

BRIDGE DECK OVERLAY
IMN-035-1(93)32--0E-20

CLARKE COUNTY

CLARKE COUNTY - DESIGN NO. 108

	DIVIDED HIGHWAY
	PAVED ROAD
	BITUMINOUS ROAD
	GRAVEL ROAD
	EARTH ROAD
	INTERSTATE HIGHWAY
	UNITED STATES HIGHWAY
	STATE HIGHWAY
	COUNTY HIGHWAY
	RAILROAD
	PIPELINE
	AIRPORT
	HYDROLOGY
	BRIDGE
	STATE BOUNDARY
	COUNTY BOUNDARY
	CORPORATE LIMIT LINE
	TOWNSHIP LINE
	SECTION LINE



Iowa Department of Transportation
Highway Division

PLANS OF PROPOSED IMPROVEMENTS ON THE

INTERSTATE ROAD SYSTEM
CLARKE COUNTY
BRIDGE DECK OVERLAY
ON SOUTHBOUND I-35
OVER WHITE BREAST CREEK

THE IOWA DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR HIGHWAY AND BRIDGE CONSTRUCTION, SERIES 2001, PLUS APPLICABLE GENERAL SUPPLEMENTAL SPECIFICATIONS, DEVELOPMENTAL SPECIFICATIONS, SUPPLEMENTAL SPECIFICATIONS AND SPECIAL PROVISIONS SHALL APPLY TO CONSTRUCTION WORK ON THIS PROJECT.

VALUE ENGINEERING SAVES. REFER TO THE GENERAL NOTES IN THESE PLANS.

ENGLISH STANDARD BRIDGE PLANS		
STANDARD	ISSUED	REVISED

	TOTAL SHEETS
	10
PROJECT NUMBER	
IMN-035-1(93)32--0E-20	
R.O.W. PROJECT NUMBER	
PROJECT IDENTIFICATION NUMBER	
01-20-035-010	

[illegible]

REVISIONS



1-800-292-8989

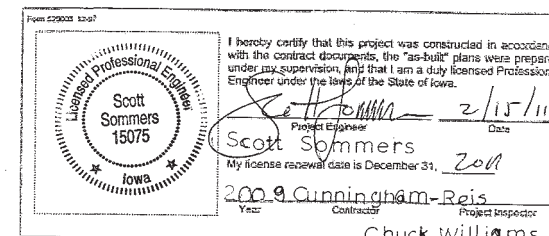
www.iowaonecall.com



DESIGN DATA RURAL			
2004	AADT	<u>14,500</u>	V.P.D.
	TRUCKS	<u>28</u>	%

[illegible]

STRUCTURAL DESIGN



I hereby certify that this engineering document was prepared by me or under my direct personal supervision and that I am a duly licensed Professional Engineer under the laws of the State of Iowa.

Suren K. Gupta 01-05-2009

Signature Surendra K. Gupta, P.E.

My license renewal date is December 31, 2009

Pages or sheets covered by this seal: SHEETS 1 THRU 10 OF 10

LOCATION MAP

PROJECT DIRECTORY NAME: 2003501001

DESIGN TEAM WHKS & Co.

ENGLISH

IOWA DOT * OFFICE OF BRIDGES AND STRUCTURES

FILE NO. 30156

CLARKE COUNTY

PROJECT NUMBER	IMN-035-1(93)32--0E-20
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SHEET NUMBER	1
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L:\DEPT\6\6400.2\Clarke 108\DRAWINGS\FINAL\Split Projects\20035093.brc

GENERAL NOTES:

THIS DESIGN IS FOR REPAIRS TO THE EXISTING 138'-10 x 55'-6 PRETENSIONED PRESTRESSED CONCRETE BEAM BRIDGE ON SOUTHBOUND INTERSTATE 35 OVER WHITE BREAST CREEK. THIS BRIDGE PREVIOUSLY HAD RETROFIT RAIL ADDED TO THE CURBS. COPIES OF ORIGINAL DESIGN PLANS AND RETROFIT BARRIER RAIL PLANS WILL BE MADE AVAILABLE TO THE CONTRACTOR. CONTACT THE OFFICE OF CONTRACTS - HIGHWAY DIVISION - IOWA D.O.T. - AMES.

REPAIR SHALL CONSIST OF:

- 1 BRIDGE FLOOR OVERLAY
- 2 BRIDGE FLOOR REPAIR, CLASS A
- 3 APPLYING CONCRETE SEALER TO FACES OF EXISTING WEST BARRIER RAIL AND CURB
- 4 REMOVING AND RECONSTRUCTING THE PAVING NOTCH AT BOTH ABUTMENTS
- 5 REMOVING AND RECONSTRUCTING BARRIER RAIL, END POSTS, CURB AND PORTIONS OF THE SLAB OVERHANG AT EAST GUTTER LINE NEAR ½ PIER #1 AS SHOWN ON DES. SH. 6

THE LUMP SUM BID FOR "REMOVALS, AS PER PLAN" SHALL INCLUDE ALL COSTS ASSOCIATED WITH REMOVING THE EXISTING ABUTMENT PAVING NOTCHES, EAST BARRIER RAIL, EAST CURB AND PORTIONS OF THE EAST SLAB OVERHANG. THE DISMANTLED MATERIAL IS TO BECOME THE PROPERTY OF THE CONTRACTOR AND REMOVED FROM THE SITE BY THE CONTRACTOR.

REMOVAL OF SCHEDULED ITEMS SHALL BE IN ACCORDANCE WITH SECTION 2401 OF THE SPECIFICATIONS. ANY DAMAGE TO ANY STEEL OR CONCRETE NOT TO BE REMOVED SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR AND REPAIRED AT NO EXTRA COST TO THE STATE.

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

UTILITY COMPANIES WHOSE FACILITIES ARE SHOWN ON THE PLANS OR KNOWN TO BE WITHIN THE CONSTRUCTION LIMITS SHALL BE NOTIFIED BY THE BRIDGE CONTRACTOR OF THE STARTING DATE.

PLAN QUANTITY OF FLOOR REPAIR IS BASED ON TWO TIMES THE SHADED AREAS SHOWN ON THE "DELAMTECT LAYOUT" IN THESE PLANS. SHADED AREAS REPRESENT CLASS A BRIDGE FLOOR REPAIR. ACTUAL SPALLED AND HOLLOW AREAS, AS DETERMINED BY THE ENGINEER AT THE TIME OF CONSTRUCTION SHALL BE REPAIRED.

PRESENT FLOOR THICKNESS IS ABOUT 7 INCHES. THE CONTRACTOR SHALL EXERCISE CARE IN REMOVING CONCRETE IN ORDER TO PREVENT UNNECESSARY UNBONDING OF REINFORCING STEEL.

SURFACE RAISE, AS SHOWN ON THE PLANS, SHALL BE CONSIDERED A MINIMUM. IN ORDER TO LIMIT THE ADDITIONAL DEAD LOAD SURFACE RAISE SHALL BE RESTRICTED TO A MAXIMUM OF ½" MORE THAN SHOWN ON THE PLANS. PROFILE MAY BE ADJUSTED TO THE EXTENT POSSIBLE WITHIN THESE LIMITS.

THE TOP AND INTERIOR FACES OF THE CONCRETE RAILING ARE TO BE CLEANED AND SEALED IN ACCORDANCE WITH STANDARD SPECIFICATION 2403.21 PART D. ALL COSTS ASSOCIATED WITH CLEANING AND SEALING OF THE CONCRETE RAILS SHALL BE INCLUDED IN THE UNIT PRICE BID ITEM "BRIDGE FLOOR OVERLAY".

IT WILL BE NECESSARY TO SUPPORT THE EARTH AND/OR GRANULAR MATERIAL BEHIND THE ABUTMENT DURING RECONSTRUCTION OF THE ABUTMENT PAVING NOTCHES BY SOME METHOD APPROVED BY THE ENGINEER. ALL COSTS FOR SUPPORTING THE EARTH AND/OR GRANULAR MATERIAL SHALL BE INCLUDED IN THE PRICE BID FOR "CLASS 20 EXCAVATION".

IT SHALL BE THE BRIDGE CONTRACTOR'S RESPONSIBILITY TO PROVIDE SITES FOR EXCESS EXCAVATED MATERIAL. NO PAYMENT FOR OVERHAUL WILL BE ALLOWED FOR MATERIAL HAULED TO THESE SITES.

MINIMUM CLEAR DISTANCE FROM FACE OF CONCRETE TO NEAR REINFORCING BAR IS TO BE 2" UNLESS OTHERWISE NOTED OR SHOWN.

ALL CONCRETE REMOVAL LINES SHALL BE INITIATED WITH A ¾ INCH SAWCUT.

SPECIFICATIONS:

CONSTRUCTION: IOWA DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR HIGHWAY AND BRIDGE CONSTRUCTION, SERIES 2001, PLUS APPLICABLE GENERAL SUPPLEMENTAL SPECIFICATIONS, DEVELOPMENTAL SPECIFICATIONS, SUPPLEMENTAL SPECIFICATIONS AND SPECIAL PROVISIONS SHALL APPLY TO CONSTRUCTION WORK ON THIS PROJECT.

DESIGN STRESSES:

DESIGN STRESSES FOR THE FOLLOWING MATERIALS ARE IN ACCORDANCE WITH THE AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES, SERIES OF 2002. CONCRETE IN ACCORDANCE WITH SECTION 8, f'c = 3,500 PSI. REINFORCING STEEL IN ACCORDANCE WITH SECTION 8, GRADE 60.

DURING CONSTRUCTION OF THIS PROJECT THE BRIDGE CONTRACTOR WILL BE REQUIRED TO COORDINATE OPERATIONS WITH THOSE OF OTHER CONTRACTORS WORKING WITHIN THE SAME AREA. OTHER WORK IN PROGRESS DURING THE SAME PERIOD OF TIME WILL INCLUDE, BUT IS NOT LIMITED TO, CONSTRUCTION OF THE FOLLOWING PROJECTS:

- IMN-035-1(120)32--0E-20 BRIDGE DECK OVERLAY (NORTHBOUND)
- IMX-035-1(112)24--02-20 PCC PAVEMENT - REPLACE (NORTHBOUND)
- BRFIMX-035-1(105)33--14-20 BRIDGE REPLACEMENT - PPCB
- BRFIMX-035-1(116)33--14-20 PCC PAVEMENT - GRADE AND REPLACE
- IMN-035-1(123)24--0E-20 GRADE STABILIZATION STRUCTURE
- IMN-035-1(128)33--0E-20 TRAFFIC SIGNS

ESTIMATED BRIDGE QUANTITIES

ITEM NO.	ITEM CODE	ITEM	UNITS	QUANTITY	AS BUILT QUANTITY
1	2401-6750001	REMOVALS, AS PER PLAN	LS	1.000	1.000
2	2402-2720000	EXCAVATION, CLASS 20	CY	41.000	41.000
3	2403-0100000	STRUCTURAL CONCRETE (MISCELLANEOUS)	CY	20.600	20.600
4	2404-7775005	REINFORCING STEEL, EPOXY COATED	LB	1962.000	1962.000
5	2413-0698072	BRIDGE FLOOR REPAIR, CLASS A	SY	114.000	148.580
6	2414-6431100	RETROFIT CONCRETE BARRIER RAILING	LF	157.100	157.100
7	2533-4980005	MOBILIZATION	LS	1.000	1.000
ALTERNATE A					
8A	2413-0698068	BRIDGE FLOOR OVERLAY (CLASS O PCC)	SY	878.000	
ALTERNATE B					
1055	8B	2413-0698069	BRIDGE FLOOR OVERLAY (CLASS HPC-O PCC)	SY	878.000
	1065	2426-8772016	Concrete Repair	SF	117.234
	1080	2599-9999005	Abutment erosion repair	EACH	1.000

ESTIMATE REFERENCE INFORMATION

DATA LISTED BELOW IS FOR INFORMATIONAL PURPOSES ONLY AND SHALL NOT CONSTITUTE A BASIS FOR ANY EXTRA WORK ORDERS.

ITEM NO.	DESCRIPTION
2	INCLUDES COST OF FURNISHING AND PLACING GRANULAR AND SPECIAL BACKFILL.
3	INCLUDES ALL PREFORMED EXPANSION JOINT FILLER REQUIRED.
6	INCLUDES 1698 LBS. EPOXY COATED REINFORCING STEEL. INCLUDES 10.3 CY OF STRUCTURAL CONCRETE.
8A OR 8B	INCLUDES FURNISHING AND PLACING CONCRETE SEALER.

DESIGN HISTORY
AT THIS SITE

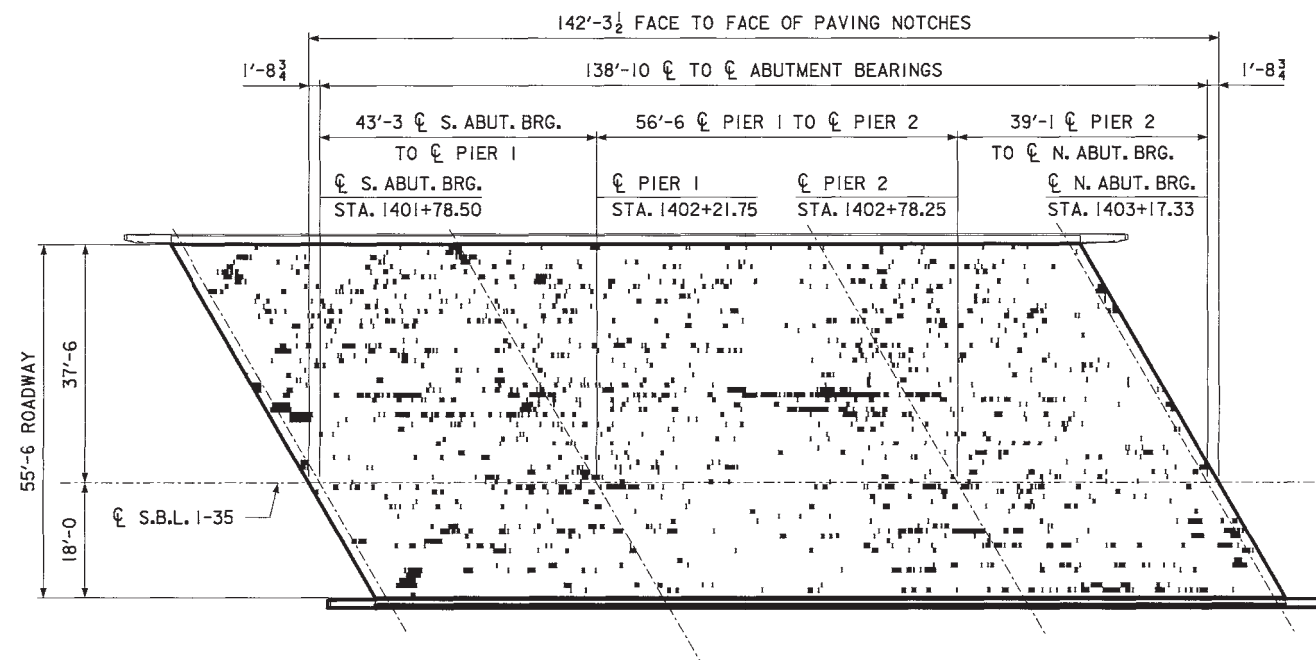
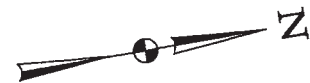
DES. NO.	TYPE OF WORK
2467	ORIGINAL DESIGN
890	RETROFIT RAIL
108	OVERLAY & REPAIR

DESIGN FOR REPAIRS TO 30° SKEW (RA)
138'-10 x 55'-6 PRETENSIONED
PRESTRESSED CONCRETE BEAM BRIDGE
43'-3 & 39'-1 END SPANS 56'-6 INTERIOR SPAN
ESTIMATED QUANTITIES & NOTES
STA. 1402+50.00 S.B. LANE NOVEMBER, 2008
CLARKE COUNTY
IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION
DESIGN SHEET NO. 1 OF 9 FILE NO. 30156 DESIGN NO. 108

WHKS & CO.
ENGINEERS PLANNERS LAND SURVEYORS
MASON CITY, IA DUBUQUE, IA AMES, IA ROCHESTER, MN

TRAFFIC CONTROL PLAN
REFER TO TRAFFIC CONTROL PLAN
SHOWN IN IMX-035-1(111)24--02-20

THE CONTRACTOR IS ENCOURAGED TO TAKE FULL ADVANTAGE OF SPECIFICATION 1105.15 -- VALUE ENGINEERING INCENTIVE PROPOSAL. A PAMPHLET AND CONCEPTUAL PROPOSAL FORM WILL BE AVAILABLE AT THE PRECONSTRUCTION CONFERENCE.



DELAMTECT LAYOUT

SHADED AREAS = DELAMINATIONS > 400mV = 512.25 SQ. FT.



DESIGN FOR REPAIRS TO 30° SKEW (RA)
**138'-10" x 55'-6" PRETENSIONED
PRESTRESSED CONCRETE BEAM BRIDGE**
43'-3" & 39'-1" END SPANS 56'-6" INTERIOR SPAN

DELAMTECT LAYOUT
STA. 1402+50.00 S.B. LANE NOVEMBER, 2008
CLARKE COUNTY
IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION
DESIGN SHEET NO. 3 OF 9 FILE NO. 30156 DESIGN NO. 108

DESIGN TEAM SKG / JJO / MAF

CLARKE COUNTY

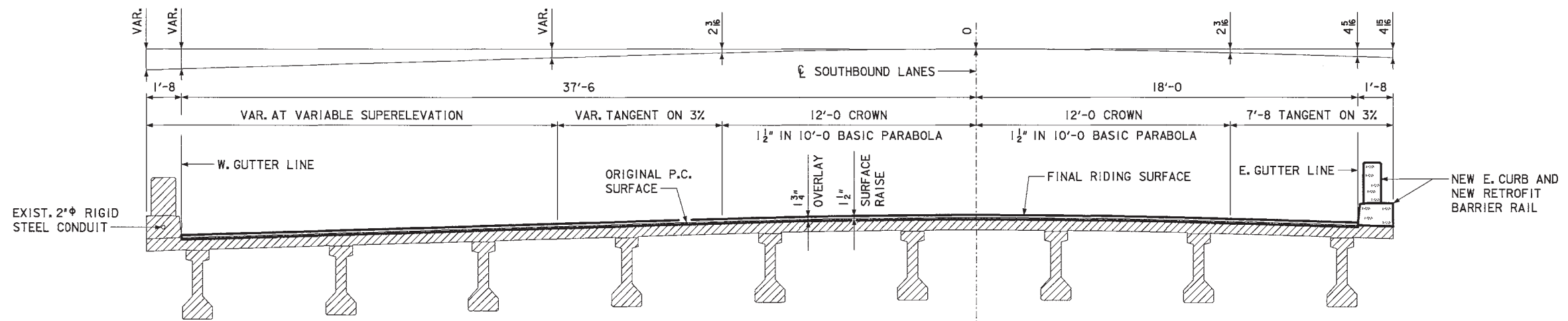
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SHEET NUMBER 4

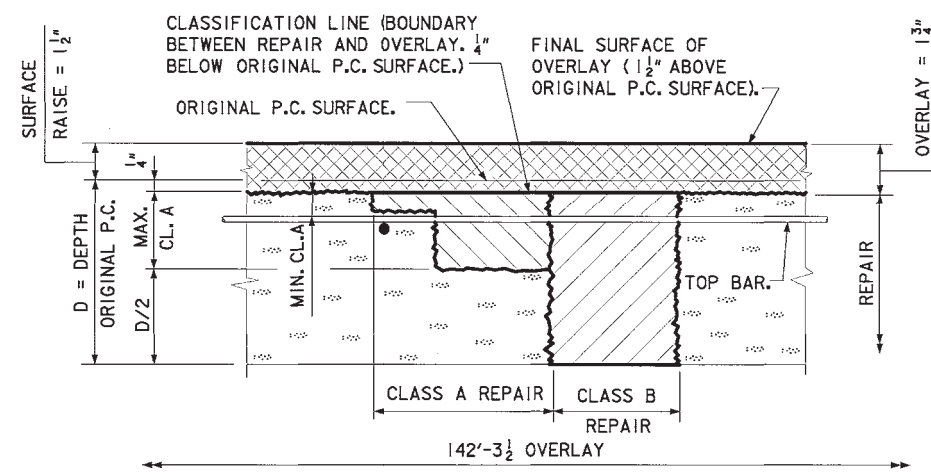
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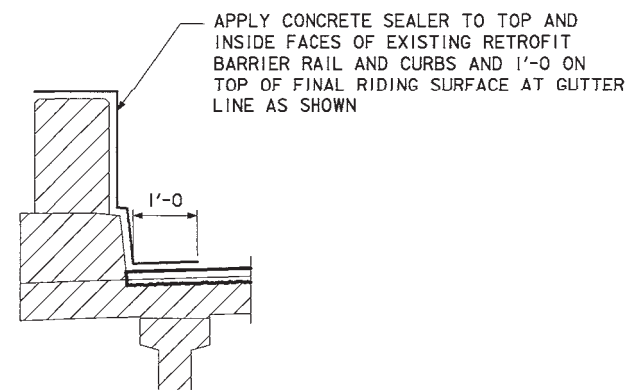
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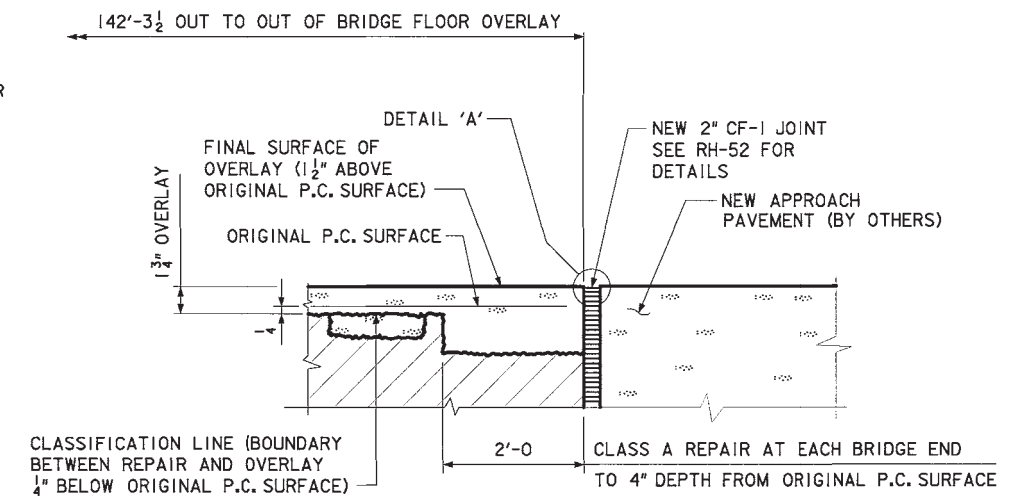
TYPICAL CROSS SECTION
(LOOKING NORTH)



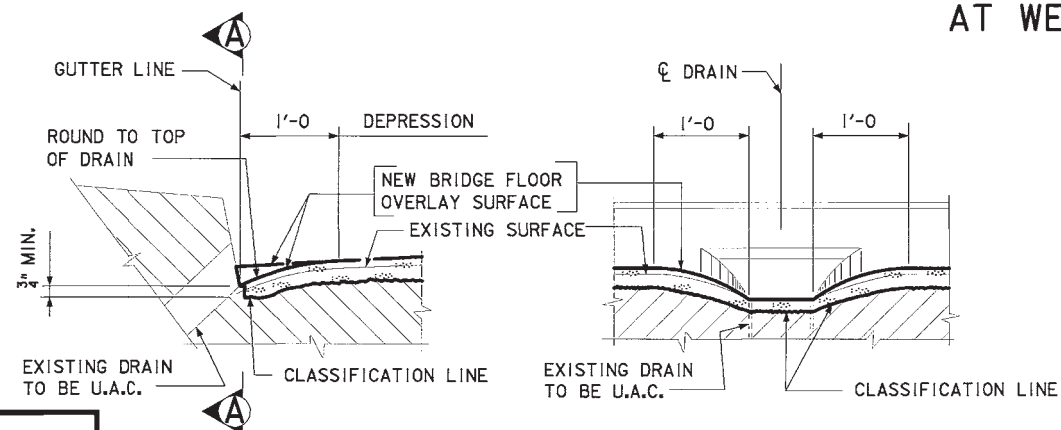
REPAIR AND OVERLAY DEFINITION



CONCRETE SEALER DETAIL
AT WEST CURB

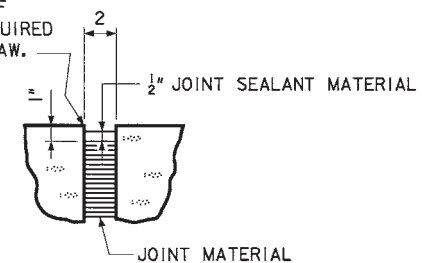


PART LONGITUDINAL SECTION ALONG ROADWAY
(BOTH ABUTMENTS)



SECTION A-A
FLOOR REPAIR DETAIL AT DRAIN
(REQUIRED AT 10 LOCATIONS)

EDGE WITH 1/4" TOOL FOR LENGTH OF JOINT INDICATED. EDGING NOT REQUIRED WHEN CUT WITH DIAMOND BLADE SAW.



DETAIL 'A'



DESIGN FOR REPAIRS TO 30° SKEW (RA)

**138'-10 x 55'-6 PRETENSIONED
PRESTRESSED CONCRETE BEAM BRIDGE**

43'-3 & 39'-1 END SPANS 56'-6 INTERIOR SPAN

DECK REPAIR DETAILS

STA. 1402+50.00 S.B. LANE NOVEMBER, 2008

CLARKE COUNTY

IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION

DESIGN SHEET NO. 4 OF 9 FILE NO. 30156 DESIGN NO. 108



CONCRETE PLACEMENT QUANTITY	
LOCATION	TOTAL (CY)
NORTH ABUTMENT PAVING NOTCH	5.6
SOUTH ABUTMENT PAVING NOTCH	5.6
TOTAL (CY)	11.2



THE 5K1 & 5K2 BARS SHALL BE SET AS DOWELS IN DRILLED HOLES. HOLES ARE TO BE 1'-0" DEEP. THE DOWELS SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS. THE FOLLOWING SYSTEM SHALL BE USED FOR HORIZONTAL DOWELS:

POLYMER GROUT SYSTEM IN ACCORDANCE WITH STANDARD SPECIFICATIONS.

DESIGN TEAM SKG / JJO / MAF

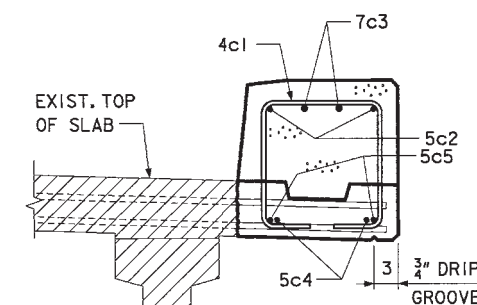
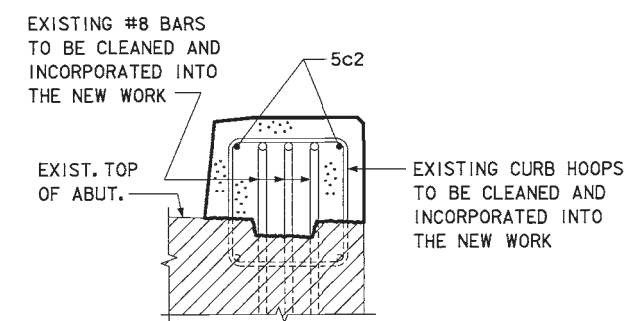
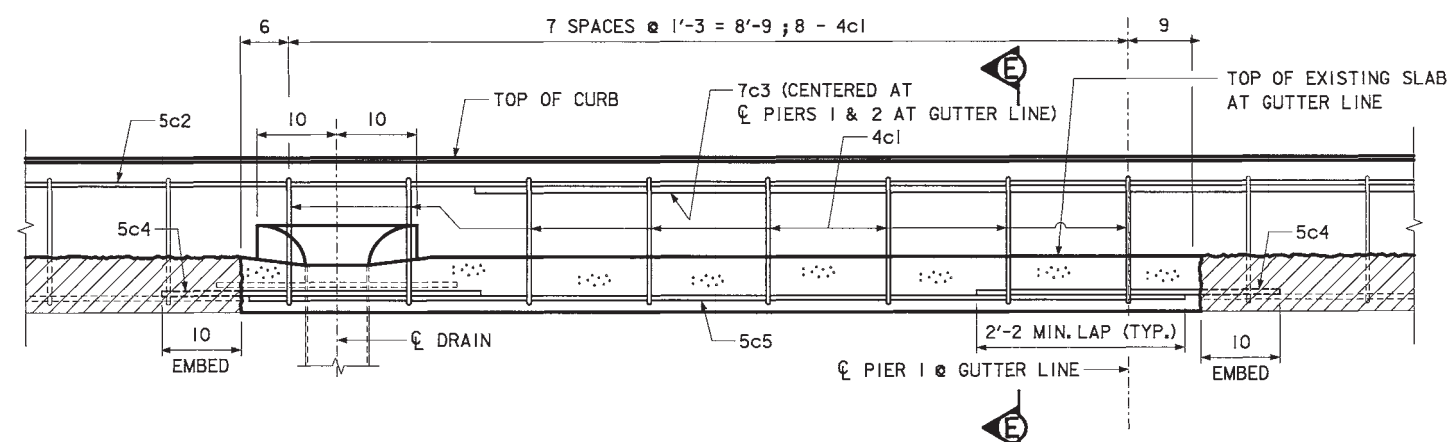
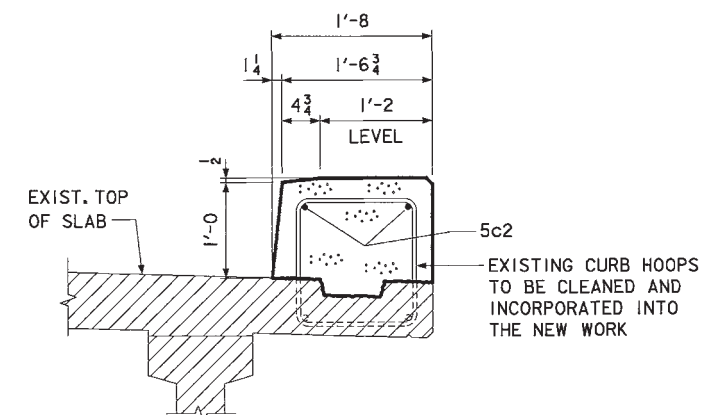
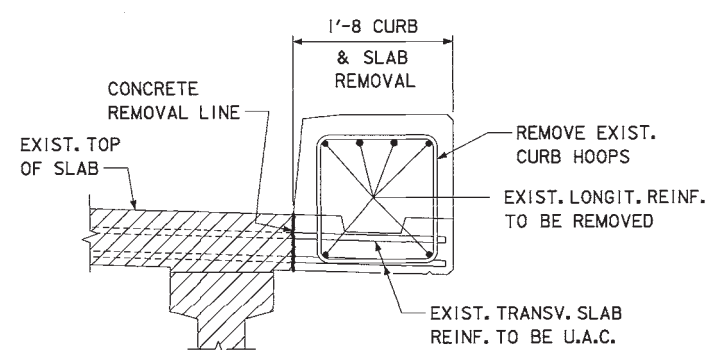
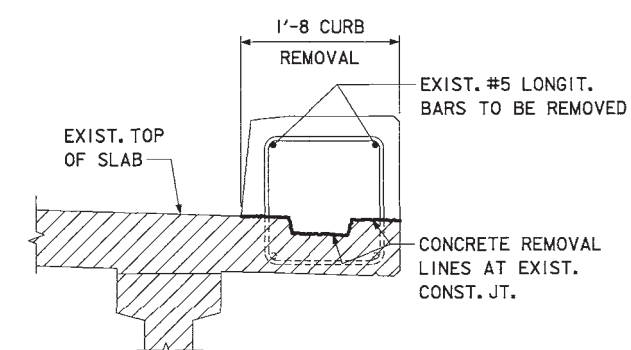
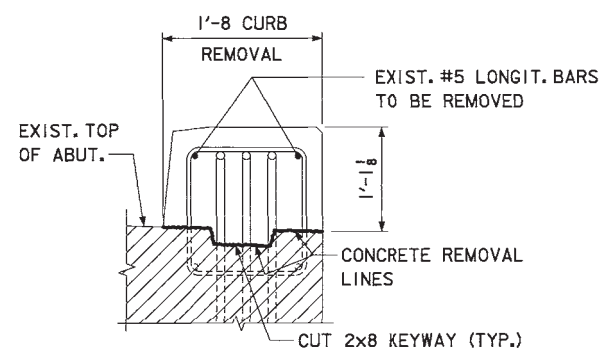
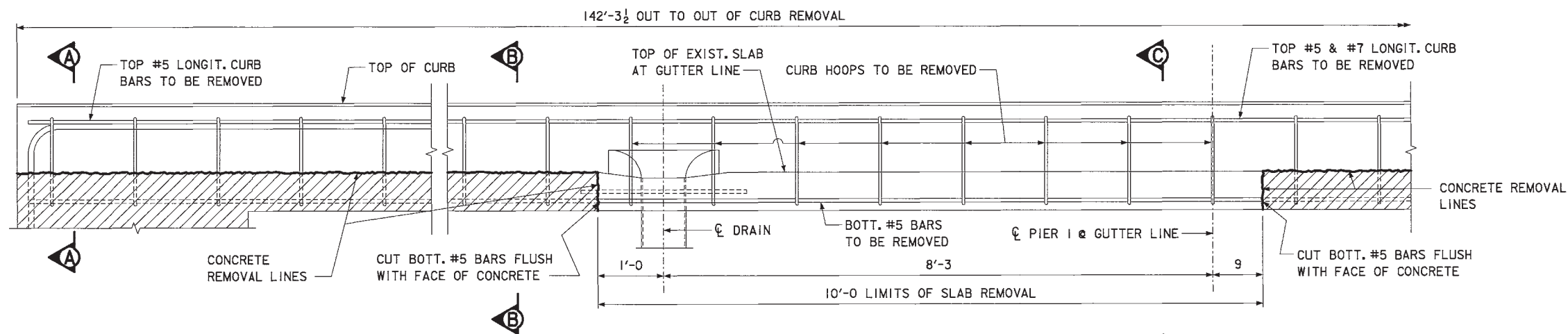
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DESIGN FOR REPAIRS TO 30° SKEW (RA)
138'-10 x 55'-6 PRETENSIONED
PRESTRESSED CONCRETE BEAM BRIDGE
43'-3 & 39'-1 END SPANS 56'-6 INTERIOR SPAN
PAVING NOTCH DETAILS
STA. 1402+50.00 S.B. LANE NOVEMBER, 2008
CLARKE COUNTY
IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION
DESIGN SHEET NO. 5 OF 9 FILE NO. 30156 DESIGN NO. 108

CLARKE COUNTY

PROJECT NUMBER IMN-035-1(93)32--OE-20

SHEET NUMBER 6



NOTE:
PIER DIAPHRAGM TO BE LEFT
INTACT DURING SLAB REMOVAL

DOWEL SETTING NOTE:

THE 5c4 BARS SHALL BE SET AS HORIZONTAL DOWELS IN DRILLED HOLES. DOWELS ARE TO BE 10" DEEP. THE DOWELS SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS. THE FOLLOWING SYSTEM SHALL BE USED AS A BONDING AGENT FOR HORIZONTAL DOWELS:

POLYMER GROUT SYSTEM IN ACCORDANCE WITH
STANDARD SPECIFICATIONS.

DESIGN FOR REPAIRS TO 30° SKEW (RA)
138'-10 x 55'-6 PRETENSIONED
PRESTRESSED CONCRETE BEAM BRIDGE
43'-3 & 39'-1 END SPANS 56'-6 INTERIOR SPAN

EAST CURB REPLACEMENT

STA. 1402+50.00 S.B. LANE NOVEMBER, 2008
CLARKE COUNTY
IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION
DESIGN SHEET NO. 6 OF 9 FILE NO. 30156 DESIGN NO. 108

WHKS & CO.

ENGINEERS PLANNERS LAND SURVEYORS

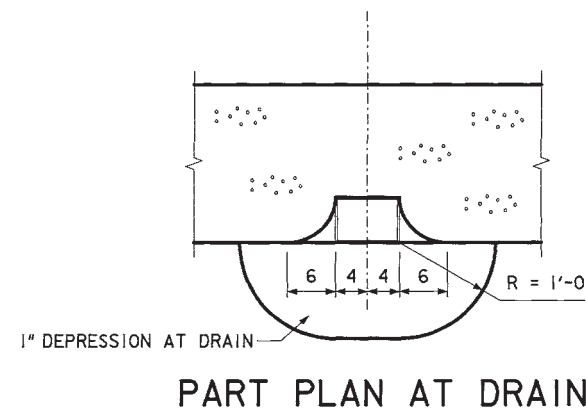
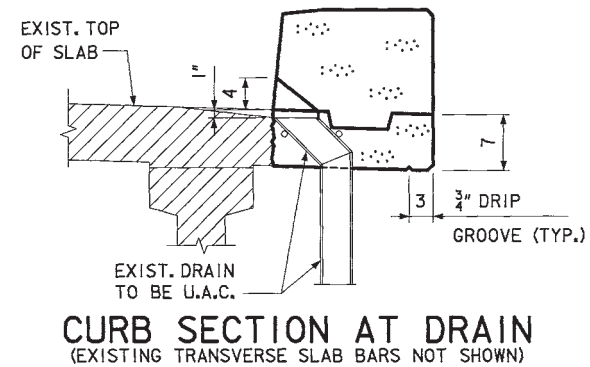
MASON CITY, IA DUBUQUE, IA AMES, IA ROCHESTER, MN

DESIGN TEAM SKG / JJO / MAF

CLARKE COUNTY	PROJECT NUMBER IMN-035-1(93)32--0E-20
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SHEET NUMBER	7
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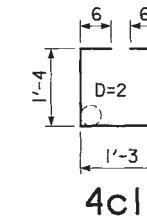
EPOXY COATED REINFORCING STEEL

BAR	LOCATION	SHAPE	NO.	LENGTH	WEIGHT
4c1	VERT., CURB HOOPS		8	4'-11	26
5c2	LONGIT., CURB, TOP		8	37'-8	314
7c3	LONGIT., CURB @ PIERS, TOP		4	13'-8	112
5c4	HORIZ. DOWEL, CURB		4	3'-2	13
5c5	LONGIT., CURB, BOTTOM		2	9'-8	20
TOTAL (LBS)					485

CONCRETE PLACEMENT SUMMARY

SECTION	TOTAL (CY)
EAST CURB 142.3 L.F. AT 0.063 CY PER L.F.	9.0
SLAB SECTION AT EAST GUTTER LINE	0.4
TOTAL (CY)	9.4

BENT BAR DETAILS



NOTE: ALL DIMENSIONS
ARE OUT TO OUT. D = PIN DIA.

WHKS & CO.

ENGINEERS PLANNERS LAND SURVEYORS
MASON CITY, IA DUBUQUE, IA AMES, IA ROCHESTER, MN

DESIGN FOR REPAIRS TO 30° SKEW (RA)
**138'-10 x 55'-6 PRETENSIONED
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CURB REPAIR DETAILS
STA. 1402+50.00 S.B. LANE NOVEMBER, 2008
CLARKE COUNTY
IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION
DESIGN SHEET NO. 7 OF 9 FILE NO. 30156 DESIGN NO. 108

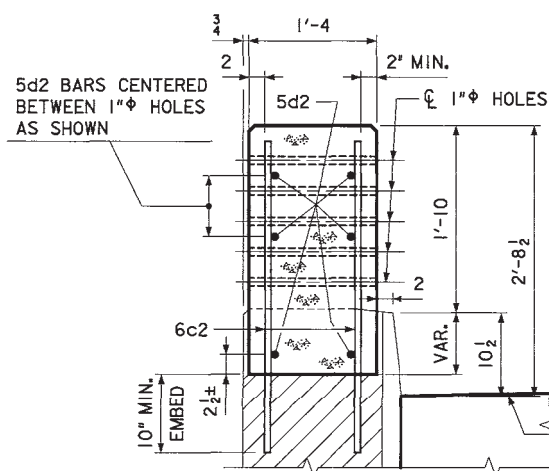
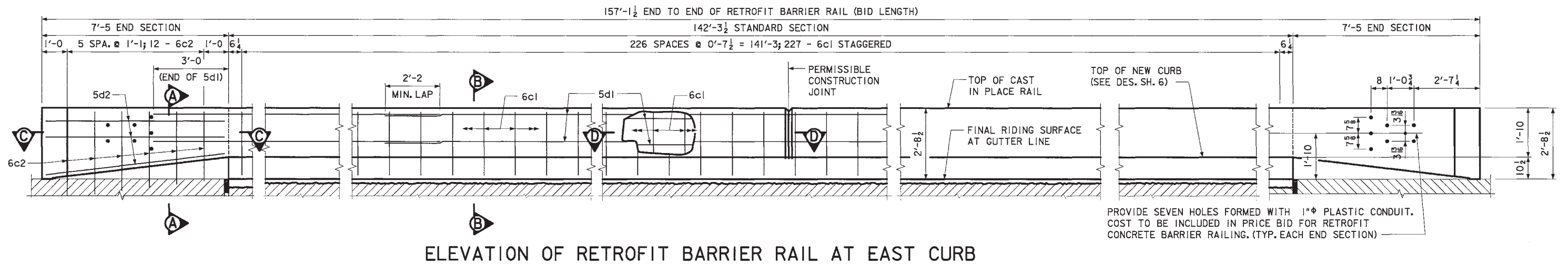
DESIGN TEAM SKG / JJO / MAF

CLARKE COUNTY

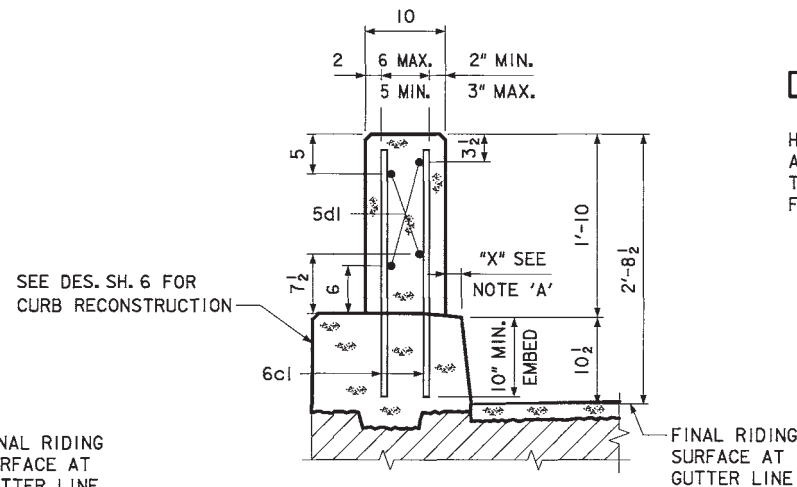
PROJECT NUMBER IMN-035-1(93)32--0E-20

SHEET NUMBER 8

REVISED 01-01 - CONC. PLACEMENT, QUANTITY, JOINT DETAILS AND NOTES MOVED TO STD. 1031T.
ENGLISHREPAIRRETROFITBRIDGES.DGN 1031C - THIS SHEET REDRAWN 11-3-88.



SECTION A-A
(EXIST. END POST NOT SHOWN)

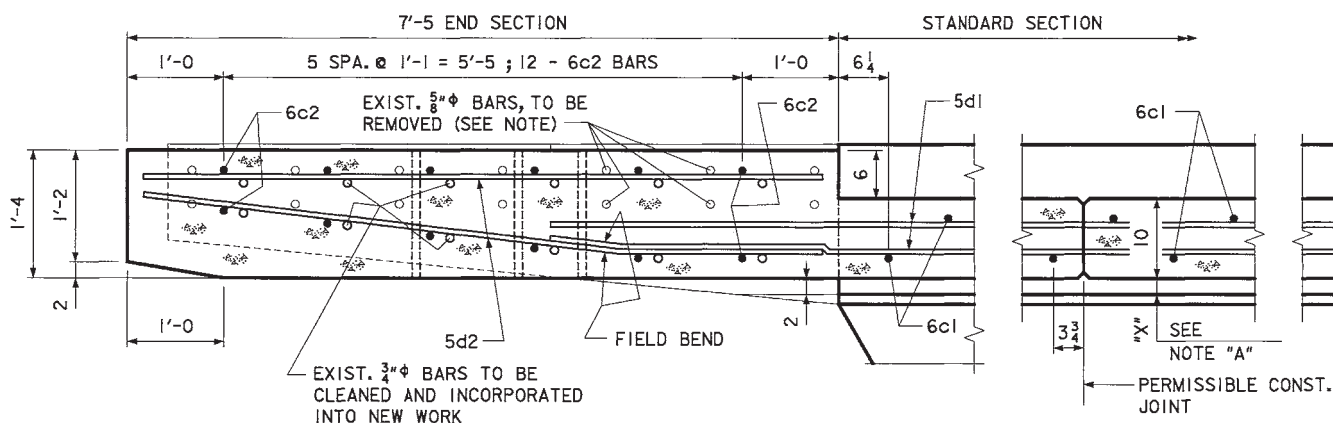


SECTION B-B

DOWEL SETTING NOTE:

- THE 6c2 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 FOLLOWING SYSTEMS SHALL BE USED AS A BONDING AGENT FOR THE DOWELS:
- POLYMER GROUT SYSTEM IN ACCORDANCE WITH STANDARD SPECIFICATIONS.
 - HYDRAULIC CEMENT GROUT SYSTEMS. DRILLED HOLES ARE TO BE 2 1/2 TIMES THE DOWEL DIAMETER AND ARE TO BE BLOWN CLEAN WITH COMPRESSED AIR IMMEDIATELY PRIOR TO PLACING GROUT. THE HYDRAULIC CEMENT GROUT SHALL BE ONE OF THOSE APPROVED IN MATERIALS I.M. 491.13 AND SHALL BE USED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.

NOTE A:
DIMENSION "X" SHALL 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 EITHER END OF STANDARD RAIL SECTION SHALL BE TRANSITIONED TO 2" AT END SECTION AS SHOWN.



SECTION C-C

THE EXISTING 5/8"ϕ WING END POST BARS SHALL BE CUT FLUSH WITH THE TOP OF WING AND THE ENDS PAINTED WITH TWO COATS OF A ZINC RICH PAINT.

SECTION D-D

- NOTE:
- SEE DESIGN SHEET 9 FOR:
- BARRIER RAIL NOTES
 - RAIL JOINT DETAILS
 - CONCRETE PLACEMENT SUMMARY

EPOXY COATED REINFORCING STEEL EAST BARRIER RAIL					
BAR	LOCATION	SHAPE	NO.	LENGTH	WEIGHT
6c1	VERT., STANDARD SECTION	—	227	2'-6"	852
6c2	VERT. DOWEL, END SECTION	—	24	VARIES	110
5d1	LONGIT., STANDARD SECTION	—	16	38'-9"	647
5d2	LONGIT., END SECTION	—	12	7'-1"	89
TOTAL (LBS.)					1698

6c2 BARS VARY FROM 2'-9" TO 3'-4"

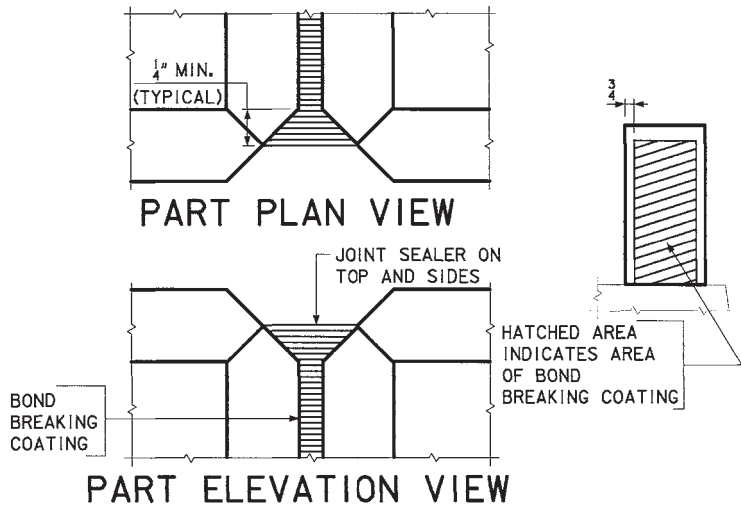
DESIGN FOR REPAIRS TO 30° SKEW (RA)
**138'-10" x 55'-6" PRETENSIONED
PRESTRESSED CONCRETE BEAM BRIDGE**
43'-3" & 39'-1" END SPANS 56'-6" INTERIOR SPAN

RETROFIT BARRIER RAIL

STA. 1402+50.00 S.B. LANE NOVEMBER, 2008
CLARKE COUNTY

IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION
DESIGN SHEET NO. 8 OF 9 FILE NO. 30156 DESIGN NO. 108

ENGLISHREPAIRRETROFITBRIDGES.DGN 1031T - THIS SHEET ISSUED 01-01.



RETROFIT BARRIER
RAIL JOINT DETAILS

RETROFIT BARRIER RAILING 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 RETROFIT BARRIER RAIL IS TO BE BID ON A LINEAL FOOT BASIS MEASURED FROM END TO END OF RAIL. THE NUMBER OF LINEAL FEET OF RETROFIT BARRIER RAIL INSTALLED WILL BE PAID FOR AT THE CONTRACT PRICE PER LINEAL FOOT BASED ON PLAN QUANTITIES. PRICE BID FOR RETROFIT CONCRETE BARRIER RAILING SHALL BE FULL COMPENSATION FOR FURNISHING ALL MATERIAL (INCLUDING REINF. STEEL AND 1"Ø PLASTIC CONDUIT) PLUS ALL OF THE EQUIPMENT AND LABOR REQUIRED TO ERECT THE RAIL IN ACCORDANCE WITH THESE PLANS AND CURRENT SPECIFICATIONS.
CONCRETE BARRIER RAILS PLACED USING THE SLIPFORM METHOD WILL REQUIRE THE USE OF A CLASS BR CONCRETE IN ACCORDANCE WITH ARTICLE 2513.03B OF THE STANDARD SPECIFICATION. CAST-IN-PLACE BARRIER RAILS SHALL USE CLASS C MIX. CLASS D CONCRETE IS NOT PERMITTED FOR CONCRETE BARRIER RAILS (CAST-IN-PLACE OR SLIPFORMED METHOD).
ALL REINFORCING STEEL IS TO BE GRADE 60 AND EPOXY COATED.
THE JOINT SEALER SHALL BE LIGHT GRAY NONSAG LATEX CAULKING SEALER MARKETED FOR OUTDOOR USE. NO TESTING OR CERTIFICATION IS REQUIRED.

CONCRETE PLACEMENT SUMMARY		
SECTION		TOTAL
STANDARD SECTION	142.3 L.F. AT 0.060 CY PER L.F.	8.5
END SECTIONS	2 AT 0.890 CY PER SECTION	1.8
TOTAL (CY)		10.3

CONCRETE BARRIER RAIL QUANTITIES		
ITEM	UNITS	QUANTITY
RETROFIT CONCRETE BARRIER RAILING	L.F.	157.1

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