

VERMILION

92-12(HB-4, B-1)BR

I & R

3-20-92

11/11

CONTRACTOR: ONEIL BROS. CONSTRUCTION
RESIDENT: GEORGE DAVIS
BUILT: 5/4/92 ~ 4/13/94

98%
12-11-93

STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION DIVISION OF HIGHWAYS

COPY

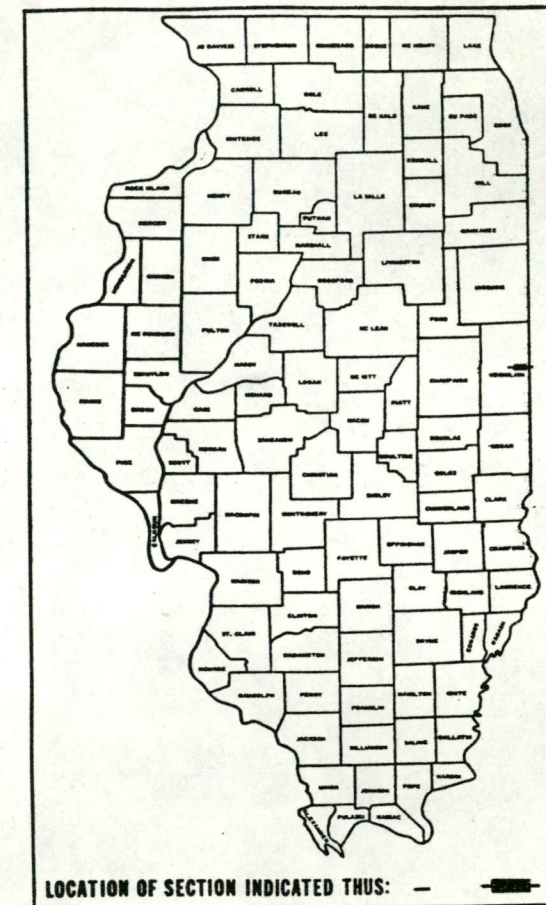
RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 74	92-12(HB-4, B-1)BR	VERMILION	65	1
F.H.W.A. REG.	ILLINOIS	PROJECT IM-74-6(136)216		

D95-026-89

PLANS FOR PROPOSED FEDERAL AID INTERSTATE HIGHWAY

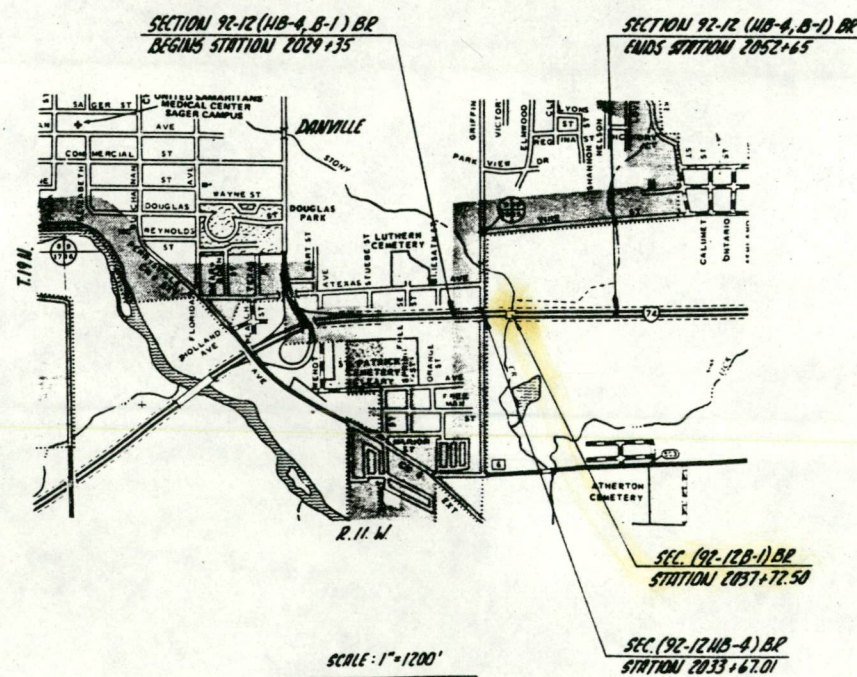
FOR INDEX OF SHEETS, SEE SHEET NO. 3
FOR SUMMARY OF QUANTITIES, SEE SHEET NO. 5/6

SCALES { PLAN 1"=100'
PROFILE HOR.
PROFILE VERT.
CROSS-SECTIONS



AS BUILT

F.A.I. ROUTE 74
SECTION 92-12(HB-4, B-1)BR
VERMILION COUNTY
PROJECT IM-74-6 (136) 216
C-95-044-91
BRIDGE REHABILITATION



TOTAL AND NET LENGTH OF SECTION 92-12(HB-4, B-1) BR = 2330.00 FT. = 0.441 MILES
TOTAL AND NET LENGTH OF PROJECT = 2330.00 FT. = 0.441 MILES

DESIGN DESIGNATION
N/A

CONTRACT NO. 90313

TOLL FREE J.U.L.I.E. TELEPHONE NO.
1-800-892-0123
DANVILLE TOWNSHIP

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

SUBMITTED Jan. 10 1992
J. J. Benson DISTRICT ENGINEER

EXAMINED _____
ENGINEER OF PLANS AND CONTRACTS

PASSED February 14 1992
Ray D. Gould ENGINEER OF DESIGN

APPROVED February 14 1992
Karl C. Weber DIRECTOR, DIVISION OF HIGHWAYS

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION

APPROVED _____
DIVISION ADMINISTRATOR DATE

VERMILION COUNTY SECTION 92-12(HB-4, B-1) BR F.A.I. ROUTE 74

092-0018 (EB) & 0019 (WB)

5-164

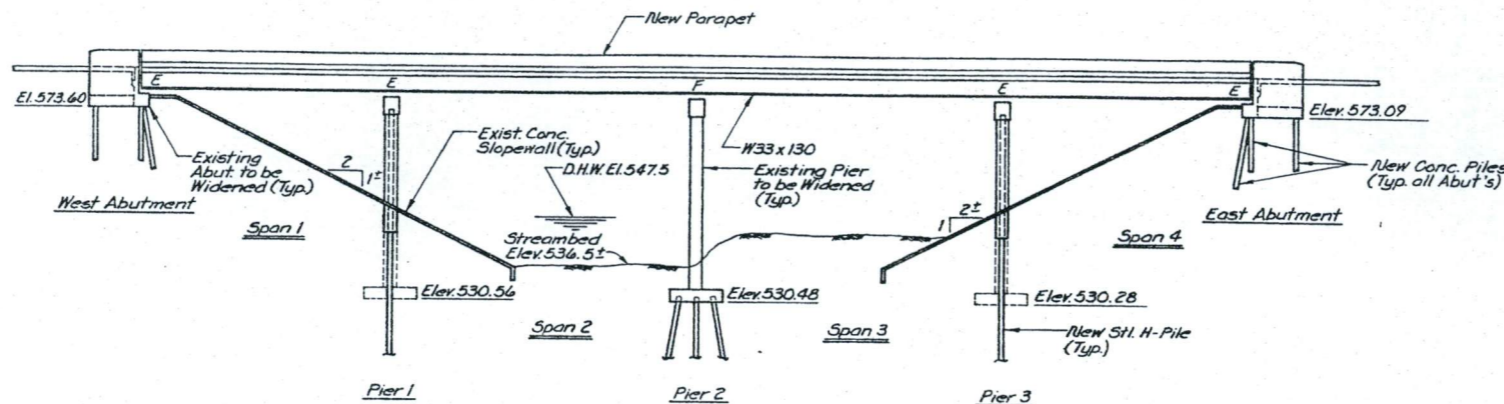
092-0018 & -0019

PROJECT ENGINEER: PAUL KOPPEL
SQUAD LEADER: FRODO SCHEER

ROUTE NO	SECTION	COUNTY	TOTAL SHEETS	SHEET NO
FAI 74		Vermilion	65	32
STA	TO STA			
FED ROAD DIST NO	ILLINOIS PROJECT			
Dwg. No. 1 of 33				

BENCHMARK:
TOP OF BRASS PLUG AT PERMANENT SURVEY MARKER
STA. 2040+00 LOCATED IN MEDIAN BETWEEN EASTBOUND AND WESTBOUND LANES. ELEV. 576.98.

EXISTING STRUCTURE:
STRUCTURE NOS. 092-0018 (EB) & 092-0019 (WB) WERE BUILT IN 1964 AS FAI RTE 74 OVER STONY CREEK, SECTION 92-12B-1. THE OUT TO OUT WIDTH IS 36'-0" & THE BACK TO BACK LENGTH IS 257'-0". REPAIRS PERFORMED IN 1977 INCLUDED DECK PATCHING, EXPANSION JOINT RECONSTRUCTION, INSTALLATION OF WATERPROOFING MEMBRANE SYSTEM AND BITUMINOUS OVERLAY. THE STRUCTURES CONSIST OF FOUR SPAN CONTINUOUS REINFORCED CONCRETE DECK AND STEEL BEAM SUPERSTRUCTURES (NONCOMPOSITE) ON PILE SUPPORTED SOLID SHAFT PIERS AND PILE BENT SPILL THRU ABUTMENTS. TRAFFIC TO BE MAINTAINED UTILIZING STAGE CONSTRUCTION. HANDRAIL TO BE SALVAGED; BRIDGE CONTRACTOR TO STOCKPILE ON STATE ROW FOR REMOVAL BY DISTRICT MAINTENANCE FORCES.



ELEVATION

(EB Shown, WB Similar)

STATION 2037+72.50
REBUILT 199_ BY
STATE OF ILLINOIS
FAIRTE. 74 SECTION (92-12B-1)BR
F.A. PROJ. _____
LOADING HS20
STR. NO. 092-0019

WESTBOUND

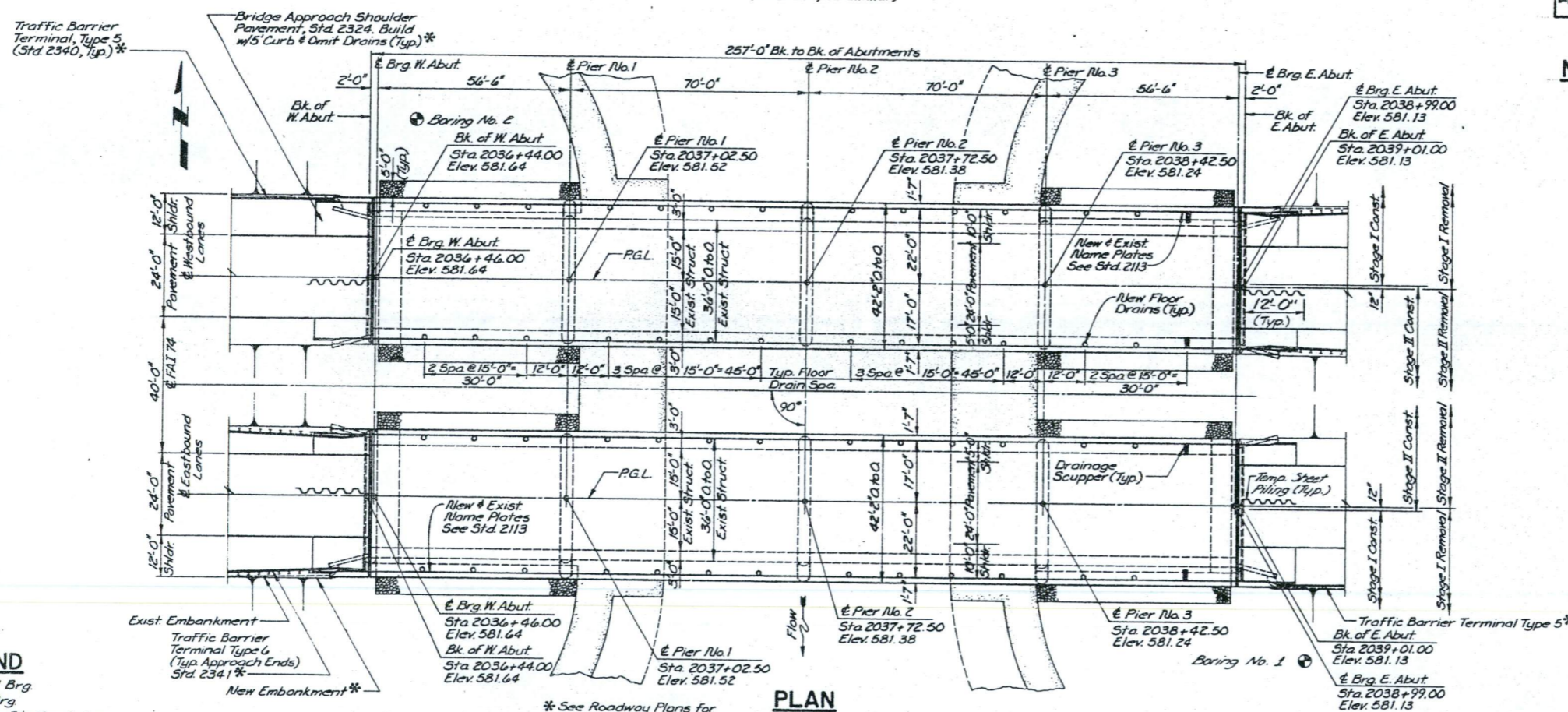
STATION 2037+72.50
REBUILT 199_ BY
STATE OF ILLINOIS
FAI RTE. 74 SECTION (92-12B-1)BR
F.A. PROJ. _____
LOADING HS20
STR. NO. 092-0018

EASTBOUND

**NEW NAME PLATES
(1 EA. REQ'D)**

(SEE STD. 2113)

Note:
Salvage Existing Name Plates & Mount Adjacent to New Name Plates on New Parapet as shown on Std. 2113. The cost of Salvaging & Incorporating Exist. Name Plates into New Work is Incidental to Nameplates.



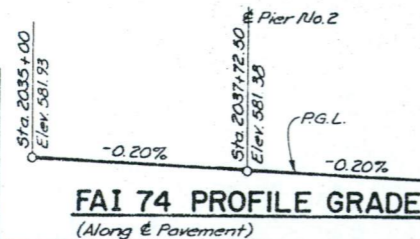
PLAN

LEGEND

- F = Fixed Brg
- E = Exp Brg
- P.G.L. = Profile Grade Line
- ⊙ = Boring Location

ESCA
CONSULTANTS, INC.

DESIGNED BY:	RDP	11-90
DRAWN BY:	WEM	11-90
CHECKED BY:	JRF	11-90
APPROVED BY:	RDP	11-90



DESIGN SPECIFICATIONS
AASHTO 1989, W/1990 INTERIMS AS APPLICABLE
SEISMIC RETROFITTING GUIDELINES FOR
HIGHWAY BRIDGES, FHWA, 19

LOADING
HS 20-44 & ALTERNATE MILITARY
WITH ALLOWANCE FOR 25 PSP FUTURE
WEARING SURFACE

DESIGN STRESSES (NEW CONSTRUCTION)
f'c = 3,500 psi
fy = 60,000 psi (REINF. BARS)
fy = 36,000 psi (M-183 STRUCT.
STEEL - COMPOSITE DESIGN)

WATERWAY INFORMATION

DRAINAGE AREA: 42 SQ. MI.
REQ'D WATERWAY OP'NG. (50 YR.): 1150 SF
PROVIDED WATERWAY OP'NG: 1133 SF
DIME: 547.5
NOTE: BRIDGE GRADE NOT CONTROLLED BY HVE

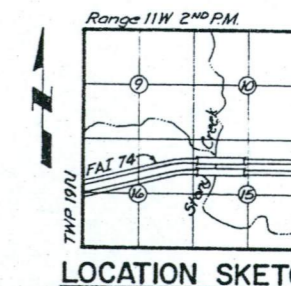
DESIGN STRESSES (EXIST. CONST.)
f'c = 3,500 psi
fy = 40,000 psi (REINF. BARS)
fs = 20,000 psi (REINF. BARS)
fy = 33,000 psi (STRUCT. STEEL -
COMPOSITE)

APPROVED
FOR STRUCTURAL JURISDICTION ONLY

Ralph E. Anderson
Engineer of Bridges and Structures



Richard D. Parker
Expires 11-30-92



**GENERAL PLAN
& ELEVATION**
FAI RTE. 74 OVER STONY CREEK
FAI RTE. 74 SECTION (92-12B-1)BR
VERMILION COUNTY
STATION 2037+72.50
STRUCTURE NO. 092-0018 (EB)
STRUCTURE NO. 092-0019 (WB)

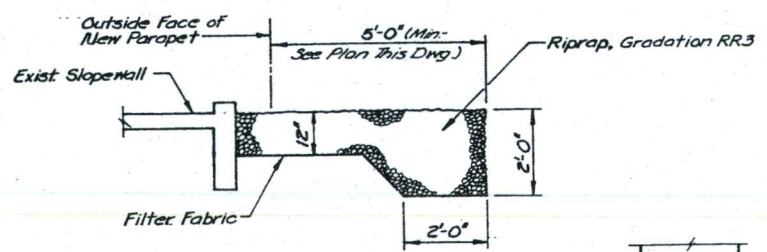
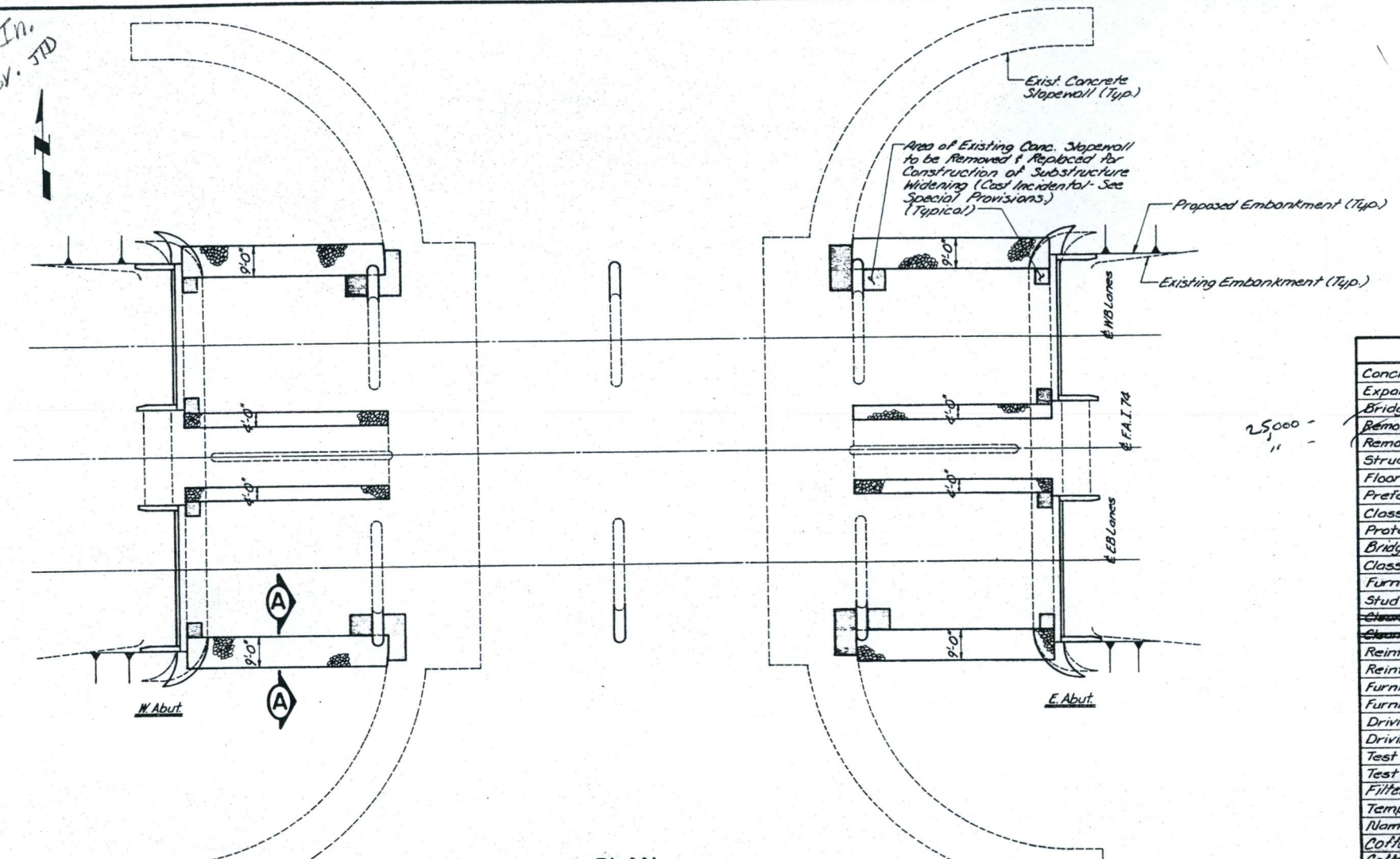
* (92-128-1)BR

ROUTE NO	SECTION	COUNTY	TOTAL SHEETS	SHEET NO
FAI 74	*	Vermilion	65	33
STA	TO STA			
FED. ROAD DIST NO	ILLINOIS PROJECT			
Dwg. No. 2 of 33				

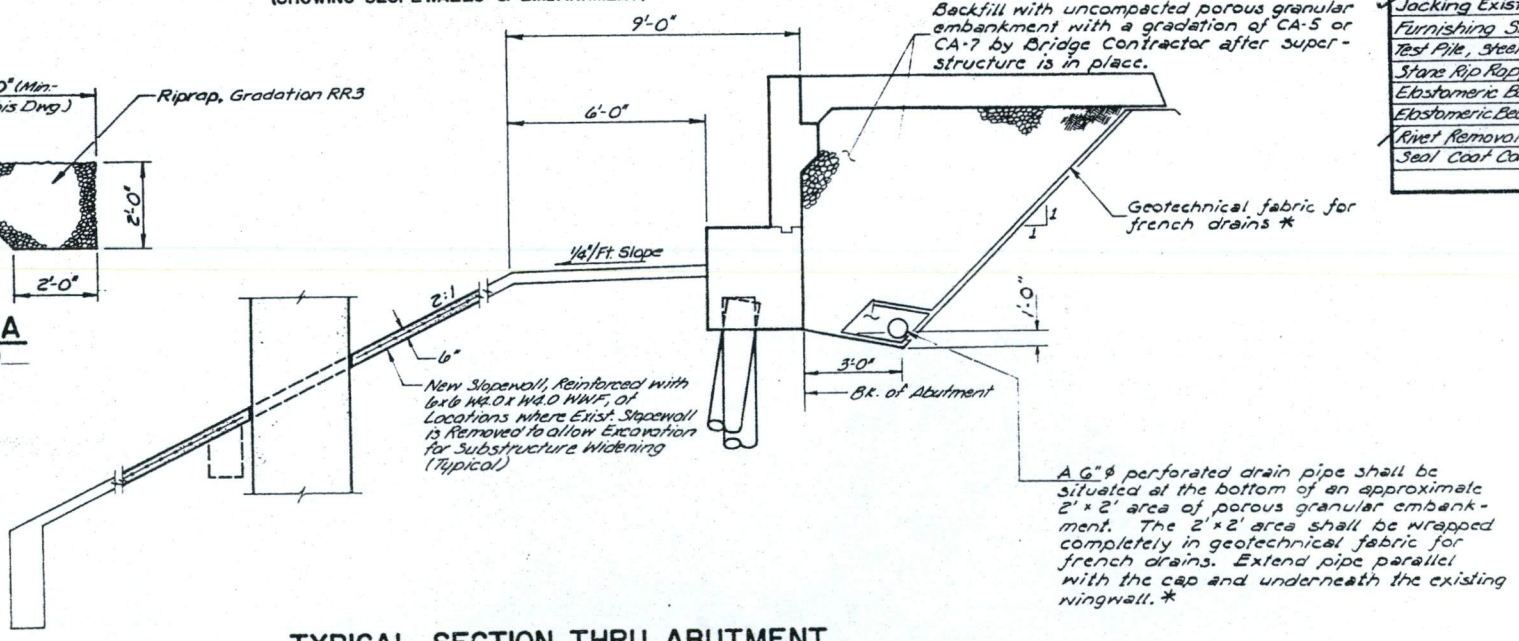
GENERAL NOTES

- SEE PROPOSAL FOR BORING DATA.
- PASTENERS SHALL BE HIGH STRENGTH BOLTS. BOLTS 3/4"Ø, OPEN HOLES 13/16"Ø, UNLESS OTHERWISE NOTED.
- CALCULATED WEIGHT OF STRUCTURAL STEEL = 100,800 LBS.
- ALL EXISTING STRUCTURAL STEEL INCLUDING BEARINGS & PLATES SHALL BE CLEANED BY METHOD B. THE THREE COAT LEAD & CHROMATE FREE ALKID PAINT SYSTEM SHALL BE USED FOR FIELD PAINTING OF EXISTING STRUCTURAL STEEL. THE COLOR OF THE FINAL FINISH COAT SHALL BE MUNSSELL NO. 10Y 7/1 LT. GREY EXCEPT THE OUTSIDE FACE & BOTTOM FLANGE OF FASCIA BEAMS SHALL BE MUNSSELL NO. 7.5 G 4/8 INTERSTATE GREEN.
- ALL NEW STRUCTURAL STEEL INCLUDING BEARINGS & PLATES SHALL BE SHOP & FIELD PAINTED WITH THE THREE COAT LEAD & CHROMATE FREE ALKID PAINT SYSTEM. THE COLOR OF THE FINAL FINISH COAT SHALL BE MUNSSELL NO. 10Y 7/1 LT. GREY EXCEPT THE OUTSIDE FACE & BOTTOM FLANGE OF FASCIA BEAMS SHALL BE MUNSSELL NO. 7.5 G 4/8 INTERSTATE GREEN.
- ALL CONTACT SURFACES OF JOINTS SHALL BE FREE OF PAINT OR LACQUER.
- FIELD WELDING OF CONSTRUCTION ACCESSORIES WILL NOT BE PERMITTED TO THE BOTTOM FLANGE OF BEAMS OR GIRDERS 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.
- THE NEW MAIN LOAD CARRYING MEMBER COMPONENTS SUBJECT TO TENSILE STRESS SHALL CONFORM TO THE SUPPLEMENTAL REQUIREMENTS FOR NOTCH TOUGHNESS ZONE 2. THESE COMPONENTS ARE THE NEW WIDE FLANGE BEAMS AND SPLICE PLATE MATERIAL FOR THESE BEAMS.
- REINFORCEMENT BARS SHALL CONFORM TO THE REQUIREMENTS OF AASHTO M-31, M-42 OR M-53 GRADE 60.
- THE EMBANKMENT CONFIGURATION SHOWN SHALL BE THE MINIMUM EMBANKMENT THAT MUST BE CONSTRUCTED PRIOR TO CONSTRUCTION OF THE ABUTMENT WIDENING.
- 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 APPROVED EXPANSION ANCHORS, PROVIDING MINIMUM CERTIFIED PROOF LOAD = 4,080 LBS., AND 3/4"Ø X 12" HOOKED BOLTS.
- 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 OR SHIMS.
- THE CONTRACTOR SHALL DRIVE ONE CONCRETE TEST PILE IN A PERMANENT LOCATION AT THE EB E. ABUT. AND ONE STEEL H PILE IN A PERMANENT LOCATION AT PIER 1 EB AND AT PIER 2 WB AS DIRECTED BY THE ENGINEER BEFORE ORDERING THE REMAINDER OF THE PILES.
- SLOPE WALL SHALL BE REINFORCED WITH WELDED WIRE FABRIC, 6" X 6" - W4.0 X W4.0, WEIGHING 58 LBS. PER 100 SQ. FT.
- THE CONTRACTOR WILL BE REQUIRED TO MARK ON TOP OF THE CONCRETE DECK THE LOCATIONS OF THE TOP FLANGE OF ALL THE STEEL BEAMS OR GIRDERS, PRIOR TO ANY REMOVAL OF THE BRIDGE CONCRETE DECK. SAW CUTTING DIRECTLY OVER THE TOP OF THE BEAM OR GIRDER FLANGE IS NOT PERMITTED.
- THE BEARING SEATS AT THE ABUTMENTS SHALL HAVE BRIDGE SEAT SEALER APPLIED IN ACCORDANCE WITH THE SPECIAL PROVISIONS. EST. QUANT. = 337 SF

Paint Note In. See Spec. Prov. JTD



PLAN
(SHOWING SLOPEWALLS & EMBANKMENT)



TYPICAL SECTION THRU ABUTMENT
(SHOWING CONFIGURATION OF EMBANKMENT & SLOPEWALL)

* - Cost incidental to "Porous Granular Embankment."

TOTAL BILL OF MATERIAL

ITEM	UNIT	SUPER-STRUCTURE	SUB-STRUCTURE	TOTAL
Concrete Removal	Cu. Yd.	-	55.6	55.6
Expansion Bolts, 3/4"	Each	-	552	552
Bridge Handrail Removal	Lin. Ft.	1019	-	1019
Removal of Exist. Conc. Deck No. 1	L. Sum	1	-	1
Removal of Exist. Conc. Deck No. 2	L. Sum	1	-	1
Structure Excavation	Cu. Yd.	-	2344	2344
Floor Drains	Each	52	-	52
Preformed Joint Seal, 4"	Lin. Ft.	172	-	172
Class X Concrete Superstructure	Cu. Yd.	628	-	628
Protective Coat	Sq. Yd.	349	-	349
Bridge Seat Sealer	L. Sum	-	1	1
Class X Concrete	Cu. Yd.	-	3090	3090
Furnishing & Erecting Struct. Steel	L. Sum	1	-	1
Stud Shear Connectors	Each	9296	-	9296
Cleaning & Painting Steel Bridge No. 1	L. Sum	1	-	1
Cleaning & Painting Steel Bridge No. 2	L. Sum	1	-	1
Reinforcement Bars	Lbs.	-	18,650	18,650
Reinforcement Bars (Epoxy Coated)	Lbs.	145,830	8960	154,790
Furnishing Steel Piles, HP 10x42	Lin. Ft.	-	145	145
Furnishing Concrete Piles	Lin. Ft.	-	227	227
Driving Steel Piles	Lin. Ft.	-	333	333
Driving Concrete Piles	Lin. Ft.	-	227	227
Test Pile, Steel HP 10x42	Each	-	1	1
Test Pile, Concrete	Each	-	1	1
Filter Fabric For Use w/ Riprap	Sq. Yd.	260	-	260
Temporary Sheet Piling	Sq. Ft.	-	600	600
Wave Plates	Each	2	-	2
Cofferdams	Each	-	2	2
Cofferdam Excavation	Cu. Yds.	-	174	174
Drainage Scupper	Each	4	-	4
Jacking Existing Structures	L. Sum	1	-	1
Furnishing Steel Piles HP 14x102	Lin. Ft.	-	148	148
Test Pile, Steel HP 14x102	Lin. Ft.	-	1	1
Stone Riprap, Class A3	Sq. Yd.	-	364	364
Elastomeric Bearing Assembly, Type I	Each	28	-	28
Elastomeric Bearing Assembly, Type II	Each	28	-	28
Rivet Removal	Each	228	-	228
Seal Coat Concrete	Cu. Yd.	-	90	90

GENERAL NOTES, BILL OF MATERIAL & MISCELLANEOUS DETAILS
FAI 74 OVER STONY CREEK
FAI RTE. 74 SECTION 92-128-11BR
VERMILION COUNTY
STATION 2037+72.50
STRUCTURE NO. 092-0018 (EB)
STRUCTURE NO. 092-0019 (WB)

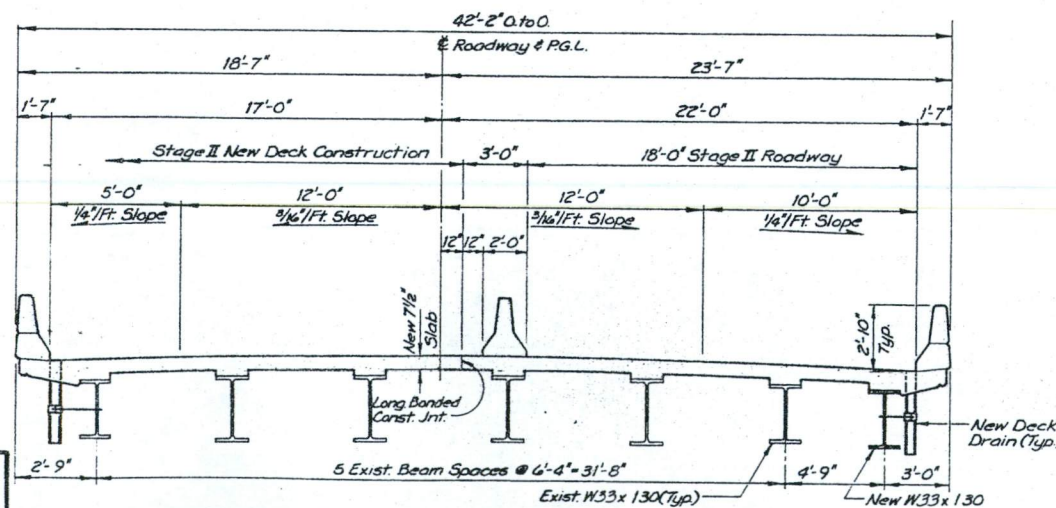
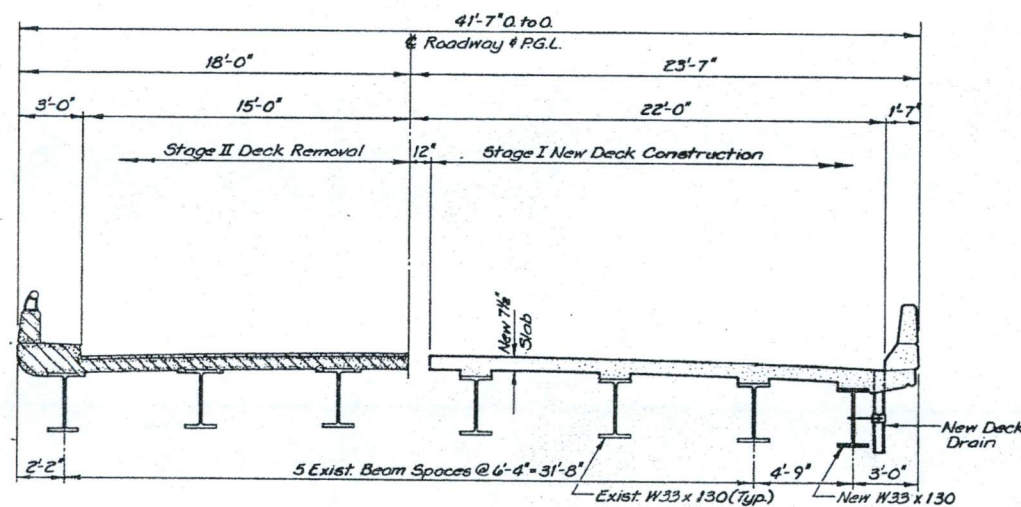
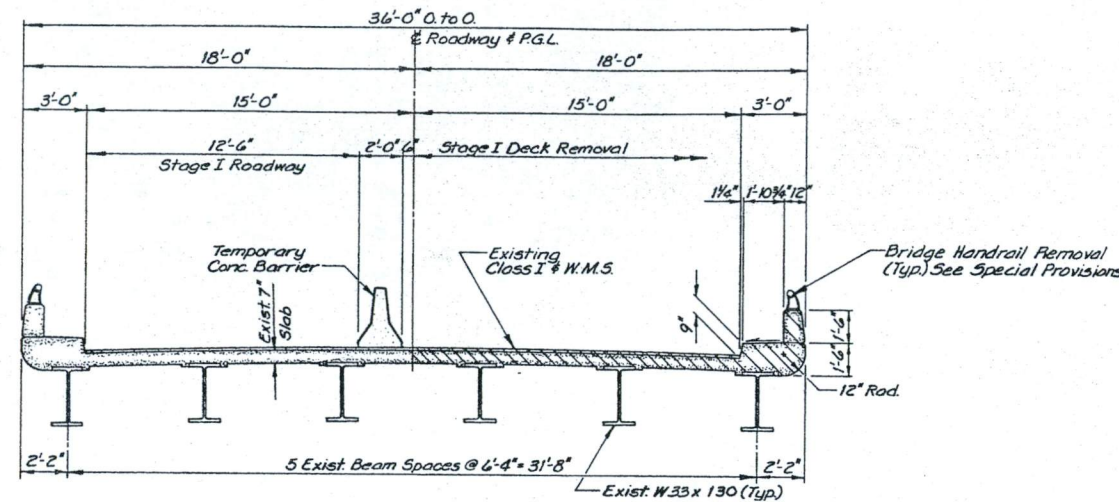
ESCA
CONSULTANTS, INC.

DESIGNED BY:	RDP	11-90
DRAWN BY:	WEM	11-90
CHECKED BY:	JRF	11-90
APPROVED BY:	RDP	11-90

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAI 74		Vermilion	65	34
STA.	TO STA.			
FED. ROAD DIST. NO.	ILLINOIS	PROJECT		
Dwg. No. 3 of 35				

NOTES

- SEE DWG. NO. 33 FOR TEMPORARY CONCRETE BARRIER DETAILS.
- HATCHED AREAS INDICATE REMOVAL OF EXISTING CONCRETE DECK. FOR QUANTITIES OF TEMPORARY CONCRETE BARRIER, SEE ROADWAY PLANS.



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CONSULTANTS, INC.

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CHECKED BY:	JRF	11-90
APPROVED BY:	RDP	11-90

CROSS SECTIONS SHOWING STAGE REMOVAL & CONSTRUCTION
(LOOKING EAST, EASTBOUND LANES; LOOKING WEST, WESTBOUND LANES)

BILL OF MATERIAL

ITEM	UNIT	QUANTITY
Removal of Exist. Conc. Deck 10'1" (EB)	L. Sum	1
Removal of Exist. Conc. Deck 10'2" (WB)	L. Sum	1
Bridge Handrail Removal	Lin. Ft.	10/9

STAGE CONSTRUCTION DETAILS
FAI RTE. 74 OVER STONY CREEK
FAI RTE. 74 SECTION (92-12B-1)BR
VERMILION COUNTY
STATION 2037+72.50
STRUCTURE NO. 092-0018 (EB)
STRUCTURE NO. 092-0019 (WB)

92-12B-11BR

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAI-74		Vermilion	65	35
STA	TO STA			
FED ROAD DIST NO	ILLINOIS	PROJECT		
Dwg. No. 4 of 35				

GIRDER 1

LOCATION	STATION	OFFSET	THEORETICAL GRADE ELEVATIONS	THEORETICAL GRADE ELEVATIONS ADJUSTED FOR DEAD LOAD DEFLECTIONS
Brig. W. Abut.	2036+46.00	-15.833	581.371	581.371
a	2036+56.00	-15.833	581.351	581.368
b	2036+66.00	-15.833	581.331	581.358
c	2036+76.00	-15.833	581.311	581.336
d	2036+86.00	-15.833	581.291	581.305
e	2036+96.00	-15.833	581.271	581.274
Pier 1	2037+02.50	-15.833	581.258	581.258
f	2037+12.50	-15.833	581.238	581.244
g	2037+22.50	-15.833	581.218	581.237
h	2037+32.50	-15.833	581.198	581.225
i	2037+42.50	-15.833	581.178	581.205
j	2037+52.50	-15.833	581.158	581.177
k	2037+62.50	-15.833	581.138	581.144
Pier 2	2037+72.50	-15.833	581.118	581.118
l	2037+82.50	-15.833	581.098	581.104
m	2037+92.50	-15.833	581.078	581.097
n	2038+02.50	-15.833	581.058	581.085
o	2038+12.50	-15.833	581.038	581.065
p	2038+22.50	-15.833	581.018	581.037
q	2038+32.50	-15.833	580.998	581.004
Pier 3	2038+42.50	-15.833	580.978	580.978
r	2038+52.50	-15.833	580.958	580.964
s	2038+62.50	-15.833	580.938	580.956
t	2038+72.50	-15.833	580.918	580.944
u	2038+82.50	-15.833	580.898	580.918
v	2038+92.50	-15.833	580.878	580.889
Brig. E. Abut.	2038+99.00	-15.833	580.865	580.865

GIRDER 2

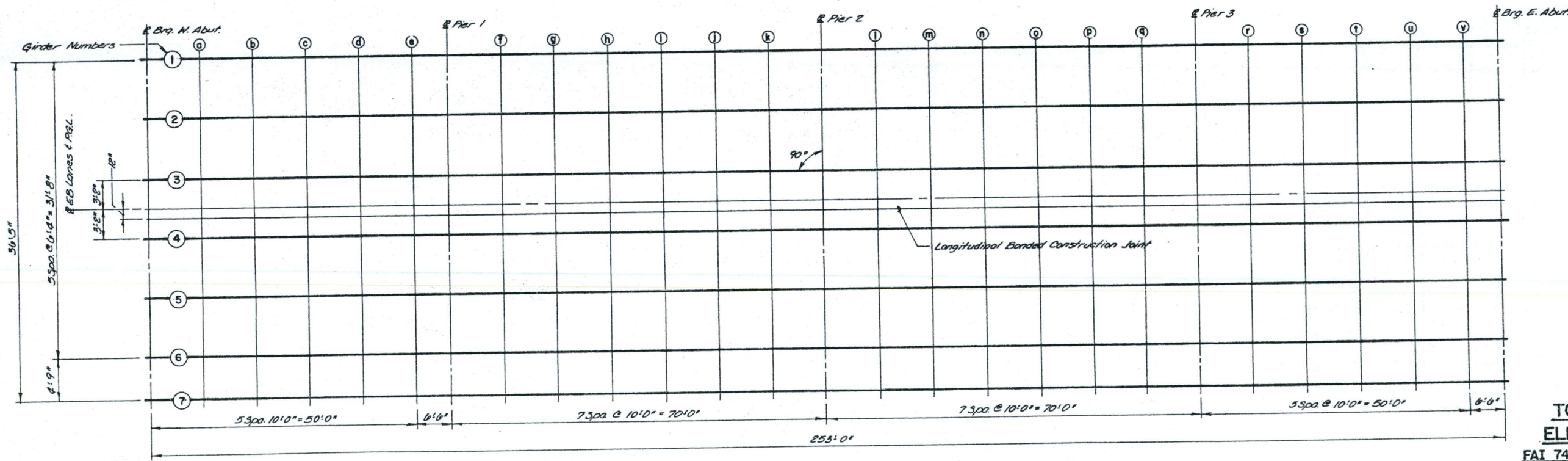
LOCATION	STATION	OFFSET	THEORETICAL GRADE ELEVATIONS	THEORETICAL GRADE ELEVATIONS ADJUSTED FOR DEAD LOAD DEFLECTIONS
Brig. W. Abut.	2036+46.00	-9.500	581.490	581.490
a	2036+56.00	-9.500	581.470	581.488
b	2036+66.00	-9.500	581.450	581.477
c	2036+76.00	-9.500	581.430	581.455
d	2036+86.00	-9.500	581.410	581.425
e	2036+96.00	-9.500	581.390	581.393
Pier 1	2037+02.50	-9.500	581.377	581.377
f	2037+12.50	-9.500	581.357	581.363
g	2037+22.50	-9.500	581.337	581.356
h	2037+32.50	-9.500	581.317	581.346
i	2037+42.50	-9.500	581.297	581.325
j	2037+52.50	-9.500	581.277	581.296
k	2037+62.50	-9.500	581.257	581.263
Pier 2	2037+72.50	-9.500	581.237	581.237
l	2037+82.50	-9.500	581.217	581.223
m	2037+92.50	-9.500	581.197	581.216
n	2038+02.50	-9.500	581.177	581.205
o	2038+12.50	-9.500	581.157	581.186
p	2038+22.50	-9.500	581.137	581.156
q	2038+32.50	-9.500	581.117	581.123
Pier 3	2038+42.50	-9.500	581.097	581.097
r	2038+52.50	-9.500	581.077	581.083
s	2038+62.50	-9.500	581.057	581.075
t	2038+72.50	-9.500	581.037	581.064
u	2038+82.50	-9.500	581.017	581.042
v	2038+92.50	-9.500	580.997	581.009
Brig. E. Abut.	2038+99.00	-9.500	580.984	580.984

GIRDER 3

LOCATION	STATION	OFFSET	THEORETICAL GRADE ELEVATIONS	THEORETICAL GRADE ELEVATIONS ADJUSTED FOR DEAD LOAD DEFLECTIONS
Brig. W. Abut.	2036+46.00	-3.167	581.589	581.589
a	2036+56.00	-3.167	581.569	581.587
b	2036+66.00	-3.167	581.549	581.576
c	2036+76.00	-3.167	581.529	581.554
d	2036+86.00	-3.167	581.509	581.524
e	2036+96.00	-3.167	581.489	581.492
Pier 1	2037+02.50	-3.167	581.476	581.476
f	2037+12.50	-3.167	581.456	581.462
g	2037+22.50	-3.167	581.436	581.455
h	2037+32.50	-3.167	581.416	581.445
i	2037+42.50	-3.167	581.396	581.424
j	2037+52.50	-3.167	581.376	581.395
k	2037+62.50	-3.167	581.356	581.362
Pier 2	2037+72.50	-3.167	581.336	581.336
l	2037+82.50	-3.167	581.316	581.322
m	2037+92.50	-3.167	581.296	581.315
n	2038+02.50	-3.167	581.276	581.304
o	2038+12.50	-3.167	581.256	581.285
p	2038+22.50	-3.167	581.236	581.255
q	2038+32.50	-3.167	581.216	581.222
Pier 3	2038+42.50	-3.167	581.196	581.196
r	2038+52.50	-3.167	581.176	581.182
s	2038+62.50	-3.167	581.156	581.174
t	2038+72.50	-3.167	581.136	581.163
u	2038+82.50	-3.167	581.116	581.141
v	2038+92.50	-3.167	581.096	581.108
Brig. E. Abut.	2038+99.00	-3.167	581.083	581.083

P. G. L.

LOCATION	STATION	OFFSET	THEORETICAL GRADE ELEVATIONS	THEORETICAL GRADE ELEVATIONS ADJUSTED FOR DEAD LOAD DEFLECTIONS
Brig. W. Abut.	2036+46.00	0.000	581.638	581.638
a	2036+56.00	0.000	581.618	581.636
b	2036+66.00	0.000	581.598	581.625
c	2036+76.00	0.000	581.578	581.603
d	2036+86.00	0.000	581.558	581.573
e	2036+96.00	0.000	581.538	581.541
Pier 1	2037+02.50	0.000	581.525	581.525
f	2037+12.50	0.000	581.505	581.511
g	2037+22.50	0.000	581.485	581.504
h	2037+32.50	0.000	581.465	581.494
i	2037+42.50	0.000	581.445	581.473
j	2037+52.50	0.000	581.425	581.444
k	2037+62.50	0.000	581.405	581.411
Pier 2	2037+72.50	0.000	581.385	581.385
l	2037+82.50	0.000	581.365	581.371
m	2037+92.50	0.000	581.345	581.364
n	2038+02.50	0.000	581.325	581.353
o	2038+12.50	0.000	581.305	581.334
p	2038+22.50	0.000	581.285	581.304
q	2038+32.50	0.000	581.265	581.271
Pier 3	2038+42.50	0.000	581.245	581.245
r	2038+52.50	0.000	581.225	581.231
s	2038+62.50	0.000	581.205	581.223
t	2038+72.50	0.000	581.185	581.212
u	2038+82.50	0.000	581.165	581.190
v	2038+92.50	0.000	581.145	581.157
Brig. E. Abut.	2038+99.00	0.000	581.132	581.132



PLAN

TOP OF SLAB ELEVATIONS (EB)
 FAI 74 OVER STONY CREEK
 FAI RTE. 74 SECTION(92-12B-11BR)
 VERMILION COUNTY
 STATION 2037+72.50
 STRUCTURE NO. 092-0018 (EB)
 STRUCTURE NO. 092-0019 (WB)

ESCA
 CONSULTANTS, INC.

DESIGNED BY:	AMR	11/90
DRAWN BY:	PDV	11/90
CHECKED BY:	JRG	11/90
APPROVED BY:	RDP	11/90

(92-128-1)BR

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAI 74	*	Vermilion	63	37
STA.	TO STA.			
FED. ROAD DIST. NO.	ILLINOIS PROJECT			
Dwg. No. 6 of 35				

GIRDER 8

LOCATION	STATION	OFFSET	THEORETICAL GRADE ELEVATIONS	THEORETICAL GRADE ELEVATIONS ADJUSTED FOR DEAD LOAD DEFLECTIONS
W. Abut.	2036+46.00	-20.583	581.272	581.272
a	2036+56.00	-20.583	581.252	581.269
b	2036+66.00	-20.583	581.232	581.259
c	2036+76.00	-20.583	581.212	581.237
d	2036+86.00	-20.583	581.192	581.208
e	2036+96.00	-20.583	581.172	581.175
Pier 1	2037+02.50	-20.583	581.159	581.159
f	2037+12.50	-20.583	581.139	581.148
g	2037+22.50	-20.583	581.119	581.142
h	2037+32.50	-20.583	581.099	581.131
i	2037+42.50	-20.583	581.079	581.111
j	2037+52.50	-20.583	581.059	581.081
k	2037+62.50	-20.583	581.039	581.048
Pier 2	2037+72.50	-20.583	581.019	581.019
l	2037+82.50	-20.583	580.999	581.008
m	2037+92.50	-20.583	580.979	581.001
n	2038+02.50	-20.583	580.959	580.991
o	2038+12.50	-20.583	580.939	580.971
p	2038+22.50	-20.583	580.919	580.942
q	2038+32.50	-20.583	580.899	580.901
Pier 3	2038+42.50	-20.583	580.879	580.879
r	2038+52.50	-20.583	580.859	580.866
s	2038+62.50	-20.583	580.839	580.859
t	2038+72.50	-20.583	580.819	580.847
u	2038+82.50	-20.583	580.799	580.824
v	2038+92.50	-20.583	580.779	580.791
E. Abut.	2038+99.00	-20.583	580.766	580.766

GIRDER 9

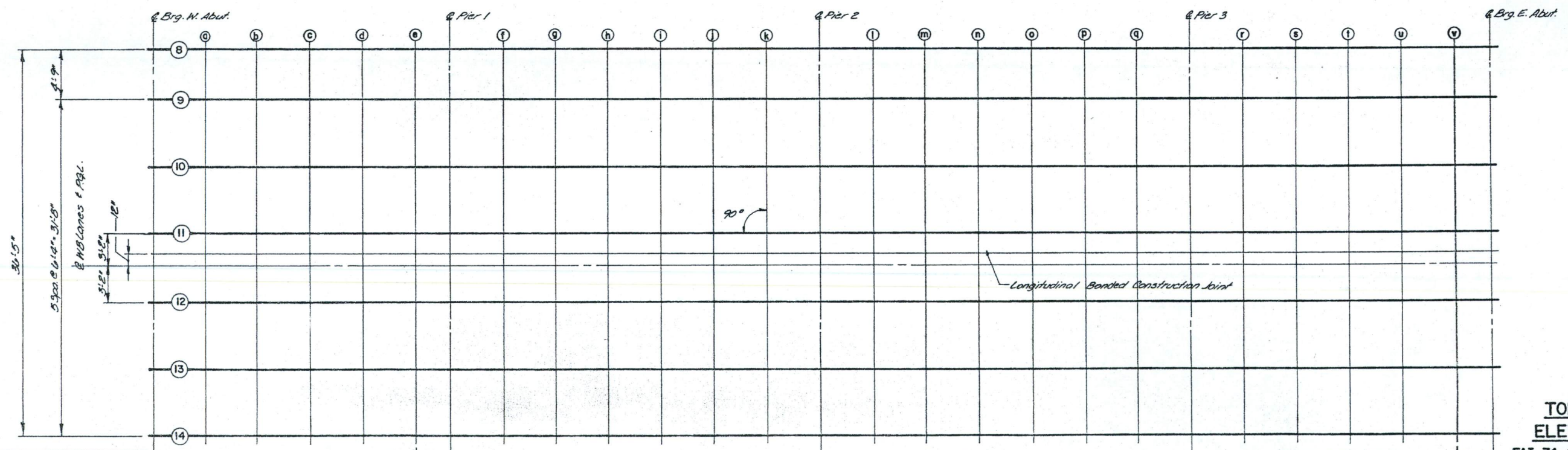
LOCATION	STATION	OFFSET	THEORETICAL GRADE ELEVATIONS	THEORETICAL GRADE ELEVATIONS ADJUSTED FOR DEAD LOAD DEFLECTIONS
W. Abut.	2036+46.00	-15.833	581.371	581.371
a	2036+56.00	-15.833	581.351	581.366
b	2036+66.00	-15.833	581.331	581.355
c	2036+76.00	-15.833	581.311	581.333
d	2036+86.00	-15.833	581.291	581.304
e	2036+96.00	-15.833	581.271	581.274
Pier 1	2037+02.50	-15.833	581.258	581.258
f	2037+12.50	-15.833	581.238	581.244
g	2037+22.50	-15.833	581.218	581.235
h	2037+32.50	-15.833	581.198	581.224
i	2037+42.50	-15.833	581.178	581.203
j	2037+52.50	-15.833	581.158	581.175
k	2037+62.50	-15.833	581.138	581.144
Pier 2	2037+72.50	-15.833	581.118	581.118
l	2037+82.50	-15.833	581.098	581.104
m	2037+92.50	-15.833	581.078	581.095
n	2038+02.50	-15.833	581.058	581.083
o	2038+12.50	-15.833	581.038	581.064
p	2038+22.50	-15.833	581.018	581.035
q	2038+32.50	-15.833	580.998	581.004
Pier 3	2038+42.50	-15.833	580.978	580.978
r	2038+52.50	-15.833	580.958	580.964
s	2038+62.50	-15.833	580.938	580.955
t	2038+72.50	-15.833	580.918	580.942
u	2038+82.50	-15.833	580.898	580.920
v	2038+92.50	-15.833	580.878	580.888
E. Abut.	2038+99.00	-15.833	580.865	580.865

GIRDER 10

LOCATION	STATION	OFFSET	THEORETICAL GRADE ELEVATIONS	THEORETICAL GRADE ELEVATIONS ADJUSTED FOR DEAD LOAD DEFLECTIONS
W. Abut.	2036+46.00	-9.500	581.490	581.490
a	2036+56.00	-9.500	581.470	581.488
b	2036+66.00	-9.500	581.450	581.477
c	2036+76.00	-9.500	581.430	581.455
d	2036+86.00	-9.500	581.410	581.425
e	2036+96.00	-9.500	581.390	581.393
Pier 1	2037+02.50	-9.500	581.377	581.377
f	2037+12.50	-9.500	581.357	581.363
g	2037+22.50	-9.500	581.337	581.356
h	2037+32.50	-9.500	581.317	581.346
i	2037+42.50	-9.500	581.297	581.325
j	2037+52.50	-9.500	581.277	581.296
k	2037+62.50	-9.500	581.257	581.263
Pier 2	2037+72.50	-9.500	581.237	581.237
l	2037+82.50	-9.500	581.217	581.223
m	2037+92.50	-9.500	581.197	581.216
n	2038+02.50	-9.500	581.177	581.205
o	2038+12.50	-9.500	581.157	581.186
p	2038+22.50	-9.500	581.137	581.156
q	2038+32.50	-9.500	581.117	581.123
Pier 3	2038+42.50	-9.500	581.097	581.097
r	2038+52.50	-9.500	581.077	581.083
s	2038+62.50	-9.500	581.057	581.075
t	2038+72.50	-9.500	581.037	581.064
u	2038+82.50	-9.500	581.017	581.042
v	2038+92.50	-9.500	580.997	581.009
E. Abut.	2038+99.00	-9.500	580.984	580.984

GIRDER 11

LOCATION	STATION	OFFSET	THEORETICAL GRADE ELEVATIONS	THEORETICAL GRADE ELEVATIONS ADJUSTED FOR DEAD LOAD DEFLECTIONS
W. Abut.	2036+46.00	-3.167	581.589	581.589
a	2036+56.00	-3.167	581.569	581.587
b	2036+66.00	-3.167	581.549	581.576
c	2036+76.00	-3.167	581.529	581.554
d	2036+86.00	-3.167	581.509	581.524
e	2036+96.00	-3.167	581.489	581.492
Pier 1	2037+02.50	-3.167	581.476	581.476
f	2037+12.50	-3.167	581.456	581.462
g	2037+22.50	-3.167	581.436	581.455
h	2037+32.50	-3.167	581.416	581.445
i	2037+42.50	-3.167	581.396	581.424
j	2037+52.50	-3.167	581.376	581.395
k	2037+62.50	-3.167	581.356	581.362
Pier 2	2037+72.50	-3.167	581.336	581.336
l	2037+82.50	-3.167	581.316	581.322
m	2037+92.50	-3.167	581.296	581.315
n	2038+02.50	-3.167	581.276	581.304
o	2038+12.50	-3.167	581.256	581.285
p	2038+22.50	-3.167	581.236	581.255
q	2038+32.50	-3.167	581.216	581.222
Pier 3	2038+42.50	-3.167	581.196	581.196
r	2038+52.50	-3.167	581.176	581.182
s	2038+62.50	-3.167	581.156	581.174
t	2038+72.50	-3.167	581.136	581.163
u	2038+82.50	-3.167	581.116	581.141
v	2038+92.50	-3.167	581.096	581.108
E. Abut.	2038+99.00	-3.167	581.083	581.083



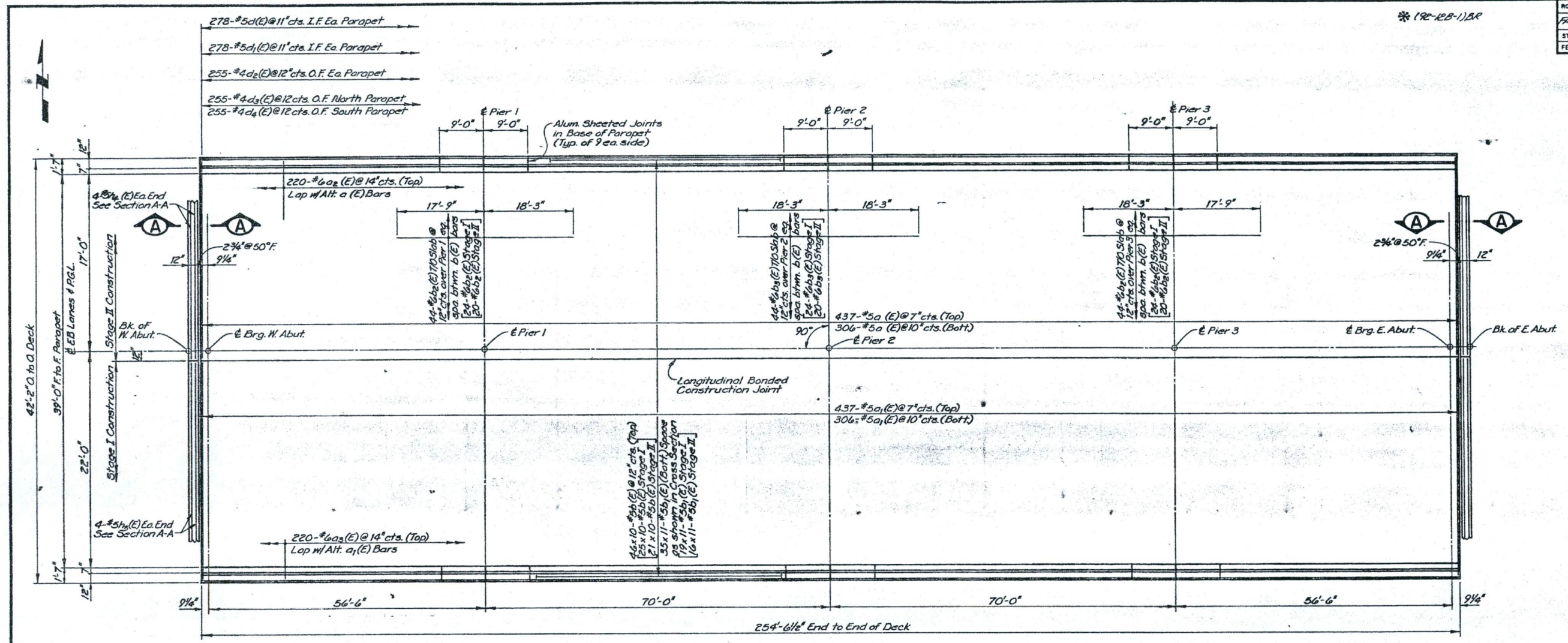
ESCA
CONSULTANTS, INC.

DESIGNED BY:	AMR	11/90
DRAWN BY:	PDV	11/90
CHECKED BY:	JAG	11/90
APPROVED BY:	RDP	11/90

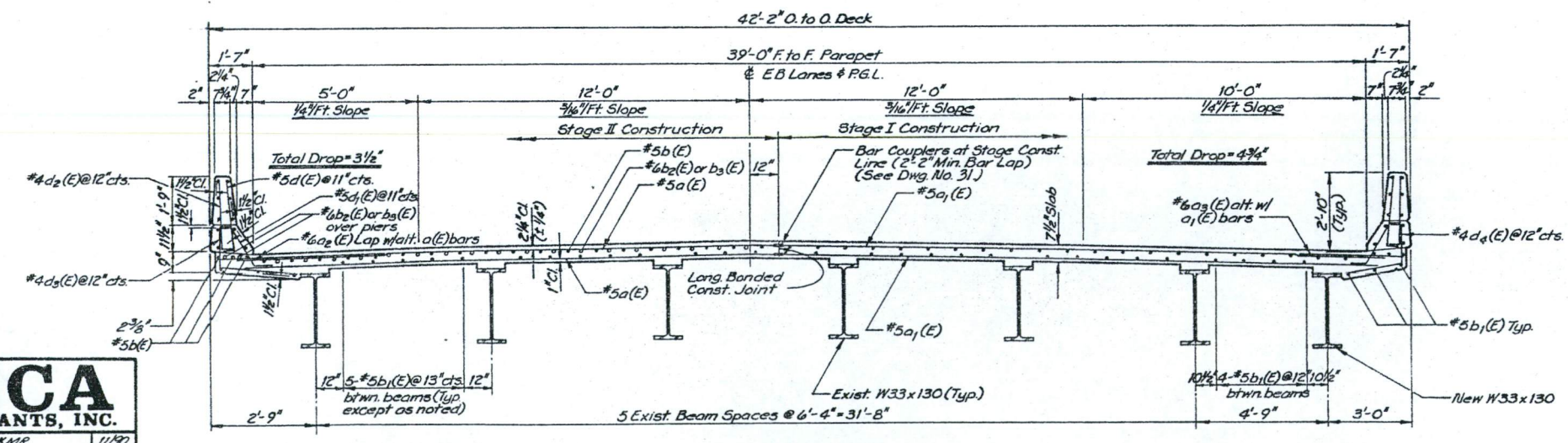
PLAN

TOP OF SLAB
ELEVATIONS (WB)
FAI 74 OVER STONY CREEK
FAI RTE. 74 SECTION (92-128-1)BR
VERMILION COUNTY
STATION 2037+72.50
STRUCTURE NO. 092-0018 (EB)
STRUCTURE NO. 092-0019 (WB)

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAI 74	*	Vermilion	65	39
STA	TO STA			
FED. ROAD DIST NO.	ILL. NOIS	PROJECT		
Dwg. No. 8 of 35				



PLAN
Min. Bar Lap #5 1'-8"



CROSS SECTION (LOOKING EAST)
NEAR PIER NEAR MIDSPAN

- NOTES**
- SEE DWG. NO. 11 FOR SECTION A-A.
 - BAR INDICATED THUS: 46x10-#5, ETC., INDICATES 46 LINES OF BARS WITH 10 LENGTHS PER LINE.
 - REINFORCEMENT BARS DESIGNATED (E) SHALL BE EPOXY COATED.
 - ONLY ALUMINUM SHEETED JOINTS IN PARAPETS ARE SHOWN ON THIS DWG. LOCATIONS OF ALL OTHER PARAPET JOINTS ARE SHOWN ON DWG. NO. 11.
 - REINFORCEMENT BARS AND BAR COUPLERS AT STAGE LINE SHALL BE TIED WITH DOUBLE THE AMOUNT OF TIES NORMALLY USED.

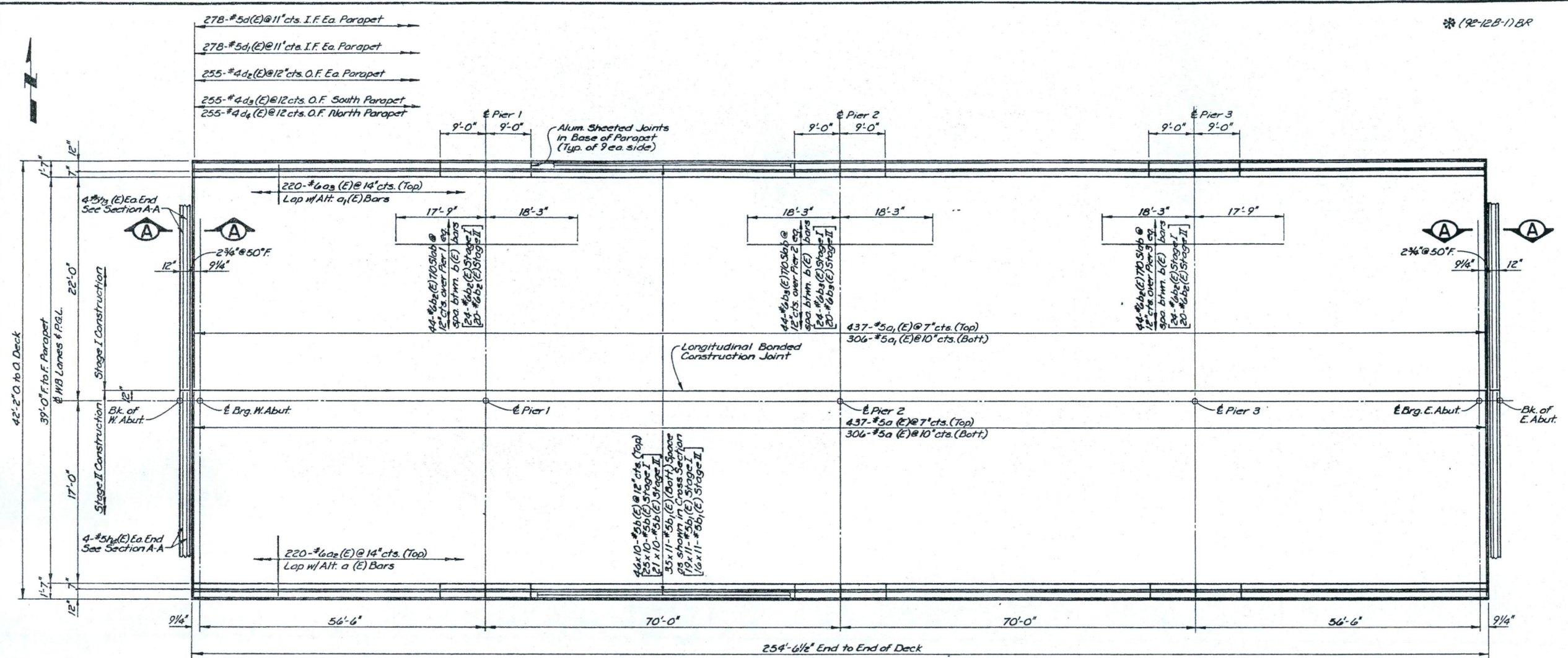
SUPERSTRUCTURE (EB)
FAI 74 OVER STONY CREEK
FAI RTE. 74 SECTION (92-12B-1) BR
VERMILION COUNTY
STATION 2037+72.50
STRUCTURE NO. 092-0018 (EB)
STRUCTURE NO. 092-0019 (WB)

ESCA
CONSULTANTS, INC.

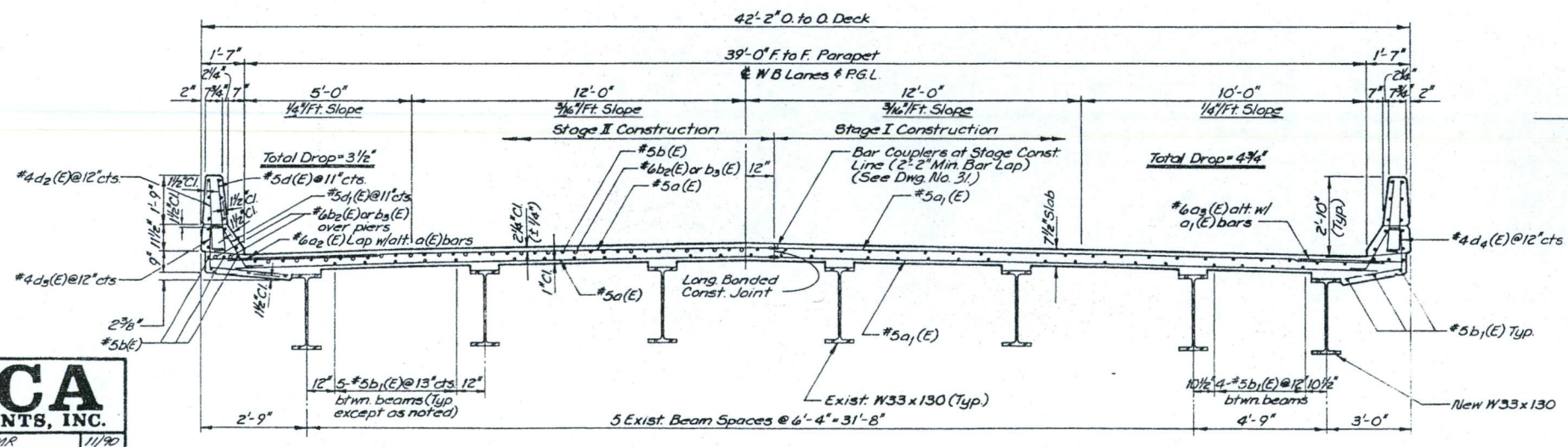
DESIGNED BY:	AMR	11/90
DRAWN BY:	WEM	11/90
CHECKED BY:	RDP	11/90
APPROVED BY:	RDP	11/90

(92-12B-1) BR

ROUTE NO	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAI 74	*	Vermilion	65	40
STA	TO STA			
FED ROAD DIST NO	ILLINOIS	PROJECT		
Dwg. No. 9 of 33				



PLAN
Min. Bar Lap #5 1'-8"



NEAR PIER CROSS SECTION (LOOKING WEST) NEAR MIDSPAN

NOTES

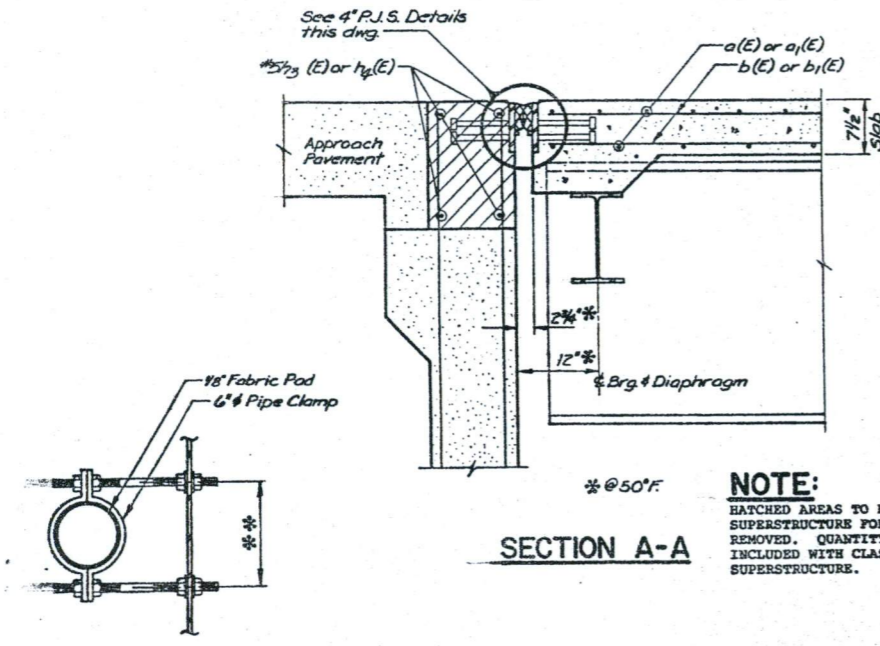
- SEE DWG. NO. 11 FOR SECTION A-A.
- BARS INDICATED THUS: 46x10-#5, ETC., INDICATES 46 LINES OF BARS WITH 10 LENGTHS PER LINE.
- REINFORCEMENT BARS DESIGNATED (E) SHALL BE EPOXY COATED.
- ONLY ALUMINUM SHEETED JOINTS IN PARAPETS ARE SHOWN ON THIS DWG. LOCATIONS OF ALL OTHER PARAPET JOINTS ARE SHOWN ON DWG. 10.
- REINFORCEMENT BARS AND BAR COUPLERS AT STAGE LINE SHALL BE TIED WITH DOUBLE THE AMOUNT OF TIES NORMALLY USED.

SUPERSTRUCTURE (WB)
FAI 74 OVER STONY CREEK
FAI RTE. 74 SECTION(92-12B-1)BR
VERMILION COUNTY
STATION 2037+72.50
STRUCTURE NO. 092-0018 (EB)
STRUCTURE NO. 092-0019 (WB)

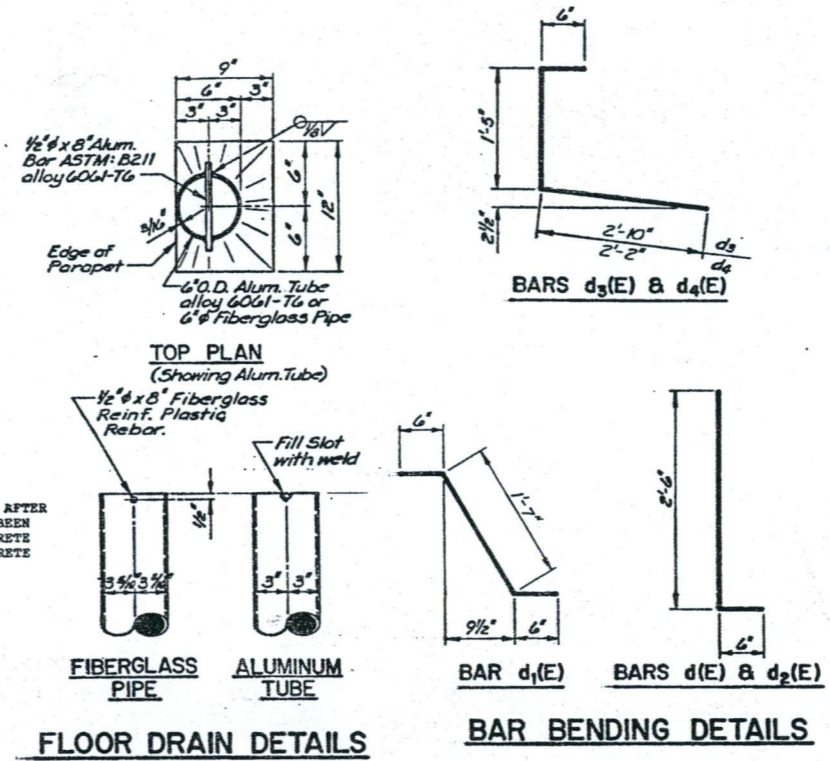
ESCA
CONSULTANTS, INC.

DESIGNED BY:	KMR	11/90
DRAWN BY:	WEM	11/90
CHECKED BY:	RDP	11/90
APPROVED BY:	RDP	11/90

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAI-74		Vermilion	65	42
STA.	TO STA.			
FED. ROAD DIST. NO.	ILLINOIS PROJECT			
Dwg. No. 11 of 33				



** Dimension as required by Pipe Clamp.
SECTION C-C

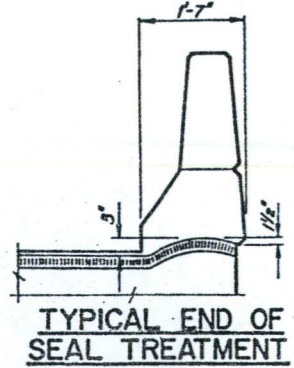
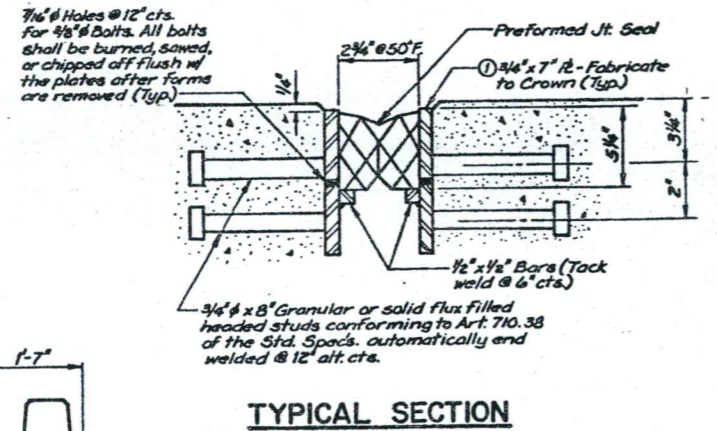


BILL OF MATERIAL (WB BRIDGE)

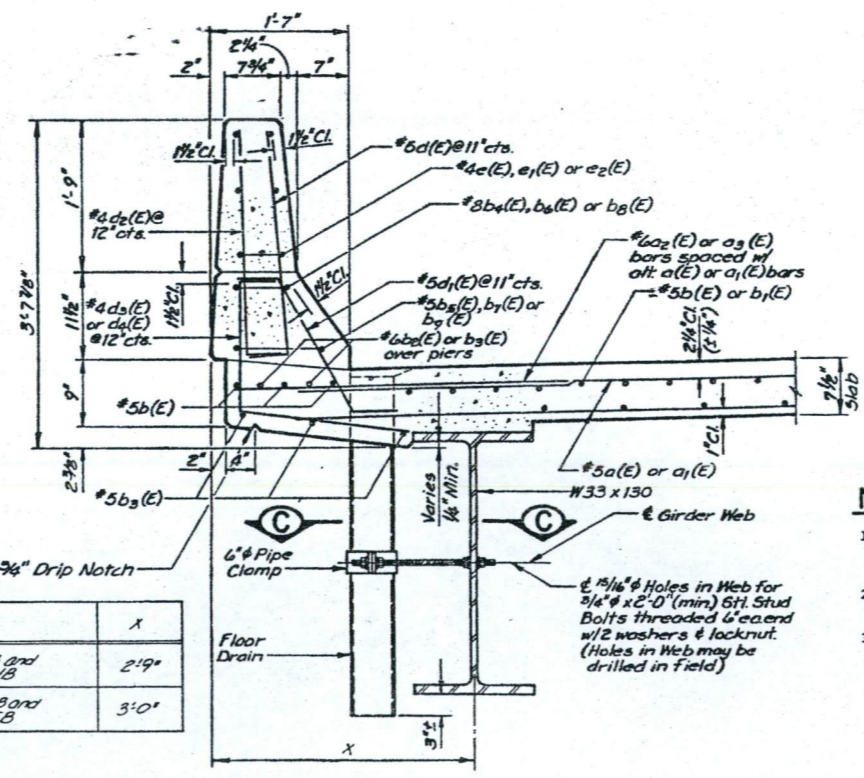
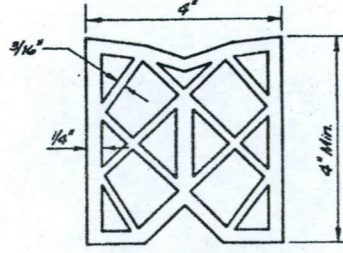
BAR	NO	SIZE	LENGTH	SHAPE
a(E)	743	#5	18'-4"	—
a1(E)	743	#5	21'-6"	—
a2(E)	220	#6	6'-0"	—
a3(E)	220	#6	4'-0"	—
b(E)	460	#5	26'-11"	—
b1(E)	385	#5	24'-8"	—
b2(E)	88	#6	36'-0"	—
b3(E)	44	#6	36'-6"	—
b4(E)	8	#8	25'-10"	—
b5(E)	8	#5	24'-10"	—
b6(E)	12	#8	8'-8"	—
b7(E)	12	#5	8'-8"	—
b8(E)	8	#8	27'-8"	—
b9(E)	8	#5	26'-8"	—
b10(E)	10	#5	2'-0"	—
d(E)	556	#5	3'-0"	L
d1(E)	556	#5	2'-7"	L
d2(E)	510	#4	3'-0"	L
d3(E)	255	#4	4'-9"	L
d4(E)	255	#4	4'-1"	L
e(E)	36	#4	15'-9"	—
e1(E)	36	#4	8'-8"	—
e2(E)	36	#4	17'-0"	—

BILL OF MATERIAL (EB BRIDGE)

BAR	NO	SIZE	LENGTH	SHAPE
a(E)	743	#5	18'-4"	—
a1(E)	743	#5	21'-6"	—
a2(E)	220	#6	6'-0"	—
a3(E)	220	#6	4'-0"	—
b(E)	460	#5	26'-11"	—
b1(E)	385	#5	24'-8"	—
b2(E)	88	#6	36'-0"	—
b3(E)	44	#6	36'-6"	—
b4(E)	8	#8	25'-10"	—
b5(E)	8	#5	24'-10"	—
b6(E)	12	#8	8'-8"	—
b7(E)	12	#5	8'-8"	—
b8(E)	8	#8	27'-8"	—
b9(E)	8	#5	26'-8"	—
b10(E)	10	#5	2'-0"	—
d(E)	556	#5	3'-0"	L
d1(E)	556	#5	2'-7"	L
d2(E)	510	#4	3'-0"	L
d3(E)	255	#4	4'-9"	L
d4(E)	255	#4	4'-1"	L
e(E)	36	#4	15'-9"	—
e1(E)	36	#4	8'-8"	—
e2(E)	36	#4	17'-0"	—



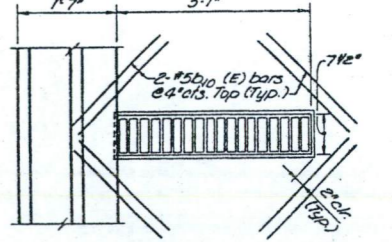
① Furnish in segments of 20ft maximum length. Maximum space between installed segments shall be 3/16". Seal space with Silicone Sealant suitable for Structural Steel. Centerline of one space to be located at Stage Const. Line.



Location	X
N. Parapet, EB and S. Parapet, WB	2'-9"
N. Parapet, WB and S. Parapet, EB	3'-0"

NOTES

- FIBERGLASS PIPE SHALL CONFORM TO ASTM D2996, WITH SHORT-TIME RUPTURE STRENGTH HOOP TENSILE STRESS OF 30,000 P.S.I. MINIMUM.
- THE SURFACE OF THE FIBERGLASS PIPE SHALL BE FREE OF BOND INHIBITING AGENTS.
- THE EXTERIOR SURFACES OF THE FLOOR DRAIN SHALL BE PAINTED WITH THE LEAD & CHROMATE FREE ALKYD PAINTING SPECIFIED FOR STRUCTURAL STEEL. THE EXTERIOR SURFACES OF THE ALUMINUM TUBE SHALL BE CLEANED AND GIVEN A WASHCOAT PRETREATMENT IN ACCORDANCE WITH STEEL STRUCTURES PAINTING COUNCIL'S SPEC. SSPC-SP1 & SSPC-PAINT 27 PRIOR TO PAINTING. FIBERGLASS TO HAVE PREMASH AS PER MIL-P-15328.
- THE CLAMPING DEVICE SHALL BE GALVANIZED IN ACCORDANCE WITH AASHTO M-232.



REINFORCEMENT DETAIL AT SCUPPERS (TYPICAL)

SUPERSTRUCTURE DETAILS
FAI 74 OVER STONY CREEK
FAI RTE. 74 SECTION (92-12B-1) BR
VERMILION COUNTY
STATION 2037+72.50
STRUCTURE NO. 092-0018(EB)
STRUCTURE NO. 092-0019(WB)

ESCA
CONSULTANTS, INC.

DESIGNED BY:	KMR	11/90
DRAWN BY:	WEM	11/90
CHECKED BY:	RDP	11/90
APPROVED BY:	RDP	11/90

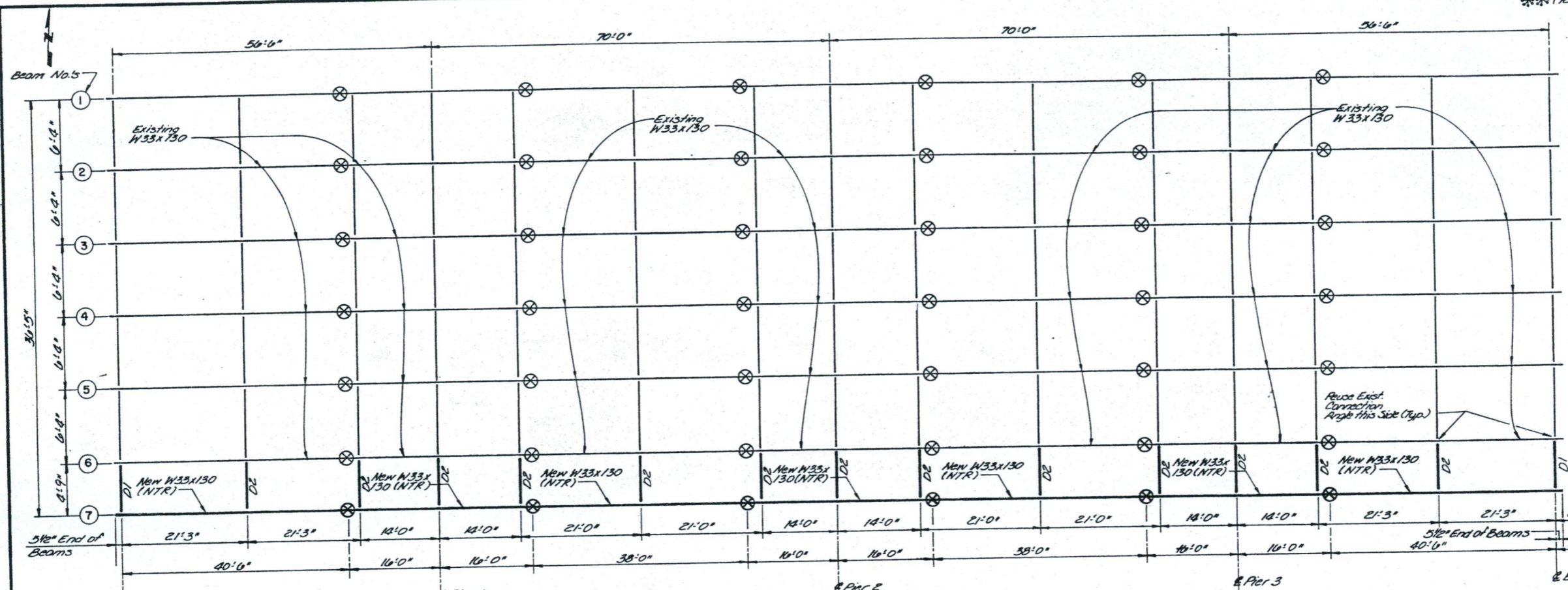
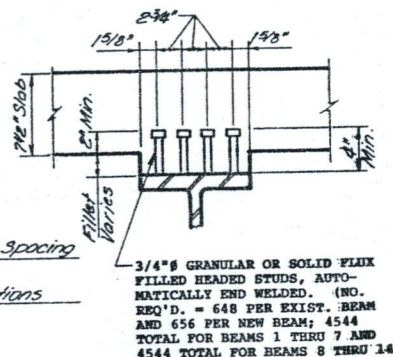
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAI-74	12B-1	Vermilion	65	43
STA.	TO STA.			
FED. ROAD DIST. NO.	ILLINOIS PROJECT	Dwg. No. 12 of 33		

NOTES

- D1 & D2 INDICATE NEW DIAPHRAGMS. SEE DWG. NO. 13 FOR DIAPHRAGM CONNECTION DETAILS.
- PROVIDE SHEAR STUDS ON EXISTING AND NEW BEAMS AS SHOWN ON DETAILS THIS DWG.
- PROVIDE NEW H.S. BOLTS AT ALL CONNECTIONS WHICH MUST BE UNCONNECTED OR LOOSENED IN ORDER TO REPOSITION BEAMS.
- SEE DWG. NO. 13 FOR SPLICE DETAILS & FOR SHEAR STUD SPACING DETAILS.

**(E.B. & W.B.)
BILL OF MATERIAL**

ITEM	UNIT	QUANTITY
Furnish Erect Struct. SH.	L. Sum	1
Shear Studs	Each	9276
Rivet Removal	Each	228



FRAMING PLAN (EB BRIDGE)

MOMENT TABLES (E.B. & W.B.)

	EXISTING BEAMS (WITH COVER PLATES)						NEW BEAMS (WITHOUT COVER PLATES)						
	0.4 SPAN 1	PIER 1	SPAN 2	PIER 2	SPAN 3	PIER 3	0.4 SPAN 1	PIER 1	SPAN 2	PIER 2	SPAN 3	PIER 3	0.6 SPAN 4
I_x	in ⁴	6,710	9,290	6,710	9,290	6,710	6,710	6,710	6,710	6,710	6,710	6,710	6,710
I_c	in ⁴	13,015	---	13,015	---	13,015	---	13,015	---	12,253	---	12,253	---
I_c	in ⁴	17,842	---	17,842	---	17,842	---	16,988	---	16,988	---	16,988	---
S_x	in ³	405.6	547.1	405.6	547.1	405.6	405.6	405.6	405.6	405.6	405.6	405.6	405.6
S_c	in ³	538.2	---	538.2	---	538.2	---	526.5	---	526.5	---	526.5	---
S_c	in ³	597.4	---	597.4	---	597.4	---	588.1	---	588.1	---	588.1	---
$M_{N.C.}$	k/ft	.77	1.07	.77	1.07	.77	.67	.94	.67	.94	.67	.94	.67
$M_{R.N.C.}$	ft-k	167.1	433.5	147.4	436.4	147.4	433.5	167.1	150.9	367.4	139.9	367.4	150.9
$M_{R.C.}$	ft-k	.27	---	.27	---	.27	---	.27	---	.27	---	.27	---
$M_{R.C.}$	ft-k	64.4	---	65.4	---	64.4	66.4	66.4	69.7	69.7	69.7	66.4	
M_{IMP}	ft-k	375.5	234.6	424.1	254.5	424.0	234.7	375.6	282.7	163.0	321.4	179.2	321.4
M_{IMP}	ft-k	103.4	62.3	108.7	67.6	108.7	62.3	103.5	77.9	43.3	82.4	46.0	82.4
$5/3 (M_{R.C.} + M_{IMP})$	ft-k	798.2	494.8	888.0	536.8	887.8	495.0	798.5	601.0	343.8	673.0	375.3	673.0
$M_{R.N.C.}$	ksi	4.94	9.51	4.36	9.57	4.36	9.51	4.94	4.46	10.87	4.14	11.20	4.14
$M_{R.C.}$	ksi	1.44	---	1.46	---	1.46	---	1.44	1.51	1.59	1.59	1.59	1.51
$5/3 (M_{R.C.} + I)$	ksi	16.03	10.85	17.84	11.77	17.83	10.86	16.04	12.26	10.17	13.73	11.10	13.73
f_B (TOTAL)	ksi	---	26.47	---	27.74	---	26.48	---	27.35	---	28.99	---	27.35
V_R	k	46.3	---	41.2	---	41.2	---	46.3	34.7	---	31.1	---	34.7
M_U	ft-k	2338	---	2338	---	2338	---	2338	2,498	---	2,498	---	2,498
f_B (OVERLOAD)	ksi	22.41	20.36	23.66	21.34	23.65	20.37	22.42	18.23	21.04	19.46	22.30	19.46

T/O STEEL BEAM ELEVATIONS *

BEAM	W. ABUT.	SPAN 1 SPLICE	PIER 1	SPAN 2 SPLICE	SPAN 2 SPLICE	PIER 2	SPAN 3 SPLICE	SPAN 3 SPLICE	PIER 3	SPAN 4 SPLICE	E. ABUT.
1	580.655	---	580.542	---	---	580.402	---	---	580.262	---	580.149
2	580.759	---	580.646	---	---	580.506	---	---	580.366	---	580.253
3	580.832	---	580.719	---	---	580.579	---	---	580.439	---	580.326
4	580.832	---	580.719	---	---	580.579	---	---	580.439	---	580.326
5	580.759	---	580.646	---	---	580.506	---	---	580.366	---	580.253
6	580.655	---	580.542	---	---	580.402	---	---	580.262	---	580.149
7	580.553	580.472	580.440	580.408	580.332	580.300	580.269	580.193	580.160	580.128	580.047

* ELEVATIONS SHOWN ARE TOP OF FLANGE (NOT SPLICE PLATE OR COVER PLATE) AFTER RAISING; THEY DO NOT INCLUDE DEFLECTION, AND ARE INTENDED FOR USE IN FABRICATION OF NEW STEEL BEAMS AND TO ASSIST THE CONTRACTOR IN DETERMINING REQUIRED THICKNESS OF SHIM PLATES AND FILL PLATES UNDER BEARINGS. SEE NOTE 5 UNDER "PROCEDURE" ON DWG. NO. 14.

REACTION TABLES (E.B. & W.B.)

	EXISTING BEAMS			NEW BEAMS		
	WEST ABUT.	PIER 1	PIER 2	PIER 3	EAST ABUT.	WEST ABUT.
$R_{R.C.}$	k	22.2	74.8	74.4	74.8	22.2
$R_{R.C.}$	k	33.7	42.2	43.8	42.2	33.7
IMP	k	9.3	11.2	11.2	11.2	9.3
R (TOTAL)	k	65.2	128.2	129.4	128.2	65.2

I_x AND S_x ARE THE MOMENT OF INERTIA AND SECTION MODULUS OF THE STEEL SECTION USED IN COMPUTING f_B (TOTAL).
 I_c AND S_c ARE THE MOMENT OF INERTIA AND SECTION MODULUS OF THE COMPOSITE SECTION USED IN COMPUTING f_B (TOTAL).
 V_R IS THE MAXIMUM V + IMPACT SHEAR RANGE IN SPAN.
 THE FULLY PLASTIC MOMENT CAPACITY (M_U) IS COMPUTED ACCORDING TO AASHTO 10.50.1.1 & 10.48.1.
 M_N (APPLIED MOMENT) = $1.3 [M_{R.C.} + M_{IMP} + 5/3 (M_{R.C.} + I)]$.
 f_B (TOTAL) IS THE SUM OF THE STRESSES DUE TO
 $1.3 [M_{R.C.} + M_{IMP} + 5/3 (M_{R.C.} + I)]$.
 $M_{R.N.C.}$ = MOMENT DUE TO DEAD LOADS ON NON-COMPOSITE SECTION.
 $M_{R.C.}$ = MOMENT DUE TO DEAD LOADS ON COMPOSITE SECTION.
 M_{IMP} = MOMENT DUE TO LIVE LOAD ON NON-COMPOSITE OR COMPOSITE SECTION.
 M_{IMP} = MOMENT DUE TO LIVE LOAD IMPACT ON NON-COMPOSITE OR COMPOSITE SECTION.
 f_B (OVERLOAD) IS THE SUM OF THE STRESSES DUE TO
 $M_{R.C.} + M_{IMP} + 5/3 (M_{R.C.} + I)$.

SUPERSTRUCTURE STEEL DETAILS

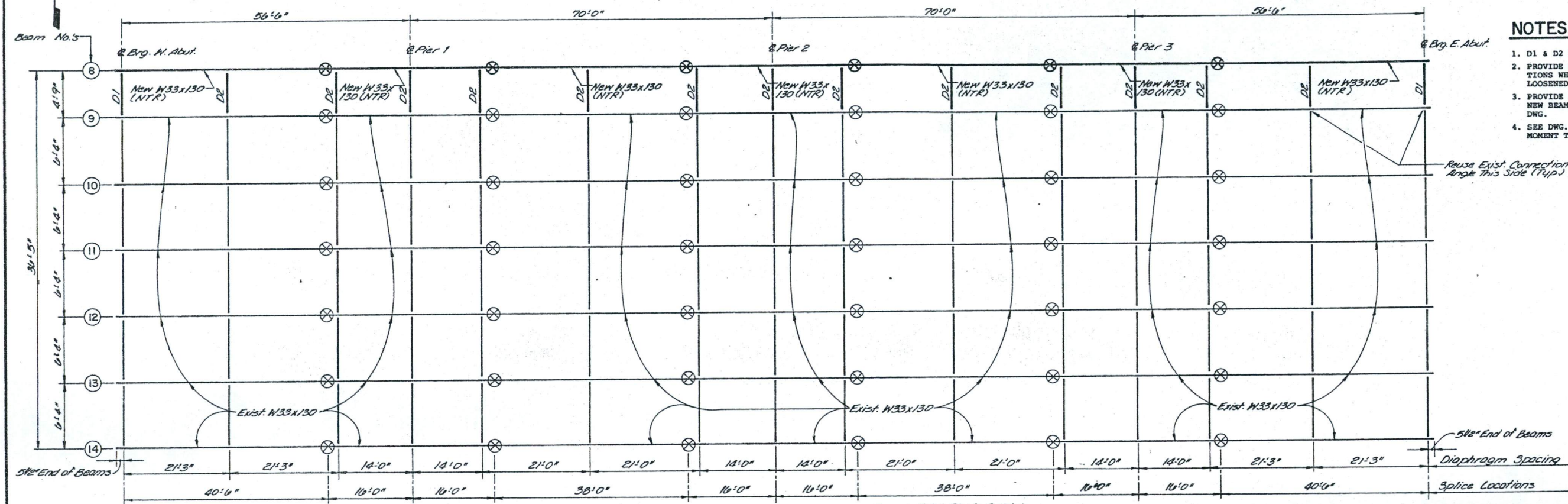
(EB BRIDGE)
 FAI 74 OVER STONY CREEK
 FAI RTE. 74 SECTION(92-12B-1)BR
 VERMILION COUNTY
 STATION 2037+72.50
 STRUCTURE NO. 092-0018 (EB)
 STRUCTURE NO. 092-0019 (WB)



DESIGNED BY:	JRF	11-90
DRAWN BY:	CJG	11-90
CHECKED BY:	RDP	11-90
APPROVED BY:	RDP	11-90

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAI-74	92-12B-1	Vermilion	65	44
STA	TO STA			
FED. ROAD DIST. NO.	ILLINOIS PROJECT			
Dwg. No. 13 of 93				

92-12B-1BR



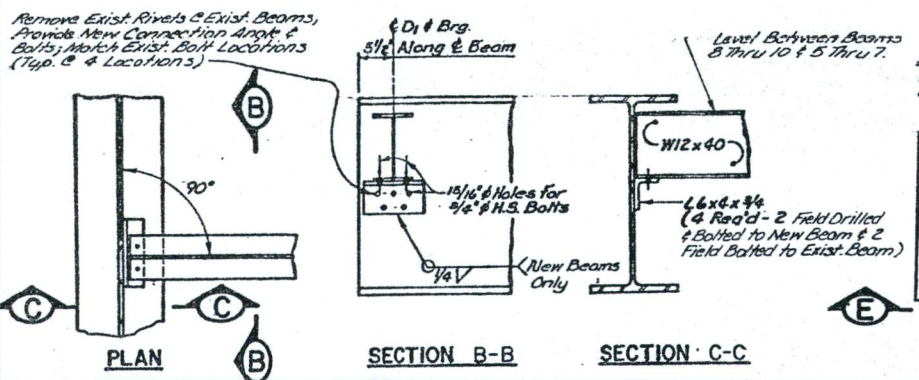
- NOTES**
- D1 & D2 INDICATES NEW DIAPHRAGMS.
 - PROVIDE NEW H.S. BOLTS AT ALL CONNECTIONS WHICH MUST BE UNCONNECTED OR LOOSENED IN ORDER TO REPOSITION BEAMS.
 - PROVIDE SHEAR STUDS ON EXISTING AND NEW BEAMS AS SHOWN ON DETAILS THIS DWG.
 - SEE DWG. NO. 12 FOR SECTION A-A, MOMENT TABLES, AND REACTION TABLE.

FRAMING PLAN (W.B. BRIDGE)

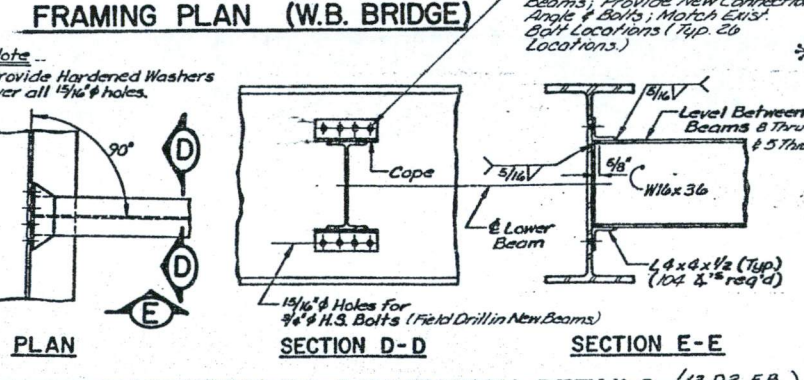
T/O STEEL BEAM ELEVATIONS *

BEAM	W. ABUT.	SPAN 1 SPLICE	PIER 1	SPAN 2 SPLICE	PIER 2	SPAN 3 SPLICE	SPAN 3 SPLICE	PIER 3	SPAN 4 SPLICE	E. ABUT.	
8	580.553	580.472	580.440	580.408	580.332	580.300	580.269	580.193	580.160	580.128	580.047
9	580.655	---	580.542	---	---	580.402	---	---	580.262	---	580.149
10	580.759	---	580.646	---	---	580.506	---	---	580.366	---	580.253
11	580.832	---	580.719	---	---	580.579	---	---	580.439	---	580.326
12	580.832	---	580.719	---	---	580.579	---	---	580.439	---	580.326
13	580.759	---	580.646	---	---	580.506	---	---	580.366	---	580.253
14	580.655	---	580.542	---	---	580.402	---	---	580.262	---	580.149

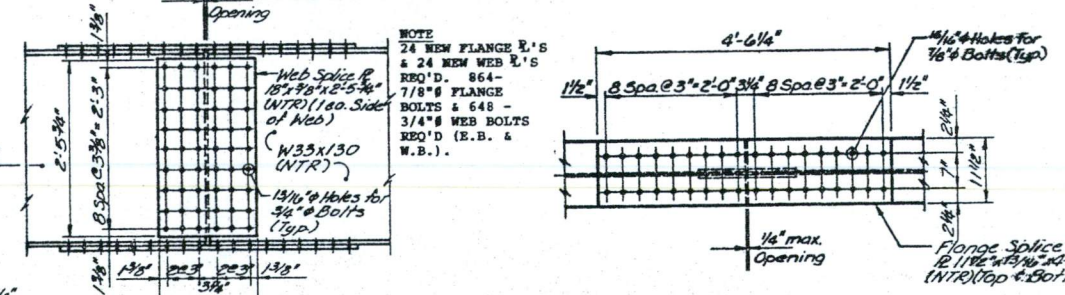
* ELEVATIONS SHOWN ARE TOP OF FLANGE (NOT SPLICE PLATE OR COVER PLATE) AFTER RAISING; THEY DO NOT INCLUDE DEFLECTION, AND ARE INTENDED FOR USE IN FABRICATION OF NEW STEEL BEAMS AND TO ASSIST THE CONTRACTOR IN DETERMINING REQUIRED THICKNESS OF SHIM PLATES AND FILL PLATES UNDER BEARINGS. SEE NOTE 5 UNDER "PROCEDURE" ON DWG. NO. 14.



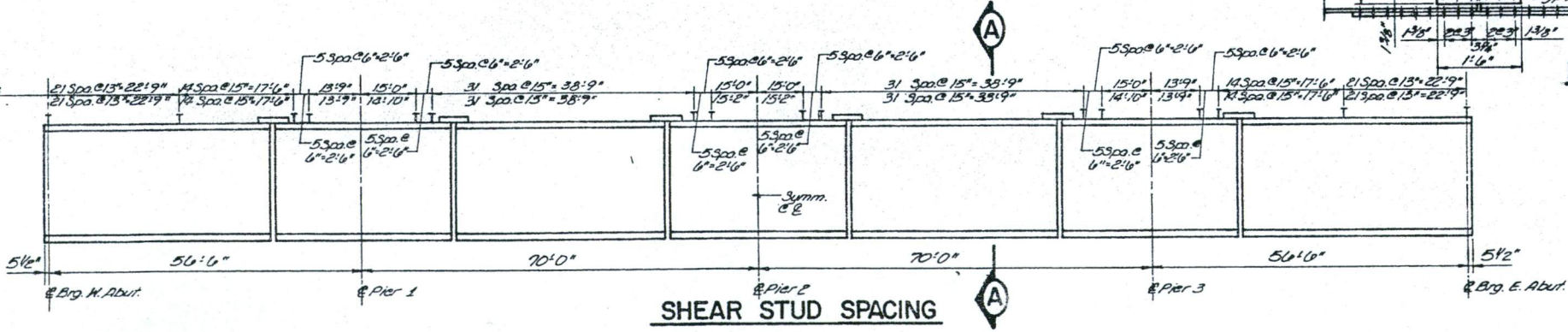
DIAPHRAGM D1 CONNECTION DETAILS (2 D1 EB (4-L3), 2 D1 WB (4-L3))



DIAPHRAGM D2 CONNECTION DETAILS (13 D2 EB, 13 D2 W.B.)



FIELD SPLICE DETAIL



SHEAR STUD SPACING

SUPERSTRUCTURE STEEL DETAILS (WB BRIDGE)

FAI 74 OVER STONY CREEK
 FAI RTE. 74 SECTION (92-12B-1)BR
 VERMILION COUNTY
 STATION 2037+72.50
 STRUCTURE NO. 092-0018 (EB)
 STRUCTURE NO. 092-0019 (WB)

ESCA
 CONSULTANTS, INC.

DESIGNED BY:	JRF	11/90
DRAWN BY:	CJG	11/90
CHECKED BY:	RDP	11/90
APPROVED BY:	RDP	11/90

92-12B-1)BR

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAI 74	**	Vermilion	65	15
STA.	TO STA.			
FED. ROAD DIST. NO.	ILLINOIS	PROJECT		
		Dwg. No. 14 of 33		

PROCEDURE

1. THE CONTRACTOR SHALL SUBMIT FOR APPROVAL BY THE ENGINEER, PLANS FOR RAISING EXISTING BEAMS, INSTALLING NEW EXPANSION BEARINGS AND SHIMMING EXISTING FIXED BEARINGS PRIOR TO COMMENCING ANY RELATED WORK. THIS WORK SHALL BE DONE FOR EACH STAGE AFTER EXISTING CONCRETE DECK IS REMOVED AND PRIOR TO POURING OF NEW CONCRETE DECK. THE MAXIMUM DEAD LOAD REACTION PER BEAM (WEIGHT OF STEEL ONLY) AT ABUTMENTS IS 4 kips AND AT PIERS IS 15 kips.
2. DIAPHRAGMS ALONG THE STAGE CONSTRUCTION LINE SHALL BE REMOVED BEFORE RAISING OPERATIONS COMMENCE. ALL NUTS ON BEARING ANCHOR BOLTS OR BEAMS TO BE RAISED SHALL BE REMOVED (CUT OFF ANCHOR BOLTS FLUSH WITH BRG. SEAT).
3. RAISING SHALL BE DONE BY JACKING. MEASURES SHALL BE TAKEN TO PREVENT LATERAL OR LONGITUDINAL DISPLACEMENT OF BEAMS DURING RAISING OPERATIONS. ALL BEAMS AT A GIVEN SUBSTRUCTURE ELEMENT FOR EACH STAGE SHALL BE SLOWLY AND CONTINUALLY RAISED THE SAME AMOUNT SIMULTANEOUSLY, WITH THE MAXIMUM AMOUNT OF RAISE LIMITED TO 1" GREATER THAN THAT REQUIRED TO INSTALL NEW BEARINGS OR SHIM PLATES. ANY SWAY OF THE STEEL DURING RAISING OPERATIONS SHALL BE IMMEDIATELY CORRECTED.
4. DIAPHRAGMS MAY BE USED AS JACKING BEAMS. IF SO, JACKS SHALL BE PLACED AT THE MIDDPOINT OF THE DIAPHRAGM, ON THE CENTERLINE OF BEARING. THE STEEL SHALL BE RAISED IN INCREMENTS OF 1/2" AND SHALL BE BLOCKED IN POSITION UPON COMPLETION OF A RAISING INTERVAL. TIMBER BLOCKING MAY BE USED TO HOLD THE STRUCTURE IN PLACE WHILE JACKS ARE REPOSITIONED FOR THE NEXT LIFT.
5. PRIOR TO RAISING, ELEVATIONS OF EXISTING BEARING SEATS SHALL BE TAKEN AND THE ENGINEER SHALL VERIFY FILL PLATE AND SHIM PLATE THICKNESSES REQUIRED AT EACH BEARING. THIS SHALL BE ACCOMPLISHED BY USING FIELD MEASUREMENTS ALONG WITH THE "TABLE OF ELEVATIONS - TOP OF STEEL BEAMS" ON DWGS. 13 & 14.
6. RAISE BEAMS, REMOVE EXISTING EXPANSION BEARINGS, INSTALL NEW SHIM PLATES AND PLATES P2 UNDER EXISTING FIXED BEARINGS, AND INSTALL NEW ELASTOMERIC EXPANSION BEARINGS. INSTALL NEW ANCHOR BOLTS AT ALL FIXED BEARINGS, AT SIDE RETAINER ANGLES AT PIERS 1 & 3, AND AT ABUTMENTS.
7. AFTER WORK ON THE BEARINGS IS COMPLETE, REPAINT ANY AREAS DISTURBED BY WELDINGS, ETC. WITH THE SAME PAINT SYSTEM SPECIFIED FOR THE STRUCTURAL STEEL.
8. ALL WORK REQUIRED TO RAISE THE BEAMS SHALL BE PAID FOR AT THE LUMP SUM PRICE FOR "JACKING EXISTING STRUCTURES." SEE SPECIAL PROVISIONS.

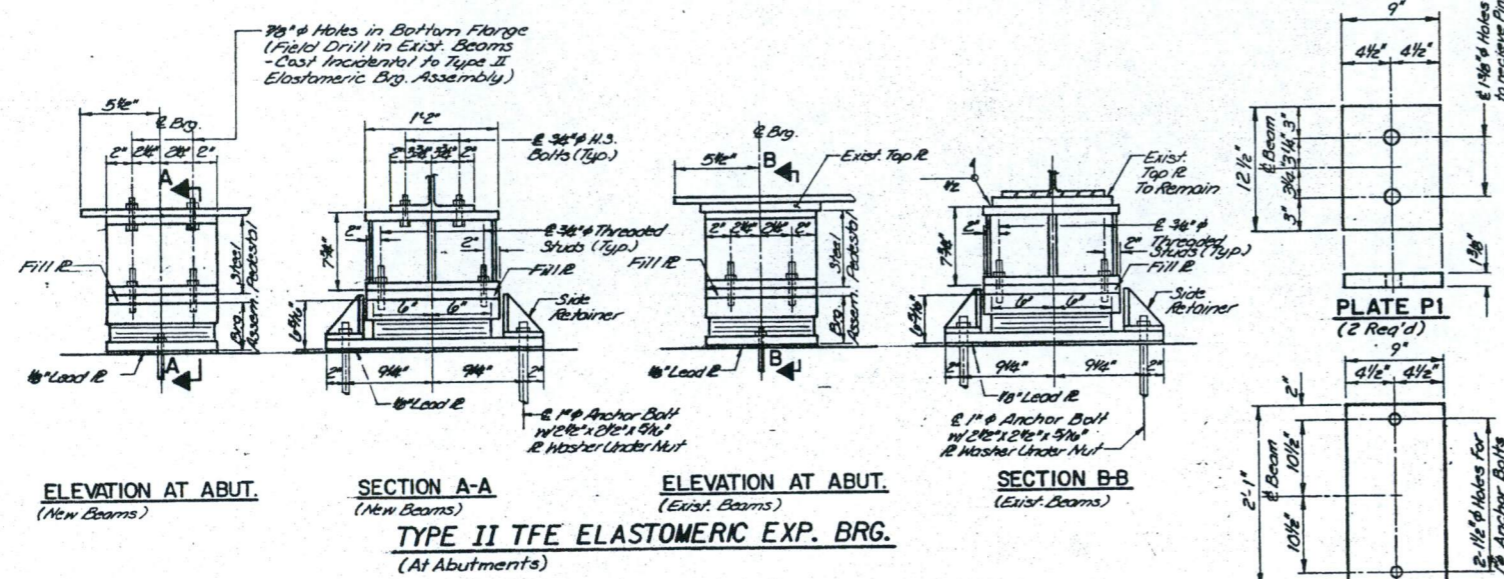
NOTES

1. PORTIONS OF EXISTING FIXED AND EXPANSION BEARINGS TO BE REUSED IN NEW CONSTRUCTION.
2. SEE DWG. NO. 32 FOR ANCHOR BOLT LENGTHS & DETAILS.
3. ANCHOR BOLTS FOR NEW BEAMS AT FIXED BEARINGS MAY BE BUILT INTO THE MASONRY.
4. THE NEW STEEL PEDESTALS, FILL PLATES & SIDE RETAINERS FOR EXP. BRGS. AS WELL AS THE NEW PLATES P2 & SHIM PLATES UNDER EXISTING FIXED BEARINGS ARE INCLUDED IN "FURNISHING & ERECTING STRUCTURAL STEEL."
5. SEE DWG. NO. 15 FOR DETAILS OF TYPE I BEARINGS AT PIERS 1 & 3.

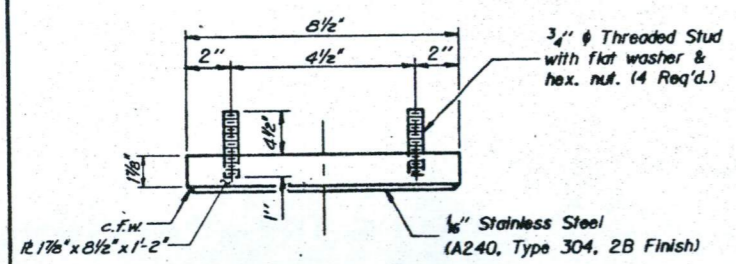
SHIM PLATE THICKNESS TABLE
(Field Verify - See Note 5 Under "Procedure")

BEAM NO.	PIER 2
1	2 1/8"
2	2"
3	2 7/8"
4	2 7/8"
5	2"
6	2 1/8"
7	1 3/4"
8	1 3/4"
9	2 1/8"
10	2"
11	2 7/8"
12	2 7/8"
13	2"
14	2 1/8"

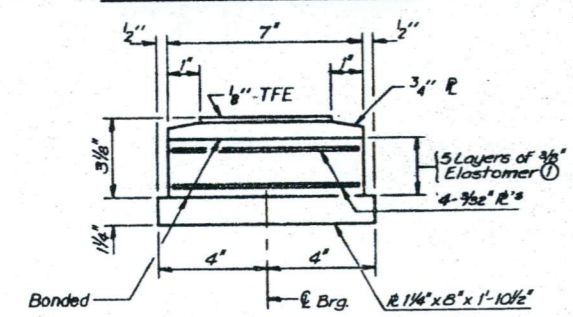
BEARINGS
FAI 74 OVER STONY CREEK
FAI RTE. 74 SECTION(92-12B-1)BR
VERMILION COUNTY
STATION 2037+72.50
STRUCTURE NO. 092-0018(EB)
STRUCTURE NO. 092-0019(WB)



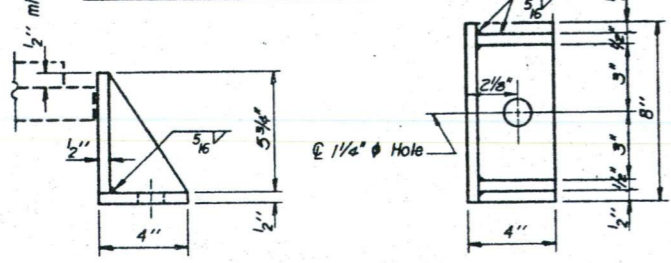
TYPE II TFE ELASTOMERIC EXP. BRG.
(At Abutments)



TOP BEARING ASSEMBLY

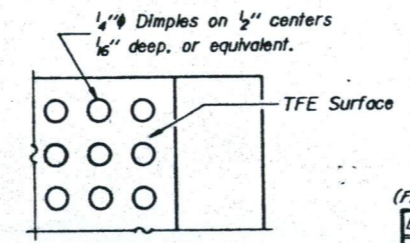


BOTTOM BEARING ASSEMBLY

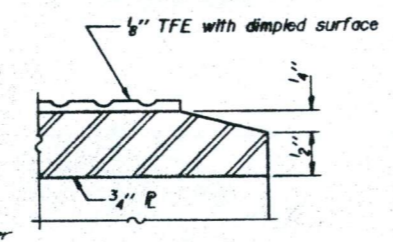


SIDE RETAINER

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



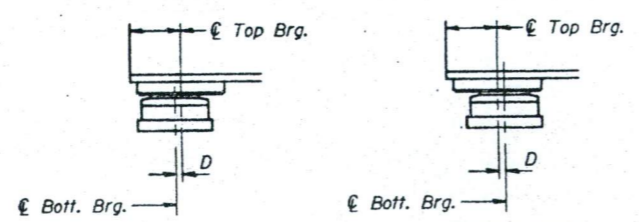
PLAN-TFE SURFACE



SECTION THRU TFE

Note: The 1/8" TFE sheet shall be bonded directly to the top steel plate with a two-component, medium viscosity epoxy resin, conforming to the requirements of the Federal Specification MMM-A-134, Type I. The bond agent shall be applied on the full area of the contact surfaces.

Bonding of 1/8" TFE sheet during vulcanizing process will be permitted provided the process and method of adjusting assembly height is approved by the Engineer.



BELOW 50°F. (Move bott. brg. away from fixed brg.)
ABOVE 50°F. (Move bott. brg. toward fixed brg.)

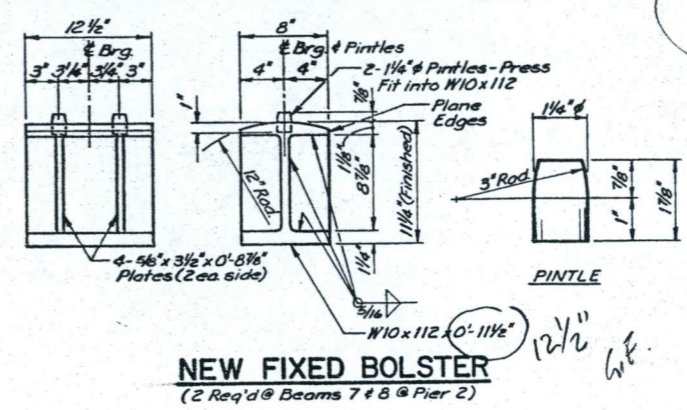
SETTING ANCHOR BOLTS AT EXP. BRG.

D=1/8" per each 100' of expansion for every 15° temp. change from the normal temp. of 50°F.

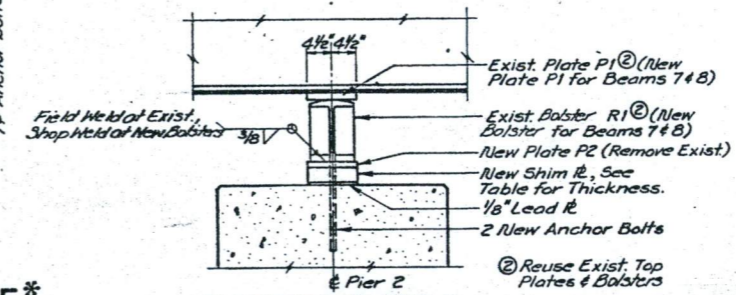
FILL PLATE THICKNESS TABLE*
(Field Verify - See Note 5 Under "Procedure")

BEAM NO.	W. ABUT.	PIER 1	PIER 3	E. ABUT.
1	3/8"	3/16"	3/16"	1/16"
2	3/8"	1/16"	1/16"	3/8"
3	1 3/16"	1 3/16"	1 3/16"	1 1/4"
4	1 3/16"	1 3/16"	1 3/16"	1 1/4"
5	3/8"	1/16"	1/16"	3/8"
6	3/8"	3/16"	3/16"	7/16"
7	3/8"	7/16"	7/16"	3/16"
8	3/8"	7/16"	7/16"	3/16"
9	3/8"	3/16"	3/16"	7/16"
10	3/8"	1/16"	1/16"	3/8"
11	1 3/16"	1 3/16"	1 3/16"	1 1/4"
12	1 3/16"	1 3/16"	1 3/16"	1 1/4"
13	3/8"	1/16"	1/16"	3/8"
14	3/8"	3/16"	3/16"	7/16"

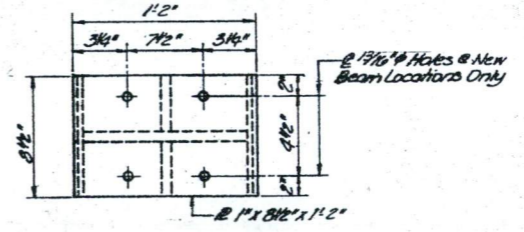
* Fill Plate Thickness may be the sum of two plates.



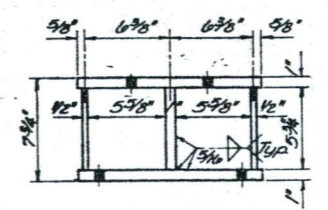
NEW FIXED BOLSTER
(2 Req'd @ Beams 7 & 8 @ Pier 2)



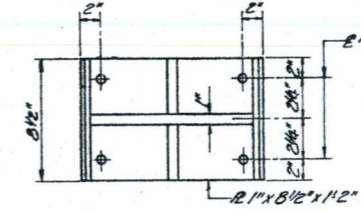
ELEVATION AT PIER 2 FIXED BEARINGS



PLAN-TOP PLATE



ELEVATION
No. Req'd = 28 (14 @ Ea. Abut.)



PLAN-BOTTOM PLATE

STEEL PEDESTAL DETAIL AT ABUTMENTS

BILL OF MATERIAL

ITEM	UNIT	QUANTITY
Elastomeric Bearing Assembly, Type I	Each	28
Elastomeric Bearing Assembly, Type II	Each	28

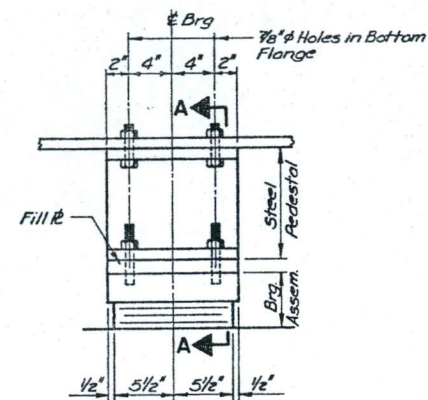
ESCA
CONSULTANTS, INC.
DESIGNED BY: JRF 1/1-90
DRAWN BY: WEM 1/1-90
CHECKED BY: RDP 1/1-90
APPROVED BY: RDP 1/1-90

* (92-12B-1)BR

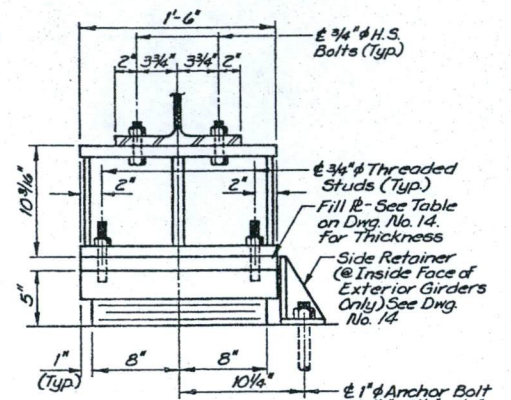
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAI 74	*	Vermilion	65	46
STA.	TO STA.			
FED. ROAD DIST. NO.	ILLINOIS	PROJECT		
Dwg. No. 15 of 33				

NOTES

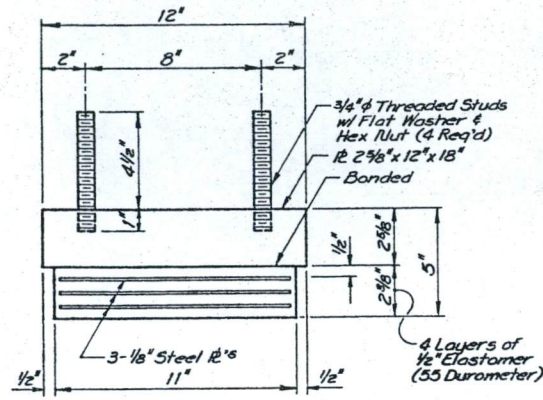
1. See Dwg. No. 14 for additional details.
2. See Dwg. No. 32 for Anchor Bolt details.



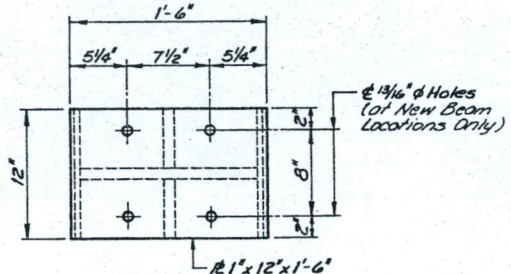
ELEVATION AT EXPANSION BRG
(New Beam)



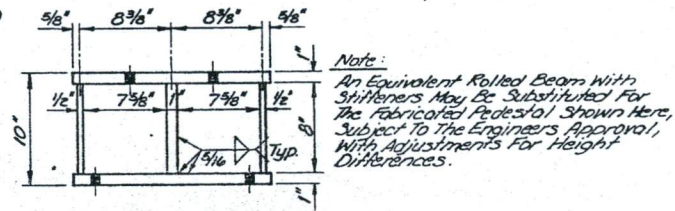
SECTION A-A



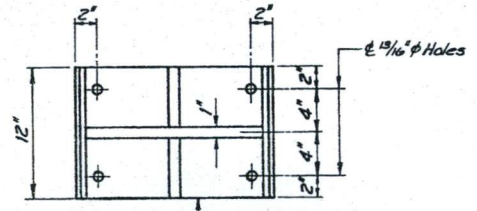
BEARING ASSEMBLY



PLAN-TOP PLATE
(At Piers 1 & 3)

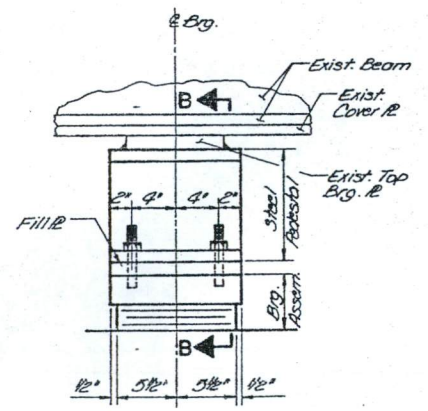


ELEVATION
No. Req'd = 28 (14 @ Pier 1 & 14 @ Pier 3)

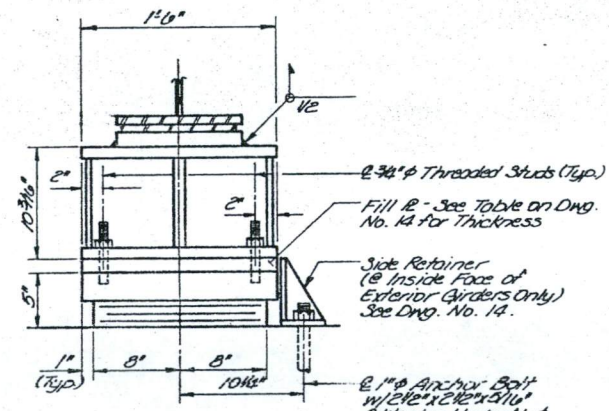


PLAN-BOTTOM PLATE
(At Piers 1 & 3)

STEEL PEDESTAL
(At Piers 1 & 3)



ELEVATION AT EXPANSION BRG
(Exist. Beam)



SECTION B-B

11"x16" TYPE I ELASTOMERIC EXP. BRG.
(At Piers 1 & 3)

ESCA
CONSULTANTS, INC.

DESIGNED BY:	JRF	11-90
DRAWN BY:	WEM	11-90
CHECKED BY:	RDP	11-90
APPROVED BY:	RDP	11-90

BEARINGS (CONT.)
FAI 74 OVER STONY CREEK
FAI RTE. 74 SECTION(92-12B-1)BR
VERMILION COUNTY
STATION 2037+72.50
STRUCTURE NO. 092-0018 (EB)
STRUCTURE NO. 092-0019 (WB)

* (92-12B-1) BR

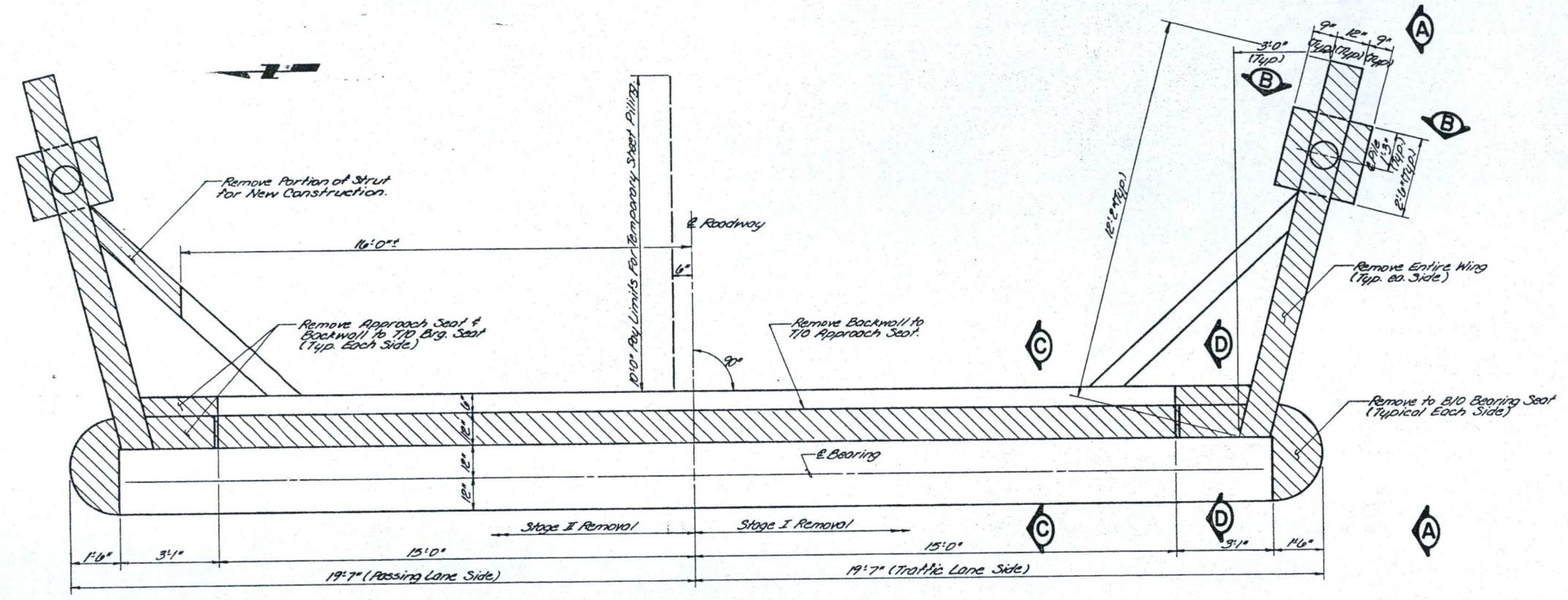
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAI 74	*	Vermilion	65	49
STA.	TO STA.			
FED. ROAD DIST. NO.	ILLINOIS	PROJECT		
		Dwg. No. 18 of 33		

NOTES

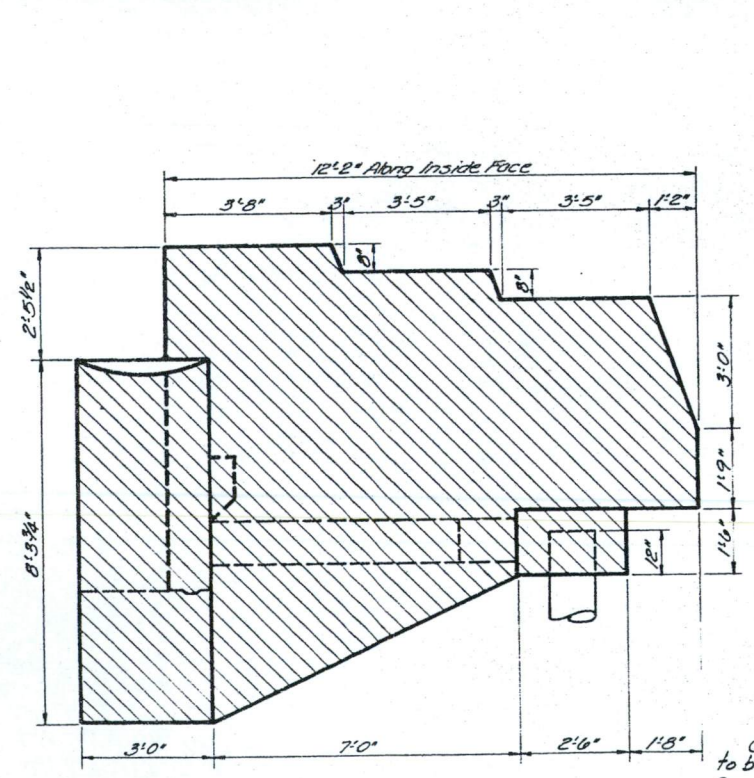
- HATCHED AREAS INDICATE CONCRETE REMOVAL.
- EXISTING REINFORCEMENT WHICH IS TO BE REUSED IN THE NEW CONSTRUCTION AND EXTENDS INTO REMOVAL AREAS SHALL BE PRESERVED.
- THE INFORMATION SHOWN FOR THE TEMPORARY SHEET PILING IS ESTIMATED. IT IS THE CONTRACTOR'S RESPONSIBILITY TO PROVIDE A DESIGN AND COMPUTATIONS OF THE TEMPORARY SHEET PILING AND ASSOCIATED MEMBERS, IF REQUIRED, SUBJECT TO APPROVAL OF THE ENGINEER.

BILL OF MATERIAL

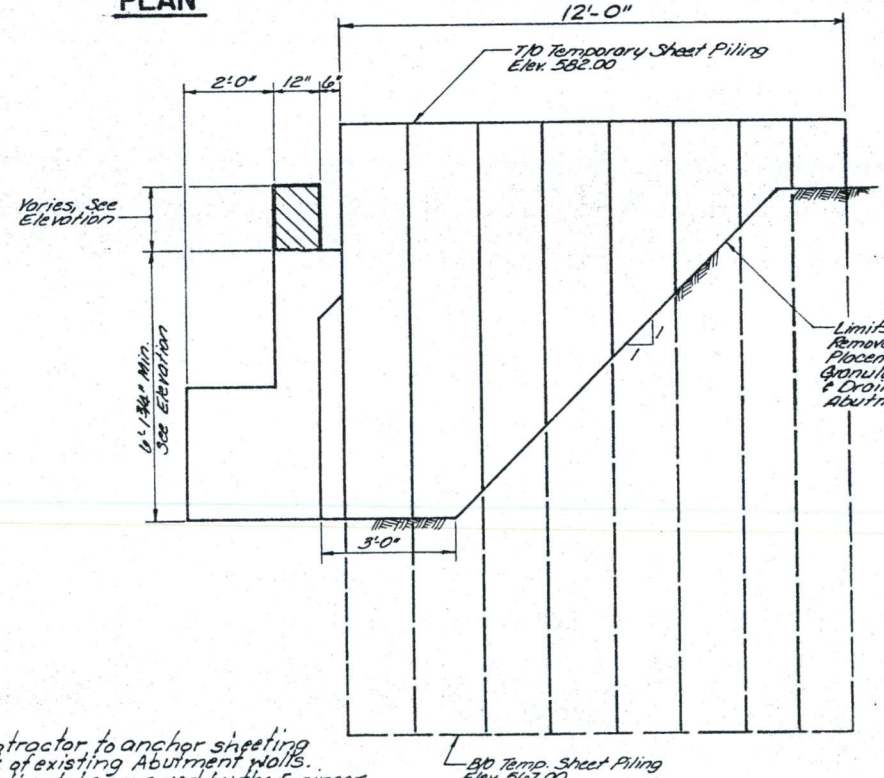
ITEM	UNIT	QUANTITY
Concrete Removal	Cu Yds.	12.0
Temporary Sheet Piling	Sq. Ft.	150
Structure Excavation	Cu Yds.	26.6



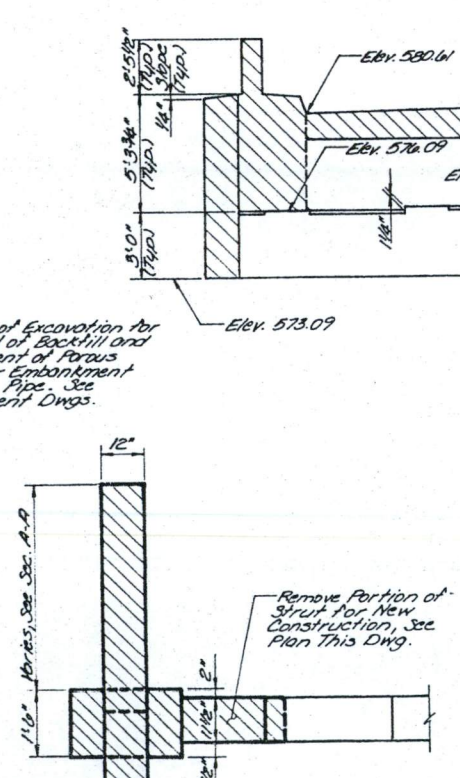
PLAN



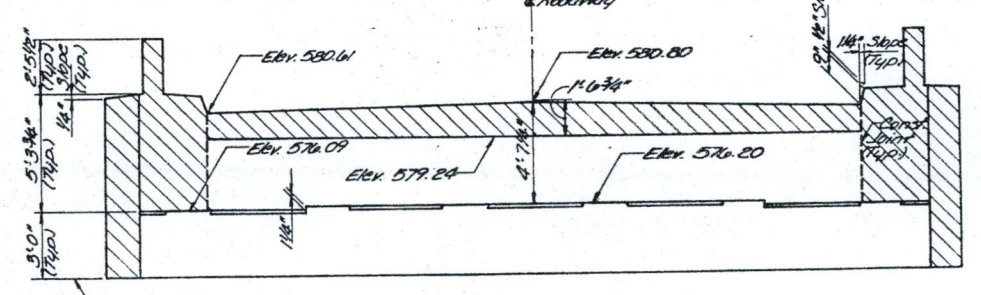
SECTION A-A



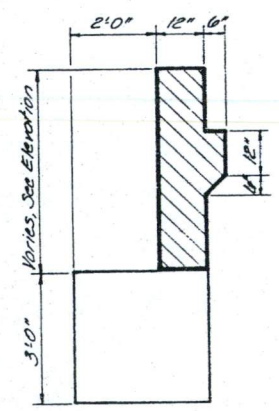
SECTION C-C



SECTION B-B



ELEVATION



SECTION D-D

Contractor to anchor sheeting to back of existing Abutment walls. Connection to be approved by the Engineer.
 The information shown for the Temporary Sheet Piling is estimated. It is the Contractor's responsibility to provide a design and computations of the Temporary Sheet Piling and associated members, if required, subject to the approval of the Engineer.

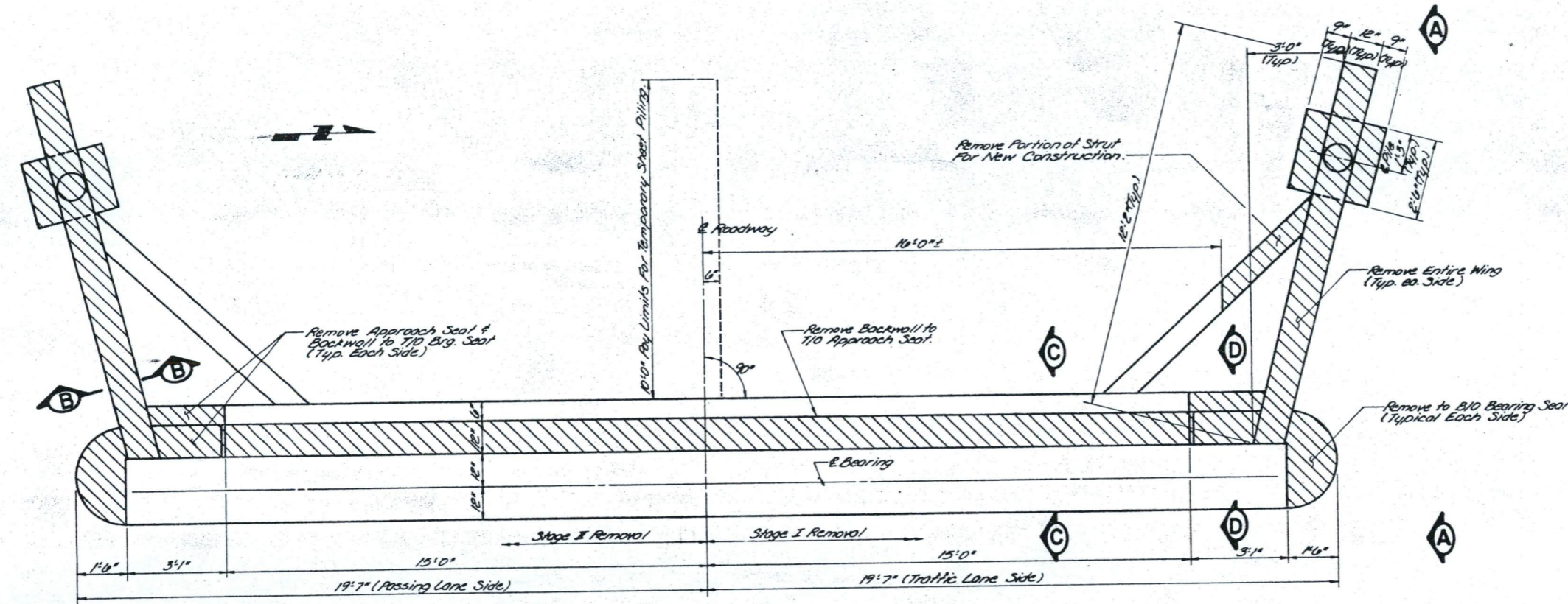
ESCA
CONSULTANTS, INC.

DESIGNED BY:	KMR	11/90
DRAWN BY:	CJB	11/90
CHECKED BY:	JRF	11/90
APPROVED BY:	RDP	11/90

**EAST ABUTMENT (EB)
 CONCRETE REMOVAL**
 FAI 74 OVER STONY CREEK
 FAI RTE. 74 SECTION (92-12B-1) BR
 VERMILION COUNTY
 STATION 2037+72.50
 STRUCTURE NO. 092-0018 (EB)
 STRUCTURE NO. 092-0019 (WB)

*92-12B-1)BR

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAI 74	*	Vermilion	68	50
STA.	TO STA.			
FED. ROAD DIST. NO.	K.L. MILES	PROJECT		
		Dwg. No. 19 of 55		



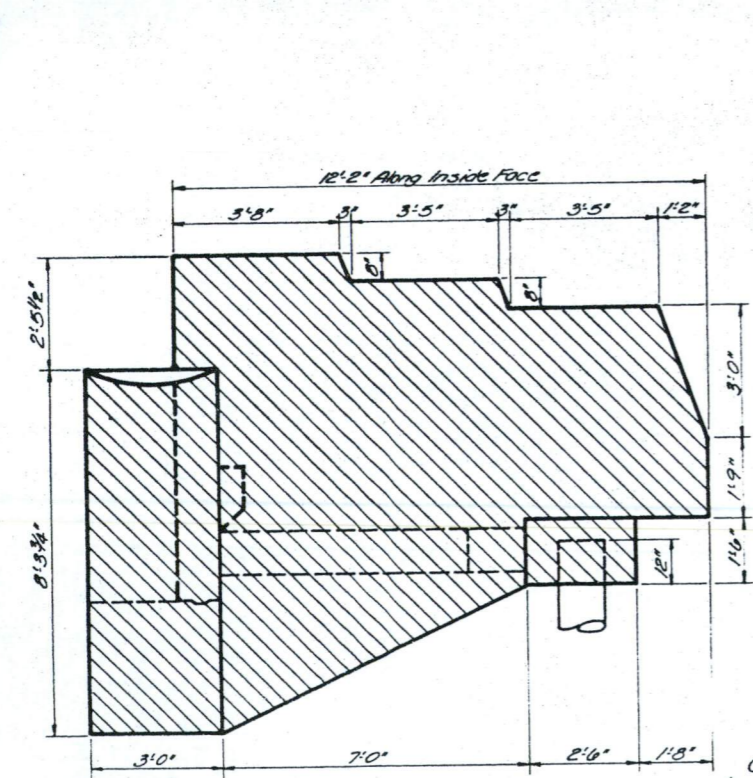
NOTES

- HATCHED AREAS INDICATE CONCRETE REMOVAL.
- EXISTING REINFORCEMENT WHICH IS TO BE REUSED IN THE NEW CONSTRUCTION AND EXTENDS INTO REMOVAL AREAS SHALL BE PRESERVED.
- THE INFORMATION SHOWN FOR THE TEMPORARY SHEET PILING IS ESTIMATED. IT IS THE CONTRACTOR'S RESPONSIBILITY TO PROVIDE A DESIGN AND COMPUTATIONS OF THE TEMPORARY SHEET PILING AND ASSOCIATED MEMBERS, IF REQUIRED, SUBJECT TO APPROVAL OF THE ENGINEER.

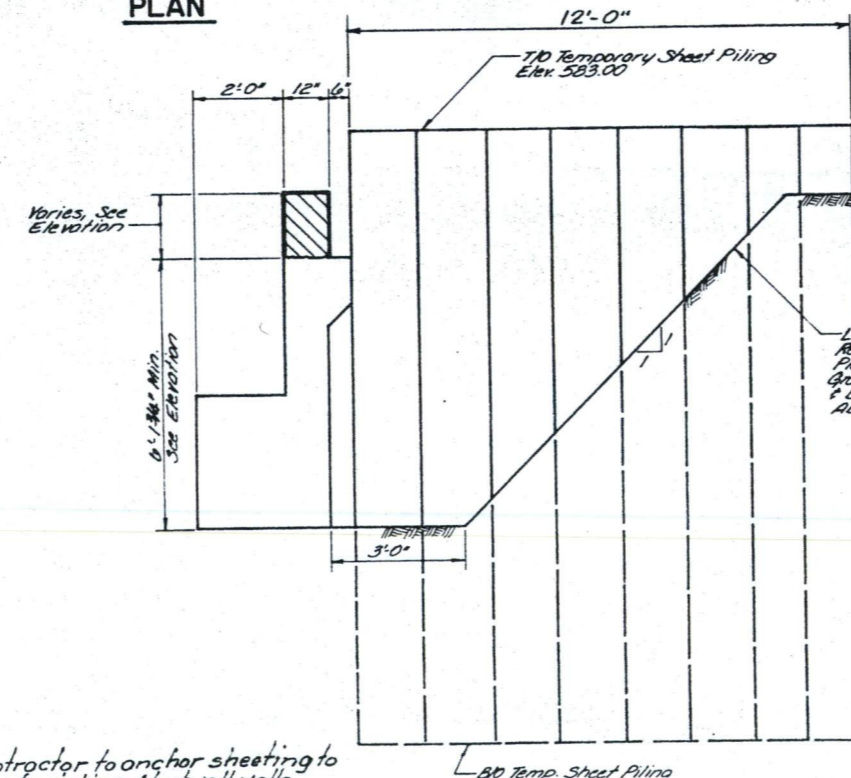
BILL OF MATERIAL

ITEM	UNIT	QUANTITY
Concrete Removal	Cu Yds	120
Temporary Sheet Piling	Sq. Ft.	150
Structure Excavation	Cu Yds.	26.6

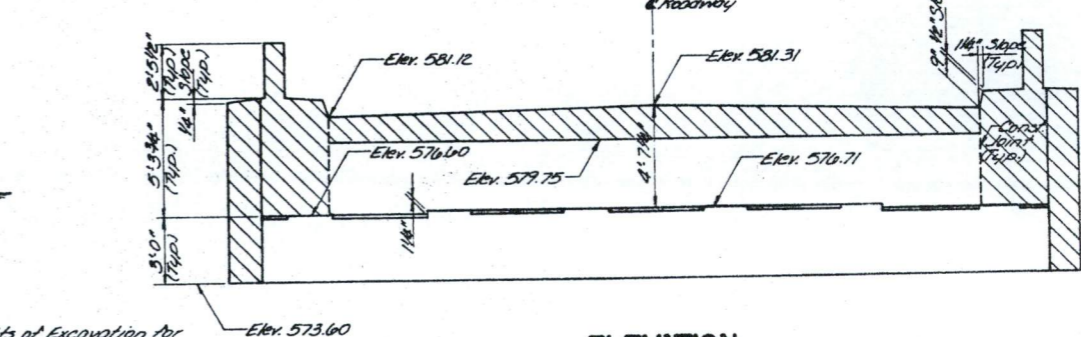
PLAN



SECTION A-A

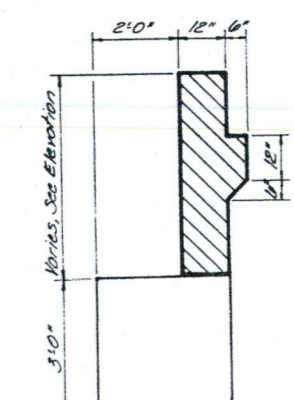


SECTION C-C



SECTION B-B

ELEVATION



SECTION D-D

Contractor to anchor sheeting to back of existing Abutment walls. Connection to be approved by the Engineer.

The information shown for the Temporary Sheet Piling is estimated. It is the Contractor's responsibility to provide a design and computations of the Temporary Sheet Piling and associated members, if required, subject to the approval of the Engineer.

ESCA
CONSULTANTS, INC.

DESIGNED BY:	AMR	11/90
DRAWN BY:	CJG	11/90
CHECKED BY:	JRF	11/90
APPROVED BY:	RDP	11/90

**WEST ABUTMENT (EB)
CONCRETE REMOVAL
FAI 74 OVER STONY CREEK
FAI RTE. 74 SECTION (92-12B-1)BR
VERMILION COUNTY
STATION 2037+72.50
STRUCTURE NO. 092-0018 (EB)
STRUCTURE NO. 092-0019 (WB)**

*92-128-1)BR

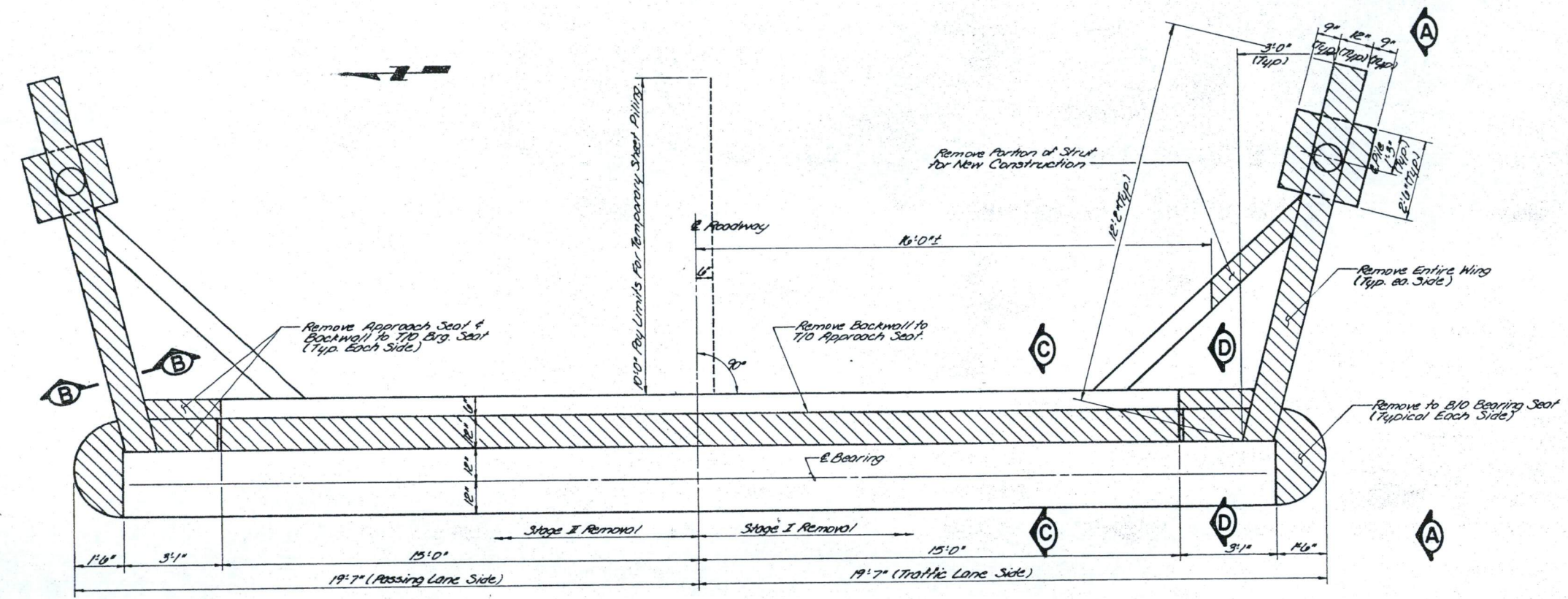
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAI 74	*	Vermilion	65	51
STA.	TO STA.			
FED. ROAD DIST. NO.	ILLINOIS PROJECT			
Dwg. No. 20 of 33				

NOTES

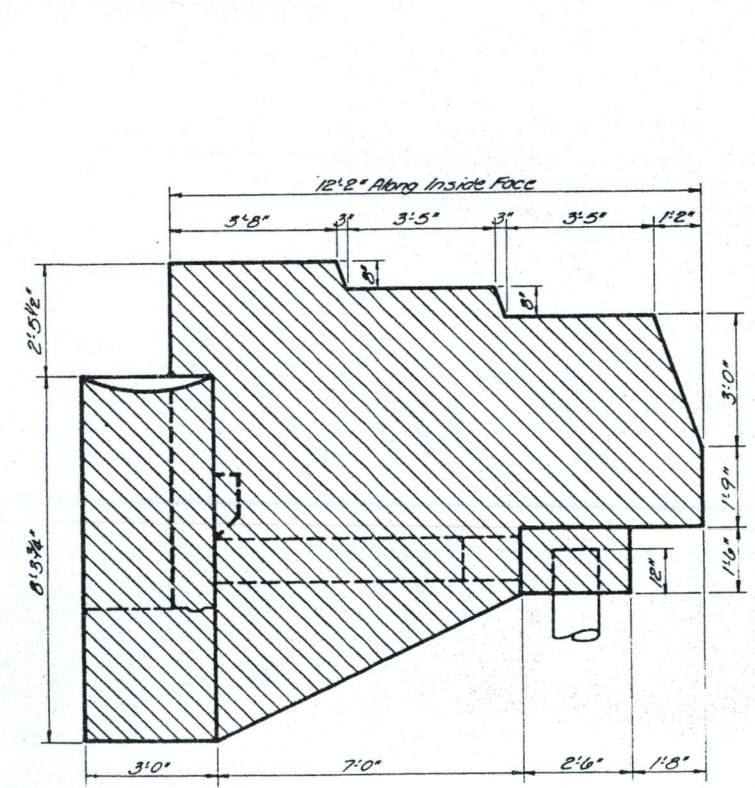
- HATCHED AREAS INDICATE CONCRETE REMOVAL.
- EXISTING REINFORCEMENT WHICH IS TO BE REUSED IN THE NEW CONSTRUCTION AND EXTENDS INTO REMOVAL AREAS SHALL BE PRESERVED.
- THE INFORMATION SHOWN FOR THE TEMPORARY SHEET PILING IS ESTIMATED. IT IS THE CONTRACTOR'S RESPONSIBILITY TO PROVIDE A DESIGN AND COMPUTATIONS OF THE TEMPORARY SHEET PILING AND ASSOCIATED MEMBERS, IF REQUIRED, SUBJECT TO APPROVAL OF THE ENGINEER.

BILL OF MATERIAL

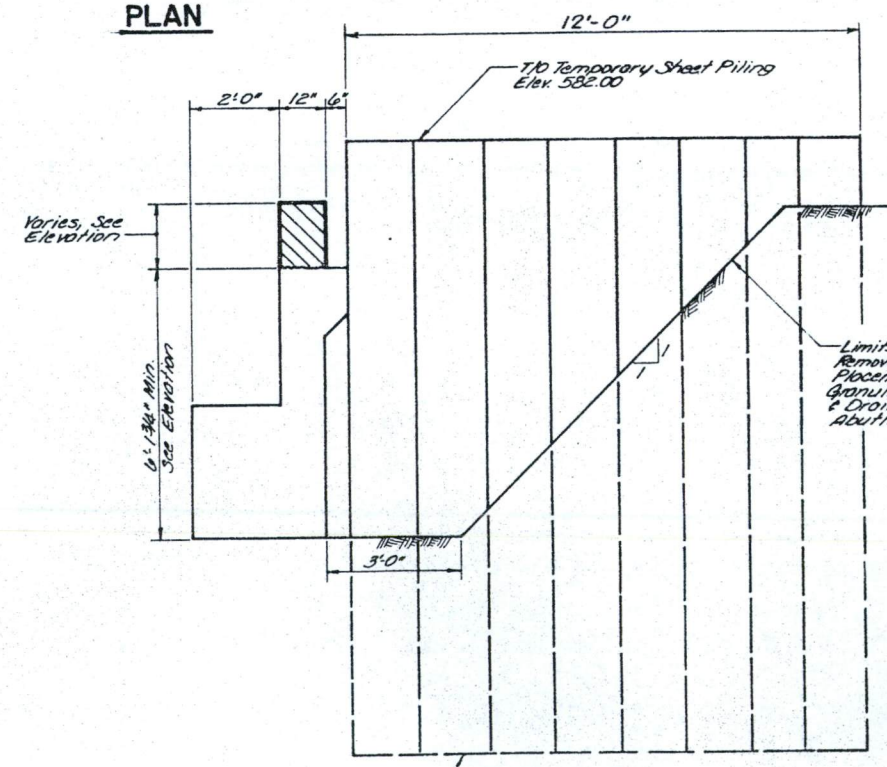
ITEM	UNIT	QUANTITY
Concrete Removal	Cu Yds.	12.0
Temporary Sheet Piling	Sq. Ft.	150
Structure Excavation	Cu Yds.	26.6



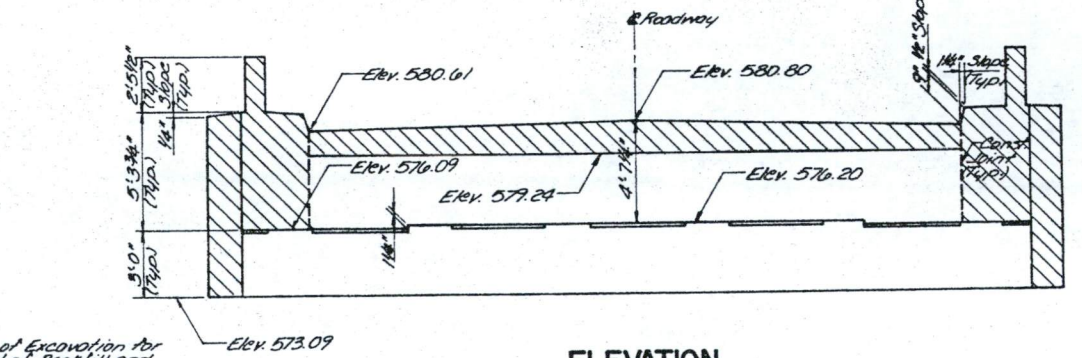
PLAN



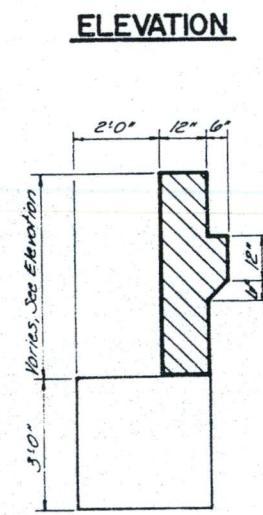
SECTION A-A



SECTION C-C



SECTION B-B



SECTION D-D

ELEVATION

Contractor to anchor sheeting to back of existing Abutment walls. Connection to be approved by the engineer.

ESCA
CONSULTANTS, INC.

DESIGNED BY:	AMR	1/190
DRAWN BY:	CJG	1/190
CHECKED BY:	JRF	1/190
APPROVED BY:	RDP	1/190

**EAST ABUTMENT (WB)
CONCRETE REMOVAL
FAI 74 OVER STONY CREEK
FAI RTE. 74 SECTION 92-128-1)BR
VERMILION COUNTY
STATION 2037+72.50
STRUCTURE NO. 092-0018 (WB)
STRUCTURE NO. 092-0019 (WB)**

*92-12B-1)BR

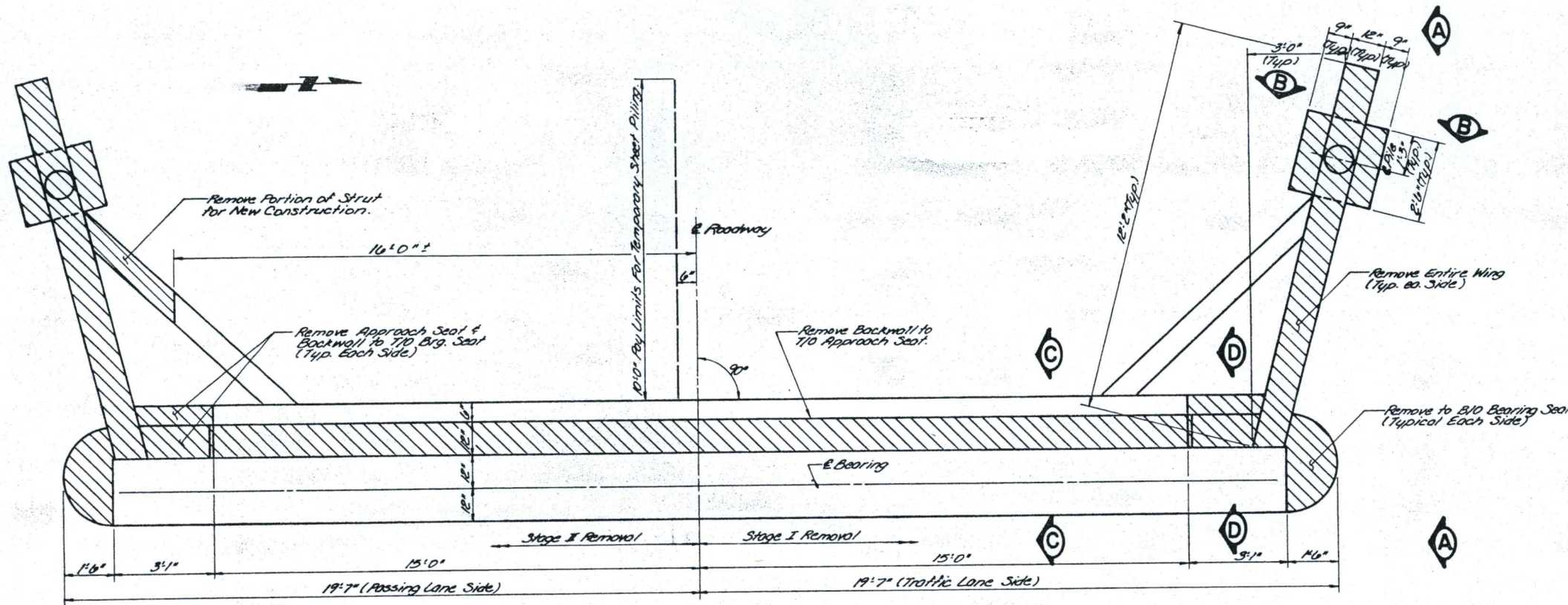
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAI 74	*	Vermilion	65	52
STA.	TO STA.			
FED. ROAD DIST. NO.	ILLINOIS	PROJECT		
		Dwg. No. 21 of 33		

NOTES

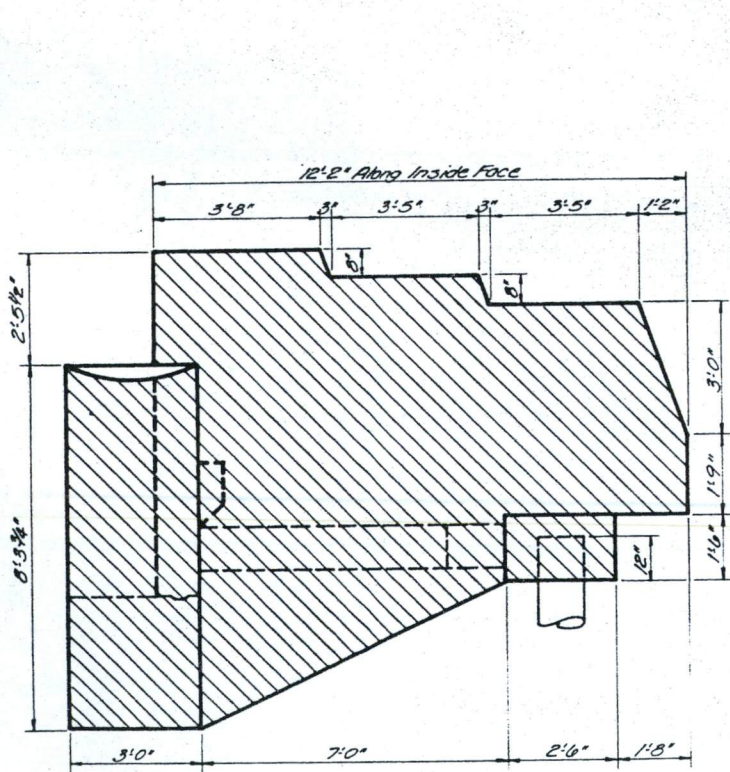
1. HATCHED AREAS INDICATE CONCRETE REMOVAL.
2. EXISTING REINFORCEMENT WHICH IS TO BE REUSED IN THE NEW CONSTRUCTION AND EXTENDS INTO REMOVAL AREAS SHALL BE PRESERVED.
3. THE INFORMATION SHOWN FOR THE TEMPORARY SHEET PILING IS ESTIMATED. IT IS THE CONTRACTOR'S RESPONSIBILITY TO PROVIDE A DESIGN AND COMPUTATIONS OF THE TEMPORARY SHEET PILING AND ASSOCIATED MEMBERS, IF REQUIRED, SUBJECT TO APPROVAL OF THE ENGINEER.

BILL OF MATERIAL

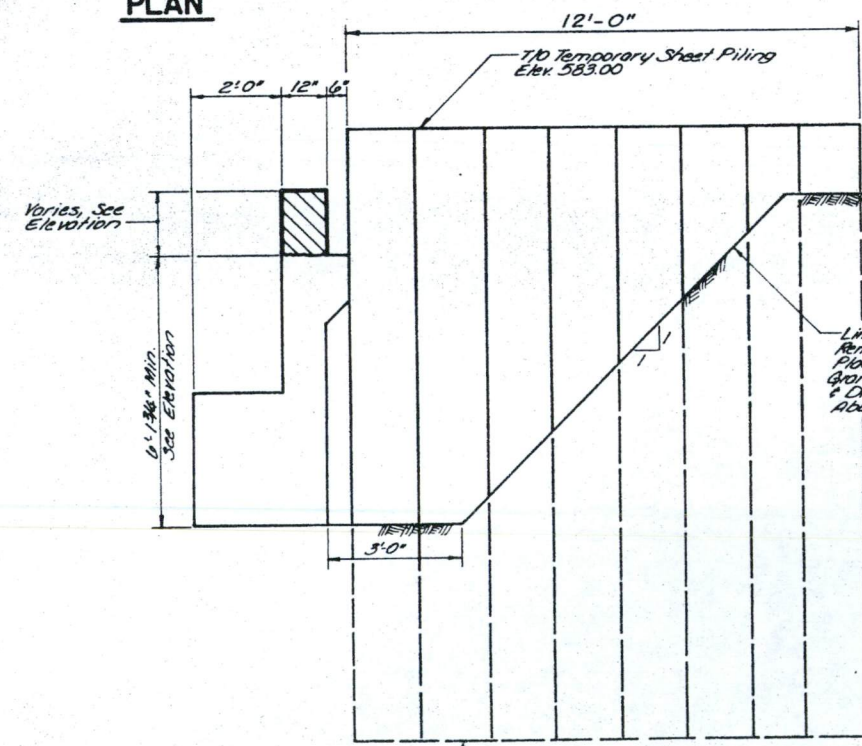
ITEM	UNIT	QUANTITY
Concrete Removal	Cu Yds.	12.0
Temporary Sheet Piling	Sq. Ft.	150
Structure Excavation	Cu Yds.	26.6



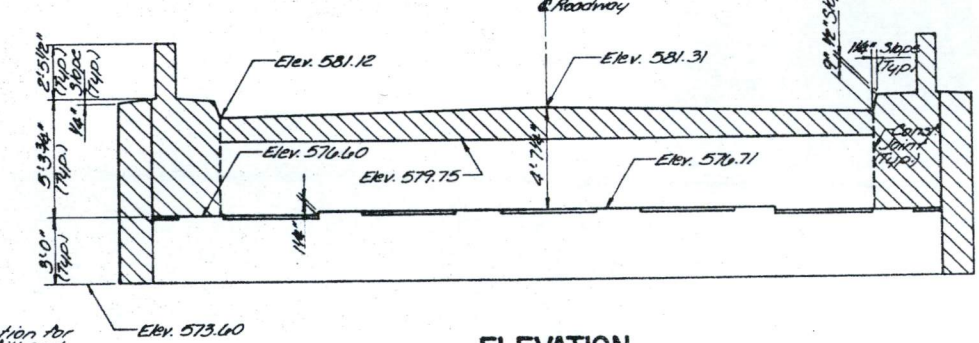
PLAN



SECTION A-A

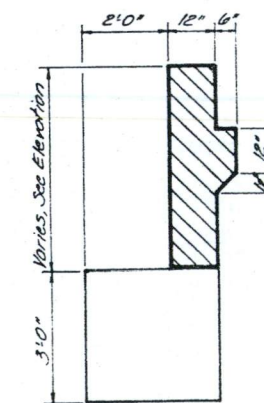


SECTION C-C



SECTION B-B

ELEVATION



SECTION D-D

Contractor to anchor sheeting to back of existing abutment walls. Connection to be approved by the Engineer.

Limits of Excavation for Removal of Backfill and Placement of Porous Granular Embankment & Drain Pipe. See Abutment Dwg.

Remove Portion of Strut for New Construction. See Plan This Dwg.

ESCA
CONSULTANTS, INC.

DESIGNED BY:	KMR	11/90
DRAWN BY:	CJG	11/90
CHECKED BY:	JRF	11/90
APPROVED BY:	RDP	11/90

**WEST ABUTMENT (WB)
CONCRETE REMOVAL
FAI 74 OVER STONY CREEK
FAI RTE. 74 SECTION(92-12B-1)BR
VERMILION COUNTY
STATION 2037+72.50
STRUCTURE NO. 092-0018 (EB)
STRUCTURE NO. 092-0019 (WB)**

* (92-128-1) BR

NOTES

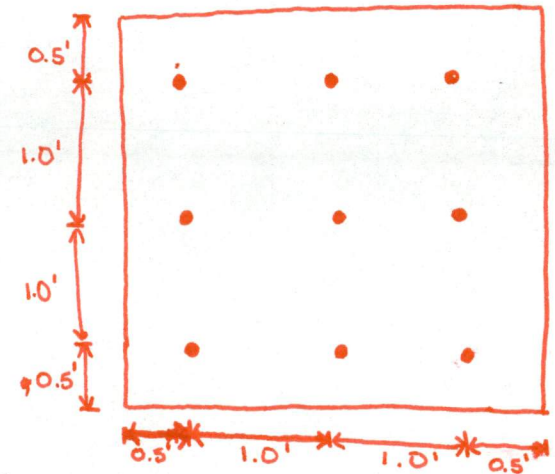
- SPACE REINFORCEMENT TO MISS ANCHOR BOLTS.
- REINFORCEMENT BARS DESIGNATED (E) SHALL BE EPOXY COATED.
- EXISTING REINFORCEMENT EXTENDING INTO REMOVAL AREAS SHALL BE CLEANED, STRAIGHTENED OR BENT, REALIGNED AS REQUIRED, AND INCORPORATED INTO NEW CONSTRUCTION. COST INCIDENTAL TO CLASS X CONCRETE.
- CUT OFF EXCESS LENGTH OF EXISTING REINFORCEMENT BARS TO PROVIDE 1-1/2" CLR. COVER AS DIRECTED BY THE ENGINEER.
- SEE DWG. NO. 26 FOR BAR BENDING DETAILS AND WINGWALL DETAILS.
- HATCHED AREAS TO BE POURED AFTER SUPERSTRUCTURE FORMS HAVE BEEN REMOVED. QUANTITY OF CONCRETE INCLUDED WITH CLASS X CONCRETE SUPERSTRUCTURE.

BILL OF MATERIAL

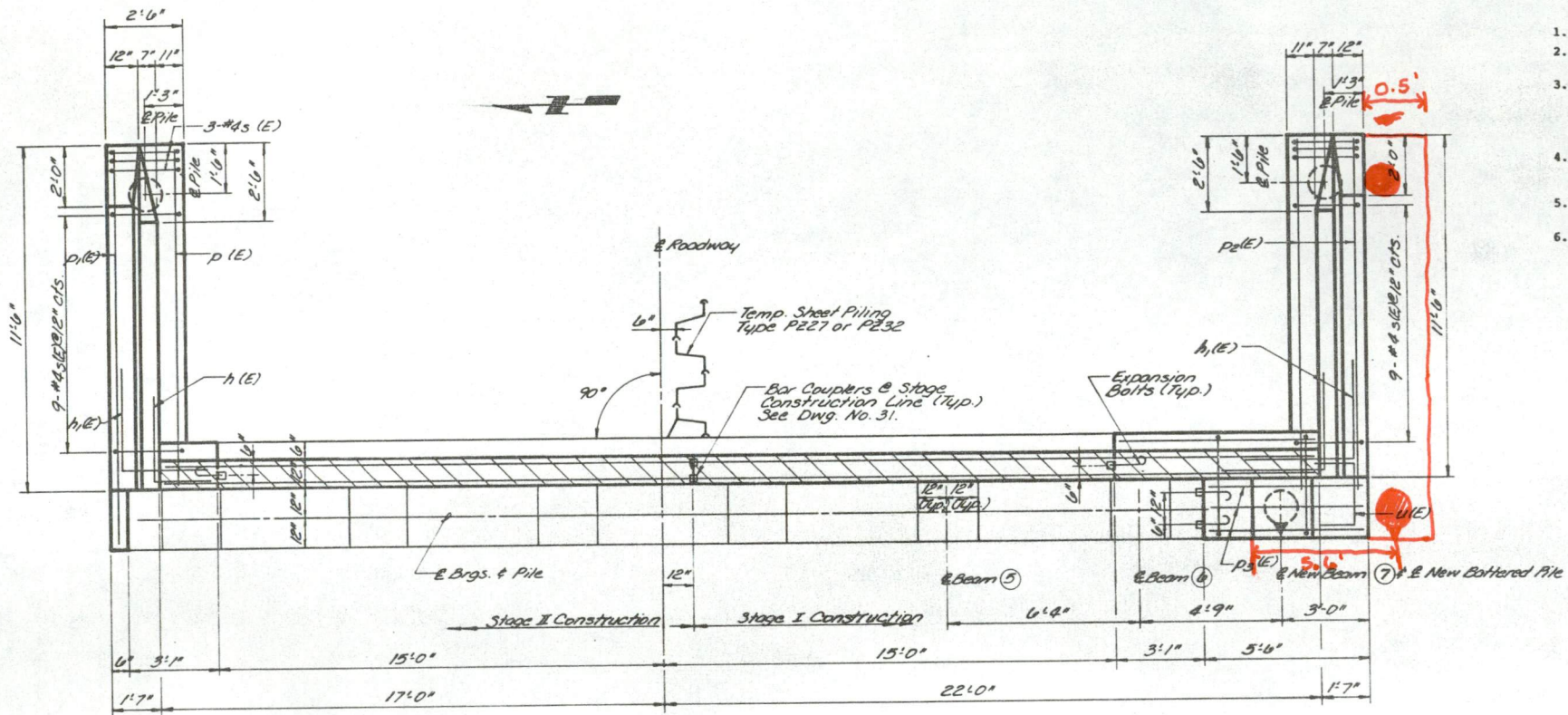
BAR	NO	SIZE	LENGTH	SHAPE
h ₁ (E)	5	#5	7'-0"	—
h ₂ (E)	15	#5	8'-0"	—
h ₃ (E)	8	#5	6'-9"	—
h ₄ (E)	4	#5	20'-5"	—
h ₅ (E)	4	#5	17'-9"	—
h ₆ (E)	20	#4	11'-0"	—
h ₇ (E)	12	#4	11'-2"	—
d(E)	9	#5	4'-0"	7
n(E)	18	#6	9'-4"	U
n ₁ (E)	12	#6	4'-8"	J
p(E)	3	#7	11'-1"	—
p ₁ (E)	3	#7	13'-0"	—
p ₂ (E)	6	#7	11'-6"	—
p ₃ (E)	10	#5	5'-0"	—
s(E)	24	#5	9'-3"	9
s ₁ (E)	4	#4	7'-6"	9
u(E)	4	#6	7'-8"	3
v(E)	10	#5	7'-2"	—
v ₁ (E)	5	#5	4'-0"	—
v ₂ (E)	18	#6	7'-2"	—
v ₃ (E)	6	#6	7'-2"	—
v ₄ (E)	24	#6	7'-0"	—
ITEM	UNIT	QUANTITY		
Class X Concrete	Cu Yds	18.3		
Reinf. Bars (Epoxy Coated)	Lbs.	2890		
Expansion Bolts, 3/4"	Each	12		
Test Pile, Concrete	Each	1		
Furnish Concrete Piles	Lin. Ft.	38		
Drive Concrete Piles	Lin. Ft.	38		
Structure Excavation	Cu Yds	14.8		
Filter Fabric	Sp Yds	65		

PILING WAS DRIVEN @ WRONG LOCATION SO BOTTOM OF MUDWALL WAS WIDENED BY 6" TO ENCASE PILING. ALSO ADDED NEW EXPAN. BOLTS TO EXISTING ABUTMENT.

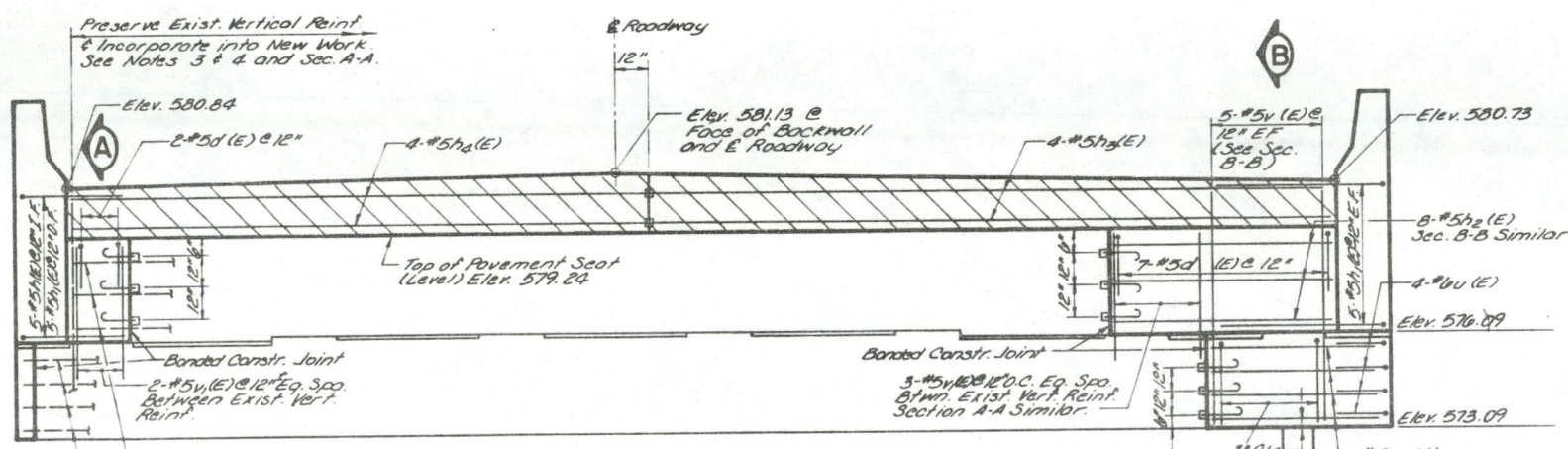
NEW EXPANSION BOLT DIAGRAM



TIE ANCHORS WAS PUT IN AS INSTRUCTED IN APPROACH SLAB STANDARD. #5(E)-2' EACH - x 9500043



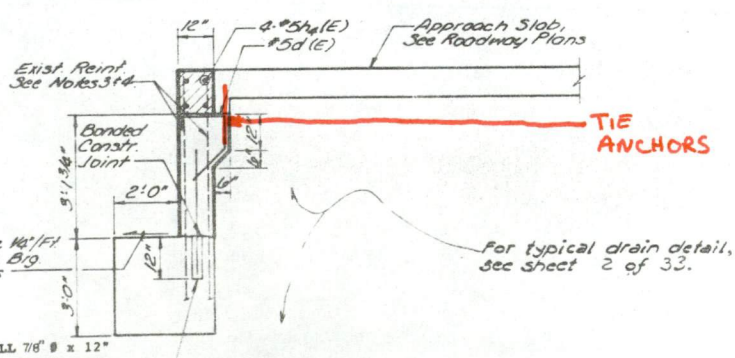
PLAN



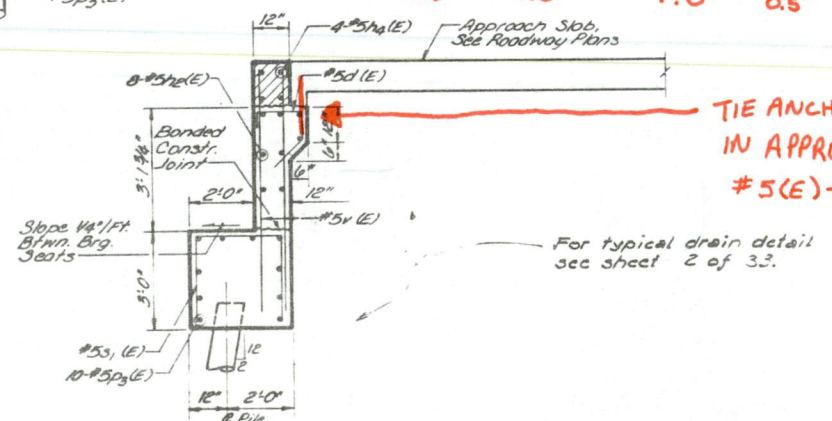
ELEVATION

PILE DATA

Type Concrete
 Capacity 30 Tons
 Est. Length 19'
 No. Reptl. 2 Plus 1 Test Pile
 ▼ Indicates Battered Pile (2:12)



SECTION A-A



SECTION B-B

ESCA
CONSULTANTS, INC.

DESIGNED BY: KMR 11/90
 DRAWN BY: CJG 11/90
 CHECKED BY: JRF 11/90
 APPROVED BY: RDP 11/90

#5(E) DRILL 7/8" Ø x 12" DEEP HOLE & EPOXY GROUT IN PLACE. COST OF DRILLING & GROUTING IS INCIDENTAL TO REINF. BARS. SEE SPECIAL PROVISIONS.

EAST ABUTMENT (EB)
 FAI 74 OVER STONY CREEK
 FAI RTE. 74 SECTION (92-128-1) BR
 VERMILION COUNTY
 STATION 2037+72.50
 STRUCTURE NO. 092-0018 (EB)
 STRUCTURE NO. 092-0019 (WB)

(92-12B-1)BR

ROUTE NO	SECTION	COUNTY	TOTAL SHEETS	SHEET NO
FAI 74	*	Vermilion	65	54
STA	TO STA			
FED ROAD DIST NO	ILLINOIS PROJECT			
Dwg. No. 23 of 33				

NOTES

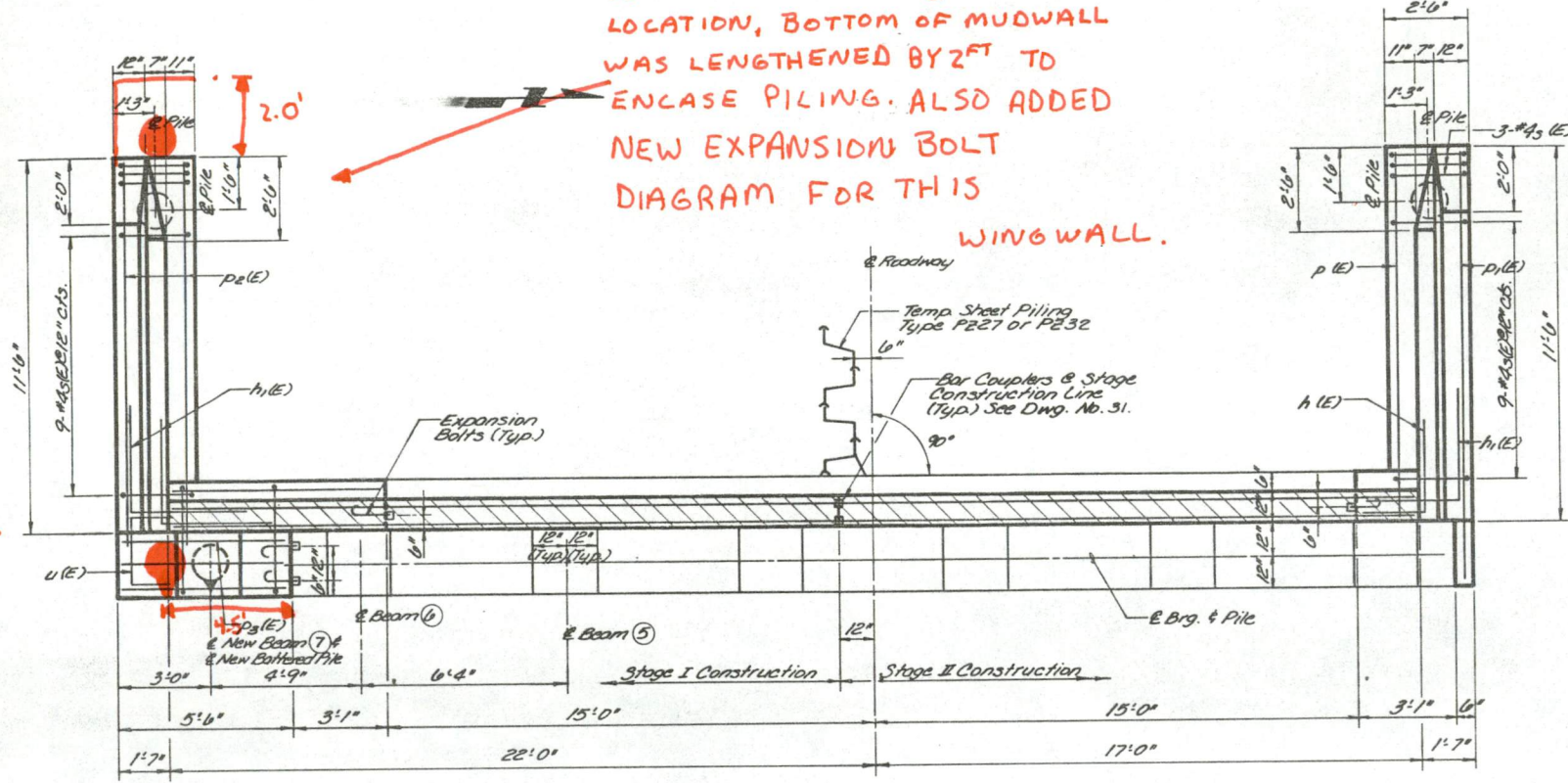
1. SPACE REINFORCEMENT TO MISS ANCHOR BOLTS.
2. REINFORCEMENT BARS DESIGNATED (E) SHALL BE EPOXY COATED.
3. EXISTING REINFORCEMENT EXTENDING INTO REMOVAL AREAS SHALL BE CLEANED, STRAIGHTENED OR BENT, REALIGNED AS REQUIRED, AND INCORPORATED INTO NEW CONSTRUCTION. COST INCIDENTAL TO CLASS X CONCRETE.
4. CUT OFF EXCESS LENGTH OF EXISTING REINFORCEMENT BARS TO PROVIDE 1-1/2" CLR. COVER AS DIRECTED BY THE ENGINEER.
5. SEE DWG. NO. 26 FOR BAR BENDING DETAILS AND WINGWALL DETAILS.
6. HATCHED AREAS TO BE POURED AFTER SUPERSTRUCTURE FORMS HAVE BEEN REMOVED. QUANTITY OF CONCRETE INCLUDED WITH CLASS X CONCRETE SUPERSTRUCTURE.

BILL OF MATERIAL

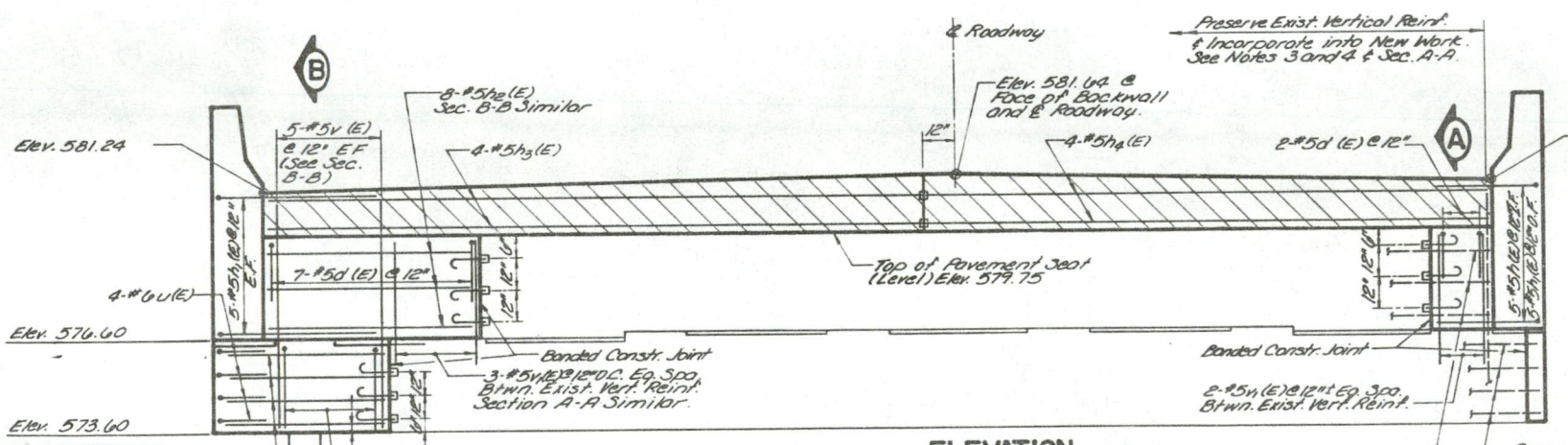
BAR	NO	SIZE	LENGTH	SHAPE
A(E)	5	#5	7'-0"	—
A ₁ (E)	15	#5	8'-0"	—
A ₂ (E)	8	#5	6'-9"	—
A ₃ (E)	4	#5	20'-5"	—
A ₄ (E)	4	#5	17'-9"	—
A ₅ (E)	20	#4	14'-0"	—
A ₆ (E)	12	#4	11'-2"	—
D(E)	9	#5	4'-0"	7
H(E)	18	#6	9'-2"	U
P(E)	12	#6	4'-8"	J
P ₁ (E)	3	#7	11'-10"	—
P ₂ (E)	3	#7	13'-0"	—
P ₃ (E)	6	#7	11'-6"	—
P ₄ (E)	10	#5	5'-0"	—
S(E)	24	#5	9'-3"	□
S ₁ (E)	4	#4	7'-8"	□
U(E)	4	#6	7'-8"	□
V(E)	10	#5	7'-2"	—
V ₁ (E)	5	#5	4'-0"	—
V ₂ (E)	18	#6	7'-8"	—
V ₃ (E)	6	#6	7'-2"	—
V ₄ (E)	24	#6	7'-0"	—
ITEM	UNIT	QUANTITY		
Class X Concrete	Cu. Yds.	18.3		
Reinf. Bars (Epoxy Coated)	Lbs.	2290		
Expansion Bolts, 3/4"	Each	12		
Furnish Concrete Piles	Lin. Ft.	66		
Drive Concrete Piles	Lin. Ft.	66		
Structure Excavation	Cu. Yds.	10.8		
Filter Fabric	Sp. Yds.	65		

PILING WAS DRIVEN @ WRONG LOCATION, BOTTOM OF MUDDWALL WAS LENGTHENED BY 2FT TO ENCASE PILING. ALSO ADDED NEW EXPANSION BOLT DIAGRAM FOR THIS WINGWALL.

13.5' OR 4.11'

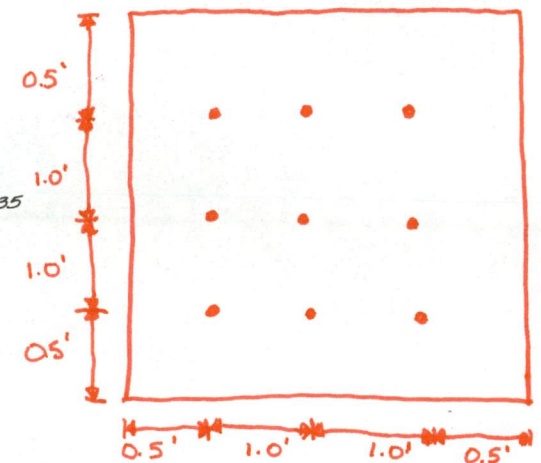


PLAN



ELEVATION

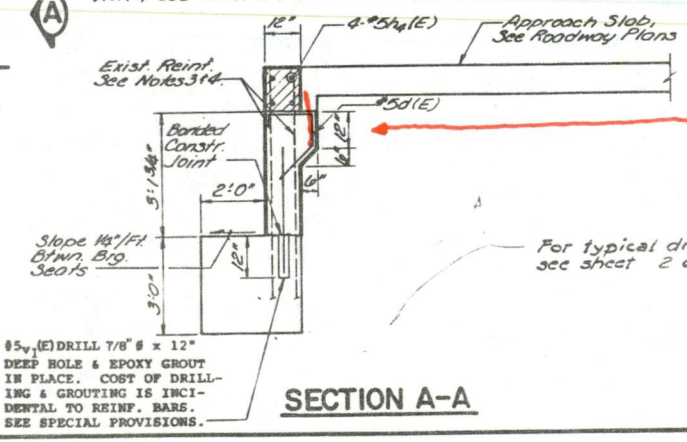
NEW EXPANSION BOLT DIAGRAM



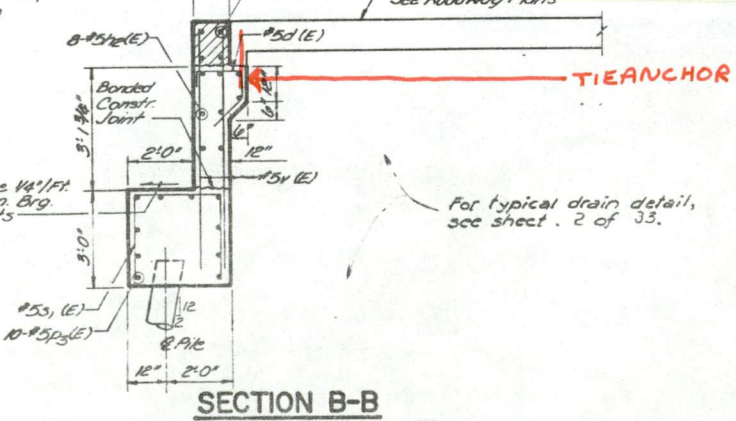
ADDED 5FT TO 1 BAR OF EACH FOR ADDED LENGTH OF MUDDWALL.
ADDED 5FT FOR EXTRA LENGTH OF MUDDWALL

PILE DATA

Type Concrete
Capacity 30 Tons
Est. Length 22'
No. Reqd. 3
▼ Indicates Batter Pile (2-12)



SECTION A-A



SECTION B-B

THE ANCHORS WERE PUT IN AS INSTRUCTED IN APPROACH SLAB STANDARD #5(E)-2" EACH - X 9500043

WEST ABUTMENT (EB)
FAI 74 OVER STONY CREEK
FAI RTE. 74 SECTION 92-12B-1BR
VERMILION COUNTY
STATION 2037+72.50
STRUCTURE NO. 092-0018 (EB)
STRUCTURE NO. 092-0019 (WB)

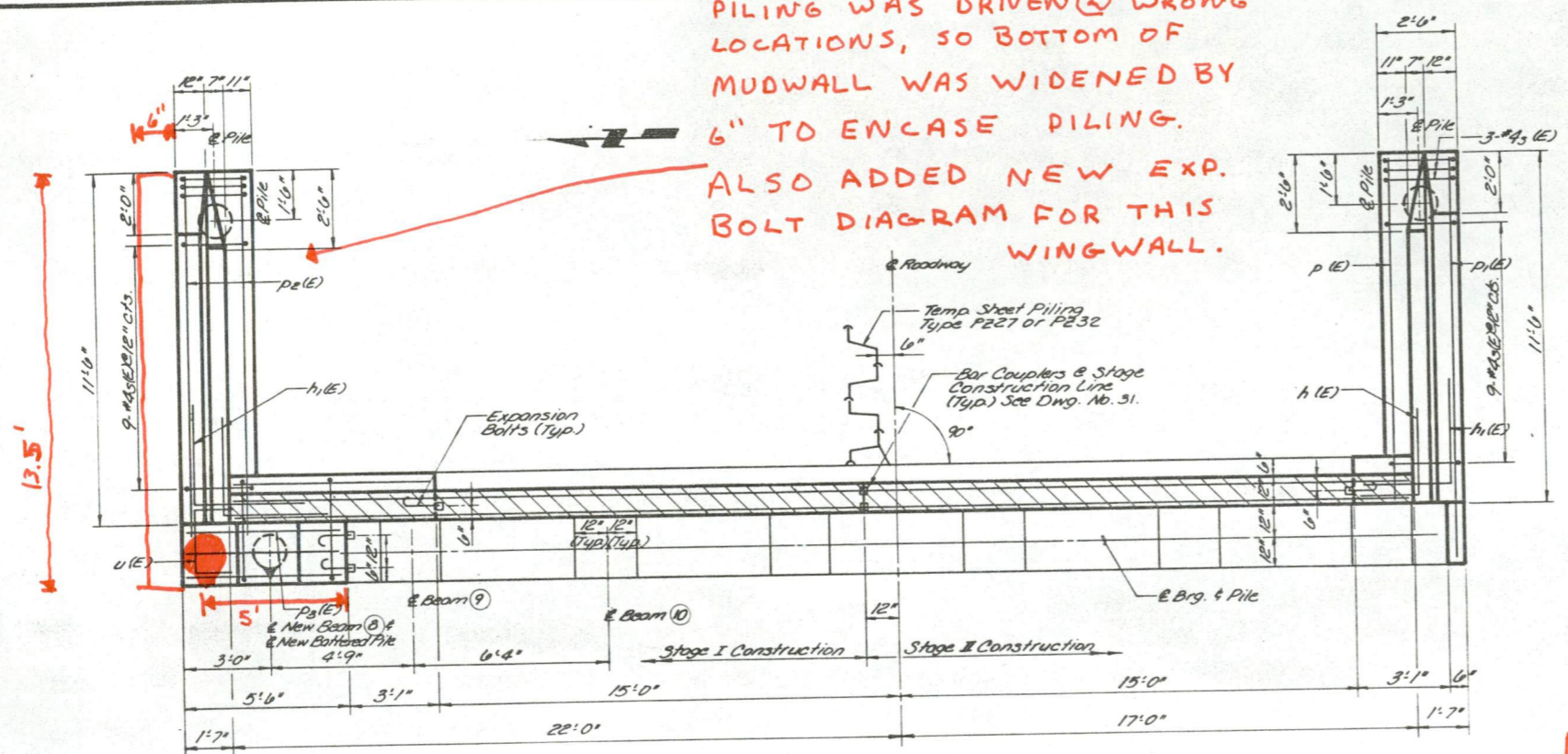
ESCA
CONSULTANTS, INC.

DESIGNED BY: KMR 11/90
DRAWN BY: CJG 11/90
CHECKED BY: JAF 11/90
APPROVED BY: RDP 11/90

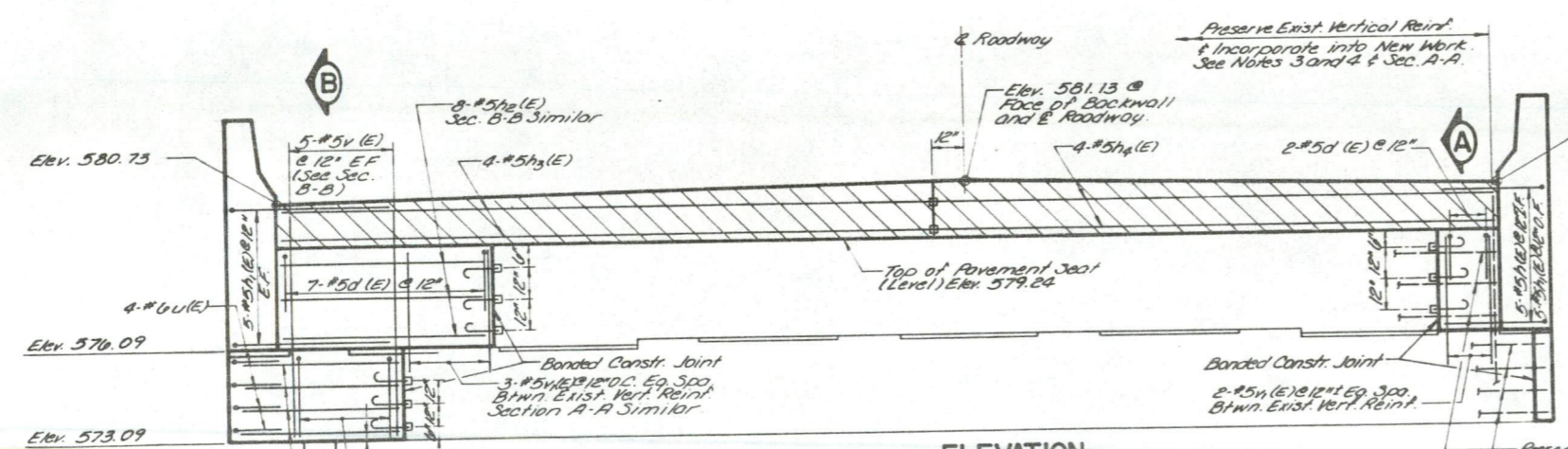
* (92-12B-1) BR

ROUTE NO	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAI 74	*	Vermilion	65	55
STA	TO STA			
FED ROAD DIST NO	ILLINOIS PROJECT			
	Dwg. No. 24 of 33			

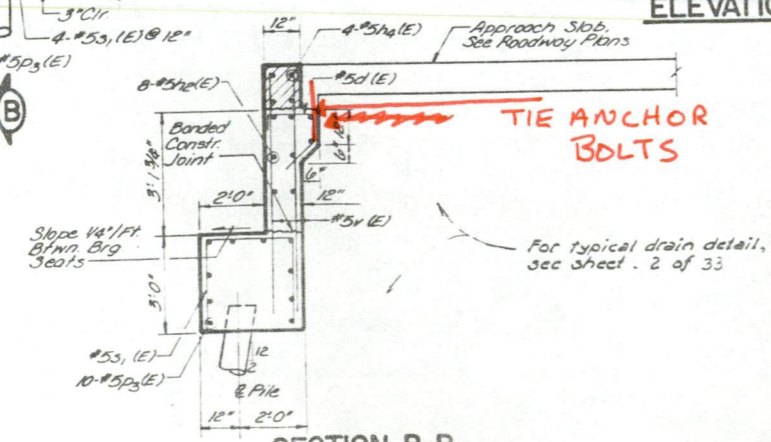
PILING WAS DRIVEN @ WRONG LOCATIONS, SO BOTTOM OF MUDWALL WAS WIDENED BY 6" TO ENCASE PILING. ALSO ADDED NEW EXP. BOLT DIAGRAM FOR THIS WINGWALL.



PLAN



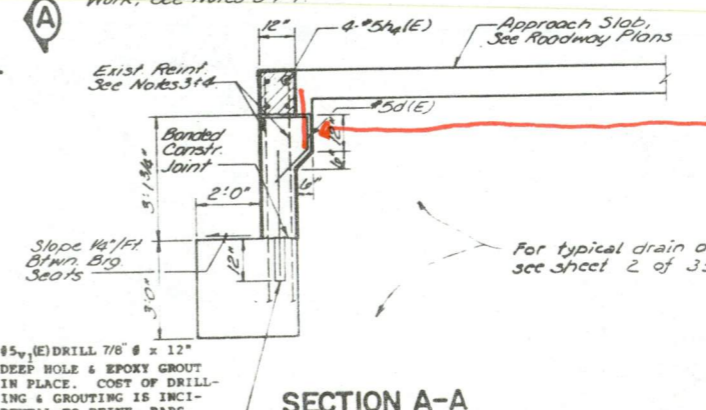
ELEVATION



SECTION B-B

PILE DATA

Type	Concrete
Capacity	30 Tons
Est. Length	19'
No. Reqd.	3
	Indicates Battered Pile (2'-12")



SECTION A-A

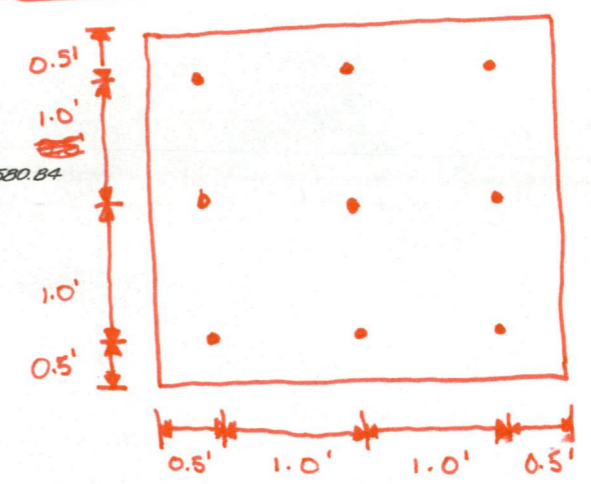
NOTES

- SPACE REINFORCEMENT TO MISS ANCHOR BOLTS.
- REINFORCEMENT BARS DESIGNATED (E) SHALL BE EPOXY COATED.
- EXISTING REINFORCEMENT EXTENDING INTO REMOVAL AREAS SHALL BE CLEANED, STRAIGHTENED OR BENT, REALIGNED AS REQUIRED, AND INCORPORATED INTO NEW CONSTRUCTION. COST INCIDENTAL TO CLASS X CONCRETE.
- CUT OFF EXCESS LENGTH OF EXISTING REINFORCEMENT BARS TO PROVIDE 1-1/2" CLR. COVER AS DIRECTED BY THE ENGINEER.
- SEE DWG. NO. 26 FOR BAR BENDING DETAILS AND WINGWALL DETAILS.
- HATCHED AREAS TO BE POURED AFTER SUPERSTRUCTURE FORMS HAVE BEEN REMOVED. QUANTITY OF CONCRETE INCLUDED WITH CLASS X CONCRETE SUPERSTRUCTURE.

BILL OF MATERIAL

BAR	NO.	SIZE	LENGTH	SHAPE
h1(E)	5	#5	7'-0"	—
h1(E)	15	#5	8'-0"	—
h2(E)	8	#5	6'-9"	—
h3(E)	4	#5	20'-5"	—
h4(E)	4	#5	17'-9"	—
h4(E)	20	#4	11'-0"	—
h6(E)	12	#4	11'-2"	—
d(E)	9	#5	4'-0"	7
n(E)	18	#6	9'-2"	U
n(E)	12	#6	8'-8"	J
p(E)	3	#7	11'-1"	—
p1(E)	3	#7	13'-0"	—
p2(E)	6	#7	11'-6"	—
p3(E)	10	#5	5'-0"	—
s(E)	22	#5	9'-3"	□
s1(E)	4	#4	7'-6"	□
u(E)	4	#6	7'-8"	□
v(E)	10	#5	7'-2"	—
v1(E)	5	#5	4'-0"	—
v2(E)	18	#6	7'-4"	—
v3(E)	8	#6	7'-2"	—
v4(E)	22	#6	7'-0"	—
ITEM	UNIT	QUANTITY		
Class X Concrete	Cu. Yds.	18.3		
Reinf. Bars (Epoxy Coated)	Lbs.	2890		
Expansion Bolts, 3/4"	Each	12		
Furnish Concrete Piles	Lin. Ft.	57		
Drive Concrete Piles	Lin. Ft.	57		
Structure Excavation	Cu. Yds.	14.8		
Filter Fabric	Sq. Yds.	65		

NEW EXPANSION BOLT DIAGRAM



TIE ANCHORS WERE PUT IN AS INSTRUCTED IN APPROACH SLAB STANDARD.

EAST ABUTMENT (WB)
FAI 74 OVER STONY CREEK
FAI RTE. 74 SECTION (92-12B-1) BR
VERMILION COUNTY
STATION 2037+72.50
STRUCTURE NO. 092-0018 (EB)
STRUCTURE NO. 092-0019 (WB)

ESCA
CONSULTANTS, INC.

DESIGNED BY:	KMR	11/90
DRAWN BY:	CJG	11/90
CHECKED BY:	JRF	11/90
APPROVED BY:	RDP	11/90

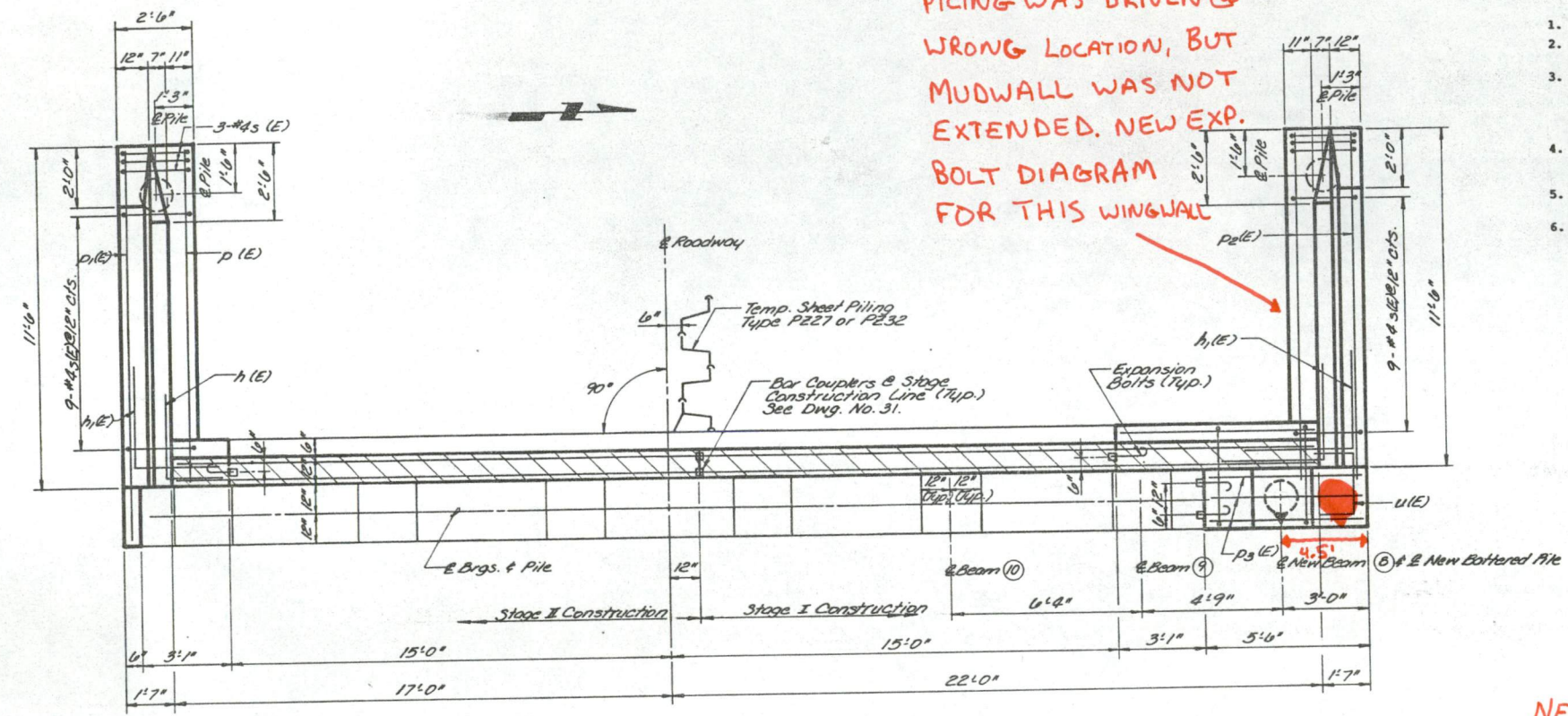
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAI 74	92-12B-1	Vermilion	65	36
STA.	TO STA.			
FED. ROAD DIST. NO.	ILLINOIS PROJECT			
	Dwg. No. 25 of 33			

92-12B-1)BR

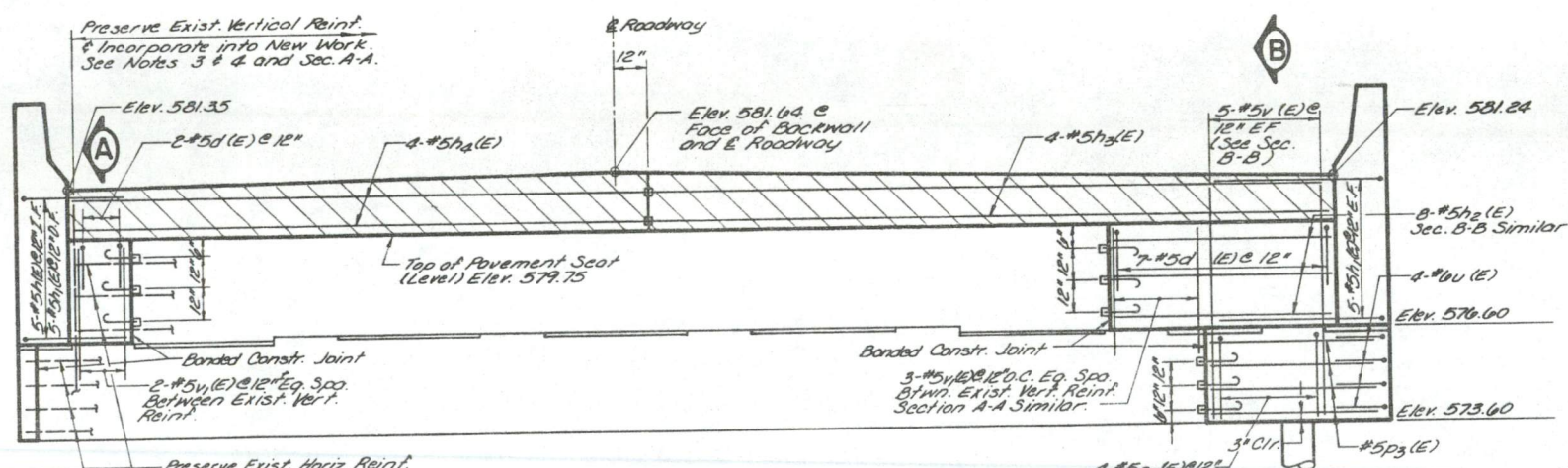
NOTES

1. SPACE REINFORCEMENT TO MISS ANCHOR BOLTS.
2. REINFORCEMENT BARS DESIGNATED (E) SHALL BE EPOXY COATED.
3. EXISTING REINFORCEMENT EXTENDING INTO REMOVAL AREAS SHALL BE CLEANED, STRAIGHTENED OR BENT, REALIGNED AS REQUIRED, AND INCORPORATED INTO NEW CONSTRUCTION. COST INCIDENTAL TO CLASS X CONCRETE.
4. CUT OFF EXCESS LENGTH OF EXISTING REINFORCEMENT BARS TO PROVIDE 1-1/2" CLR. COVER AS DIRECTED BY THE ENGINEER.
5. SEE DWG. NO. 26 FOR BAR BENDING DETAILS AND WINGWALL DETAILS.
6. HATCHED AREAS TO BE POURED AFTER SUPERSTRUCTURE FORMS HAVE BEEN REMOVED. QUANTITY OF CONCRETE INCLUDED WITH CLASS X CONCRETE SUPERSTRUCTURE.

PILING WAS DRIVEN @ WRONG LOCATION, BUT MUDWALL WAS NOT EXTENDED. NEW EXP. BOLT DIAGRAM FOR THIS WINGWALL

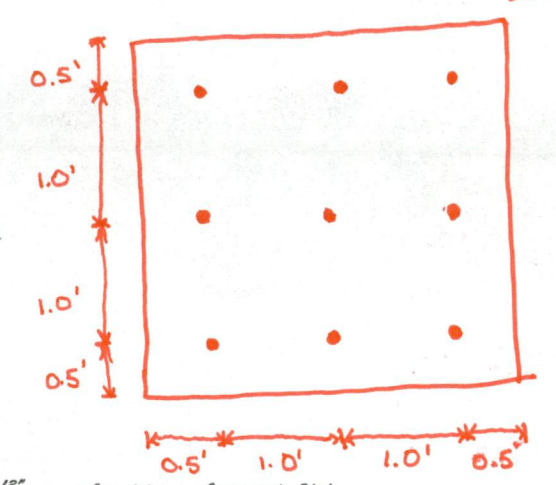


PLAN



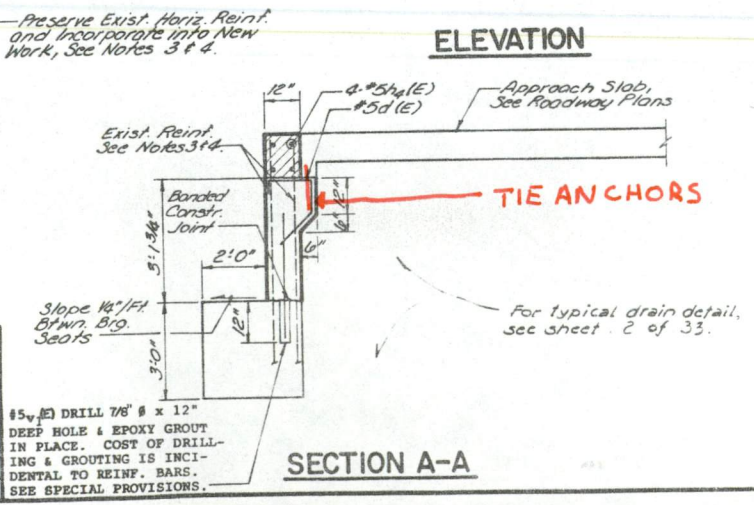
ELEVATION

NEW EXPANSION BOLT DIAGRAM



BILL OF MATERIAL

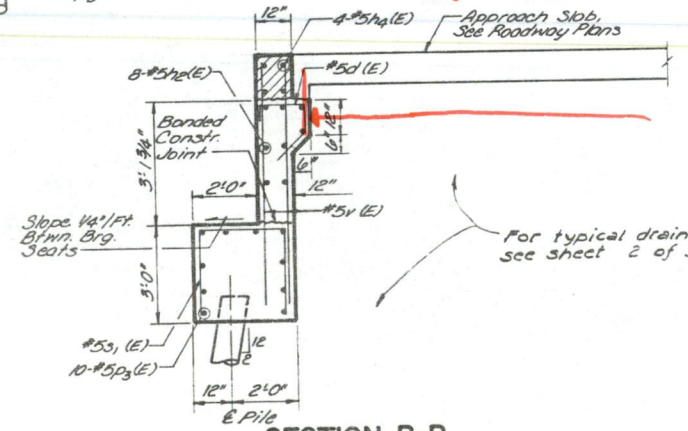
BAR	NO.	SIZE	LENGTH	SHAPE
A1(E)	5	#5	7'0"	┌
A1(E)	15	#5	8'0"	┌
A2(E)	8	#5	6'9"	┌
A3(E)	4	#5	20'5"	┌
A4(E)	4	#5	17'9"	┌
A5(E)	20	#4	11'0"	┌
A6(E)	12	#4	11'2"	┌
d1(E)	9	#5	4'0"	┌
n1(E)	18	#6	9'4"	┌
n1(E)	12	#6	4'8"	┌
p1(E)	3	#7	11'1"	┌
p1(E)	3	#7	13'0"	┌
p2(E)	6	#7	11'6"	┌
p3(E)	10	#5	5'0"	┌
s1(E)	24	#5	9'3"	┌
s1(E)	4	#4	7'6"	┌
u1(E)	4	#6	7'8"	┌
v1(E)	10	#5	7'2"	┌
v1(E)	5	#5	4'0"	┌
v2(E)	18	#6	7'8"	┌
v3(E)	6	#6	7'2"	┌
v4(E)	24	#6	7'0"	┌
ITEM	UNIT	QUANTITY		
Class X Concrete	Cu. Yds.	18.3		
Reinf. Bars (Epoxy Coated)	Lbs.	2240		
Expansion Bolts, 3/4"	Each	12		
Furnish Concrete Piles	Lin. Ft.	60		
Drive Concrete Piles	Lin. Ft.	60		
Structure Excavation	Cu. Yds.	14.8		
Filter Fabric	Sq. Yds.	65		



SECTION A-A

PILE DATA

Type	Concrete
Capacity	30 Tons
Est. Length	22'
No. Reqt.	3
Indicates	Barrier Pile (12-12)



SECTION B-B

TIE ANCHORS WERE PUT IN AS INSTRUCTED IN APPROACH SLAB STANDARD.

#5(E) - 2' EACH - X1500043

WEST ABUTMENT (WB)
 FAI 74 OVER STONY CREEK
 FAI RTE. 74 SECTION (92-12B-1)BR
 VERMILION COUNTY
 STATION 2037+72.50
 STRUCTURE NO. 092-0018 (EB)
 STRUCTURE NO. 092-0019 (WB)

ESCA CONSULTANTS, INC.

DESIGNED BY: AMR 11/90
 DRAWN BY: CUG 11/90
 CHECKED BY: JAF 11/90
 APPROVED BY: RDP 11/90

#5v(E) DRILL 7/8" x 12" DEEP HOLE & EPOXY GROUT IN PLACE. COST OF DRILLING & GROUTING IS INCIDENTAL TO REINF. BARS. SEE SPECIAL PROVISIONS.

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAI 74	92-12B-1	Vermilion	65	37
STA.	TO STA.			
FED. ROAD DIST. NO.	ILLINOIS	PROJECT		
Dwg. No. 26 of 33				

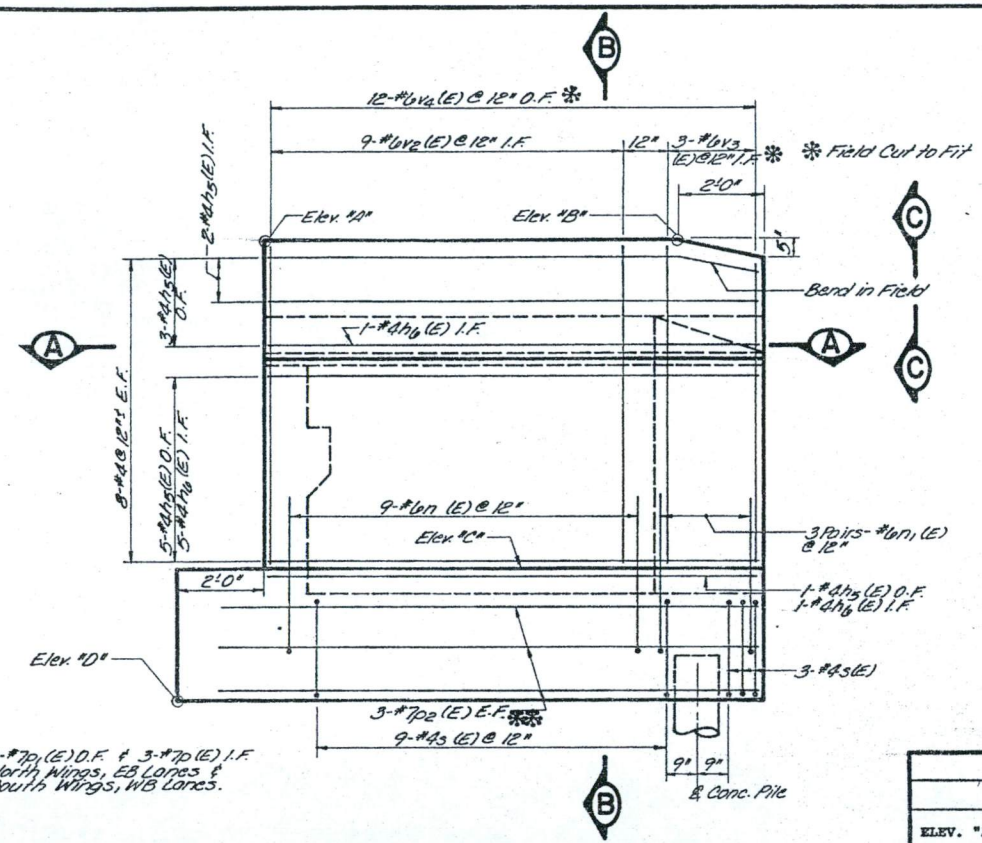
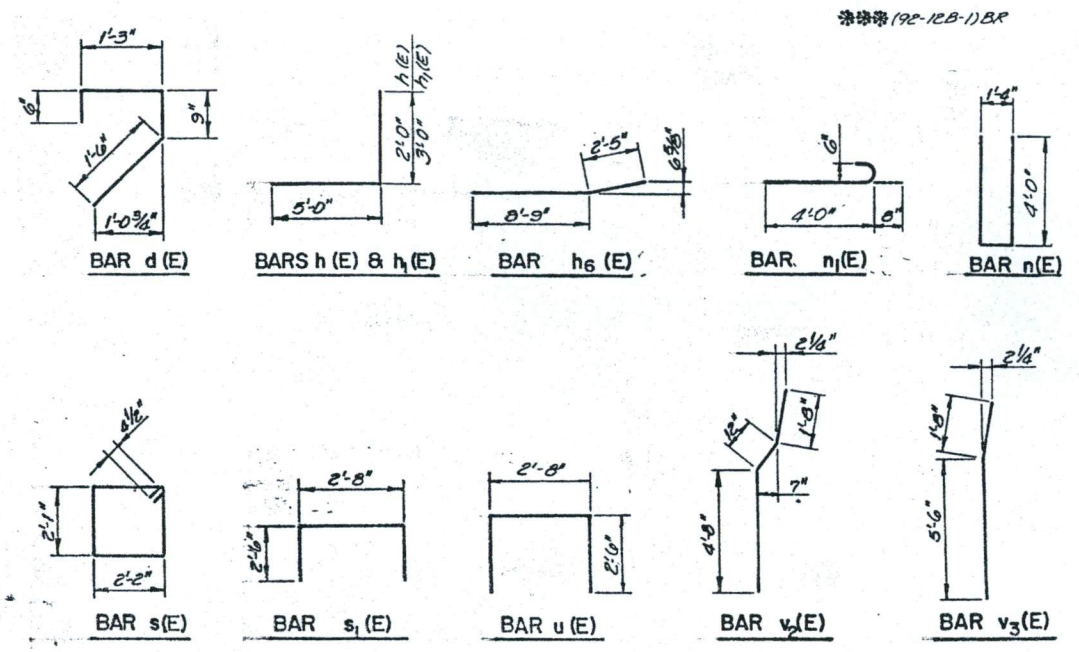
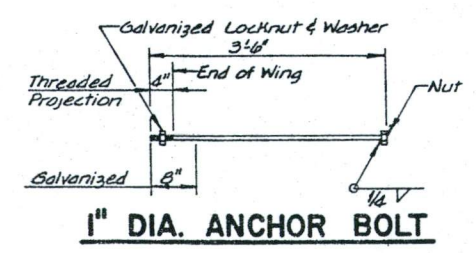
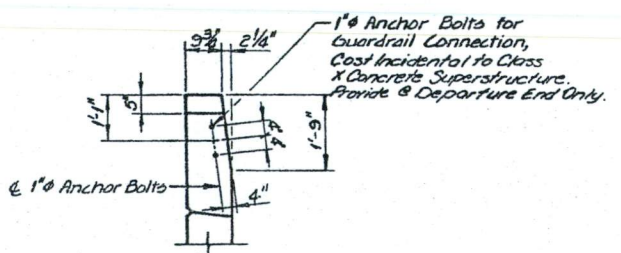
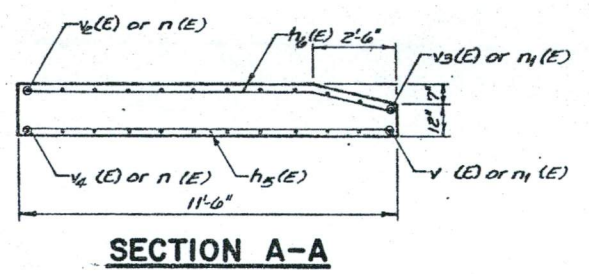
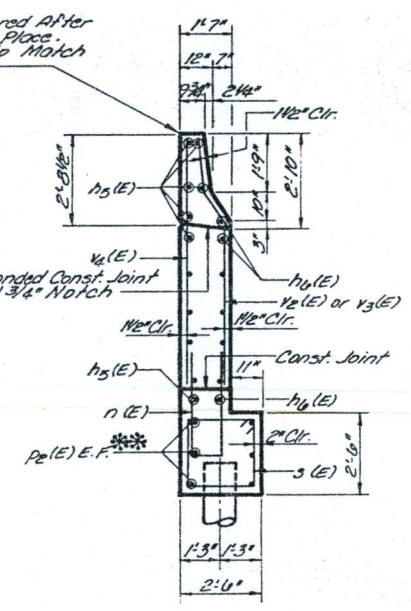


TABLE OF ELEVATIONS

	E. ABUTS.		W. ABUTS.	
	N. WING	S. WING	N. WING	S. WING
ELEV. "A"	583.67 (EB) 583.56 (WB)	583.56 (EB) 583.67 (WB)	584.18 (EB) 584.07 (WB)	584.07 (EB) 584.18 (WB)
ELEV. "B"	583.65 (EB) 583.54 (WB)	583.54 (EB) 583.65 (WB)	584.20 (EB) 584.09 (WB)	584.09 (EB) 584.20 (WB)
ELEV. "C"	576.09	576.09	576.60	576.60
ELEV. "D"	573.09	573.09	573.60	573.60



End Post Shall be Poured After Bridge Parapet is in Place. Form Top Surface to Match Parapet Grade.



ESCA
CONSULTANTS, INC.

DESIGNED BY:	KMR	11/90
DRAWN BY:	CJG	11/90
CHECKED BY:	JRF	11/90
APPROVED BY:	RDP	11/90

ABUTMENT DETAILS
 FAI RTE. 74 OVER STONY CREEK
 SECTION 92-12B-1(BR)
 VERMILION COUNTY
 STATION 2037+72.50
 STRUCTURE NO. 092-0018 (EB)
 STRUCTURE NO. 092-0019 (WB)

* (92-12B-1) BR

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAI RTE 74	*	Vermilion	65	58
STA	TO STA.			
FED ROAD DIST. NO.	ILLINOIS	PROJECT		
		Dwg. No. 27 of 33		

NOTES

1. SPACE REINFORCEMENT IN CAP TO MISS ANCHOR BOLTS.
2. SPACE REINFORCING TO MISS PILES.
3. CHAMFER ALL CORNERS 3/4".
4. SEE DWG. NO. 32 FOR ANCHOR BOLT DETAILS.
5. SEE DWG. NO. 28 FOR BAR BENDING DETAILS.

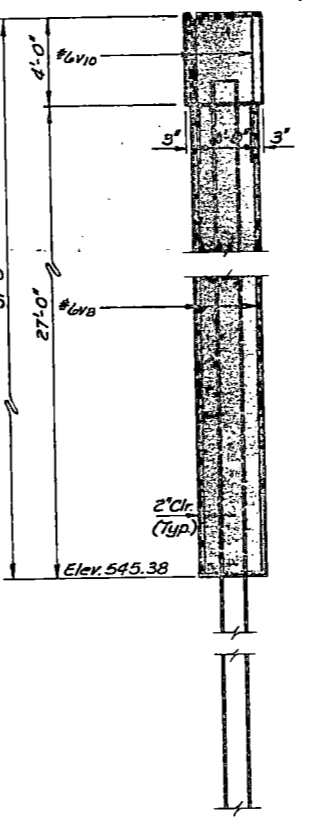
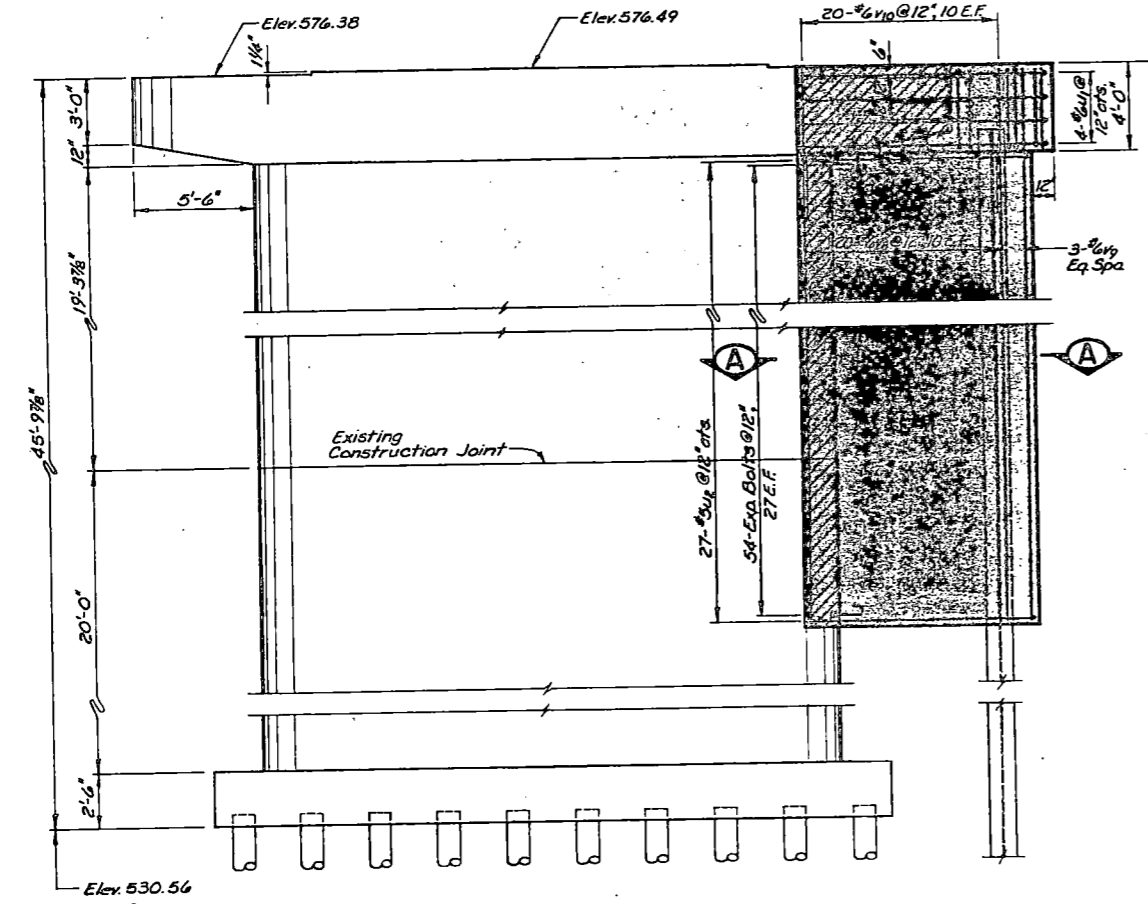
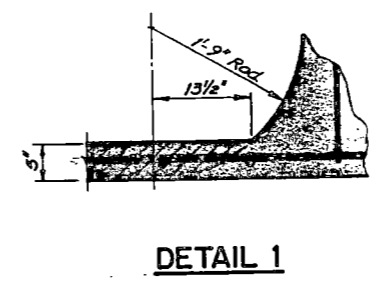
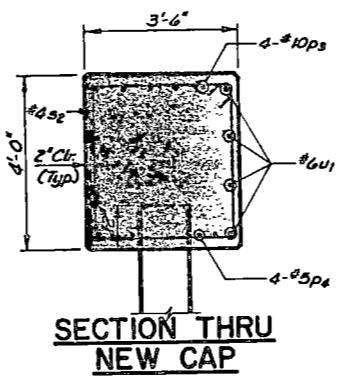
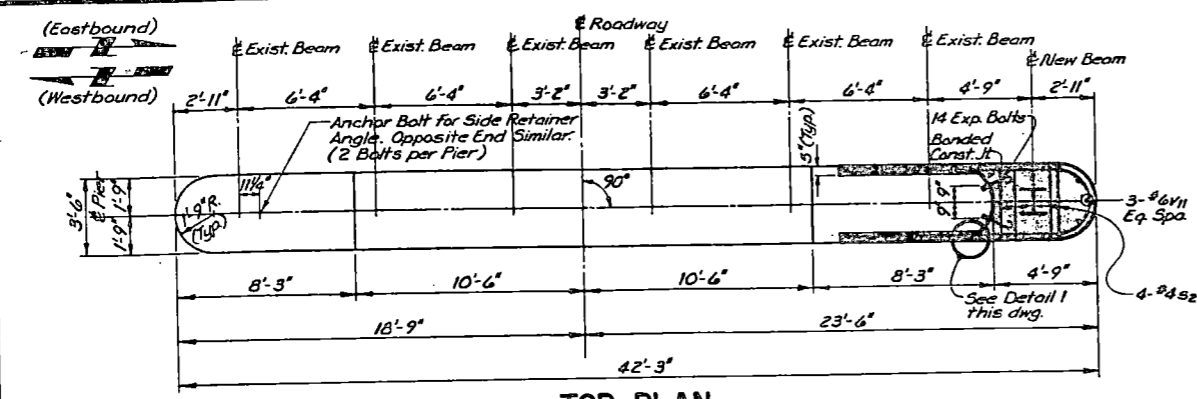
BILL OF MATERIAL

(TOTAL FOR TWO PIERS)

BAR	N ^o	SIZE	LENGTH	SHAPE
P ₃	8	#10	4'-0"	U
P ₄	8	#5	3'-0"	U
S ₂	8	#4	14'-5"	D
U ₁	8	#6	24'-8"	U
U ₂	54	#5	22'-4"	U
V ₈	40	#6	26'-8"	U
V ₉	6	#6	30'-8"	U
V ₁₀	40	#6	4'-6"	U
V ₁₁	6	#6	3'-6"	U

ITEM	UNIT	QUANTITY
Class X Concrete	Cu. Yds.	63.2
Reinforcement Bars	Lbs.	4095
Furnishing Stl. Piles, HP14x102	Lin. Ft.	56
Driving Steel Piles	Lin. Ft.	56
Test Pile, Steel HP14x102	Each	1
Structure Excavation	Cu. Yds.	34.4
Concrete Removal	Cu. Yds.	2.4
Expansion Bolts, 3/4"	Each	136

PIERS 1 (EB) & (WB)
FAI 74 OVER STONY CREEK
FAI RTE. 74 SECTION 92-12B-1BR
VERMILION COUNTY
STATION 2037+72.50
STRUCTURE NO. 092-0018 (EB)
STRUCTURE NO. 092-0019 (WB)



PILE DATA

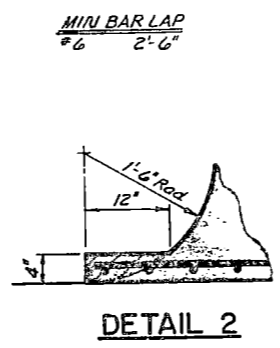
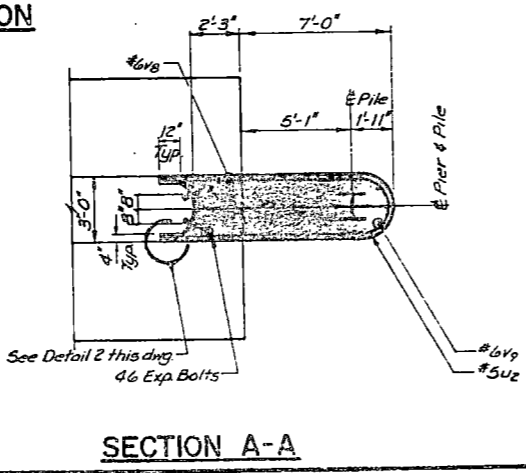
Type: Steel, HP14x102
 Capacity: 84 Tons Design, Driven to 126 Ton Brg.
 No. Req'd: 0+1 Test (EB), 1 (WB)
 Est. Length: 56'

LEGEND

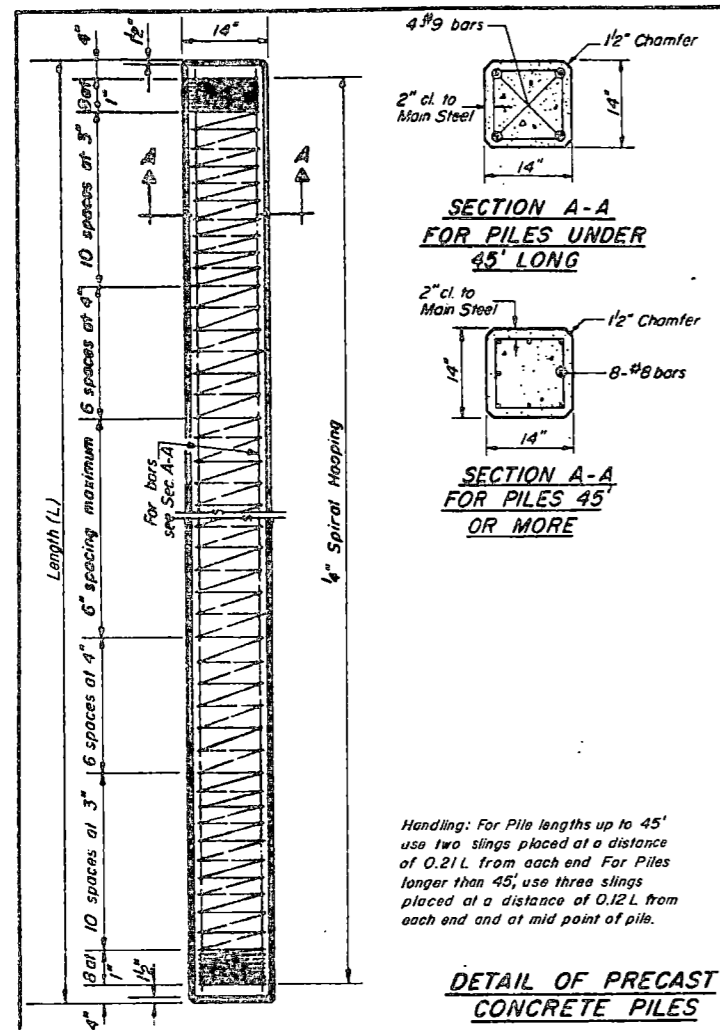
Concrete Removal (hatched pattern)
 New Concrete (stippled pattern)

ESCA CONSULTANTS, INC.

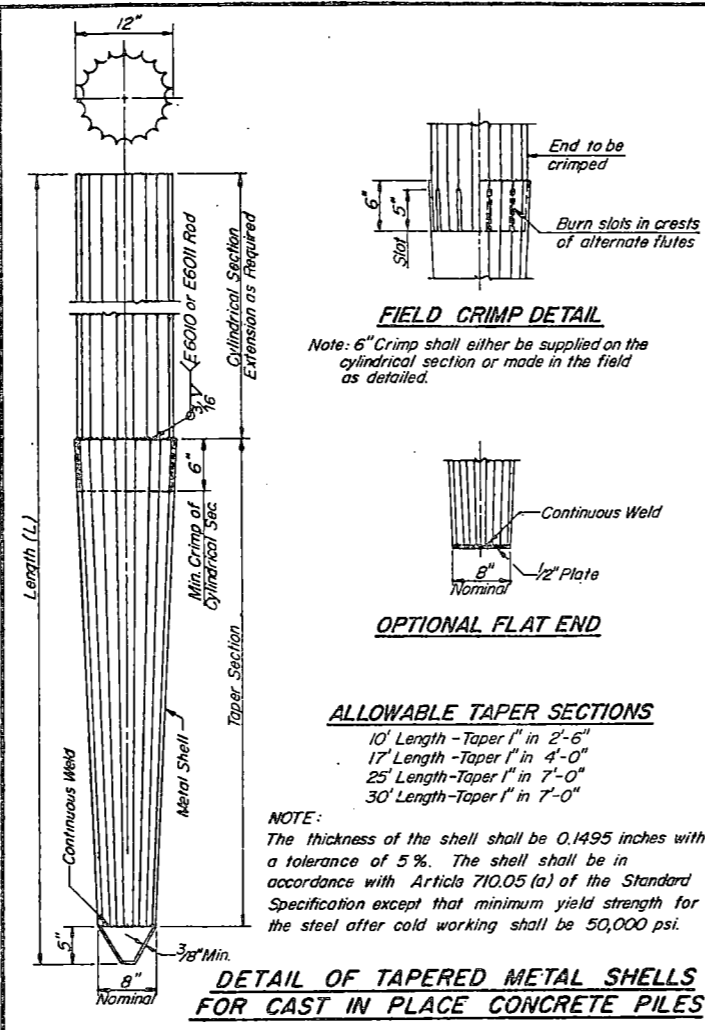
DESIGNED BY: KMR 11-90
 DRAWN BY: WEM 11-90
 CHECKED BY: RDP 11-90
 APPROVED BY: RDP 11-90



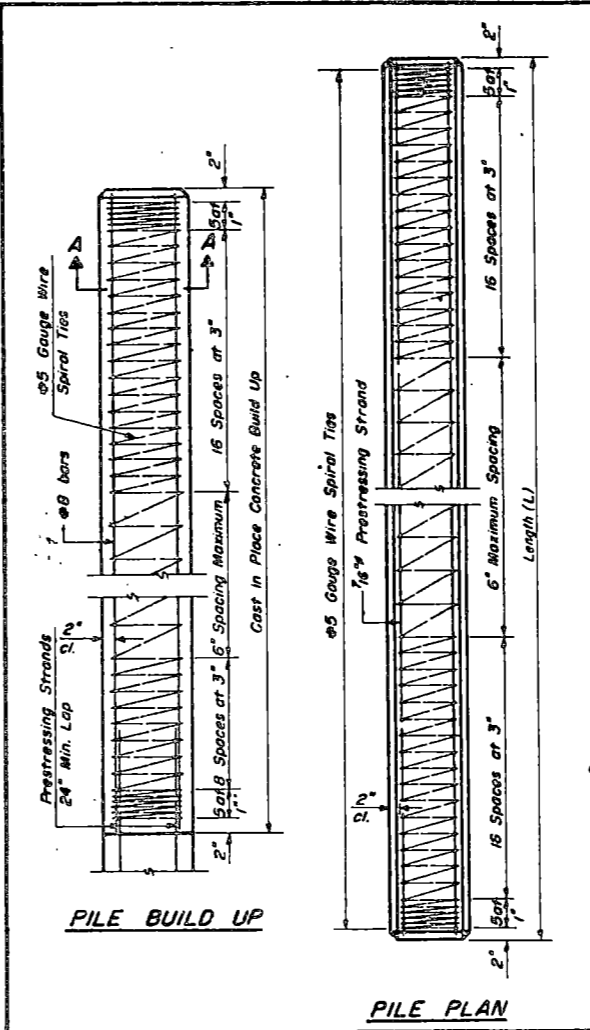
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAI 74	92-12B-1	Vermilion	65	61
STA.	TO STA.			
FED. ROAD DIST. NO.	ILLINOIS	PROJECT		
		Dwg. No. 30 of 33		



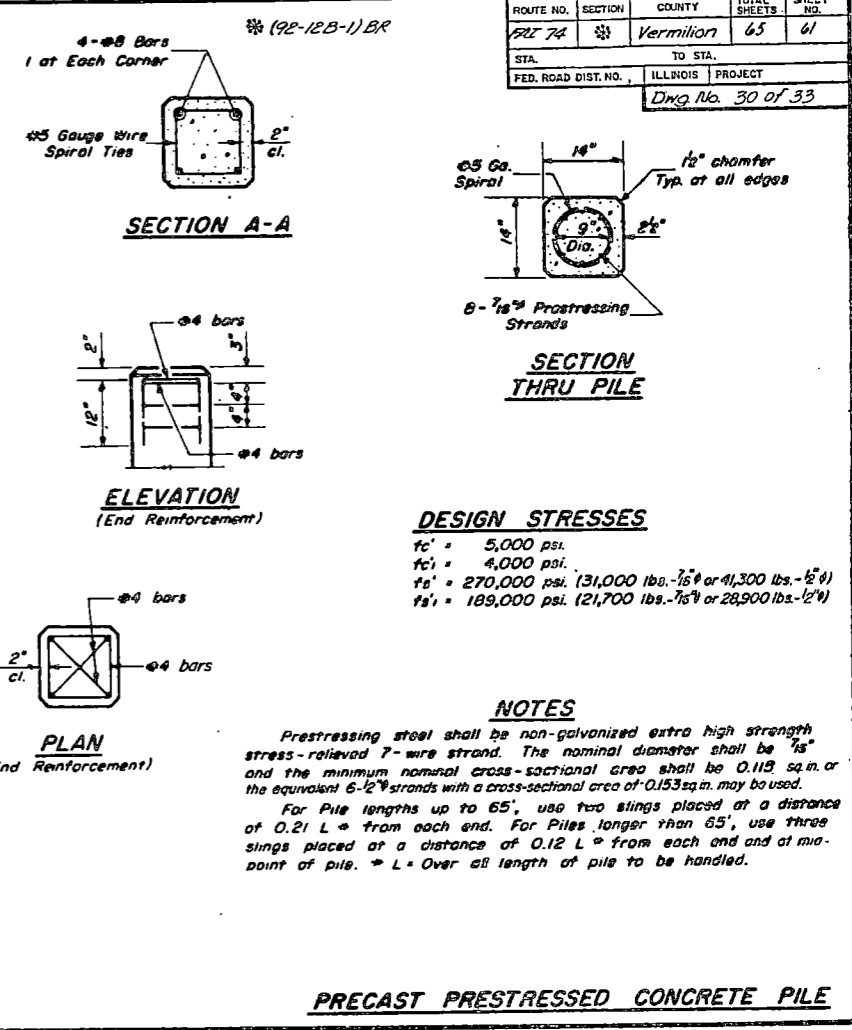
DETAIL OF PRECAST CONCRETE PILES



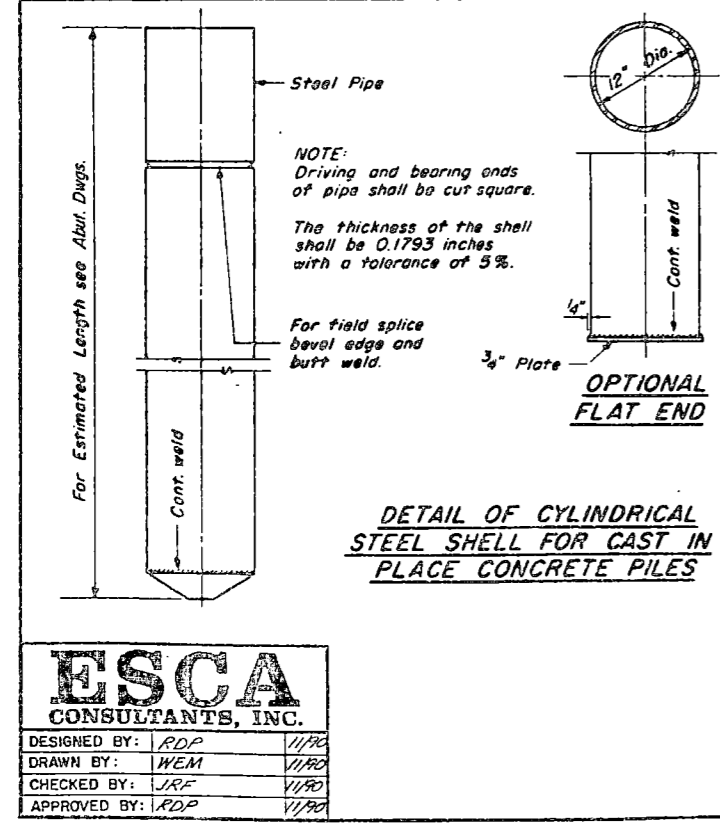
DETAIL OF TAPERED METAL SHELLS FOR CAST IN PLACE CONCRETE PILES



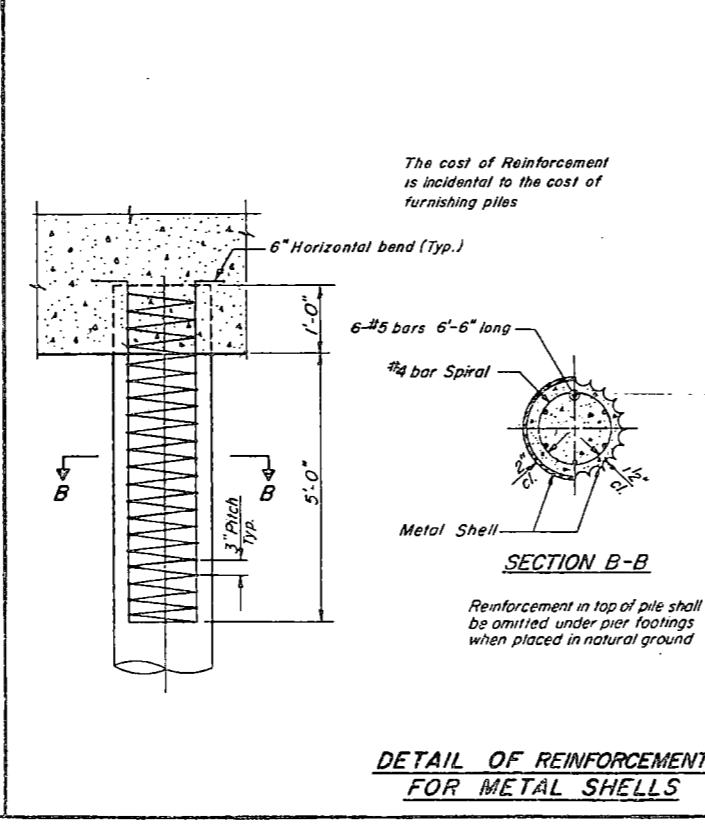
PILE PLAN



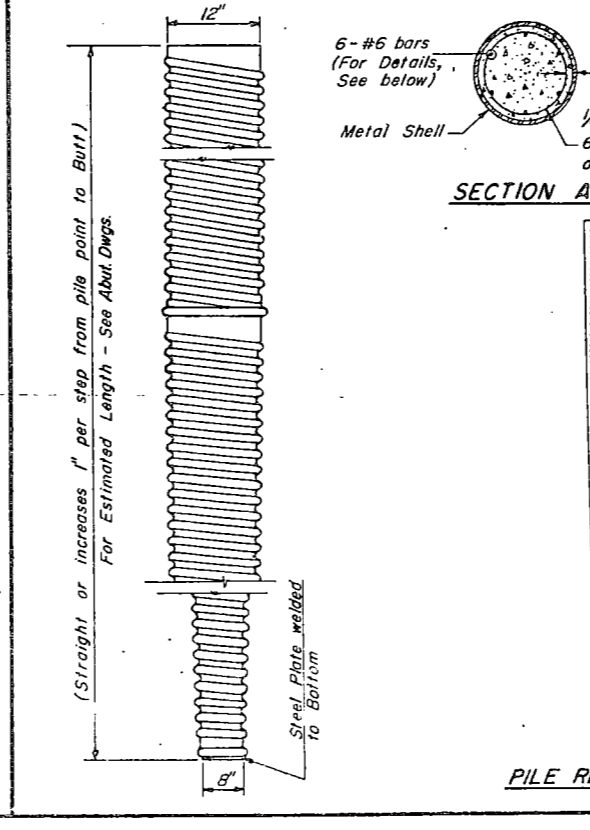
PRECAST PRESTRESSED CONCRETE PILE



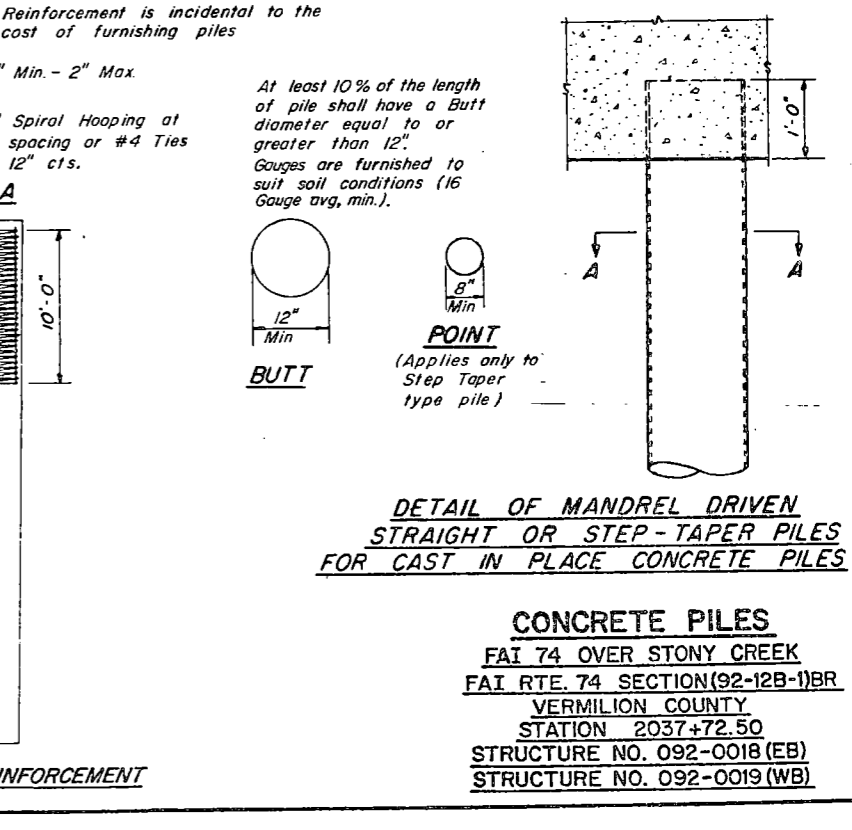
DETAIL OF CYLINDRICAL STEEL SHELL FOR CAST IN PLACE CONCRETE PILES



DETAIL OF REINFORCEMENT FOR METAL SHELLS



PILE REINFORCEMENT



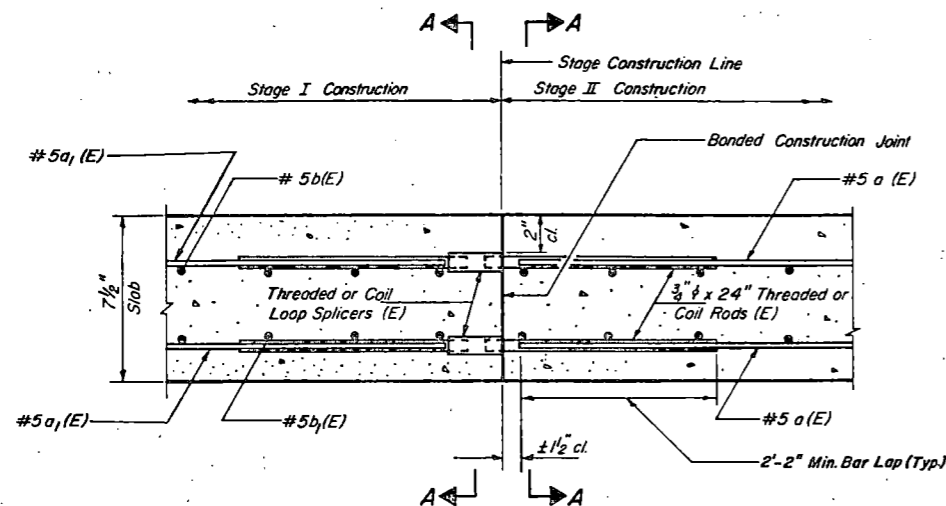
DETAIL OF MANDREL DRIVEN STRAIGHT OR STEP-TAPER PILES FOR CAST IN PLACE CONCRETE PILES

CONCRETE PILES
FAI 74 OVER STONY CREEK
FAI RTE. 74 SECTION(92-12B-1)BR
VERMILION COUNTY
STATION 2037+72.50
STRUCTURE NO. 092-0018 (EB)
STRUCTURE NO. 092-0019 (WB)

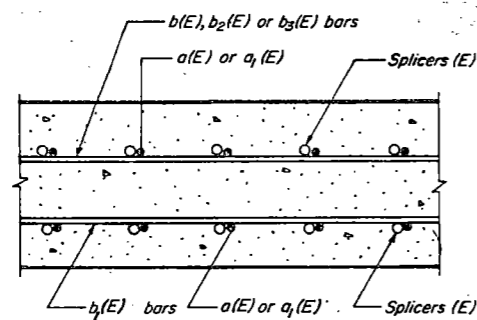
ESCA
CONSULTANTS, INC.

DESIGNED BY:	RDP	1/17/90
DRAWN BY:	WEM	1/17/90
CHECKED BY:	JRF	1/17/90
APPROVED BY:	RDP	1/17/90

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAI 74	VERMILION	VERMILION	65	62
STA.	TO STA.			
FED. ROAD DIST. NO.	ILLINOIS	PROJECT		
			Dwg. No. 31 of 33	



SECTION THRU SLAB



SECTION A-A

SPLICER DETAILS
(No. Req'd. 1,374)

NOTE: COST INCIDENTAL TO REINF. BARS (EPOXY CTD.)

NOTE

BAR COUPLERS ARE REQUIRED TO SPLICE TRANSVERSE REINFORCEMENT AT THE STAGE CONSTRUCTION LINE AT ABUTMENTS AND IN CONCRETE DECK. SEE DWGS. 8, 9, 22, 23, 24, & 25.

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

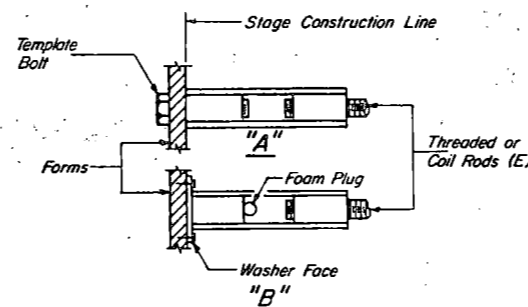
ROLLED THREAD DOWEL BAR

**** ONE PIECE**

WELDED SECTIONS

SPLICER ALTERNATIVES

** Heavy Hex Nuts conforming to ASTM A563, Grade C, D or DH may be used.



INSTALLATION AND SETTING METHODS

"A": Set splicer by means of a template bolt.
"B": Set splicer by nailing to wood forms or cementing to steel forms.

(E): Indicates epoxy coating, see Special Provisions.

NOTES

Steel Splicer (Coupler) assembly shall be of an approved type and shall develop in tension at least 125 percent of the yield strength of the lapped reinforcement bars.
Steel Splicer rods shall be of minimum 60 ksi yield strength, threaded or coiled full length.

All reinforcement bars shall be lapped and tied to the splicer rods.
Splicer (coupler) assembly in the slab shall be epoxy coated in accordance with the requirements for reinforcement bars.

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

- Minimum Capacity = $1.25 \times f_y \times A_1$
(Tension in kips)
- Minimum Pull-out Strength = $1.25 \times f_{allow} \times A_1$
(Tension in kips)

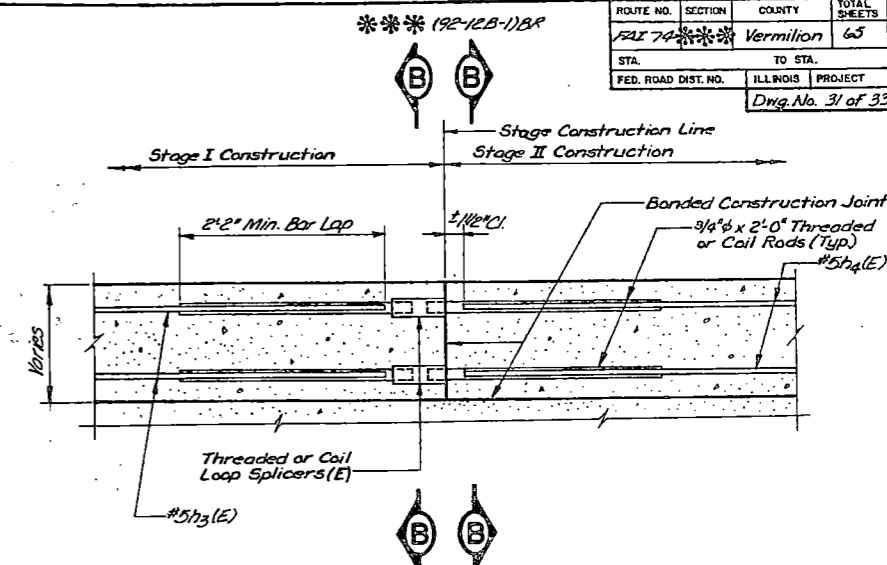
Where f_y = Yield strength of lapped reinforcement bars in k.s.i.
 f_{allow} = Allowable tensile stress in lapped reinforcement bars in k.s.i. (Service Load)
 A_1 = Tensile stress area of lapped reinforcement bars.

* 28 day concrete

Typical Splicer (Coupler) Assembly Size:

#5 bar lap with 3/8" Splicer (Coupler) x 2'-6" Splicer Rods

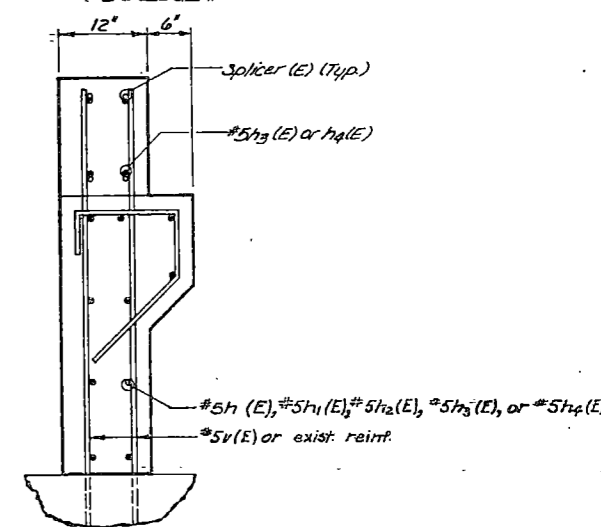
Minimum Capacity = 230 kips-tension
Minimum Pull-out Strength = 92 kips-tension



SECTION THRU ABUTMENTS

(Epoxy Coating Req'd)

NOTE: COST INCIDENTAL TO REINF. BARS (EPOXY COATED)



SECTION B-B

SPLICER DETAILS

(No. Req'd 16)

BAR COUPLER DETAILS

FAI 74 OVER STONY CREEK
FAI RTE. 74 SECTION(92-12B-1)BR
VERMILION COUNTY
STATION 2037+72.50
STRUCTURE NO. 092-0018 (EB)
STRUCTURE NO. 092-0019 (WB)

ESCA
CONSULTANTS, INC.

DESIGNED BY:	JRF	11-90
DRAWN BY:	WEM	11-90
CHECKED BY:	RDP	11-90
APPROVED BY:	RDP	11-90

(92-12B-1)BR

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAI 74		Vermilion	65	63
STA.	TO STA.			
FED. ROAD DIST. NO.	ILLINOIS PROJECT			
Dwg. No. 32 of 33				

MATERIALS FOR ILLINOIS COIL-LOCK ANCHOR BOLT

THE ANCHOR BOLT SHALL BE FABRICATED FROM COLD DRAWN OR HOT FINISHED SEAMLESS CARBON STEEL MECHANICAL TUBING CONFORMING TO ASTM A 519, GRADE 1026 AND SUPPLIED WITH HEXAGONAL NUTS AND CUT WASHERS.
 THE COIL WIRE SHALL BE MADE OF ANY SUITABLE SOFT STEEL WIRE.
 THE FINISHED ANCHOR BOLT SHALL BE CLEANED OF RUST AND OTHER FOREIGN MATERIALS AND WRAPPED OR PACKAGED TO PREVENT CONTAMINATION UNTIL THEY ARE INSTALLED.
 THE EPOXY GROUT SHALL BE A TWO-COMPONENT, EPOXY RESIN BONDING SYSTEM CONFORMING TO ASTM C881, TYPE I, GRADE 1 AND OF A CLASS SUITABLE FOR THE TEMPERATURE OF INSTALLATION.

GENERAL NOTES

- HOLES IN THE MASONRY FOR ANCHOR BOLTS SHALL BE DRILLED THROUGH THE BASE PLATES TO THE DIAMETER AND DEPTH SHOWN OR IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATION AFTER BEAMS OR GIRDERS HAVE BEEN ERECTED AND ADJUSTED.
- PRIOR TO SETTING THE BOLTS, THE HOLES SHALL BE DRY AND ALL DUST AND LOOSE PARTICLES SHALL BE REMOVED BY THE USE OF COMPRESSED AIR OR VACUUMING.
- THE ANCHOR BOLTS, FURNISHED AND INSTALLED AND INCLUDING THE EPOXY GROUT OR CAPSULES, SHALL NOT BE PAID FOR SEPARATELY BUT SHALL BE INCLUDED IN THE UNIT BID PRICE FOR "FURNISHING AND ERECTING STRUCTURAL STEEL."
- THE NUMBER OF ANCHOR BOLTS REQUIRED IS AS FOLLOWS:

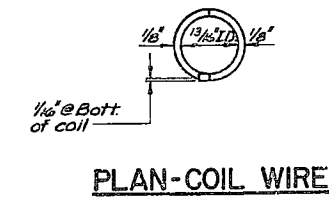
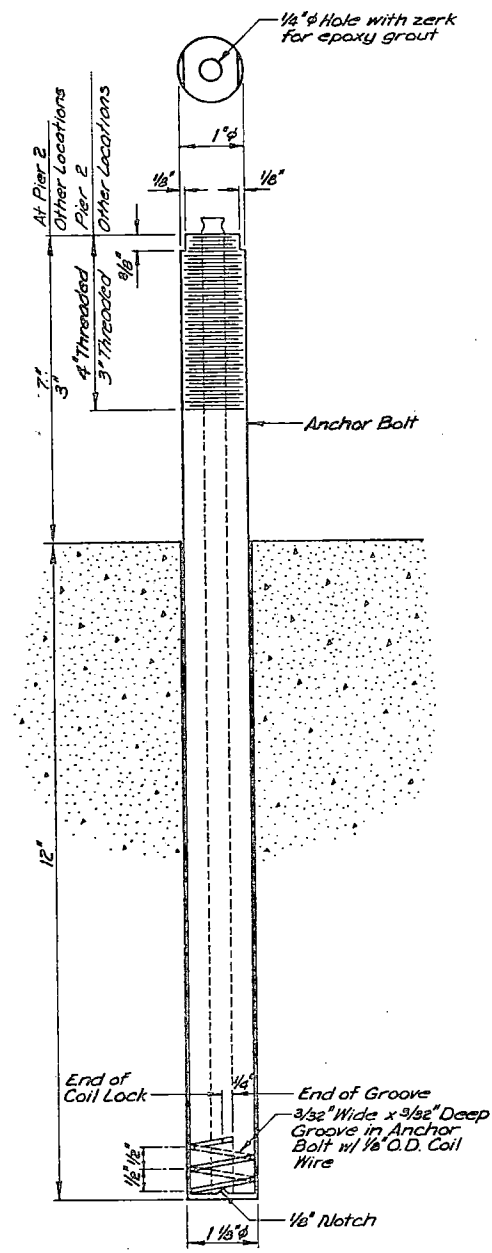
EB BRIDGE:	WB BRIDGE:
PIERS 1 & 3: 4	PIERS 1 & 3: 4
PIER 2: 14	PIER 2: 14
ABUTS.: 28	ABUTS.: 28
TOTAL: 46	TOTAL: 46
TOTAL FOR BOTH BRIDGES = 92	

INSTALLATION PROCEDURE FOR ILLINOIS COIL-LOCK ANCHOR BOLT

- WITH THE COIL WIRE IN PLACE, THE BOLT SHALL BE INSERTED INTO THE HOLE AND TURNED CLOCKWISE TO A SNUG FIT IN THE HOLE. NUT AND WASHER SHALL BE PLACED ON THE BOLT. THE NUT SHALL BE TENSIONED UNTIL THE STEEL BASE PLATES ARE HELD SECURELY TO THE CONCRETE BEARING SEAT.
- EPOXY GROUT SHALL BE PUMPED THROUGH THE ZERK FITTING WITH A PRESSURE GUN. PUMPING SHALL CONTINUE UNTIL THE EPOXY OVERFLOWS THE HOLE AROUND THE BOLT SHANK. AFTER PUMPING IS DISCONTINUED, EXCESS EPOXY SHALL BE IMMEDIATELY WIPED OFF.

ALTERNATE ANCHOR BOLTS

THE CONTRACTOR MAY USE, AT HIS OPTION, THE CAPSULE OR THE ADHESIVE CARTRIDGE TYPE ANCHOR RODS THAT HAVE BEEN PREVIOUSLY TESTED AND GIVEN A PRIOR APPROVAL BY THE DEPARTMENT. THE CONTRACTOR SHALL INSTALL THESE ANCHOR RODS IN PRE-DRILLED HOLES IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS AND PROCEDURES.
 THE CAPSULE OR THE ADHESIVE CARTRIDGE TYPE ANCHOR RODS SHALL BE A TWO PART SYSTEM COMPOSED OF:
 1. A TREADED ROD STUD WITH NUT AND WASHER CONFORMING TO ASTM A307.
 2. A SEALED GLASS CAPSULE OR A SEALED GLASS ADHESIVE CARTRIDGE CONTAINING PREMEASURED AMOUNT OF THE ADHESIVE CHEMICAL.



ILLINOIS COIL-LOCK ANCHOR BOLT

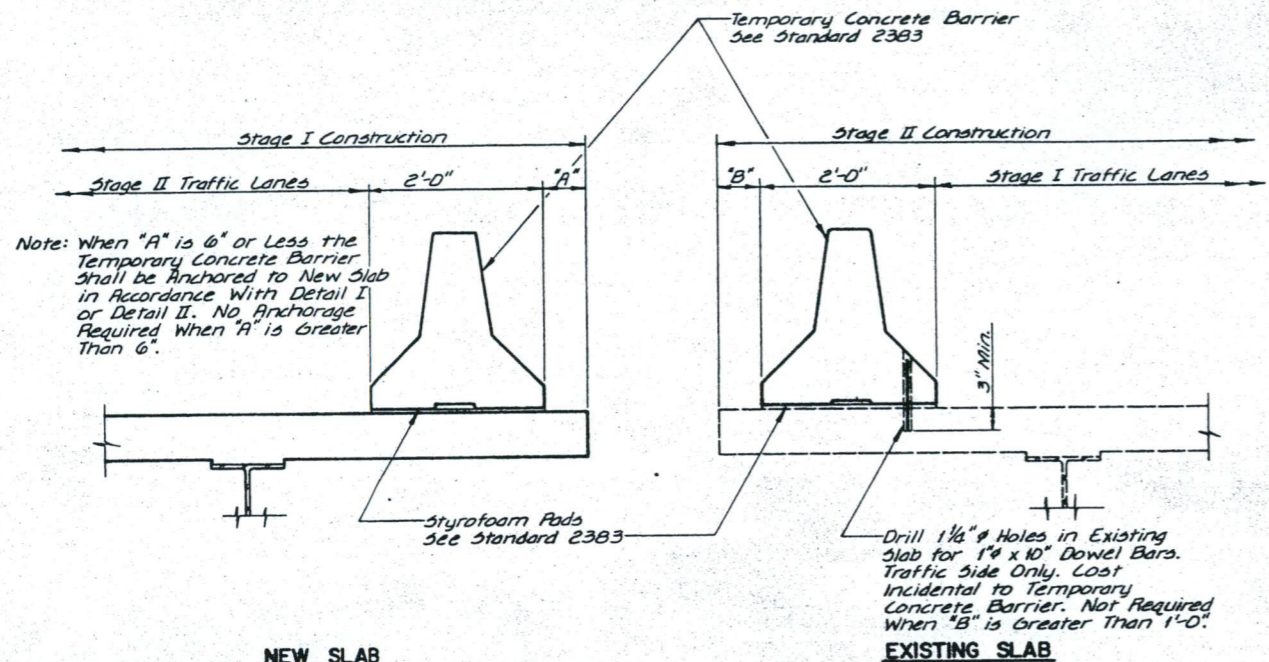
ESCA CONSULTANTS, INC.		
DESIGNED BY:	JRF	11-90
DRAWN BY:	WEM	11-90
CHECKED BY:	RDP	11-90
APPROVED BY:	RDP	11-90

NOTE
 THE ILLINOIS COIL LOCK ANCHOR BOLT IS A PROPRIETARY ITEM WHICH IS THE PROPERTY OF THE ILLINOIS DEPARTMENT OF TRANSPORTATION. USE, REPRODUCTION OR DISCLOSURE WITHOUT EXPRESS WRITTEN PERMISSION IS PROHIBITED AND PROTECTED UNDER FEDERAL COPYRIGHT LAWS. THE PRODUCTION AND THE FABRICATION OF THIS BOLT FOR USE ON HIGHWAY PROJECTS IN THE STATE OF ILLINOIS SHALL BE PERMITTED AND THERE SHALL BE NO INCURRED CHARGES OR FEES TO THE MANUFACTURER OR THE FABRICATOR FOR PRODUCING OR FABRICATING THIS BOLT.

ANCHOR BOLT DETAILS
 FAI 74 OVER STONY CREEK
 FAI RTE. 74 SECTION(92-12B-1)BR
 VERMILION COUNTY
 STATION 2037+72.50
 STRUCTURE NO. 092-0018 (EB)
 STRUCTURE NO. 092-0019 (WB)

92-12B-1)BR

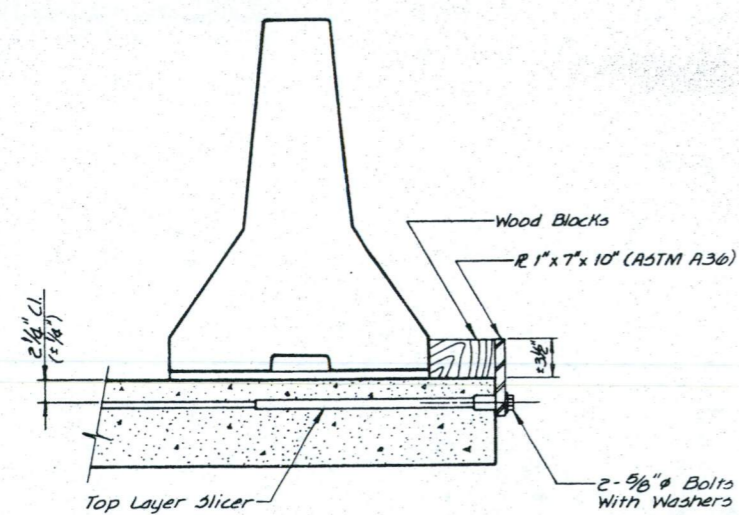
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAI 74		Vermilion	65	64
STA.	TO STA.			
FED. ROAD DIST. NO.	ILLINOIS	PROJECT		
		Dwg. No. 33 of 33		



SECTION THRU SLAB

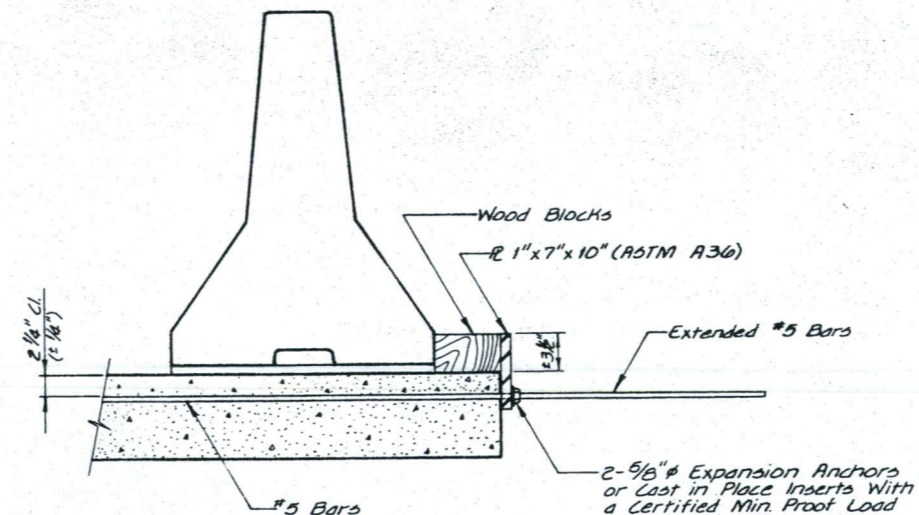
NOTES

1. DETAIL I-WITH BAR SPLICER OR COUPLERS: CONNECT ONE (1), 1" X 7" X 10" STEEL PLATE TO THE TOP LAYER OF COUPLERS WITH 2-5/8" BOLTS SCREWED TO COUPLER AT APPROXIMATE 1/4 OF EACH 10'-0" BARRIER PANEL.
2. DETAIL II-WITH EXTENDED REINFORCEMENT BARS: CONNECT ONE (1), 1" X 7" X 10" STEEL PLATE TO THE CONCRETE SLAB WITH 2-5/8" EXPANSION ANCHORS OR CAST IN PLACE INSERTS SPACED BETWEEN THE TOP LAYER OF REINFORCEMENT AT APPROXIMATE 1/4 OF EACH 10'-0" BARRIER PANEL.



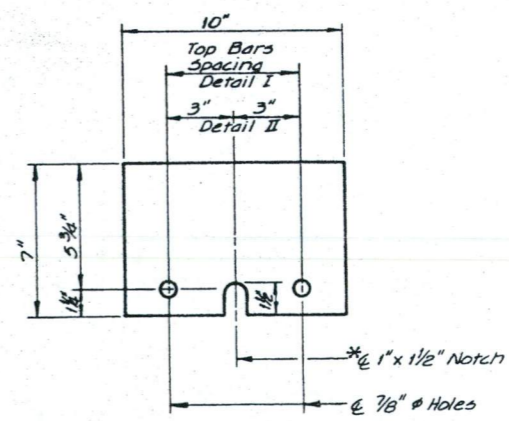
DETAIL I

Note: The 1" x 7" x 10" Plate shall Not Be Removed Until Stage II Construction Forms and Reinforcement Bars are in Place.



DETAIL II

Note: The 1" x 7" x 10" Plate shall Not Be Removed Until Stage II Construction Forms and All Reinforcement Bars are in Place and the Concrete is Ready to be Placed.



1" x 7" x 10"

* Required Only With Detail II

TEMPORARY CONCRETE BARRIER FOR STAGE CONSTRUCTION

FAI 74 OVER STONY CREEK

FAI RTE. 74 SECTION(92-12B-1)BR

VERMILION COUNTY

STATION 2037+72.50

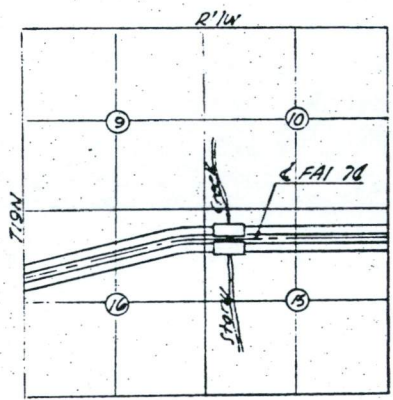
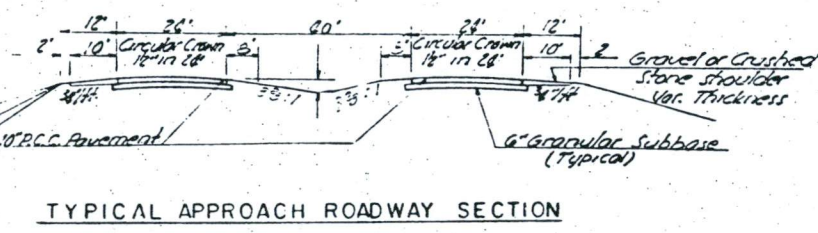
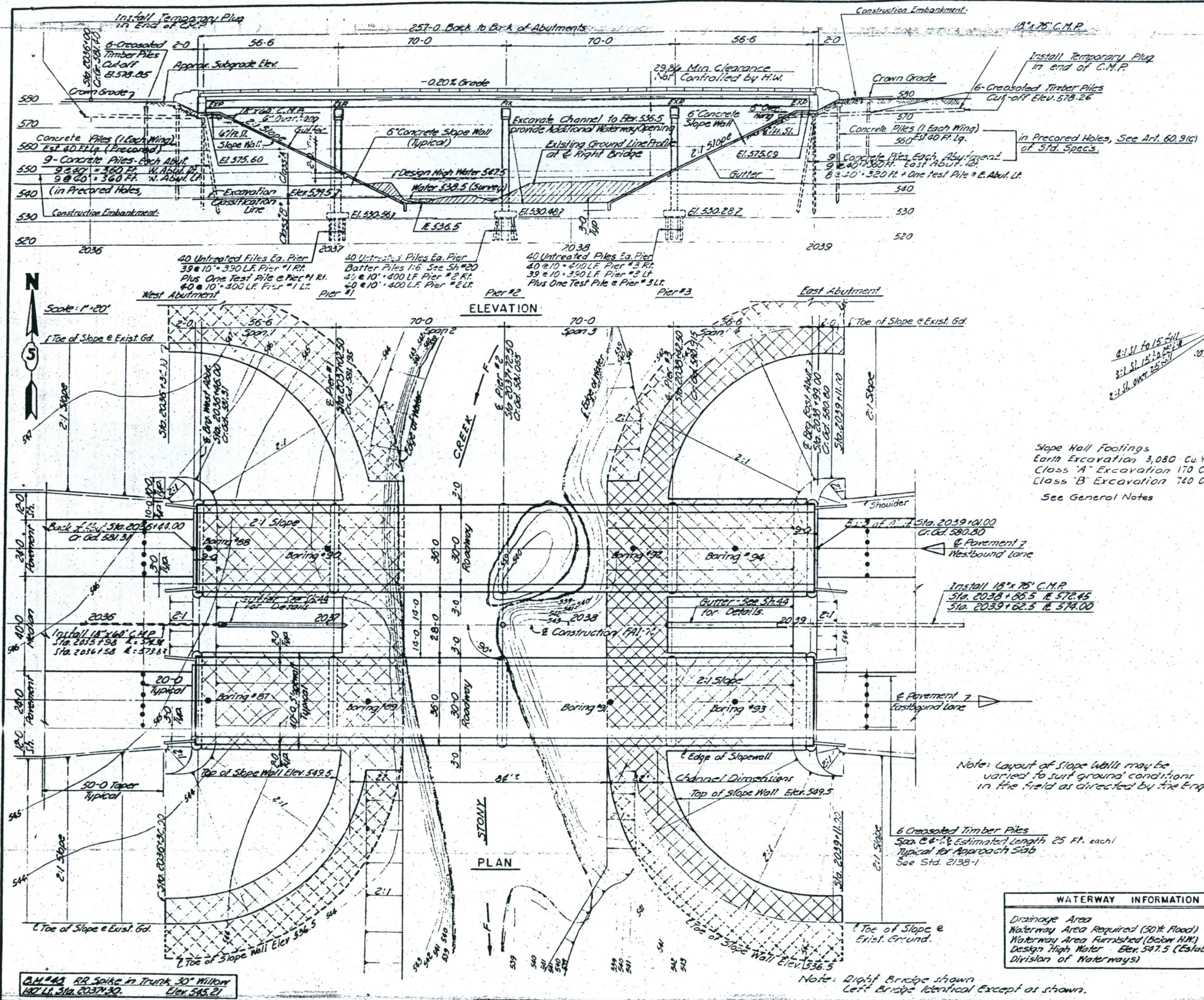
STRUCTURE NO. 092-0018 (EB)

STRUCTURE NO. 092-0019 (WB)

ESCA
CONSULTANTS, INC.

DESIGNED BY:	KMP	11/90
DRAWN BY:	WEM	11/90
CHECKED BY:	JRF	11/90
APPROVED BY:	RDP	11/90

F.A. DIST.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
74	92-1281	VERMILION	108	31
FEDERAL ROAD DISTRICT NO. 7 ILLINOIS				
FED. AID ROUTE NO.	SEC.	COUNTY	TOTAL SHEETS	SHEET NO.
74	92-1281	VERMILION	11	4
FED. ROAD DIST. NO. 7 ILLINOIS				



Slope Wall Footings
 Earth Excavation 3,080 Cu. Yd.
 Class 'A' Excavation 170 Cu. Yd.
 Class 'B' Excavation 740 Cu. Yd.
 See General Notes

Note: Layout of Slope Walls may be varied to suit ground conditions in the field as directed by the Engineer

6 Crossed Timber Piles
 Span 2 & 3 Estimated Length 25 Ft. each
 Typical for Approach Slab
 See Std. 2138-1

WATERWAY INFORMATION	
Drainage Area	42 Sq. Mi.
Waterway Area Required (50% Flood)	1150 Sq. Ft.
Waterway Area Furnished (Below H.W.)	1133 Sq. Ft.
Design High Water Elev.	547.5 (Established by Division of Waterways)

REEL
5-38

CONSOER, TOWNSEND & ASSOCIATES
 CONSULTING ENGINEERS
 CHICAGO, ILLINOIS

ILLINOIS DIVISION OF HIGHWAYS
 FAI RT. 74 OVER STONY CREEK
 FAI 74 SECTION 92-1281, F-1
 VERMILION COUNTY STA. 203742.50

GENERAL PLAN AND LOCATION

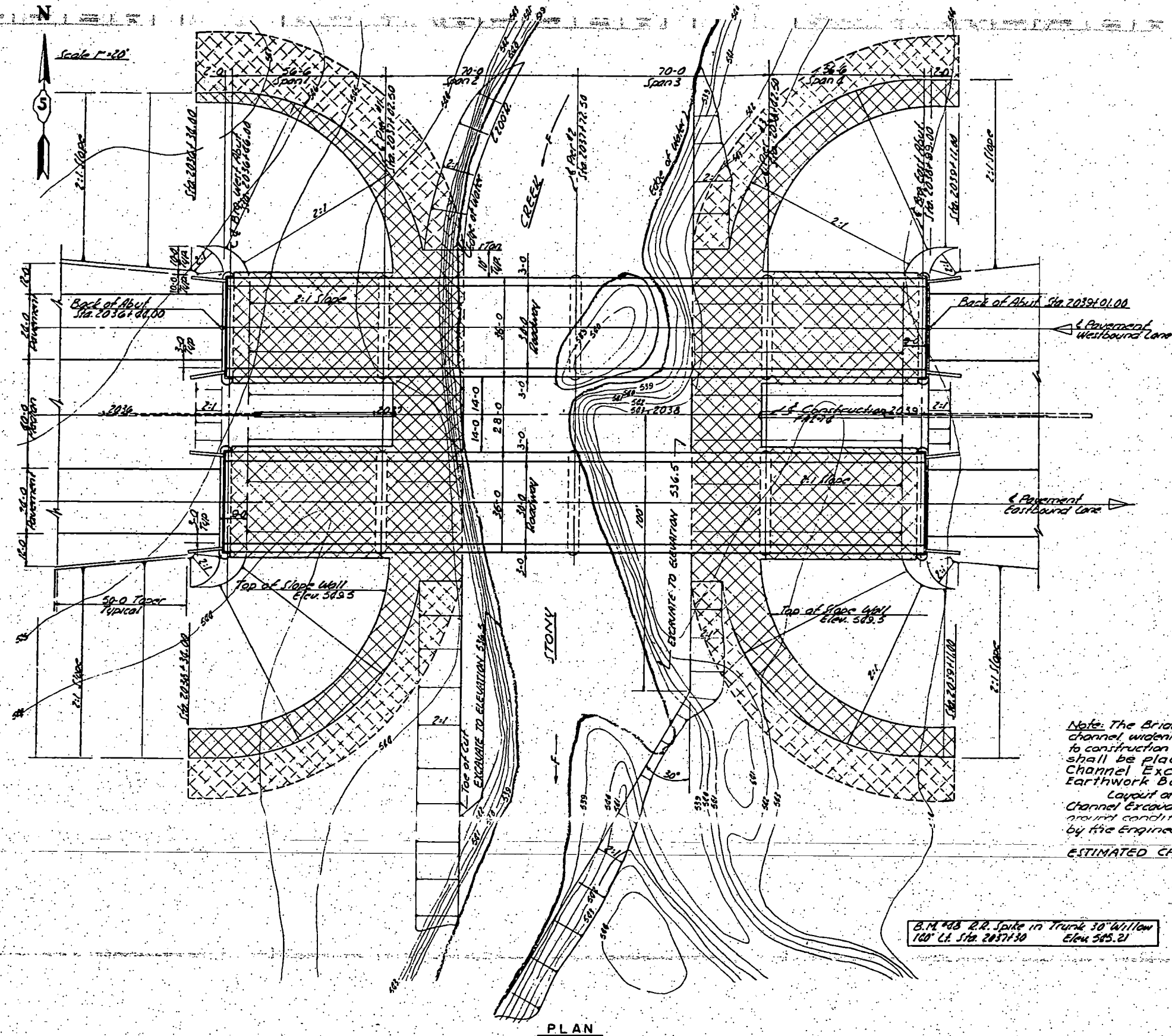
DESIGNED BY	DATE
J.W.H.	JUN 1954
CHECKED BY	DATE
L.D.B.	MAY 10 1954

C.M.#43 RR Spike in Truck 30' Willow
 140' Lx 31x 20374.30 Elev. 545.21

Note: Right Bridge shown
 Left Bridge identical except as shown.

092-0018 + 0019

F.A.I. No.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
74	92-12 B1	VERMILION	108	32
FURNISH ROAD DISTRICT NO. 7			ILLINOIS	FINAL



Note: The Bridge Contractor shall excavate the channel, widening to the limits shown prior to construction of the bridge. Excavated material shall be placed in East Cone Embankment. Channel Excavation quantity included in Earthwork Balance Sta. 2037+16 to Sta. 2040+00. Layout of Slope Walls and Limits of Channel Excavation may be varied to suit ground conditions in the field as directed by the Engineer.

ESTIMATED CHANNEL EXCAVATION 4,289 CU. YDS.

B.M. 408 R.R. Spike in Trunk 30" Willow
100' Lt. Sta. 2037+30 Elev. 545.21

PLAN

CONSOER, TOWNSEND & ASSOCIATES
CONSULTING ENGINEERS CHICAGO, ILLINOIS

ILLINOIS DIVISION OF HIGHWAYS
FAI RT. 74 OVER STONY CREEK
FAI-74 SECTION 92-12 B1
VERMILION COUNTY STA. 2037+72.50

CHANNEL EXCAVATION

JWH	DT	WET	RLP	LDS	NSM 10.24.60
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NOTE: SEE SHEET #31 FOR "PLAN OF BORING LOCATIONS".

BORING	STATION	OFFSET
87	2036+81	32' RIGHT
88	2036+81	32' LEFT
89	2037+18	32' RIGHT

GENERAL NOTES

1960 CHICAGO BUILDING CODE SOIL CLASSIFICATIONS ARE USED.

- E = ELEVATION
- S = SAMPLE NUMBERS
- PR = PENETRATION IN BLOWS PER FOOT OF 140 POUNDS HAMMER FALLING 30 INCHES
- QU = UNCONFINED COMPRESSIVE STRENGTH (lb./sq. ft.)
- R = RECOVERY IN FEET
- SS = SPLIT SPOON-SIZE: 2" O.D. SIZE: 3/8" I.D.
- M = MOIST
- D = DRY
- W = WET

LOGS PREPARED BY
SOIL TESTING SERVICES, INC.
1827 N. HARLEN AVE.
CHICAGO 36, ILL.

WATER LEVELS INDICATED ON THE BORING LOGS ARE THE LEVELS MEASURED IN THE BORING AT THE TIMES INDICATED. IN POROUS SOILS, THE INDICATED ELEVATIONS ARE CONSIDERED RELIABLE. GROUND WATER LEVELS, IN IMPERVIOUS SOILS, THE ACCURATE DETERMINATION OF GROUND WATER ELEVATIONS IS NOT POSSIBLE IN EVEN SEVERAL DAYS OBSERVATION, AND ADDITIONAL EVIDENCE ON GROUND WATER ELEVATIONS MUST BE OBTAINED.

S.T.S. JOB NO. 3721-B

LOCATION # 10-1

BORING NO. 87
DATE: 1-6-58
GROUND ELEVATION: +544.7'

ELEVATION	DEPTH	DESCRIPTION
544.7	0.0	GROUND SURFACE
44.2	1-0	BLACK TOP SOIL - LOOSE
43.7	1-0	FINE SAND-SOME SILT - TRACE OF CLAY-DARK BROWN-LOOSE (W)
42.7	2-0	FINE SAND-SOME SILT - TRACE OF CLAY-DARK BROWN-LOOSE (W)
41.7	3-0	FINE SAND-SOME SILT - TRACE OF CLAY-DARK BROWN-LOOSE (W)
40.7	4-0	FINE SAND-SOME SILT - TRACE OF CLAY-DARK BROWN-LOOSE (W)
39.7	5-0	FINE TO COARSE SAND - SILT - TRACE OF CLAY - BROWN-MED. DENSE (W)
38.7	6-0	WATER LEVEL +38.7' AFTER CASING REMOVAL
37.7	7-0	WATER LEVEL +37.7' BEFORE CASING REMOVAL
36.7	8-0	FINE TO COARSE SAND - SOME GRAVEL & SILT - BROWN-MED. DENSE (W)
35.7	9-0	FINE TO COARSE SAND - SOME GRAVEL & SILT - BROWN-MED. DENSE (W)
34.7	10-0	FINE TO COARSE SAND - SOME GRAVEL & SILT - BROWN-MED. DENSE (W)
33.7	11-0	FINE TO COARSE SAND - SOME GRAVEL & SILT - BROWN-MED. DENSE (W)
32.7	12-0	FINE TO COARSE SAND - SOME GRAVEL & SILT - BROWN-MED. DENSE (W)
31.7	13-0	FINE TO COARSE SAND - SOME GRAVEL & SILT - BROWN-MED. DENSE (W)
30.7	14-0	FINE TO COARSE SAND - SOME GRAVEL & SILT - BROWN-MED. DENSE (W)
29.7	15-0	FINE TO COARSE SAND - SOME GRAVEL & SILT - BROWN-MED. DENSE (W)
28.7	16-0	FINE TO COARSE SAND - SOME GRAVEL & SILT - BROWN-MED. DENSE (W)
27.7	17-0	FINE TO COARSE SAND - SOME GRAVEL & SILT - BROWN-MED. DENSE (W)
26.7	18-0	FINE TO COARSE SAND - SOME GRAVEL & SILT - BROWN-MED. DENSE (W)
25.7	19-0	FINE TO COARSE SAND - SOME GRAVEL & SILT - BROWN-MED. DENSE (W)
24.7	20-0	FINE TO COARSE SAND - SOME GRAVEL & SILT - BROWN-MED. DENSE (W)
23.7	21-0	FINE TO COARSE SAND - SOME GRAVEL & SILT - BROWN-MED. DENSE (W)
22.7	22-0	FINE TO COARSE SAND - SOME GRAVEL & SILT - BROWN-MED. DENSE (W)
21.7	23-0	FINE TO COARSE SAND - SOME GRAVEL & SILT - BROWN-MED. DENSE (W)
20.7	24-0	FINE TO COARSE SAND - SOME GRAVEL & SILT - BROWN-MED. DENSE (W)
19.7	25-0	FINE TO COARSE SAND - SOME GRAVEL & SILT - BROWN-MED. DENSE (W)
18.7	26-0	FINE TO COARSE SAND - SOME GRAVEL & SILT - BROWN-MED. DENSE (W)
17.7	27-0	FINE TO COARSE SAND - SOME GRAVEL & SILT - BROWN-MED. DENSE (W)
16.7	28-0	FINE TO COARSE SAND - SOME GRAVEL & SILT - BROWN-MED. DENSE (W)
15.7	29-0	FINE TO COARSE SAND - SOME GRAVEL & SILT - BROWN-MED. DENSE (W)
14.7	30-0	FINE TO COARSE SAND - SOME GRAVEL & SILT - BROWN-MED. DENSE (W)
13.7	31-0	FINE TO COARSE SAND - SOME GRAVEL & SILT - BROWN-MED. DENSE (W)
12.7	32-0	FINE TO COARSE SAND - SOME GRAVEL & SILT - BROWN-MED. DENSE (W)
11.7	33-0	FINE TO COARSE SAND - SOME GRAVEL & SILT - BROWN-MED. DENSE (W)
10.7	34-0	FINE TO COARSE SAND - SOME GRAVEL & SILT - BROWN-MED. DENSE (W)
9.7	35-0	FINE TO COARSE SAND - SOME GRAVEL & SILT - BROWN-MED. DENSE (W)
8.7	36-0	FINE TO COARSE SAND - SOME GRAVEL & SILT - BROWN-MED. DENSE (W)
7.7	37-0	FINE TO COARSE SAND - SOME GRAVEL & SILT - BROWN-MED. DENSE (W)
6.7	38-0	FINE TO COARSE SAND - SOME GRAVEL & SILT - BROWN-MED. DENSE (W)
5.7	39-0	FINE TO COARSE SAND - SOME GRAVEL & SILT - BROWN-MED. DENSE (W)
4.7	40-0	FINE TO COARSE SAND - SOME GRAVEL & SILT - BROWN-MED. DENSE (W)
3.7	41-0	FINE TO COARSE SAND - SOME GRAVEL & SILT - BROWN-MED. DENSE (W)
2.7	42-0	FINE TO COARSE SAND - SOME GRAVEL & SILT - BROWN-MED. DENSE (W)
1.7	43-0	FINE TO COARSE SAND - SOME GRAVEL & SILT - BROWN-MED. DENSE (W)
0.7	44-0	FINE TO COARSE SAND - SOME GRAVEL & SILT - BROWN-MED. DENSE (W)
0.2	44.5	END OF BORING 26" BK CASING

E	S	PR	QU	R	CLASSIFICATION

BORING NO. 88
DATE: 12-30-57
GROUND ELEVATION: +545.3'

ELEVATION	DEPTH	DESCRIPTION
545.3	0.0	GROUND SURFACE
44.0	1-3	BLACK TOP SOIL - LOOSE
43.6	1-3	FINE SAND & SILT - DARK BROWN-LOOSE (W)
42.6	2-3	FINE TO COARSE SAND - SOME SILT & GRAVEL - BROWN-LOOSE (W)
41.6	3-3	FINE TO COARSE SAND - SOME SILT & GRAVEL - BROWN-LOOSE (W)
40.6	4-3	FINE TO COARSE SAND - SOME SILT & GRAVEL - BROWN-LOOSE (W)
39.6	5-3	FINE TO COARSE SAND - SOME SILT & GRAVEL - BROWN-LOOSE (W)
38.6	6-3	FINE TO COARSE SAND - SOME SILT & GRAVEL - BROWN-LOOSE (W)
37.6	7-3	FINE TO COARSE SAND - SOME SILT & GRAVEL - BROWN-LOOSE (W)
36.6	8-3	FINE TO COARSE SAND - SOME SILT & GRAVEL - BROWN-LOOSE (W)
35.6	9-3	FINE TO COARSE SAND - SOME SILT & GRAVEL - BROWN-LOOSE (W)
34.6	10-3	FINE TO COARSE SAND - SOME SILT & GRAVEL - BROWN-LOOSE (W)
33.6	11-3	FINE TO COARSE SAND - SOME SILT & GRAVEL - BROWN-LOOSE (W)
32.6	12-3	FINE TO COARSE SAND - SOME SILT & GRAVEL - BROWN-LOOSE (W)
31.6	13-3	FINE TO COARSE SAND - SOME SILT & GRAVEL - BROWN-LOOSE (W)
30.6	14-3	FINE TO COARSE SAND - SOME SILT & GRAVEL - BROWN-LOOSE (W)
29.6	15-3	FINE TO COARSE SAND - SOME SILT & GRAVEL - BROWN-LOOSE (W)
28.6	16-3	FINE TO COARSE SAND - SOME SILT & GRAVEL - BROWN-LOOSE (W)
27.6	17-3	FINE TO COARSE SAND - SOME SILT & GRAVEL - BROWN-LOOSE (W)
26.6	18-3	FINE TO COARSE SAND - SOME SILT & GRAVEL - BROWN-LOOSE (W)
25.6	19-3	FINE TO COARSE SAND - SOME SILT & GRAVEL - BROWN-LOOSE (W)
24.6	20-3	FINE TO COARSE SAND - SOME SILT & GRAVEL - BROWN-LOOSE (W)
23.6	21-3	FINE TO COARSE SAND - SOME SILT & GRAVEL - BROWN-LOOSE (W)
22.6	22-3	FINE TO COARSE SAND - SOME SILT & GRAVEL - BROWN-LOOSE (W)
21.6	23-3	FINE TO COARSE SAND - SOME SILT & GRAVEL - BROWN-LOOSE (W)
20.6	24-3	FINE TO COARSE SAND - SOME SILT & GRAVEL - BROWN-LOOSE (W)
19.6	25-3	FINE TO COARSE SAND - SOME SILT & GRAVEL - BROWN-LOOSE (W)
18.6	26-3	FINE TO COARSE SAND - SOME SILT & GRAVEL - BROWN-LOOSE (W)
17.6	27-3	FINE TO COARSE SAND - SOME SILT & GRAVEL - BROWN-LOOSE (W)
16.6	28-3	FINE TO COARSE SAND - SOME SILT & GRAVEL - BROWN-LOOSE (W)
15.6	29-3	FINE TO COARSE SAND - SOME SILT & GRAVEL - BROWN-LOOSE (W)
14.6	30-3	FINE TO COARSE SAND - SOME SILT & GRAVEL - BROWN-LOOSE (W)
13.6	31-3	FINE TO COARSE SAND - SOME SILT & GRAVEL - BROWN-LOOSE (W)
12.6	32-3	FINE TO COARSE SAND - SOME SILT & GRAVEL - BROWN-LOOSE (W)
11.6	33-3	FINE TO COARSE SAND - SOME SILT & GRAVEL - BROWN-LOOSE (W)
10.6	34-3	FINE TO COARSE SAND - SOME SILT & GRAVEL - BROWN-LOOSE (W)
9.6	35-3	FINE TO COARSE SAND - SOME SILT & GRAVEL - BROWN-LOOSE (W)
8.6	36-3	FINE TO COARSE SAND - SOME SILT & GRAVEL - BROWN-LOOSE (W)
7.6	37-3	FINE TO COARSE SAND - SOME SILT & GRAVEL - BROWN-LOOSE (W)
6.6	38-3	FINE TO COARSE SAND - SOME SILT & GRAVEL - BROWN-LOOSE (W)
5.6	39-3	FINE TO COARSE SAND - SOME SILT & GRAVEL - BROWN-LOOSE (W)
4.6	40-3	FINE TO COARSE SAND - SOME SILT & GRAVEL - BROWN-LOOSE (W)
3.6	41-3	FINE TO COARSE SAND - SOME SILT & GRAVEL - BROWN-LOOSE (W)
2.6	42-3	FINE TO COARSE SAND - SOME SILT & GRAVEL - BROWN-LOOSE (W)
1.6	43-3	FINE TO COARSE SAND - SOME SILT & GRAVEL - BROWN-LOOSE (W)
0.6	44-3	FINE TO COARSE SAND - SOME SILT & GRAVEL - BROWN-LOOSE (W)
0.1	44.5	END OF BORING 26" BK CASING

E	S	PR	QU	R	CLASSIFICATION

BORING NO. 89
DATE: 1-6-58
GROUND ELEVATION: +545.3'

ELEVATION	DEPTH	DESCRIPTION
545.3	0.0	GROUND SURFACE
44.7	1-5	BLACK TOP SOIL - LOOSE
44.0	1-5	FINE SAND & SILT - TRACE OF CLAY-DARK BROWN-LOOSE (W)
43.2	2-5	FINE SAND-SOME SILT - BROWN-LOOSE (W)
42.3	3-5	FINE SAND-SOME SILT - BROWN-LOOSE (W)
41.3	4-5	FINE SAND-SOME SILT - BROWN-LOOSE (W)
40.3	5-5	FINE SAND-SOME SILT - BROWN-LOOSE (W)
39.3	6-5	FINE SAND-SOME SILT - BROWN-LOOSE (W)
38.3	7-5	FINE SAND-SOME SILT - BROWN-LOOSE (W)
37.3	8-5	FINE SAND-SOME SILT - BROWN-LOOSE (W)
36.3	9-5	FINE SAND-SOME SILT - BROWN-LOOSE (W)
35.3	10-5	FINE SAND-SOME SILT - BROWN-LOOSE (W)
34.3	11-5	FINE SAND-SOME SILT - BROWN-LOOSE (W)
33.3	12-5	FINE SAND-SOME SILT - BROWN-LOOSE (W)
32.3	13-5	FINE SAND-SOME SILT - BROWN-LOOSE (W)
31.3	14-5	FINE SAND-SOME SILT - BROWN-LOOSE (W)
30.3	15-5	FINE SAND-SOME SILT - BROWN-LOOSE (W)
29.3	16-5	FINE SAND-SOME SILT - BROWN-LOOSE (W)
28.3	17-5	FINE SAND-SOME SILT - BROWN-LOOSE (W)
27.3	18-5	FINE SAND-SOME SILT - BROWN-LOOSE (W)
26.3	19-5	FINE SAND-SOME SILT - BROWN-LOOSE (W)
25.3	20-5	FINE SAND-SOME SILT - BROWN-LOOSE (W)
24.3	21-5	FINE SAND-SOME SILT - BROWN-LOOSE (W)
23.3	22-5	FINE SAND-SOME SILT - BROWN-LOOSE (W)
22.3	23-5	FINE SAND-SOME SILT - BROWN-LOOSE (W)
21.3	24-5	FINE SAND-SOME SILT - BROWN-LOOSE (W)
20.3	25-5	FINE SAND-SOME SILT - BROWN-LOOSE (W)
19.3	26-5	FINE SAND-SOME SILT - BROWN-LOOSE (W)
18.3	27-5	FINE SAND-SOME SILT - BROWN-LOOSE (W)
17.3	28-5	FINE SAND-SOME SILT - BROWN-LOOSE (W)
16.3	29-5	FINE SAND-SOME SILT - BROWN-LOOSE (W)
15.3	30-5	FINE SAND-SOME SILT - BROWN-LOOSE (W)
14.3	31-5	FINE SAND-SOME SILT - BROWN-LOOSE (W)
13.3	32-5	FINE SAND-SOME SILT - BROWN-LOOSE (W)
12.3	33-5	FINE SAND-SOME SILT - BROWN-LOOSE (W)
11.3	34-5	FINE SAND-SOME SILT - BROWN-LOOSE (W)
10.3	35-5	FINE SAND-SOME SILT - BROWN-LOOSE (W)
9.3	36-5	FINE SAND-SOME SILT - BROWN-LOOSE (W)
8.3	37-5	FINE SAND-SOME SILT - BROWN-LOOSE (W)
7.3	38-5	FINE SAND-SOME SILT - BROWN-LOOSE (W)
6.3	39-5	FINE SAND-SOME SILT - BROWN-LOOSE (W)
5.3	40-5	FINE SAND-SOME SILT - BROWN-LOOSE (W)
4.3	41-5	FINE SAND-SOME SILT - BROWN-LOOSE (W)
3.3	42-5	FINE SAND-SOME SILT - BROWN-LOOSE (W)
2.3	43-5	FINE SAND-SOME SILT - BROWN-LOOSE (W)
1.3	44-5	FINE SAND-SOME SILT - BROWN-LOOSE (W)
0.3	45-5	FINE SAND-SOME SILT - BROWN-LOOSE (W)
0.1	45.5	END OF BORING 26" BK CASING

E	S	PR	QU	R	CLASSIFICATION

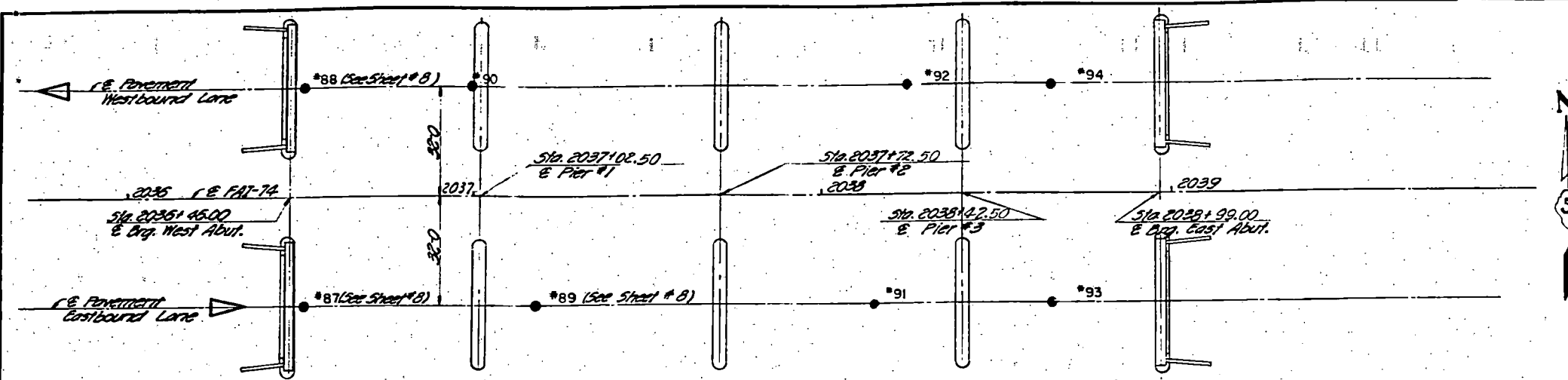
CONSOER, TOWNSEND & ASSOCIATES
CONSULTING ENGINEERS CHICAGO, ILLINOIS

ILLINOIS DIVISION OF HIGHWAYS
FAI RT. 74 OVER STONY CREEK
FAI 74 SECTION 92-12 B1
VERMILION COUNTY STA. 2037+72.50

BORING LOGS

LDB	NSM 10.24.60
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FALL RYE BR.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
72	32-12 BI	VERMILION	108	34
FEDERAL ROAD DISTRICT NO. 7		ILLINOIS	PAID	



PLAN OF BORING LOCATIONS

BORING NO. 88
DATE: 12-30-58
GROUND ELEVATION: +543.0'

DEPTH (ft)	CLASSIFICATION	REMARKS
43.2		MARK TOP OF SILENCE
42.0	1-8	FINE SAND-SOME SILT
41.0	1-8	TRACE OF CLAY-DARK BROWN-LOOSE (M)
40.0	2-6	FINE TO MED. SAND-SOME SILT-BROWN-LOOSE (M)
39.0	2-6	TRACE OF CLAY-BROWN-LOOSE (M)
38.0	3-5	WATER LEVEL +540.9' AFTER CASING REMOVAL
37.0	3-5	WATER LEVEL +538.9' BEFORE CASING REMOVAL
36.0	4-24	FINE TO COARSE SAND-TRACE OF GRAVEL & SILT-BROWN-MED. DENSE (M)
35.0	4-24	TRACE OF GRAVEL & SILT-BROWN-MED. DENSE (M)
34.0		
33.0		
32.0	5-32	FINE TO MED. SAND-TRACE OF SILT-GRAY DENSE (M)
31.0		
30.0	6-32	FINE TO COARSE SAND-TRACE OF GRAVEL & SILT-GRAY-DENSE (M)
29.0		
28.0		
27.0		
26.0	7-71	FINE TO COARSE SAND-SOME GRAVEL & SILT-GRAY-VERY DENSE (M)
25.0		
24.0		
23.0	8-104	FINE TO COARSE SAND-SOME GRAVEL & SILT-GRAY-VERY DENSE (M)
22.0		
21.0	9-111	FINE TO COARSE SAND-SOME GRAVEL & SILT-GRAY-VERY DENSE (M)
20.0		

KEY CASE=1" x 2" x 2" AFTER CASING REMOVAL
END OF BORING 22" BX CASING

BORING NO. 89
DATE: 1-23-59
GROUND ELEVATION: +543.5'

DEPTH (ft)	CLASSIFICATION	REMARKS
43.0		MARK TOP OF SILENCE
42.0	1-7	FINE SAND-SOME SILT-TRACE OF CLAY-DARK BROWN-LOOSE (M)
41.0	1-7	TRACE OF CLAY-DARK BROWN-LOOSE (M)
40.0	2-6	FINE SAND-SOME SILT-TRACE OF CLAY-BROWN-LOOSE (M)
39.0	2-6	TRACE OF CLAY-BROWN-LOOSE (M)
38.0	3-5	WATER LEVEL +537.5' AFTER BORING
37.0	3-5	WATER LEVEL +535.5' BEFORE BORING
36.0	4-24	FINE TO COARSE SAND-TRACE OF GRAVEL & SILT-BROWN-MED. DENSE (M)
35.0	4-24	TRACE OF GRAVEL & SILT-BROWN-MED. DENSE (M)
34.0		
33.0		
32.0	5-43	FINE TO COARSE SAND-TRACE OF GRAVEL & SILT-BROWN-DENSE (M)
31.0		
30.0	6-37	FINE TO COARSE SAND-TRACE OF GRAVEL & SILT-BROWN-DENSE (M)
29.0		
28.0		
27.0		
26.0	7-55	FINE TO COARSE SAND-TRACE OF SILT & GRAVEL-GRAY-DENSE (M)
25.0		
24.0		
23.0	8-115	FINE TO COARSE SAND-TRACE OF GRAVEL & SILT-GRAY-VERY DENSE (M)
22.0		
21.0		
20.0		

END OF BORING

BORING NO. 92
DATE: 1-23-59
GROUND ELEVATION: +546.1'

DEPTH (ft)	CLASSIFICATION	REMARKS
45.1	1-7	FINE SAND-SOME SILT-TRACE OF CLAY-DARK BROWN-LOOSE (M)
44.1		
43.1	2-10	FINE SAND-TRACE OF SILT-BROWN-MED. DENSE (M)
42.1		
41.1	3-21	MED. TO COARSE SAND & GRAVEL-TRACE OF SILT-BROWN-MED. DENSE (M)
40.1		
39.1	4-20	CLAY & SILT-SOME SAND-TRACE OF GRAVEL BLUE-VERY TOUGH (M)
38.1	4-20	TRACE OF GRAVEL & SILT-BROWN-MED. DENSE (M)
37.1		
36.1		WATER LEVEL +537.5' 3 HRS. AFTER BORING
35.1	5-43	MED. TO COARSE SAND & GRAVEL-TRACE OF SILT-BROWN-DENSE (M)
34.0		
33.0		
32.0	6-63	SILT & CLAY-SOME SAND-TRACE OF GRAVEL GRAY-VERY DENSE (M)
31.0		
30.0		
29.0		
28.0	7-120	SILT-SOME FINE SAND-TRACE OF CLAY-GRAY VERY DENSE (M)
27.0		
26.0		
25.0		
24.0	8-178	SILT & FINE SAND-TRACE OF CLAY-GRAY-VERY DENSE (M)
23.0		
22.0		

END OF BORING

BORING NO. 93
DATE: 1-8-58
GROUND ELEVATION: +543.2'

DEPTH (ft)	CLASSIFICATION	REMARKS
42.0		MARK TOP OF SILENCE
42.0	1-9	FINE SAND-SOME SILT-SOME SILT-GRAY-TRACE OF CLAY-DARK BROWN-LOOSE (M)
41.0		
40.0	2-10	FINE SAND-SOME SILT-BROWN-MED. DENSE (M)
39.0		WATER LEVEL +539.7' 1 HR. AFTER BORING
38.0	3-12	FINE TO COARSE SAND & GRAVEL-SOME SILT-BROWN-MED. DENSE (M)
37.0		
36.0	4-30	MED. TO COARSE SAND & GRAVEL-SOME SILT-BROWN-DENSE (M)
35.0		
34.0		
33.0		
32.0	5-59	SILT-SOME CLAY & SAND-TRACE OF GRAVEL GRAY-DENSE (M)
31.0		
30.0		
29.0	6-70	CLAY & SILT-SOME SAND-TRACE OF GRAVEL BLUE-VERY TOUGH (M)
28.0		
27.0		
26.0	7-120	SILT-SOME CLAY & SAND-TRACE OF GRAVEL GRAY-VERY DENSE (M)
25.0		
24.0		
23.0	8-127	SILT-SOME CLAY & SAND-TRACE OF GRAVEL GRAY-VERY DENSE (M)
22.0		

END OF BORING

BORING NO. 94
DATE: 1-8-58
GROUND ELEVATION: +543.1'

DEPTH (ft)	CLASSIFICATION	REMARKS
42.0		MARK TOP OF SILENCE
42.0	1-8	FINE SAND-SOME SILT-BROWN-LOOSE (M)
41.0		
40.0	2-6	FINE SAND-SOME SILT-BROWN-MED. DENSE (M)
39.0		WATER LEVEL +540.1' 1 HR. & 3 HRS. AFTER BORING
38.0	3-13	MED. TO COARSE SAND-TRACE OF GRAVEL & SILT-BROWN-MED. DENSE (M)
37.0		
36.0	4-25	COARSE SAND-TRACE OF GRAVEL & SILT-BROWN-MED. DENSE (M)
35.0		
34.0		
33.0		
32.0	5-31	CLAY-SOME SILT & SAND-TRACE OF GRAVEL BLUE-VERY TOUGH (M)
31.0		
30.0		
29.0	6-66	SILT-SOME FINE SAND GRAY-VERY DENSE (M)
28.0		
27.0		
26.0	7-88	SILT-SOME CLAY & SAND-TRACE OF GRAVEL GRAY-VERY DENSE (M)
25.0		
24.0		
23.0	8-106	SILT-SOME CLAY & SAND-TRACE OF GRAVEL GRAY-VERY DENSE (M)
22.0		
21.0		
20.0		
19.0		

END OF BORING

BORING #	STATION	OFFSET
90	2037+00	32' LEFT
91	2038+17	32' RIGHT
92	2038+27	32' LEFT
93	2038+09	32' RIGHT
94	2038+09	32' LEFT

S.T.S. JOB NO. 3721-B

LOCATION # 10-2

E	S	PR	QU	R	CLASSIFICATION
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E	S	PR	QU	R	CLASSIFICATION
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E	S	PR	QU	R	CLASSIFICATION
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E	S	PR	QU	R	CLASSIFICATION
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E	S	PR	QU	R	CLASSIFICATION
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CONSO, TOWNSEND & ASSOCIATES
CONSULTING ENGINEERS
CHICAGO, ILLINOIS

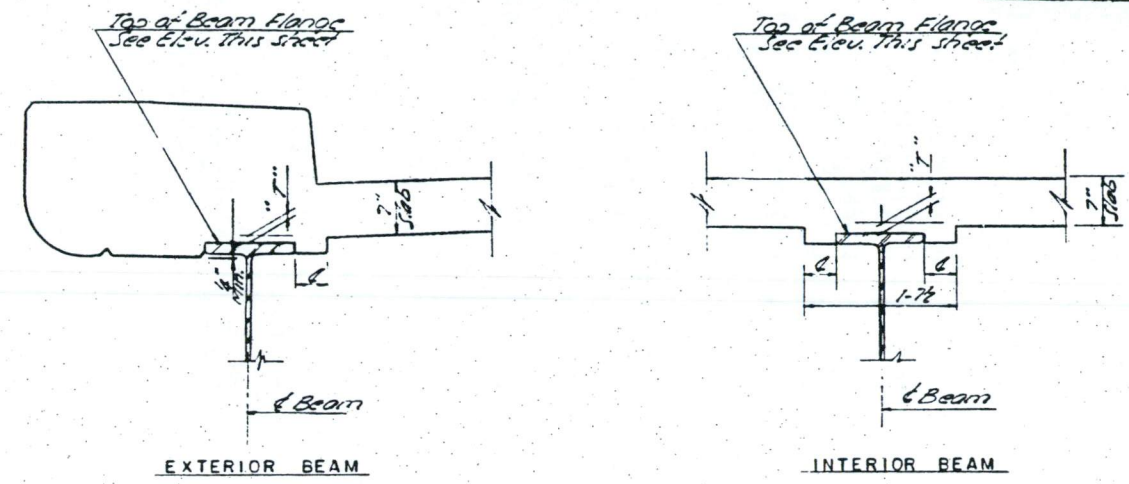
ILLINOIS DIVISION OF HIGHWAYS
FAI RT 74 OVER STONY CREEK
FAI 74 SECTION 32-12 BI
VERMILION COUNTY STA 2037+72.50

BORING LOGS

NO.	DATE	DRILLER	LOGGERS
		LDB	NSN 10 24 60

FAL. DIST.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
76	92-125-1	VERMILION	108	37
FEDERAL ROAD DISTRICT NO. 7		ILLINOIS	FD-108	

FEDERAL DISTRICT NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
76	92-125-1	VERMILION	11	7
FED. ROAD DIST. NO. 7		ILLINOIS	FD-108	

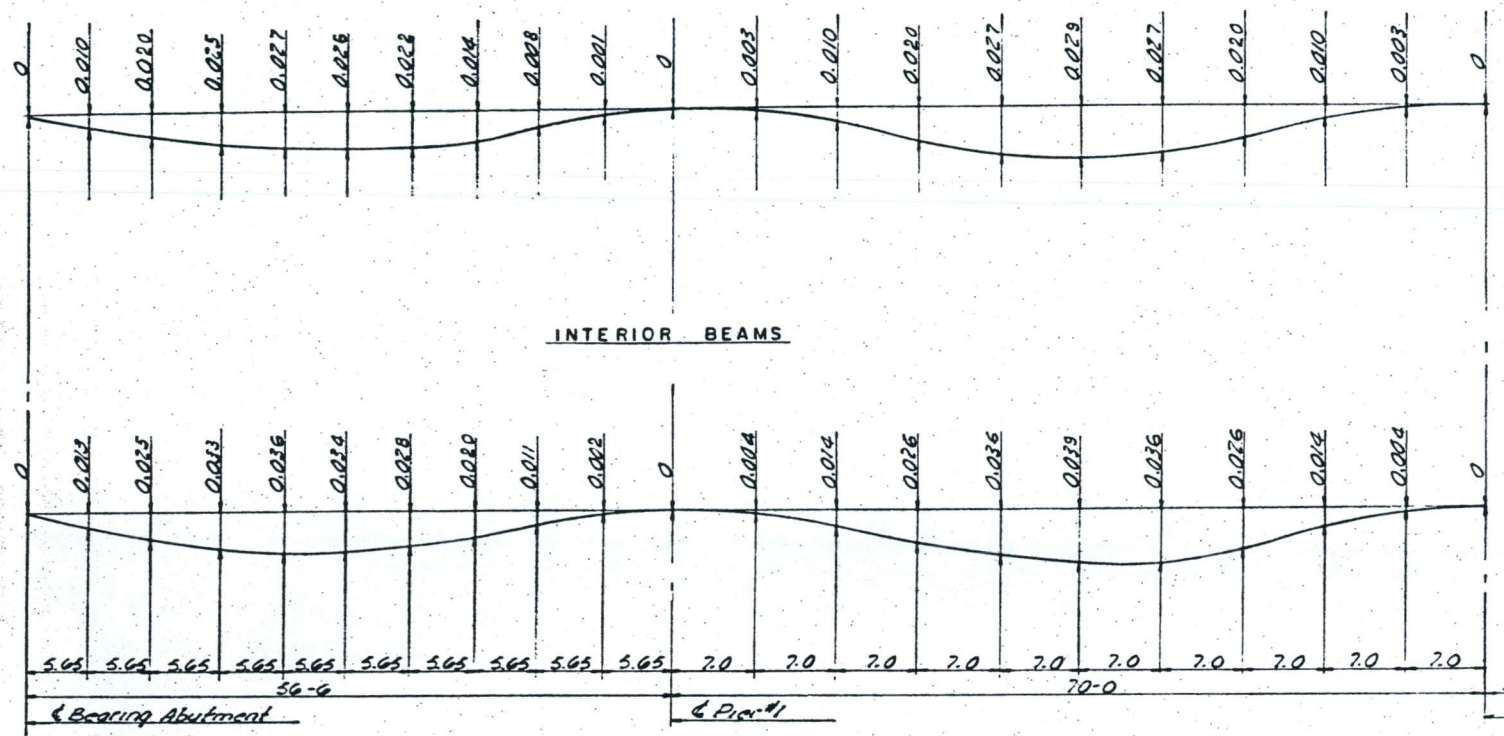


FILLET DETAILS

METHOD FOR DETERMINING FILLET HEIGHTS "T"

After all structural steel has been erected elevations of the top flange of the beams shall be taken at intervals not to exceed 10 ft.

From these elevations subtract the increment of deflection for these points, determined from the Dead Load Slab Deflection Diagram. The elevation so attained subtracted from the theoretical gross elevation, minus the floor thickness, equal the fillet heights above top of beam.



**EXTERIOR BEAMS
SLAB DEAD LOAD DEFLECTIONS**

Note: Deflections shown are in feet

Deflections from about Pier #1 & Pier #2

BEAM	LOCATION	W. Abut.	Pier #1	Pier #2	Pier #3	E. Abut.
A		580.495	580.382	580.282	580.102	580.989
B		580.599	580.486	580.386	580.206	580.093
C		580.672	580.559	580.419	580.279	580.166
D		580.672	580.559	580.419	580.279	580.166
E		580.599	580.486	580.386	580.206	580.093
F		580.495	580.382	580.282	580.102	580.989

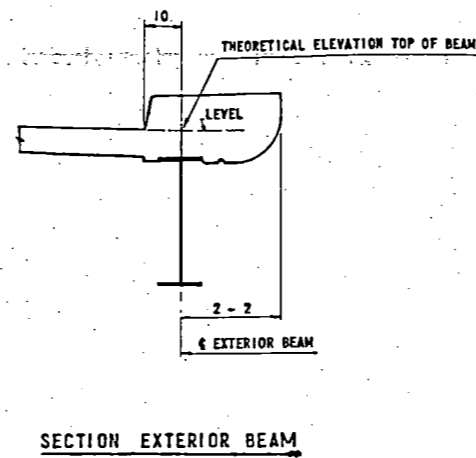
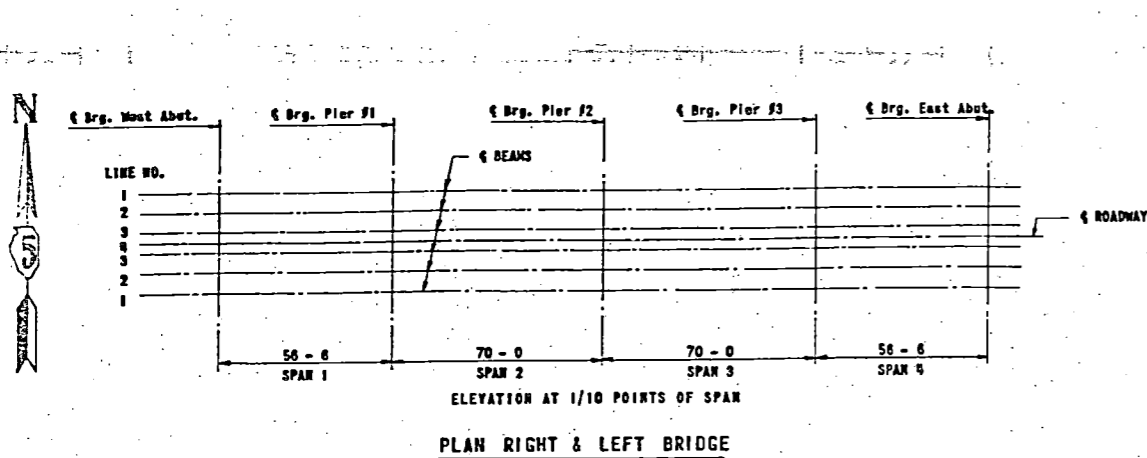
Note: Top of Beam elevations refer to top of splice or cover plates, after steel erection and before concrete deck is placed. See Sheet No. 44 for location of beams as designated (A, B, C, D, E & F). Top of Beam Elevations and Deflections are given for right bridge; those for left bridge are identical.

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ILLINOIS DIVISION OF HIGHWAYS
FAI RT. 74 OVER STONY CREEK
FAI - 74 SECTION 92-12 B1, F-1
VERMILION COUNTY STA. 2037+72.50

SUPERSTRUCTURE DETAILS

DATE	BY	CHECKED	DATE
	LDB	HSM	10.24.60



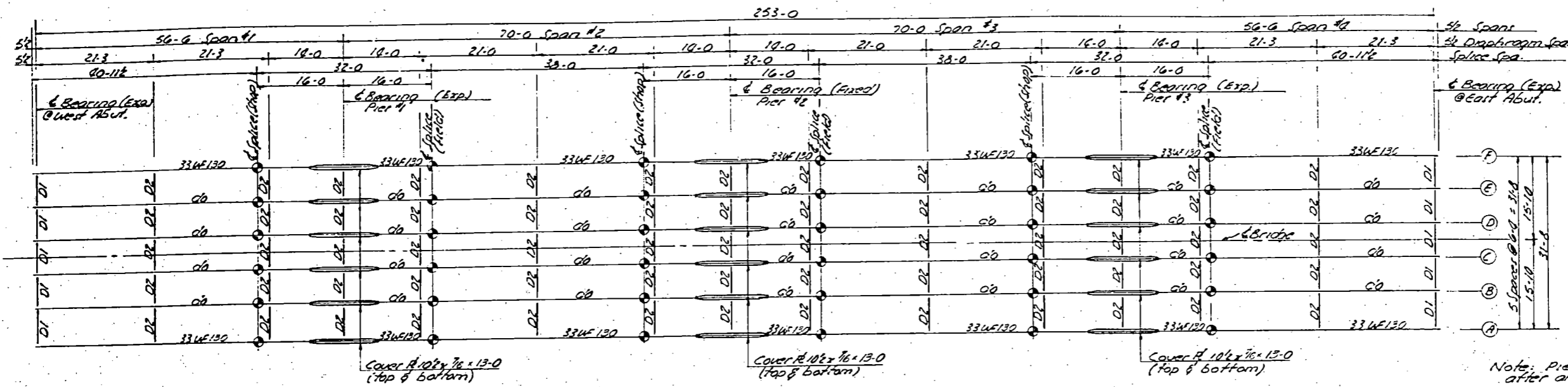
SPAN 1				SPAN 2				SPAN 3				SPAN 4			
1/10 POINT	LINE NO.	STATION	ELEVATION THEOR. ADJUSTED	1/10 POINT	LINE NO.	STATION	ELEVATION THEOR. ADJUSTED	1/10 POINT	LINE NO.	STATION	ELEVATION THEOR. ADJUSTED	1/10 POINT	LINE NO.	STATION	ELEVATION THEOR. ADJUSTED
Abut. W.	1	203646.000	581.120 581.120	Abut. Pier #1	1	203702.500	581.007 581.007	Abut. Pier #2	1	203772.500	580.867 580.867	Abut. Pier #3	1	203842.500	580.727 580.727
	2	203646.000	581.228 581.228		2	203702.500	581.111 581.111		2	203772.500	580.971 580.971		2	203842.500	580.831 580.831
	3	203646.000	581.237 581.237		3	203702.500	581.184 581.184		3	203772.500	581.044 581.044		3	203842.500	580.904 580.904
	4	203646.000	581.308 581.308		4	203702.500	581.195 581.195		4	203772.500	581.055 581.055		4	203842.500	580.915 580.915
1.	1	203651.650	581.109 581.122	1.	1	203709.500	580.993 580.997	1.	1	203779.500	580.853 580.857	1.	1	203848.150	580.716 580.718
	2	203651.650	581.213 581.223		2	203709.500	581.097 581.100		2	203779.500	580.957 580.960		2	203848.150	580.820 580.821
	3	203651.650	581.284 581.296		3	203709.500	581.170 581.173		3	203779.500	581.030 581.033		3	203848.150	580.893 580.894
	4	203651.650	581.296 581.306		4	203709.500	581.181 581.185		4	203779.500	581.041 581.044		4	203848.150	580.903 580.904
2.	1	203657.300	581.037 581.122	2.	1	203716.500	580.979 580.993	2.	1	203786.500	580.839 580.853	2.	1	203853.800	580.704 580.715
	2	203657.300	581.202 581.222		2	203716.500	581.083 581.093		2	203786.500	580.943 580.953		2	203853.800	580.809 580.817
	3	203657.300	581.275 581.295		3	203716.500	581.156 581.168		3	203786.500	581.016 581.026		3	203853.800	580.882 580.890
	4	203657.300	581.285 581.305		4	203716.500	581.167 581.177		4	203786.500	581.027 581.037		4	203853.800	580.892 580.900
3.	1	203662.950	581.006 581.119	3.	1	203723.500	580.965 580.991	3.	1	203793.500	580.825 580.851	3.	1	203859.450	580.693 580.713
	2	203662.950	581.190 581.215		2	203723.500	581.069 581.089		2	203793.500	580.929 580.949		2	203859.450	580.797 580.811
	3	203662.950	581.263 581.288		3	203723.500	581.142 581.062		3	203793.500	581.002 581.022		3	203859.450	580.870 580.884
	4	203662.950	581.276 581.299		4	203723.500	581.153 581.173		4	203793.500	581.013 581.033		4	203859.450	580.881 580.895
4.	1	203668.600	581.075 581.111	4.	1	203730.500	580.951 580.987	4.	1	203800.500	580.811 580.847	4.	1	203865.100	580.682 580.710
	2	203668.600	581.179 581.208		2	203730.500	581.055 581.082		2	203800.500	580.915 580.942		2	203865.100	580.786 580.808
	3	203668.600	581.252 581.279		3	203730.500	581.128 581.155		3	203800.500	580.988 581.015		3	203865.100	580.859 580.881
	4	203668.600	581.262 581.289		4	203730.500	581.139 581.166		4	203800.500	580.999 581.026		4	203865.100	580.869 580.891
5.	1	203674.250	581.004 581.098	5.	1	203737.500	580.937 580.976	5.	1	203807.500	580.797 580.836	5.	1	203870.750	580.671 580.705
	2	203674.250	581.168 581.194		2	203737.500	581.041 581.070		2	203807.500	580.901 580.930		2	203870.750	580.775 580.801
	3	203674.250	581.241 581.267		3	203737.500	581.114 581.143		3	203807.500	580.974 581.003		3	203870.750	580.848 580.874
	4	203674.250	581.251 581.277		4	203737.500	581.125 581.154		4	203807.500	580.985 581.014		4	203870.750	580.858 580.884
6.	1	203679.900	581.052 581.080	6.	1	203744.500	580.923 580.959	6.	1	203814.500	580.783 580.819	6.	1	203876.400	580.659 580.695
	2	203679.900	581.156 581.178		2	203744.500	581.027 581.054		2	203814.500	580.887 580.914		2	203876.400	580.763 580.790
	3	203679.900	581.229 581.251		3	203744.500	581.100 581.127		3	203814.500	580.960 580.987		3	203876.400	580.836 580.863
	4	203679.900	581.240 581.262		4	203744.500	581.111 581.138		4	203814.500	580.971 580.998		4	203876.400	580.847 580.874
7.	1	203685.550	581.041 581.061	7.	1	203751.500	580.909 580.935	7.	1	203821.500	580.769 580.795	7.	1	203882.050	580.644 580.681
	2	203685.550	581.145 581.159		2	203751.500	581.013 581.033		2	203821.500	580.873 580.893		2	203882.050	580.752 580.777
	3	203685.550	581.218 581.232		3	203751.500	581.086 581.106		3	203821.500	580.946 580.966		3	203882.050	580.825 580.850
	4	203685.550	581.228 581.242		4	203751.500	581.097 581.117		4	203821.500	580.957 580.977		4	203882.050	580.835 580.860
8.	1	203691.200	581.030 581.041	8.	1	203758.500	580.895 580.909	8.	1	203828.500	580.755 580.769	8.	1	203887.700	580.637 580.662
	2	203691.200	581.134 581.142		2	203758.500	580.999 581.009		2	203828.500	580.859 580.869		2	203887.700	580.741 580.761
	3	203691.200	581.207 581.215		3	203758.500	581.072 581.082		3	203828.500	580.932 580.942		3	203887.700	580.814 580.834
	4	203691.200	581.217 581.225		4	203758.500	581.083 581.093		4	203828.500	580.943 580.953		4	203887.700	580.824 580.844
9.	1	203696.850	581.018 581.020	9.	1	203765.500	580.881 580.885	9.	1	203835.500	580.741 580.745	9.	1	203893.350	580.625 580.638
	2	203696.850	581.123 581.124		2	203765.500	580.985 580.988		2	203835.500	580.845 580.848		2	203893.350	580.730 580.740
	3	203696.850	581.195 581.194		3	203765.500	581.058 581.061		3	203835.500	580.918 580.921		3	203893.350	580.802 580.812
	4	203696.850	581.206 581.207		4	203765.500	581.069 581.072		4	203835.500	580.929 580.932		4	203893.350	580.813 580.823
								Abut. East	1	203899.000	580.614 580.614				
									2	203899.000	580.710 580.710				
									3	203899.000	580.791 580.791				
									4	203899.000	580.802 580.802				

NOTES: 1. THEORETICAL ELEVATION IS THE THEORETICAL TOP OF SLAB ELEVATION.
 2. ADJUSTED ELEVATION IS THE THEORETICAL TOP OF SLAB ELEVATION ADJUSTED FOR THE CONCRETE DEAD LOAD DEFLECTION.

CONSOER, TOWNSEND & ASSOCIATES
 CONSULTING ENGINEERS CHICAGO, ILLINOIS
 ILLINOIS DIVISION OF HIGHWAYS
 FAI RT. 74 OVER STONY CREEK
 FAI-74 SECTION 92-12-B1
 VERMILION COUNTY STA. 2037+72.50
 DECK ELEVATIONS
 DESIGNED DRAWN TRACED CHECKED REVIEWED DATE REVISION
 LDB HSM 4-20-4

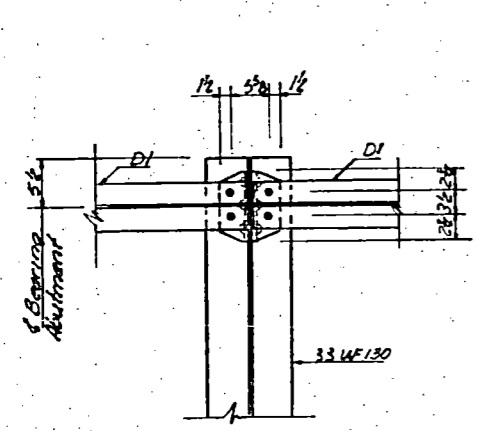
PAL. PTH. NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
74	92-125-1	VERMILION	108	40
FEDERAL ROAD DISTRICT NO. 7		ILLINOIS	FINAL	

FEDERAL AID DISTRICT NO.	SEC.	COUNTY	TOTAL SHEETS	SHEET NO.
74	92-125-1	VERMILION	11	8
FED. ROAD DIST. NO. 7		ILLINOIS	PROJECT	

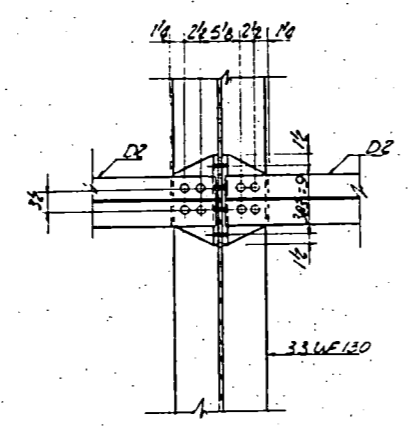


FRAMING PLAN
 Right Bridge Shown
 Left Bridge Identical

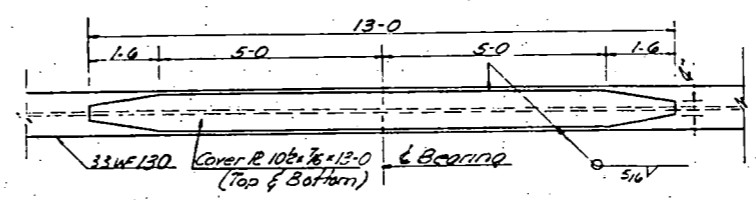
Note: Pier diaphragms shall be erected after anchor bolts have been set.
 Shop Splices shown are optional.



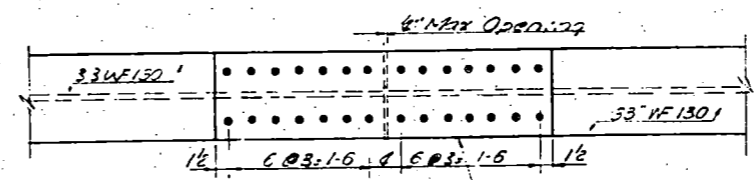
SECTION A-A



SECTION B-B

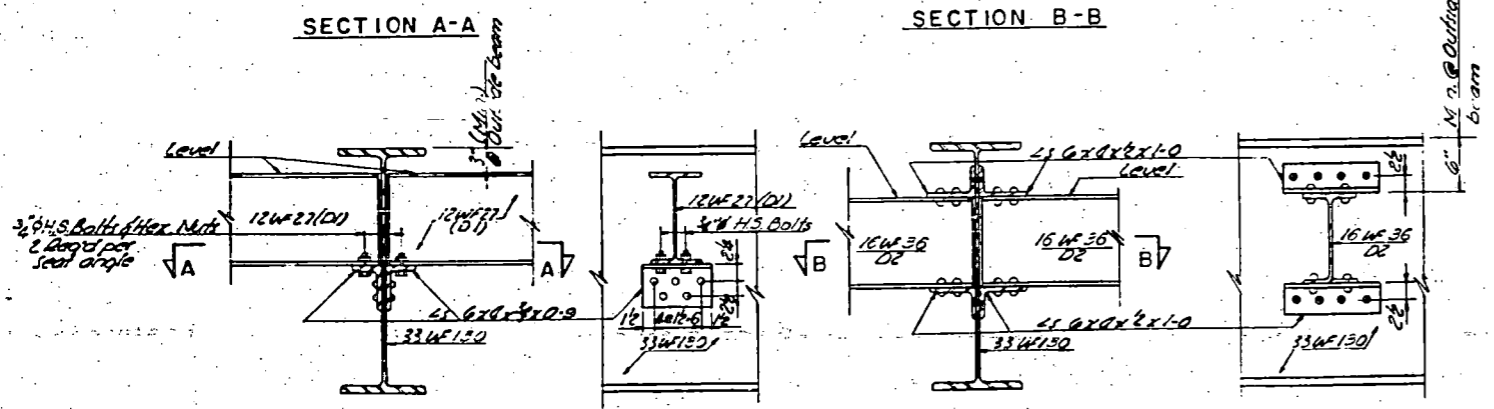


COVER PLATE DETAIL
 36 Required El. Bridge



BEAM SPLICE DETAIL
 36 Required El. Bridge
 7/8" Rivets

TOTAL COMPUTED WEIGHT OF FRAMING STEEL
 STRUCTURAL STEEL 485,930 LBS
 2 BRIDGES



DIAPHRAGM CONNECTION DETAILS
 3/4" Rivets

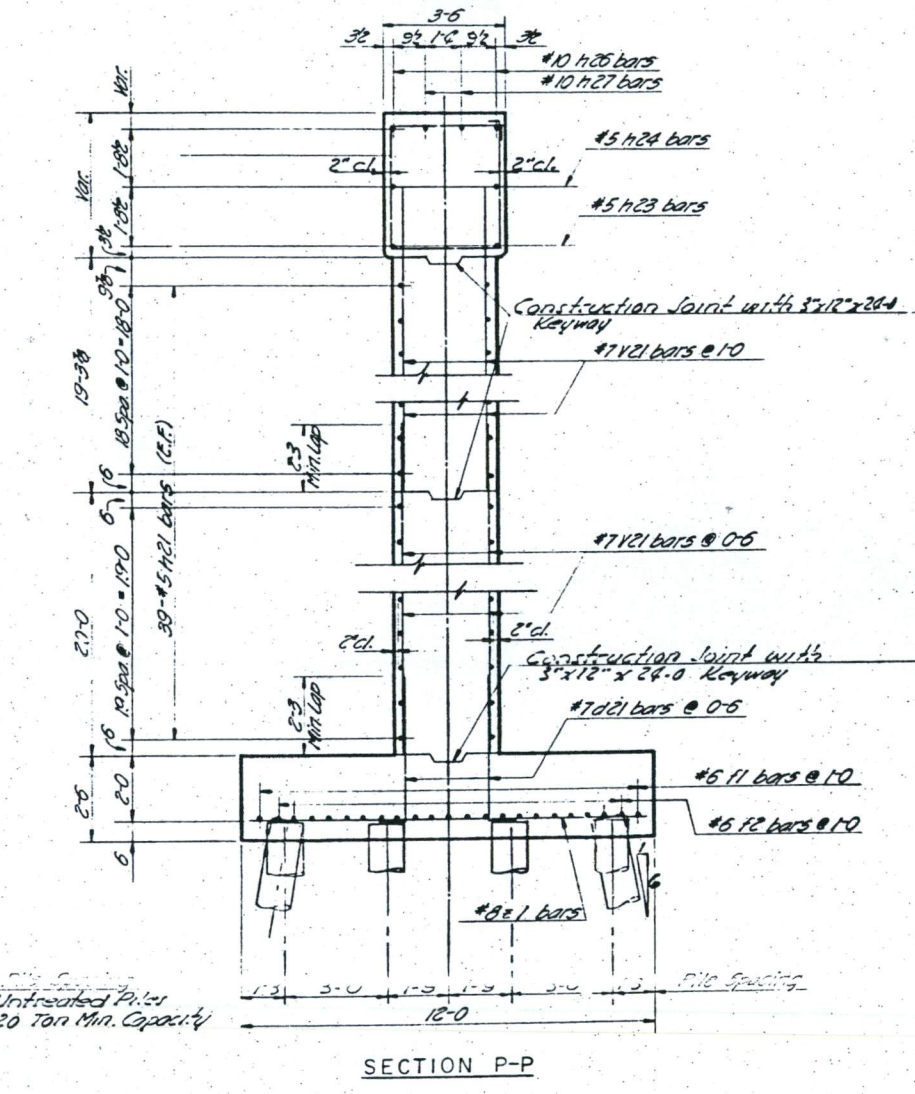
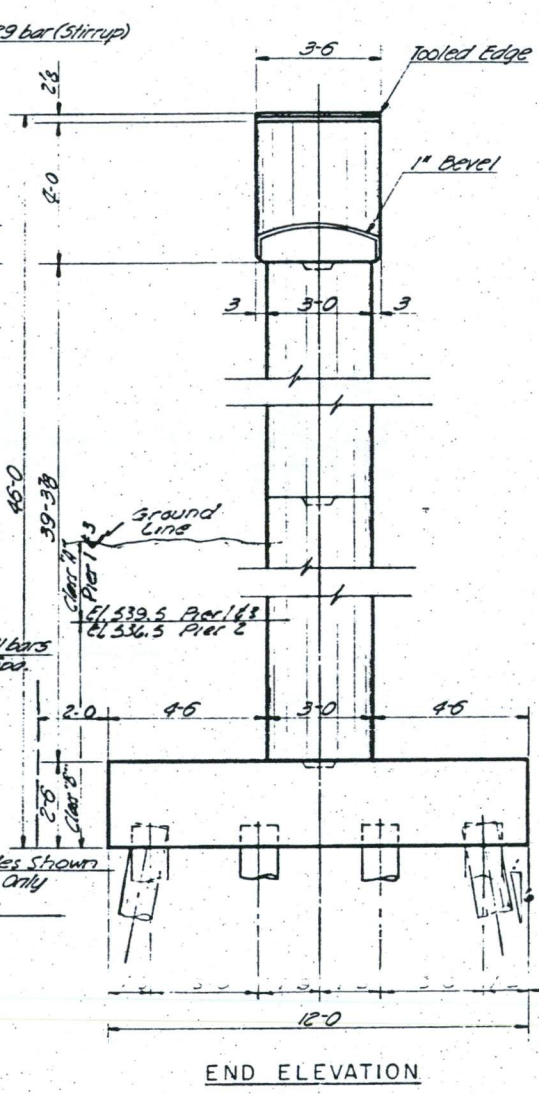
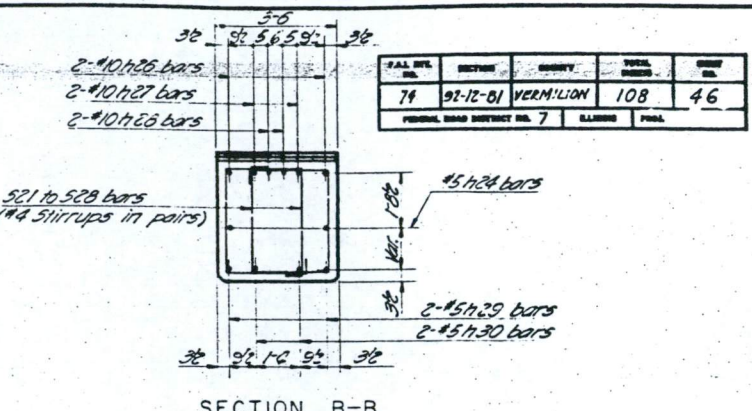
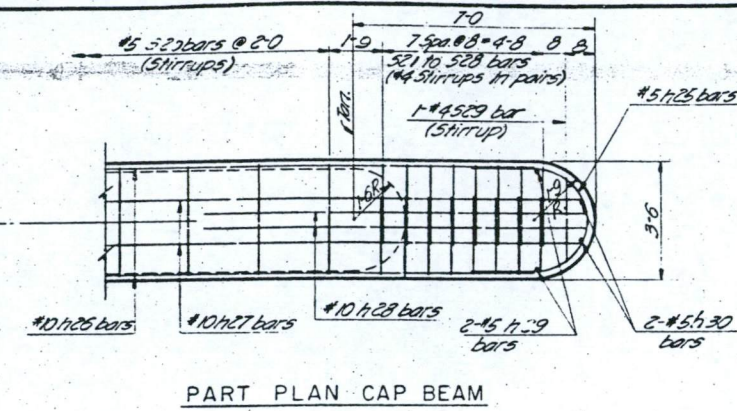
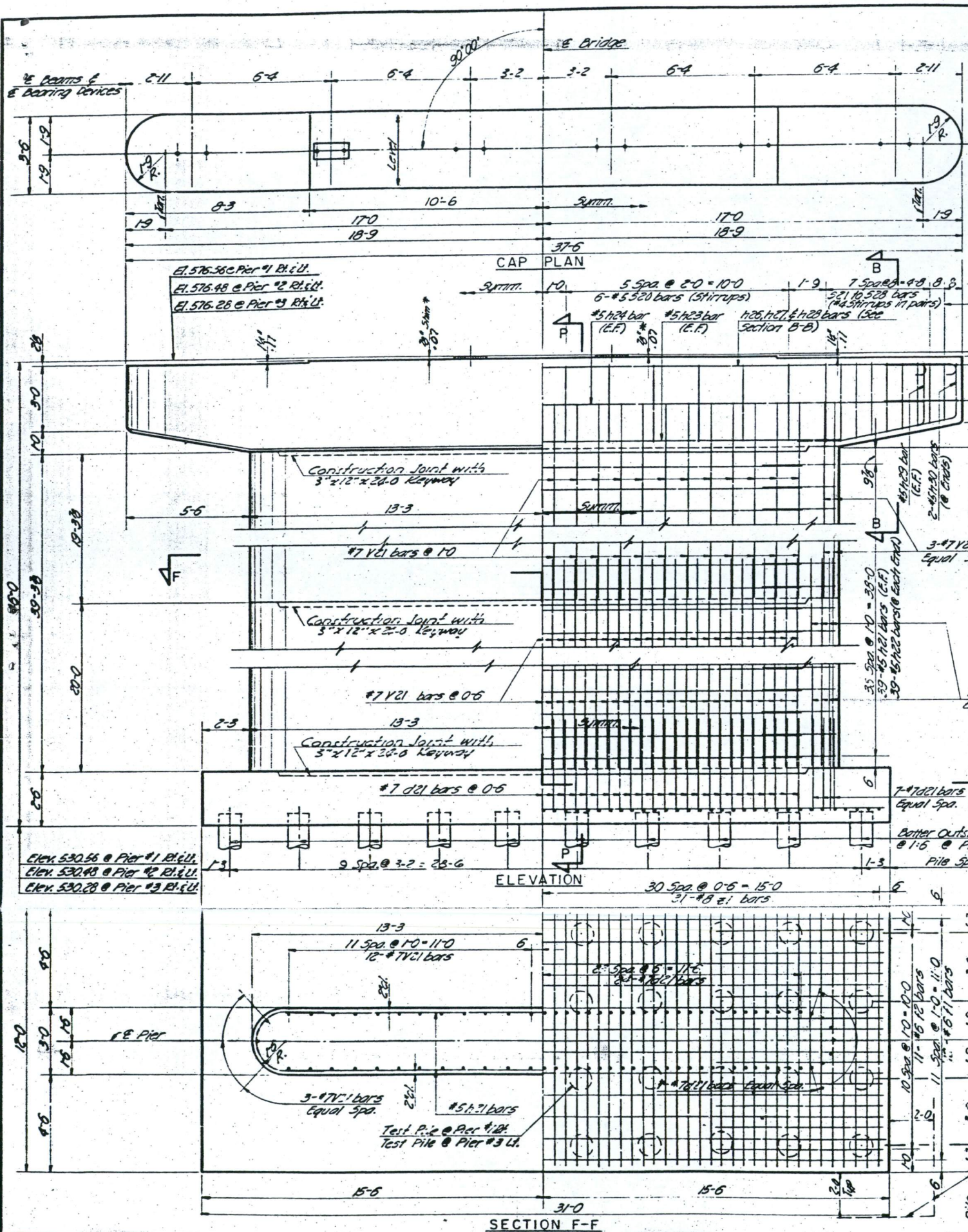
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 CONSULTING ENGINEERS CHICAGO, ILLINOIS

ILLINOIS DIVISION OF HIGHWAYS
 FAI RT 74 OVER STONY CREEK
 FAI - 74 SECTION 92-12 BI, F-1
 VERMILION COUNTY STA 2027+72.50

STRUCTURAL STEEL-FRAMING PLAN

DESIGNED	BY	TRACED	CHECKED	REVIEWED	DATE
SJM	J.T.	WST	JWH	LDB	HSM 10-24-60

PLAN NO.	SECTION	NO.	DATE	BY
74	92-12-01	VERMILION	108	46
FEDERAL ROAD DISTRICT NO. 7 ILLINOIS				



Note: See Structural Steel Bearing Devices for Shim Plates.

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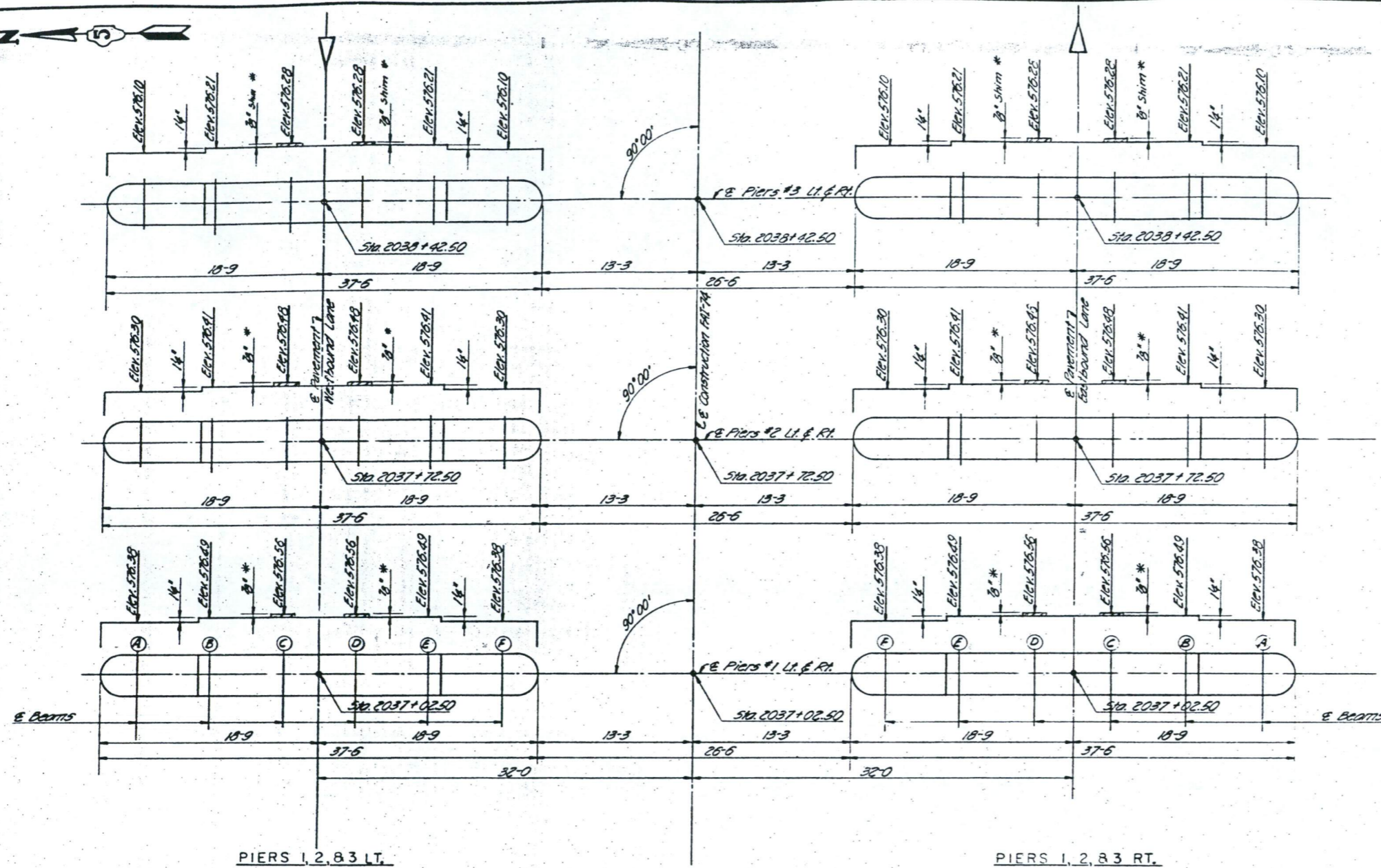
ILLINOIS DIVISION OF HIGHWAYS
FAI RT. 74 OVER STONY CREEK
FAI-74 SECTION 92-12-BI
VERMILION COUNTY STA. 2037+72.50

PIERS

54H	JT	DS	JH	LDS	NSH	1024.60
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FALL ELEV.	SECTION	QUANTITY	PILE	NO.
74	92-12 BI	VERMILION	108	47
FEDERAL ROAD DISTRICT NO. 7 ILLINOIS				



BAR SCHEDULE						
Piers	Bar	No.	Size	Length	Spacing	Shape
All	d21	648	7	4-10	As Shown	J
All	#1	72	6	30-6	10	—
All	#2	132	6	7-5	10	—
All	h21	468	5	23-6	10	—
	h22	468	5	7-2	10	J
	h23	12	5	26-6	As Shown	—
	h24	12	5	34-0	—	—
	h25	24	5	8-4	—	J
	h26	12	10	36-10	—	J
	h27	12	10	39-4	—	J
	h28	24	10	12-5	—	J
	h29	24	5	8-9	—	J
All	h30	24	5	9-9	As Shown	J
All	520	72	5	14-6	2-0	□
All	521-529	*	4	*	0-8	□
All	h21	972	7	22-3	As Shown	—
All	#1	366	8	11-6	0-5	—

PIER QUANTITIES	
Class X Concrete	996.7 Cu. Yds.
Reinforcement Bars	90,980 Lbs.
Untreated Piles	2,380 Lin. Ft.
Test Piles (Timber)	2 Each
Class A Excavation	380 Cu. Yds.
Class B Excavation	1,002 Cu. Yds.

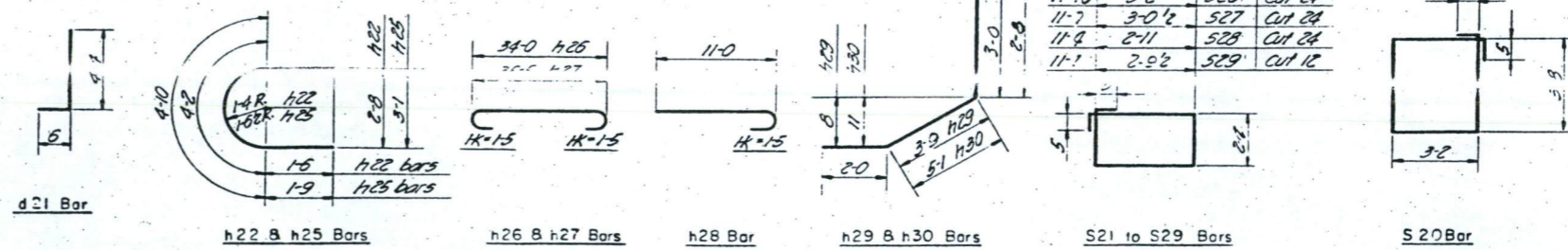
Note: Quantities shown are for 6 Piers
* See Bending Diagrams

PIERS 1, 2, & 3 LT.

PIERS 1, 2, & 3 RT.

GENERAL LAYOUT OF PIERS - BEARING SEAT STEPS & ELEVATIONS

ESTIMATED LENGTHS & QUANTITIES UNTREATED PILES			
Pier #1 Lt.	40 @ 10'	=	400 Lin. Ft.
Pier #1 Rt.	39 @ 10'	=	390 Lin. Ft.
Pier #2 Lt.	40 @ 10'	=	400 Lin. Ft.
Pier #2 Rt.	40 @ 10'	=	400 Lin. Ft.
Pier #3 Lt.	39 @ 10'	=	390 Lin. Ft.
Pier #3 Rt.	40 @ 10'	=	400 Lin. Ft.
Total			2,380 Lin. Ft.
Test Pile Pier #1 Rt.			1 Each
Test Pile Pier #3 Lt.			1 Each



BENDING DIAGRAMS
(All bar dimensions are out to out.)

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ILLINOIS DIVISION OF HIGHWAYS
FAI RT. 74 OVER STONY CREEK
FAI-74 SECTION 92-12-BI
VERMILION COUNTY STA. 2037+72.50

PIERS

SMH	JT&DS	DS	JH	LDB	HSM	10.24.60
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092-0018 & -0019