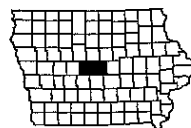


MILEAGE SUMMARY			
		105-1	09-27-94
Div.	Location	Lin. Ft.	Miles
1	Boone County Sta. 1247+15.78 to Sta. 1465+47.95	21832.17	
	Equation: Sta. 1250+15.77 (Bck) = Sta. 1250+17.43 (Ahd) - Shortens Line	1.66	
	Equation: Sta. 1276+62.15 (Bck) = Sta. 1276+60.65 (Ahd) - Lengthens Line	1.50	
	Equation: Sta. 1306+96.70 (Bck) = Sta. 1307+00.00 (Ahd) - Shortens Line	3.30	
	Equation: Sta. 1326+60.78 (Bck) = Sta. 1326+60.82 (Ahd) - Shortens Line	0.04	
	Equation: Sta. 1356+22.96 (Bck) = Sta. 1356+20.84 (Ahd) - Lengthens Line	2.12	
	Equation: Sta. 1390+11.36 (Bck) = Sta. 1390+27.38 (Ahd) - Shortens Line	16.02	
	Equation: Sta. 1408+04.08 (Bck) = Sta. 1408+03.80 (Ahd) - Lengthens Line	0.28	
	Story County Sta. 1465+47.95 to Sta. 1547+66.17	8218.22	
	Equation: Sta. 1547+66.17 (Bck) = Sta. 1090+73.64 (Ahd)		
2	Sta. 1090+73.64 to Sta. 1095+00.00 Sta. 1324+40 to Sta. 1378+50	426.36 5410.00	
	Net Length of Division 1	35869.63	6.794
	Story County - City of Ames Sta. 1095+00.00 to Sta. 1324+40	22940.00	
	Equation: Sta. 1176+00.94 (Bck) = Sta. 1175+73.79 (Ahd) - Lengthens Line	27.15	
	Omit Bridge at Sta. 1178+83.78 Omit Bridge at Sta. 1199+53.89 Omit Bridge at Sta. 1258+98.85 Omit Bridge at Sta. 1301+20.00	191.02 218.92 214.09 324.79	
	Net Length of Division 2	22018.33	4.170
	Total Length of Project	57887.96	10.964



Iowa Department of Transportation Highway Division

PLANS OF PROPOSED IMPROVEMENT ON THE

PRIMARY ROAD SYSTEM BOONE/STORY COUNTY HMA PAVED SHOULDER - NEW

On US 30 from two miles east of IA 17 east to I-35 Interchange

SCALES: As Noted

The Iowa Department of Transportation Standard Specifications for Highway and Bridge Construction, series 2001, plus General Supplemental Specifications; and applicable Supplemental Specifications, Developmental Specifications, and Special Provisions, shall apply to construction on this project.

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

For Project Location Map
Refer to Sheet No. A.02



BOONE COUNTY				STORY COUNTY			
04-30-02	101-4	04-30-02	101-4	04-30-02	101-4	04-30-02	101-4
DESIGN DATA RURAL				DESIGN DATA RURAL			
2002 AADT	12500	V.P.D.		2002 AADT	26000	V.P.D.	
20 AADT	--	V.P.D.		20 AADT	--	V.P.D.	
20 DHV	--	V.P.H.		20 DHV	--	V.P.H.	
TRUCKS	8	%		TRUCKS	7	%	
Total Design ESALs	1,000,000			Total Design ESALs	1,000,000		

INDEX OF SEALS		
SHEET NO.	NAME	TYPE
A.01	Tony J. Gustafson	Primary Signature Block
V.01	William D. Tucker	Structural Design

	I hereby certify that this plan 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	10/3/05
	Printed or Typed Name Tony J. Gustafson	
	My license renewal date is December 31, 20 05.	
Pages or sheets covered by this seal: A.01-A.02, B.01-B.02, C.01-C.06, D.01-D.02, K.01-K.09, U.01-U.05		

REVISIONS		TOTAL
		30
PROJECT IDENTIFICATION NUMBER		
05-08-030-010		
PROJECT NUMBER		
HES-30-4(72)--2H-08		
R.O.W. PROJECT NUMBER		
N/A		

INDEX OF SHEETS		105-3	07-21-87
NO.	DESCRIPTION		
A.01	Title Sheet		
A.02	Project Location Map		
B.01-B.02	Typical Cross Sections		
C.01-C.06	Estimate of Quantities and General Information		
D.01-D.02	Shoulder Details at Paved Median Crossovers		
K.01-K.09	Shoulder Details at Interchanges		
U.01	Modified RE-12A Formed Steel Beam Guardrail Details		
U.02	(Fleet-MT) Beam Guardrail Terminal		
U.03-U.04	Beveled Pipe and Guard Details		
U.05	Modified RL-12 Special Shaping at Dual Bridges		
V.01-V.04	Bridge End Section Details		

STANDARD ROAD PLANS						105-4	12-03-96
The following Standard Road Plans shall be considered applicable to construction work on this project.							
Number	Date	Number	Date	Number	Date		
RC-16A	04-20-04	RE-55A	10-29-02	RL-12	10-19-04		
RC-16B	04-20-04	RE-56	10-19-04	RL-14A(1)	04-19-05		
RE-2A	01-12-99	RE-64A	04-19-05	RL-14A(2)	10-18-05		
RE-7	04-15-03	RE-64B	04-19-05	RS-61	10-27-98		
RE-12A	10-19-04	RE-68	10-19-04	RS-62	01-12-99		
RE-12B	10-19-04	RE-69B	10-19-04	RS-63A	10-18-05		
RE-33A	10-21-03	RE-76	04-19-05	RS-63B	10-18-05		
RE-47	10-19-04	RE-80(1)	10-18-05	RS-65A	04-30-96		
RE-48A	10-19-04	RE-80(2)	10-18-05	RS-65B	09-21-99		
RE-48B	04-03-01	RF-5	10-03-00				

RETROFIT BARRIER RAILING NOTES:

IT IS THE INTENT OF THIS DESIGN TO CONSTRUCT 6 RETROFIT BARRIER RAIL END SECTIONS ON THE EXISTING DUAL 320'-0 x 30' CONTINUOUS WELDED GIRDER BRIDGES, OVER THE SKUNK RIVER ON US30, STATION, 1301+20.00 (☞ US 30).

COPIES OF ORIGINAL DESIGN PLANS WILL BE MADE AVAILABLE TO THE CONTRACTOR. CONTACT THE OFFICE OF CONTRACTS - HIGHWAY DIVISION - IOWA D.O.T. - AMES. DIMENSIONS SHOWN ON THESE PLANS ARE BASED ON DESIGN PLANS (ORIGINAL DESIGN NO. 3261).

ALL DIMENSIONS AND DETAILS SHOWN IN THESE PLANS PERTINENT TO NEW CONSTRUCTION IN RELATION TO EXISTING PORTIONS OF THE STRUCTURE SHALL BE VERIFIED IN THE FIELD BY THE BRIDGE CONTRACTOR BEFORE STARTING CONSTRUCTION.

FAINT LINES ON PLANS INDICATE EXISTING PORTIONS OF THE BRIDGE.

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 CONSTRUCTION STARTING DATE.

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.

ALL RETROFIT BARRIER RAIL CONCRETE IS TO BE CLASS D.

ALL REINFORCING STEEL IS TO BE GRADE 60 AND EPOXY COATED.

ANY REMOVALS REQUIRED SHALL BE IN ACCORDANCE WITH SECTION 2401 OF THE STANDARD SPECIFICATIONS. ANY DAMAGE TO OTHER PORTIONS OF THE EXISTING STRUCTURE NOT NOTED FOR REMOVAL SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR AND SHALL BE REPAIRED BY THE CONTRACTOR AT NO COST TO THE STATE.

EXISTING BRIDGE RAIL END IS NOT TO BE REMOVED UNTIL AUTHORIZED BY THE ENGINEER.

THE BID ITEM "REMOVAL OF EXISTING HANDRAIL AND END POST" SHALL INCLUDE ALL COSTS ASSOCIATED WITH DISMANTLING THE EXISTING STEEL HANDRAIL (APPROXIMATELY 1263.5 L.F. AND 136 POSTS). THE HANDRAILS ARE TO BECOME THE PROPERTY OF THE CONTRACTOR.

DOWEL SETTING NOTE :

THE 6c 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 :

- A. EPOXY GROUT SYSTEM IN ACCORDANCE WITH STANDARD SPECIFICATIONS ARTICLE 2301.12 AND CURRENT SUPPLEMENTAL SPECIFICATIONS OF THE IOWA D.O.T.HIGHWAY DIVISION.
- B. 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.

SPECIFICATIONS:

DESIGN: AASHTO SERIES OF 1996.

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:

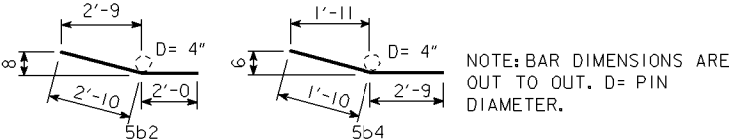
DESIGN STRESSES FOR THE FOLLOWING MATERIALS ARE IN ACCORDANCE WITH THE AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES, SERIES OF 1996. REINFORCING STEEL IN ACCORDANCE WITH SECTION 8, GRADE 60. CONCRETE IN ACCORDANCE WITH SECTION 8, f'c = 3,500 PSI.

NOTE: ON THE EASTBOUND BRIDGE THE SOUTHEAST CORNER IS NOT TO RECEIVE A NEW END SECTION. ON THE WESTBOUND BRIDGE THE NORTHWEST CORNER IS NOT TO RECEIVE A NEW END SECTION.

EPOXY REINFORCING STEEL- 6 END SECTIONS

BAR	LOCATION	SHAPE	NO.	LENGTH	WEIGHT
6a1	END SECTION, FTG., VERT.		18	4'-3	115
6a2	END SECTION, FTG., VERT.		78	6'-2	723
6a3	END SECTION & RAIL, VERT.		12	3'-6	63
6a4	TRANSITION SECTION, VERT.		24	1'-7	57
5b1	END SECTION, FTG., HORIZ.		24	4'-11	123
5b2	END SECTION, FTG., HORIZ.		24	4'-10	121
5b3	END SECTION, RAIL, HORIZ.		24	4'-8	117
5b4	END SECTION, RAIL, HORIZ.		24	4'-7	115
5b5	TRANSITION RAIL, LONGIT.		24	4'-0	100
6c1	TRANSITION SECTION, VERT.		18	2'-7	70
TOTAL (LBS.)					1604

BENT BAR DETAILS



ESTIMATED QUANTITIES - 6 END SECTIONS

ITEM NO.	ITEM CODE	ITEM	UNIT	TOTAL	AS BUILT QUANTITY
1	2401-6745636	REMOVAL OF EXISTING HANDRAILS AND ENDPOSTS	LS	1	
2	2401-6750001	REMOVALS AS PER PLAN	LS	1	
3	2403-0100000	STRUCTURAL CONCRETE (MISCELLANEOUS)	CY	11.4	
4	2404-7775005	REINFORCING STEEL, EPOXY COATED	LB	1604	

ITEM NO.

ESTIMATE REFERENCE INFORMATION

2

INCLUDES ALL PREFORMED EXPANSION JOINT FILLER REQUIRED. INCLUDES FURNISHING AND INSTALLING 1" DIA. PLASTIC CONDUIT.

LOCATION:

U.S. #30
OVER THE SKUNK RIVER
T-83 N R-24 W
SECTION 13
WASHINGTON TOWNSHIP
STORY COUNTY
MAINTENANCE NO. 8550.2R030 (EB)
MAINTENANCE NO. 8550.2L030 (WB)
FHWA NO. 048730 (EB)
FHWA NO. 048740 (WB)

CONCRETE PLACEMENT SUMMARY

SECTION	TOTAL
END SECTIONS 6 AT 1.9 CU. YDS. PER SECTION	11.4
TOTAL (CU. YDS.)	11.4

DESIGN HISTORY AT THIS SITE

DES. NO.	TYPE OF WORK
3061	ORIGINAL DESIGN
781	BRIDGE REPAIRS
684	OVERLAY & RETROFIT RAIL

DESIGN FOR REPAIRS TO A 20° SKEW (R.A.)
DUAL 320'-0x30' CONTINUOUS WELDED GIRDER BRIDGES

97'-6 END SPANS 125'-0 INTERIOR SPAN

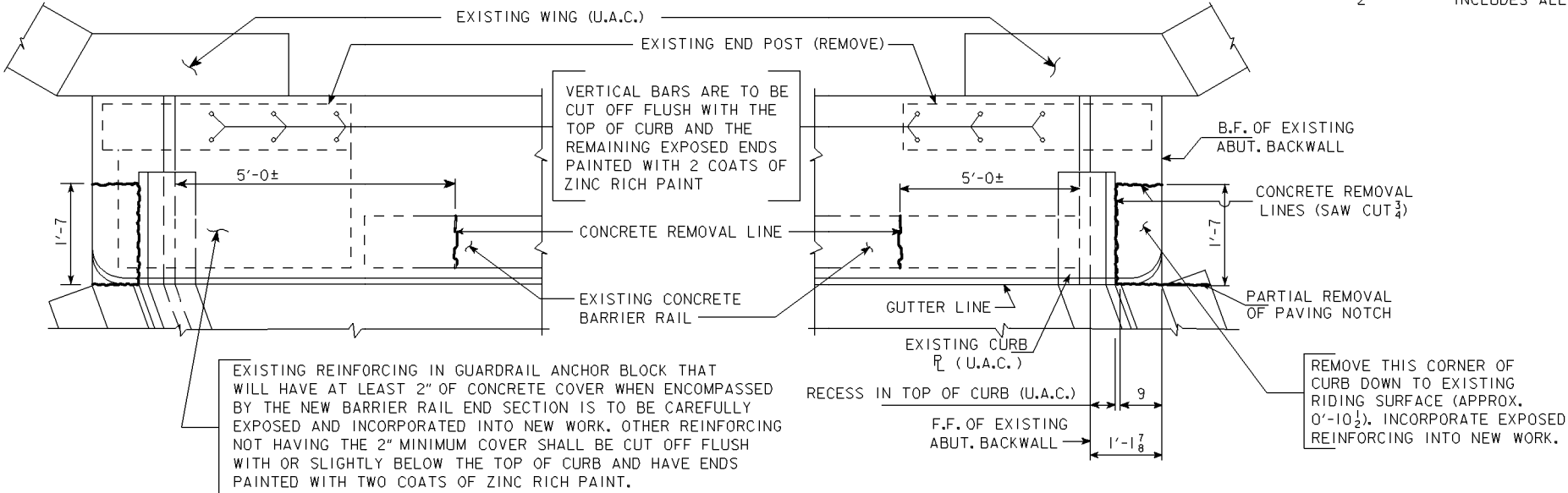
QUANTITIES & GENERAL NOTES

STATION: 1301+20.00

DECEMBER, 2005

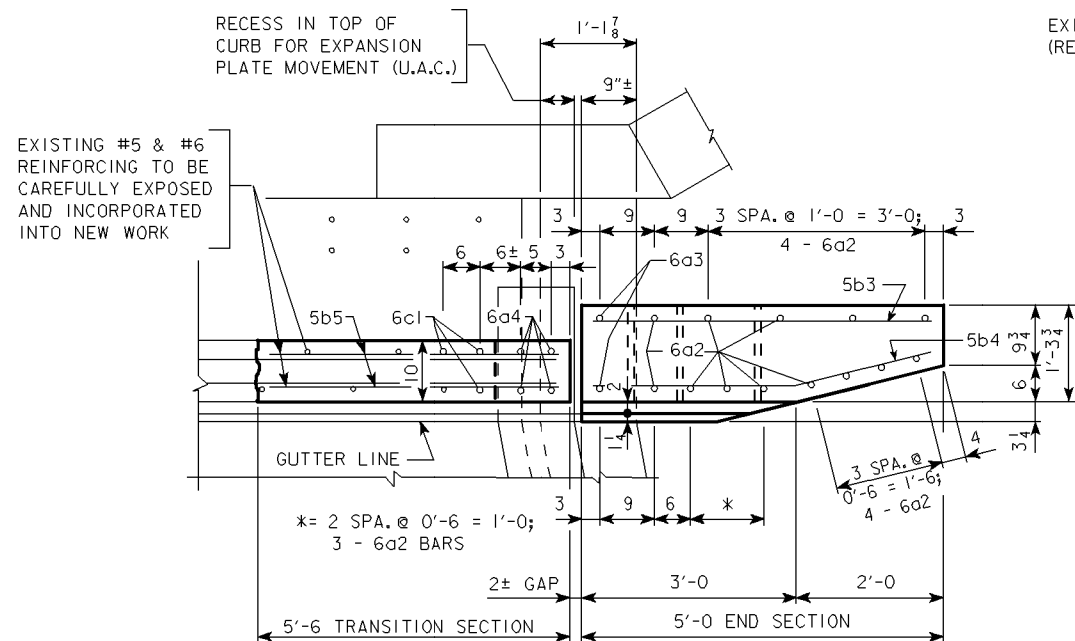
STORY COUNTY

IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION
DESIGN SHEET NO. 1 OF 2 FILE NO. 30102 DESIGN NO. 405

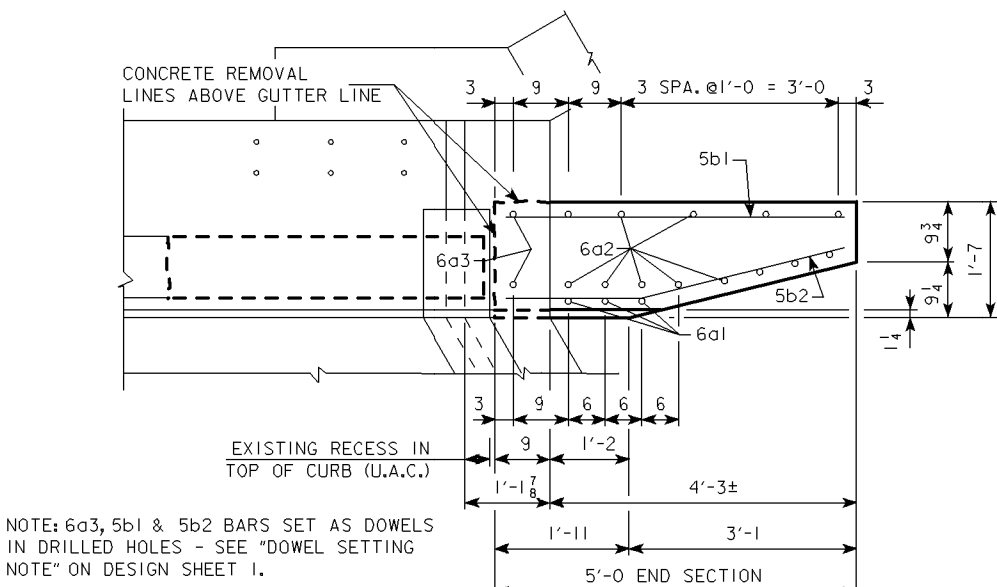


PART PLAN VIEW AT CORNERS OF BRIDGE

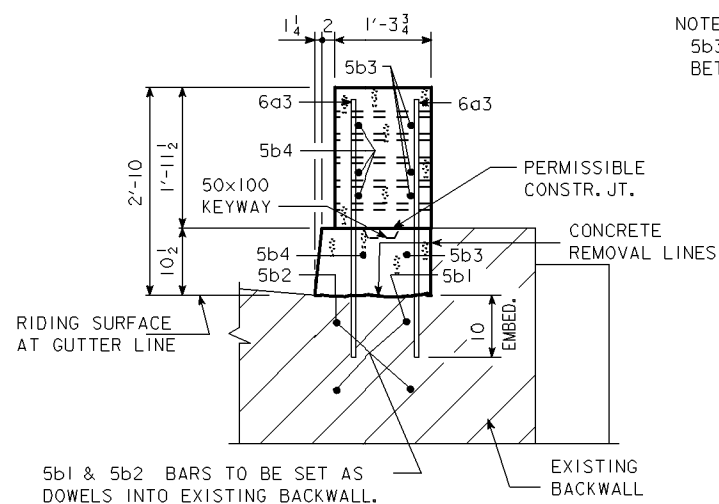
(SHOWING PLAN VIEW OF EXISTING CONDITIONS AND REMOVAL DETAILS FOR CONCRETE BARRIER RAIL)



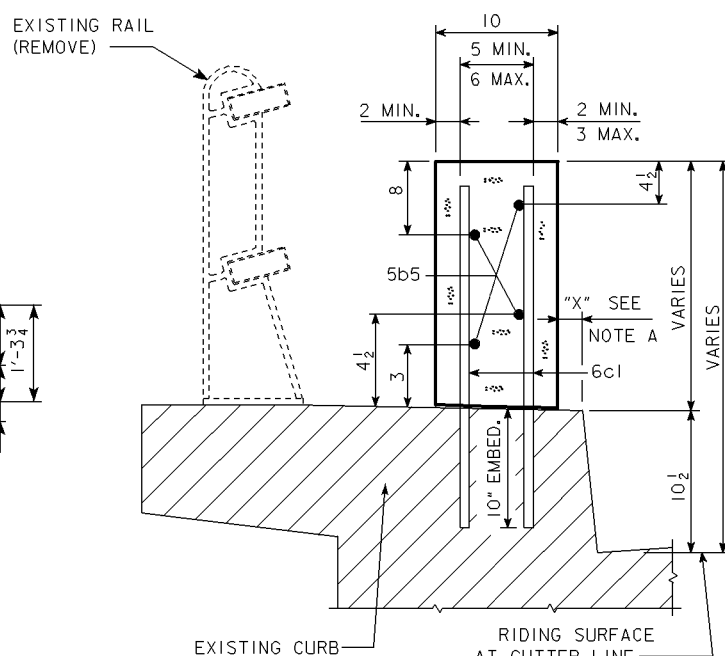
PLAN VIEW OF END SECTION



PLAN VIEW OF END SECTION FOOTING
(SHOWING RAIL END SECTION FOOTING DETAILS)

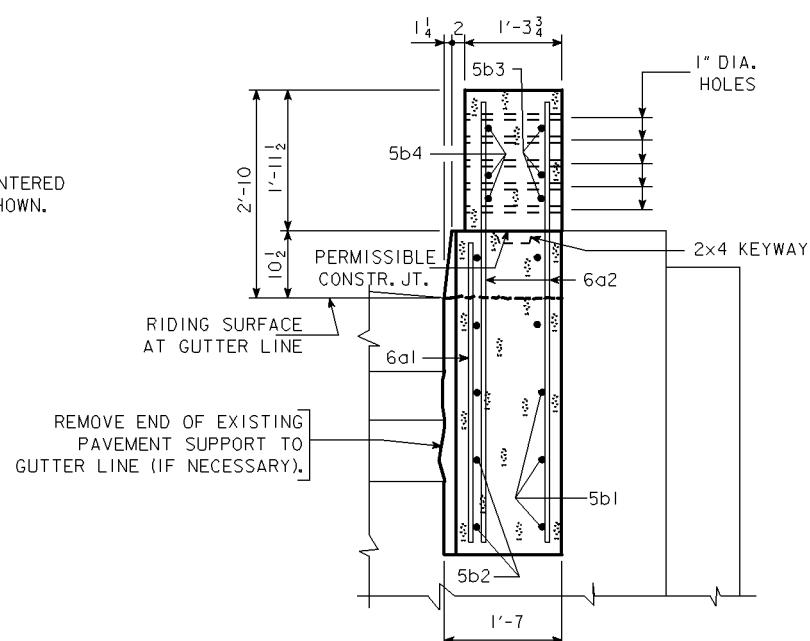


SECTION C-C



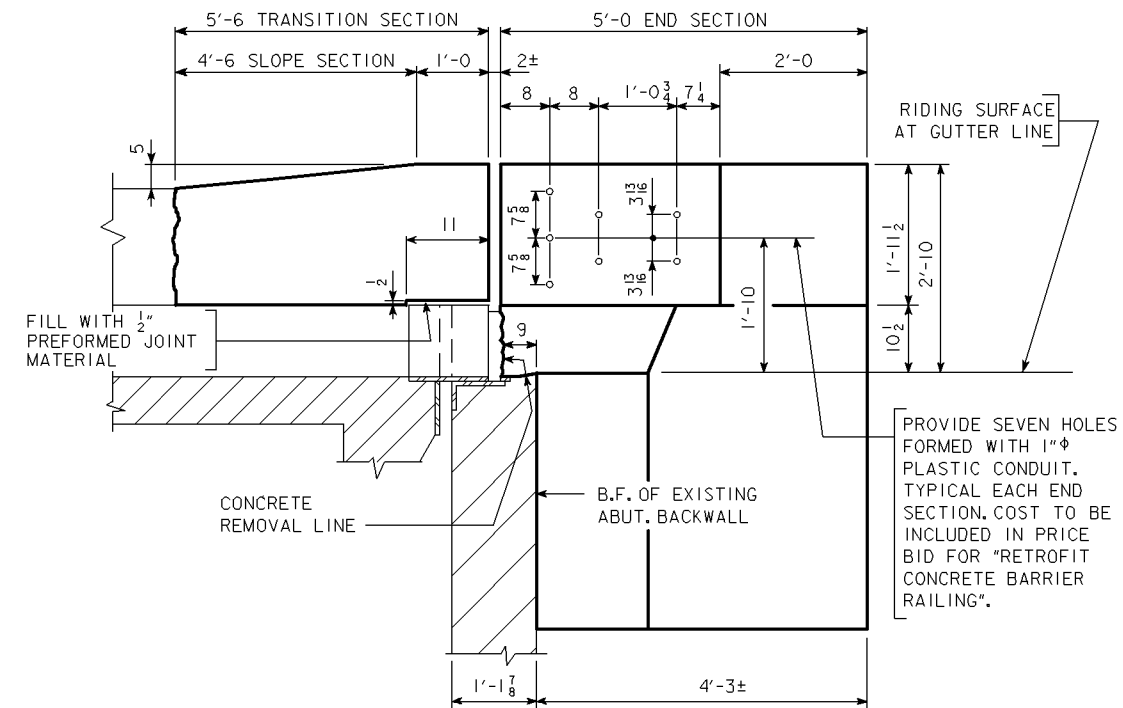
SECTION THRU TRANSITION SECTION

NOTE A :
DIMENSION "X" SHALL MATCH EXISTING DIMENSION AT BREAK LINE
FOR NEW TRANSITION SECTION OF BARRIER RAIL AND TRANSITION
TO 2" AT OPPOSITE END OF TRANSITION SECTION.

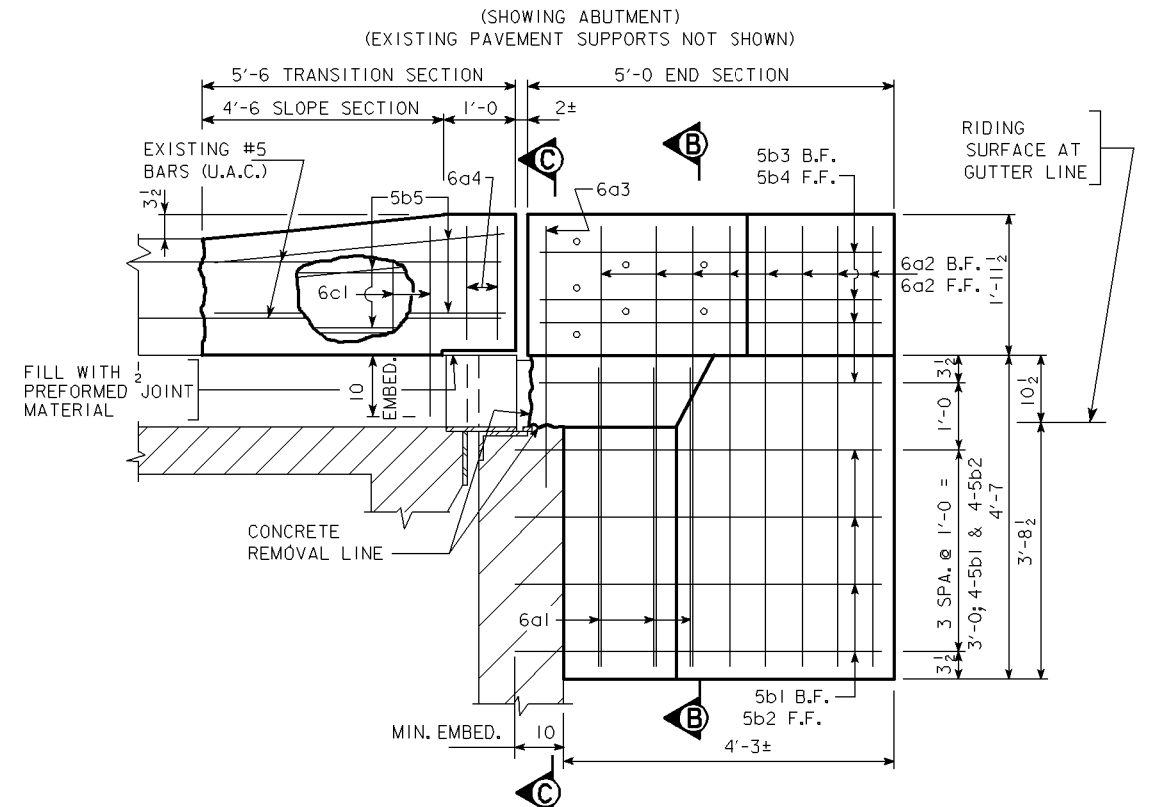


SECTION B-B

NOTE: FOR DETAIL OF REMOVALS SEE DESIGN SHEET 1.
NOTE: FOR DOWEL NOTES SEE DESIGN SHEET 1.



PART LONGITUDINAL SECTION NEAR GUTTER LINE



PART LONGITUDINAL SECTION NEAR GUTTER LINE

DESIGN FOR REPAIRS TO A 20° SKEW (R.A.)
DUAL 320'-0x30' CONTINUOUS WELDED GIRDER BRIDGES
97'-6 END SPANS 125'-0 INTERIOR SPAN
RETROFIT BARRIER RAIL DETAILS
STATION: 1301+20.00 DECEMBER, 2005
STORY COUNTY
IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION
DESIGN SHEET NO. 2 OF 2 FILE NO. 30102 DESIGN NO. 405