BRIDGE REPAIR
IR-80-4(30)140--12-77

POLK COUNTY

STATE	FED. ROAD DIST. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
IOWA	5		1	24

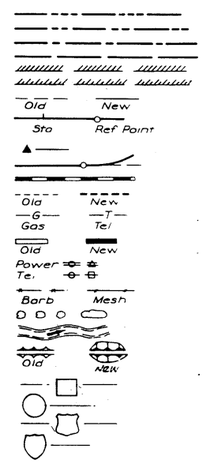
PROJECT NUMBER
IR-80-4(30)140--12-77

R.O.W. PROJECT NUMBER

PRELIMINARY ENGINEER NUMBER

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 Tile
Underground Lines
Culverts
Utility Poles
Fences
Trees Or Brush
Stream
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
POLK COUNTY
BRIDGE REPAIR

I-80 AT NE 38th ST. AND NE 56th ST.

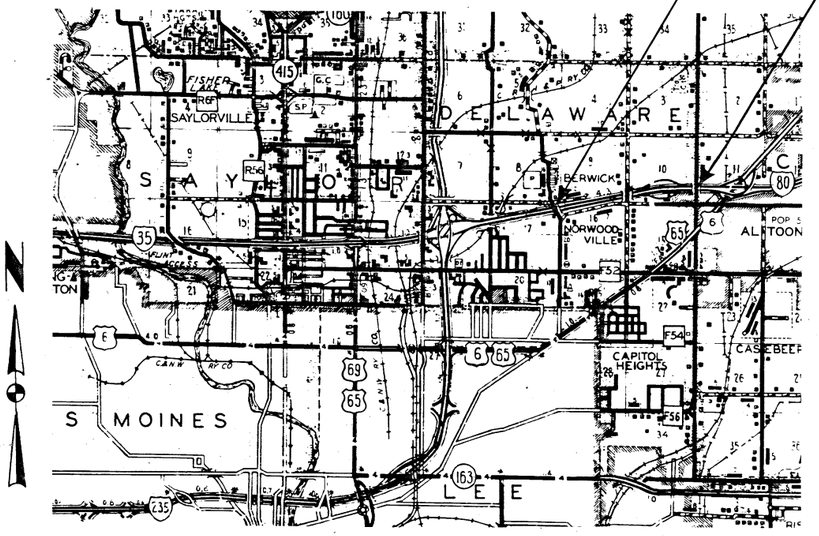
SCALES AS NOTED

THE STANDARD SPECIFICATIONS, SERIES OF 1984
OF THE IOWA DEPARTMENT OF TRANSPORTATION,
SHALL APPLY TO CONSTRUCTION WORK ON THIS PROJECT

(PLUS CURRENT SUPPLEMENTAL SPECIFICATIONS AND SPECIAL PROVISIONS)

DESIGN NO. 2084

~~DESIGN NO. 2184~~



LOCATION MAP

LOCATION MAP SCALE
0 1 2 3
miles

NOT TO SCALE
PART OF THE CITY OF DES MOINES
DELAWARE TWP.
SECTION 11 & SECTION 17
T-79N R-23W

CORRECTED By = MIKE PAGEL
CHECKED BY = HANK BERRY

CONSTRUCTION PLANS SHOWING PROJECT AS BUILT

Plan Preparation Supervised By: _____ Resident Construction Engineer

Date 3-7-88 Iowa Reg. No. 4752

REVIEWED AND FORWARDED TO AMES

Robert Younie Date 3-22-88
District Construction Engineer

~~One Set, Reduced and~~ Two Full-Size Prints To Be Made and Returned To

Kenneth Meeks
District Engineer

AFTER MICROFILMING RETURN ORIGINAL
TO DISTRICT NO. 1

135

135

INDEX OF SHEETS

NO.	DESCRIPTION
1	TITLE SHEET
2	ESTIMATE SHEET
3-7	DESIGN NO. 2084
~~8-24~~	~~DESIGN NO. 2184~~

STANDARD ROAD PLANS

IDENT	DATE	IDENT	DATE
RE-7	8-31-84		
RE-12	1-23-85		
RE-27	12-9-83		
RE-47	12-9-83		
RE-48A	1-23-85		
RE-57	1-23-85		
RG-6	3-16-79		

STANDARD BRIDGE PLANS

STANDARD	ISSUED	REVISED

THIS AS BUILT PLAN INCLUDES

YEAR	WORK	CONTRACTOR	PROJ. INSPECTOR
1985	BRIDGE DECK OVERLAY	CRAMER BROTHERS	MARTIN MCABEE
1985	BEAM REPLACEMENT	CRAMER BROTHERS	MARTIN MCABEE
1985	SENTRE GUARDRAIL	CRAMER BROTHERS	MARTIN MCABEE

7739.60080

DEPARTMENT OF TRANSPORTATION IOWA — Highway Division

AUTHORIZED FOR LETTING: Jerry Mikat 11-26-84
DEPUTY CHIEF ENGINEER DATE

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.

Donald K Schulz
2793 11/20/84
IOWA REGISTRATION NUMBER DATE

U.S. DEPT. TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
APPROVED

DIVISION ENGINEER DATE

LETTING DATE MAY 7, 1985 STATE CONTROL SECTION NUMBER 77-0300 FILE NO. 27064 POLK COUNTY PROJECT NO. IR-80-4(30)140--12-77 SHEET NO. 1 OF 24

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

03-06-85 DATE — William C. Eyer WILLIAM C. EYER — REG. NO. 2926

IN LETTING OF MAY 7, 1985

DESIGN NO. 2084 — OVER I-80 — STA. 5181+53.00 (℄ E. 38TH ST.)
POLK COUNTY — MAINT. NO. 7739.64080 — STA. 1181+53.00 (℄ I-80)
SECTION 17 — T-79N R-23W — DELAWARE TWP.

DESIGN FOR REPAIR TO
223'-9 x 24' PRETENSIONED PRESTRESSED
CONCRETE BEAM BRIDGE

ESTIMATE OF QUANTITIES

NO.	ITEM	UNIT	TOTAL
1	BRIDGE FLOOR OVERLAY	SQ. YDS.	618.97
2	CLASS A BRIDGE FLOOR REPAIR	SQ. YS.	243.5
3	CONCRETE SEALER, AS PER PLAN	SQ. FT.	878
4	PAVEMENT MARKINGS	STA.	10.0
5	TRAFFIC CONTROL	L.S.	1000.00

ESTIMATE REFERENCE INFORMATION 100-4

Data listed below is for informational purposes only and shall not constitute a basis for any extra work orders.

ITEM NO.	DESCRIPTION
3	INCLUDES 104 SQ. FT. FOR SEALING ABUTMENT BRIDGE SEATS.
4	INCLUDES 6.0 STA. FOR PERMANENT WHITE EDGE LINE AND 6.0 STA. FOR PERMANENT YELLOW NO PASSING LINE.

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.

Fred W. Walker
DATE March 6 19 85 IOWA REG. NO. 4989

ESTIMATED ROADWAY QUANTITIES 100-00 1-20-84

No.	ITEM	UNIT	TOTAL
6	Guardrail, End Anchorage, Beam Install Only	No.	4
7	Guardrail Posts, Beam	No.	32
8	Remove & Reinstall Formed Steel Beam Guardrail	Lin.Ft.	100
9	Remove & Reinstall Object Markers	No.	4
10	Removal of Guardrail End Anchorage	No.	4
11	Removal of Formed Steel Beam Guardrail	Lin.Ft.	250
12	Removal of Posts	No.	72
13	Removal of Object Markers	No.	12
14	Object Markers, Triple Yellow	No.	4
15	Delineators, Single White	No.	10
16	Mobilization	Lump Sum	$6,000.00

ESTIMATE REFERENCE INFORMATION 100-4

Data listed below is for informational purposes only and shall not constitute a basis for any extra work orders.

ITEM NO.	DESCRIPTION
6.	Contractor shall provide necessary materials for all footings. Contractor shall also provide thrie beam transition panels which shall be considered incidental to this bid item. Cost of hauling Sentre Guardrail End Anchorage from North Des Moines Maint. Yard included in this item.
7.	Consists of 12 posts 10' x 10" & 20 posts 8" x 8". Includes all wood posts required for bid item No. 1.
10&12	To be disposed of as per Std. Notation 213-1.
11.	To be hauled to maintenance yard as directed by the engineer.
13.	Consists of triple yellow object markers that are not suitable for reinstallation.

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.

03-06-85 DATE — William C. Eyer WILLIAM C. EYER — REG. NO. 2926

IN LETTING OF MAY 7, 1985

POLK COUNTY — LOCAL RD. OVER I-80 — STA. 20+00 (LOCAL RD.)
DESIGN 2184 — MAINT. NO 7741.70080 — STA. 1293+01.21 (I-80)
SECTION 11 — T-79N R-23W — DELAWARE TWP.

DESIGN FOR REPAIR TO
223'-9 x 24' PRETENSIONED PRESTRESSED
CONCRETE BEAM BRIDGE

ESTIMATE OF QUANTITIES

NO.	ITEM	UNIT	TOTAL
17	BRIDGE FLOOR OVERLAY	SQ. YDS.	604.21
18	CLASS A BRIDGE FLOOR REPAIR	SQ. YDS.	39
19	CONCRETE SEALER, AS PER PLAN	SQ. FT.	874
20	PAVEMENT MARKINGS	STA.	10.55
21	TRAFFIC CONTROL	L.S.	$3000.00
22	STRUCTURAL CONCRETE	CU. YDS.	11.7
23	REINFORCING STEEL	LBS.	2,408
24	PRET. PRESTR. CONC. BM-A SPECIAL-AS PER PLAN	NO.	1
25	TEMPORARY SUPPORTS	L.S.	0
26	TEMPORARY BARRIER RAIL-FURNISH ONLY	LIN. FT.	0 ~~128~~
27	TEMPORARY BARRIER RAIL-PLACE ONLY	LIN. FT.	0 ~~128~~
28	REMOVAL & RE-ERECTION OF EXISTING RAIL	L.S.	$1,000.00
29	REMOVALS-AS PER PLAN	L.S.	$4000.00
30	TEMPORARY FLOODLIGHTING	L.S.	0
31	ASPHALT CEMENT CONC. BASE, TYPE B, CLASS 1	TONS	0 ~~821~~

ESTIMATE REFERENCE INFORMATION 100-4

Data listed below is for informational purposes only and shall not constitute a basis for any extra work orders.

ITEM NO.	DESCRIPTION
17,18&19	PARTICIPATING IN FEDERAL FUNDS.
20	INCLUDES 12.0 STA. FOR LOCAL ROAD (6.0 STA. FOR PERMANENT WHITE EDGELINE AND 6.0 STA. FOR PERMANENT YELLOW NO PASSING LINE) WHICH IS PARTICIPATING IN FEDERAL FUNDS. INCLUDES 196.4 STA. OF WB I-80 (98.2 STA. OF REMOVAL OF PAVEMENT MARKING, 38.8 STA. FOR PLACING YELLOW MARKING AND 59.4 STA. FOR PLACING WHITE MARKING) WHICH IS NON-PARTICIPATING IN FEDERAL FUNDS.
21	50% OF THE PRICE BID SHALL BE NON-PARTICIPATING IN FEDERAL FUNDS: THIS SHALL INCLUDE ALL TRAFFIC CONTROL ITEMS REQUIRED ON I-80 DURING REMOVALS.
22 THRU 31.	THESE ITEMS NON-PARTICIPATING IN FEDERAL FUNDS.
22	ALL STRUCTURAL CONCRETE TO BE CLASS D. INCLUDES PREFORMED JOINT MATERIAL.
24	INCLUDES BEARING MATERIAL.
28	INCLUDES ANCHOR BOLTS, SHIMS AND HARDWARE.
31	TO BE USED FOR SHOULDER STRENGTHENING. DESIGN WEIGHT IS 140 LBS. PER CU. FT. INCLUDES REMOVAL OF APPROX. 329 CU. YDS. OF EXISTING SHOULDER MATERIAL WHICH IS TO BE DISPOSED OF AS PER STD. NOTATION 213-1. ALSO INCLUDES APPROX. 37 TONS OF ASPHALT CEMENT. ASPHALT CEMENT AND REMOVAL AND DISPOSAL OF EXISTING SHOULDER MATERIAL SHALL BE CONSIDERED INCIDENTAL TO THIS BID ITEM.

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.

Fred W. Walker
DATE March 6 19 85 IOWA REG. NO. 4989

ESTIMATED ROADWAY QUANTITIES 100-00 1-20-84

No.	ITEM	UNIT	TOTAL
32	Guardrail, End Anchorage, Beam Install Only	No.	4
33	Guardrail Posts, Beam	No.	32
34	Remove & Reinstall Formed Steel Beam Guardrail	Lin.Ft.	100
35	Remove & Reinstall Object Markers	No.	4
36	Removal of Guardrail End Anchorage	No.	4
37	Removal of Formed Steel Beam Guardrail	Lin.Ft.	200
38	Removal of Posts	No.	64
39	Removal of Object Markers	No.	5
40	Removal of Existing Delineators	No.	2
41	Object Markers, Triple Yellow	No.	4
42	Delineators, Single White	No.	14
43	Mobilization	Lump Sum	10,000

ESTIMATE REFERENCE INFORMATION 100-4

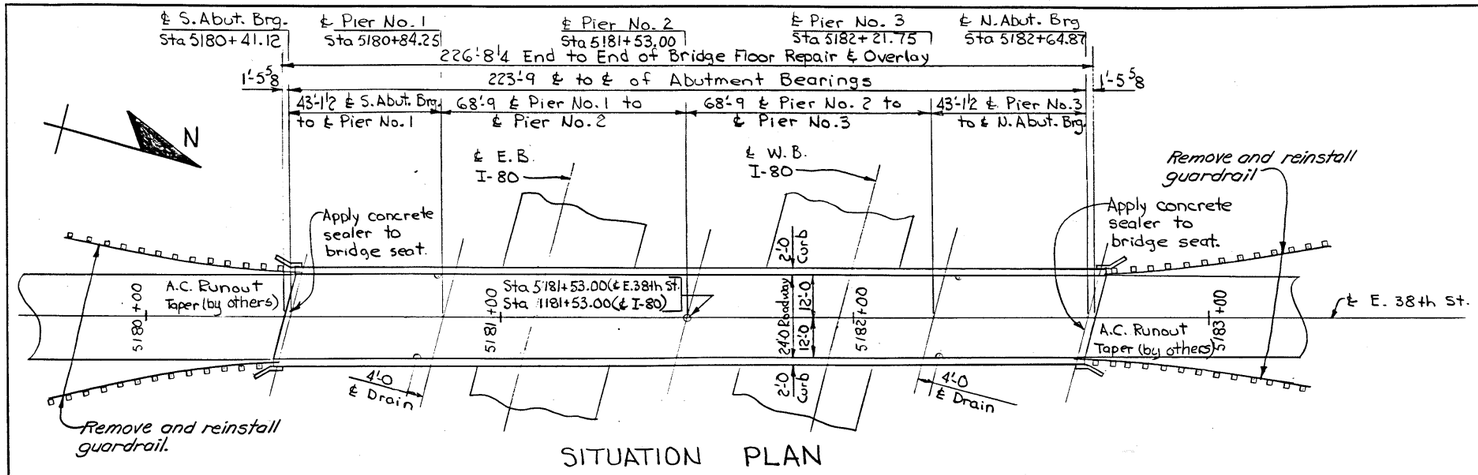
Data listed below is for informational purposes only and shall not constitute a basis for any extra work orders.

ITEM NO.	DESCRIPTION
32.	Contractor shall provide necessary materials for all footings. Contractor shall also provide thrie beam transition panels which shall be considered incidental to this bid item. Cost of hauling Sentre Guardrail End Anchorage from North Des Moines Maint. Yard included in this item.
33.	Consists of 12 posts 10' x 10" & 20 posts 8" x 8". Includes all wood posts required for bid item No. 1.
36,38&40.	To be disposed of as per Std. Notation 213-1.
37.	To be hauled to maintenance yard as directed by the engineer.
39.	Consists of 1 triple yellow object marker that is not suitable for reinstallation &4 - 4" x 8" yellow object markers.

ESTIMATE SHEET

FILE NO. 27064 POLK COUNTY

PROJECT NUMBER	STATE	FED. ROAD DIST. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
IR-80-4(30)140--12-77	IOWA	5		2	24



SITUATION PLAN

TOTAL ESTIMATED QUANTITIES ~ BRIDGE			
Item No.	Item	Units	Quantity
1	Bridge Floor Overlay	Sq. Yd.	618.97
2	Class A Bridge Floor Repair	Sq. Yd.	243.50
3	Concrete Sealer, As Per Plan	Sq. Ft.	878
4	Pavement Markings	Sta	10
5	Traffic Control	L.S.	#1,000.00

ESTIMATE REFERENCE INFORMATION

Item No. 3 Includes 104 sq. ft. for sealing abutment bridge seats.

Item No. 4 Includes 6.0 sta for permanent white edge line and 6.0 sta for permanent yellow no passing line.

GENERAL NOTES

THIS DESIGN IS FOR REPAIR TO THE EXISTING 223'-9 x 24' PRETENSIONED PRESTRESSED CONCRETE BEAM BRIDGE ORIGINAL DESIGN NO. 4558 POLK COUNTY. PLANS OF THE EXISTING STRUCTURE MAY BE OBTAINED AT THE AMES OFFICE OF THE HIGHWAY DIVISION. REPAIRS SHALL CONSIST OF BRIDGE FLOOR REPAIR, BRIDGE FLOOR OVERLAY, APPLICATION OF CONCRETE SEALER, REMOVAL AND REINSTALLATION OF GUARDRAIL.

PLAN QUANTITY OF FLOOR REPAIR IS BASED ON THE "SURVEY PLOT" AS SHOWN ON DESIGN SHEET 2 . HATCHED PORTIONS REPRESENT CLASS A BRIDGE FLOOR REPAIR; CROSS HATCHED PORTIONS, IF SHOWN, REPRESENT CLASS B BRIDGE FLOOR REPAIR. ACTUAL SPALLED AND HOLLOW AREAS, AS DETERMINED BY THE ENGINEER AT THE TIME OF CONSTRUCTION, SHALL BE REPAIRED. THE ENTIRE CONCRETE SURFACE OF THE BRIDGE FLOOR, INCLUDING AREAS OVER BRIDGE FLOOR REPAIR, SHALL HAVE BRIDGE FLOOR OVERLAY.

SURFACE RAISE, AS SHOWN ON THE PLANS, SHALL BE CONSIDERED A MINIMUM. IN ORDER TO LIMIT THE ADDITIONAL DEAD LOAD, SURFACE RAISE SHALL BE RESTRICTED TO A MAXIMUM OF 1/2" MORE THAN SHOWN ON THE PLANS. PROFILE SHALL BE ADJUSTED TO THE EXTENT POSSIBLE WITHIN THESE LIMITS.

PRESENT FLOOR THICKNESS IS ABOUT 5½ INCHES. THE CONTRACTOR WILL BE REQUIRED TO EXERCISE CARE IN REMOVING CONCRETE IN ORDER TO PREVENT UNNECESSARY UNBONDING OF REINFORCING STEEL.

ABUTMENT BRIDGE SEATS SHALL HAVE SEALER IN ACCORDANCE WITH SUB-ARTICLE 2403.23D . AMOUNTS OF ALL AREAS TO BE SEALED ARE INCLUDED IN THE ESTIMATED QUANTITY OF "CONCRETE SEALER, AS PER PLAN".

QUANTITY OF "CONCRETE SEALER, AS PER PLAN" IN SQUARE FEET, TO BE PAID FOR WILL BE COMPUTED FROM MEASUREMENTS OF AREAS ACTUALLY COVERED AND ARTICLE 1109.03 SHALL NOT APPLY. PLAN QUANTITY IS BASED ON P.C. CONCRETE FLOOR REPAIR.

THE ROADWAY WILL BE CLOSED TO TRAFFIC THROUGH OUT THE DURATION OF THE PROJECT.

THE A.C. RUNOUT TAPER AT THE ENDS OF THE BRIDGE WILL BE PLACED BY LOCAL HIGHWAY DIVISION MAINTENANCE FORCES BEFORE TRAFFIC IS SHIFTED TO NEW CONSTRUCTION. THE CONTRACTOR SHALL GIVE ADEQUATE PRIOR NOTICE SO THAT THE A.C. MAY BE PLACED DURING NORMAL WORKING HOURS AND WORKING DAYS OF MAINTENANCE.

TRAFFIC CONTROL PLAN

108-23
11-10-83

1. 38th Street will be closed to traffic during construction.
2. Traffic control on this project shall consist of a slat fence barricade or an orange plastic safety fence preceeded by a Type III barricade at the limits of the work and storage area to both the north and south ends of the bridge. Both Type III barricades shall contain a "Road Closed" sign and two Type "A" warning lights. Both barricades shall be preceeded by a "Road Closed 500 Feet" sign and a "Road Closed 1000 Feet" sign. For additional complementary information, refer to current Supplemental Specification for Traffic Controls.
3. All traffic control devices shall be furnished, erected, maintained, and removed by the contractor.
4. Where possible, all post mounted signs shall be placed a minimum of 2 feet clear of the shoulder.
5. The location for storage of equipment by the contractor during non-working hours will be as approved by the engineer in charge of construction.
6. As applicable, permanent edgelines and centerlines shall be in place before the roadway is returned to normal traffic. Current 1984 Standard Specifications shall apply.
7. Proposed sign spacing may be modified, as approved by the engineer, to meet existing field restrictions, or to prevent obstruction of the motorist's view of permanent signing.
8. Proposed changes in the Traffic Control Plan shall be reviewed with the Office of Construction before changes are made.
9. The bid item "Traffic Control" shall include the cost for all traffic control measures required of the contractor except for those which are separate bid items or are incidental to other bid items.

SPECIFICATIONS:

CONSTRUCTION: IOWA DEPARTMENT OF TRANSPORTATION SPECIFICATION, SERIES OF 1984, PLUS CURRENT SUPPLEMENTAL SPECIFICATIONS AND SPECIAL PROVISIONS.

LOCATION
Polk County
T 79N R 23W
Section 17
Delaware Twp
On E. 38th St.
over I-80
Maint. No. 7739.6 ℄ 080

Design for Repair to
223'-9 x 24' PRETENSIONED PRESTRESSED CONCRETE BEAM BRIDGE
43'-1½ End Spans 2 @ 68'-9 Interior Spans

SITUATION PLAN
Station: 5181+53.00(℄ E.38th St.) Nov. 1984
Station: 1181+53.00(℄ I-80)

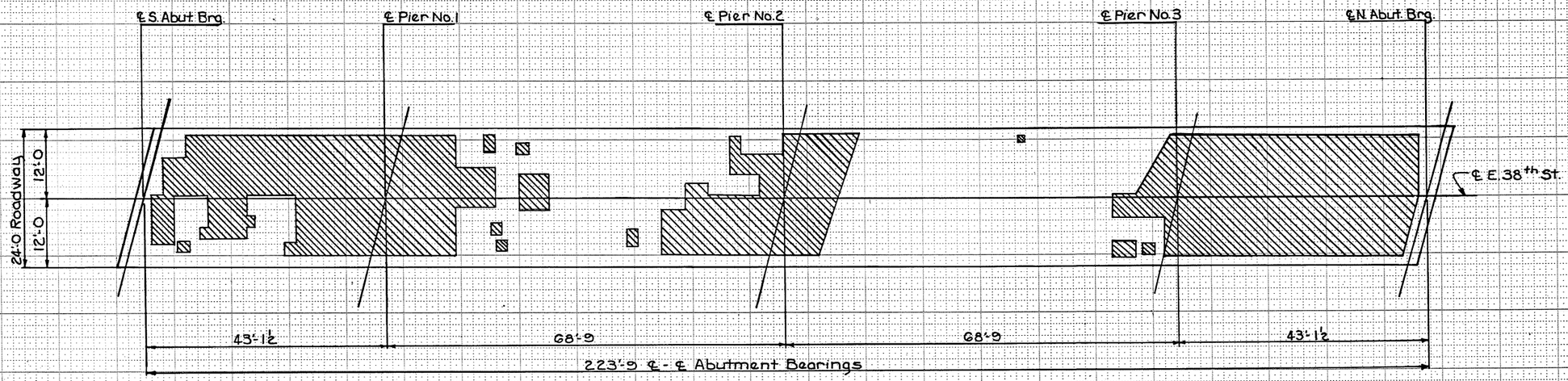
POLK COUNTY
IOWA DEPARTMENT OF TRANSPORTATION-HIGHWAY DIVISION

Design Sheet No.: 1 Of 5 File No.: 27064 Design No.: 2084

DESIGNED BY: W. Johnston
DETAILED BY: W. Johnston
TRACED BY:
CHECKED BY: G.L. Port
Section Leader: W.C. Eyer

POLK COUNTY

PROJECT NUMBER	STATE	FED. ROAD DIST. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
IR-80-4(30)140--12-77	IOWA	5		3	24



SURVEY PLOT
(Date of Survey Sept 1984)

SURVEY
NOTE BOOK
NO.
PLOTTED
TEMPLATE
AREAS CHECKED

SURVEYED
ROUTED
SURVEY
NOTE BOOK
NO.
TEMPLATE
AREAS CHECKED

Design for Repair to
223'-9 x 24' PRETENSIONED PRESTRESSED CONCRETE BEAM BRIDGE
43'-1½ End Spans 2@68'-9 Interior Spans

SURVEY PLOT
Sta. 5181 + 53.00 (℄ E. 38th St.)
Sta. 7181 + 53.00 (℄ I-80)
Nov.-1984

POLK COUNTY
IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION

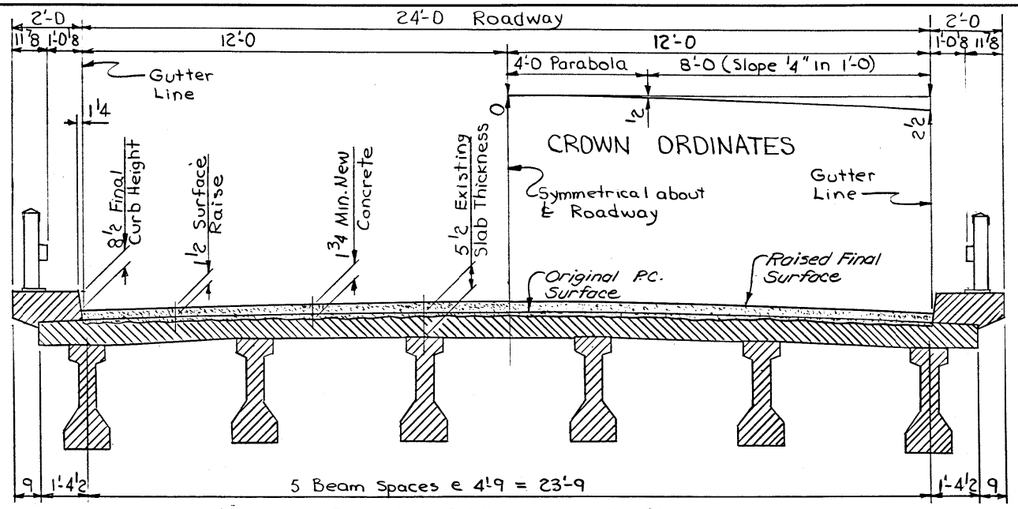
Design Sheet No.: 2 Of 5 File No.: 27064 Design No.: 2084

DESIGNED BY: W. Johnston
DETAILED BY:
TRACED BY: K. Jon Nordhagen
CHECKED BY: G.L. Port

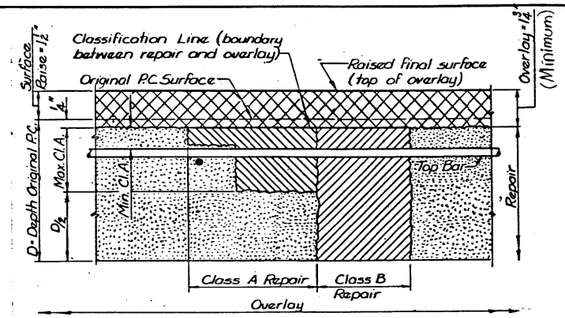
POLK COUNTY

PROJECT NUMBER

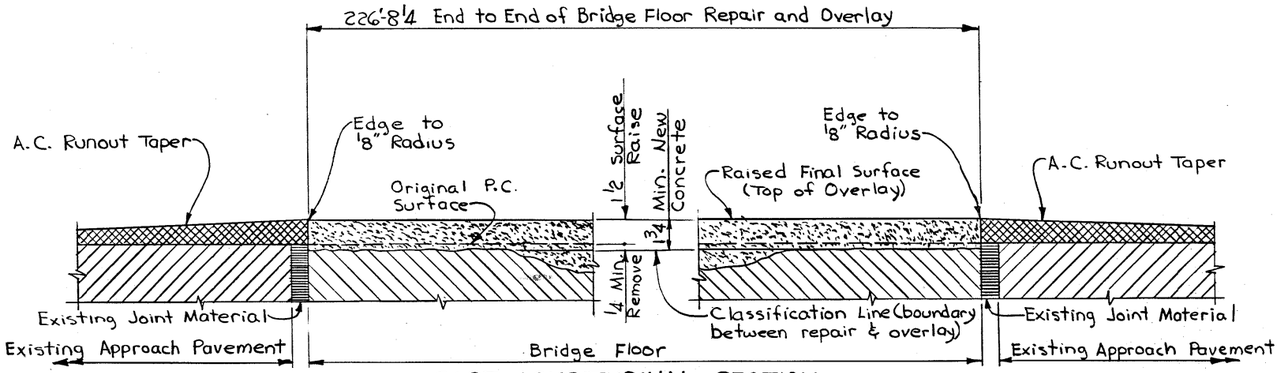
STATE	FED. ROAD DIST. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
IOWA	5		4	24



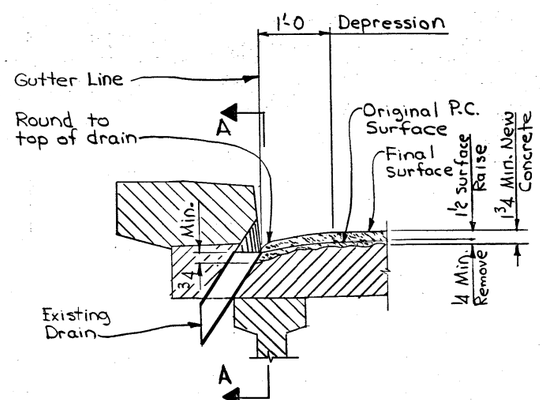
TYPICAL CROSS SECTION



REPAIR AND OVERLAY DEFINITION

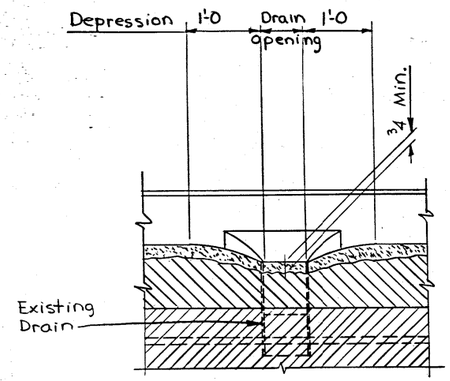


PART LONGITUDINAL SECTION



REPAIR DETAILS AT DRAIN

Note: See "Situation Plan" on Design Sheet 1 for drain locations.



SECTION A-A

Design for Repair to
223'-9 x 24' PRETENSIONED PRESTRESSED CONCRETE BEAM BRIDGE
43'-1 1/2 End Spans 2 @ 68'-9 Interior Spans

REPAIR DETAILS

Station: 5181+53.00 (℄ E. 38th St.) Nov. 1984
Station: 1181+53.00 (℄ I-80)

POLK COUNTY

IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION

Design Sheet No.: 3 Of 5 File No.: 27064 Design No.: 2084

DESIGNED BY: W. Johnston
DETAILED BY: W. Johnston
TRACED BY:
CHECKED BY: G. L. Ant

POLK COUNTY

PROJECT NUMBER	STATE	FED. ROAD DIST. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
	IOWA	5		5	24

204-1
1-20-84

The installation of each continuous piece of guardrail shall be completely functional within five consecutive working days. The following shall apply unless modified by the engineer:

~~Grading work, if necessary, shall be completed prior to the removal of any existing guardrail or the installation of new guardrail.~~

Removal of any existing guardrail and installation of new posts and beam rail, except for the approach end section, shall be completed on the same working day. Beam rail shall be fully connected to all posts and protected with a Type E terminal section plus Type II barricade with Type A warning light.

~~Not later than the next working day, concrete for the end anchorage (RE-52 or RE-53) shall be poured.~~

204-2
1-20-84

All holes resulting from operations of the contractor, including removal of guardrail posts, fence posts, utility poles, or foundation studies, shall be filled and consolidated to finished grade as directed by the engineer to prevent future settlement. The voids shall be filled as soon as practical--preferably the day created and not later than the following day. Any portion of the right-of-way or project limits (including borrow areas and operation sites) disturbed by any such operations shall be restored to an acceptable condition. This operation shall be considered incidental to other bid items in project.

213-1
1-20-84

It shall be the contractor's responsibility to provide waste areas or disposal sites for excess material which is not desirable to be incorporated in the work involved on this project (excavation or broken concrete). No payment for overhaul will be allowed for material hauled to these sites.

251-2
6-22-84

The contractor is hereby notified that removal of any existing traffic markers, warning devices or guardrail barriers shall be scheduled subject to the approval of the engineer. The contractor may be required to place temporary warning devices at certain locations where replacement features are not installed the same day during which any such removals take place.

ESTIMATE REFERENCE INFORMATION

100-4

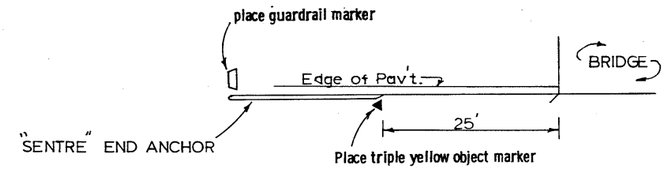
Data listed below is for informational purposes only and shall not constitute a basis for any extra work orders.

ITEM NO.	DESCRIPTION
6.	Contractor shall provide necessary materials for all footings. Contractor shall also provide thrie beam transition panels which shall be considered incidental to this bid item. Cost of hauling Sentre Guardrail End Anchorage from North Des Moines Maint. Yard included in this item.
7.	Consists of 12 posts 10" x 10" & 20 posts 8" x 8". Includes all wood posts required for bid item No. 1.
10 & 12	To be disposed of as per Std. Notation 213-1.
11.	To be hauled to maintenance yard as directed by the engineer.
13	Consists of triple yellow object markers that are not suitable for reinstallation.

ESTIMATED ROADWAY QUANTITIES

100-00
1-20-84

No.	ITEM	UNIT	TOTAL
6	Guardrail, End Anchorage, Beam Install Only	No.	4
7	Guardrail Posts, Beam	No.	32
8	Remove & Reinstall Formed Steel Beam Guardrail	Lin.Ft.	100
9	Remove & Reinstall Object Markers	No.	4
10	Removal of Guardrail End Anchorage	No.	4
11	Removal of Formed Steel Beam Guardrail	Lin.Ft.	250
12	Removal of Posts	No.	72
13	Removal of Object Markers	No.	12
14	Object Markers, Triple Yellow	No.	14 ~~12~~
15	Delineators, Single White	No.	10 ~~22~~



Guardrail Marker (Yellow) ** TYPICAL INSTALLATION

Triple Yellow Object Marker (OM2-3YV)

REMOVAL OF BEAM GUARDRAIL

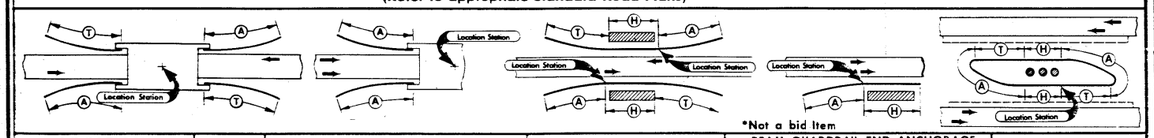
110-7
11-10-83

LOCATION No.	LOCATION Station	BEAM GUARDRAIL Remove	BEAM GUARDRAIL Remove & Reinstall	POSTS ROUND Remove	POSTS 8"x8" Remove	POSTS 8"x8" Remove & Reinstall	POSTS 10"x10" Remove	POSTS 10"x10" Remove & Reinstall	END ANCHORAGE NO.	END ANCHORAGE TYPE	REMARKS
	1181+53 SE	62.5	25	18					1	RE-33	
	1181+53 SW	62.5	25	18					1	RE-33	
	1181+53 NE	62.5	25	18					1	RE-33	
	1181+53 NW	62.5	25	18					1	RE-33	

TABULATION OF "W" BEAM GUARDRAIL INSTALLATIONS

(Refer to appropriate Standard Road Plans)

108-8
1-23-85



*Not a bid item

LOCATION NO.	LOCATION STATION	STANDARD ROAD PLAN	FORMED STEEL "W" BEAM GUARDRAIL Case	L2 (Feet)	A Lin. Ft.	H Lin. Ft.	T Lin. Ft.	TOTAL Lin. Ft.	BEAM GUARDRAIL POSTS 10"x10" SINGLE SPACER	8"x 8" SINGLE SPACER	8"x 8" NO SPACER	6"x 8" NO SPACER	BEAM GUARDRAIL END ANCHORAGE BRIDGE RE-26 RE-28 Type	No.	END RE-33 RE-52, RE-53 Type	No.	RE-27* RE-41* RE-49* RE-55* Special* Type	No.	REMARKS
	1181+53 S.E.	RE-57	G		25			25	3	5			RE-27	1	Spec.	1			
	1181+53 S.W.	RE-57	G		25			25	3	5			RE-27	1	Spec.	1			
	1181+53 N.E.	RE-57	G		25			25	3	5			RE-27	1	Spec.	1			
	1181+53 N.W.	RE-57	G		25			25	3	5			RE-27	1	Spec.	1			

TABULATION OF RESURFACING RUNOUTS

106-3
5-14-71

LOCATION STATION	TYPE	LENGTH	REMARKS
1180+40	Full	37.5	Back
1182+66	Full	37.5	Ahead

TABULATION OF DELINEATORS AND OBJECT MARKERS

Refer to Standard Road Plan RE-48A-B* and RE-29C

108-17
11-10-83

LOCATION STATION	TYPE*	DELINEATOR SINGLE WHITE D-1W NO.	OBJECT MARKER TRIPLE YELLOW OM2-3YV NO.	TYPE 3 OM-3L NO.	TYPE 3 OM-3R NO.	OFFSET BRACKETS NO.	REMARKS
1181+53 S.E.	1	7	1 **		1		** See detail this sheet.
1181+53 S.W.	1		1 **	1			
1181+53 N.E.	1		1 **	1			
1181+53 N.W.	1	7	1 **		1		

Design Sheet 4 of 5 File No. 27064 Design No. 2084

ROADWAY DESIGN

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.

Fred W. Walker
4989 — IOWA REGISTRATION NUMBER
November 16, 1984 — DATE

POLK COUNTY