

**GENERAL NOTES**

Plan dimensions and details relative to existing plans are subject to nominal construction variations. The Contractor shall field verify existing dimensions and details affecting new construction and make necessary approved adjustments prior to construction or ordering of materials. Such variations shall not be cause for additional compensation for a change in scope of the work, however, the Contractor will be paid for the quantity actually furnished based at the unit price bid for the work.

Areas of deck repairs shown are estimated. The Engineer shall show actual locations of deck repairs on As-built Plans.

**TOTAL BILL OF MATERIALS**

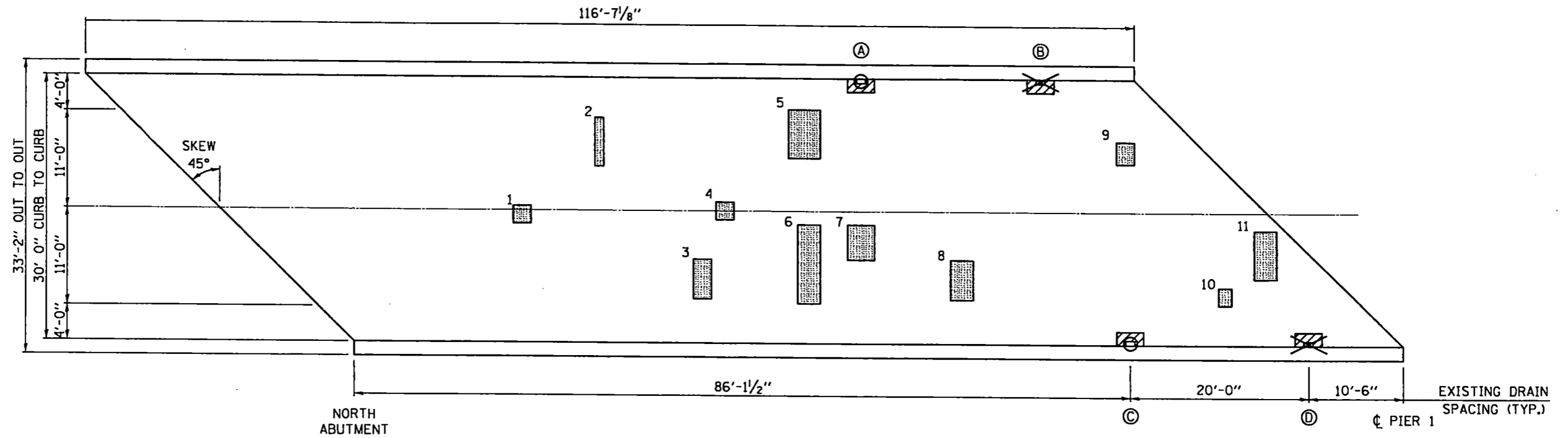
ITEM	UNIT	TOTAL
FLOOR DRAINS	EACH	22.00
DECK SLAB REPAIR (FULL DEPTH, TYPE 1) <= 5 SOFT	SOYD	15.00
DECK SLAB REPAIR (PARTIAL)	SOYD	58.00



*David Carl Puzey* 7/1/14  
Expires 11/30/14

092-0177

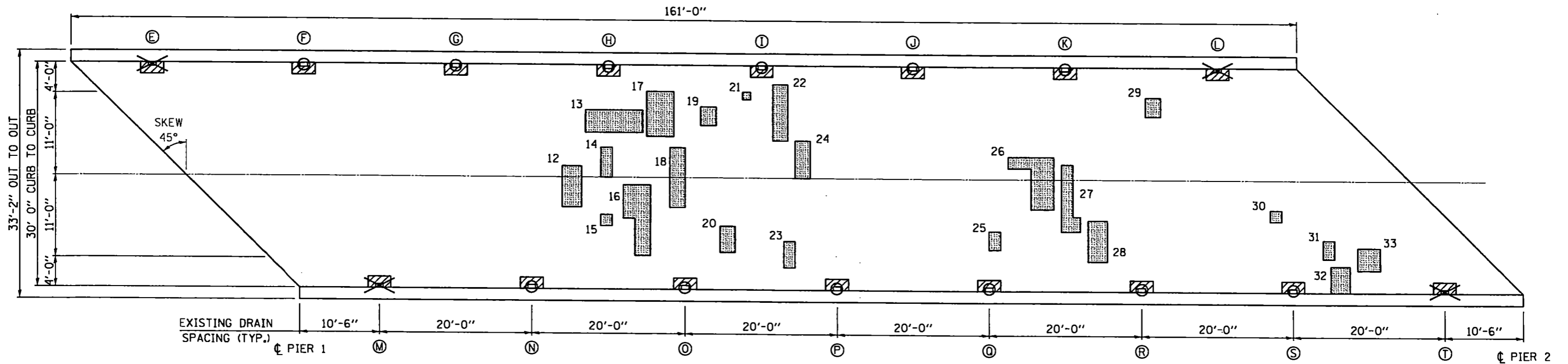
DL



- = DECK SLAB REPAIR (FULL DEPTH)
- = DECK SLAB REPAIR (PARTIAL DEPTH)
- = PROPOSED DRAIN
- = ELIMINATE EXISTING DRAIN

DAY LABDR/CADDATA/PROJECTS/FY 2015/SW092-0177

FILE NAME =	USER NAME = bucklesjj	DESIGNED -	REVISED -	<b>STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION</b>	<b>092-0177 DECK SLAB REPAIR SPAN 1 (NORTH)</b>	F.A.S. RTE.	CH 10	COUNTY	TOTAL SHEETS	SHEET NO.	
cr:\pwork\pwork\dot\bucklesjj\d8382518\SW092-0177-0177-sht-Details.dgn		DRAWN -	REVISED -			331	DAY LABDR	VERMILION	7	4	
PLOT SCALE = 40.0000' / 1" =		CHECKED -	REVISED -			CONTRACT NO. 15F502					
DATE = 6/6/2014		DATE -	REVISED -			ILLINOIS FED. AID PROJECT					



- = DECK SLAB REPAIR (FULL DEPTH)
- = DECK SLAB REPAIR (PARTIAL DEPTH)
- = PROPOSED DRAIN
- = ELIMINATE EXISTING DRAIN

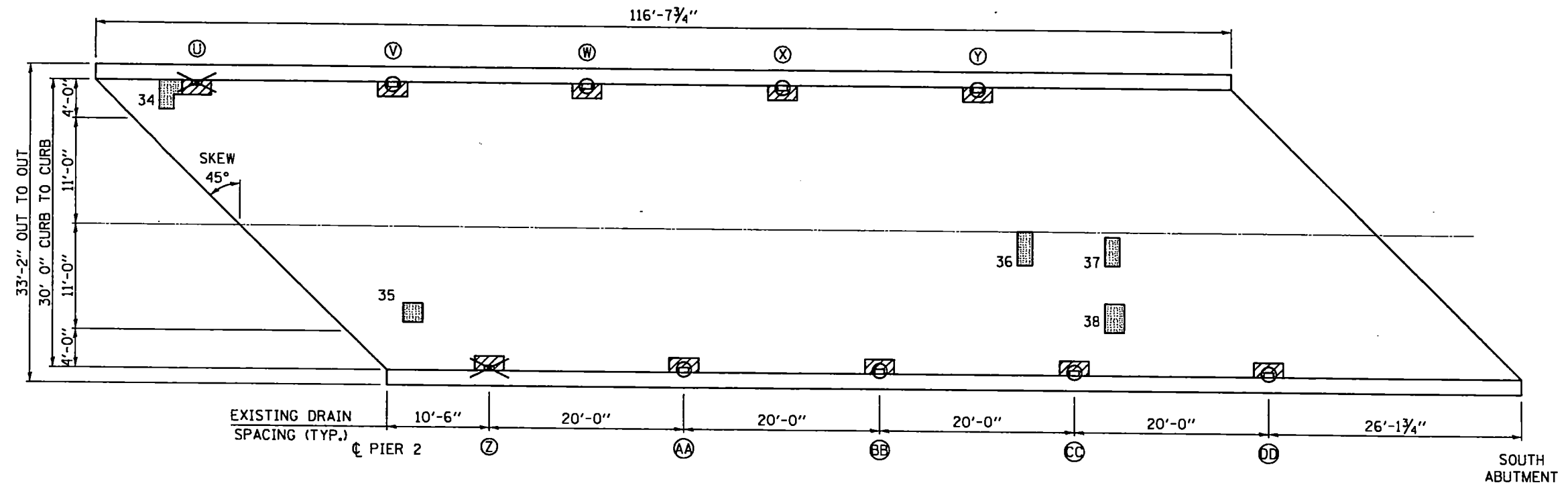
DAY LABOR/CAD/DATA/PROJECTS/FY 2013/SW092-0177

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PLOT SCALE = 48.0000' / 1" =		CHECKED -	REVISED -
MODEL NAME =	PLOT DATE = 6/6/2014	DATE -	REVISED -

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

<b>092-0177 DECK SLAB REPAIR SPAN 2 (CENTER)</b>			
SCALE:	SHEET	OF SHEETS	STA. TO STA.

F.A.S. RTE.	CH 10	COUNTY	TOTAL SHEETS	SHEET NO.
331	DAY LABOR	VERMILION	7	5
CONTRACT NO. 15F502				
ILLINOIS FED. AID PROJECT				



- = DECK SLAB REPAIR (FULL DEPTH)
- = DECK SLAB REPAIR (PARTIAL DEPTH)
- = PROPOSED DRAIN
- = ELIMINATE EXISTING DRAIN

DAY LABOR/CAD/DATA/PROJECTS/FY 2015/SN092-0177

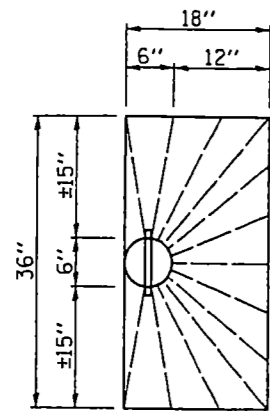
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	PLOT SCALE = 40.0000' / 1" =	DRAWN -	REVISED -
#MODELNAME#	PLOT DATE = 6/6/2014	CHECKED -	REVISED -
		DATE -	REVISED -

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

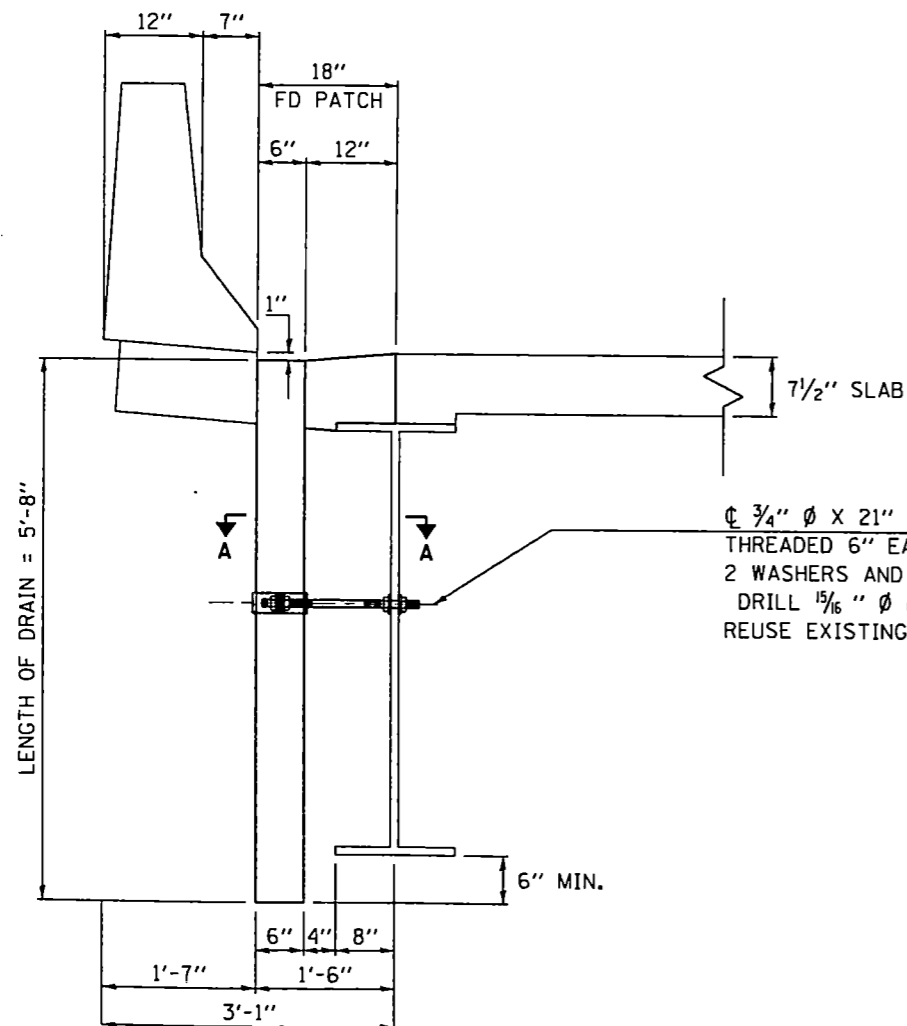
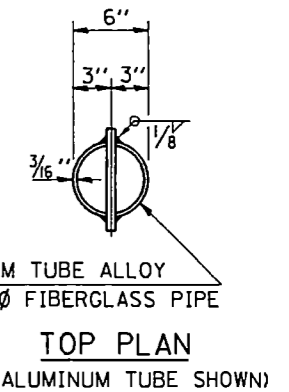
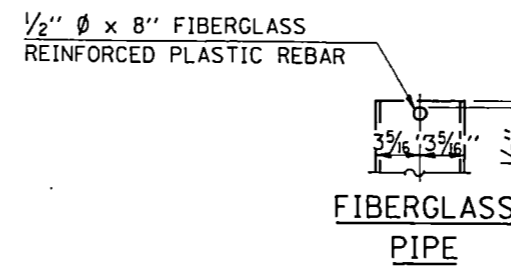
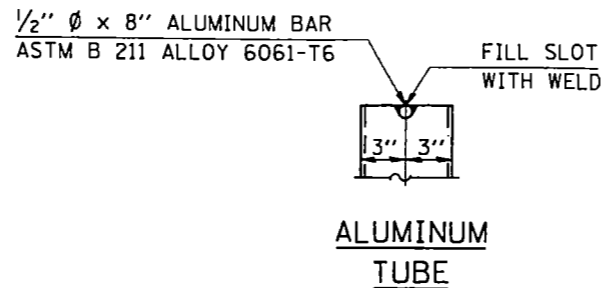
**092-0177 DECK SLAB REPAIR  
SPAN 3 (SOUTH)**

SCALE: SHEET OF SHEETS STA. TO STA.

F.A.S. RTE. 331	CH 10 DAY LABOR	COUNTY VERMILION	TOTAL SHEETS 7	SHEET NO. 6
CONTRACT NO. 15F502				
ILLINOIS FED. AID PROJECT				



TOP VIEW

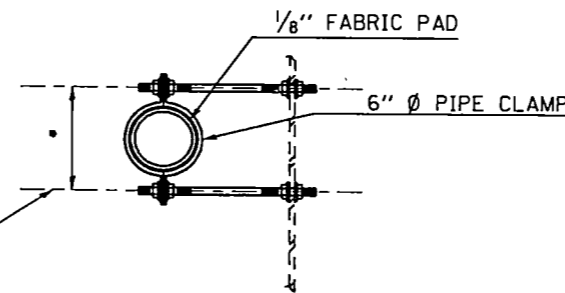


SECTION AT PROPOSED DRAIN

Ø 3/4" Ø X 21" STEEL STUD BOLT  
THREADED 6" EACH END WITH  
2 WASHERS AND LOCKNUTS. FIELD  
DRILL 1/8" Ø HOLES IN WEB. MAY  
REUSE EXISTING 7/8" Ø HOLE IN WEB.

SECTION A-A  
SHOWING PIPE CLAMP  
ANCHORAGE STYLE

- DIMENSION AS REQUIRED  
BY PIPE CLAMP



**NOTES:**

PROPOSED FLOOR DRAIN LOCATIONS TO BE ADJUSTED TO ALLOW FOR THE REUSE OF THE EXISTING HOLES IN THE WEATHERING STEEL BEAM WEBS.

FLOOR DRAINS NEED NOT BE PAINTED.

FIBERGLASS PIPE SHALL CONFORM TO ASTM D 2996, WITH SHORT-TIME RUPTURE STRENGTH HOOP TENSILE STRESS OF 30,000 P.S.I. MINIMUM.

GALVANIZE CLAMPING DEVICE AND ALL STUD BOLTS, WASHERS AND NUTS ACCORDING TO AASHTO M232.

COST OF CLAMPING DEVICE AND GALVANIZING INCLUDED WITH FLOOR DRAINS

ALL DIMENSIONS SHALL BE FIELD VERIFIED BY THE CONTRACTOR PRIOR TO ORDERING OF MATERIALS.

**BILL OF MATERIALS**

ITEM	UNIT	TOTAL
FLOOR DRAINS	EACH	22.0

COST OF REMOVAL OF EXISTING DRAINS IS INCLUDED IN DECK SLAB REPAIR.

DAY LABOR/CAD/DATA/PROJECTS/FY 2015/SN092-0117

FILE NAME =	USER NAME = bucklesJJ	DESIGNED -	REVISED -	<b>STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION</b>	<b>FLOOR DRAIN DETAILS S.N. 092-0177</b>			F.A.S. RTE.	CH 10	COUNTY	TOTAL SHEETS	SHEET NO.			
		DRAWN -	REVISED -					331	DAY LABOR	VERMILION	7	7			
		CHECKED -	REVISED -					CONTRACT NO. 15F502							
		DATE -	REVISED -					ILLINOIS FED. AID PROJECT							
#MODELNAME#				SCALE:	SHEET	OF	SHEETS	STA.	TO	STA.					

**STATE OF ILLINOIS**  
**DEPARTMENT OF TRANSPORTATION**  
**DIVISION OF HIGHWAYS**  
**PLANS FOR PROPOSED**  
**SPECIAL BRIDGE REPLACEMENT**  
**AND**  
**FEDERAL-AID SECONDARY PROJECT**

ROUTE NO.	SEC.	COUNTY	TOTAL SHEETS	SHEET NO.
331	L-BR	VERMILION	93	1
FAS		ILLINOIS PROJECT	BR-S-331(107)	

P-95-034-73



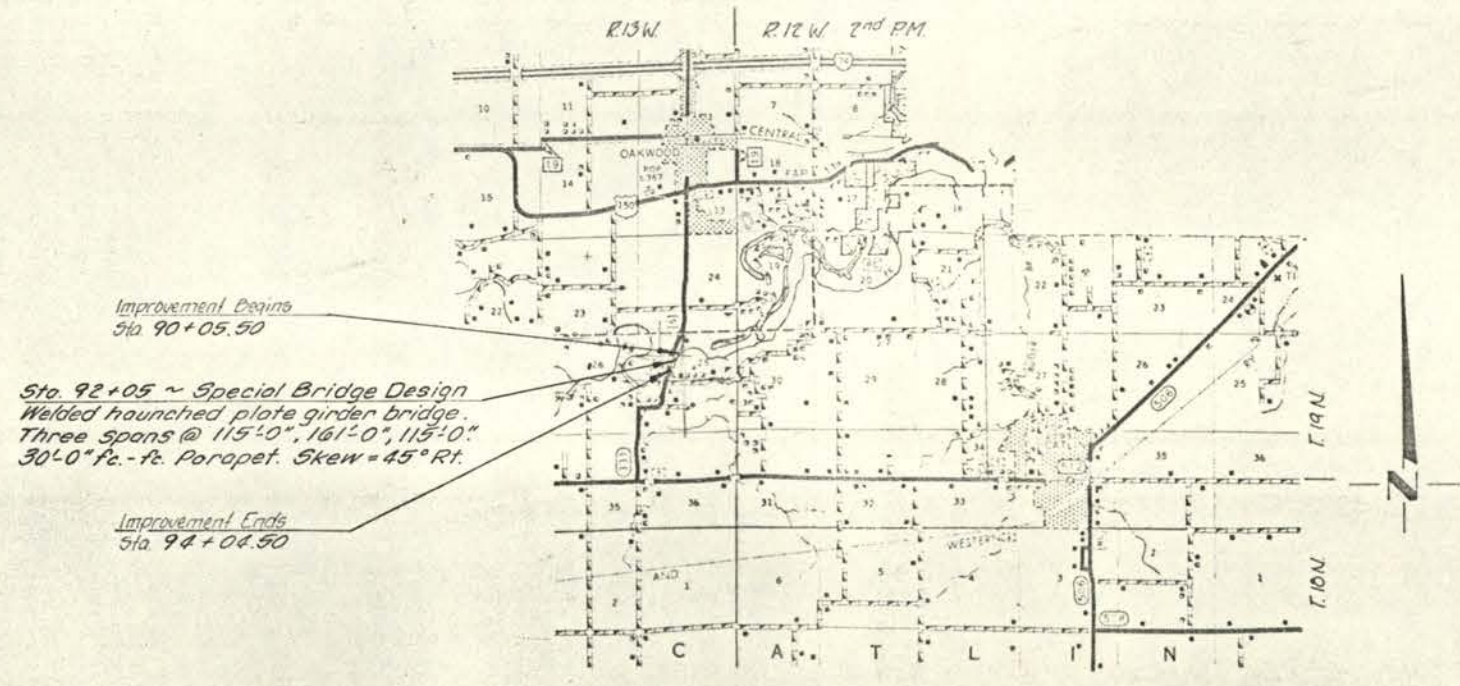
LOCATION OF SECTION INDICATED THUS: —

- INDEX OF SHEETS
1. COVER SHEET
  2. SUMMARY OF QUANTITIES, GENERAL NOTES AND TYPICAL CROSS SECTION
  3. NORTH EMBANKMENT DETAILS
  4. SOUTH EMBANKMENT DETAILS, SPECIAL TILE OUTLET HEADWALL
  5. PLAN & PROFILE
  - 6-15. STATION CROSS SECTIONS NORTH EMBANKMENT
  - 16-18. STATION CROSS SECTIONS SOUTH EMBANKMENT
  - 19-33. BRIDGE PLANS

PLAN 1 INCH = 100 FT AND AS SHOWN  
 PROFILE HOR 1 INCH = 100 FT AND AS SHOWN  
 PROFILE VERT 1 INCH = 5 FT AND AS SHOWN  
 CROSS SECTIONS 1 INCH = 10 FT AND AS SHOWN

**FAS ROUTE 331**  
**SECTION L-BR PROJ. BR-S-331 (107) VERMILION COUNTY**  
**C-95-059-79**  
**BRIDGE REPLACEMENT**

- STANDARDS:
- 2113-1
  - 2298-4
  - 2299-7
  - 2300-1
  - 2301-3
  - 2302-3
  - 2303-4
  - 2307-4



Sta. 92+05 ~ Special Bridge Design  
 Welded haunched plate girder bridge.  
 Three spans @ 115'-0", 161'-0", 115'-0".  
 30'-0" ft.-ft. Parapet. Skew = 45° Rt.

**LAYOUT**  
 Approximate Scale: 1 Inch = 1 Mile  
 Net Length of Section = 399.00 Feet = 0.076 Miles

SUBMITTED	3-20	19 79
EXAMINED	April 2,	19 79
PASSED	April 2,	19 79
APPROVED	April 2,	19 79

MARCUS J. RICE  
 REGISTERED PROFESSIONAL ENGINEER  
 OF ILLINOIS

**US DEPARTMENT OF TRANSPORTATION**  
 FEDERAL HIGHWAY ADMINISTRATION  
**APPROVED**

DIVISION ADMINISTRATOR      DATE

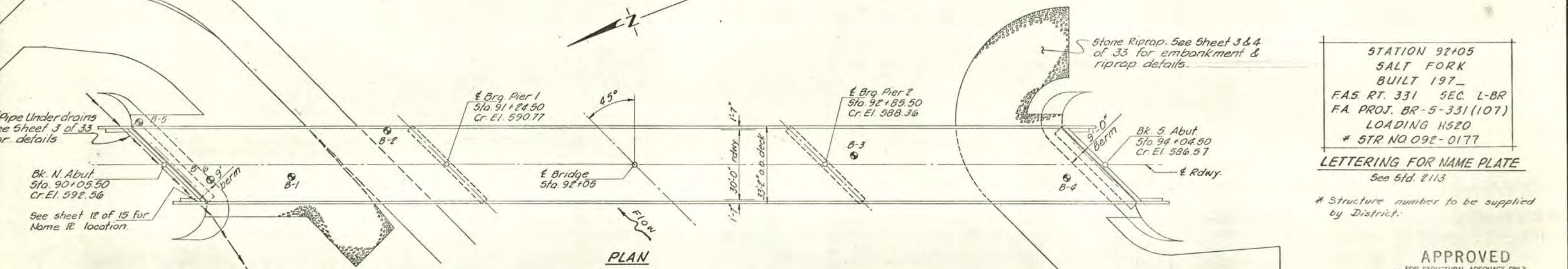
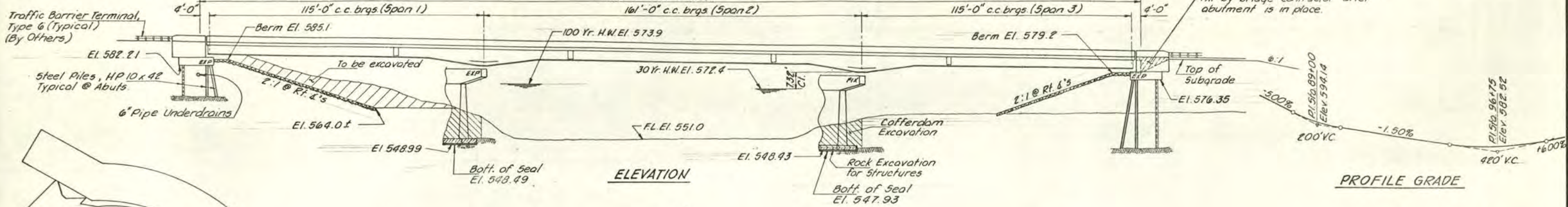
092-0177

5-106

Marcus J. Rice 3-14-79  
 Illinois Professional No. 20110



B.M.: Chiseled "D" top 5/8" wingwall of existing bridge. Elev. 575.67  
 Existing Structure: 1 span thru truss w/ 3 pony truss approach spans, open steel floor, closed concrete abuts., solid conc pier & 2 steel bent piers. 14.7 ft. rdwy 342' lg. Contractor shall remove after constructing new bridge. No salvage



STATION 92+05  
 SALT FORK  
 BUILT 197-  
 F.A.S. RT. 331 SEC. L-BR  
 FA. PROJ. BR-5-331(107)  
 LOADING H520  
 \* STR NO 092-0177

LETTERING FOR NAME PLATE  
 See Std. 2113

\* Structure number to be supplied by District.

APPROVED  
 FOR STRUCTURAL ADEQUACY ONLY  
  
 Engineer of Bridge & Traffic Structures

**GENERAL NOTES**

Bearing seat surfaces shall be constructed or adjusted to the designated elevations within a tolerance of 1/8 inch. Adjustment shall be made either by grinding the surface or by shimming the bearing. Two 1/8" adjusting shims of the dimensions of the bottom bearing plate shall be provided for each bearing in addition to all other plates & shims.

Fasteners shall be 3/4" High Strength bolts, 1/4" holes, unless otherwise noted. All bolts shall be A.A.S.H.T.O. M 164 (A325) Type 3 H.S. Bolts.

Field welding of construction accessories will not be permitted to the top flange of girders for a distance equal to 1/4 the span length each way from the pier supports nor to the bottom flange of girders. Field welding in other areas will be allowed only when approved by the Engineer.

All reinforcement bars shall conform to A.A.S.H.T.O. M 31 or M 53, Grade 60.

Anchor bolts shall be set before bolting cross frames over supports.

The main load carrying member components subject to tensile stresses shall conform to the Supplemental Requirements for Notch Toughness, Zone 2. These components are the tension flanges & web plates of girders and all splice R material.

Calculated weight of Structural Steel = 356,310 Pounds

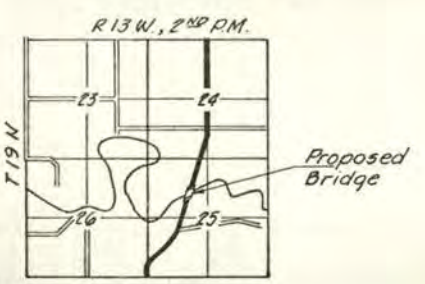
All structural steel shall be A.A.S.H.T.O. M 222 and shall be used in the bare unpainted condition.

See Proposal for Boring Data.

The concrete rail section above the mandatory construction joint at the top of the slab shall be constructed of Class X concrete, except the aggregate used shall conform to the requirements of Handrail Concrete.

The Contractor shall drive 1 steel test pile at each abutment as directed by the Engineer before ordering the remainder of the piles.

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



LOCATION SKETCH

**WATERWAY DATA**

Drainage Area	489 Sq. Mi.
Design Discharge (30 Yr.)	12,170 C.F.S.
Required Opening (30 Yr.)	3,050 Sq. Ft.
Existing Opening (30 Yr.)	3,600 Sq. Ft.
Proposed Opening (30 Yr.)	3,050 Sq. Ft.
Computed Discharge (100 Yr.)	15,050 C.F.S.
Created Head (30 Yr.)	0.2 Ft.
Created Head (100 Yr.)	0.3 Ft.

**DESIGN STRESSES**

$f'_c = 3,500$  p.s.i. (Cl. X Conc.) L.F.D.  
 $f_y = 60,000$  p.s.i. (Re-bar) L.F.D.  
 $f_y = 50,000$  p.s.i. (Struct Steel) L.F.D.  
 $n = 8.5$

25#/Sq. Ft. included in deadload for future wearing surface.

DESIGN SPECIFICATIONS: A.A.S.H.T.O. 1977 & 1978 Interim  
 LOADING H5 20-44

Paul J. Stone Jr.  
 Illinois Structural No. 2934

**TOTAL BILL OF MATERIAL**

ITEM	UNIT	SUPER	SUB	TOTAL
Class X Concrete	Cu. Yd.	402.2	362.2	764.4
Reinforcement Bars	Pound	49,650	34,740	84,390
Reinforcement Bars (Epoxy Coated)	Pound	87,670		87,670
Stud Shear Connectors	Each	2,628		2,628
Structural Steel	L.SUM			1
Protective Coat	Sq. Yd.	1,635	26	1,661
Neoprene Expansion Joint 2"	Lin. Ft.	45		45
Neoprene Expansion Joint 4"	Lin. Ft.	45		45
Name Plates	Each			1
Steel Piles HP 10 x 42	Lin. Ft.		528	528
Test Piles Steel HP 10 x 42	Each		2	2
Cofferdam Excavation	Cu. Yd.		290	290
Rock Excavation for Structures	Cu. Yd.		35	35
Cofferdams	Each		2	2
Removal of Existing Structures	Each			1



**SALT FORK**

GENERAL PLAN & ELEVATION  
 F.A.S. RT. 331  
 SECTION - L-BR  
 VERMILION COUNTY  
 STATION 92+05

COLLINS AND RICE  
 CONSULTING ENGINEERS

DESIGNED F.S. CHECKED V.H.  
 DRAWN L.L. DATE 3-13-79 NO. 1344



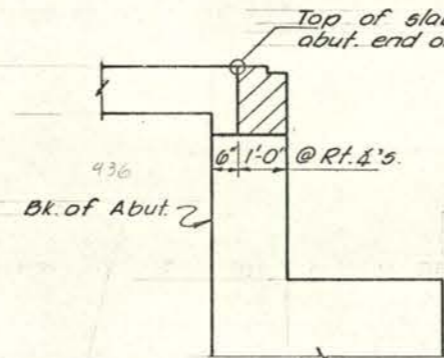


**EAST LONG. CONST. JOINT**

	E Brg. N. Abut.	SPAN 1										E Brg. Pier 1	SPAN 2										E Brg. Pier 2	SPAN 3										E Brg. S. Abut.					
		1	2	3	4	5	6	7	8	9	10		11	12	13	14	15	16	17	18	19	20		21	22	23	24	25	26	27	28	29	30		31	32	33	34	35
T	592.491	92.341	2.191	2.041	1.891	1.741	1.591	1.441	1.291	1.141	0.991	590.766	0.616	0.466	0.316	0.166	90.016	89.866	9.716	9.566	9.416	9.266	9.116	8.966	8.816	8.666	8.516	588.351	8.201	8.051	7.901	7.751	7.601	7.451	7.301	7.151	7.001	86.851	586.626
Adj.	592.490	92.385	2.270	2.145	2.010	1.850	1.680	1.500	1.320	1.145	0.985	590.765	0.630	0.510	0.400	0.295	0.190	90.085	89.960	9.820	9.660	9.485	9.295	9.100	8.900	8.710	8.530	588.350	8.195	8.050	7.915	7.795	7.675	7.555	7.415	7.265	7.095	86.915	586.625
Bot of Slab (Adj.)	591.865	91.760	1.645	1.520	1.385	1.225	1.055	0.875	0.695	0.520	0.360	590.140	90.005	89.885	9.775	9.670	9.565	9.460	9.335	9.195	9.035	8.860	8.670	8.475	8.275	8.085	7.905	588.725	7.570	7.425	7.290	7.170	7.050	6.930	6.790	6.640	6.470	86.290	586.000

**WEST LONG. CONST. JOINT**

	E Brg. N. Abut.	SPAN 1										E Brg. Pier 1	SPAN 2										E Brg. Pier 2	SPAN 3										E Brg. S. Abut.					
		1	2	3	4	5	6	7	8	9	10		11	12	13	14	15	16	17	18	19	20		21	22	23	24	25	26	27	28	29	30		31	32	33	34	35
T	592.161	92.011	1.861	1.711	1.561	1.411	1.261	1.111	0.961	0.811	0.661	590.436	0.286	90.136	89.986	89.836	89.686	9.536	9.386	9.236	9.086	8.936	8.786	8.636	8.486	8.336	8.186	588.021	7.871	7.721	7.571	7.421	7.271	7.121	6.971	6.821	6.671	86.521	586.296
Adj.	592.160	92.055	1.940	1.815	1.680	1.520	1.350	1.170	0.990	0.815	0.655	590.435	0.300	0.180	0.070	89.965	9.860	9.755	9.630	9.490	9.330	9.155	8.965	8.770	8.570	8.380	8.200	588.020	7.865	7.720	7.585	7.465	7.345	7.225	7.095	6.935	6.765	86.585	586.295
Bot of Slab (Adj.)	591.535	91.430	1.315	1.190	1.055	0.895	0.725	0.545	0.365	0.190	0.030	589.810	89.675	9.555	9.445	9.340	9.235	9.130	9.005	8.865	8.705	8.530	8.340	8.145	7.945	7.755	7.575	587.395	7.240	7.095	6.960	6.840	6.720	6.600	6.460	6.310	6.140	85.960	585.670



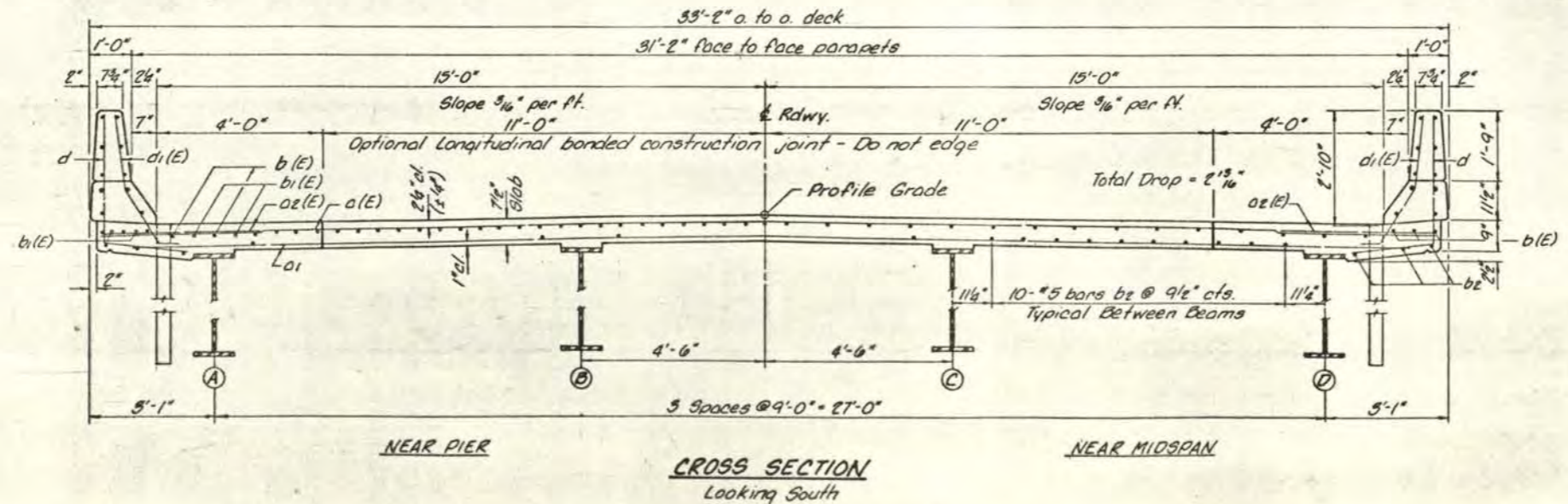
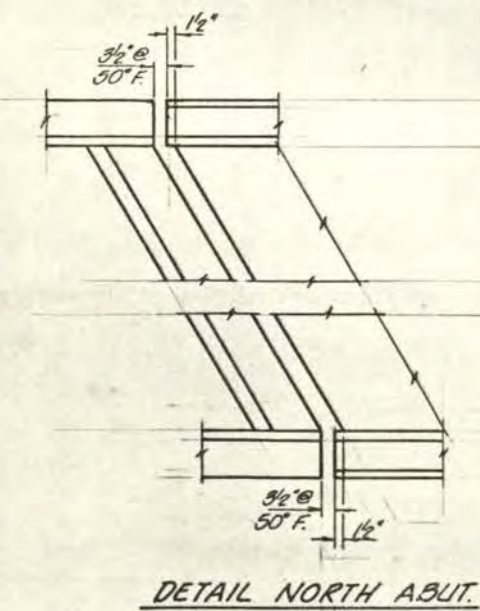
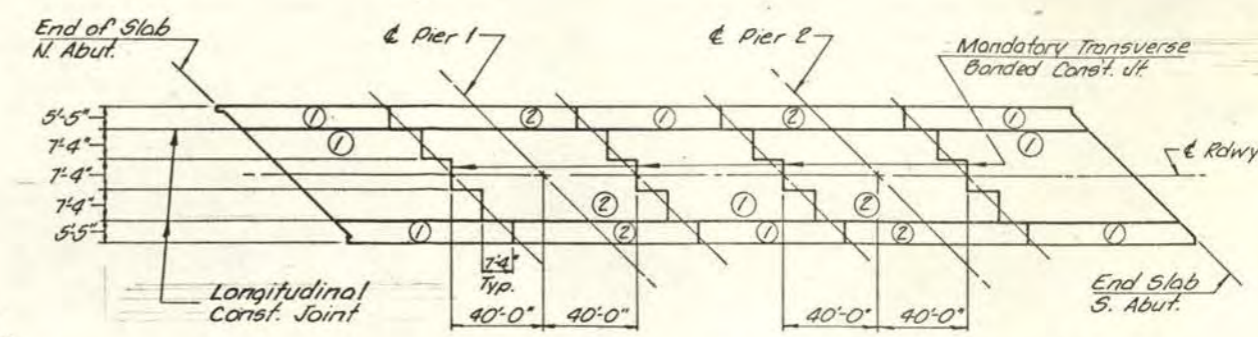
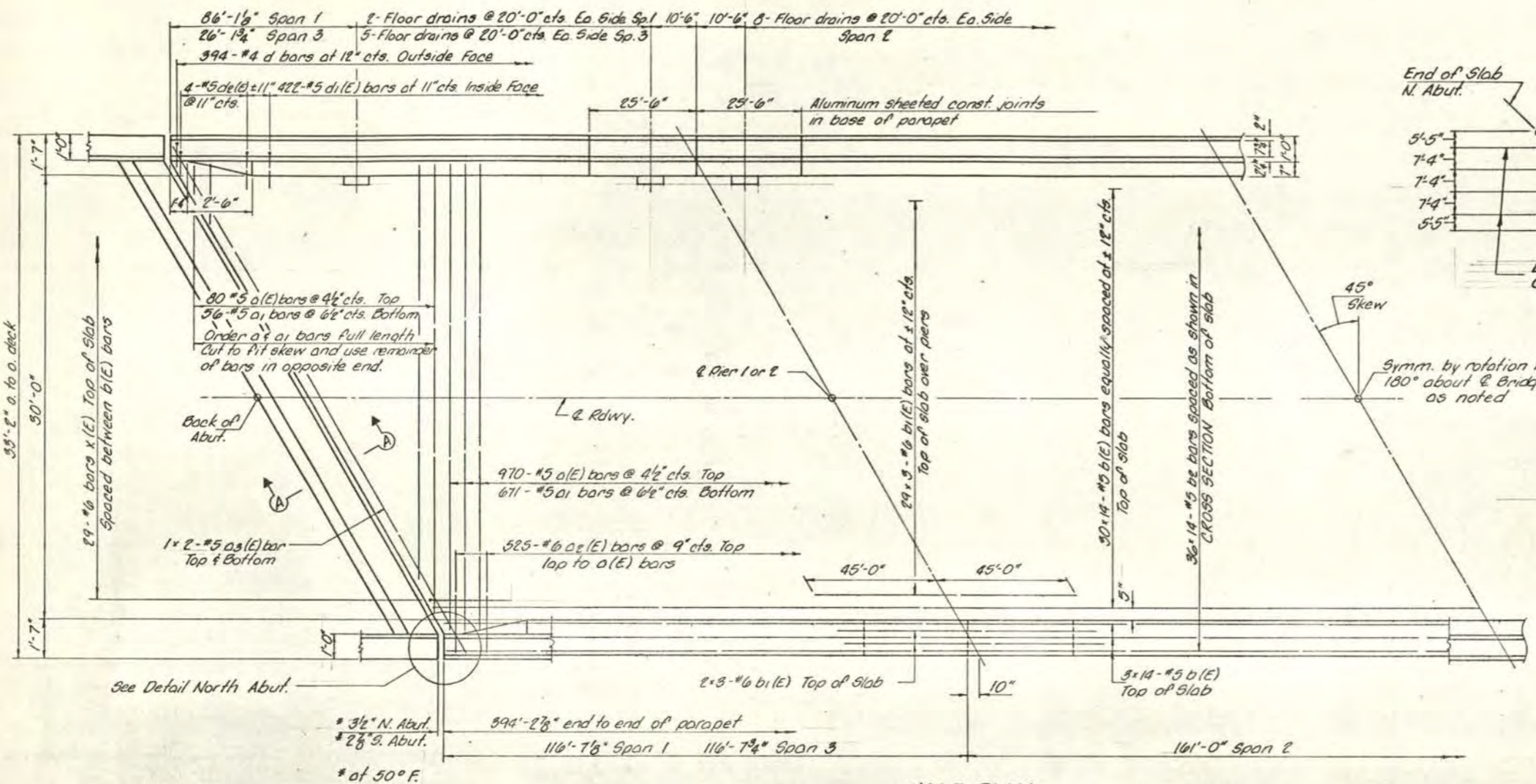
LOCATION	"A" (N. Abut.)	"A" (S. Abut.)
Girder A	592.538	586.574
E. Long. Const. Jt.	592.540	586.576
Girder B	592.544	586.580
E. Roadway	592.547	586.583
Girder C	592.409	586.445
W. Long. Const. Jt.	592.210	586.246
Girder D	592.133	586.169

01 1241  
0 2

**SLAB ELEVATIONS**  
 FAS RT. 331  
 SECTION L-BR  
 VERMILION COUNTY  
 STATION 92+05

**COLLINS AND RICE**  
 CONSULTING ENGINEERS

DESIGNED F.S.      CHECKED V.H.  
 DRAWN L.L.      DATE 3-13-79      NO. 1546



**NOTES:**

See sheet 5 of 15 for superstructure details and Bill of Material.

Bars indicated thus 30 x 14-#5 etc. indicates 30 lines of bars with 14 lengths per line.

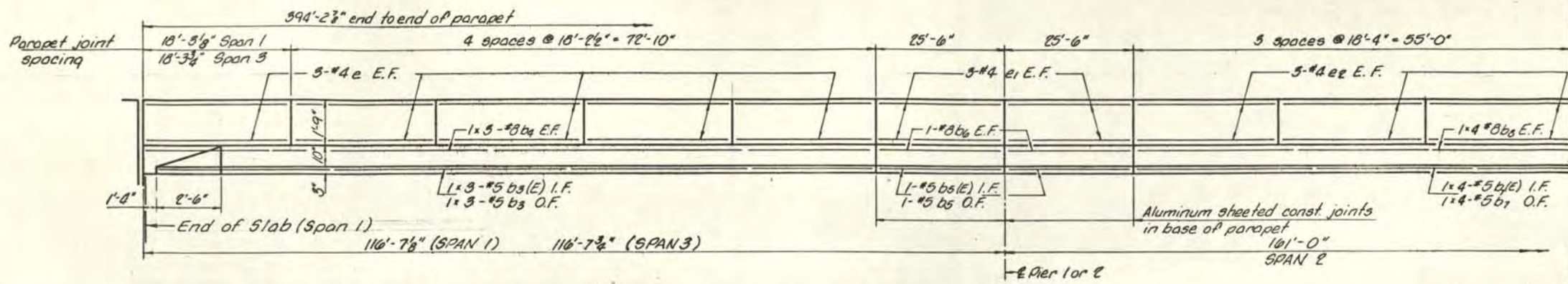
See the Special Provisions for the procedure for epoxy coating cut reinforcement bars.

For minimum bar laps see sheet 5 of 15.

**SUPERSTRUCTURE**  
 FAS RT. 331  
 SECTION L-BR  
 VERMILION COUNTY  
 STATION 92+05

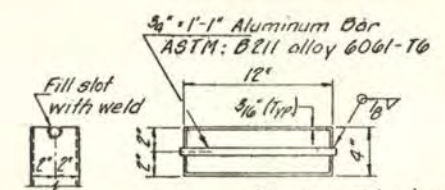
**COLLINS AND RICE**  
 CONSULTING ENGINEERS

DESIGNED F.S.    CHECKED V.H.  
 DRAWN M.G.    DATE 3-13-79    NO. 1546

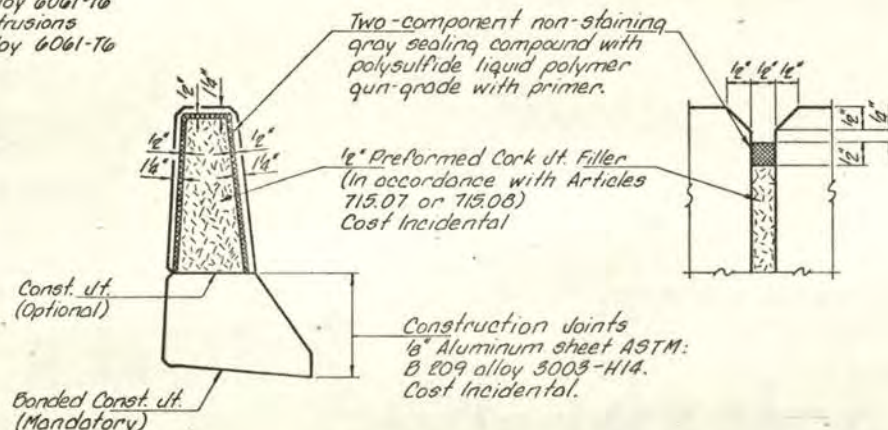


Symm. about & span 2 except as noted

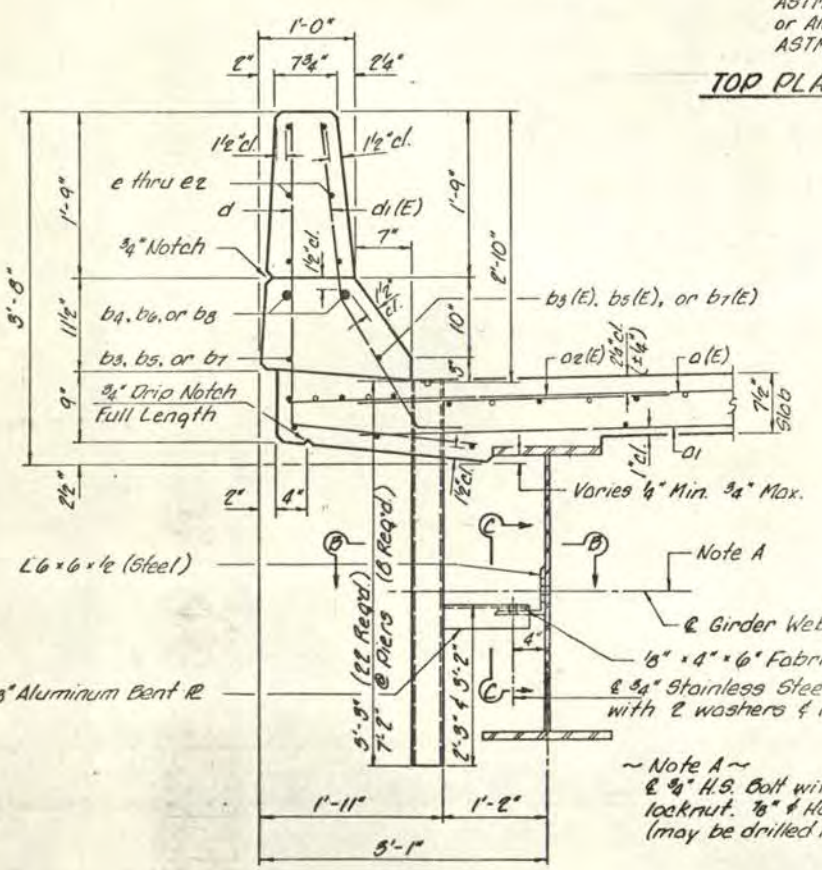
HALF INSIDE ELEVATION OF PARAPET



Aluminum Sheets Welded  
ASTM: B209 alloy 6061-T6  
or Aluminum Extrusions  
ASTM: B221 alloy 6061-T6

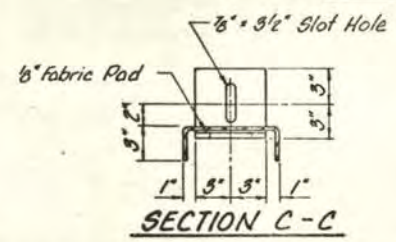


TOP PLAN

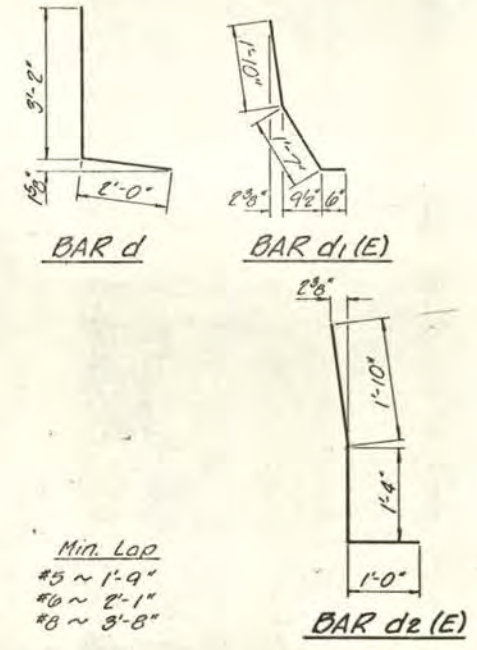
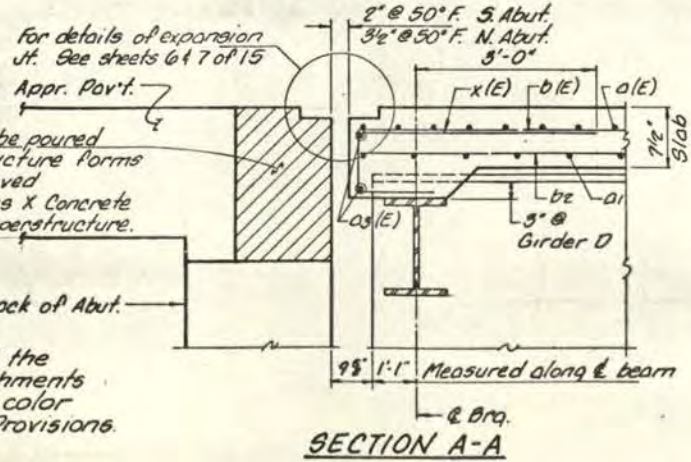


SECTION THRU PARAPET

PARAPET JOINT DETAILS



Note A  
2" H.S. Bolt with 2 washers & locknut. 7/8" Hole in web (may be drilled in field)



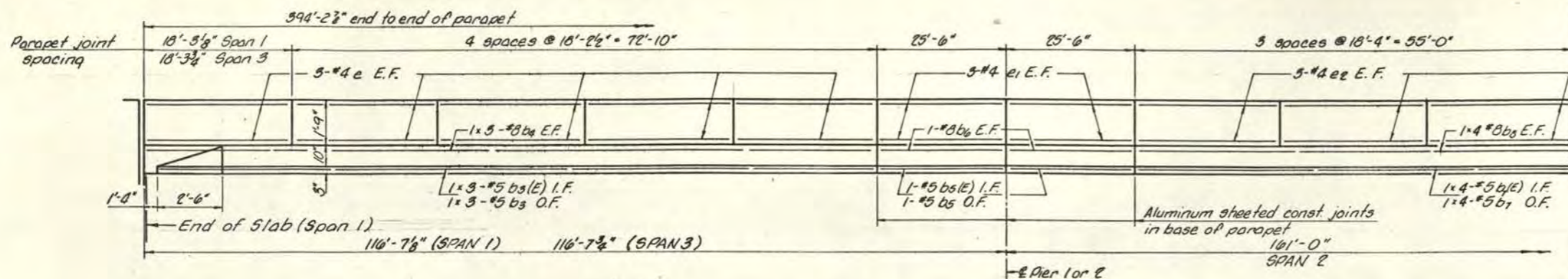
SUPERSTRUCTURE BILL OF MATERIAL

BAR	No.	SIZE	LENGTH	SHAPE
a(E)	1,050	#6	52'-6"	—
a1	727	#5	30'-2"	—
ae(E)	1,050	#6	4'-0"	—
as(E)	8	#5	23'-11"	—
b(E)	504	#5	29'-9"	—
b1(E)	198	#6	31'-5"	—
b2	504	#5	29'-9"	—
b3(E)	12	#5	30'-3"	—
b3	12	#5	31'-5"	—
b4	24	#8	32'-8"	—
b5(E)	8	#5	25'-3"	—
b5	8	#5	25'-3"	—
b6	16	#8	25'-3"	—
b7(E)	8	#5	28'-9"	—
b7	8	#5	28'-9"	—
b8	16	#8	30'-2"	—
d	788	#4	5'-2"	L
d1(E)	844	#5	3'-11"	L
de(E)	16	#5	4'-2"	L
e	120	#4	17'-11"	—
e1	48	#4	25'-3"	—
ee	72	#4	18'-1"	—
x(E)	58	#6	6'-8"	—
Reinforcement Bars				Pound 49,650
Reinforcement Bars (Epoxy Coated)				Pound 87,670
Class X Concrete				Cu. Yd. 402.2
Protective Coat				Sq. Yd. 1,635

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

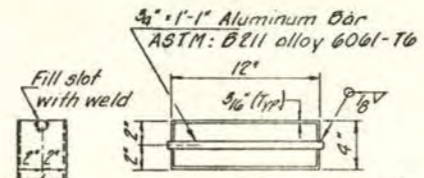
PARAPET DETAILS  
FAS. RT. 331  
SECTION L-BR  
VERMILION COUNTY  
STATION 92+05

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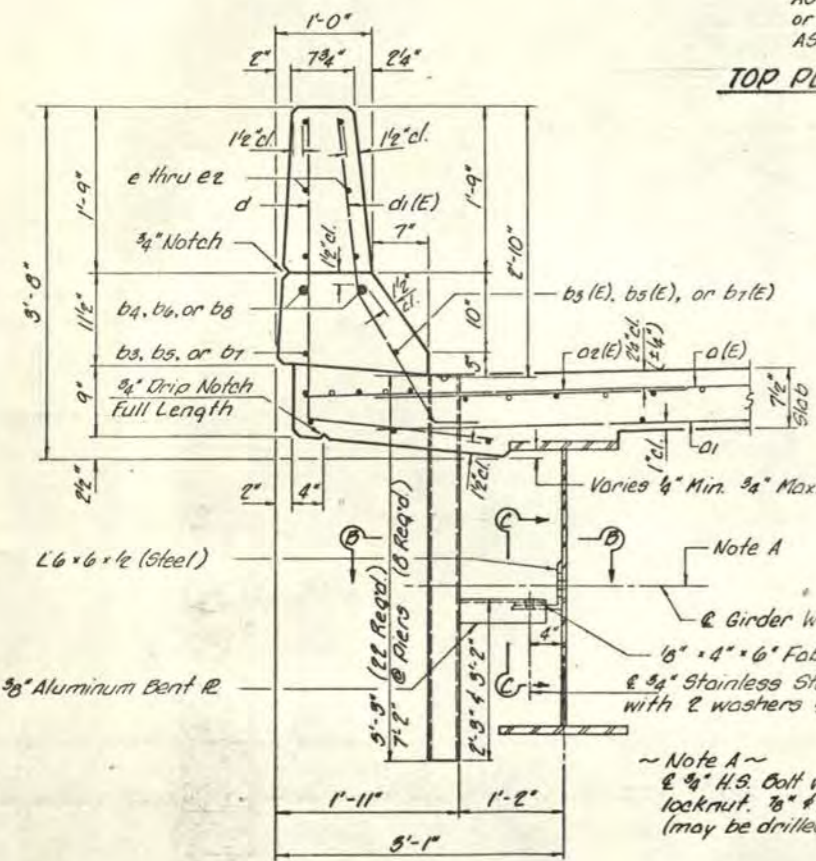
Symm. about & Span 2 except as noted

HALF INSIDE ELEVATION OF PARAPET

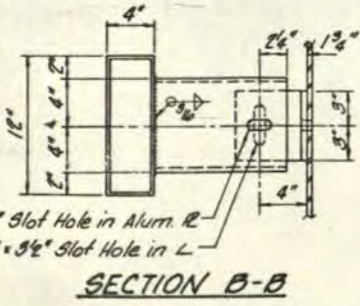


Aluminum Sheets Welded  
ASTM: B209 alloy 6061-T6  
or Aluminum Extrusions  
ASTM: B221 alloy 6061-T6

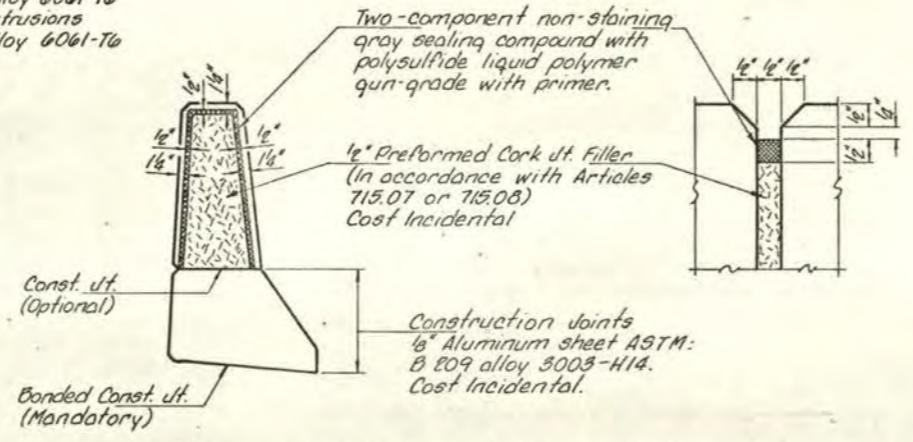
TOP PLAN



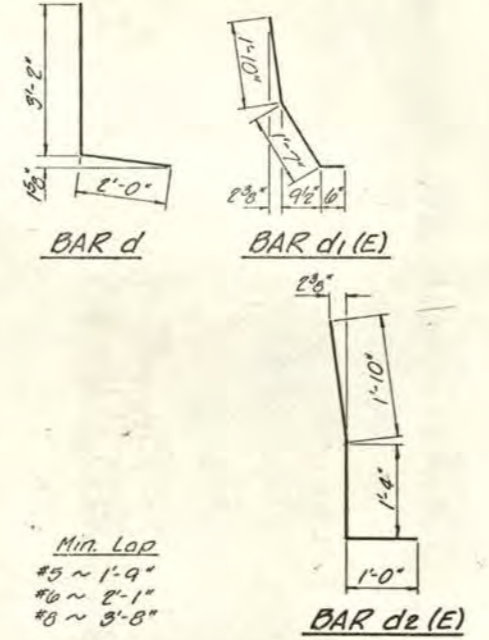
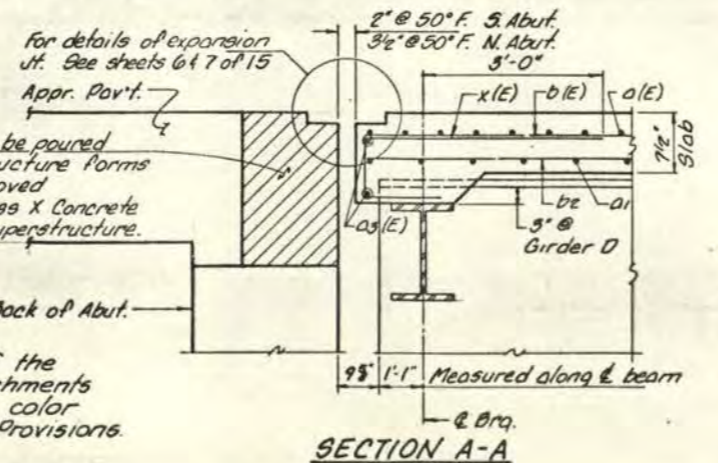
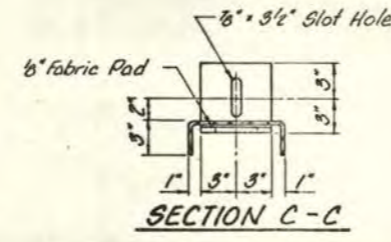
SECTION THRU PARAPET



NOTE:  
The exterior surfaces of the aluminum drains and attachments shall be painted the same color as the girder. See Spec. Provisions.



PARAPET JOINT DETAILS



SUPERSTRUCTURE BILL OF MATERIAL

BAR	No.	SIZE	LENGTH	SHAPE
a(E)	1,050	#6	32'-6"	—
a1	727	#5	30'-2"	—
a2(E)	1,050	#6	4'-0"	—
a3(E)	8	#5	23'-11"	—
b(E)	504	#5	29'-9"	—
b1(E)	198	#6	31'-5"	—
b2	504	#5	29'-9"	—
b3(E)	12	#5	30'-3"	—
b3	12	#5	31'-5"	—
b4	24	#3	32'-8"	—
b5(E)	8	#5	25'-9"	—
b5	8	#5	25'-3"	—
b6	16	#8	25'-3"	—
b7(E)	8	#5	28'-9"	—
b7	8	#5	28'-9"	—
b8	16	#8	30'-2"	—
d	768	#4	5'-2"	L
d1(E)	844	#5	3'-11"	L
d2(E)	16	#5	4'-2"	L
e	120	#4	17'-11"	—
e1	48	#4	25'-3"	—
ee	72	#4	18'-1"	—
x(E)	58	#6	6'-8"	—
Reinforcement Bars		Pound	49,650	
Reinforcement Bars (Epoxy Coated)		Pound	87,670	
Class X Concrete		Cu. Yd.	402.2	
Protective Coat		Sq. Yd.	1,635	

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

PARAPET DETAILS  
FAS. RT. 331  
SECTION L-BR  
VERMILION COUNTY  
STATION 92+05

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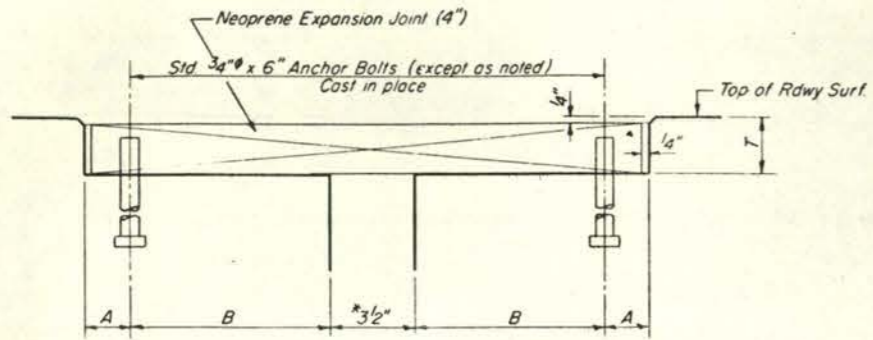
DESIGNED F.S.  
DRAWN M.G.

CHECKED V.H.  
DATE 3-13-79 NO. 1346

**ALTERNATE NEOPRENE EXPANSION JOINTS (4")**

(See Special Provisions)

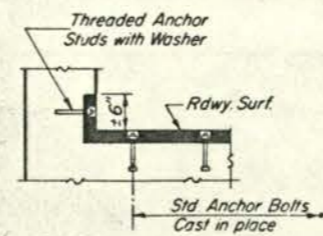
Model	Supplier	Blockout Dimensions
TRANSFLEX, MODEL 400A	General Tire Company	$T = 2\frac{3}{8}"$ , $A = 1\frac{1}{16}"$ , $B = 8\frac{1}{16}"$
WABOFLEX, MODEL SR 4	Watson Bowman Associates, Inc.	$T = 2\frac{3}{8}"$ , $A = 1\frac{1}{16}"$ , $B = 8\frac{1}{16}"$



**CROSS SECTION**

\*At 50°F  
Dimensions are at right angles

NOTE:  
Joint openings shall be adjusted in accordance with Article 503.07(c) of the Std. Spec's when the deck is poured at an ambient temperature other than 50°F.



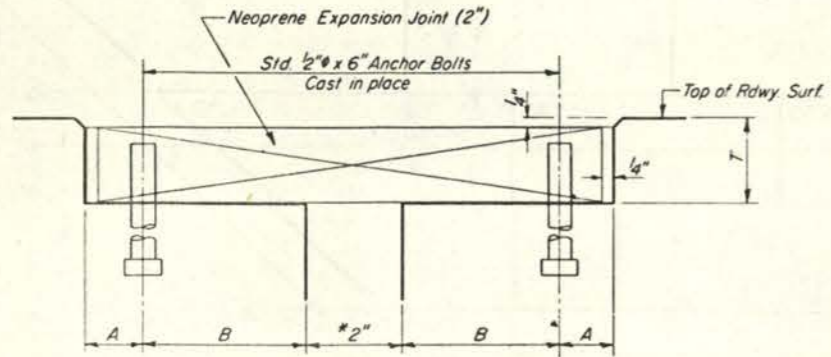
**END TREATMENT AT ABUTMENT**

**NORTH ABUTMENT**

EXPANSION DEVICE	
FAS RT. 331	
SECTION L-BR	
VERMILION COUNTY	
STATION 92+05	
COLLINS AND RICE CONSULTING ENGINEERS	
DESIGNED F.S. DRAWN L.L.	CHECKED V.H. DATE 3-13-79 NO. 1346

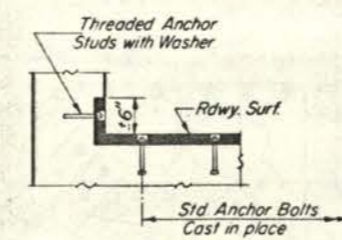
**ALTERNATE NEOPRENE EXPANSION JOINTS (2")**  
(See Special Provisions)

Model	Supplier	Blockout Dimensions
TRANSFLEX, MODEL 200A	General Tire Company	T = 1 <sup>3</sup> / <sub>16</sub> " A = 1/8" B = 3 <sup>5</sup> / <sub>16</sub> "
WABOFLEX, MODEL SR 2	Watson Bowman Associates, Inc.	T = 1 <sup>3</sup> / <sub>16</sub> " A = 1/4" B = 3 <sup>3</sup> / <sub>16</sub> "
FEL-SPAN, MODEL T-30 Set joint seal 1 <sup>5</sup> / <sub>8</sub> " at 50°F	Fel-Pro Building Products Inc.	T = 1 <sup>3</sup> / <sub>4</sub> " A = 2 <sup>1</sup> / <sub>4</sub> " B = 2 <sup>13</sup> / <sub>16</sub> "
WABO ELASTODAM, TYPE 300 Set joint seal 1 <sup>5</sup> / <sub>8</sub> " at 50°F	Watson Bowman Associates, Inc.	T = 1 <sup>3</sup> / <sub>4</sub> " A = 2 <sup>1</sup> / <sub>4</sub> " B = 2 <sup>13</sup> / <sub>16</sub> "
LOW PROFILE ONFLEX-25 Set joint seal 1 <sup>1</sup> / <sub>2</sub> " at 50°F Roadway bolt channel shall be filled with approved grout. Permitted for up to 50° skew.	Structural Accessories, Inc.	T = 1 <sup>3</sup> / <sub>4</sub> " A = 1 <sup>5</sup> / <sub>8</sub> " B = 2 <sup>3</sup> / <sub>8</sub> "



**CROSS SECTION**  
At 50°F  
Dimensions are at right angles.

NOTE:  
Joint openings shall be adjusted in accordance with Article 50307(c) of the Std Spec's, when the deck is poured at an ambient temperature other than 50°F.



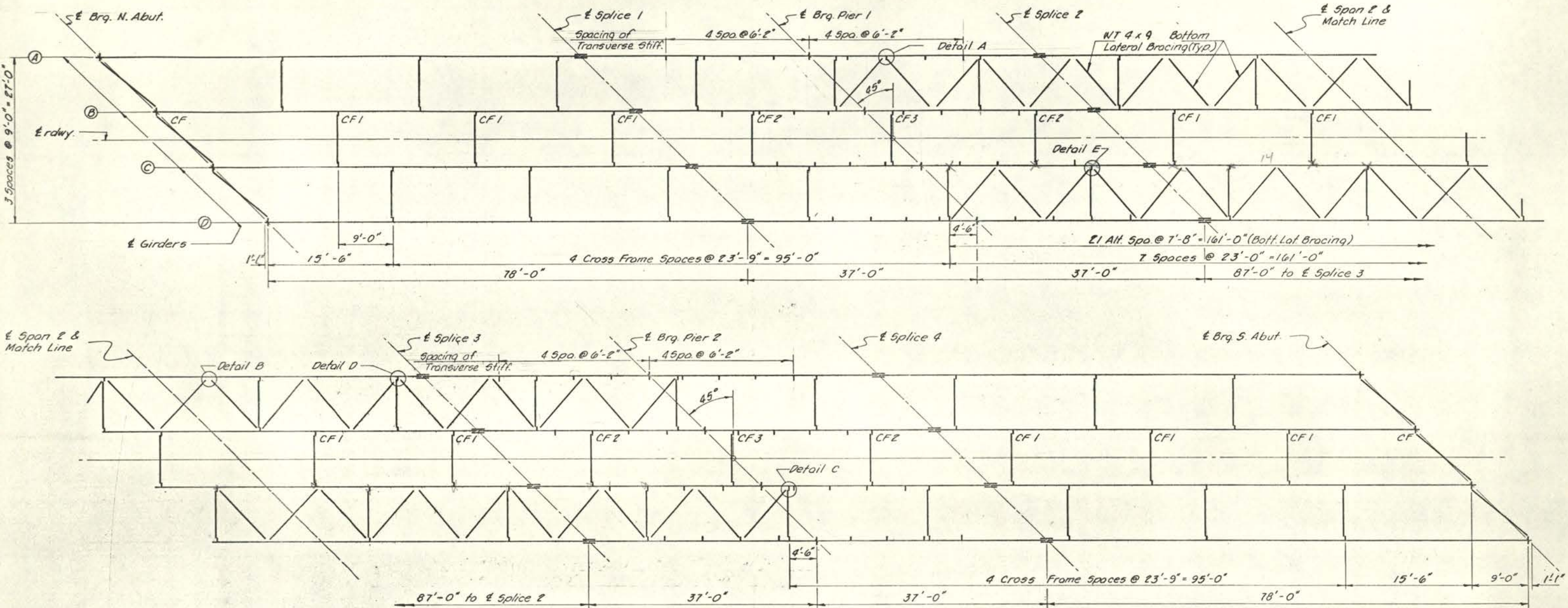
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**SOUTH ABUTMENT**

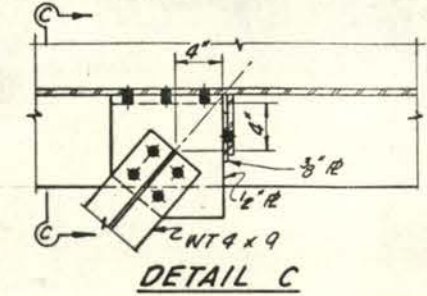
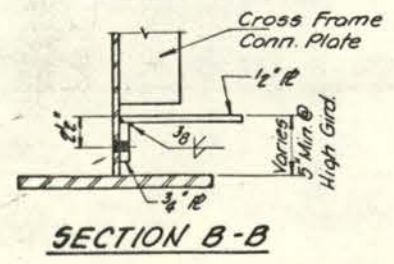
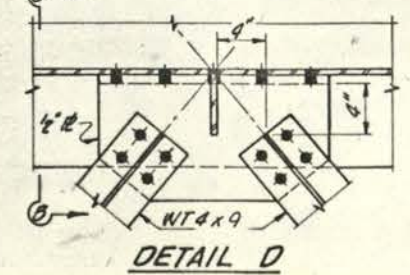
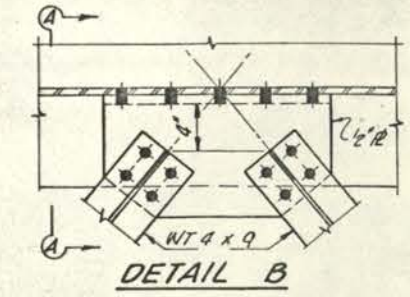
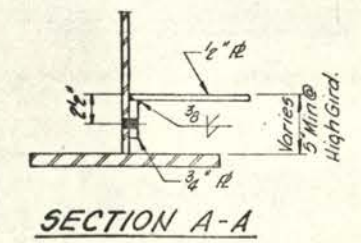
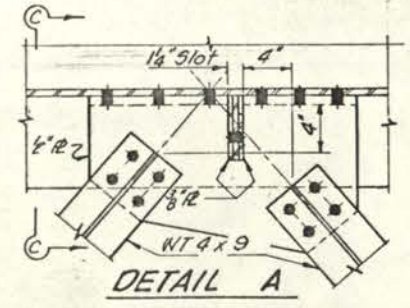
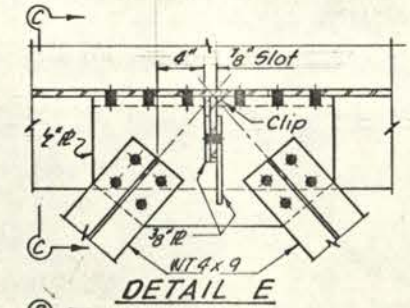
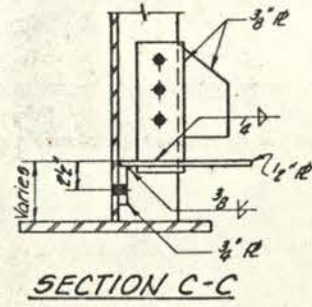
**EXPANSION DEVICE**  
FAS RT. 331  
SECTION L-BR  
VERMILION COUNTY  
STATION 92+05

**COLLINS AND RICE**  
CONSULTING ENGINEERS

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DRAWN L.L.	DATE NO. 1346



**FRAMING PLAN**

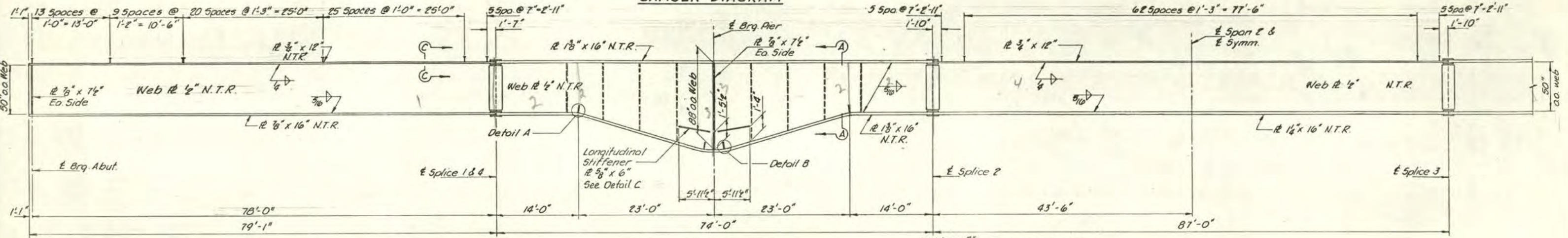
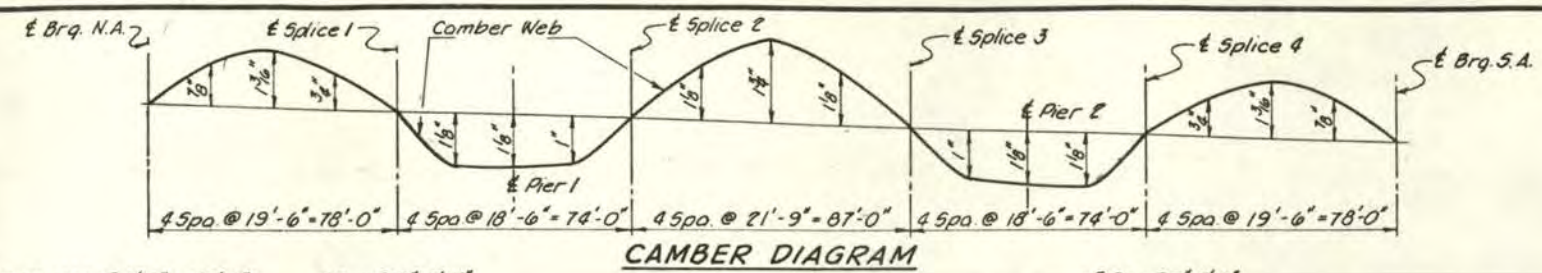


**FRAMING DETAILS**  
 FAS. RT. 331.  
 SECTION L-BR  
 VERMILION COUNTY  
 STATION 92+05

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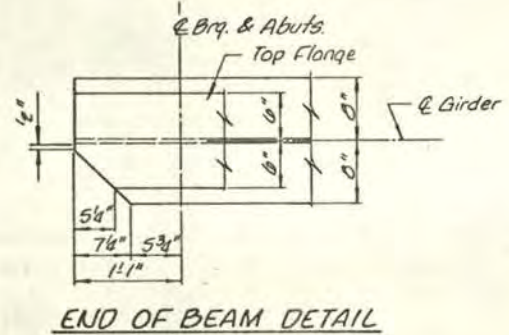
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CHECKED V.H.  
 DATE 3-13-79 NO. 1346

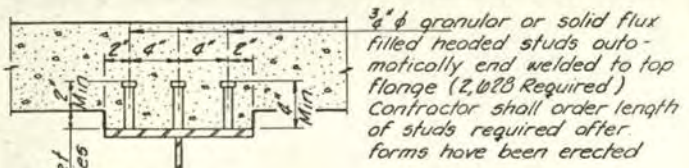


**ELEVATION**

Note:  
N.T.R. indicates Notch Toughness Requirements, Zone 2.

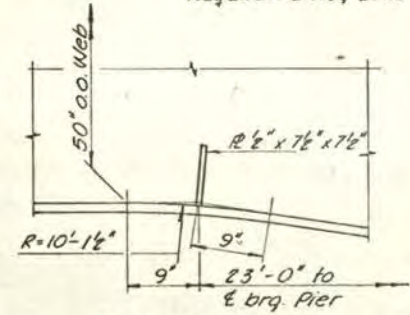


**END OF BEAM DETAIL**



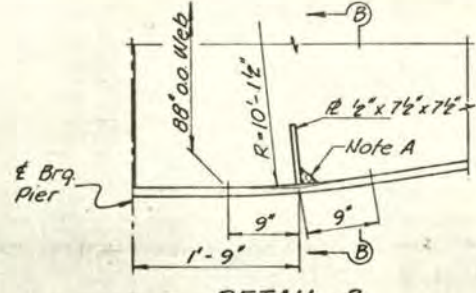
**SECTION C-C**

$\frac{3}{8}$ "  $\phi$  granular or solid flux filled headed studs automatically end welded to top flange (2, @ 28 Required) Contractor shall order length of studs required after forms have been erected

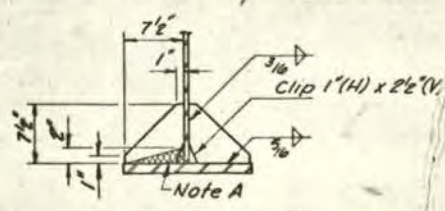


**DETAIL A**

-Note A-  
Mastic (Outside face of Girders A & D only)



**DETAIL B**

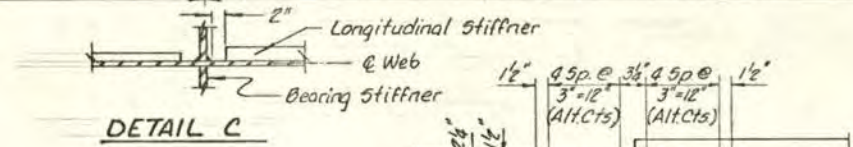


**SECTION B-B**

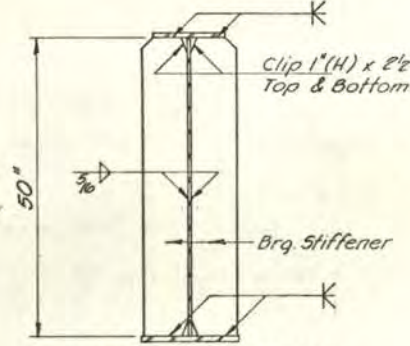
**TOP OF WEB ELEVATIONS\***

LOCATION	GIRDER A	GIRDER B	GIRDER C	GIRDER D
Brq. N. Abut.	591.67	591.67	591.54	591.27
Splice 1	590.55	590.55	590.42	590.15
Brq. Pier 1	589.95	589.95	589.82	589.55
Splice 2	589.54	589.54	589.41	589.14
Splice 3	588.22	588.22	588.09	587.82
Brq. Pier 2	587.53	587.53	587.40	587.13
Splice 4	587.03	587.03	586.90	586.63
Brq. S. Abut.	585.81	585.81	585.68	585.41

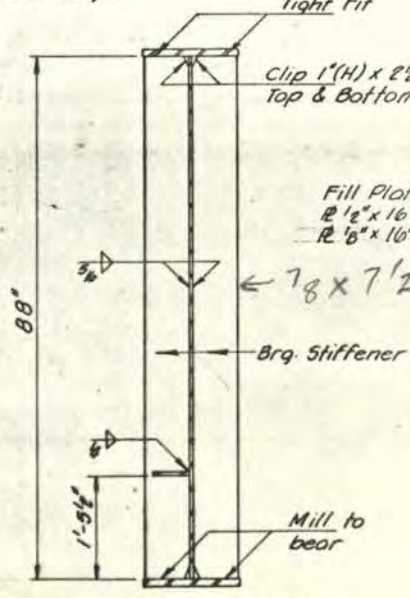
\*For fabrication only. Splice elevations have been adjusted for dead load deflection.



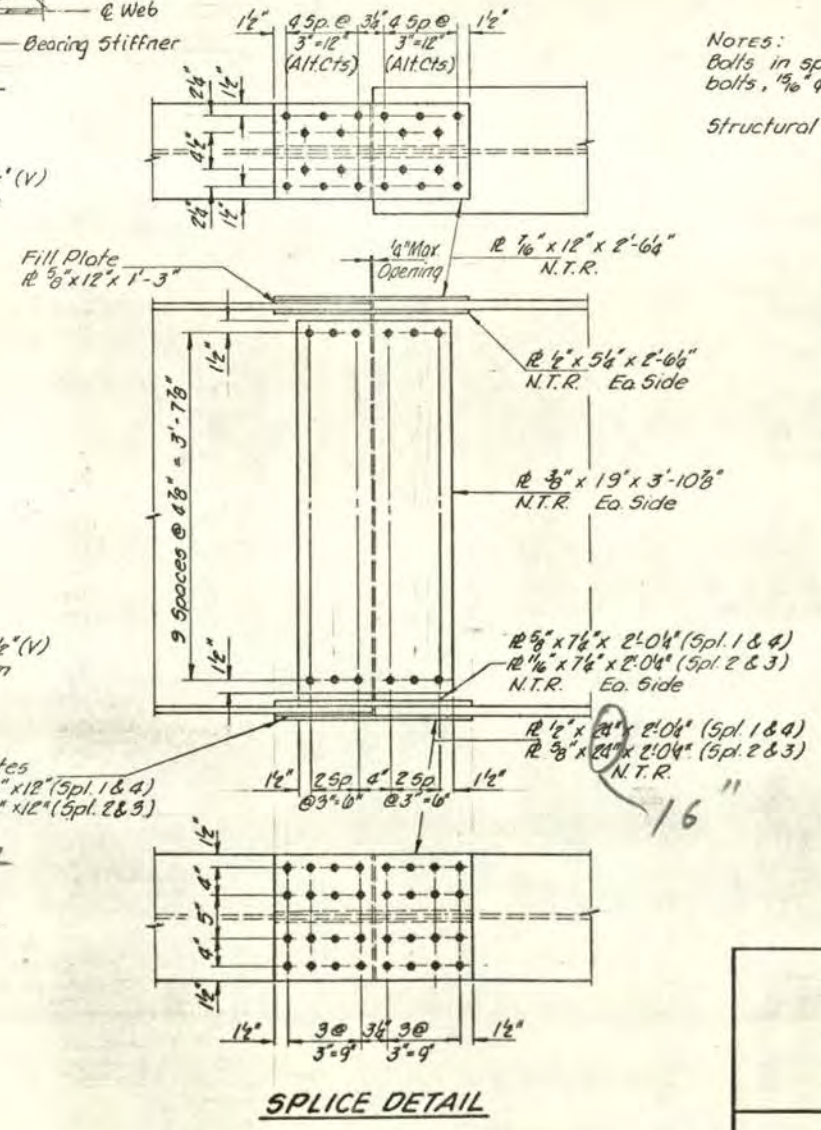
**DETAIL C**



**SECTION AT ABUT.**

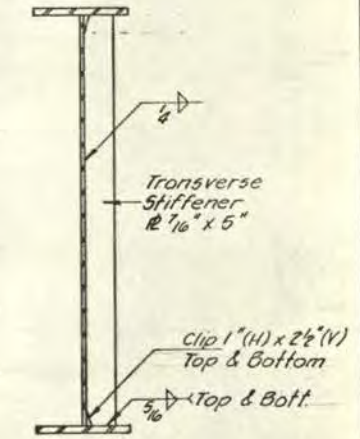


**SECTION AT PIER**



**SPlice DETAIL**

NOTES:  
Bolts in splices shall be  $\frac{3}{8}$ "  $\phi$  High Strength bolts,  $\frac{1}{16}$ "  $\phi$  holes. AASHTO M 164 Type III Bolts  
Structural steel shall be M 222



**SECTION A-A**

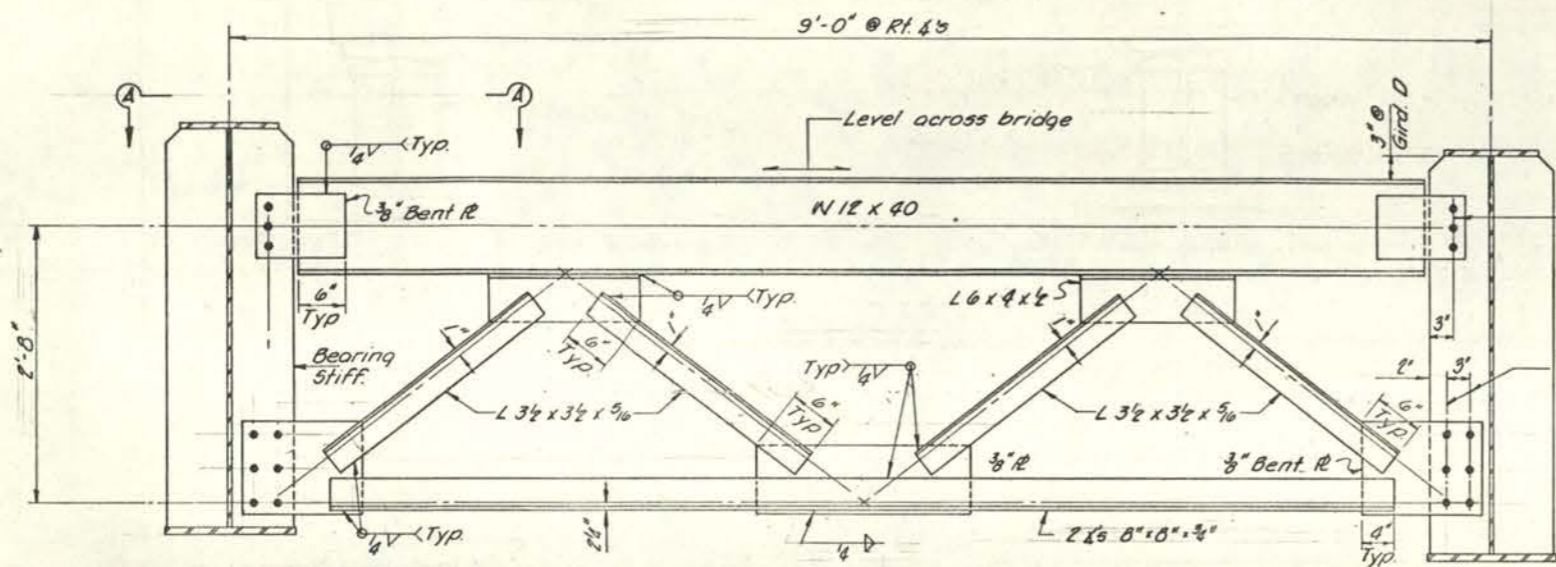
**GIRDER DETAILS**  
F.A.S. RT. 331  
SECTION L-BR  
VERMILION COUNTY  
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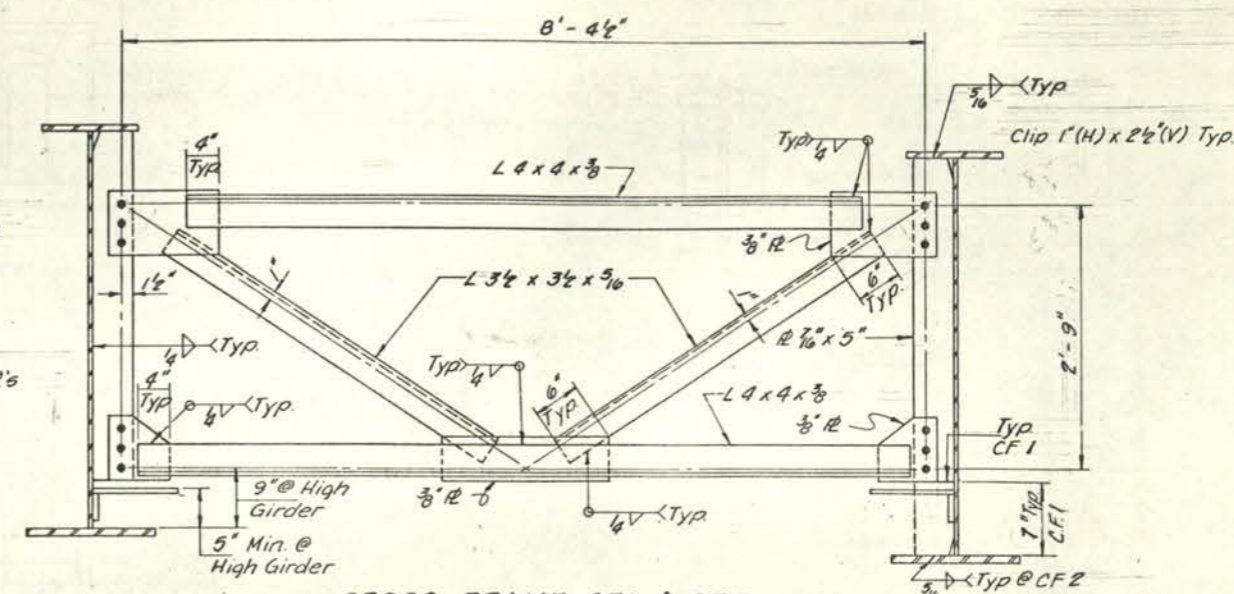
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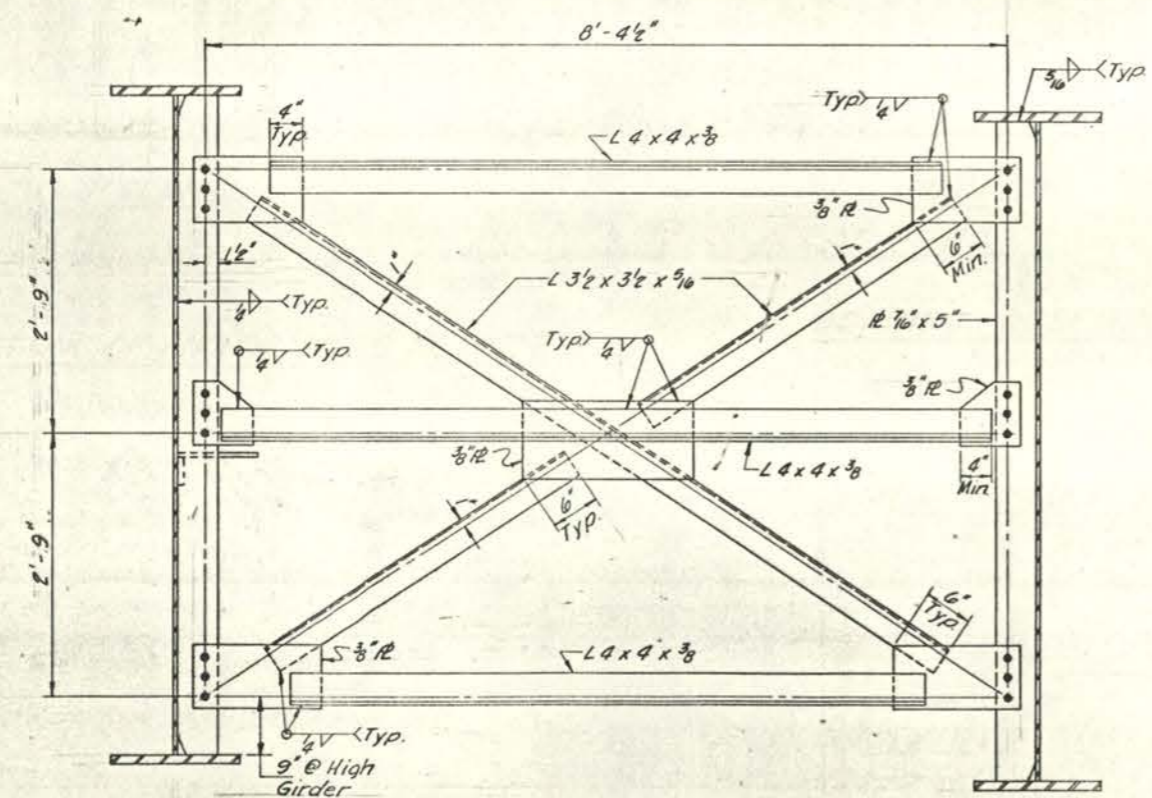




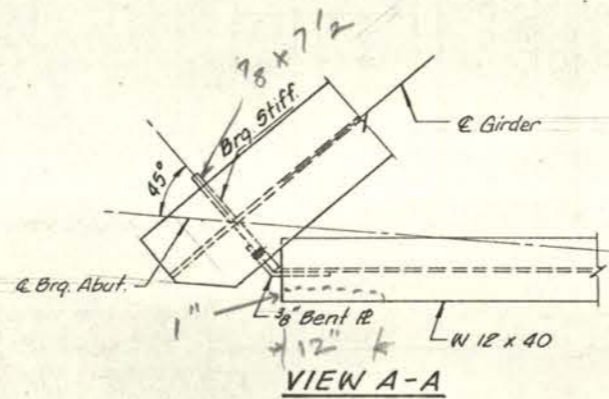
**CROSS FRAME CF**  
6 Req'd.



**CROSS FRAME CF1 & CF2**  
30 - CF1 Req'd.  
12 - CF2 Req'd.



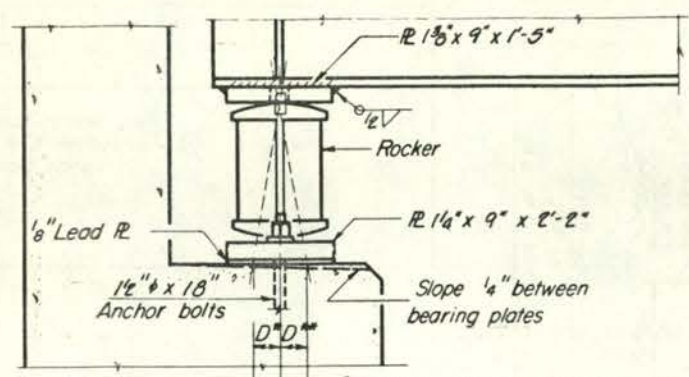
**CROSS FRAME CF3**  
6 Req'd.



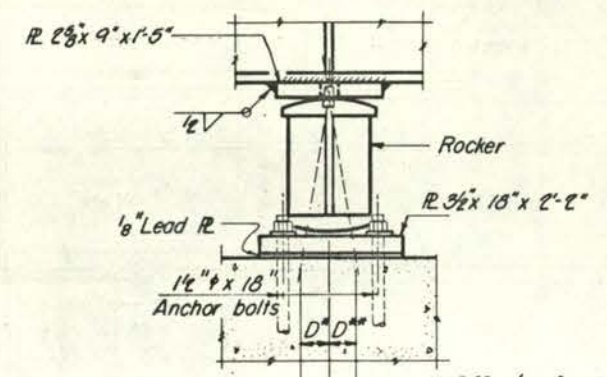
**VIEW A-A**

Note:  
Use 1 1/2" φ holes w/ hardened washers in gusset R's. (Typical all cross frames except as noted.)

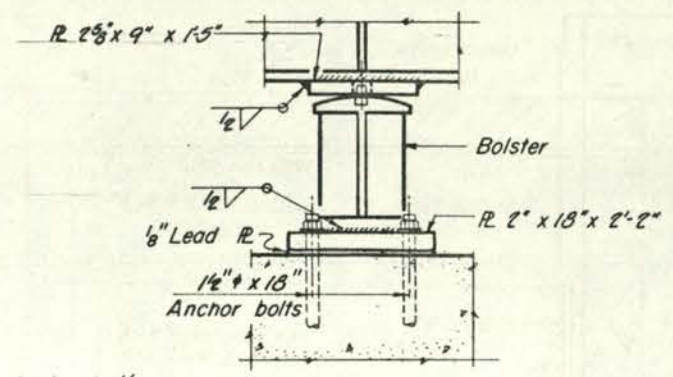
<b>CROSS FRAME DETAILS</b>	
FAS RT. 331	
SECTION L-BR	
VERMILION COUNTY	
STATION 92+05	
<b>COLLINS AND RICE</b> CONSULTING ENGINEERS	
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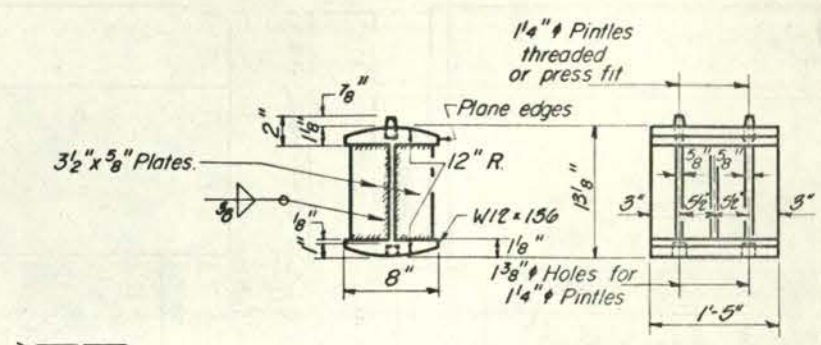
**SECTION**



**ELEVATION**

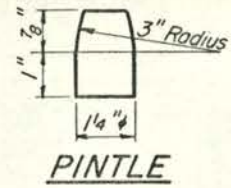


**ELEVATION**

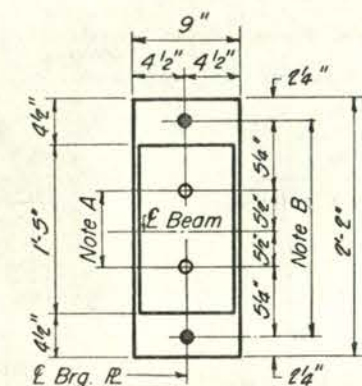


**ROCKER**

**BOLSTER**



**PINTLE**

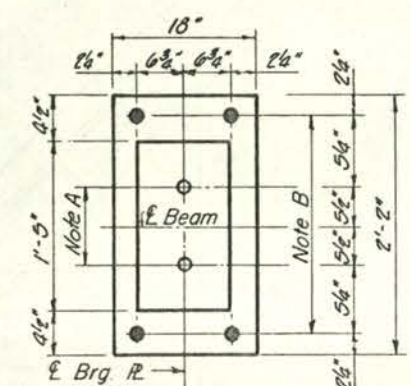


**PLAN**

**AT ABUTMENTS**

**NOTE A**

1 3/8" Holes - 1" deep in top R for pintles. Thread or press fit pintles into bottom R.

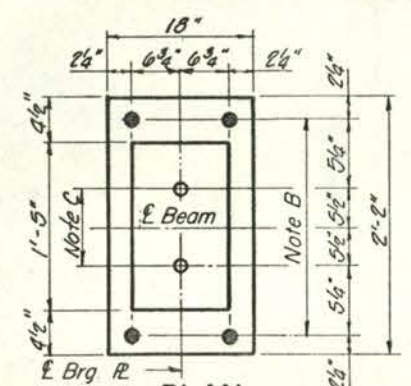


**PLAN**

**AT PIER 1**

**NOTE B**

2" Holes for 1 1/2" anchor bolts. 3 1/2 x 3/2 x 5/16" R. Washers under nut.



**PLAN**

**AT PIER 2**

**NOTE C**

1 3/8" Holes 1" deep in top R only for 1 1/4" pintles.

**BEARING ASSEMBLY DETAILS**

**NOTES ON SETTING OF ANCHOR BOLTS AT EXP. BRGS.**

- a)  $D^*$  (Side of brg. away from fixed brg.)  
 $D^* = \frac{1}{8}$ " per each 100' of expansion for every 15° fall below the normal temp. of 50°F.
- $D^{**}$  (Side of brg. toward fixed brg.)  
 $D^{**} = \frac{1}{8}$ " per each 100' of expansion for every 15° rise above the normal temp. of 50°F.

- b) After beams have been erected and dimensions  $D^*$  or  $D^{**}$  determined, holes shall be drilled and anchor bolts shall be grouted in place. All fixed anchor bolts may be built into the masonry.

**INTERIOR BEAM MOMENT TABLE**

	0.4 Span 1 or 3	Pier 1 or 2	0.5 Span 2
$I_s$ (in <sup>4</sup> )	19,723	110,200	22,044
$I_c R$ (in <sup>4</sup> )	36,180		42,540
$I_c L$ (in <sup>4</sup> )	49,774		40,101
$S_g$ (in <sup>3</sup> )	850	2,502	1,078
$S_c R$ (in <sup>3</sup> )	1,072		1,352
$S_c L$ (in <sup>3</sup> )	1,175		1,478
$\bar{D}$ (K/Ft)	1.070	1.493	1.070
$M R$ (Ft.K)	650	3,360	902
L.F. $\bar{I}_g R$ (k.s.i)	11.9	21.7	13.1
$\bar{R}_c$ (K/Ft)	0.423		0.423
$M R_c$ (Ft.K)	295		478
L.F. $\bar{I}_g R_c$ (ksi)	4.3		5.5
$M_k + I$ (Ft.K)	1,420	1,931	1,623
L.F. $\bar{I}_g k + I$ (ksi)	31.4	19.0	28.0
L.F.M. TOTAL (Ft.K)		8,812	
L.F. $\bar{I}_g$ TOTAL (ksi)	47.6	41.3	47.2
$V_R$ (K)	75.2		65.1

$V_R$  is the maximum & + Impact shear range in span used to determine shear connector spacing.

**INTERIOR BEAM REACTION TABLE**

	Abut.	Pier
$R R$ (K)	54.9	230.9
$R L$ (K)	52.9	107.9
$I MP$ (K)	11.0	20.5
$R TOTAL$ (K)	118.8	365.3

BEARING DETAILS  
 F.A.S. RT. 331  
 SECTION L-BR  
 VERMILION COUNTY  
 STATION 92+05

COLLINS AND RICE  
 CONSULTING ENGINEERS

DESIGNED F.S.  
 DRAWN L.L.

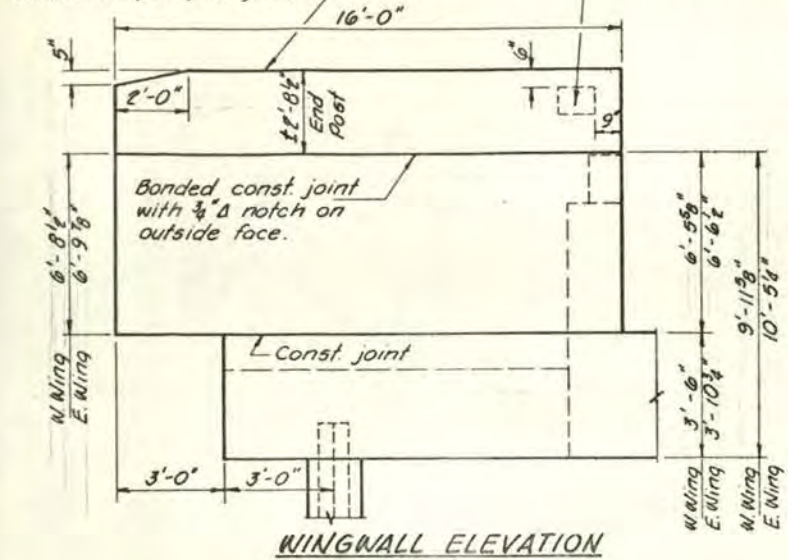
CHECKED V.H.  
 DATE 3-13-79 NO. 1346

End Post shall be poured after bridge parapet is in place. Form top surface to match parapet grade.

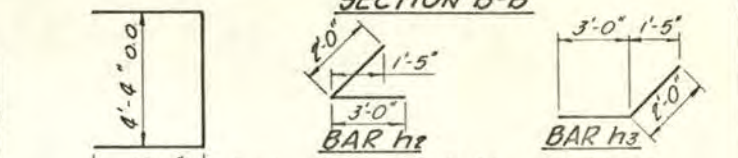
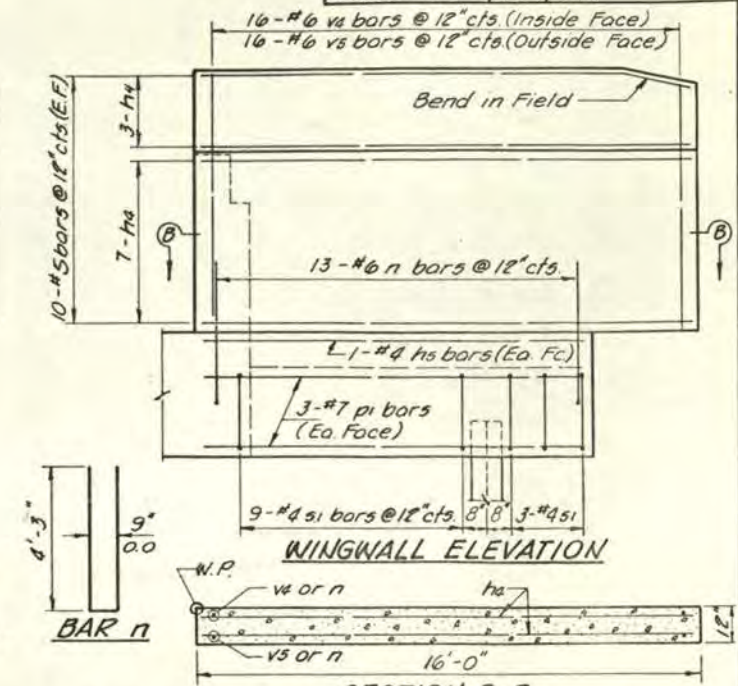
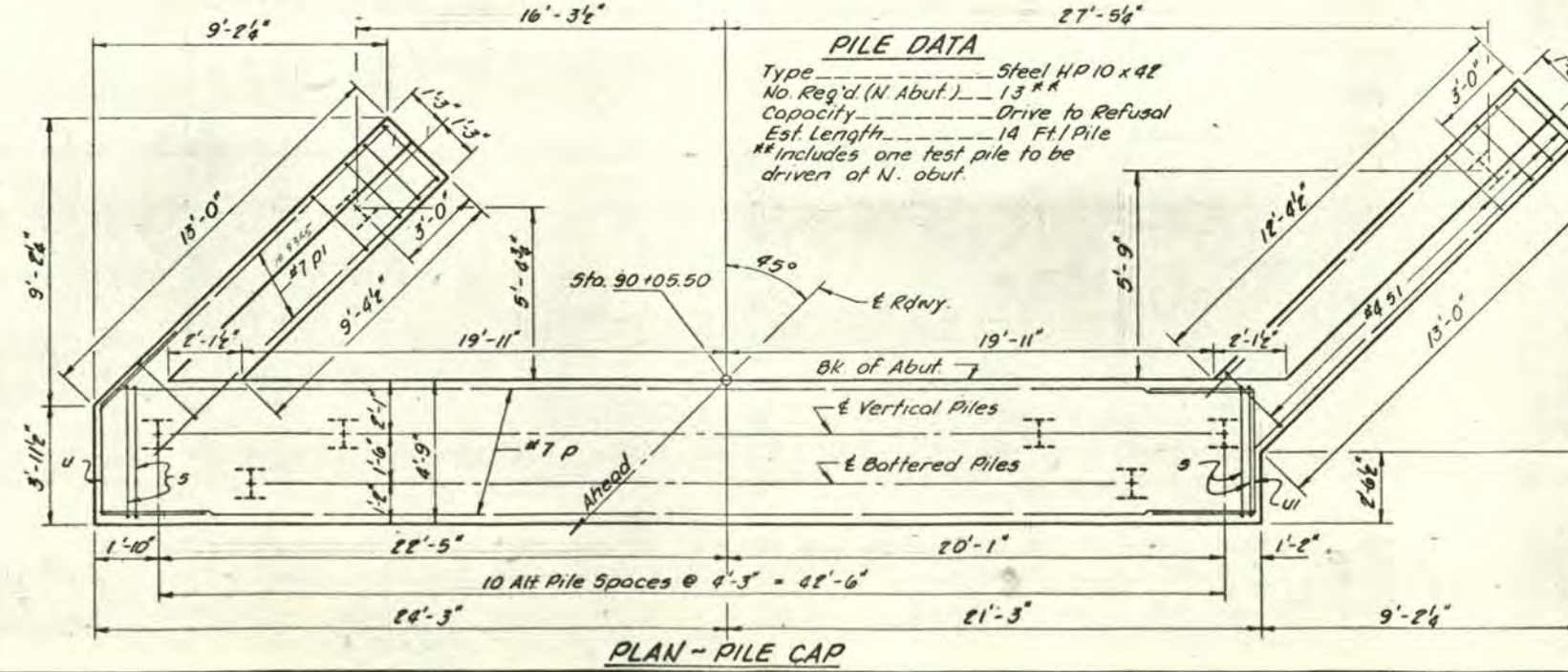
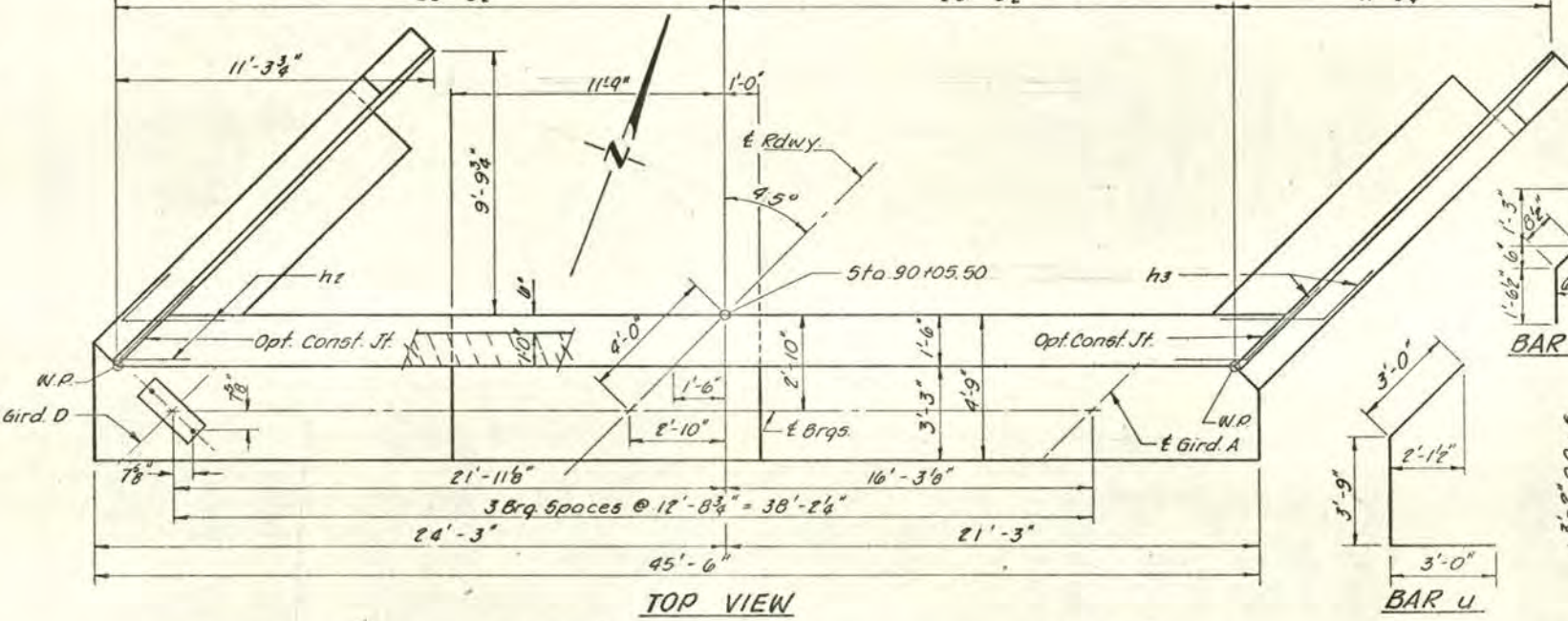
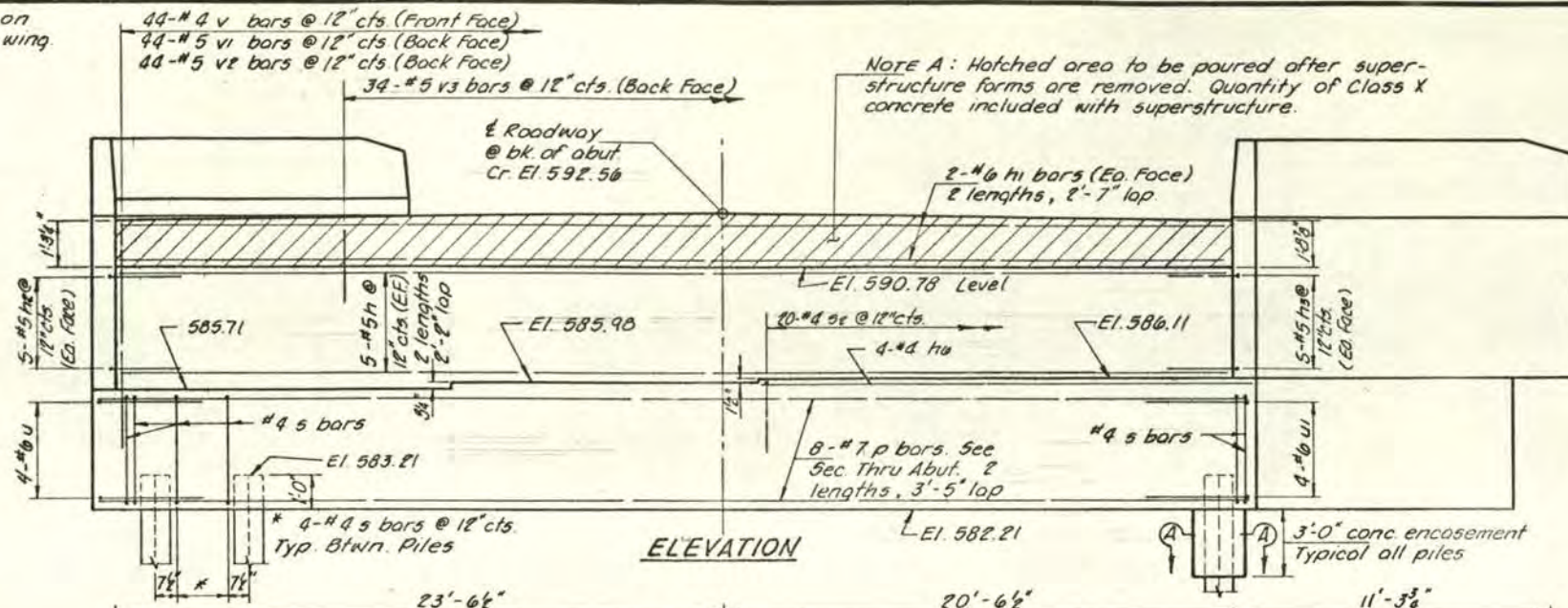
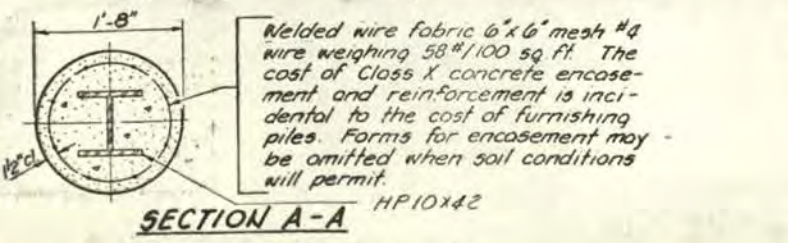
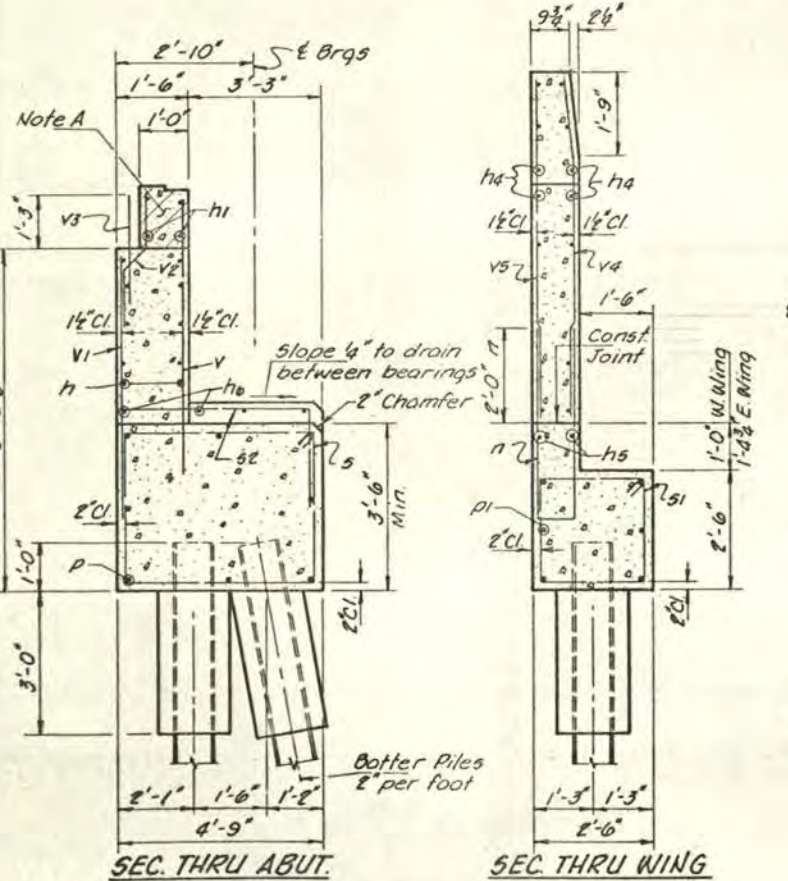
Locate Name R on rdwy. face @ NW wing.

Sheet 12 of 15

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAS 331	L-BR	VERMILION	33	30
FED. ROAD DIST. NO. 7		ILLINOIS PROJECT		



**NOTES:**  
Space reinforcement in cap to miss anchor bolts.  
Pour steps monolithically with cap.



Class X Concrete	Cu. Yd.	590
Reinforcement Bars	Pound	5,000
Steel Piles HP10x42	Lin. Ft.	168
Test Piles Steel HP10x42	Each	1

**NORTH ABUTMENT**  
FAS. RT. 331  
SECTION L-BR  
VERMILION COUNTY  
STATION 92+05

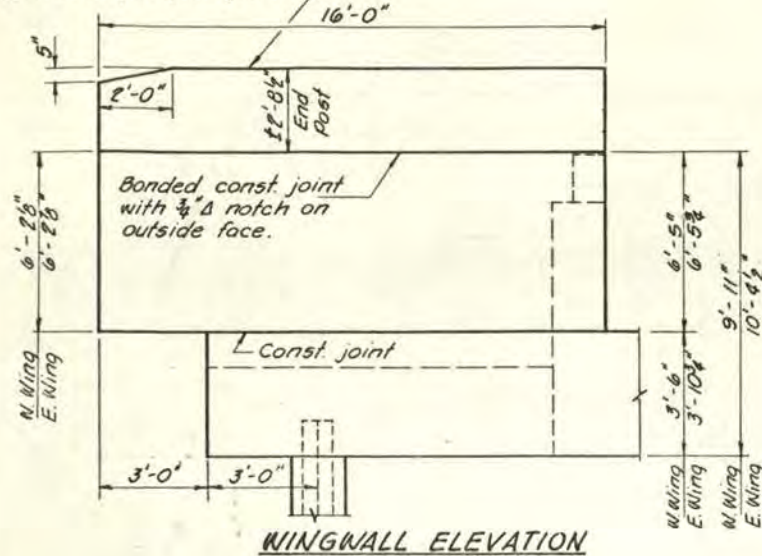
**COLLINS AND RICE**  
CONSULTING ENGINEERS

DESIGNED F.S.  
DRAWN L.L.

CHECKED V.H.  
DATE 3-13-79  
NO. 1346

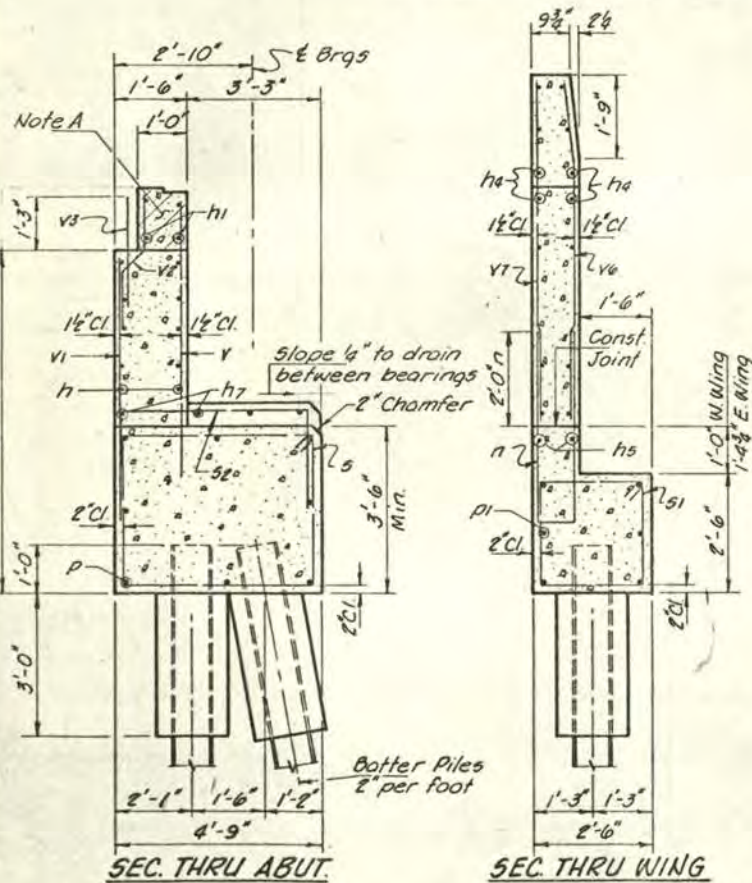
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAS 331	L-DR	VERMILION	33	31
FED. ROAD DIST. NO. 7	ILLINOIS PROJECT			

End Post shall be poured after bridge parapet is in place. Form top surface to match parapet grade.



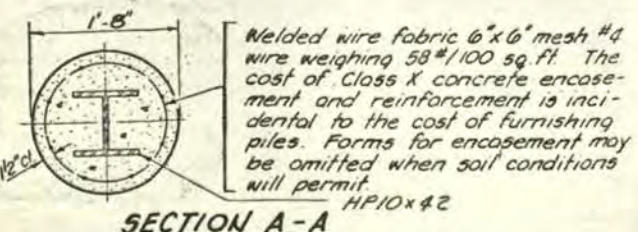
WINGWALL ELEVATION

NOTES:  
Space reinforcement in cap to miss anchor bolts.  
Pour steps monolithically with cap.

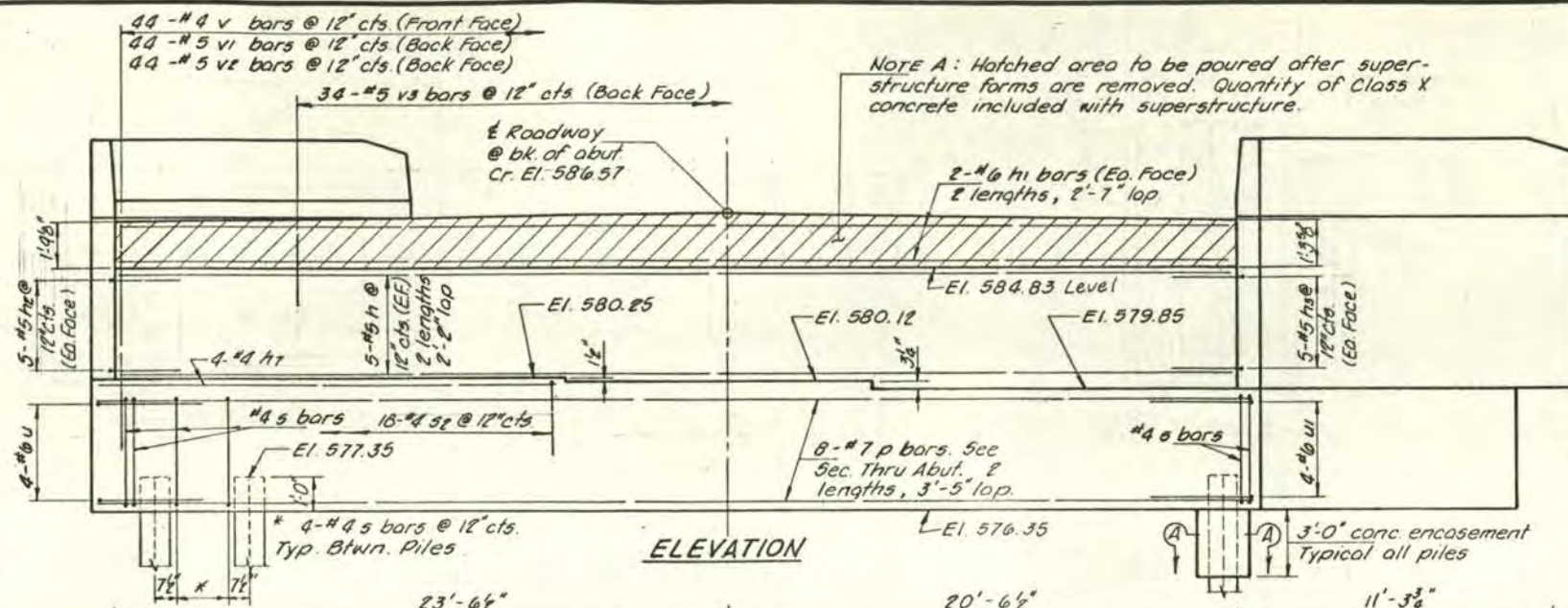


SEC. THRU ABUT.

SEC. THRU WING

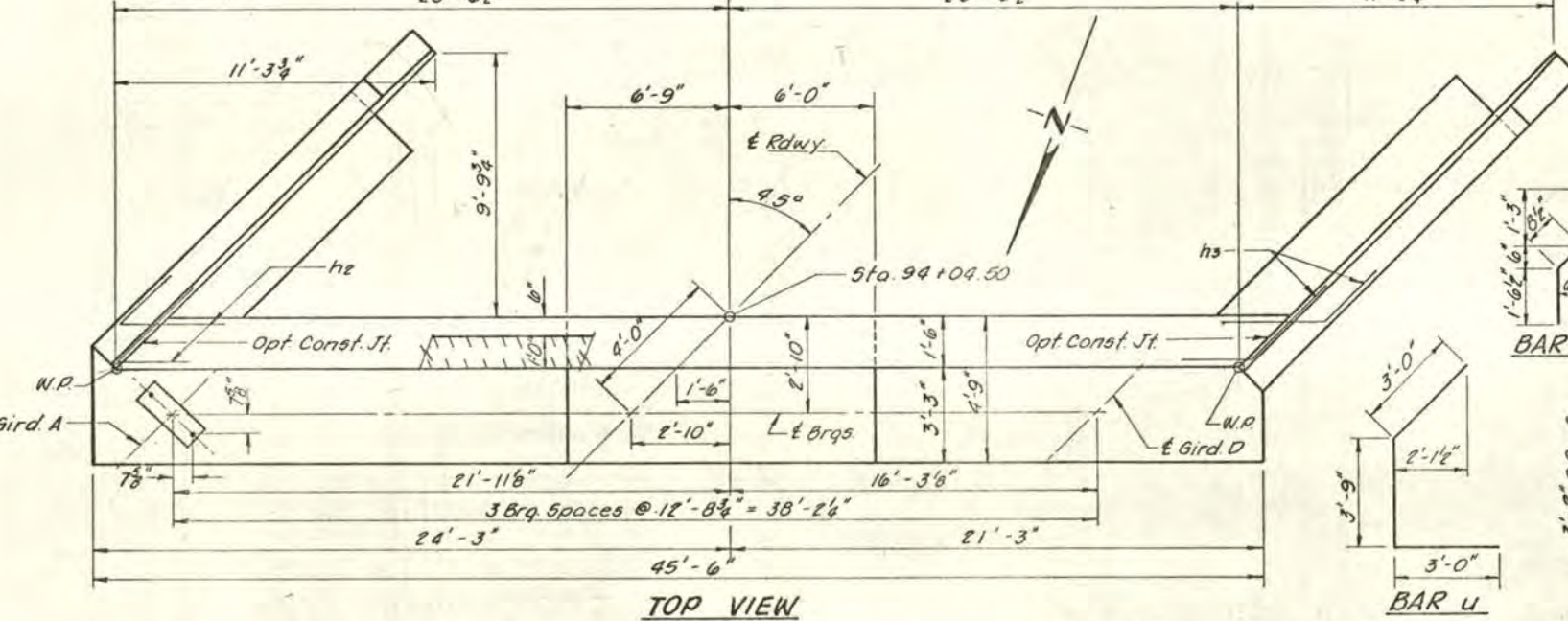


SECTION A-A

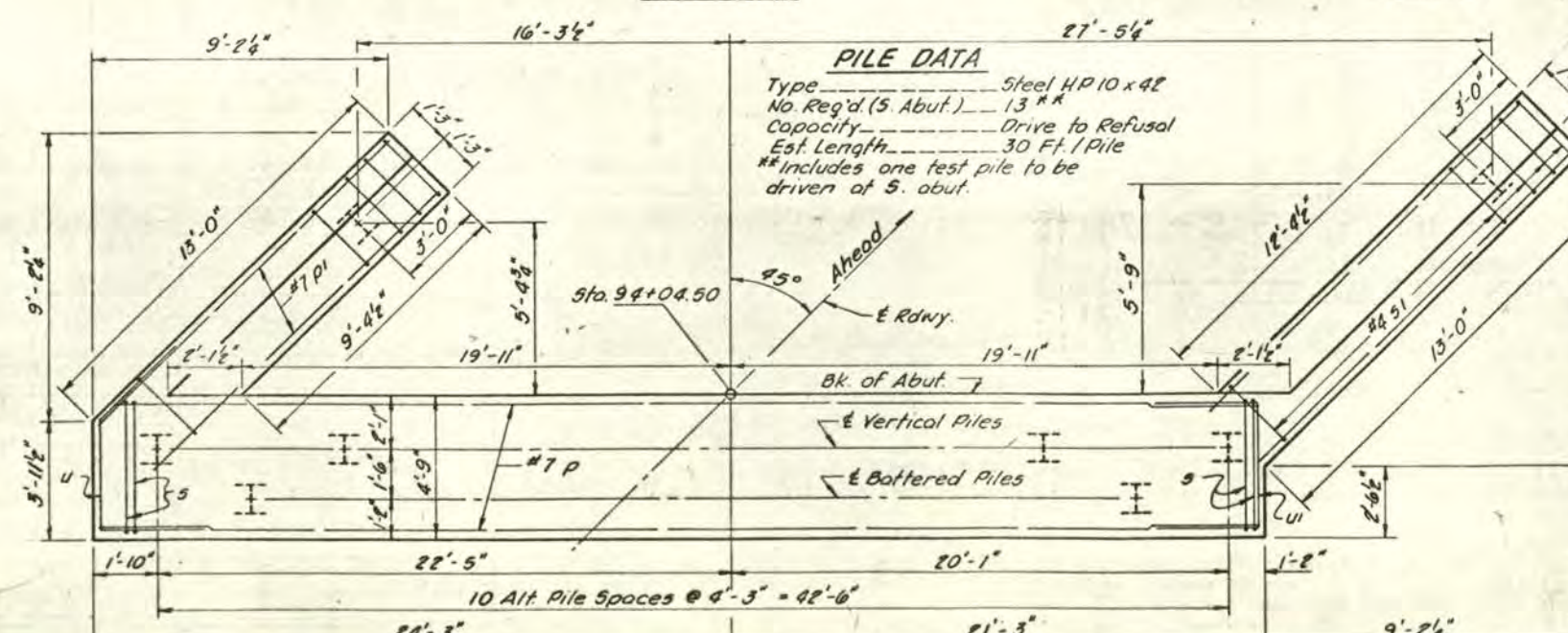


ELEVATION

NOTE A: Hatched area to be poured after superstructure forms are removed. Quantity of Class X concrete included with superstructure.

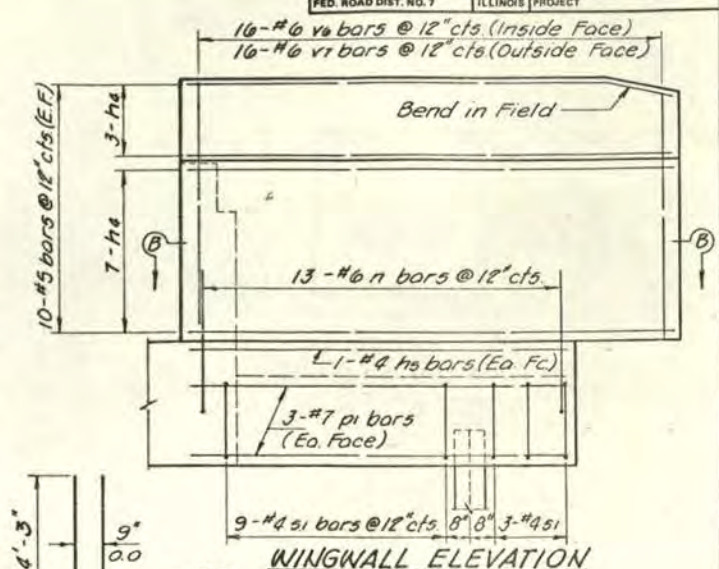


TOP VIEW

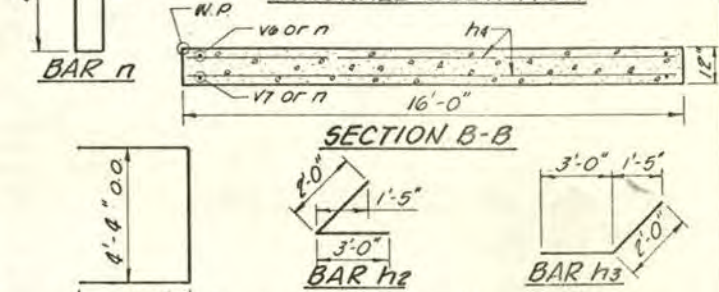


PLAN - PILE CAP

**PILE DATA**  
Type Steel HP 10 x 42  
No. Req'd. (5. Abut.) 13 \*\*  
Capacity Drive to Refusal  
Est. Length 30 Ft. / Pile  
\*\* Includes one test pile to be driven at 5. abut.



WINGWALL ELEVATION



SECTION B-B

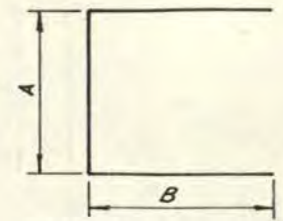
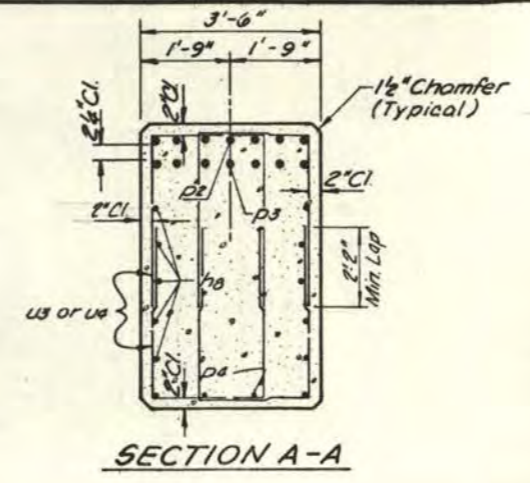
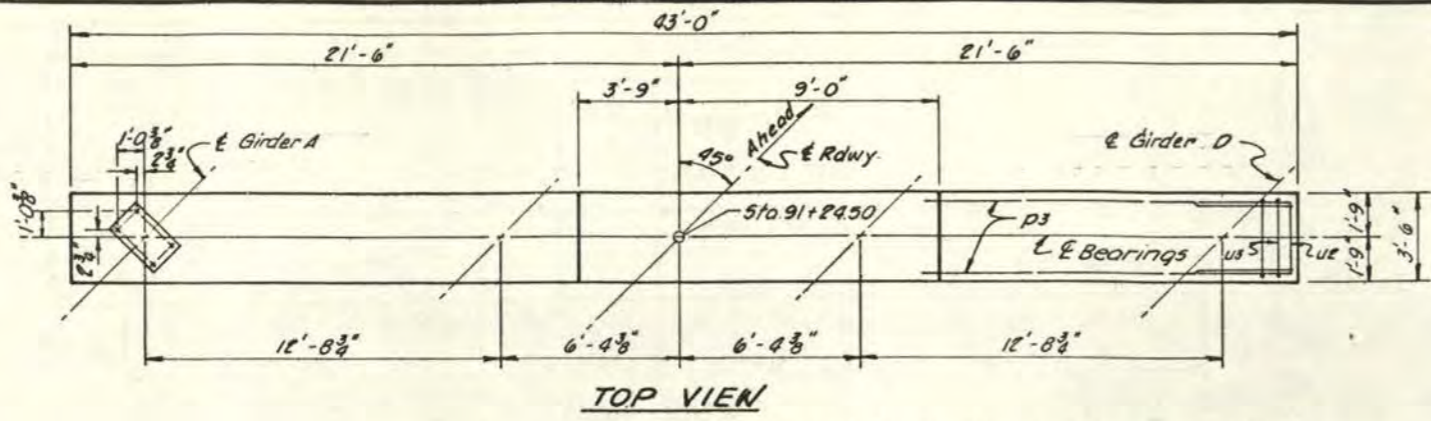
BILL OF MATERIAL - S. ABUT.

BAR	No. Req'd.	SIZE	LENGTH	SHAPE
h	20	#5	23'-0"	
h1	8	#6	23'-3"	
h2	10	#5	5'-0"	L
h3	10	#5	5'-0"	
h4	40	#5	15'-9"	
h5	4	#4	12'-9"	
h7	4	#4	17'-2"	
n	26	#6	9'-3"	U
p	16	#7	24'-4"	
pi	12	#7	12'-9"	
s	44	#4	16'-0"	□
si	24	#4	9'-6"	□
sz	18	#4	8'-5"	□
u	4	#6	9'-9"	□
ui	4	#6	10'-4"	□
v	44	#4	8'-0"	
vi	44	#5	7'-0"	
ve	44	#5	3'-6"	
vs	34	#5	2'-6"	
vo	32	#6	8'-8"	
vt	32	#6	8'-8"	
Class X Concrete				Cu Yd. 58.3
Reinforcement Bars				Pound 5,550
Steel Piles HP 10 x 42				Lin Ft. 360
Test Piles Steel HP 10 x 42				Each 1

**SOUTH ABUTMENT**  
FAS RT. 331  
SECTION L-DR  
VERMILION COUNTY  
STATION 92+05

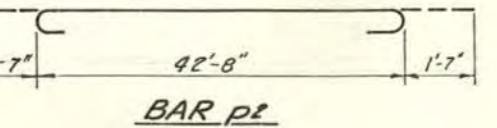
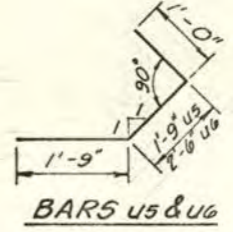
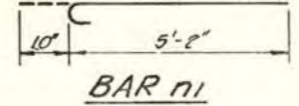
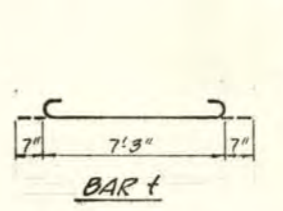
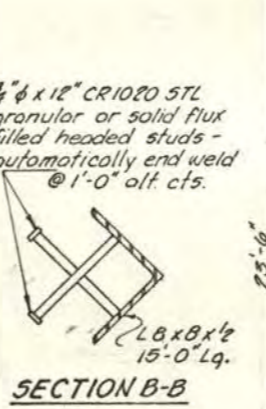
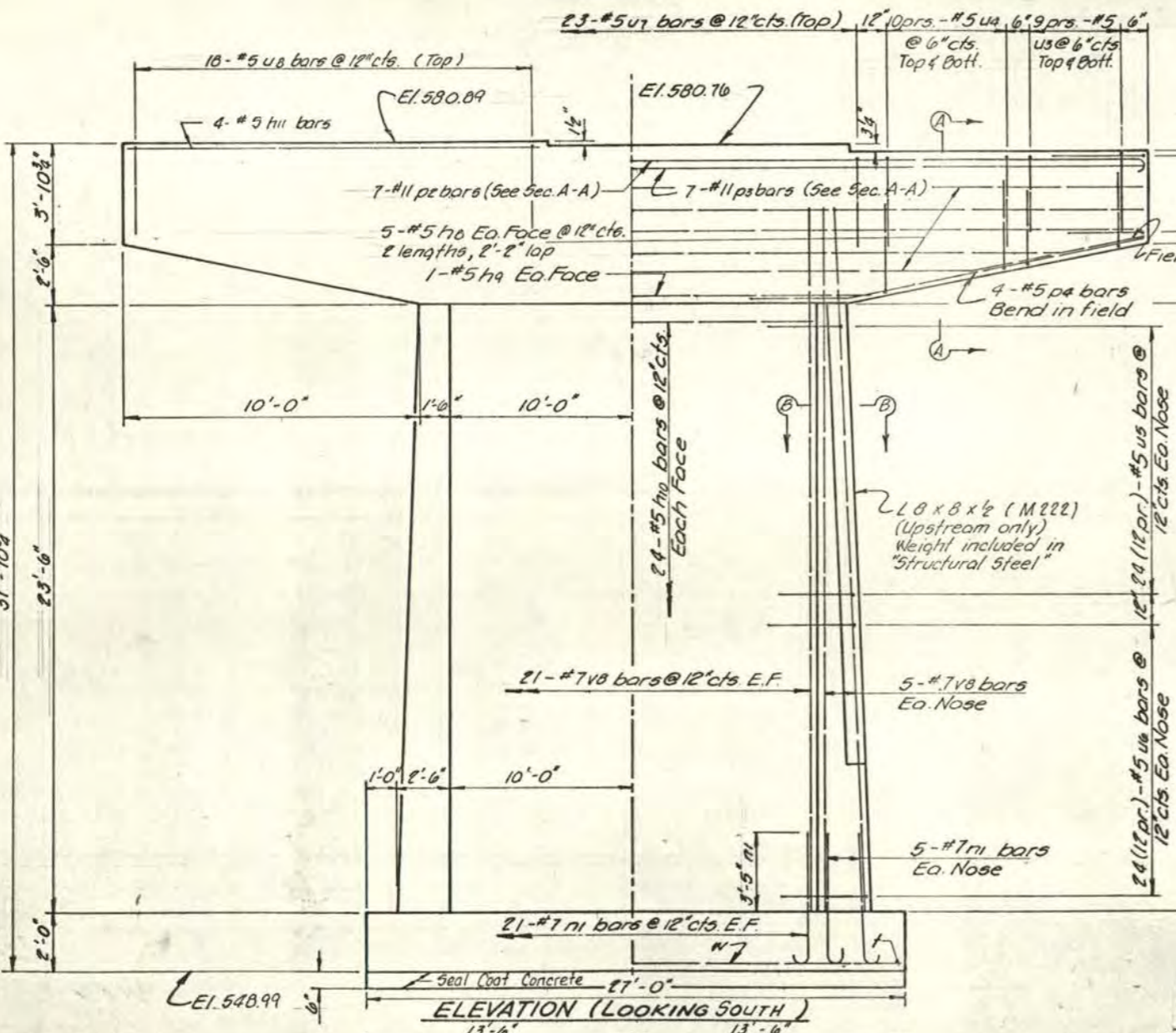
**COLLINS AND RICE**  
CONSULTING ENGINEERS

DESIGNED F.S. DRAWN L.L. CHECKED V.H. DATE 3-13-79 NO. 1346



**BARS U2, U3, U4, U7 & U8**

BAR	A	B
U2	3'-1"	3'-6"
U3	2'-2"	3'-3"
U4	2'-2"	3'-11"
U7	3'-2"	2'-4"
U8	3'-2"	3'-6"

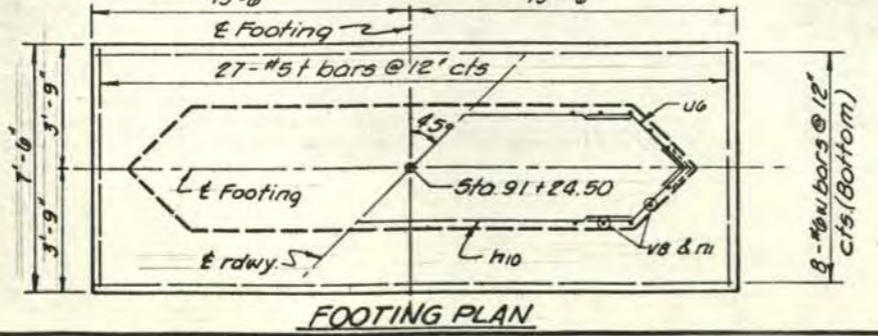
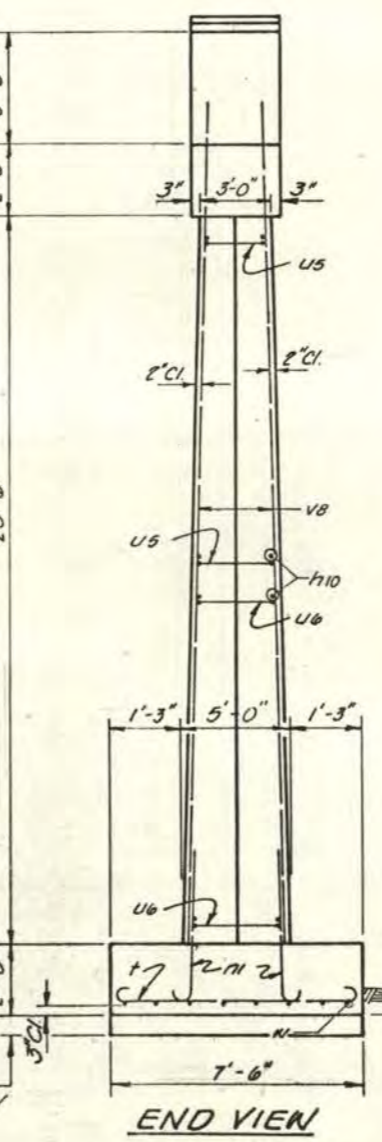


**BILL OF MATERIAL - PIER 1**

BAR	No. Req'd	SIZE	LENGTH	SHAPE
h8	20	#5	22'-5"	
h9	2	#5	23'-0"	
h10	48	#5	20'-0"	
h11	4	#5	17'-5"	
n1	52	#7	6'-0"	
p2	7	#11	45'-10"	
p3	7	#11	42'-0"	
p4	8	#5	13'-0"	
t	27	#5	8'-5"	
U2	8	#6	10'-1"	
U3	72	#5	8'-8"	
U4	80	#5	10'-0"	
U5	48	#5	4'-6"	
U6	48	#5	5'-3"	
U7	23	#5	11'-10"	
U8	18	#5	10'-2"	
V8	52	#7	27'-0"	
N	8	#6	26'-9"	

Class X Concrete	Cu. Yd.	123.3
Reinforcement Bars	Pound	11,600
Cofferdam Excavation	Cu. Yd.	14.5
Rock Exca. for Structures	Cu. Yd.	18.8
Cofferdams	Each	1



6" thick Seal Coat to be poured immediately after last excavation lift is removed. Cost incidental to Class X Concrete.

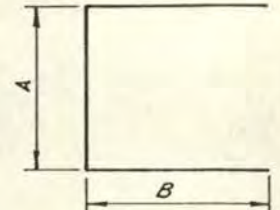
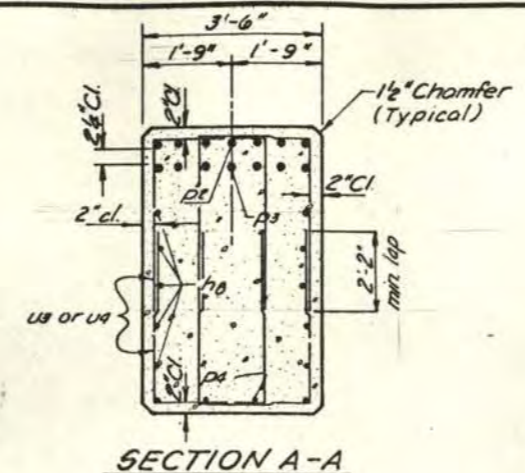
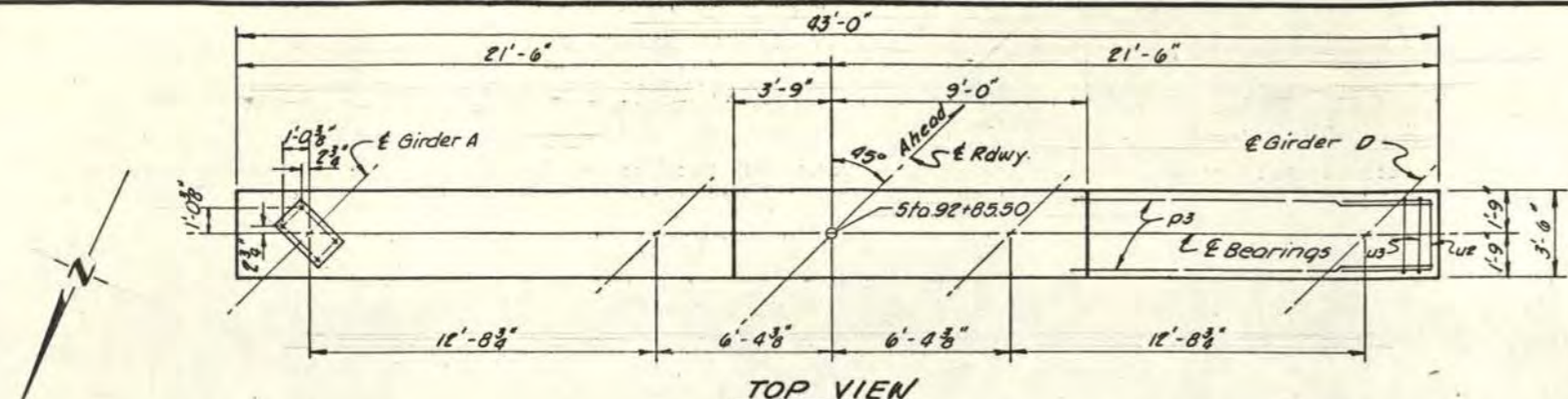
**-NOTE-**  
Space reinforcement in cap to miss anchor bolts.  
Four steps monolithically with cap.  
Q<sub>MAX</sub> = 5.13 T.S.F.

**PIER 1**  
FAS RT. 331  
SECTION L-8R  
VERMILION COUNTY  
STATION 92+05

**COLLINS AND RICE**  
CONSULTING ENGINEERS

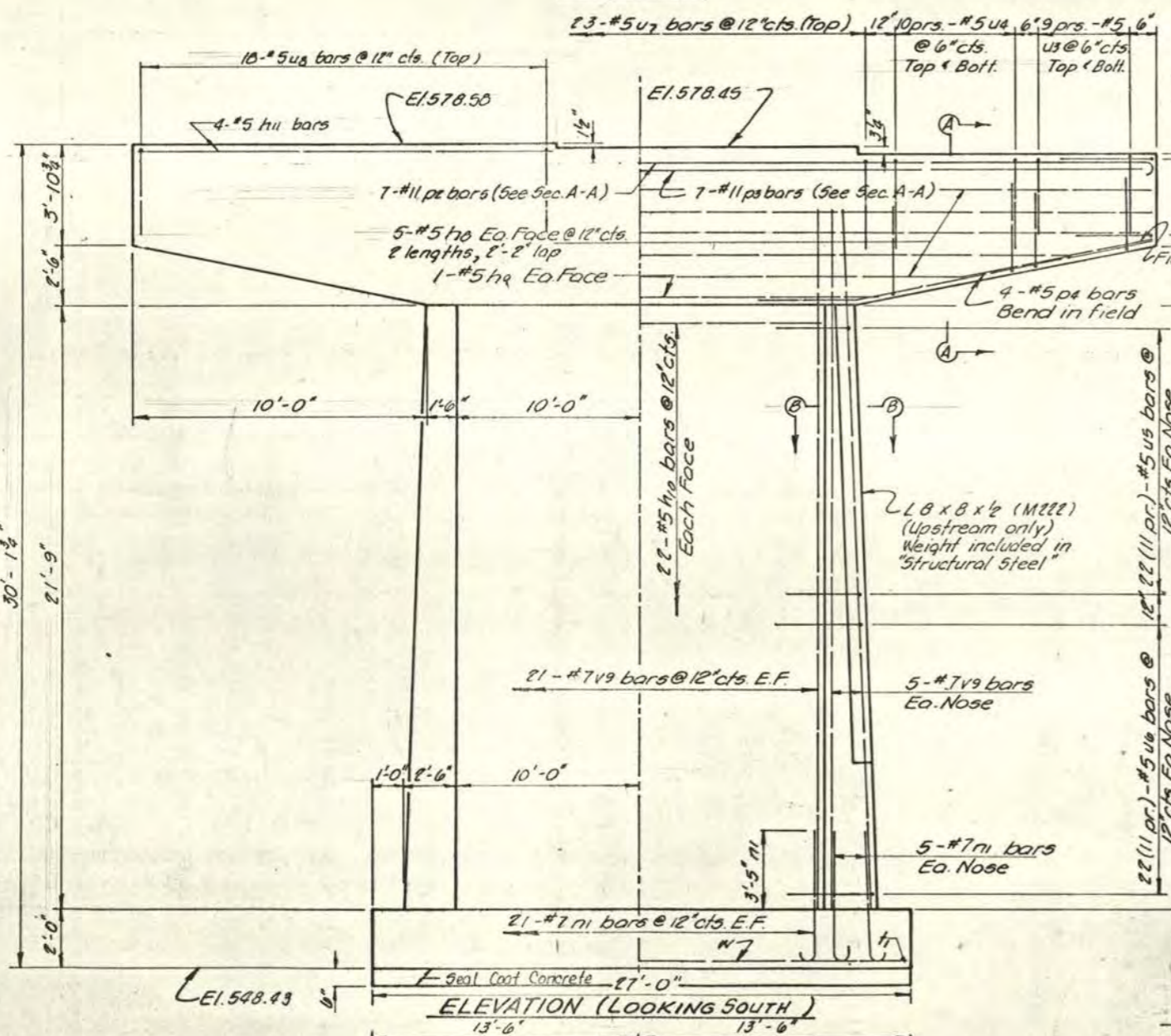
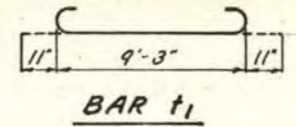
DESIGNED F.S.  
DRAWN L.L.

CHECKED V.H.  
DATE 3-13-79 NO. 1346

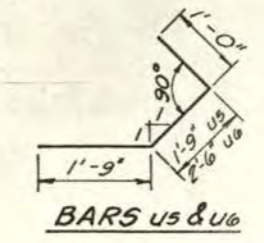
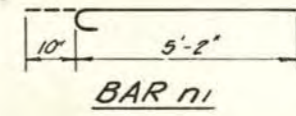
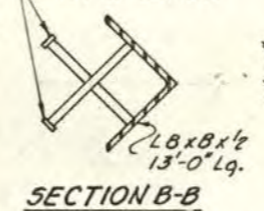


**BAR 5 U2, U3, U4, U7, & U8**

BAR	A	B
U2	3'-1"	3'-6"
U3	2'-2"	3'-9"
U4	2'-2"	3'-11"
U7	3'-2"	4'-4"
U8	3'-2"	3'-6"



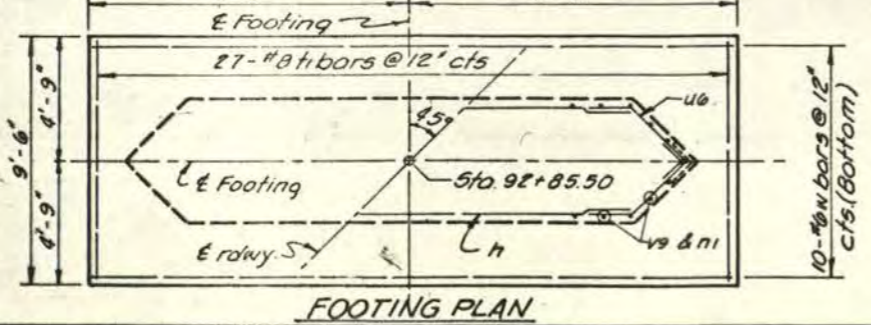
3/4" x 12" CR1020 STL granular or solid flux filled headed studs - automatically end weld @ 1'-0" alt. cts.



**BILL OF MATERIAL - PIER 2**

BAR	No. Req'd	SIZE	LENGTH	SHAPE
h8	20	#5	22'-5"	
h9	2	#5	23'-0"	
h10	44	#5	20'-0"	
h11	4	#5	17'-5"	
n1	52	#7	6'-0"	
p2	7	#11	45'-10"	
p3	7	#11	42'-0"	
p4	8	#5	13'-0"	
t1	27	#8	11'-1"	
u2	8	#6	10'-1"	
u3	72	#5	8'-8"	
u4	80	#5	10'-0"	
u5	44	#5	4'-6"	
u6	44	#5	5'-3"	
u7	23	#5	11'-10"	
u8	18	#5	10'-2"	
v9	52	#7	25'-3"	
w	10	#6	26'-9"	

Class X Concrete	Cu. Yd.	121.6
Reinforcement Bars	Pound	11,930
Cofferdam Excavation	Cu. Yd.	145
Rock Exca. for Structures	Cu. Yd.	10.2
Cofferdams	Each	1



3" thick Seal Coat to be poured immediately after last excavation lift is removed. Cost incidental to Class X Concrete

**-NOTE-**  
 Space reinforcement in cap to miss anchor bolts.  
 Pour steps monolithically with cap.  
 Q<sub>MAX</sub> = 5.16 T.S.F.

**PIER 2**  
 FAS RT. 331  
 SECTION L-BR  
 VERMILION COUNTY  
 STATION 92+05

**COLLINS AND RICE**  
 CONSULTING ENGINEERS

DESIGNED F.S.  
 DRAWN L.L.

CHECKED V.H.  
 DATE 3-13-79 NO. 1346

092-0177

STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION  
 DIVISION OF HIGHWAYS  
**PLANS FOR PROPOSED  
 SPECIAL BRIDGE REPLACEMENT  
 AND  
 FEDERAL-AID SECONDARY PROJECT**

ROUTE NO.	SEC.	PROJECT	TOTAL SHEETS	SHEET NO.
331	L-BR	VERMILION	93	1
FED. ROAD DIST. NO. 1		ILLINOIS PROJECT	BR-S-331(107)	

P-95-034-73

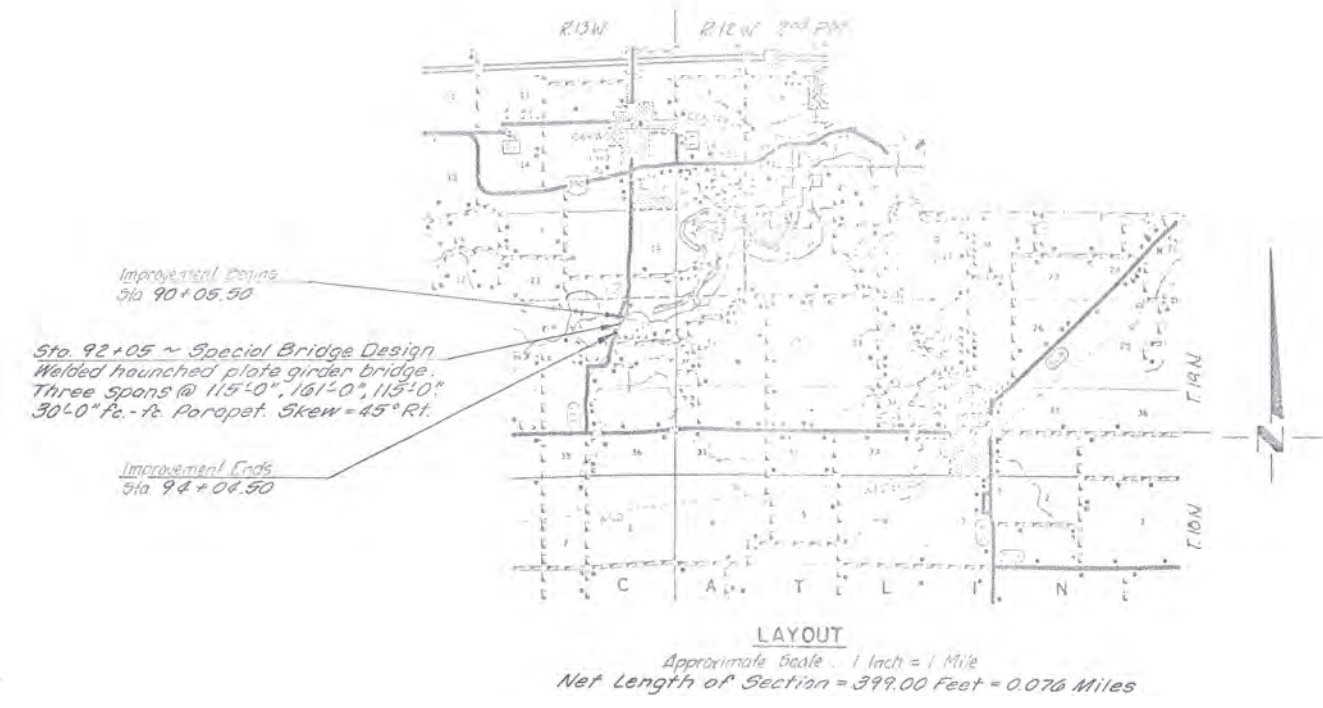


- INDEX OF SHEETS
1. COVER SHEET
  2. SUMMARY OF QUANTITIES, GENERAL NOTES AND TYPICAL CROSS SECTION
  3. NORTH EMBANKMENT DETAILS
  4. SOUTH EMBANKMENT DETAILS, SPECIAL TILE OUTLET HEADWALL
  5. PLAN & PROFILE
  - 6-15. STATION CROSS SECTIONS NORTH EMBANKMENT
  - 16-18. STATION CROSS SECTIONS SOUTH EMBANKMENT
  - 19-33. BRIDGE PLANS

PLAN 1 INCH = 100 FT AND AS SHOWN  
 PROFILE HOR 1 INCH = 100 FT AND AS SHOWN  
 PROFILE VERT 1 INCH = 5 FT AND AS SHOWN  
 CROSS SECTIONS 1 INCH = 10 FT AND AS SHOWN

FAS ROUTE 331  
 SECTION L-BR PROJ. BR-S-331 (107) VERMILION COUNTY  
 C-95-059-79  
 BRIDGE REPLACEMENT

- STANDARDS:
- 2113-1
  - 2298-4
  - 2299-7
  - 2300-1
  - 2301-3
  - 2302-3
  - 2303-4
  - 2307-4



SUBMITTED	3-20	1979
EXAMINED	April 2,	1979
PASSED	April 2,	1979
APPROVED	April 2,	1979

*Thomas R. Bright*  
 ENGINEER OF DESIGN  
*W. H. Housh*  
 DIVISION OF HIGHWAYS

CONTRACT NO. 33740  
 COLLINS AND RICE, INC. CONSULTING ENGINEERS SPRINGFIELD, ILLINOIS  
 Vermilion COUNTY SECTION L-BR F. A. ROUTE 331

*Walter J. Rice* 3-14-79  
 Illinois Professional No. 20110

US DEPARTMENT OF TRANSPORTATION  
 FEDERAL HIGHWAY ADMINISTRATION  
 APPROVED  
 DIVISION ADMINISTRATOR DATE

SUMMARY OF QUANTITIES

CONSTRUCTION TYPE CODE : X071  
SAFETY CLASSIFICATION CODE : 5-31

CODE NO.	ITEM	UNIT	QUANTITY
201001	TREE REMOVAL (6 TO 15 IN. DIA.)	IN. DIA.	102
201002	TREE REMOVAL (OVER 15 IN. DIA.)	IN. DIA.	102
201005	TREE REMOVAL, ACRES	ACRE	1.1
202001	EARTH EXCAVATION	CU. YD.	13,280
205001	BORROW EXCAVATION	CU. YD.	12,200
211001	POROUS GRANULAR BACKFILL	CU. YD.	21
501001	REMOVAL OF EXISTING STRUCTURES	EACH	1
502003	COFFERDAM EXCAVATION	CU. YD.	290
502004	ROCK EXCAVATION FOR STRUCTURES	CU. YD.	35
502005	COFFERDAMS	EACH	2
503002	CLASS X CONCRETE (HEADWALLS)	CU. YD.	0.2
503003	PROTECTIVE COAT	SQ. YD.	1,661
504003	CLASS X CONCRETE	CU. YD.	764.4
507001	FURNISHING AND ERECTING STRUCTURAL STEEL	L. SUM	1
507005	STUD SHEAR CONNECTORS	EACH	2,628
512001	REINFORCEMENT BARS	POUND	89,890
512002	REINFORCEMENT BARS (EPOXY COATED)	POUND	81,070
513014	FURNISHING STEEL PILES HP 10x42	LIN. FT.	528
513027	DRIVING STEEL PILES	LIN. FT.	528
513034	TEST PILES STEEL HP 10x42	EACH	2
514001	NAME PLATES	EACH	1
601001	STONE RIPRAP	SQ. YD.	*1,080
607077	PIPE UNDERDRAINS, 6"	LIN. FT.	124
608012	TEMPORARY SEEDING	ACRE	* 1.5
646002	ENGINEER'S FIELD OFFICE, TYPE A	CAL. MO.	7
X04302	MULCH	ACRE	* 1.5
Z10279	NEOPRENE EXPANSION JOINT, 2"	LIN. FT.	45
Z10281	NEOPRENE EXPANSION JOINT, 4"	LIN. FT.	45
X04745	MOBILIZATION	L. SUM	1
Z13527	TRAINEES	HOUR	**1000

\* CONSTRUCTION TYPE CODE Y005  
\*\* CONSTRUCTION TYPE CODE Y080

GENERAL NOTES

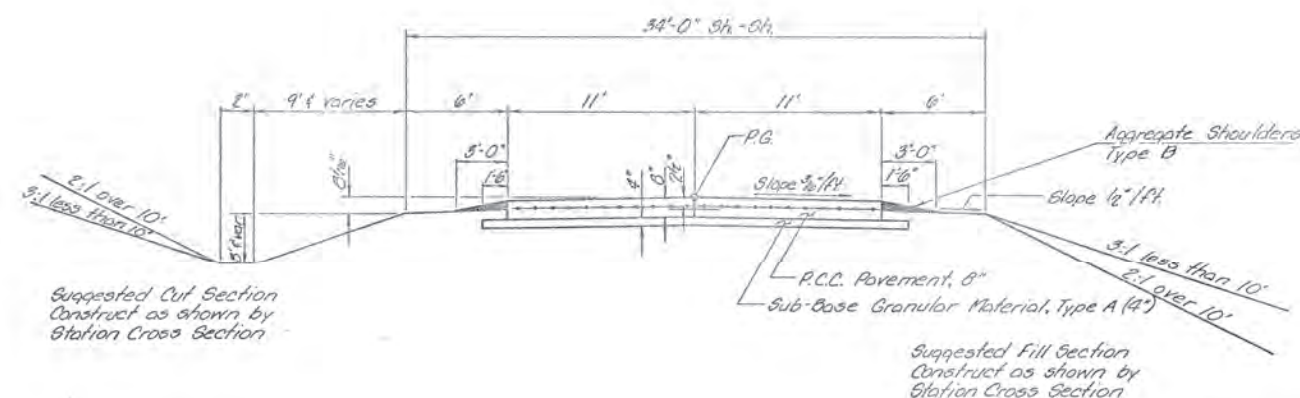
All elevations shown on the plans are established from U.S.G.S. Mean Sea Level Datum.

The locations of existing electric power lines, telephone lines and other utilities as shown on the plans, are based on careful field investigation and the best information available, but they are not guaranteed. It shall be the Contractor's responsibility to ascertain their exact location from the utility companies and by field inspection.

All areas disturbed by the construction of the bridge cones shall be seeded with temporary seeding and mulched in accordance with the special provisions and as directed by the Engineer.

ESTIMATED QUANTITIES:

- 1.5 Acres Temporary Seeding
- 1.5 Acres Mulch @ 2 ton per acre
- Emulsified Asphalt @ 75 gal per ton of Mulch

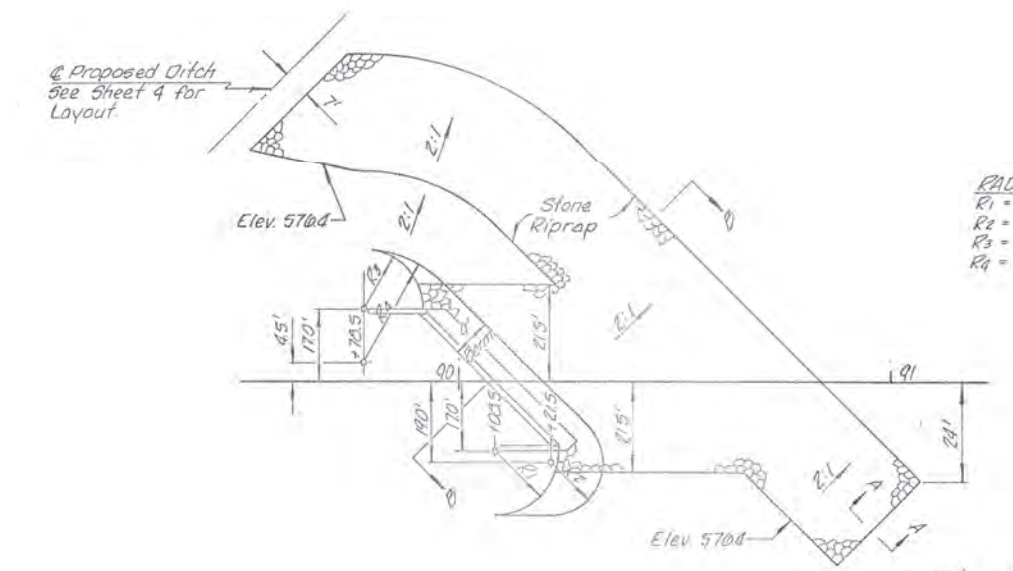
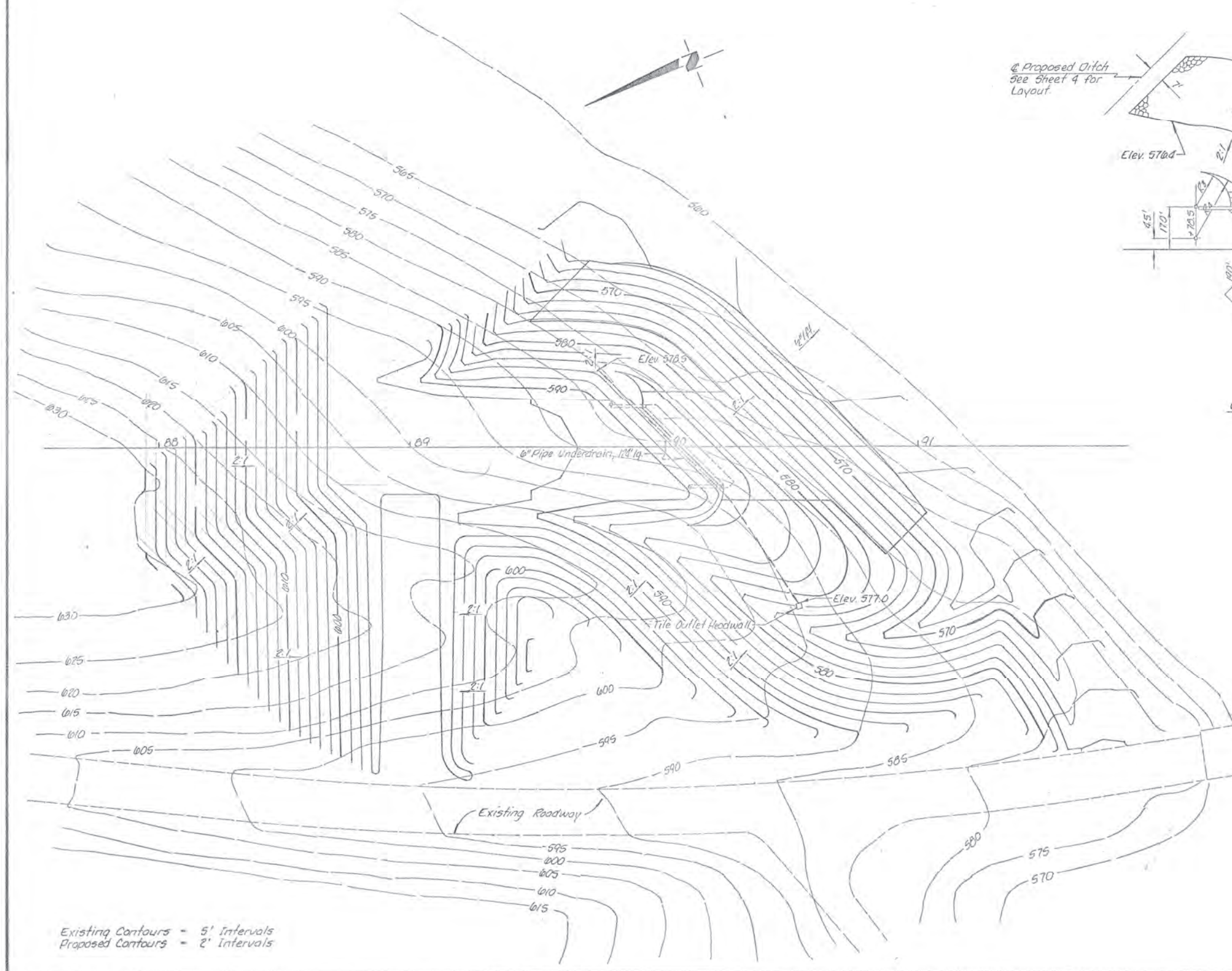


TYPICAL CROSS SECTION  
To be constructed under separate contract.

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION  
DISTRICT FIVE  
DISTRICT ENGINEER OF DESIGN  
DATE: 9-20-79  
EXAMINED BY: Charles K. Kotha, District Engineer of Const., D. J. Johnson, District Engineer of Maint., O. B. Benson, District Engineer of Planning, L. R. Engelbrecht, District Engineer of Traffic.



ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
331	L-BR	VERMILION	33	3
FED. ROAD DIST. NO. 7	ILLINOIS PROJECT	BR-5-331(104)		



**RADIUS**  
 $R_1 = 14' 0''$   
 $R_2 = 12' 0''$   
 $R_3 = 14' 0''$   
 $R_4 = 21' 0''$

Note: See Sheet 4 for Sec. A-A & SEC. B-B.

**GEOMETRIC LAYOUT**

**6" PIPE UNDERDRAINS**  
 A.R. Sta. 90+04 = 124 Lin.Ft.

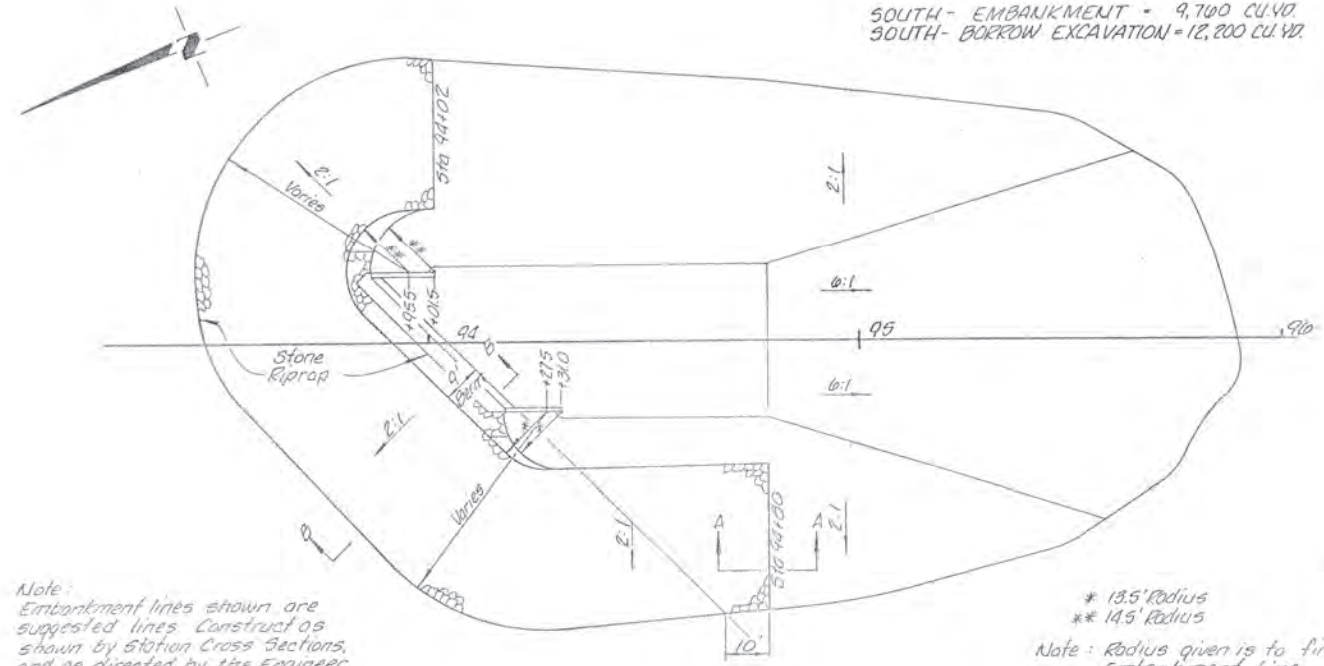
**POROUS GRANULAR BACKFILL**  
 A.R. Sta. 90+04 = 21 Cu.Yd.

NOTE: The required depth of porous granular backfill shall be 2'0" above the pipe underdrain unless otherwise directed by the Engineer. The remainder of the backfill shall be of an impervious material.

NORTH EMBANKMENT = 490 CU.YD.  
 NORTH EARTH EXCAVATION = 13,280 CU.YD.  
 NORTH WASTE EXCAVATION = 12,050 CU.YD.

**NORTH EMBANKMENT DETAILS**

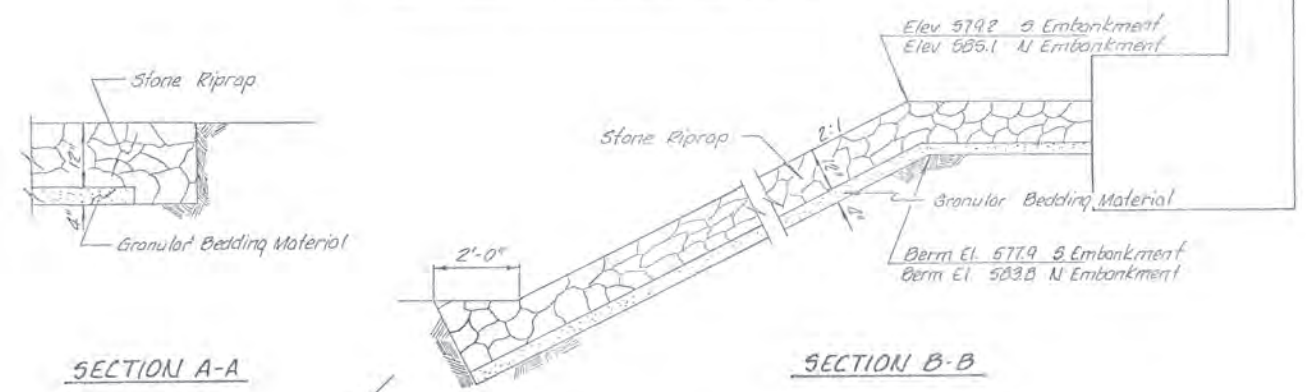
SOUTH EMBANKMENT = 9,700 CU YD.  
 SOUTH BORROW EXCAVATION = 12,200 CU YD.



Note:  
 Embankment lines shown are suggested lines. Construct as shown by Station Cross Sections, and as directed by the Engineer.

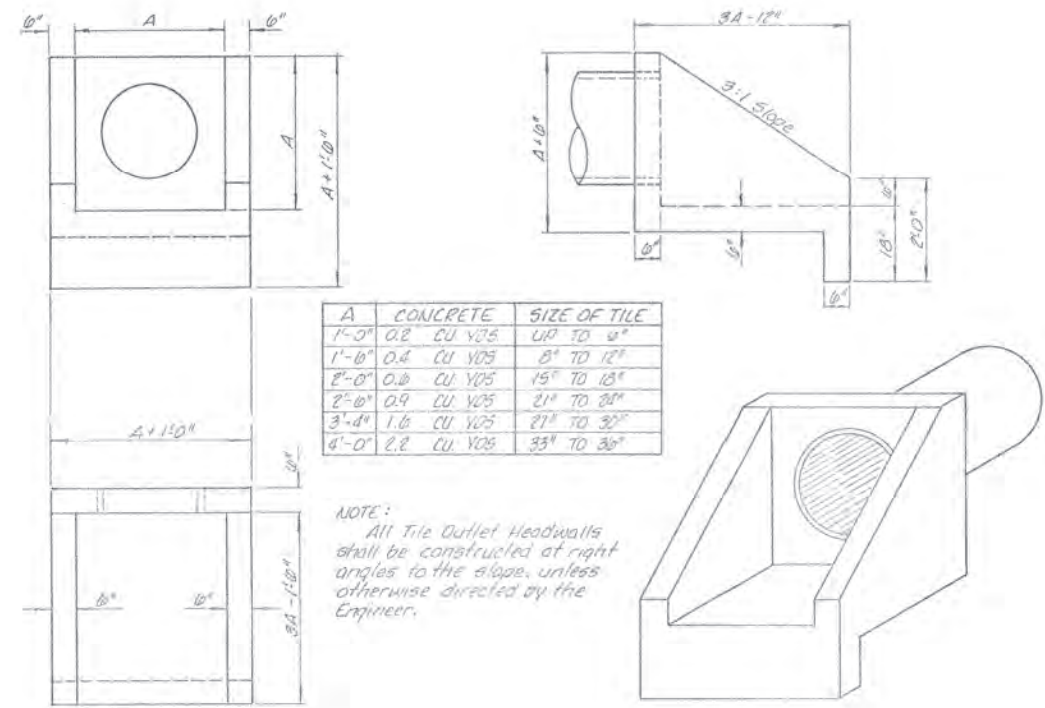
\* 13.5' Radius  
 \*\* 14.5' Radius  
 Note: Radius given is to finished Embankment Line.

SOUTH EMBANKMENT DETAIL



SECTION A-A

SECTION B-B

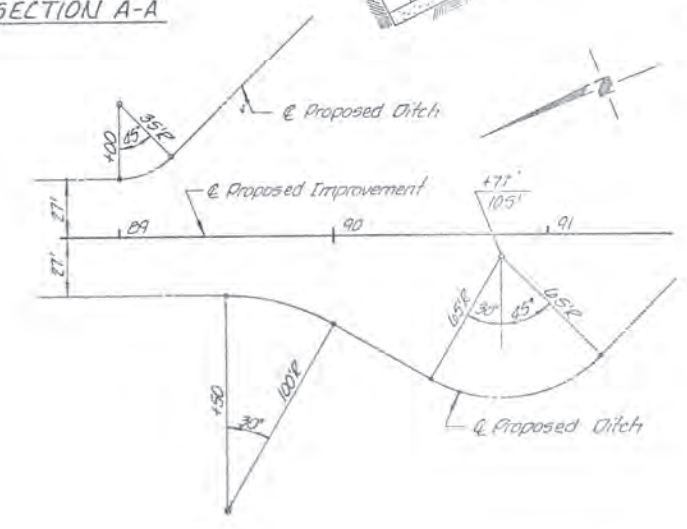


A	CONCRETE	SIZE OF TILE
1'-0"	0.2 CU YDS	UP TO 6"
1'-6"	0.4 CU YDS	8" TO 12"
2'-0"	0.6 CU YDS	15" TO 18"
2'-6"	0.9 CU YDS	21" TO 24"
3'-0"	1.2 CU YDS	27" TO 30"
4'-0"	2.2 CU YDS	33" TO 36"

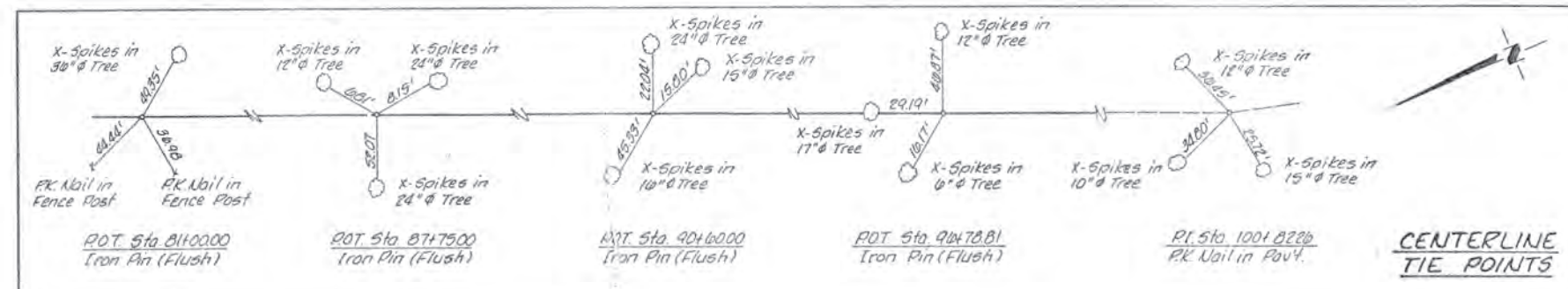
NOTE:  
 All Tile Outlet Headwalls shall be constructed at right angles to the slope, unless otherwise directed by the Engineer.

SPECIAL TILE OUTLET HEADWALL

STONE RIPRAP  
 NORTH EMBANKMENT = 702 SQ YD  
 SOUTH EMBANKMENT = 698  
 TOTAL = 1,000 SQ YD



NORTH EMBANKMENT DITCH LAYOUT



CENTERLINE TIE POINTS

E2, NW4, SEC. 25, T.19 N., R.13 W., 2ND P.M.  
**RONALD MAUCK**

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
7.45	L-BR	VERMILION	33	5
RD ROAD DIST NO 7		ILLINOIS PROJECT		

**TREE REMOVAL SCHEDULE**

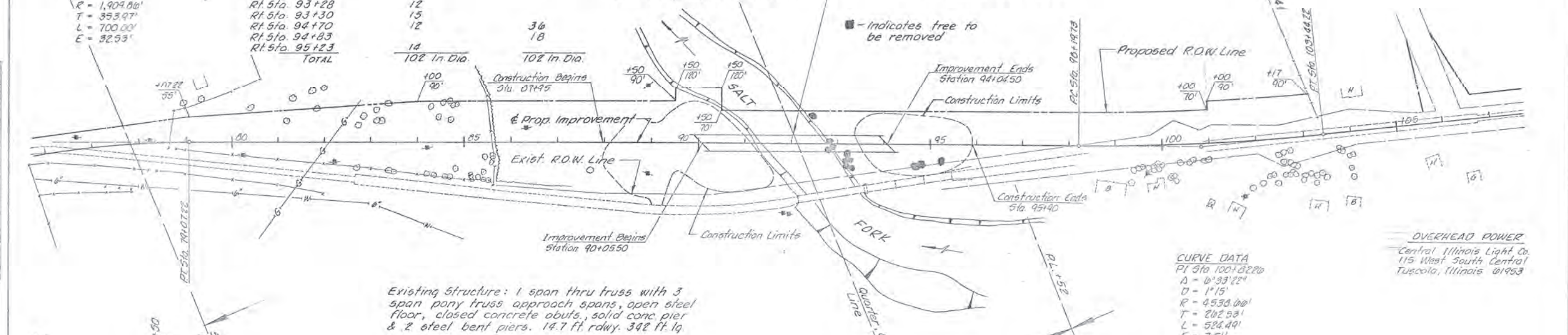
LOCATION	(6 TO 15 IN. DIA.)	(OVER 15 IN. DIA.)
Rt Sta 92+80		30
Lt Sta 92+84	12	
Rt Sta 92+89	12	
Rt Sta 93+18	10	
Rt Sta 93+18		18
Rt Sta 93+19	15	
Rt Sta 93+28	12	
Rt Sta 93+30	15	
Rt Sta 94+70	12	36
Rt Sta 94+83		18
Rt Sta 95+23	14	
<b>TOTAL</b>	<b>102 In. Dia.</b>	<b>102 In. Dia.</b>

**CURVE DATA**  
 PI Sta. 75+01.19  
 Δ = 21°00'  
 D = 3°00'  
 R = 1,909.86'  
 T = 353.97'  
 L = 700.00'  
 E = 32.53'

Sta 92+05 - Special Bridge Design  
 Welded haunched plate girder bridge.  
 Three Spans @ 115'-0", 141'-0", 115'-0".  
 30'-0" ft.-ft. parapet. Stew = 45°-0".

**TREE REMOVAL, ACRES**

Sta. 88+00 to Sta. 91+26 = 1.08 Acres  
 From the Existing East R.O.W. Line  
 to the Proposed East R.O.W. Line.



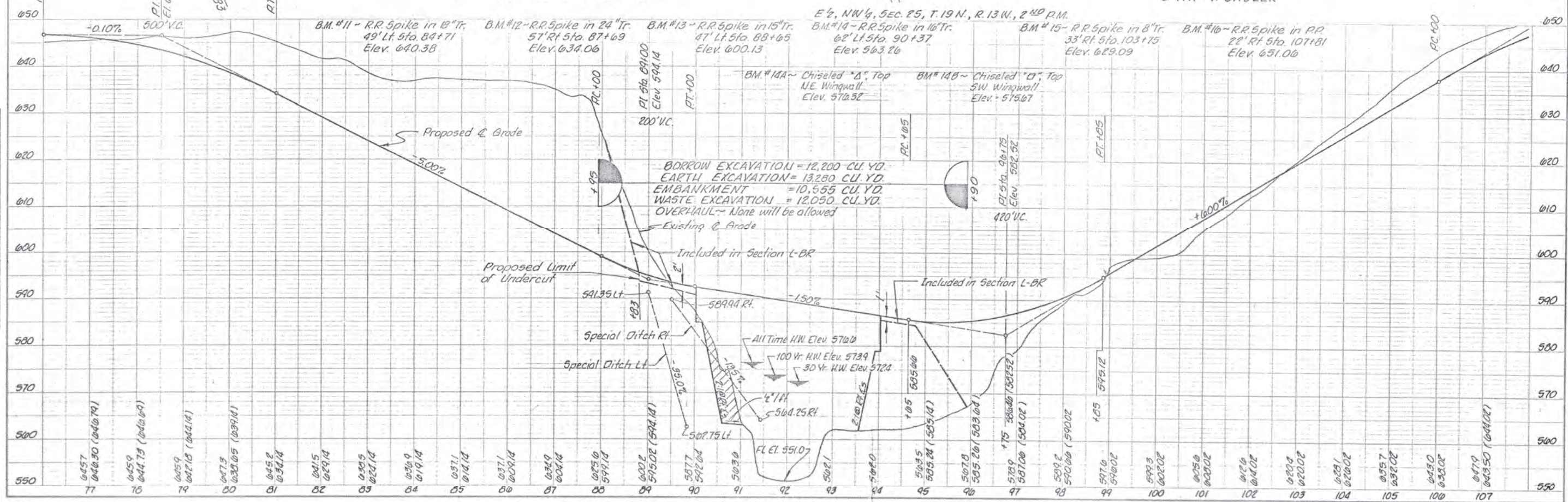
Existing Structure: 1 span thru truss with 3 span pony truss approach spans, open steel floor, closed concrete abuts, solid conc pier & 2 steel bent piers. 14.7 ft. rdwy. 342 ft. lg.

**CURVE DATA**  
 PI Sta. 100+32.26  
 Δ = 0°33'22"  
 D = 1°15'  
 R = 4530.00'  
 T = 262.93'  
 L = 582.49'  
 E = 7.51'

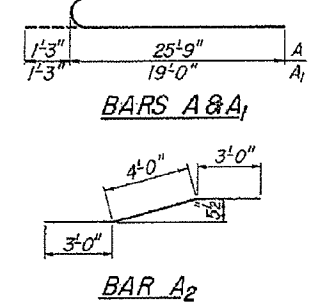
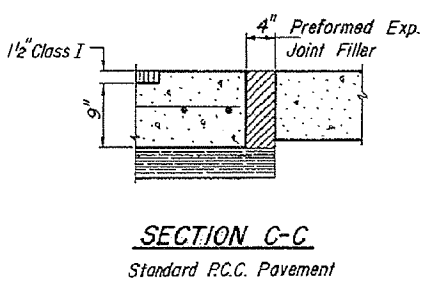
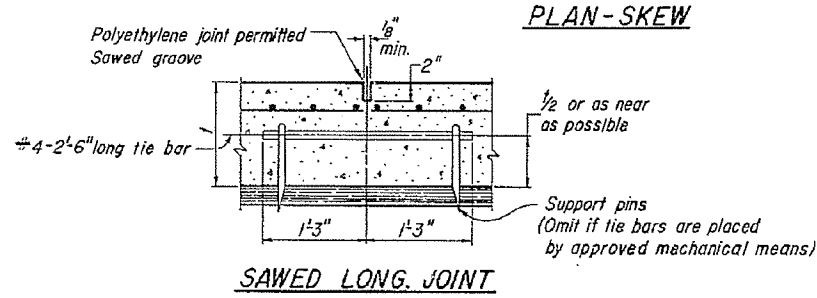
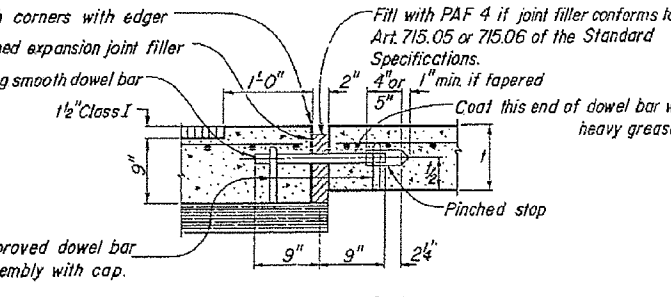
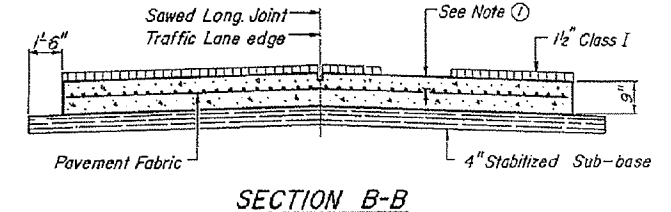
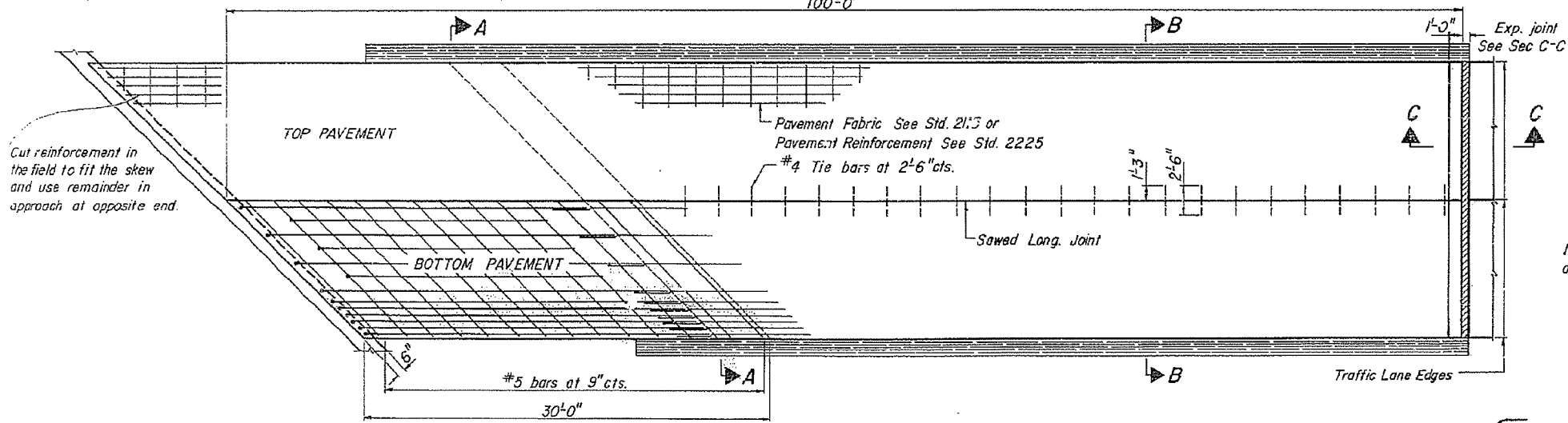
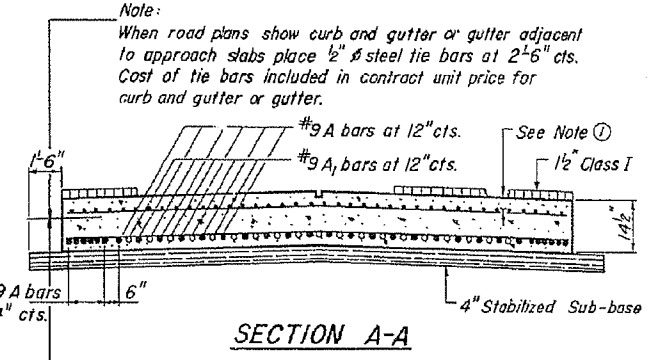
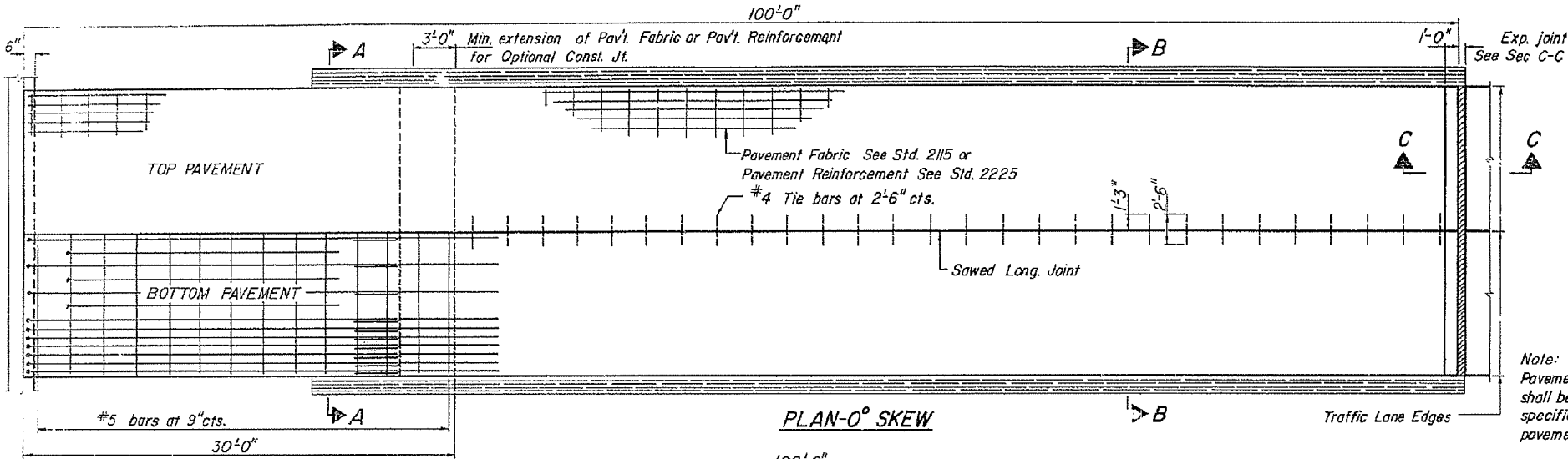
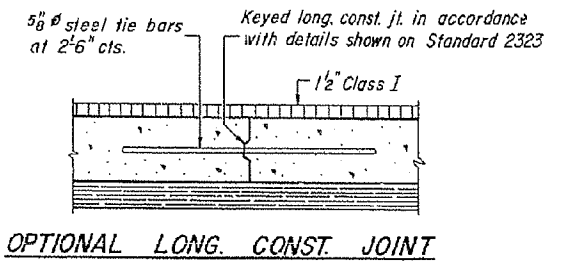
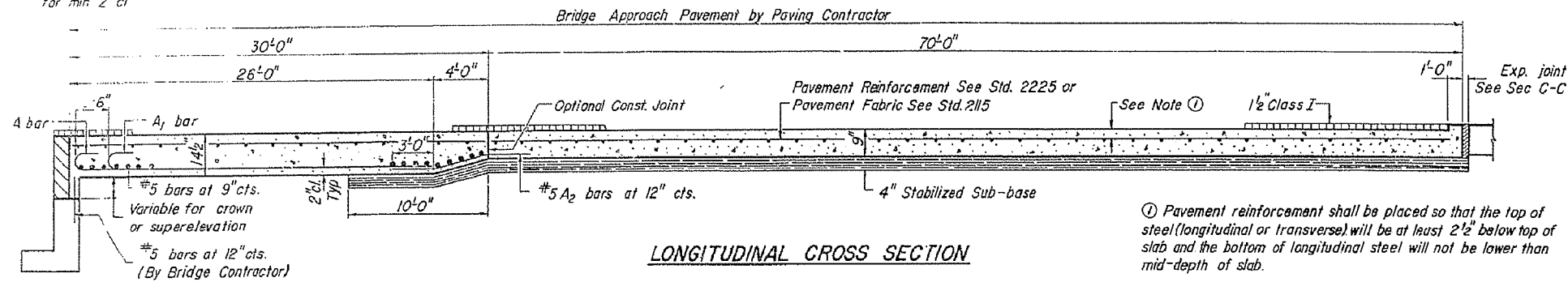
**OVERHEAD POWER**  
 Central Illinois Light Co.  
 115 West South Central  
 Tuscola, Illinois 61953

**RONALD MAUCK, ETUX.**

**CHESTER P. SADLER & FAY V. SADLER**



Note: Tilt hook of #9 bars for min 2" cl



STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION		ISSUED
PASSED MARCH 26 1974		REVISIONS
APPROVED May 28 1974		
Engineer of Bridge and Traffic Structures		
Engineer of Design		

**BRIDGE APPROACH PAVEMENT**

**QUANTITIES FOR STANDARD**

**2 3 5 3**

Stew Angle	Transverse #5 bars		Longitudinal bars	Total Weight bars—lbs.
	NO.	Length		

Use 24 diameters  
for bar laps

**14 FOOT WIDTH PAVEMENT**

Stew Angle	NO.	Length	22-#9A—bars	9-#9A <sub>1</sub> —bars	22-#5A <sub>2</sub> —bars	Total Weight bars—lbs.	Bridge Approach Pavement & Pavement Reinforcement or Pavement Fabric 156 sq. yds. Bit. Concrete Surface Course., Class I 13 Tons
0°	40	13'-6"				3430	
5°	40	13'-6"				3430	
10°	40	13'-9"				3440	
15°	40	14'-0"				3450	
20°	40	14'-4"				3470	
25°	40	14'-11"				3490	
30°	40	15'-7"				3520	
35°	40	16'-6"				3560	
40°	40	17'-7"				3600	
45°	40	19'-3"				3670	
50°	40	21'-0"				3750	
55°	40	23'-7"				3850	
60°	40	27'-0"				4000	

**24 FOOT WIDTH PAVEMENT**

Stew Angle	NO.	Length	32-#9A—bars	19-#9A <sub>1</sub> —bars	32-#5A <sub>2</sub> —bars	Total Weight bars—lbs.	Bridge Approach Pavement & Pavement Reinforcement or Pavement Fabric 267 sq. yds. Bit. Concrete Surface Course., Class I 22 Tons
0°	40	23'-6"				5560	
5°	40	23'-7"				5560	
10°	40	23'-11"				5580	
15°	40	24'-4"				5590	
20°	40	25'-0"				5620	
25°	40	25'-11"				5660	
30°	40	27'-0"				5710	
35°	40	28'-8"				5780	
40°	40	30'-8"				5860	
45°	40	33'-3"				5970	
50°	40	36'-6"				6100	
55°	80	21'-3"				6350	
60°	80	24'-3"				6600	

**36 FOOT WIDTH PAVEMENT**

Stew Angle	NO.	Length	44-#9A—bars	31-#9A <sub>1</sub> —bars	44-#5A <sub>2</sub> —bars	Total Weight bars—lbs.	Bridge Approach Pavement & Pavement Reinforcement or Pavement Fabric 400 sq. yds. Bit. Concrete Surface Course., Class I 33 Tons
0°	40	35'-6"				8110	
5°	40	35'-7"				8120	
10°	40	36'-1"				8140	
15°	40	36'-9"				8170	
20°	80	19'-9"				8280	
25°	80	20'-3"				8320	
30°	80	21'-3"				8410	
35°	80	22'-6"				8510	
40°	80	23'-9"				8610	
45°	80	25'-9"				8780	
50°	80	28'-3"				8990	
55°	80	31'-9"				9280	
60°	80	36'-3"				9660	

Note: Storm Drain Details Attached To Back Sheet

DATE	BY	CHECKED	DATE

PROJECT NO.	331	DATE	11-00-00
PROJECT NAME	VERMILION	SHEET NO.	84
PROJECT LOCATION	NE 1/4, Sec. 25, T.19N., R.13W., 2nd P.M.	TOTAL SHEETS	84
PROJECT DESCRIPTION		PROJECT	

NE 1/4, NW 1/4, SEC. 25, T.19N., R.13W., 2nd P.M.

NE 1/4, SW 1/4, Sec. 25, T.19N., R.13W., 2nd P.M.

Existing Structure: 1 span thru truss with 3 span pony truss approach spans, open steel floor, closed conc. abutments, solid conc. pier and 2 steel bent piers. 14.7 ft. rdwy. 342 H. 14.  
 Note:  
 To be Removed under separate contract

**TREE REMOVAL ACRES**  
 Sta. 85+00 to Sta. 88+00 = 2.40 Acres  
 Sta. 90+04 to Sta. 103+40 = 2.20 Acres  
 Total = 4.60 Acres

**CATCH BASIN DATA**

Catch Basin, Ty. C w/ Ty. 11 Frame & Grate	
Lt. Sta. 102+50	Grate Elev. 016.47
	15' S.S. Inv. 012.70
	18' S.S. Inv. 012.51
Rt. Sta. 102+50	Grate Elev. 016.47
	15' S.S. Inv. 013.14
Rt. Sta. 104+04	Grate Elev. 030.57
	15' S.S. Inv. 027.24
Lt. Sta. 105+00	Grate Elev. 035.59
	15' S.S. Inv. 032.20
Rt. Sta. 106+05	Grate Elev. 042.22
	15' S.S. Inv. 038.09

For Binwall Details and Location See Sheet 10

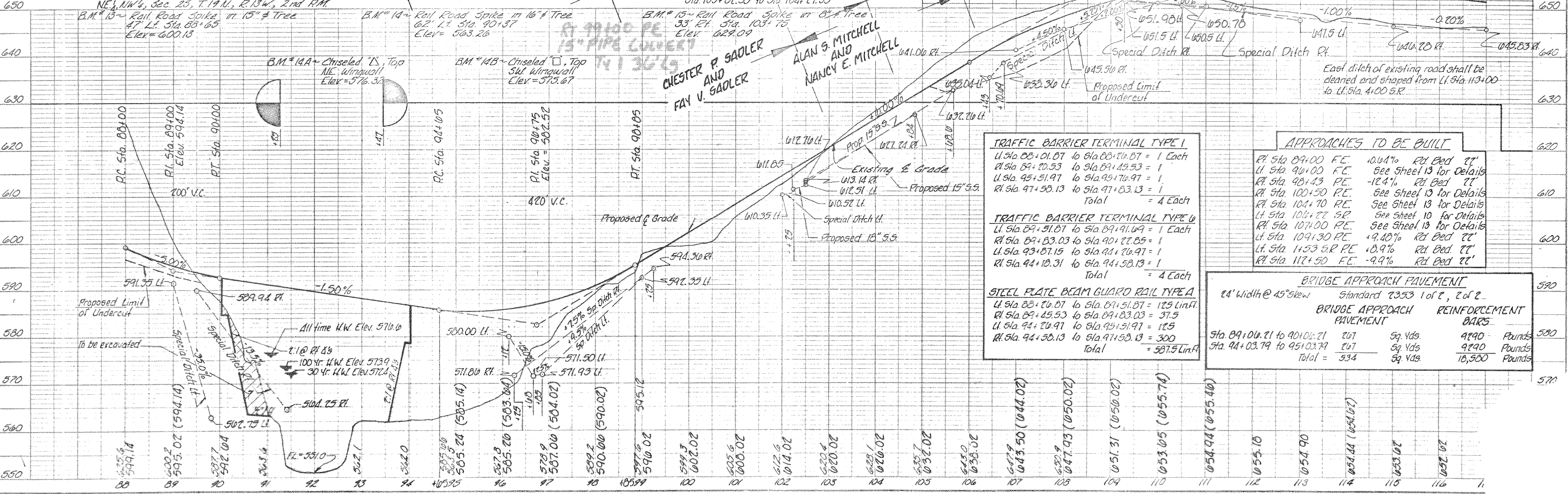
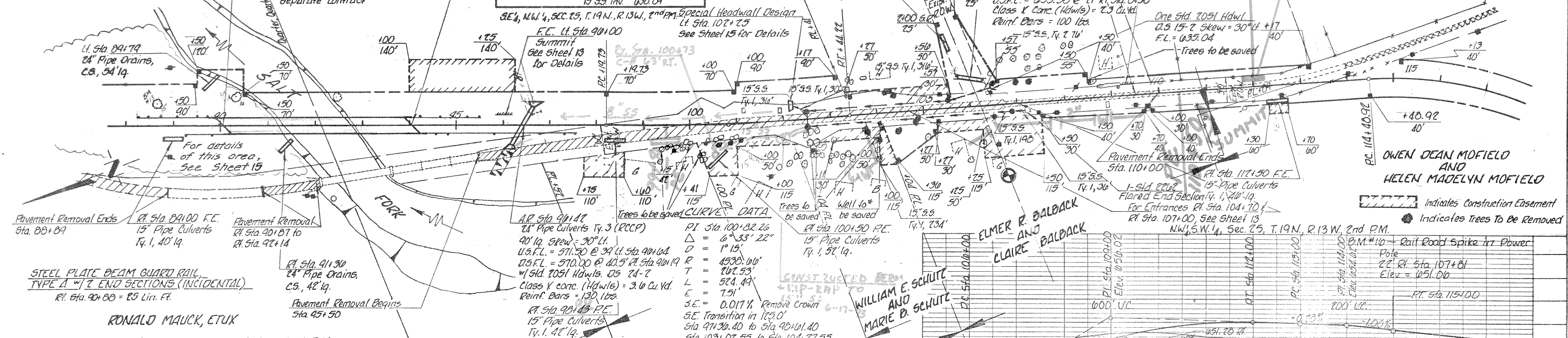
BLANCHE OVERLY

ALBERTA M. CISSNA AND KENNETH W. CISSNA

LT 112+00  
 15" PIPE CULVERTS  
 Ty. 1, 36'

Indicates to Degrade existing roadbed as directed by the Engineer.  
 \* Well to be Protected from Heavy Equipment

OWEN JEAN MOFIELD AND HELEN MACLEYN MOFIELD  
 Indicates Construction Easement  
 Indicates Trees To Be Removed



**TRAFFIC BARRIER TERMINAL TYPE I**

Lt. Sta. 88+01.07 to Sta. 88+10.07 = 1 Each
Rt. Sta. 89+20.53 to Sta. 89+25.53 = 1
Lt. Sta. 95+51.97 to Sta. 95+70.97 = 1
Rt. Sta. 97+50.13 to Sta. 97+53.13 = 1
Total = 4 Each

**TRAFFIC BARRIER TERMINAL TYPE II**

Lt. Sta. 89+51.07 to Sta. 89+51.07 = 1 Each
Rt. Sta. 89+53.03 to Sta. 90+22.03 = 1
Lt. Sta. 93+57.15 to Sta. 94+16.97 = 1
Rt. Sta. 94+10.31 to Sta. 94+50.13 = 1
Total = 4 Each

**APPROACHES TO BE BUILT**

Rt. Sta. 89+00 F.E.	+0.4%	Rd Bed 22'
Lt. Sta. 90+00 F.E.	See Sheet 13 for Details	
Rt. Sta. 95+43 P.E.	-12.4%	Rd Bed 22'
Rt. Sta. 100+50 P.E.	See Sheet 13 for Details	
Lt. Sta. 104+70 P.E.	See Sheet 13 for Details	
Lt. Sta. 104+22 S.R.	See Sheet 13 for Details	
Rt. Sta. 107+00 P.E.	See Sheet 13 for Details	
Lt. Sta. 109+30 P.E.	+9.40%	Rd Bed 22'
Lt. Sta. 112+50 S.R. P.E.	+0.9%	Rd Bed 22'
Rt. Sta. 112+50 F.E.	-9.9%	Rd Bed 22'

**BRIDGE APPROACH PAVEMENT**

24' width @ 45' skew	Standard 2353 1 of 2, 2 of 2	
<b>BRIDGE APPROACH REINFORCEMENT BARS</b>		
Sta. 89+04.21 to 90+04.21	207	Sq Yds
Sta. 94+03.79 to 95+03.79	267	Sq Yds
Total	334	Sq Yds

PLAN  
 NOTE BOOK NO. 228-5

PROFILE  
 NOTE BOOK NO. 228-5