As Built Plans ~~OFFICE COPY~~ RE: M. Driggins

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
116	113 VBR	CUMBERLAND	26	1
F.H.W.A. REG.	ILLINOIS	PROJECT		

P-95-021-78

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

PLANS FOR PROPOSED FEDERAL AID HIGHWAY

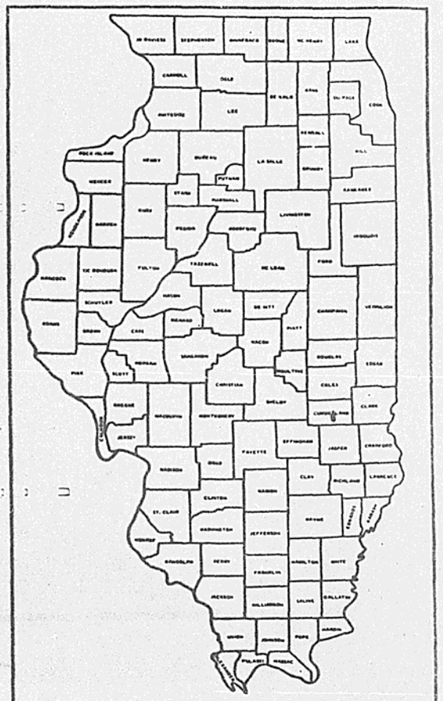
FOR INDEX OF SHEETS, SEE SHEET NO. 5
FOR SUMMARY OF QUANTITIES, SEE SHEET NO. 6

SCALES	
PLAN	1"=20'
PROFILE HORIZ.	1"=20'
PROFILE VERT.	1"=5'
CROSS SECTIONS	1"=10' (HORIZ.) 1"=5' (VERT.)

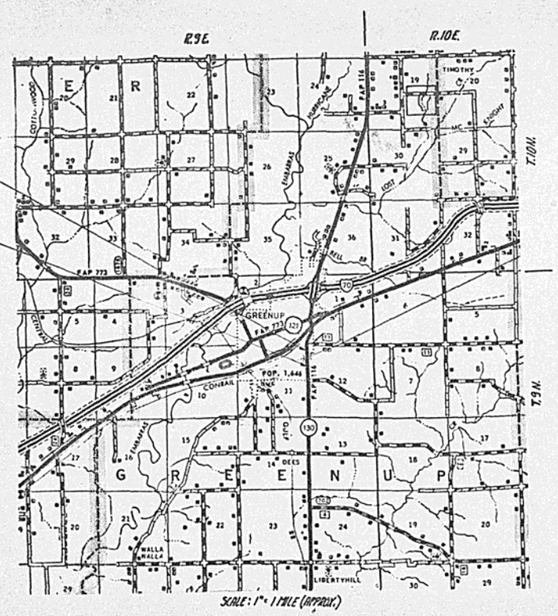
F.A. ROUTE 116
SECTION 113 VBR
PROJECT BR-F-116(17)
CUMBERLAND COUNTY

C-95-090-80

BRIDGE RECONSTRUCTION



LOCATION OF SECTION INDICATED THUS: —



SCALE: 1" = 1 MILE (APPROX.)

PROJECT BR-F-116(17) & SECTION 113 VBR BEGINS STATION 497+00

PROJECT BR-F-116(17) & SECTION 113 VBR ENDS STATION 500+25

STRUCTURE 113 VBR: THE CONSTRUCTION OF A THREE SPAN STRUCTURE CARRYING F.A. ROUTE 116 OVER THE CONRAIL TRACKS AT STATION 498+60.60 CONSISTING OF A 7½" REINFORCED CONCRETE DECK ON STEEL I BEAMS ON WIDENED AND RECONSTRUCTED CONCRETE ABUTMENTS AND PIERS. SPANS 1@38'-0⅛" & 2@44'-9½"; ROADWAY WIDTH 32'-0"; SKEW 15°-28'-30".

TOTAL LENGTH OF SECTION 113 VBR	=	325.00 FEET = 0.062 MILES
NET LENGTH OF SECTION 113 VBR	=	325.00 FEET = 0.062 MILES
TOTAL LENGTH OF PROJECT BR-F-116(17)	=	325.00 FEET = 0.062 MILES
NET LENGTH OF PROJECT BR-F-116(17)	=	325.00 FEET = 0.062 MILES

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

SUBMITTED 6-6 19 80 — R. E. Krapf — DISTRICT ENGINEER

EXAMINED 10-14 19 80 — P. W. Wiemann — ENGINEER OF PLANS AND CONTRACTS

PASSED 10-14 19 80 — Thomas R. Bruett — ENGINEER OF DESIGN

APPROVED 10-14 19 80 — Glen J. Bourquin — DIRECTOR, DIVISION OF HIGHWAYS

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION

APPROVED

DIVISION ADMINISTRATOR DATE

345-6404

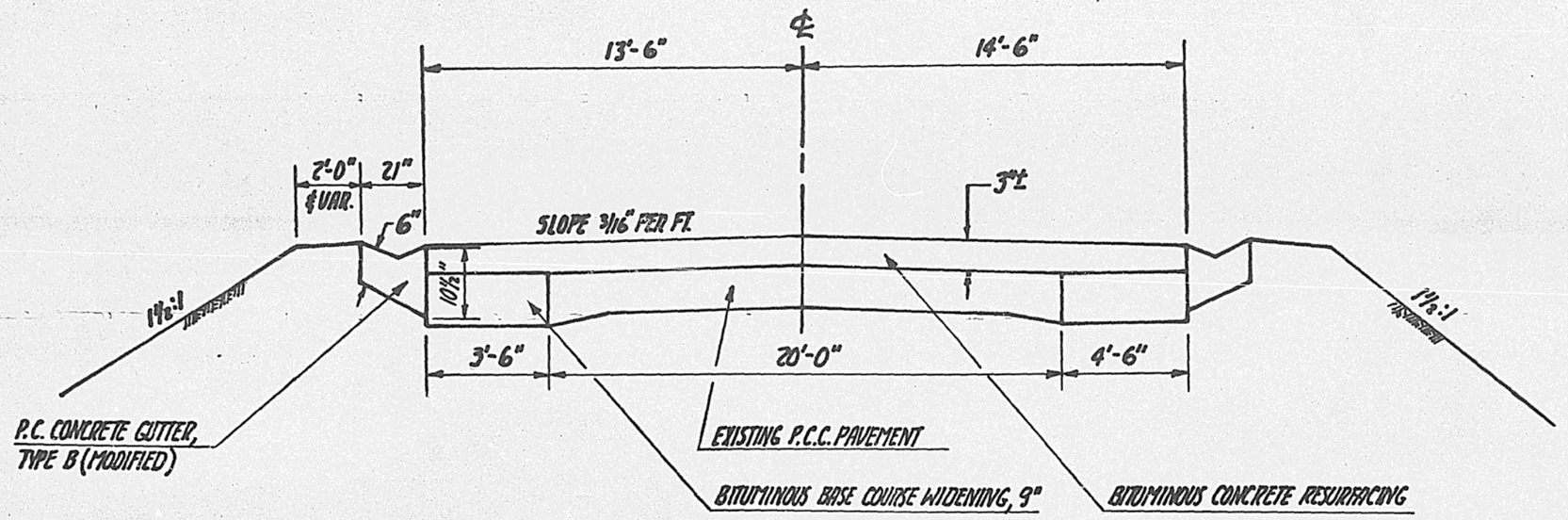
CONTRACT NO. 34800

CALL J.U.L.I.E. BEFORE YOU DIG
TELEPHONE NO. 800-892-0123
(GREENUP TOWNSHIP)

REVISED 10-22-80 (ADDED JULIE NOTE)

ROUTE NO.	SEC.	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.116	113VBR	CUMBERLAND	26	2
FED. ROAD DIST. NO. 9	ILLINOIS		PROJECT	

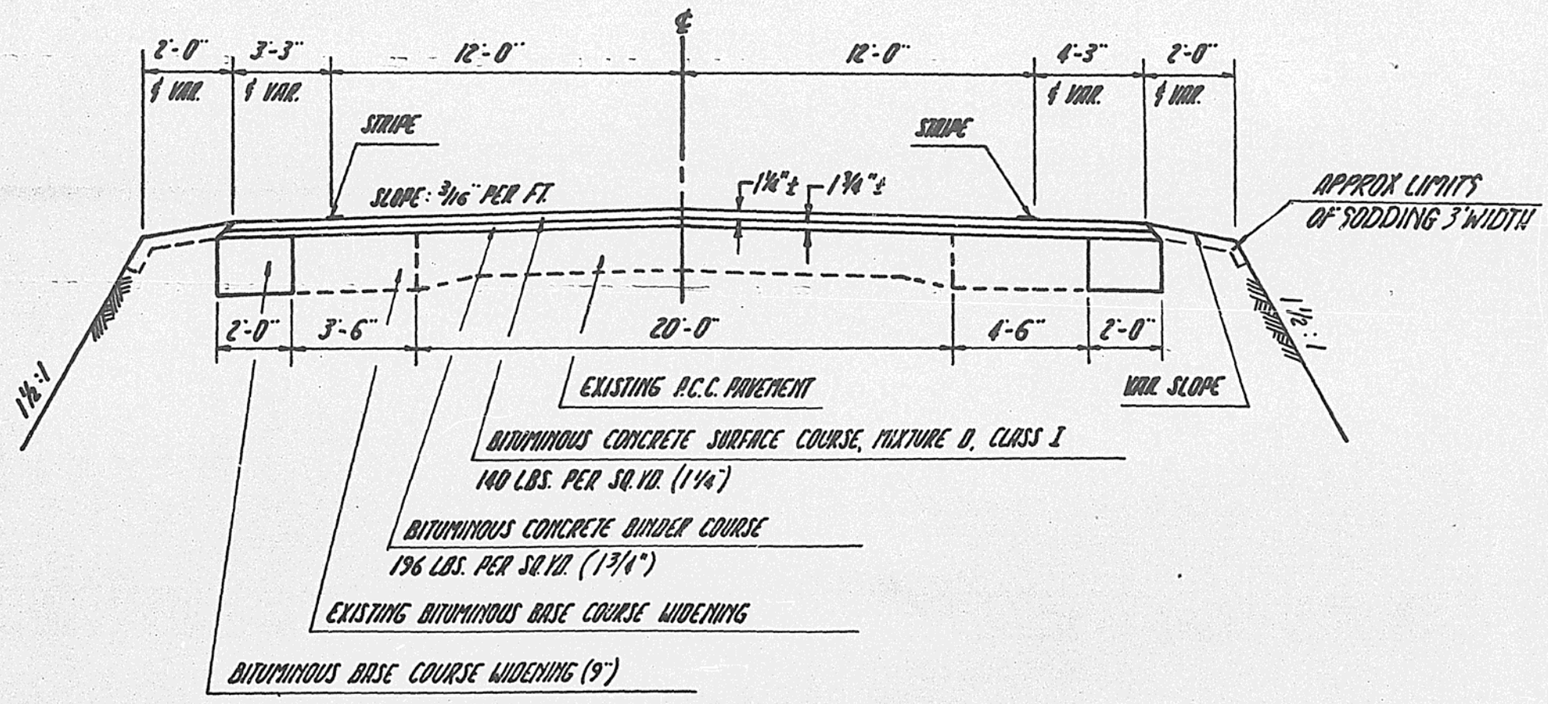
EXISTING TYPICAL CROSS SECTION



PROPOSED TYPICAL CROSS SECTION

STATION 497+00 TO STATION 497+72.88
STATION 499+48.32 TO STATION 500+25

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
S.B.I. F.A. 116	113 B&P	CUMBERLAND	26	3

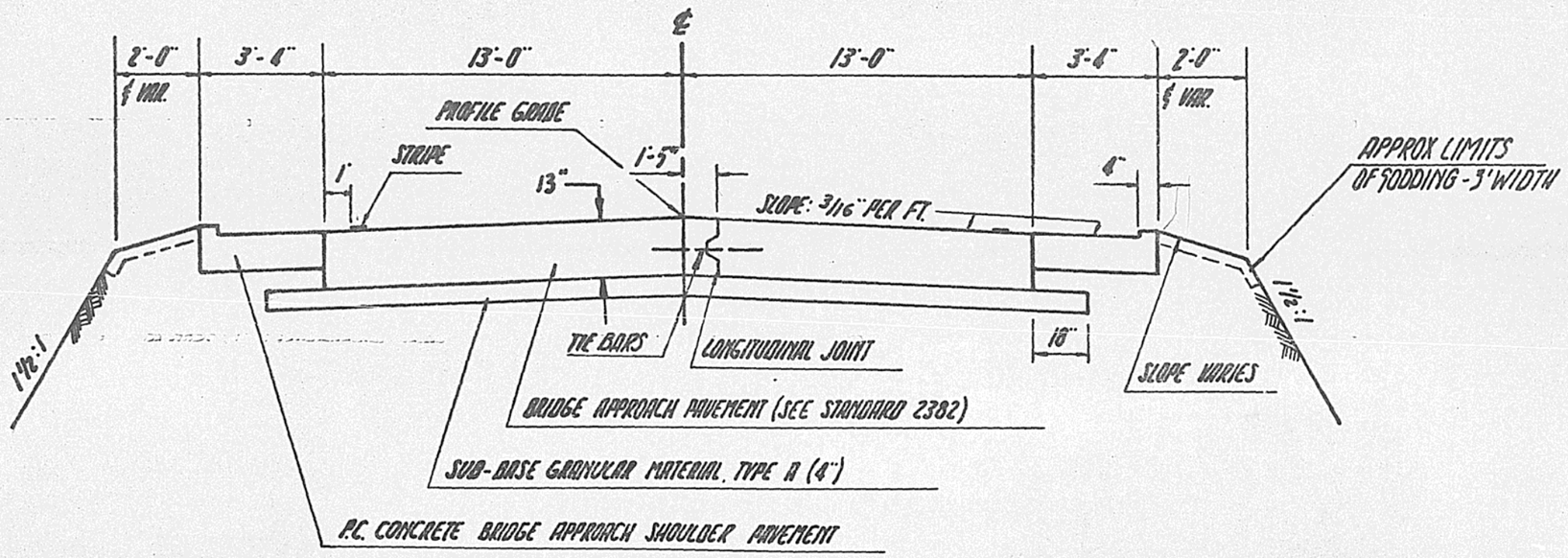


NOTE: EXISTING BITUMINOUS SURFACE & EXISTING GUTTER TO BE REMOVED

PROPOSED TYPICAL CROSS SECTION

STATION 497+72.88 TO STATION 497+96.46
STATION 499+24.74 TO STATION 499+48.32

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
S. B. I. F. A. 116	113 VAR	CUMBERLAND	26	4



ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
S.B.I. F.P 116	113VBR	CUMBERLAND	26	5

INDEX OF SHEETS

STANDARDS

GENERAL NOTES

EARTHWORK QUANTITIES FOR THE ENTIRE SECTION:

EMBANKMENT:	104 CU.YDS.
EARTH EXCAVATION:	23 CU.YDS.
STRUCTURE EXCAVATION:	95 CU.YDS.
BORROW:	16 CU.YDS.

FERTILIZER NUTRIENT APPLICATION RATES FOR SODDING AND SEEDING:

NITROGEN AT 60 LBS. PER ACRE
PHOSPHORUS AT 200 LBS PER ACRE
POTASSIUM AT 60 LBS PER ACRE

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DISTRICT FIVE

REVIEWED BY: J. G. Cotton
DISTRICT ENGINEER OF DESIGN

DATE: 4-6-80

EXAMINED: Charles A. Tatlow
DISTRICT ENGINEER OF CONST.

O. J. Johnson
DISTRICT ENGINEER OF MAINT.

J. R. Brown
DISTRICT ENGINEER OF PLANNING

D. R. Engelbrecht
DISTRICT ENGINEER OF TRAFFIC

SUMMARY OF QUANTITIES

ROUTE NO	SECTION	COUNTY	TOTAL SHEETS	SHEET NO
U.S. / PA 116	113VER	CUMBERLAND	26	6

CODE NO	ITEM	UNIT	ACTUAL TOTAL QUANTITY PLACED	STRUCTURE 113VER	ROADWAY STA.497+00.0 TO STA.500+25.0	EROSION CONTROL			
				SAFETY CLASSIFICATION CODE 831					
				CONSTRUCTION TYPE CODE					
				X171	6706				
207001	EMBANKMENT	CU.YD.	~~204~~ 86		104				
306004	BITUMINOUS CONCRETE BASE COURSE WIDENING (9 IN)	SQ.YD.	66		66				
406001	BITUMINOUS MATERIALS (PRIME COAT)	GALLON	~~45~~ 40		45				
406007	BITUMINOUS CONCRETE BINDER COURSE	TON	~~58~~ 121		52				
406013	BITUMINOUS CONCRETE SURFACE COURSE, MIXTURE D; CLASS I	TON	~~37~~ 38		37				
X40812	BRIDGE APPROACH PAVEMENT (STANDARD 2382)	SQ.YD.	~~136.2~~ 136.0		136.2				
408015	P.C. CONCRETE BRIDGE APPROACH SHOULDER PAVEMENT	SQ.YD.	~~31~~ 34		31				
501048	REMOVAL OF EXISTING CONCRETE DECK	L.SUM	1	1					
501024	CONCRETE REMOVAL	CU.YD.	4	4					
501029	EXPANSION BOLTS, 3/4 INCH	EACH	~~204~~ 199	204					
502001	STRUCTURE EXCAVATION	CU.YD.	95	95					
503003	PROTECTIVE COAT	SQ.YD.	727	560	167				
504003	CLASS X CONCRETE	CU.YD.	~~183.7~~ 184.5	183.7					
507001	FURNISHING AND ERECTING STRUCTURAL STEEL	L.SUM	1	1					
507005	STUD SHEAR CONNECTORS	EACH	2,214	2,214					
509003	CLEANING AND PAINTING STEEL BRIDGE	L.SUM	1	1					
511759	END SECTIONS (12 IN.)	EACH	4		4				
512001	REINFORCEMENT BARS	POUND	26,523	19,580	6,943				
512002	REINFORCEMENT BARS (EPOXY COATED)	POUND	16,480	16,480					
513014	FURNISHING STEEL PILES . HP 10x42	LIN.FT.	~~191~~ 183	154					
513027	DRIVING STEEL PILES	LIN.FT.	~~154~~ 183	154					
514001	NAME PLATES	EACH	1	1					
601014	RIPRAP	SQ.YD.	~~350~~ 387	350					
607005	TYPE DRAINS (12 IN.)	LIN.FT.	~~274~~ 245		274				
612470	TYPE C INLET BOX, STANDARD 2324	EACH	4		4				
X61640	TEMPORARY CONCRETE BARRIER	LIN.FT.	~~430~~ 0	430					
X61641	TEMPORARY CONCRETE BARRIER, TERMINAL SECTION	EACH	~~2~~ 0	2					
X61642	RELOCATE TEMPORARY CONCRETE BARRIER	LIN.FT.	~~374~~ 304	374					
617001	PAVEMENT REMOVAL	SQ.YD.	~~145~~ 151		145				
617004	GUTTER REMOVAL	LIN.FT.	298		298				
617010	BITUMINOUS CONCRETE SURFACE REMOVAL	SQ.YD.	~~448~~ 447		448				
620016	PAVEMENT REMOVAL AND BITUMINOUS REPLACEMENT, TYPE I (9 IN.)	SQ.YD.	~~20~~ 4		20				
X628844	TRAFFIC BARRIER TERMINAL, TYPE 6	EACH	4		4				
X628875	TRAFFIC BARRIER TERMINAL, TYPE 11	EACH	2	2					
633003	STEEL PLATE BEAM GUARD RAIL REMOVAL	LIN.FT.	82		82				
633010	REMOVE AND RE-ERECT STEEL PLATE BEAM GUARD RAIL	LIN.FT.	~~156~~ 156		152				
641001	SODDING	SQ.YD.	~~204~~ 0		204				
641002	SUPPLEMENTAL WATERING	UNIT	~~2~~ 0		2				
646004	ENGINEER'S FIELD OFFICE, TYPE A	CAL.MO	~~4~~ 0	4					
647001	PAVEMENT MARKING TAPE	LIN.FT.	~~12~~ 32		12				
648018	TRAFFIC CONTROL AND PROTECTION (SPECIAL)	L.SUM	1	1					
X64851	TRAFFIC CONTROL AND PROTECTION, STANDARD 2303	L.SUM	1	1					
210295	PERMANENT BENCH MARKS	EACH	1	1					
X05728	TEMPORARY BRIDGE RAIL	LIN.FT.	325	128	197				
X50313	PREFORMED JOINT SEAL (2½ IN.)	LIN.FT.	74	74					
X50315	ELASTOMERIC BEARING ASSEMBLY, TYPE I	EACH	8	8					
X04748	MOBILIZATION	L.SUM	1	1					
XZ1232	CONCRETE THRUST BLOCKS	EACH	4		4				
X95521	TRANS & ERECT TEMP CONC BARR.	LIN FT	430						
X95522	TRANS & ERECT TEMP CONC BAR TERM SEC.	EACH	2						
XXX040	Value ENG. INCENTIVE	DOLLARS	2,339.50						
X95633	DEDUCT CA NO3 CL. X PARAPET	CU.YD	-25.7						
FRC002	REHAB STRUCT STEEL	DOLLARS	34,100.52						
X95684	BIT. ANTI STRIP AGENT	TONS	38						
X95655	RAILROAD FLAGMAN	DOLLARS							
FRC05A	SPLICE STEEL PILING	DOLLARS	614.90						
FRC05B	MOVE TRAFFIC SIGNALS	DOLLARS	206.13						
FRC05C	RAILROAD BALLAST AROUND PIERS	DOLLARS	2,691.47						
XXX070	PRICE ADJ. FOR FUEL	DOLLARS	4,485.55						

CODE NO.	Item	UNIT	ACTUAL QUANTITY PLACED
XXX030	PRICE ADJ. FOR BITUMINOUS	DOLLARS	374.86
642010	SEEDING II SPECIAL	ACRES	0.2
620017	PAVT REM & REPL TY2 9	SQ YDS	2.0

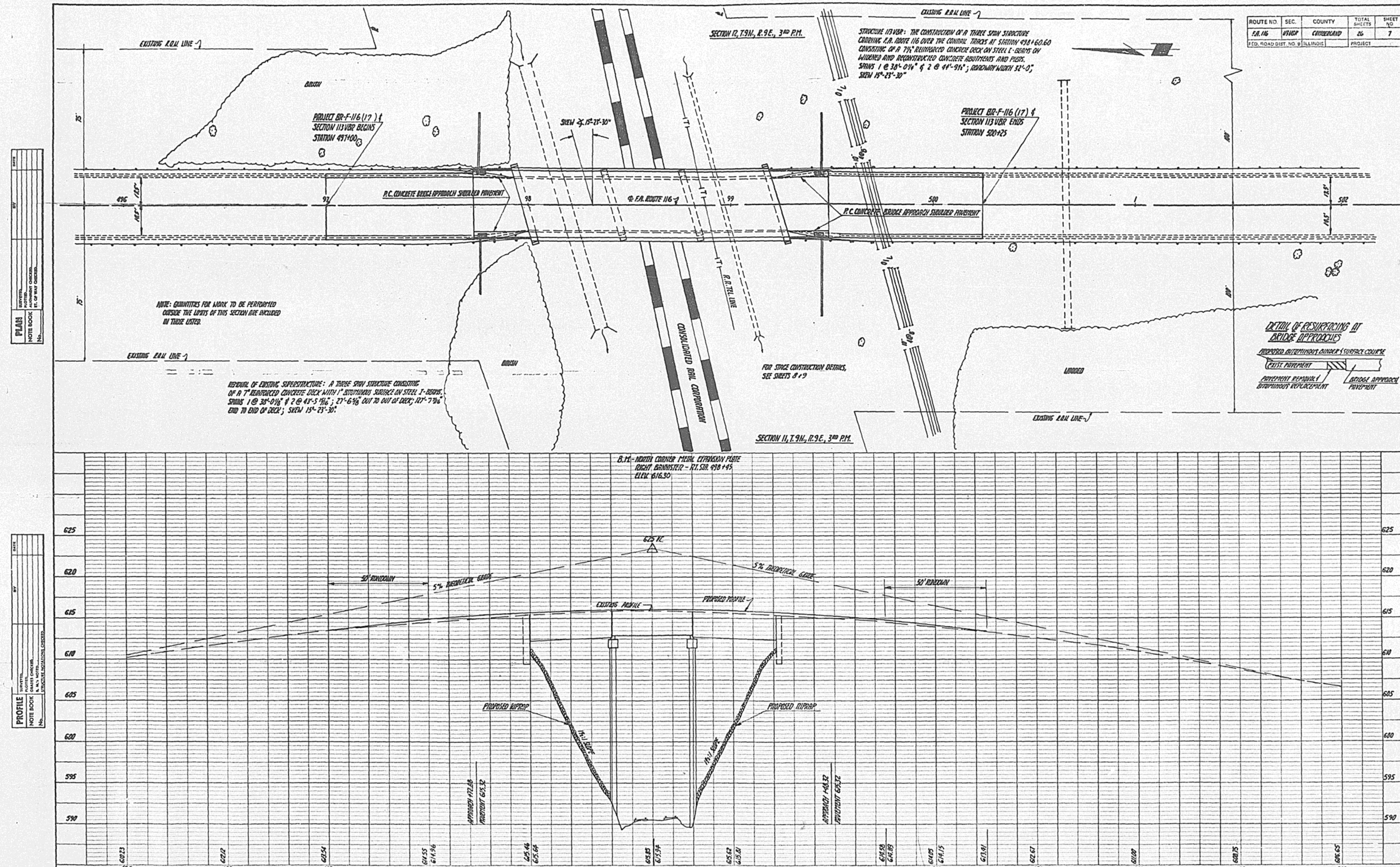
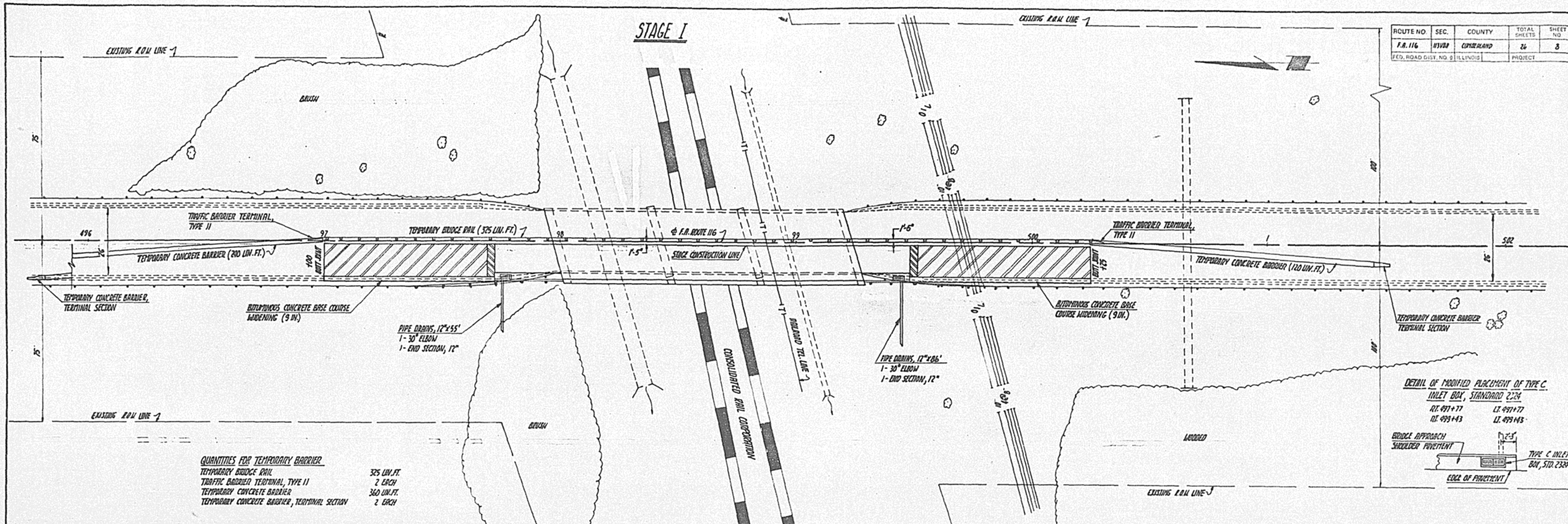


PLATE 1 PLAN-PROFILE B.P.R. STANDARD

ROUTE NO.	SEC.	COUNTY	TOTAL SHEETS	SHEET NO
F.A. 116	113VB8	CUMBERLAND	26	8
FED. ROAD DIST. NO. 9	ILLINOIS		PROJECT	

STAGE I



QUANTITIES FOR TEMPORARY BARRIER

TEMPORARY BRIDGE RAIL	325 LIN. FT.
TRAFFIC BARRIER TERMINAL, TYPE II	2 EACH
TEMPORARY CONCRETE BARRIER	360 LIN. FT.
TEMPORARY CONCRETE BARRIER, TERMINAL SECTION	2 EACH

B.M. - NORTH CORNER METAL EXPANSION PLATE RIGHT BANNISTER - RT. STA. 498+45 ELEV. 616.30

PAVEMENT REMOVAL:

STATION	TO	STATION	SQ. YD.
RT. 497+72.88		RT. 498+01	40
RT. 499+24		RT. 499+48.32	33
		TOTAL =	73 SQ. YD.

PAVEMENT REMOVAL AND BITUMINOUS REPLACEMENT, TYPE I (9 IN.):

STATION	TO	STATION	SQ. YD.
RT. 497+69.88		RT. 497+72.88	5
RT. 499+48.32		RT. 499+51.32	5
		TOTAL =	10 SQ. YD.

BITUMINOUS CONCRETE SURFACE REMOVAL:

STATION	TO	STATION	SQ. YD.
RT. 497+00		497+69.88	105
RT. 499+51.32		500+25	111
		TOTAL =	216 SQ. YD.

GUTTER REMOVAL:

STATION	TO	STATION	LIN. FT.
RT. 497+00		RT. 497+75.5	75.5
RT. 499+53		RT. 500+25	72.0
		TOTAL =	147.5 LIN. FT.

BITUMINOUS CONCRETE BASE COURSE WIDENING (9 IN.):

STATION	TO	STATION	SQ. YD.
RT. 497+00		RT. 497+72.88	16
RT. 499+48.32		RT. 500+25	17
		TOTAL =	33 SQ. YD.

BRIDGE APPROACH PAVEMENT (STANDARD 2382):

STATION	TO	STATION	SQ. YD.
RT. 497+72.88		RT. 498+00.04	33.0
RT. 499+25.02		RT. 499+48.32	27.9
		TOTAL =	60.9 SQ. YD.

REINFORCEMENT BARS:

BAR #	N. APPR.	S. APPR.	LENGTH	POUNDS
4	5	5	11'-7"	78
4	10	10	19'-6"	260
5	20	20	11'-7"	484
7	29	29	19'-0"	2252
5 (TIE BARS)	12	12	2'-6"	63
			TOTAL =	3137 POUNDS

P.C. CONCRETE BRIDGE APPROACH SHOULDER PAVEMENT:

STATION	TO	STATION	SQ. YD.
RT. 497+72.88		RT. 498+00.87	9.0
RT. 499+28.32		RT. 499+48.32	6.5
		TOTAL =	15.5 SQ. YD.

RIPRAP:

TYPE C INLET BOX (STANDARD 2324):

STATION	EACH
RT. 497+77	1
RT. 499+43	1
TOTAL =	2 EACH

STEEL PLATE BEAM GUARD RAIL REMOVAL:

STATION	TO	STATION	LIN. FT.
RT. 497+76.33		RT. 498+00	24
RT. 499+32		RT. 499+44.87	13
		TOTAL =	37 LIN. FT.

REMOVE AND RE-ERECT STEEL PLATE BEAM GUARD RAIL:

STATION	TO	STATION	LIN. FT.
RT. 497+31		RT. 497+76.33	45
RT. 499+53.99		RT. 499+86	32
		TOTAL =	77 LIN. FT.

TRAFFIC BARRIER TERMINAL, TYPE 6:

STATION	TO	STATION	EACH
RT. 497+76.33		RT. 498+16.14	1
RT. 499+19.18		RT. 498+53.99	1
		TOTAL =	2 EACH

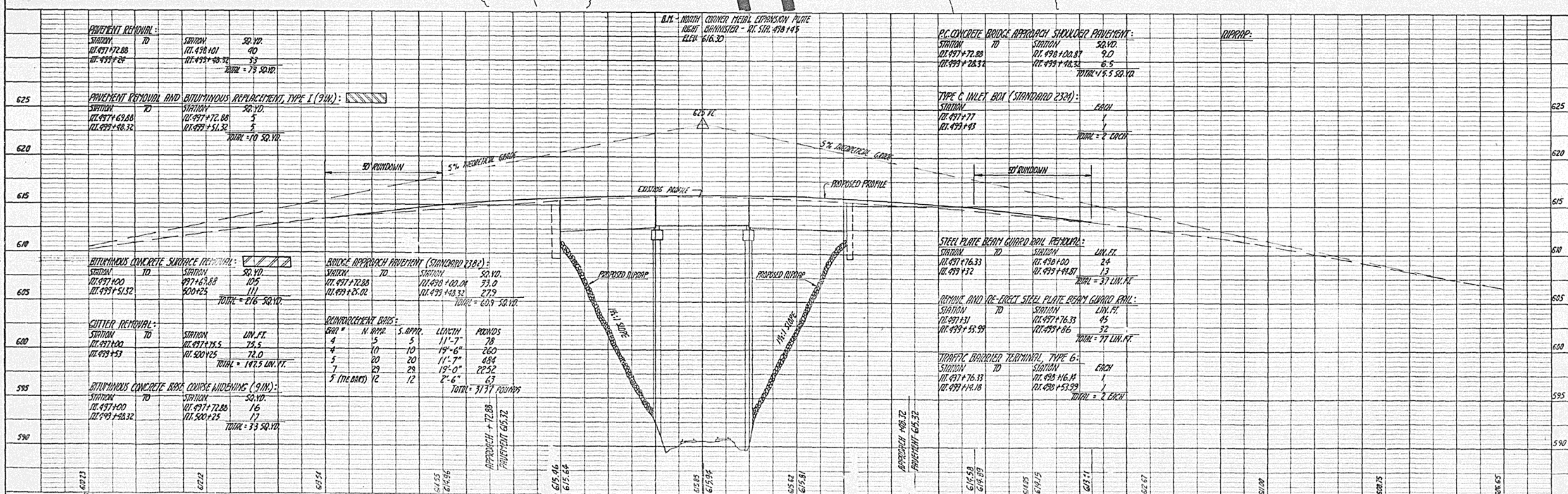
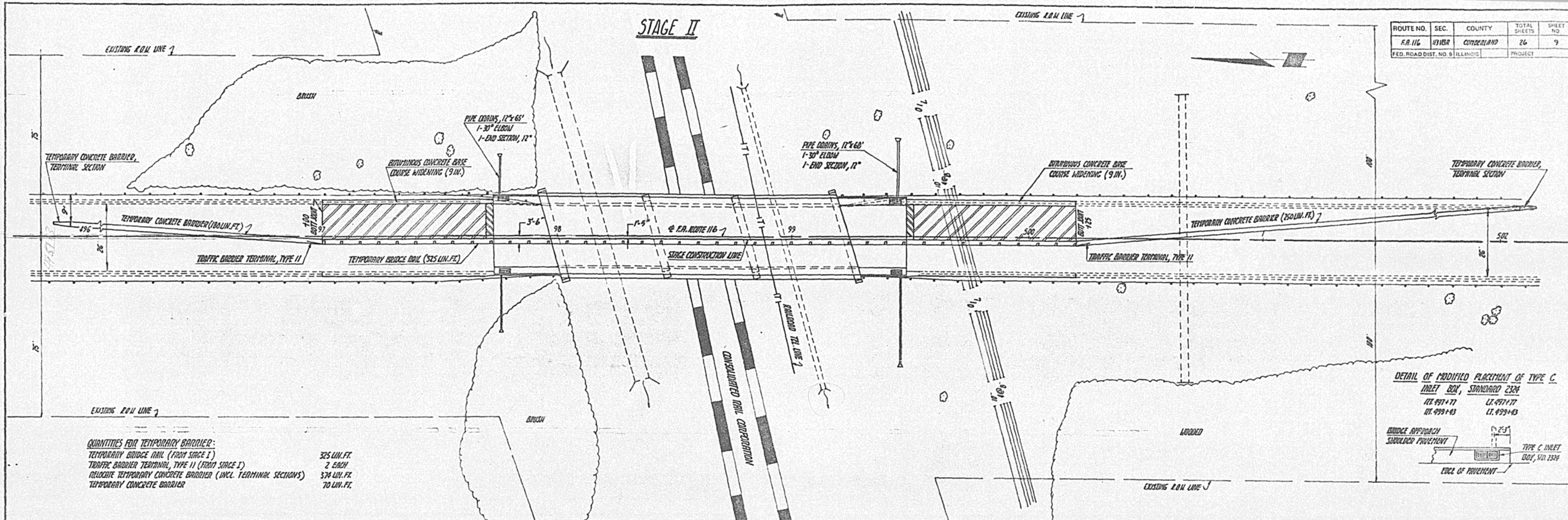


PLATE 1 PLAN-PROFILE B.P.R. STANDARD

ROUTE NO.	SEC.	COUNTY	TOTAL SHEETS	SHEET NO.
F.A. 116	113VBR	CUMBERLAND	26	9
FED. ROAD DIST. NO. 9	ILLINOIS		PROJECT	

STAGE II



QUANTITIES FOR TEMPORARY BARRIER:

TEMPORARY BRIDGE RAIL (FROM STAGE I)	325 LIN. FT.
TRAFFIC BARRIER TERMINAL, TYPE 11 (FROM STAGE I)	2 EACH
RELOCATE TEMPORARY CONCRETE BARRIER (INCL. TERMINAL SECTIONS)	374 LIN. FT.
TEMPORARY CONCRETE BARRIER	70 LIN. FT.

PAVEMENT REMOVAL:

STATION	TO	STATION	SQ. YD.
LT. 497+72.88		LT. 497+97	32
LT. 499+19		LT. 499+48.32	40
		TOTAL =	72 SQ. YD.

PAVEMENT REMOVAL AND BITUMINOUS REPLACEMENT, TYPE I (9 IN.):

STATION	TO	STATION	SQ. YD.
LT. 497+69.88		LT. 497+72.88	5
LT. 499+48.32		LT. 499+51.32	5
		TOTAL =	10 SQ. YD.

BITUMINOUS CONCRETE SURFACE REMOVAL:

STATION	TO	STATION	SQ. YD.
LT. 497+00		LT. 497+69.88	113
LT. 499+51.32		LT. 500+25	119
		TOTAL:	232 SQ. YD.

GUTTER REMOVAL:

STATION	TO	STATION	LIN. FT.
LT. 497+00		LT. 497+67.5	67.5
LT. 499+42		LT. 500+25	83.0
		TOTAL =	150.5 LIN. FT.

BITUMINOUS CONCRETE BASE COURSE WIDENING (9 IN.):

STATION	TO	STATION	SQ. YD.
LT. 497+00		LT. 497+72.88	16
LT. 499+48.32		LT. 500+25	17
		TOTAL =	33 SQ. YD.

BRIDGE APPROACH PAVEMENT (STANDARD 2382):

STATION	TO	STATION	SQ. YD.
LT. 497+72.88		LT. 497+96.73	35.1
LT. 499+21.16		LT. 499+48.32	40.2
		TOTAL =	75.3 SQ. YD.

REINFORCEMENT BARS:

BAR #	N. APPR.	S. APPR.	LENGTH	POUNDS
4	5	5	14'-5"	96
4	12	12	19'-6"	312
5	20	20	14'-5"	602
7	36	36	19'-0"	2796
			TOTAL =	3806 POUNDS

BC-481

P.C. CONCRETE BRIDGE APPROACH SHOULDER PAVEMENT:

STATION	TO	STATION	SQ. YD.
LT. 497+72.88		LT. 497+92.88	6.5
LT. 499+20.33		LT. 499+48.32	9.0
		TOTAL =	15.5 SQ. YD.

TYPE C INLET BOX (STANDARD 2324):

STATION	EACH
LT. 497+77	1
LT. 499+43	1
TOTAL =	2 EACH

STEEL PLATE BEAM GUARD RAIL REMOVAL:

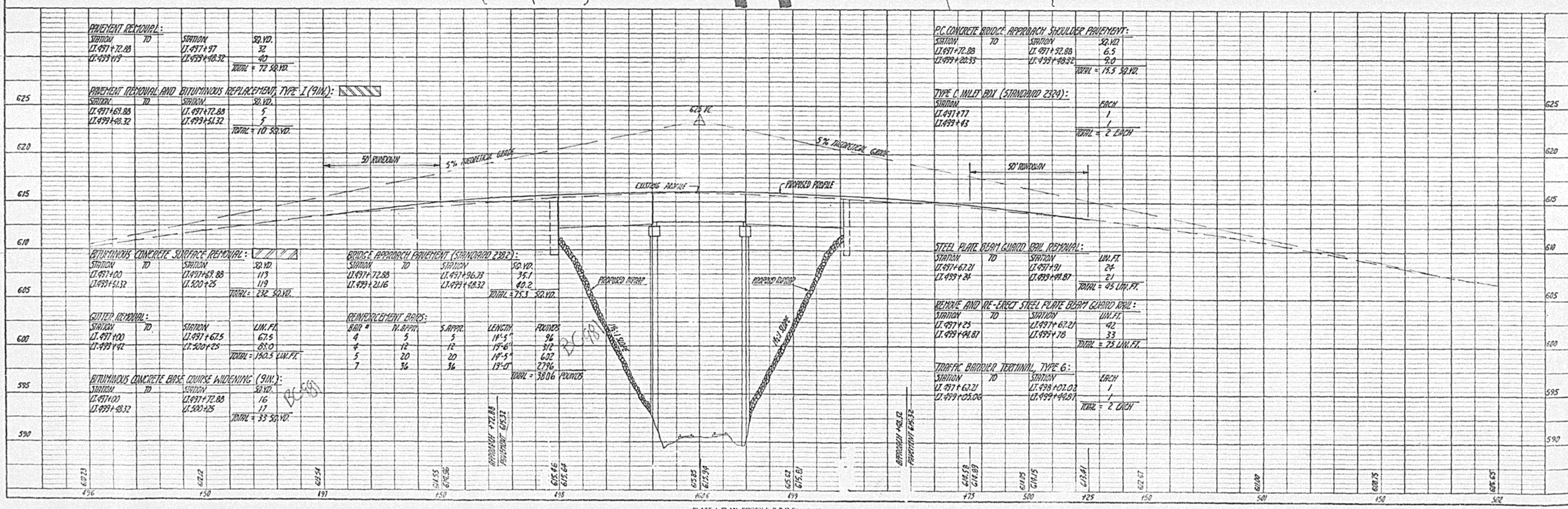
STATION	TO	STATION	LIN. FT.
LT. 497+67.21		LT. 497+91	24
LT. 499+24		LT. 499+44.87	21
		TOTAL =	45 LIN. FT.

REMOVE AND RE-ERECT STEEL PLATE BEAM GUARD RAIL:

STATION	TO	STATION	LIN. FT.
LT. 497+25		LT. 497+67.21	42
LT. 499+44.87		LT. 499+78	33
		TOTAL =	75 LIN. FT.

TRAFFIC BARRIER TERMINAL, TYPE 6:

STATION	TO	STATION	EACH
LT. 497+67.21		LT. 498+07.02	1
LT. 499+05.06		LT. 499+44.87	1
		TOTAL =	2 EACH



PLAN | NOTE BOOK | No.

PROFILE | NOTE BOOK | No.

ROUTE NO.	SEC.	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.P. 116	113VCR	CUMBERLAND	06	10
FED. ROAD DIST. NO. 9	ILLINOIS		PROJECT	

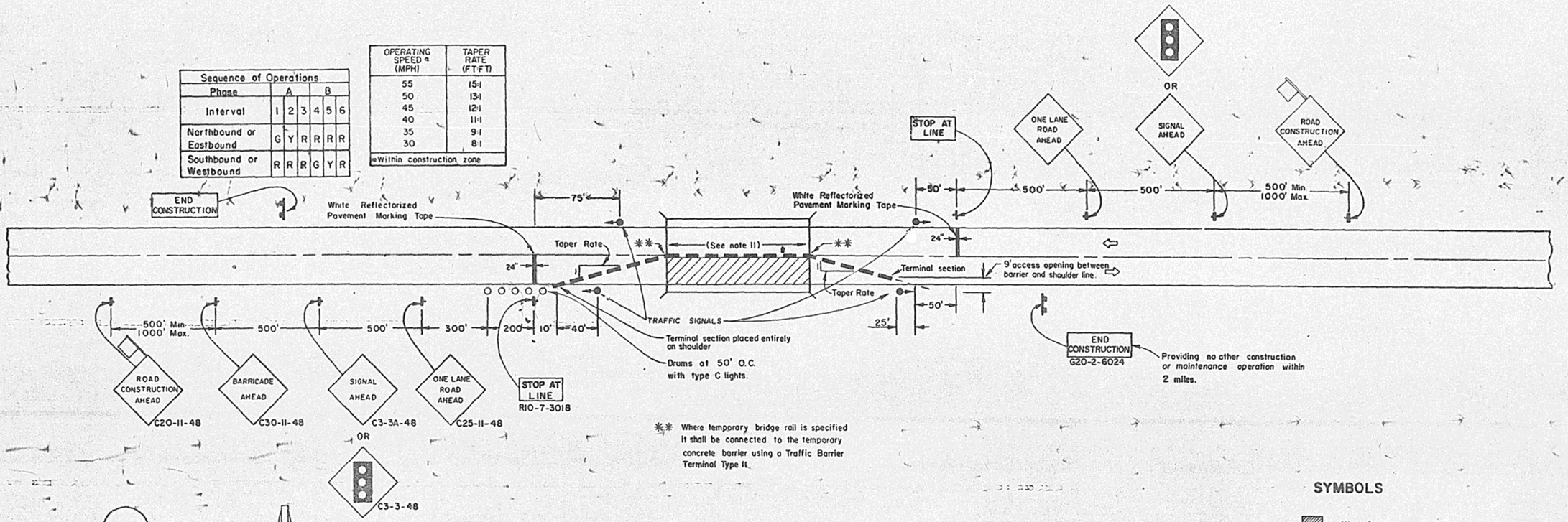
SPECIAL DETAIL FOR TRAFFIC CONTROL BRIDGE DECK CONSTRUCTION UTILIZING TEMPORARY BARRIERS

TYPICAL APPLICATION OF TRAFFIC CONTROL DEVICES

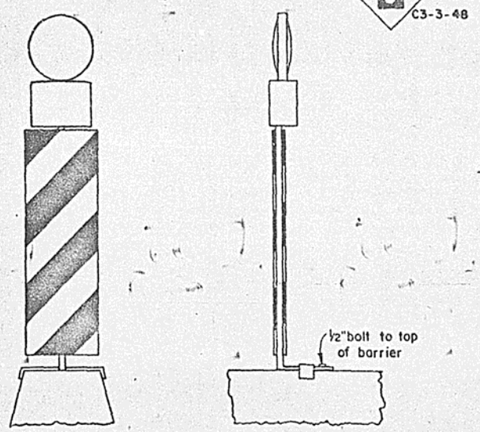
Sequence of Operations						
Phase	A			B		
Interval	1	2	3	4	5	6
Northbound or Eastbound	G	Y	R	R	R	R
Southbound or Westbound	R	R	R	G	Y	R

OPERATING SPEED * (MPH)	TAPER RATE (FT:FT)
55	15:1
50	13:1
45	12:1
40	11:1
35	9:1
30	8:1

*Within construction zone



** Where temporary bridge rail is specified it shall be connected to the temporary concrete barrier using a Traffic Barrier Terminal Type II.



DETAIL A.
suggested mounting detail.

GENERAL NOTES

1. The Engineer must be notified at least 72 hours prior to placing the temporary signals in operation so that arrangements can be made to inspect the installation and set the timing of the signals. The Contractor must furnish timing cycle gears of 60, 65, 70, 80 90, 100, and 110 seconds for the controller.
2. At any time that the signals are not operating the signal head shall be hooded and the SIGNAL AHEAD sign covered or removed.
3. The left signal head shall normally be mounted at a height of 10 feet above the road surface measured to the bottom of the signal head. The right head shall normally be mounted at height of 14 feet above the road surface. Baffle plates will be required on all signals.
4. All red lenses shall normally be 12 inch nominal diameter. The right signal head shall be aimed so the centers of the light beams of the indications are directed toward a point in the center of the approach lane 500 feet in advance of the signal. The left indication shall be aimed at a point in the center of the approach lane 100 feet in advance of the stop line.
5. Bidirectional steady burning lights and double vertical panels shall be mounted on the barrier or bridge rail at 20 foot centers. Detail A shows a suggested mounting for the temporary concrete barrier. Other methods of mounting may be used upon the approval of the Engineer.
6. All signs shall be post mounted if the closure time exceeds four days.
7. High intensity flashing lights shall be used on each approach in advance of the work area during hours of darkness and installed above the first two signs in each series.
8. Longitudinal dimensions may be adjusted slightly to fit field conditions.
9. All warning signs shall have minimum dimensions of 48 in. by 48 in. and have black legend and border on an orange reflectorized background. All signs other than warning signs shall have as a minimum the dimensions shown and shall have a black legend and border on a white reflectorized background.
10. All vehicles, equipment, men and their activities are restricted at all times to one side of the pavement unless otherwise authorized by the Engineer.
11. Temporary Bridge Rail shall be used across the bridge when specified in the plans.
12. Form BT 725 is required.

SYMBOLS

- Work Area
- Sign with 18 in. by 18in. (minimum) orange flag attached.
- Sign on portable or permanent support.
- Drum with steady burning light.
- Temporary concrete barrier
- Traffic signal.

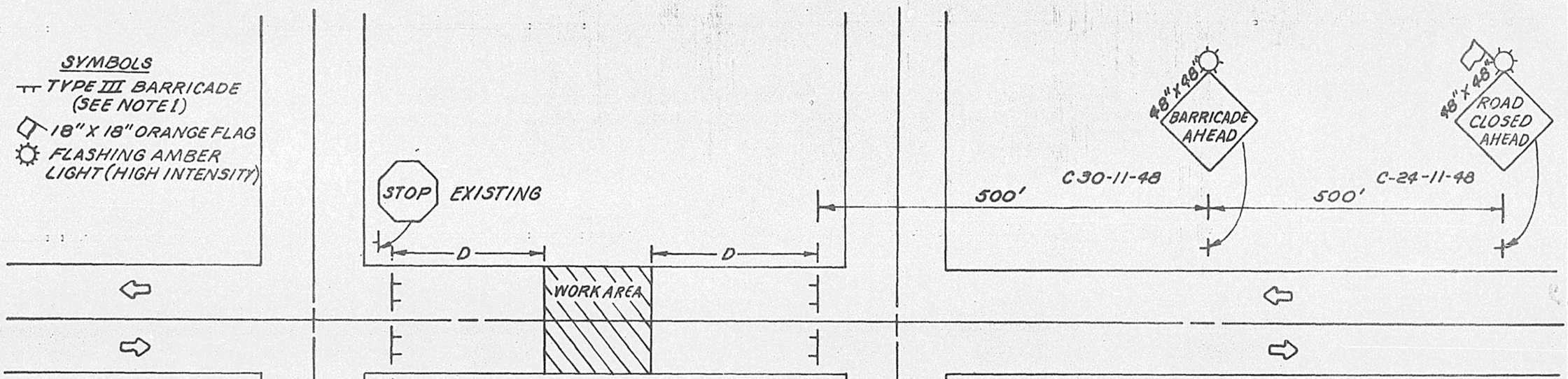
TWO-LANE, TWO WAY TRAFFIC, RURAL ONE LANE CLOSURE ON A BRIDGE DECK DAY OR NIGHT OPERATIONS

Where, at any time, any vehicle, equipment, men or their activities will encroach on one lane of a bridge deck and traffic signals are required.

F5.04

ROUTE NO	SECTION	COUNTY	TOTAL SHEETS	SHEET No.
F.A.P. 116	113 VBR	CUMBERLAND	26	11

TYPICAL APPLICATION OF TRAFFIC CONTROL DEVICES FOR ROAD CLOSURE



GENERAL NOTES

1. TYPE III BARRICADES SHALL BE AS SHOWN ON "TYPICAL APPLICATIONS OF TYPE III BARRICADES CLOSING A ROAD" SIGN STD. R-11-1 OR R11-2 SHALL BE MOUNTED ABOVE THE BARRICADE. EACH TYPE III BARRICADE SHALL HAVE TWO FLASHING AMBER LIGHTS MOUNTED ABOVE IT.
2. IF THE ROAD IS OPEN TO LOCAL TRAFFIC OR "D" EXCEEDS 1000,' ANOTHER SET OF TYPE III BARRICADES, EQUIPPED AS IN NOTE 1 ABOVE, SHALL BE PLACED AT EACH END OF THE WORK AREA.
3. WHEN A STOP CONDITION EXISTS, AS SHOWN ABOVE, NO SIGNS ARE REQUIRED IN ADVANCE OF THE "STOP" SIGN WHEN THE ROAD IS CLOSED WITHIN 100' OF THE INTERSECTION.

GENERAL NOTES (CONT.)

4. STANDARDS 2298 & 2299 SHALL APPLY FOR THE PLACEMENT & MANUFACTURE OF TYPE III BARRICADES.
5. ALL SIGNS SHALL BE POST MOUNTED IF THE CLOSURE TIME EXCEEDS FOUR DAYS.
6. A MINIMUM OF TWO FLASHING LIGHTS SHALL BE USED AT NIGHT ON EACH APPROACH IN ADVANCE OF THE WORK AREA. FLASHING LIGHTS SHALL BE INSTALLED ABOVE THE FIRST TWO SIGNS IN THE SERIES OR, IF LESS THAN TWO SIGNS ARE PRESENT, MAY BE INSTALLED ON BARRICADES.
7. LONGITUDINAL DIMENSIONS MAY BE ADJUSTED SLIGHTLY TO FIT FIELD CONDITIONS.
8. ALL WARNING SIGNS SHALL HAVE MINIMUM DIMENSIONS OF 48 IN. BY 48 IN. AND HAVE BLACK LEGEND AND BORDER ON AN ORANGE REFLECTORIZED BACKGROUND.
9. FORMS BT 725 AND BT 726 ARE REQUIRED.
10. WHEN A SIDE ROAD INTERSECTS THE HIGHWAY ON WHICH WORK IS BEING PERFORMED, ADDITIONAL TRAFFIC DEVICES SHALL BE ERECTED AND PROVIDED AS DIRECTED BY THE ENGINEER.

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

APPROVED: May 23 1977
Robert E Kraut
DISTRICT ENGINEER

REVISED :	
G.H.H.	7-1-74
B.G.R.	5-20-77

[WHITE COPY - DO NOT USE REPRODUCTION]

B.M. North corner metal expansion plate right bannister, Station 498+45, Elev. 616.30

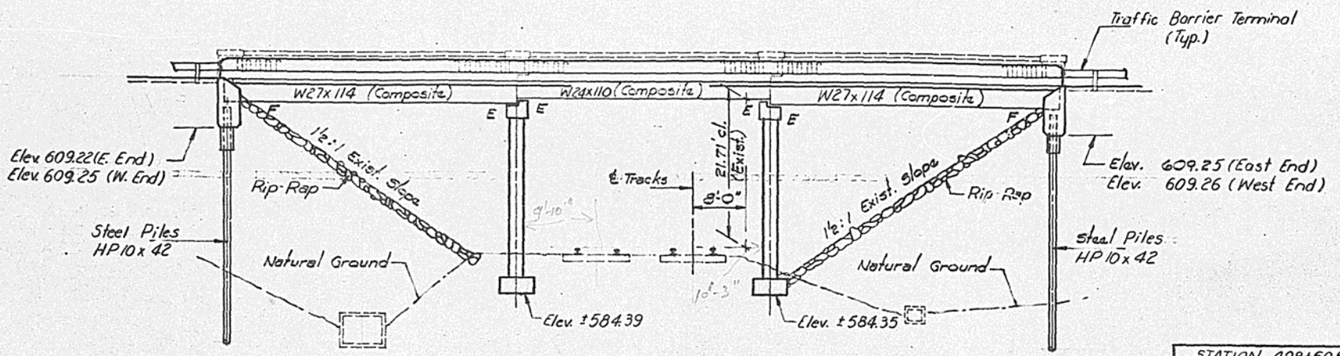
Existing structure: #018-0026 built as SBI Rte. 130, Section 113 VB-NRS, at Sta. 498+60.6 in 1934. The existing three span 127'-7" long x 27'-2" width, steel "I" beam superstr. on pile bent abutments and concrete column piers Substructure shall be widened to accept new exterior wide flange beams. Superstructure shall be widened to 35'-2".

Stage construction shall be utilized so as traffic can be maintained during reconstruction.

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.P. 116	113VBR	CUMBERLAND	26	12
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT:		

SHEET NO. 1
13 SHEETS

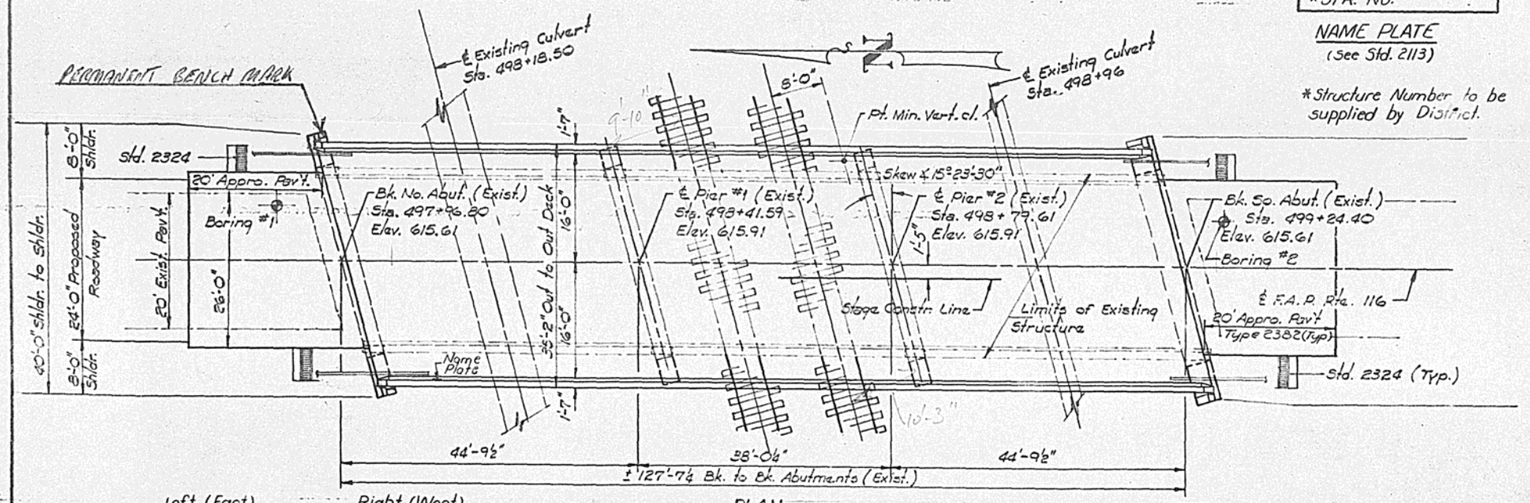


ELEVATION

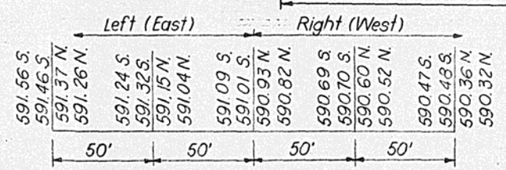
STATION 498+60.60
REBUILT 19 BY
STATE OF ILLINOIS
F.A.P. RT. 116 SEC. 113VBR
F.A. PROJECT: BRF-116(17)
LOADING HS20
*STR. NO.

NAME PLATE
(See Std. 2113)

*Structure Number to be supplied by District.



PLAN

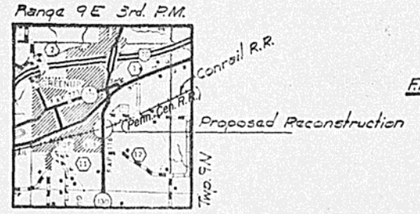


PROFILE CONRAIL RAILROAD
(Top of rail elevations)

PROPOSED PROFILE GRADE F.A.P. 116

DESIGN STRESSES
(New Construction)
f'c = 3,500 psi
fy = 60,000 psi (Reinf.)
fs = 20,000 psi (Struct.)
Top layer of reinforcement bars in deck shall be epoxy coated.

LOADING HS 20-44
Allow 25#/sq. ft. for future wearing surface.
Design Specification: 1977 AASHTO, 1978 and 1979 Interim Specification.



LOCATION SKETCH

GENERAL NOTES

See Proposal for Boring Data.

Fasteners shall be high strength bolts. Bolts ⅞"ø, open holes 15/16"ø, unless otherwise noted.

Calculated weight of Structural Steel = 32,900 Lbs.

The basic lead silico chromate paint system shall be used for shop and field painting of Structural Steel.

Field welding of construction accessories will not be permitted to the bottom flange of beams nor to the top flange for a distance equal to one-fourth the span length each way from the pier supports. Field welding in other areas will be permitted only when approved by the Engineer.

Anchor bolts shall be set before bolting diaphragms over supports.

A Calcium Nitrite Corrosion Inhibitor, as covered in the Special Provisions, shall be used in the concrete for Class X Concrete for parapets.

Plan dimensions and details relative to existing structure have been taken from existing plans and are subject to nominal construction variations. It shall be the Contractor's responsibility to verify such dimensions and details in the field and make necessary approved adjustments prior to construction or ordering of materials. Such variations shall not be cause for additional compensation for a change in the scope of the work, however, the Contractor will be paid for the quantity actually furnished at the unit price bid for the work.

Expansion bolts shall consist of self drilling expansion anchors and ¾"ø x 12" hooked bolts.

All existing structural steel shall be cleaned by Method I and painted with three coats of the basic lead silico chromate paint system.

Reinforcement bars shall conform to the requirements of AASHTO M-31 or M-53 Grade 60.

The main load carrying member components subject to tensile stress shall conform to the Supplemental Requirements for Notch Toughness Zone 2. These components are the flanges and webs of the wide flange beams.

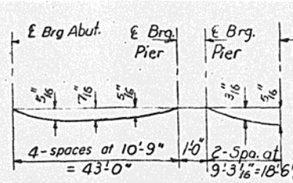
TOTAL BILL OF MATERIAL

Item	Unit	Super	Sub	Total
Removal of Existing Concrete Deck	Lump Sum	1		1
Concrete Removal	Cu. Yd.		4	4
Structure Excavation	Cu. Yd.		95	95
Protective Coat	Sq. Yd.	560		560
Structural Steel	Lump Sum	1		1
Stud Shear Connectors	Each	2214		2214
Class X Concrete	Cu. Yd.	141.7	42.0	183.7
Reinforcement Bars	Pound	15,100	4480	19,580
Reinforcement Bars (Epoxy Coated)	Pound	16,480		16,480
Preformed Joint Seal 2"	Lin. Ft.	74		74
Expansion Bolts ¾ Inch	Each		204	204
Temporary Bridge Rail	Lin. Ft.	128		128
Elastomeric Bearing Assembly, Type I	Each	8		8
Steel Piles (HP10x42)	Lin. Ft.		154	154
Riprap	Sq. Yd.		350	350
Cleaning and Painting Steel Bridge	Lump Sum	1		1
Name Plates	Each	1		1

GENERAL PLAN & ELEVATION
F.A.P. Rte. 116 Over CONRAIL RAIL ROAD
F.A.P. Rte. 116 Section 113 VBR
CUMBERLAND COUNTY
Sta. 498+60.60

DESIGNED	Richard Brunette
CHECKED	M.J.J.
DRAWN	R. Doty
CHECKED	M.J.R.

EXAMINED
PASSED
APPROVED
ENGINEER OF DESIGN
DIRECTOR OF HIGHWAYS

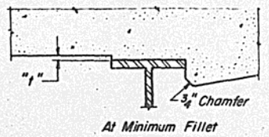


DEAD LOAD DEFLECTION DIAGRAM BMS. 168.

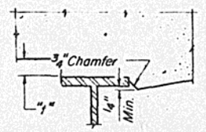
(Includes weight of concrete only)

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 below.

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



At Minimum Fillet



At Maximum Fillet

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

FILLET HEIGHTS

				SHEET NO. 2
116	113VBR	CUMBERLAND	26	13
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		13 SHEETS

BEAM #1

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
℄ Brg. No. Abut.	49794.082	-14.583	615.342	615.342
a	49804.082	-14.583	615.441	615.472
b	49814.082	-14.583	615.523	615.569
c	49824.082	-14.583	615.590	615.627
d	49834.082	-14.583	615.640	615.650
℄ Brg. Pier 1 (Span 1)	49837.077	-14.583	615.652	615.652
℄ Brg. Pier 1 (Span 2)	49838.077	-14.583	615.656	615.656
e	49848.077	-14.583	615.684	615.710
f	49858.077	-14.583	615.696	615.730
g	49868.077	-14.583	615.692	615.711
℄ Brg. Pier 2 (Span 2)	49875.087	-14.583	615.674	615.679
℄ Brg. Pier 2 (Span 3)	49876.087	-14.583	615.677	615.677
h	49886.087	-14.583	615.644	615.676
i	49896.087	-14.583	615.596	615.641
j	49906.087	-14.583	615.531	615.568
k	49916.087	-14.583	615.450	615.459
℄ Brg. So. Abut.	49919.082	-14.583	615.423	615.423

BEAM #2

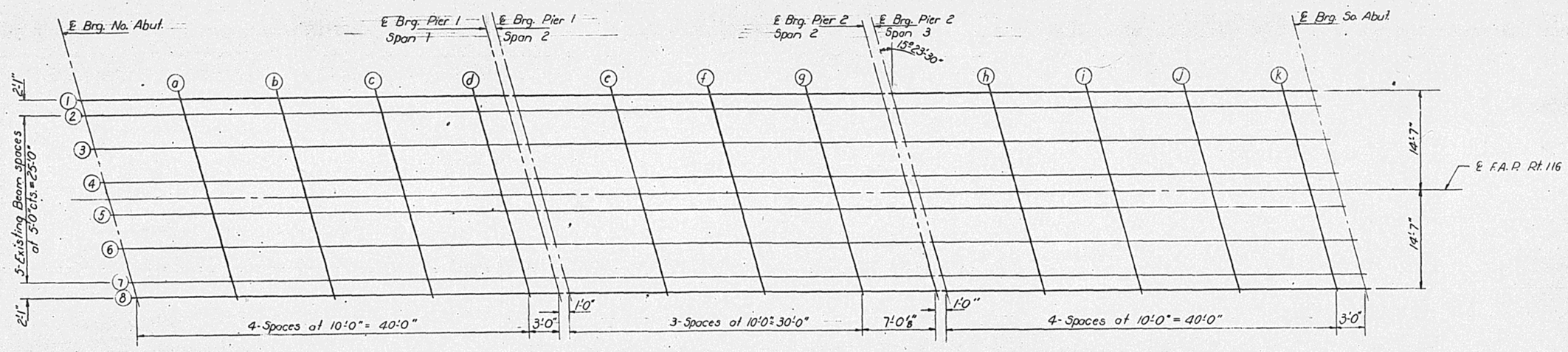
Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
℄ Brg. No. Abut.	49794.656	-12.500	615.392	615.392
a	49804.656	-12.500	615.489	615.521
b	49814.656	-12.500	615.571	615.617
c	49824.656	-12.500	615.636	615.673
d	49834.656	-12.500	615.686	615.695
℄ Brg. Pier 1 (Span 1)	49837.651	-12.500	615.697	615.697
℄ Brg. Pier 1 (Span 2)	49838.651	-12.500	615.701	615.701
e	49848.651	-12.500	615.728	615.755
f	49858.651	-12.500	615.739	615.774
g	49868.651	-12.500	615.734	615.754
℄ Brg. Pier 2 (Span 2)	49875.661	-12.500	615.721	615.721
℄ Brg. Pier 2 (Span 3)	49876.661	-12.500	615.719	615.719
h	49886.661	-12.500	615.685	615.717
i	49896.661	-12.500	615.636	615.681
j	49906.661	-12.500	615.570	615.607
k	49916.661	-12.500	615.486	615.498
℄ Brg. So. Abut.	49919.656	-12.500	615.461	615.461

BEAM #3

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
℄ Brg. No. Abut.	49796.032	-7.500	615.487	615.487
a	49806.032	-7.500	615.582	615.614
b	49816.032	-7.500	615.661	615.707
c	49826.032	-7.500	615.725	615.762
d	49836.032	-7.500	615.772	615.782
℄ Brg. Pier 1 (Span 1)	49839.027	-7.500	615.783	615.783
℄ Brg. Pier 1 (Span 2)	49840.027	-7.500	615.786	615.786
e	49850.027	-7.500	615.811	615.838
f	49860.027	-7.500	615.820	615.855
g	49870.027	-7.500	615.813	615.833
℄ Brg. Pier 2 (Span 2)	49877.037	-7.500	615.799	615.799
℄ Brg. Pier 2 (Span 3)	49878.037	-7.500	615.796	615.796
h	49888.037	-7.500	615.760	615.792
i	49898.037	-7.500	615.708	615.754
j	49908.037	-7.500	615.640	615.677
k	49918.037	-7.500	615.556	615.566
℄ Brg. So. Abut.	49921.032	-7.500	615.528	615.528

BEAM #4

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
℄ Brg. No. Abut.	49797.409	-2.500	615.579	615.579
a	49807.409	-2.500	615.672	615.704
b	49817.409	-2.500	615.749	615.795
c	49827.409	-2.500	615.810	615.847
d	49837.409	-2.500	615.855	615.865
℄ Brg. Pier 1 (Span 1)	49840.404	-2.500	615.866	615.866
℄ Brg. Pier 1 (Span 2)	49841.404	-2.500	615.869	615.869
e	49851.404	-2.500	615.892	615.918
f	49861.404	-2.500	615.898	615.933
g	49871.404	-2.500	615.889	615.909
℄ Brg. Pier 2 (Span 2)	49878.414	-2.500	615.873	615.873
℄ Brg. Pier 2 (Span 3)	49879.414	-2.500	615.870	615.870
h	49889.414	-2.500	615.832	615.864
i	49899.414	-2.500	615.778	615.824
j	49909.414	-2.500	615.708	615.745
k	49919.414	-2.500	615.622	615.631
℄ Brg. So. Abut.	49922.409	-2.500	615.593	615.593



N

ELEVATIONS LOCATION PLAN

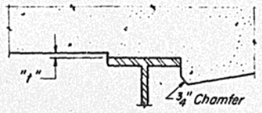
DESIGNED	Richard Brunette
CHECKED	M.L.J.R.
DRAWN	P.G. Barnett R. Doty
CHECKED	M.J.R.

E-S 8-1-65

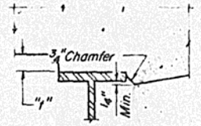
EXAMINED June 6 1980
PASSED
APPROVED
DIRECTOR OF HIGHWAYS

TOP OF SLAB ELEVATIONS
F.A.P. RT. 116 SEC. 113 VBR
CUMBERLAND COUNTY
STA. 498+60.60

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



At Minimum Fillet



At Maximum Fillet

					SHEET NO. 3
116	113VBR	CUMBERLAND	26	14	13 SHEETS

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

FILLET HEIGHTS

℄ F.A.P. RT. 116

BEAM #5

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
℄ Brg. No. Abut.	49798.785	2.500	615.593	615.593
a	49808.785	2.500	615.684	615.715
b	49818.785	2.500	615.759	615.804
c	49828.785	2.500	615.817	615.854
d	49838.785	2.500	615.860	615.870
℄ Brg. Pier 1 (Span 1)	49841.780	2.500	615.870	615.870
℄ Brg. Pier 1 (Span 2)	49842.780	2.500	615.873	615.873
e	49852.780	2.500	615.894	615.920
f	49862.780	2.500	615.898	615.933
g	49872.780	2.500	615.887	615.906
℄ Brg. Pier 2 (Span 2)	49879.790	2.500	615.869	615.869
℄ Brg. Pier 2 (Span 3)	49880.790	2.500	615.866	615.866
h	49890.790	2.500	615.826	615.857
i	49900.790	2.500	615.769	615.815
j	49910.790	2.500	615.697	615.734
k	49920.790	2.500	615.609	615.618
℄ Brg. So. Abut.	49923.785	2.500	615.579	615.579

BEAM #6

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
℄ Brg. No. Abut.	49800.162	7.500	615.528	615.528
a	49810.162	7.500	615.617	615.649
b	49820.162	7.500	615.689	615.735
c	49830.162	7.500	615.746	615.783
d	49840.162	7.500	615.787	615.796
℄ Brg. Pier 1 (Span 1)	49843.157	7.500	615.796	615.796
℄ Brg. Pier 1 (Span 2)	49844.157	7.500	615.799	615.799
e	49854.157	7.500	615.817	615.844
f	49864.157	7.500	615.819	615.854
g	49874.157	7.500	615.806	615.825
℄ Brg. Pier 2 (Span 2)	49881.167	7.500	615.786	615.786
℄ Brg. Pier 2 (Span 3)	49882.167	7.500	615.783	615.783
h	49892.167	7.500	615.741	615.772
i	49902.167	7.500	615.682	615.728
j	49912.167	7.500	615.608	615.645
k	49922.167	7.500	615.517	615.527
℄ Brg. So. Abut.	49925.162	7.500	615.487	615.487

BEAM #7

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
℄ Brg. No. Abut.	49801.538	12.500	615.461	615.461
a	49811.538	12.500	615.547	615.579
b	49821.538	12.500	615.618	615.663
c	49831.538	12.500	615.672	615.709
d	49841.538	12.500	615.711	615.720
℄ Brg. Pier 1 (Span 1)	49844.533	12.500	615.719	615.719
℄ Brg. Pier 1 (Span 2)	49845.533	12.500	615.721	615.721
e	49855.533	12.500	615.738	615.764
f	49865.533	12.500	615.738	615.772
g	49875.533	12.500	615.722	615.741
℄ Brg. Pier 2 (Span 2)	49882.543	12.500	615.701	615.701
℄ Brg. Pier 2 (Span 3)	49883.543	12.500	615.697	615.697
h	49893.543	12.500	615.653	615.684
i	49903.543	12.500	615.592	615.638
j	49913.543	12.500	615.515	615.552
k	49923.543	12.500	615.423	615.432
℄ Brg. So. Abut.	49926.538	12.500	615.392	615.392

BEAM #8

℄ Brg. No. Abut.	49802.112	14.583	615.423	615.423
a	49812.112	14.583	615.508	615.540
b	49822.112	14.583	615.578	615.624
c	49832.112	14.583	615.631	615.668
d	49842.112	14.583	615.669	615.678
℄ Brg. Pier 1 (Span 1)	49845.107	14.583	615.677	615.677
℄ Brg. Pier 1 (Span 2)	49846.107	14.583	615.679	615.679
e	49856.107	14.583	615.695	615.721
f	49866.107	14.583	615.694	615.729
g	49876.107	14.583	615.677	615.697
℄ Brg. Pier 2 (Span 2)	49883.117	14.583	615.656	615.656
℄ Brg. Pier 2 (Span 3)	49884.117	14.583	615.652	615.652
h	49894.117	14.583	615.606	615.638
i	49904.117	14.583	615.545	615.591
j	49914.117	14.583	615.467	615.504
k	49924.117	14.583	615.374	615.383
℄ Brg. So. Abut.	49927.112	14.583	615.342	615.342

Note:
For Elevations Location Plan see sheet #2.

DESIGNED Richard Brunette
CHECKED Michael J. Ryan
DRAWN P.G. Sarnett R. Doty
CHECKED MJR

EXAMINED JUNE 6 1980
PASSED
APPROVED
ENGINEER OF DESIGN
DIRECTOR OF HIGHWAYS

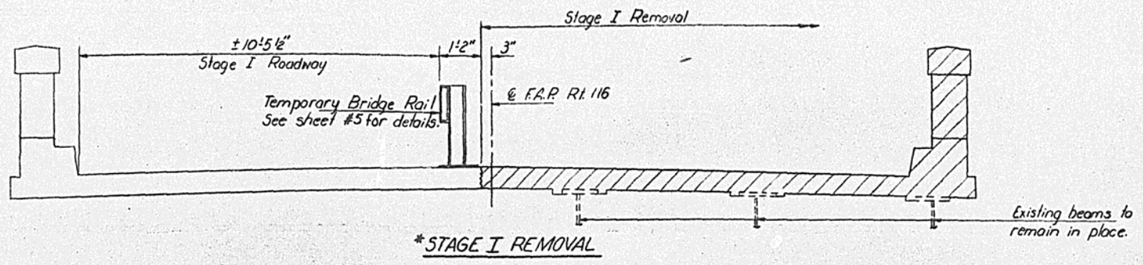
E-S 8-1-65

TOP OF SLAB ELEVATIONS
F.A.P. RT. 116 SEC. 113VBR
CUMBERLAND COUNTY
STA. 498+60.60

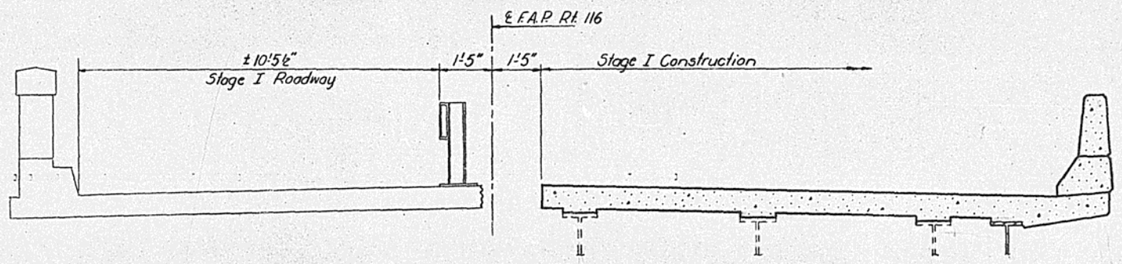
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
S. B. I. F. A. 116	113VBR	CUMBERLAND	26	15
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT:		

SHEET NO. 4
13 SHEETS

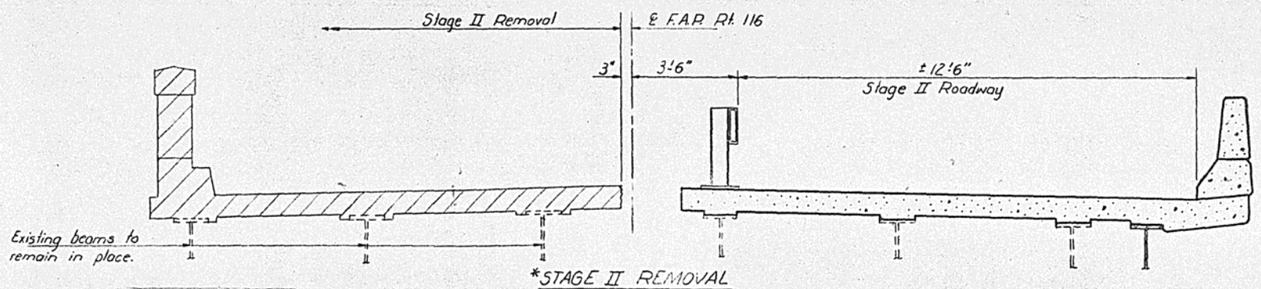


*STAGE I REMOVAL

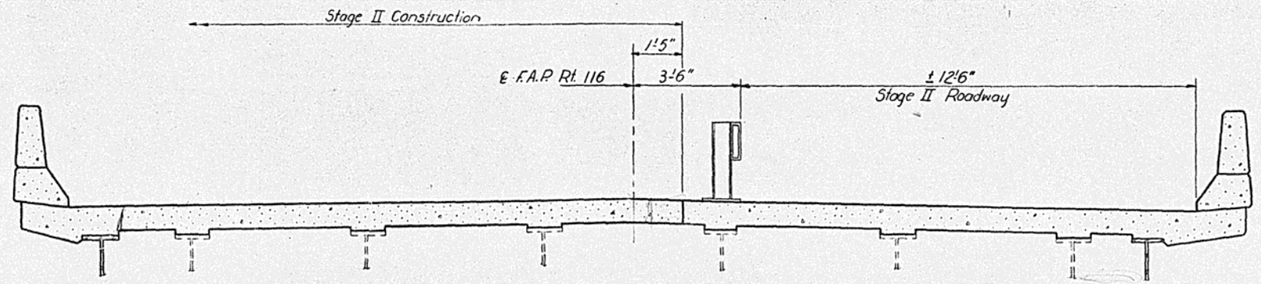


*STAGE I CONSTRUCTION

Note: Hatched area indicates existing concrete deck removal.



*STAGE II REMOVAL



*STAGE II CONSTRUCTION

*Looking South.

DESIGNED	Richard Brunette
CHECKED	Michael J Ryan
DRAWN	R Doty
CHECKED	MJR

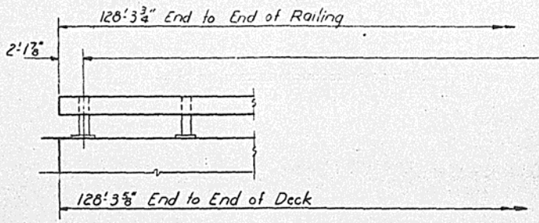
EXAMINED June 6, 1980
ENGINEER OF BRIDGES AND TRAFFIC STRUCTURES
PASSED
ENGINEER OF DESIGN
APPROVED
DIRECTOR OF HIGHWAYS

STAGE CONSTRUCTION DETAILS
F.A.P. RT. 116 SEC. 113 VBR
CUMBERLAND COUNTY
STA. 498+60.60

ROUTE NO	SECTION	COUNTY	TOTAL SHEETS	SHEET NO
S.B.I. F.A. 116	113VBR	CUMBERLAND	26	16
PROJ. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		

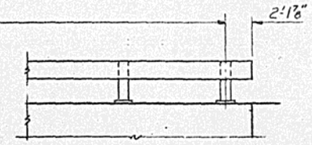
SHEET NO. 5
13 SHEETS

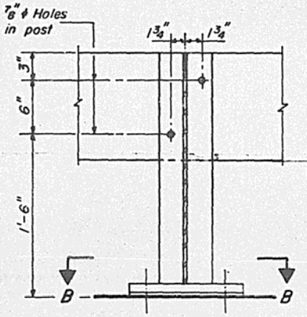
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



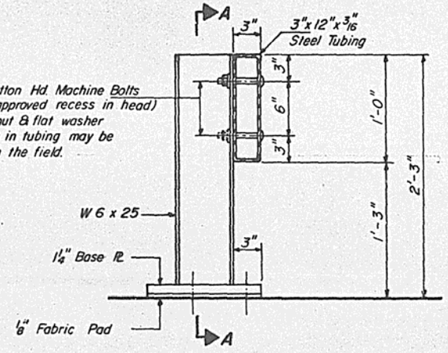
16-Rail Post spaces at 7'-9" c/s = 124'-0"

ELEVATION

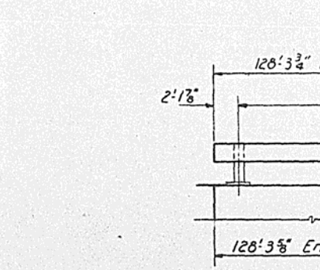




SECTION A-A

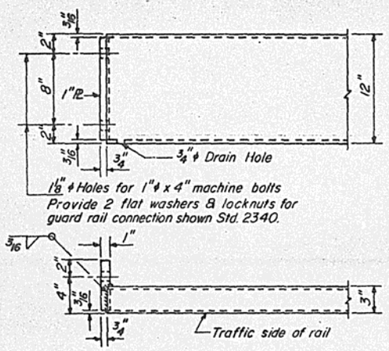


SECTION AT RAIL POST



SECTION B-B

4 - Wing type threaded inserts for 1" ϕ H.S. bolts with flat washer Grout holes after removal.



END OF RAIL DETAILS

NOTES

Hollow structural steel tubing shall conform to the requirements of A.S.T.M. designation A-500 Grade B or A-501 Structural Steel Tubing.

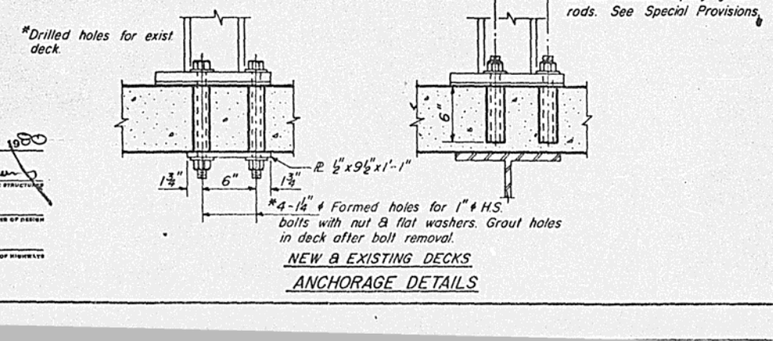
All other steel shapes and plates shall conform to the requirements of A.A.S.H.T.O. M-183 except posts shall conform to A.A.S.H.T.O. M-223, Grade 50.

Bolts, cap screws, and nuts shall conform to the requirement of A.S.T.M. designation A-307 except for high strength bolts, threaded rods, nuts and washers noted which shall conform to A.A.S.H.T.O. M-164.

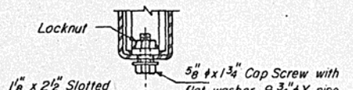
The bridge rail shall receive one shop coat of a steel prime paint.

The 1" ϕ high strength bolts or threaded rods used to connect the railposts shall be tightened in accordance with Article 507.04(g)(3) of the Standard Specification.

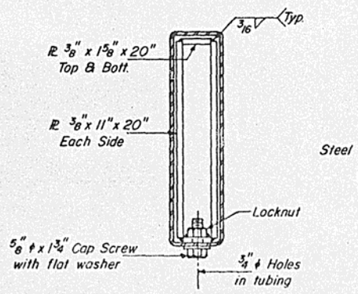
See Special Provisions for Temporary Bridge Rail.



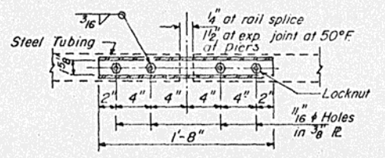
NEW & EXISTING DECKS
ANCHORAGE DETAILS



RAIL SPLICE CONNECTION AT EXPANSION JT.



SECTION AT RAIL SPLICE



PLAN - BOTT. SPLICE PL. TYPICAL

BILL OF MATERIAL

Item	Unit	Quantity
Temporary Bridge Rail	Lin. Ft.	128

TEMPORARY BRIDGE RAIL
F.A.P. RT. 116 SEC. 113VBR
CUMBERLAND COUNTY
STA. 498+60.60

DESIGNED	Richard Brunette
CHECKED	Michael J Ryan
DRAWN	R. Daly
CHECKED	MJR

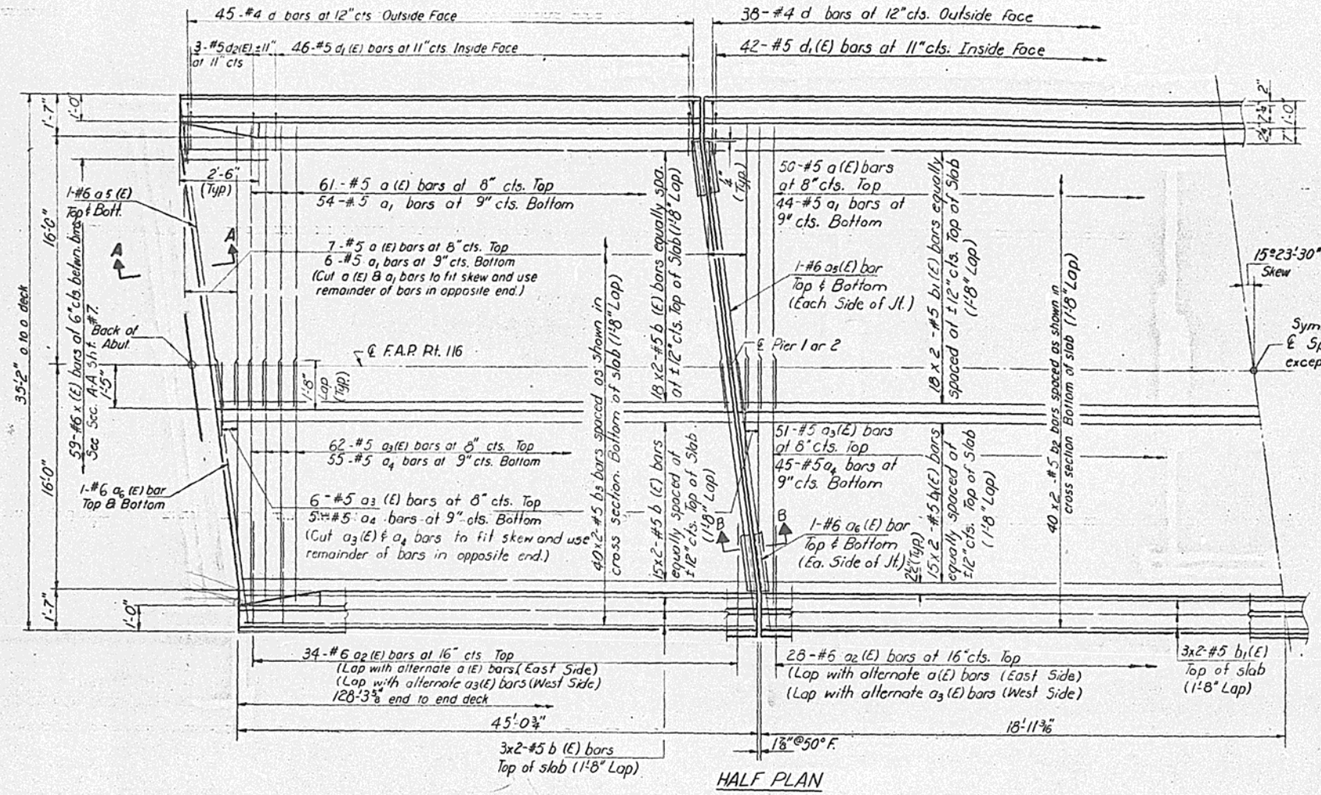
EXAMINED June 6 1980
PASSED
APPROVED

R-25 11-1-79 (7'-9" Maximum Post Spacing)

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

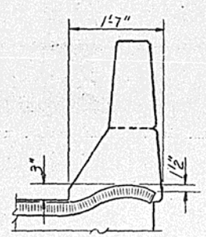
	SECTION	COUNTY		SHEET NO 6
116	113 VBR	CUMBERLAND	26	17

13 SHEETS

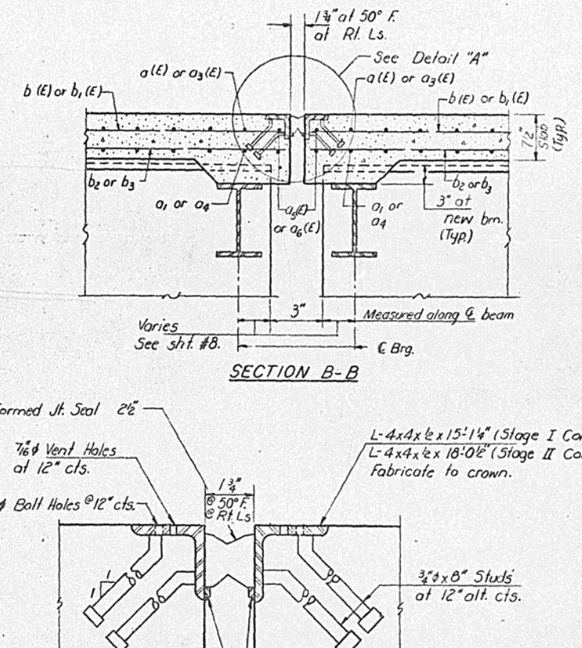


HALF PLAN

12.8.32

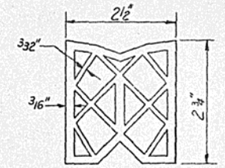


END OF SEALER TREATMENT



SECTION B-B

DETAIL "A"



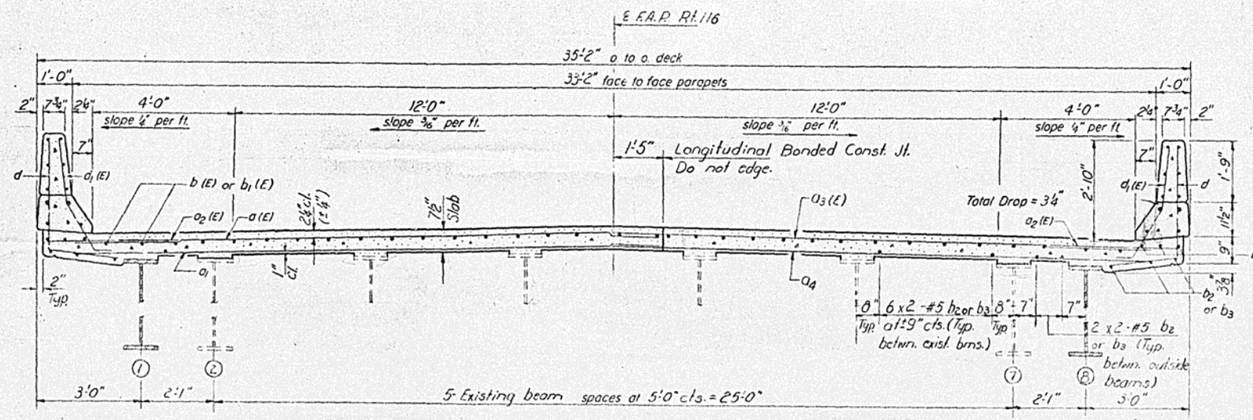
PREFORMED JT. SEAL 2½"

NOTES:
See sheet #7 for superstructure details and Bill of Material.

Reinforcement bars designated (E) shall be epoxy coated See Special Provisions.

Bars indicated thus 20 x 3 - #5 etc indicates 20 lines of bars with 3 lengths per line.

For Section A-A see sheet #7.



CROSS-SECTION
LOOKING SOUTH

DESIGNED	Richard Brunette
CHECKED	Michael J Ryan
DRAWN	R. Doty
CHECKED	MJR

EXAMINED — June 6 1980 — ENGINEER OF BRIDGE AND TRAFFIC STRUCTURES
PASSED — ENGINEER OF BRIDGES
APPROVED — DIRECTOR OF HIGHWAYS

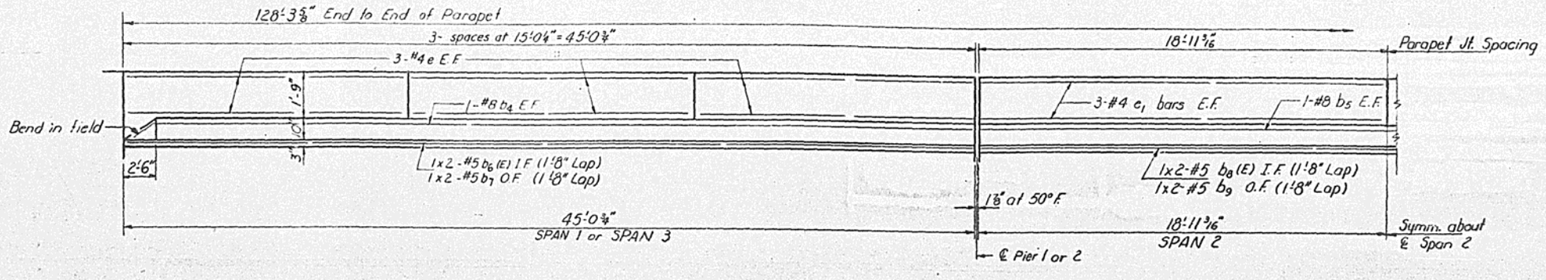
S-1-R (≦15°) 4-1-79

SUPERSTRUCTURE
F.A.P. RT. 116 SEC. 113 VBR
CUMBERLAND COUNTY
STA. 498+60.60

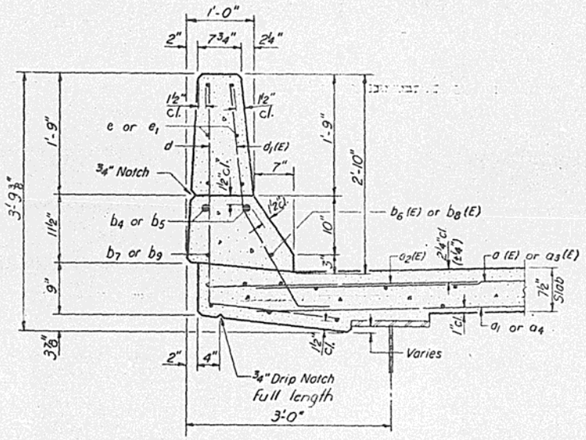
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.P. 116	113VBR	CUMBERLAND	26	18
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		

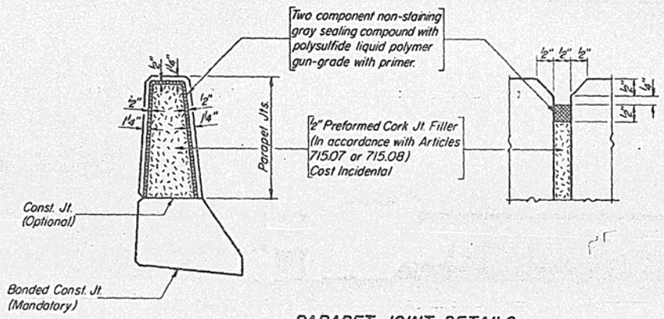
SHEET NO. 7
13 SHEETS



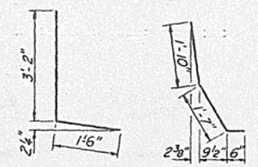
INSIDE ELEVATION OF PARAPET



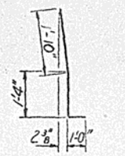
SECTION THRU PARAPET



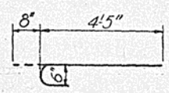
PARAPET JOINT DETAILS



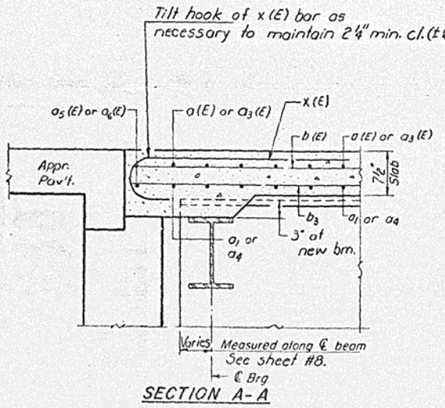
BAR d **BAR d_1(E)**



BAR d_2(E)



BAR x(E)



SECTION A-A

SUPERSTRUCTURE BILL OF MATERIAL

Bar	No.	Size	Length	Shape
a(E)	193	#5	18'-0"	—
a_1	170	#5	18'-0"	—
a_2(E)	192	#6	4'-0"	—
a_3(E)	193	#5	16'-7"	—
a_4	170	#5	16'-7"	—
a_5(E)	12	#6	18'-6"	—
a_6(E)	12	#6	17'-6"	—
b (E)	156	#5	23'-3"	—
b_1(E)	78	#5	19'-9"	—
b_2	80	#5	19'-9"	—
b_3	160	#5	23'-3"	—
b_4	8	#8	44'-9"	—
b_5	4	#8	37'-7"	—
b_6(E)	8	#5	23'-6"	—
b_7	8	#5	23'-6"	—
b_8(E)	4	#5	20'-0"	—
b_9	4	#5	20'-0"	—
d	256	#4	4'-8"	L
d_1(E)	268	#5	3'-11"	L
d_2(E)	12	#5	4'-2"	L
e	72	#4	14'-9"	—
e_1	24	#4	18'-8"	—
x(E)	118	#6	5'-1"	C —
Reinforcement Bars			Lbs.	15,100
Reinforcement Bars (Epoxy Coated)			Lbs.	16,480
Class X Concrete			Cu. Yds.	141.7

Reinforcement bars designated (E) shall be epoxy coated. See Special Provisions.

For location of Section A-A see sheet #6.

DESIGNED	Richard Brunette
CHECKED	Michael J Ryan
DRAWN	R. Daly
CHECKED	MJR

EXAMINED JUNE 6 1980
PASSED
APPROVED
ENGINEER OF DESIGN
DIRECTOR OF HIGHWAYS

S-2-D 4-1-79

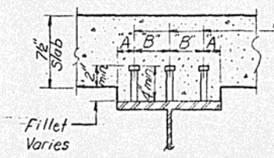
SUPERSTRUCTURE DETAILS
F.A.P. RT. 116 SEC. 113VBR
CUMBERLAND COUNTY
STA. 498+60.60

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.P. 116	113VBR	CUMBERLAND	26	19
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		

SHEET NO. 8
13 SHEETS

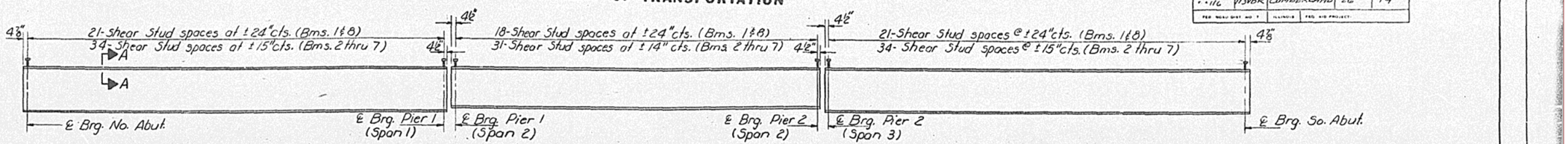
¾"ϕ Granular or solid flux filled headed studs automatically end welded. (No. Req'd. = 2214)



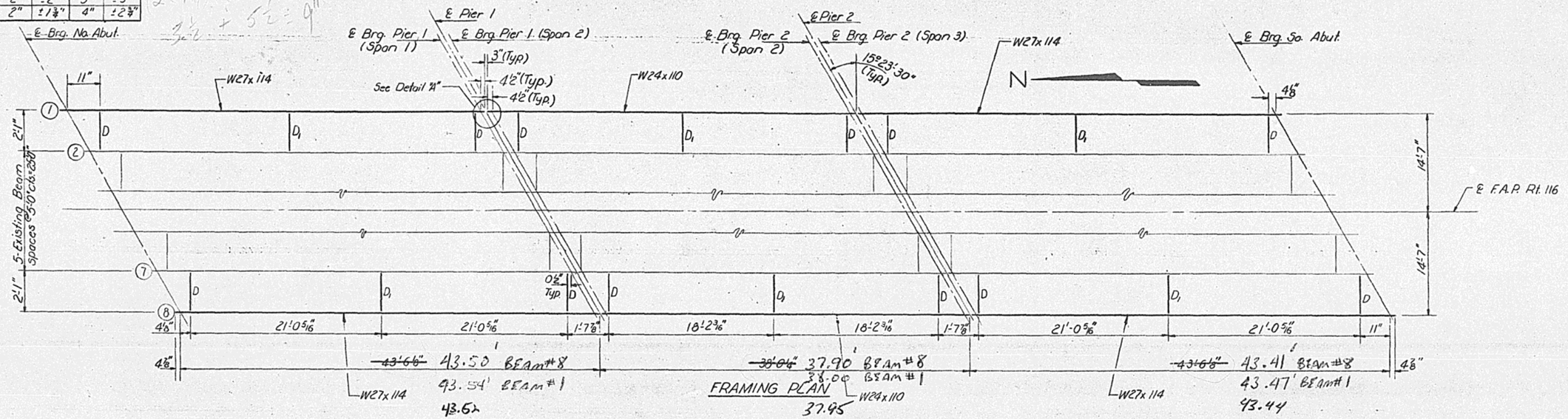
SECTION A-A

"A" & "B" DIMENSIONS

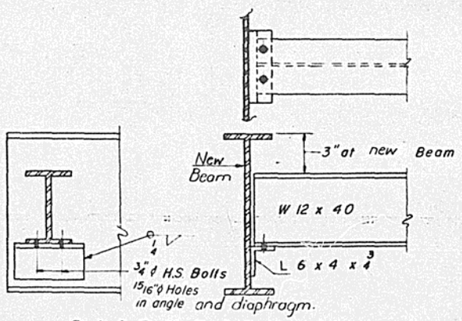
Span	"A"		"B"	
	Bm. 1&8	Bm. 2-7	Bm. 1&8	Bm. 2-7
1 & 3	2"	±2"	3"	±3"
2	2"	±1⅜"	4"	±2¾"



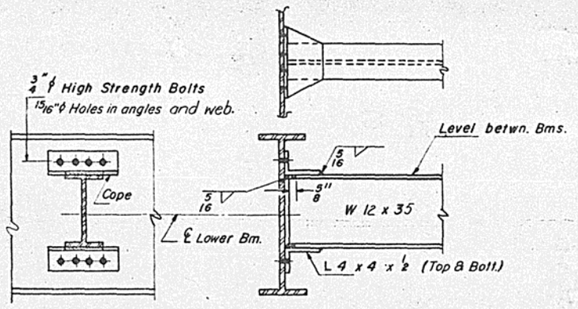
BEAM ELEVATION



FRAMING PLAN

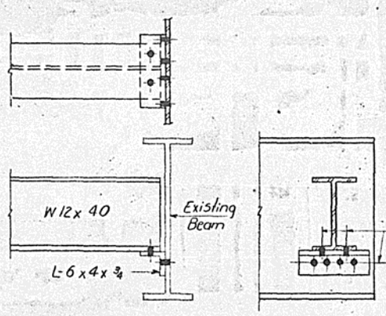


DIAPHRAGM D
AT OUTSIDE END
(12- Required)



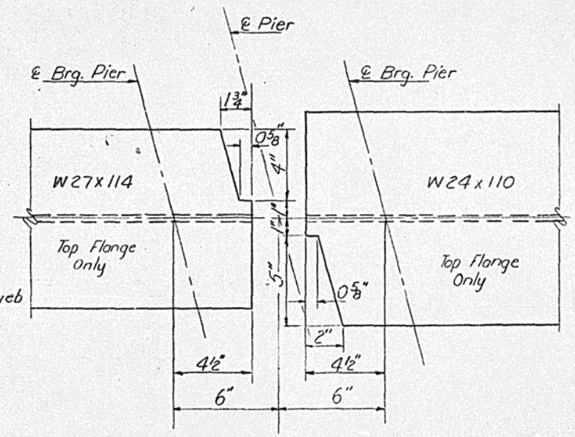
DIAPHRAGM D1
6- Required

Note: Hardened washers shall be required over 15/16"ϕ holes in angles. (2 washers per bolt).



DIAPHRAGM D
AT INSIDE END

Note:
It shall be necessary to drill 15/16"ϕ holes in the existing beam webs to attach the new diaphragm connecting angles.
All contact surfaces of joints for the diaphragms shall be free of paint or lacquer.



DETAIL "A"
(Pier 1- Looking East)
(Pier 2- Looking West)

DESIGNED	Richard Brunette
CHECKED	Michael Ryan
DRAWN	R. Doty
CHECKED	M.R.

EXAMINED JUN 6 1980
PASSED
APPROVED
ENGINEER OF BRIDGES AND TRAFFIC STRUCTURES
ENGINEER OF DESIGN
DIRECTOR OF HIGHWAYS

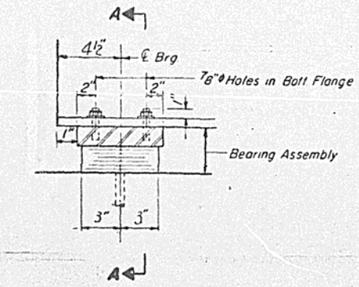
I-2-D 4-15-73

STRUCTURAL STEEL
F.A.P. RT. 116 SEC. 113VBR
CUMBERLAND COUNTY
STA. 498+60.60

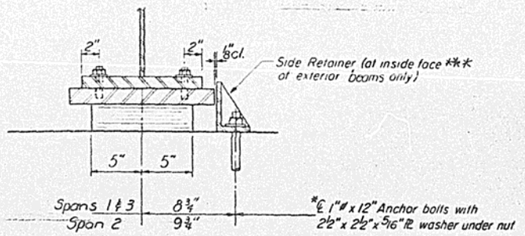
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.P. 116	113VBR	CUMBERLAND	26	20

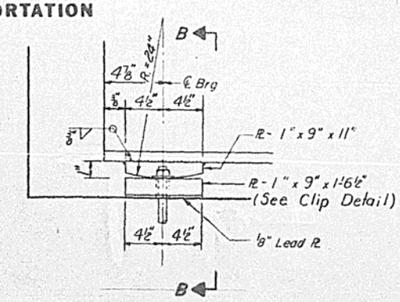
SHEET NO. 9
13 SHEETS



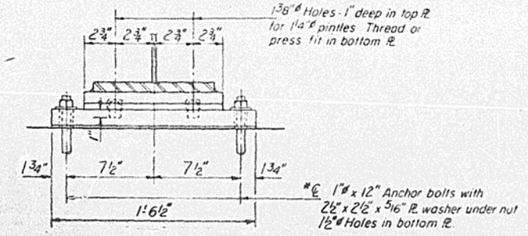
SECTION AT PIER



SECTION A-A



ELEVATION AT ABUT.

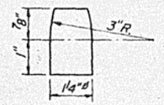


SECTION B-B

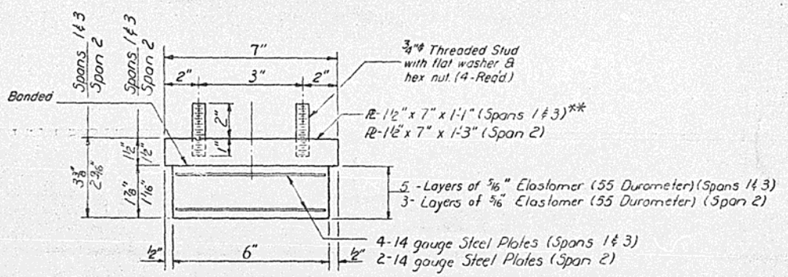
FIXED BEARING

TYPE I ELASTOMERIC EXP. BRG.

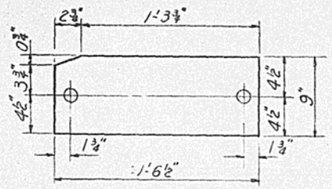
*Note: After beams have been erected holes at expansion bearings shall be drilled and anchor bolts grouted in place Anchor bolts at fixed bearings may be built into the masonry.



PINTLE



BEARING ASSEMBLY

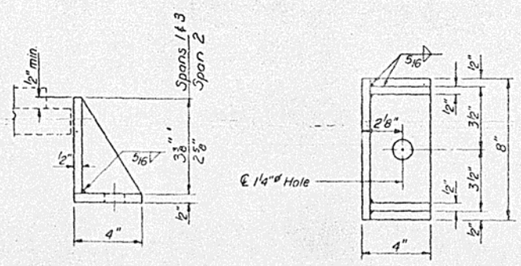


PLAN CLIPPED BOTT. BRG. ℝ AT ABUT.

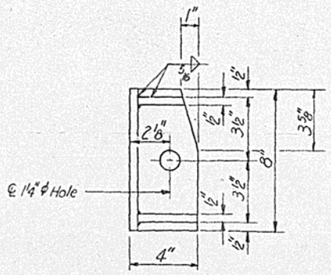
Note: Shim plates shall not be placed under Bearing Assembly.

TOP OF FLANGE ELEVATIONS
(For fabrication only)

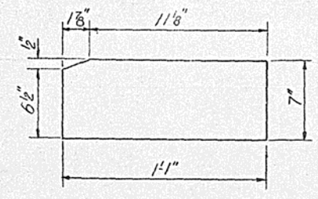
Location	℄ Brg. No. Abut.	℄ Brg. Pier 1 Span 1	℄ Brg. Pier 1 Span 2	℄ Brg. Pier 2 Span 2	℄ Brg. Pier 2 Span 3	℄ Brg. So. Abut.
Beam #1	614.67	614.91	614.84	614.80	614.87	614.70
Beam #8	614.70	614.91	614.84	614.85	614.92	614.71



SIDE RETAINER



*** PLAN CLIPPED SIDE RETAINER AT PIER 1, SPAN 2, BM. 1 & PIER 2, SPAN 2, BM. 8



** PLAN CLIPPED TOP BRG. ℝ AT PIER 2, SPAN 3, BM. 8 & PIER 1, SPAN 1, BM. 1

BILL OF MATERIAL

Item	Unit	Total
Elastomeric Bearing Assembly, Type I	Each	8

DESIGNED	Richard Brunette
CHECKED	Mehl J.P. Spoon
DRAWN	R. Doty
CHECKED	MJR

EXAMINED JUNE 6 1980
PASSED
APPROVED
DIRECTOR OF HIGHWAYS

I-2-E1 4-1-79

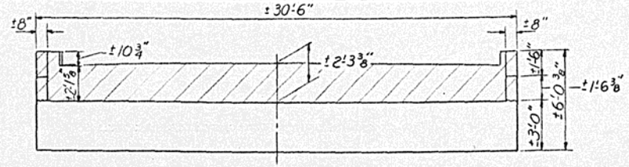
BEARING DETAILS
F.A.P. RT. 116 SEC. 113VBR
CUMBERLAND COUNTY
STA. 438+60.60

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

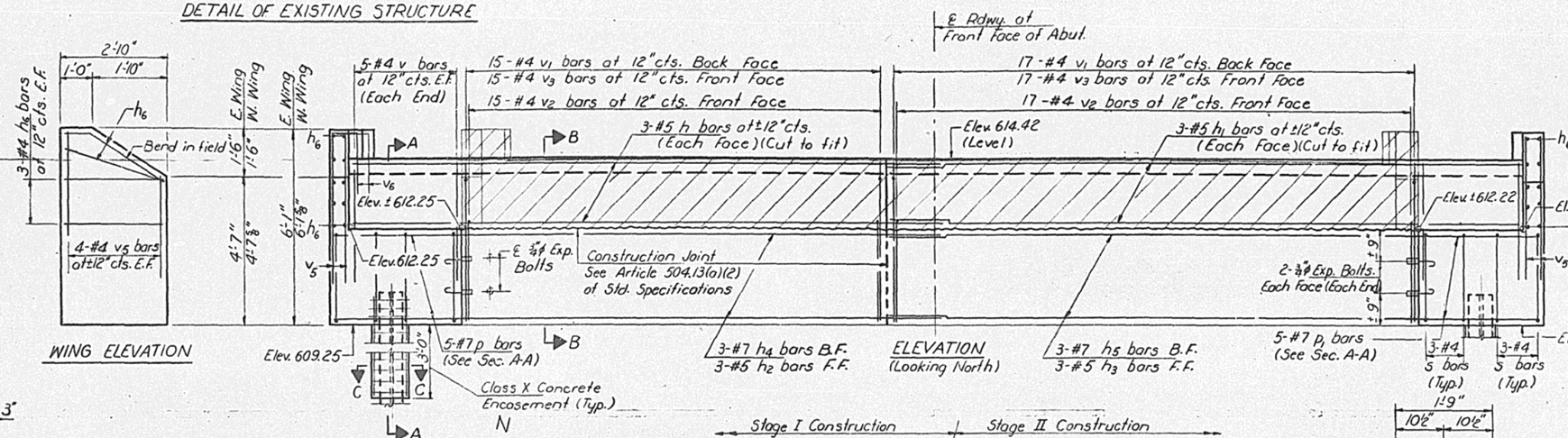
ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.P. 116	113VBR	CUMBERLAND	26	21

FED. ROAD DIST. NO. 7 | ILLINOIS | FED. AID PROJECT:

SHEET NO. 10
13 SHEETS

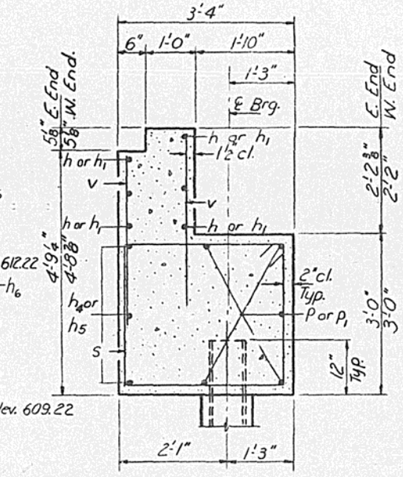


DETAIL OF EXISTING STRUCTURE

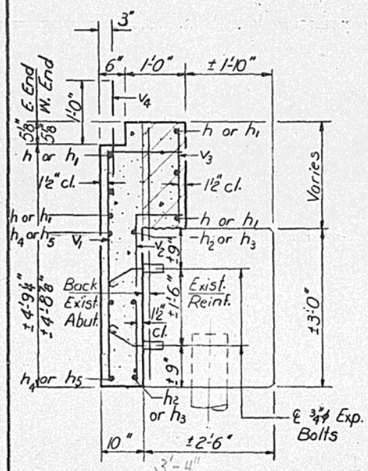


WING ELEVATION

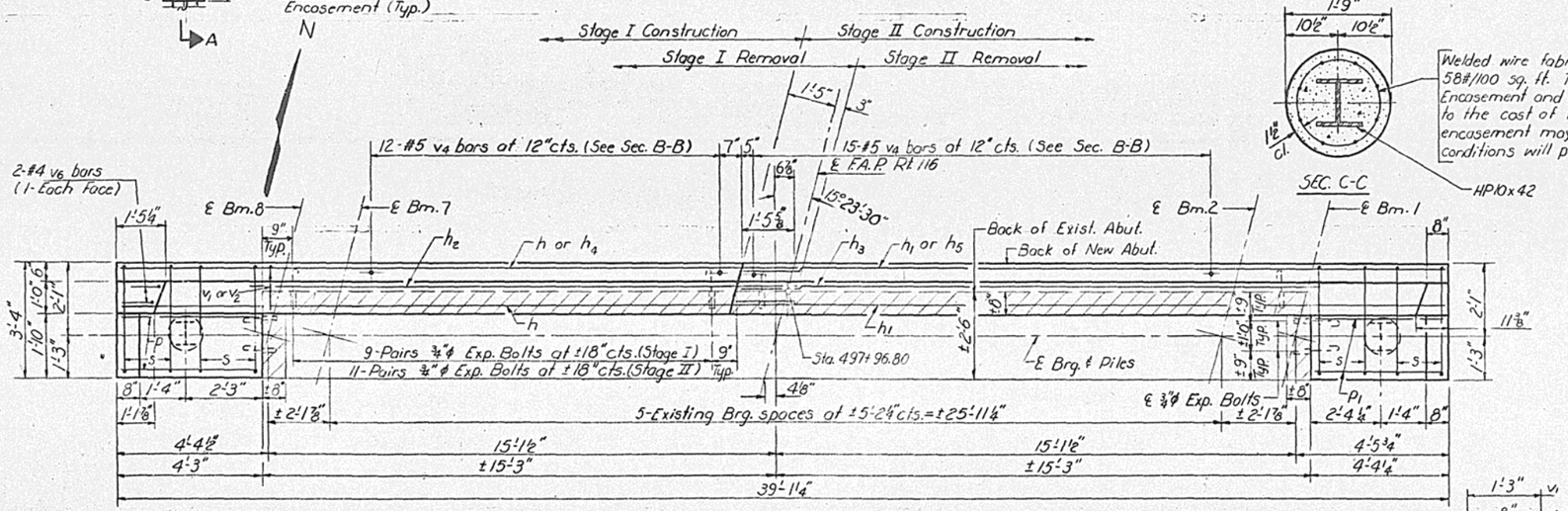
ELEVATION (Looking North)



SECTION A-A (Dim.℄ Rt. Ls)



SECTION B-B (Dim.℄ Rt. Ls)



PLAN

SEC. C-C

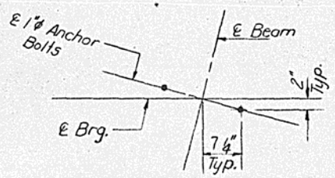
Welded wire fabric 6x6-W4.0xW4.0 weighing 58#/100 sq. ft. The cost of Class X Concrete Encasement and Reinforcement is incidental to the cost of furnishing piles. Forms for encasement may be omitted when soil conditions will permit.

BILL OF MATERIAL

Bar	No.	Size	Length	Shape
h	6	#5	20'-2"	
h1	6	#5	20'-9"	
h2	3	#5	16'-3"	
h3	3	#5	16'-6"	
h4	3	#7	20'-2"	
h5	3	#7	20'-3"	
h6	20	#4	2'-7"	
P	5	#7	4'-0"	
P1	5	#7	4'-1"	
S	12	#4	12'-1"	
v	20	#4	3'-9"	
v1	32	#4	5'-9"	
v2	32	#4	3'-8"	
v3	32	#4	2'-0"	
v4	27	#5	2'-6"	
v5	16	#4	4'-4"	
v6	2	#4	3'-3"	
Class X Concrete			Cu.Yd.	10.8
Reinforcement Bars			Pound	1240
Concrete Removal			Cu.Yd.	2
Steel Piles (HP10x42)			Lin. Ft.	66
Expansion Bolts ¾"			Each	48

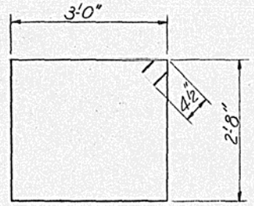
PILE DATA

Type: Steel HP10x42
Capacity: 35 Tons
Est. Length: 33'
No. Required: 2

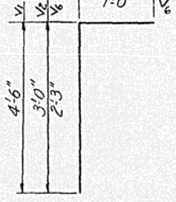


DETAIL OF BRG. OFFSETS

Notes:
Hatched area indicates Concrete Removal.
Reinforcement extending into removed area shall be cleaned and incorporated into the new construction.
Expansion bolts shall be anchored in sound concrete.
All edges shall have Standard ¾" chamfers except as noted.
Space reinforcement in cap to miss anchor bolts.



BAR S



BARS v1, v2 & v6

DESIGNED	Richard Brunette
CHECKED	Michael J. Ryan
DRAWN	R. Doty
CHECKED	MJR

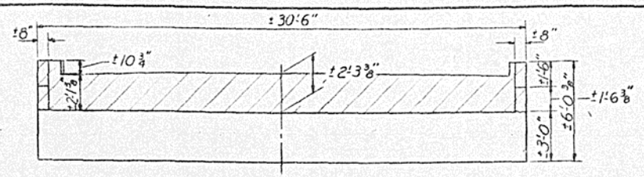
EXAMINED June 6 1980
PASSED
APPROVED

NORTH ABUTMENT
F.A.P. RT. 116 SEC. 113 VBR
CUMBERLAND COUNTY
STA. 498+60.60

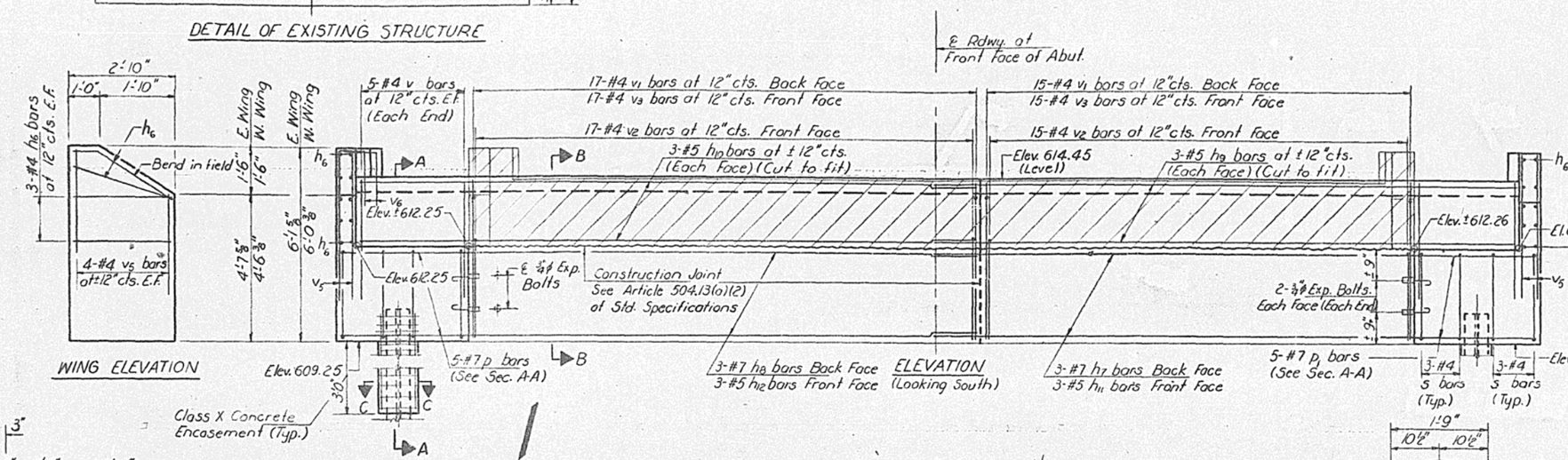
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

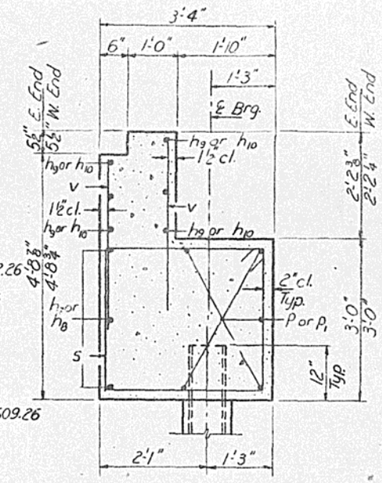
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.P. 116	113 VBR	CUMBERLAND	26	22
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT:		

SHEET NO. 11
13 SHEETS

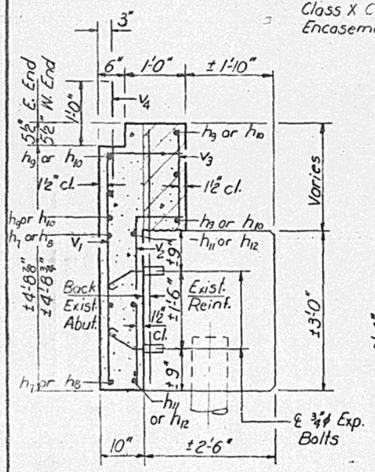


DETAIL OF EXISTING STRUCTURE





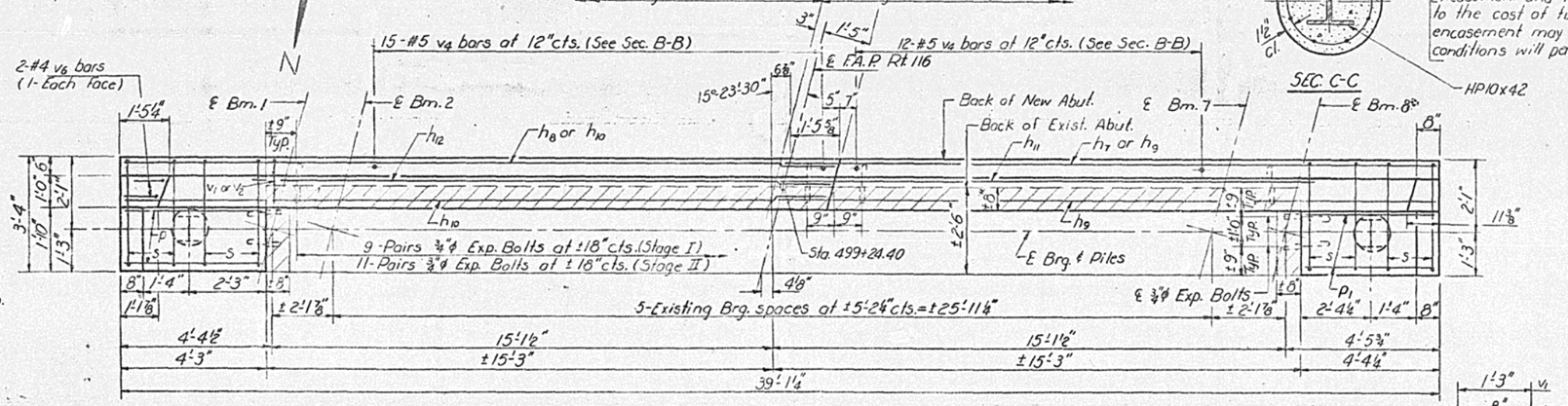
SECTION A-A
(Dim. ℄ Rt. L5)



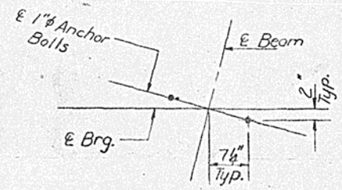
SECTION B-B
(Dim. ℄ Rt. L5)

PILE DATA

Type:	Steel HP10x42
Capacity:	Drive to Refusal
Est. Length:	44'
No. Required:	2

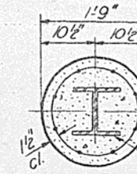


PLAN



DETAIL OF BRG. OFFSETS

Notes:
Hatched area indicates Concrete Removal.
Reinforcement extending into removed area shall be cleaned and incorporated into the new construction.
Expansion bolts shall be anchored in sound concrete.
All edges shall have standard ¾" chamfers except as noted.
Space reinforcement in cap to miss anchor bolts.

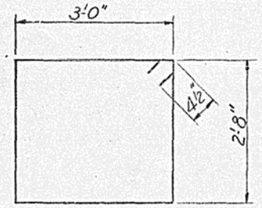


SEC. C-C

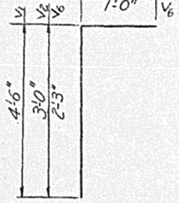
Welded wire fabric 6x6-W40xW40 weighing 58#/100 sq. ft. The cost of Class X Concrete Encasement and Reinforcement is incidental to the cost of furnishing piles. Forms for encasement may be omitted when soil conditions will permit.

BILL OF MATERIAL

Bar	No.	Size	Length	Shape
h6	20	#4	2'-7"	—
h7	3	#7	19'-2"	—
h8	3	#7	21'-5"	—
h9	6	#5	19'-6"	—
h10	6	#5	21'-5"	—
h11	3	#5	15'-6"	—
h12	3	#5	17'-5"	—
P	5	#7	4'-0"	—
P1	5	#7	4'-1"	—
S	12	#4	12'-1"	⊡
v	20	#4	3'-9"	—
v1	32	#4	5'-9"	⌐
v2	32	#4	3'-8"	⌐
v3	32	#4	2'-0"	—
v4	27	#5	2'-6"	—
v5	16	#4	4'-4"	—
v6	2	#4	3'-3"	⌐
Class X Concrete			Cu.Yd.	10.8
Reinforcement Bars			Pound	1240
Concrete Removal			Cu.Yd.	2
Steel Piles (HP10x42)			Lin. Ft.	88
Expansion Bolts ¾"			Each	48



BAR S



BARS v1, v2 & v6

DESIGNED	Richard Brunette
CHECKED	M.L.U.R.yan
DRAWN	R. Doty
CHECKED	MJR

EXAMINED June 6 1980
PASSED
APPROVED

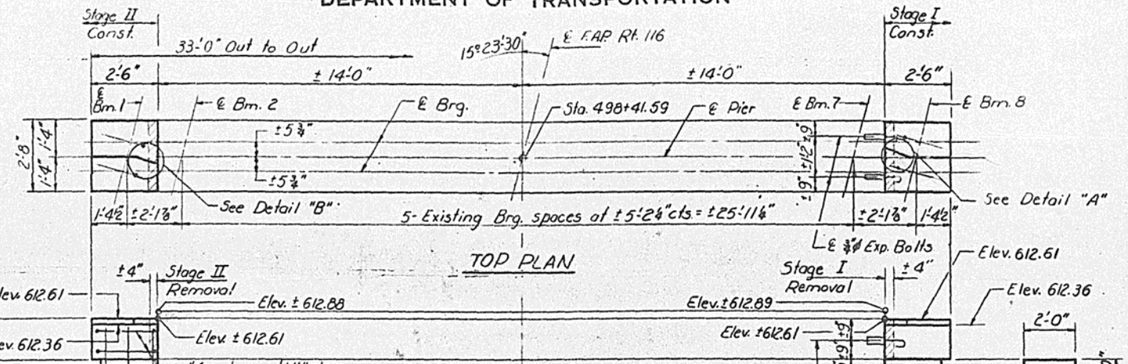
SOUTH ABUTMENT
F.A.P. RT. 116 SEC. 113 VBR
CUMBERLAND COUNTY
STA. 498+60.60

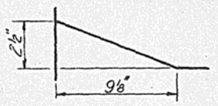
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.P. 116	113VBR	CUMBERLAND	26	23
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT:		

SHEET NO. 12
13 SHEETS

NOTES:
Hatched areas indicate Concrete Removal.
Reinforcement extending into removed areas shall be cleaned and incorporated into the new construction.
Expansion bolts shall be anchored in Sound concrete.
All edges shall have standard ¾" chamfers except as noted.
Space reinforcement in top to miss anchor bolts.

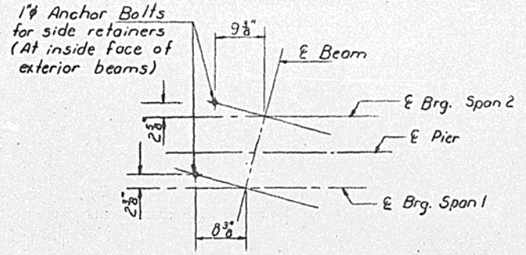
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



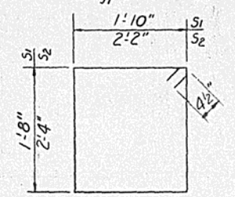


DETAIL "A"

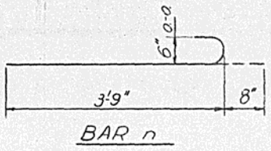
DETAIL "B"



BRG. OFFSET DETAIL (Typ.)



BARS S1 & S2



BAR n

BILL OF MATERIAL

Bar	No.	Size	Length	Shape
n	8	#6	4'-5"	
S1	50	#4	7'-9"	
S2	4	#4	9'-9"	
t	6	#5	4'-9"	
v	16	#6	25'-8"	
w	10	#5	1'-11"	
Class X Concrete			Cu. Yd.	10.2
Reinforcement Bars			Pound	1000
Expansion Bolts ¾"			Each	54
Concrete Removal			Cu. Yd.	*

*Quantity included in Total Bill of Material on sheet #1.

DESIGNED	Richard Brunette
CHECKED	Michael J. Ryan
DRAWN	R. Doty
CHECKED	MJR

EXAMINED June 6 1980
PASSED
APPROVED
ENGINEER OF DESIGN
DIRECTOR OF HIGHWAYS

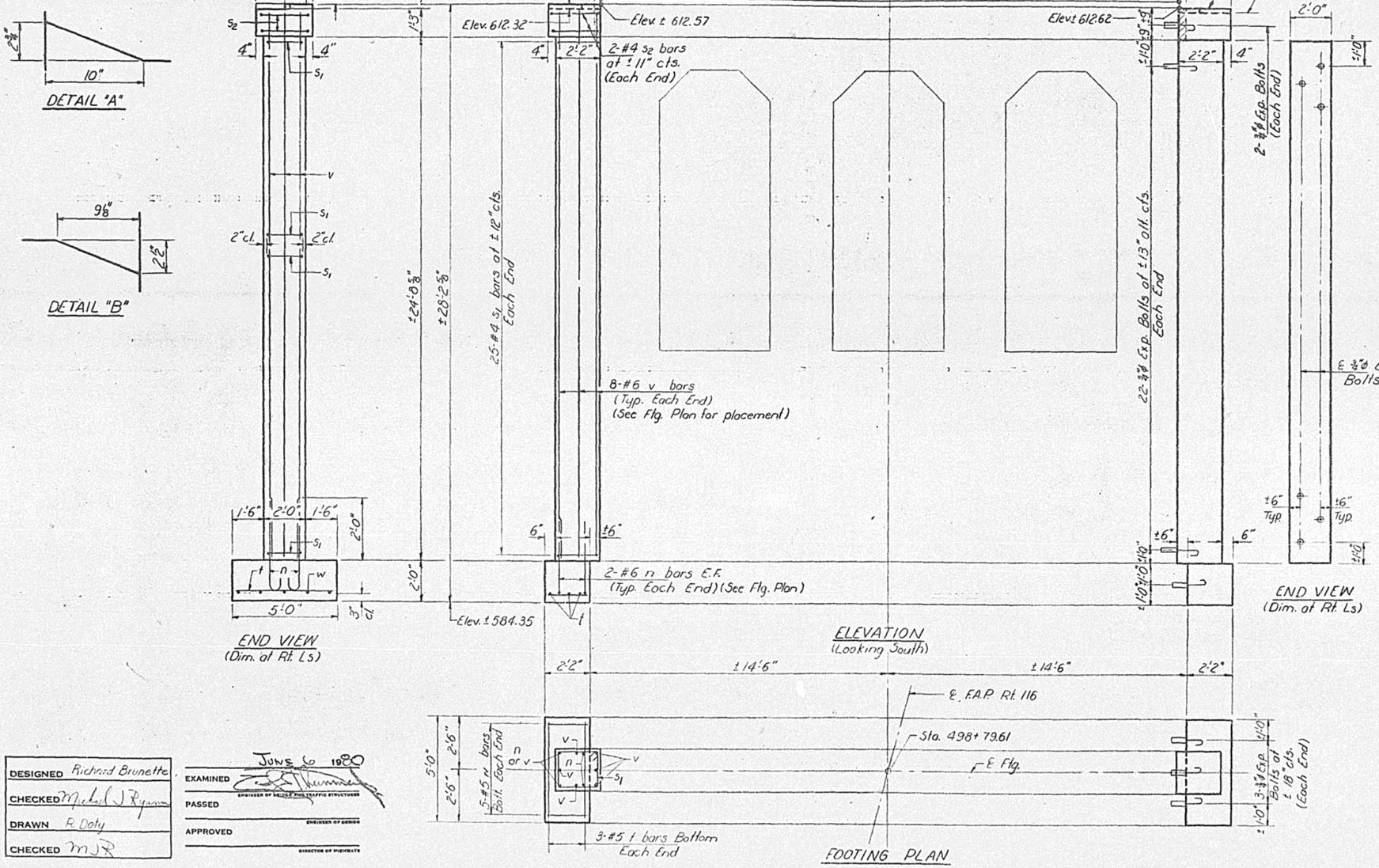
PIER 1
F.A.P. RT. 116 SEC. 113VBR
CUMBERLAND COUNTY
STA. 498+60.60

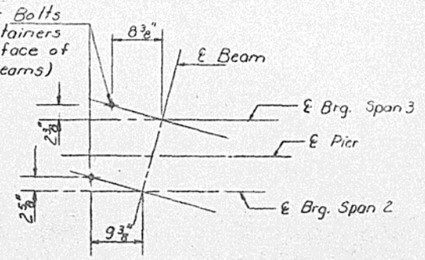
NOTES:
Hatched areas indicate Concrete Removal.
Reinforcement extending into removed areas shall be cleaned and incorporated into the new construction.
Expansion bolts shall be anchored in Sound concrete.
All edges shall have standard ¾" chamfers except as noted.
Space reinforcement in top to miss anchor bolts.

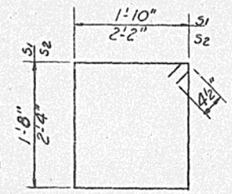
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

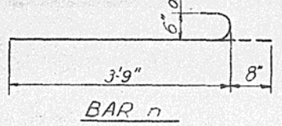
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.P. 116	113VBR	CUMBERLAND	26	24
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT:		

SHEET NO. 13
13 SHEETS









BILL OF MATERIAL

Bar	No.	Size	Length	Shape
n	8	#6	4'-5"	
S1	50	#4	7'-9"	
S2	4	#4	9'-9"	
t	6	#5	4'-9"	
v	16	#6	25'-8"	
w	10	#5	1'-11"	
Class X Concrete			Cu. Yd.	10.2
Reinforcement Bars			Pound	1000
Expansion Bolts ¾"			Each	54
Concrete Removal			Cu. Yd.	*

*Quantity included in Total Bill of Material on sheet #1.

DESIGNED	Richard Brunette
CHECKED	Michael J Ryan
DRAWN	R. Doty
CHECKED	MJR

EXAMINED — JUNE 6 1980 — ENGINEER OF BRIDGES AND TRAFFIC STRUCTURES
PASSED — ENGINEER OF DESIGN
APPROVED — DIRECTOR OF HIGHWAYS

PIER 2
F.A.P. RT. 116 SEC. 113VBR
CUMBERLAND COUNTY
STA. 498+60.60

ROUTE NO.	SEC.	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.P. 116	113VBR	CUMBERLAND	26	25
FED. ROAD DIST. NO. 8	ILLINOIS		PROJECT	

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

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

PLATE 3-FULL CROSS SECTION FULL LINE

ROUTE NO.	SEC.	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.P. 116	113VBE	CUMBERLAND	24	24
FED. ROAD DIST. NO. 9	ILLINOIS		PROJECT	

STA. 500 + 00

STA. 500 + 00

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

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

611.09

614.05

PLATE 3-FULL CROSS SECTION-FULL LINE

HIGHWAY FEDERAL AID SHEET
W.T.ILDYKE
PRINTED IN U.S.A.

STANDARD SYMBOLS AND ABBREVIATIONS

THESE SYMBOLS AND ABBREVIATIONS ARE USED THROUGHOUT THESE PLANS UNLESS OTHERWISE NOTED

SYMBOLS

- North Arrow
- State Line
- Shelby Co. / Fayette Co. — County Line
- Township Line
- City, Village or Town Limits
- Section or Grant Line
- Section Corner
- Quarter Corner
- Same Ownership
- PL — Unfenced Property Line
- PL — Fenced Property Line
- Fence Line
- Std. No. — Construction Identification Sign
- Right of Way Marker
- R.O.W. — Existing Right of Way Line
- R.O.W. — Existing Fenced Right of Way Line
- Proposed Right of Way Line
- AC — Proposed Right of Way Line coincident with access control line
- AC — Access Control Line (Not coincident with Right of Way Line)
- 150' — Proposed Right of Way Dimension
- Construction Limits
- Base or Survey Line
- Channel Change Easement
- Temporary Easement (Detour, Grading etc.)
- Stream
- NAME — Lake or Pond
- Marsh
- Levee
- Summit
- Deciduous Trees
- Evergreen Trees
- Hedge
- Centerline
- SS or SANS — Existing Storm or Sanitary Sewer
- Railroad or Utility Tracks
- Curb Wall
- Retaining Wall
- Existing Drive or Traveled Way
- Pipe Lines
  - G — Gas
  - W — Water
  - O — Oil
- Longitudinal Joint with Tie Bars (Sawed or Poly.)
- Longitudinal Joint with Tie Bars and Keyway
- Longitudinal Joint with Keyway only
- Contraction Joint with Dowels
- Contraction Joint without Dowels
- Expansion Joint with capped Dowels
- Expansion Joint without Dowels
- Wide Flange Beam Terminal Joint
- Guard Rail
- Existing Pavement, Curb & Gutter, Driveway Pavement & Sidewalk to be removed
- Existing Culvert
- Culvert to be Constructed
- Culvert with Drop Inlet
- P 936.25 — Elevation of Surface of Finished Pavement at Point Indicated
- C 936.50 — Elevation of Top of Curb at Point Indicated
- G 936.00 — Elevation of Flow Line of Gutter at Point Indicated
- SS 519.46 — Storm Sewer (Direction of Flow & Invert Elevation Indicated)
- TD 531.9 — Tile Drain (Direction of Flow & Invert Elevation Indicated)
- Existing Inlet, Inlet to be Adjusted, or Inlet to be Reconstructed
- Inlet to be Constructed
- Inlet to be filled with Sand & Connection Sealed
- Existing Catch Basin, Catch Basin to be Adjusted, or Catch Basin to be Reconstructed
- Catch Basin to be Constructed
- E — Underground Electric Cable
- T — Underground Telephone Cable
- Catch Basin to be filled with Sand & Connection Sealed
- Existing Manhole, Manhole to be Adjusted, or Manhole to be Reconstructed
- Manhole to be Constructed
- Manhole to be filled with Sand & Connection Sealed
- Existing Valve Vault, Valve Vault to be Adjusted, or Valve Vault to be Reconstructed
- Valve Vault to be Constructed
- Valve Vault to be filled with Sand & Connection Sealed
- Existing Fire Hydrant, or Fire Hydrant to be Adjusted
- Fire Hydrant & Auxilary Valve to be Moved (Symbol with Letter Indicates New Location)
- Existing Light Standard, or Light Standard to be Adjusted
- Light Standard to be Moved (Symbol with Letter Indicates New Location)
- Existing Traffic Signal, or Traffic Signal to be Adjusted
- Traffic Signal to be Moved (Symbol with Letter Indicates New Location)
- Existing Traffic Sign, or Traffic Sign to be Adjusted
- Traffic Sign to be Moved (Symbol with Letter Indicates New Location)
- Existing House Service Box or House Meter Vault, or House Service Box or House Meter Vault to be Adjusted
- House Service Box or House Meter Vault to be Moved (Symbol with Letter Indicates New Location)
- Existing Main Service Box or Main Meter Vault, or Main Service Box or Main Meter Vault to be Adjusted
- Main Service Box or Main Meter Vault to be Moved (Symbol with Letter Indicates New Location)
- Trolley Pole
- Telephone or Telegraph Pole
- Power Line Pole
- H — House
- † — Church
- S — Shed
- Storage 238 — Commerical Building
- B — Barn
- P — School
- TH — Town Hall
- Roadway
- Traffic Direction Arrow

ABBREVIATIONS

T.D.	Tile Drain	℄-B.	Centerline to Back of Curb	R.P.S.	Reference Point Stake	Sec.	Section
S.S.	Storm Sewer (Existing)	Δ	Central Angle	I.P.	Iron Pipe	Sta.	Station
S.S. 18"x24" TYPE I	Storm Sewer (Size, Length and Type)	D.	Degree of Curve	N&W	Nail & Washer	P.L.	Property Line
S.S. 18"x24" TYPE I RCP	Storm Sewer (Size, Length, Type and Material)	T.	Tangent Length	T.P.	Telephone Pole	F.E.	Field Entrance
		L.	Curve Length	P.P.	Power Pole	P.E.	Private Entrance
		R.	Radius of Curve	F.P.	Fence Post	F.A.I.	Federal-aid Interstate
C.M.P.	Corrugated Metal Pipe	E.	External Distance	F.H.	Fire Hydrant	F.A.	Federal-aid
C.I.P.	Cast Iron Pipe	S.	Superelevation (ft. per ft. of width)	B.M.	Bench Mark	F.A.S.	Federal-aid Secondary
P.C.	Pipe Culvert (Existing)	P.C.	Point of Curvature	R.R.S.	Railroad Spike	S.B.I.	State Bond Issue
P. 18"x24" TYPE I	Pipe Culvert (Size, Length and Type)	P.I.	Point of Intersection	R.O.W.	Right of Way	M.F.T.	Motor Fuel Tax
P. 18"x24" TYPE IA CMCP	Pipe Culvert (Size, Length, Type and Material)	P.T.	Point of Tangency	Inv.	Invert	S.R.	State-Route
		P.O.T.	Point on Tangent	F.L.	Flow Line	C.H.	County Highway
		P.C.C.	Point of Compound Curvature	S.M.	State of Illinois Survey Marker	T.R.	Township Road
P.C.C.	Portland Cement Concrete	P.R.C.	Point of Reverse Curvature	U.S.C.&G.S.	U.S. Coast & Geodetic Survey	C.S.	City Street
F.-F.	Face to Face of Curb	V.C.	Vertical Curve	U.S.G.S.	U.S. Geological Survey	Proj.	Project
B.-B.	Back to Back of Curb	X.	External Distance of Vertical Curve	Elev.	Elevation	A.C.	Access Control
℄-F.	Centerline to Face of Curb	SAN.S	Sanitary Sewer	Rt.	Route	F.A.U.S.	Federal-aid Urban System

Illinois Department of Transportation

PASSED July 15 1977
W. E. Heumann
Engineer of Design Operations

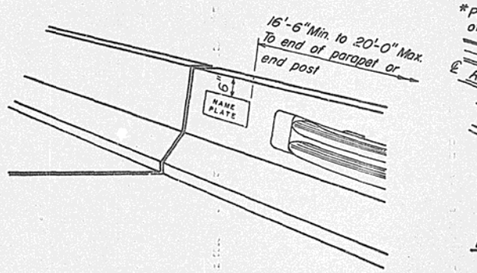
APPROVED July 15 1977
Thomas A. Bright
Engineer of Design

REVISIONS	
BY	DATE
J.F.L.	11-18-58
W.F.	9-9-59
W.F.	11-19-62
W.F.	5-12-66
D.W.W.	7-15-77

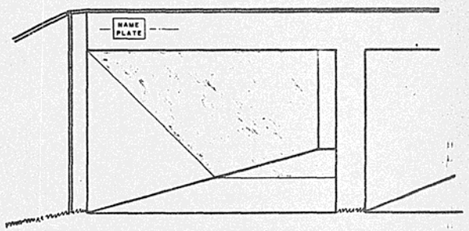
- If it is definitely known that adjustment or reconstruction is required, place A or R inside the symbol. If a new casting is required, show the casting number. Use P for open, C for closed lid. Example—Catch Basin to be reconstructed with new type 5 frame, open lid = Ⓡ 5P.
- First character denotes type of structure. Use Sp. for special design. Second character denotes number of frame or grate. Example-Type A manhole with type I frame and closed lid = ◉ A-IC

STANDARD 1686-4

Drawn 3-17-53 Redrawn 11-19-62 (Half Size) W.F.

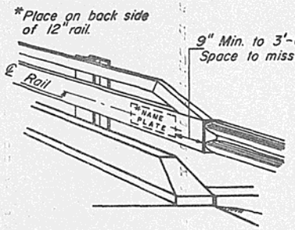


FOR PARAPET AND END POST MOUNTED

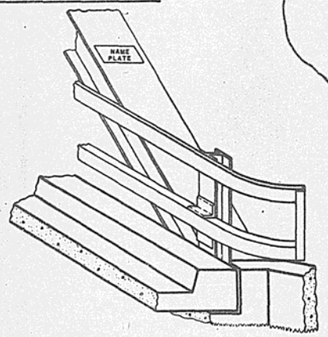


FOR MULTI-SPAN CULVERTS

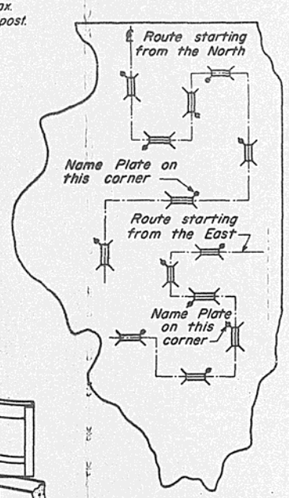
Note: Unless otherwise noted on the plans, Name Plates are not required for single box culverts.

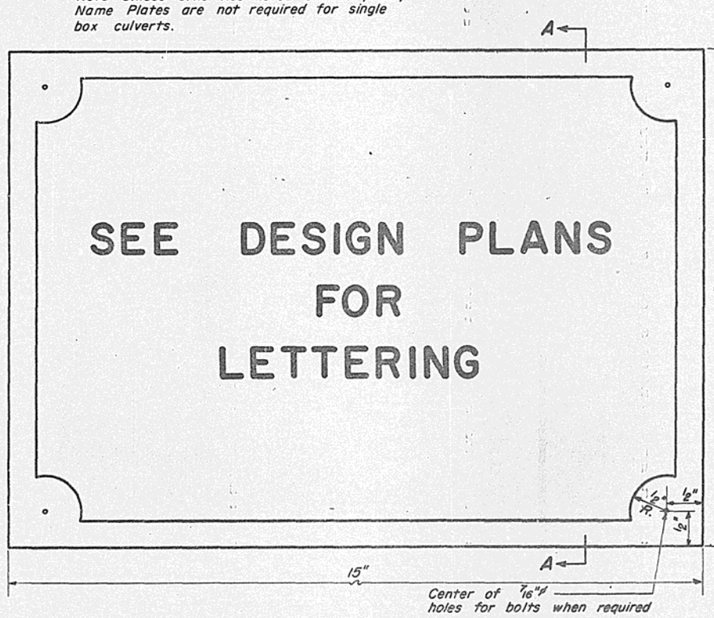


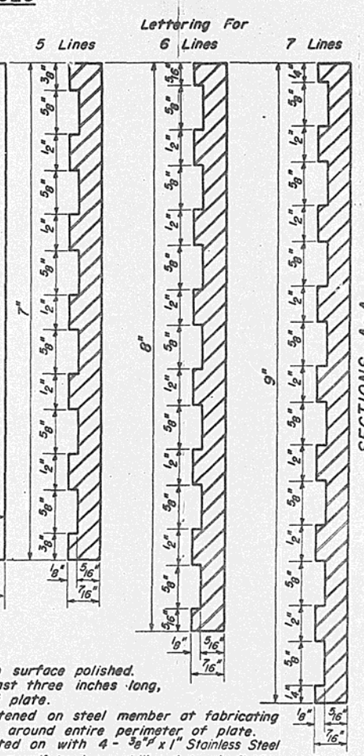
FOR STEEL RAILS



FOR TRUSSES







Material: Best quality brass or bronze.
Border & Lettering: Raised 1/8 inch. Square cut and not tapered. Top surface polished.

Fastenings
- For Concrete Parapets, Culverts - Headwalls & Subways — Four lugs at least three inches long, cast on back of plate.
- For Steel Truss Span — Plate to be fastened on steel member at fabricating shop by brazing around entire perimeter of plate.
- For Steel Rails — Plate to be bolted on with 4 - 3/8"ø x 1" Stainless Steel or Brass Cap Screws, self tapping or drill and tap in field.

Placings
- For Concrete Parapets — Plate to be placed 16'-6" min. to 20'-0" max. to end of parapet.
- For Steel Truss Span — Braze to end post about five feet above roadway.
- For Steel Rails — Place on back side of 12" rail.
- For Subways — See design plans for location.

Illinois Department of Transportation

PASSED FEBRUARY 15, 1980
Engineer of Bridge & Traffic Structures

APPROVED FEBRUARY 15, 1980
Engineer of Design

ISSUED 1-15-63

DETAIL OF NAME PLATE FOR BRIDGES

DETAILS OF PERMANENT SURVEY MARKERS

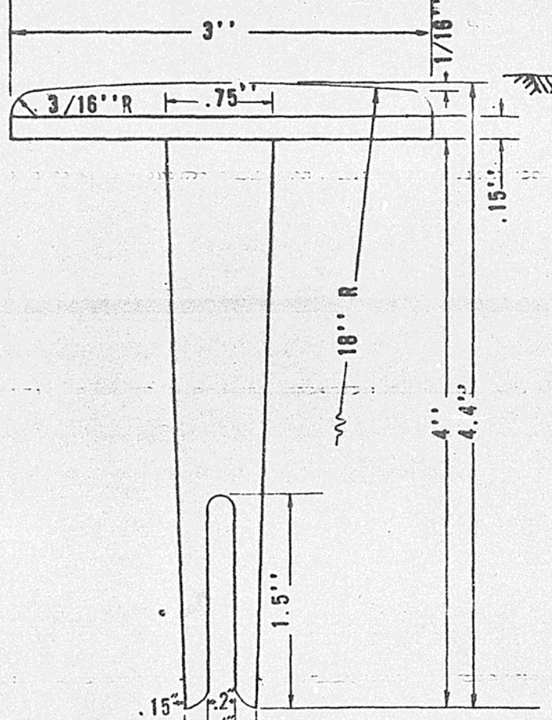
THE MARKERS MAY BE EITHER PRECAST OR CONSTRUCTED ON THE SITE EXCEPT WHERE IT IS NECESSARY TO INSTALL THE TABLET IN AN EXISTING ROCK LEDGE, THE CONCRETE PAVEMENT, OR A STRUCTURE.

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 SPACED ALONG THE TANGENTS IN A WAY THAT A MINIMUM OF TWO MARKERS ARE ALWAYS INTER-VISIBLE.

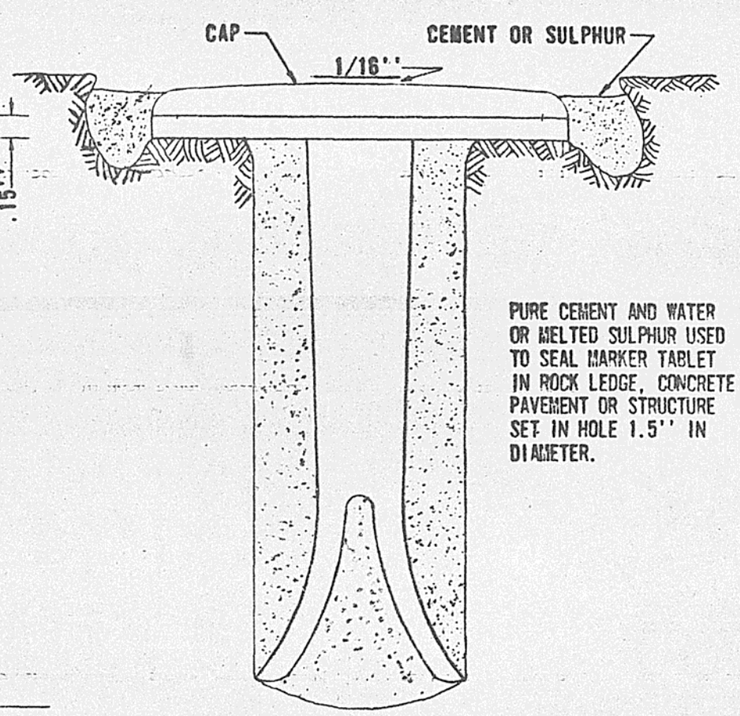
THE MARKERS SHALL BE PLACED UNDER THE DIRECTION OF THE ENGINEER AND SHALL BE INSTALLED IN A WORKMANLIKE MANNER IN ORDER THAT THERE BE NO FUTURE SETTLEMENT OR HORIZONTAL SHIFTING. THE MONUMENTS SHALL BE PLACED IN A WAY THAT THE SURVEY POINT WILL FALL WITHIN THE PORTION OF THE PLAQUE PROVIDED FOR THAT PURPOSE.

THE PROJECT DESIGNATION, THE CENTERLINE STATION, THE SURVEY POINT, AND THE ELEVATION SHALL BE PERMANENTLY MARKED BY THE USE OF METAL DIES AFTER THE MARKER HAS BEEN INSTALLED.

THE CONTRACT UNIT PRICE FOR PERMANENT SURVEY MARKERS WILL BE PAYMENT IN FULL FOR FURNISHING, INSTALLING, AND PERMANENTLY MARKING THE TYPE SPECIFIED.



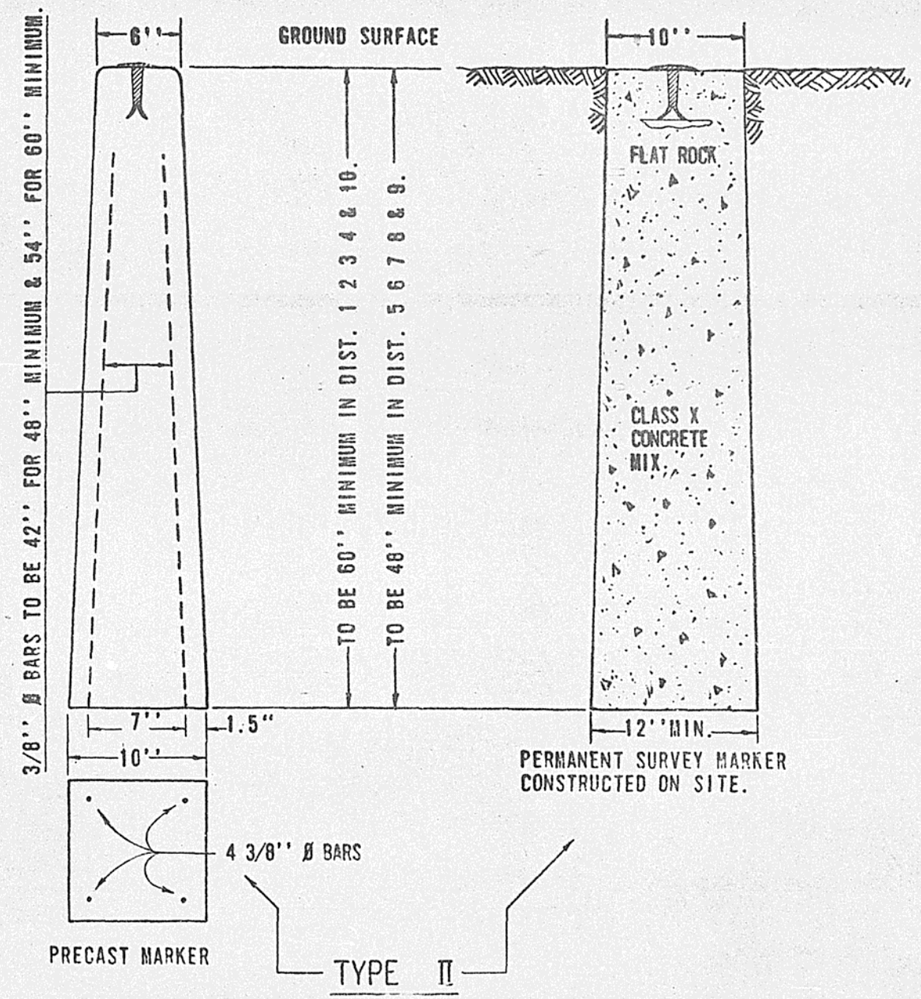
BRONZE TABLET
SCALE FULL SIZE



PURE CEMENT AND WATER OR MELTED SULPHUR USED TO SEAL MARKER TABLET IN ROCK LEDGE, CONCRETE PAVEMENT OR STRUCTURE SET IN HOLE 1.5" IN DIAMETER.

TABLET CONSTRUCTED IN ROCK LEDGE OR CONCRETE.
SCALE FULL SIZE

TYPE I



PRECAST MARKER

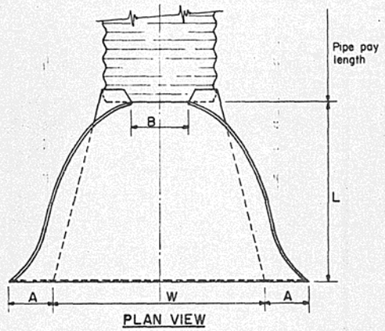
PERMANENT SURVEY MARKER CONSTRUCTED ON SITE.

TYPE II

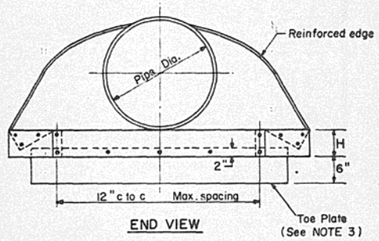
STATE OF ILLINOIS DEPARTMENT OF PUBLIC WORKS AND BUILDINGS DIVISION OF HIGHWAYS	REVISIONS BY	DATE
PASSED August 8 1958		
A U VanAusdall ENGINEER OF ROAD PLANS AND CONTRACTS		
APPROVED August 8 1958		
C. L. Shurtz ENGINEER OF DESIGN		

STANDARD 2135

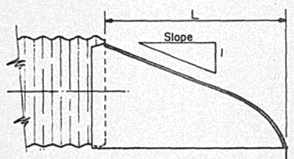
STANDARD DESIGN
METAL END SECTION FOR PIPE CULVERTS



PLAN VIEW



END VIEW

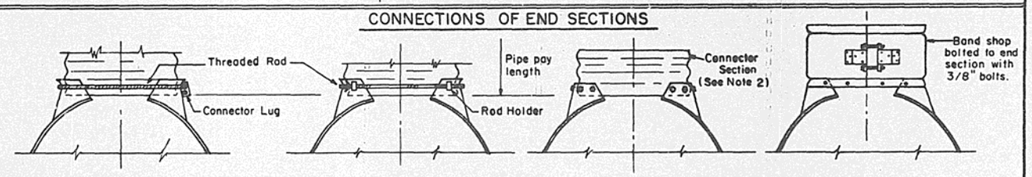


SIDE VIEW

PIPE DIA.	THICK-NESS, INCHES	DIMENSIONS A (1"±)	B (Max.)	H (1"±)	L (1½"±)	W (2"±)	SLOPE (Approx.)	BODY
12	0.064	6	6	6	21	24	2½	1 Pc.
15	0.064	7	8	6	26	30	2½	1 Pc.
18	0.064	8	10	6	31	36	2½	1 Pc.
21	0.064	9	12	6	36	42	2½	1 Pc.
24	0.064	10	13	6	41	48	2½	1 Pc.
30	0.079	12	16	8	51	60	2½	1 Pc.
36	0.079	14	19	9	60	72	2½	2 Pc.
42	0.109	16	22	11	69	84	2½	2 Pc.
48	0.109	18	27	12	78	90	2¼	2 Pc.
54	0.109	18	30	12	84	102	2	2 Pc.
60	0.109	18	33	12	87	114	1¾	3 Pc.
66	0.109	18	36	12	87	120	1½	3 Pc.
72	0.109	18	39	12	87	126	1⅓	3 Pc.
78	0.109	18	42	12	87	132	1¼	3 Pc.
84	0.109	18	45	12	87	138	1⅙	3 Pc.

NOTES:
1. All 3 piece bodies shall have .109 inch sides and .138 inch center panels. Width of center panels shall be greater than 20% of the pipe periphery. Multiple panel bodies shall have lap seams which shall be tightly jointed with 3/8" ϕ rivets or bolts.
2. For 60" thru 84" sizes, reinforced edges shall be supplemented with stiffener angles. The angles shall be 2" x 2" x ¼" for 60" thru 72" diameter and 2½" x 2½" x ¼" for 78" and 84" diameter. The angles shall be attached by 3/8" ϕ rivets or bolts.
3. The toe plate shall be the same thickness metal as the end section.

CONNECTIONS OF END SECTIONS



TYPE #1
For 12" thru 24" only
(See Note 1)

TYPE #2
For 30" & 36" only
(See Note 1)

TYPE #3
(See Note 2)

TYPE #4
(See Note 3)

1" Wide, 0.109" thick strap with standard 6" x 1/2" band bolt and nut.

ALTERNATE STRAP CONNECTOR
(For TYPE 1 only)

NOTE:
1. Types #1 and #2 for pipes with annular ends only.
2. Type #3 connection can be used for all pipe sizes and includes 1 foot of the pipe length. The connector section shall be attached to the end section by rivets or bolts and shall be the same metal thickness as the end section. Stub to be either 2-2/3" pitch x 1/2" depth or 3" pitch x 1" depth annular corrugated pipe.
3. Type #4 connection can be used for all pipe sizes. Coupler shall be 2-2/3" x 1/2" dimple, hugger or annular band or 3" x 1" annular band. The dimple, hugger, or annular band may be used with corrugated metal pipes having annular ends. For corrugated metal pipes having helical ends, only the dimple band will be allowed.
4. When the pipe is bituminous coated, it will not be necessary to coat end sections or connector sections.

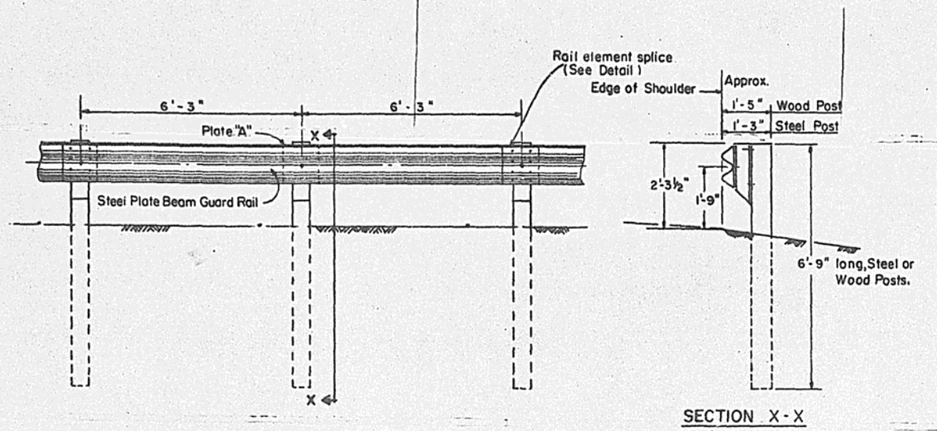
Illinois Department of Transportation

PASSED June 1 1977
D. E. Hemming
Engineer of Design Operations

APPROVED June 1 1977
Thomas B. Bright
Engineer of Design

ISSUED 12-9-65	
REVISIONS	
G.R.	8-1-68
W.F.	1-17-72
D.W.W.Sr.	8-25-76
D.W.W.Sr.	6-1-77

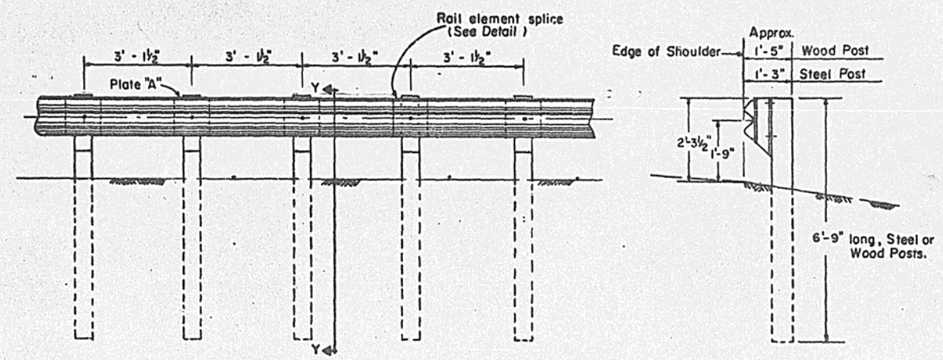
STANDARD 2228-4
(Half Size) W.F.



SECTION X-X

TYPE A

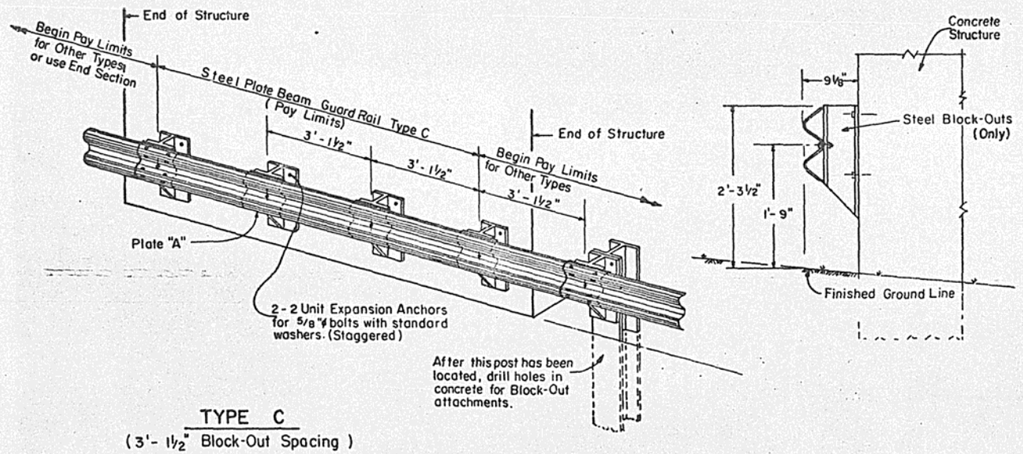
(6'-3" Typical Post Spacing)



SECTION Y-Y

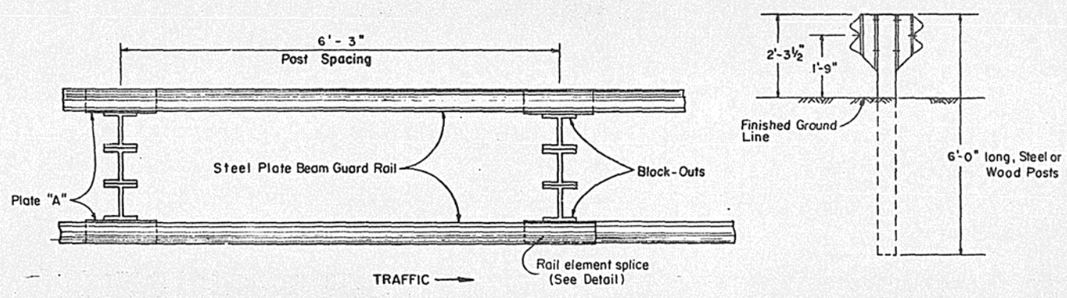
TYPE B

(3'-1½" Closed Post Spacing)



TYPE C

(3'-1½" Block-Out Spacing)



TYPE D

(Double Steel Plate Beam Guard Rail,
with 6'-3" Typical Post Spacing)

Illinois Department of Transportation

PASSED July 25, 1979
W. E. Hamming
Engineer of Design Operations

APPROVED July 25, 1979
Thomas B. Enright
Engineer of Design

ISSUED 2-11-69

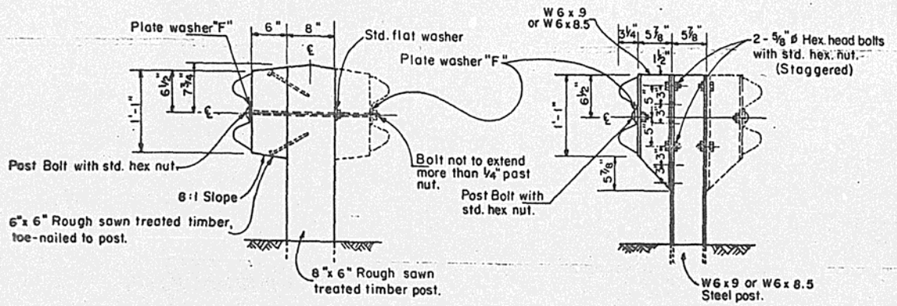
STEEL PLATE BEAM GUARD RAIL
TYPES A, B, C & D

Sheet 1 of 2 Sheets

STANDARD 2230-13

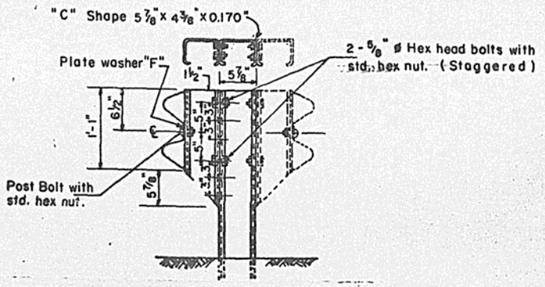
F-3.1 K

Full Size D.W.W. Sr.

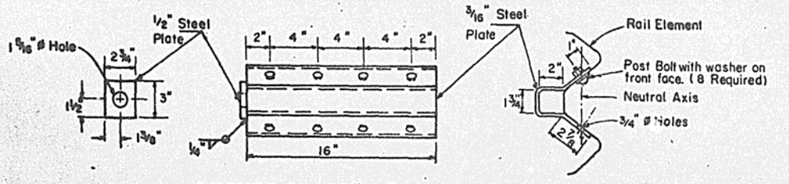


TYPICAL DETAIL OF WOOD POST CONSTRUCTION

TYPICAL DETAIL OF STEEL POST CONSTRUCTION

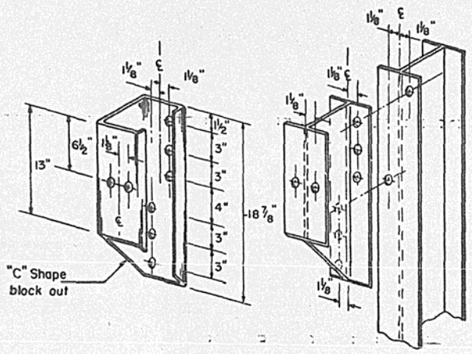


TYPICAL DETAIL OF STEEL POST CONSTRUCTION (ALTERNATE "C" SHAPE)

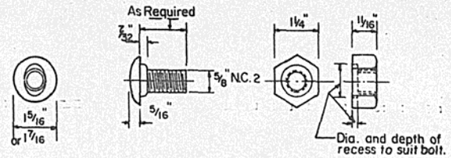


ANCHOR PLATE "T" DETAILS

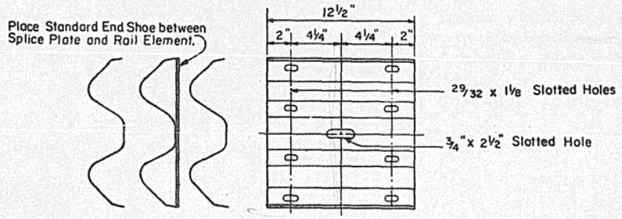
Anchor Plate "T" shall be used to attach cable assembly to guard rail when required on Traffic Barrier Terminals.



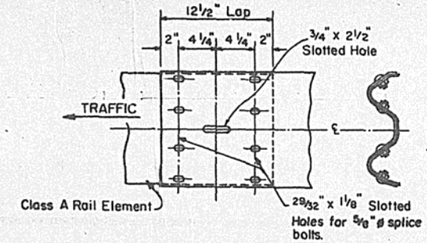
BLOCK-OUT DETAILS



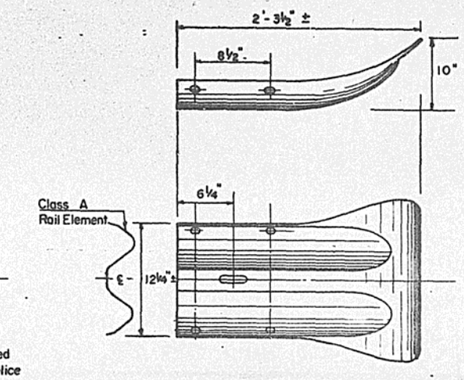
POST OR SPLICE BOLT & NUT



SPLICE PLATE



RAIL ELEMENT SPLICE



END SECTION

NOTE:
End Section shall be used only when specified on the contract plans.
Cost included in the bid unit price for Guard Rail.

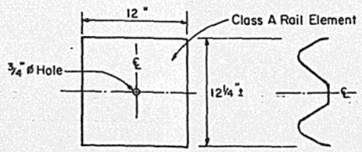


PLATE "A"

NOTE:
"Plate A" shall be placed between rail element and block-out at all non-splice mounting points.

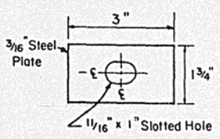
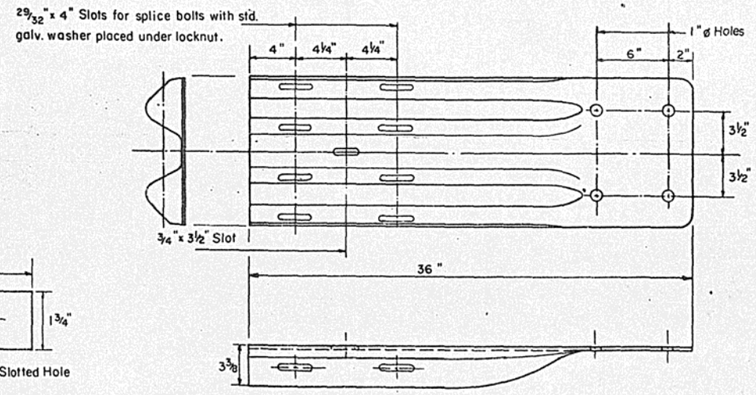


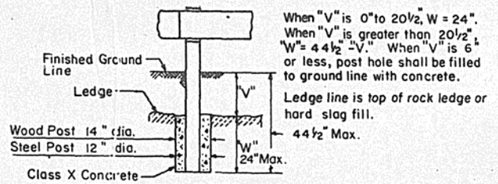
PLATE WASHER "F"

Plate Washer "F" shall be used at all locations where rail element is bolted to a block-out unless otherwise noted.



STANDARD END SHOE

When end shoe is attached to a bridge parapet which has an expansion joint, the bolts shall be provided with a locknut or double nut and shall be tightened only to a point that will allow guard rail movement.
The Standard End Shoe shall be attached to the concrete with Pre-drilled or Self-drilling anchor bolts. The anchor cone shall be set flush with the surface of the concrete.
Externally threaded studs protruding from the surface of the concrete will not be permitted.



FOOTING FOR POST WHEN IMPERVIOUS MATERIAL IS ENCOUNTERED

GENERAL NOTES

All rail element shall be Class A unless otherwise noted.

All holes in posts and block-outs shall be 3/4" ø.

All concrete, and accessories used in the placing of the guard rail shall be included in the bid unit price for guard rail.

Rail element may be furnished in nominal lengths of either 12'-6" or 25'-0".

All rail elements and accessories shall conform to AASHTO M-180 unless otherwise noted.

For steel block-outs attached to wood posts, use 2-5/8" ø lag bolts (staggered) in pre-drilled post holes.

The Contractor shall load test 10% of all expansion anchor bolts in guard rail installations in the presence of the Engineer. The equipment and method used shall meet the approval of the Engineer. The minimum test load shall be 8,000 pounds for 7/8" ø bolts and 3,000 pounds for 5/8" ø bolts in direct pull. For each anchor that fails the test requirements, two (2) more anchor bolts, picked by the Engineer shall be tested. Each anchor bolt that fails to meet the test requirement shall be reset or removed and the hole drilled deeper. All reset anchor bolts shall meet minimum test requirements.

Illinois Department of Transportation

PASSED July 25, 1979
Engineer of Design Operations

APPROVED July 25, 1979
Engineer of Design

ISSUED 2-11-66

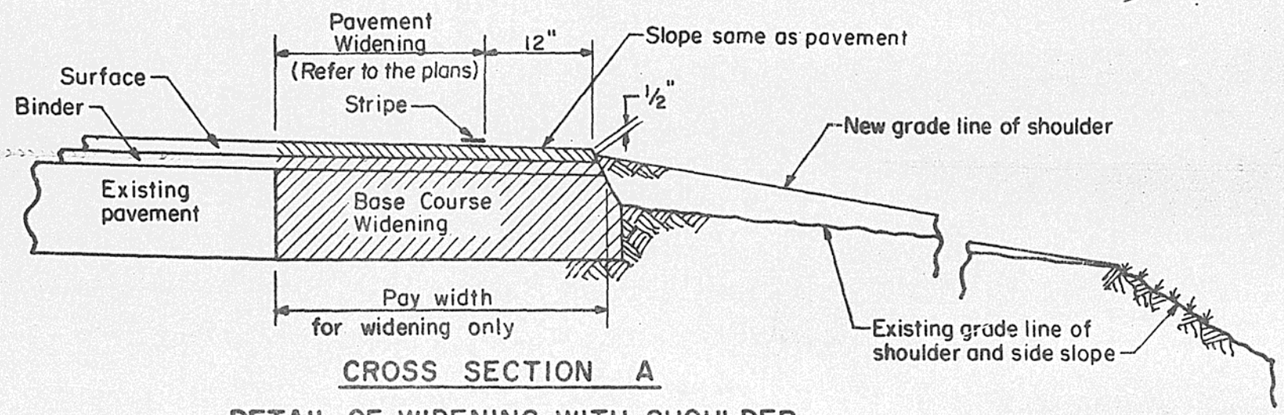
STEEL PLATE BEAM GUARD RAIL

(Sheet 2 of 2 Sheets)

STANDARD 2230-13

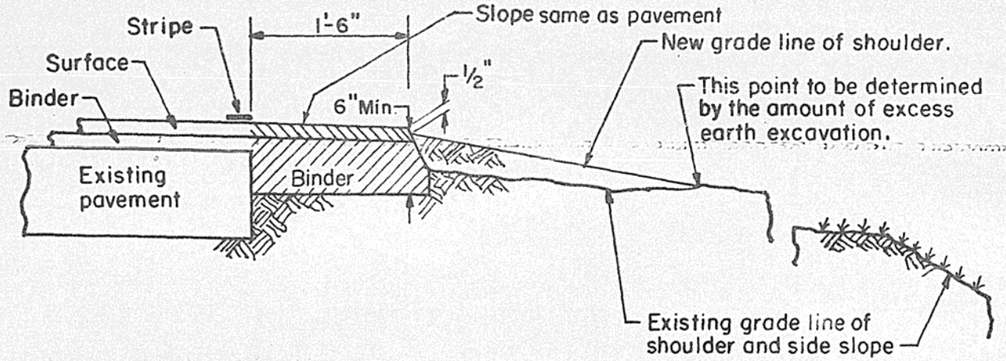
Full Size D.W.W. Sr.

F-3.2 d



CROSS SECTION A

DETAIL OF WIDENING WITH SHOULDER



CROSS SECTION B

DETAIL OF BITUMINOUS SHOULDER

Illinois Department of Transportation

ISSUED 5-10-67

REVISIONS

W.F.	12-1-69
W.F.	3-18-70
W.F.	1-18-71
W.F.	12-17-71
D.W.W.	4-15-77

PASSED April 15 1977

D. E. Henning
Engineer of Design Operations

APPROVED April 15 1977

Thomas R. Bright
Engineer of Design

Redrawn 12-1-69

GENERAL NOTES

Refer to the plans for the thickness of the bituminous binder and surface on pavement.

The Bituminous Binder shoulder material for Section B may be placed in one or two layers at the option of the Contractor .

The bituminous mixture for Section B shall be compacted to a density of not less than 85% of the theoretical density. The compaction equipment shall be as determined by the Engineer.

The bituminous binder and surface mixtures for shoulders will be paid for at the contract unit price per ton of the type specified for the adjacent resurfacing except that the thickness of surface course paid for will be limited to that specified for the resurfacing or 1½" whichever is less. Surface course used in excess of this amount will be paid for as binder course.

The earthwork required as shown in Section A will be measured to the neat lines as shown and will be paid for at the contract unit price per cubic yard for EARTH EXCAVATION WIDENING which price shall include use of earth excavation to regrade the shoulders to the new grade line and disposal of excess as specified in the Standard Specifications.

The earthwork required as shown in Section B will be paid for at the contract unit price per unit (100 lineal feet) measured separately on the right and left hand sides for EXCAVATING AND GRADING EXISTING SHOULDER which price shall include use of excess earth excavation to regrade the shoulders to the new grade line.

Stripe at edge of pavement to be furnished by others.

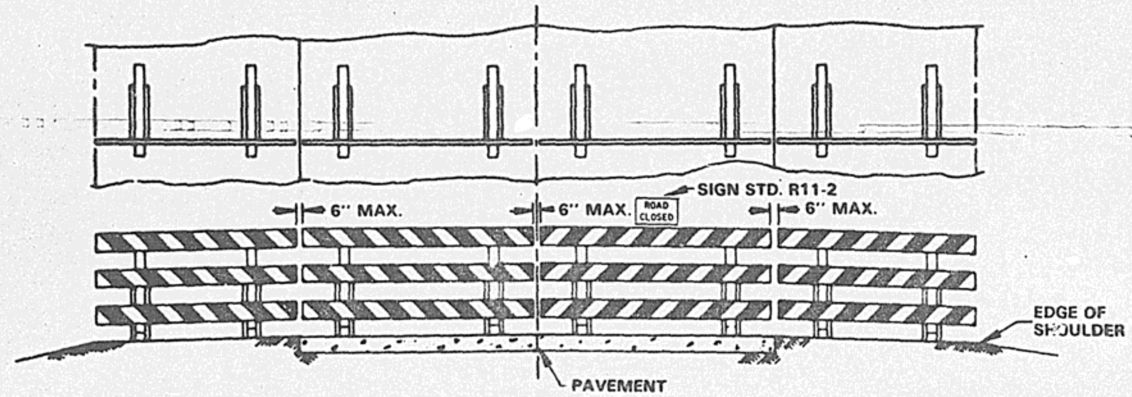
WIDENING AND SHOULDERS FOR PAVEMENT RESURFACING

STANDARD 2239-6

C-22.15 e

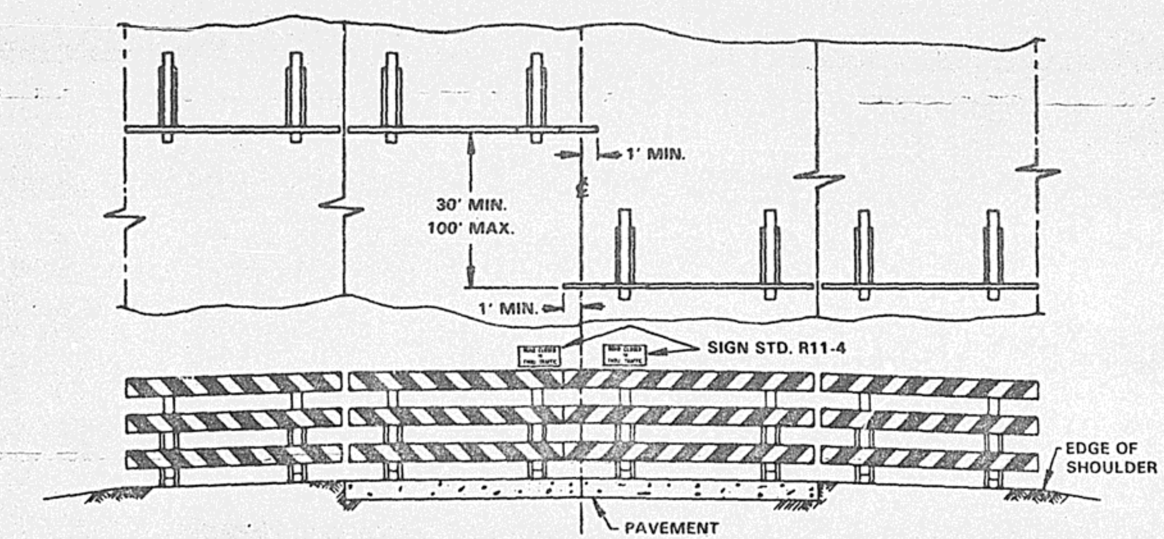
(1/4 Size) W.F.

TYPICAL APPLICATIONS OF TYPE III BARRICADES CLOSING A ROAD



ROAD CLOSED TO ALL TRAFFIC

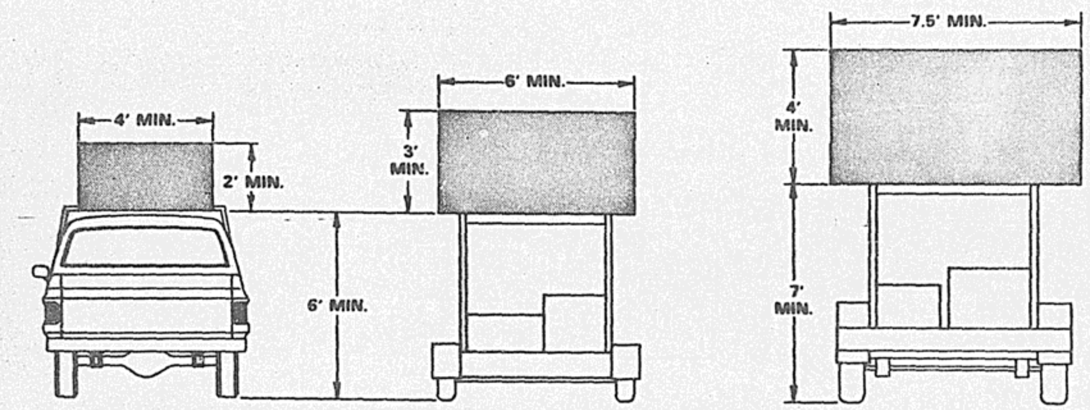
Reflectorized striping may be omitted on the back side of the barricades. The barricades shall be to the edge of the shoulders except when otherwise directed by the Engineer or shown on the detailed construction plans.



ROAD CLOSED TO ALL THRU TRAFFIC

Reflectorized striping shall appear on both sides of barricades. The barricades shall be to the edge of the shoulders, except when otherwise directed by the Engineer or shown on the detailed construction plans

ARROW BOARDS



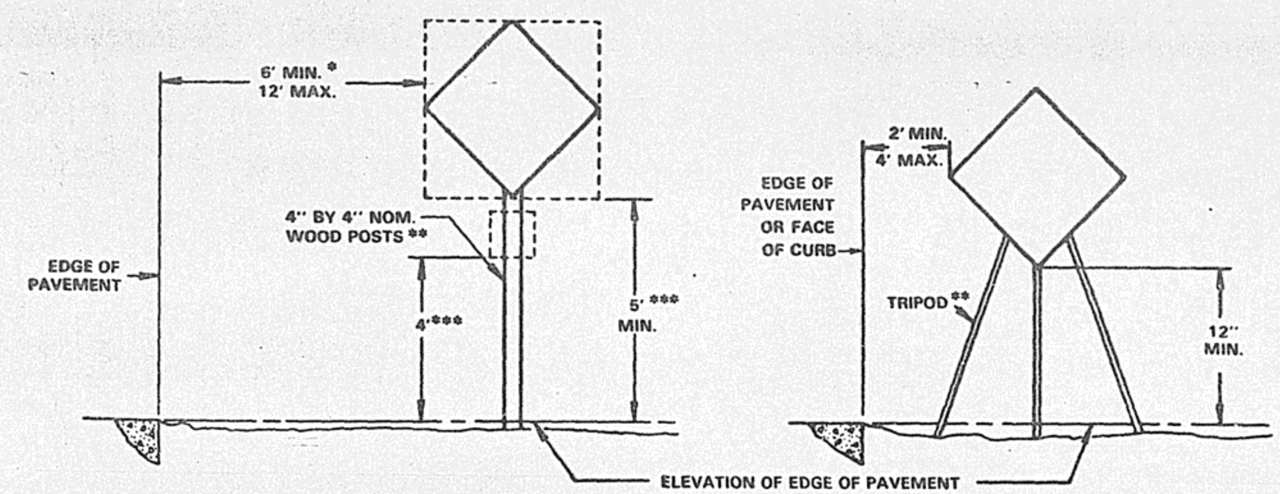
TYPE I ROOF MOUNTED

TYPE II ROOF OR TRAILER MOUNTED

TYPE III TRAILER MOUNTED

Arrow boards shall conform to Article 718.22 of the Standard Specifications. On roads with speeds of 45 miles per hour and above, Type III units are to be used for all operations 24 hours or more in duration and Type II units may be used for operations less than 24 hours in duration. Type I,II or III units may be used for all operations on roads with speeds less than 45 miles per hour. Arrow boards shall not be used to direct passing moves into lanes used by opposing traffic.

TYPICAL SIGN INSTALLATIONS



* 2 ft. minimum to face of curb.

** Alternate designs and or materials may be permitted when authorized by the Engineer. All materials shall be substantial and durable.

*** Add 2 ft. if parking exists within 200 ft. in advance of the sign location at any time during the project.

Signs on temporary supports shall be within 20° of a vertical position.

Weights of concrete, stone, or brick will not be allowed and all weights used to stabilize signs other than sandbags must be rigidly attached to the sign support as close to the ground as possible.

Illinois Department of Transportation

Approved MAY 1, 1980

G. E. Moberly

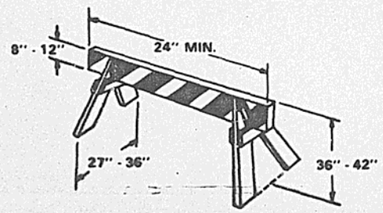
Engineer of Traffic

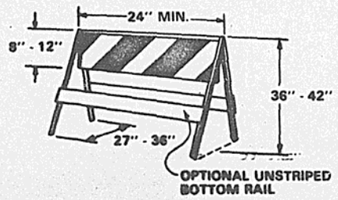
Issued 4-3-69

TYPICAL APPLICATION OF TRAFFIC CONTROL DEVICES HIGHWAY CONSTRUCTION AND MAINTENANCE

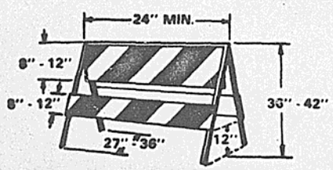
STANDARD 2298-5

TYPE I BARRICADES

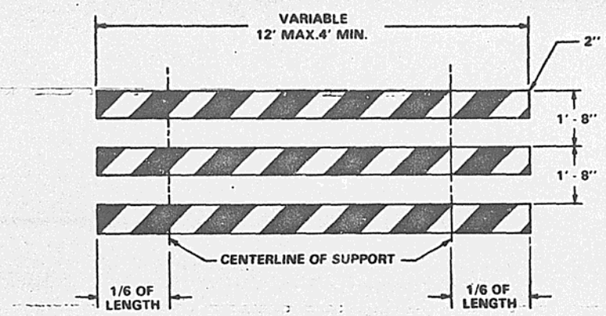


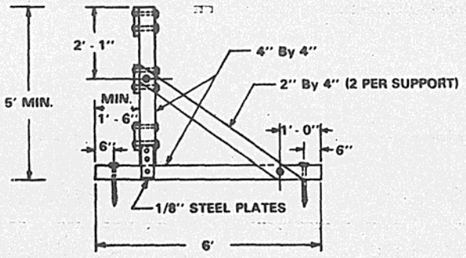


TYPE II BARRICADES

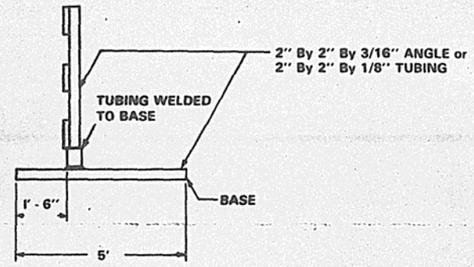


TYPE III BARRICADES



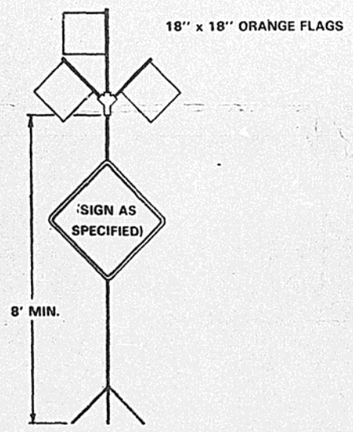


TYPICAL WOOD SUPPORT

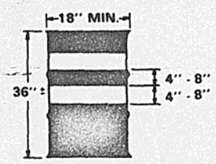


TYPICAL STEEL SUPPORT

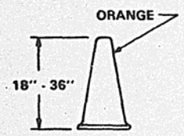
HIGH LEVEL WARNING DEVICE



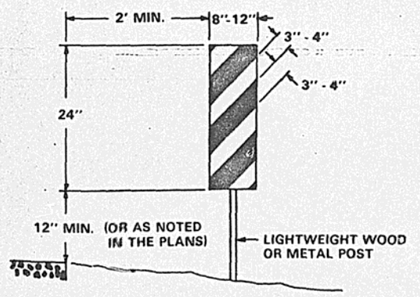
DRUMS



CONES



VERTICAL PANELS



GENERAL NOTES

1. Type I Barricades are intended for use on lower speed roadways and shall not be used where normal posted speeds are greater than 40 MPH unless the upper rail is at least 12 inches deep.
2. Type I and Type II Barricades shall not be intermixed within an individual string of barricades.
3. Type III Barricades are intended for road and lane closures and shall not be used for channelization or delineation.
4. All heights shown shall be measured above the pavement surface.
5. The reflective sheeting used for barricades, drums, and vertical panels shall meet the requirements of Article 718.17 and 718.18 of the Standard Specifications for Road and Bridge Construction.
6. All barricades and vertical panels shall have alternating reflectorized white and reflectorized orange stripes sloping downward at 45° toward the side on which traffic will pass. Barricade stripes shall be 6 inches in width on barricades 36 inches or greater in width and 4 inches in width on barricades less than 36 inches in length. Barricade rails may be sloping or vertical.
7. Type I and Type II Barricades shall be striped on both sides. Type III Barricades shall be striped on both sides where traffic approaches from either direction. Vertical panels placed on the outside of curves shall be striped on both sides.
8. Drums shall have alternating reflectorized orange and reflectorized white horizontal, circumferential stripes 4 inches to 8 inches in width. There shall be at least two orange and at least two white stripes on each drum. If nonreflective spaces are left between the orange and white stripes, they shall be no more than 2 inches in width. All nonreflectorized portions of the drums shall be painted orange or white. Drums may be slightly conical in shape and may have one or more flat surfaces to minimize rolling when hit.
9. Frames for Type I and Type II Barricades shall be designed so as to provide a stable support and should be constructed of light weight steel or aluminum angles or tubing, wood, plastic, or rubber and have no rigid stay bracing for "A" frame designs. As Type III Barricades are only used at closures, they may be constructed of heavier materials than Type I or Type II Barricades. However, they should not have any vertical or sloping supports heavier than 4-inch by 4-inch lumber, 2-inch by 2-inch by 1/8-inch steel tubing, or 2-inch by 2-inch by 3-1/16-inch steel angles or rails heavier than 2-inch by 12-inch lumber. Nominal lumber sizes are acceptable to satisfy dimensions.
10. The name of the agency, contractor, or supplier shall not be shown on the face parts of any barricades, whether such parts are striped or not. Identification markings may be placed only on the back side of the barricade rails.
11. When used, warning lights on barricades, drums, or vertical panels shall be mounted above the top of the device to the side on which traffic will pass and shall not obscure any reflectorized portion of the device.
12. Weights of concrete, stone, or brick will not be allowed and all weights used to stabilize barricades other than sandbags must be rigidly attached to the legs of the barricades as close to the ground as possible. No sandbags will be allowed on the top rail of barricades. Sandbags may be placed on barricade legs, over striped bottom rails not facing traffic, over unstriped bottom rails, or suspended from the barricade rail or frame in such a manner so that the bulk of the sand is at least 18 inches below the top of the barricade. Drums may be weighted internally with just enough sand, water, or other material to provide stability.

Illinois Department of Transportation

Approved January 23 1980

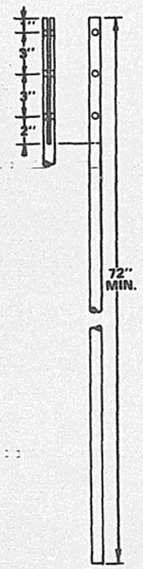
D. E. Mokerly
Engineer of Traffic

Issued 4-15-69

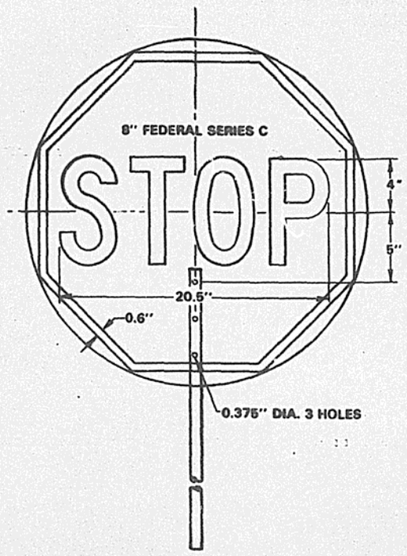
DESIGN OF TRAFFIC CONTROL DEVICES FOR HIGHWAY CONSTRUCTION AND MAINTENANCE

STANDARD 2299-8

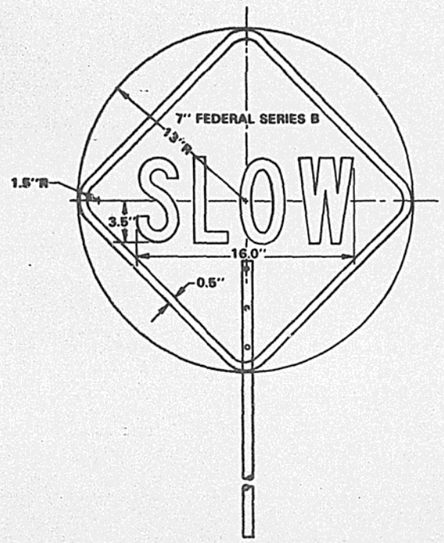
F-6.02e



STAFF



FRONT SIDE



REVERSE SIDE

GENERAL NOTES

1. The "STOP" face shall consist of white letters and border on a red reflectorized background.
2. The "SLOW" face shall consist of black letters and border on an orange reflectorized background.
3. Areas outside sign borders shall be light blue or black.
4. The sign blank may be octagonal in shape in lieu of circular.
5. The portion of the staff within the sign face shall match the sign colors.
6. All colors and letters shall meet applicable federal standards.
7. The staff shall consist of two sections joined by a coupling located 60 in. from the bottom of the staff. Alternate designs may be used when approved by the Engineer. All materials shall be substantial and durable.
8. This sign shall be furnished by the contractor and shall be used by the flagger in lieu of flags or other signaling devices. The cost of furnishing and maintaining the sign shall be considered incidental to the contract and no additional compensation will be allowed.

Illinois Department of Transportation

Approved MAY 1, 1980

L. E. Mobley
Engineer of Traffic

Issued 4-3-69

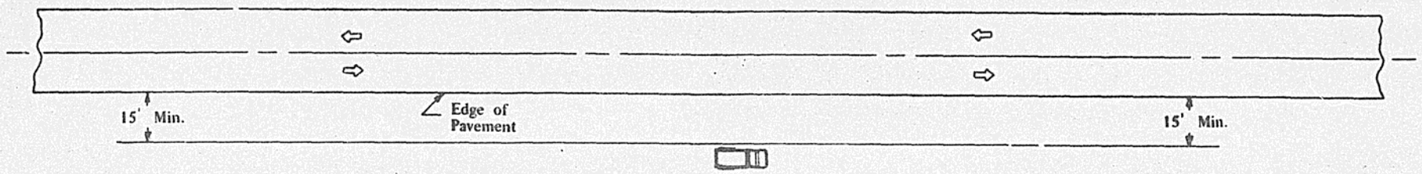
F-6.03b

FLAGGER TRAFFIC CONTROL SIGN

STANDARD 2300-2

STANDARD DESIGN

TYPICAL APPLICATION OF TRAFFIC CONTROL DEVICES FOR HIGHWAY CONSTRUCTION AND MAINTENANCE



CASE I

TWO-LANE, TWO WAY TRAFFIC, RURAL DAY OR NIGHT OPERATIONS

Where, at all times, all vehicles, equipment, men and their activities are more than 15 ft. from the edge of pavement.

TYPICAL APPLICATIONS

Landscaping Work
Utility Operations
Fencing Contracts and Maintenance
Cleaning Culverts

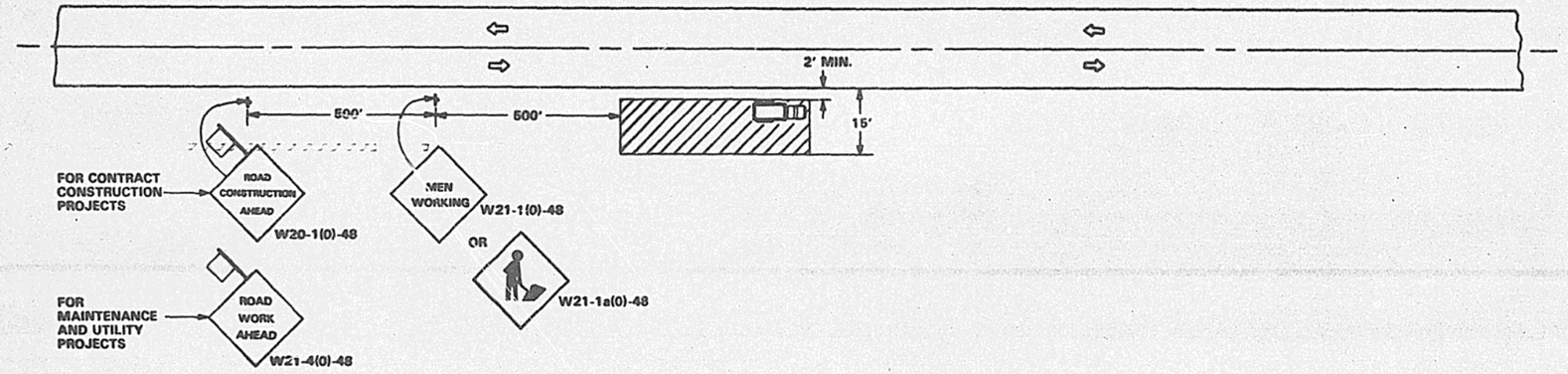
GENERAL NOTES

1. No special signing is required.
2. If the work operation requires that two or more work vehicles cross the 15 ft. clear zone in any one hour, traffic control will be in conformance with Case II.

STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	ISSUED 4-3-69 REVISED BY	DATE
APPROVED 6-12 1973 L. E. Moberly Engineer of Traffic		

STANDARD 2301-3

F-6.06 b



TYPICAL APPLICATIONS

Utility Operations

Culvert Extensions

Side Slope Changes

Guard Rail Installation and Maintenance

Delineator Installation and Maintenance

Landscaping Operations

Cleaning Ditches and Drainage Structures

Sign Installation and Maintenance

Shoulder Repair

GENERAL NOTES

1. If the work operation does not exceed 60 minutes, traffic control may be in conformance with STANDARD 2307.
2. Worker signs are to be removed when no work is being performed. Any unattended obstacle or excavation in the work area which in the opinion of the Engineer constitutes a hazard shall be protected by barricades at 50 ft. centers, with flashing lights at night. If the hazard exceeds 100 ft. in length, steady burning lights shall be substituted for flashing lights. When the distance is greater than 250 ft., barricade spacing may be increased to 100 ft.
3. If the work operation requires that four or more work vehicles enter through traffic lanes in a one hour period, a flagger shall be provided and a Flagger sign shall be substituted for the Worker sign.
4. Longitudinal dimensions may be adjusted to fit field conditions.
5. All vehicles, equipment, workers and their activities are restricted at all times to one side of the pavement unless otherwise authorized by the Engineer.

SYMBOLS

Work Area

18 in. X 18 in. (minimum) Orange Flag

Sign on Portable or Permanent Support

Ohio Department of Transportation

Approved MAY 1 1980

G. E. Moberly

Engineer of Traffic

Issued 4-3-69

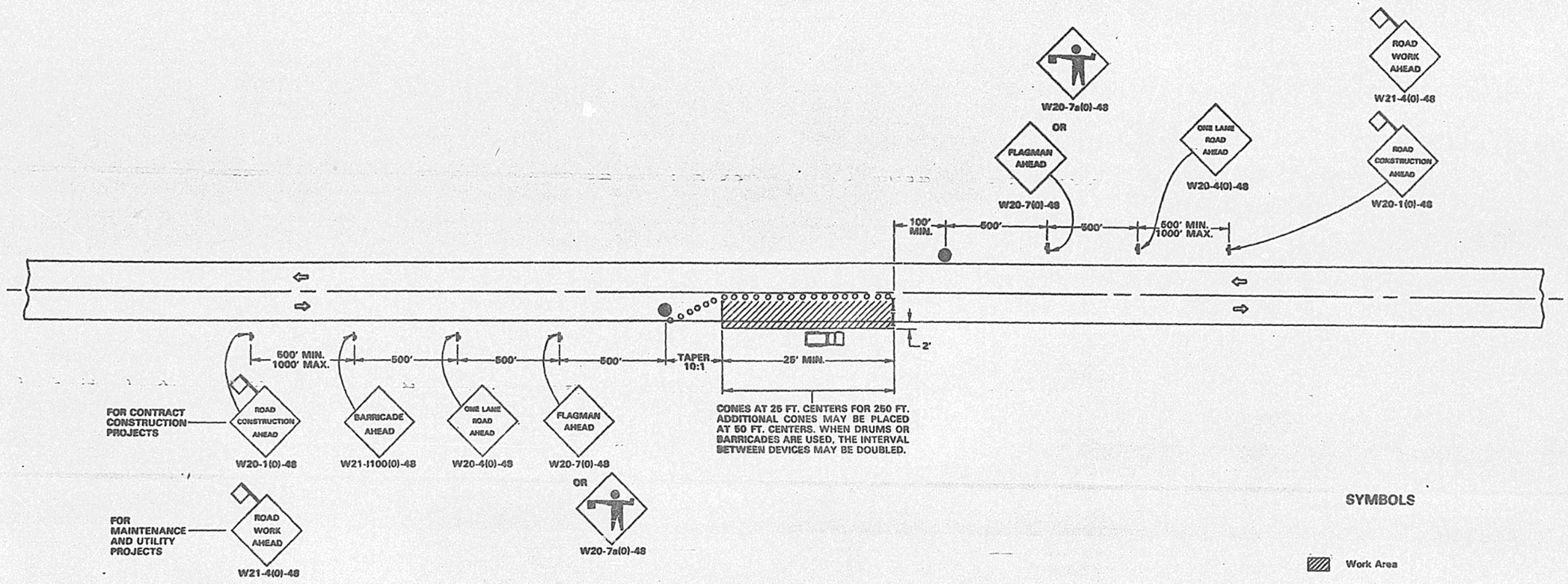
TYPICAL APPLICATION OF TRAFFIC CONTROL DEVICES HIGHWAY CONSTRUCTION AND MAINTENANCE

TWO-LANE, TWO-WAY TRAFFIC, RURAL DAY OR NIGHT OPERATIONS

Where at any time, any vehicle, equipment, workers or their activities will encroach in the area closer than 15 ft. but not closer than 2 ft. to the edge of pavement.

STANDARD 2302-4

F-6.07C



SYMBOLS

- Work Area
- 18 in. X 18 in. (minimum) Orange Flag
- Cone, Drum or Barricade
- Sign on Portable or Permanent Support
- Flagger with Traffic Control Sign
- Barricade or Drum

GENERAL NOTES

TYPICAL APPLICATION

Pavement Patch

Utility Operations

1. The taper shall be formed by placing one cone for each foot of lane width or a drum or barricade for each two foot of lane width.
2. Construction operations shall be confined to one traffic lane, leaving the opposite lane open to traffic. At least 500 ft. of both traffic lanes shall be available for traffic movement at intervals not greater than 1,000 ft.
3. If the work operation does not exceed 60 minutes, traffic control may be in conformance with STANDARD 2307.
4. The flaggers shall be in sight of each other or in direct communication at all times.
5. When no work is being performed, the flaggers will not be required. If the flaggers are not present, the Flagger signs shall be removed or covered.
6. All signs, cones, barricades and drums are to be removed at completion of the day's operations and the work area opened to traffic.
7. Longitudinal dimensions may be adjusted to fit field conditions. The lateral placement of the flagger may be varied from that shown.
8. All vehicles, equipment, workers (except flaggers) and their activities are restricted at all times to one side of the pavement unless otherwise authorized by the Engineer.

Illinois Department of Transportation

Approved MAY 1, 1980

J. E. Maberly

Engineer of Traffic

Issued 4-3-69

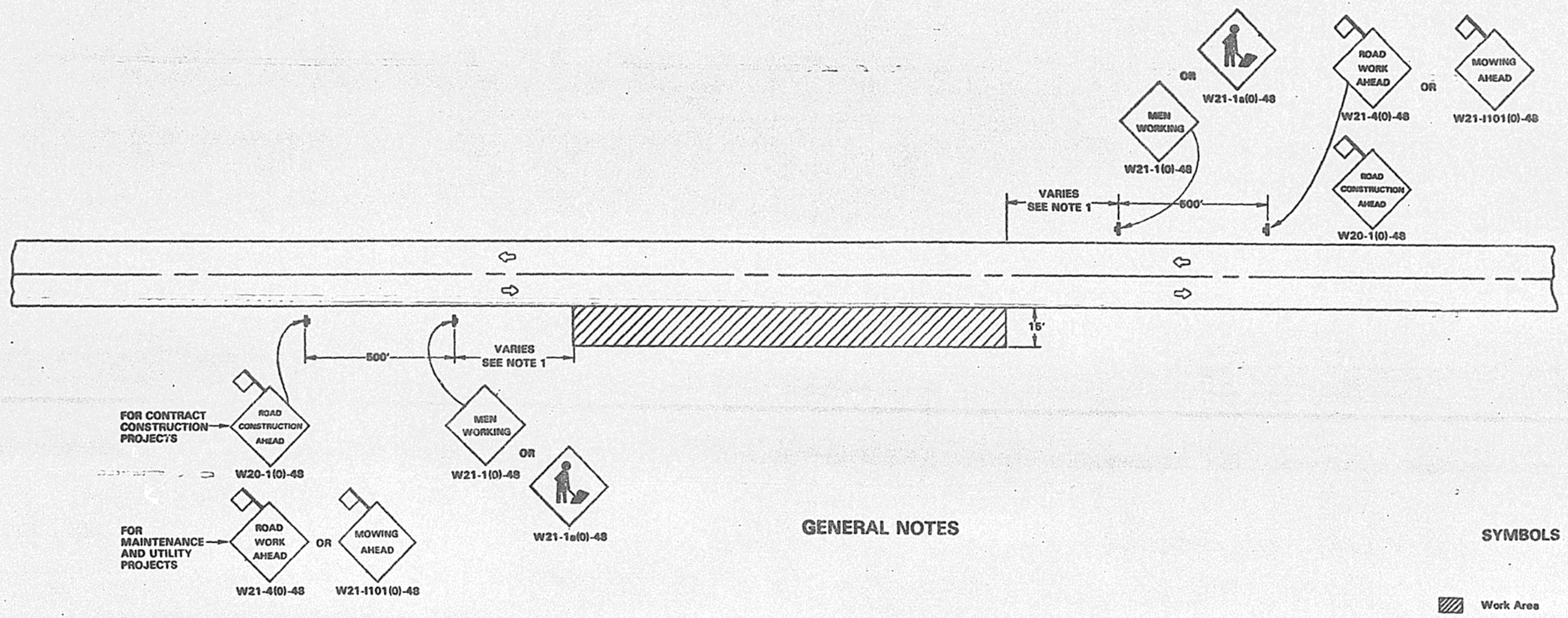
TYPICAL APPLICATION OF TRAFFIC CONTROL DEVICES
HIGHWAY CONSTRUCTION AND CONTRACT MAINTENANCE

TWO-LANE, TWO-WAY TRAFFIC
RURAL DAY OPERATIONS ONLY

Where, at any time, any vehicle, equipment, workers or their activities will encroach in the area between the center line and a line 2 ft. outside the edge of pavement

STANDARD 2303-5

F-6.08c



TYPICAL APPLICATIONS

Shoulder Work

Mowing

Utility Operations

GENERAL NOTES

1. Minimum distance is 200 ft. Maximum distance to be determined by the Engineer but should not exceed 1/2 the length required for one normal working day's operation.
2. If the work operation does not exceed 60 minutes, traffic control may be in conformance with STANDARD 2307.
3. All signs are to be removed at completion of the day's operations.
4. For divided roadways the required advance warning signs shall be posted on both the right and left side of the roadway.
5. Signs mounted in the median may be omitted when the median is less than 10 ft. wide.
6. For multilane roadways the advance warning signs for traffic approaching from the opposite direction will be omitted.
7. Worker signs are to be removed when no work is being performed. Any unattended obstacle or excavation in the work area, which in the opinion of the Engineer constitutes a hazard, shall be protected by barricades at 50-foot centers,with flashing lights at night. If the hazard exceeds 100 ft. in length, steady burning lights shall be substituted for flashing lights. When the distance is greater than 250 ft., barricade spacing may be increased to 100 ft.
8. If the work operation requires that four or more work vehicles enter the through traffic lanes in a one hour period, a flagger shall be provided and the Flagger sign shall be substituted for the Worker sign.
9. Longitudinal dimensions may be adjusted to fit field conditions.
10. All vehicles, equipment, workers and their activities are restricted at all times to one side of the pavement unless otherwise authorized by the Engineer.

SYMBOLS

Work Area

18 in. X 18 in. (minimum) Orange Flag

Sign on Portable or Permanent Support

Illinois Department of Transportation

Approved MAY 1. 1980

G.E. Tobuly

Engineer of Traffic

Issued 4-3-69

TYPICAL APPLICATION OF TRAFFIC CONTROL DEVICES HIGHWAY CONSTRUCTION AND MAINTENANCE

RURAL MOVING OPERATIONS DAY OPERATIONS ONLY

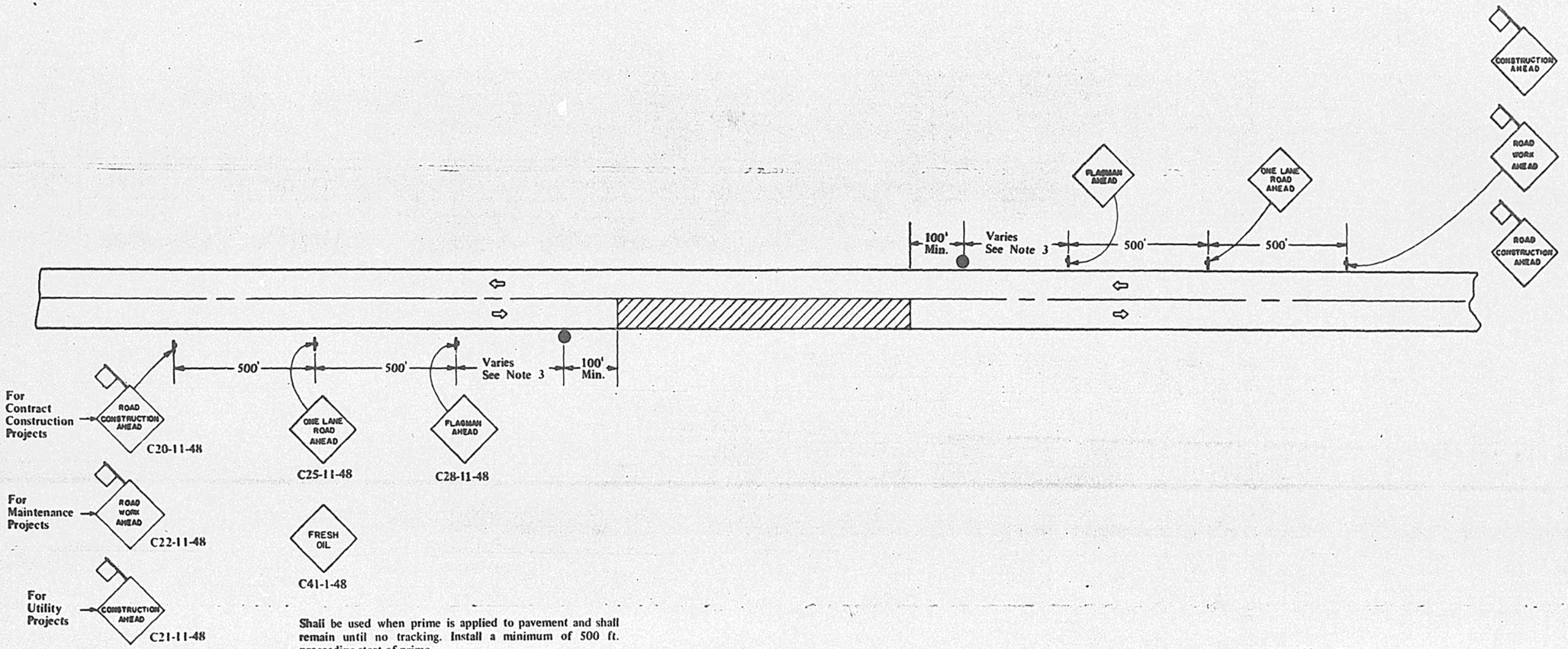
Where, at any time, any vehicle, equipment, workers or their activities require an intermittent or continuous moving operation on the shoulder.

STANDARD 2305-4

F-6.10c

STANDARD DESIGN

TYPICAL APPLICATION OF TRAFFIC CONTROL DEVICES FOR HIGHWAY CONSTRUCTION AND CONTRACT MAINTENANCE



Shall be used when prime is applied to pavement and shall remain until no tracking. Install a minimum of 500 ft. preceeding start of prime.

TYPICAL APPLICATIONS

Bituminous Resurfacing
Crack Pouring
Utility Operations

SYMBOLS

Work Area.

Sign with 18 in. by 18 in. (minimum) orange flag attached.

Sign on portable or permanent support.

Flagman with Traffic Control sign.

GENERAL NOTES

1. Construction operations shall be confined to one traffic lane. On two-lane roads, at least 500 ft. of both traffic lanes shall be available for traffic movement at intervals not greater than 1,000 ft. and a complete traffic control plan must be approved for any project expected to exceed 1,000 ft. in length.
2. The flagmen shall be in sight of each other or in direct communication at all times.
3. Minimum distance is 200 ft. Maximum distance to be determined by the Engineer but in no case to exceed the length of 1/2 day's operation or four miles, whichever is less.
4. If the work operation does not exceed 60 minutes, traffic control will be in conformance with Case VII.
5. All signs are to be removed at completion of the day's operations.
6. For divided roadways the required advance warning signs shall be posted on both the right and left side of the roadway.
7. Signs mounted in the median may be omitted when the median is less than 10 feet wide.
8. For multilane roadways the flagman shown for traffic approaching from the opposite direction will be positioned as directed by the Engineer and the advance warning signs for traffic approaching from the opposite direction omitted.
9. For multilane roadways the advance warning signs for traffic approaching from the opposite direction will be omitted and RIGHT LANE CLOSED AHEAD signs shall be substituted for the ONE LANE ROAD AHEAD signs.
10. This case also applies when work is being performed in lanes adjacent to the centerline of an undivided multilane highway or adjacent to the median on a divided highway. Under these conditions, LEFT LANE CLOSED AHEAD signs shall be substituted for RIGHT LANE CLOSED AHEAD signs.
11. This case does not apply when work is being performed in the middle lane(s) of a six or more lane highway. Special plans approved by the Engineer will be required.
12. ONE LANE ROAD AHEAD and FLAGMAN AHEAD signs are to be removed or covered when no work is being performed.
13. Longitudinal dimensions may be adjusted slightly to fit field conditions. The lateral placement of the flagmen may be varied from that shown.
14. All warning signs shall have minimum dimensions of 48 in. by 48 in. and have black legend and border on an orange reflectorized background.
15. All vehicles, equipment, men (except flagmen) and their activities are restricted at all times to one side of the pavement unless otherwise authorized by the Engineer.

CASE VI

RURAL MOVING OPERATIONS
DAY OPERATIONS ONLY

Where, at any time, any vehicle, equipment, men or their activities require an intermittent or continuous moving operation on the pavement where the average speed of movement is less than four miles per hour.

STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	ISSUED 4-3-69 REVISED BY	DATE
APPROVED 6-12 1973		
G. E. Moberly, Engineer of Traffic		

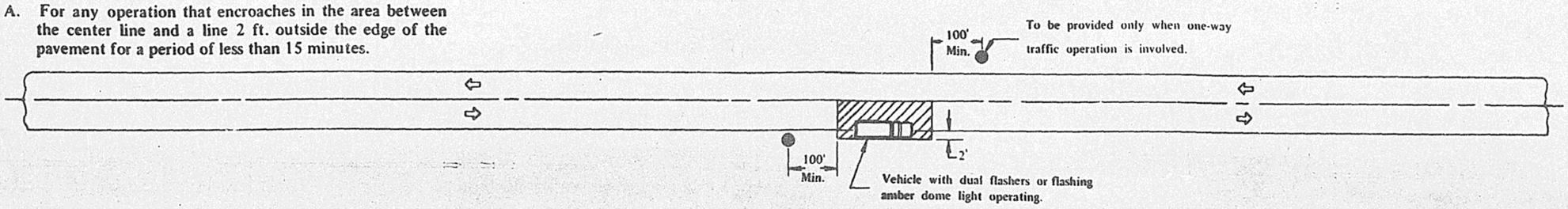
STANDARD 2306-4

F-6.11 b

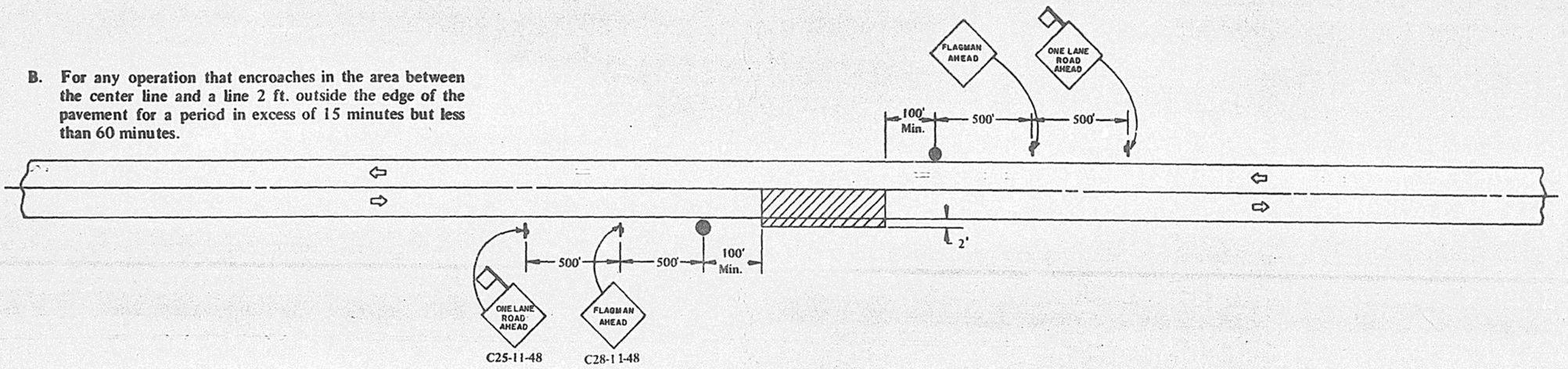
STANDARD DESIGN

TYPICAL APPLICATION OF TRAFFIC CONTROL DEVICES FOR HIGHWAY CONSTRUCTION AND CONTRACT MAINTENANCE

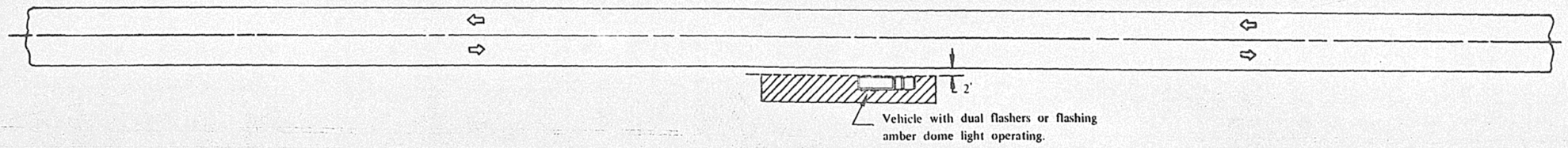
A. **For any operation that encroaches in the area between the center line and a line 2 ft. outside the edge of the pavement for a period of less than 15 minutes.**



B. **For any operation that encroaches in the area between the center line and a line 2 ft. outside the edge of the pavement for a period in excess of 15 minutes but less than 60 minutes.**



C. **For any operation that is more than 2 ft. outside the edge of the pavement for a period of less than 60 minutes.**



TYPICAL APPLICATIONS

Marking Patches
Field Survey
String Line
Utility Operation
Cleaning Up Debris on Pavement

SYMBOLS

- Work Area.
- Sign with 18 in. by 18 in. (minimum) orange flag attached.
- Sign on portable or permanent support.
- Flagman with Traffic Control sign.

GENERAL NOTES

1. Construction operations shall be confined to one traffic lane. On two–lane roads, at least 500 ft. of both traffic lanes shall be available for traffic movement at intervals not greater than 1,000 ft. and a complete traffic control plan must be approved for any project expected to exceed 1,000 ft. in length.
2. The flagmen shall be in sight of each other or in direct communication at all times.
3. All signs are to be removed at completion of each operation.
4. For multilane roadways the flagman shown for traffic approaching from the opposite direction will be positioned as directed by the Engineer and the advance warning signs for traffic approaching from the opposite direction omitted.
5. Longitudinal dimensions may be adjusted slightly to fit field conditions. The lateral placement of the flagmen may be varied from that shown.
6. All warning signs shall have minimum dimensions of 48 in. by 48 in. and have black legend and border on an orange reflectorized background.
7. All vehicles, equipment, men (except flagmen) and their activities are restricted at all times to one side of the pavement unless otherwise authorized by the Engineer.

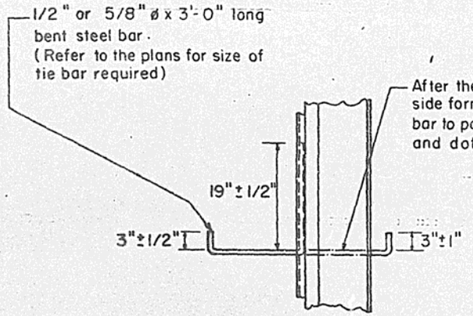
CASE VII

SHORTTIME OPERATIONS
DAY OR NIGHT OPERATIONS

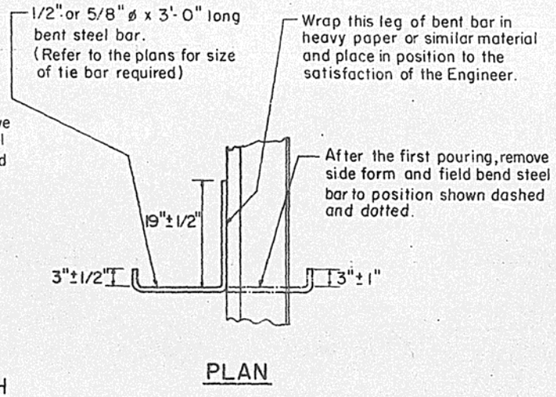
STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	ISSUED 4-3-69 REVISED BY	DATE
APPROVED 6-12-1973 L.E. Moberly Engineer of Traffic		

STANDARD 2307-4

F-6.12 b

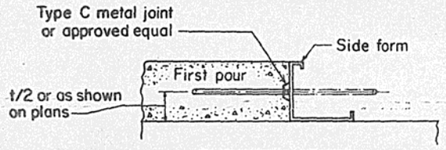


PLAN



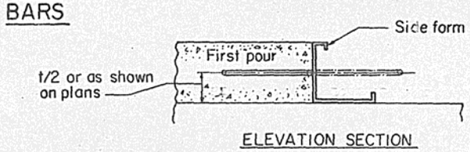
PLAN

SMOOTH HOOKED TIE BARS



ELEVATION SECTION

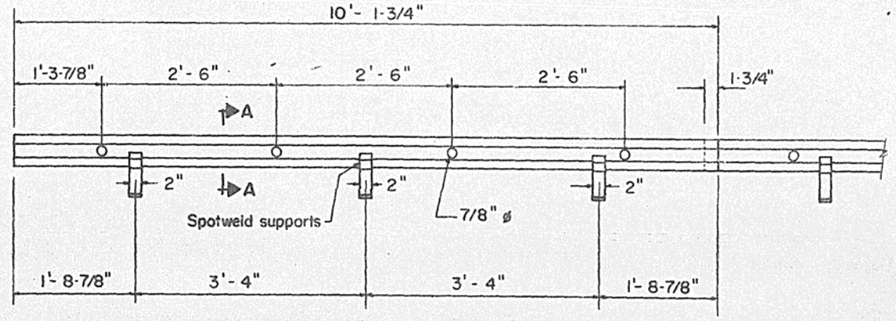
KEYED LONGITUDINAL CONSTRUCTION JOINT
(WITH SMOOTH HOOKED TIE BAR)

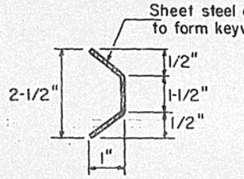


ELEVATION SECTION

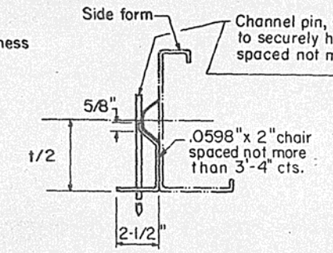
BULKHEAD LONGITUDINAL CONSTRUCTION JOINT
(WITH SMOOTH HOOKED TIE BAR)

LONGITUDINAL METAL JOINT TYPE C

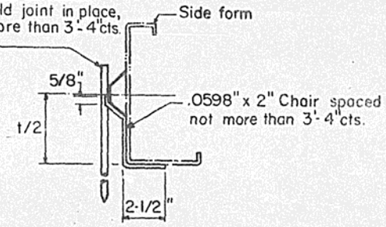




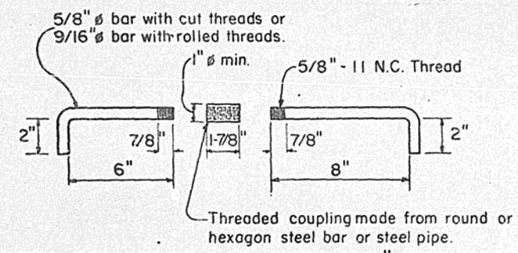
SECTION A-A



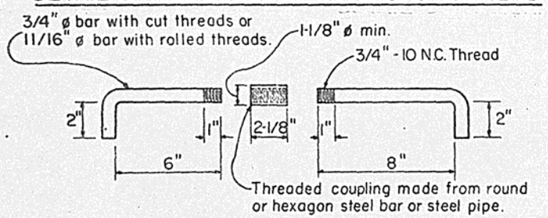
SUPPORTING CHAIR ALTERNATE



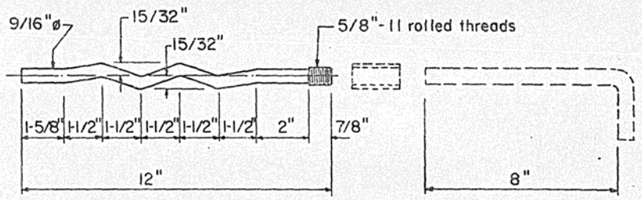
SUPPORTING CHAIR ALTERNATE



DETAIL OF HOOKED BAR WITH 5/8" THREAD



DETAIL OF HOOKED BAR WITH 3/4" THREAD



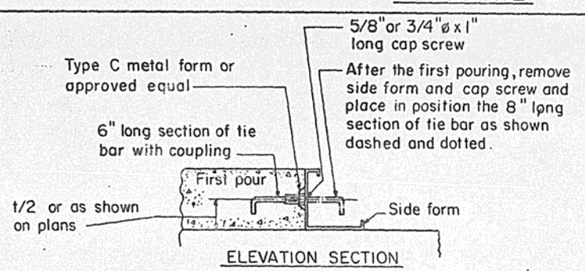
DETAIL OF OPTIONAL "W" BAR

THREADED HOOKED TIE BARS

NOTE:

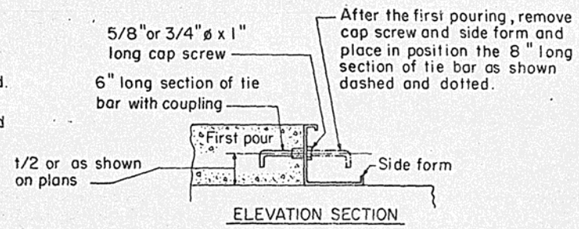
Refer to the plans for size of tie bar required.

Use the hooked bars with 5/8" thread when 1/2" ø tie bars are specified and with 3/4" thread when 5/8" ø tie bars are specified.



ELEVATION SECTION

KEYED LONGITUDINAL CONSTRUCTION JOINT
(WITH THREADED HOOKED TIE BAR)



ELEVATION SECTION

BULKHEAD LONGITUDINAL CONSTRUCTION JOINT
(WITH THREADED HOOKED TIE BAR)

GENERAL NOTES

The bent steel bars shall be plain, round bars conforming to the requirements of AASHTO M-31 or M-53 grade 40.

Hex head bolts meeting the requirements of Article 710.10 of the Standard Specifications may be used in lieu of the hooked tie bar. Minimum embedment shall be 4" for 5/8" bolts and 6" for 3/4" bolts.

The steel pipe for the threaded coupling shall be ASTM A-53, Types E or S, Grade A or equivalent.

The Contractor may use at his option for form paving or slip form paving, either the smooth hooked tie bars or the threaded hooked tie bars, as detailed, or deformed tie bars as noted below.

Deformed bar conforming to the requirements of AASHTO M-31 or M-53 may be used for tie bars in lieu of smooth or threaded hooked tie bars, except that the elongation shall not be less than 20%. Deformed tie bars shall be comparable in size to the smooth bar, 2'-6" long, without hooks at the ends.

Support pins for tie bars, when required, shall be of a size and strength sufficient to firmly hold the bar in place.

t = pavement thickness.

Illinois Department of Transportation

PASSED Dec 18 1979
Engineer of Design Operations

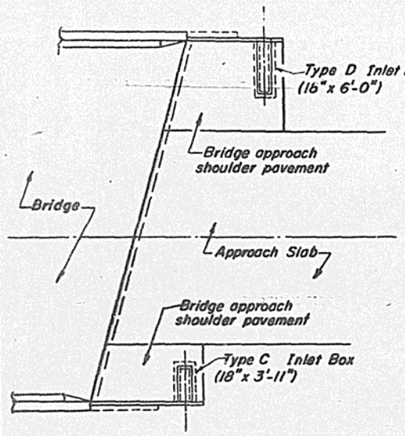
APPROVED Dec 18 1979
Engineer of Design

ISSUED 10-15-69

PAVEMENT JOINTS

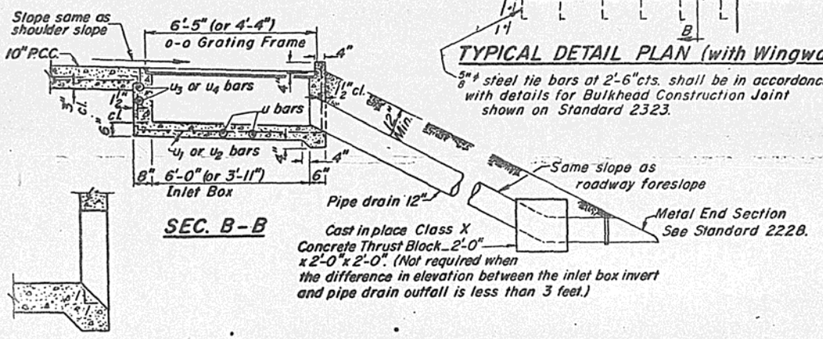
STANDARD 2323 - 5

Full Size D.W.W. Sr.



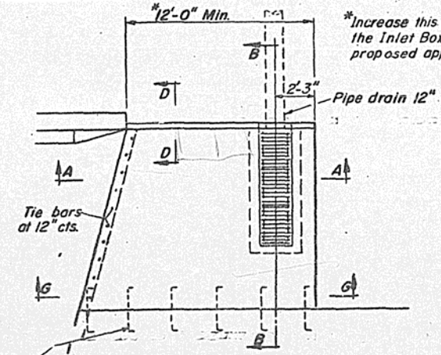
GENERAL PLAN

SEC. C-C SEC. D-D



SEC. B-B

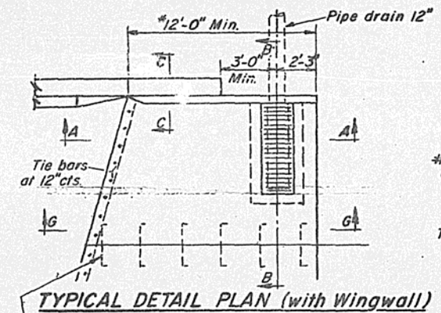
BOX OUTLET WHEN PRECAST



TYPICAL DETAIL PLAN (w/o Wingwall)

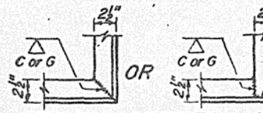
⅝"ϕ steel tie bars at 2'-6" cts. shall be in accordance with details for Bulkhead Construction Joint shown on Standard 2323.

*Increase this dimension as needed to position the Inlet Box and Pipe Drain between the proposed approach guardrail posts.

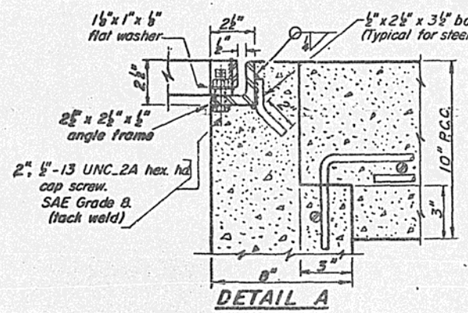


TYPICAL DETAIL PLAN (with Wingwall)

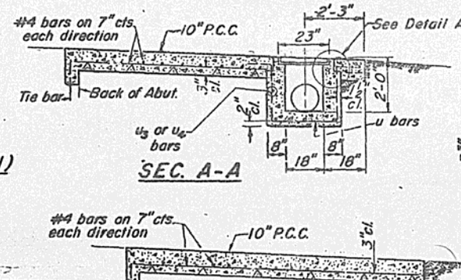
⅝"ϕ steel tie bars at 2'-6" cts. shall be in accordance with details for Bulkhead Construction Joint shown on Standard 2323.



TYPICAL CORNER of STEEL GRATING FRAME

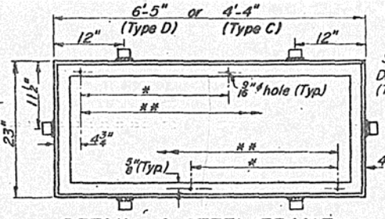


DETAIL A



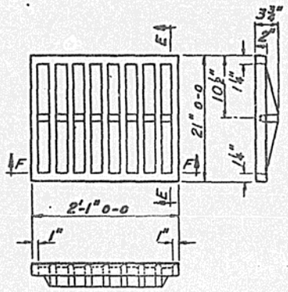
SEC. A-A

SEC. G-G



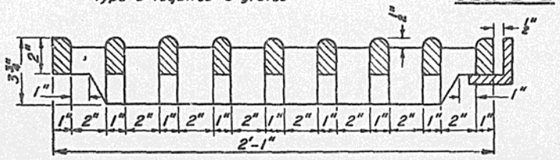
DETAIL of STEEL FRAME

Cast frame to have same basic dimensions.
1 space at 2'-1" for Type C
2 spaces at 2'-1" for Type D

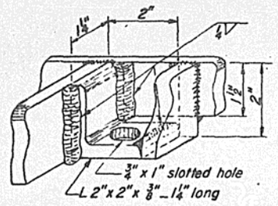


DETAIL of CAST GRATING

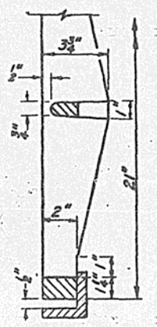
Type C requires 2 grates
Type D requires 3 grates



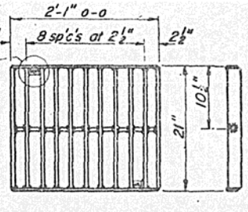
SEC. F-F



DETAIL B

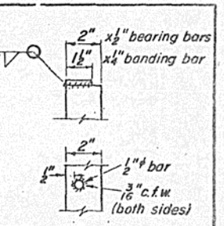


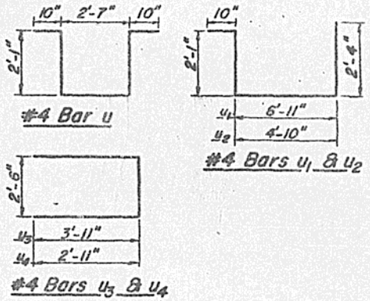
SEC. E-E



DETAIL of STEEL GRATING

Type C requires 2 grates
Type D requires 3 grates





Material Required for One Type D Inlet Box

Bar	No.	Size	Length
u	8	#4	8'-5"
u_1	3	#4	12'-2"
u_3	4	#4	10'-4"
Concrete-Class X or Precast	Cu. Yds.		1.2
Reinf. Bars	Lbs.		100
Grating	Sq. Ft.		11.0

Material Required for One Type C Inlet Box

Bar	No.	Size	Length
u	6	#4	8'-5"
u_2	3	#4	10'-1"
u_4	4	#4	8'-4"
Concrete-Class X or Precast	Cu. Yds.		0.9
Reinf. Bars	Lbs.		80
Grating	Sq. Ft.		7.3

GENERAL NOTES

When Inlet Box or Boxes are not required, surface of the shoulder pavement shall be finished to provide a smooth transition from back of the abutment to normal approach roadway shoulder.

See plans for location of bridge approach shoulder pavement.

Use Type C Inlet Box for 4' thru 6' shoulder widths; use Type D Inlet Box for 7' and wider shoulder widths.

For placement of approach shoulder pavement on existing construction substitute expansion anchor ties for tie bars. For non-rigid approaches, shoulder pavement will be as shown except omit tie bars in approach pavement.

The material for Pipe Drains-12" shall be either corrugated steel or aluminum alloy pipe.

The P.C. Concrete used in the shoulder slab shall meet the requirements of Section 408 of the Standard Specifications.

The lengths of #4 bars used in the approach shoulder pavement shall be as required to accommodate the length, width and skew of the slab.

Class X concrete or precast concrete shall be used for the inlet.

Precast concrete shall be in accordance with Sections 505.01 thru 505.05 of the Standard Specifications except that the concrete strength shall be 4000 p.s.i. after 28 days.

All exposed edges of the inlet, except the upper perimeter, shall be beveled ¾".

Shop drawings will not be required for precast Inlet Boxes.

A 3" deep sand bedding conforming to Article 703.01 (FA 1 or FA 2) shall be provided under full length and width of precast units, and all voids around the pipe drain entrance, both inside and outside, shall be sealed with mortar.

The grating shall seat firmly in the frame and steel grates shall be secured to the frame with a locking device as shown. Cast grates will not require the locking device.

Steel grating and frames shall conform to Article 710.04 of the Standard Specifications and shall be galvanized to AASHTO Specification M111 after fabrication.

Cast grating and frames shall conform to Article 710.17 of the Standard Specifications. Cast grating and frames shall not be galvanized.

Pipe drains shall be installed, measured and paid for in accordance with Section 607 of the Standard Specifications.

Metal End Sections shall be installed, measured and paid for in accordance with Section 511 of the Standard Specifications.

Bridge approach shoulder pavement will be measured in place and paid for in square yards as P.C. CONCRETE BRIDGE APPROACH SHOULDER PAVEMENT which shall include the cost of subgrade preparation, expansion anchor ties, reinforcement and joint fillers. In computing the area for payment, a deduction will be made for the area displaced by the inlet. (1.2 Sq. Yds. Type C; 1.7 Sq. Yds. Type D)

The contract unit price "Each" for TYPE D INLET BOX STANDARD 2324 or TYPE C INLET BOX STANDARD 2324, in place, shall include the frames and grating, class X or precast concrete, reinforcement bars, excavation, bedding when required, and compacted backfilling.

The contract unit price "Each" for CONCRETE THRUST BLOCKS, in place, shall include excavation and compacted backfilling.

Illinois Department of Transportation

PASSED June 18, 1980
Engineer of Bridge and Traffic Structures
APPROVED June 18, 1980
Engineer of Design

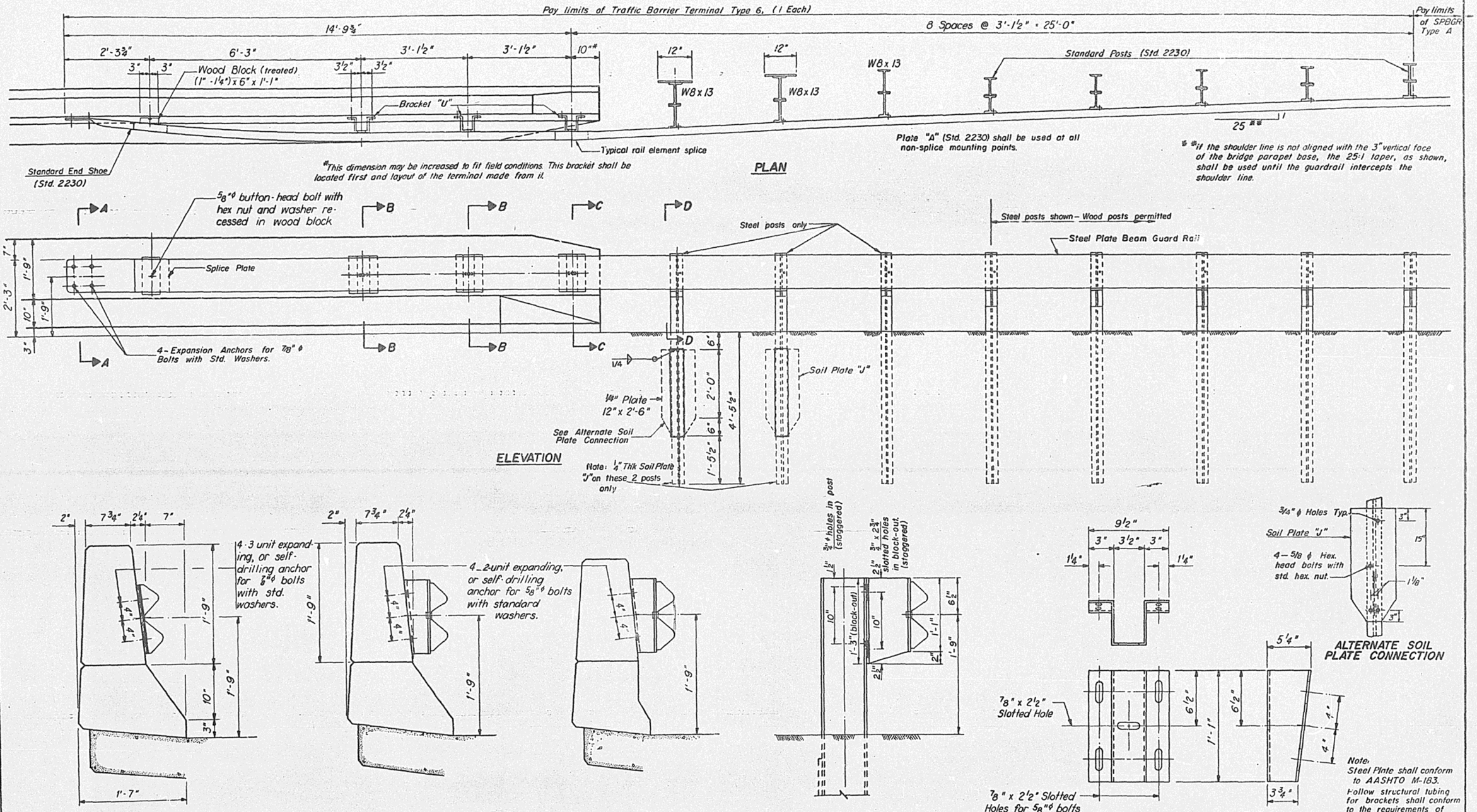
ISSUED 12-1-69

BRIDGE APPROACH SHOULDER PAVEMENT

STANDARD 2324-5

(Full Size)

H-1.25e



GENERAL NOTES:

For details of guardrail not shown see Standard 2230

When a bridge expansion joint exists between the End Shoe and the first post, all splice bolts at the End Shoe and post bolts at the brackets shall be fitted with a locknut or double nuts tightened only to a point that will allow guardrail movement.

Illinois Department of Transportation

PASSED Aug. 31, 1979
Engineer of Bridge and Traffic Structures

APPROVED Aug. 31, 1979
Engineer of Design

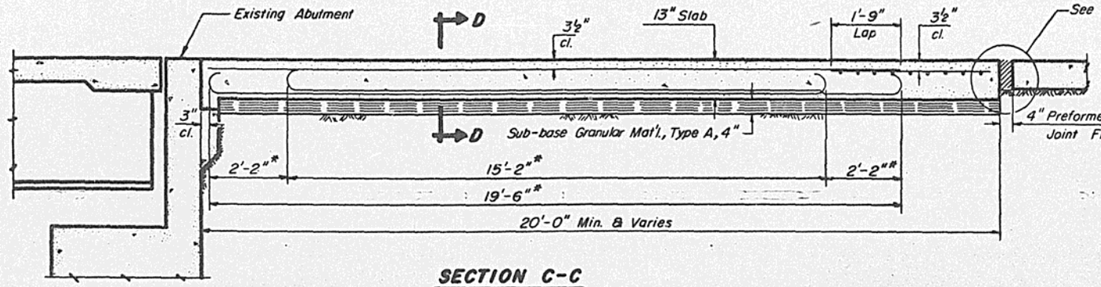
ISSUED 8-1-77

TRAFFIC BARRIER TERMINAL TYPE 6

STANDARD 2341-1

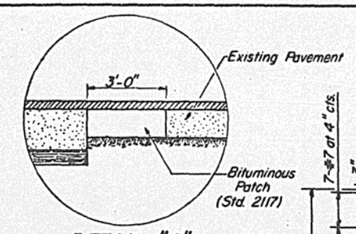
F-3.30a

(Full Size)



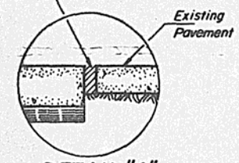
SECTION C-C

*Stagger alternate #7 bars as shown on plan - full width.



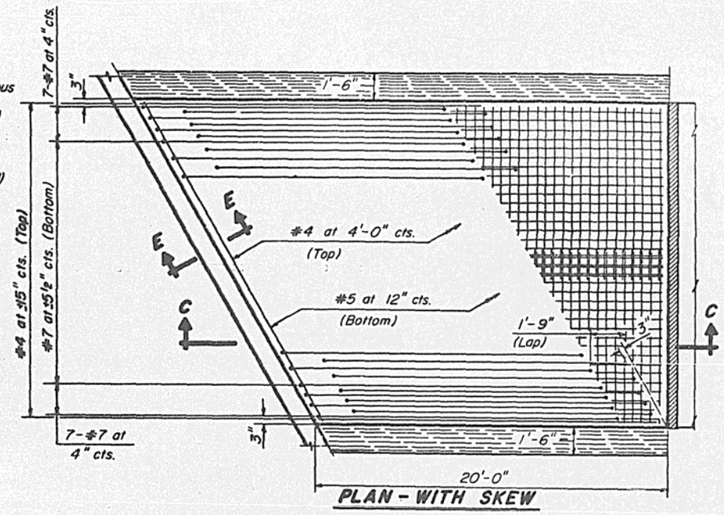
DETAIL "A"

(When bituminous surface is being placed)

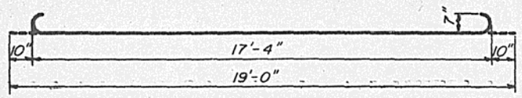


DETAIL "A"

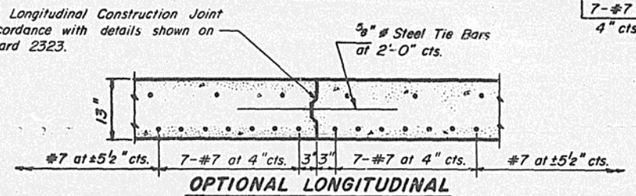
(P.C.C. Pavement Construction)



PLAN - WITH SKEW

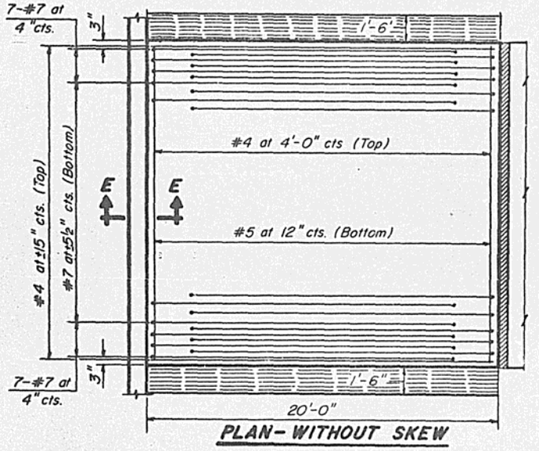


#7 BARS



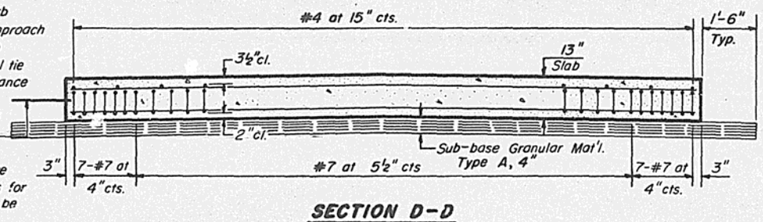
OPTIONAL LONGITUDINAL CONSTRUCTION JOINT

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

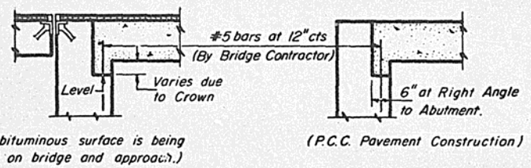


PLAN - WITHOUT SKEW

When the road plans show curb and gutter, gutter, or bridge approach shoulder pavement adjacent to approach slabs, place ½" ø steel tie bars at 2'-6" centers in accordance with the detail for Bulkhead Longitudinal Construction Joint shown on Standard 2323. Cost of the tie bars will be included in the contract unit price for the adjacent item. Transitions for curb and gutter or gutter shall be as shown on the plans.



SECTION D-D



(When bituminous surface is being placed on bridge and approach.)

(P.C.C. Pavement Construction)

SECTION E-E

Notes:

For skews of less than 10° omit wire fabric. For skews of 10° or more use Welded Wire Fabric, 6"x6"-W5.5 x W5.5, placed 3½" below top of slab.

Expanded Metal weighing not less than 78 Pounds per 100 Sq. Ft. or a welded bar mat weighing not less than 78 Pounds per 100 Sq. Ft. having members of equal size in both directions and spaced not over 8" apart may be used instead of the Welded Wire Fabric, 6"x6"-W5.5 x W5.5, provided the expanded metal or bar mat is furnished at no additional cost to the State.

Reinforcement bars shall conform to the requirements of A.A.S.H.T.O.: M 31 or M 53, Grade 60.

DESIGN STRESSES

f_y = 60,000 p.s.i.
f'_c = 3500 psi
n = 8.5

GENERAL NOTES

The cost of tie bars, expansion joint filler, sub-base, welded wire fabric and bituminous prime when required shall be considered as included in the unit cost of the Bridge Approach Pavement.

Preformed Expansion Joint Filler shall conform to Section 715 of the Standard Specifications.

Width of Bridge Approach Slab shall be determined before the reinforcement bars are fabricated.

The bituminous patch, when required, will be paid for in accordance with Section 620 of the Standard Specifications.

Illinois Department of Transportation

PASSED Sept 4, 1979
Carl E. Thurman Jr.
Engineer of Bridge and Traffic Structures

APPROVED Sept 4, 1979
Thomas B. Bright
Engineer of Design

ISSUED 3-9-79

BRIDGE APPROACH PAVEMENT

Sheet 1 of 2

STANDARD 2382-1

H-5.30a

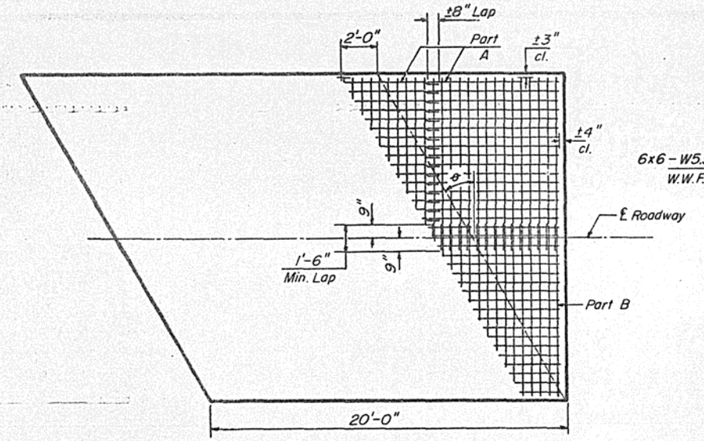
Note: The notation for the number of bars given as "4 x 2" indicates 4 lines of bars with 2 lengths per line. Min. bar lap = 1'-3"

Skew Angle Degrees	Bottom Reinforcement: Transverse #5 No.	Bottom Reinforcement: Transverse #5 Length	Bottom Reinforcement: Longitudinal #7 No. Required	Top Reinforcement: Transverse #4 No.	Top Reinforcement: Transverse #4 Length	Top Reinforcement: Longitudinal #4 No. Required	Reinforcement (Total Weight) (Pounds)	Slab Area (Sq.Yds.)	6x6-W5.5 x W5.5 W.W.F. Dimensions L(ft.) x W(ft.)	6x6-W5.5 x W5.5 W.W.F. Area* (Sq.Yds.)
18'-0" PAVEMENT										
0	20	17'-6"	7(Each Edge Beam)+29(Slab) at 5½ cts. - 19'-0" long Weight = 1670 Pounds	6	17'-6"	15 bars - 19'-6" long Weight = 195 Pounds	2300	40.0	———	———
5	20	17'-7"		6	17'-7"		2302	41.6	———	———
10	20	17'-9"		6	17'-9"		2306	43.2	7'-0" x 9'-6"	7.4
15	20	18'-1"		5	18'-1"		2303	44.8	8'-6" x 9'-6"	9.0
20	19	18'-8"		5	18'-8"		2297	46.6	10'-6" x 9'-6"	11.1
25	18	19'-4"		5	19'-4"		2292	48.4	12'-3" x 9'-6"	12.9
30	18	20'-3"		5	20'-3"		2313	50.4	14'-3" x 9'-6"	15.0
35	17	21'-4"		5	21'-4"		2315	52.6	16'-6" x 9'-6"	17.4
40	16	22'-10"		4	22'-10"		2307	55.1	19'-0" x 9'-6"	20.1
45	14	24'-9"		4	24'-9"		2293	58.0	21'-9" x 9'-6"	23.0
50	13	27'-3"		4	27'-3"		2308	61.5	25'-6" x 9'-6"	26.9
55	12x2	15'-9"		3x2	15'-9"		2322	65.7	29'-9" x 9'-6"	31.4
60	10x2	18'-0"		3x2	18'-0"		2313	71.2	35'-3" x 9'-6"	37.2
24'-0" PAVEMENT										
0	20	23'-6"	7(Each Edge Beam)+42 (Slab) at 5½ cts. - 19'-0" long Weight = 2175 Pounds	6	23'-6"	20 bars - 19'-6" long Weight = 260 Pounds	3019	53.3	———	———
5	20	23'-7"		6	23'-7"		3021	56.1	———	———
10	20	23'-10"		6	23'-10"		3028	58.9	8'-0" x 12'-6"	11.1
15	20	24'-4"		5	24'-4"		3024	61.9	10'-3" x 12'-6"	14.2
20	19	25'-0"		5	25'-0"		3014	64.9	12'-6" x 12'-6"	17.4
25	18	25'-11"		5	25'-11"		3008	68.2	15'-0" x 12'-6"	20.8
30	18	27'-2"		5	27'-2"		3036	71.8	17'-9" x 12'-6"	24.7
35	17	28'-8"		5	28'-8"		3039	75.7	20'-9" x 12'-6"	28.8
40	16x2	16'-0"		4x2	16'-0"		3055	80.2	24'-0" x 12'-6"	33.3
45	14x2	17'-3"		4x2	17'-3"		3031	85.3	27'-6" x 12'-6"	38.2
50	13x2	18'-10"		4x2	18'-10"		3046	91.4	32'-9" x 12'-6"	45.5
55	12x2	21'-1"		3x2	21'-1"		3047	99.0	38'-3" x 12'-6"	53.1
60	10x2	24'-0"		3x2	24'-0"		3032	108.7	45'-6" x 12'-6"	63.2

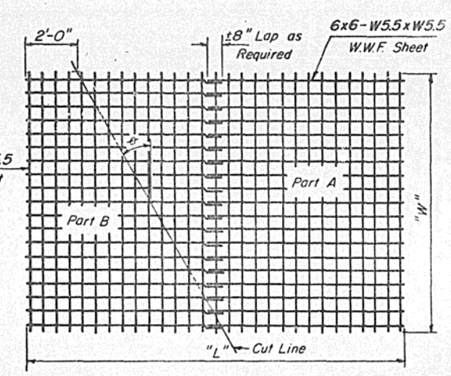
*Area does not include 8" longitudinal laps.
W.W.F. = Welded Wire Fabric

Skew Angle Degrees	Bottom Reinforcement: Transverse #5 No.	Bottom Reinforcement: Transverse #5 Length	Bottom Reinforcement: Longitudinal #7 No. Required	Top Reinforcement: Transverse #4 No.	Top Reinforcement: Transverse #4 Length	Top Reinforcement: Longitudinal #4 No. Required	Reinforcement (Total Weight) (Pounds)	Slab Area (Sq.Yds.)	6x6-W5.5 x W5.5 W.W.F. Dimensions L(ft.) x W(ft.)	6x6-W5.5 x W5.5 W.W.F. Area* (Sq.Yds.)
26'-0" PAVEMENT										
0	20	25'-6"	7(Each Edge Beam)+46(Slab) at 5½ cts. - 19'-0" long Weight = 2330 Pounds	6	25'-6"	21 bars - 19'-6" long Weight = 274 Pounds	3238	57.8	———	———
5	20	25'-7"		6	25'-7"		3240	61.1	———	———
10	20	25'-11"		6	25'-11"		3249	64.4	8'-6" x 13'-6"	12.8
15	20	26'-5"		5	26'-5"		3243	67.8	11'-0" x 13'-6"	16.5
20	19	27'-2"		5	27'-2"		3233	71.4	13'-6" x 13'-6"	20.3
25	18	28'-2"		5	28'-2"		3227	75.3	16'-3" x 13'-6"	24.4
30	18x2	15'-3"		5x2	15'-3"		3278	79.5	19'-0" x 13'-6"	28.5
35	17x2	16'-1"		5x2	16'-1"		3282	84.1	22'-3" x 13'-6"	33.4
40	16x2	17'-2"		4x2	17'-2"		3269	89.3	25'-9" x 13'-6"	38.6
45	14x2	18'-6"		4x2	18'-6"		3243	95.3	30'-0" x 13'-6"	45.0
50	13x2	20'-4"		4x2	20'-4"		3264	102.5	35'-0" x 13'-6"	52.5
55	12x2	22'-9"		3x2	22'-9"		3265	111.4	41'-3" x 13'-6"	61.9
60	10x2	26'-0"		3x2	26'-0"		3251	122.8	49'-0" x 13'-6"	73.5
36'-0" PAVEMENT										
0	20x2	18'-3"	7(Each Edge Beam)+68(Slab) at 5½ cts. - 19'-0" long Weight = 3185 Pounds	6x2	18'-3"	29 bars - 19'-6" long Weight = 378 Pounds	4471	80.0	———	———
5	20x2	18'-4"		6x2	18'-4"		4475	86.3	———	———
10	20x2	18'-6"		6x2	18'-6"		4483	92.7	10'-0" x 18'-6"	20.6
15	20x2	18'-10"		5x2	18'-10"		4475	99.3	13'-6" x 18'-6"	27.7
20	19x2	19'-5"		5x2	19'-5"		4462	106.2	17'-0" x 18'-6"	34.9
25	18x2	20'-2"		5x2	20'-2"		4455	113.6	20'-6" x 18'-6"	42.1
30	18x2	21'-0"		5x2	21'-0"		4492	121.6	24'-9" x 18'-6"	50.8
35	17x2	22'-3"		5x2	22'-3"		4501	130.4	29'-0" x 18'-6"	59.6
40	16x2	23'-9"		4x2	23'-9"		4483	140.4	33'-9" x 18'-6"	69.4
45	14x2	25'-8"		4x2	25'-8"		4450	152.0	39'-6" x 18'-6"	81.2
50	13x2	28'-2"		4x2	28'-2"		4477	165.8	46'-6" x 18'-6"	95.6
55	12x3	21'-4"		3x3	21'-4"		4492	182.8	55'-0" x 18'-6"	113.0
60	10x3	24'-4"		3x3	24'-4"		4471	204.7	65'-9" x 18'-6"	135.1

*Area does not include 8" longitudinal laps.



PLACEMENT OF 6x6 - W5.5 x W5.5
W.W.F. only required on skews ≥ 10°



CUTTING DIAGRAM

Illinois Department of Transportation

PASSED Sept 4, 1979
Engineer of Bridge and Traffic Structures
APPROVED Sept 4, 1979
Engineer of Design

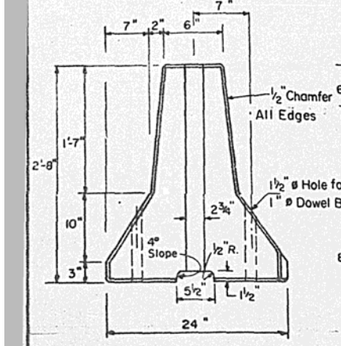
ISSUED 3-6-79

BRIDGE APPROACH PAVEMENT

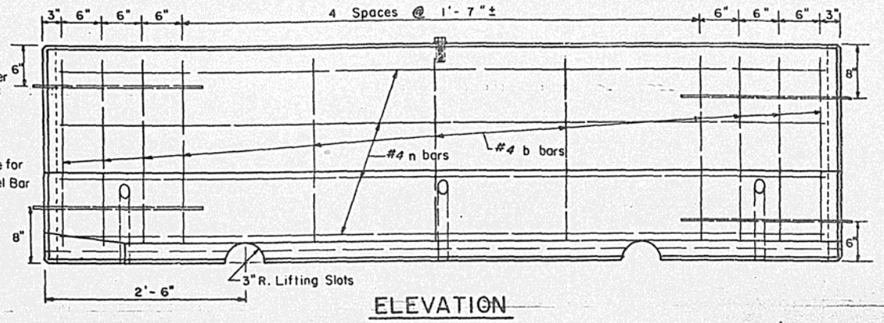
Sheet 2 of 2

STANDARD 2382-I

H-5.31a



END VIEW



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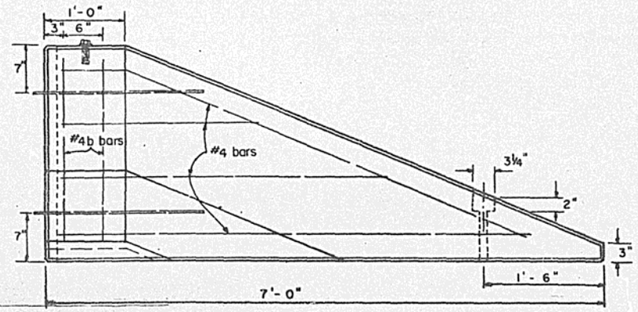
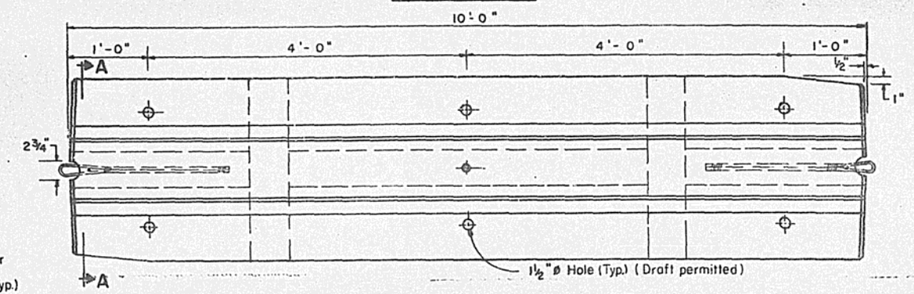
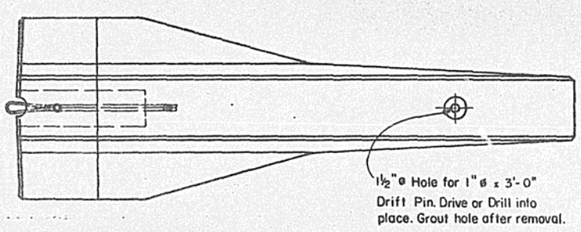
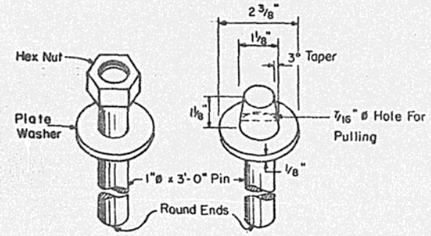




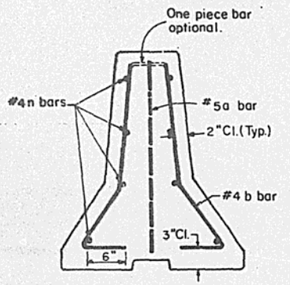
PLAN



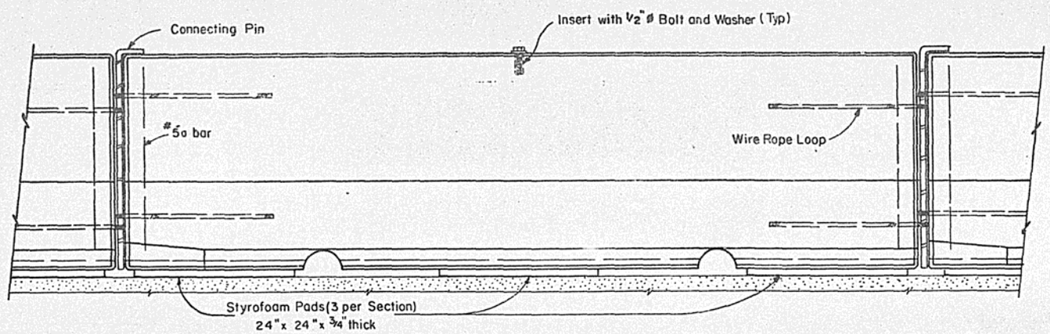
TERMINAL SECTION



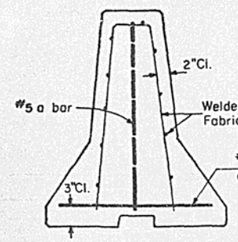
ALTERNATE DRIFT PINS



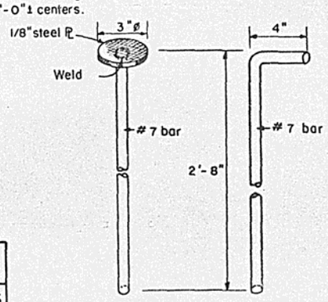
SECTION A-A
(Showing Bar Reinforcement)



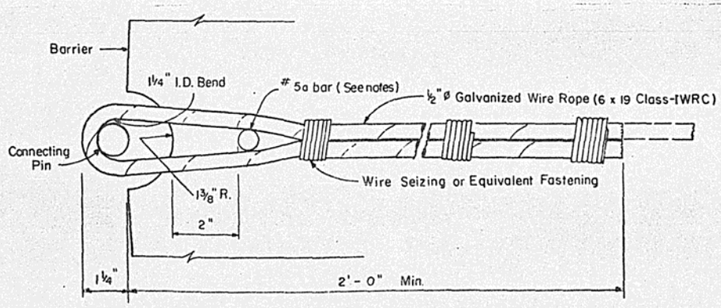
TYPICAL INSTALLATION WITH STYROFOAM PADS



SECTION A-A
(Showing Alternate Welded Wire Reinforcement)



ALTERNATE CONNECTING PINS



WIRE ROPE LOOP DETAIL
(20,000 lbs. min. breaking strength)

Not to scale

GENERAL NOTES

Barrier units shall be pinned one to another in continuous smooth line at the exact locations provided by the Engineer.

The wall units shall be reinforced with either bar reinforcement or welded wire fabric. Welded Wire Fabric shall be 6x6-W4 x W4, weighing approximately 58lbs. per 100 sq. ft., conforming to the requirements of AASHTO M-55.

Barrier units placed on rigid pavement or median surfaces shall be seated with styrofoam pads. Units placed on flexible pavement or shoulders shall be secured with dowel bars. Dowel bars shall be one inch in diameter, at least 12 inches long, shall be embedded at least 8 inches into base material, and shall not project above the outer surface of the barrier. After pin removal all holes in the base shall be grout filled.

Alternate lifting devices meeting the approval of the Engineer may be substituted for the lifting slots shown.

When the Terminal Section is used, the hex nut on the drift pin shall be threaded half way onto the pin and tack welded, or a coupling nut tightened sufficiently to prevent loosening may be used. Fill nut with grease to exclude contaminants.

Inserts for ½" ø bolts shall be capable of 3000 lbs. pull out strength and shall be furnished with a galvanized bolt and washer.

The #5 bar may be omitted if 2 continuous wire ropes are substituted for the 4 wire rope loops shown. The continuous ropes shall be looped and fastened on each end as shown in the wire rope loop detail.

Illinois Department of Transportation

PASSED Feb. 5, 1980
Engineer of Design Operations

APPROVED Feb. 5, 1980
Engineer of Design

ISSUED 6-1-76

TEMPORARY CONCRETE BARRIER

STANDARD 2383 - 1

(Full Size) D.W.W. Sr.

F-7.05 a