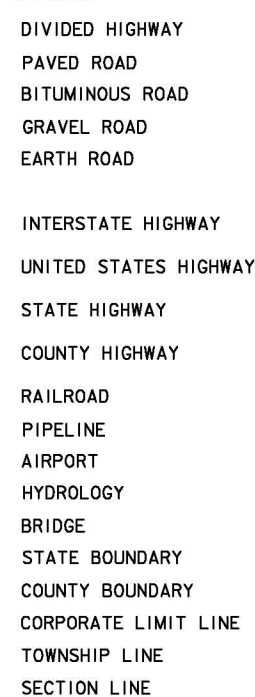


CLARKE COUNTY

BRIDGE DECK OVERLAY
IMN-035-1(120)32--OE-20

SIGNS



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

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

STANDARD	ISSUED	REVISED
----------	--------	---------

PROJECT NUMBER

IMN-035-1(120)32--0E-20

R.O.W. PROJECT NUMBER

PROJECT IDENTIFICATION NUMBER

01-20-035-010

INDEX OF SHEETS

NO.	DESCRIPTION
-----	-------------

I	TITLE SHEET
---	-------------

2	BRIDGE ESTIMATE SHEET
---	-----------------------

2-8	BRIDGE DESIGN 409
-----	-------------------

REVISIONS



**Know what's below.
Call before you dig.**

2004 AADT	14,500	V.P.D.
TRUCKS	28	%

INDEX OF SEALS

SHEET NO.	NAME	TYPE
I	SURENDRA K. GUPTA	STRUCTURAL DES

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.

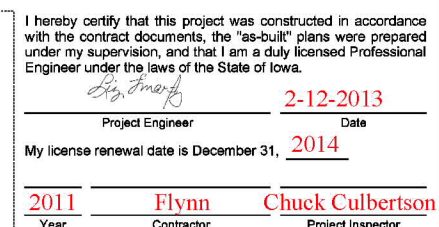
Suren K. Gupta 04-21-2009

Signature Surendra K. Gupta, P. E. Date 07/27/20

Printed or Typed Name _____

My license renewal date is December 31, 2009

Pages or sheets covered by this seal: SHEETS 1 THRU 8 OF 8



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(120)32--0E-20
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SHEET NUMBER	1
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L:\DEPT\6\6400.21\Clarke 409\DRAWINGS\FINAL\20035120.brg

GENERAL NOTES:

THIS DESIGN IS FOR REPAIRS TO THE EXISTING 143'-0 x 40'-0 PRETENSIONED PRESTRESSED CONCRETE BEAM BRIDGE ON NORTHBOUND 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
- 2
- 3
- 4
- 5
- BRIDGE FLOOR OVERLAY
- BRIDGE FLOOR REPAIR, CLASS A
- APPLYING CONCRETE SEALER TO FACES OF EXISTING BARRIER RAIL AND CURBS
- REMOVING AND RECONSTRUCTING THE PAVING NOTCH AT BOTH ABUTMENTS
- REMOVING AND REPLACING A PORTION OF THE EAST BARRIER RAIL, CURB AND SLAB OVERHANG

THE LUMP SUM BID FOR "REMOVALS, AS PER PLAN" SHALL INCLUDE ALL COSTS ASSOCIATED WITH REMOVING PORTIONS OF THE EAST BARRIER RAIL, EAST CURB AND 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 "PAVING NOTCH REPLACEMENT".

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.

KEYWAY DIMENSIONS SHOWN ON THE PLANS ARE BASED ON NOMINAL DIMENSIONS UNLESS STATED OTHERWISE. IN ADDITION, THE BEVEL USED ON THE KEYWAY SHALL BE LIMITED TO A MAXIMUM OF 10 DEGREES FROM VERTICAL.

THESE BRIDGE PLANS LABEL ALL REINFORCING STEEL WITH ENGLISH NOTATION (5a1 IS 5 8 INCH DIAMETER BAR). ENGLISH REINFORCING STEEL RECEIVED IN THE FIELD MAY DISPLAY THE FOLLOWING "BAR DESIGNATION". THE "BAR DESIGNATION" IS THE STAMPED IMPRESSION ON THE REINFORCING BARS, AND IS EQUIVALENT TO THE BAR DIAMETER IN MILLIMETERS.

ENGLISH SIZE	3	4	5	6	7	8	9	10	11
BAR DESIGNATION	10	13	16	19	22	25	29	32	36

SPECIFICATIONS:

DESIGN: AASHTO SERIES OF 2002.

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:

IMX-035-I(111)24--02-20	PCC PAVEMENT - REPLACE (SOUTHBOUND)
IMN-035-I(93)32--0E-20	BRIDGE DECK OVERLAY (SOUTHBOUND)
BRFIMX-035-I(105)33--14-20	BRIDGE REPLACEMENT - PPCB
BRFIMX-035-I(116)33--14-20	PCC PAVEMENT - GRADE AND REPLACE
IMN-035-I(123)24--0E-20	GRADE STABILIZATION STRUCTURE
IMN-035-I(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	2403-0100000	STRUCTURAL CONCRETE (MISCELLANEOUS)	CY	2.900	2.900
3	2404-7775005	REINFORCING STEEL, EPOXY COATED	LB	315.000	315.000
4	2413-0698072	BRIDGE FLOOR REPAIR, CLASS A	SY	130.000	101.274
5	2499-0800000	PAVING NOTCH REPLACEMENT	LF	91.000	91.000
6	2533-4980005	MOBILIZATION	LS	1.000	1.000
		ALTERNATE A			
7A	2413-0698068	BRIDGE FLOOR OVERLAY (CLASS 0 PCC)	SY	650.000	0.000
		ALTERNATE B			
7B	2413-0698069	BRIDGE FLOOR OVERLAY (CLASS HPC-0 PCC)	SY	650.000	650.220

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 ALL PREFORMED EXPANSION JOINT FILLER REQUIRED.
5	INCLUDES ALL LABOR AND MATERIAL ASSOCIATED WITH 29.0 CY OF EXCAVATION, REMOVING AND DISPOSING OF THE EXISTING PAVING NOTCH AND INSTALLATION OF THE NEW PAVING NOTCH. INCLUDES 6.3 CY OF STRUCTURAL CONCRETE, 1428 LBS OF EPOXY COATED REINFORCING, AND 56.0 CY OF GRANULAR BACKFILL
7A OR 7B	INCLUDES FURNISHING AND PLACING CONCRETE SEALER.

DESIGN HISTORY
AT THIS SITE

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

DESIGN FOR REPAIRS TO 27°14'42" SKEW (RA)
143'-0 x 40' PRETENSIONED
PRESTRESSED CONCRETE BEAM BRIDGE
47'-5 & 39'-1 END SPANS56'-6 INTERIOR SPAN

ESTIMATED QUANTITIES & NOTES

STA. 401+48.00JANUARY, 2009

CLARKE COUNTY

IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION

DESIGN SHEET NO. 1 OF 7FILE NO. 30156DESIGN NO. 409

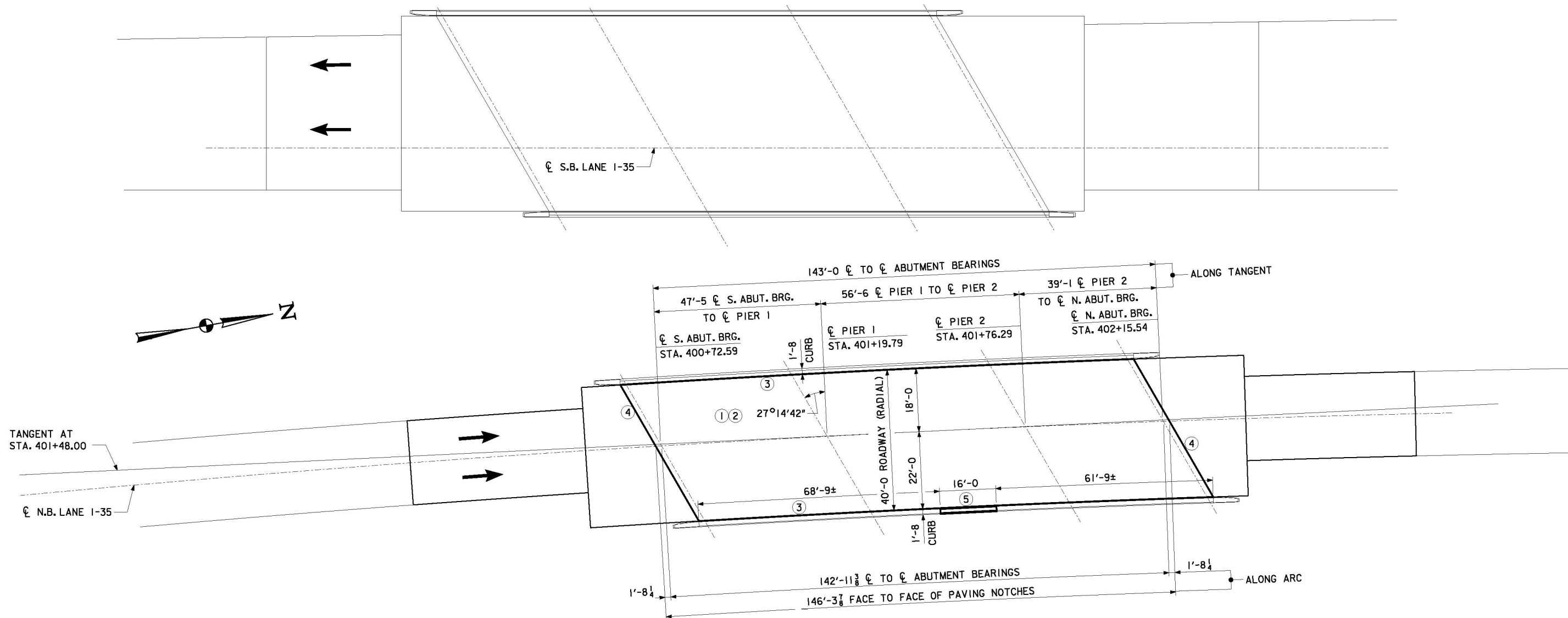
WHKS & CO.

ENGINEERSPLANNERSLAND SURVEYORS

MASON CITY, IADUBUQUE, IAAMES, IAROCHESTER, MN

TRAFFIC CONTROL PLAN
REFER TO TRAFFIC CONTROL PLAN
SHOWN IN IMX-035-I(112)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.



SITUATION PLAN

NOTE:
SEE DESIGN SHEET 1 FOR DESCRIPTIONS
OF REPAIR LOCATIONS.

LOCATION:

ON NORTHBOUND I-35
OVER WHITE BREAST CREEK
T-72N R-26W
SECTION 25
WARD TOWNSHIP
CLARKE COUNTY
MAINT. NO. 2031.9R035
FHWA NO. 020140

DESIGN FOR REPAIRS TO 27°14'42" SKEW (RA)
**143'-0 x 40' PRETENSIONED
PRESTRESSED CONCRETE BEAM BRIDGE**
47'-5 & 39'-1 END SPANS 56'-6 INTERIOR SPAN
SITUATION PLAN
STA. 401+48.00 **CLARKE COUNTY** JANUARY, 2009
IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION
DESIGN SHEET NO. 2 OF 7 FILE NO. 30156 DESIGN NO. 409



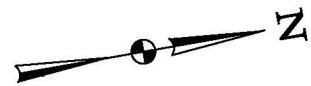
DESIGN TEAM SKG / JJO / MAF

CLARKE COUNTY

PROJECT NUMBER IMN-035-1(120)32--0E-20

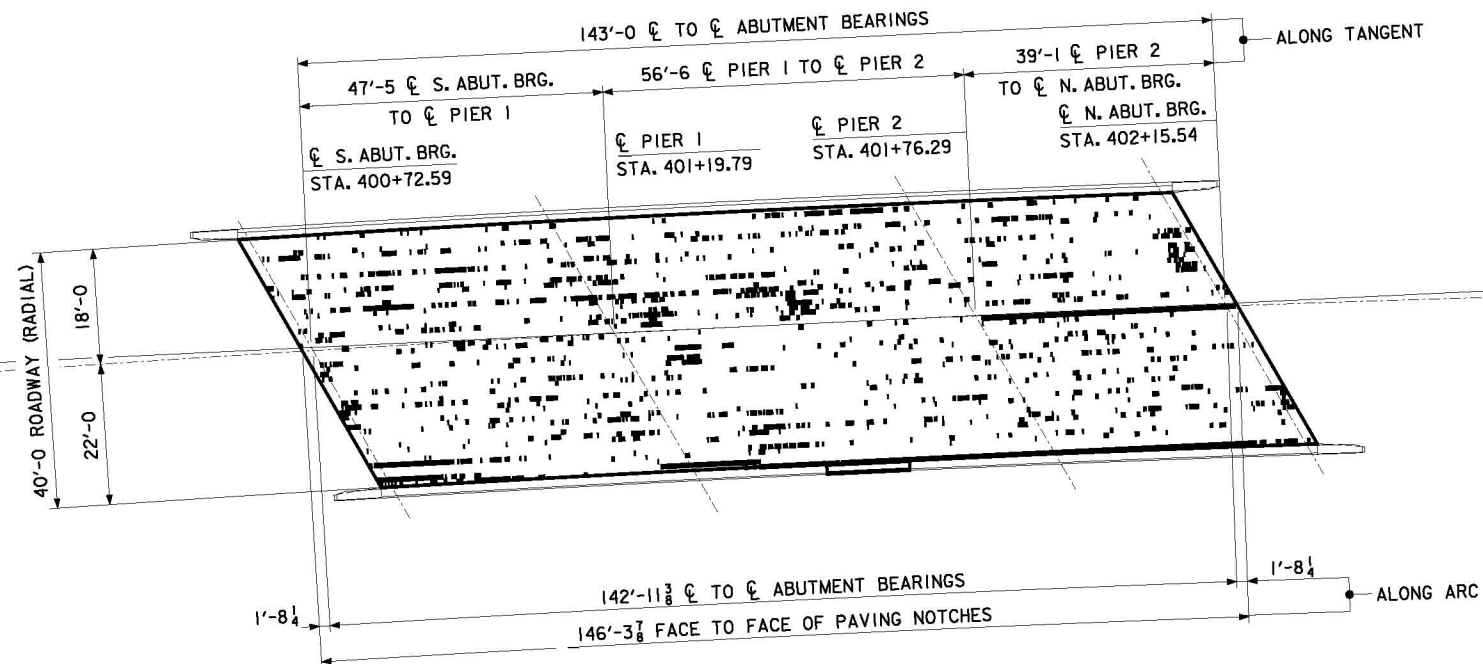
SHEET NUMBER

3



TANGENT AT
STA. 401+48.00

CL N.B.L. 1-35



DELAMTECT LAYOUT

SHADED AREAS = DELAMINATIONS > 400mV = 582.75 SQ. FT.



DESIGN FOR REPAIRS TO 27°14'42" SKEW (RA)
**143'-0" x 40' PRETENSIONED
PRESTRESSED CONCRETE BEAM BRIDGE**
47'-5" & 39'-1" END SPANS 56'-6" INTERIOR SPAN

DELAMTECT LAYOUT

STA. 401+48.00 **CLARKE COUNTY** JANUARY, 2009
IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION
DESIGN SHEET NO. 3 OF 7 FILE NO. 30156 DESIGN NO. 409

DESIGN TEAM SKG / JJO / MAF

CLARKE COUNTY

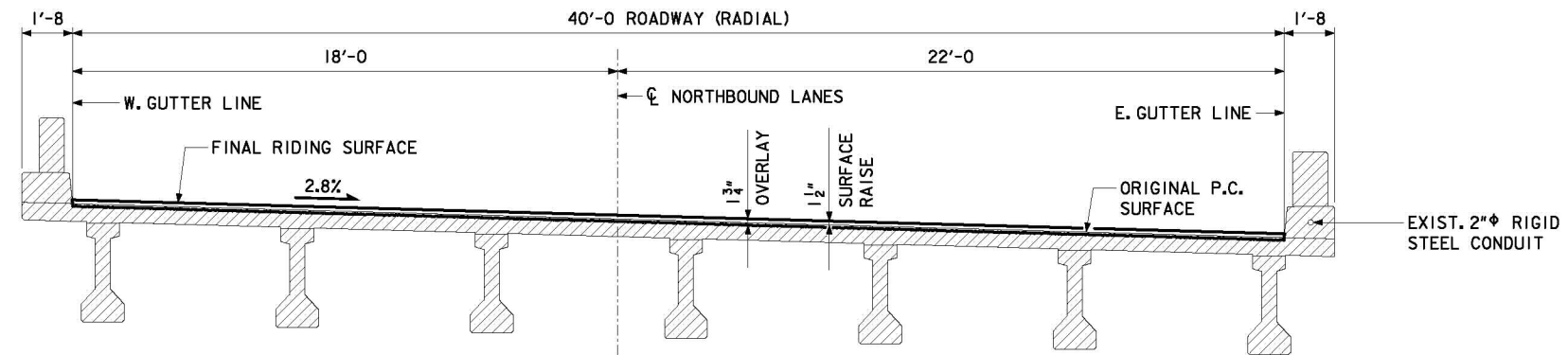
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SHEET NUMBER 4

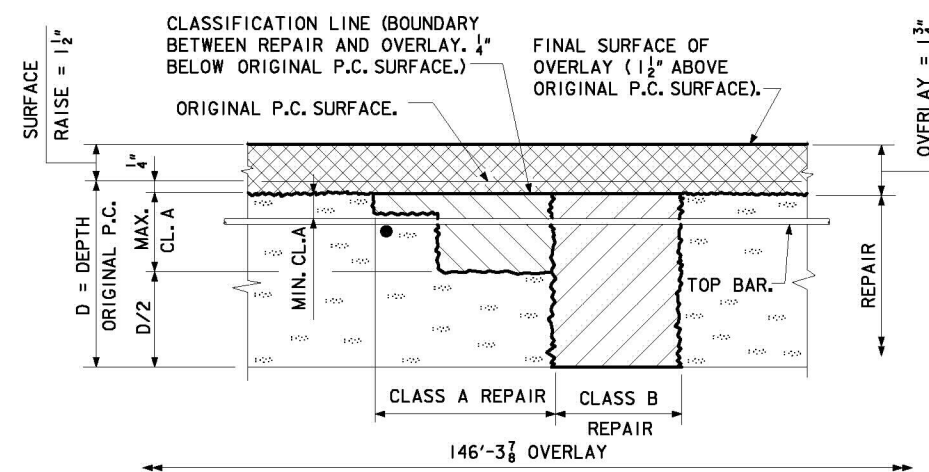
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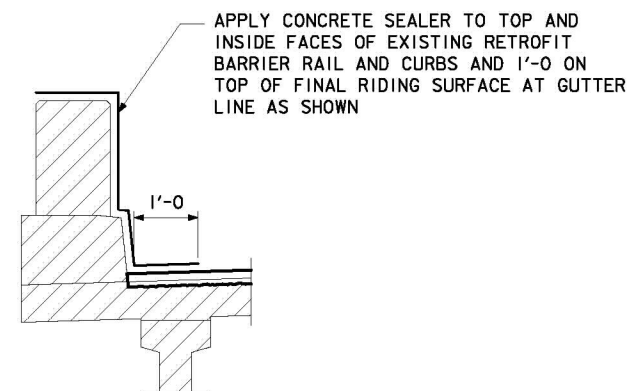
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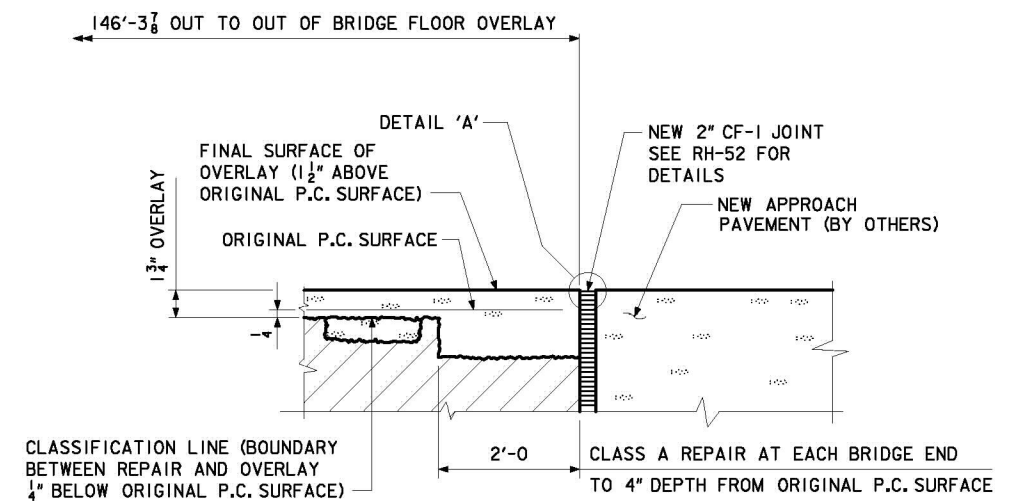
TYPICAL CROSS SECTION
(LOOKING NORTH)
(ALL TRANSVERSE DIMENSIONS ARE RADIAL)



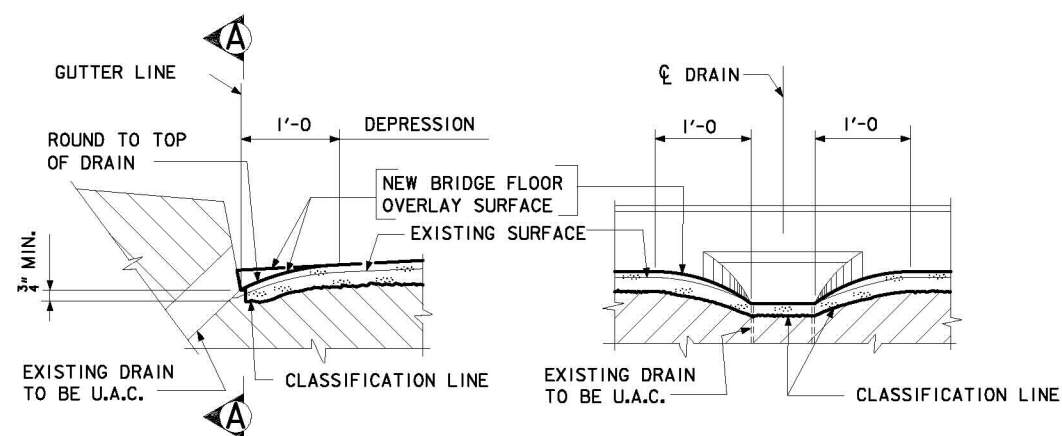
REPAIR AND OVERLAY DEFINITION



CONCRETE SEALER DETAIL

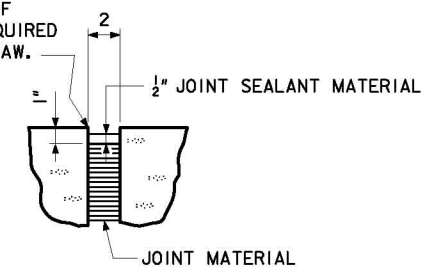


PART LONGITUDINAL SECTION ALONG ROADWAY
(BOTH ABUTMENTS)



SECTION A-A
FLOOR REPAIR DETAIL AT DRAIN
(REQUIRED AT 5 LOCATIONS)

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

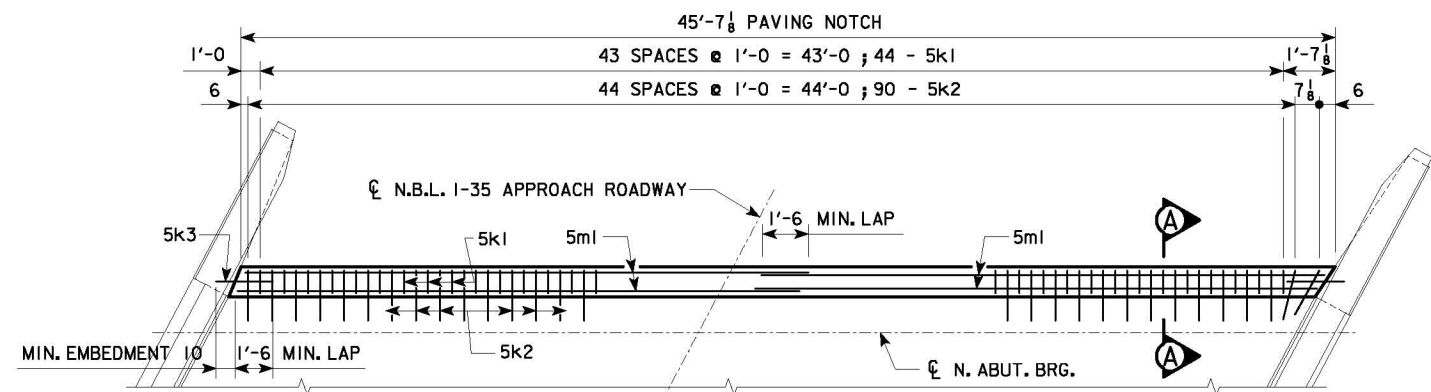


DETAIL 'A'

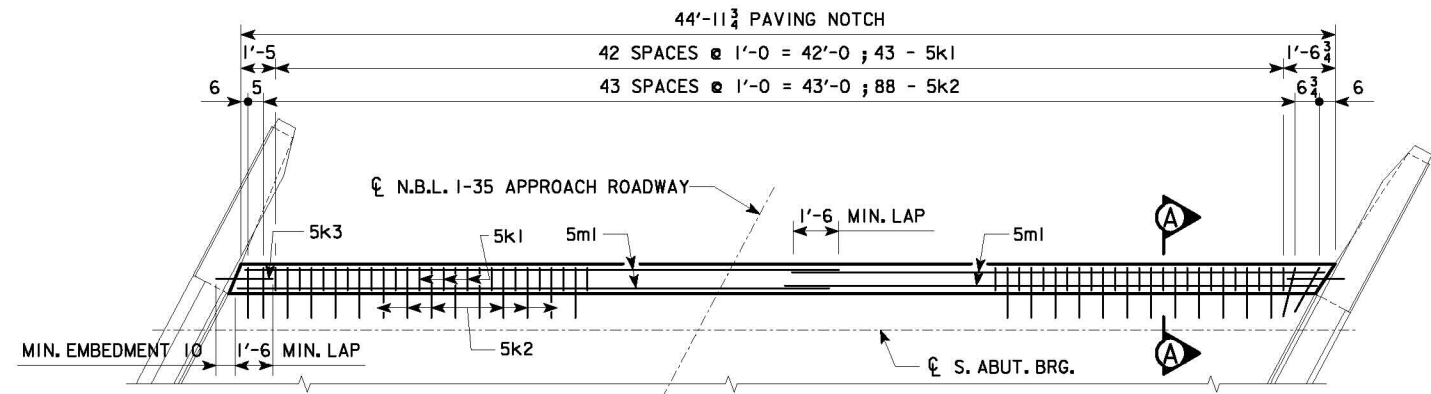


DESIGN FOR REPAIRS TO 27°14'42" SKEW (RA)
**143'-0" x 40' PRETENSIONED
PRESTRESSED CONCRETE BEAM BRIDGE**
47'-5" & 39'-1" END SPANS 56'-6" INTERIOR SPAN
DECK REPAIR DETAILS
STA. 401+48.00 **CLARKE COUNTY** JANUARY, 2009
IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION
DESIGN SHEET NO. 4 OF 7 FILE NO. 30156 DESIGN NO. 409

ENGLISH MISCELLANEOUS BRIDGES.DGN - 1067 - THIS SHEET ISSUED 04-09.



PART PLAN VIEW AT NORTH ABUTMENT



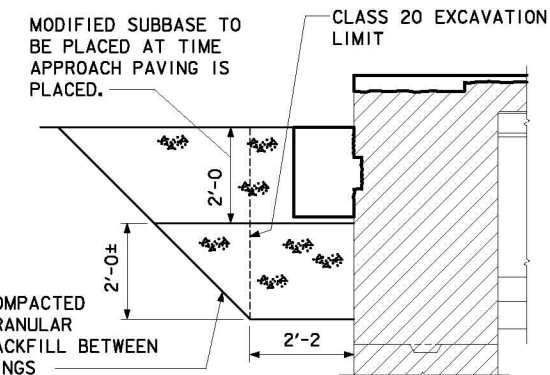
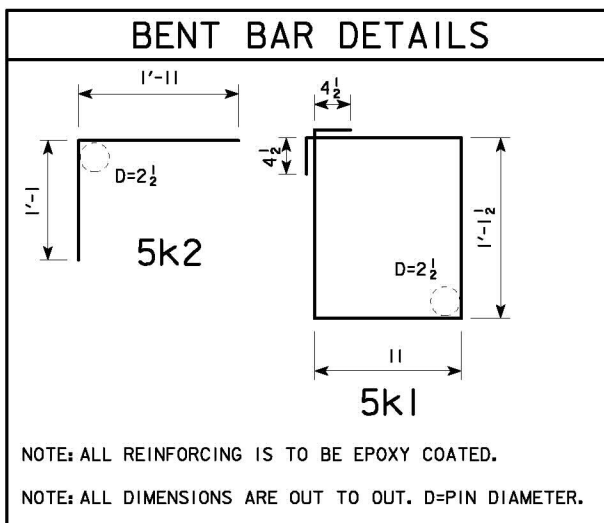
PART PLAN VIEW AT SOUTH ABUTMENT

NOTE: 5k3 BARS SHALL BE SET AS DOWELS EMBEDDED 10 INCHES MINIMUM INTO THE EXISTING BRIDGE WINGWALLS AND EXTENDING A MINIMUM OF 1'-6 INTO THE NEW PAVING NOTCH REPLACEMENT.

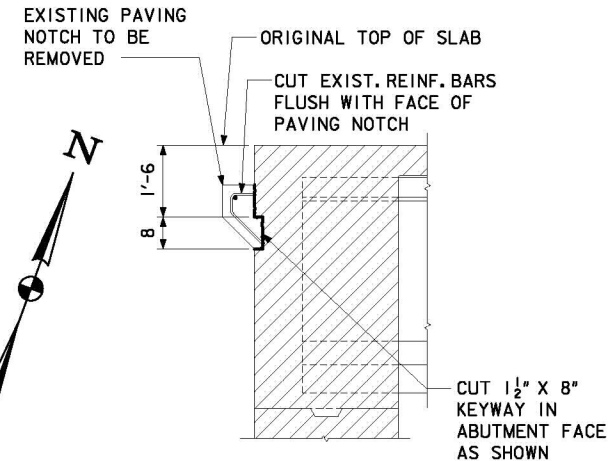
NOTE: NEW PAVING NOTCH REPLACEMENT SHOULD EXTEND FROM BRIDGE WINGWALL TO BRIDGE WINGWALL.

TOP OF NEW APPROACH SLAB

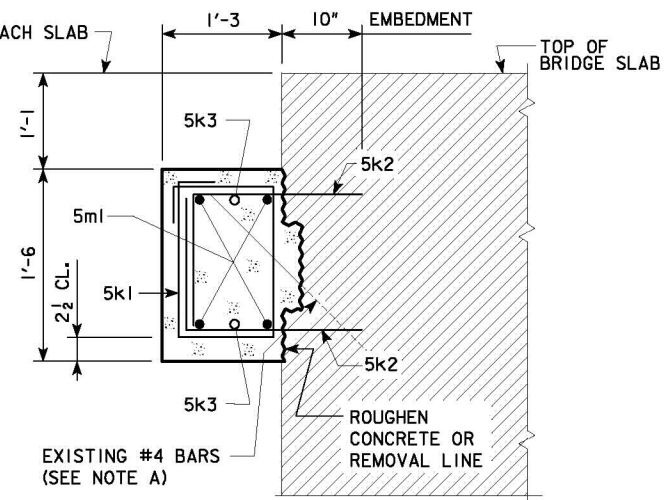
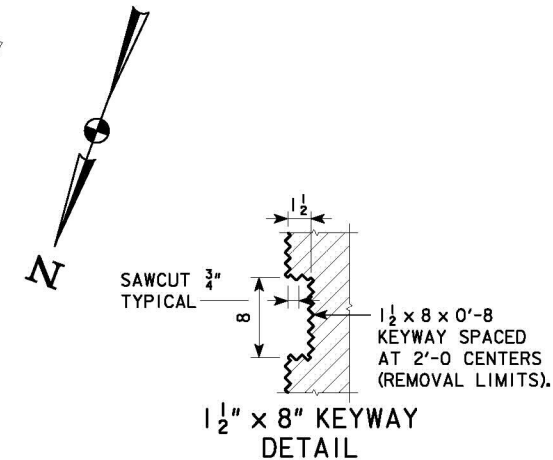
NOTE: 5k2 BARS AT 1'-0 CENTERS ARE TO BE PLACED AT THE TOP & BOTTOM OF THE PAVING NOTCH. THE 5k1 BARS AT 1'-0 CENTERS ARE CENTERED BETWEEN THE 5k2 BARS.



GRANULAR BACKFILL DETAIL



PAVING NOTCH REMOVAL DETAIL



PART SECTION A-A

NOTE: DOWELS SHALL BE PLACED TO MISS ANY EXISTING REINFORCING STEEL EXPOSED DURING REMOVALS.

EPOXY COATED REINFORCING STEEL

BAR	LOCATION	SHAPE	NO.	LENGTH	WEIGHT
5k1	DOWEL, PAVING NOTCH		87	4'-10	439
5k2	DOWEL, PAVING NOTCH		184	3'-0	576
5k3	DOWEL, PAVING NOTCH		8	2'-4	19
5m1	HORIZ., PAVING NOTCH		16	23'-7	394
TOTAL (LBS)					1428

CONCRETE PLACEMENT QUANTITY

LOCATION	TOTAL (CY)
NORTH ABUTMENT PAVING NOTCH	3.2
SOUTH ABUTMENT PAVING NOTCH	3.1
TOTAL (CY)	6.3

PAVING NOTCH REPLACEMENT NOTES:

THE PAVING NOTCH REPLACEMENT IS TO BE CLASS "C" STRUCTURAL CONCRETE.

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

THE BID ITEM "PAVING NOTCH REPLACEMENT" LINEAR FEET, SHALL INCLUDE ALL COSTS OF LABOR AND MATERIALS ASSOCIATED WITH EXCAVATION, REMOVING AND DISPOSING OF THE EXISTING PAVING NOTCH AND INSTALLING THE NEW NOTCH. THIS WORK SHALL INCLUDE, CUTTING OF EXISTING #4 BARS, PAINTING THE ENDS OF THE #4 BARS, REMOVING THE CONCRETE FOR THE SHEAR KEYWAYS, DRILLING THE HOLES FOR THE DEFORMED DOWELS AND CONSTRUCTING THE NEW NOTCH TO THE DIMENSIONS SHOWN. THE NEW NOTCH IS ESTIMATED AT 0.07 CUBIC YARDS PER FOOT OF STRUCTURAL CONCRETE.

REMOVALS SHALL BE IN ACCORDANCE WITH SECTION 2401 OF THE STANDARD SPECIFICATIONS.

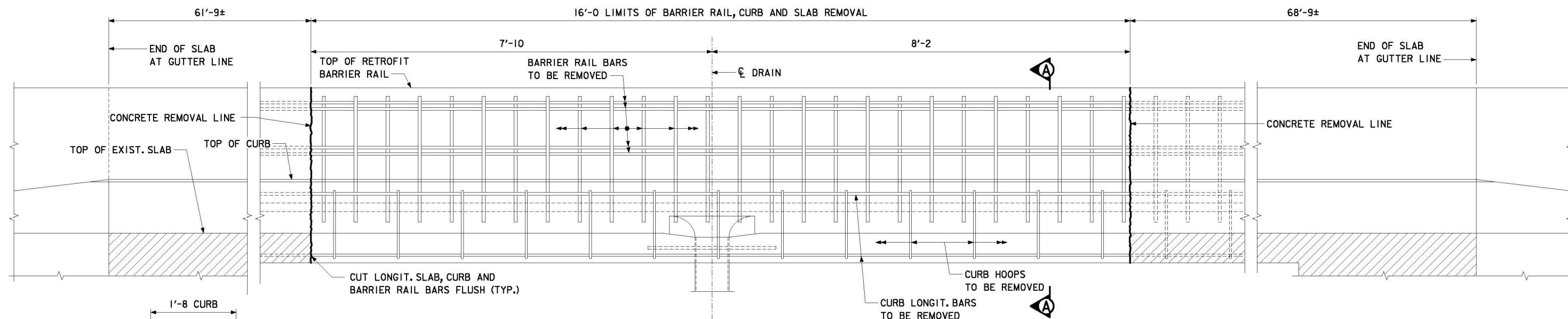
DOWEL SETTING NOTE:

THE DEFORMED 5k2 & 5k3 BARS SHALL BE SET AS DOWELS IN DRILLED HOLES. HOLES ARE TO BE 10" DEEP. A POLYMER GROUT SYSTEM SHALL BE USED TO INSTALL THE DEFORMED DOWEL BARS IN ACCORDANCE WITH STANDARD SPECIFICATIONS ARTICLE 2301.12, CURRENT SUPPLEMENTAL SPECIFICATIONS OF THE IOWA D.O.T. - HIGHWAY DIVISION, AND THE MANUFACTURER'S RECOMMENDATIONS.

NOTE A:

THE BOTTOM PORTION OF THE EXISTING #4 BARS SHALL BE CAREFULLY EXPOSED AND INCORPORATED INTO NEW WORK. THE BAR SHALL BE CUT OFF TO PROVIDE 2 INCHES OF COVER FROM THE TOP OF THE NEW PAVING NOTCH. THE TOP PORTION OF THE BAR SHALL BE CUT OFF FLUSH OR SLIGHTLY BELOW THE CONCRETE SURFACE AND THE ENDS PAINTED WITH 2 COATS OF ZINC RICH PAINT.

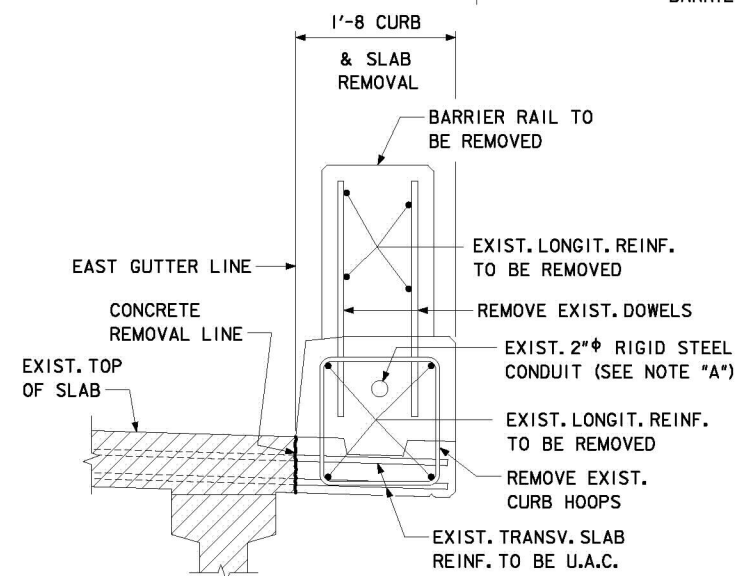
DESIGN FOR REPAIRS TO 27°14'42" SKEW (RA)	
143'-0" x 40' PRETENSIONED	
PRESTRESSED CONCRETE BEAM BRIDGE	
47'-5 & 39'-1 END SPANS	56'-6 INTERIOR SPAN
PAVING NOTCH DETAILS	
STA. 401+48.00	JANUARY, 2009
CLARKE COUNTY	
IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION	
DESIGN SHEET NO. 5 OF 7	FILE NO. 30156 DESIGN NO. 409



PART ELEVATION VIEW OF EAST CURB AT GUTTER LINE SHOWING REMOVAL LIMITS

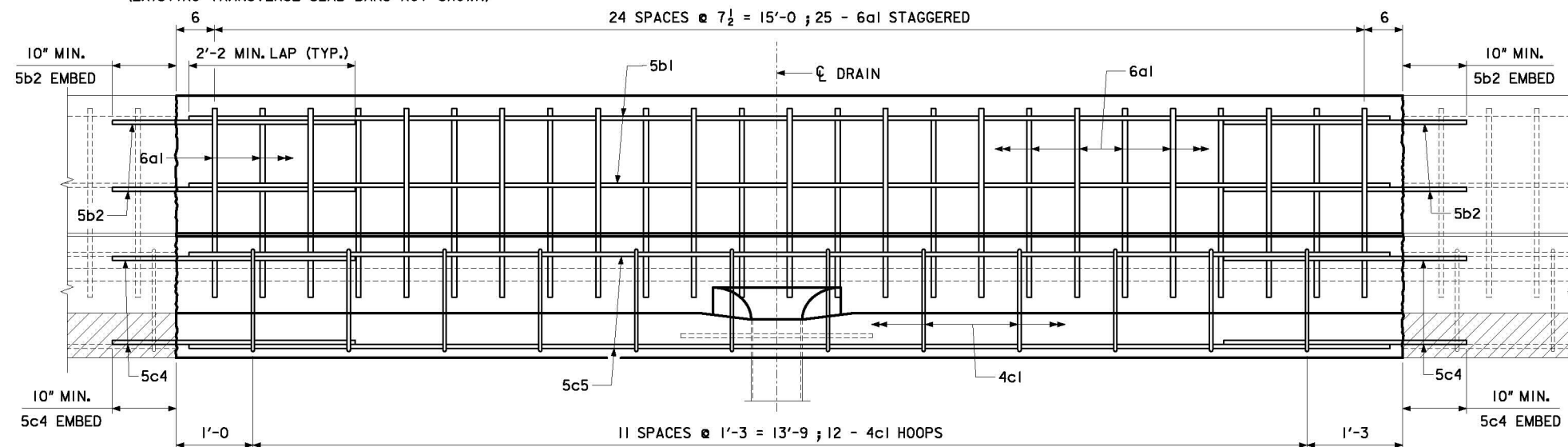
(LOOKING EAST)

(EXISTING TRANSVERSE SLAB BARS NOT SHOWN)



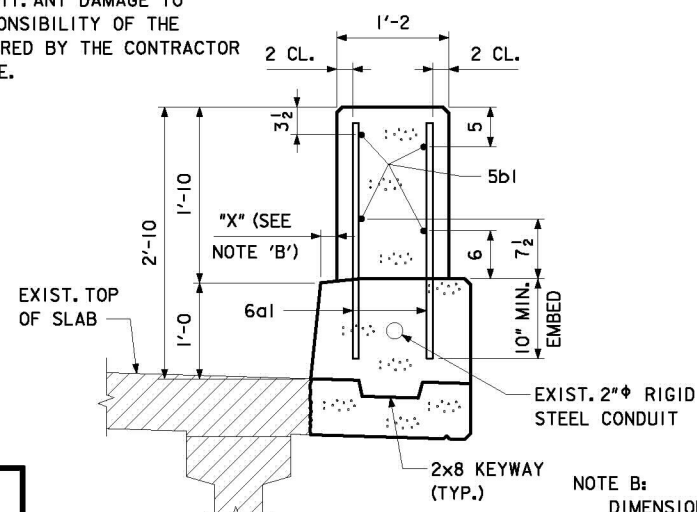
SECTION A-A

NOTE A:
THE CONTRACTOR SHALL EXERCISE CARE IN REMOVING THE EXISTING CURB TO PREVENT DAMAGE TO THE EXISTING 2" RIGID STEEL CONDUIT. ANY DAMAGE TO THE CONDUIT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR AND SHALL BE REPAIRED BY THE CONTRACTOR AT NO EXTRA COST TO THE STATE.



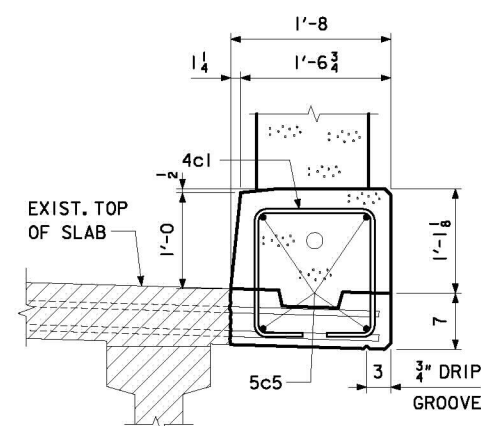
PART ELEVATION VIEW OF EAST CURB AT GUTTER LINE

(EXISTING TRANSVERSE SLAB BARS NOT SHOWN)



TYPICAL SECTION THRU BARRIER RAIL

NOTE B:
DIMENSION "X" SHALL MATCH EXISTING DIMENSION.



TYPICAL CURB SECTION

DOWEL SETTING NOTE:
SEE DESIGN SHEET 7.

DESIGN FOR REPAIRS TO 27°14'42" SKEW (RA)
**143'-0 x 40' PRETENSIONED
PRESTRESSED CONCRETE BEAM BRIDGE**
47'-5 & 39'-1 END SPANS 56'-6 INTERIOR SPAN
EAST CURB REPAIR DETAILS
STA. 401+48.00 **CLARKE COUNTY** JANUARY, 2009
IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION
DESIGN SHEET NO. 6 OF 7 FILE NO. 30156 DESIGN NO. 409



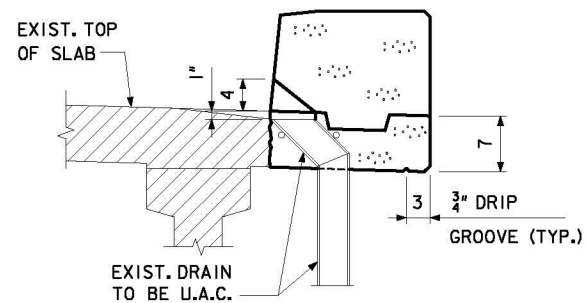
DESIGN TEAM SKG / JJO / MAF

CLARKE COUNTY

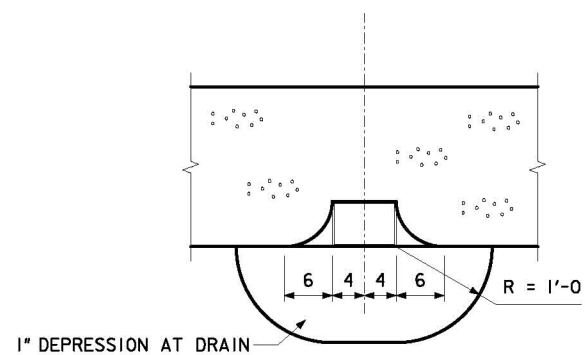
PROJECT NUMBER IMN-035-1(120)32--0E-20

SHEET NUMBER

7



CURB SECTION AT DRAIN
(EXISTING TRANSVERSE SLAB BARS NOT SHOWN)



PART PLAN AT DRAIN

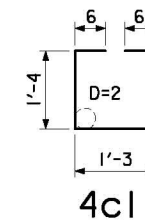
EPOXY COATED REINFORCING STEEL

BAR	LOCATION	SHAPE	NO.	LENGTH	WEIGHT
6a1	VERT., BARRIER RAIL	—	25	2'-6	94
5b1	LONGIT., BARRIER RAIL	—	4	15'-8	65
5b2	HORIZ. DOWEL, BARRIER RAIL	—	8	3'-2	26
4c1	VERT., CURB HOOPS	□	12	4'-11	39
5c4	HORIZ. DOWEL, CURB	—	8	3'-2	26
5c5	LONGIT., CURB	—	4	15'-8	65
				TOTAL (LBS)	315

CONCRETE PLACEMENT SUMMARY

SECTION	TOTAL (CY)
BARRIER RAIL SECTION	1.3
EAST CURB SECTION	1.0
SLAB SECTION AT EAST GUTTER LINE	0.6
TOTAL (CY)	2.9

BENT BAR DETAILS



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

DOWEL SETTING NOTE:

THE 5b2 & 5c4 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.

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(120)32--OE-20
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SHEET NUMBER	8
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4/21/2009

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DESIGN FOR REPAIRS TO 27°14'42" SKEW (RA)
143'-0 x 40' PRETENSIONED
PRESTRESSED CONCRETE BEAM BRIDGE
47'-5 & 39'-1 END SPANS 56'-6 INTERIOR SPAN
CURB REPAIR DETAILS
STA. 401+48.00 JANUARY, 2009
CLARKE COUNTY
IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION
DESIGN SHEET NO. 7 OF 7 FILE NO. 30156 DESIGN NO. 409