

GUARDRAIL, SIGNING AND OTHER
MISCELLANEOUS SAFETY WORK

IOWA-JOHNSON COUNTIES

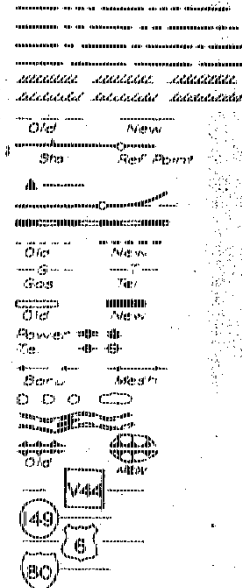
March 28 1978

LETTING DATE

I-80-6(73)209--01-48

CONVENTIONAL SIGNS

State Line
Co. Line
Twp. Line
Sec. Line
Corp. Line
Urban Bdry.
R.O.W. Lines
Survey Line
Sec. Corner
Profile Grade
Railroad
Field Tr.
Underground Lines
Culvert
Utility Poles
Fence
Trees Or Fr. sh.
Street
Dike
County Road No.
Primary Road No.
U.S. Road No.
Interstate Road No.



IOWA
DEPARTMENT OF TRANSPORTATION
Highway Division

PLANS OF PROPOSED IMPROVEMENT ON THE

INTERSTATE ROAD SYSTEM
IOWA-JOHNSON COUNTIES
GUARDRAIL, SIGNING AND OTHER
MISCELLANEOUS SAFETY WORK

ON I-80 FROM THE POWESHIEK CO. LINE EAST TO U.S. 6

THE STANDARD SPECIFICATIONS, SERIES OF 1977,
OF THE IOWA DEPARTMENT OF TRANSPORTATION,
SHALL APPLY TO CONSTRUCTION WORK ON THIS PROJECT

CONSTRUCTION PLANS SHOWING PROJECT AS BUILT

Plan Preparation Supervised By: *Richard S. Kautz*
Rapidist Construction Engineer
Date: *2-1-80* Iowa Reg. No. *7334*

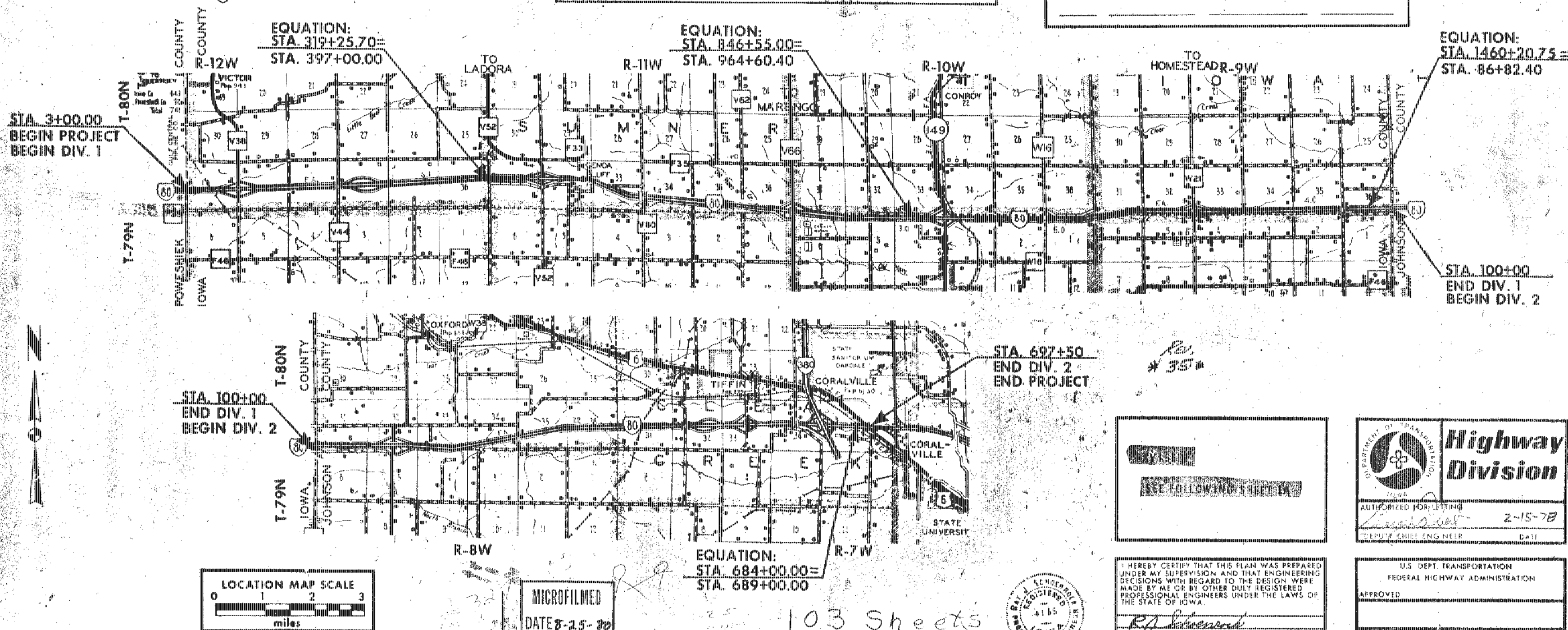
REVIEWED AND FORWARDED TO AMES

District Construction Engineer
Date: *2-1-80*
(One 50% Reduced and Two Full-Size Prints to Be Made and Returned To)

District Engineer
AFTER MICROFILMING RETURN ORIGINAL
TO DISTRICT NO. *6*

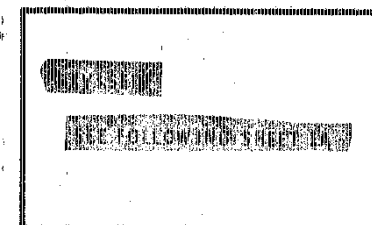
FOR DESIGN DATA, INDEX OF SHEETS, MILEAGE SUMMARY, AND TABULATION
OF STANDARD ROAD PLANS SEE SHEET NO. 2A.

YEAR	WORK	THIS AS BUILT PLAN INCLUDES	PROJ. INSPECTOR
1978	GUARDRAIL	DIESETH	NORMAN
1979	SIGNS	SPECIALTY CO. ROGERS	



STA. 697+50
END DIV. 2
END PROJECT

Rev.
35



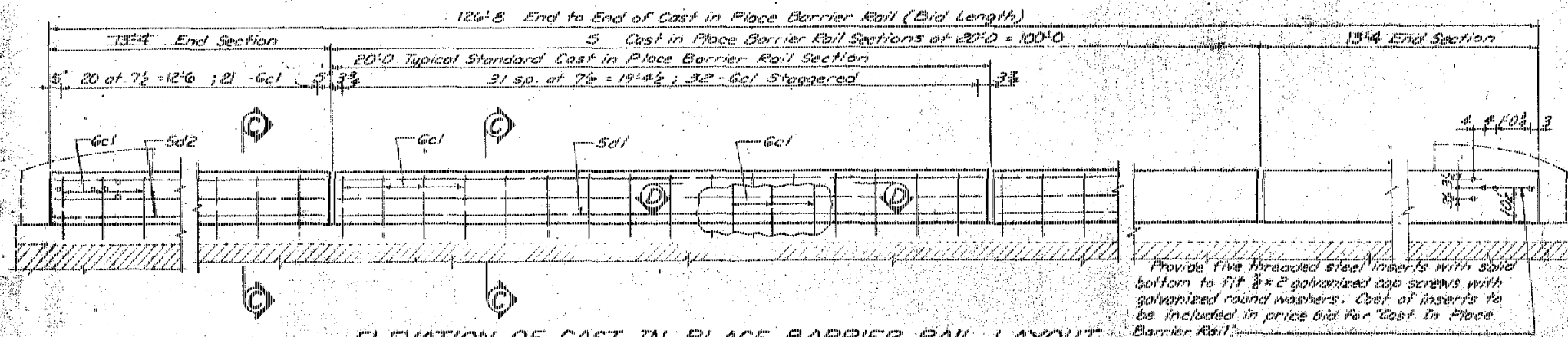
I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED
UNDER MY SUPERVISION AND THAT ENGINEERING
DECISIONS WITH REGARD TO THE DESIGN WERE
MADE BY ME OR BY OTHER DUTY REGISTERED
PROFESSIONAL ENGINEERS UNDER THE LAWS OF
THE STATE OF IOWA.
R. S. Kautz
IOWA REGISTRATION NUMBER *7334* DATE *2-1-80*

U.S. DEPT. TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
APPROVED
DIVISION ENGINEER
DATE

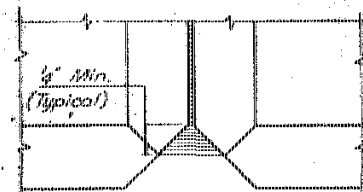
IOWA-JOHNSON COUNTY

PROJECT NO. I-80-6(73)209--01-48

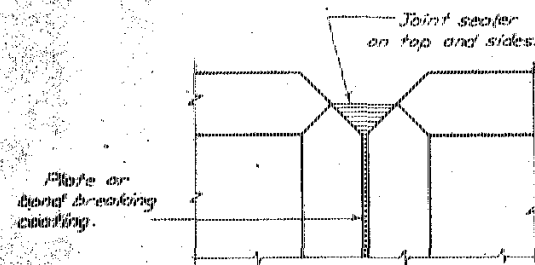
SHEET NO.



ELEVATION OF CAST IN PLACE BARRIER RAIL LAYOUT

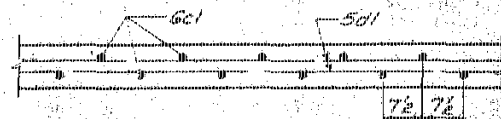


PART PLAN VIEW



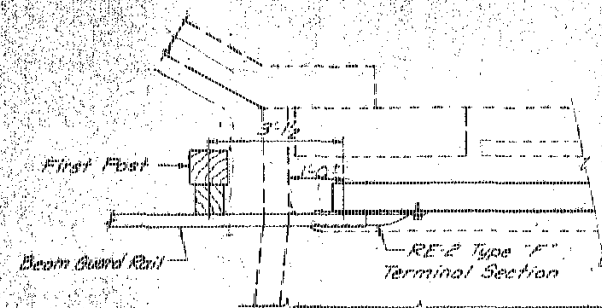
PART ELEVATION VIEW

CAST IN PLACE BARRIER RAIL JOINT DETAILS

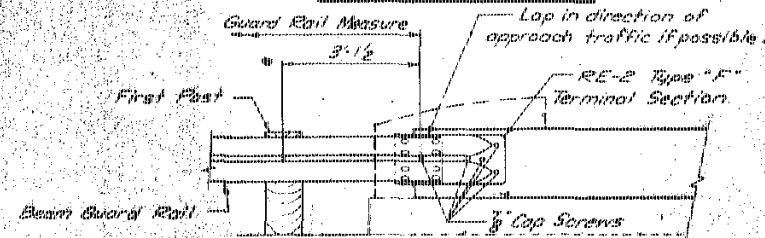


SECTION D-D

(Showing 6c1 bar placement)



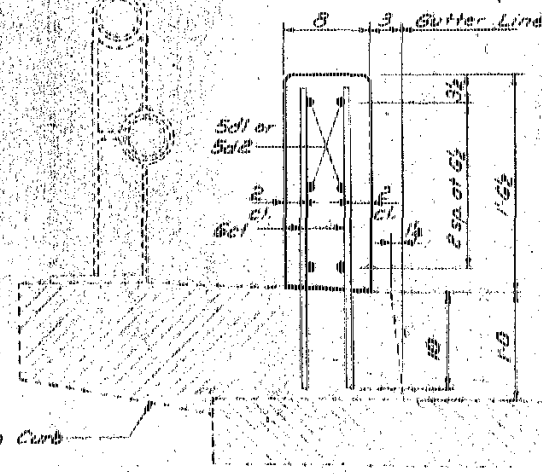
PART PLAN VIEW



PART ELEVATION VIEW

(Showing beam guard rail attachment to RE-2 Type "F" Terminal Section)

Do not disturb existing rail



PART SECTION C-C

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.

Top of the cast in place barrier rail is to be parallel to the theoretical G grade.
The cast in place barrier rail may be placed in sections or continuously. When it is poured continuously a 1/4" sheet of either aluminum, galvanized steel, high density styrene, or plexiglass shall be placed at the joints to separate the sections. When the cast in place barrier rail is placed in sections the end of the section to be poured against is to be coated with paraffin or other bond breaker approved by the Engineer and the plate separators may be omitted.
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, and 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.
The joint sealer shall conform to Fed. Spec. TT-500230 or TT-500227 for Type 3, Class A or B.

All reinforcing is to be epoxy coated. The epoxy coating shall be in accordance with Article 413.03 D of the Standard Specifications.

DOWEL SETTING NOTE

The 6c1 bars shall be set as dowels in drilled holes. Holes are to be 10" deep. The dowels shall be installed in accordance with the manufacturer's recommendations. One of the two following systems shall be used as a bonding agent for the dowels.

- 1) Epoxy system. Drilled holes are to be 7/8" dia. The epoxy grout shall be one of those approved in the I. D. O. T. Materials I. M. 491.11.
- 2) Grout system. Drilled holes are to be 2" dia. The grout shall be Five Star Grout or an approved equal.

Cap screws shall conform to requirements of ASTM A-307 and shall be galvanized in compliance with ASTM A-153. Cap screws shall be installed in threaded steel inserts held in proper position by use of an assembly set in the concrete and allowing a minimum embedment of 2" for the cap screws. The components and procedure shall be subject to the approval of the Engineer.

The cost of the RE-2 Type F terminal section, and cap screws shall be considered incidental to other guard rail work on the project.

DESIGN STRESSES:

Design stresses for the following materials are in accordance with AASHTO Standard Specifications for Highway Bridges, Series 1973.
Concrete in accordance with Section 1.5.1 (C), Fc = 3,500 psi.
Reinforcing Steel in accordance with Section 1.5.1 (D), Fy = 20,000 psi.

REINFORCING STEEL - ONE SECTION

Section	Bar	Location	Shape	Ns	Length	Weight
Standard	6c1	Vertical	---	32	2'-2"	104
	5d1	Longitudinal	---	6	19'-8"	123
Total (Lbs.)						227
End	6c1	Vertical	---	21	2'-2"	68
	5d2	Longitudinal	---	6	13'-0"	81
Total (Lbs.)						149

BENT BAR DETAILS

* REINFORCING SUMMARY

Section	Number of Sections	Reinforcing Per Section	Total
Standard	20	227	4540
End	8	149	1192
Total (Lbs.)			5732

CONCRETE PLACEMENT SUMMARY

Section	Number of Sections	Concrete Per Section	Total
Standard	20	76	152
End	8	51	41
Total (Cu Yds.)			200

CAST IN PLACE BARRIER RAIL QUANTITIES

Item	Unit	Quantity
Cast in place barrier rail	Lin. Ft.	506.7

* All reinforcing bars to be epoxy coated - see note on this sheet.

LOCATION

Section 32
T-80N E-12W
Hartford Twp
I-80 over Local Road
Iowa County

VICTOR INTERCHANGE

Design For Bridge Repair To
Skew 2° 40' L.A.
DUAL 125'0" x 40' PRESTRESSED CONCRETE BEAM BRIDGES
58'-11 1/2" End Spans 47'-1" Center Span
CAST IN PLACE BARRIER RAIL DETAILS
Station: 58+58.9 I-80 December, 1977
IOWA COUNTY
IOWA DEPARTMENT OF TRANSPORTATION - Highway Division
Design Sheet No. 1 of 1 File No. 36039 Design No. 178