

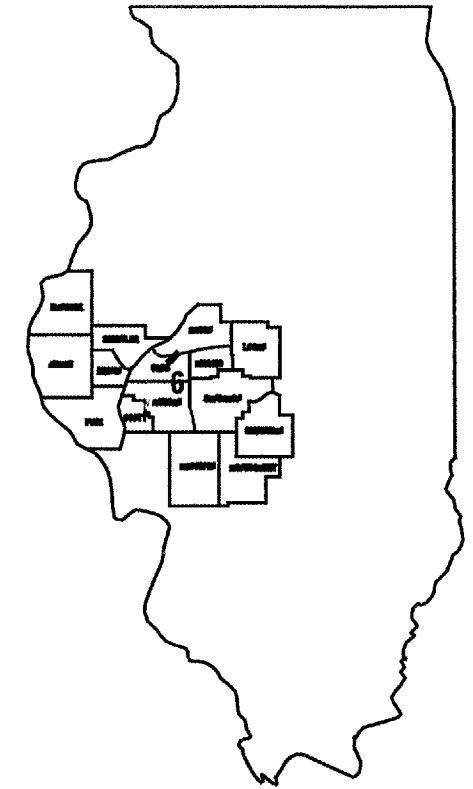
SEE PAGE 2 FOR INDEX OF SHEETS AND HIGHWAY STANDARDS

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

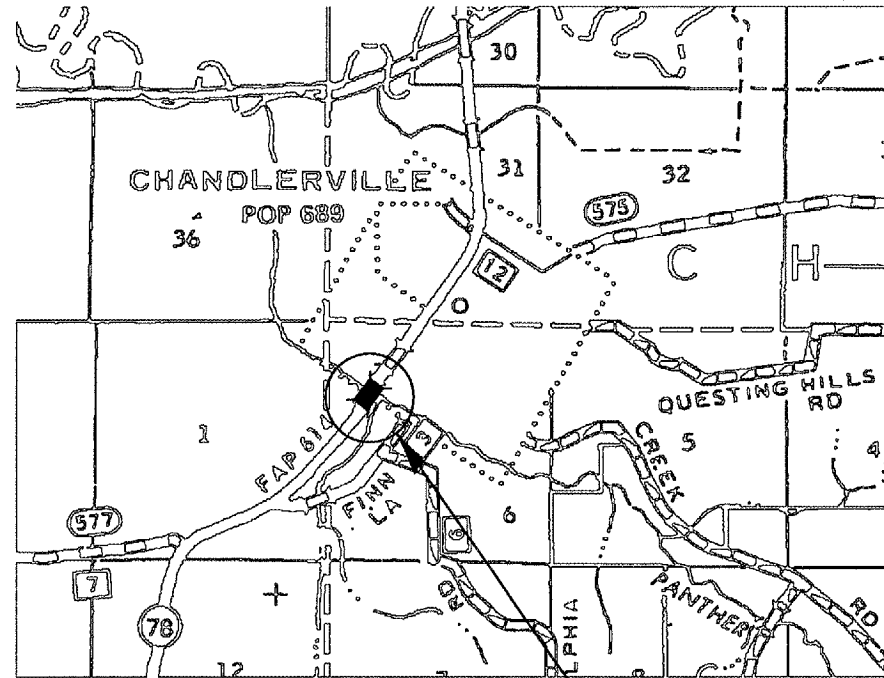
PLANS FOR PROPOSED CONTRACT MAINTENANCE

FAP 614 (IL 78) OVER PANTHER CREEK SECTION (144BR-3)D CASS COUNTY C-96-001-06

ADT = 2,400



LOCATION OF SECTION INDICATED THUS: ■



SN 009-0007

NET LENGTH OF SECTION .05 MILE

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

DESIGN & PLANNING ENGINEER: CECIL DOWNING
BRIDGE INSPECTOR ENGINEER: DAVE COPENBARGER
PHONE: (217) 785-5306

CONTRACT NO. 72990

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

SUBMITTED MARCH 30 2005

Chris M. Reed
DISTRICT ENGINEER

July 1, 2005
Mike Hine
ENGINEER OF DESIGN AND ENVIRONMENT

July 1, 2005
Victor Maden
DIRECTOR, DIVISION OF HIGHWAYS

INDEX OF SHEETS

- 1 COVER SHEET
- 2 GENERAL INFORMATION
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- 15 RAIL RETROFIT DETAIL
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GENERAL NOTES

- STANDARDS
 701001-01
 701006-02
 701201-02
 701301-02
 701321-08
 702001-05

STATE OF ILLINOIS	
DEPARTMENT OF TRANSPORTATION	
DIVISION OF HIGHWAYS	
DISTRICT 6	
EXAMINED <u>Mar 21</u> 20 <u>05</u>	<i>[Signature]</i> ENGINEER OF OPERATIONS
EXAMINED <u>FEB 28</u> 20 <u>05</u>	<i>[Signature]</i> ENGINEER OF PROGRAM IMPLEMENTATION
EXAMINED <u>MARCH 8</u> 20 <u>05</u>	<i>[Signature]</i> ENGINEER OF PROGRAM DEVELOPMENT

APPLICATION RATES

- BIT. PAVING = 0.056 TON / SQ YD - IN
 BIT MATL. (PRIME CT) = 0.00038 TON / SQ YD
 AGG. (PRIME CT) = 0.002 TON / SQ YD
 AGG. SHLDR, TY. B = 2.05 TON / CU YD

BITUMINOUS MIX REQUIREMENTS

MIX	BIT. SURF. CSE. SP, MIX C, N50	BIT. SHLDR. SUPERPAVE	BIT. BIND. CSE. SUPERPAVE, N 50
AC/PG	PG 64-22	PG 58-22	PG 64-22
RAP % (MAX)	15%	15%	15%
DESIGN AIR VOIDS	4.0% @ N DESIGN = 50	2.0% @ N DESIGN = 30	4.0% @ N DESIGN=50
GRADATION MIXTURE	IL 9.5 OR 12.5	BAM	IL 19.0
FRICTION AGGREGATE	MIX "C"	N/A	N/A

GENERAL INFORMATION
 FAP 614 (IL 78)
 SECTION (144BR-3)D
 CASS COUNTY

SUMMARY OF QUANTITIES

SHEET 3 OF 16
CONTRACT 72990

ITEM NO.	DESCRIPTION	UNIT	100% STATE - SFTY-2A
			QUANTITY
40600200	BITUMINOUS MATERIALS (PRIME COAT)	TON	0.3
40600300	AGGREGATE (PRIME COAT)	TON	1.4
40600980	BITUMINOUS SURFACE REMOVAL - BUTT JOINT	SQ YD	174
40600990	TEMPORARY RAMP	SQ YD	16
44001205	BITUMINOUS CONCRETE SURFACE REMOVAL COMPLETE	SQ YD	350
48202000	BITUMINOUS SHOULDERS SUPERPAVE	TON	20
50300260	BRIDGE DECK GROOVING	SQ YD	330
50301200	CONCRETE WEARING SURFACE	SQ YD	350
50500405	FURNISH AND ERECT STRUCTURAL STEEL	POUND	731
50800205	REINFORCEMENT BARS, EPOXY COATED	POUND	4280
63300900	VERTICAL ADJUSTMENT OF GUARDRAIL	FOOT	100
67000400	ENGINEER'S FIELD OFFICE, TYPE A	CAL MO	3
67100100	MOBILIZATION	L SUM	1
70100405	TRAFFIC CONTROL AND PROTECTION, STANDARD 701321	EACH	1
70100450	TRAFFIC CONTROL AND PROTECTION, STANDARD 701201	L SUM	1
70106500	TEMPORARY BRIDGE TRAFFIC SIGNALS	EACH	1
70300100	SHORT-TERM PAVEMENT MARKING	FOOT	78
* 78001120	PAINT PAVEMENT MARKING - LINE 5"	FOOT	670
48101200	AGGREGATE SHOULDERS, TYPE B	TON	16
70300530	PAVEMENT MARKING TAPE, TYPE III, 5 IN	FT	200
70301000	WORK ZONE PAVEMENT MARKING REMOVAL	SQ FT	32
78300100	PAVEMENT MARKING REMOVAL	SQ FT	789

SUMMARY OF QUANTITIES
FAP 614 (IL 78)
SECTION (144BR-3)D
CASS COUNTY

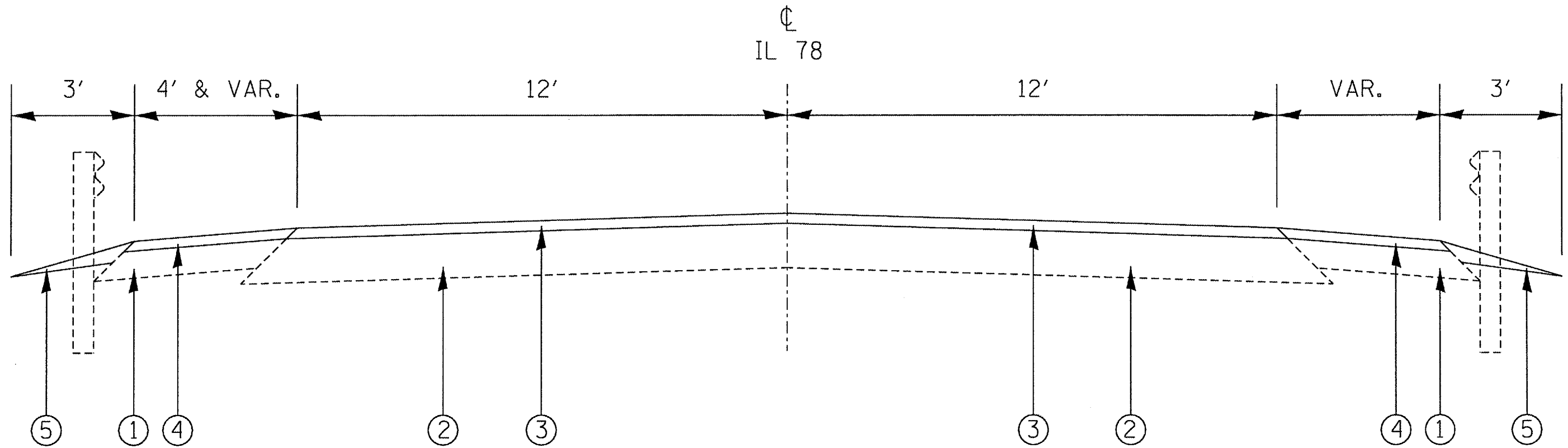
*SPECIALTY ITEMS

SUMMARY OF QUANTITIES

SHEET 4 OF 16
100% STATE CONTRACT 72990
SFTY-2A

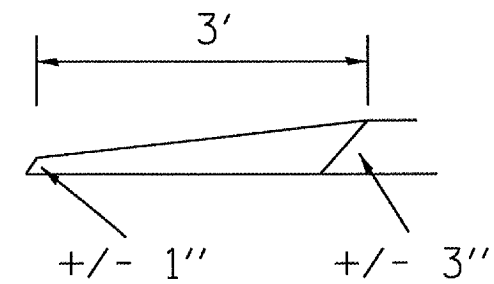
ITEM NO.	DESCRIPTION	UNIT	QUANTITY
X0320887	POLYMER CONCRETE	CU FT	2.6
X0321744	SILICONE JOINT SEALER, 2"	FOOT	71
X0324401	PORTABLE TEMPORARY BARRIER SYSTEM, TL-3	FOOT	400
X0324402	RELOCATE PORTABLE TEMPORARY BARRIER SYSTEM, TL-3	FOOT	400
X4066414	BITUMINOUS SURFACE COURSE, SUPERPAVE, MIX C, N50	TON	45
X4066614	BITUMINOUS CONCRETE BINDER COURSE SUPERPAVE, IL 19.0, N 50	TON	45
Z0002600	BAR SPLICERS	EACH	95
Z0003700	BEARING PAD ADJUSTMENT	EACH	96
Z0032700	KEYWAY REPAIR	FOOT	266
X0324959	REMOVE AND RE-INSTALL STEEL BRIDGE RAIL, TYPE S-1	FOOT	287

SUMMARY OF QUANTITIES
FAP 614 (IL 78)
SECTION (144BR-3)D
CASS COUNTY



STA 995+91.80 TO STA 996+91.80
 STA 997+88.20 TO STA 997+88.20

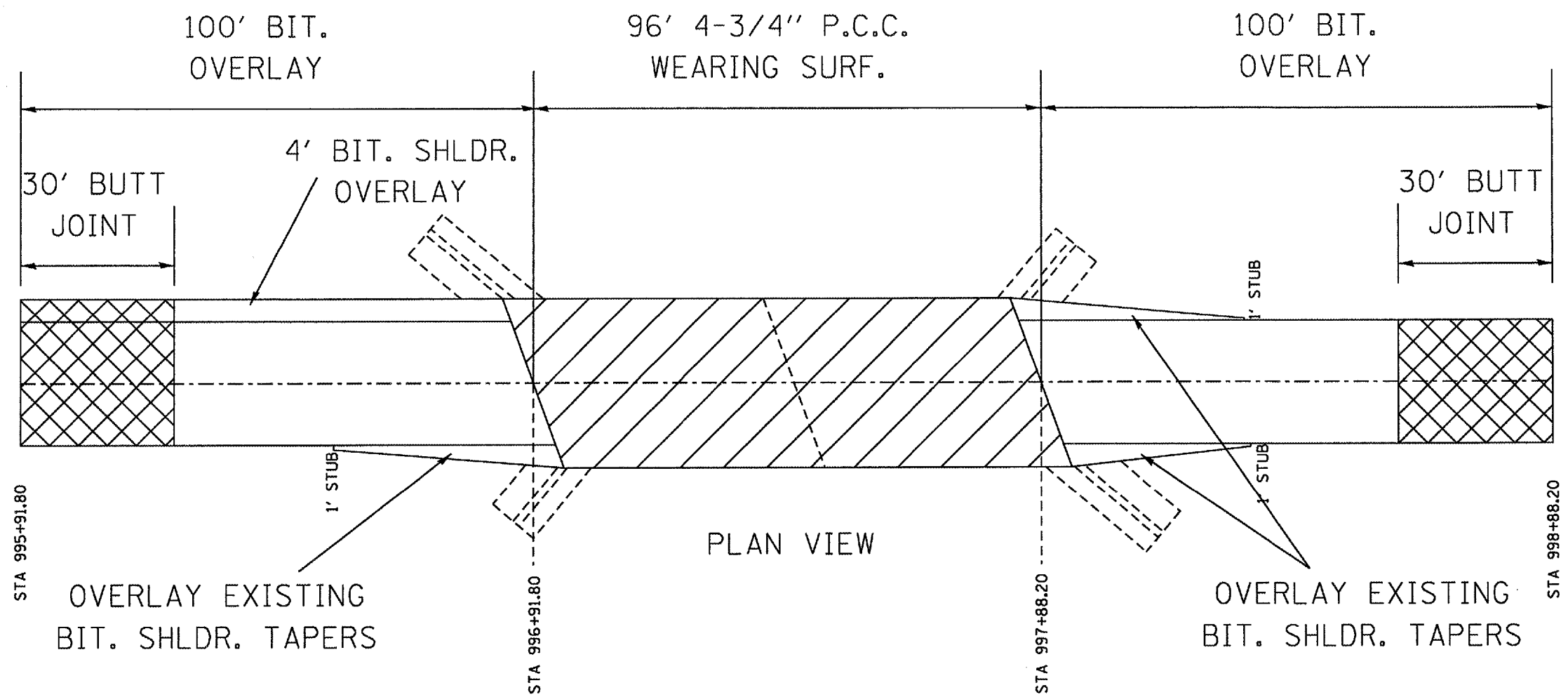
- ① EXISTING BITUMINOUS SHOULDERS
- ② EXISTING BITUMINOUS PAVEMENT
- ③ PROPOSED BITUMINOUS SURFACE COURSE MIX "D", CLASS I, TYPE 1, VARIABLE DEPTH
- ④ PROPOSED BITUMINOUS SHOULDERS SUPERPAVE, VARIABLE DEPTH
- ⑤ PROPOSED AGGREGATE SHOULDERS, TYPE B



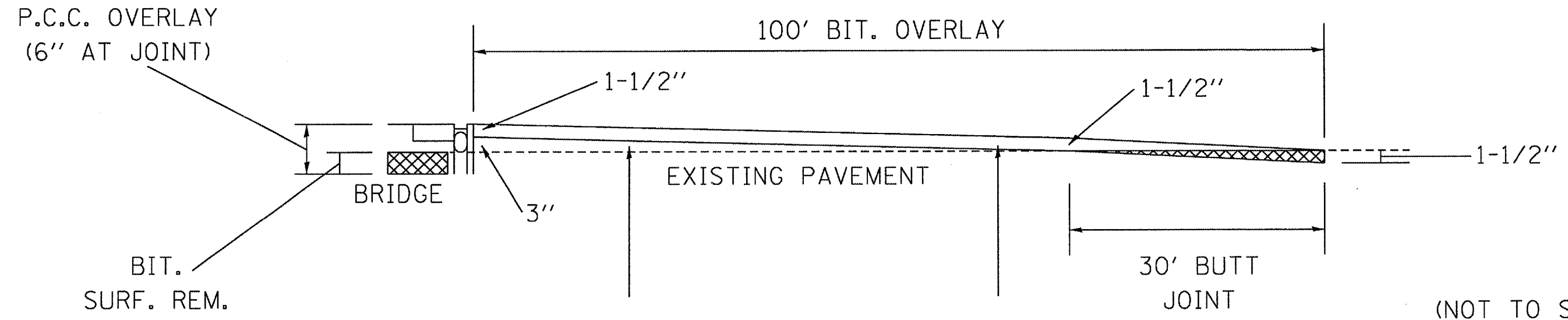
AGG. SHLDR.
 DETAIL

(NOT TO SCALE)

TYPICAL CROSS SECTION
 FAP 614 (IL 78)
 SECTION (144BR-3)D
 CASS COUNTY

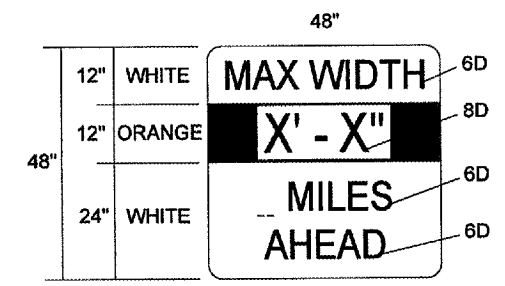
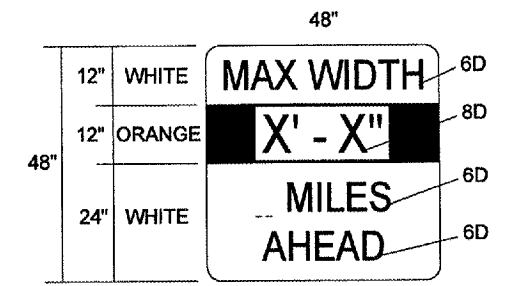
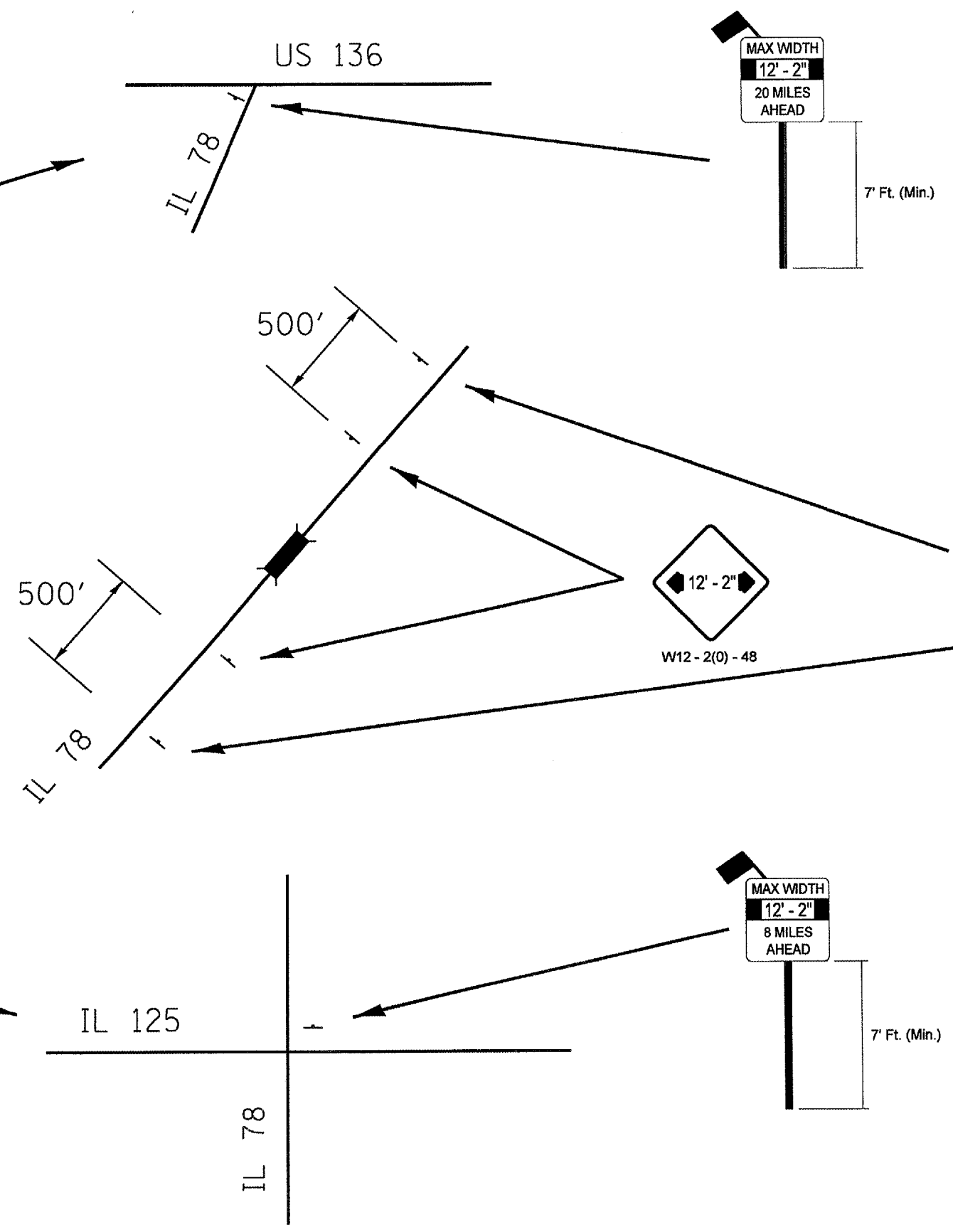
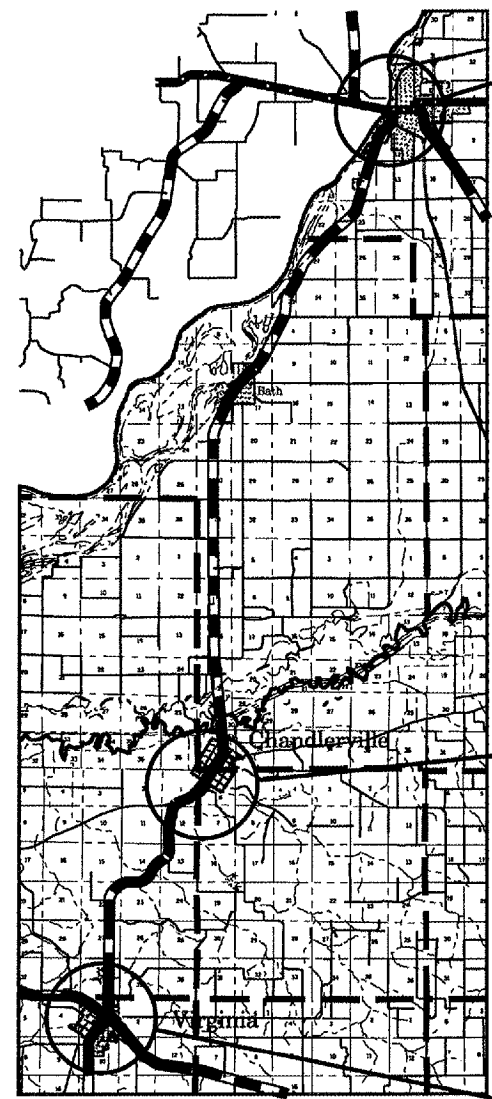


PLAN VIEW



PROFILE

(NOT TO SCALE)
 RESURFACING DETAIL
 FAP 614 (IL 78)
 SECTION (144BR-3)D
 CASS COUNTY

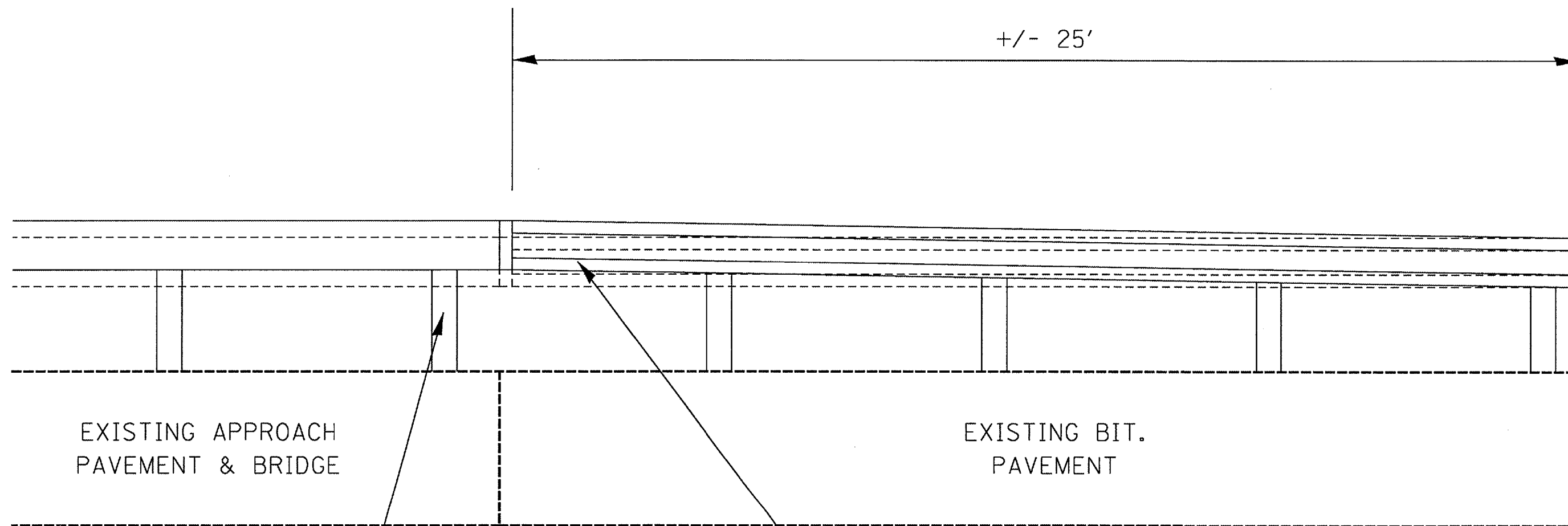


(NOT TO SCALE)

MAX WIDTH SIGNING
 FAP 614 (IL 78)
 SECTION (144BR-3)D
 CASS COUNTY

PROFILE VIEW

+/- 25'



EXISTING APPROACH
PAVEMENT & BRIDGE

EXISTING BIT.
PAVEMENT

LENGTHEN POSTS TO
RAISE BRIDGE RAIL GRADE
(PAID FOR AS REMOVE &
RE-INSTALL STEEL BRIDGE
RAIL, TYPE S-1)

ADJUST GUARDRAIL AND POSTS
VERTICALLY TO MEET BRIDGE RAIL
AND CREATE A SMOOTH RAIL GRADE.
LENGTH OF ADJUSTMENT AND
SMOOTHNESS MUST BE APPROVED
BY ENGINEER FOR ACCEPTANCE.

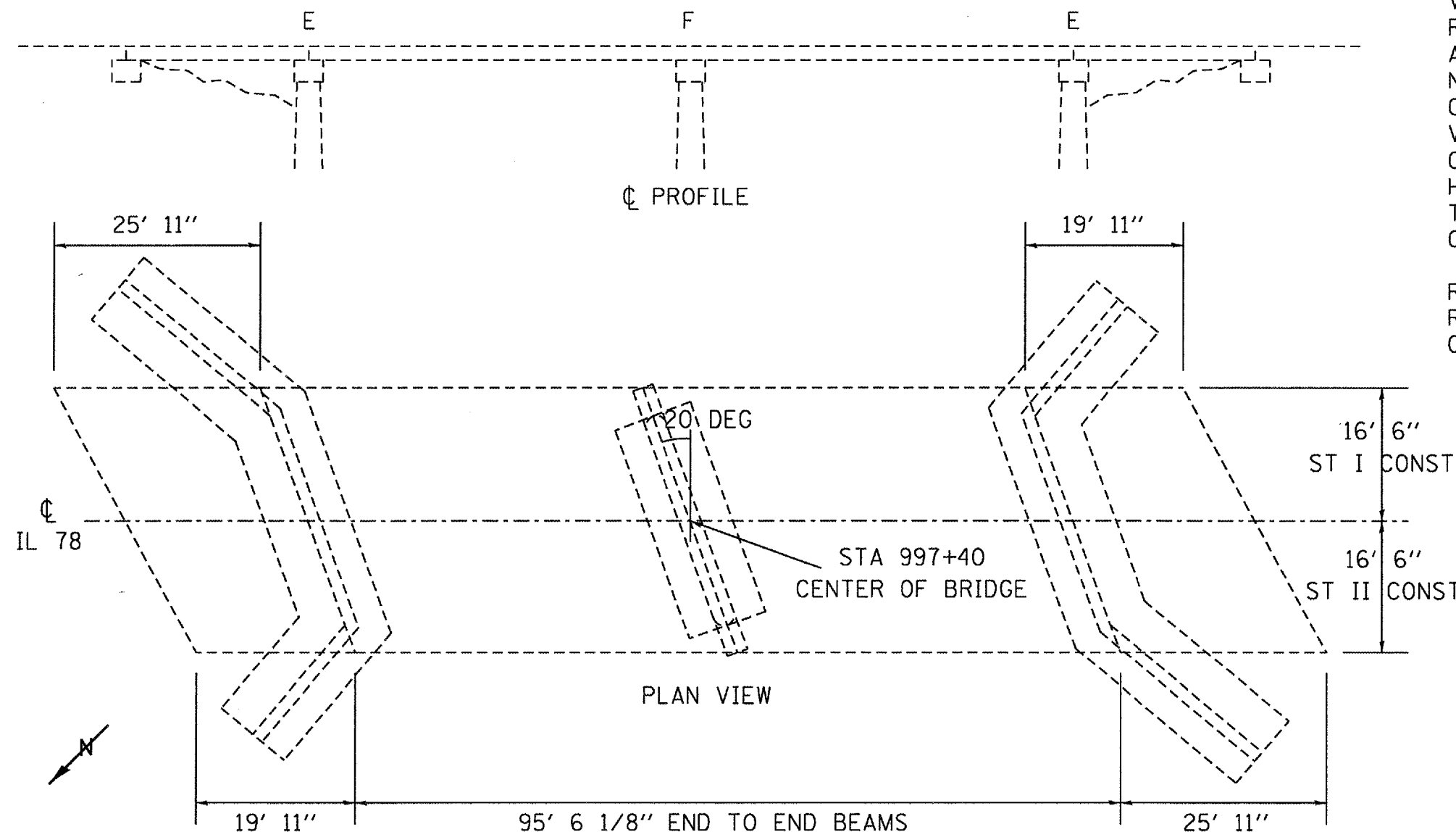
(NOT TO SCALE)

VERT. ADJ. OF SPBGR
FAP 614 (IL 78)
SECTION (144BR-3)D
CASS COUNTY

GENERAL NOTES

PLAN DIMENSIONS AND DETAILS OF THE EXISTING STRUCTURE ARE TAKEN FROM EXISTING PLANS AND ARE SUBJECT TO NOMINAL CONSTRUCTION VARIATIONS. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO VERIFY SUCH DIMENSIONS AND DETAILS IN THE FIELD AND TO MAKE NECESSARY APPROVED ADJUSTMENTS PRIOR TO CONSTRUCTION OR ORDERING MATERIALS. SUCH VARIATION SHALL NOT BE CAUSE FOR ADDITIONAL COMPENSATION FOR A CHANGE IN SCOPE OF WORK; HOWEVER THE CONTRACTOR WILL BE PAID FOR THE QUANTITY ACTUALLY FURNISHED AT THE CONTRACT UNIT BID PRICE FOR THE WORK.

REINFORCEMENT BARS SHALL CONFORM TO THE REQUIREMENTS OF AASHTO M-31, OR M-322 GRADE 60.

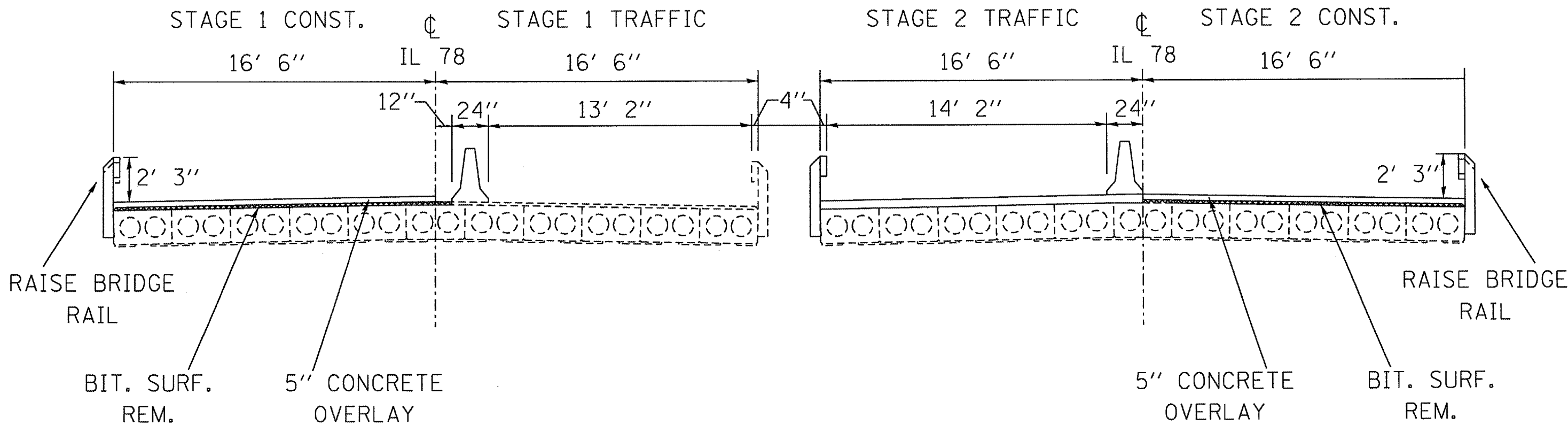


TOTAL BILL OF MATERIAL		
ITEM	UNIT	TOTAL
BIT CONC SUR REM COMP	SQ YD	350
BRIDGE DECK GROOVING	SQ YD	330
CONC. WEARING SURFACE	SQ YD	350
F & E STRUCTURAL STEEL	POUND	731
RE-BARS, EPOXY COATED	POUND	4280
POLYMER CONCRETE	CU FT	2.6
SILICONE JOINT SEALER, 2"	FOOT	71
PORT. TEMP. BARR. SYS.	FOOT	400
RELOCATE TEMP. BARR.	FOOT	400
BAR SPLICERS	EACH	95
BEARING PAD ADJUSTMENT	EACH	96
KEYWAY REPAIR	FOOT	266
REMOVE & RE-INSTALL STEEL BRIDGE RAIL, TY S-1	FOOT	287

(NOT TO SCALE)

BRIDGE PLAN & PROFILE
 FAP 614 (IL 78)
 SECTION (144BR-3)D
 CASS COUNTY

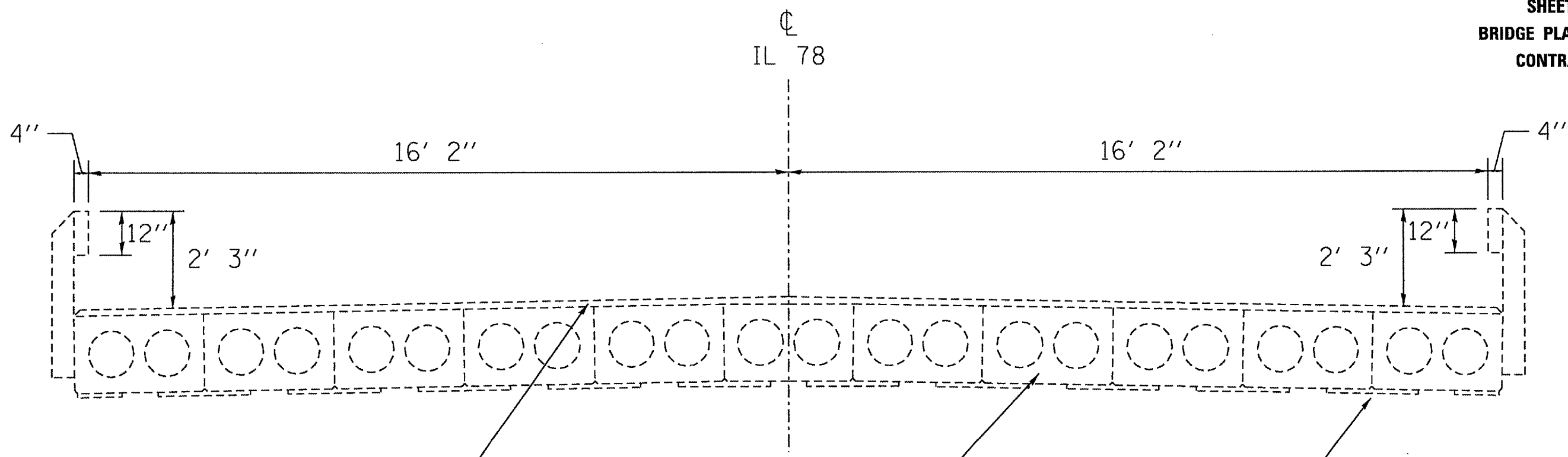
CROSS SECTION - LOOKING SOUTH



SEE STD 701321 FOR PLAN
VIEW OF TRAFFIC CONTROL

(NOT TO SCALE)

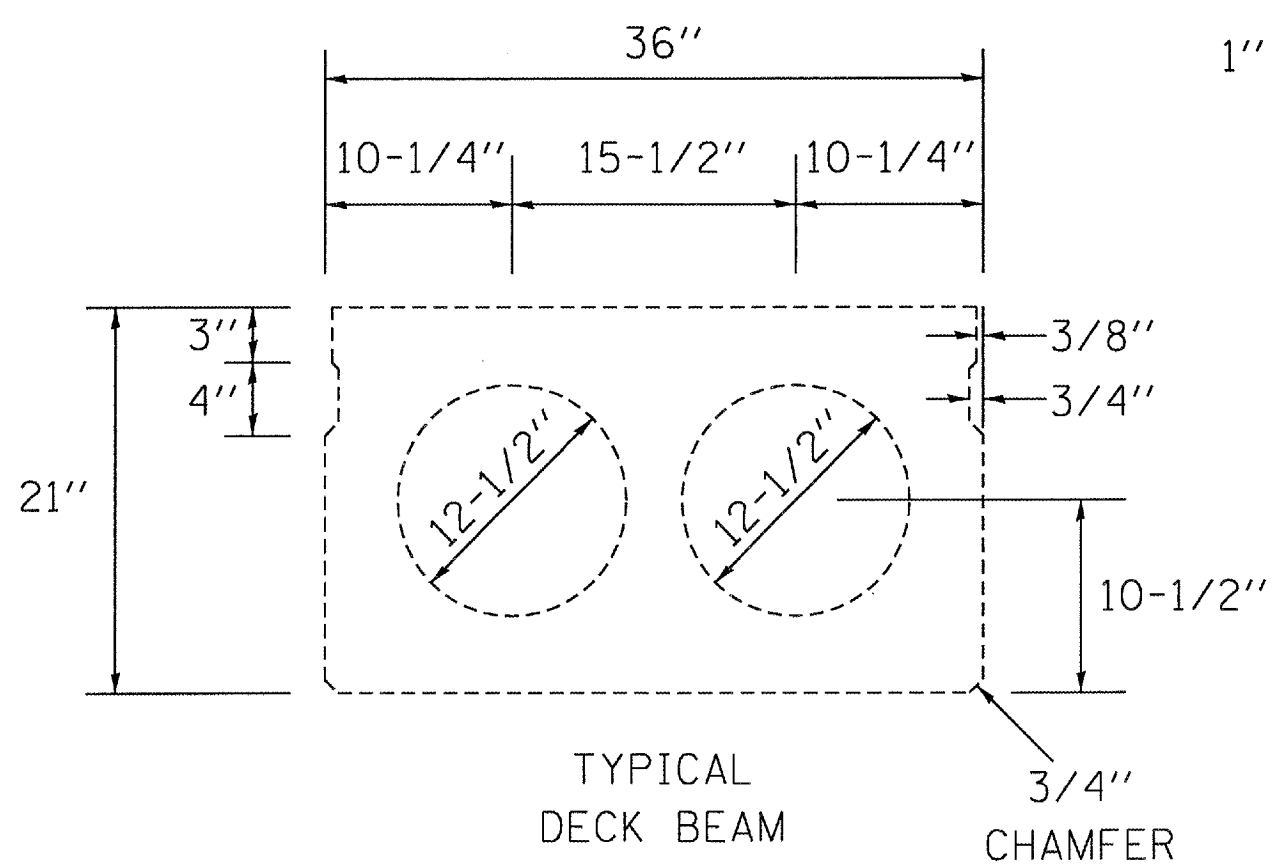
TRAFFIC STAGING DETAIL
FAP 614 (IL 78)
SECTION (144BR-3)D
CASS COUNTY



EXISTING VAR. DEPTH BIT. SURF. &
 WATER-PROOFING MEMBRANE TBR

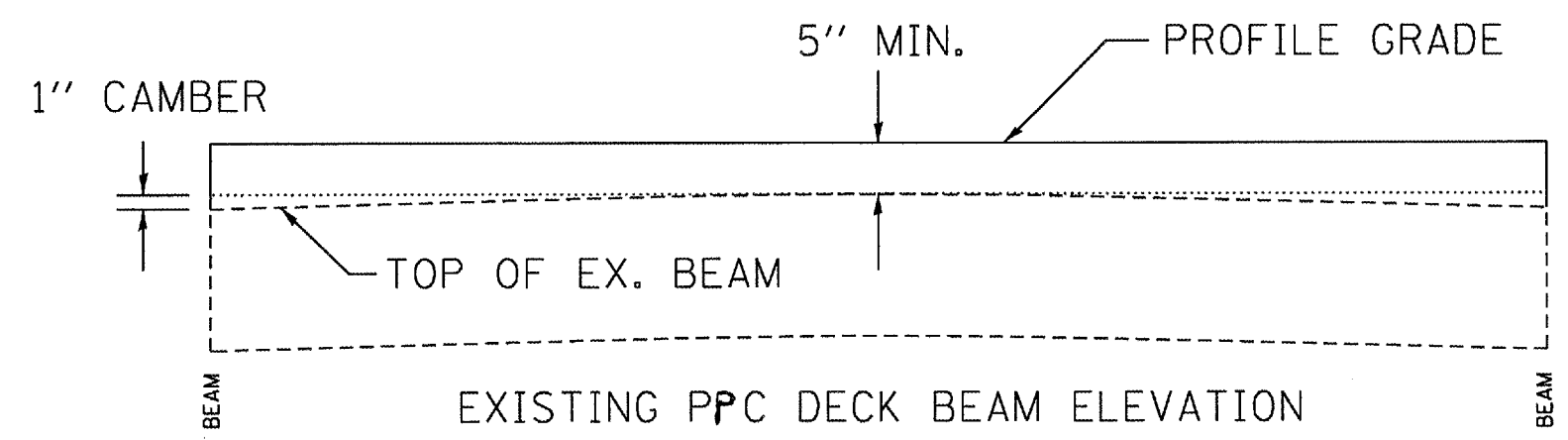
EXISTING PPC
 DECK BEAMS

EXISTING
 BEARING PADS



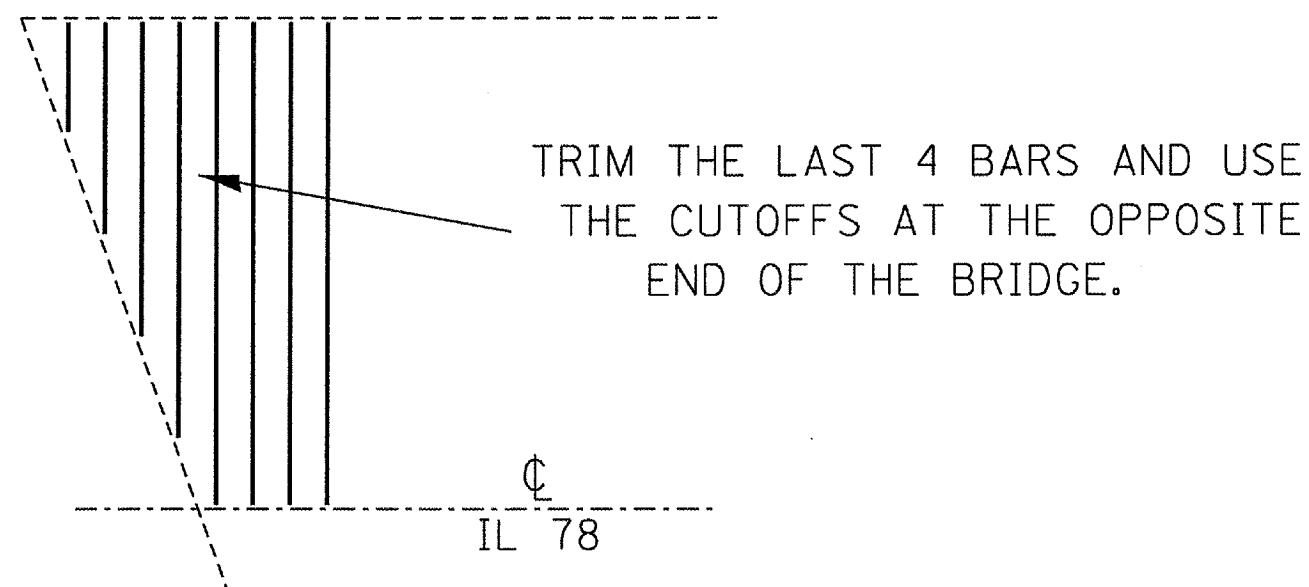
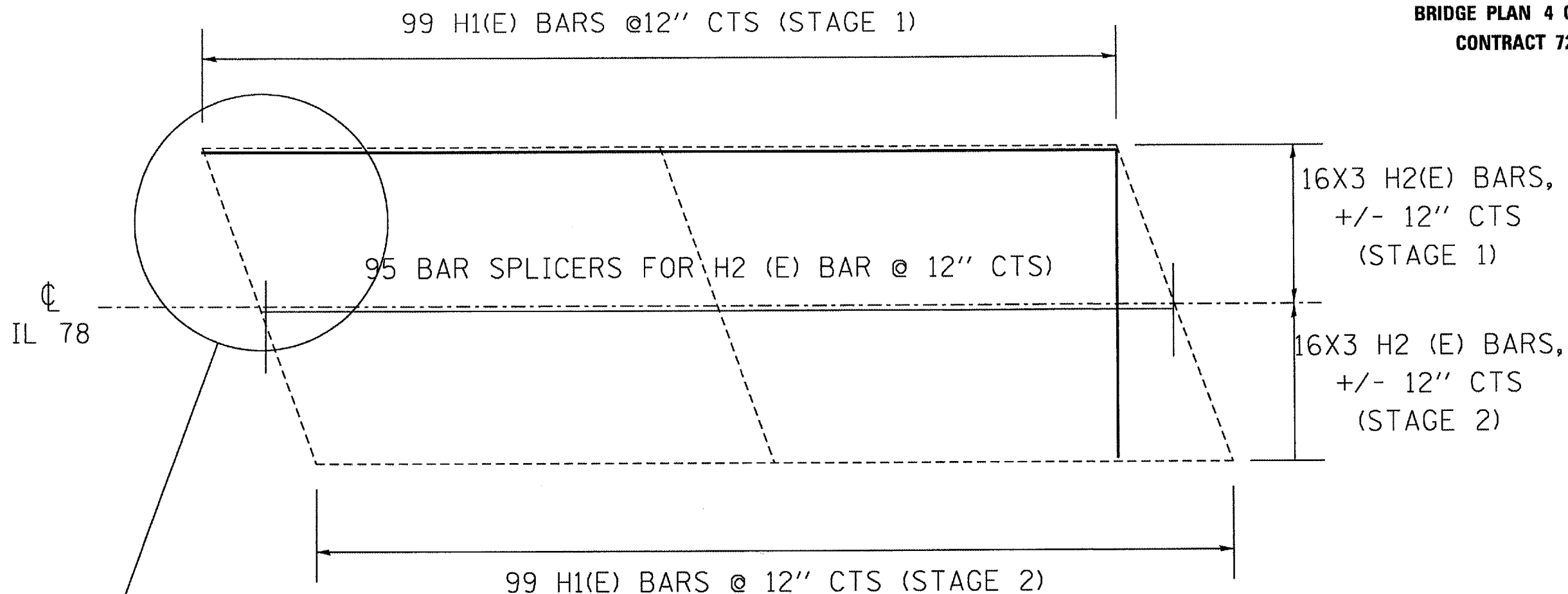
TYPICAL
 DECK BEAM

3/4"
 CHAMFER



NOTE: THE THICKNESS OF THE PCC OVERLAY VARIES
 AS REQUIRED TO ADJUST FOR THE EXISTING PROFILE
 GRADE AND BEAM CAMBER (NOT TO SCALE)

EXISTING CROSS SECTION
 FAP 614 (IL 78)
 SECTION (144BR-3)D
 CASS COUNTY

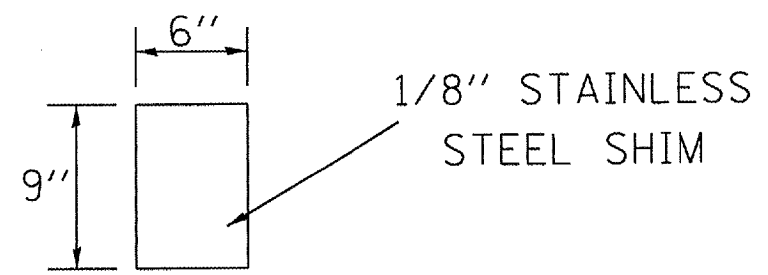


BAR	NO.	SIZE	LENGTH	WEIGHT	SHAPE
H1(E)	198	#4	16'-4"	2160 LB	—
H2(E)	96	#4	33'-0	2120 LB	—
SPLICERS	95	#4	NA	NA	NA

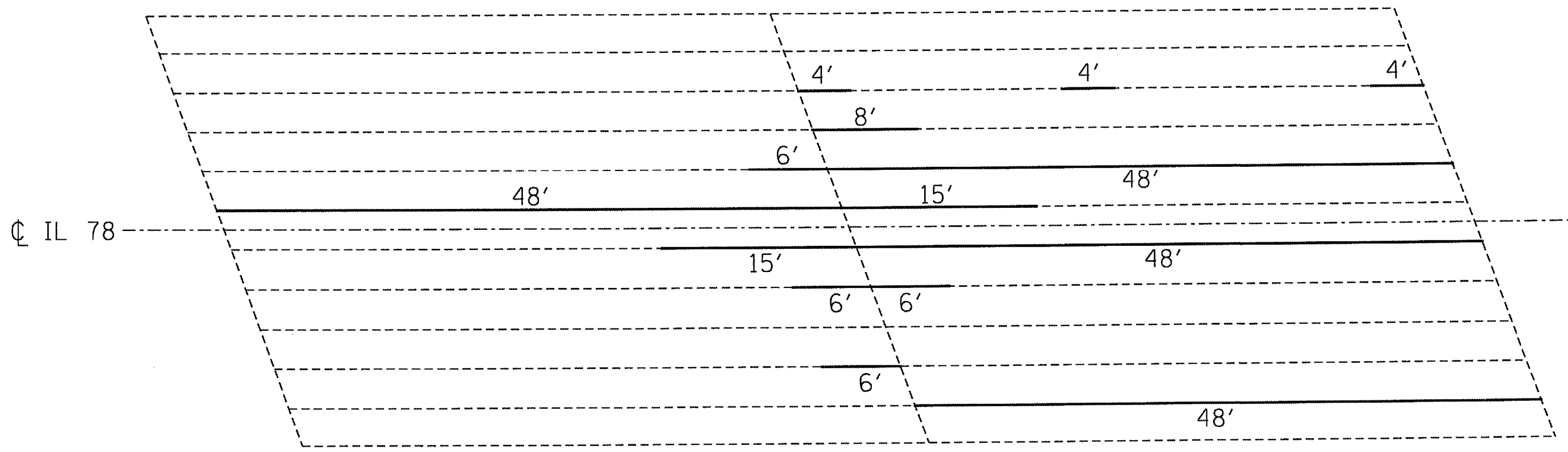
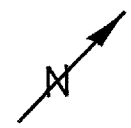
ALL REINFORCEMENT BARS SHALL BE EPOXY COATED.
 BARS INDICATED THUS, 16X3 INDICATES 16 LINES OF BARS WITH 3 LENGTHS.
 MIN BAR LAPS H2(E) BARS = 1'-8

(NOT TO SCALE)

RE-BAR PLAN
 FAP 614 (IL 78)
 SECTION (144BR-3)D
 CASS COUNTY



BEARING PAD ADJUSTMENT SHIMS

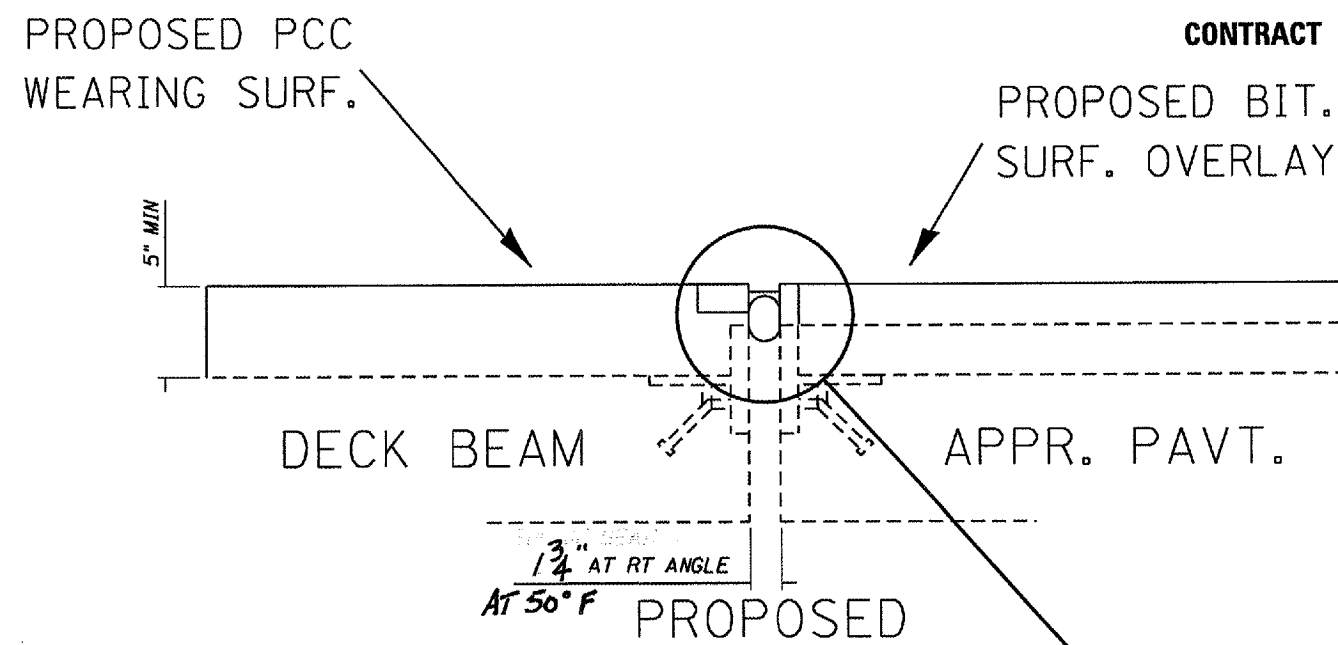
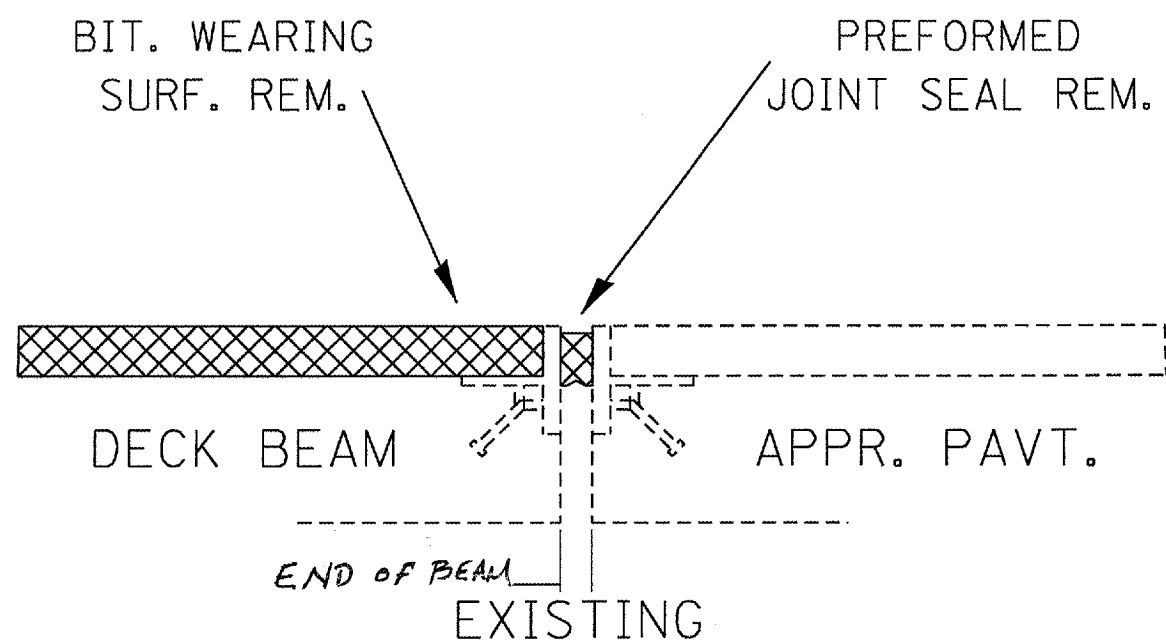


PLAN VIEW (FROM TOP)

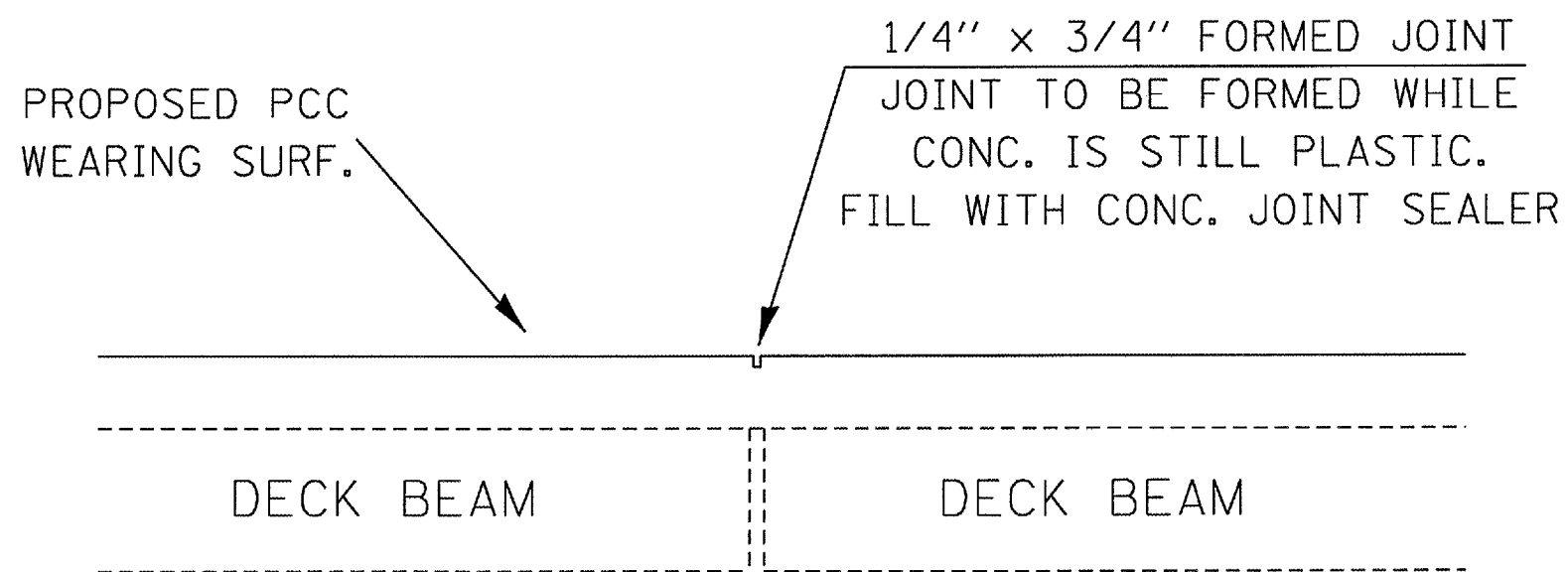
— PROPOSED KEYWAY REPAIR

NOTE: THE QUANTITY GIVEN FOR KEYWAY REPAIRS IS AN ESTMATE. THE ACTUAL KEYWAY REPAIR LOCATIONS AND QUANTITY SHALL BE DETERMINED BY THE ENGINEER AFTER REMOVAL OF EXISTING WEARING SURFACE.

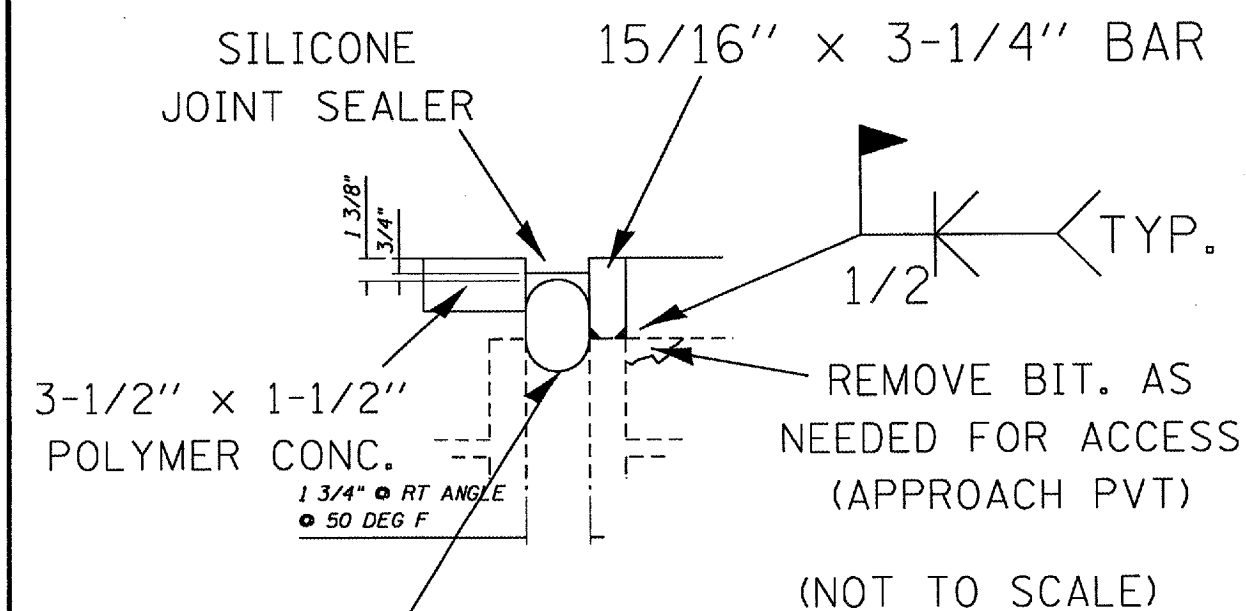
(NOT TO SCALE)
 KEYWAY REPAIR DETAIL
 FAP 614 (IL 78)
 SECTION (144BR-3)D
 CASS COUNTY



EXPANSION JOINTS AT ENDS OF BRIDGE



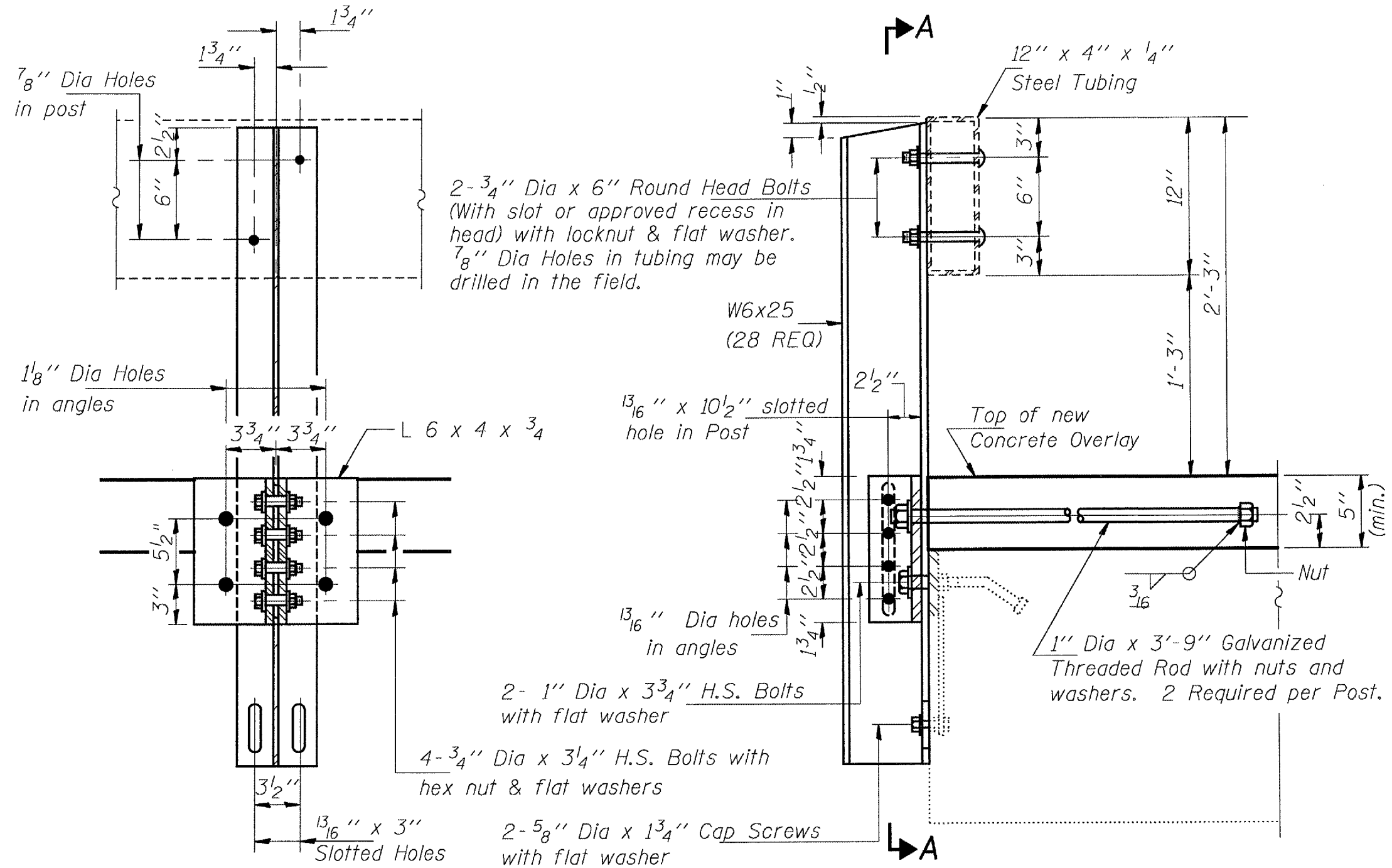
FIXED JOINT AT CENTER OF BRIDGE (STA 997+40)



BACKER ROD HAVING A DIAMETER OF 25% GREATER THAN THE JT OPENING AT TIME OF INSTALLATION

EXPANSION JOINT DETAIL
 FAP 614 (IL 78)
 SECTION (144BR-3)D
 CASS COUNTY

(NOT TO SCALE)



SECTION A-A

SECTION AT RAIL POST

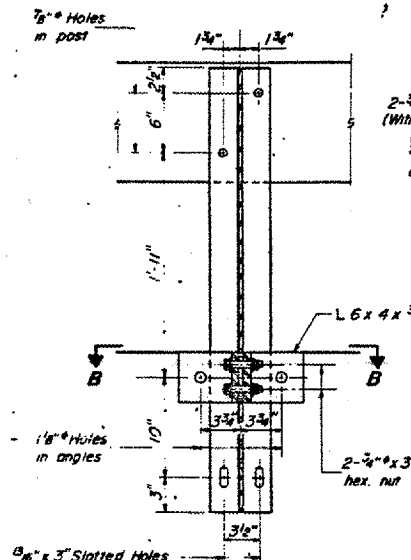
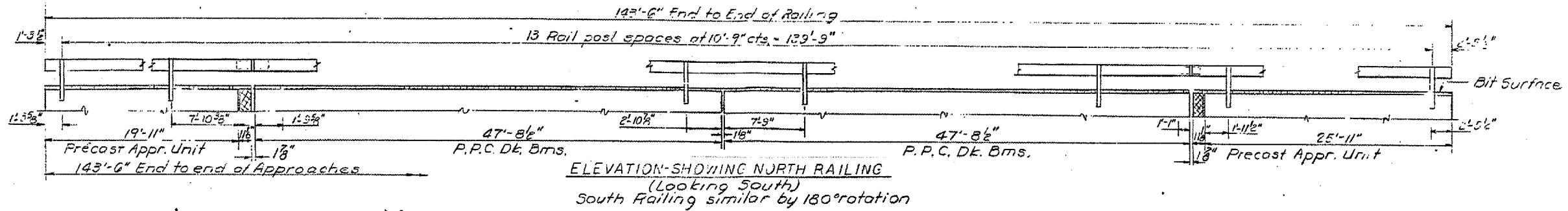
RAIL RETROFIT ON PPC DECK BEAMS

NOTE: ALL NOTES ON SHEET 16 FOR THE EXISTING RAIL PLANS SHALL APPLY TO ALL NEW STEEL USED FOR INSTALLATION OF THE NEW RAIL POSTS, ANGLES AND RELATED HARDWARE SHOWN ABOVE.

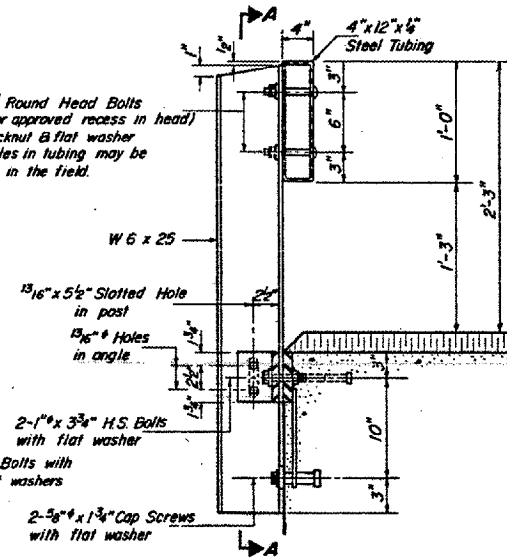
(NOT TO SCALE)
 RAIL RETROFIT DETAIL
 FAP 614 (IL 78)
 SECTION (144BR-3)D
 CASS COUNTY

STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

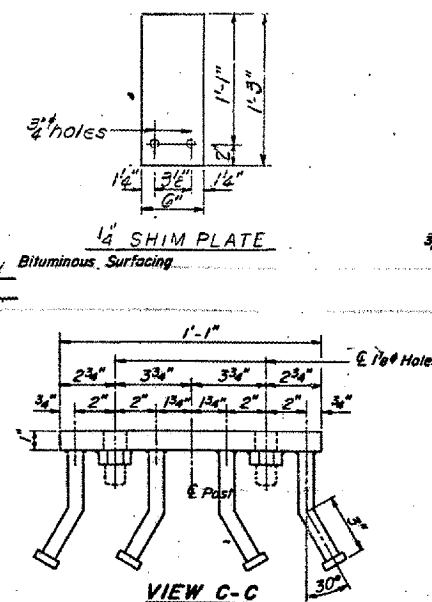
SECTION NO.	SECTION	COUNTY	DATE	SCALE
614	144BR-3	Cass	22	16
FOR BRIDGE PLAN 8 OF 8		ALIGNED	FOR JOB PROPERTY	



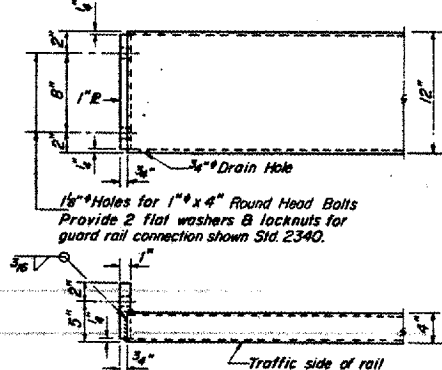
SECTION A-A



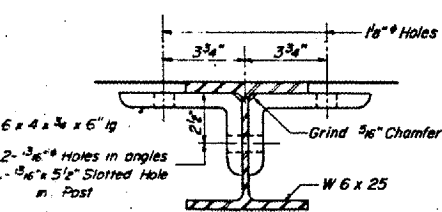
SECTION AT RAIL POST



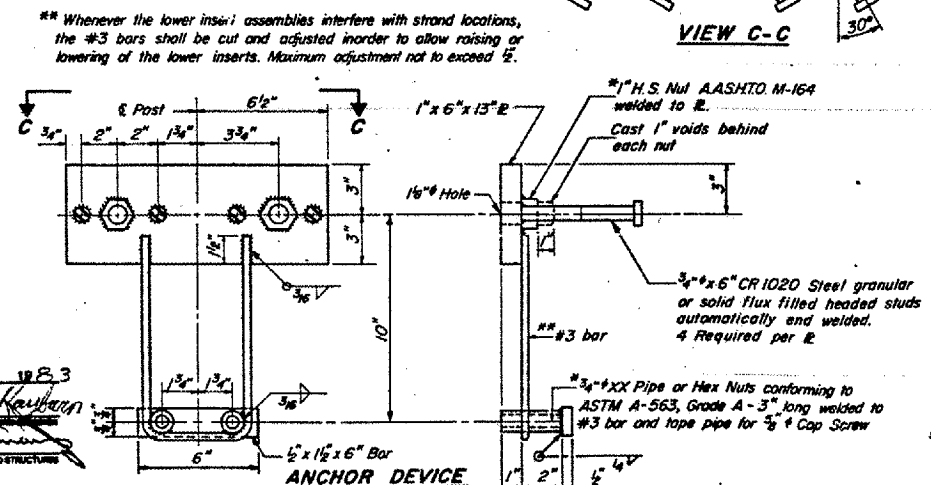
VIEW C-C



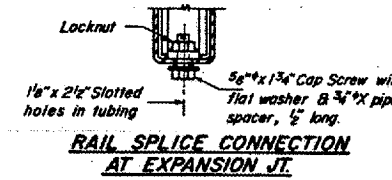
END OF RAIL DETAILS



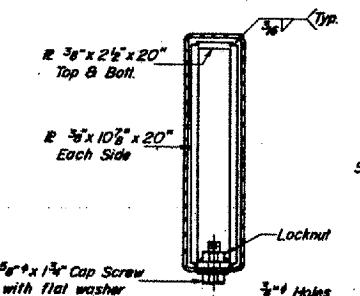
SECTION B-B



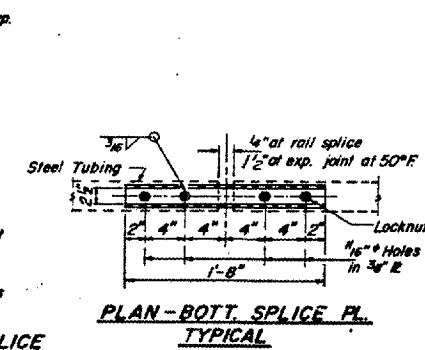
ANCHOR DEVICE



RAIL SPLICE CONNECTION AT EXPANSION JT.



SECTION AT RAIL SPLICE



PLAN-BOTTOM SPLICE PL. TYPICAL

NOTES

Hollow structural steel tubing shall conform to the requirements of ASTM designation A-500 Grade B Structural Steel Tubing.
 All other steel shapes and plates shall conform to the requirements of AASHTO M-163 except posts and angles shall conform to AASHTO M-223, Grade 50. Bolts, cap screws, and nuts shall conform to the requirements of ASTM designation A-307 except for high strength bolts, nuts and washers noted which shall conform to AASHTO M-164.
 All bolts, nuts, cap screws, washers and lock washers shall be galvanized in accordance with AASHTO M-232.
 All posts, railing, rail splices, anchor devices and angles shall be galvanized after shop fabrication in accordance with AASHTO M-111 and ASTM A-385. Galvanized rail shall not be painted.
 Railing shall be in accordance with Section 508 of the Standard Specifications, except as noted, and shall be paid for at the contract unit price per linear foot for STEEL RAILING, TYPE S-1.
 All field drilled holes shall be coated with an approved zinc rich paint before erection.
 The lower portion of the post flange in contact with concrete shall receive two coats of asphalt paint conforming to Section 714.08 Type B or place 1/2" fabric bearing pad between the post and concrete.
 The 3/4" high strength bolts used to connect the 6 x 4 x 3/4 angles to the post shall be tightened in accordance with Article 507.04 (g)(3) of the Standard Specifications. The 1" high strength bolts connecting the angles to the concrete shall be tightened to a snug fit and given an additional 1/4 turn. The 5/8" cap screws in bottom of posts shall be tightened to a snug fit only.
 For multi-span bridges, sufficient 1/2" x 6" x 1-3/4" galvanized steel shims shall be provided to align rail between adjacent spans. Cost incidental to steel railing.

BILL OF MATERIAL

Item	Unit	Quantity
Steel Railing, Type S-1	Lin. Ft.	257

TYPE S-1
 STEEL RAILING

EXISTING RAIL PLANS
 (FOR INFORMATION ONLY)
 FAP 614 (IL 78)
 SECTION (144BR-3)D
 CASS COUNTY

DESIGNED: [Signature]
 CHECKED: [Signature]
 DRAWN: F.M.
 EXAMINED: [Signature]
 PASSED: [Signature]
 APPROVED: [Signature]

R-23A 6-1-82 (10'-9" Maximum Post Spacing)