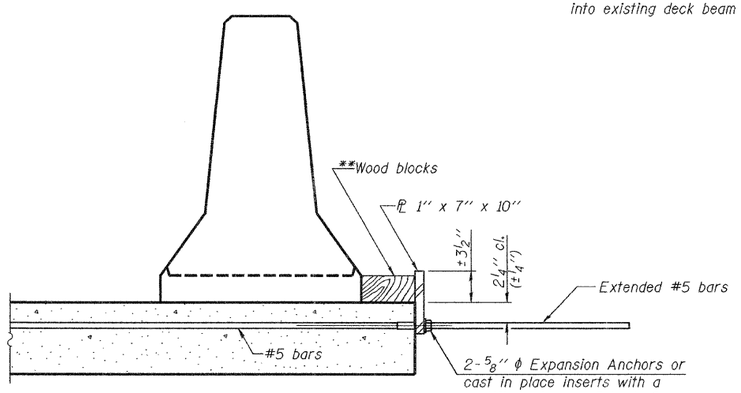
SECTIONS THRU SLAB OR DECK BEAM

***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.

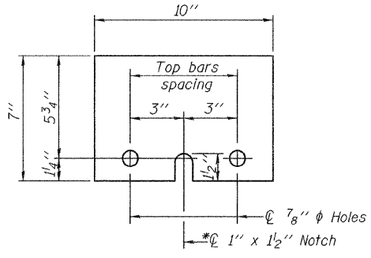
****If existing deck beam is to remain in place after stage construction, embedment shall only be into wearing surface and not into existing deck beam concrete.



DETAIL I



DETAIL II



STEEL RETAINER ℄ 1" x 7" x 10"

* Required only with 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.

DESIGNED	Ray Ahanchi
CHECKED	Nick Barnett
DRAWN	BECKY M. LEACH
CHECKED	GRA & NRB

November 14, 2008
EXAMINED Thomas J. Domagalski
ENGINEER OF BRIDGE DESIGN
PASSED Ralph E. Anderson
ENGINEER OF BRIDGES AND STRUCTURES

R-27 9-3-07

TEMPORARY CONCRETE BARRIER
FOR STAGE CONSTRUCTION
F.A.S. ROUTE 1536 - SEC. 125BR
MACON COUNTY
STATION 616+26.50
STRUCTURE NO. 058-0132

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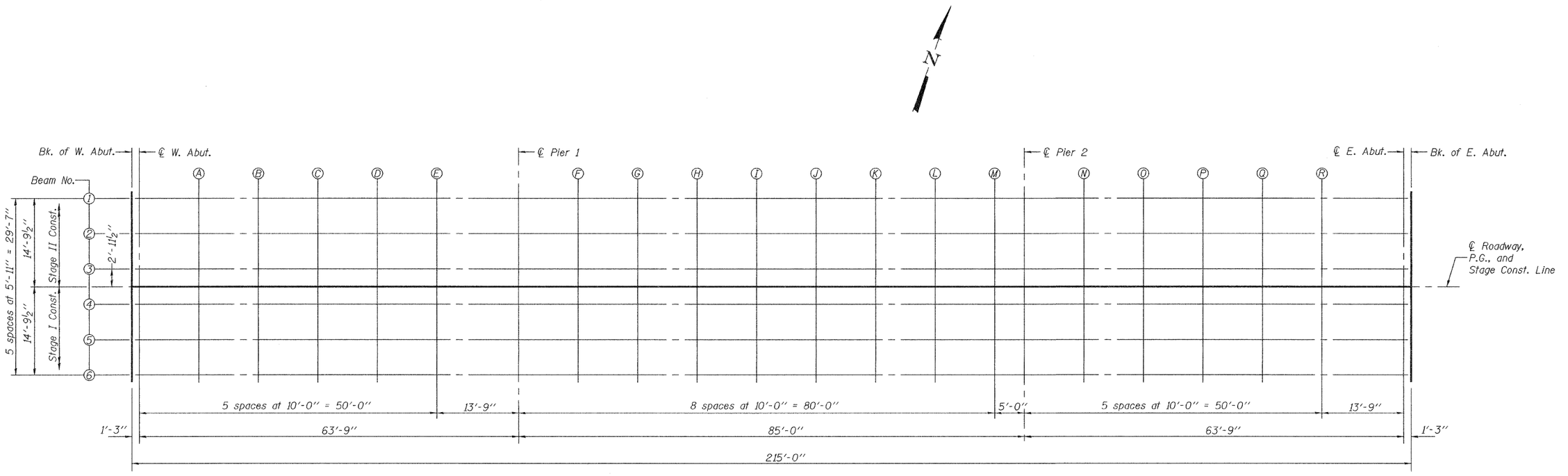
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAS 1536	125BR	Macon	45	18
FED. ROAD DIST. NO. 7		ILLINOIS	FED. AID PROJECT-	

SHEET NO. 6
29 SHEETS

Contract #74145



PLAN

DESIGNED	Ray Ahanchi
CHECKED	Nick Barnett
DRAWN	BECKY M. LEACH
CHECKED	GRA & NRB

November 14, 2008
EXAMINED Thomas J. Domagalski
ENGINEER OF BRIDGE DESIGN
PASSED Ralph E. Anderson
ENGINEER OF BRIDGES AND STRUCTURES

TOP OF SLAB ELEVATIONS
F.A.S. ROUTE 1536 - SEC. 125BR
MACON COUNTY
STATION 616+26.50
STRUCTURE NO. 058-0132

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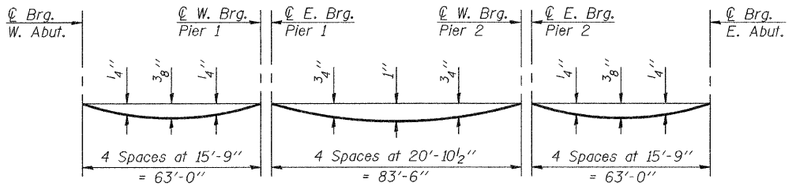
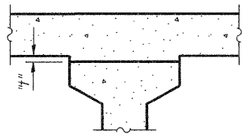


DEAD LOAD DEFLECTION DIAGRAM

(Includes weight of concrete, excluding beams).

Note:
The above deflections are not to be used in the field if the engineer is working from the grade elevations adjusted for dead load deflections as shown below and on sheets 8 and 9 of 29.

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



To determine "t": After all precast prestressed beams have been erected, elevations of the top flanges of the beams shall be taken at the intervals shown below. These elevations subtracted from the "Theoretical Grade Elevations Adjusted for Dead Load Deflection" shown below, minus slab thickness, equals the fillet heights "t" above top flanges of beams.

FILLET HEIGHTS

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAS 1536	125BR	Macon	45	19
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

SHEET NO. 7
29 SHEETS
Contract #74145

BEAM 1

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
BK.W.ABUT.	61519.00	-14.79	652.15	652.15
℄ W.ABUT.	61520.25	-14.79	652.15	652.15
A	61530.25	-14.79	652.16	652.18
B	61540.25	-14.79	652.17	652.20
C	61550.25	-14.79	652.18	652.21
D	61560.25	-14.79	652.19	652.22
E	61570.25	-14.79	652.20	652.22
℄ PIER 1	61584.00	-14.79	652.22	652.22
F	61594.00	-14.79	652.23	652.26
G	61604.00	-14.79	652.24	652.30
H	61614.00	-14.79	652.25	652.32
I	61624.00	-14.79	652.26	652.35
J	61634.00	-14.79	652.27	652.35
K	61644.00	-14.79	652.28	652.35
L	61654.00	-14.79	652.29	652.33
M	61664.00	-14.79	652.30	652.31
℄ PIER 2	61669.00	-14.79	652.30	652.30
N	61679.00	-14.79	652.31	652.33
O	61689.00	-14.79	652.32	652.35
P	61699.00	-14.79	652.33	652.36
Q	61709.00	-14.79	652.34	652.37
R	61719.00	-14.79	652.35	652.37
℄ E.ABUT.	61732.75	-14.79	652.37	652.37
BK.E.ABUT.	61734.00	-14.79	652.37	652.37

BEAM 2

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
BK.W.ABUT.	61519.00	-8.88	652.26	652.26
℄ W.ABUT.	61520.25	-8.88	652.26	652.26
A	61530.25	-8.88	652.27	652.28
B	61540.25	-8.88	652.28	652.30
C	61550.25	-8.88	652.29	652.32
D	61560.25	-8.88	652.30	652.33
E	61570.25	-8.88	652.31	652.33
℄ PIER 1	61584.00	-8.88	652.33	652.33
F	61594.00	-8.88	652.34	652.37
G	61604.00	-8.88	652.35	652.40
H	61614.00	-8.88	652.36	652.43
I	61624.00	-8.88	652.37	652.45
J	61634.00	-8.88	652.38	652.46
K	61644.00	-8.88	652.39	652.45
L	61654.00	-8.88	652.40	652.44
M	61664.00	-8.88	652.41	652.42
℄ PIER 2	61669.00	-8.88	652.41	652.41
N	61679.00	-8.88	652.42	652.43
O	61689.00	-8.88	652.43	652.45
P	61699.00	-8.88	652.44	652.47
Q	61709.00	-8.88	652.45	652.47
R	61719.00	-8.88	652.46	652.48
℄ E.ABUT.	61732.75	-8.88	652.47	652.47
BK.E.ABUT.	61734.00	-8.88	652.48	652.48

BEAM 3

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
BK.W.ABUT.	61519.00	-2.96	652.35	652.35
℄ W.ABUT.	61520.25	-2.96	652.35	652.35
A	61530.25	-2.96	652.36	652.38
B	61540.25	-2.96	652.37	652.40
C	61550.25	-2.96	652.38	652.41
D	61560.25	-2.96	652.39	652.42
E	61570.25	-2.96	652.40	652.42
℄ PIER 1	61584.00	-2.96	652.42	652.42
F	61594.00	-2.96	652.43	652.46
G	61604.00	-2.96	652.44	652.50
H	61614.00	-2.96	652.45	652.52
I	61624.00	-2.96	652.46	652.54
J	61634.00	-2.96	652.47	652.55
K	61644.00	-2.96	652.48	652.55
L	61654.00	-2.96	652.49	652.53
M	61664.00	-2.96	652.50	652.51
℄ PIER 2	61669.00	-2.96	652.50	652.50
N	61679.00	-2.96	652.51	652.53
O	61689.00	-2.96	652.52	652.54
P	61699.00	-2.96	652.53	652.56
Q	61709.00	-2.96	652.54	652.57
R	61719.00	-2.96	652.55	652.57
℄ E.ABUT.	61732.75	-2.96	652.57	652.57
BK.E.ABUT.	61734.00	-2.96	652.57	652.57

DESIGNED	Ray Ahanchi
CHECKED	Nick Barnett
DRAWN	BECKY M. LEACH
CHECKED	GRA & NRB

November 14, 2008
EXAMINED Thomas J. Domagalski
ENGINEER OF BRIDGE DESIGN
PASSED Ralph E. Anderson
ENGINEER OF BRIDGES AND STRUCTURES

TOP OF SLAB ELEVATIONS
F.A.S. ROUTE 1536 - SEC. 125BR
MACON COUNTY
STATION 616+26.50
STRUCTURE NO. 058-0132

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAS 1536	125BR	Macon	45	20
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

SHEET NO. 8
29 SHEETS

Contract #74145

℄ ROADWAY, PG, & STAGE CONST. JOINT

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
BK.W.ABUT.	61519.00	0.00	652.40	652.40
℄ W.ABUT.	61520.25	0.00	652.40	652.40
A	61530.25	0.00	652.41	652.42
B	61540.25	0.00	652.42	652.44
C	61550.25	0.00	652.43	652.46
D	61560.25	0.00	652.44	652.46
E	61570.25	0.00	652.45	652.47
℄ PIER 1	61584.00	0.00	652.46	652.46
F	61594.00	0.00	652.47	652.50
G	61604.00	0.00	652.48	652.54
H	61614.00	0.00	652.49	652.57
I	61624.00	0.00	652.50	652.59
J	61634.00	0.00	652.51	652.59
K	61644.00	0.00	652.52	652.59
L	61654.00	0.00	652.53	652.58
M	61664.00	0.00	652.54	652.56
℄ PIER 2	61669.00	0.00	652.55	652.55
N	61679.00	0.00	652.56	652.57
O	61689.00	0.00	652.57	652.59
P	61699.00	0.00	652.58	652.61
Q	61709.00	0.00	652.59	652.61
R	61719.00	0.00	652.60	652.62
℄ E.ABUT.	61732.75	0.00	652.61	652.61
BK.E.ABUT.	61734.00	0.00	652.61	652.61

BEAM 4

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
BK.W.ABUT.	61519.00	2.96	652.35	652.35
℄ W.ABUT.	61520.25	2.96	652.35	652.35
A	61530.25	2.96	652.36	652.38
B	61540.25	2.96	652.37	652.40
C	61550.25	2.96	652.38	652.41
D	61560.25	2.96	652.39	652.42
E	61570.25	2.96	652.40	652.42
℄ PIER 1	61584.00	2.96	652.42	652.42
F	61594.00	2.96	652.43	652.46
G	61604.00	2.96	652.44	652.50
H	61614.00	2.96	652.45	652.52
I	61624.00	2.96	652.46	652.54
J	61634.00	2.96	652.47	652.55
K	61644.00	2.96	652.48	652.55
L	61654.00	2.96	652.49	652.53
M	61664.00	2.96	652.50	652.51
℄ PIER 2	61669.00	2.96	652.50	652.50
N	61679.00	2.96	652.51	652.53
O	61689.00	2.96	652.52	652.54
P	61699.00	2.96	652.53	652.56
Q	61709.00	2.96	652.54	652.57
R	61719.00	2.96	652.55	652.57
℄ E.ABUT.	61732.75	2.96	652.57	652.57
BK.E.ABUT.	61734.00	2.96	652.57	652.57

BEAM 5

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
BK.W.ABUT.	61519.00	8.88	652.26	652.26
℄ W.ABUT.	61520.25	8.88	652.26	652.26
A	61530.25	8.88	652.27	652.28
B	61540.25	8.88	652.28	652.30
C	61550.25	8.88	652.29	652.32
D	61560.25	8.88	652.30	652.33
E	61570.25	8.88	652.31	652.33
℄ PIER 1	61584.00	8.88	652.33	652.33
F	61594.00	8.88	652.34	652.37
G	61604.00	8.88	652.35	652.40
H	61614.00	8.88	652.36	652.43
I	61624.00	8.88	652.37	652.45
J	61634.00	8.88	652.38	652.46
K	61644.00	8.88	652.39	652.45
L	61654.00	8.88	652.40	652.44
M	61664.00	8.88	652.41	652.42
℄ PIER 2	61669.00	8.88	652.41	652.41
N	61679.00	8.88	652.42	652.43
O	61689.00	8.88	652.43	652.45
P	61699.00	8.88	652.44	652.47
Q	61709.00	8.88	652.45	652.47
R	61719.00	8.88	652.46	652.48
℄ E.ABUT.	61732.75	8.88	652.47	652.47
BK.E.ABUT.	61734.00	8.88	652.48	652.48

DESIGNED	Ray Ahanchi
CHECKED	Nick Barnett
DRAWN	BECKY M. LEACH
CHECKED	GRA & NRB

November 14, 2008
EXAMINED Thomas J. Domagalski
ENGINEER OF BRIDGE DESIGN
PASSED Ralph E. Anderson
ENGINEER OF BRIDGES AND STRUCTURES

TOP OF SLAB ELEVATIONS
F.A.S. ROUTE 1536 - SEC. 125BR
MACON COUNTY
STATION 616+26.50
STRUCTURE NO. 058-0132

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAS 1536	125BR	Macon	45	21
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

SHEET NO. 9
29 SHEETS

Contract #74145

BEAM 6

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
BK.W.ABUT.	61519.00	14.79	652.15	652.15
℄ W.ABUT.	61520.25	14.79	652.15	652.15
A	61530.25	14.79	652.16	652.18
B	61540.25	14.79	652.17	652.20
C	61550.25	14.79	652.18	652.21
D	61560.25	14.79	652.19	652.22
E	61570.25	14.79	652.20	652.22
℄ PIER 1	61584.00	14.79	652.22	652.22
F	61594.00	14.79	652.23	652.26
G	61604.00	14.79	652.24	652.30
H	61614.00	14.79	652.25	652.32
I	61624.00	14.79	652.26	652.35
J	61634.00	14.79	652.27	652.35
K	61644.00	14.79	652.28	652.35
L	61654.00	14.79	652.29	652.33
M	61664.00	14.79	652.30	652.31
℄ PIER 2	61669.00	14.79	652.30	652.30
N	61679.00	14.79	652.31	652.33
O	61689.00	14.79	652.32	652.35
P	61699.00	14.79	652.33	652.36
Q	61709.00	14.79	652.34	652.37
R	61719.00	14.79	652.35	652.37
℄ E.ABUT.	61732.75	14.79	652.37	652.37
BK.E.ABUT.	61734.00	14.79	652.37	652.37

DESIGNED	Ray Ahanchi
CHECKED	Nick Barnett
DRAWN	BECKY M. LEACH
CHECKED	GRA & NRB

November 14, 2008
EXAMINED Thomas J. Domagalski
ENGINEER OF BRIDGE DESIGN
PASSED Ralph E. Anderson
ENGINEER OF BRIDGES AND STRUCTURES

TOP OF SLAB ELEVATIONS
F.A.S. ROUTE 1536 - SEC. 125BR
MACON COUNTY
STATION 616+26.50
STRUCTURE NO. 058-0132

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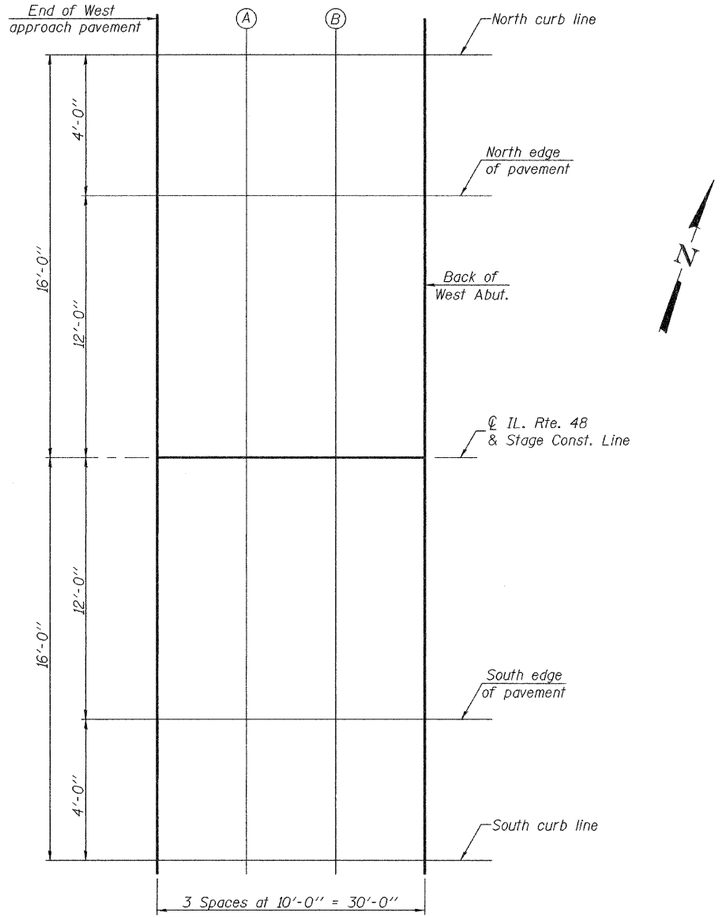
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAS 1536	125BR	Macon	45	22
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

SHEET NO. 10
29 SHEETS

Contract #74145



PLAN

NORTH CURB LINE

Location	Station	Offset	Theoretical Grade Elevations
END W.APPR.PAV'T.	61489.00	-16.00	652.10
A	61499.00	-16.00	652.11
B	61509.00	-16.00	652.12
BK.W.ABUT.	61519.00	-16.00	652.13

NORTH EDGE OF PAVEMENT

Location	Station	Offset	Theoretical Grade Elevations
END W.APPR.PAV'T.	61489.00	-12.00	652.18
A	61499.00	-12.00	652.19
B	61509.00	-12.00	652.20
BK.W.ABUT.	61519.00	-12.00	652.21

℄ ROADWAY, P.G. & STAGE CONSTRUCTION JOINT

Location	Station	Offset	Theoretical Grade Elevations
END W.APPR.PAV'T.	61489.00	0.00	652.37
A	61499.00	0.00	652.38
B	61509.00	0.00	652.39
BK.W.ABUT.	61519.00	0.00	652.40

SOUTH EDGE OF PAVEMENT

Location	Station	Offset	Theoretical Grade Elevations
END W.APPR.PAV'T.	61489.00	12.00	652.18
A	61499.00	12.00	652.19
B	61509.00	12.00	652.20
BK.W.ABUT.	61519.00	12.00	652.21

SOUTH CURB LINE

Location	Station	Offset	Theoretical Grade Elevations
END W.APPR.PAV'T.	61489.00	16.00	652.10
A	61499.00	16.00	652.11
B	61509.00	16.00	652.12
BK.W.ABUT.	61519.00	16.00	652.13

DESIGNED	Ray Ahanchi
CHECKED	Nick Barnett
DRAWN	BECKY M. LEACH
CHECKED	GRA & NRB

November 14, 2008
EXAMINED Thomas J. Domagalski
ENGINEER OF BRIDGE DESIGN
PASSED Ralph E. Anderson
ENGINEER OF BRIDGES AND STRUCTURES

WEST APPROACH
TOP OF SLAB ELEVATIONS
F.A.S. ROUTE 1536 - SEC. 125BR
MACON COUNTY
STATION 616+26.50
STRUCTURE NO. 058-0132

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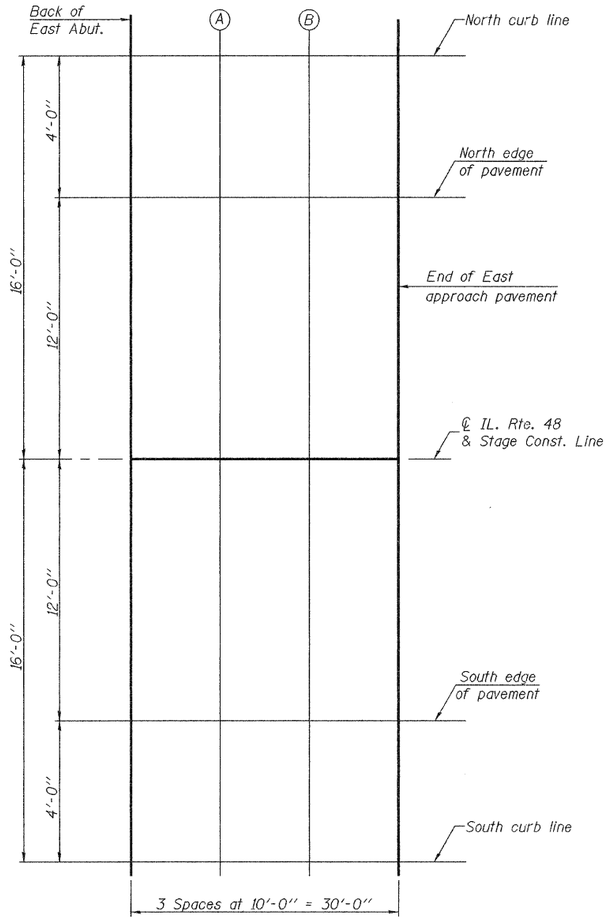
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAS 1536	125BR	Macon	45	23
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

SHEET NO. 11
29 SHEETS

Contract #74145

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



PLAN

NORTH CURB LINE

Location	Station	Offset	Theoretical Grade Elevations
BK.W.ABUT.	61734.00	-16.00	652.34
A	61744.00	-16.00	652.35
B	61754.00	-16.00	652.36
END E.APPR.PAV'T.	61764.00	-16.00	652.37

NORTH EDGE OF PAVEMENT

Location	Station	Offset	Theoretical Grade Elevations
BK.W.ABUT.	61734.00	-12.00	652.43
A	61744.00	-12.00	652.44
B	61754.00	-12.00	652.45
END E.APPR.PAV'T.	61764.00	-12.00	652.46

℄ ROADWAY, P.G. & STAGE CONSTRUCTION JOINT

Location	Station	Offset	Theoretical Grade Elevations
BK.W.ABUT.	61734.00	0.00	652.61
A	61744.00	0.00	652.62
B	61754.00	0.00	652.63
END E.APPR.PAV'T.	61764.00	0.00	652.64

SOUTH EDGE OF PAVEMENT

Location	Station	Offset	Theoretical Grade Elevations
BK.W.ABUT.	61734.00	12.00	652.43
A	61744.00	12.00	652.44
B	61754.00	12.00	652.45
END E.APPR.PAV'T.	61764.00	12.00	652.46

SOUTH CURB LINE

Location	Station	Offset	Theoretical Grade Elevations
BK.W.ABUT.	61734.00	16.00	652.34
A	61744.00	16.00	652.35
B	61754.00	16.00	652.36
END E.APPR.PAV'T.	61764.00	16.00	652.37

DESIGNED	Ray Ahanchi
CHECKED	Nick Barnett
DRAWN	BECKY M. LEACH
CHECKED	GRA & NRB

November 14, 2008
EXAMINED Thomas J. Domagalski
ENGINEER OF BRIDGE DESIGN
PASSED Ralph E. Anderson
ENGINEER OF BRIDGES AND STRUCTURES

EAST APPROACH
TOP OF SLAB ELEVATIONS
F.A.S. ROUTE 1536 - SEC. 125BR
MACON COUNTY
STATION 616+26.50
STRUCTURE NO. 058-0132

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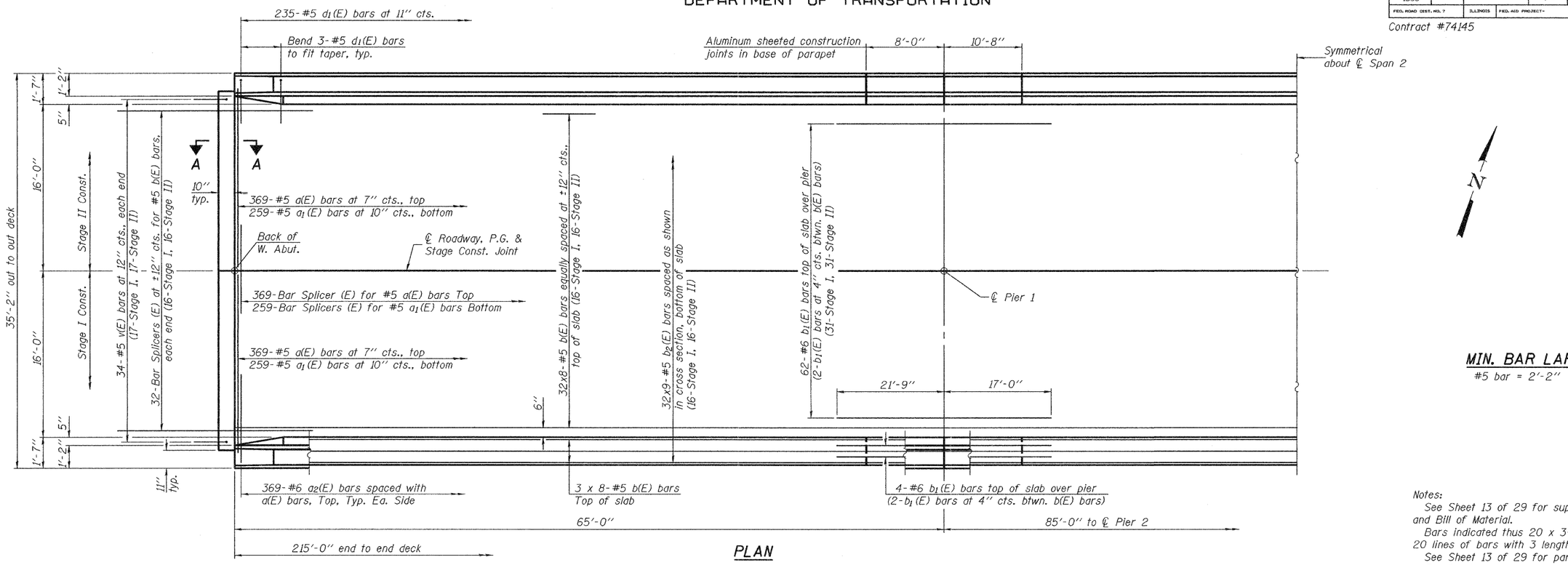
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAS 1536	125BR	Macon	45	24
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

SHEET NO. 12
29 SHEETS

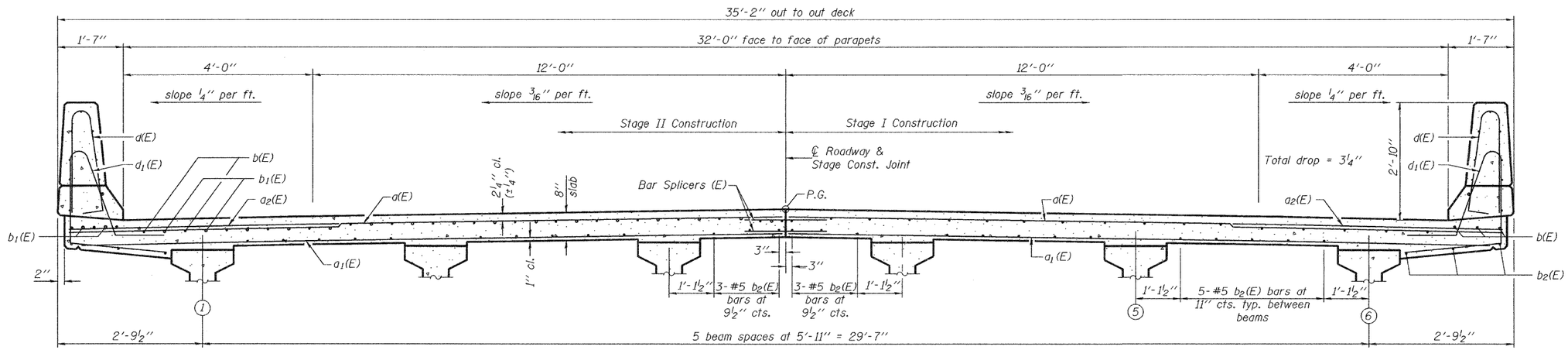
Contract #74145



PLAN

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

Notes:
See Sheet 13 of 29 for superstructure details and Bill of Material.
Bars indicated thus 20 x 3-#5 etc. indicates 20 lines of bars with 3 lengths per line.
See Sheet 13 of 29 for parapet reinforcement.
For Section A-A, see sheet 15 of 29.



NEAR PIER — NEAR MIDSPAN

CROSS SECTION
(Looking East)

DESIGNED	Ray Ahanchi
CHECKED	Nick Barnett
DRAWN	BECKY M. LEACH
CHECKED	GRA & NRB

November 14, 2008
EXAMINED Thomas J. Domagalski
ENGINEER OF BRIDGE DESIGN
PASSED Ralph E. Anderson
ENGINEER OF BRIDGES AND STRUCTURES

SUPERSTRUCTURE
F.A.S. ROUTE 1536 - SEC. 125BR
MACON COUNTY
STATION 616+26.50
STRUCTURE NO. 058-0132

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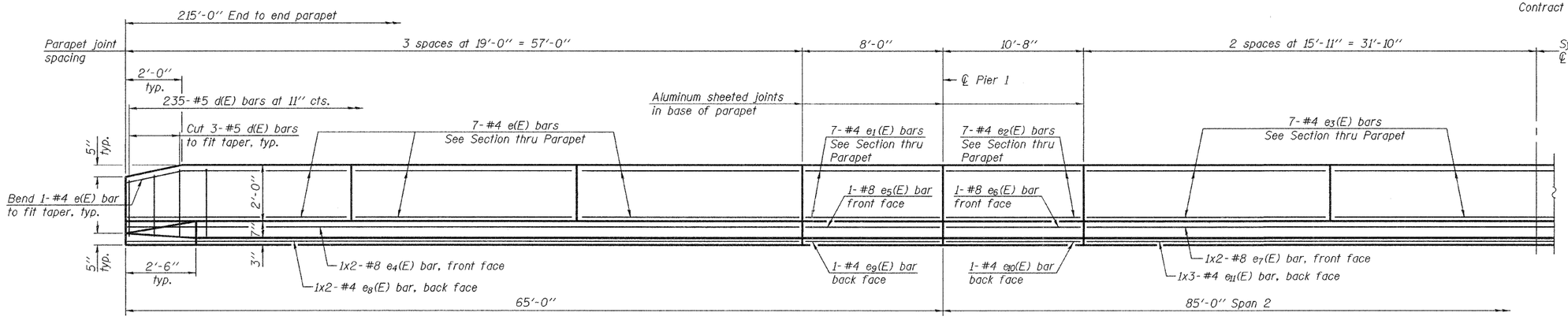
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAS 1536	125BR	Macon	45	25
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

SHEET NO. 13
29 SHEETS

Contract #74145

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



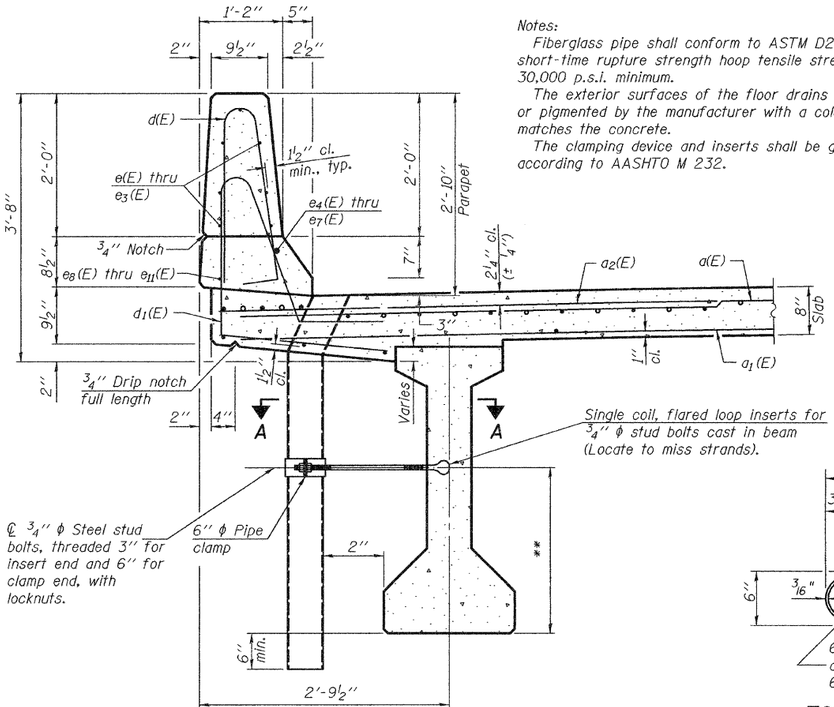
MINIMUM BAR LAP

(Parapet)
#4 bar = 1'-4"
#8 bar = 3'-5"

SUPERSTRUCTURE BILL OF MATERIAL

Bar	No.	Size	Length	Shape
a(E)	738	#5	17'-1"	
a_1(E)	518	#5	16'-3"	
a_2(E)	738	#6	6'-0"	
b(E)	304	#5	28'-9"	
b_1(E)	140	#6	38'-9"	
b_2(E)	288	#5	25'-10"	
d(E)	470	#5	5'-7"	
d_1(E)	470	#5	7'-3"	
e(E)	84	#4	18'-8"	
e_1(E)	28	#4	7'-8"	
e_2(E)	28	#4	10'-4"	
e_3(E)	56	#4	15'-7"	
e_4(E)	8	#8	30'-1"	
e_5(E)	4	#8	7'-8"	
e_6(E)	4	#8	10'-4"	
e_7(E)	4	#8	33'-6"	
e_8(E)	8	#4	29'-2"	
e_9(E)	4	#4	7'-8"	
e_{10}(E)	4	#4	10'-4"	
e_{11}(E)	6	#4	22'-0"	
m(E)	8	#6	16'-5"	
m_1(E)	12	#6	17'-3"	
m_2(E)	24	#6	7'-7"	
m_3(E)	24	#6	3'-9"	
m_4(E)	4	#6	1'-7"	
m_5(E)	12	#6	1'-9"	
m_6(E)	32	#4	5'-0"	
m_7(E)	16	#4	2'-4"	
m_8(E)	8	#8	5'-10"	
m_9(E)	4	#8	3'-1"	
s(E)	64	#5	6'-9"	
s_1(E)	56	#4	11'-8"	
s_2(E)	44	#4	11'-4"	
v(E)	68	#5	3'-4"	
Reinforcement Bars, Epoxy Coated			Lbs.	66,050
Concrete Superstructure			Cu. Yds.	286

Bars indicated thus 1 x 2-#5 etc. indicates 1 line of bars with 2 lengths per line.

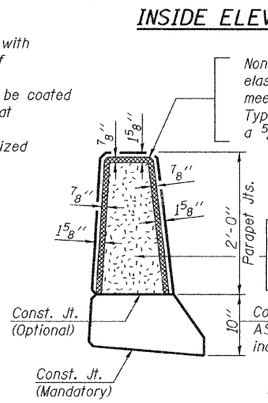


SECTION THRU PARAPET

**For insert locations See sheet 17 and 19 of 29.

Notes:
Fiberglass pipe shall conform to ASTM D2996, with short-time rupture strength hoop tensile stress of 30,000 p.s.i. minimum.
The exterior surfaces of the floor drains shall be coated or pigmented by the manufacturer with a color that matches the concrete.
The clamping device and inserts shall be galvanized according to AASHTO M 232.

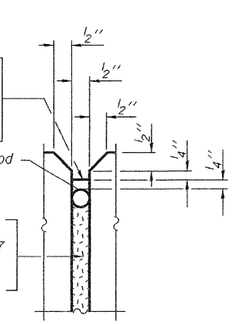
INSIDE ELEVATION OF PARAPET

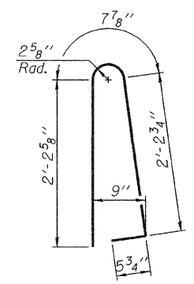


½" Preformed Self-Expanding Cork Joint Filler according to Article 1051.07 of the Std. Spec. Cost included with Concrete Superstructure.

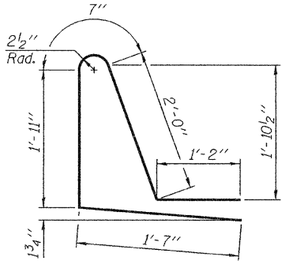
Const. Jts. at Piers ⅛" Aluminum sheet ASTM B 209 alloy 3003-H14. Cost included with Concrete Superstructure

PARAPET JOINT DETAILS

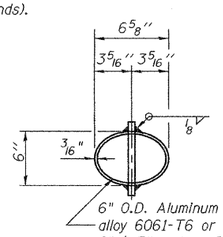




BAR d(E)

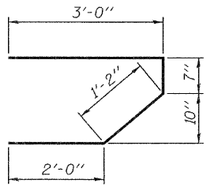


BAR d1(E)

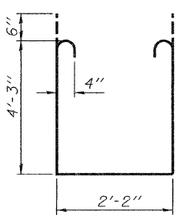


6" O.D. Aluminum Tube alloy 6061-T6 or 6" ϕ Fiberglass Pipe

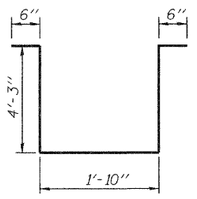
TOP PLAN
(Showing Aluminum Tube)



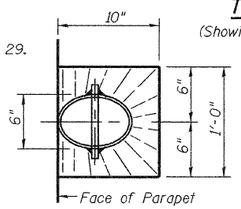
BAR s(E)



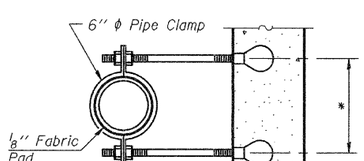
BAR s1(E)



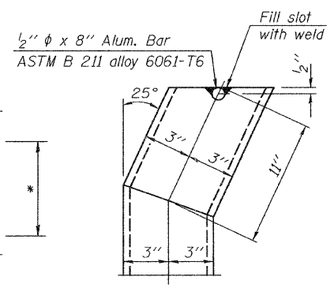
BAR s2(E)



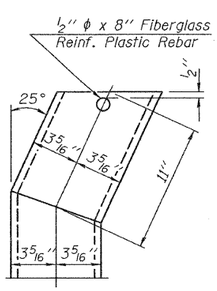
TOP PLAN
(Showing Tube Section)



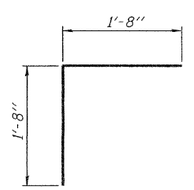
SECTION A-A
* Dimension as required by Pipe Clamp



ALUMINUM TUBE



FIBERGLASS PIPE



BAR v(E)

DESIGNED	Ray Ahanchi	
CHECKED	Nick Barnett	
DRAWN	BECKY M. LEACH	
CHECKED	GRA & NRB	

November 14, 2008
EXAMINED Thomas J. Domagalski
ENGINEER OF BRIDGE DESIGN
PASSED Ralph E. Anderson
ENGINEER OF BRIDGES AND STRUCTURES

SUPERSTRUCTURE DETAILS
F.A.S. ROUTE 1536 - SEC. 125BR
MACON COUNTY
STATION 616+26.50
STRUCTURE NO. 058-0132

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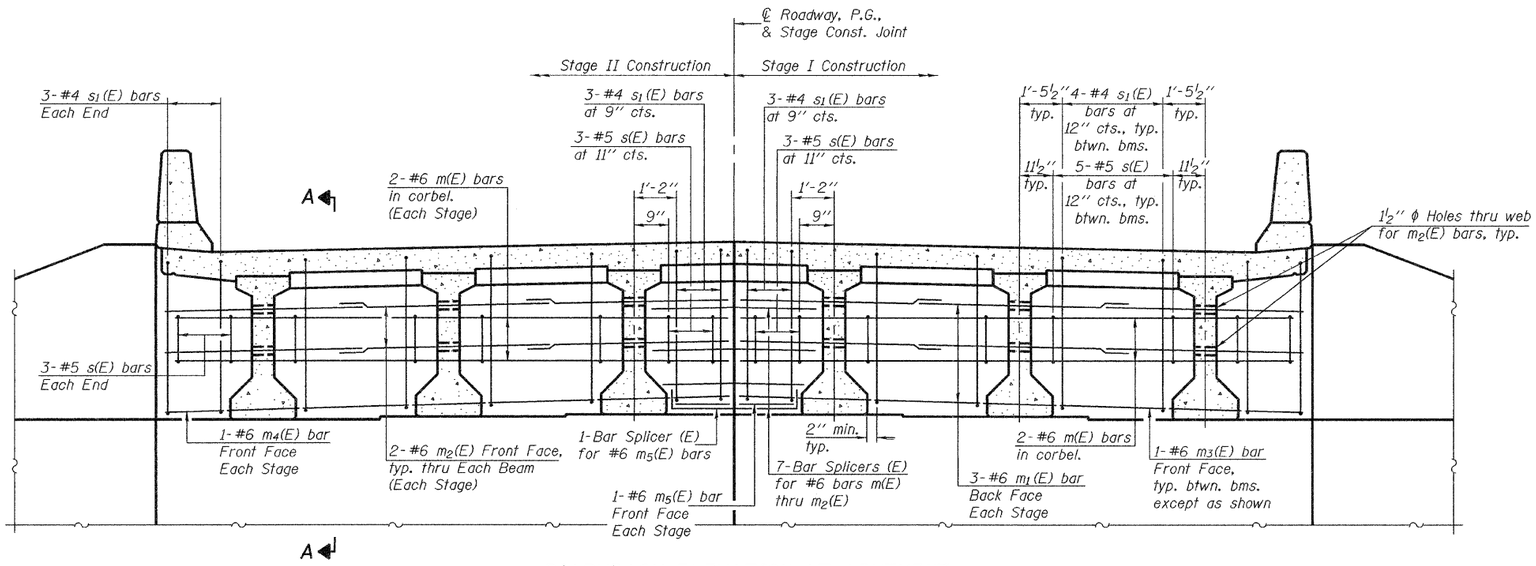
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAS 1536	125BR	Macon	45	26
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

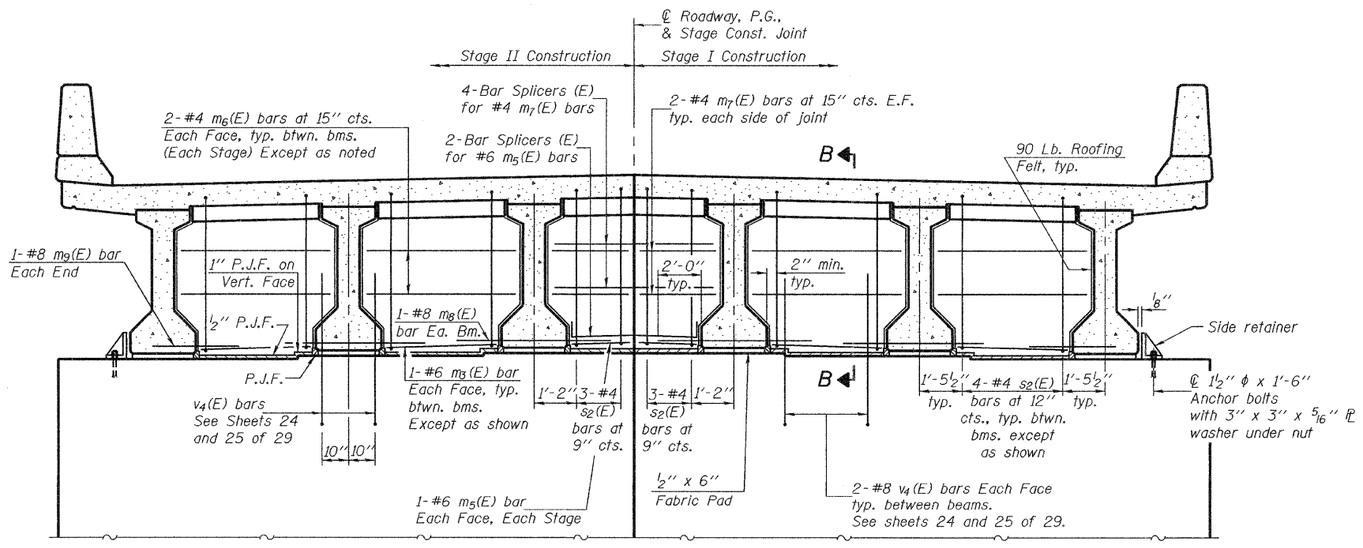
SHEET NO. 14
29 SHEETS

Contract #74145



DIAPHRAGM ELEVATION AT ABUTMENT

Looking East at East Abutment
(West Abutment similar)



DIAPHRAGM ELEVATION AT PIER

Looking East at Pier 1
(Pier 2 similar)

MIN. BAR LAP

#6 bar = 2'-9"

Notes:

Reinforcement bars in diaphragm are billed with superstructure on sheet 13 of 29.

Concrete in diaphragm is included with Concrete Superstructure on sheet 13 of 29.

For details of bars s(E), s_1(E) and s_2(E) see sheet 13 of 29.

The s(E), s_1(E) and s_2(E) bars shall be placed parallel to the beams. Spacing for these bars shall be at right angles to the beams.

See sheet 15 of 29 for Sections A-A and B-B.

Cost of 90 Lb. roofing felt is included with Concrete Superstructure.

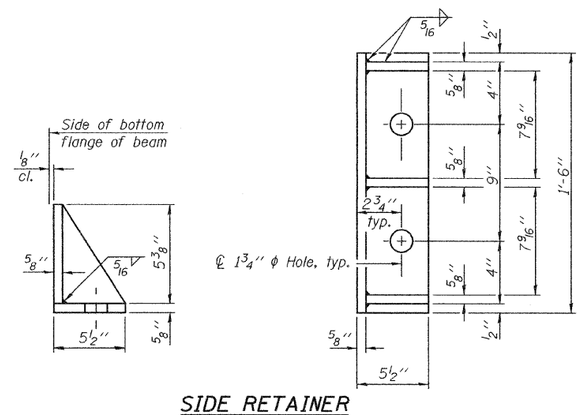
All embeded bearing plates, side retainers, anchor bolts, nuts and washers shall be galvanized according to AASHTO M111 or M232 (as applicable).

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 for side retainers may be cast in place or installed in holes drilled after the supporting member is in place and prior to pouring the deck.

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

Cost of side retainer and anchor bolts shall be included with Concrete Structure.



SIDE RETAINER

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

DIAPHRAGM DETAILS
F.A.S. ROUTE 1536 - SEC. 125BR
MACON COUNTY
STATION 616+26.50
STRUCTURE NO. 058-0132

DESIGNED	Ray Ahanchi
CHECKED	Nick Barnett
DRAWN	BECKY M. LEACH
CHECKED	GRA & NRB

November 14, 2008
EXAMINED Thomas J. Domagalski
ENGINEER OF BRIDGE DESIGN
PASSED Ralph E. Anderson
ENGINEER OF BRIDGES AND STRUCTURES

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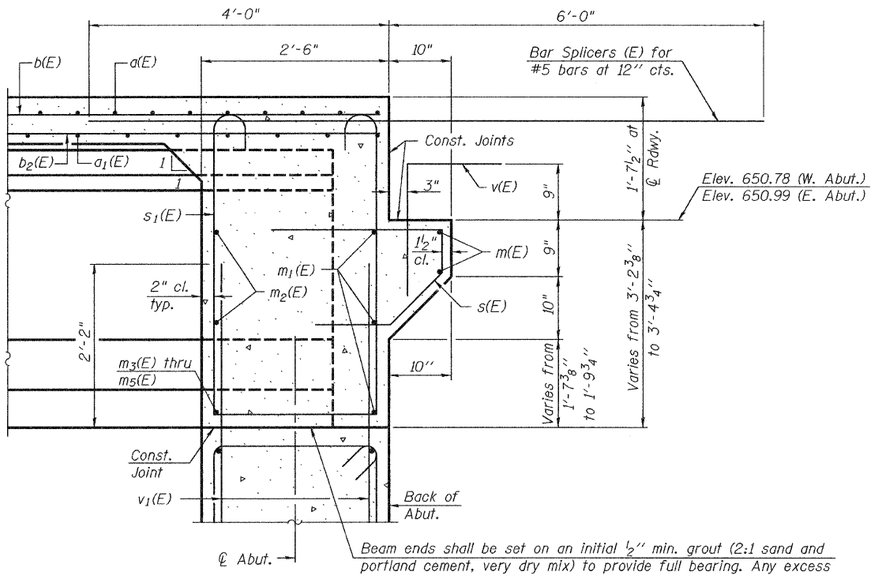
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAS 1536	125BR	Macon	45	27
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

SHEET NO. 15
29 SHEETS

Contract #74145

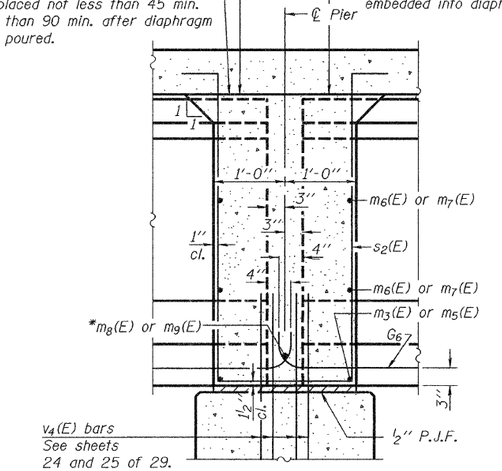


Beam ends shall be set on an initial ½" min. grout (2:1 sand and portland cement, very dry mix) to provide full bearing. Any excess grout squeezed out from under the beam shall be removed. Cost included with Concrete Structures.

SECTION A-A

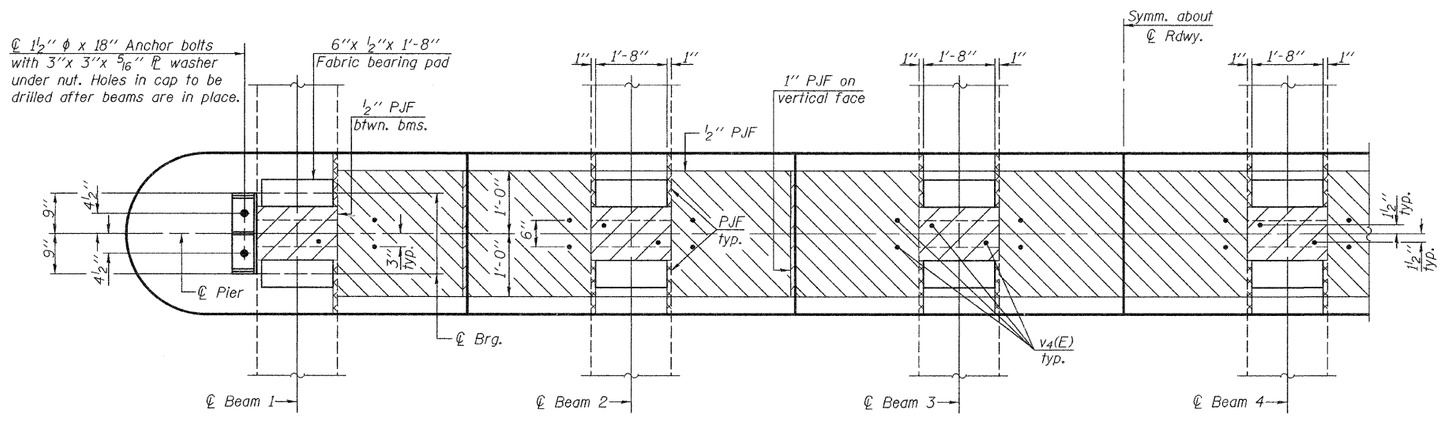
Pour diaphragm flush with bott. of slab. Concrete in slab above this line shall be placed not less than 45 min. nor more than 90 min. after diaphragm has been poured.

Roofing felt shall be bonded to side of beam embedded into diaphragm.



SECTION B-B

* Tightly fasten the #8 bars together with No. 9 wire ties.



HALF PLAN AT PIER

(Showing fabric bearing pad and PJF details)

DESIGNED	Ray Ahanchi
CHECKED	Nick Barnett
DRAWN	BECKY M. LEACH
CHECKED	GRA & NRB

November 14, 2008
EXAMINED Thomas J. Domagalski
ENGINEER OF BRIDGE DESIGN
PASSED Ralph E. Anderson
ENGINEER OF BRIDGES AND STRUCTURES

DIAPHRAGM DETAILS
F.A.S. ROUTE 1536 - SEC. 125BR
MACON COUNTY
STATION 616+26.50
STRUCTURE NO. 058-0132

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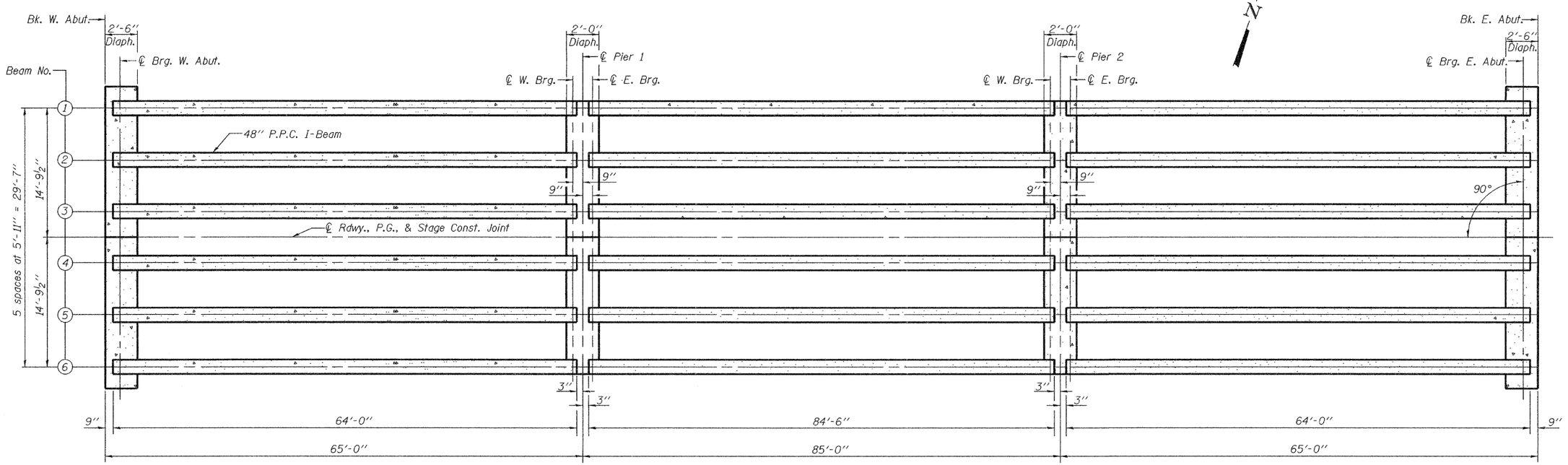
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAS 1536	125BR	Macon	45	28
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

SHEET NO. 16
29 SHEETS

Contract #74145

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



FRAMING PLAN

INTERIOR BEAM MOMENT TABLE				
		0.4 Sp. 1 0.6 Span 3	Pier 1 or 2	0.5 Sp. 2
I	(in^4)	144117.1	——	144117.1
I'	(in^4)	381085	——	381085
S_b	(in^3)	6834.1	——	6834.1
S_b'	(in^3)	11075	——	11075
S_t	(in^3)	5355.1	——	5355.1
S_t'	(in^3)	28042	——	28042
$DC1$	(k/')	1.206	——	1.206
M_{DC1}	('k)	598	——	1051
$DC2$	(k/')	0.150	0.150	0.150
M_{DC2}	('k)	39	86	50
DW	(k/')	0.296	0.296	0.296
M_{DW}	('k)	77	169	98
M_{L+Imp}	('k)	716	788	755

INTERIOR BEAM REACTION TABLE HL93 Loading				
		Abut.	Pier 1 Span 1 Pier 2 Span 3	Pier 1 Span 2 Pier 2 Span 2
R_{DC1}	(k)	38.4	38.4	51.3
* R_{DC2}	(k)	3.4	6.2	6.2
* R_{DW}	(k)	6.8	12.3	12.3
* R_{L+Imp}	(k)	64.8	51.5	51.5
R_{Total}	(k)	113.4	108.4	121.3

* The total R_{DC2}, R_{DW} and R_{L+Imp} are assumed to be distributed evenly to each bearing line at a pier regardless of the span ratios.

I: Non-composite moment of inertia of beam section ($in.^4$).
I': Composite moment of inertia of beam section ($in.^4$).
S_b: Non-composite section modulus for the bottom fiber of the prestressed beam ($in.^3$).
S_b': Composite section modulus for the bottom fiber of the prestressed beam ($in.^3$).
S_t: Non-composite section modulus for the top fiber of the prestressed beam ($in.^3$).
S_t': Composite section modulus for the top fiber of the prestressed beam ($in.^3$).
$DC1$: 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_{L+Imp}: Un-factored live load moment plus dynamic load allowance (impact) (kip-ft.).

DESIGNED	Ray Ahanchi
CHECKED	Nick Barnett
DRAWN	BECKY M. LEACH
CHECKED	GRA & NRB

November 14, 2008
EXAMINED Thomas J. Domagalski
ENGINEER OF BRIDGE DESIGN
PASSED Ralph E. Anderson
ENGINEER OF BRIDGES AND STRUCTURES

FRAMING PLAN
F.A.S. ROUTE 1536 - SEC. 125BR
MACON COUNTY
STATION 616+26.50
STRUCTURE NO. 058-0132

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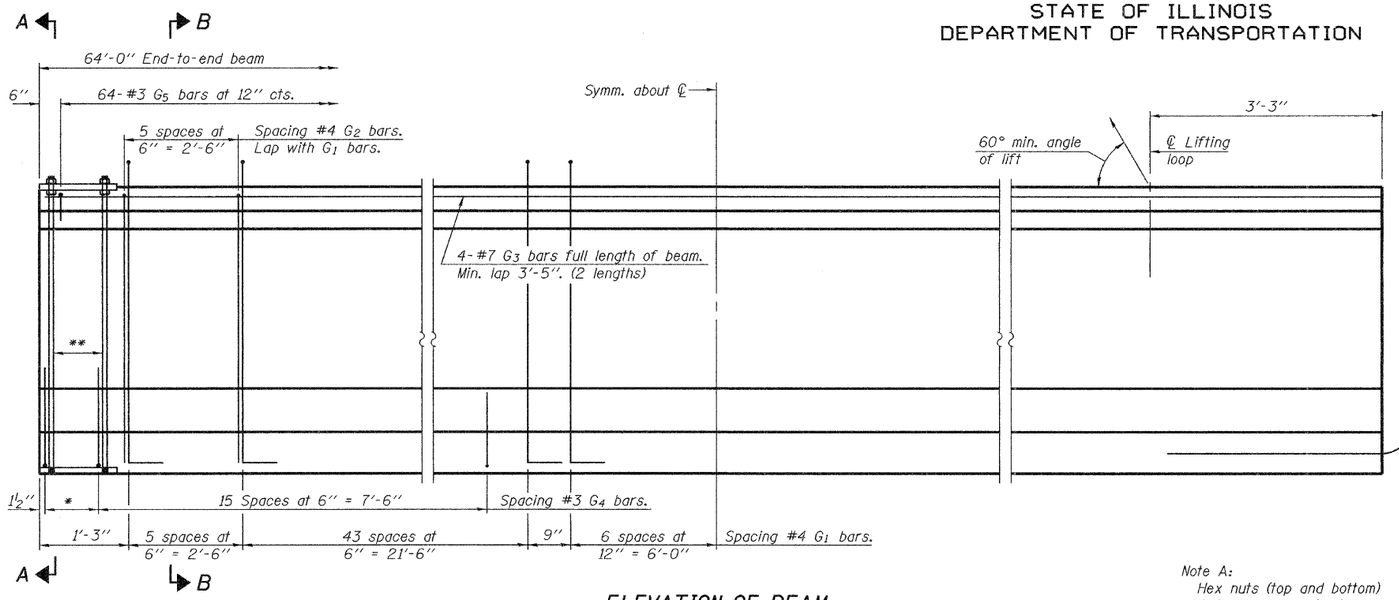
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAS 1536	125BR	Macon	45	29
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

SHEET NO. 17
29 SHEETS

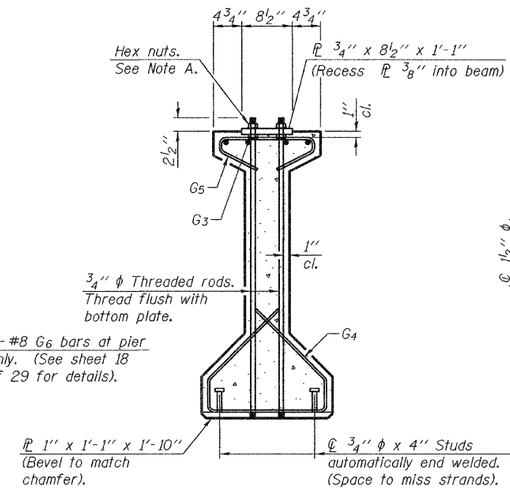
Contract #74145



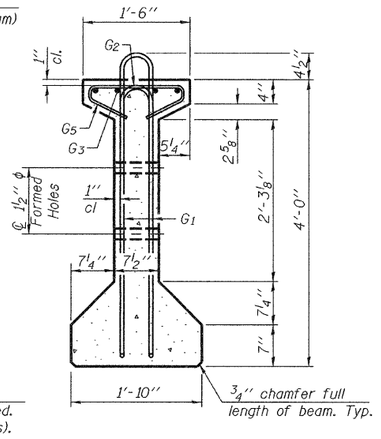
* 3 spaces at 3" = 9".
** 4-¾" ϕ threaded dowel rods at 3" cts., each face.

ELEVATION OF BEAM
(Showing reinforcement & dimensions)

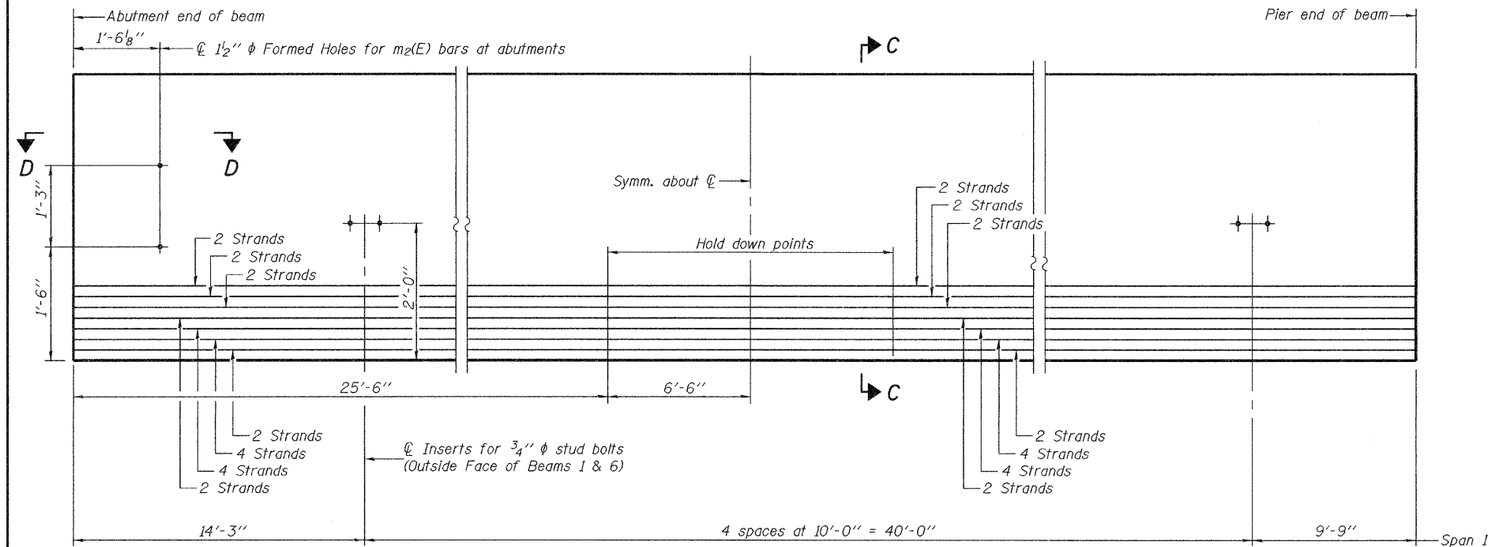
Note A:
Hex nuts (top and bottom) with lock washers (top). Only tighten sufficiently to compress lock washers.



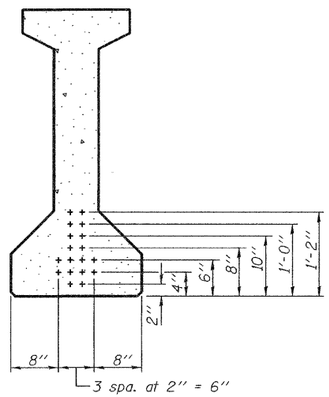
SECTION A-A



SECTION B-B



ELEVATION OF BEAM
(Showing prestressing steel)



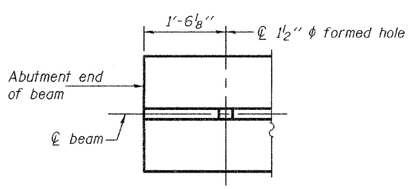
SECTION C-C

*** BAR LIST
ONE BEAM ONLY

Bar	No.	Size	Length	Shape
G_1	111	#4	9'-6"	⊓L
G_2	12	#4	7'-11"	⊓
G_3	8	#7	33'-7"	——
G_4	38	#3	5'-3"	⊳⊲
G_5	64	#3	2'-9"	⊐⊏
G_6	2	#8	3'-9"	⌊⌋

*** For information only

Notes:
See sheet 18 of 29 for additional details and Bill of Material.
Required release strength, f'ci, shall be 5,000 psi.



SECTION D-D

DESIGNED	Ray Ahanchi
CHECKED	Nick Barnett
DRAWN	BECKY M. LEACH
CHECKED	GRA & NRB

November 14, 2008
EXAMINED Thomas J. Domagalski
ENGINEER OF BRIDGE DESIGN
PASSED Ralph E. Anderson
ENGINEER OF BRIDGES AND STRUCTURES

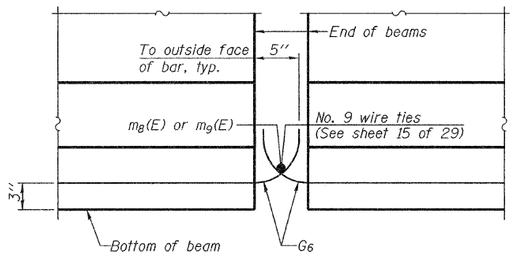
48" PPC I-BEAM SPANS 1 & 3
F.A.S. ROUTE 1536 - SEC. 125BR
MACON COUNTY
STATION 616+26.50
STRUCTURE NO. 058-0132

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

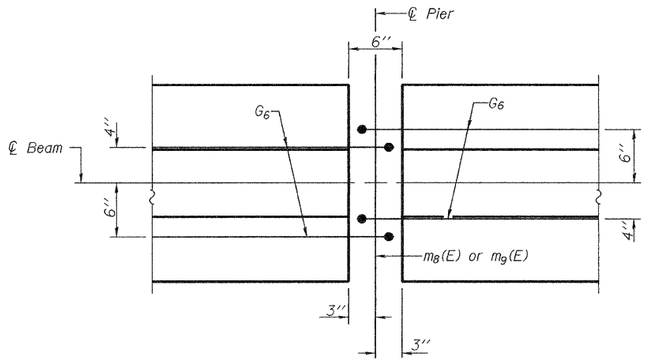
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAS 1536	125BR	Macon	45	30
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

SHEET NO. 18
29 SHEETS

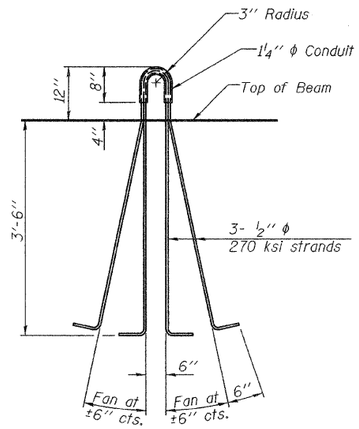
Contract #74145



ELEVATION OF BEAM AT PIER



PLAN OF BEAM AT PIER



LIFTING LOOP DETAIL

NOTES

Inserts for ¾" ϕ threaded dowel rods, when specified, are to be two strut, coil type for interior beams and single coil, flared loop type for exterior beams.

Prestressing steel shall be uncoated high strength, low relaxation 7-wire strand, Grade 270.

The nominal diameter shall be ½" and the nominal cross-sectional area shall be 0.153 sq. in.

Non-prestressing steel shall conform to ASTM A 706, Grade 60.

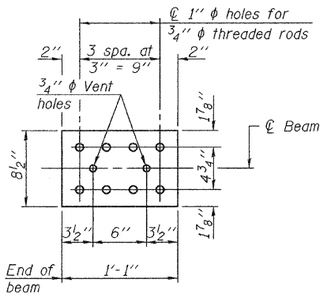
A minimum 2½" ϕ lifting pin shall be used to engage the lifting loops during handling.

Cut G_6 bars when necessary to maintain 1½" clearance.

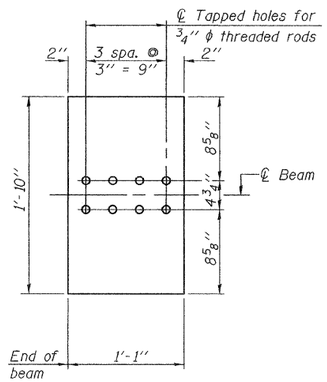
The top and bottom plates shall be AASHTO M270 Grade 50.

The bottom plates and studs shall be galvanized according to AASHTO M111.

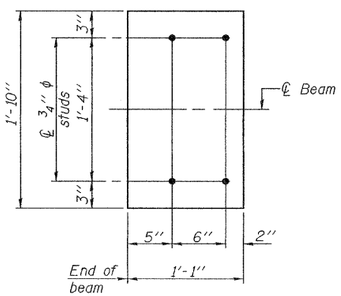
Threaded rods shall be ASTM F 1554 Grade 55.



TOP PLATE

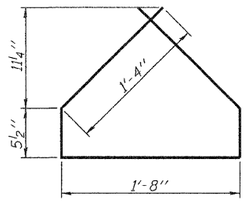


BOTTOM PLATE
(Showing threaded rods)

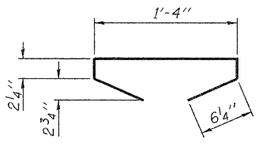


BOTTOM PLATE
(Showing studs)

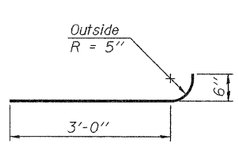
See bearing details for pintle hole locations when required.



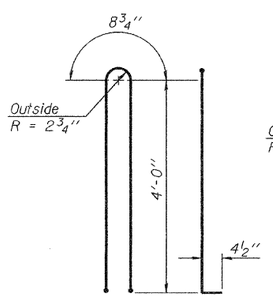
BAR G_4



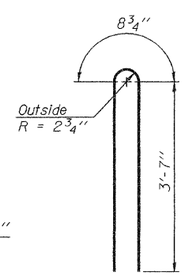
BAR G_5



BAR G_6



BAR G_1



BAR G_2

BILL OF MATERIAL

Item	Unit	Total
Furnishing and Erecting Precast Prestressed Concrete I-Beams, 48"	Ft.	768

DESIGNED	Ray Ahanchi
CHECKED	Nick Barnett
DRAWN	BECKY M. LEACH
CHECKED	GRA & NRB

November 14, 2008
EXAMINED Thomas J. Domagalski
ENGINEER OF BRIDGE DESIGN
PASSED Ralph E. Anderson
ENGINEER OF BRIDGES AND STRUCTURES

PI-4-48D 9-3-07

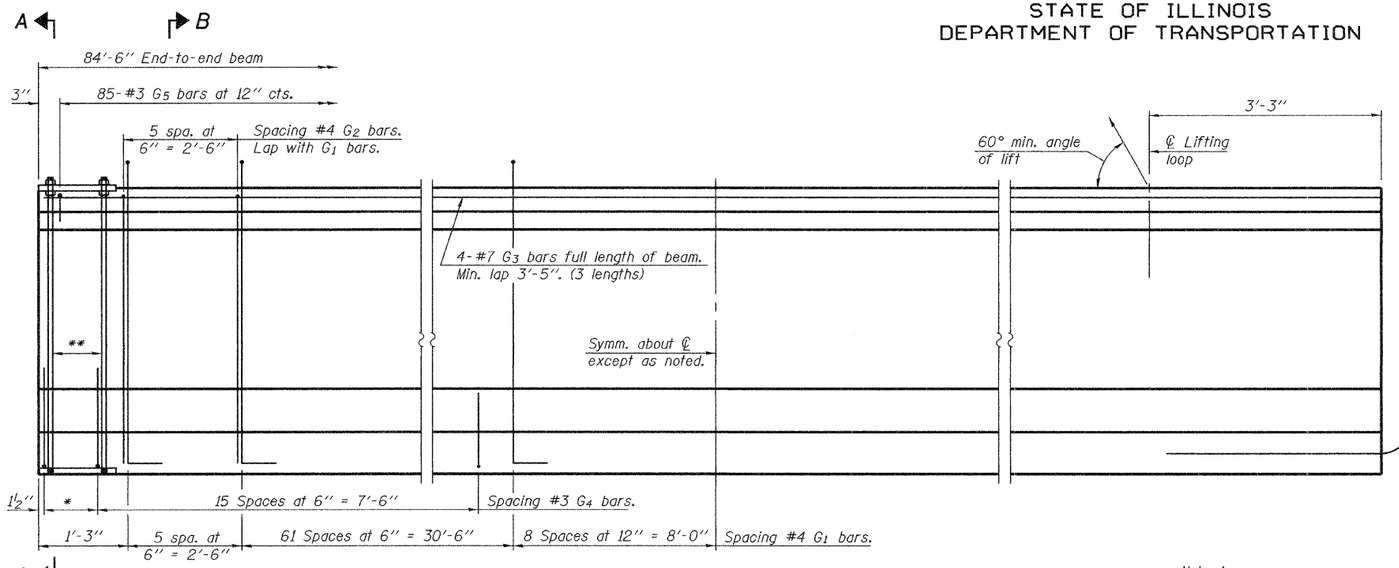
48" PPC I-BEAM DETAILS SPAN 1 & 3
F.A.S. ROUTE 1536 - SEC. 125BR
MACON COUNTY
STATION 616+26.50
STRUCTURE NO. 058-0132

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAS 1536	125BR	Macon	45	31
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

SHEET NO. 19
29 SHEETS

Contract #74145

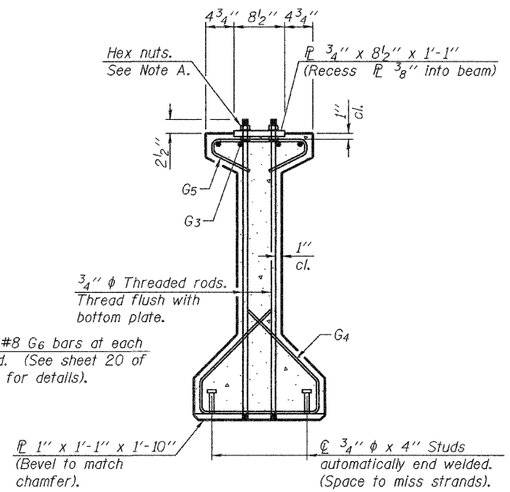


* 3 spaces at 3" = 9".
** 4-¾" ϕ threaded dowel rods at 3" cts., each face.

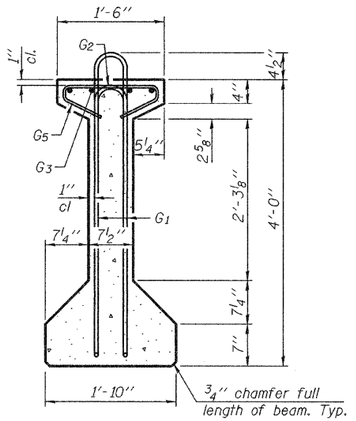
ELEVATION OF BEAM
(Showing reinforcement & dimensions)

2-#8 G6 bars at each end. (See sheet 20 of 29 for details).

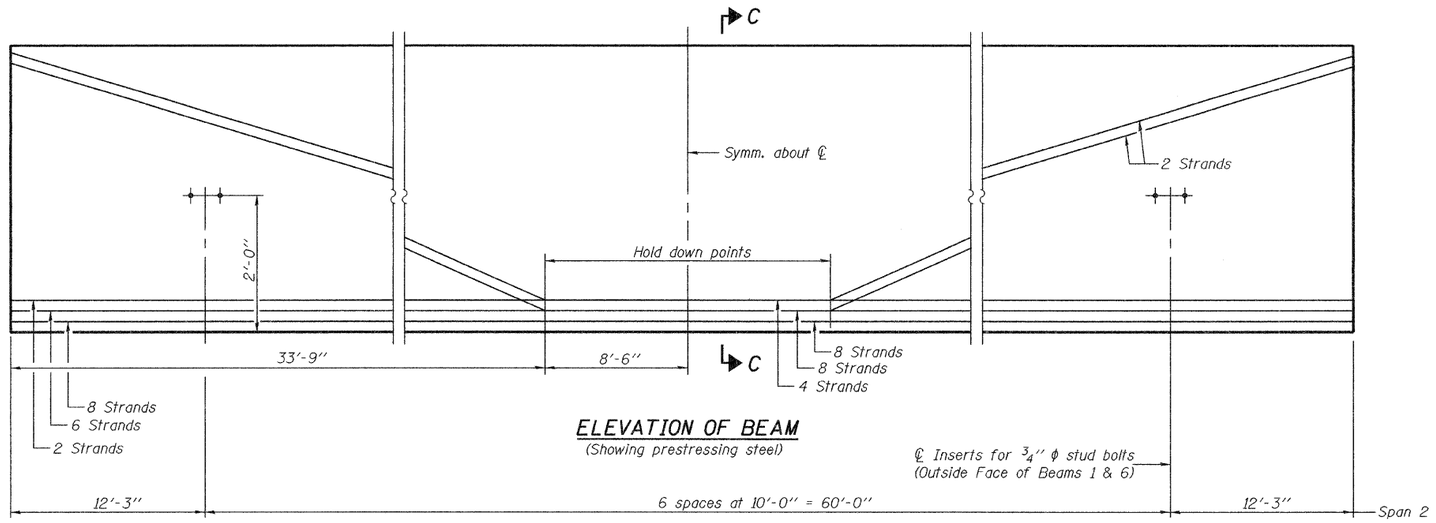
Note A:
Hex nuts (top and bottom) with lock washers (top). Only tighten sufficiently to compress lock washers.



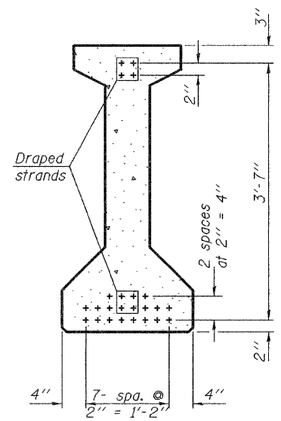
SECTION A-A



SECTION B-B



ELEVATION OF BEAM
(Showing prestressing steel)



SECTION C-C

*** BAR LIST
ONE BEAM ONLY

Bar	No.	Size	Length	Shape
G_1	149	#4	9'-6"	
G_2	12	#4	7'-11"	
G_3	12	#7	30'-5"	
G_4	38	#3	5'-3"	
G_5	85	#3	2'-9"	
G_6	4	#8	3'-9"	

*** For information only

Notes:
See sheet 20 of 29 for additional details and Bill of Material.
Required release strength, f'ci, shall be 5,000 psi.

DESIGNED	Ray Ahanchi
CHECKED	Nick Barnett
DRAWN	BECKY M. LEACH
CHECKED	GRA & NRB

November 14, 2008
EXAMINED Thomas J. Domagalski
ENGINEER OF BRIDGE DESIGN
PASSED Ralph E. Anderson
ENGINEER OF BRIDGES AND STRUCTURES

48" PPC I-BEAM SPAN 2
F.A.S. ROUTE 1536 - SEC. 125BR
MACON COUNTY
STATION 616+26.50
STRUCTURE NO. 058-0132

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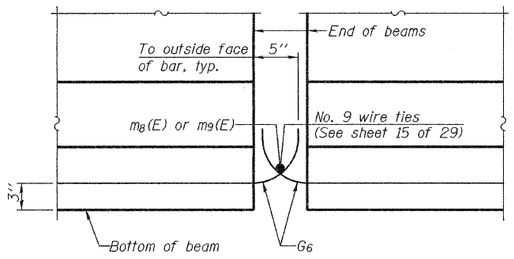
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

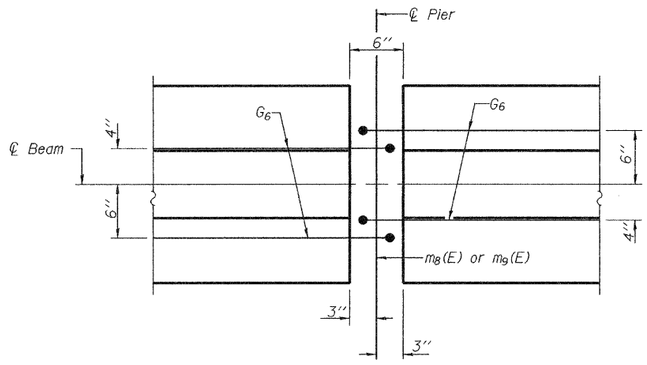
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAS 1536	125BR	Macon	45	32
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

SHEET NO. 20
29 SHEETS

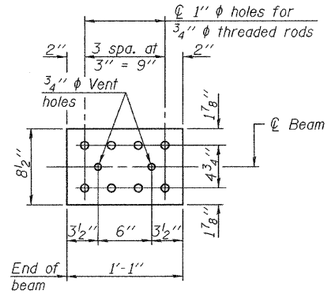
Contract #74145



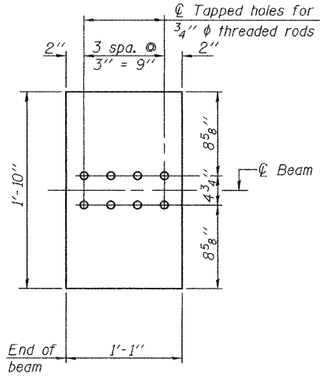
ELEVATION OF BEAM AT PIER



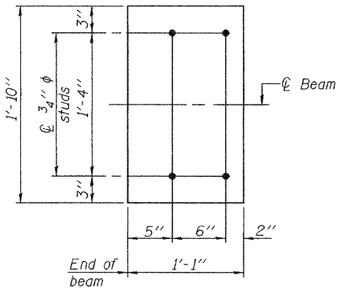
PLAN OF BEAM AT PIER



TOP PLATE

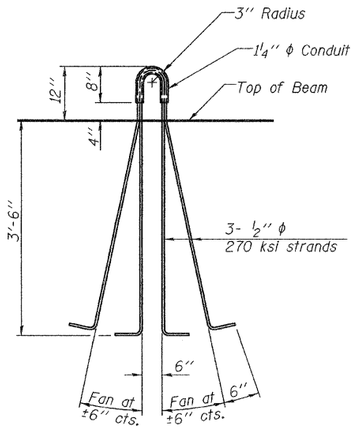


BOTTOM PLATE
(Showing threaded rods)



BOTTOM PLATE
(Showing studs)

See bearing details for pintle hole locations when required.



LIFTING LOOP DETAIL

NOTES

Inserts for $\frac{3}{4}$" ϕ threaded dowel rods, when specified, are to be two strut, coil type for interior beams and single coil, flared loop type for exterior beams.

Prestressing steel shall be uncoated high strength, low relaxation 7-wire strand, Grade 270.

The nominal diameter shall be $\frac{1}{2}$" and the nominal cross-sectional area shall be 0.153 sq. in.

Non-prestressing steel shall conform to ASTM A 706, Grade 60.

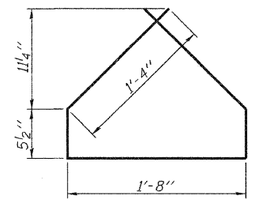
A minimum $2\frac{1}{2}$" ϕ lifting pin shall be used to engage the lifting loops during handling.

Cut G_6 bars when necessary to maintain $1\frac{1}{2}$" clearance.

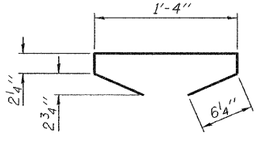
The top and bottom plates shall be AASHTO M270 Grade 50.

The bottom plates and studs shall be galvanized according to AASHTO M111

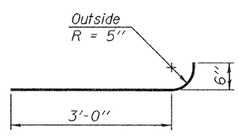
Threaded rods shall be ASTM F 1554 Grade 55.



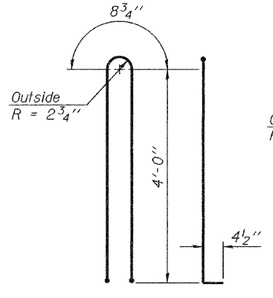
BAR G4



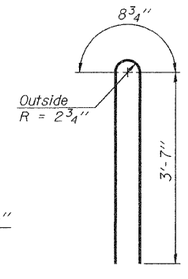
BAR G5



BAR G6



BAR G1



BAR G2

BILL OF MATERIAL

Item	Unit	Total
Furnishing and Erecting Precast Prestressed Concrete I-Beams, 48"	Ft.	507

DESIGNED	Ray Ahanchi
CHECKED	Nick Barnett
DRAWN	BECKY M. LEACH
CHECKED	GRA & NRB

November 14, 2008
EXAMINED Thomas J. Domagalski
ENGINEER OF BRIDGE DESIGN
PASSED Ralph E. Anderson
ENGINEER OF BRIDGES AND STRUCTURES

PI-4-48D 9-3-07

48" PPC I-BEAM DETAILS SPAN 2
F.A.S. ROUTE 1536 - SEC. 125BR
MACON COUNTY
STATION 616+26.50
STRUCTURE NO. 058-0132

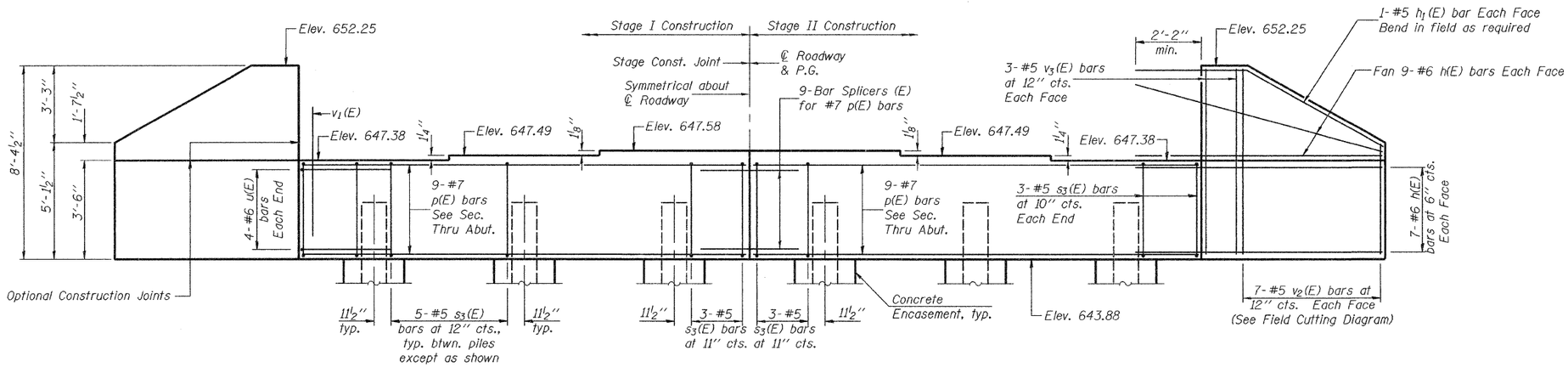
Notes: Pour steps monolithically with cap.

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

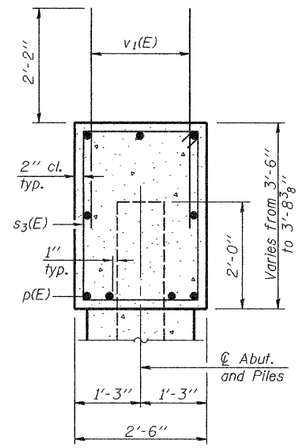
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAS 1536	125BR	Macon	45	33
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

SHEET NO. 21
29 SHEETS

Contract #74145



ELEVATION
(Looking West)



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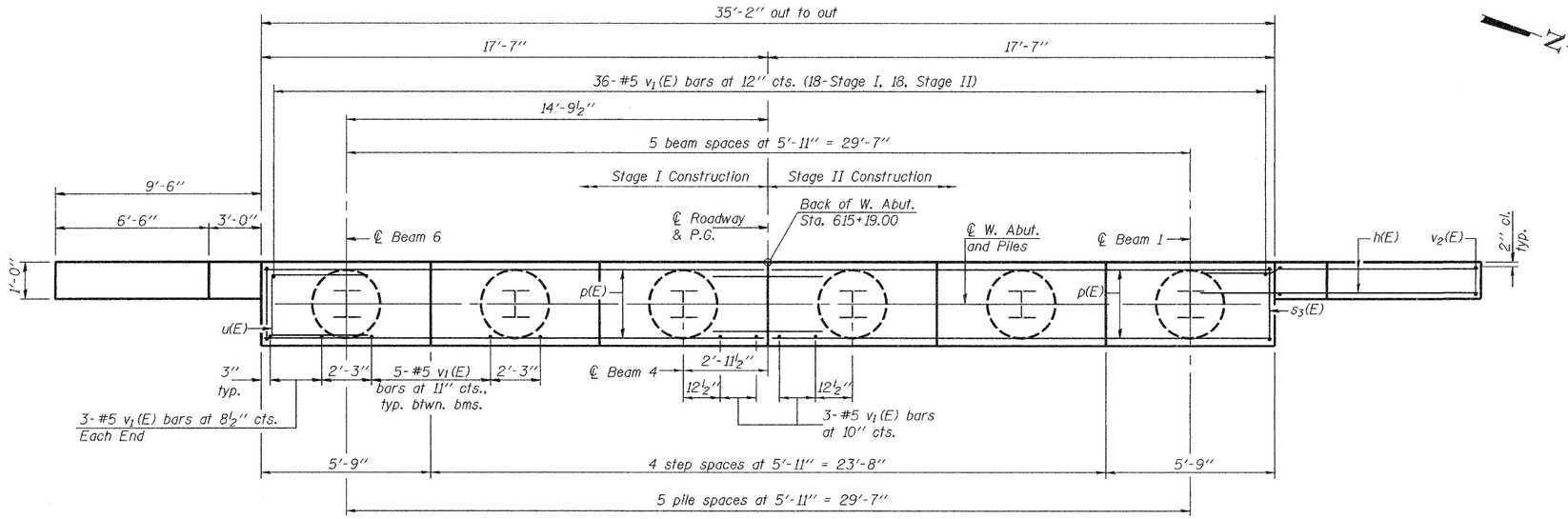


BILL OF MATERIAL

Bar	No.	Size	Length	Shape
h(E)	64	#6	11'-8"	
h1(E)	4	#5	12'-5"	
p(E)	18	#7	17'-4"	
s3(E)	32	#5	11'-7"	
u(E)	8	#6	8'-1"	
v1(E)	68	#5	4'-4"	
v2(E)	14	#5	12'-11"	
v3(E)	12	#5	8'-1"	
Structure Excavation		Cu. Yd.	80	
Concrete Structures		Cu. Yd.	16.8	
Reinforcement Bars, Epoxy Coated		Pound	2890	
Furnishing Steel Piles, HP12x53		Foot	250	
Driving Piles		Foot	250	
Test Pile, HP12x53		Each	1	
Concrete Encasement		Cu. Yd.	2.1	

For details of Bar Splicers, see sheet 27 of 29.
For details of piles and Concrete Encasement, see sheet 23 of 29.

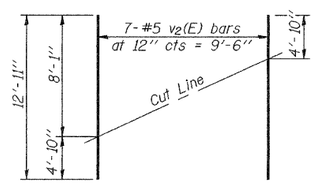
PILE DATA

Type: HP12x53
Nominal Required Bearing: 334 kips
Factored Resistance Available: 167 kips
Est. Length: 50'
No. Production Piles: 5
No. Test Piles: 1

DESIGNED	Ray Ahanchi
CHECKED	Nick Barnett
DRAWN	BECKY M. LEACH
CHECKED	GRA & NRB

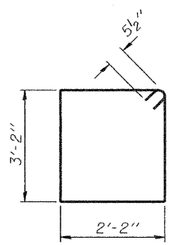
November 14, 2008
EXAMINED Thomas J. Domagalski
ENGINEER OF BRIDGE DESIGN
PASSED Ralph E. Anderson
ENGINEER OF BRIDGES AND STRUCTURES

PLAN

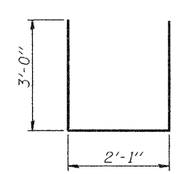


FIELD CUTTING DIAGRAM

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



BAR s3(E)



BAR u(E)

WEST ABUTMENT
F.A.S. ROUTE 1536 - SEC. 125BR
MACON COUNTY
STATION 616+26.50
STRUCTURE NO. 058-0132

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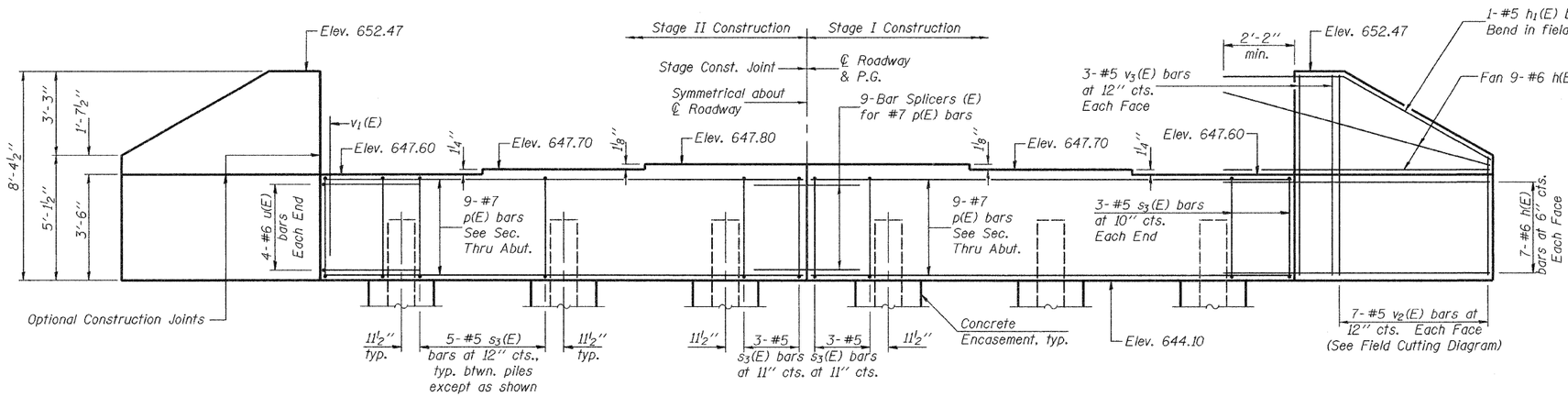
Notes: Pour steps monolithically with cap.

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

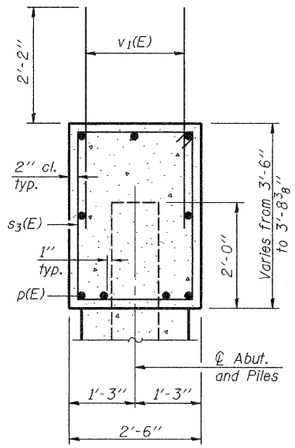
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAS 1536	125BR	Macon	45	34
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

SHEET NO. 22
29 SHEETS

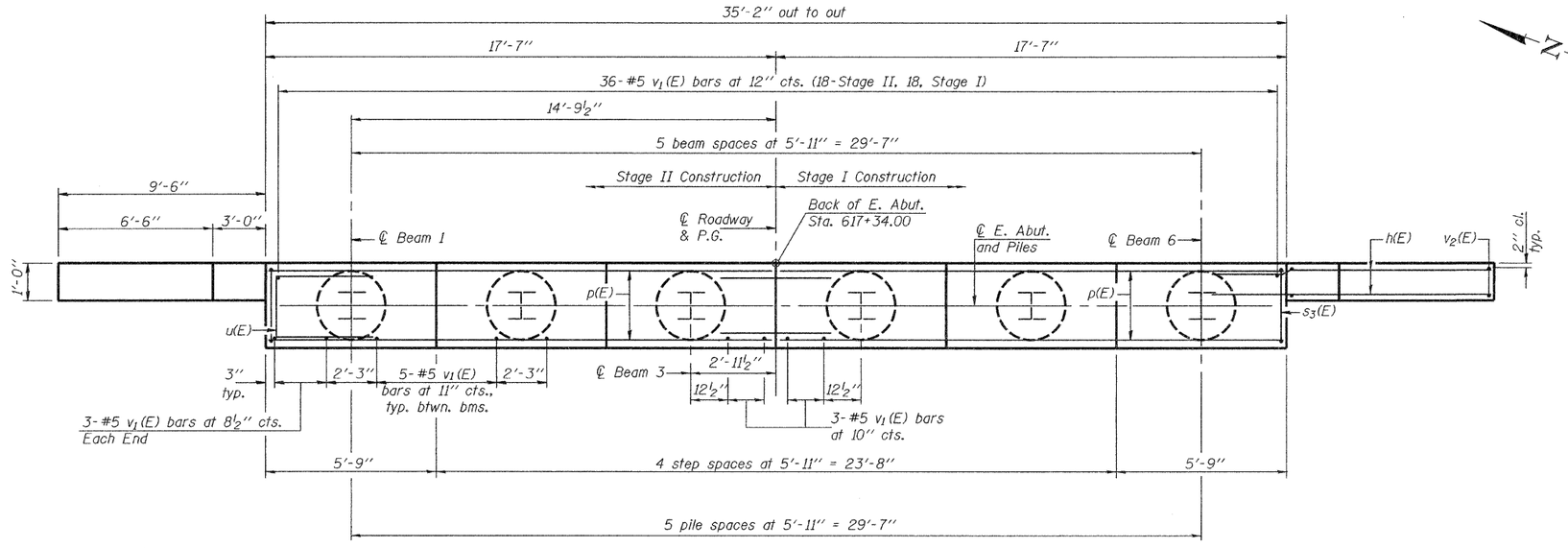
Contract #74145



ELEVATION
(Looking East)



SEC. THRU ABUT.



PLAN

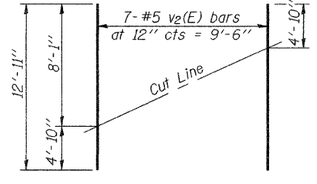
BILL OF MATERIAL

Bar	No.	Size	Length	Shape
h(E)	64	#6	11'-8"	
h1(E)	4	#5	12'-5"	
p(E)	18	#7	17'-4"	
s3(E)	32	#5	11'-7"	
u(E)	8	#6	8'-1"	
v1(E)	68	#5	4'-4"	
v2(E)	14	#5	12'-11"	
v3(E)	12	#5	8'-1"	
Structure Excavation		Cu. Yd.	80	
Concrete Structures		Cu. Yd.	16.8	
Reinforcement Bars, Epoxy Coated		Pound	2890	
Furnishing Steel Piles, HP12x53		Foot	390	
Driving Piles		Foot	390	
Test Pile, HP12x53		Each	1	
Concrete Encasement		Cu. Yd.	2.1	

For details of Bar Splicers, see sheet 27 of 29.
For details of piles and Concrete Encasement, see sheet 23 of 29.

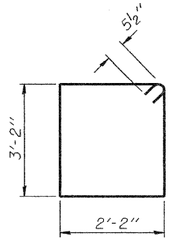
PILE DATA

Type: HP12x53
Nominal Required Bearing: 334 kips
Factored Resistance Available: 167 kips
Est. Length: 78'
No. Production Piles: 5
No. Test Piles: 1

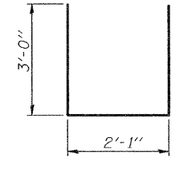


FIELD CUTTING DIAGRAM

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



BAR s3(E)



BAR u(E)

DESIGNED	Ray Ahanchi
CHECKED	Nick Barnett
DRAWN	BECKY M. LEACH
CHECKED	GRA & NRB

November 14, 2008
EXAMINED Thomas J. Domagalski
ENGINEER OF BRIDGE DESIGN
PASSED Ralph E. Anderson
ENGINEER OF BRIDGES AND STRUCTURES

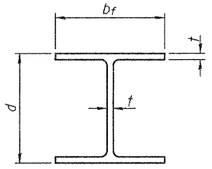
EAST ABUTMENT
F.A.S. ROUTE 1536 - SEC. 125BR
MACON COUNTY
STATION 616+26.50
STRUCTURE NO. 058-0132

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAS 1536	125BR	Macon	45	35
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

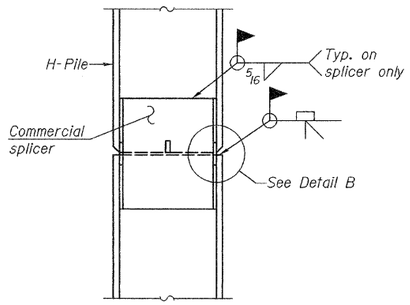
SHEET NO. 23
29 SHEETS

Contract #74145A

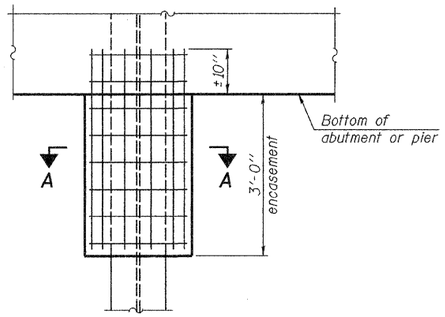


STEEL PILE TABLE

Designation	Depth d	Flange width b_f	Web and Flange thickness t	Encasement diameter A
HP 14x117	14 1/4"	14 7/8"	13/16"	30"
x102	14"	14 3/4"	11/16"	30"
x89	13 7/8"	14 3/4"	5/8"	30"
x73	13 5/8"	14 5/8"	1/2"	30"
HP 12x84	12 1/4"	12 1/4"	11/16"	24"
x74	12 1/8"	12 1/4"	5/8"	24"
x63	12"	12 1/8"	1/2"	24"
x53	11 3/4"	12"	7/16"	24"
HP 10x57	10"	10 1/4"	9/16"	24"
x42	9 3/4"	10 1/8"	7/16"	24"
HP 8x36	8"	8 1/8"	7/16"	18"

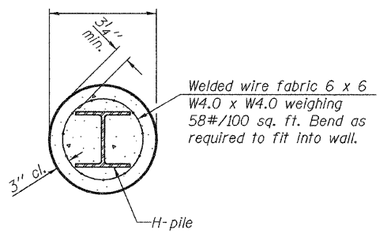


ELEVATION



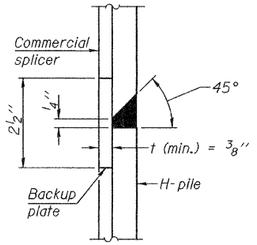
ELEVATION

PILE ENCASEMENT

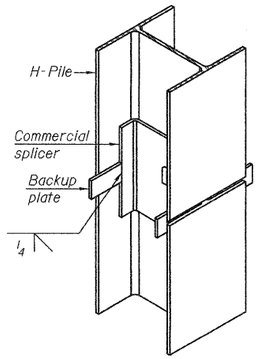


SECTION A-A

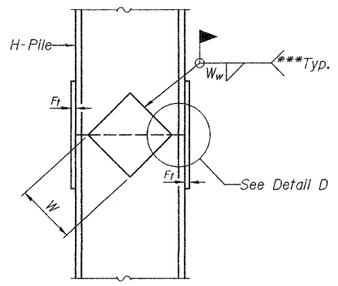
Note: Forms for encasement may be omitted when soil conditions permit.



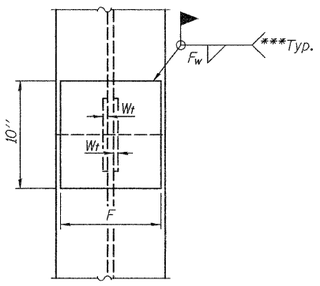
DETAIL "B"



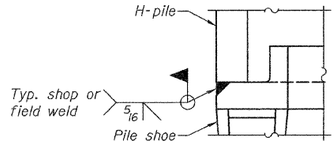
ISOMETRIC VIEW



ELEVATION



END VIEW

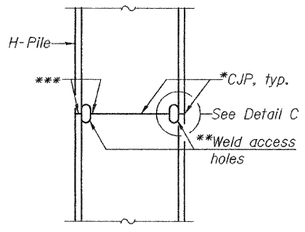


ELEVATION

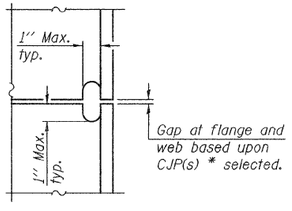
DETAIL A

H-PILE SHOE ATTACHMENT

WELDED COMMERCIAL SPLICE

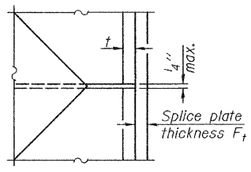


ELEVATION



DETAIL C

COMPLETE PENETRATION WELD SPLICE



DETAIL D

Designation	F	F_t	F_w	W	W_f	W_w
HP 14x117	12 1/2"	1"	7/8"	7 3/4"	5/8"	1/2"
x102	12 1/2"	7/8"	3/4"	7 3/4"	5/8"	1/2"
x89	12 1/2"	3/4"	11/16"	7 3/4"	5/8"	1/2"
x73	12 1/2"	5/8"	9/16"	7 3/4"	5/8"	1/2"
HP 12x84	10"	7/8"	11/16"	6 1/2"	5/8"	1/2"
x74	10"	7/8"	11/16"	6 1/2"	5/8"	1/2"
x63	10"	5/8"	1/2"	6 1/2"	1/2"	3/8"
x53	10"	5/8"	1/2"	6 1/2"	1/2"	3/8"
HP 10x57	8"	3/4"	9/16"	5 1/4"	1/2"	3/8"
x42	8"	5/8"	9/16"	5 1/4"	1/2"	3/8"
HP 8x36	7"	5/8"	7/16"	4 1/4"	1/2"	3/8"

WELDED PLATE FIELD SPLICE

*Use joint conforming to Figure 3.4 in AWS D1.1, Structure Welding Code-Steel.

**Preparation per Fig. 5.2 in AWS D1.1, Structure Welding Code-Steel.

***Interrupt welds 1/4" from end of each pile.

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

DESIGNED	Ray Ahanchi
CHECKED	Nick Barnett
DRAWN	BECKY M. LEACH
CHECKED	GRA & NRB

F-HP 5-16-08

November 14, 2008
EXAMINED Thomas J. Domagalski
ENGINEER OF BRIDGE DESIGN
PASSED Ralph E. Anderson
ENGINEER OF BRIDGES AND STRUCTURES

HP PILE DETAILS
F.A.S. ROUTE 1536 - SEC. 125BR
MACON COUNTY
STATION 616+26.50
STRUCTURE NO. 058-0132

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Notes:
Pour steps monolithically with cap.
For details of piles, see sheet 26 of 29.
The Contractor shall limit the pile hammer size selected considering the relatively high soil strengths indicated in the borings and avoid overdriving the piles beyond their nominal required bearing to prevent pile damage during driving.

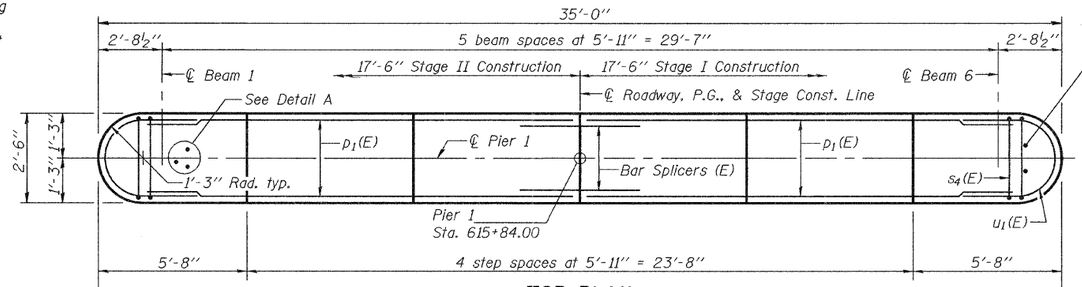
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAS 1536	125BR	Macon	45	36
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

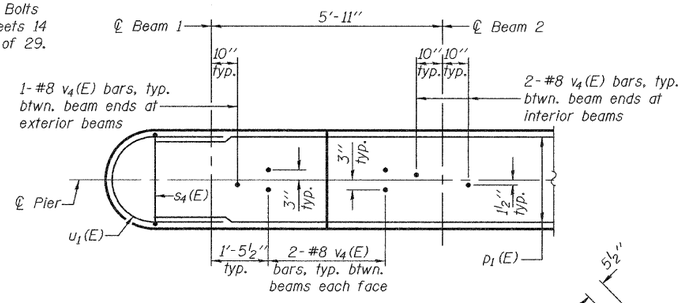
SHEET NO. 24
29 SHEETS
Contract #74145

PILE DATA

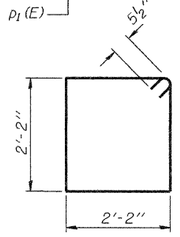
Type: 14" Metal Shell with 0.312" Wall Thickness
Nominal Required Bearing: 427 k
Factored Resistance Available: 213 k
Est. Length: 71'-0"
No. Production Piles: 7
No. Test Piles: 1



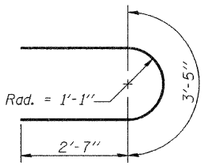
TOP PLAN



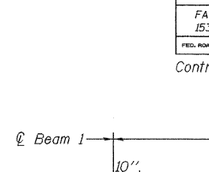
DETAIL A



BAR s4(E)



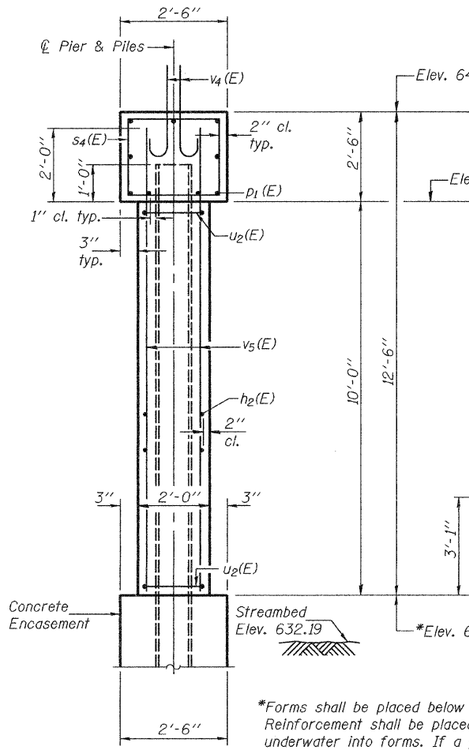
BAR u1(E)



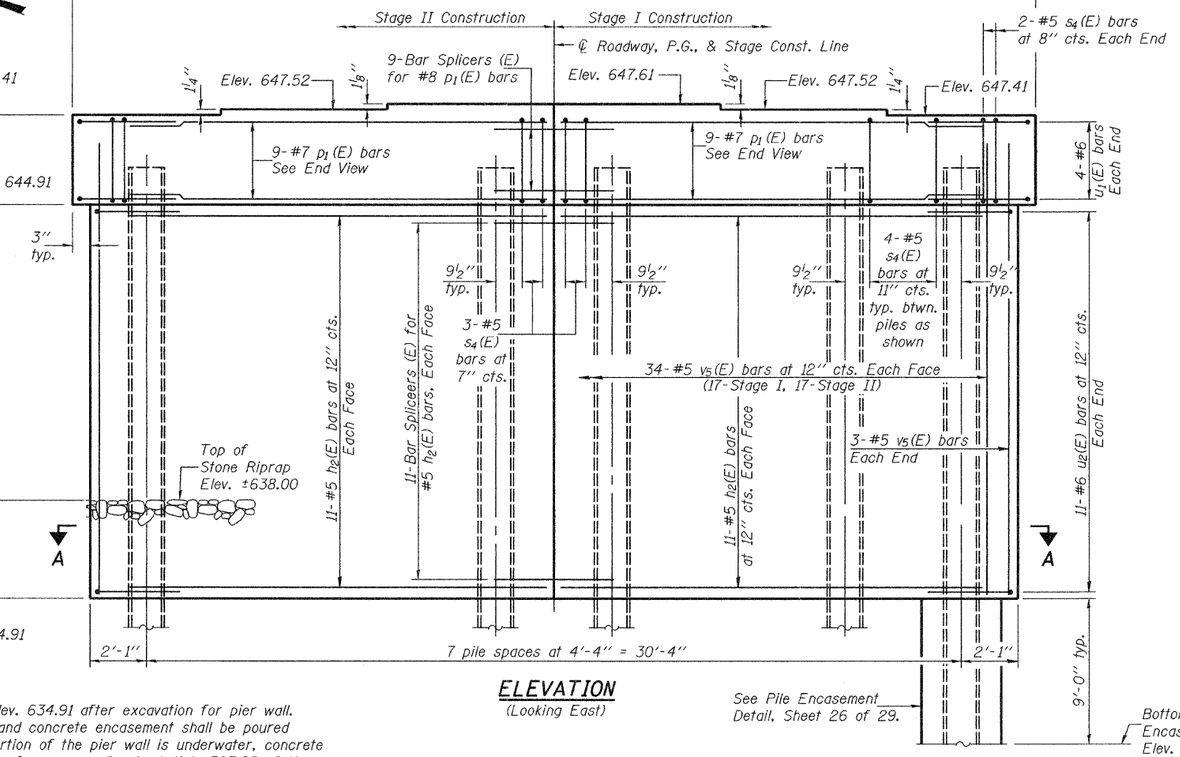
BAR u2(E)

BILL OF MATERIAL

Bar	No.	Size	Length	Shape
h2(E)	44	#5	16'-1"	
p1(E)	18	#7	16'-1"	
s4(E)	34	#5	9'-7"	
u1(E)	8	#6	8'-7"	
u2(E)	22	#6	6'-11"	
v4(E)	30	#8	4'-2"	
v5(E)	74	#5	11'-11"	
Structure Excavation		Cu. Yd.	11	
Concrete Structures		Cu. Yd.	33.5	
Reinforcement Bars, Epoxy Coated		Pound	3250	
Furnishing Metal Shell Piles, 14"ϕ x 0.312"		Foot	497	
Driving Piles		Foot	497	
Test Pile Metal Shells		Each	1	
Concrete Encasement		Cu. Yd.	13.1	
Underwater Structure Excavation Protection, Location 1		Each	1	

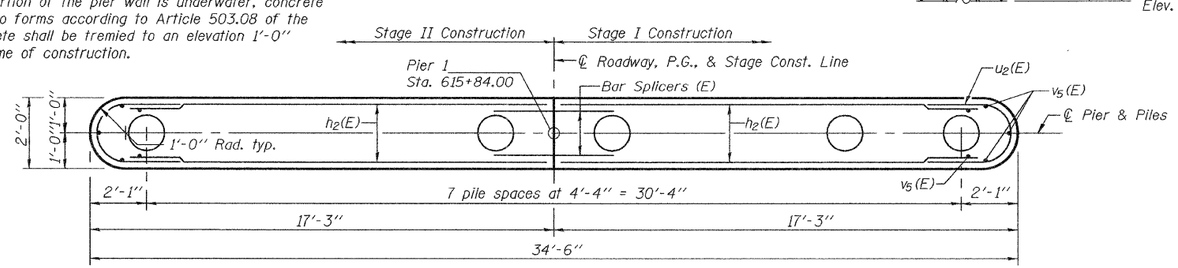


END VIEW

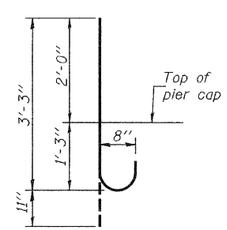


ELEVATION
(Looking East)

*Forms shall be placed below Elev. 634.91 after excavation for pier wall. Reinforcement shall be placed and concrete encasement shall be poured underwater into forms. If a portion of the pier wall is underwater, concrete shall be tremied underwater into forms according to Article 503.08 of the Standard Specifications. Concrete shall be tremied to an elevation 1'-0" above the water level at the time of construction.



SECTION A-B



BAR v4(E)

DESIGNED	Ray Ahanchi
CHECKED	Nick Barnett
DRAWN	BECKY M. LEACH
CHECKED	GRA & NRB

November 14, 2008
EXAMINED Thomas J. Domagalski
ENGINEER OF BRIDGE DESIGN
PASSED Ralph E. Anderson
ENGINEER OF BRIDGES AND STRUCTURES

PIER 1
F.A.S. ROUTE 1536 - SEC. 125BR
MACON COUNTY
STATION 616+26.50
STRUCTURE NO. 058-0132

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Notes:
Pour steps monolithically with cap.
For details of piles, see sheet 26 of 29.
The Contractor shall limit the pile hammer size selected considering the relatively high soil strengths indicated in the borings and avoid overdriving the piles beyond their nominal required bearing to prevent pile damage during driving.

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

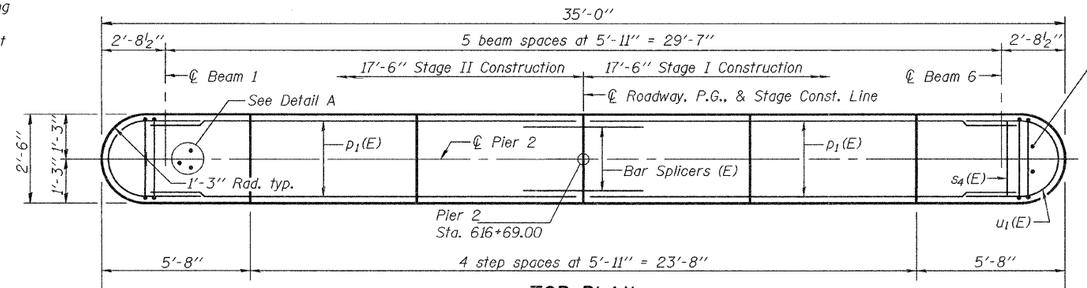
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAS 1536	125BR	Macon	45	37
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

SHEET NO. 25
29 SHEETS

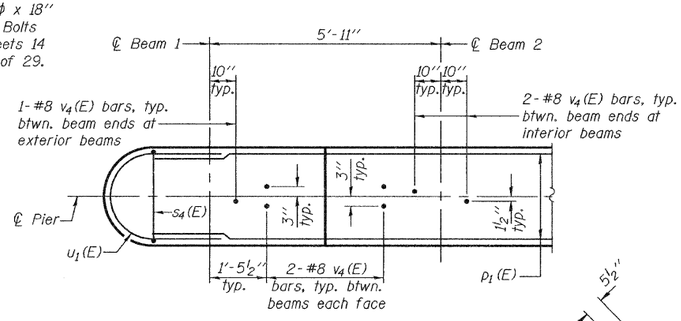
Contract #74145

PILE DATA

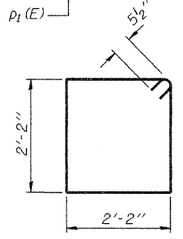
Type: 14" Metal Shell with 0.312" Wall Thickness
Nominal Required Bearing: 427 k
Factored Resistance Available: 213 k
Est. Length: 71'-0"
No. Production Piles: 7
No. Test Piles: 1



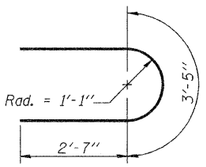
TOP PLAN



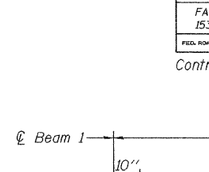
DETAIL A



BAR s4(E)



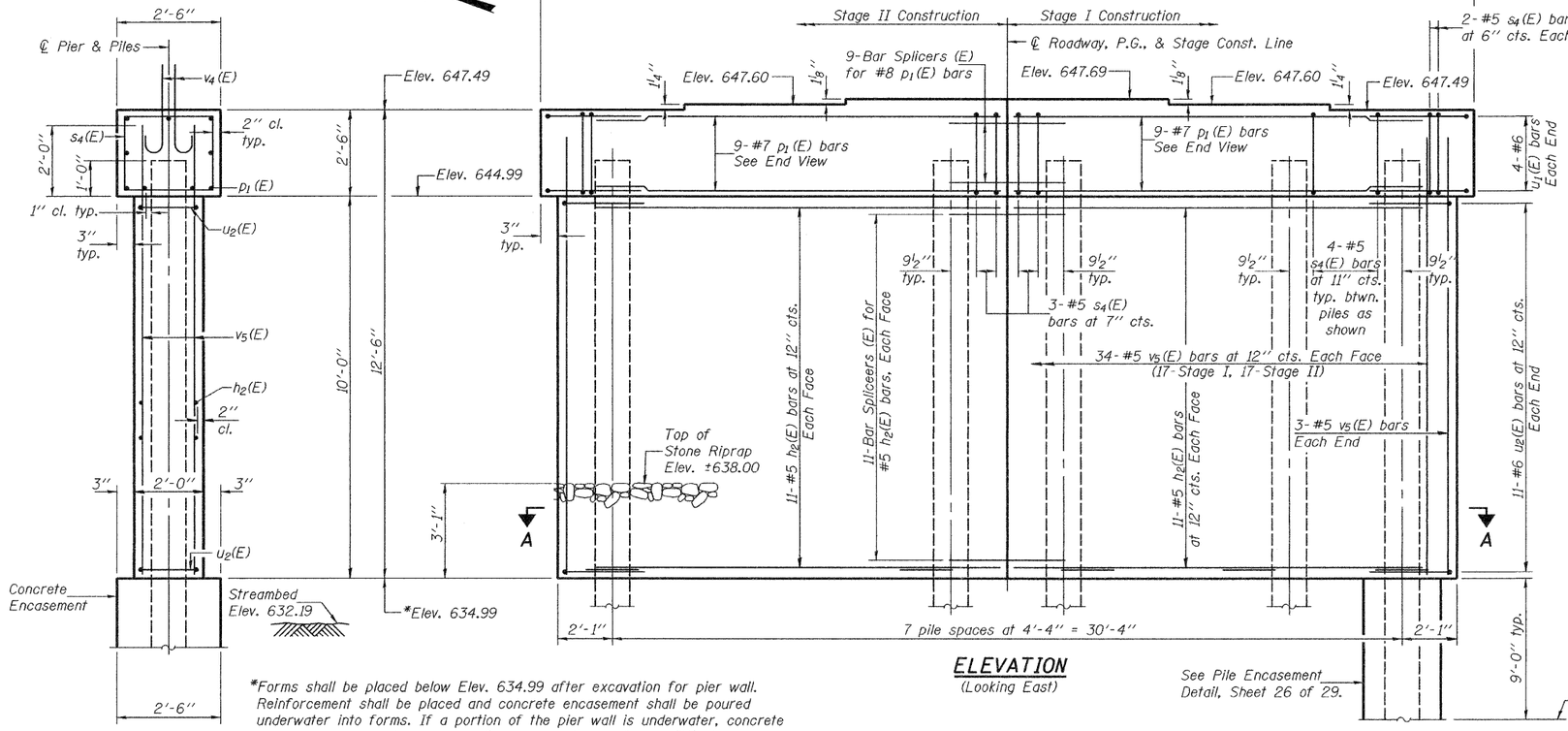
BAR u1(E)



BAR u2(E)

BILL OF MATERIAL

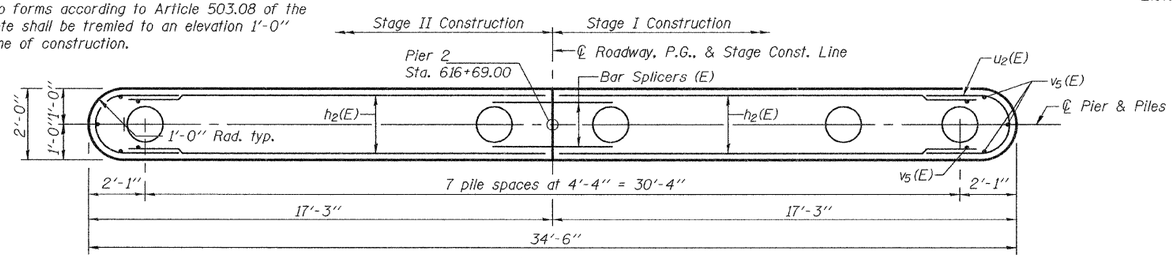
Bar	No.	Size	Length	Shape
h2(E)	44	#5	16'-1"	——
p1(E)	18	#7	16'-1"	——
s4(E)	34	#5	9'-7"	
u1(E)	8	#6	8'-7"	
u2(E)	22	#6	6'-11"	
v4(E)	30	#8	4'-2"	
v5(E)	74	#5	11'-11"	——
Structure Excavation		Cu. Yd.	11	
Concrete Structures		Cu. Yd.	33.5	
Reinforcement Bars, Epoxy Coated		Pound	3250	
Furnishing Metal Shell Piles, 14"ϕ x 0.312"		Foot	497	
Driving Piles		Foot	497	
Test Pile Metal Shells		Each	1	
Concrete Encasement		Cu. Yd.	13.1	
Underwater Structure Excavation Protection, Location 2		Each	1	



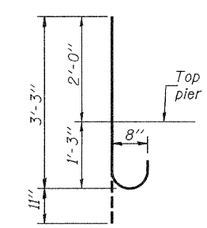
ELEVATION
(Looking East)

END VIEW

*Forms shall be placed below Elev. 634.99 after excavation for pier wall. Reinforcement shall be placed and concrete encasement shall be poured underwater into forms. If a portion of the pier wall is underwater, concrete shall be tremied underwater into forms according to Article 503.08 of the Standard Specifications. Concrete shall be tremied to an elevation 1'-0" above the water level at the time of construction.



SECTION A-A



BAR v4(E)

DESIGNED	Ray Ahanchi
CHECKED	Nick Barnett
DRAWN	BECKY M. LEACH
CHECKED	GRA & NRB

November 14, 2008
EXAMINED Thomas J. Domagalski
ENGINEER OF BRIDGE DESIGN
PASSED Ralph E. Anderson
ENGINEER OF BRIDGES AND STRUCTURES

PIER 2
F.A.S. ROUTE 1536 - SEC. 125BR
MACON COUNTY
STATION 616+26.50
STRUCTURE NO. 058-0132

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAS 1536	125BR	Macon	45	38
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

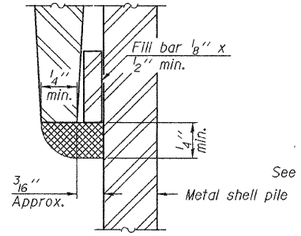
SHEET NO. 26
29 SHEETS

Contract #74145

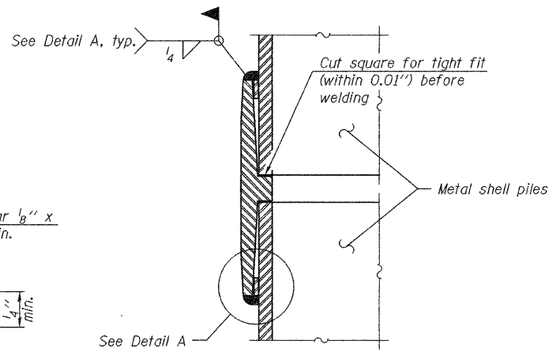
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

METAL SHELL PILE TABLE

Designation	Wall thickness t	Weight per foot (Lbs./ft.)	Inside volume ($yd.^3$/ft.)	Encasement diameter A
PP12	0.179"	22.60	0.0274	30"
PP12	0.250"	31.37	0.0267	30"
PP14	0.250"	36.71	0.0368	30"
PP14	0.312"	45.61	0.0361	30"

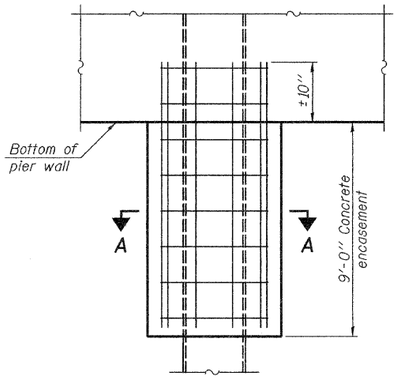


DETAIL A

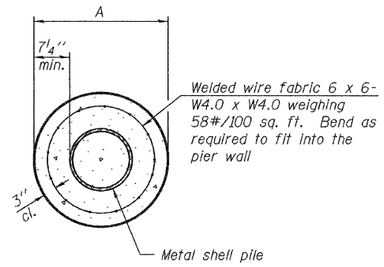


Notes:
The 1/8" x 1/2" min. fill bar may be constructed of 2 bars with a 1/8" max. gap between them.
Pile segments shall be driven to solid contact with splicer before welding.

WELDED COMMERCIAL SPLICE



ELEVATION

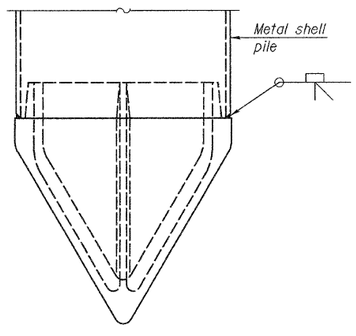


SECTION A-A

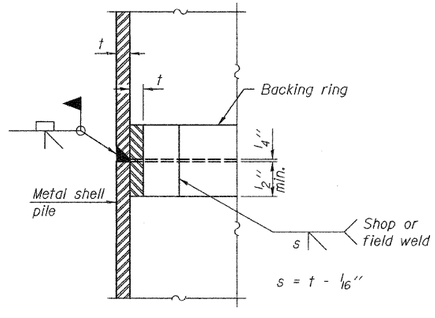
Notes:
See Metal Shell Pile Table for dimension "A".
Forms for encasement may be omitted when soil conditions permit.

CONCRETE ENCASEMENT AT PIERS

END PLATE ATTACHMENT

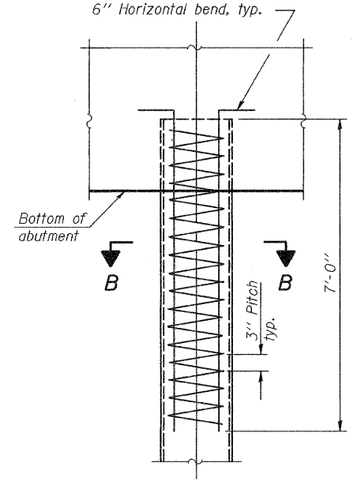


METAL SHELL PILE SHOE ATTACHMENT



COMPLETE PENETRATION WELD SPLICE

Backing ring made from pile shell. Remove segment to allow reducing circumference and vertically rejoin with partial joint penetration weld.



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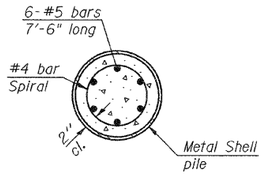

SECTION B-B

METAL SHELL REINFORCEMENT AT ABUTMENTS

Note:
The metal shell piles shall be according to ASTM A 252 Grade 3.

DESIGNED	Ray Ahanchi
CHECKED	Nick Barnett
DRAWN	BECKY M. LEACH
CHECKED	GRA & NRB

November 14, 2008
EXAMINED Thomas J. Domagalski
ENGINEER OF BRIDGE DESIGN
PASSED Ralph E. Anderson
ENGINEER OF BRIDGES AND STRUCTURES

METAL SHELL PILE DETAILS
F.A.S. ROUTE 1536 - SEC. 125BR
MACON COUNTY
STATION 616+26.50
STRUCTURE NO. 058-0132

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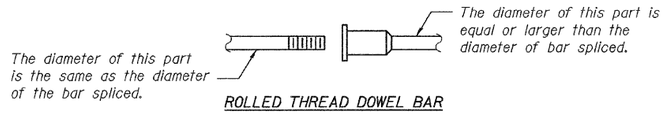
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAS 1536	125BR	Macon	45	39
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

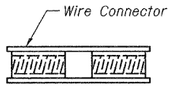
SHEET NO. 27
29 SHEETS

Contract #74145



ROLLED THREAD DOWEL BAR

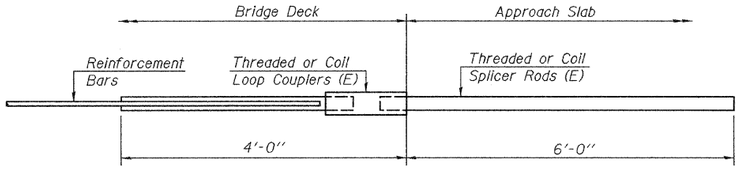
** ONE PIECE



WELDED SECTIONS

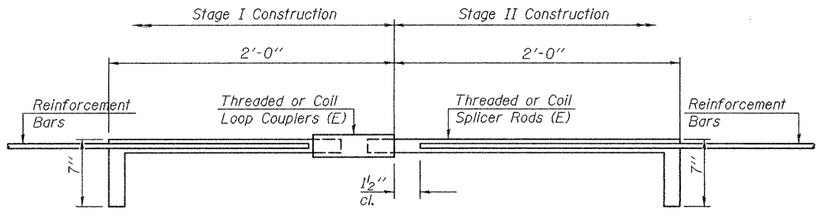
BAR SPLICER ASSEMBLY ALTERNATIVES

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



FOR INTEGRAL OR SEMI-INTEGRAL ABUTMENTS

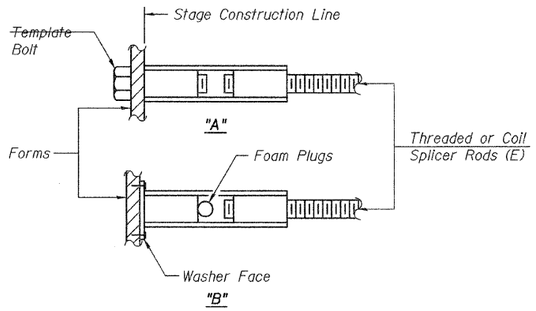
Bar Splicer for #5 bar
Min. Capacity = 23.0 kips - tension
Min. Pull-out Strength = 12.3 kips - tension
No. Required = 64



Bar Splicer for #6 bar
Min. Capacity = 33.1 kips - tension
Min. Pull-out Strength = 13.3 kips - tension
No. Required = 2

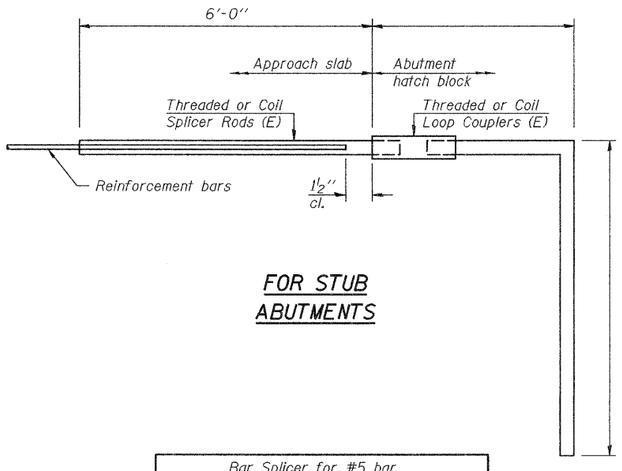
DESIGNED	Ray Ahanchi
CHECKED	Nick Barnett
DRAWN	BECKY M. LEACH
CHECKED	GRA & NRB

November 14, 2008
EXAMINED Thomas J. Domagalski
ENGINEER OF BRIDGE DESIGN
PASSED Ralph E. Anderson
ENGINEER OF BRIDGES AND STRUCTURES



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 STUB ABUTMENTS

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

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.

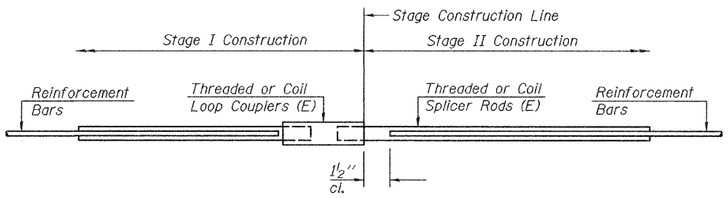
Other systems of similar design may be submitted to the Engineer for approval. Approval shall be based on certified test results from an approved testing laboratory that the proposed bar splicer assembly satisfies the following requirements:

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



STANDARD

Bar Size	No. Assemblies Required	Location
#5	628	Deck
#6	14	Abut. Diaph.
#7	18	Abutment
#7	18	Pier Cap
#5	44	Pier Wall
#4	8	Pier Diaph.
#6	4	Pier Diaph.

BAR SPLICER ASSEMBLY DETAILS
F.A.S. ROUTE 1536 - SEC. 125BR
MACON COUNTY
STATION 616+26.50
STRUCTURE NO. 058-0132

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAS 1536	125BR	Macon	45	40
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

SHEET NO. 28
29 SHEETS

Contract #74145

Illinois Department of Transportation
Division of Highways
District 7 Materials

SOIL BORING LOG

Page 1 of 2

Date 91205

ROUTE FAS 1536 (IL 48) DESCRIPTION IL 48 Over Friends Creek Just East of Argenta LOGGED BY CNA

SECTION 125BR LOCATION NE, SEC. 25, TWP. 18N, RNG. 4E, PM

COUNTY Macon DRILLING METHOD Hollow Stem Auger HAMMER TYPE Automatic

STRUCT. NO. 058-0132
Station 616+52

BORING NO. 1 Prop. NE Abut.
Station 617+20
Offset 15.50ft Rt.
Ground Surface Elev. 637.7 ft

Surface Water Elev. 632.8 ft
Stream Bed Elev. 632.3 ft

Groundwater Elev.:
First Encounter 624.7 ft
Upon Completion Wash Bored ft
After Hrs. ft

DEPTH (ft)	BLOWS (6")	UCS Qu (tsf)	MOIST (%)
Black Sand Loam to Loam with Small Gravel (Alluvium) 637.70			
-5	1	B	
	1	0.7	27
-10	1	B	
	5		
{No Sample Obtained-Drove Sampler Through Gravel) 629.70	3		
Gray Sandy Clay Loam Till	3		
	2		
	5	5.2	12
-15	6	B	
	3		
	5	3.5	12
	6	B	
624.70			
Gray Sand Loam Till with Intermittent Sand & Silt Seams	2		
	4	3.5	13
-20	5	E	
	2		
	5	3.5	13
	6	B	
	2		
	5	2.9	12
-25	6	B	

DEPTH (ft)	BLOWS (6")	UCS Qu (tsf)	MOIST (%)
Gray Sand Loam Till with Intermittent Sand & Silt Seams (continued)			
	2		
	4	3.5	13
	7	B	
	2		
-25	3	3.1	13
	6	B	
609.70			
Gray to Dark Gray Sandy Clay Loam Till	2		
	2	1.2	17
-30	3	B	
	2		
	2	1.4	15
-35	6	B	
	3		
	4	1.9	16
-40	7	B	

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

Illinois Department of Transportation
Division of Highways
District 7 Materials

SOIL BORING LOG

Page 2 of 2

Date 91205

ROUTE FAS 1536 (IL 48) DESCRIPTION IL 48 Over Friends Creek Just East of Argenta LOGGED BY CNA

SECTION 125BR LOCATION NE, SEC. 25, TWP. 18N, RNG. 4E, PM

COUNTY Macon DRILLING METHOD Hollow Stem Auger HAMMER TYPE Automatic

STRUCT. NO. 058-0132
Station 616+52

BORING NO. 1 Prop. NE Abut.
Station 617+20
Offset 15.50ft Rt.
Ground Surface Elev. 637.7 ft

Surface Water Elev. 632.8 ft
Stream Bed Elev. 632.3 ft

Groundwater Elev.:
First Encounter 624.7 ft
Upon Completion Wash Bored ft
After Hrs. ft

DEPTH (ft)	BLOWS (6")	UCS Qu (tsf)	MOIST (%)
Gray to Dark Gray Sandy Clay Loam Till (continued)			
594.70			
Brown Moderately Sorted Medium to Coarse Sand	0		
-45	1		
	2		
	3		
(6" Blow In - Washed into Sample)	5		
-50			
586.70			
Gray Poorly Sorted Coarse to Very Coarse Sand with Gravel	5		
	9		
(5" Blow In)	7		
-55			
	5		
(5" Blow In)	7		
-60	9		

DEPTH (ft)	BLOWS (6")	UCS Qu (tsf)	MOIST (%)
Gray Poorly Sorted Coarse to Very Coarse Sand with Gravel (continued)			
	9		
	13		
(7" Blow In)	16		
-65			
(*Note: Slight Artesian Conditions were Encountered at this Boring)			
	5		
	8		
(5" Blow In)	11		
567.70 -70			

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

Illinois Department of Transportation
Division of Highways
District 7 Materials

SOIL BORING LOG

Page 1 of 2

Date 91205

ROUTE FAS 1536 (IL 48) DESCRIPTION IL 48 Over Friends Creek Just East of Argenta LOGGED BY CNA

SECTION 125BR LOCATION NE, SEC. 25, TWP. 18N, RNG. 4E, PM

COUNTY Macon DRILLING METHOD Hollow Stem Auger HAMMER TYPE Automatic

STRUCT. NO. 058-0132
Station 616+52

BORING NO. 2 Prop. East Pier
Station 616+61
Offset 33.40ft Rt.
Ground Surface Elev. 637.9 ft

Surface Water Elev. 632.8 ft
Stream Bed Elev. 632.3 ft

Groundwater Elev.:
First Encounter 632.9 ft
Upon Completion Wash Bored ft
After Hrs. ft

DEPTH (ft)	BLOWS (6")	UCS Qu (tsf)	MOIST (%)
Brown Sand Loam to Coarse Sand (Alluvium) 637.90			
-5	2		
	2		
	1		
BrownGray Very Coarse Dirty Sand with Small Gravel 632.90	2		
	2		
	4		
Black Sand Loam with Gravel & Trace Organics 630.90			
	5		
(Drove Sampler on Rock)	12		
-10			
626.90			
Gray Clay Loam Till to Sandy Clay Loam Till	3		
	5	3.7	12
	7	B	
	1		
	5	3.9	12
-15	7	B	
	4		
	10	2.8	12
	7	B	
	1		
	3	3.5	13
-20	6	B	

DEPTH (ft)	BLOWS (6")	UCS Qu (tsf)	MOIST (%)
Gray Clay Loam Till to Sandy Clay Loam Till (continued)			
	1		
	3	2.4	14
-25	5	B	
609.90			
Dark Gray to Gray/Brown Silty Clay Loam Till with Small Fine Peat Seams	1		
	2	1	19
-30	4	B	
606.90			
Brown Sand Loam Till To Sandy Clay Loam Till	5		
	5		
(No Sample Obtained)	9		
-35			
598.40	2	2.1	17
Brown Fine to Coarse Sand -40	2	B	

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

Illinois Department of Transportation
Division of Highways
District 7 Materials

SOIL BORING LOG

Page 2 of 2

Date 91205

ROUTE FAS 1536 (IL 48) DESCRIPTION IL 48 Over Friends Creek Just East of Argenta LOGGED BY CNA

SECTION 125BR LOCATION NE, SEC. 25, TWP. 18N, RNG. 4E, PM

COUNTY Macon DRILLING METHOD Hollow Stem Auger HAMMER TYPE Automatic

STRUCT. NO. 058-0132
Station 616+52

BORING NO. 2 Prop. East Pier
Station 616+61
Offset 33.40ft Rt.
Ground Surface Elev. 637.9 ft

Surface Water Elev. 632.8 ft
Stream Bed Elev. 632.3 ft

Groundwater Elev.:
First Encounter 632.9 ft
Upon Completion Wash Bored ft
After Hrs. ft

DEPTH (ft)	BLOWS (6")	UCS Qu (tsf)	MOIST (%)
Brown Fine to Coarse Sand (continued)			
595.90			
Gray Moderately Sorted Coarse Sand with Gravel	4		
	5		
(5' of Blow In)	6		
-45			
	10		
	12		
	16		
-55			
	10		
	16		
(7" of Blow In)	30		
567.90 -70			

DEPTH (ft)	BLOWS (6")	UCS Qu (tsf)	MOIST (%)
Gray Moderately Sorted Coarse Sand with Gravel (continued)			
	10		
	16		
(*Note: Slight Artesian Conditions were Encountered at this Boring)			
	10		
	16		
(7" of Blow In)	30		
567.90 -70			
	4		
	7		
	8		
(15" of Blow In)	12		
-75			
	11		
	14		
(5' of Blow In)	16		
-80			

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

SOIL BORING DETAILS
F.A.S. ROUTE 1536 - SEC. 125BR
MACON COUNTY
STATION 616+26.50
STRUCTURE NO. 058-0132

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAS 1536	125BR	Macon	45	41
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

SHEET NO. 29
29 SHEETS

Contract #74145

Illinois Department of Transportation
Division of Highways
District 7 Materials

SOIL BORING LOG

Page 1 of 2

Date 91205

ROUTE FAS 1536 (IL 48) DESCRIPTION IL 48 Over Friends Creek Just East of Argenta LOGGED BY CNA

SECTION 125BR LOCATION NE, SEC. 25, TWP. 18N, RNG. 4E, PM

COUNTY Macon DRILLING METHOD Hollow Stem Auger HAMMER TYPE Automatic

STRUCT. NO. 058-0132
Station 616+52

BORING NO. 3 Prop. West Abut.
Station 615+09
Offset 6.00ft Lt.
Ground Surface Elev. 649.6 ft

Surface Water Elev. 632.8 ft
Stream Bed Elev. 632.3 ft

Groundwater Elev.:
First Encounter 633.6 ft
Upon Completion Wash Bored ft
After Hrs. ft

DEPTH (ft)	BLOWS (6")	UCS Qu (tsf)	MOIST (%)
Pavement 649.60			
647.60 Brown to Gray Sandy Clay Loam (Embankment)	2		
	2	1.4	16
-5	2	B	
	1		
	2	1.4	18
639.60 -10	3	B	
Gray Mottled Loam with Small Intermittent Sand Seams	2		
	2		
	3	1	16
	2	S	
635.10	2	1.2	23
Brown Mottled Clay with Small -15 Intermittent Sand Seams	2	B	
633.60			
Gray Poorly Sorted Very Coarse Sand with Small Gravel	1		
	3		
	3		
631.60			
Gray Moderately Sorted Coarse Sand	3		
	4		
-20	6		

DEPTH (ft)	BLOWS (6")	UCS Qu (tsf)	MOIST (%)
Gray Moderately Sorted Coarse Sand (continued)			
	2		
	4		
(2' Blow In) 627.60	5		
Gray Clay Loam Till			
	2		
	5	4.3	12
-25	7	B	
	2		
	6	4.7	12
-30	9	B	
	2		
	5	3.5	13
-35	9	B	
	3		
	5	3.7	13
-40	7	B	

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

Illinois Department of Transportation
Division of Highways
District 7 Materials

SOIL BORING LOG

Page 2 of 2

Date 91205

ROUTE FAS 1536 (IL 48) DESCRIPTION IL 48 Over Friends Creek Just East of Argenta LOGGED BY CNA

SECTION 125BR LOCATION NE, SEC. 25, TWP. 18N, RNG. 4E, PM

COUNTY Macon DRILLING METHOD Hollow Stem Auger HAMMER TYPE Automatic

STRUCT. NO. 058-0132
Station 616+52

BORING NO. 3 Prop. West Abut.
Station 615+09
Offset 6.00ft Lt.
Ground Surface Elev. 649.6 ft

Surface Water Elev. 632.8 ft
Stream Bed Elev. 632.3 ft

Groundwater Elev.:
First Encounter 633.6 ft
Upon Completion Wash Bored ft
After Hrs. ft

DEPTH (ft)	BLOWS (6")	UCS Qu (tsf)	MOIST (%)
Gray Clay Loam Till (continued)			
	3		
	5	2.1	14
-45	7	B	
	3		
	5	3.9	13
-50	11	B	
	5		
	7	2.5	15
-55	9	B	
591.60			
Gray Moderately Sorted Very Coarse Sand with Small Gravel	0		
	1		
(5' Blow In - Washed into Sample	1		

DEPTH (ft)	BLOWS (6")	UCS Qu (tsf)	MOIST (%)
- No Sample Recovered) Gray Moderately Sorted Very Coarse Sand with Small Gravel (continued)			
	7		
	11		
-65	16		
	5		
	9		
(8' Blow In) 579.60 -70	12		
-75			
-80			

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

SOIL BORING DETAILS
F.A.S. ROUTE 1536 - SEC. 125BR
MACON COUNTY
STATION 616+26.50
STRUCTURE NO. 058-0132

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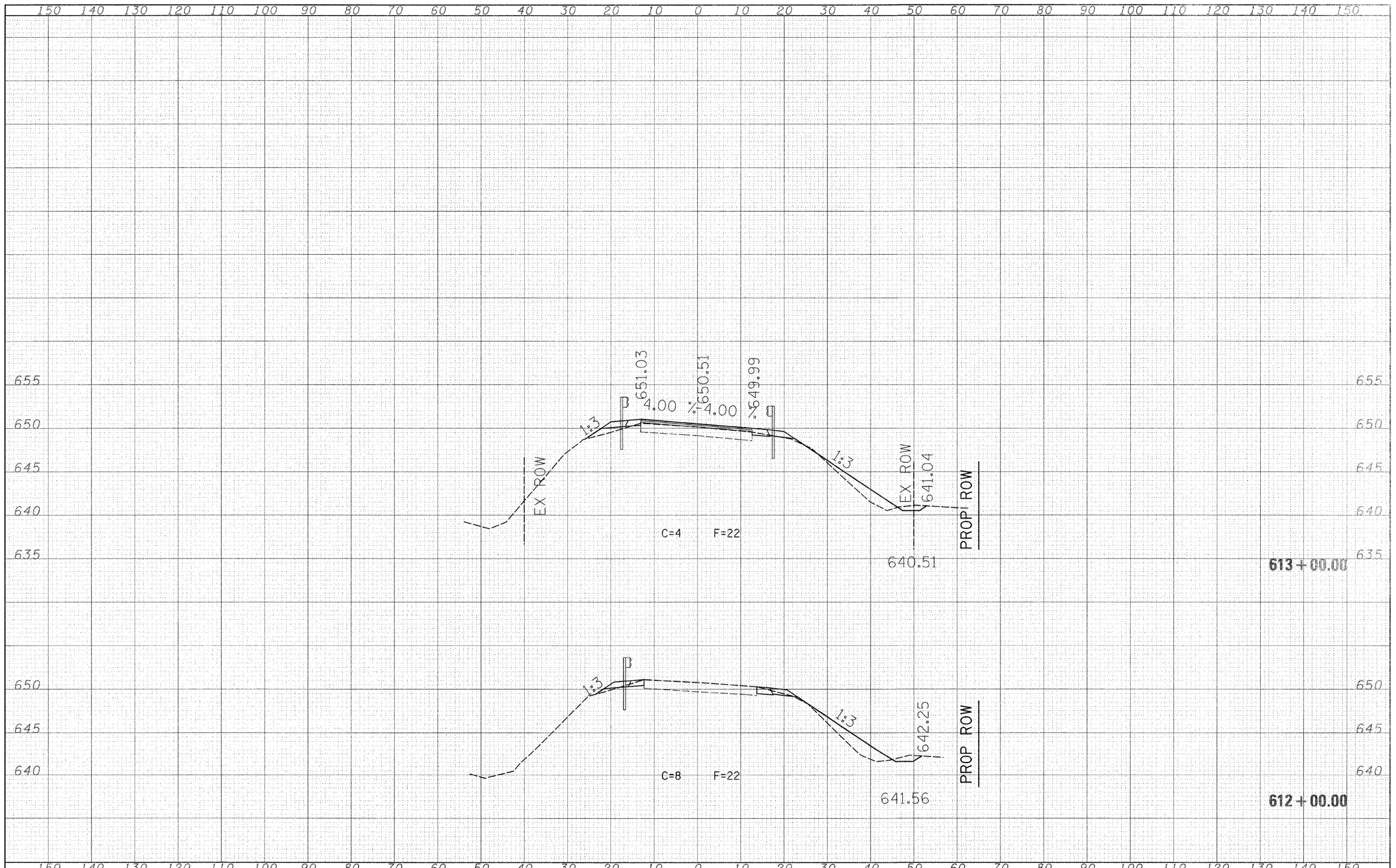
FINAL SURVEY	SURVEYED	BY	DATE
	PLOTTED		
NOTE BOOK	MISC. DATA		
	AREAS		
NO.	AREAS CHECKED		

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



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	PLOT DATE = 10/14/2008	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

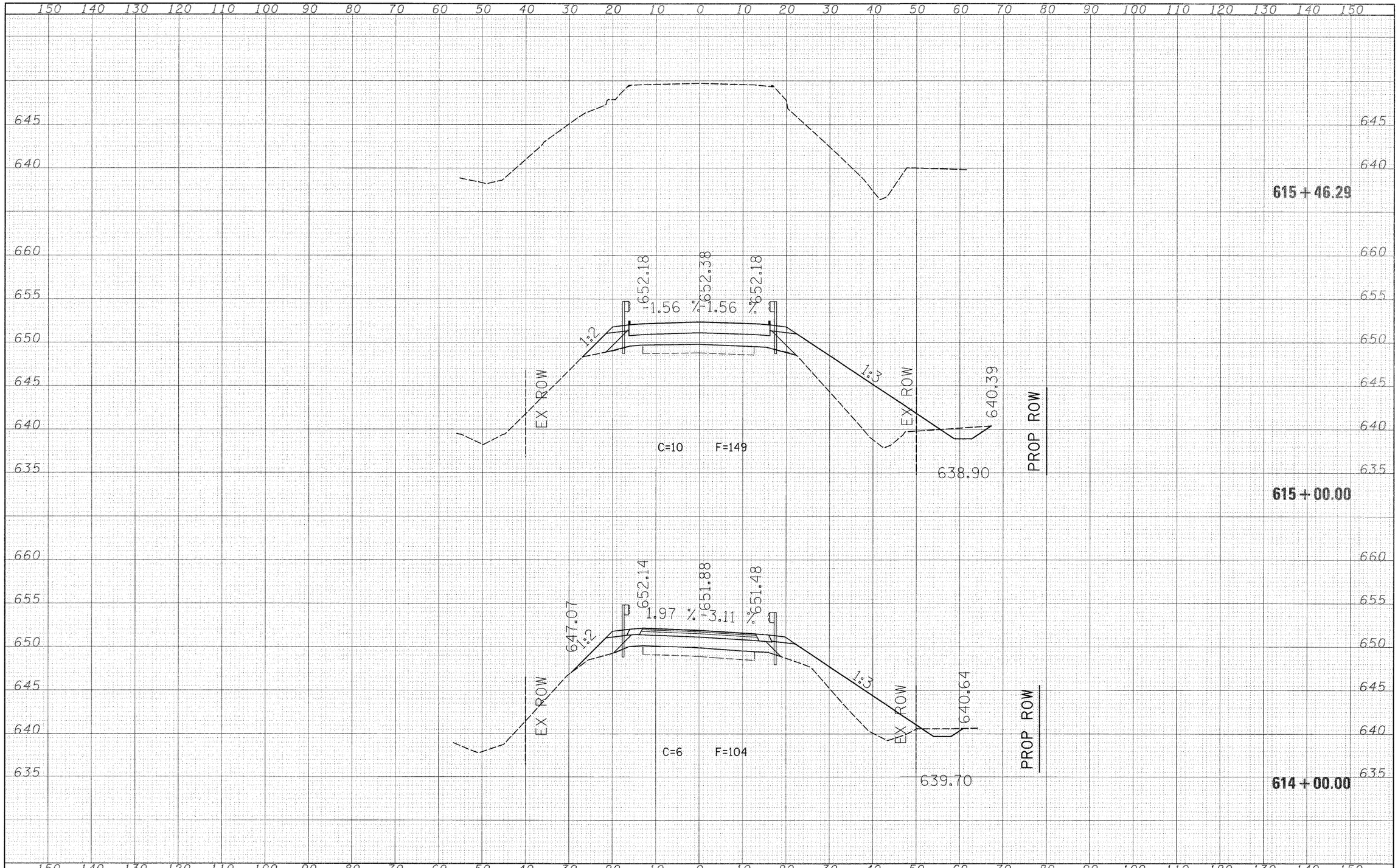
CROSS SECTIONS

SCALE: | SHEET NO. __ OF ___ SHEETS | STA. 612+00.00 TO STA. 613+00.00

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1536	125BR	MACON	45	42
		CONTRACT NO. 74145		
FED. ROAD DIST. NO. _	ILLINOIS	FED. AID PROJECT		

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

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



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	PLOT DATE = 10/14/2008	DATE - _____	REVISED - ___

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

CROSS SECTIONS

SCALE: _____ | SHEET NO. __ OF ___ SHEETS | STA. 614+00.00 TO STA. 615+46.29

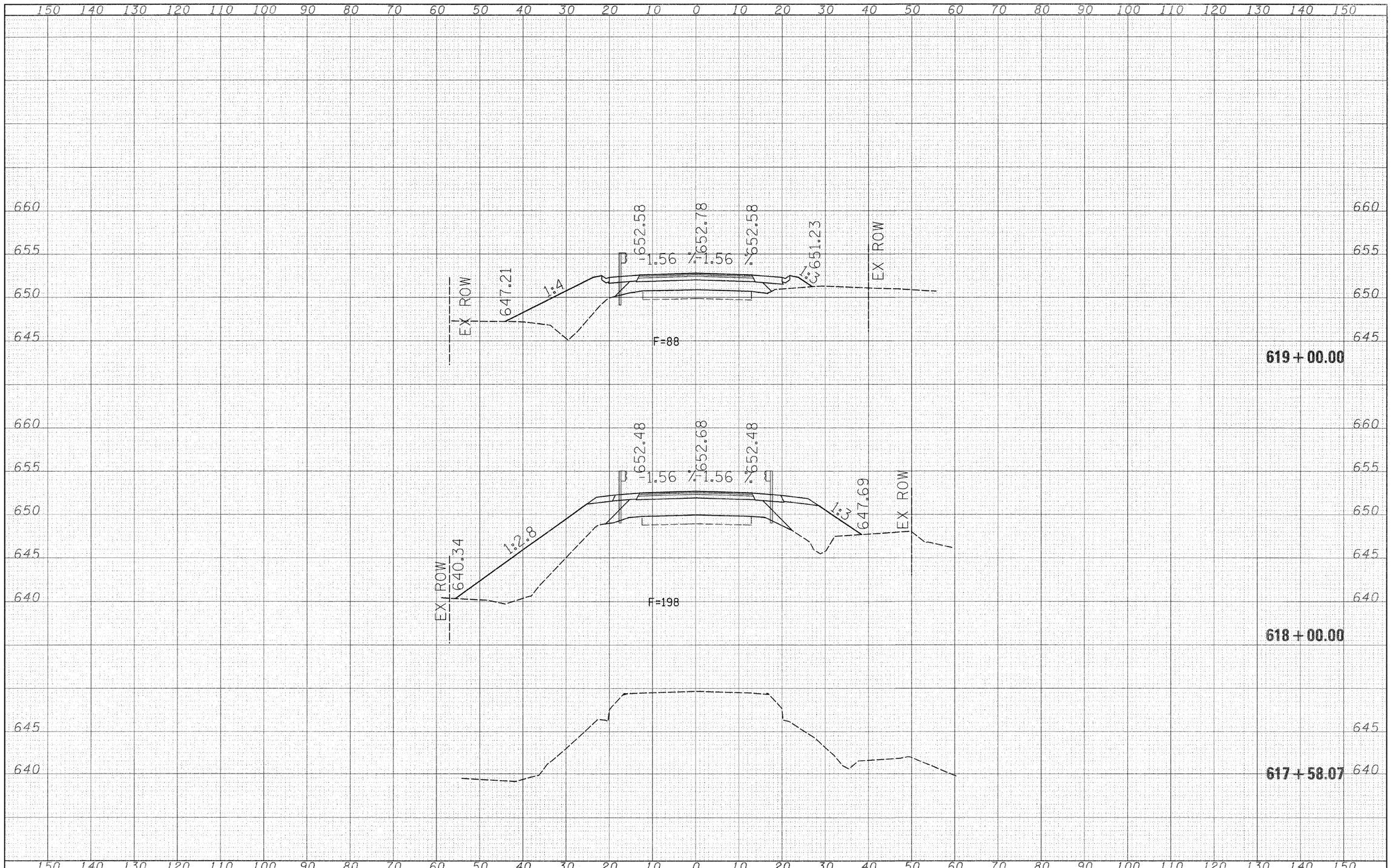
F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1536	125BR	MACON	45	43

CONTRACT NO. 74145

FED. ROAD DIST. NO. _ | ILLINOIS | FED. AID PROJECT

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

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



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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

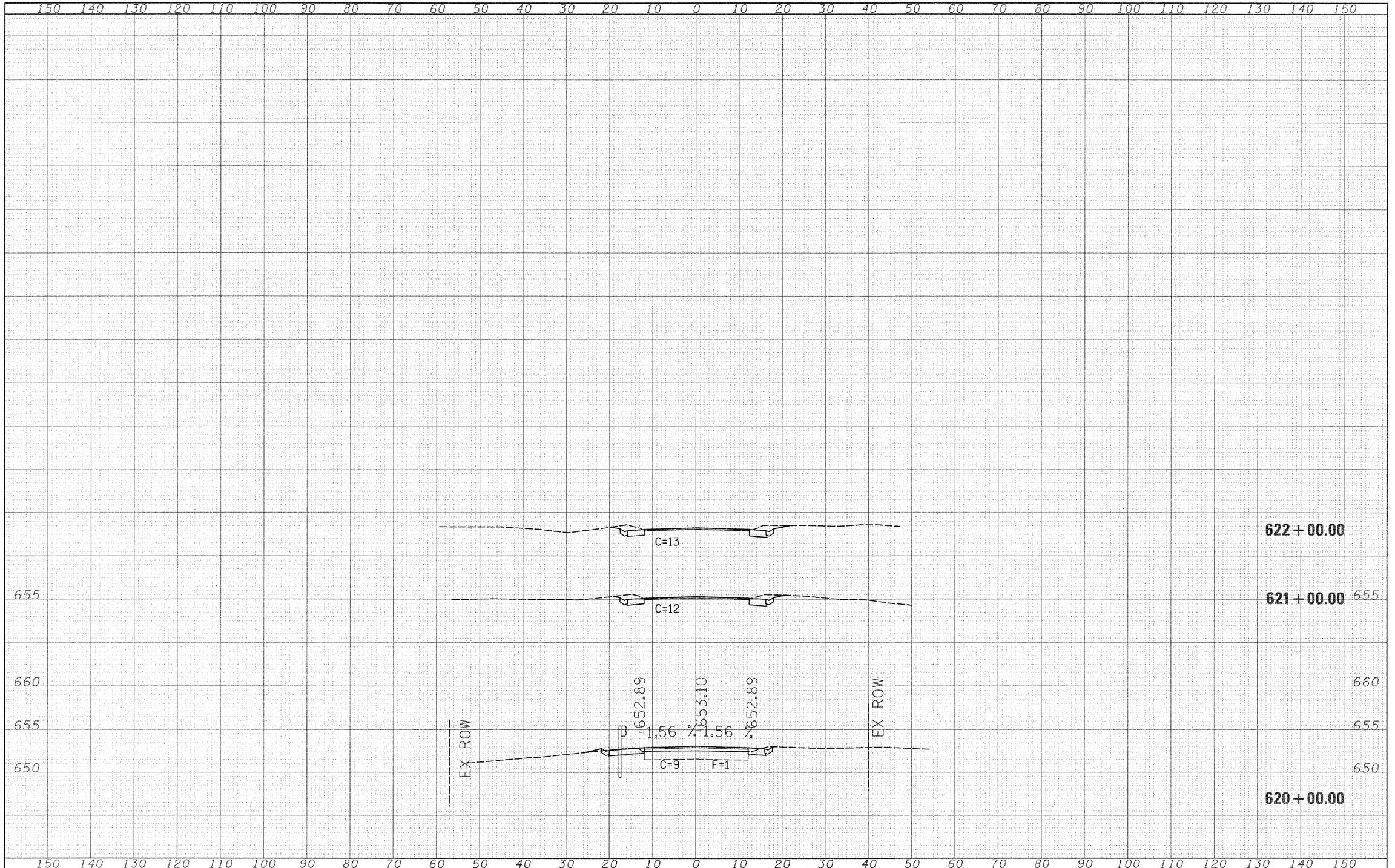
CROSS SECTIONS

SCALE: | SHEET NO. __ OF ___ SHEETS | STA. 617+58.07 | TO STA. 619+00.00

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1536	125BR	MACON	45	44
		CONTRACT NO. 74145		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

FINAL SURVEY		BY	DATE
NOTE BOOK	SURVEYED		
NO.	PLOTTED		
	TYPED & CK'E		
	AREAS		
	AREAS CHECKED		

ORIGINAL SURVEY		BY	DATE
NOTE BOOK	SURVEYED		
NO.	PLOTTED		
	TYPED & CK'E		
	AREAS		
	AREAS CHECKED		



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	PLOT DATE = 10/14/2008	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

CROSS SECTIONS

SCALE: _____ | SHEET NO. __ OF ___ SHEETS | STA. 620+00.00 TO STA. 622+00.00

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1536	125BR	WAYNE	45	45

CONTRACT NO. 74145

FED. ROAD DIST. NO. _ | ILLINOIS | FED. AID PROJECT