

Webster IA 7 #28

STATE	FED. ROAD DIST. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
IOWA	5		1	15
PROJECT NUMBER				
FN-7-5(12)--21-94				
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
PRIMARY ROAD SYSTEM
WEBSTER COUNTY
BRIDGE REPAIR

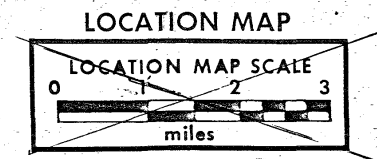
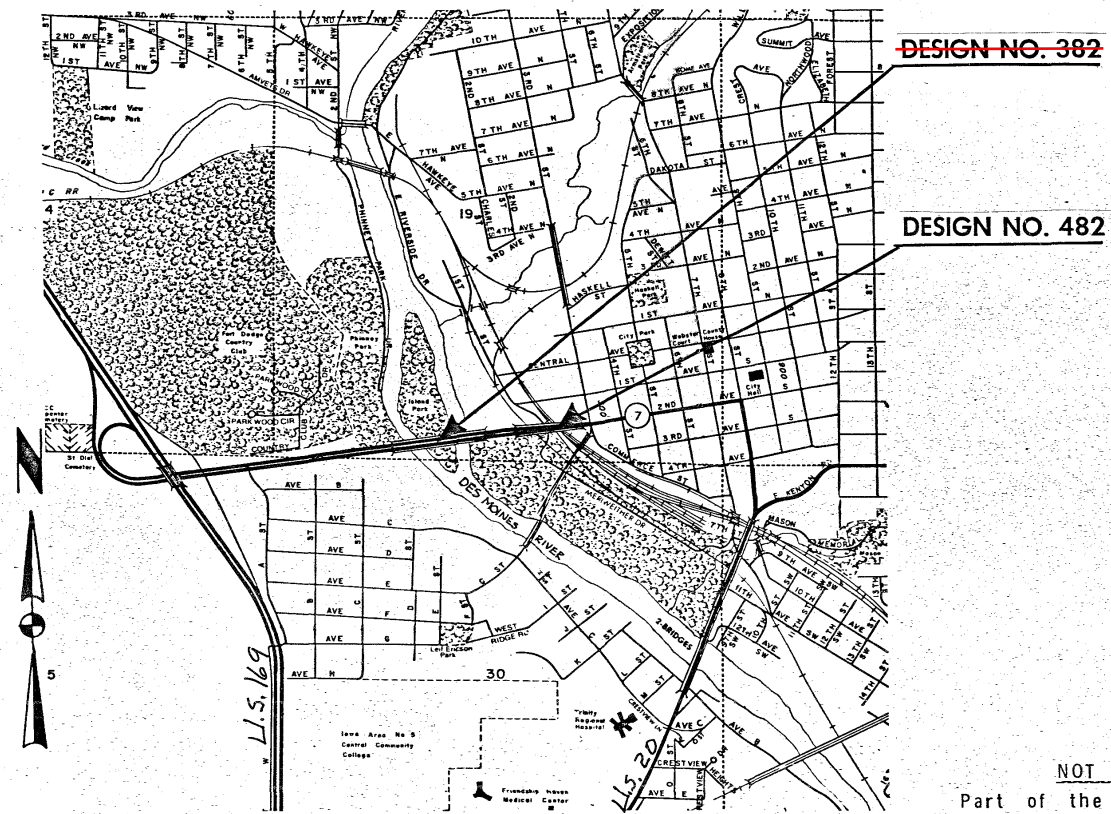
ON IOWA 7 IN FORT DODGE OVER THE DES MOINES RIVER AND THE C.&N.W. RR

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)

INDEX OF SHEETS	
NO.	DESCRIPTION
1	TITLE SHEET
2	ESTIMATE SHEET
3-11	DESIGN NO. 382
12-15	DESIGN NO. 482

BRIDGE REPAIR
FN-7-5(12)--21-94

WEBSTER COUNTY



NOT TO SCALE
Part of the City of Ft. Dodge
T-89N R-28W
Section 19
Wahonska Twp.

CONSTRUCTION PLANS SHOWING PROJECT AS BUILT

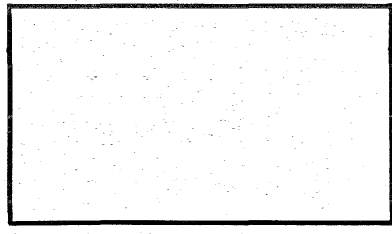
Plan Preparation Supervised By: Ron DeBor
Resident Construction Engineer
Date 12-11-84 Iowa Reg. No. 5795

REVIEWED AND FORWARDED TO AMES
Roy Kuhn District Construction Engineer
Date _____
Three Full-Size Prints To Be Made and Returned To
Robert Humphrey District Engineer

AFTER MICROFILMING RETURN ORIGINAL
TO DISTRICT NO. 2

YEAR	WORK	CONTRACTOR	PROJ. INSPECTOR
1983	Curb Repair	Crow Const. Co. Inc.	T. Lane
1983	Rec. Repair	Pressure Const. Co.	T. Lane
1983	Lighting	Dickson Const. Co.	T. Lane

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



DEPARTMENT OF TRANSPORTATION
Highway Division
IOWA
AUTHORIZED FOR LETTING
3-4-83
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 3-4-83
IOWA REGISTRATION NUMBER DATE

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

03-03-83 William C. Eyer REG. NO. 2926
DATE WILLIAM C. EYER

03-07-83 William C. Eyer REG. NO. 2926
DATE WILLIAM C. EYER

DESIGN NO. 382	OVER DES MOINES RIVER STA. 213+16 TO STA. 224+25
WEBSTER COUNTY	MAINT. NO. 9475.25007
SECTION 19	T-89N R-28W WAHKONSA TWP. & IOWA No. 7

~~ESTIMATE OF QUANTITIES~~

NO.	ITEM	UNIT	TOTAL
1	Structural Concrete	Cu. Yds.	43.1
2	Reinforcing Steel	Lbs.	2582
3	Removals, As per Plan	L.S.	Lump Sum
4	Removal & Re-erection of Existing Rail, as per plan	L.S.	Lump Sum
5	Conduit, Rigid Steel, 1" dia.	Lin. Ft.	120
6	Conduit, Rigid Steel, 2" dia.	Lin. Ft.	868
7	Junction Box, as per plan	No.	4
8	Cable 1/C, No. 8 AWG 600 V.	Lin. Ft.	2040
9	Ground Wire, Bare Copper, 6 AWG	Lin. Ft.	1020
10	Connector, RM-12, as per plan	No.	10
11	Lighting, as per plan	L.S.	Lump Sum
12	Shotcrete Repair	Sq. Ft.	643
13	Concrete Sealer, as per plan	Sq. Ft.	9500
14	Temporary Barrier Rail - Concrete	Lin. Ft.	81.75
15	Floodlight	L.S.	Lump Sum
16	Traffic Control	L.S.	Lump Sum
17	Pavement Marking	Sta.	15.6

100-4

ITEM NO.	DESCRIPTION
1	All Structural Concrete ^{was M4} shall be Class-D.
5 & 6	Includes cost of expansion fittings.
10	Included are 4 Type Y-1 connectors for phase line; 4 Type Y-2 connectors for neutral line and 2 Type L-2 connectors for phase line (1) and neutral line (1) in existing junction box. Four 10 ampere 600 volt fuses are required for Type Y-1 connectors and are considered incidental to this item.
12	Includes 14 sq. ft. of repair for bridge seat surfaces.
17	Includes 10.3 Sta. for removal of pavement marking and 10.3 Sta. for placing white marking (temporary and permanent)

[illegible]

DESIGN NO. 482	OVER C. & N. W. RR - <i>XING #12807</i>	STA. 228+95.84
WEBSTER COUNTY	MAINT. NO. 9475.65007	1 IOWA No. 7
SECTION 19	T-89N R-28W	WAHONSKA TWP

ESTIMATE OF QUANTITIES

NO.	ITEM	UNIT	TOTAL
# 18	Structural Concrete	Cu. Yds.	✓26.3
# 19	Reinforcing Steel	Lbs.	✓1607
# 20	Removals, as per plan	L.S.	Lump Sum \$5800 ⁰⁰
# 21	Removal & Re-erection of Existing Rail, as per plan	L.S.	Lump Sum \$1000 ⁰⁰
# 22	Conduit, Rigid Steel, 1" dia.	Lin. Ft.	✓9
# 23	Conduit, Rigid Steel, 2" dia.	Lin. Ft.	✓542
# 24	Junction Box, as per plan	No.	✓3
# 25	Cable, 1/C, No. 8 AWG 600V	Lin. Ft.	✓1150
# 26	Ground Wire, Bare Copper, 6 AWG	Lin. Ft.	✓575
# 27	Connector, RM-12 as per plan	No.	✓8
# 28	Lighting, as per plan	L.S.	Lump Sum \$575 ⁰⁰

100-4

ITEM NO.	DESCRIPTION
18	All structural concrete ^{was H9} shall be Class D.
5-6-6 22 # 23	Includes the cost of expansion fitting.
10 27	Included are 3 Type Y-1 connectors for phase line, 3 Type Y-2 connectors for neutral line and 2 Type L-2 connectors (for phase line (1) and neutral line (1)) in existing junction box. Three 10 ampere 600 volt fuses are required for Type Y-1 connectors and are considered incidental to this item.

WEBSTER COUNTY

PROJECT NUMBER.	
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FN-7-5(12)--21-94

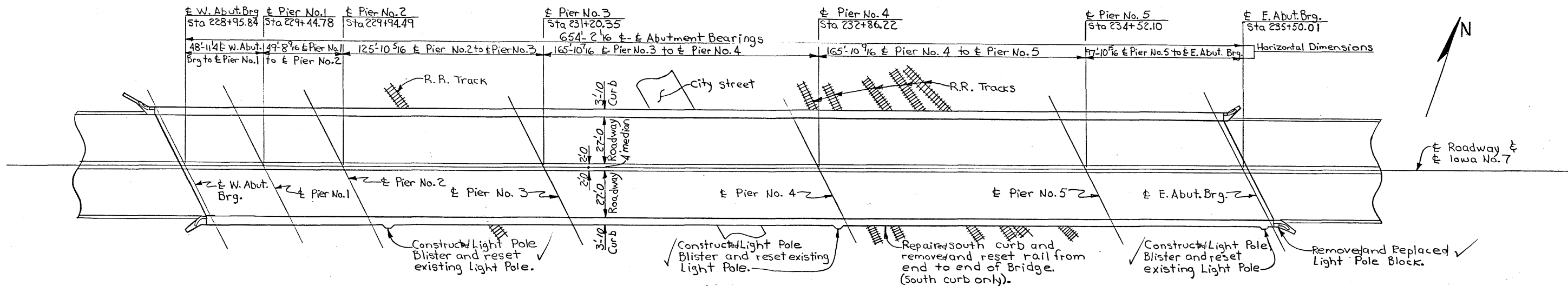
STATE
IOWA

FED. ROAD DIST. NO.	5
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FISCAL YEAR	
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SHEET NO.
2

TOTAL SHEETS	15
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SITUATION PLAN

GENERAL NOTES

This design is for repair to the existing 556'-0 x 58' Continuous Welded Plate Girder Bridge with two 49'-0 Approach Spans, original Design No. 2058 Webster County. Plans of the existing structure may be obtained at the Ames Office of the Highway Division. Repair shall consist of removal and replacement of the south steel bridge rail, removal and replacement of a portion of the south curb, removing and resetting three light poles, removal and replacement of light pole block at southeast corner of bridge, placement of lighting conduit, and installing wiring and lighting appurtenances.

The contractor shall remove and replace a portion of the existing south curb and the light pole block at the southeast corner of the bridge as detailed and noted on these plans. Existing reinforcing shall be carefully exposed and incorporated into new work. The cost of removal and disposal of broken concrete shall be included in the lump sum bid item, "Removals, As per Plan".

All exposed corners of 90° or sharper are to be filleted with a 3/4" dressed and beveled strip.

Minimum clear distance from face of concrete to near reinforcing bar (existing or new) is to be 2" unless otherwise noted or shown.

The contractor shall carefully remove and reinstall the railing and rail posts from the south curb. All elements of the rail, including anchor bolts, and all hardware, are to be reused or replaced in kind. Any anchor bolts which are lost or damaged shall be replaced with galvanized ASTM A325 bolts. The bid item "Removal and Re-erection of Existing Rail, As per Plan" shall be full compensation for removing and reinstalling the rail as detailed and noted on these plans. Any damage to paint on rails and rail posts shall be repaired by the contractor as directed by the engineer at no extra cost to the State.

Three light poles are to be removed and reinstalled. Two poles are presently located on concrete blisters on the south curb and one pole is presently mounted on a light pole block at the southeast corner of the bridge. All three poles are to be reinstalled on new concrete blisters as detailed on Design Sheet 2. The lump sum bid item, "Lighting, As Per Plan", shall include the cost of all material, labor, and equipment required to remove and reinstall these light poles as detailed and noted on the plans. Any damage to light poles during construction shall be repaired by the contractor at no cost to the State.

The reinforcing for this structure may be grade 40, 50 or 60 reinforcement in accordance with the Standard Specifications. The design stresses for all grades are based on grade 40 reinforcement.

At least one lane of eastbound traffic shall be maintained at all times in accordance with the "Traffic Control Plan" note on Design Sheet 1 and with traffic control layout on Design Sheet 4. Westbound traffic is not to be disturbed.

DESIGN STRESSES:

Design Stresses for the following materials are in accordance with the AASHTO Standard Specifications for Highway Bridges, Series of 1977:

Reinforcing steel in accordance with Section 1.5, Grade 40.

Concrete in accordance with Section 1.5, f'c=3500 psi.

SPECIFICATIONS:

Design: AASHTO, Series of 1977

Construction: Iowa Department of Transportation, Series of 1977, plus current Supplemental Specifications and Special Provisions including:

Spec. 920 "Supplemental Specifications for Traffic Controls."

Spec. 925 "Supplemental Specifications for Pavement Marking."

TRAFFIC CONTROL PLAN

1. Traffic control on this project shall be in accordance with layout contained in the plans. For additional complementary information, refer to Supplemental Specification 920.
2. All traffic control devices shall be furnished, erected, maintained and removed by the contractor.
3. The location for storage of equipment by the contractor during non-working hours will be as approved by the engineer in charge of construction.
4. The engineer may require modification of, or additions to pavement marking details shown. Conflicting permanent laneline shall be removed and replaced with appropriate temporary lines. As applicable, permanent laneline shall be restored before the roadway is returned to normal traffic. Supplemental Specification 925 shall apply.
5. 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.
6. Proposed changes in the Traffic Control Plan (includes layout sheet) shall be reviewed with the Office of Construction before changes are made.
7. The bid item "Traffic Control" shall include the cost for all traffic control measures required of the contractor except for those which are covered by a separate bid item. Pavement marking, floodlighting, and temporary barrier rail are separate bid items.
8. All traffic control on this project (Designs 382 and 482 Webster County) shall be erected in accordance with the Traffic Control Layout. All traffic control items (Barrier Rail, Floodlighting, pavement markings, signs, barricades, etc.) shall be in place before work is started on either design and shall remain in place until work is complete on both designs. The bid items, "Temporary Barrier Rail - Concrete", "Floodlighting", "Pavement Marking", and "Traffic Control" are included only in Design 382 but are to be full compensation for all traffic control required for both Design 382 and 482.

TOTAL ESTIMATED QUANTITIES

Item No.	Item	Units	Quantity
# 18	Structural Concrete	Cu. Yds.	263
# 19	Reinforcing Steel	Lbs.	1607
# 20	Removals, As Per Plan	L.S.	Lump Sum
# 21	Removal and Reerection of Existing Rail, As Per Plan	L.S.	Lump Sum
# 22	Conduit, Rigid Steel, 1 in. Dia.	Lin. Ft.	9
# 23	Conduit, Rigid Steel, 2 in. Dia.	Lin. Ft.	542
# 24	Junction Box, As Per Plan	No.	3
# 25	Cable, I/C, No. 8 AWG 600V	Lin. Ft.	1150
# 26	Ground Wire, Bare Copper, 6 AWG	Lin. Ft.	575
# 27	Connector, RM-12 As Per Plan	No.	8
# 28	Lighting, As Per Plan	L.S.	Lump Sum

ESTIMATE REFERENCE INFORMATION

- # 18 All structural concrete shall be Class 40.
- # 22, 23 Includes the cost of expansion fitting.
- # 27 Included are 3 Type Y-1 connectors for phase line, 3 Type Y-2 connectors for neutral line and 2 Type L-2 connectors for phase line (1) and neutral line (1) in existing junction box. Three 10 ampere 600 volt fuses are required for Type Y-1 connectors and are considered incidental to this item.

LOCATION

Webster County
T89N R28W
Section 19
Wahkonsa Twp.
Iowa No. 7 over C&N.W. R.R.
Maint. No. 9475.65007
Crossing No. 12807

Design for Repair to 26° 24' skew
556'-0 x 58'-0 CONTINUOUS WELDED
PLATE GIRDER BRIDGE
WITH 2@ 49'-0 APPROACH SPANS

SITUATION PLAN

Sta 228 + 95.84 (Iowa No. 7) Jan 1983

WEBSTER COUNTY

IOWA DEPARTMENT OF TRANSPORTATION-HIGHWAY DIVISION

Design Sheet No. 1 Of 4 File No. 26710 Design No. 482

DESIGNED BY: W. Johnston
DETAILED BY: W. Johnston

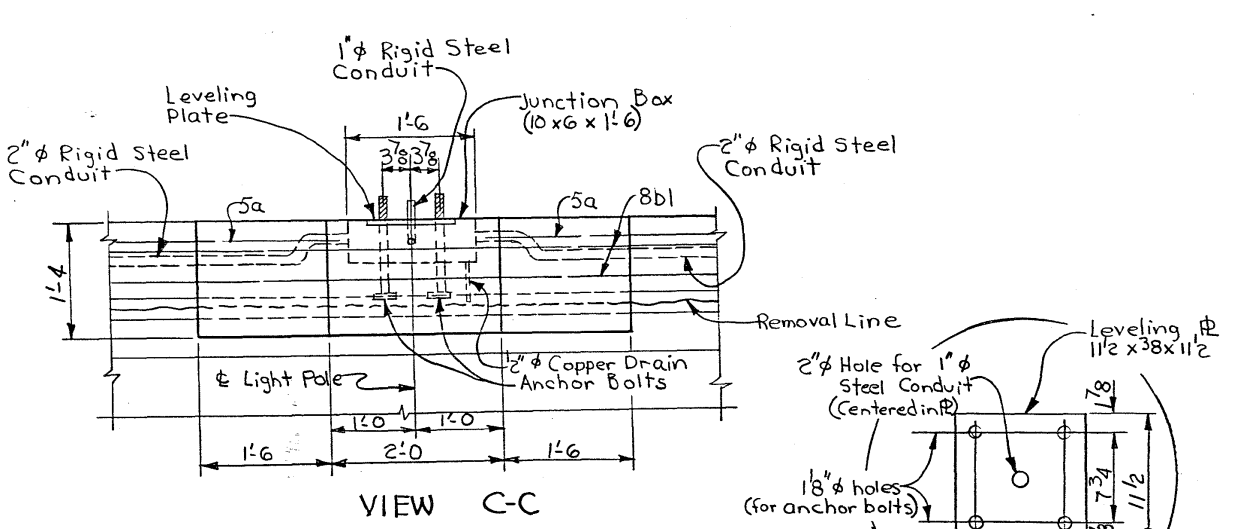
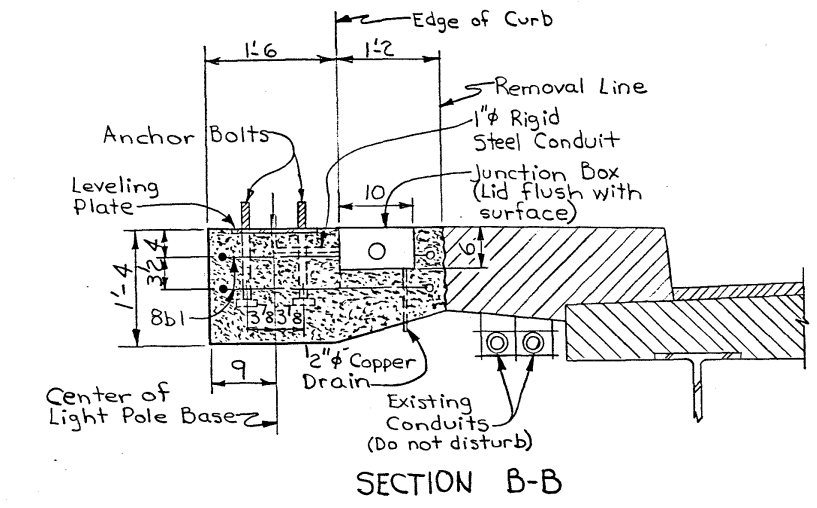
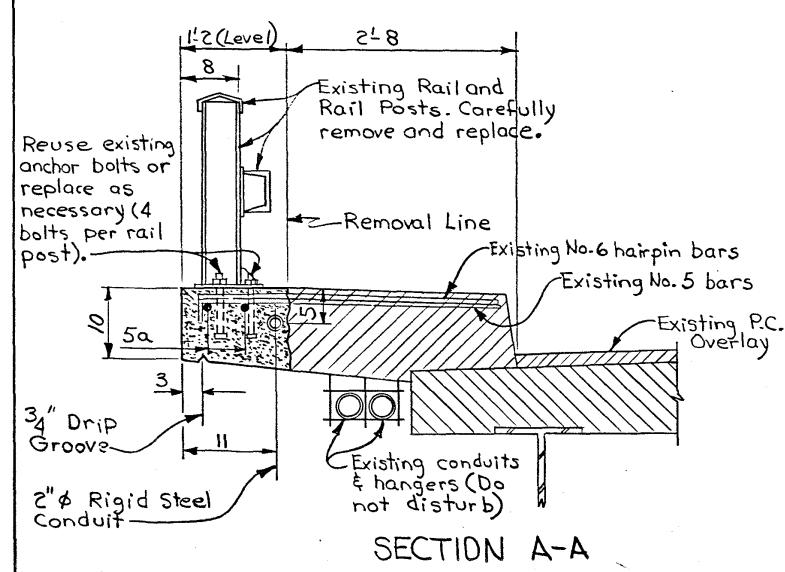
TRACED BY:
CHECKED BY: G. L. Port

Section Leader: W. C. Eyer

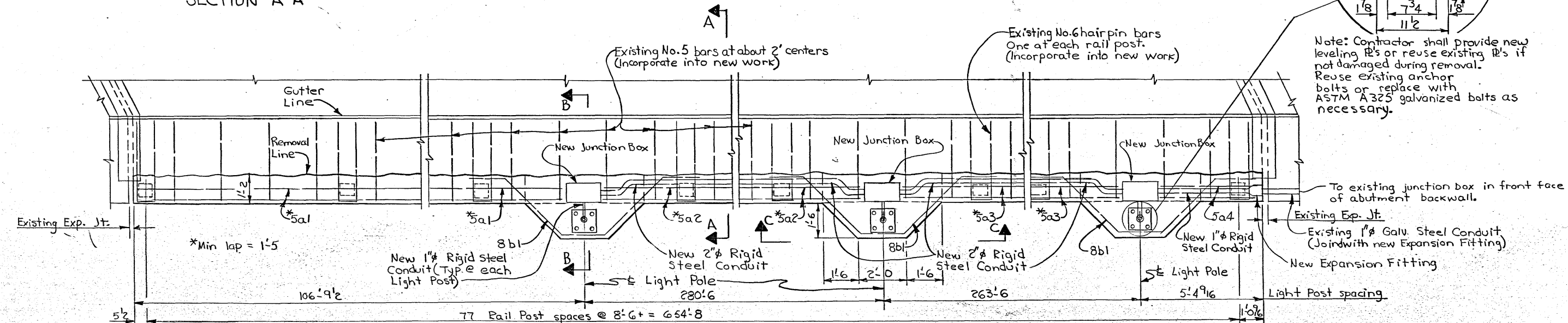
WEBSTER COUNTY

PROJECT NUMBER
FN-7-5(12)--21-94

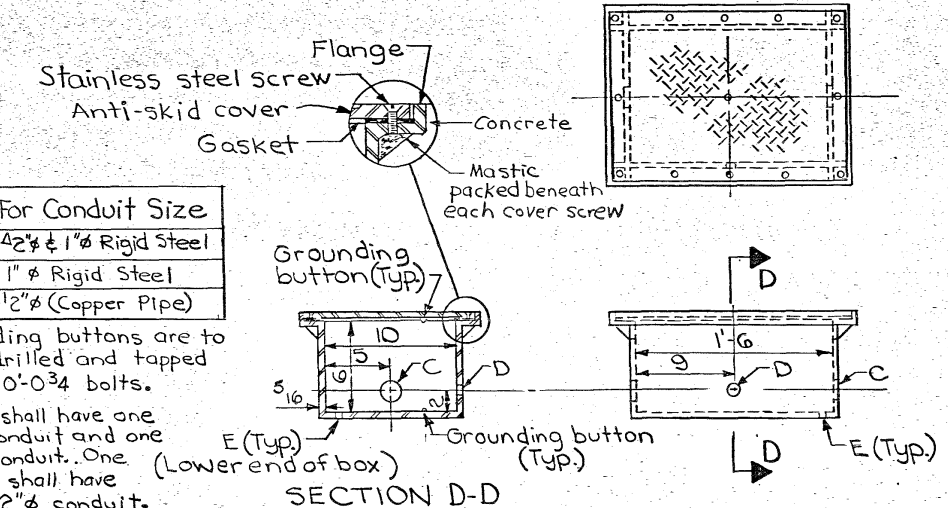
STATE	FED. ROAD DIST. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
IOWA	5		12	15



Note: Contractor shall provide new leveling R's or reuse existing R's if not damaged during removal. Reuse existing anchor bolts or replace with ASTM A325 galvanized bolts as necessary.



Note: Cut off existing light pole blister transverse bars as required.

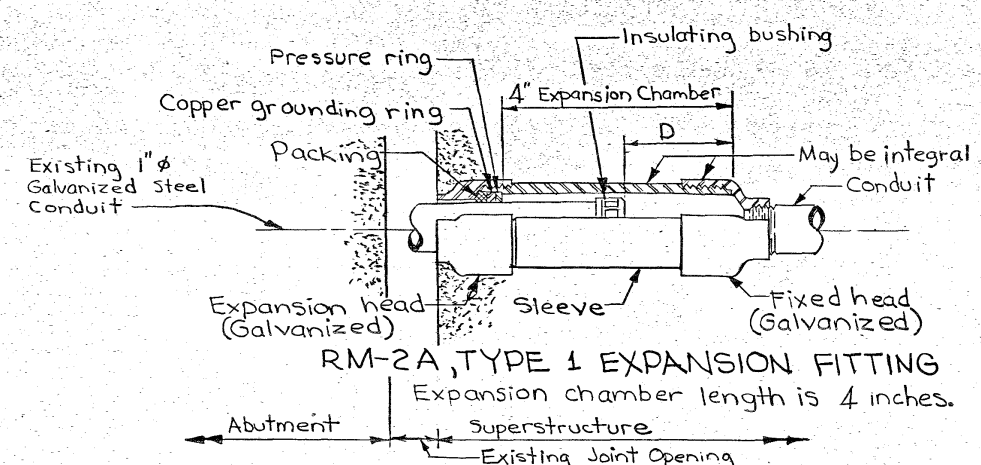


Bossed For	Hole	For Conduit Size
5 Threads	C	42# & 1" Rigid Steel
None	D	1" Rigid Steel
None	E	1/2" (Copper Pipe)

Note: The grounding buttons are to be blind drilled and tapped for 3/8" x 0-034 bolts.

One junction box shall have one hole C for 2" conduit and one hole C for 1" conduit. One junction box shall have two holes C for 2" conduit. One junction box shall have one hole C for 2" conduit.

RM-9, TYPE 1 JUNCTION BOX
WATERTIGHT, CAST IRON - FLUSH MOUNT



Temperature (°F)	Expansion Setting D (in.)
0°	2 13/16
50°	2
90°	1 3/16

Note: Expansion settings for other temperatures are proportional.

Design for Repair to 26° 24' skew
556'-0" x 58'-0" CONTINUOUS WELDED
PLATE GIRDER BRIDGE
WITH 2e 49'-0" APPROACH SPANS
REPAIR DETAILS
Sta 228+95.84 (E Iowa No. 7) Jan. 1983
WEBSTER COUNTY
IOWA DEPARTMENT OF TRANSPORTATION-HIGHWAY DIVISION
Design Sheet No.: 2 Of 4 File No.: 26710 Design No.: 482

DESIGNED BY: W. Johnston
CHECKED BY: G. L. Port

WEBSTER COUNTY PROJECT NUMBER STATE IOWA FED. ROAD DIST. NO. 8 FISCAL YEAR SHEET NO. 13 TOTAL SHEETS 15

