

I HEREBY CERTIFY THAT THESE PLANS WERE PREPARED BY ME OR UNDER MY DIRECT PERSONAL SUPERVISION AND THAT I AM A DULY REGISTERED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF IOWA.
DATE Dec 3, 1985 James R. Sassaman REG. NO. 2663
JAMES R. SASSAMAN

Letting Date ~~FEBRUARY 18, 1986~~ May 13, 1986

DESIGN NO. 185 OVER 15TH AND 16TH AVE. S.W. STATION: 271 + 20
LINN COUNTY MAINT. NO. 5718.8R380 C 1-380 NBL
SECTIONS 33 T-83N R-7W RAPIDS TOWNSHIP

DESIGN FOR REPAIRS TO A
482'-0 X 52' PRETENSIONED PRESTRESSED
CONCRETE BEAM BRIDGE

QUANTITIES - BRIDGE

No.	Item	Unit	Total
1	CLASS A BRIDGE FLOOR REPAIR	SQ. YD.	698
2	BRIDGE FLOOR OVERLAY	SQ. YD.	2,792
3	RAIL, CONCRETE BARRIER - CAST IN PLACE	LIN. FT.	1,017.7
4	TEMPORARY BARRIER RAIL - FURNISH ONLY	LIN. FT.	710
5	TEMPORARY BARRIER RAIL - PLACE ONLY	LIN. FT.	1,420
6	PAVEMENT MARKINGS	STA.	180.8
7	CONCRETE SEALER AS PER PLAN	SQ. FT.	2,551
8	REMOVAL OF ASPH. CEMENT CONC. SURFACING	SQ. YD.	2,792
9	TRAFFIC CONTROL	L.S.	LUMP SUM
10	GUARDRAIL, FORMED STEEL BEAM	LIN. FT.	225
11	GUARDRAIL POSTS, BEAM	NO.	40
12	GUARDRAIL, END ANCHORAGE, BEAM RE-52	NO.	1
13	GUARDRAIL, END ANCHORAGE, BEAM RE-53	NO.	1
14	POST, STEEL, AS PER PLAN	NO.	1
15	REMOVAL OF GUARDRAIL END ANCHORAGE	NO.	2
16	REMOVAL OF FORMED STEEL BEAM GUARDRAIL	LIN. FT.	187.5
17	REMOVAL OF POSTS	NO.	29
18	REMOVE & REINSTALL OBJECT MARKERS	NO.	2
19	RAILING, STEEL CHANNEL	LIN. FT.	31.25
20	PATCHES, FINISH, BY COUNT	NO.	2
21	PATCHES, FULL DEPTH, FINISH P.C.C. TYPE 1	SQ. YDS.	35.5
22	Mobilization	L.S.	\$4000.00

REFERENCE INFORMATION

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

ITEM NO.	DESCRIPTION
4 & 5	ALL TEMPORARY BARRIER RAIL SHALL BE NOMINAL 10' LONG CONCRETE UNITS.
6	INCLUDES 75.1 STA. REMOVAL OF PAVEMENT MARKINGS, 37.4 STA. OF YELLOW TEMPORARY AND PERMANENT PAVEMENT MARKINGS AND 68.3 STA. OF WHITE TEMPORARY AND PERMANENT PAVEMENT MARKINGS.
10	INCLUDES 1-12.5' SHOP BENT SECTION FOR RE-53 END ANCHORAGE.
15	TO BE DISPOSED OF AS PER STD. NOTATION 213-1.
16 & 17	TO BE HAULED TO MAINTENANCE YARD AS DIRECTED BY THE ENGINEER.
19	TO BE INSTALLED AS PER CONDITION "A".
21	TO BE 10" IN DEPTH.

Letting Date ~~FEBRUARY 18, 1986~~ May 13, 1986

DESIGN NO. 285 OVER 15TH AND 16TH AVE. S.W. STATION: 271 + 20
LINN COUNTY MAINT. NO. 5718.8L380 C 1-380 SBL
SECTIONS 33 T-83N R-7W RAPIDS TOWNSHIP

DESIGN FOR REPAIRS TO A
482'-0 X 52' PRETENSIONED PRESTRESSED
CONCRETE BEAM BRIDGE

QUANTITIES - BRIDGE

No.	Item	Unit	Total
24	CLASS A BRIDGE FLOOR REPAIR	SQ. YD.	1.32
25	BRIDGE FLOOR OVERLAY	SQ. YD.	2,792
26	RAIL, CONCRETE BARRIER - CAST IN PLACE	LIN. FT.	1,017.7
27	TEMPORARY BARRIER RAIL - FURNISH ONLY	LIN. FT.	710
28	TEMPORARY BARRIER RAIL - PLACE ONLY	LIN. FT.	1,420
29	PAVEMENT MARKINGS	STA.	178.86
30	CONCRETE SEALER AS PER PLAN	SQ. FT.	2589.32
31	REMOVAL OF ASPH. CEMENT CONC. SURFACING	SQ. YD.	0
32	TRAFFIC CONTROL	L.S.	\$2000.00
33	GUARDRAIL, FORMED STEEL BEAM	LIN. FT.	225
34	GUARDRAIL, POSTS, BEAM	NO.	41
35	GUARDRAIL, END ANCHORAGE, BEAM RE-52	NO.	1
36	GUARDRAIL, END ANCHORAGE, BEAM RE-53	NO.	1
37	REMOVAL OF GUARDRAIL END ANCHORAGE	NO.	2
38	REMOVAL OF FORMED STEEL BEAM GUARDRAIL	LIN. FT.	187.5
39	REMOVAL OF POSTS	NO.	29
40	REMOVE & REINSTALL OBJECT MARKERS	NO.	2
41	RAILING, STEEL CHANNEL	LIN. FT.	25.00
42	PATCHES, FINISH BY COUNT	NO.	2
43	PATCHES, FULL DEPTH, FINISH P.C.C. TYPE 1	SQ. YDS.	46.6
44	Mobilization	L.S.	\$4000.00

REFERENCE INFORMATION

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

ITEM NO.	DESCRIPTION
4 & 5	ALL TEMPORARY BARRIER RAIL SHALL BE NOMINAL 10' LONG CONCRETE UNITS.
6	INCLUDES 75.1 STA. REMOVAL OF PAVEMENT MARKINGS, 37.4 STA. OF YELLOW TEMPORARY AND PERMANENT PAVEMENT MARKINGS AND 68.3 STA. OF WHITE TEMPORARY AND PERMANENT PAVEMENT MARKINGS.
10	INCLUDES 1 - 12.5' SHOP BENT SECTION FOR RE-53 END ANCHORAGE.
14	TO BE DISPOSED OF AS PER STD. NOTATION 213-1.
15 & 16	TO BE HAULED TO MAINTENANCE YARD AS DIRECTED BY THE ENGINEER.
18	TO BE INSTALLED AS PER CONDITION "A".
20	TO BE 10" IN DEPTH.

Letting Date ~~FEBRUARY 18, 1986~~ May 13, 1986

DESIGN NO. 385 OVER RELOCATED 5TH AVE. S.W. STATION: 305 + 12.87
LINN COUNTY MAINT. NO. 5719.4R380 C 1-380 NBL
SECTION 28 T-83N R-7W RAPIDS TOWNSHIP

DESIGN FOR REPAIRS TO A 40°06'27.8 SKEW
267'-0 X 52' CONTINUOUS WELDED
PLATE GIRDER BRIDGE

QUANTITIES - BRIDGE

No.	Item	Unit	Total
46	CLASS A BRIDGE FLOOR REPAIR	SQ. YD.	0.88
47	BRIDGE FLOOR OVERLAY	SQ. YD.	1,550
48	RAIL, CONCRETE BARRIER - CAST IN PLACE	LIN. FT.	600.1
49	TEMPORARY BARRIER RAIL - FURNISH ONLY	LIN. FT.	490
50	TEMPORARY BARRIER RAIL - PLACE ONLY	LIN. FT.	980
51	PAVEMENT MARKINGS	STA.	168.56
52	CONCRETE SEALER AS PER PLAN	SQ. FT.	1445.08
53	REMOVAL OF ASPH. CEMENT CONC. SURFACING	SQ. YD.	0
54	TRAFFIC CONTROL	L.S.	\$2000.00
55	GUARDRAIL, FORMED STEEL BEAM	LIN. FT.	231.25
56	GUARDRAIL POSTS, BEAM	NO.	42
57	GUARDRAIL, END ANCHORAGE, BEAM RE-52	NO.	1
58	GUARDRAIL, END ANCHORAGE, BEAM RE-53	NO.	1
59	POST, STEEL, AS PER PLAN	NO.	0
60	REMOVAL OF GUARDRAIL END ANCHORAGE	NO.	2
61	REMOVAL OF FORMED STEEL BEAM GUARDRAIL	LIN. FT.	187.5
62	REMOVAL OF POSTS	NO.	29
63	REMOVE & REINSTALL OBJECT MARKERS	NO.	2
64	RAILING, STEEL CHANNEL	LIN. FT.	12.50
65	PATCHES FINISH BY COUNT	NO.	4
66	PATCHES, FULL DEPTH, FINISH P.C.C. TYPE 1	SQ. YDS.	33.5
67	PATCHES, FULL DEPTH, FINISH P.C.C. TYPE 2	SQ. YDS.	117.9
68	Mobilization	L.S.	\$4000.00

REFERENCE INFORMATION

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

ITEM NO.	DESCRIPTION
4 & 5	ALL TEMPORARY BARRIER RAIL SHALL BE NOMINAL 10' LONG CONCRETE UNITS.
6	INCLUDES 69.5 STA. REMOVAL OF PAVEMENT MARKINGS, 33.0 STA. OF YELLOW TEMPORARY AND PERMANENT PAVEMENT MARKINGS AND 61.6 STA. OF WHITE TEMPORARY AND PERMANENT PAVEMENT MARKINGS.
10	INCLUDES 1-12.5' SHOP BENT SECTION FOR RE-53 END ANCHORAGE.
15	TO BE DISPOSED OF AS PER STD. NOTATION 213-1
16 & 17	TO BE HAULED TO MAINTENANCE YARD AS DIRECTED BY THE ENGINEER.
19	TO BE INSTALLED AS PER CONDITION "A". SEE DETAIL SHEET FOR RUBRAIL.
21 & 22	TO BE 10" IN DEPTH.

Letting Date ~~FEBRUARY 18, 1986~~ May 13, 1986

DESIGN NO. 485 OVER RELOCATED 5TH AVE. S.W. STATION: 305 + 12.87
LINN COUNTY MAINT. NO. 5719.4L380 C 1-380 SBL
SECTION 28 T-83N R-7W RAPIDS TOWNSHIP

DESIGN FOR REPAIRS TO A 40°06'27.8" SKEW
267'-0 X 52' CONTINUOUS WELDED
PLATE GIRDER BRIDGE

QUANTITIES - BRIDGE

No.	Item	Unit	Total
70	CLASS A BRIDGE FLOOR REPAIR	SQ. YDS.	216
71	BRIDGE FLOOR OVERLAY	SQ. YDS.	1,550
72	RAIL, CONCRETE BARRIER - CAST IN PLACE	LIN. FT.	600.1
73	TEMPORARY BARRIER RAIL - FURNISH ONLY	LIN. FT.	490
74	TEMPORARY BARRIER RAIL - PLACE ONLY	LIN. FT.	980
75	PAVEMENT MARKINGS	STA.	168.48
76	CONCRETE SEALER AS PER PLAN	SQ. FT.	1445.08
77	REMOVAL OF ASPH. CEMENT CONC. SURFACING	SQ. YDS.	0
78	TRAFFIC CONTROL	L.S.	\$2000.00
79	GUARDRAIL, FORMED STEEL BEAM	LIN. FT.	231.25
80	GUARDRAIL, POSTS, BEAM	NO.	40
81	GUARDRAIL, END ANCHORAGE, BEAM RE-52	NO.	1
82	GUARDRAIL, END ANCHORAGE, BEAM RE-53	NO.	1
83	POST, STEEL, AS PER PLAN	NO.	2
84	REMOVAL OF GUARDRAIL END ANCHORAGE	NO.	2
85	REMOVAL OF FORMED STEEL BEAM GUARDRAIL	LIN. FT.	187.5
86	REMOVAL OF POSTS	NO.	27
87	REMOVE & REINSTALL OBJECT MARKERS	NO.	2
88	RAILING, STEEL CHANNEL	LIN. FT.	25.00
89	PATCHES, FINISH, BY COUNT	NO.	3
90	PATCHES, FULL DEPTH, FINISH P.C.C. TYPE 1	SQ. YDS.	42.9
91	PATCHES, FULL DEPTH, FINISH P.C.C. TYPE 2	SQ. YDS.	44.4
92	Mobilization	L.S.	\$4000.00

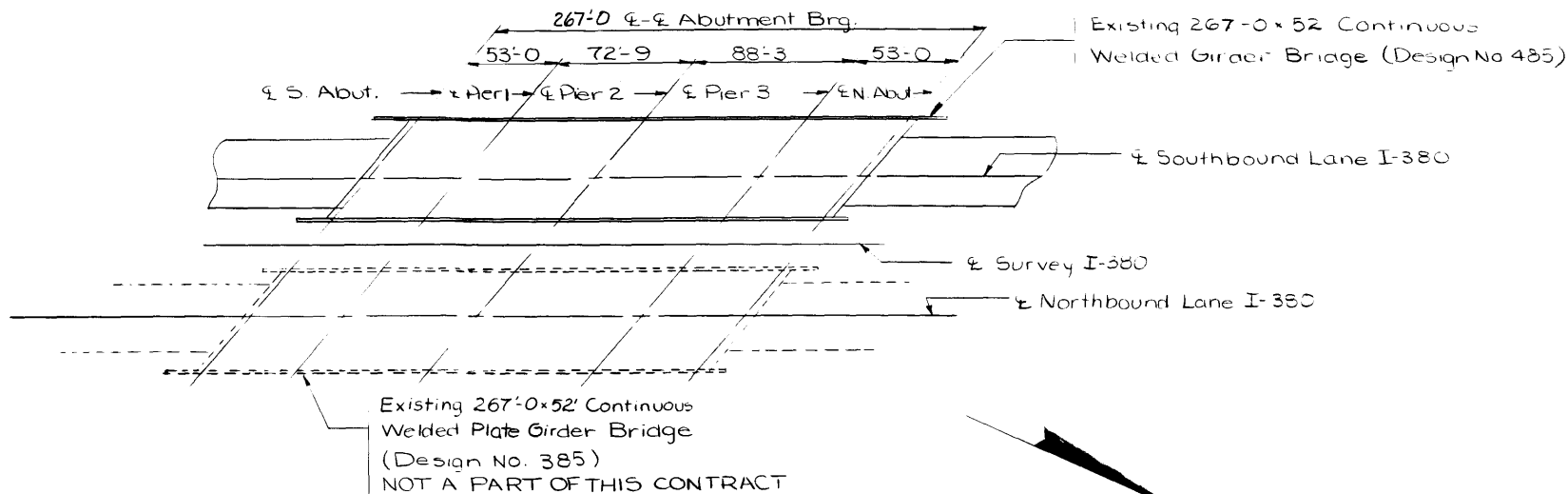
REFERENCE INFORMATION

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

ITEM NO.	DESCRIPTION
4 & 5	ALL TEMPORARY BARRIER RAIL SHALL BE NOMINAL 10' LONG CONCRETE UNITS.
6	INCLUDES 69.5 STA. REMOVAL OF PAVEMENT MARKINGS 33.0 STA. OF YELLOW TEMPORARY AND PERMANENT PAVEMENT MARKINGS AND 61.6 STA. OF WHITE TEMPORARY AND PERMANENT PAVEMENT MARKINGS.
10	INCLUDES 1-12.5' SHOP BENT SECTION FROM RE-53 END ANCHORAGE.
15	TO BE DISPOSED OF AS PER STD. NOTATION 213-1
16 & 17	TO BE HAULED TO MAINTENANCE YARD AS DIRECTED BY THE ENGINEER.
19	TO BE INSTALLED AS PER CONDITION "A". SEE DETAIL SHEET FOR RUBRAIL.
21 & 22	TO BE 10" IN DEPTH.

SHEET

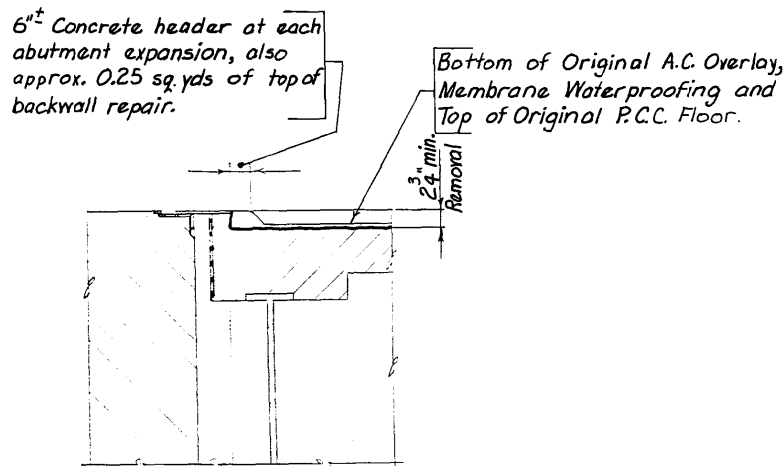
EXTRA WORK ORDERS			
NO.	DESCRIPTION	UNIT	TOTAL
	DESIGN 185		
8001	Temporary Floodlighting	L.S.	\$4000.00
8002	Embankment-in-Place	Cu. Yd.	45
8009	Removal of A.C.C. Surfacing	Sq. Yd.	2792
	DESIGN 285		
8003	Temporary Floodlighting	L.S.	\$4000.00
8004	Embankment-in-Place	Cu. Yd.	40
8010	Removal of A.C.C. Surfacing	Sq. Yd.	2792
	DESIGN 385		
8005	Temporary Floodlighting	L.S.	\$4000.00
8006	Embankment-in-Place	Cu. Yd.	40
8011	Removal of A.C.C. Surfacing	Sq. Yd.	1550
	DESIGN 485		
8007	Temporary Floodlighting	L.S.	\$4000.00
8008	Embankment-in-Place	Cu. Yd.	45
8012	Removal of A.C.C. Surfacing	Sq. Yd.	1550
8013	Incentive Payment for Pavemet Smothness	Sq. Yd.	477.03
8014	Modification of Guardrail	Agreed Price	\$150.00



SITUATION PLAN

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

FOR ROADWAY QUANTITIES
SEE DESIGN SHEET NO. 8



SECTION AT ABUTMENT EXPANSION JOINT

Remove concrete at each expansion plate to a depth of at least 2 3/4" so that concrete can be placed from expansion plate to expansion plate.

TOTAL BRIDGE QUANTITIES			
Item No	Item	Unit	Quantity
70	Class A Bridge Floor Repair	Sq. Yds.	216
71	Bridge Floor Overlay	Sq. Yds.	1550
72	Rail, Concrete Barrier - Cast In Place	Lin. Ft.	600.1
73	Temporary Barrier Rail-Furnish Only	Lin. Ft.	490
74	Temporary Barrier Rail-Place Only	Lin. Ft.	980
75	Pavement Markings	Sta.	168.48
76	Concrete Sealer As Per Plan	Sq. Ft.	1445.08
77	Removal of Asph. Cement Conc. Surfacing	Sq. Yds.	0
78	Traffic Control	L.S.	\$2000.00

Item No
4 and 5

Reference Information:
All Temporary Barrier Rail shall be nominal 10' long concrete units.

6

Includes 69.5 Sta. removal of pavement markings, 33.0 Sta. of yellow temporary and permanent pavement markings and 61.6 Sta. of white temporary and permanent pavement markings.

GENERAL NOTES:

THIS DESIGN IS FOR REPAIR TO THE EXISTING 482' X 52' PRETENSIONED PRE-STRESSED CONCRETE BEAM BRIDGE, ORIGINAL DESIGN NO. 2070 LINN 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, REMOVAL OF EXISTING A.C. OVERLAY, REMOVAL OF THE DECK MEMBRANE WATERPROOFING AND CONSTRUCTION OF CAST IN PLACE BARRIER RAIL ON BOTH CURBS.

CONSTRUCTION SHALL BE DONE IN STAGES, WITH AT LEAST TWO LANES OF TRAFFIC MAINTAINED AT ALL TIMES IN ACCORDANCE WITH THE "TRAFFIC CONTROL PLAN" NOTE. CONSTRUCTION STAGES I AND II AS DETAILED ON THESE PLANS MAY BE REVERSED AT THE CONTRACTOR'S OPTION SUBJECT TO THE ENGINEER'S APPROVAL.

NO PRELIMINARY FLOOR SURVEY IS SHOWN. THE PLAN QUANTITY FOR "CLASS A BRIDGE FLOOR REPAIR" IS ESTIMATED AT 25% OF THE TOTAL FLOOR AREA. THE ACTUAL QUANTITY WILL BE DETERMINED BY THE ENGINEER AFTER THE 2 1/2 INCHES OF A.C. SURFACING HAS BEEN REMOVED. ACTUAL SPALLED AND HOLLOW AREAS AS DETERMINED BY THE ENGINEER SHALL BE REPAIRED. IT IS THE INTENT OF THIS DESIGN THAT THE CONTRACTOR COMPLETELY REMOVE THE 2 1/2 INCHES OF A.C. OVERLAY (INCLUDES DECK MEMBRANE WATERPROOFING) FROM THE BRIDGE DECK, REPAIR UNSOUND CONCRETE AND RESURFACE THE ENTIRE DECK WITH BRIDGE FLOOR OVERLAY, INCLUDING AREAS OVER BRIDGE FLOOR REPAIR. THE TOP OF THE BRIDGE FLOOR OVERLAY IS TO MATCH EXISTING GRADE AND NO GRADE RAISE IS INVOLVED.

REMOVALS AND DISPOSALS OF ITEMS SCHEDULED FOR REMOVAL SHALL BE IN ACCORDANCE WITH SECTION 2401 OF THE SPECIFICATIONS. ANY DAMAGE TO CONCRETE NOT TO BE REMOVED SHALL BE THE RESPONSIBILITY OF THE CONTRACTORS AND REPAIRED BY HIM AT NO EXTRA COST TO THE STATE.

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.

FAINT LINES ON PRINTS AND ON TRACINGS INDICATE EXISTING PORTION OF THE BRIDGE.

THE PRICE BID FOR "REMOVAL OF ASPHALTIC CEMENT CONCRETE SURFACING" SHALL BE CONSIDERED FULL COMPENSATION FOR REMOVAL AND DISPOSAL OF THE EXISTING 2 1/2" OF A.C. OVERLAY TO THE LIMITS DETAILED ON DES. SH. 4 AS WELL AS THE REMOVAL AND DISPOSAL OF THE 1/8" DECK MEMBRANE WATERPROOFING, THE ROOFING CEMENT IN THE CURB NOTCHES, THE MESH AT THE BLEEDER DRAINS AND THE CUTTING SHORT AND CAPPING OR PLUGGING THE 1 1/2" P.V.C. BLEEDER DRAINS.

PRESENT FLOOR THICKNESS IS ABOUT 10 1/2 INCHES. THIS INCLUDES 2 1/2 INCHES OF A.C. SURFACING. THE CONTRACTOR WILL BE REQUIRED TO EXERCISE CARE IN REMOVING CONCRETE IN ORDER TO PREVENT UNNECESSARY UNBONDING OF REINFORCING STEEL.

ALL DIMENSIONS AND DETAILS SHOWN ON THESE PLANS PERTINENT TO NEW CONSTRUCTION SHALL BE VERIFIED IN THE FIELD BY THE CONTRACTOR BEFORE STARTING CONSTRUCTION.

CONCRETE SEALER SHALL BE APPLIED TO THE EXPOSED BRIDGE SEAT SURFACE AT THE ABUTMENTS.

THE CONTRACTOR IS TO HAUL TO AND STORE THE OLD ALUMINUM RAIL AT THE D.O.T. MAINTENANCE YARD, 5455 KIRKWOOD BLVD. S.W., CEDAR RAPIDS, IOWA.

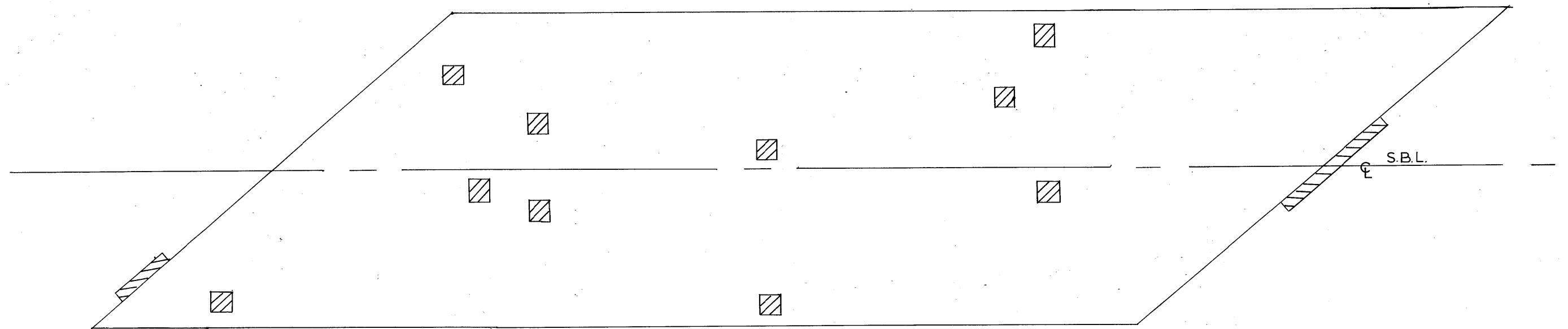
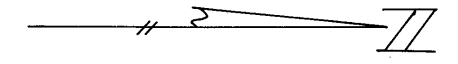
THE CONTRACTOR SHOULD CONTACT HIGHWAY MAINTENANCE SUPERVISOR DONALD BEAM (PHONE NO. 364-8189) TO SCHEDULE DELIVERY.

ALL COSTS FOR HAULING AND STORING OLD RAIL ARE TO BE CONSIDERED INCIDENTAL TO PRICE BID FOR CAST IN PLACE CONCRETE BARRIER RAIL.

LOCATION

Cedar Valley Freeway over
Relocated 5th Ave. S.W.
City of Cedar Rapids
Linn County
Rapids Twp. T83N R7W Section 28
Maintenance No. 5719.4L380

Design For Repairs To A 40°06'27.8" Skew
**267'-0" X 52' CONTINUOUS WELDED
PLATE GIRDER BRIDGE**
Spans: 53'-0", 72'-9", 88'-3", 53'-0"
SITUATION PLAN, NOTES, & QUANTITIES
Station: 305+12.87 & I-380 SBL Dec., 1985
LINN COUNTY
IOWA DEPARTMENT OF TRANSPORTATION-HIGHWAY DIVISION
Design Sheet No.: 1 Of 14 File No.: 28126 Design No.: 485



CLASS "A" REPAIR

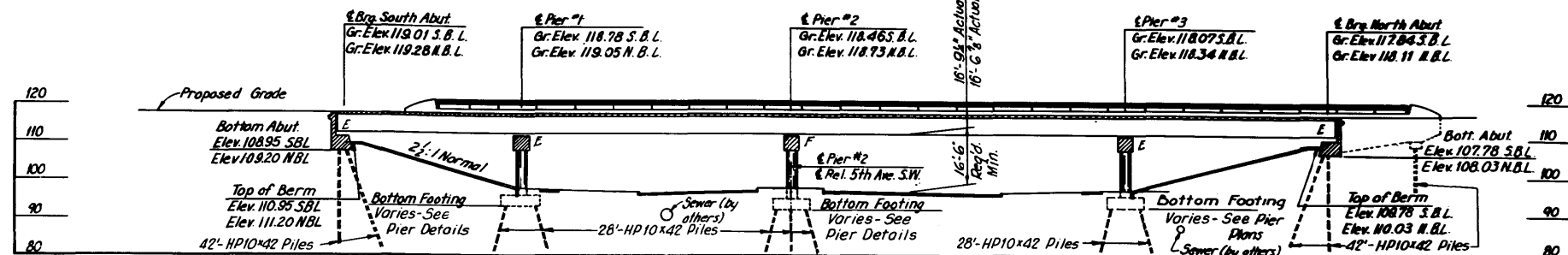
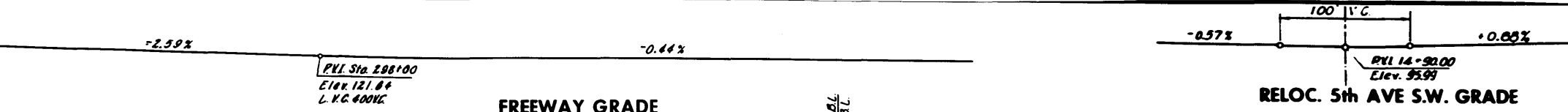
DESIGN 485

COUNTY LINN

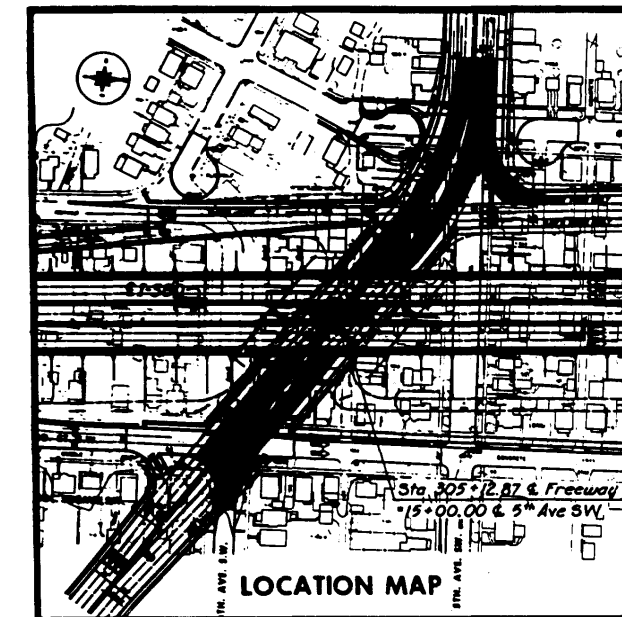
PROJECT NUMBER
IR-380-6(158)262--12-57

STATE	FED. ROAD DIST. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
IOWA	5		43A	56

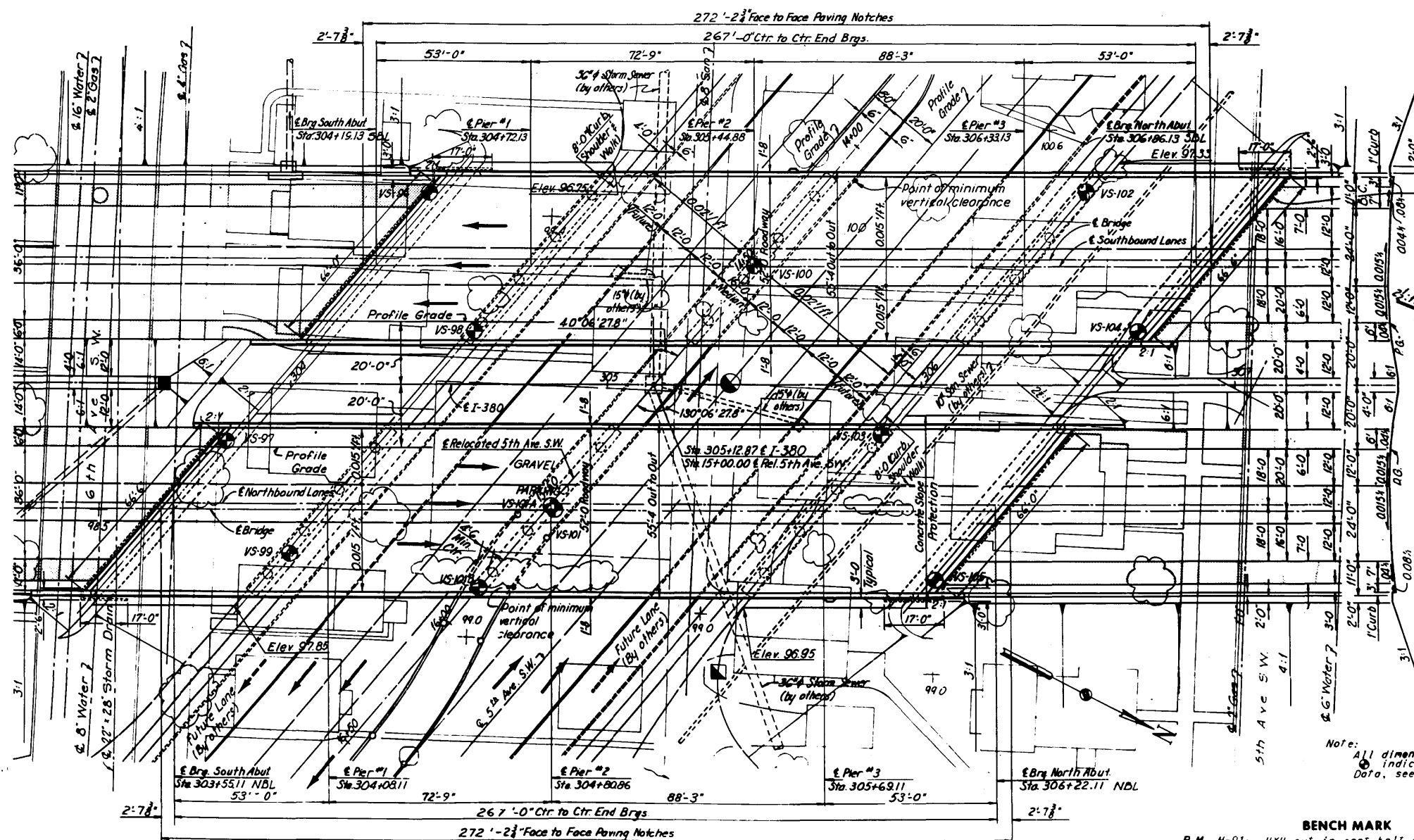
FEDERAL DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
	IOWA				



LONGITUDINAL SECTION ALONG C/L OF LANES



THIS SHEET FROM ORIGINAL DESIGN IS INCLUDED FOR INFORMATION ONLY.



NORMAL CROSS-SECTION REL. 5TH AVE. S.W.

(Looking Backstation)

LOCATION

Cedar Valley Freeway over Relocated 5th Ave. S.W.
City of Cedar Rapids
Linn County
Rapids Twp. T83 N. RTW Section 28

DESIGN TRAFFIC

I-380 Traffic Count 35,400
VPD (1990) Reloc 5th Ave SW
Traffic Count 27,100 VPD (1990)

1-380 OVER 5th AVENUE S.W.

DESIGN FOR 40° 06' 27.8" SKEW
DUAL 267'-0" X 52'-0" CONTINUOUS WELDED
PLATE GIRDER BRIDGE
53'-0", 72'-9", 88'-3", 53'-0" SPANS

SITUATION PLAN

STA. 305+12.87 & I-380 = STA. 15+00.00 & REL. 5th AVE. S.W.
PROJECT NO. I-380-4(39)261-01-57
LINN COUNTY
IOWA STATE HIGHWAY COMMISSION

I hereby certify that this plan, specification or report 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.

Paul L. Heinemann, P.E., Iowa Reg. No. 5156

Note: All dimensions are measured horizontally.
• indicates sounding location. For Sounding Data, see Sheet 3 thru 5 of 24

BENCH MARK

B.M. H-91: "x" cut in east bolt or top of fire hydrant on northeast corner of 3rd Street and 6th Ave., S.W. Elev. 101.369.

DESIGN NO. 485
FILE NO. 28126
DES. SH. NO. 2 OF 14

HOWARD, NEEDLES, TAMMEN & BERGENDOFF
CONSULTING ENGINEERS
KANSAS CITY NEW YORK

MADE JPM. DATE 8-18-71 CHECKED DWS. DATE 11-8-71

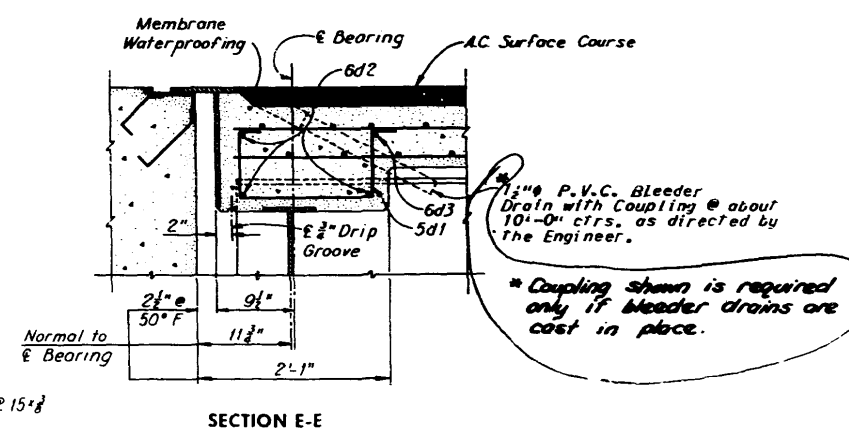
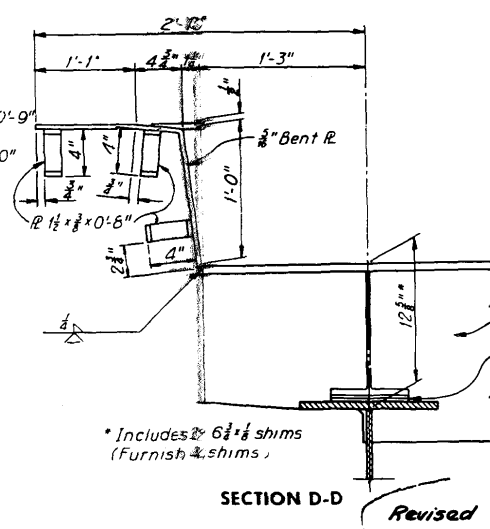
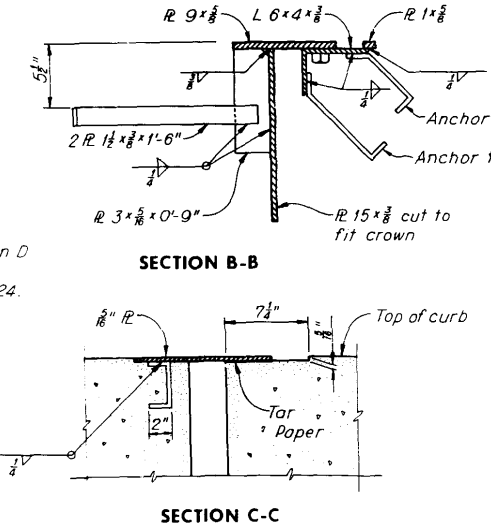
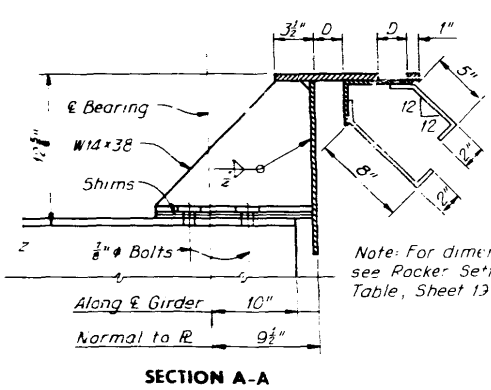
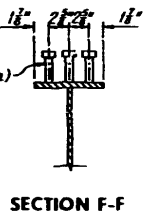
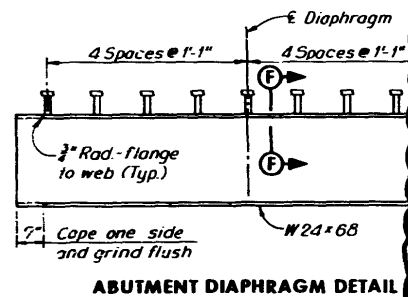
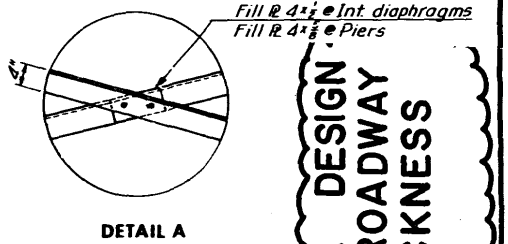
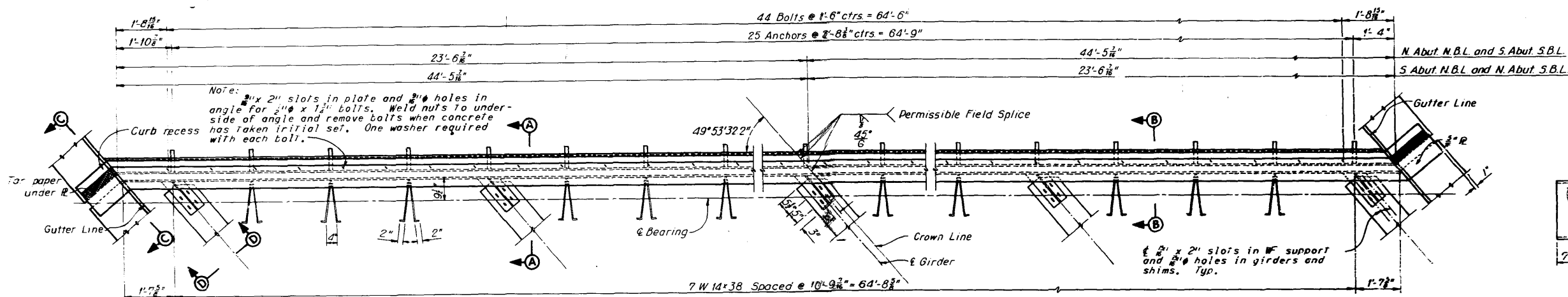
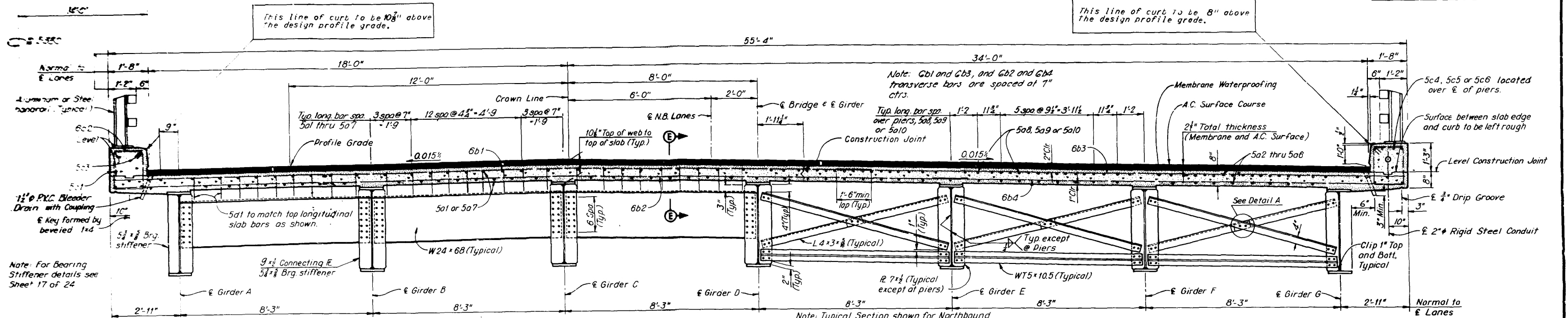
APRIL 1972

SHEET 1 OF 24

DESIGN NO. 2170 LINN COUNTY FILE 24009 SHEET 34 OF 25

15HC J. Sasseman

SHEET NO. 44 OF 56



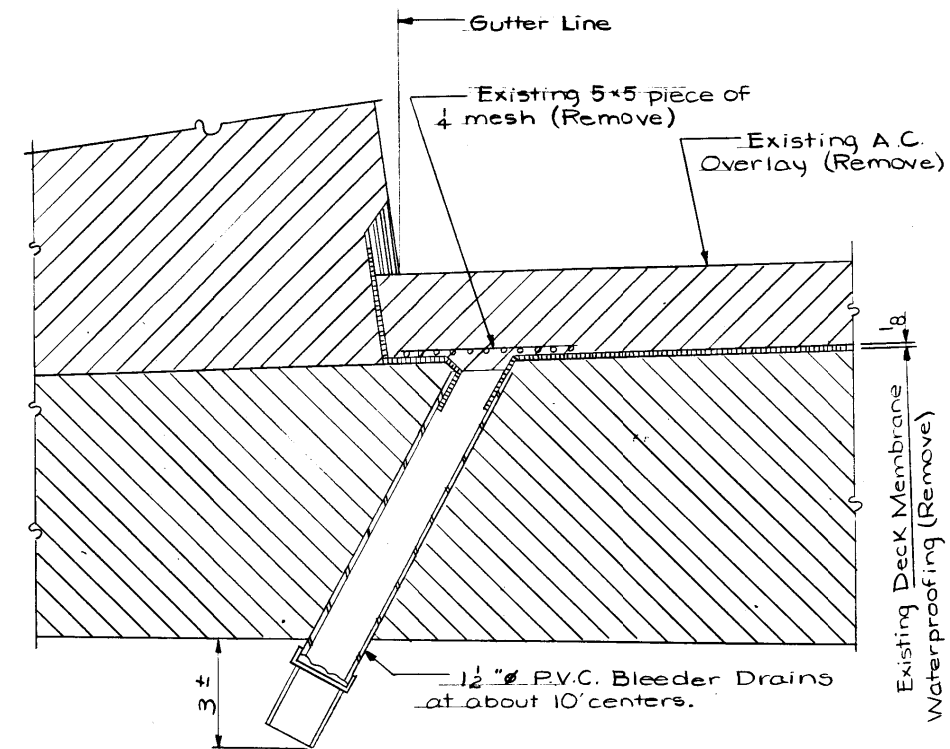
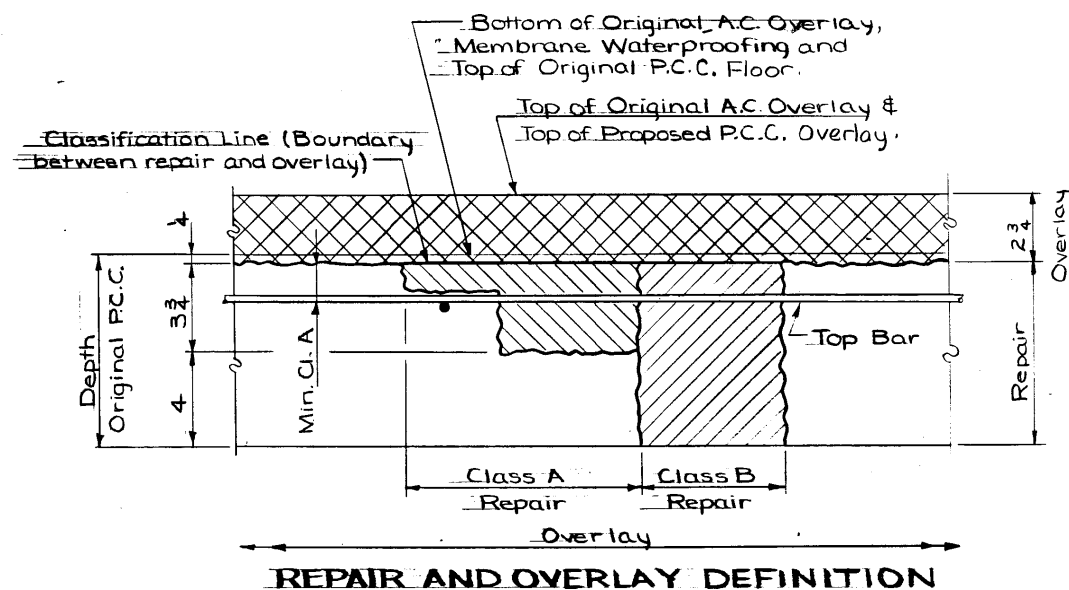
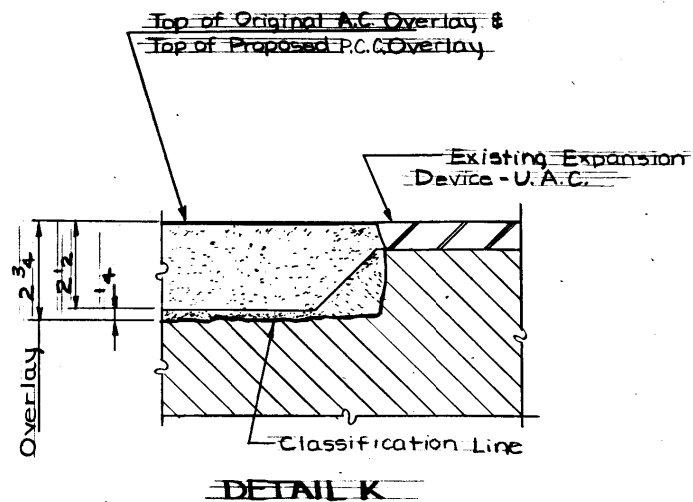
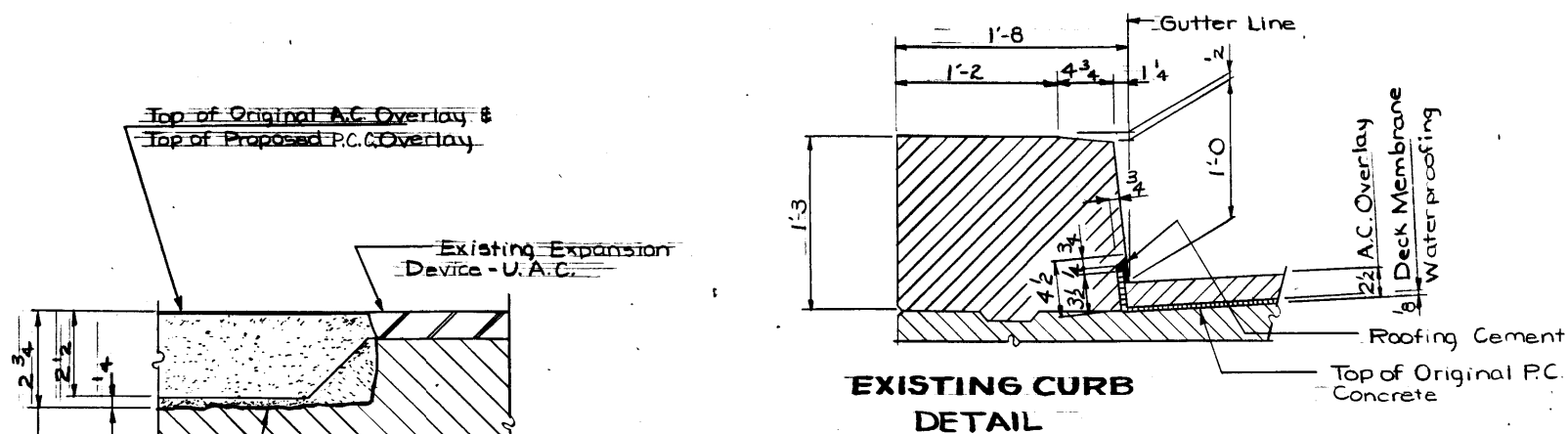
I-380 OVER 5th AVENUE S.W.
DESIGN FOR 40° 06' 27.8" SKEW
DUAL 267'-0" x 52'-0" CONTINUOUS WELDED PLATE GIRDER BRIDGE
53'-0", 72'-9", 88'-3", 53'-0" SPANS

SUPERSTRUCTURE DETAILS

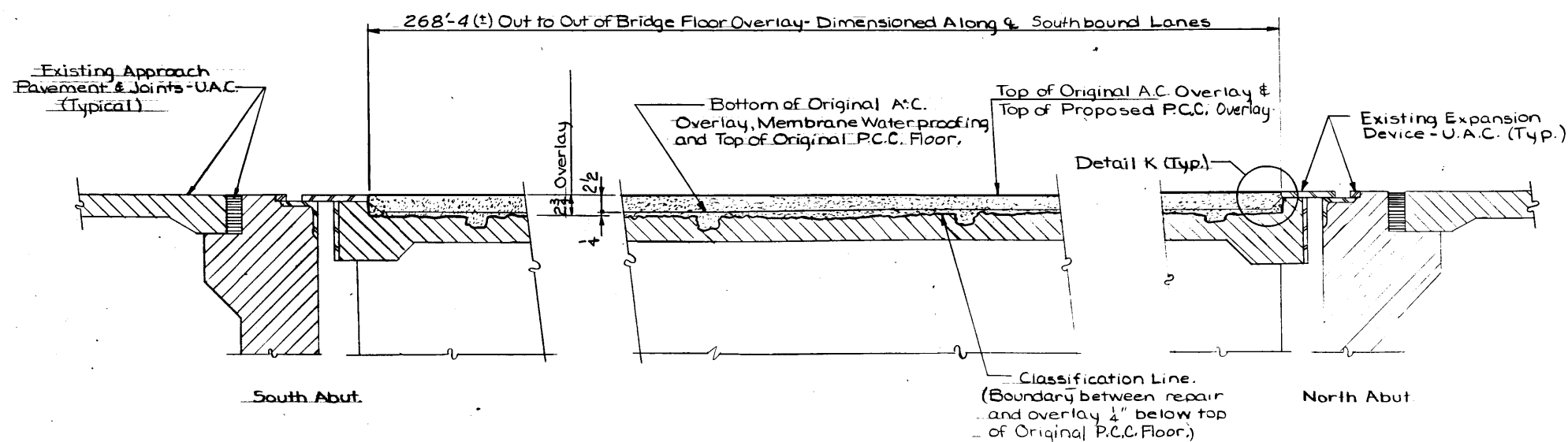
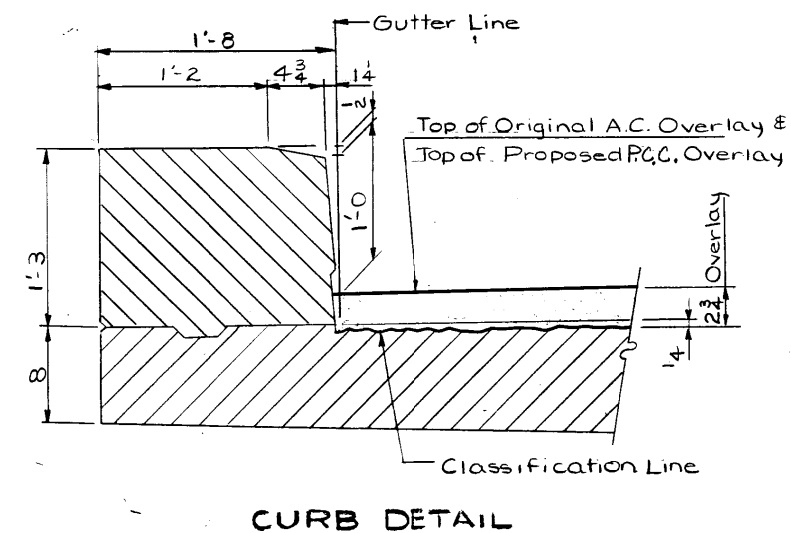
STA. 305+12.87 & I-380 = STA. 15+00.00 @ REL. 5th AVE S.W.
PROJECT NO. I-380-6(39)261-01-57
LINN COUNTY
IOWA STATE HIGHWAY COMMISSION

DESIGN NO. 485
FILE NO. 28126
DES. SH. NO. 3 OF 14

THIS SHEET FROM ORIGINAL DESIGN PLANS TO SHOW EXISTING ROADWAY CROSS SECTION, SLAB THICKNESS AND CROWN ORDINATES.



NOTE:
The bleeder drains shall be cut short, capped or plugged and filled with P.C.C. Overlay.



Design For Repairs To A 40°06' 27.8" Skew
267'-0" x 52' CONTINUOUS WELDED
PLATE GIRDER BRIDGE
Spans: 53'-0" , 72'-9" , 88'-3" , 53'-0"
REPAIR DETAILS
Station: 335+12.87 & I-380 S.B.L. Dec. 1985
LINN COUNTY
IOWA DEPARTMENT OF TRANSPORTATION-HIGHWAY DIVISION
Design Sheet No.: 4 Of 14 File No.: 28126 Design No.: 485

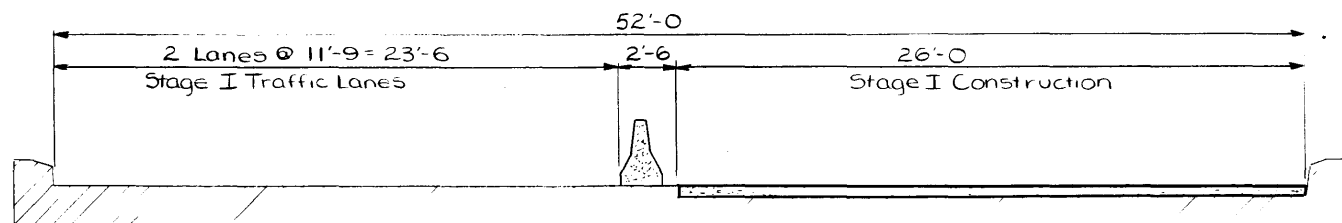
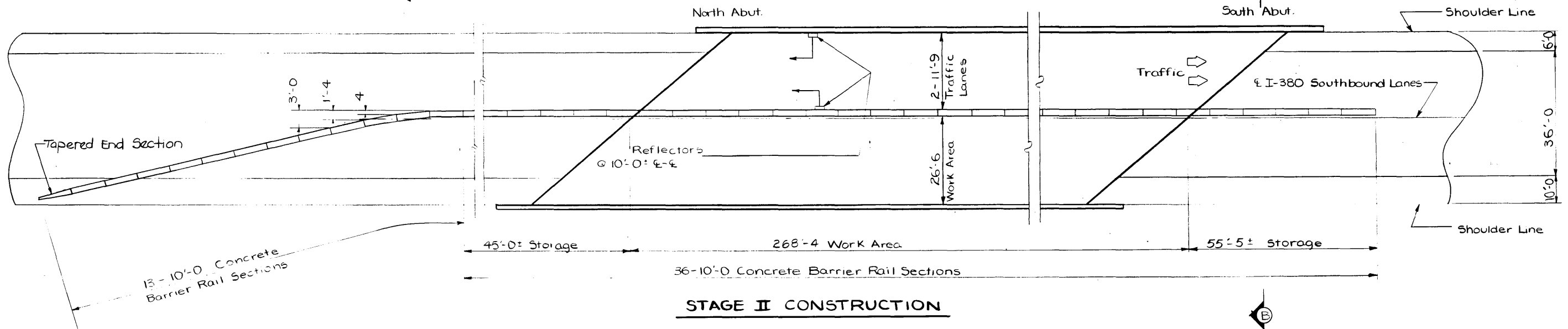
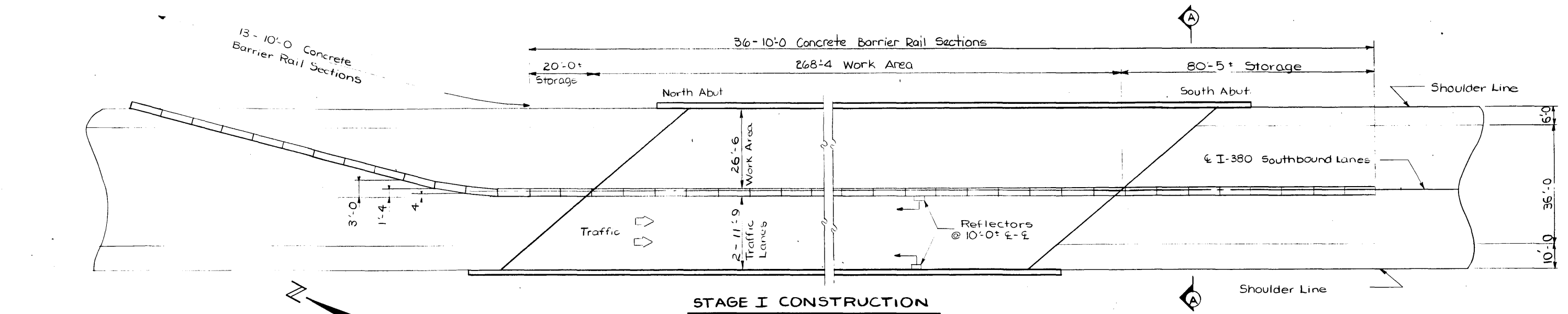
BRUNING 44.131 65219 8/8007 WORK SHEET 000 31440

DESIGNED BY: *E. G. Graw* TRACED BY: *J. Hansen*
DETAILED BY: *J. Smith* CHECKED BY: *J. Hansen*

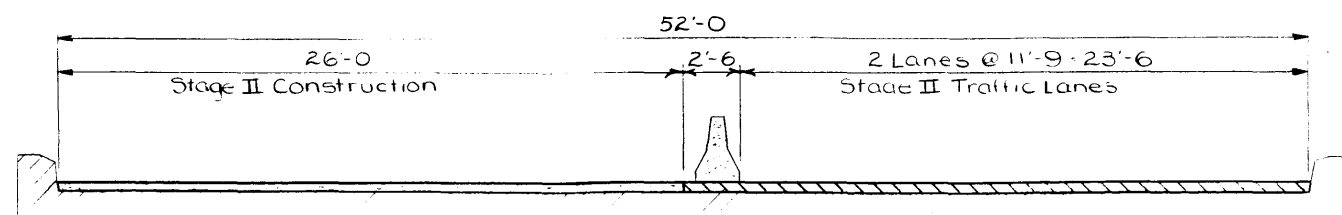
LINN COUNTY

PROJECT NUMBER

STATE	FHWA Region	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
IOWA	7		44	56



SECTION A-A



SECTION B-B

QUANTITIES	
Item	Amount
Temporary Barrier Rail - Furnish Only	490
Temporary Barrier Rail - Place Only	980

Design For Repairs To A 40°06' 27.8" Skew
**267'-0" x 52' CONTINUOUS WELDED
 PLATE GIRDER BRIDGE**

Spans: 53'-0", 72'-9", 88'-3", 53'-0"

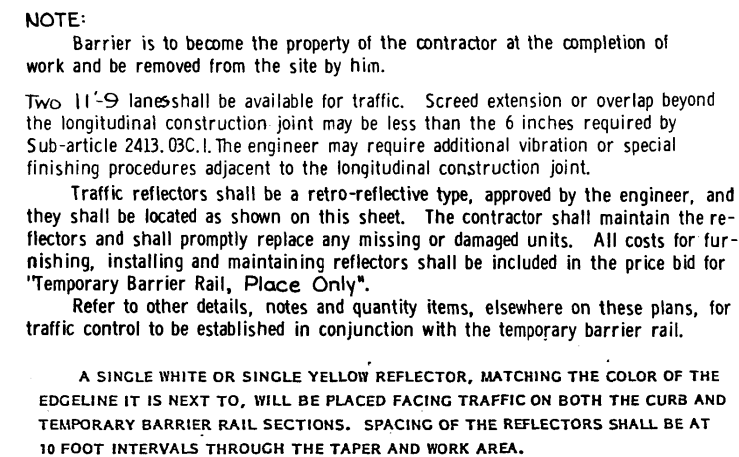
STAGING DETAILS

Station: 305+12.87 @ I-380 S.B.L. Dec., 1985

LINN COUNTY

IOWA DEPARTMENT OF TRANSPORTATION-HIGHWAY DIVISION

Design Sheet No.: 5 Of 14 File No.: 28126 Design No.: 485



108.23
7-17-63

1. THROUGH TRAFFIC WILL BE MAINTAINED ON THE PROJECT AT ALL TIMES.
2. TRAFFIC CONTROL ON THIS PROJECT SHALL BE IN ACCORDANCE WITH LAYOUTS CONTAINED IN THE PLANS & APPLICABLE STANDARD ROAD PLANS. FOR ADDITIONAL COMPLEMENTARY INFORMATION, REFER TO CURRENT SUPPLEMENTAL SPECIFICATION FOR TRAFFIC CONTROLS.
3. WHEN SPECIAL LAYOUT SHEET IS NOT IN EFFECT, STANDARD ROAD PLAN RS-62 SHALL BE USED FOR UNFINISHED WORK OR WORK WITHIN 12 FEET OF THE TRAVELED WAY, AND DETAIL SHEET 521-2A FOR WORK IN PROGRESS THAT ENCLOSES ON THE TRAVELED WAY.
4. ALL TRAFFIC CONTROL DEVICES SHALL BE FURNISHED, ERECTED, MAINTAINED AND REMOVED BY THE CONTRACTOR.
5. WHERE POSSIBLE, ALL POST MOUNTED SIGNS SHALL BE PLACED A MINIMUM OF TWO FEET CLEAR OF THE SHOULDER.
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 OR LANE LINES SHALL BE REMOVED AND REPLACED WITH APPROPRIATE TEMPORARY LINES. AS APPLICABLE, PERMANENT EDGELINES AND LANELINES 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 MOTORIST'S VIEW OF PERMANENT SIGNING.
9. PROPOSED CHANGES IN THE TRAFFIC CONTROL PLAN (INCLUDES LAYOUT SHEET) 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 THOSE WHICH ARE SEPARATE BID ITEMS OR ARE INCIDENTAL TO OTHER BID ITEMS.

IOWA DEPARTMENT OF TRANSPORTATION-HIGHWAY DIVISION

Design Sheet No.: 6 Of 14 File No.: 28126 Design No.: 485

STATE	FED. ROAD DIST NO	FISCAL YEAR	SHEET NO	'04 SHEET
IOWA	5		48	51

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.

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.

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.

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.

TABULATION OF FULL-DEPTH P.C. CONCRETE FINISH PATCHES

*Not a bid Item

102-6B

8-20-85

No.	LOCATION Station or Milepost	Lane L, R or B	DIMENSION OF PATCH			TYPE	Granular Fill (Sq.Yds.)	3" SUBDRAIN PIPE		Dowel Assemblies (Number) *	Remarks
			LENGTH x WIDTH x 1/4 (Lin. Ft.) (Lin. Ft.)	=AREA (Sq. Yds.)				Length (Lin.Ft.)	Outlets (Number) *		
	306+49± N.W.	SHLDR.	20 10	22.2	1						
	306+49± S.W.	SHLDR.	40 10	44.4	2					2	INCLUDES 29 L.F. OF 12" CURB
	306+49± S.E.	SHLDR.	23 6	15.3	1						INCLUDES 11 L.F. OF 6" CURB

TABULATION OF "W" BEAM GUARDRAIL BETWEEN DUAL BRIDGES

(Refer to appropriate Standard Road Plans)

108-19

12-09-83

LOCATION		STANDARD ROAD PLAN	FORMED STEEL "W" BEAM GUARDRAIL								BEAM GUARDRAIL POSTS				BRIDGE END		END		SPECIAL CONNECTION		Remark
No.	Station		A				T				10"x10" 8" x 8" 8" x 8" 6"x8"										
			12.5' Curve	Section for Skewed Bridge	Curve ①	RE-53 Section	Tangent Section	Curve ②	Variable Tangent Section	Total	Single Spacer	Single Spacer	NO Spacer	No Spacer	ANCHORAGE		ANCHORAGE		(Non-Bid Item)		
															Type	No.	Type	No.	Type	No.	
	306+49±	RE-58			68.75	12.5	43.75	18.75	25	168.75	3	23	2	1	RE-41	2	RE-53	1			

REFERENCE INFORMATION

100-4

1-23-85

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

ITEM NO.	DESCRIPTION
1.	INCLUDES 1-12.5' SHOP BENT SECTION FOR RE-53 END ANCHORAGE.
6.	TO BE DISPOSED OF AS PER STD. NOTATION 213-1.
7&8.	TO BE HAULED TO MAINTENANCE YARD AS DIRECTED BY THE ENGINEER.
10.	TO BE INSTALLED AS PER CONDITION "A". SEE DETAIL SHEET FOR RUBRAIL.
12&13.	TO BE 10" IN DEPTH.

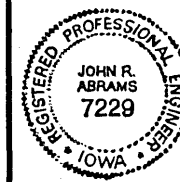
PROJECT QUANTITIES

100-0

8-20-85

NO.	ITEM	UNIT	TOTAL
79	GUARDRAIL, FORMED STEEL BEAM	LIN.FT.	231.25
80	GUARDRAIL, POSTS, BEAM	NO.	40
81	GUARDRAIL, END ANCHORAGE, BEAM RE-52	NO.	1
82	GUARDRAIL, END ANCHORAGE, BEAM RE-53	NO.	1
83	POST, STEEL, AS PER PLAN	NO.	2
84	REMOVAL OF GUARDRAIL END ANCHORAGE	NO.	2
85	REMOVAL OF FORMED STEEL BEAM GUARDRAIL	LIN.FT.	187.5
86	REMOVAL OF POSTS	NO.	27
87	REMOVE & REINSTALL OBJECT MARKERS	NO.	2
88	RAILING STEEL CHANNEL	LIN.FT.	2500
89	PATCHES, FINISH, BY COUNT	NO.	3
90	PATCHES, FULL DEPTH, FINISH, P.C.C. TYPE 1	SQ.YDS.	42.9
91	PATCHES, FULL DEPTH, FINISH, P.C.C. TYPE 2	SQ.YDS.	44.4

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.

Name John R. Abrams
Iowa Registration No. 7229 Date 11-6-85

DESIGN NO. 485
FILE NO. 28126
DES. SH. NO. 8 OF 14

TABULATION OF DELINEATORS AND OBJECT MARKERS

Refer to Standard Road Plan RE-48A-B* and RE-29C **Not a bid item

108-17

11-10-83

LOCATION		DELINEATOR	OBJECT MARKER				REMARKS
STATION	TYPE*	SINGLE WHITE D-1W	TRIPLE YELLOW OM2-3YV	TYPE 3		OFFSET BRACKETS **	
		NO.	NO.	OM-3L NO.	OM-3R NO.	NO.	
306+49± NE	4			1		1	
306+49± NW	3				1	1	

REMOVAL OF BEAM GUARDRAIL

110-7

11-10-83

LOCATION		BEAM GUARDRAIL		POSTS					END ANCHORAGE		Remarks
				ROUND	8''x8''		10''x10''				
					Remove & Reinstall	Remove & Reinstall	Remove & Reinstall	Remove & Reinstall			
No.	Station	Remove	Reinstall	Remove	Remove	Reinstall	Remove	Reinstall	NO.	TYPE	
	306+49± NE	112.5			12		3		1	RE-33	
	306+49± NW	75			11		1		1	RE-33	

TABULATION OF "W" BEAM GUARDRAIL INSTALLATIONS

(Refer to appropriate Standard Road Plans)

108-8

8-20-85

*Not a bid item																				
LOCATION		STANDARD ROAD PLAN	FORMED STEEL "W" BEAM GUARDRAIL					BEAM GUARDRAIL POSTS				Post & Adapter RE-37 No.	BEAM GUARDRAIL END ANCHORAGE					REMARKS		
NO.	STATION		Case	L2	A	H	T	TOTAL	10"x10" SINGLE SPACER	8" x 8" SINGLE SPACER	STEEL POST		6"x 8" NO SPACER	BRIDGE		END			RE-27* RE-41*	RE-49* RE-55*
				(Feet)	Lin. Ft.	Lin. Ft.	Lin. Ft.	Lin. Ft.	No.	No.	No.		No.	RE-26 RE-28	Type	No.	RE-52, RE-53		Type	No.
	306+49±	RE-57	G		62.5			62.5	3	6	2 *	2				RE-52	1	RE-41	1	

* FOR PLACEMENT OVER INTAKE. SEE DETAIL SHEET FOR STEEL POST ASSEMBLY.