

BUTLER CO.
HMA PAVEMENT WIDENING WITH HMA RESURFACING
STPN-3-5(66)--2J-12

LETTING DATE
4/20/04

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
RA-63	2/11/00	RF-1	4/30/01	RS-1	10/27/98
RA-66A	10/21/03	RF-3	10/3/00	RS-2	10/27/98
RB-3	1/12/99	RF-5	10/3/00	RS-3	12/3/96
RC-16A	4/20/04	RF-7	4/15/03	RS-4	10/2/01
RC-16B	4/20/04	RF-14	4/25/00	RS-5A	4/20/04
RE-2B	4/3/01	RF-19C	4/20/04	RS-12	4/30/96
RE-7	4/15/03	RF-19E	10/3/00	RS-13	4/30/96
RE-12A	10/2/01	RF-19F	4/25/00	RS-17A	10/2/01
RE-12B	10/2/01	RF-30A	3/28/95	RS-17B	10/2/01
RE-12C	4/3/01	RF-30C	4/30/02	RS-17C	10/2/01
RE-37	4/3/01	RF-43	10/3/00		
RE-47	4/20/04	RH-50	4/20/04		
RE-48A	10/21/03	RH-56	4/20/04		
RE-48B	4/3/01	RL-7	12/3/96		
RE-54B	4/30/02	RL-14	1/12/99		
RE-65A	10/29/02	RM-49	10/21/03		
RE-68	4/20/04	RR-10	4/30/02		
RE-69A	10/29/02				
RE-69B	10/29/02				
RE-69C	10/29/02				
RE-76	10/21/03				

THESE PLANS INCLUDE
STPN-3-5(66)--2J-12
MB-003-2(500)197--77-12



Iowa Department of Transportation
Highway Division

PLANS OF PROPOSED IMPROVEMENT ON THE

PRIMARY ROAD SYSTEM
BUTLER COUNTY

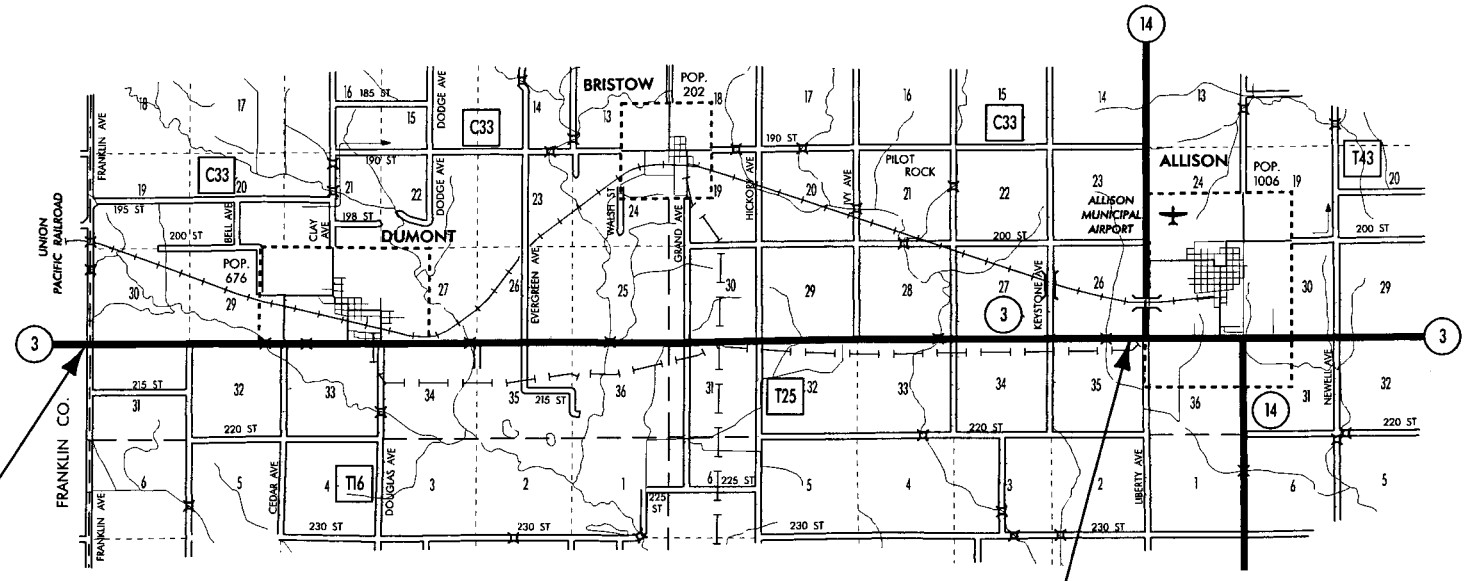
HMA PAVEMENT WIDENING WITH HMA RESURFACING

IA 3 From the Franklin County Line
East to the West with IA 14

SCALES: As Noted

The Iowa Department of Transportation English Standard Specifications for Highway and Bridge Construction, series of 2001, plus current supplemental specifications and special provisions shall apply to construction work on this project.

Value Engineering Saves. Refer to Standard Notation 203-4 on Sheet C.03

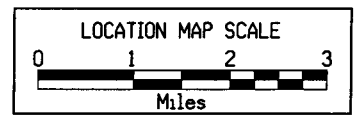
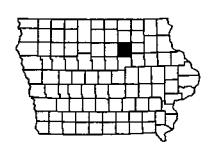


STA. 0+00
BEGIN PROJECT

STA. 576+50
END PROJECT

084/085
src

150



04-30-02	101-4
DESIGN DATA RURAL	
2003 AADT	3,200 V.P.D.
2023 AADT	3,800 V.P.D.
2023 DHV	410 V.P.H.
TRUCKS	20 %
Total Design ESALs	1,870,080

INDEX OF SEALS		
SHEET NO.	NAME	TYPE
A.01	MARK CALLAHAN	Primary Signature Block
V.01-V.02	GORDON L. PORT	Structural Signature Block
V.03-V.04	DAVID R. CLAMAN	Hydraulic Signature Block
V.05-V.06	DAVID R. CLAMAN	Hydraulic Signature Block



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.
Mark Callahan 2-24-04
Signature MARK R. CALLAHAN Date
Printed or Typed Name
My license renewal date is December 31, 20 05.
Pages or sheets covered by this seal: A.01, B.01-B.07, C.01-C.12, L.01-L.03, and U.01-U.06

REVISIONS

TOTAL	35
PROJECT IDENTIFICATION NUMBER	
03-12-003-010	
PROJECT NUMBER	
STPN-3-5(66)--2J-12	
R.O.W. PROJECT NUMBER	
NONE	
DIR #1200301003	
DGN #21200366	

INDEX OF SHEETS

105-3
07-21-87

NO.	DESCRIPTION
A.01	TITLE SHEET
B.01-B.07	TYPICAL CROSS SECTIONS
C.01-C.12	ESTIMATE QUANTITIES, TABS AND GENERAL INFORMATION
L.01-L.03	TURN LANE INFORMATION
U.01-U.06	BRIDGE APPROACH REPLACEMENT INFORMATION
V.01-V.06	BRIDGE RETROFIT, BRIDGE SCOUR REPAIR INFORMATION.

MILEAGE SUMMARY

105-1
09-27-94

DIV.	LOCATION	LIN. FT.	MILES
	Sta. 0+00 to Sta. 576+50	57,650.0	10.92
	Bridge at Sta. 97+51.65	-278.0	
	Bridge at Sta. 119+51.97	-33.0	
	Bridge at Sta. 208+71.63	-346.0	
	Bridge at Sta. 285+20.08	-127.5	
	Total project length	56,865.5	10.77

ESTIMATED QUANTITIES - 4 END SECTIONS					
ITEM NO.	ITEM CODE	ITEM	UNIT	TOTAL	AS BUILT QUANTITY
1	2401-6750001	REMOVL	LS		
2	2403-0100000	STRUCT CONC (MISCELLANEOUS)	CY	4.6	
3	2404-7775005	REINFORC STEEL, EPOXY COATED	LB	799	

ITEM NO.	ESTIMATE REFERENCE INFORMATION
2	INCLUDES ALL COSTS ASSOCIATED WITH FURNISHING AND INSTALLING 1"Ø PLASTIC CONDUIT.

GENERAL NOTES

IT IS THE INTENT OF THIS DESIGN TO CONSTRUCT NEW BARRIER RAIL END SECTIONS AT EACH CORNER OF THE BRIDGE TO ACCOMODATE NEW THRIE BEAM GUARDRAIL.

COPIES OF THE ORIGINAL DESIGN PLANS, DESIGN NUMBERS 257 AND 480 BUTLER COUNTY, MAY BE OBTAINED FROM THE AMES OFFICE OF THE IOWA D.O.T. - HIGHWAY DIVISION.

FAINT LINES ON PLANS INDICATE EXISTING STRUCTURE.

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 ¾" DRESSED AND BEVELED STRIP.

ALL CONCRETE IS TO BE CLASS D.

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

THE BID ITEM "REMOVAL, AS PER PLAN" SHALL INCLUDE ALL COSTS ASSOCIATED WITH THE REMOVAL OF PORTIONS OF THE EXISTING CONCRETE CAST IN PLACE BARRIER RAILS AND CURBS.

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.

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.

SPECIFICATIONS :

DESIGN : AASHTO SERIES OF 1996.
CONSTRUCTION : IOWA DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS, SERIES OF 2001, PLUS CURRENT SUPPLEMENTAL SPECIFICATIONS AND SPECIAL PROVISIONS.

LOCATION:

IA No. 3
OVER HARTGRAVES CREEK
T92N R18W
SECTION 28-33
PITTSFORD TOWNSHIP
BUTLER COUNTY
FHWA NO. 16490
MAINTENANCE NO. 1294.1S003

DESIGN HISTORY
AT THIS SITE

DES. NO.	TYPE OF WORK
257	ORIGINAL DESIGN
480	OVERLAY & RETROFIT BARRIER RAIL

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: Gordon L. Port Date: 12-4-03

Printed or Typed Name: Gordon L. Port

My license renewal date is December 31, 2004

Pages or sheets covered by this seal: DESIGN SHEETS 1 AND 2 OF 2

DESIGN FOR REPAIR TO A
33'-0 x 30' SINGLE SPAN
CONCRETE SLAB BRIDGE

NOTES AND QUANTITIES

STA. 119+46.4 DECEMBER, 2003

BUTLER COUNTY

IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION

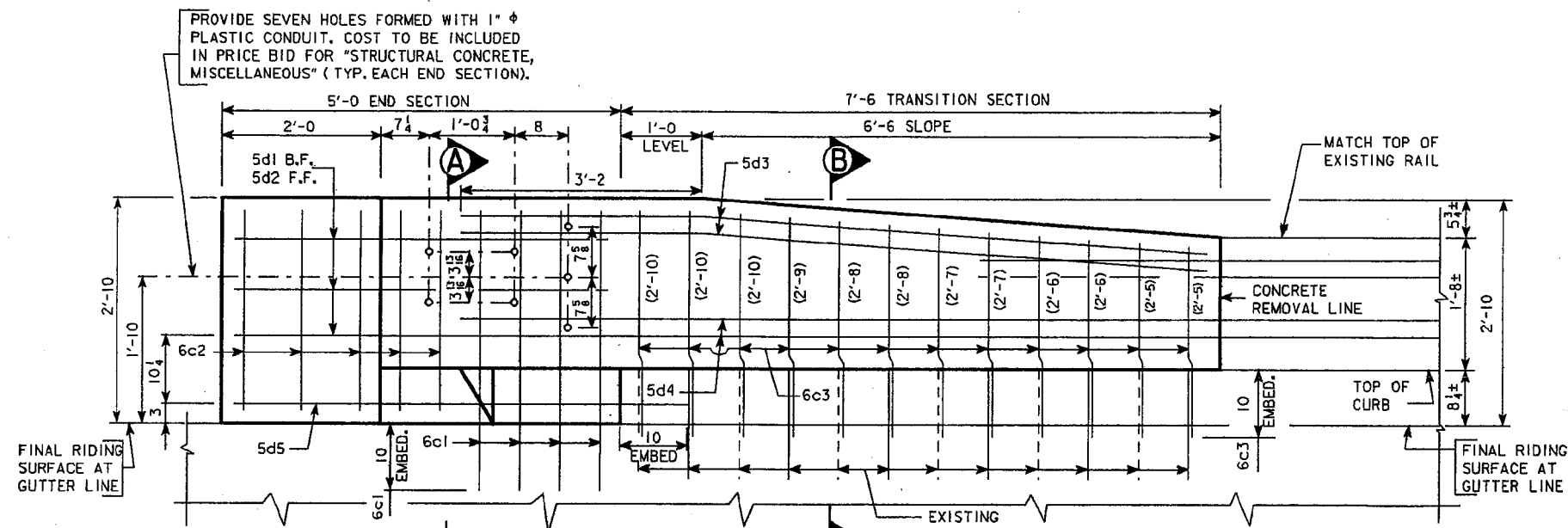
DESIGN SHEET NO. 1 OF 2 FILE NO. 29957 DESIGN NO. 103

DESIGNED BY HAIPING CHEN CHECKED BY GORDON L. PORT
DETAILED BY DARWIN BACKOUS CADD FILE

BUTLER COUNTY

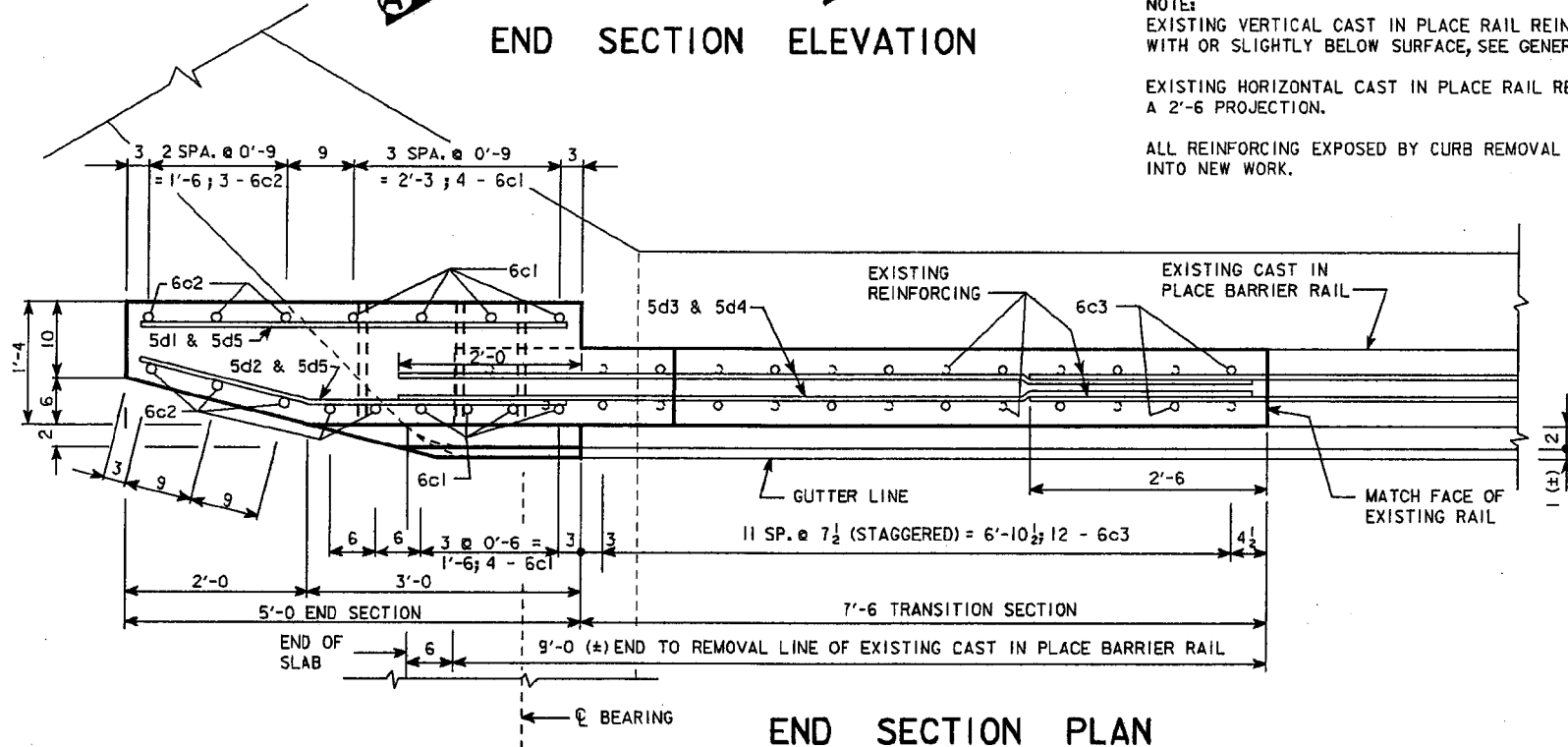
PROJECT NUMBER STPN-3-5(66)--2J-12

SHEET NUMBER V.01



END SECTION ELEVATION

NOTE:
EXISTING VERTICAL CAST IN PLACE RAIL REINFORCING IS TO BE CUT FLUSH WITH OR SLIGHTLY BELOW SURFACE, SEE GENERAL NOTES DESIGN SHEET 1.
EXISTING HORIZONTAL CAST IN PLACE RAIL REINFORCING IS TO BE CUT WITH A 2'-6\"/>



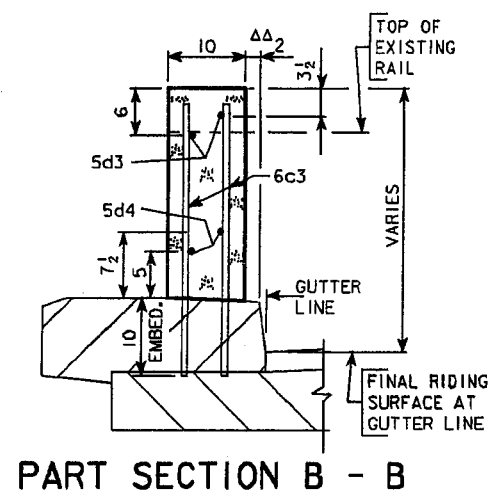
END SECTION PLAN

DOWEL SETTING NOTE :

THE 6c1, 6c2 & 5d5 BARS SHALL BE SET AS DOWELS IN DRILLED HOLES. HOLES ARE TO BE 10\"/>

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

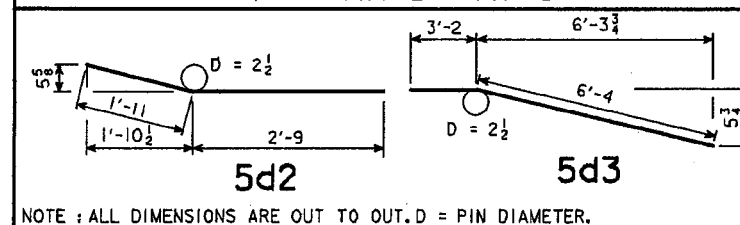


PART SECTION B - B

EPOXY REINF. STEEL - FOUR END SECTIONS

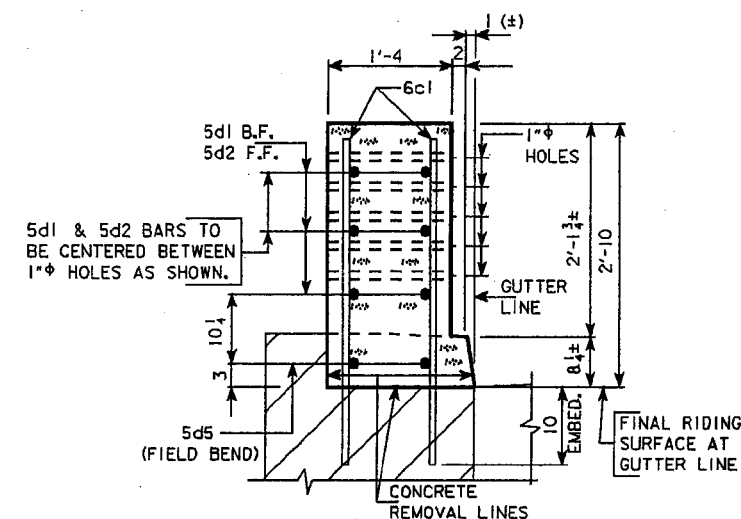
BAR	LOCATION	SHAPE	NO.	LENGTH	WEIGHT
6c1	END SECTION, VERTICAL	—	32	3'-6"	168
6c2	END SECTION, VERTICAL	—	32	2'-6"	120
6c3	RAIL DOWELS	—	48	SHOWN	190
5d1	END SECTION, LONGIT., B.F.	—	12	4'-8"	78
5d2	END SECTION, LONGIT., F.F.	—	12	4'-8"	58
5d3	RAIL LONGIT.	—	8	9'-6"	79
5d4	RAIL LONGIT.	—	8	9'-6"	79
5d5	END SECTION, LONGIT., BOTH F.	—	8	5'-8"	47
TOTAL (LBS.)					799

BENT BAR DETAILS



CONCRETE PLACEMENT QUANTITIES

LOCATION	QUANTITY
END SECTIONS	4 AT 0.7 CU.YDS.
RAIL TRANSITION SECTIONS	4 AT 0.45 CU.YDS.
TOTAL - CU. YDS.	4.6



SECTION A - A

ΔΔ TRANSITION FROM 2\"/>

DESIGN FOR REPAIR TO A
33'-0\"/>

END SECTION DETAILS

STA. 119+46.4

BUTLER COUNTY

DECEMBER, 2003

IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION

DESIGN SHEET NO. 2 OF 2 FILE NO. 29957 DESIGN NO. 103

DESIGNED BY HAIPING CHEN CHECKED BY GORDON L. PORT
DETAILED BY DARWIN BACKOUS CADD FILE

BUTLER COUNTY

PROJECT NUMBER

STPN-3-5(66)--2J-12

SHEET NUMBER V.02