STATE	FED. ROAD DIST. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
IOWA	6		1	81

PROJECT NUMBER
IR-80-8(97)295--12-82

R.O.W. PROJECT NUMBER

PRELIMINARY ENGINEER NUMBER

IOWA
DEPARTMENT OF TRANSPORTATION
Highway Division

PLANS OF ~~PROPOSED~~ IMPROVEMENT ON THE

INTERSTATE ROAD SYSTEM

SCOTT COUNTY

BRIDGE REPAIR

3 LOCATIONS ON INTERSTATE 80 IN DAVENPORT OVER C.M.St.P. & P. RR, MIDDLE ROAD AND CO. RD. Z-30

SCALES: AS NOTED

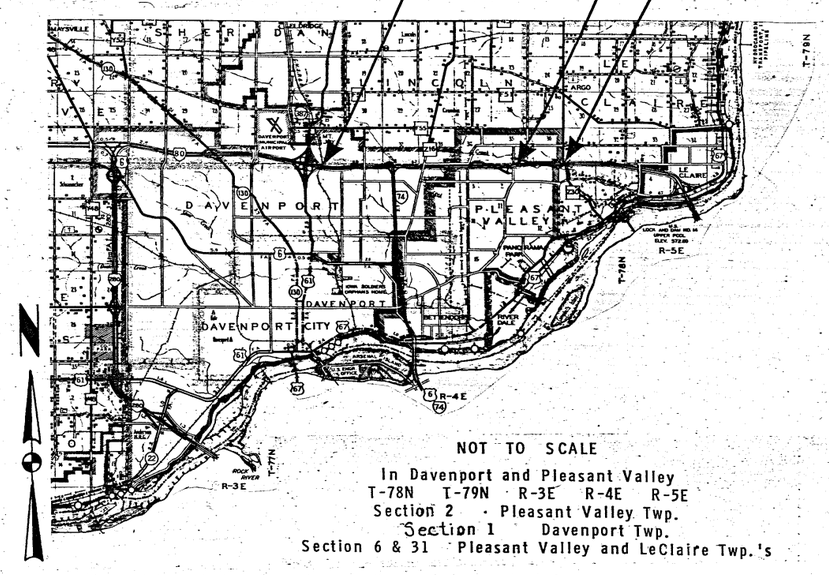
THE STANDARD SPECIFICATIONS, SERIES OF 1977
OF THE IOWA DEPARTMENT OF TRANSPORTATION,
SHALL APPLY TO CONSTRUCTION WORK ON THIS PROJECT

(PLUS CURRENT SUPPLEMENTAL SPECIFICATIONS AND SPECIAL PROVISIONS)

CONVENTIONAL SIGNS

State Line
Co. Line
Twp. Line
Sec. Line
Corp. Line
Urban Bdry.
R.O.W. Lines
Survey Line — Old / New; Sta / Ref Point
Sec. Corner
Profile Grade
Railroad
Field Tile
Underground Lines — G Gas; T Tel
Culverts — Old / New
Utility Poles — Power, Tel
Fences — Barb / Mesh
Trees Or Brush
Stream
Dike — Old / New
County Road No
Primary Road No.
U. S. Road No.
Interstate Road No

DESIGN NO. 1282
DESIGN NO. 1382
DESIGN NO. 1082
DESIGN NO. 1182
DESIGN NO. 882
DESIGN NO. 982



NOT TO SCALE

In Davenport and Pleasant Valley
T-78N T-79N R-3E R-4E R-5E
Section 2 Pleasant Valley Twp.
Section 1 Davenport Twp.
Section 6 & 31 Pleasant Valley and LeClaire Twp.'s

LOCATION MAP

LOCATION MAP SCALE
0 1 2 3
miles

MAY 10, 1983

INDEX OF SHEETS

NO.	DESCRIPTION
1	TITLE SHEET
2-4	QUANTITY ~~ESTIMATE~~ SHEETS
5-16	BRIDGE DESIGN NO. 882
17-28	BRIDGE DESIGN NO. 982
29-41	BRIDGE DESIGN NO. 1082
42-53	BRIDGE DESIGN NO. 1182
54-67	BRIDGE DESIGN NO. 1282
68-81	BRIDGE DESIGN NO. 1382

THIS AS BUILT PLAN INCLUDES

YEAR	WORK	CONTRACTOR	PROJ. INSPECTOR
1983 & 1984	BRIDGE REPAIR	FOX CONSTRUCTION COMPANY	DAVE NILES & J.BROCKHOUSE

STANDARD ROAD PLANS — 105-4, 6-17-77

The following Standard Road Plans shall be considered applicable to construction work on this project.

IDENT	DATE	IDENT	DATE	IDENT	DATE
RE-2	8-16-74	RE-47	8-24-79	RE-57	6-8-79
RE-7	8-6-82	RE-48A	9-18-81	RE-58	10-5-79
RE-12	4-20-79	RE-52	12-5-80	RH-2	4-23-82
RE-1	9-3-76	RE-53	8-24-79	RL-12	12-28-79

DEPARTMENT OF TRANSPORTATION, HIGHWAY DIVISION
STANDARDS REQUIRED (Available at Bridge Design Services)

STANDARD	ISSUED	REVISED

CONSTRUCTION PLANS SHOWING PROJECT AS BUILT

Plan Preparation Supervised By: Bruce Kuehl
Resident-Construction Engineer
Date 1-15-86 Iowa Reg. No. 8371

REVIEWED AND FORWARDED TO AMES
1/30
District Construction Engineer Date

One 50% Reduced and Two Full-Size Prints To Be Made and Returned To
R. C. Henely
District Engineer

AFTER MICROFILMING RETURN ORIGINAL
TO DISTRICT NO. 6

DEPARTMENT OF TRANSPORTATION — IOWA — Highway Division
AUTHORIZED FOR LETTING Gary Dahl 2-3-83
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.
2792 1-27-83
IOWA REGISTRATION NUMBER DATE

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

(D)

BRIDGE REPAIR
IR-80-8(97)295--12-82
SCOTT COUNTY

LETTING DATE ~~MARCH 17, 1983~~ STATE CONTROL SECTION NUMBER 82-0600 bfs 2-23-83 FILE NO. 26703 SCOTT COUNTY PROJECT NO. IR-80-8(97)295--12-82 NO. 1 OF 81

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.

1/24/83 — WM. A. LUNDQUIST — REG. NO. 4449
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.

IOWA REGISTRATION NUMBER — DATE

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.

1/24/83 — WM. A. LUNDQUIST — REG. NO. 4449
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.

Fred W. Wasser
DATE January 28 19 83 IOWA REG. NO. 4989

IN LETTING OF MARCH 17, 1983 ~~MAY 10, 1983~~

DESIGN NO. 1082 — OVER C.M.St.P. & P. R.R. — STA. 942+51.22
SCOTT COUNTY — MAINT. NO. 8295.9R.080 — RR X-ing 1575
SECTION 1 — T-78N — R-3E — DAVENPORT TWP.

DESIGN FOR 5° 50' SKEWED
146'-8 x VAR. PRETENSIONED PRESTRESSED
CONCRETE BEAM BRIDGE

~~ESTIMATE OF~~ QUANTITIES

NO.	ITEM	UNIT	TOTAL
1	Class A Bridge Floor Repair	Sq. Yd.	80.10
2	Bridge Floor Overlay	Sq. Yd.	747.57
3	Floodlighting	L.S.	#3000.00
4	Temporary Barrier Rail - Concrete	Lin. Ft.	450.75
5	Pavement Karkings	Sta.	110.16
6	Epoxy Sealer for Concrete	Sq. Ft.	569.28
7	Traffic Control	L.S	#12000.00
8	Cast in Place Barrier Rail	Lin. Ft.	289.0
9	Concrete Repair	Sq. Ft.	15.17

~~ESTIMATE OF~~ ROADWAY QUANTITIES

No.	ITEM	UNIT	TOTAL
10	Guardrail, Formed Steel Beam	Lin.Ft.	~~175.0~~ 187.5
11	Guardrail Posts, Beam	No.	44
12	Guardrail, End Anchorage, Beam RE-52	No.	1
13	Guardrail, End Anchorage, Beam RE-53	No.	1
14	Delineators, Triple Amber Vertical	No.	3
15	Object Markers, Type 3	No.	2
16	Removal of Formed Steel Beam Guardrail	Lin.Ft.	50
17	Removal of Posts	No.	32
18	Removal of Existing Delineators	No.	2
19	Removal of Object Markers	No.	2
20	Remove and Reinstall Formed Steel Beam Guardrail	Lin.Ft.	112.5
21	Excavation, Class 10, Roadway and Borrow	Cu.Yds.	350
22	Holes (for Pressure Grouting)	No.	248
23	Portland Cement (for Pressure Grouting)	Tons	5.13
24	Bridge Floor Surfacing with P.C. Concrete	Sq.Yds.	210.57
	~~Bridge Floor Repair, Class A~~	~~Sq.Yds.~~	
25	Class I Cracks, Routing and Sealing	Lin.Ft.	84.70
26	Class III Joints, Sawing and Sealing	Lin.Ft.	143.58
27	Joint, Pressure Relief in Cement Concrete	Lin.Ft.	70
28	Base, Type B Class I Asphalt Cement Concrete	Tons	0
B001	P.C.C. Conc. Shoulder Strengthen	Sq.Yds.	515.986

~~MAY 10, 1983~~ IN LETTING OF MARCH 17, 1983

DESIGN NO. 1182 — OVER C.M.St.P. & P. R.R. — STA. 942+58.28
SCOTT COUNTY — MAINT. NO. 8295.9L.080 — RR X-ing 1575
SECTION 1 — T-78N — R-3E — DAVENPORT TWP.

DESIGN FOR 3° 40' SKEWED
146'-8 x VAR. PRETENSIONED PRESTRESSED
CONCRETE BEAM BRIDGE

~~ESTIMATE OF~~ QUANTITIES

NO.	ITEM	UNIT	TOTAL
1	Class A Bridge Floor Repair	Sq. Yd.	49.39 ~~129.2~~
2	Bridge Floor Overlay	Sq. Yd.	634.63 ~~844~~
3	Floodlighting	L.S.	Lump Sum
4	Temporary Barrier Rail - Concrete	Lin. Ft.	~~358.5~~
5	Pavement Markings	Sta.	73.3 ~~88.4~~
6	Epoxy Sealer For Concrete	Sq. Ft.	~~569~~ 558.6
7	Traffic Control	L.S.	Lump Sum
8	Cast in Place Barrier Rail	Lin. Ft.	~~288~~
9	Concrete Repair	Sq. Ft.	~~14~~ 17.01
8001	P.C.C. PAVED SHOULDERS	SQ-YD	348.23

~~ESTIMATE OF~~ ROADWAY QUANTITIES

No.	ITEM	UNIT	TOTAL
1	Guardrail, Formed Steel Beam	Lin.Ft.	150
2	Guardrail Posts, Beam	No.	43
3	Guardrail, End Anchorage, Beam RE-52	No.	1
4	Guardrail, End Anchorage, Beam RE-53	No.	1
5	Delineators, Triple Amber Vertical	No.	3
6	Object Markers, Type 3	No.	2
7	Removal of Formed Steel Beam Guardrail	Lin.Ft.	112.5
8	Removal of Posts	No.	36
9	Removal of Object Markers	No.	2
10	Remove and Reinstall Formed Steel Beam Guardrail	Lin.Ft.	112.5
11	Excavation, Class 10, Roadway and Borrow	Cu.Yds.	100
12	Holes (for Pressure Grouting)	No.	~~114~~ 242
13	Portland Cement (for Pressure Grouting)	Tons	6.50 ~~1.2~~
14	Bridge Floor Surfacing with P.C. Concrete	Sq.Yds.	184.66 ~~12.5~~
	~~Bridge Floor Repair, Class A~~	~~Sq.Yds.~~	~~40.2~~
16	Class I Cracks, Routing and Sealing	Lin.Ft.	82.0 ~~83.6~~
17	Class III Joints, Sawing and Sealing	Lin.Ft.	124 ~~119.3~~
18	Joint Pressure Relief	Lin.Ft.	~~60~~
19	Base, Type B Class I Asphalt Cement Concrete	Tons	0 ~~19.3~~

~~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 5.~~	~~Includes 22.8 Sta. removal of pavement markings, 30.8 Sta. of yellow temporary and permanent pavement markings and 41.2 Sta. of white temporary and permanent pavement markings.~~
~~E~~ 1.	Includes 55.5 Sq. Yds. for Routing at joints. See sheet 37 of 81 for Routing Details.

~~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
~~11.~~ 2.	Includes 40 posts, 8"x8"; and 3 posts, 6"x8". Existing 10"x10" posts are to be used as is.
~~16.~~ 7.	Includes removal of RE-33 anchor rod as detailed on this sheet. Removal of anchor rod shall be considered incidental to this bid item. UAC first 25 ft. of rail presently connected to bridge at NW and SW corners.
~~16. & 17.~~ ~~18 & 19.~~ 7 & 8.	To be disposed of as per Std. Notation 213-1.
~~18. & 19.~~ ~~19 & 20.~~ 9.	To be stockpiled for pickup by State maintenance forces.
~~21.~~ 11.	Quantity is estimate only and payment shall be made on the actual volume of material required. Article 1109.03 of the current Std. Specifications shall not apply. Material available within the NW loop of the U.S. 61 interchange as directed by the engineer.
~~22 & 27.~~ ~~23 & 28.~~ 12-18.	See Sheet No. 37 for details.
~~28.~~ 19.	To be used for shoulder strengthening. Design weight 140 lbs. per cu. ft. Includes removal of approximately 155 cu. yds. of existing shoulder material which is to be disposed of as per Std. Notation 213-1. Removal and disposal of existing shoulder material shall be considered incidental to this bid item. Also includes approximately 17 tons of asphalt cement which shall be considered incidental to this bid item.

~~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
1	
5	~~Includes 32.7 Sta. removal of pavement markings, 18.8 Sta. of yellow temporary and permanent pavement markings and 14.9 Sta. of white temporary and permanent pavement markings.~~
1.	Includes 46.2 Sq. Yds. for Routing at joints. See sheet 49 of 81 for Routing Details.

~~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
2.	Includes 40 posts, 8"x8"; and 3 posts, 6"x8". Existing 10"x10" posts are to be used as is.
7.	Includes removal of RE-33 anchor rod as detailed on this sheet. Removal of anchor rod shall be considered incidental to this bid item. UAC 12.5 ft. rail presently connected to bridge on northeast corner.
7 & 8.	To be disposed of as per Std. Notation 213-1.
9.	To be stockpiled for pickup by State maintenance forces.
11.	Quantity is estimate only and payment shall be made on the actual volume of material required. Article 1109.03 of the current Std. Specifications shall not apply. Material available within the N.W. loop of the U.S. 61 interchange as directed by the engineer.
12-18.	See Sheet No. 49 for details.
19.	To be used for shoulder strengthening. Design weight 140 lbs. per cu. ft. Includes removal of approximately 112 cu. yds. of existing shoulder material which is to be disposed of as per Std. Notation 213-1. Removal and disposal of existing shoulder material shall be considered incidental to this bid item. Also includes approximately 11 Tons of asphalt cement which shall be considered incidental to this bid item.

QUANTITY ~~ESTIMATE~~ SHEET

FILE NO. 26703

SCOTT COUNTY

PROJECT NUMBER	STATE	FED. ROAD DIST. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
IR-80-8(97)295--12-82	IOWA	5		3	81

GENERAL NOTES

This design is for repair to the existing 146'-8 x Variable Width Pretensioned Prestressed Concrete Beam Bridge, original Design No. 260, Scott County. Plans of the existing structure may be obtained at the Ames office of the Iowa D.O.T. - Highway Division. Repairs shall consist of bridge floor repair, bridge floor overlay, cast in place barrier rail, guardrail modification, diaphragm repair, and portland cement concrete overlay on the approaches.

Construction shall be done in stages with at least one lane of traffic maintained at all times in accordance with the "Traffic Control Plan" noted on Design Sheet 1.

Plan quantity of floor repair is based on the "Survey Plot" as shown on this sheet. Hatched portions represent Class A Bridge Floor Repair, cross hatched portions 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 floor, including areas over the bridge floor repair, shall have Bridge Floor Overlay.

Surface raise as shown on the plans shall be considered a minimum. In order to limit additional dead load, surface raise shall be restricted to a maximum of 1/2 inch more than that shown on the plans. Profile grade shall be adjusted to the extent possible within these limits.

Present floor thickness is about 6 inches. The contractor will be required to exercise care in removing concrete in order to prevent unnecessary unbonding of the reinforcing steel.

Red lines on tracing and faint lines on prints indicate existing portions of the structure.

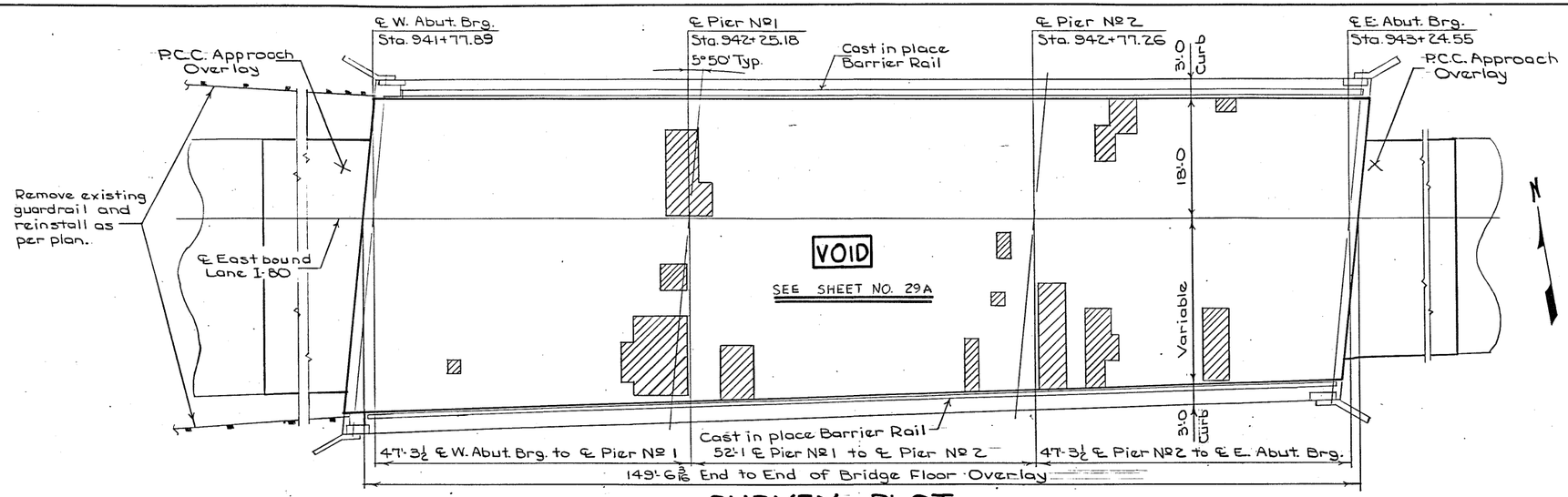
The bid item "Concrete Repair" shall include the cost necessary to repair the pier diaphragms as noted on Design Sheet 4. The area of repair may vary from the quantity shown in the table of Estimated Quantities, however, the contractor shall be paid for the actual area of pier diaphragm repaired on a square foot basis based on the price bid per square foot. Article 1109.03 of the Standard Specifications does not apply.

The contractor shall place portland cement concrete overlay on the bridge approach pavement at both ends of the bridge as noted and shown on Design Sheet 9. Payment for this work shall be as noted on Design sheet 9.

Any A.C. work that may be necessary to bring the roadway shoulders up to the final grade of the P.C. approach pavement will be done by local Highway 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.

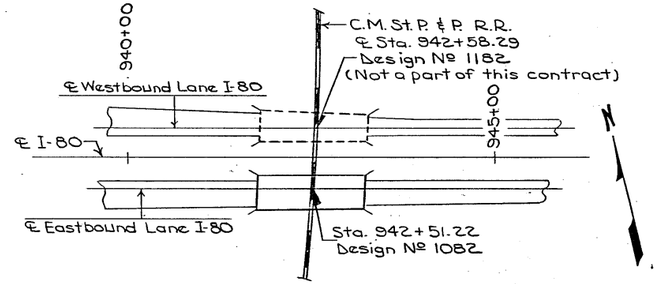
TRAFFIC CONTROL PLAN

1. Traffic control on this project shall be in accordance with layouts contained in these plans. For additional complementary information, refer to Supplemental Specification 920.
2. When special traffic control sheets are not in effect, Detail Sheet 521-4 shall be used for unfinished work and Detail Sheet 521-2A for work in progress that encroaches on the traveled way.
3. Overlay of the bridge approach pavement shall be accomplished with the work area protected by temporary barrier rail.
4. Undersealing and jacking may be done using Detail Sheet 521-4.
5. All traffic control devices shall be furnished, erected, maintained, and removed by the contractor.
6. The location for storage of equipment by the contractor during non-working hours will be as approved by the engineer in charge of construction.
7. The engineer may require modification, of, or additions to, pavement marking details shown. Conflicting permanent edgelines, lanelines or gore lines shall be removed and replaced with appropriate temporary lines. As applicable, permanent edgelines, lanelines and gore lines shall be restored before the roadway is returned to normal traffic.
8. Proposed sign spacing may be modified, as approved by the engineer, to meet existing field restrictions, or to prevent obstruction of the motorists' view of permanent signing.
9. Proposed changes in the Traffic Control Plan (includes Detail Sheets) shall be reviewed with the Office of Construction before changes are made.
10. The bid item "Traffic Control" shall include the cost of all traffic control measures required of the contractor except for pavement markings, floodlighting and temporary barrier rail.



SURVEY PLOT

Dated: Sept. 1982



GENERAL PLAN

BRIDGE ~~ESTIMATED~~ QUANTITIES

Item Nº	Item	Unit	Quantity
1	Class A Bridge Floor Repair	Sq. Yd.	80.10
2	Bridge Floor Overlay	Sq. Yd.	747.57
3	Floodlighting	L.S.	$3000.00
4	Temporary Barrier Rail - Concrete	Lin. Ft.	450.75
5	Pavement Markings	Sta.	110.16
6	Epoxy Sealer For Concrete	Sq. Ft.	569.28
7	Traffic Control	L.S.	$12000.00
8	Concrete Barrier Rail (Cast in Place)	Lin. Ft.	289.0
9	Concrete Repair	Sq. Ft.	15.17

ITEM Nº ~~ESTIMATE~~ REFERENCE INFORMATION

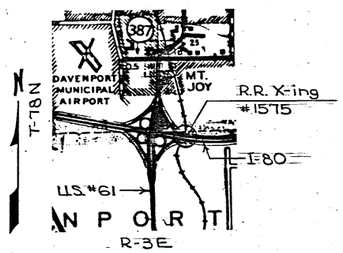
5 ~~Includes 72.8 Sta. removal of pavement markings, 30.8 Sta. of yellow temporary and permanent pavement markings and 41.2 Sta. of white temporary and permanent pavement markings.~~

1. Includes 55.5 Sq. Yds. for Routing at joints. See sheet 37 of 81 for Routing Details.

NOTE: See Design Sheet 8 for Roadway Quantities.

EPOXY SEALER FOR CONCRETE

In addition to requirements of Art. 2413.09, an epoxy sealer shall be applied to the curbs. The epoxy sealer material and application shall comply with Materials I.M. 491.12. Before application of epoxy, new concrete surfaces must be cured and all surfaces must be sound, clean and dry. As directed by the engineer, old surfaces may require removal of unsound material by sandblast and/or hand methods. Epoxy sealer shall be applied prior to any other surface treatment application. For portland cement concrete floor repair, Par. 2413.02A., the epoxy sealer shall be applied along each gutter line, extending one foot onto the roadway and up the batter face of the curb. For latex-modified concrete floor repair, 2413.02B., the epoxy sealer shall be applied to the batter face of each curb, end to end, but it shall not be applied on the roadway. Other areas requiring epoxy sealer may be designated elsewhere on these plans. Quantity of "Epoxy Sealer for Concrete," in square feet, to be paid for will be computed from measurements of areas actually covered and Art. 1109.03 shall not apply. Plan quantity is based on PC Concrete floor repair.



LOCATION PLAT

SPECIFICATIONS

Construction - Iowa D.O.T. Specifications, Series of 1977 plus current Supplemental Specifications and Special Provisions including:

Spec. 920 "Supplemental Specifications for Traffic Controls"
Spec. 875 "Supplemental Specifications for Pavement Markings"
SP. 448 "Special Provisions for Crack and Joint Cleaning and Sealing"
SP. 444 "Special Provisions for Concrete Pavement Undersealing and Jacking by Pressure Grouting.

LOCATION:

Eastbound I-80 over C.M. St. P. & P. R.R.
R.R. X-ing # 1575
Section 1
T-78N R-3E
Davenport Twp.
Scott County
Br. Maint. Nº 8295.9 R080

Design for 5°50' Skewed

146'-8 x VAR. PRETENSIONED PRESTRESSED CONCRETE BEAM BRIDGE

47'-3½ End Spans 52'-1 Center Span

SURVEY PLOT, QUANTITIES & NOTES

Sta. 942+51.22 R.R. X-ing # 1575 Jan., 1983

SCOTT COUNTY

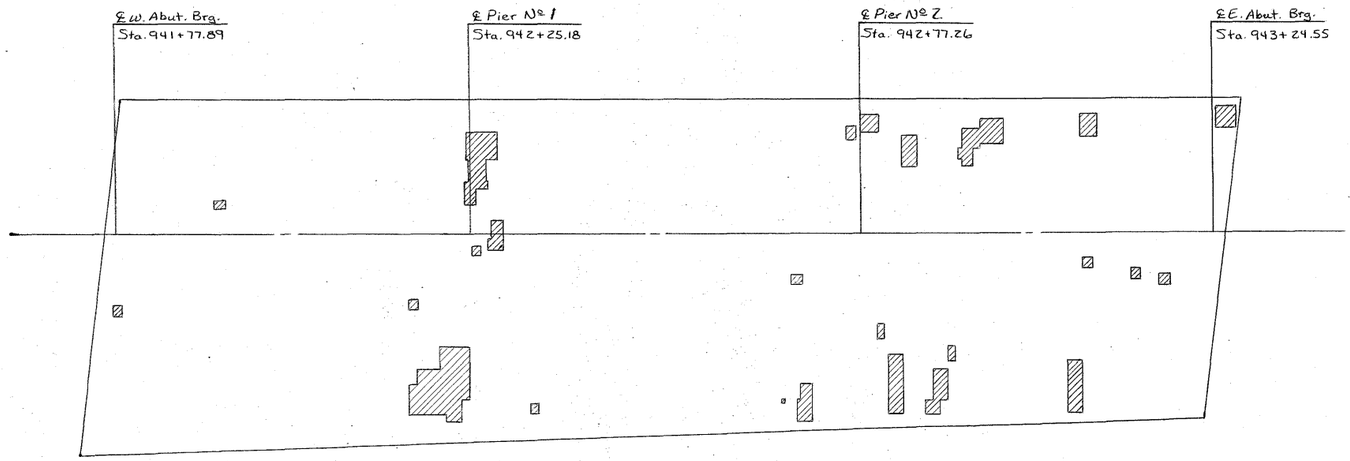
IOWA DEPARTMENT OF TRANSPORTATION-HIGHWAY DIVISION

Design Sheet No.: 1 Of 13 File No.: 26703 Design No.: 1082

DESIGNED BY: Larry A. Haney
DETAILED BY: HM
TRACED BY: HM
CHECKED BY:
Section Leader: William A. Lundquist
DK 1-20-83
SCOTT COUNTY

PROJECT NUMBER	STATE	FED. ROAD DIST. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
IR-80-8(97)295--12-82	IOWA	5		29	81

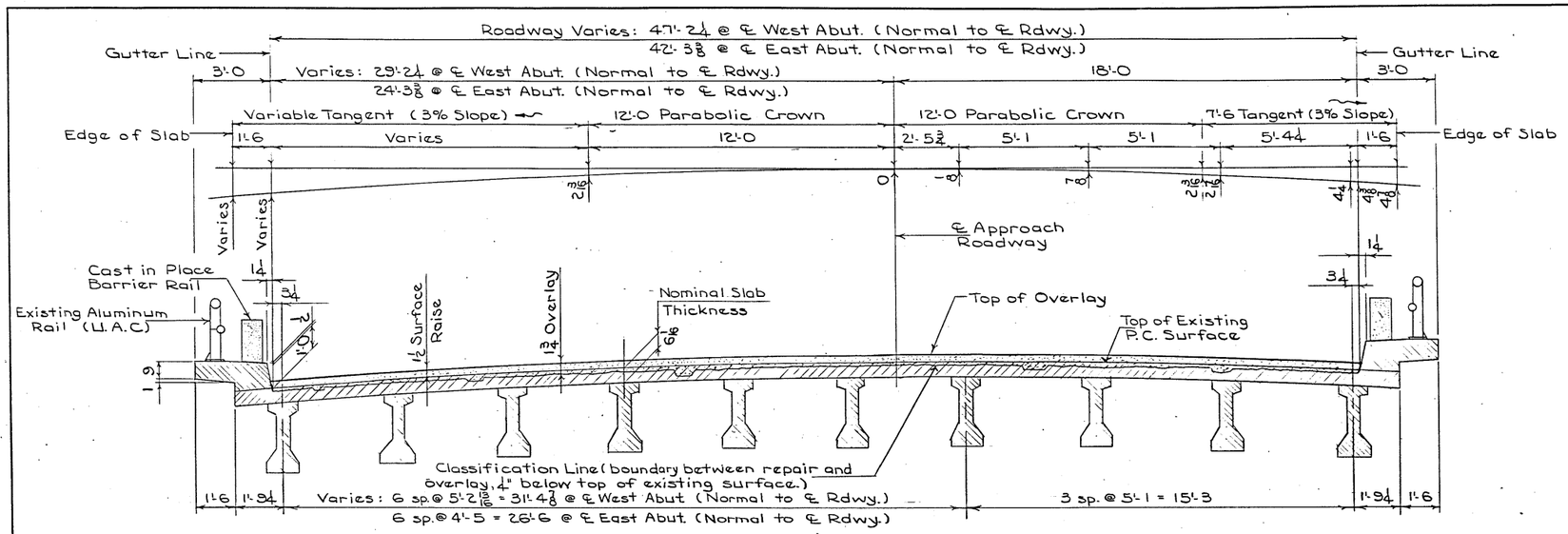
BRIDGE WORK SHEET 000 316840



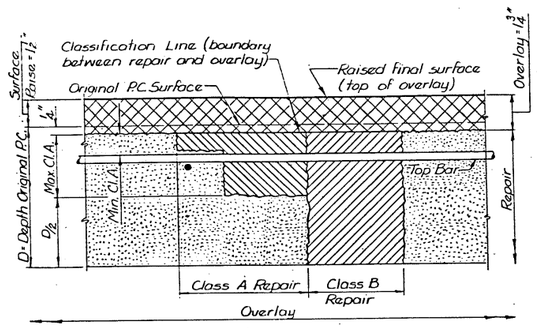
Design 1082

SCOTT COUNTY

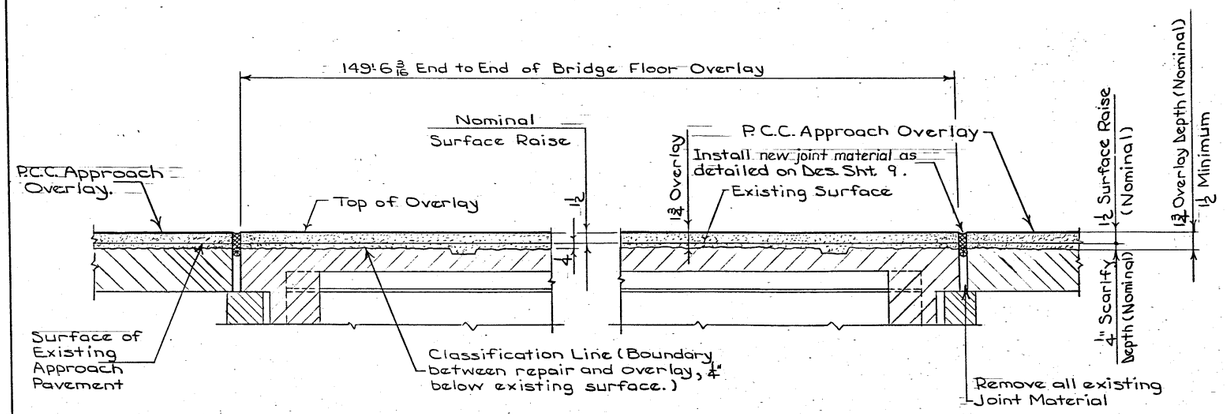
PROJECT NUMBER	STATE	FED. ROAD DIST. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
IR-80-8(97)295--12-82	IOWA	5		29A	81



TYPICAL CROSS SECTION (LOOKING WEST)



REPAIR AND OVERLAY DEFINITION



PART LONGITUDINAL SECTION ALONG ROADWAY

Design for 5° 50' Skewed

146'-8 x VAR. PRETENSIONED PRESTRESSED CONCRETE BEAM BRIDGE

47'-3½ End Spans 52'-1 Center Span

REPAIR DETAILS

Sta. 942+51.22 R.R. X-ing # 1575 Jan., 1983

SCOTT COUNTY

IOWA DEPARTMENT OF TRANSPORTATION-HIGHWAY DIVISION

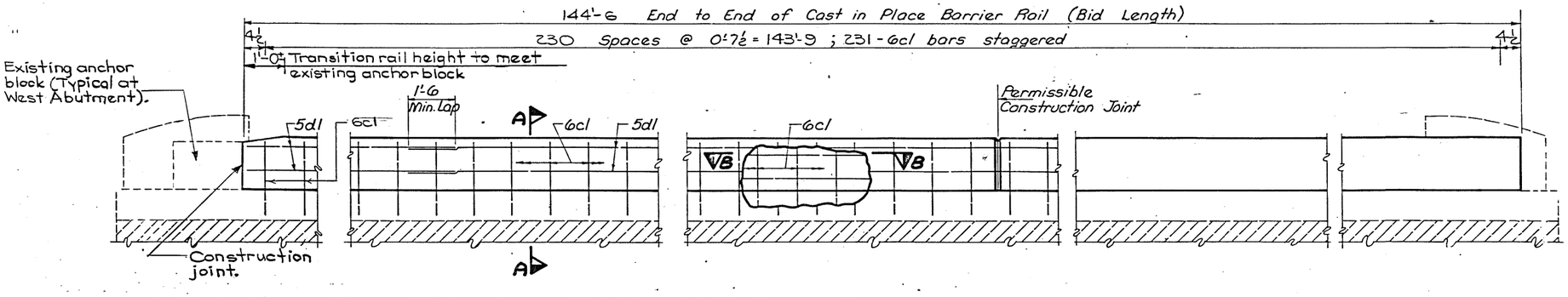
Design Sheet No.: 2 Of 13 File No.: 26703 Design No.: 1082

DESIGNED BY: Gary A. Nancy
DETAILED BY: HMJ
TRACED BY: HM
CHECKED BY:

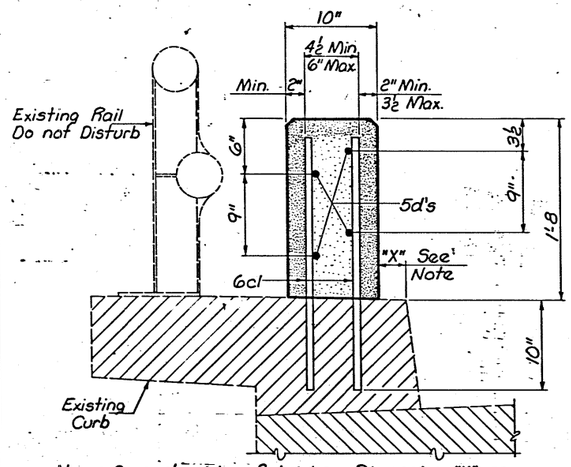
SCOTT COUNTY

PROJECT NUMBER	STATE	FED. ROAD DIST. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
	IOWA	6		30	81

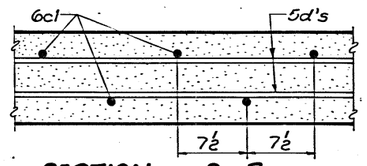
BRIDGE WORK SHEET 000 316840



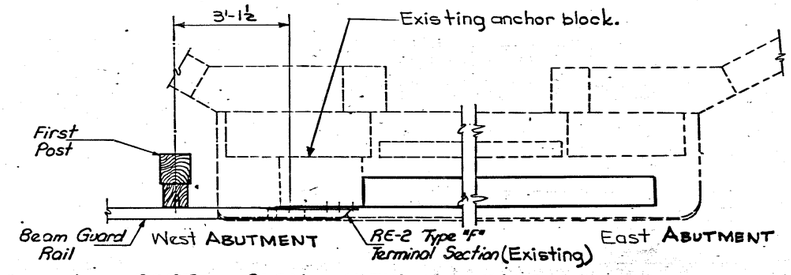
ELEVATION OF CAST IN PLACE BARRIER RAIL
(Looking North)



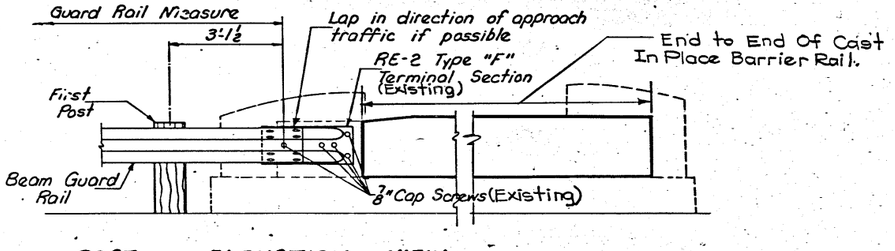
Note: On each side of bridge, Dimension "X" can be a minimum of 1" and a maximum of 3", but must be constant for full length of bridge, However approximately 10 linear feet at west end of rail length shall be transitioned to match existing beam guard rail attachment.



SECTION B-B
(Showing 6c1 Placement).

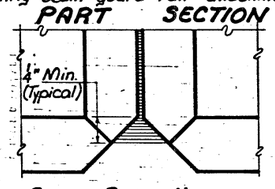


PART PLAN VIEW

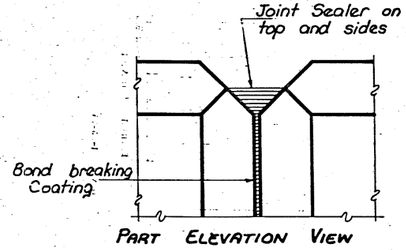


PART ELEVATION VIEW
(Showing beam guard rail attachment to RE-2 Type "F" Terminal Section and cast in place rail layout)

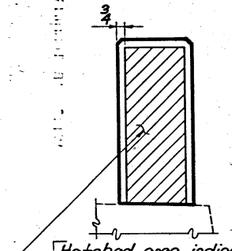
PART SECTION A-A



PART PLAN VIEW



PART ELEVATION VIEW



CAST IN PLACE BARRIER RAIL JOINT DETAILS

Revised: 1-17-84; Grout requirement changed.
Revised: 4-16-1980 ; This sheet re-drawn.

EPOXY REINFORCING STEEL ~ TWO RAILS					
Bar	Location	Shape	No.	Length	Weight
6c1	Rail, Vertical	—	462	2'-4	1619
5d1	Rail, Longitudinal	—	32	37'-2	1240
				Total (lbs.)	2859

CONCRETE PLACEMENT SUMMARY	
Concrete	Total
289.0' @ 0.05 cu.yds. per lin.ft.	14.5 c.y.

ESTIMATED QUANTITIES		
Item	Units	Quantity
Concrete Barrier Rail (Cast in Place)	lin. ft.	289.0

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, 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-S00230 or TT-S00227 for type II, Class A or B.

All reinforcing is to be epoxy coated. The epoxy coating shall be in accordance with Article 4151.03B 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"ø. 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"ø. The hydraulic cement grout shall be one of those approved in Materials I.M. 491.13.

Design For Repairs to A 5°50' Skew
146'-8" x VAR. PRETENSIONED PRESTRESSED CONCRETE BEAM BRIDGE
47'-3½" End Spans — 52'-4" Interior Span
Bridge Maintenance Nº. 8295.9R080
CAST IN PLACE BARRIER RAIL DETAILS
Sta. 942+51.22 R.R. X-ing # 1575 Jan., 1983
SCOTT COUNTY
IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION
Design Sheet No.: 3 Of 13 File No.: 26703 Design No.: 1082

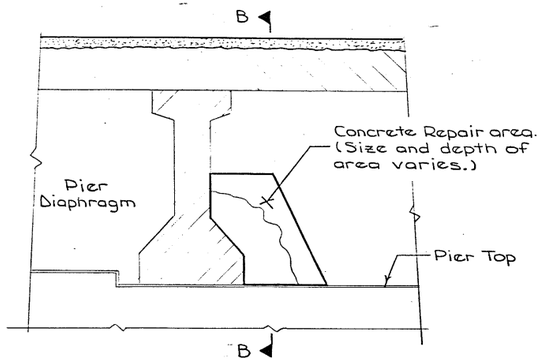
DESIGNED BY: Gary A. Novey
DETAILED BY: HM
TRACED BY: HM
CHECKED BY:

CAST IN PLACE BARRIER RAIL

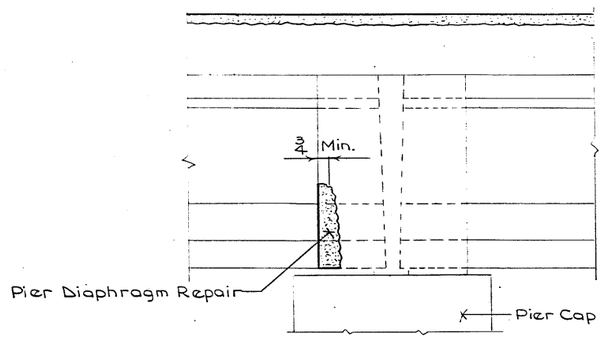
SCOTT COUNTY

STATE	FED. ROAD DIST. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
IOWA	8		31	81

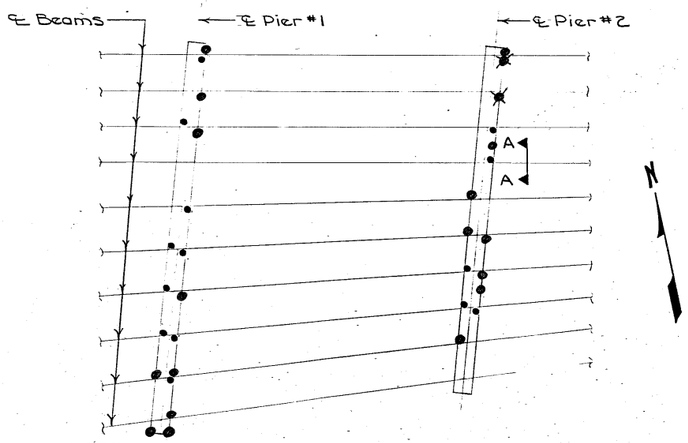
BRIDGE WORK SHEET 000 316640



SECTION A-A



SECTION B-B



NOTE:
"•" Indicates approximate location of pier diaphragm repairs. Determination of actual areas of repairs shall be made in the field by the Engineer.

GENERAL PLAN OF PIER DIAPHRAGMS

CONCRETE REPAIR NOTES:

The spalled and hollow areas of the pier diaphragms as noted and shown on this sheet shall be repaired as follows:

SURFACE PREPARATION

Substrate must be sound, clean and free from all contaminants. Remove all loose, disintegrated and unsound concrete from the repair areas. Remove all dust and debris resulting from chipping and sandblasting. The substrate must be moistened prior to application of the bonding grout. No puddles of water should remain at the time of applicating.

MIXES

The concrete, mortar, and bonding grout shall contain Sikabond Bonding Agent as manufactured by the Sika Chemical Corp., Intralok Bonding Agent as manufactured by W.R. Meadows Corp., Daraweld-C Bonding Agent as manufactured by W.R. Grace & Co., or approved equal. Mix proportions are as follows:

BONDING GROUT

Add sufficient undiluted Bonding Agent to Type I portland cement to make a scrub grout of a creamy paint consistency.

MORTAR (By Volume)

Type 1 Portland Cement	5 parts
Concrete Sand	10 parts
Bonding Agent	1 part

CONCRETE (By Volume)

Type 1 Portland Cement	5 parts
Concrete Sand	5 parts
Coarse Aggregate conforming to Std. Spec. 4115.08	5 parts
Bonding Agent	1 part

MIXING PROCEDURE

With the mixer running, add in the following order: Bonding Agent, aggregate, and cement. Water may be added to produce a mortar or concrete of trowelable consistency as determined by the engineer.

PLACEMENT PROCEDURE

BONDING GROUT

At the time of placement, substrate must be damp with no free standing water. Brush the scrub grout into areas to be patched. Use a stiff bristled broom or scrub brush.

TOPPING MIX

Before the scrub coat has a chance to dry, place the mortar or concrete in the area to patched. The mix should then be wood troweled. Patch depths exceeding 3/4" in depth require the concrete mix. Patch depths of 3/4" or less require the mortar mix.

CURING

As soon as the finish will not be damaged, cure with damp burlap for 48 hours.

All costs of equipment and materials to repair the spalled and hollow areas as noted and shown on this sheet shall be included in the price bid for "Concrete Repairs." The Engineer shall determine by visual and audible inspection the actual areas of the concrete repair. The contractor shall be paid for actual amount of repairs made on a square foot basis based on the price bid per square foot. Article 1109.03 of the Standard Specifications does not apply.

Design for 5°50' Skewed

146'-8 x VAR. PRETENSIONED PRESTRESSED CONCRETE BEAM BRIDGE

47'-3½ End Spans 52'-1 Center Span

REPAIR DETAILS

Sta. 942+51.22 R.R. X-ing # 1575 Jan., 1983

SCOTT COUNTY

IOWA DEPARTMENT OF TRANSPORTATION-HIGHWAY DIVISION

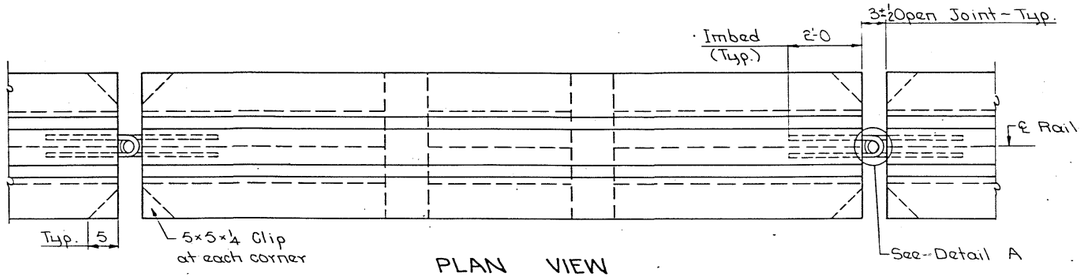
Design Sheet No.: 4 Of 13 File No.: 28703 Design No.: 1082

DESIGNED BY: Gary A. Harvey DETAILED BY: HM TRACED BY: HM CHECKED BY:

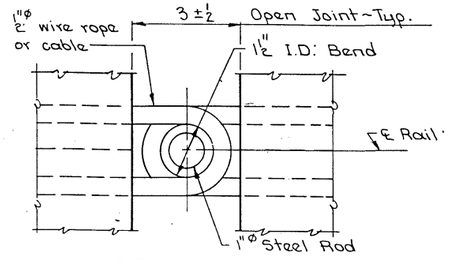
SCOTT COUNTY

PROJECT NUMBER	STATE	FED. ROAD DIST. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
	IOWA	6		32	81

BRIDGE WORK SHEET 000 316840



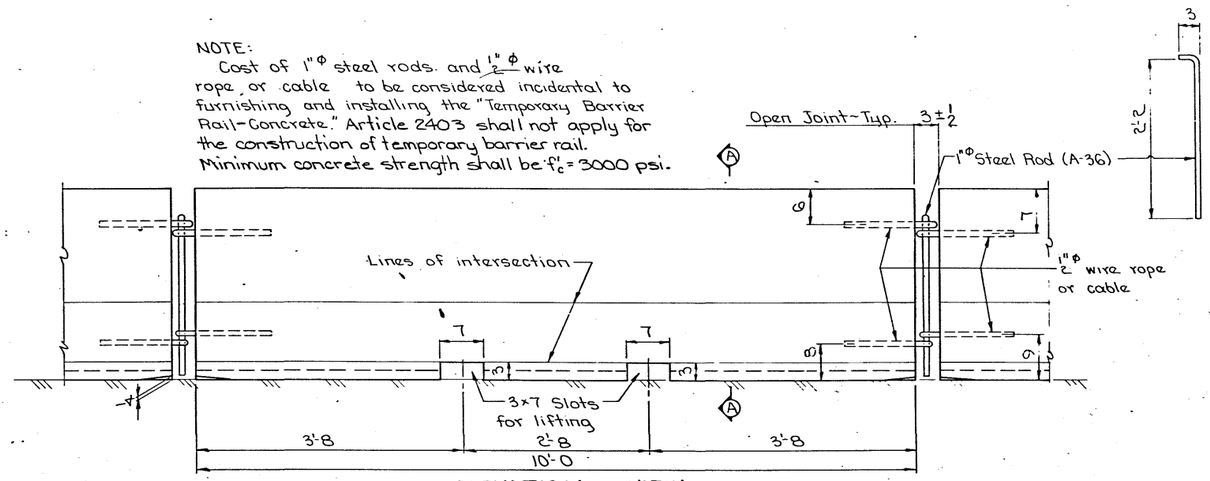
PLAN VIEW



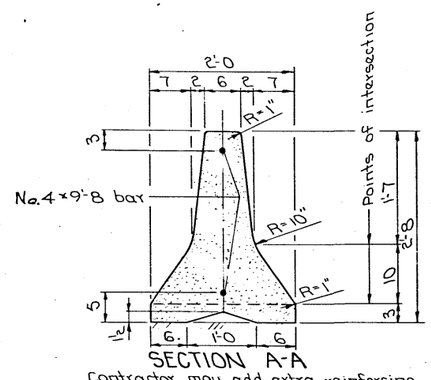
DETAIL A

1"Φ Wire rope or cable to be furnished, with a minimum breaking strength of 20000 pounds.

NOTE:
Cost of 1"Φ steel rods and 1"Φ wire rope or cable to be considered incidental to furnishing and installing the "Temporary Barrier Rail-Concrete." Article 2403 shall not apply for the construction of temporary barrier rail. Minimum concrete strength shall be f'_c = 3000 psi.

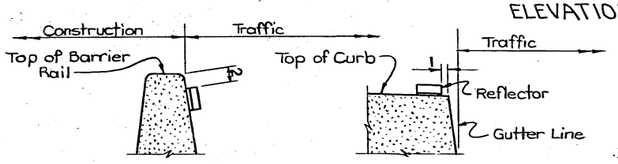


ELEVATION VIEW



SECTION A-A

Contractor may add extra reinforcing bars to increase the service life of the rail sections.



REFLECTOR DETAILS

NOTE:

The temporary barrier rail is to be bid on a lineal foot basis measured from end to end of rail as shown on these plans. The contractor may provide extra rail sections at the "off" end of the bridge in order to provide additional storage area. The extra rail sections are to be paid for by the contractor.

Barrier is to become the property of the contractor at the completion of work and be removed from the site by him.

A 12'-6 lane shall be available for traffic. Screed extension or overlap beyond the longitudinal construction joint may be less than the 6 inches required by Sub-article 2413.03C.1. The engineer may require additional vibration or special finishing procedures adjacent to the longitudinal construction joint.

Traffic reflectors shall be a retro-reflective type, approved by the engineer, and they shall be located as shown on this sheet. The contractor shall maintain the reflectors and shall promptly replace any missing or damaged units. All costs for furnishing, installing and maintaining reflectors shall be included in the price bid for "Temporary Barrier Rail".

Refer to other details, notes and quantity items, elsewhere on these plans, for traffic control to be established in conjunction with the temporary barrier rail.

ESTIMATED QUANTITIES	
Item	Amount
Temporary Barrier Rail - Concrete	450.75 L.F.

Design for 5° 50' Skewed
146'-8 x VAR. PRETENSIONED PRESTRESSED CONCRETE BEAM BRIDGE
47'-3½ End Spans 52'-1 Center Span
TEMPORARY BARRIER RAIL-CONCRETE
Sta 942+51.22 R.R. X-ing # 1575 Jan., 1983
SCOTT COUNTY
IOWA DEPARTMENT OF TRANSPORTATION-HIGHWAY DIVISION
Design Sheet No.: 5 Of 13 File No.: 26703 Design No.: 1082

Revised 10-13-82 - Reflector spacing and notes changed.
Revised: 7-17-81 Reflector requirement changed.
Reworked 09-05-79
Rev. 12-20-77
Revised 01-05-83: Notes and dimensions for Storage Length deleted.

DESIGNED BY: Mary A. Mowery
DETAILED BY: HM
TRACED BY: HM
CHECKED BY:

TEMPORARY BARRIER RAIL - CONCRETE | STANDARD 1032 | SCOTT COUNTY | PROJECT NUMBER

STATE	FED. ROAD DIST. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
IOWA	5		33	81

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.

204-1

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.

211-2

Overhaul will not be measured or paid for but shall be considered incidental to roadway excavation on this project.

213-1

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.

232-3

EROSION CONTROL:

Following completion of work on this project seeding and fertilizing of all distrubed areas shall be done as directed by the engineer.

SEEDING:

3 lbs. of Fescue, Kentucky 31 per 1,000 sq. ft.

FERTILIZER:

15 lbs. of 13-13-13 (or equivalent) chemically combined fertilizer per 1,000 sq. ft.

Mechanical rotary tillage equipment shall be required for the preparation of the seedbed. Hand equipment shall be required in areas inaccessible to field equipment.

The preparation of the seedbed, furnishing and application of seed and fertilizer to all disturbed areas on this project shall be considered incidental to work on this project and no extra compensation will be allowed.

204-2

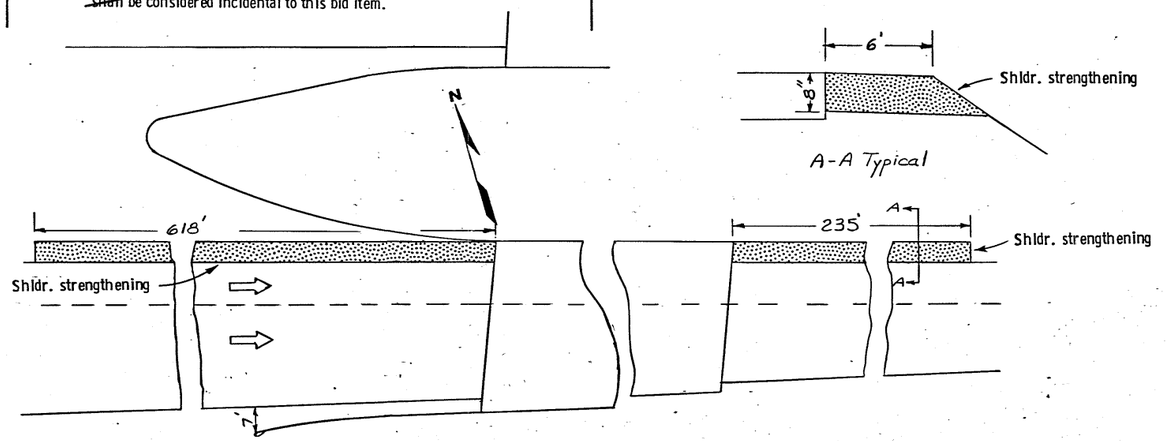
All holes resulting from operations of the contractor, including removal of guardrail posts, fence posts, utility poles, or foundation studies, shall be filled and consolidated to finished grade as directed by the engineer to prevent future settlement. The voids shall be filled as soon as practical--preferably 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.

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
11. ~~E~~	Includes 40 posts, 8"x8"; and 3 posts, 6"x8". Existing 10"x10" posts are to be used as is.
16. ~~E~~	Includes removal of RE-33 anchor rod as detailed on this sheet. Removal of anchor rod shall be considered incidental to this bid item. UAC first 25 ft. of rail presently connected to bridge at NW and SW corners.
16. & 17. ~~16. & 18.~~	To be disposed of as per Std. Notation 213-1.
18. & 19. ~~16. & 19.~~	To be stockpiled for pickup by State maintenance forces.
21. ~~E~~	Quantity is estimate only and payment shall be made on the actual volume of material required. Article 1109.03 of the current Std. Specifications shall not apply. Material available within the NW loop of the U.S. 61 interchange as directed by the engineer.
22. & 27. ~~15. & 19.~~	See Sheet No. 9 for details.
28. ~~20.~~	~~To be used~~ for shoulder strengthening. Design weight 140 lbs. ~~per cu. ft.~~ Includes ~~removal of~~ approximately 155 cu. yds. of ~~existing~~ shoulder material which is to be disposed ~~of as per Std.~~ Notation 213-1. Removal and disposal of existing ~~shoulder material~~ shall be considered incidental to this bid item. ~~Also~~ includes approximately 17 tons of asphalt cement ~~which shall be~~ considered incidental to this bid item.



A-A Typical

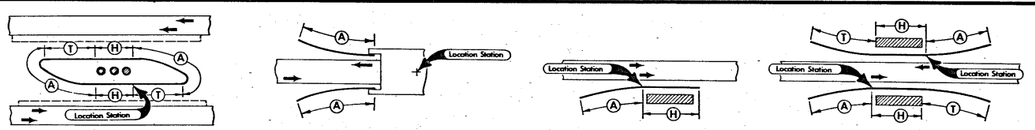
ESTIMATE OF ROADWAY QUANTITIES

No.	ITEM	UNIT	TOTAL
10	Guardrail, Formed Steel Beam	Lin.Ft.	175.0
11	Guardrail Posts, Beam	No.	44
12	Guardrail, End Anchorage, Beam RE-52	No.	1
13	Guardrail, End Anchorage, Beam RE-53	No.	1
14	Delineators, Triple Amber Vertical	No.	3
15	Object Markers, Type 3	No.	2
16	Removal of Formed Steel Beam Guardrail	Lin.Ft.	50
17	Removal of Posts	No.	32
18	Removal of Existing Delineators	No.	2
19	Removal of Object Markers	No.	2
20	Remove and Reinstall Formed Steel Beam Guardrail	Lin.Ft.	112.5
21	Excavation, Class 10, Roadway and Borrow	Cu.Yds.	350
22	Holes (for Pressure Grouting)	No.	248
23	Portland Cement (for Pressure Grouting)	Tons	5.13
24	Bridge Floor Surfacing with P.C. Concrete	Sq.Yds.	210.57
	~~Bridge Floor Repair, Class A~~	~~Sq.Yds.~~	
25	Class I Cracks, Routing and Sealing	Lin.Ft.	84.70
26	Class III Joints, Sawing and Sealing	Lin.Ft.	143.57
27	Joint, Pressure Relief	Lin.Ft.	70
28	Base, Type B Class I Asphalt Cement Concrete	Tons	0
8001	P.C.C. Conc. Shoulder Strengthen	Sq.Yds.	515.986

TABULATION OF "W" BEAM GUARDRAIL INSTALLATIONS

(Refer to appropriate Standard Road Plans)

108-8
12-28-79



LOCATION NO.	LOCATION STATION	STANDARD ROAD PLAN	FORMED STEEL "W" BEAM GUARDRAIL Case	A Lin. Ft.	H Lin. Ft.	T Lin. Ft.	TOTAL Lin. Ft.	BEAM GUARDRAIL POSTS 10"x10" SINGLE SPACER	8"x8" SINGLE SPACER	8"x8" NO SPACER	6"x8" NO SPACER	BEAM GUARDRAIL BRIDGE END ANCHORAGE Type	No.	BEAM GUARDRAIL END ANCHORAGE Type	No.	SPECIAL CONNECTION (Non-Bid Item) Type	No.	(L2) (Feet)	REMARKS
	942+51 SW Cor.	RE-57	G	62.5			62.5		8		2	UAC		RE-52	1				

TABULATION OF "W" BEAM GUARDRAIL BETWEEN DUAL BRIDGES

(Refer to appropriate Standard Road Plans)

108-19
2-12-82

LOCATION No.	LOCATION Station	STANDARD ROAD PLAN	FORMED STEEL "W" BEAM GUARDRAIL A 12.5' Curve	A Section for Skewed Bridge	A Curve (1)	A RE-53 Section	A Tangent Section	T Curve (2)	T Variable Tangent Section	Total	BEAM GUARDRAIL POSTS 10"x10" Single Spacer	8"x8" Single Spacer	8"x 8" No Spacer	6"x8" No Spacer	BRIDGE END ANCHORAGE Type	No.	END ANCHORAGE Type	No.	SPECIAL CONNECTION (Non-Bid Item) Type	No.	REMARKS
	942+51 NW Cor	RF-58			100	12.5	~~62.5~~ 75.0	25	12.5	212.5		~~38~~ 31	2	1	UAC		RF-53	1			

REMOVAL OF BEAM GUARDRAIL

110-7
1-19-79

LOCATION	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
942+51 N.W.	37.5	62.5	17				U.A.C.			
942+51 S.W.	12.5	50	15				U.A.C.			

TABULATION OF GRADING FOR GUARD RAIL INSTALLATIONS

107-23
8-4-78

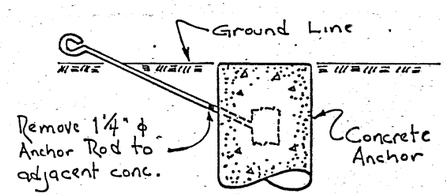
HAZARD LOCATION (Station)	LOCATION POINT (Station)	INSTALLATION (Type)	'Y' DISTANCE (Lin. Ft.)	CLASS 10 EXCAVATION (Cu. Yds.)	PIPE Size (Inches)	PIPE Type	PIPE Length (Lin. Ft.)	REMARKS
941+72	940+75±	5		350				

TABULATION OF DELINEATORS AND OBJECT MARKERS

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

108-17
9-22-78

LOCATION STATION	TYPE	SINGLE WHITE DELINEATOR	TRIPLE AMBER VERTICAL DELINEATOR	TYPE 3 OBJECT MARKERS	REMARKS
942+51 Lt.	4		--	1	
942+51 Rt.	2		3	1	



DISCONNECT FROM RE-33 End Anchorage

Design Sheet No 8 of 13 File No 26103 Design No 1082

ROADWAY DESIGN

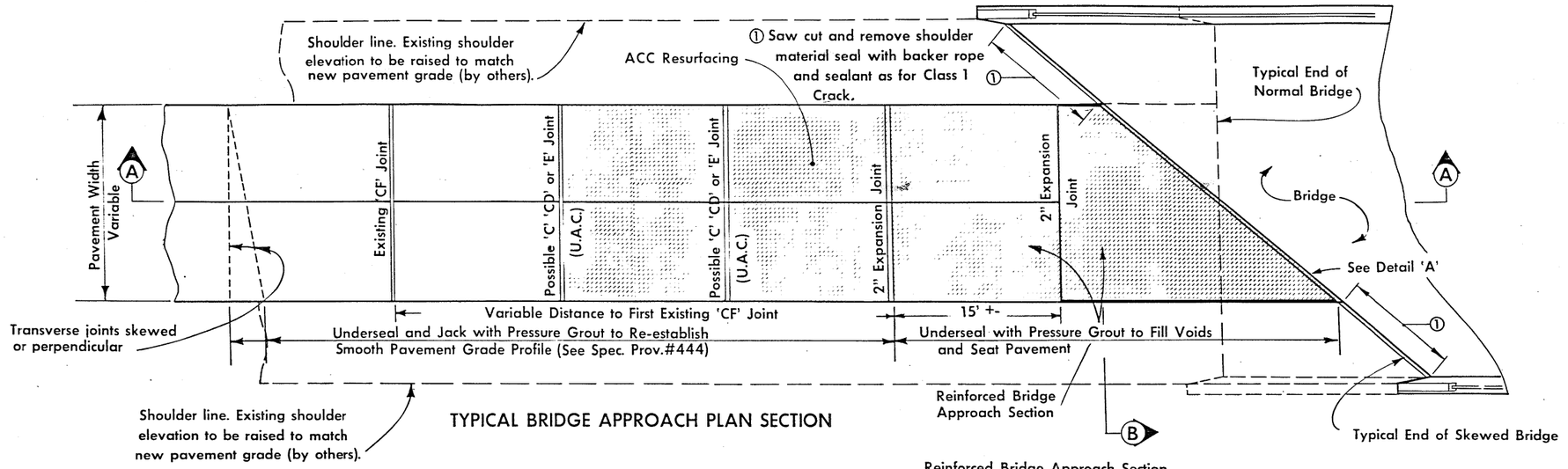
I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED UNDER MY SUPERVISION AND THAT ENGINEERING DECISIONS WITH REGARD TO THE DESIGN WERE MADE BY ME OR BY OTHER DULY REGISTERED PROFESSIONAL ENGINEERS UNDER THE LAWS OF THE STATE OF IOWA.

Fred W. Walker
4939 January 7, 1983
IOWA REGISTRATION NUMBER DATE

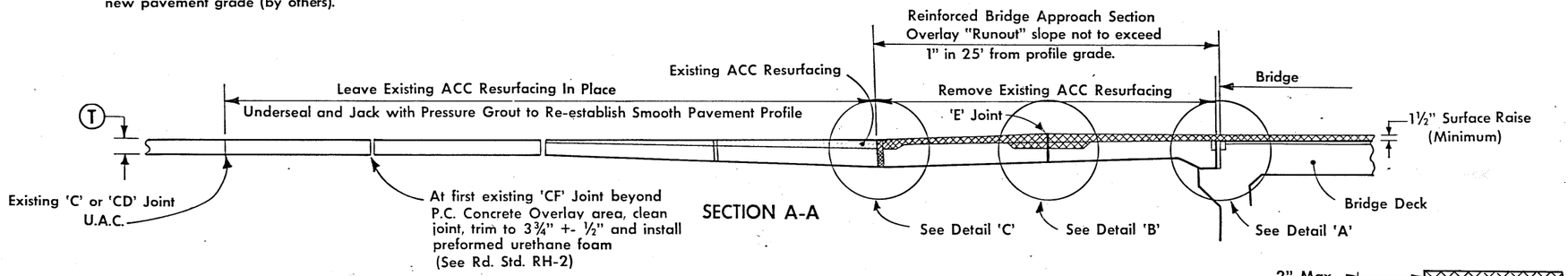
SCOTT COUNTY

PROJECT NUMBER

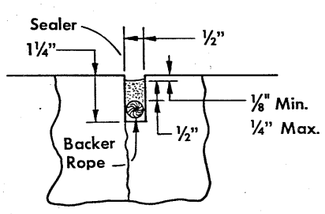
STATE	FED. ROAD DIST. NO.	YEAR	SHEET NO.	SHEETS
IOWA	5		36	81



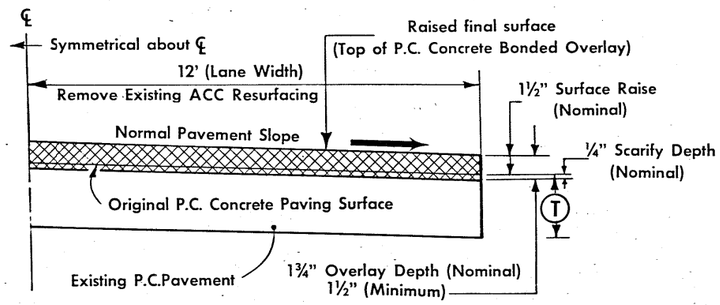
TYPICAL BRIDGE APPROACH PLAN SECTION



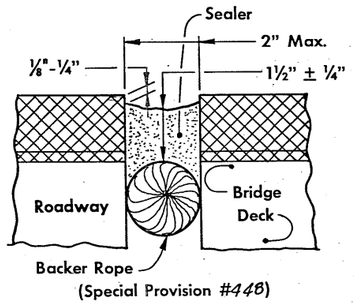
SECTION A-A



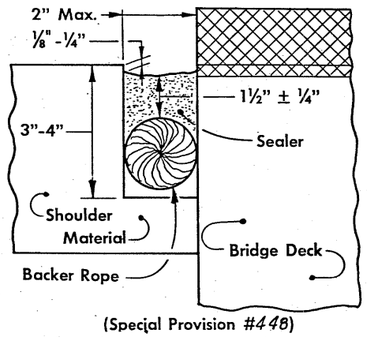
CLASS 3 JOINT



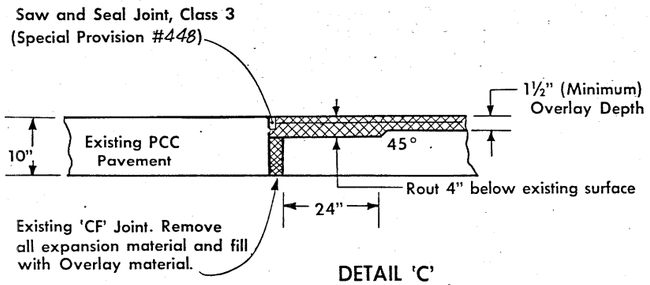
TYPICAL HALF SECTION B



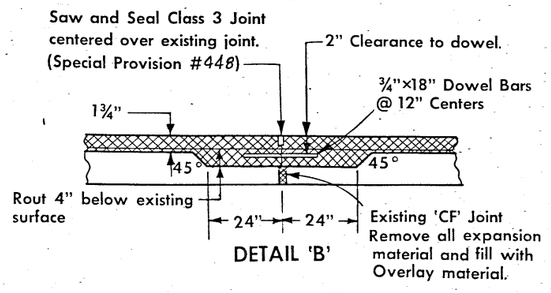
CLASS 1 CRACK at Roadway & Bridge



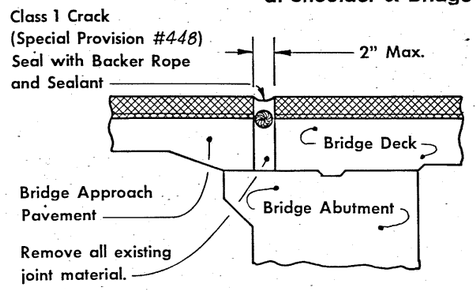
CLASS 1 CRACK at Shoulder & Bridge



DETAIL 'C'
P.C.Concrete Overlay at Existing 'CF' Joint



DETAIL 'B'
P.C. Concrete Overlay at 'CF' Joint



DETAIL 'A'
Movable Abutment Bridge

GENERAL NOTES:

A. Each approach shall be undersealed and jacked with pressure grout as detailed on this sheet. The profile between the reinforced bridge approach panels and the first sawn joint beyond all existing 'CF' joints is to be restored to a smooth riding condition by jacking with pressure grout. The area to be resurfaced with P.C. Concrete need not be raised by jacking, but shall be undersealed to fill voids and seat the existing pavement. This work is to be done in compliance with Special Provision No. 444, Concrete Pavement Undersealing and Jacking by Pressure Grouting.

B. After undersealing and jacking, the following work is to be accomplished one half of the approach width at a time while traffic is maintained in the adjacent lanes. The work is to proceed in the following sequence:

1. Rout out existing joints as detailed in the plans.
2. Scarify to a minimum depth of ¼" the existing P.C.C. surface of the reinforced bridge approach sections. The scarification shall be deep enough to provide a minimum overlay thickness of 1½".
3. Overlay the scarified approach pavement with P.C. Concrete in compliance with Article 2413 of the Standard Specifications and Supplemental Specifications.
4. Install sealed joints at the bridge end and at locations of overlaid existing joints as detailed on this sheet and as specified in Special Provision No. 448.
5. Trim the first existing 'CF' joint beyond the resurfaced area to a uniform 3¾" + ½" width; clean void of all debris and existing joint material and install new preformed urethane foam material with lubricant adhesive (Standard Road Plan RH-2).

C. Pressure grouting work, undersealing and jacking shall be paid for at the contract unit price for "Holes (for Presure Grouting)" and "Portland Cement (for Pressure Grouting)" as specified in Special Provision No. 444.

D. Routing at joints will be measured and paid for as "Class A Bridge Floor Repair" in compliance with Article 2413, of the Standard and Supplemental Specifications. Scarification deeper than ¼" to provide a minimum overlay depth of 1½" shall not be paid for separately, but shall be incidental to "Bridge Floor Surfacing with P.C. Concrete."

E. Scarifying and overlaying of the bridge approach pavement with P.C. Concrete shall be paid for at the contract unit price for "Bridge Floor Surfacing with P.C.Concrete"as specified in Article 2413 of the Standard and Supplemental Specifications. This item shall include all extra depth scarification to provide a minimum overlay thickness of 1½".

F. Installing sealed joints at the bridge end and at locations of existing joints that are overlaid with P.C. Concrete shall be paid for at the contract unit price for either "Class I Cracks, Routing and Sealing" or "Class III Joints, Sawing and Sealing" as detailed on this sheet and specified in Special Provision No. 448.

G. Trimming, cleaning and installing 'CF' Joints shall be paid for at the contract unit price for "Joint, Pressure Relief."

DESIGN NO. 1082
FILE NO. 26703
DES. SH. NO. 9 OF 13

DETAILS FOR P.C.C. OVERLAY OF BRIDGE APPROACH PAVEMENT

SCOTT COUNTY

PROJECT NUMBER	STATE	FED. ROAD DIST. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
	IOWA	5		37	81