F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
49	15B-I-4	PEO-TAZ	5	1
F.H.W.A. REG.	ILLINOIS	PROJECT		

P-94-133-85

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
PLANS FOR PROPOSED FEDERAL AID HIGHWAY

INDEX OF SHEETS

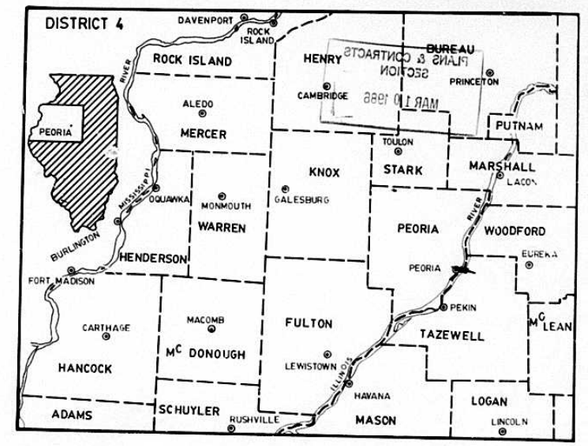
SUMMARY OF QUANTITIES

CODE NO.	PAY ITEM	UNIT	QUANTITY
507004	FURNISHING and ERECTING STRUCTURAL STEEL	lbs	7660
X09979	ELASTOMERIC BEARING ASSEMBLY, TYPE III (SPECIAL)	EACH	2
Z10259	JACKING AND CRIBBING	EACH	2
648008	TRAFFIC CONTROL and PROTECTION, STD 2316	L.SUM	1
650001	MOBILIZATION	L. SUM	1

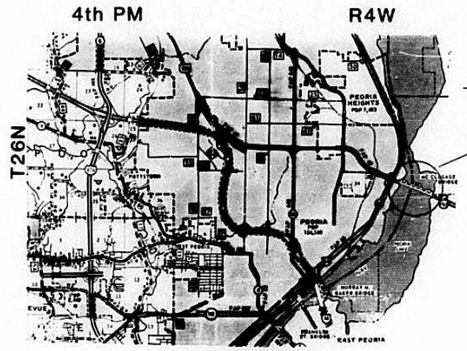
LIST OF STANDARDS

2298-7
2299-10
2300-3
2316-10

F.A. 49 (U.S. 150)
SECTION 15B-I-4
PEORIA-TAZEWELL COUNTIES
C-94-304-86



LOCATION OF SECTION INDICATED THUS: — ▬



LOCATION MAP

PROPOSED IMPROVEMENTS

BEARING REPAIRS AT PIER 10 OF EAST BOUND STRUCTURE ON S.N. 090-0070 (McCLUGAGE BRIDGE) CARRYING U.S. 150 OVER ILLINOIS RIVER.

SUBMITTED February 27, 1986
DIST. DESIGN ENGR.

EXAMINED March 6, 1986
DIST. CONST. ENGR.

EXAMINED March 7, 1986
DIST. MAINT ENGR.

EXAMINED March 7, 1986
DIST. TRAFFIC ENGR.

Entire section inspected and approved as to policy.

DATE 3-6-86
DISTRICT ENGINEER

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

SUBMITTED 3-6 19 86
DISTRICT ENGINEER

EXAMINED 3-3 19 86

PASSED 4-3 19 86
ENGINEER OF BRIDGES AND CONTRACTS

APPROVED 4-3 19 86
ENGINEER OF DESIGN
DIRECTOR, DIVISION OF HIGHWAYS

REVIEWED FOR CORRELATION WITH APPROVED DESIGN REPORT AND ENVIRONMENTAL ASSESSMENT
District Engineer of Planning
Date 3/6/86

FOR UTILITY INFORMATION
CALL J.U.L.I.E.
PHONE 800-892-0123

GROSS LENGTH OF IMPROVEMENT
NET LENGTH OF IMPROVEMENT

CONTRACT NO. 40788

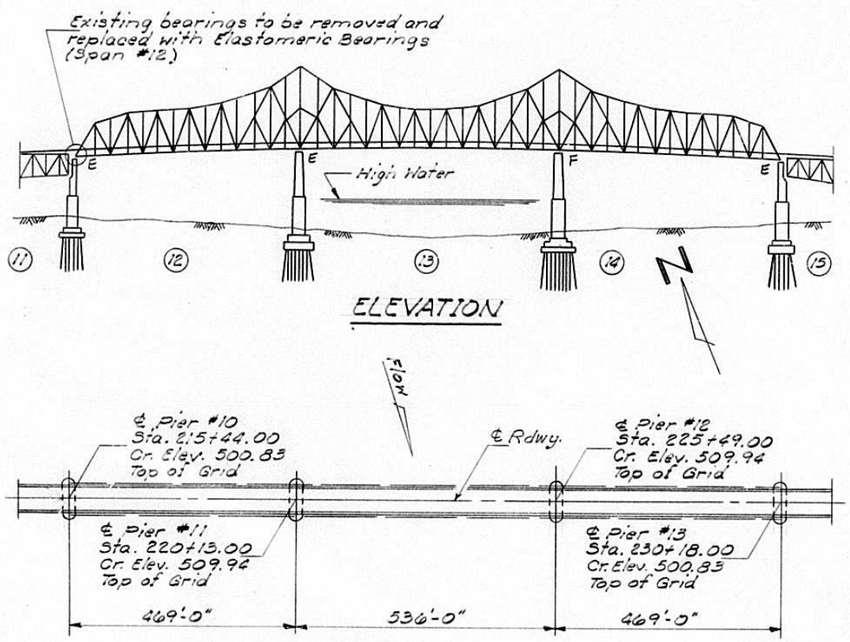
PEORIA-TAZEWELL COUNTY SECTION 15B-I-4 F.A.P. ROUTE 49

Existing Structure Number 090-0070

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO	SECTION	COUNTY	TOTAL SHEETS	SHEET NO
F.A. 49	15B-I-4	Peoria - Tazewell	5	2
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

SHEET NO. 1
4 SHEETS



ELEVATION

PARTIAL PLAN

BEARING REPLACEMENT CONSTRUCTION SEQUENCE

(1) Bearing removal and replacement at Pier #10 shall be done one bearing at a time while traffic has been detoured to the opposite side of the bridge on Spans #12, #13 and #14.

(2) Truss at Pier #10 (Span #12) shall be raised $\frac{3}{4}$" maximum to remove the existing bearing assembly utilizing a 450 Ton (minimun) jack or a series of jacks with a total minimum capacity of 450 tons. Recommended jacking and cribbing locations are indicated by the cross-hatched areas shown below. The Contractor shall submit his jacking and cribbing plan to the Engineer for approval. The existing tie anchorage system may have to be temporarily disconnected prior to lifting the truss.

(3) The existing bearing assembly shall be removed including the existing angles which attach the truss to the bearing. The hatched areas shown below in Section D-D and Elevation shall be burned off and ground flush with the top of the existing embedded bearing plate.

(4) The new angles, gusset plates, bolsters and new Elastomeric Bearing Assembly, Type III shall then be positioned and bolted to the truss. Anchor bolts shall then be drilled and grouted in place.

(5) The jacking and cribbing shall then be removed. The Bearing Replacement Construction Sequence shall then be repeated for the opposite bearing, detouring traffic on spans #12, #13 and #14.

Note: The contractor will not be allowed to park any equipment or heavy vehicles on the closed lanes (spans #12, #13 and #14) during the jacking operation.

GENERAL NOTES

Fasteners shall be high strength bolts. Bolts $\frac{7}{8}$"ϕ, open holes $\frac{15}{16}$"ϕ, unless otherwise noted.

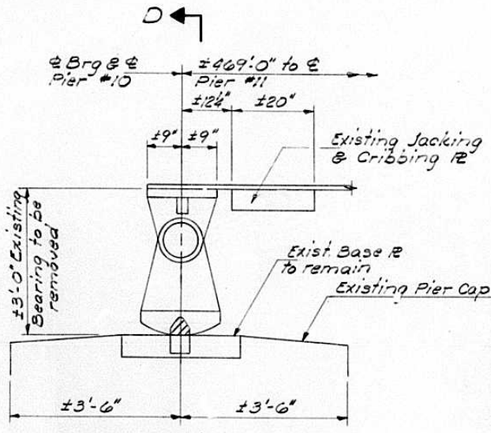
All structural steel shall be AASHTO M183. New steel only.

All structural steel shall receive one shop coat of dull orange primer and two field coats of aluminum paint. New steel only.

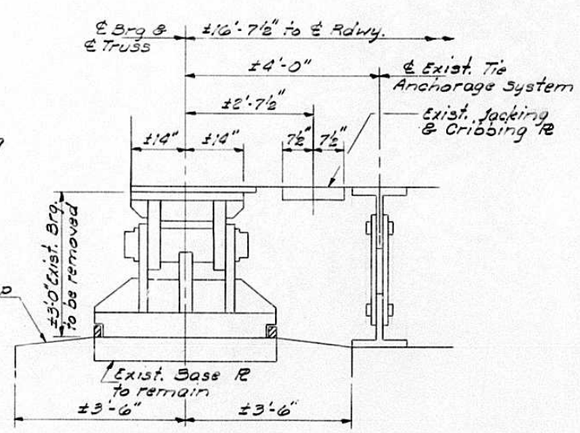
Plan dimensions and details relative to existing structure have been taken from existing plans and are subject to nominal construction variations. It shall be the Contractor's responsibility to verify such dimensions and details in the field and make necessary approved adjustments prior to construction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

Two $\frac{1}{4}$" adjustment shims, of the dimensions of the bottom bearing plate, shall be provided for each bearing in addition to all other plates or shims.

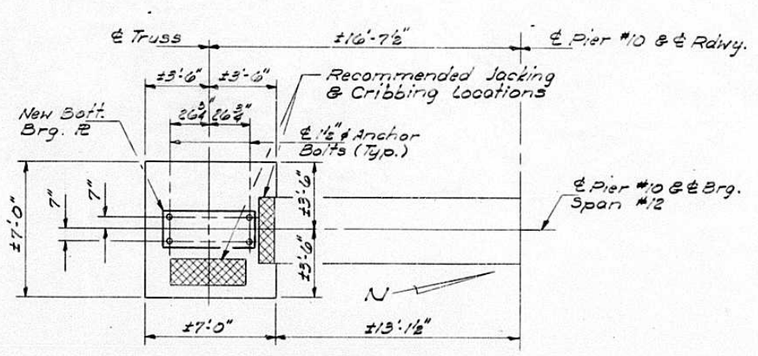
Field welding of construction accessories will be permitted only when approved by the Engineer.



ELEVATION
(Looking North)



SECTION D-D



PARTIAL PLAN - PIER CAP

TOTAL BILL OF MATERIAL

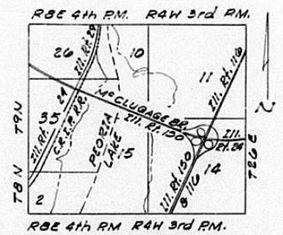
Item	Unit	Quantity
Structural Steel	Lbs.	7660
Elastomeric Bearing Assembly, Type III (Special)	Each	2
Jacking & Cribbing	Each	2
Traffic Control and Protection, Standard 2316	L.S.	1

*DESIGN STRESSES
fy = 36,000 psi

*DESIGN SPECIFICATIONS
1983 AASHTO and 1984 Interim

*LOADING HS 20-44

*New Construction



LOCATION SKETCH

DESIGNED Chelom R. Rhenchi
CHECKED Thomas Domagalski
DRAWN J. SCHNELLER
CHECKED TJD GRA

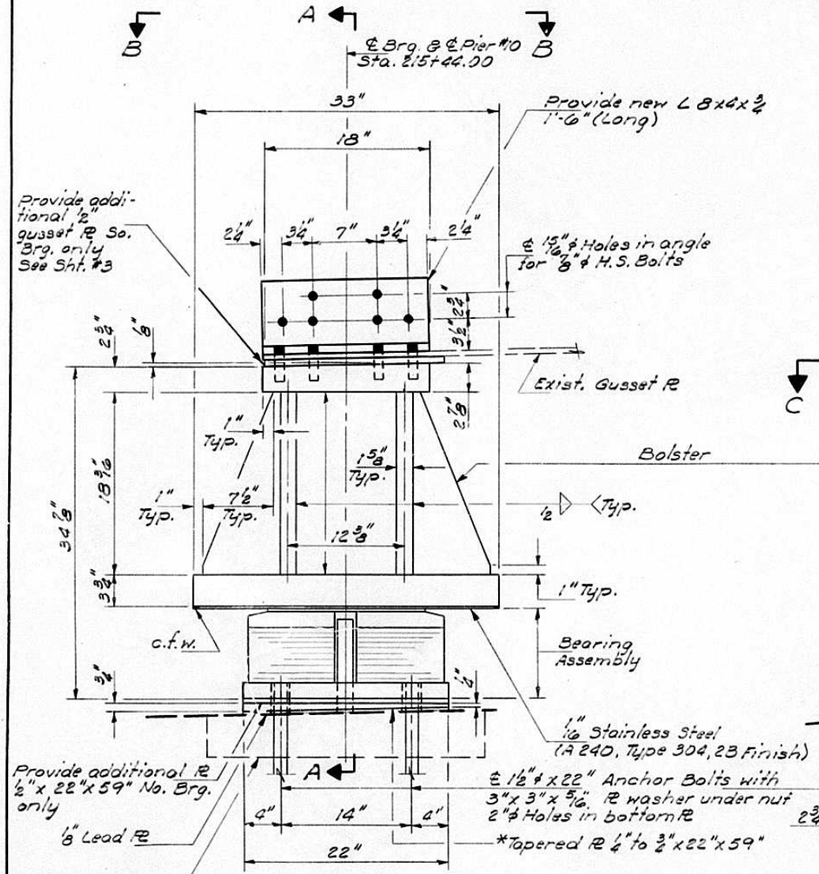
March 25 1986
EXAMINED Iraj I. Kaspar — ENGINEER OF BRIDGE DESIGN
PASSED James T. Koukuzu — ENGINEER OF BRIDGES AND STRUCTURES
APPROVED — DIRECTOR OF HIGHWAYS

GENERAL PLAN & ELEVATION
McCLUGAGE BRIDGE
BEARING REPLACEMENT
F.A. RT. 49
SECTION 15B-I-4
PEORIA - TAZEWELL COUNTIES

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

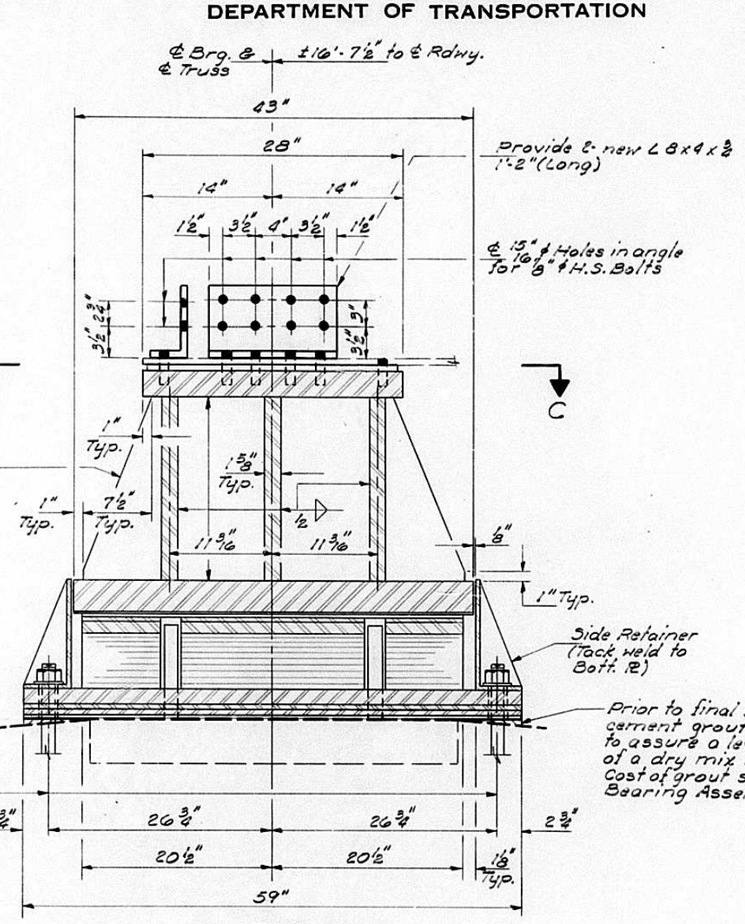
ROUTE NO	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A. 49	15B-I-4	Peoria-Tazewell	5	3
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

SHEET NO. 2
4 SHEETS

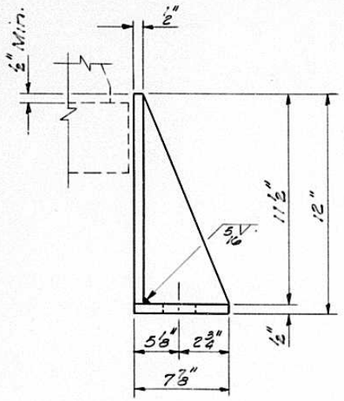


ELEVATION AT PIER #10
(Looking North)

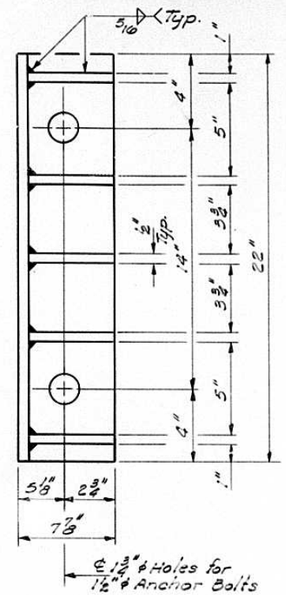
*Use tapered plate to assure level bearing surface.



SECTION A-A

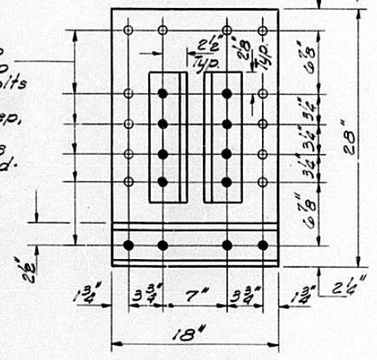


Equivalent rolled angle with stiffeners will be allowed in lieu of welded plates.

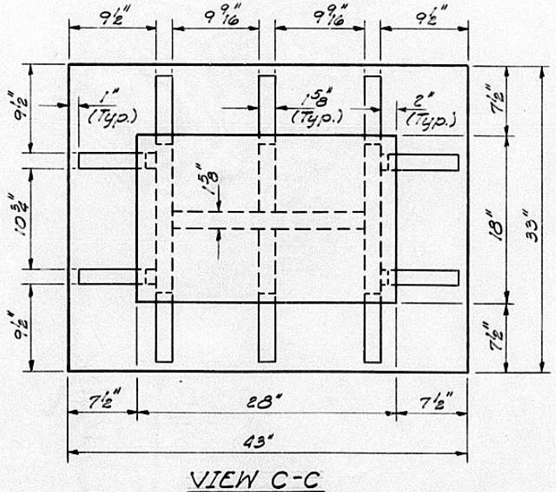


SIDE RETAINER
(4 Required)

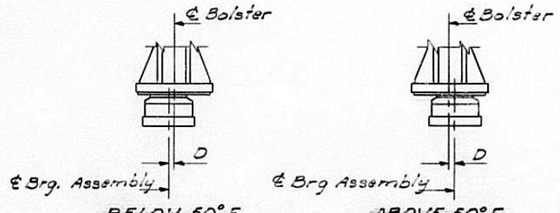
Notes: See sheet #4 for Drilled Anchor Bolt installation and details.
Bearing Assembly shall be level prior to tightening Anchor Bolts.
Calculated weight of "Structural Steel" equals 7660 lbs. Weight includes angles, steel plates for bolsters, gusset plates, side retainers, tapered plates, shim plates, lead plates, H.S. Bolts, washers, nuts and anchor bolts.



VIEW B-B



VIEW C-C
(Showing Bolster)



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

ABOVE 50°F
(Move brg. toward fixed brg.)

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

BILL OF MATERIAL

ITEM	UNIT	QUANTITY
Elastomeric Brg. Assembly - Type III (Modified)	Each	2

DESIGNED	Gholem R. Aheachi
CHECKED	Thomas Domagalski
DRAWN	J. SCHNELLER
CHECKED	JD GRA

March 25 19 86

EXAMINED Orai D Kaspar
ENGINEER OF BRIDGE DESIGN

PASSED James T Kaylarn
ENGINEER OF BRIDGES AND STRUCTURES

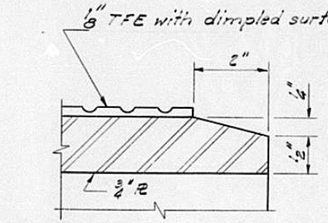
APPROVED
DIRECTOR OF HIGHWAYS

BEARING REPLACEMENT
AT PIER #10
F.A. RT. 49 SEC. 15 B-1-4
PEORIA - TAZEWELL COUNTIES

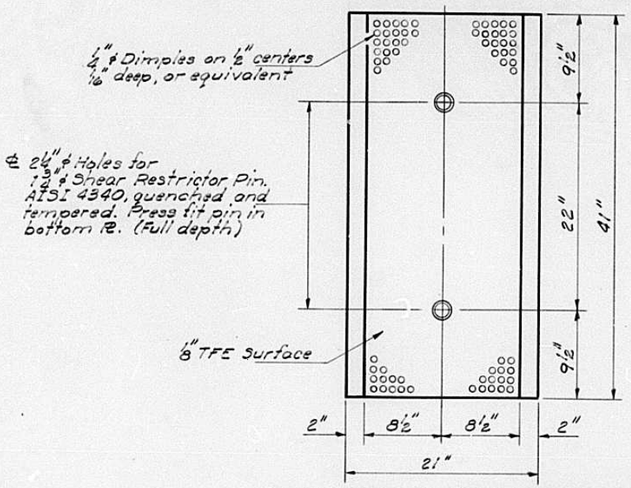
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A. Rt. 49	15B-I-4	Peoria-Tazewell	5	4
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

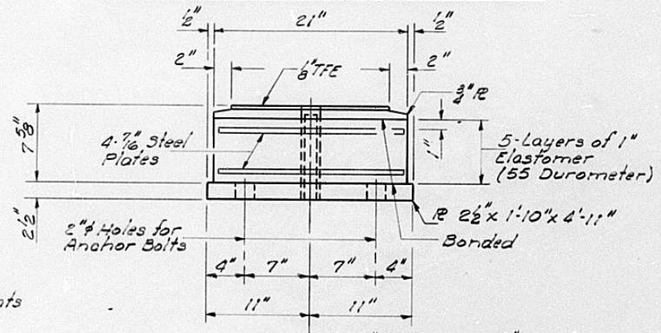
SHEET NO. 3
4 SHEETS



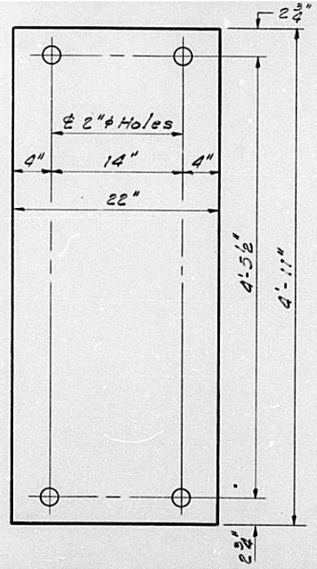
SECTION THRU TFE



PLAN-TFE ELASTOMERIC BRG.

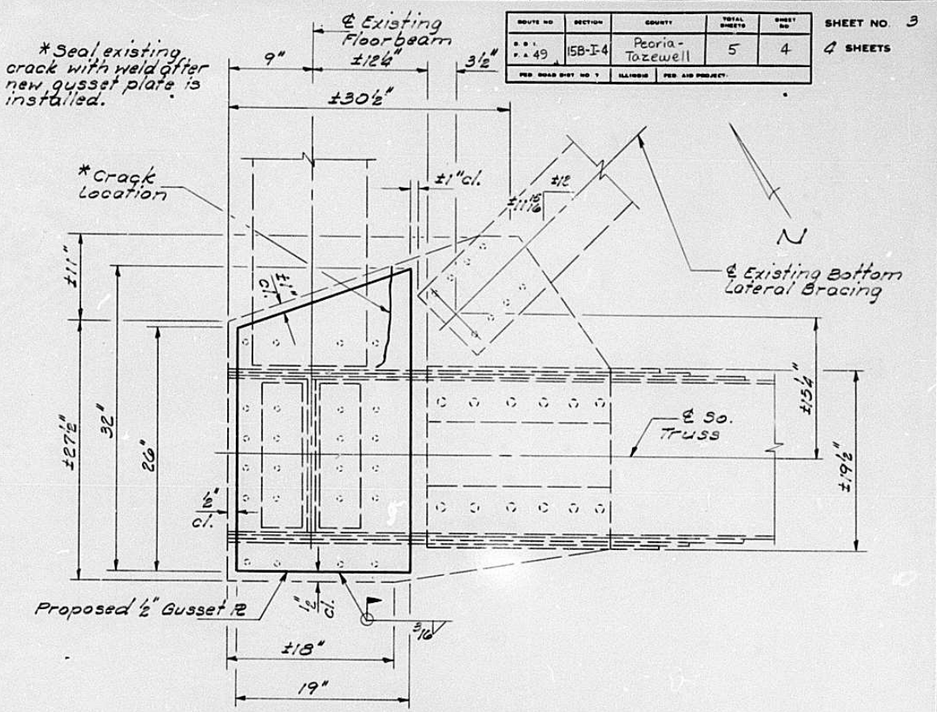


BOTTOM BEARING ASSEMBLY

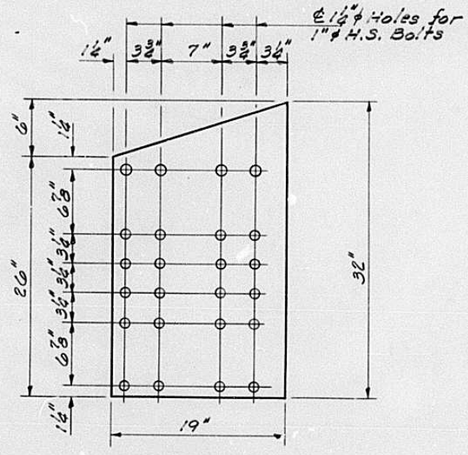


PLAN-BOTTOM PLATE OF BRG.

Notes:
The 1/8" TFE sheet shall be bonded directly to the top steel plate with a two-component, medium viscosity epoxy resin, conforming to the requirements of the Federal Specifications MMM-A-134, Type I. The bond agent shall be applied on the full area of the contact surfaces.
Bonding of 1/8" TFE sheet during vulcanizing process will be permitted provided the process and method of adjusting assembly height is approved by the Engineer.



GUSSET PLATE REPAIR PLAN
(Place new gusset plate under existing gusset plate.)



GUSSET PLATE

DESIGNED Gholam R. Ahanchi
CHECKED Thomas J. Domagalski
DRAWN J. SCHNELLER
CHECKED TJD GRA

March 25 1986
EXAMINED Oraj O. Kaspar — ENGINEER OF BRIDGE DESIGN
PASSED James T. Kaubarn — ENGINEER OF BRIDGES AND STRUCTURES
APPROVED — DIRECTOR OF HIGHWAYS

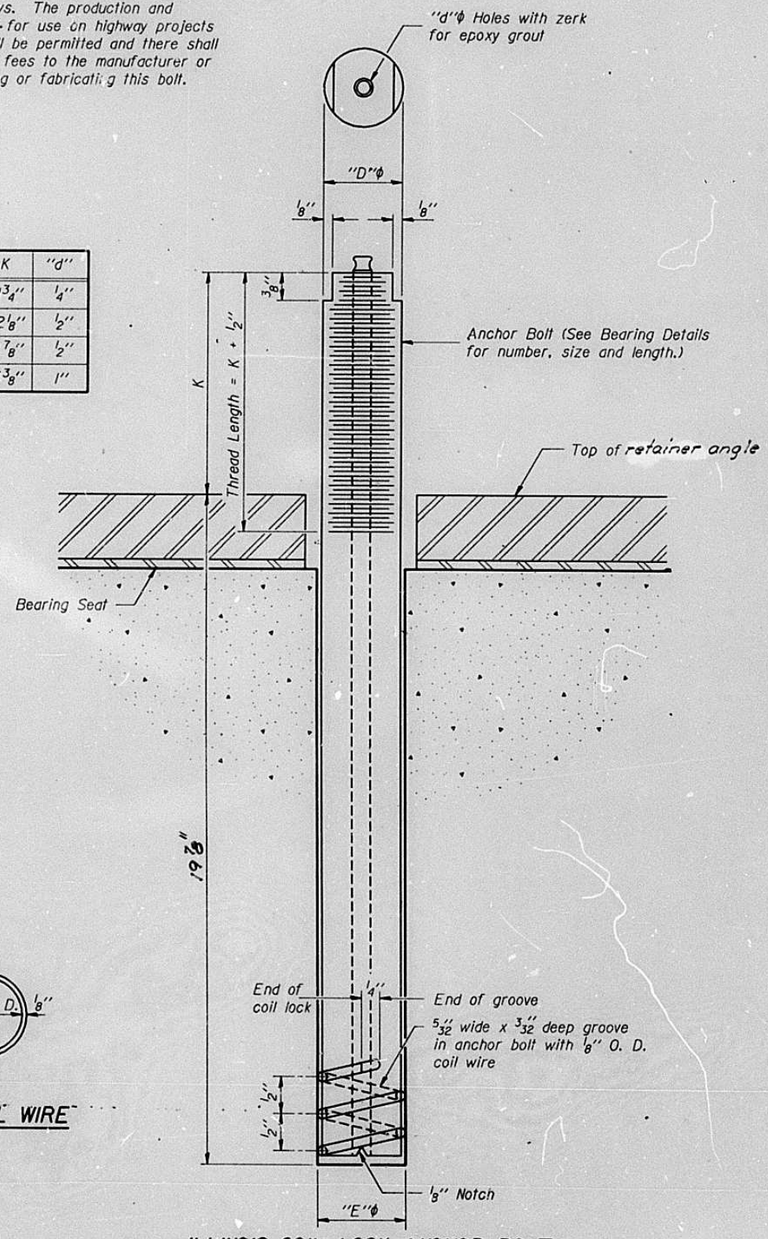
BEARING REPLACEMENT
AT PIER #10
F.A. RT. 49 SEC. 15B-I-4
PEORIA-TAZEWELL COUNTIES

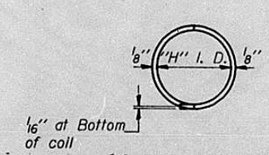
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A. 49	58B-1-4	Peoria-Tazewell	5	4
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

SHEET NO. 4
4 SHEETS

D	E	H	K	"d"
1"	1⅛"	13/16"	1 3/4"	¼"
1½"	1⅝"	1 5/16"	2⅛"	½"
2"	2⅛"	1 13/16"	2 7/8"	½"
2½"	2 5/8"	2 5/16"	3 3/8"	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 A519, Grade 1026 and supplied with hexagonal nuts and cut washers.

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

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

The epoxy grout shall be a two-component, epoxy resin bonding system comforming 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 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 in accordance with the manufacturer's recommendations and procedures.

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

1. A 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".

DESIGNED	Gholam R. Ahanchi	March 25 1986
CHECKED	Thomas J. Domagalski	EXAMINED Iraj I. Kaspar, ENGINEER OF BRIDGE DESIGN
DRAWN	J. SCHNELLER	PASSED James T. Rayburn, ENGINEER OF BRIDGES AND STRUCTURES
CHECKED	T.J.D. GRA	APPROVED DIRECTOR OF HIGHWAYS

ABB-1 12-1-83

ANCHOR BOLT DETAILS
FOR BEARINGS
F.A. RT. 49 SEC. 58B-1-4
PEORIA-TAZEWELL COUNTIES