

LETTING DATE
JULY 17, 1990

STATE	FHWA REGION	F.Y.	SHEET	TOTAL
IOWA	7		1	6
PROJECT NUMBER				
FN-30-3(21)--21-37				
R.O.W. PROJECT NUMBER				
PIN NUMBER				
90-37060-1				

CONSTRUCTION PLANS SHOWING PROJECT AS BUILT

Plan Preparation Supervised By: Ron DeBok
Resident Construction Engineer
Date 12-19-93 Iowa Reg. No. 5795

REVIEWED AND FORWARDED TO AMES
Ron DeBok Date 1/24/92
District Construction Engineer
One 50% Reduced and Two Full-Size Prints To Be Made and Returned To
Ken Meeks
District Engineer

AFTER MICROFILMING RETURN ORIGINAL
TO DISTRICT NO. 1

IOWA
DEPARTMENT OF TRANSPORTATION
Highway Division
PLANS OF PROPOSED IMPROVEMENTS ON THE
PRIMARY ROAD SYSTEM
GREENE COUNTY
MISCELLANEOUS (SUBDRAINS)

ON U.S. 30 FROM JUNCTION OF IA. 25 EAST 18.0 MILES TO
JUST EAST OF GRAND JUNCTION

SCALE: As Noted

The standard specifications, series of, 1984 of the Iowa Department
of Transportation, shall apply to construction work on this project.

NO MILEAGE SUMMARY

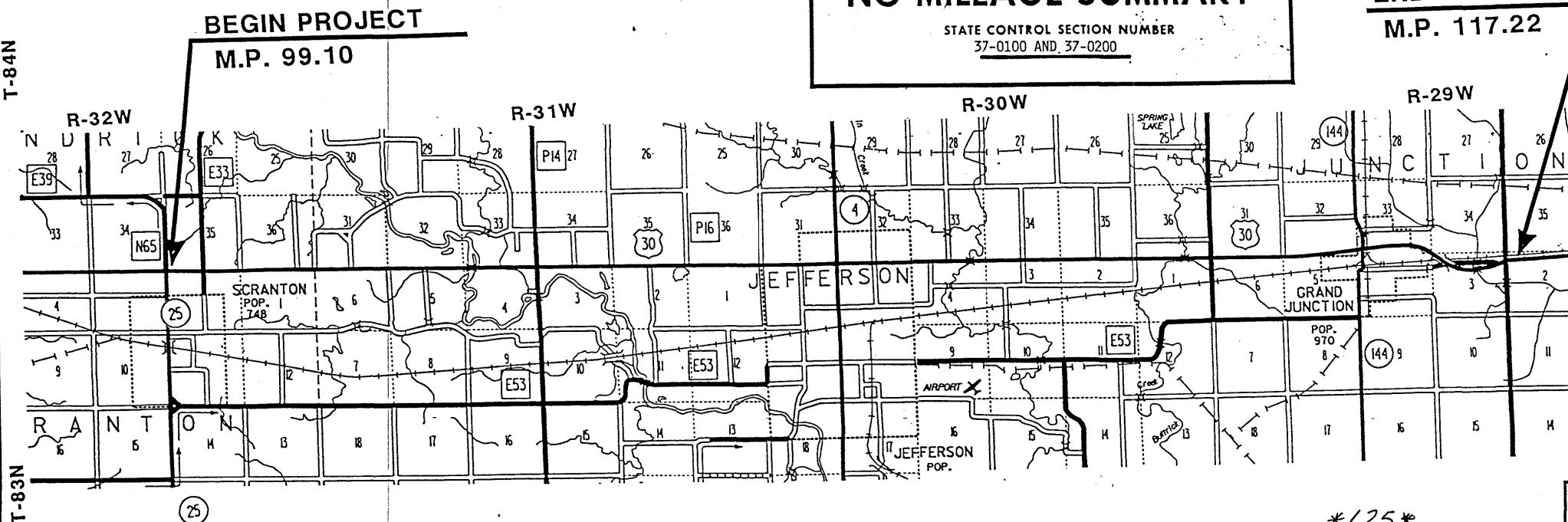
STATE CONTROL SECTION NUMBER
37-0100 AND 37-0200

END PROJECT
M.P. 117.22

YEAR	WORK	CONTRACTOR	PROJ. INSPECTOR
1990	Miscellaneous	Muscatine Bridge Co., Inc.	Dick Peterson

INDEX OF SHEETS	
NO.	DESCRIPTION
1.	TITLE SHEET
2.-4.	ESTIMATE OF QUANTITIES AND GENERAL INFORMATION.
5.-6.	DETAIL SHEETS FOR CAST-IN-PLACE BARRIER RAILS.

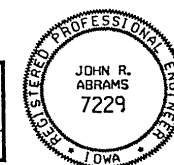
STANDARD ROAD PLANS					
The following Standard Road Plans shall be considered applicable to construction work on this project.					
NUMBER	DATE	NUMBER	DATE	NUMBER	DATE
RE-2A	02-17-87	RE-48A	08-20-85	RF-19C	05-10-88
RE-2B	04-04-89	RE-52	08-08-89	RF-19E	02-17-87
RE-12A	10-11-88	RE-65	01-09-90	RL-11	10-11-88
RE-12B	01-09-90	RE-68	08-08-89	RS-2	10-11-88
RE-47	11-10-87	RE-69	08-08-89	RS-3	11-15-88
				RS-4	11-15-88



125

DESIGN DATA RURAL				
1990	AADT	2,850	V.P.D.	
20	AADT		V.P.D.	
20	DHV		V.P.H.	
	TRUCKS	14	%	

George F. Sisson
ROAD DESIGN ENGINEER DATE 5/11/90



I hereby certify that this plan was prepared under my supervision and that engineering decisions with regard to the design were made by me or by other duly Registered Professional Engineers under the laws of the State of Iowa.

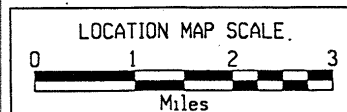
Name John R. Abrams
Iowa Registration No. 7229 Date 5/11/90

REVISIONS

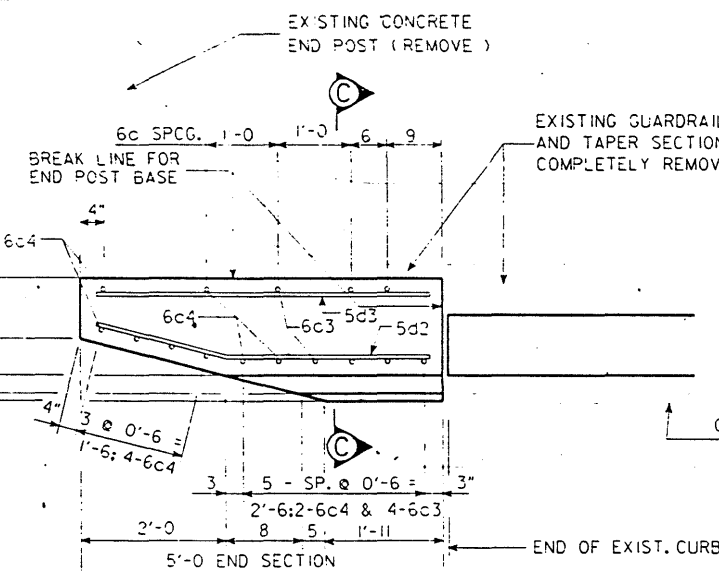
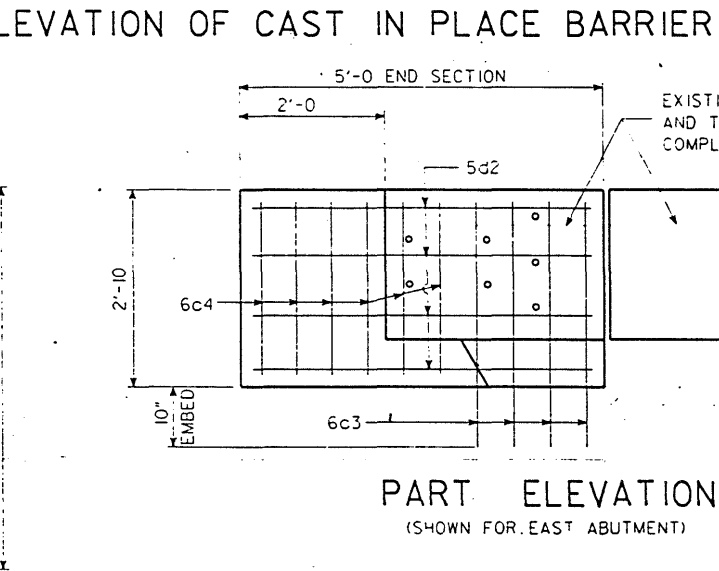
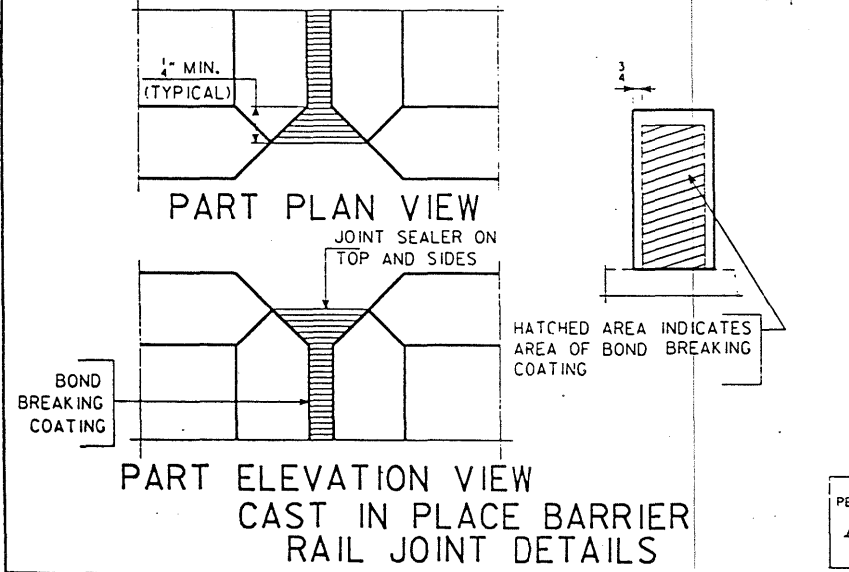
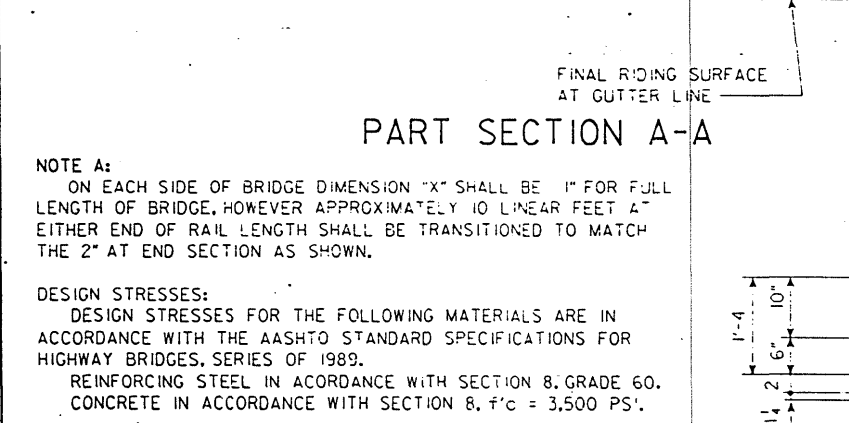
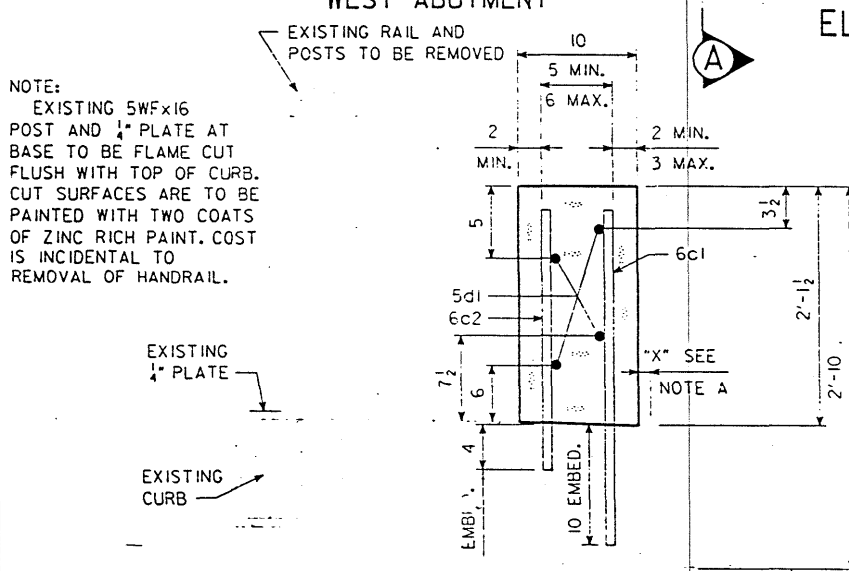
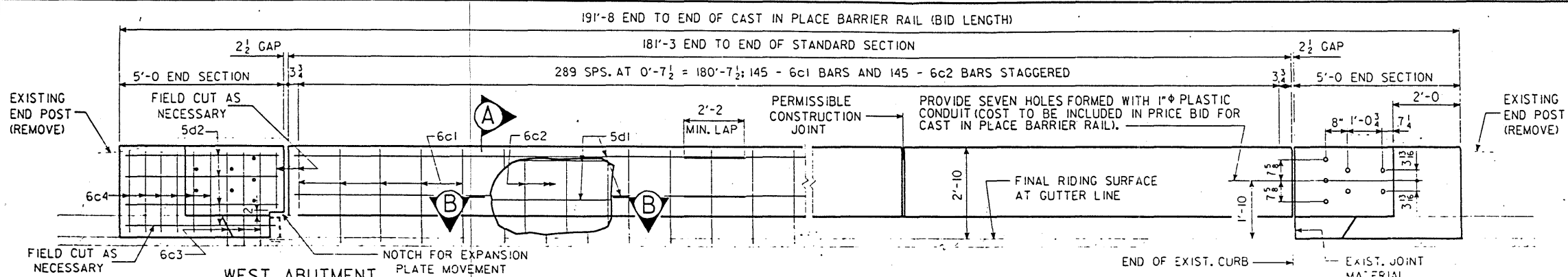
Iowa Department of Transportation
Highway Division
AUTHORIZED FOR LETTING
J. B. Anderson 5-11-90
DEPUTY CHIEF ENGINEER DATE

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
APPROVED
FOR THE DIVISION ADMINISTRATOR DATE

901174
006295
008
SJK



MICROFILMED

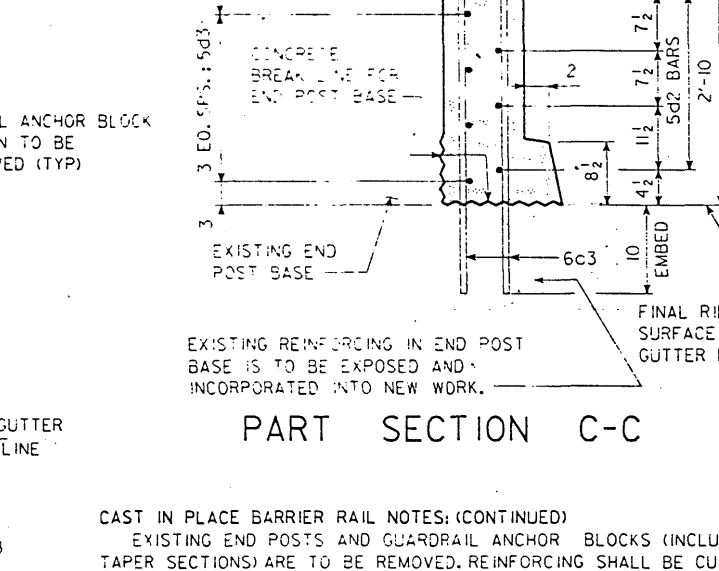
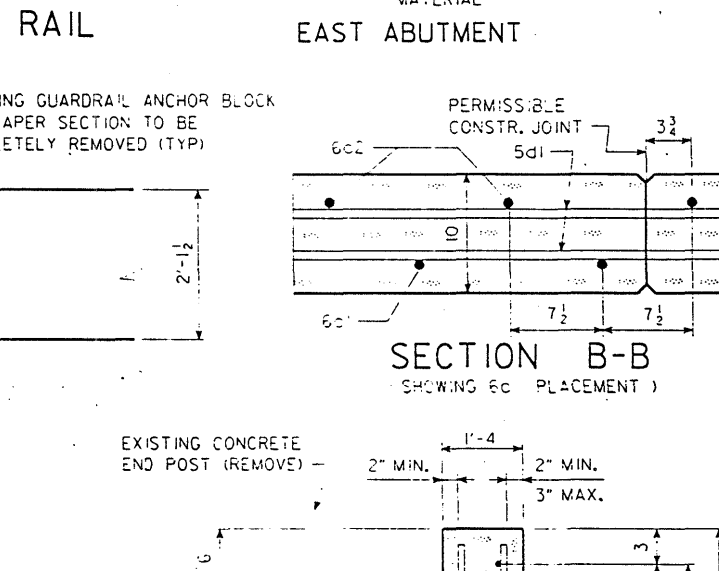


DESIGN HISTORY AT THIS SITE

DES. NO.	TYPE OF WORK
656	ORIGINAL DESIGN
182	DECK REPAIR
290	RETROFIT RAIL

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT PERSONAL SUPERVISION AND THAT I AM A DULY REGISTERED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF IOWA.

DATE: 4-9-90
 LEROY PHILLIPS
 REG. NO. 4138



CAST IN PLACE BARRIER RAIL NOTES:

MINIMUM CLEAR DISTANCE FROM FACE OF CONCRETE TO NEAR REINFORCING BAR IS TO BE 2" UNLESS OTHERWISE NOTED OR SHOWN.

ALL EXPOSED CORNERS 90° OR SHARPER ARE TO BE FILLETED WITH A 3/4" DRESSED AND BEVELED STRIP.

THE PERMISSIBLE CONSTRUCTION JOINTS ARE TO BE PLACED BETWEEN VERTICAL BARS AT A MINIMUM SPACING OF 20 FEET. CONSTRUCTION JOINT CONTACT SURFACES ARE TO BE COATED WITH AN APPROVED BOND BREAKER.

COST OF JOINT SEALER AND BOND BREAKER SHALL BE CONSIDERED INCIDENTAL TO OTHER CONSTRUCTION.

THE CAST IN PLACE BARRIER RAIL IS TO BE BID ON A LINEAL FOOT BASIS MEASURED FROM END TO END OF RAIL. THE NUMBER OF LINEAL FEET OF CAST IN PLACE BARRIER RAIL INSTALLED WILL BE PAID FOR AT THE CONTRACT PRICE PER LINEAL FOOT BASED ON PLAN QUANTITIES. PRICE BID FOR CAST IN PLACE BARRIER RAIL SHALL BE FULL COMPENSATION FOR FURNISHING ALL MATERIAL (INCLUDING REINFORCING STEEL & 1" PLASTIC CONDUIT) PLUS ALL OF THE EQUIPMENT AND LABOR REQUIRED TO ERECT THE RAIL IN ACCORDANCE WITH THESE PLANS AND CURRENT SPECIFICATIONS.

ALL CAST IN PLACE BARRIER RAIL CONCRETE IS TO BE CLASS D.

ALL REINFORCING STEEL IS TO BE GRADE 60 AND EPOXY COATED.

THE JOINT SEALER SHALL CONFORM TO FED. SPEC. TT-S00230 OR TT-S00227 FOR TYPE II, CLASS A OR B.

EXISTING BRIDGE RAIL IS NOT TO BE REMOVED UNTIL AUTHORIZED BY THE ENGINEER.

ANY REMOVALS AND DISPOSALS REQUIRED SHALL BE IN ACCORDANCE WITH SECTION 2401 OF THE STANDARD SPECIFICATIONS. ANY DAMAGE TO OTHER PORTIONS OF THE EXISTING STRUCTURE NOT NOTED FOR REMOVAL SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR AND SHALL BE REPAIRED BY HIM AT NO COST TO THE STATE.

CAST IN PLACE BARRIER RAIL NOTES: (CONTINUED)

EXISTING END POSTS AND GUARDRAIL ANCHOR BLOCKS (INCLUDING TAPER SECTIONS) ARE TO BE REMOVED. REINFORCING SHALL BE CUT OFF FLUSH WITH OR SLIGHTLY BELOW THE CONCRETE SURFACE AND THE REMAINING EXPOSED ENDS PAINTED WITH TWO COATS OF ZINC RICH PAINT. THE COST OF THIS WORK SHALL BE CONSIDERED INCIDENTAL TO PLACEMENT OF CAST-IN-PLACE BARRIER RAIL.

THE BID ITEM "REMOVAL OF EXISTING HANDRAIL" SHALL INCLUDE ALL COSTS ASSOCIATED WITH DISMANTLING THE EXISTING STEEL HANDRAIL (APPROXIMATELY 363 LIN. FT. AND 48 POSTS). THE HANDRAILS ARE TO BECOME THE PROPERTY OF THE CONTRACTOR.

DOWEL SETTING NOTE:

THE 6c1, 6c2 & 6c3 BARS SHALL BE SET AS DOWELS IN DRILLED HOLES. HOLES ARE TO BE 4" DEEP FOR 6c2 BARS AND 10" DEEP FOR 6c1 AND 6c3 BARS. THE DOWELS SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS. THE FOLLOWING SYSTEM SHALL BE USED AS A BONDING AGENT FOR THE DOWELS:

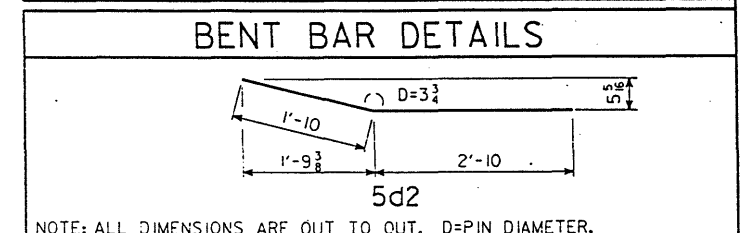
EPOXY GROUT SYSTEM IN ACCORDANCE WITH STANDARD SPECIFICATIONS ARTICLE 2301.15 AND CURRENT SUPPLEMENTAL SPECIFICATIONS OF THE IOWA D.O.T. - HIGHWAY DIVISION.

LOCATION:

U.S. #30 OVER BUTTRICK CREEK
 SECTION 36
 T-84N, R-30W
 HARDIN TWP.
 GREENE COUNTY
 BR. MAINT. NO. 3712.85030

EPOXY REINFORCING STEEL-TWO RAILS

BAR	LOCATION	SHAPE	NO.	LENGTH	LIN. FT.	WEIGHT
6c1	RAIL, F.F. VERTICAL		290	2'-9"	798	1198
6c2	RAIL, B.F. VERTICAL		290	2'-3"	653	980
6c3	END POST, VERTICAL		28	3'-6"	98	147
6c4	END POST, VERTICAL		32	2'-6"	80	120
5d1	RAIL, LONGITUDINAL		40	37'-11"	1517	1582
5d2	END POST, LONGITUDINAL		16	4'-8"	75	78
5d3	END POST, LONGITUDINAL		16	4'-8"	75	78
TOTAL (lbs.)						4183



CONCRETE PLACEMENT SUMMARY

SECTION	TOTAL
STANDARD SECTION 362.5' @ 0.065 CU. YDS. PER LIN. FT.	23.6
END SECTIONS 4 @ 0.67 CU. YDS. EACH	2.7
TOTAL CU. YDS.	26.3

TOTAL ESTIMATED QUANT'S.-TWO RAILS

ITEM NO.	ITEM	UNITS	QUANTITY
1	CONCRETE BARRIER RAIL (CAST-IN-PLACE)	LIN. FT.	383.3
2	REMOVAL OF EXISTING HANDRAIL & END POST	L.S.	LUMP SUM

ESTIMATE REFERENCE INFORMATION

INCLUDES 26.3 CU. YDS. OF CLASS D STRUCTURAL CONCRETE, AND 4183 LBS. OF EPOXY COATED REINFORCING STEEL. REINFORCING STEEL COMPRISED OF 1667 L.F. OF #5 BAR & 1629 L.F. OF #6 BAR.

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DESIGN FOR REPAIRS TO A

180' x 28' CONTINUOUS I - BEAM BRIDGE

55'-0" END SPANS 70'-0" CENTER SPAN

CAST IN PLACE BARRIER RAIL DETAILS

STA. 1245+15.00

APRIL, 1990

GREENE COUNTY

IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION

DESIGN SHEET NO. 1 OF 1 FILE NO. 28207 DESIGN NO. 290