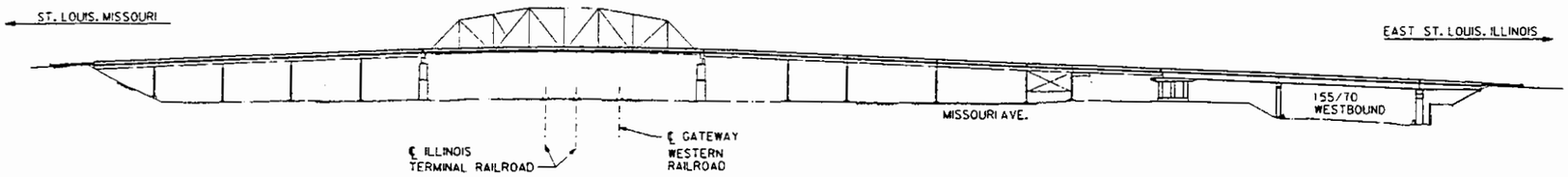
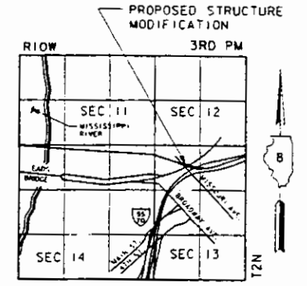
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAP 799	*	ST. CLAIR	179	121
	ILLINOIS	PROJECT		

*IBR-I APPROACH BRIDGE





LOCATION PLAN

INDEX OF DRAWINGS

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	PRF: MLKSCVR
	LEVELS PLOTTED: ALL
	DATE: DECEMBER 1997

DESIGNED	
CHECKED	J. CORLEY
DRAWN	B.C. KATES
CHECKED	

PREPARED BY:
SVERDRUP CIVIL, INCORPORATED
MARYLAND HEIGHTS, MISSOURI

STATE OF ILLINOIS
STEPHEN W. YORDY
081-004852
ST. LOUIS, MO.
ILLINOIS STRUCTURAL ENGINEER

Stephen W. Yordy 4/24/98
STEPHEN W. YORDY
LICENSED STRUCTURAL ENGINEER
NO. 81-4852
LICENSE EXPIRES: 11-30-98

REHABILITATION FOR
APPROACH BRIDGE OVER
I-55/70 W.B., MISSOURI AVE.
AND RAILROADS

INDEX OF DRAWINGS

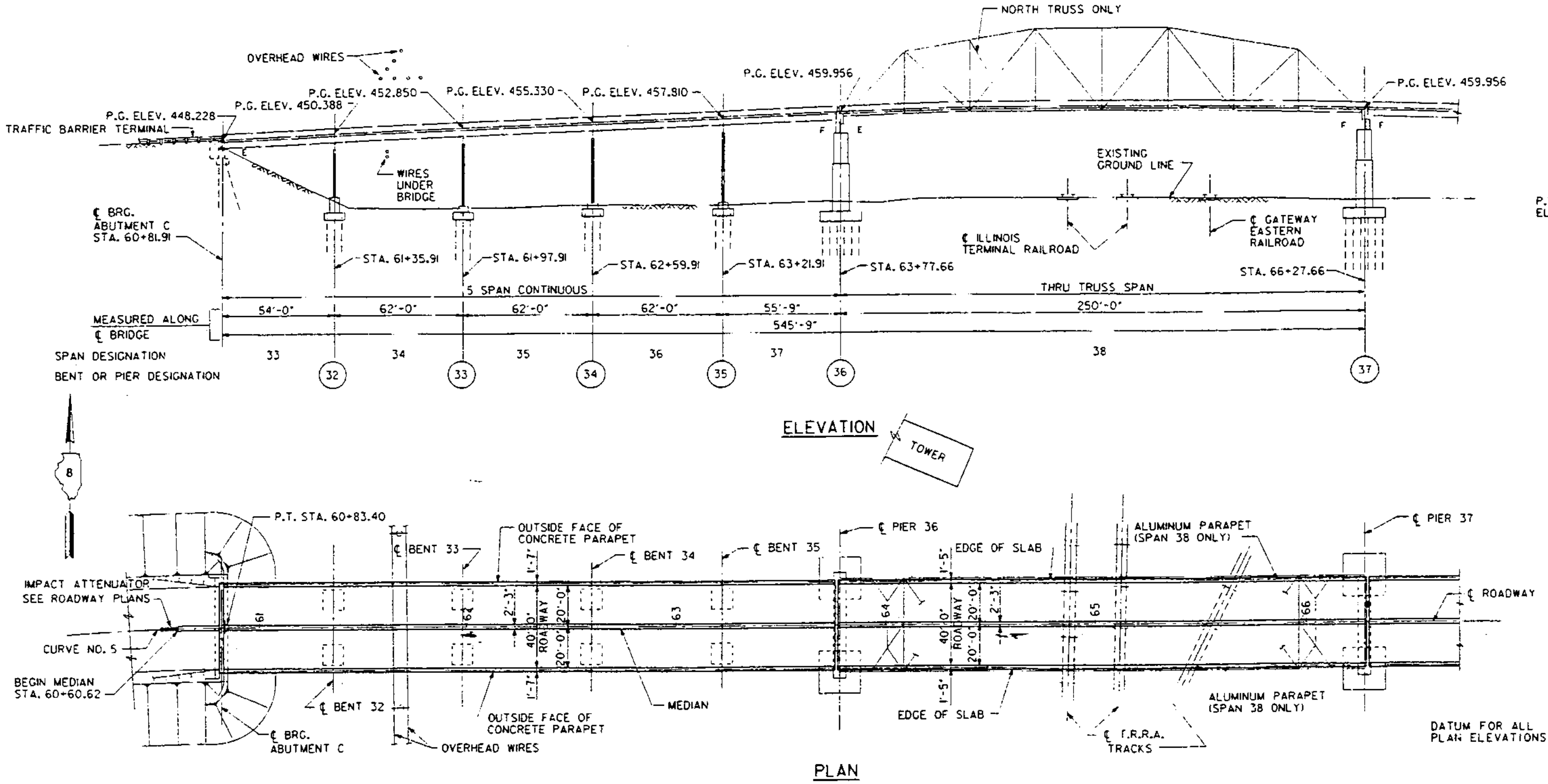
STRUCTURE NO. [illegible]
STA. 65+00 (FAP 799) ST. CLAIR CO.

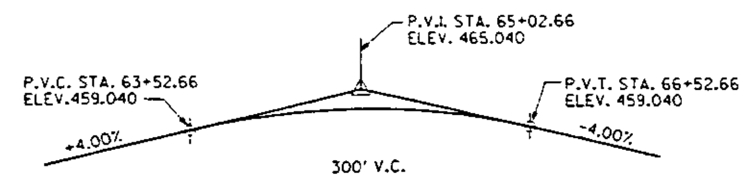
SECTION IBR-I

SHEET NO. 1 OF 21

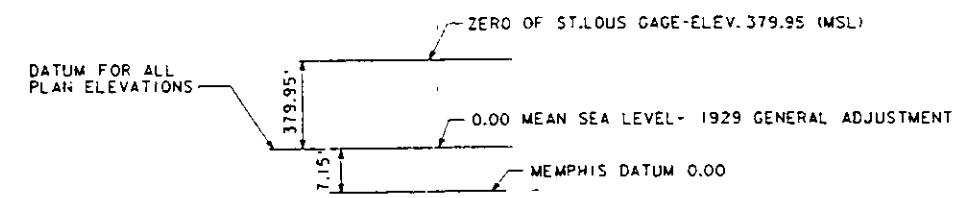
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAP 799	*	ST. CLAIR	179	122

*IBR-I APPROACH BRIDGE





PROFILE GRADE - ℄ BRIDGE



ELEVATION REFERENCES

NOTE: ALL ELEVATIONS REFER TO U.S.C.&G. SURVEY-1929 GENERAL ADJUSTMENT.
REFERENCE IS GIVEN TO MEMPHIS DATUM DUE TO ELEVATIONS ON ORIGINAL BRIDGE PLANS BEING REFERENCED TO THIS DATUM.

CURVE DATA

CURVE NO. 5
P.I. STA. = 59+63.15
Δ = 14°-54'-58" RT.
D = 6°-10'-00"
R = 929.12'
T = 121.63'
L = 241.88'
E = 7.93'
P.C. STA. = 58+41.52
P.T. STA. = 60+83.40

P.I. 5A
P.I. STA. = 66+27.70
Δ = 0°-01'-34" LT.
NO CURVE

CURVE NO. 6
P.I. STA. = 74+93.65
Δ = 37°-51'-18" LT.
D = 5°-23'-00"
R = 1064.32'
T = 364.97'
L = 703.19'
E = 60.84'
P.C. STA. = 71+28.68
P.T. STA. = 78+31.87

CURVE NO. 7
P.I. STA. = 123+28.11
Δ = 35°-40'-47" RT.
D = 2°-36'-16"
R = 2200.00'
T = 708.03'
L = 1370.00'
E = 111.13'
P.C. STA. = 116+20.08
P.T. STA. = 129+90.08

DESIGNED
CHECKED J. CORLEY
DRAWN B.C. KATES
CHECKED

10840 | FILE: N:\010840\MLK\MLKSGP01.DGN PRF: MLKSGP01 | LEVELS PLOTTED ALL | DATE: DECEMBER 1997

PREPARED BY:
SVERDRUP CIVIL, INCORPORATED
MARYLAND HEIGHTS, MISSOURI

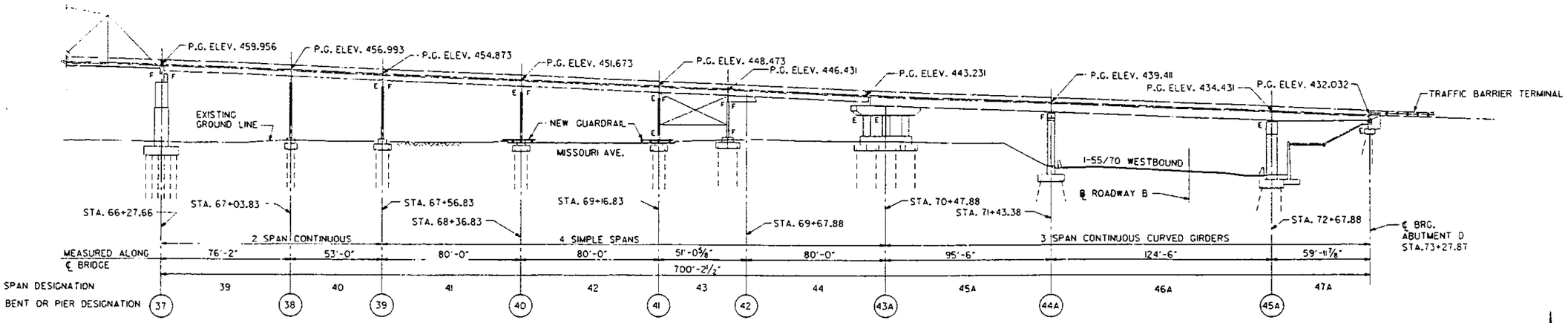
REHABILITATION FOR
APPROACH BRIDGE OVER I-55/70 W.B., MISSOURI AVE. AND RAILROADS
GENERAL PLAN AND ELEVATION
SHEET 1

STRUCTURE NO. 082-6003
STA. 65+00 (FAP 799) ST. CLAIR CO.

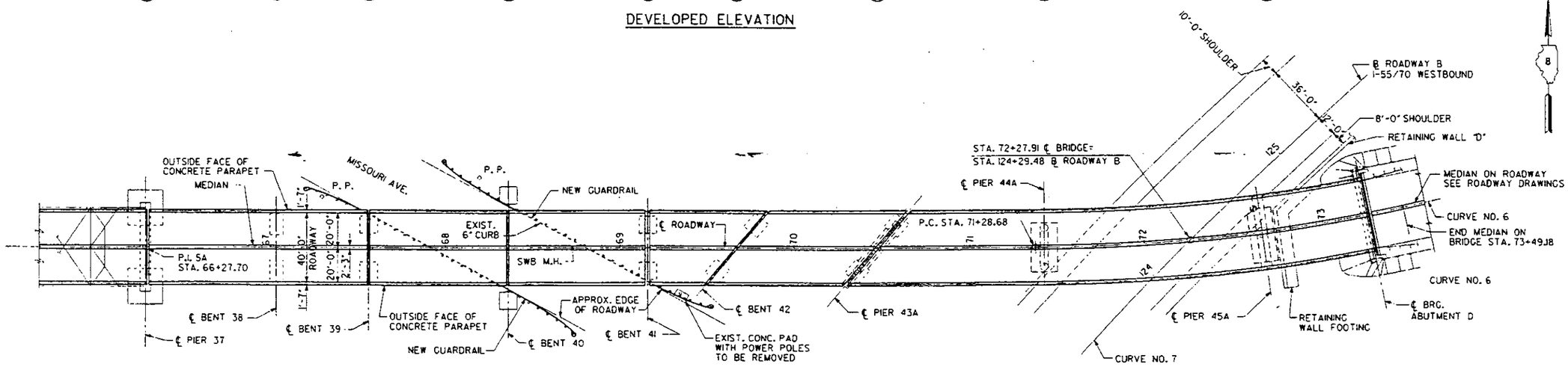
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAP 799	*	ST. CLAIR	179	123
		ILLINOIS PROJECT		

*IBR-I APPROACH BRIDGE



DEVELOPED ELEVATION



PLAN

10840 | FILE: N:\010840\MLK\MLKSGP02.DGN | PRF: MLKSGP02 | LEVELS PLOTTED ALL | DATE: DECEMBER 1997

DESIGNED	
CHECKED	J. CORLEY
DRAWN	B.C. KATES
CHECKED	

PREPARED BY:
SVERDRUP CIVIL, INCORPORATED
MARYLAND HEIGHTS, MISSOURI

REHABILITATION FOR
APPROACH BRIDGE OVER I-55/70 W.B., MISSOURI AVE. AND RAILROADS
GENERAL PLAN AND ELEVATION
SHEET 2
STRUCTURE NO. 082-6003
STA. 65+00 (FAP 799) ST. CLAIR CO.

SECTION BR-I

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAP 799	1B	ST. CLAIR	179	174
		ILLINOIS PROJECT		

"1 BR-1 APPROACH BRIDGE

GENERAL NOTES

CONSTRUCTION SPECIFICATIONS: THE 1997 EDITION OF THE STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION'S "STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION", ADDENDUMS AND THE SPECIAL PROVISIONS SHALL GOVERN.

FASTENERS SHALL BE ¾" DIA. HIGH STRENGTH BOLTS IN 15/16 " DIA. HOLE UNLESS OTHERWISE NOTED.

ALL NEW STRUCTURAL STEEL SHALL BE AASHTO M-270, GRADE 36 EXCEPT AS NOTED.

THE INORGANIC ZINC PRIMER / ACRYLIC / ACRYLIC PAINT SYSTEM SHALL BE USED FOR SHOP AND FIELD PAINTING OF NEW STRUCTURAL STEEL EXCEPT WHERE OTHERWISE NOTED. THE COLOR OF THE FINAL FINISH COAT FOR ALL STEEL SHALL MATCH CARBOLINE PAINT COLOR NO. 0233. SEE SPECIAL PROVISIONS FOR "CLEANING AND PAINTING NEW METAL STRUCTURES".

EXISTING STRUCTURAL STEEL SHALL ONLY BE CLEANED AND PAINTED AS REQUIRED BY THE SPECIAL PROVISION "CLEANING AND PAINTING ADJACENT AREAS OF EXISTING STEEL STRUCTURES".

THE CONTRACTOR SHALL FURNISH THE ILLINOIS DEPARTMENT OF TRANSPORTATION 5 GALLONS OF THE FINAL FINISH COAT PAINT, FOR FUTURE TOUCH UP.

CLEANING AND PAINTING SPECIFIED AREAS OF EXISTING STRUCTURAL STEEL SHALL BE IN ACCORDANCE WITH THE SPECIAL PROVISION FOR "CLEANING AND PAINTING EXISTING STEEL STRUCTURES". PAINTING ON THIS CONTRACT WILL INCLUDE SPECIFIED AREAS NOTED IN THE PLANS, AND CLEANING SHALL BE BY METHOD 2. THE ALUMINUM EPOXY MASTIC ACRYLIC PAINT SYSTEM SHALL BE USED FOR PAINTING THE THE SPECIFIED AREAS. THE COLOR OF THE FINAL FINISH COAT SHALL MATCH CARBOLINE PAINT COLOR NO. 0233.

FIELD WELDING TO EXISTING STEEL EXCEPT AS NOTED ON THE DRAWINGS SHALL NOT BE PERMITTED WITHOUT THE APPROVAL OF THE ENGINEER.

PLAN DIMENSIONS AND DETAILS RELATIVE TO THE EXISTING STRUCTURE HAVE BEEN TAKEN FROM EXISTING PLANS AND INSPECTION DATA 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 WORK, HOWEVER, THE CONTRACTOR WILL BE PAID FOR THE QUANTITY ACTUALLY FURNISHED AT THE UNIT PRICE BID FOR THE WORK.

ALL TRANSVERSE AND LONGITUDINAL DIMENSIONS ARE MEASURED HORIZONTALLY.

AFTER STEEL HAS BEEN CLEANED, UNSUITABLE RIVETS SHALL BE REMOVED AND REPLACED WITH HIGH STRENGTH BOLTS AS DIRECTED BY THE ENGINEER, AND SHALL BE CONSIDERED INCIDENTAL TO THE PRICE BID FOR "FURNISHING AND ERECTING STRUCTURAL STEEL".

BURNING OF EXISTING RIVET HEADS TO REMOVE RIVETS IS NOT PERMITTED, EXCEPT AS SPECIFIED IN THE SPECIAL PROVISIONS.

PROTECTIVE COAT SHALL BE APPLIED TO BOTH ROADWAY FACES AND THE TOP OF THE CONCRETE MEDIAN BARRIER IN ACCORDANCE WITH ARTICLE 503.19.

BRIDGE SEAT SEALER SHALL BE APPLIED TO THE SEAT AREA OF PIER 36, PIER 37 AND PIER 43A.

PLANS OF THE EXISTING STRUCTURE FAP 799 APPROACH BRIDGE OVER I-55/70 W.B., MISSOURI AVE. AND TRRA (S.N. 082-6003) MAY BE OBTAINED FROM THE ILLINOIS DEPARTMENT OF TRANSPORTATION.

REINFORCEMENT BARS SHALL CONFORM TO THE REQUIREMENTS OF AASHTO M-31, M-42 OR M-53, GRADE 60.

THIS EXISTING STRUCTURAL STEEL COATING CONTAINS LEAD. THE CONTRACTOR SHOULD TAKE APPROPRIATE PRECAUTIONS TO DEAL WITH THE PRESENCE OF LEAD ON THIS PROJECT.

SCOPE OF WORK

1. REMOVE AND REPLACE BEARINGS AT PIERS 36, 37 AND BENT 41.
2. PROVIDE CONCRETE AND EPOXY CRACK REPAIRS AT BENTS 36, 37 AND 43A.
3. REMOVE AND REPLACE GUSSET PLATE AT NORTH COLUMN/BENT CAP AT BENT 39.
4. INSTALL WEB PATCH PLATES AT LOCATIONS SHOWN.
5. REPLACE DRAINAGE TROUGH AND ADJUST DRAIN PIPE AT BENT 41.
6. PAINT ALL NEW STEEL AND CLEAN AND PAINT EXISTING STEEL AT LOCATIONS LISTED.
7. REMOVE EXISTING CONCRETE PAD AND UTILITY POLE AND INSTALL GUARDRAIL AT MISSOURI AVE. AS SHOWN.
8. CAST CONCRETE MEDIAN BETWEEN THE LIMITS SHOWN.
9. BRIDGE WILL BE OPEN TO TRAFFIC DURING BRIDGE REHABILITATION.

TOTAL BILL OF MATERIAL

CODE NO.	ITEM	UNIT	TOTAL
	FORMED CONCRETE REPAIR (DEPTH EQUAL TO OR LESS THAN 5")	SQ. FT.	476
	EPOXY CRACK SEALING	FOOT	152
	BRIDGE SEAT SEALER	SQ. FT.	841
	CONC REMOVAL SPEC	SQ. YD.	3.5
	STRUCTURAL STEEL REPAIR	POUND	3080
	CLEANING AND PAINTING STEEL BRIDGE	LUMP SUM	1
	FURNISHING AND ERECTING STRUCTURAL STEEL	POUND	14836
	STRAIGHTEN BENT MEMBERS	LUMP SUM	1
	JACK AND REMOVE EXISTING BEARINGS	EACH	22
	TEMPORARY BRACING SYSTEM	LUMP SUM	1
	ELASTOMERIC BEARING ASSEMBLY, TYPE II (SPECIAL)	EACH	7
	CONCRETE SUPERSTRUCTURE	CU. YD.	160.6
	DRAINAGE SYSTEM REPAIRS	LUMP SUM	1
	REINFORCEMENT BARS (EPOXY COATED)	POUND	28460
	TRAFFIC BARRIER TERMINAL, TYPE 1 (SPECIAL)	EACH	4
	STEEL PLATE BEAM GUARD RAIL TYPE A	FOOT	200
	GUARDRAIL MARKERS TYPE B	EACH	4
	TERMINAL MARKERS - DIRECT APPLIED	EACH	4
	PROTECTIVE COAT	SQ. YD.	925
	POWER TOOL RESIDUE CONTAINMENT & DISPOSAL	LUMP SUM	1

DESIGN STRESSES - EXISTING STRUCTURE

DESIGN TRAFFIC LANES: FOUR - 10' LANES, NO SHOULDERS
18'± VERTICAL CLEARANCE (CENTER LANES)
14' MINIMUM VERTICAL CLEARANCE (CURB LANES) AASHO 1944

DESIGN SPECIFICATIONS: AASHO 1944

LOADING: H20-44
NO FUTURE WEARING SURFACE

REINFORCED CONCRETE:
DECK SLAB f_c = 1,000 PSI, N=10
SUBSTRUCTURE f_c = 1,000 PSI, N=10
v_c = 60 PSI - FOOTINGS

STRUCTURAL STEEL:
CARBON (A7) f_s = 18,000 PSI

DESIGN STRESSES - 1988 REHABILITATION

DESIGN TRAFFIC LANES: FOUR - 10' LANES, NO SHOULDERS
17' MINIMUM VERTICAL CLEARANCE

DESIGN SPECIFICATIONS: AASHTO - 1983 AND MANUAL FOR MAINTENANCE INSPECTION FOR BRIDGES - 1983, BOTH WITH 1984, 1985 AND 1986 INTERIMS

LOADING: HS20-44
25 PSF FUTURE WEARING SURFACE-
SPANS 45A, 46A AND 47A ONLY.

REINFORCED CONCRETE:
DECK SLAB f'_c = 3,500 PSI, N=9
SUBSTRUCTURE f_c = 1,400 PSI, N=9
REINFORCING STEEL f_y = 60,000 PSI
f_s = 24,000 PSI

STRUCTURAL STEEL: f_s = 20,000 PSI, f_y = 36,000 PSI } AASHTO M-183
f_s = 27,000 PSI, f_y = 50,000 PSI } AASHTO M-223, GRADE 50

DESIGN STRESSES - 1997 REHABILITATION

DESIGN TRAFFIC LANES: TWO - 14' LANES, 4' OUTSIDE SHOULDERS
17' MINIMUM VERTICAL CLEARANCE

DESIGN SPECIFICATIONS: AASHTO - 1996

LOADING: HS20-44
25 PSF FUTURE WEARING SURFACE-
SPANS 45A, 46A AND 47A ONLY.

REINFORCED CONCRETE:
DECK SLAB f'_c = 3,500 PSI, N=9
SUBSTRUCTURE f_c = 1,400 PSI, N=9
REINFORCING STEEL f_y = 60,000 PSI
f_s = 24,000 PSI

STRUCTURAL STEEL: f_s = 20,000 PSI, f_y = 36,000 PSI } AASHTO M-270, GRADE 36

PREPARED BY:
SVERDRUP CIVIL, INCORPORATED
MARYLAND HEIGHTS, MISSOURI

REHABILITATION FOR
APPROACH BRIDGE OVER I-55/70 W.B., MISSOURI AVE. AND RAILROADS

GENERAL NOTES AND ESTIMATED QUANTITIES

STRUCTURE NO. 082-6003
STA. 65+00 (FAP 799) ST. CLAIR CO.

SECTION 1BR-1

SHEET NO. 4 OF 21

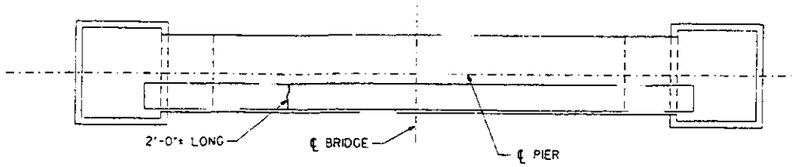
10840 | FILE: N:\01084\MLK\MLKSGNOT.DGN | LEVELS PLOTTED: ALL | DATE: OCT. 23, 1997
PRF: MLKSGNOT

DESIGNED	
CHECKED	
DRAWN	J. CORLEY
CHECKED	B.C. KATES

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAP 799	*	ST. CLAIR	179	125
		ILLINOIS	PROJECT	

*IBR-I APPROACH BRIDGE



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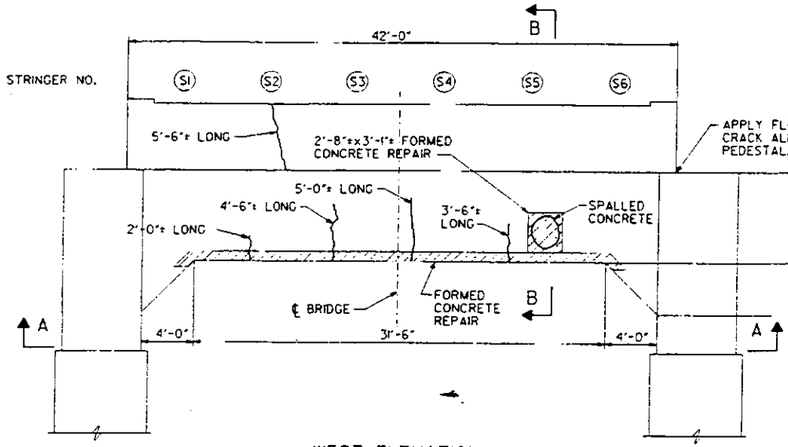

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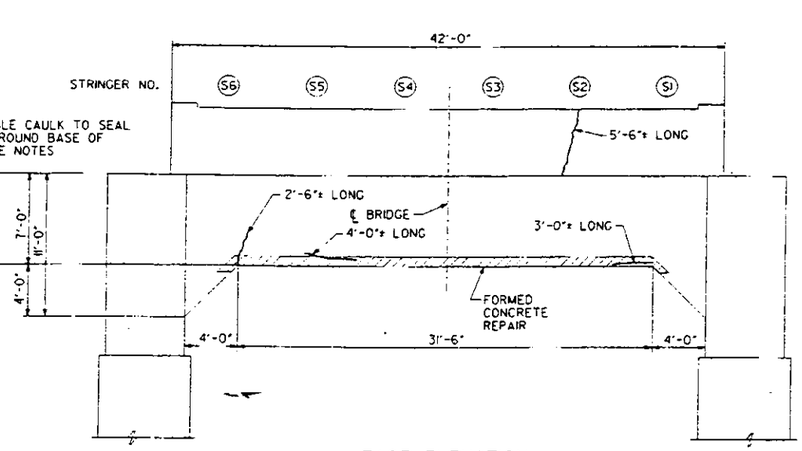

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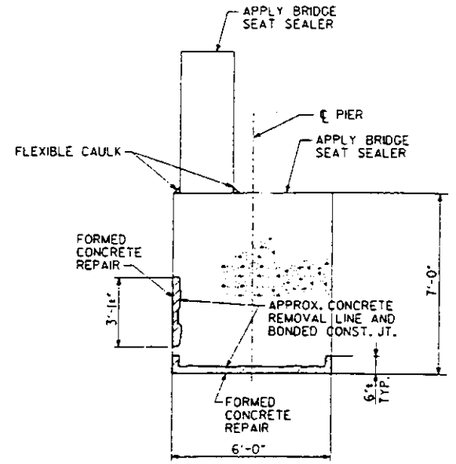

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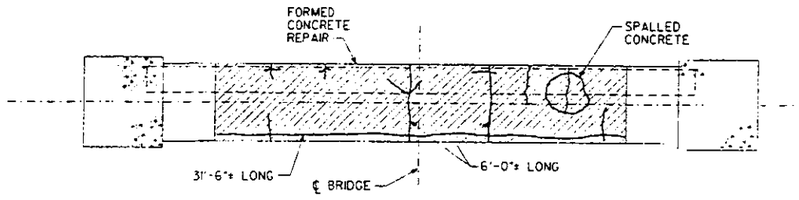

SECTION A-A

ESTIMATED BILL OF MATERIALS		
ITEM	UNIT	TOTAL
FORMED CONCRETE REPAIR (DEPTH EQUAL TO OR LESS THAN 5?)	SQ. FT.	236
EPOXY CRACK SEALING	FOOT	81
BRIDGE SEAT SEALER	SQ. FT.	321

CONCRETE REPAIR NOTES

THE QUANTITIES SHOWN FOR FORMED CONCRETE REPAIR AND EPOXY CRACK SEALING ARE ESTIMATED FROM FIELD INSPECTION PERFORMED DURING OCTOBER 1997. THE EXTENT OF REQUIRED REPAIRS SHALL BE VERIFIED BY THE ENGINEER IN THE FIELD AND SHOWN ON AS-BUILT PLANS.

FLEXIBLE CAULK SHALL BE A SILICONE BASE CAULK THAT ADHERES TO CONCRETE AND STAYS FLEXIBLE AFTER CURING. THE COST OF FLEXIBLE CAULK COMPLETE IN PLACE SHALL BE CONSIDERED INCIDENTAL TO OTHER ITEMS OF WORK.

LEGEND

FORMED CONCRETE REPAIR

EPOXY CRACK SEAL

DESIGNED

CHECKED
J. CORLEY

DRAWN
B.C. KATES

CHECKED

PREPARED BY:
SVERDRUP CIVIL, INCORPORATED
MARYLAND HEIGHTS, MISSOURI

REHABILITATION FOR
APPROACH BRIDGE OVER
I-55/70 W.B., MISSOURI AVE.
AND RAILROADS
CONCRETE REPAIRS AT PIER 7C

STRUCTURE NO. 082-6003
STA. 65+00 (FAP 799) ST. CLAIR CO.

SECTION IBR-I

SHEET NO. 5 OF 21

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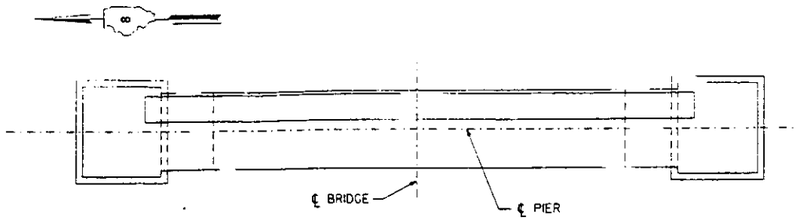
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAP 799	*	ST. CLAIR	179	126
	ILLINOIS	PROJECT		

*IBR-I APPROACH BRIDGE



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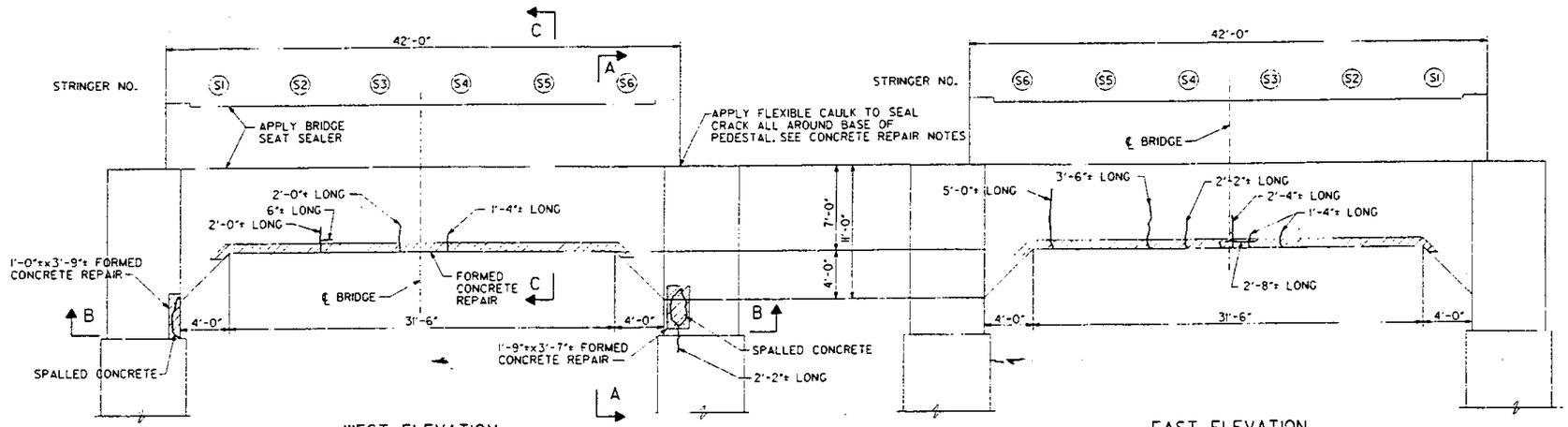
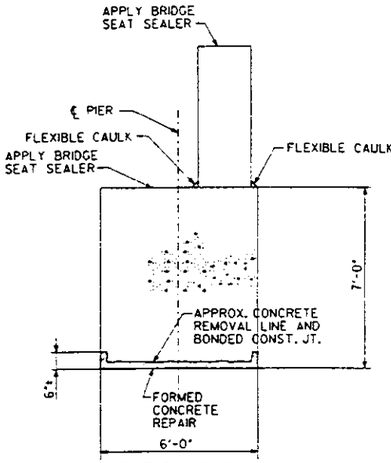


WEST ELEVATION

EAST ELEVATION



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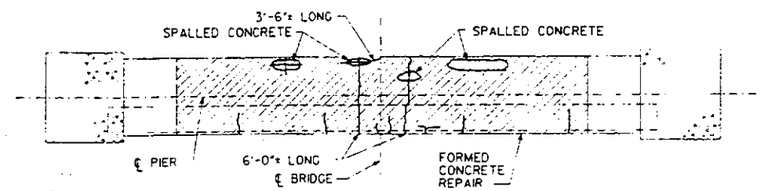

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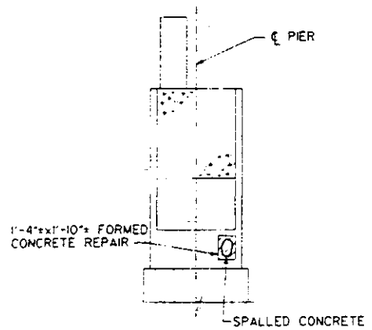


SECTION A-A

ESTIMATED BILL OF MATERIALS		
ITEM	UNIT	TOTAL
FORMED CONCRETE REPAIR (DEPTH EQUAL TO OR LESS THAN 5?)	SQ. FT.	240
EPOXY CRACK SEALING	FOOT	42
BRIDGE SEAT SEALER	SQ. FT.	321

NOTE
FOR CONCRETE REPAIR NOTES, SEE SHEET 5.

REHABILITATION FOR
APPROACH BRIDGE OVER
I-55/70 W.B., MISSOURI AVE.
AND RAILROADS
CONCRETE REPAIRS AT PIER 37

[illegible] NO. [illegible] 8003
STA. 65+00 (FAP 799) ST. CLAIR CO.

DESIGNED	
CHECKED	J. CORLEY
DRAWN	B. C. KATES
CHECKED	

FILE: N:\0840\MLK\MLKSPR37.DGN
PRF: MLKSPR37
LEVELS PLOTTED: ALL
DATE: DECEMBER 1997
0840

PREPARED BY:
SVERDRUP CIVIL, INCORPORATED
MARYLAND HEIGHTS, MISSOURI

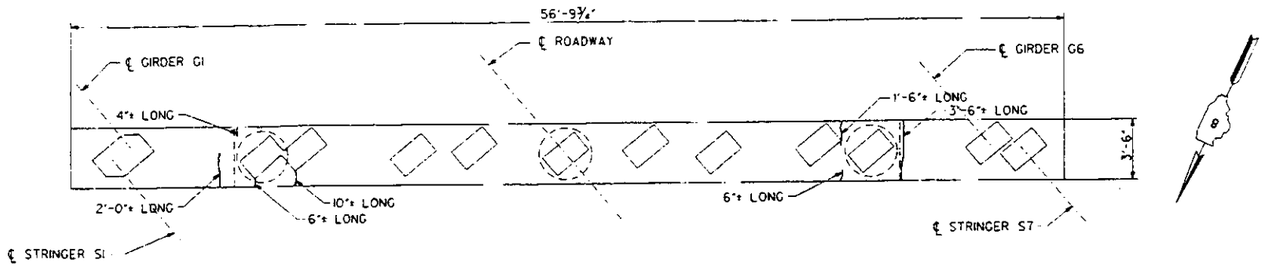
SECTION IBR-I

SHEET NO. 6 OF 21

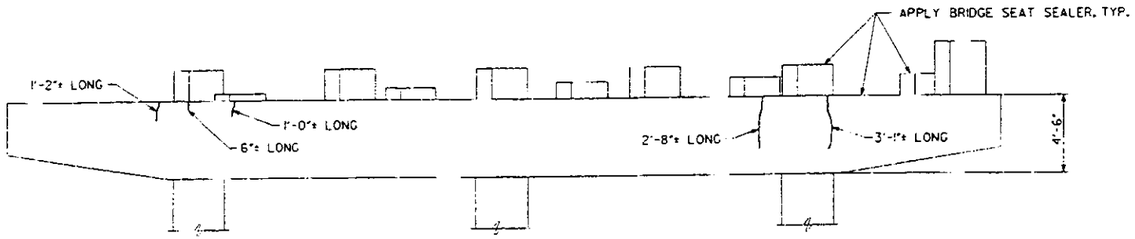
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAP 799	*	ST. CLAIR	179	127
		ILLINOIS PROJECT		

*IBR-I APPROACH BRIDGE



TOP PLAN



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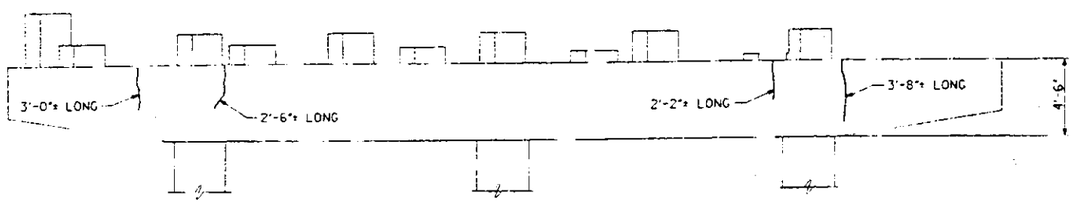


SOUTH ELEVATION

ESTIMATED BILL OF MATERIALS

ITEM	UNIT	TOTAL
EPOXY CRACK SEALING	FOOT	29
BRIDGE SEAT SEALER	SQ. FT.	199

NOTE
FOR CONCRETE REPAIR NOTES, SEE SHEET 5.

REHABILITATION FOR
APPROACH BRIDGE OVER
I-55/70 W.B., MISSOURI AVE.
AND RAILROADS
CONCRETE REPAIRS AT PIER 43A

STRUCTURE [illegible]
STA. 65+00 (FAP 799) ST. CLAIR CO.

PREPARED BY:
SVERDRUP CIVIL, INCORPORATED
MARYLAND HEIGHTS, MISSOURI

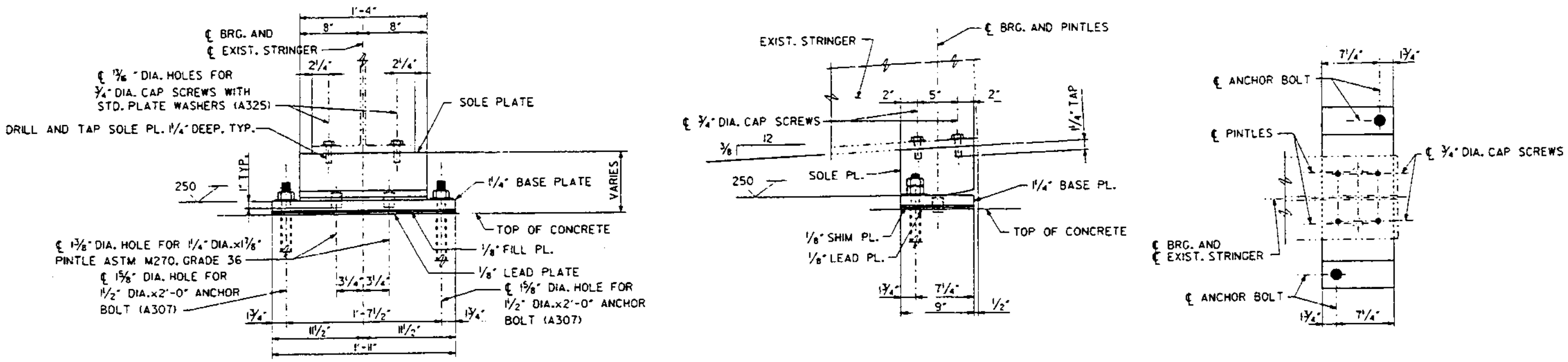
DESIGNED	
CHECKED	J. JORLET
DRAWN	B.C. KATES
CHECKED	

10840 | FILENAME: 10840MLKMLKSP43A.DGN | PRF: MLKSP43A | LETTING PLOTTED: A1 | DATE: DECEMBER 17

SECTION (BR-I)

SHEET NO. 7 OF 21

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



REPLACEMENT BEARINGS FOR STRINGERS S1 THRU S7
AT PIER 36 SPAN 37 AND PIER 37 SPAN 39
(14 BEARINGS REQUIRED)

NOTES - JACKING AND REMOVAL OF EXISTING BEARINGS

MINIMUM JACK CAPACITY SHALL BE 58 TONS.
SEE SPECIAL PROVISIONS FOR ADDITIONAL REQUIREMENTS.
JACKS SHALL NOT BE PLACED DIRECTLY UNDERNEATH DIAPHRAGMS.

NOTES

JACKING SHALL BE REQUIRED FOR THE REMOVAL AND REPLACEMENT OF ALL BEARINGS SCHEDULED FOR REPLACEMENT (SEE TABLE).

ANCHOR BOLTS SHALL BE REMOVED OR CUT OFF AND GROUND FLUSH WITH TOP OF CONCRETE.

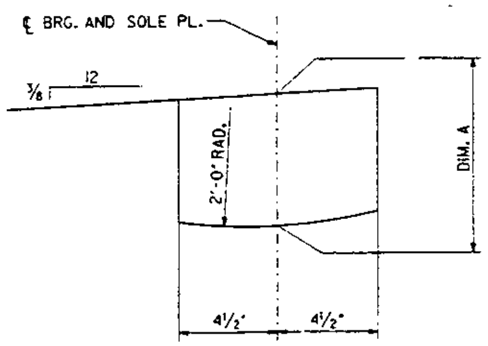
FOR ANCHOR BOLT INSTALLATION, SEE SHEET 10.

ANCHOR BOLT SHALL BE FURNISHED WITH 1 STANDARD PLATE WASHER AND 1 HEAVY HEX. NUT.

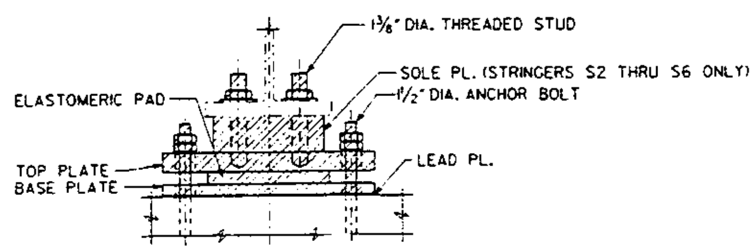
ALL MATERIAL SHALL CONFORM TO AASHTO M-270 GR. 36 UNLESS OTHERWISE NOTED.

BEARING STEEL SHALL BE PAINTED IN ACCORDANCE WITH THE PAINTING REQUIREMENTS FOR NEW STRUCTURAL STEEL. SEE SPECIAL PROVISIONS.

SURFACE FINISHES SHALL CONFORM TO SURFACE ROUGHNESS REQUIREMENTS AS DEFINED IN ANSI 846.1. SURFACE ROUGHNESS, WAVINESS AND LAY. PART I.



SOLE PLATE DETAIL



NOTE: ALL ITEMS INDICATED TO BE REMOVED

EXISTING BEARING REMOVAL DETAIL
NOTE: STRINGERS S2 THRU S6 SHOWN, STRINGERS S1 AND S7 SIMILAR.

STRINGER DESIGNATION	PIER 36 DIM. A	PIER 37 DIM. A	WEIGHT PER BEARING *	
			PIER 36	PIER 37
S1 AND S7	2½"	3⁹⁄₁₆"	210 LBS.	238 LBS.
S2 AND S6	4¾"	5⁷⁄₁₆"	303 LBS.	331 LBS.
S3 AND S5	5¾"	6⁷⁄₁₆"	344 LBS.	373 LBS.
S4	6¹⁄₁₆"	6¾"	357 LBS.	386 LBS.

* WEIGHT OF THE BEARINGS SHOWN INCLUDES ALL PLATES (STEEL AND LEAD, EXCEPT SHIM PACK) BOLTS, NUTS AND WASHERS AND SHALL BE PAID AT THE UNIT PRICE BID FOR "FURNISHING AND ERECTING STRUCTURAL STEEL".

NOTE: SOLE PLATE HEIGHTS HAVE BEEN CALCULATED FROM PLANS OF EXISTING STRUCTURE. ALL BEARINGS SHALL BE DELIVERED WITH A ½" SHIM PACK TO ACCOMMODATE ADJUSTMENTS FOR EXISTING CONDITIONS, AS REQUIRED.

REACTION TABLE			
		SPAN 37 PIER 36	SPAN 39 PIER 37
RD	(kips)	16.2	32.5
RL	(kips)	38.9	28.1
RI	(kips)	10.9	7.1
R TOTAL	(kips)	66.0	67.7

B.C. KATES	DESIGNED
M.A. BANASHEK	CHECKED
J. CORLEY	DRAWN
B.C. KATES	CHECKED

10840 | FILE: N:\010840\MLK\MLKSSOO5.DGN | PRF: MLKSSOO5 | LEVELS PLOTTED: ALL | DATE: DECEMBER 1997

PREPARED BY:
SVERDRUP CIVIL, INCORPORATED
MARYLAND HEIGHTS, MISSOURI

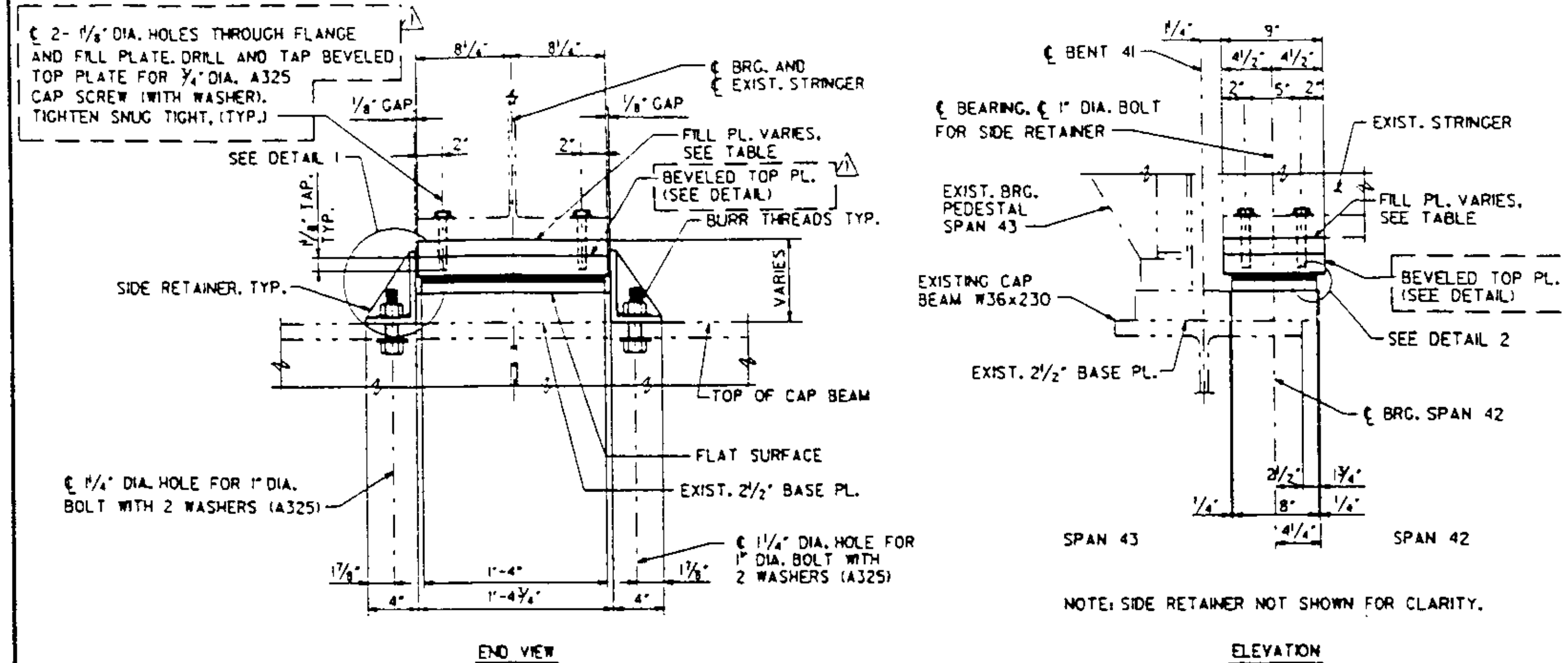
REHABILITATION FOR
APPROACH BRIDGE OVER I-55/70 W.B., MISSOURI AVE. AND RAILROADS

REPLACEMENT BEARINGS AT PIERS 36 AND 37

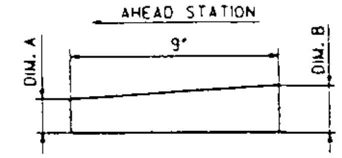
STRUCTURE NO. 082-6003
STA. 65+00 (FAP 799) ST. CLAIR CO.

SECTION 1BR-1

*IBR-I APPROACH BRIDGE

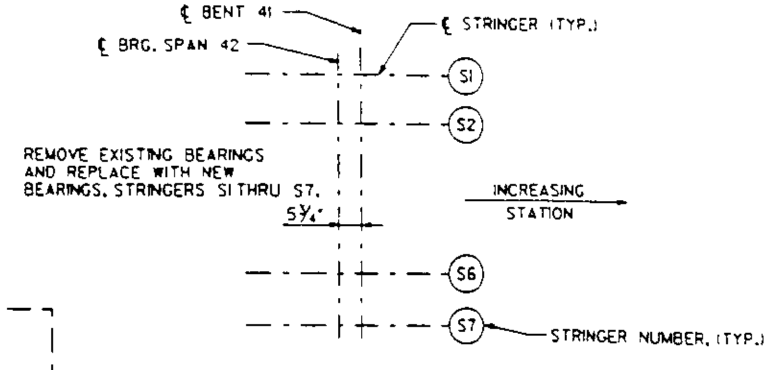


REPLACEMENT BEARINGS FOR STRINGERS S1 THRU S7
AT BENT 41 SPAN 42
(7 BEARINGS REQUIRED)



BEVELED TOP PLATE

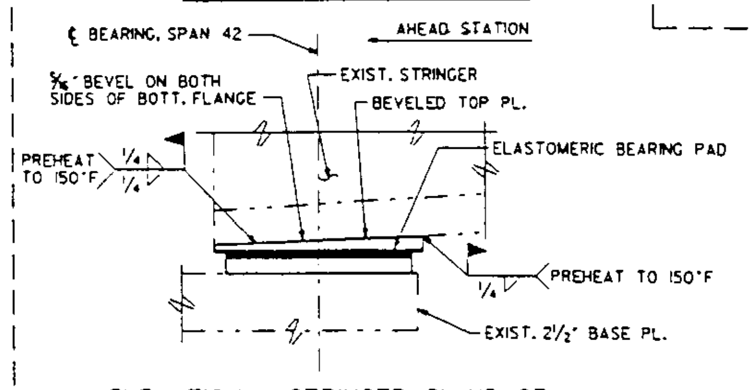
STRINGER DESIGNATION	A	B
S1 AND S7	1/4"	5/8"
S2 AND S6	1 1/2"	2"
S3 AND S5	1 1/2"	2"
S4	1 3/4"	2"



STRINGER NUMBERING

REACTION TABLE BENT 41 - SPAN 42

		STRINGERS S1 AND S7	STRINGERS S2 THRU S6
R_D	(kips)	49.8	38.6
R_L	(kips)	37.5	43.1
R_I	(kips)	9.2	10.6
R TOTAL	(kips)	96.5	92.3



ELEVATION - STRINGER S1 AND S7

NOTE: THE CONTRACTOR SHALL NOT HAVE THE ELASTOMERIC BEARING PAD IN PLACE DURING FIELD WELDING OF THE BEVELED PLATE. A STEEL PLATE OF THE SAME DIMENSIONS SHALL BE IN PLACE AND BEARING PRESSURE APPLIED DURING WELDING TO ENSURE BEVELED TOP PLATE REMAINS FLAT.

NOTES - JACKING AND REMOVAL OF EXISTING BEARINGS

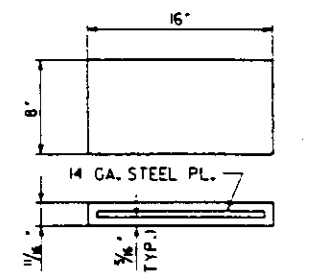
MINIMUM JACK CAPACITY SHALL BE 73 TONS.
SEE SPECIAL PROVISIONS FOR ADDITIONAL REQUIREMENTS.
JACKS SHALL NOT BE PLACED DIRECTLY UNDERNEATH DIAPHRAGMS.

FILL PLATE DATA

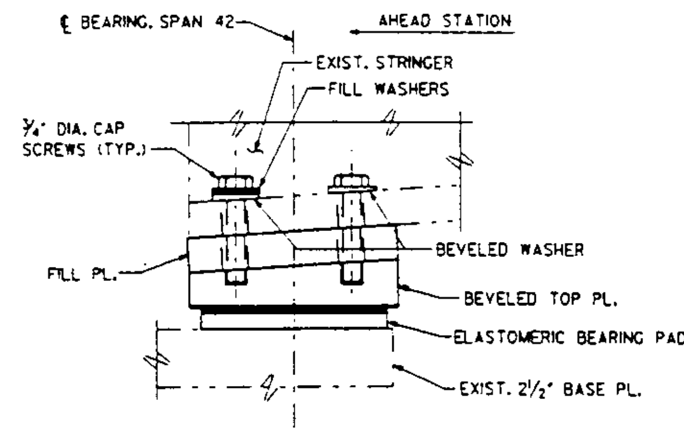
STRINGER DESIGNATION	FILL PLATE THICKNESS	WEIGHT EACH *
S1 AND S7	0	94 LBS.
S2 AND S6	1/4"	129 LBS.
S3 AND S5	1 1/2"	171 LBS.
S4	1 1/4"	185 LBS.

* WEIGHT SHOWN IS FOR INFORMATION ONLY AND INCLUDES ALL PLATES (EXCEPT SHIM PACK) BOLTS, NUTS AND WASHERS.

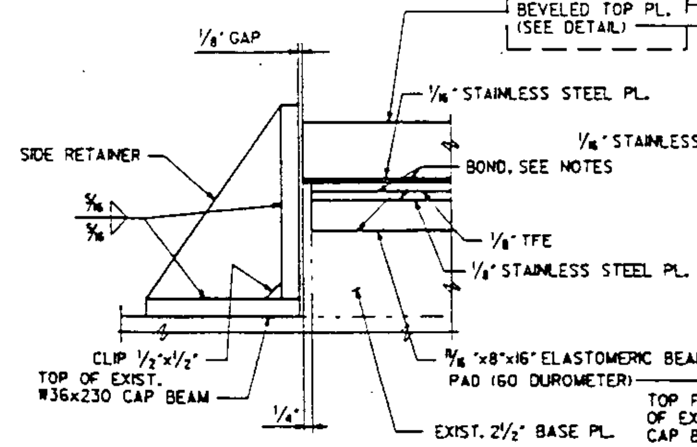
NOTE: FILL PLATE HEIGHTS HAVE BEEN CALCULATED FROM PLANS OF EXISTING STRUCTURE. ALL BEARINGS SHALL BE DELIVERED WITH A 1/2" SHIM PACK TO ACCOMMODATE ADJUSTMENTS FOR EXISTING CONDITIONS, AS REQUIRED.



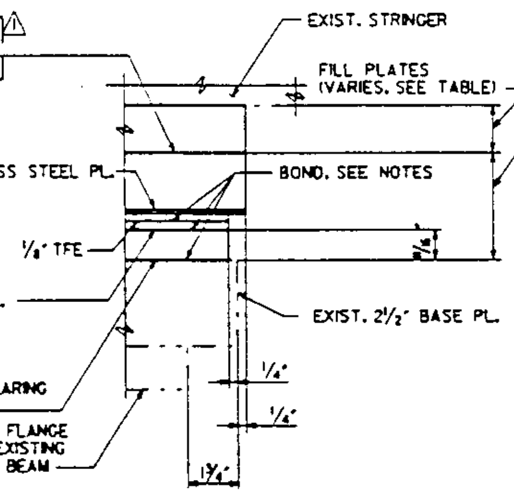
ELASTOMERIC PAD DETAIL



ELEVATION - STRINGERS S2 THRU S6



DETAIL 1



DETAIL 2

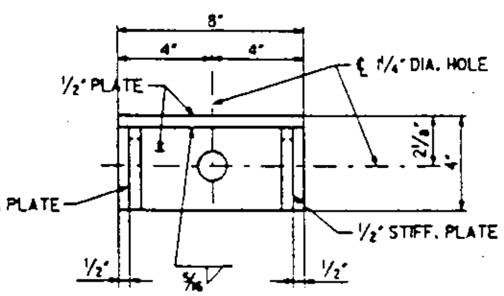
NOTES

JACKING SHALL BE REQUIRED FOR THE REMOVAL AND REPLACEMENT OF ALL BEARINGS SCHEDULED FOR REPLACEMENT (SEE TABLE AND STRINGER NUMBERING).

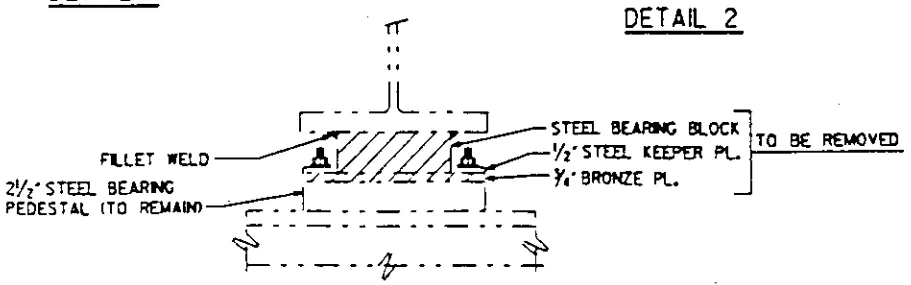
ALL MATERIAL SHALL CONFORM TO AASHTO M-270 GR. 36 UNLESS OTHERWISE NOTED.

THE 1/8" TFE SHEET SHALL BE BONDED DIRECTLY TO THE 1/8" STAINLESS 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.

BEARING STEEL SHALL BE PAINTED IN ACCORDANCE WITH THE PAINTING REQUIREMENTS FOR NEW STRUCTURAL STEEL. SEE SPECIAL PROVISIONS.



PLAN - SIDE RETAINER



EXISTING BEARING REMOVAL DETAIL
(STRINGERS S2 THRU S6)

⚠ CONSTRUCTION REVISION - REVISED TOP PLATES FOR STRINGERS S1 THRU S7 AT BENT 41 SPAN 42.
DATE: 7-19-200

REHABILITATION FOR

APPROACH BRIDGE OVER I-55/70 W.B., MISSOURI AVE. AND RAILROADS

REPLACEMENT BEARINGS AT BENT 41

STRUCTURE NO. 082-6003
STA. 65+00 (FAP 799) ST. CLAIR CO.

PREPARED BY
SVERDRUP CIVIL, INCORPORATED
MARYLAND HEIGHTS, MISSOURI

B.C. KATES	DESIGNED
R. RILEY	CHECKED
J. CORLEY	DRAWN
B.C. KATES	CHECKED

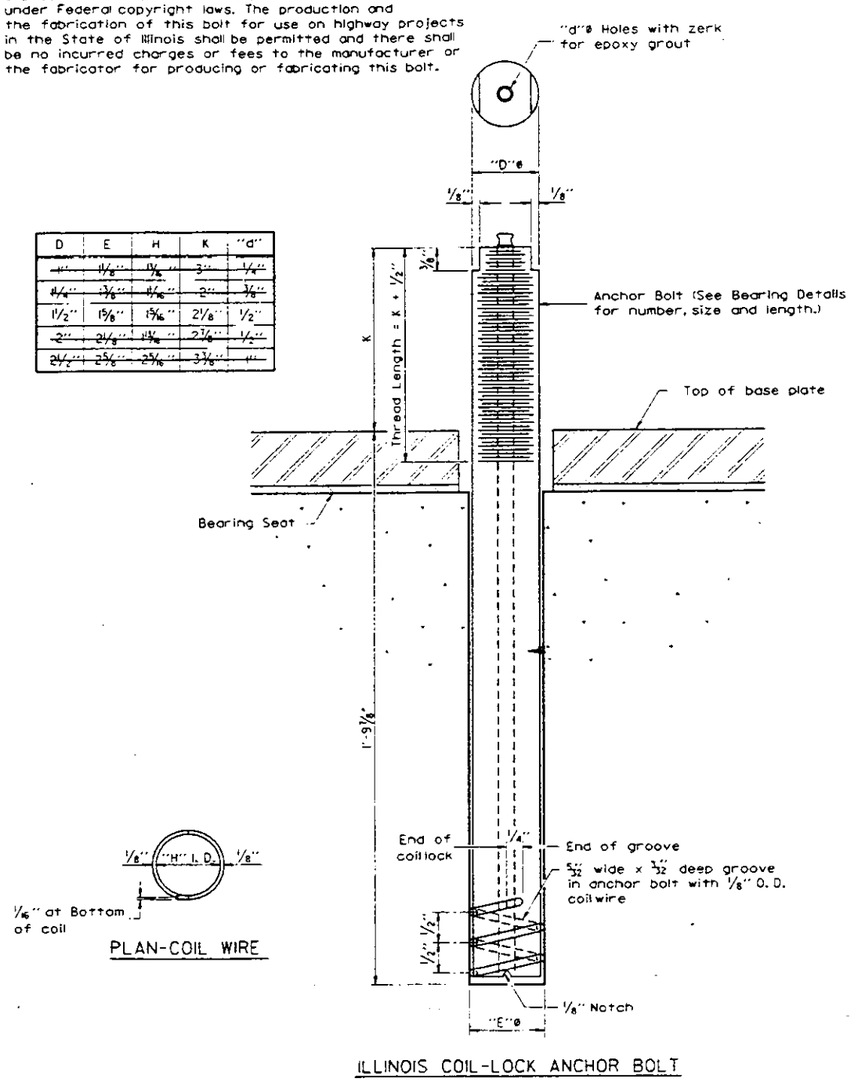
10840 | FILE: N:\010840\MLKSSG06.DGN | PRF: MLKSSG06 | LEVELS PLOTTED ALL | DATE: DECEMBER 1997

SECTION IBR-I

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAP 799	*	ST. CLAIR	179	130
		ILLINOIS PROJECT		

*IBR-I APPROACH BRIDGE



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

PLAN-COIL WIRE

ILLINOIS COIL-LOCK ANCHOR BOLT

MATERIALS FOR ILLINOIS COIL-LOCK ANCHOR BOLT

The anchor bolt shall be fabricated from cold drawn or hot finished seamless carbon steel mechanical tubing conforming to ASTM A 519, Grade 1026, CW and supplied with hexagonal nuts and cut washers.

The coil wire shall be made of any suitable soft steel wire.

The finished anchor bolt shall be cleaned of rust and other foreign materials and wrapped or packaged to prevent contamination until they are installed.

The epoxy grout shall be a two-component, epoxy resin bonding system comforming to ASTM C 881, Type 1, Grade 1 and of a Class suitable for the temperature at installation.

INSTALLATION PROCEDURE for the ILLINOIS COIL-LOCK ANCHOR BOLT

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

ALTERNATE ANCHOR BOLTS

The Contractor may use, at his option, the capsule or the adhesive cartridge type anchor rods that have been previously tested and given a prior approval by the Department. The Contractor shall install these anchor rods in pre-drilled holes according to the manufacturer's recommendations and procedures.

The capsule or the adhesive cartridge type anchor rods shall be a two part system composed of:

1. A threaded rod stud with nut and washer of the type specified.
2. A sealed glass capsule or a sealed glass adhesive cartridge containing premeasured amounts of the adhesive chemical.

GENERAL NOTES

Holes in the masonry for anchor bolts shall be drilled through the base plates to the diameter and depth shown or according to the manufacturer's recommendation after new bearings are in final position.

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 anchor bolts, nuts and washers shall be completely coated by either the hot-dipped process conforming at AASHTO M-232 or the mechanical plating method conforing to ASTM B695, class 50. Zinc coated nuts shall be tapped oversized in accordance with the requirements of AASHTO M291 and shall meet the supplementary requirements s1.1 thru s1.2.1 of the same specifications for lubricant and testing.

DESIGNED	
CHECKED	JGC
DRAWN	B. [illegible] ATES
CHECKED	

10840 | FILE: N:\010840\MILK\ANCHOR.DGN | PRF. ANCHOR | LEVELS PLOTTED ALL | DATE: DECEMBER 1997

ABB-1 4-30-97

PREPARED BY:
SVERDRUP CIVIL, INCORPORATED
MARYLAND HEIGHTS, MISSOURI

SECTION: BR-1

SHEET NO. 10 OF 21

REHABILITATION FOR
APPROACH BRIDGE OVER
I-55/70 W.B., MISSOURI AVE.
AND RAILROADS

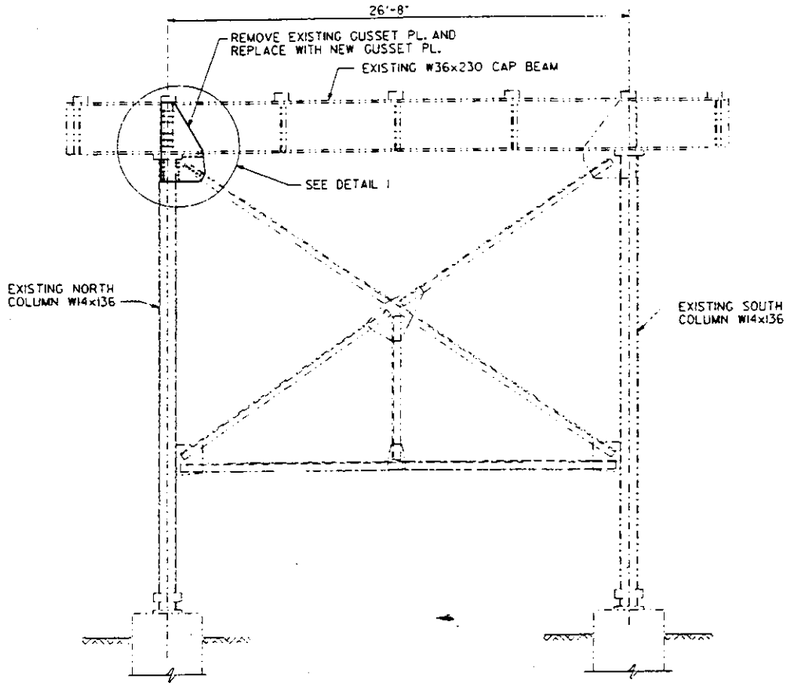
ANCHOR BOLT DETAILS
FOR BEARINGS

STRUCTURE NO. 082-6003
STA. 65+00 (FAP 799) ST. CLAIR CO.

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

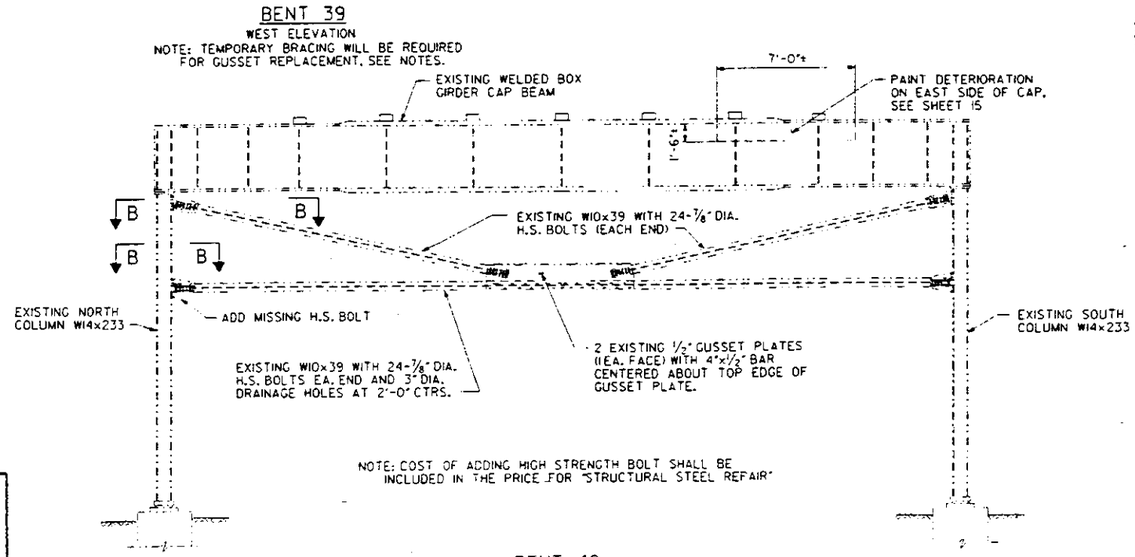
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAP 799	*	ST. CLAIR	179	131
		ILLINOIS PROJECT		

*IBR-I APPROACH BRIDGE



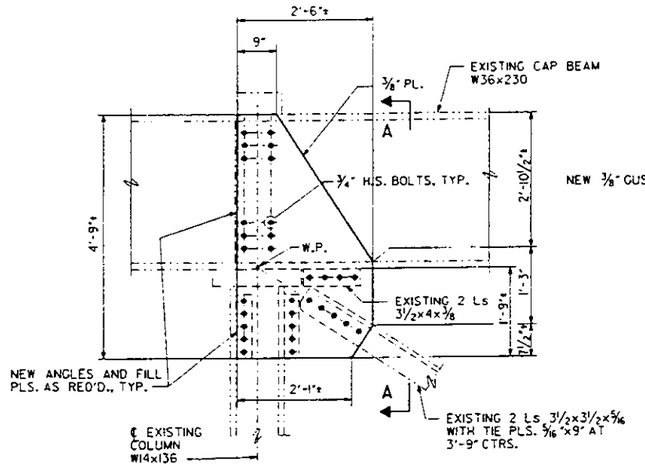
BENT 39
WEST ELEVATION

NOTE: TEMPORARY BRACING WILL BE REQUIRED FOR GUSSET REPLACEMENT. SEE NOTES.



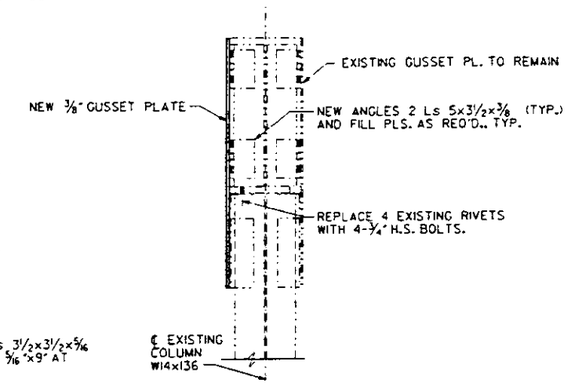
NOTE: COST OF ADDING HIGH STRENGTH BOLT SHALL BE INCLUDED IN THE PRICE FOR "STRUCTURAL STEEL REPAIR"

BENT 40
WEST ELEVATION

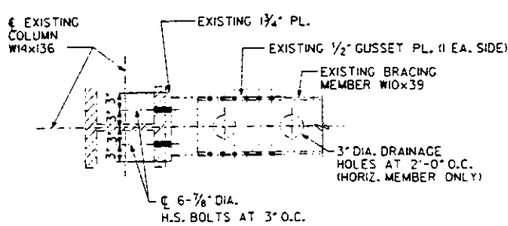


DETAIL I

NOTE: DIMENSIONS SHOWN ARE APPROXIMATE AND MUST BE FIELD VERIFIED BEFORE FABRICATION.
REPLACE EXISTING RIVETS WITH 3/4" H.S. BOLTS, TYP.
NUMBER AND LOCATION OF HOLES TO MATCH EXISTING CONNECTION. EXISTING 3/8" PLATE MAY BE USED AS TEMPLATE FOR NEW MEMBER HOLES (TYP.).



SECTION A-A



SECTION B-B

NOTES

THE CONTRACTOR SHALL SUBMIT FOR APPROVAL BY THE ENGINEER, DESIGN AND DETAILS OF TEMPORARY BRACING OF COLUMN FOR THE REPLACEMENT OF THE GUSSET PLATE AT BENT 39. TEMPORARY BRACING SHALL BE DESIGNED TO ACCOMMODATE LOADS OF 72k HORIZONTALLY AND 50k VERTICALLY, WHICH INCLUDES A FACTOR OF SAFETY OF 1.5.

THE COST OF TEMPORARY BRACING SHALL BE INCLUDED IN THE PRICE BID FOR "TEMPORARY BRACING SYSTEM"

REHABILITATION FOR

APPROACH BRIDGE OVER I-55/70 W.B., MISSOURI AVE. AND RAILROADS

STEEL REPAIRS AT BENTS 39 AND 40

STRUCTURE NO. 082-6002
STA. 65+00 (FAP 799) ST. CLAIR CO.

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DESIGNED
CHECKED J. CORLEY
DRAWN B.C. KATES
CHECKED

PREPARED BY:
SVERDRUP CIVIL, INCORPORATED
MARYLAND HEIGHTS, MISSOURI

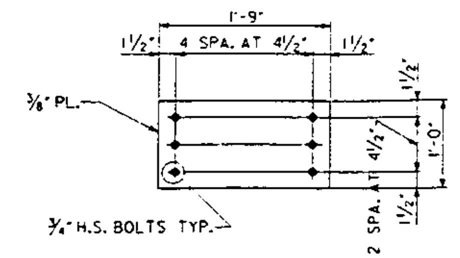
SECTION BR-I

SHEET NO. 9 OF 21

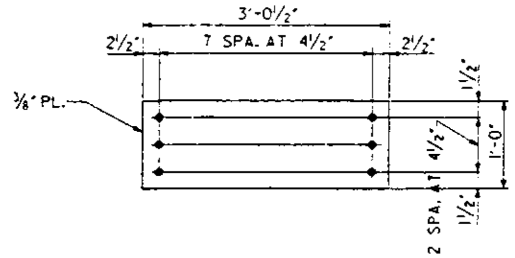
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAP 799	*	ST. CLAIR	179	132

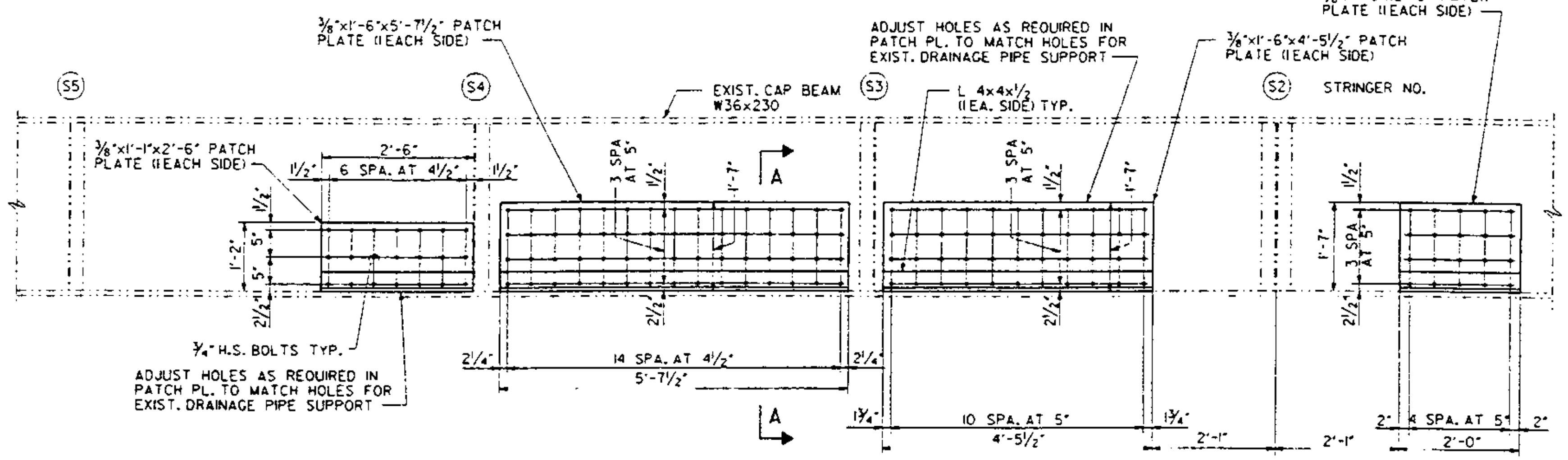
*IBR-I APPROACH BRIDGE



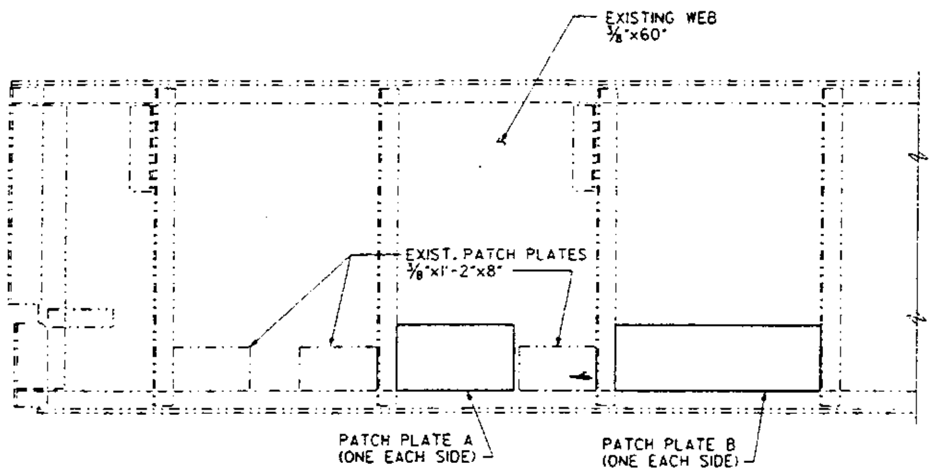
PATCH PLATE A



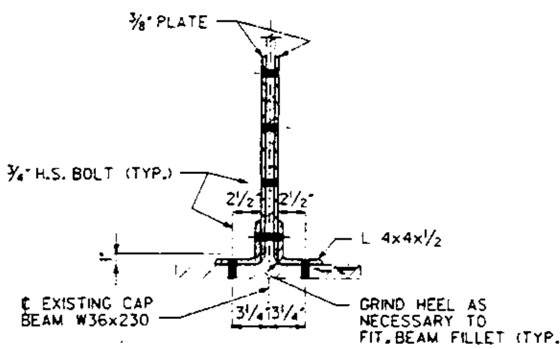
PATCH PLATE B



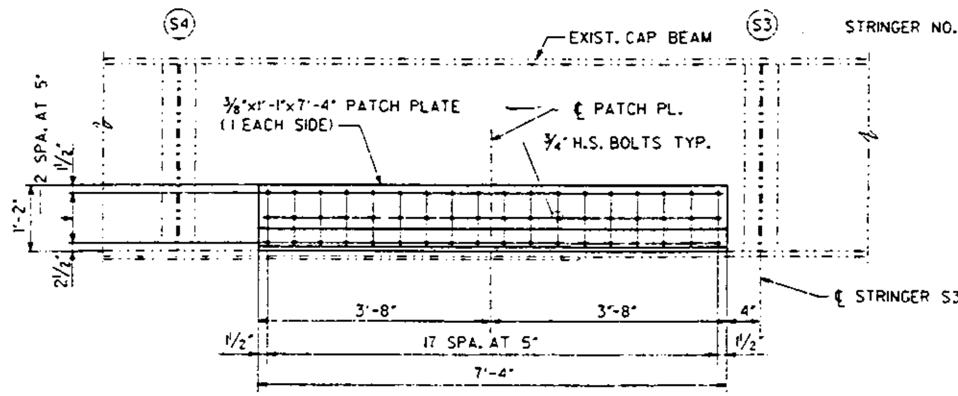
(EAST ELEVATION)
BENT 41 CAP BEAM WEB REPAIR



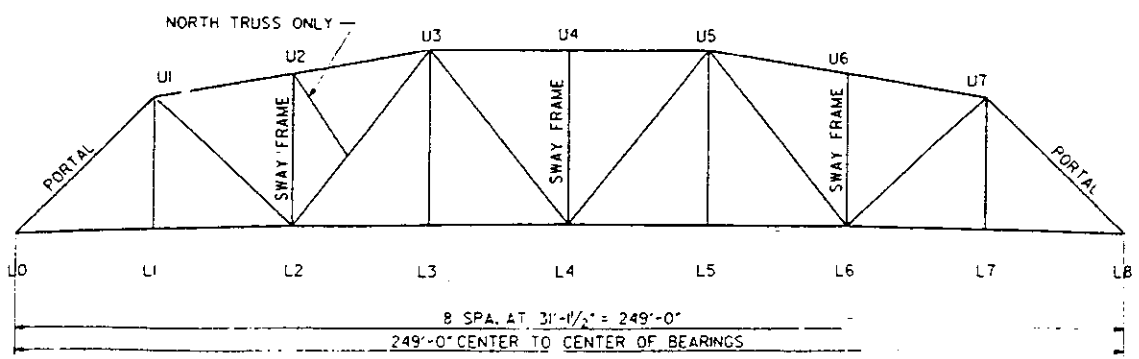
NORTH END AT PANEL POINT L6 SPAN 38
FLOORBEAM WEB REPAIRS



SECTION A-A



(UPSTATION ELEVATION)
BENT 42 CAP BEAM WEB REPAIR



(SOUTH ELEVATION)
TRUSS PANEL POINT NUMBERING - SPAN 38

NOTES

THE COST OF TEMPORARY SUPPORT OF DRAINAGE PIPE AS REQUIRED FOR INSTALLATION OF PATCH PLATES SHALL BE CONSIDERED INCLUDED IN THE PRICE BID FOR "DRAINAGE SYSTEM REPAIR".

STRINGERS, BEARINGS, GUSSET PL., DRAINAGE PIPES, ETC. NOT SHOWN FOR CLARITY.

REHABILITATION FOR

APPROACH BRIDGE OVER
I-55/70 W.B., MISSOURI AVE.
AND RAILROADS

FLOORBEAM AND CAP BEAM REPAIRS

STRUCTURE NO. 082-6003
STA. 65+00 (FAP 799) ST. CLAIR CO.

PREPARED BY:
SVERDRUP CIVIL, INCORPORATED
MARYLAND HEIGHTS, MISSOURI

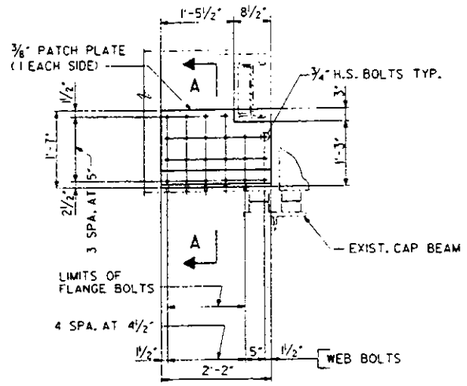
DESIGNED	
CHECKED	J. CORLEY
DRAWN	B.C. KATES
CHECKED	

10840 FILE: NO10840: MLK: MLK55G02.DGN PRF: MLK55G02 LEVELS PLOTTED ALL DATE: DECEMBER 1997

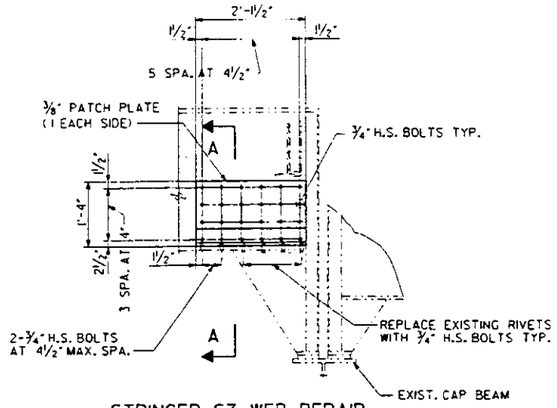
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAP 799	*	ST. CLAIR	179	133
	ILLINOIS	PROJECT		

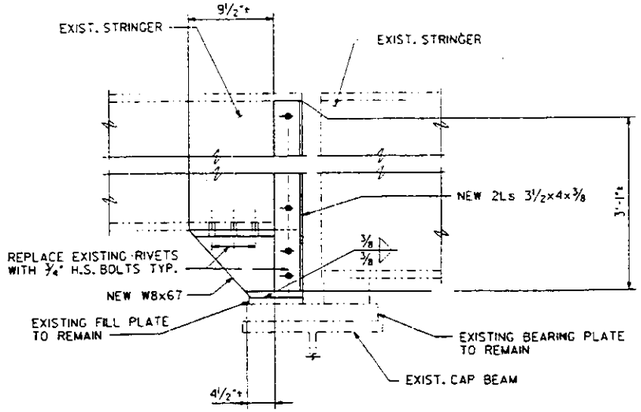
*IBR-I APPROACH BRIDGE



STRINGER S3 AND S5 WEB REPAIR
BENT 39 SPAN 40

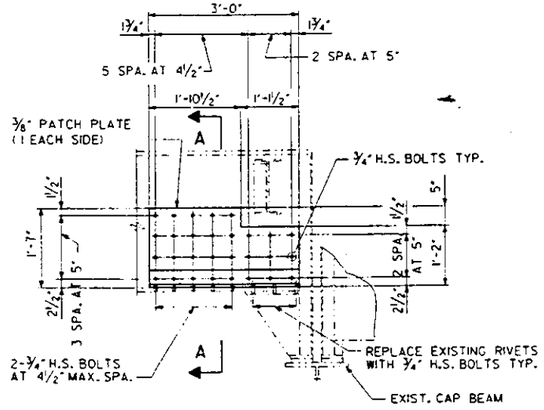


STRINGER S3 WEB REPAIR
BENT 42 SPAN 43

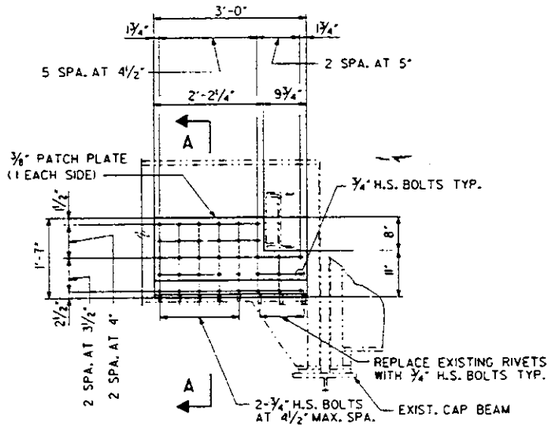


STRINGER S6 PEDESTAL REMOVAL AND REPLACEMENT
BENT 41 SPAN 43

NOTES: NUMBER AND LOCATION OF HOLES FOR EXISTING RIVETS TO MATCH EXISTING CONNECTION. EXISTING MEMBERS MAY BE USED AS TEMPLATE FOR NEW MEMBER HOLES (TYP.). EXISTING L 3½x4x⅜ BEARING STIFFENER ANGLES AND W8x67 BEARING PEDESTAL SHALL BE REPLACED.



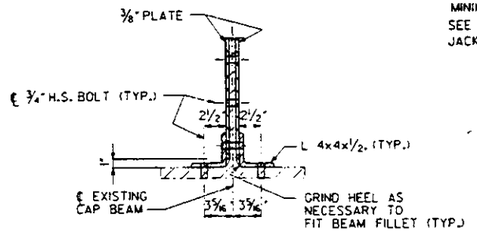
STRINGER S3 WEB REPAIR
BENT 41 SPAN 43



STRINGER S5 WEB REPAIR
BENT 41 SPAN 43

NOTES - JACKING AND REMOVAL OF EXISTING STRINGER PEDESTAL

MINIMUM JACK CAPACITY SHALL BE 50 TONS.
SEE SPECIAL PROVISIONS FOR ADDITIONAL REQUIREMENTS.
JACKS SHALL NOT BE PLACED DIRECTLY UNDERNEATH DIAPHRAGMS.



SECTION A-A

NOTES

JACKING SHALL BE REQUIRED FOR THE REMOVAL AND REPLACEMENT OF STRINGER S6 PEDESTAL AND STIFFENER ANGLES. BENT 41 SPAN 43. JACKING OF STRINGER S6 SHALL BE INCLUDED IN THE PRICE BID FOR "JACK AND REMOVE EXISTING BEARINGS".

REHABILITATION FOR
APPROACH BRIDGE OVER
I-55/70 W.B., MISSOURI AVE.
AND RAILROADS

STRINGER REPAIR DETAILS

STRUCTURE NO. 082-6003
STA. 65+00 (FAP 799) ST. CLAIR CO.

DESIGNED	
CHECKED	J. CORLEY
DRAWN	B.C. KATES
CHECKED	

10840 | FILE:N:\0084O\MLK\MLKSSG01.DGN | PRF: MLKSSG01 | LEVELS PLOTTED: ALL | DATE: DECEMBER 1997

PREPARED BY:
SVERDRUP CIVIL, INCORPORATED
MARYLAND HEIGHTS, MISSOURI

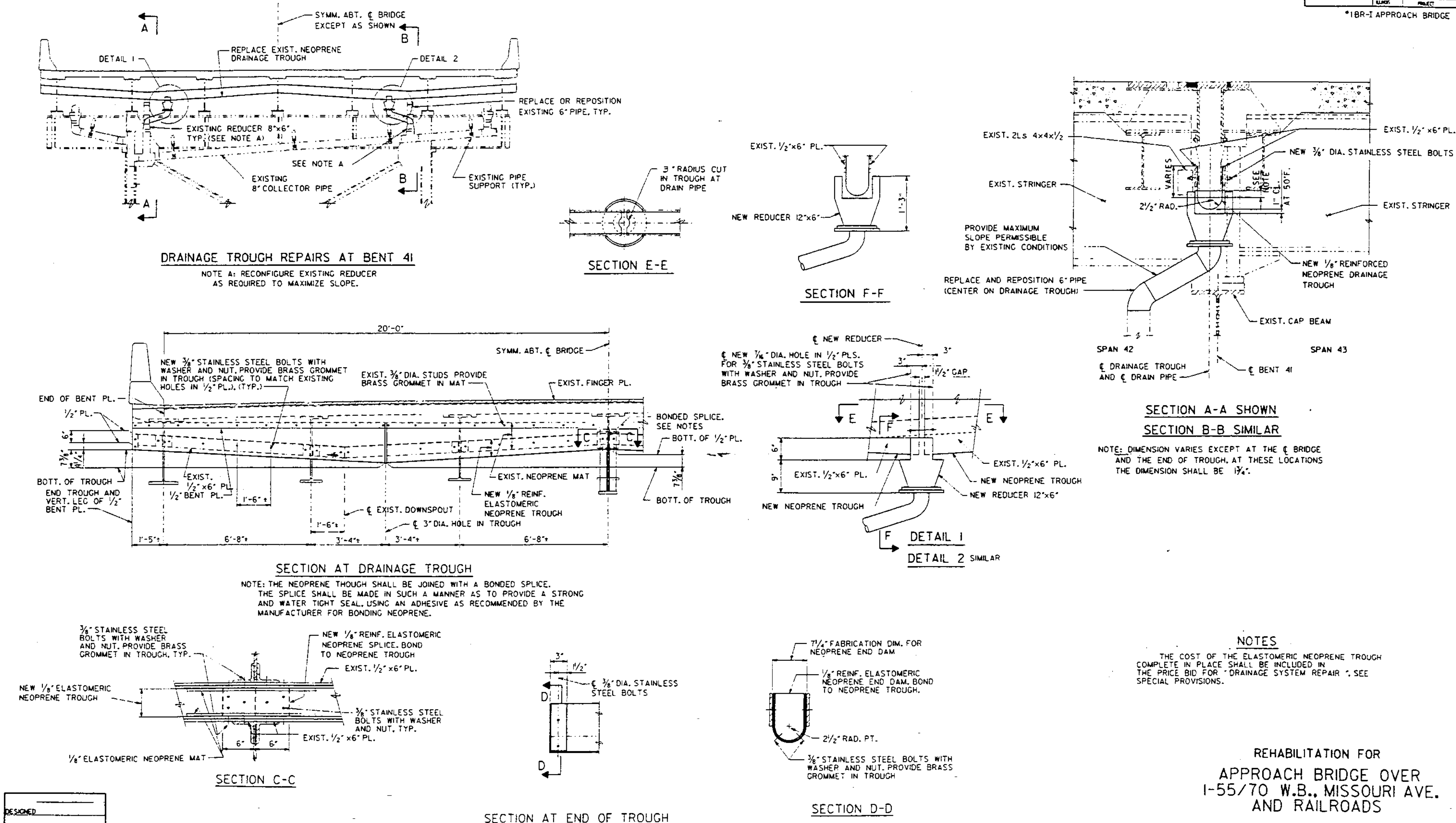
SECTION BR-I

SHEET NO. 13 OF 21

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAP 799	*	ST. CLAIR	179	134

*IBR-I APPROACH BRIDGE



NOTES

THE COST OF THE ELASTOMERIC NEOPRENE TROUGH COMPLETE IN PLACE SHALL BE INCLUDED IN THE PRICE BID FOR "DRAINAGE SYSTEM REPAIR". SEE SPECIAL PROVISIONS.

REHABILITATION FOR

APPROACH BRIDGE OVER I-55/70 W.B., MISSOURI AVE. AND RAILROADS

DRAINAGE SYSTEM REPAIRS AT BENT 41

STRUCTURE NO. 082-6003
STA. 65+00 (FAP 799) ST. CLAIR CO.

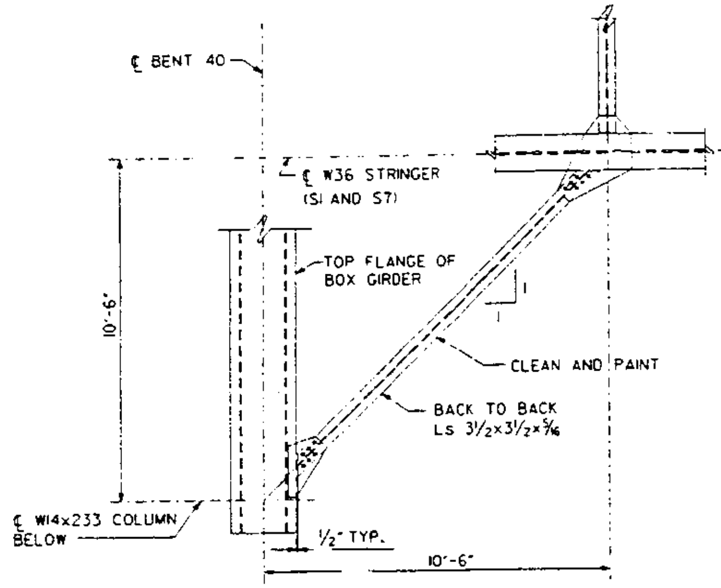
DESIGNED
CHECKED J. CORLEY
DRAWN B.C. KATES
CHECKED

PREPARED BY: SVERDRUP CIVIL, INCORPORATED MARYLAND HEIGHTS, MISSOURI

10840 | FILE: N:\010840\MLK\MLKSS03.DGN PRF: MLKSS03 | LEVELS PLOTTED ALL | DATE: DECEMBER 1997

SECTION BR-I

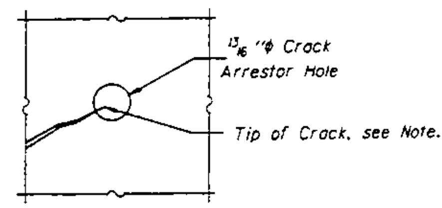
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



LATERAL BRACE AT BENT 40 SPAN 42
TYPICAL EACH SIDE OF STRUCTURE

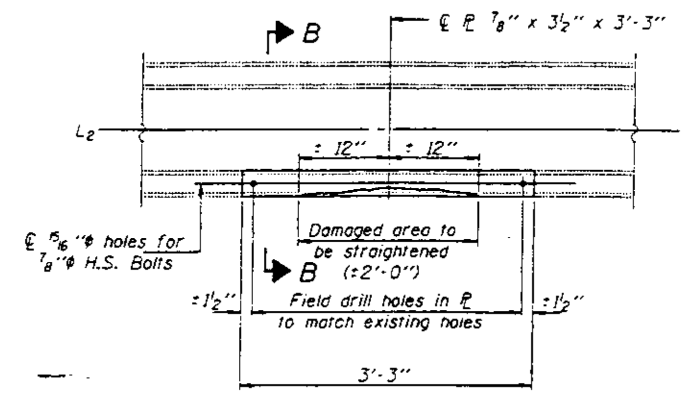
TABLE OF CLEAN AND PAINT TOUCH-UP LOCATIONS

BENT NUMBER	SPAN NUMBER	SHEET NUMBER	LOCATION	REMARKS
40	42	15	LATERAL BRACE	CLEAN AND PAINT LATERAL BRACE, BOTH SIDES OF STRUCTURE
40	42	11	BENT CAP WEB	CLEAN AND PAINT DETERIORATED AREAS ON EAST SIDE NEAR SOUTH COLUMN
40	42		EXTERIOR STRINGER	CLEAN AND PAINT DETERIORATED AREAS ALONG WEB AND BOTTOM FLANGE
41	42	9	STRINGERS S1 AND S7	CLEAN AND PAINT EXISTING BEARINGS

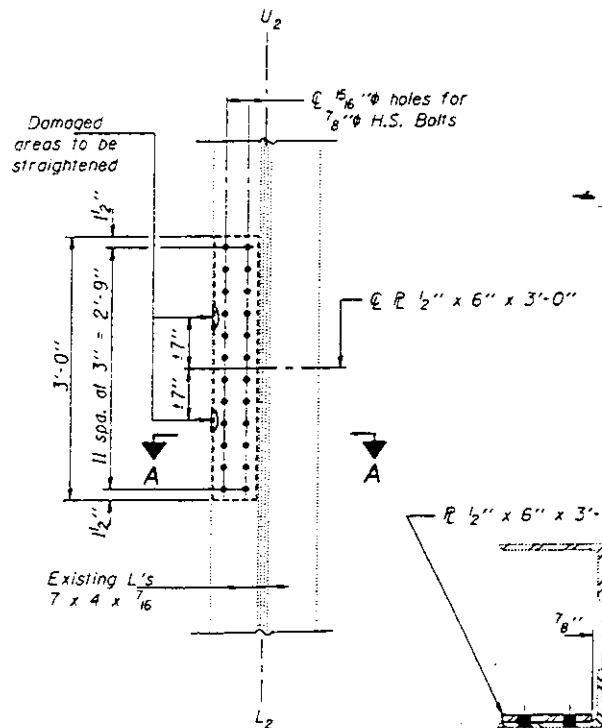


CRACK ARRESTOR HOLE DETAIL

Note: Locate crack tip using liquid dye penetrant or magnetic particle testing. Drill 13⁄16"ϕ Crack Arrestor hole at the crack tip. After crack arrestor hole has been drilled, dye penetrant or magnetic particle testing shall be used to verify that the drilled hole has captured the crack tip. Cost shall be included in the cost of "Structural Steel Repairs".



REPAIR L_2-U_3

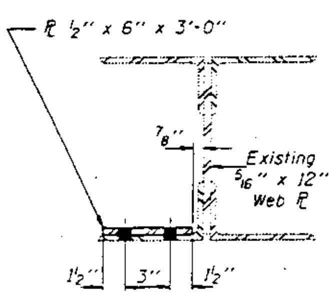


REPAIR L_2-U_2

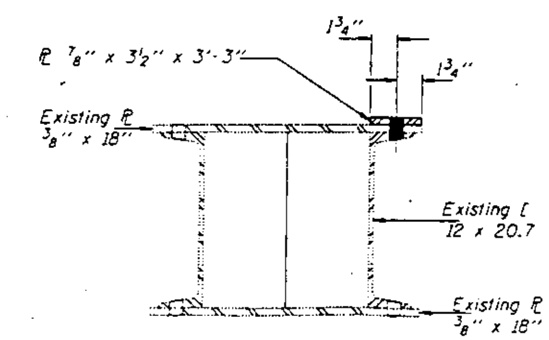
TABLE OF STEEL REPAIRS

BENT NUMBER	SPAN NUMBER	SHEET NUMBER	LOCATION	REMARKS
36	37	8	BEARINGS	REMOVE AND REPLACE FIXED BEARINGS STRINGERS S1 - S7
	38	12	PANEL POINT L6	INSTALL PATCH PLATES ON BOTH SIDES OF FLOORBEAM WEB
37	39	8	BEARINGS	REMOVE AND REPLACE FIXED BEARINGS STRINGERS S1 - S7
39	40	11	NORTH COLUMN	REMOVE EXISTING COLUMN TO CAP BEAM CONNECTION GUSSET PLATE ON WEST SIDE OF BENT 39 AND REPLACE WITH NEW PLATE
39	40	13	STRINGERS S3 AND S5	INSTALL PATCH PLATES ON BOTH SIDES OF STRINGER WEBS
40		11	NORTH COLUMN	INSTALL MISSING BOLT FOR LATERAL BRACING CONNECTION
41		12	BENT CAP BEAM	INSTALL PATCH PLATES ON BOTH SIDES OF BENT CAP WEB
41	42	9	BEARINGS	REMOVE AND REPLACE EXPANSION BEARINGS, STRINGERS S1 THRU S7
41	43	13	STRINGERS S3 AND S5	INSTALL PATCH PLATES ON BOTH SIDES OF STRINGER WEBS
41	43	13	STRINGERS S6	INSTALL FILL AND PATCH PLATES ON BOTH SIDES OF BEARING PEDESTAL WEB
42		12	BENT CAP BEAM	INSTALL PATCH PLATES ON BOTH SIDES OF BENT CAP WEB
42	43	13	STRINGERS S3	INSTALL PATCH PLATES ON BOTH SIDES OF STRINGER WEBS
*	38	15	L_2 U_2	Straighten & Plate
*	38	15	L_2 U_3	Straighten & Plate
*	38	15	L_4 U_3	Drill Crack Arresting Hole & Grind
*	38	15	L_5 U_5	Straighten Only
*	38	15	West End Portal	Drill Crack Arresting Hole & Grind

* For Truss Panel Point Numbering, SPAN 38, see Sheet 12 of 21.
Straighten according to Special Provision "Straighten Bent Members".



SECTION A-A



SECTION B-B

REHABILITATION FOR

APPROACH BRIDGE OVER
I-55/70 W.B., MISSOURI AVE.
AND RAILROADS

TABLE OF STEEL REPAIRS AND
PAINT TOUCH-UP LOCATIONS

STRUCTURE NO. 082-6003
STA. 65+00 (FAP 799) ST. CLAIR CO.

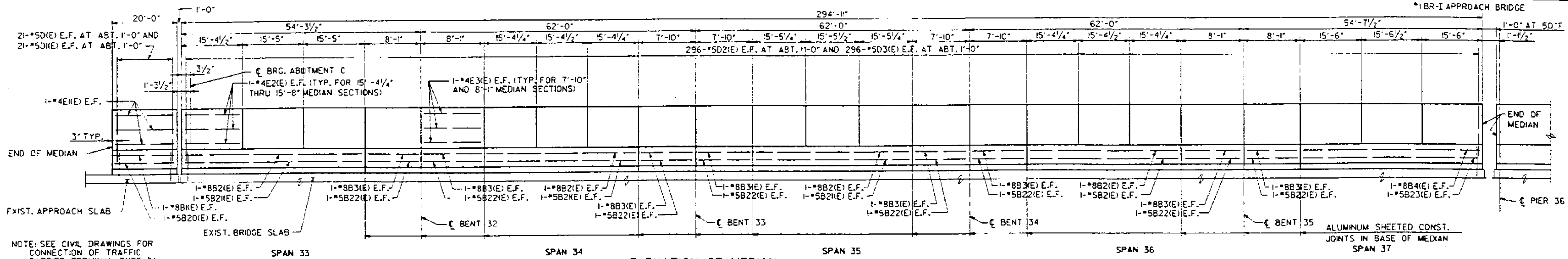
DESIGNED
CHECKED J. CORLEY
DRAWN B. C. KATES
CHECKED

PREPARED BY:
SVERDRUP CIVIL, INCORPORATED
MARYLAND HEIGHTS, MISSOURI

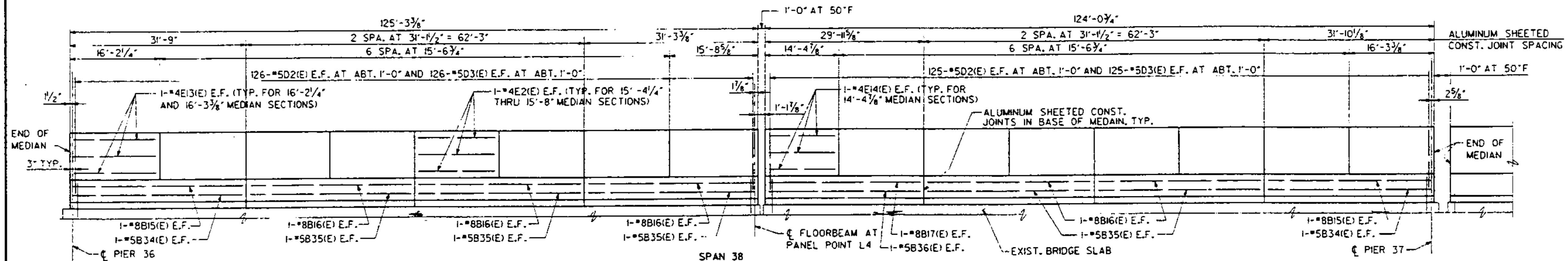
FILE: N10840:MLKMLKPAINT.DGN
PREF: MLKPAINT
10840
LEVELS PLOTTED
DATE: DECEMBER 17

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAP 799	*	ST. CLAIR	179	136

*IBR-I APPROACH BRIDGE



ELEVATION OF MEDIAN



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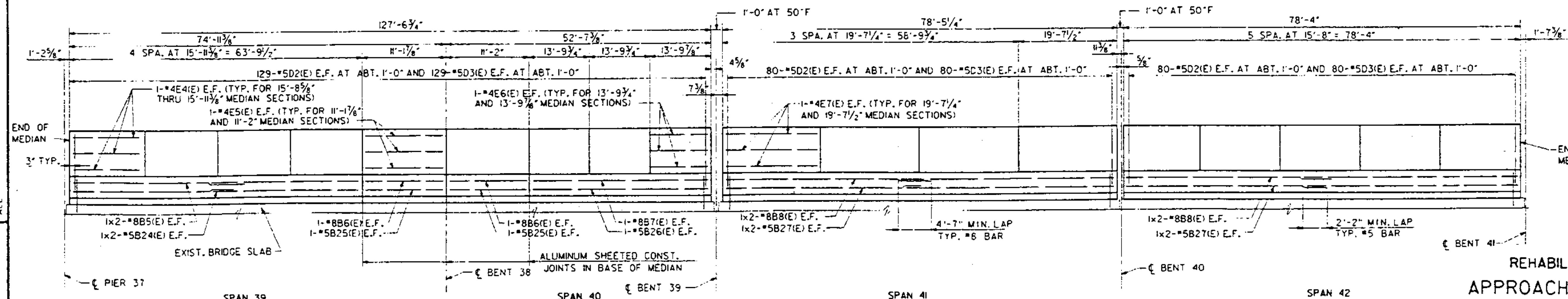


ELEVATION OF MEDIAN

NOTES

E.F. INDICATES EACH FACE.
ALL DIMENSIONS ARE MEASURED ALONG ℄ ROADWAY.
FOR BILL OF MATERIAL, SEE SHEET 19.
FOR SLIDING PLATE DETAILS, SEE SHEET 18.

REHABILITATION FOR APPROACH BRIDGE OVER I-55/70 W.B., MISSOURI AVE. AND RAILROADS

MEDIAN - SPANS 33 THRU 42

STRUCTURE NO. 082-6003
STA. 65+00 (FAP 799) ST. CLAIR CO.

B.C. KATES DESIGNED
R. RILEY CHECKED
J. CORLEY DRAWN
B.C. KATES CHECKED

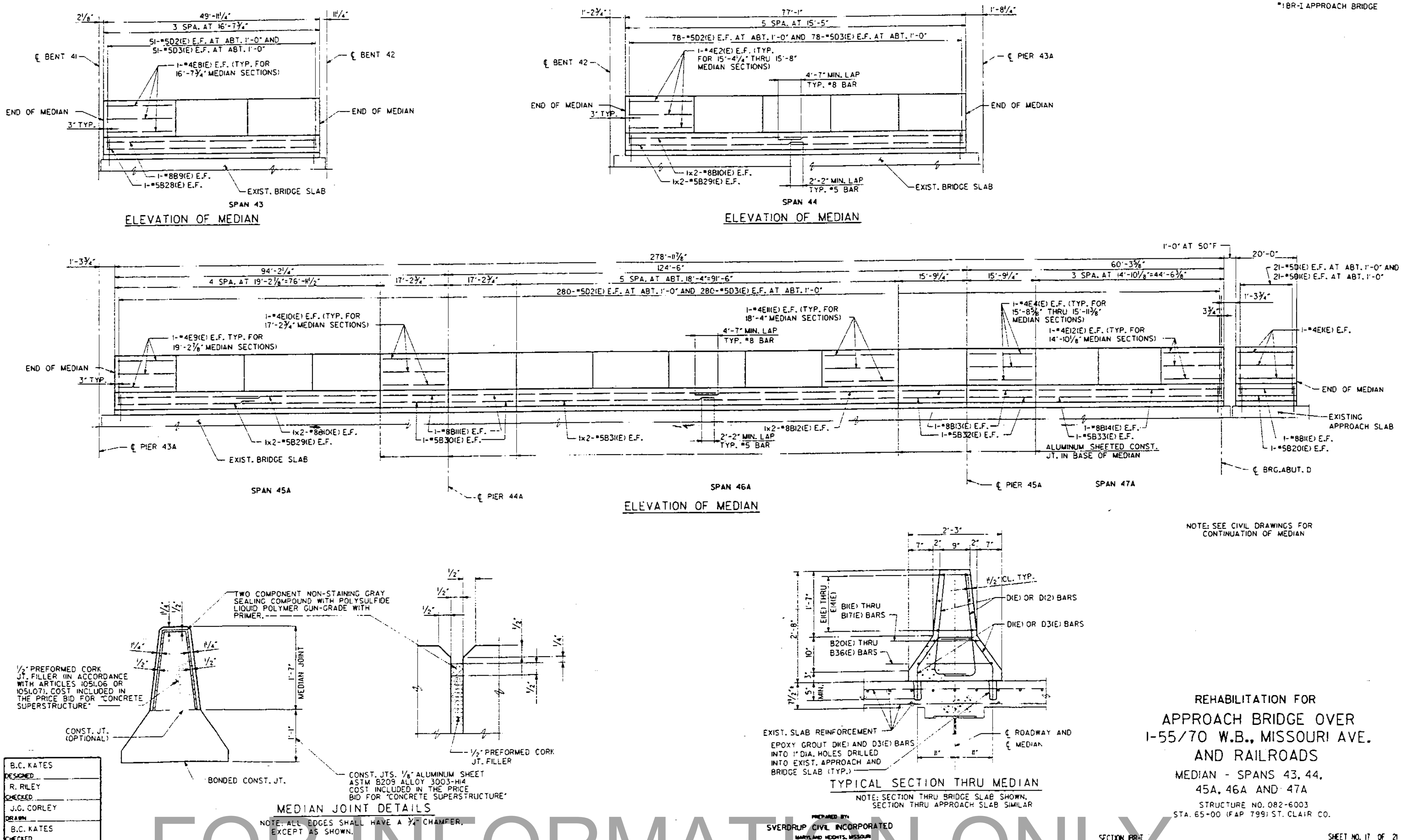
PREPARED BY:
SVERDRUP CIVIL INCORPORATED
MARYLAND HEIGHTS, MISSOURI

FILE: I:\0840\MLK\C6BARRI.DGN
PRF: C6BARRI
10840
LEVELS PLOTTED: ALL
DATE: DECEMBER

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAP 799	*	ST. CLAIR	179	137

*1BR-I APPROACH BRIDGE



NOTE: SEE CIVIL DRAWINGS FOR CONTINUATION OF MEDIAN

NOTE: ALL EDGES SHALL HAVE A 3/4" CHAMFER, EXCEPT AS SHOWN.

NOTE: SECTION THRU BRIDGE SLAB SHOWN. SECTION THRU APPROACH SLAB SIMILAR

REHABILITATION FOR
APPROACH BRIDGE OVER I-55/70 W.B., MISSOURI AVE. AND RAILROADS
MEDIAN - SPANS 43, 44, 45A, 46A AND 47A
STRUCTURE NO. 082-6003
STA. 65-00 (FAP 799) ST. CLAIR CO.

PREPARED BY: SVERDRUP CIVIL INCORPORATED, MARYLAND HEIGHTS, MISSOURI

B.C. KATES — DESIGNED
R. RILEY — CHECKED
J.G. CORLEY — DRAWN
B.C. KATES — CHECKED

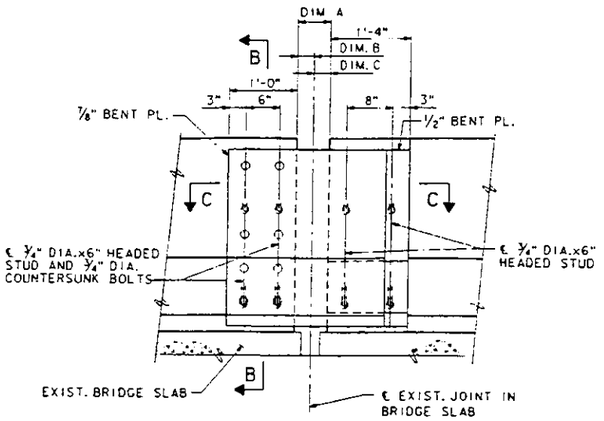
FILE: N:\01\0840\MLK\C6BARR2.DGN PRF: C6BARR2 | LEVELS PLOTTED ALL | DATE: DECEMBER 1997 | 10840

SECTION BR-I

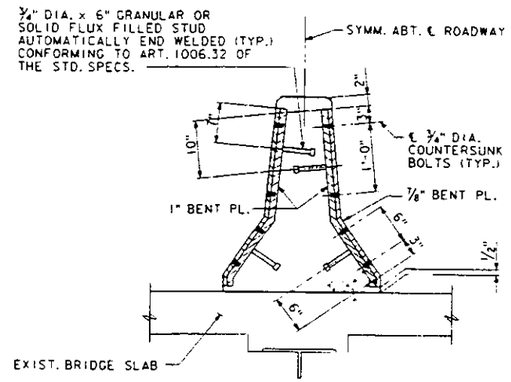
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAP 799	*	ST. CLAIR	179	138
		ILLINOIS PROJECT		

*IBR-I APPROACH BRIDGE

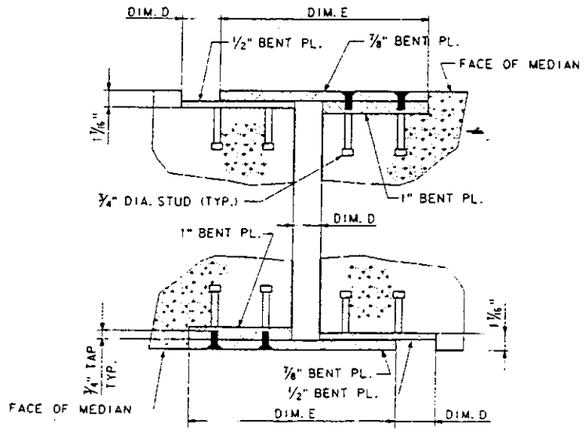


MEDIAN SLIDING PLATE DETAIL



SECTION B-B

NOTE: SLIDING PLATES ON BRIDGE SHOWN, SLIDING PLATES AT ABUTMENTS, ON APPROACH SLAB SIMILAR.



SECTION C-C

SLIDING PLATE DATA					
LOCATION	DIM. A*	DIM. B*	DIM. C*	DIM. D*	DIM. E
ABUTMENT C	1'-0"	6"	6"	4"	3'-0"
PIER 36	1'-0"	6"	6"	4"	3'-0"
PANEL POINT L4	1'-0"	6"	6"	4"	3'-0"
PIER 37	1'-0"	6"	6"	4"	3'-0"
BENT 39	1'-0"	6"	6"	4"	3'-0"
BENT 40	1'-0"	6"	6"	4"	3'-0"
BENT 41	1'-9½"	1'-6⅝"	2⅜"	3½"	3'-10"
BENT 42	2'-2"	1'-1"	1'-1"	4"	4'-2"
PIER 43A	3'-0"	1'-6"	1'-6"	4"	5'-0"
ABUTMENT D	1'-0"	6"	6"	4"	3'-0"

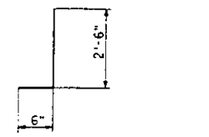
* AT 50°F

A TOTAL WEIGHT OF 10,381 LBS. OF STRUCTURAL STEEL IS REQUIRED FOR THE SLIDING PLATE ASSEMBLIES.

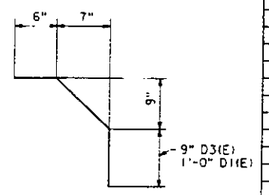
NOTE: WEIGHT OF STRUCTURAL STEEL INCLUDES ALL PLATES, WELDED STUDS AND COUNTERSUNK BOLTS.

THE COST OF SLIDING PLATES COMPLETE IN PLACE SHALL BE INCLUDED IN THE PRICE BID FOR "FURNISHING AND ERECTING STRUCTURAL STEEL"

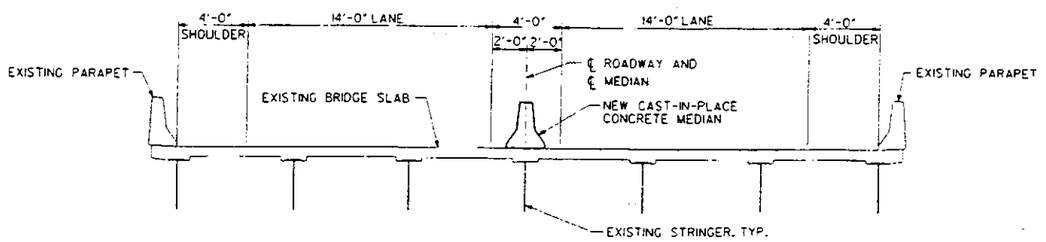
SLIDING PLATES SHALL BE GALVANIZED IN ACCORDANCE WITH THE REQUIREMENTS OF AASHTO M 111 (ASTM A123).



BARS D(E) AND D2(E)



BARS D1(E) AND D3(E)



TYPICAL SECTION THRU BRIDGE SLAB

BILL OF MATERIAL

MEDIAN

BAR	NO.	SIZE	LENGTH	SHAPE	BAR	NO.	SIZE	LENGTH	SHAPE
B1(E)	4	#8	19'-9"		B31(E)	4	#5	46'-9"	
B2(E)	8	#8	45'-10"		B32(E)	4	#5	15'-7"	
B3(E)	16	#8	7'-7"		B33(E)	2	#5	44'-4"	
B4(E)	2	#8	46'-4"		B34(E)	4	#5	31'-6"	
B5(E)	4	#8	34'-1"		B35(E)	10	#5	30'-11"	
B6(E)	4	#8	10'-11"		B36(E)	2	#5	29'-9"	
B7(E)	2	#8	41'-3"						
B8(E)	8	#8	41'-4"						
B9(E)	2	#8	49'-9"						
B10(E)	8	#8	40'-8"						
B11(E)	4	#8	17'-0"						
B12(E)	4	#8	47'-11"		D(E)	84	#5	3'-0"	
B13(E)	4	#8	15'-7"		D1(E)	84	#5	2'-5"	
B14(E)	2	#8	44'-4"		D2(E)	2490	#5	3'-0"	
B15(E)	4	#8	31'-6"		D3(E)	2490	#5	2'-2"	
B16(E)	10	#8	30'-11"						
B17(E)	2	#8	29'-9"						
					E1(E)	12	#4	19'-9"	
					E2(E)	222	#4	15'-2"	
					E3(E)	48	#4	7'-7"	
					E4(E)	42	#4	15'-6"	
B20(E)	4	#5	19'-9"		E5(E)	12	#4	10'-11"	
B21(E)	8	#5	45'-10"		E6(E)	18	#4	13'-7"	
B22(E)	16	#5	7'-7"		E7(E)	24	#4	19'-5"	
B23(E)	2	#5	46'-4"		E8(E)	18	#4	16'-5"	
B24(E)	4	#5	32'-11"		E9(E)	24	#4	19'-0"	
B25(E)	4	#5	10'-11"		E10(E)	12	#4	17'-0"	
B26(E)	2	#5	41'-3"		E11(E)	30	#4	18'-0"	
B27(E)	8	#5	40'-2"		E12(E)	18	#4	14'-8"	
B28(E)	2	#5	49'-9"		E13(E)	12	#4	16'-0"	
B29(E)	8	#5	39'-6"		E14(E)	6	#4	14'-2"	
B30(E)	4	#5	17'-0"						

CONCRETE SUPERSTRUCTURE	CU. YDS.	160.6
REINFORCEMENT BARS (EPOXY COATED)	LBS.	28,458

REINFORCEMENT BARS MARKED (E) SHALL BE EPOXY COATED.

B.C. KATES	
DESIGNED	R. RILEY
CHECKED	J. CORLEY
DRAWN	S.G. KAEMMERER
CHECKED	

10840 | FILENAME: 10840MLKCGBARR3.DGN | PRF: CGBARR3 | LEVELS PLOTTED: ALL | DATE: DECEMBER 1997

REHABILITATION FOR
APPROACH BRIDGE OVER
I-55/70 W.B., MISSOURI AVE.
AND RAILROADS

MEDIAN DETAILS

STRUCTURE NO. 082-6003
STA. 65+00 (FAP 799) ST. CLAIR CO.

PREPARED BY:
SVERDRUP CIVIL INCORPORATED
MARYLAND HEIGHTS, MISSOURI

SECTION IBR-I

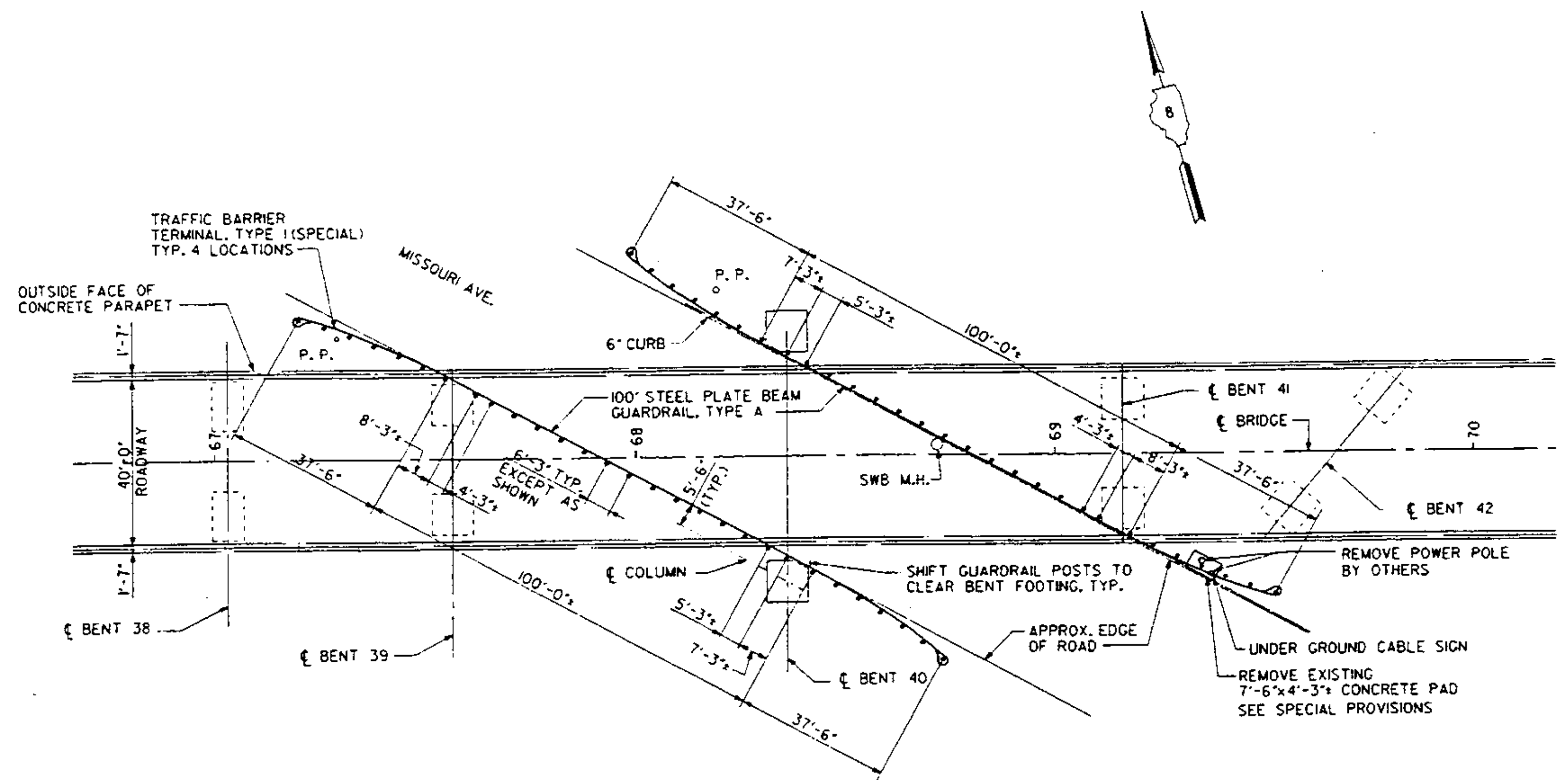
SHEET NO. 18 OF 21

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAP 799	*	ST. CLAIR	179	139

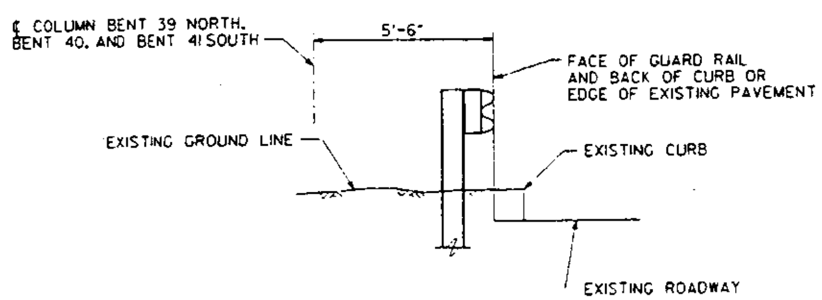
*IBR-1 APPROACH BRIDGE

NEXT SHEET IS 142

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



PLAN



TYPICAL SECTION

FILE: N:010840:MLK:MLKS101.DGN
PRF: MLKS101
10840
LEVELS PLOTTED ALL
DATE: DECEMBER 1997

DESIGNED
CHECKED J. CORLEY
DRAWN B.C. KATES
CHECKED

PREPARED BY:
SVERDRUP CIVIL, INCORPORATED
MARYLAND HEIGHTS, MISSOURI

REHABILITATION FOR

APPROACH BRIDGE OVER
I-55/70 W.B., MISSOURI AVE.
AND RAILROADS

COLUMN PROTECTION AT MISSOURI AVE.

STRUCTURE NO. 082-6003
STA. 65+00 (FAP 799) ST. CLAIR CO.

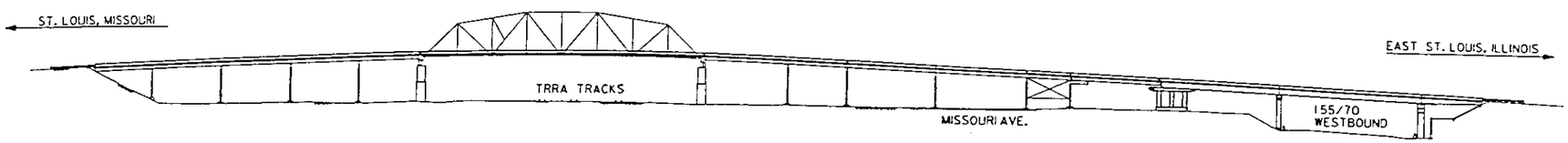
SECTION IBR-1

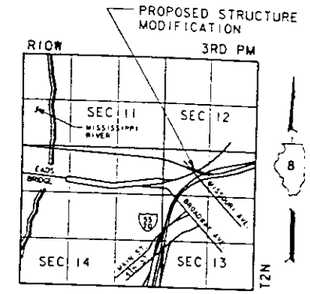
SHEET NO. 19 OF 21

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS
FAP 799	*	ST. CLAIR	252
		ILLINOIS	PROJECT

*IBR-1 APPROACH BRIDGE





LOCATION PLAN

INDEX OF DRAWINGS

STATE OF ILLINOIS — ROBERT E. CRAWLEY — 81-3190 — REGISTERED STRUCTURAL ENGINEER

STATE OF ILLINOIS — VANCE C. LISCHER, JR. — 83-3877 — ST. LOUIS, MO. — REGISTERED STRUCTURAL ENGINEER

APPROVED
FOR STRUCTURAL ADEQUACY ONLY
James L. Rowland
Director of Design & Environment

REHABILITATION FOR
APPROACH BRIDGE OVER
I-55/70 W.B., MISSOURI AVE. AND TRR.

INDEX OF DRAWINGS

STRUCTURE NO. 082-6003
STA. 65+00 (FAP 799) ST. CLAIR CO.

DESIGNED	
CHECKED	K. SCHULT
DRAWN	D.J. SCHREMP
CHECKED	

PREPARED BY:
SVERDRUP CORPORATION
ST. LOUIS, MISSOURI

⚠ REV. 12-4-87

SECTION IBR-1

SHEET NO. 1 OF 75

FILE: ZFJ(ISL)IDETAIL47.DGN
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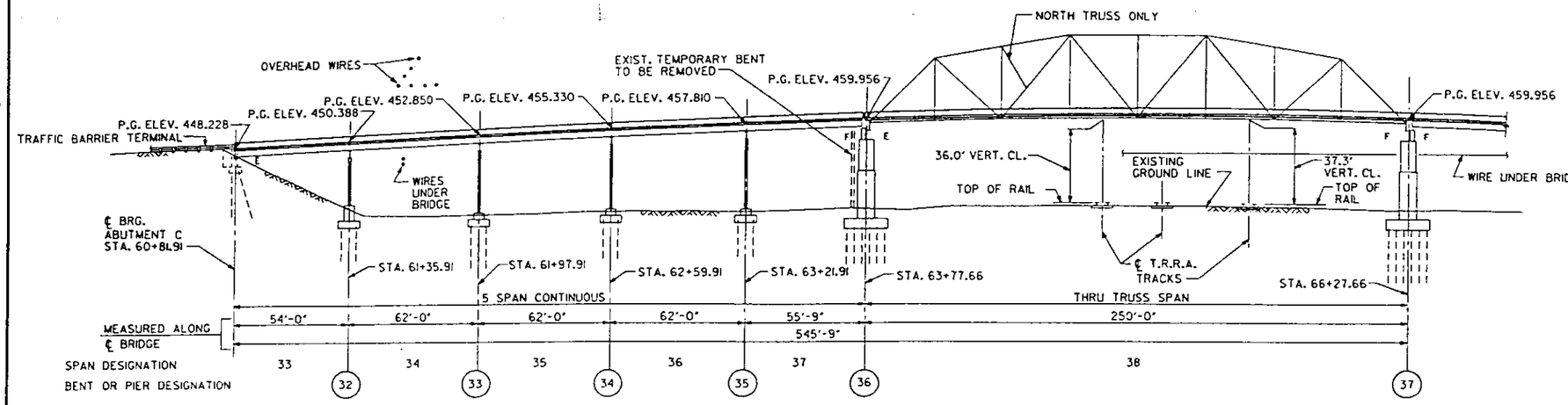
DATE: OCT. 23, 1987
87Sb.7
24-UC1-1987 10:01

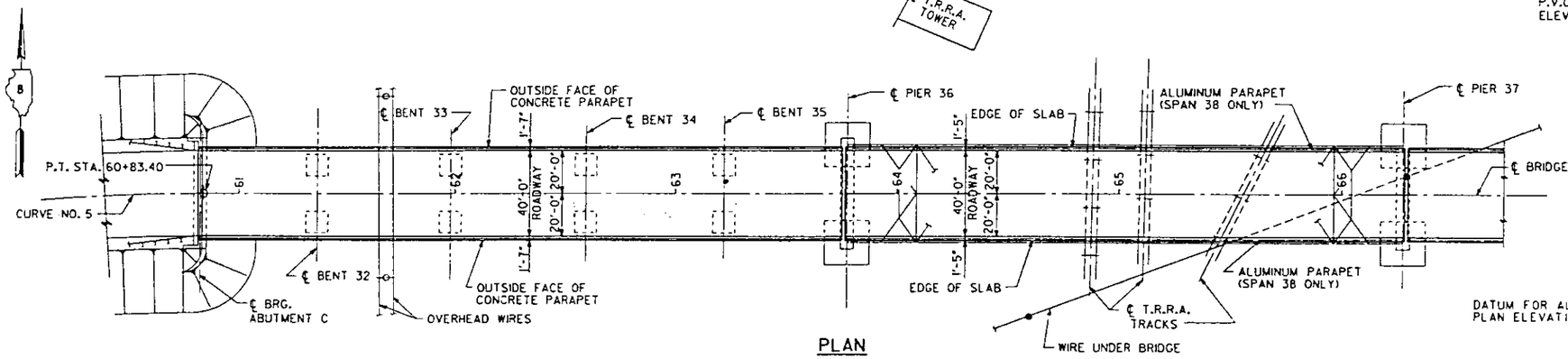
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAP 799	*	ST. CLAIR	252	150
		ILLINOIS PROJECT		

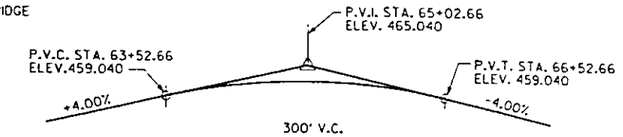
*IBR-I APPROACH BRIDGE



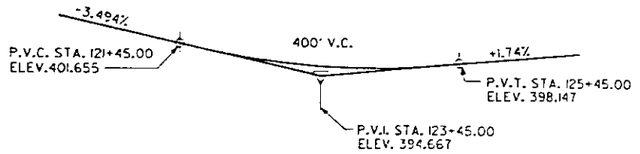
ELEVATION



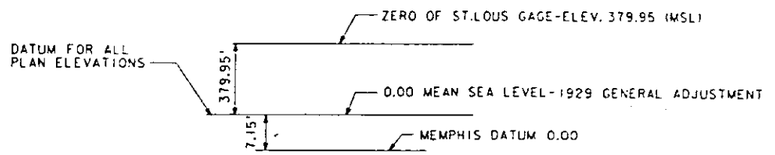
PLAN



PROFILE GRADE - ℄ BRIDGE



PROFILE GRADE - I-55/70 W.B.



ELEVATION REFERENCES

NOTE: ALL ELEVATIONS REFER TO U.S.C.&G. SURVEY-1929 GENERAL ADJUSTMENT.
REFERENCE IS GIVEN TO MEMPHIS DATUM DUE TO ELEVATIONS ON ORIGINAL BRIDGE PLANS BEING REFERENCED TO THIS DATUM.

CURVE DATA

CURVE NO. 5
P.I. STA. = 59+63.15
Δ = 14°-54'-58"
D = 6°-10'-00"
R = 929.12'
T = 121.63'
L = 241.88'
E = 7.93'
P.C. STA. = 58+41.52
P.T. STA. = 60+83.40
S.E. = SEE SHEET 8

P.I. 5A
P.I. STA. = 66+27.70
Δ = 0°-01'-34" LT.
NO CURVE

CURVE NO. 6
P.I. STA. = 74+93.65
Δ = 37°-51'-18"
D = 5°-23'-00"
R = 1064.32'
T = 364.97'
L = 703.19'
E = 60.84'
P.C. STA. = 71+28.68
P.T. STA. = 78+31.87
S.E. = SEE SHEET 12

CURVE NO. 7
P.I. STA. = 123+28.11
Δ = 35°-40'-47"
D = 2°-36'-16"
R = 2200.00'
T = 708.03'
L = 1370.00'
E = 111.13'
P.C. STA. = 116+20.08
P.T. STA. = 129+90.08
S.E. = 0.0727 ft/ft

BENCH MARKS

B.M. 12 - CHISELED SQUARE ON SOUTH END OF WINGWALL OF ABUTMENT C
26' RT. STA. 60+77
ELEVATION = 448.52

B.M. R 146 - C & GS BENCH MARK DISC ON TOP OF THE SOUTH CORNER OF CONCRETE BASE OF THE S.W. LEG BENT 42
16' RT. STA. 69+65
ELEVATION = 419.21

B.M. 13 - CHISELED SQUARE ON NORTH END OF WINGWALL OF ABUTMENT D
26' LT. STA. 73+28
ELEVATION = 432.45

NOTES

ALL STEEL BENTS HAVE FIXED ROCKERS TOP AND BOTTOM.

REHABILITATION FOR
APPROACH BRIDGE OVER I-55/70 W.B., MISSOURI AVE. AND TRRA

GENERAL PLAN AND ELEVATION
SPANS 33 THRU 38

STRUCTURE NO. 082-6003
STA. 65+00 (FAP 799) ST. CLAIR CO.

PREPARED BY:
SVERDRUP CORPORATION
ST. LOUIS, MISSOURI

SECTION IBR-I

SHEET NO. 2 OF 75

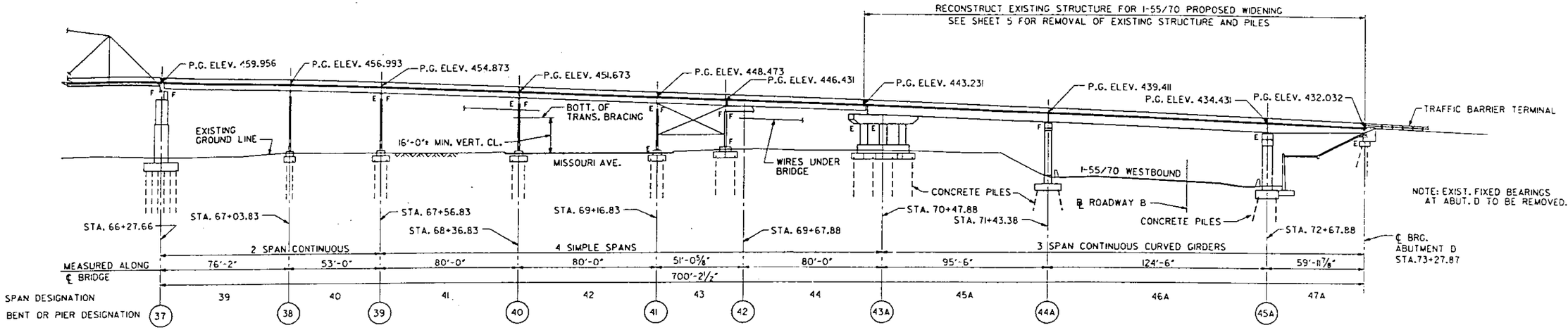
DESIGNED	
CHECKED	S. KAEMMERER
DRAWN	D. SCHREMP
CHECKED	

FILE: ZF3x(15)DMLKGPE5.DGN
PRF: MLKGPES
LEVELS PLOTTED: 3,3,24,26,38,42,50,55 & 63
DATE: OCT. 23, 1987

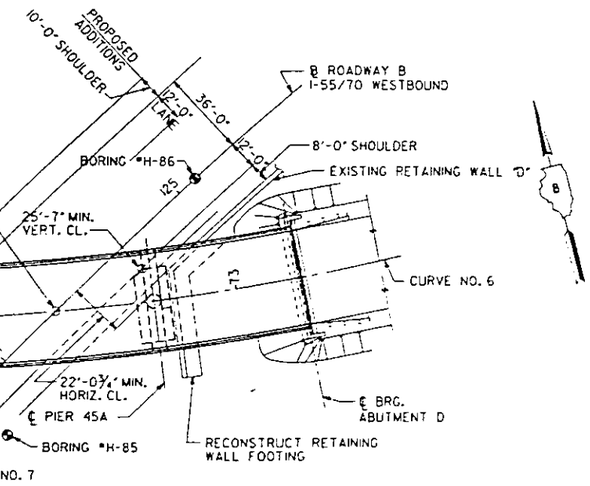
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAP 799	*	ST. CLAIR	252	151
		ILLINOIS PROJECT		

*IBR-1 APPROACH BRIDGE



DEVELOPED ELEVATION



PLAN

NOTES
ALL STEEL BENTS HAVE FIXED ROCKERS TOP AND BOTTOM EXCEPT AS NOTED.

REHABILITATION FOR
APPROACH BRIDGE OVER I-55/70 W.B., MISSOURI AVE. AND TRRA

GENERAL PLAN AND ELEVATION
SPANS 39 THRU 47A

STRUCTURE NO. 082-6003
STA. 65+00 (FAP 799) ST. CLAIR CO.

DESIGNED	
CHECKED	
K. KAEMMERER	
D. J. SCHREMP	
CHECKED	

PREPARED BY:
SVERDRUP CORPORATION
ST. LOUIS, MISSOURI

SECTION IBR-1

SHEET NO. 3 OF 75

2,20,24,26,27,28,35,38,39,42,43,50,56 & 63

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAP 799	*	ST. CLAIR	252	152

*IBR-I APPROACH BRIDGE

TOTAL BILL OF MATERIAL ⚠

ITEM	UNIT	SUB-STR.	SUPER-STR.	TOTAL
CONCRETE REMOVAL	CU. YD.	41	—	41
REMOVAL OF EXISTING BRIDGE DECK	SQ. YD.	—	5,780	5,780
REMOVE AND REINSTALL STRINGERS (SPAN 44)	LS	—	1	1
REMOVAL OF EXISTING STRUCTURES (SPANS 46 THRU 50)	LS	—	1	1
REMOVE TEMPORARY STEEL BENT	LS	1	—	1
FURNISHING AND ERECTING STRUCTURAL STEEL	LS	—	0.3	0.3
STRUCTURAL STEEL REPAIR	LBS.	16,100	18,400	34,500 ⚠2
STRUCTURAL STEEL REMOVAL (SPANS 33 TO 44)	LS	—	0.2	0.2
REPLACE RIVETS WITH HS BOLTS	EACH	—	280	280
STUD SHEAR CONNECTORS	EACH	—	3,867	3,867
JACK AND REPOSITION ROLLER BEARINGS	EACH	—	5	5
⚠ ELASTOMERIC BEARING *ASSEMBLY TYPE I*	EACH	—	46	46
⚠ ELASTOMERIC BEARING *ASSEMBLY TYPE II*	EACH	—	6	6
CLASS X CONCRETE SUPERSTRUCTURE	CU. YD.	—	1,523	1,523
CLASS X CONCRETE	CU. YD.	435	—	435
REINFORCEMENT BARS	LBS.	33,283	—	33,283
REINFORCEMENT BARS, EPOXY COATED	LBS.	—	388,511	388,511
STRUCTURE EXCAVATION	CU. YD.	825	—	825
FURNISHING CONCRETE PILES	LIN. FT.	2,543	—	2,543
DRIVING CONCRETE PILES	LIN. FT.	2,543	—	2,543
TEST PILE - CONCRETE	EACH	3	—	3
PREFORMED JOINT SEAL (2½")	LIN. FT.	—	129	129
PREFORMED JOINT SEAL (1¼")	LIN. FT.	—	98	98
NEOPRENE EXPANSION JOINT (4")	LIN. FT.	—	84	84
NEOPRENE EXPANSION JOINT (2½")	LIN. FT.	—	96	96
SLOPEWALL 4 INCH	SQ. YD.	950	—	950
SLOPEWALL REMOVAL	SQ. YD.	805	—	805
EXPANSION BOLTS ¾" ⌀	EACH	40	—	40
PROTECTIVE COAT **	SQ. YD.	—	6,420	6,420
REINFORCED NEOPRENE EXPANSION JOINT TREATMENT	LIN. FT.	—	43	43
SPECIAL DRAINAGE SCUPPERS (20" x 27")	EACH	—	35	35
⚠ DRAINAGE SYSTEM	LS	—	0.2	0.2
ALUMINUM PARAPET	LIN. FT.	—	502	502
CLEANING AND PAINTING STEEL BRIDGE	LS	—	0.2	0.2
NAME PLATES	EACH	1	—	1
EPOXY MORTAR REPAIR	CU. FT.	8	—	8
BRIDGE SEAT SEALER	LS	0.4	—	0.4
HANDRAIL REMOVAL	LIN. FT.	—	2,495	2,495
TEMPORARY SHEET PILING	SQ. FT.	1340	—	1340
DEWATERING	LS	1	—	1
REPAIR CONCRETE STRUCTURES	SQ. FT.	16	—	16

** PROTECTIVE COAT QUANTITY INCLUDES DECK SURFACE. SEE SPECIAL PROVISIONS FOR CURING AND TEXTURE. ⚠

⚠ STATION 65+00
REHABILITATED 198 BY
STATE OF ILLINOIS
FAP 799 SEC. IBR-I
F.A. PROJECT BHF-799(9)
LOADING HS20
STR. NO. 082-6003

NAME PLATE

SEE ILL. STD. 2113

NOTE: LOCATE NAME PLATE ON NORTH PARAPET AT ABUTMENT D.

DESIGNED	
CHECKED	
DRAWN	D. RIEHL
CHECKED	D.SCHREMP

DATE: OCT. 23, 1987 | LEVELS PLOTTED 56,63 | FILE: ... DETAIL77.DGN | REF: DETAIL77

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

GENERAL NOTES ⚠

CONSTRUCTION SPECIFICATIONS: THE 1983 EDITION OF THE STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION'S "STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION", ADDENDUMS AND THE SPECIAL PROVISIONS SHALL GOVERN.

ALL STRUCTURAL STEEL CONNECTIONS SHALL BE MADE WITH HIGH STRENGTH BOLTS EXCEPT AS NOTED.

HIGH STRENGTH BOLT CONNECTIONS SHALL CONFORM TO THE REQUIREMENTS OF THE LATEST ISSUE OF THE SPECIFICATIONS FOR STRUCTURAL JOINTS USING ASTM A325 (AASHTO M-164) BOLTS FOR SLIP-CRITICAL CONNECTION, EXCEPT TIGHTENING METHODS USING EITHER THE LOAD INDICATING WASHERS OR THE CALIBRATED WRENCH ARE NOT ALLOWED.

SIZE OF BOLTS ARE SHOWN ON PLANS. HOLES SHALL BE 1/16" LARGER THAN BOLT SIZE EXCEPT AS NOTED OTHERWISE. THE SYMBOL "✦" SHALL INDICATE EITHER SHOP OR FIELD CONNECTIONS.

ALL NEW STRUCTURAL STEEL SHALL BE AASHTO M-183, EXCEPT OTHERWISE NOTED.

⚠ CALCULATED WEIGHT OF STRUCTURAL STEEL=
797,700 LBS. - AASHTO M-183
60,900 LBS. - AASHTO M-223 (GRADE 50)

CALCULATED WEIGHT OF STRUCTURAL STEEL REPAIR=
29,300 LBS. - AASHTO M-183
5,200 LBS. - AASHTO M-223 (GRADE 50)

ESTIMATED WEIGHT OF STRUCTURAL STEEL REMOVAL=
240 TONS (SPANS 33 TO 44)

THE ROADWAY EXPANSION PLATES SHALL BE FLAME CUT AS PROVIDED IN ARTICLE 507.04 (I) OF THE STANDARD SPECIFICATIONS.

ALL NEW STRUCTURAL STEEL SHALL BE PAINTED WITH ZINC-SILICATE AND VINYL PAINT SYSTEM EXCEPT AS OTHERWISE NOTED.

⚠ *FOR PAINTING OF* EXISTING STRUCTURAL STEEL, *SEE SPECIAL PROVISIONS.*

FIELD WELDING TO EXISTING STEEL SHALL NOT BE PERMITTED EXCEPT AS APPROVED BY THE ENGINEER.

FIELD WELDING OF CONSTRUCTION ACCESSORIES TO NEW STEEL 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 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 MAIN LOAD CARRYING MEMBER COMPONENTS SUBJECT TO TENSILE STRESS SHALL CONFORM TO THE SUPPLEMENTAL REQUIREMENTS FOR NOTCH TOUGHNESS ZONE 2. THESE COMPONENTS ARE THE TENSION FLANGES, WEBS AND ALL SPLICE PLATE MATERIAL OF THE STEEL GIRDERS OR WIDE FLANGE STRINGERS.

REINFORCMENT BARS SHALL CONFORM TO THE REQUIREMENTS OF AASHTO M31, M-42 OR M53, GRADE 60. UNLESS OTHERWISE DETAILED, ALL HOOKS SHOWN ARE AASHTO STANDARD HOOKS. ALL REINFORCING STEEL SHALL BE DETAILED IN ACCORDANCE WITH THE STANDARD PRACTICE OF THE CRSI.

PLAN DIMENSIONS AND DETAILS RELATIVE TO EXISTING STRUCTURE HAVE BEEN TAKEN FROM EXISTING PLANS AND SURVEY DATA AND ARE SUBJECT TO NOMINAL CONSTRUCTION VARIATIONS. IT SHALL BE THE CONTRACTORS 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 WORK. HOWEVER, THE CONTRACTOR WILL BE PAID FOR THE QUANTITY ACTUALLY FURNISHED AT THE UNIT PRICE BID FOR THE WORK.

CONCRETE BEARING SEAT SURFACES SHALL BE CONSTRUCTED OR ADJUSTED TO THE DESIGNATED ELEVATIONS WITHIN A TOLERANCE OF 1/8". ADJUSTMENT SHALL BE MADE EITHER BY GRINDING THE SURFACE OR BY SHIMMING THE BEARING. TWO 1/8" ADJUSTMENT SHIMS, OF THE DIMENSIONS OF THE BOTTOM BEARING PLATE, SHALL BE PROVIDED FOR EACH BEARING IN ADDITION TO ALL OTHER PLATES OR SHIMS.

IF SECTION MONUMENTS AND/OR PERMANENT BENCHMARKS ARE ENCOUNTERED WITHIN THE PAVEMENT OR PARAPET AREAS BEING REHABILITATED, THE CONTRACTOR SHALL ADJUST SAME AS DIRECTED BY THE ENGINEER. PAYMENT TO BE MADE IN ACCORDANCE WITH ARTICLE 109.04 OF THE "STANDARD SPECIFICATIONS".

DIMENSIONS ARE MEASURED AT A TEMPERATURE OF 50°F.

ALL TRANSVERSE AND LONGITUDINAL DIMENSIONS ARE MEASURED HORIZONTALLY.

EXPANSION BOLTS SHALL CONSIST OF APPROVED EXPANSION ANCHORS, PROVIDING MINIMUM CERTIFIED PROOF LOAD = 4,080 LBS., AND ¾" DIA. x 12" HOOKED BOLTS.

ROADWAY EXPANSION GUARDS SHALL BE ASSEMBLED IN SHOP IN THE PROPER POSITION WITH ENDS IN PLACE AND SHALL BE LEFT ASSEMBLED FOR SHOP INSPECTION.

AFTER STEEL HAS BEEN CLEANED, UNSUITABLE RIVETS SHALL BE REMOVED AND REPLACED WITH H.S. BOLTS AS DIRECTED BY THE ENGINEER, AND SHALL BE PAID FOR AS "REPLACE RIVETS WITH H.S. BOLTS."

ALL EXISTING TOP SURFACES AND RECONCRETED TOP SURFACES OF EXISTING PIERS AND ABUTMENT SEATS SHALL RECIEVE BRIDGE SEAT SEALER TREATMENT (ESTIMATED QUANTITY = 1320 SQ. FT.)

BURNING OF EXISTING RIVET HEADS TO REMOVE RIVETS IS NOT PERMITTED, EXCEPT AS SPECIFIED IN SPECIAL PROVISIONS.

WELDED STUD CONNECTORS SHALL CONFORM TO THE REQUIREMENTS OF STANDARD SPECIFICATIONS ARTICLE 710.38.

FOR THE "CLEANING AND PAINTING STEEL BRIDGE" ITEM THE ESTIMATED QUANTITY OF REMAINING STEEL = 800 TONS.

ALL STRUCTURAL STEEL FABRICATORS PERFORMING WORK ON THE MAIN LOAD CARRYING COMPONENTS OF STEEL STRUCTURES SHALL BE CERTIFIED UNDER THE APPROPRIATE CATEGORY OF THE AMERICAN INSTITUTE OF STEEL CONSTRUCTION (AISC) QUALITY CERTIFICATION PROGRAM AS FOLLOWS:

(A) FABRICATORS OF WELDED PLATE GIRDERS, BOX GIRDERS, TRUSSES AND ARCHES SHALL BE CERTIFIED UNDER CATEGORY III (AISC).

(B) FABRICATORS OF ROLLED BEAM STRUCTURES, EITHER SIMPLE SPAN OR CONTINUOUS, AND OVERHEAD SIGN STRUCTURES SHALL BE CERTIFIED UNDER CATEGORY I (AISC).

THE INFORMATION SHOWN FOR TEMPORARY SHEET PILING IS ESTIMATED. IT IS THE CONTRACTOR'S RESPONSIBILITY TO PROVIDE A DESIGN OF TEMPORARY SHEET PILING AND ASSOCIATED MEMBERS, IF REQUIRED, SUBJECT TO APPROVAL OF THE ENGINEER.

⚠ FOR BORING DATA, SEE *PROPOSAL*.

SCOPE OF WORK

1. REMOVE AND RECONSTRUCT EXISTING SUPERSTRUCTURE AND SUBSTRUCTURE SPANS 46 THRU 50 TO PROVIDE FOR PROPOSED FUTURE WIDENING OF WESTBOUND I-55/70. CONSTRUCT NEW PIERS 43A, 44A AND 45A.
2. REMOVE EXISTING DECK, EXPANSION DEVICES, CURBS AND RAILING IN ALL SPANS. REPLACE DECK USING 7½" CONCRETE SLAB.
3. REMOVE AND REPLACE ENTIRE DRAINAGE SYSTEM.
4. PROVIDE NEW ROADWAY LIGHTING.
5. REPLACE ALL EXTERIOR STRINGERS AND THEIR BEARINGS.
6. REPLACE AND MODIFY FLOORBEAMS AND LOWER LATERAL GUSSET PLATES IN SPAN 38 AS INDICATED.
7. REMOVE AND REPLACE DIAPHRAGMS AS INDICATED.
8. REPAIR TRUSS MEMBERS AS INDICATED.
9. MODIFY TRUSS PORTALS AND SWAY FRAMES TO PROVIDE 17.0 FT. VERTICAL CLEARANCE.
10. REMOVE AND REPLACE ENTIRE BENT 40. REPLACE AND MODIFY STEEL BENT CAP BEAMS, COLUMNS AND BRACING AS INDICATED.
11. CLEAN, ADJUST AND REPLACE EXISTING ROLLER BEARINGS AT ABUTMENT C.
12. CLEAN AND PAINT ALL STRUCTURAL STEEL.
13. BRIDGE WILL BE CLOSED TO TRAFFIC DURING BRIDGE REHABILITATION.
14. THE CONTRACTOR'S METHOD AND SEQUENCE OF DECK REMOVAL AND REPLACEMENT, AND OTHER STRUCTURE REPLACEMENTS AND REPAIRS SHALL MAINTAIN STABILITY AND SAFETY OF THE STRUCTURE.

DESIGN STRESSES - EXISTING STRUCTURE

DESIGN TRAFFIC LANES: FOUR - 10' LANES, NO SHOULDERS
18'± VERTICAL CLEARANCE (CENTER LANES)
14' MINIMUM VERTICAL CLEARANCE (CURB LANES) AASHO 1944

DESIGN SPECIFICATIONS: AASHO 1944

LOADING: H20-44
NO FUTURE WEARING SURFACE

REINFORCED CONCRETE:
DECK SLAB f_c = 1,000 PSI, N=10
SUBSTRUCTURE f_c = 1,000 PSI, N=10
v_c = 60 PSI - FOOTINGS

STRUCTURAL STEEL:
CARBON (A7) f_s = 18,000 PSI

DESIGN STRESSES - REHABILITATION

DESIGN TRAFFIC LANES: FOUR - 10' LANES, NO SHOULDERS
17' MINIMUM VERTICAL CLEARANCE

DESIGN SPECIFICATIONS: AASHTO - 1983 AND MANUAL FOR MAINTENANCE INSPECTION FOR BRIDGES - 1983, BOTH WITH 1984, 1985 AND 1986 INTERIMS

LOADING: HS20-44
25 PSF FUTURE WEARING SURFACE-
SPANS 45A, 46A AND 47A ONLY.

REINFORCED CONCRETE:
DECK SLAB f'_c = 3,500 PSI, N=9
SUBSTRUCTURE f_c = 1,400 PSI, N=9
REINFORCING STEEL f_y = 60,000 PSI
f_s = 24,000 PSI

STRUCTURAL STEEL:
f_s = 20,000 PSI, f_y = 36,000 PSI } AASHTO M-183
f_s = 27,000 PSI, f_y = 50,000 PSI } AASHTO M-223, GRADE 50

REHABILITATION FOR

APPROACH BRIDGE OVER I-55/70 W.B., MISSOURI AVE. AND TRRA

GENERAL NOTES AND
ESTIMATED QUANTITIES

STRUCTURE NO. 082-6003
STA. 65+00 (FAP 799) ST. CLAIR CO.

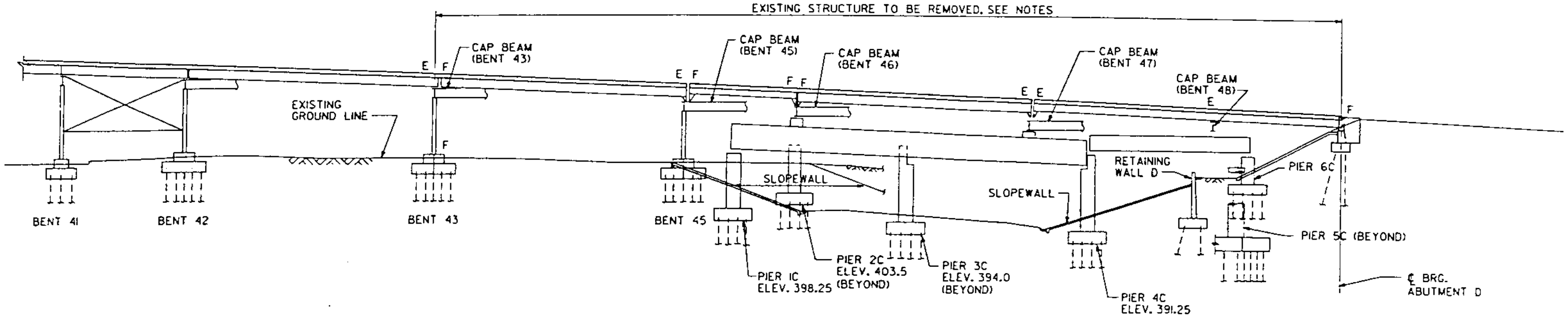
PREPARED BY:
SVERDRUP CORPORATION
ST. LOUIS, MISSOURI

⚠2 12-18-87 ⚠ REV. 12-4-87 SECTION IBR-I

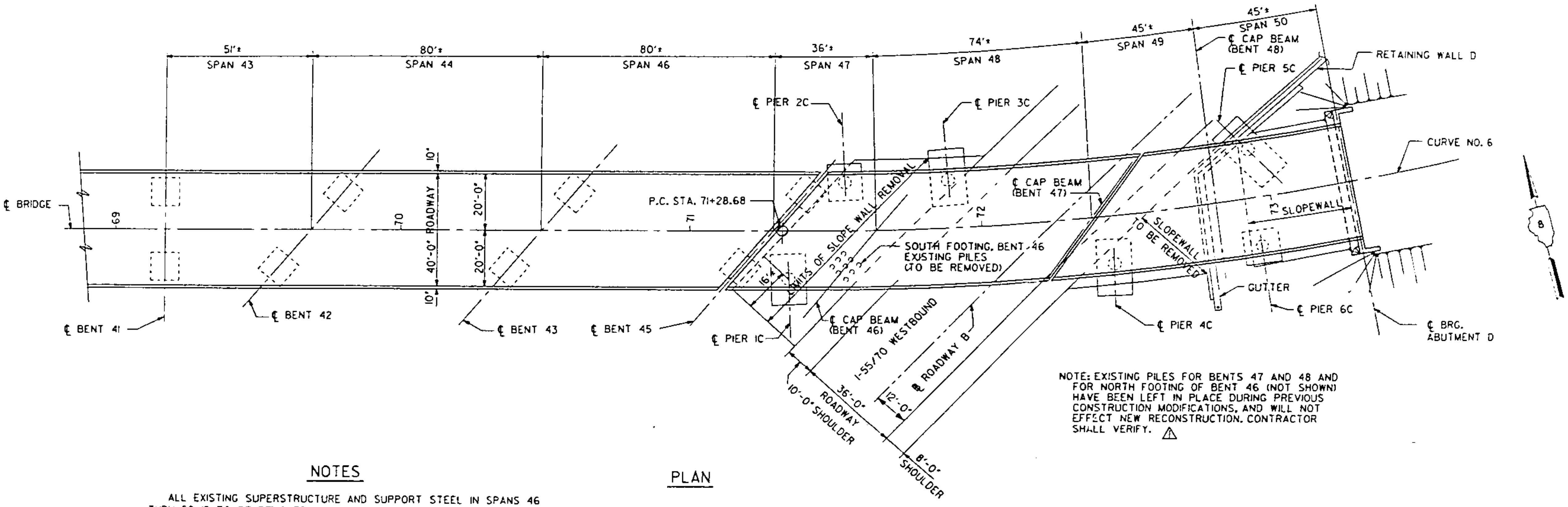
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS
FAP 799	*	ST. CLAIR	252

*IBR-I APPROACH BRIDGE



ELEVATION



NOTE: EXISTING PILES FOR BENTS 47 AND 48 AND FOR NORTH FOOTING OF BENT 46 (NOT SHOWN) HAVE BEEN LEFT IN PLACE DURING PREVIOUS CONSTRUCTION MODIFICATIONS, AND WILL NOT EFFECT NEW RECONSTRUCTION. CONTRACTOR SHALL VERIFY. △

PLAN

NOTES

ALL EXISTING SUPERSTRUCTURE AND SUPPORT STEEL IN SPANS 46 THRU 50 IS TO BE REMOVED.
BENT 43 IS TO BE REMOVED TO TOP OF FOOTINGS.
BENT 45, PIERS 1C AND 2C ARE TO BE REMOVED INCLUDING PILES.
EXISTING PILES ADJACENT TO PIER 1C SHALL BE REMOVED. (SOUTH FOOTING, BENT 46).
COLUMNS OF PIERS 3C AND 4C ARE TO BE REMOVED TO TOP OF FOOTING.
SLOPEWALL IN FRONT OF RETAINING WALL AND AS NOTED ADJACENT TO PIER 1C SHALL BE REMOVED.
PORTIONS OF RETAINING WALL FOOTING SHALL BE REMOVED. SEE DETAILS.

DESIGNED
CHECKED D. GRIFFIN
DRAWN R.F. BECK
CHECKED

10358 875875 FILE: 2F3:[151,13]DETAIL42.DGN PRF: DETAIL42 LEVELS PLOTTED 2 24 26 27 28 35 39 56 63 DATE: OCT. 23, 1987

4-DEC-1987 10:41

PREPARED BY:
SVERDRUP CORPORATION
ST. LOUIS, MISSOURI

△ REV. 12-4-87

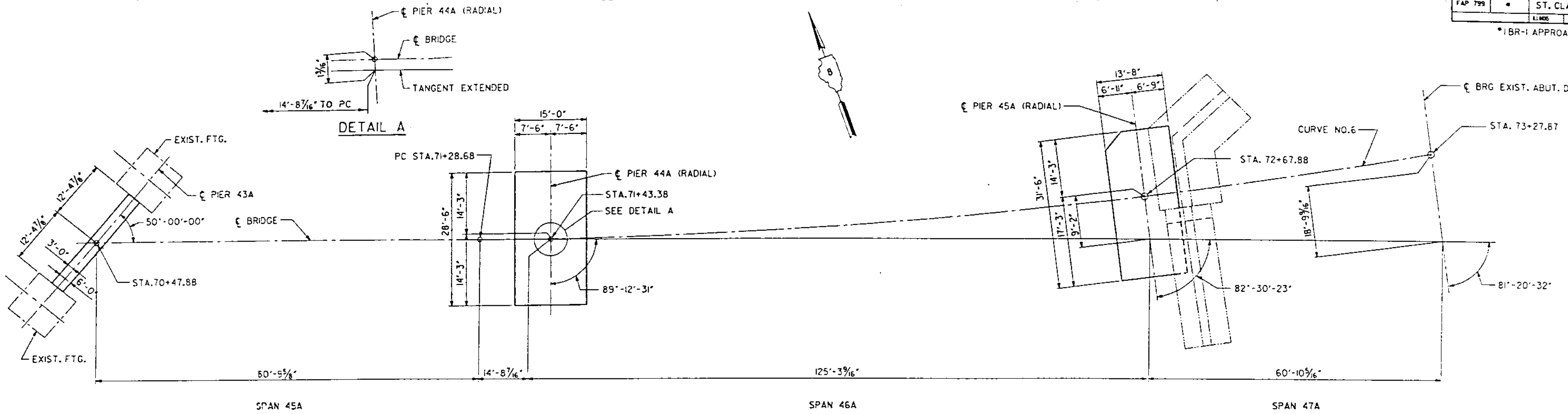
REHABILITATION FOR
APPROACH BRIDGE OVER
I-55/70 W.B., MISSOURI AVE. AND TRF
DEMOLITION
EXISTING SPANS 46 THRU 50
STRUCTURE NO. 082-6003
STA. 65+00 (FAP 799) ST. CLAIR CO.

SECTION IBR-1

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAP 799	*	ST. CLAIR	252	154

*IBR-I APPROACH BRIDGE



PLAN

LEVELS PLOTTED 35 56 63 | DATE: OCT. 23, 1987

ZF3(15)(1)DETAIL93.DGN DETAIL93

D.J.SCHREMP	DESIGNED
R.D.NIEMIETZ	CHECKED
M.J.JALINSKY	DRAWN
R.F.BECK	CHECKED

PREPARED BY:
SVERDRUP CORPORATION
ST. LOUIS, MISSOURI

REHABILITATION FOR
APPROACH BRIDGE OVER
I-55/70 W.B., MISSOURI AVE. AND TRRA

SUBSTRUCTURE LAYOUT
SPANS 45A THRU 47A

STRUCTURE NO. 082-6003
STA. 65+00 (FAP 799) ST. CLAIR CO.

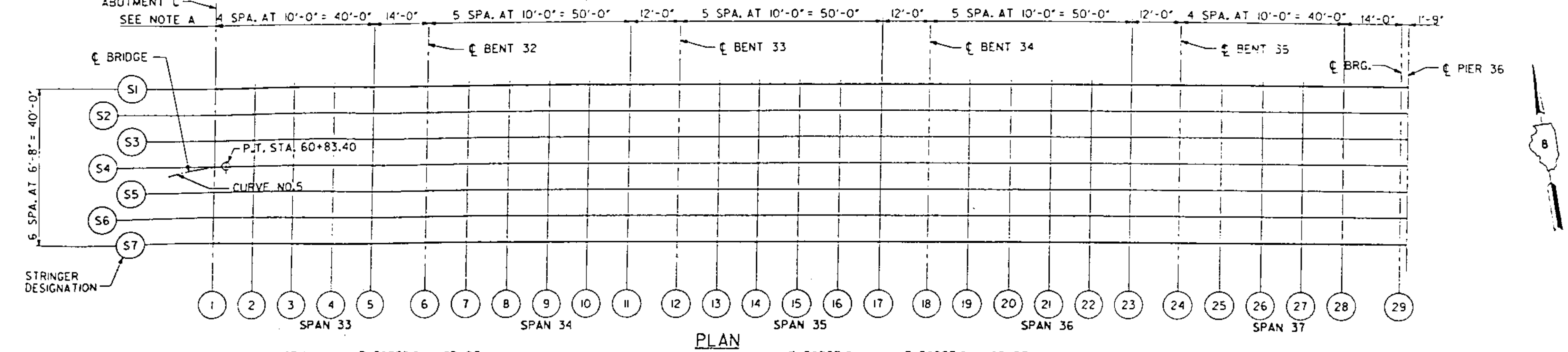
SECTION IBR-I

SHEET NO. 6 OF 75

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAP 799	*	ST. CLAIR	252	155

*IBR-I APPROACH BRIDGE



PLAN

NOTE A: POINTS FOR ELEVATIONS AT 10' INTERVALS AND AS NOTED ARE ALONG EACH INDIVIDUAL STRINGER. STATIONS AND OFFSETS OF THESE POINTS ARE RADIAL TO ℄ BRIDGE.

LINE	LOCATION	STATION	OFFSET	THEORETICAL GRADE ELEVATION	THEORETICAL GRADE ELEVATION ADJUSTED FOR DEAD LOAD DEFLECTION
1	S1	60+81.941	-20.001	448.977	448.977
1	S2	60+81.931	-13.334	448.807	448.807
1	S3	60+81.921	-6.668	448.638	448.638
1	S4	60+81.910	-0.001	448.468	448.468
1	S5	60+81.899	6.665	448.298	448.298
1	S6	60+81.888	13.332	448.129	448.129
1	S7	60+81.877	19.999	447.959	447.959
2	S1	60+91.910	-20.000	449.264	449.278
2	S2	60+91.910	-13.333	449.114	449.130
2	S3	60+91.910	-6.667	448.963	448.979
2	S4	60+91.910	0.000	448.813	448.829
2	S5	60+91.910	6.667	448.663	448.679
2	S6	60+91.910	13.333	448.513	448.529
2	S7	60+91.910	20.000	448.360	448.374
3	S1	61+01.910	-20.000	449.550	449.572
3	S2	61+01.910	-13.333	449.420	449.445
3	S3	61+01.910	-6.667	449.291	449.316
3	S4	61+01.910	0.000	449.161	449.186
3	S5	61+01.910	6.667	449.031	449.056
3	S6	61+01.910	13.333	448.902	448.927
3	S7	61+01.910	20.000	448.760	448.782
4	S1	61+11.910	-20.000	449.835	449.855
4	S2	61+11.910	-13.333	449.728	449.751
4	S3	61+11.910	-6.667	449.621	449.644
4	S4	61+11.910	0.000	449.514	449.537
4	S5	61+11.910	6.667	449.406	449.429
4	S6	61+11.910	13.333	449.299	449.322
4	S7	61+11.910	20.000	449.160	449.180
5	S1	61+21.910	-20.000	450.121	450.132
5	S2	61+21.910	-13.333	450.038	450.051
5	S3	61+21.910	-6.667	449.955	449.968
5	S4	61+21.910	0.000	449.872	449.885
5	S5	61+21.910	6.667	449.789	449.802
5	S6	61+21.910	13.333	449.699	449.712
5	S7	61+21.910	20.000	449.560	449.571
6	S1	61+35.910	-20.000	450.521	450.521
6	S2	61+35.910	-13.333	450.477	450.477
6	S3	61+35.910	-6.667	450.432	450.432
6	S4	61+35.910	0.000	450.388	450.388
6	S5	61+35.910	6.667	450.342	450.342
6	S6	61+35.910	13.333	450.259	450.259
6	S7	61+35.910	20.000	450.120	450.120
7	S1	61+45.910	-20.000	450.807	450.811
7	S2	61+45.910	-13.333	450.795	450.800
7	S3	61+45.910	-6.667	450.783	450.788
7	S4	61+45.910	0.000	450.771	450.776
7	S5	61+45.910	6.667	450.742	450.747
7	S6	61+45.910	13.333	450.659	450.664
7	S7	61+45.910	20.000	450.520	450.524
8	S1	61+55.910	-20.000	451.092	451.103
8	S2	61+55.910	-13.333	451.121	451.134
8	S3	61+55.910	-6.667	451.149	451.162
8	S4	61+55.910	0.000	451.170	451.183
8	S5	61+55.910	6.667	451.142	451.155
8	S6	61+55.910	13.333	451.059	451.072
8	S7	61+55.910	20.000	450.920	450.931
9	S1	61+65.910	-20.000	451.378	451.393
9	S2	61+65.910	-13.333	451.464	451.481
9	S3	61+65.910	-6.667	451.542	451.559
9	S4	61+65.910	0.000	451.570	451.587
9	S5	61+65.910	6.667	451.542	451.559
9	S6	61+65.910	13.333	451.459	451.476
9	S7	61+65.910	20.000	451.320	451.335
10	S1	61+75.910	-20.000	451.720	451.733
10	S2	61+75.910	-13.333	451.859	451.874
10	S3	61+75.910	-6.667	451.942	451.957
10	S4	61+75.910	0.000	451.970	451.985
10	S5	61+75.910	6.667	451.942	451.957
10	S6	61+75.910	13.333	451.859	451.874
10	S7	61+75.910	20.000	451.720	451.733
11	S1	61+85.910	-20.000	452.120	452.125
11	S2	61+85.910	-13.333	452.259	452.265
11	S3	61+85.910	-6.667	452.342	452.348
11	S4	61+85.910	0.000	452.370	452.376
11	S5	61+85.910	6.667	452.342	452.348
11	S6	61+85.910	13.333	452.259	452.265
11	S7	61+85.910	20.000	452.120	452.125
12	S1	61+97.910	-20.000	452.600	452.600
12	S2	61+97.910	-13.333	452.739	452.739
12	S3	61+97.910	-6.667	452.822	452.822
12	S4	61+97.910	0.000	452.850	452.850
12	S5	61+97.910	6.667	452.822	452.822
12	S6	61+97.910	13.333	452.739	452.739
12	S7	61+97.910	20.000	452.600	452.600
13	S1	62+07.910	-20.000	453.000	453.006
13	S2	62+07.910	-13.333	453.139	453.146
13	S3	62+07.910	-6.667	453.222	453.229
13	S4	62+07.910	0.000	453.250	453.257
13	S5	62+07.910	6.667	453.222	453.229
13	S6	62+07.910	13.333	453.139	453.146
13	S7	62+07.910	20.000	453.000	453.006
14	S1	62+17.910	-20.000	453.400	453.414
14	S2	62+17.910	-13.333	453.539	453.555
14	S3	62+17.910	-6.667	453.622	453.638
14	S4	62+17.910	0.000	453.650	453.666
14	S5	62+17.910	6.667	453.622	453.638
14	S6	62+17.910	13.333	453.539	453.555
14	S7	62+17.910	20.000	453.400	453.414
15	S1	62+27.910	-20.000	453.800	453.818
15	S2	62+27.910	-13.333	453.939	453.960
15	S3	62+27.910	-6.667	454.022	454.043
15	S4	62+27.910	0.000	454.050	454.071
15	S5	62+27.910	6.667	454.022	454.043
15	S6	62+27.910	13.333	453.939	453.960
15	S7	62+27.910	20.000	453.800	453.518
16	S1	62+37.910	-20.000	454.200	454.215
16	S2	62+37.910	-13.333	454.339	454.356
16	S3	62+37.910	-6.667	454.422	454.439
16	S4	62+37.910	0.000	454.450	454.467
16	S5	62+37.910	6.667	454.422	454.439
16	S6	62+37.910	13.333	454.339	454.356
16	S7	62+37.910	20.000	454.200	454.215
17	S1	62+47.910	-20.000	454.600	454.607
17	S2	62+47.910	-13.333	454.739	454.747
17	S3	62+47.910	-6.667	454.822	454.830
17	S4	62+47.910	0.000	454.850	454.858
17	S5	62+47.910	6.667	454.322	454.830
17	S6	62+47.910	13.333	454.739	454.747
17	S7	62+47.910	20.000	454.600	454.607
18	S1	62+59.910	-20.000	455.080	455.080
18	S2	62+59.910	-13.333	455.219	455.219
18	S3	62+59.910	-6.667	455.302	455.302
18	S4	62+59.910	0.000	455.330	455.330
18	S5	62+59.910	6.667	455.302	455.302
18	S6	62+59.910	13.333	455.219	455.219
18	S7	62+59.910	20.000	455.080	455.080
19	S1	62+69.910	-20.000	455.480	455.484
19	S2	62+69.910	-13.333	455.619	455.624
19	S3	62+69.910	-6.667	455.702	455.707
19	S4	62+69.910	0.000	455.730	455.735
19	S5	62+69.910	6.667	455.702	455.707
19	S6	62+69.910	13.333	455.619	455.624
19	S7	62+69.910	20.000	455.480	455.484
20	S1	62+79.910	-20.000	455.880	455.892
20	S2	62+79.910	-13.333	456.019	456.033
20	S3	62+79.910	-6.667	456.102	456.116
20	S4	62+79.910	0.000	456.130	456.144
20	S5	62+79.910	6.667	456.102	456.116
20	S6	62+79.910	13.333	456.019	456.033
20	S7	62+79.910	20.000	455.880	455.892
21	S1	62+89.910	-20.000	456.280	456.295
21	S2	62+89.910	-13.333	456.419	456.436
21	S3	62+89.910	-6.667	456.502	456.519
21	S4	62+89.910	0.000	456.530	456.547
21	S5	62+89.910	6.667	456.502	456.519
21	S6	62+89.910	13.333	456.419	456.436
21	S7	62+89.910	20.000	456.280	456.295
22	S1	62+99.910	-20.000	456.680	456.692
22	S2	62+99.910	-13.333	456.819	456.833
22	S3	62+99.910	-6.667	456.902	[illegible]
22	S4	62+99.910	0.000	456.930	456.944
22	S5	62+99.910	6.667	456.902	[illegible]
22	S6	62+99.910	13.333	456.819	456.833
22	S7	62+99.910	20.000	456.680	456.692
23	S1	63+09.910	-20.000	457.080	457.085
23	S2	63+09.910	-13.333	457.219	457.225
23	S3	63+09.910	-6.667	457.302	457.308
23	S4	63+09.910	0.000	457.330	457.336
23	S5	63+09.910	6.667	457.302	457.308
23	S6	63+09.910	13.333	457.219	457.225
23	S7	63+09.910	20.000	457.080	457.085

NOTE

FOR DEAD LOAD DEFLECTION DIAGRAM, FILLET HEIGHTS DETAIL AND LINES 24 THRU 29 DATA, SEE SHEET 8.

D.SCHREMP	DESIGNED
M. SCHURK	CHECKED
J.G. CORLEY	DRAWN
M. SCHURK	CHECKED

PREPARED BY:
SVERDRUP CORPORATION
ST. LOUIS, MISSOURI

REHABILITATION FOR
APPROACH BRIDGE OVER
I-55/70 W.B., MISSOURI AVE. AND TRRA

TOP OF SLAB ELEVATIONS
SPANS 33 THRU 37

STRUCTURE NO. 082-6003
STA. 65+00 (FAP 799) ST. CLAIR CO.

SECTION IBR-I

LEVELS PLOTTED 35 56 63 DATE: OCT. 23, 1987

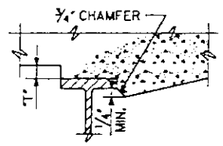
0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SH
FAP 799	•	ST. CLAIR	252	15
		ILLINOIS	PROJECT	

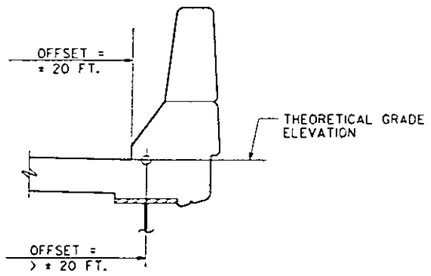
*IBR-I APPROACH BRIDGE

LINE	LOCATION	STATION	OFFSET	THEORETICAL GRADE ELEVATION	THEORETICAL GRADE ELEVATION ADJUSTED FOR DEAD LOAD DEFLECTION
24	S1	63+21.910	-20.000	457.560	457.560
24	S2	63+21.910	-13.333	457.699	457.699
24	S3	63+21.910	-6.667	457.782	457.782
24	S4	63+21.910	0.000	457.810	457.810
24	S5	63+21.910	6.667	457.782	457.782
24	S6	63+21.910	13.333	457.699	457.699
24	S7	63+21.910	20.000	457.560	457.560
25	S1	63+31.910	-20.000	457.960	457.967
25	S2	63+31.910	-13.333	458.099	458.107
25	S3	63+31.910	-6.667	458.182	458.190
25	S4	63+31.910	0.000	458.210	458.218
25	S5	63+31.910	6.667	458.182	458.190
25	S6	63+31.910	13.333	458.099	458.107
25	S7	63+31.910	20.000	457.960	457.967
26	S1	63+41.910	-20.000	458.360	458.377
26	S2	63+41.910	-13.333	458.499	458.519
26	S3	63+41.910	-6.667	458.582	458.602
26	S4	63+41.910	0.000	458.610	458.630
26	S5	63+41.910	6.667	458.582	458.602
26	S6	63+41.910	13.333	458.499	458.519
26	S7	63+41.910	20.000	458.360	458.377
27	S1	63+51.910	-20.000	458.760	458.782
27	S2	63+51.910	-13.333	458.899	458.925
27	S3	63+51.910	-6.667	458.982	459.008
27	S4	63+51.910	0.000	459.010	459.036
27	S5	63+51.910	6.667	458.982	459.008
27	S6	63+51.910	13.333	458.899	458.925
27	S7	63+51.910	20.000	458.760	458.782
28	S1	63+61.910	-20.000	459.149	459.167
28	S2	63+61.910	-13.333	459.288	459.309
28	S3	63+61.910	-6.667	459.371	459.392
28	S4	63+61.910	0.000	459.399	459.420
28	S5	63+61.910	6.667	459.371	459.392
28	S6	63+61.910	13.333	459.288	459.309
28	S7	63+61.910	20.000	459.149	459.167
29	S1	63+75.910	-20.000	459.648	459.648
29	S2	63+75.910	-13.333	459.787	459.787
29	S3	63+75.910	-6.667	459.870	459.870
29	S4	63+75.910	0.000	459.898	459.898
29	S5	63+75.910	6.667	459.870	459.870
29	S6	63+75.910	13.333	459.787	459.787
29	S7	63+75.910	20.000	459.648	459.648

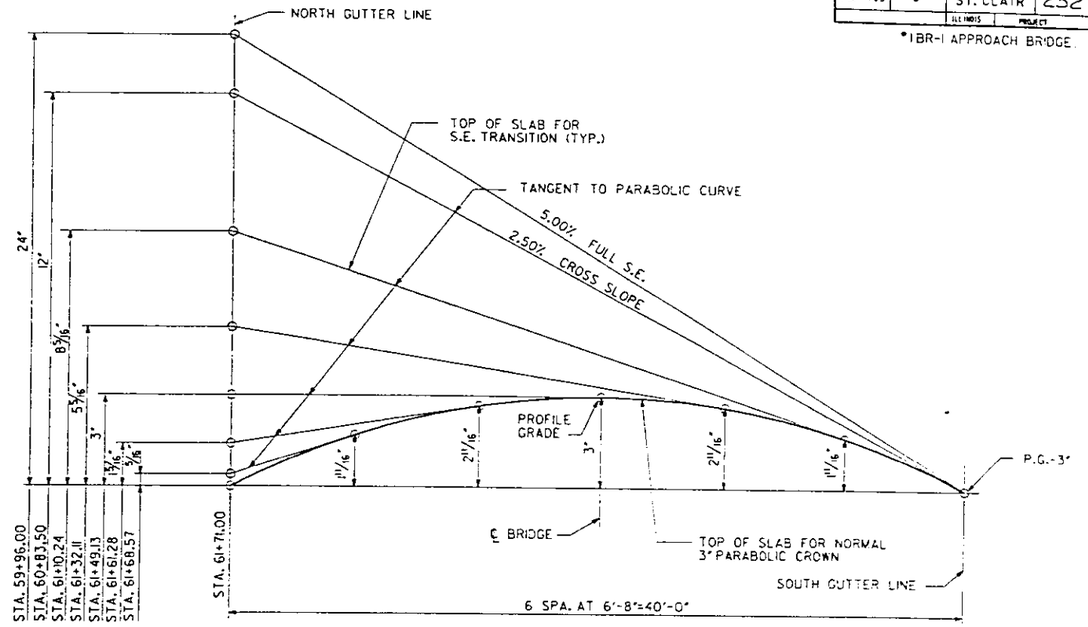


FILLET HEIGHTS

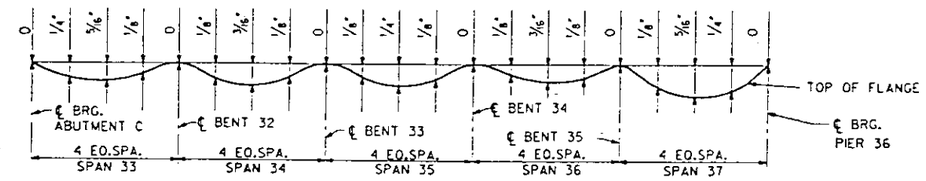
TO DETERMINE "T" AFTER ALL STRUCTURAL STEEL HAS BEEN ERECTED, ELEVATIONS OF THE TOP FLANGES OF THE STRINGERS SHALL BE TAKEN AT INTERVALS SHOWN ON THE PLAN. THESE ELEVATIONS SUBTRACTED FROM THE "THEORETICAL GRADE ELEVATION ADJUSTED FOR THE DEAD LOAD DEFLECTION" MINUS SLAB THICKNESS, EQUALS THE FILLET HEIGHTS "T" ABOVE TOP FLANGES OF STRINGERS.



THEORETICAL GRADE ELEVATIONS FOR OFFSETS GREATER THAN ± 20 FT.



SUPERELEVATION TRANSITION CURVE NO. 5



DEAD LOAD DEFLECTION DIAGRAM

(INCLUDES WEIGHT OF CONCRETE ONLY)

NOTE: THE ABOVE DEFLECTIONS ARE NOT TO BE USED IN THE FIELD IF THE ENGINEER IS WORKING FROM THE "THEORETICAL GRADE ELEVATION ADJUSTED FOR DEAD LOAD DEFLECTION".

D. SCHREMP	DESIGNED
M. SCHURK	CHECKED
J.G.CORLEY	DRAWN
M. SCHURK	CHECKED

PREPARED BY:
SVERDRUP CORPORATION
ST. LOUIS, MISSOURI

REHABILITATION FOR
APPROACH BRIDGE OVER
I-55/70 W.B., MISSOURI AVE. AND TRR.

TOP OF SLAB ELEVATIONS
SPANS 33 THRU 37

STRUCTURE NO. 082-6003
STA. 65+00 (FAP 799) ST. CLAIR CO.

SECTION IBR-I

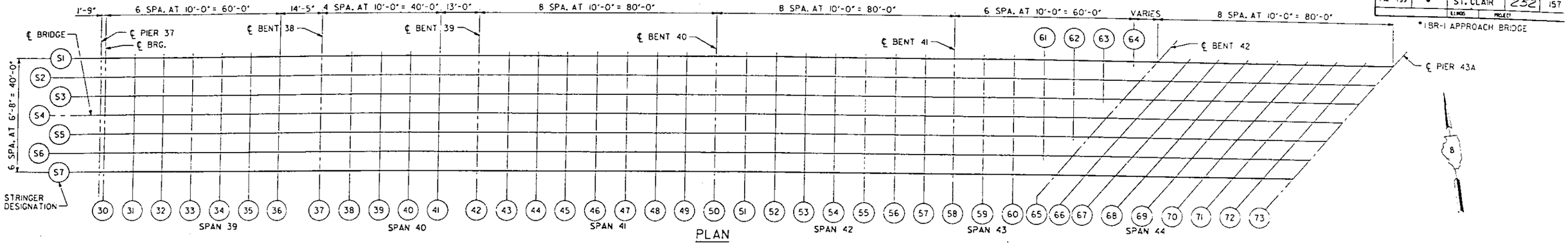
SHEET NO. 8 OF 75

FILE: ZF3:[51,137SEMLK12A.DGN
PRF: TSEMLK12A
LEVELS PLOTTED 35 56 58 & 63
DATE: OCT. 23, 1987
10:87

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOT. SHEETS	SHEET NO.
FAP 799	*	ST. CLAIR	252	157
		ILLINOIS	PROJECT	

*ISR-I APPROACH BRIDGE



PLAN

LINE	LOCATION	STATION	OFFSET	THEORETICAL GRADE ELEVATION	THEORETICAL GRADE ELEVATION ADJUSTED FOR DEAD LOAD DEFLECTION
30	S1	66+29.410	-20.000	459.648	459.648
30	S2	66+29.410	-13.333	459.787	459.787
30	S3	66+29.410	-6.667	459.870	459.870
30	S4	66+29.410	0.000	459.898	459.898
30	S5	66+29.410	6.667	459.870	459.870
30	S6	66+29.410	13.333	459.787	459.787
30	S7	66+29.410	20.000	459.648	459.648
31	S1	66+39.410	-20.000	459.297	459.323
31	S2	66+39.410	-13.333	459.436	459.467
31	S3	66+39.410	-6.667	459.519	459.550
31	S4	66+39.410	0.000	459.547	459.578
31	S5	66+39.410	6.667	459.519	459.550
31	S6	66+39.410	13.333	459.436	459.467
31	S7	66+39.410	20.000	459.297	459.323
32	S1	66+49.410	-20.000	458.919	458.964
32	S2	66+49.410	-13.333	459.058	459.114
32	S3	66+49.410	-6.667	459.141	459.197
32	S4	66+49.410	0.000	459.169	459.225
32	S5	66+49.410	6.667	459.141	459.197
32	S6	66+49.410	13.333	459.058	459.114
32	S7	66+49.410	20.000	458.919	458.964
33	S1	66+59.410	-20.000	458.520	458.575
33	S2	66+59.410	-13.333	458.659	458.726
33	S3	66+59.410	-6.667	458.742	458.809
33	S4	66+59.410	0.000	458.770	458.837
33	S5	66+59.410	6.667	458.742	458.809
33	S6	66+59.410	13.333	458.659	458.726
33	S7	66+59.410	20.000	458.520	458.575
34	S1	66+69.410	-20.000	458.120	458.172
34	S2	66+69.410	-13.333	458.259	458.323
34	S3	66+69.410	-6.667	458.342	458.406
34	S4	66+69.410	0.000	458.370	458.434
34	S5	66+69.410	6.667	458.342	458.406
34	S6	66+69.410	13.333	458.259	458.323
34	S7	66+69.410	20.000	458.120	458.172
35	S1	66+79.410	-20.000	457.720	457.760
35	S2	66+79.410	-13.333	457.859	457.909
35	S3	66+79.410	-6.667	457.942	457.992
35	S4	66+79.410	0.000	457.970	458.020
35	S5	66+79.410	6.667	457.942	457.992
35	S6	66+79.410	13.333	457.859	457.909
35	S7	66+79.410	20.000	457.720	457.760

LINE	LOCATION	STATION	OFFSET	THEORETICAL GRADE ELEVATION	THEORETICAL GRADE ELEVATION ADJUSTED FOR DEAD LOAD DEFLECTION
36	S1	66+89.410	-20.000	457.320	457.343
36	S2	66+89.410	-13.333	457.459	457.487
36	S3	66+89.410	-6.667	457.542	457.570
36	S4	66+89.410	0.000	457.570	457.598
36	S5	66+89.410	6.667	457.542	457.570
36	S6	66+89.410	13.333	457.459	457.487
36	S7	66+89.410	20.000	457.320	457.343
37	S1	67+03.827	-20.000	456.743	456.743
37	S2	67+03.827	-13.333	456.882	456.882
37	S3	67+03.827	-6.667	456.965	456.965
37	S4	67+03.827	0.000	456.993	456.993
37	S5	67+03.827	6.667	456.965	456.965
37	S6	67+03.827	13.333	456.882	456.882
37	S7	67+03.827	20.000	456.743	456.743
38	S1	67+13.827	-20.000	456.343	456.340
38	S2	67+13.827	-13.333	456.482	456.478
38	S3	67+13.827	-6.667	456.565	456.561
38	S4	67+13.827	0.000	456.593	456.589
38	S5	67+13.827	6.667	456.565	456.561
38	S6	67+13.827	13.333	456.482	456.478
38	S7	67+13.827	20.000	456.343	456.340
39	S1	67+23.827	-20.000	455.943	455.943
39	S2	67+23.827	-13.333	456.082	456.082
39	S3	67+23.827	-6.667	456.165	456.165
39	S4	67+23.827	0.000	456.193	456.193
39	S5	67+23.827	6.667	456.165	456.165
39	S6	67+23.827	13.333	456.082	456.082
39	S7	67+23.827	20.000	455.943	455.943
40	S1	67+33.827	-20.000	455.543	455.546
40	S2	67+33.827	-13.333	455.682	455.686
40	S3	67+33.827	-6.667	455.765	455.769
40	S4	67+33.827	0.000	455.793	455.797
40	S5	67+33.827	6.667	455.765	455.769
40	S6	67+33.827	13.333	455.682	455.686
40	S7	67+33.827	20.000	455.543	455.546
41	S1	67+43.827	-20.000	455.143	455.146
41	S2	67+43.827	-13.333	455.282	455.286
41	S3	67+43.827	-6.667	455.365	455.369
41	S4	67+43.827	0.000	455.393	455.397
41	S5	67+43.827	6.667	455.365	455.369
41	S6	67+43.827	13.333	455.282	455.286
41	S7	67+43.827	20.000	455.143	455.146

LINE	LOCATION	STATION	OFFSET	THEORETICAL GRADE ELEVATION	THEORETICAL GRADE ELEVATION ADJUSTED FOR DEAD LOAD DEFLECTION
42	S1	67+56.827	-20.000	454.623	454.623
42	S2	67+56.827	-13.333	454.762	454.762
42	S3	67+56.827	-6.667	454.845	454.845
42	S4	67+56.827	0.000	454.873	454.873
42	S5	67+56.827	6.667	454.845	454.945
42	S6	67+56.827	13.333	454.762	454.762
42	S7	67+56.827	20.000	454.623	454.623
43	S1	67+66.827	-20.000	454.223	454.253
43	S2	67+66.827	-13.333	454.362	454.401
43	S3	67+66.827	-6.667	454.445	454.484
43	S4	67+66.827	0.000	454.473	454.512
43	S5	67+66.827	6.667	454.445	454.484
43	S6	67+66.827	13.333	454.362	454.401
43	S7	67+66.827	20.000	454.223	454.253
44	S1	67+76.827	-20.000	453.823	453.879
44	S2	67+76.827	-13.333	453.962	454.034
44	S3	67+76.827	-6.667	454.045	454.117
44	S4	67+76.827	0.000	454.073	454.145
44	S5	67+76.827	6.667	454.045	454.117
44	S6	67+76.827	13.333	453.962	454.034
44	S7	67+76.827	20.000	453.823	453.879
45	S1	67+86.827	-20.000	453.423	453.495
45	S2	67+86.827	-13.333	453.562	453.656
45	S3	67+86.827	-6.667	453.645	453.739
45	S4	67+86.827	0.000	453.673	453.767
45	S5	67+86.827	6.667	453.645	453.739
45	S6	67+86.827	13.333	453.562	453.656
45	S7	67+86.827	20.000	453.423	453.495
46	S1	67+96.827	-20.000	453.023	453.101
46	S2	67+96.827	-13.333	453.162	453.263
46	S3	67+96.827	-6.667	453.245	453.346
46	S4	67+96.827	0.000	453.273	453.374
46	S5	67+96.827	6.667	453.245	453.346
46	S6	67+96.827	13.333	453.162	453.263
46	S7	67+96.827	20.000	453.023	453.101
47	S1	68+06.827	-20.000	452.623	452.695
47	S2	68+06.827	-13.333	452.762	452.855
47	S3	68+06.827	-6.667	452.845	452.938
47	S4	68+06.827	0.000	452.873	452.966
47	S5	68+06.827	6.667	452.845	452.938
47	S6	68+06.827	13.333	452.762	452.855
47	S7	68+06.827	20.000	452.623	452.695

LINE	LOCATION	STATION	OFFSET	THEORETICAL GRADE ELEVATION	THEORETICAL GRADE ELEVATION ADJUSTED FOR DEAD LOAD DEFLECTION
48	S1	68+16.827	-20.000	452.223	452.278
48	S2	68+16.827	-13.333	452.362	452.433
48	S3	68+16.827	-6.667	452.445	452.516
48	S4	68+16.827	0.000	452.473	452.544
48	S5	68+16.827	6.667	452.445	452.516
48	S6	68+16.827	13.333	452.362	452.433
48	S7	68+16.827	20.000	452.223	452.278
49	S1	68+26.827	-20.000	451.823	451.853
49	S2	68+26.827	-13.333	451.962	452.000
49	S3	68+26.827	-6.667	452.045	452.083
49	S4	68+26.827	0.000	452.073	452.111
49	S5	68+26.827	6.667	452.045	452.083
49	S6	68+26.827	13.333	451.962	452.000
49	S7	68+26.827	20.000	451.823	451.853
50	S1	68+36.827	-20.000	451.423	451.423
50	S2	68+36.827	-13.333	451.562	451.562
50	S3	68+36.827	-6.667	451.645	451.645
50	S4	68+36.827	0.000	451.673	451.673
50	S5	68+36.827	6.667	451.645	451.645
50	S6	68+36.827	13.333	451.562	451.562
50	S7	68+36.827	20.000	451.423	451.423
51	S1	68+46.827	-20.000	451.023	451.053
51	S2	68+46.827	-13.333	451.162	451.201
51	S3	68+46.827	-6.667	451.245	451.284
51	S4	68+46.827	0.000	451.273	451.312
51	S5	68+46.827	6.667	451.245	451.284
51	S6	68+46.827	13.333	451.162	451.201
51	S7	68+46.827	20.000	451.023	451.053
52	S1	68+56.827	-20.000	450.623	450.675
52	S2	68+56.827	-13.333	450.762	450.834
52	S3	68+56.827	-6.667	450.845	450.917
52	S4	68+56.827	0.000	450.873	450.945
52	S5	68+56.827	6.667	450.845	450.917
52	S6	68+56.827	13.333	450.762	450.834
52	S7	68+56.827	20.000	450.623	450.675

NOTE

FOR DEAD LOAD DEFLECTION DIAGRAM, FILLET HEIGHTS DETAIL AND LINES 53 THRU 73 DATA, SEE SHEET 10.

D. SCHREMP	DESIGNED
M. SCHURK	CHECKED
C. DEED	DRAWN
M. SCHURK	CHECKED

DATE: OCT. 23, 1987
LEVELS PLOTTED
35,56 & 63

E:\ZFJ\ISLIT\SEMLK14.DGN
REF: TSEMLK14
5426

PREPARED BY:
SVERDRUP CORPORATION
ST. LOUIS, MISSOURI

REHABILITATION FOR
APPROACH BRIDGE OVER
I-55/70 W.B., MISSOURI AVE. AND TRRA

TOP OF SLAB ELEVATIONS
SPANS 39 THRU 44

STRUCTURE NO. 082-6003
STA. 65+00 (FAP 799) ST. CLAIR CO.

SECTION 1BR-1

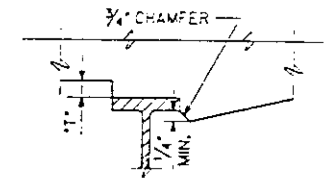
SHEET NO. 9 OF 75

LINE	LOCATION	STATION	OFFSET	THEORETICAL GRADE ELEVATION	THEORETICAL GRADE ELEVATION ADJUSTED FOR DEAD LOAD DEFLECTION
53	S1	68+66.827	-20.000	450.223	450.295
53	S2	68+66.827	-13.333	450.362	450.456
53	S3	68+66.827	-6.667	450.445	450.539
53	S4	68+66.827	0.000	450.473	450.567
53	S5	68+66.827	6.667	450.445	450.539
53	S6	68+66.827	13.333	450.362	450.456
53	S7	68+66.827	20.000	450.223	450.295
54	S1	68+76.827	-20.000	449.823	449.901
54	S2	68+76.827	-13.333	449.962	450.063
54	S3	68+76.827	-6.667	450.045	450.146
54	S4	68+76.827	0.000	450.073	450.174
54	S5	68+76.827	6.667	450.045	450.146
54	S6	68+76.827	13.333	449.962	450.063
54	S7	68+76.827	20.000	449.823	449.901
55	S1	68+86.827	-20.000	449.423	449.495
55	S2	68+86.827	-13.333	449.562	449.655
55	S3	68+86.827	-6.667	449.645	449.738
55	S4	68+86.827	0.000	449.673	449.766
55	S5	68+86.827	6.667	449.645	449.738
55	S6	68+86.827	13.333	449.562	449.655
55	S7	68+86.827	20.000	449.423	449.495
56	S1	68+96.827	-20.000	449.023	449.078
56	S2	68+96.827	-13.333	449.162	449.233
56	S3	68+96.827	-6.667	449.245	449.316
56	S4	68+96.827	0.000	449.273	449.344
56	S5	68+96.827	6.667	449.245	449.316
56	S6	68+96.827	13.333	449.162	449.233
56	S7	68+96.827	20.000	449.023	449.078
57	S1	69+06.827	-20.000	448.623	448.653
57	S2	69+06.827	-13.333	448.762	448.800
57	S3	69+06.827	-6.667	448.845	448.883
57	S4	69+06.827	0.000	448.873	448.911
57	S5	69+06.827	6.667	448.845	448.883
57	S6	69+06.827	13.333	448.762	448.800
57	S7	69+06.827	20.000	448.623	448.653
58	S1	69+16.827	-20.000	448.223	448.223
58	S2	69+16.827	-13.333	448.362	448.362
58	S3	69+16.827	-6.667	448.445	448.445
58	S4	69+16.827	0.000	448.473	448.473
58	S5	69+16.827	6.667	448.445	448.445
58	S6	69+16.827	13.333	448.362	448.362
58	S7	69+16.827	20.000	448.223	448.223

LINE	LOCATION	STATION	OFFSET	THEORETICAL GRADE ELEVATION	THEORETICAL GRADE ELEVATION ADJUSTED FOR DEAD LOAD DEFLECTION
59	S1	69+26.827	-20.000	447.823	447.848
59	S2	69+26.827	-13.333	447.962	447.991
59	S3	69+26.827	-6.667	448.045	448.072
59	S4	69+26.827	0.000	448.073	448.097
59	S5	69+26.827	6.667	448.045	448.068
59	S6	69+26.827	13.333	447.962	447.980
59	S7	69+26.827	20.000	447.823	447.834
60	S1	69+36.827	-20.000	447.423	447.467
60	S2	69+36.827	-13.333	447.562	447.613
60	S3	69+36.827	-6.667	447.645	447.691
60	S4	69+36.827	0.000	447.673	447.711
60	S5	69+36.827	6.667	447.645	447.679
60	S6	69+36.827	13.333	447.562	447.586
60	S7	69+36.827	20.000	447.423	447.436
61	S1	69+46.827	-20.000	447.023	447.077
61	S2	69+46.827	-13.333	447.162	447.221
61	S3	69+46.827	-6.667	447.245	447.295
61	S4	69+46.827	0.000	447.273	447.312
61	S5	69+46.827	6.667	447.245	447.275
61	S6	69+46.827	13.333	447.162	447.179
62	S1	69+56.827	-20.000	446.623	446.675
62	S2	69+56.827	-13.333	446.762	446.815
62	S3	69+56.827	-6.667	446.845	446.885
62	S4	69+56.827	0.000	446.873	446.898
62	S5	69+56.827	6.667	446.845	446.857
63	S1	69+66.827	-20.000	446.223	446.262
63	S2	69+66.827	-13.333	446.362	446.395
63	S3	69+66.827	-6.667	446.445	446.462
64	S1	69+76.827	-20.000	445.823	445.841
65	S1	69+84.661	-20.000	445.510	445.510
65	S2	69+79.067	-13.333	445.873	445.873
65	S3	69+73.473	-6.667	446.180	446.180
65	S4	69+67.879	0.000	446.431	446.431
65	S5	69+62.285	6.667	446.627	446.627
65	S6	69+56.691	13.333	446.768	446.768
65	S7	69+51.097	20.000	446.853	446.853

LINE	LOCATION	STATION	OFFSET	THEORETICAL GRADE ELEVATION	THEORETICAL GRADE ELEVATION ADJUSTED FOR DEAD LOAD DEFLECTION
66	S1	69+94.661	-20.000	445.110	445.140
66	S2	69+89.067	-13.333	445.473	445.512
66	S3	69+83.473	-6.667	445.780	445.819
66	S4	69+77.879	0.000	446.031	446.070
66	S5	69+72.285	6.667	446.227	446.266
66	S6	69+66.691	13.333	446.368	446.407
66	S7	69+61.097	20.000	446.453	446.483
67	S1	70+04.661	-20.000	444.710	444.766
67	S2	69+99.067	-13.333	445.073	445.145
67	S3	69+93.473	-6.667	445.380	445.452
67	S4	69+87.879	0.000	445.631	445.703
67	S5	69+82.285	6.667	445.827	445.899
67	S6	69+76.691	13.333	445.968	446.040
67	S7	69+71.097	20.000	446.053	446.109
68	S1	70+14.661	-20.000	444.310	444.382
68	S2	70+09.067	-13.333	444.673	444.767
68	S3	70+03.473	-6.667	444.980	445.074
68	S4	69+97.879	0.000	445.231	445.325
68	S5	69+92.285	6.667	445.427	445.521
68	S6	69+86.691	13.333	445.568	445.662
68	S7	69+81.097	20.000	445.653	445.725
69	S1	70+24.661	-20.000	443.910	443.988
69	S2	70+19.067	-13.333	444.273	444.374
69	S3	70+13.473	-6.667	444.580	444.681
69	S4	70+07.879	0.000	444.831	444.932
69	S5	70+02.285	6.667	445.027	445.128
69	S6	69+96.691	13.333	445.168	445.269
69	S7	69+91.097	20.000	445.253	445.331
70	S1	70+34.661	-20.000	443.510	443.582
70	S2	70+29.067	-13.333	443.873	443.966
70	S3	70+23.473	-6.667	444.180	444.273
70	S4	70+17.879	0.000	444.431	444.524
70	S5	70+12.285	6.667	444.627	444.720
70	S6	70+06.691	13.333	444.768	444.861
70	S7	70+01.097	20.000	444.853	444.925
71	S1	70+44.661	-20.000	443.110	443.165
71	S2	70+39.067	-13.333	443.473	443.544
71	S3	70+33.473	-6.667	443.780	443.851
71	S4	70+27.879	0.000	444.031	444.102
71	S5	70+22.285	6.667	444.227	444.298
71	S6	70+16.691	13.333	444.368	444.439
71	S7	70+11.097	20.000	444.453	444.508

LINE	LOCATION	STATION	OFFSET	THEORETICAL GRADE ELEVATION	THEORETICAL GRADE ELEVATION ADJUSTED FOR DEAD LOAD DEFLECTION
72	S1	70+54.661	-20.000	442.710	442.740
72	S2	70+49.067	-13.333	443.073	443.111
72	S3	70+43.473	-6.667	443.380	443.418
72	S4	70+37.879	0.000	443.631	443.669
72	S5	70+32.285	6.667	443.827	443.865
72	S6	70+26.691	13.333	443.968	444.006
72	S7	70+21.097	20.000	444.053	444.063
73	S1	70+64.661	-20.000	442.310	442.310
73	S2	70+59.067	-13.333	442.673	442.673
73	S3	70+53.473	-6.667	442.980	442.980
73	S4	70+47.879	0.000	443.231	443.231
73	S5	70+42.285	6.667	443.428	443.429
73	S6	70+36.691	13.333	443.578	443.578
73	S7	70+31.097	20.000	443.664	443.664

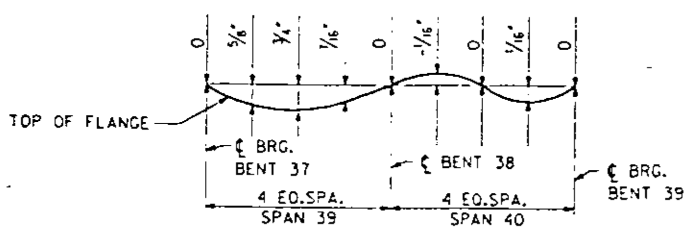


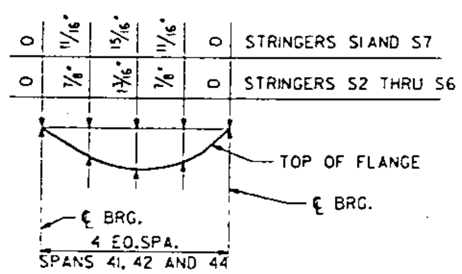
FILLET HEIGHTS

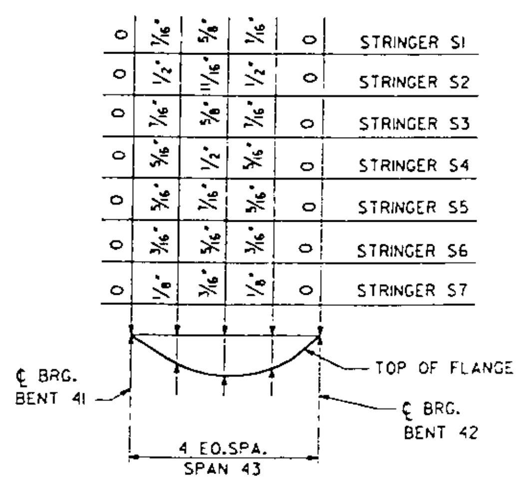
TO DETERMINE "T": AFTER ALL STRUCTURAL STEEL HAS BEEN ERECTED, ELEVATIONS OF THE TOP FLANGES OF THE STRINGERS SHALL BE TAKEN AT INTERVALS SHOWN ON THE PLAN. THESE ELEVATIONS SUBTRACTED FROM THE "THEORETICAL GRADE ELEVATION ADJUSTED FOR THE DEAD LOAD DEFLECTION" MINUS SLAB THICKNESS, EQUALS THE FILLET HEIGHTS "T" ABOVE TOP FLANGES OF STRINGERS.

NOTE

FOR SUPERELEVATION TRANSITION-CURVE NO. 6, SEE SHEET 12.







DEAD LOAD DEFLECTION DIAGRAM

(INCLUDES WEIGHT OF CONCRETE ONLY)

NOTE: THE ABOVE DEFLECTIONS ARE NOT TO BE USED IN THE FIELD IF THE ENGINEER IS WORKING FROM THE "THEORETICAL GRADE ELEVATION ADJUSTED FOR DEAD LOAD DEFLECTION".

D. SCHREMP	DESIGNED
M. SCHURK	CHECKED
J.G. CORLEY	DRAWN
M. SCHURK	CHECKED

FILE: ZF3:[151,13]TSEMLK14A.DGN
PRF: TSEMLK14A
LEVELS PLOTTED 35 56 58 & 63
DATE: OCT. 23, 1987

PREPARED BY: SVERDRUP CORPORATION ST. LOUIS, MISSOURI

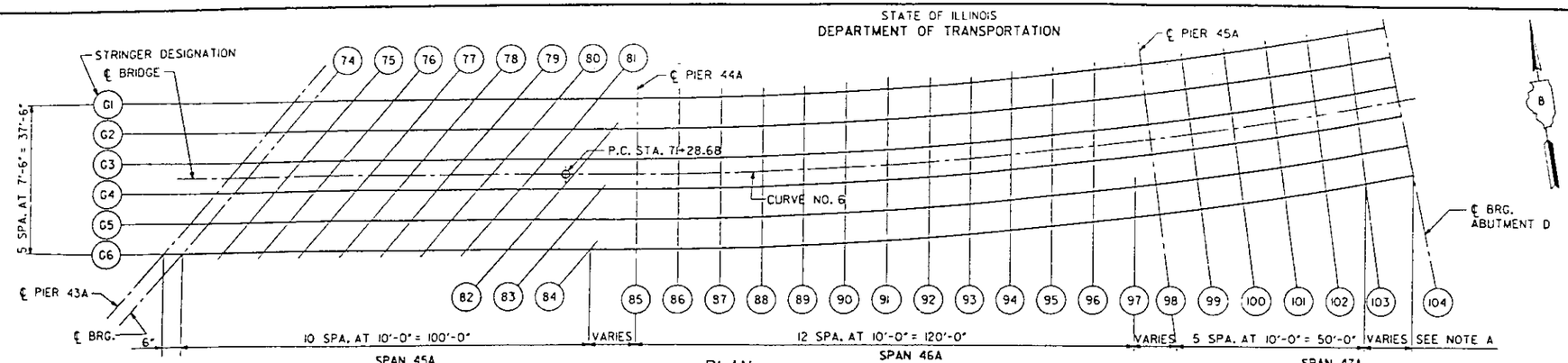
REHABILITATION FOR
APPROACH BRIDGE OVER I-55/70 W.B., MISSOURI AVE. AND TRRA
TOP OF SLAB ELEVATIONS SPANS 39 THRU 44

STRUCTURE NO. 082-6003
STA. 65+00 (FAP 799) ST. CLAIR CO.

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAP 799	*	ST. CLAIR	252	159
ILLINOIS		PROJECT		

*IBR-1 APPROACH BRIDGE



NOTE A: POINTS FOR ELEVATIONS AT 10' INTERVALS AND AS NOTED ARE ALONG EACH INDIVIDUAL GIRDER, STATIONS AND OFFSETS OF THESE POINTS ARE RADIAL TO ℄ BRIDGE.

PLAN

LINE	LOCATION	STATION	OFFSET	THEORETICAL GRADE ELEVATION	THEORETICAL GRADE ELEVATION ADJUSTED FOR DEAD LOAD DEFLECTION
74	G1	70+64.113	-18.750	442.362	442.362
74	G2	70+57.820	-11.250	442.755	442.755
74	G3	70+51.527	-3.750	443.077	443.077
74	G4	70+45.233	3.750	443.328	443.328
74	G5	70+38.940	11.250	443.518	443.518
74	G6	70+32.647	18.750	443.640	443.640
75	G1	70+74.113	-18.750	441.962	441.970
75	G2	70+67.820	-11.250	442.355	442.371
75	G3	70+61.527	-3.750	442.677	442.697
75	G4	70+55.233	3.750	442.941	442.968
75	G5	70+48.940	11.250	443.164	443.193
75	G6	70+42.647	18.750	443.335	443.369
76	G1	70+84.113	-18.750	441.562	441.575
76	G2	70+77.820	-11.250	441.955	441.981
76	G3	70+71.527	-3.750	442.282	442.318
76	G4	70+65.233	3.750	442.572	442.621
76	G5	70+58.940	11.250	442.825	442.878
76	G6	70+52.647	18.750	443.034	443.097
77	G1	70+94.113	-18.750	441.162	441.175
77	G2	70+87.820	-11.250	441.555	441.586
77	G3	70+81.527	-3.750	441.899	441.942
77	G4	70+75.233	3.750	442.213	442.277
77	G5	70+68.940	11.250	442.493	442.562
77	G6	70+62.647	18.750	442.735	442.819
78	G1	71+04.113	-18.750	440.762	440.771
78	G2	70+97.820	-11.250	441.160	441.188
78	G3	70+91.527	-3.750	441.525	441.568
78	G4	70+85.233	3.750	441.861	441.927
78	G5	70+78.940	11.250	442.166	442.243
78	G6	70+72.647	18.750	442.438	442.534
79	G1	71+14.113	-18.750	440.362	440.364
79	G2	71+07.820	-11.250	440.772	440.792
79	G3	71+01.527	-3.750	441.157	441.193
79	G4	70+95.233	3.750	441.514	441.575
79	G5	70+88.940	11.250	441.843	441.917
79	G6	70+82.647	18.750	442.140	442.237
80	G1	71+24.113	-18.750	439.963	439.958
80	G2	71+17.820	-11.250	440.391	440.399
80	G3	71+11.527	-3.750	440.794	440.817
80	G4	71+05.233	3.750	441.171	441.218
80	G5	70+98.940	11.250	441.522	441.584
80	G6	70+92.647	18.750	441.844	441.932
81	G1	71+34.209	-18.750	439.563	439.557
81	G2	71+27.820	-11.250	440.013	440.012
81	G3	71+21.527	-3.750	440.435	440.445
81	G4	71+15.233	3.750	440.831	440.860
81	G5	71+08.940	11.250	441.203	441.248
81	G6	71+02.647	18.750	441.547	441.618
82	G2	71+37.918	-11.250	439.633	439.630
82	G3	71+31.537	-3.750	440.078	440.079
82	G4	71+25.233	3.750	440.455	440.507
82	G5	71+18.940	11.250	440.885	440.911
82	G6	71+12.647	18.750	441.251	441.300
83	G4	71+35.210	3.750	440.159	440.161
83	G5	71+28.937	11.250	440.569	440.579
83	G6	71+22.647	18.750	440.955	440.981
84	G6	71+32.578	18.750	440.661	440.668
85	G1	71+43.380	-18.750	439.199	439.199
85	G2	71+43.380	-11.250	439.428	439.428
85	G3	71+43.380	-3.750	439.656	439.656
85	G4	71+43.380	3.750	439.884	439.884
85	G5	71+43.380	11.250	440.113	440.113
85	G6	71+43.380	18.750	440.341	440.341
86	G1	71+53.559	-18.750	438.796	438.812
86	G2	71+53.487	-11.250	439.047	439.052
86	G3	71+53.415	-3.750	439.298	439.311
86	G4	71+53.345	3.750	439.549	439.560
86	G5	71+53.275	11.250	439.800	439.810
86	G6	71+53.207	18.750	440.050	440.058
87	G1	71+63.739	-18.750	438.392	438.429
87	G2	71+63.594	-11.250	438.667	438.704
87	G3	71+63.451	-3.750	438.941	438.975
87	G4	71+63.310	3.750	439.214	439.243
87	G5	71+63.171	11.250	439.487	439.514
87	G6	71+63.034	18.750	439.760	439.782
88	G1	71+73.918	-18.750	437.988	438.047
88	G2	71+73.700	-11.250	438.286	438.346
88	G3	71+73.486	-3.750	438.583	438.639
88	G4	71+73.275	3.750	438.879	438.930
88	G5	71+73.066	11.250	439.174	439.221
88	G6	71+72.861	18.750	439.469	439.509
89	G1	71+84.097	-18.750	437.584	437.662
89	G2	71+83.807	-11.250	437.906	437.987
89	G3	71+83.521	-3.750	438.226	438.302
89	G4	71+83.240	3.750	438.544	438.616
89	G5	71+82.962	11.250	438.862	438.930
89	G6	71+82.688	18.750	439.178	439.237
90	G1	71+94.277	-18.750	437.180	437.272
90	G2	71+93.914	-11.250	437.525	437.622
90	G3	71+93.557	-3.750	437.868	437.961
90	G4	71+93.204	3.750	438.209	438.297
90	G5	71+92.857	11.250	438.549	438.635
90	G6	71+92.514	18.750	438.887	438.962
91	G1	72+04.456	-18.750	436.777	436.875
91	G2	72+04.021	-11.250	437.145	437.249
91	G3	72+03.592	-3.750	437.510	437.610
91	G4	72+03.169	3.750	437.874	437.970
91	G5	72+02.752	11.250	438.236	438.331
91	G6	72+02.341	18.750	438.596	438.680
92	G1	72+14.635	-18.750	436.370	436.465
92	G2	72+14.128	-11.250	436.743	436.845
92	G3	72+13.628	-3.750	437.115	437.215
92	G4	72+13.134	3.750	437.487	437.583
92	G5	72+12.648	11.250	437.859	437.955
92	G6	72+12.168	18.750	438.231	438.317
93	G1	72+24.815	-18.750	435.963	436.047
93	G2	72+24.235	-11.250	436.338	436.429
93	G3	72+23.663	-3.750	436.714	436.804
93	G4	72+23.099	3.750	437.089	437.177
93	G5	72+22.543	11.250	437.463	437.552
93	G6	72+21.995	18.750	437.838	437.919
94	G1	72+34.994	-18.750	435.555	435.621
94	G2	72+34.341	-11.250	435.934	436.007
94	G3	72+33.698	-3.750	436.312	436.386
94	G4	72+33.064	3.750	436.690	436.763
94	G5	72+32.439	11.250	437.068	437.143
94	G6	72+31.822	18.750	437.445	437.514
95	G1	72+45.173	-18.750	435.148	435.192
95	G2	72+44.448	-11.250	435.530	435.580
95	G3	72+43.734	-3.750	435.911	435.962
95	G4	72+43.029	3.750	436.291	436.343
95	G5	72+42.334	11.250	436.672	436.726
95	G6	72+41.649	18.750	437.052	437.103
96	G1	72+55.353	-18.750	434.741	434.763
96	G2	72+54.555	-11.250	435.125	435.150
96	G3	72+53.769	-3.750	435.509	435.537
96	G4	72+52.994	3.750	435.893	435.922
96	G5	72+52.229	11.250	436.276	436.307
96	G6	72+51.476	18.750	436.659	436.689
97	G5	72+62.125	11.250	435.880	435.891
97	G6	72+61.303	18.750	436.266	436.277
98	G1	72+67.880	-18.750	434.240	434.240
98	G2	72+67.880	-11.250	434.592	434.592
98	G3	72+67.880	-3.750	434.945	434.945
98	G4	72+67.880	3.750	435.297	435.297
98	G5	72+67.880	11.250	435.650	435.650
98	G6	72+67.880	18.750	436.002	436.002
99	G1	72+78.059	-18.750	433.833	433.824
99	G2	72+77.987	-11.250	434.188	434.178
99	G3	72+77.915	-3.750	434.544	434.536
99	G4	72+77.845	3.750	434.899	434.891
99	G5	72+77.775	11.250	435.254	435.245
99	G6	72+77.707	18.750	435.609	435.602
100	G1	72+88.239	-18.750	433.426	433.416
100	G2	72+88.094	-11.250	433.784	433.772
100	G3	72+87.951	-3.750	434.142	434.133
100	G4	72+87.810	3.750	434.500	434.491
100	G5	72+87.671	11.250	434.858	434.849
100	G6	72+87.534	18.750	435.216	435.207
101	G1	72+98.418	-18.750	433.018	433.010
101	G2	72+98.200	-11.250	433.380	433.372
101	G3	72+97.986	-3.750	433.741	433.735
101	G4	72+97.775	3.750	434.102	434.097
101	G5	72+97.566	11.250	434.463	434.457
101	G6	72+97.361	18.750	434.823	434.818

NOTE

FOR DEAD LOAD DEFLECTION DIAGRAM, FILLET HEIGHTS DETAIL AND LINES 102 THRU 104 DATA, SEE SHEET 12.

D. SCHREMP	DESIGNED
M. SCHURK	CHECKED
J.G. CORLEY	DRAWN
M. SCHURK	CHECKED

PREPARED BY:
SVERDRUP CORPORATION
ST. LOUIS, MISSOURI

REHABILITATION FOR
APPROACH BRIDGE OVER
I-55/70 W.B., MISSOURI AVE. AND TRRA

TOP OF SLAB ELEVATIONS
SPANS 45A THRU 47A

STRUCTURE NO. 082-6003
STA. 65+00 (FAP 799) ST. CLAIR CO.

SECTION IBR-1

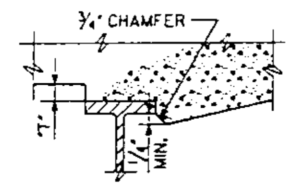
SHEET NO. 8 OF 75

LEVELS PLOTTED 35,56 & 63 | DATE: OCT. 23, 1987 | PRF: TSEMLKIS

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAP 799	*	ST. CLAIR	252	160

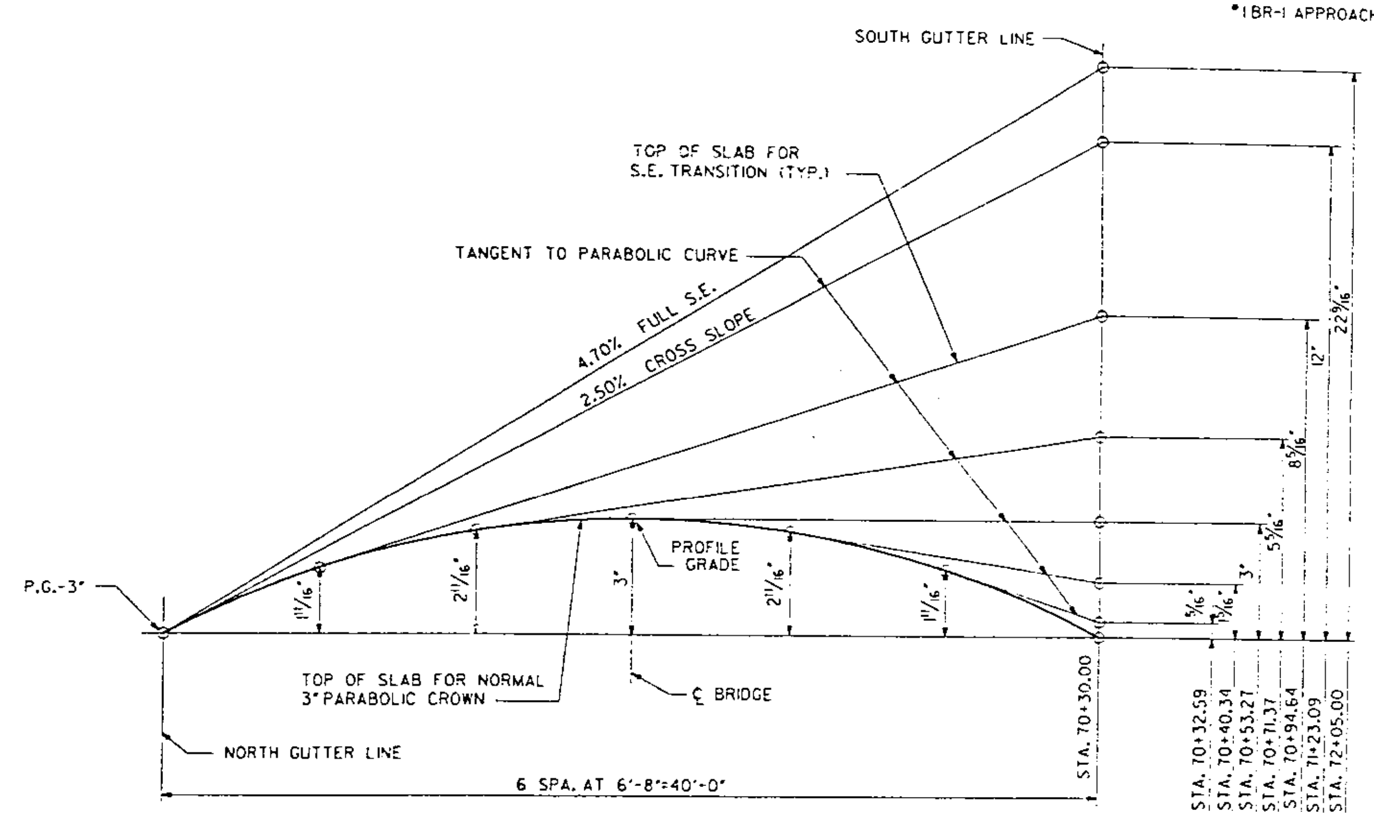
*IBR-1 APPROACH BRIDGE

LINE	LOCATION	STATION	OFFSET	THEORETICAL GRADE ELEVATION	THEORETICAL GRADE ELEVATION ADJUSTED FOR DEAD LOAD DEFLECTION
102	G1	73+08.597	-18.750	432.611	432.609
102	G2	73+08.307	-11.250	432.975	432.972
102	G3	73+08.021	-3.750	433.339	433.337
102	G4	73+07.740	3.750	433.703	433.702
102	G5	73+07.462	11.250	434.067	434.065
102	G6	73+07.188	18.750	434.430	434.428
103	G1	73+18.777	-18.750	432.204	432.205
103	G2	73+18.414	-11.250	432.571	432.571
103	G3	73+18.057	-3.750	432.938	432.938
103	G4	73+17.704	3.750	433.304	433.304
103	G5	73+17.357	11.250	433.671	433.671
103	G6	73+17.014	18.750	434.037	434.036
104	G1	73+28.562	-18.750	431.813	431.813
104	G2	73+28.284	-11.250	432.177	432.177
104	G3	73+28.009	-3.750	432.540	432.540
104	G4	73+27.739	3.750	432.903	432.903
104	G5	73+27.472	11.250	433.267	433.267
104	G6	73+27.209	18.750	433.630	433.630



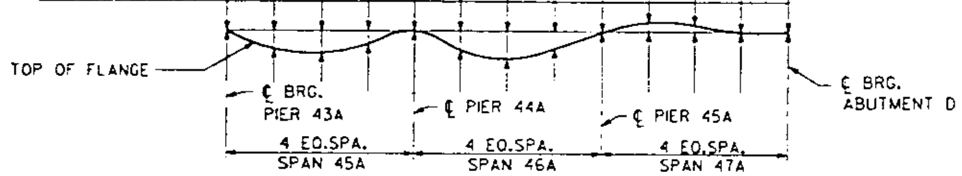
FILLET HEIGHTS

TO DETERMINE "T": AFTER ALL STRUCTURAL STEEL HAS BEEN ERECTED, ELEVATIONS OF THE TOP FLANGES OF THE GIRDERS SHALL BE TAKEN AT INTERVALS SHOWN ON THE PLAN. THESE ELEVATIONS SUBTRACTED FROM THE "THEORETICAL GRADE ELEVATION ADJUSTED FOR THE DEAD LOAD DEFLECTION" MINUS SLAB THICKNESS, EQUALS THE FILLET HEIGHTS "T" ABOVE TOP FLANGES OF GIRDERS.



SUPERELEVATION TRANSITION
CURVE NO. 6

GIRDER G1	0	1/8"	1/8"	1/16"	0	11/16"	13/16"	3/4"	0			
GIRDER G2	0	5/16"	5/16"	1/16"	0	3/4"	1 1/4"	13/16"	0			
GIRDER G3	0	7/16"	1/2"	1/8"	0	11/16"	1 1/4"	13/16"	0			
GIRDER G4	0	11/16"	3/4"	1/4"	0	5/8"	13/16"	13/16"	0			
GIRDER G5	0	3/4"	7/8"	5/16"	0	5/8"	13/16"	13/16"	0			
GIRDER G6	0	15/16"	1/8"	1/2"	0	1/2"	11/16"	3/4"	0	-1/8"	-1/16"	0	0



DEAD LOAD DEFLECTION DIAGRAM
(INCLUDES WEIGHT OF CONCRETE ONLY)

NOTE: THE ABOVE DEFLECTIONS ARE NOT TO BE USED IN THE FIELD IF THE ENGINEER IS WORKING FROM THE "THEORETICAL GRADE ELEVATION ADJUSTED FOR DEAD LOAD DEFLECTION".

D. SCHREMP DESIGNED
M. SCHURK CHECKED
J.G. CORLEY DRAWN
M. SCHURK CHECKED

LEVELS PLOTTED 35 56 58 & 63 | DATE: OCT. 23, 1987

PREPARED BY: SVERDRUP CORPORATION ST. LOUIS, MISSOURI

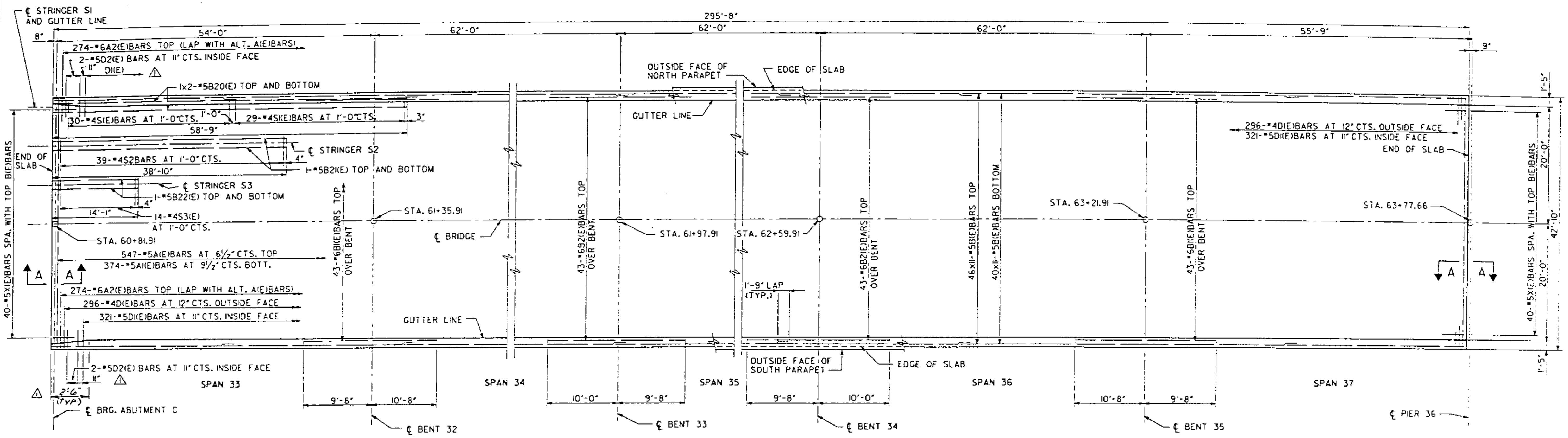
REHABILITATION FOR
APPROACH BRIDGE OVER I-55/70 W.B., MISSOURI AVE. AND TRRA
TOP OF SLAB ELEVATIONS
SPANS 45A THRU 47A

STRUCTURE NO. 082-6003
STA. 65+00 (FAP 799) ST. CLAIR CO.

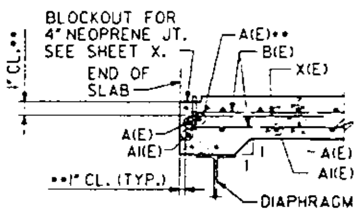
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAP 799	*	ST. CLAIR	252	161

*IBR-1 APPROACH BRIDGE



PLAN



SECTION A-A △

** PLACE A(E) BAR IN BACK OF ANCHOR BOLT AS SHOWN IF REQUIRED TO MAINTAIN 1" CL. (+0-1/8"). ANCHOR BOLTS SHOULD BE TIED TO A(E) BAR.

NOTES

WORK THIS SHEET WITH SHEETS 17, 18 AND 21.

D(E) BARS LOCATED NEAR END OF PARAPET SHALL BE SET BACK TO CLEAR BLOCKOUT FOR EXPANSION JOINT BY 1 INCH.

BARS BILLED AS: 46x9-#5 ETC. INDICATES 46 LINES OF BARS WITH 9 LENGTHS PER LINE.

DRAINAGE SCUPPERS NOT SHOWN. SEE SHEET 30 AND 31 FOR LOCATION AND DETAILS.

FOR LOCATION AND DETAILS OF ROADWAY LIGHTING, SEE SHEET 35.

LONGITUDINAL BARS SHALL BE SPACED AS SHOWN IN CROSS SECTIONS.

REHABILITATION FOR
APPROACH BRIDGE OVER
I-55/70 W.B., MISSOURI AVE. AND TRRA

SLAB PLAN - SPANS 33 THRU 37

STRUCTURE NO. 082-6003
STA. 65+00 (FAP 799) ST. CLAIR CO.

R. NIEMIETZ	DESIGNED
K. LARSON	CHECKED
J. CORLEY	DRAWN
P.W. CLARK	CHECKED

FILE: ZF3(15)JSLAB11.DGN PRF: SLAB11
LEVELS PLOTTED 35,56,57,58 & 63
DATE: OCT.23, 1987
0350 875835

PREPARED BY:
SVERDRUP CORPORATION
ST. LOUIS, MISSOURI

△ REV. 12-4-87

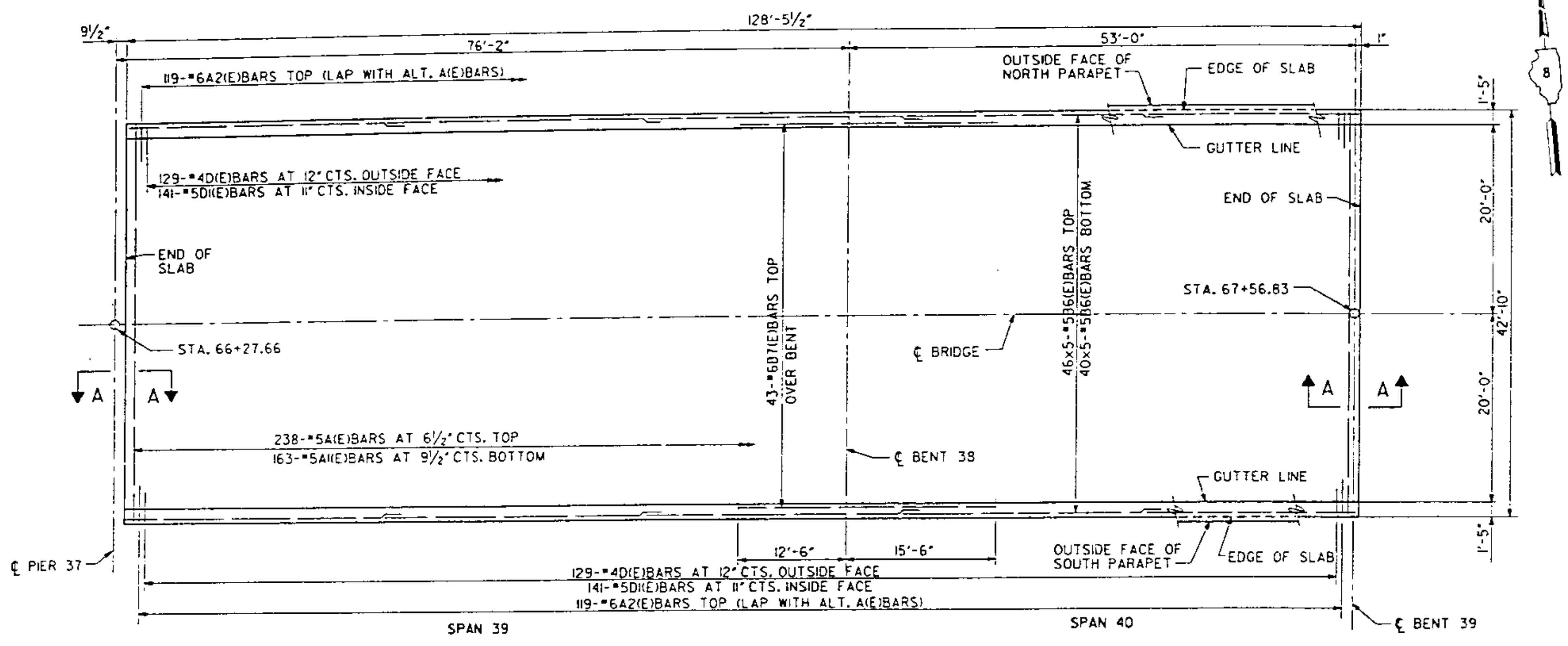
SECTION IBR-1

0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAP 799	*	ST. CLAIR	252	162

*IBR-1 APPROACH BRIDGE



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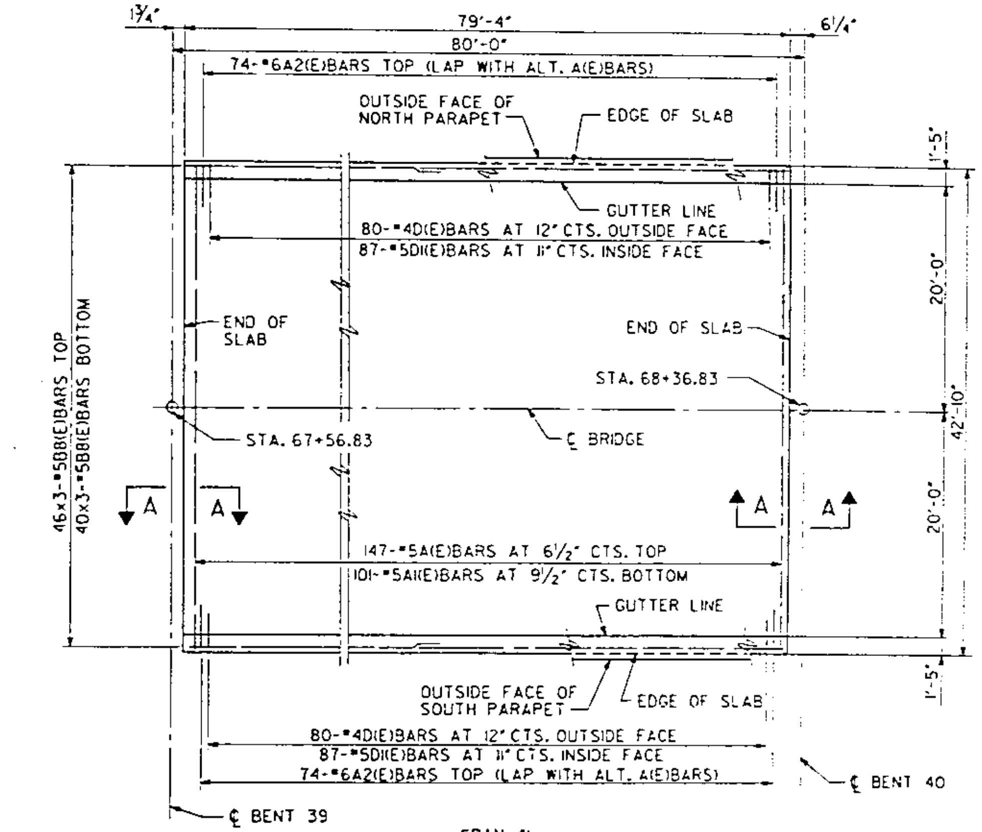

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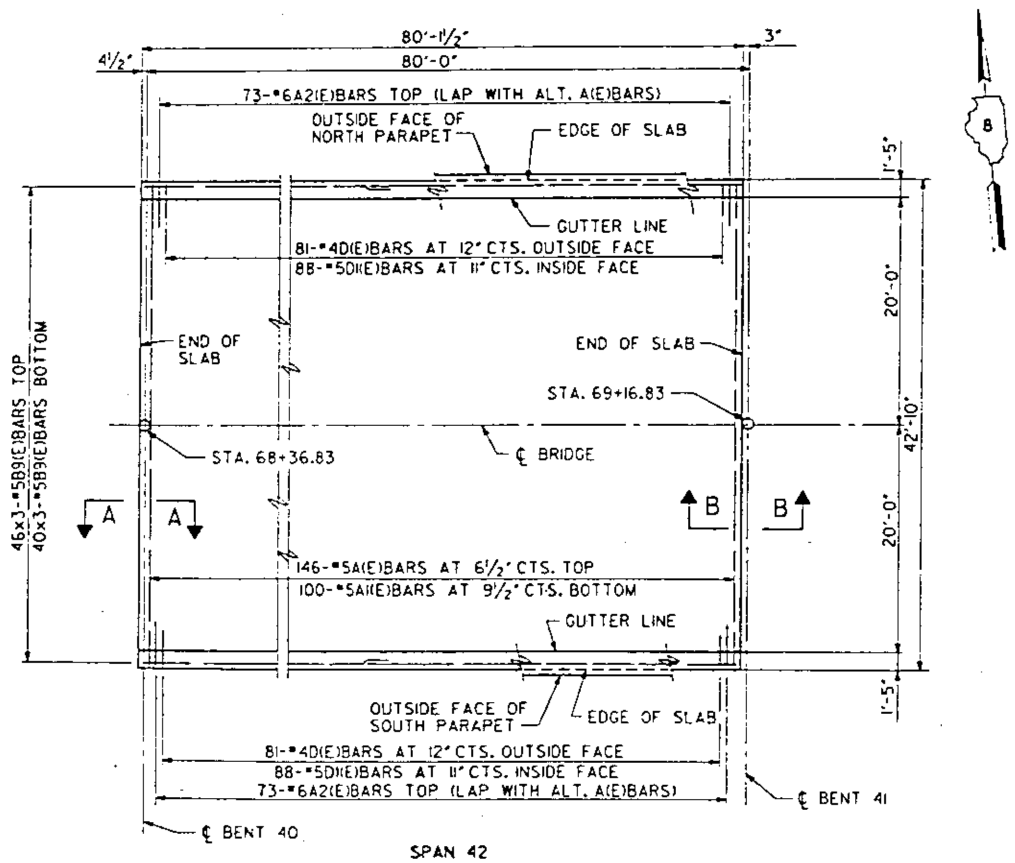
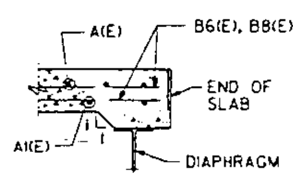
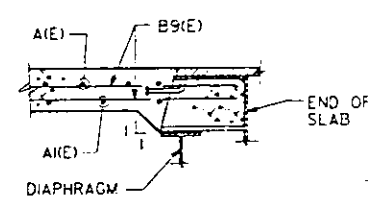


PLAN



SECTION A-A



SECTION B-B

NOTES

WORK THIS SHEET WITH SHEETS 17, 18 AND 21.
D(E) BARS LOCATED NEAR END OF PARAPET SHALL BE SET BACK TO CLEAR BLOCKOUT FOR EXPANSION JOINT BY 1 INCH.
BARS BILLED AS: 46x9-*5 ETC. INDICATES 46 LINES OF BARS WITH 9 LENGTHS PER LINE.
DRAINAGE SCUPPERS NOT SHOWN. SEE SHEETS 30 AND 31 FOR LOCATION AND DETAILS.
ALL LONGITUDINAL BARS SHALL BE LAPPED 1'-9" MINIMUM.
FOR LOCATION AND DETAILS OF ROADWAY LIGHTING, SEE SHEET 35.
LONGITUDINAL BARS SHALL BE SPACED AS SHOWN IN CROSS SECTIONS.

REHABILITATION FOR

APPROACH BRIDGE OVER
I-55/70 W.B., MISSOURI AVE. AND TRRA

SLAB PLAN - SPANS 39 THRU 42

STRUCTURE NO. 082-6003
STA. 65+00 (FAP 799) ST. CLAIR CO.

R. NIEMIETZ	DESIGNED
K. LARSON	CHECKED
J. CORLEY	DRAWN
P.W. CLARK	CHECKED

PREPARED BY:
SVERDRUP CORPORATION
ST. LOUIS, MISSOURI

SECTION 1BR-1

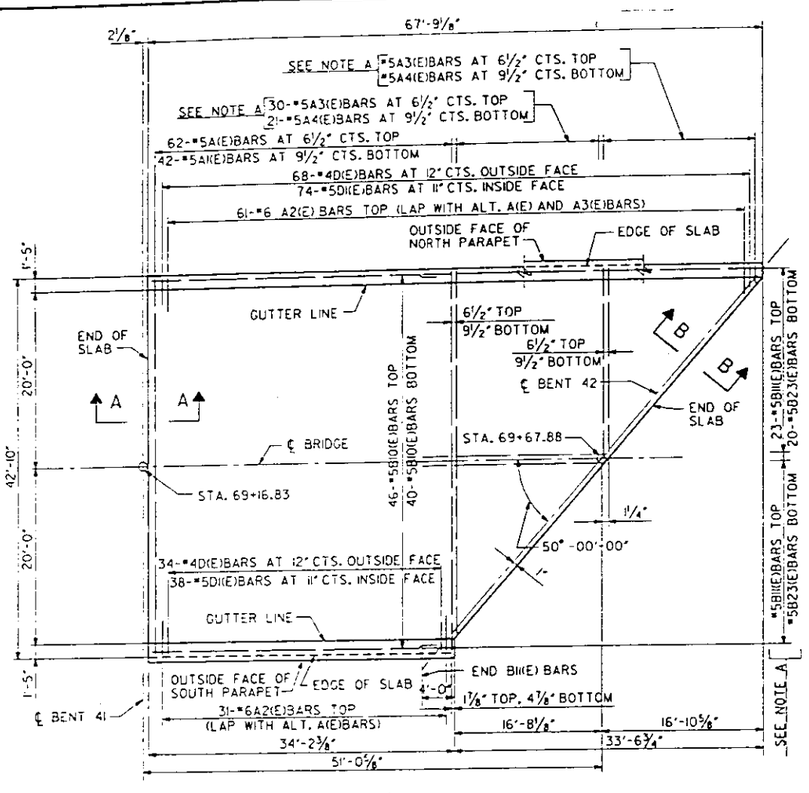
SHEET NO. 14 OF 75

LEVELS PLOTTED 35,56,57 & 63
DATE: OCT.23,1987
ZF31(151)SLAB13.DGN
SLAB13

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAP 799	*	ST. CLAIR	252	163
		ILLINOIS PROJECT		

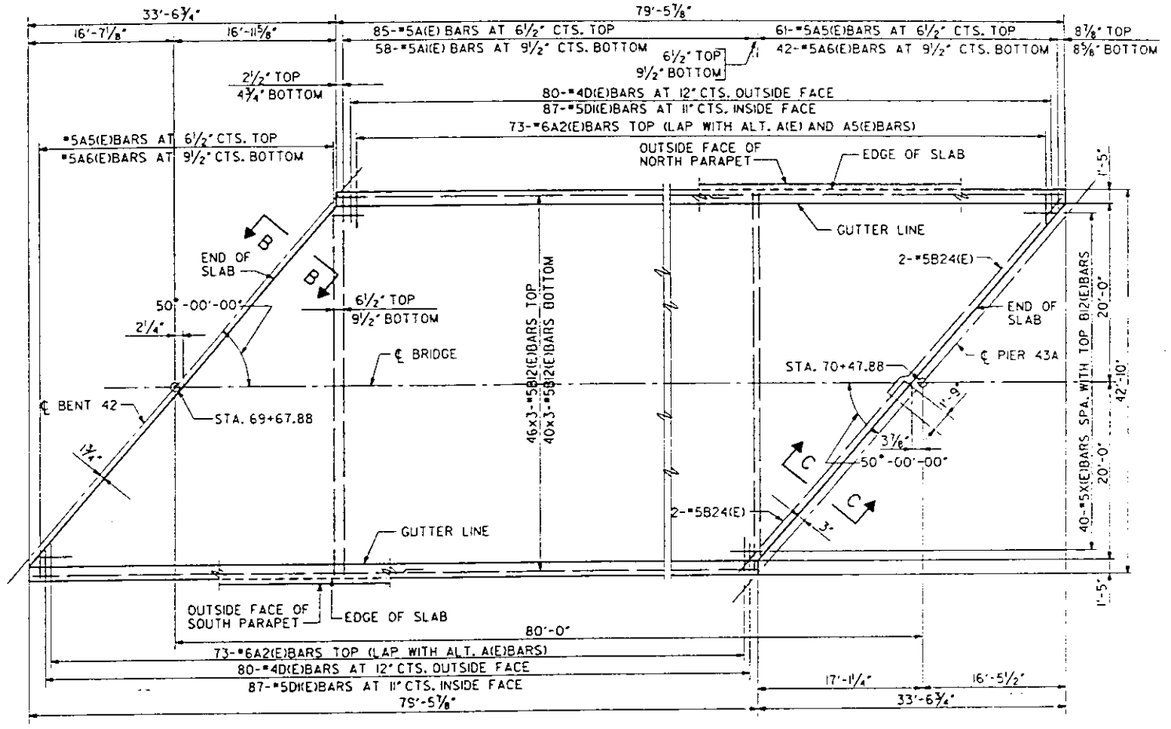
*IBR-I APPROACH BRIDGE



SPAN 43

PLAN

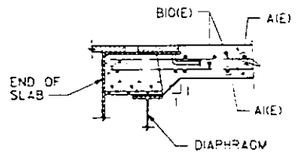
NOTE A: BARS A3(E), A4(E), B11(E) AND B23(E) TO BE CUT IN FIELD. SEE FIELD CUTTING DIAGRAM, SEE SHEET X.



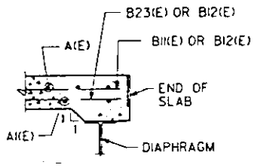
SPAN 44

PLAN

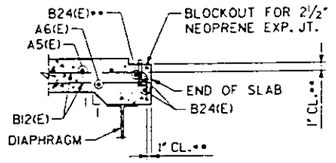
NOTE: A5(E) AND A6(E)BARS TO BE FULL LENGTH, CUT TO FIT SKEW AND USE REMAINDER OF BARS IN OPPOSITE END OF SLAB



SECTION A-A



SECTION B-B



SECTION C-C ⚠

•• PLACE B24(E) BARS IN BACK OF ANCHOR BOLT AS SHOWN IF REQUIRED TO MAINTAIN 1" CL. (+0-⅛"). ANCHOR BOLTS SHOULD BE TIED TO B24(E) BARS.

NOTES

WORK THIS SHEET WITH SHEETS 17, 19 AND 21.
D1(E) BARS LOCATED NEAR END OF PARAPET SHALL BE SET BACK TO CLEAR BLOCKOUT FOR EXPANSION JOINT BY 1 INCH.
BARS BILLED AS: 46x9-*5 ETC. INDICATES 46 LINES OF BARS WITH 9 LENGTHS PER LINE.
DRAINAGE SCUPPERS NOT SHOWN, SEE SHEETS 30 AND 31, FOR LOCATION AND DETAILS.
ALL LONGITUDINAL BARS SHALL BE LAPPED 1'-9" MINIMUM.
FOR LOCATION AND DETAILS OF ROADWAY LIGHTING, SEE SHEET 35.
LONGITUDINAL BARS SHALL BE SPACED AS SHOWN IN CROSS SECTIONS.

REHABILITATION FOR

APPROACH BRIDGE OVER I-55/70 W.B., MISSOURI AVE. AND TRRA

SLAB PLAN - SPANS 43 AND 44

STRUCTURE NO. 082-6003
STA. 65+00 (FAP 799) ST. CLAIR CO.

R. NIEMIETZ	DESIGNED
K. LARSON	CHECKED
J.G. CORLEY	DRAWN
P.W. CLARK	CHECKED

PREPARED BY:
SVERDRUP CORPORATION
ST. LOUIS, MISSOURI

⚠ REV. 12-4-87

SECTION IBR-I

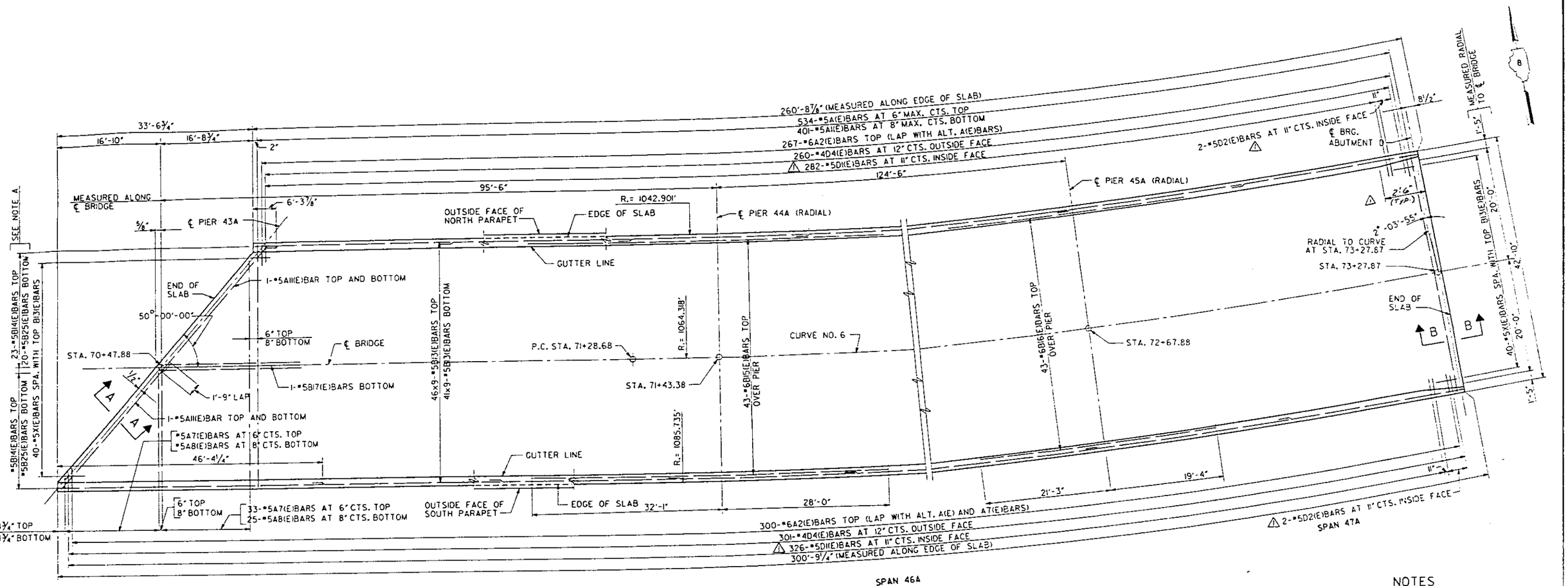
SHEET NO. 15 OF 75

FILE: ZF35(15)ISLAB14.DGN | LEVELS PLOTTED: 35,56,57,58 & 63 | DATE: OCT. 23, 1987 | LABI4 | 68

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

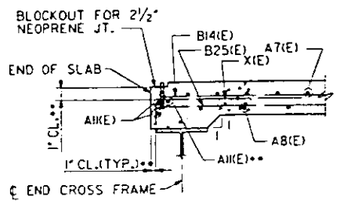
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAP 799	*	ST. CLAIR	252	164
		ILLINOIS PROJECT		

*IBR-1 APPROACH BRIDGE



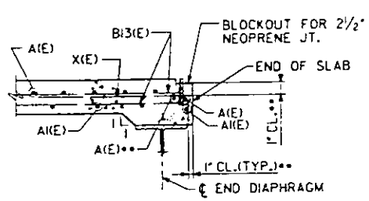
NOTE A: BARS B14(E), B25(E), A7(E) AND A8(E) TO BE CUT IN FIELD. SEE FIELD CUTTING DIAGRAM. B14(E)BARS ARE TO BE PLACED AND LAPPED WITH B13(E)BARS.

PLAN



SECTION A-A ⚠

** PLACE A11(E) BARS IN BACK OF ANCHOR BOLT IF REQUIRED TO MAINTAIN 1" CL. (+0-⅛"). ANCHOR BOLTS SHOULD BE TIED TO A11(E) BARS.



SECTION B-B ⚠

** PLACE A(E) BAR IN BACK OF ANCHOR BOLT IF REQUIRED TO MAINTAIN 1" CL. (+0-⅛"). ANCHOR BOLTS SHOULD BE TIED TO A(E) BAR.

NOTES

WORK THIS SHEET WITH SHEETS 17, 20 AND 21.

D1E) BARS LOCATED NEAR END OF PARAPET SHALL BE SET BACK TO CLEAR BLOCKOUT FOR EXPANSION JOINT BY 1 INCH.

BARS BILLED AS: 46x9-#5 ETC. INDICATES 46 LINES OF BARS WITH 9 LENGTHS PER LINE.

DRAINAGE SCUPPERS NOT SHOWN, SEE SHEETS 30 AND 31, FOR LOCATION AND DETAILS.

ALL LONGITUDINAL BARS SHALL BE LAPPED 1'-9" MINIMUM.

FOR LOCATION AND DETAILS OF ROADWAY LIGHTING, SEE SHEET 35.

FOR CONDUIT IN SLAB, SEE ELECTRICAL DRAWINGS.

LONGITUDINAL BARS SHALL BE SPACED AS SHOWN IN CROSS SECTIONS.

REHABILITATION FOR

APPROACH BRIDGE OVER I-55/70 W.B., MISSOURI AVE. AND TRRA

SLAB PLAN
SPANS 45A THRU 47A

STRUCTURE NO. 082-6003
STA. 65+00 (FAP 799) ST. CLAIR CO.

R. NIEMIETZ	DESIGNED
K. LARSON	CHECKED
J.G. CORLEY	DRAWN
P.W. CLARK	CHECKED

PREPARED BY:
SVERDRUP CORPORATION
ST. LOUIS, MISSOURI

⚠ REV. 12-4-87

SECTION IBR-1

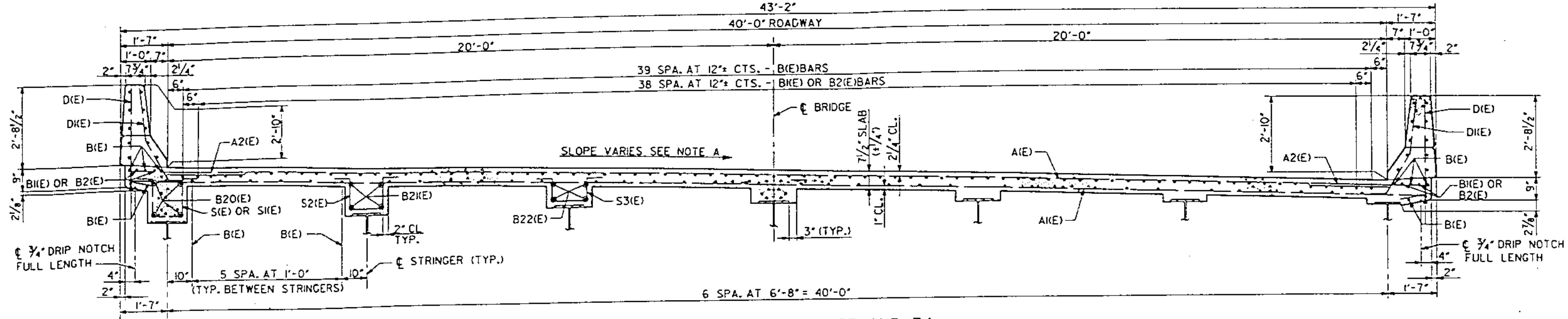
SHEET NO. 16 OF 75

LEVELS PLOTTED (DATE) OCT. 23, 1987
35,56,57,58 & 63
FILE # OF INDIVIDUAL SLABS
158 770 SLABS

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

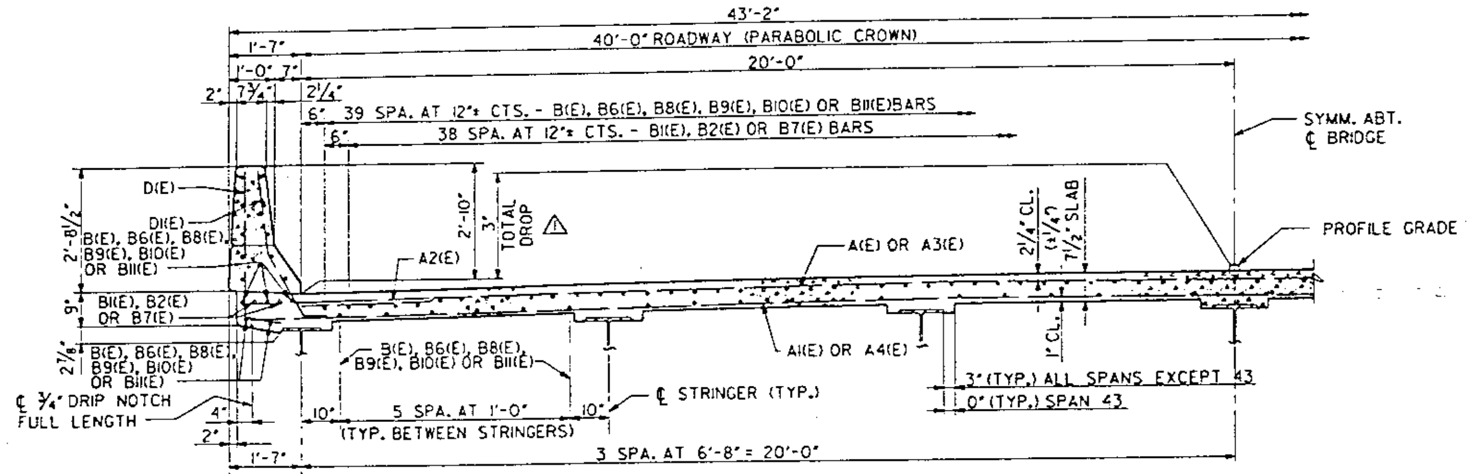
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAP 799	*	ST. CLAIR	252	16

*IBR-I APPROACH BRIDGE

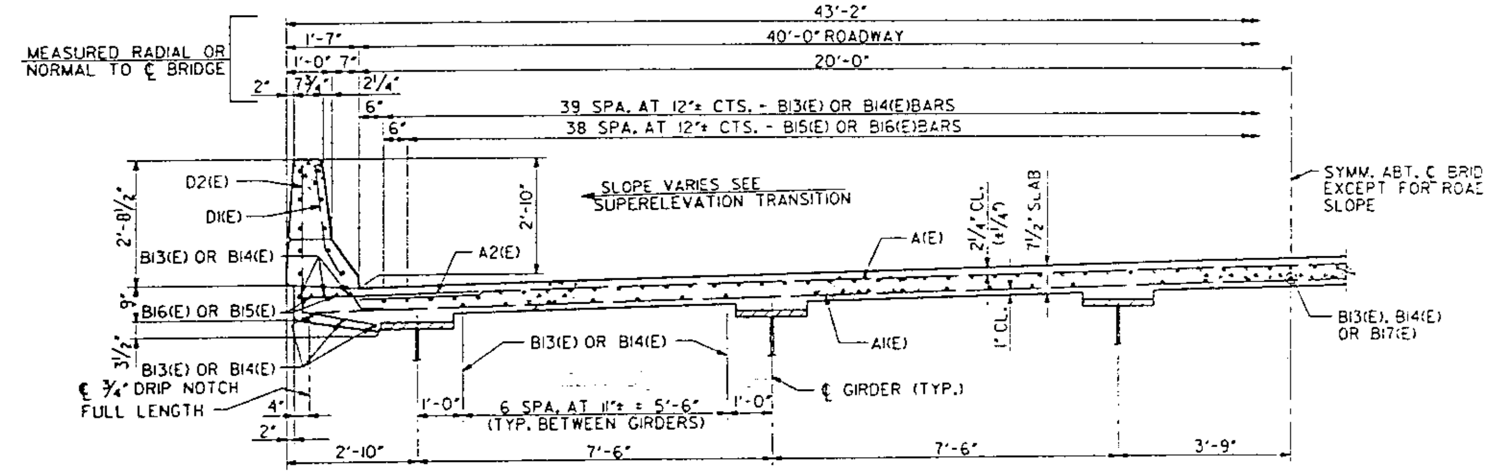


CROSS SECTION FOR SPANS 33 AND 34

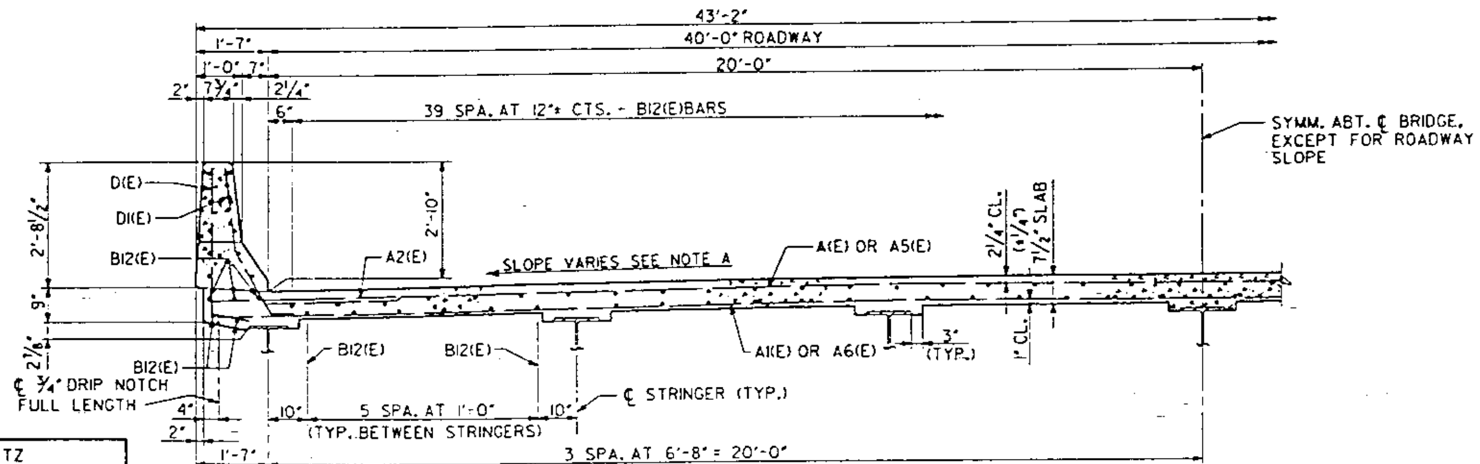
NOTE A: FOR TOP OF SLAB STA. 60+81.24 TO STA. 61+71.00 SEE SUPERELEVATION TRANSITION. TOP OF SLAB FROM STA. 61+71.00 TO STA. 61+97.91 IS A PARABOLIC CROWN WITH A 3" MIDORDINATE AT ℄ BRIDGE.



CROSS SECTION FOR SPANS 35 THRU 37 AND 39 THRU 43



CROSS SECTION FOR SPANS 45A THRU 47A



CROSS SECTION FOR SPAN 44

NOTE A: TOP OF SLAB FROM STA. 69+51.29 TO STA. 70+30.00 IS A PARABOLIC CROWN WITH A 3" MIDORDINATE AT ℄ BRIDGE. FOR STA. 70+30.00 TO STA. 72+05.00 SEE SUPERELEVATION TRANSITION.

NOTES

WORK THIS SHEET WITH SHEETS 13 THRU 16.
FOR SUPERELEVATION TRANSITIONS, SEE SHEETS 7, 8, 11 AND

REHABILITATION FOR
APPROACH BRIDGE OVER
I-55/70 W.B., MISSOURI AVE. AND TRR

SLAB DETAILS - SPANS
33 THRU 37 AND 39 THRU 47A

STRUCTURE NO. 082-6003
STA. 65+00 (FAP 799) ST. CLAIR CO.

R. NIEMIETZ — DESIGNED
K. LARSON — CHECKED
J.G. CORLEY — DRAWN
P.W. CLARK — CHECKED

LEVELS PLOTTED 35,56,57,58 & 63 | DATE: OCT. 23, 1987

F31(15)135LAB11A.DGN

PREPARED BY: SVERDRUP CORPORATION ST. LOUIS, MISSOURI

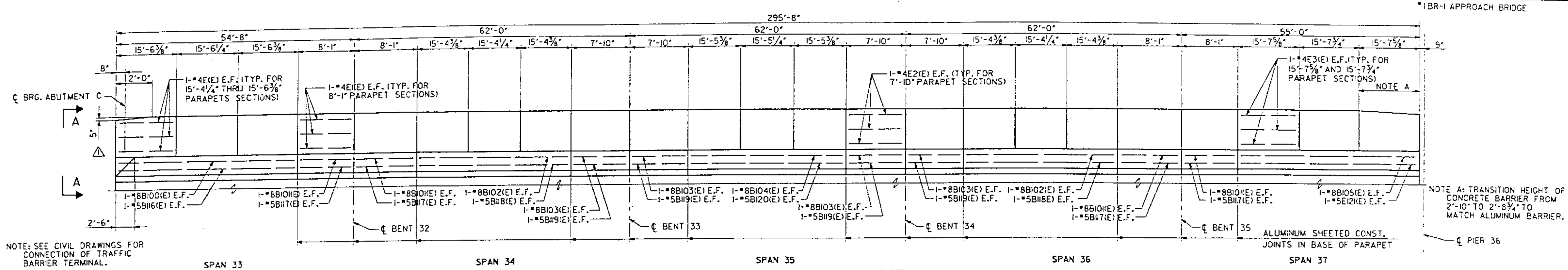
△ REV. 12-4-87

SECTION IBR-I

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

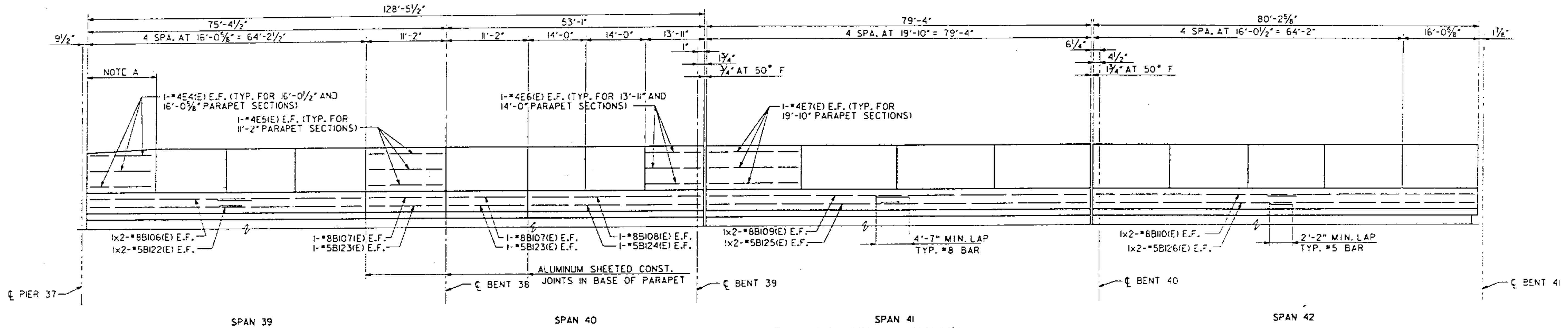
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAP 799	*	ST. CLAIR	252	166

*1BR-1 APPROACH BRIDGE



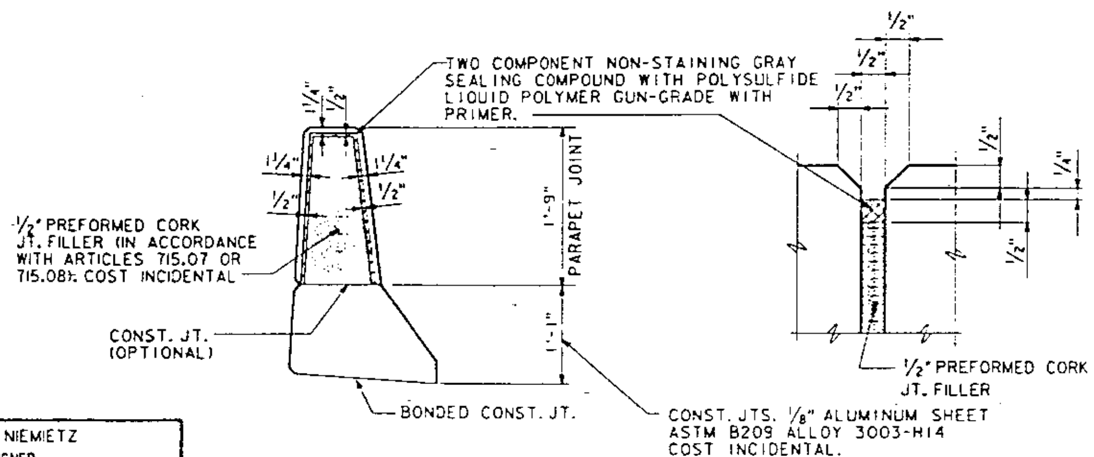
INSIDE ELEVATION OF NORTH PARAPET

NOTE: SOUTH PARAPET SIMILAR.



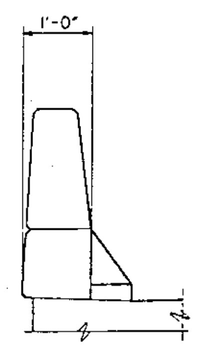
INSIDE ELEVATION OF NORTH PARAPET

NOTE: SOUTH PARAPET SIMILAR.

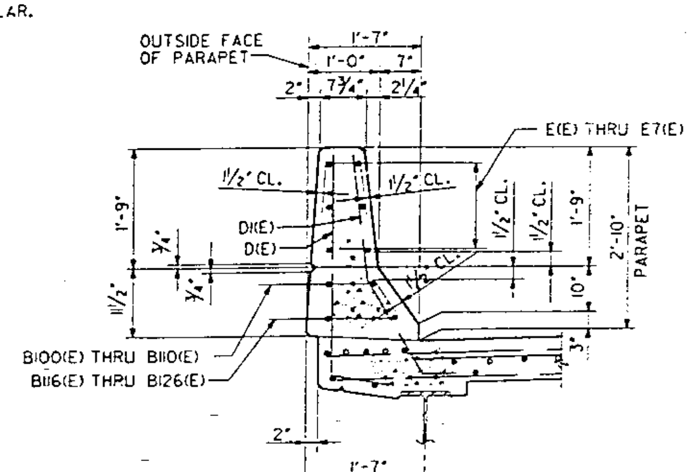


PARAPET JOINT DETAILS

NOTE: ALL EDGES SHALL HAVE A ¾" CHAMFER, EXCEPT AS SHOWN.



VIEW A-A



SECTION THRU PARAPET

NOTES

E.F. INDICATES EACH FACE.
ALL DIMENSIONS ARE MEASURED ALONG OUTSIDE FACE OF PARAPETS.
FOR BILL OF MATERIAL, SEE SHEET 21.
FOR LOCATION AND DETAILS OF ROADWAY LIGHTING, SEE SHEET 35.
SEE ELECTRICAL DRAWINGS FOR LOCATION AND LIMITS OF CONDUIT IN PARAPETS.

REHABILITATION FOR
APPROACH BRIDGE OVER
I-55/70 W.B., MISSOURI AVE. AND TRRA
PARAPET - SPANS 33 THRU 37
AND SPANS 39 THRU 42
STRUCTURE NO. 082-6003
STA. 65+00 (FAP 799) ST. CLAIR CO.

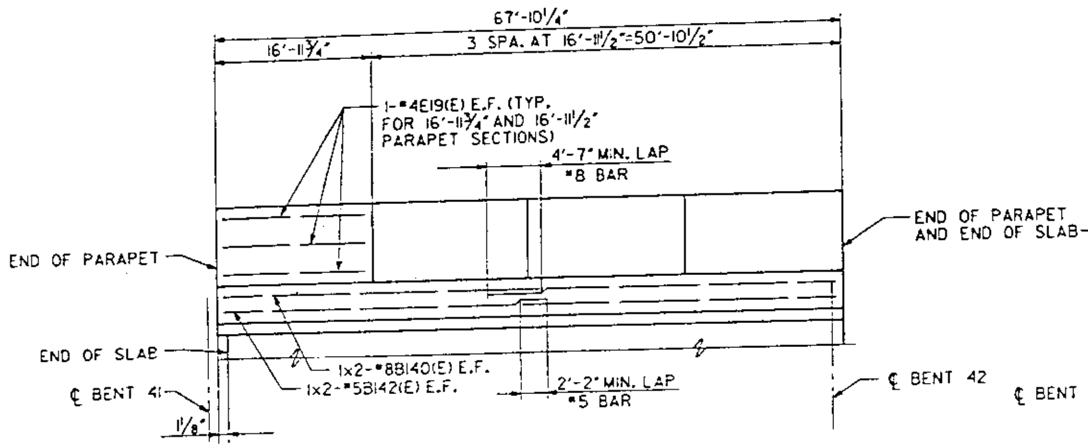
R. NIEMIETZ — DESIGNED
K. LARSON — CHECKED
R. ROTH — DRAWN
P.W. CLARK — CHECKED

PREPARED BY: SVERDRUP CORPORATION, ST. LOUIS, MISSOURI

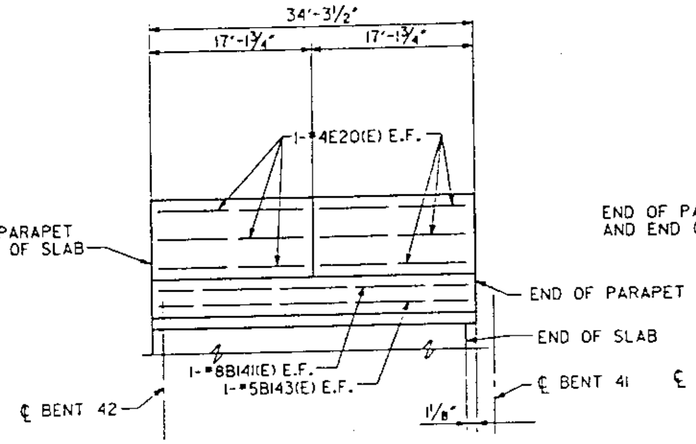
REV. 12-4-87

SECTION 1BR-1

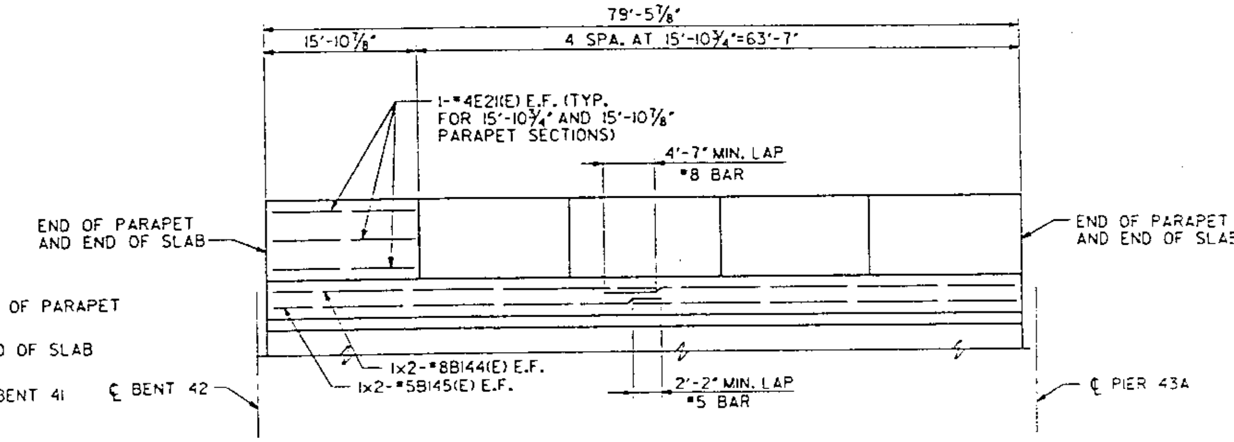
LEVELS PLOTTED 35,56,57,58,63 — DATE: OCT. 23, 1987 — ZF3(15)DETAIL76.DGN



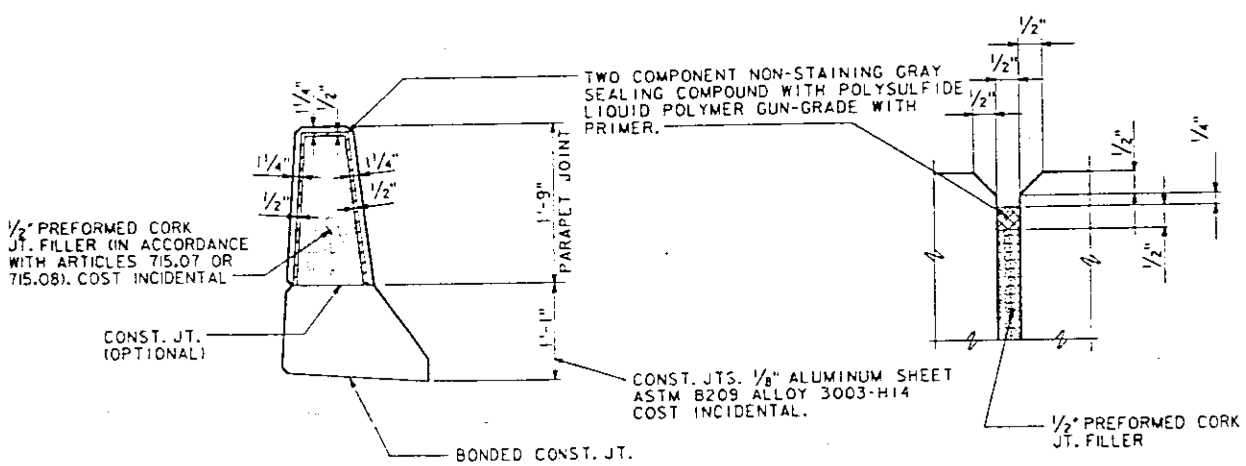
SPAN 43
INSIDE ELEVATION OF NORTH PARAPET



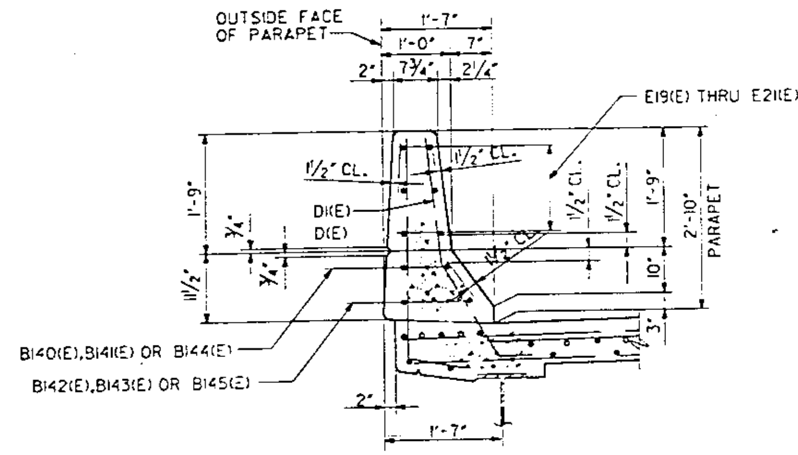
SPAN 43
INSIDE ELEVATION OF SOUTH PARAPET



SPAN 44
INSIDE ELEVATION OF NORTH PARAPET
NOTE SOUTH PARAPET SIMILAR.



PARAPET JOINT DETAILS
NOTE: ALL EDGES SHALL HAVE A ¾" CHAMFER, EXCEPT AS SHOWN.



SECTION THRU PARAPET

NOTES

E.F. INDICATES EACH FACE.
ALL DIMENSIONS ARE MEASURED ALONG OUTSIDE FACE OF PARAPETS.
FOR BILL OF MATERIAL, SEE SHEET 21.
FOR LOCATION AND DETAILS OF ROADWAY LIGHTING, SEE SHEET 35.
SEE ELECTRICAL DRAWINGS FOR LOCATION AND LIMITS OF CONDUIT IN PARAPETS.

REHABILITATION FOR
APPROACH BRIDGE OVER
I-55/70 W.B., MISSOURI AVE. AND TR

PARAPET - SPANS 43 AND 44

STRUCTURE NO. 082-6003
STA. 65+00 (FAP 799) ST. CLAIR CO.

R. NIEMIETZ	DESIGNED
K. LARSON	CHECKED
J.G. CORLEY	DRAWN
P.W. CLARK	CHECKED

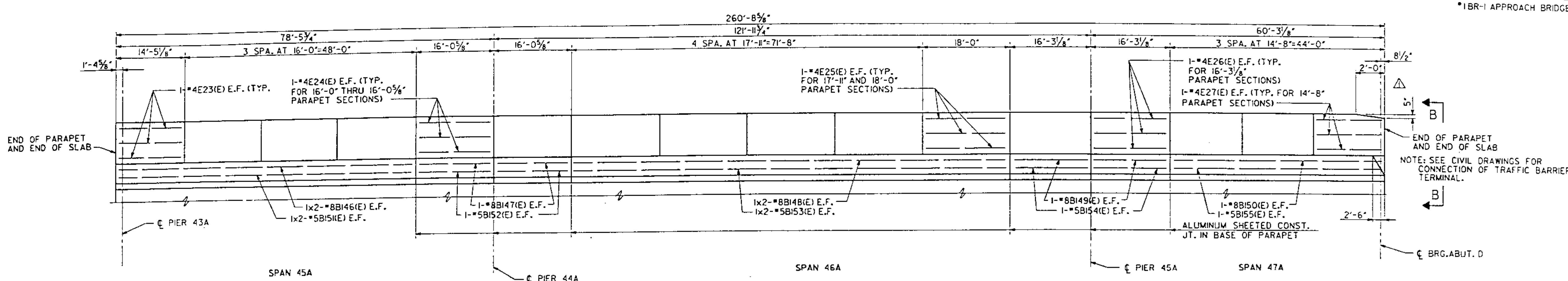
LEVELS PLOTTED 35,56,57,59,63
DATE: OCT. 23, 1987
10358 875880
F3(15)JDETAIL96.DGN DETAIL96

PREPARED BY:
SVERDRUP CORPORATION
ST. LOUIS, MISSOURI

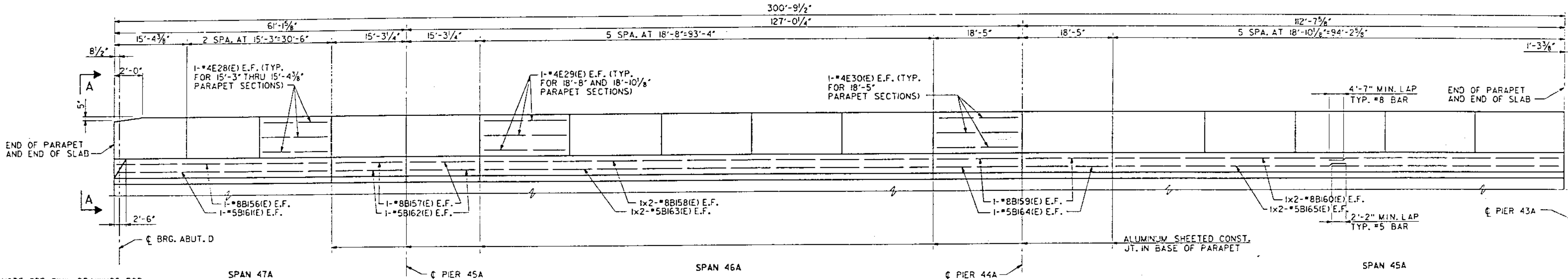
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAP 799	*	ST. CLAIR	252	168

*IBR-I APPROACH BRIDGE

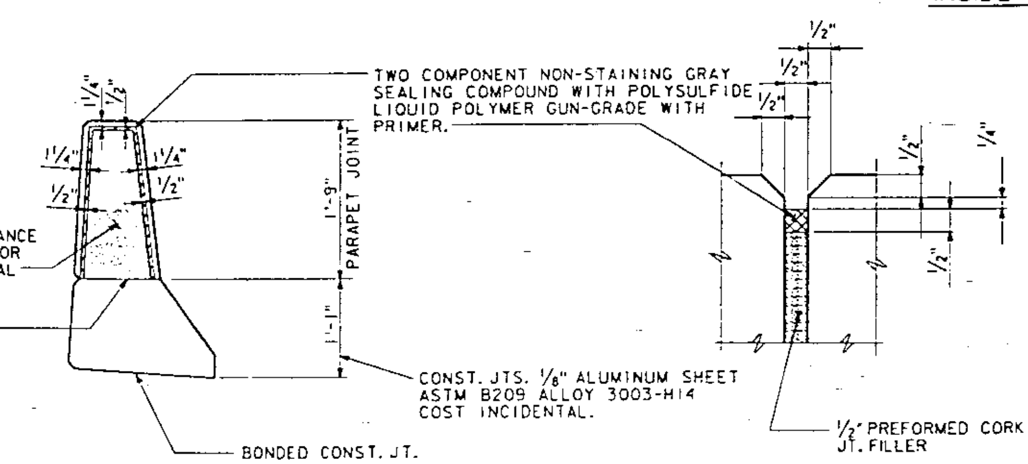


INSIDE ELEVATION OF NORTH PARAPET



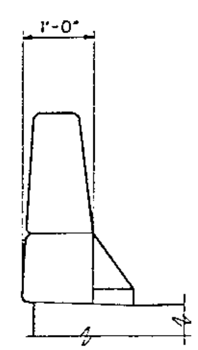
NOTE: SEE CIVIL DRAWINGS FOR CONNECTION OF TRAFFIC BARRIER TERMINAL.

INSIDE ELEVATION OF SOUTH PARAPET



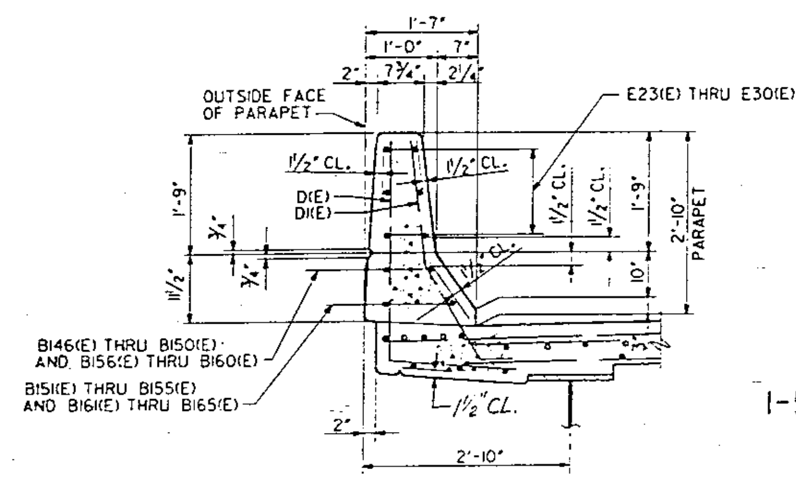
PARAPET JOINT DETAILS

NOTE: ALL EDGES SHALL HAVE A ¾" CHAMFER, EXCEPT AS SHOWN.



VIEW A-A

VIEW B-B OPPOSITE HAND



SECTION THRU PARAPET

NOTES

E.F. INDICATES EACH FACE.
ALL DIMENSIONS ARE MEASURED ALONG OUTSIDE FACE OF PARAPETS, UNLESS OTHERWISE NOTED.
FOR BILL OF MATERIAL, SEE SHEET 21.
FOR LOCATION AND DETAILS OF ROADWAY LIGHTING, SEE SHEETS 35.
SEE ELECTRICAL DRAWINGS FOR LOCATION AND LIMITS OF CONDUIT IN PARAPET.

REHABILITATION FOR

APPROACH BRIDGE OVER
I-55/70 W.B., MISSOURI AVE. AND TRRA

PARAPET - SPANS 45A THRU 47A

STRUCTURE NO. 082-6003
STA. 65+00 (FAP 799) ST. CLAIR CO.

R. NIEMIETZ	DESIGNED
K. LARSON	CHECKED
J.G. CORLEY	DRAWN
P.W. CLARK	CHECKED

PREPARED BY: SVERDRUP CORPORATION ST. LOUIS, MISSOURI

REV. 12-4-87

SECTION IBR-I

SHEET NO. 20 OF 75

F31(15I)DETAIL95.DGN PRF: DETAIL95
LEVELS PLOTTED 35,56,57,58,63
DATE: OCT. 23, 1987

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAP 799	*	ST. CLAIR	252	169

*1BR M.L.KING BRIDGE

BILL OF MATERIAL

SPANS 33 THRU 37

BAR	NO.	SIZE	LENGTH	SHAPE
A(E)	921	#5	42'-7"	
A2(E)	548	#6	4'-0"	
B(E)	946	#5	28'-5"	
B1(E)	86	#6	20'-4"	
B2(E)	86	#6	19'-8"	
B20(E)	8	#5	30'-2"	
B21(E)	4	#5	38'-8"	
B22(E)	4	#5	13'-11"	
B100(E)	4	#8	46'-4"	
B101(E)	16	#8	7'-10"	
B102(E)	8	#8	45'-10"	
B103(E)	16	#8	7'-7"	
B104(E)	4	#8	46'-1"	
B105(E)	4	#8	46'-8"	
B116(E)	4	#5	46'-4"	
B117(E)	16	#5	7'-10"	
B118(E)	8	#5	45'-10"	
B119(E)	16	#5	7'-7"	
B120(E)	4	#5	46'-1"	
B121(E)	4	#5	46'-8"	
D(E)	592	#4	3'-11"	
D1(E)	642	#5	3'-11"	
D2(E) △	4	#5	3'-2"	
D10(E)	6	#6	4'-5"	
D11(E)	10	#6	8'-11"	
E(E)	144	#4	15'-1"	
E1(E)	48	#4	7'-10"	
E2(E)	48	#4	7'-7"	
E3(E)	36	#4	15'-4"	
S(E)	30	#4	4'-7"	
S1(E)	29	#4	3'-11"	
S2(E)	39	#4	4'-0"	
S3(E)	14	#4	3'-6"	
X(E)	80	#5	4'-1"	
BX(E)	64	#5	3'-0"	
CLASS X CONCRETE SS			CU. YDS.	370.0
REINFORCEMENT BARS EPOXY COATED			LBS.	89,738

SPANS 39 AND 40

BAR	NO.	SIZE	LENGTH	SHAPE
A(E)	401	#5	42'-7"	
A2(E)	238	#6	4'-0"	
B6(E)	430	#5	27'-1"	
B7(E)	43	#6	28'-0"	
B106(E)	8	#8	34'-3"	
B107(E)	8	#8	10'-11"	
B108(E)	4	#8	41'-8"	
B122(E)	8	#5	33'-1"	
B123(E)	8	#5	10'-11"	
B124(E)	4	#5	41'-8"	
D(E)	258	#4	3'-11"	
D1(E)	282	#5	3'-11"	
D10(E)	3	#6	4'-5"	
D11(E)	5	#6	8'-11"	
E4(E)	48	#4	15'-9"	
E5(E)	24	#4	10'-11"	
E6(E)	36	#4	13'-8"	
BX(E)	32	#5	3'-0"	
CLASS X CONCRETE SS			CU. YDS.	161.5
REINFORCEMENT BARS EPOXY COATED			LBS.	38,169

SS INDICATES SUPERSTRUCTURE

SPAN 41

BAR	NO.	SIZE	LENGTH	SHAPE
A(E)	248	#5	42'-7"	
A2(E)	148	#6	4'-0"	
B8(E)	258	#5	27'-6"	
B109(E)	8	#8	41'-10"	
B125(E)	8	#5	40'-8"	
D(E)	160	#4	3'-11"	
D1(E)	174	#5	3'-11"	
E7(E)	48	#4	19'-7"	
BX(E)	16	#5	3'-0"	
CLASS X CONCRETE SS			CU. YDS.	99.6
REINFORCEMENT BARS EPOXY COATED			LBS.	22,345

SPAN 42

BAR	NO.	SIZE	LENGTH	SHAPE
A(E)	246	#5	42'-7"	
A2(E)	146	#6	4'-0"	
B9(E)	258	#5	27'-10"	
B110(E)	8	#8	42'-4"	
B126(E)	8	#5	41'-1"	
D(E)	162	#4	3'-11"	
D1(E)	176	#5	3'-11"	
D10(E)	3	#6	4'-5"	
D11(E)	5	#6	8'-11"	
E4(E)	60	#4	15'-9"	
BX(E)	16	#5	3'-0"	
CLASS X CONCRETE SS			CU. YDS.	100.9
REINFORCEMENT BARS EPOXY COATED			LBS.	22,451

SPAN 43

BAR	NO.	SIZE	LENGTH	SHAPE
A(E)	104	#5	42'-7"	
A2(E)	92	#6	4'-0"	
A3(E)	30	#5	43'-1"	
A4(E)	21	#5	42'-6"	
B10(E)	86	#5	31'-10"	
B11(E)	23	#5	41'-3"	
B23(E)	20	#5	41'-3"	
B140(E)	4	#8	36'-1"	
B141(E)	2	#8	34'-0"	
B142(E)	4	#5	34'-10"	
B143(E)	2	#5	34'-0"	
D(E)	102	#4	3'-11"	
D1(E)	112	#5	3'-11"	
E19(E)	24	#4	16'-8"	
E20(E)	12	#4	16'-10"	
BX(E)	16	#5	3'-0"	
CLASS X CONCRETE SS			CU. YDS.	63.7
REINFORCEMENT BARS EPOXY COATED			LBS.	14,116

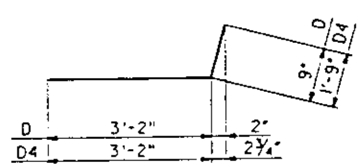
SPAN 44

BAR	NO.	SIZE	LENGTH	SHAPE
A(E)	143	#5	42'-7"	
A2(E)	146	#6	4'-0"	
A5(E)	61	#5	42'-7"	
A6(E)	42	#5	42'-6"	
A11(E)	4	#5	27'-8"	
B12(E)	258	#5	27'-7"	
B144(E)	8	#8	41'-10"	
B145(E)	8	#5	40'-8"	
D(E)	160	#4	3'-11"	
D1(E)	174	#5	3'-11"	
E21(E)	60	#4	15'-7"	
X(E)	40	#5	4'-1"	
BX(E)	16	#5	3'-0"	
CLASS X CONCRETE SS			CU. YDS.	102.1
REINFORCEMENT BARS EPOXY COATED			LBS.	22,545

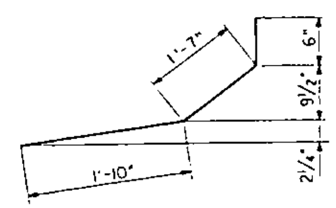
SPANS 45A THRU 47A

BAR	NO.	SIZE	LENGTH	SHAPE
A(E)	935	#5	42'-7"	
A2(E)	567	#6	4'-0"	
A7(E)	33	#5	42'-8"	
A8(E)	25	#5	42'-1"	
A11(E)	4	#5	27'-8"	
B13(E)	783	#5	30'-0"	
B14(E)	23	#5	52'-5"	
B15(E)	43	#6	60'-0"	
B16(E)	43	#6	40'-7"	
B17(E)	1	#5	26'-2"	
B25(E)	20	#5	52'-5"	
B146(E)	4	#8	33'-5"	
B147(E)	4	#8	15'-9"	
B148(E)	4	#8	47'-0"	
B149(E)	4	#8	16'-0"	
B150(E)	2	#8	43'-9"	
B151(E)	4	#5	32'-2"	
B152(E)	4	#5	15'-9"	
B153(E)	4	#5	45'-9"	
B154(E)	4	#5	16'-0"	
B155(E)	2	#5	43'-9"	
B156(E)	2	#8	45'-7"	
B157(E)	4	#8	15'-0"	
B158(E)	4	#8	48'-10"	
B159(E)	4	#8	18'-2"	
B160(E)	4	#8	49'-3"	
B161(E)	2	#5	45'-7"	
B162(E)	4	#5	15'-0"	
B163(E)	4	#5	47'-8"	
B164(E)	4	#5	18'-2"	
B165(E)	4	#5	48'-1"	
D1(E)	608	#5	3'-11"	
D2(E) △	4	#5	3'-2"	
D4(E)	561	#4	4'-11"	
D10(E)	6	#6	4'-5"	
D11(E)	10	#6	8'-11"	
E23(E)	6	#4	14'-2"	
E24(E)	30	#4	15'-9"	
E25(E)	30	#4	17'-8"	
E26(E)	12	#4	16'-0"	
E27(E)	18	#4	14'-5"	
E28(E)	30	#4	15'-0"	
E29(E)	60	#4	18'-5"	
E30(E)	12	#4	18'-[illegible]	
X(E)	80	#5	4'-1"	
BX(E)	56	#5	3'-0"	
CLASS X CONCRETE SS			CU. YDS.	363.5
REINFORCEMENT BARS EPOXY COATED			LBS.	92,494

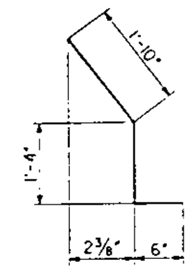
REINFORCEMENT BARS DESIGNATED (E) SHALL BE EPOXY COATED.



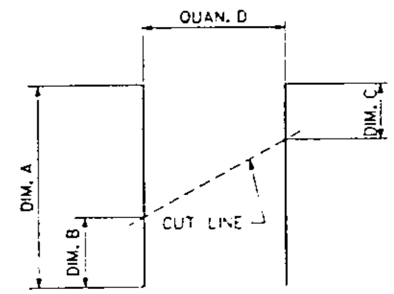
BARS D(E) AND D4(E)



BAR D1(E)



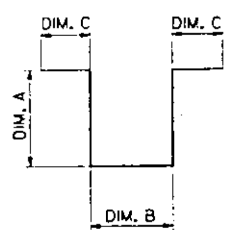
BAR D2(E) △



FIELD CUTTING DIAGRAM

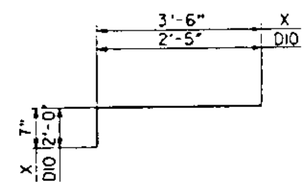
ORDER A3, A4, A5, A6, A7, A8, B11, B14, B23 AND B25 BARS FULL LENGTH. CUT TO FIT AS SHOWN AND USE REMAINING BARS AS INDICATED IN PLAN.

BAR	DIM. A	DIM. B	DIM. C	QUAN. D
A3	43'-1"	2'-6"	21'-10"	30
A4	42'-6"	1'-11"	21'-9"	21
A5	42'-7"	1'-11"	1'-11"	61
A6	42'-6"	1'-11"	1'-11"	42
A7	42'-8"	2'-0"	21'-7"	33
A8	42'-1"	1'-7"	21'-5"	25
B11	41'-3"	3'-10"	21'-0"	23
B14	52'-5"	6'-2"	26'-3"	23
B23	41'-3"	3'-10"	21'-0"	20
B25	52'-5"	6'-2"	26'-3"	20



△ BARS S(E), S1(E), S2(E), S3(E) AND D11(E)

BAR	DIM. A	DIM. B	DIM. C
S	1'-1"	1'-0½"	8"
S1	9"	1'-0½"	8"
S2	9¼"	1'-1½"	8"
S3	6¼"	1'-1½"	8"
D11	1'-4"	2'-3"	2'-0"



BARS X(E) AND D10(E)

NOTES △

FOR LOCATION OF BX(E) BARS, SEE SHEETS 30 AND 31.
FOR LOCATION OF D10(E) AND D11(E) BARS, SEE SHEET 35.

REHABILITATION FOR
APPROACH BRIDGE OVER
I-55/70 W.B., MISSOURI AVE. AND TRRA
SLAB AND PARAPET BILL OF MATERIALS
SPANS 33 THRU 47A

STRUCTURE NO. 082-6003
STA. 65+00 (FAP 799) ST. CLAIR CO.

△ REV. 12-4-87

PREPARED BY:
SVERDRUP CORPORATION
ST. LOUIS, MISSOURI

SECTION 1BR-1

SHEET NO. 21 OF 75

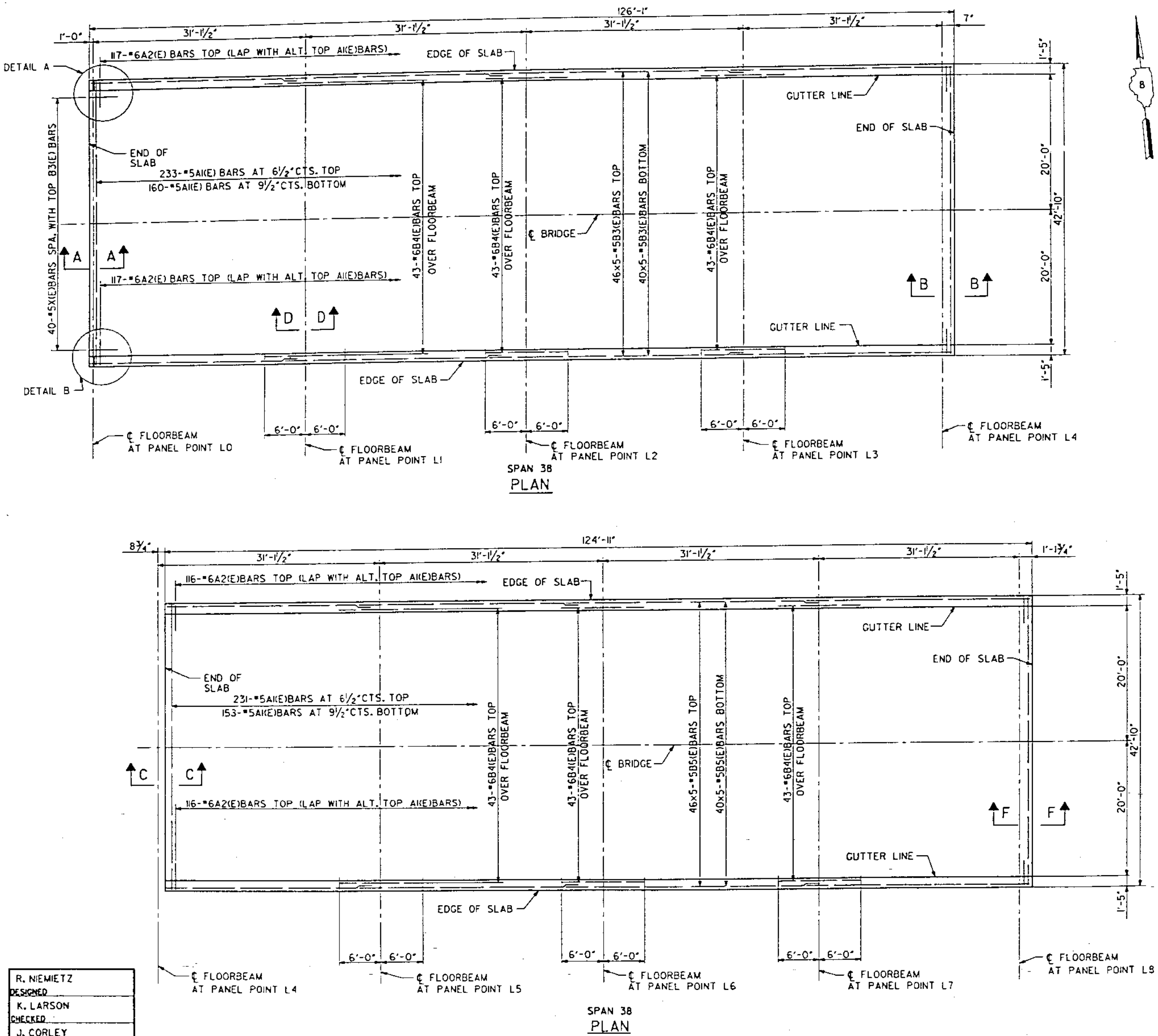
DESIGNED	
CHECKED	S. KAEMMERER
DRAWN	R.F. BECK
CHECKED	

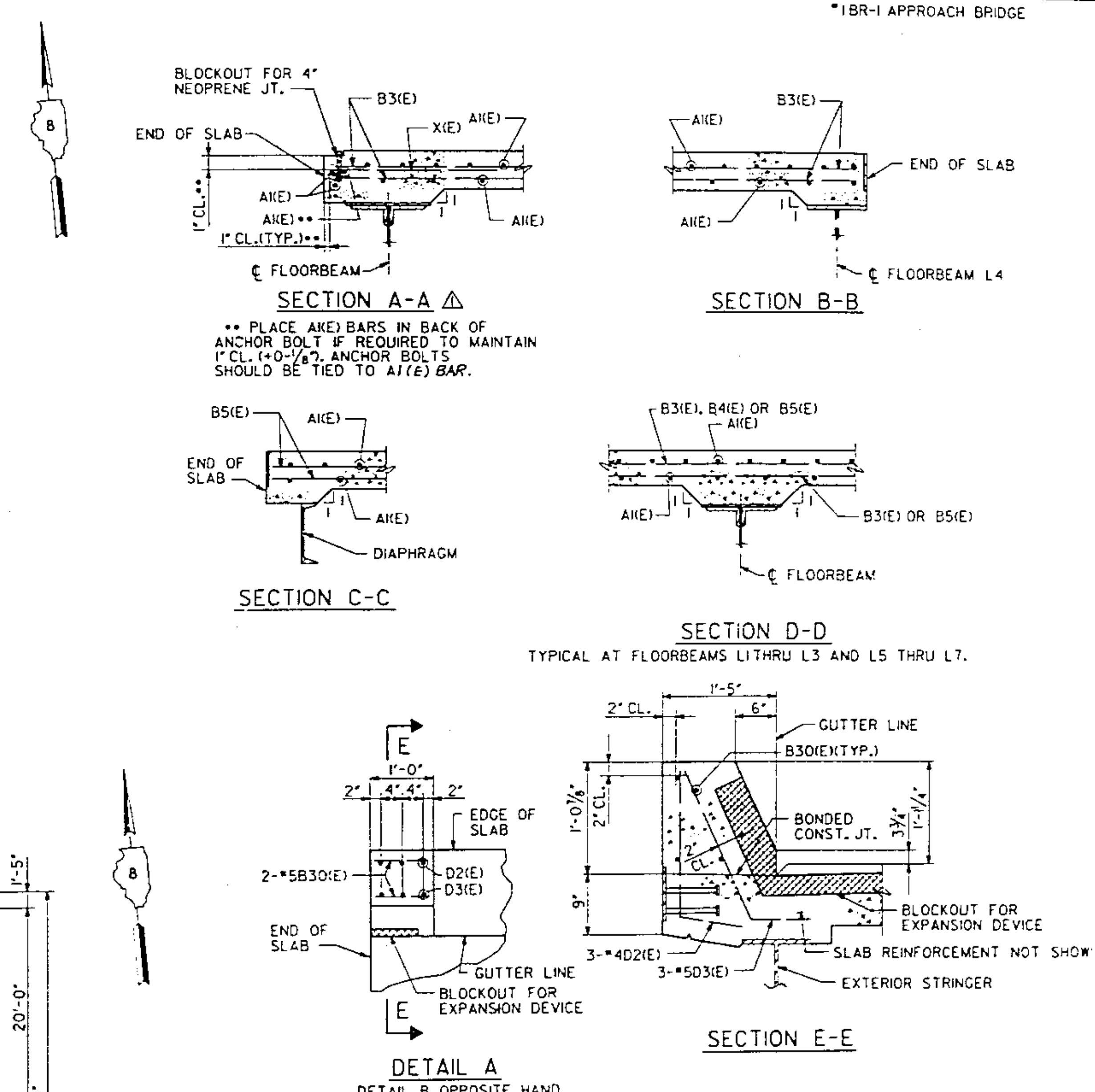
LEVELS PLOTTED 56, 57 & 63 | DATE: OCT. 23, 1987 | FILE: ZF31(15L)1BAR3.DGN | F: BAR3

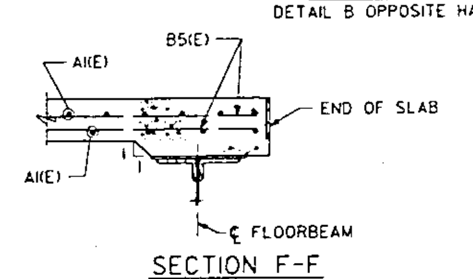
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAP 799	*	ST. CLAIR	252	170

*IBR-I APPROACH BRIDGE







NOTES

WORK THIS SHEET WITH SHEETS 23, 24 AND 26.
BARS BILLED AS: 46x9-#5 ETC. INDICATES 46 LINES OF BARS WITH 9 LENGTHS PER LINE.
DRAINAGE SCUPPERS NOT SHOWN, SEE SHEET 30 AND 31 FOR LOCATION AND DETAILS.
ALL LONGITUDINAL BARS SHALL BE LAPPED 1'-9" MINIMUM.
LONGITUDINAL BARS SHALL BE SPACED AS SHOWN IN CROSS SECTIONS.

REHABILITATION FOR
APPROACH BRIDGE OVER I-55/70 W.B., MISSOURI AVE. AND TRRA

SLAB PLAN - SPAN 38

STRUCTURE NO. 082-6003
STA. 65+00 (FAP 799) ST. CLAIR CO.

R. NIEMIETZ	DESIGNED
K. LARSON	CHECKED
J. CORLEY	DRAWN
P.W. CLARK	CHECKED

LEVELS PLOTTED 35,56,57,58 & 63 | DATE: OCT. 23, 1987
FILE: F31(15)...SLAB12.DGN | PRF: SLAB12
875836

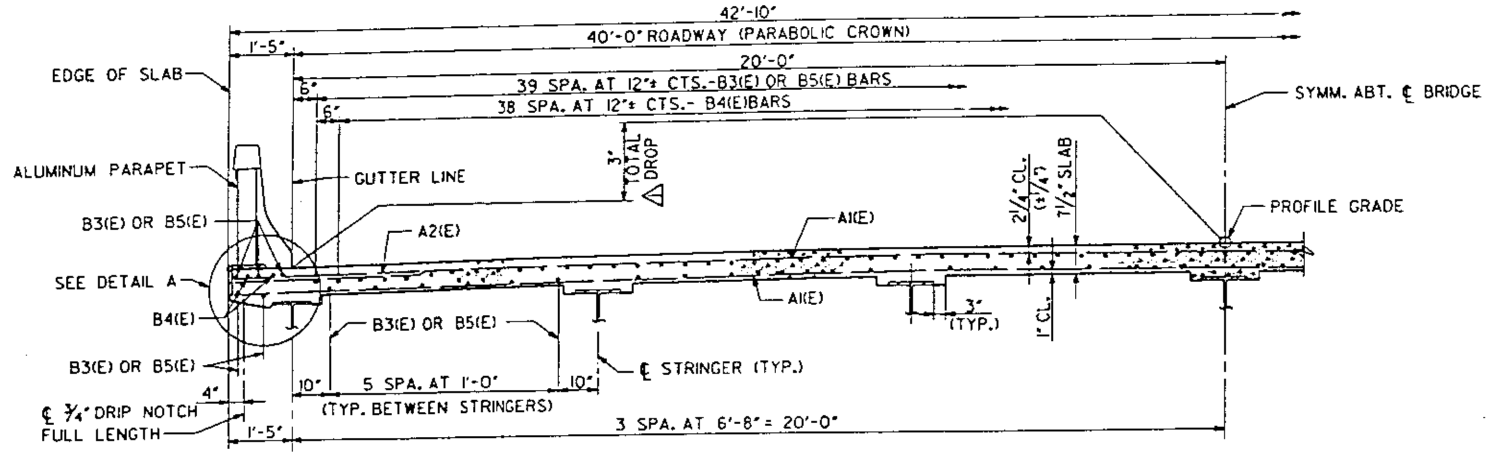
PREPARED BY: SVERDRUP CORPORATION ST. LOUIS, MISSOURI

⚠ REV. 12-4-87

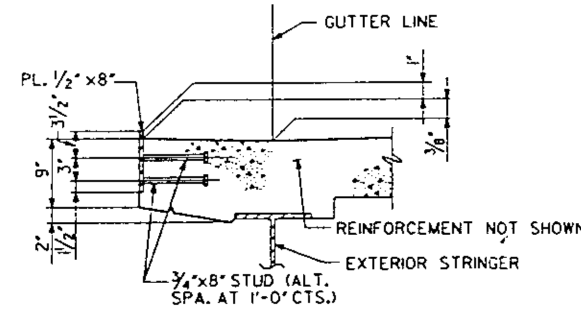
SECTION IBR-I

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAP 799	*	ST. CLAIR	252	

*IBR-1 APPROACH BRIDGE

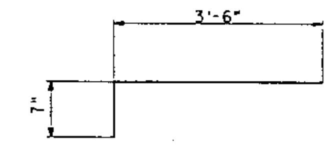


CROSS SECTION FOR SPAN 38

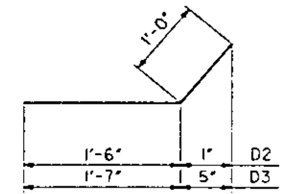


DETAIL A

NOTE: PROVIDE 1/2"x8" PL. FOR SPAN 38 (APPROX. 500 LIN. FT.) COST OF PLATE AND STUDS ARE INCLUDED IN STRUCTURAL STEEL. △



BAR X(E)

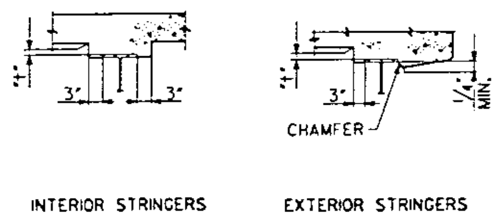


BARS D2 AND D3

BILL OF MATERIAL				
BAR	NO.	SIZE	LENGTH	SHA
A1(E)	782	#5	42'-7"	—
A2(E)	466	#6	4'-0"	—
B3(E)	430	#5	26'-7"	—
B4(E)	258	#6	12'-0"	—
B5(E)	430	#5	26'-4"	—
B30(E)	8	#5	9"	—
D2(E)	6	#4	2'-6"	—
D3(E)	6	#5	2'-7"	—
X(E)	40	#5	4'-1"	┌—
BX(E)	64	#5	3'-0"	—
CLASS X CONCRETE SS			CU. YDS.	26
REINFORCEMENT BARS EPOXY COATED			LBS.	66.

REINFORCEMENT BARS DESIGNATED (E) SH BE EPOXY COATED.
SS INDICATED SUPERSTRUCTURE

TABLE OF VARIABLE HAUNCH HEIGHTS "t"							
LOCATION ALONG STRINGER	STRINGERS						
	S1	S2	S3	S4	S5	S6	S7
L0	3/4"	3/4"	13/16"	13/16"	13/16"	3/4"	3/4"
1/4	1 3/16"	1 3/16"	1 1/4"	1 5/16"	1 1/4"	1 3/16"	1 3/16"
1/2	1 3/8"	1 3/8"	1 7/16"	1 1/2"	1 7/16"	1 3/8"	1 3/8"
3/4	1 1/4"	1 5/16"	1 3/8"	1 3/8"	1 3/8"	1 5/16"	1 1/4"
L1	7/8"	15/16"	1"	1 1/16"	1"	15/16"	7/8"
1/4	1 1/4"	1 5/16"	1 3/8"	1 7/16"	1 3/8"	1 5/16"	1 1/4"
1/2	1 3/8"	1 3/8"	1 7/16"	1 1/2"	1 7/16"	1 3/8"	1 3/8"
3/4	1 3/16"	1 1/4"	1 5/16"	1 5/16"	1 5/16"	1 1/4"	1 3/16"
L2	11/16"	13/16"	13/16"	7/8"	13/16"	13/16"	11/16"
1/4	1 5/16"	1 5/16"	1 3/8"	1 7/16"	1 3/8"	1 5/16"	1 5/16"
1/2	1 9/16"	1 5/8"	1 11/16"	1 3/4"	1 11/16"	1 5/8"	1 9/16"
3/4	1 5/8"	1 5/8"	1 11/16"	1 3/4"	1 11/16"	1 5/8"	1 5/8"
L3	1 5/16"	1 7/16"	1 1/2"	1 1/2"	1 1/2"	1 7/16"	1 5/16"
1/4	1 11/16"	1 3/4"	1 3/4"	1 13/16"	1 3/4"	1 3/4"	1 11/16"
1/2	1 11/16"	1 3/4"	1 13/16"	1 7/8"	1 13/16"	1 3/4"	1 11/16"
3/4	1 1/2"	1 9/16"	1 9/16"	1 5/8"	1 9/16"	1 9/16"	1 1/2"
L4	1"	1 1/16"	1 1/8"	1 1/8"	1 1/8"	1 1/16"	1"
1/4	1 3/8"	1 7/16"	1 1/2"	1 1/2"	1 1/2"	1 7/16"	1 3/8"
1/2	1 1/2"	1 1/2"	1 9/16"	1 5/8"	1 9/16"	1 1/2"	1 1/2"
3/4	1 5/16"	1 3/8"	1 7/16"	1 7/16"	1 7/16"	1 3/8"	1 5/16"
L5	7/8"	15/16"	1"	1"	1"	15/16"	7/8"
1/4	1 3/16"	1 1/4"	1 5/16"	1 3/8"	1 5/16"	1 1/4"	1 3/16"
1/2	1 5/16"	1 5/16"	1 3/8"	1 7/16"	1 3/8"	1 5/16"	1 5/16"
3/4	1 1/16"	1 1/8"	1 3/16"	1 1/4"	1 3/16"	1 1/8"	1 1/16"
L6	5/8"	11/16"	3/4"	3/4"	3/4"	11/16"	5/8"
1/4	15/16"	1"	1"	1 1/16"	1"	1"	15/16"
1/2	15/16"	1"	1 1/16"	1 1/8"	1 1/16"	1"	15/16"
3/4	3/4"	13/16"	13/16"	7/8"	13/16"	13/16"	3/4"
L7	1/4"	5/16"	3/8"	3/8"	3/8"	5/16"	1/4"
1/4	9/16"	5/8"	11/16"	11/16"	11/16"	5/8"	9/16"
1/2	11/16"	11/16"	11/16"	3/4"	11/16"	11/16"	11/16"
3/4	7/16"	1/2"	1/2"	1/2"	1/2"	1/2"	7/16"
L8	0	0	0	0	0	0	0



HAUNCH HEIGHTS "t"

NOTES

WORK THIS SHEET WITH SHEET 22.
△ FOR LOCATION OF BX(E) BARS, SEE SHEETS 30 AND

REHABILITATION FOR

APPROACH BRIDGE OVER
I-55/70 W.B., MISSOURI AVE. AND TR

SLAB DETAILS - SPAN 38

STRUCTURE NO. 082-6003
STA. 65+00 (FAP 799) ST. CLAIR CO.

R. NIEMIETZ	DESIGNED
K. LARSON	CHECKED
J.G. CORLEY	DRAWN
P.W. CLARK	CHECKED

FILE: ZF3:[15]J5LAB12A.DGN PRF: SLAB12A
LEVELS PLOTTED 35,56,57,58 & 63
DATE: OCT. 23, 1987
10358 87S837

4-DEC-1987 12:32

PREPARED BY:
SVERDRUP CORPORATION
ST. LOUIS, MISSOURI

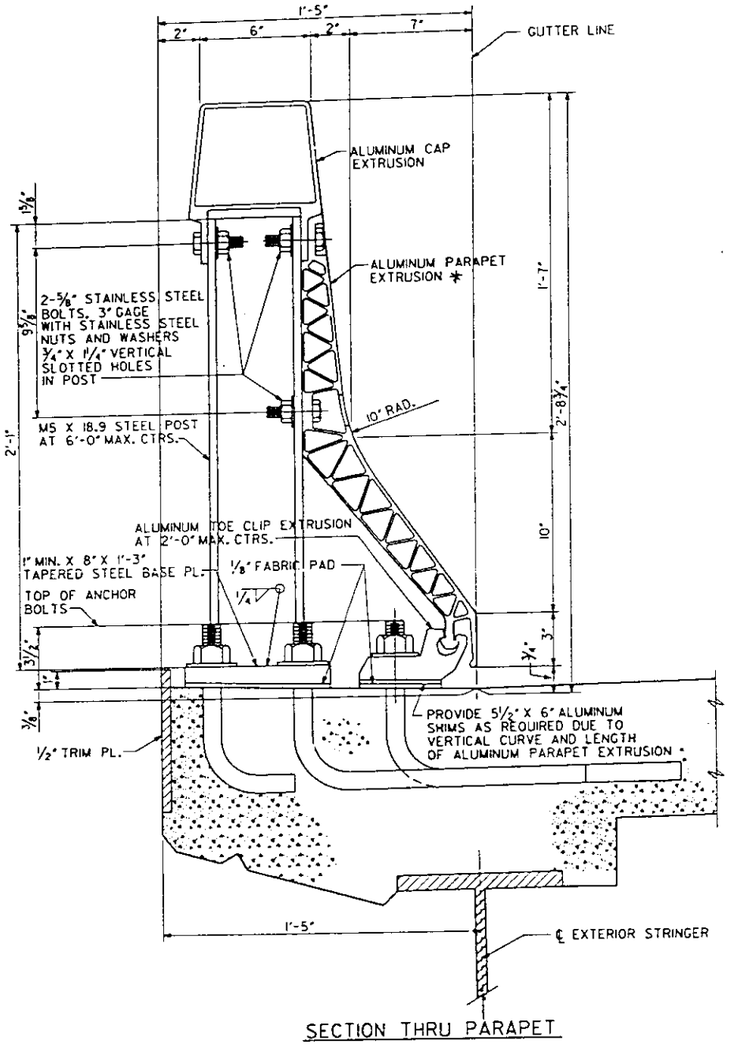
△ REV. 12-4-87

SECTION 1284

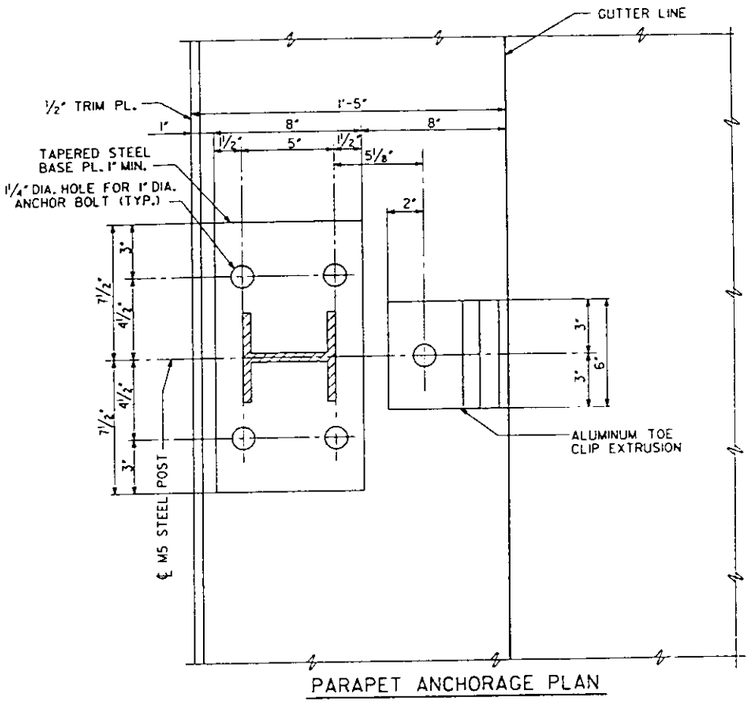
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOT. SHEETS	SHEET NO.
FAP 799	48	ST. CLAIR	252	172
		ILLINOIS PROJECT		

*IBR-1 APPROACH BRIDGE

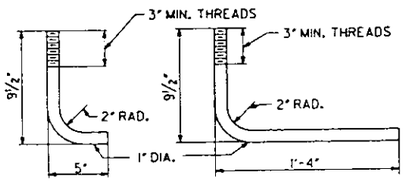


SECTION THRU PARAPET



PARAPET ANCHORAGE PLAN

* A two piece extrusion will be allowed in lieu of the one piece shown △



ANCHOR BOLT DETAILS

NOTES

ALUMINUM ALLOY PARAPET SHALL CONFORM TO ASTM B221 ALLOY 6061-T6, EXCEPT FOR SPLICE PLATE WHICH SHALL CONFORM TO ASTM B209 OR B221 ALLOY 6061-T6.

ALL STEEL SHAPES AND PLATES SHALL CONFORM TO THE REQUIREMENTS OF AASHTO M-183 EXCEPT POSTS SHALL CONFORM TO AASHTO M-188.

PARAPET SHALL BE IN ACCORDANCE WITH SECTION 508 OF THE STANDARD SPECIFICATIONS, EXCEPT AS NOTED AND SHALL BE PAID FOR AT THE CONTRACT UNIT PRICE PER LINEAL FOOT FOR ALUMINUM PARAPET.

ALL PORTIONS OF STEEL POSTS IN CONTACT WITH ALUMINUM SHALL RECEIVE TWO COATS OF ASPHALT PAINT CONFORMING TO SECTION 714.08, AND SHALL BE TYPE B.

ALL STAINLESS STEEL HARDWARE FOR RAILINGS SHALL CONFORM TO SECTION 710.37.

ALL POST AND ANCHOR DEVICES SHALL BE GALVANIZED AFTER SHOP FABRICATION IN ACCORDANCE WITH AASHTO M-111 AND ASTM A-385.

ANCHOR BOLT MATERIAL SHALL CONFORM TO THE REQUIREMENTS OF AASHTO M-183.

NUT AND WASHER MATERIAL FOR ANCHOR BOLTS SHALL CONFORM TO THE REQUIREMENTS OF ASTM A-307.

ANCHOR BOLTS, WASHERS AND NUTS SHALL BE GALVANIZED IN ACCORDANCE WITH AASHTO M-232.

THE UNIT PRICE PER LINEAL FOOT SHALL INCLUDE CAPS, PARAPET EXTRUSIONS, TOE CLIPS, POSTS, BASE PLATES, SPLICE AND SLIDING PLATES, BOLTS, NUTS, WASHERS, SHIMS, FABRIC PADS AND ANCHOR BOLTS ALONG WITH COMPLETE INSTALLATION.

REHABILITATION FOR
APPROACH BRIDGE OVER
I-55/70 W.B., MISSOURI AVE. AND TRRA

ALUMINUM PARAPET
SPAN 38

STRUCTURE NO. 082-6003
STA. 65+00 (FAP 799) ST. CLAIR CO.

DESIGNED	
CHECKED	J.G. CORLEY
DRAWN	J. KORPI
CHECKED	

PREPARED BY:
SVERDRUP CORPORATION
ST. LOUIS, MISSOURI

△ Rev. 12-4-87

SECTION IBR-1

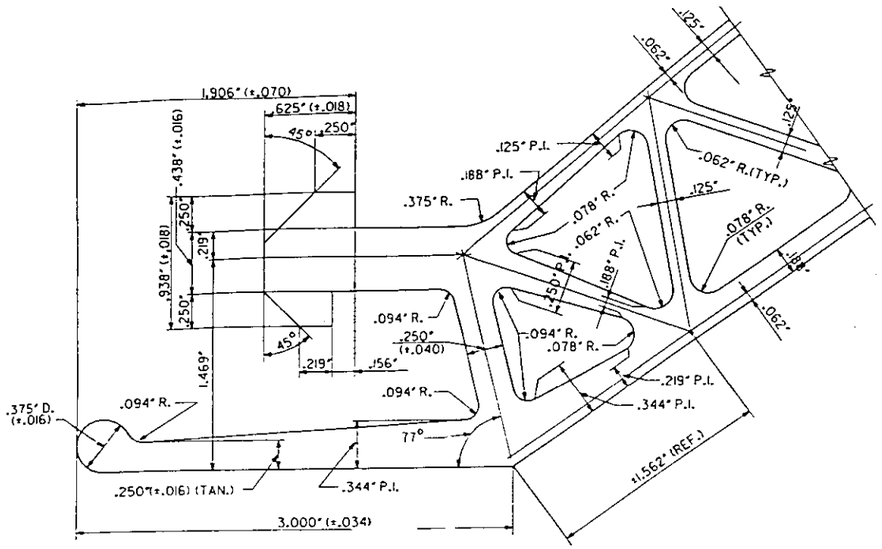
SHEET NO. 24 OF 75

DGN: ZF3105(J)DETAIL87.DGN
PRF: DETAIL87
LEVELS PLOTTED: 35,56,58 & 63
DATE: OCT. 23, 1987
0358
875867

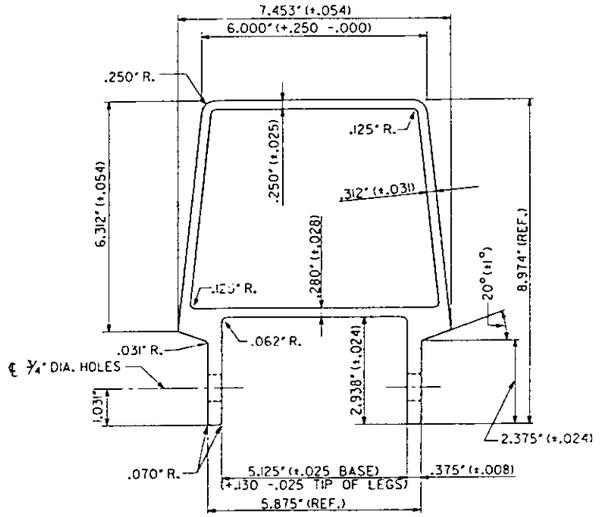
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAP 799	16	ST. CLAIR	252	173
		ILLINOIS PROJECT		

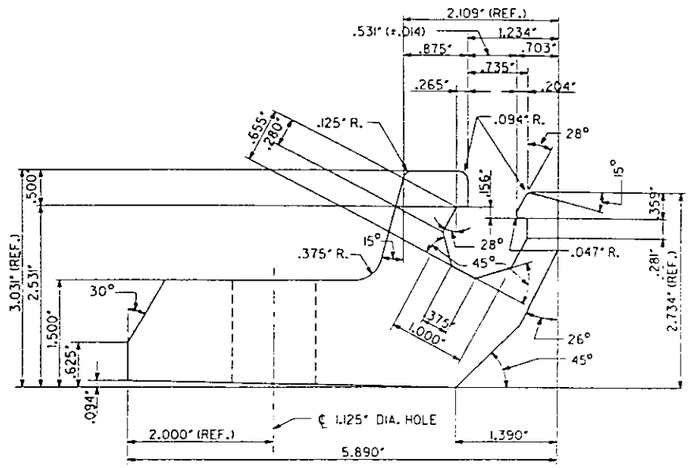
*IBR-1 APPROACH BRIDGE



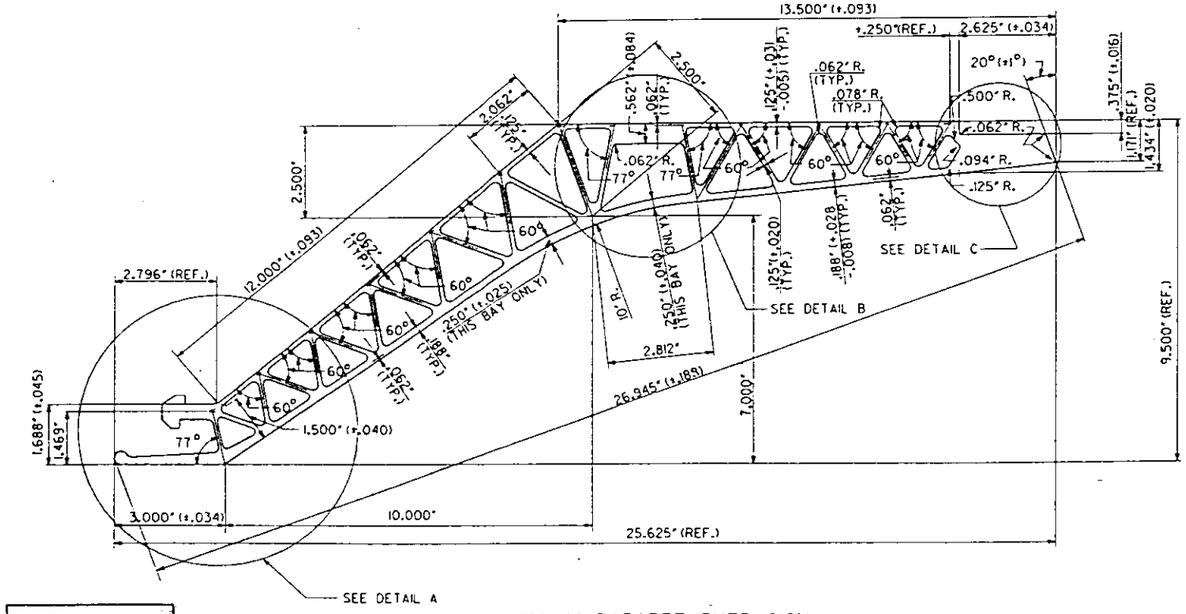
DETAIL A



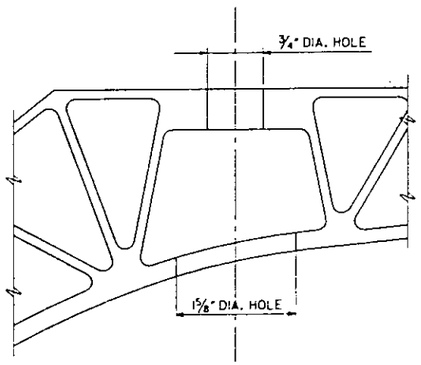
ALUMINUM CAP EXTRUSION



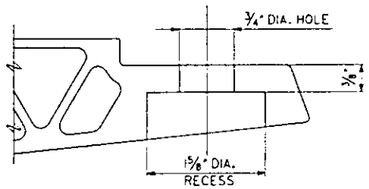
ALUMINUM TOE CLIP EXTRUSION



ALUMINUM PARAPET EXTRUSION



DETAIL B



DETAIL C

DESIGNED	
CHECKED	J.G. CORLEY
DRAWN	J. KORPI
CHECKED	

REHABILITATION FOR
APPROACH BRIDGE OVER
I-55/70 W.B., MISSOURI AVE. AND TRR.

ALUMINUM PARAPET
SPAN 38

STRUCTURE NO. 082-6003
STA. 65+00 (FAP 799 ST. CLAIR CO.

PREPARED BY:
SVERDRUP CORPORATION
ST. LOUIS, MISSOURI

SECTION IBR-1

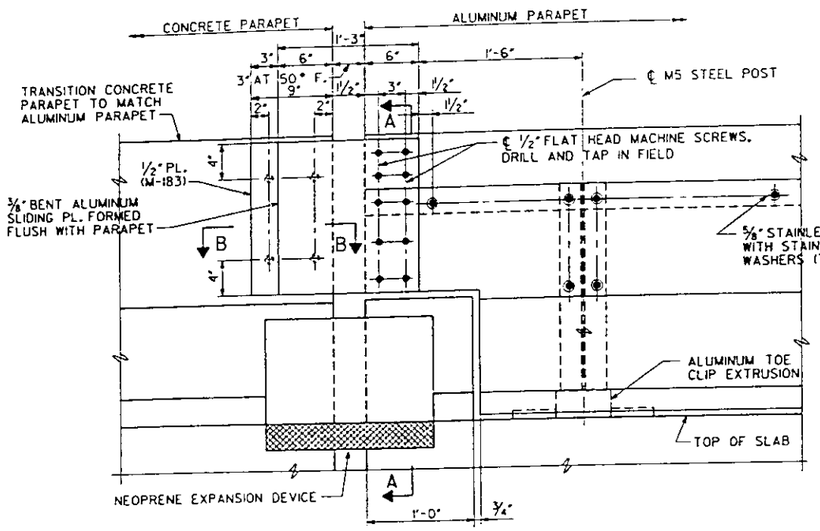
SHEET NO. 25 OF 75

FILE: ZF3(15)JDETAIL86.DGN | LEVELS PLOTTED | DATE: OCT. 23, 1987
DETAIL86 | 35,56 & 63
87S866

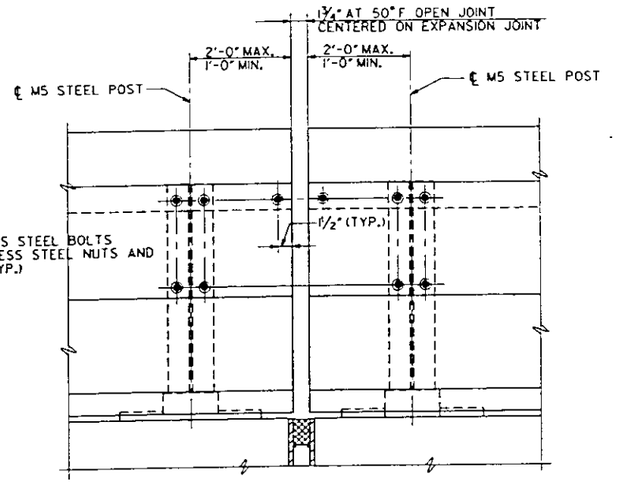
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAP 799	*	ST. CLAIR	252	174
		ILLINOIS	PROJECT	

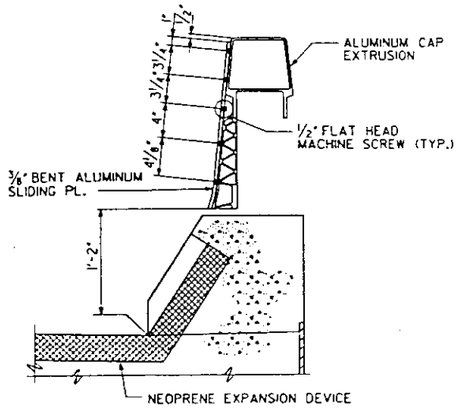
*I BR-1 APPROACH BRIDGE



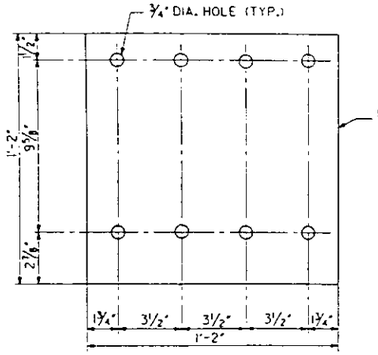
EXPANSION JOINT AT PIER 36



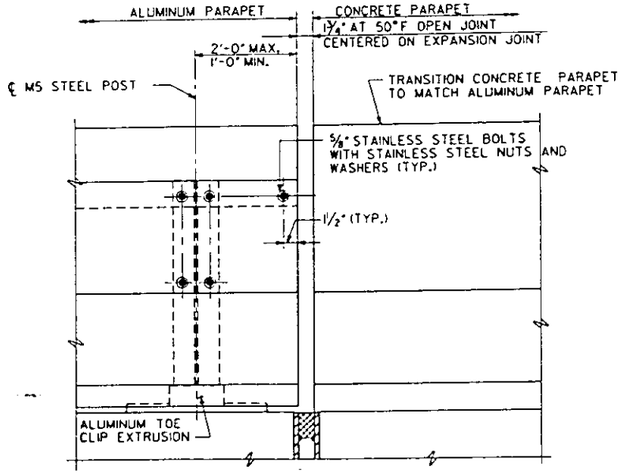
EXPANSION JOINT AT PANEL POINT L4



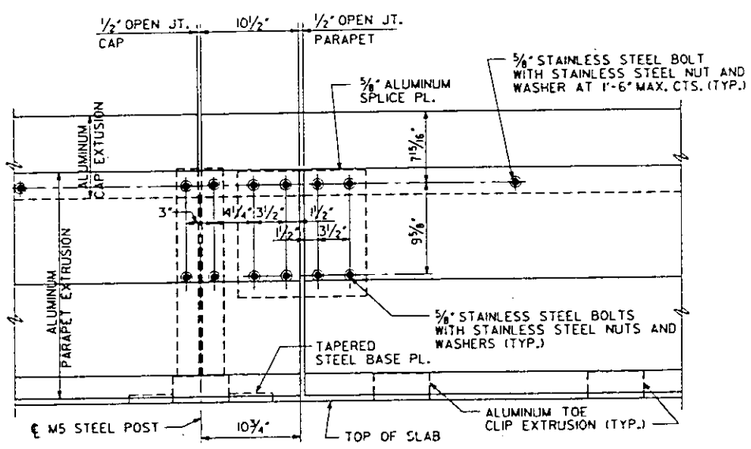
SECTION A-A



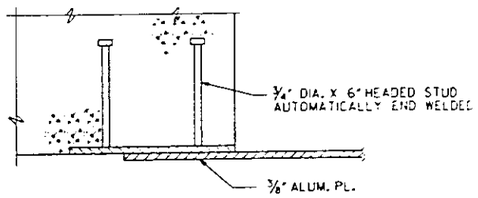
ALUMINUM SPLICE PLATE



EXPANSION JOINT AT PIER 37



PARAPET SPLICE DETAIL



SECTION B-B

REHABILITATION FOR
APPROACH BRIDGE OVER
I-55/70 W.B., MISSOURI AVE. AND TRRA

ALUMINUM PARAPET
SPAN 38

STRUCTURE NO. 082-6003
STA. 65+00 (FAP 799) ST. CLAIR CO.

PREPARED BY:
SVERDRUP CORPORATION
ST. LOUIS, MISSOURI

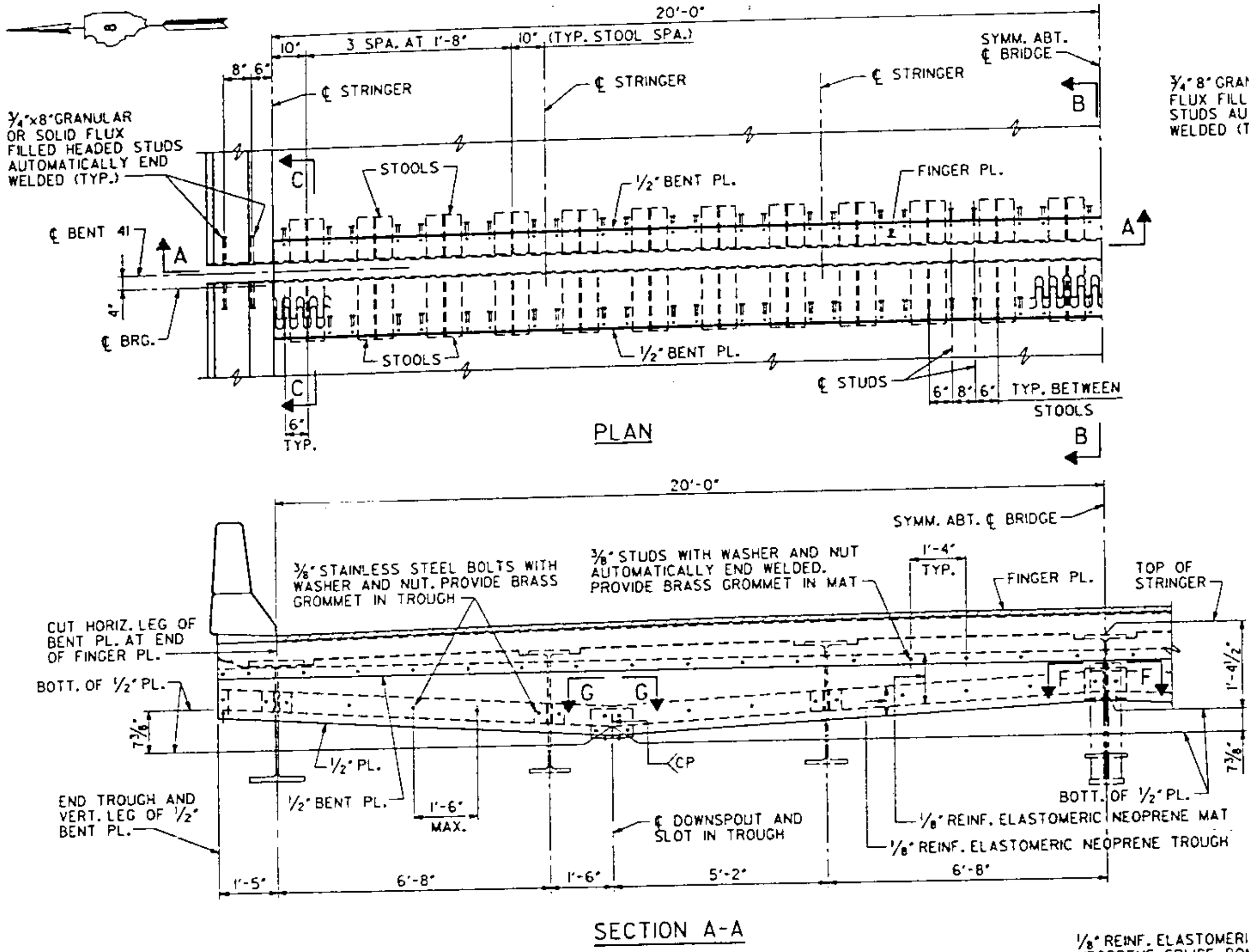
SECTION 187-I

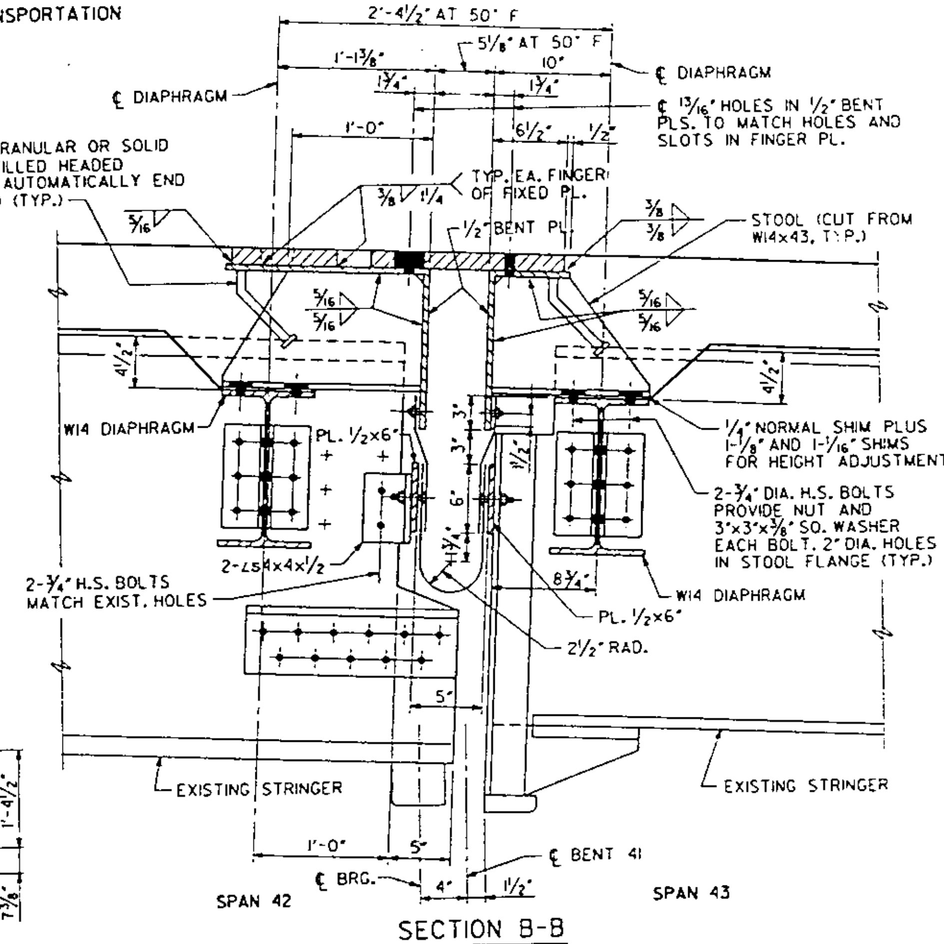
SHEET NO. 76 OF 75

DESIGNED	
CHECKED	J.G.COLREY
DRAWN	J. KORPI
CHECKED	

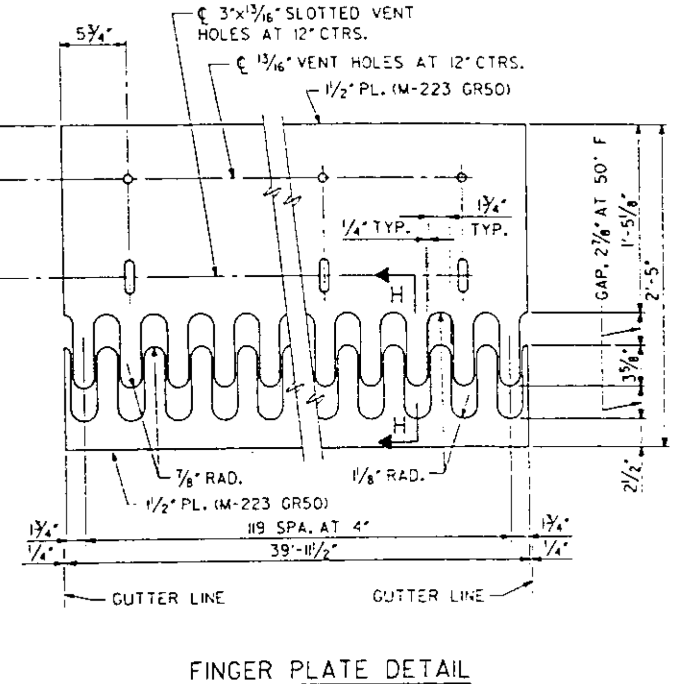
FILE: ZF3(15)L:\DETAIL88.DGN
PRF: DETAIL88
158 168
LEVELS PLOTTED 35,56,58 & 63
DATE: OCT. 23, 1987

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

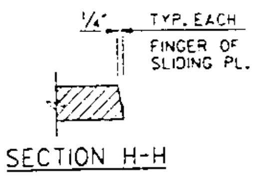


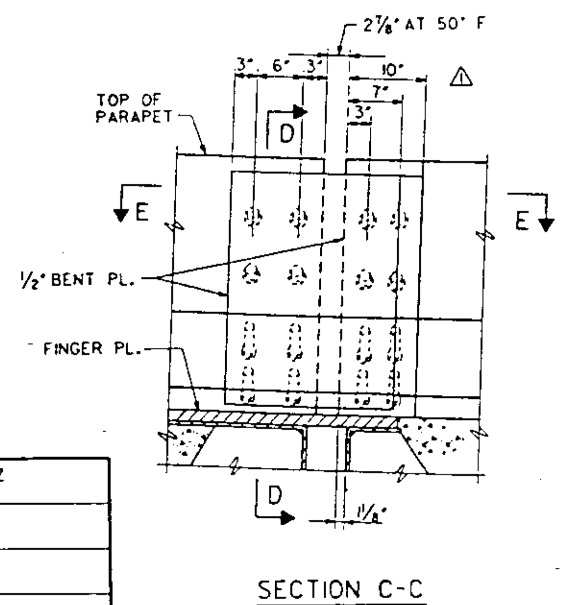


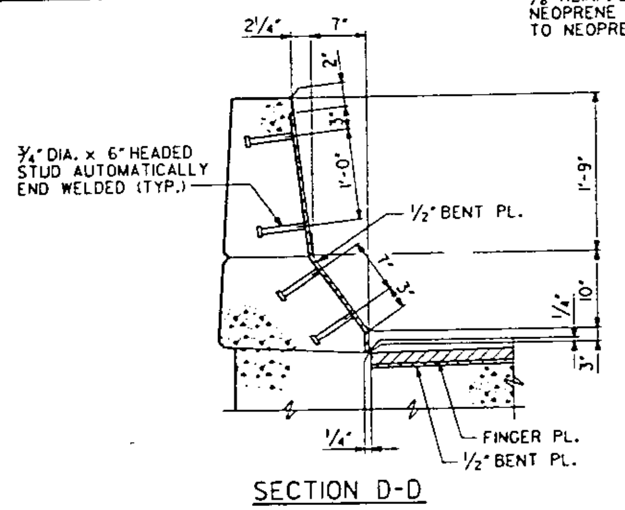
NOTE: TROUGH CONNECTION SHOWN IN SPAN 43 IS TYPICAL FOR STRINGERS S4, S5 AND S6. CONNECTION AT STRINGERS S1, S2, S3 AND S7 WILL BE SAME AS SHOWN IN SPAN 42.

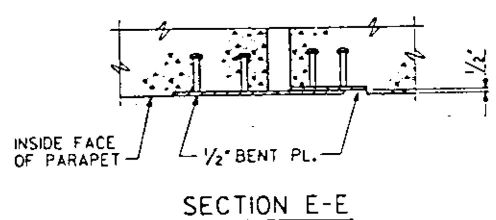


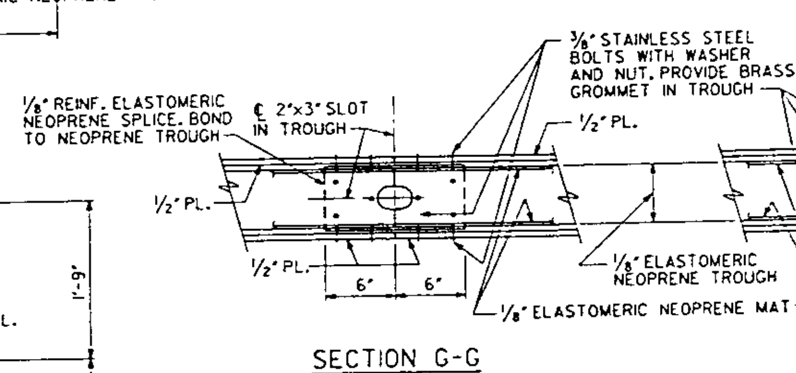
NOTE: PLATE SHALL BE FLAME CUT USING ¼" WIDE CUT. INCREASE GAP ⅛" FOR EACH 5° F FALL IN TEMPERATURE. DECREASE GAP ⅛" FOR EACH 5° F RAISE IN TEMPERATURE.

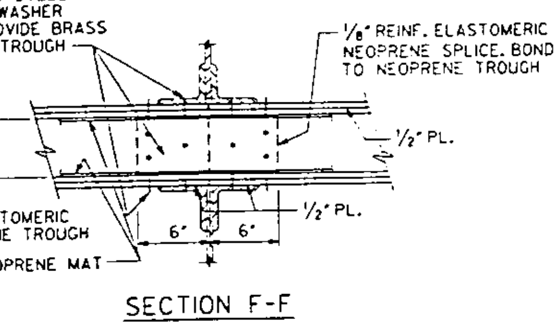


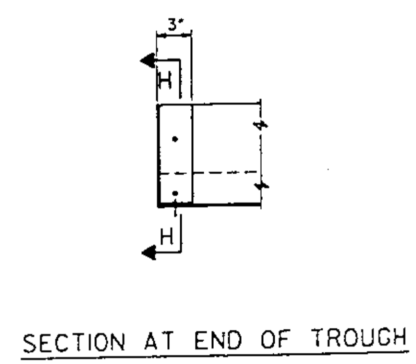


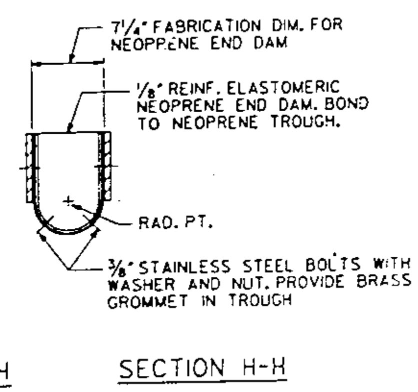












NOTES

ALL MATERIAL SHALL CONFORM TO AASHTO M-183 UNLESS OTHERWISE NOTED.

EXPANSION DEVICE SHALL BE FABRICATED TO FIT CROWN AND GRADE OF ROADWAY.

ALL PLATES, STUDS, STOOLS AND BOLTS FOR EXPANSION DEVICE SHALL BE INCLUDED IN THE PRICE BID FOR "STRUCTURAL STEEL".

THE COST OF THE ELASTOMERIC NEOPRENE MAT AND TROUGH COMPLETE IN PLACE SHALL BE FULLY COVERED UNDER THE PRICE BID FOR "REINFORCED NEOPRENE EXPANSION JOINT TREATMENT". SEE SPECIAL PROVISIONS.

REHABILITATION FOR

APPROACH BRIDGE OVER I-55/70 W.B., MISSOURI AVE. AND TRRA

FINGER PLATE EXPANSION DEVICE AT BENT 41

STRUCTURE NO. 082-6003
STA. 65+00 (FAP 799) ST. CLAIR CO.

R. NIEMIETZ	DESIGNED
P. CLARK	CHECKED
C. DEED	DRAWN
J.M. KORPI	CHECKED

LEVELS PLOTTED 35 56 58 63 DATE: OCT. 23, 1987
PRF: DETAIL23 ...2F3(15I)DETAIL23.DGN

PREPARED BY: SVERDRUP CORPORATION ST. LOUIS, MISSOURI

REV. 12-4-87

SECTION ISR-1

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAP 799	8	ST. CLAIR	252	176
		ILLINOIS PROJECT		

8 1 BR - 1 APPROACH BRIDGE

Joint Size	"C" at 50°F	"D" at 50°F	Location
2½"	2½"	1¾" MIN.	AT PIER 43A AND ABUT. D
4"	3"	2½" MIN.	AT ABUT. C AND PIER 36

INSTALLATION NOTES

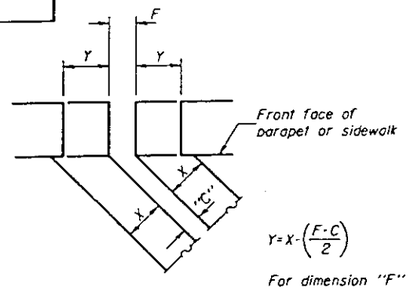
1. Install sponge mandrels into positions shown to form flap convolution.
2. Install parapet or sidewalk piece (trim roadway flap to fit before applying epoxy).
3. Install continuous seal in roadway.
4. Install anchor blocks as indicated.

NOTE A: Maximum spacing of anchor bolts shall be 12" centers.

SKEW LIMITATIONS

The details of the anchor blocks and the elastomeric membrane in the parapet, as shown, are for up to 50° skews.

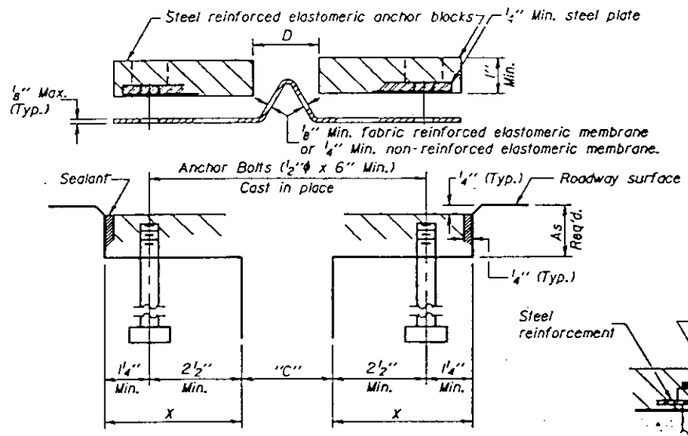
For skews greater than 50° the anchor blocks and the elastomeric membrane, installed in accordance with dimension "D" might require modifications to insure a minimum clearance of 1½" from centerline of anchor studs to edge of parapet opening. The anchor blocks and the elastomeric membrane shall also be installed to the top of the parapet with the anchor studs spaced at ±12" cts.



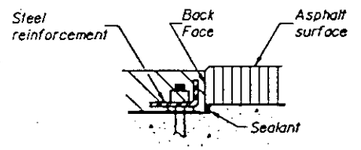
$Y = X - \left(\frac{F-C}{2}\right)$

For dimension "F" see sheets

FORMING BLOCKOUT SKETCH



CROSS SECTION



ANCHOR BLOCK REINFORCEMENT WITH ASPHALT SURFACE

GENERAL NOTES

Continuous Seal Neoprene Expansion Joint shall consist of molded anchor blocks of elastomer and steel, field assembled over continuous lengths of elastomeric membrane. See Special Provisions.

The elastomeric membrane shall be premolded with a single or a double upward convolution that will have a "memory" to return to its molded position upon joint closure.

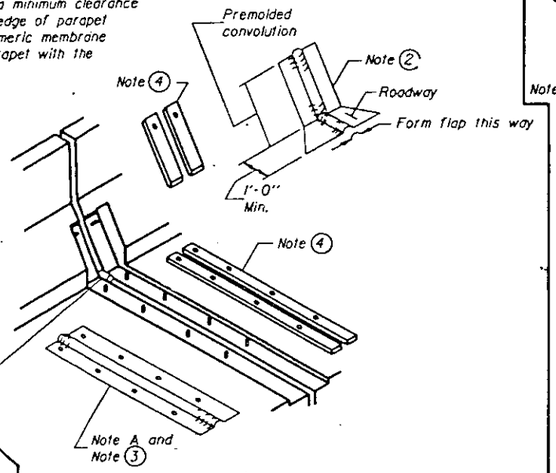
The steel reinforcement must extend up the back face of anchor blocks when asphalt surfaces are used but is optional in concrete blockout.

The convolution length shall be such that the extended length will not be greater than the manufactured length when the joint is fully expanded in its design range and will not protrude above the anchor blocks when the joint is fully compressed.

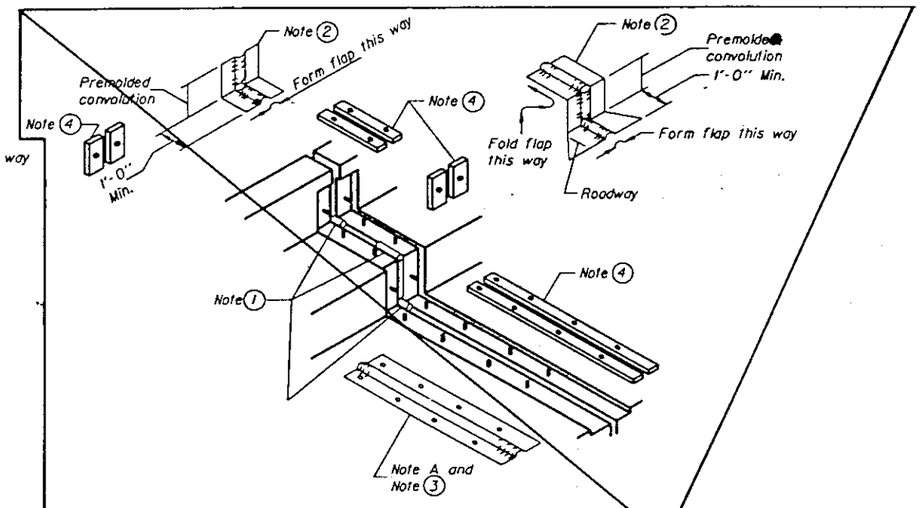
Joint openings shall be adjusted in accordance with Article 503.07(c) of the Standard Specifications when the deck is poured at an ambient temperature other than 50° F.

The parapet and sidewalk flaps may be furnished factory vulcanized to the roadway membrane provided the centerline of the convolution is maintained and the process and method meet the approval of the Engineer.

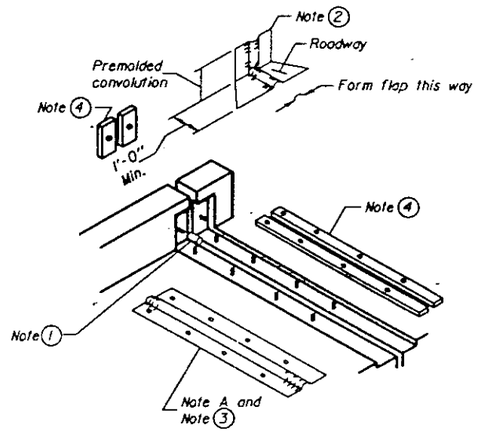
Anchor bolts, washers and nuts, to be plated against corrosion in accordance with the special provisions, shall be zinc-coated by the mechanical plating method conforming to ASTM B695, class 50. Zinc-coated nuts shall be tapped oversize in accordance with the requirements of AASHTO M291 and shall meet the supplementary requirements S1.1 thru S1.2.1 of the same specifications for lubricant and testing.



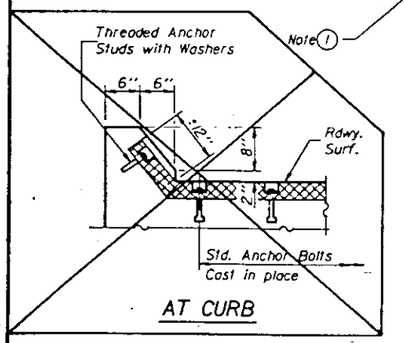
AT PARAPET



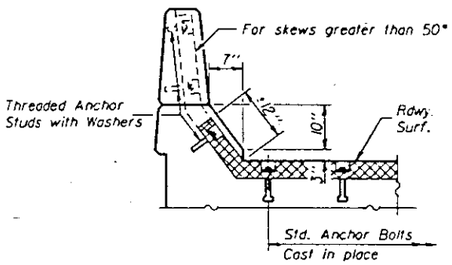
AT SIDEWALK OR MEDIAN



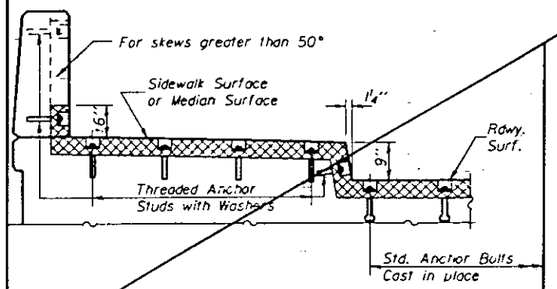
AT ABUTMENTS



AT CURB

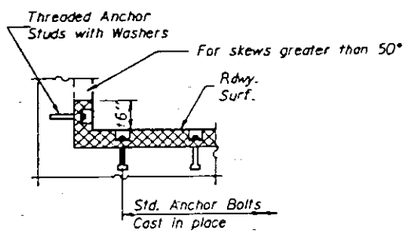


AT PARAPET



AT SIDEWALK OR MEDIAN

TYPICAL END TREATMENTS



AT ABUTMENTS

DESIGNED	
CHECKED	
DRAWN	
CHECKED	P.W. Clark

EJ-CS 12-1-83

OCT. 23, 1987

PREPARED BY:
SVERDRUP CORPORATION
ST. LOUIS, MISSOURI

REHABILITATION FOR
APPROACH BRIDGE OVER
I-55/70 W.B., MISSOURI AVE. AND TRR

NEOPRENE EXPANSION DEVICES

STRUCTURE NO. 082-6003
STA. 65+00 (FAP 799) ST. CLAIR CO.

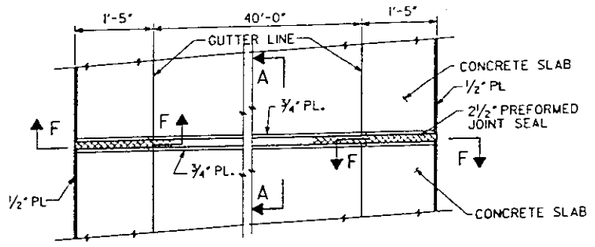
SECTION (BR-1)

SHEET NO. 28 OF 75

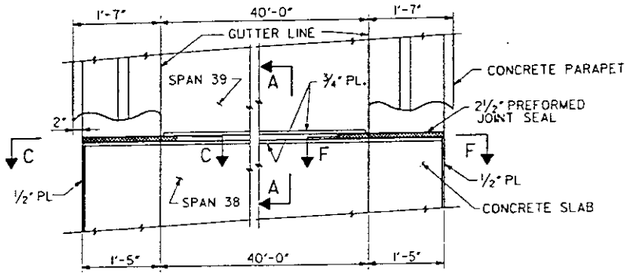
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAP 799	*	ST. CLAIR	252	177
		ILLINOIS PROJECT		

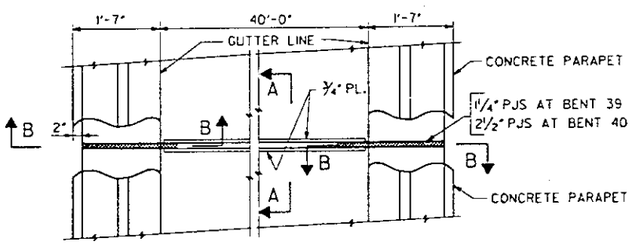
*1BR-1 APPROACH BRIDGE



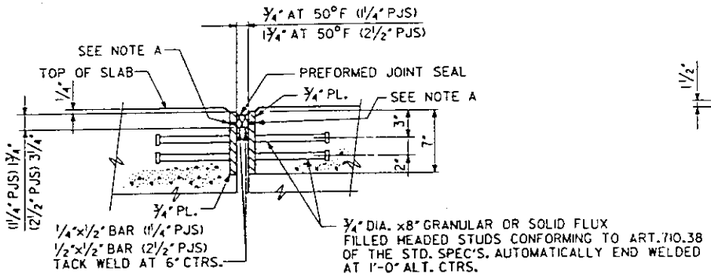
PART PLAN AT PANEL POINT L4
NOTE: ALUMINUM PARAPET NOT SHOWN.



PART PLAN AT PIER 37
NOTE: ALUMINUM PARAPET OF SPAN 38, NOT SHOWN.

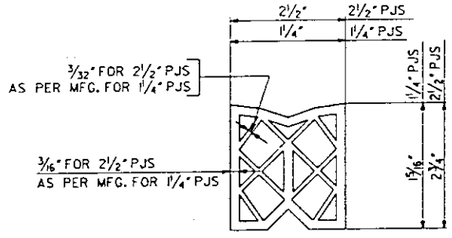


PART PLAN AT BENTS 39 AND 40

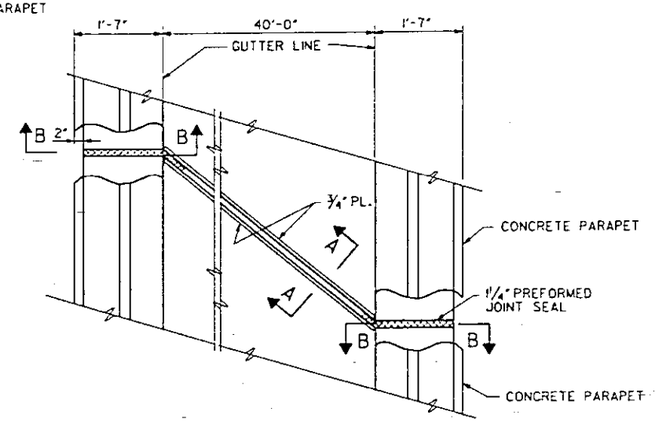


NOTE A: PROVIDE 7/16" HOLES AT 12" CTS. FOR 3/8" BOLTS. ALL BOLTS SHALL BE BURNED, SAWED OR CHIPPED OFF FLUSH WITH THE PLATES AFTER FORMS ARE REMOVED.

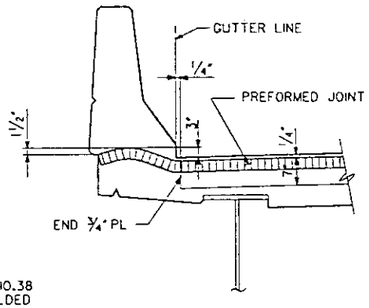
SECTION A-A



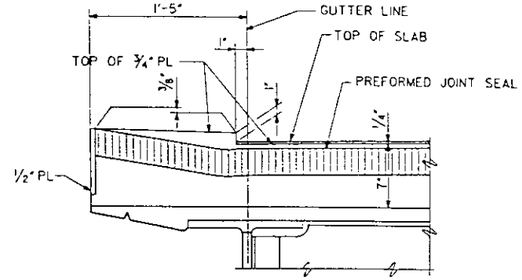
PREFORMED JOINT SEAL



PART PLAN AT BENT 42



SECTION B-B



SECTION F-F
SECTION C-C IS OPPOSITE HAND.

NOTES

EXPANSION JOINT PLATES SHALL BE FABRICATED TO FIT TOP OF THE ROADWAY.

REHABILITATION FOR
APPROACH BRIDGE OVER
I-55/70 W.B., MISSOURI AVE. AND TRR.

PREFORMED JOINT SEALS

STRUCTURE NO. 082-6003
STA. 65+00 (FAP 799) ST. CLAIR CO.

DESIGNED	
CHECKED	J.G. CORLEY
DRAWN	P.W. CLARK
CHECKED	

PREPARED BY:
SVERDRUP CORPORATION
ST. LOUIS, MISSOURI

SECTION 1BR-1

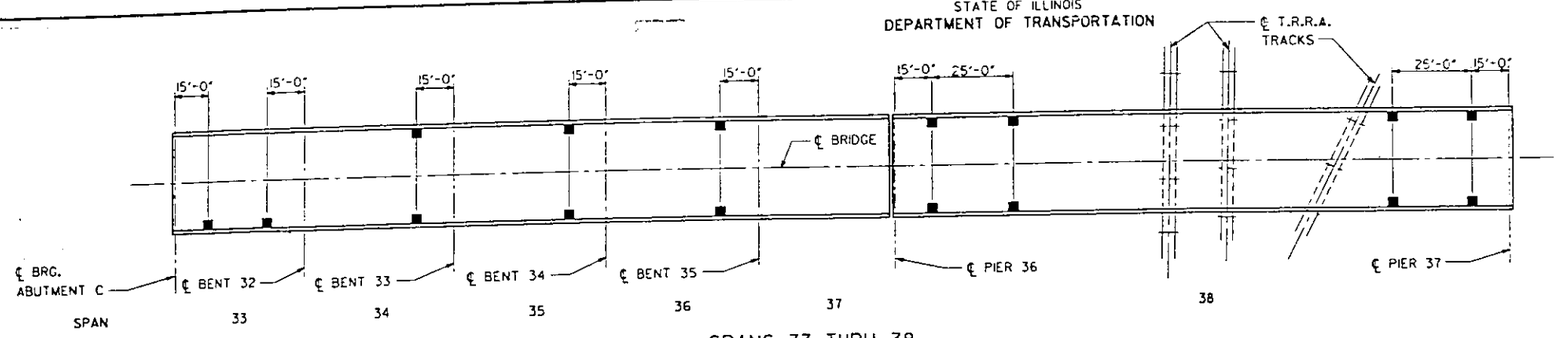
SHEET NO. 29 OF 75

28-OCT-19 J6:57
DATE: OCT. 23, 1987
LEVELS PLOTTED 35,56,58 & 63
FILE: ZF3:[5]JDETAIL82.DGN
PRF: DETAIL82
2358 d75860

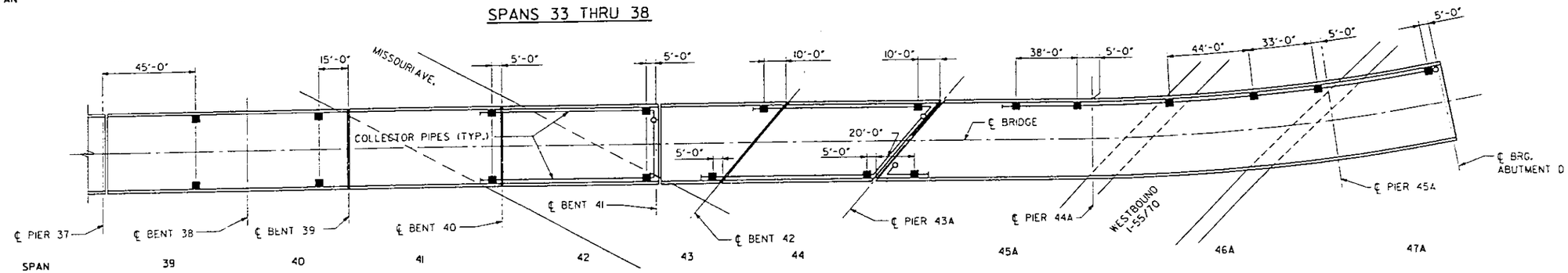
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAP 799	*	ST. CLAIR	252	178
		ILLINOIS PROJECT		

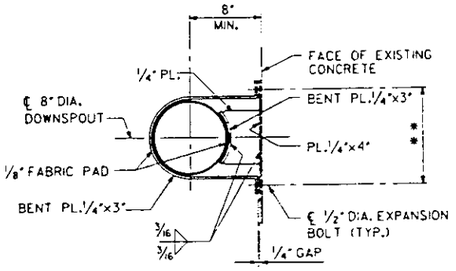
*IBR-1 APPROACH BRIDGE



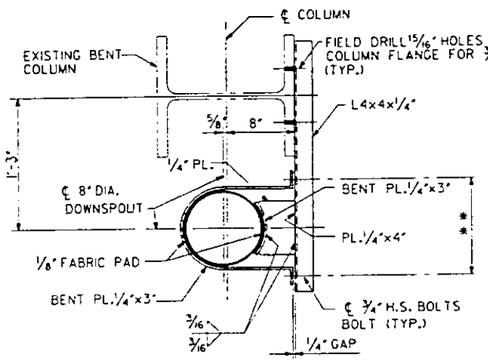
SPANS 33 THRU 38



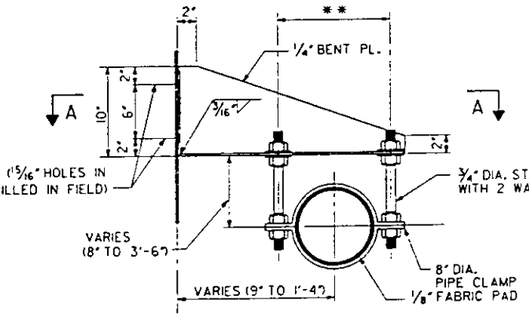
SPANS 39 THRU 47A



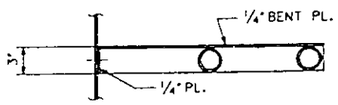
TYPE A PIPE SUPPORT ⚠



TYPE B PIPE SUPPORT ⚠

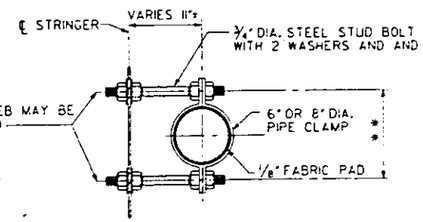


TYPE C PIPE SUPPORT ⚠



SECTION A-A

PIPE CLAMP



TYPE D PIPE SUPPORT ⚠

** DIMENSIONS AS REQUIRED BY PIPE CLAMP. ⚠

NOTES

■ INDICATES DRAINAGE SCUPPER.
DRAIN SPACING IS MEASURED ALONG GUTTER LINE. DRAINS MAY BE SHIFTED SLIGHTLY FROM THE LOCATION SHOWN TO CLEAR EXISTING OBSTRUCTIONS.

ALL COLLECTOR PIPES AND FITTINGS, EXCEPT AS NOTED, SHALL BE REINFORCED THERMOSETTING PLASTIC (FIBERGLASS), SEE SPECIAL PROVISIONS.

HORIZONTAL COLLECTOR PIPE RUNS SHALL HAVE A MINIMUM SLOPE OF ¼" PER FOOT EXCEPT AS NOTED.

¾" DIA. STUD BOLTS SHALL CONFORM TO M-164 AND SHALL HAVE 6" OF THREADS AT EACH END.

REHABILITATION FOR

APPROACH BRIDGE OVER I-55/70 W.B., MISSOURI AVE. AND TRRA

DRAINAGE LOCATION PLAN AND DRAIN PIPE SUPPORTS

STRUCTURE NO. 082-6003
STA. 65+00 (FAP 799) ST. CLAIR CO.

DESIGNED	
CHECKED	
S. STEGMAN	
DRAWN	
J. LENZ	
CHECKED	

DESIGNED BY: LENZ ENGINEERING, INC. ST. LOUIS, MISSOURI
PREPARED BY: SVERDRUP CORPORATION ST. LOUIS, MISSOURI

⚠ REV. 12-4-87

SECTION 1BR-1

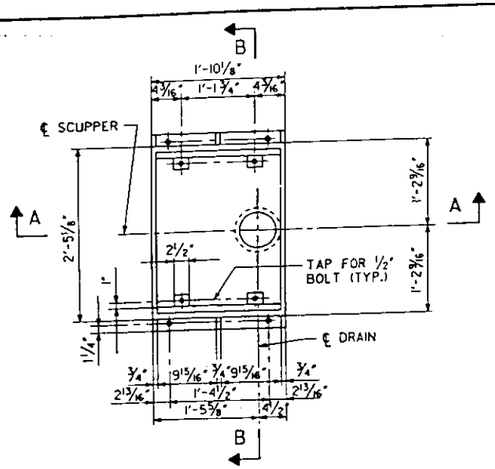
SHEET NO. 30 OF 75

FILE: ZF3(151)DRNGE3.DGN
PRF: DRNGE3
LEVELS PLOTTED 35, 56, 58, 63
DATE: OCT. 23, 1987

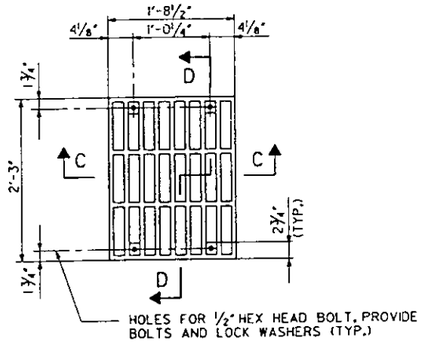
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAP 799	*	ST. CLAIR	252	179
	ILLINOIS	PROJECT		

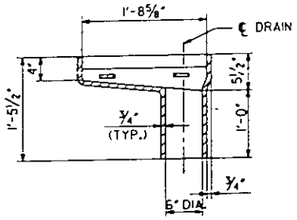
*IBR-1 APPROACH BRIDGE



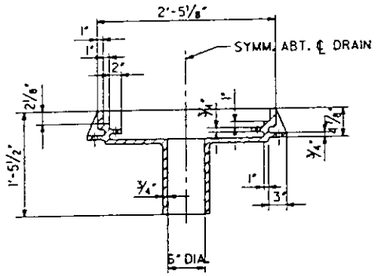
PLAN



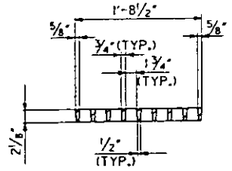
PLAN



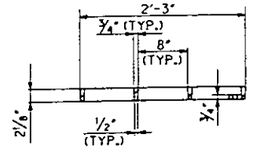
SECTION A-A



SECTION B-B

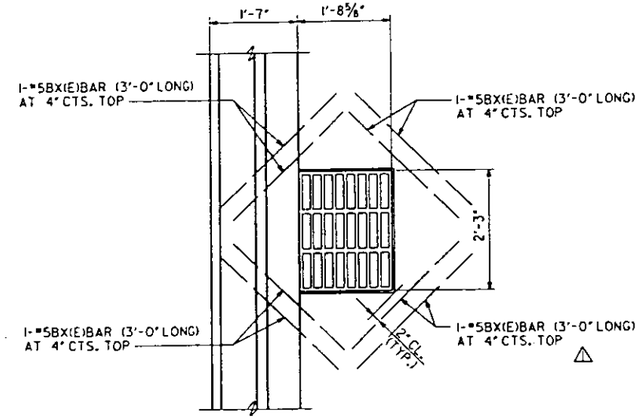


SECTION C-C



SECTION D-D

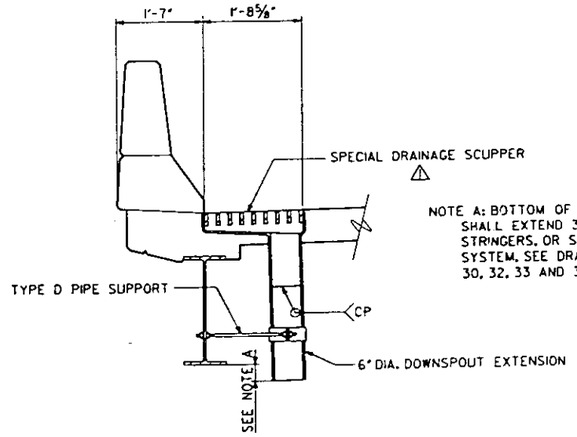
SPECIAL DRAINAGE SCUPPER ⚠



PLAN - REINFORCEMENT AT DRAINAGE SCUPPER

NOTE: REINFORCEMENT SHALL CLEAR DRAINAGE SCUPPERS. CUT LONGITUDINAL AND TRANSVERSE BARS AS REQUIRED.

SCUPPER GRATE



TYPICAL SECTION AT DRAINAGE SCUPPER

NOTES

DRAINAGE SCUPPERS SHALL BE GRAY CAST IRON CONFORMING TO THE REQUIREMENTS OF AASHTO M-105, CLASS 30.

BOLTS AND WASHERS SHALL CONFORM TO THE REQUIREMENTS OF ASTM A-307.

ALL BOLTS AND WASHERS SHALL BE GALVANIZED IN ACCORDANCE WITH AASHTO M-232.

AS AN ALTERNATE BOLTS AND WASHERS MAY BE STAINLESS STEEL CONFORMING TO THE REQUIREMENTS OF ASTM A-193, TYPE 304.

COST OF THE GRATE, FRAME, DOWNSPOUT, BOLTS AND WASHERS INCLUDING COMPLETE INSTALLATION OF SCUPPER SHALL BE PAID FOR AT THE UNIT BID PRICE FOR "*SPECIAL DRAINAGE SCUPPER*" ⚠

REHABILITATION FOR
APPROACH BRIDGE O/ER
I-55/70 W.B., MISSOURI AVE. AND TRR

⚠ SPECIAL DRAINAGE SCUPPER DETAILS

STRUCTURE NO. 082-6003
STA. 65+00 (FAP 799) ST. CLAIR CO.

DESIGNED	
CHECKED	S. STEGMAN
DRAWN	J. LENZ
CHECKED	

FILE: ZF3(65)JDETAIL05.DGN
PRF: DETAIL05
LEVELS PLOTTED 35,56,58 & 63
DATE: OCT. 23, 1987

DESIGNED BY: LENZ ENGINEERING, INC. ST. LOUIS, MISSOURI
PREPARED BY: SVERDRUP CORPORATION ST. LOUIS, MISSOURI

⚠ REV. 12-4-87

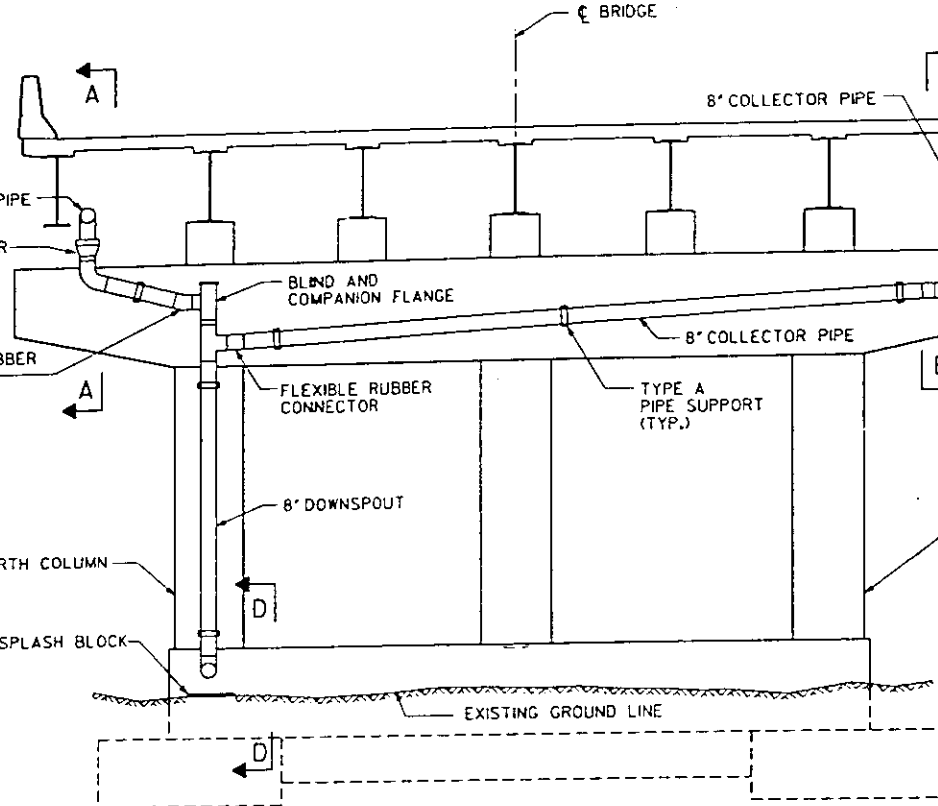
SECTION 1BR-1

SHEET NO. 31 OF 75

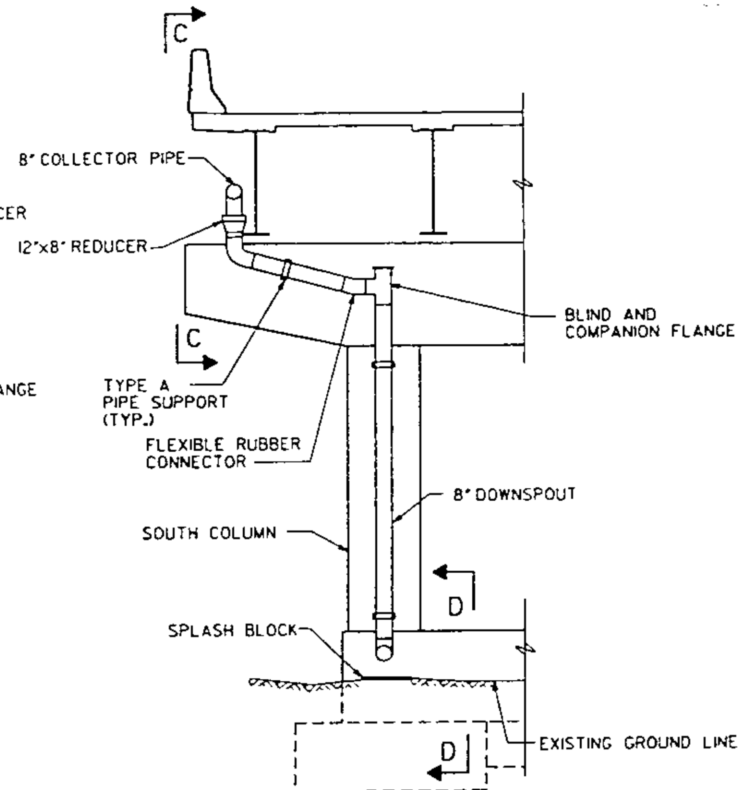
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAP 799	*	ST. CLAIR	252	180

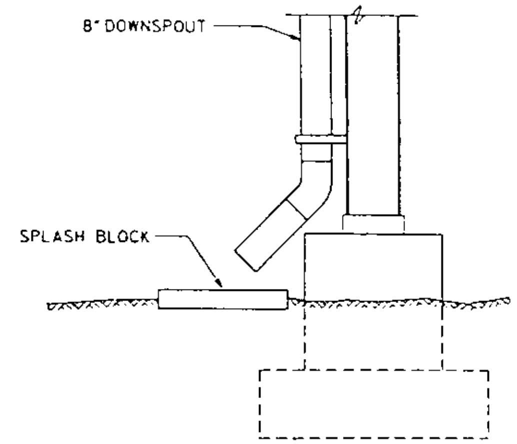
*IBR-I APPROACH BRIDGE



DRAINAGE COLLECTION AND DOWNSPOUT AT PIER 43A

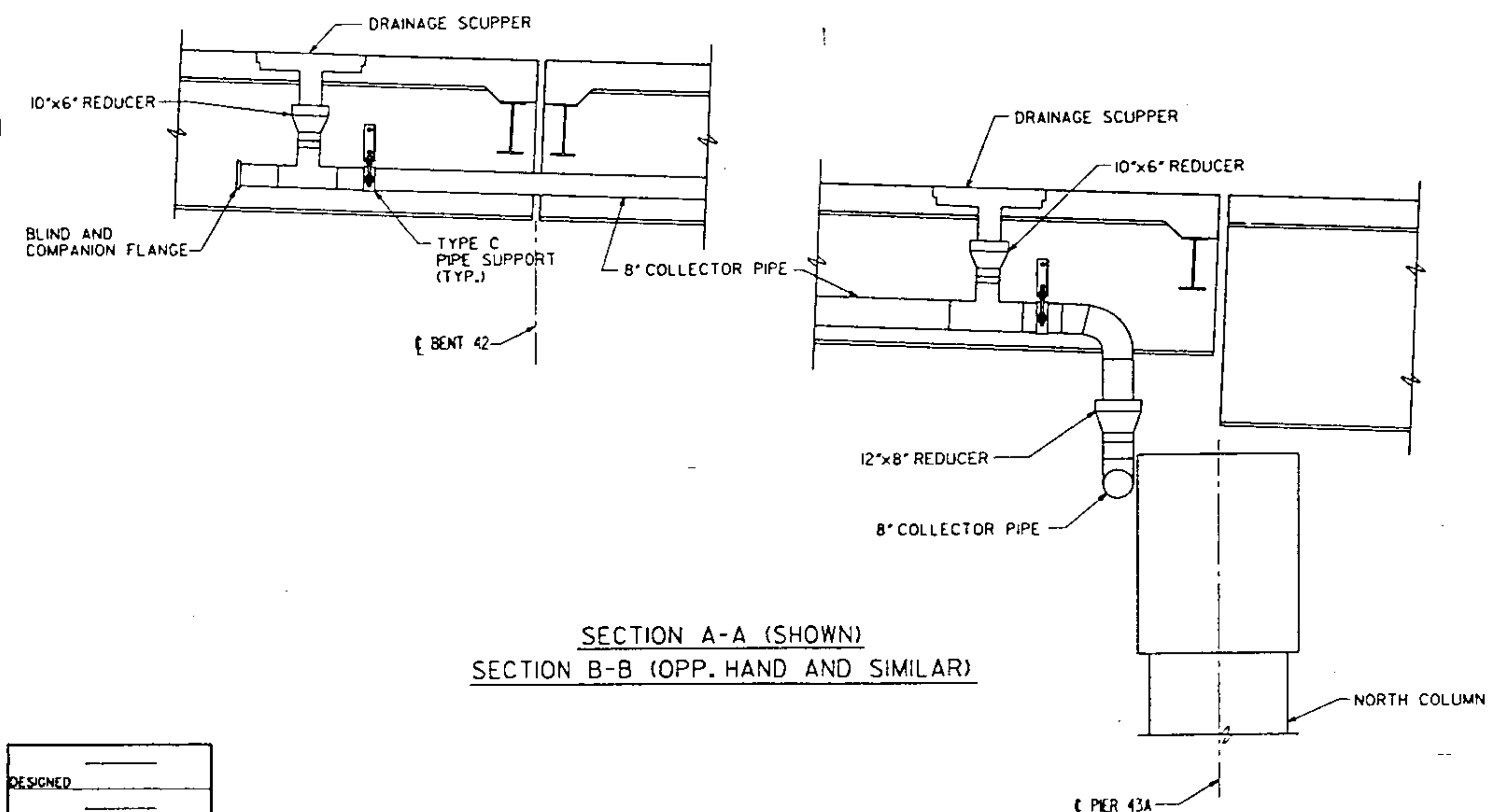


DRAINAGE COLLECTION AND DOWNSPOUT AT PIER 43A

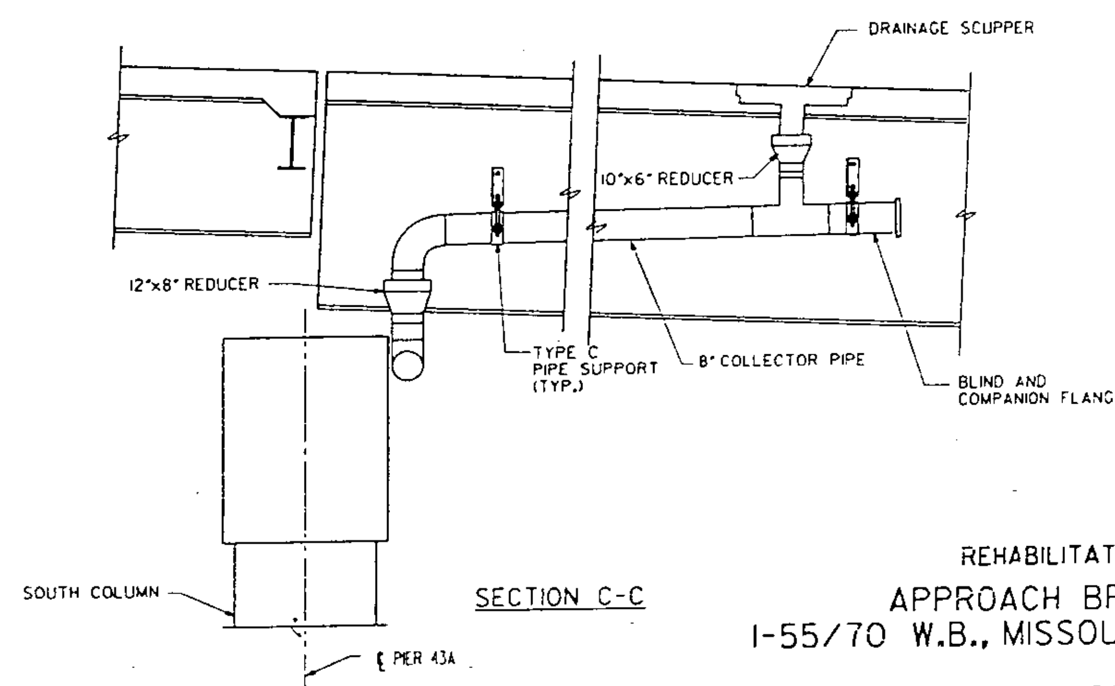


SECTION D-D

NOTE: SPLASH BLOCK SHALL BE 2' X 4' CLASS X CONCRETE. COST INCIDENTAL.



SECTION A-A (SHOWN)
SECTION B-B (OPP. HAND AND SIMILAR)



SECTION C-C

REHABILITATION FOR
APPROACH BRIDGE OVER
I-55/70 W.B., MISSOURI AVE. AND TRRA

DRAINAGE SYSTEM - SPANS 43 THRU 45A

STRUCTURE NO. 082-6003
STA. 65+00 (FAP 799) ST. CLAIR CO.

DESIGNED
CHECKED
S.STEGMAN
DRAWN
J. LENZ
CHECKED

DESIGNED BY: LENZ ENGINEERING, INC. ST. LOUIS, MISSOURI
PREPARED BY: SVERDRUP CORPORATION ST. LOUIS, MISSOURI

SECTION IBR-I

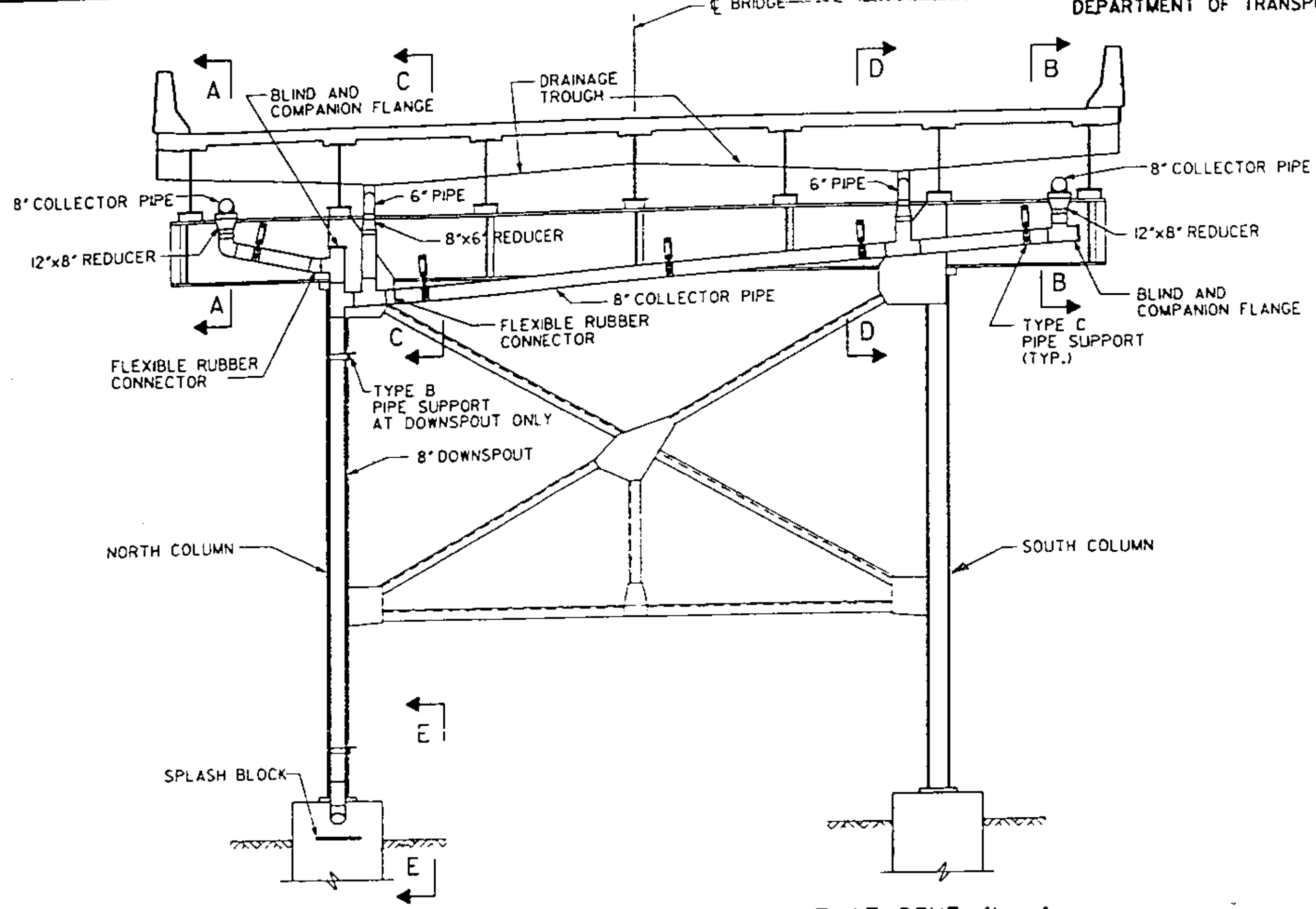
SHEET NO. 32 OF 75

LEVELS PLOTTED 35,56,63
DATE: OCT. 23, 1987
EF3:[151,1].APPDRNI.DGN
PHF: APPDRNI

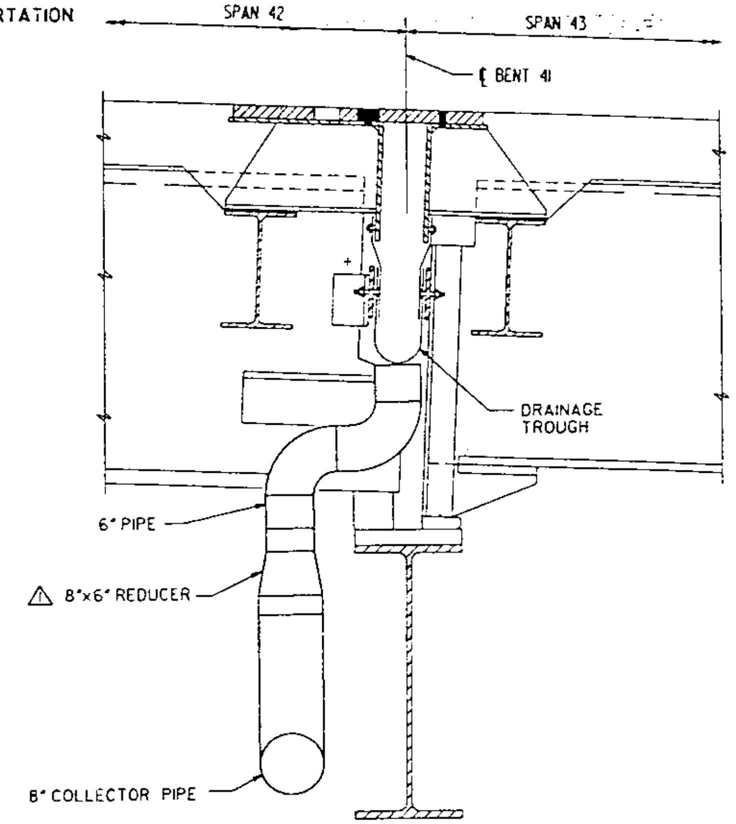
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAP 799	*	ST. CLAIR	252	181

*IBR-I APPROACH BRIDGE

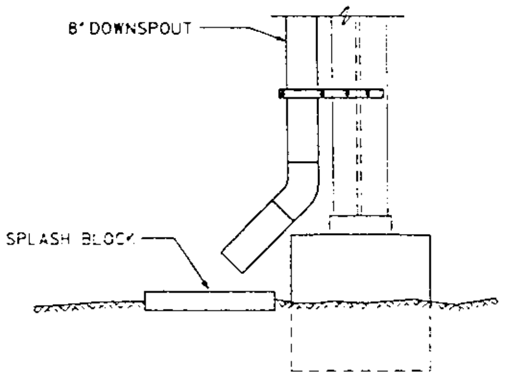


DRAINAGE COLLECTION AND DOWNSPOUT AT BENT 41 △



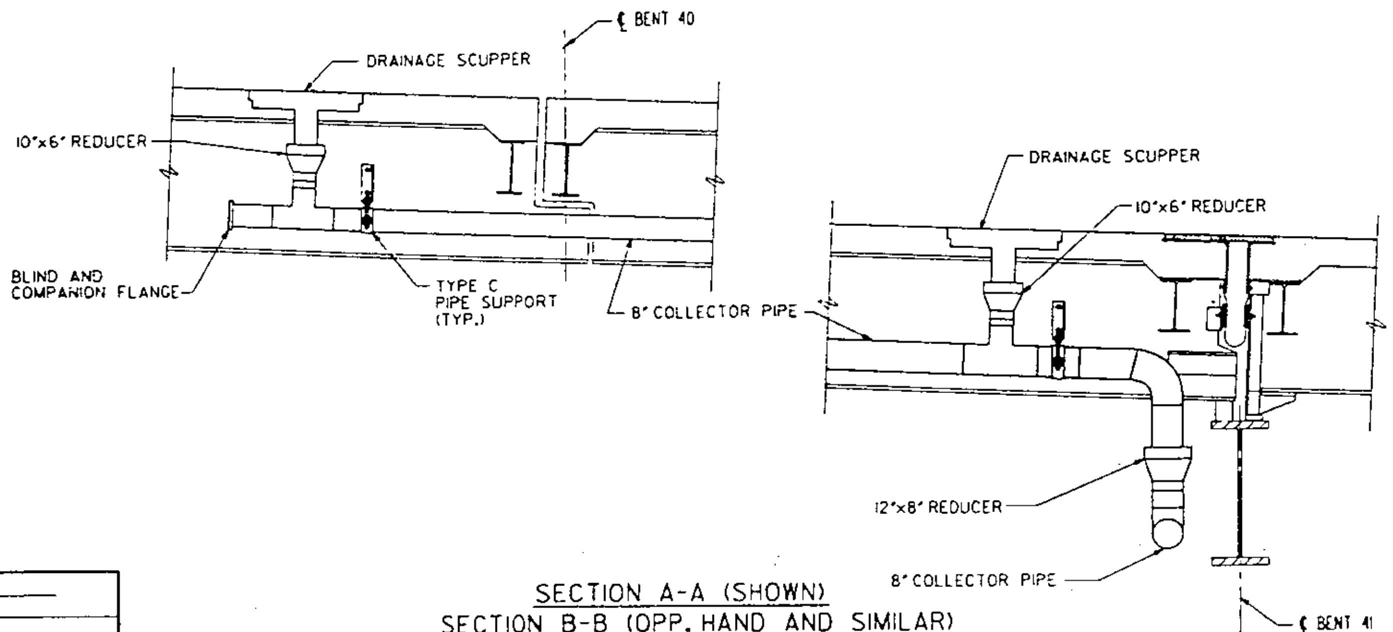
SECTION C-C (SHOWN)

SECTION D-D (OPPOSITE HAND AND SIMILAR)



SECTION E-E

NOTE: SPLASH BLOCK SHALL BE 2' X 4' CLASS X CONCRETE. COST INCIDENTAL.



SECTION A-A (SHOWN)

SECTION B-B (OPP. HAND AND SIMILAR)

REHABILITATION FOR

APPROACH BRIDGE OVER
I-55/70 W.B., MISSOURI AVE. AND TRRA

DRAINAGE SYSTEM - SPANS 41 THRU 42

STRUCTURE NO. 082-6003
STA. 65+00 (FAP 799) ST. CLAIR CO.

DESIGNED	
CHECKED	M.J.JALINSKY
DRAWN	J. LENZ
CHECKED	

DESIGNED BY: LENZ ENGINEERING, INC. ST. LOUIS, MISSOURI

PREPARED BY: SVERDRUP CORPORATION ST. LOUIS, MISSOURI

△ REV. 12-4-87

SECTION IBR-I

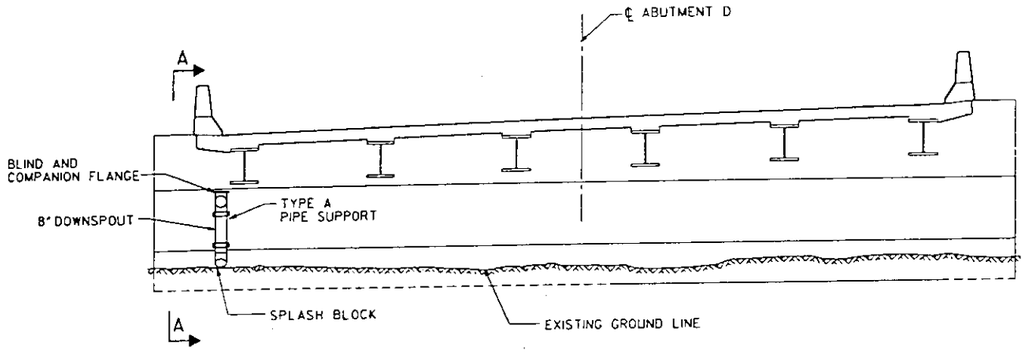
SHEET NO. 33 OF 75

FILE: 53:[15U]APPDRN2.DGN LEVELS PLOTTED 35,56,58,63 DATE: OCT. 23, 1987

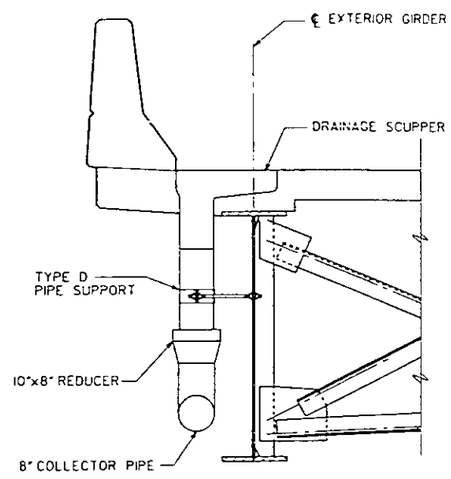
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET
FAP 799	*	ST. CLAIR	252	182
		ILLINOIS PROJECT		

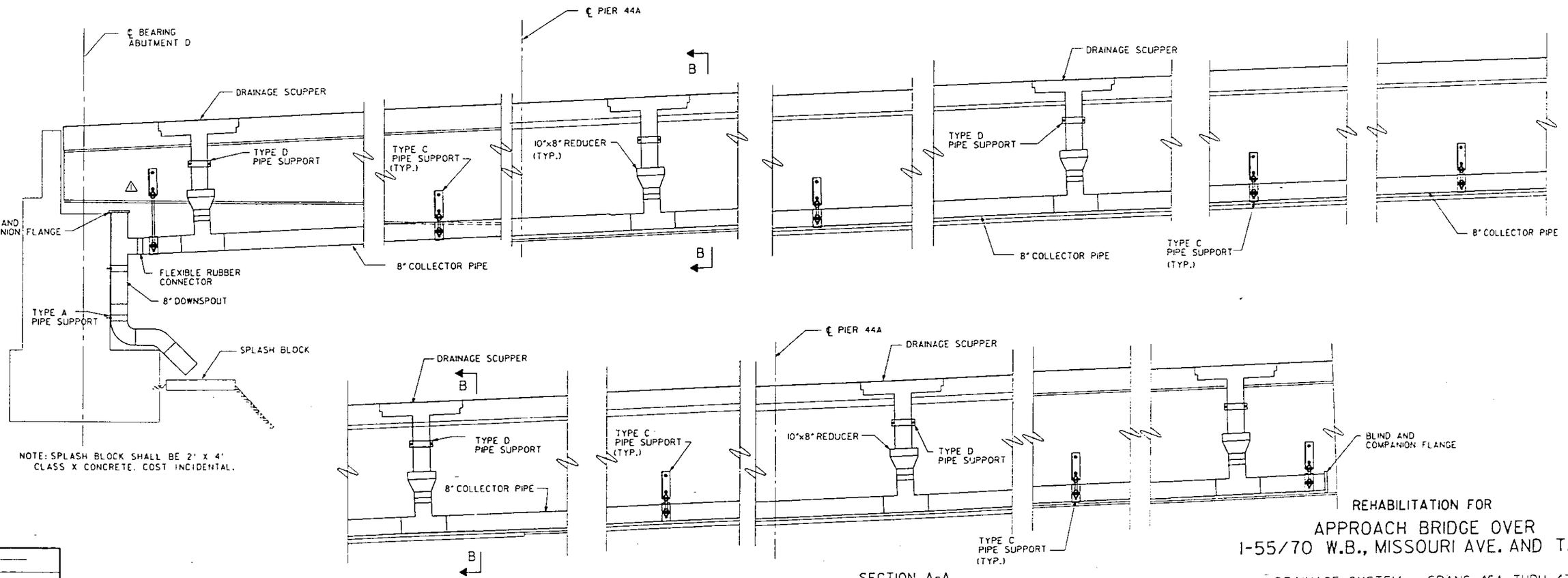
*IBR-1 APPROACH BRIDGE



DRAINAGE COLLECTOR PIPE ELEVATION - ABUTMENT D



SECTION B-B



NOTE: SPLASH BLOCK SHALL BE 2' X 4' CLASS X CONCRETE. COST INCIDENTAL.

SECTION A-A

REHABILITATION FOR
APPROACH BRIDGE OVER
I-55/70 W.B., MISSOURI AVE. AND TRR

DRAINAGE SYSTEM - SPANS 45A THRU 47A

STRUCTURE NO. 082-6003
STA. 65+00 (FAP 799) ST. CLAIR CO.

DESIGNED	
CHECKED	M. J. JALINSKY
DRAWN	J. LENZ
CHECKED	

FILE: ZF3:\05\JDETAIL09.DGN
PRF: DETAIL09
LEVELS PLOTTED 35 56 57 58 63
DATE: OCT. 23, 1987
10358
375732

DESIGNED BY: LENZ ENGINEERING, INC. ST. LOUIS, MISSOURI
PREPARED BY: SVERDRUP CORPORATION ST. LOUIS, MISSOURI

⚠ REV. 12-4-87

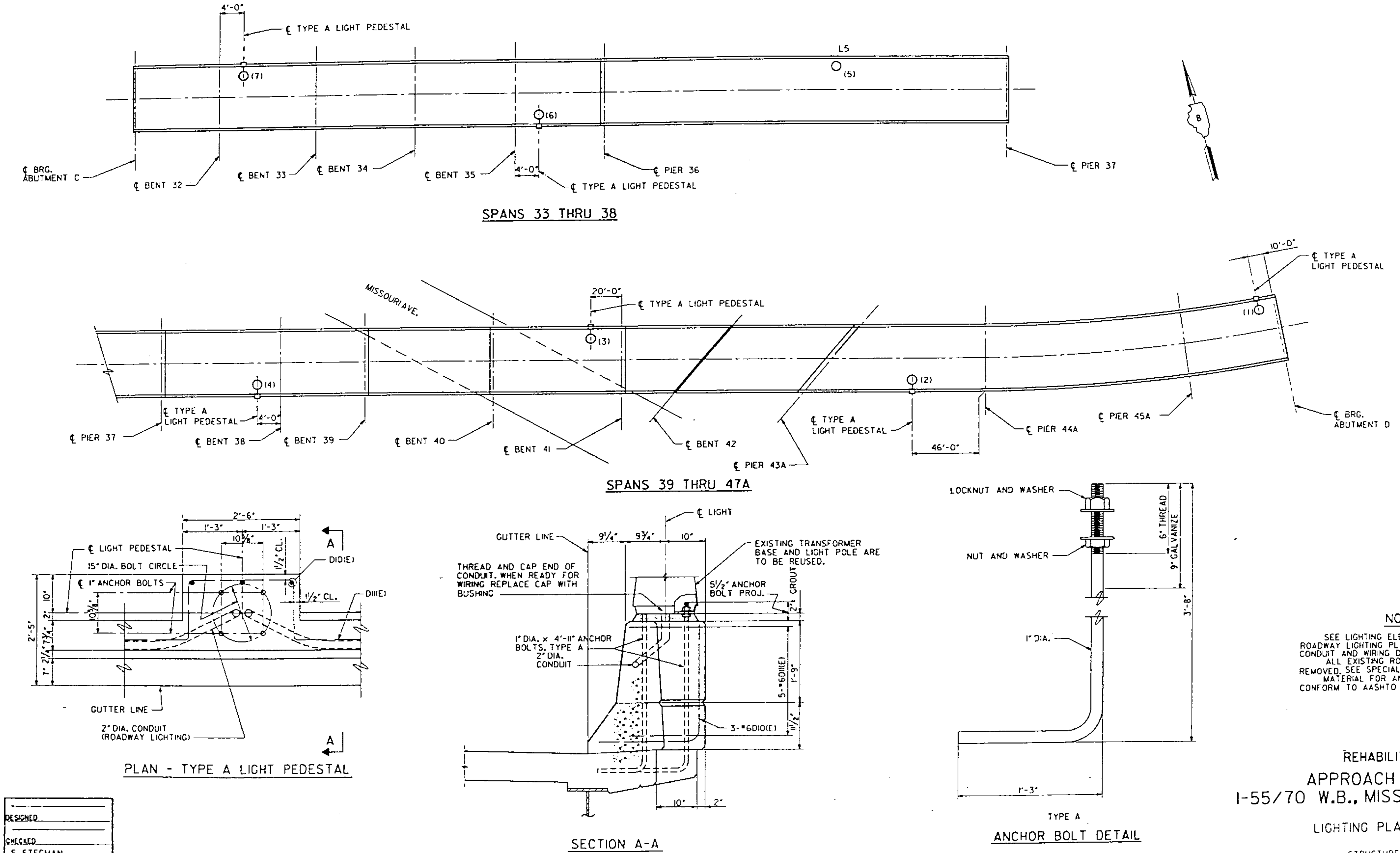
SECTION IBR-1

SHEET NO. 34 OF 75

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAP 799	*	ST. CLAIR	252	183

*IBR-I APPROACH BRIDGE



NOTES

SEE LIGHTING ELEMENTARY DIAGRAM AND ROADWAY LIGHTING PLAN FOR SYMBOLS, CONDUIT AND WIRING DETAILS.
ALL EXISTING ROADWAY LIGHTING TO BE REMOVED. SEE SPECIAL PROVISIONS.
MATERIAL FOR ANCHOR BOLTS SHALL CONFORM TO AASHTO M-183.

REHABILITATION FOR
APPROACH BRIDGE OVER
I-55/70 W.B., MISSOURI AVE. AND TRR

LIGHTING PLAN AND DETAILS

STRUCTURE NO. 082-6003
STA. 65+00 (FAP 799) ST. CLAIR CO.

LEVELS PLOTTED 35,56,57,58 AND 63 | DATE: OCT. 23, 1987
FILE: 2F3(I5)(I)DETAIL83.DGN | PRF: DETAIL83

DESIGNED
CHECKED S. STEGMAN
DRAWN P.W. CLARK
CHECKED

PREPARED BY:
SVERDRUP CORPORATION
ST. LOUIS, MISSOURI

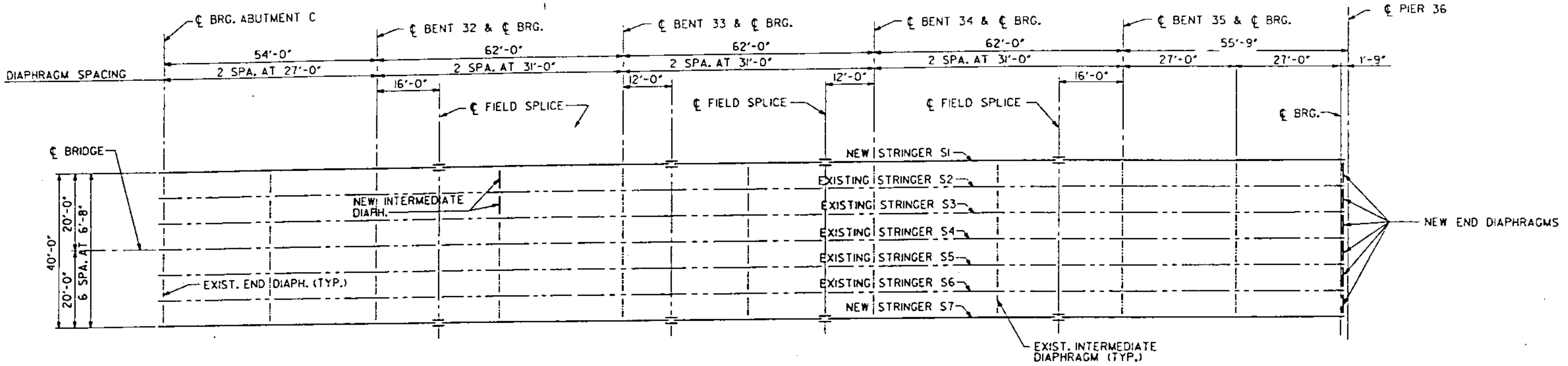
SECTION IBR-I

SHEET NO. 35 OF 75

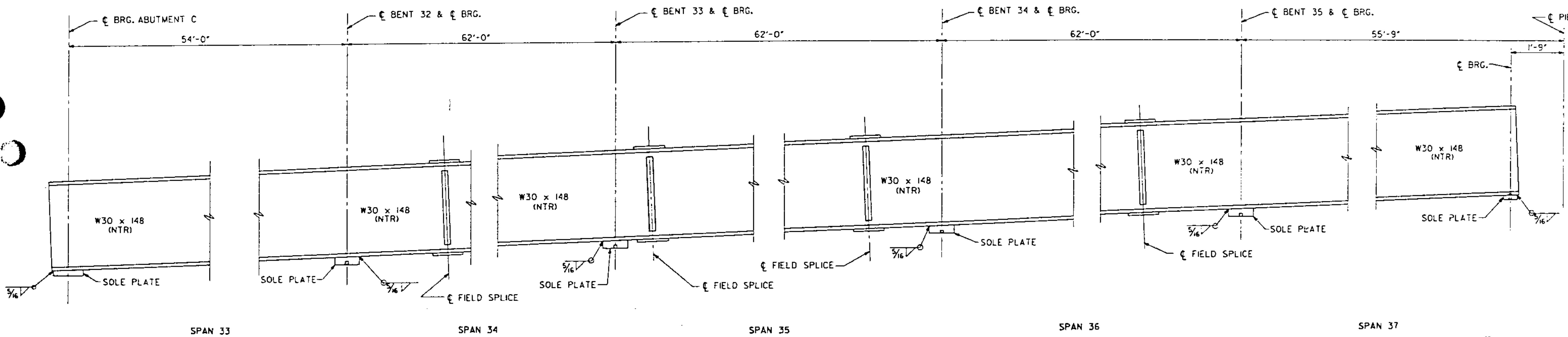
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAP 799	*	ST. CLAIR	252	184

*IBR-1 APPROACH BRIDGE



FRAMING PLAN



ELEVATION - NEW STRINGERS S1 AND S7

NOTES

NTR INDICATES MATERIAL SUBJECT TO NOTCH TOUGHNESS REQUIREMENT.

NEW STRINGERS AND DIAPHRAGMS REPLACE EXISTING MEMBERS.

A.D. NG	DESIGNED
K. LARSON	CHECKED
J.O. SMITH	DRAWN
R.F. BECK	CHECKED

DATE: OCT. 23, 1987

LEVELS PLOTTED 35 56 63

FILE: ZF.3(151,1)MLKFP12.DGN

PREPARED BY: SVERDRUP CORPORATION ST. LOUIS, MISSOURI

REHABILITATION FOR

APPROACH BRIDGE OVER
I-55/70 W.B., MISSOURI AVE. AND TRRA

FRAMING PLAN - SPANS 33 THRU 37

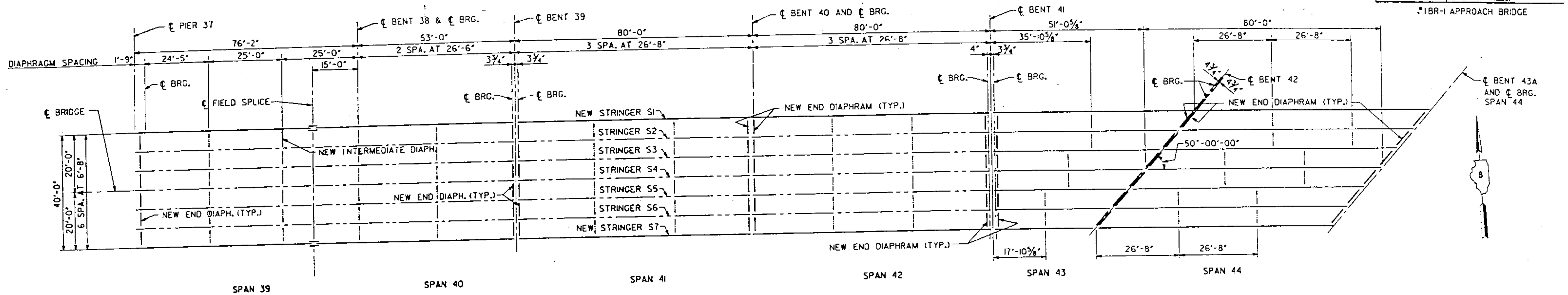
STRUCTURE NO. 082-6003
STA. 65+00 (FAP 799) ST. CLAIR CO.

SECTION IBR-1

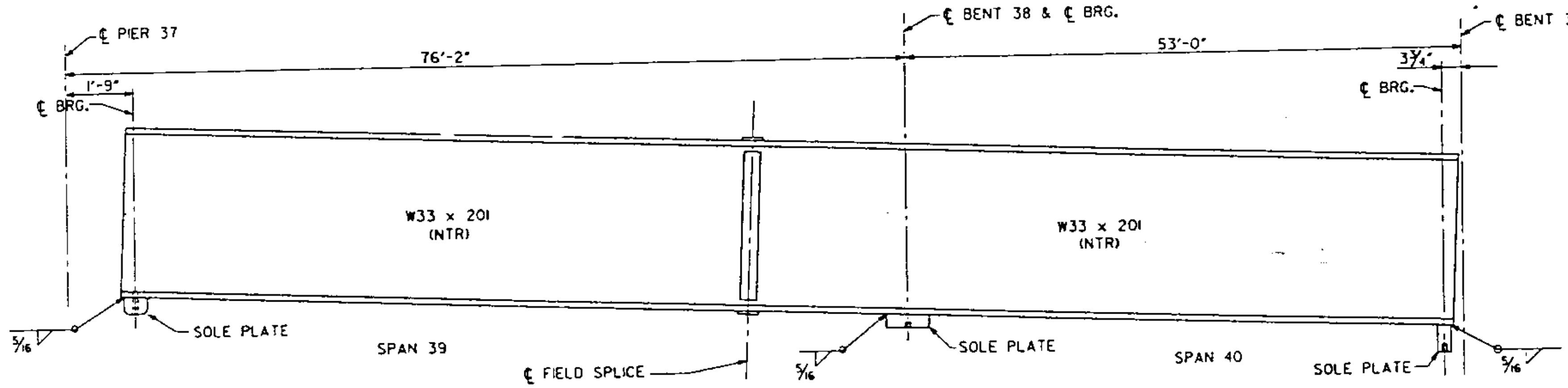
SHEET NO. 36 OF 75

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAP 799	*	ST. CLAIR	252	185

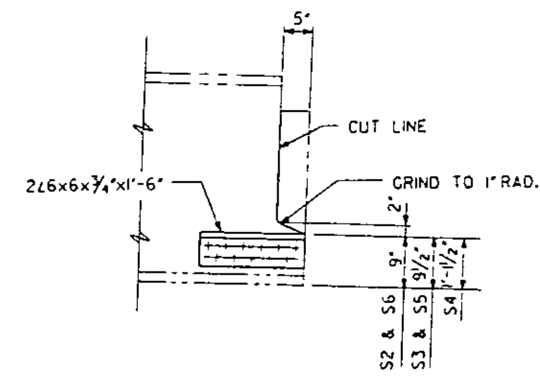
*1BR-1 APPROACH BRIDGE



FRAMING PLAN

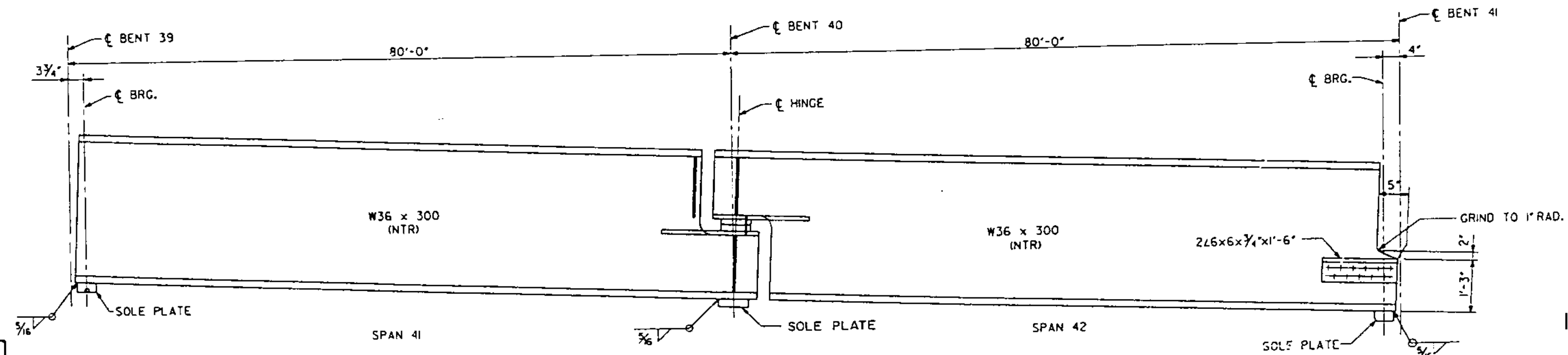


ELEVATION - NEW STRINGERS S1 AND S7, SPANS 39 AND 40



MODIFICATIONS TO EXISTING STRINGERS IN SPAN 42 AT BENT 41

FOR OTHER MODIFICATIONS SEE EXPANSION DEVICE AT BENT 41.



ELEVATION - NEW STRINGERS S1 AND S7, SPANS 41 AND 42

NOTES

NTR INDICATES MATERIAL SUBJECT TO NOTCH TOUGHNESS REQUIREMENT.
NEW STRINGERS AND DIAPHRAGMS REPLACE EXISTING MEMBERS.

REHABILITATION FOR
APPROACH BRIDGE OVER
I-55/70 W.B., MISSOURI AVE. AND TRR

FRAMING PLAN SPANS 39 THRU 44

STRUCTURE NO. 082-6003
STA. 65+00 (FAP 799) ST. CLAIR CO.

PREPARED BY: SVERDRUP CORPORATION ST. LOUIS, MISSOURI

SECTION 1BR-1

SHEET NO. 37 OF 75

A.D. NG — DESIGNED
K.D. LARSON — CHECKED
J.O. SMITH — DRAWN
R.F. BECK — CHECKED

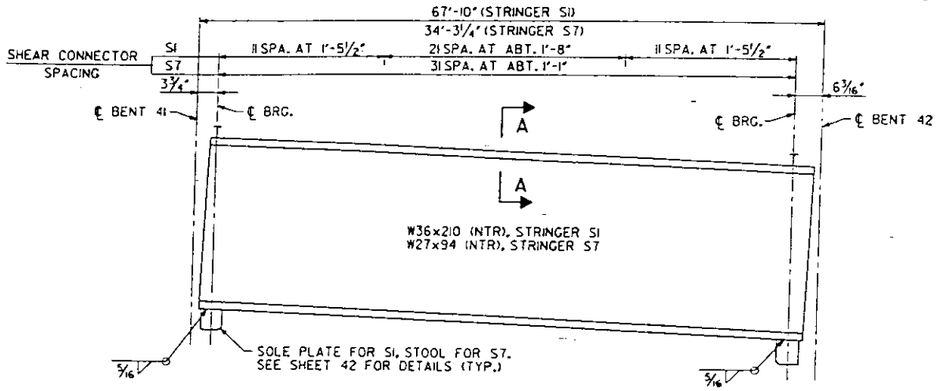
FILE: ZF3.[15].JML.KFPI4.DGN
PRF: MLKFPI4
LEVELS PLOTTED 35,56 AND 63
DATE: OCT.23,1987
10358 5950

28-OCT-1987 :27

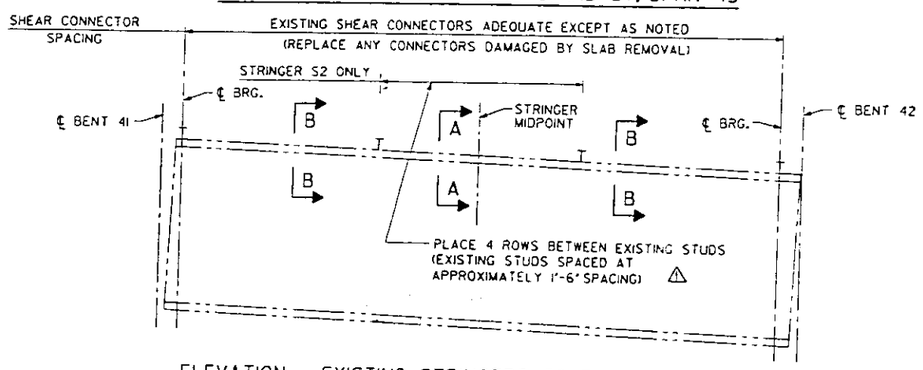
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAP 799	*	ST. CLAIR	252	18
		ILLINOIS	PROJECT	

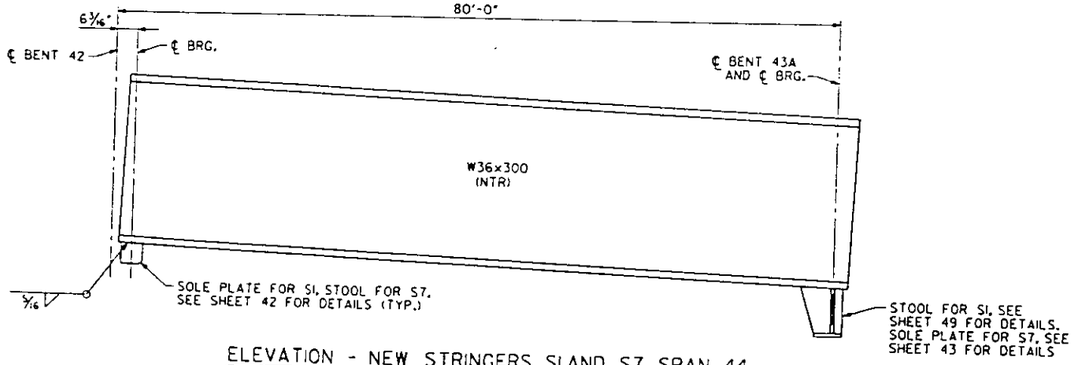
*IBR-I APPROACH BRIDGE



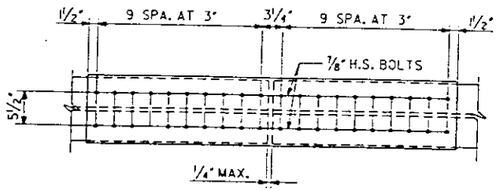
ELEVATION - NEW STRINGERS S1 AND S7, SPAN 43



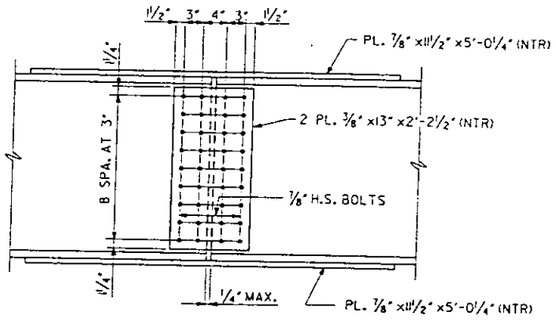
ELEVATION - EXISTING STRINGERS S2 THRU S6, SPAN 43
SHEAR STUDS ON EXISTING STRINGERS TO REMAIN



ELEVATION - NEW STRINGERS S1 AND S7, SPAN 44

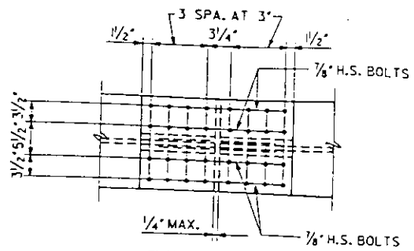


FLANGE SPLICE PLAN

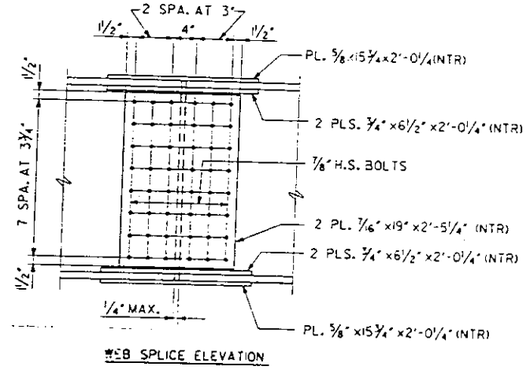


WEB SPLICE ELEVATION

STRINGER FIELD SPLICE - SPANS 34, 35 AND 36



FLANGE SPLICE PLAN

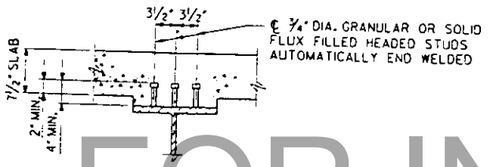


WEB SPLICE ELEVATION

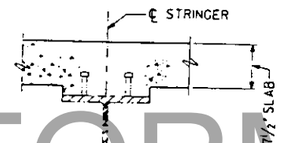
STRINGER FIELD SPLICE - SPAN 39

NOTES

NTR INDICATES MATERIAL SUBJECT TO NOTCH TOUGHNESS REQUIREMENT.



SECTION A-A



SECTION B-B

R. NIEMIETZ	DESIGNED
K. LARSON	CHECKED
J.O. SMITH	DRAWN
R.F. BECK	CHECKED

FILE: ISIJDETAIL20.DGN
PRF: DETAIL20
LEVELS PLOTTED: 35 56 58 63
DATE: OCT. 23, 1987
10358
6
4-DEC-1987 30

PREPARED BY:
SVERDRUP CORPORATION
ST. LOUIS, MISSOURI

⚠ REV. 12-4-87

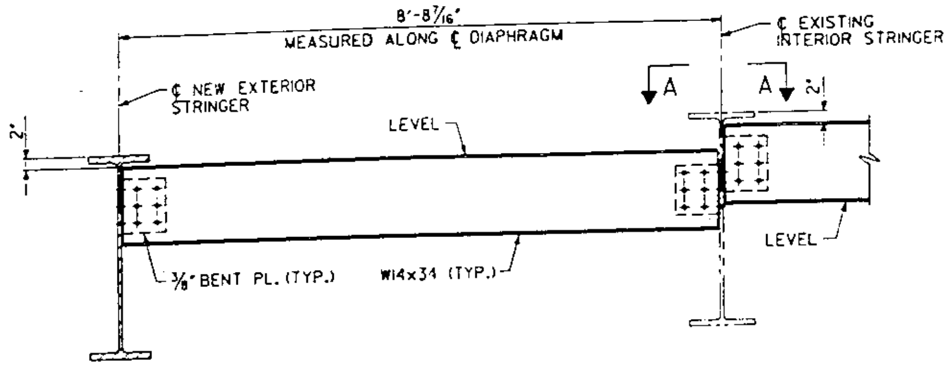
REHABILITATION FOR
APPROACH BRIDGE OVER
I-55/70 W.B., MISSOURI AVE. AND TRRA
STEEL DETAILS - SPANS 33 THRU 37
AND 39 THRU 44
STRUCTURE NO. 082-6003
STA. 65+00 (FAP 799) ST. CLAIR CO.

SECTION IBR-I

SHEET NO. 38 OF 75

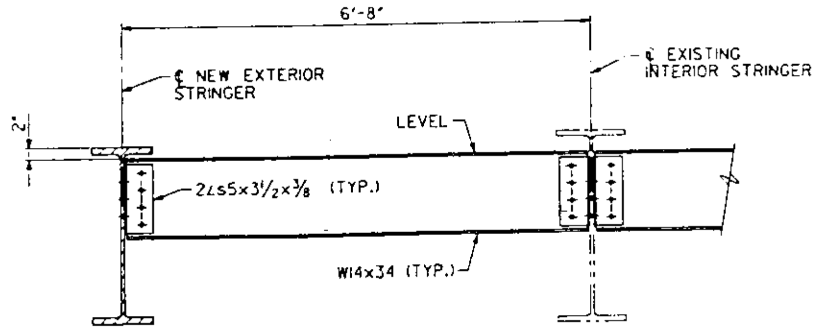
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	
FAP 799	*	ST. CLAIR	252	

*1BR-1 APPROACH BRIDGE



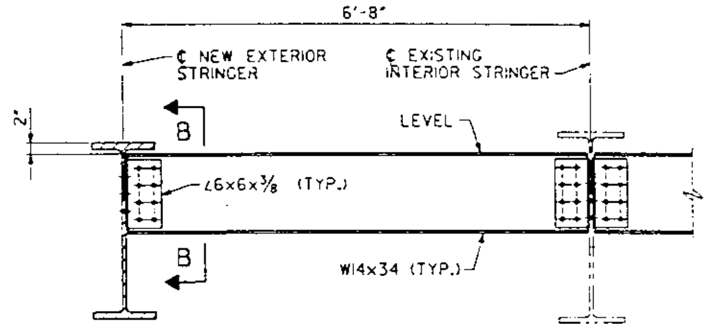
END DIAPHRAGMS - BENTS 42 AND 43A

NOTE: REUSE HOLES IN EXISTING INTERIOR STRINGERS FOR NEW DIAPHRAGM CONNECTION.



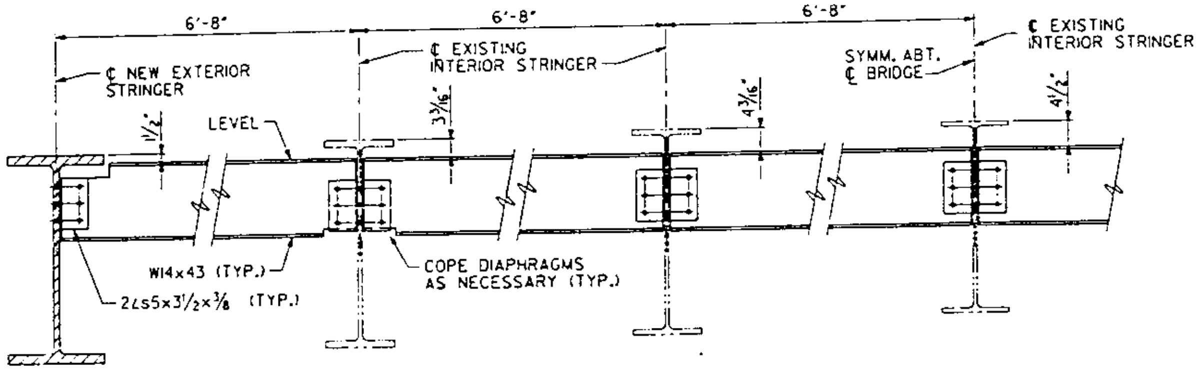
INTERMEDIATE DIAPHRAGMS - SPANS 34 AND 39
END DIAPHRAGMS - BENT 39

NOTE: REUSE HOLES IN EXISTING INTERIOR STRINGERS FOR NEW DIAPHRAGM CONNECTION.



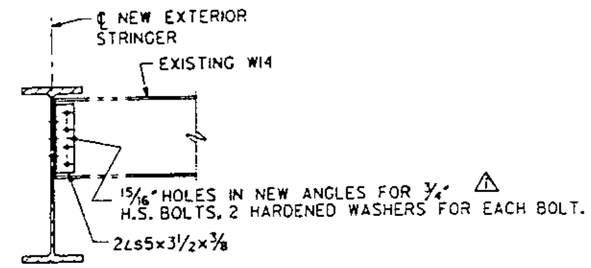
NOTE: REUSE HOLES IN EXISTING INTERIOR STRINGERS FOR NEW DIAPHRAGM CONNECTION.

END DIAPHRAGMS - PIERS 36 AND 37



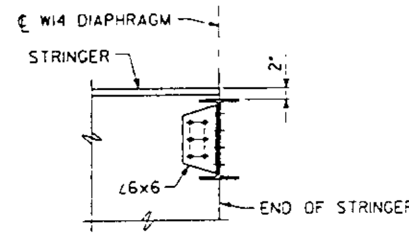
END DIAPHRAGMS AT BENT 41 - SPANS 42 AND 43

NOTE: REUSE HOLES IN EXISTING INTERIOR STRINGERS FOR NEW DIAPHRAGM CONNECTION.

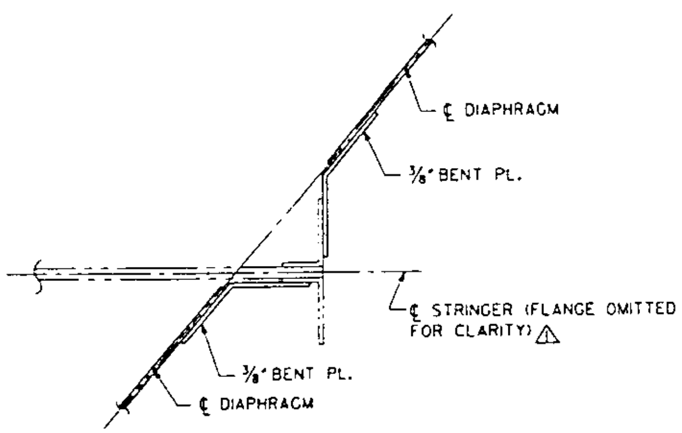


END DIAPHRAGM CONN. - ABUT. C
INTERMEDIATE DIAPHRAGM CONN.
SPANS 33 THRU 37 AND 39 THRU 44
TO NEW EXTERIOR STRINGERS

NOTE: REUSE HOLES IN EXISTING W14 FOR NEW STRINGER CONNECTION. (40 LOCATIONS)



SECTION B-B



SECTION A-A

NOTES

WORK THIS SHEET WITH SHEETS 36 AND 37.

FOR CONNECTIONS TO DIAPHRAGM WEBS, PROVIDE 15/16" HOLES IN NEW CONNECTION PLATES AND NEW DIAPHRAGM WEBS FOR 3/4" H.S. BOLTS, WITH 2 HARDENED WASHERS F[OR] EACH BOLT.

ALL BOLTED CONNECTIONS SHOWN ON THIS SHEET SHALL BE MADE WITH 3/4" H.S. BOLTS.

REHABILITATION FOR

APPROACH BRIDGE OVER
I-55/70 W.B., MISSOURI AVE. AND TRF

STEEL DETAILS
SPANS 33 THRU 37 AND 39 THRU 44

STRUCTURE NO. 082-6003
STA. 65+00 (FAP 799) ST. CLAIR CO.

PREPARED BY:
SVERDRUP CORPORATION
ST. LOUIS, MISSOURI

△ REV. 12-4-87

SECTION 1BR-1

R. NIEMIETZ	DESIGNED
K. LARSON	CHECKED
C. DEED	DRAWN
A. MYERS	CHECKED

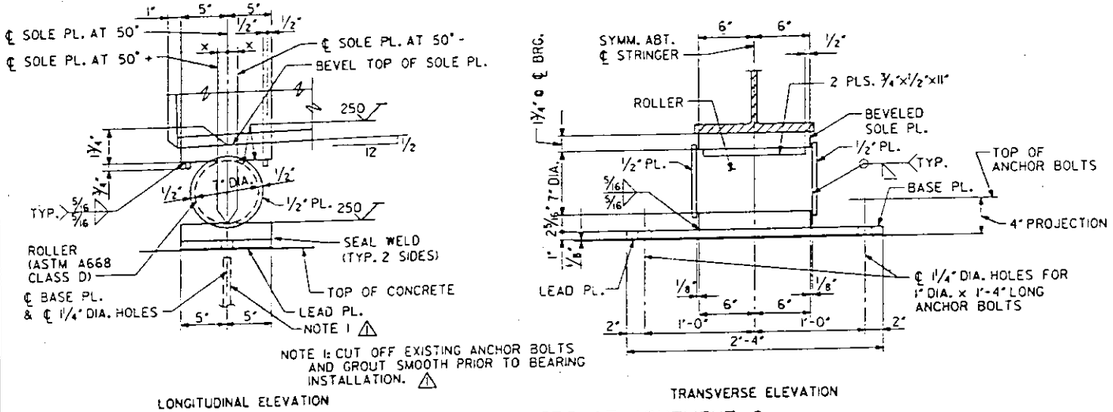
10358 875913
FILE: 2F3(15)DETAIL01.DGN PRF: DETAIL01
LEVELS PLOTTED 35 56 58 63
DATE: OCT. 23, 1987

4-DEC-1[...] 12

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAP 799	*	ST. CLAIR	252	188
		ILLINOIS PROJECT		

*18R-1 APPROACH BRIDGE

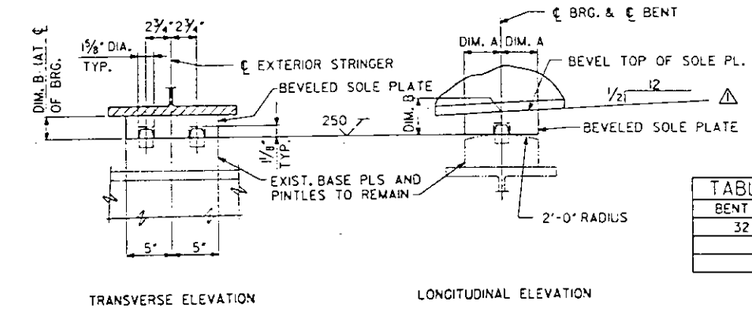


NOTE 1: CUT OFF EXISTING ANCHOR BOLTS AND GROUT SMOOTH PRIOR TO BEARING INSTALLATION. ⚠

LONGITUDINAL ELEVATION — TRANSVERSE ELEVATION

BEARINGS FOR EXTERIOR STRINGERS AT ABUTMENT C

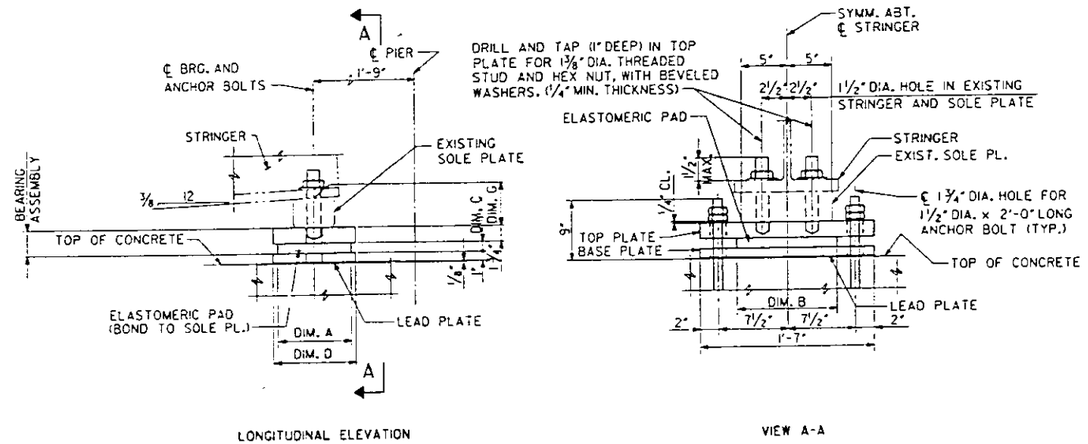
NOTE: x=7/16" FOR EACH 20 F° CHANGE IN TEMPERATURE.
EXISTING INTERIOR STRINGER BEARINGS TO BE CHECKED AND REALIGNED ACCORDINGLY. SEE SPECIAL PROVISIONS. ⚠



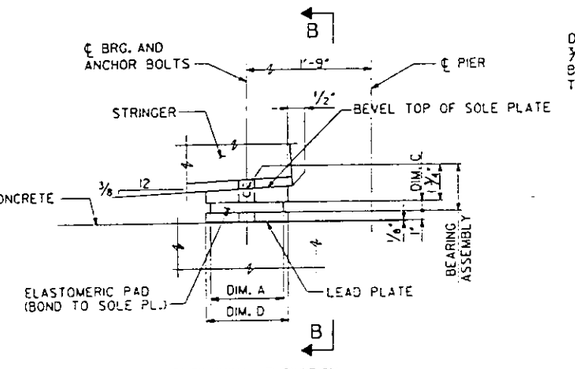
TRANSVERSE ELEVATION — LONGITUDINAL ELEVATION

TABLE OF BEARING VARIABLES		
BENT DESIGNATION	DIM. A	DIM. B
32 THRU 34	4"	1¾"
35	4"	2"
38	4"	2⅜"

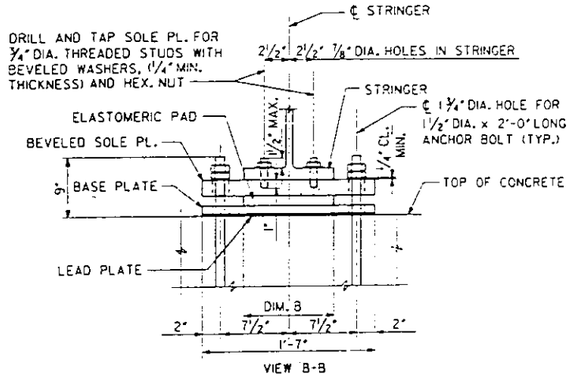
BEARINGS FOR EXTERIOR STRINGER AT BENTS 32, 33, 34, 35 AND 38



LONGITUDINAL ELEVATION — VIEW A-A



LONGITUDINAL ELEVATION

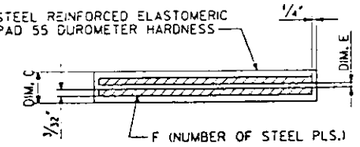


VIEW B-B

BEARINGS FOR INTERIOR STRINGERS AT FIXED PIERS 36 AND 37 (10 REQUIRED) ⚠

TABLE OF BEARING VARIABLES				
PIER DESIGNATION	DIM. A	DIM. B	DIM. C	DIM. D
36	8"	11"	1⅛"	9"
37	9"	1'-0"	1 3/16"	10"

TABLE OF BEARING VARIABLES	
STRINGER DESIGNATION	DIM. G
S2, S6	2¼"
S3, S5	3¼"
S4	3 9/16"



ELASTOMERIC PAD DETAIL

TABLE OF PAD VARIABLES			
PIER DESIGNATION	DIM. C	DIM. E	F
36	1⅛"	5/16"	2
37	1 3/16"	⅜"	3

BEARINGS FOR EXTERIOR STRINGERS AT FIXED PIERS 36 AND 37 (4 REQUIRED) ⚠

TABLE OF BEARING VARIABLES				
PIER DESIGNATION	DIM. A	DIM. B	DIM. C	DIM. D
36	8"	11"	1⅛"	9"
37	9"	1'-0"	1 3/16"	10"

NOTES ⚠

BEARINGS AT PIERS 36 AND 37 WILL BE PAID FOR AS ELASTOMERIC BEARING ASSEMBLY, TYPE I (14 REQUIRED).
BASE PLATES AND LEAD PLATES FOR BEARINGS AT PIERS 36 AND 37 SHALL BE INCLUDED IN WEIGHT AND COST FOR STRUCTURAL STEEL.
FOR ANCHOR BOLT INSTALLATION, SEE SHEET 68.

REHABILITATION FOR
APPROACH BRIDGE OVER
I-55/70 W.B., MISSOURI AVE. AND TRRA

BEARINGS AT ABUTMENT C,
BENTS AND PIERS 32 THRU 38

STRUCTURE NO. 082-6003
STA. 65+00 (FAP 799) ST. CLAIR CO.

DESIGNED	A. NG
CHECKED	K. LARSON
DRAWN	J.O. SMITH
CHECKED	R.F. BECK

PREPARED BY:
SVERDRUP CORPORATION
ST. LOUIS, MISSOURI

⚠ REV. 12-4-87

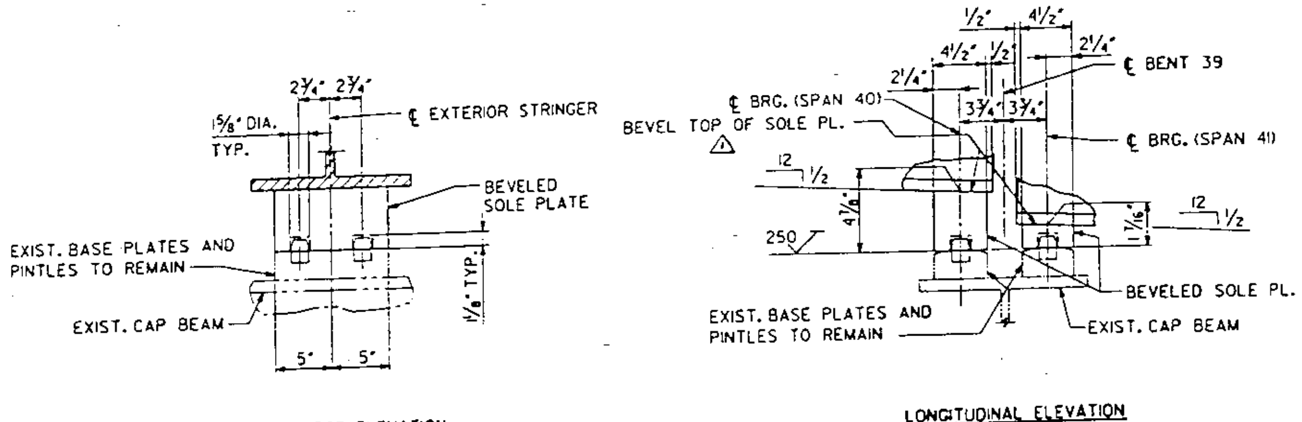
SECTION 18R-1

SHEET NO. 40 OF 75

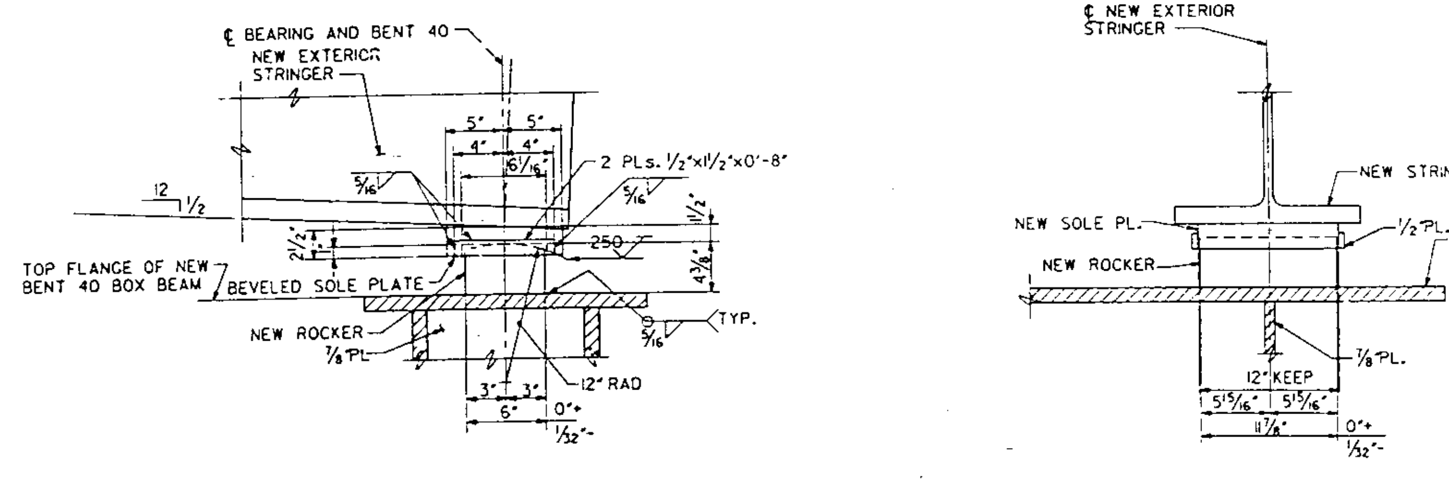
LEVELS PLOTTED DATE: OCT. 23, 1987
35,56,58 AND 63
DF3(15)IDETAIL19.DGN
PRF: DETAILS
50 0938

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAP 799	*	ST. CLAIR	252	18

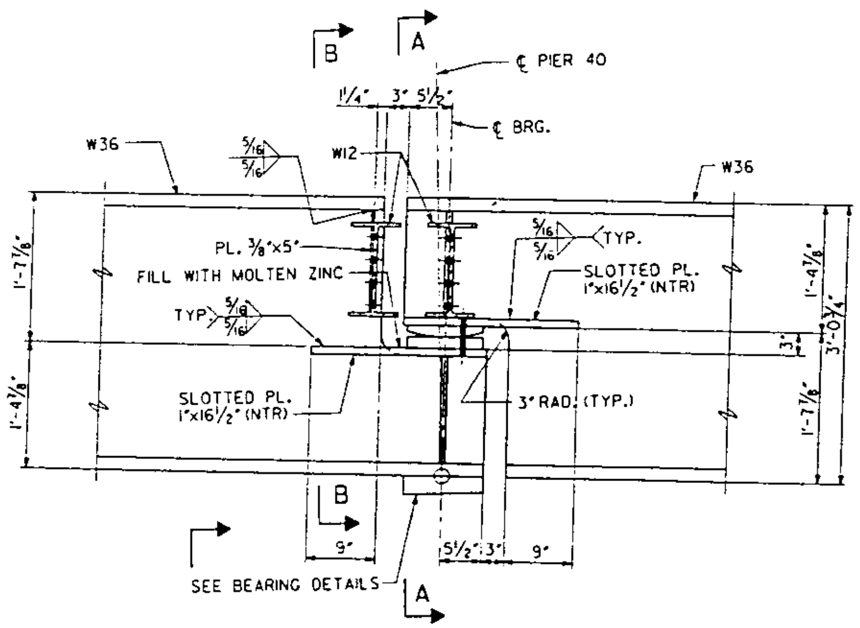
*IBR-I APPROACH BRIDGE



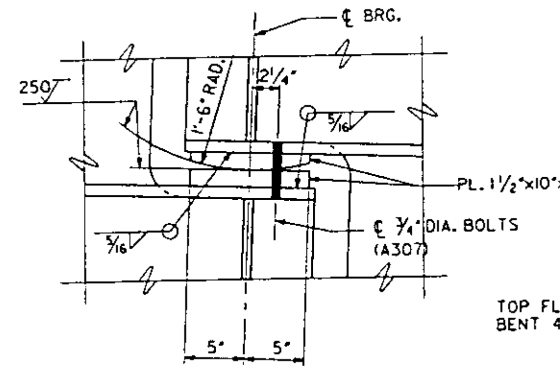
BEARINGS FOR EXTERIOR STRINGERS AT BENT 39



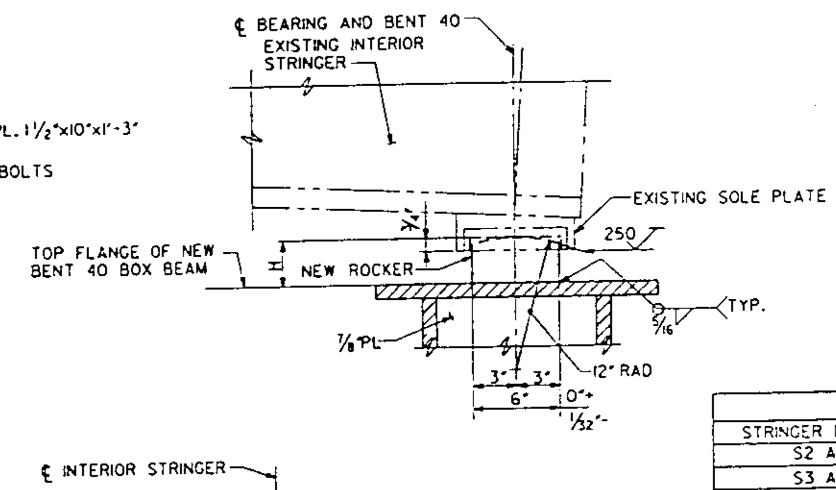
BEARINGS FOR EXTERIOR STRINGERS AT BENT 40



HINGE DETAILS - PIER 40
(EXTERIOR STRINGERS)



HINGE BEARING DETAIL



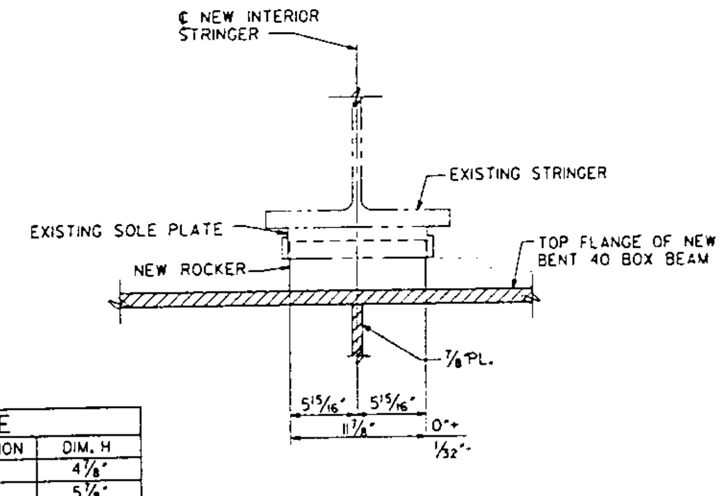
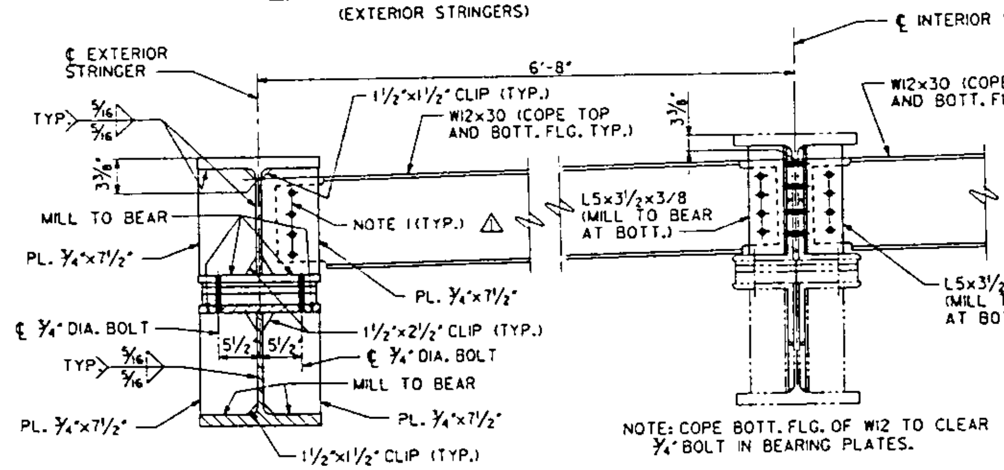
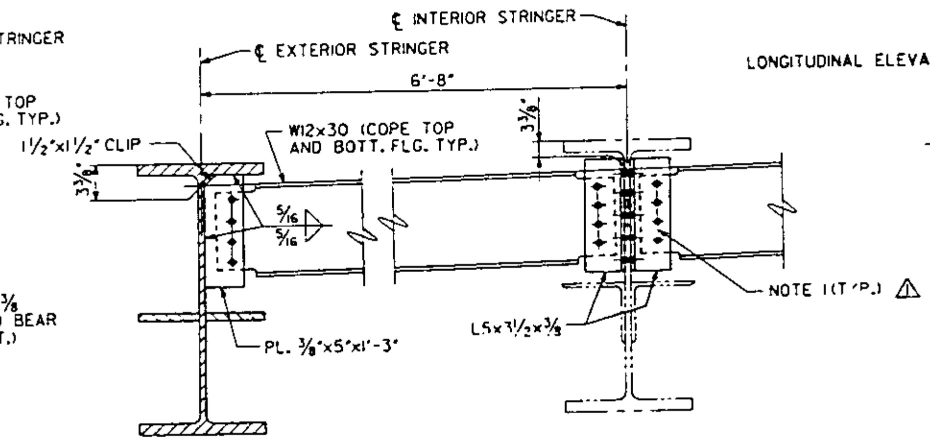


TABLE	
STRINGER DESIGNATION	DIM. H
S2 AND S6	4⅞"
S3 AND S5	5⅝"
S4	6³⁄₁₆"

BEARINGS FOR INTERIOR STRINGERS AT BENT 40



SECTION A-A
NOTE: REUSE HOLES IN EXISTING INTERIOR STRINGERS FOR NEW DIAPHRAGM CONNECTION.



SECTION B-B
NOTE: REUSE HOLES IN EXISTING INTERIOR STRINGERS FOR NEW DIAPHRAGM CONNECTION.

NOTE 1: PROVIDE ¹⁵⁄₁₆" HOLES FOR ¾" BOLTS WITH 2 HARDENED WASHERS FOR EACH BOLT IN ANGLES AND DIAPHRAGM WEBS. △

NOTES △

ALL MATERIAL SHALL CONFORM TO AASHTO M-183 UNLESS OTHERWISE NOTED.
NTR INDICATES MATERIAL SUBJECT TO NOTCH TOUGHNESS REQUIREMENTS.
SEE SHEET 73 FOR BENT 40 DETAILS.
ALL BOLTED CONNECTIONS SHALL BE ¾" H.S. BOLTS EXCEPT AS OTHERWISE NOTED.

REHABILITATION FOR
APPROACH BRIDGE OVER I-55/70 W.B., MISSOURI AVE. AND TRR
BEARINGS AT BENTS 39 AND 40 AND HINGE DETAILS

STRUCTURE NO. 082-6003
STA. 65+00 (FAP 799) ST. CLAIR CO.

R. NIEMIETZ	DESIGNED
K. LARSON	CHECKED
S. STEGMAN	DRAWN
R.F. BECK	CHECKED

PREPARED BY: SVERDRUP CORPORATION, ST. LOUIS, MISSOURI

△ REV. 12-4-87

SECTION IBR-I

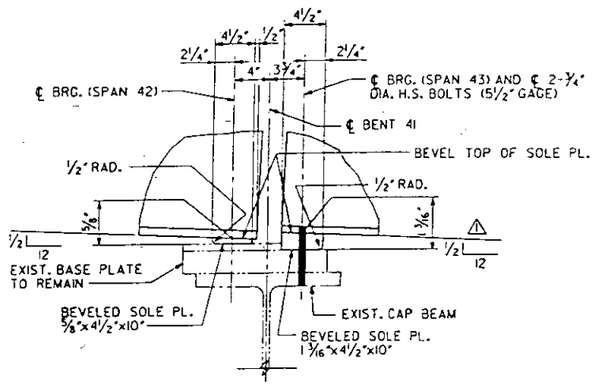
FILE: 2F3(I5L)DET06.DGN | PRF: DET06 | LEVELS PLOTTED 35, 56, 58, 63 | DATE: OCT. 23, 1987 | 158 939

4-DEC-198

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

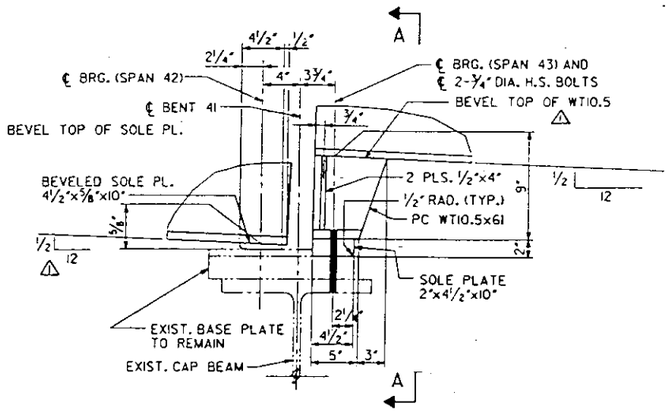
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS
FAP 799	*	ST. CLAIR	252
		ILLINOIS PROJECT	

*1BR-1 APPROACH BRIDGE



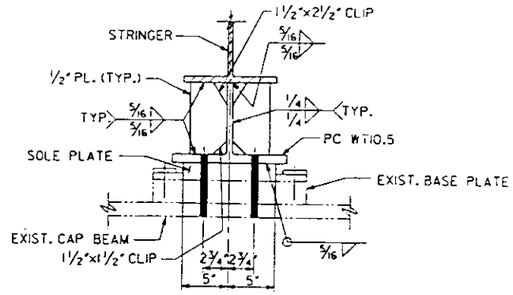
BEARINGS FOR STRINGER S1 AT BENT 41

NOTE: FOR CLARITY, EXISTING ½" RETAINER PLATES AND COUNTERSUNK BOLTS IN BASE PLATE ASSEMBLY NOT SHOWN. REUSE EXISTING HOLES IN CAP BEAM AND BASE PLATE FOR NEW STRINGER AND SOLE PLATE CONNECTION.

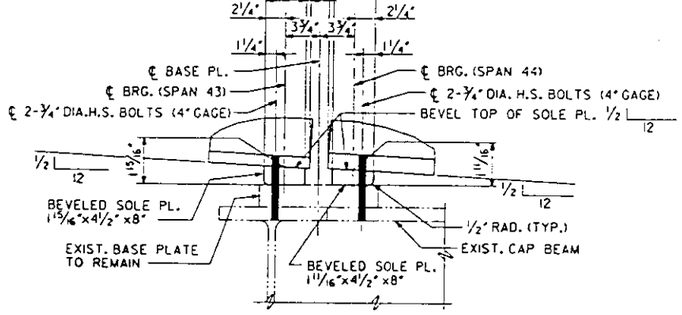


BEARINGS FOR STRINGER S7 AT BENT 41

NOTE: FOR CLARITY, EXISTING ½" RETAINER PLATES AND COUNTERSUNK BOLTS IN BASE PLATE ASSEMBLY NOT SHOWN. REUSE EXISTING HOLES IN CAP BEAM AND BASE PLATE FOR NEW STRINGER AND SOLE PLATE CONNECTION.

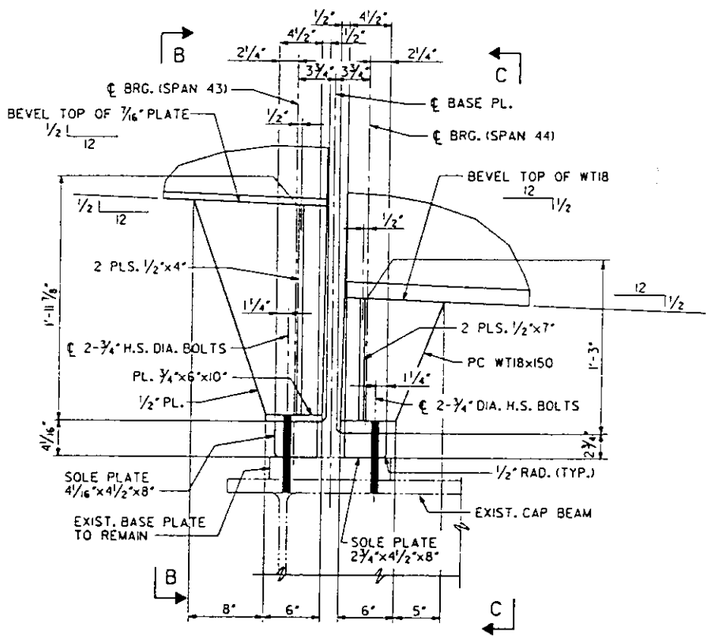


SECTION A-A



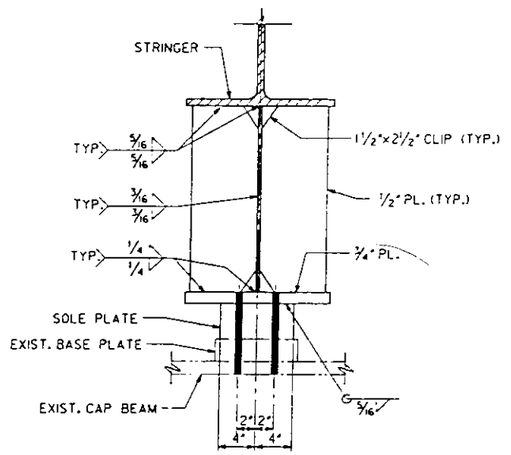
BEARINGS FOR STRINGER S1 AT BENT 42

NOTE: REUSE EXISTING HOLES IN CAP BEAM AND BASE PLATE FOR NEW STRINGER AND SOLE PLATE CONNECTION.

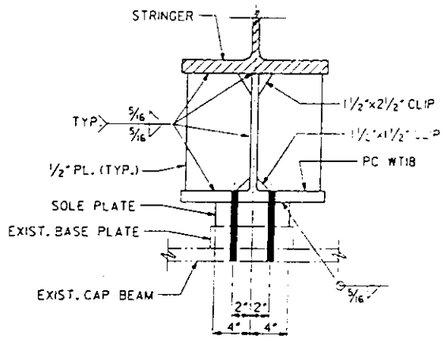


BEARINGS FOR STRINGER S7 AT BENT 42

NOTE: REUSE EXISTING HOLES IN CAP BEAM AND BASE PLATE FOR NEW STRINGER AND SOLE PLATE CONNECTION.



SECTION B-B



SECTION C-C

REHABILITATION FOR
APPROACH BRIDGE OVER
I-55/70 W.B., MISSOURI AVE. AND TRRA

BEARINGS AT BENTS 41 AND 42

STRUCTURE NO. 082-6003
STA. 65+00 (FAP 799) ST. CLAIR CO.

K. LARSON	DESIGNED
R. NIEMIETZ	CHECKED
S. STEGMAN	DRAWN
R.F. BECK	CHECKED

FILE: ZF3115J.DET108.DGN
PRF: DET108
LEVELS PLOTTED 35, 56, 58, 63
DATE: OCT. 23, 1987

10358
175956

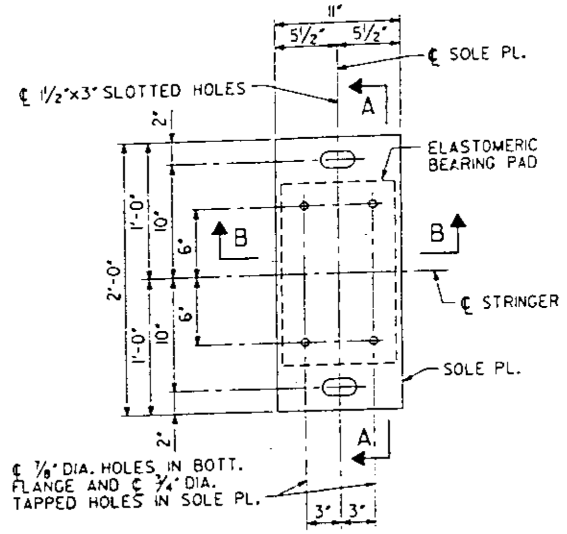
PREPARED BY:
SVERDRUP CORPORATION
ST. LOUIS, MISSOURI

⚠ REV. 12-4-87

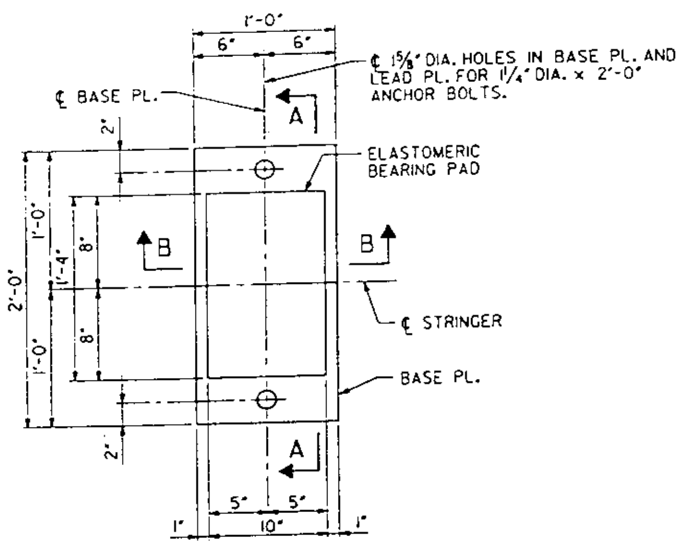
SECTION 1BR-1

SHEET NO. 42 OF 75

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

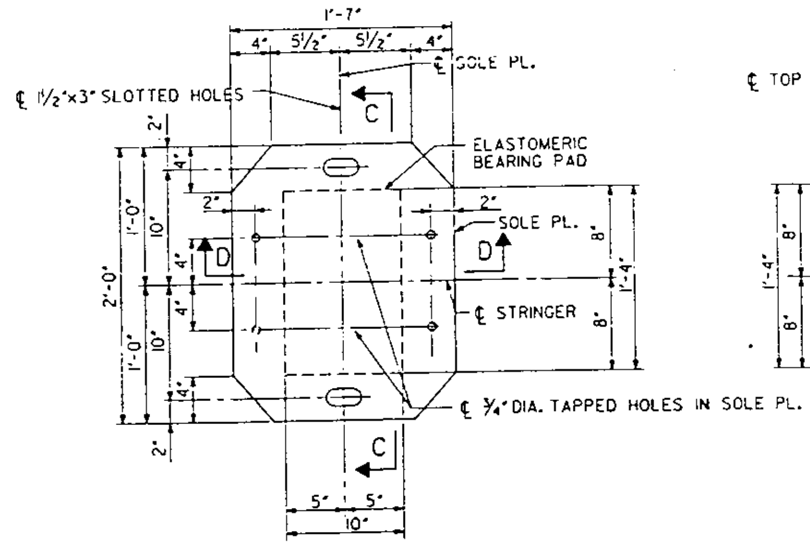


PLAN - BEARING ASSEMBLY

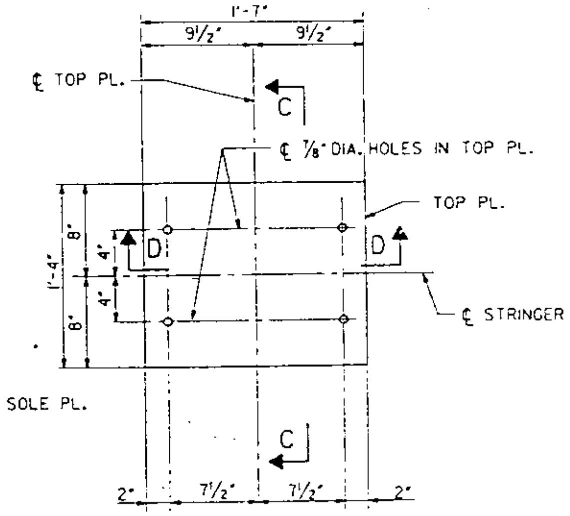


PLAN - BASE PLATE △

BEARING AT PIER 43A FOR STRINGER S7

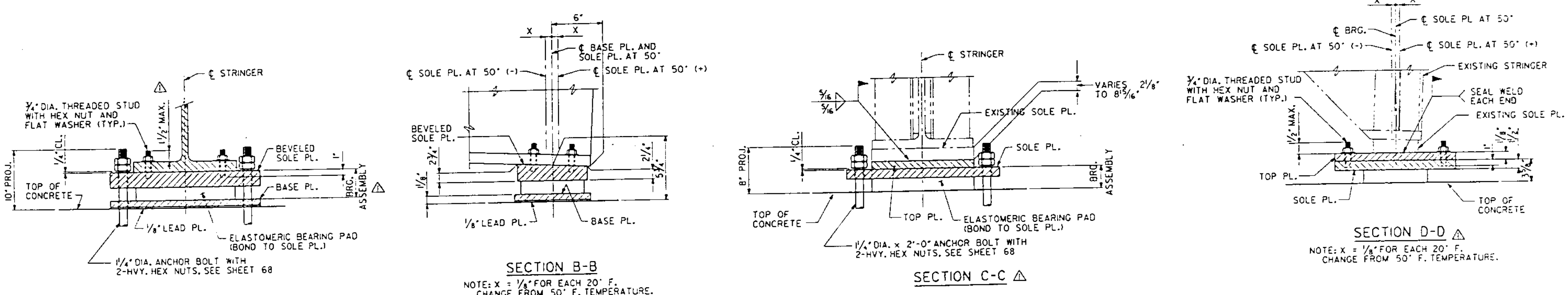


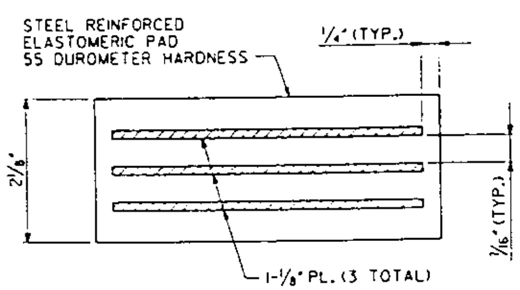
PLAN - BEARING ASSEMBLY △



PLAN - TOP PLATE △

BEARING AT PIER 43A
FOR STRINGERS S2 THRU S6





ELASTOMERIC BEARING PAD

NOTES △

ALL MATERIALS SHALL CONFORM TO AASHTO M-183, UNLESS OTHERWISE NOTED.
BEARINGS SHALL BE PAID FOR AS ELASTOMERIC BEARING ASSEMBLY TYPE I (6 REQUIRED).
TOP PLATE, BASE PLATE AND LEAD PLATES SHALL BE INCLUDED IN WEIGHT AND COST FOR STRUCTRUAL STEEL.

REHABILITATION FOR
APPROACH BRIDGE OVER
I-55/70 W.B., MISSOURI AVE. AND TRRA

BEARINGS AT PIER 43A

STRUCTURE NO. 082-6003
STA. 65+00 (FAP 799) ST. CLAIR CO.

K.D. LARSON — DESIGNED
R.D. NIEMIETZ — CHECKED
C. DEED — DRAWN
R.F. BECK — CHECKED

FILE: ZFS...DETAIL03.DGN | PRF: DETAIL03 | LEVELS PLOTTED 35 56 58 63 | DATE: OCT. 23, 1987

PREPARED BY: SVERDRUP CORPORATION ST. LOUIS, MISSOURI

△ REV. 12-4-87

SECTION IBR-I

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAP 799	*	ST. CLAIR	252	192
		ILLINOIS PROJECT		

*IBR-1 APPROACH BRIDGE

SPANS 33 THRU 37

STRINGERS S1 AND S7

MOMENT TABLE

		SPANS 33&37	BENTS 32&35	SPANS 34&36	BENTS 33&34	SPAN 35
I_S	(IN^4)	6680	6680	6680	6680	6680
S_S	(IN^3)	436	436	436	436	436
$M_{\mathbb{Q}}$	(kips/ft)	1.040	1.040	1.040	1.040	1.040
$M_{\mathbb{Q}}$	(ft/kips)	222	356	160	325	168
$M_{\mathbb{L}}$	(ft/kips)	328	261	308	269	308
M_I	(ft/kips)	92	71	82	72	82
M TOTAL	(ft/kips)	642	688	550	666	558
fs TOTAL	(ksi)	17.67	18.94	15.14	18.33	15.36

REACTION TABLE

		ABUTMENT C & BENT 36	BENTS 32&35	BENTS 33&34
$R_{\mathbb{Q}}$	(kips)	21.5	67.5	63.5
$R_{\mathbb{L}}$	(kips)	25.8	35.6	36.1
R_I	(kips)	7.2	9.7	9.6
R TOTAL	(kips)	54.5	112.8	109.2

STRINGERS S2 THRU S6

MOMENT TABLE

		SPANS 33&37	BENTS 32&35	SPANS 34&36	BENTS 33&34	SPAN 35
I_S	(IN^4)	7450	7450	7450	7450	7450
S_S	(IN^3)	448	448	448	448	448
$M_{\mathbb{Q}}$	(kips/ft)	0.785	0.785	0.785	0.785	0.785
$M_{\mathbb{Q}}$	(ft/kips)	168	268	120	247	130
$M_{\mathbb{L}}$	(ft/kips)	338	269	317	277	317
M_I	(ft/kips)	95	73	85	74	85
M TOTAL	(ft/kips)	601	610	522	598	532
fs TOTAL	(ksi)	16.10	16.34	13.98	16.02	14.25

REACTION TABLE

		ABUTMENT C & BENT 36	BENTS 32&35	BENTS 33&34
$R_{\mathbb{Q}}$	(kips)	16.2	50.9	48.3
$R_{\mathbb{L}}$	(kips)	38.9	46.7	47.3
R_I	(kips)	10.9	12.8	12.7
R TOTAL	(kips)	66.0	110.4	108.3

SPANS 39 AND 40

STRINGERS S1 AND S7

MOMENT TABLE

		SPAN 39	BENT 38	SPAN 40
I_S	(IN^4)	11500	11500	11500
S_S	(IN^3)	684	684	684
$M_{\mathbb{Q}}$	(kips/ft)	1.090	1.090	1.090
$M_{\mathbb{Q}}$	(ft/kips)	484	601	136
$M_{\mathbb{L}}$	(ft/kips)	486	342	338
M_I	(ft/kips)	122	90	95
M TOTAL	(ft/kips)	1092	1033	569
fs TOTAL	(ksi)	19.16	18.12	9.98

REACTION TABLE

		BENT 37	BENT 38	BENT 39
$R_{\mathbb{Q}}$	(kips)	32.5	89.0	18.1
$R_{\mathbb{L}}$	(kips)	28.1	39.9	25.9
R_I	(kips)	7.1	10.6	7.3
R TOTAL	(kips)	67.7	139.5	51.3

STRINGERS S2 THRU S6

MOMENT TABLE

		SPAN 39	BENT 38	SPAN 40
I_S	(IN^4)	12100	12100	12100
S_S	(IN^3)	664	664	664
$M_{\mathbb{Q}}$	(kips/ft)	0.840	0.840	0.840
$M_{\mathbb{Q}}$	(ft/kips)	373	464	105
$M_{\mathbb{L}}$	(ft/kips)	501	352	348
M_I	(ft/kips)	126	93	98
M TOTAL	(ft/kips)	1000	909	551
fs TOTAL	(ksi)	18.07	16.4	9.96

REACTION TABLE

		BENT 37	BENT 38	BENT 39
$R_{\mathbb{Q}}$	(kips)	25.0	68.7	13.9
$R_{\mathbb{L}}$	(kips)	41.6	51.2	39.0
R_I	(kips)	10.4	13.6	10.9
R TOTAL	(kips)	77.0	133.5	63.8

SPANS 41, 42 AND 44

STRINGERS S1 AND S7

MOMENT TABLE

I_S	(IN^4)	20300
S_S	(IN^3)	1110
$M_{\mathbb{Q}}$	(kips/ft)	1.246
$M_{\mathbb{Q}}$	(ft/kips)	972
$M_{\mathbb{L}}$	(ft/kips)	677
M_I	(ft/kips)	166
M TOTAL	(ft/kips)	1815
fs TOTAL	(ksi)	19.62

REACTION TABLE

$R_{\mathbb{Q}}$	(kips)	49.8
$R_{\mathbb{L}}$	(kips)	37.5
R_I	(kips)	9.2
R TOTAL	(kips)	96.5

STRINGERS S2 THRU S6

MOMENT TABLE

I_S	(IN^4)	20290
S_S	(IN^3)	1105
$M_{\mathbb{Q}}$	(kips/ft)	0.965
$M_{\mathbb{Q}}$	(ft/kips)	753
$M_{\mathbb{L}}$	(ft/kips)	694
M_I	(ft/kips)	170
M TOTAL	(ft/kips)	1617
fs TOTAL	(ksi)	17.56

REACTION TABLE

$R_{\mathbb{Q}}$	(kips)	38.6
$R_{\mathbb{L}}$	(kips)	43.1
R_I	(kips)	10.6
R TOTAL	(kips)	92.3

SPAN 43

MOMENT TABLE

		STRINGERS S1	S2	S3	S4	S5	S6	S7
I_S	(IN^4)	13200	11300	9012	7450	5360	4470	3270
$I_{C(n)}$	(IN^4)	27135	26546	22394	18951	14486	12673	8980
$I_{C(3n)}$	(IN^4)	19709	-	-	-	-	-	6504
S_S	(IN^3)	719	621	503	448	355	299	243
$S_{C(n)}$	(IN^3)	964	868	716	642	525	454	364
$S_{C(3n)}$	(IN^3)	859	-	-	-	-	-	326
$M_{\mathbb{Q}}$	(kips/ft.)	0.746	0.847	0.815	0.806	0.789	0.773	0.636
$M_{\mathbb{Q}}$	(ft/kips)	429	410	327	263	204	154	93
fs $\mathbb{Q}$ non-comp.	(ksi)	7.16	7.92	7.81	7.04	6.90	6.18	4.61
S $\mathbb{Q}$	(kips/ft.)	0.410	-	-	-	-	-	0.410
M_S $\mathbb{Q}$	(ft/kips)	236	-	-	-	-	-	60
fs S $\mathbb{Q}$ comp.	(ksi)	3.29	-	-	-	-	-	2.22
M_S $\mathbb{L}$	(ft/kips)	573	512	452	392	331	271	205
M_I	(ft/kips)	148	137	124	111	97	81	62
fs $\mathbb{L}$ +I comp.	(ksi)	8.98	8.97	9.65	9.40	9.78	9.30	8.80
fs TOTAL	(ksi)	19.43	16.89	17.46	16.44	16.68	15.48	15.64
VR	(kips)	46.13	46.91	46.39	45.7	44.76	43.37	40.18

REACTION TABLE

$R_{\mathbb{Q}}$	(kips)	39.2	26.4	23.1	20.6	17.9	15.4	17.9
$R_{\mathbb{L}}$	(kips)	36.6	41.6	41.0	40.2	39.3	38.0	30.9
R_I	(kips)	9.5	11.1	11.3	11.4	11.5	11.4	9.3
R TOTAL	(kips)	85.3	79.1	75.4	72.2	68.7	64.8	58.1

NOTES

Is AND Ss ARE THE MOMENT OF INERTIA AND SECTION MODULUS OF THE STEEL SECTION USED IN COMPUTING fs (TOTAL).
Ic AND Sc ARE THE MOMENT OF INERTIA AND SECTION MODULUS OF THE COMPOSITE SECTION USED IN COMPUTING fs (TOTAL).
VR IS THE MAXIMUM $\mathbb{L}$ + IMPACT SHEAR RANGE IN SPAN.
M $\mathbb{Q}$ - MOMENT DUE TO DEAD LOADS ON NON-COMPOSITE SECTION.
Ms $\mathbb{Q}$ - MOMENT DUE TO DEAD LOADS ON COMPOSITE SECTION.
Ms $\mathbb{L}$ - MOMENT DUE TO LIVE LOAD ON COMPOSITE SECTION.
M $\mathbb{L}$ - MOMENT DUE TO LIVE LOAD ON NON-COMPOSITE SECTION.
I - LIVE LOAD IMPACT
STRINGERS S1 AND S7 ARE NEW, STRINGERS S2 - S6 ARE ORIGINAL CONSTRUCTION.

REHABILITATION FOR
APPROACH BRIDGE OVER
I-55/70 W.B., MISSOURI AVE. AND TRRA

MOMENTS AND REACTIONS
SPANS 33 THRU 37 AND 39 THRU 44

STRUCTURE NO. 082-6003
STA. 65+00 (FAP 799) ST. CLAIR CO.

K.D. LARSON	DESIGNED
R.D. NIEMIETZ	CHECKED
J.G. CORLEY	DRAWN
R.F. BECK	CHECKED

DATE: OCT. 23, 1987
LEVELS PLOTTED 56 & 63
PRF: DETAIL'92
Z:\ZF3\ISU\DETAIL92.DGN
350 / 5876

PREPARED BY:
SVERDRUP CORPORATION
ST. LOUIS, MISSOURI

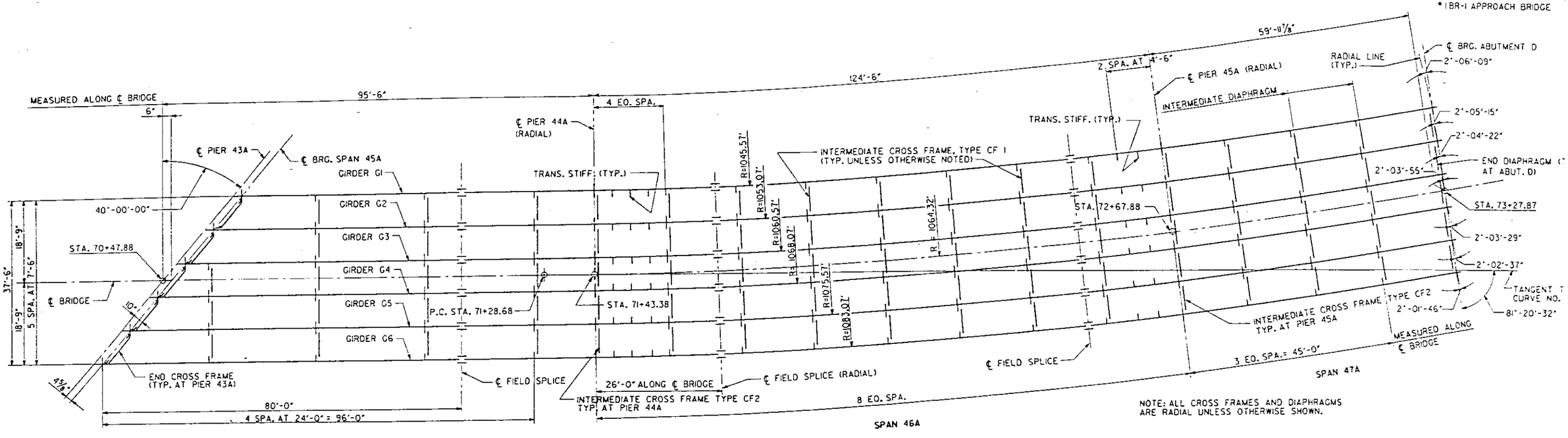
SECTION IBR-1

SHEET NO. 44 OF 75

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

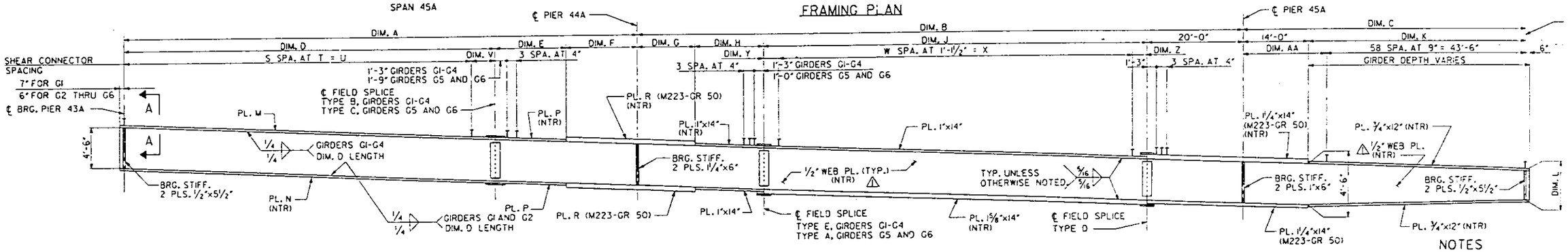
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS
FAP 799	*	ST. CLAIR	252
	ILLINOIS	PROJECT	

* IBR-1 APPROACH BRIDGE



NOTE: ALL CROSS FRAMES AND DIAPHRAGMS ARE RADIAL UNLESS OTHERWISE SHOWN.

FRAMING PLAN



GIRDER ELEVATION

TABLE OF GIRDER VARIABLES

GIRDER	DIM. A	DIM. B	DIM. C	DIM. D	DIM. E	DIM. F	DIM. G	DIM. H	DIM. J	DIM. K	DIM. L	PL. M	PL. N	PL. P	PL. R	S	T	U	V	W	X	DIM. Y	DIM. Z	DIM. AA
G1	79'-0 1/8"	122'-3 11/16"	59'-7 5/16"	48'-6 3/8"	17'-5 3/4"	13'-0"	25'-6 1/2"	0'-0"	76'-9 3/16"	45'-7 5/16"	2'-0 1/16"	3/4"x12"	3/4"x12"	3/4"x12"	1 1/2"X14"	59	9 1/2"	46'-8 1/2"	1'-9 7/8"	65	73'-[illegible]	1'-10"	1'-9 11/16"	16'-1 5/16"
G2	85'-4 7/8"	123'-2 5/16"	59'-9 5/16"	54'-9 1/16"	17'-6 5/16"	13'-0"	25'-8 1/16"	0'-0"	77'-5 1/2"	45'-9 9/16"	2'-4 1/16"	3/4"x12"	3/4"x12"	3/4"x12"	1 1/2"X14"	61	10 1/2"	53'-4 1/2"	1'-5 7/16"	66	74'-3"	1'-7 1/4"	1'-7 1/4"	16'-3 3/16"
G3	91'-9 5/8"	124'-0 3/4"	59'-11"	61'-1 7/16"	15'-8 3/16"	15'-0"	25'-10 3/4"	0'-0"	78'-2"	45'-11"	2'-8 1/16"	3/4"x12"	1"x12"	3/4"x12"	1 5/8"X14"	60	1'-0"	60'-0"	1'-1 7/16"	66	74'-3"	2'-0"	1'-11"	16'-5"
G4	98'-2 3/8"	124'-11 1/4"	60'-0 13/16"	67'-4 5/16"	15'-9 7/16"	15'-0"	26'-1 1/8"	0'-0"	78'-10 7/8"	46'-0 13/16"	3'-1 7/16"	3/4"x12"	1"x12"	3/4"x12"	1 5/8"X14"	61	1'-1"	66'-1"	1'-3 15/16"	67	75'-4 1/2"	1'-9"	1'-8 5/8"	16'-6 13/16"
G5	104'-7 7/8"	125'-9 3/16"	60'-2 5/8"	73'-8 7/16"	15'-10 11/16"	15'-0"	16'-0"	10'-3 5/16"	79'-6 1/2"	46'-2 5/8"	3'-5 1/2"	1"x12"	1 1/8"X14"	1"X14"	1 7/8"X14"	64	1'-1 1/2"	72'-0"	1'-8 7/16"	68	76'-6"	1'-6"	1'-6 1/2"	16'-8 5/8"
G6	110'-11 7/8"	126'-8 5/16"	60'-4 1/2"	80'-0"	15'-11 7/8"	15'-0"	16'-0"	10'-5 1/2"	80'-2 13/16"	46'-4 1/2"	3'-9 7/8"	1"x12"	1 1/8"X14"	1"X14"	1 7/8"X14"	67	1'-2"	78'-2"	1'-10"	68	76'-6"	1'-10"	1'-10 13/16"	16'-10 1/2"

NOTES

ALL STRUCTURAL STEEL SHALL CONFORM TO AASHTO M183 UNLESS OTHERWISE NOTED.
ALL DIMENSIONS SHOWN ARE HORIZONTAL MEASUREMENTS ALONG GIRDE
ALL STIFFENERS, CROSS FRAMES AND DIAPHRAGMS ARE TO BE VERTIC ON THE FINAL POSITION.
NTR INDICATES MATERIAL SUBJECT TO NOTCH TOUGHNESS REQUIREMEN
FOR SECTION A-A, SEE SHEET 46.
FOR CROSS FRAME AND DIAPHRAGMS DETAILS SEE SHEET 46.
FOR FIELD SPLICE DETAILS SEE SHEET 47.
FOR BEARING DETAILS SEE SHEET 48 AND 49.
FOR CAMBER DIAGRAM SEE SHEET 47.

REHABILITATION FOR

APPROACH BRIDGE OVER I-55/70 W.B., MISSOURI AVE. AND TR

FRAMING PLAN
SPANS 45A THRU 47A

STRUCTURE NO. 082-6003
STA. 65+00 (FAP 799) ST. CLAIR CO.

PREPARED BY:
SVERDRUP CORPORATION
ST. LOUIS, MISSOURI

⚠ REV. 12-4-87

SECTION IBR-1

SHEET NO. 45 OF 7

R. NIEMIETZ	DESIGNED
A. NG	CHECKED
S. STEGMAN	DRAWN
J. KORPI	CHECKED

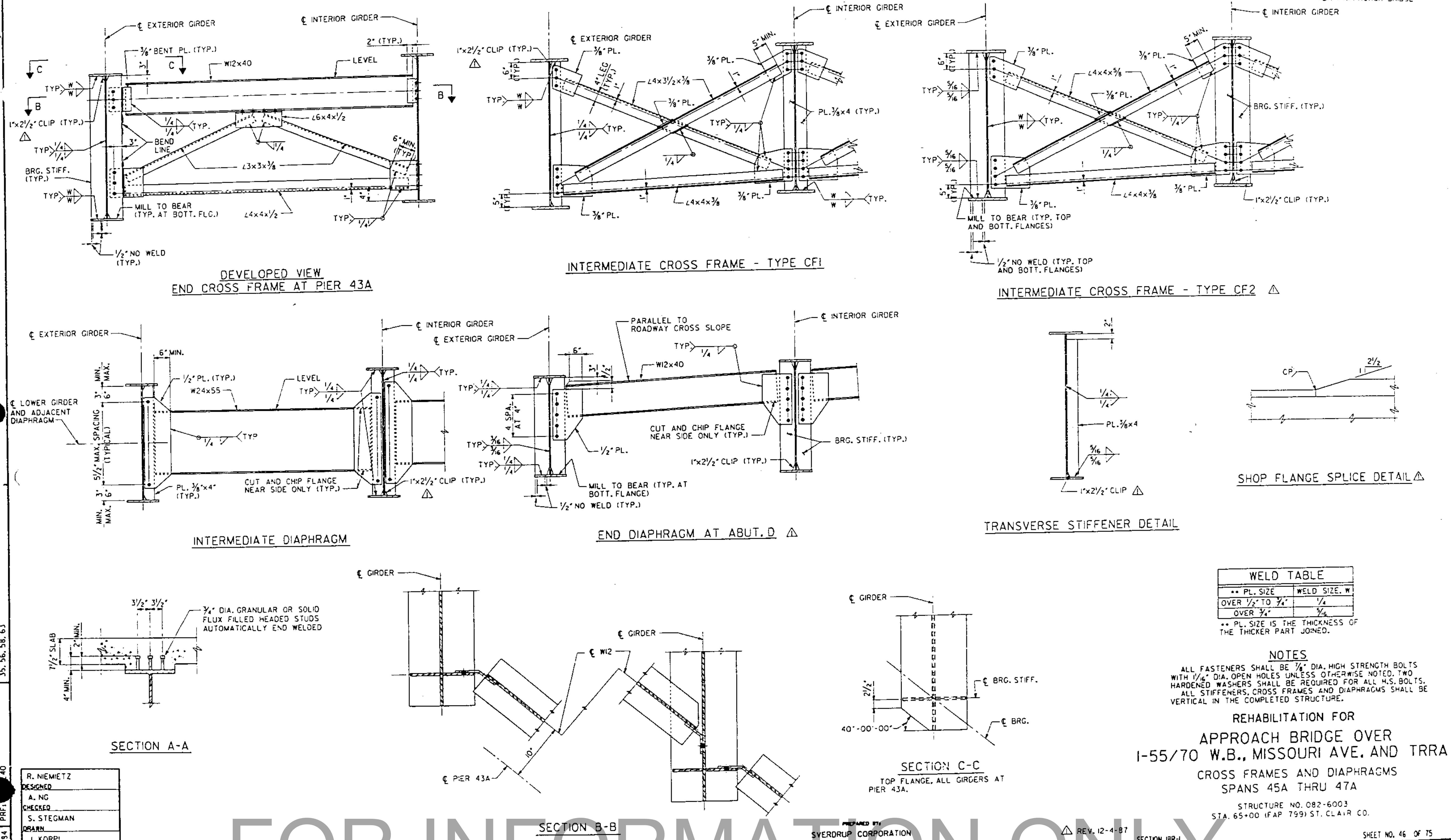
9/21 | FILE: ZF3(65)JDETAIL37.DGN | PRF: DETAIL37 | LEVELS PLOTTED 35, 56, 63 | DATE: OCT. 23, 1987

4-DEC-1987 32

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAP 799	•	ST. CLAIR	252	194

• IBR-I APPROACH BRIDGE



WELD TABLE	
•• PL. SIZE	WELD SIZE, W
OVER 1/2" TO 3/4"	1/4
OVER 3/4"	5/16

•• PL. SIZE IS THE THICKNESS OF THE THICKER PART JOINED.

NOTES

ALL FASTENERS SHALL BE 7/8" DIA. HIGH STRENGTH BOLTS WITH 1 1/16" DIA. OPEN HOLES UNLESS OTHERWISE NOTED. TWO HARDENED WASHERS SHALL BE REQUIRED FOR ALL H.S. BOLTS.

ALL STIFFENERS, CROSS FRAMES AND DIAPHRAGMS SHALL BE VERTICAL IN THE COMPLETED STRUCTURE.

REHABILITATION FOR
APPROACH BRIDGE OVER
I-55/70 W.B., MISSOURI AVE. AND TRRA
CROSS FRAMES AND DIAPHRAGMS
SPANS 45A THRU 47A

STRUCTURE NO. 082-6003
STA. 65+00 (FAP 799) ST. CLAIR CO.

DESIGNED	R. NIEMIETZ
CHECKED	A. NG
DRAWN	S. STEGMAN
CK'D	J. KORPI

PREPARED BY SVERDRUP CORPORATION ST. LOUIS, MISSOURI

REV. 12-4-87

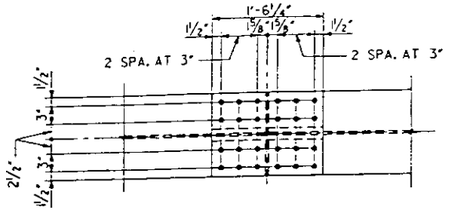
SECTION IBR-I

DATE: OCT. 23, 1987
LEVELS PLOTTED 35, 56, 58, 63
FILE: (5I)DETAIL40.DGN

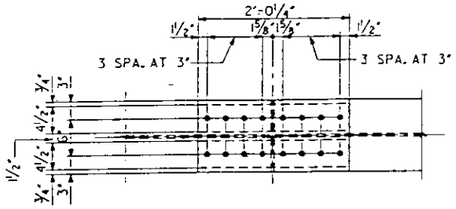
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAP 799	*	ST. CLAIR	252	195
	ILLINOIS	PROJECT		

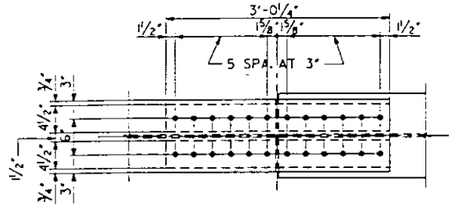
*IBR-1 APPROACH BRIDGE



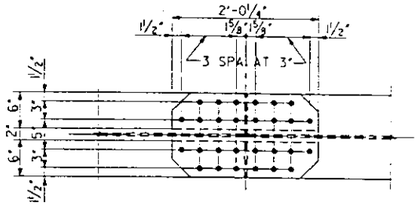
PLAN - FLANGE SPLICES



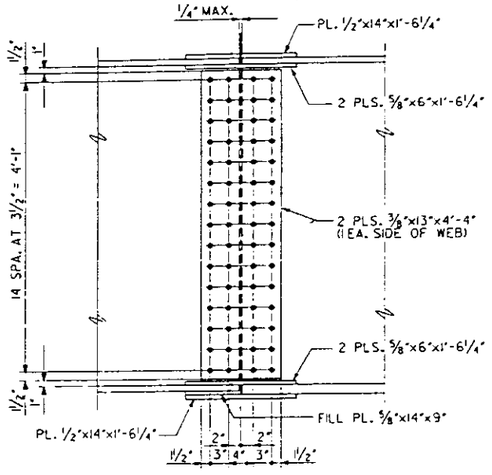
PLAN - FLANGE SPLICES



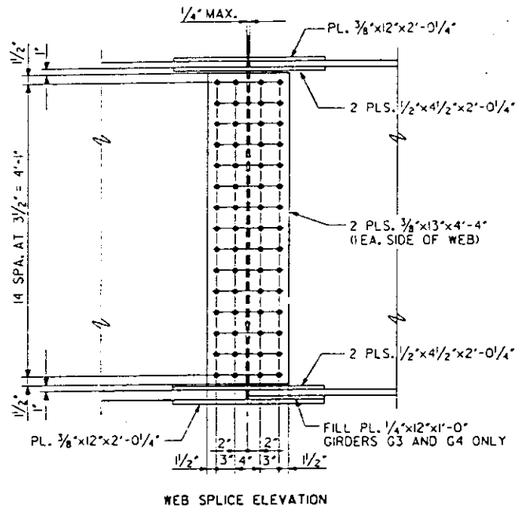
PLAN - TOP FLANGE SPLICE



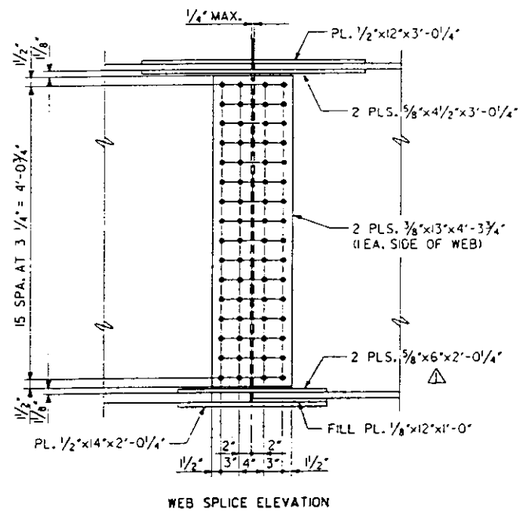
PLAN - TOP FLANGE SPLICE



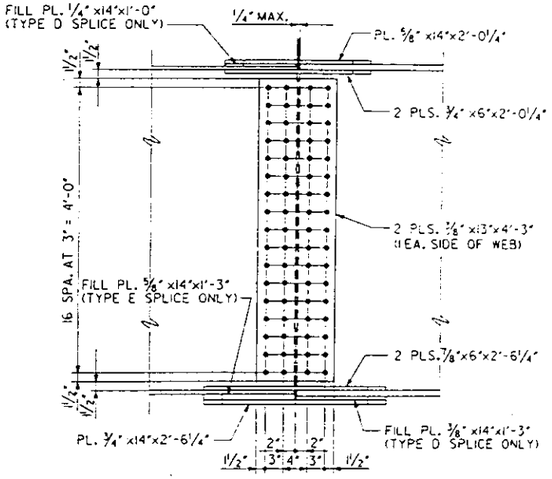
WEB SPLICE ELEVATION



WEB SPLICE ELEVATION

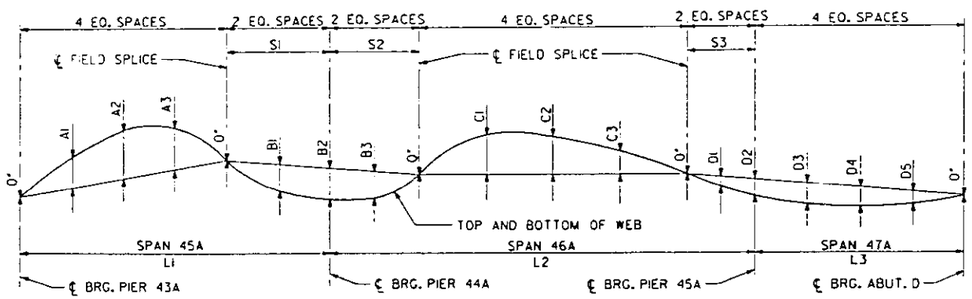


WEB SPLICE ELEVATION



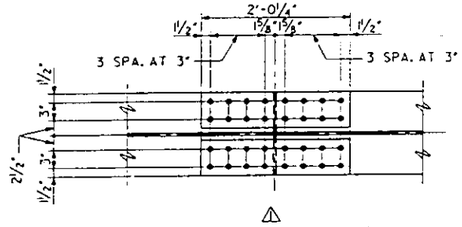
WEB SPLICE ELEVATION

TYPE A SPLICE



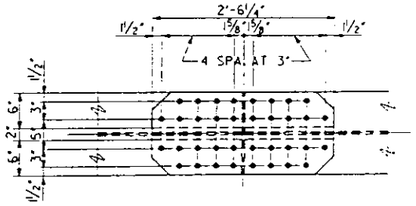
CAMBER DIAGRAM

TYPE B SPLICE



PLAN - BOTTOM FLANGE SPLICE

TYPE C SPLICE



PLAN - BOTTOM FLANGE SPLICE

TYPE D AND E SPLICES

NOTES

ALL STRUCTURAL STEEL FOR SPLICE PLATES SHALL BE SUBJECT TO NOTCH TOUGHNESS REQUIREMENTS.
ALL FASTENERS SHALL BE ⅞" DIA. HIGH STRENGTH BOLTS.
⚠

GIRDER	S1	S2	S3	A1	A2	A3	B1	B2	B3	C1	C2	C3	D1	D2	D3	D4	D5	L1	L2	L3
G1	30'-5¾"	25'-6½"	20'-0"	⅛"	3/16"	⅛"	5/16"	7/16"	¼"	5/16"	13/16"	3/16"	¼"	7/16"	½"	⅜"	⅛"	79'-0⅛"	122'-3¹¹/16"	59'-7⅝"
G2	30'-6¹⁵/16"	25'-8¹¹/16"	20'-0"	¼"	5/16"	¼"	⅜"	½"	5/16"	5/16"	13/16"	3/16"	¼"	½"	½"	⅜"	⅛"	85'-4⅞"	123'-2⅜"	59'-9⅜"
G3	30'-8⅜"	25'-10¾"	20'-0"	⅜"	7/16"	⅜"	⅜"	½"	⅜"	5/16"	13/16"	5/16"	¼"	½"	½"	⅜"	⅛"	91'-9⅝"	124'-0¾"	59'-11"
G4	30'-9⅞"	26'-1⅛"	20'-0"	7/16"	5/16"	7/16"	⅜"	½"	⅜"	5/16"	13/16"	5/16"	¼"	½"	½"	⅜"	⅛"	98'-2⅜"	124'-11¼"	60'-0¹³/16"
G5	30'-10¹¹/16"	26'-3⅝"	20'-0"	9/16"	¾"	9/16"	⅜"	½"	⅜"	5/16"	13/16"	3/16"	¼"	7/16"	7/16"	5/16"	⅛"	104'-7⅛"	125'-9¹³/16"	60'-2⅝"
G6	30'-11⅞"	26'-5½"	20'-0"	¾"	11/16"	¾"	7/16"	⅝"	⅜"	5/16"	13/16"	3/16"	¼"	7/16"	7/16"	5/16"	⅛"	110'-11⅞"	126'-8⅝"	60'-4½"

R. NIEMIETZ	DESIGNED
A. NG	CHECKED
S. STEGMAN	DRAWN
J. KORPI	CHECKED

PREPARED BY:
SVERDRUP CORPORATION
ST. LOUIS, MISSOURI

REHABILITATION FOR
APPROACH BRIDGE OVER
I-55/70 W.B., MISSOURI AVE. AND TRRA

FIELD SPLICES
SPANS 45A THRU 47A

STRUCTURE NO. 082-6003
STA. 65+00 (FAP 799) ST. CLAIR CO.

⚠ REV. 12-4-87

SECTION IBR-1

SHEET NO. 47 OF 75

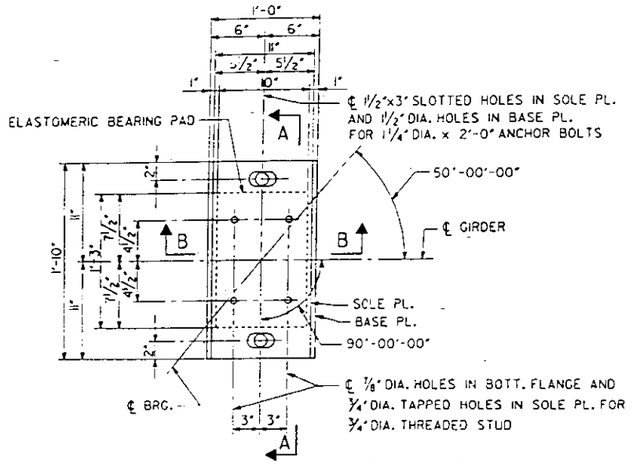
4-DEC-1987 14:2

DATE: OCT. 23, 1987
LEVELS PLOTTED
35, 56 AND 63
FILE: ZF3105I,I5SPLICE43A.DGN
PRF: SPLICE43A
458
875904

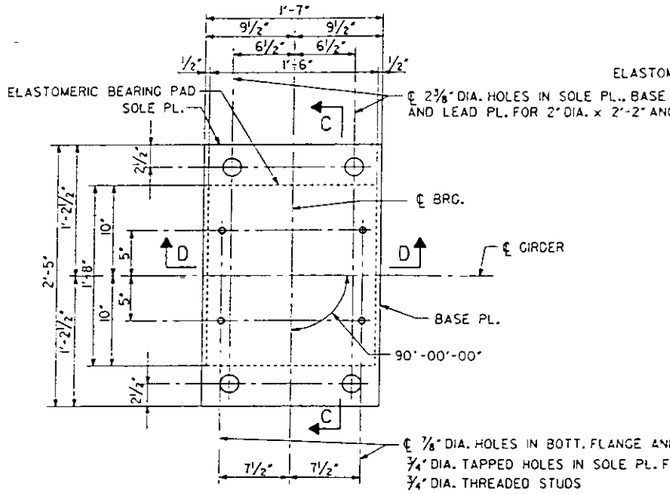
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOT. SHEETS
FAP 799	IR	ST. CLAIR	252
		ILLINOIS PROJECT	

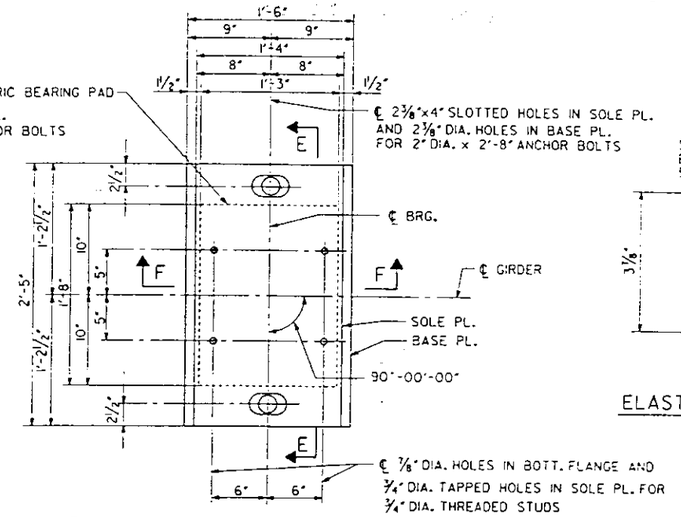
*IBR-1 APPROACH BRIDGE



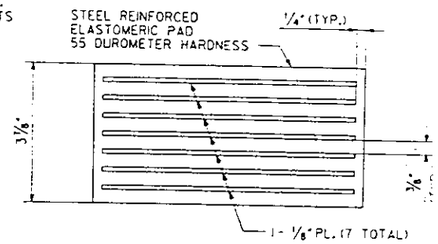
PLAN - EXPANSION BEARING AT PIER 43A, SPAN 45A
FOR GIRDERS G2 THRU G6
(5 REQUIRED)



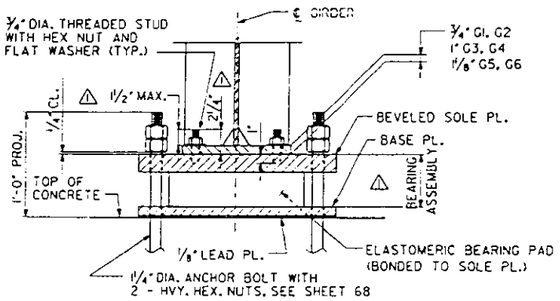
PLAN - FIXED BEARING AT PIER 44A
(6 REQUIRED)



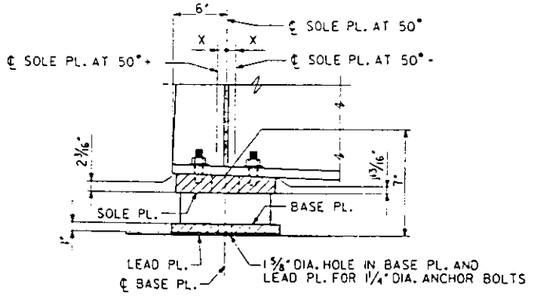
PLAN - EXPANSION BEARING AT PIER 45A
(6 REQUIRED)



ELASTOMERIC BEARING PAD AT PIER 43A

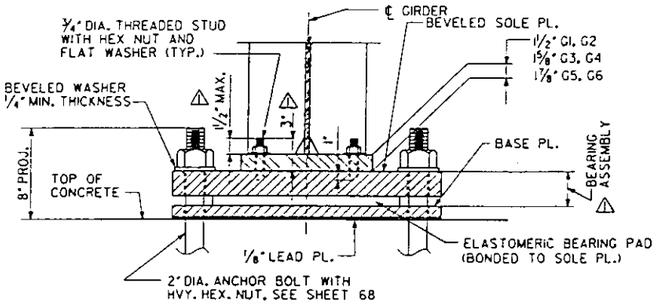


SECTION A-A

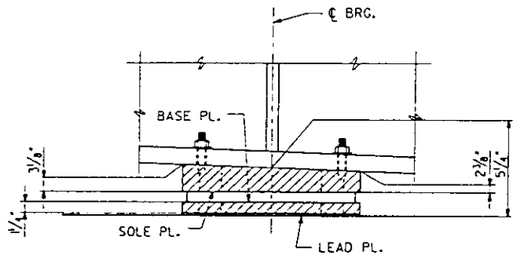


SECTION B-B

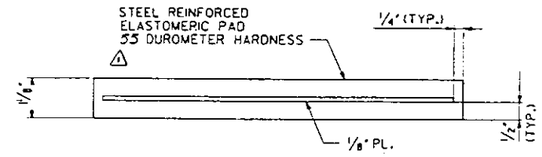
GIRDER	DIM. X FOR EACH 20° F. CHANGE IN TEMP.
G2	1/8"
G3 - G5	5/32"
G6	3/16"



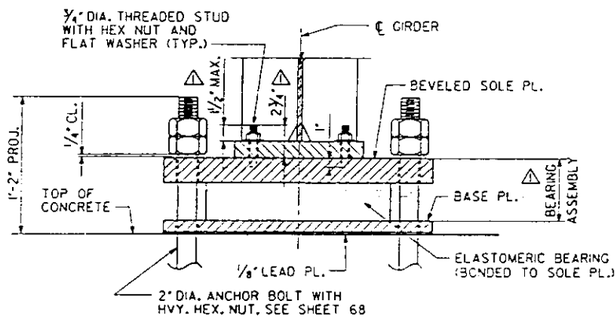
SECTION C-C



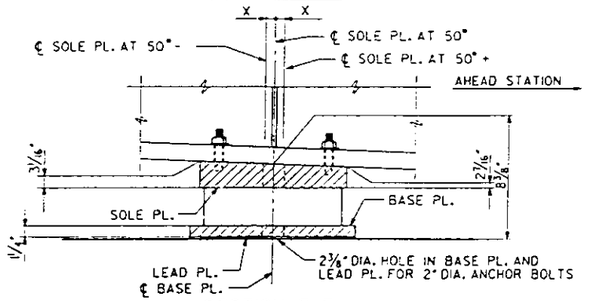
SECTION D-D



FIXED BEARING PAD

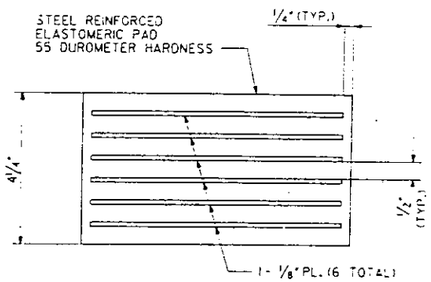


SECTION E-E



SECTION F-F

NOTE: X= 3/16" FOR EACH 20° F. CHANGE IN TEMPERATURE.



ELASTOMERIC BEARING PAD AT PIER 45A

NOTES ⚠

ALL STRUCTURAL STEEL FOR BEARINGS SHALL CONFORM TO AASHTO M183.

FLAT WASHERS TO BE ASTM F844.

FOR BEARING DETAIL FOR GIRDER G1 AT PIER 43A, SEE SHE

BEARINGS SHALL BE PAID FOR AS ELASTOMERIC BEARING ASSEMBLY TYPE 1.

BASE PLATES AND LEAD PLATES SHALL BE INCLUDED IN WEIGHT AND COST FOR STRUCTRUAL STEEL.

R. NIEMIETZ	DESIGNED
A. NG	CHECKED
S. STEGMAN	DRAWN
J. KORPI	CHECKED

FILE: ZF3:(I55,I)BRG43A.DGN
PRF: BRG43A
LEVELS PLOTTED 35, 56, 58, 63
DATE: OCT. 23, 1987

REHABILITATION FOR
APPROACH BRIDGE OVER
I-55/70 W.B., MISSOURI AVE. AND TR

BEARINGS AT
PIERS 43A THRU 45A

STRUCTURE NO. 082-6003
STA. 65+00 (FAP 799) ST. CLAIR CO.

PREPARED BY:
SVERDRUP CORPORATION
ST. LOUIS, MISSOURI

⚠ REV. 12-4-87

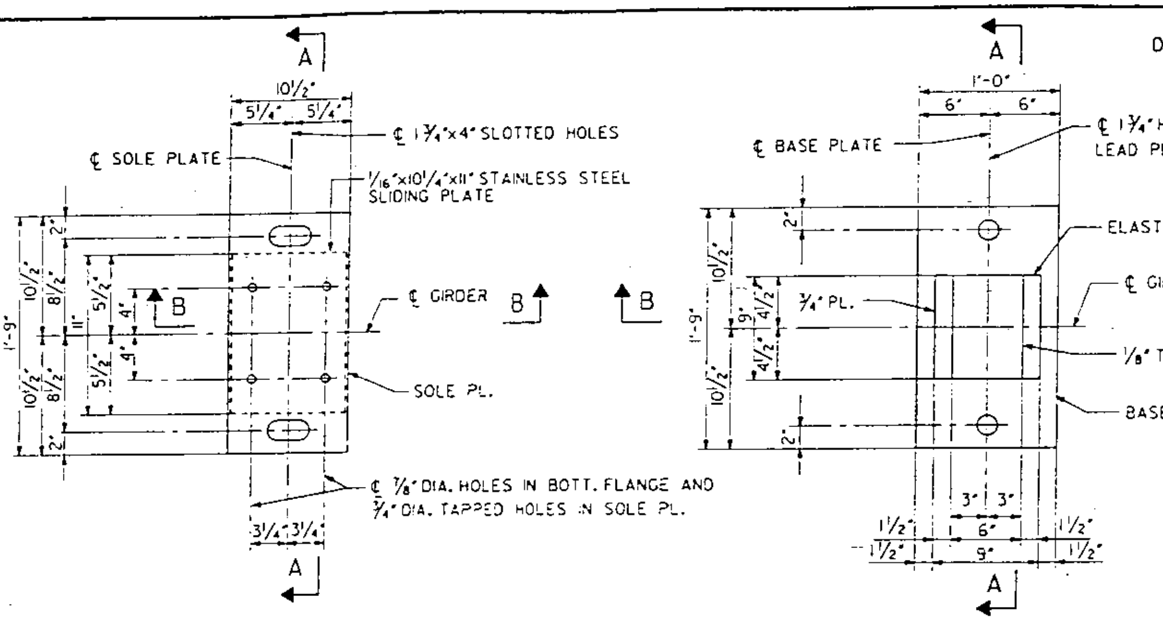
SECTION IBR-1

SHEET NO. 48 OF

4-DEC-1987

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAP 799	*	ST. CLAIR	252	19

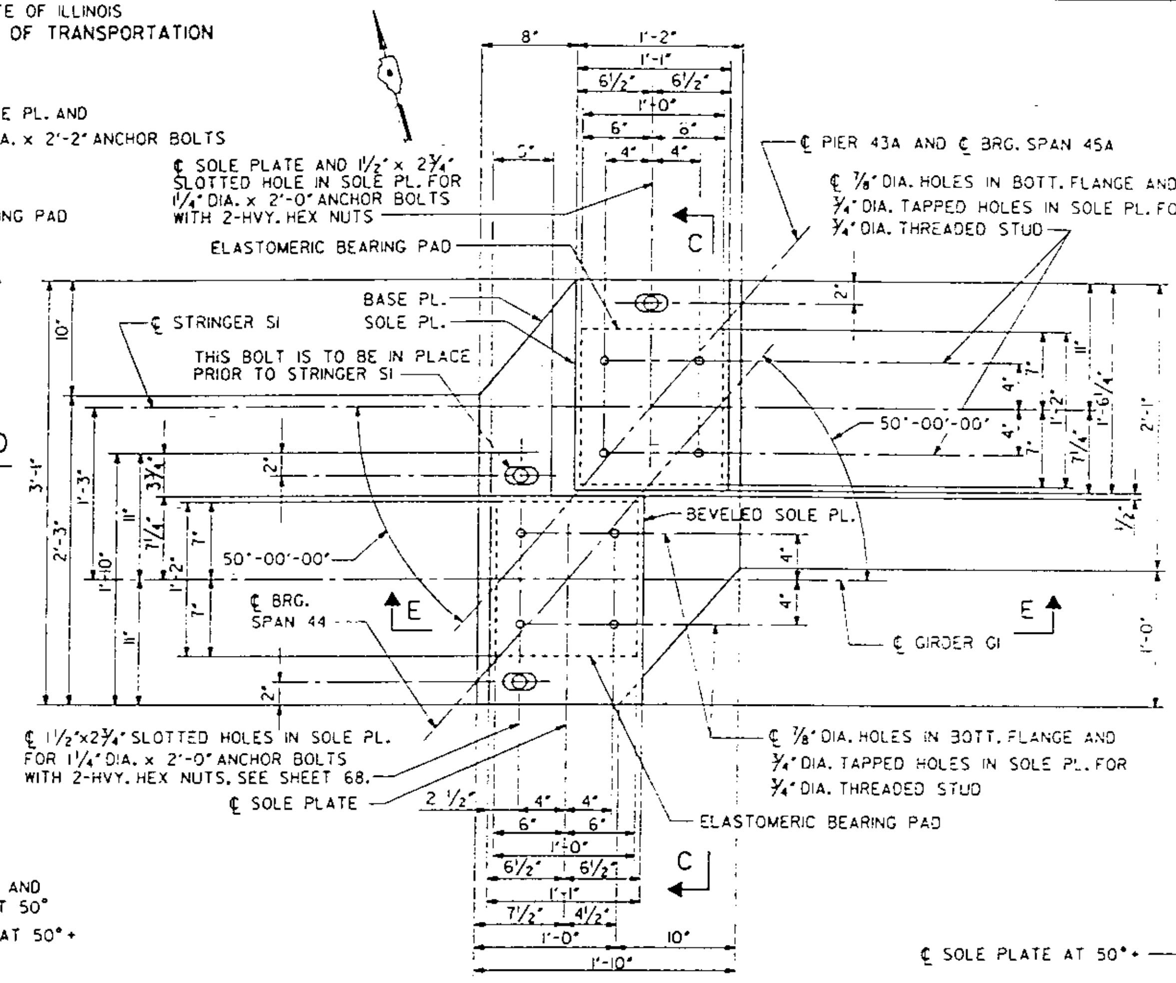
*IBR-1 APPROACH BRIDGE



EXPANSION BEARING AT ABUTMENT D

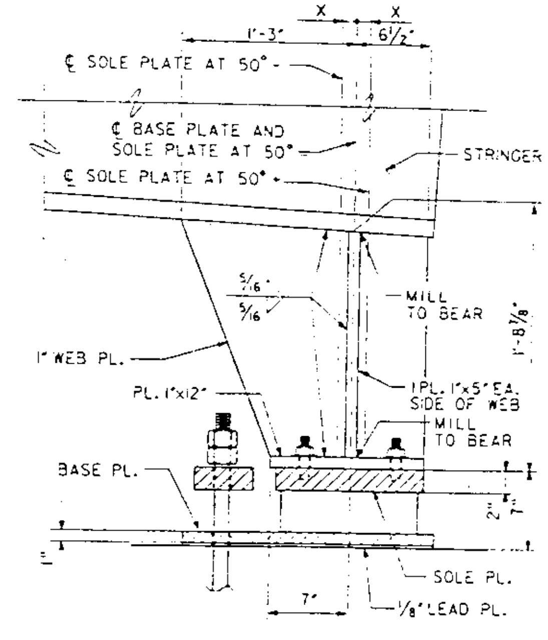
ELASTOMERIC BEARING ASSEMBLY-TYPE II (6 REQUIRED)

NOTES: TFE SHALL HAVE DIMPLED SURFACE (¼" DIA. DIMPLES, 1/16" DEEP ON ½" CENTERS, OR EQUIVALENT) AND BE BONDED TO ELASTOMERIC PAD TOP PLATE, WITH A TWO-COMPONENT MEDIUM VISCOSITY EPOXY RESIN, CONFORMING TO THE REQUIREMENTS OF THE FEDERAL SPECIFICATION MMM-A-134, TYPE I, OVER THE FULL CONTACT AREA.
BONDING OF THE ⅛" TFE SHEET DURING VULCANIZING PROCESS WILL BE PERMITTED PROVIDED THE PROCESS AND METHOD OF ADJUSTING ASSEMBLY HEIGHT IS APPROVED BY THE ENGINEER.



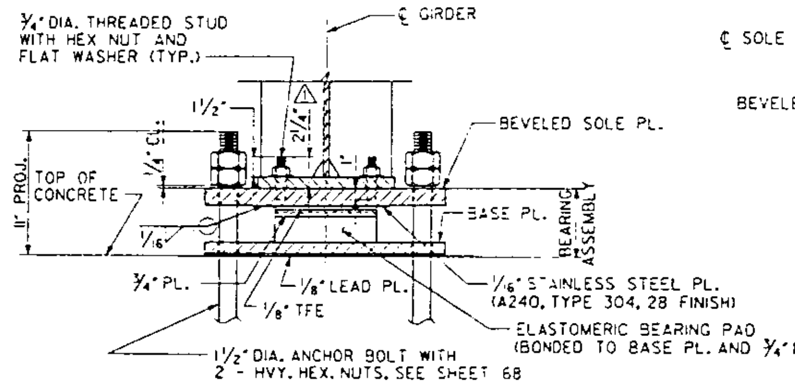
PLAN - EXPANSION BEARING AT PIER 43A
STRINGER SI, SPAN 44
AND GIRDER GI, SPAN 45A

ELASTOMERIC BEARING ASSEMBLY TYPE I (2 REQUIRED) △

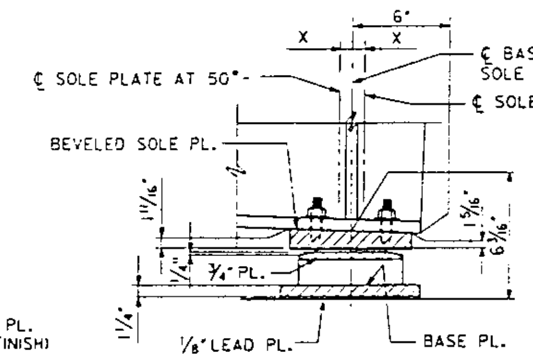


SECTION D-D

NOTE: X= ⅛" FOR EACH 20° F. CHANGE FROM 50° F. TEMPERATURE.

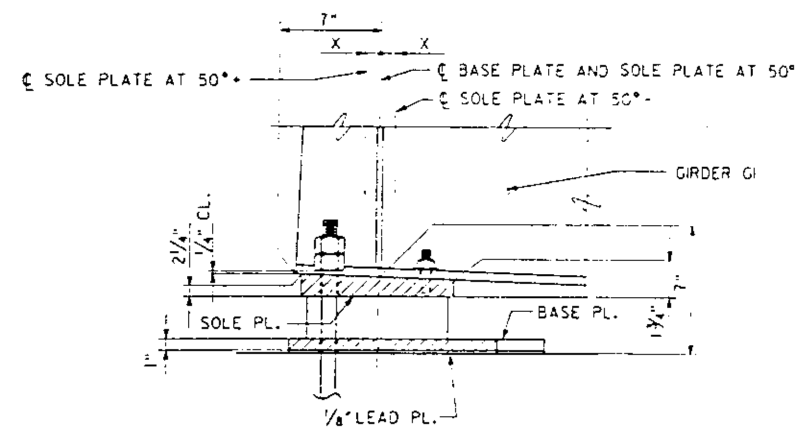


SECTION A-A



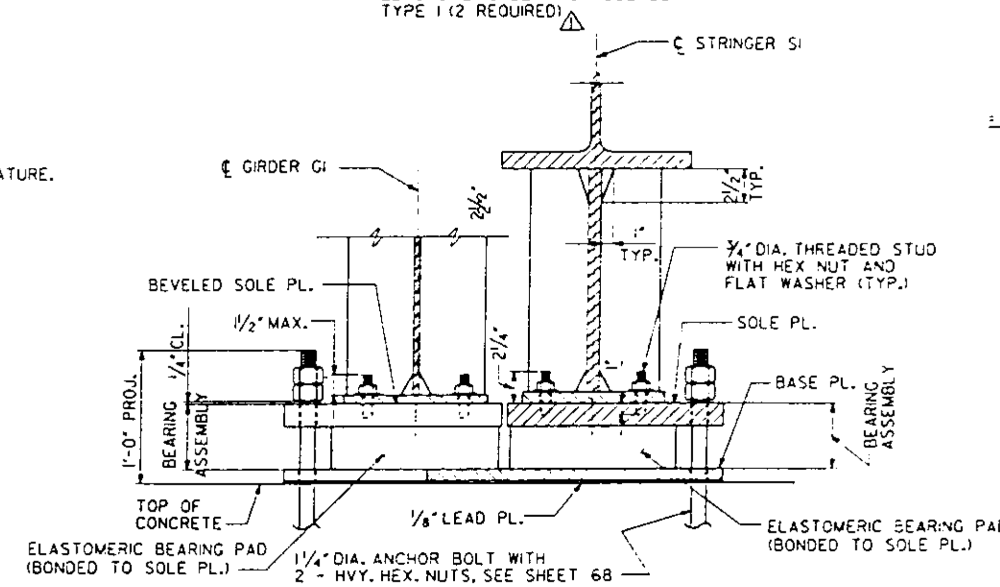
SECTION B-B

NOTE: X= 5/16" FOR EACH 20° F. CHANGE FROM 50° F. TEMPERATURE.

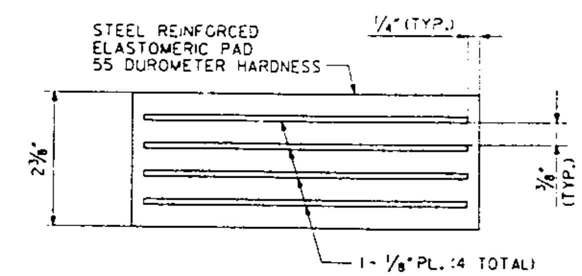


SECTION E-E

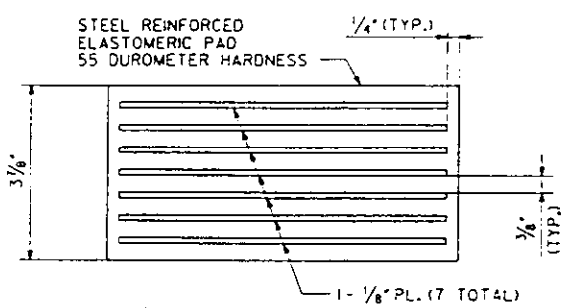
NOTE: X= ⅛" FOR EACH 20° F. CHANGE FROM 50° F. TEMPERATURE.



SECTION C-C △



ELASTOMERIC BEARING PAD AT ABUTMENT D



ELASTOMERIC BEARING PAD AT PIER 43A

NOTES △

ALL STRUCTURAL STEEL FOR BEARINGS SHALL CONFORM TO AASHTO M-183, EXCEPT AS NOTED.
THREADED STUDS AND NUTS SHALL CONFORM TO M-183.
FLAT WASHERS TO BE ASTM F844.
BASE PLATES AND LEAD PLATES SHALL BE INCLUDED IN WEIGHT AND COST FOR STRUCTURAL STEEL.

REHABILITATION FOR

APPROACH BRIDGE OVER I-55/70 W.B., MISSOURI AVE. AND TRRA

BEARINGS AT
PIER 43A AND ABUTMENT D

STRUCTURE NO. 082-6003
STA. 65+00 (FAP 799) ST. CLAIR CO.

R. NIEMIETZ	DESIGNED
K. LARSON	CHECKED
S. STEGMAN	DRAWN
J. KORPI	CHECKED

FILE: ZF3(IE1)BRG43B.DGN PRF: BRG43B | LEVELS PLOTTED 35, 56, 58, 63 | DATE: OCT. 23, 1987

PREPARED BY: SVERDRUP CORPORATION, ST. LOUIS, MISSOURI

△ REV. 12-4-87

SECTION IBR-1

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAP 799	*	ST. CLAIR	252	19

*IBR-I APPROACH BRIDGE

INTERIOR GIRDER G2 MOMENT TABLE

			0.4 SPAN 45A	PIER 44A	0.5 SPAN 46A	PIER 45A	0.6 SPAN 47A
	Is	(in⁴)	20051	38904	33790	33275	11185
	Ic n	(in⁴)	48309	—	77902	—	28056
	Ic 3n	(in⁴)	36115	—	56712	—	21117
	Ss	(in³)	723	1365	1366	1178	517
	Sc n	(in³)	1018	—	1770	—	731
	Sc 3n	(in³)	926	—	1631	—	669
	D	(kips/ft.)	0.893	1.231	0.960	1.231	0.893
**	M D	(ft-kips)	327	1706	876	1338	28
	S D	(kips/ft.)	0.304	—	0.304	—	0.304
**	Ms D	(ft-kips)	147	—	338	—	35
**	M L	(ft-kips)	—	760	—	672	—
	Ms L	(ft-kips)	722	—	1097	—	488
	MI	(ft-kips)	171	166	222	155	132
	5/3(M L +I+CF)	(ft-kips)	1488	1563	2227	1396	1046
	Ma	(ft-kips)	2551	4250	4473	3554	1442
**	fs D non-comp	(ksi)	5.43	15.00	7.70	13.63	0.65
**	fs D comp.	(ksi)	1.91	—	2.49	—	0.63
**	fs 5/3(L +I+CF)	(ksi)	17.54	13.74	15.10	14.22	17.17
	fw	(ksi)	—	3.02	2.66	2.93	2.16
***	fs (overload)	(ksi)	24.88	28.74	25.29	27.85	18.45
***	fs (total) non-compact	(ksi)	32.34	37.36	32.88	36.21	23.99
	F b	(ksi)	36.00	45.67	36.00	45.67	36.00
	VR	(kips)	46.20	—	49.90	—	44.90

INTERIOR GIRDER G4 MOMENT TABLE

			0.4 SPAN 45A	PIER 44A	0.5 SPAN 46A	PIER 45A	0.6 SPAN 47A
	Is	(in⁴)	22236	41767	33790	33275	13864
	Ic n	(in⁴)	54930	—	77902	—	34227
	Ic 3n	(in⁴)	40518	—	56712	—	25707
	Ss	(in³)	754	1459	1366	1178	584
	Sc n	(in³)	1181	—	1770	—	825
	Sc 3n	(in³)	1076	—	1631	—	753
	D	(kips/ft.)	0.904	1.236	0.960	1.231	0.893
**	M D	(ft-kips)	878	1628	869	1314	36
	S D	(kips/ft.)	0.304	—	0.304	—	0.304
**	Ms D	(ft-kips)	196	—	338	—	38
**	M L	(ft-kips)	—	828	—	675	—
	Ms L	(ft-kips)	819	—	1115	—	493
	MI	(ft-kips)	186	176	224	155	134
	5/3(M L +I+CF)	(ft-kips)	1675	1695	2260	1401	1056
	Ma	(ft-kips)	3054	4320	4509	3530	1469
**	fs D non-comp	(ksi)	7.61	13.39	7.63	13.39	0.74
**	fs D comp.	(ksi)	2.19	—	2.49	—	0.61
**	fs 5/3(L +I+CF)	(ksi)	17.02	13.94	15.32	14.27	15.36
	fw	(ksi)	—	2.87	2.67	2.90	1.95
***	fs (overload)	(ksi)	26.82	27.33	25.44	27.66	16.71
***	fs (total) non-compact	(ksi)	34.87	35.52	33.07	35.96	21.72
	F b	(ksi)	36.00	45.67	36.00	45.67	36.00
	VR	(kips)	47.20	—	50.00	—	45.10

EXTERIOR GIRDER G6 MOMENT TABLE

			0.4 SPAN 45A	PIER 44A	0.5 SPAN 46A	PIER 45A	0.6 SPAN 47A
	Is	(in⁴)	27403	47553	33790	33275	16884
	Ic n	(in⁴)	63590	—	77902	—	41130
	Ic 3n	(in⁴)	46954	—	56712	—	30817
	Ss	(in³)	1045	1647	1366	1178	654
	Sc n	(in³)	1392	—	1770	—	923
	Sc 3n	(in³)	1277	—	1631	—	841
	D	(kips/ft.)	0.927	1.248	0.960	1.231	0.893
**	M D	(ft-kips)	757	2284	0.808	1271	57
	S D	(kips/ft.)	0.304	—	0.304	—	0.304
**	Ms D	(ft-kips)	290	—	327	—	40
⚠ **	M L	(ft-kips)	—	954	—	703	—
	Ms L	(ft-kips)	974	—	1137	—	510
	MI	(ft-kips)	206	196	226	161	137
	5/3(M L +I+CF)	(ft-kips)	1967	1941	2301	1458	1092
	Ma	(ft-kips)	3918	5493	4467	3348	1546
**	fs D non-comp	(ksi)	8.69	16.64	7.10	12.94	1.05
**	fs D comp.	(ksi)	2.73	—	2.41	—	0.57
**	fs 5/3(L +I+CF)	(ksi)	16.96	14.14	15.60	14.85	14.20
	fw	(ksi)	—	3.23	2.64	2.92	1.85
***	fs (overload)	(ksi)	28.38	30.78	25.11	27.79	15.82
***	fs (total) non-compact	(ksi)	36.89	40.01	32.64	36.13	20.57
	F b	(ksi)	36.00	45.67	36.00	45.67	36.00
	VR	(kips)	48.40	—	50.10	—	46.10

** INCLUDES EFFECT OF SECONDARY FORCES
*** INCLUDES STRESSES DUE TO SECONDARY FORCES AND CENTRIFUGAL LOADS.

GIRDER REACTION TABLE

	INTERIOR GIRDER G2				INTERIOR GIRDER G4				EXTERIOR GIRDER G6			
	PIER 43A	PIER 44A	PIER 45A	ABUT. D	PIER 43A	PIER 44A	PIER 45A	ABUT. D	PIER 43A	PIER 44A	PIER 45A	ABUT. D
D (kips)	34.4	149.7	131.0	17.0	40.7	157.6	130.1	17.3	50.9	174.3	128.3	18.4
L (kips)	47.9	75.4	70.9	44.9	48.6	78.1	71.2	44.9	49.5	82.7	72.3	45.0
I (kips)	11.3	16.4	16.4	12.1	11.0	16.6	16.4	12.1	10.5	17.0	16.5	12.1
SECONDARY (kips)	—	—	—	—	—	3.8	4.2	0.2	—	19.6	20.6	2.2
TOTAL (kips)	93.6	241.5	218.3	74.0	100.3	256.1	221.9	74.5	110.9	293.6	237.7	77.7

NOTES

Ma (APPLIED MOMENT) = 1.3 [M D + Ms D + 5/3 (M L+I+ CF)]

Is AND Ss ARE THE MOMENT OF INERTIA AND SECTION MODULUS OF THE STEEL SECTION USED IN COMPUTING fs (TOTAL AND OVERLOAD).

Ic AND Sc ARE THE MOMENT OF INERTIA AND SECTION MODULUS OF THE COMPOSITE SECTION USED IN COMPUTING fs (TOTAL AND OVERLOAD).

VR IS THE MAXIMUM L + IMPACT SHEAR RANGE IN SPAN.

fs (total) IS THE SUM OF THE STRESSES DUE TO 1.3 [M D + Ms D + 5/3 (M L +I+ CF)]

fs (overload) IS THE SUM OF THE STRESSES DUE TO M D + Ms D + 5/3 (M L +I+ CF)

fw FACTORED NORMAL WARPING STRESS DUE TO CURVATURE.

M D - MOMENT DUE TO DEAD LOADS ON NON-COMPOSITE SECTION.

Ms D - MOMENT DUE TO DEAD LOADS ON COMPOSITE SECTION.

Ms L - MOMENT DUE TO LIVE LOAD ON COMPOSITE SECTION.

M L - MOMENT DUE TO LIVE LOAD ON NON-COMPOSITE OR COMPOSITE SECTION.

I - LIVE LOAD IMPACT

Fb - MAXIMUM ALLOWABLE STRESS Fbu OR Fby COMPUTED ACCORDING TO AASHTO (GUIDE TO HORIZ. CURVED HIGHWAY BRIDGES SECT. 2.12(B), 2.16 AND 2.19).

REHABILITATION FOR

APPROACH BRIDGE OVER I-55/70 W.B., MISSOURI AVE. AND TRRA

MOMENTS AND REACTIONS
SPANS 45A THRU 47A

STRUCTURE NO. 082-6003
STA. 65+00 (FAP 799) ST. CLAIR CO.

K. LARSON	DESIGNED
R. NIEMIETZ	CHECKED
J.G. CORLEY	DRAWN
R.F. BECK	CHECKED

PREPARED BY:
SVERDRUP CORPORATION
ST. LOUIS, MISSOURI

⚠ REV. 12-4-87

SECTION IBR-I

4-DEC-1987 13:

JB 875946 FILE: ZF3I(5I,I)2DETAIL107.DCN PRF: DETAIL107

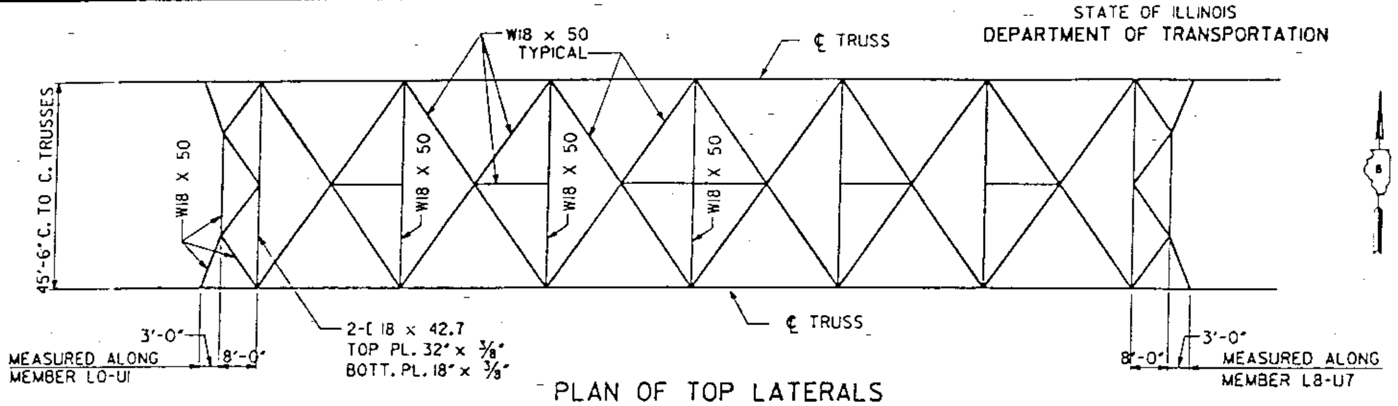
LEVELS PLOTTED 35,56,63 DATE: OCT. 23,1987

0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24

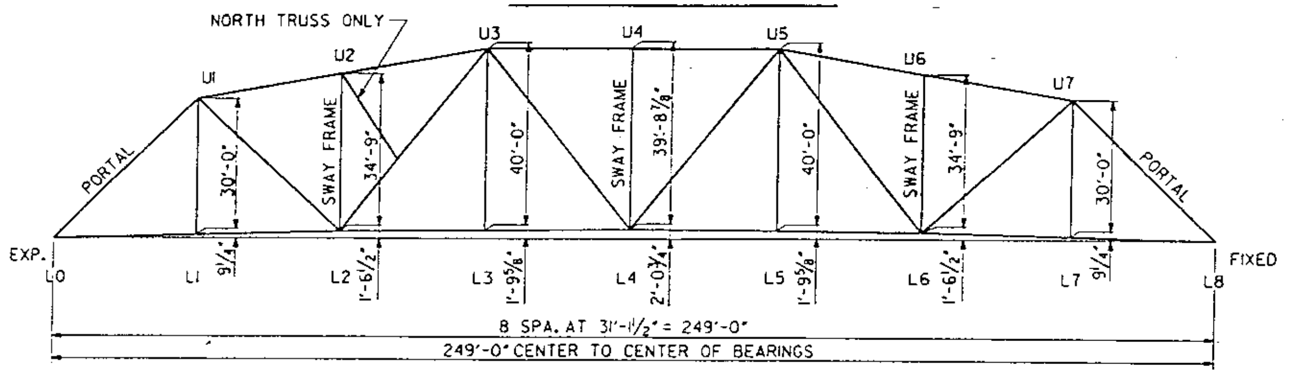
ROUTE NO.	SECTION	COUNTY
FAP 799	*	ST. CLAIR

*IBR-1 APPROACH BR

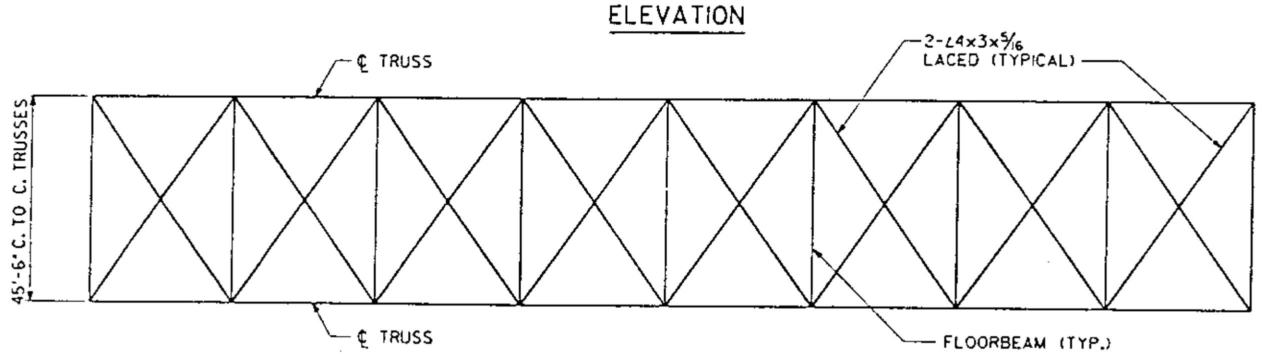
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



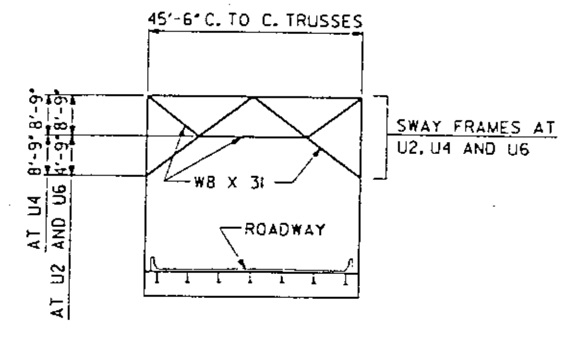
PLAN OF TOP LATERALS



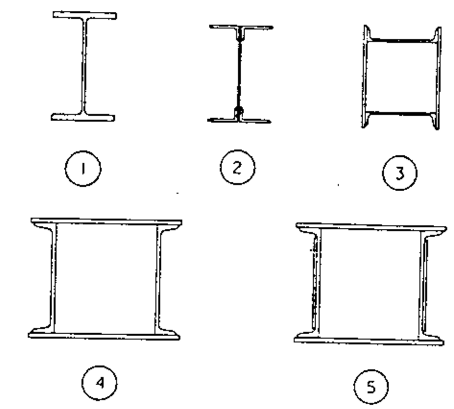
ELEVATION



PLAN OF LOWER LATERALS



TYPICAL SECTION THRU TRUSS



STRESS TABLE SHAPE DESIGNATION

MEMBER	DL	LL		IMP		DL+LL+IMP		ACT S/R	CAPACITY			EFF AREA		L/R	SHAPE	SECTION
		MAX	MIN	MAX	MIN	MAX	MIN		TENS	COMP	CONN	TENS	COMP			
	KIP	KIP	KIP	KIP	KIP	KIP	KIP	KSI	KIP	KIP	KIP	SQ IN	SQ IN			
L0-U1	-555	0	-203	0	-27	-555	-785			-837 ⚠1			60.21	67.8	4	1-PL 24 X 5/8 1-PL(24-9) X 3/4 2-C 18 X 58.0
U1-U3	-600	0	-219	0	-29	-600	-848			-869			58.34	49.5	4	1-PL 24 X 5/8 1-PL(24-9) X 5/8 2-C 18 X 58.0
U3-U4	-690	0	-252	0	-33	-690	-975			-1037			69.59	52.5	5	1-PL 24 X 5/8 1-PL(24-9) X 5/8 2-W PL 15 X 3/8 2-C 18 X 58.0
L0-L2	400	147	0	19	0	566	400	4.00	746			41.45			4	1-PL 24 X 7/16 1-PL(24-9) X 1/2 2-C 18 X 42.7
L2-L4	645	235	0	31	0	911	645	4.42	1084			60.21			4	1-PL 24 X 5/8 1-PL(24-9) X 3/4 2-C 18 X 58.0
U1-L2	268	111	-27 NOTE 2	17	-9 NOTE 2	396	232	6.84	431		422	23.97			1	W 12 X 85
L2-U3	-86	61 NOTE 2	-69	16 NOTE 2	-12	-9	-167			-282	-260		22.20	106.1	3	2-W PL 18 X 3/8 2-C (12-6) X 20.7
U3-L4	79	71 NOTE 2	-50 NOTE 2	14 NOTE 2	-11 NOTE 2	164	18	7.76	339		260	18.81			3	2-W PL 16 X 3/8 2-C (12-6) X 20.7
L1-U1	89	89 NOTE 2	0	27 NOTE 2	0	205	89	6.80	307		227	17.06			1	W-12 X 58
L2-U2	-15	0	0	0	0	-15	-15			-245	-162		22.23	134.1	2	1-PL 12 X 5/16 4-L7 X 4 X 7/16
L3-U3	91	89 NOTE 2	0	27 NOTE 2	0	207	91	6.80	307		227	17.06			1	W 12 X 58
L4-U4	-16	0	0	0	0	-16	-16			-213	-162		22.23	153.3	2	1-PL 12 X 5/16 4-L7 X 4 X 7/16
U2-M2.5	0	0	0	0	0	0	0		258	-147	115	12.88	13.20	139.8	1	W 12 X 45 (BRACE STRUT-WEST HALF NORTH TRUSS ONLY)

NOTES

1. SPAN IS SYMMETRICAL ABOUT U4-L4 EXCEPT AS NOTE
2. MEMBER FORCE GOVERNED BY TRUCK LOADING.

REHABILITATION FOR
APPROACH BRIDGE OVER
I-55/70 W.B., MISSOURI AVE. AND

TRUSS LAYOUT AND STRESS SHEET
SPAN 38

STRUCTURE NO. 082-6003
STA. 65+00 (FAP 799) ST. CLAIR CO.

PREPARED BY:
SVERDRUP CORPORATION
ST. LOUIS, MISSOURI

⚠1 REV. 12-4-87

SECTION IBR-1

SHEET NO. 50

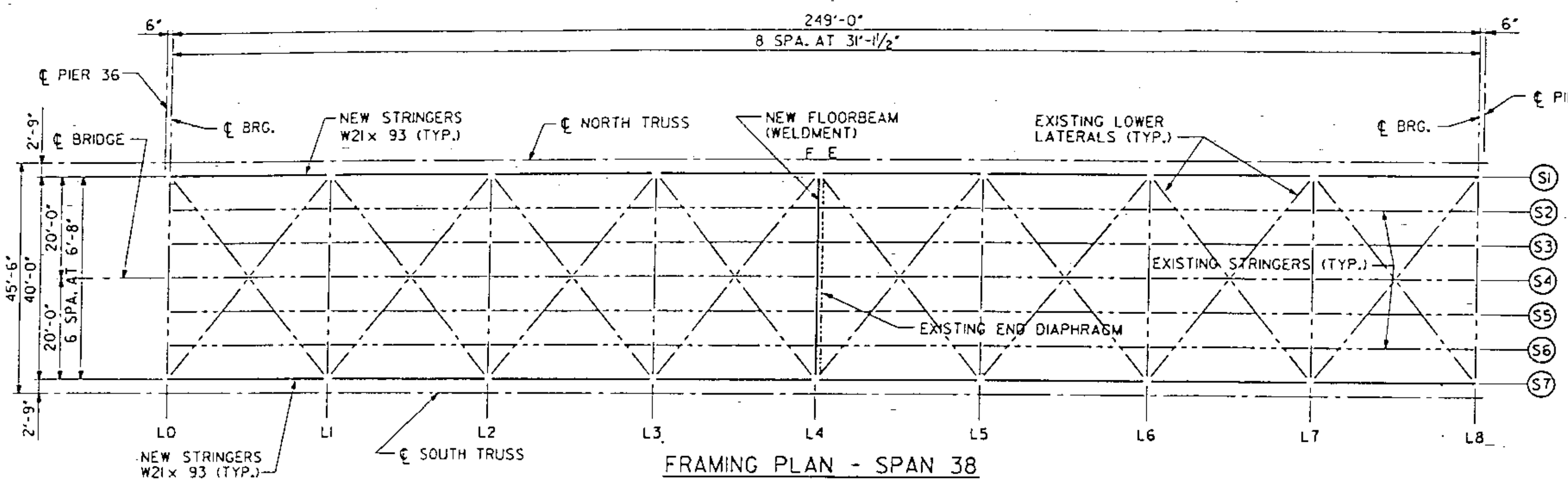
X
DESIGNED
X
CHECKED
J. CORLEY
DRAWN
J. KORPI
CHECKED

FILE: ZF3(I5L)APPBRSTRS.DGN
PRF: APPBRSTRS
LEVELS PLOTTED 35 56 57 63
DATE: OCT. 23, 1987

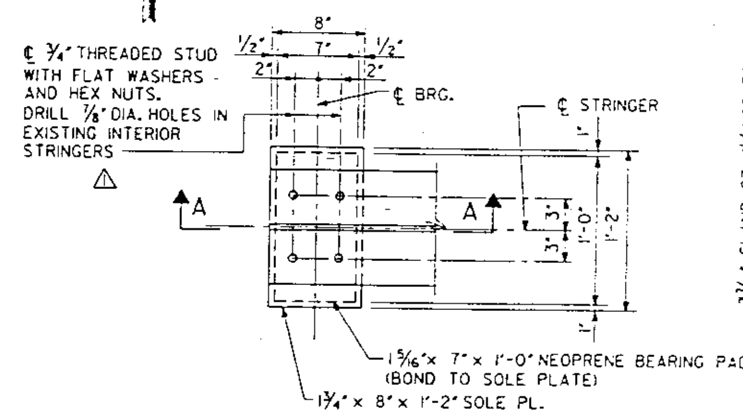
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAP 799	*	ST. CLAIR	252	200

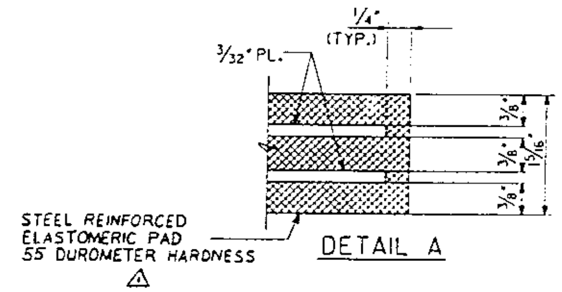
*IBR-I APPROACH BRIDGE



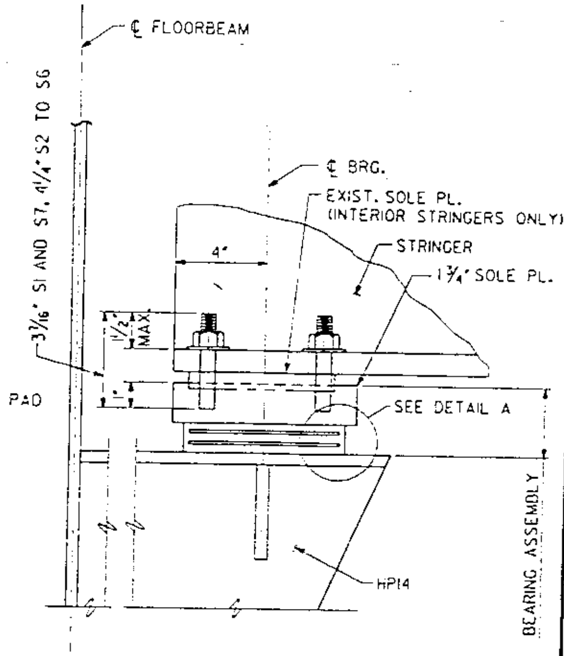
FRAMING PLAN - SPAN 38



STRINGER EXPANSION BEARING DETAIL
ELASTOMERIC BEARING ASSEMBLY TYPE I - 7 REQUIRED



DETAIL A

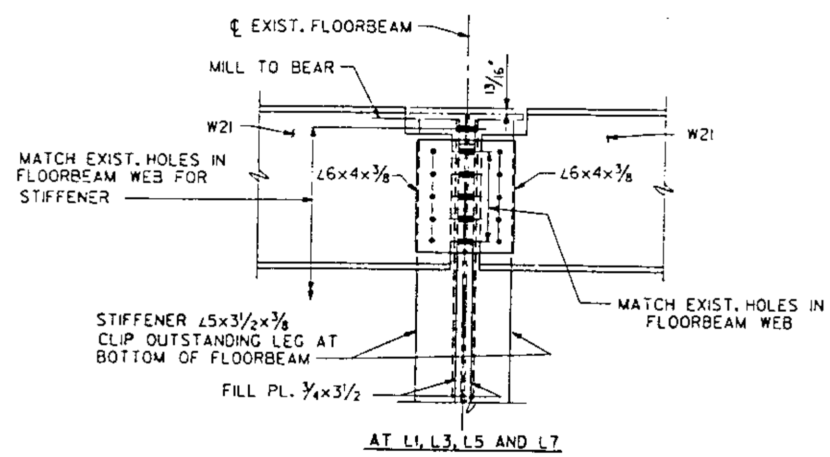


SECTION A-A

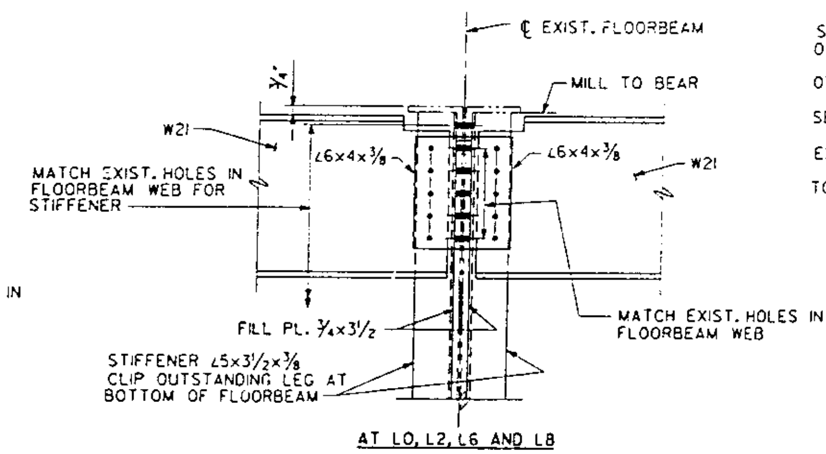
EXISTING FLOORBEAM ELEVATIONS		
LOCATION	ASSUMED TOP OF FLOORBEAM	REMARKS
L0	P.G. - 10½"	BACK OF TOP FLANGE ANGLE BASED ON SURVEY DATA AND ASSUMED NEGLIGABLE CHANGE IN DEAD LOAD DEFLECTIONS
L1	P.G. - 12⅛"	
L2	P.G. - 10 7/16"	
L3	P.G. - 12⅝"	
L4	P.G. - 10 11/16"	
L5	P.G. - 12⅛"	
L6	P.G. - 10 5/16"	
L7	P.G. - 11½"	
L8	P.G. - 9⅝"	

NEW FLOORBEAM ELEVATIONS		
LOCATION	ASSUMED TOP OF FLOORBEAM	REMARKS
L0	P.G. - 10½"	———
L2	P.G. - 10 7/16"	———
L4	P.G. - 11 3/16"	———
L8	P.G. - 9⅝"	———
L1, L3, L5 L6 AND L7	———	ORIGINAL FLANGE ANGLE UNDISTURBED

NEW STRINGER SETTING ELEVATIONS	
LOCATION	ASSUMED TOP OF STRINGER
L0	P.G. - 11¼"
L1	P.G. - 11 5/16"
L2	P.G. - 11 3/16"
L3	P.G. - 11 13/16"
L4	P.G. - 11 7/16"
L5	P.G. - 11 5/16"
L6	P.G. - 11 1/16"
L7	P.G. - 10 11/16"
L8	P.G. - 10⅜"



AT L1, L3, L5 AND L7



AT L0, L2, L6 AND L8

EXTERIOR STRINGER CONNECTION AT EXISTING FLOORBEAMS L0 THRU L3 AND L5 THRU L8

NOTES

ALL BOLTED CONNECTIONS SHOWN ON THIS SHEET SHALL BE MADE WITH ⅞" H.S. BOLTS UNLESS OTHERWISE NOTED.

ALL MATERIAL SHALL BE AASHTO M-183 UNLESS OTHERWISE NOTED.

FOR DRAINAGE SCUPPER LOCATIONS AND DETAILS SEE SHEETS 30 AND 31.

NEW FLOORBEAM AND STRINGERS REPLACE EXISTING MEMBERS.

ALL NEW STRINGER MATERIAL IS SUBJECT TO NOTCH TOUGHNESS REQUIREMENTS.

LEVELS PLOTTED 35 56 58 63 | DATE: OCT. 23, 1987

E: ZF3:[15L1]MLKFP13.DGN
F: MLKFP13

K. LARSON — DESIGNED
R. NIEMIETZ — CHECKED
C. DEED — DRAWN
A. MYERS — CHECKED

PREPARED BY:
SVERDRUP CORPORATION
ST. LOUIS, MISSOURI

REV. 12-4-87

REHABILITATION FOR
APPROACH BRIDGE OVER
I-55/70 W.B., MISSOURI AVE. AND TRRA

FRAMING PLAN - SPAN 38

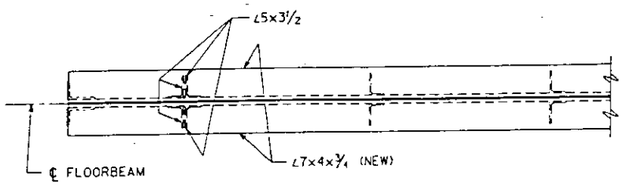
STRUCTURE NO. 082-6003
STA. 65+00 (FAP 799) ST. CLAIR CO.

SECTION IBR-I

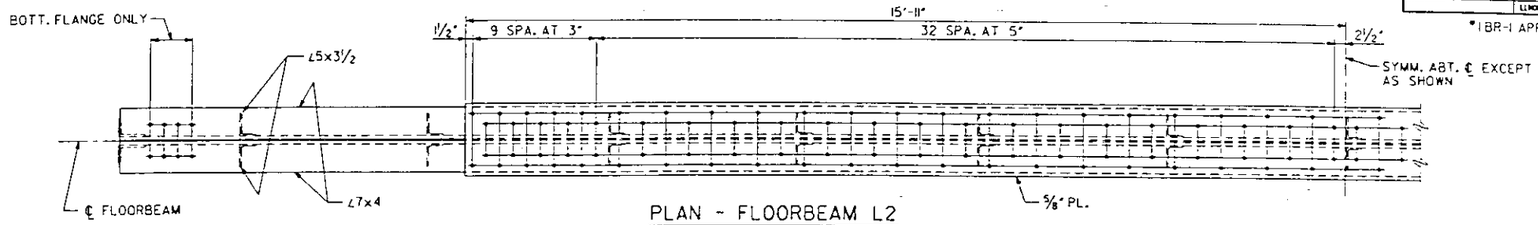
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS
FAP 799	*	ST. CLAIR	252
	ILLINOIS	PROJECT	

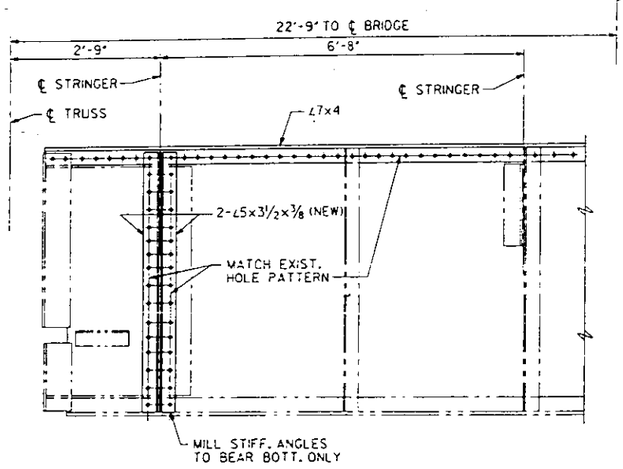
*IBR-I APPROACH BRIDGE



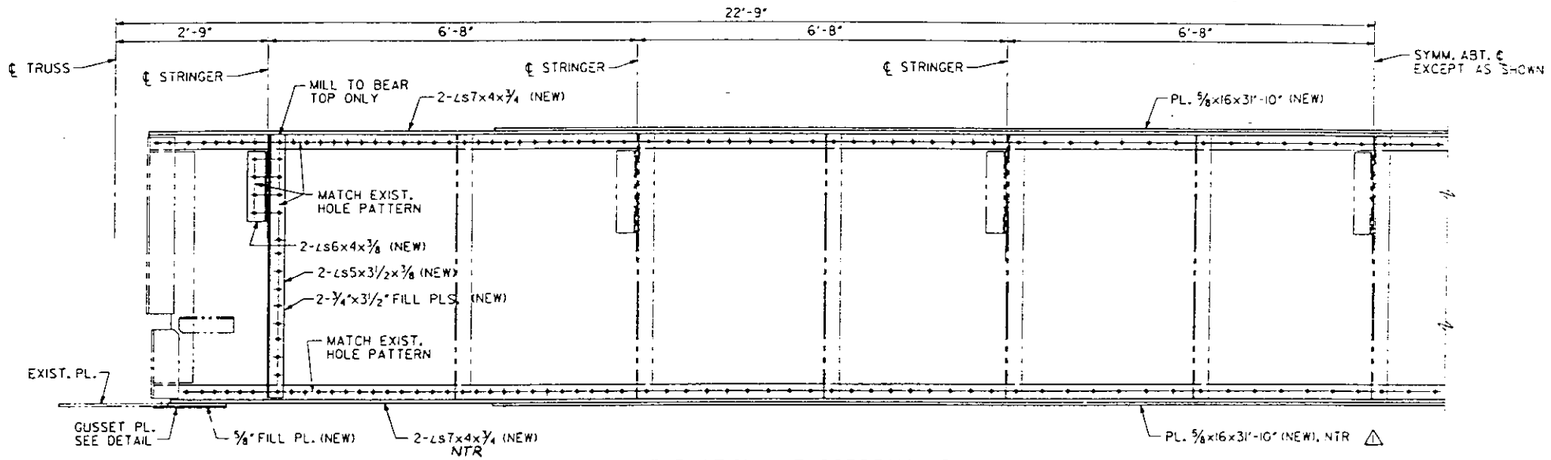
PARTIAL TOP PLAN



PLAN - FLOORBEAM L2
(TOP FLANGE SHOWN, BOTT. FLANGE SIMILAR)

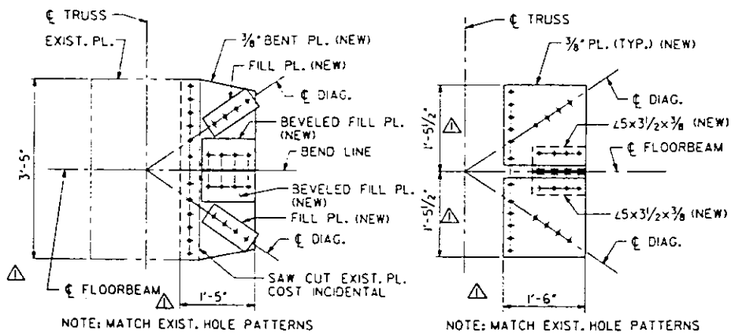


PARTIAL ELEVATION



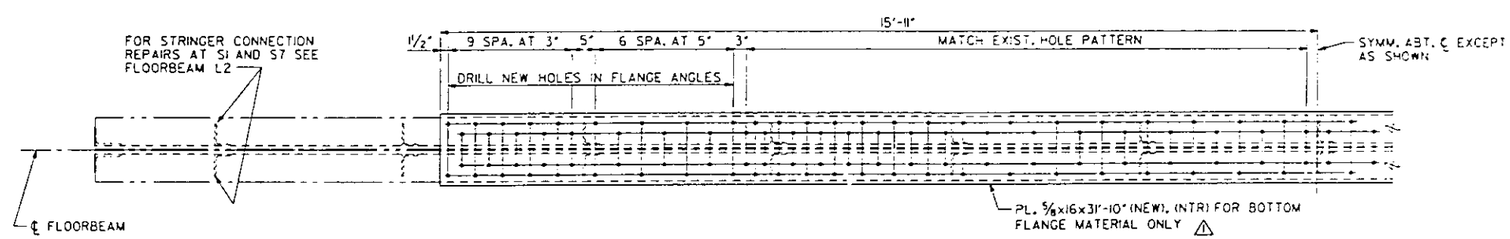
ELEVATION - FLOORBEAM L2

FLOORBEAM AT PANEL POINTS L0 AND L8

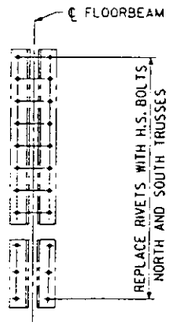


LOWER GUSSET PLATE DETAIL
AT PANEL POINTS L2 (NORTH AND SOUTH) AND L6 (SOUTH)

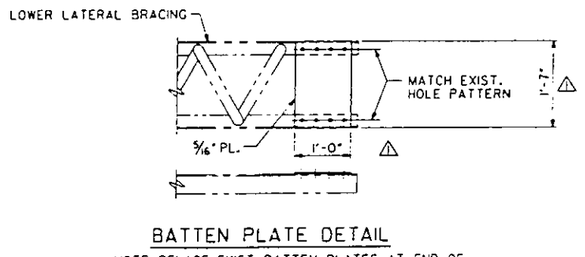
UPPER LOWER LATERAL GUSSET PLATE DETAIL
AT PANEL POINT L1



PLAN - FLOORBEAMS L1, L3, L5, L6 AND L7
(TOP FLANGE SHOWN, BOTT. FLANGE SIMILAR)



FLOORBEAM END CONNECTION DETAIL
(TYP. AT ALL FLOORBEAMS EXCEPT L0, L4 AND L8)



BATTEN PLATE DETAIL
NOTE: RELACE EXIST. BATTEN PLATES AT END OF ALL LOWER LATERAL BRACING MEMBERS (32 PLATES REQUIRED)

NOTES

ALL BOLTED CONNECTIONS SHOWN ON THIS SHEET SHALL BE MADE WITH ⅞" H.S. BOLTS UNLESS OTHERWISE NOTED.
ALL NEW MATERIAL REPLACES EXISTING MATERIAL.
⚠ NTR INDICATES MATERIAL SUBJECT TO NOTCH TOUGHNESS REQUIREMENTS.

REHABILITATION FOR
APPROACH BRIDGE OVER I-55/70 W.B., MISSOURI AVE. AND TRR.
EXISTING FLOORBEAM REPAIRS
SPAN 38

STRUCTURE NO. 082-6003
STA. 65+00 (FAP 799) ST. CLAIR CO.

A.T. MYERS	DESIGNED
K. LARSON	CHECKED
C. DIFED	DRAWN
J. KORPI	CHECKED

PREPARED BY:
SVERDRUP CORPORATION
ST. LOUIS, MISSOURI

⚠ REV. 12-4-87

SECTION IBR-I

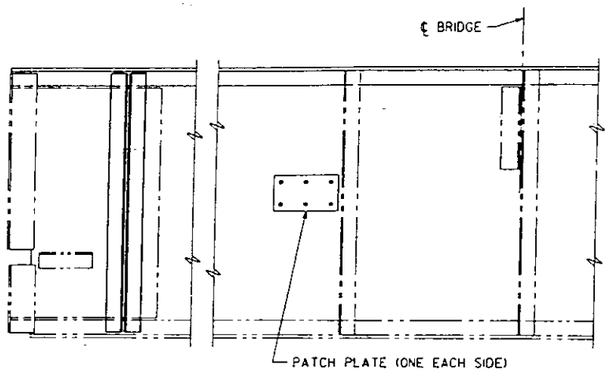
SHEET NO. 53 OF 75

FILE: ZF3(05)JDETAIL74.DGN | LEVELS PLOTTED | DATE: OCT. 2, 1987
PRF: DETAIL74 | 35 56 63
0358 | 8/5845

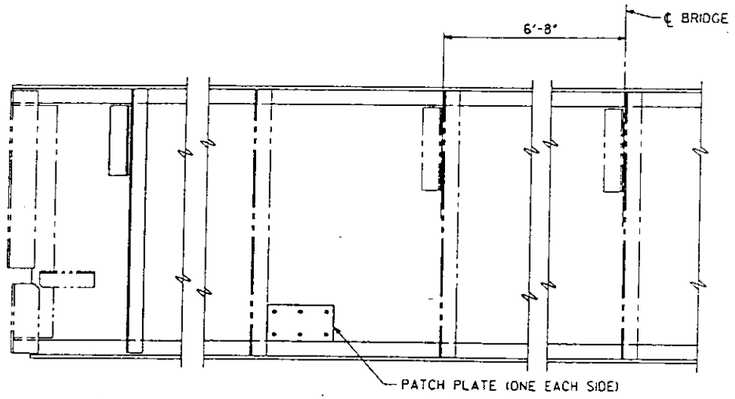
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAP 799	*	ST. CLAIR	232	202
		ILLINOIS PROJECT		

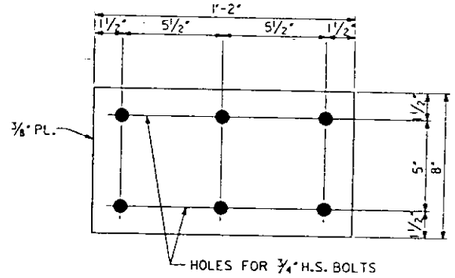
*IBR-I APPROACH BRIDGE



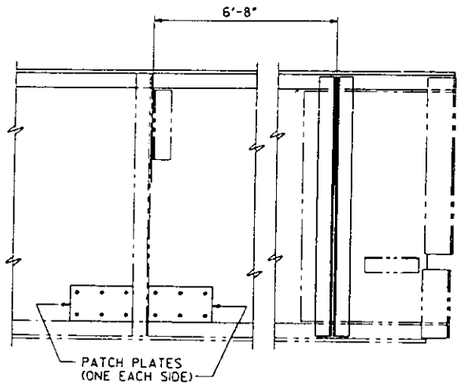
NORTH END AT PANEL POINT L0



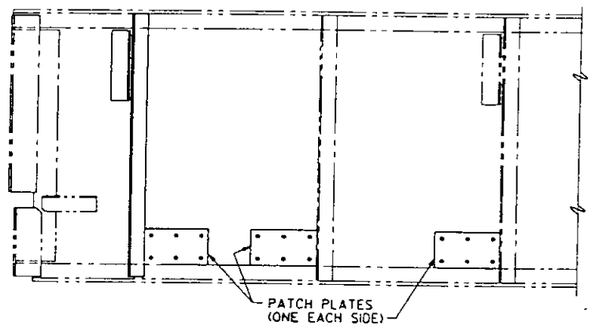
NORTH END AT PANEL POINT L2



PATCH PLATE DETAIL
(14 REQUIRED)
NOTE: DRILL NEW HOLES IN FLOORBEAM WEB.



SOUTH END AT PANEL POINT L8



NORTH END AT PANEL POINT L6

FLOORBEAM WEB REPAIRS

NOTE: PATCH PLATES SHALL BE CENTERED AS NEARLY AS POSSIBLE OVER THE HOLE IN THE WEB PLATE.

FILL SURFACE IRREGULARITIES (FULL AREA OF PATCH PLATES) WITH AN APPROVED SILICON CAULKING BEFORE BOLTING PLATES. (COST INCIDENTAL)

FILE: ZF3(15)DETAIL75.DGN | DATE: OCT. 23, 1981
PRF: DETAIL75 | LEVELS PLOTTED 35 56 63

DESIGNED	
CHECKED	C. DEED
DRAWN	J. KORPI
CHECKED	

PREPARED BY:
SVERDRUP CORPORATION
ST. LOUIS, MISSOURI

REHABILITATION FOR
APPROACH BRIDGE OVER
I-55/70 W.B., MISSOURI AVE. AND TRRA

EXISTING FLOORBEAM REPAIRS
SPAN 38

STRUCTURE NO. 082-6003
STA. 65+00 (FAP 799) ST. CLAIR CO.

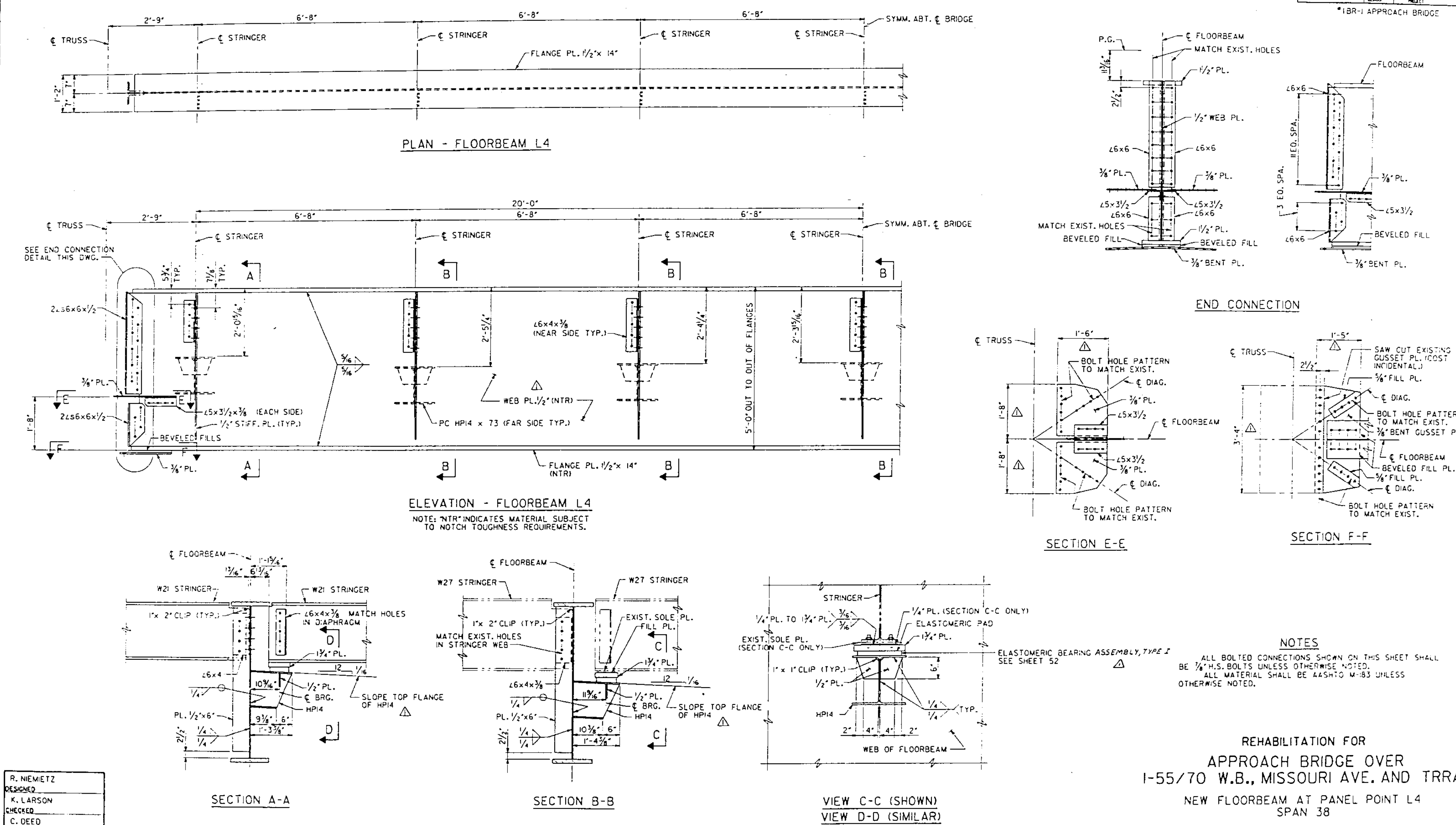
SECTION IBR-I

SHEET NO. 54 OF 75

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAP 799	*	ST. CLAIR	252	203

*IBR-1 APPROACH BRIDGE



NOTES

ALL BOLTED CONNECTIONS SHOWN ON THIS SHEET SHALL BE 7/8" H.S. BOLTS UNLESS OTHERWISE NOTED.
ALL MATERIAL SHALL BE AASHTO M-183 UNLESS OTHERWISE NOTED.

REHABILITATION FOR
APPROACH BRIDGE OVER
I-55/70 W.B., MISSOURI AVE. AND TRRA
NEW FLOORBEAM AT PANEL POINT L4
SPAN 38
STRUCTURE NO. 082-6003
STA. 65+00 (FAP 799) ST. CLAIR CO.

R. NIEMIETZ — DESIGNED
K. LARSON — CHECKED
C. DEED — DRAWN
A. MYERS — CHECKED

PREPARED BY: SVERDRUP CORPORATION, ST. LOUIS, MISSOURI

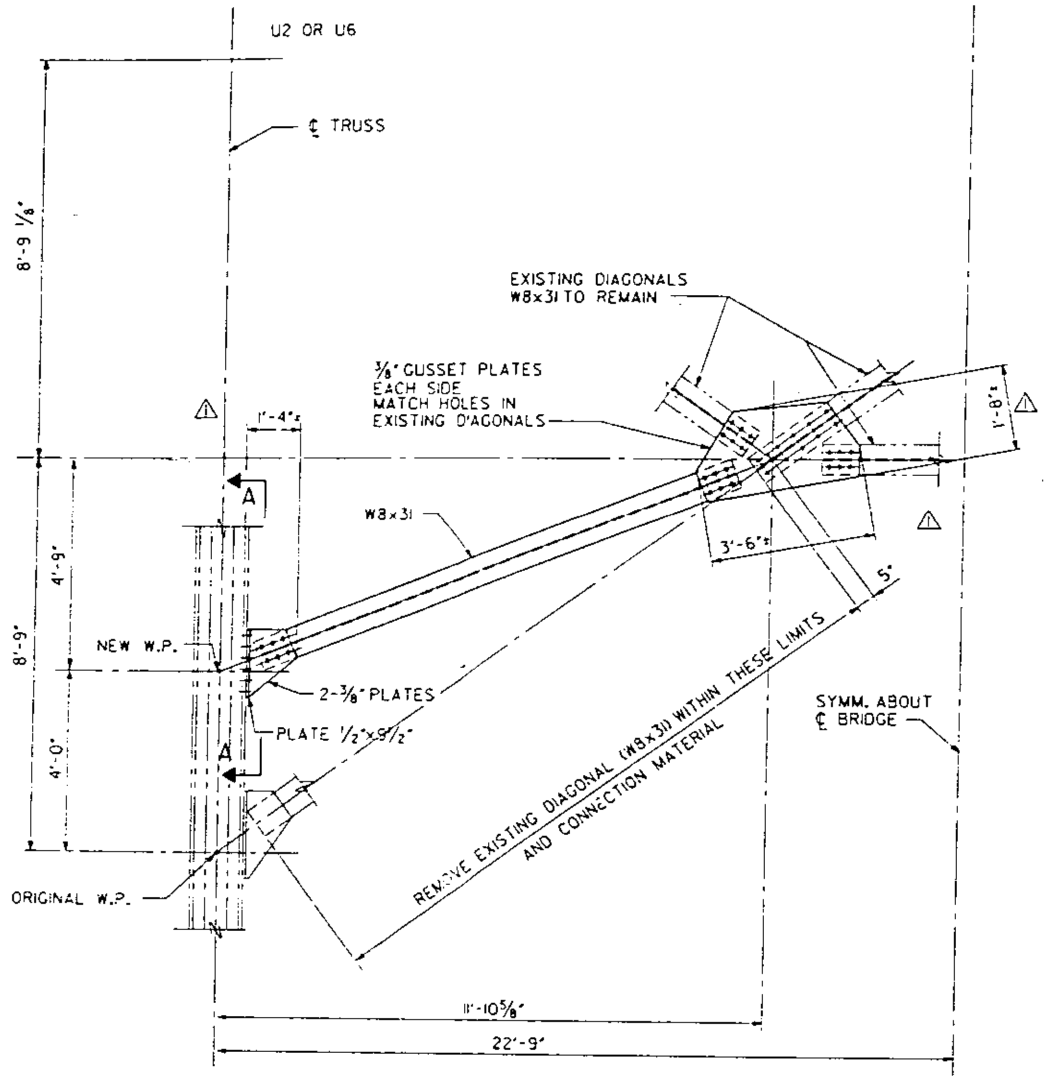
REV. 12-4-87

SECTION IBR-1 SHEET NO. 55 OF 75

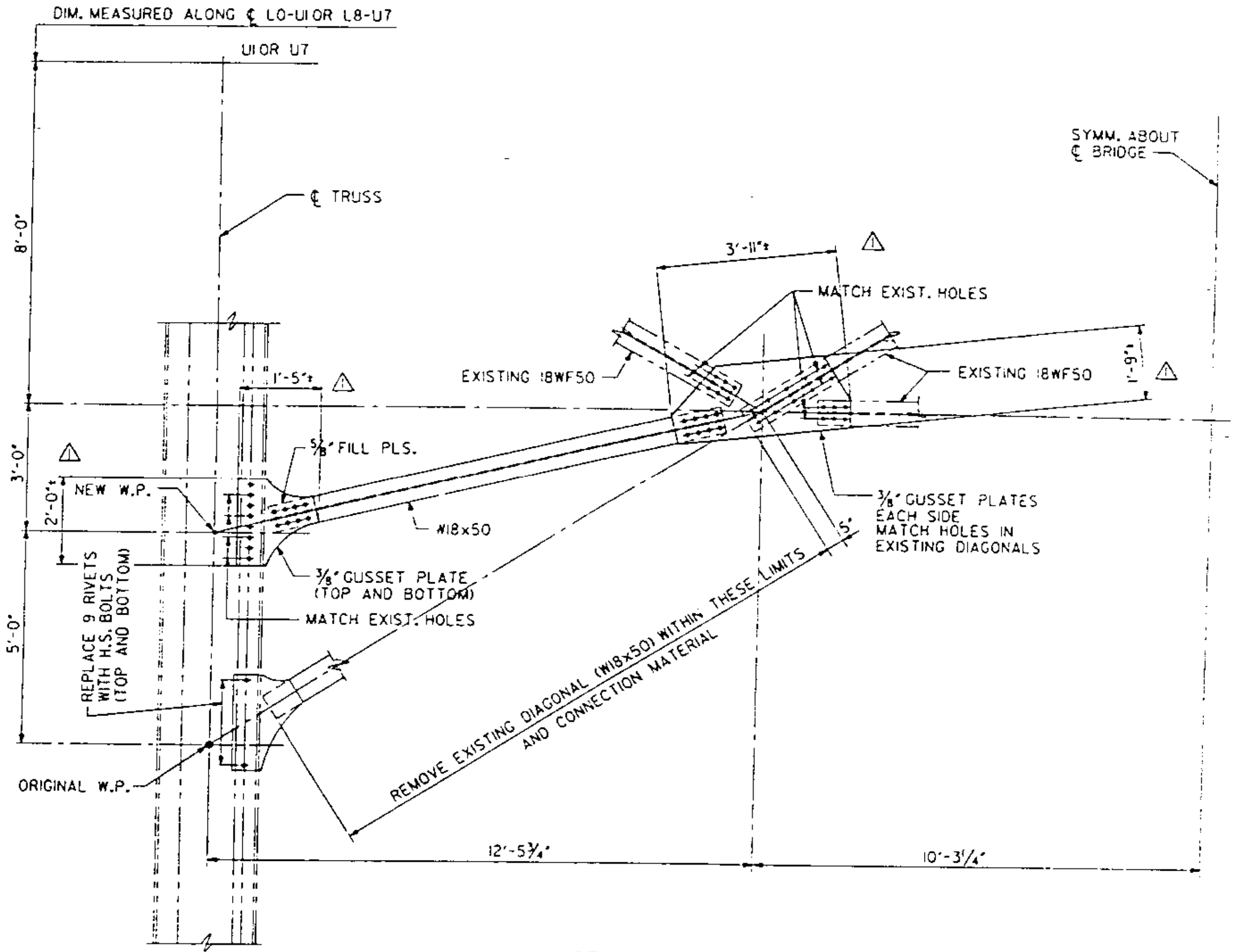
LEVELS PLOTTED 35,56,58 AND 63 DATE: OCT. 23, 1987

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAP 799	*	ST. CLAIR	252	204

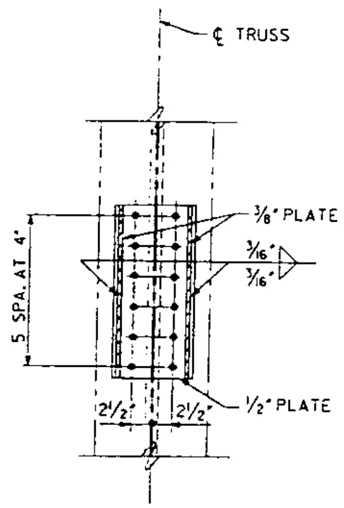
*IBR-I APPROACH BRIDGE



SPAN 38 SWAY FRAMES U2 AND U6



SPAN 38 PORTALS U1 AND U7



SECTION A-A

NOTES

PROVIDE NEW PLATES, FILLS AND BEAMS TO INCREASE VERTICAL CLEARANCE.
ALL CONNECTIONS TO BE MADE WITH 7/8" DIA. H.S. BOLTS.

REHABILITATION FOR
APPROACH BRIDGE OVER
I-55/70 W.B., MISSOURI AVE. AND TRRA

PORTALS AND SWAY FRAMES - SPAN 38

STRUCTURE NO. 082-6003
STA. 65+00 (FAP 799) ST. CLAIR CO.

R.D. NIEMIETZ	DESIGNED
A.D.NG	CHECKED
M.J.JALINSKY	DRAWN
J. KORPI	CHECKED

FILE: ZF3(15)DETAIL94.DGN
PRF: DETAIL94
LEVELS PLOTTED 35 56 58 63
DATE: OCT. 23, 1987

PREPARED BY:
SVERDRUP CORPORATION
ST. LOUIS, MISSOURI

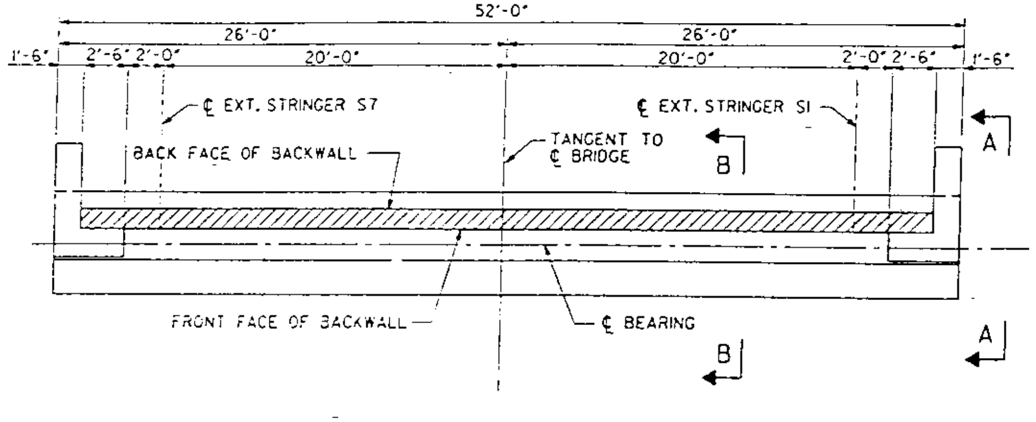
REV. 12-4-87

SECTION IBR-I

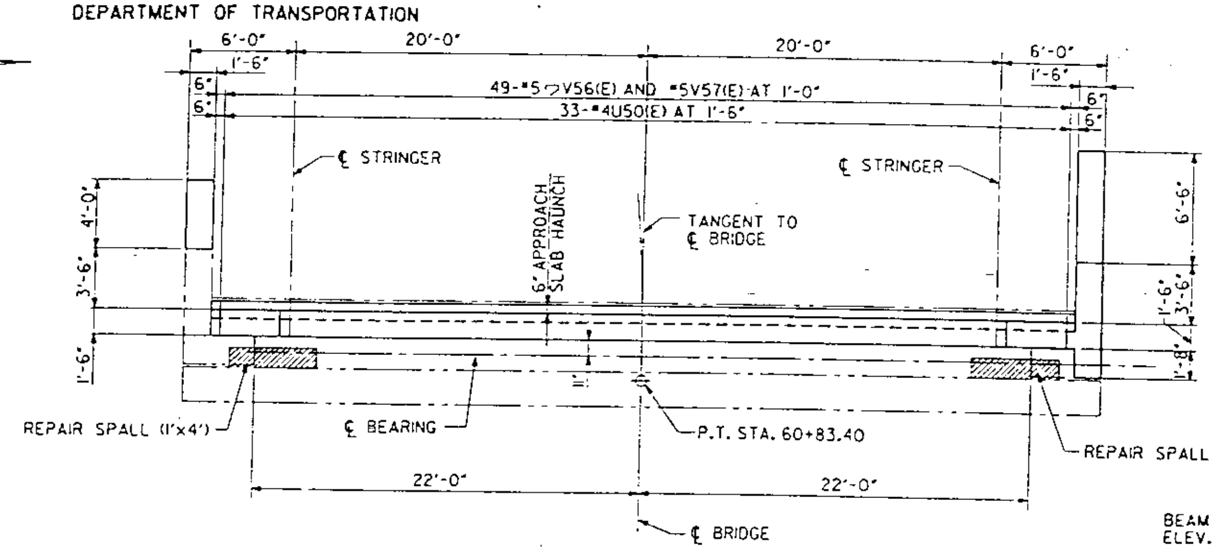
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS
FAP 799	*	ST. CLAIR	252

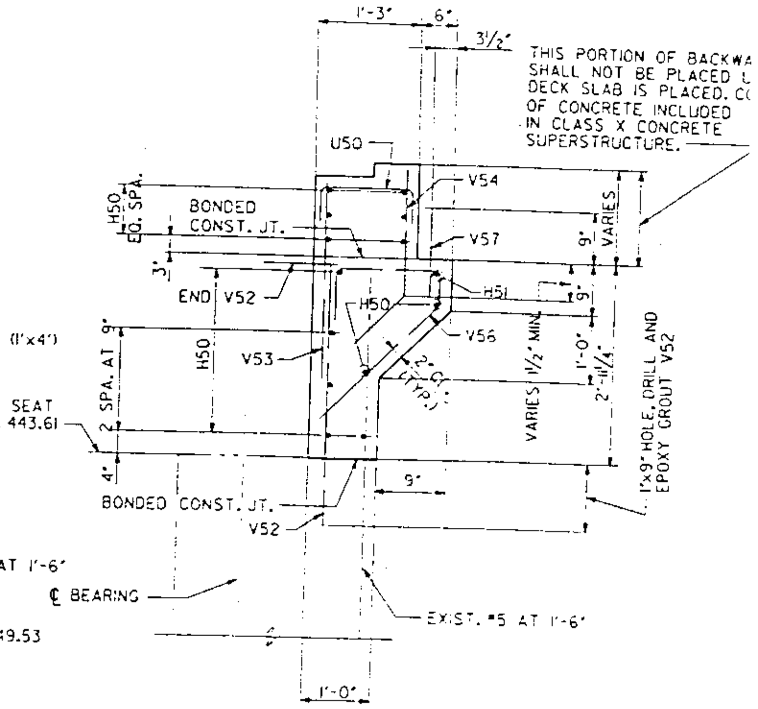
*IBR-I APPROACH BRIDGE



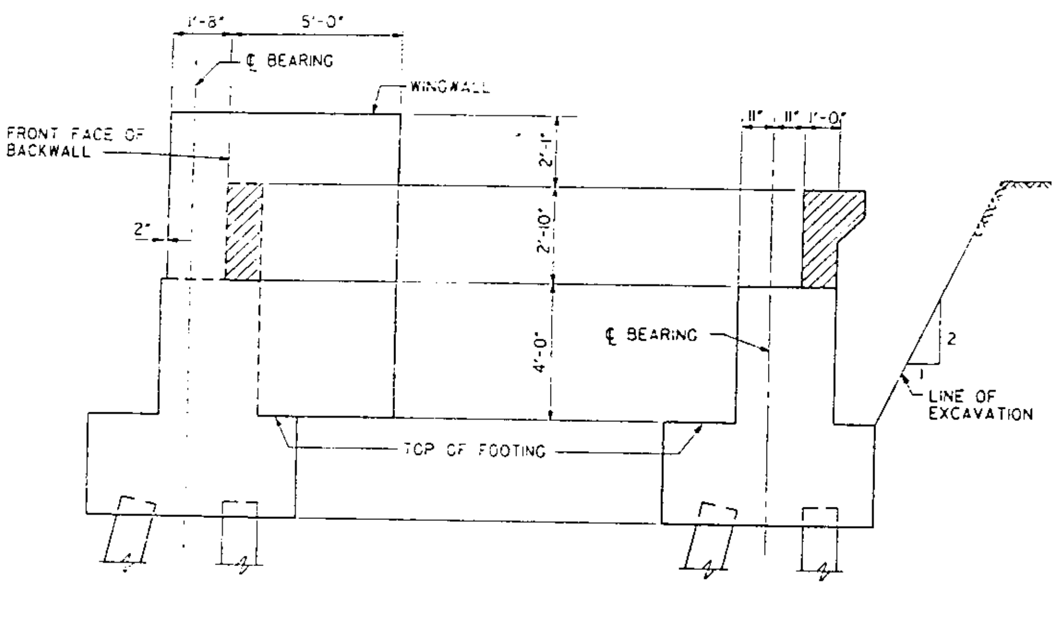
PLAN



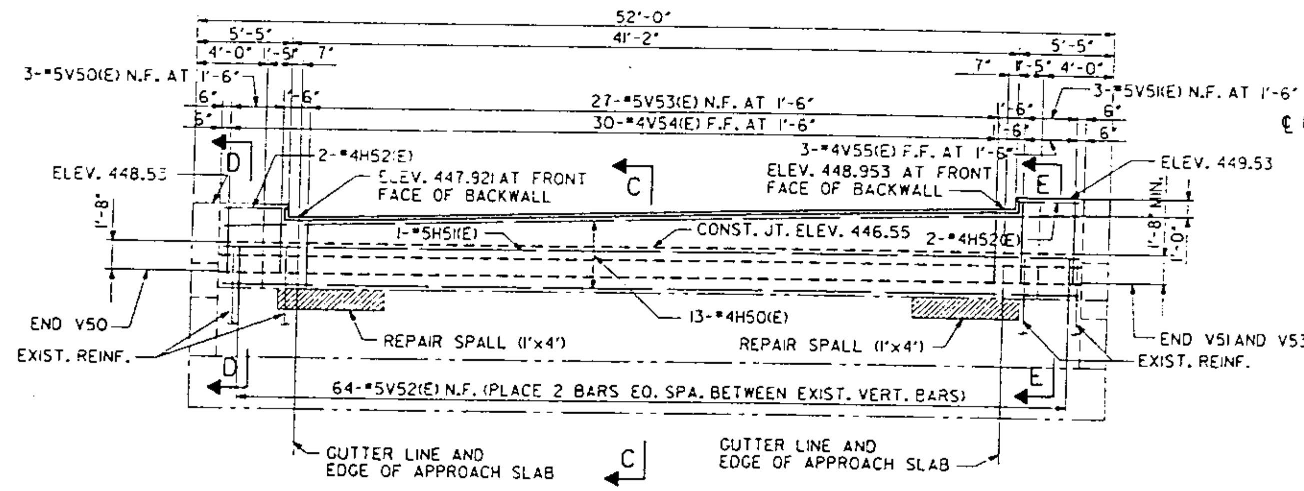
PLAN ⚠



SECTION C-C ⚠



VIEW A-A   SECTION B-B



FRONT FACE ELEVATION ABUTMENT C - MODIFICATIONS ⚠

NOTES ⚠

WORK THIS SHEET WITH SHEET 58.

IF AN EXISTING VERTICAL REINF. BAR IS DETERMINED UNUSABLE BY THE ENGINEER, THE CONTRACTOR SHALL REPLACE IT (#5) BY DRILLING A 1" DIA. HOLE 9" DEEP AND EPOXY GROUT IN THE REPLACEMENT BAR.

N.F. INDICATES NEAR FACE.
F.F. INDICATES FAR FACE.
E.F. INDICATES EACH FACE.

INTERFACE OF EXISTING CONCRETE TO NEW CONCRETE SHALL BE A BONDED CONSTRUCTION JOINT IN ACCORDANCE WITH ARTICLE 504.13(d)(2) OF THE STANDARD SPECIFICATIONS.

REPAIR OF SPALLED AREAS SHALL BE PAID FOR AS REPAIR CONCRETE STRUCTURES (16 SQ. FT.)

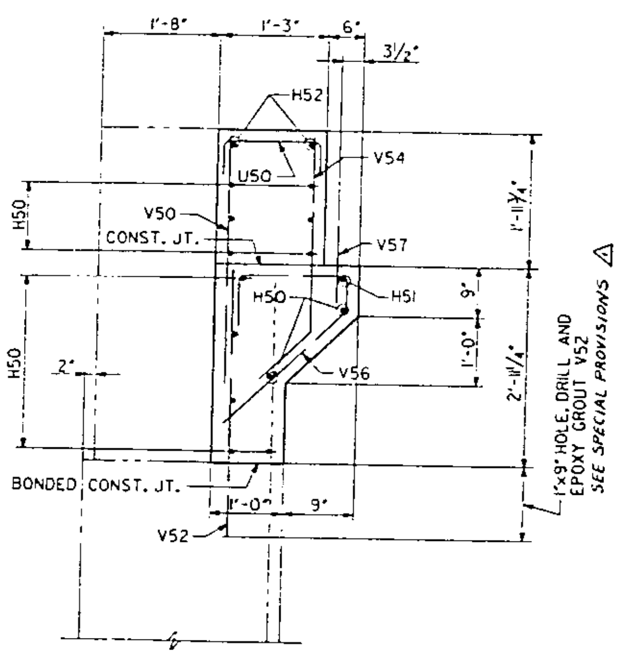
ABUTMENT C - DEMOLITION

NOTE: HATCHED AREA SHOWN THUS ▨ INDICATES LIMIT OF CONCRETE TO BE REMOVED.

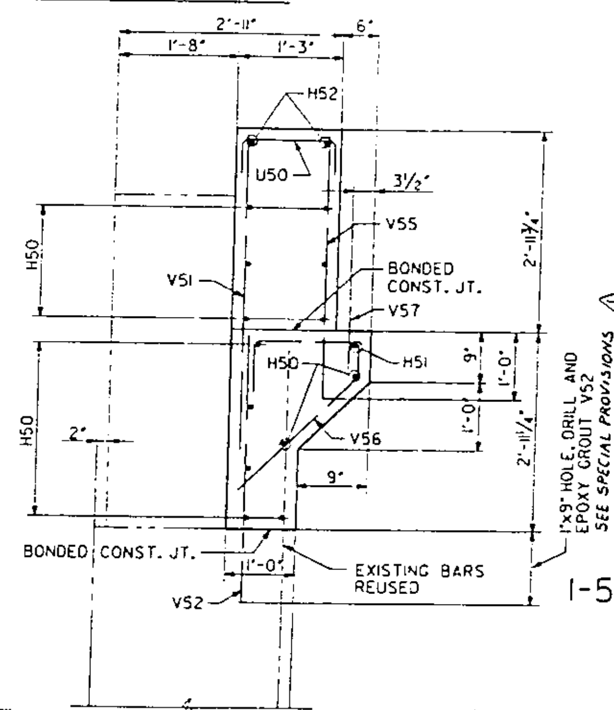
EXCAVATION BEHIND ABUTMENT SHALL BE FROM INSIDE FACE TO INSIDE FACE OF WINGWALL AND IT SHALL BE ACCOMPLISHED BEFORE REMOVAL OF THE CONCRETE SLAB IN SPAN 33.

BACKFILL SHALL NOT BE PLACED BEHIND ABUTMENT UNTIL THE NEW DECK AND PARAPET IS IN PLACE.

EXISTING REINFORCING PROTRUDING INTO THE CONCRETE REMOVAL AREA SHALL REMAIN AND SHALL BE THOROUGHLY CLEANED.



SECTION D-D ⚠



SECTION E-E ⚠

REHABILITATION FOR
APPROACH BRIDGE OVER
I-55/70 W.B., MISSOURI AVE. AND TRRA

ABUTMENT C

STRUCTURE NO. 082-6003
STA. 65+00 (FAP 799) ST. CLAIR CO.

⚠ REV. 12-4-87

PREPARED BY:
SVERDRUP CORPORATION
ST. LOUIS, MISSOURI

M. SCHURK — DESIGNED
S.W. YORDY — CHECKED
D. SPINK — DRAWN
J. KORPI — CHECKED

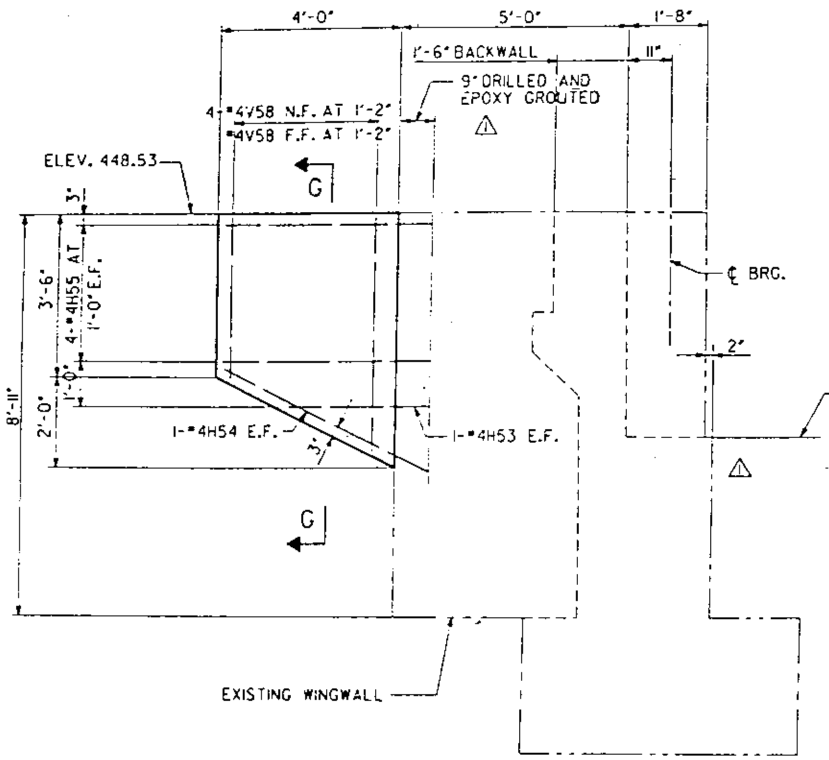
FILE: ZF3(151)DETAIL33.DGN — PRF: DETAIL33
LEVELS PLOTTED 35 56 58 63
DATE: OCT. 23, 1987
10358 8/5595

SECTION IBR-I

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

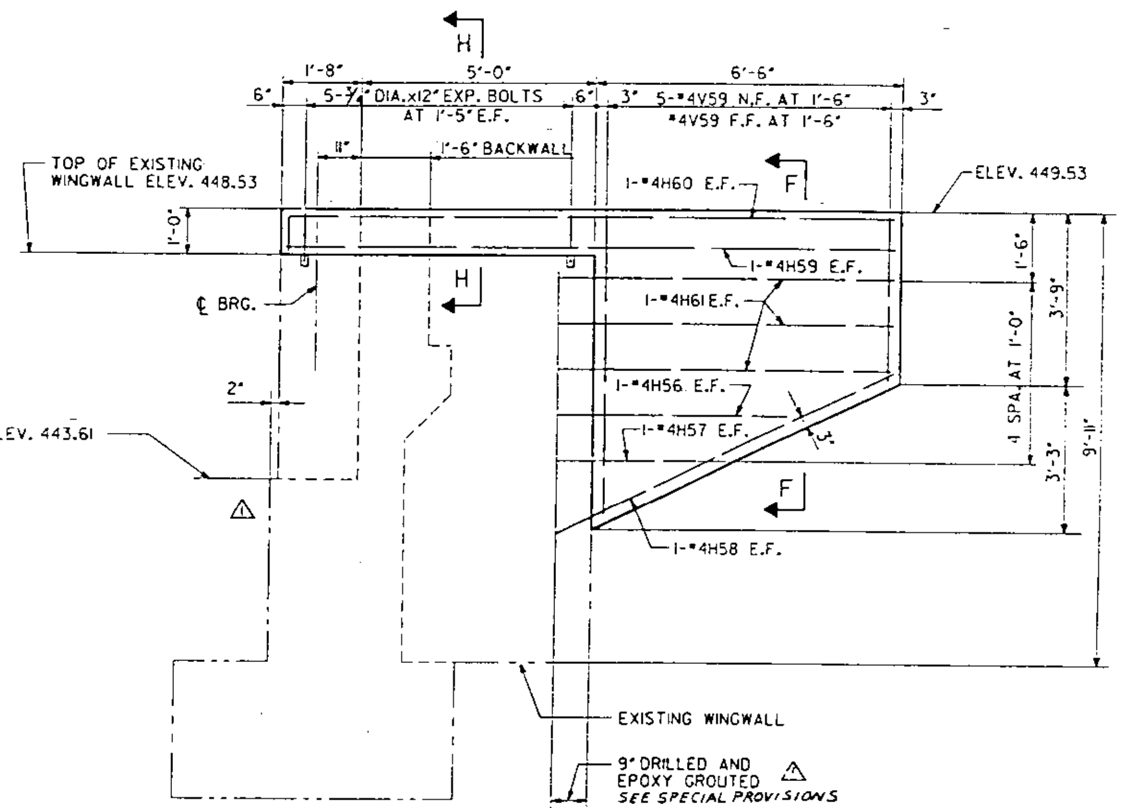
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS
FAP 799	*	ST. CLAIR	252

*IBR-1 APPROACH BRIDGE



ELEVATION - SOUTH WINGWALL

NOTE: V58 AND V59 BARS ARE TO BE CUT AS INDICATED IN FIELD CUTTING DIAGRAM.



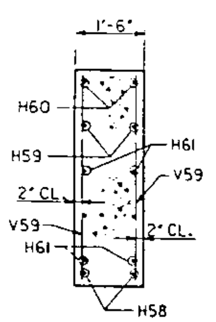
ELEVATION - NORTH WINGWALL

BILL OF MATERIAL ⚠

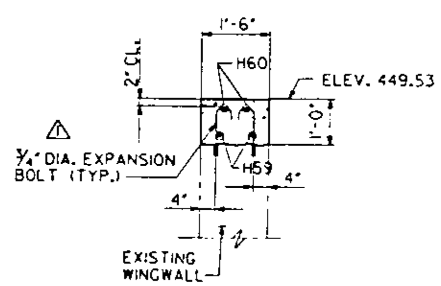
BAR	NO.	SIZE	LENGTH	SHAPE
ABUTMENT				
V50(E)	3	#5	3'-7"	
V51(E)	3	#5	4'-7"	
V52(E)	64	#5	3'-6"	
V53(E)	27	#5	3'-10"	
V54(E)	30	#4	3'-5"	
V55(E)	3	#4	3'-10"	
V56(E)	49	#5	4'-8"	
V57(E)	49	#5	1'-4"	
V58	8	#4	8'-3"	
V59	10	#4	10'-0"	
U50(E)	33	#4	2'-3"	
H50(E)	13	#4	48'-8"	
H51(E)	1	#5	48'-8"	
H52(E)	4	#4	3'-7"	
H53	2	#4	2'-10"	
H54	2	#4	5'-3"	
H55	8	#4	4'-7"	
H56	2	#4	5'-4"	
H57	2	#4	3'-4"	
H58	2	#4	8'-0"	
H59	2	#4	12'-10"	
H60	2	#4	13'-6"	
H61	6	#4	7'-1"	

REPAIR CONCRETE STRUCTURES	SQ. FT.	16.0
CLASS X CONCRETE	CU. YDS.	16.0
REINFORCEMENT BARS	LBS.	231
REINFORCEMENT BARS EPOXY COATED	LBS.	1,283
EXP. BOLTS 3/4" X 1'-0"	EACH	10
STRUCTURE EXCAVATION	CU. YDS.	65
CONCRETE REMOVAL	CU. YDS.	7.4

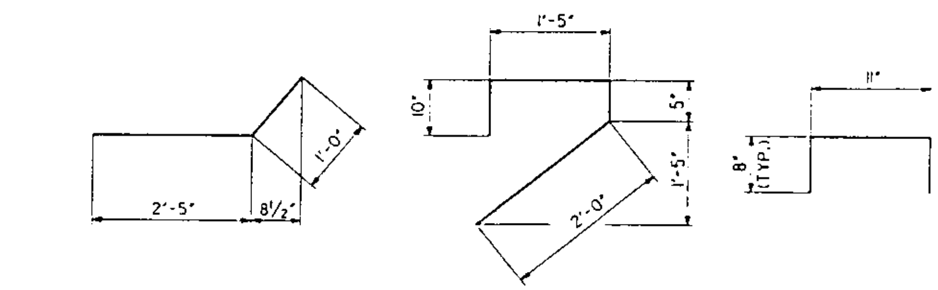
REINFORCEMENT BARS DESIGNATED (E) SHALL BE EPOXY COATED.



SECTION F-F
SECTION G-G SIMILAR

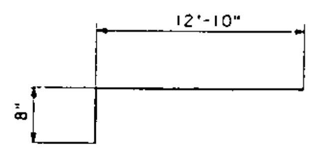


SECTION H-H

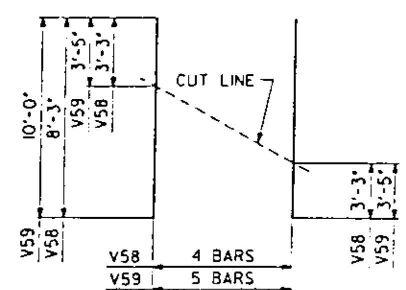


V54(E) ⚠ V56(E) ⚠ U50(E) ⚠

NOTES ⚠



H60(E) ⚠



FIELD CUTTING DIAGRAM ⚠
V58(E) AND V59(E)

ORDER V58 AND V59 BARS FULL LENGTH. CUT TO FIT AS SHOWN AND USE REMAINING BARS AS INDICATED IN PLAN.

REHABILITATION FOR
APPROACH BRIDGE OVER
I-55/70 W.B., MISSOURI AVE. AND TRRA

ABUTMENT C

STRUCTURE NO. 082-6003
STA. 65+00 (FAP 799) ST. CLAIR CO.

DESIGNED	M. SCHURK
CHECKED	S. YORDY
DRAWN	D. SPINK
CHECKED	I. KORPI

PREPARED BY: SVERDRUP CORPORATION ST. LOUIS, MISSOURI

⚠ REV. 12-4-87

SECTION IBR-1

SHEET NO. 58 OF 75

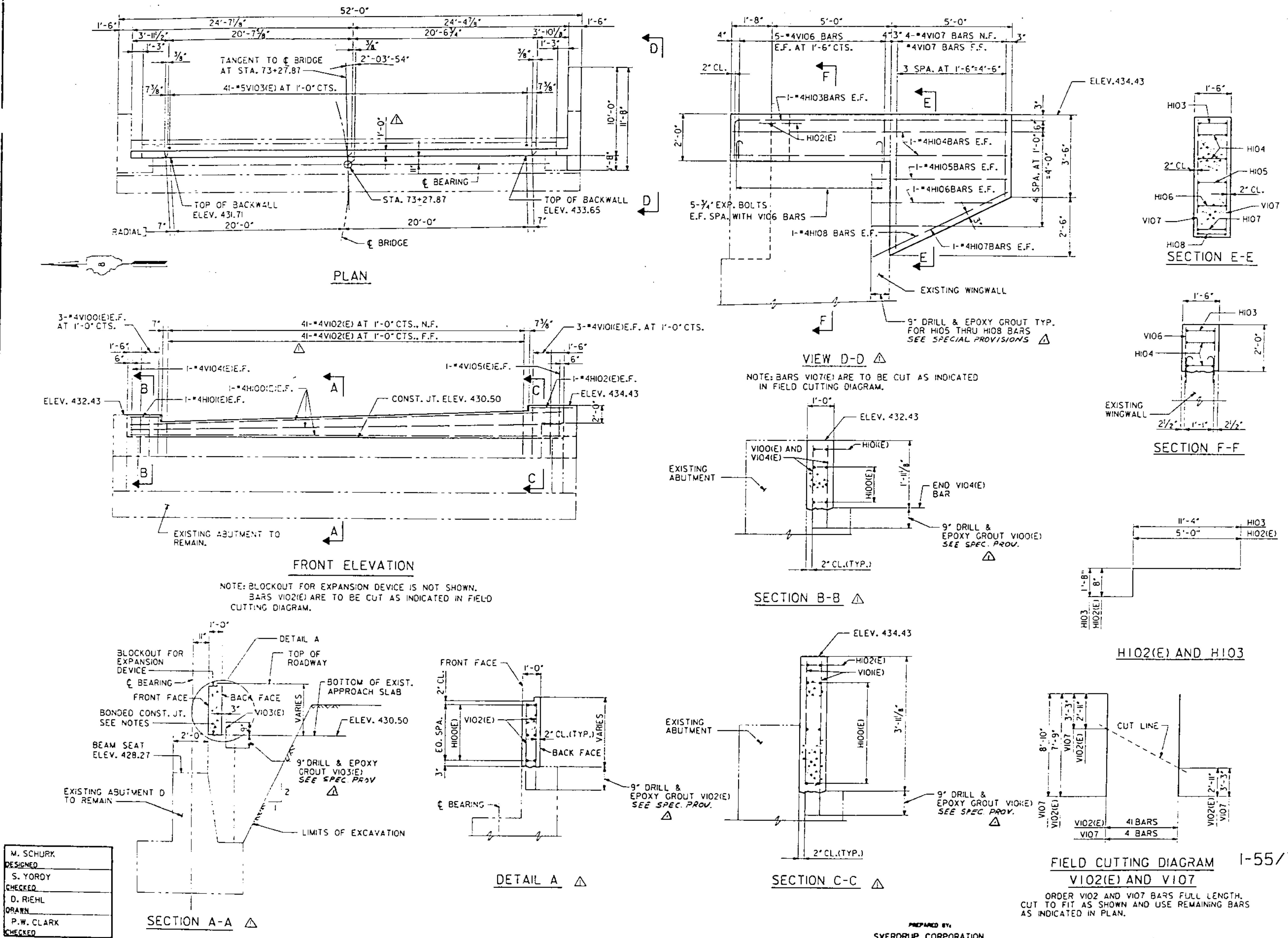
LEVELS PLOTTED 35 56 57 63
DATE: OCT. 23, 1987
FILE: ZF3:[15,1]DETAIL35.DGN
PRF: DETAIL35
875613

4-DEC-1987 18:10

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAP 799	*	ST. CLAIR	252	207

*IBR-I APPROACH BRIDGE



BILL OF MATERIAL ⚠				
BAR	NO.	SIZE	LENGTH	SHAPE
H100(E)	6	#4	48'-8"	
H101(E)	2	#4	3'-7"	
H102(E)	2	#4	5'-8"	
H103	2	#4	13'-0"	
H104	4	#4	11'-4"	
H105	2	#4	5'-5"	
H106	2	#4	4'-10"	
H107	2	#4	2'-10"	
H108	2	#4	6'-2"	
V100(E)	3	#4	2'-6"	
V101(E)	3	#4	4'-6"	
V102(E)	82	#4	6'-6"	
V103(E)	41	#5	1'-6"	
V104(E)	2	#4	1'-9"	
V105(E)	2	#4	3'-9"	
V106	10	#4	1'-8"	
V107	8	#4	8'-10"	
CLASS X CONCRETE			CU. YDS.	5.2
REINFORCEMENT BARS			LBS.	130
REINFORCEMENT BARS EPOXY COATED			LBS.	649
EXP. BOLTS ¾" X 1'-0"			EACH	10
STRUCTURE EXCAVATION			CU. YDS.	35

REINFORCEMENT BARS DESIGNATED (E) SHALL BE EPOXY COATED.

NOTES ⚠

INTERFACE OF EXISTING CONCRETE TO NEW CONCRETE SHALL BE BONDED CONST. JT. IN ACCORDANCE WITH STANDARD SPECIFICATION ARTICLE 504.13(d)(2).

E.F. INDICATES EACH FACE
F.F. INDICATES FAR FACE
N.F. INDICATES NEAR FACE

EXCAVATION BEHIND ABUTMENT SHALL BE FROM INSIDE FACE TO INSIDE FACE OF WINGWALLS AND IT SHALL BE ACCOMPLISHED BEFORE REMOVAL OF THE CONCRETE DECK IN ADJACENT SPAN.

BACKFILL BEHIND ABUTMENT SHALL NOT BE PLACED UNTIL THE NEW DECK AND PARAPETS ARE IN PLACE.

M. SCHURK	DESIGNED
S. YORDY	CHECKED
D. RIEHL	DRAWN
P.W. CLARK	CHECKED

PREPARED BY: SVERDRUP CORPORATION, ST. LOUIS, MISSOURI

⚠ REV. 12-4-87

REHABILITATION FOR
APPROACH BRIDGE OVER I-55/70 W.B., MISSOURI AVE. AND TRRA

ABUTMENT D

STRUCTURE NO. 082-6003
STA. 65+00 (FAP 799) ST. CLAIR CO.

SECTION IBR-I

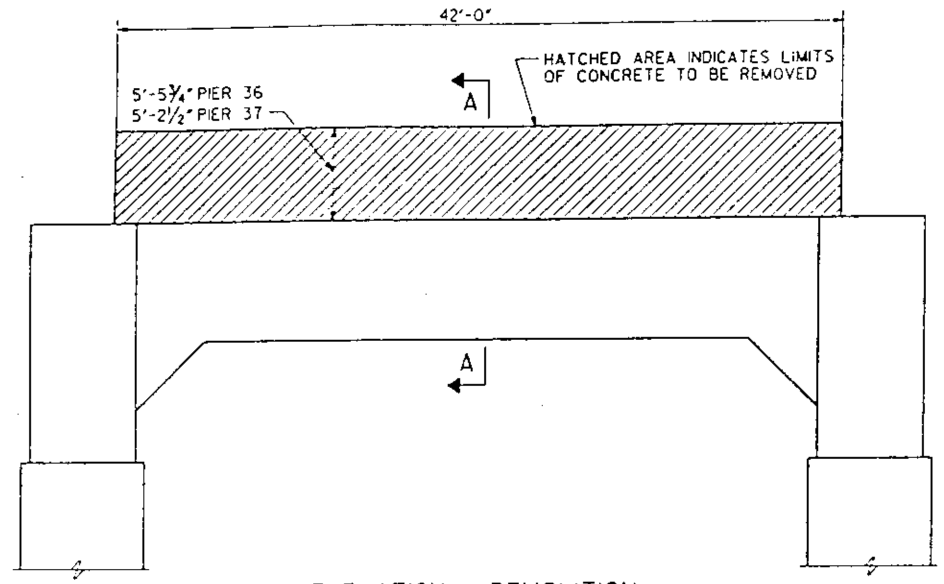
SHEET NO. 59 OF 75

FILE: 2F3(15)(3)DETAIL46.DGN | PRF: DETAIL46 | LEVELS PLOTTED 35 56 57 58 63 | DATE: OCT. 23, 1987

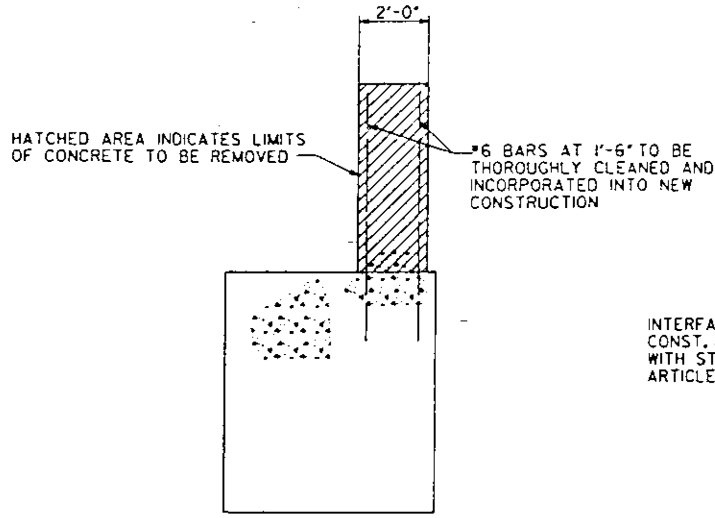
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAP 799	*	ST. CLAIR	252	20

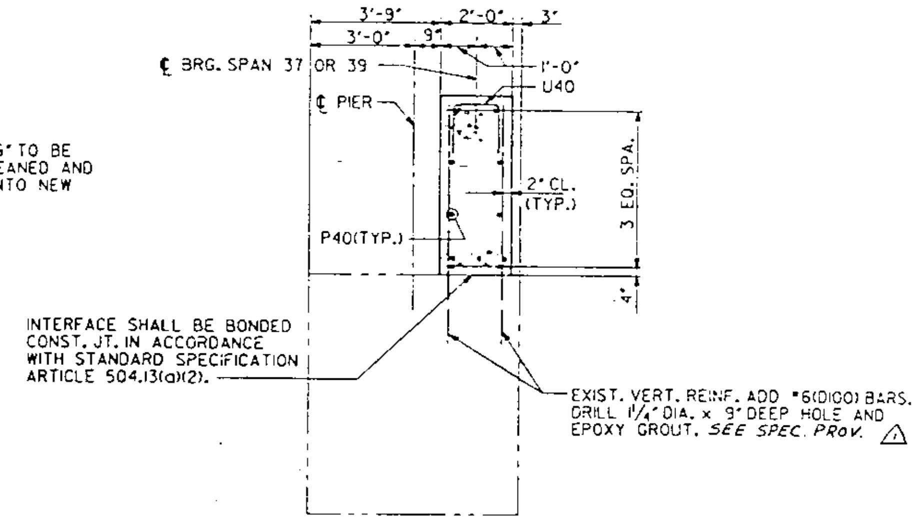
*IBR-1 APPROACH BRIDGE



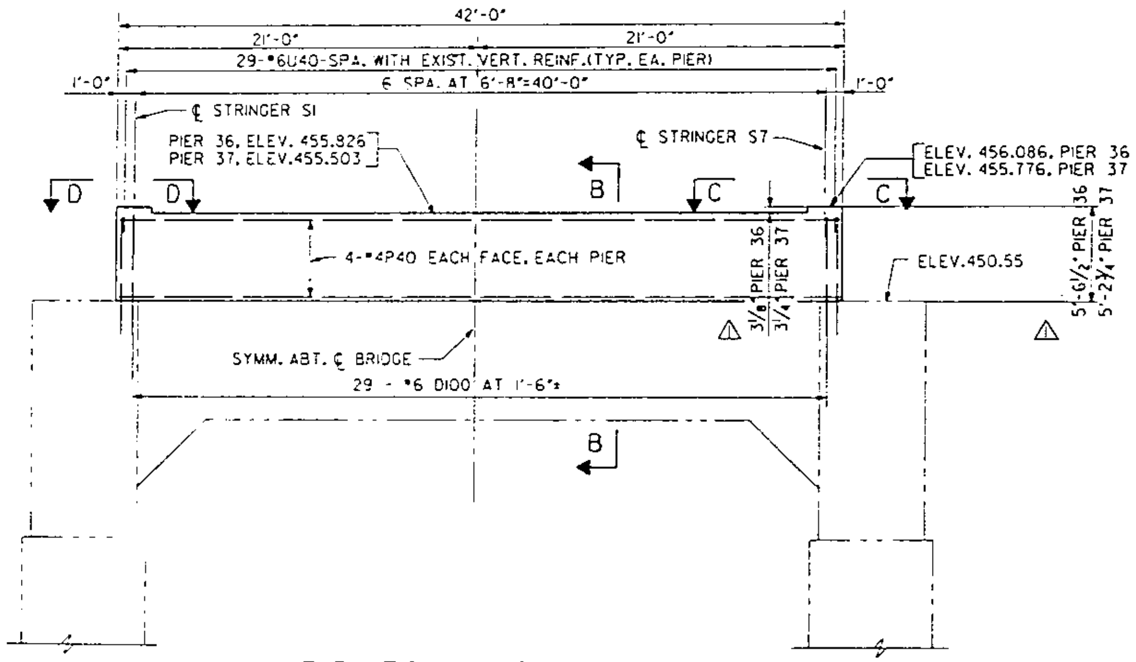
ELEVATION - DEMOLITION



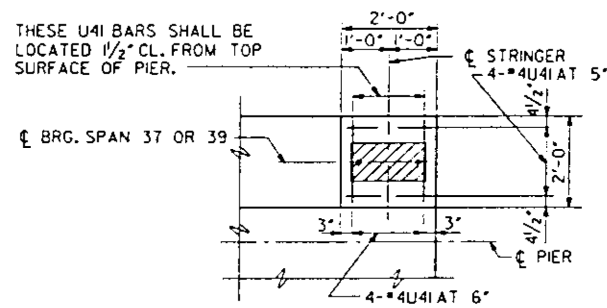
SECTION A-A



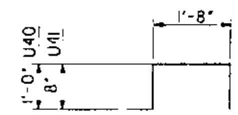
SECTION B-B



ELEVATION - MODIFICATION



VIEW C-C (SHOWN)
VIEW D-D (OPPOSITE HAND)



BAR U40 & U41

BILL OF MATERIAL △				
BAR	NO.	SIZE	LENGTH	SHAPE
U40	58	6	3'-8"	⊓
U41	32	4	3'-0"	⊓
P40	16	4	41'-8"	—
D100	116	6	5'-7"	—
CONCRETE REMOVAL			CU. YDS.	33.
CLASS X CONCRETE			CU. YDS.	32.
REINFORCEMENT BARS			LBS.	.500

NOTES

SPACE REINFORCEMENT IN CAP TO MISS DRILLED IN ANCHOR BOLTS.

REHABILITATION FOR

APPROACH BRIDGE OVER
I-55/70 W.B., MISSOURI AVE. AND TRRA

PIERS 36 AND 37

STRUCTURE NO. 082-6003
STA. 65+00 (FAP 799) ST. CLAIR CO.

A.D. NG	DESIGNED
K. LARSON	CHECKED
J.G. CORLEY	DRAWN
R.F. BECK	CHECKED

PREPARED BY:
SVERDRUP CORPORATION
ST. LOUIS, MISSOURI

△ REV. 12-4-87

SECTION IBR-1

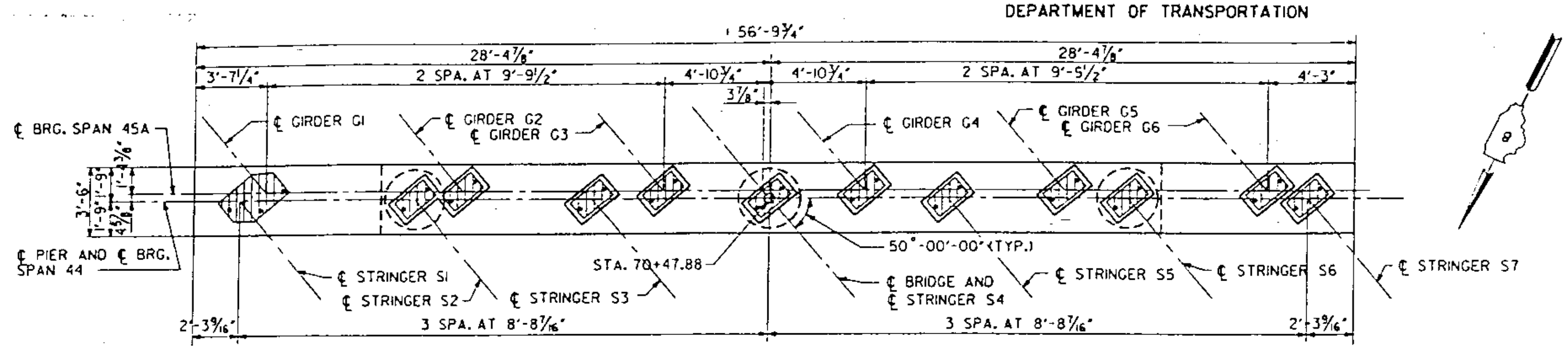
SHEET NO. 60 OF 75

4-DEC-1987 17:57
DATE: OCT. 23, 1987
LEVELS PLOTTED 35,56,57,58 & 63
FILE: ZF3:(15,1)DETAIL97.DGN
PRF: DETAIL97
J358
87SR81

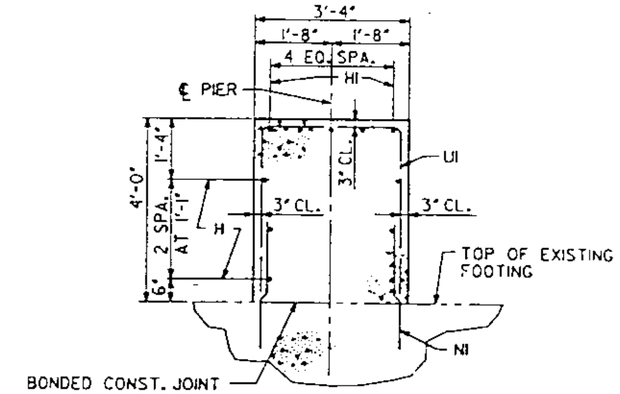
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

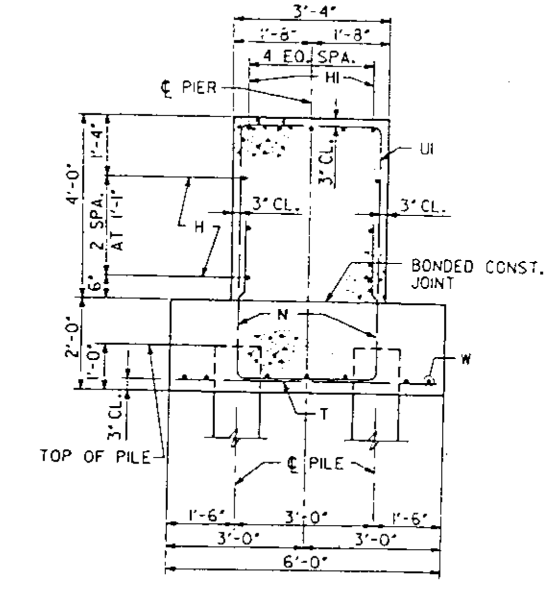
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS
FAP 799	•	ST. CLAIR	252

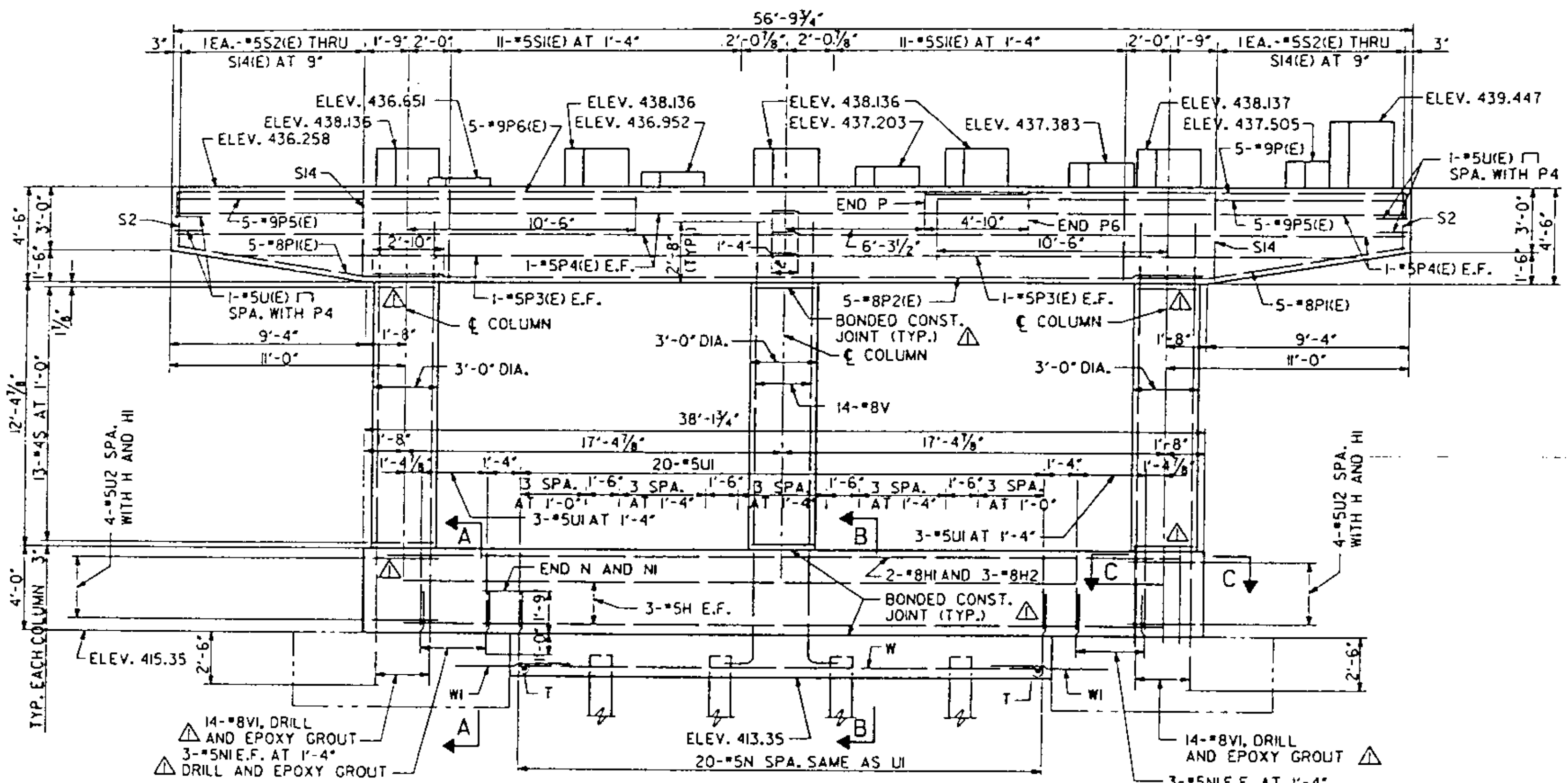
*IBR-1 APPROACH BRIDGE



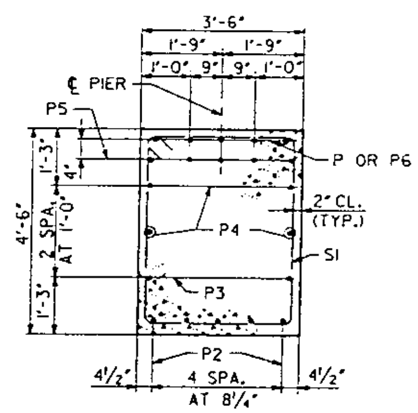
PLAN



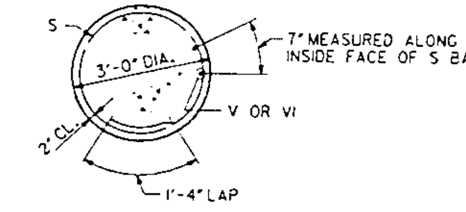


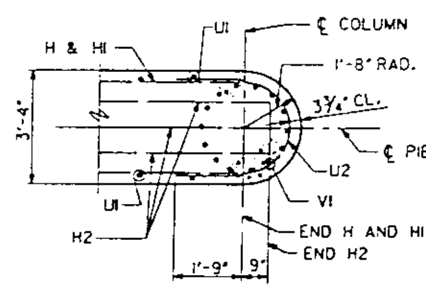


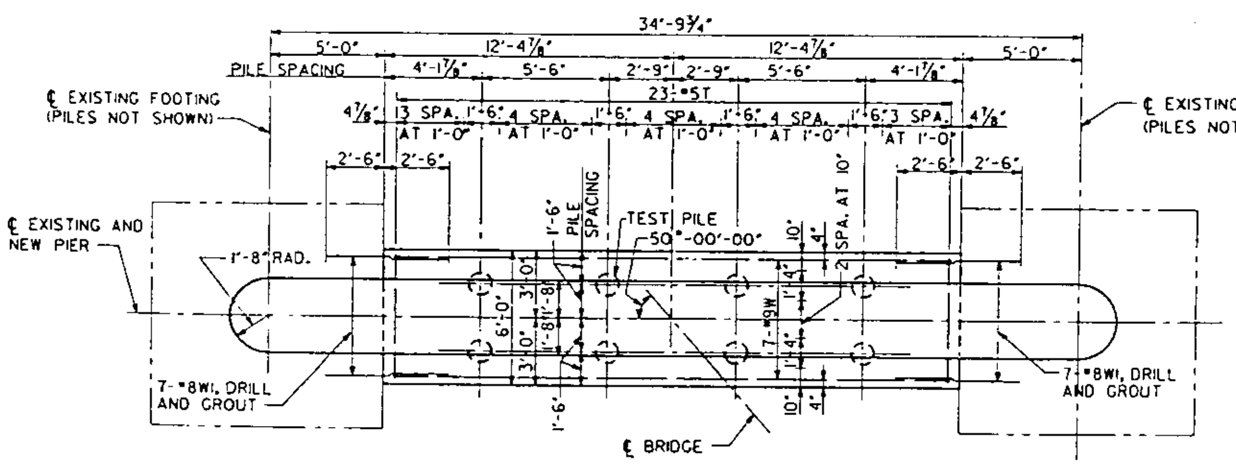
ELEVATION



NOTE: PEDESTALS NOT SHOWN.







FOOTING PLAN

PILE DATA

TYPE: CONCRETE
CAPACITY: 30 TON
EST. LENGTH: 35 FT.
NO. REQ'D.: 7 (NOT INCLUDING TEST PILE)
TEST PILE: ONE REQUIRED △

NOTES △

WORK THIS SHEET WITH SHEETS 62.
BONDED CONSTRUCTION JOINTS SHALL BE IN ACCORDANC WITH STD. SPEC. ART. 504.13(A)(2).
SPACE REINFORCEMENT IN CAP TO MISS DRILLED IN ANCHOR BOLTS.
DRILLED HOLES INTO EXISTING CONCRETE FOR REINFORCING BARS SHALL BE ½" DIA.
E.F. INDICATES EACH FACE.
EXISTING CONCRETE SHALL BE THOROUGHLY CLEANED BEFORE PLACING NEW CONCRETE.

REHABILITATION FOR

APPROACH BRIDGE OVER I-55/70 W.B., MISSOURI AVE. AND TRRA

PIER 43A

STRUCTURE NO. 082-6003
STA. 65+00 (FAP 799) ST. CLAIR CO.

PREPARED BY:
SVERDRUP CORPORATION
ST. LOUIS, MISSOURI

△ REV. 12-4-87

SECTION IBR-1

K. LARSON
DESIGNED
R. NIEMIETZ
CHECKED
J.G. CORLEY
DRAWN
R.F. BECK
CHECKED

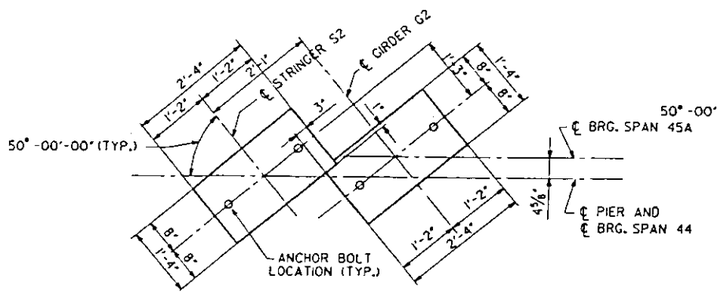
FILE: ZF3.(15).JDETAIL8I.DGN
PRF: DETAIL8I
LEVELS PLOTTED 35,56,57,58 & 63
DATE: OCT. 23, 1987
10358
875859

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

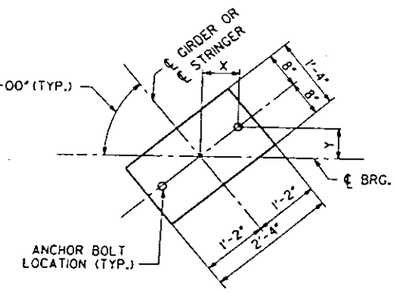
ROUTE NO.	SECTION	COUNTY	T
FAP 799	*	ST. CLAIR	2
		ILLINOIS	PROJECT

*IBR-1 APPROACH BRIDG

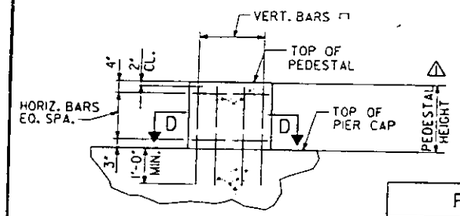
X = 6⅞" GIRDERS G2 - G6
7¹¹⁄₁₆" STRINGERS S2 - S7
Y = 5¹³⁄₁₆" GIRDERS G2 - G6
6⅞" STRINGERS S2 - S7



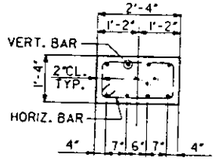
PEDESTAL PLAN
GIRDER G2 AND STRINGER S2



PEDESTAL PLAN
GIRDERS G3 THRU G6 AND
STRINGERS S3 THRU S7



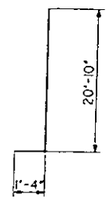
ELEVATION



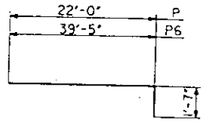
SECTION D-D

PEDESTAL REINFORCEMENT

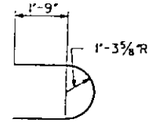
PEDESTAL REINFORCEMENT ⚠			
GIRDER OR STRINGER	VERT. BARS	HORIZ. BARS	PEDESTAL HT.
G2	4-*4U3(E)	——	4¾"
G3	4-*4U4(E)	1-*4S15(E)	8⅜"
G4	4-*4U5(E)	2-*4S15(E)	11⅞"
G5	4-*4U6(E)	2-*4S15(E)	1'-1½"
G6	4-*4U7(E)	2-*4S15(E)	1'-3"
S2	4-*4U8(E)	3-*4S15(E)	1'-10½"
S3	4-*4U8(E)	3-*4S15(E)	1'-10½"
S4	4-*4U8(E)	3-*4S15(E)	1'-10½"
S5	4-*4U8(E)	3-*4S15(E)	1'-10½"
S6	4-*4U8(E)	3-*4S15(E)	1'-10½"
S7	4-*4U9(E)	4-*4S15(E)	3'-2¼"



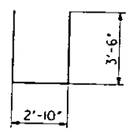
BAR V



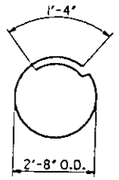
BARS P AND P6



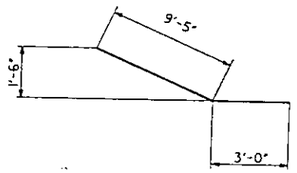
BAR U2



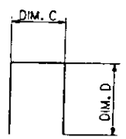
BAR N



BAR S

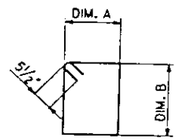


BAR P1



BARS U, U1, U3 THRU U9

BAR	DIM. C	DIM. D
U	3'-0½"	10"
U1	2'-10"	3'-8"
U3	11"	1'-3"
U4	11"	1'-7"
U5	11"	1'-10"
U6	11"	2'-0"
U7	11"	2'-1"
U8	11"	2'-9"
U9	11"	4'-1"



BARS S1 THRU S15

BAR	DIM. A	DIM. B
S1	3'-2"	4'-2"
S2	3'-2"	2'-8½"
S3	3'-2"	2'-10"
S4	3'-2"	2'-11½"
S5	3'-2"	3'-1"
S6	3'-2"	3'-2¼"
S7	3'-2"	3'-3¾"
S8	3'-2"	3'-5"
S9	3'-2"	3'-6½"
S10	3'-2"	3'-8"
S11	3'-2"	3'-9½"
S12	3'-2"	3'-11"
S13	3'-2"	4'-0½"
S14	3'-2"	4'-2"
S15	1'-0"	2'-0"

BILL OF MATERIAL

BAR	NO.	SIZE	LENGTH	SHAPE
H	6	*5	34'-9"	——
H1	2	*8	34'-9"	——
H2	3	*8	36'-3"	——
N	20	*5	9'-10"	⌊⌋
N1	12	*5	2'-9"	——
P(E)	5	*9	23'-7"	⌐¬
P1(E)	10	*8	12'-5"	⌐¬
P2(E)	5	*8	37'-8"	——
P3(E)	4	*5	26'-6"	——
P4(E)	8	*5	28'-11"	——
P5(E)	10	*9	21'-4"	——
P6(E)	5	*9	42'-0"	⌐¬
S	39	*4	9'-9"	○
S1(E)	22	*5	15'-7"	□
S2(E)	2	*5	12'-8"	□
S3(E)	2	*5	12'-11"	□
S4(E)	2	*5	13'-2"	□
S5(E)	2	*5	13'-5"	□
S6(E)	2	*5	13'-8"	□
S7(E)	2	*5	13'-11"	□
S8(E)	2	*5	14'-1"	□
S9(E)	2	*5	14'-4"	□
S10(E)	2	*5	14'-7"	□
S11(E)	2	*5	14'-10"	□
S12(E)	2	*5	15'-1"	□

BAR	NO.	SIZE	LENGTH
S13(E)	2	*5	15'-4"
S14(E)	2	*5	15'-7"
S15(E)	26	*4	6'-9"
T	23	*5	5'-8"
U(E)	4	*5	4'-9"
U1	26	*5	10'-2"
U2	8	*5	7'-9"
U3(E)	4	*4	3'-5"
U4(E)	4	*4	4'-1"
U5(E)	4	*4	4'-7"
U6(E)	4	*4	4'-11"
U7(E)	4	*4	5'-1"
U8(E)	20	*4	6'-5"
U9(E)	4	*4	9'-1"
V	14	*8	22'-2"
V1	28	*8	21'-7"
W	7	*9	24'-6"
W1	14	*8	5'-0"

CLASS X CONCRETE	CU. YDS.
REINFORCEMENT BARS	LBS.
REINFORCEMENT BARS EPOXY COATED	LBS.
FURNISHING CONCRETE PILES	LIN. FT.
DRIVING CONCRETE PILES	LIN. FT.
TEST PILE - CONCRETE	EACH
STRUCTURE EXCAVATION	CU. YDS.

REINFORCEMENT BARS (E) SHALL BE EPOXY COATED.

NOTES
WORK THIS SHEET WITH SHEET 61.

K. LARSON	DESIGNED
R. NIEMIETZ	CHECKED
J.G. CORLEY	DRAWN
R.F. BECK	CHECKED

5-DEC-19[illegible]
LEVELS PLOTTED 35,56,57,58 & 63
DATE: OCT. 23,1987
FILE: ZF3x(5)\DETAIL81A.DGN
PRF: DETAIL81A
W358
*5864

REHABILITATION FOR
APPROACH BRIDGE OVER
I-55/70 W.B., MISSOURI AVE. AND TRI

PIER 43A

STRUCTURE NO. 082-6003
STA. 65+00 (FAP 795) ST. CLAIR CO.

PREPARED BY:
SVERDRUP CORPORATION
ST. LOUIS, MISSOURI

⚠ REV. 12-4-87

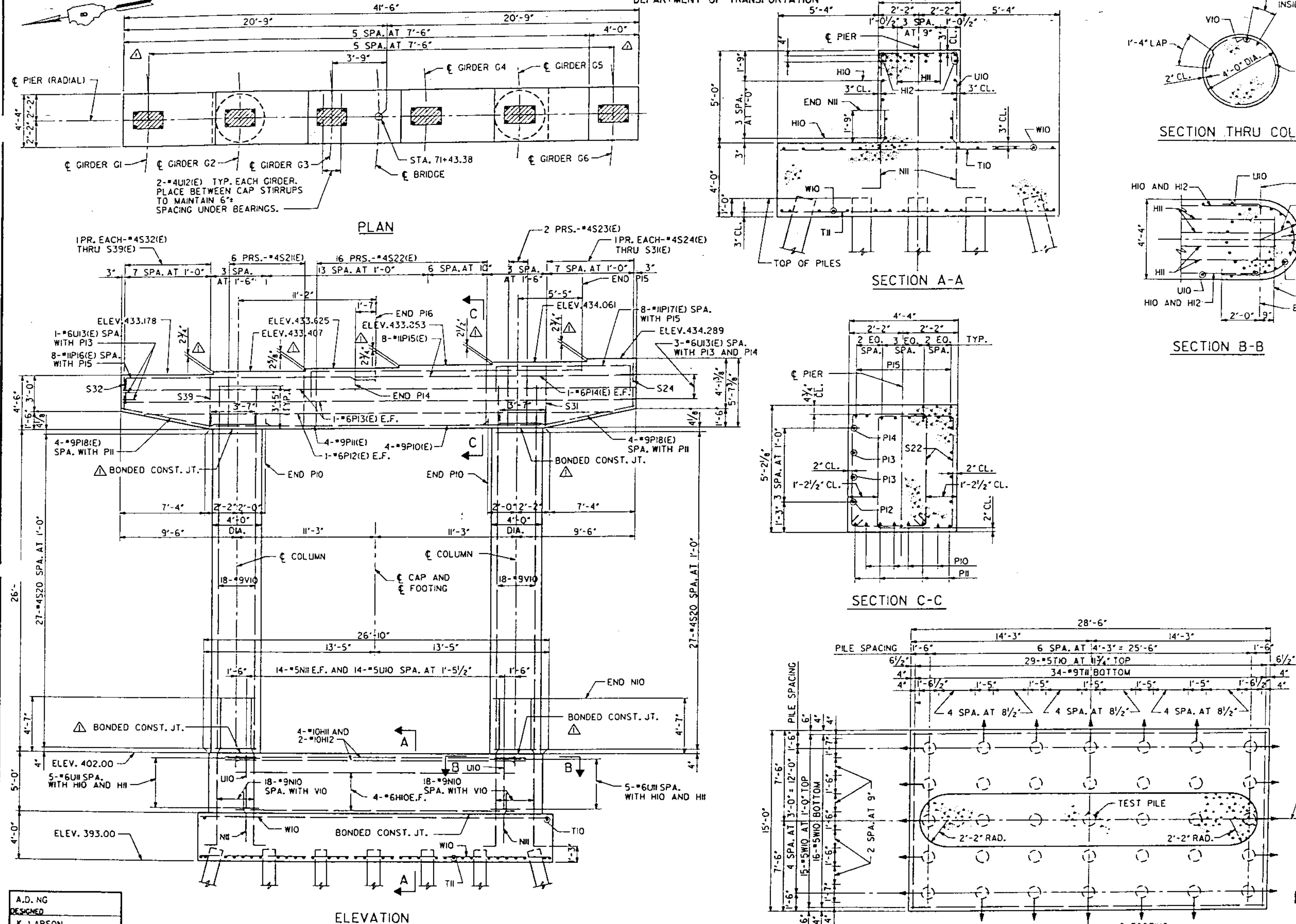
SECTION 1BR-1

SHEET NO. 62 OF 75

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAP 799	*	ST. CLAIR	252	211

*IBR-I APPROACH BRIDGE



PILE DATA

TYPE: CONCRETE
CAPACITY: 45 TON
EST. LENGTH: 36 FT.
NO. REQ'D.: 34 (NOT INCLUDING TEST PILE)
TEST PILE: ONE REQUIRED

NOTE: PILE SPACING SHOWN IS MEASURED AT ELEV. 393.00.
INDICATES PILE IS BATTERED 3 IN 12 IN DIRECTION SHOWN.

NOTES

SPACE REINFORCEMENT IN CAP TO MISS DRILLED IN ANCHOR BOLTS.
E.F. INDICATES EACH FACE.

REHABILITATION FOR
APPROACH BRIDGE OVER
I-55/70 W.B., MISSOURI AVE. AND TRRA

PIER 44A

STRUCTURE NO. 082-6003
STA. 65+00 (FAP 799) ST. CLAIR CO.

A.D. NG — DESIGNED
K. LARSON — CHECKED
C. DEED — DRAWN
R.F. BECK — CHECKED

LEVELS PLOTTED 35,56,57,58 & 63 — DATE: OCT. 23, 1987

PREPARED BY: SVERDRUP CORPORATION, ST. LOUIS, MISSOURI

REV. 12-4-87

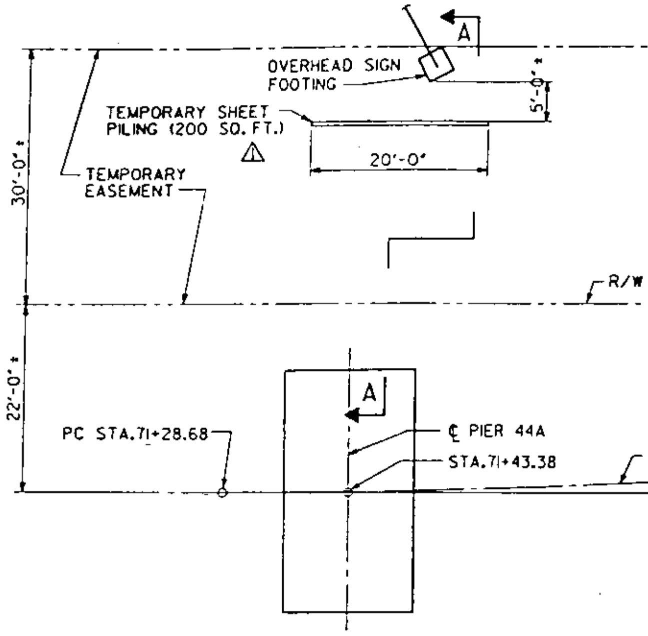
SECTION IBR-I

SHEET NO. 63 OF 75

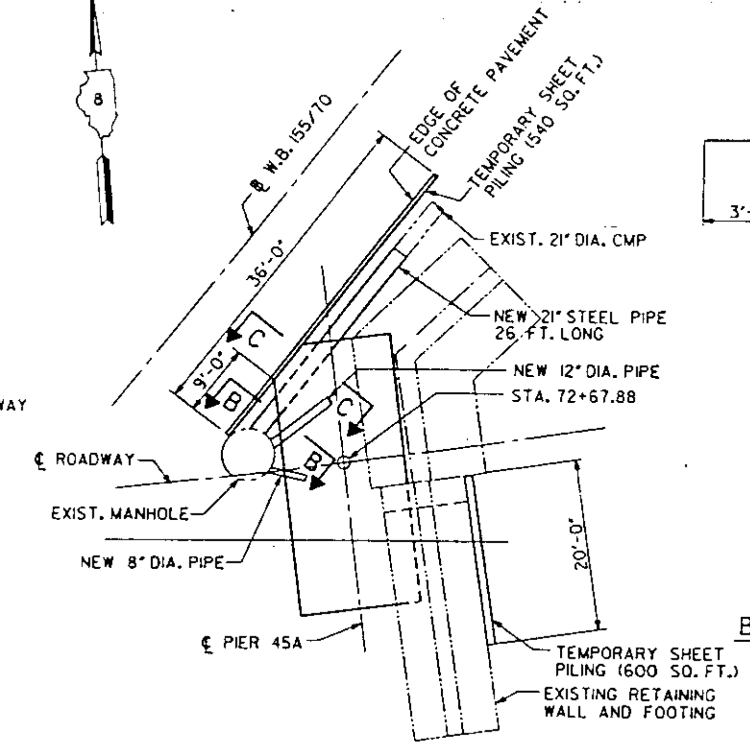
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS
FAP 799	*	ST. CLAIR	252

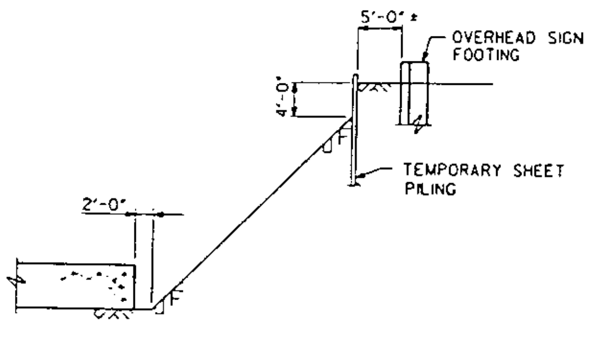
*IBR-I APPROACH BRIDGE



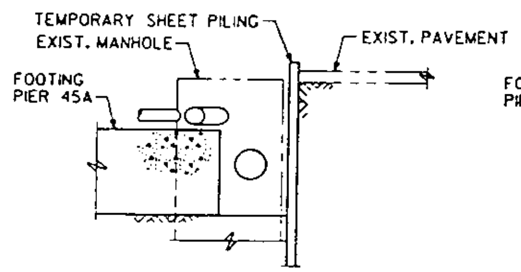
PIER 44A TEMPORARY SHORING DETAIL



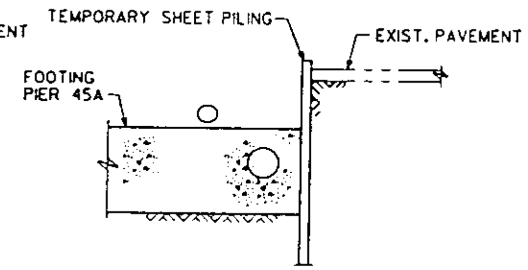
PIER 45A TEMPORARY SHORING DETAIL



SECTION A-A



SECTION B-B



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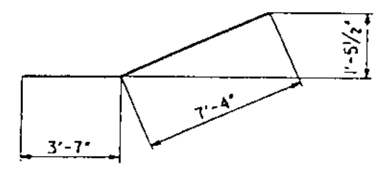
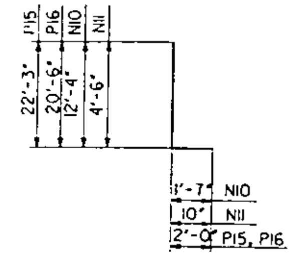
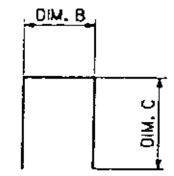


BAR P18(E)

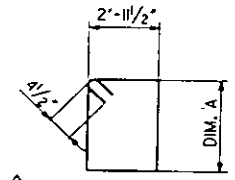


BARS N10, N11, P15(E) AND P16(E)



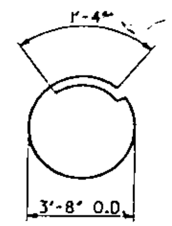
BARS U10, U12, U13 AND P17(E)

BAR	DIM. B	DIM. C
U10	3'-10"	4'-9"
U12	4'-0"	8"
U13	3'-11"	1'-0"
P17	11'-2"	2'-0"

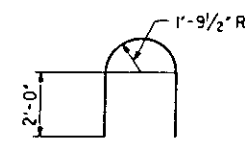


BARS S21(E) THRU S39(E)

BAR	DIM. A
S21	4'-2"
S22	4'-7¼"
S23	5'-0½"
S24	3'-7¼"
S25	3'-9¾"
S26	4'-0"
S27	4'-2½"
S28	4'-5"
S29	4'-7½"
S30	4'-10"
S31	5'-0½"
S32	2'-8½"
S33	2'-11"
S34	3'-1½"
S35	3'-4"
S36	3'-6½"
S37	3'-9"
S38	3'-11¼"
S39	4'-1¾"



BAR S20



BAR U11

BAR BENDING DIAGRAMS - PIER 44A

BILL OF MATERIAL - PIER 44A

BAR	NO.	SIZE	LENGTH	SHAPE
H10	8	#6	22'-6"	
H11	8	#10	24'-0"	
H12	4	#10	22'-6"	
N10	36	#9	13'-11"	
N11	28	#5	5'-4"	
P10(E)	4	#9	18'-6"	
P11(E)	4	#9	26'-9"	
P12(E)	2	#6	37'-4"	
P13(E)	4	#6	41'-2"	
P14(E)	2	#6	22'-3"	
P15(E)	8	#11	24'-3"	
P16(E)	8	#11	22'-6"	
P17(E)	8	#11	15'-2"	
P18(E)	8	#9	10'-11"	
S20	54	#4	12'-10"	
S21(E)	12	#4	15'-0"	
S22(E)	32	#4	15'-11"	
S23(E)	4	#4	16'-9"	
S24(E)	2	#4	13'-11"	
S25(E)	2	#4	14'-4"	
S26(E)	2	#4	14'-8"	
S27(E)	2	#4	15'-1"	
S28(E)	2	#4	15'-6"	
S29(E)	2	#4	15'-11"	
S30(E)	2	#4	16'-4"	
S31(E)	2	#4	16'-9"	
S32(E)	2	#4	12'-1"	

BAR	NO.	SIZE	LENGTH	SHA
S33(E)	2	#4	12'-6"	
S34(E)	2	#4	12'-11"	
S35(E)	2	#4	13'-4"	
S36(E)	2	#4	13'-9"	
S37(E)	2	#4	14'-2"	
S38(E)	2	#4	14'-7"	
S39(E)	2	#4	15'-0"	
T10	29	#5	14'-6"	
T11	34	#9	14'-6"	
U10	14	#5	13'-4"	
U11	10	#6	9'-10"	
U12	12	#4	5'-4"	
U13	5	#6	5'-11"	
V10	36	#9	30'-1"	
W10	31	#5	28'-0"	

TEMPORARY SHEET PILING	SQ. FT.	200
CLASS X CONCRETE	CU. YDS.	139.
REINFORCEMENT BARS	LBS.	10,93
REINFORCEMENT BARS EPOXY COATED	LBS.	4,78
FURNISHING CONCRETE PILES	LIN. FT.	1,224
DRIVING CONCRETE PILES	LIN. FT.	1,224
TEST PILE - CONCRETE	EACH	1
STRUCTURE EXCAVATION	CU. YDS.	400

⚠ REINFOREMENT BARS (E) SHALL BE EPOXY COATED.

NOTES

COST OF TEMPORARY SHORING FOR PIERS 44A AND 45A SHALL BE INCIDENTAL TO COST OF STRUCTURE EXCAVATION.

REHABILITATION FOR
APPROACH BRIDGE OVER
I-55/70 W.B., MISSOURI AVE. AND TRRA

⚠ PIER 44A AND 45A

STRUCTURE NO. 082-6003
STA. 65+00 (FAP 799) ST. CLAIR CO.

DESIGNED
CHECKED J.G. CORLEY
DRAWN R.F. BECK
CHECKED

FILE: ZF3(15)DETL80A.DGN
PRF: DETL80A
LEVELS PLOTTED 56, 57 & 63
DATE: OCT. 23, 1987
10350 875979

5-DEC-1987 08:46

PREPARED BY:
SVERDRUP CORPORATION
ST. LOUIS, MISSOURI

⚠ REV. 12-4-87

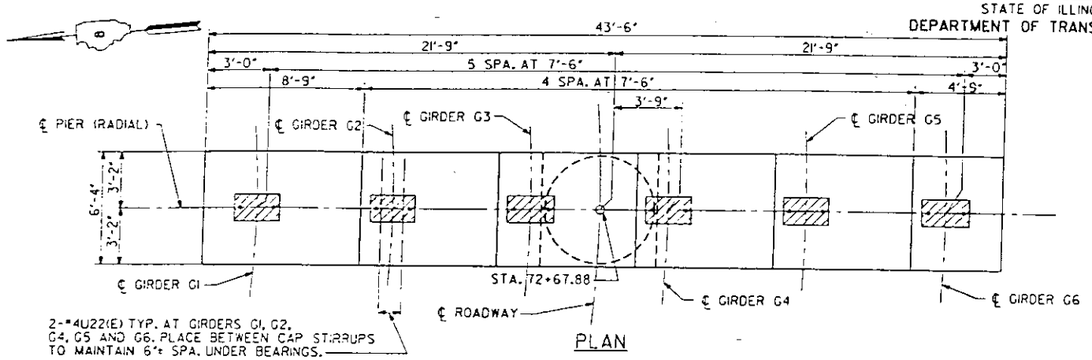
SECTION IBR-I

0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24

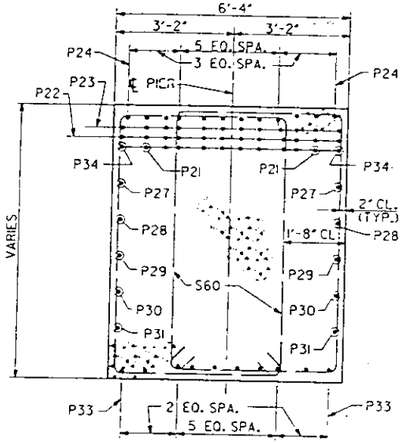
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY
FAP 799	61 "	ST. CLAIR
	ILLINOIS	PROJECT

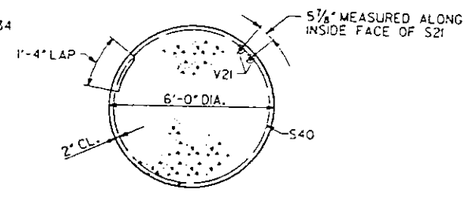
*1BR-1 APPROACH BRID



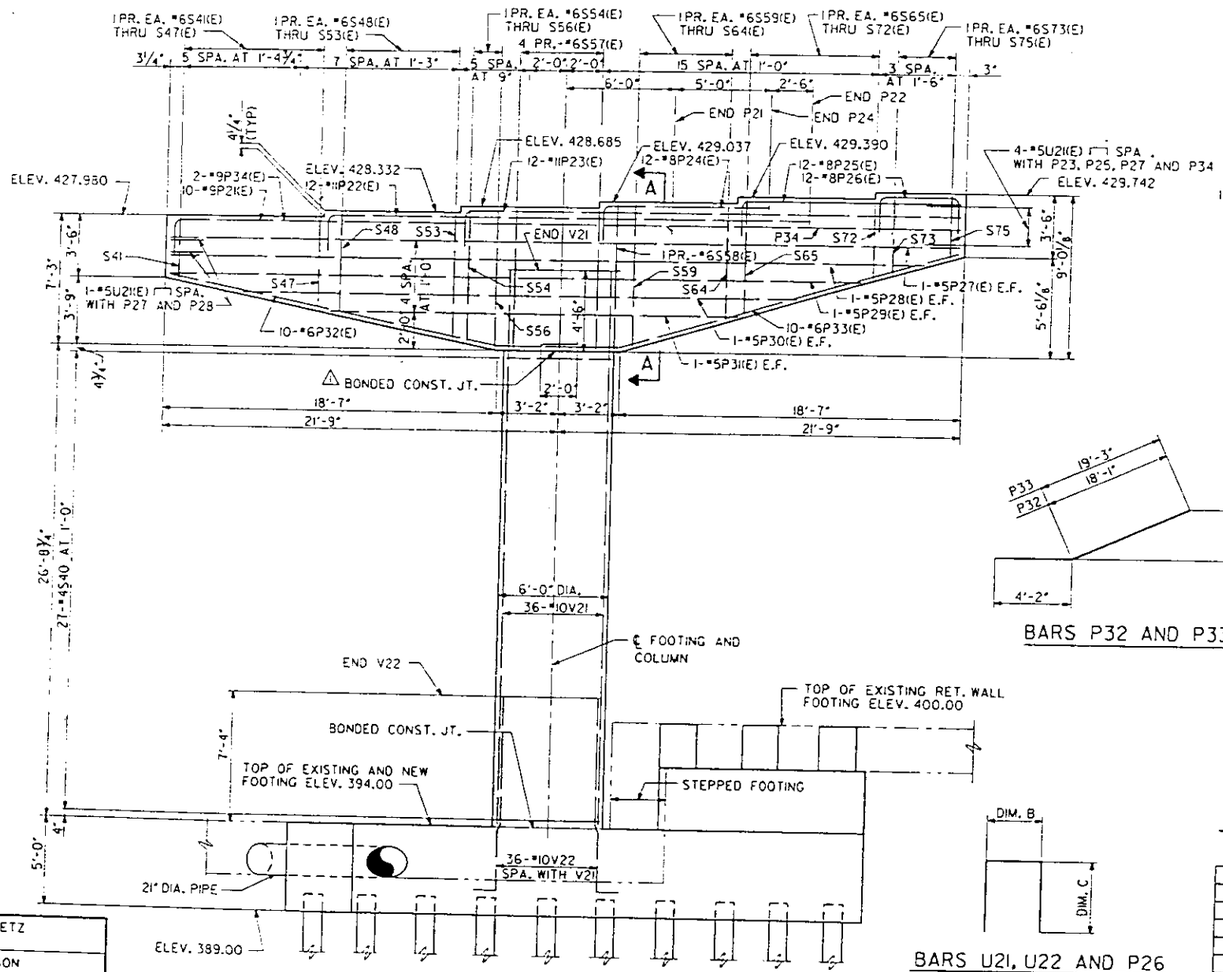
PLAN



SECTION A-A

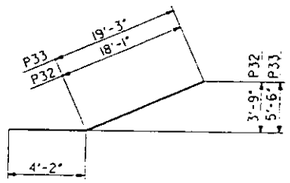


SECTION THRU COLUMN

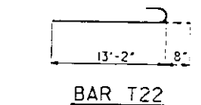


ELEVATION

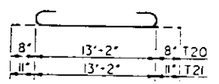
NOTE: FOOTING REINFORCEMENT NOT SHOWN. FOR DETAILS OF DRAINAGE SYSTEM NOT SHOWN, SEE DRAINAGE PLAN STA. 72+50 TO 76+76



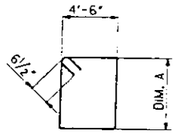
BARS P32 AND P33



BAR T22

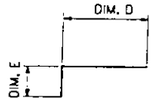


BARS T20 AND T21



BARS S41 THRU S75

BAR	DIM. A	BAR	DIM. A
S41	3'-2½"	S59	7'-9¾"
S42	3'-6"	S60	7'-5"
S43	3'-9½"	S61	7'-1½"
S44	4'-0¾"	S62	6'-10"
S45	4'-4"	S63	6'-6½"
S46	4'-7½"	S64	6'-3"
S47	4'-11"	S65	6'-3½"
S48	5'-6"	S66	6'-0"
S49	5'-9"	S67	5'-8"
S50	6'-0"	S68	5'-5"
S51	6'-3"	S69	5'-1"
S52	6'-6"	S70	4'-9¾"
S53	6'-9"	S71	4'-6"
S54	7'-3"	S72	4'-2½"
S55	7'-5"	S73	4'-1½"
S56	7'-7"	S74	3'-8¼"
S57	7'-7½"	S75	3'-3"
S58	8'-0¼"		

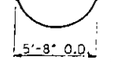


BARS P21 THRU P25, P34, V22 AND W24

BAR	DIM. D	DIM. E
P21	27'-7"	1'-7"
P22	26'-4"	2'-0"
P23	26'-11"	2'-0"
P24	8'-10"	1'-4"
P25	11'-11"	1'-4"
P34	43'-2"	1'-7"
V22	11'-1"	1'-10"
W24	4'-9"	3'-0"

BARS U21, U22 AND P26

BAR	DIM. B	DIM. C
U21	5'-10½"	1'-9"
U22	6'-0"	1'-0"
P26	4'-4"	1'-4"



BAR S40

BILL OF MATERIAL

BAR	NO.	SIZE	LENGTH	SHAPE
P21(E)	10	#9	29'-2"	
P22(E)	12	#11	28'-4"	
P23(E)	12	#11	28'-11"	
P24(E)	12	#8	10'-2"	
P25(E)	12	#8	13'-3"	
P26(E)	12	#8	7'-0"	
P27(E)	2	#5	43'-2"	
P28(E)	2	#5	41'-0"	
P29(E)	2	#5	37'-8"	
P30(E)	2	#5	29'-11"	
P31(E)	2	#5	21'-7"	
P32(E)	10	#6	23'-0"	
P33(E)	10	#6	23'-5"	
P34(E)	2	#9	44'-9"	
S40	27	#4	19'-2"	
S41(E)	2	#6	16'-6"	
S42(E)	2	#6	17'-1"	
S43(E)	2	#6	17'-8"	
S44(E)	2	#6	18'-3"	
S45(E)	2	#6	18'-9"	
S46(E)	2	#6	19'-4"	
S47(E)	2	#6	19'-11"	
S48(E)	2	#6	21'-1"	
S49(E)	2	#6	21'-7"	
S50(E)	2	#6	22'-1"	
S51(E)	2	#6	22'-7"	
S52(E)	2	#6	23'-1"	
S53(E)	2	#6	23'-7"	
S54(E)	2	#6	24'-7"	
S55(E)	2	#6	24'-11"	
S56(E)	2	#6	25'-3"	
S57(E)	8	#6	25'-4"	
S58(E)	2	#6	26'-2"	
S59(E)	2	#6	25'-7"	
S60(E)	2	#6	24'-11"	
S61(E)	2	#6	24'-4"	
S62(E)	2	#6	23'-9"	
S63(E)	2	#6	23'-2"	
S64(E)	2	#6	22'-7"	
S65(E)	2	#6	22'-8"	
S66(E)	2	#6	22'-1"	
S67(E)	2	#6	21'-5"	
S68(E)	2	#6	20'-11"	
S69(E)	2	#6	20'-3"	
S70(E)	2	#6	19'-9"	
S71(E)	2	#6	19'-1"	
S72(E)	2	#6	18'-6"	
S73(E)	2	#6	18'-4"	
S74(E)	2	#6	17'-5"	
S75(E)	2	#6	16'-7"	
T20	10	#6	14'-6"	
T21	16	#8	15'-0"	
T22	6	#6	13'-10"	
T23	3	#5	6'-0"	
T24	2	#5	9'-3"	
T25	2	#5	11'-4"	
T26	32	#6	13'-2"	
U21	6	#5	9'-5"	
U22	10	#4	8'-0"	
V21	36	#10	31'-3"	
V22	36	#10	12'-11"	
W20	34	#10	31'-0"	
W21	3	#10	20'-3"	
W22	3	#10	22'-6"	
W23	4	#10	22'-0"	
W24	14	#5	7'-9"	

TEMPORARY SHEET PILING	SQ. FT.
CLASS X CONCRETE	CU. YDS.
REINFORCEMENT BARS	LBS.
REINFORCEMENT BARS EPOXY COATED	LBS.
FURNISHING CONCRETE PILES	LIN. FT.
DRIVING CONCRETE PILES	LIN. FT.
TEST PILE - CONCRETE	EACH
STRUCTURE EXCAVATION	CU. YDS.

REINFORCEMENT BARS (E) SHALL BE EPOXY COATED. ⚠

⚠ QUANTITY SHOWN FOR STRUCTURE EXCA INCLUDE THE AMOUNT BOMB EXISTING RETAINING WALL.

NOTES

SPACE REINFORCEMENT IN CAP TO MISS DRILL IN ANCHOR BOLTS.
E.F. INDICATES EACH FACE.
WORK THIS SHEET WITH SHEET 66.
BONDED CONSTRUCTION JOINTS SHALL BE IN ACCORDANCE WITH STD. SPEC. ART. 504.13 (A)(2).

REHABILITATION FOR
APPROACH BRIDGE OVER
I-55/70 W.B., MISSOURI AVE. AND TR

PIER 45A

STRUCTURE NO. 082-6003
STA. 65+00 (FAP 799) ST. CLAIR CO.

⚠ REV. 12-4-87

SECTION 1BR-1

SHEET NO. 65 OF 7

PREPARED BY:
SVERDRUP CORPORATION
ST. LOUIS, MISSOURI

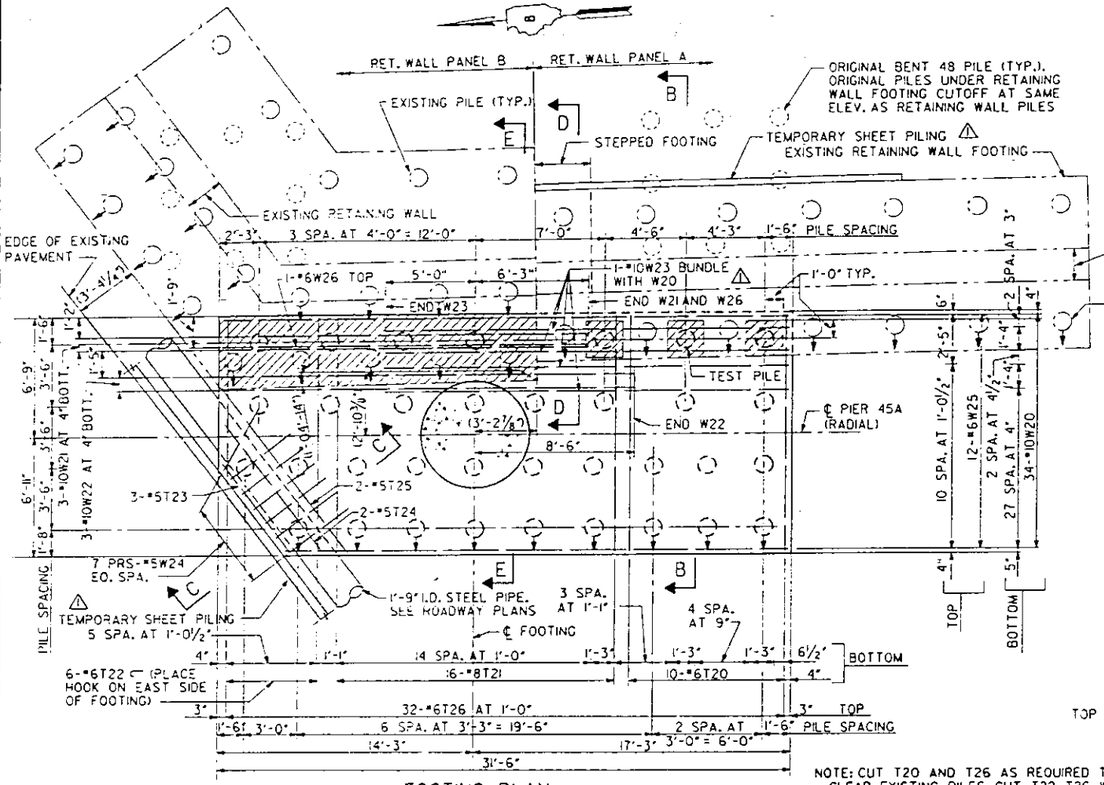
R. NIEMIETZ	DESIGNED
K. LARSON	CHECKED
J.G. CORLEY	DRAWN
R.F. BECK	CHECKED

FILE: ZF3(15)JDETAIL79.DGN
PRF: DETAIL 79
LEVELS PLOTTED 35, 56, 57, 58 & 63
DATE: OCT. 23, 1987
0358
875858

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.P. 799	*	ST. CLAIR	252	214
		ILLINOIS PROJECT		

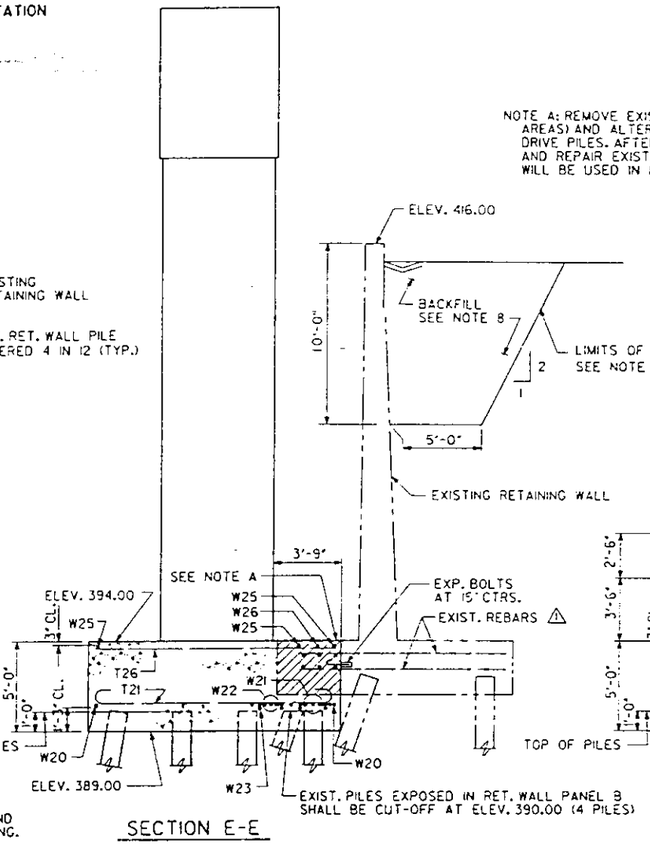
*IBR-1 APPROACH BRIDGE



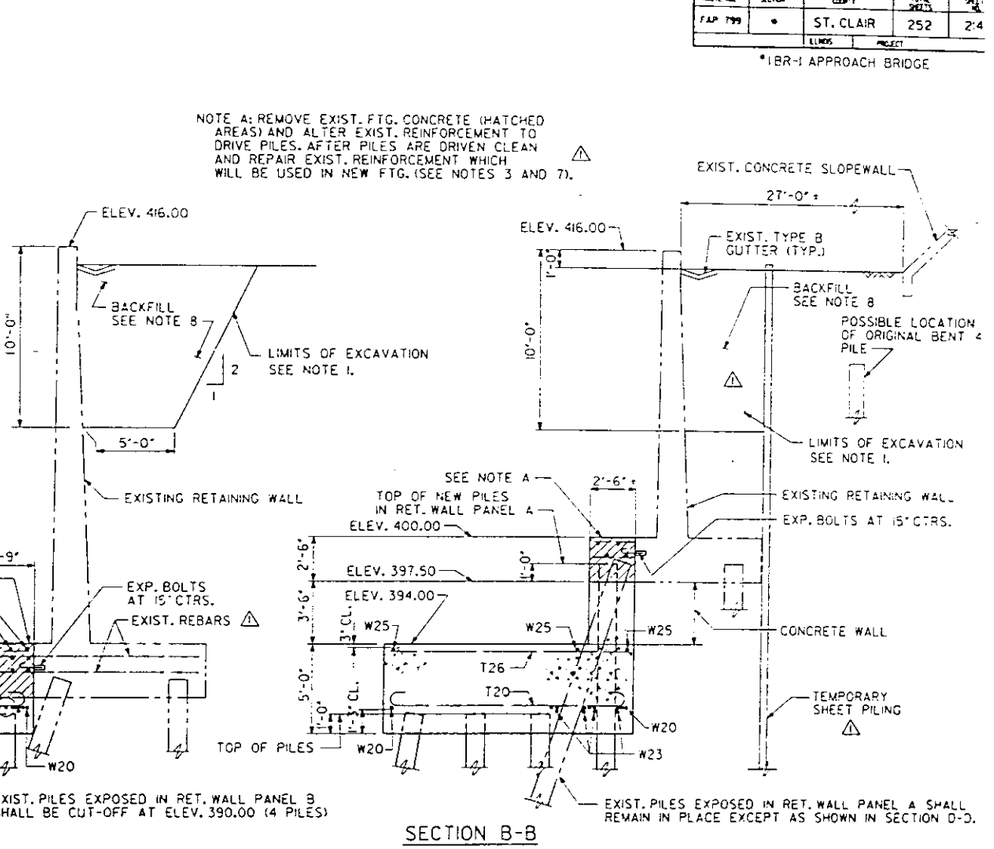
FOOTING PLAN

NOTE: CUT T20 AND T26 AS REQUIRED TO CLEAR EXISTING PILES. CUT T22, T26, W20 AND W25 AS REQUIRED AT N.W. CORNER OF FOOTING.

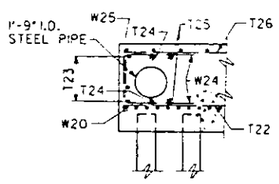
INDICATES PILES BATTERED 2 IN 12 IN DIRECTION SHOWN.
PILE SPACING SHOWN IS MEASURED AT BOTTOM OF FOOTING.
OUTLINE OF EXISTING RET. WALL AND DIMENSIONS SHOWN IN PARENTHESIS ARE BASED ON PLAN DIMENSIONS AND MAY OR MAY NOT REPRESENT THE ACTUAL LOCATION OF THE RET. WALL. THE CONTRACTOR SHALL VERIFY THE ACTUAL LOCATION IN THE FIELD.
FOR DETAILS OF DRAINAGE SYSTEM, NOT SHOWN, SEE DRAINAGE PLAN STA. 72+50 TO 76+76, AND SHEET 64. ⚠



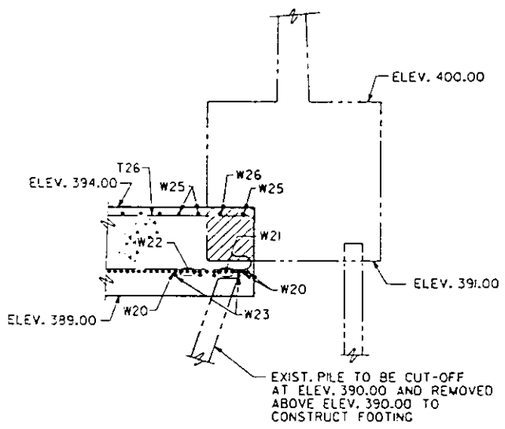
SECTION E-E



SECTION B-B



SECTION C-C



SECTION D-D

SUGGESTED SEQUENCE OF FOOTING CONSTRUCTION ⚠

1. INSTALL TEMPORARY SHEET PILING ADJACENT TO EXISTING RET. WALL PANEL A. EXCAVATE BEHIND EXISTING RETAINING WALL TO LIMITS SHOWN AND FOR A DISTANCE OF 2'-0" BEYOND SOUTH END OF RETAINING WALL. EXCAVATE AREA TO BE SLOPED TO MAINTAIN DRAINAGE AT ALL TIMES DURING PIER FOOTING AND COLUMN CONSTRUCTION.
2. EXCAVATE TO ELEV. 400 ON WEST SIDE OF EXISTING RETAINING WALL.
3. REMOVE PORTIONS OF EXISTING FOOTING CONCRETE IN PANEL A AS SHOWN IN THE FOOTING PLAN. CUT AND BEND EXISTING REINFORCEMENT. AUGER 1'-6" DIA. HOLES FOR PILES DOWN TO ELEV. 389. DRIVE PILES, REPAIR REINFORCEMENT BARS BY FULL PENETRATION BUTT WELD OR WELDED LAP SPLICE AS APPROVED BY THE ENGINEER. DUE TO RESTRICTED LOCATION, PILE CUT-OFF FOR NEW PILES IN RETAINING WALL PANEL A MAY BE MADE ABOVE TOP OF EXISTING RETAINING WALL FOOTING (ELEV. 400.00) AND DRIVEN TO TOP OF PILE LOCATION SHOWN. CONTRACTOR SHALL PROTECT PILE TOP TO AVOID DAMAGE. COST OF THE ABOVE WORK SHALL BE INCIDENTAL TO CONCRETE PILES.
4. FILL AUGERED HOLE VOIDS WITH SAND AND REPLACE CLASS X CONCRETE IN FOOTING.
5. AFTER NEW CONCRETE IN EXISTING FOOTING HAS CURED FOR A MINIMUM OF SEVEN (7) DAYS, EXCAVATE TO ELEV. 394, STABILIZE MATERIAL UNDER EXISTING RETAINING WALL IN PANEL A WITH SOIL-CEMENT GROUT OR BY OTHER METHOD ACCEPTABLE TO ENGINEER (COST INCIDENTAL).
6. AFTER STABILIZATION OF MATERIAL TO ELEV. 394 IS COMPLETE, EXCAVATE FOR REMAINDER OF FOOTING. STABILIZE MATERIAL UNDER EXISTING RETAINING WALL IN PANEL A TO ELEV. 389 IN A SIMILAR MANNER AS IN NOTE 5 ABOVE.
7. REMOVE PORTION OF EXISTING STEPPED FOOTING BETWEEN ELEV. 394.00 AND 391.00 AND EXISTING FOOTING CONCRETE IN PANEL B AS SHOWN IN FOOTING PLAN. CLEAN AND REUSE EXISTING FOOTING REINFORCEMENT IN PANEL B IN NEW FOOTING. REPAIR DAMAGED REINFORCEMENT AS IN NOTE 3 ABOVE. CUT OFF EXISTING PILES AS SHOWN. DRIVE PILES AND CONSTRUCT FOOTING. CONSTRUCT CLASS X CONCRETE WALL UNDER RETAINING WALL PANEL A BETWEEN ELEV. 394.00 AND ELEV. 397.50.
8. BACKFILL BEHIND EXISTING RETAINING WALL SHALL NOT BE PLACED UNTIL THE FOOTING FOR PIER 45A IS COMPLETE AND THE FOOTING CONCRETE HAS CURED FOR A MINIMUM OF SEVEN (7) DAYS. PLACEMENT AND COMPACTION OF BACKFILL SHALL COMPLY WITH ARTICLE 502.11 OF THE STANDARD SPECIFICATIONS.
9. REPAIR OF REINFORCEMENT AND OTHER WORK REQUIRED SHALL BE CONSIDERED INCIDENTAL TO STRUCTURE EXCAVATION.

PILE DATA

TYPE: CONCRETE
CAPACITY: 41 TONS
NO. AND EST. LENGTH: 31 - 32 FT.
NO. AND EST. LENGTH: 2 - 41 FT. (NOT INCULDING TEST PILE)
TEST PILE: ONE REQUIRED ⚠

NOTES

WORK THIS SHEET WITH SHEET 65.

ALL EXISTING REINFORCEMENT BARS SHALL BE THOROUGHLY CLEANED PRIOR TO PLACING CONCRETE.

THE CONTRACTOR SHALL PROVIDE TEMPORARY SHEET PILING ⚠ TO MAINTAIN THE SUBSURFACE STABILITY UNDER THE EXISTING PANEL A FOOTING AND ADJACENT TO W.B. 55/70 DURING ⚠ HIS CONSTRUCTION OPERATIONS.

HATCHED AREAS SHOWN THUS ▨ INDICATES LIMITS OF REMOVAL OF CONCRETE. ⚠

R. NIEMIETZ	DESIGNED
K. LARSON	CHECKED
J.G. CORLEY	DRAWN
R.F. BECK	CHECKED

PREPARED BY:
SVERDRUP CORPORATION
ST. LOUIS, MISSOURI

REHABILITATION FOR
APPROACH BRIDGE OVER
I-55/70 W.B., MISSOURI AVE. AND TRRA

PIER 45A

STRUCTURE NO. 082-6003
STA. 65+00 (FAP 799) ST. CLAIR CO.

⚠ REV. 12-4-87

SECTION IBR-1

SHEET NO. 66 OF 75

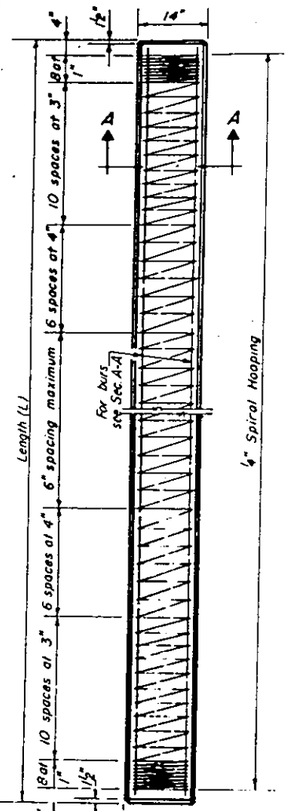
FILE: ZF34(51)DETAIL78.DGN | LEVELS PLOTTED | DATE: OCT. 23, 1987
10350 RTS924 PRF: DETAIL78 | 35 56 57 58 63

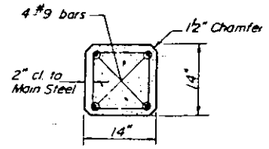
4-DEC-1987

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

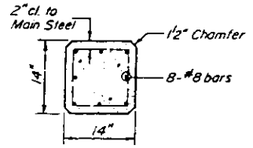
ROUTE	SECTION	COUNTY	SHEET NO.
FAP-799	*	ST. CLAIR	252
	ILLINOIS	PROJECT	

*IBR-1 APPROACH BRIDGE





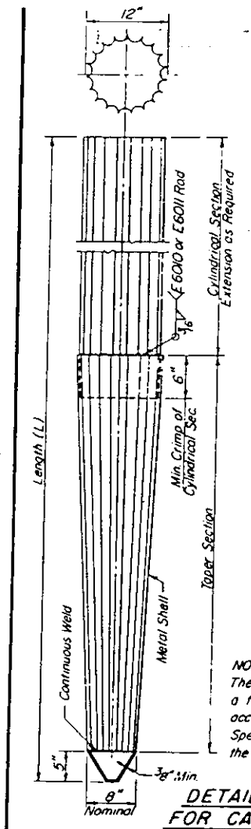
SECTION A-A
FOR PILES UNDER 45' LONG



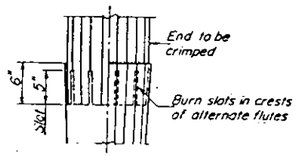
SECTION A-A
FOR PILES 45' OR MORE

Handling: For Pile lengths up to 45', use two slings placed at a distance of 0.21 L from each end. For Piles longer than 45', use three slings placed at a distance of 0.12 L from each end and at mid point of pile.

DETAIL OF PRECAST CONCRETE PILES

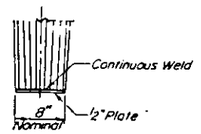


DETAIL OF TAPERED METAL SHELLS
FOR CAST IN PLACE CONCRETE PILES



FIELD CRIMP DETAIL

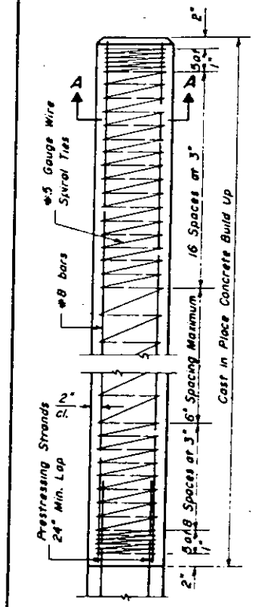
Note: 6" Crimp shall either be supplied on the cylindrical section or made in the field as detailed.



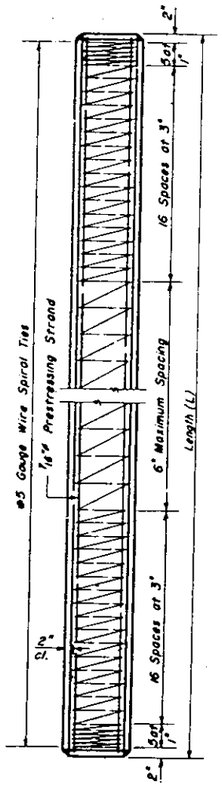
OPTIONAL FLAT END

ALLOWABLE TAPER SECTIONS
10' Length - Taper 1" in 2'-6"
17' Length - Taper 1" in 4'-0"
25' Length - Taper 1" in 7'-0"
30' Length - Taper 1" in 7'-0"

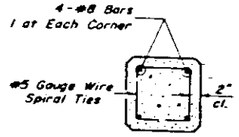
NOTE:
The thickness of the shell shall be 0.1495 inches with a tolerance of 5%. The shell shall be in accordance with Article 710.05 (a) of the Standard Specification except that minimum yield strength for the steel after cold working shall be 50,000 psi.



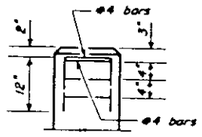
PILE BUILD UP



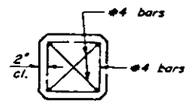
PILE PLAN



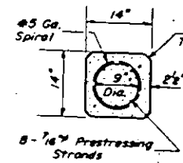
SECTION A-A



ELEVATION
(End Reinforcement)



PLAN
(End Reinforcement)



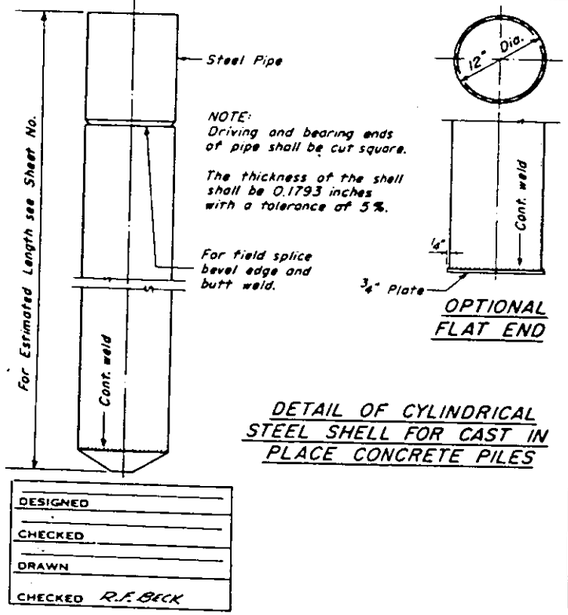
SECTION THRU PILE

DESIGN STRESSES
fc' = 5,000 psi.
fci' = 4,000 psi.
fs' = 270,000 psi. (31,000 lbs. - 7/16"ø or 41,300 lbs. - 1/2"ø)
fsi' = 189,000 psi. (21,700 lbs. - 7/16"ø or 28,900 lbs. - 1/2"ø)

NOTES
Prestressing steel shall be non-galvanized extra high strength stress-relieved 7-wire strand. The nominal diameter shall be 7/16" and the minimum nominal cross-sectional area shall be 0.115 sq.in. or the equivalent 6-1/2"ø strands with a cross-sectional area of 0.153 sq.in. may be used.

For Pile lengths up to 65', use two slings placed at a distance of 0.21 L = from each end. For Piles longer than 65', use three slings placed at a distance of 0.12 L = from each end and at mid-point of pile. = L = Over all length of pile to be handled.

PRECAST PRESTRESSED CONCRETE PILE



NOTE:
Driving and bearing ends of pipe shall be cut square.

The thickness of the shell shall be 0.1793 inches with a tolerance of 5%.

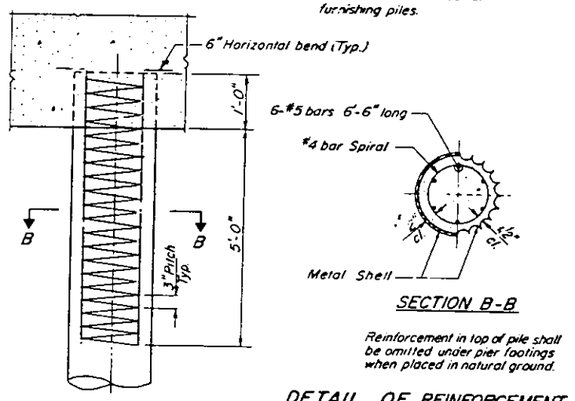
OPTIONAL FLAT END

DETAIL OF CYLINDRICAL STEEL SHELL FOR CAST IN PLACE CONCRETE PILES

DESIGNED	
CHECKED	
DRAWN	
CHECKED	R.F. BECK

OCT. 23, 1987

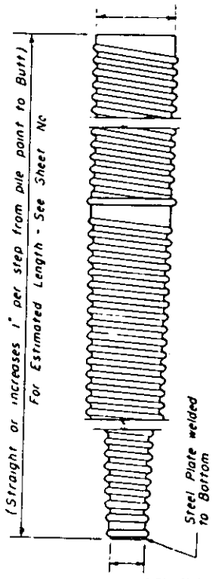
The cost of Reinforcement is incidental to the cost of furnishing piles.



SECTION B-B

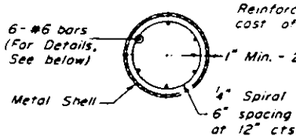
Reinforcement in top of pile shall be omitted under pier footings when placed in natural ground.

DETAIL OF REINFORCEMENT FOR METAL SHELLS

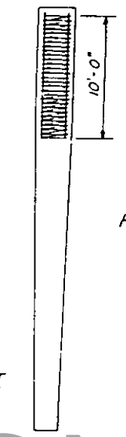


PILE REINFORCEMENT

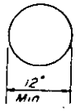
Reinforcement is incidental to the cost of furnishing piles.



SECTION A-A

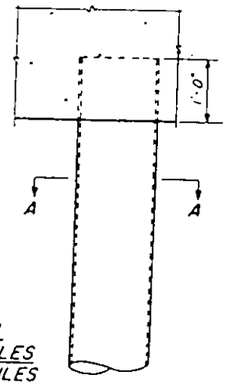


At least 10% of the length of pile shall have a Butt diameter equal to or greater than 12"
Gauges are furnished to suit soil conditions (16 Gauge avg. min.)



BUTT

POINT
(Applies only to Step Taper type pile)



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

REHABILITATION FOR
APPROACH BRIDGE OVER
I-55/70 W.B., MISSOURI AVE. AND TRR

CONCRETE PILE ALTERNATES

STRUCTURE NO. 082-6003
STA. 65+00 (FAP 799) ST. CLAIR CO.

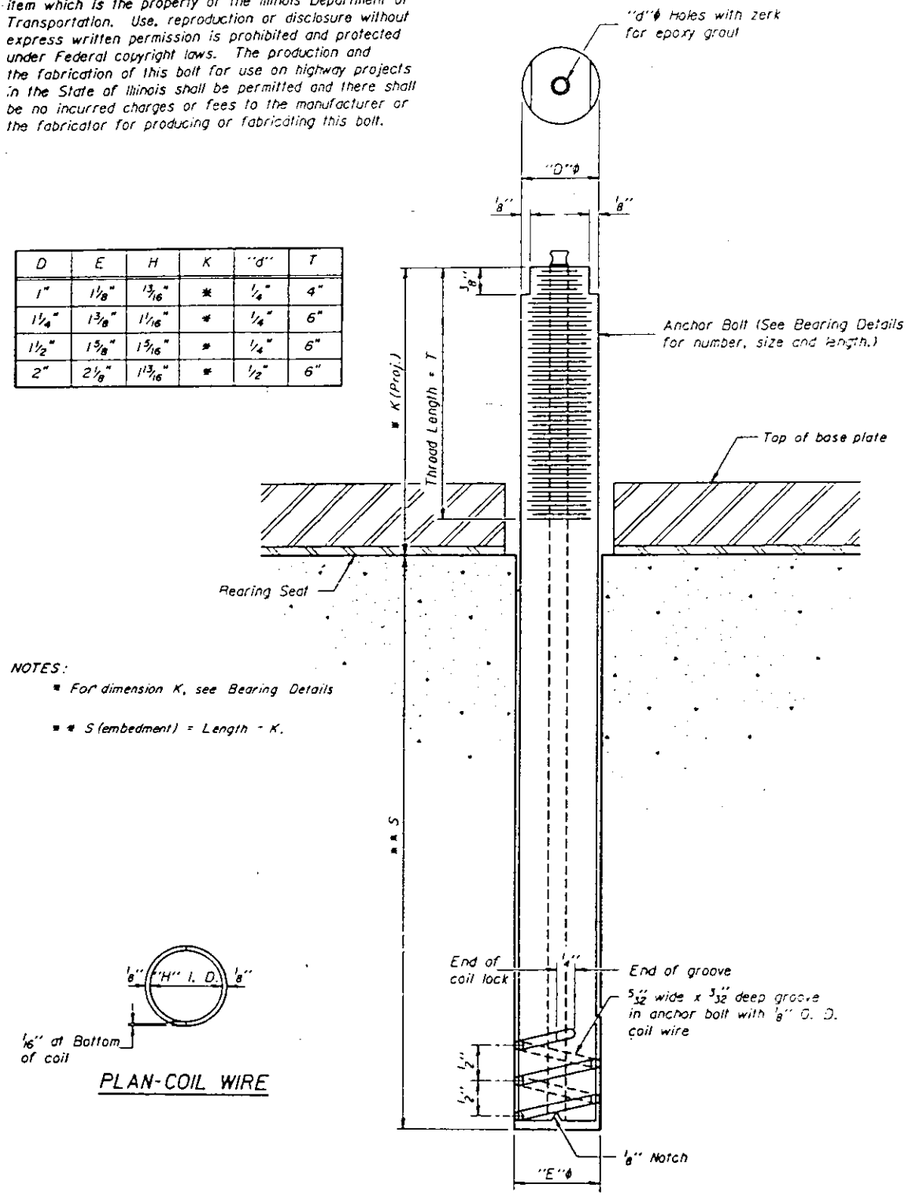
PREPARED BY
SVERDRUP CORPORATION
ST. LOUIS, MISSOURI

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS
FAP 799	*	ST. CLAIR	
		ILLINOIS PROJECT	

* I BR-1 APPROACH BRIDGE

D	E	H	K	"d"	T
1"	1 1/8"	13/16"	*	1/4"	4"
1 1/4"	1 3/8"	1 1/16"	*	1/4"	6"
1 1/2"	1 3/8"	1 5/16"	*	1/4"	6"
2"	2 1/8"	1 13/16"	*	1/2"	6"



ILLINOIS COIL-LOCK ANCHOR BOLT

NOTES:

* For dimension K, see Bearing Details

** S (embedment) = Length - K.

PLAN-COIL WIRE

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 A519, Grade 1025 and supplied with two hexagonal nuts.

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 I and of a Class suitable for the temperature at installation.

INSTALLATION PROCEDURE for the ILLINOIS COIL-LOCK ANCHOR BOLT

1. With the coil wire in place, the bolt shall be inserted into the hole and turned clockwise to a snug fit in the hole. Nut shall be placed on the bolt. Nut shall be finger tight prior to placing epoxy grout.

2. Epoxy grout shall be pumped through the zerk fitting with a pressure gun. Pumping shall continue until the epoxy overflows the hole around the bolt shank. After pumping is discontinued, excess epoxy shall be immediately wiped off.

3. After grout has set loosen nut to obtain the required clearance between the nut and the sole plate.

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 par system composed of:

1. A threaded rod stud with nut and washer conforming to ASTM A307.
2. A sealed glass capsule or a sealed glass adhesive cartridge containing premeasured amounts of the adhesive chemical.

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".

⚠1 Anchor bolts, nuts and washers shall be completely coated by either the hot-dipped process conforming with AASHTO M232 or the mechanical plating method conforming to ASTM B695, Class Zinc coated nuts shall be tapped oversize in accordance with the requirements of AASHTO M291 and shall meet the supplementary requirements S1.1 thru S1.2.1 of the same specifications for lubrica and testing.

See Sheets 40, 43, 48 and 49 for lengths of anchor bolts and projection required. ⚠1

OCT. 23, 1967

DESIGNED	
CHECKED	
DRAWN	
CHECKED	

ABB-1 12-1-83

REHABILITATION FOR
APPROACH BRIDGE OVER
I-55/70 W.B., MISSOURI AVE. AND TRF

ANCHOR BOLT DETAILS

STRUCTURE NUMBER 8[illegible]
STA 65+50 (FAP [illegible])

PREPARED BY:
SVERDRUP CORPORATION
ST. LOUIS, MISSOURI

⚠1 REV. 12-4-87

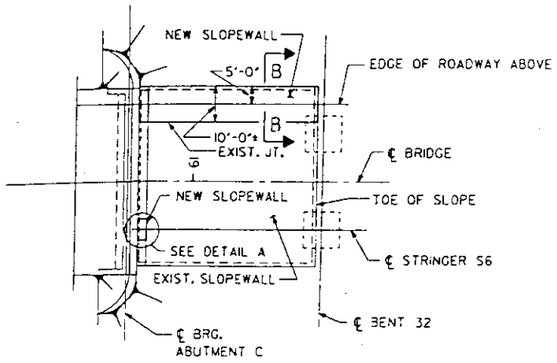
SECTION (BR-1)

SHEET NO. 68 OF 75 SHEETS

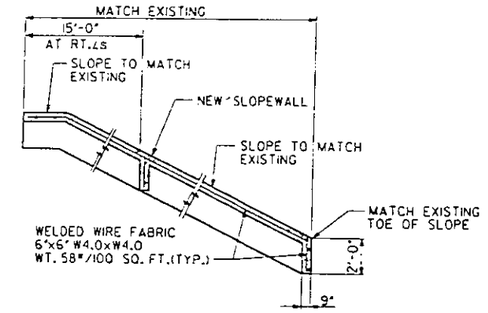
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS
FAP 799	*	ST. CLAIR	252
	ILLINOIS	PROJECT	

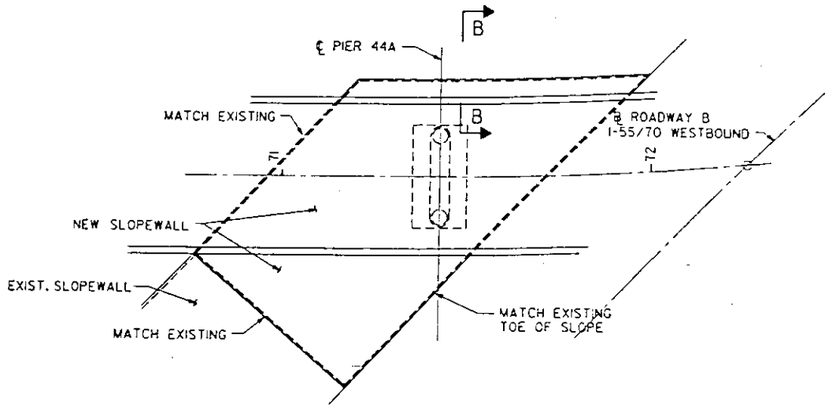
*IBR-I APPROACH BRIDGE



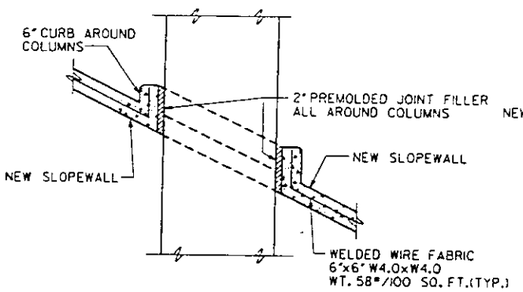
PLAN



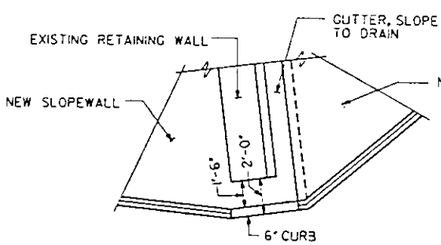
TYPICAL SECTION THRU SLOPE PAVEMENT



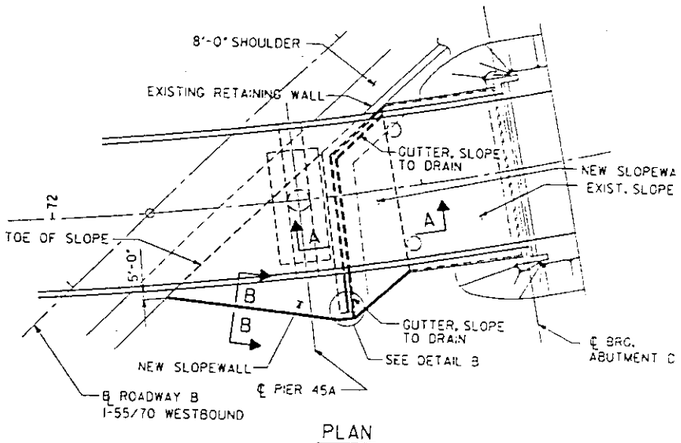
PLAN



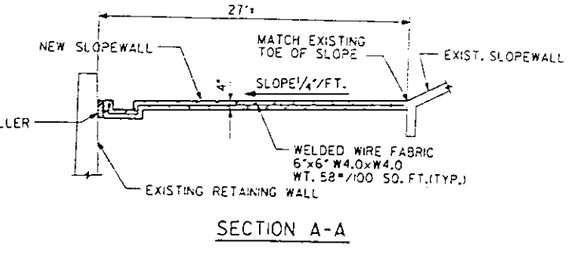
TYPICAL SECTION THRU
SLOPEWALL AT PIER 44A



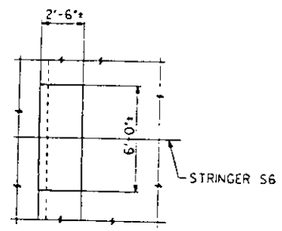
DETAIL B



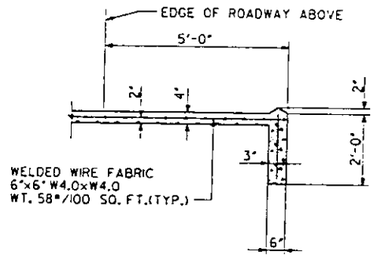
PLAN



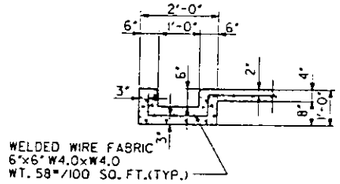
SECTION A-A



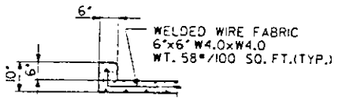
DETAIL A



SECTION B-B



SECTION THRU GUTTER



SECTION THRU 6" CURB

D.J. SCHREMP	DESIGNED
R.F. BECK	CHECKED
J.G. CORLEY	DRAWN
A. MYERS	CHECKED

10358
875929
FILE: 2F3(15)JDETAIL104.DGN
PRF: DETAIL104
LEVELS PLOTTED
35,56,57,58 AND 63
DATE: OCT. 23, 1987

28-OCT-1[illegible]

REHABILITATION FOR
APPROACH BRIDGE OVER
I-55/70 W.B., MISSOURI AVE. AND TRR.

SLOPE PAVEMENT

STRUCTURE NO. 082-6003
STA. 65+00 (FAP 799) ST. CLAIR CO.

PREPARED BY:
SVERDRUP CORPORATION
ST. LOUIS, MISSOURI

SECTION IBR-I

SHEET NO. 63 OF 75

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS
FAP 799	*	ST. CLAIR	252
		ILLINOIS	PROJECT

*IBR-1 APPROACH BRIDGE

BENT REPAIR SCHEDULE

BENT	NOTE / DWG.	CAP BEAMS A.1	CAP BEAMS A.2	BRACING B.1	BRACING B.2	BRACING B.3	CONNECTIONS C.1	CONNECTIONS C.2	BENT 40 D.1	PEDESTALS E.1	PEDESTALS E.2	REMARKS
32	71	-	-	-	1	1	-	-	-	-	-	EXPOSE BURIED SOUTH COLUMN BASE PLATE **
33	71	-	-	-	2	3	-	-	-	-	-	———
34	71	-	-	-	1	1	-	-	-	1	-	———
35	71	-	-	-	-	1	1	-	-	1	-	———
38	71	-	-	-	1	1	-	-	-	2	-	———
39	72	-	-	5	-	-	5	-	-	-	1	———
40	73	1	-	-	-	-	-	-	1	-	-	REMOVE DEBRIS AT NORTH COLUMN BASE **
41	72	-	1	5	-	-	4	-	-	-	1	———
42	71	1	-	5	-	-	4	2	-	2	-	———
SPAN OF LONGITUDINAL BRACING												
43NORTH	74	-	-	3	-	-	5	-	-	-	-	———
43SOUTH	75	-	-	5	-	-	6	-	-	-	-	REMOVE CONCRETE SIDEWALK IN AREA **

** COST INCIDENTAL

BENT REPAIR ITEMS

These notes are applicable to the following items only: Bents 32 thru 35 and 38 thru 42 and Longitudinal Bracing at Span 43.

Refer to "BENT REPAIR SCHEDULE", this sheet, for location and quantities of items referred in these notes.

Replacement implies replacing member or plate with new item of size indicated. Existing dimensions and work-points shall be used unless noted. H.S. bolts shall be used for reconnection using existing rivet locations. Do not weld to existing steel.

¾" Dia. H.S. bolts shall be used except as noted.

A. CAP BEAMS
1. COVER PLATE CAP BEAM
Provide top and bottom cover plates as noted on plans. Stiffeners within cover plated zone to be replaced as indicated on plans and sections. Use tap bolts at bearing plates within cover plated zone to provide seal fastening.

2. REPLACE STIFFENERS
Replace existing stiffeners at locations noted on plans. Refer to Bent 4 elevation and section.

B. BRACING - TRANSVERSE AND LONGITUDINAL
1. REPLACE BRACING MEMBER
Remove existing member and replace with new shape as noted below. New transverse bracing member shall be ⅝" bent plate per DETAIL A. Longitudinal members shall be as noted on plans.
Bent plates members may be fabricated in sections and shop spliced to required length. Splice shall be butt-weld per SECTION A.
Existing gusset plates to remain unless noted.

2. REPLACE LATTICE BAR
Remove existing deteriorated lattice bars in area(s) located on plans. Replace per DETAIL B using H.S. bolts. Bid quantities are listed in the schedule. Additional bars may require replacement, due to further deterioration, as directed by Engineer.

3. REPLACE BATTEN PLATE
Remove existing deteriorated batten plates in area(s) located on plans. Replace per DETAIL C using H.S. bolts.

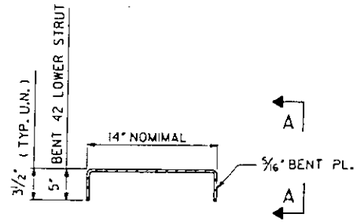
C. CONNECTIONS
1. REPLACE GUSSET PLATE
Remove and replace existing gusset plates. Refer to "Transverse Bracing Typical Replacement Connections", this sheet, for sizes and bolt requirements.
For Longitudinal Bracing connections, refer to Span 43 details, Sheet 75.
Replace any fill plates.

2. REPLACE RIVETS
Replace all rivets connecting bottom flange of cap beam to horiz. angles at cap beam-to-column connection with ¾" H.S. bolts.

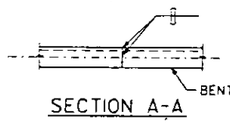
D. BENT 40 REPLACEMENT
1. REPLACEMENT
Replace existing steel bent with new frame per dwgs. Existing concrete pedestals to be used. Note the existence of a steel frame currently strapped to Pier 36 that will be available to to aid in shoring during construction.
See Sheet 73 for Bent 40 General notes.

E. PEDESTALS
1. CLEARING AND GRADING
Remove trees. Regrade / Backfill to top of pile cap.

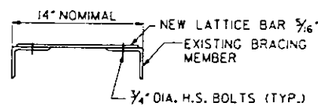
2. PATCH COLUMN PEDESTALS
Repair cracks and patch spalling in column pedestals. Remove fractured concrete. Repair with epoxy concrete. See sheet 72 for details. ⚠



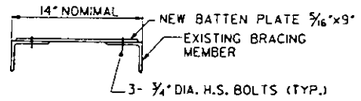
DETAIL A
TYPICAL BENT PLATE REPLACEMENT MEMBER



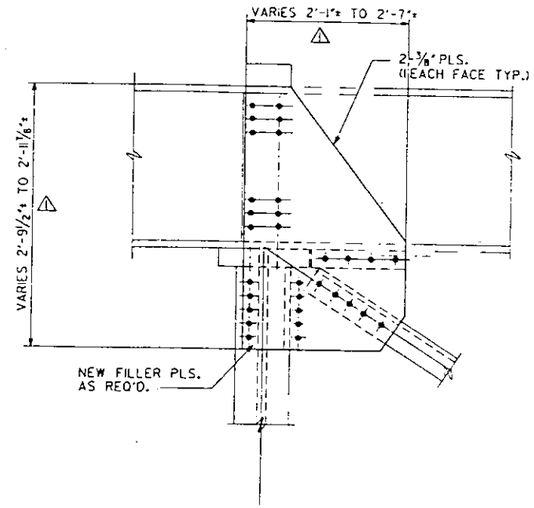
SECTION A-A

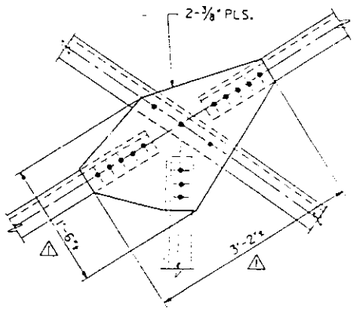


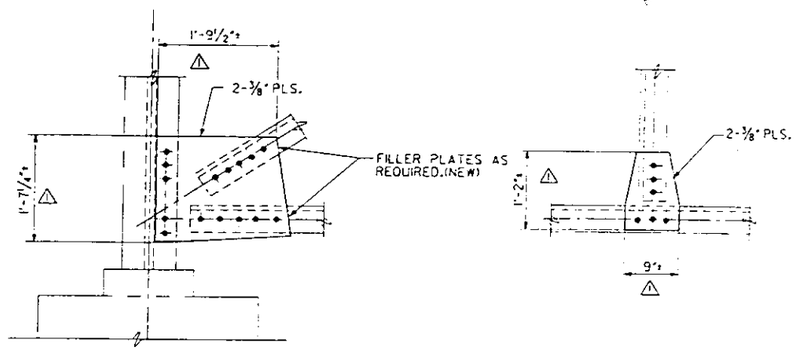
DETAIL B
TYPICAL REPLACEMENT LATTICE BAR



DETAIL C
TYPICAL REPLACEMENT BATTEN PLATE







TRANSVERSE BRACING TYPICAL REPLACEMENT CONNECTIONS

REHABILITATION FOR
APPROACH BRIDGE OVER
I-55/70 W.B., MISSOURI AVE. AND TRRA

BENT REPAIR SCHEDULE
AND TYPICAL DETAILS

STRUCTURE NO. 082-6003
STA. 65+00 (FAP 799) ST. CLAIR CO.

J. BARTELS	DESIGNED
V.C. LISCHER	CHECKED
M.J.JALINSKY	DRAWN
J. BARTELS	CHECKED

FILE: ZF3405(10)BRREPAIR2.DGN
PRF: BREPAIR2
LEVELS PLOTTED: 35 56 57 63
DATE: OCT. 23, 1987
10358
875967

DESIGNED BY: FLEMING CORPORATION, ST. LOUIS, MISSOURI
PREPARED BY: SVERDRUP CORPORATION, ST. LOUIS, MISSOURI

⚠ REV. 12-4-87

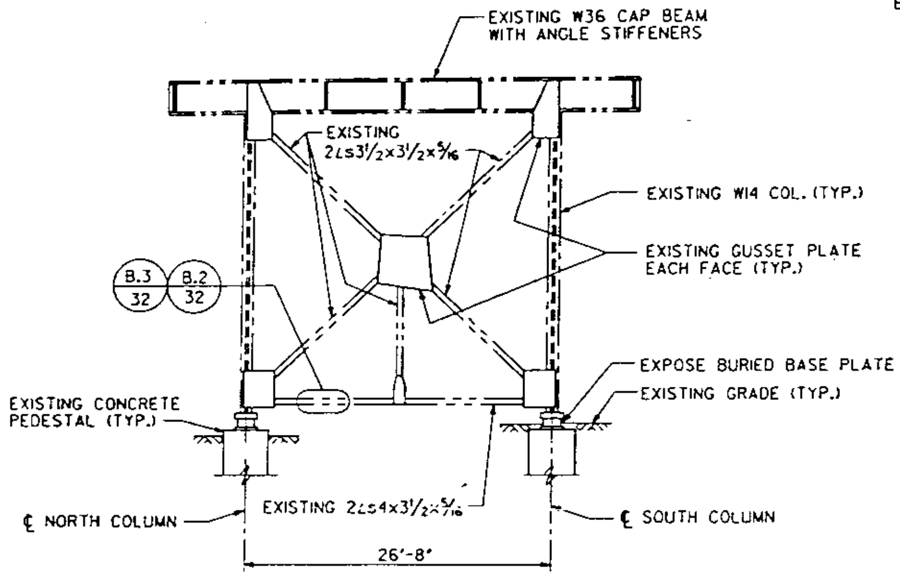
SECTION IBR-1

SHEET NO. 70 OF 75

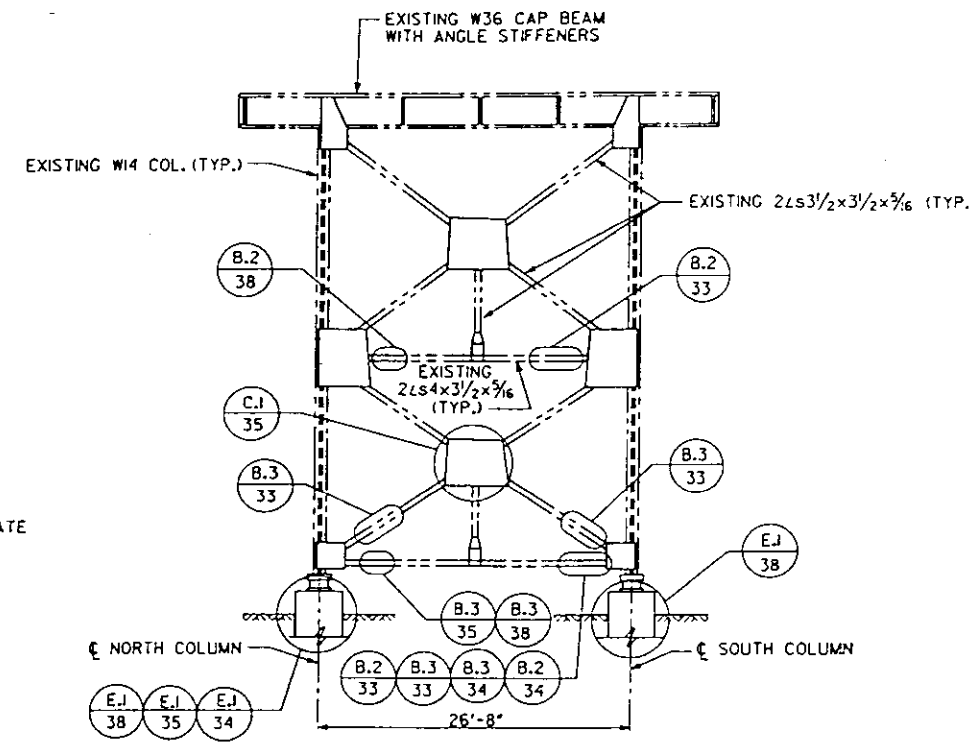
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS
FAP 799	*	ST. CLAIR	252

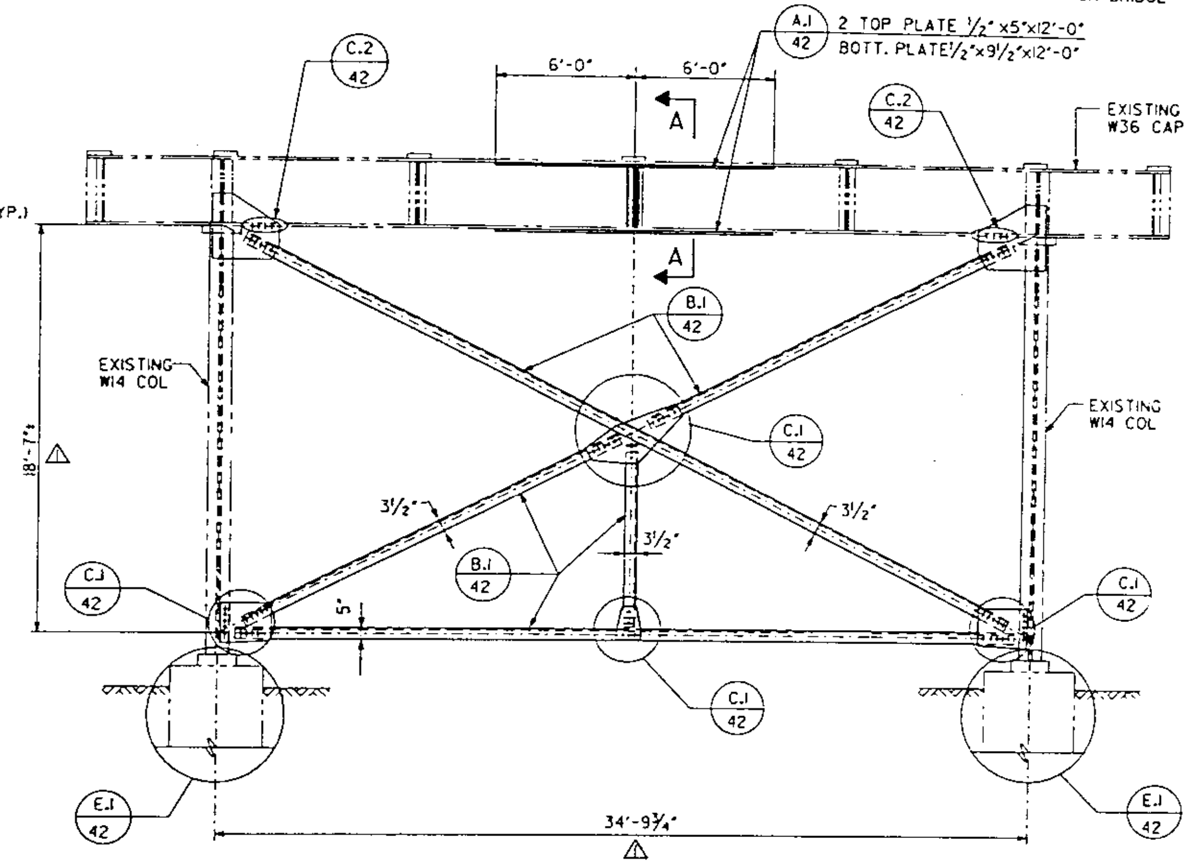
*IBR-1 APPROACH BRIDGE



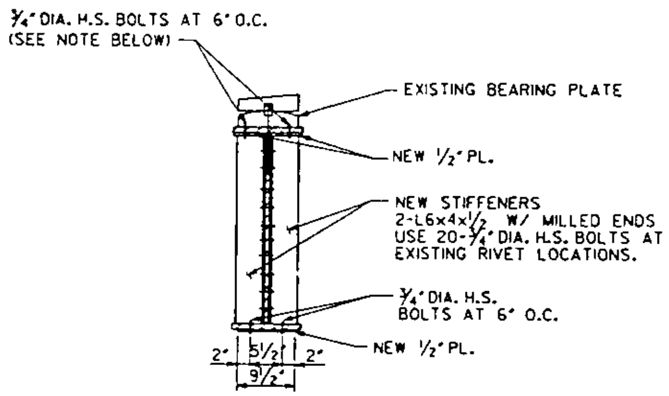
BENT 32



BENTS 33 THRU 35 AND 38



BENT 42
WEST ELEVATION



SECTION A-A

NOTE: USE TAP BOLTS AT EXISTING BEARING PLATES TO PROVIDE SEALING FASTENERS AT TOP COVER PLATE.

BENT REPAIR ITEM NOTE - SEE SHEET 70
BENT NUMBER

REHABILITATION FOR
APPROACH BRIDGE OVER
I-55/70 W.B., MISSOURI AVE. AND TRR

BENTS 32 THRU 35, 38 AND 42

STRUCTURE NO. 082-6003
STA. 65+00 (FAP 799) ST. CLAIR CO.

5-DEC-1987 08

LEVELS PLOTTED 35, 56 AND 63 | DATE: OCT. 23, 1987
FILE: ZF3:(153.1)DETAIL51.DGN | PRF: DETAIL53

DESIGNED	R.L. MACKEY
CHECKED	V.C. LISCHER
DRAWN	D.J. SCHREMP
CHECKED	J. BARTELS

DESIGNED BY: FLEMING CORPORATION
PREPARED BY: SVERDRUP CORPORATION ST. LOUIS, MISSOURI

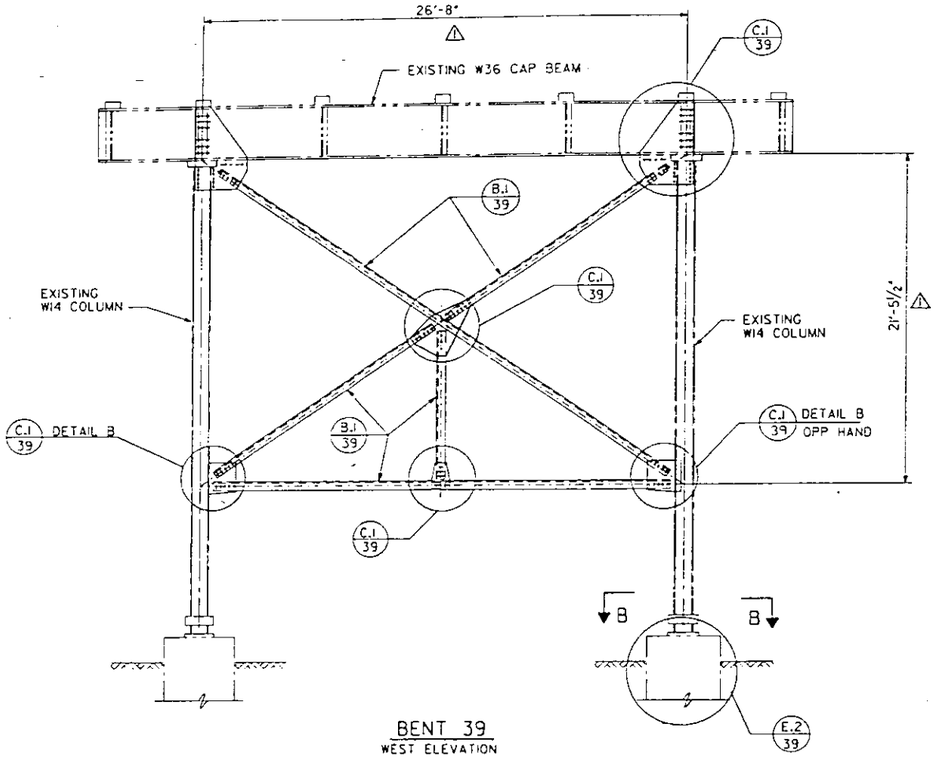
△ REV. 12-4-87

SECTION IBR-1

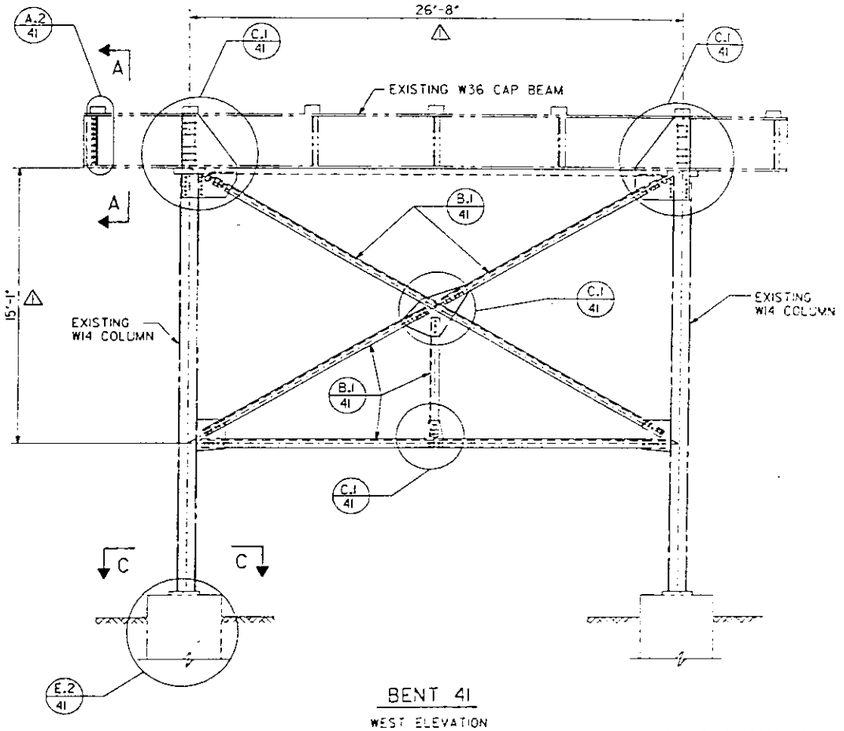
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS
FAP 799	*	ST. CLAIR	252
	ILLINOIS	PROJECT	

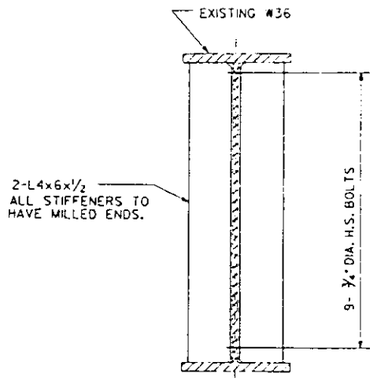
*IBR-1 APPROACH BRIDGE



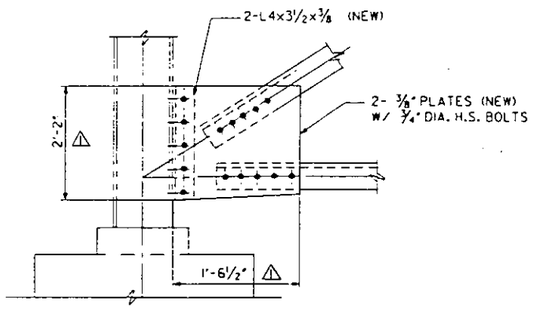
BENT 39
WEST ELEVATION



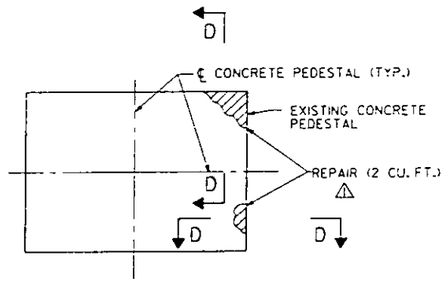
BENT 41
WEST ELEVATION



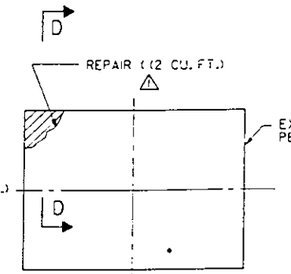
SECTION A-A



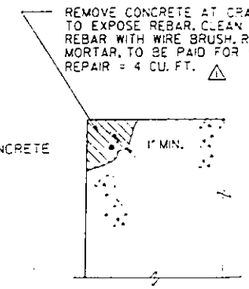
DETAIL B



SECTION B-B
NOTE: COLUMN BASE PLATE OMITTED FOR CLARITY.



SECTION C-C



SECTION D-D

BENT REPAIR ITEM NOTE - SEE SHEET 70
BENT NUMBER

REHABILITATION FOR
APPROACH BRIDGE OVER
I-55/70 W.B., MISSOURI AVE. AND TR

BENTS 39 AND 41

STRUCTURE NO. 082-6003
STA. 65+00 (FAP 799) ST CLAIR CO.

J.BARTELS	DESIGNED
V.C.LISCHER	CHECKED
M.J.JALINSKY	DRAWN
J.BARTELS	CHECKED

J358 75968 | FILE: ZF3(ISU)BENT39.DGN | PRF: BENT39 | LEVELS PLOTTED 35 56 58 63 | DATE: OCT. 23, 1987

4-DEC-1987 15:5

DESIGNED BY: FLEMING CORPORATION ST. LOUIS, MISSOURI
PREPARED BY: SVERDRUP CORPORATION ST. LOUIS, MISSOURI

⚠ REV. 12-4-87

SECTION IBR-1

SHEET NO. 72 OF

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS
F.A.P. 799	*	ST. CLAIR	252
	ILLINOIS	PROJECT	

* IBR-1 APPROACH BRIDGE

℄ BENT 40 (NEW)
STA. 68+36.83

NEW CONCRETE PARAPET AND DECK

℄ BRIDGE

NEW BRACE (SEE DETAIL BELOW) (EA. SIDE)

PARTIAL PLAN

1'-6"
5" 4" 4" 5"
1½" PLATE
W14 COL. (BELOW)
⅜"
℄ 3-⅞" DIA. H.S. BOLTS (TYP.)

CAP PLATE DETAIL

℄ EXISTING WF36 STRINGER S2 OR S6 TO REMAIN.
REMOVE EXISTING CONNECTION AND REUSE EXISTING HOLES IN BOTOM FLANGE
NEW ⅜" PLATE BELOW BOTTOM FLANGE. USE FILLERS AS NEEDED. (TYP.)
TOP FLANGE OF STRINGER (TYP.)
ATTACH NEW 2ℒs3½x3½x⅝ 4-¾" DIA. H.S. BOLTS (EACH END)
℄ BENT 40
NEW ⅜" PLATE BELOW BOTTOM FLANGE. USE FILLERS AS NEEDED. (TYP.)
℄ NEW W36 STRINGER (S10R S7)
TOP FLANGE OF BOX GIRDER
12"
12"
ATTACH NEW 2ℒs3½x3½x⅝ TO ⅜"PLATE W/6-¾" DIA. H.S. BOLTS (EACH END)
NEW ⅜" BENT PLATE.
℄ W14 COLUMN BELOW
1½"
10'-6"

LATERAL BRACE DETAIL

℄ INTERMEDIATE STIFFENER (TYP.)
61'-0"
9"
2'-2" 4'-2" 4'-2" 3 SPA. AT 6'-8" = 20'-0" 3 SPA. AT 6'-8" = 20'-0" 4'-2" 4'-2" 2'-2" 9"
℄ W14 COL.
℄ STRINGER BEARING STIFFENER (TYP.)
℄ BENT AND BRIDGE
3'-0"
℄ FLANGE SPLICE (TYP.)
STRINGER BEARING (TYP.)
2-½" WEB PLATES M223 GR 50 (NTR)
24"x1½" FLANGE PLATES M223 GR 50
℄ BEARING STIFFENERS
℄ W14 COL.
TOP OF GIRDER EL. 447.199'
2½"
TOP OF CAP PLATE EL.442.032'
4'-11"
BEARING STIFFENERS (TYP.)
9"
WORK POINT
6'-9"
CP
BOTT. FLG. PLS. NTR (TYP.)
24"x 2½" FLANGE PLATES M223 GR 50
24"x1½" FLANGE PLATES M223 GR 50
4"x ½" BAR
WORK POINT
29'-4½"
℄ WORK POINT
W10x39 W/24-⅞" DIA. H.S. BOLTS (EACH END).
W10x39 W/24- 7/8" DIA. H.S. BOLTS, EACH END AND 3" DIA. DRAINAGE HOLES AT 2'-0" O.C.
2-½" GUSSET PLATES (1 EA. FACE) W/4"x ½" BAR CENTERED ABOUT TOP EDGE OF GUSSET PLATE.
3/16
3/16
W10x39 W/24-⅞" DIA. H.S. BOLTS (EACH END).
W14x233 COL. W/ 1½" CAP PLATE AND 3½" BASE PLATE (SEE DETAIL, THIS SHEET)
TOP OF PEDESTAL EL.417.235'
BOTTOM OF BASE PLATE EL.417.840'
EXISTING GRADE ROADWAY (TYP.)
EXISTING PEDESTAL, ANCHOR BOLTS AND ROCKER BASE PLATE ASSEMBLY TO REMAIN.

SECTION A-A ⚠
(BENT 40 ELEVATION)

∠3½x3½
0"
∠3½x3½

SECTION F-F

2'-0"
3½" 1'-5" 3½"
℄ BEARING AND COLUMN
SEE LATERAL BRACE DETAIL
½" WEB PLATE
TYP.
BEARING STIFFENER PLATE 1'-4"x⅞"x4'-11" M223 GR 50 (TYP.) ⚠
4'-11"
5'-2"
℄-⅞" DIA. H.S. BOLTS (SEE CAP PLATE DETAIL)
1½" 10½" 10½" 1½"
NOTE: COLUMN AND CAP PLATE OMITTED FOR CLARITY

SECTION B-B

1PL. 1'-0"x1¾"x1'-7"
1" TYP.
1'-6" MIN.
½" PL. TYP.
W10
℄ W14 COLUMN
3" 3" 3" 3"
3" DIA. DRAINAGE HOLES AT 2'-0" O.C. (HORIZ. MEMBER ONLY)
⅜
⅜
℄ 6-⅞" DIA. H.S. BOLTS AT 3" O.C.

SECTION E-E

2'-0"
3½" 1'-5" 3½"
TYP.
½" WEB PLATE
TYP.
4'-11"
5'-2"
2½"
1½"
6½" 6½"
INTERMEDIATE STIFFENER PLATES 6½"x 7/16"x4'-8½"

SECTION C-C

1'-5"
⅜
3½" PLATE
5¼"
5¼"
¾"
1'-5"
⅜
W14 COL.

BASE PLATE DETAIL

2'-0"
3½" 1'-5" 3½"
STRINGER BEARING
5/16
5/16
5/16
½" WEB PLATE
TYP.
7/16
℄ BEARING
STRINGER BEARING STIFFENER PLATE 1'-4"x⅞"x4'-11" M223 GR 50 (TYP.) ⚠
1½" AT STRINGER SI AND S7
2½" AT STRINGER S2 THRU S6
4'-11"
5'-2" AT STRINGER SI, S7
5'-4" AT STRINGER S2 THRU S6
1½" AT STRINGER SI AND S7
2½" AT STRINGER S2 THRU S6

SECTION D-D

W14 COL.
5"
IPL. 1½"x½"x6½" (TYP. 2 PLACES)
2½"
2½"
¾"
1½"
MILL SLOT 4 1/16"x¾"x1'-5" LONG

NOTE: SEE SHEET 41 FOR STRINGER BEARING DETAILS.

NOTES ⚠

ALL STEEL SHALL BE AASHTO M-183 EXCEPT AS NOTED.
NTR INDICATES MATERIAL SUBJECT TO NOTCH TOUGHNESS REQUIREMENTS.

REHABILITATION FOR
APPROACH BRIDGE OVER
I-55/70 W.B., MISSOURI AVE. AND TRRA

BENT 40

STRUCTURE NO. 082-6003
STA. 65+00 (F.A.P. 799) ST. CLAIR CO.

R.L. MACKEY	DESIGNED
V.C. LISCHER	CHECKED
M.J. JALINSKY	DRAWN
R.L. MACKEY	CHECKED

DESIGNED BY: FLEMING CORPORATION ST. LOUIS, MISSOURI
PREPARED BY: SVERDRUP CORPORATION ST. LOUIS, MISSOURI

⚠ REV. 12-4-87

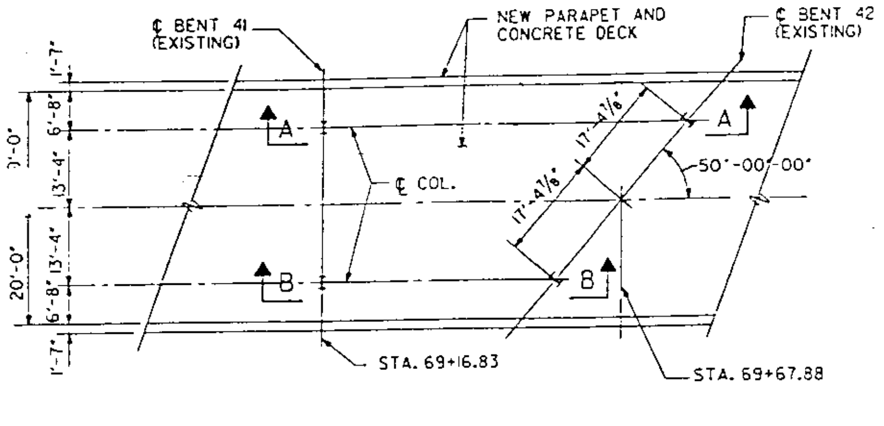
SECTION IBR-1

SHEET NO. 73 OF 75

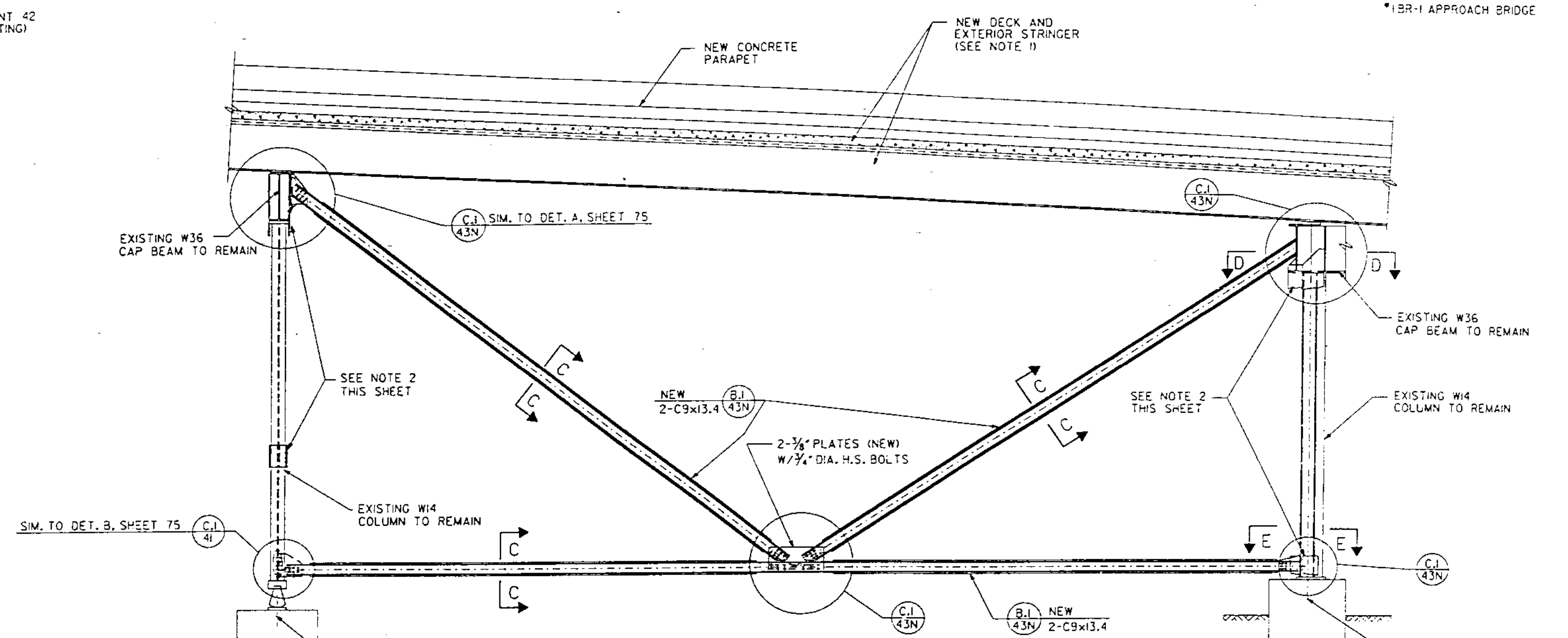
FILE: ZF3(15)JBENT40.DGN
PRF: BENT40
LEVELS PLOTTED
35,56,63
DATE: OCT. 23, 1987
4-DEC-19
0358
175963

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAP 799	*	ST. CLAIR	252	222

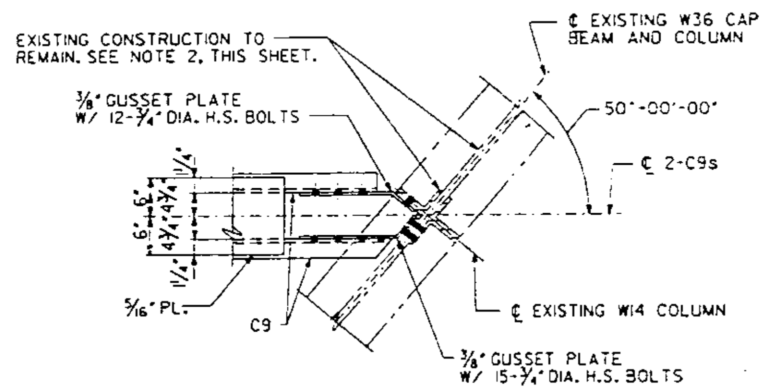
*IBR-I APPROACH BRIDGE



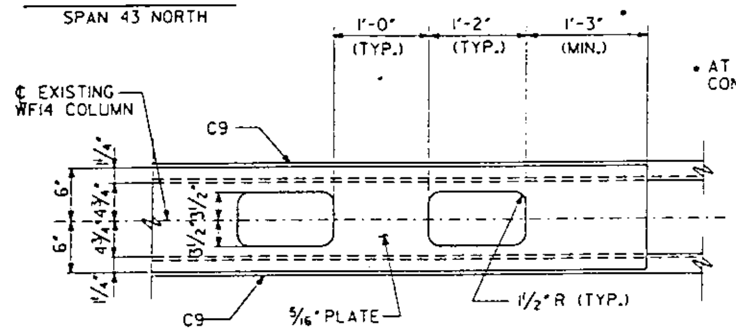
PARTIAL PLAN VIEW
(SEE SHEET 75 FOR ELEVATION B-B)



ELEVATION A-A
SPAN 43 NORTH

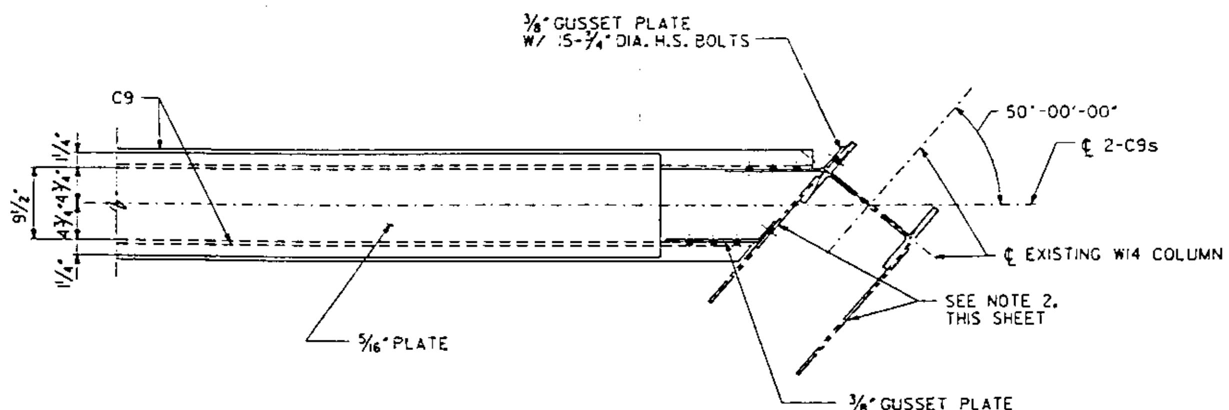


SECTION D-D

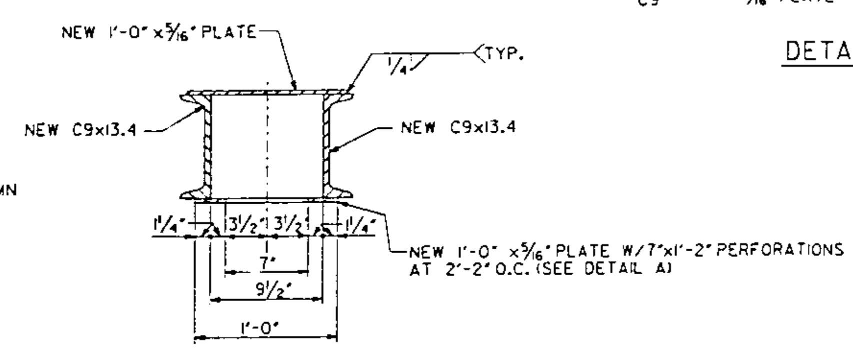


DETAIL A

NOTES:
1. STRINGER CONNECTIONS NOT SHOWN FOR CLARITY.
2. COORDINATE THE WORK AS SHOWN ON THIS SHEET WITH THE WORK REQUIRED FOR BENTS 41 AND 42. SEE SHEETS 72 AND 71 RESPECTIVELY.



SECTION E-E



SECTION C-C

BENT REPAIR ITEM NOTE - SEE SHEET 70
BENT NUMBER

REHABILITATION FOR
APPROACH BRIDGE OVER
I-55/70 W.B., MISSOURI AVE. AND TRRA

LONGITUDINAL BRACING, SPAN 43 NORTH

STRUCTURE NO. 082-6003
STA. 65+00 (FAP 799) ST. CLAIR CO.

R.L.MACKEY	DESIGNED
V.C.LISCHER	CHECKED
M.J.JALINSKY	DRAWN
PARTELS	

DESIGNED BY: FLEMING CORPORATION, ST. LOUIS, MISSOURI

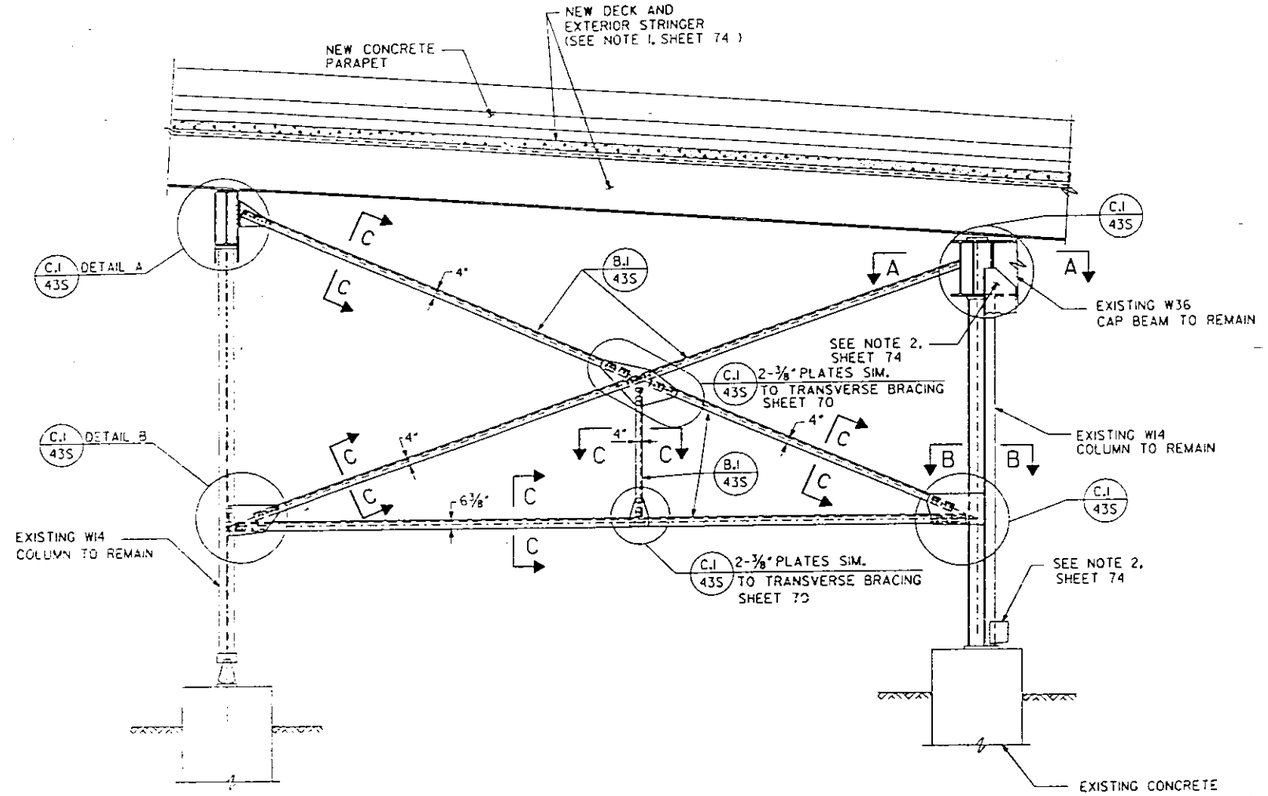
PREPARED BY: SVERDRUP CORPORATION, ST. LOUIS, MISSOURI

SECTION IBR-I

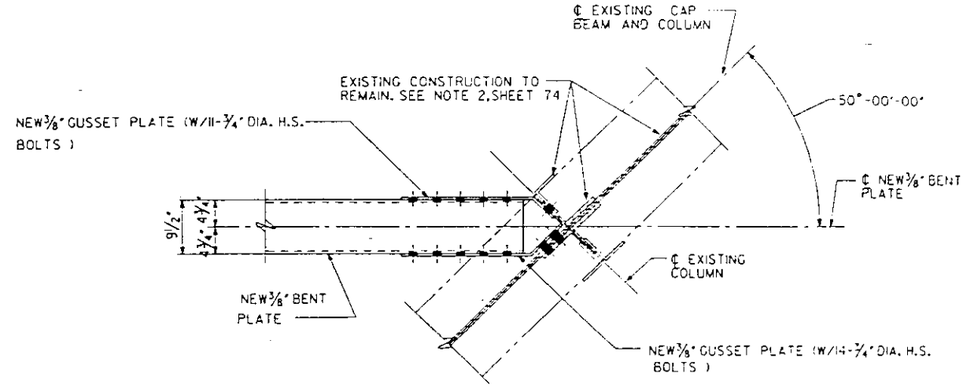
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAP 799	*	ST. CLAIR	252	223
	ILLINOIS	PROJECT		

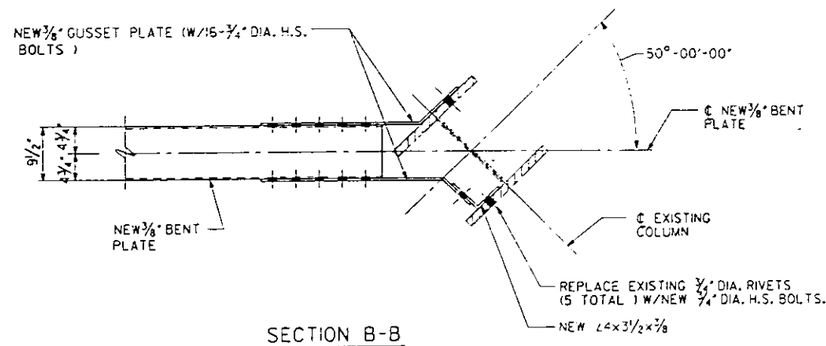
*IBR-I APPROACH BRIDGE



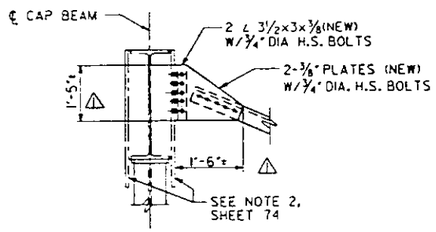
ELEVATION B-B
SPAN 43 SOUTH



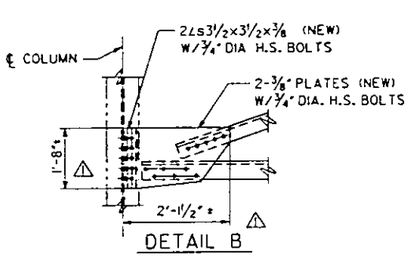
SECTION A-A



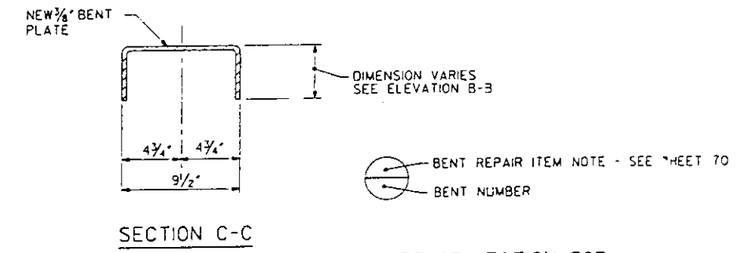
SECTION B-B



DETAIL A



DETAIL B



SECTION C-C

REHABILITATION FOR
APPROACH BRIDGE OVER I-55/70 W.B., MISSOURI AVE. AND TRRA

LONGITUDINAL BRACING, SPAN 43 SOUTH

STRUCTURE NO. 082-6003
STA. 65+00 (FAP 799) ST. CLAIR CO.

R.L.MACKEY	SIGNED
J.C.LISHER	CHECKED
M.J.JALINSKY	DRAWN
	TELS

DESIGNED BY: FLEMING CORPORATION ST. LOUIS, MISSOURI
PREPARED BY: SVERDRUP CORPORATION ST. LOUIS, MISSOURI

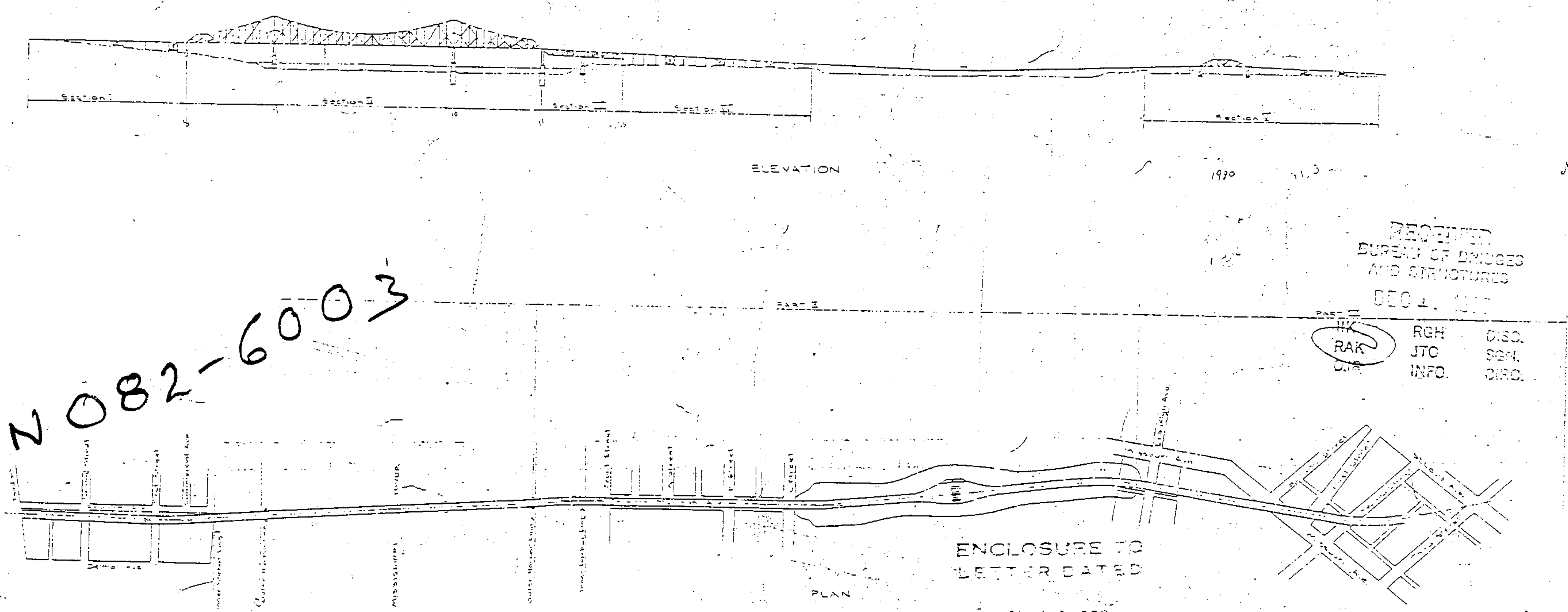
⚠ REV. 12-4-87

SECTION IBR-I

SHEET NO. 75 OF 75

LEVELS PLOTTED | DATE: OCT. 23, 1987
"SLIDSPAN43A.DGN"

MISSISSIPPI RIVER BRIDGE
CITY OF EAST ST. LOUIS



5N 082-6003

RECEIVED BUREAU OF BRIDGES AND STRUCTURES

RAK RGH JTC INFO.

ENCLOSURE TO LETTER DATED NOV 1 6 1986

SVERDRUP & PARCEL AND ASSOCIATES, INC.

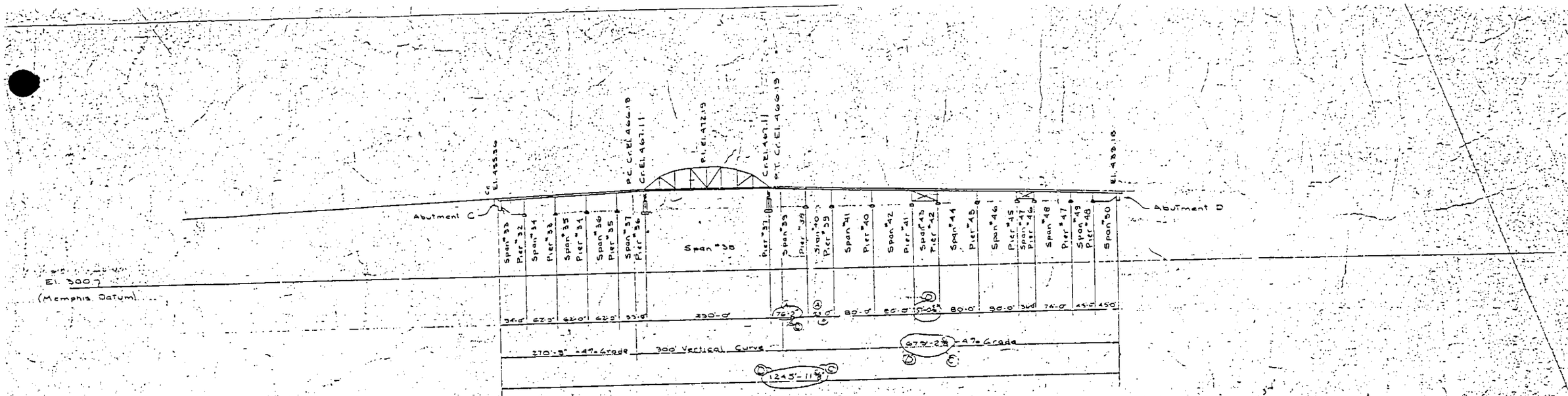
SHEET NO.	DESCRIPTION
165	TOLL OFFICE BUILDING DETAILS
166	TOLL PLAZA AREA DETAILS
167	DRAINAGE DETAILS - ABUT. "B" TO ABUT. "C"
168	DRAINAGE DETAILS - ABUT. "D" TO ABUT. "C"
180	TOLL OFFICE BUILDING - HEATING DETAILS
201	TRAFFIC LIGHTS - THIRD ST. & ST. LOUIS AVE INTERSEC
250	2ND STREET - ST. LOUIS AVE. INTERCHANGE - PAVING
251	TRAFFIC MARKS
300	TOLL PLAZA CANOPY
301	TOLL GATES - TOLL PLAZA AREA

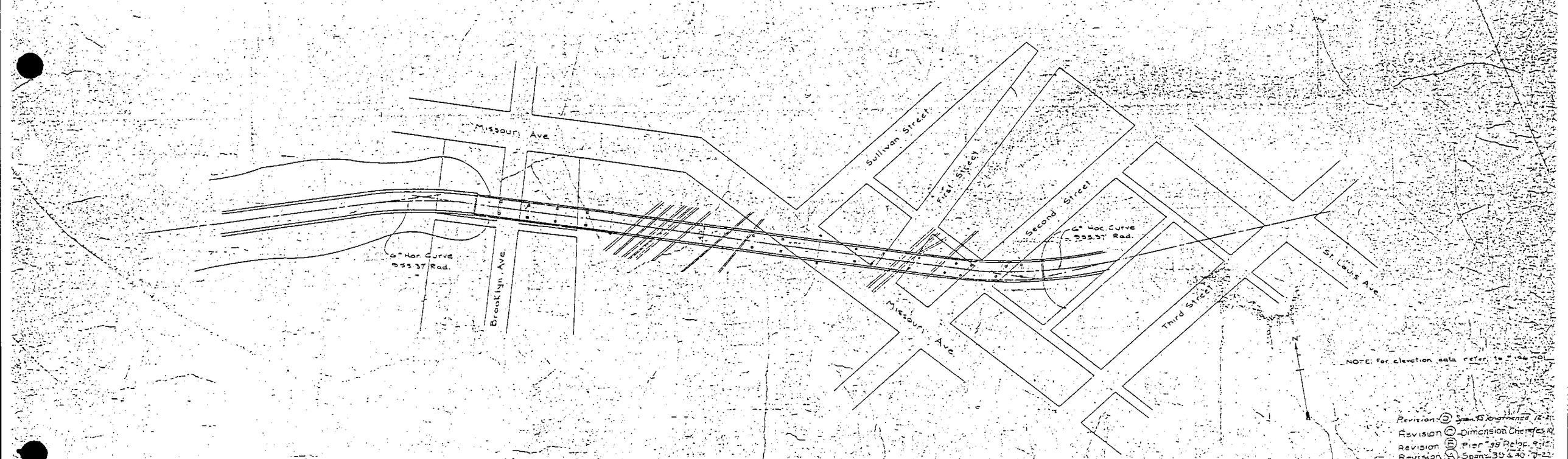
SHEET NO.	DESCRIPTION
500	TRAFFIC APPROACH - ST. LOUIS, MO.
501	ALLEY AT ABUT. "A" - ST. LOUIS APPROACH
502	BUILDINGS TO BE WRECKED - ST. LOUIS PLAZA
NL1	LAYOUT OF NAVIGATION LIGHTS

INDEX OF DRAWINGS

SHEET NO.	DESCRIPTION	SHEET NO.	DESCRIPTION	SHEET NO.	DESCRIPTION	SHEET NO.	DESCRIPTION
101	GENERAL PLAN - PART I	117	TYPICAL DETAILS - SECTION III	133	213' SPANS TRUSS DETAILS U_0 - U_2 (SPAN NO. 12)	149	WING WALL SECTIONS 3N, 4N, 5N, 6N, 7N & 8N
102	GENERAL PLAN - PART II	118	TYPICAL FLOOR DETAILS - SECTION IV	134	213' SPANS TRUSS DETAILS U_3 - U_4	150	WING WALL SECTIONS 3S, 4S, 5S & 6S
103	GENERAL PLAN - PART III	119	SHOE DETAILS - 213' AND 249' SPANS	135	213' SPANS TRUSS DETAILS U_0 - U_2' (SPAN NO. 13)	151	FLOOR DRAINS, LIGHTING STANDARDS & RAILINGS
104	LOCATION PLAN - SECTION I	120	TYPICAL DETAILS SECTION IV	136	TYPICAL DETAILS - SECTION V AND BENT NO. 38	152	ROADWAY DETAILS - ABUTMENT "A" TO PIER NO. 6
105	LOCATION PLAN - SECTION II	121	DETAILS AT PIER NO. 11	137	TYPICAL DETAILS BENTS NO. 39 AND NO. 41	153	ROADWAY DETAILS - PIER NO. 6 TO PIER NO. 13
106	LOCATION PLAN - SECTION III	122	PIERS NO. 8, NO. 12 AND NO. 13	138	BENT NO. 42	154	ROADWAY DETAILS - PIER 13 TO ABUT. "B", ABUT. "C" - PIER 41
107	LOCATION PLAN - SECTION IV	123	PIERS NO. 36 AND NO. 37	139	BENT NO. 43	155	ROADWAY DETAILS - PIER NO. 41 TO ABUTMENT "D"
108	LOCATION PLAN - SECTION V	124	ABUTMENTS B, C AND D	140	BENT NO. 45	156	GENERAL DETAILS AND BAR LIST
109	STRESS SHEET - SECTION I	125	PIER NO. 9	141	BENT NO. 46	157	ROADWAY DETAILS - SPAN NO. 10
110	STRESS SHEET - SECTION III	125	PIER NO. 10	142	BENT NO. 47	158	PAVEMENT DETAILS ABUT. "B" TO ABUT. "C"
111	STRESS SHEET - SECTION IV	127	PIER NO. 11	143	GENERAL LAYOUT AND BENT NO. 48	159	PAVEMENT DETAILS
112	STRESS SHEET - SECTION V	128	BENT NO. 40	144	CANTILEVER SPAN STRESS SHEET	160	PAVEMENT DETAILS [illegible]
113	STRESS SHEET - 249 FT. SPAN	[illegible]	[illegible]				

MISSISSIPPI RIVER BRIDGE
BETWEEN
THIRD ST., EAST ST. LOUIS, IL.
AND
THIRD ST., ST. LOUIS, MO.
FOR

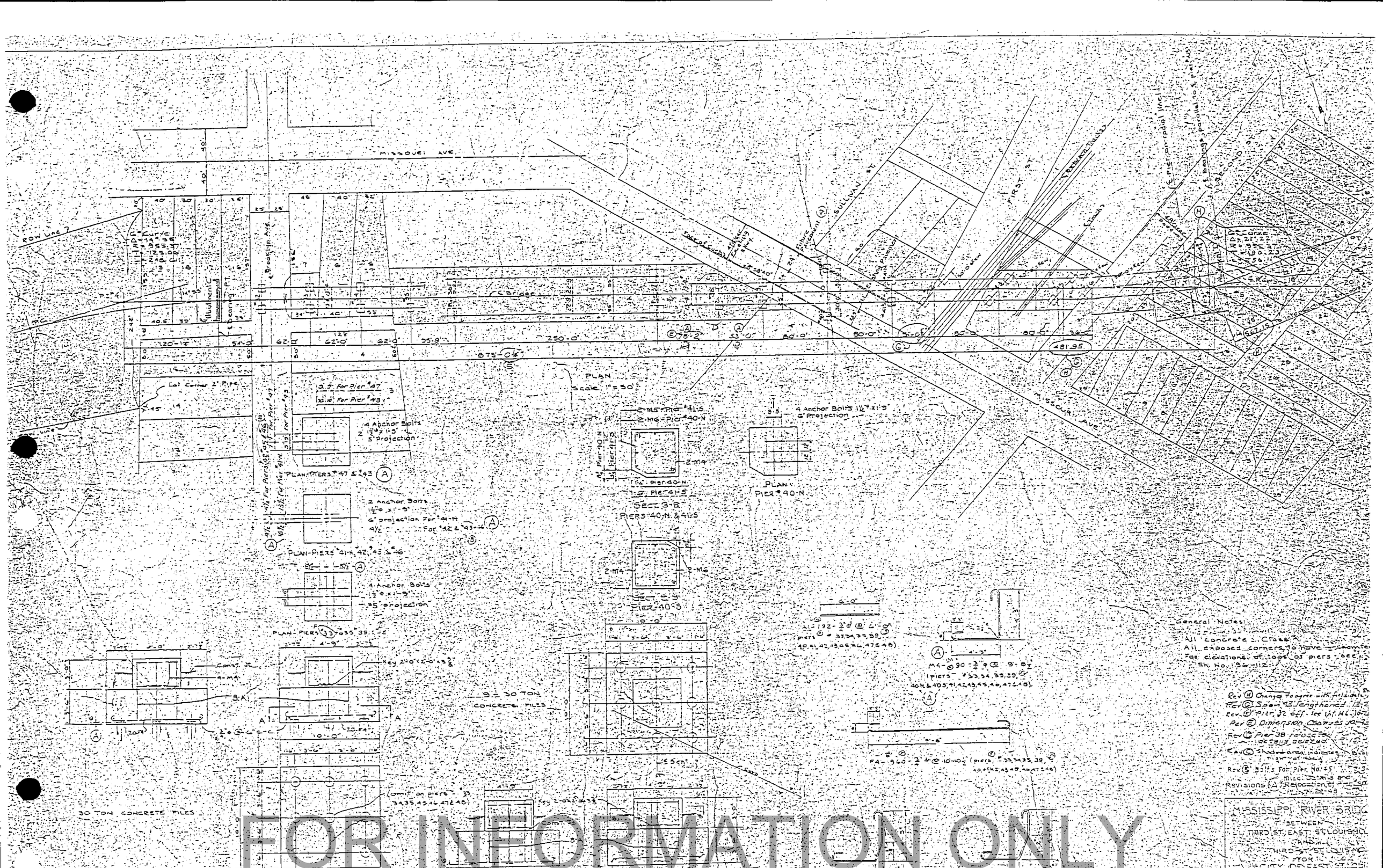




NOTE: For elevation data refer to "Profile"

Revision (D) Span 50 Lengthened 12-21
Revision (C) Dimension Changes 10-21
Revision (B) Pier "38" Relocated 9-21
Revision (A) Spans 39 & 40 7-21

MISSISSIPPI RIVER BRIDGE
BETWEEN
THIRD ST. EAST ST. LOUIS, ILL.
AND
THIRD ST. ST. LOUIS, MO.
FOR
CITY OF EAST ST. LOUIS

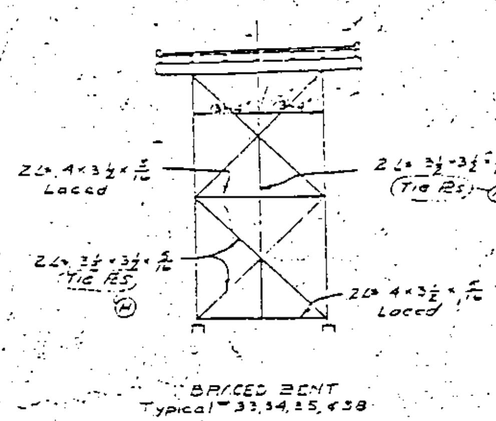


General Notes:

All concrete is Class A
All exposed corners to have chamfe
For elevations of tops of piers see
Sh. No. 96-112

Rev Ⓗ Change to agree with field
Rev Ⓖ Span 43 lengthened 12-2
Rev Ⓕ Pier 32 off - See Sh. H6 - 10-2
Rev Ⓔ Dimension Changes 10-
Rev Ⓓ Pier 38 relocated
details deleted
Rev Ⓒ Shaded area indicates
right of way
Rev Ⓑ Bolts for Pier No. 45
Misc. details and
Revisions Ⓐ Relocation of
7-22-48

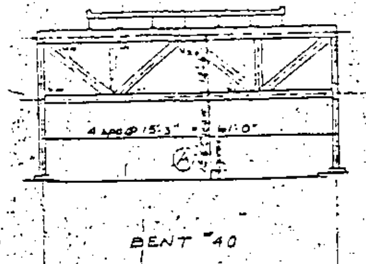
MISSISSIPPI RIVER BRIDG
BETWEEN
THIRD ST., EAST ST. LOUIS, ILL
AND
THIRD ST., ST. LOUIS, MO.
FOR
CITY OF EAST ST. LOUI

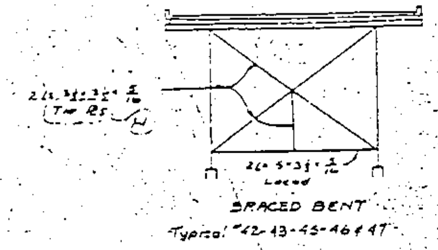


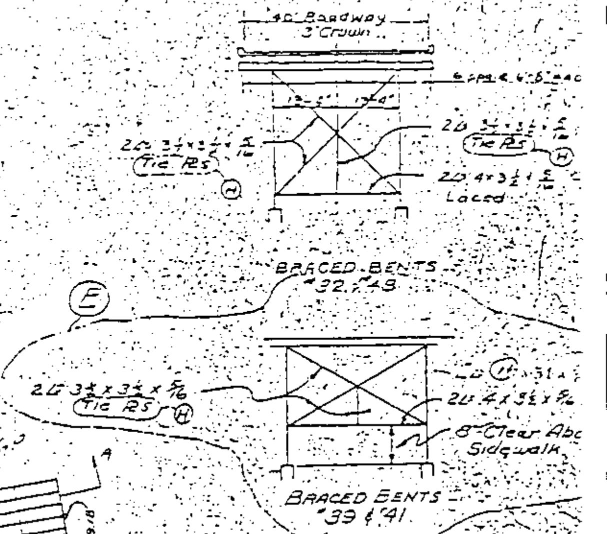
STRESSES & SECTIONS IN BENT #40

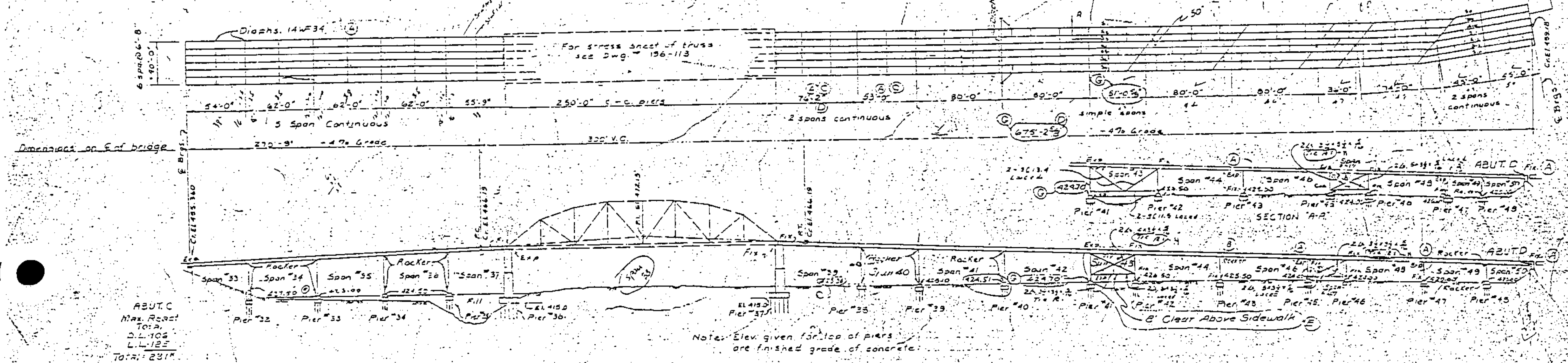
Member	D.L.	L.L.	Imp	Total	Allow Unit Str	Area Reqd	Area Used Gross	Area Used Net	Section
U_0U_1	-291	-120	-32	-443			67.06*		2-27WF114
L_1L_1'	-402	+171	+46	+619	18.0	34.5N	39.98	35.73	14WF136
U_0L_1	-376	-183	+49	+608	18.0	33.9N	"	"	"
L_1U_2	-143	-145	+38	-326	14.0	23.36	25.56		14WF87
U_1L_1	-148	-31	-25	-204	14.07	13.84	20.00		14WF68

*Excess section for bending









STRESSES & SECTIONS IN FLOORBEAMS

MEMBER	SHEAR IN KIPS D.L.	L.L.	IMP	TOTAL	MOMENT IN KIP-FT. D.L.	L.L.	IMP	TOTAL	SECTION
Bm #32,33,34,35	76.1	64.7	19.5	160.3	510	521	156	1187	36WF230
Beam #35	96.0	71.3	21.4	162.7	474	582	175	1231	36WF230
Beam #39	84.0	64.3	19.3	167.6	426	517	155	1098	36WF230
Beam #41	59.7	66.3	19.0	174.0	429	495	149	1075	36WF230
Beam #42	89.7	66.3	19.0	174.0	559	650	195	1404	36WF260
Beam #43	175.3	70.8	21.2	270.3	747	754	226	1727	*See note below
Beam #45	75.4	55.0	17.4	150.8	505	600	180	1288	36WF245
Beam #46	69.5	56.1	16.9	141.5	458	579	173	1210	36WF230
Beam #47	72.0	59.4	17.5	149.2	395	646	194	1235	36WF230
Beam #48	69.1	58.3	17.5	144.9	579	504	152	1235	36WF230

* Built up section, 4∠s, 8×6×¾ - 1 Web Plate 60×½ (A)

STRESSES IN COLUMNS

BENT	COLUMN LOAD - KIPS D.L.	L.L.	IMP.	TOTAL	SECTION
#32-35	178	131	35	344	14WF87
#38	221.1	143.5	43.0	407.6	14WF105
#39	192.5	129.1	38.7	360.3	14WF142*
#40	272.0	123.2	33.3	428.5	14WF237*
#41	207.6	128.0	38.4	374.0	14WF136*
#42-North	207.6	126.0	38.4	374.0	12WF95
#43	246.0	143.6	43.1	432.7	14WF119*
#45	170.4	117.4	35.2	323.0	14WF78
#46	156.0	113.9	34.2	304.1	14WF74
#47	176.0	125.0	37.5	338.5	14WF103*
#48	176.1	121.5	36.5	336.1	14WF78
#42-South	207.6	125.0	38.4	374.0	14WF119*

* Excess for bending

STRESSES & SECTIONS IN STRINGERS

MEMBER	SHEAR IN KIPS D.L.	L.L.	IMP.	TOTAL	MOMENT IN KIP-FT. D.L.	L.L.	IMP.	TOTAL	SECTION
Sp. #33-37, Int. Str.	24.9	31.9	9.9	65.6	256	289	81	626	33WF141
" Ext. Str.	22.1	16.7	4.7	43.5	227	152	43	422	30WF108
Sp. #39 & 40 Int. Str.	35.0	37.1	9.2	81.3	437	398	112	947	36WF194
" Ext. Str.	30.2	19.5	4.9	54.6	377	209	59	645	33WF141
Sp. #41, 42, 44 & 46 Int. Str.	35.2	34.3	8.4	77.9	704	582	142	1429	36WF300
" Ext. Str.	29.1	18.1	4.4	51.6	562	305	75	952	36WF230
Sp. #47 Int. Str.	12.7	25.0	7.5	45.2	114	255	62	331	27WF102
" Ext. Str.	11.0	13.1	4.0	28.1	99	108	33	240	24WF76
Sp. #48 Int. Str.	30.7	33.1	8.3	72.1	569	515	130	1214	36WF230
" Ext. Str.	25.0	17.4	4.4	47.3	451	270	65	919	36WF170
Sp. #43 S_1	22.9	16.7	4.3	43.9	388	235	61	684	36WF150
" S_2	24.9	30.6	8.2	62.7	388	392	105	885	36WF182
" S_3	21.4	29.4	8.1	58.9	302	342	94	738	36WF150
" S_4	18.9	28.2	8.0	55.1	241	304	86	631	33WF141
" S_5	16.6	27.0	7.9	51.5	192	263	77	532	30WF124
" S_6	14.3	25.8	7.7	47.8	142	230	69	441	30WF108
" S_7	10.4	15.0	3.9	27.9	85	151	30	220	27WF94
Sp. #49-50 S_8	17.3	15.1	4.5	36.9	123	87	26	236	27WF94
" S_9	15.9	25.9	8.6	50.2	135	173	52	363	27WF94
" S_{10}	19.2	28.9	8.7	56.5	153	184	55	392	27WF102
" S_{11}	20.5	29.3	8.7	58.5	185	211	62	458	30WF116
" S_{12}	20.7	29.7	8.7	59.1	212	236	70	519	30WF124
" S_{13}	26.9	32.6	9.6	69.6	279	274	81	634	30WF172
" S_{14}	26.3	18.1	5.3	49.7	290	167	49	506	30WF124

Note: No holes in floor beams at ℄ bridge

MAXIMUM STRINGER REACTIONS FROM CONTINOUS SPANS (KIPS) (A)

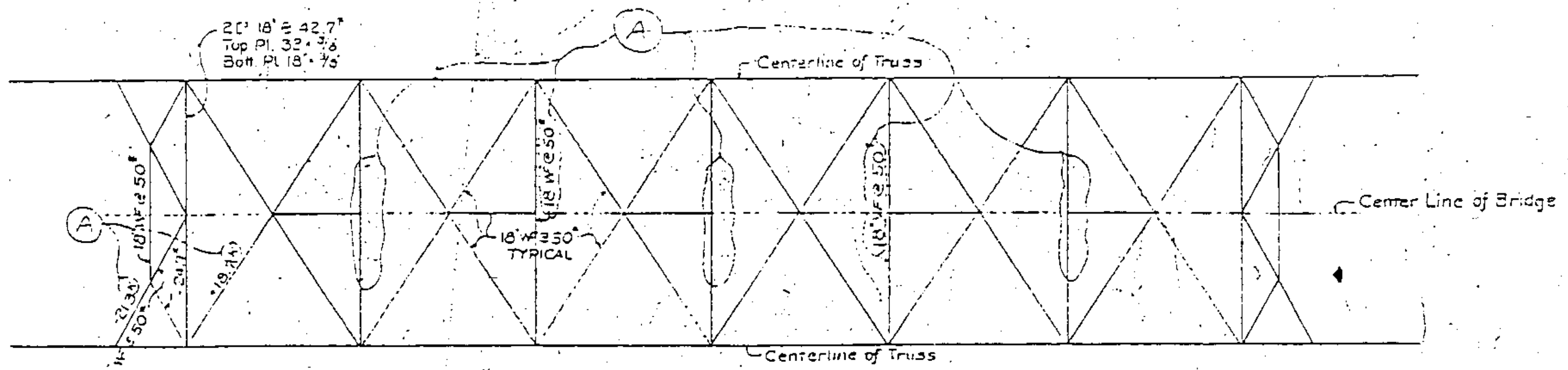
LOCATION	MEMBER	D.L.	L.L.	IMP.
Abut. C & Pier #36	Int. String	15.6	27.8	7.5
	Ext. "	13.5	14.6	4.1
Bents 32 & 35	Int. "	45.4	47.1	12.7
	Ext. "	42.9	24.7	6.7
Bents 33 & 34	Int. "	46.1	47.7	12.9
	Ext. "	40.9	25.1	6.5
Pier 37 & Bent 39 (From Spans 38 & 40)	Int. "	19.5	29.5	7.8
	Ext. "	16.2	15.5	4.1
Bent 36	Int. "	61.7	51.9	13.7
	Ext. "	53.9	27.2	7.1
Bent 47 (From Span #49)	S8	2.0	11.3	3.4
	S9	6.0	22.9	6.9
	S10	8.9	24.4	7.3
	S11	12.3	24.5	7.3
	S12	14.4	26.5	7.9
	S13	17.0	25.2	8.4
	S14	17.7	15.5	4.6
Bent 48	S8	30.1	15.6	5.9
	S9	33.5	35.0	11.4
	S10	36.9	39.3	11.8
	S11	41.0	41.3	12.2
	S12	43.3	43.3	12.6
	S13	50.0	45.6	12.5
	S14	47.6	25.3	7.5
Abut D	S8	11.9	15.3	4.0
	S9	12.9	25.5	7.6
	S10	12.4	25.6	7.7
	S11	12.3	24.5	7.3
	S12	11.3	25.6	7.6
	S13	11.2	25.9	7.5
	S14	9.5	13.1	3.9

General Notes:
Live Load - H20-44
Design Spec. - AASHO 1944

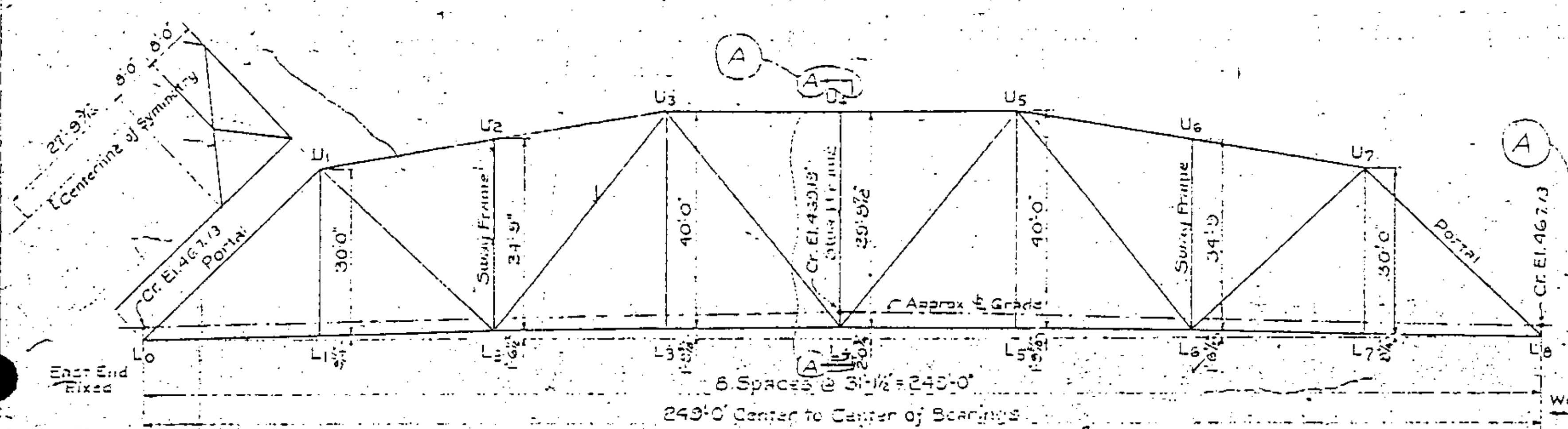
Revision (H) Tie Rs instead of La...
Rev. (G) Span 43 lengthened ... Piers 40 & 41 ...
Rev. (F) Pier 32 raised 10-...
Rev. (E) Changes in Bents 39 & 41 ...
Rev. (D) ℄ Span 44 Changed 10-7...
Rev. (C) Spans 49 & 50 Changed 9-...
Rev. (B) Rocker at Bent 40 - Fixed 37...
Revision (A) Bents 39 & 40 changed, Stringer Reactions ...

MISSISSIPPI RIVER BRI...
BETWEEN
THIRD ST. EAST ST. LOUIS
AND
THIRD ST. ST. LOUIS
FOR
CITY OF EAST ST. LO...
STRESS SHEET

117

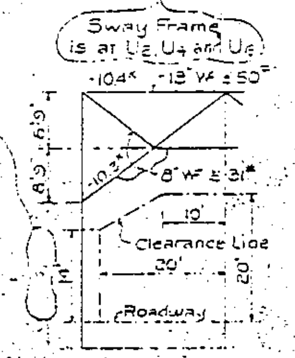


PLAN OF TOP LATERALS

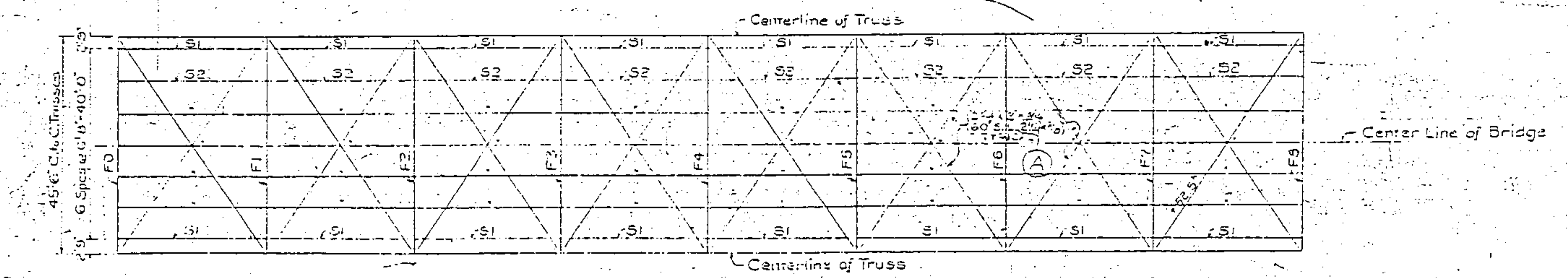


ELEVATION

Trusses to be Cambered for Dead Load



HALF SECTION A-A



PLAN OF FLOOR SYSTEM AND BOTTOM LATERALS

STRESSES IN 249' TRUSS

MEMBER	DEAD LOAD	LIVE LOAD	IMPACT	TOTAL D.L.+L.L.+IMP.	WIND LOAD	MAXIMUM COMBINED STRESS	DESIGN STRESS	ALLOWABLE UNIT STRESS	AREA REQD. CROSS	AREA REQD. NET	AREA USED EFFECT.	AREA USED NET	SECTION
L0-U1	-552	-201	-28	-781		-781	-781	-13.6	56.6		60.2		*2[18 @ 58#, 1 pl. 24×5/8, 1 pl. 24×3/4
U1-U3	-592	-200	-27	-819	-17	-836	-819	-14.4	56.9		58.3		2[18 @ 55#, 2 pls. 24×5/8
U3-U5	-679	-232	-31	-942	-19	-961	-942	-14.4	65.5		69.6		2[18 @ 58#, 2 pls. 24×5/8, 2 pls. 15×5/8
U5-U7	-592	-200	-27	-819	-17	-836	-819	-14.4	56.9		58.3		Same as U1-U3
U7-L8	-552	-201	-28	-781		-781	-781	-13.6	56.6		60.2		Same as L0-U1
L0-L2	+397	+145	+19	+561	+129	+690	+561	+18.0		31.1	43.0	35.0	*2[18 @ 42.7, 1 pl. 24×7/16, 1 pl. 24×1/2
L2-L4	+638	+217	+29	+884	+159	+1043	+884	+18.0		49.1	60.2	49.2	2[18 @ 58, 1 pl. 24×5/8, 1 pl. 24×3/4
L4-L6	+638	+217	+29	+884	+159	+1043	+884	+18.0		49.1	60.2	49.2	Same as L2-L4
L6-L8	+397	+145	+19	+561	+129	+690	+561	+18.0		31.1	43.0	35.0	Same as L0-L2
U1-L2	+255	+112	+17	+387			+387	+18.0		21.5	25.0	21.8	12" WF @ 65#
L2-U3	-89	-81	-12	-182			-182	-12.2	15.0		22.2		2[12 @ 20.7#, 2 pls. 15×3/8
U3-L4	+49 / -70	-47 / -72	-10 / +14	-12 / +160			±160ˣ	-15.0		9.0	19.4	15.7	2[12 @ 20.7#, 2 pls. 16×3/8
L4-U5	+49 / -70	-47 / +72	-10 / +14	-12 / +160			±160ˣ	+18.0		9.0	19.4	15.7	Same as U3-L4
U5-L6	-89	-81	-12	-182			-182	-12.2	15.0		22.2		Same as L2-U3
L6-U7	+255	+112	+17	+387			+387	+18.0		21.5	25.0	21.8	Same as U1-L2
U1-L1	+109	+63	+13	+197			+197	+18.0		10.9	17.0	14.5	12" WF @ 55#
U2-L2	-12					-12	NOMINAL				22.2		4∠ 7×4×7/16, 1 pl. 12×5/16
U3-L3	+109	+69	+19	+197			+197	+18.0		10.9	17.0	14.5	12" WF @ 55#
U4-L4	-14					-14	NOMINAL				22.2		4∠ 7×4×7/16, 1 pl. 12×5/16
U5-L5	+109	+69	+19	+197			+197	+18.0		10.9	17.0	14.5	Same as U3-L3
U6-L6	-12					-12	NOMINAL				22.2		Same as U2-L2
U7-L7	+109	+69	+19	+197			+197	+18.0		10.9	17.0	14.5	Same as U1-L1

+ Indicates Tension
− Indicates Compression
Stresses given in Kips
Areas given in Sq. in.
Unit Stresses given in Kips per Sq. in.

x Includes reversal increment.
* 15×3/8 Side Plates will be used for Wind Moment where required.

STRESSES IN FLOOR BEAMS & STRINGERS

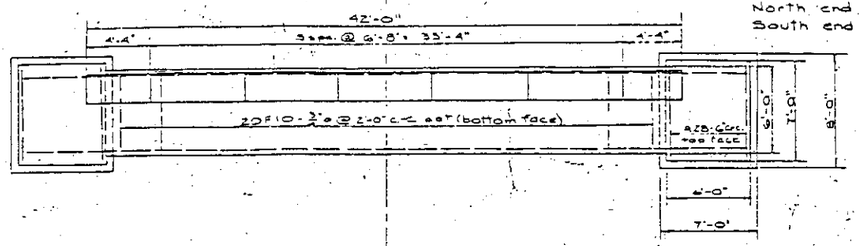
MEMBER	SHEAR IN 1000 LBS. DEAD LOAD	SHEAR LIVE LOAD	SHEAR IMPACT	SHEAR TOTAL	MOMENT IN 1000 FT. LBS. DEAD LOAD	MOMENT LIVE LOAD	MOMENT IMPACT	MOMENT TOTAL	SECTION
STRINGER S1	10.2	12.7	3.5	26.7	[illegible]	[illegible]	37.0	196.5	21" WF @ 68#
STRINGER S2	11.0	37.0	6.1	45.1	66.5	125.0	53.0	314.5	27 WF @ 94#
FL. BEAM F0 & F8	41.1	54.0	15.9	111.0	476	656	204	1376	4∠ 7×4×3/4, 1 pl. 60×3/8
FL. BMS. F1 to F7 incl.	73.9	69.0	20.2	163.1	924	735	216	1873	4∠ 7×4×3/4, 1 pl. 60×3/8, 2 pls. 16×1/2

SPECIFICATIONS: AASHO-1944 EDITION.
LIVE LOAD: H20-44. (75% of 4 Lanes Loaded For Truss & F.B.
MATERIAL: A.S.T.M.-A7-46 (Carbon Steel)
RIVETS: 7/8"ø - Except in Lacing Bars of Bottom Laterals.

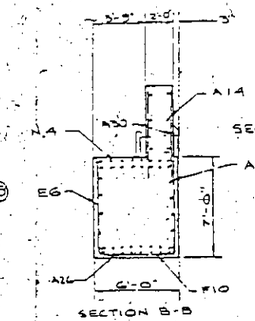
Revisions (A) July 13-48

MISSISSIPPI RIVER BR
BETWEEN
THIRD ST., EAST ST. LOUIS
AND
THIRD ST., ST. LOUIS,
FOR
CITY OF EAST ST. L

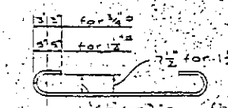
113



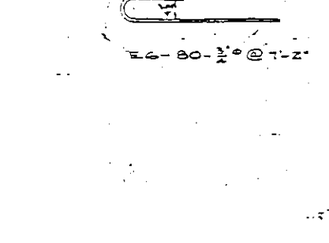
North end Pier #36
South end Pier #37

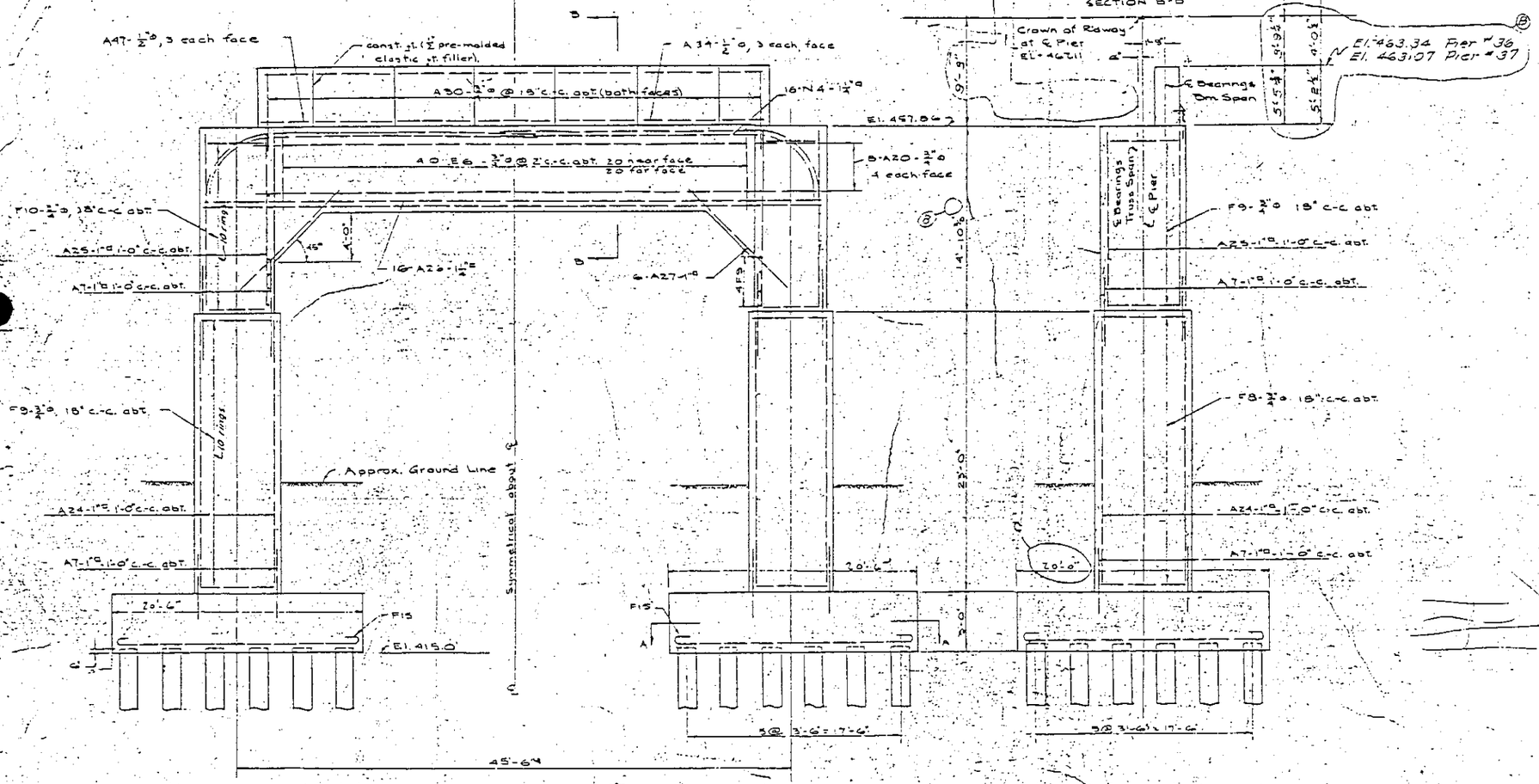


A7 - 224 - 1"ø @ 1'-0" (piers #36 & 37)
A24 - 120 - 1"ø @ 22'-2" (" ")
A25 - 104 - 1"ø @ 14'-7" (" ")
A26 - 32 - 1 1/4"ø @ 51'-0" (" ")
A27 - 24 - 3/4"ø @ 12'-0" (" ")
A28 - 48 - 3/4"ø @ 6'-6" (" ")
A14 - 60 - 1/2"ø @ 6'-2" (" ")
A30 - 116 - 3/4"ø @ 7'-9" (" ")
A20 - 16 - 3/4"ø @ 43'-0" (" ")
A47 - 24 - 1/2"ø @ 3'-10" (" ")



F8 - 125 - 3/4"ø @ 8'-10" (piers #36 & 37)
F9 - 138 - 3/4"ø @ 7'-10" (" ")
F10 - 128 - 3/4"ø @ 6'-10" (" ")
F15 - 268 - 1 1/4"ø @ 22'-2" (" ")





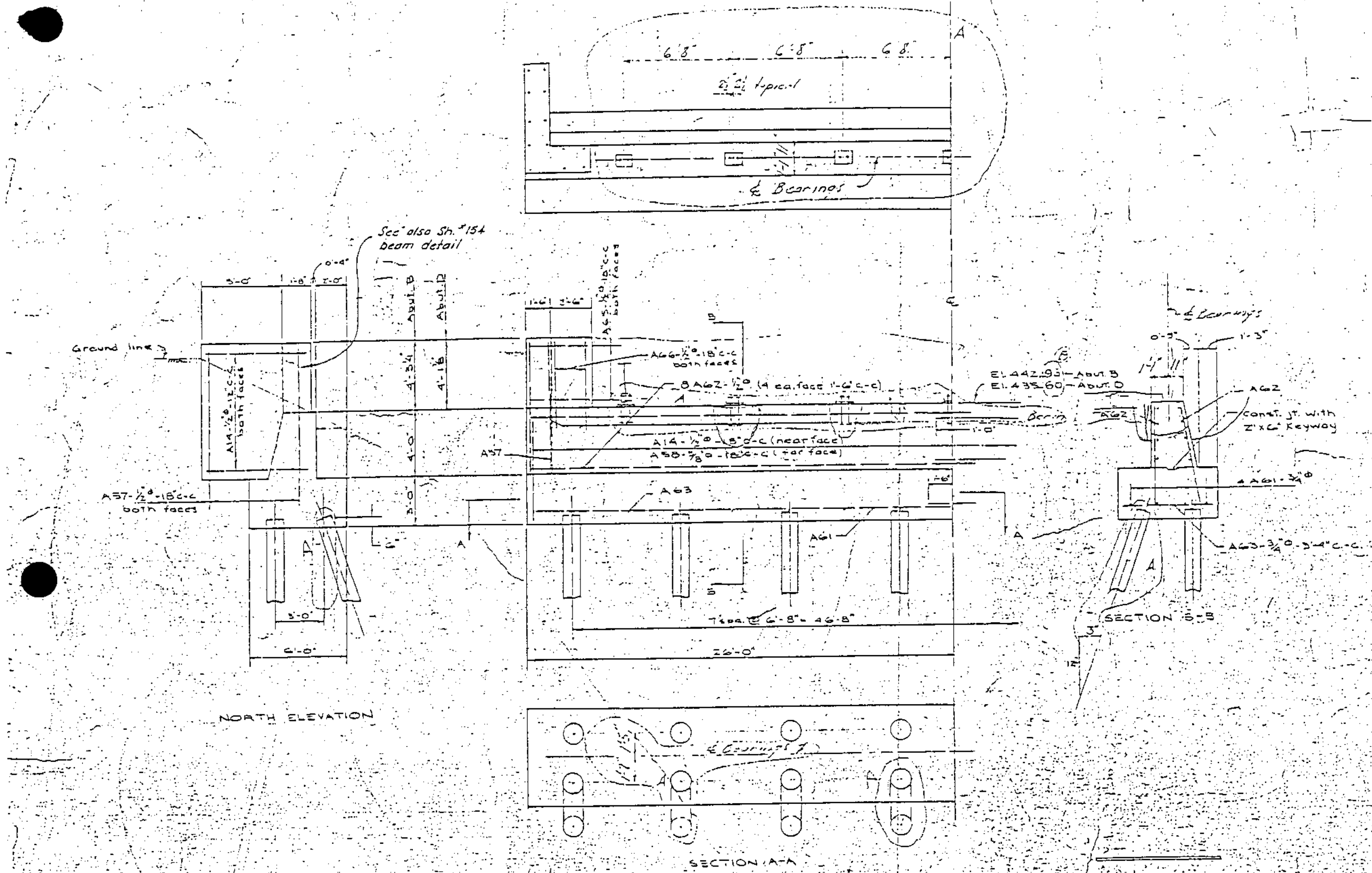
PIERS #36 & 37
Scale 1/4" = 1'-0"

Notes:
All piles steel shell concrete filled
Piles to be driven to 80 ton capacity
All concrete - class "A"

Rev. A Pier normal water elevation added
Rev B Pier Top Elevation added
Revision Date Added

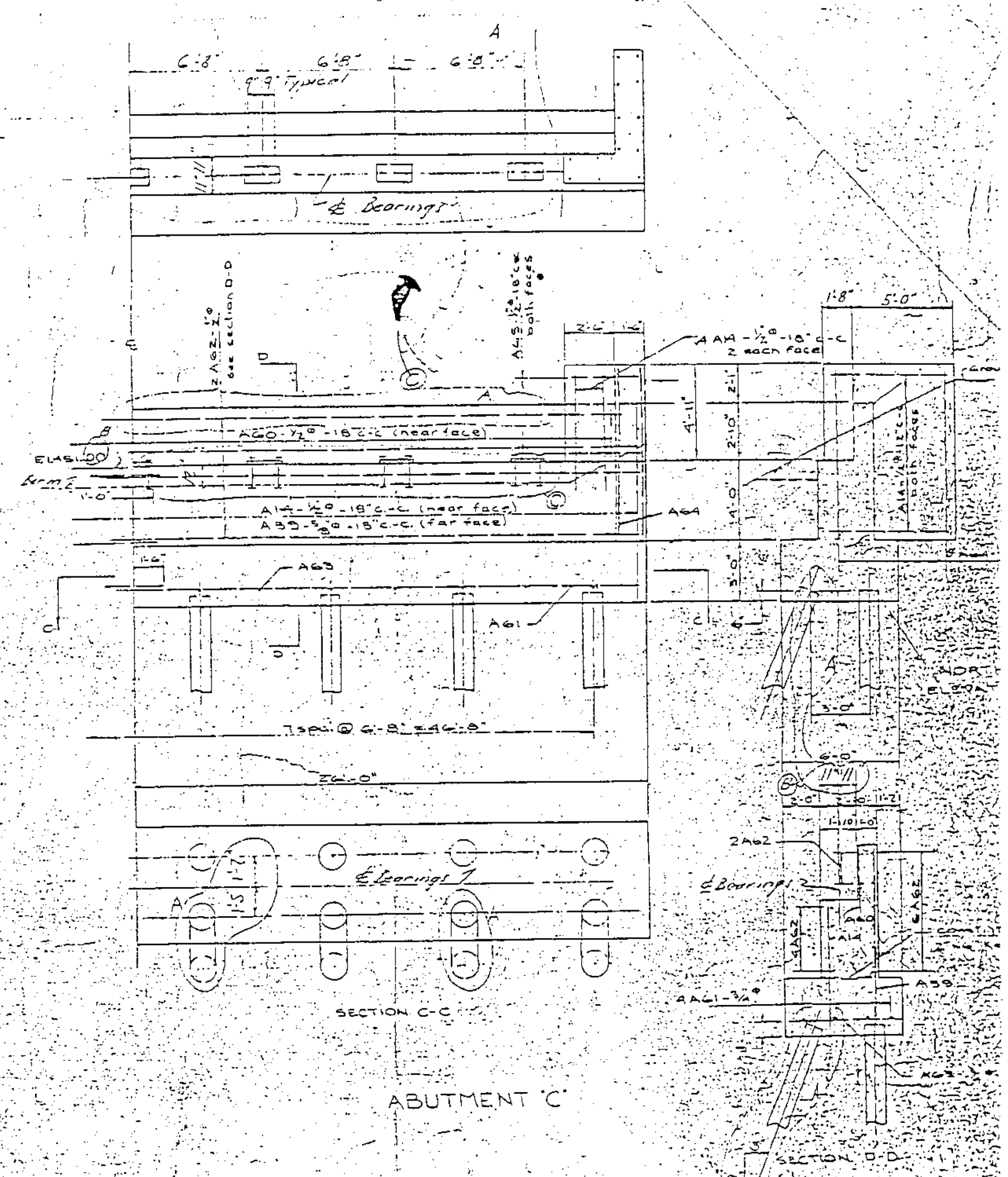
MISSISSIPPI RIVER BRIDGE
BETWEEN
THIRD ST. EAST ST. LOUIS, ILL.
AND
THIRD ST. ST. LOUIS, MO.
FOR
CITY OF EAST ST. LOUIS

53



ABUTMENTS "B" & "D"

A14-213-½"⌀ @ 6'-3"
A57-36-½"⌀ @ 7'-9"
A58-70-⅝"⌀ @ 6'-3"
A59-35-⅝"⌀ @ 9'-0"
A60-33-½"⌀ @ 5'-3"
A61-24-¾"⌀ @ 27'-3"
A62-36-½"⌀ @ 26'-9"
A63-145-¾"⌀ @ 5'-6"
A64-15-½"⌀ @ 8'-8"
A65-45-½"⌀ @ 3'-6"
A66-16-½"⌀ @ 5'-8"

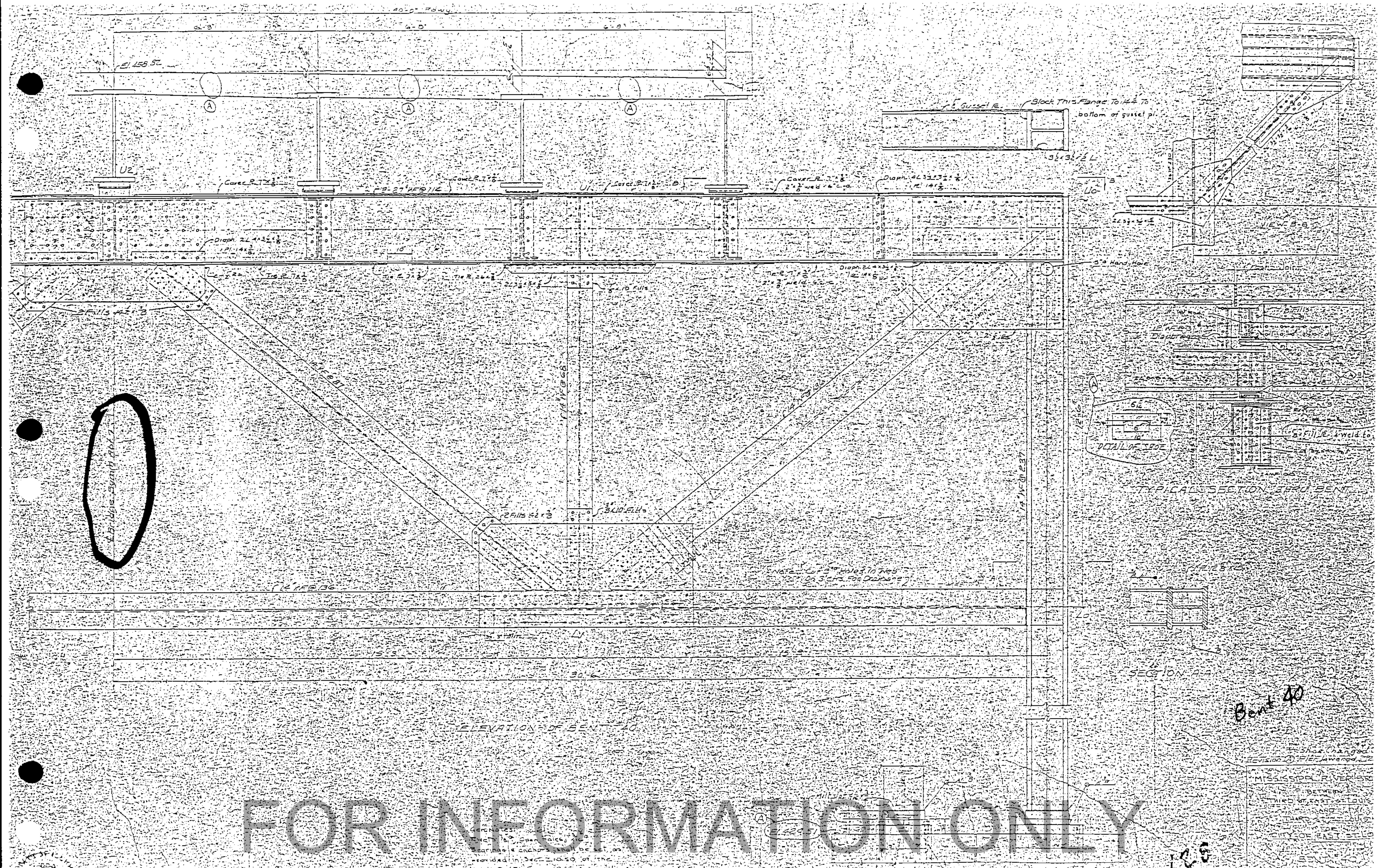


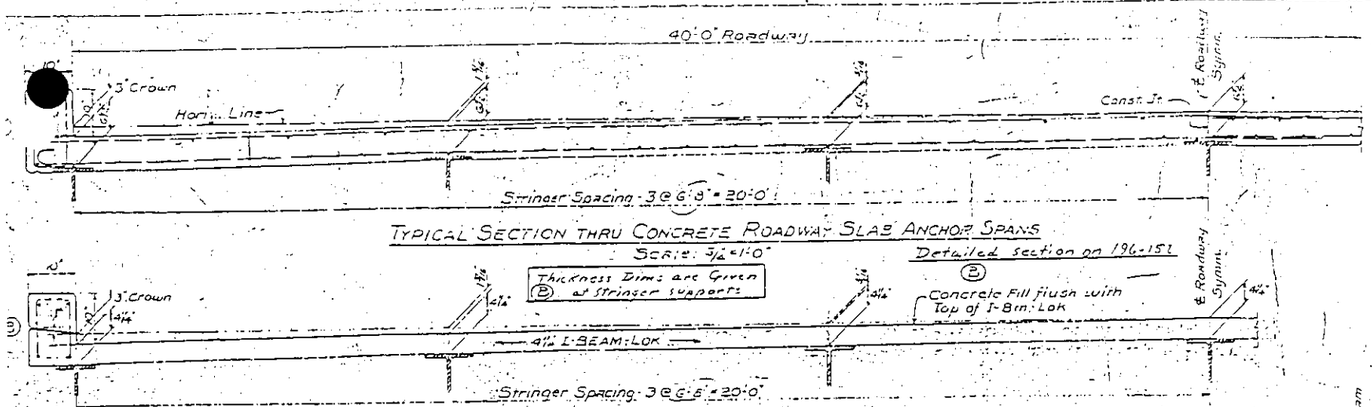
ABUTMENT "C"

Notes:
All piles Steel Shell concrete filled.
Piles to be driven to 30 ton capacity
All Concrete Class "A"

Rev. C Anchor bolts ...
Rev. B Elevation & Dimension ...

MISSISSIPPI RIVER BR...
BETWEEN
THIRD ST. ... ST. LOUIS ...
THIRD ST. ST. LOUIS, M...



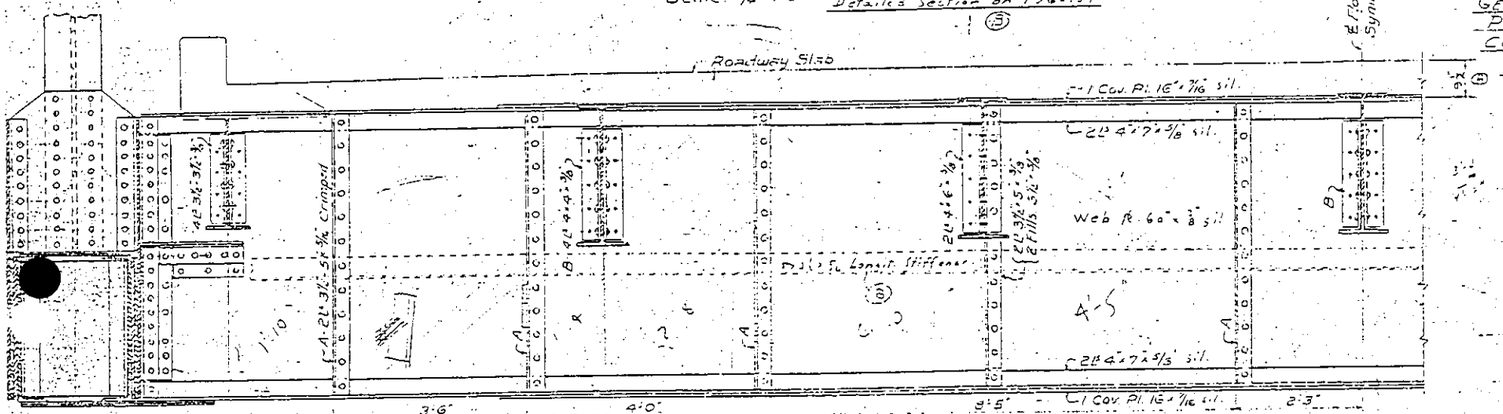


TYPICAL SECTION THRU CONCRETE ROADWAY SLAB ANCHOR SPANS

Scale: 3/4" = 1'-0"

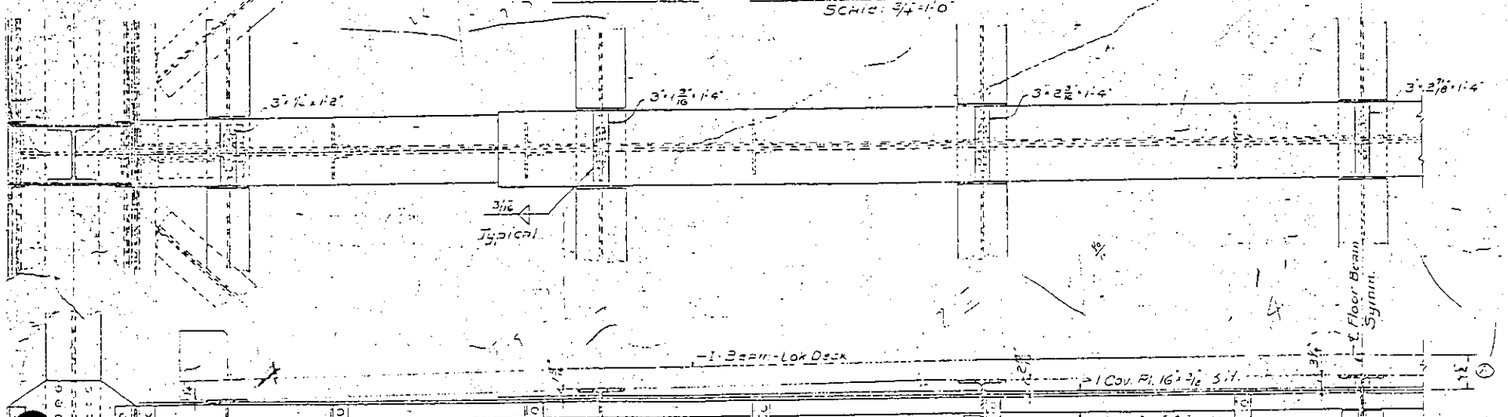
TYPICAL SECTION THRU ROADWAY FLOOR - SUSPENDED SPAN & CANTILEVER ARMS

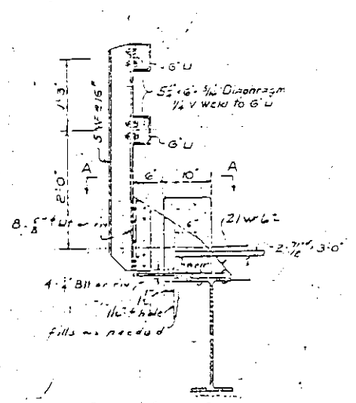
Scale: 3/4" = 1'-0" Detailed section on 196-157



FLOOR BEAM TYPICAL FOR ANCHOR SPAN

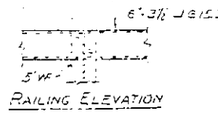
Scale: 3/4" = 1'-0"



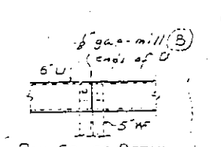


GENERAL DETAIL POST & BRACKET CONC. SLAB (5)

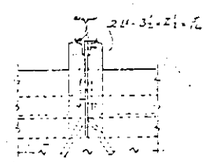
See also shop d'wgs.



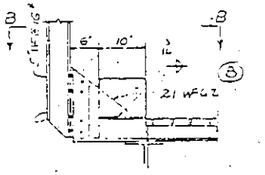
RAILING ELEVATION



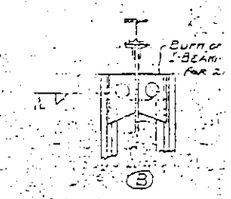
RAIL SPLICE DETAIL



SECTION A-A



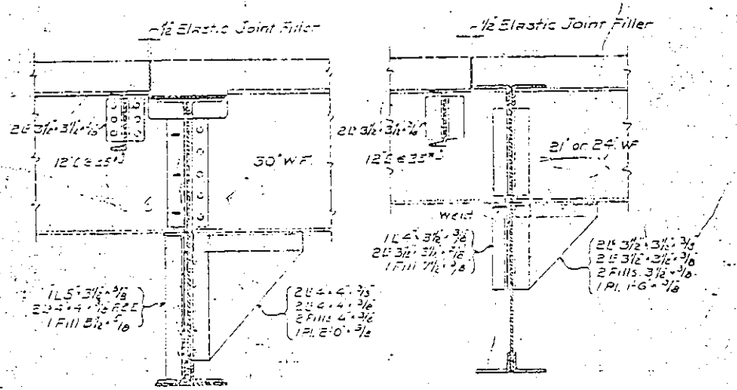
POST & BRACKET DETAIL GRID FLOOR



SECTION B-B

See also shop Dwg (Beth. Steel C..)

ROADWAY RAILING DETAILS



STRINGER MOVEMENT DETAILS

Rev. (6) - As built.

Revision (5) - Anchor & Floorbeam Det.

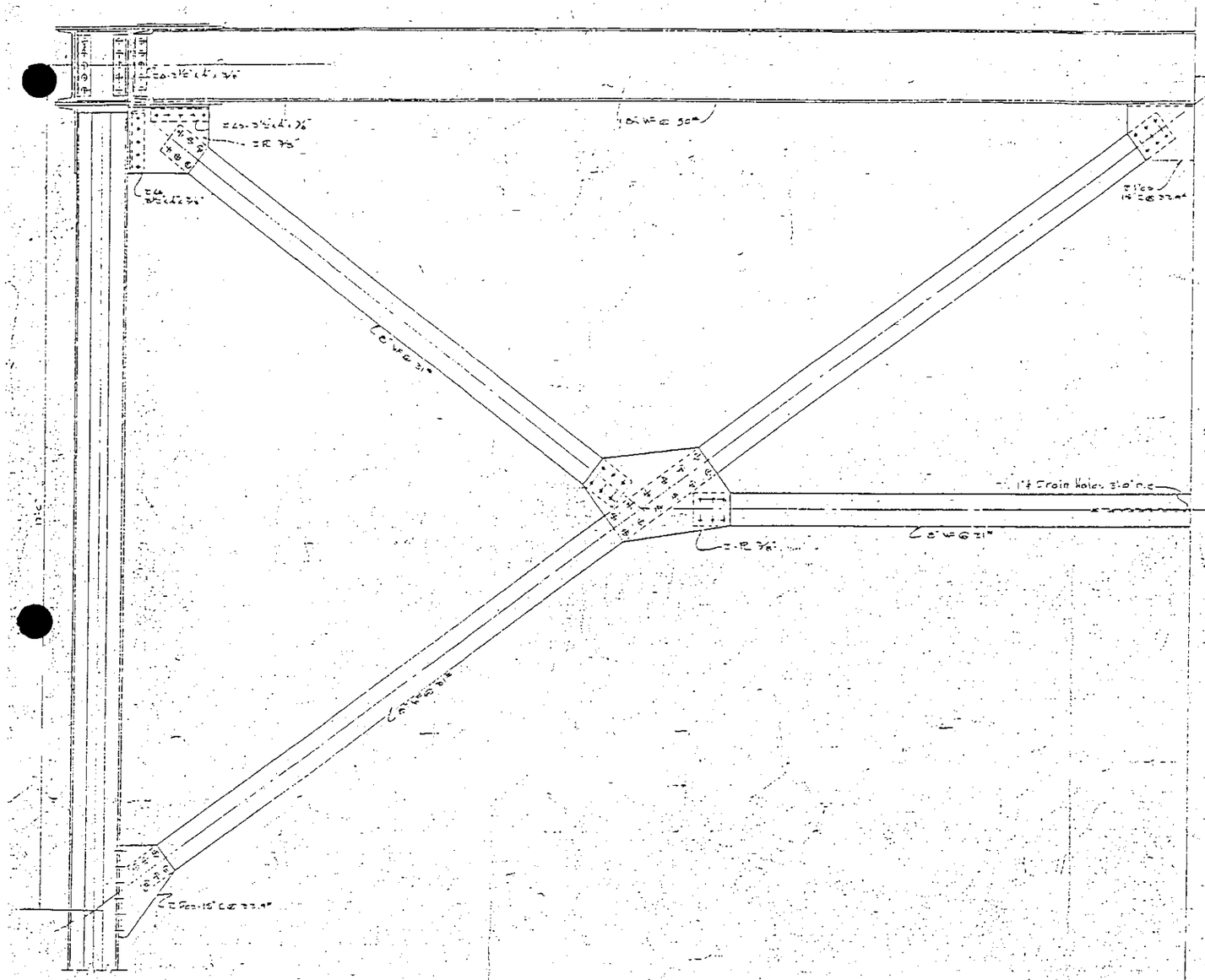
MISSISSIPPI RIVER BRID

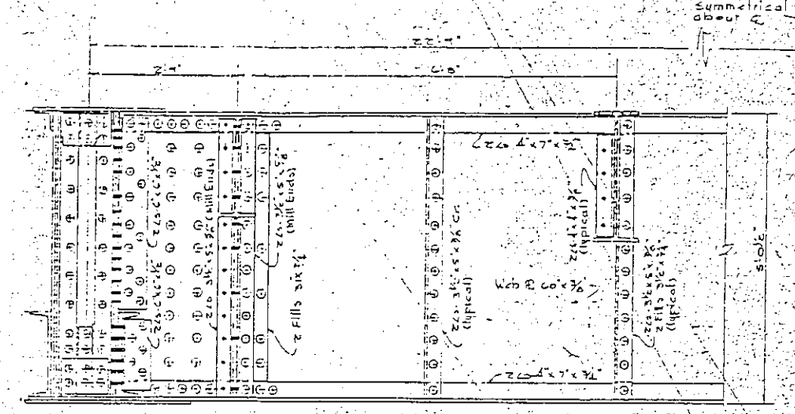
BETWEEN

THIRD ST. EAST ST. LOUIS, IL

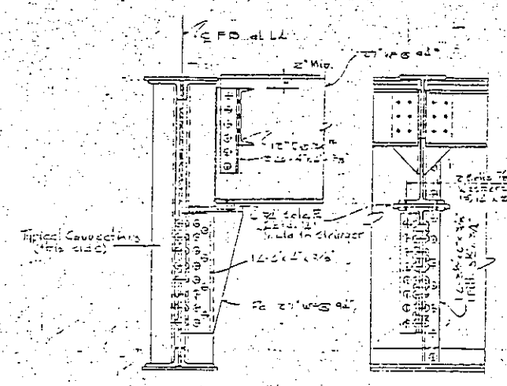
AND

THIRD ST. ST. LOUIS, M

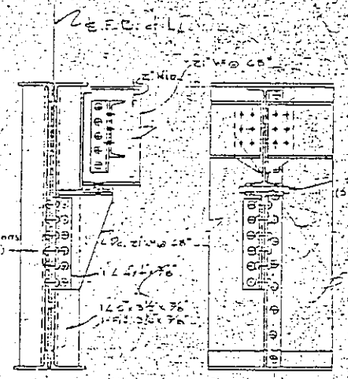




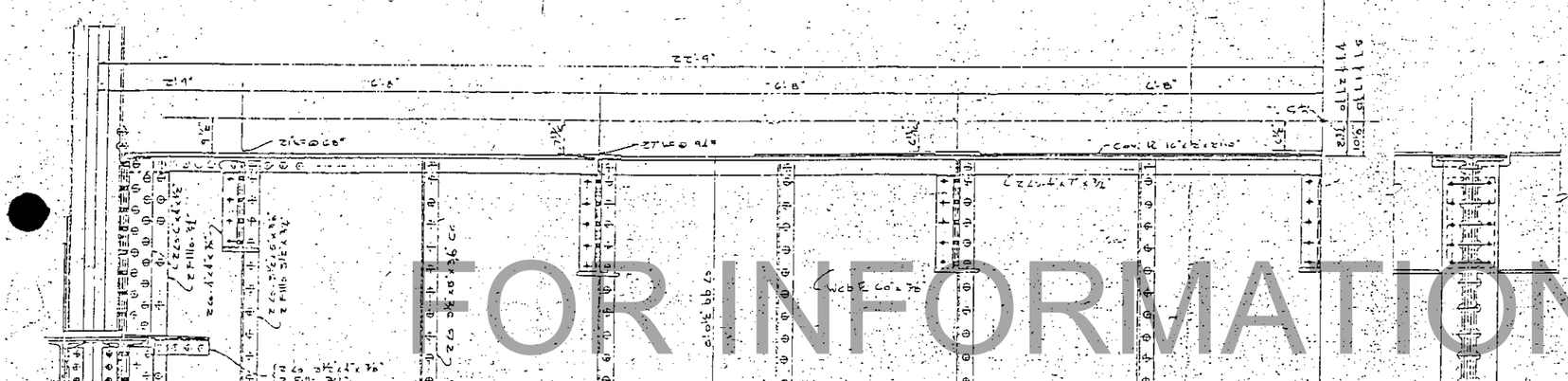
END FLOOR BEAM



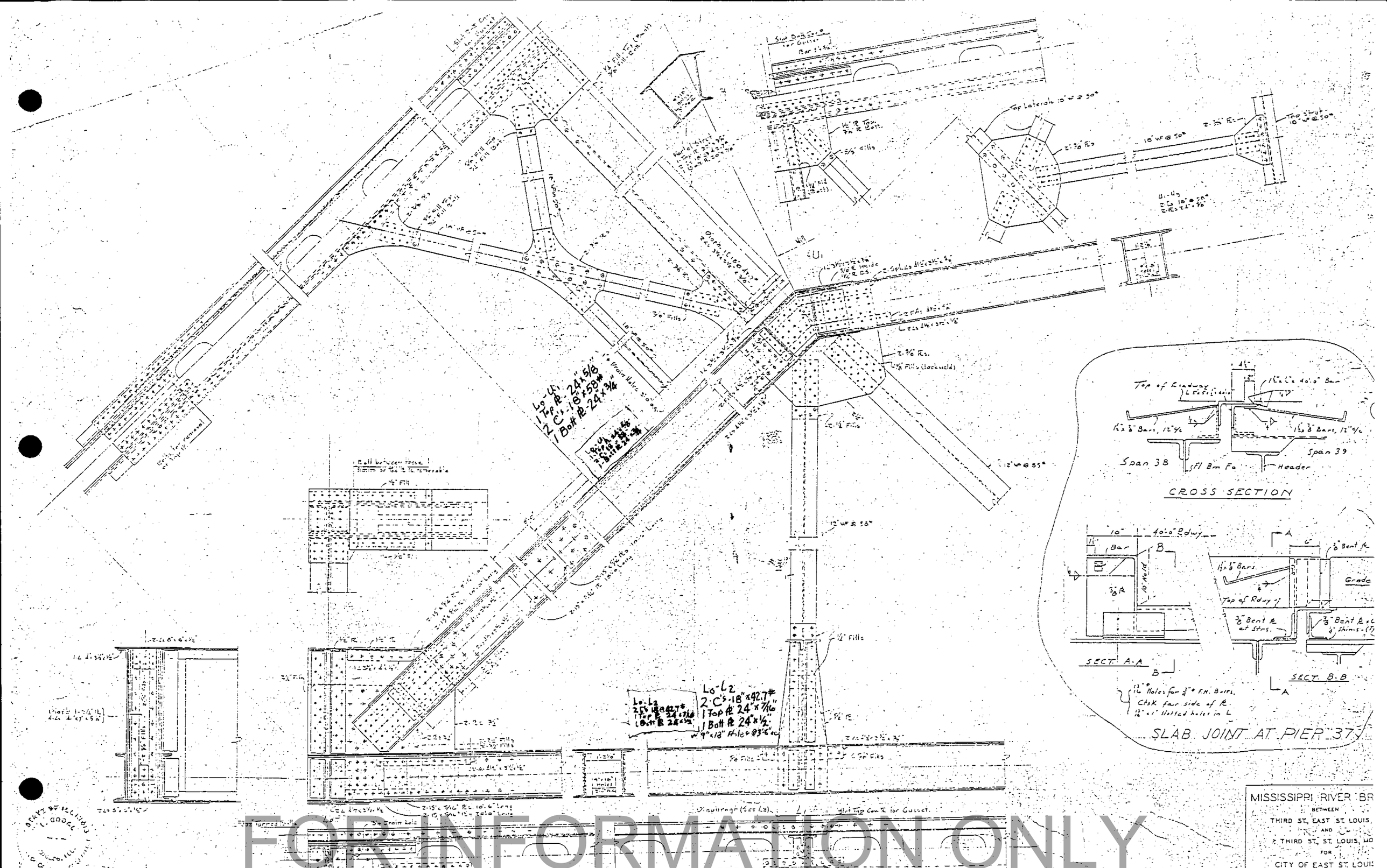
27" STRINGER CONNECTION AT L4



21" STRINGER CONNECTION AT L4

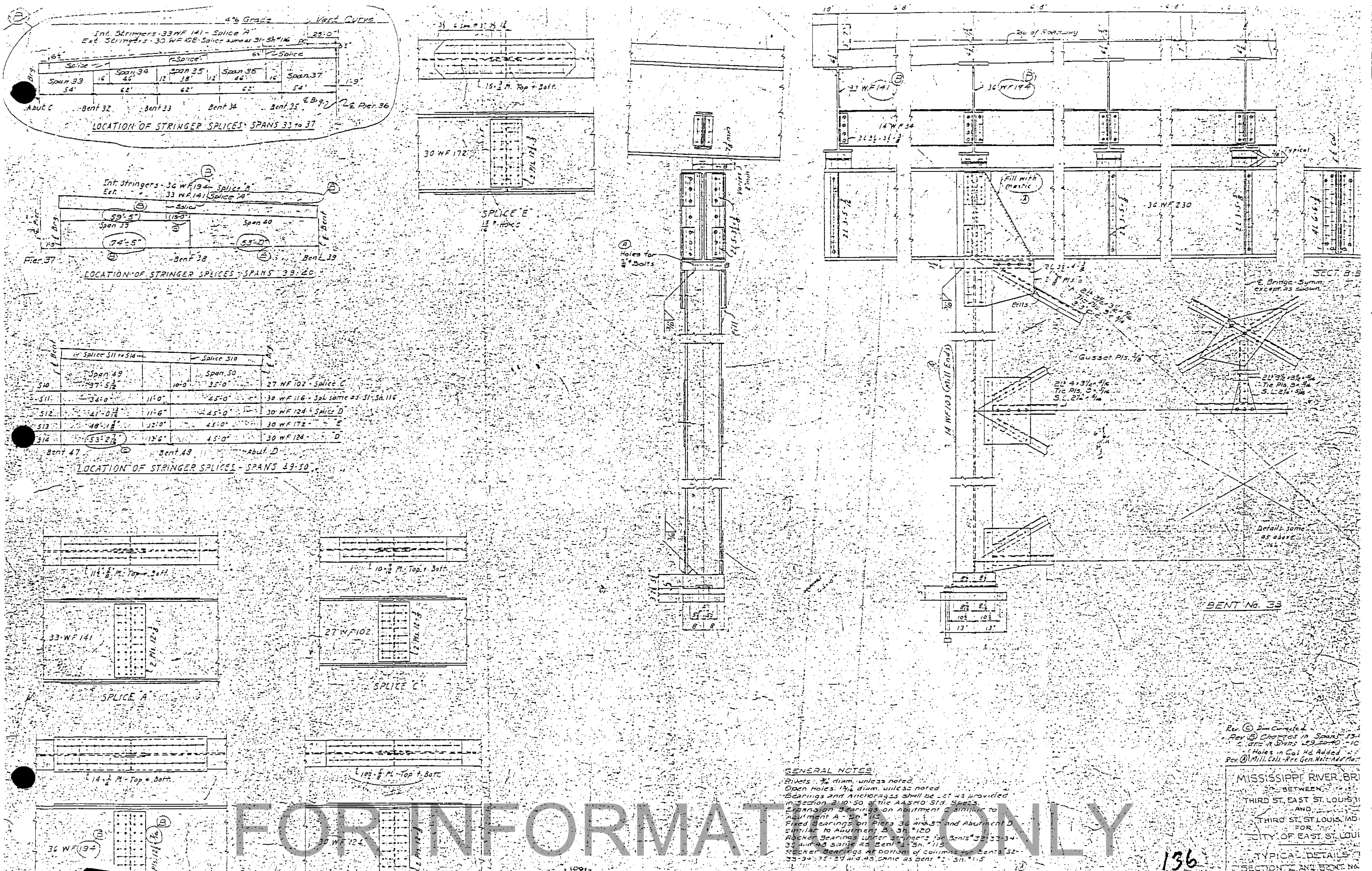


MISSISSIPPI RIVER BRID
BETWEEN
THIRD ST., EAST ST. LOUIS, ILL.
AND
THIRD ST., ST. LOUIS, MO.



MISSISSIPPI RIVER BRIDG
BETWEEN
THIRD ST., EAST ST. LOUIS, ILL.
AND
THIRD ST., ST. LOUIS, MO.
FOR
CITY OF EAST ST. LOUIS
249' SPAN
TRUSS DETAILS

131



GENERAL NOTES:

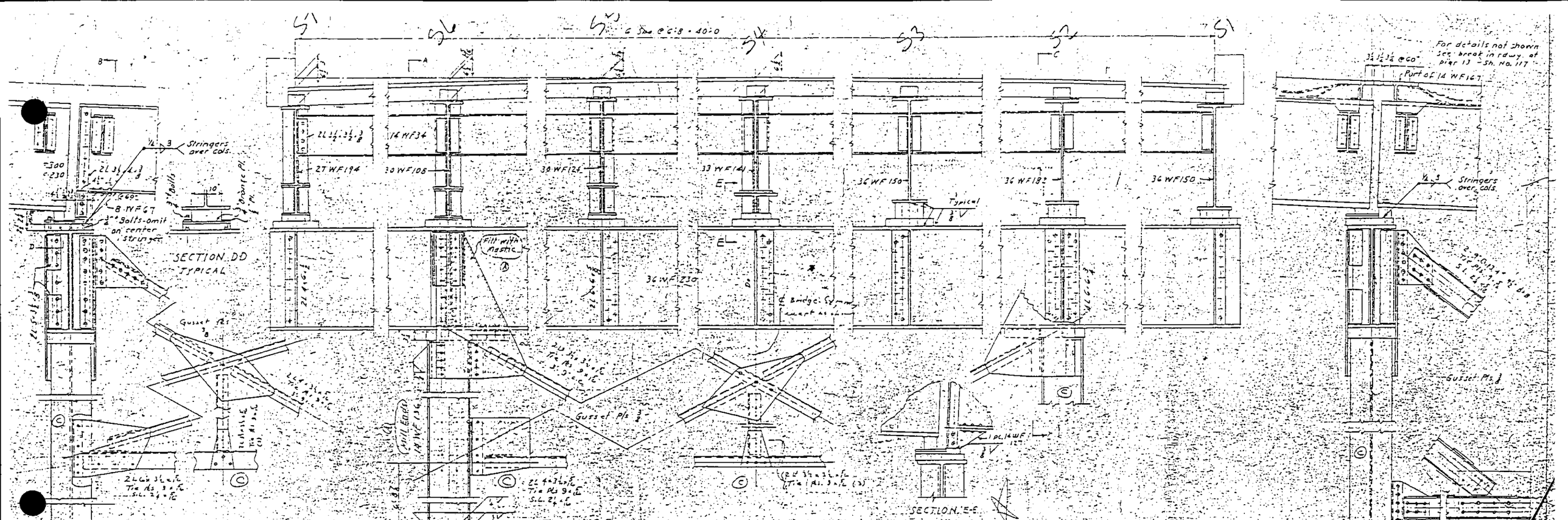
Rivets: 3/4" diam. unless noted.
Open Holes: 13/16" diam. unless noted
Bearings and Anchorages shall be set as provided in Section 2-10-50 of the AASHO Std. Specs.
Expansion Bearings on Abutment C similar to Abutment A - Sh. #115
Fixed Bearings on Piers 36 and 37 and Abutment D similar to Abutment B - Sh. #120
Rocker Bearings under stringers for Bents 32-33-34-35 and 48 same as Bent #1 - Sh. #115
Rocker Bearings at bottom of columns for Bents 32-33-34-35-39 and 45 same as Bent #1 - Sh. #115

Rev. (C) Dim Corrected
Rev. (B) Changes in Spans 33-... & Spans 39 & 40
Rev. (A) Holes in Col. Hd. Added; Mill. Cols. - Rev. Gen. Note; Add ...

MISSISSIPPI RIVER BRI...
BETWEEN
THIRD ST., EAST ST. LOUIS, I...
AND
THIRD ST., ST. LOUIS, MO.
FOR
CITY OF EAST ST. LOUI...

TYPICAL DETAILS ...
SECTION ... AND BENT NO. ...

136



GENERAL NOTES

Rivets 7/8" diam.
Open Holes 13/16 diam. unless noted.
Bearings and Anchorages shall be set as provided in Section 2.10.50 of the AASHO 3rd. Specs.

Rev. ③ Cols. turned 90°, Engineer's Init.
Rev. ④ Anchor Bolt Changes 10-8-48
Holes in Col. Hd. added
Rev. ⑤ Mill Tols. Add mastic 8-1-49

MISSISSIPPI RIVER BRIDGE
BETWEEN
THIRD ST. EAST ST. LOUIS, ILL.
AND
THIRD ST. ST LOUIS, MO.
FOR
CITY OF EAST ST. LOUIS

TYPICAL DETAILS

SECTION F-F

SECTION E-E

SECTION A-A

SECTION B-B

SECTION C-C

SECTION D-D

SECTION K-K

SECTION P-P

SECTION M-M

SECTION N-N

NORTH COLUMN BASE

SOUTH COLUMN BASE

ELEVATION OF FLOOR BEAM

SECTION H-H

Top of Rdwy.

Top of Fl. Bm.

Bent Line

Elastite Joint Filler

Tarred felt on Girder

Fill with Mastic

Holes for 3/4" Bolts

Holes for 3/4" Bolts omit in stringer on ℄ of bridge

9" Typical

6'-8" Typical

For details of longit. bracing not shown see Sh. No. 137

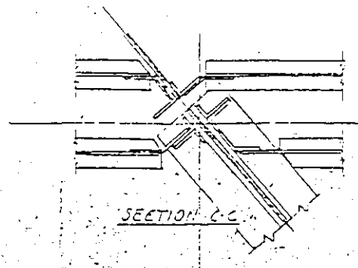
For details of transverse bracing not shown see Bent No. 41 Sh. No. 137

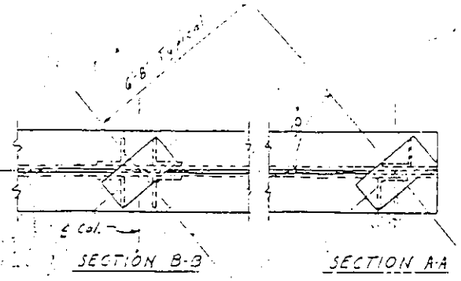
Detail not shown same as Bent No. 3, Sheet No. 115

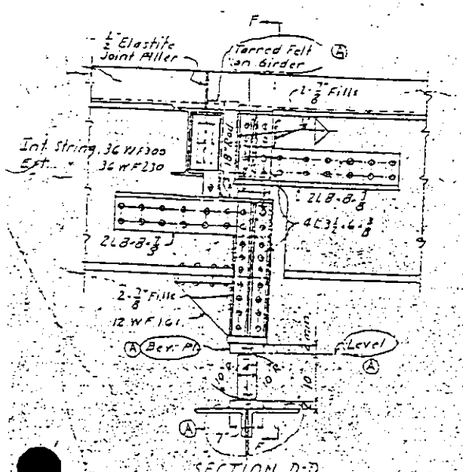
Rev (B) Misc. corrections
Holes in Col. Hd. Added
Rev (A) Mill Col. Adj. Mastic.

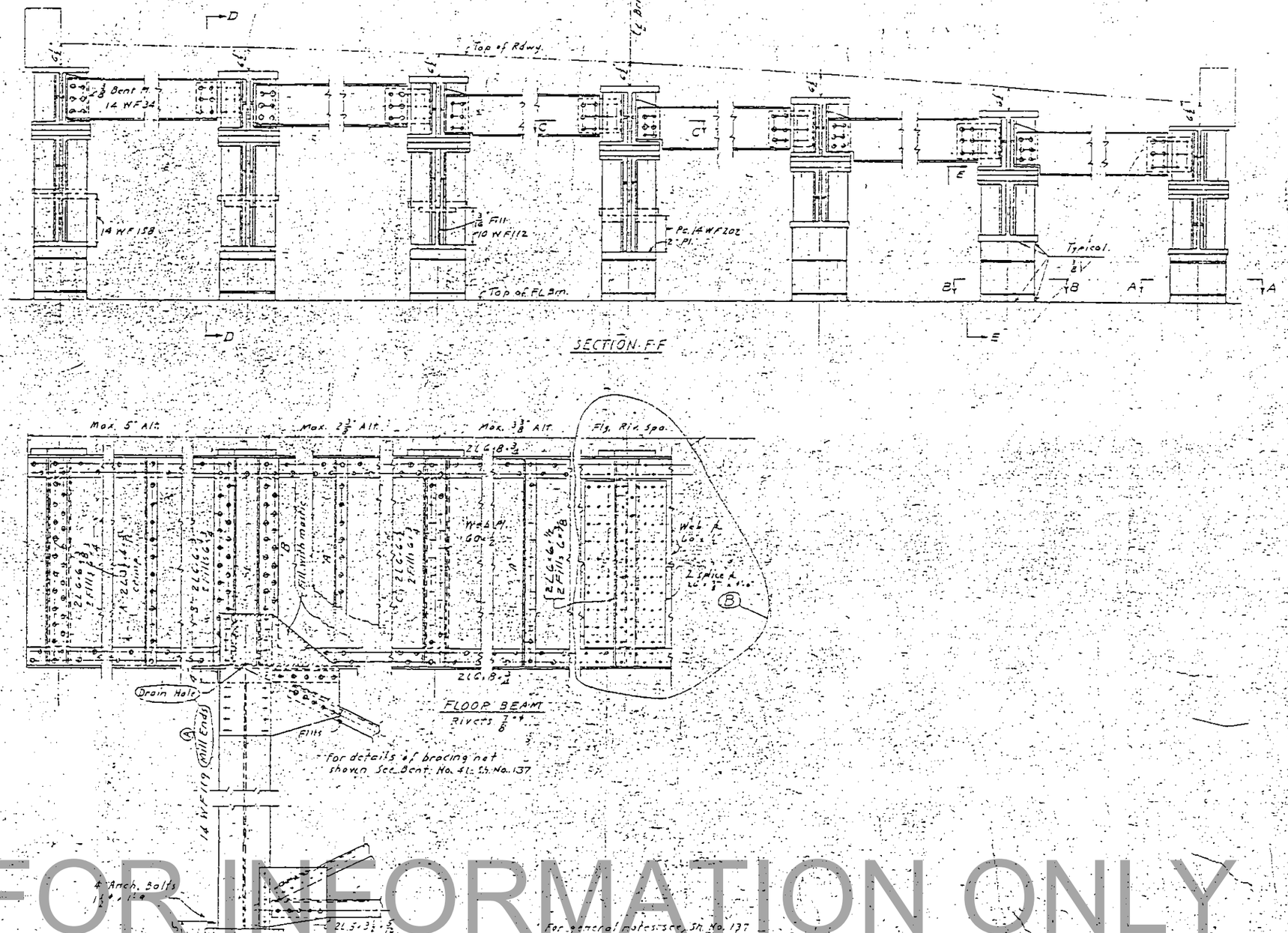
MISSISSIPPI RIVER BRID
BETWEEN
THIRD ST. EAST ST. LOUIS, IL
AND
THIRD ST. ST. LOUIS, MO.
FOR
CITY OF EAST ST. LOUIS

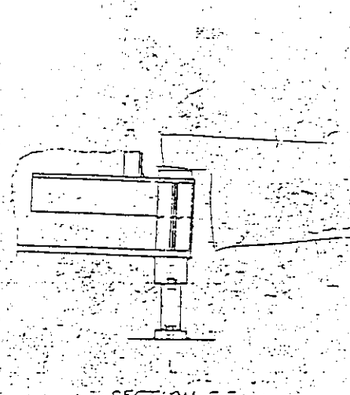
BENT 32











SECTION E-E

SECTION F-F

VIEW C-C

SECTION A-A

SECTION D-D

SECTION G-G

SECTION B-B

ELEVATION OF FLOOR BEAM

NOTE: For general notes and details of bracing

MISSISSIPPI RIVER BRIDGE
BETWEEN
THIRD ST. EAST ST. LOUIS, ILL.
AND
THIRD ST., ST. LOUIS, MO.
FOR
CITY OF EAST ST. LOUIS

SECTION G-G

SECTION D-D

SECTION F-F

SECTION C-C

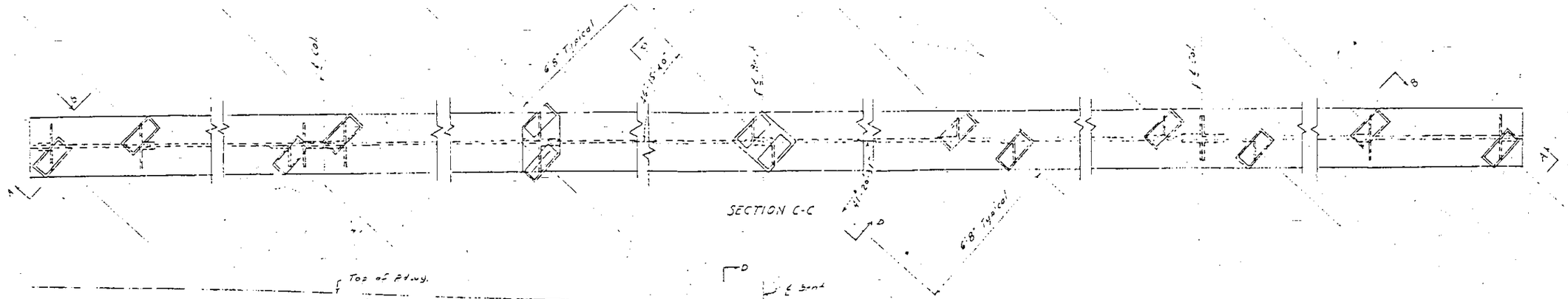
SECTION A-A

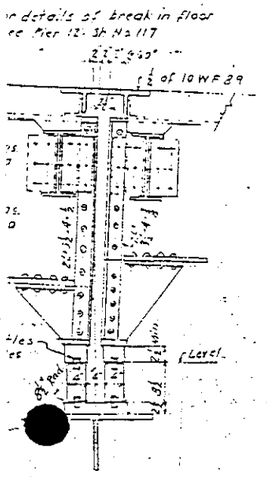
SECTION B-B

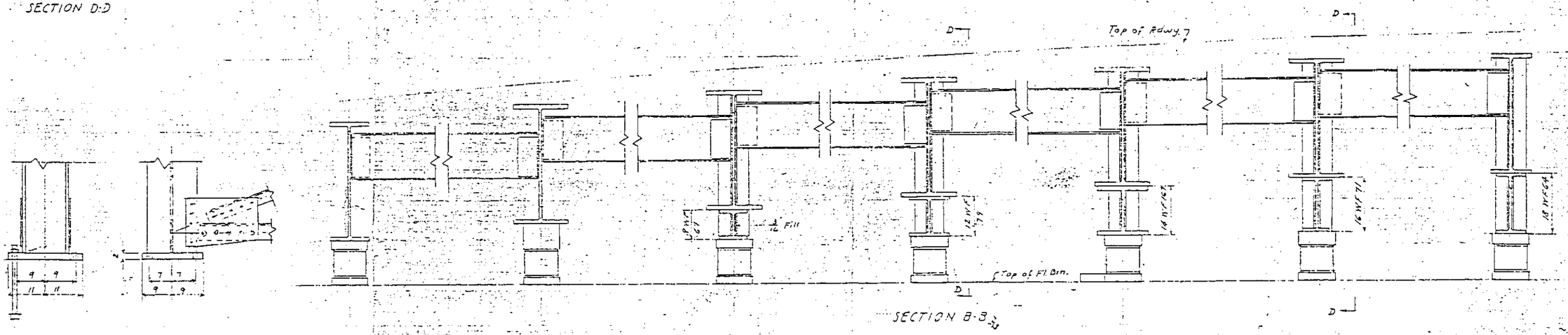
ELEVATION OF FLOOR BEAM

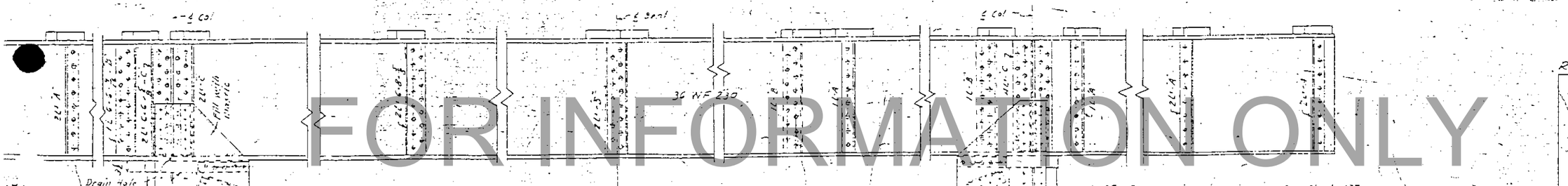
Rev. Angles Changed 5-1-49

MISSISSIPPI RIVER BRIDGE
BETWEEN
THIRD ST. EAST ST. LOUIS, ILL.
AND
THIRD ST., ST. LOUIS, ILL.
FOR
CITY OF EAST ST. LOUIS



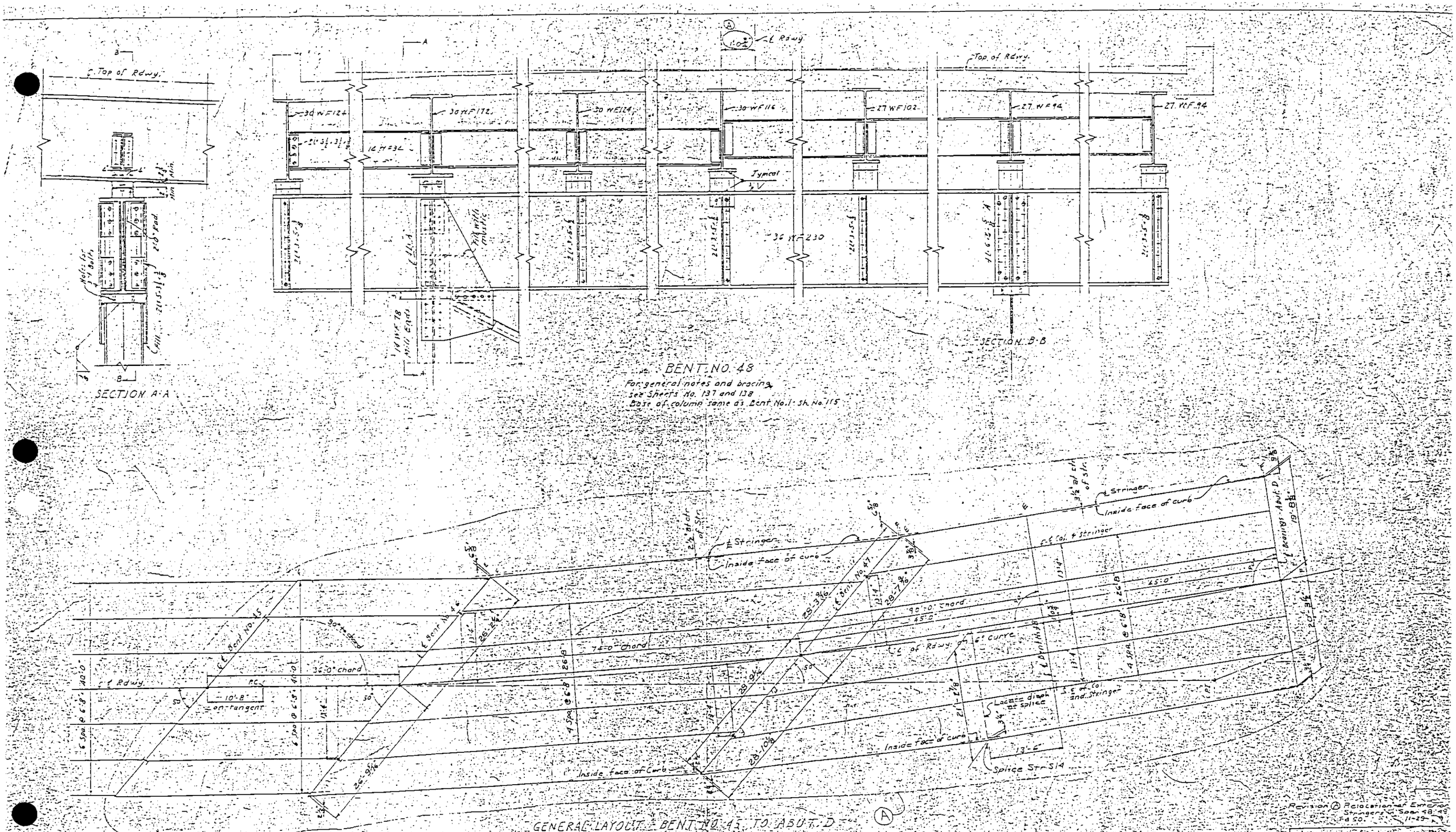


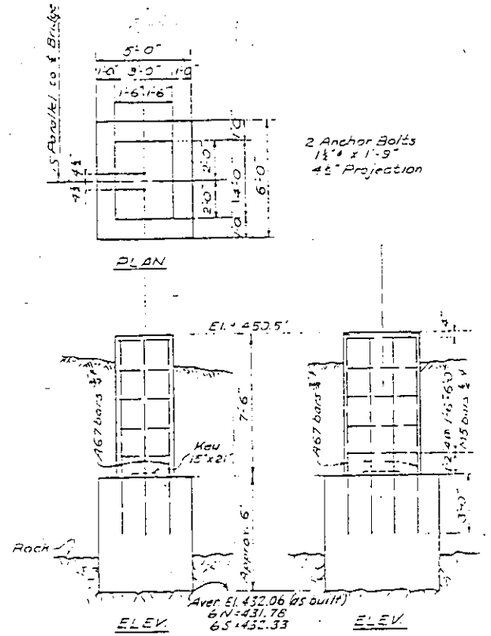




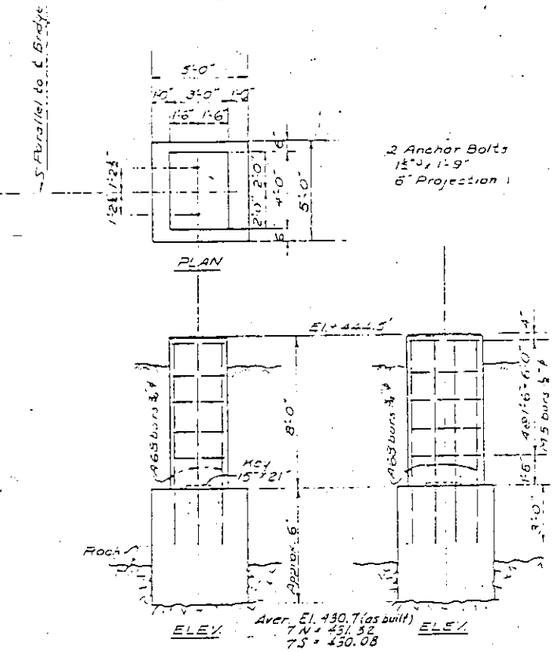
Rev (A). Angles changed 5-6-49

MISSISSIPPI RIVER BRIDGE
BETWEEN
THIRD ST., EAST ST. LOUIS, ILL.
AND
THIRD ST., ST. LOUIS, MO.
FOR
CITY OF EAST ST. LOUIS

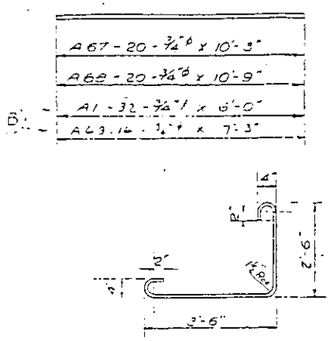


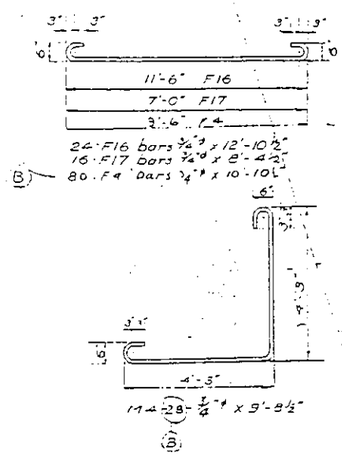


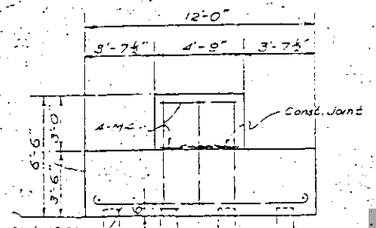
PIER NO. 6

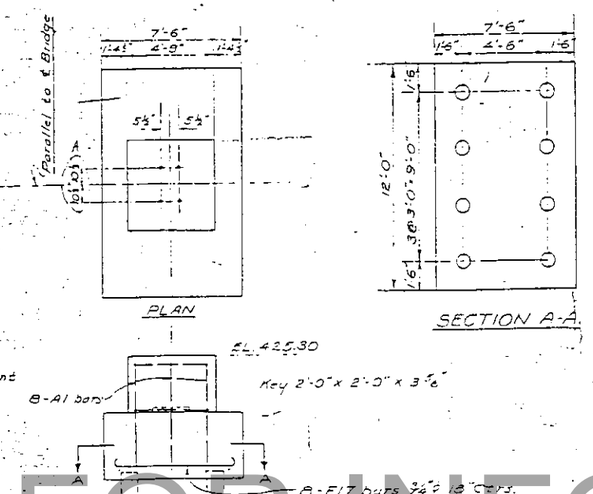


PIER NO. 7

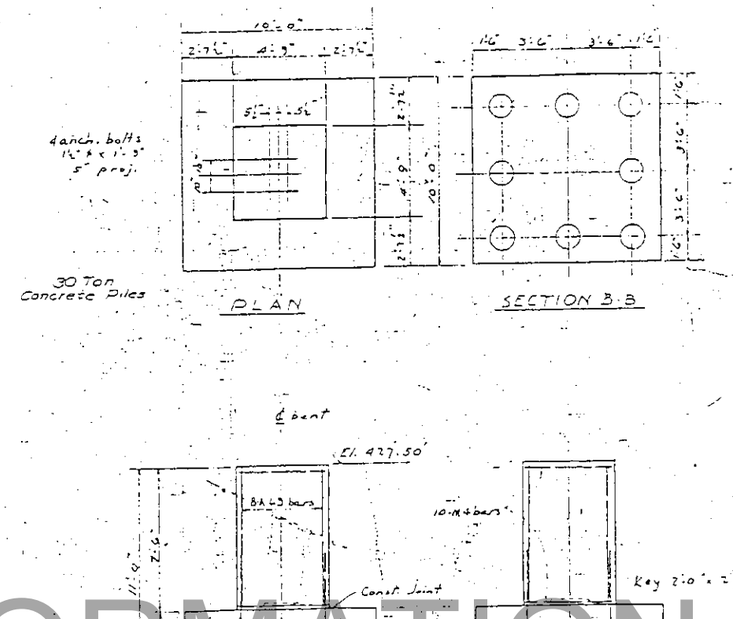








PIER NO. 38

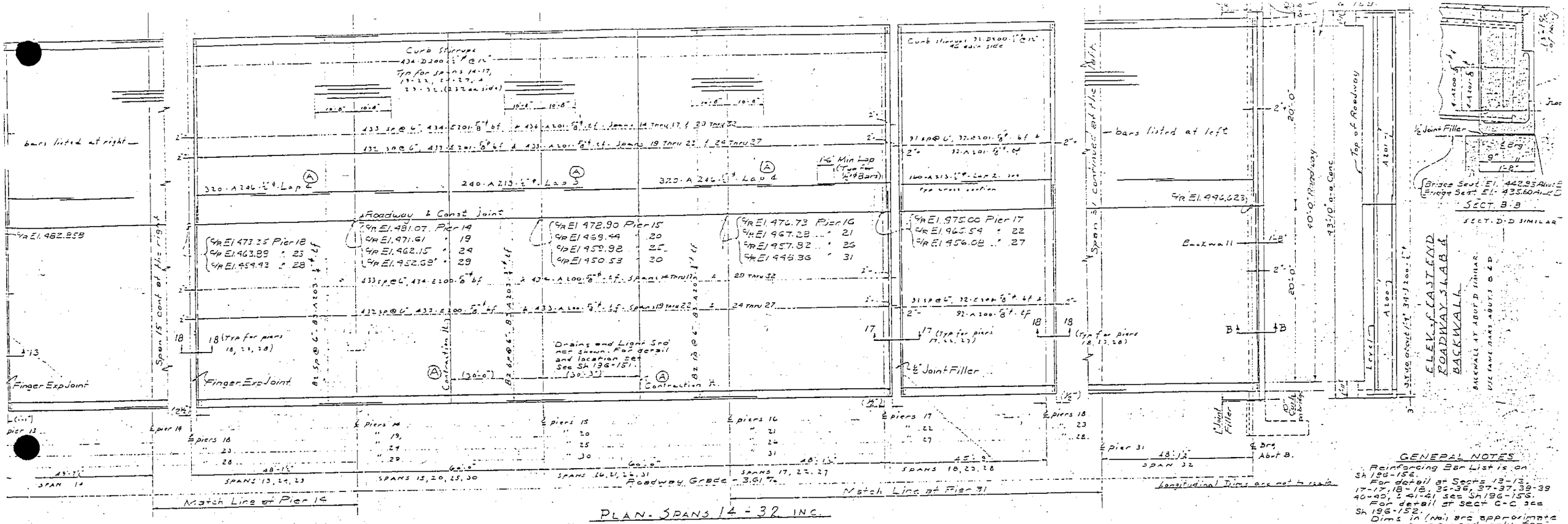


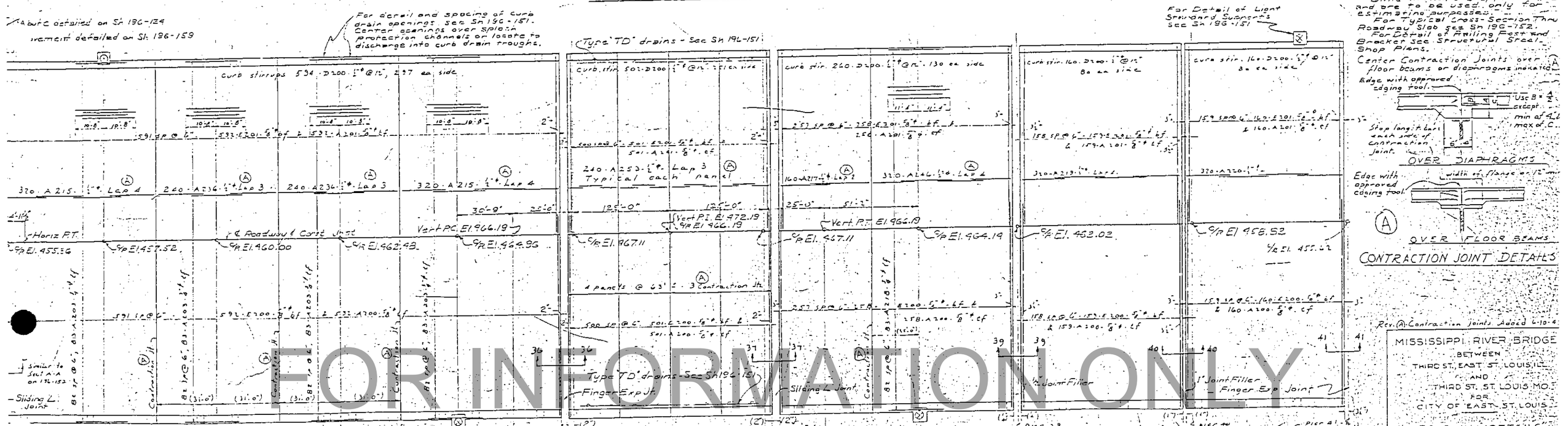
NOTE: ALL CONCRETE CLASS 'A'
MIN. COVERING OF REINFORCING BARS
ALL EXPOSED CORNERS TO HAVE 2" CHA

Rev. B. Pier 32 added (from sheet 108
Rev. A. Different Clearances in arches

MISSISSIPPI RIVER BRIDG
BETWEEN
THIRD ST. EAST ST. LOUIS, IL
AND
THIRD ST., ST. LOUIS MO
FOR
CITY OF EAST ST.

PLAN - SPANS 14 - 32 INC.





GENERAL NOTES

Reinforcing Bar List is on Sh 196-156.
For detail at Spans 13-13, 17-17, 18-18, 35-36, 37-37, 38-39 40-40, & 41-41 see Sh 196-156.
For detail at Sect C-C see Sh 196-152.
Dims in (Na) are approximate and are to be used only for estimating purposes.
For Typical Cross-Section Thru Roadway Slab see Sh 196-152.
For Detail of Railing Post and Bracket see Structural Steel Shop Plans.
Center Contraction Joints over floor beams or diaphragms indicated.

MISSISSIPPI RIVER BRIDGE
BETWEEN
THIRD ST. EAST ST. LOUIS, ILL.
AND
THIRD ST. ST. LOUIS MO.
FOR
CITY OF EAST ST. LOUIS

Curb stirrups - 68-D200-$\frac{1}{2}$"ϕ @ 12"
9-A213-$\frac{1}{2}$"ϕ, 1bf, 2 curb, Lap 3
18-A249-$\frac{1}{2}$"ϕ, 45f, 2ef, Lap 3
100 sp @ 6" - 101-E201-$\frac{5}{8}$"ϕ bf & 101-A201-$\frac{5}{8}$"ϕ ef
18-A248-$\frac{1}{2}$"ϕ, 46f, 2ef, Lap 3
18-A207-$\frac{1}{2}$"ϕ, 46f, 2ef
18-A246-$\frac{1}{2}$"ϕ, 46f, 2ef
18-A245-$\frac{1}{2}$"ϕ, 46f, 2ef
24-A244-$\frac{1}{2}$"ϕ, 56f, 3ef, Lap 3
12-A242-$\frac{1}{2}$"ϕ, 46f, 2ef, Lap 2
12-A243-$\frac{1}{2}$"ϕ, 46f, 2ef
12-A215-$\frac{1}{2}$"ϕ, 46f, 2ef
65 sp @ 6" - 66-E200-$\frac{5}{8}$"ϕ bf & 66-A200-$\frac{5}{8}$"ϕ ef
12-A219-$\frac{1}{2}$"ϕ, 46f, 2ef, Lap 2
12-A211-$\frac{1}{2}$"ϕ, 46f, 2ef
12-A240-$\frac{1}{2}$"ϕ, 46f, 2ef, Lap 2
6-A250-$\frac{1}{2}$"ϕ, 1ef, 2 curb, Lap 2
Curb stirrups - 33-D200-$\frac{1}{2}$"ϕ @ 12"
Typical "A" Corner
Curb stirrups - 160-D200-$\frac{1}{2}$"ϕ @ 12" - 80 ea curb
124 sp @ 6" - 125-E201-$\frac{5}{8}$"ϕ bf & 125-A201-$\frac{5}{8}$"ϕ ef
4-A284-$\frac{1}{4}$"ϕ 2 ea f
320-A219-$\frac{1}{2}$"ϕ, lap 4 - see typ cross sect on 196-152
℄ Pier 41
℄ Pier 42
℄ Pier 43
℄ Pier 45
Span 43 - 51'-0"
Span 44 - 80'-0"
Span 46 - 80'-0"
℄ Roadway & Const. Joint
4-A283-$\frac{1}{4}$"ϕ 2 ea f
4-A283-$\frac{3}{4}$"ϕ 2 ea f
½" Joint Filler
33 sp @ 6" - $\frac{5}{8}$" bars
3'-0" 16'-0" "A" Corner - $\frac{5}{8}$" bars @ 6"
3'-0" 14'-0" "B" Corner Bars - $\frac{5}{8}$" @ 6"
16'-0" "A" Corner Bars - $\frac{5}{8}$" @ 6"
29 sp @ 6" - $\frac{5}{8}$" bars
1'-6" from edge of conc. at const. joint
120 sp @ 6" - 121-E200-$\frac{5}{8}$"ϕ bf & 121-A200-$\frac{5}{8}$"ϕ ef
122 sp @ 6" - 123-E200-$\frac{5}{8}$"ϕ bf & 123-A200-$\frac{5}{8}$"ϕ ef
Finger Exp Joint
For Detail of Light Standard Supports see Sh 196-151.
Longitudinal Dims are not to scale.
℄ Roadway & Const. Joint
℄ Pier 41 El. 455.62
℄ Pier 42 El. 453.58
℄ Pier 43 El. 450.36
℄ Pier 45 El. 447.18
Typ Cross Section Thru Roadway
Typ for all $\frac{3}{4}$"ϕ marginal bars.

GENERAL NOTES

For detail of Sects 91-91, 92-92, 93-93, 95-95, 96-96, & 97-97 see Sh 196-151.
For detail of Sect D-D see Sh 196-154.
Reinforcing Bar List on Sh 196-150.
Dims in (na) are approximate and are to be used only for estimating purposes.
For Typical Cross-Section Thru Roadway, Slab see Sh 196-152.
For Detail of Railing Post and Bracket see Structural Steel Shop Plans.
Bars in backwall same as for Abut. B dwg. 196-154.

Backwall
Sim to Sect A-A on 196-154
Pavement depressed on Sh 196-160
Joint Filler full width of backwall

Roadway Grade - 4.00%

PLAN - SPANS 43-46 INC.

Typ & Bot. Trans. Bars | 6" Bot. Trans. Bars only | 2'-6" No Transverse Bars | 3'-0"
¼ Curb Stirrups
E205 bf's
E231 bars
Typ Joint Bars
Actual edge of concrete
Horiz P.C.
10'-8"
CAL PLAN FOR ERS WITH E231 BARS
Sect 46-46 on 196-156
Finger Exp Joint
½" Joint Filler
4-A283-$\frac{3}{4}$"ϕ 2 ea f
Typ Corner "D"
Typ Corner "F"
For detail and spacing of curb drain openings, see Sh 196-151. Center openings over splash protection channels or locate to discharge into curb drain troughs.
Curb stirrups - 72-D200-$\frac{1}{2}$"ϕ @ 12" - 36 ea curb
36-E205-$\frac{5}{8}$"ϕ tf @ 6" spc bet "D" corner bars
32 sp @ 6" - 33-E201-$\frac{5}{8}$"ϕ bf & 33-A201-$\frac{5}{8}$"ϕ tf
160-A247-$\frac{1}{2}$"ϕ, Lap 2 - See Typ Cross Sect.
243-A203-$\frac{1}{2}$"ϕ, Lap 3 - See typ cross sect.
18'-6" 37 sp @ 6" - $\frac{5}{8}$" bars - Corner "C"
38 sp @ 6" - 78-E200-$\frac{5}{8}$"ϕ bf & 78-A200-$\frac{5}{8}$"ϕ ef
82 sp @ 6" - 83-A141-$\frac{5}{8}$"ϕ tf
39 sp @ 6" - 78-E200-$\frac{5}{8}$" bars
39 ea f
Curb stirrups - 111-D200-$\frac{1}{2}$"ϕ @ 12"
Finger Exp Joint
Span 48 - 74'-0" chord of ℄ Roadway
Span 50 - 45'-0" chord of ℄ Roadway
Longitudinal Dims are not to scale.

MISSISSIPPI RIVER BRIDGE

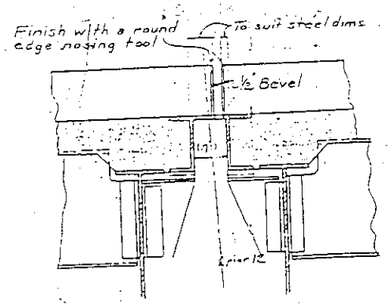
BETWEEN THIRD ST. EAST ST. LOUIS ILL. AND THIRD ST. ST. LOUIS MO. FOR CITY OF EAST ST. LOUIS.

ROADWAY DETAILS PIER NO. 41 TO ABUT. D

B A R L I S T

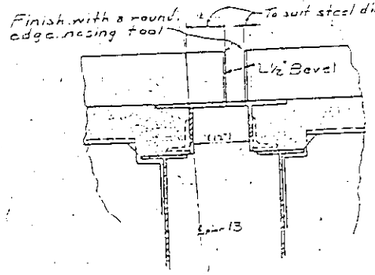
FOR DWGS 196-152 TO 157 INCL.

E	Total Length	Quant.	Total Weight	BAR	#	a	Total Length	Quant.	Total Weight
5/16	22-10	7902	189165	A2.8.6	5/8		14-4"	2	30
5/8	20-4	7856	166600	2.8.7	5/8		21-7	2	45
1/2	25-3	892	15045	2.8.8	5/8		16-0	2	35
3/4	16-0	1577	37898	2.8.9	5/8		19-0	4	79
1/2	26-10	160	2868	2.9.0	5/8		20-11	2	44
	24-5	498	8123	2.9.1	5/8		21-10	4	91
	30-0	83	3740	2.9.2	5/8		5-0	2	10
	21-4	466	6641	2.9.3	3/4		32-9	8	394
1/2	24-9	344	5687	2.9.4	1/2		23-6	160 (A)	2512
1/2	25-7	280	4785						
(A)									
3/4	13-0	83	1621						
5/8	21-2	14	309						
1/2	23-6	498	7818		5/8		22-10	23-5	6742 21351 (A)
1/2	22-11	1200	18370	E2.0.0	5/8		20-4	20-11	8950 19525 (A)
1/2	22-6	2916	49527	2.0.1	5/8		23-5	24-0	138 3454
(A)				2.0.2	3/4		27-10	28-6	8 342
1/2 (A)	25-11	160	2,770	2.0.3	5/8		3-3	3-10	26 104
3/4	17-0	83	2119	2.0.4	5/8		4-5	5-0	259 1351
1/2 (A)	20-11	1666	23279	2.0.5	5/8		5-7	6-2	34 215
1/2	21-2	640	9049	2.0.6	5/8		6-10	7-5	26 201
5/8	3-3	26	88	2.0.7	5/8		8-0	8-7	28 251
5/8	4-5	26	120	2.0.8	5/8		9-3	9-10	26 267
5/8	5-7	30	175	2.0.9	5/8		10-5	11-0	34 390
5/8	6-10	26	185	2.1.0	5/8		11-7	12-2	26 330
5/8	8-0	26	234	2.1.1	5/8		12-9	13-2	26 362
5/8	9-3	26	251	2.1.2	5/8		13-11	14-6	36 514
5/8	10-5	30	326	2.1.3	5/8		15-1	15-8	42 686
5/8	11-7	26	314	2.1.4	5/8		16-3	16-10	26 456
5/8	12-9	26	346	2.1.5	5/8		17-7	18-2	28 531
5/8	13-11	30	435	2.1.6	5/8		18-7	19-2	28 560
	15-1	34	535	2.1.7	5/8		19-11	20-6	30 641
	16-3	26	241	2.1.8	5/8		21-2	21-8	14 318
	17-7	26	513	2.1.9	5/8		22-4	22-11	7 167
	18-7	28	543	2.2.0	5/8		20-8	21-3	2 42
5/8	19-11	26	540	2.2.1	5/8		3-0	3-7	14 52
1/2 (A)	21-6	504	7235	2.2.2	5/8		4-1	4-8	8 39
5/8	22-4	7	163	2.2.3	5/8		5-2	5-9	6 36
	10-5	2	21	2.2.4	5/8		6-3	6-10	8 57
5/8	20-8	2	43	2.2.5	5/8		7-4	7-11	8 66
	18-3	12	146	2.2.6	5/8		8-6	9-0	16 150
	19-8	12	158	2.3.3	5/8		9-6	10-1	8 82
3/4	18-0	83	2244	2.2.8	5/8		10-7	11-2	8 93
1/2	23-11	12	192	2.2.9	5/8		11-9	12-4	8 103
1/2	18-6	24	297	2.3.0	3/4		6-4	7-0	14 147
1/2	19-6	18	234	2.3.1	5/8		12-9	13-2	8 111
1/2 (A)	20-5	2398	59585	2.3.2	5/8		16-1	16-8	16 279
1/2	18-1	160	1935	2.3.3	5/8		17-2	17-9	16 296
1/2	22-3	48	713	2.3.4	5/8		18-3	18-10	8 157
1/2	23-1	48	740	2.3.5	5/8		19-4	19-11	8 166
1/2	17-0	6	68	2.3.6	5/8		21-7	22-2	2 44
1/2	23-3	1600	24853	2.3.7	5/8		3-9	4-4	6 27
1/2	24-0	15	240	2.3.8	5/8		4-8	5-3	6 33
1/2 (A)	21-9	990	14384	2.3.9	5/8		6-7	7-2	8 60
1/2	23-9	62	924	2.4.0	5/8		7-7	8-2	8 68
1/2	26-5	18	310	2.4.1	5/8		9-6	10-1	8 84
3/8	9-1	2	13	2.4.2	5/8		11-4	11-11	10 124
5/8	7-0	2	15	2.4.3	5/8		12-4	12-11	10 135
5/8	6-10	2	13	2.4.4	5/8		13-9	13-10	10 144
5/8	3-0	10	31	2.4.5	5/8		14-2	14-9	8 123
5/8	4-1	6	26	2.4.6	5/8		18-0	18-7	8 156
5/8	5-2	4	22	2.4.2	5/8		19-0	19-7	8 163
5/8	6-3	4	26	2.4.8	5/8		20-11	21-6	2 45
5/8	7-4	4	31	2.4.9	5/8		21-10	22-5	4 94
5/8	8-5	8	70	2.5.0	5/8		5-0	5-7	2 12
5/8	9-6	4	40	2.5.1	5/8		6-0	6-7	2 14
	10-7	4	44	2.5.2	5/8		7-0	7-7	2 16
	16-5	2	34	2.5.3	5/8		9-1	9-8	2 20
5/8	11-9	4	49	2.5.4	5/8		10-2	10-9	2 22
5/8	12-9	4	53	2.5.5	5/8		12-4	12-11	2 27
5/8	16-1	8	134	2.5.6	5/8		15-5	16-0	2 33
5/8	17-2	8	143	2.5.7	5/8		16-5	17-0	2 35
5/8	18-3	4	76	2.5.8	3/4		30-0	30-8	8 246
5/8	19-4	4	81						



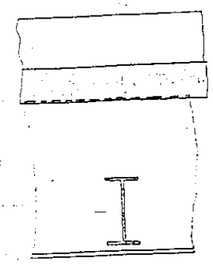
196-153-C, 117-3

SECT. 12-12



196-153-C, 117-3

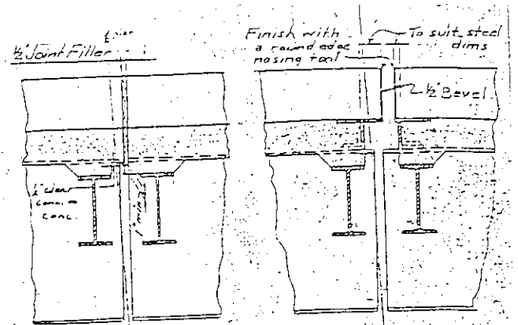
SECT. 13-13



TYPICAL DETAIL FOR ALL LOW PARAPETS
(see Typical Details 311 Sh 196-152 for dimensions at top of Stringer.)

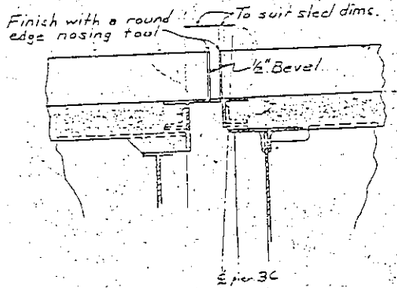
196-154-C, 120-3

SECT. 17-17



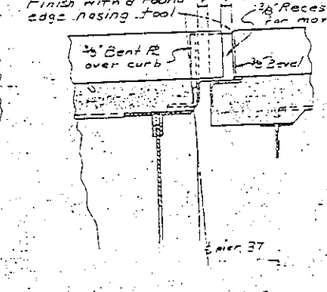
196-154-C, 121-3

SECT. 18-18



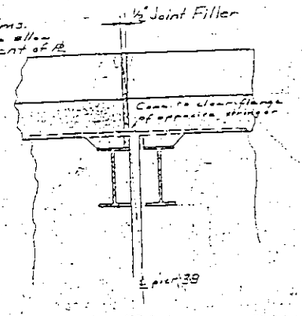
196-154-C, 115-3, 125-3A

SECT. 36-36



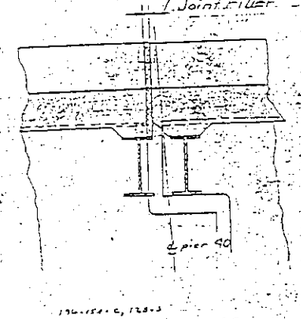
196-154-C, 118-3, 136-3A

SECT. 37-37



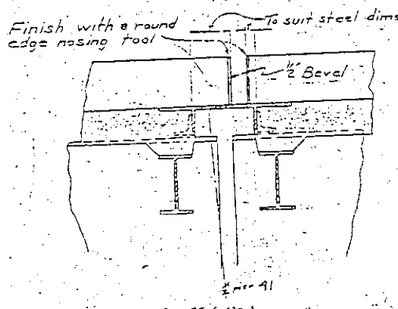
196-154-C, 137-3

SECT. 39-39



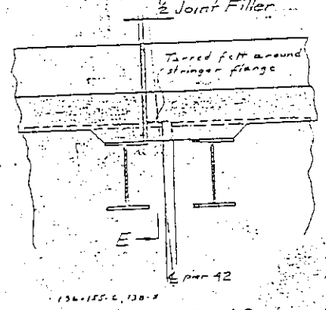
196-154-C, 138-3

SECT. 40-40



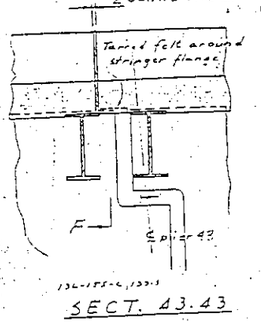
196-154-C, 155-C, 137-3

SECT. 41-41



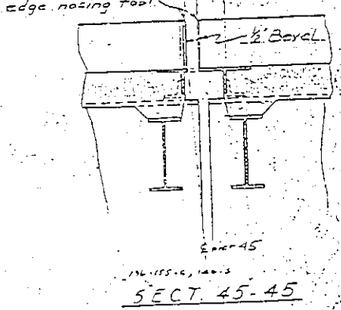
196-155-C, 138-3

SECT. 42-42



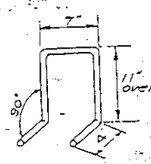
196-155-C, 139-3

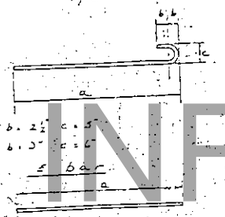
SECT. 43-43

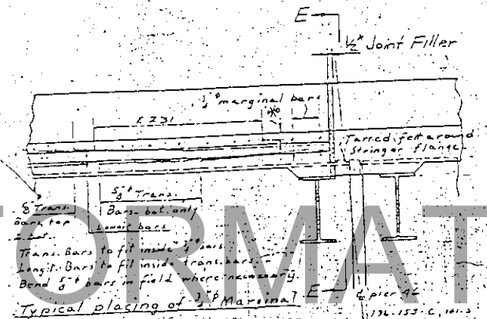


196-155-C, 140-3

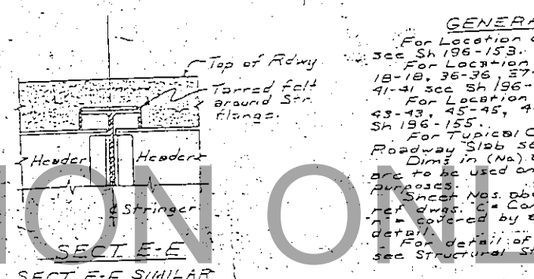
SECT. 45-45







196-153-C, 141-3



SECT E-E

SECT F-F SIMILAR

GENERAL NOTES

For Location of Sects 12-12 & 13-13 see Sh 196-153.

For Location of Sect's 13-13, 17-17, 18-18, 36-36, 37-37, 39-39, 40-40, and 41-41 see Sh 196-154.

For Location of Sects 41-41, 42-42, 43-43, 45-45, 46-46, & 47-47 see Sh 196-155.

For Typical Cross Section Thru Roadway & Sidewalk see Sh 196-152.

Dimensions in (Na) are approximate and are to be used only for estimating purposes.

Sheet Nos. above Section Titles are ref. dwgs. Concrete is Steel, and ref. dwgs. Concrete not shown in detail is covered by a note not shown in detail.

For detail of Railing Post and Bracket see Structural Steel Shop Plans.

Revision A Bar Changes - 6-10-

MISSISSIPPI RIVER BRIDGE
BETWEEN
THIRD ST. EAST ST. LOUIS ILL.
AND
THIRD ST. ST LOUIS, MO.
FOR
CITY OF EAST ST. LOUIS

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