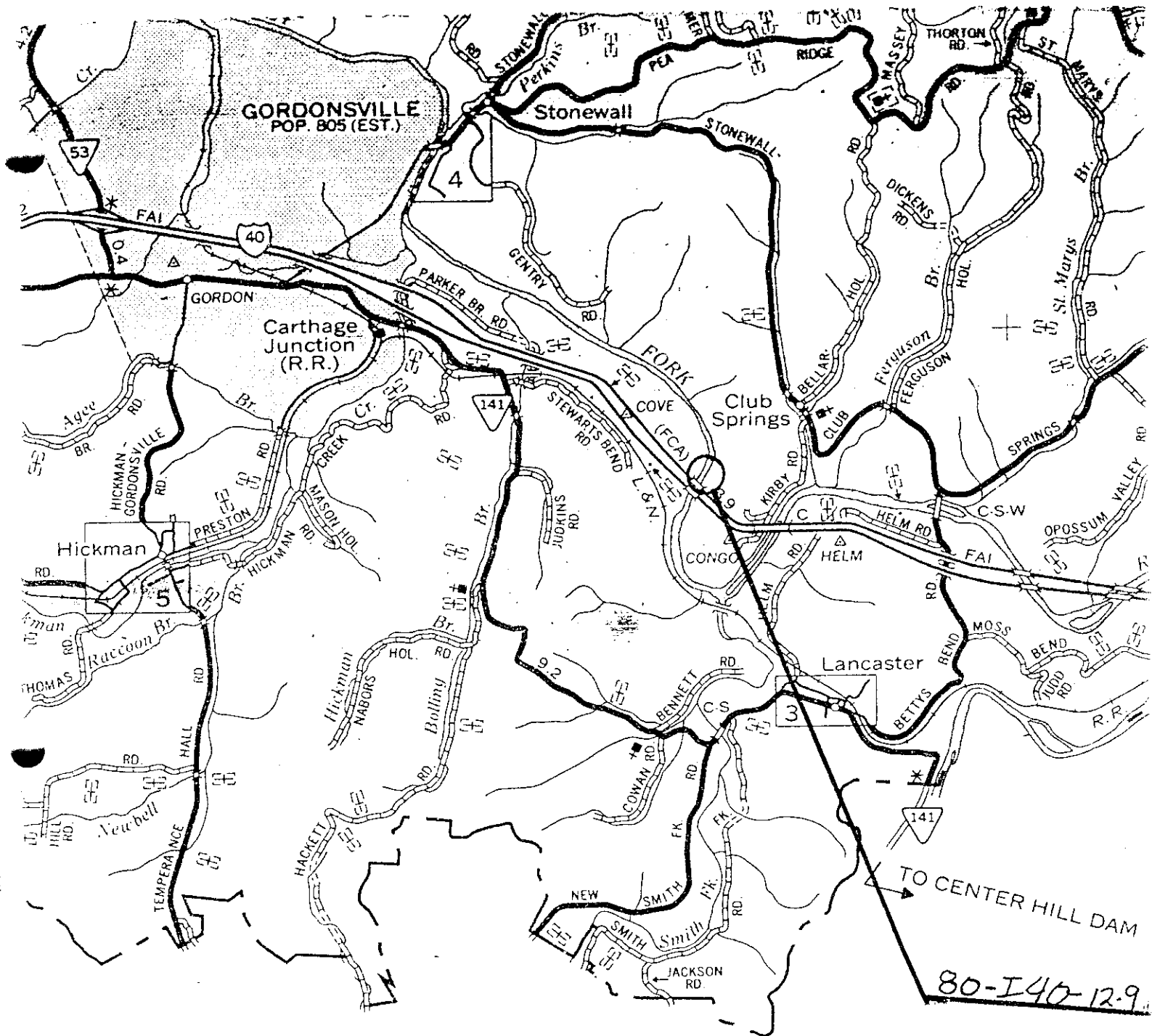




COUNTY

Bridge Maintenance Recommendations

Page No. _____

Page 1 of 1

Bridge Location No.: 80 - I0040 - 12.91 L

Co. Route Log Mile

Bridge Number: 80I00400026

County: Smith

Crossing: CANEY FORK RIVER *

Region: 03

Bridge Rating: GOOD

District: 32

Inspection Cycle: 16

Maint.Resp.: 01

Inspection Date: 4/23/2003

Spec.Case: 0

Co.Seq: 01

Comments: CLEAN DEBRIS FROM EXPANSION JOINT..

Maintenance Recommendations:

Maintenance Completed

By / Date

166	PROTECT ABUTMENT NO. 0001_ EMBANKMENT FROM EROSION
001	LEVEL APPROACH NO. _0002_
	REPAIR CRACKS IN DECK

COMPLETION NOTIFICATION: RETURN WITHIN 6 MONTHS OF INSPECTION DATE.

INITIAL AND DATE RECOMMENDATIONS WHEN COMPLETED.

MAINTENANCE ACTIVITIES ARE COMPLETED (DATE) _____ BY _____

MAINTENANCE ACTIVITIES ARE PARTIALLY COMPLETED (DATE) _____ BY _____

MAINTENANCE ACTIVITIES ARE INCOMPLETE, SCHEDULED FOR (DATE) _____

EXPLANATIONS AND COMMENTS:

CONTACT:

MR. RAY MCCLELLAND
D.O.T. BRIDGE INSPECTION
6601 CENTENNIAL BLVD.
NASHVILLE, TN 37243

MR. DON GREER
D.O.T. BRIDGE INSPECTION
6601 CENTENNIAL BLVD.
NASHVILLE, TN 37243

Bridge Maintenance Recommendations

Page No. _____

Page 1 of 1

Bridge Location No.: 80 - I0040 - 12.91 L

Co. Route Log Mile

Bridge Number: 80I00400026

County: Smith

Crossing: CANEY FORK RIVER *

Region: 03

Bridge Rating: GOOD

District: 32

Inspection Cycle: 15

Maint.Resp.: 01

Inspection Date: 6/12/01

Spec.Case: 0

Co.Seq: 01

Comments: CLEAN DEBRIS FROM EXPANSION JOINT. REPAIR CRACKS IN DECK.

Maintenance Recommendations:

Maintenance Completed
By / Date

166	PROTECT ABUTMENT NO. 0001_ EMBANKMENT FROM EROSION
001	LEVEL APPROACH NO. 2
	CLEAR DRIFT

COMPLETION NOTIFICATION: RETURN WITHIN 6 MONTHS OF INSPECTION DATE.

INITIAL AND DATE RECOMMENDATIONS WHEN COMPLETED.

MAINTENANCE ACTIVITIES ARE COMPLETED (DATE) _____ BY _____

MAINTENANCE ACTIVITIES ARE PARTIALLY COMPLETED (DATE) _____ BY _____

MAINTENANCE ACTIVITIES ARE INCOMPLETE, SCHEDULED FOR (DATE) _____

EXPLANATIONS AND COMMENTS:

CONTACT:

MR. RAY MCCLELLAND
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NASHVILLE, TN 37243



STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

Bridge Condition Coding Form

Revised 06/15/2000

Bridge Number: 80I004000261
(Includes Item 5A)

Feature Intersected: CANEY FORK RIVER

County: 80

Route: 10040

Special Case: 0

County Sequence: 01

Log Mile: 12.91

CODE ONLY THOSE VALUES WHICH HAVE CHANGED

ITEM #	DESCRIPTION	VALUE	CONDITION CODING GUIDELINES (Values for Coding Items 58, 59, 60 and 62)
90	INSPECTION DATE	<u>06/12/2001</u> <u>4 / 23 / 03</u>	N NOT APPLICABLE
10	MINIMUM V.C. OVER DECK (ROADWAY + SHOULDERS)	99 FT. 99 IN. _____ FT. _____ IN.	9 EXCELLENT CONDITION
520	MINIMUM V.C. OVER DECK (EXCLUDES SHOULDERS)	99 FT. 99 IN. _____ FT. _____ IN.	8 VERY GOOD CONDITION - NO PROBLEMS NOTED.
36	TRAFFIC SAFETY FEATURES		7 GOOD CONDITION - SOME MINOR PROBLEMS.
	Br. Rail Trans. Appr. Rail Appr. Rail Ends		6 SATISFACTORY CONDITION - MINOR DETERIORATION OF STRUCTURAL ELEMENTS.
	1 1 1 1		5 FAIR CONDITION - ALL PRIMARY STRUCTURAL ELEMENTS ARE SOUND BUT MAY HAVE MINOR SECTION LOSS, CRACKING, SPALLING OR SCOUR.
41	STRC OPEN/CLOSED/POSTED A K P	A	4 POOR CONDITION - ADVANCED SECTION LOSS, DETERIORATION, SPALLING OR SCOUR.
58	DECK	6	3 SERIOUS CONDITION - LOSS OF SECTION, DETERIORATION, SPALLING OR SCOUR HAVE SERIOUSLY AFFECTED PRIMARY STRUCTURAL COMPONENTS. LOCAL FAILURES ARE POSSIBLE. FATIGUE CRACKS IN STEEL OR SHEAR CRACKS IN CONCRETE MAY BE PRESENT.
59	SUPERSTRUCTURE	8	2 CRITICAL CONDITION - ADVANCED DETERIORATION OF PRIMARY STRUCTURAL ELEMENTS. FATIGUE CRACKS IN STEEL OR SHEAR CRACKS IN CONCRETE MAY BE PRESENT OR SCOUR MAY HAVE REMOVED SUBSTRUCTURE SUPPORT. UNLESS CLOSELY MONITORED IT MAY BE NECESSARY TO CLOSE THE BRIDGE UNTIL CORRECTIVE ACTION IS TAKEN.
60	SUBSTRUCTURE	8	1 "IMMINENT" FAILURE CONDITION - MAJOR DETERIORATION OR SECTION LOSS PRESENT IN CRITICAL STRUCTURAL COMPONENTS OR OBVIOUS VERTICAL OR HORIZONTAL MOVEMENT AFFECTING STRUCTURAL STABILITY. BRIDGE IS CLOSED TO TRAFFIC BUT CORRECTIVE ACTION MAY PUT BACK IN LIGHT SERVICE.
61	CHANL/CHANL PROTECTION	7	0 FAILED CONDITION - OUT OF SERVICE AND BEYOND CORRECTIVE ACTION.
62	CULVERT AND RETAIN WALL	N	
71	WATERWAY ADEQUACY	6	
72	APPROACH RDWY ALIGNMENT (USE VALUES OF 3, 6, OR 8)	<u>8</u>	
521	OVERALL CONDITION (Circle One)		
	GOOD FAIR POOR CRITICAL		
	<u>GOOD</u>		
	<u>4 / 23 / 03</u>		
	TEAM LEADER SIGNATURE	REVIEW DATE	



STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

Bridge Condition Coding Form

Revised 06/15/2000

Bridge Number: 80I004000261
(Includes Item 5A)

Feature Intersected: CANEY FORK RIVER

County: 80
Route: 10040
Special Case: 0
County Sequence: 01
Log Mile: 12.91

CODE ONLY THOSE VALUES WHICH HAVE CHANGED

ITEM #	DESCRIPTION	VALUE	CONDITION CODING GUIDELINES (Values for Coding Items 58, 59, 60 and 62)
90	INSPECTION DATE	<u>06/16/1999</u> <u>6/12/01</u>	N NOT APPLICABLE
10	MINIMUM V.C. OVER DECK (ROADWAY + SHOULDERS)	99 FT. 99 IN. ____ FT. ____ IN.	9 EXCELLENT CONDITION
520	MINIMUM V.C. OVER DECK (EXCLUDES SHOULDERS)	99 FT. 99 IN. ____ FT. ____ IN.	8 VERY GOOD CONDITION - NO PROBLEMS NOTED.
36	TRAFFIC SAFETY FEATURES		7 GOOD CONDITION - SOME MINOR PROBLEMS.
	Br. Rail Trans. Appr. Rail Appr. Rail Ends		6 SATISFACTORY CONDITION - MINOR DETERIORATION OF STRUCTURAL ELEMENTS.
	1 1 1 1		5 FAIR CONDITION - ALL PRIMARY STRUCTURAL ELEMENTS ARE SOUND BUT MAY HAVE MINOR SECTION LOSS, CRACKING, SPALLING OR SCOUR.
41	STRC OPEN/CLOSED/POSTED	A	4 POOR CONDITION - ADVANCED SECTION LOSS, DETERIORATION, SPALLING OR SCOUR.
	A K P		3 SERIOUS CONDITION - LOSS OF SECTION, DETERIORATION, SPALLING OR SCOUR HAVE SERIOUSLY AFFECTED PRIMARY STRUCTURAL COMPONENTS. LOCAL FAILURES ARE POSSIBLE. FATIGUE CRACKS IN STEEL OR SHEAR CRACKS IN CONCRETE MAY BE PRESENT.
58	DECK	6	2 CRITICAL CONDITION - ADVANCED DETERIORATION OF PRIMARY STRUCTURAL ELEMENTS. FATIGUE CRACKS IN STEEL OR SHEAR CRACKS IN CONCRETE MAY BE PRESENT OR SCOUR MAY HAVE REMOVED SUBSTRUCTURE SUPPORT. UNLESS CLOSELY MONITORED IT MAY BE NECESSARY TO CLOSE THE BRIDGE UNTIL CORRECTIVE ACTION IS TAKEN.
59	SUPERSTRUCTURE	8	1 "IMMINENT" FAILURE CONDITION - MAJOR DETERIORATION OR SECTION LOSS PRESENT IN CRITICAL STRUCTURAL COMPONENTS OR OBVIOUS VERTICAL OR HORIZONTAL MOVEMENT AFFECTING STRUCTURAL STABILITY. BRIDGE IS CLOSED TO TRAFFIC BUT CORRECTIVE ACTION MAY PUT BACK IN LIGHT SERVICE.
60	SUBSTRUCTURE	8	0 FAILED CONDITION - OUT OF SERVICE AND BEYOND CORRECTIVE ACTION.
61	CHANL/CHANL PROTECTION	7	
62	CULVERT AND RETAIN WALL	N	
71	WATERWAY ADEQUACY	6	
72	APPROACH RDWY ALIGNMENT (USE VALUES OF 3, 6, OR 8)	6	
521	OVERALL CONDITION (Circle One)		
	GOOD FAIR POOR CRITICAL		
	<u>GOOD</u>		
	<u>6/12/01</u>		
	TEAM LEADER SIGNATURE	REVIEW DATE	

Milbert Wayne Hunter
TEAM LEADER SIGNATURE

REVIEW DATE



STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

Bridge Condition Coding Form

County: 80
Route: I0040
Special Case: 0
County Sequence: 1
Log Mile: 12.91

Bridge Number: 80I004000261
(Includes Item 5A)
Feature Intersected: CANEY FORK RIVER

CODE ONLY THOSE NUMBERS WHICH HAVE CHANGED

ITEM #	DESCRIPTION	VALUE	COMMENTS
90	INSPECTION DATE	5/1/97 <u>6/1/99</u>	RATINGS FOR CODING ITEMS 58, 59, 60 AND 62 N NOT APPLICABLE
10	MINIMUM V.C. OVER DECK (ROADWAY + SHOULDERS)	99 FT. 99 IN.	9 EXCELLENT CONDITION
520	MINIMUM V.C. OVER DECK (EXCLUDES SHOULDERS)	99 FT. 99 IN.	8 VERY GOOD CONDITION - NO PROBLEMS NOTED.
54	MINIMUM VERTICAL UNDERCLEARANCE (EXCLUDES SHOULDERS)	N 0 FT. 0 IN.	7 GOOD CONDITION - SOME MINOR PROBLEMS.
36	TRAFFIC SAFETY FEATURES		6 SATISFACTORY CONDITION - MINOR DETERIORATION OF STRUCTURAL ELEMENTS.
	Circle One: H R N	FT. IN.	5 FAIR CONDITION - ALL PRIMARY STRUCTURAL ELEMENTS ARE SOUND BUT MAY HAVE MINOR SECTION LOSS, CRACKING, SPALLING OR SCOUR.
	Br. Rail Trans. Appr. Rail Appr. Rail Ends		4 POOR CONDITION - ADVANCED SECTION LOSS, DETERIORATION, SPALLING OR SCOUR.
	1 1 1 1		3 SERIOUS CONDITION - LOSS OF SECTION, DETERIORATION, SPALLING OR SCOUR HAVE SERIOUSLY AFFECTED PRIMARY STRUCTURAL COMPONENTS. LOCAL FAILURES ARE POSSIBLE. FATIGUE CRACKS IN STEEL OR SHEAR CRACKS IN CONCRETE MAY BE PRESENT.
41	STRC OPEN/CLOSED/POSTED	A	2 CRITICAL CONDITION - ADVANCED DETERIORATION OF PRIMARY STRUCTURAL ELEMENTS. FATIGUE CRACKS IN STEEL OR SHEAR CRACKS IN CONCRETE MAY BE PRESENT OR SCOUR MAY HAVE REMOVED SUBSTRUCTURE SUPPORT. UNLESS CLOSELY MONITORED IT MAY BE NECESSARY TO CLOSE THE BRIDGE UNTIL CORRECTIVE ACTION IS TAKEN.
	A K P		1 "IMMINENT" FAILURE CONDITION - MAJOR DETERIORATION OR SECTION LOSS PRESENT IN CRITICAL STRUCTURAL COMPONENTS OR OBVIOUS VERTICAL OR HORIZONTAL MOVEMENT AFFECTING STRUCTURAL STABILITY. BRIDGE IS CLOSED TO TRAFFIC BUT CORRECTIVE ACTION MAY PUT BACK IN LIGHT SERVICE.
58	DECK	8 <u>6</u>	0 FAILED CONDITION - OUT OF SERVICE AND BEYOND CORRECTIVE ACTION.
59	SUPERSTRUCTURE	8	
60	SUBSTRUCTURE	8	
61	CHANL/CHANL PROTECTION	7	
62	CULVERT AND RETAIN WALL	N	
72	APPROACH RDWY ALIGNMENT (USE VALUES OF 3, 6, OR 8)	6	
OVERALL CONDITION (Circle One)			
GOOD FAIR POOR CRITICAL			
SIGNATURE			DATE <u>6/1/99</u>

TENNESSEE BRIDGE INSPECTION PROGRAM

SUMMARY OF EVALUATION

REV. 03-05-2003

BRIDGE ID NO: 80I00400026

LOCATION NO: 80 - I0040 - 12.91 L

(6A) CROSSING: CANEY FORK RIVER

(505) METHOD OF ANALYSIS: LOAD FACTOR
METHOD

(548) RATING BASED ON: AASHTOWARE BRIDGE
RATING (6" OF ASPHALT)

LOAD RATINGS IN TONS

INVENTORY (503) H 20	(518B) HS 36
OPERATING (504) H 40	(519) HS 60

(549) EVALUATOR: DCD

(522) EVAL. DATE: 8/9/2017

LAST UPDATED BY: DOMM

(29) ADT: 32,560 **(30) ADT YR:** 2018

(100) STRAHNET ROUTE: YES

(19) DETOUR LENGTH: 2 **KM**

(520) VC OVER RDWY: 99.99 **METERS**

CONDITION RATINGS

(58) DECK RATING:

(59) SUPERSTRUCTURE RATING:

(60) SUBSTRUCTURE RATING:

(61) CHANNEL PROTECTION:

(62) CULVERT RATING:

(113A) NBIS SCOUR CODE:

(113B) TDOT SCOUR CODE:

5
6
6
7
N
8
R

APPRAISAL RATINGS

(67) STRUCTURAL EVALUATION:

(68) DECK GEOMETRY:

(69) UNDER CLEARANCE:

(70) BRIDGE POSTING:

(71) WATERWAY ADEQUACY:

(72) APPROACH RDWY ALIGNMENT:

6
8
N
5
6
8

CODE VALUES

N - NOT APPLICABLE

9 - EXCELLENT CONDITION

8 - VERY GOOD CONDITION

7 - GOOD CONDITION

6 - SATISFACTORY

5 - FAIR CONDITION

4 - POOR CONDITION

3 - SERIOUS CONDITION

2 - CRITICAL CONDITION

1 - FAILURE IS IMMINENT

0 - FAILED CONDITION

OTHER RATING ITEMS

(521) OVERALL CONDITION:

(513) TEXTURE COAT RATING:

(514) PAINT CONDITION RATING:

(41) WEIGHT POSTING CODE:

F		
G	10	
N		
A		

(36) TRAFFIC SAFETY

FEATURES: 1 0 0 1

(525) REPAIR LIST NO: N

COMMENTS

(502) SUFF. RATING:	92.9
(528) STR. DEFICIENT:	NO
(529) FUNC. OBSOLETE:	NO

Bridge Name: I-40 OVER CANEY FORK RIVER (LT/WEST LANE)

NBI Structure ID: 80I00400026

Bridge ID: 80I00400026

Analyzed By: bridgeware

Analyze Date: Wednesday, May 08, 2019 15:46:06

Analysis Engine: AASHTO LFR Engine Version 6.8.1.3001

Analysis Preference Setting: None

Report By: bridgeware

Report Date: Wednesday, May 08, 2019 15:46:35

Structure Definition Name: OLD BEAMS (90' SIMPLE SPAN)

Member Name: G8

Member Alternative Name: OLD EXT

Load Factor Rating Summary

		Girder Summary							
		Rating		Capacity		Location			
Live Load		Factor	Controls	(Ton)	Span	(ft)	Percent	Impact	Lane
H 15-44	Inventory	1.604	Design Shear - Concrete	24.06	1	0.00	0.0	As Requested	As Requested
H 15-44	Operating	2.679	Design Shear - Concrete	40.18	1	0.00	0.0	As Requested	As Requested
HS 20-44	Inventory	1.009	Design Shear - Concrete	36.34	1	0.00	0.0	As Requested	As Requested
HS 20-44	Operating	1.686	Design Shear - Concrete	60.68	1	0.00	0.0	As Requested	As Requested
Type 3S2	Inventory	1.146	Design Shear - Concrete	41.24	1	0.00	0.0	As Requested	As Requested
Type 3S2	Operating	1.913	Design Shear - Concrete	68.87	1	0.00	0.0	As Requested	As Requested
Annual Permit 1	Inventory	0.634	Design Shear - Concrete	52.30	1	0.00	0.0	As Requested	As Requested
Annual Permit 1	Operating	1.059	Design Shear - Concrete	87.34	1	0.00	0.0	As Requested	As Requested
Annual Permit 2	Inventory	0.565	Design Shear - Concrete	46.60	1	0.00	0.0	As Requested	As Requested

Annual Permit 2	Operating	0.943	Design Shear - Concrete	77.81	1	0.00	0.0	As Requested	As Requested
Gravel Truck	Inventory	0.966	Design Shear - Concrete	35.73	1	0.00	0.0	As Requested	As Requested
Gravel Truck	Operating	1.613	Design Shear - Concrete	59.67	1	0.00	0.0	As Requested	As Requested
Overweight Permit	Inventory	0.583	Design Shear - Concrete	74.34	1	0.00	0.0	As Requested	As Requested
Overweight Permit	Operating	0.974	Design Shear - Concrete	124.14	1	0.00	0.0	As Requested	As Requested
EV2	Operating	2.031	Design Shear - Concrete	58.38	1	0.00	0.0	As Requested	As Requested
EV3	Operating	1.357	Design Shear - Concrete	58.33	1	0.00	0.0	As Requested	As Requested
SU6 LFR	Operating	1.772	Design Shear - Concrete	61.57	1	0.00	0.0	As Requested	As Requested
SU7 LFR	Operating	1.642	Design Shear - Concrete	63.65	1	0.00	0.0	As Requested	As Requested

Note:

"N/A" indicates not applicable

*** indicates not available

BARS INPUT FILE DATA REPORT
=====

- General Data -

FILE NAME: 80- 120.DAT REGION: 3
ROUTE: I0040
LOGMILE: 1291 SYSTEM BRIDGE?: YES
LANE (R/L): L
CROSSING: CANEY FORK RIVER

- Specific Data -

STD. OVERLOAD BRIDGE?: YES TIMBER SUBSTRUCTURE?: NO
STRUCTURE TYPE - I43: 505 ASPHALT DEPTH ON DECK: 0.
LAST REVISION DATE: 10/21/97 TYPE OF RATING ANALYSIS: LF
OVERALL CONDITION: G TOTAL NUMBER OF SPANS: 7
IS BRIDGE POSTED?: NO MAXIMUM SPAN LENGTH - I48: 90
YEAR BRIDGE WAS BUILT: 1960

DISTRIBUTION FACTOR FOR SIDE BY SIDE
PRESTRESSED BOX BEAMS OR PCCS BRIDGES

A.R.M.

DATE: 10/21/97

INPUT DATA

(1) Enter your K value...: 1.000
See table ----->

K Value Table

Beam Type -----	K -----
Non-void rectangular.....	0.7
Rectangular with Circular voids.....	0.8
Rectangular with Square voids.....	1.0
Precast Channel beams.....	2.2

(2) Enter the overall bridge width in feet.....: 42.000
(3) Enter the span length in feet.....: 66.920
(4) Enter the number of lanes on the bridge.....: 2.000
(5) Enter the width of the PCBB or PCCS beam in feet.....: 4.000
(6) If the value of C (given below) is > 5 then enter 1.000
 else enter 0.000: 1.000

OUTPUT RESULTS

C Value.....= 0.627 DISTRIBUTION FACTOR..= 0.842
D Value.....= 4.750

DISTRIBUTION FACTOR FOR SIDE BY SIDE
PRESTRESSED BOX BEAMS OR PCCS BRIDGES

A.R.M.

DATE: 10/21/97

INPUT DATA

(1) Enter your K value...: 1.000
See table ----->

K Value Table

Beam Type	K
Non-void rectangular.....	0.7
Rectangular with Circular voids.....	0.8
Rectangular with Square voids.....	1.0
Precast Channel beams.....	2.2

(2) Enter the overall bridge width in feet.....: 42.000
 (3) Enter the span length in feet.....: 89.850
 (4) Enter the number of lanes on the bridge.....: 2.000
 (5) Enter the width of the PCBB or PCCS beam in feet.....: 4.000
 (6) If the value of C (given below) is > 5 then enter 1.000
 else enter 0.000: 0.000

OUTPUT RESULTS

C Value.....= 0.467 DISTRIBUTION FACTOR..= 0.677
 D Value.....= 5.900

DISTRIBUTION FACTOR FOR SIDE BY SIDE
PRESTRESSED BOX BEAMS OR PCCS BRIDGES

A.R.M.

DATE: 10/21/97

INPUT DATA

(1) Enter your K value...: 1.000
See table ----->

K Value Table

Beam Type	K
Non-void rectangular.....	0.7
Rectangular with Circular voids.....	0.8
Rectangular with Square voids.....	1.0
Precast Channel beams.....	2.2

(2) Enter the overall bridge width in feet.....: 42.000
(3) Enter the span length in feet.....: 62.440
(4) Enter the number of lanes on the bridge.....: 2.000
(5) Enter the width of the PCBB or PCCS beam in feet.....: 4.000
(6) If the value of C (given below) is > 5 then enter 1.000
.....else enter 0.000: 1.000

OUTPUT RESULTS

C Value.....= 0.672 DISTRIBUTION FACTOR..= 0.842
D Value.....= 4.750

[illegible]

BRIDGE ANALYSIS AND RATING SYSTEM

(C) COPYRIGHT 1996 BY THE AMERICAN ASSOCIATION OF STATE
HIGHWAY AND TRANSPORTATION OFFICIALS, INC.
444 NORTH CAPITOL STREET, N.W., SUITE 249
WASHINGTON, D.C. 20001 U.S.A.
(202) 624-5800

RELEASE 5.5 - MOD 3.3

FEBRUARY 5, 1997

[illegible]

RECORD		HLS HS20		PCBB 60		510 0 0		*LF*		REC.NO.
01	102197A. MCNABB									100
02	ARM120A. MCNABB									100
05	ARM120LM 12.91380 I-40									200
06	ARM120 I-40 OVER CANEY FORK RIVER WITH BRIDGE WIDEN AND NEW DECK ADDED.									300
08	ARM120G01 1	8910 4		PSC				0.677		400
08	ARM120G02 1	62 5 4		PSC				0.842		500
08	ARM120G03 1	6611 0		PSC				0.842		600
10	ARM120G01 1			W 550.						700
10	ARM120G02 1			W 550.						800
10	ARM120G03 1			W 550.						900
11	ARM120G01 1 1	8910 401								1000
11	ARM120G02 1 1	62 5 401								1100
11	ARM120G03 1 1	6611 001								1200
15	ARM120G01 01							01A 2806	1.50TMB19	1300
15	ARM120G01 01							02A 2406	3.00	1400
15	ARM120G01 01							03A 0606	4.50	1500
15	ARM120G01 01							04A 0406	6.00	1600
15	ARM120G01 01							05B 0705	54.19	1700
15	ARM120G02 01							01A 2806	1.50TMB17	1800
15	ARM120G02 01							02A 0906	3.00	1900
15	ARM120G02 01							03B 0705	54.19	2000
15	ARM120G02 01							01A 2806	1.50TMB17	2100
15	ARM120G03 01							02A 1606	3.00	2200
15	ARM120G03 01							03B 0705	54.19	2300

THE FOLLOWING STRUCTURES WERE SELECTED

ARM120

STRUCTURE I.D. = ARM-120

 * STRUCTURE HEADER AND DESCRIPTION *

100-- 2 A. MCNABB EA/I/O/P = FILE REQUESTS AND OUTPUT DATA EXCEPTIONS
 TYPE = PCBB YEAR = 60 LEN = 510.00 FT. WIDTH = 42.00 FT. 7 SPANS SP.LOAD =
 INV.LL.TRK.= OP.LL.TRK.=

 * STRUCTURE LOCATION AND PERMANENT IDENTIFICATION FACTORS *

200-- 5 BRIDGE-LM 12.91 DIST./CO.= 3 80 CONST. ROUTE = I-40 CONST. SECT.= CONST. STA.= 0+
 MICROFILM REEL NO. DESIGN PLANS= COMPUTATIONS= CORRESPONDENCE=
 ROUTE I.D.= MARKED ROUTE =

 * COMMENTS *

300-- 6 0 I-40 OVER CANEY FORK RIVER WITH BRIDGE WIDEN AND NEW DECK ADDED.

 * MEMBER SPECIFICATIONS AND REQUIRED ANALYSIS-GIRDER, STRINGER AND FLOOR BEAM *

MEMBER SPANS	STIFF. SPAN 1	SPAN 2	SPAN 3	MATL	ALLOWABLE STRESS	LL DIST.	END THRU	MAX	IMPACT FACTOR
ID	SYMM CODE (SPAN 4)	(SPAN 5)	(SPAN 6)	CODE	FY	FB	FC	FC	INV OP. POST SPEC
400-- 8	G 1	.000	.000	PSC	.00	.00	.677	.00	.00 .00 .00
500-- 8	G 2	.000	.000	PSC	.00	.00	.842	.00	.00 .00 .00
600-- 8	G 3	.000	.000	PSC	.00	.00	.842	.00	.00 .00 .00

 * SUPERIMPOSED DEAD LOADS-GIRDERS, STRINGERS AND FLOOR BEAMS *

MEMBER SYMM.	SPAN NO.	DISTANCE FR. LEFT SUPP.	LOAD TYPE	P OR W(L)	W(R)	LENGTH
700--10	G 1	.000FT.	W	550.0	.0	89.854FT.
800--10	G 2	.000FT.	W	550.0	.0	62.438FT.
900--10	G 3	.000FT.	W	550.0	.0	66.917FT.

SECTION RANGE SPECIFICATIONS

MEMBER ID	SYMM.	SPAN NO.	RANGE NO.	RANGE LENGTH	SECTION NO.	VAR.	HINGE CODE	HINGE 1 DIST.	HINGE 2 DIST.	CODE	HYBRID GIRDER FY
1000--11	G 1	1	1	89.854FT.	1	0		.000FT.	.000FT.		0.
1100--11	G 2	1	1	62.438FT.	1	0		.000FT.	.000FT.		0.
1200--11	G 3	1	1	66.917FT.	1	0		.000FT.	.000FT.		0.

SECTION PROPERTIES (PRESTRESSED CONCRETE) - GIRDERS, STRINGERS, FLOOR BEAMS

MEMBER ID	SECT	SAME	ADR	VOIDS DEPTH	WIDTH	DESCRIPTION	**	TNS	CODE	DEPTH	IFLW	IFLT	WEFT	BEIT	BELT	BFLW	I	ASI	DI
1300--15	G 1	1	0	.0	.00	.0	.0	.0	TNS	19.00	.0	.0	.00	.00	.0	.0	1	A	2806.00
1400--15	G 1	1	0	.0	.00	.0	.0	.0	.0	.00	.0	.0	.00	.00	.0	.0	2	A	2406.00
1500--15	G 1	1	0	.0	.00	.0	.0	.0	.0	.00	.0	.0	.00	.00	.0	.0	3	A	606.00
1600--15	G 1	1	0	.0	.00	.0	.0	.0	.0	.00	.0	.0	.00	.00	.0	.0	4	A	406.00
1700--15	G 1	1	0	.0	.00	.0	.0	.0	.0	.00	.0	.0	.00	.00	.0	.0	5	B	705.00
1800--15	G 2	1	0	.0	.00	.0	.0	.0	TNS	17.00	.0	.0	.00	.00	.0	.0	1	A	2806.00
1900--15	G 2	1	0	.0	.00	.0	.0	.0	.0	.00	.0	.0	.00	.00	.0	.0	2	A	906.00
2000--15	G 2	1	0	.0	.00	.0	.0	.0	.0	.00	.0	.0	.00	.00	.0	.0	3	B	705.00
2100--15	G 3	1	0	.0	.00	.0	.0	.0	TNS	17.00	.0	.0	.00	.00	.0	.0	1	A	2806.00
2200--15	G 3	1	0	.0	.00	.0	.0	.0	.0	.00	.0	.0	.00	.00	.0	.0	2	A	1606.00
2300--15	G 3	1	0	.0	.00	.0	.0	.0	.0	.00	.0	.0	.00	.00	.0	.0	3	B	705.00

SUMMARY OF RATING CALCULATIONS-----STRUCTURE MEMBER G 1 BARS-PC RELEASE 5.5
INVENTORY AND/OR OPERATING ANALYSIS

INPUT CODING --
DATE 10/21/97
BY A. MCNABB
STRUCTURE IM 12.91
D/P STR. I.D.-- ARM-120
INVENTORY
LIVE LOAD RATING
H15 H 40.84 HS20 HS 49.17
OPERATING
LIVE LOAD RATING

STRUCTURE DESCRIPTION -- LOCATION -- MICROFILM REEL NUMBERS --
IDENTIFICATION LM 12.91 DISTRICT 3 DESIGN PLANS
TYPE PCBB COUNTY 80 COMPUTATIONS
YEAR OF CONSTR. 1960 CONSTR. RTE. I-40 CORRESPONDENCE
LENGTH 510.00 FEET
ROADWAY WIDTH 42.00 FEET
NUMBER OF SPANS 7
KEY RTE.
MARKED RTE.

ANALYST REMARKS --
I-40 OVER CANEY FORK RIVER WITH BRIDGE WIDEN AND NEW DECK ADDED.

INVENTORY RATING SUMMARY -- OPERATING RATING SUMMARY --
MEMBER ID. G 1
SPAN 1
CRITICAL C.P. DIST. 44.9 FEET
LIVE LOAD DESIGNATION H15
MEMBER CAPACITY
DL EFFECT
MOMENT
(FT. KIPS)
2255.8
1360.9
CAPACITY FOR (LL+I) 894.9
ACTUAL (LL+I) 328.7
INVENTORY RATING H 40.84
MEMBER CAPACITY
DL EFFECT
MOMENT
(FT. KIPS)
2732.8
1360.9
CAPACITY FOR (LL+I) 1371.9
ACTUAL (LL+I) 558.1
OPERATING RATING HS 49.17

SUMMARY OF RATING CALCULATIONS-----STRUCTURE MEMBER G 2 BARS-PC RELEASE 5.5
INVENTORY AND/OR OPERATING ANALYSIS

INPUT CODING --
DATE 10/21/97
BY A. MCNABB
STRUCTURE LM 12.91
D/P STR. I.D.-- ARM-120
INVENTORY
LIVE LOAD RATING OPERATING
H15 H 28.84 HS20 HS 32.07

STRUCTURE DESCRIPTION -- LOCATION -- MICROFILM REEL NUMBERS --
IDENTIFICATION LM 12.91 DISTRICT 3 DESIGN PLANS
TYPE PCBB COUNTY 80 COMPUTATIONS
YEAR OF CONSTR. 1960 CONSTR. RTE. I-40 CORRESPONDENCE
LENGTH 510.00 FEET
ROADWAY WIDTH 42.00 FEET
NUMBER OF SPANS 7
KEY RTE. 0-
MARKED RTE.

ANALYST REMARKS --
I-40 OVER CANEY FORK RIVER WITH BRIDGE WIDEN AND NEW DECK ADDED.

INVENTORY RATING SUMMARY -- OPERATING RATING SUMMARY --
MEMBER ID. G 2 MEMBER ID. G 2
SPAN 1 SPAN 1
CRITICAL C.P. DIST. 31.2 FEET CRITICAL C.P. DIST. 31.2 FEET
LIVE LOAD DESIGNATION H15 LIVE LOAD DESIGNATION HS20
MEMBER CAPACITY
DL EFFECT 616.0 DL EFFECT 616.0
MOMENT
(FT. KIPS) 1071.9 (FT. KIPS) 1337.5
CAPACITY FOR (LL+I) 455.9 CAPACITY FOR (LL+I) 721.6
ACTUAL (LL+I) 237.1 ACTUAL (LL+I) 450.0
INVENTORY RATING H 28.84 OPERATING RATING HS 32.07

SUMMARY OF RATING CALCULATIONS-----STRUCTURE MEMBER G 3 BARS-PC RELEASE 5.5
INVENTORY AND/OR OPERATING ANALYSIS

D/P STR. I.D.-- ARN-120

STRUCTURE LM 12.91

INPUT CODING --

DATE 10/21/97
BY A. MCNABB

INVENTORY		OPERATING	
LIVE LOAD	RATING	LIVE LOAD	RATING
H15	H 30.82	HS20	HS 34.82

STRUCTURE DESCRIPTION --		LOCATION --		MICROFILM REEL NUMBERS --	
IDENTIFICATION	LM 12.91	DISTRICT	3	DESIGN PLANS	
TYPE	PCBB	COUNTY	80	COMPUTATIONS	
YEAR OF CONSTR.	1960	CONSTR. RTE.	I-40	CORRESPONDENCE	
LENGTH	510.00 FEET	CONSTR. SEC.			
ROADWAY WIDTH	42.00 FEET	CONSTR. STA.	0+ .		
NUMBER OF SPANS	7	KEY RTE.			
		MARKED RTE.			

ANALYST REMARKS --

I-40 OVER CANEY FORK RIVER WITH BRIDGE WIDEN AND NEW DECK ADDED.

INVENTORY RATING SUMMARY --		OPERATING RATING SUMMARY --	
MEMBER ID.	G 3	MEMBER ID.	G 3
SPAN	1	SPAN	1
CRITICAL C.P. DIST.	33.5 FEET	CRITICAL C.P. DIST.	33.5 FEET
LIVE LOAD DESIGNATION	H15	LIVE LOAD DESIGNATION	HS20
MOMENT (FT. KIPS)		MOMENT (FT. KIPS)	
MEMBER CAPACITY	1246.8	MEMBER CAPACITY	1561.7
DL EFFECT	707.5	DL EFFECT	707.5
CAPACITY FOR (LL+I)		CAPACITY FOR (LL+I)	
ACTUAL (LL+I)	539.2	ACTUAL (LL+I)	854.1
	262.4		490.6
INVENTORY RATING	H 30.82	OPERATING RATING	HS 34.82

*** FINAL SUMMARY OF RATING RESULTS FOR --- STRUCTURE ID. ARM-120 BARS-PC RELEASE 5.5
INVENTORY AND/OR OPERATING ANALYSIS

D/P STR. ID-- ARM-120

STRUCTURE LM 12.91

INPUT CODING--

DATE 10/21/97
BY A. McNABB

INVENTORY
LIVE LOAD RATING
H15 H 28.8
HS20 HS 32.1

OPERATING

STRUCTURE DESCRIPTION--

IDENTIFICATION LM 12.91
TYPE PCBB
YEAR OF CONSTR. 1960
LENGTH 510.00 FEET
ROADWAY WIDTH 42.00 FEET
NUMBER OF SPANS 7

LOCATION--

DISTRICT 3
COUNTY 80
CONSTR. RTE. I-40
CONSTR. SEC. 0+
CONSTR. STA. 0+
KEY RTE. MARKED RTE.

MICROFILM REEL NUMBERS--

DESIGN PLANS
COMPUTATIONS
CORRESPONDENCE

ANALYST REMARKS--

I-40 OVER CANEY FORK RIVER WITH BRIDGE WIDEN AND NEW DECK ADDED.

INVENTORY RATING SUMMARY

MEMBER I.D. G 2
SPAN 1
CRITICAL C.P. DIST. 31.2 FEET
LIVE LOAD DESIGNATION H15

MEMBER CAPACITY 455.9
DL EFFECT 237.1

MOMENT
(FOOT-KIPS)
1071.9
616.0

INVENTORY RATING H 28.84

OPERATING RATING SUMMARY

MEMBER I.D. G 2
SPAN 1
CRITICAL C.P. DIST. 31.2 FEET
LIVE LOAD DESIGNATION HS20

MEMBER CAPACITY 721.6
DL EFFECT 450.0

MOMENT
(FOOT-KIPS)
1337.5
616.0

OPERATING RATING HS 32.07

DETAIL DATA FOR FLEXURAL MEMBER

DATE 10/21/97

NO. SPANS = 1
NOT SYMMETRICAL

D/P STRUCTURE I.D. ARM-120
MEMBER I.D.--G01

MATERIAL--PSC

LL DIST. FACT. = .677

SUPERIMPOSED CONCENTRATED DL(S)

DIST. FROM LT SUPPORT***

DL DUE TO

MEM. WEIGHT

W(LT) W(RT)

LBS/FT LBS/FT

798.4 798.4

SPAN LENGTH RING. LENGTH

NO. FT. NO. FT.

1 89.854 1 89.854

LT RT

01 01

VAR

CODE

S

T

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LT

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CHECK POINTS RATED--

SPAN DIS FRM FUNC SPAN DIS FRM FUNC

NO. LT SPRT M VL VR NO. LT SPRT M VL VR

FT. FT.

1 .000 X

1 44.927 X

1 89.854 X

DETAIL DATA FOR FLEXURAL MEMBER

DATE 10/21/97

NO. SPANS = 1
NOT SYMMETRICAL

D/P STRUCTURE I.D. ARM-120
MEMBER I.D.--G02

MATERIAL--PSC

LL DIST. FACT. = .842

SUPERIMPOSED CONCENTRATED DL(S)

DIST. FROM LT SUPPORT***

STIFF SPAN P

FT. TRANS. LONG. NO. KIPS

FT.

SUPERIMPOSED DISTRIBUTED DL(S)

LENGTH DISTRIBUTED*****

DIST. FROM LT SUPPORT***

SPAN W(LT) W(RT) *

NO. LBS/FT LBS/FT FT.

1 550.0 550.0 .000 62.438

VAR

CODE

S

T

B

01

DL DUE TO

MEM. WEIGHT

W(LT) W(RT)

LBS/FT LBS/FT

714.1 714.1

SPAN LENGTH RING. LENGTH

NO. FT. NO. FT.

1 62.438 1 62.438

01 01

CHECK POINTS RATED--

SPAN DIS FRM FUNC SPAN DIS FRM FUNC

NO. LT SPRT M VL VR NO. LT SPRT M VL VR

FT. FT.

1 .000 X

1 31.219 X

1 62.438 X

DETAIL DATA FOR FLEXURAL MEMBER

DATE 10/21/97

NO. SPANS = 1
NOT SYMMETRICAL

D/P STRUCTURE I.D. ARM-120
MEMBER I.D.--G03

MATERIAL--PSC

LL DIST. FACT. = .842

SUPERIMPOSED CONCENTRATED DL(S)
DIST. FROM LT SUPPORT***

LENGTH DISTRIBUTED DL(S)
DIST. FROM LT SUPPORT***

DL DUE TO
MEM. WEIGHT

W(LT) W(RT)

LBS/FT LBS/FT

714.1 714.1

VAR

CODE

S

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B

LT

RT

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SPAN LENGTH RING. LENGTH

NO. FT.

1 66.917

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CHECK POINTS RATED--

SPAN DIS FRM FUNC SPAN DIS FRM FUNC

NO. LT SEPT M VL VR NO. LT SEPT M VL VR

FT. FT.

1 .000 X

1 33.458 X

1 66.917 X

D/P STRUCTURE I.D. ARM-120
MEMBER I.D.--G01
C.P. LOCATION

MEMBER I.D.	GOI
C.P. LOCATION	1.50

-----SECTION MODULUS-----

NON-COMP: D = 39.34 KD = 9.54 JD = 36.25

*****	ULTIM. STRENGTH	*****	MOMENT CAPACITY
*****		*****	

STEEL	+ BEND	- BEND	+ BEND	- BEND
PSI	FT-KIPS	FT-KIPS	FT-KIPS	FT-KIPS

OPERATING	248000.0	5000.0	2852.4	.0	2852.4	.0
OST VEH1	.0	.0	.0	.0	.0	.0

OST VEH2	.0	.0	.0	.0	.0
OST VEH3	.0	.0	.0	.0	.0
OST SPEC	.0	.0	.0	.0	.0

	****	TOTAL DL	*****	AVAIL.CAPAC.FOR LL+IMPACT	BOT	TOP	TOP	BOT	B
		MOMENT EFFECT							

FT-KIPS	FEND	F-KPS	F-KPS
1360.9	- .0	894.9	.0
INVENTORY	894.9	1371.9	.0
OPERATING	1491.5		
VEH. 1	.0		
** ULTIMATE			
S MOMENT CAPAC.			
VEH. 2	.0		
VEH. 3	.0		
FT-KIPS	.0		
3708.1	.0		
SPECIAL	.0		
.0			

RATING FACT.	SAFE LOAD CAPACITY TONS	RATING VALUE
2.723	40.8 H	40.8
2.458	88.5 HS	49.2

0.000
0.
0.000
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0.000
0.
0.000

DATE 10/21/97

[illegible]

Genotype	Sex	Age	Weight (kg)	Length (cm)	Condition Factor	Survival (%)	Survival (days)
G01	PSC	1	.000 L	35.9	24.7	17.1 L	.0 T
		1	44.927 L	.0	.0	6.2 T	6.2 T
		1	89.854 L	35.9	24.7	.0 T	18.1 L
G02	PSC	1	.000 L	22.3	17.2	18.4 L	.0 T
		1	31.219 L	.0	.0	7.5 T	7.5 T
		1	62.438 L	22.3	17.2	.0 T	18.9 L
G03	PSC	1	.000 L	23.9	18.4	18.9 L	.0 T
		1	33.458 L	.0	.0	7.5 T	7.5 T
		1	66.917 L	23.9	18.4	.0 T	19.5 L

Bridge No.: 80 — 10040 — 1291
Crossing:: CANEY FORK RIVER *
Federal No.: 80I00400026

Date:

April 23, 2003

PIC1



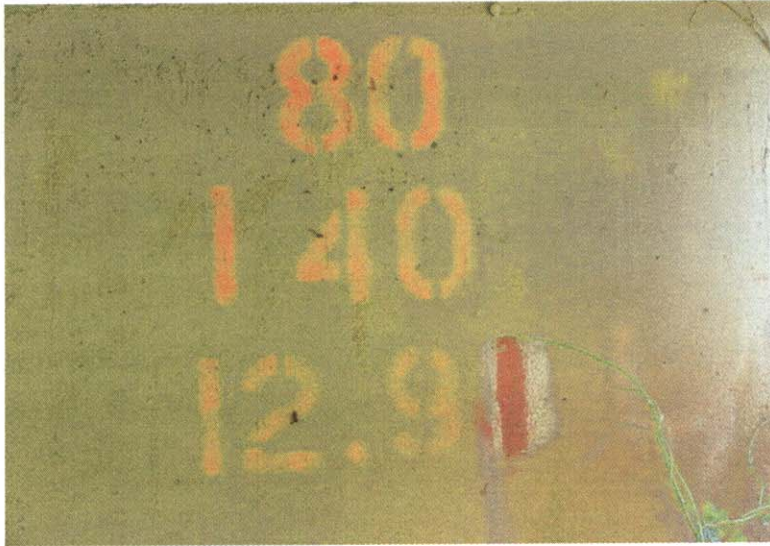
VIEW ACROSS DECK FROM A-APPR

Bridge No.: 80 — I0040 — 1291
Crossing:: CANEY FORK RIVER *
Federal Nc 80I00400026

Date:

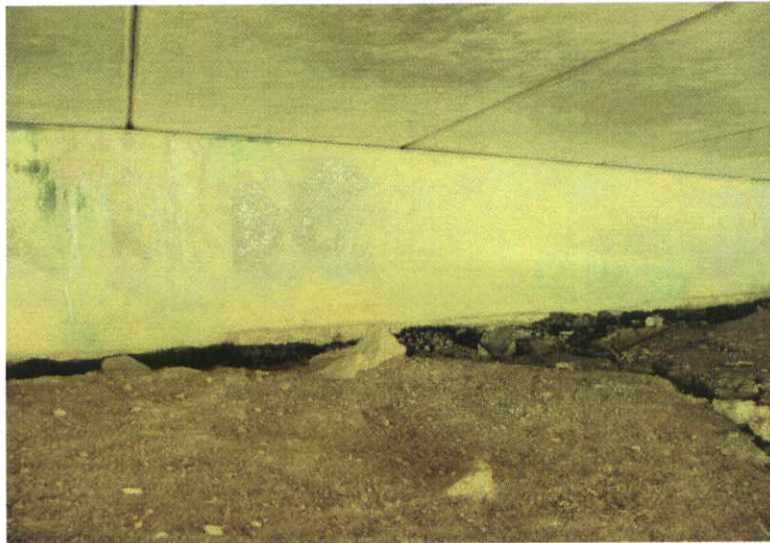
April 23, 2003

PIC2



BRIDGE NO. AT ABUTMENT # 1

PIC3



SETTLEMENT W/EXP PILES ABUT-1

Bridge No.: 80 — I0040 — 1291
Crossing:: CANEY FORK RIVER *
Federal No.: 80I00400026

Date:

April 23, 2003

PIC4



INLET-ELEV

PIC5



POT HOLES @ B-APPR JOINT

Bridge No.: 80 — 10040 — 1291
Crossing:: CANEY FORK RIVER *
Federal No.: 80100400026

Date:

June 12, 2001

PIC1



INLET-ELEV

Bridge No.: 80 — I0040 — 1291
Crossing:: CANEY FORK RIVER *
Federal N 80I00400026

Date:

June 12, 2001

PIC2



BRIDGE NO. AT ABUTMENT # 1

PIC3



EXP. PILES ABUT-1

Bridge No.: 80 — I0040 — 1291
Crossing:: CANEY FORK RIVER *
Federal No. 80I00400026

Date: .

June 12, 2001

PIC4



DRIFT @ PIER 1

PIC5



[VIEW ACROSS DECK](#)

Bridge No.: 80 — 10040 — 1291 LT.
Crossing:: CANEY FORK RIVER *
Federal No.: 80I00400026

Date:

June 16, 1999

PIC6



UPSTREAM

PIC7



BRIDGE NO. AT ABUTMENT # 1

Bridge No.: 80 — 10040 — 1291

Crossing:: CANEY FORK RIVER *

Federal No.: 80100400026

Date:

June 16, 1999

PIC1



ELEVATION INLET

Bridge No.: 80 — I0040 — 1291
Crossing:: CANEY FORK RIVER *
Federal No 80I00400026

Date:

June 16, 1999

PIC2



ACROSS TOP OF DECK

PIC3



APPROACH #1

Bridge No.: 80 — 10040 — 1291
Crossing:: CANEY FORK RIVER *
Federal No.: 80I00400026

Date:

June 16, 1999

PIC4



APPROACH #2

PIC5



DOWNSTREAM

Bridge No.: 80 — 10040 — 1291
Crossing:: CANEY FORK RIVER *
Federal No.: 80I00400026

Date:

June 16, 1999

PIC8



BENT TYPICAL

PIC9



PIER TYPICAL

Bridge No.: 80 — I0040 — 1291
Crossing:: CANEY FORK RIVER *
Federal No.: 80I00400026

Date: June 16, 1999

PIC10



BOTTOM OF DECK

PIC11



SETTLEMENT ABUTMENT #1

Bridge No.: 80 — 10040 — 1291
Crossing:: CANEY FORK RIVER *
Federal No.: 80I00400026

Date: June 16, 1999

PIC12



CORROSION ON PILES ABUTMENT #1 TYPICAL

PIC13



ABUTMENT TYPICAL

Bridge No.: 80 — 10040 — 1291
Crossing:: CANEY FORK RIVER *
Federal No.: 80I00400026

Date:

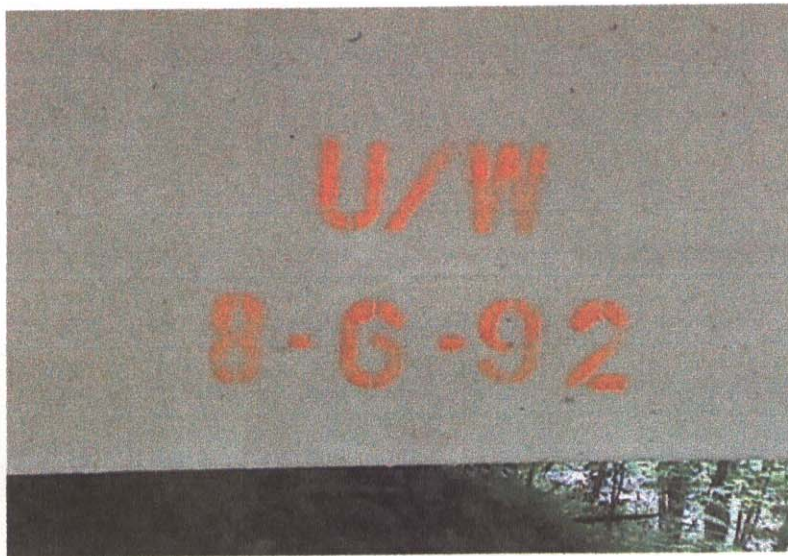
June 16, 1999

PIC14



LIGHT DEBRIS AT JOINT

PIC15



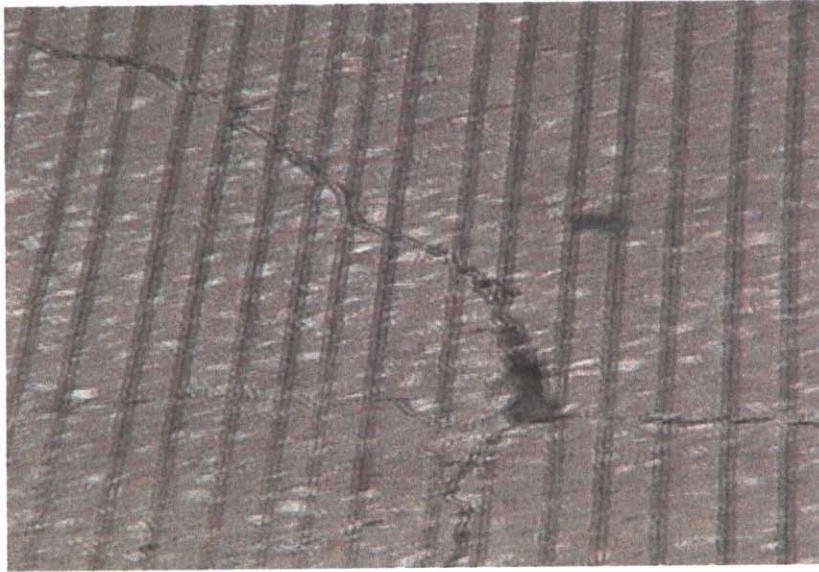
UNDERWATER INSPECTION DATE

Bridge No.: 80 — I0040 — 1291
Crossing:: CANEY FORK RIVER *
Federal No.: 80I00400026

Date:

June 16, 1999

PIC16



TYPICAL CRACKS IN DECK ALL SPANS

PIC17



PAVEMENT SETTLEMENT AND RAVELING 'B' APPROACH

ROUTINE BRIDGE INSPECTION REPORT

Page No. _____

Form BIR 3.0C
(Rev. 9-22-98)
DT-1537

Field Report No. 16 Date 4-23-03
Previous Report No. 15 Date 6/12/2001
Plans: yes

Bridge No. 80100400026
Eleven Digit No.

Bridge Location No. 80 - 10040 - 12.91 L
Co. Route Log Mile

I 40 over CANEY FORK RIVER * Indepth Insp. Req'd: no
Road Name Crossing (If yes itemize limits under comment)

Structure Type HBB FRACTURE CRITICAL: no

FEATURE CHANGES:

Wearing Surface Type _____ Depth _____ (in.)
Bridge Rail Describe changes: _____
Approach Rail _____

CLEARANCE CHANGES: (If yes make changes below)

Vertical Clearance over deck _____ (ft.-in.)
Vertical Under Clearance _____ (ft.-in.)
Horizontal Under Clearance _____ (*. * ft.)
Deck Width Curb/Curb _____ (*. * ft.)
Deck Width Rail/Rail _____ (*. * ft.)
Sidewalk Width Rt. _____ Lt. _____

INSPECTORS

Daniel _____
Crutcher _____
Waller _____
Thompson _____

Condition: **GOOD** (If change describe in comments)

Comments

Approaches	F	settlement & potholes @ Abut. 2
Deck Condition (Item 58)	F	1/8" open cracks in all spans
Superstructure (Item 59)	G	
a. Beams	G	
b. Bearings	G	
c. Diaphragms	N/A	
Substructure (Item 60)	G	
a. Caps/Bridge Seats	G	
b. Columns/Piles	F	lgt. corr on piles @ Abut. #1
c. Footings	G	
d. Wing W./Breast W.	G	
Scour/Erosion	G	8" settlement @ Abut. #1 w/ 3 exposed piles
Channel (Item 61)	G	

UNDERWATER INSPECTION

To Be Performed By: N/A

Date Underwater Insp. -

BRIDGE is: open

COMMENTS:

Weight Limit Posted no

Gross..... no Tons

2 Axle..... no Tons

3 or more Axles.. no Tons

Supervising Bridge Inspector: Martin Daniel

BRIDGE RATING: GOOD

SUMMARY
80-I40-12.91 LT
4/23/2003

I40/Caney Fork River
7 Span/C.B.B.

This bridge was inspected and found to be in **good** condition. Approach alignment and approach areas are in good condition. The approach guardrail and bridge rail are standard type and good. There are no paddleboards.

Parapet and drains are good. The expansion joints are good. Deck has random 1/8" open cracks in all spans and is more heavily cracked in right lane and is rated fair. There is only light joint leakage stains on pier #1 cap. The bearing devices, along with superstructure elements are in good condition.

The abutments are in good condition. There was some embankment settlement up to 1' at abutment #1 with (3) exposed piles. This pile shows light corrosion on the exposed areas at abutment #1. Exact measurements cannot be taken. The piers and bents are good. There is no problem with scour at this time. There is moderate drift at pier #1.

Martin Daniel

ROUTINE BRIDGE INSPECTION REPORT

Page No. _____

Form BIR 3.0C
(Rev. 9-22-98)
DT-1537

Field Report No. 14 Date 6/16/99
Previous Report No. 15 Date 6-12-01
Plans: yes

Bridge No. 80I00400026
Eleven Digit No.

Bridge Location No. 80 - I0040 - 12.91 L
Co. Route Log Mile

I 40

over CANEY FORK RIVER *

Indepth Insp. Req'd: NO

Road Name

Crossing

(If yes itemize limits under comment)

Structure Type HBB

FRACTURE CRITICAL: NO

FEATURE CHANGES:

Wearing Surface _____ Type _____ Depth _____ (in.)

Bridge Rail _____ Describe changes:

Approach Rail _____

CLEARANCE CHANGES: (If yes make changes below)

Vertical Clearance over deck _____ (ft.-in.)

Vertical Under Clearance _____ (ft.-in.)

Horizontal Under Clearance _____ (*. ft.)

Deck Width Curb/Curb _____ (*. ft.)

Deck Width Rail/Rail _____ (*. ft.)

Sidewalk Width Rt. _____ Lt. _____

INSPECTORS

Hunter
Daniel
Walker
Thompson

Condition: GOOD (If change describe in comments)

Comments

Approaches

Deck Condition (Item 58)

Superstructure (Item 59)

a. Beams

b. Bearings

c. Diaphragms

Substructure (Item 60)

a. Caps/Bridge Seats

b. Columns/Piles

c. Footings

d. Wing W./Breast W.

Scour/Erosion

Channel (Item 61)

G	There is 1" settlement at "B" end.
F	Randomly open cracks in all spans
G	
G	
G	
G	
G	
G	
G	
F	1' settlement at Abut #1
G	

UNDERWATER INSPECTION

To Be Performed By: none required

Date Underwater Insp. 1

BRIDGE is: open

COMMENTS:

Weight Limit Posted NO

Gross..... Tons

2 Axle..... Tons

3 or more Axles.. Tons

Supervising Bridge Inspector: Gilbert Wayne Hunter

BRIDGE RATING: GOOD

SUMMARY
80-I40-12.91 LT
6-12-01

I40/Caney Fork River
7 Span/C.B.B.

This bridge was inspected and found to be in **good** condition. Approach alignment and approach areas are in good condition. The approach guardrail and bridge rail are standard type and good. There are no paddleboards.

Wearing surface, parapet, and drains are good. The expansion joints are good. Deck has random 1/16" open cracks in all spans and is more heavily cracked in right lane and is rated fair. There is only light joint leakage stains on pier #1 cap. The bearing devices, along with superstructure elements are in good condition.

The abutments are in good condition. There was some embankment settlement up to 1' at abutment #1 with (3) exposed piles. This pile shows light corrosion on the exposed areas at abutment #1. Exact measurements cannot be taken. The piers and bents are good. There is no problem with scour at this time. There is moderate drift at pier #1.

Gilbert Hunter

BRIDGE INSPECTION REPORT

FORM BIR 3.0
Rev. 09/24/98
T-0069

FIELD REPORT NO. 14 DATE 6-16-99
REVIOUS REPORT NO. 13 DATE 5-12-97
PLANS ---- YES ☒ NO ☐

BRIDGE NO. 80I00400026
ELEVEN DIGIT NO.

BRIDGE LOC. NO. 80-I40-12.91
CO. ROUTE LOG MILE

I40 OVER Canev Fork River
ROAD NAME FEATURE INTERSECTED

YEAR CONSTRUCTED 1959 COUNTY Smith MAINTENANCE DISTRICT NO. 32
(ESTIMATED OR ACTUAL)

[] [X]
YEAR WIDENED 1991 YEAR REHABILITATED 1991
ESTIMATED OR ACTUAL ESTIMATED OR ACTUAL
[] [X] [] [X]

FEATURES

WEARING SURFACE-- CONCRETE ☒ TIMBER ☐ ASPHALT ☐ (DEPTH=____)
FLARED WIDTH ----- YES ☐ NO ☒
NAVIGATIONAL CONTROL-- YES ☐ NO ☒
MEDIAN WIDTH ----- OPEN ☒ NONE ☐ CLOSED ☐

BRIDGE SKEW 74° LT ☐ RT ☒

STRUCTURE TYPE H66 NO. SPANS 7
Main Span Main Span

STRUCTURE TYPE - NO. SPANS -
Approach Spans Approach Spans

MAXIMUM SPAN LENGTH 90' TOTAL LENGTH 510'

WIDTHS CLEARANCES
DECK OUT-TO-OUT 44' MIN. VERTICAL OVER DECK /
ROADWAY CURB/CURB 42' MIN. VERTICAL UNDER CL /
SIDEWALK - RT - LT MIN. LATERAL UNDER CL / RT
*APPROACH ROADWAY 24' LT
APPR. SHLD. 10' RT 10' LT
*DOES NOT INCLUDE SHOULDER

UNDERWATER INSPECTION

INSPECTION PERFORMED BY:
DOT FIELD TEAM [] DATE _____
CONTRACT DIVERS ☒ DATE 8-6-92
NONE REQUIRED []

INSPECTORS
1. Hunter
2. Daniel
3. Crutcher
4. Waller
5. _____
6. _____
7. _____
8. _____
9. _____
(<25')
NBIS BRIDGE
LENGTH > 25'
(ft) (in)

CHANGE IN STRUCTURAL CONDITION YES ☐ NO ☒
MAJOR REPAIRS MADE YES ☐ NO ☒

FRACTURE CRITICAL
DETAILS: YES ☐ NO ☒
IF YES, INCLUDE BIR 3.9

COMMENTS: _____

BRIDGE RATING [X] [] [] []

Wilbert Wayne Hunter
SUPERVISING BRIDGE INSPECTOR

GOOD FAIR POOR CRITICAL

BRIDGE LOC. NO. 80 - I 40 - 12.91 L.L.
CO. ROUTE L.M.

DATE: 6-16-99

PERFORMANCE EVALUATION

Time of day inspected 1:00 Weather conditions Partly cloudy

Vehicles observed TRACTOR Trailer & passenger type

<u>LIVE LOAD BEHAVIOR</u>	<u>YES</u>	<u>NO</u>	<u>COMMENTS</u>
Substructure			
Horiz. & Vert. Defl. - - -	[]	[X]	
Vibration - - - - -	[]	[X]	
Superstructure			
Horiz. & Vert. Defl. - - -	[X]	[]	
Vibration - - - - -	[X]	[]	

APPROACH

Alignment	(G) F P C	
Slab	(G) F P C	
Joints	G F P C	<u>N/A</u>
Pavement	G (F) P C	<u>Settlement at Approach 1"</u>
Embankment	(G) F P C	
Drains	G F P C	<u>NA</u>

TRAFFIC SAFETY FEATURES

					STANDARD	SUB-STANDARD
Bridgerailing	(G) F P C	[X]	[]			
Transitions	(G) F P C	[X]	[]			
Guardrail	(G) F P C	[X]	[]			
Guardrail Terminal	(G) F P C	[X]	[]			

SIGNING

	YES	NO	NEEDED	
Paddleboard - - - - -	[]	[X]	[]	WEIGHT LIMIT POSTED
				YES [] NO [X]
Vertical Clearance (< 14') - - - -	[]	[]	[]	
Narrow [] One Lane Bridge [] - []	[X]	[]	[]	GROSS _____ TONS
				2 AXLE _____ TONS
				3 OR MORE
				AXLES _____ TONS
Other Signs or Plaques _____				
Comments Regarding Any Problems With Signing _____				

Other Recommendations _____

FORM BIR 3.2
Rev. 09/24/98
BT-0081

BRIDGE LOC. NO. 80 - T410 - 12.91 L.H. DATE: 6-16-99
CO. ROUTE L.M.

DECK

COMMENTS

WEARING SURFACE	G	(F)	P	C	<u>heavily cracked in 12. lane</u>
DECK - STRUCTURAL	G	F	P	C	<u>NV</u>
CONDITION					
CURBS	G	F	P	C	<u>NA</u>
MEDIAN	G	F	P	C	<u>NA</u>
SIDEWALKS	G	F	P	C	<u>NA</u>
PARAPET	(G)	F	P	C	<u>H.L. cracks</u>
RAILING	G	F	P	C	<u>NA</u>
PAINT	G	F	P	C	<u>NA</u>
DRAINS	(G)	F	P	C	
LIGHTING STD'S	G	F	P	C	<u>NA</u>
UTILITIES	G	F	P	C	<u>NA</u>
JOINT LEAKAGE	(G)	F	P	C	<u>light joint leakage</u>
EXPANSION JOINTS	(G)	F	P	C	<u>Moderate debris needs cleaning</u>

SUPERSTRUCTURE

COMMENTS

BEARING DEVICES	(G)	F	P	C	
RDERS OR BEAMS	(G)	F	P	C	
FLOOR BEAMS	G	F	P	C	<u>NA</u>
STRINGERS	G	F	P	C	<u>NA</u>
DIAPHRAGMS	G	F	P	C	<u>NA</u>
BRACING	G	F	P	C	<u>NA</u>
TRUSSES - GENERAL	G	F	P	C	
- PORTALS	G	F	P	C	
- BRACING	G	F	P	C	
PAINT	G	F	P	C	<u>NA</u>
ALIGNMENT OF	(G)	F	P	C	
MEMBERS					

TEXTURE COAT

CONDITION RATING	G	F	P	C	
OVERALL APPEARANCE	G	F	P	C	NEEDS SPOT PAINTING? YES [] NO []
STAINING	G	F	P	C	NEEDS REPAINTING? YES [] NO []
SCALING	G	F	P	C	
FADING	G	F	P	C	

COMMENTS: _____

COMMENDATIONS _____

FORM BIR 3.3
Rev. 09/24/98
DT-0082

BRIDGE LOC. NO. 80 - I40 - 12.91 L.L.
CO. ROUTE L.M.

DATE: 6-16-99

SUBSTRUCTURE

ABUTMENTS

COMMENTS

CAPS	(G)	F	P	C	
BREASTWALL	G	F	P	C	NA
WINGS	G	F	P	C	
BACKWALL	G	F	P	C	
PLUMB	G	F	P	C	
FOOTING	G	F	P	C	
PILES	G	(F)	P	C	3 EXPOSED piles w moderate corr
EMBANKMENT	G	(F)	P	C	Settlement 20LX 1'-H X 3'-BACK Abut #1
BEARING SURFACE	(G)	F	P	C	
BEARINGS	(G)	F	P	C	

SLOPE PAVING	G	F	P	C	NA
--------------	---	---	---	---	----

PIERS

CAPS	(G)	F	P	C	
COLUMNS	(G)	F	P	C	Pier #2 had 3'-L scale
PLUMB	(G)	F	P	C	
FOOTINGS	(G)	F	P	C	
PILES	G	F	P	C	NV
BEARING SURFACE	(G)	F	P	C	
BEARINGS	(G)	F	P	C	
BENTS					

CAPS	(G)	F	P	C	transverse cracks
COLUMNS	(G)	F	P	C	Bent #3 1/2 vertical crack 3'-L 61" DB
PLUMB	(G)	F	P	C	
FOOTINGS	G	F	P	C	NV
PILES	G	F	P	C	NV
BEARING SURFACE	(G)	F	P	C	
BEARINGS	(G)	F	P	C	

SCOUR CONDITION NONE [X]

RECOMMENDATIONS:

STREAM CHANNEL DATA AND CONDITIONS

STREAM CROSSING: Coney Fork River

- I. 1. Type of bed material? Bedrock & Gravel
2. Has the channel shifted? YES ☐ NO ☒ NOT APPARENT ☐
3. Condition of rip-rap? G F P C Est. & failed ☐ N/A ☒
4. Overall condition of channel? G ☒ F ☐ P ☐ C ☐
5. Item 61 - Code values 0 thru 9 according to the recording and coding guide currently in effect: 7
6. Underwater diver inspection recommended? YES ☐ NO ☒
If yes, why? _____

- II. Channel and bank stability conditions: (check if applicable)
1. Steep bank - Failures upstream ☐ downstream ☐ conditions
2. Moderate bank erosion ☒
3. Bank (a) low growth ☐ (b) large timber ☒
Vegetation (c) dead trees ☒ (d) clear banks ☐
4. Sediment or gravel accumulation: YES ☒ NO ☐ UNKNOWN ☐
5. Channel altered or straightened: YES ☐ NO ☒ UNKNOWN ☐
6. Stable conditions: (a) live growth ☒ (b) bedrock ☒
(c) boulders ☒ (d) flat slopes ☐
($\leq 2:1$)

- III. Waterway adequacy and debris characteristics: (check if applicable)
1. Bridge deck elevations:
(a) level with approach roadway ☒
(b) higher than approach roadway. ☐
(c) roadway approach ≥ 0.6 m above natural ground line. . ☒
2. Abutment encroaches into channel ☐
3. Large scour (blowhole) under bridge. ☐
4. Indications that flood waters overtop bridge:
NO ☒ YES ☐ OCCASIONALLY ☐ FREQUENTLY ☐ UNKNOWN ☐
5. Debris characteristics:
(a) debris present YES ☐ NO ☒
(b) debris likely to accumulate: YES ☒ NO ☐
(c) dead trees upstream: ☒ or downstream: ☒

IV. Comments: _____

SPECIAL INSPECTION DATA - FOR REASONS OTHER THAN FC OR SCOUR

- I. Does this bridge need a special inspection? YES ☐ NO ☒
II. Reason for special inspection: _____

NOTE: UNLESS OTHERWISE NOTED, MEASUREMENTS ARE TO BE TAKEN TO TWO (2) DECIMAL PLACES IN METERS.

SUMMARY
80-I40-12.91 LT
6-16-99

I40/Caney Fork River
7 Span/C.B.B.

This bridge was inspected and found to be in good condition. Approach alignment and approach areas are in good condition. The approach guardrail and bridge rail are standard type and good. There are no paddleboards.

Wearing surface, parapet, and drains are good. The expansion joints are good. Deck has random 1/16" open cracks in all spans and is more heavily cracked in right land and is rated fair. There is only light joint leakage stains on pier #1 cap. The bearing devices, along with superstructure elements are in good condition.

The abutments are in good condition. There was some embankment settlement up to 1' at abutment #1 with (3) exposed piles. This pile shows light corrosion on the exposed areas at abutment #1. Exact measurements cannot be taken. The piers and bents are good. There is no problem with scour at this time.

Gilbert Hunter

Top of curb Abut. A

LT. Br. Elev.

500.00

LT.

RT.

Abut	A	499.65	499.08
Bent	1	499.33	498.77
"	2	499.17	498.55
"	3	499.00	498.46
Pier	1	499.06	498.42
"	2	499.02	498.46
"	3	499.70	499.20
Abut	B	499.41	498.81

	499.42	500.00
	499.22	499.77
	499.05	499.61
	498.95	499.48
	498.85	499.42
	498.95	499.51
	499.61	499.21
	499.34	499.91

80-240-12.97

Key

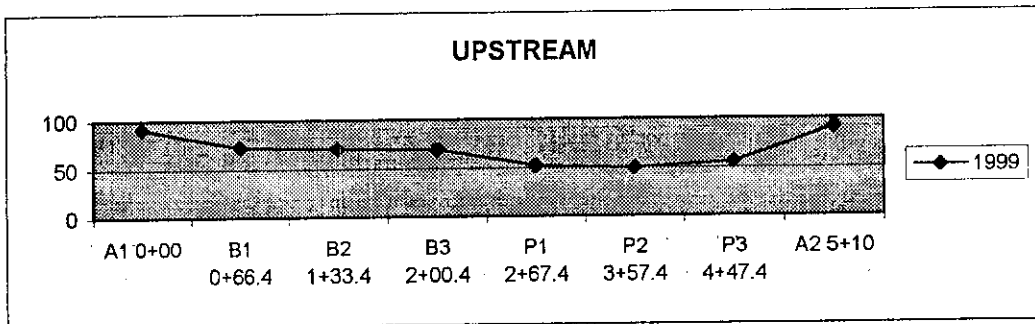
#3

LT. Lane

80-140-12.91 Lt.
 ASSUMED ELEV.-- 100 Ft.-- TOP OF PARAPET
 STATION ELEV.

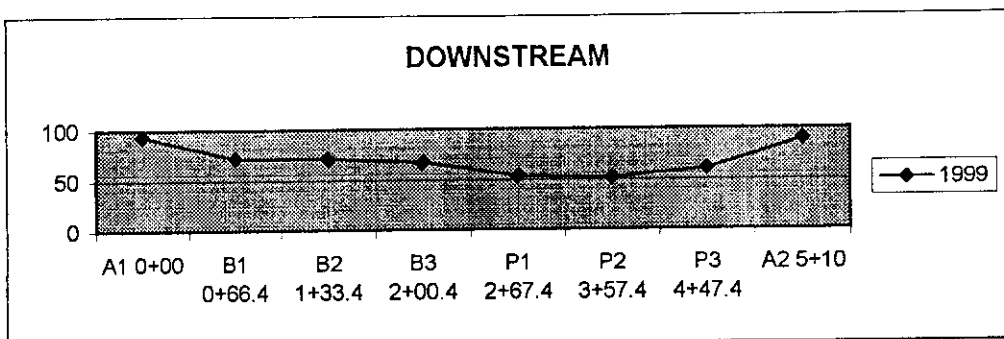
6/16/99

	1999
A1 0+00	91.7
B1 0+66.4	72.9
B2 1+33.4	71
B3 2+00.4	69.3
P1 2+67.4	52.1
P2 3+57.4	49.8
P3 4+47.4	55.8
A2 5+10	91.2



STATION ELEV.

	1999
A1 0+00	94.1
B1 0+66.4	72.5
B2 1+33.4	71.8
B3 2+00.4	68.4
P1 2+67.4	53.6
P2 3+57.4	52
P3 4+47.4	61
A2 5+10	89.8



267



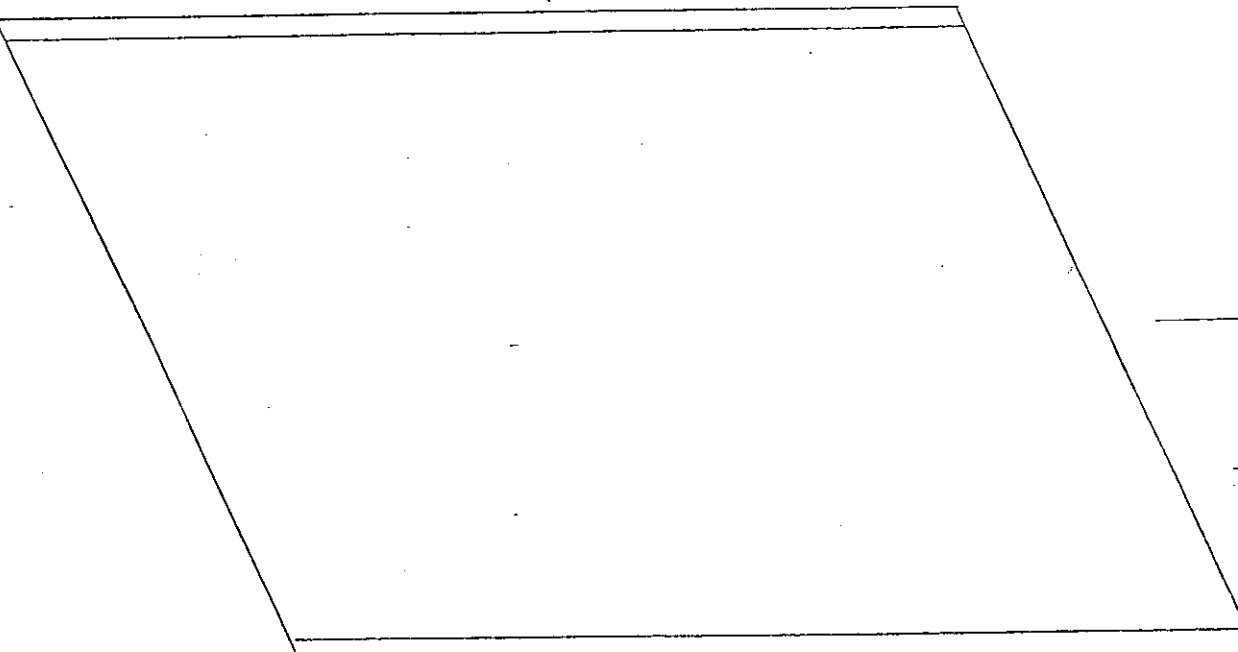
Br. ^{II} 80-I40-12.91 L.L.

Deck	F	$\frac{1}{16}$ " open cracks
Parapet	G	
Drains	NA	
Joints	NA	



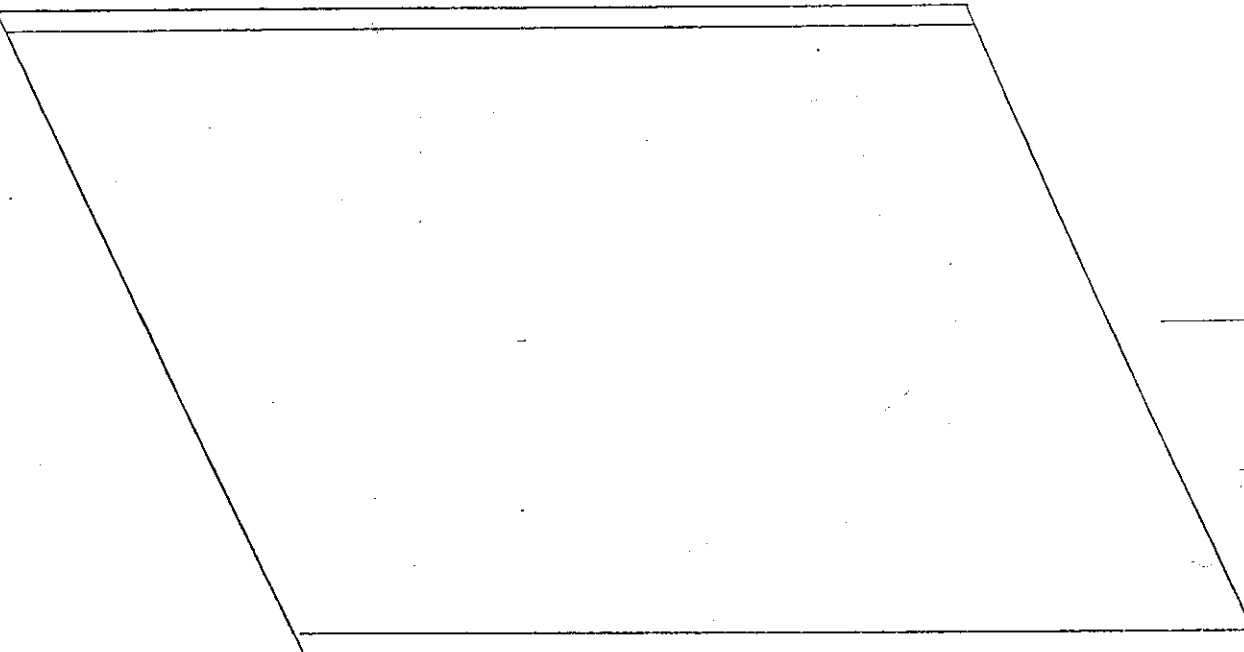
Br. II 80-I40-12.91 L.L.

DECK	F	$\frac{1}{16}$ " open CRACKS
Parapet	G	
Drains	N/A	
Joints	N/A	



Br. ^{II} 80-I40-12.91 L.L.

Deck	F	1/16" open vertical cracks
Parapet	G	
Drains	G	
Joints	NA	



Br. ^{II} 80-I 40-12.91 L.L.

Deck	F	$\frac{1}{16}$ " open CRACKS
Parapet	G	
Drains	G	
Joints	G	

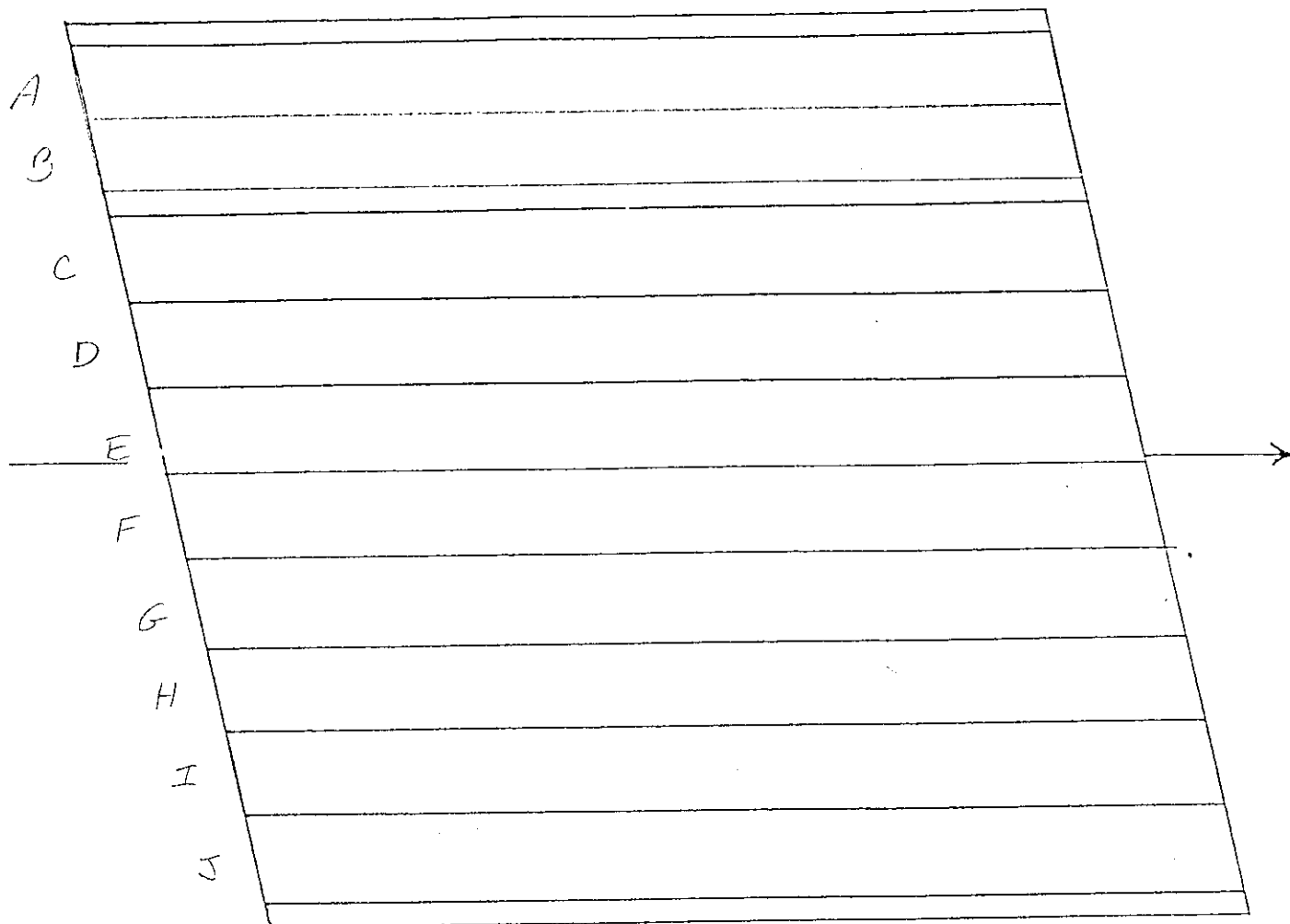
*Island
pieces*

Br. ^{II} 80-I40-12.91 L.L.

Deck	F	$\frac{1}{16}$ " open cracks
Parapet	G	
Drains	G	
Joints	N/A	

Br. # 80-I40-12.91 L.L.

DECK	F	$\frac{1}{16}$ " OPEN CRACKS
Parapet	G	
Drains	NA	
Joints	NA	



Bottom Slab = 1

Br. = 80-140-12.91 L.L.

Deck M/V overhangs are good

Diaph. M/V

Beams Good no. water leakage between beams

[illegible]

Br. = 80-I40-12.91 L.L.

Deck	N/V
Diaph.	N/A
Beans	Good

A

B

C

D

E

F

G

H

I

J

Br. = 80-140-12.91 L.L.

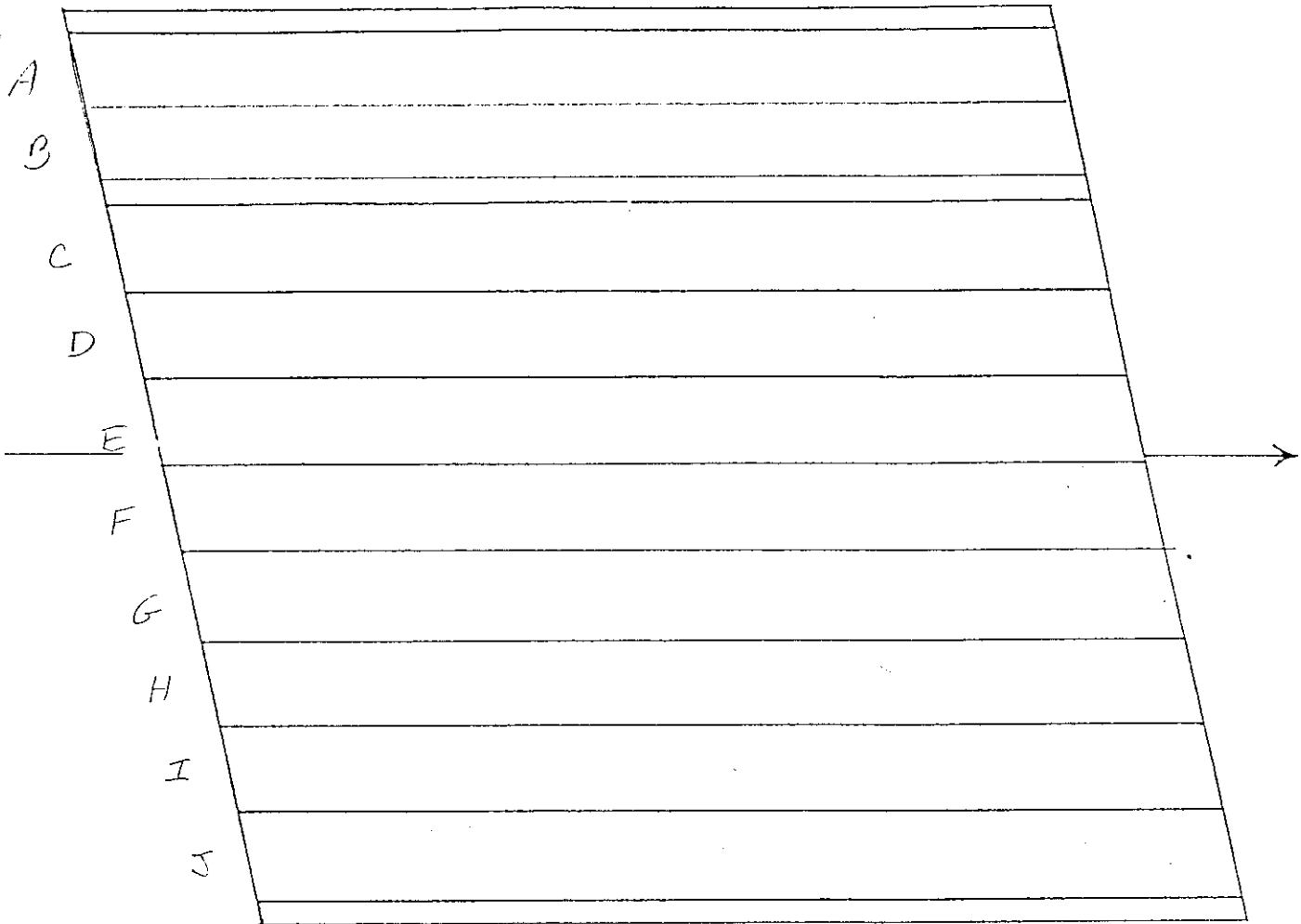
Deck	N/V
Diaph.	N/A
Beans	Good

Br. = 80-140-12.91 L.L.

Deck | N/V

Diaph.	N/A
--------	-----

Beans	Good
-------	------



Bottom Slab = 7

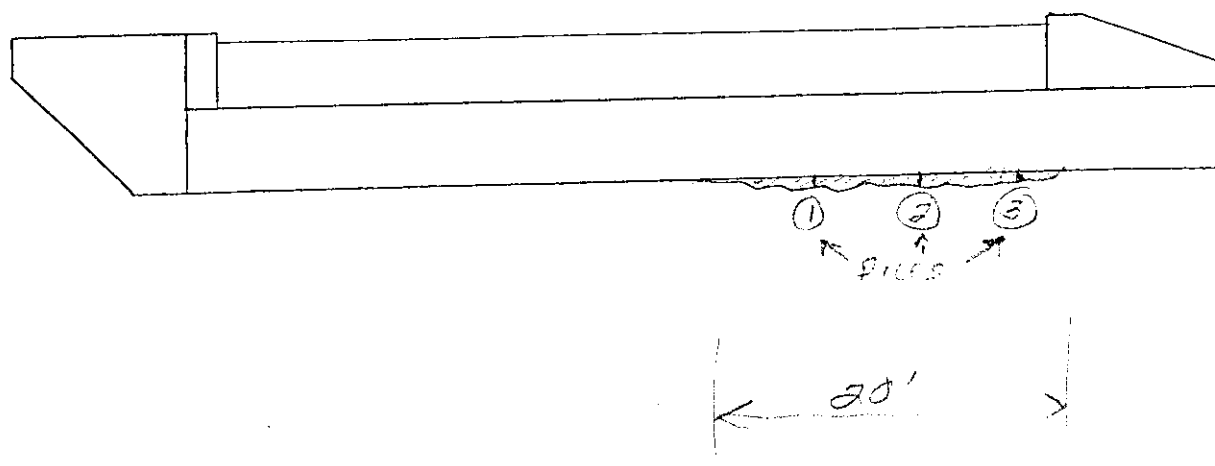
Br. = 80-140-12.91 L.L.

Deck N/V

Diaph. M/A

Beams Good

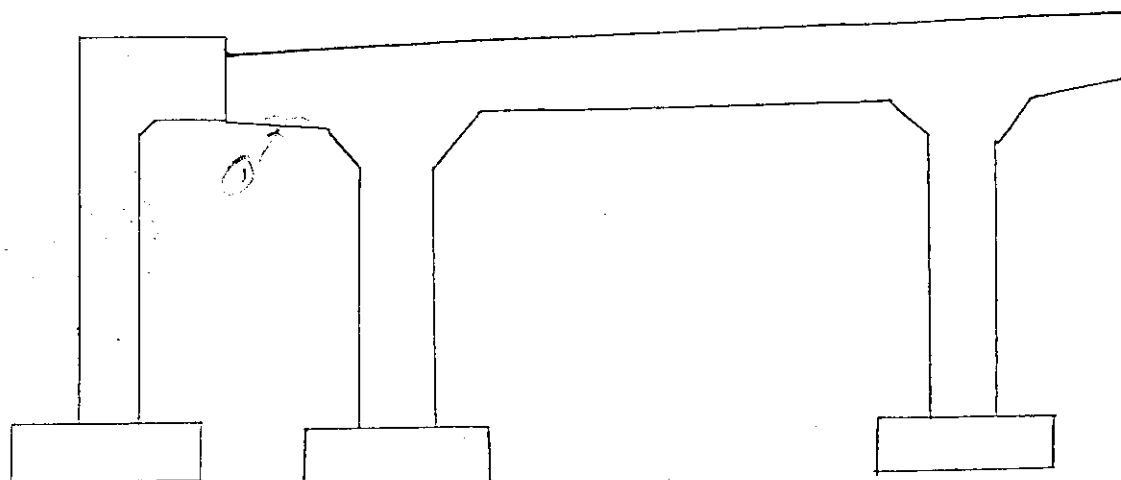
6-16-77
3



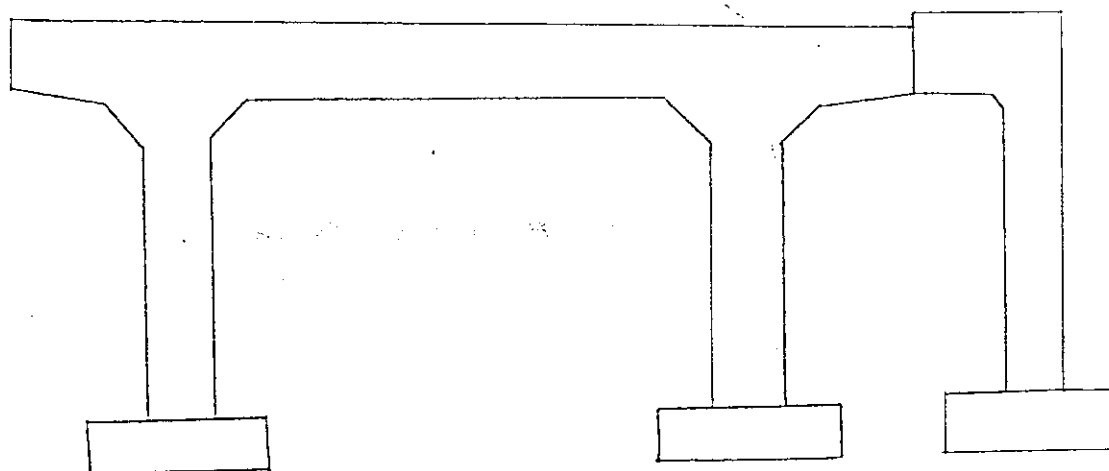
ABUT # 1

Br. # 80-I40-12.91 L.L.

BACKWALL	NV	
CAP	G	SETTLEMENT W/ EXPOSED PILING (3) 20' X 1' X 3' ^{BACK} UNDER
WINGS	G	
BEARINGS	G	
PILES	F	MODERATE COMPRESSION



FRONT

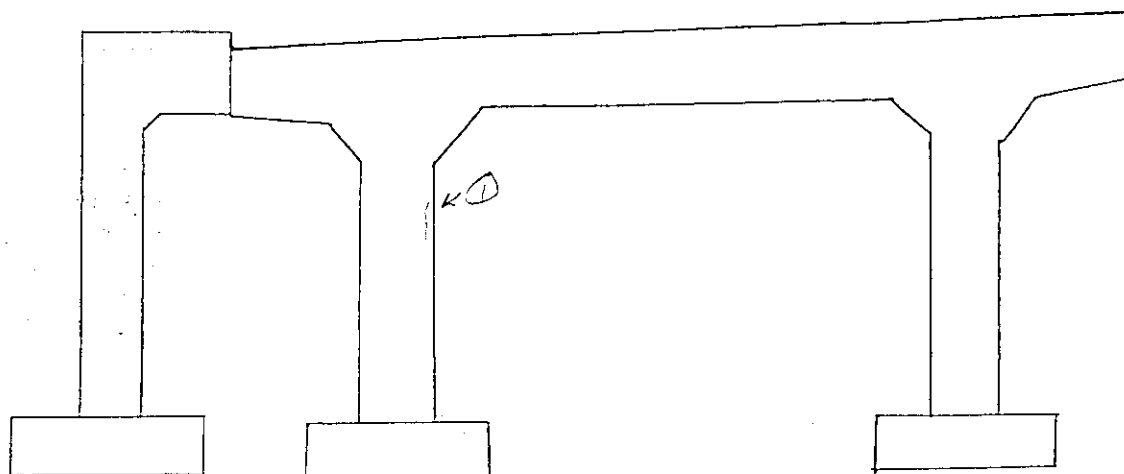


BACK

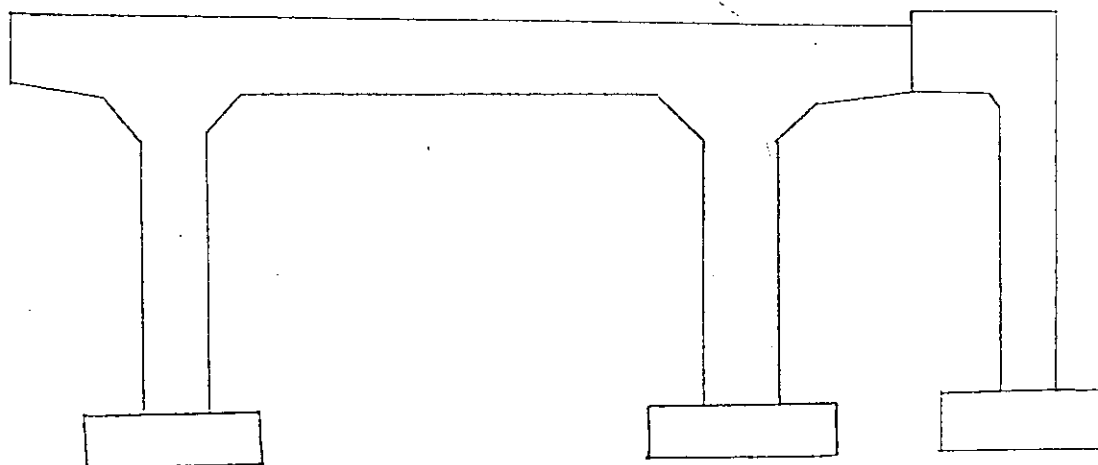
Bent = 2

Br. = 80-140-12.91 L.L.

CAP	G	TRANSVERSE CRACK UNDER SIDE OF CAP $\frac{1}{2}$ " x 3'
Columns	G	
FTG.	NV	
Beams	G	



FRONT



BACK

Bent F 3

Gr. = 80-140-12.91 L.L.

CAP	G	
Columns	G	① COLUMN B 1/16" VERTICAL CRACK 3' LONG
FTG.	NV	
Brings	G	

A hand-drawn sketch of a rectangular structure, possibly a window or door frame. It features a thick top horizontal bar and a diagonal line on the left side. The drawing is simple and appears to be a preliminary sketch.

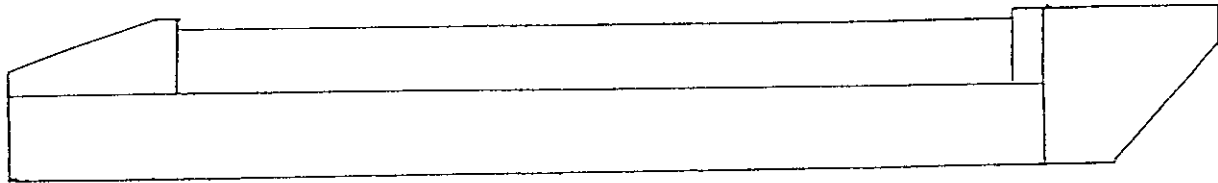
Technical drawing of a mechanical assembly, likely a pump or engine component. The drawing shows a side view of a housing with a central opening. A vertical support structure is visible on the left side. The drawing is labeled with 'E' on the right side.

Pier #3

Br. # 80-I40-12.91 L.L.

CAP	G
Wall	G
FTG.	NO
Bearings	G

6-16-77



ABUT # 2

Br. # 80-I40-12.91 L.L.

BACKWALL	NV
CAP	G
WINGS	G
BEARINGS	G

ESTIMATED QUANTITIES

ITEM NO.	DESCRIPTION	UNIT	80-140-10.37	80-140-12.91	TOTAL
			OVER HICKMAN CREEK	OVER CANEY FORK RIVER	
203-01	ROAD AND DRAINAGE EXCAVATION (UNCLASSIFIED)	C.Y.	5		5
203-03	BORROW EXCAVATION (UNCLASSIFIED)	C.Y.	10		10
204-08.01	BACKFILL MATERIAL (FLOWABLE MORTAR)	C.Y.	11		11
403-01	BITUMINOUS MATERIAL FOR TACK COAT (TC)	TON	1		1
411-01.01	MINERAL AGGREGATE (ACS) GRADING D	TON	44		44
411-07.11	PERFORMANCE GRADE ASPHALT CEMENT (P676-22)(BPMB-HM GR. 'D')	TON	3		3
415-01.02	COLD PLANING OF BITUMINOUS PAVEMENT	S.Y.	1350		1350
415-02.02	SALVAGE VALUE OF COLD PLANING	S.Y.	1350		1350
604-03.01	CLASS "A" CONCRETE (BRIDGES)	C.Y.	6		6
604-10.18	REINFORCING STEEL (REPAIRS)	LB.	253		253
1) 604-10.31	RESETTING EXISTING EXPANSION JOINTS	L.F.		21	21
2) 617-02	BRIDGE DECK REPAIRS (CRACK SEALING)	L.F.		54	54
3) 617-05	SEALANT	GAL		1	1
706-02.01	GUARDRAIL REMOVED AND RESET	L.F.	35		35
4) 707-02.04	REMOVE AND RESETTING EXISTING CHAIN-LINK FENCE (4')	L.S.	1		1
709-02	RUBBLE STONE RIP-RAP (GROUTED)	C.Y.	59		59
709-07	RUBBLE STONE RIP-RAP (PLAIN)	C.Y.	5		5
712-01	TRAFFIC CONTROL	L.S.	.5	.5	1
5) 712-02.02	INTERCONNECTED PORTABLE BARRIER RAIL	L.F.	610	600	1,210
5) 712-04.01	FLEXIBLE DRUMS (CHANNELIZING)	EACH	200		200
5) 712-05.01	WARNING LIGHTS (TYPE "A")	EACH	12		12
6) 712-05.03	WARNING LIGHTS (TYPE "C")	EACH	35		35
7) 8) 712-06.01	VERTICAL PANELS	S.F.	48		48
5) 712-06.10	NEW SIGNS (CONSTRUCTION)	S.F.	488		488
712-06.15	NEW SIGNS (CONSTRUCTION) ("BEE" ALERT)	EACH	4		4
5) 716-02.01	PLASTIC PAVEMENT MARKING (4" LINE)	L.M.	0.23		0.23
716-08.01	REMOVAL OF PAVEMENT MARKING (LINE)	L.F.	1200		1200
717-01	MOBILIZATION	L.S.	.5	.5	1
801-01.00	SEEDING (WITH MULCH)	UNIT	6		6
801-03.00	WATER (SEEDING & SODDING)	M.G.	1		1
803-01.00	SODDING (NEW SOD)	S.Y.	20		20

- 1) INCLUDES ALL COST FOR REPLACING OR REWELDING EXISTING LOOSE OR BROKEN ANCHOR STRAPS TO EXPANSION JOINT AT PIER NO. 1, SECTIONS OF NEW STEEL EXTRUSIONS, NEW MEMBRANE AND RESETTING JOINT IN NEW CONCRETE POUR. SEE DRAWING NO. BR-32-94 FOR NOTES AND DETAILS.
- 2) INCLUDES ALL COSTS FOR INSTALLING THE BRIDGE DECK CRACK SEALER (HMWM) INCLUDING CRACK PREPARATION, CLEANING, LABOR, SAND AND ALL MISCELLANEOUS MATERIALS REQUIRED TO SEAL THE BRIDGE DECK CRACKS ACCORDING TO SPECIAL PROVISION 604CR AND MANUFACTURER'S SPECIFICATIONS. THIS ITEM DOES NOT INCLUDE THE COST OF FURNISHING THE BRIDGE DECK CRACK SEALER (HMWM). THE DEPARTMENT OF TRANSPORTATION, STATE OF TENNESSEE ENGINEER SHALL FIELD LOCATE ALL BRIDGE DECK CRACKS TO BE SEALED.
- 3) INCLUDES ALL COSTS FOR FURNISHING THE SEALER MATERIAL (HMWM) FOR SEALING CRACKS. THE SEALER (HMWM) SHALL BE IN ACCORDANCE WITH SPECIAL PROVISION 604CR.
- 4) INCLUDES APPROXIMATELY 20 L.F. OF 4' CHAIN-LINK FENCE AT NORTHWEST SIDE OF ABUTMENT NO. 1.
- 5) QUANTITY MAY BE ADJUSTED BY ENGINEER.
- 6) TO BE MOUNTED ON DRUM IN TRANSITION AREAS AS ENGINEER DEEMS NECESSARY.
- 7) INCLUDES 32 S.F. VP-IL AND 16 S.F. VP-IR.
- 8) INCLUDES THE INSTALLATION AND MAINTENANCE OF A NEW SIGN PANEL, SHEETING, AND SUPPORTS. SEE SPECIAL PROVISION NO. 712F.

DESIGNED BY TERRY MACKIE DATE 05/1998
DRAWN BY SCOTT C. NELSON DATE 05/1998
SUPERVISED BY T. QUINN & T. CHRISTIANSON DATE 05/1998
CHECKED BY TOM QUINN DATE 05/1998

UTILITY NOTES

THE LOCATION OF UTILITIES SHALL BE FIELD LOCATED BY THE CONTRACTOR, AND BY CONTACTING THE UTILITY COMPANIES INVOLVED. SOME UTILITIES CAN BE LOCATED BY CALLING THE TENNESSEE ONE CALL SYSTEM, INC. AT 1-800-351-1111.

UNLESS OTHERWISE NOTED, ALL UTILITY ADJUSTMENTS WILL BE PERFORMED BY THE UTILITY OR IT'S REPRESENTATIVE. THE CONTRACTOR AND UTILITY OWNERS WILL BE REQUIRED TO CO-OPERATE WITH EACH OTHER IN ORDER TO EXPEDITE THE WORK REQUIRED BY THIS CONTRACT.

THE CONTRACTOR SHALL PROVIDE ALL NECESSARY PROTECTIVE MEASURES TO SAFEGUARD EXISTING UTILITIES FROM DAMAGE DURING CONSTRUCTION OF THIS PROJECT. IN THE EVENT THAT SPECIAL EQUIPMENT IS REQUIRED TO WORK OVER AND AROUND THE UTILITIES, THE CONTRACTOR WILL BE REQUIRED TO FURNISH SUCH EQUIPMENT. THE COST OF PROTECTING UTILITIES FROM DAMAGE AND FURNISHING SPECIAL EQUIPMENT WILL BE INCLUDED IN THE PRICE BID FOR OTHER ITEMS OF CONSTRUCTION.

THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR CONTACTING ALL AFFECTED UTILITIES PRIOR TO SUBMITTING HIS BID, IN ORDER TO DETERMINE THE EXTENT TO WHICH UTILITY RELOCATIONS AND/OR ADJUSTMENTS WILL HAVE UPON THE SCHEDULE OF THE WORK FOR THE PROJECT. SOME UTILITY FACILITIES MAY NEED TO BE ADJUSTED CONCURRENTLY WITH THE CONTRACTOR'S OPERATIONS, WHILE SOME WORK MAY BE REQUIRED "AROUND" UTILITY FACILITIES THAT WILL REMAIN IN PLACE. IT IS UNDERSTOOD AND AGREED THAT THE CONTRACTOR SHALL RECEIVE NO ADDITIONAL COMPENSATION FOR ANY DELAYS OR INCONVENIENCE CAUSED BY THE UTILITY ADJUSTMENTS.

THE CONTRACTOR SHALL NOTIFY EACH INDIVIDUAL UTILITY OWNER OF HIS PLAN OF OPERATION IN THE AREA OF THE UTILITIES. PRIOR TO COMMENCING WORK, THE CONTRACTOR SHALL CONTACT THE UTILITY OWNERS AND REQUEST THEM TO PROPERLY LOCATE THEIR RESPECTIVE UTILITY ON THE GROUND. THIS NOTIFICATION SHALL BE GIVEN AT LEAST THREE (3) BUSINESS DAYS PRIOR TO COMMENCEMENT OF OPERATIONS AROUND THE UTILITY.

GENERAL NOTES

SPECIFICATIONS: Standard Road and Bridge Specifications of the Tennessee Department of Transportation. (March 1, 1995 edition)

DESIGN SPECIFICATIONS: AASHTO 1996 Edition with addenda.

SHOP DRAWINGS: SHALL BE SUBMITTED ACCORDING TO SPECIAL PROVISION NO. 105A. EXCEPT SHOP DRAWINGS SHALL BE SUBMITTED TO THE HEADQUARTERS BRIDGE INSPECTION AND REPAIR OFFICE IN LIEU OF THE DIVISION OF STRUCTURES.

WELDING: ANSI/AASHTO/AWS D1.5-88 BRIDGE WELDING CODE and the Standard Specifications.

SPECIAL NOTE TO CONTRACTOR: Contractor shall use extreme care and take any measure necessary to insure that no debris is dropped into the stream. Any debris which is allowed to drop on the banks below the bridge shall not be allowed to enter the stream and shall be removed and disposed of by the contractor. Cost of removing and disposing of debris shall be included in items bid on.

CONCRETE (EXPANSION JOINT REPAIR): SHALL BE HIGH EARLY STRENGTH CONCRETE WITH A COMPRESSIVE STRENGTH OF 3000 psi AT 18 HOURS. THE CONTRACTOR SHALL PROVIDE PROOF PRIOR TO BEGINNING WORK THAT THE PROPOSED CONCRETE MIX WILL OBTAIN REQUIRED PROPERTIES. PROOF SHALL BE PROVIDED BY AN INDEPENDENT TESTING COMPANY AND SUBMITTED TO THE MATERIALS AND TEST DIVISION OF THE TENNESSEE DEPARTMENT OF TRANSPORTATION FOR APPROVAL. THE MIX TO MEET THE REQUIREMENTS OF THE STANDARD SPECIFICATIONS CLASS "A", EXCEPT THE CEMENT CONTENT SHALL BE A MINIMUM OF 714 lb/c.y. A HIGH RANGE, WATER REDUCING ADMIXTURE (SUPERPLASTICIZER) SHALL BE USED SUBJECT TO THE APPROVAL OF THE ENGINEER. THE WATER CEMENT RATIO SHALL BE A MINIMUM OF 0.40, AND FLY ASH REPLACEMENT WILL BE PERMITTED AND THE CONCRETE SHALL ATTAIN A MINIMUM COMPRESSIVE STRENGTH OF 3000 psi IN 18 HOURS. TRAFFIC SHALL NOT BE PERMITTED ON ANY OF THE REPAIR AREAS UNTIL TEST SPECIMENS ATTAIN A COMPRESSIVE STRENGTH OF 3000 psi MINIMUM AND THE CONCRETE HAS BEEN IN PLACE A MINIMUM OF 18 HOURS.

CONCRETE CURING: ALL CONCRETE IN REPAIR AREAS SHALL BE CURED ACCORDING TO THE STANDARD SPECIFICATIONS.

CRACK SEAL (HMWM): APPLY HIGH MOLECULAR WEIGHT METHACRYLATE (HMWM) CRACK SEAL IN JOINTS AROUND NEW BRIDGE END DRAIN AND AROUND NEW EXPANSION JOINT. SEALER SHALL BE APPLIED AFTER ALL CONCRETE HAS BEEN IN PLACE A MINIMUM OF TWO DAYS.

EXPANSION JOINTS: FOR ADDITIONAL GENERAL NOTES APPLICABLE TO STRIP SEAL EXPANSION JOINTS, SEE STANDARD DRAWING NO. SBR-2-115, SBR-2-116 AND SBR-2-120. ALSO SEE SPECIAL PROVISION NO. 604S.

HIGH EARLY STRENGTH CONCRETE (SUB-FOOTING REPAIRS): THE MIX TO MEET THE REQUIREMENTS OF THE STANDARD SPECIFICATIONS, CLASS "A", EXCEPT THE CEMENT CONTENT SHALL BE A MINIMUM OF 714 LBS., THE WATER CEMENT RATIO SHALL BE A MAXIMUM OF 0.40, NO NO FLY ASH REPLACEMENT WILL BE PERMITTED, AND THE MINIMUM 28 DAY COMPRESSIVE STRENGTH SHALL BE 3,500 P.S.I. TRAFFIC SHALL NOT BE PERMITTED ON ANY OF THE REPAIR AREAS UNTIL TEST SPECIMENS ATTAIN A COMPRESSIVE STRENGTH OF 3,000 P.S.I. MINIMUM AND THE CONCRETE HAS BEEN IN PLACE A MINIMUM OF TEN (10) DAYS.

DEMOLITION: THE CONTRACTOR SHALL TAKE SPECIAL CARE TO PROTECT ANY PARTS OF THE STRUCTURE THAT ARE NOT TO BE REMOVED SPECIFICALLY. THE CONTRACTOR IS NOT ALLOWED TO USE A HYDRAULIC RAM MOUNTED ON A BACKHOE (COMMONLY CALLED A HOE RAM) OR OTHER SIMILARLY HEAVY EQUIPMENT FOR CONCRETE REMOVAL. PNEUMATIC HAMMERS MAY BE USED TO REMOVE UNSOUND CONCRETE. FOR FULL DEPTH OF CONCRETE SLAB REMOVAL EXCEPT OVER BEAMS, THE MAXIMUM HAMMER SIZE IS 90 POUND CLASS. FOR PARTIAL DEPTH OF CONCRETE SLAB REMOVAL AND ANY WORK OVER BEAMS, THE MAXIMUM HAMMER SIZE IS 60 POUND CLASS. SAWING OR CUTTING OF THE CONCRETE IS ACCEPTABLE SO LONG AS ANY SPECIFIED PROJECTION OF THE EXISTING REINFORCING STEEL IS MAINTAINED. ALL DEVICES PROPOSED FOR CONCRETE DEMOLITION SHALL MEET THE APPROVAL OF THE ENGINEER.

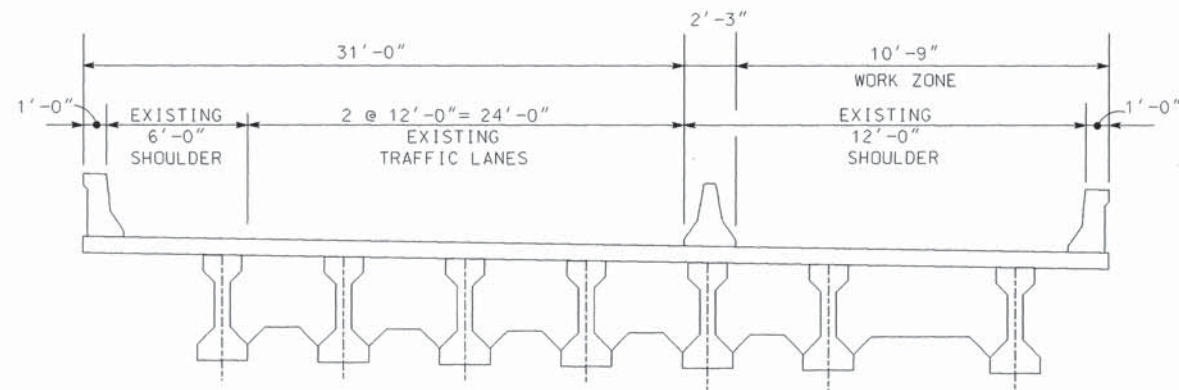
RIP-RAP: RUBBLE STONE RIP-RAP SHALL BE HAND PLACED IN ACCORDANCE WITH SUBSECTION 709.06 AND 709.07 OF THE STANDARD SPECIFICATION AND SHALL BE MEASURED AND PAID FOR UNDER ITEM NOS. 709-07 AND 709-02.



STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
ESTIMATED QUANTITIES & GENERAL NOTES
INTERSTATE 40 (W.B.L.) OVER
HICKMAN CREEK AND CANEY FORK RIVER
BRIDGE NO. 80-140-10.37
BRIDGE NO. 80-140-12.91
SMITH COUNTY

1998

BR-32-90

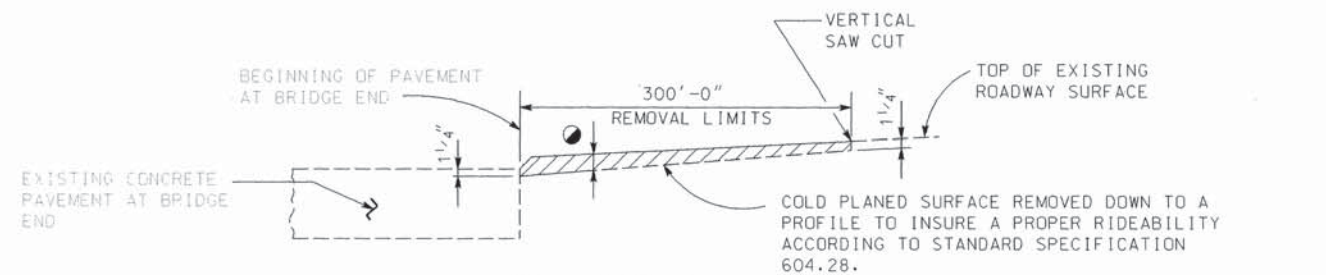


TYPICAL CROSS-SECTION

PHASE I

LOOKING WEST

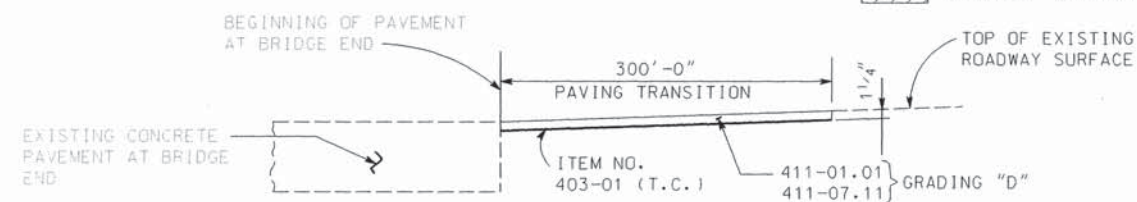
NOTE: AFTER PHASE I CONSTRUCTION IS FINISHED, THE APPROACH ASPHALT SHALL BE COLD-PLANED AND A NEW 1 1/4" ASPHALT OVERLAY PLACED. THE NEW ASPHALT OVERLAY SURFACE SHALL MEET PROPER RIDEABILITY STANDARDS. TEMPORARY TRAFFIC CONTROL WILL BE NEEDED DURING THE COLD PLANING AND REPAVING OPERATIONS.



ASPHALT REMOVAL

● DENOTES: VARYING ASPHALT THICKNESS (1 1/4" TO 2 1/2") TO BE REMOVED

▨ DENOTES: ASPHALT TO BE REMOVED



NEW ASPHALT TRANSITION

PAVEMENT TRANSITION DETAILS

NOTE: THE CONTRACTOR SHALL BE REQUIRED TO COLD PLANE AND PAVE IN THE DIRECTION OF TRAFFIC.

PROJECT NO.	YEAR	SHEET NO.	
80001-4160-04	1998		
REVISIONS			
NO.	DATE	BY	BRIEF DESCRIPTION



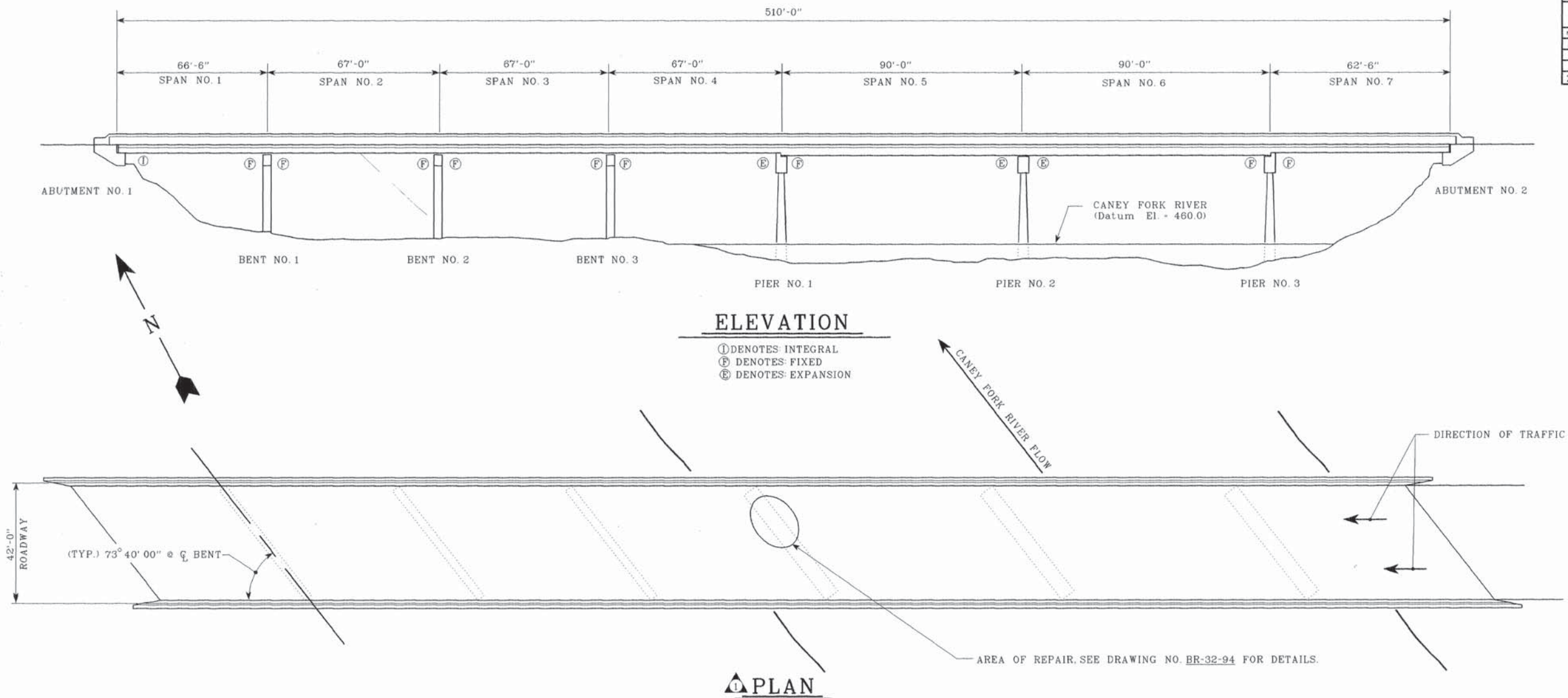
STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

BRIDGE REPAIR DETAILS
INTERSTATE 40 (W.B.L.) OVER
HICKMAN CREEK
BRIDGE NO. 80-140-10.37
SMITH COUNTY
1998

DESIGNED BY Terry Mackie DATE April 1998
DRAWN BY Don Kimber DATE May 1998
SUPERVISED BY M. Seger & T. Christianson DATE April 1998
CHECKED BY M. Seger & Terry Mackie DATE May 1998

BR-32-91

PROJECT NO.		YEAR	SHEET NO.
80001-4160-04		1998	
REVISIONS			
NO.	DATE	BY	BRIEF DESCRIPTION
1	9-16-98	TDM	REVISED SCOPE OF WORK, SKEW ANGLE LOCATION, ADDED SPECIAL PROVISION 105A AND REVISION DATES
2	9-29-98	TDM	LATEST REV. DATES



GENERAL SCOPE OF WORK

- 1) REMOVE EXISTING DETERIORATED CONCRETE IN JOINT AREA.
- 2) LEVEL AND WELD NEW EXPANSION JOINT STEEL EXTRUSIONS (TYPE AM2) TO EXISTING EXTRUSIONS AND POUR NEW CONCRETE HEADERS.
- 3) WELD EXISTING LOOSE ANCHOR STRAPS TO EXPANSION JOINT EXTRUSIONS AND RESET JOINT IN NEW CONCRETE POUR.
- 4) REPLACE EXPANSION JOINT MEMBRANE FOR THE FULL WIDTH OF THE BRIDGE. LENGTH OF MEMBRANE IS TO BE FIELD VERIFIED. MEMBRANE TYPE IS THE WATSON-BOWMAN (ON-FLEX 40 SEQ MEMBRANE-CONTINUOUS).

LIST OF DRAWINGS

DRAWING NO.	LAST REV. DATE	DRAWING
BR-32-93	9-16-98	LAYOUT OF BRIDGE TO BE REPAIRED
BR-32-90	9-29-98	ESTIMATED QUANTITIES & GENERAL NOTES
BR-32-94	9-16-98	BRIDGE REPAIR DETAILS

LIST OF REFERENCE DRAWINGS

(TO BE PRINTED WITH PLANS)

DRAWING NO.	DRAWING
M-214-60 THRU 64,	
M-214-67 THRU 75,	
M-214-77 THRU 82A,	
M-214-86 AND 87	EXISTING BRIDGE DRAWNGS

LIST OF STANDARD DRAWINGS

DRAWING NO.	LAST REV. DATE	DRAWING
SBR-2-115	1-4-96	GENERAL NOTES AND DETAILS FOR EXPANSION JOINT REPLACEMENT CONSTRUCTION TYPES "A" THRU "J"
SBR-2-116	1-4-96	GENERAL DETAILS FOR STRIP SEAL EXPANSION JOINT REPLACEMENT CONSTRUCTION DETAILS TYPES "A" THRU "J"
STD-9-1	12-19-94	REINFORCING BAR SUPPORT DETAILS FOR CONCRETE SLABS

LIST OF SPECIAL PROVISIONS

NO.	LAST REV. DATE	REGARDING
105A	**	APPROVAL OF SHOP DRAWINGS
604S	**	STRIP SEAL EXPANSION JOINTS

** DENOTES: CURRENT REVISION DATE, AS PER CONTRACT DOCUMENTS.



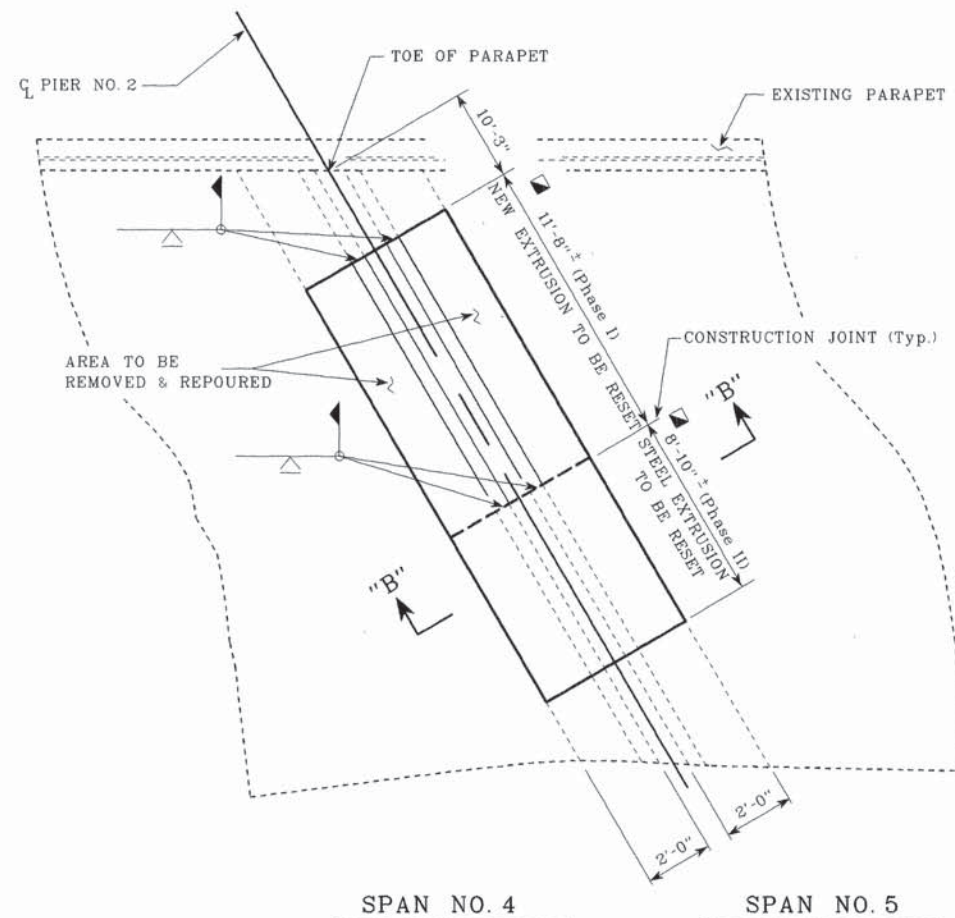
STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
LAYOUT OF BRIDGE TO BE REPAIRED
INTERSTATE 40 (W.B.L.) OVER
CANEY FORK RIVER
BRIDGE NO. 80-140-12.91
SMITH COUNTY

1998

BR-32-93

DESIGNED BY Rocky Christy DATE May, 1998
DRAWN BY Cory Hawkins DATE May, 1998
SUPERVISED BY Mike Lawson, T. Christianson DATE May, 1998
CHECKED BY Wayne Seger, Rocky Christy DATE May, 1998

PROJECT NO.	YEAR	SHEET NO.	
80001-4160-04	1998		
REVISIONS			
NO.	DATE	BY	BRIEF DESCRIPTION
1	9-16-98	TDM	GENERAL REVISION



SPAN NO. 4 SPAN NO. 5

DETAIL "A"

(Limits Of Extrusion To Be Reset)

NOTES:

DISTANCES ARE MEASURED ALONG THE SKEW (C_L PIER NO. 1). LENGTH OF NEW STEEL EXTRUSIONS (TYPE AM2) SHALL BE FIELD VERIFIED.

CONCRETE (EXPANSION JOINT REPAIR):

SHALL BE HIGH EARLY STRENGTH CONCRETE WITH A COMPRESSIVE STRENGTH OF 3000 psi AT 18 HOURS. THE CONTRACTOR SHALL PROVIDE PROOF PRIOR TO BEGINNING WORK THAT THE PROPOSED CONCRETE MIX WILL OBTAIN REQUIRED PROPERTIES. PROOF SHALL BE PROVIDED BY AN INDEPENDENT TESTING COMPANY AND SUBMITTED TO THE MATERIALS AND TEST DIVISION OF THE TENNESSEE DEPARTMENT OF TRANSPORTATION FOR APPROVAL. THE MIX TO MEET THE REQUIREMENTS OF THE STANDARD SPECIFICATIONS CLASS "A", EXCEPT THE CEMENT CONTENT SHALL BE A MINIMUM OF 714 LB/C.Y. A HIGH RANGE, WATER REDUCING ADMIXTURE (SUPERPLASTICIZER) SHALL BE USED SUBJECT TO THE APPROVAL OF THE ENGINEER. THE WATER CEMENT RATIO SHALL BE A MINIMUM OF 0.40, AND FLY ASH REPLACEMENT WILL BE PERMITTED AND THE CONCRETE SHALL ATTAIN A MINIMUM OF COMPRESSIVE STRENGTH OF 3000 psi IN 18 HOURS. TRAFFIC SHALL NOT BE PERMITTED ON ANY OF THE REPAIR AREAS UNTIL TEST SPECIMENS ATTAIN A COMPRESSIVE STRENGTH OF 3000 psi MINIMUM AND THE CONCRETE HAS BEEN IN PLACE A MINIMUM OF 18 HOURS. COST IS TO BE INCLUDED IN ITEM NO. 604-10.31.

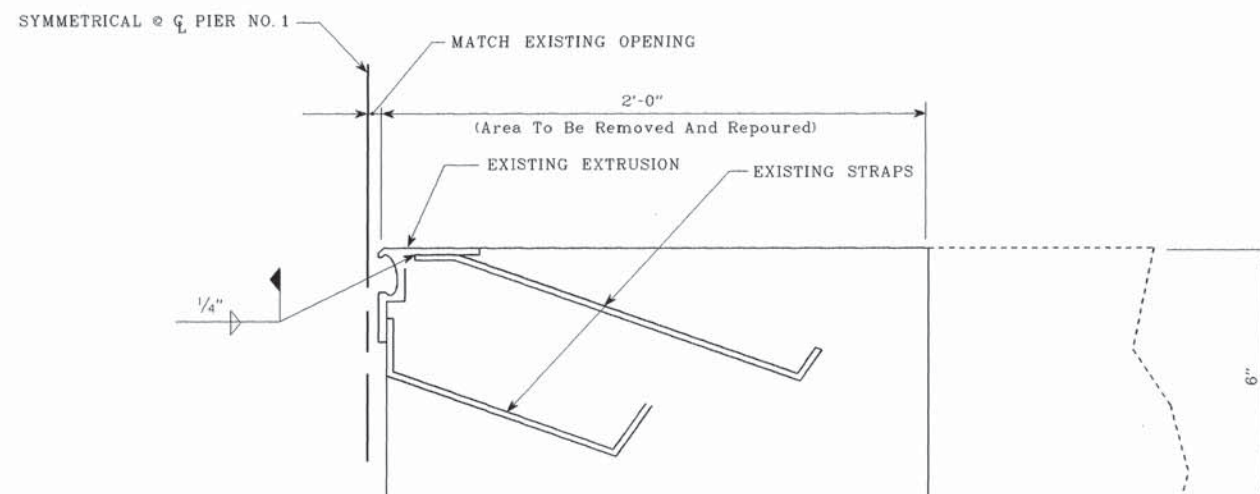
NOTES:

THE EXISTING EXPANSION JOINT MEMBRANE SHALL BE REPLACED WITH A CONTINUOUS WATSON-BOWMAN ON-FLEX 40 SEQ MEMBRANE. THE NEW MEMBRANE LENGTH SHALL BE FULL WIDTH OF BRIDGE. THE NEW MEMBRANE LENGTH SHALL BE FIELD VERIFIED.

SHOP DRAWINGS ON SECTION OF NEW STEEL EXTRUSIONS SHALL BE SUBMITTED.

A TOP ANCHOR STRAP SHALL BE LOCATED WITHIN 4" EACH SIDE OF THE SPLICE LOCATIONS.

SPLICES IN STEEL EXTRUSIONS TO BE CLEANED, REWELDED AND GROUND SMOOTH. COST TO BE INCLUDED IN ITEM NO. 604-10.31.



SECTION "B-B"

NOTE:

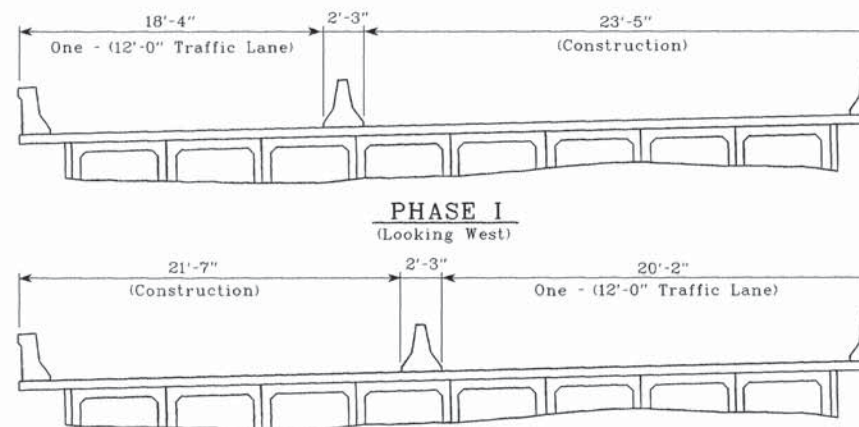
ALL EXISTING LOOSE ANCHOR STRAPS TO BE REWELDED TO EXPANSION JOINT EXTRUSION. ANY BROKEN ANCHOR STRAPS SHALL BE REPLACED BY NEW STRAPS WELDED TO THE JOINT EXTRUSION.

NOTES:

CONTRACTOR WILL BE RESPONSIBLE FOR ANY DAMAGE TO THE EXISTING EXPANSION JOINT AT PIER NO. 1. IF DAMAGED, THE CONTRACTOR SHALL REPAIR THE DAMAGED AREA AT NO ADDITIONAL COST TO THE PROJECT.

INCLUDES ALL COST FOR REPLACING OR REWELDING EXISTING LOOSE OR BROKEN ANCHOR STRAPS TO EXPANSION JOINT AT PIER NO. 1 AND RESETTING JOINT IN NEW CONCRETE POUR. IS TO BE INCLUDED UNDER ITEM NO. 604-10.31 (RESETTING EXISTING EXPANSION JOINTS), L.F.

REUSE THE EXISTING REINFORCING STEEL THAT IS IN THE EXISTING HEADERS. IF ANY EXISTING REINFORCING STEEL IS DAMAGED DURING REMOVAL, THE COST OF NEW REINFORCING STEEL SHALL BE INCLUDED IN ITEM NO. 604-10.31.



PHASE II (Looking West)

TYPICAL CROSS SECTION

(Westbound Lane)

NOTE:

THIS PHASE CONSTRUCTION SEQUENCE REQUIRES NO NEW STRIPING.



DEPARTMENT OF TRANSPORTATION

BRIDGE REPAIR DETAILS
INTERSTATE 40 (W.B.L.) OVER
CANBY FORK RIVER
BRIDGE NO. 80-140-12.91
SMITH COUNTY

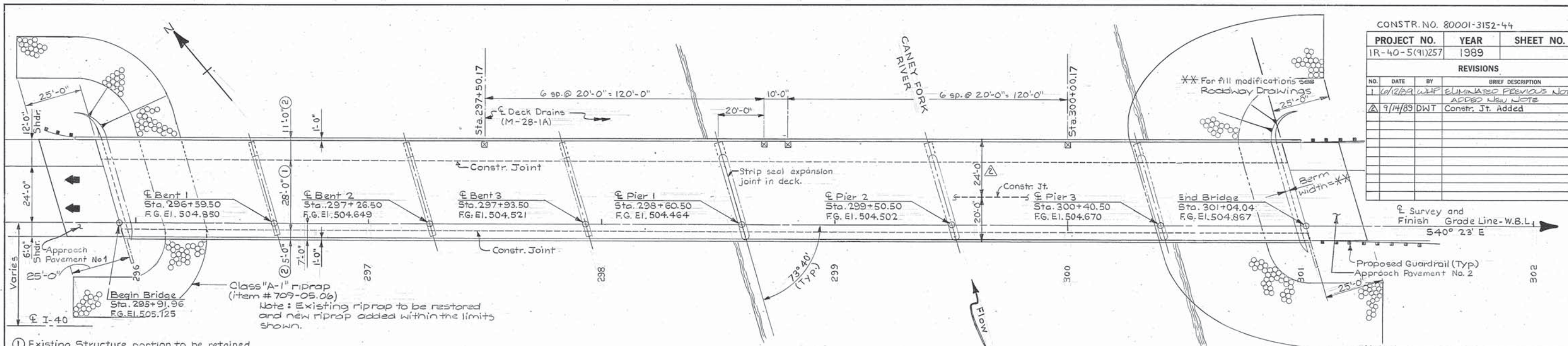
1998

BR-32-94

DESIGNED BY Rocky Christy DATE May 1998
DRAWN BY Cory Hawkins DATE May 1998
SUPERVISED BY Mike Lawson, T. Christianson DATE May 1998
CHECKED BY Wayne Seger, Rocky Christy DATE May 1998

CONSTR. NO. 80001-3152-44		
PROJECT NO.	YEAR	SHEET NO.
IR-40-5(91)257	1989	

REVISIONS			
NO.	DATE	BY	BRIEF DESCRIPTION
1	6/2/89	WHP	ELIMINATED PREVIOUS NOTE, ADDED NEW NOTE
2	9/14/89	DWT	CONSTR. JT. ADDED



PLAN
Scale: 1" = 20'-0"

Bench Mark:
Top of wing left side of
Abutment I - EBL Elev. = 508.73

- Existing Structure portion to be retained.
- Bridge Widening.
- At right angle to river.

Notes:
For Roadway Data not shown, see Roadway Plans

Denotes direction of one lane of traffic

2009 ADT = 30,000

Design Velocity = .65 MPH

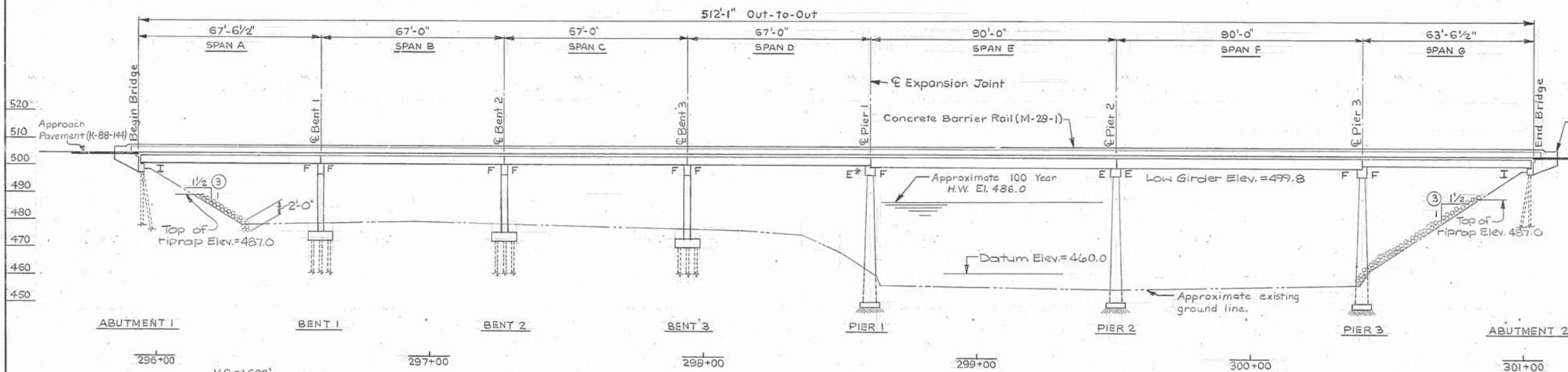
NOTE: FOR CONSTRUCTION SEQUENCE
SEE DWG. NO. M-214-59A.

F-Indicates fixed bearing
E-Indicates expansion bearing
I-Indicates integral

Note: Conditions of fixity are shown for new beams.

New wing wall, for side only.

Approach Pavement (K-86-144)



ELEVATION
(Shown at right angles to F.G.L.)
Scale: 1" = 20'-0"

Note: The contractor shall perform all possible work as determined by the engineer prior to traffic being detoured.

Hydraulic Design Data
Drainage Area = 352.0 Sq. Miles
Design Discharge (100 yr.) = 30000 cfs
Area Below 100 yr. Elevation = 6600 Sq. ft.
Velocity (100 yr.) = 4.5 fps
Roadway Overtopping Elevation = 504.1

* Indicates location where the existing bearings shall be modified or replaced to provide the same fixity as the new beams.

The grade shown is based on existing plans grade plus .417' and shall be used for bridge construction only.



BRIDGE NO. 2
SHEET 1 OF 2

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAYS
LAYOUT OF BRIDGE WIDENING
I-40 W.B.L. OVER
CANEEY FORK RIVER
STA. 295+91.96 W.B.L. I-40
BRIDGE ID # WBL 80100400026
SMITH COUNTY
1989

VERTICAL CURVE DATA - I-40 W.B.L.
No Scale

DESIGNED BY: DWT
DRAWN BY: HJK
SUPERVISED BY: WSH
CHECKED BY: HIZ
DATE: 9-88
DATE: 9-88
DATE: 9-88
DATE: 10-88

CORRECT
ENGINEER OF STRUCTURES
APPROVED
DIRECTOR OF HIGHWAYS

M-214-60

CLASS "A", GRADING "D" = 40 C.Y.

LIST OF DRAWINGS

Layout of Bridge Widening - W.B.L.
Layout of Bridge Widening - E.B.L.
General Notes
Estimated Quantities
Repair Details
Superstructure Details - W.B.L.
Superstructure Details - E.B.L.
Prestr. Conc. Box Beam span A - W.B.L.
Prestr. Conc. Box Beam spans (B-D) - W.B.L.
Prestr. Conc. Box Beam span E&F - W.B.L.
Prestr. Conc. Box Beam span G - W.B.L.
Prestr. Conc. Box Beam span A - E.B.L.
Prestr. Conc. Box Beam spans (B-D) - E.B.L.
Prestr. Conc. Box Beam span E&F - E.B.L.
Prestr. Conc. Box Beam span G - E.B.L.

Abutment Details (1)
Abutment Details (2)
Abutment Details (3)

Bents 1 & 3 - W.B.L.
Piers 1, 2 & 3
Piers 1 & 3 - E.B.L.
Pier 2 - W.B.L. & E.B.L.
Bill of Steel
Bill of Steel
Bar Bending Details
Sounding Sketch - W.B.L.
Sounding Sketch - E.B.L.

EXISTING BRIDGE DRAWINGS
Note: Only Existing Bridge Drawing G-15-36 & G-15-45 to be printed with Plans not used.

CONSTRUCTION SEQUENCE

Existing Bridge Drawings

Note: Only Existing Bridge Drawing G-15-36 & G-15-45 to be printed with Plans not used.

* Pier No. 1 Bearing Replacement Details

STANDARD DRAWINGS

Std. Reinf. Bar Support
Misc. Abutment & Drainage Details
Pneumatic Concrete Repairs
Reinf. Concrete Pavement at Bridge Ends
Bridge Railing-Concrete Parapet
Concrete Median Barrier and Parapet Drains
Stripseal Expansion Joint new construction
Std. Pile Details

* Asterisk denotes these standards to be printed with plans.

LIST OF SPECIAL PROVISIONS

SPECIAL PROVISION NUMBER

Date LATEST REVISION

LIST OF SPECIAL PROVISIONS

SPECIAL PROVISION NUMBER	Date LATEST REVISION	LIST OF SPECIAL PROVISIONS
105A	07-21-87	Regarding Approval of Shop Drawings
602	05-15-89	Regarding Section 602 Steel Structures
603A	11-01-88	Regarding Painting
604	11-06-87	Regarding Concrete Structures
604C	01-26-88	Regarding Structural Concrete
604R	01-20-89	Regarding Rideability of Bridge Decks and Roadway Approaches
604S	03-14-88	Regarding Strip Seal Expansion Joints
607B	02-20-88	Regarding Side Drains and Bridge Drains
709	05-04-87	Regarding Machined Rip-Rap
907A	03-25-85	Regarding Epoxy Coated Reinforcing Steel

①

Stage Construction-Abutments, Bridge No. 2, 4 & 5 M-214-79A

DRAWING NO.

LATEST REV. DATE

M-214-60
M-214-61
M-214-62
M-214-63
M-214-64
M-214-67
M-214-68
M-214-69
M-214-70
M-214-71
M-214-72
M-214-73
M-214-74
M-214-75
M-214-76
M-214-77
M-214-78
M-214-79
M-214-80
M-214-81
M-214-81A
M-214-82
M-214-82A
M-214-83
M-214-84
M-214-84A, 151B, ①
M-214-85
M-214-86
M-214-87
M-214-89A, ①
G-15-36 thru G-15-53
G-10-99

M-214-81AA

K-80-14 08-27-76
K-85-150 06-25-87
K-86-4 02-05-73
K-86-144 07-17-81
M-28-1 11-01-88
M-28-1A 09-08-87
M-156-108, 108A 02-21-89
M-174-150

GENERAL NOTES

SPECIFICATIONS: Standard Road and Bridge Specifications of the Tennessee Department of Transportation, (March 1981 Edition)

LOADING: HS20-44 with Alternate Military.

DESIGN SPECIFICATIONS: AASHTO 1983 Edition with addenda.

CONCRETE: To be class 'A', f'c to be 4,500 psi for superstructure concrete and 3,000 psi for substructures and parapets.

Class A Concrete for bridge decks shall be in accordance with Section 604 of the Standard Specifications except as modified by Special Provisions 604-C.

BRIDGE DECK SURFACE FINISH: To be in accordance with Note (C) sheet 2 of Special Provisions 604.

BRIDGE DECK FORMS: Bridge Deck Forms for concrete decks shall be constructed using removable forms only. The contractor shall take steps to assure the stability of the exterior girder against twisting or overturning during slab pouring operations. When the width of the overhang exceeds the depth of the exterior girder, details and design calculations for the cantilever support system shall be submitted to the Engineer for approval.

REINFORCING STEEL: To be ASTM A615 Grade 60. Standard CRSI hook details apply unless otherwise noted on Bill of Steel. Spacing dimensions are center to center and cover dimensions are clear distance unless otherwise noted. Placing Tolerances are $\pm 1/2$ " for spacing and $\pm 1/8$ " or $\pm 3/8$ " for cover. The suffix E, for bars so marked, denotes epoxy coated reinforcement. See Special Provisions 907A.

PILES: To be HP10x42 driven to refusal on rock or minimum bearing of 55 tons for the bents and 55 tons for the abutments.

Piles at Abutments and Bents shall be equipped with APF 20 lb. Pruyt 7575Q, DFP 23 lb. Hard-bite, VERSA-BITE 20 lb. VB31Q, or L.C.E. 20 lb. Std. pile point driving tips or approved equal welded to the pile in accordance with the manufacturers recommendation. The cost of the driving tips shall be included in the unit price bid for piles.

BRIDGE RAIL SYSTEM: Build parapets according to Standard DRAWING M-28-1.

GROUTED BARS IN DRILLED HOLES: Horizontally drilled holes shall be drilled $1/2$ " in diameter larger than the bar, cleaned, packed with non shrink grout and driven to its seat. Vertically drilled holes shall be drilled $1/4$ " in diameter larger than the bar, cleaned, packed with epoxy grout and driven to its seat. All grouting material shall be approved by T.D.O.T. Materials and Tests.

SHOP DRAWINGS: See Special Provision No. 105A.

CONCRETE SEAL: To be either:

a. Sonneborn HLM 5000 S, B, or R (spray, brush, or roll on)

b. 3M Scotch Clad, cold applied, single component moisture curing polyurethane elastomer.

c. Koppers 300M

Concrete Seal to be applied to the top surface of Pier No.1 before placement of bearing devices and applying Textured Coating. Concrete shall be clean and dry before applying the concrete seal and the thickness of the seal shall not be less than 50 mils. The cost shall be included in the unit price of the expansion device.

DRILLED-IN ANCHORS:

Certification: The contractor shall furnish certified anchor pull out data from an independent testing laboratory using Class 'A' concrete as prescribed by Tennessee Highway Specifications. The required ultimate load for 7/8" dia. Anchor is 19,000 lbs., 18,000 lbs. for 3/4" dia. Anchors, 12,000 lbs. for 5/8" dia. Anchors and 9,000 lbs. for 1/2" dia. Anchors. In Place Requirements: The units shall be sub-set 3/32" to 1/4" and torqued, with base plate in place, to an equivalent direct pull out load of 60 percent of required ultimate load. Slipage shall not exceed 1/4". The Department will perform testing of Anchors on site to insure the specified in place requirements. Installations not meeting these requirements must be corrected at the contractors expense.

NON-PAY ITEMS: Only items shown on the proposal as pay items will be paid for. Compensation for all labor, materials, tools, equipment, and incidentals for the entire contract shall be included in the price bid for pay items.

FINISHING CONCRETE SURFACES: Concrete finishing shall be in accordance with Section 604.22 of the Tennessee Standard Specification. An Applied Texture Finish shall be used in lieu of a Class II finish. The color of the finish shall be similar to Mountain Grey, Federal Specification No. 3644Q, Federal Color Standard No. 595A, and a color sample shall be submitted to the Engineer for approval. No texture finish shall be applied prior to completion of paving and hauling operations at the bridge site. Payment for the Applied Texture Finish shall be under item 604-04.01 & 604-04.02.

NOTE: The Contractor shall check the location of all existing substructures and verify span lengths before fabricating girders.

RIP-RAP: Machined Rip-Rap for slope protection shall be Class A-1 in accordance with Special Provision 709 and shall be paid for under item 709-05.06 - ton.

NOTE: The fills at the ends of the bridge shall be in place and thoroughly compacted before any abutment piles are driven.

STRUCTURAL STEEL: See notes on Drawing No. M-214-81A.

WELDING: See Special Provisions No. 602 and notes on Drawing No. M-214-81A.

PAINT: System B - Inorganic zinc - Urethane Finish Bright Green Top Coat - See Tennessee Standard Specification 603.05(b) and Special Provision 603A.

RADIOGRAPHIC, ULTRASONIC, AND MAGNETIC INSPECTION: See Special Provision No. 602. Notes on Drawing No. M-214-81A.

STEEL STRUCTURES: See Tennessee Standard Specifications Section 602 and notes on Drawing No. M-214-81A.

NOTE: The Contractor shall accept full responsibility of maintaining the structural integrity of the existing bridge during construction. Any damage to structural members to be left in place shall be repaired to the satisfaction of the Engineer and paid for at the Contractor's expense.

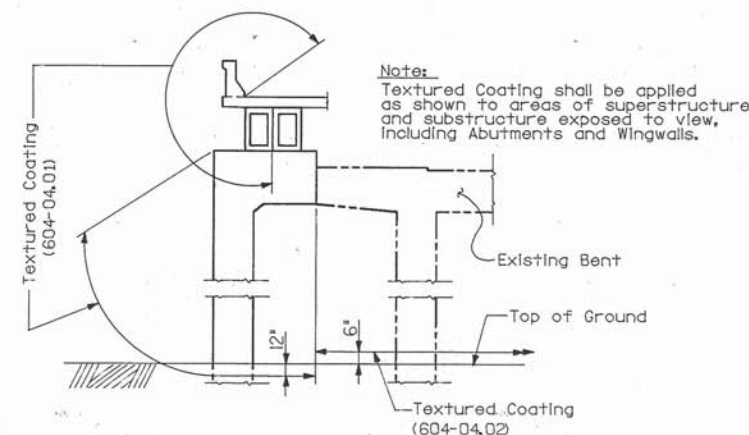
TESTING MECHANICAL COUPLERS: In addition to the requirements stated elsewhere within these plans, the Contractor will prepare, under field conditions, two (2) specimens of each size utilized. This will be in addition to required certifications. Each coupled rebar in the specimens shall be a minimum of 30 inches in length. The Department will test, at their discretion, each specimen to 125% of the specified tension yield strength of the rebar prior to coupler approval.

CONSTR. NO. 80001-3152-44

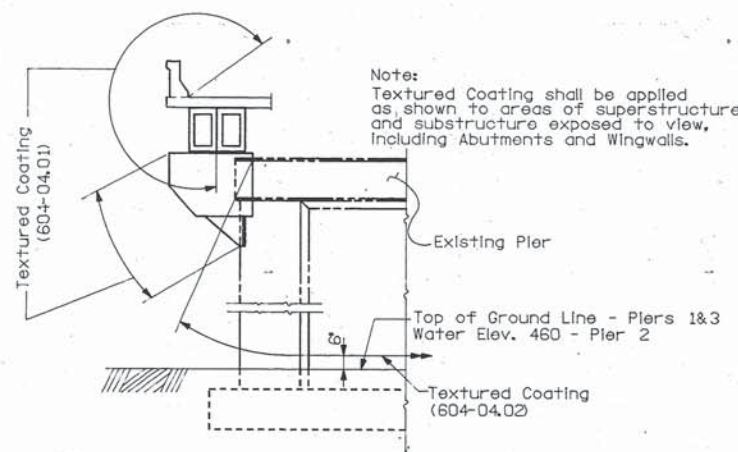
PROJECT NO.	YEAR	SHEET NO.
IR-40-5(91)257	1989	

REVISIONS

NO.	DATE	BY	BRIEF DESCRIPTION
1	6/12/89	WJP	ADDED DWG. NO. M-214-89A
2	6/16/89	WJP	ADDED DWG. NO. M-214-81AA
3	9/14/89	DWT	ADDED DWG. NO. M-214-79A # M-214-151B



DETAIL SHOWING LIMITS OF TEXTURED COATING
Bents 1-3



DETAIL SHOWING LIMITS OF TEXTURED COATING
PIERS 1-3

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAYS

GENERAL NOTES

I-40 OVER
CANEEY FORK RIVER
STA. 295+91.96 W.B.L.
STA. 296+14.68 E.B.L.
SMITH COUNTY
1989

CORRECT

ENGINEER OF STRUCTURES

APPROVED

DIRECTOR OF HIGHWAYS

M-214-62

DESIGNED BY: HDL DATE: 11/88
DRAWN BY: EAB DATE: 11/88
SUPERVISED BY: WSH DATE: 11/88
CHECKED BY: HDL DATE: 3/89

- (14) NOTE: Items No. 604-10.30, 604-10.42, 604-10.50, 622-01, and 709-05.06 shall be bid with the contingency that these items may be increased, decreased or eliminated as directed by the Engineer.
- (15) Support Frame for Pier Extension.
- (16) The use of a ramhoe is prohibited for removal of Concrete. See notes on Dwg. No. M-214-64.
- (17) ~~Guardrail attachment to bridge all post shall be installed prior to all traffic being detoured onto the Westbound Bridge. All Materials, Labor, etc. for installation shall be included under item 705-10.23.~~
- (18) Includes quantities for Abutment Sub-beam. See Dwg. M-214-64.

PROJECT NO.	YEAR	SHEET NO.
IR-40-5(91)257	1989	

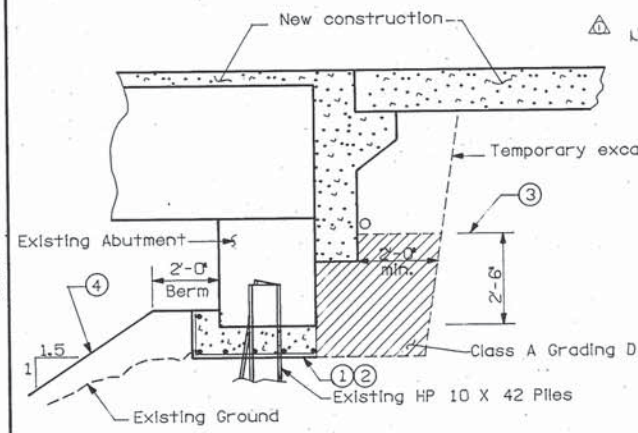
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ESTIMATED QUANTITIES																									
BID ITEM NO.	202-04.02	204-02.01	602-02.02	604-01.12	604-02.03	604-03.01	604-03.02	604-03.04	604-04.01	604-04.02	604-10.30	604-10.42	604-10.50	604-11.01	604-36	606-02.03	615-02.04	615-02.21	620-03	622-01	705-10.23	709-05.06	710-09.01	710-09.02	920-01.73
ITEM	REMOVAL OF STRUCTURES	DRY EXCAVATION (BRIDGES)	STRUCTURAL STEEL	CLASS "A" CONCRETE (BRIDGE DECK)	EPOXY COATED REINFORCING STEEL	CLASS "A" CONCRETE (BRIDGES)	STEEL BAR REINFORCEMENT (BRIDGES)	PAVEMENT AT BRIDGE ENDS	APPLIED TEXTURE FINISH (NEW STRUCTURES)	APPLIED TEXTURE FINISH (EXISTING STRUCTURES)	BRIDGE DECK REPAIR (FULL DEPTH)	CONCRETE REPAIRS	BRIDGE DECK REPAIR (PARTIAL DEPTH)	EXPANSION DEVICE (STRIP SEAL JOINT 4" MOVEMENT)	SCARIFYING	STEEL PILES (10 INCH)	PRESTRESSED CONCRETE BOX BEAM (27' X 36')	PRESTRESSED CONCRETE BOX BEAM (39' X 36')	CONCRETE PARAPET (M-28-1)	PNEU-MATICALLY PLACED CONCRETE	GUARDRAIL ATTACHMENT TO BRIDGERAIL POST	MACHINED RIP-RAP (CLASS A-1)	6" PERF PIPE WITH VERTICAL DRAIN SYSTEM	6" PIPE UNDERDRAIN	JACKING STRUCTURES
STRUCTURE	⑥⑫⑮ L.S.	② C.Y.	⑫⑮ LB.	③ C.Y.	⑮① LB.	⑮ C.Y.	① LB.	① S.Y.	① S.Y.	① S.Y.	⑬⑭ S.Y.	⑬⑭ C.F.	⑬⑭ S.Y.	⑧ L.F.	⑨ S.Y.	L.F.	④ L.F.	④ L.F.	⑤⑦ L.F.	⑬⑭ S.F.	⑮ L.F.	⑭ TON	⑩ L.F.	⑩ L.F.	⑪⑫ L.S.
WEST BOUND LANE	Superstructure			499	77,944				1450	400							659	359					62	12	
	Abutment 1		44		14	9	2436		6	25							163			25					
	Bent 1		29			18	3580		35	87							163			100					
	Bent 2		29			18	3557		35	87							163			25					
	Bent 3		29			18	3702		36	90		2					163								
	Pier 1			3700		12	2515		26	343															
	Pier 2			3700		12	2435		26	369															
	Pier 3			3700		13	2515		26	378		2											62	12	
	Abutment 2		44		14	9	2440		6	21															
Subtotal	.5	175	11,100	527	81546	109	23180	220	1646	1800	16	4	159	46	1593	489	659	359	1038	150		225	124	24	.5
EAST BOUND LANE	Superstructure			477	75358				1390	408		1					615	359					62	12	
	Abutment 1		44		14	9	2483		6	25							140			50					
	Bent 1		28			18	3945		35	87							140			120					
	Bent 2		28			18	3928		35	87							140								
	Bent 3		28			19	4066		36	90							140								
	Pier 1			3700		13	2529		26	343															
	Pier 2			3700		12	2472		26	369															
	Pier 3			3700		13	2529		26	378													62	12	
	Abutment 2		44		14	9	2479		6	21															
Subtotal	.5	172	11,100	505	78964	111	24431	220	1586	1808	15	1	153	46	1525	420	615	359	994	170		185	124	24	.5
Total	1.0	347	22,200	1032	160510	220	47611	440	3232	3608	31	5	312	92	3118	909	1274	718	2032	320		410	248	48	1.0
</																									

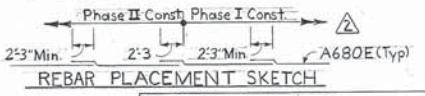
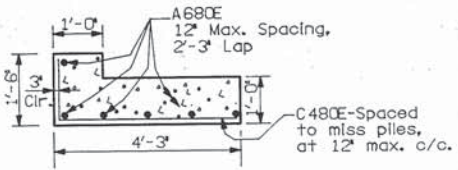
DESIGNED BY: HDL DATE: 12/88
DRAWN BY: EAB/TLK DATE: 12/88
SUPERVISED BY: WSH DATE: 12/88
CHECKED BY: HDL DATE: 2/89

M-214-63

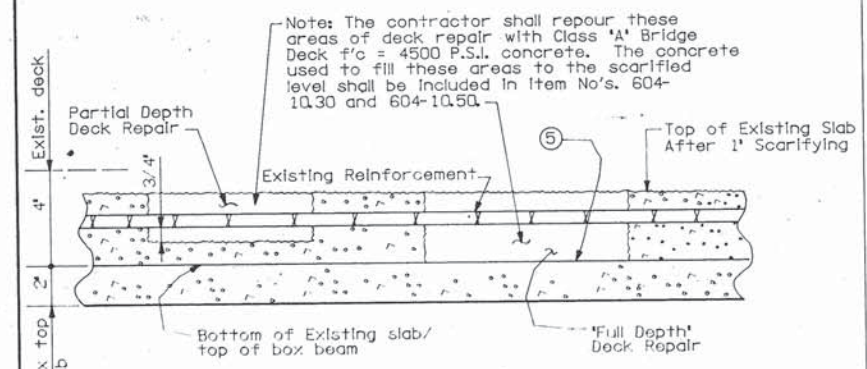
ZF1502437NXX304.DWG
B-HW-1989 15:00
DTNXX



DETAILS OF NEW ABUTMENT SUB-BEAM



- NOTES:
- Before addition of new approach pavement, backfill shall be excavated sufficient to expose front and back of all piles. Vehicular and construction loads will not be permitted on the constructed portion of the bridge during this operation. Corroded areas of piles shall be wire brushed or blast cleaned and repainted per Specification Section 606.19. No separate payment will be made for painting or cleaning.
 - Construct abutment sub-beam using Class 'A', f'c=3,000 psi concrete. Sub-beam shall be cast full length of existing retained abutment beam and to the depth specified, unless otherwise directed by the Engineer. Cost of material and labor shall be included in the bid items 604-03.01 and 604-02.03.
 - Backfill to limit shown with Class A Grading D Material. Install backfill and underdrain in compliance with Std. Drawing K-85-15Q.
 - Reestablish fill slope to lines shown.

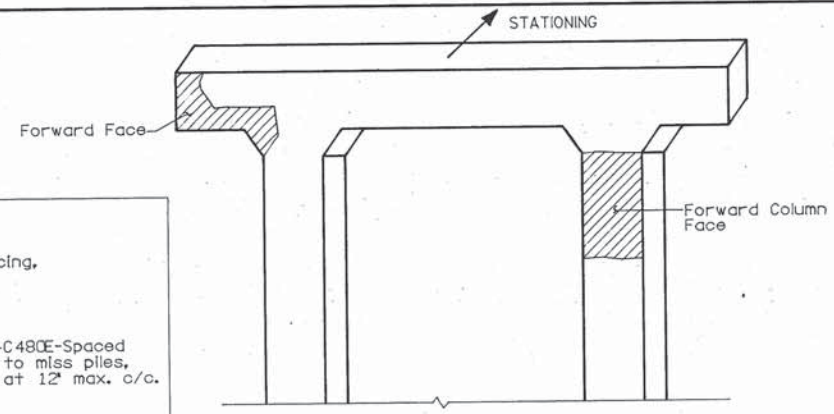


DETAIL SHOWING FULL AND PARTIAL DEPTH DECK REPAIR

Remove concrete in all delaminated areas to a depth of 3/4" below the top mat of reinforcing steel. All reinforcing steel in areas of deck repair shall be blast cleaned. Areas of concrete removed shall be designated by personnel from the Division of Structures. Deck repair will be paid for under Item No. 604-10.50, Bridge deck repair, (partial depth of slab) S.Y. If deteriorated concrete is encountered which appears to run full depth of slab, the Engineer may designate these areas to be repaired under Item No. 604-10.30, Bridge deck repair, (full depth of slab), S.Y. Power driven hand tools used for removal of unsound concrete in making partial depth repairs are subject to the following restrictions: 1) Pneumatic hammers heavier than 35 pound class shall not be used. 2) Chipping hammers of the 15 pound class shall be used to remove concrete from beneath any reinforcing steel, and within 1' of top of box beam.

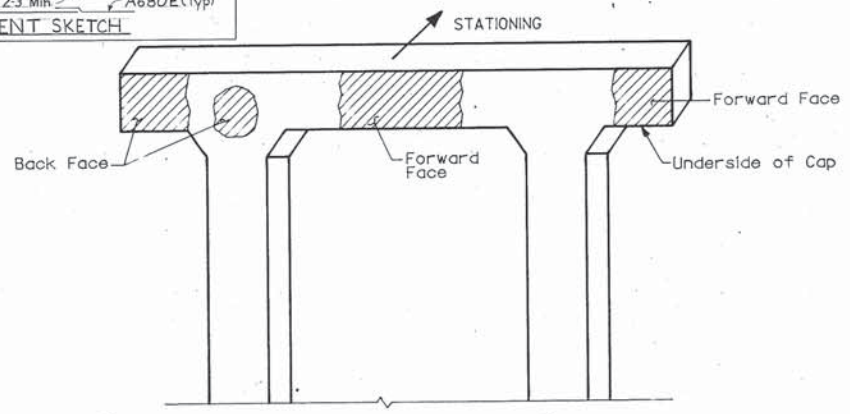
- The Contractor is advised to use extreme care during any attempted full-depth removal, to avoid damaging existing box beam surfaces. Max. depth of box slab chipping shall not exceed 1/2 inch.

DESIGNED BY: WSH
DRAWN BY: TIK
SUPERVISED BY: WSH
CHECKED BY: WSH
DATE: 1/89
DATE: 1/89
DATE: 1/89
DATE: 3/89



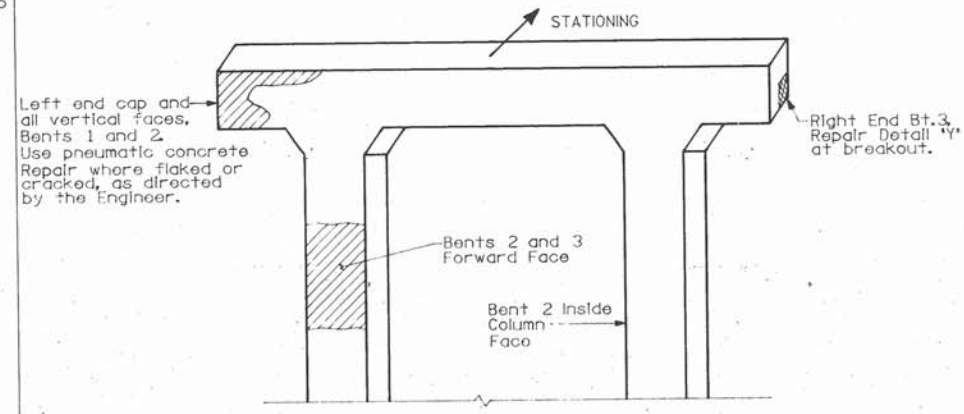
E.B.L. BENT 1 REPAIR AREAS

(Looking In Direction of Stationing)



E.B.L. BENT 2 REPAIR AREAS

(Looking In Direction of Stationing)



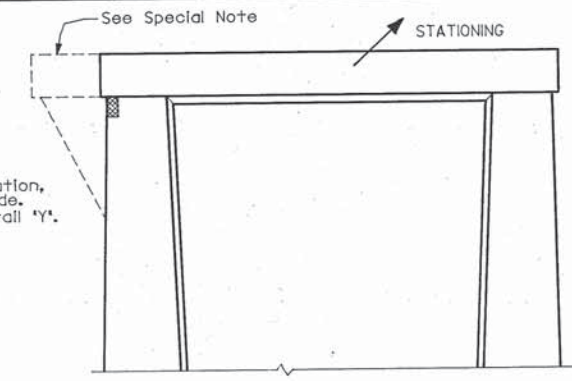
W.B.L. BENT 1, 2 & 3 REPAIR AREAS

(Looking In Direction of Stationing)

Denotes: Areas for pneumatic concrete repair. The areas to be repaired will be sufficiently larger than the spalled areas to insure that patches extend into sound concrete. Care shall be taken when removing existing deteriorated concrete in repair areas so as not to damage existing reinforcing steel. All existing reinforcing exposed shall be blast cleaned to remove all rust before placement of pneumatic concrete.

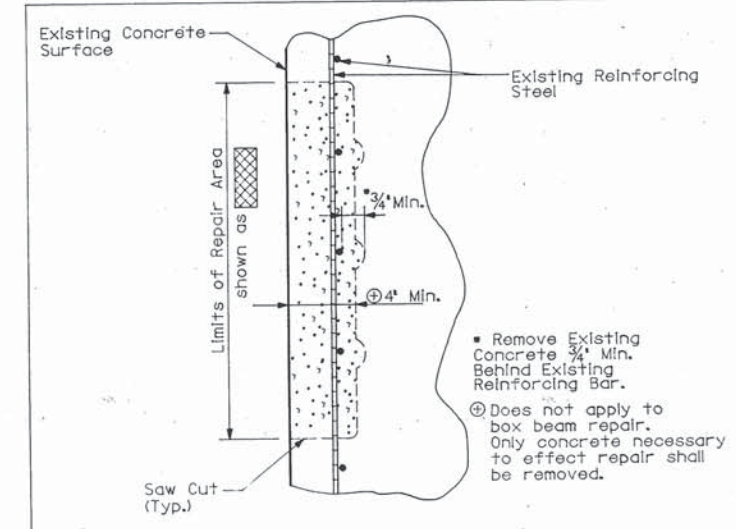
Note: See Tennessee Standard Specifications Section 622 Pneumatically Placed Concrete and Standard Drawing K-86-4.

Note: Cost of removing all unsound and deteriorated concrete, placing of pneumatic concrete, and all labor and materials necessary for completing the work shall be paid for under item no. 622-01 Pneumatically Placed Concrete, sq. ft.



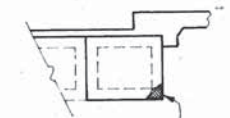
W.B.L. PIER 3 REPAIR

(Looking In Direction of Stationing)



DETAIL 'Y' DETAIL SHOWING EXISTING CONCRETE SURFACE TO BE REPAIRED

- NOTES FOR DETAIL Y:
- Care shall be taken when removing existing deteriorated concrete in designated repair areas so as not to damage the existing reinforcing steel. All existing reinforcing steel shall be blast cleaned to remove all rust before pouring new concrete.
 - Concrete for the repaired areas shall be high early strength, f'c = 3,000 p.s.i.; Type III cement shall be used in lieu of Type I cement. No traffic or other loading will be allowed on the repaired areas until 10 calendar days have elapsed and representative test specimens have attained a compressive strength of not less than 3,000 p.s.i.
 - Cost of removing deteriorated concrete, all blast cleaning, forming, high early strength concrete, labor and all additional materials necessary to complete the repairs as shown in detail shall be included under item No. 604-10.42, Concrete Repairs, C.F..



SECTION THRU E.B.L. SPAN 7 EXISTING BM 'H' (OUTSIDE BEAM)

CONSTR. NO. 80001-3152-44		
PROJECT NO.	YEAR	SHEET NO.
IR-40-5(91)257	1989	
REVISIONS		
NO.	DATE	BY
1	6/16/89	WHP
2	9/14/89	DWT
		BRIEF DESCRIPTION
		Revised Notes
		SKETCH ADDED

SPECIAL NOTE

Necessary concrete repairs at piers of this bridge are shown before the addition of the cantilever beam bracket. In general, these repairs which may be conflicting or may be obscured by the angle strap will be required to be completed before the addition of the angle support frame and the concrete removal and chipping for the bracket addition will override or preclude the need for surface repairs to some end portions of these piers. The Contractor need not first perform surface or other damage repair within the area limits scheduled for the bracket addition or its strap tie system, as shown by relevant details within these plans. Where these repair details overlap the 'footprint' of the bracket addition, the resulting construction shall have neat and appropriately formed lines and surfaces, regardless of the order of construction. The Contractor will not be paid for any surface repairs within the area bounded by the bracket connection to each pier.

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAYS
REPAIR DETAILS
I-40 OVER
CANEY FORK RIVER
STA. 295+91.96 W.B.L.
STA. 296+14.68 E.B.L.
SMITH COUNTY
1989

CORRECT
ENGINEER OF STRUCTURES
APPROVED
DIRECTOR OF HIGHWAYS
M-214-64

CONSTR. NO. 80001-3152-44

PROJECT NO.	YEAR	SHEET NO.
IR-40-5(9)257	1989	

REVISIONS

NO.	DATE	BY	BRIEF DESCRIPTION
1	9/11/89	DWT	REVISIONS FOR CONSTR. JT.

Notes:

Strip Seal Expansion Joints

1. Details of Strip Seal Expansion Joint shall be in accordance with details shown on Standard Drawing No. M-156-108.4/108.4 Concrete Details and reinforcing steel shall be as shown on this drawing except modifications shall be allowed as stipulated in Special Provision No. 604.5.

2. The Strip Seal Expansion Joint shall comply with requirements of Special Provision No. 604.5.

3. Cost of furnishing and installing the Strip Seal Expansion Joint complete in place including all labor, equipment, and other incidental material necessary to complete the work in accordance with plans, specifications and Special Provisions shall be included in bid for Item No. 604-11.01.

4. Joint dimensions shown are for installation at 60°F. Dimensions to be adjusted as necessary for other installation temperatures.

Immediately before substructure riser blocks are poured, the Contractor shall measure the actual camber of the fabricated pre-stressed beams and submit the measurements to the Engineer. The anticipated values for the mid-point of the beams at erection, including vertical curve correction, are as follows:

SPAN(S)	EBL	NBL
A	5/8"	2"
B-D	2"	2 1/2"
E-F	2 1/8"	3 1/8"
G	2"	2 1/8"

Note: A positive value indicates an upward camber. If the measured camber exceeds these anticipated values by 1" or more, corrective measures such as changes in riser block elevations and/or roadway grade must be developed by the Contractor and submitted to the Engineer for approval before any riser blocks are poured.

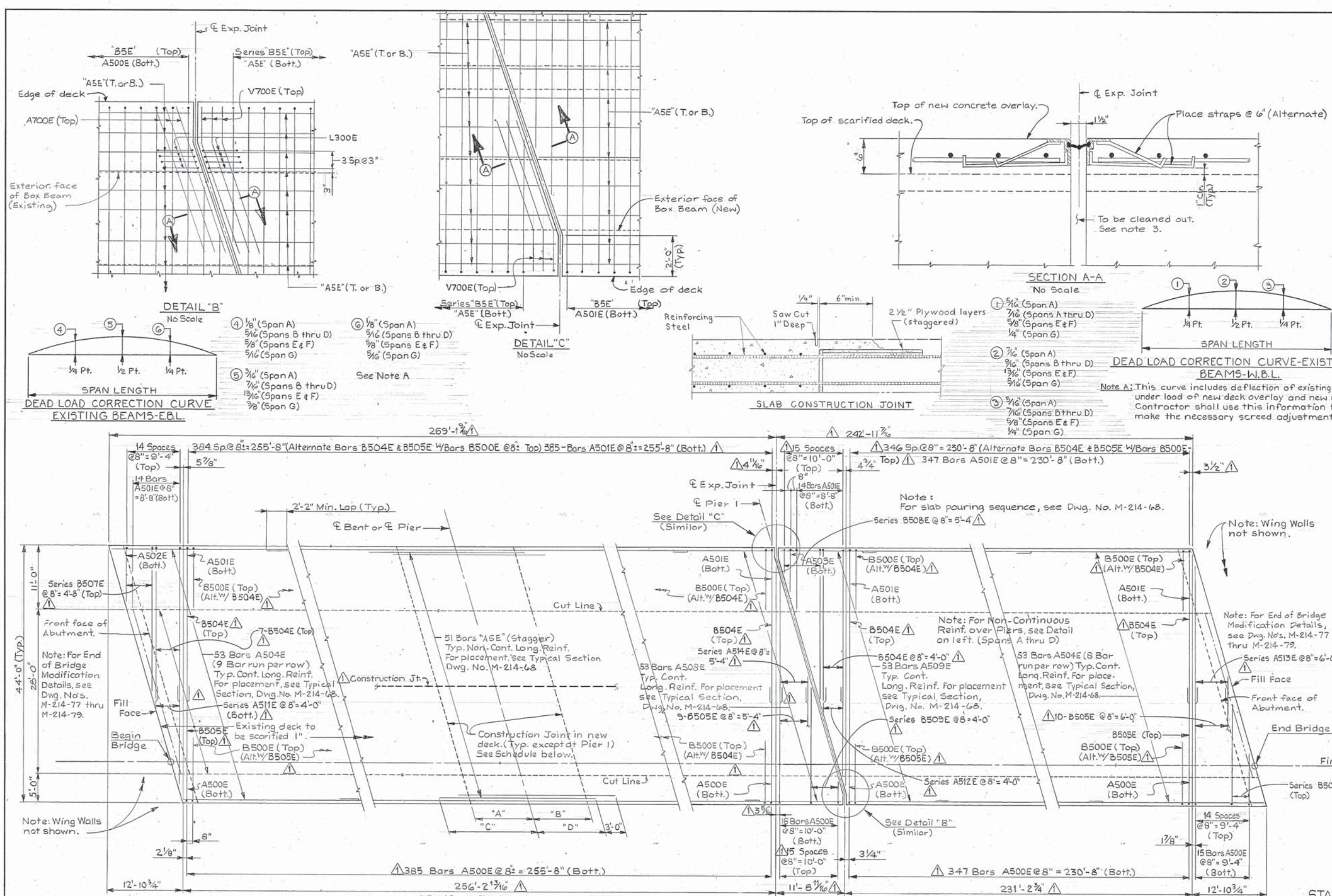
ESTIMATED QUANTITIES - W.B.L.

Class "A" Concrete (Bridge Deck)	Epoxy Coated Reinforcing Steel
C.Y.	Lb.
4.99	77944

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAYS

SUPERSTRUCTURE DETAILS

I-40 W.B.L. OVER
CANEY FORK RIVER
STA. 295+91.96 ± SURVEY W.B.L. I-40
SMITH COUNTY
1989



CONSTRUCTION JOINT & NON-CONT. BAR DIMENSIONS - W.B.L.						
Loc.	Dim.	"A"	"B"	"C"	"D"	Bar
Bent 1	10'-0"	10'-0"	14'-3"	14'-3"	11'-3"	A505E
Bent 2	10'-0"	10'-0"	10'-0"	14'-3"	11'-3"	A505E
Bent 3	10'-0"	10'-0"	10'-0"	14'-3"	11'-3"	A505E
Pier 2	15'-0"	15'-0"	15'-0"	19'-3"	16'-3"	A506E
Pier 3	15'-0"	15'-0"	15'-0"	19'-3"	11'-3"	A507E

DESIGNED BY: DKR
DATE: 11-88
DRAWN BY: HJK
DATE: 11-88
SUPERVISED BY: WSH
DATE: 11-88
CHECKED BY: DKR
DATE: 2-89

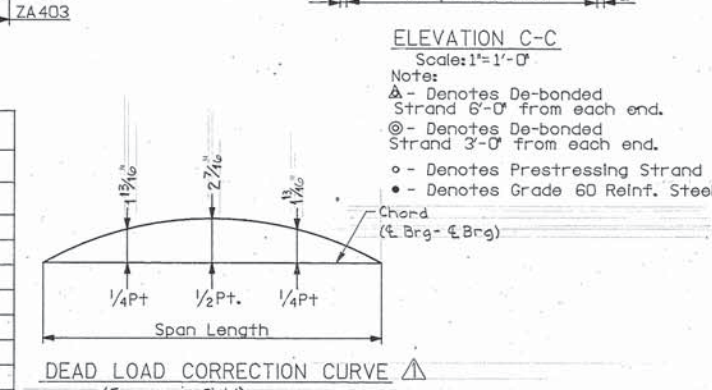
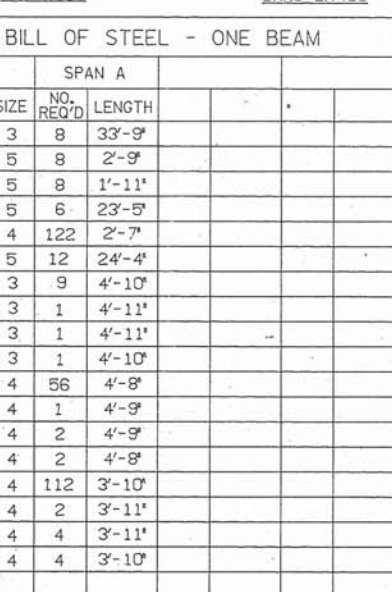
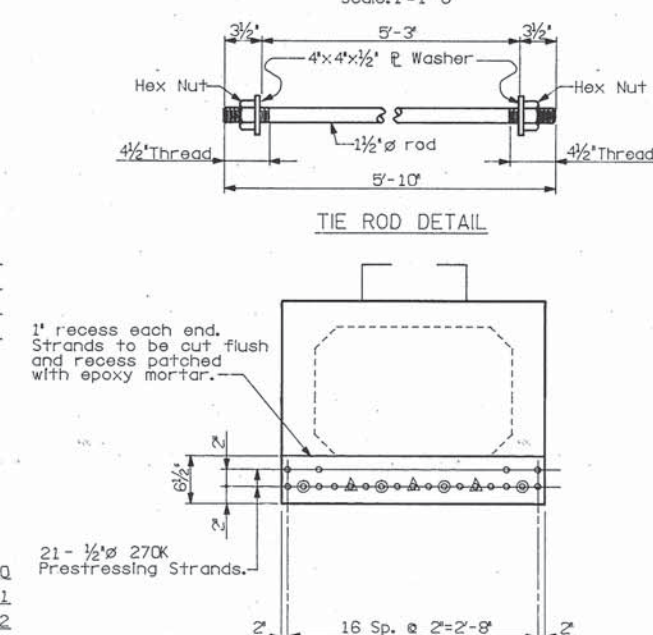
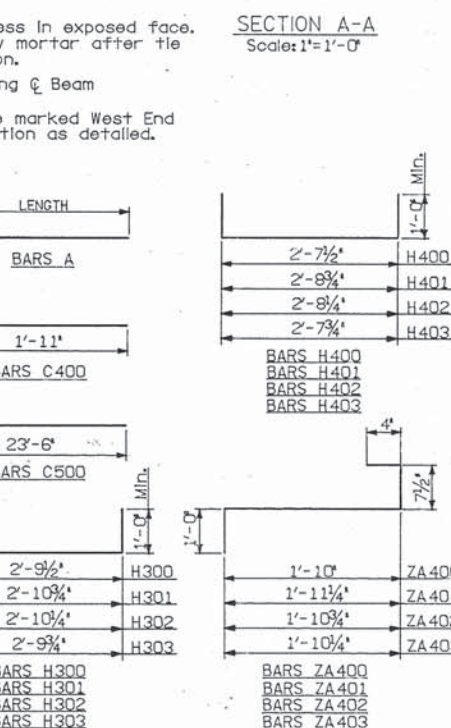
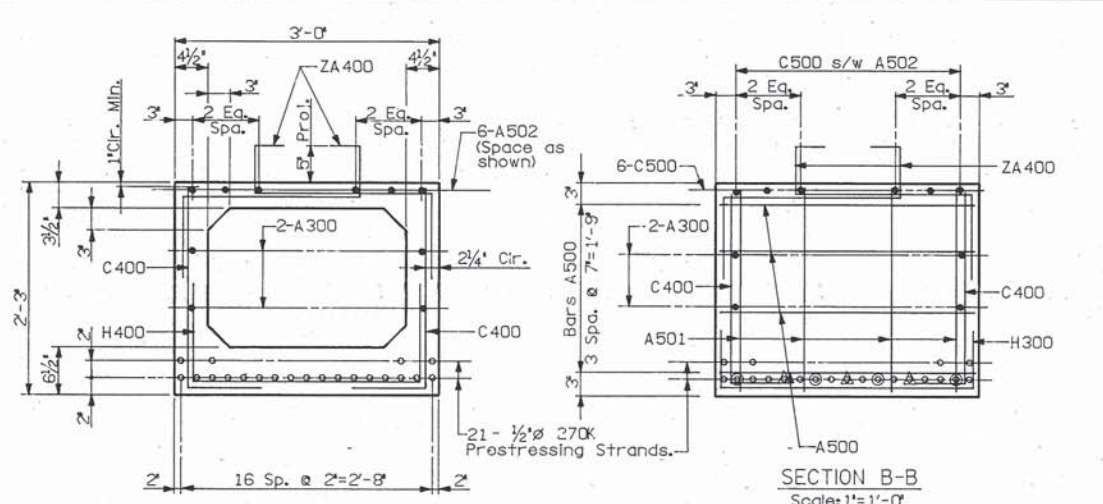
CORRECT

ENGINEER OF STRUCTURES

APPROVED

DIRECTOR OF HIGHWAYS

M-214-67



(For use in Field)				
ESTIMATED QUANTITIES -- ONE BEAM				
ITEM	UNIT	SPAN A		
CLASS "A" CONCRETE	C.Y.	9.7		
REINFORCING STEEL	LB.	1,327		
PRESTRESSING STRANDS	LB.	730		

PRESTRESSED BEAM NOTES

The top of all beams are to be rough floated. At approximately the time of Initial set, the top of the beams will also be scrubbed transversely with a course wire brush to remove all laitance and produce a rough surface. Where precast slab panels are to be used and set on bituminous fiberboard, the outer two inches of the top flange may be troweled.

Mild steel reinforcing shall be ASTM A615 Grade 60.

All prestressing strands to be 1/2" Ø
ASTM Grade 270K, 7 wire uncoated
Low relaxation prestressing strands.

An Initial force at anchorage (after seat) of 31,000 Lbs., shall be applied to each strand in all beams.

1" recess shall be formed at each end of Beam and fill with epoxy mortar as shown. The prestressing strands shall be cut off flush with base of recess.

The concrete for this construction shall be of such properties as to attain a compressive strength of not less than (5,000 PSI) at the age of 28 days and stress transfer shall not be made to the bridge member until the test specimens indicate that the concrete has reached a compressive strength of at least (4,000 PSI). See General Notes for Concrete finishing note.

1" ϕ weep holes shall be provided at the low point of each cell. Vent holes shall be provided in the top of each cell during fabrication to relieve gas pressures that occur during curing. The vent holes shall be plugged after curing is completed.

NOTE: Cost of elastomeric pads, tie rods, dowels and rubber bonding cement to be included in the cost of prestressed beam.

The sequence for transfer of stress or the cutting strands shall be in accordance with Article 615.14 of the 'Standard Specifications for Road and Bridge Construction' and shall be shown on the approved shop drawings. At no time shall more than 1/6th of the total prestressing force be eccentric about the centerline of the beam.

DEAD LOAD CORRECTION CURVE: This curve is for dead load slab and all dead loads that are applied after slab is in place and should be corrected to compensate for the effects due to vertical curve.

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAYS

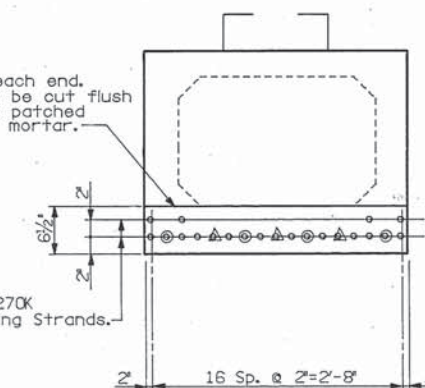
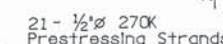
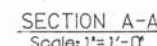
PRESTRESSED BOX BEAM DETAILS
SPAN A W.B.L.
I-40 OVER CANEY FORK RIVER
STA. 295+91.96 @ SURVEY W.B. I-40
SMITH COUNTY
1989

CORRECT _____
ENGINEER OF STRUCTURES
APPROVED _____
M-214-6S

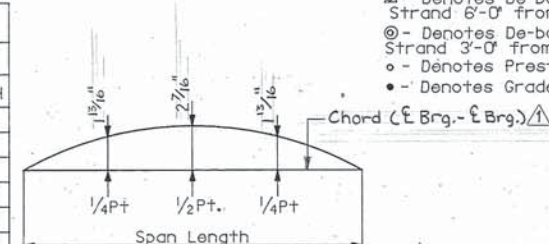
PRESTRESSED BEAM NOTES

DEAD LOAD CORRECTION CURVE: This curve is for dead load slab and all dead loads that are applied after slab is in place and should be corrected to compensate for the effects due to vertical curve.

PRESTRESSED BOX BEAM DETAILS
SPANS B - D W.B.L.
I-40 OVER CANEY FORK RIVER
STA. 295+91.96 @ SURVEY W.B. I-40
SMITH COUNTY
1989



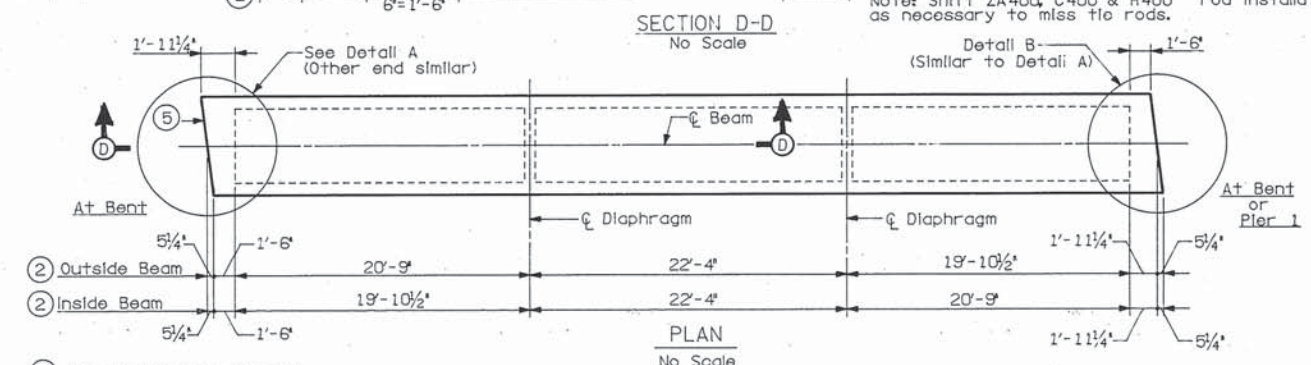
ELEVATION C-C
Scale: 1"=1'-0"



DEAD LOAD CORRECTION CURVE 

(For use in field)

ESTIMATED QUANTITIES - ONE BEAM				
ITEM	UNIT	SPAN B	SPAN C	SPAN D
CLASS "A" CONCRETE	C.Y.	9.8	9.8	9.7
REINFORCING STEEL	LB.	1,338	1,338	1,338
PRESTRESSING STRANDS	LB.	735	735	735



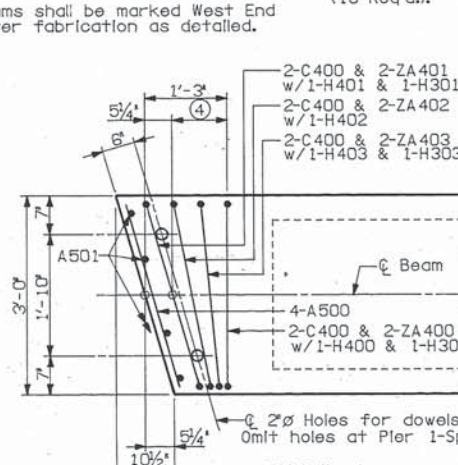
SECTION D-D
No Scale



② dimensions along

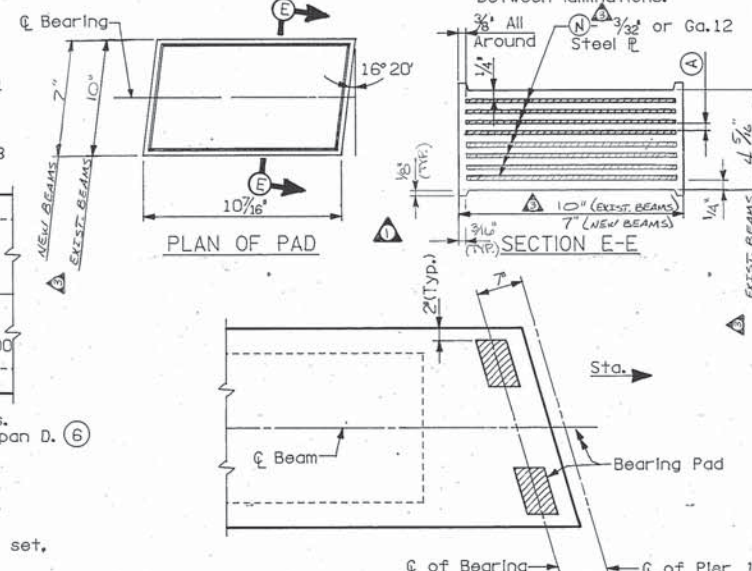
(4) 3 Sp. @ $3\frac{3}{4}' \pm 9\frac{3}{4}'$
Beams shall be marked West End
after fabrication as detailed.

Note: For Details of Elastomeric Bearing Pads at Bents 1-3, see Dwg. No. M-214-71 (10 Req'd.).



DETAIL A
(Detail B Similar)
No Scale

⑥ NOTE: After Beams have been erected and set, 2" Holes to be filled with epoxy mortar at Fixed End and bitumen at Expansion End.



PAD LAYOUT

SPAN D AT PIER 1

(B) 20 Req'd)

LAMINATED ELASTOMERIC BEARING PADS

No. Scale

LENGTH

BARS A

8

1'-11"

BARS C400

10

22'-11"

BARS C500

1'-0" Min.

2'-9 1/2"

H300

2'-10 3/4"

H301

2'-9 3/4"

H303

BARS H300

BARS H301

BARS H303

2'-7 1/2"

2'-8 3/4"

2'-8 3/4"

2'-7 3/4"

H400

H401

H402

H403

BARS H400

BARS H401

BARS H402

BARS H403

4"

7 1/2"

1'-0"

1'-10"

1'-11 1/4"

1'-10 3/4"

1'-10 3/4"

ZA400

ZA401

ZA402

ZA403

BARS ZA400

BARS ZA401

BARS ZA402

BARS ZA403

1 13/16"

BILL OF STEEL - ONE BEAM

		SPAN B		SPAN C		SPAN D	
BARS	SIZE	NO. REQ'D	LENGTH	NO. REQ'D	LENGTH	NO. REQ'D	LENGTH
A300	3	8	3'-9"	8	3'-9"	8	3'-9"
A500	5	8	2'-9"	8	2'-9"	8	2'-9"
A501	5	8	1'-11"	8	1'-11"	8	1'-11"
A502	5	6	24'-6"	6	24'-6"	6	24'-6"
C400	4	124	2'-7"	124	2'-7"	124	2'-7"
C500	5	12	23'-9"	12	23'-9"	12	23'-9"
H300	3	8	4'-10"	8	4'-10"	8	4'-10"
H301	3	2	4'-11"	2	4'-11"	2	4'-11"
H303	3	2	4'-10"	2	4'-10"	2	4'-10"
H400	4	56	4'-8"	56	4'-8"	56	4'-8"
H401	4	2	4'-9"	2	4'-9"	2	4'-9"
H402	4	2	4'-9"	2	4'-9"	2	4'-9"
H403	4	2	4'-8"	2	4'-8"	2	4'-8"
ZA400	4	112	3'-10"	112	3'-10"	112	3'-10"
ZA401	4	4	3'-11"	4	3'-11"	4	3'-11"
ZA402	4	4	3'-11"	4	3'-11"	4	3'-11"
ZA403	4	4	3'-10"	4	3'-10"	4	3'-10"

DESIGNED BY: HIZ DATE: 11-88
 DRAWN BY: EAB DATE: 11-88
 SUPERVISED BY: WSH DATE: 11-88
 CHECKED BY: HIZ DATE: 1-89

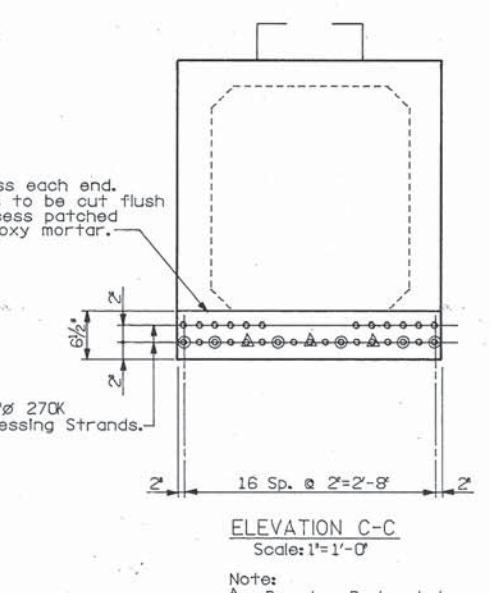
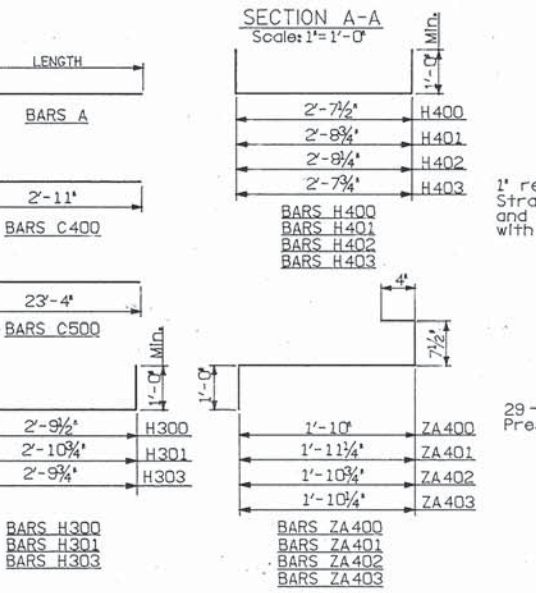
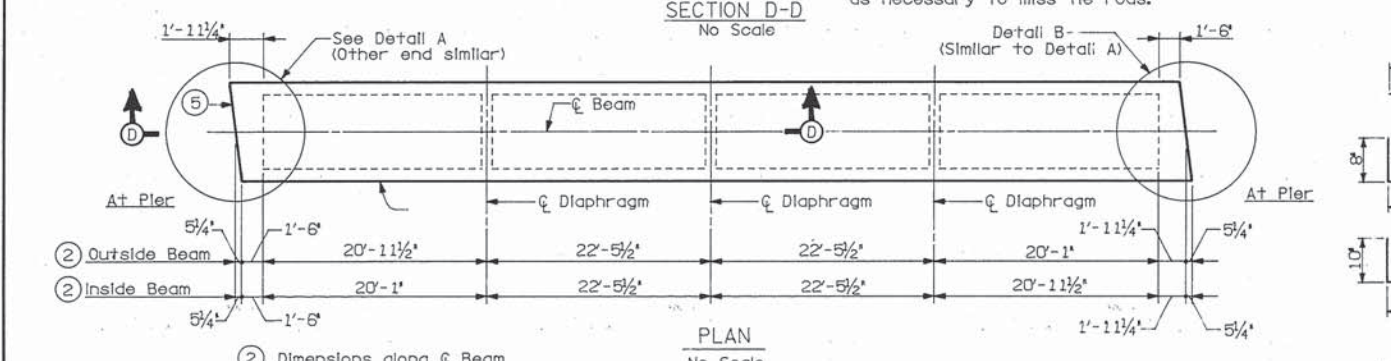
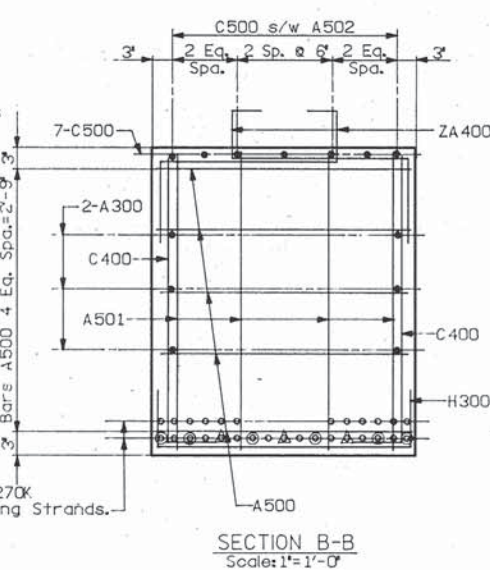
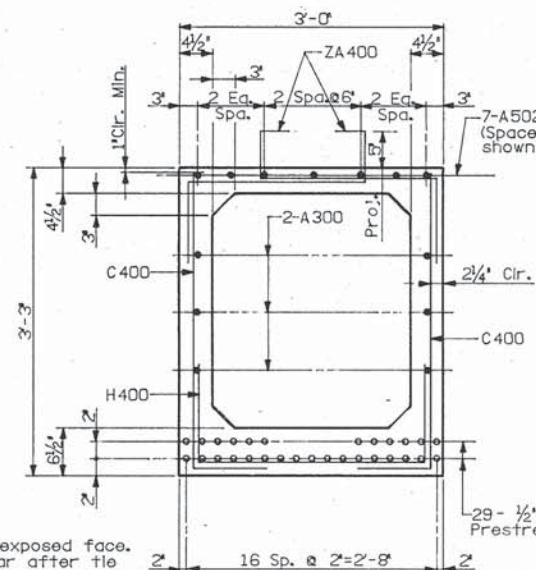
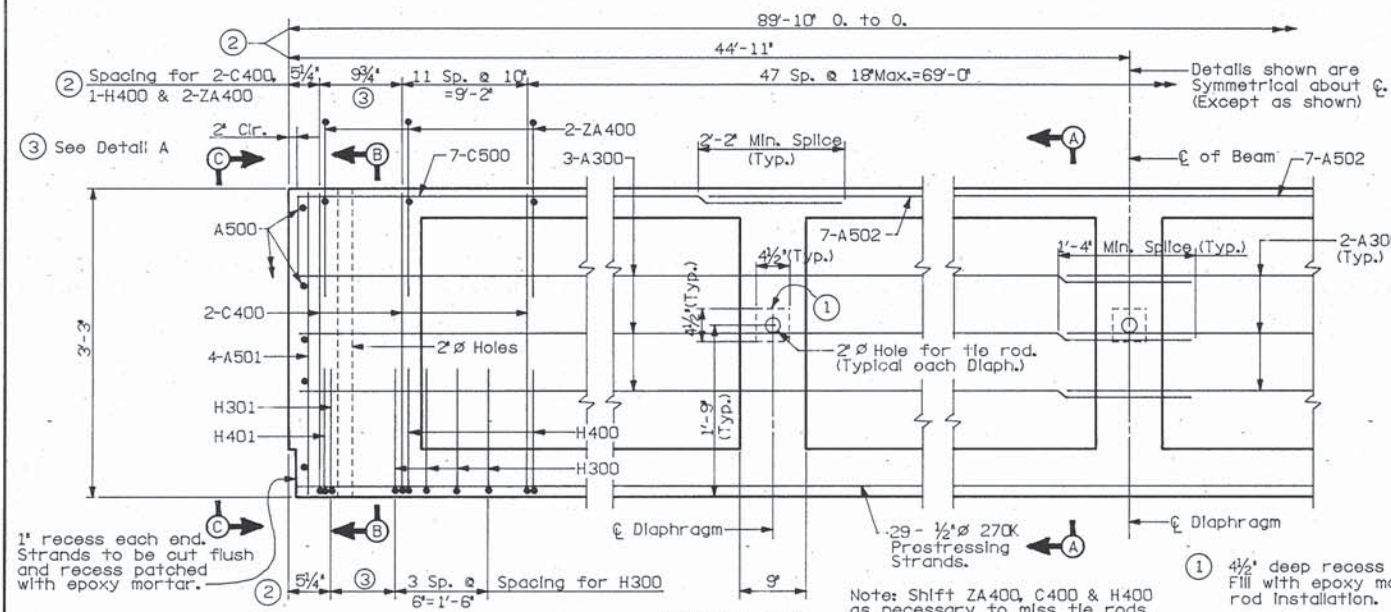
CORRECT

ENGINEER OF STRUCTURES

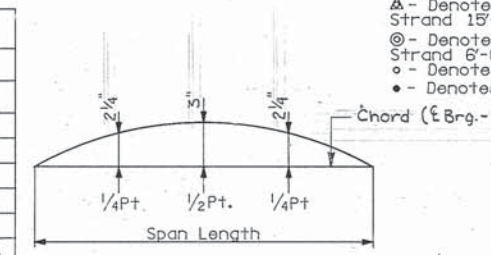
APPROVED _____
DIRECTOR OF HIGHWAYS

M-214-70

75-159-2-40 DTN00X302B (Rev. 1-89)
DTN00X



BILL OF STEEL - ONE BEAM									
BARS	SIZE	NO. REQ'D	LENGTH	NO. REQ'D	LENGTH				
A300	3	12	45'-3"	12	45'-3"				
A500	5	10	2'-9"	10	2'-9"				
A501	5	8	2'-11"	8	2'-11"				
A502	5	14	24'-8"	14	24'-8"				
C400	4	152	3'-7"	152	3'-7"				
C500	5	14	24'-2"	14	24'-2"				
H300	3	8	4'-10"	8	4'-10"				
H301	3	2	4'-11"	2	4'-11"				
H303	3	2	4'-10"	2	4'-10"				
H400	4	70	4'-8"	70	4'-8"				
H401	4	2	4'-9"	2	4'-9"				
H402	4	2	4'-9"	2	4'-9"				
H403	4	2	4'-8"	2	4'-8"				
ZA400	4	140	3'-10"	140	3'-10"				
ZA401	4	4	3'-11"	4	3'-11"				
ZA402	4	4	3'-11"	4	3'-11"				
ZA403	4	4	3'-10"	4	3'-10"				



ESTIMATED QUANTITIES -- ONE BEAM				
ITEM	UNIT	SPAN E	SPAN F	
CLASS 'A' CONCRETE	C.Y.	16.6	16.6	
REINFORCING STEEL	LB.	1,980	1,980	
PRESTRESSING STRANDS	LB.	1,368	1,368	

CONSTR. NO. 80001-3152-44			
PROJECT NO.		YEAR	SHEET NO.
IR-40-59(1)257		1989	
REVISIONS			
NO.	DATE	BY	BRIEF DESCRIPTION
1	9-14-89	DWT	Revised Dead Load Correction Values

PRESTRESSED BEAM NOTES

The top of all beams are to be rough floated. At approximately the time of initial set, the top of the beams will also be scrubbed transversely with a coarse wire brush to remove all laitance and produce a rough surface. Where precast slab panels are to be used and set on bituminous fiberboard, the outer two inches of the top flange may be troweled.

Anchorage at the expansion end of beams accomplished by dowels 1" x 1'-8". Fixed end dowels to be 1" x 1'-8". Mild steel reinforcing shall be ASTM A615 Grade 60.

All prestressing strands to be 1/2" ASTM Grade 270K, 7 wire uncoated Low relaxation prestressing strands.

An initial force at anchorage (after seating) of 31,000 Lbs., shall be applied to each strand in all beams.

1' recess shall be formed at each end of beam and fill with epoxy mortar as shown. The prestressing strands shall be cut off flush with base of recess.

The concrete for this construction shall be of such properties as to attain a compressive strength of not less than (5,000 PSI) at the age of 28 days and stress transfer shall not be made to the bridge member until the test specimens indicate that the concrete has reached a compressive strength of at least (4,000 PSI). See General Notes for concrete finishing note.

1" weep holes shall be provided at the low point of each cell. Vent holes shall be provided in the top of each cell during fabrication to relieve gas pressures that occur during curing. The vent holes shall be plugged after curing is completed.

NOTE: Cost of elastomeric pads, tie rods, dowels and rubber bonding cement to be included in the cost of prestressed beam.

The sequence for transfer of stress or the cutting strands shall be in accordance with Article 615.14 of the "Standard Specifications for Road and Bridge Construction" and shall be shown on the approved shop drawings. At no time shall more than 1/6th of the total prestressing force be eccentric about the centerline of the beam.

DEAD LOAD CORRECTION CURVE: This curve is for dead load slab and all dead loads that are applied after slab is in place and should be corrected to compensate for the effects due to vertical curve.

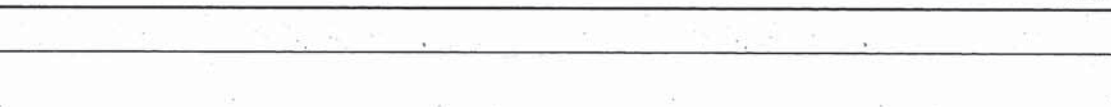
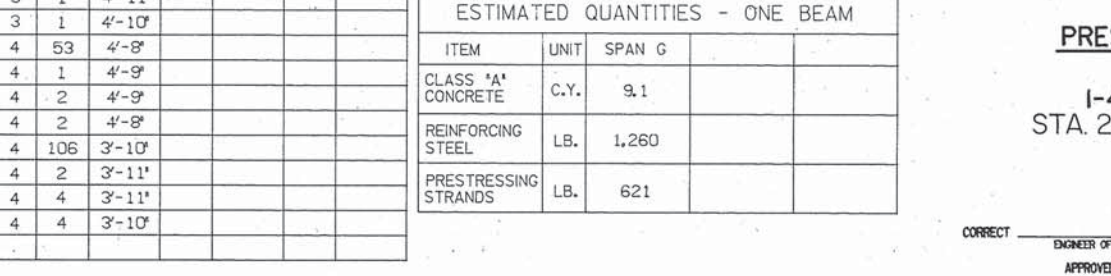
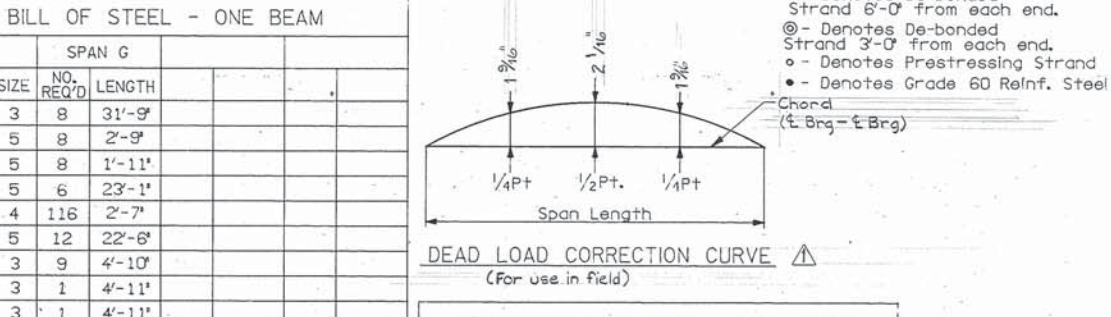
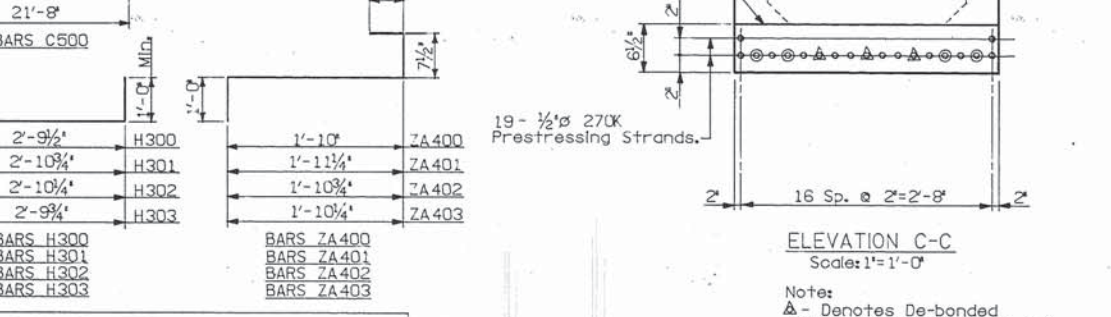
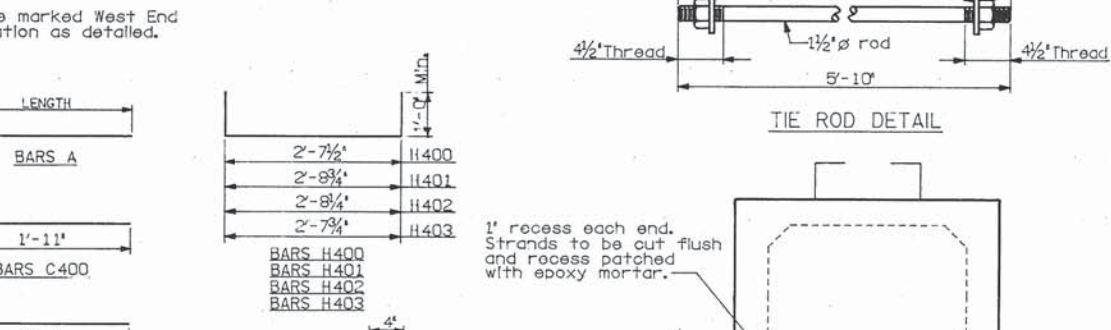
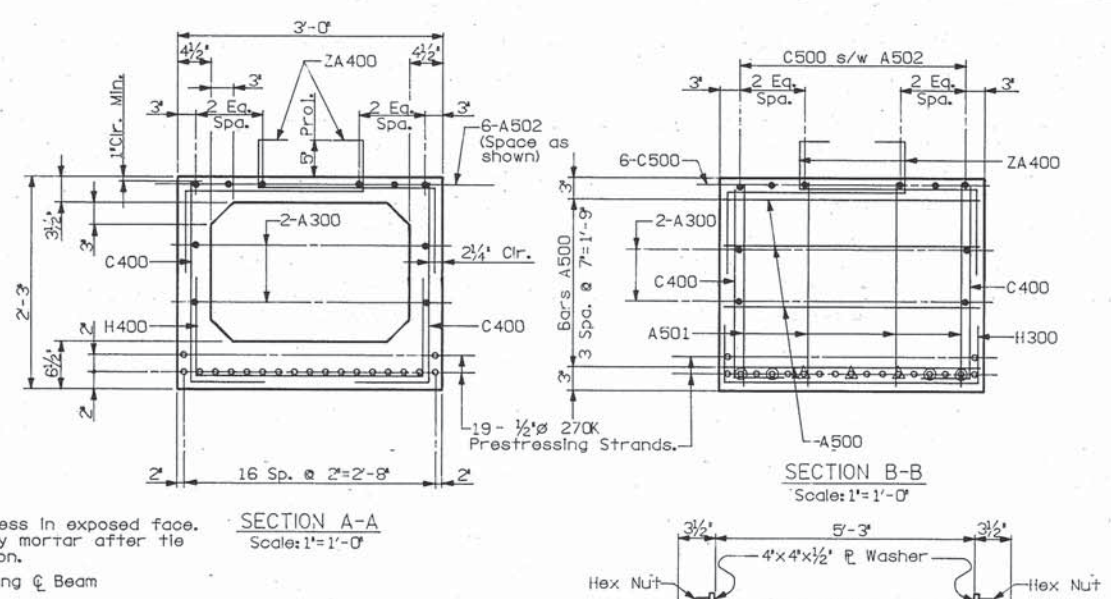
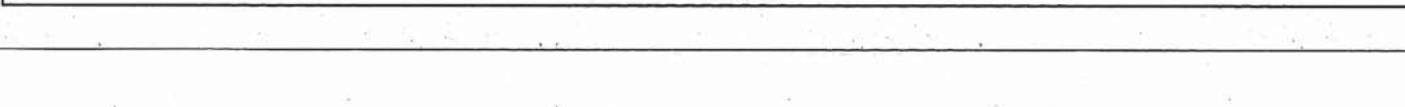
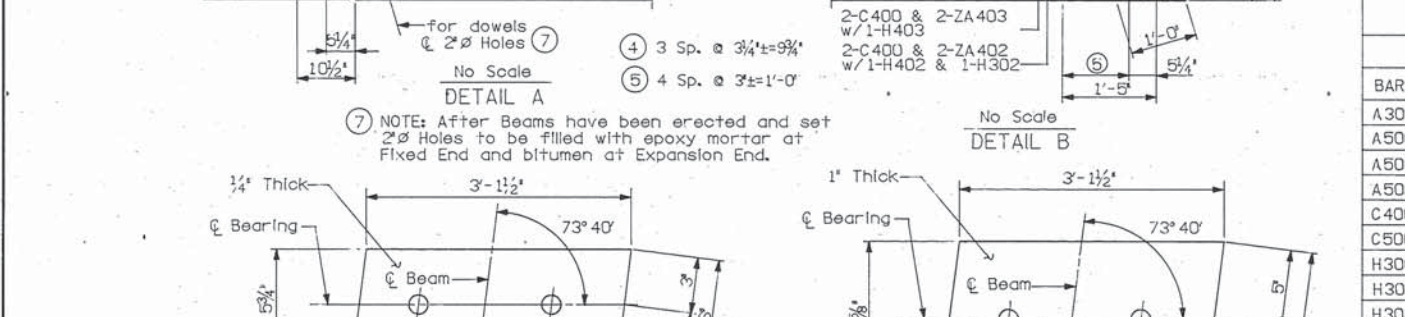
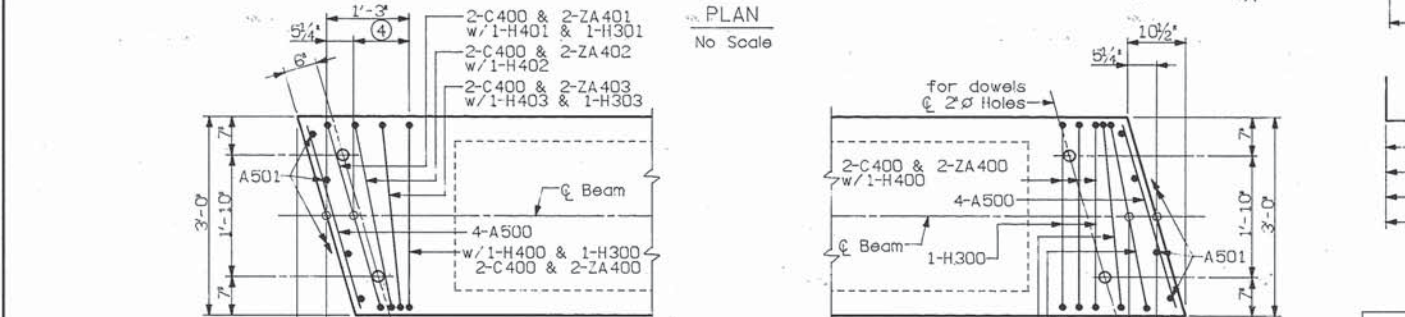
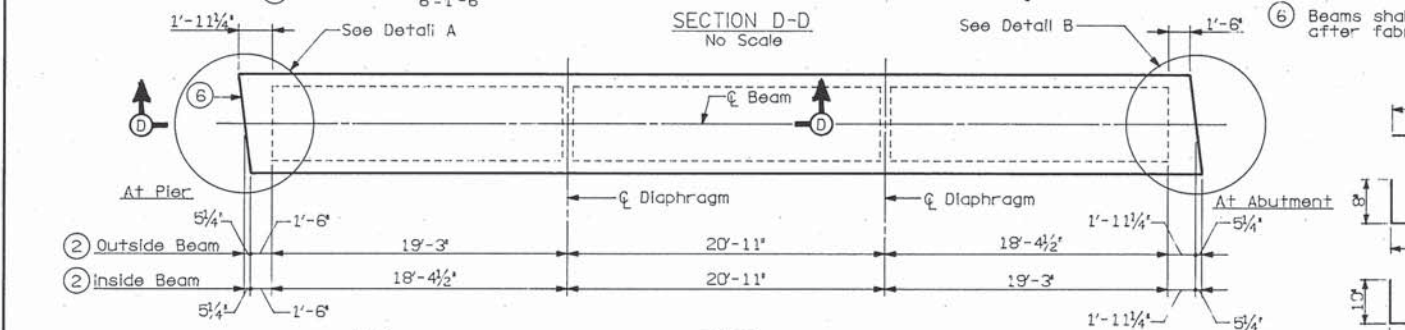
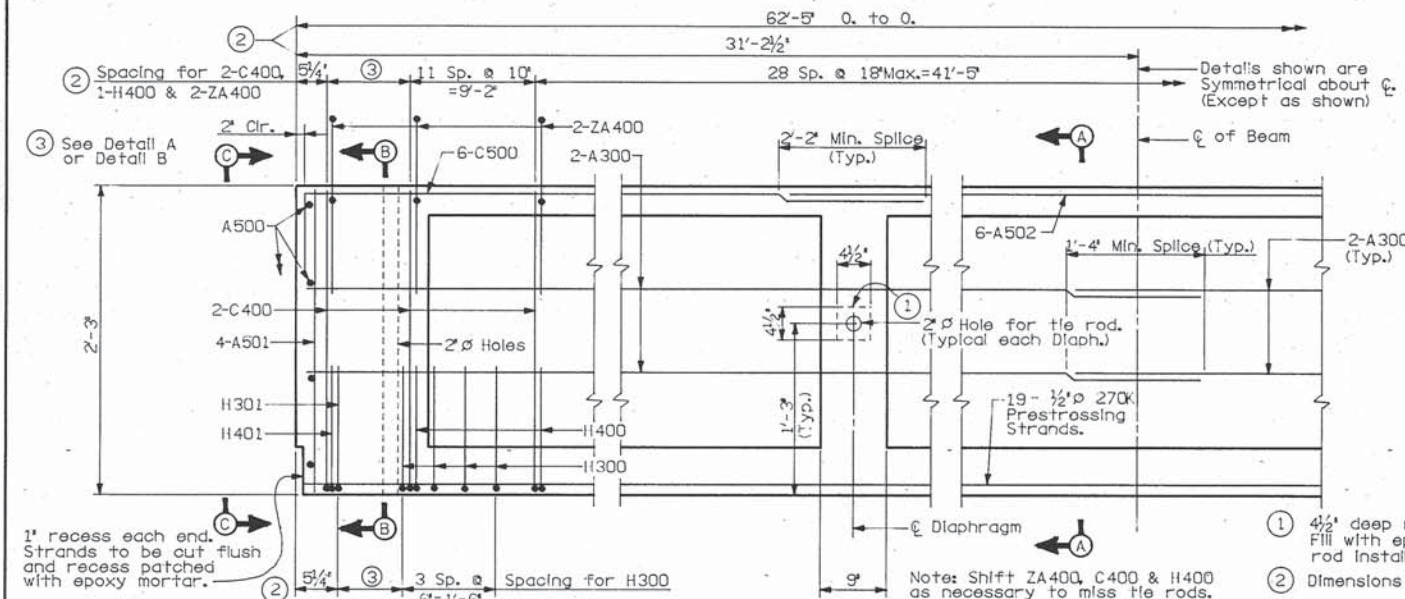
STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAYS

PRESTRESSED BOX BEAM DETAILS
SPANS E & F W.B.L.
I-40 OVER CANEY FORK RIVER
STA. 295+91.96 & SURVEY W.B. I-40
SMITH COUNTY
1989

DESIGNED BY: HIZ
DRAWN BY: EAB
SUPERVISED BY: WSH
CHECKED BY: HIZ

DATE: 11-88
DATE: 11-88
DATE: 11-88
DATE: 1-89

CORRECT
ENGINEER OF STRUCTURES
APPROVED
DIRECTOR OF HIGHWAYS
M-214-71



CONSTR. NO. 80001-3152-44		
PROJECT NO.	YEAR	SHEET NO.
IR-40-591257	1989	
REVISIONS		
NO.	DATE	BY
1	5/7/89	DWT
REVISED DEAD LOAD CORRECTION VALUES		

PRESTRESSED BEAM NOTES

The top of all beams are to be rough floated. At approximately the time of initial set, the top of the beams will also be scrubbed transversely with a coarse wire brush to remove all laitance and produce a rough surface. Where precast slab panels are to be used and set on bituminous fiberboard, the outer two inches of the top flange may be troweled.

Anchorage at the expansion end of beams accomplished by dowels 1" x 1'-6". Fixed end dowels to be 1" x 1'-6".

Mild steel reinforcing shall be ASTM A615 Grade 60.

All prestressing strands to be 1/2" ASTM Grade 270K, 7 wire uncoated low relaxation prestressing strands.

An initial force at anchorage (after seating) of 31,000 lbs., shall be applied to each strand in all beams.

1" recess shall be formed at each end of beam and fill with epoxy mortar as shown. The prestressing strands shall be cut off flush with base of recess.

The concrete for this construction shall be of such properties as to attain a compressive strength of not less than (5,000 PSI) at the age of 28 days and stress transfer shall not be made to the bridge member until the test specimens indicate that the concrete has reached a compressive strength of at least (4,000 PSI). See General Notes for Concrete finishing note.

1" weep holes shall be provided at the low point of each cell. Vent holes shall be provided in the top of each cell during fabrication to relieve gas pressures that occur during curing. The vent holes shall be plugged after curing is completed.

NOTE: Cost of elastomeric pads, tie rods, dowels and rubber bonding cement to be included in the cost of prestressed beam.

The sequence for transfer of stress or the cutting strands shall be in accordance with Article 615.14 of the "Standard Specifications for Road and Bridge Construction" and shall be shown on the approved shop drawings. At no time shall more than 1/6th of the total prestressing force be eccentric about the centerline of the beam.

DEAD LOAD CORRECTION CURVE: This curve is for dead load slab and all dead loads that are applied after slab is in place and should be corrected to compensate for the effects due to vertical curve.

BARS A

2'-7 1/2" H400

2'-8 3/4" H401

2'-8 3/4" H402

2'-7 3/4" H403

BARS C400

1'-11" 21'-8"

BARS C500

2'-9 1/2" H300

2'-10 3/4" H301

2'-10 3/4" H302

2'-9 3/4" H303

BARS H300

1'-10" ZA400

1'-11 1/4" ZA401

1'-10 3/4" ZA402

1'-10 3/4" ZA403

BARS ZA400

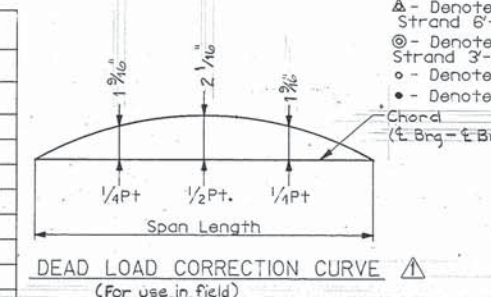
1'-10" ZA401

1'-10 3/4" ZA402

1'-10 3/4" ZA403

BILL OF STEEL - ONE BEAM

BARS	SIZE	NO. REQ'D	LENGTH
A300	3	8	31'-9"
A500	5	8	2'-9"
A501	5	8	1'-11"
A502	5	6	23'-1"
C400	4	116	2'-7"
C500	5	12	22'-6"
H300	3	9	4'-10"
H301	3	1	4'-11"
H302	3	1	4'-11"
H303	3	1	4'-10"
H400	4	53	4'-8"
H401	4	1	4'-9"
H402	4	2	4'-9"
H403	4	2	4'-8"
ZA400	4	106	3'-10"
ZA401	4	2	3'-11"
ZA402	4	4	3'-11"
ZA403	4	4	3'-10"



ESTIMATED QUANTITIES - ONE BEAM

ITEM	UNIT	SPAN G
CLASS 'A' CONCRETE	C.Y.	9.1
REINFORCING STEEL	LB.	1,260
PRESTRESSING STRANDS	LB.	621

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAYS

PRESTRESSED BOX BEAM DETAILS

SPAN G W.B.L.

I-40 OVER CANEY FORK RIVER

STA. 295+91.96 & SURVEY W.B. I-40

SMITH COUNTY

1989

CORRECT

ENGINEER OF STRUCTURES

APPROVED

DIRECTOR OF HIGHWAYS

M-214-72

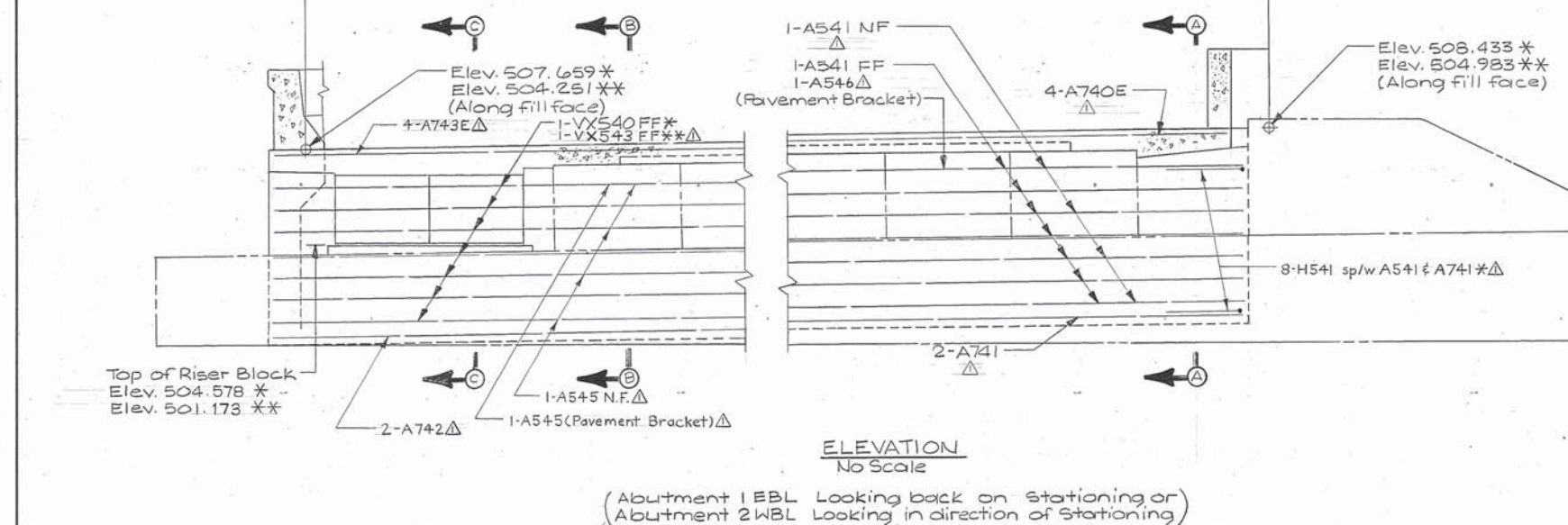
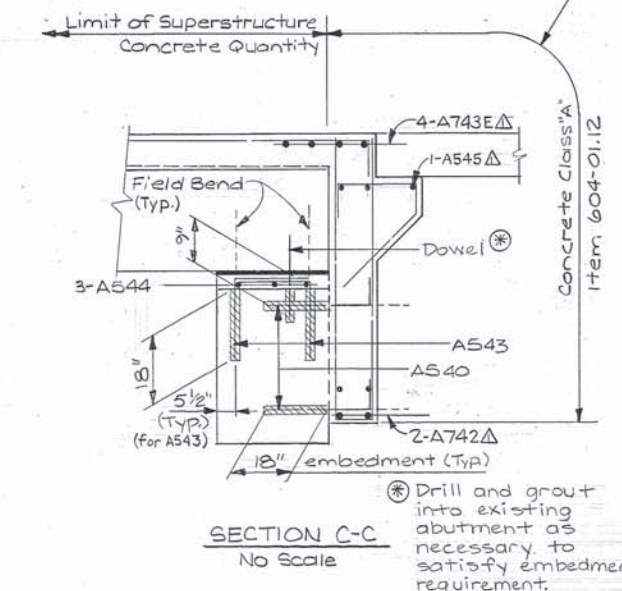
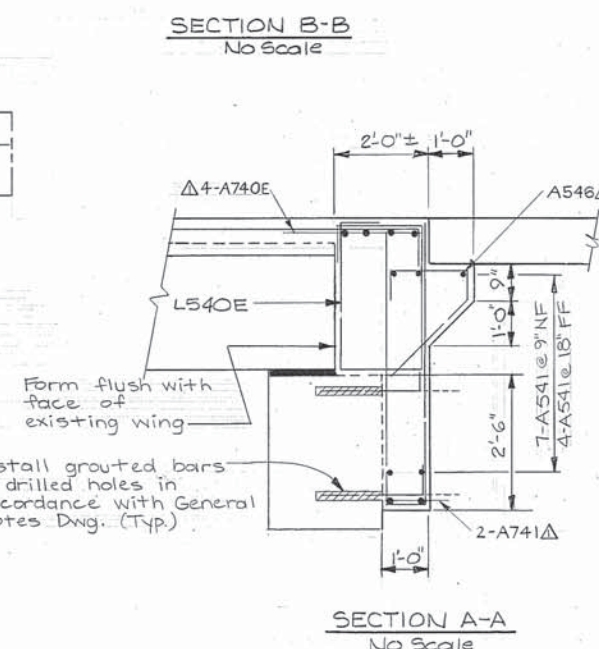
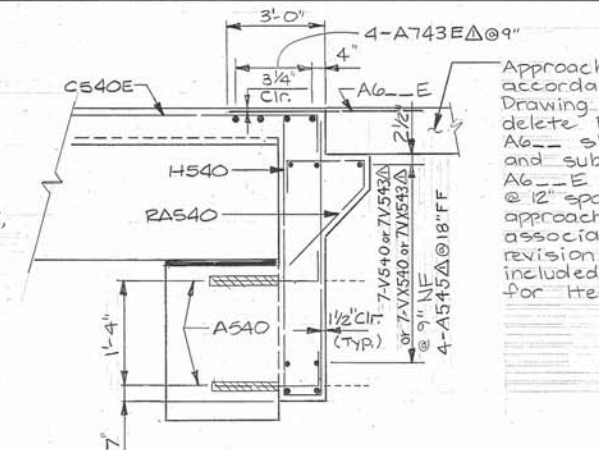
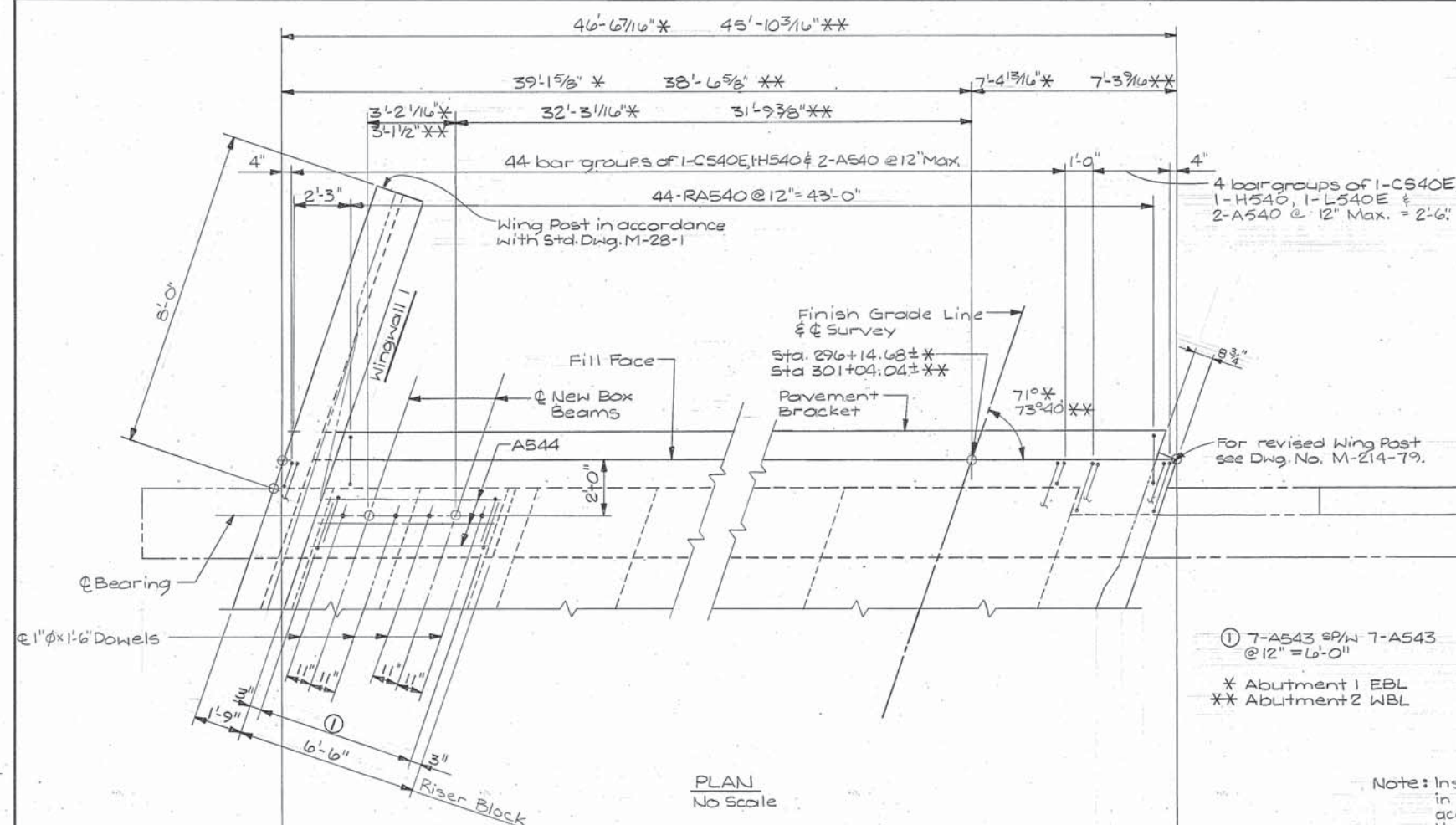
CONSTR. NO. 80001-3152-44

PROJECT NO.	YEAR	SHEET NO.
IR-40-5(9)257	1989	

REVISIONS			
NO.	DATE	BY	BRIEF DESCRIPTION
1	9/17/89	DWT	Changes due to long Constr. Jt.

Approach pavement in accordance with Std. Drawing K-86-144 except delete Bars F9-- and A6-- shown on K-86-144 and substitute Bars A6--E (6'-0" long) as shown @ 12" spacing (41 req'd. per approach slab). All costs associated with the revision shown shall be included in the price bid for Item No. 604-03.04.

Note: This section shall not be poured until the beam is in place. Also, this section shall be poured concurrently with the end of the slab.



Notes:
When pouring riser block, provisions shall be made for setting dowels.
All costs associated with furnishing and installing dowels shall be included in the price bid for prestressed beams.
Cost of bridge rail and wingpost is to be included in the cost of bridge rail system.
All costs associated with field bending reinforcing steel shall be included in the price bid for Item No. 604-03.02.

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAYS
ABUTMENT DETAILS (2)
I-40 OVER CANEY FORK RIVER
STA. 295+91.96 WBL I-40
STA. 296+14.68 EBL I-40
SMITH COUNTY
1989

DESIGNED BY DWT DATE 1-89
DRAWN BY TEF DATE 1-89
SUPERVISED BY WSH DATE 1-89
CHECKED BY DWT DATE 2-89

CORRECT
ENGINEER OF STRUCTURES
APPROVED
DIRECTOR OF HIGHWAYS

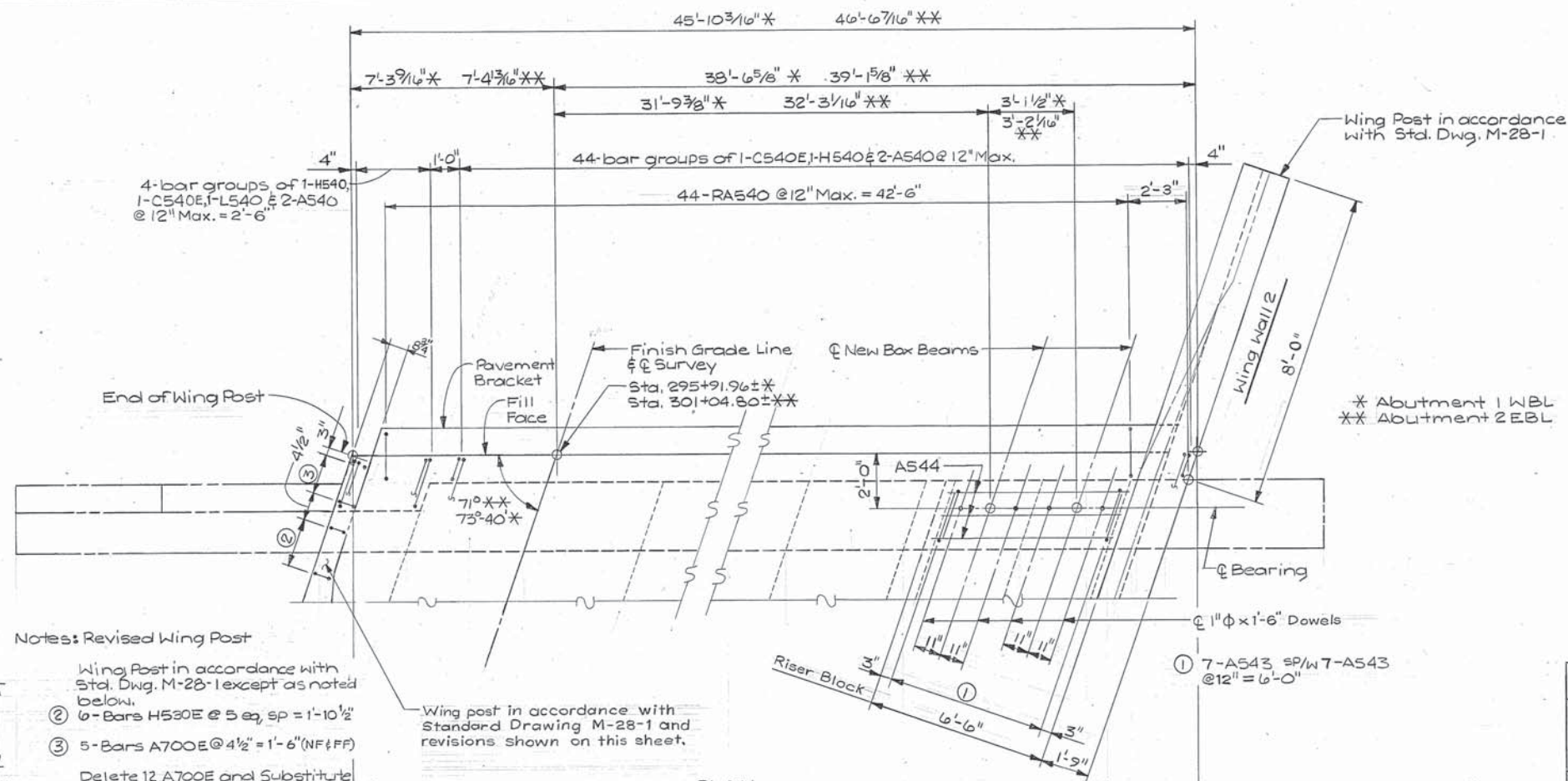
M-214-78

CONSTR. NO. 80001-3152-44

PROJECT NO.	YEAR	SHEET NO.
IR-40-5(91)257	1989	

REVISIONS

NO.	DATE	BY	BRIEF DESCRIPTION
1	9/14/89	DWT	Changes due to long Constr. Jt.



Notes: Revised Wing Post

Wing Post in accordance with Std. Dwg. M-28-1 except as noted below.

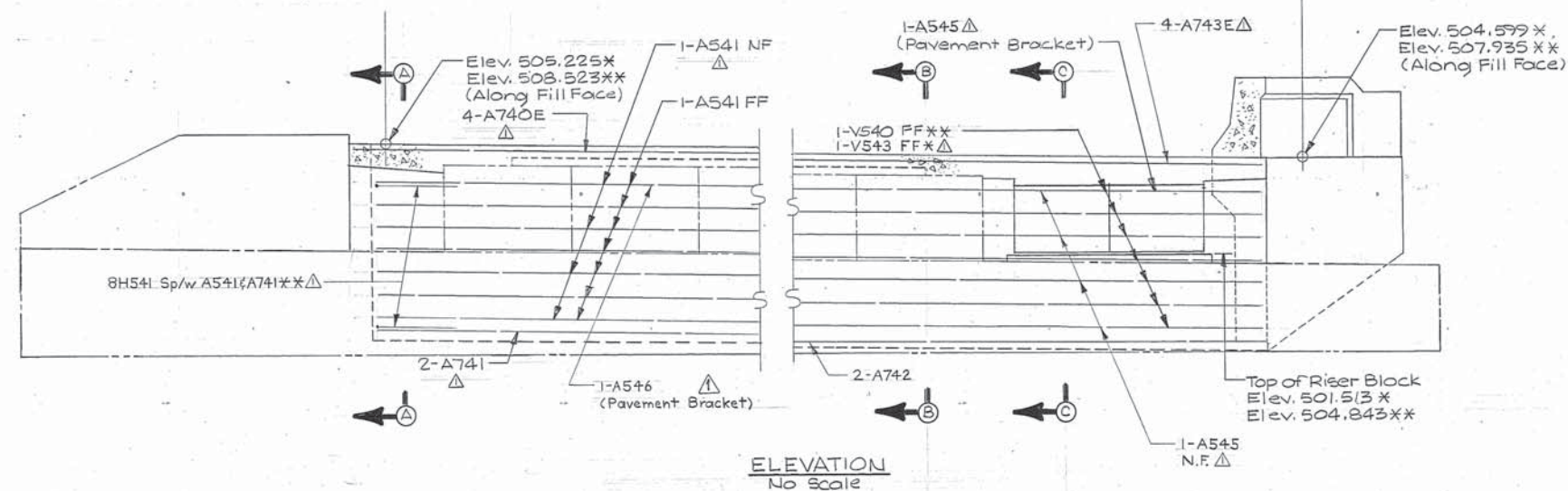
- ② 6-Bars H530E @ 5 eq, sp = 1'-10 1/2"
- ③ 5-Bars A700E @ 4 1/2" = 1'-6" (NF & FF)

Delete 12 A700E and Substitute 6-H530E and re-space remaining bars as shown. Revise 1'-4" dimension on A550E to 1'-10 1/2"

- All cost associated with shown revision to M-28-1 shall be included in the price bid for item #620-03, (including Bars H530E)



H530E

PLAN
No ScaleELEVATION
No Scale

(Abutment 1 WBL Looking back on Stationing or
Abutment 2 EBL Looking in direction of Stationing)

ESTIMATED QUANTITIES Δ				
ITEM	CLASS "A" CONCRETE (BRIDGE DECK) C.Y.	STEEL BAR REINFORCEMENT (BRIDGES) LBS	EPOXY COATED REINFORCING STEEL LBS	CLASS "A" CONCRETE (BRIDGES) C.Y.
ABUTMENT 1 EBL	14	2483	1803	9
ABUTMENT 2 EBL	14	2479	1803	9
ABUTMENT 1 WBL	14	2436	1801	9
ABUTMENT 2 WBL	14	2440	1801	9

Δ See Dwg. No. M-214-79A for construction joint and phase construction details.

For additional notes see Dwg No. M-214-78

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAYS
ABUTMENT DETAILS (3)
I-40 OVER CANEY FORK RIVER
STA. 295+91.96 WBL I-40
STA. 296+14.68 EBL I-40
SMITH COUNTY
1989

DESIGNED BY DWT DATE 1-89
DRAWN BY KDM/TEE DATE 1-89
SUPERVISED BY WSH DATE 1-89
CHECKED BY DWT DATE 1-89

CORRECT

ENGINEER OF STRUCTURES

APPROVED

DIRECTOR OF HIGHWAYS

M-214-79

PROJECT NO.	YEAR	SHEET NO.
IR-40-5(91)257	1989	

Notes:

 - Indicates mechanical coupler
to comply with AASHTO Art. 8.32.2.3
and General Notes Drawing.



The diagram illustrates the cross-section of a bridge deck with the following dimensions and features:

- Overall Width:** 44'-0"
- Phase II Construction Area:** 20'-0" wide, extending from the centerline to the right.
- Phase I Construction Area:** 24'-0" wide, extending from the centerline to the left.
- Construction Joint (Overlay & Backwall):** Located at the centerline.
- Finish Grade Line:** Indicated on the left side of the deck.
- Reinforcement Details:**
 - "A7" Bar (Backwall):** Located at the centerline.
 - "A5" Bar (Backwall):** Located at the centerline.
 - "A5", "V5" or "VX5" Bar (Backwall):** Located at the centerline.
 - Splice:** Indicated at the centerline.

13'-0" to finish grade

Fill Face

6" (Typ.)

7A Bar (Slab)

Construction Joint

Splice

The diagram illustrates the cross-section of a concrete slab with reinforcement. Key features include:

- 13-0' to finish grade**: A dimension line indicating the height from the reinforcement to the finished ground level.
- *A9' Bar (Pavement Bracket)**: A horizontal reinforcement bar at the top of the slab.
- Fill Face**: The vertical surface of the fill material.
- *A7' Bar (Slab)**: A horizontal reinforcement bar within the slab.
- Splice**: A vertical line indicating the location where reinforcement bars are joined.
- 6"(Typ.)**: A dimension indicating the typical spacing between reinforcement bars.
- Construction Joint**: A vertical line indicating a joint in the concrete slab.

CORRECT _____
ENGINEER OF STRUCTURES
APPROVED _____
DIRECTOR OF HIGHWAYS

M-214-79A

DESIGNED BY: DWT DATE: 8-89
 DRAWN BY: EAB DATE: 8-89
 SUPERVISED BY: WCH DATE: 8-89
 CHECKED BY: DWT DATE: 9-89

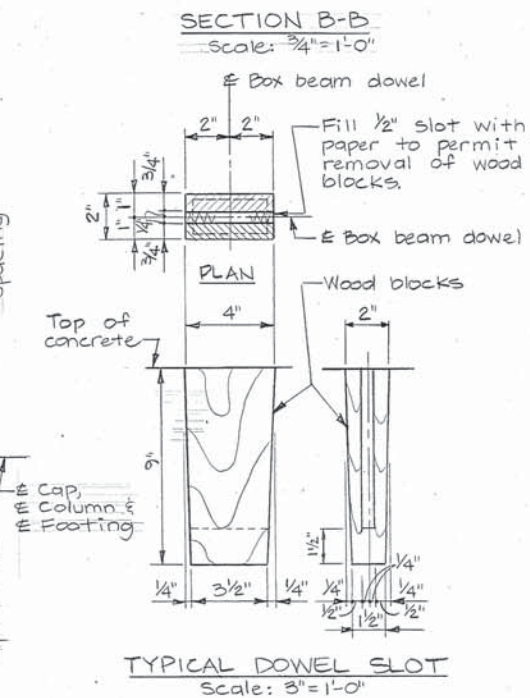
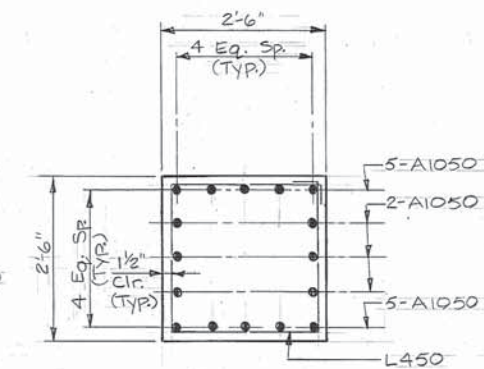
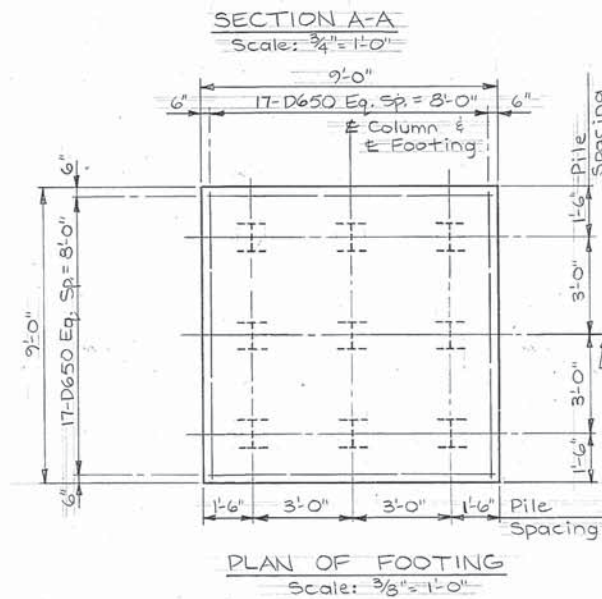
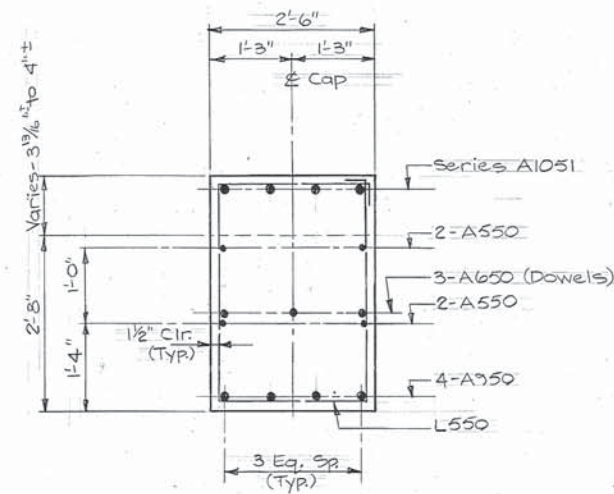
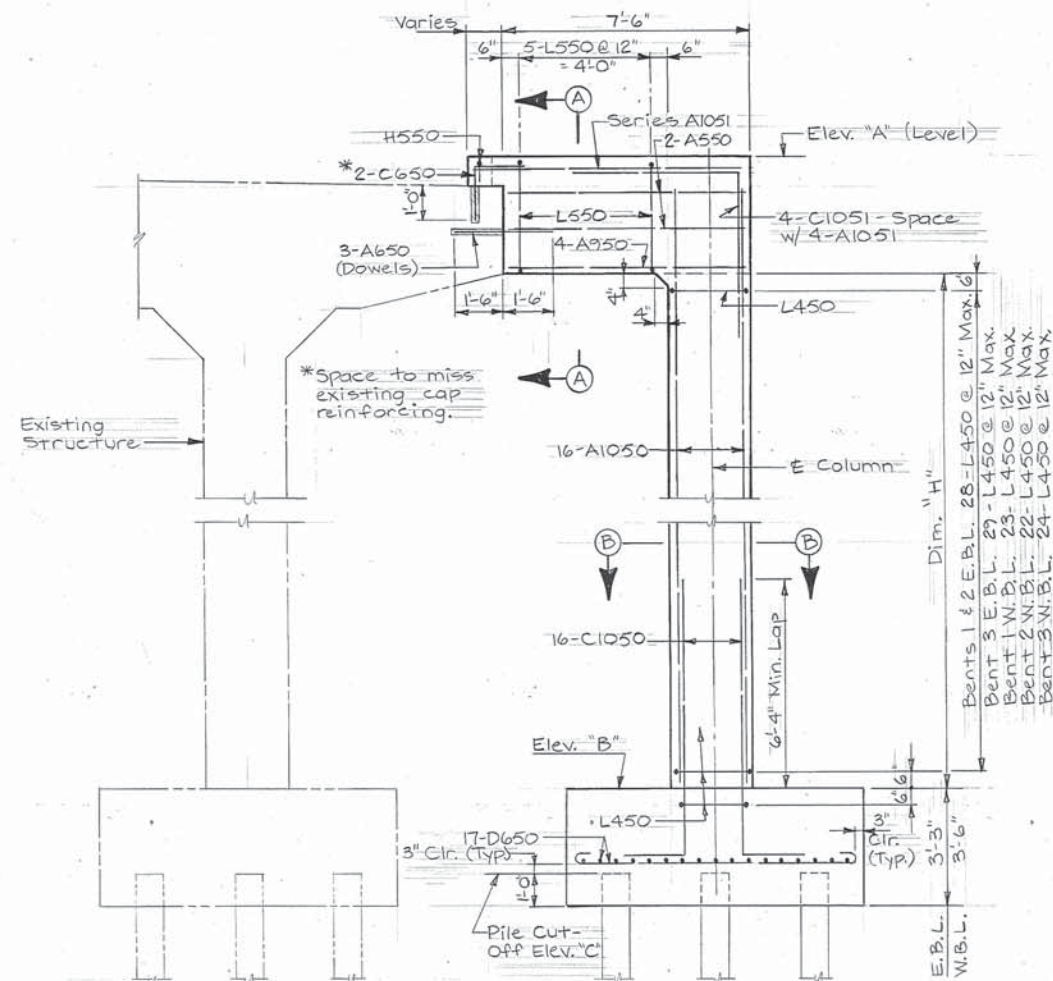
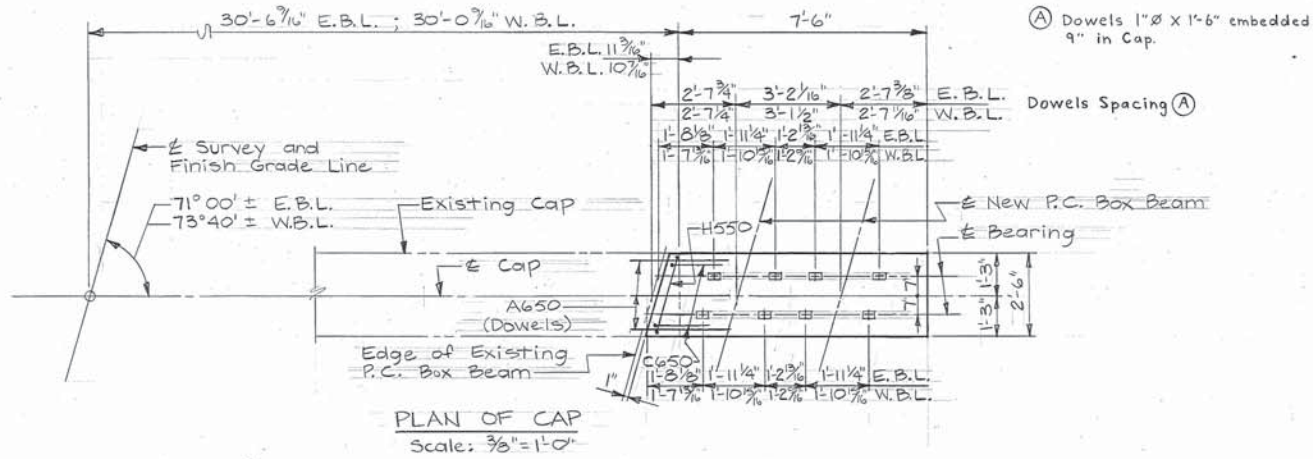


TABLE OF ELEVATIONS AND DIMENSIONS					
		Elev. "A"	Elev. "B"	Elev. "C"	Dim. "H"
E.B.L.	Bent 1	504.263	474.000	471.750	27'-3 3/4"
	Bent 2	504.046	474.000	471.750	27'-0 3/8"
	Bent 3	503.928	472.000	469.750	28'-11 3/16"
W.B.L.	Bent 1	501.171	476.000	473.750	22'-2 1/16"
	Bent 2	500.360	476.000	473.750	21'-11 3/16"
	Bent 3	500.322	474.000	471.750	23'-10"

ESTIMATED QUANTITIES			
ITEM	Concrete f'c = 3000 psi C.Y.	Reinforcing Steel LBS.	HPI0x42 Steel Piles L.F.
E.B.L.	Bent 1	18	3945
	Bent 2	18	3928
	Bent 3	19	4060
W.B.L.	Bent 1	18	3580
	Bent 2	18	3557
	Bent 3	18	3702

CONSTR. NO. 80001-3152-44			
PROJECT NO.		YEAR	SHEET NO.
1R-40-5(11)257		1989	
REVISIONS			
NO.	DATE	BY	BRIEF DESCRIPTION

Notes:

When pouring cap beam provisions shall be made for setting wood blocks.

Elastomeric pads shall be in place a minimum of one day before being disturbed by placing superstructure forms on concrete. Place rubber bonding cement in such a way that column surfaces will not be stained.

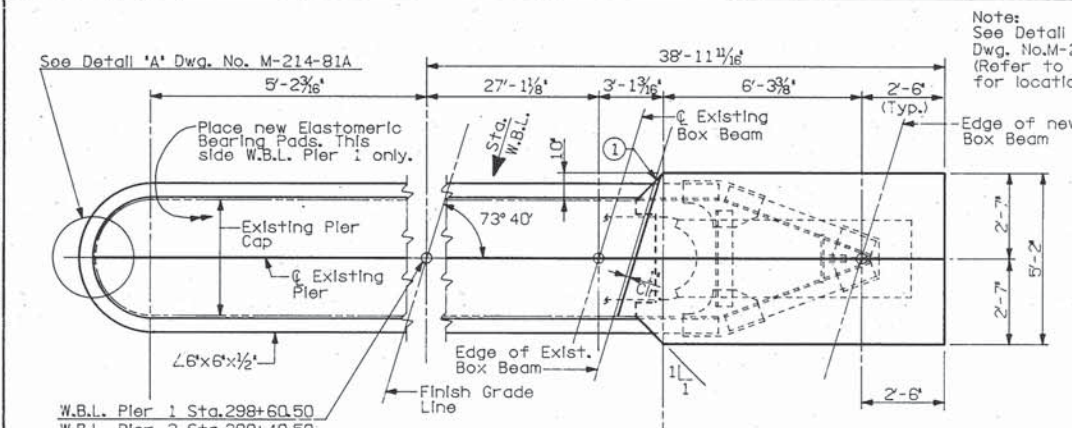
Column steel to extend 2'-6" into cap beam.

DESIGNED BY HIZ DATE 1/89
DRAWN BY BKK DATE 1/89
SUPERVISED BY WSH DATE 1/89
CHECKED BY HIZ DATE 2/89

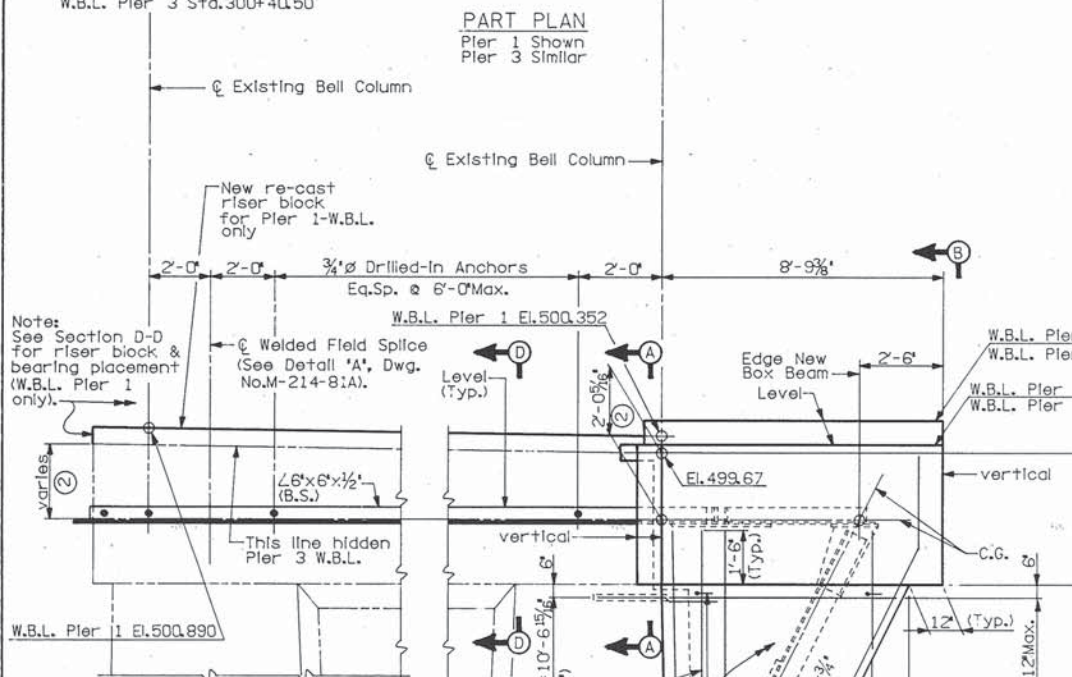
CORRECT
ENGINEER OF STRUCTURES
APPROVED
DIRECTOR OF HIGHWAYS

M-214-80

2F-H59, 24001NXX307B.DWG
11-MAR-1989 14:35
DTNXX

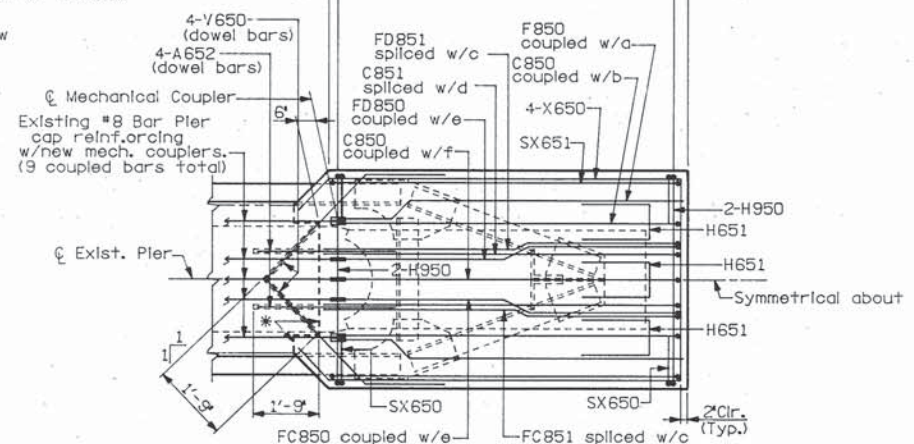


PART PLAN
Pier 1 Shown
Pier 3 Similar

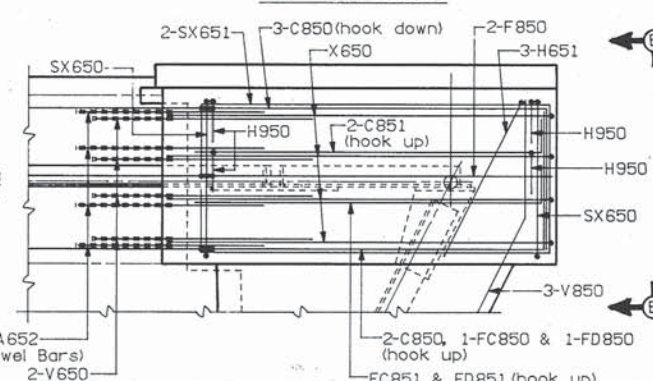


PART ELEVATION
(Showing Cantilever Column Reinforcing)
Pier 1 shown
Pier 3 similar

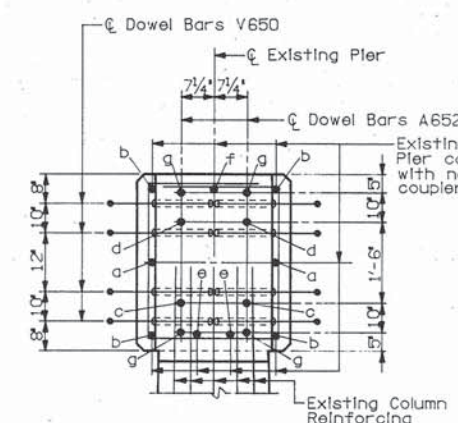
Note:
See Detail 'G' for dowel layout,
Dwg. No. M-214-82A.
(Refer to Box Beam Detail Dwg.
for location of dowels).



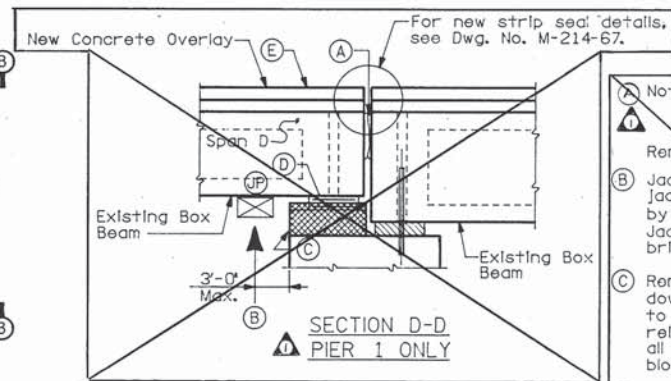
PLAN OF CANTILEVER CAP REINFORCING



ELEVATION OF CANTILEVER CAP REINFORCING



SECTION A-A
g - Denotes A652 dowel bars only.



SECTION D-D PIER 1 ONLY

- ① Flush w/existing top of Pier.
- ② To C.G. of Angle.
- ③ Place 1-Z650 at every intersection of Series H650 with Series A651 bars and A650 bars as shown. Omit where 8"x8"x3/4" interferes.
- ④ Not used
- ⑤ Existing Pier Cap/Column Concrete to be chipped back 4" minimum.

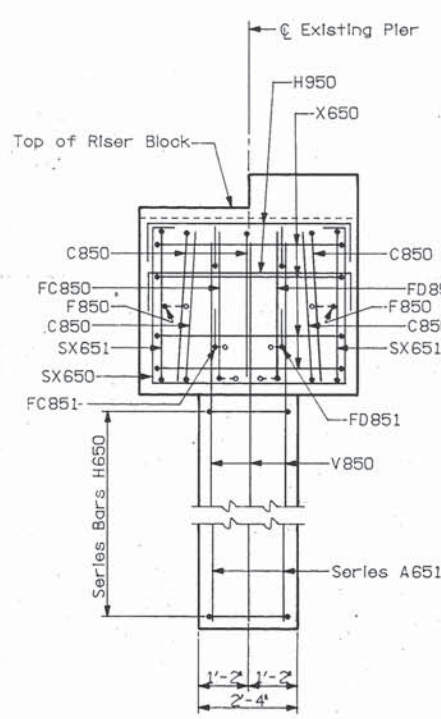
CONSTR. NO. 80001-3152-44		
PROJECT NO.	YEAR	SHEET NO.
IR-40-591257	1989	

REVISIONS			
NO.	DATE	BY	DESCRIPTION
1	6-16-89	WHP	DELETED SECT. D-D & NOTES THAT APPLIED TO SECT. D-D

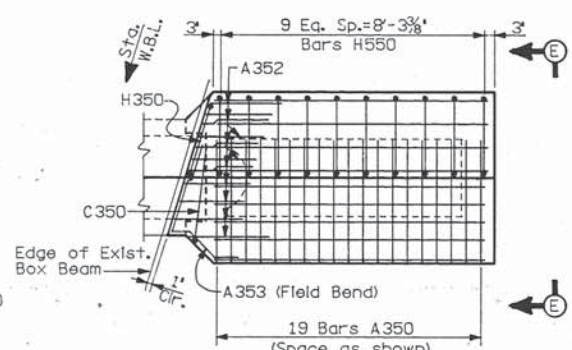
Note:
For notes, see Dwg. No. M-214-81A.

ESTIMATED QUANTITIES - W.B.L.			
Item	Class 'A' Concrete (Bridges)	Structural Steel	Steel Bar Reinforcement (Bridges)
Pier No.	C.Y.	Lb.	Lb.
1	12	3,700	2,515
3	13	3,700	2,515

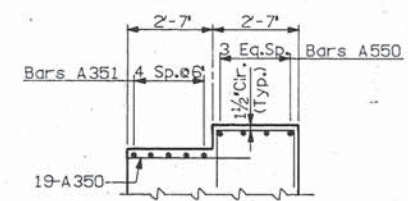
- Note: For Pier 1 Bearing Seat Modifications (Pier 1 W.B.L. & E.B.L. only)
- (A) Remove all joint filler at Bent 3 and Pier 1.
 - (B) Jack at point shown, maximum 1'-6". Details of jacking and releasing (lowering) shall be developed by the Contractor and approved by the Engineer. Jacking shall occur after asphalt removal from bridge deck.
 - (C) Remove existing 9" high riser block strip & dowels. Use extreme care during concrete removal to protect and preserve all existing riser block reinforcing. Clean and zinc coat (cold galvanize) all existing riser block reinforcing. Recast riser block to elevations shown on this drawing.
 - (D) Place new Elastomeric Bearing Pads, as shown. (Total 16 required). For details of bearings, see Box Beam Detail Dwg.
 - (E) Lower Span D in accordance with approved Jacking Details.
 - (F) Proceed with remaining construction.



ELEVATION B-B

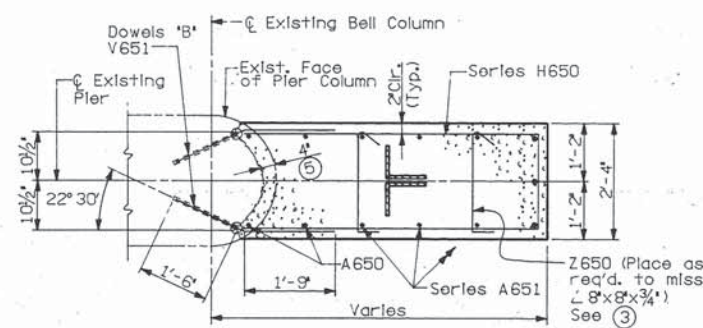


PLAN OF RISER BLOCK - PIER 1 W.B.L.
(Pier 3 E.B.L. - similar)



ELEVATION E-E

Note:
For Pier 3 W.B.L. Riser Block Details,
see Dwg. No. M-214-82.



SECTION C-C
(Layout Dowels 'B')
STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAYS

PIERS 1 & 3
I-40 W.B.L. OVER
CANEY FORK RIVER
STA. 295+91.96 & SURVEY W.B.L. I-40
SMITH COUNTY
1989

DESIGNED BY: WGA
DRAWN BY: EAB
SUPERVISED BY: WSH
CHECKED BY: WGA
DATE: 2-89
DATE: 2-89
DATE: 2-89
DATE: 3-89

CORRECT
ENGINEER OF STRUCTURES
APPROVED
DIRECTOR OF HIGHWAYS
Scale: None
M-214-81



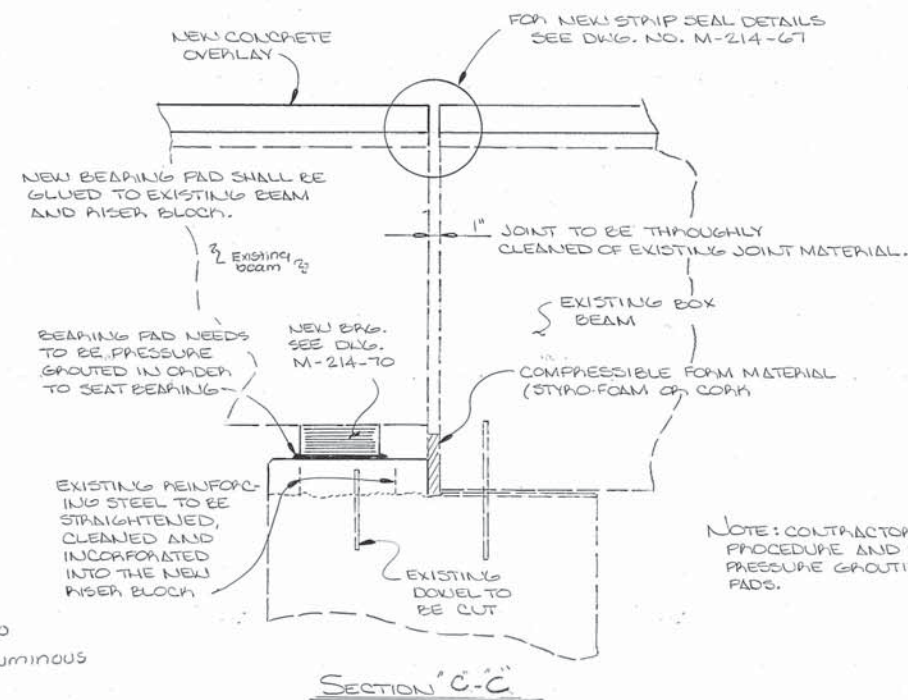
Scale: None

M-214-81A

PROJECT NO.	YEAR	SHEET NO.
IR-40-5(91)257	1989	

[illegible]

- 1) SEE NOTE ON GENERAL NOTES SHEET ABOUT GROUTED BARS.
- 2) THE HOLES FOR THE 3/4" DOWEL BAR ANCHORS NEED TO BE LOCATED AS CLOSE TO THE ♀ WEB OF THE EXISTING BOX BEAM TO PREVENT DAMAGE TO EXISTING BEAM.
- 3) THE CONTRACTOR CAN ELECT TO DO ONE PIECE BLOCK AND BEARING REPLACEMENT UNDER ONE BEAM OR SEQUENCE THE REPAIR BY DOING THE END BEAMS FIRST AND THEN THE TWO MIDDLE BEAMS.
- 4) THE CONTRACTOR CANNOT BEGIN PIECE BLOCK REPAIR UNTIL THE ANCHORS HAVE HAD SUFFICIENT TIME FOR THE EPOXY GROUT TO OBTAIN IT'S FULL STRENGTH.



Top of Riser blocks to
be painted with Bituminous
paint.

NOTE: CONTRACTOR SHALL SUBMIT
PROCEDURE AND METHODS OF
PRESSURE GROUTING BEARING
PADS.

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAYS

①

PIER No.1

BEARING REPLACEMENT DETAILS

I-40 OVER

CANEY FORK RIVER

STA. 295+91.66 SURVEY WBL I-40

SMITH COUNTY

1989

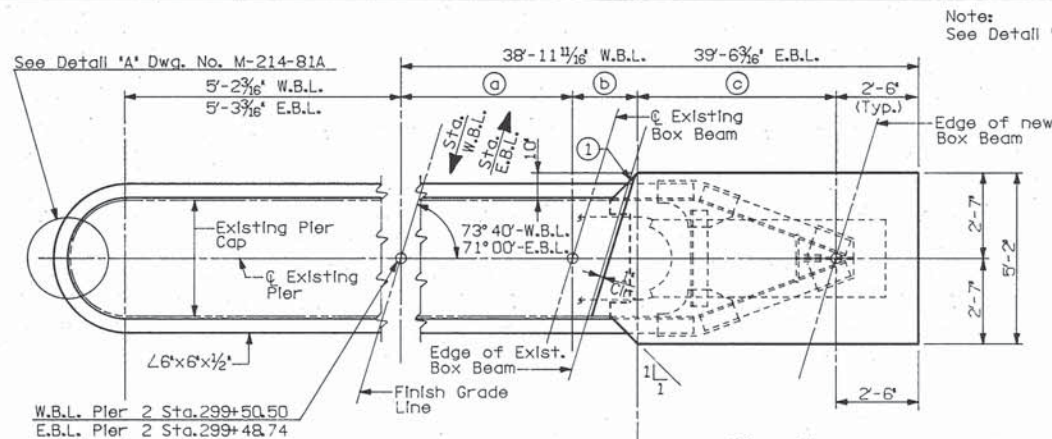
DESIGNED BY _____ DATE _____
DRAWN BY _____ DATE _____
SUPERVISED BY _____ DATE _____
CHECKED BY _____ DATE _____

CORRECT _____
ENGINEER OF STRUCTURES

APPROVED _____
DIRECTOR OF HIGHWAYS

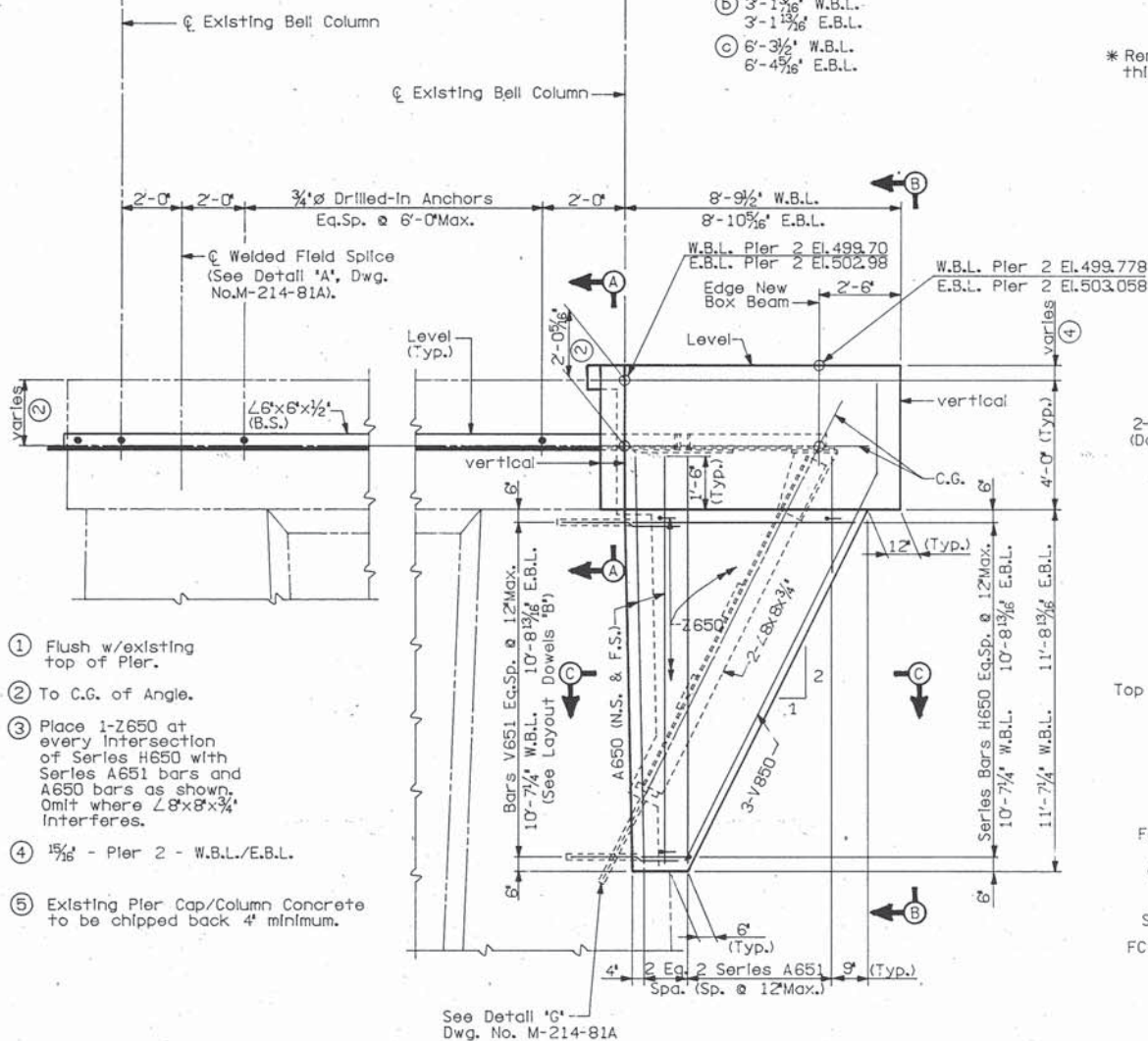
M-214-81AA

2F-H2024301DXX307C.DWG
11-MAR-1989 15:09
DTNXX



PART PLAN

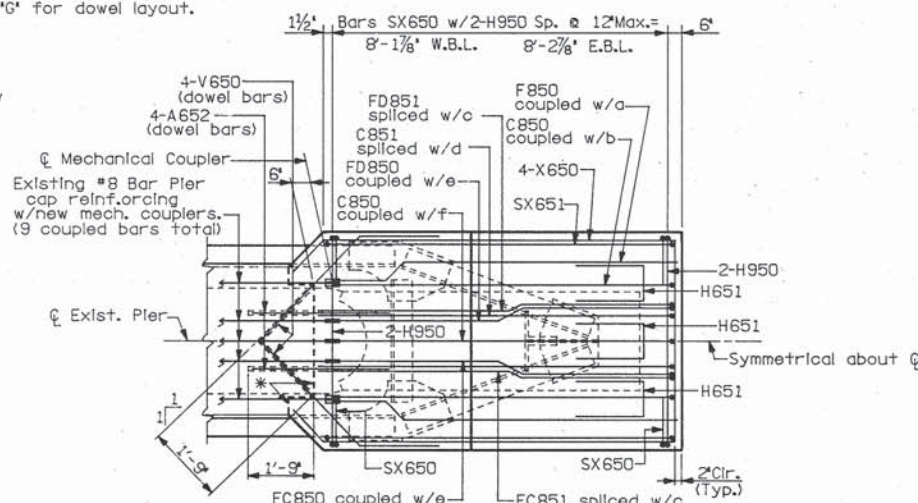
- (a) 27'-1 1/2\"/>



PART ELEVATION
(Showing Cantilever Column Reinforcing)

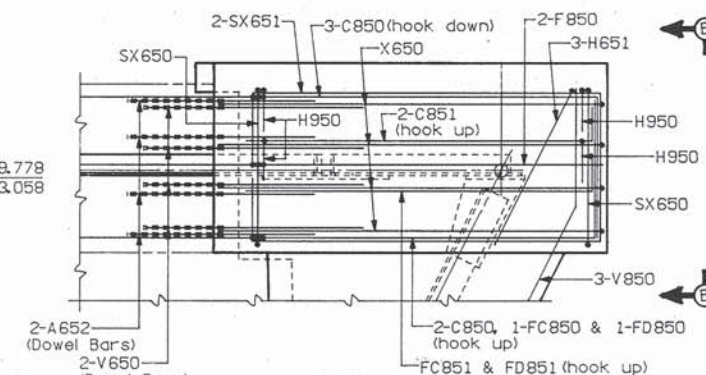
- ① Flush w/existing top of Pier.
- ② To C.G. of Angle.
- ③ Place 1-Z650 at every intersection of Series H650 with Series A651 bars as shown. Omit where $\angle 8 \times 8 \times 3/4$ interferes.
- ④ 1 1/2\"/>

Note:
See Detail 'G' for dowel layout.

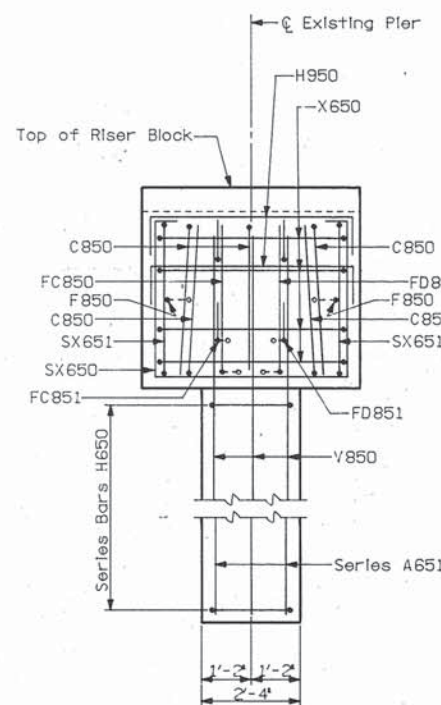


PLAN OF CANTILEVER
CAP REINFORCING

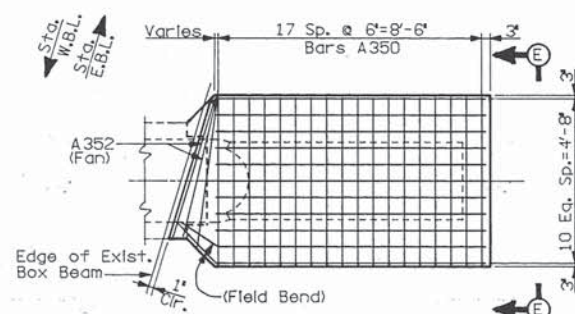
* Remove concrete to this line.



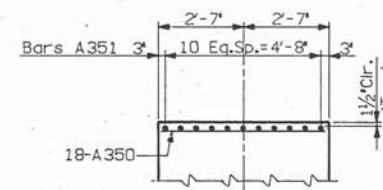
ELEVATION OF CANTILEVER
CAP REINFORCING



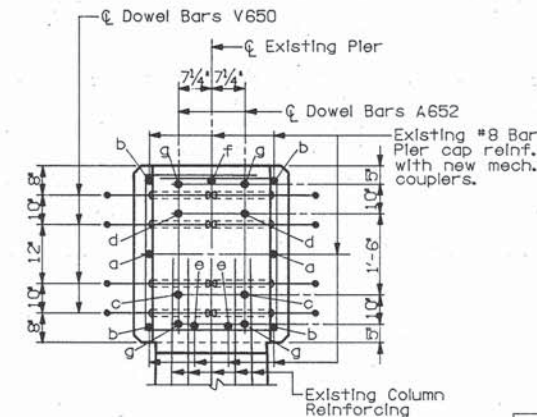
ELEVATION B-B



PLAN OF RISER BLOCK
PIER 2 W.B.L. & E.B.L.

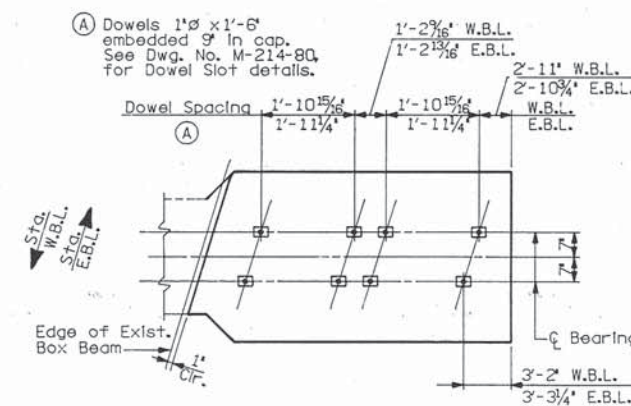


ELEVATION E-E

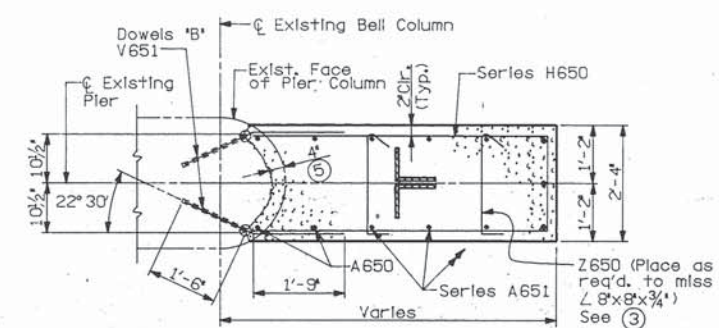


SECTION A-A

g - Denotes A652 dowel bars only.



DETAIL 'G' DOWEL LAYOUT



SECTION C-C
(Layout Dowels 'B')

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAYS
PIER 2
I-40 W.B.L. & E.B.L. OVER
CANEY FORK RIVER
STA. 295+91.96 @ SURVEY W.B.L. I-40
STA. 296+44.68 @ SURVEY E.B.L. I-40
SMITH COUNTY
1989

CONSTR. NO. 80001-3152-44

PROJECT NO.	YEAR	SHEET NO.
IR-40-5(91)257	1989	

REVISIONS			
NO.	DATE	BY	BRIEF DESCRIPTION

Note:
For notes, see Dwg. No. M-214-81A.

ESTIMATED QUANTITIES			
Item	Class 'A' Concrete (Bridges)	Structural Steel	Steel Bar Reinforcement (Bridges)
Pier No.	C.Y.	Lb.	Lb.
W.B.L. - 2	12	3,700	2,435
E.B.L. - 2	12	3,700	2,472

DESIGNED BY: WGA
DRAWN BY: EAB
SUPERVISED BY: WSH
CHECKED BY: WGA
DATE: 2-89
DATE: 2-89
DATE: 2-89
DATE: 3-89

CORRECT
ENGINEER OF STRUCTURES
APPROVED
DIRECTOR OF HIGHWAYS

Scale: None
M-214-82A

MARK	T	LOCATION	SZ	NO. RQ'D	DIMENSIONS FT-IN					LENGTH FT-IN	WEIGHT LBS	MARK	T	LOCATION	SZ	NO. RQ'D	DIMENSIONS FT-IN					LENGTH FT-IN	WEIGHT LBS	MARK	T	LOCATION	SZ	NO. RQ'D	DIMENSIONS FT-IN					LENGTH FT-IN	WEIGHT LBS																								
					a	b	c	d	e								a	b	c	d	e								a	b	c	d	e																										
SPAN A THRU G - W.B.L.												BENT 1 - W.B.L.												PIER 1 - W.B.L.																																			
A500	E	DECK	5	759	4-9					4-9	3760	C650	CAP	6	2	1-2	1-0					2-2	7	SX650	"	6	10	4-9 1/2	3-7 1/2	1-0			14-1	212																									
A501	E	"	5	756	10-9					10-9	8476	C1050	FOOTING	10	16	8-5	1-10					10-3	706	SX651	"	6	2	3-5 1/4	8-7 1/2	1-9			24-3	73																									
A502	E	"	5	1	9-8					9-8	10	C1051	CAP	10	4	5-0	5-0					10-0	172	V650	"	6	8	3-3	1-9	1-2 1/2	1-2 1/2	5-0	60																										
A503	E	"	5	1	8-3					8-3	9	D650	FOOTING	6	34	8-6	0-8					9-10	502	V651	CANT.COLUMN	6	24	1-9	1-9	1-7 3/4	0-8	3-6	126																										
A504	E	"	5	901	30-0					30-0	28192	H550	CAP	5	1	2-4	0-2 1/2					2-9	3	V850	"	8	3	14-4	2-4 1/2	2-1 1/2	1-0 3/4	16-9	134																										
A505	E	"	5	153	25-6					25-6	4069	L450	COLUMN	4	24	2-3	2-3	0-4 1/2				9-9	156	X650	CANT.CAP	6	4	4-7 3/4	8-6 3/4	1-0	0-8 1/2	23-9	143																										
A506	E	"	5	51	35-6					35-6	1888	L550	CAP	5	5	2-8 1/2	2-3	0-6				10-11	57	Z650	CANT.COLUMN	6	53	1-0	2-0	0-8		3-8	292																										
A507	E	"	5	51	30-6					30-6	1622																																																
A508	E	"	5	53	18-2					18-2	1004																																																
A509	E	"	5	53	20-6					20-6	1133																																																
A700	E	"	7	3	7-2					7-2	44																																																
***TOTAL WEIGHT (LBS)												3580												***TOTAL WEIGHT (LBS)												251																							
BENT 2 - W.B.L.												PIER 2 - W.B.L.																																															
B500	E	"	5	730	10-0	0-7				10-7	8058	A550	CAP	5	4	7-3						7-3	30	A350	RISER BLOCK	3	18	4-11				4-11	33																										
B501	E	"	5	1	41-6	0-7				42-1	409	A650	"	6	3	3-0						3-0	14	A351	"	3	1	9-9				9-9	38																										
		15 BAR SERIES	EACH	TO						10-3		A950	"	9	4	7-3						7-3	99			11 BAR SERIES	EACH	TO				TO																											
B502	E	"	5	2	10-1	0-7				40-8	789	A1050	COLUMN	10	16	24-5						24-5	1681									8-8	8																										
		16 BAR SERIES	EACH	TO						40-8		A1051	CAP	10	1	8-3						8-3	136	A352	"	3	4	4-1				4-1	6																										
										6-7											10																																						
B503	E	"	5	1	42-8	0-7				43-3	428	C650	CAP	6	2	1-2	1-0					2-2	7																																				
		15 BAR SERIES	EACH	TO						10-10		C1050	FOOTING	10	16	8-5	1-10					10-3	706																																				
										11-5		C1051	CAP	10	4	5-0	5-0					10-0	172	A652	CANT.CAP	6	8	3-6				3-6	42																										
B504	E	"	5	381	25-9	0-7				26-4	10464	D650	FOOTING	6	34	8-6	0-8					9-10	502	C850	"	8	5	8-4 1/4	3-5 1/2			11-10	158																										
L300	E	"	3	8	0-6	1-10	0-6			5-8	17	H550	CAP	5	1	2-4	0-2 1/2					2-9	3	C851	"	8	2	8-8	1-0			9-8	52																										
V700	E	"	7	6	1-7	5-0	4-9 1/2	1-4 1/2		6-7	81	L450	COLUMN	4	23	2-3	2-3	0-4 1/2				9-9	150	F850	"	8	2	1-4 1/4	0-9	6-5 1/4	0-6 1/4	0-6 1/4	8-7	46																									
B505	E	"	5	386	19-10	0-7				20-5	8220	L550	CAP	5	5	2-8 1/2	2-3	0-6				10-11	57	FC850	"	8	1	3-11	0-10 3/4	3-8	0-9	3-5 1/2	11-11	32																									
FOR CONTINUATION SEE SHEET M-214-151B												***TOTAL WEIGHT (LBS)												77944												***TOTAL WEIGHT (LBS)												3557											
***TOTAL INCLUDES 77944 LBS OF EPOXY COATED BARS												BENT 3 - W.B.L.												PIER 1 - W.B.L.																																			
ABUTMENT 1 W.B.L.												A550 CAP 5 4 7-3 7-3 30												A650 6 3 3-0 3-0 14												H651 6 3 1-0 4-0 9-0 41																							
A440	W	WINGWALL 2	4	4	5-9					5-9	15	A650	"	6	3	3-0						3-0	14	H651	CANT.CAP	6	3	1-0	4-0			9-0	41																										
A540	W	ABUTMENT	5	96	3-8					3-8	367	A950	"	9	4	7-3						7-3	99	H650	"	9	20	4-10	1-0			6-10	465																										
A541	W	ABUTMENT	5	11	20-2					20-2	231	A1050	COLUMN	10	16	26-4						26-4	1813	H650	"	6	10	4-9 1/2	3-7 1/2	1-0		14-1	212																										
A542	W	WINGWALL 2	5	1	7-8					7-8	8	A1051	CAP	10	1	8-3						8-3	136	SX650	"	6	10	4-9 1/2	3-7 1/2	1-0		14-1	212																										
A543	W	ABUTMENT	5	14	3-6					3-6	51											7-7																																					
A544	W	"	5	3	6-2					6-2	19											7-7																																					
A740	E	"	7	4	20-2					20-2	165	C650	CAP	6	2	1-2	1-0					2-2	7	V651	CANT.COLUMN	6	24	1-9	1-9	1-7 3/4	0-8	3-6	126																										
A741	E	"	7	2	20-2					20-2	82	C1050	FOOTING	10	16	8-5	1-10					10-3	706	V850	"	8	3	14-4 1/2	2-4 1/2	2-1 1/2	1-0 3/4	16-9	134																										
A940	W	WINGWALL 2	9	4	14-6					14-6	197	C1051	CAP	10	4	5-0	5-0					10-0	172	X650	CANT.CAP	6	4	4-7 3/4	8-7	1-0	0-8 1/2	23-10	143																										
C540	E	ABUTMENT	5	48	10-0	0-10				10-10	542	D650	FOOTING	6	34	8-6	0-8					9-10	502	Z650	CANT.COLUMN	6	53	1-0	2-0	0-8		3-8	292																										
F541	W	WINGWALL 2	5	4	1-8	0-10	0-5 1/2	0-8 1/2		3-4	14	H550	CAP	5	1	2-4	0-2 1/2					2-9	3																																				
H440	W	WINGWALL 2	4	1	0-9	3-0				6-9	24	L450	COLUMN	4	25	2-3	2-3	0-4 1/2				9-9	163																																				
		4 BAR SERIES	EACH	TO						11-7		L550	CAP	5	5	2-8 1/2	2-3	0-6				10-11	57																																				
										12-1																																																	
H441	W	"	4	2	0-9	5-8				12-1	16																																																
H540	W	ABUTMENT	5	48	0-9	5-8				12-1	605																																																
L540	E	ABUTMENT	5	4	1-9	3-2	0-6			10-10	45																																																
RA440	W	WINGWALL 2	4	6	0-8	1-6	0-9 1/2	2-1 1/2	1-6	5-1	20	A350	RISER BLOCK	3	19	3-6						3-6	25																																				
RA540	W	ABUTMENT	5	44	0-10	1-9	0-6	2-5	1-8 1/2	5-6	252	A351	"	3	5	8-6						8-6	16																																				
V440	W	WINGWALL 2	4	2	7-8	0-8	0-2 1/2	0-7 3/4		8-4	11	A352	"	3	10	2-6						2-6	9																																				
V441	W	"	4	1	6-7	0-8	0-2 1/2	0-7 3/4		7																																																	

[illegible]

TYPE	SIZE	SERIES
A	5	06

Note: Dimensions shown on this sheet are outside to outside of bar. Standard C.R.S.I. Hook Details shall apply, except as noted.

•LOCATION	SERIES
SUPERSTRUCTURE	00
ABUTMENT	40
PIER	50
RETAINING WALL	70
APPROACH SLAB	90

Note: An 'E' in the 'T', Type, column indicates that the bar shall be Epoxy-Coated.

① FOR CONTINUATION SEE SHEET 151B.

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAYS
BILL OF STEEL
I-40 OVER
CANEY FORK RIVER
STA. 295+91.76 W.B.L.
STA. 296+14.68 E.B.L.
SMITH COUNTY
1989

CORRECT _____
ENGINEER OF STRUCTURES
APPROVED _____
DIRECTOR OF HIGHWAYS

M-214-84

	△
	△
	△
	△
	△
	△

[illegible]

TYPE	SIZE	SERIES
A	5	06•

Note: Dimensions shown on this sheet are outside to outside of bar. Standard C.R.S.I. Hook Details shall apply, except as noted.

•LOCATION	SERIES
SUPERSTRUCTURE	00
ABUTMENT	40
PIER	50
RETAINING WALL	70
APPROACH SLAB	90

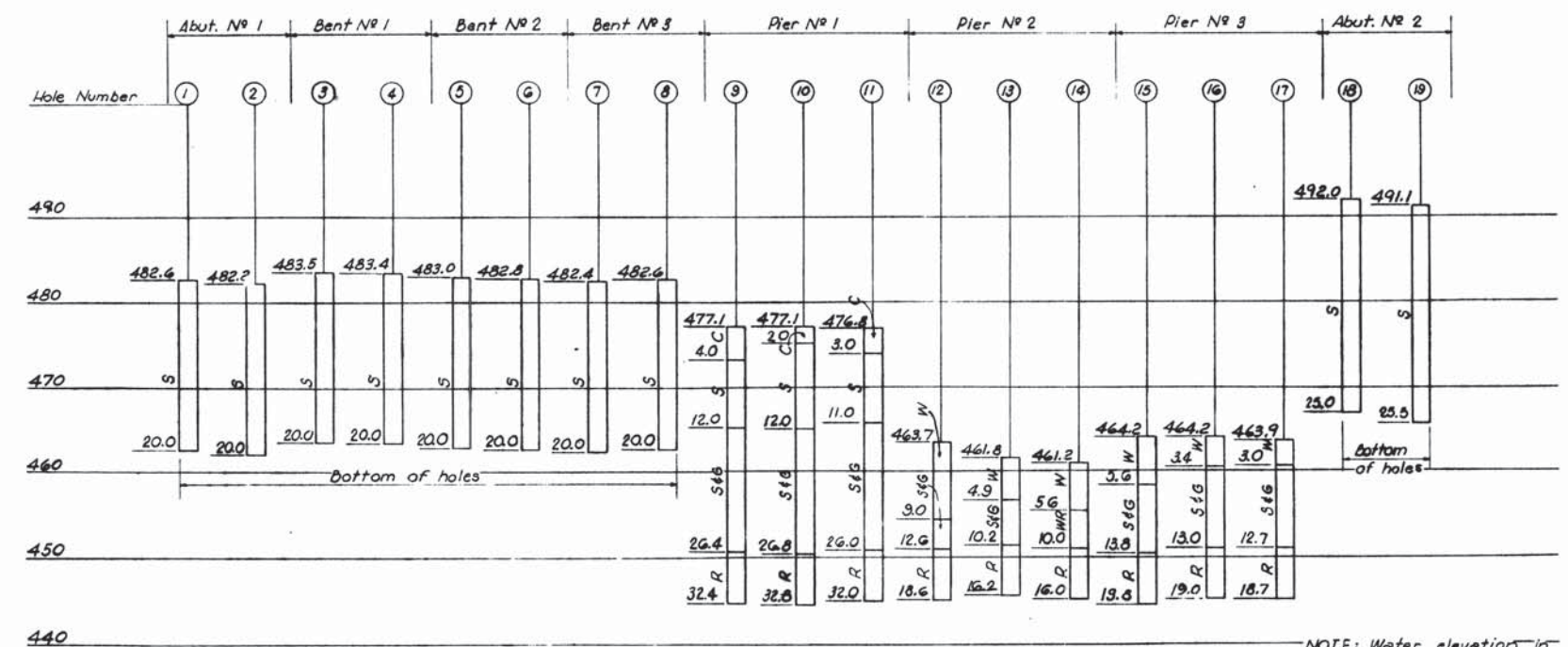
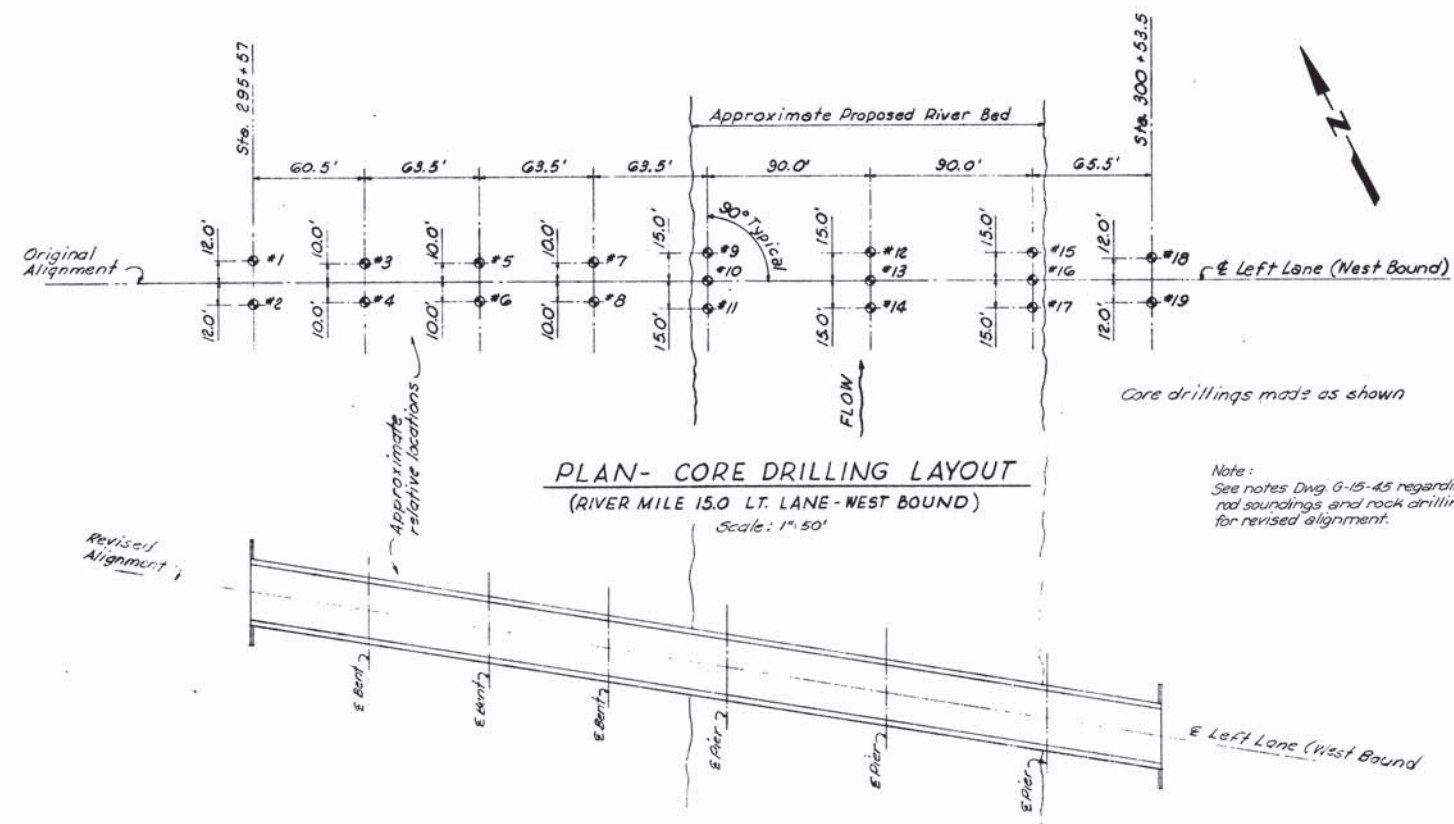
Note: An 'E' in the 'T', Type, column indicates that the bar shall be Epoxy-Coated.

DESIGNED BY _____ DATE 1-89
DRAWN BY _____ DATE 1-89
SUPERVISED BY W. S. HUFFSTETLER DATE 1-89
CHECKED BY _____ DATE _____

CORRECT _____
ENGINEER OF STRUCTURES
APPROVED _____
FOREMAN OF HIGHWAYS

M-214-84A

FED. ROAD DIST. No.	T E N N	FEDERAL AID PROJECT No.	FISCAL YEAR	SHEET No.	TOTAL SHEETS
3		1-40-5(9) 2064		62	372

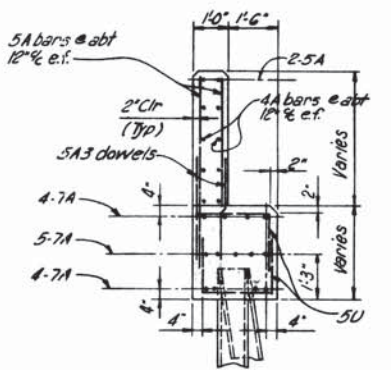


- LEGEND
- W----Water
 - C----Clay and Silt
 - S----Sand
 - S&G--Sand and Gravel
 - WR--Weathered Rock
 - R----Rock (Limestone)
 - B----Boulders

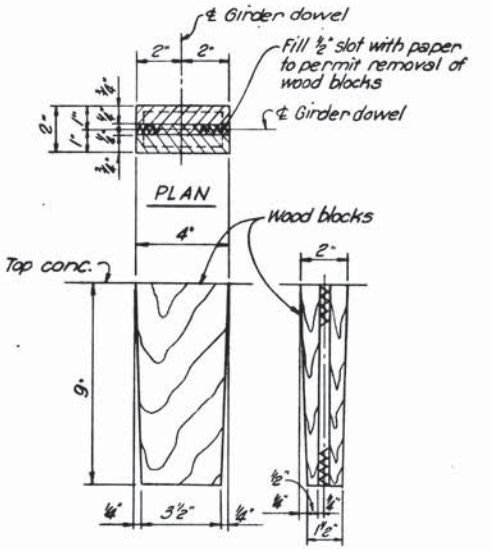
NOTE: Water elevation in
Canev Fork River fluctuates,
depending on discharge
at Center Hill Dam.

MID-SOUTH ENGINEERING CO., INC. 820 BROADWAY, N. E. KNOXVILLE, TENNESSEE	
BRIDGE OVER CANEY FORK RIVER - RIVER MILE 15.0 STA. 295+93 LEFT LANE (WEST BOUND) (1B)	
LAYOUT & LOG OF CORE BORINGS	
STATE OF TENNESSEE DEPARTMENT OF HIGHWAYS AND PUBLIC WORKS NASHVILLE	
DR. M.B.S. CHK'D. R.A.H. APP'D. W.R.	DATE 11-16-59 G-15-46

FED. ROAD DIST. No.	T E N N	FEDERAL AID PROJECT No.	FISCAL YEAR	SHEET No.	TOTAL SHEETS
3		1-40.5(9) 1964		63	372



SECTION A-A
Scale 3/8" = 1'-0"



TYPICAL DOWEL SLOT
IN BENT CAPS & ABUTMENTS
Scale 3" = 1'-0"

- NOTES:
1. Wingwalls shall be cast after girders and safety curbs are in place.
 2. All exposed edges shall have a 3/4" x 3/4" chamfer, unless otherwise noted.

Scale as noted

MID-SOUTH ENGINEERING CO., INC.
820 BROADWAY, N. E. KNOXVILLE, TENNESSEE

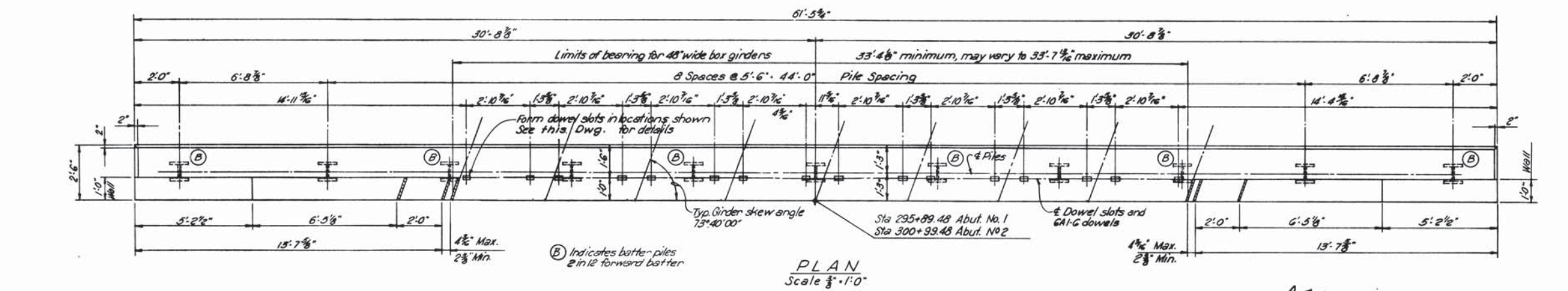
BRIDGE OVER CANEY FORK RIVER - RIVER MILE 15.0
STA 295+93 - LEFT LANE (WEST BOUND)(1B)

ABUTMENTS NOS 1 AND 2

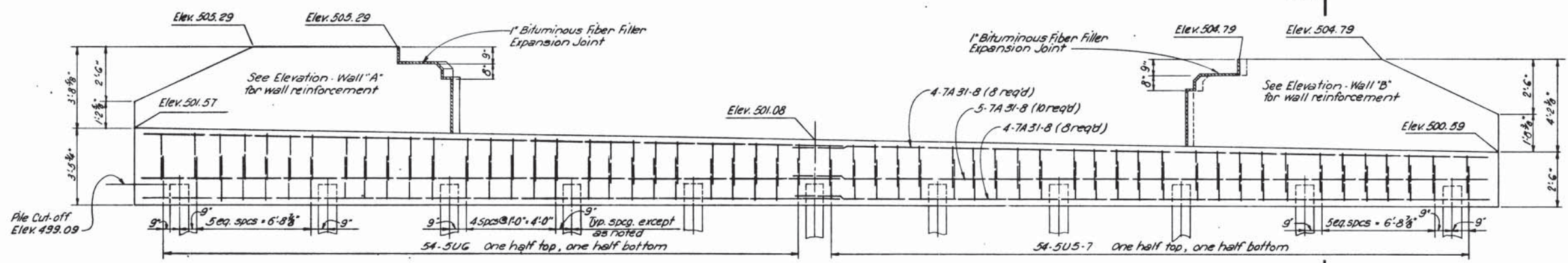
STATE OF TENNESSEE
DEPARTMENT OF HIGHWAYS
AND PUBLIC WORKS
NASHVILLE

DR. R.W.P. DATE 11-16-69
CHK'D. E.A.H.
APP'D. W.E.

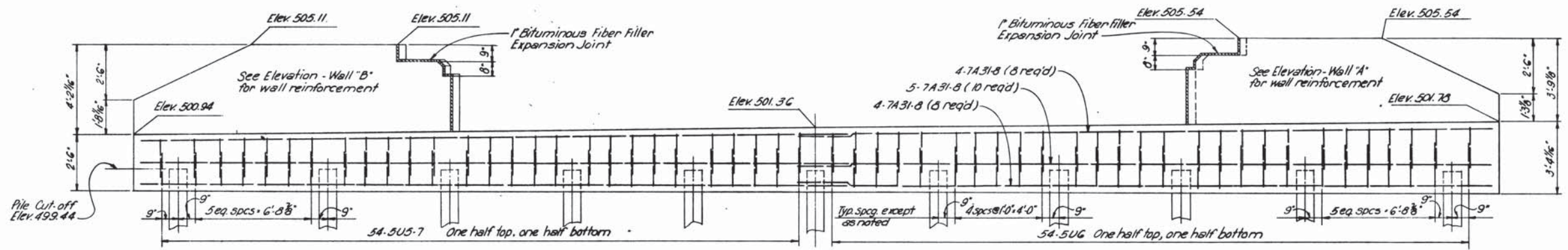
G-15-47



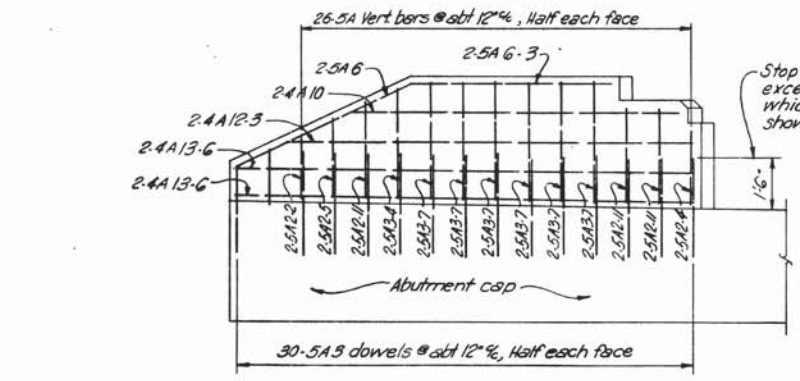
PLAN
Scale 3/8" = 1'-0"



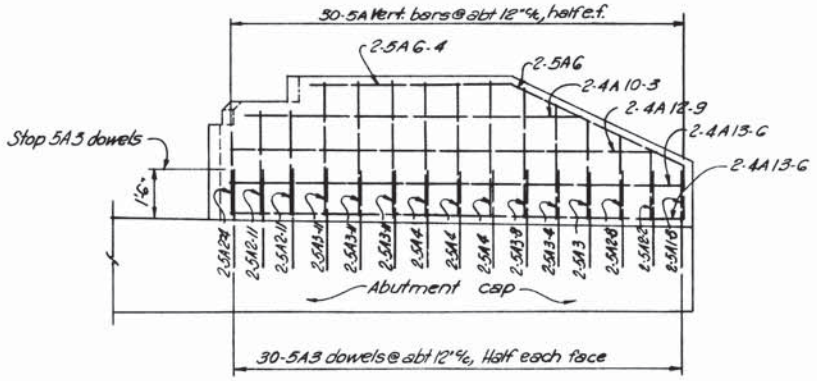
ELEVATION - ABUTMENT NO 2
LOOKING BACK ON SURVEY
Scale 3/8" = 1'-0"



ELEVATION - ABUTMENT NO 1
LOOKING FORWARD ON SURVEY
Scale 3/8" = 1'-0"



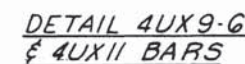
ELEVATION - WALL "A"
ABUTMENT NO 2 AS SHOWN - ABUTMENT NO 1 OPP HAND
Scale 3/8" = 1'-0"



ELEVATION - WALL "B"
ABUTMENT NO 2 AS SHOWN - ABUTMENT NO 1 OPP HAND
Scale 3/8" = 1'-0"

ESTIMATED QUANTITIES

	ABUT. NO 1 LT. LANE	ABUT. NO 2 LT. LANE
Class "A" Concrete Cu.Yds.	20.0	20.5
Reinforcing Steel Lbs.	2892	2892



Note. Top surface of girders shall be artificially roughened to insure bond with deck slab

DEFLECTION DIAGRAMS

