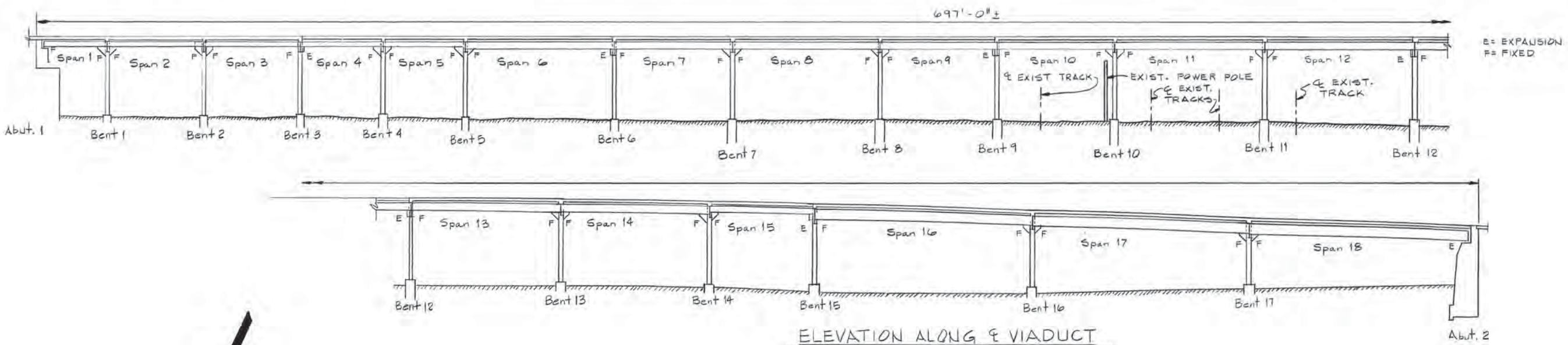
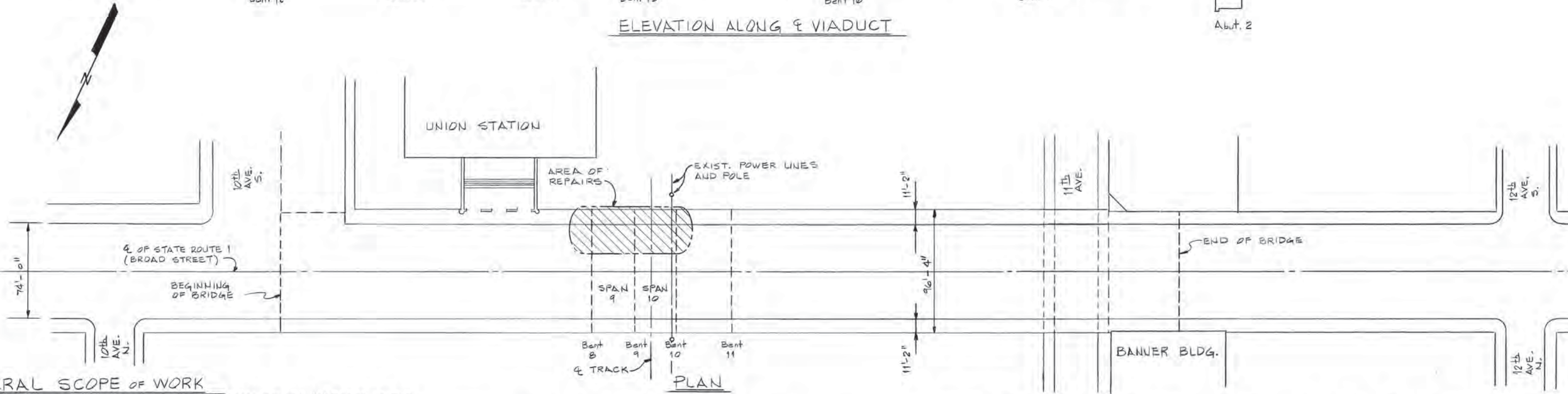


PROJECT NO	YEAR	SHEET NO.	
19019-4214-04	1994		
REVISIONS			
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ELEVATION ALONG & VIADUCT



PLAN

GENERAL SCOPE OF WORK

- 1) REPLACE FOUR (4) DAMAGED STEEL BEAMS AND REALIGN ONE (1) BEAM ON THE SOUTH SIDE OF SPAN No. 10.
- 2) RECONNECT EXISTING STEEL DIAPHRAGMS WITH NEW CONNECTION ANGLES IN SPAN No. 10.
- 3) JACK TWO (2) BEAMS ON SOUTH SIDE OF SPAN No. 9 AT BENT No. 9, REALIGN BENT COLUMN AND RESET THE TWO (2) BEAMS ON ORIGINAL BEARINGS.
- 4) REPLACE DAMAGED PORTION OF DECK DRAIN-PIPE AT BENT No. 9.

LIST OF SPECIAL PROVISIONS

** DENOTES: CURRENT REVISION DATE, AS PER CONTRACT DOCUMENTS

No.	LAST REV. DATE	REGARDING
100	**	REVISIONS AND ADDITIONS TO STANDARD SPECIFICATIONS
105A	**	APPROVAL OF SHOP DRAWINGS
602	**	SECTION 602 STEEL STRUCTURES
603A	**	PAINTING
603B	**	CONTAINMENT AND DISPOSAL OF LEAD AND OTHER HAZARDOUS PAINT WASTE.

LIST OF REFERENCE DRAWINGS

TO BE PRINTED WITH PLANS

DWG No.	LAST REV DATE	DRAWING
B-13-140,		
B-13-146,		
B-13-148,		
B-13-154,		
B-13-164		
AND B-13-165 --- VARIES --- EXISTING BRIDGE DRAWINGS		

LIST OF DRAWINGS

DWG No.	LAST REV. DATE	DRAWING
BR-17-54		LAYOUT OF BRIDGE TO BE REPAIRED
BR-17-55		ESTIMATED QUANTITIES AND GENERAL NOTES
BR-17-56		BRIDGE REPAIR DETAILS
BR-17-57		STRUCTURAL STEEL REPAIRS
BR-17-58		BRIDGE REPAIR DETAILS



STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAYS

LAYOUT OF BRIDGE TO BE REPAIRED
STATE ROUTE 1 (BROADWAY)
OVER C.S.X. RAILROAD
BRIDGE No. 19-SR1-17.25
DAVIDSON COUNTY
1994

DESIGNED BY Tom Quinn DATE Oct. 1994
DRAWN BY Don Kimber DATE Oct. 1994
SUPERVISED BY J. Christianson DATE Oct. 1994
CHECKED BY T. Quinn, W. Segler DATE Oct. 1994

MEMO 11-22

PROJECT NO	YEAR	SHEET NO.
19019-4214-04	1994	2

REVISIONS			
NO	DATE	BY	BRIEF DESCRIPTION

ESTIMATED BRIDGE QUANTITIES

ITEM NO	DESCRIPTION	UNIT	QUANTITY
① 602-10.19	JACKING STEEL SPANS	L.S.	1
② 602-10.32	STRUCTURAL STEEL (REPAIRS)	LEB.	15,455

FOOTNOTES

- ① INCLUDES ALL LABOR AND MATERIALS NECESSARY TO JACK AND RESET TWO (2) BEAMS IN SPAN No. 9, REALIGN BENT No. 9 AND REPLACE DAMAGED SECTION OF DRAIN PIPE. SEE DWG. No. BR-17-58.
- ② INCLUDES ALL LABOR AND MATERIALS NECESSARY TO REPLACE FOUR (4) STEEL BEAMS AND REALIGN ONE (1) BEAM IN SPAN 10 AND WELD REPAIR OF CRACKS IN TOP AND BOTTOM FLANGE OF BENT No. 9 CAP BEAM. SEE DWG. No's. BR-17-56, BR-17-57, AND BR-17-58.

ESTIMATED ROADWAY QUANTITIES

ITEM NO	DESCRIPTION	UNIT	QUANTITY
712-01	TRAFFIC CONTROL	L.S.	1
712-04.01	FLEXIBLE DRUMS (CHANNELIZING)	EACH	20
712-05.01	WARNING LIGHTS (TYPE A)	EACH	4
712-05.03	WARNING LIGHTS (TYPE C)	EACH	9
712-06	SIGNS (CONSTRUCTION)	S.F.	81
712-08.03	AREAW BOARD (TYPE C)	EACH	1
③ 712-09.01	REMOVABLE PAVEMENT MARKING LINE	LF	1000
④ 716-02.01	PLASTIC PAVEMENT MARKING (LINE)	LIN. MI.	0.33
717-01	MOBILIZATION	L.S.	1

- ③ FOR USE IN MAINTAINING EXISTING TEMPORARY MARKING DURING CONSTRUCTION
- ④ SHALL BE THERMOPLASTIC

UTILITY NOTES

THE LOCATIONS OF UTILITIES SHOWN WITHIN THESE PLANS ARE APPROXIMATE ONLY. EXACT LOCATIONS SHALL BE DETERMINED IN THE FIELD BY CONTACTING THE UTILITY COMPANIES INVOLVED.

UNLESS OTHERWISE NOTED, ALL UTILITY ADJUSTMENTS WILL BE PERFORMED BY THE UTILITY OR ITS REPRESENTATIVE. THE CONTRACTOR AND UTILITY OWNERS WILL BE REQUIRED TO CO-OPERATE WITH EACH OTHER IN ORDER TO EXPEDITE THE WORK REQUIRED BY THIS CONTRACT.

THE CONTRACTOR WILL PROVIDE ALL NECESSARY PROTECTIVE MEASURES TO SAFEGUARD EXISTING UTILITIES FROM DAMAGE DURING CONSTRUCTION OF THIS PROJECT. IN THE EVENT THAT SPECIAL EQUIPMENT IS REQUIRED TO WORK OVER AND AROUND THE UTILITIES, THE CONTRACTOR WILL BE REQUIRED TO FURNISH SUCH EQUIPMENT. THE COST OF PROTECTING UTILITIES FROM DAMAGE AND FURNISHING SPECIAL EQUIPMENT WILL BE INCLUDED IN THE PRICE BID FOR OTHER ITEMS OF CONSTRUCTION.

THE CONTRACTOR WILL BE SOLELY RESPONSIBLE FOR CONTACTING ALL AFFECTED UTILITIES PRIOR TO SUBMITTING HIS BID, IN ORDER TO DETERMINE THE EXTENT TO WHICH UTILITY RELOCATIONS AND/OR ADJUSTMENTS WILL HAVE UPON THE SCHEDULE OF THE WORK FOR THE PROJECT. SOME UTILITY FACILITIES MAY NEED TO BE ADJUSTED CONCURRENTLY WITH THE CONTRACTOR'S OPERATIONS, WHILE SOME WORK MAY BE REQUIRED "AROUND" UTILITY FACILITIES THAT WILL REMAIN IN PLACE. IT IS UNDERSTOOD AND AGREED THAT THE CONTRACTOR WILL RECEIVE NO ADDITIONAL COMPENSATION FOR ANY DELAYS OR INCONVENIENCE CAUSED BY THE UTILITY ADJUSTMENTS.

THE CONTRACTOR SHALL NOTIFY EACH INDIVIDUAL UTILITY OWNER OF HIS PLAN OF OPERATION IN THE AREA OF THE UTILITIES. PRIOR TO COMMENCING WORK, THE CONTRACTOR SHALL CONTACT THE UTILITY OWNERS AND REQUEST THEM TO PROPERLY LOCATE THEIR RESPECTIVE UTILITY ON THE GROUND. THIS NOTIFICATION SHALL BE GIVEN AT LEAST THREE (3) BUSINESS DAYS PRIOR TO COMMENCEMENT OF OPERATIONS AROUND THE UTILITY.

GENERAL NOTES

SPECIFICATIONS Standard Road and Bridge Specifications of the Tennessee Department of Transportation (March 1981 edition)

DESIGN SPECIFICATIONS. AASHTO 1992 Edition with addenda

STRUCTURAL STEEL Shall conform to AASHTO M270 GRADE 36 (ASTM A709 GRADE 36) unless otherwise noted.

SHOP DRAWINGS Shall be submitted according to Special Provision no. 105A, except shop drawings shall be submitted to the Headquarters Bridge Inspection and Repair Office in lieu of the Division of Structures

All dimensions shown are based on original plans and shop drawings. The original structural steel shop drawings for the bridge are on file in the Division of Structures for viewing by the contractor. Contractor shall field verify all dimensions before fabrication is begun.

BOLTS Shall be high tensile strength bolts (ASTM-A325), unless otherwise noted. Size to be as noted on plans. See AASHTO specifications; ARTICLE 11.5.6 DIVISION II. Existing contact surfaces shall be cleaned to SSPC-10 specifications prior to attachment of new members.

WELDING: ANSI/AASHTO/ANSI D1 5-88 Bridge Welding Code and Special Provision no. 602.

NON-PAY ITEMS: Only items shown on the proposal as pay items will be paid for. Compensation for all labor, materials, tools, equipment, and incidentals for the entire contract shall be included in the price for pay items.

SPECIAL NOTE FOR RAILROAD CROSSING: The contractor shall conduct his work so as to protect the railroad tracks and properties from any damage. The work shall be done in accordance with regulations stipulated by the C.S.X. railroad so as to maintain clearance and not interrupt traffic. No equipment or materials shall be left obstructing rail traffic during non-working hours.

PAINTING OF NEW STEEL. All structural steel shall be blast cleaned and painted. Blast cleaning shall be in accordance with Tennessee Standard Specification 603.05(b). Paint shall be system "B", Inorganic Zinc Paint System, except a urethane finish coat shall be used in lieu of a vinyl finish coat. Color of the urethane finish coat shall comply with Federal Standard No. 595a, 24110 Bright Green. See sections 603 and 910 of the Standard Road and Bridge Specifications of the Tennessee Department of Transportation. An intermediate tie coat as specified in Special Provision no. 603A shall be used. Cost of painting shall be included in unit price bid for structural steel.

CONTAINMENT AND DISPOSAL OF EXISTING PAINT SYSTEM: According to our records the existing paint system contains lead silico chromate paint, which has been designated as a hazardous material. The contractor shall contain and dispose of all paint removal waste in accordance with Special Provision no. 603B.

WORKER PROTECTION. Our maintenance records indicate that this bridge was originally painted with materials containing lead and/or chromates and the contractor shall be required to proceed accordingly to take all mandatory safeguards prescribed by the State and Federal Law for both the worker/s protection and hazardous materials disposal.

EXISTING TEMPORARY SUPPORT. The existing temporary support at Bent No. 9 shall remain the property of the State. The contractor shall remove the temporary support and stock-pile all materials at the site for removal by state personnel.



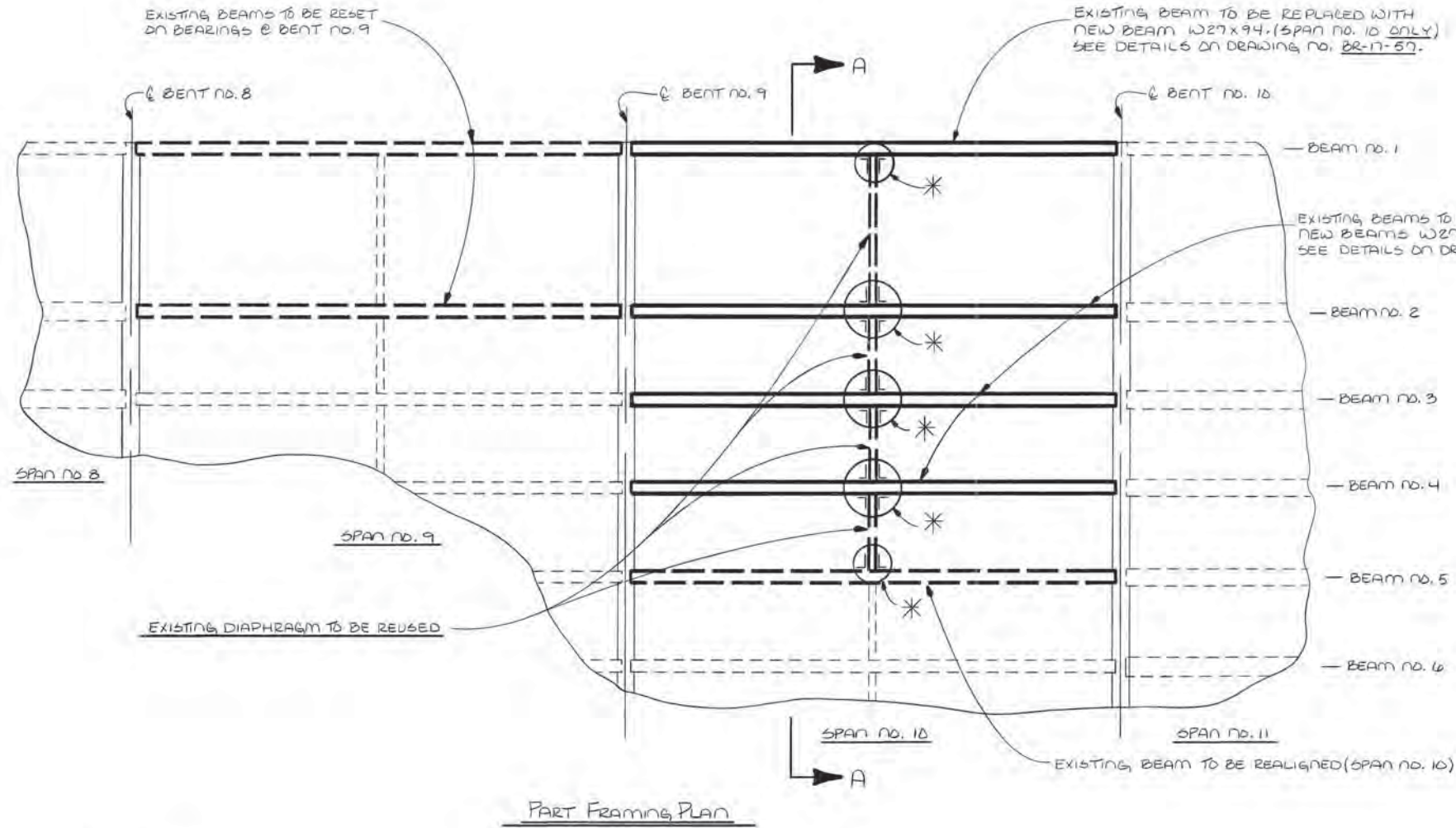
STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAYS

ESTIMATED QUANTITIES AND
GENERAL NOTES
STATE ROUTE 1 (BROADWAY) OVER
C.S.X. RAILROAD
BRIDGE No. 19-SR1-1725
DAVIDSON COUNTY
1994

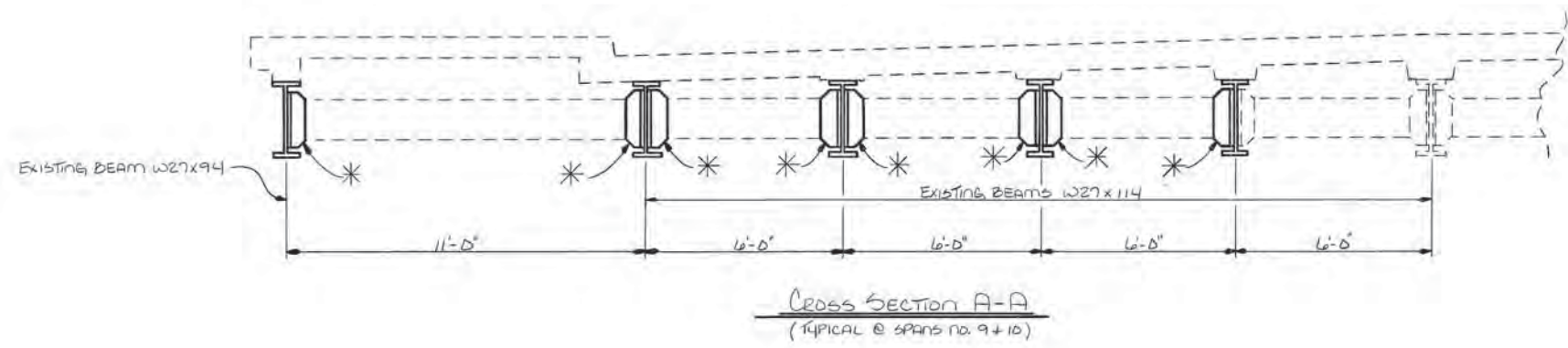
BR-17-55

DESIGNED BY Tom Quinn DATE 10-94
 DRAWN BY Cory Hawkins DATE 10-94
 SUPERVISED BY T. CHRISTIANSON DATE 10-94
 CHECKED BY Wayne Sefer #0400 DATE 10-94

PROJECT NO.	YEAR	SHEET NO.	
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REVISIONS			
NO	DATE	BY	BRIEF DESCRIPTION



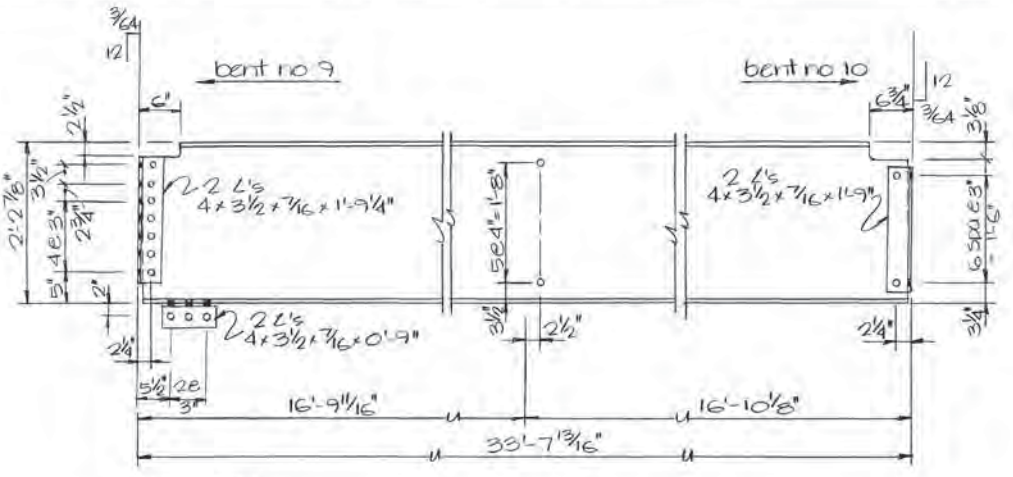
* DENOTES DIAPHRAGM CONNECTION ANGLES TO BE REPLACED. SEE DETAILS ON DRAWING NO. BR-17-57.



STATE OF TENNESSEE
 DEPARTMENT OF TRANSPORTATION
 BUREAU OF HIGHWAYS
 BRIDGE REPAIR DETAILS
 STATE ROUTE 1 (BROADWAY) OVER
 C.S.X. RAILROAD
 BRIDGE No. 19-5R1-17.25
 DAVIDSON COUNTY
 1994

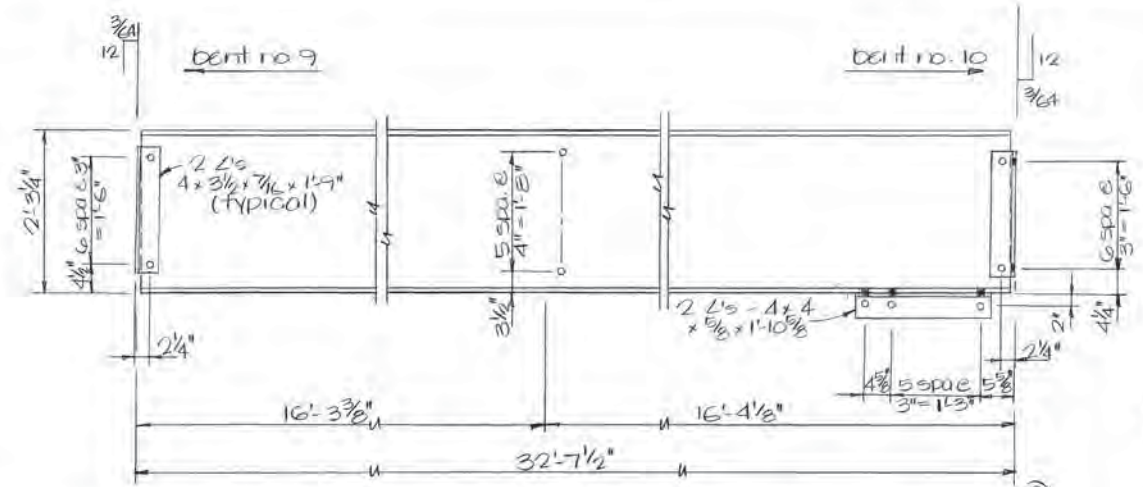
DESIGNED BY Tom Quinn DATE 10-94
 DRAWN BY COREY HAWKINS DATE 10-94
 SUPERVISED BY J. CHRISTIANSON DATE 10-94
 CHECKED BY WAYNE SEGER + QUINN DATE 10-94

PROJECT NO	YEAR	SHEET NO.	
19019-4214-04	1994		
REVISIONS			
NO	DATE	BY	BRIEF DESCRIPTION



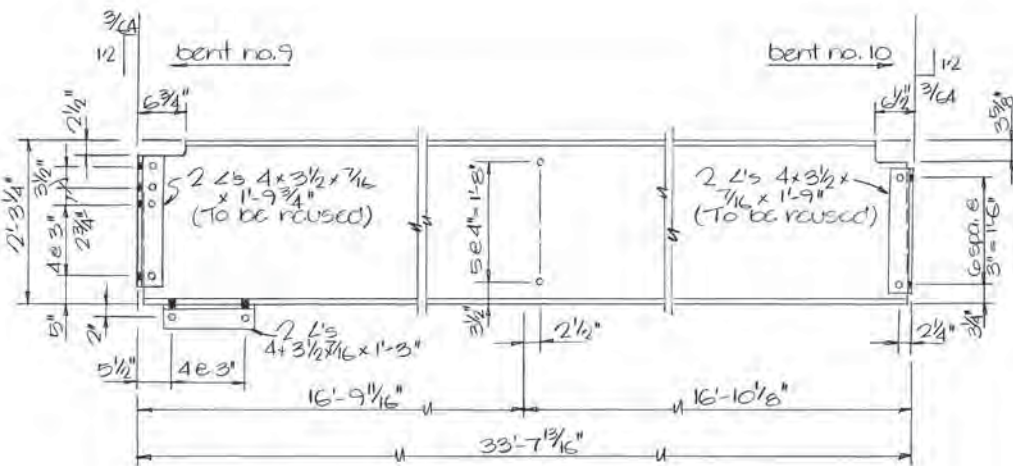
Beam No. 1
(W27x94x33'-7")
One (1) required

Note: For beam locations see framing plan on dwg. no. BR-17-56.

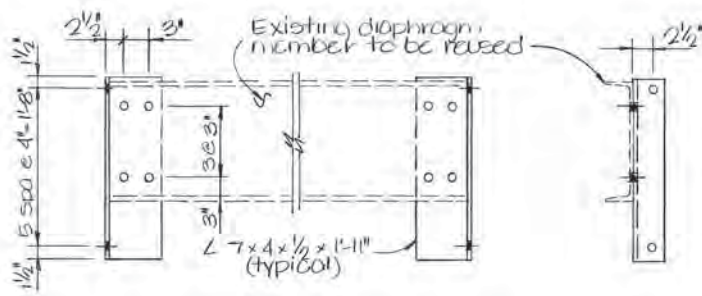


Beam No. 2
(W27x114x32'-6 1/2")
One (1) required

Note: Contractor shall field verify and measure all dimensions, member sizes, hole diameters, etc. before any shop fabrication.
Note: All new structural steel shall receive a shop coat of Inorganic Zinc primer at 2.5 mils dry film thickness.

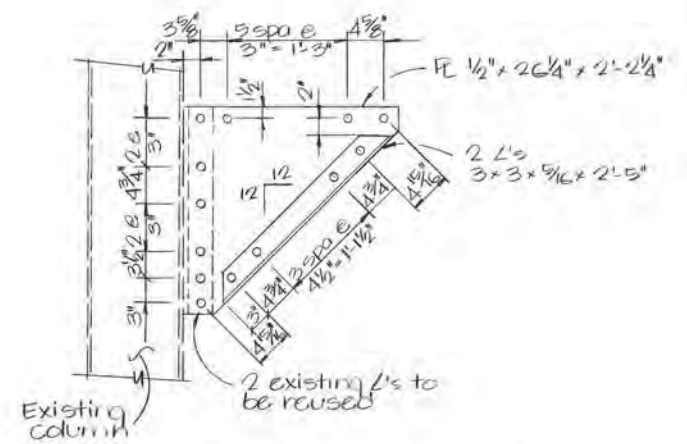


Beams No. 3 & 4
(W27x114x33'-7")
Two (2) required



Diaphragm Connection Angles
(Typical diaphragms no 1 thru 5)
Eight (8) required

Note: See framing plan on dwg. no. BR-17-56 for diaphragm locations.



Beam No. 2 Support Bracket of Bent No. 10,
South Side Column
One (1) required

Note: Cost of cleaning, painting, and containment of all structural steel within the repair limits shall be paid for under item no. 602-10.32, Lbs.

Note: Cost of all structural steel and high strength bolts required to complete the repairs as shown shall be paid for under item no. 602-10.32, Structural Steel (Repairs), Lbs.

Note: All holes shall be 1 5/16\"/>

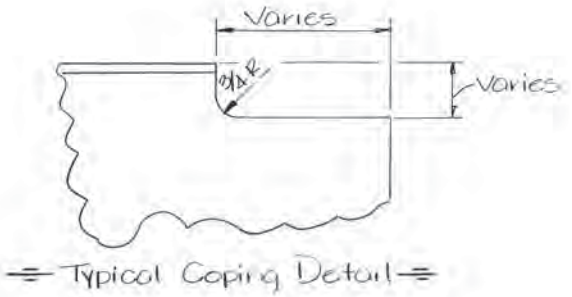
Note: When replacing beams no. 1 thru 4, only one (1) connection angle, at bent no. 10 end, shall be removed at a time.

Note: Dimensions shown this sheet are taken from existing shop drawings. Contractor may view the existing shop drawings in the Division of Structures.

Note: Contractor may field drill holes, where necessary, to match the existing holes in the beams and/or connection angles.

Special Note: The contractor shall be responsible for supporting the superstructure during the repairs as shown these plans. Details of the support system shall be submitted to the Engineer for review before any beam repairs are begun. Cost of the support system shall be included in items bid on.

Note: After setting the beams the contractor shall inject epoxy between the existing slab and the top of the top flanges to ensure that no voids remain between the top of the top flange and the concrete slab. A list of approved epoxies may be obtained from the T.D.O.T., Division of Materials and Test. Cost of epoxy injection shall be included in items bid on.

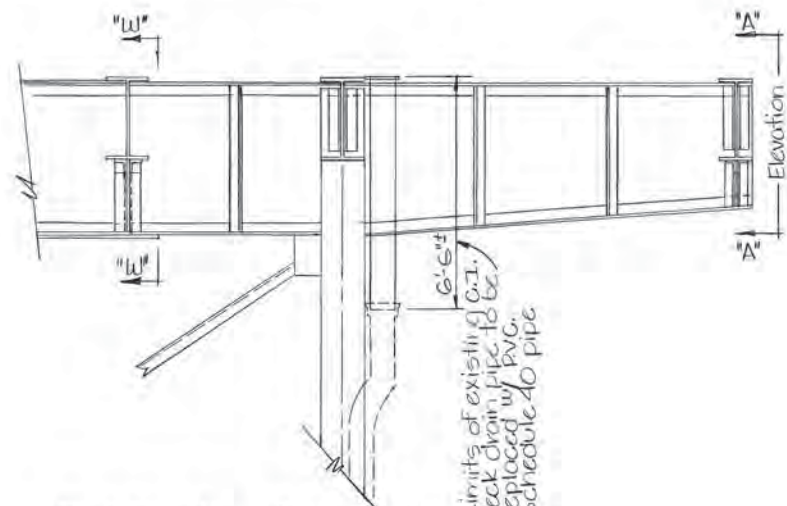


Typical Coping Detail

DESIGNED BY	Tom Quinn	DATE	10-94
DRAWN BY	RDC	DATE	10-94
SUPERVISED BY	TQ	DATE	10-94
CHECKED BY	T.Q.	DATE	10-94

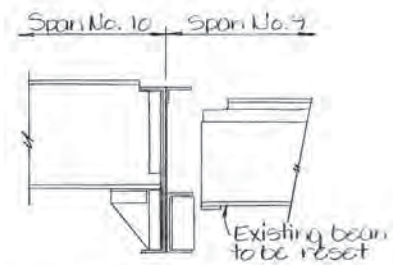


STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAYS
Structural Steel Repair Details
State Route 1 (Broadway)
over CSX Railroad
Bridge No. 19-SR1-17.25
Davidson County
1994

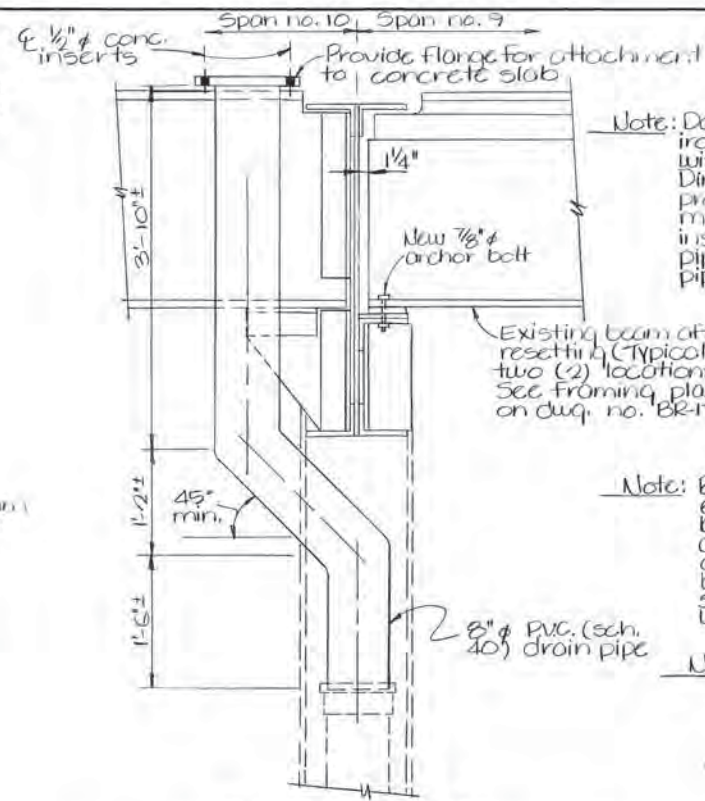


Port Elevation - Bent No. 9
(Looking East)

Note: 1/2" ϕ concrete inserts shall be approved by the T.D.C.T., Division of Materials and Test.



Elevation "A-A"
Showing beam to be reset
(Typical two (2) locations)



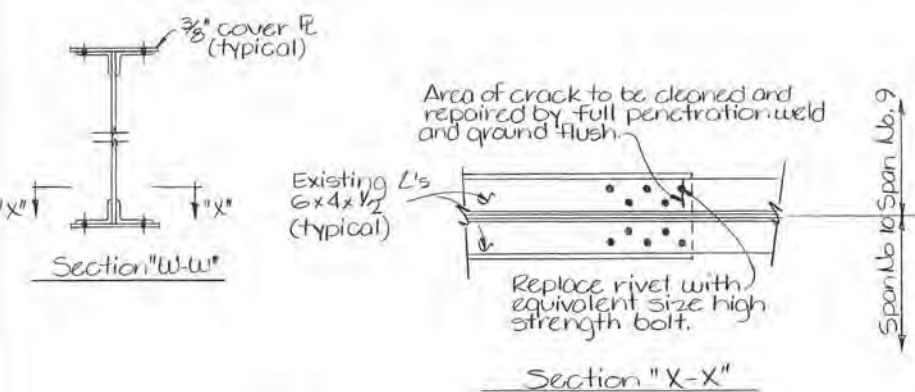
Elevation "A-A"
Showing reset beam and repaired drain pipe

Note: Damaged length of existing cast iron drain pipe shall be replaced with PVC drain pipe (schedule 40). Dimensions shown here are approximate and shall be field measured by the contractor to insure proper fit to existing pipe. Cost of repairing drain pipe to be included in items bid on.

Note: Beams no. 1 and 2 in span no. 9 shall be jacked back to original elevation and bent no. 9 realigned. After realigning bent no. 9, beams no. 1 and 2 shall be reset on existing bearing and new anchor bolts installed. Contractor shall use care during jacking operations to prevent further damage to the bridge deck and beams. Cost of jacking and realigning bent no. 9 and beams shall be included under item no. 602-10.19, Jacking Steel Spans, Lump Sum.

Note: Bent cap of bent no. 9 has moved 7" \pm toward span no. 10.

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Crack Repair Details
(typical top and bottom flange - span no. 9 only)

Note: Cost of repairing cracks at two (2) locations including welding, new high strength bolts and all miscellaneous materials shall be included in items bid on.

DESIGNED BY: Tom Quinn DATE: 10-94
 DRAWN BY: E.D.G. DATE: 10-94
 SUPERVISED BY: T.G. DATE: 10-94
 CHECKED BY: T.G. DATE: 10-94



STATE OF TENNESSEE
 DEPARTMENT OF TRANSPORTATION
 BUREAU OF HIGHWAYS
 Bridge Repair Details
 State Route 1 (Broadway)
 over CSX Railroad
 Bridge No. 17-5R1-17.25
 Davidson County
 1994