

PROJECT ENGINEER: MAUREN ADDIS (309) 671-3454

ENGINEER: NICHOLAS JACK (309) 671-3466

CONTRACT NO. 68085

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
220		Mercer	50	1
FED. ROAD DIST. NO. 7 ILLINOIS FED. AID PROJECT				
(23-BR) I				

FOR INDEX OF SHEETS, SEE SHEET NO. 2

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

PLANS FOR PROPOSED FEDERAL AID HIGHWAY

FAS ROUTE 220 (IL 94)
SECTION (23-BR) I
PROJECT NO: BHS-0220(101)
MERCER COUNTY
BRIDGE REPLACEMENT
C-94-105-00

D-94-071-00 50+1=51 TOTAL SHEETS

LIST OF STANDARDS

- 000001-04631031-06
- 001001-01666001
- 001006 701006-02
- 280001-03701011-01
- 420401-05701301-02
- 482011-02701306-01
- ~~520001-02701311-02~~
- 515001-02701321-08
- 542401 701326-02
- 609006-03702001-06
- 630001-07704001-03
- 630301-04780001-01
- 601101

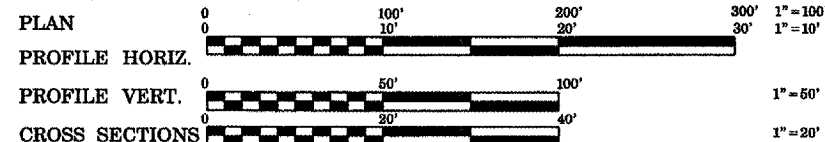
DESIGN DESIGNATION

- Major Collector
- ADT = 3300 (2001)
- DESIGN SPEED = 55 mph
- POSTED SPEED = 55 mph
- MU = 3.0%
- SU = 6.8%

QCQA BITUMINOUS SUPERPAVE PROJECT

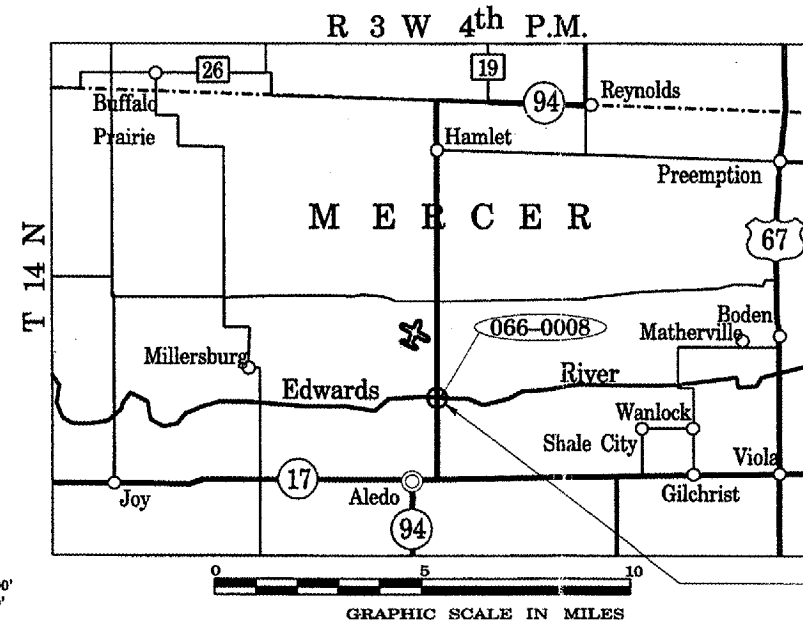
NPDES PERMIT REQUIRED

SCALES



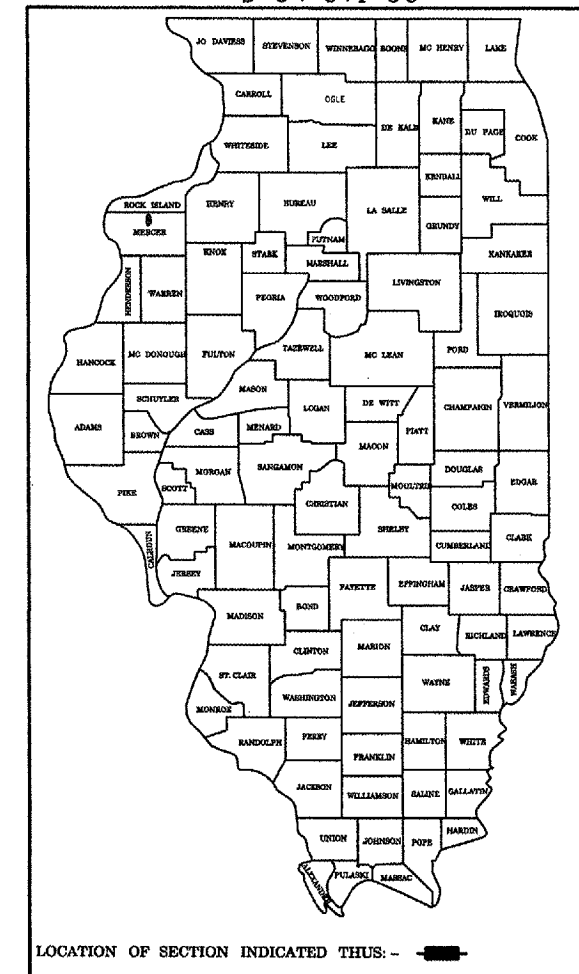
FULL SIZE PLANS HAVE BEEN PREPARED USING STANDARD ENGINEERING SCALES, REDUCED SIZED PLANS WILL NOT CONFORM TO STANDARD SCALES, IN MAKING MEASUREMENTS ON REDUCED PLANS, THE ABOVE SCALES MAY BE USED.

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



PROPOSED IMPROVEMENTS
Removal and Replacement of the concrete deck, Removal of existing abutment bearings and replacement with Elastomeric Bearings, Installation of shear studs, Construction of semi-integral abutments, pressure grouting under the South slopewall, removal and replacement of the bridge approach slabs, roadway work to accommodate bridge improvements, and other incidental work.

PROJECT LOCATION
IL 94 STA. 99+71 TO STA. 109+76, INCLUDING S.N. 066-0008



STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

SUBMITTED *June 29, 07*

[Signature]
DEPUTY DIRECTOR OF HIGHWAYS, REGION ENGINEER

August 17, 2007
Eric E. Haru
Interim ENGINEER OF DESIGN AND ENVIRONMENT

August 17, 2007
Milton R. Sees, P.E.
DIRECTOR, DIVISION OF HIGHWAYS, CHIEF ENGINEER

CONTRACT NO. 68085
CATALOG NO. 032265-00D

GROSS LENGTH OF PROJECT = 1005 FT (0.190 MILES)
NET LENGTH OF PROJECT = 1005 FT (0.190 MILES)

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F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
220	(23-BR) 1	MERCER	50	2
STA. 99+71		TO STA. 109+76		
FED. ROAD DIST. NO. 7		ILLINOIS FED. AID PROJECT		

GENERAL NOTES

UTILITIES - LOCATIONS/INFORMATION ON PLANS

The locations of existing water mains, gas mains, sewers, electric power lines, telephone lines and other utilities as shown on the plans are based on careful field investigation and the best information available, but they are not guaranteed. Unless elevations are shown --- all utility locations shown on the cross sections are based on the approximate depth supplied by the utility company. It shall be the Contractor's responsibility to ascertain their exact location from the utility companies and by field inspection.

TREE REMOVAL - UTILITY RELOCATION

The District Four Tree Committee should be contacted and prior approval obtained for any tree removal beyond the limits/locations included in the plans. Tree removal may be necessary prior to utility companies being able to relocate their facilities outside the construction limits. The contractor should coordinate any contract tree removal activities with the utility companies to eliminate conflicts and potential delays caused by utility tree removal activities or incomplete utility relocations.

ENVIRONMENTAL REVIEWS

Prior to the use of any proposed borrow areas, use areas (temporary access roads, detours, run-arounds, etc.) and/or waste areas, the Contractor shall file the required environmental resource request surveys according to Section 107.22 of the Standard Specifications. These surveys are required in order for the Department to conduct cultural and biological resource surveys for the proposed site.

Prior to any waste materials being removed from the construction site the required environmental resource surveys will need to be obtained and filed by the Contractor. Excess waste products removed from the construction site shall be disposed of as required in Section 202.03 of the Standard Specifications.

Any protruding metal bars shall be removed prior to the disposal of the broken concrete at approved disposal sites.

The required environmental resource documentation shall include the following:

- BDE Form 2289 (Environmental Survey Request)
- A location map showing the size limits and location of the use area
- Signed property owner agreement form
- Color photographs depicting the use area

Please note that a minimum of two weeks shall be allowed for the District to obtain the required environmental clearances.

PAVEMENT STATION NUMBERS & PLACEMENT

The Contractor shall provide labor and materials required to imprint pavement station numbers in the finished surface of the pavement and/or overlay. The numbers shall be approximately 20 mm (3/4 inch) wide, 125 mm (5 inches) high and 15mm (5/8 inch) deep.

The pavement station numbers shall be installed as specified herein:

Interval - 100 meters (metric stationing) or 200 feet (English stationing)

Bottom of Numbers - 150 mm (6 inches) from the inside edge of the pavement marking

Location:

- 2, 3, & 5 Lane Pavements - right edge of pavement in direction of increasing stations
- Multi-Lane Divided Roadways - outside edge of pavement in both directions
- Ramps - along baseline edge of pavement

Position - stations shall be placed so they can be read from the adjacent shoulder

Format - Metric (English) pavement stations shall use this format "XX+X00 (XXX)" where X represents the pavement station

This work will not be paid for separately, but will be considered included in the cost of the associated pavement and/or overlay pay items.

GENERAL NOTES

ORDERING LENGTH CONFIRMATION - DRAINAGE ITEMS

The Contractor shall consult with the Engineer in regard to the exact length of the box/pipe culverts, storm sewers, and/or pipe drains required prior to ordering these items.

LABORATORY TESTING OF SUPERPAVE MIXES

Some aggregate compositions produce inconsistent results when burned in the ignition oven. The Engineer will determine whether the ignition oven or AC nuclear gauge will be required after the aggregate sources have been identified.

BUTT JOINT CUTTING TIME RESTRICTION

Butt joints shall not be milled more than three (3) days prior to placement of the bituminous surface course.

PAVING SURFACE COURSE

Continuous paving operations on the main roadway shall be maintained at all times during the construction of the bituminous surface. No interruptions for side roads, entrances, turn lanes, etc. will be allowed.

ENGINEERS FIELD OFFICE

Add the following sentence to the end of paragraph 670.02 (l) and 670.04 (e):

All of the telephone lines provided shall have unpublished numbers.

HOT-MIX ASPHALT MIXTURE REQUIREMENTS

The following mixture requirements are applicable for this project:

Mixture Use(s):	Surface Course (Including Top Lift of Base Course Widening)	Base Course Widening
AC/PG:	64-22	64-22
RAP % (Max.)	15 %	25 %
Design Voids:	4.09 @ N = 50	4.09 @ N = 50
Mix Comp.	IL 9.5 or 12.5	IL 19.0
Friction Agg.	Mix D (Dolomite Only)	N/A

INDEX OF SHEETS

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ILLINOIS DEPARTMENT OF TRANSPORTATION

GENERAL NOTES, COMMITMENTS, INDEX OF SHEETS, SIGNATURES, STATUS OF UTILITIES

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
220	(23-BR) I	MERCER	50	3
STA. 99+71		TO STA. 109+76		
FED. ROAD DIST. NO. 7		ILLINOIS FED. AID PROJECT		

COMMITMENTS

Commitments are not to be altered without the written approval of all parties to which the commitment was made.

A wetland exists just north of Edwards River & east of IL 94, just east of existing R.O.W. No intrusion of equipment or personnel is allowed.

JOB SPECIFIC NOTES

STATUS OF UTILITIES

Route	Offset	Location	Type of Utility	Type of Conflict	Disposition
IL 94	Lt. 21'	Sta. 101+00 to 103+00	Burried Telephone	Guardrail	Relocate
IL 94	Lt. 57'	Sta. 103+00 to 105+50	Aerial Telephone	Bridge	Caution
IL 94	Lt. 53'	Sta. 108+00 to 109+00	Burried Telephone	Fill	Relocate

ILLINOIS DEPARTMENT OF TRANSPORTATION
 GENERAL NOTES, COMMITMENTS,
 INDEX OF SHEETS, SIGNATURES,
 STATUS OF UTILITIES

SUMMARY OF QUANTITIES

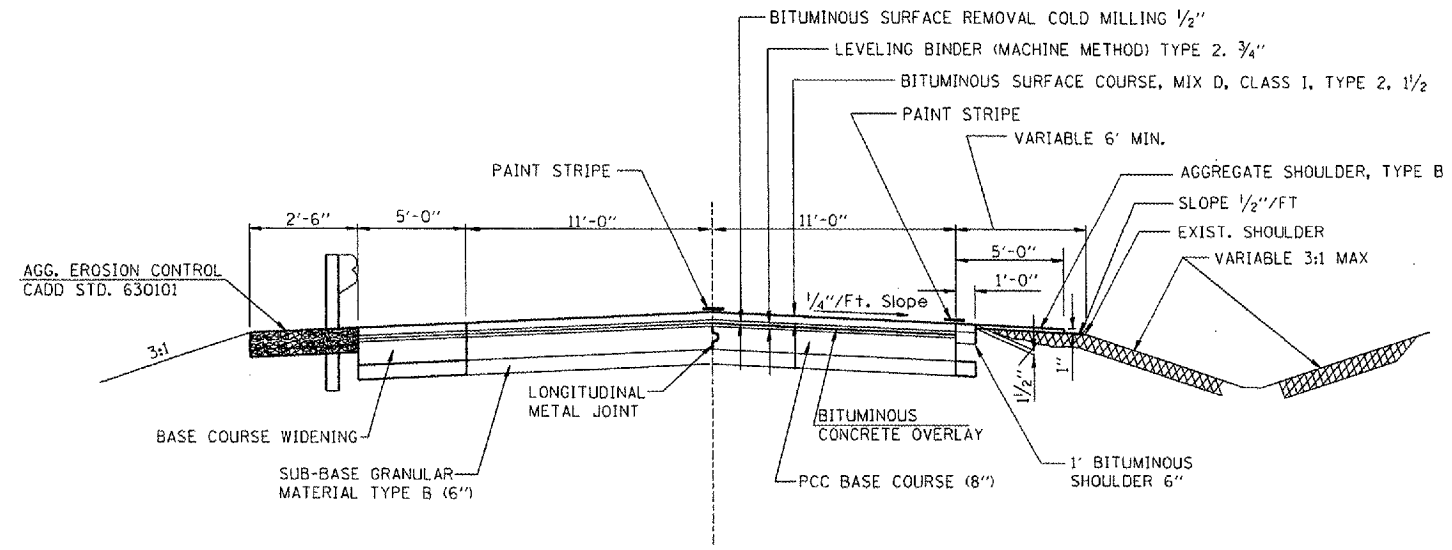
F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
220	(23-BR) I	MERCER	50	4
STA. 99+71		TO STA. 109+76		
FED. ROAD DIST. NO. 7		ILLINOIS FED. AID PROJECT		

SUMMARY OF QUANTITIES			TOTAL QUANTITIES	RURAL	RURAL
CODE NO.	ITEM	UNIT		MERCER	MERCER
				IL 94	IL 94
				HBRP/80/20 BRIDGE X071-2A	HBRP/80/20 ROAD 1000-2A
20200100	EARTH EXCAVATION	CU YD	583	583	
20400800	FURNISHED EXCAVATION	CU YD	809	809	
20700400	POROUS GRANULAR EMBANKMENT, SPECIAL	CU YD	191	191	
21101615	TOPSOIL FURNISH AND PLACE, 4"	SQ YD	5061	5061	
25000310	SEEDING, CLASS 4	ACRE	1	1	
25000400	NITROGEN FERTILIZER NUTRIENT	POUND	94	94	
25000500	PHOSPHOROUS FERTILIZER NUTRIENT	POUND	94	94	
25000600	POTASIAM FERTILIZER NUTRIENT	POUND	94	94	
25100630	EROSION CONTROL BLANKET	SQ YD	5061	5061	
28000250	TEMPORARY EROSION CONTROL SEEDING	POUND	200	200	
28000300	TEMPORARY DITCH CHECKS	EACH	16	16	
28000400	PERIMETER EROSION BARRIER	FOOT	642	642	
28100209	STONE RIPRAP, CLASS A5	TON	1666	1666	
28100705	STONE DUMPED RIPRAP, CLASS A3	SQ YD	26	26	
28200200	FILTER FABRIC	SQ YD	2794	2794	
28400100	GABIONS	CU YD	421	421	
28401000	SLOPE MATTRESS 12"	SQ YD	790	790	
31100500	SUB-BASE GRANULAR MATERIAL, TYPE A, 6"	SQ YD	207	207	
31101900	SUB-BASE GRANULAR MATERIAL, TYPE C	TON	392	392	
35600708	HOT-MIX ASPHALT BASE COURSE WIDENING, 8"	SQ YD	718	718	
40600200	BITUMINOUS MATERIALS (PRIME COAT)	TON	0.5	0.5	
40600300	AGGREGATE (PRIME COAT)	TON	3	3	
40600982	HOT-MIX ASPHALT SURFACE REMOVAL-BUTT JOINT	SQ YD	74	74	
40603335	HOT-MIX ASPHALT SURFACE COURSE, MIX "D" N50	TON	134	134	
42001165	BRIDGE APPROACH PAVEMENT	SQ YD	224	224	
42001430	BRIDGE APPROACH PAVEMENT CONNECTOR (FLEXIBLE)	SQ YD	45	45	
44000100	PAVEMENT REMOVAL	SQ YD	182	182	
44004250	PAVED SHOULDER REMOVAL	SQ YD	144	144	
50102400	CONCRETE REMOVAL	CU YD	25.2	25.2	
50104650	SLOPEWALL REMOVAL	SQ YD	48.9	48.9	
50104720	REMOVAL OF EXISTING CONCRETE DECK	EACH	1	1	
50200100	STRUCTURE EXCAVATION	CU YD	373	373	
50300100	FLOOR DRAINS	EACH	30	30	
50300225	CONCRETE STRUCTURES	CU YD	12.8	12.8	
50300255	CONCRETE SUPERSTRUCTURE	CU YD	343.6	343.6	
50300260	BRIDGE DECK GROOVING	SQ YD	996	996	
50300300	PROTECTIVE COAT	SQ YD	1357	1357	
50500405	FURNISHING AND ERECTING STRUCTURAL STEEL	POUND	4166	4166	
50500505	STUD SHEAR CONNECTORS	EACH	3744	3744	
50500715	JACK AND REMOVE EXISTING BEARINGS	EACH	12	12	

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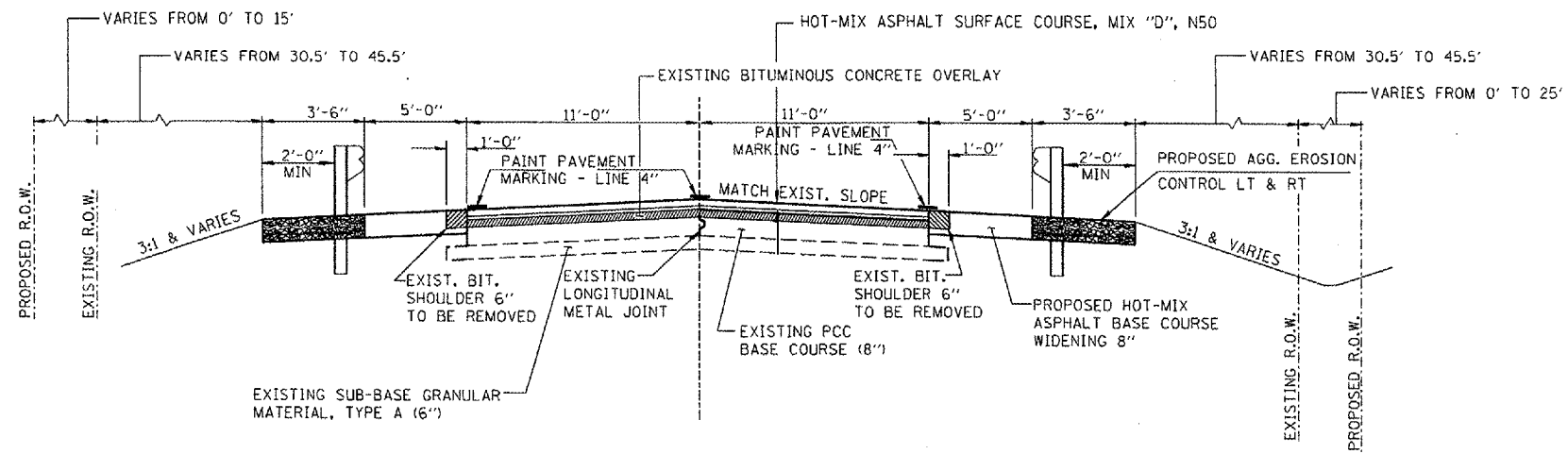
SUMMARY OF QUANTITIES			TOTAL QUANTITIES	RURAL	RURAL
CODE NO.	ITEM	UNIT		MERCER	MERCER
				IL 94	IL 94
				HBRP/80/20 BRIDGE X071-2A	HBRP/80/20 ROAD 1000-2A
50800205	REINFORCEMENT BARS, EPOXY COATED	POUND	86,670	86,670	
50800515	BAR SPLICERS	EACH	902	902	
51100300	SLOPEWALL 6 INCH	SQ YD	48.9	48.9	
51205200	TEMPORARY SHEET PILING	SQ FT	498	498	
51500100	NAME PLATES	EACH	1	1	
52100020	ELASTOMERIC BEARING ASSEMBLY, TYPE II	EACH	12	12	
60100945	PIPE DRAINS 12 "	FOOT	80	80	
60109580	PIPE UNDERDRAINS FOR STRUCTURES 4"	FOOT	110	110	
60900140	TYPE B INLET BOX, STANDARD 609006	EACH	2	2	
60900515	CONCRETE THRUST BLOCKS	EACH	2	2	
*63000000	STEEL PLATE BEAM GUARDRAIL, TYPE A	FOOT	775	775	
*63100085	TRAFFIC BARRIER TERMINAL, TYPE 6	EACH	4	4	
*63100167	TRAFFIC BARRIER TERMINAL, TYPE 1 (SPECIAL) TANGENT	EACH	4	4	
63200310	GUARDRAIL REMOVAL	FOOT	890	890	
66600105	FURNISHING AND ERECTING RIGHT-OF-WAY MARKERS	EACH	6	6	
66700095	PERMANENT SURVEY MARKERS	EACH	1	1	
67000400	ENGINEER'S FIELD OFFICE, TYPE A	CAL MO	6	6	
67100100	MOBILIZATION	L SUM	1	1	
70100405	TRAFFIC CONTROL AND PROTECTION, STANDARD 701321	EACH	1	1	
70100460	TRAFFIC CONTROL AND PROTECTION, STANDARD 701306	L SUM	1	1	
70100500	TRAFFIC CONTROL AND PROTECTION, STANDARD 701326	L SUM	1	1	
70103815	TRAFFIC CONTROL SURVEILLANCE	CAL DA	2	2	
70106500	TEMPORARY BRIDGE TRAFFIC SIGNALS	EACH	1	1	
70300100	SHORT-TERM PAVEMENT MARKING	FOOT	335	335	
70300625	TEMPORARY PAINT PAVEMENT MARKING LINE 4"	FOOT	2261	2261	
70301000	WORK ZONE PAVEMENT MARKING REMOVAL	SQ FT	112	112	
70400100	TEMPORARY CONCRETE BARRIER	FOOT	587.5	587.5	
70400200	RELOCATE TEMPORARY CONCRETE BARRIER	FOOT	537.5	537.5	
*78001110	PAINT PAVEMENT MARKING - LINE 4"	FOOT	2261	2261	
*78100100	RAISED REFLECTIVE PAVEMENT MARKER	EACH	9	9	
*78200410	GUARDRAIL MARKERS, TYPE A	EACH	14	14	
*78200430	GUARDRAIL MARKERS, TYPE C	EACH	6	6	
*78201000	TERMINAL MARKER - DIRECT APPLIED	EACH	4	4	
78300200	RAISED REFLECTIVE PAVEMENT MARKER REMOVAL	EACH	8	8	
X0301512	GUARDRAIL AGGREGATE EROSION CONTROL	TON	144	144	
X0323080	DRAINAGE SCUPPER, DS-12	EACH	6	6	
Z0013798	CONSTRUCTION LAYOUT	L.SUM	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	
Z0076600	TRAINEES	HOUR	500	500	

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
220	(23-BR) I	MERCER	50	5
STA. 99+71		TO STA. 109+76		
FED. ROAD DIST. NO. 7		ILLINOIS FED. AID PROJECT		



EXISTING TYPICAL SECTION

NOTE: STRIPES FOR 11' LANES



PROPOSED TYPICAL SECTION

STA. 99+88 - STA. 102+94.29
 STA. 106+53.21 - STA. 109+71.50

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
220	(23-BR) I	MERCER	50	6
STA. 99+71		TO STA. 109+76		
FED. ROAD DIST. NO. 7 ILLINOIS FED. AID PROJECT				

LOCATION	NITROGEN FERTILIZER NUTRIENT	PHOSPHOROUS FERTILIZER NUTRIENT	POTASIAM FERTILIZER NUTRIENT	TOPSOIL FURNISH AND PLACE, 4"	SEEDING CLASS 4	EROSION CONTROL BLANKET	TEMPORARY EROSION CONTROL SEEDING
	(LBS)	(LBS)	(LBS)	SO YD	ACRES	SO YD	POUND
STA. 99+71 TO STA. 100+00	2.28	2.28	2.28	122.38	0.03	122.38	8.2
STA. 100+00 TO STA. 101+00	15.14	15.14	15.14	814.11	0.17	814.11	28.41
STA. 101+00 TO STA. 102+00	14.91	14.91	14.91	801.78	0.17	801.78	28.41
STA. 102+00 TO STA. 102+50	7.41	7.41	7.41	398.31	0.08	398.31	14.20
STA. 102+50 TO STA. 103+23.46	11.41	11.41	11.41	613.40	0.13	613.40	20.74
STA. 106+24.04 TO STA. 107+00	12.02	12.02	12.02	646.30	0.13	646.30	21.59
STA. 107+00 TO STA. 108+00	13.30	13.30	13.30	715.17	0.15	715.17	28.41
STA. 108+00 TO STA. 109+00	12.61	12.61	12.61	678.22	0.14	678.22	28.41
STA. 109+00 TO STA. 109+76	5.04	5.04	5.04	271.07	0.06	271.07	21.59
TOTALS	94	94	94	5061	1	5061	200

STONE DUMPED RIPRAP CLASS A3	
LOCATION	SO. YD.
STA 112+00 TO STA 112+28	26
TOTAL	26

TEMPORARY CONCRETE BARRIER	
LOCATION	FOOT
STAGE I	
STA 102+05.30 TO STA 107+42.20	537.5
STAGE II	
STA 101+80.30 TO STA 102+05.30	25
STA 107+42.20 TO STA 107+67.00	25
TOTAL	587.5

EARTH EXCAVATION AND FURNISHED EXCAVATION					
LOCATION	EARTH EXCAVATION	FOR INFORMATION ONLY			FURNISHED EXCAVATION
		EARTH EXCAV ADJUST FOR SHRINK (25%)	EMBANKMENT	EARTHWORK BALANCE WASTE (+) OR SHORTAGE (-)	
		CU YD	CU YD	CU YD	
STA. 99+71 TO STA. 100+00	5.42	4.07	11.71	-7.64	-7.64
STA. 100+00 TO STA. 101+00	207.04	155.28	58.33	96.94	96.94
STA. 101+00 TO STA. 102+00	32.59	24.44	56.85	-32.41	-32.41
STA. 102+00 TO STA. 102+50	13.52	10.14	47.04	-36.90	-36.90
STA. 102+50 TO STA. 103+23.46	9.87	7.40	295.38	-287.98	-287.98
STA. 106+24.04 TO STA. 107+00	14.36	10.77	384.22	-373.46	-373.46
STA. 107+00 TO STA. 108+00	109.44	82.08	194.44	-112.36	-112.36
STA. 108+00 TO STA. 109+00	147.22	110.42	142.04	-31.62	-31.62
STA. 109+00 TO STA. 109+76	43.07	32.30	55.73	-23.43	-23.43
TOTALS	583				809

NOTE: EXCAVATION FOR WIDENING IS INCLUDED IN THE EARTH EXCAVATION QUANTITY

SUB-BASE GRANULAR MATERIAL, TYPE A, 6"	
LOCATION	SO YD
STA 102+88.29 TO STA 102+91.29	10.7
STA 102+97.29 TO STA 103+23.46	93.0
STA 106+24.04 TO STA 106+50.21	93.0
STA 106+56.21 TO STA 106+59.21	10.7
TOTAL	207

RELOCATE TEMPORARY CONCRETE BARRIER	
LOCATION	EACH
STAGE II	
STA 102+13.75 TO STA 107+33.75	520
TOTAL	520

TEMPORARY DITCH CHECKS	
LOCATION	EACH
LT & RT STA 101+00	2
LT & RT STA 102+00	2
LT & RT STA 103+00	2
LT & RT STA 103+50	2
LT & RT STA 105+90	2
LT & RT STA 107+00	2
LT & RT STA 108+00	2
LT & RT STA 109+00	2
TOTAL	16

PIPE DRAINS 12"	
LOCATION	FOOT
LT STA 103+10.29	40
RT STA 103+10.29	40
TOTAL	80

GUARDRAIL AGGREGATE EROSION CONTROL	
LOCATION	TON
LT STA 100+92.81 TO STA 102+94.29	30
RT STA 100+05.31 TO STA 102+94.29	42
LT STA 106+53.21 TO STA 109+42.19	42
RT STA 106+53.21 TO STA 108+54.69	30
TOTAL	144

TYPE B INLET BOX, STANDARD 6009006	
LOCATION	EACH
LT STA 103+10.29	1
RT STA 103+10.29	1
TOTAL	2

CONSTRUCTION LAYOUT	
LOCATION	L SUM
SEC. (23-BR) I	1
TOTAL	1

PERIMETER EROSION BARRIER	
LOCATION	FOOT
LT STA 105+68 TO STA 109+00	332
RT STA 105+90 TO STA 109+00	310
TOTAL	642

MOBILIZATION	
LOCATION	L. SUM
JOB SITE	1
TOTAL	1

ILLINOIS DEPARTMENT OF TRANSPORTATION

SCHEDULE OF QUANTITIES

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
220	(23-BR) I	MERCER	50	7
STA. 99+71		TO STA. 109+76		
FED. ROAD DIST. NO. 7		ILLINOIS FED. AID PROJECT		

BRIDGE APPROACH PAVEMENT			
LOCATION	L (FT)	W (FT)	SQ YD
STA 102+94.29 TO STA 103+24.29	30.0	33.67	112.2
STA 106+23.21 TO STA 106+53.21	30.0	33.67	112.2
TOTAL			224

BRIDGE APPROACH PAVEMENT CONNECTOR (FLEXIBLE)			
LOCATION	L (FT)	W (FT)	SQ YD
STA 102+88.29 TO STA 102+94.29	6.0	33.67	22.5
STA 106+53.21 TO STA 106+59.21	6.0	33.67	22.5
TOTAL			45

PAVEMENT REMOVAL	
LOCATION	SQ YD
STA 102+94.29 TO STA 103+23.46	91
STA 106+24.04 TO STA 106+53.21	91
TOTAL	182

PAVED SHOULDER REMOVAL	
LOCATION	SQ YD
LT STA 99+71 TO STA 102+94.29	35.9
RT STA 99+71 TO STA 102+94.29	35.9
LT STA 106+53.21 TO STA 109+76	35.9
RT STA 106+53.21 TO STA 109+76	35.9
TOTAL	144

CONCRETE THRUST BLOCKS	
LOCATION	EACH
LT STA 103+10.29	1
RT STA 103+10.29	1
TOTAL	2

STEEL PLATE BEAM GUARDRAIL, TYPE A	
LOCATION	FOOT
LT STA 101+42.81 TO STA 102+92.81	150.0
RT STA 100+55.31 TO STA 102+92.81	237.5
LT STA 106+54.69 TO STA 108+92.19	237.5
RT STA 106+54.69 TO STA 108+04.69	150.0
TOTAL	775

TRAFFIC BARRIER TERMINAL, TYPE 6	
LOCATION	EACH
LT STA 102+92.81 TO STA 103+25.96	1
RT STA 102+92.81 TO STA 103+25.96	1
LT STA 106+21.54 TO STA 106+54.69	1
RT STA 106+21.54 TO STA 106+54.69	1
TOTAL	4

TRAFFIC BARRIER TERMINAL, TYPE 1 (SPECIAL) TANGENT	
LOCATION	EACH
LT STA 100+92.81 TO STA 101+42.81	1
RT STA 100+05.31 TO STA 100+55.31	1
LT STA 108+92.19 TO STA 109+42.19	1
RT STA 108+04.69 TO STA 108+54.69	1
TOTAL	4

GUARDRAIL REMOVAL	
LOCATION	FOOT
LT STA 101+45.5 TO STA 103+23.5	178
RT STA 100+56.5 TO STA 103+23.5	267
LT STA 106+24 TO STA 108+91	267
RT STA 106+24 TO STA 108+02	178
TOTAL	890

FURNISHING AND ERECTING RIGHT OF WAY MARKERS	
LOCATION	EACH
STA 108+00 65.0' RT	1
STA 107+00 65.0' LT	1
STA 110+00 65.0' RT	1
STA 110+00 65.0' LT	1
STA 111+00 50.0' RT	1
STA 111+00 50.0' LT	1
TOTAL	6

ENGINEER'S FIELD OFFICE, TYPE A	
LOCATION	CAL MO
SEC. (23-BR) I	6
TOTAL	6

WORK ZONE PAVEMENT MARKING REMOVAL	
LOCATION	SQ FT
STA 99+71 TO STA 109+76	112
TOTAL	112

PAINT PAVEMENT MARKINGS-LINE 4"	
LOCATION	FOOT
LT STA 99+71 TO STA 109+76 (WHITE)	1005
CTR STA 99+71 TO STA 109+76 (C) (YELLOW)	251
RT STA 99+71 TO STA 109+76 (WHITE)	1005
TOTAL	2261

GUARDRAIL MARKERS, TYPE A	
LOCATION	EACH
RT STA 100+55 TO STA 103+04.67	4
LT STA 101+43 TO STA 103+09.44	3
RT STA 106+37.56 TO STA 108+04	3
LT STA 106+42.33 TO STA 108+92	4
TOTAL	14

GUARDRAIL MARKERS, TYPE C	
LOCATION	EACH
RT. STA. 103+87.89 TO STA. 105+54.33	3
LT. STA. 103+92.67 TO STA. 105+59.11	3
TOTAL	6

TERMINAL MARKERS DIRECT APPLIED	
LOCATION	EACH
RT STA 100+05.31	1
LT STA 100+92.81	1
RT STA 108+54.69	1
LT STA 109+42.19	1
TOTAL	4

ILLINOIS DEPARTMENT OF TRANSPORTATION

SCHEDULE OF QUANTITIES

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
220	(23-BR) I	MERCER	50	8
STA. 99+71		TO STA. 109+76		
FED. ROAD DIST. NO. 7		ILLINOIS FED. AID PROJECT		

PERMANENT SURVEY MARKERS, TYPE I	
LOCATION	EACH
WINGWALL @ THE BRIDGE	1
TOTAL	1

BITUMINOUS RESURFACING SCHEDULE								
STATION TO STATION	LENGTH (FT)	WIDTH (FT)	SURFACE AREA (SQ FT)	HOT-MIX ASPHALT BASE COURSE WIDENING, 8" (SQ YD)	BITUMINOUS MATERIALS PRIME COAT (TON)	AGGREGATE PRIME COAT (TON)	HOT - MIX ASPHALT SURF. CSE. SUPERPAVE MIX "D," N=50 (TON)	HOT-MIX ASPHALT SURFACE REMOVAL BUTT-JOINT (SQ YD)
STA 99+71.00 TO STA 102+94.29	323.29	22	7,112	359.2	0.25	1.6	67	37.0
STA 106+53.21 TO STA 109+76.00	322.79	22	7,101	358.6	0.25	1.6	67	37.0
TOTAL				718	0.5	3	134	74

RAISED REFLECTIVE PAVEMENT MARKER REMOVAL	
LOCATION	EACH
STA 100+20	1
STA 101+80	1
STA 102+60	1
STA 106+40	1
STA 107+20	1
STA 108+00	1
STA 108+80	1
STA 109+60	1
TOTAL	8

TRAFFIC CONTROL AND PROTECTION, STANDARD 701321	
LOCATION	EACH
SEC. (23-BR) I	1
TOTAL	1

SHORT-TERM PAVEMENT MARKING	
LOCATION	FOOT
STA 99+71 TO STA 109+76	335
TOTAL	335

IMPACT ATTENUATORS, TEMPORARY (NON-REDIRECTIVE) TEST LEVEL 3	
LOCATION	EACH
STAGE I	
RT STA 101+74.75 TO STA 101+83.75	1
RT STA 107+63.75 TO STA 107+72.75	1
TOTAL	2

TRAFFIC CONTROL AND PROTECTION, STANDARD 701306	
LOCATION	L. SUM
SEC. (23-BR) I	1
TOTAL	1

TEMPORARY PAINT PAVEMENT MARKING LINE, 4"	
LOCATION	FOOT
LT STA 99+71 TO STA 109+76 (WHITE)	1005
CTR STA 99+71 TO STA 109+76 (C) (YELLOW)	251
RT STA 99+71 TO STA 109+76 (WHITE)	1005
TOTAL	2261

IMPACT ATTENUATORS, RELOCATE (NON-REDIRECTIVE) TEST LEVEL 3	
LOCATION	EACH
STAGE II	
LT STA 101+54.75 TO STA 101+63.75	1
LT STA 107+83.75 TO STA 107+92.75	1
TOTAL	2

TRAFFIC CONTROL AND PROTECTION, STANDARD 701326	
LOCATION	L. SUM
SEC. (23-BR) I	1
TOTAL	1

RAISED REFLECTIVE PAVEMENT MARKER	
LOCATION	EACH
STA 100+20	1
STA 101+00	1
STA 101+80	1
STA 102+60	1
STA 106+40	1
STA 107+20	1
STA 108+00	1
STA 108+80	1
STA 109+60	1
TOTAL	9

TRAINEES	
LOCATION	EACH
JOB SITE	500
TOTAL	500

TRAFFIC CONTROL SURVEILLANCE	
LOCATION	CAL DA
SEC. (23-BR) I	2
TOTAL	2

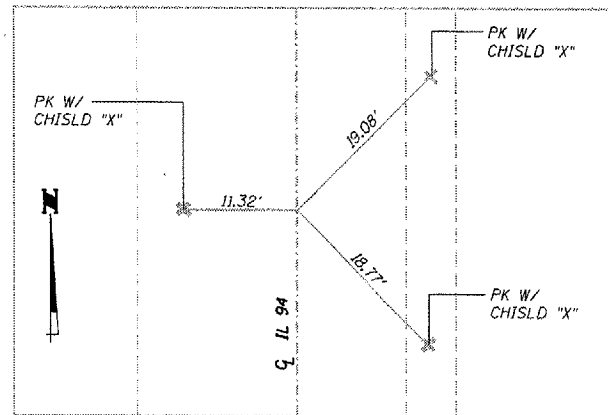
TEMPORARY BRIDGE TRAFFIC SIGNALS	
LOCATION	EACH
S.N. 066-0008	1
TOTAL	1

ILLINOIS DEPARTMENT OF TRANSPORTATION

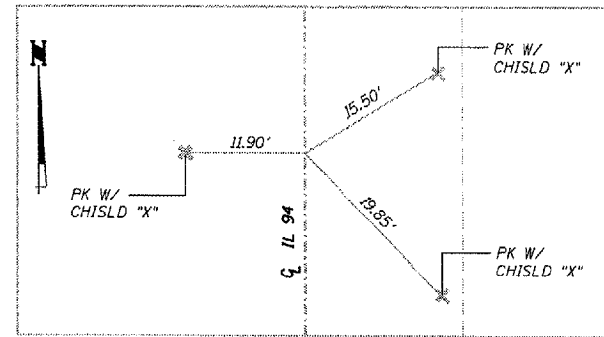
SCHEDULE OF QUANTITIES

FA SHE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
220	(23-BR) I	Mercer	50	9
STA. 99+71		TO STA. 109+76		
FED. ROAD DIST. NO. 7		ILLINOIS	FED. AID PROJECT	

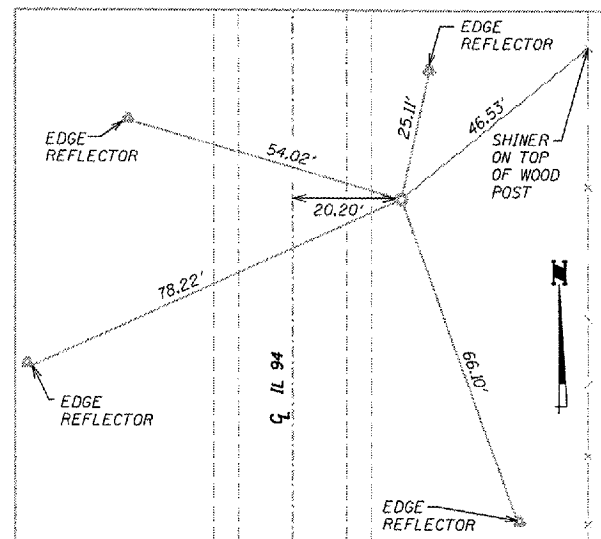
TIE POINTS IL 94



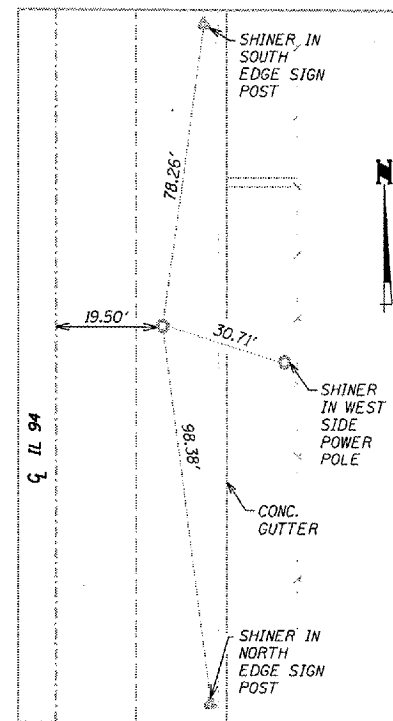
POT STA. 99+00
PK NAIL



POT STA. 110+00
PK NAIL



TRANSVERSE TIE STA. 109+65.5 (±)
RT. 20.20'
1/2" IRON PIN

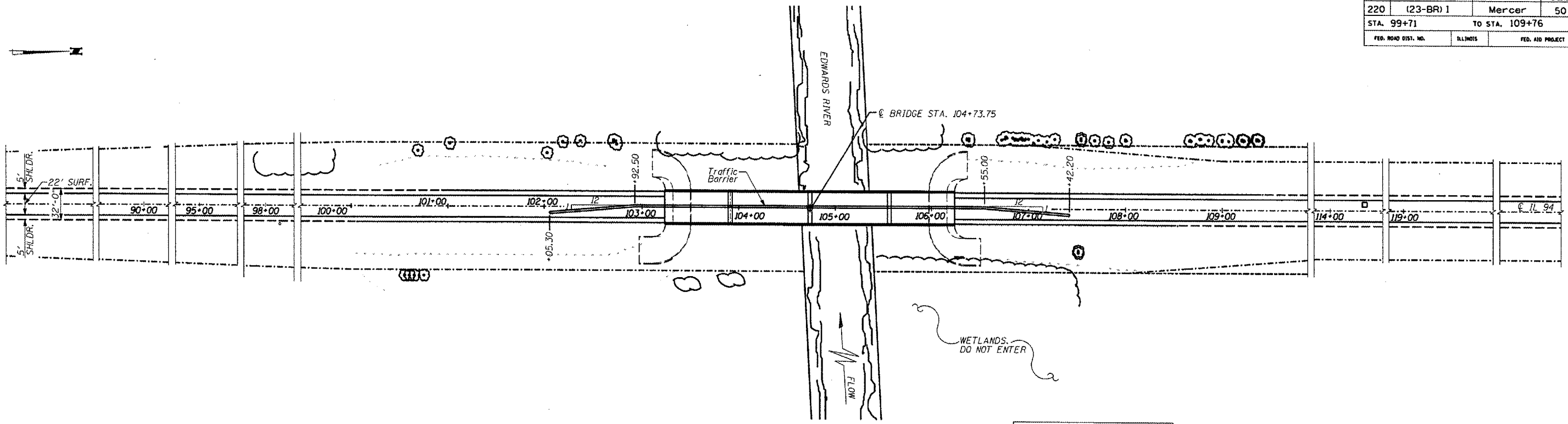


TRANSVERSE TIE STA. 121+95 (±)
RT. 19.50'
1/2" IRON PIN

BENCHMARKS IL 94

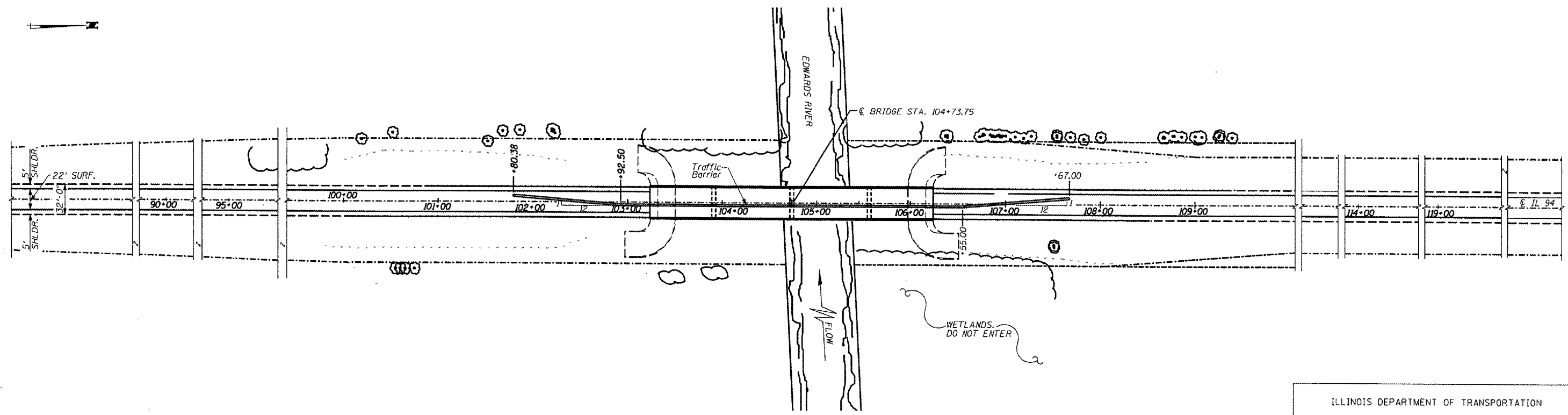
BM - CHISEL "□" S.E. CORNER OF
BRIDGE ON ABUTMENT WALL
ELEV. = 626.35

FAS RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
220	(23-BR) I	Mercer	50	10
STA. 99+71		TO STA. 109+76		
FED. ROAD DIST. NO.		ILLINOIS	FED. AID PROJECT	



STAGE 1 TRAFFIC CONTROL

See Standard 701321 for Legend and Additional Information

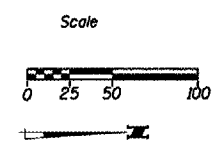
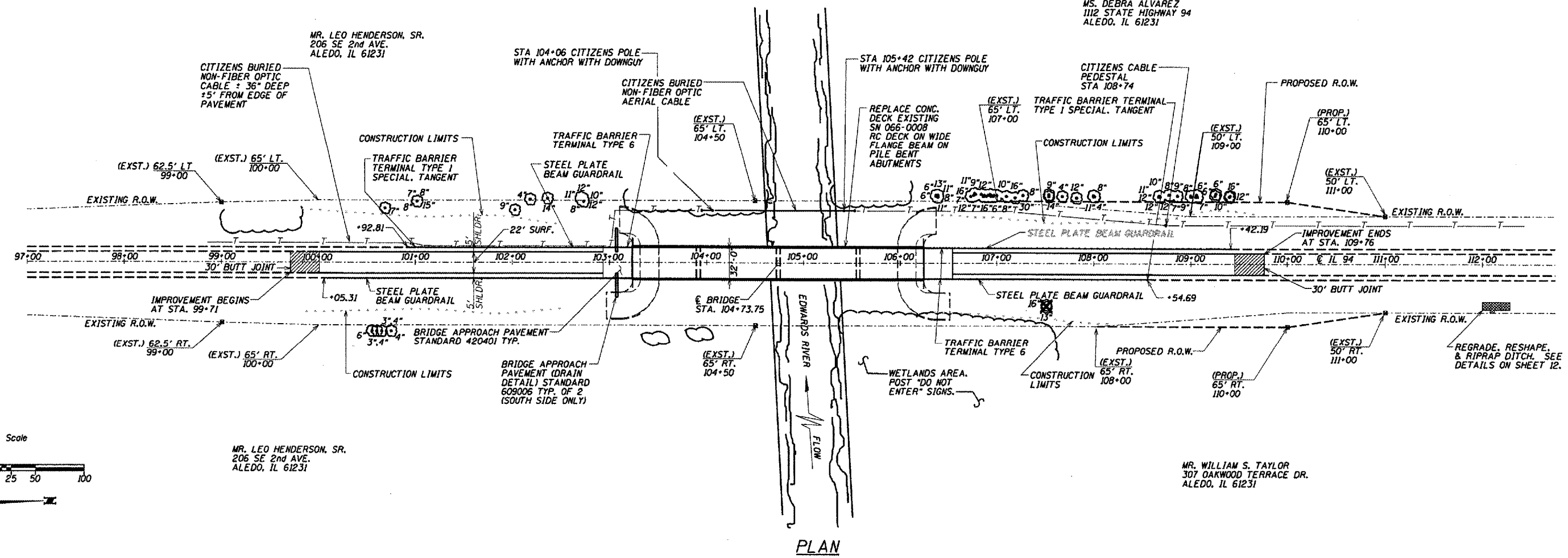


STAGE 2 TRAFFIC CONTROL

See Standard 701321 for Legend and Additional Information

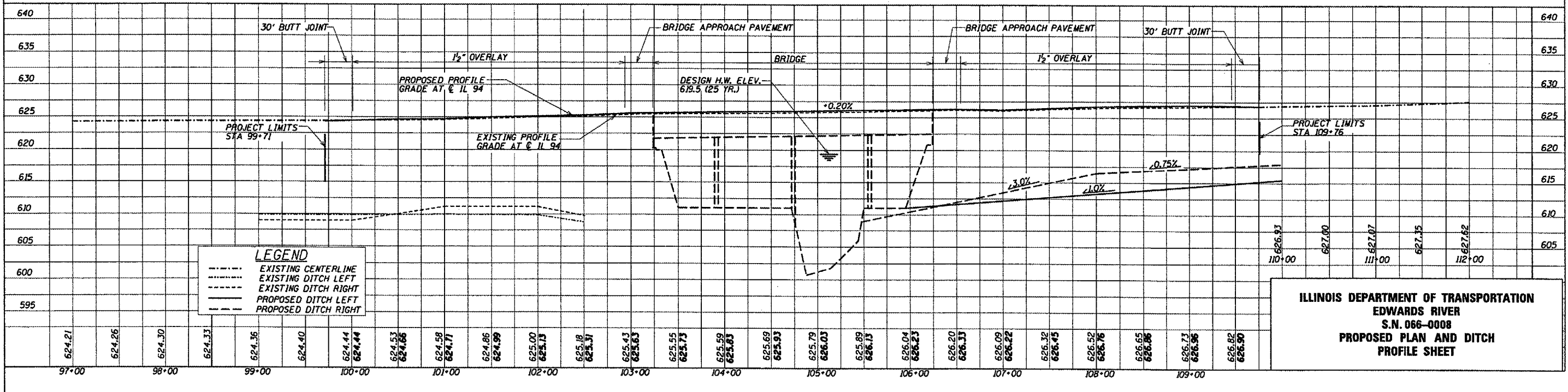
FAS RTG.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
220	(23-BR) I	Mercer	50	11
STA. 99+71		TO STA. 109+76		
FED. ROAD DIST. NO. 1		ILLINOIS	FED. AID PROJECT	

MS. DEBRA ALVAREZ
1112 STATE HIGHWAY 94
ALEDO, IL 61231

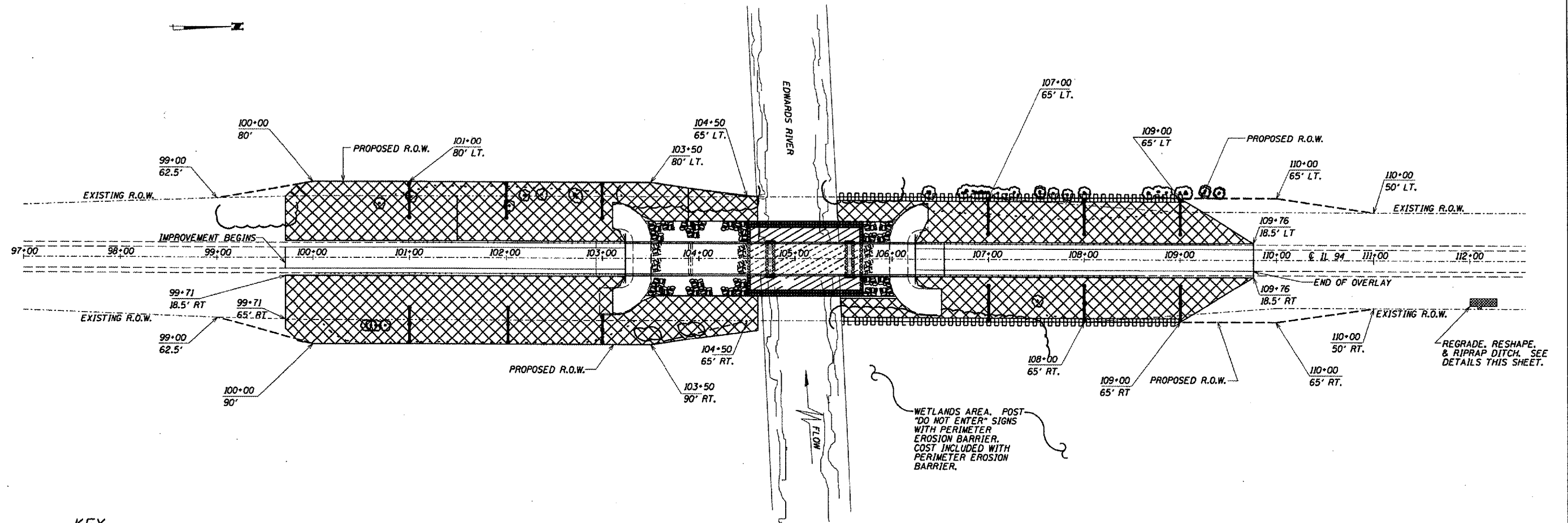


MR. LEO HENDERSON, SR.
206 SE 2nd AVE.
ALEDO, IL 61231



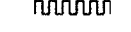



MR. WILLIAM S. TAYLOR
307 OAKWOOD TERRACE DR.
ALEDO, IL 61231

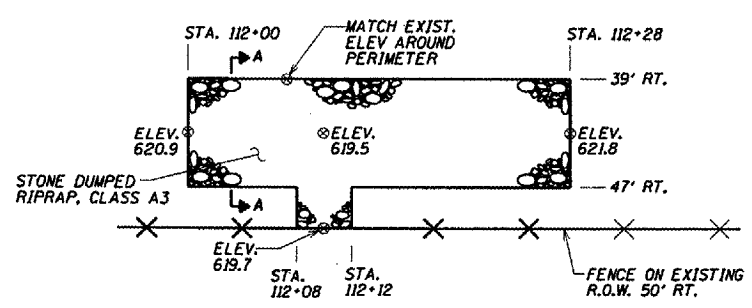


FAS SITE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
220	(23-BR) I	Mercer	50	12
STA. 99+71		TO STA. 109+76		
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		

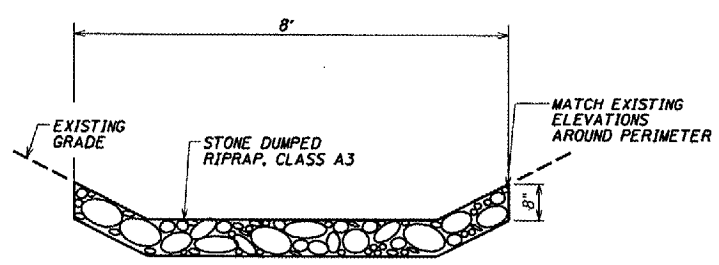


PLAN

- KEY**
-  STONE RIPRAP, CLASS A5
 -  GABIONS
 -  PERIMETER EROSION BARRIER
 -  TEMPORARY DITCH CHECKS
 -  SEEDING, CLASS 4
 -  SLOPE MATTRESS, 12"



DITCH REPAIR PLAN



DITCH REPAIR SECTION A-A

ILLINOIS DEPARTMENT OF TRANSPORTATION
 EROSION CONTROL PLAN

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	SHEET	SHEET NO.
220	*	Mercer	50	13
FED. ROAD DIST. NO. 7				ILLINOIS PROJECT
* (23-BR) I				SHEETS 23

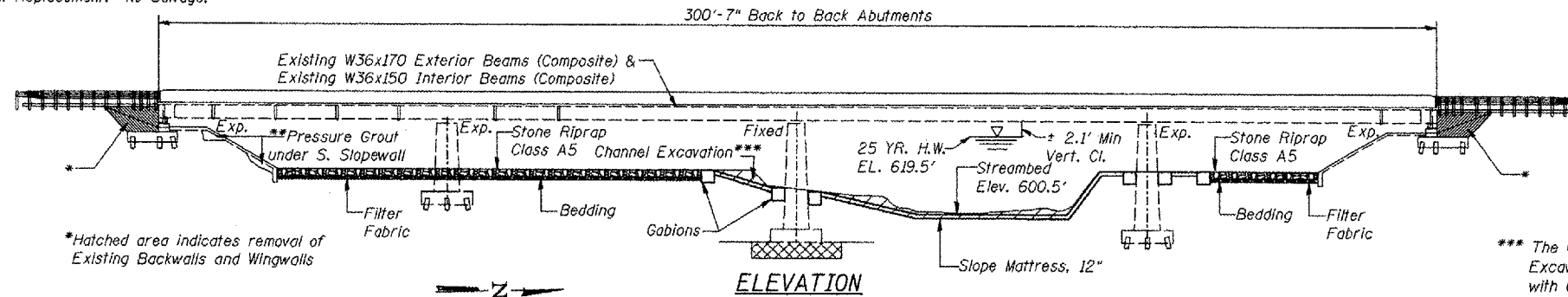
BENCHMARK

Chiseled "C" on S.E. Corner of Bridge On Abutment Wall, Elev. 626.35

EXISTING STRUCTURE DESCRIPTION

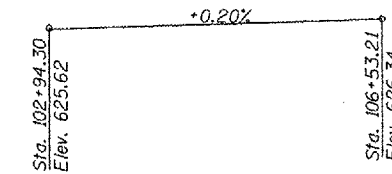
NO. 066-0008

A 4 Span (66'-0", 82'-6", 82'-6", 66'-0") Steel Girder Structure on Spill-Thru Concrete Abutments And Reinforced Concrete Piers At Sta. 104+73.75. Skew 0°. To Be Rehabilitated. Traffic Shall Be Maintained By Stage Construction. New Deck Replacement. No Salvage.



*Hatched area indicates removal of Existing Backwalls and Wingwalls

*** The Cost of Channel Excavation is included with Gabions.



TOTAL BILL OF MATERIAL

ITEM	UNIT	SUPER	SUB	TOTAL
Removal of Existing Concrete Deck	Each	1		1
Bridge Deck Grooving	Sq. Yd.	996		996
Concrete Superstructure	Cu. Yd.	343.6		343.6
Concrete Structures	Cu. Yd.		12.8	12.8
Reinforcement Bars, Epoxy Coated	Pound	84,450	2220	86,670
Protective Coat	Sq. Yd.	1357		1357
Name Plates	Each	1		1
Floor Drains	Each	30		30
Drainage Scuppers, DS-12	Each	6		6
Jack and Remove Existing Bearings	Each	12		12
Bar Splicers	Each	902		902
Structure Excavation	Cu. Yd.		373	373
Concrete Removal	Cu. Yd.		25.2	25.2
Porous Granular Embankment (Special)	Cu. Yd.		191	191
Elastomeric Bearing Assembly, Type II	Each	12		12
Slopewall Removal	Sq. Yd.		48.9	48.9
Slopewall 6"	Sq. Yd.		48.9	48.9
Temporary Sheet Piling	Sq. Ft.		498	498
Stud Shear Connectors	Each	3744		3744
Furnishing and Erecting Structural Steel	Pound	4166		4166
Pipe Underdrains For Structures 4"	Ft	110		110
Blasting Residue Containment and Disposal	L. Sum	+		+
Power Tool Cleaning Residue Containment and Disposal	L. Sum	+		+
Stone Riprap, Class A5	Ton		1666	1666
Filter Fabric	Sq. Yd.		2794	2794
Gabions	Cu. Yd.		421	421
Slope Mattress, 12"	Sq. Yd.		790	790
Sub-Base Granular Material, Type C	Ton		392	392

* See Special Provisions

DESIGN SPECIFICATIONS

1996 AASHTO & 1997, 1998, & 1999 Interims.

DESIGN LOADING

HS 20-44 and Allowance for 50 P.S.F. Future Wearing Surface

DESIGN STRESSES

$f_c' = 3,500$ psi (Concrete)
 $f_y = 60,000$ psi (Prop. Reinforcement)
 $f_y = 36,000$ psi M270 GR 36 (New Structural Steel)
 $f_y = 33,000$ psi (Existing Structural Steel)
 $f_y = 40,000$ psi (Existing Reinforcement)

SEISMIC DATA

S.P.C. A
 $A = 0.03$
 $S = L0$

GENERAL PLAN AND ELEVATION
F.A.S. ROUTE 220 (IL ROUTE 94)

OVER EDWARDS RIVER

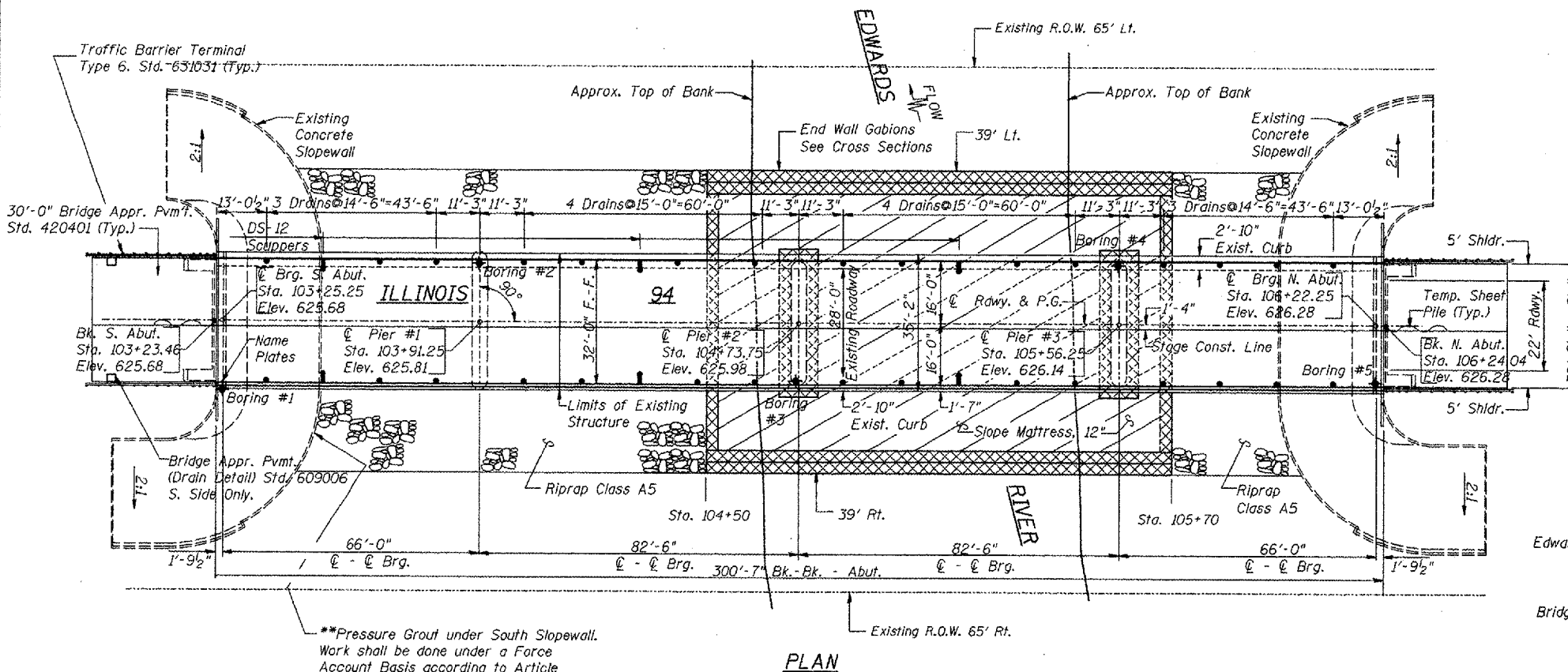
SECTION (23-BR) I

MERCER COUNTY

STRUCTURE NO. 066-0008

STATION 104+73.75

FRAUENHOFFER & ASSOCIATES, P.C.



**Pressure Grout under South Slopewall. Work shall be done under a Force Account Basis according to Article 109.04 of the Standard Specifications. See special provisions

WATERWAY INFORMATION (From Existing Plans)

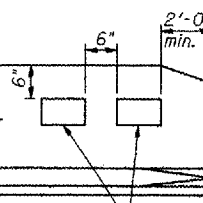
Drainage Area.....216,300 Acres
 Character.....Rolling Hilly & Cult.
 Required Opening (25 yr.)...2,650 Sq. Ft.
 Proposed Opening.....2,660 Sq. Ft.
 Ordinary Water Elev.607.5 +/-
 Low Water Elev.602.0 +/-

STATION 104+73.75
 REBUILT 200 BY
 STATE OF ILLINOIS
 F.A.S. RTE. 220 SEC. (23-BR) I
 LOADING HS20-44
 STR. NO. 066-0008

NAME PLATE

See Std. 515001

Remove, clean and reinstall existing name plate adjacent to new name plate. Cost included with Name Plates.



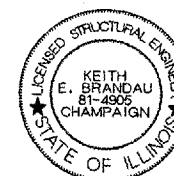
NAME PLATE

(Elevation View)

Name Plates to be located at South End of East Parapet

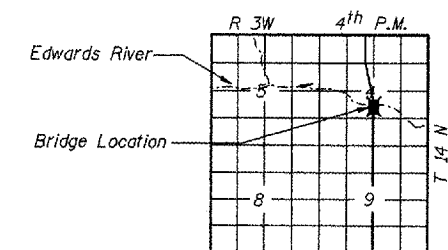
APPROVED
FOR STRUCTURAL ADEQUACY ONLY

Keith E. Brandau
ENGINEER OF BRIDGES AND STRUCTURES



KEITH E. BRANDAU
DATE 11/3/03

Illinois Licensed Structural Engineer Number 4905
 License Expires 11/30/04



DESIGNED	K.E. Brandau
CHECKED	R.T. Mumm
DRAWN	L.A. Rolf
CHECKED	K.E. Brandau

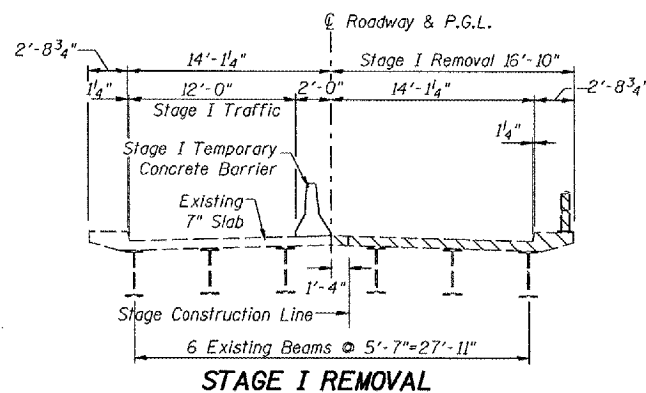
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.S. 220	#	Mercer	48	14
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		

SHEET NO. 2
SHEETS 22

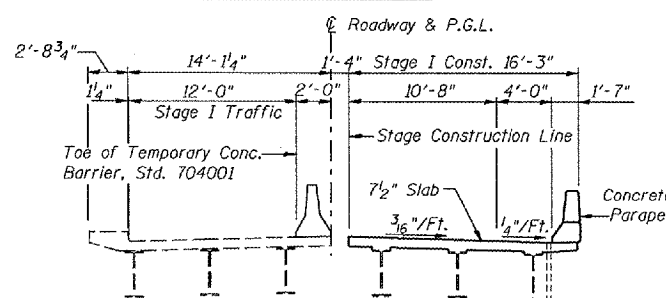
GENERAL NOTES

- Fasteners shall be AASHTO M164 Type 1, mechanically galvanized bolts. Bolts $\frac{3}{4}$ " ϕ , open holes $\frac{1}{8}$ " ϕ , unless otherwise noted.
- No field welding is permitted except as specified in the contract documents.
- Anchor bolts shall be set before bolting diaphragms over supports.
- Reinforcement bars shall conform to the requirements of AASHTO A 706 Grade 60 (IL Modified). See Special Provisions
- Slope wall shall be reinforced with welded wire fabric, 6" x 6" - W4.0 x W4.0, weighing 58 lbs. per 100 sq. ft.
- Layout of slope protection system may be varied to suit ground conditions in the field as directed by the Engineer.
- Plan dimensions and details relative to existing plans are subject to routine variations. The Contractor shall field verify existing dimensions and details affecting new construction and make necessary approved adjustments prior to construction or ordering of materials. Such variations shall not be cause for additional compensation for a change in the scope of the work, however, the Contractor will be paid for the quantity actually furnished based upon the unit price bid for the work.
- Two $\frac{1}{8}$ " adjusting shims shall be provided for each bearing in addition to all other plates or shims and placed as shown on the bearing details.
- Prior to pouring the new concrete deck, all heavy or loose rust, loose mill scale, and other loose or potentially detrimental foreign material shall be removed from the surfaces in contact with concrete. Tightly adhered paint may remain unless otherwise noted. Removal shall be accomplished by methods that will not damage the steel and the cost will be included in the pay item covering removal of the existing concrete. All heavy rust and other tightly adhered potentially detrimental foreign matter shall also be removed from the surfaces of the beams or girders in contact with concrete.
- As directed by the Engineer, existing construction accessories welded to the top flange of beams and girders shall be removed. The weld areas shall be ground flush and inspected for cracks using magnetic particle testing (MT) or dye penetrant testing (PT) by and individual acceptable to the Engineer. Any cracks that can not be removed by grinding $\frac{1}{4}$ " deep shall be identified and reported to the Bureau of Bridges and Structures for further disposition. The cost of removing the weld areas and grinding cracks will be paid for according to Article 109.04 of the Standard Specification.
- All construction joints shall be bonded.
- The existing structural steel coating contains lead. The Contractor should take appropriate precautions to deal with the presence of lead on this project.
- Cleaning and painting of the structural steel shall be done under a separate painting contract.
- The contractor shall test the existing welds by non-destructive methods within 2 ft. of the end of the existing cover plates for cracks after removal of the existing concrete deck. Dye penetrant (PT), magnetic particle (MT), or other approved testing methods shall be performed by qualified personnel approved by the Engineer. If cracks are found, report them to the Bureau of Bridges and Structures for disposition. The cost of testing is included in Removal of Existing Concrete Deck. The cost of crack repair, if necessary, will be paid according to the Article 109.04 of the Standard Specifications.
- If the Contractor elects to use cantilever forming brackets on the exterior beams or girders, the brackets shall be placed at the same locations as required for the hardwood blocks in Article 503.06(b) of the Standard Specifications. If additional cantilever forming brackets are required, hardwood blocking shall be wedged between the exterior and the first interior beam at each of these additional bracket locations.

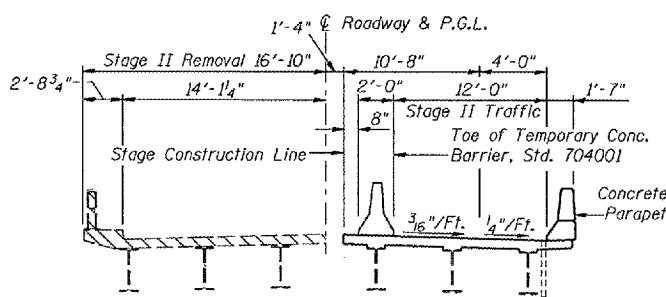
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



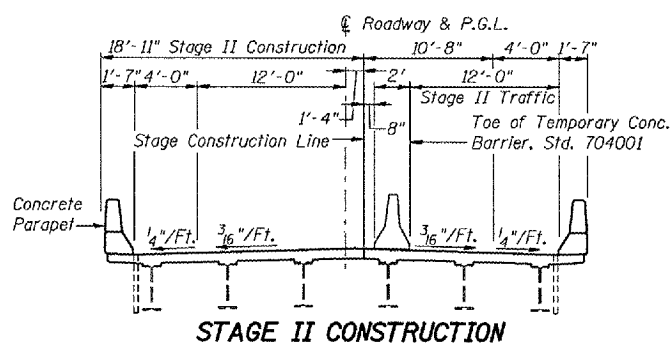
STAGE I REMOVAL



STAGE I CONSTRUCTION



STAGE II REMOVAL

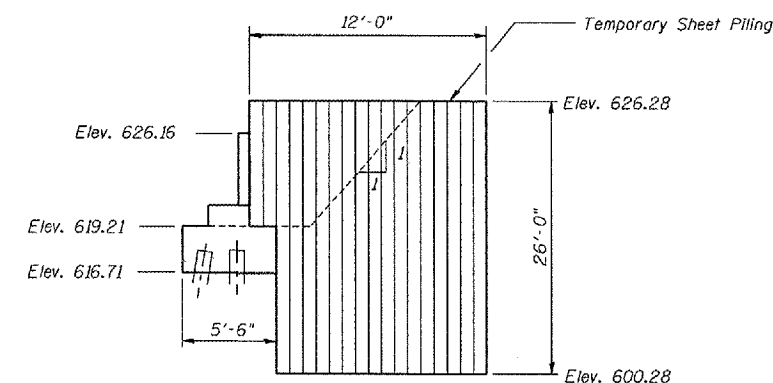


STAGE II CONSTRUCTION

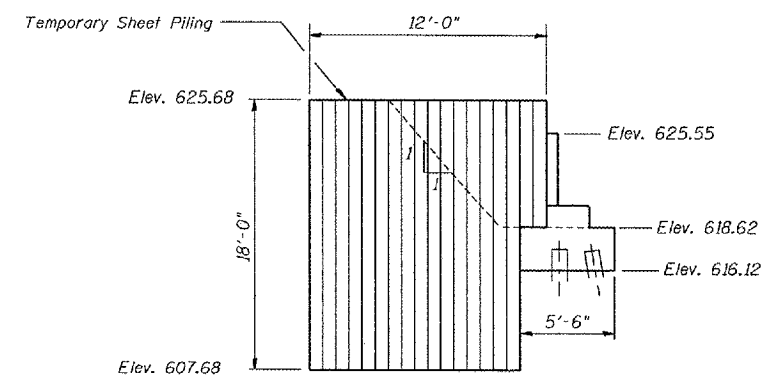
Note: All sections looking North.

Notes: Hatched areas indicate "Removal of Existing Concrete Deck." For quantity of Temp. Conc. Barrier see Rdwy. Plans. For details of Temp. Conc Barrier see sh. #7 of 22. Removal of exist. rail is included with "Removal of Existing Concrete Deck." All views are looking North.

DESIGNED	K.E. Brandau
CHECKED	R.T. Mumm
DRAWN	L.A. Rolf
CHECKED	K.E. Brandau



ELEVATION - NORTH ABUTMENT
(Along Roadway ϕ)



ELEVATION - SOUTH ABUTMENT
(Along Roadway ϕ)

TEMPORARY SHEET PILING DETAILS FOR STAGE TRAFFIC LANE AND CONSTRUCTION

Note: If the Contractor chooses to alter the temporary cantilevered sheet piling design requirements shown on the plans for lesser design requirements, then full design submittal with the required seals will be expected by the Department for review and approval.

Contractor to anchor sheeting to back of existing abutment wall. Connection to be approved by the Engineer. Cost is included with "Temporary Sheet Piling."

TEMPORARY SHEET PILING

NORTH ABUTMENT = 293 SQ. FT.
SOUTH ABUTMENT = 205 SQ. FT.
TOTAL = 498 SQ. FT.

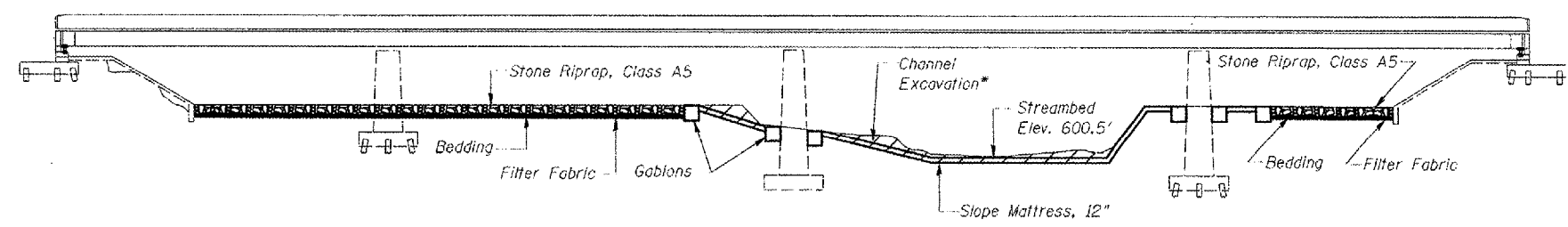
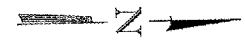
(Minimum Section Modulus = 16 in³/ft.)

STAGE CONSTRUCTION, GENERAL NOTES, AND TEMPORARY SHEET PILING OVER EDWARDS RIVER SECTION (23-BR) I MERCER COUNTY STRUCTURE NO. 066-0008 STATION 104+73.75

FRAUENHOFFER & ASSOCIATES, P.C.

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	DATE	SHEET	SHEET NO.
F.A.S. 220	*	Mercer	50	15	3
SHEETS 23					
* (23-BR) I					

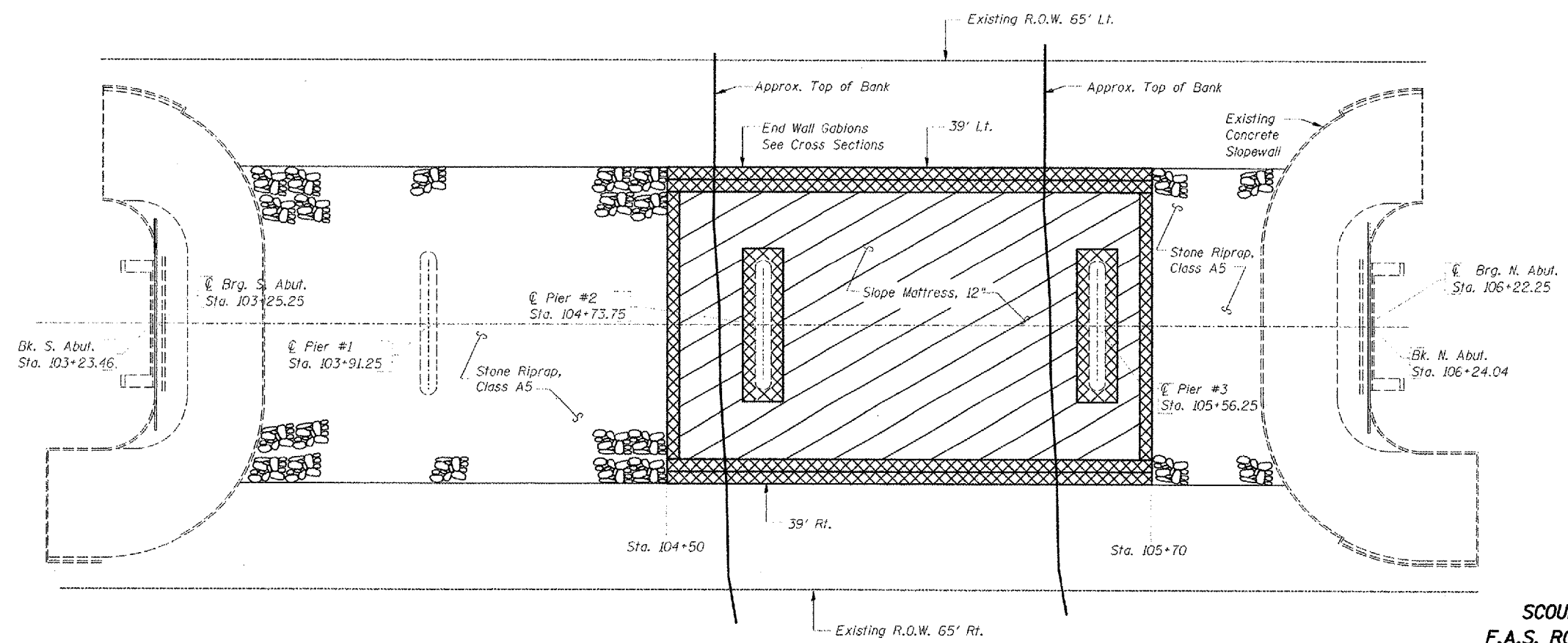


ELEVATION

* The Cost of Channel Excavation is included with Gablons.

Legend

Gablon	XXX
Slope Mattress, 12"	///
Stone Riprap, Class A5	⊞



PLAN

**SCOUR PROTECTION PLAN
F.A.S. ROUTE 220 (IL ROUTE 94)
OVER EDWARDS RIVER
SECTION (23-BR) I
MERCER COUNTY
STRUCTURE NO. 066-0008
STATION 104+73.75**

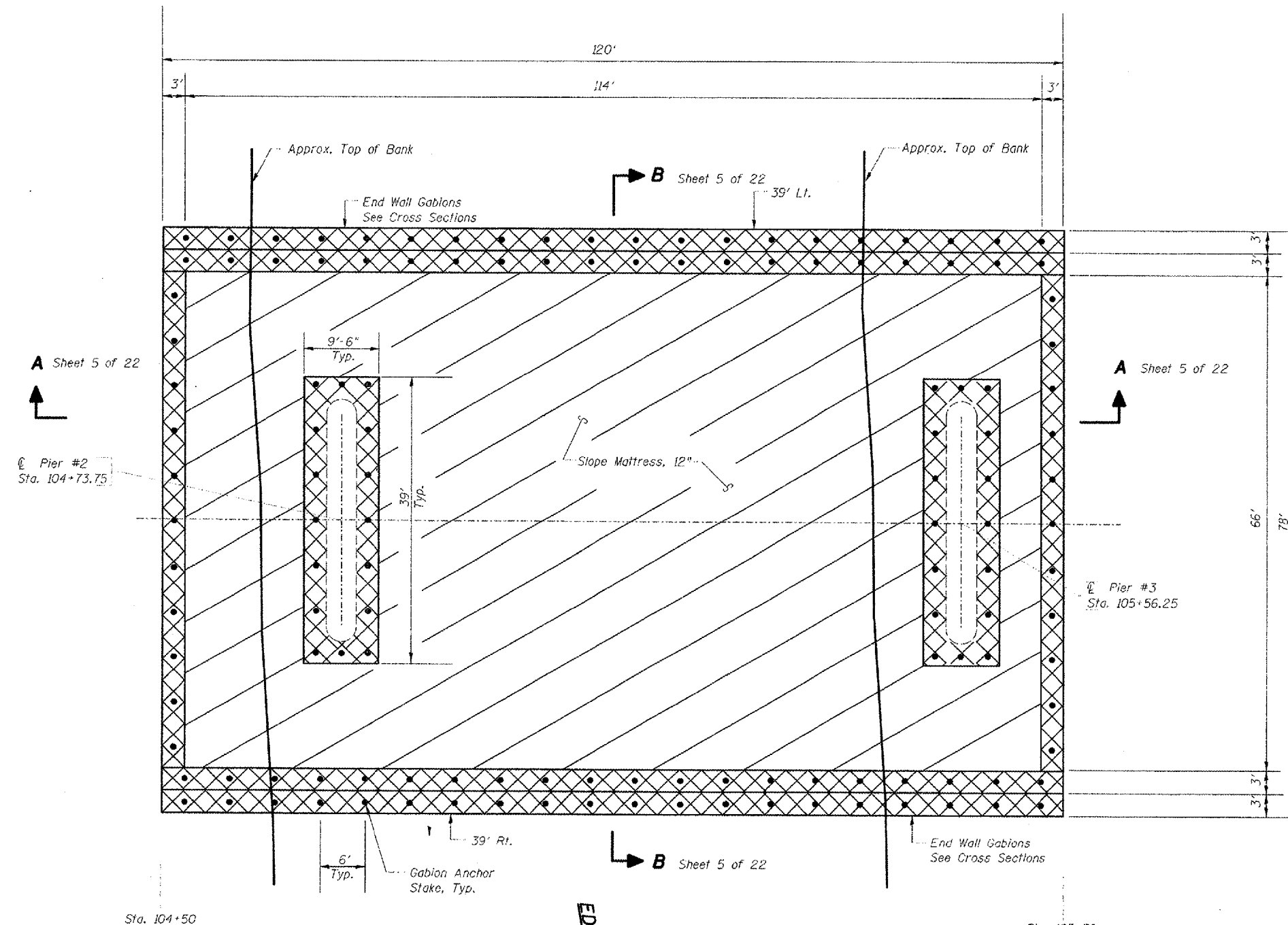
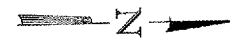
DESIGNED	K.E. Brandau
CHECKED	R.T. Mumm
DRAWN	L.A. Rolf
CHECKED	K.E. Brandau

FRAUENHOFFER & ASSOCIATES, P.C.

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	DISTRICT	SHEET NO.	SHEET NO. 4
220	*	Mercer	50	16	SHEETS 23
FED. ROAD DIST. NO. 7		ILLINOIS	FED. AID PROJECT		

*(23-BR) I



NOTES

- Layout of scour protection system may be varied in the field to suit ground conditions as directed by the Engineer.
- The cost of Gabion Anchor Stakes is included with the cost of Gabions.

Legend

- Gabions
- Slope Mattress, 12"
- Gabion Anchor Stakes

SCOUR PROTECTION DETAILS
F.A.S. ROUTE 220 (IL ROUTE 94)
OVER EDWARDS RIVER
SECTION (23-BR) I
MERCER COUNTY
STRUCTURE NO. 066-0008
STATION 104+73.75

DESIGNED	K.E. Brandau
CHECKED	R.T. Mumm
DRAWN	L.A. Rolf
CHECKED	K.E. Brandau

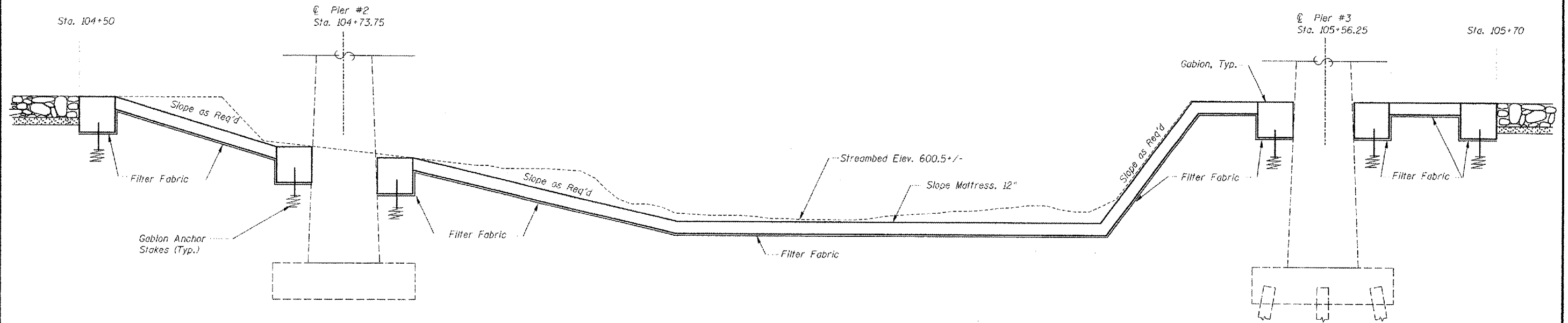
PLAN

FRAUENHOFFER & ASSOCIATES, P.C.

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	SHEET NO.	SHEET NO.
220	*	Mercer	50	17
FED. ROAD DIST. NO. 7		ILLINOIS	FED. AID PROJECT	

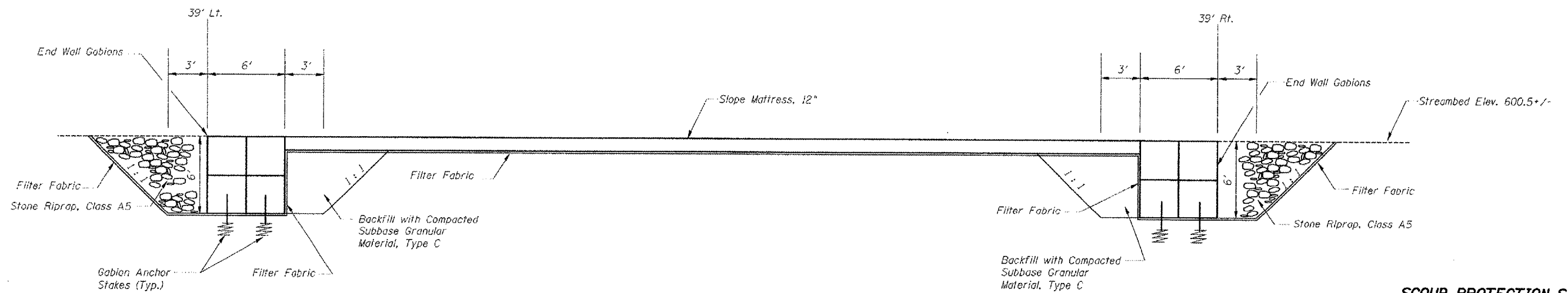
(23-BR) I



SECTION A-A

NOTES

- Layout of scour protection system may be varied in the field to suit ground conditions as directed by the Engineer.
- All Gabions shall be 6' long by 3' wide by 3' tall.



SECTION B-B

SCOUR PROTECTION SECTIONS
F.A.S. ROUTE 220 (IL ROUTE 94)
OVER EDWARDS RIVER
SECTION (23-BR) I
MERCER COUNTY
STRUCTURE NO. 066-0008
STATION 104+73.75

DESIGNED	K.E. Brandau
CHECKED	R.T. Mumm
DRAWN	L.A. Rolf
CHECKED	K.E. Brandau

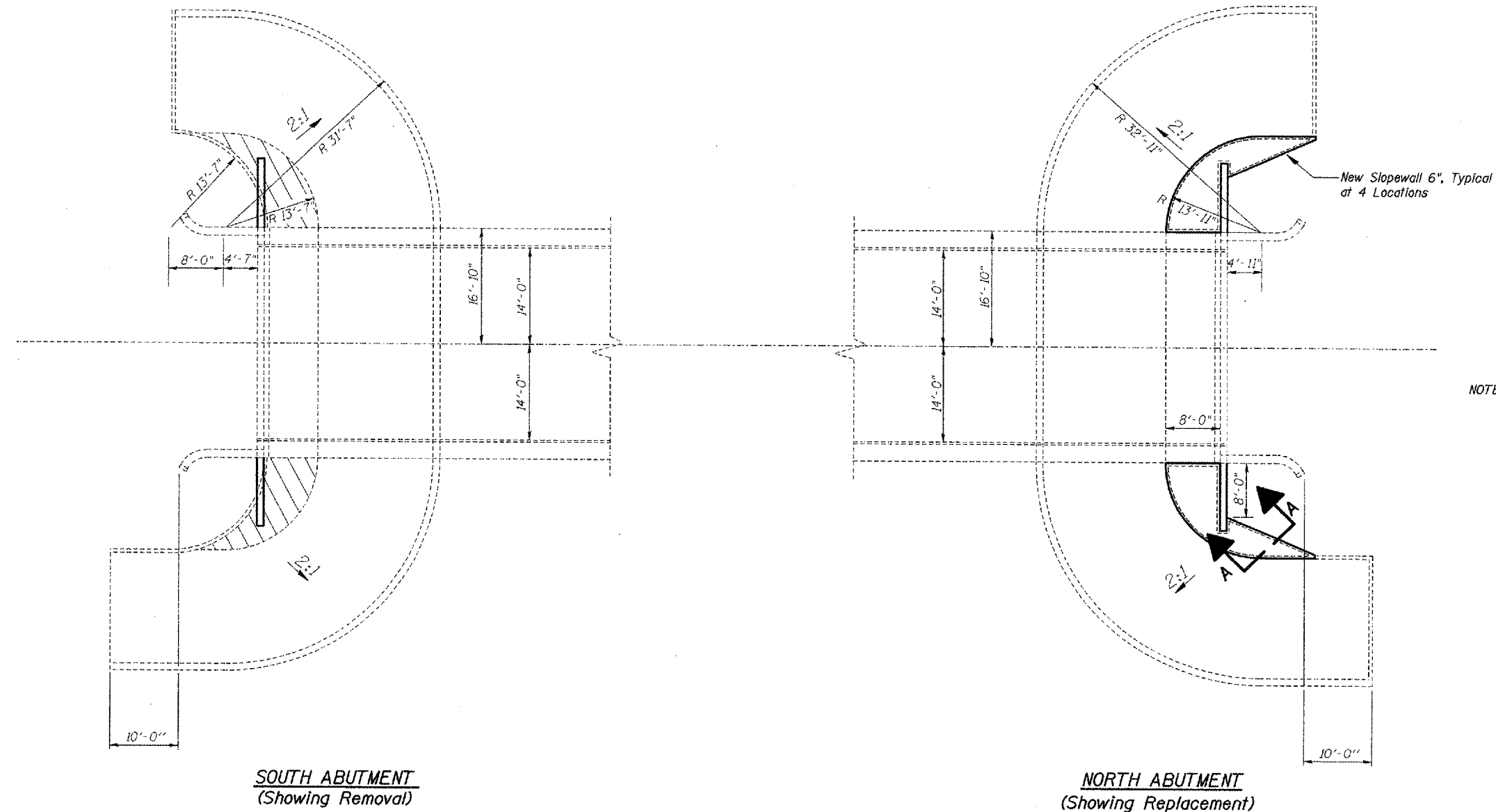
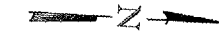
FRAUENHOFFER & ASSOCIATES, P.C.

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET	SHEET NO.
F.A.S. 220	*	Mercer	50	18	6
FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT			

SHEETS 23

*(23-BR) 1



NOTE: The existing welded wire fabric in the slopewall shall be cleaned and extended into the removal area to provide a minimum lap of 6" with the new WWF6x6-W4.0xW4.0, or provide anchors into the existing slopewall as approved by the Engineer. This work shall not be paid for separately and is included with "Slopewall 6" ".

BILL OF MATERIAL

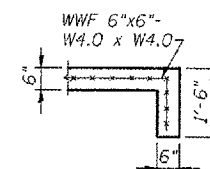
Item	Unit	Total
Slopewall Removal	Sq. Yd.	48.9
Slopewall 6"	Sq. Yd.	48.9

SOUTH ABUTMENT
(Showing Removal)

NORTH ABUTMENT
(Showing Replacement)

LEGEND

SLOPEWALL REMOVAL



SECTION A-A
(Showing slopewall removal & replacement)

DESIGNED	K.E. Brandau
CHECKED	R.T. Mumm
DRAWN	L.A. Rolf
CHECKED	K.E. Brandau

SLOPEWALL
F.A.S. ROUTE 220 (IL ROUTE 94)
OVER EDWARDS RIVER
SECTION (23-BR) I
MERCER COUNTY
STRUCTURE NO. 066-0008
STATION 104+73.75

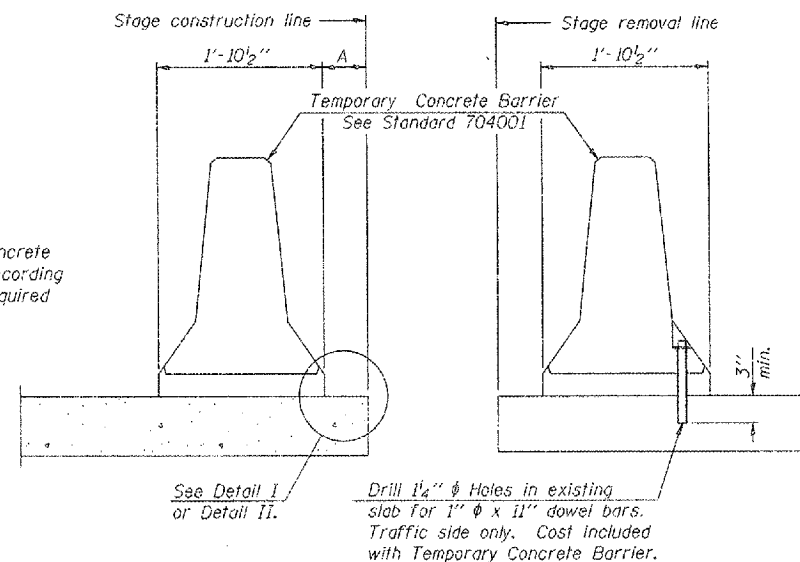
FRAUENHOFFER & ASSOCIATES, P.C.

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	SHEETS	SHEET	SHEET NO.
220	*	Mercer	50	19	7
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT			SHEETS 23

*(23-BR) I

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".



NEW SLAB

EXISTING SLAB

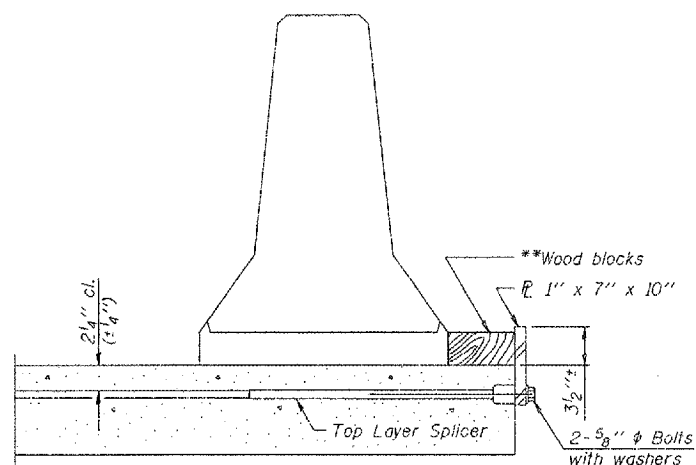
SECTIONS THRU SLAB

NOTES

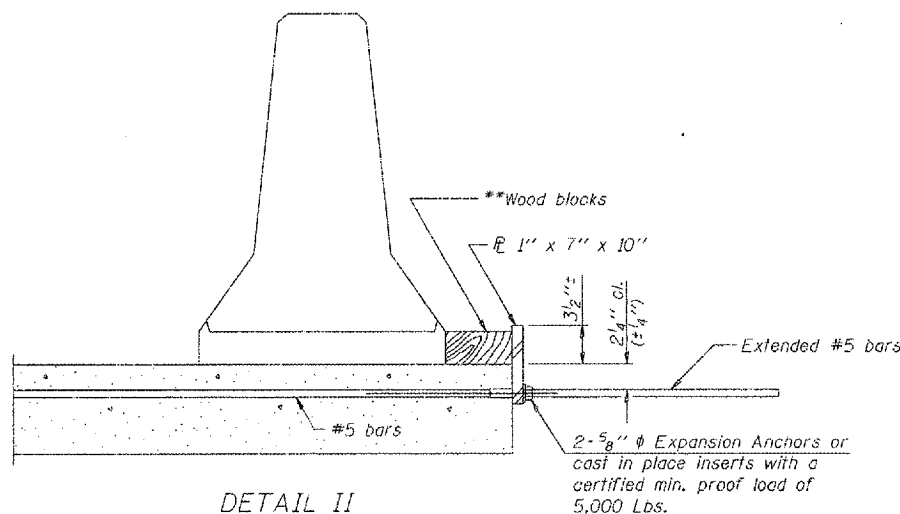
Detail I - With Bar Splicer or Couplers:
Connect one (1) 1"x7"x10" steel \bar{r} to the top layer of couplers with 2- $\frac{5}{8}$ " ϕ bolts screwed to coupler at approximate \bar{c} of each barrier panel.

Detail II - With Extended Reinforcement Bars:
Connect one (1) 1"x7"x10" steel \bar{r} to the concrete slab with 2- $\frac{5}{8}$ " ϕ Expansion Anchors or cast in place inserts spaced between the top layer of reinforcement at approximate \bar{c} of each barrier panel.

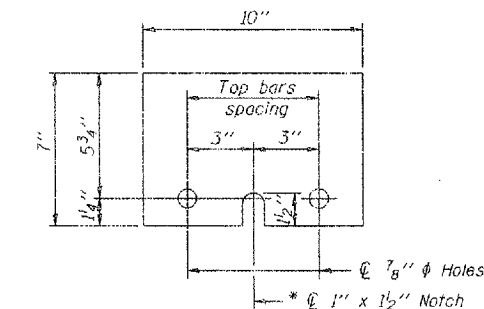
Cost of anchorage is included with Temporary Concrete Barrier. The 1" x 7" x 10" plate shall not be removed until stage II construction forms and all reinforcement bars are in place and the concrete is ready to be placed.



DETAIL I



DETAIL II



STEEL RETAINER \bar{r} 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	K.E. Brandau
CHECKED	R.T. Mumm
DRAWN	L.A. Rolf
CHECKED	K.E. Brandau

R-27

11-1-06

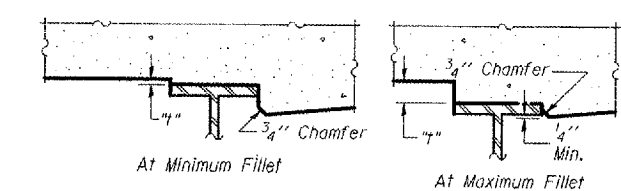
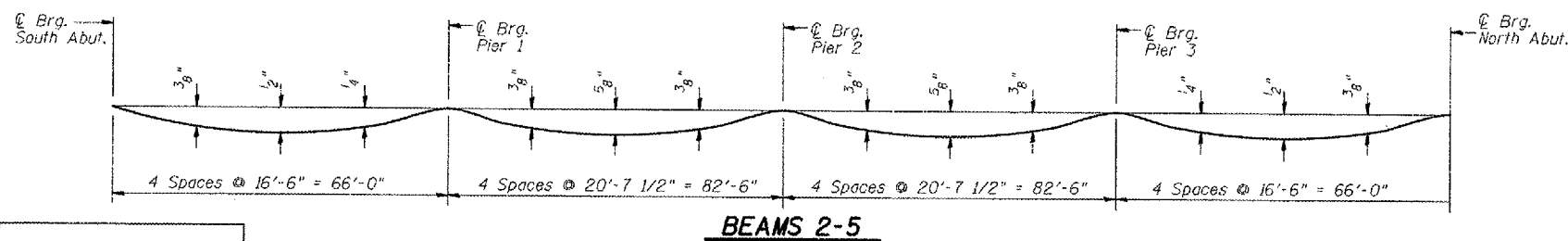
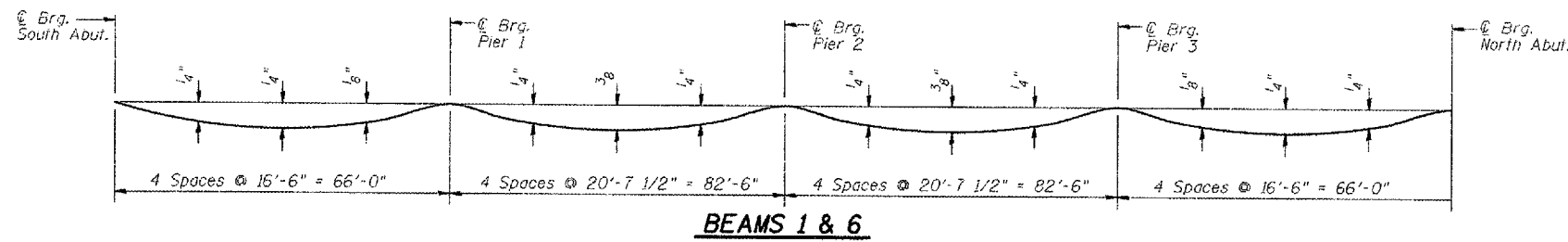
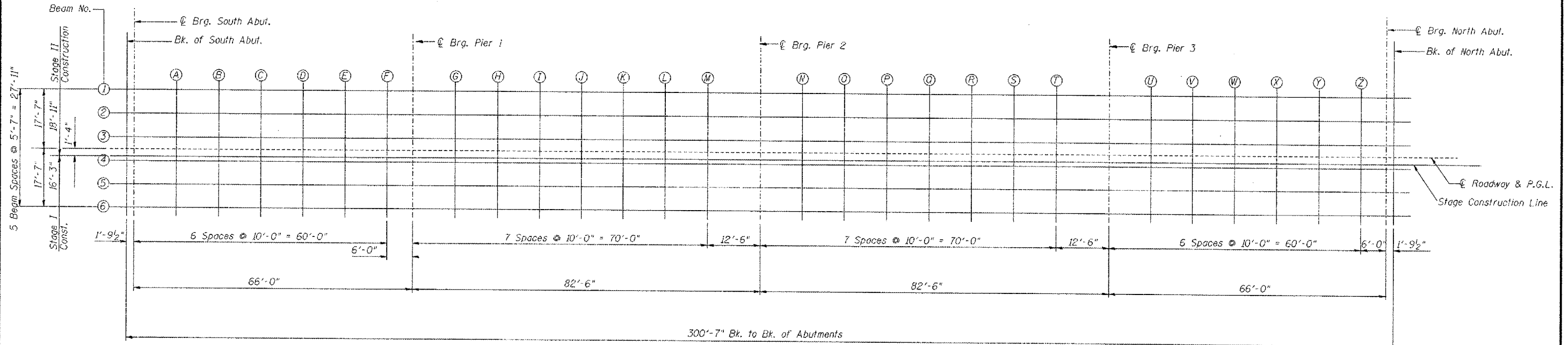
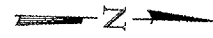
TEMPORARY CONCRETE BARRIER
FOR STAGE CONSTRUCTION
F.A.S. ROUTE 220 (IL ROUTE 94)
OVER EDWARDS RIVER
SECTION (23-BR) I
MERCER COUNTY
STRUCTURE NO. 066-0008
STATION 104+73.75

FRAUENHOFFER & ASSOCIATES, P.C.

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	SHEET NO.	SHEETS
220		Mercer	50	20
F.A.S. 220		ALIGNED		REL. NO. PROJECT

SHEET NO. 8
SHEETS 23



To determine "f": After all structural steel has been erected, elevations of the top flanges of the beams shall be taken at intervals shown on sheets 9 and 10 of 22. These elevations subtracted from the "Theoretical Grade Elevations Adjusted for Dead Load Deflection" shown below, minus slab thickness, equals the fillet heights "f" above top flange of beams.

FILLET HEIGHTS

TOP OF SLAB ELEVATIONS
F.A.S. ROUTE 220 (IL ROUTE 94)
OVER EDWARDS RIVER
SECTION (23-BR) I
MERCER COUNTY
STRUCTURE NO. 066-0008
STATION 104+73.75

DESIGNED	K.E. Brandau
CHECKED	R.T. Mumm
DRAWN	L.A. Rolf
CHECKED	K.E. Brandau
E-S	4-30-97

DEAD LOAD DEFLECTION DIAGRAM

(Includes weight of concrete only)

Note: The above deflections are not to be used in the field if the engineer is working from the grade elevations adjusted for Dead Load deflections as shown on sheets 9 and 10 of 22.

FRAUENHOFFER & ASSOCIATES, P.C.

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	SHEET NO.	SHEET NO.
F.A.S. 220	*	Mercer	50	21
FED. FUND DIST. NO. 7		ILLINOIS	FED. AID PROJECT	
*(23-BR) I				

BEAM 1

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
BK. OF S. ABUT.	103+23.46	13'-11 1/2" Lt.	625.450	625.450
☉ BRG. S. ABUT.	103+25.25	13'-11 1/2" Lt.	625.454	625.454
A	103+35.25	13'-11 1/2" Lt.	625.474	625.488
B	103+45.25	13'-11 1/2" Lt.	625.494	625.517
C	103+55.25	13'-11 1/2" Lt.	625.514	625.539
D	103+65.25	13'-11 1/2" Lt.	625.534	625.554
E	103+75.25	13'-11 1/2" Lt.	625.554	625.564
F	103+85.25	13'-11 1/2" Lt.	625.574	625.576
☉ BRG. PIER 1	103+91.25	13'-11 1/2" Lt.	625.586	625.586
G	104+01.25	13'-11 1/2" Lt.	625.606	625.611
H	104+11.25	13'-11 1/2" Lt.	625.626	625.642
I	104+21.25	13'-11 1/2" Lt.	625.646	625.672
J	104+31.25	13'-11 1/2" Lt.	625.666	625.696
K	104+41.25	13'-11 1/2" Lt.	625.686	625.713
L	104+51.25	13'-11 1/2" Lt.	625.707	625.725
M	104+61.25	13'-11 1/2" Lt.	625.727	625.734
☉ BRG. PIER 2	104+73.75	13'-11 1/2" Lt.	625.752	625.752
N	104+83.75	13'-11 1/2" Lt.	625.772	625.777
O	104+93.75	13'-11 1/2" Lt.	625.792	625.807
P	105+03.75	13'-11 1/2" Lt.	625.812	625.837
Q	105+13.75	13'-11 1/2" Lt.	625.832	625.862
R	105+23.75	13'-11 1/2" Lt.	625.852	625.879
S	105+33.75	13'-11 1/2" Lt.	625.872	625.891
T	105+43.75	13'-11 1/2" Lt.	625.892	625.900
☉ BRG. PIER 3	105+56.25	13'-11 1/2" Lt.	625.917	625.917
U	105+66.25	13'-11 1/2" Lt.	625.937	625.942
V	105+76.25	13'-11 1/2" Lt.	625.957	625.971
W	105+86.25	13'-11 1/2" Lt.	625.977	626.000
X	105+96.25	13'-11 1/2" Lt.	625.997	626.023
Y	106+06.25	13'-11 1/2" Lt.	626.017	626.038
Z	106+16.25	13'-11 1/2" Lt.	626.038	626.046
☉ BRG. N. ABUT.	106+22.25	13'-11 1/2" Lt.	626.050	626.050
BK. OF N. ABUT.	106+24.04	13'-11 1/2" Lt.	626.053	626.053

BEAM 2

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
BK. OF S. ABUT.	103+23.46	8'-4 1/2" Lt.	625.548	625.548
☉ BRG. S. ABUT.	103+25.25	8'-4 1/2" Lt.	625.551	625.551
A	103+35.25	8'-4 1/2" Lt.	625.571	625.594
B	103+45.25	8'-4 1/2" Lt.	625.591	625.629
C	103+55.25	8'-4 1/2" Lt.	625.611	625.652
D	103+65.25	8'-4 1/2" Lt.	625.631	625.664
E	103+75.25	8'-4 1/2" Lt.	625.652	625.668
F	103+85.25	8'-4 1/2" Lt.	625.672	625.674
☉ BRG. PIER 1	103+91.25	8'-4 1/2" Lt.	625.684	625.684
G	104+01.25	8'-4 1/2" Lt.	625.704	625.712
H	104+11.25	8'-4 1/2" Lt.	625.724	625.750
I	104+21.25	8'-4 1/2" Lt.	625.744	625.786
J	104+31.25	8'-4 1/2" Lt.	625.764	625.813
K	104+41.25	8'-4 1/2" Lt.	625.784	625.828
L	104+51.25	8'-4 1/2" Lt.	625.804	625.834
M	104+61.25	8'-4 1/2" Lt.	625.824	625.836
☉ BRG. PIER 2	104+73.75	8'-4 1/2" Lt.	625.849	625.849
N	104+83.75	8'-4 1/2" Lt.	625.869	625.877
O	104+93.75	8'-4 1/2" Lt.	625.889	625.915
P	105+03.75	8'-4 1/2" Lt.	625.909	625.951
Q	105+13.75	8'-4 1/2" Lt.	625.929	625.978
R	105+23.75	8'-4 1/2" Lt.	625.949	625.994
S	105+33.75	8'-4 1/2" Lt.	625.969	626.000
T	105+43.75	8'-4 1/2" Lt.	625.990	626.002
☉ BRG. PIER 3	105+56.25	8'-4 1/2" Lt.	626.015	626.015
U	105+66.25	8'-4 1/2" Lt.	626.035	626.042
V	105+76.25	8'-4 1/2" Lt.	626.055	626.078
W	105+86.25	8'-4 1/2" Lt.	626.075	626.112
X	105+96.25	8'-4 1/2" Lt.	626.095	626.136
Y	106+06.25	8'-4 1/2" Lt.	626.115	626.148
Z	106+16.25	8'-4 1/2" Lt.	626.135	626.149
☉ BRG. N. ABUT.	106+22.25	8'-4 1/2" Lt.	626.147	626.147
BK. OF N. ABUT.	106+24.04	8'-4 1/2" Lt.	626.151	626.151

BEAM 3

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
BK. OF S. ABUT.	103+23.46	2'-9 1/2" Lt.	625.635	625.635
☉ BRG. S. ABUT.	103+25.25	2'-9 1/2" Lt.	625.638	625.638
A	103+35.25	2'-9 1/2" Lt.	625.659	625.681
B	103+45.25	2'-9 1/2" Lt.	625.679	625.716
C	103+55.25	2'-9 1/2" Lt.	625.699	625.740
D	103+65.25	2'-9 1/2" Lt.	625.719	625.751
E	103+75.25	2'-9 1/2" Lt.	625.739	625.755
F	103+85.25	2'-9 1/2" Lt.	625.759	625.761
☉ BRG. PIER 1	103+91.25	2'-9 1/2" Lt.	625.771	625.771
G	104+01.25	2'-9 1/2" Lt.	625.791	625.800
H	104+11.25	2'-9 1/2" Lt.	625.811	625.837
I	104+21.25	2'-9 1/2" Lt.	625.831	625.873
J	104+31.25	2'-9 1/2" Lt.	625.851	625.900
K	104+41.25	2'-9 1/2" Lt.	625.871	625.915
L	104+51.25	2'-9 1/2" Lt.	625.891	625.921
M	104+61.25	2'-9 1/2" Lt.	625.911	625.923
☉ BRG. PIER 2	104+73.75	2'-9 1/2" Lt.	625.936	625.936
N	104+83.75	2'-9 1/2" Lt.	625.956	625.965
O	104+93.75	2'-9 1/2" Lt.	625.976	626.002
P	105+03.75	2'-9 1/2" Lt.	625.997	626.038
Q	105+13.75	2'-9 1/2" Lt.	626.017	626.065
R	105+23.75	2'-9 1/2" Lt.	626.037	626.081
S	105+33.75	2'-9 1/2" Lt.	626.057	626.087
T	105+43.75	2'-9 1/2" Lt.	626.077	626.089
☉ BRG. PIER 3	105+56.25	2'-9 1/2" Lt.	626.102	626.102
U	105+66.25	2'-9 1/2" Lt.	626.122	626.129
V	105+76.25	2'-9 1/2" Lt.	626.142	626.165
W	105+86.25	2'-9 1/2" Lt.	626.162	626.199
X	105+96.25	2'-9 1/2" Lt.	626.182	626.223
Y	106+06.25	2'-9 1/2" Lt.	626.202	626.235
Z	106+16.25	2'-9 1/2" Lt.	626.222	626.237
☉ BRG. N. ABUT.	106+22.25	2'-9 1/2" Lt.	626.234	626.234
BK. OF N. ABUT.	106+24.04	2'-9 1/2" Lt.	626.238	626.238

☉ ROADWAY & P.G.L.

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
BK. OF S. ABUT.	103+23.46	0.000	625.678	625.678
☉ BRG. S. ABUT.	103+25.25	0.000	625.682	625.682
A	103+35.25	0.000	625.702	625.725
B	103+45.25	0.000	625.722	625.760
C	103+55.25	0.000	625.742	625.783
D	103+65.25	0.000	625.762	625.795
E	103+75.25	0.000	625.782	625.799
F	103+85.25	0.000	625.802	625.805
☉ BRG. PIER 1	103+91.25	0.000	625.814	625.814
G	104+01.25	0.000	625.835	625.843
H	104+11.25	0.000	625.855	625.881
I	104+21.25	0.000	625.875	625.917
J	104+31.25	0.000	625.895	625.943
K	104+41.25	0.000	625.915	625.959
L	104+51.25	0.000	625.935	625.965
M	104+61.25	0.000	625.955	625.967
☉ BRG. PIER 2	104+73.75	0.000	625.980	625.980
N	104+83.75	0.000	626.000	626.008
O	104+93.75	0.000	626.020	626.046
P	105+03.75	0.000	626.040	626.082
Q	105+13.75	0.000	626.060	626.109
R	105+23.75	0.000	626.080	626.125
S	105+33.75	0.000	626.100	626.131
T	105+43.75	0.000	626.120	626.133
☉ BRG. PIER 3	105+56.25	0.000	626.145	626.145
U	105+66.25	0.000	626.166	626.173
V	105+76.25	0.000	626.186	626.209
W	105+86.25	0.000	626.206	626.243
X	105+96.25	0.000	626.226	626.267
Y	106+06.25	0.000	626.246	626.279
Z	106+16.25	0.000	626.266	626.280
☉ BRG. N. ABUT.	106+22.25	0.000	626.278	626.278
BK. OF N. ABUT.	106+24.04	0.000	626.281	626.281

TOP OF SLAB ELEVATIONS
F.A.S. ROUTE 220 (IL ROUTE 94)
OVER EDWARDS RIVER
SECTION (23-BR) I
MERCER COUNTY
STRUCTURE NO. 066-0008
STATION 104+73.75

DESIGNED	K.E. Brandau
CHECKED	R.T. Mumm
DRAWN	L.A. Roff
CHECKED	K.E. Brandau

E-S 4-30-97

FRAUENHOFFER & ASSOCIATES, P.C.

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	POST MILE	SHEET	SHEET NO.
220	*	Mercer	50	22	10
FED. ROAD DIST. NO. 7					SHEETS 23
ALLIANCE					
FED. AID PROJECT					

*(23-BR) I

STAGE CONSTRUCTION LINE

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
BK. OF S. ABUT.	103+23.46	1'-4" Rt.	625.658	625.658
☉ BRG. S. ABUT.	103+25.25	1'-4" Rt.	625.661	625.661
A	103+35.25	1'-4" Rt.	625.681	625.704
B	103+45.25	1'-4" Rt.	625.701	625.739
C	103+55.25	1'-4" Rt.	625.721	625.762
D	103+65.25	1'-4" Rt.	625.741	625.774
E	103+75.25	1'-4" Rt.	625.762	625.778
F	103+85.25	1'-4" Rt.	625.782	625.784
☉ BRG. PIER 1	103+91.25	1'-4" Rt.	625.794	625.794
G	104+01.25	1'-4" Rt.	625.814	625.822
H	104+11.25	1'-4" Rt.	625.834	625.860
I	104+21.25	1'-4" Rt.	625.854	625.896
J	104+31.25	1'-4" Rt.	625.874	625.923
K	104+41.25	1'-4" Rt.	625.894	625.938
L	104+51.25	1'-4" Rt.	625.914	625.944
M	104+61.25	1'-4" Rt.	625.934	625.946
☉ BRG. PIER 2	104+73.75	1'-4" Rt.	625.959	625.959
N	104+83.75	1'-4" Rt.	625.979	625.987
O	104+93.75	1'-4" Rt.	625.999	626.025
P	105+03.75	1'-4" Rt.	626.019	626.061
Q	105+13+75	1'-4" Rt.	626.039	626.088
R	105+23.75	1'-4" Rt.	626.059	626.104
S	105+33.75	1'-4" Rt.	626.080	626.110
T	105+43.75	1'-4" Rt.	626.100	626.112
☉ BRG. PIER 3	105+56.25	1'-4" Rt.	626.125	626.125
U	105+66.25	1'-4" Rt.	626.145	626.152
V	105+76.25	1'-4" Rt.	626.165	626.188
W	105+86.25	1'-4" Rt.	626.185	626.222
X	105+96.25	1'-4" Rt.	626.205	626.246
Y	106+06.25	1'-4" Rt.	626.225	626.258
Z	106+16.25	1'-4" Rt.	626.245	626.259
☉ BRG. N. ABUT.	106+22.25	1'-4" Rt.	626.257	626.257
BK. OF N. ABUT.	106+24.04	1'-4" Rt.	626.261	626.261

BEAM 4

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
BK. OF S. ABUT.	103+23.46	2'-9 1/2" Rt.	625.635	625.635
☉ BRG. S. ABUT.	103+25.25	2'-9 1/2" Rt.	625.638	625.638
A	103+35.25	2'-9 1/2" Rt.	625.659	625.681
B	103+45.25	2'-9 1/2" Rt.	625.679	625.716
C	103+55.25	2'-9 1/2" Rt.	625.699	625.740
D	103+65.25	2'-9 1/2" Rt.	625.719	625.751
E	103+75.25	2'-9 1/2" Rt.	625.739	625.755
F	103+85.25	2'-9 1/2" Rt.	625.759	625.761
☉ BRG. PIER 1	103+91.25	2'-9 1/2" Rt.	625.771	625.771
G	104+01.25	2'-9 1/2" Rt.	625.791	625.800
H	104+11.25	2'-9 1/2" Rt.	625.811	625.837
I	104+21.25	2'-9 1/2" Rt.	625.831	625.873
J	104+31.25	2'-9 1/2" Rt.	625.851	625.900
K	104+41.25	2'-9 1/2" Rt.	625.871	625.915
L	104+51.25	2'-9 1/2" Rt.	625.891	625.921
M	104+61.25	2'-9 1/2" Rt.	625.911	625.923
☉ BRG. PIER 2	104+73.75	2'-9 1/2" Rt.	625.936	625.936
N	104+83.75	2'-9 1/2" Rt.	625.956	625.965
O	104+93.75	2'-9 1/2" Rt.	625.976	626.002
P	105+03.75	2'-9 1/2" Rt.	625.997	626.038
Q	105+13+75	2'-9 1/2" Rt.	626.017	626.065
R	105+23.75	2'-9 1/2" Rt.	626.037	626.081
S	105+33.75	2'-9 1/2" Rt.	626.057	626.087
T	105+43.75	2'-9 1/2" Rt.	626.077	626.089
☉ BRG. PIER 3	105+56.25	2'-9 1/2" Rt.	626.102	626.102
U	105+66.25	2'-9 1/2" Rt.	626.122	626.129
V	105+76.25	2'-9 1/2" Rt.	626.142	626.165
W	105+86.25	2'-9 1/2" Rt.	626.162	626.199
X	105+96.25	2'-9 1/2" Rt.	626.182	626.223
Y	106+06.25	2'-9 1/2" Rt.	626.202	626.235
Z	106+16.25	2'-9 1/2" Rt.	626.222	626.237
☉ BRG. N. ABUT.	106+22.25	2'-9 1/2" Rt.	626.234	626.234
BK. OF N. ABUT.	106+24.04	2'-9 1/2" Rt.	626.238	626.238

BEAM 5

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
BK. OF S. ABUT.	103+23.46	8'-4 1/2" Rt.	625.548	625.548
☉ BRG. S. ABUT.	103+25.25	8'-4 1/2" Rt.	625.551	625.551
A	103+35.25	8'-4 1/2" Rt.	625.571	625.594
B	103+45.25	8'-4 1/2" Rt.	625.591	625.629
C	103+55.25	8'-4 1/2" Rt.	625.611	625.652
D	103+65.25	8'-4 1/2" Rt.	625.631	625.664
E	103+75.25	8'-4 1/2" Rt.	625.652	625.668
F	103+85.25	8'-4 1/2" Rt.	625.672	625.674
☉ BRG. PIER 1	103+91.25	8'-4 1/2" Rt.	625.684	625.684
G	104+01.25	8'-4 1/2" Rt.	625.704	625.712
H	104+11.25	8'-4 1/2" Rt.	625.724	625.750
I	104+21.25	8'-4 1/2" Rt.	625.744	625.786
J	104+31.25	8'-4 1/2" Rt.	625.764	625.813
K	104+41.25	8'-4 1/2" Rt.	625.784	625.828
L	104+51.25	8'-4 1/2" Rt.	625.804	625.834
M	104+61.25	8'-4 1/2" Rt.	625.824	625.836
☉ BRG. PIER 2	104+73.75	8'-4 1/2" Rt.	625.849	625.849
N	104+83.75	8'-4 1/2" Rt.	625.869	625.877
O	104+93.75	8'-4 1/2" Rt.	625.889	625.915
P	105+03.75	8'-4 1/2" Rt.	625.909	625.951
Q	105+13+75	8'-4 1/2" Rt.	625.929	625.978
R	105+23.75	8'-4 1/2" Rt.	625.949	625.994
S	105+33.75	8'-4 1/2" Rt.	625.969	626.000
T	105+43.75	8'-4 1/2" Rt.	625.990	626.002
☉ BRG. PIER 3	105+56.25	8'-4 1/2" Rt.	626.015	626.015
U	105+66.25	8'-4 1/2" Rt.	626.035	626.042
V	105+76.25	8'-4 1/2" Rt.	626.055	626.078
W	105+86.25	8'-4 1/2" Rt.	626.075	626.112
X	105+96.25	8'-4 1/2" Rt.	626.095	626.136
Y	106+06.25	8'-4 1/2" Rt.	626.115	626.148
Z	106+16.25	8'-4 1/2" Rt.	626.135	626.149
☉ BRG. N. ABUT.	106+22.25	8'-4 1/2" Rt.	626.147	626.147
BK. OF N. ABUT.	106+24.04	8'-4 1/2" Rt.	626.151	626.151

BEAM 6

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
BK. OF S. ABUT.	103+23.46	13'-11 1/2" Rt.	625.450	625.450
☉ BRG. S. ABUT.	103+25.25	13'-11 1/2" Rt.	625.454	625.454
A	103+35.25	13'-11 1/2" Rt.	625.474	625.488
B	103+45.25	13'-11 1/2" Rt.	625.494	625.517
C	103+55.25	13'-11 1/2" Rt.	625.514	625.539
D	103+65.25	13'-11 1/2" Rt.	625.534	625.554
E	103+75.25	13'-11 1/2" Rt.	625.554	625.564
F	103+85.25	13'-11 1/2" Rt.	625.574	625.576
☉ BRG. PIER 1	103+91.25	13'-11 1/2" Rt.	625.586	625.586
G	104+01.25	13'-11 1/2" Rt.	625.606	625.611
H	104+11.25	13'-11 1/2" Rt.	625.626	625.642
I	104+21.25	13'-11 1/2" Rt.	625.646	625.672
J	104+31.25	13'-11 1/2" Rt.	625.666	625.696
K	104+41.25	13'-11 1/2" Rt.	625.686	625.713
L	104+51.25	13'-11 1/2" Rt.	625.707	625.725
M	104+61.25	13'-11 1/2" Rt.	625.727	625.734
☉ BRG. PIER 2	104+73.75	13'-11 1/2" Rt.	625.752	625.752
N	104+83.75	13'-11 1/2" Rt.	625.772	625.777
O	104+93.75	13'-11 1/2" Rt.	625.792	625.807
P	105+03.75	13'-11 1/2" Rt.	625.812	625.837
Q	105+13+75	13'-11 1/2" Rt.	625.832	625.862
R	105+23.75	13'-11 1/2" Rt.	625.852	625.879
S	105+33.75	13'-11 1/2" Rt.	625.872	625.891
T	105+43.75	13'-11 1/2" Rt.	625.892	625.900
☉ BRG. PIER 3	105+56.25	13'-11 1/2" Rt.	625.917	625.917
U	105+66.25	13'-11 1/2" Rt.	625.937	625.942
V	105+76.25	13'-11 1/2" Rt.	625.957	625.971
W	105+86.25	13'-11 1/2" Rt.	625.977	626.000
X	105+96.25	13'-11 1/2" Rt.	625.997	626.023
Y	106+06.25	13'-11 1/2" Rt.	626.017	626.038
Z	106+16.25	13'-11 1/2" Rt.	626.038	626.046
☉ BRG. N. ABUT.	106+22.25	13'-11 1/2" Rt.	626.050	626.050
BK. OF N. ABUT.	106+24.04	13'-11 1/2" Rt.	626.053	626.053

TOP OF SLAB ELEVATIONS
F.A.S. ROUTE 220 (IL ROUTE 94)
OVER EDWARDS RIVER
SECTION (23-BR) I
MERCER COUNTY
STRUCTURE NO. 066-0008
STATION 104+73.75

DESIGNED	K.E. Brandau
CHECKED	R.T. Mumm
DRAWN	L.A. Roff
CHECKED	K.E. Brandau

E-S 4-30-97

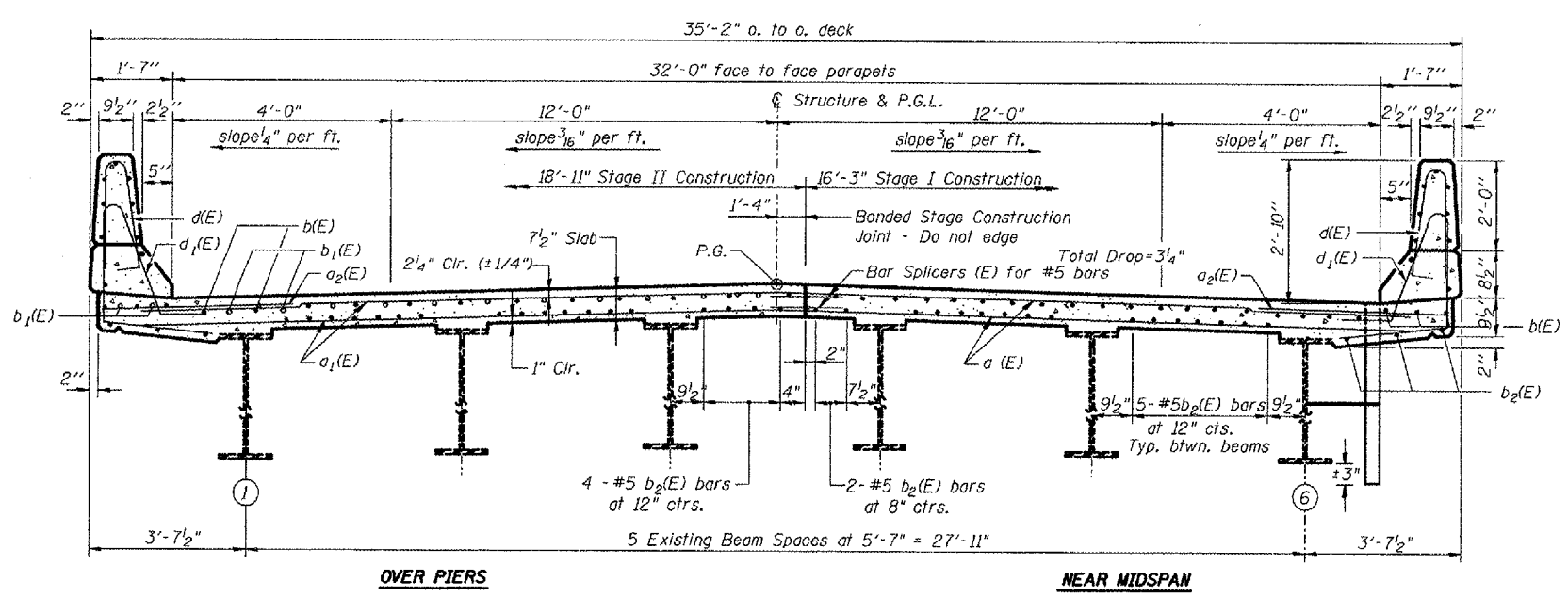
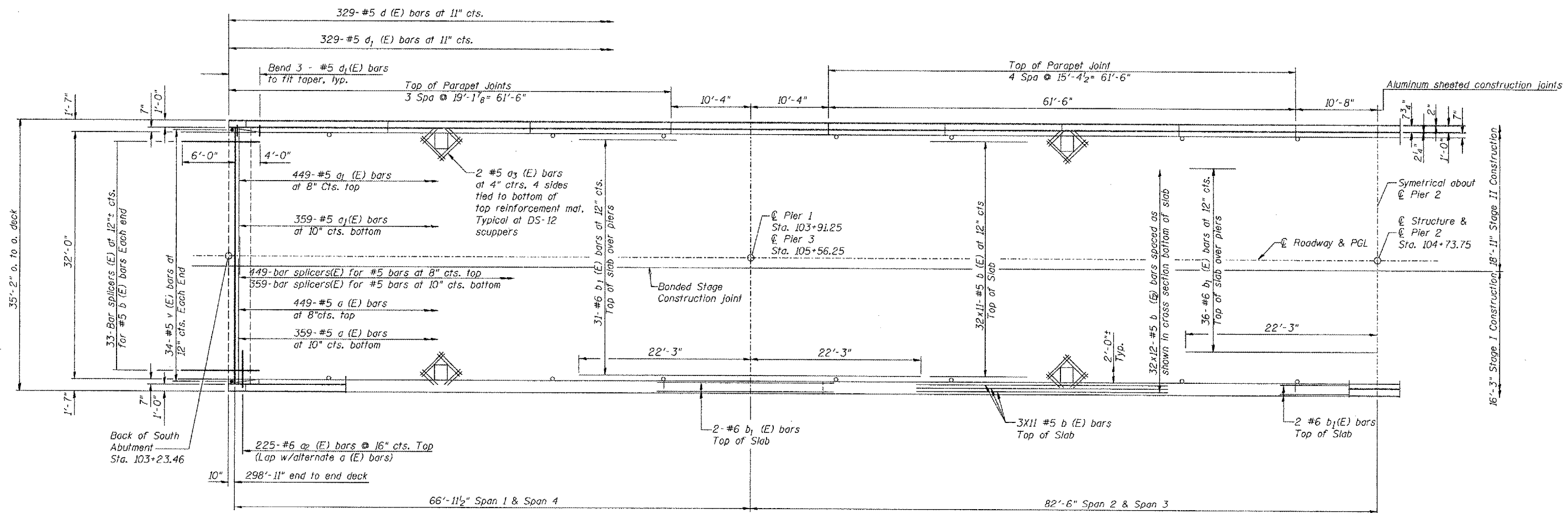
FRAUENHOFFER & ASSOCIATES, P.C.

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	LENG	SHEET
220	*	Mercer	50	23
F.S. 220		ILLINOIS FED. AID PROJECT		

SHEET NO. 11
SHEETS 23

*(23-BR) I



Notes: See Sheet #12 of 22 for superstructure details and Bill of Material.
Reinforcement bars designated (E) shall be epoxy coated.
Bars indicated thus 29 x 11-#5 etc. indicates 29 lines of bars with 11 lengths per line.
See Sheet #12 of 22 for parapet reinforcement.
See Sheet #20 of 22 for Bar Splicer Details.
Floor drains shall be located clear of all diaphragms.
Work Sheets 11, 12, & 13 together.
Cut longitudinal reinforcement to clear drainage scuppers.

SUPERSTRUCTURE
F.A.S. ROUTE 220 (IL ROUTE 94)
OVER EDWARDS RIVER
SECTION (23-BR) I
MERCER COUNTY
STRUCTURE NO. 066-0008
STATION 104+73.75

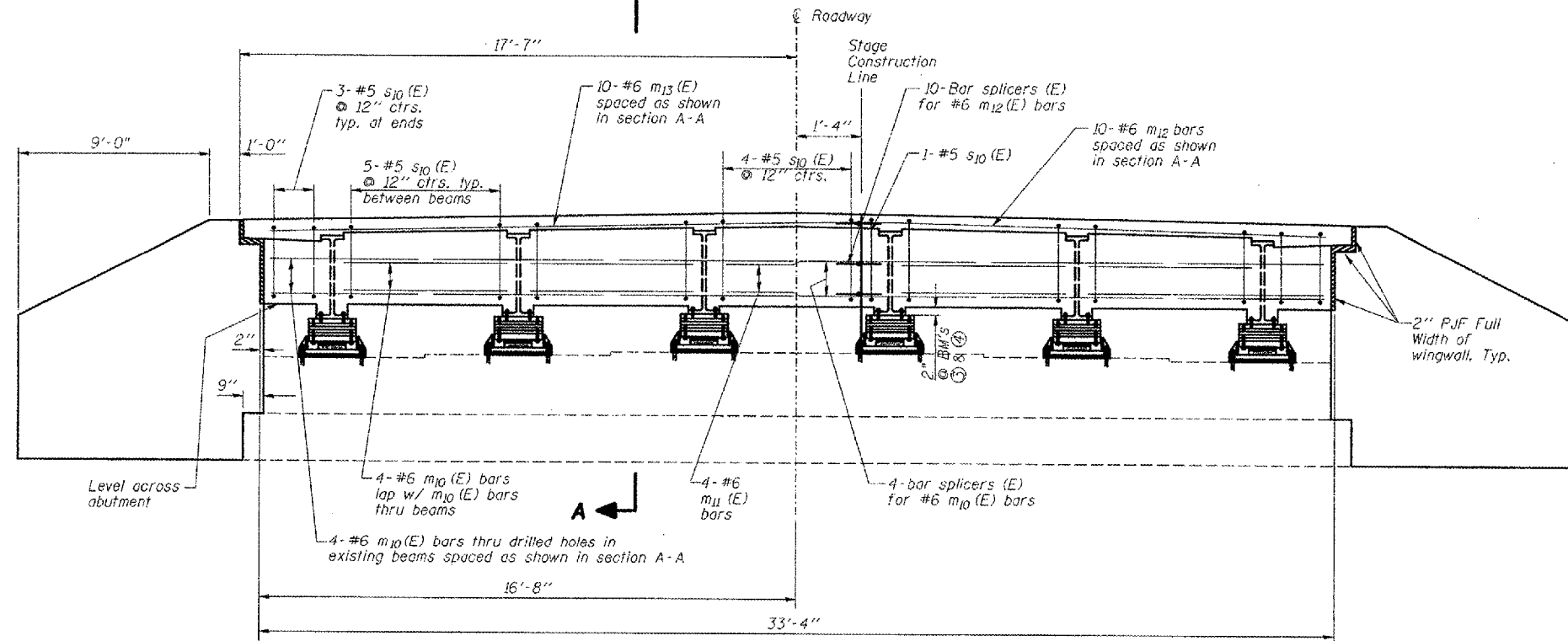
DESIGNED	K.E. Brandau
CHECKED	R.T. Mumm
DRAWN	L.A. Rolf
CHECKED	K.E. Brandau

S-1-0 4-30-99

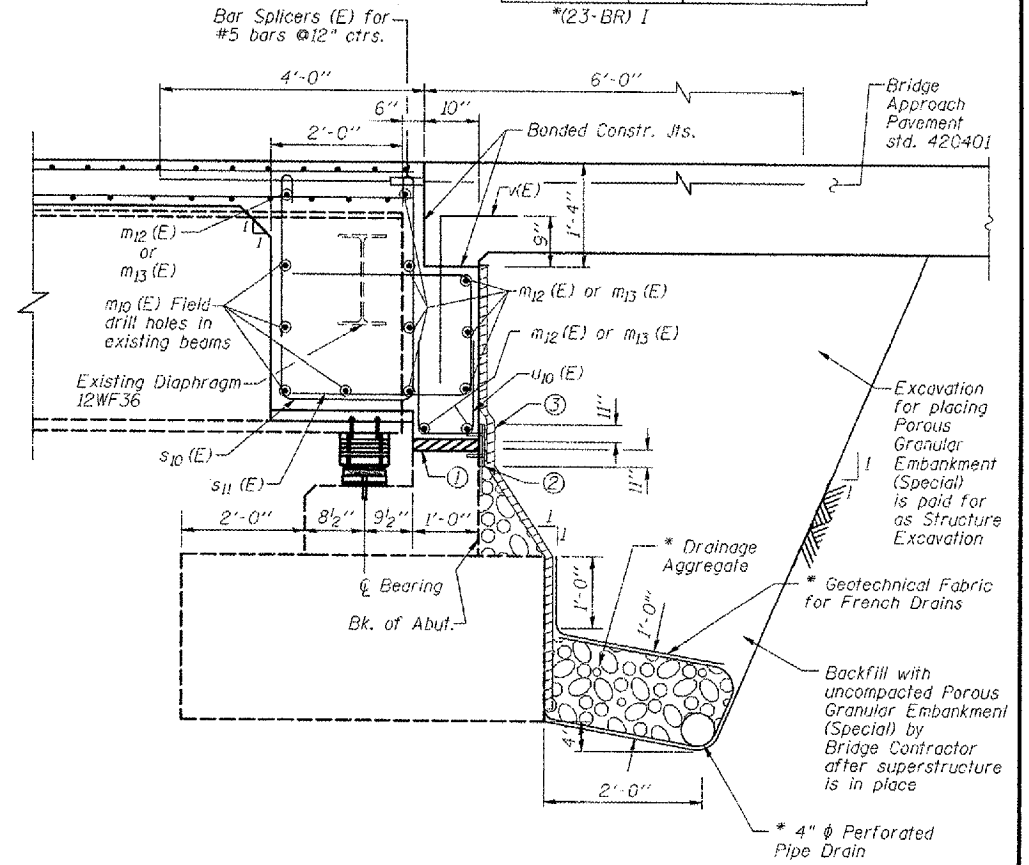
CROSS SECTION
(Looking North)

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	SHEET	DATE	SHEET NO.
220	*	Mercer	50	25	13
F.A.S. 220		SHEETS		SHEETS 23	
FED. AID DIST. NO. 7		SHEETS		SHEETS 23	



ELEVATION



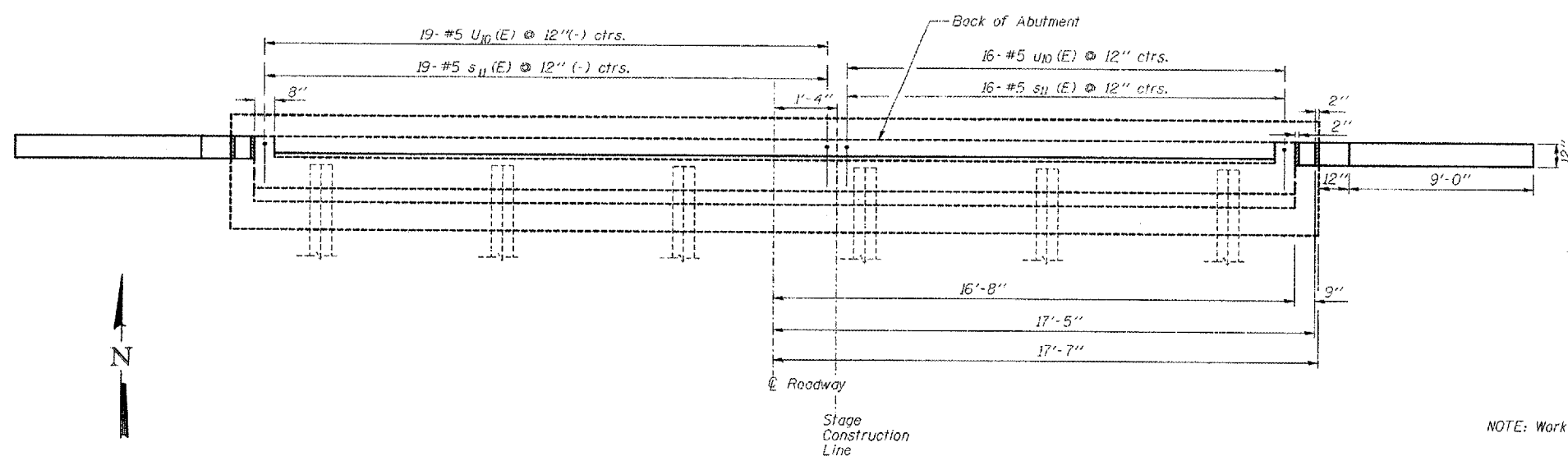
SECTION A-A

- ① 2" Preformed Joint Filler (Section 1051.08 of the Standard Specifications) bonded to abutment cap with approved adhesive (full width of cap).
- ② Fabric Reinforced Elastomeric Mat according to Section 1028 of the Std. Specs. Fabric mat shall be 24" wide and attached full width and vertically at edges to the abutment cap with a 3/8" x 5" steel plate and 1/2" ϕ studs with nuts and washers at 12" cts.
- ③ Geocomposite Wall Drain

Items ① ② ③ shall be included in the cost of Concrete Superstructure

*Included in the cost of Pipe Underdrains for Structures

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



PLAN

North Abutment Shown. South Abutment Symmetrical About Centerline

NOTE: Work Sheets 11, 12, & 13 together.

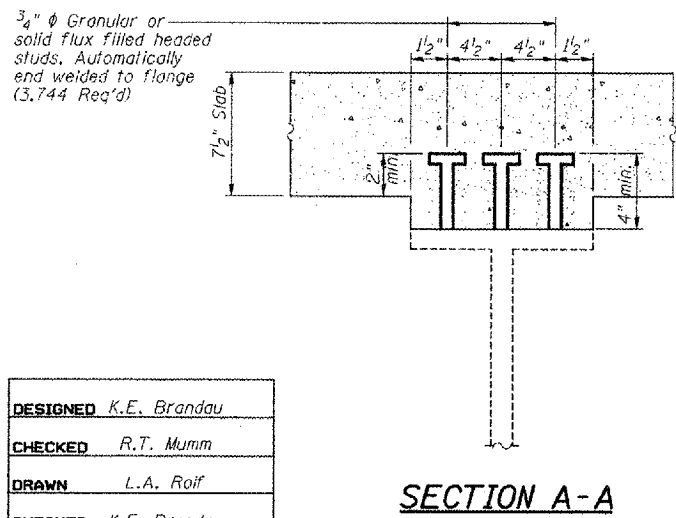
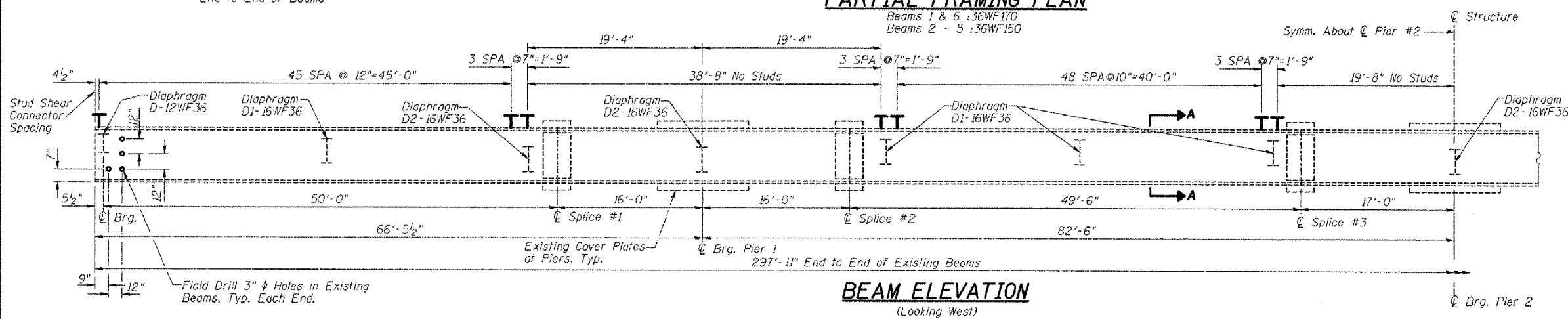
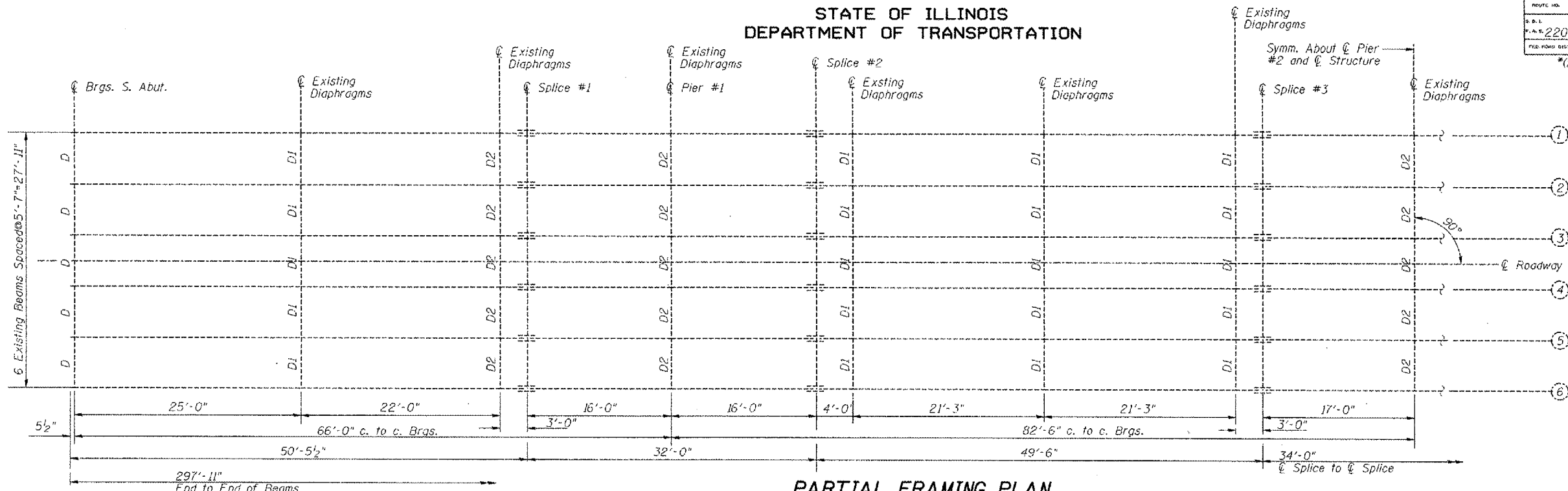
DESIGNED	K.E. Brandau
CHECKED	R.T. Mumm
DRAWN	L.A. Rolf
CHECKED	K.E. Brandau

ABUTMENT DIAPHRAGM DETAILS
F.A.S. ROUTE 220 (IL ROUTE 94)
OVER EDWARDS RIVER
SECTION (23-BR) I
MERCER COUNTY
STRUCTURE NO. 066-0008
STATION 104+73.75

FRAUENHOFFER & ASSOCIATES, P.C.

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	SHEET	PIECE	SHEET NO. 14
F.A.S. 220	*	Mercer	50	26	SHEETS 23
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT	*(23-BR) I		



DESIGNED	K.E. Brandau
CHECKED	R.T. Mumm
DRAWN	L.A. Roif
CHECKED	K.E. Brandau

I-2-B 4-30-99

	0.4 Sp. 1	Pier 1&3	0.5 Sp. 2&3	Pier 2	0.6 Sp. 4
Is (in ⁴)	9012	12314	9012	12314	9012
Ic (n) (in ⁴)	21415		21415		21415
Ic (3n) (in ⁴)	15564		15564		15564
Ss (in ³)	502.9	668.5	502.9	668.5	502.9
Sc (n) (in ³)	705.9		705.9		705.9
Sc (3n) (in ³)	634.0		634.0		634.0
Z (in ³)		762		762	
I _p (K/ft.)	0.720	1.120	0.720	1.120	0.720
M _p (K)	211.9	604.4	193.3	628.1	211.9
s _p (K/ft.)	0.400		0.400		0.400
M _s p (K)	133.5		143.4		133.5
M _l (K)	394.3	278.0	431.2	304.7	394.3
M (Imp) (K)	103.3	69.8	103.9	73.4	103.3
M (M _l +I) (K)	829.3	579.6	891.8	630.2	829.3
M _a (K)	1527.1	1539.2	1597.0	1635.8	1527.1
M _u (K)	2761		2761		2761
f _s non-comp (k.s.i.)	5.1	10.8	4.6	11.3	5.1
f _s p (comp) (k.s.i.)	2.5		2.7		2.5
f _s s ₃ (k.s.i.)	14.1	10.4	15.2	11.3	14.1
f _s (Overload) (k.s.i.)	21.7	21.2	22.5	22.6	21.7
f _s (Total) (k.s.i.)		27.6		29.4	
VR (K)	42.7		45.1		42.7

	S. Abut.	Pier 1&3	Pier 2	N. Abut.
R _p (K)	27.8	92.0	93.0	27.8
R _l (K)	30.7	41.4	43.0	30.7
Imp. (K)	8.0	10.4	10.4	8.0
R (Total) (K)	66.5	143.8	146.4	66.5

Is and Ss are the moment of inertia and section modulus of the steel section used in computing fs (Total & Overload).
Ic and Sc are the moment of inertia and section modulus of the composite section used in computing fs (Total & Overload).
VR is the maximum live Load + Impact shear range in span.
Z is the plastic section modulus used to determine the Fully Plastic Moments in the non-composite areas.
Ma (Applied Moment) = 1.3(M_p + Ms_p + 5/3(M_l + I)).
Mu is the Full Plastic Moment Capacity for Compact, Braced section.
fs (Overload) is the sum of the stresses due to M_p + Ms_p + 5/3(M_l + I).
fs (Total) is the sum of the stresses due to 1.3(M_p + Ms_p + 5/3(M_l + I)).

STRUCTURAL STEEL DETAILS
F.A.S. ROUTE 220 (IL ROUTE 94)
OVER EDWARDS RIVER
SECTION (23-BR) I
MERCER COUNTY
STRUCTURE NO. 066-0008
STATION 104+73.75

FRAUENHOFFER & ASSOCIATES, P.C.

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET
220	#	Mercer	48	28
FED. ROAD DIST. NO. 7	SUBLINE	FED. AID PROJECT		

SHEET NO. 16
SHEETS 22

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

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

MATERIALS FOR ILLINOIS COIL-LOCK
ANCHOR BOLT

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

GENERAL NOTES

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

INSTALLATION PROCEDURE for the ILLINOIS
COIL-LOCK ANCHOR BOLT

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

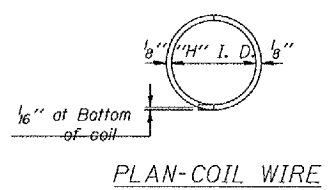
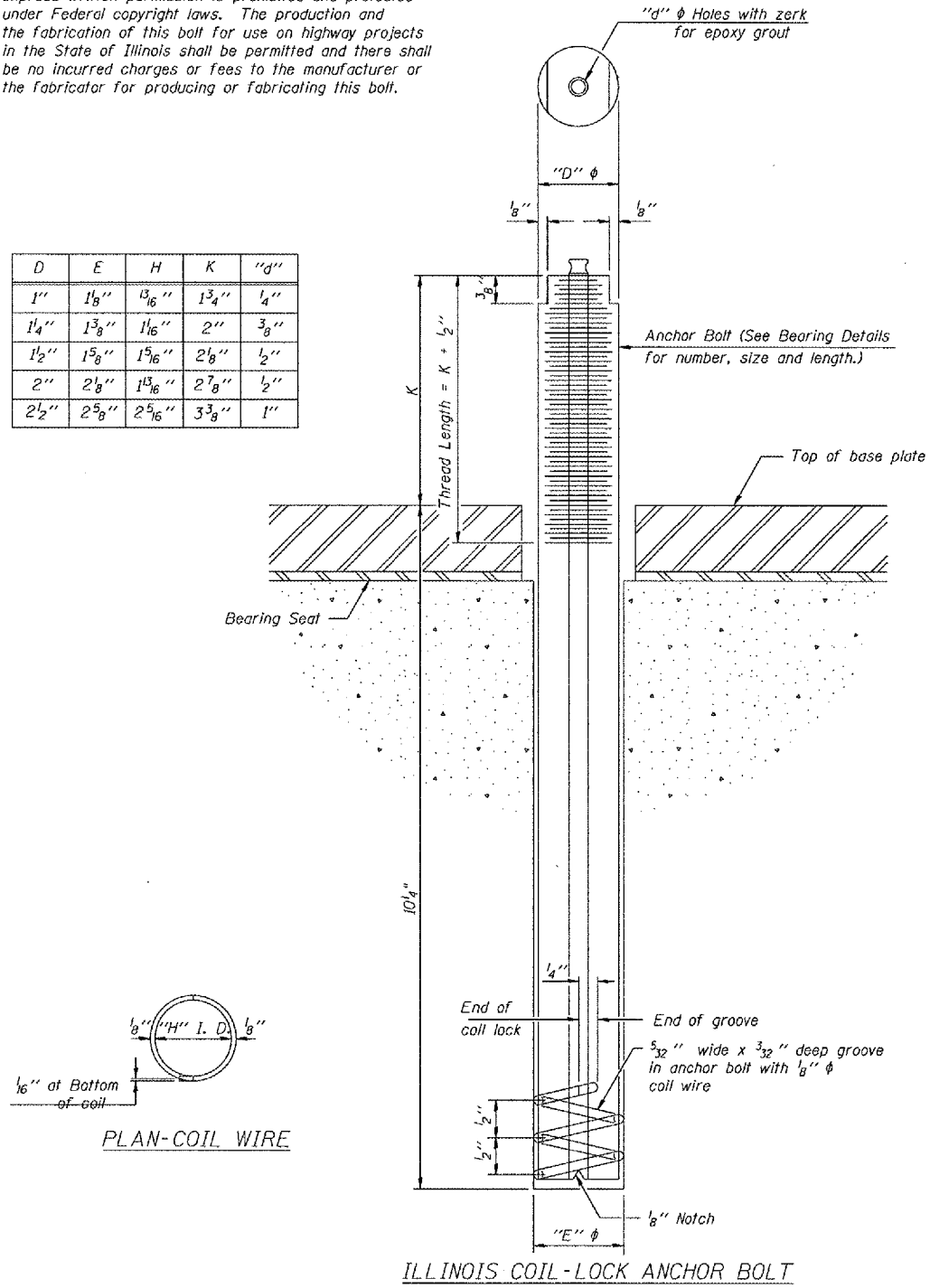
ALTERNATE ANCHOR BOLTS

The Contractor may use, at his option, the capsule or the adhesive cartridge type anchor rods that have been previously tested and given a prior approval by the Department. The Contractor shall install these anchor rods in pre-drilled holes according to the manufacturer's recommendations and procedures.
The capsule or the adhesive cartridge type anchor rods shall be a two part system composed of:
1. A threaded rod stud with nut and washer of the type specified.
2. A sealed glass capsule or a sealed glass adhesive cartridge containing premeasured amounts of the adhesive chemical.

Location	Type
N Abut	A307
S Abut	A307

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

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



DESIGNED	K.E. Brandau
CHECKED	R.T. Mumm
DRAWN	L. A. Rolf
CHECKED	K.E. Brandau

ABB-1 10-22-04

ANCHOR BOLT DETAILS
FOR ABUTMENTS
F.A.S. ROUTE 220 (IL ROUTE 94)
OVER EDWARDS RIVER
SECTION (23-BR) I
MERCER COUNTY
STRUCTURE NO. 066-0008
STATION 104+73.75

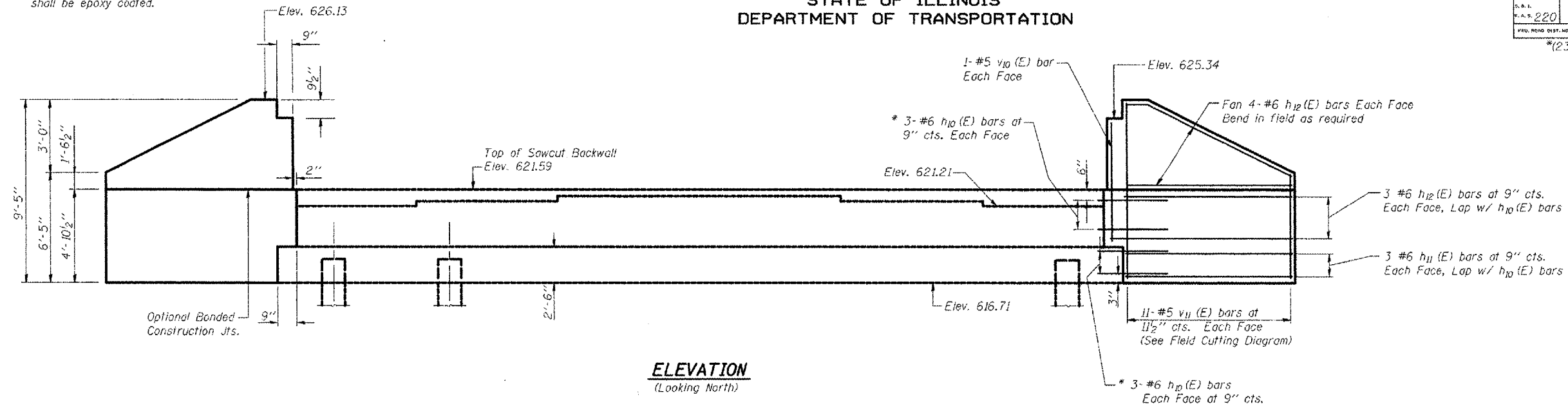
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Notes: Reinforcement bars designated (E) shall be epoxy coated.

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

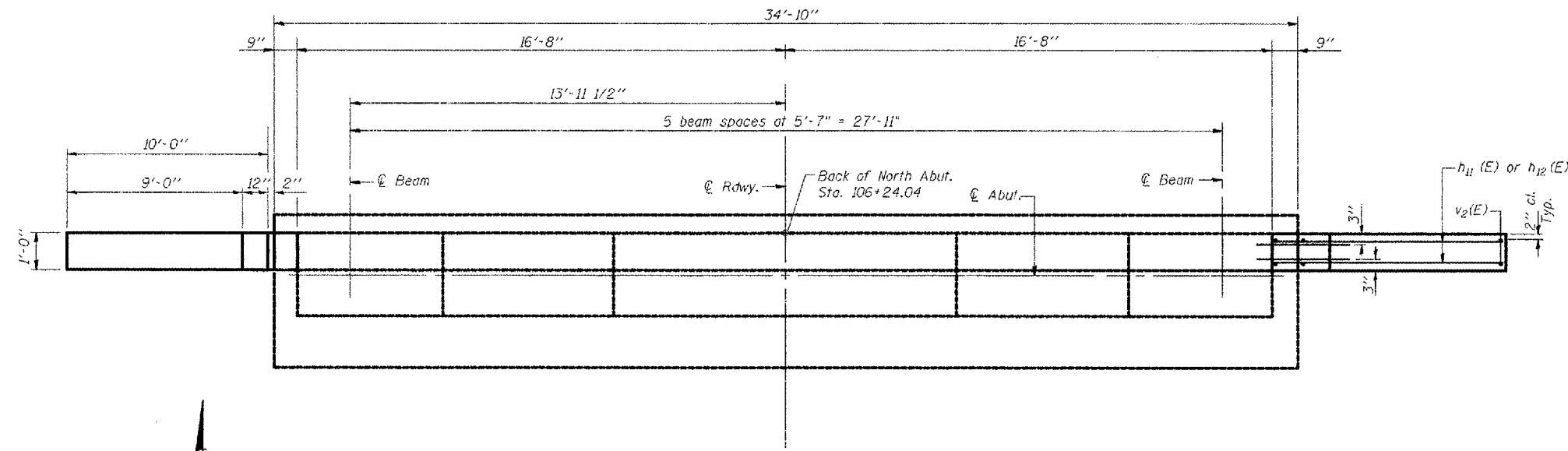
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	SHEET NO.
220	*	Mercer	50	30	23
FED. ROAD DIST. NO. 7		ALLIANCE	FED. AID PROJECT		

*(23-BR) I

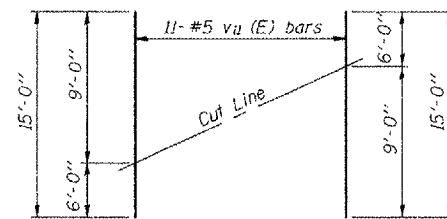


ELEVATION
(Looking North)

* Epoxy grout in 1"φ x 9" (min) drilled holes according to I.D.O.T. Standard Spec. Section 584. Cost is included with Reinforcement Bars Epoxy Coated



PLAN



FIELD CUTTING DIAGRAM

Order v11 (E) full length. Cut as shown and use remainder of bars in opposite face.

BILL OF MATERIAL

Bar	No.	Size	Length	Shape
h10 (E)	24	#6	3'-9"	—
h11 (E)	12	#6	9'-8"	—
h12 (E)	28	#6	10'-5"	—
v10 (E)	4	#5	5'-0"	—
v11 (E)	22	#5	15'-0"	—
Concrete Structures			Cu. Yd.	6.4
Reinforcement Bars, Epoxy Coated			Pound	1110
Structure Excavation			Cu. Yd.	206

NORTH ABUTMENT
F.A.S. ROUTE 220 (IL ROUTE 94)
OVER EDWARDS RIVER
SECTION (23-BR) I
MERCER COUNTY
STRUCTURE NO. 066-0008
STATION 104+73.75

DESIGNED	K.E. Brandau
CHECKED	R.T. Mumm
DRAWN	L.A. Rolf
CHECKED	K.E. Brandau

AI-0 4-30-99

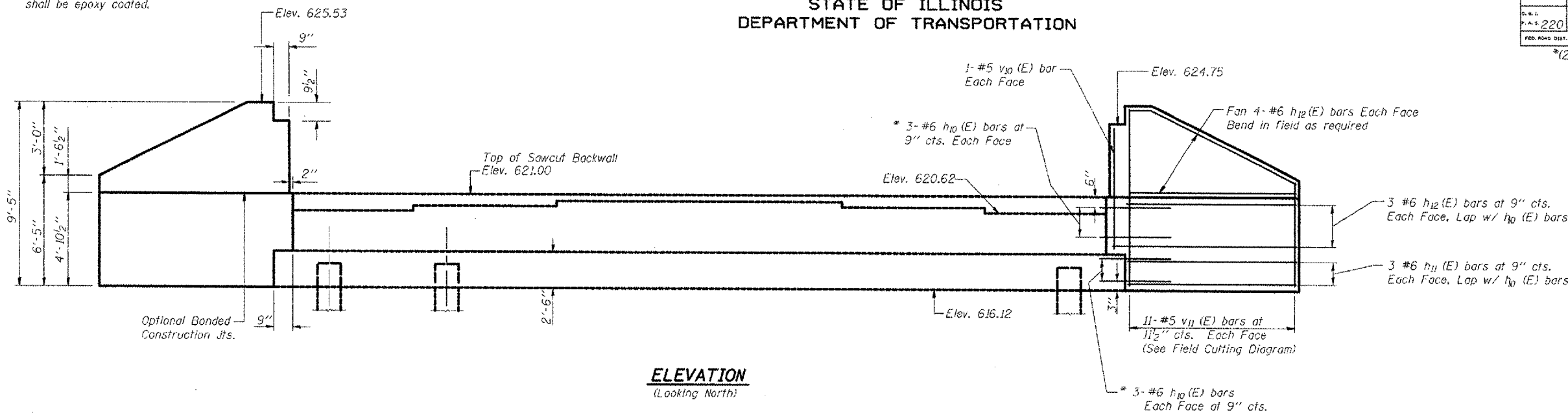
FRAUENHOFFER & ASSOCIATES, P.C.

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
220	*	Mercer	50	31
F.A.S. 220		SHEETS 23		
FED. ROAD DIST. NO. 7		ILLINOIS FED. AID PROJECT		

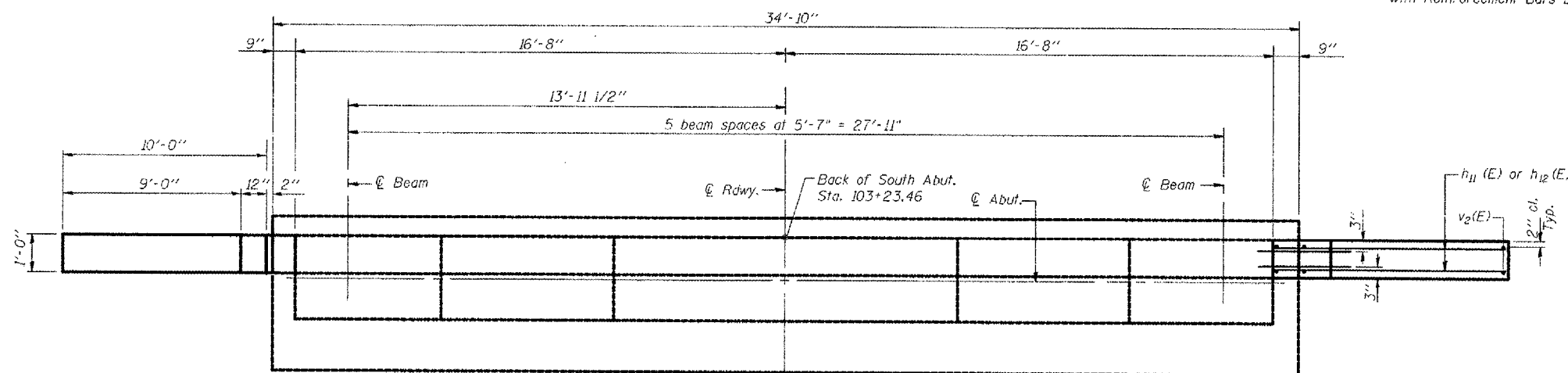
*(23-BR) I

Notes: Reinforcement bars designated (E) shall be epoxy coated.

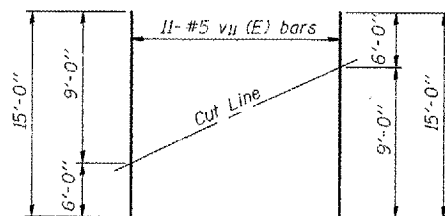
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



ELEVATION
(Looking North)



PLAN



FIELD CUTTING DIAGRAM

Order v11 (E) full length. Cut as shown and use remainder of bars in opposite face.

BILL OF MATERIAL

Bar	No.	Size	Length	Shape
h10 (E)	24	#6	3'-9"	—
h11 (E)	12	#6	9'-8"	—
h12 (E)	28	#6	10'-5"	—
v10 (E)	4	#5	5'-0"	—
v11 (E)	22	#5	15'-0"	—
Concrete Structures		Cu. Yd.	6.4	
Reinforcement Bars, Epoxy Coated		Pound	1110	
Structure Excavation		Cu. Yd.	206	

SOUTH ABUTMENT
F.A.S. ROUTE 220 (IL ROUTE 94)
OVER EDWARDS RIVER
SECTION (23-BR) I
MERCER COUNTY
STRUCTURE NO. 066-0008
STATION 104+73.75

DESIGNED	K.E. Brandau
CHECKED	R.T. Mumm
DRAWN	L.A. Rolf
CHECKED	K.E. Brandau
AI-0	4-30-99

FRAUENHOFFER & ASSOCIATES, P.C.

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	SHEET NO.	SHEET TOTAL
F.A.P. 220	*	Mercer	50	32
FED. ROAD DIST. NO. 7		ILLINOIS	FED. AID PROJECT NO.	
*(23-BR) I		**_F-220()		

SHEET NO. 20
SHEETS 23

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

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

ROLLED THREAD DOWEL BAR



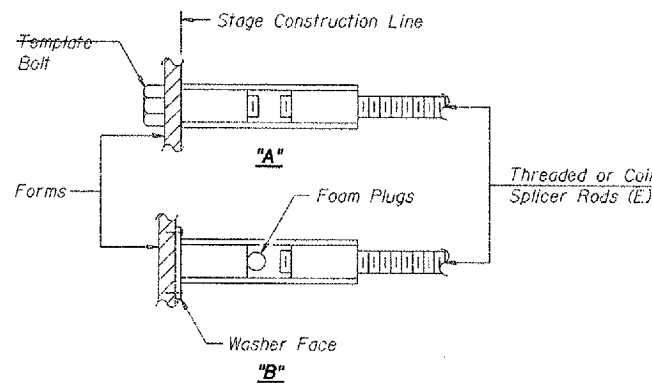
**** ONE PIECE**



WELDED SECTIONS

BAR SPLICER ASSEMBLY ALTERNATIVES

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



INSTALLATION AND SETTING METHODS

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

NOTES

Bar splicer assemblies shall be of an approved type and shall develop in tension at least 125 percent of the yield strength of the lapped reinforcement bars.
Splicer rods shall be of minimum 60 ksi yield strength, threaded or coiled full length.
All reinforcement bars shall be lapped and tied to the splicer rods or dowel bars.
Bar splicer assemblies shall be epoxy coated according to the requirements for reinforcement bars.

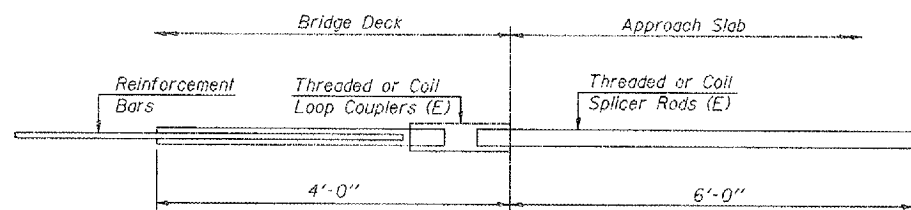
Other systems of similar design may be submitted to the Engineer for approval. Approval shall be based on certified test results from an approved testing laboratory that the proposed bar splicer assembly satisfies the following requirements:

- Minimum Capacity (Tension in kips) = $1.25 \times f_y \times A_t$
- 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

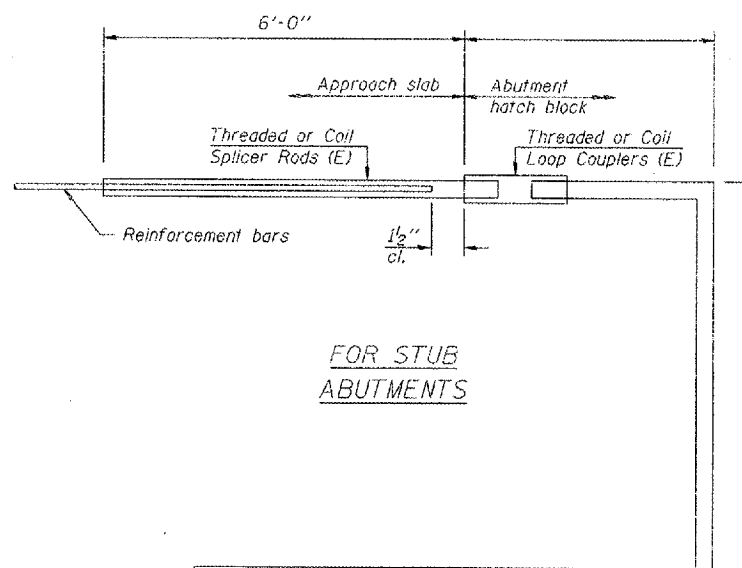
BAR SPLICER ASSEMBLIES

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



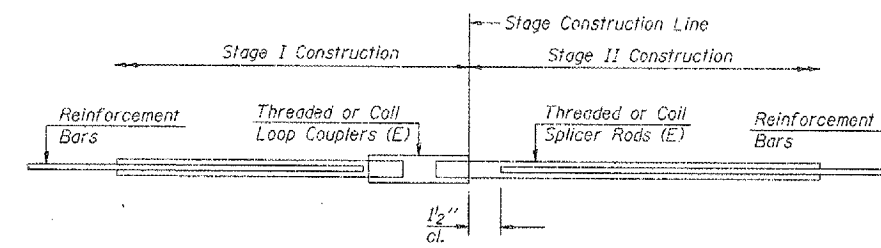
FOR INTEGRAL OR SEMI-INTEGRAL ABUTMENTS

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



FOR STUB ABUTMENTS

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



STANDARD

Bar Size	No. Assemblies Required	Location

BAR SPLICER ASSEMBLY DETAILS
F.A.P. ROUTE 220 (US ROUTE 94)
OVER EDWARDS RIVER
SECTION (23-BR) I
MERCER COUNTY
STRUCTURE NO. 066-0008
STATION 104+73.75

DESIGNED	K.E. Brandau
CHECKED	R. T. Mumm
DRAWN	L.A. Rolf
CHECKED	K.E. Brandau

BSD-1

11-1-06

FRAUENHOFFER & ASSOCIATES, P.C.

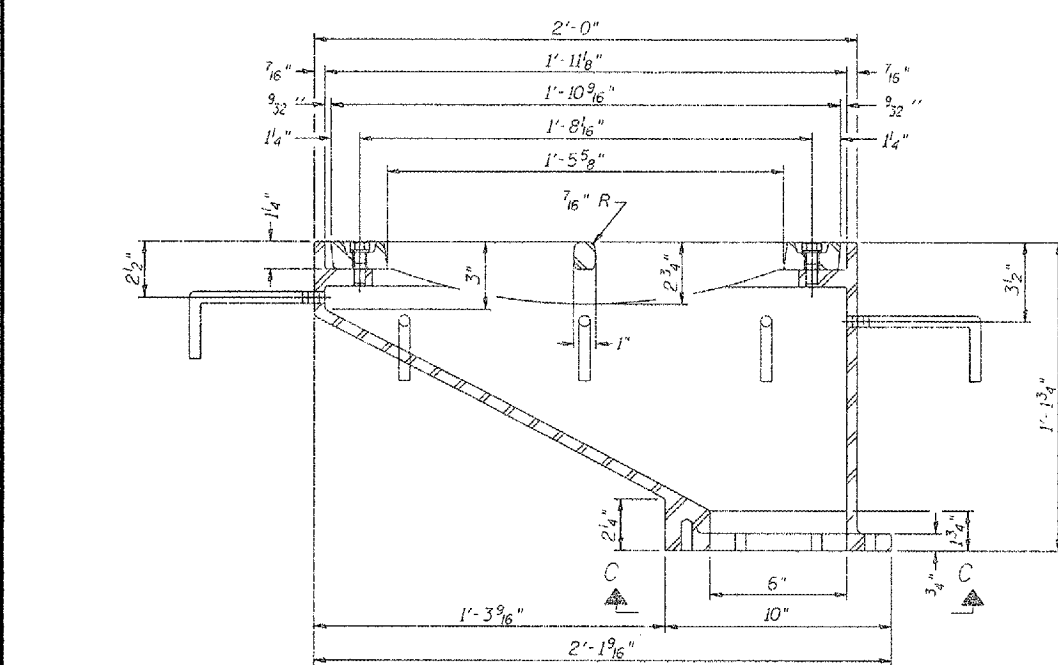
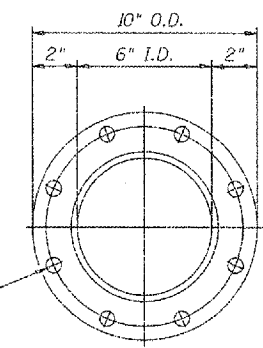
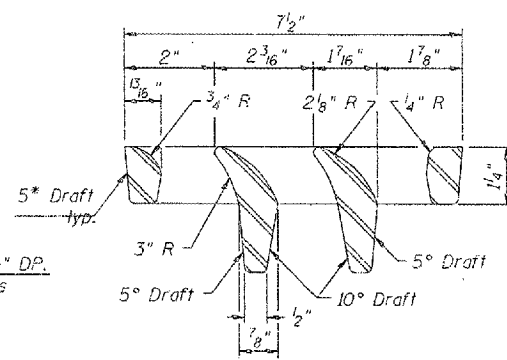
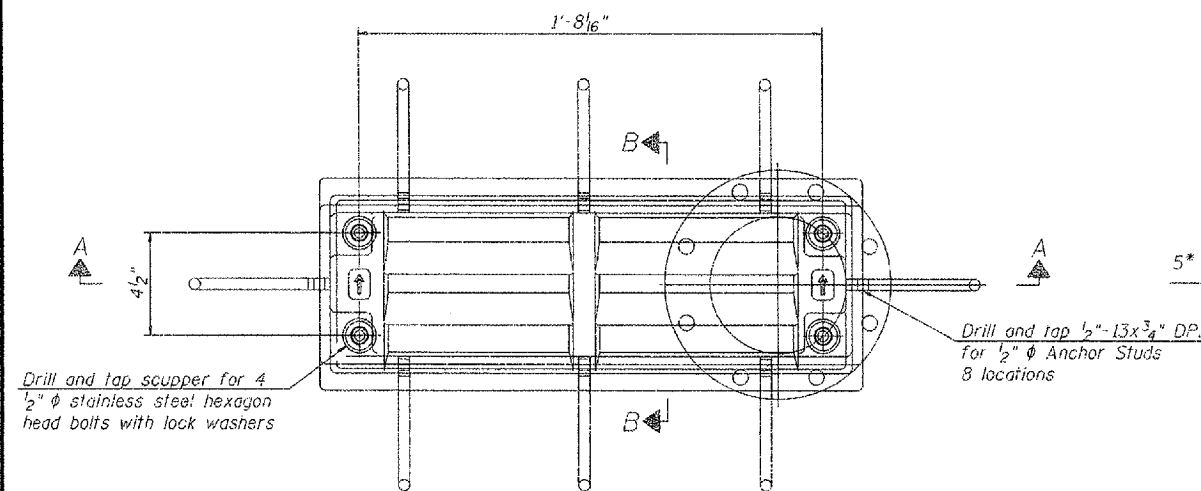
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	SHEETS	SHEET	SHEET NO. 23
U.S. 220	*	Mercer	50	35	SHEETS 23
FED. ROAD DIST. NO. 7	ILL. HIGH.	FED. AID PROJECT			

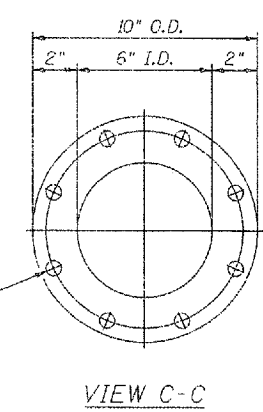
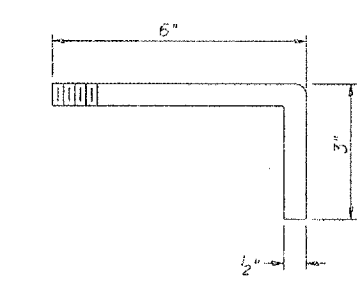
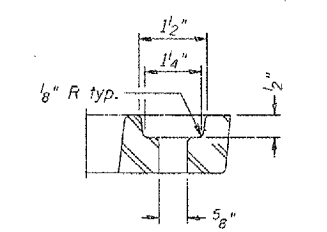
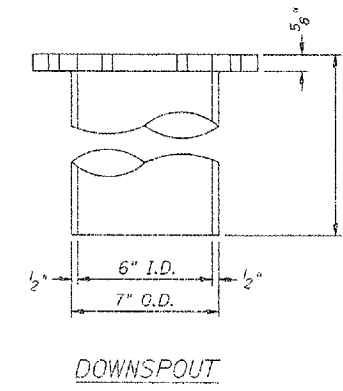
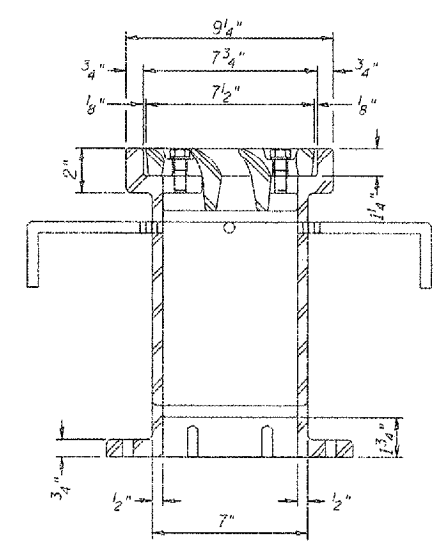
*(23-BR) I

Notes:

- All cast iron parts shall be gray iron conforming to the requirements of AASHTO M 105, Class 35B.
- Bolts, anchor studs, washers and nuts shall conform to the requirements of ASTM A 307 and shall be galvanized according to AASHTO M 232.
- Downspouts located on the exterior side of a painted steel fascia beam shall be painted with the finish coat specified for the exterior side of the fascia beam.
- As an alternate, bolts, anchor studs, washers and nuts may be stainless steel according to Article 1006.29*d* of the Standard Specifications.
- Structural steel weldments of equal sections and of the same configuration may be substituted for the cast iron scupper frame. Fillet or full penetration welds shall be used for the weldments. Details shall be submitted to the Engineer for approval. Structural steel weldments shall not be substituted for the cast iron scupper grate. Structural steel frames and downspouts shall be galvanized according to AASHTO M111.
- The Contractor shall take appropriate measures to assure that Protective Coat is not applied to the scupper.
- Cost of the Grate, Frame, Downspout, Anchor Studs, Bolts, Washers and Nuts including complete installation of the scupper shall be paid for at the contract unit price each for Drainage Scupper, DS-12.
- Alternate fiberglass downspout conforming to ASTM D 2996 with a short-time rupture strength hoop tensile stress of 30,000 psi min. may be used in lieu of the cast iron or steel equivalent.



See sheet of for scupper location relative to parapet.



Drill and tap 8 holes for 1/2"-13 bolts on an 8 3/4" φ bolt circle. (2 blind holes are 1/4" deep, 6 thru holes)

BILL OF MATERIAL

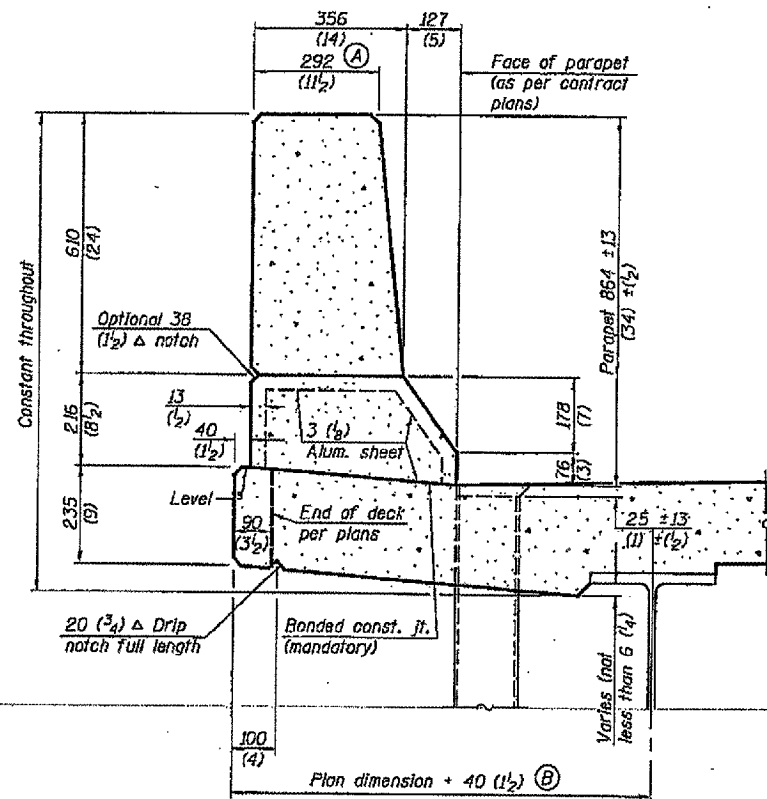
ITEM	UNIT	QUANTITY
Drainage Scupper, DS-12	Each	6

DRAINAGE SCUPPER, DS-12

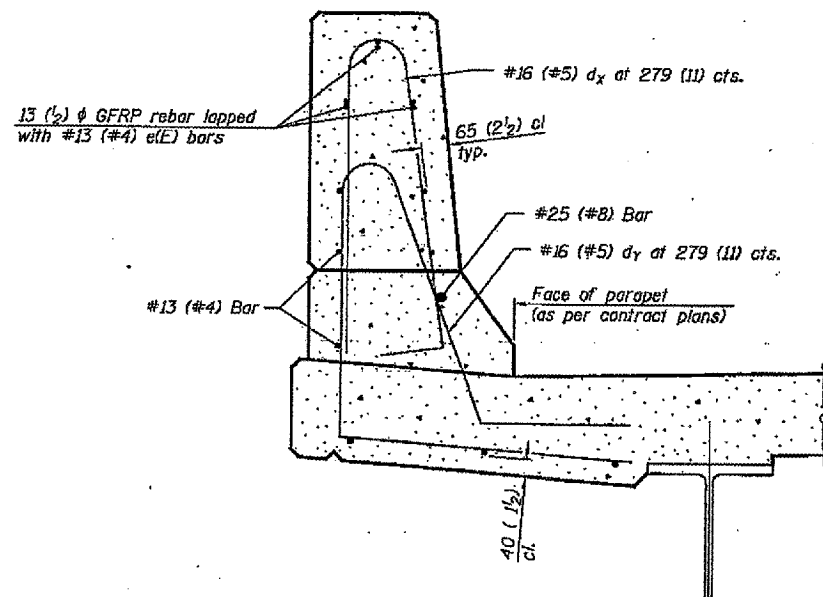
DESIGNED
CHECKED
DRAWN
CHECKED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

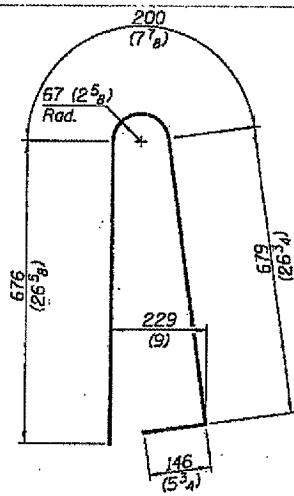
ROUTE NO.	SECTION	EMPHY	DATE	SHEET NO.	SHEET NO.
220	*	Mercer	50	35A	
Contract # 68085 * (23-6R)J					



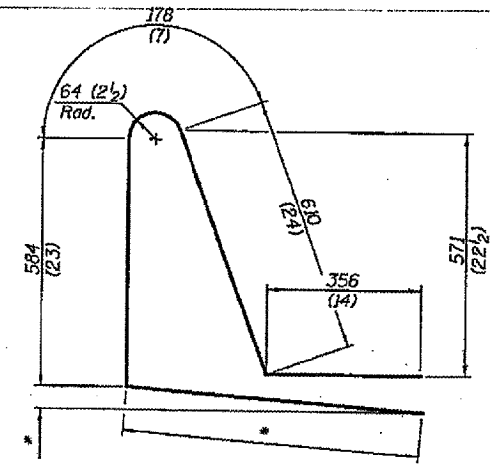
SECTION
(Showing dimensions)



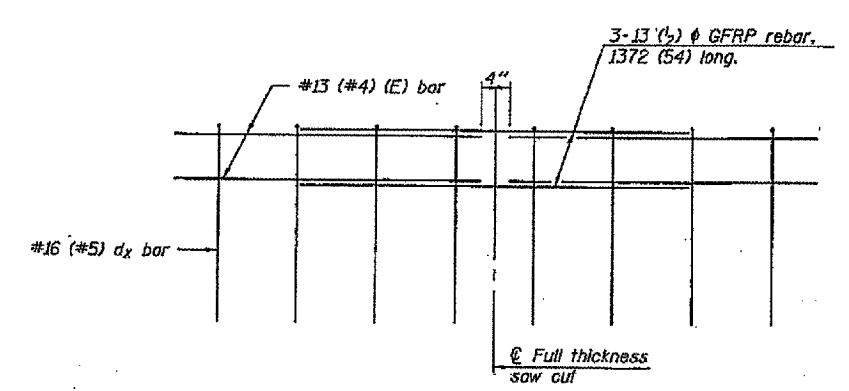
SECTION
(Showing required reinforcement)



BAR dx(e)



BAR dy(e)
* Per contract plans



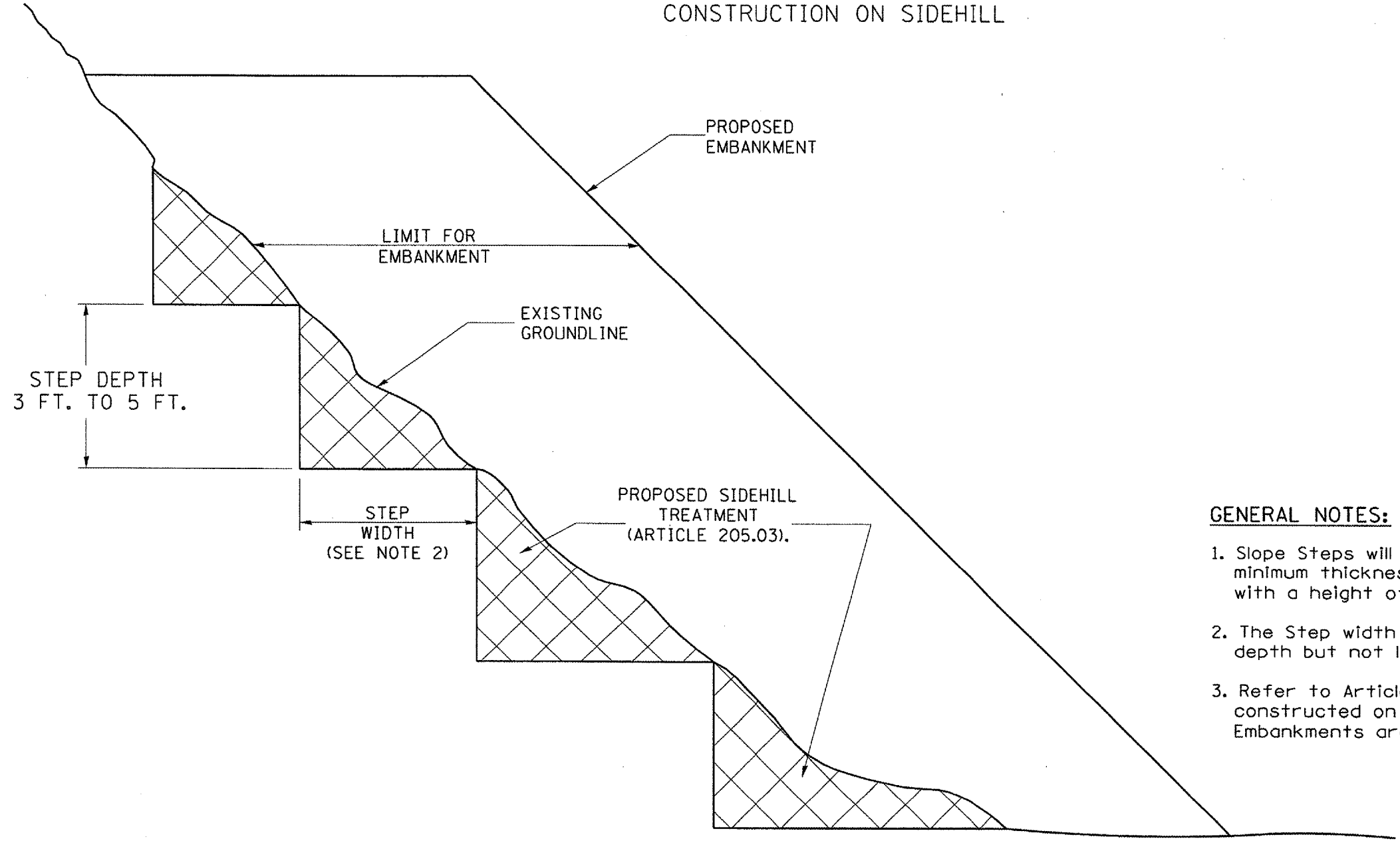
GFRP REBAR STIFFENING DETAIL
(Place as shown in parapet section)

GENERAL NOTES
All dimensions shall remain the same as shown on contract plans, except dimensions A and B which are to be revised as shown to provide additional clearance. Additional concrete needed to revise dimension A and B= 0.0422 m³/m (0.165 cu. yds./ft.) of parapet. Place aluminum sheet in curb portion of and near piers. Full thickness saw cut at all other locations. Adjust/add joint locations to maintain 3 to 6 meter (10 to 20 foot) spacing.

**CONCRETE PARAPET
SLIPFORMING OPTION**

F.A.S. RYE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
220	(23-BR) I	Mercer	50	36
STA. 99+71		TO STA. 109+76		
FED. ROAD DIST. NO. 7 ILLINOIS FED. AID PROJECT				

SLOPE STEPS DETAIL
TYPICAL CROSS-SECTION EMBANKMENT CONSTRUCTION ON SIDEHILL

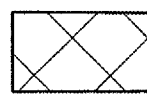


GENERAL NOTES:

1. Slope Steps will be required for all 300(12) minimum thickness "silver fills" and on a fills with a height of 3.0m(10').
2. The Step width shall be twice the Step depth but not less than 6 feet.
3. Refer to Article 205.03 for Embankment to be constructed on Hillside or Slopes, or if existing Embankments are to be widened.

DESIGNER NOTE:
1. EACH PROJECT SHOULD BE REVIEWED INDEPENDENTLY FOR TREATMENT REQUIRED.
2. REFER TO THIS DETAIL WITH NOTE ON APPLICABLE TYPICAL SECTIONS.

REPLACEMENT MATERIAL:



STANDARD EMBANKMENT
(IN ACCORDANCE WITH
205 OF THE STANDARD SPECIFICATION).

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

ILLINOIS DEPARTMENT OF TRANSPORTATION
DISTRICT CADD STANDARD

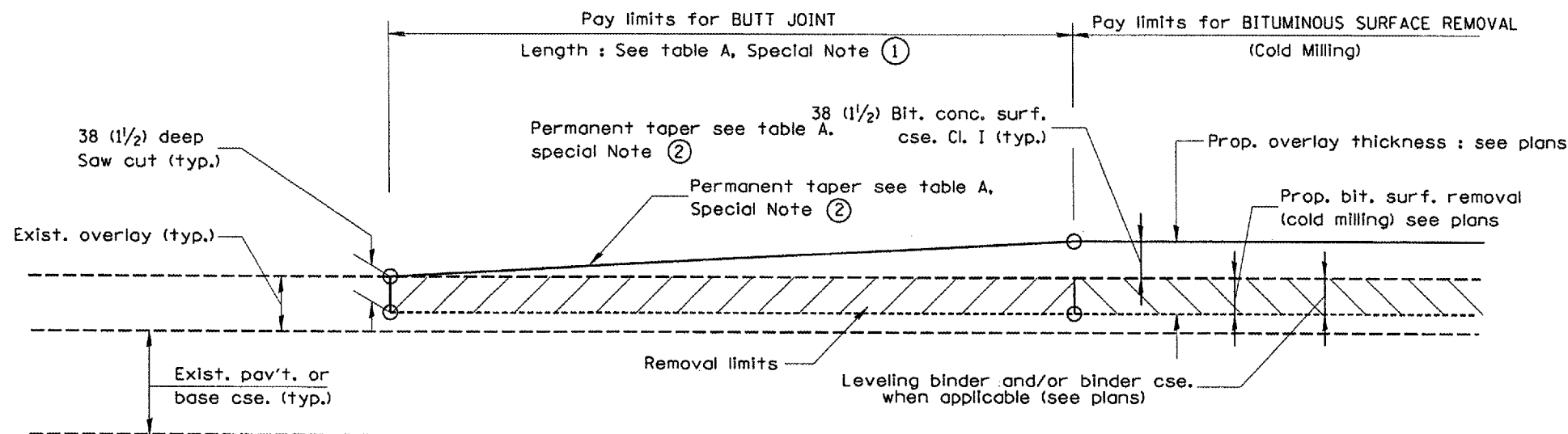
**SLOPE STEPS
DETAIL**

DATE	REVISIONS	BY
1-1-97	RENUM. L-5.03, NEW REVISION BOX, REVISED TITLE BOX, REVISED GENERAL NOTES.	T.P.

CADD STD. NO. 205001-D4
SCALE: NOT DRAWN TO SCALE
DATE JAN 2003
DRAWN BY CADD
CHECKED BY

205001-D4

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
220	(23-BR) I	Mercer	50	37
STA. 99+71		TO STA. 109+76		
FED. ROAD DIST. NO. 7		ILLINOIS FED. AID PROJECT		



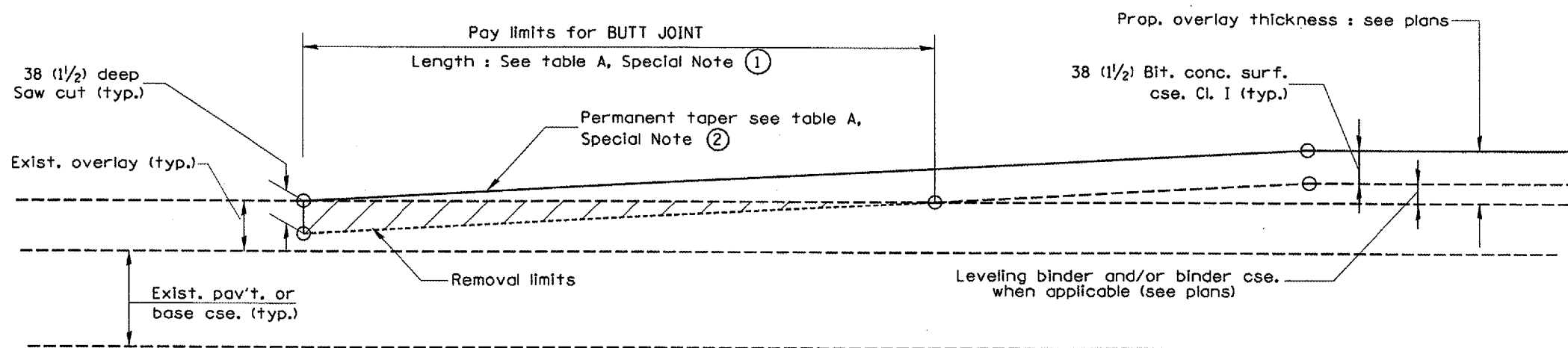
CASE 1 : WITH BITUMINOUS SURFACE REMOVAL (COLD MILLING)

TABLE A
(LENGTHS AND TAPER RATES)

SPECIAL NOTE NUMBER	ELEMENT	MAINLINE INTERSTATES & 4-LANE EXPRESSWAYS	ALL OTHERS
①	LENGTH OF BUTT JOINT	18.0 m(60')	9.0 m(30')
②	PERMANENT TAPER RATE	1:480	1:240
③	TEMPORARY RAMP TAPER RATE	1:80	1:40
④	TEMPORARY RAMP LENGTH	3.0 m(10')	1.5 m(5')

GENERAL NOTES

1. The work shall be done in accordance with Article 406.18 and the Special Provision for Butt Joints.
2. The pavement surface to be removed may be either bituminous or P.C. concrete. The work shall be performed in accordance with Article 440.03 and the Special Provisions for Butt Joints.
3. The saw cut joints shall be primed just prior to the placing of bituminous material. The work will be in accordance with the applicable portions of Article 406.06.



CASE 2 : NO BITUMINOUS SURFACE REMOVAL (COLD MILLING)

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

ILLINOIS DEPARTMENT OF TRANSPORTATION
DISTRICT CADD STANDARD

BUTT JOINTS

CADD STD NO. 406101-D4 SHEET 1 OF 2
SCALE: NOT DRAWN TO SCALE DRAWN BY CADD
DATE JAN 2003 CHECKED BY

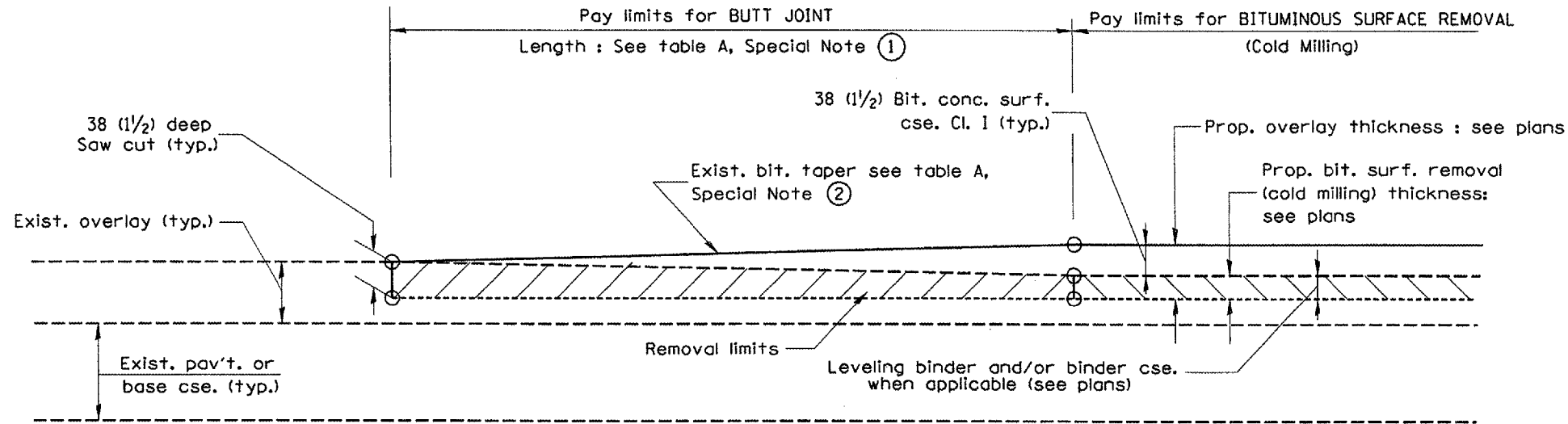
DATE	REVISIONS	BY
1-1-97	RENUM. C-23.01. NEW REVISION BOX	T.P.
4-1-97	CORRECTION TO DEPTH	J.A.

406101-D4 (1)

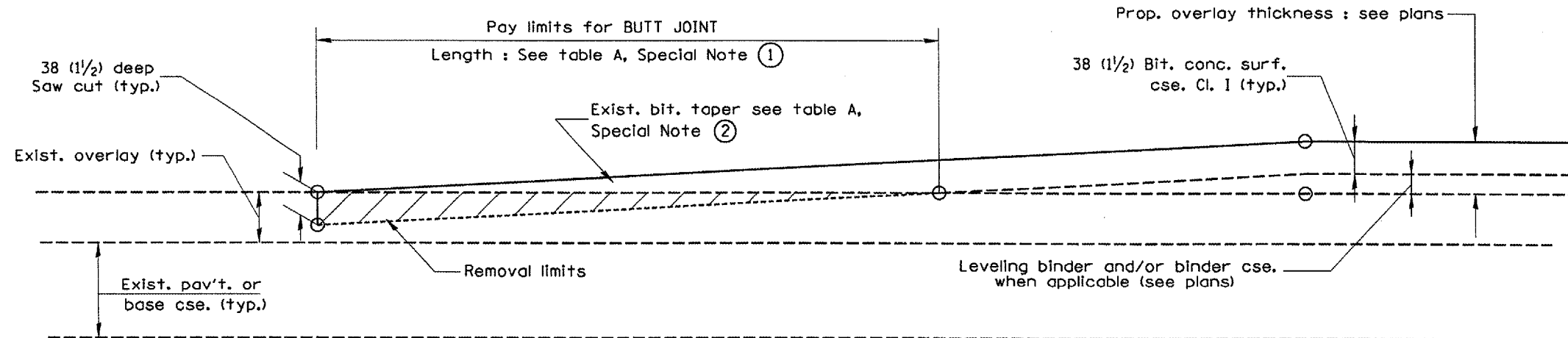
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DGN-ONLY

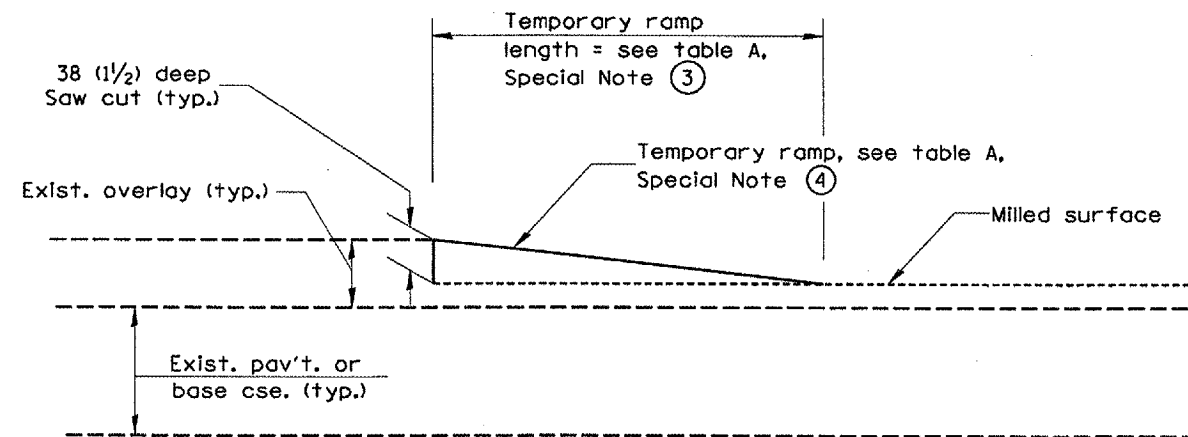
F.A.S. RT#	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
220	(23-BR) I	Mercer	50	38
STA. 99+71		TO STA. 109+76		
FED. ROAD DIST. NO. 7 ILLINOIS FED. AID PROJECT				



**CASE 3 : WITH BITUMINOUS SURFACE REMOVAL (COLD MILLING)
TIE-IN TO EXISTING BITUMINOUS TAPER**



**CASE 4 : NO BITUMINOUS SURFACE REMOVAL (COLD MILLING)
TIE-IN TO EXISTING BITUMINOUS TAPER**



DETAIL TEMPORARY RAMP

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

ILLINOIS DEPARTMENT OF TRANSPORTATION
DISTRICT CADD STANDARD

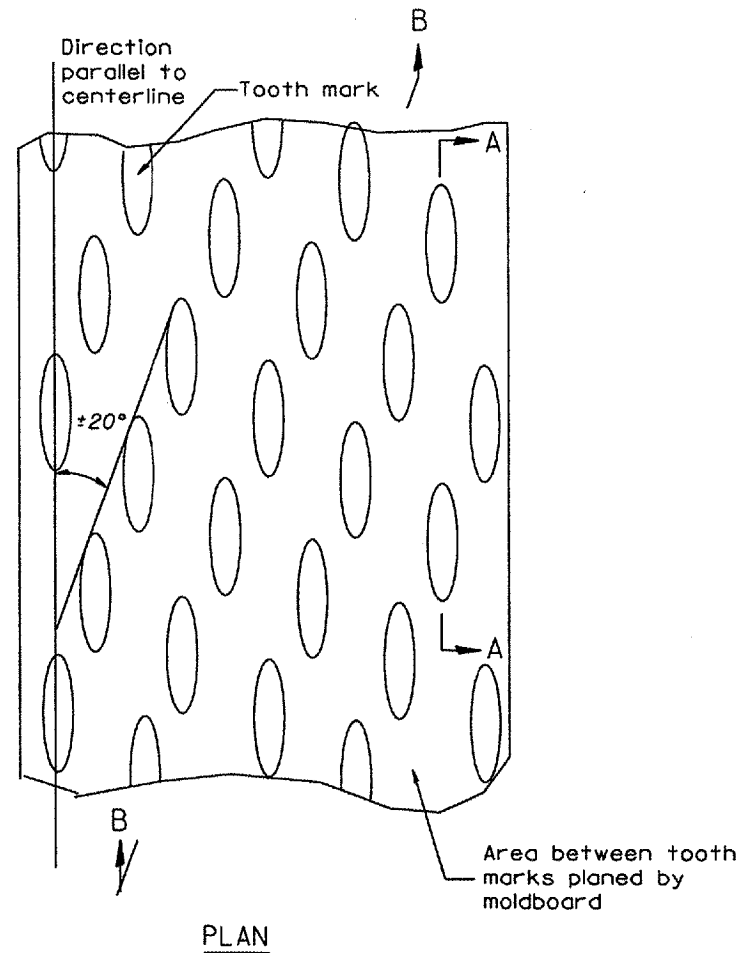
BUTT JOINTS

CADD STD NO. 406101-D4 SHEET 2 OF 2
SCALE: NOT DRAWN TO SCALE DRAWN BY CADD
DATE JAN 2003 CHECKED BY

406101-D4 (2)

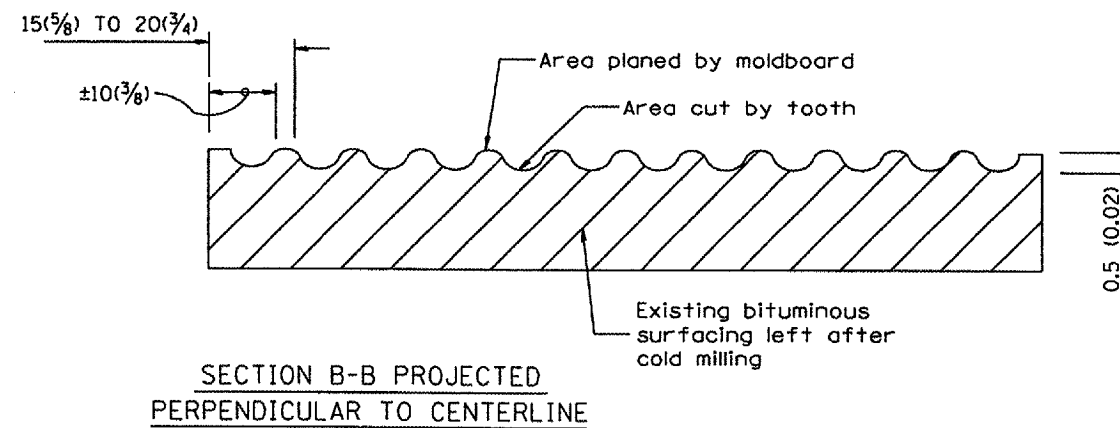
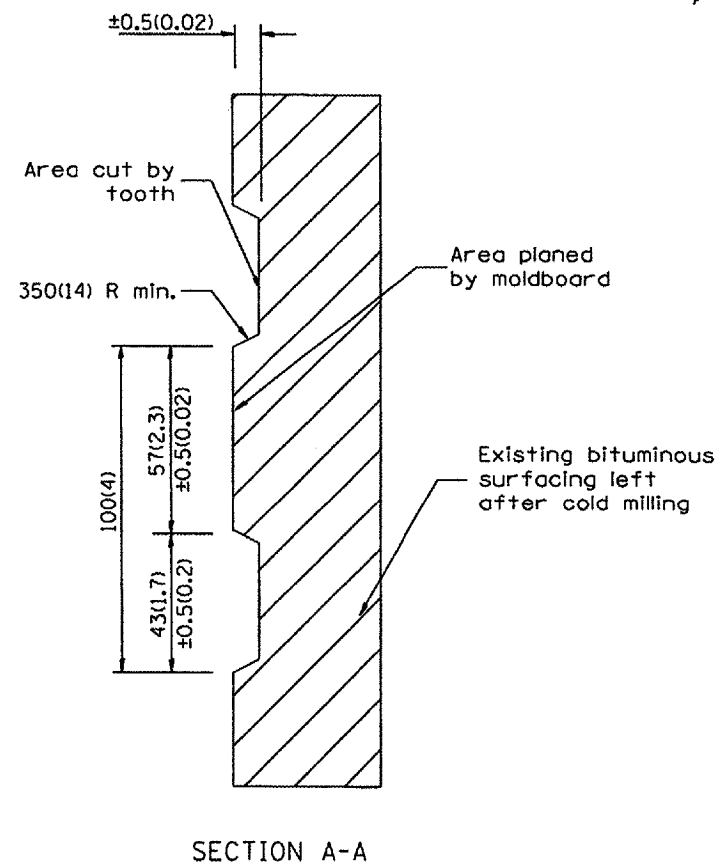
\$\$\$DATE\$\$\$

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
220	(23-BR) I	Mercer	50	39
STA. 99+71		TO STA. 109+76		
FED. ROAD DIST. NO. 7 ILLINOIS FED. AID PROJECT				



General notes:

1. Coldmilling shall consist of two processes: Cutting with carbide teeth mounted on a rotating drum, and planing with a moldboard mounted immediately behind the cutting drum.
2. Other similar patterns will be acceptable if they consist of a smooth, flat, planed surface interspersed with a pattern of discontinuous longitudinal striations.



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

ILLINOIS DEPARTMENT OF TRANSPORTATION
DISTRICT CADD STANDARD

BITUMINOUS SURFACE REMOVAL
(COLD MILLING)

CADD STD NO. 440001-D4

SCALE: NOT DRAWN TO SCALE

DRAWN BY CADD

DATE JAN 2003

CHECKED BY

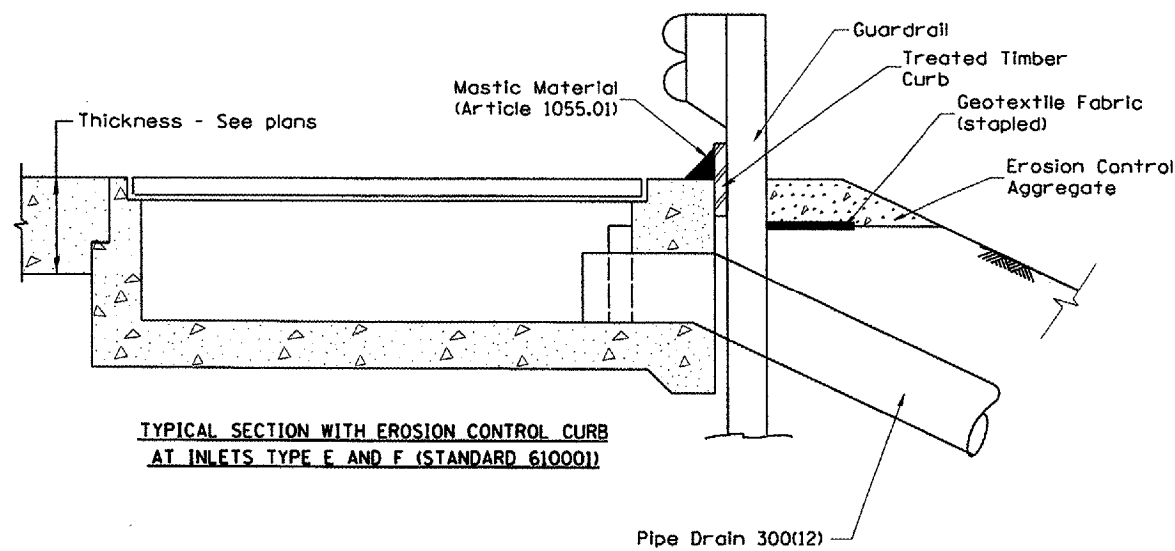
DATE	REVISIONS	BY
1-1-97	RENUM. C-104.01, NEW REVISION BOX	T. P.
4-20-98	REMOVED MILLING DETAIL FROM STD.	J.
9-08-98	CORRECT NOTE LEADER PLACEMENT	R. W.

DATE

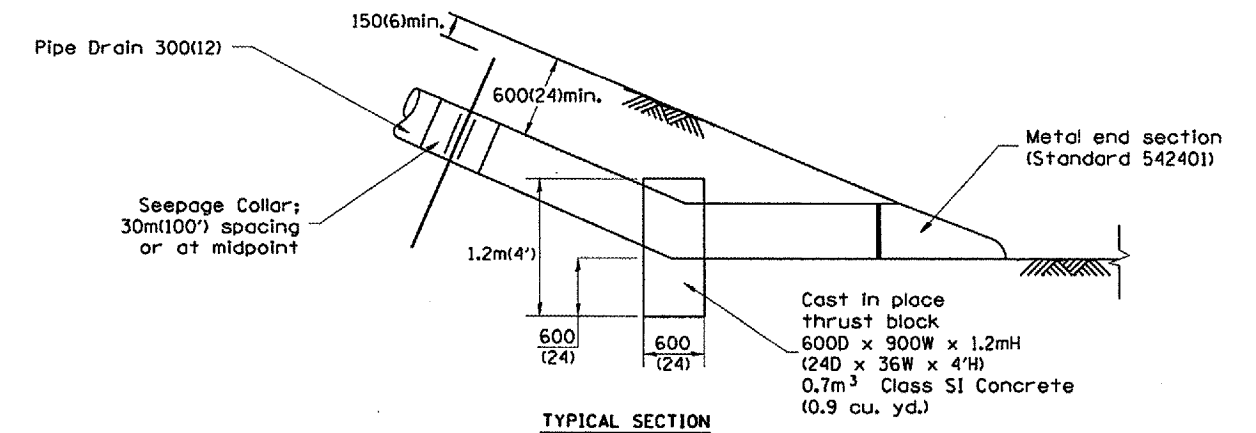
DGN-ONLY

440001-D4

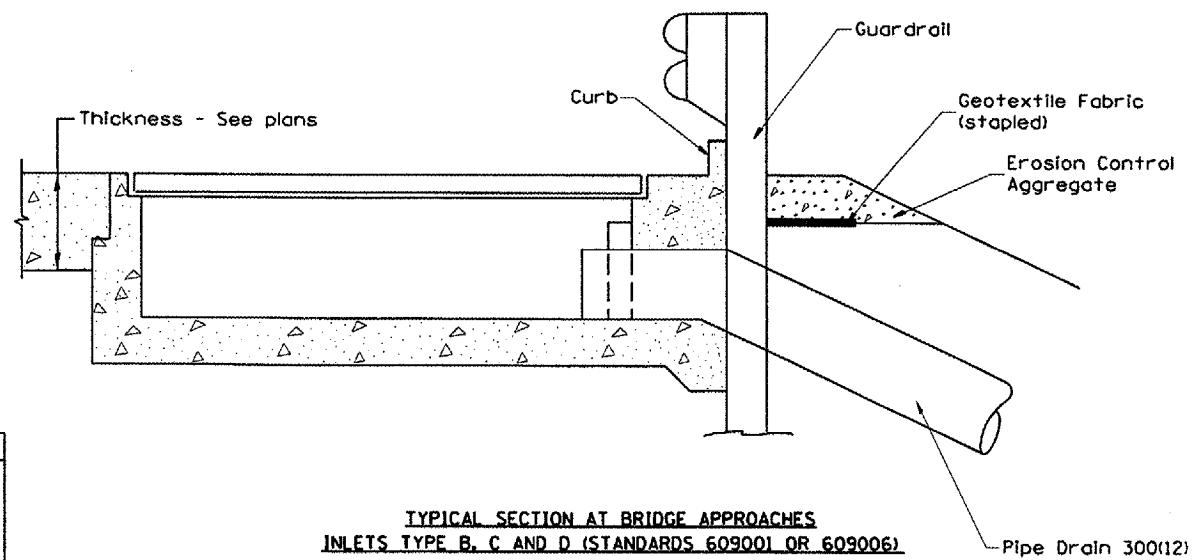
F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
220	(23-BR) I	Mercer	50	40
STA. 99+71		TO STA. 109+76		
FED. ROAD DIST. NO. 7 ILLINOIS FED. AID PROJECT				



TYPICAL SECTION WITH EROSION CONTROL CURB AT INLETS TYPE E AND F (STANDARD 610001)



TYPICAL SECTION



TYPICAL SECTION AT BRIDGE APPROACHES INLETS TYPE B, C AND D (STANDARDS 609001 OR 609006)

GENERAL NOTES

1. The material for Pipe Drains shall be bituminous coated galvanized corrugated steel culvert pipe or bituminous coated corrugated aluminum alloy pipe in accordance with Article 601.02(f) or 601.02(i).
2. An approved mastic material (Article 1055.01) shall be applied to the inside of the connecting bands.

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

ILLINOIS DEPARTMENT OF TRANSPORTATION
DISTRICT CADD STANDARD

SLOPE DRAIN DETAILS FOR BURIED PIPES

CADD STD. NO. 601101-04
NOT DRAWN TO SCALE
DATE

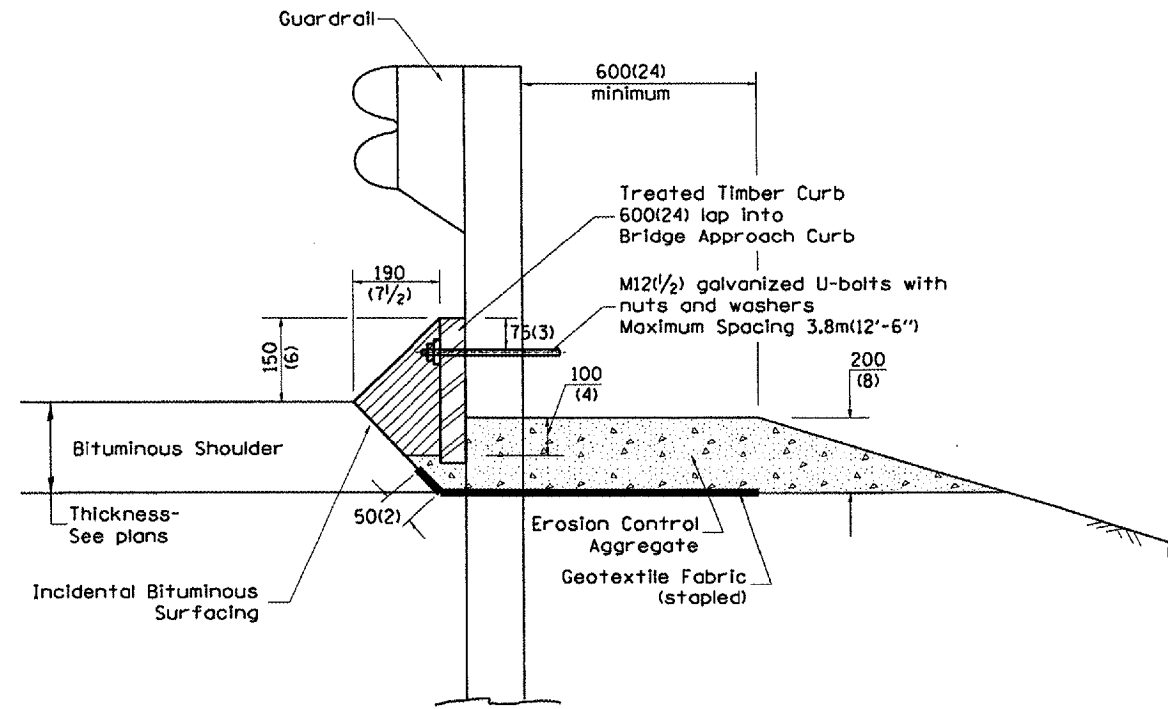
DRAWN BY: CADD

DATE	REVISIONS	BY
1-1-97	RENUM. H-1.04, NEW REVISION BOX, REVISED TITLE BOX, REVISED DESIGNER NOTES, ADDED QUANTITY CALCULATION BOX	T.P.

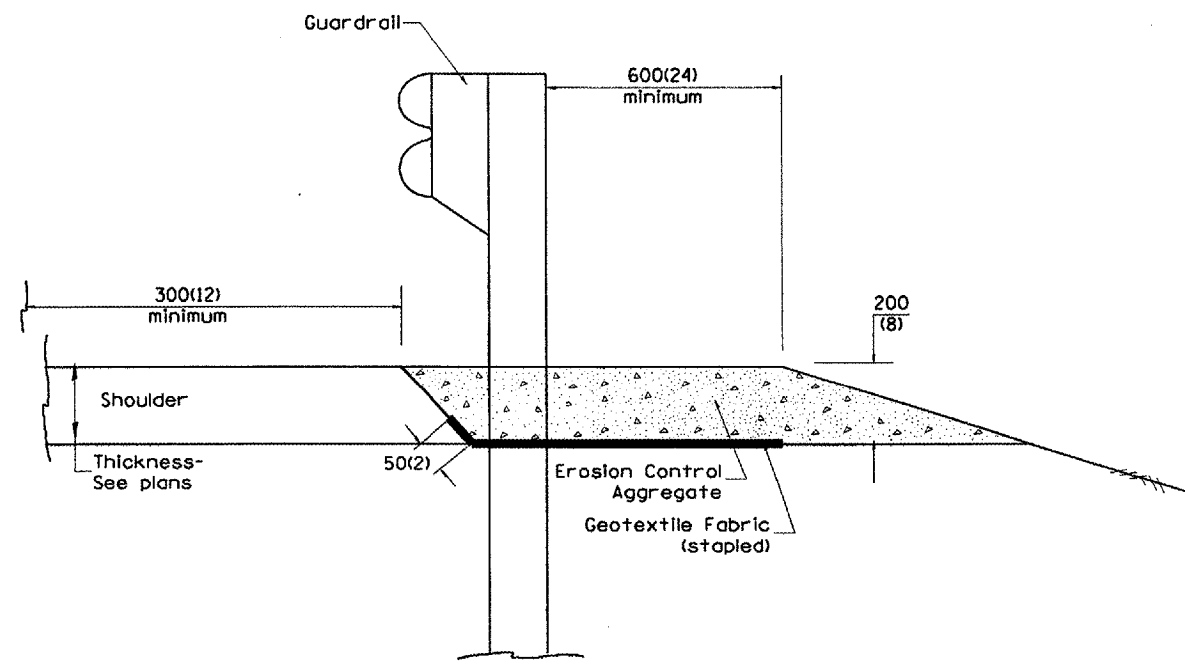
QUANTITIES	
CALC. BY: _____	DATE: _____
CHECKED BY: _____	DATE: _____
QUANTITY CALCULATIONS ARE ON FILE AT THE DISTRICT 4 OFFICE; BUREAU OF PROJECT IMPLEMENTATION; DOCUMENTATION SECTION	

DCN-ONLY

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
220	(23-BR) I	Mercer	50	41
STA. 99+71		TO STA. 109+76		
FED. ROAD DIST. NO. 7		ILLINOIS FED. AID PROJECT		



TYPICAL SECTION WITH EROSION CONTROL CURB



TYPICAL SECTION WITHOUT EROSION CONTROL CURB

GENERAL NOTES: EROSION CONTROL CURB

1. This work shall consist of grading as needed, installing hardware and treated timber boards, furnishing and placing mastic material and incidental bituminous surfacing in front of Steel Plate Beam Guardrail in accordance with Plan Details.
2. Timber shall be treated in accordance with Article 1007.12. All preservatives specified in the article will be allowed. Waterborne preservatives "asa" and "cca" shall have a minimum retention of 6.4 kg/m³ (0.40 lbs./cu. ft.)

GENERAL NOTES: GUARDRAIL AGGREGATE EROSION CONTROL

1. This work shall consist of grading as needed, furnishing and installing geotextile fabric and staples, and furnishing, placing and shaping crushed aggregate around and behind Steel Plate Beam Guardrail posts in accordance with Plan Details.
2. Before placing the aggregate and the Geotextile Fabric, weeds and grass shall be removed from the area to be covered.
3. After the area has been prepared, and in a dry condition, the Geotextile fabric shall be placed with a 300(12) minimum overlap. A knife cut for guardrail post installation is necessary.
4. The aggregate shall be deposited, compacted and shaped by either mechanical or hand methods, in a manner reasonably true to line and grade.
5. The Contractor shall have the option of placing the guardrail before or after the Geotextile Fabric and Aggregate are in place. If the guardrail is placed after the Geotextile Fabric and Aggregate, then any voids must be filled and the aggregate returned to line and grade.
6. Materials shall meet the following requirements:
 - A. The crushed aggregate shall be CA1 gradation in accordance with Article 1004.01(c) of the Standard Specifications.
 - B. The Geotextile Fabric shall be nonwoven fabric in accordance with Article 1080.02 of the Standard Specifications.

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

ILLINOIS DEPARTMENT OF TRANSPORTATION
DISTRICT CADD STANDARD

GUARDRAIL EROSION CONTROL TREATMENTS

DATE	REVISIONS	BY
1-1-97	RENUM. C-22.01, NEW REVISION BOX	T.P.
3-1-97	CORRECT STD. NUMBERS IN NOTES PG. 2	J.A.
11-3-00	CORRECTION TO NOTES	M.A.

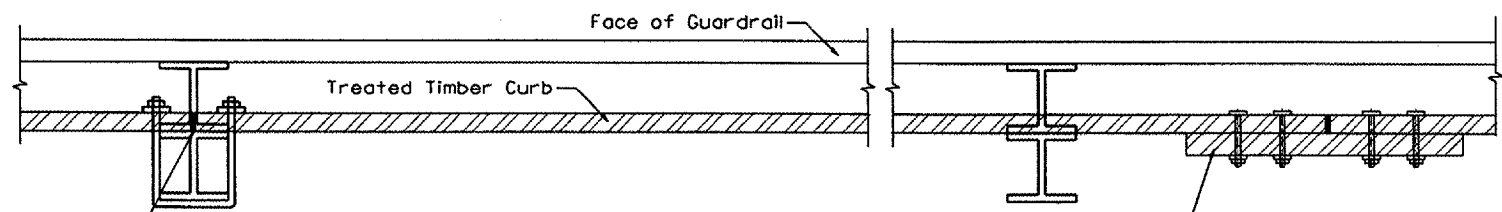
CADD STD NO. 630101-D4(1)
SCALE: NOT DRAWN TO SCALE
DATE JAN 2003

SHEET 1 OF 2
DRAWN BY CADD
CHECKED BY

DESIGNER NOTE:

\$\$\$\$\$

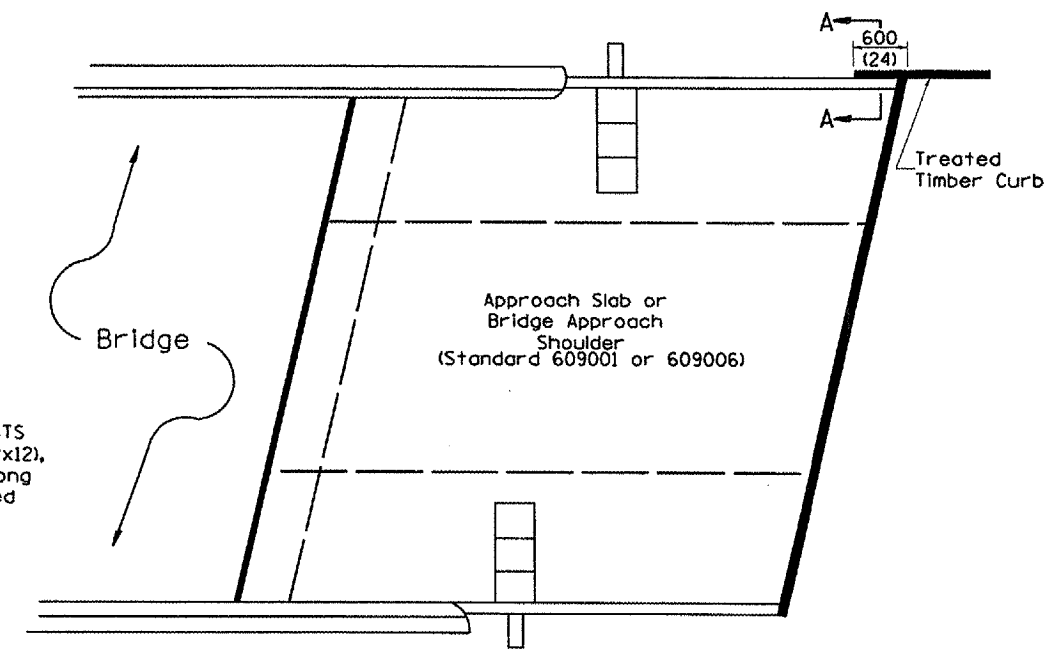
F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
220	(23-BR) I	Mercer	50	42
STA. 99+71		TO STA. 109+76		
FED. ROAD DIST. NO. 7 ILLINOIS FED. AID PROJECT				



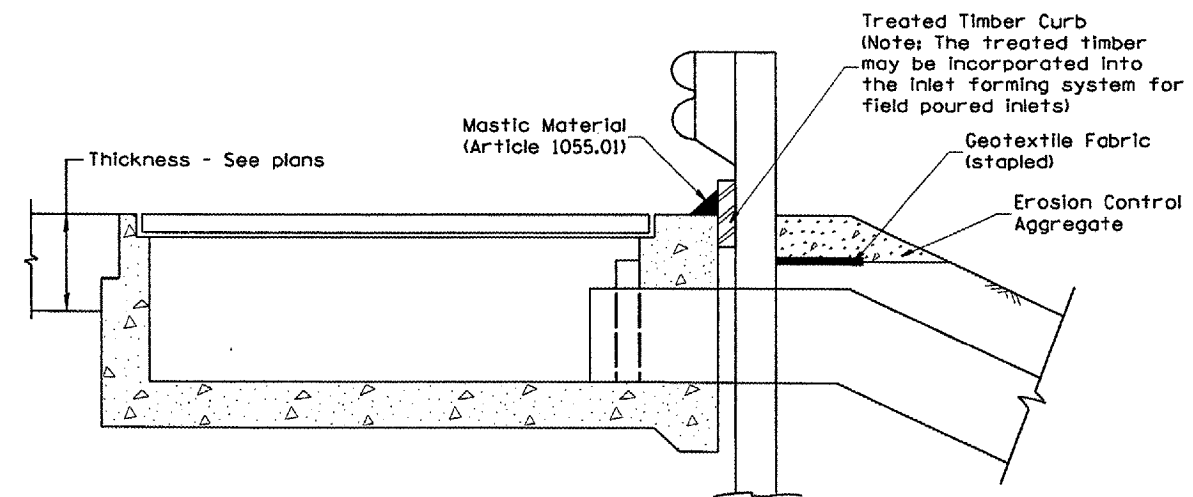
SPLICE LOCATED AT GUARDRAIL POST
M12(1/2) galvanized U-bolt with
nut & washer

SPLICE LOCATED BETWEEN GUARDRAIL POSTS
treated timber splice plate 50x300 (2x12),
actual size 40x290 (1 1/2 x 11 1/2), 600(24) long
with 8 evenly spaced M12(1/2) galvanized
bolts with nuts & washers.

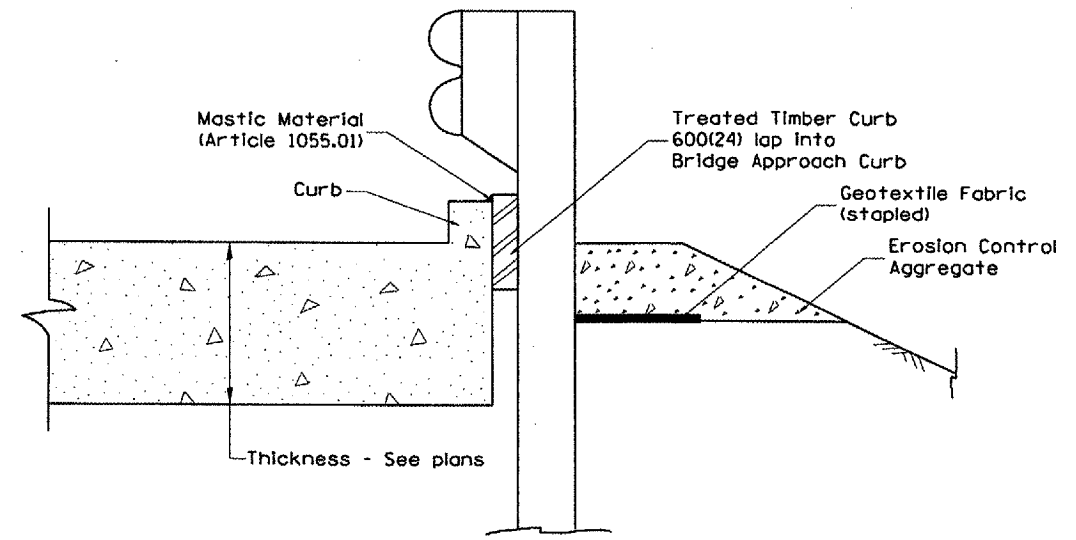
DETAIL A
(Typical Treated Timber Splices)



PLAN VIEW
APPROACH SLAB OR BRIDGE APPROACH SHOULDER
(STANDARD 609001 or 609006)



TYPICAL SECTION WITH EROSION CONTROL CURB
AT INLETS TYPE E & F (STANDARD 610001)



SECTION A-A
TYPICAL SECTION WITH EROSION CONTROL CURB
AT BRIDGE APPROACH CURB
(STANDARD 609001 OR 609006)

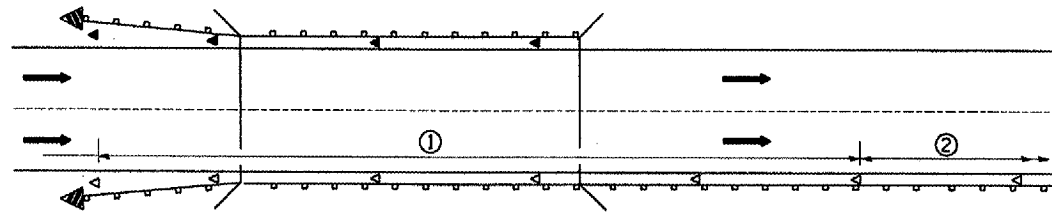
All dimensions are in millimeters
(inches) unless otherwise noted.

ILLINOIS DEPARTMENT OF TRANSPORTATION	
DISTRICT CADD STANDARD	
GUARDRAIL EROSION CONTROL TREATMENTS	
CADD STD NO. 630101-D4(2)	SHEET 2 OF 2
SCALE: NOT DRAWN TO SCALE	DRAWN BY CADD
DATE JAN 2003	CHECKED BY

\$\$\$DATE\$\$\$

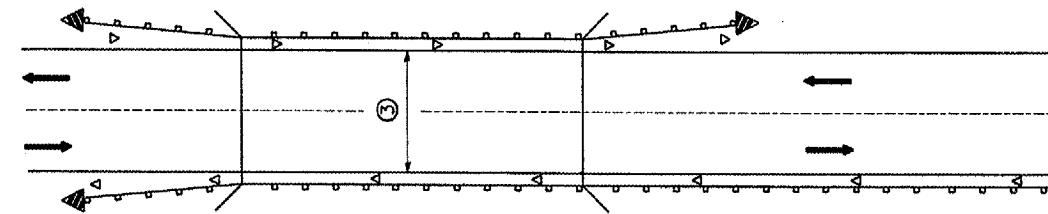
DGN-ONLY

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
220	(23-BR) I	Mercer	50	43
STA. 99+71		TO STA. 109+76		
FED. ROAD DIST. NO. 7 ILLINOIS FED. AID PROJECT				



- ① Spacing 24 m (80 ft.) max. for first 122 m (400 ft.) or curve spacing shown in Standard 635001, whichever is less (min. 4 reflectors regardless of length).
- ② After 122 m (400 ft.), transition to normal delineator spacing shown in Standard 635001, and continue as required.

ONE-WAY TRAFFIC



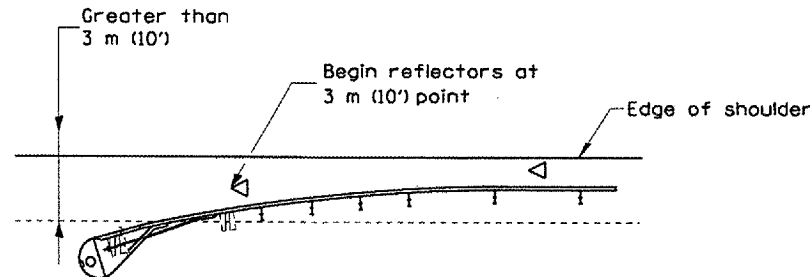
- ③ Bidirectional silver/silver should be used in lieu of monodirectional silver on both sides of two-lane bridges where the bridge pavement is less than 610 (24) wider than the pavement approaching the bridge.

TWO-WAY TRAFFIC

GUARDRAIL / BARRIER WALL / BRIDGE RAIL REFLECTORS

LEGEND

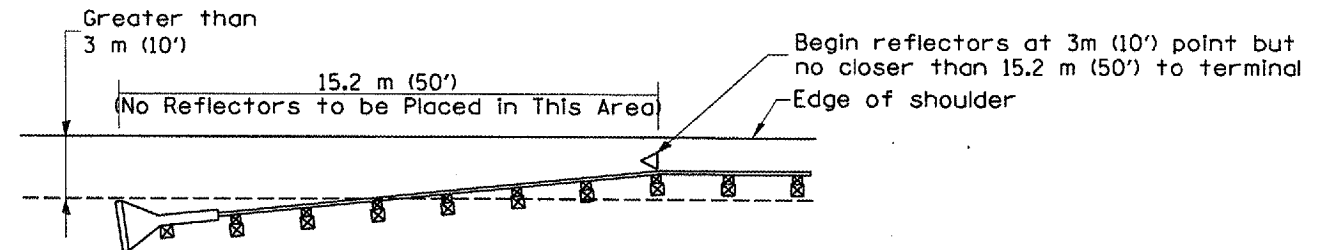
- ◁ Monodirectional silver
- ◄ Monodirectional amber
- ◄ Terminal Marker - Black/Yellow Left or Right as appropriate



NOTE: Omit terminal marker when terminal over 3 m (10') from edge of paved shoulder or break point of unpaved shoulder, or when terminal buried in backslope.

Traffic Barrier Terminal Type(*) and/or Turned-Down Terminal

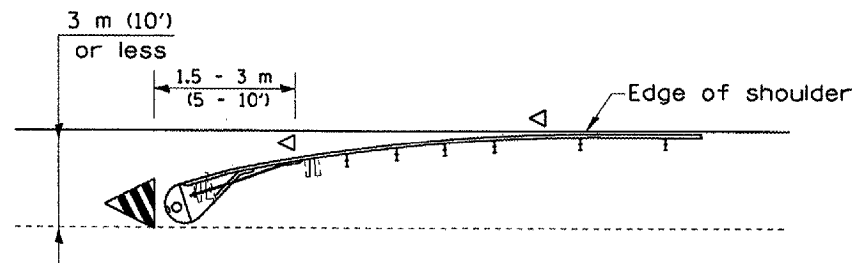
[Terminal over 3 m (10') from edge of shoulder]
•See Plans for Type



NOTE: Omit terminal marker when terminal over 10' from edge of paved shoulder or break point of unpaved shoulder.

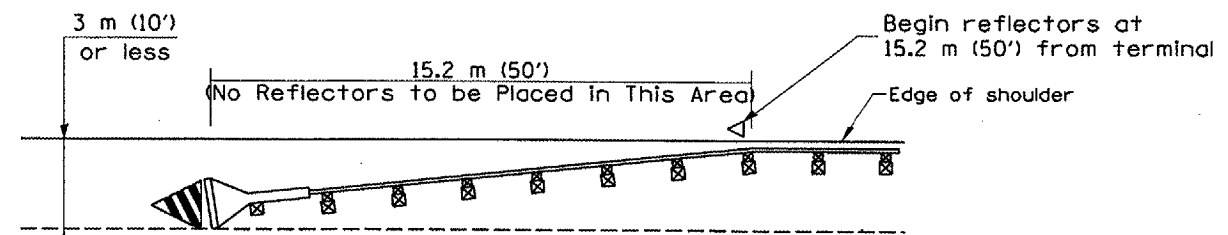
Traffic Barrier Terminal Type 1 (Special)

[Terminal over 3 m (10') from edge of shoulder]



Traffic Barrier Terminal Type(*) and/or Turned-Down Terminal

[Terminal over 3 m (10') or less from edge of shoulder]
•See Plans for Type



Traffic Barrier Terminal Type 1(Special)

[Terminal 3 m (10') or less from edge of shoulder]

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

**ILLINOIS DEPARTMENT OF TRANSPORTATION
DISTRICT CADD STANDARD**

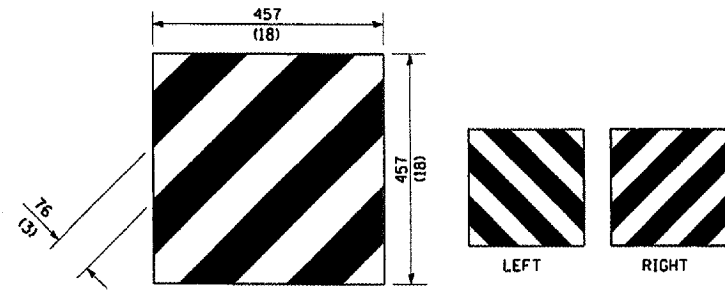
**GUARDRAIL AND
BARRIER WALL DELINEATION**

CADD STD. NO. 635101-D4 SHEET 1 OF 3
SCALE: NOT DRAWN TO SCALE DRAWN BY CADD
DATE JAN 2003 CHECKED BY

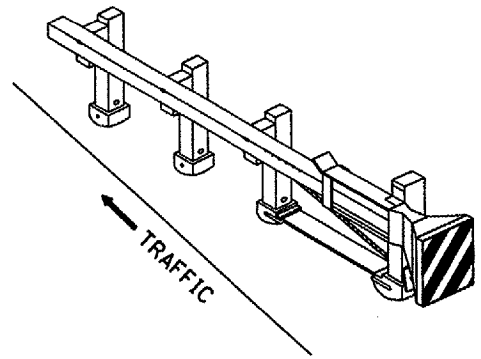
DATE	REVISIONS	BY
1-1-97	RENUM. E-10.02, NEW REVISION BOX	T.P.
3-1-97	CORRECT STD. SPEC. *	J.A.

TERMINAL MARKER PLACEMENT

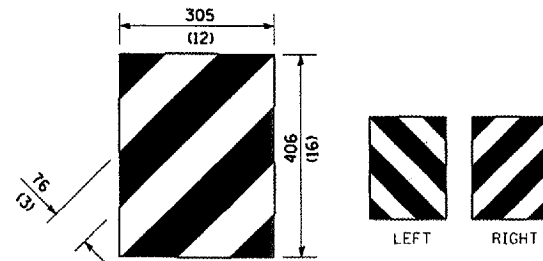
F.A.S. ATE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
220	(23-BR) I	Mercer	50	44
STA. 99+71		TO STA. 109+76		
FED. ROAD DIST. NO. 7 ILLINOIS FED. AID PROJECT				



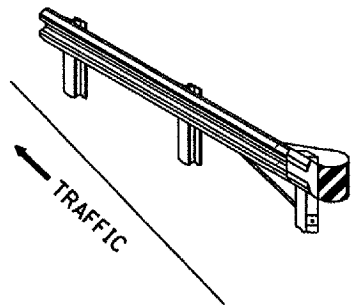
For Traffic Barrier Terminal Type 1 (Special)



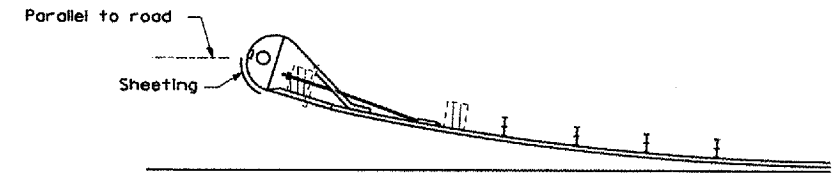
Standard Treatment - Direct Applied Sheeting
Traffic Barrier Terminal Type 1 (Special)



For Traffic Barrier Terminal Type (*)
and Post Mount
• See Plans for Type



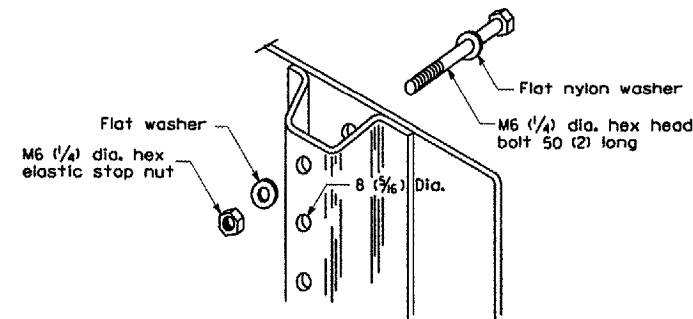
Standard Treatment - Direct Applied Sheeting
Traffic Barrier Terminal Type (*)
• See Plans for Type



Sheeting Position for
Traffic Barrier Terminal Type (*)
• See Plans for Type

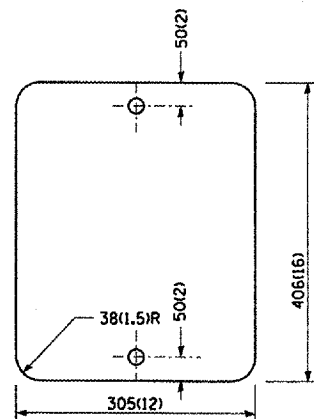
TERMINAL MARKER DETAILS

- Color: Black / Yellow reflectorized
- OM - I100 (L or R) Direct applied reflective sheeting
- OM - I200 (L or R) Post mounted

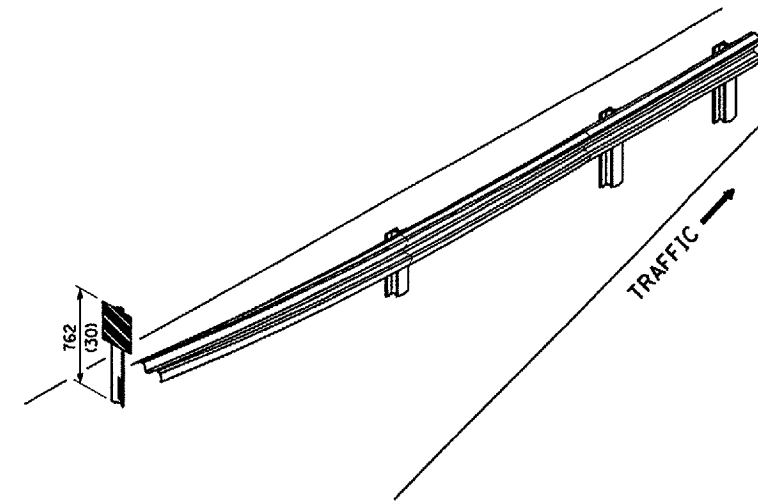


DETAIL OF MOUNTING TERMINAL MARKER TO POST

POST MOUNTED TERMINAL MARKER ASSEMBLY



STANDARD TERMINAL MARKER



ALTERNATE TREATMENT - POST MOUNTED
(For turned-down terminal where sheeting cannot be direct applied)

TERMINAL MARKER TREATMENTS

GENERAL NOTES

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

ILLINOIS DEPARTMENT OF TRANSPORTATION
DISTRICT CADD STANDARD

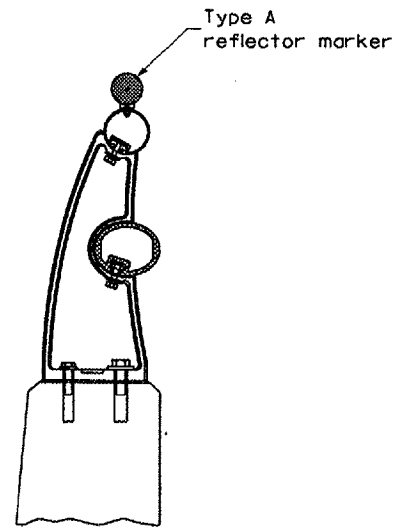
GUARDRAIL AND
BARRIER WALL DELINEATION

CADD STD. NO. 635101-D4 SHEET 2 OF 3
SCALE: NOT DRAWN TO SCALE DRAWN BY CADD
DATE JAN 2003 CHECKED BY

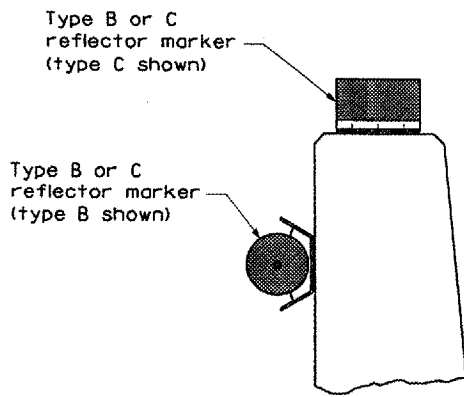
\$\$\$DATE\$\$\$

DGN-ONLY

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
220	(23-BR) I	Mercer	50	45
STA. 99+71		TO STA. 109+76		
FED. ROAD DIST. NO. 7 ILLINOIS FED. AID PROJECT				

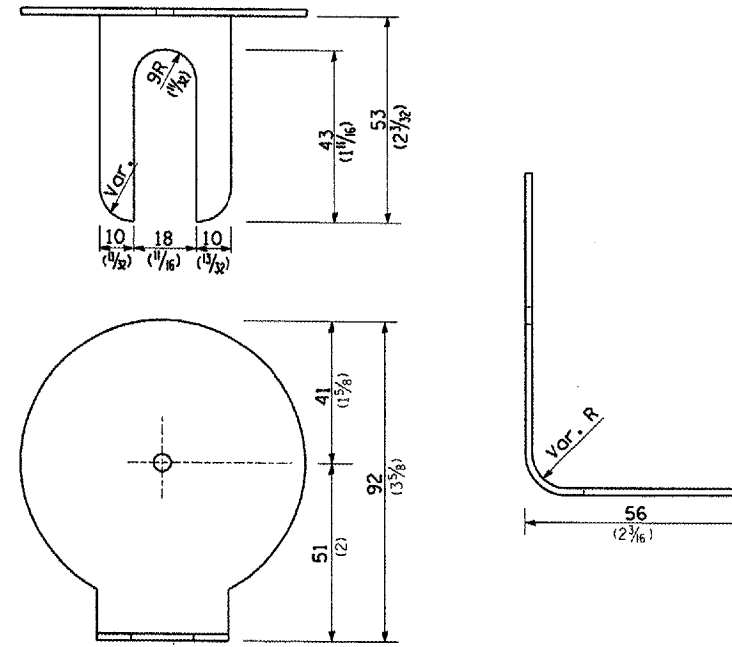


TYPICAL MOUNTING DETAIL FOR BRIDGE RAIL REFLECTOR



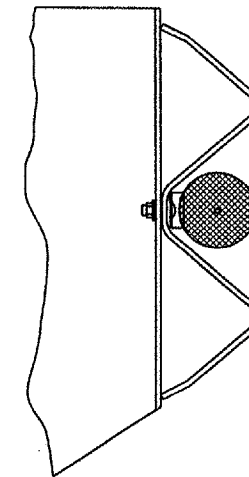
TYPICAL MOUNTING DETAIL FOR BARRIER WALL REFLECTOR

REFLECTOR MOUNTING

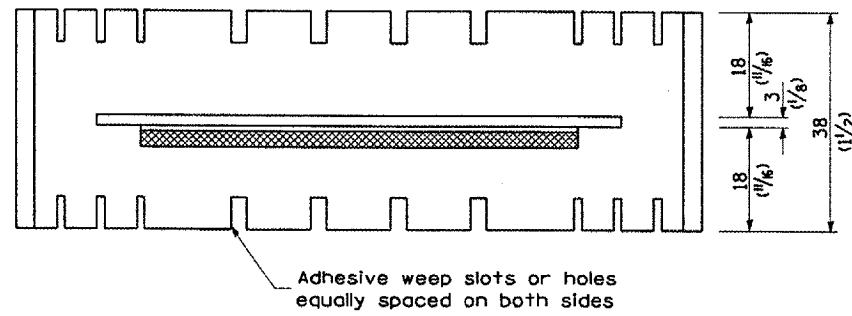


REFLECTOR MARKER TYPE A

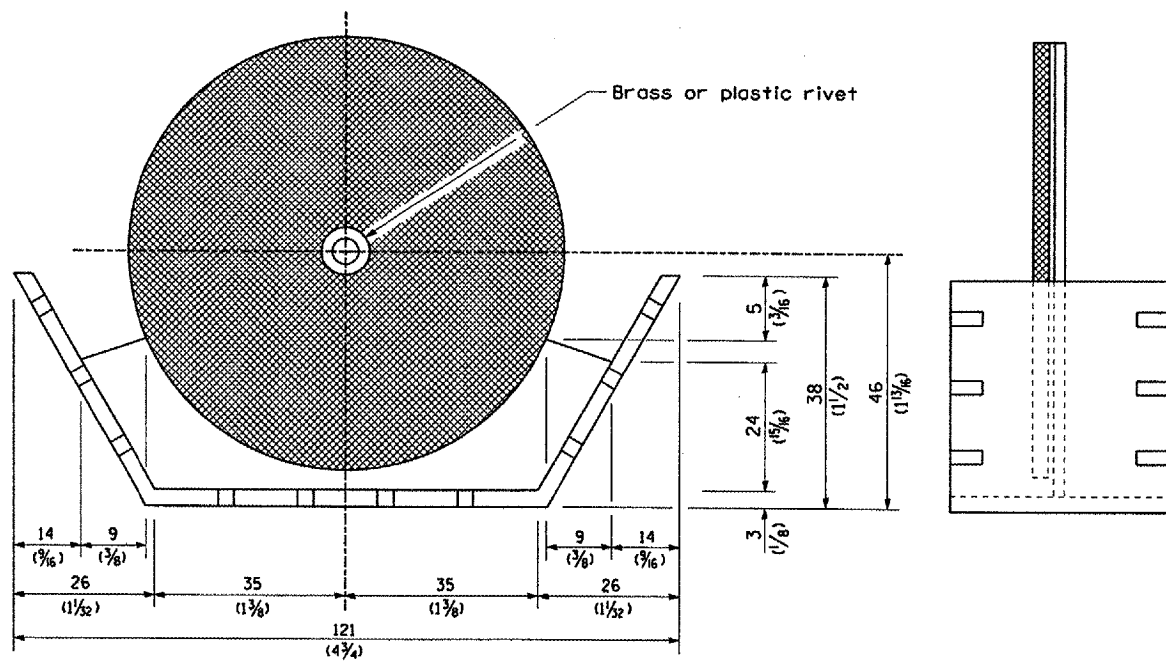
Min. reflective area 4,194 mm² (6 1/2 Sq. in.) each side. May be rectangular or slight trapezoid.



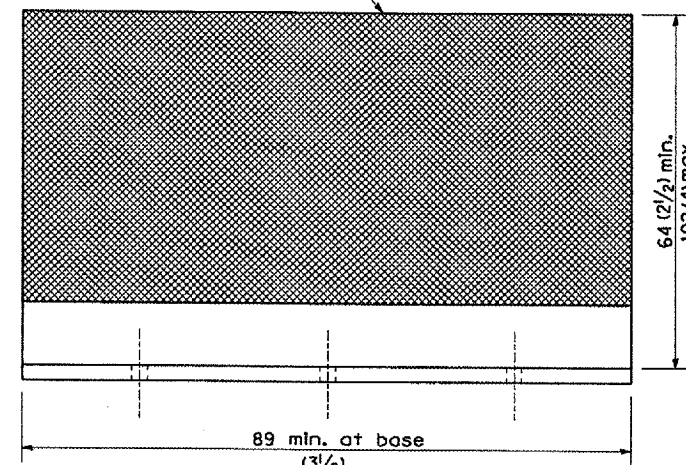
TYPICAL GUARDRAIL MOUNTING WITH REFLECTOR MARKER TYPE A



Adhesive weep slots or holes equally spaced on both sides



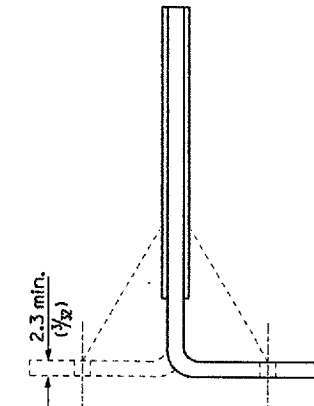
REFLECTOR MARKER TYPE B



REFLECTOR MARKER TYPE C

3 min. adhesive weep holes or slots each side, variable spacing.

Minimum total area of base 4,516 mm² (7.0 Sq. in.)



Cross section may be "T" or "L" shaped and may have side supports at ends.

REFLECTORS

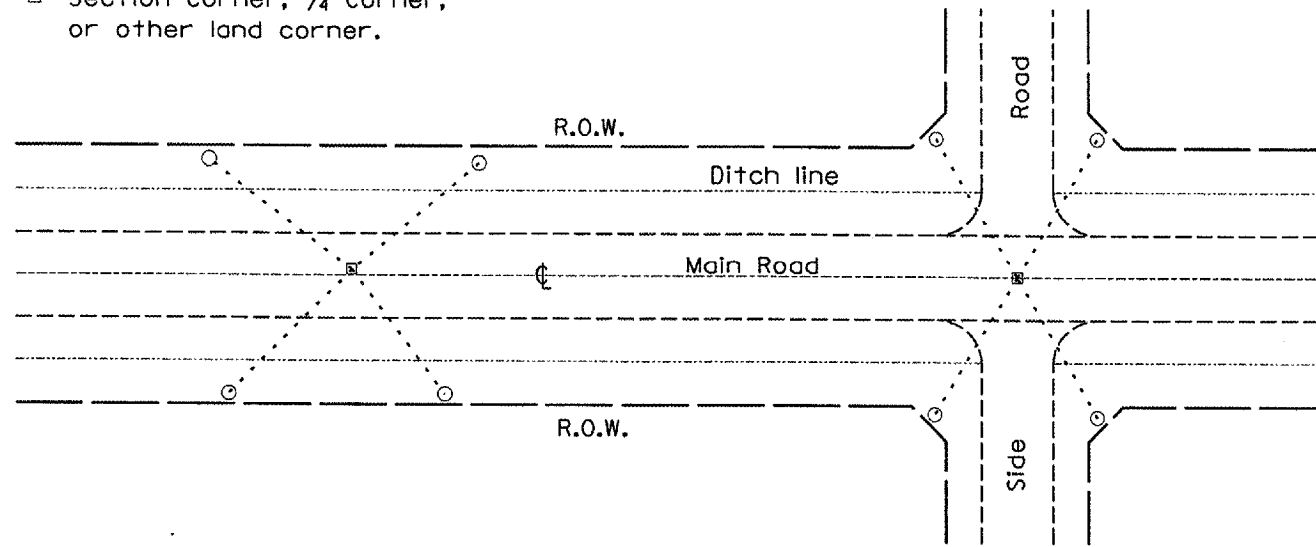
All dimensions are in millimeters (inches) unless otherwise noted.

ILLINOIS DEPARTMENT OF TRANSPORTATION	
DISTRICT CADD STANDARD	
GUARDRAIL AND BARRIER WALL DELINEATION	
CADD STD. NO. 635101-D4	SHEET 3 OF 3
SCALE: NOT DRAWN TO SCALE	DRAWN BY CADD
DATE JAN 2003	CHECKED BY

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
220	(23-BR) I	Mercer	50	46
STA. 99+71		TO STA. 109+76		
FED. ROAD DIST. NO. 7 ILLINOIS FED. AID PROJECT				

PERMANENT SURVEY TIES

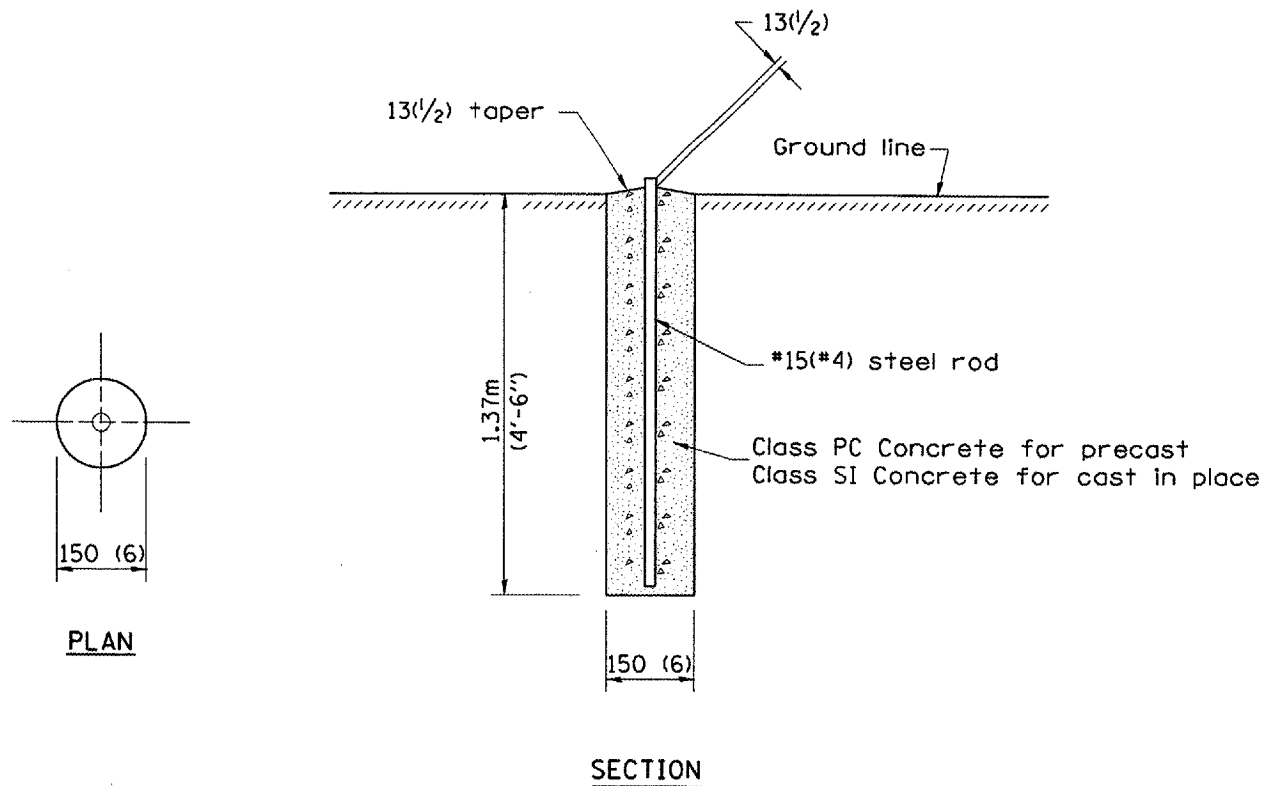
- Permanent Survey Tie
- Section Corner, 1/4 Corner, or other land corner.



TYPICAL APPLICATION

GENERAL NOTES

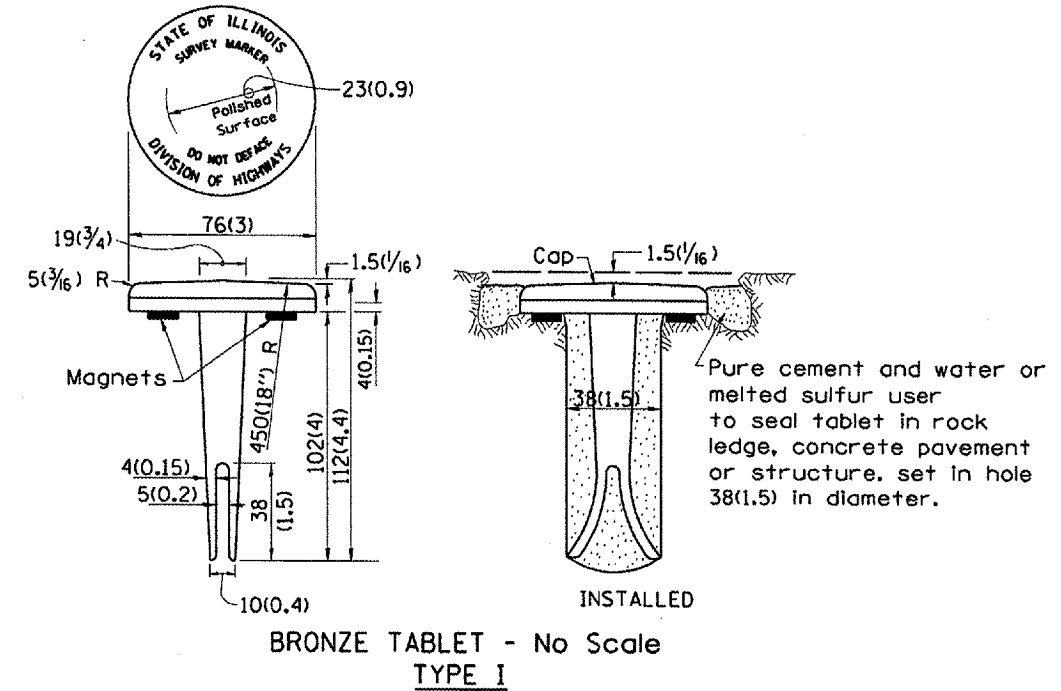
- The marker shall be cast in place of Class SI Concrete.
- Tie marker shall be installed after the final seeding has been completed unless otherwise specified by the Engineer.
- The tie distances to the section corner shall be measured and recorded by the IDOT Chief of Surveys.



\$\$\$DATE\$\$\$

DGN-DNLY

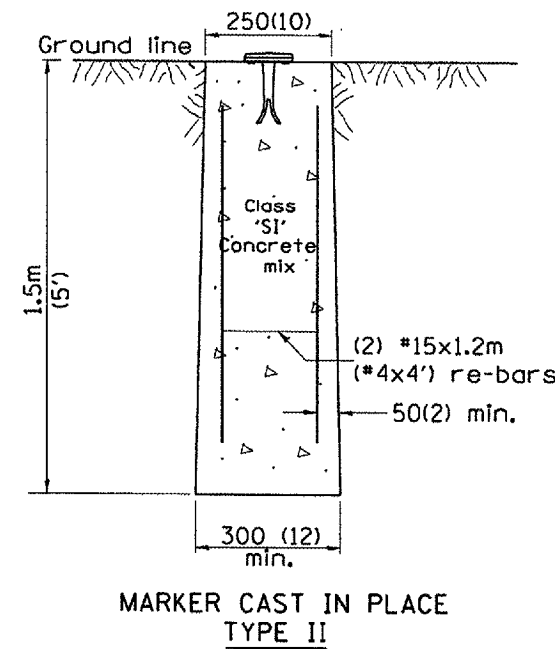
PERMANENT SURVEY MARKERS



BRONZE TABLET - No Scale
TYPE I

GENERAL NOTES

- All type II markers shall be cast in place, and precast markers will not be allowed.
- Two permanent magnets, each having a diameter of 19 (3/4) and a thickness of 6 (1/4), or equivalent, shall be attached to the underside of the tablet with an approved epoxy bonding agent.
- The location of the markers shall be in accordance with the plans in general, the markers will be placed at the P.T.'s and P.C.'s of horizontal curves and spaces along the tangents in a way that a minimum of two markers are always inter-visible, and not to exceed 300m(1000').
- The markers shall be placed under the direction of the Engineer and shall be installed in a workmanlike manner in order that there will be no further settlement or horizontal shifting. The monuments shall be placed in a way that the survey point will fall within the portion of the plaque provided for that purpose.
- The project designation, the centerline station, the survey point, and the elevation shall be permanently marked by the use of metal dies after marker has been installed.



MARKER CAST IN PLACE
TYPE II

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

ILLINOIS DEPARTMENT OF TRANSPORTATION
DISTRICT CADD STANDARD

PERMANENT SURVEY TIE
&
PERMANENT SURVEY MARKERS TY.I - TY.II
CADD STD. NO. 667101-D4
SCALE: NOT DRAWN TO SCALE
DRAWN BY CADD
CHECKED BY

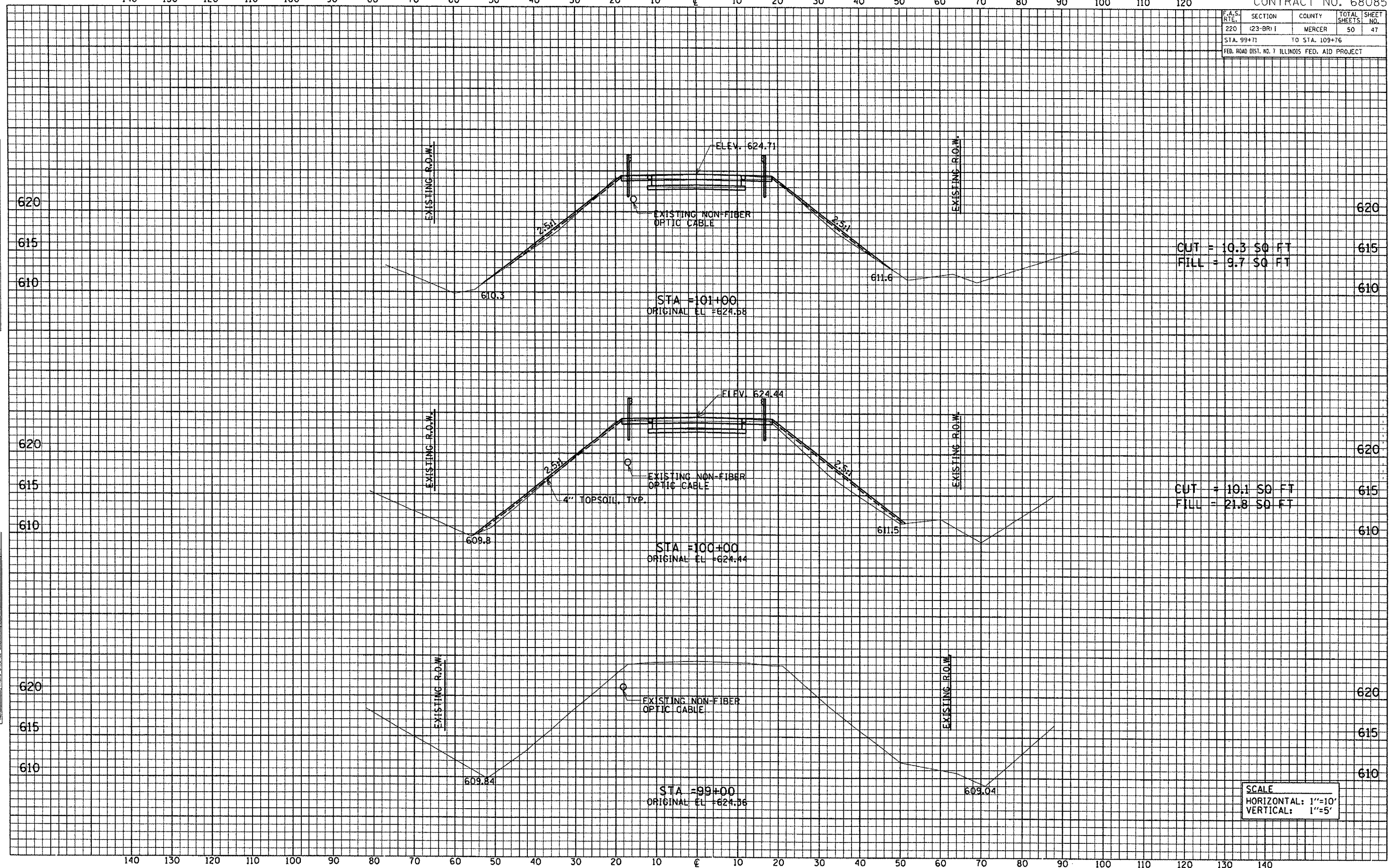
DATE	REVISIONS	BY
1-1-97	RENUM. D-3.01. NEW REVISION BOX	T.P.
7-7-98	ADD DESIGNER NOTE, REVISED TITLE BOX	J.A.
5-24-06	REMOVED GEN. NOTE UNDER TIES	M.A.

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
220	(23-BR) I	MERCER	50	47
STA. 99+71		TO STA. 109+76		
FED. ROAD DIST. NO. 7 ILLINOIS FED. AID PROJECT				

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

DATE _____
 BY _____
 SURVEYED _____
 PLOTTED _____
 NOTE BOOK _____
 AREAS CHECKED _____

DATE _____
 BY _____
 SURVEYED _____
 PLOTTED _____
 NOTE BOOK _____
 AREAS CHECKED _____



CUT = 10.3 SQ FT
 FILL = 9.7 SQ FT

CUT = 10.1 SQ FT
 FILL = 21.8 SQ FT

SCALE
 HORIZONTAL: 1"=10'
 VERTICAL: 1"=5'

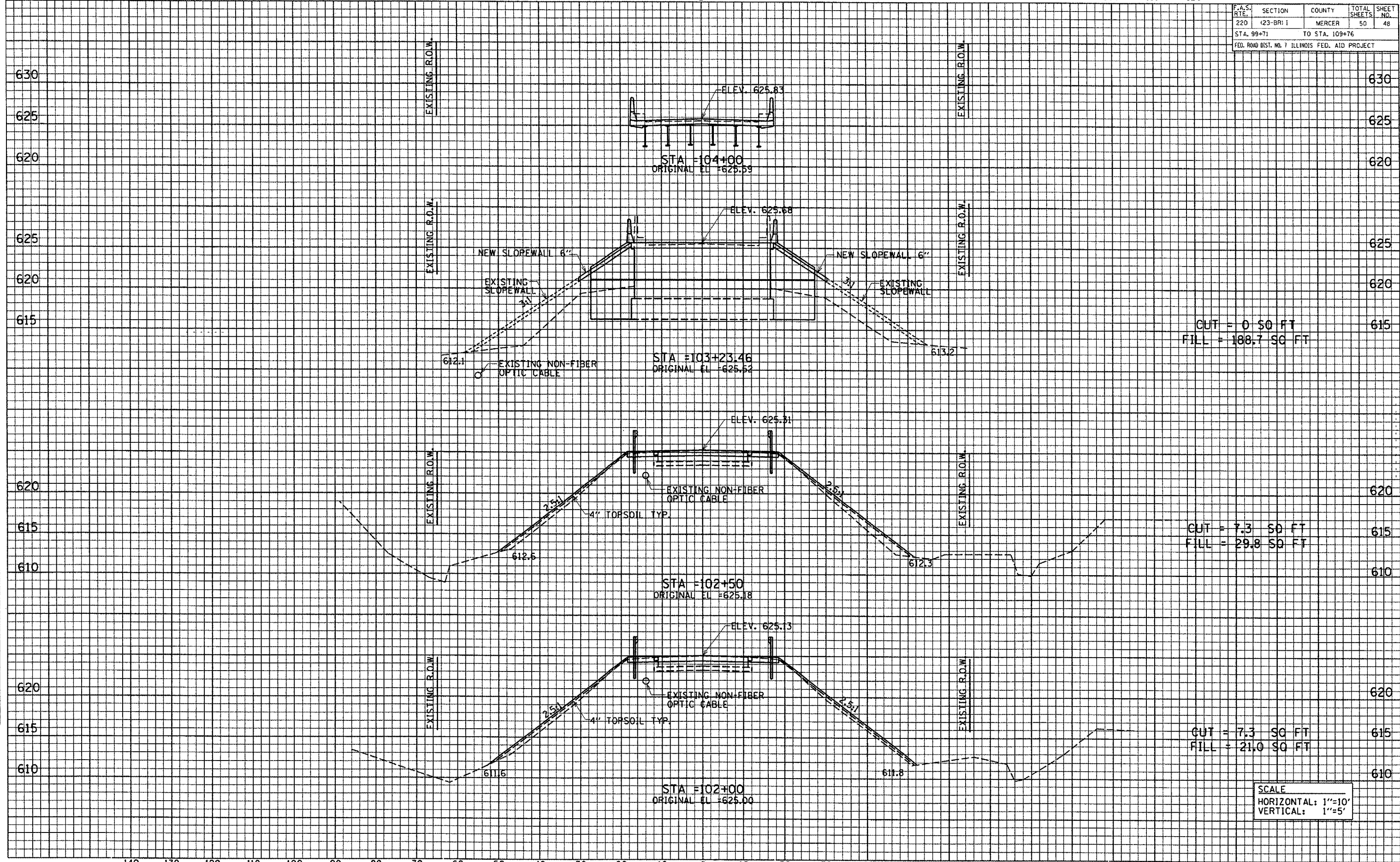
140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
220	23-BR1 I	MERCER	50	48
STA. 99+71		TO STA. 109+76		
FED. ROAD DIST. NO. 7 ILLINOIS FED. AID PROJECT				

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

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

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



CUT = 0 SQ FT
 FILL = 188.7 SQ FT

CUT = 7.3 SQ FT
 FILL = 29.8 SQ FT

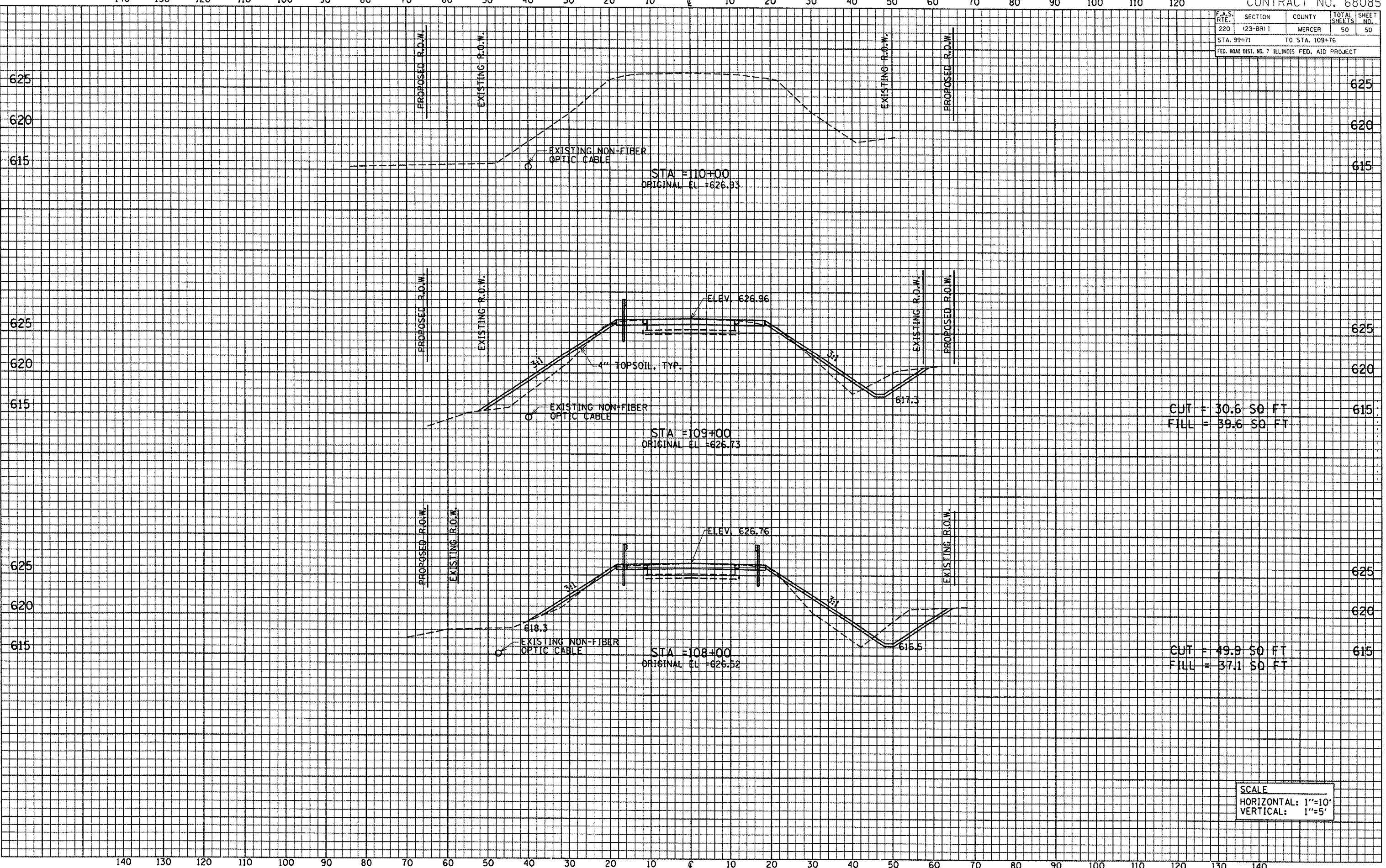
CUT = 7.3 SQ FT
 FILL = 21.0 SQ FT

SCALE
 HORIZONTAL: 1"=10'
 VERTICAL: 1"=5'

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

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
220	(23-BR) 1	MERCER	50	50
STA. 99+71		TO STA. 109+76		
FED. ROAD DIST. NO. 7 ILLINOIS FED. AID PROJECT				

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



SCALE
 HORIZONTAL: 1"=10'
 VERTICAL: 1"=5'

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

DATE _____
 BY _____
 SURVEYED _____
 PLOTTED _____
 NOTE BOOK _____
 AREAS CHECKED _____

DATE _____
 BY _____
 SURVEYED _____
 PLOTTED _____
 NOTE BOOK _____
 AREAS CHECKED _____