

FRANKLIN/CERRO GORDO/WORTH CO. BRIDGE APPROACH REPAIR

LETTING DATE
OCT. 21, 2014

IMN-035-6(119)172--OE-35



Highway Division

PLANS OF PROPOSED IMPROVEMENT ON THE

INTERSTATE ROAD SYSTEM
FRANKLIN/CERRO GORDO/WORTH COUNTY
BRIDGE APPROACH REPAIR

On I-35 at various locations from Franklin County Road C-23
north to Worth County Road A-27.

SCALES: As Noted

Refer to the Proposal Form for list of applicable specifications.

Value Engineering Saves. Refer to Article 1105.15 of the Specifications.

NO MILEAGE SUMMARY



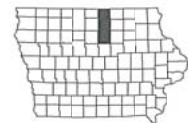
REVISIONS

TOTAL	10
PROJECT IDENTIFICATION NUMBER	
98-99-035-010	
PROJECT NUMBER	
IMN-035-6(119)172--OE-35	
R.O.W. PROJECT NUMBER	

INDEX OF SHEETS

No.	DESCRIPTION
A Sheets	Title Sheets
A.1 - 2	Title Sheet and Location Map
B Sheets	Typical Cross Sections and Details
B.1	Typical Cross Sections and Details
C Sheets	Quantities and General Information
C.1 - 5	Estimate of Quantities and General Information
D Sheets	Mainline Plan and Profile Sheets
* D.1	Plan & Profile Legend & Symbol Information Sheet
V Sheets	Bridge and Culvert Situation Plans
V.1	Bridge and Culvert Situation Plans

For Project Location Map
Refer to Sheet A.2



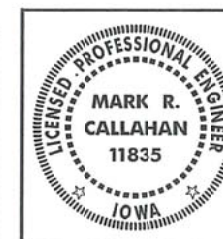
I-35 Franklin County					
DESIGN DATA RURAL					
2012	AADT	14700	V.P.D.		
20--	AADT	--	V.P.D.		
20--	DHV	--	V.P.H.		
TRUCKS		25	%		
Total					
Design ESALs		--			

I-35 Cerro Gordo County					
DESIGN DATA RURAL					
2012	AADT	18500	V.P.D.		
20--	AADT	--	V.P.D.		
20--	DHV	--	V.P.H.		
TRUCKS		31	%		
Total					
Design ESALs		--			

I-35 Worth County					
DESIGN DATA RURAL					
2012	AADT	18400	V.P.D.		
20--	AADT	--	V.P.D.		
20--	DHV	--	V.P.H.		
TRUCKS		29	%		
Total					
Design ESALs		--			

INDEX OF SEALS

SHEET NO.	NAME	TYPE
A.1	Mark R. Callahan	Primary Signature Block
V.1	James S. Nelson	Primary Signature Block



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 licensed Professional Engineers under the laws of the State of Iowa.

Signature: *Mark Callahan* Date: 8-7-14

MARK R. CALLAHAN

My license renewal date is December 31, 2015

Pages or sheets covered by this seal: A.1-A.2, B.1, C.1-C.5, D.1, V.1

REVISED 12-13 - CONSTRUCTION SPECIFICATIONS DATE WAS CHANGED TO 2012. CONCRETE STRENGTH WAS CHANGED TO 4.0 KSI. FHWA NO. ENTRY WAS ADDED TO THE LOCATION INFORMATION.
ENGLISH\MISC\BRIDGES\BRIDGES.DGN - 1068 - THIS SHEET ISSUED 04-09.

ESTIMATED BRIDGE QUANTITIES

ITEM NO.	ITEM CODE	ITEM	UNIT	TOTAL	AS BUILT QUAN.
1	2499-0800000	PAVING NOTCH REPLACEMENT	LF	41.9	

ESTIMATE REFERENCE INFORMATION

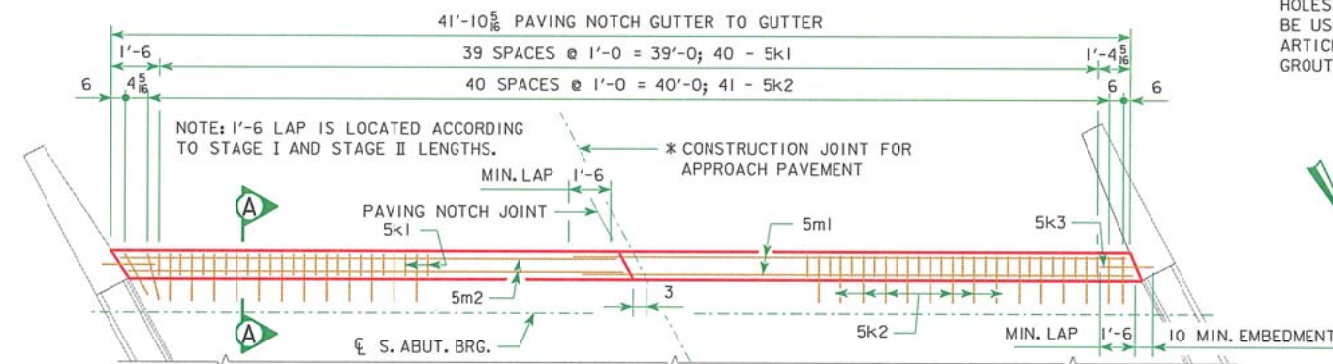
ITEM NO.	ITEM CODE	DESCRIPTION
1	2499-0800000	PAVING NOTCH REPLACEMENT INCLUDES 2.9 CY OF STRUCTURAL CONCRETE CLASS C, 670 LBS OF EPOXY-COATED REINFORCING STEEL, EXCAVATION, REMOVING AND DISPOSING OF THE EXISTING PAVING NOTCH AND CONCRETE REMOVED TO FORM THE SHEAR KEYWAYS, DRILLING HOLES FOR DOWEL BARS, AND POLYMER GROUT MATERIAL.

* CONSTRUCTION JOINT FOR NOTCH REPAIR
TO EXTEND A MINIMUM OF 3 INCHES PAST
CONSTRUCTION JOINT FOR PAVEMENT. PROVIDE
1'-6" MINIMUM LAP FOR REINFORCEMENT

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 ARTICLE 2301.03, E, OF THE STANDARD SPECIFICATIONS, AND THE GROUT MANUFACTURER'S RECOMMENDATIONS.

NOTE:
USE RK-20 APPROACH PAVEMENT STANDARD
FOR MOVEABLE ABUTMENT.



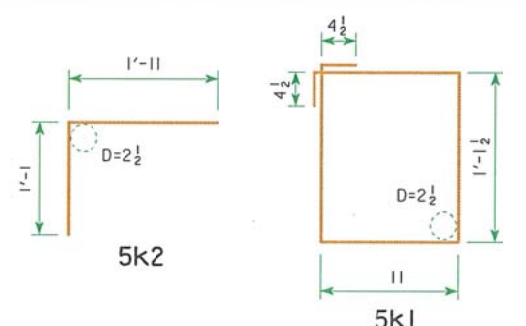
NOTE: 5k3 BARS SHALL BE SET AS DOWELS EMBEDDED 10 INCHES MINIMUM INTO THE EXISTING BRIDGE WINGWALLS AND EXTENDING A MINIMUM OF 1'-6\"/>

PART PLAN VIEW AT SOUTH ABUTMENT

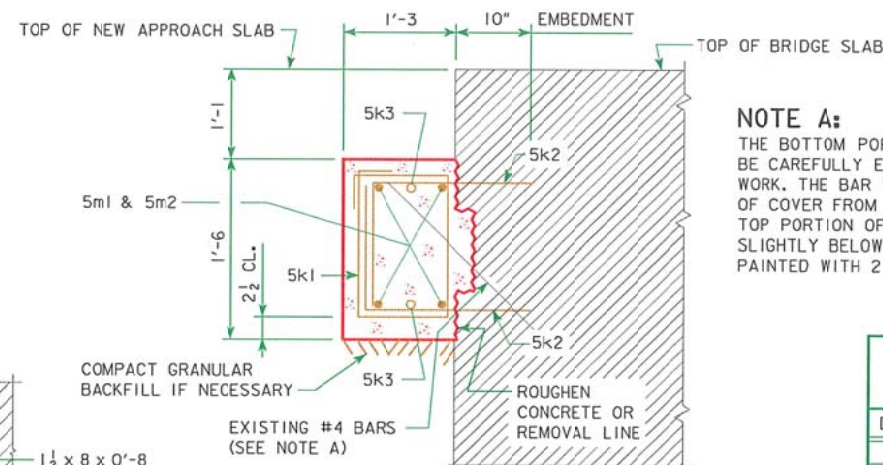
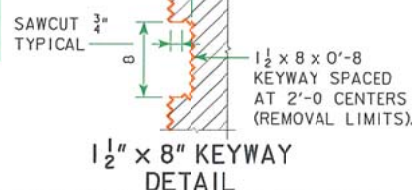
NOTE:
NEW PAVING NOTCH REPLACEMENT SHOULD EXTEND FROM BRIDGE WINGWALL TO BRIDGE WINGWALL.

NOTE: 5k2 BARS AT 1'-0\"/>

BENT BAR DETAILS



NOTE: ALL REINFORCING IS TO BE EPOXY COATED.
NOTE: ALL DIMENSIONS ARE OUT TO OUT. D=PIN DIAMETER.



PART SECTION A-A

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

LOCATION

N. BOUND I-35 OVER LOCAL ROAD
T-96N R-21W
SECTIONS 29 & 20
LAKE TOWNSHIP
CERRO GORDO COUNTY
FHWA NO. 602340
BRIDGE MAINT. NO. 1791.7R035
LATITUDE 43.111959°
LONGITUDE -93.350846°

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 HISTORY AT THIS SITE

DES. NO.	TYPE OF WORK
2169	ORIGINAL DESIGN
576	OVERLAY
403	RETROFIT RAIL
115	PAVING NOTCH REPAIR

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 B/D 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 AND 16.0 POUNDS OF EPOXY COATED REINFORCING STEEL PER FOOT.

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

THESE BRIDGE PLANS LABEL ALL REINFORCING STEEL WITH ENGLISH NOTATION (5k1 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:

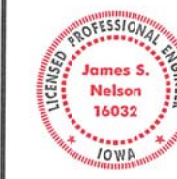
DESIGN: AASHTO SERIES OF 2002.

CONSTRUCTION: IOWA DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR HIGHWAY AND BRIDGE CONSTRUCTION, SERIES 2012, 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. REINFORCING STEEL IN ACCORDANCE WITH SECTION 8, GRADE 60. CONCRETE IN ACCORDANCE WITH SECTION 8, f'c = 4.0 KSI.

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.

Signature: *James S. Nelson* Date: 7-18-2014
Printed or Typed Name: James S. Nelson

My license renewal date is December 31, 2015.

Pages or sheets covered by this seal: V.I

DESIGN FOR REPAIRS TO A 17°08' SKEW (L.A.)
151'-4" x 40' PRETENSIONED PRESTRESSED
CONCRETE BEAM BRIDGE

47'-5" END SPANS 56'-6" INTERIOR SPAN

PAVING NOTCH REPLACEMENT DETAILS

STATION: 755+24.20 & 1-35 AUGUST, 2014

CERRO GORDO COUNTY

IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION
DESIGN SHEET NO. 1 OF 1 FILE NO. 31100 DESIGN NO. 115

DESIGN TEAM DAW/JSN

PAVING NOTCH REPLACEMENT

STANDARD SHEET 1068

FRANKLIN (CERRO GORDO) COUNTY

PROJECT NUMBER IMN-035-6(119)172--OE-35

SHEET NUMBER V.I

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