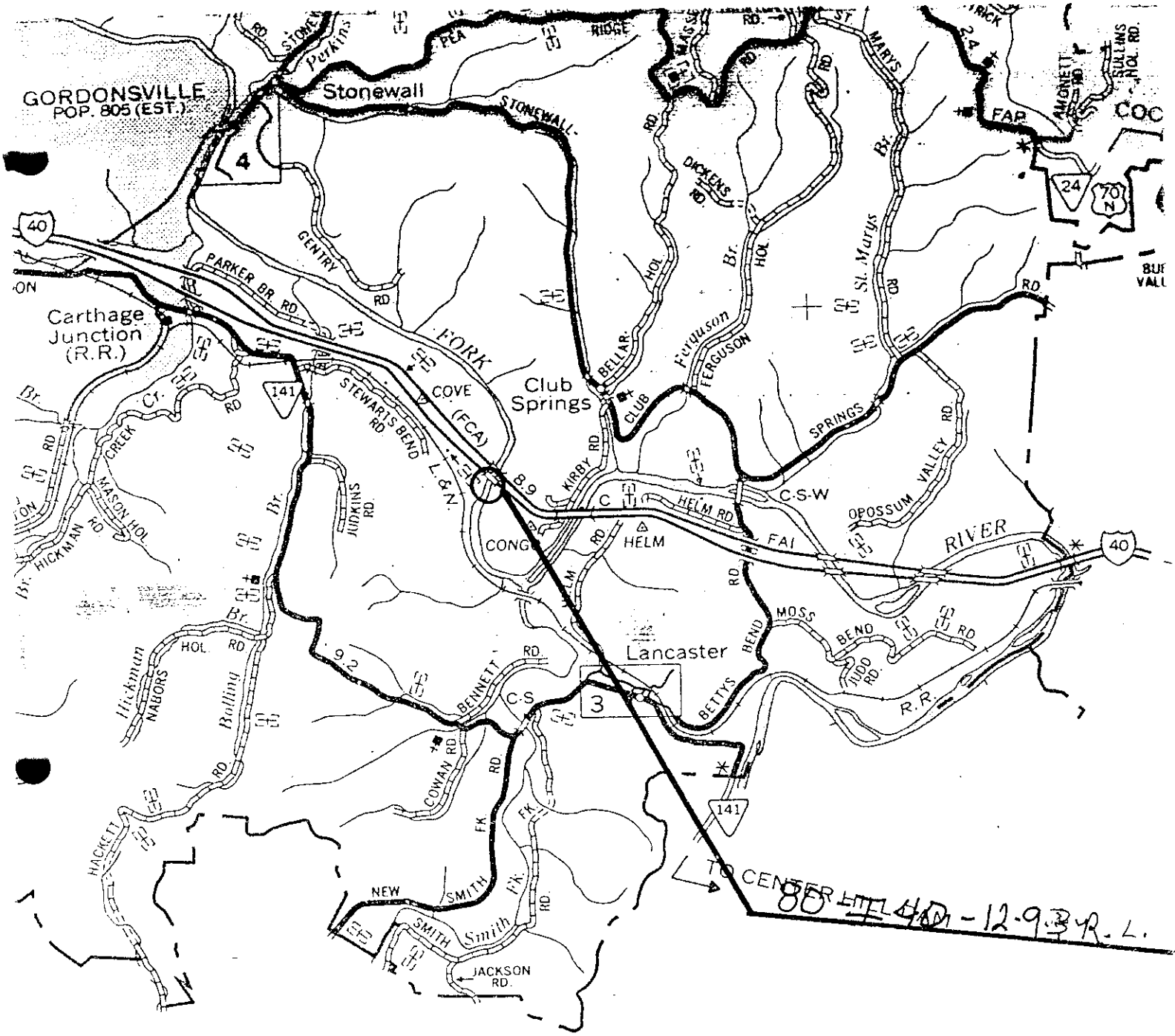

GORDONSVILLE
POP. 805 (EST.)
Stonewall
STONEWALL
Perkins
PEA RIDGE
MASS
ST. MARYS
FAP
24
70 N
40
PARKER BR RD
GENTRY RD
Carthage Junction (R.R.)
FORK
COVE (FCA)
Club Springs
BELLAR
CLUB
Ferguson
FERGUSON
DICKENS
Br.
HOL
SPRINGS
KIRBY RD
STEWARTS BEND
L. & N.
141
8.9
C.S-W
HELM RD
OPOSSUM VALLEY RD
RIVER
CONG
HELM
FAI
Lancaster
3
9.2
BENNETT RD
C.S.
MOSS BEND
JUDD RD
R.R.
BETTYS
Hickman
NABORS
Bolling
HACKETT
COWAN RD
FK
NEW
SMITH
JACKSON RD.
TO CENTER
80
4M - 12-9-3 R. L.

COUNTY

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
BRIDGE INSPECTION AND REPAIR OFFICE
SUITE 1200, JAMES K. POLK BUILDING
NASHVILLE, TENNESSEE 37243-0338

GERALD F. NICELY
COMMISSIONER

PHIL BREDESEN
GOVERNOR

July 21, 2005

MEMORANDUM

TO: Mr. Ray McClelland
Regional Bridge Engineer

FROM: Wayne J. Seger, Civil Engineering Manager 2

SUBJECT: Attached are the Bridge Repair Lists for the following Interstate bridges in Smith County:

Records to be added

Repair List Number	Bridge Number	Crossing
none		

Records to be revised (replace old Repair List with revised copy)

New Repair List Number	Old Repair List Number	Bridge Number	Crossing
2	3	80-I0040-12.93-R	Caney Fork River.

Records to be deleted (remove Repair List from file)

Repair List No.	Bridge Number	Crossing	Notes
none			

PJS: pjs

cc: Mr. Terry Mackie
Mr. Phillip Shraybman

BRIDGE MAINTENANCE RECOMMENDATIONS

Tennessee Department of Transportation

COUNTY: SMITH
LOCATION: 80-I0040-12.93-R
CO. SEQ.: 1 SPEC. CASE: 0
MILEPOST: 263

CROSSING: CANEY FORK RIVER
FED. BRIDGE NO.: 80I00400025
MAINT. DIST.: 80

REPAIR LIST NO.: 2
DATE ADDED: 08/23/2003
REVISED: 07/20/2005

FACILITY CARRIED:	I40	NUMBER OF MAIN SPANS:	7
HIGHWAY SYSTEM:	01-INTERSTATE RURAL	NUMBER OF APPROACH SPANS:	0
BRIDGE WIDTH (CURB TO CURB):	41 FT 11 IN	BRIDGE LENGTH (FT):	488
BRIDGE WIDTH (OUT TO OUT):	43 FT 11 IN	MAXIMUM SPAN LENGTH (FT):	90
APPROACH ROADWAY (W/SHOULDERS):	41 FT 11 IN	SKEW ANGLE (DEGREES):	71

MAINTAINED BY:	STATE HIGHWAY AGENCY
MAIN SPAN MATERIAL:	PRESTRESSED CONCRETE
MAIN SPAN DESIGN TYPE:	BOX BEAM OR GIRDERS - MULTIPLE
APPROACH SPAN MATERIAL:	OTHER OR NOT APPLICABLE
APPROACH SPAN DESIGN TYPE:	OTHER OR NOT APPLICABLE

INSPECTION DATE:	05/12/2005	GENERAL CONDITION:	FAIR
EVALUATION DATE:	07/11/2005	STRUCTURALLY DEFICIENT:	NO
PPRM PIN NUMBER:			
H TRUCK RATING @ INV.:	20 TONS	SUFFICIENCY RATING:	82.0

No.	RECOMMENDATIONS	REPAIR DATE	REPAIRED BY
1.	REPAIR BEAM "E" IN SPANS 2 & 4		
2.	REPAIR DECK CRACKS IN ALL SPANS		
3.	REPAIR BREAKOUT IN SPAN 6 AT CENTERLINE OF JOINT IN WEARING SURFACE.		
4.	INSTALL EMBANKMENT EROSION PROTECTION AT ABUTMENT NO. 1		

GENERAL COMMENTS:

CONDITION OF BEAMS "E" IN SPANS 2 AND 4 HAS DETERIORATED SINCE LAST INSPECTION OF 2003. THERE ARE LARGE AREAS OF CRACKING AND SPALLING CONCRETE WITH EXPOSED REIFORCEMENT, INCLUDING PRESTRESSED CABLES.

BRIDGE MAINTENANCE RECOMMENDATIONS

Tennessee Department of Transportation

COUNTY: SMITH
LOCATION: 80-I0040-12.93-R
CO. SEQ.: 1 SPEC. CASE: 0

CROSSING: CANEY FORK RIVER
FED. BRIDGE NO.: 80I00400025
MAINT. DIST.: 80

REPAIR LIST NO.: 3
DATE ADDED: 08/04/2003
REVISED:

FACILITY CARRIED:	I40	NUMBER OF MAIN SPANS:	7
HIGHWAY SYSTEM:	01-INTERSTATE RURAL	NUMBER OF APPROACH SPANS:	0
BRIDGE WIDTH (CURB TO CURB):	41 FT 11 IN	BRIDGE LENGTH (FT):	488
BRIDGE WIDTH (OUT TO OUT):	43 FT 11 IN	MAXIMUM SPAN LENGTH (FT):	90
APPROACH ROADWAY (W/SHOULDERS):	41 FT 11 IN	SKEW ANGLE (DEGREES):	71

MAINTAINED BY:	STATE HIGHWAY AGENCY
MAIN SPAN MATERIAL:	PRESTRESSED CONCRETE
MAIN SPAN DESIGN TYPE:	BOX BEAM OR GIRDERS - MULTIPLE
APPROACH SPAN MATERIAL:	OTHER OR NOT APPLICABLE
APPROACH SPAN DESIGN TYPE:	OTHER OR NOT APPLICABLE

INSPECTION DATE:	04/23/2003	GENERAL CONDITION:	GOOD
EVALUATION DATE:	08/04/2003	STRUCTURALLY DEFICIENT:	NO
PROPOSED REPLACEMENT:			
H TRUCK RATING @ INV.:	20 TONS	SUFFICIENCY RATING:	94.6

No.	RECOMMENDATIONS	REPAIR DATE	REPAIRED BY
1.	REPAIR BEAM "E" IN SPAN 4		
2.	REPAIR DECK CRACKS IN ALL SPANS		
3.	REPAIR BREAKOUT IN SPAN 6 AT CENTERLINE OF JOINT IN WEARING SURFACE.		
4.	INSTALL EMBANKMENT EROSION PROTECTION AT ABUTMENT NO. 1		

COMMENTS:

Bridge Maintenance Recommendations

Bridge Location No.: 80 - I0040 - 12.93 R
Co. Route Log Mile

Crossing: CANEY FORK RIVER *

Bridge Rating: GOOD

Inspection Cycle: 16

Inspection Date: 4/23/2003

Comments:

Bridge Number: 80I00400025
County: Smith
Region: 03
District: 32
Maint.Resp.: 01
Spec.Case: 0
Co.Seq: 01

Maintenance Recommendations:

Maintenance Completed By / Date

	REPAIR BREAKOUT ALONG CENTERLINE JOINT SPAN #6 WEARING SURFACE
244	**REPAIR ____ BEAM _'E' IN SPAN 0004**
	REPAIR DECK CRACKS ALL SPANS.

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

Bridge Location No.: 80 - I0040 - 12.93 R
(Co. Route Log Mile)

Crossing: CANEY FORK RIVER *

Bridge Rating: GOOD

Inspection Cycle: 15

Inspection Date: 6/12/01

Comments: REPAIR DECK CRACKS ALL SPANS.

Bridge Number: 80I00400025
County: Smith
Region: 03
District: 32
Maint.Resp.: 01
Spec.Case: 0
Co.Seq: 01

Maintenance Recommendations:

Maintenance Completed By / Date

244	**REPAIR ____ BEAM _'E' IN SPAN 0004**
	REPAIR SCALE IN SPAN #6

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

BRIDGE SEQ. NO. : 80I00400025 BRIDGE NO. : 80 - I0040 - 1293 - R
OVER : CANEY FORK RIVER *

DATE : 06/15/99 BRIDGE RATING : GOOD COUNTY : Smith
CO. SEQ. : 01 INSPECTION CYCLE : 14 MAINT DIST : 32
SPEC. CASE : 1 INSPECTION DATE : 06/15/99 REGION : 03

007 - FACILITY CARRIED BY STRUCT : I40
021 - MAINTENANCE RESPONSIBILITY : 01
022 - OWNER : 01
042 - TYPE OF STRUCTURE : 15
043 - STRUCTURE TYPE, MAIN : 505
044 - STRUCTURE TYPE, APPROACH : 000
045 - SPANS, MAIN UNIT : 007
046 - SPANS, APPROACH : 0000
049 - STRUCTURE LENGTH : 000488
032 - APPROACH ROADWAY WIDTH : 037
034 - SKEW : 71
051 - BRDG RDWY WID, CRB-TO-CRB : 0420
052 - DECK WIDTH, OUT-TO-OUT : 0440
500 - HWY OF THE INVENTORY ROUTE : 01

: MAINTENANCE & REPAIR RECOMMENDATIONS : : MAINTENANCE COMPLETED :

1 REPAIR ___ BEAM _'E' IN SPAN 0004 1 BY _____ DATE _____

: COMMENTS FOR BRIDGE SEQ. NO. : 80I00400025 :

REPAIR POTHOLE IN APPROACH SLAB 'B' END EXIT (R.W.P.).ALSO REPAIR DECK CRACKS ALL SPANS.

COMPLETION NOTIFICATION : RETURN WITHIN 6 MONTHS OF INSPECTION DATE

MAINTENANCE ACTIVITIES ARE
--- COMPLETED (DATE) --------
--- PARTIALLY COMPLETE (DATE) --------
--- INCOMPLETE SCHEDULED FOR (DATE) --------

EXPLANATIONS AND COMMENTS:

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

Bridge Condition Coding Form

Revised 06/15/2000

County:	80
Route:	I0040
Special Case:	0
County Sequence:	01
Log Mile:	12.93

Bridge Number: (Includes Item 5A) 80I004000251

Feature Intersected: CANEY FORK RIVER

CODE ONLY THOSE VALUES WHICH HAVE CHANGED

ITEM #	DESCRIPTION	VALUE
90	INSPECTION DATE	06/12/2001 4 / 23 / 03
10	MINIMUM V.C. OVER DECK (ROADWAY + SHOULDERS)	99 FT. 99 IN. ____ FT. ____ IN.
520	MINIMUM V.C. OVER DECK (EXCLUDES SHOULDERS)	99 FT. 99 IN. ____ FT. ____ IN.
36	TRAFFIC SAFETY FEATURES Br. Rail / Trans. / Appr. Rail / Appr. Rail Ends	1 1 1 1 ___ ___ ___ ___
41	STRC OPEN/CLOSED/POSTED A K P	A ___
58	DECK	6 ___
59	SUPERSTRUCTURE	7 ___
60	SUBSTRUCTURE	7 ___
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)	8 ___
521	OVERALL CONDITION (Circle One)	

GOOD FAIR POOR CRITICAL

Martin Daniel — TEAM LEADER SIGNATURE

4/23/03 — REVIEW DATE

CONDITION CODING GUIDELINES
(Values for Coding Items 58, 59, 60 and 62)

- N NOT APPLICABLE
- 9 EXCELLENT CONDITION
- 8 VERY GOOD CONDITION - NO PROBLEMS NOTED.
- 7 GOOD CONDITION - SOME MINOR PROBLEMS.
- 6 SATISFACTORY CONDITION - MINOR DETERIORATION OF STRUCTURAL ELEMENTS.
- 5 FAIR CONDITION - ALL PRIMARY STRUCTURAL ELEMENTS ARE SOUND BUT MAY HAVE MINOR SECTION LOSS, CRACKING, SPALLING OR SCOUR.
- 4 POOR CONDITION - ADVANCED SECTION LOSS, DETERIORATION, SPALLING OR SCOUR.
- 3 SERIOUS CONDITION - LOSS OF SECTION, DETERIORATION, SPALLING OR SCOUR HAVE SERIOURSLY AFFECTED PRIMARY STRUCTURAL COMPONENTS. LOCAL FAILURES ARE POSSIBLE. FATIGUE CRACKS IN STEEL OR SHEAR CRACKS IN CONCRETE MAY BE PRESENT.
- 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.
- 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.
- 0 FAILED CONDITION - OUT OF SERVICE AND BEYOND CORRECTIVE ACTION.

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

Bridge Condition Coding Form

Revised 06/15/2000

County:	80
Route:	10040
Special Case:	0
County Sequence:	01
Log Mile:	12.93

Bridge Number: (Includes Item 5A) 80I004000251

Feature Intersected: CANEY FORK RIVER

CODE ONLY THOSE VALUES WHICH HAVE CHANGED

ITEM #	DESCRIPTION	VALUE
90	INSPECTION DATE	06/15/1999 6/12/01
10	MINIMUM V.C. OVER DECK (ROADWAY + SHOULDERS)	99 FT. 99 IN. ____ FT. ____ IN.
520	MINIMUM V.C. OVER DECK (EXCLUDES SHOULDERS)	99 FT. 99 IN. ____ FT. ____ IN.
36	TRAFFIC SAFETY FEATURES Br. Rail / Trans. / Appr. Rail / Appr. Rail Ends	1 1 1 1 ___ ___ ___ ___
41	STRC OPEN/CLOSED/POSTED A K P	A ___
58	DECK	6 ___
59	SUPERSTRUCTURE	7 ___
60	SUBSTRUCTURE	7 ___
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)	8 ___
521	OVERALL CONDITION (Circle One)	

GOOD FAIR POOR CRITICAL

Gilbert Wayne Hunter — TEAM LEADER SIGNATURE

6/12/01 — REVIEW DATE

CONDITION CODING GUIDELINES
(Values for Coding Items 58, 59, 60 and 62)

- N NOT APPLICABLE
- 9 EXCELLENT CONDITION
- 8 VERY GOOD CONDITION - NO PROBLEMS NOTED.
- 7 GOOD CONDITION - SOME MINOR PROBLEMS.
- 6 SATISFACTORY CONDITION - MINOR DETERIORATION OF STRUCTURAL ELEMENTS.
- 5 FAIR CONDITION - ALL PRIMARY STRUCTURAL ELEMENTS ARE SOUND BUT MAY HAVE MINOR SECTION LOSS, CRACKING, SPALLING OR SCOUR.
- 4 POOR CONDITION - ADVANCED SECTION LOSS, DETERIORATION, SPALLING OR SCOUR.
- 3 SERIOUS CONDITION - LOSS OF SECTION, DETERIORATION, SPALLING OR SCOUR HAVE SERIOURSLY AFFECTED PRIMARY STRUCTURAL COMPONENTS. LOCAL FAILURES ARE POSSIBLE. FATIGUE CRACKS IN STEEL OR SHEAR CRACKS IN CONCRETE MAY BE PRESENT.
- 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.
- 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.
- 0 FAILED CONDITION - OUT OF SERVICE AND BEYOND CORRECTIVE ACTION.

Bridge Condition Coding Form

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

County: 80
Route: 10040
Special Case: 0
County Sequence: 1
Log Mile: 12.93

Bridge Number: (Includes Item 5A) 80I004000251
Feature Intersected: CANEY FORK RIVER

CODE ONLY THOSE NUMBERS WHICH HAVE CHANGED

ITEM #	DESCRIPTION	VALUE
90	INSPECTION DATE	5/1/97 6/15/99
10	MINIMUM V.C. OVER DECK (ROADWAY + SHOULDERS)	99 FT. 99 IN. ____ FT. ____ IN.
520	MINIMUM V.C. OVER DECK (EXCLUDES SHOULDERS)	99 FT. 99 IN. ____ FT. ____ IN.
54	MINIMUM VERTICAL UNDERCLEARANCE (EXCLUDES SHOULDERS) Circle One: H R N	N 0 FT. 0 IN. ____ FT. ____ IN.
36	TRAFFIC SAFETY FEATURES	
	Br. Rail	1
	Trans.	1
	Appr. Rail	1
	Appr. Rail Ends	1
41	STRC OPEN/CLOSED/POSTED A K P	A
58	DECK	7 6
59	SUPERSTRUCTURE	7
60	SUBSTRUCTURE	7
61	CHANL/CHANL PROTECTION	7
62	CULVERT AND RETAIN WALL	N
72	APPROACH RDWY ALIGNMENT (USE VALUES OF 3, 6, OR 8)	8

OVERALL CONDITION (Circle One)

GOOD FAIR POOR CRITICAL

Wilbur Wayne Hunter — SIGNATURE

6/15/99 — DATE

COMMENTS

RATINGS FOR CODING ITEMS 58, 59, 60 AND 62

N NOT APPLICABLE

9 EXCELLENT CONDITION

8 VERY GOOD CONDITION - NO PROBLEMS NOTED.

7 GOOD CONDITION - SOME MINOR PROBLEMS.

6 SATISFACTORY CONDITION - MINOR DETERIORATION OF STRUCTURAL ELEMENTS.

5 FAIR CONDITION - ALL PRIMARY STRUCTURAL ELEMENTS ARE SOUND BUT MAY HAVE MINOR SECTION LOSS, CRACKING, SPALLING OR SCOUR.

4 POOR CONDITION - ADVANCED SECTION LOSS, DETERIORATION, SPALLING OR SCOUR.

3 SERIOUS CONDITION - LOSS OF SECTION, DETERIORATION, SPALLING OR SCOUR HAVE SERIOURSLY AFFECTED PRIMARY STRUCTURAL COMPONENTS. LOCAL FAILURES ARE POSSIBLE. FATIGUE CRACKS IN STEEL OR SHEAR CRACKS IN CONCRETE MAY BE PRESENT.

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.

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.

0 FAILED CONDITION - OUT OF SERVICE AND BEYOND CORRECTIVE ACTION.

TENNESSEE BRIDGE INSPECTION PROGRAM
SUMMARY OF EVALUATION

REV. 03-05-2003

BRIDGE ID NO: 80I00400025 *LOCATION NO:* 80 - I0040 - 12.93 R

(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: 8/16/2017

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:	7
(59) SUPERSTRUCTURE RATING:	7
(60) SUBSTRUCTURE RATING:	7
(61) CHANNEL PROTECTION:	7
(62) CULVERT RATING:	N
(113A) NBIS SCOUR CODE:	8
(113B) TDOT SCOUR CODE:	R

APPRAISAL RATINGS

(67) STRUCTURAL EVALUATION:	7
(68) DECK GEOMETRY:	8
(69) UNDER CLEARANCE:	N
(70) BRIDGE POSTING:	5
(71) WATERWAY ADEQUACY:	6
(72) APPROACH RDWY ALIGNMENT:	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:	G		
(513) TEXTURE COAT RATING:	G	10	
(514) PAINT CONDITION RATING:	N		
(41) WEIGHT POSTING CODE:	A		

(36) TRAFFIC SAFETY FEATURES: 1 0 0 1

(525) REPAIR LIST NO: N

COMMENTS

8/2017 BRIDGE HAS BEEN REPAIRED AND REMOVED FROM REPAIR LIST 2.

(502) SUFF. RATING:	93.9
(528) STR. DEFICIENT:	NO
(529) FUNC. OBSOLETE:	NO

Bridge Name: I-40 OVER CANEY FORK RIVER
NBI Structure ID: 80I00400025
Bridge ID: 80I00400025

Analyzed By: bridgeware
Analyze Date: Wednesday, May 08, 2019 14:04:14
Analysis Engine: AASHTO LFR Engine Version 6.8.1.3001
Analysis Preference Setting: None

Report By: bridgeware
Report Date: Wednesday, May 08, 2019 14:32:53

Structure Definition Name: OLD BEAMS (90' SIMPLE SPAN)
Member Name: G8
Member Alternative Name: OLD EXT

Load Factor Rating Summary

Girder Summary

Live Load		Rating Factor	Controls	Capacity (Ton)	Span	Location (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- 121.DAT

REGION: 3

ROUTE: I0040

LOGMILE: 1293

SYSTEM BRIDGE?: YES

LANE (R/L): R

CROSSING: CANEY FORK RIVER

RIGHT LN

- 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.....: 44.000

(3) Enter the span length in feet.....: 89.830

(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.....= 0.489 DISTRIBUTION FACTOR..= 0.679

D Value.....= 5.889

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.....: 44.000

(3) Enter the span length in feet.....: 62.920

(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.....= 0.699 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.....: 44.000

(3) Enter the span length in feet.....: 53.960

(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.....= 0.815 DISTRIBUTION FACTOR..= 0.842

D Value.....= 4.750

*AASHTO*AASHTO*AASHTO*AASHTO*AASHTO*AASHTO*AASHTO*AASHTO*AASHTO*AASHTO*AASHTO*AASHTO*AASHTO*AASHTO*AASHTO*AASHTO*

AMERICAN ASSOCIATION OF STATE HIGHWAY
AND TRANSPORTATION OFFICIALS

A PROPRIETARY COMPUTER SOFTWARE PRODUCT

AASHTOWARE™ 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

*AASHTO*AASHTO*AASHTO*AASHTO*AASHTO*AASHTO*AASHTO*AASHTO*AASHTO*AASHTO*AASHTO*AASHTO*AASHTO*AASHTO*AASHTO*AASHTO*

```
                                    RECORD                                                    REC.NO.
01      102197A. MCNABB           H15 HS20                          *LF*                        100
02ARM121A. MCNABB                          PCBB  60   490 1 6    42 0 0 7                    100
05ARM121LM 12.91380  I-40                                                                     200
06ARM121 I-40 OVER CANEY FORK RIVER WITH BRIDGE WIDEN AND NEW DECK ADDED.                      300
08ARM121G01  1       8910 4                    PSC          0.679                            400
08ARM121G02  1       5311 8                    PSC          0.842                            500
08ARM121G03  1       6211 0                    PSC          0.842                            600
10ARM121G01  1                  W 550.         8910 4                                        700
10ARM121G02  1                  W 550.         5311 8                                        800
10ARM121G03  1                  W 550.         6211 0                                        900
11ARM121G01  1 1    8910 401                                                                 1000
11ARM121G02  1 1    5311 801                                                                 1100
11ARM121G03  1 1    6211 001                                                                 1200
15ARM121G01  01                                                 01A 2806  1.50TNB19          1300
15ARM121G01  01                                                 02A 2406  3.00               1400
15ARM121G01  01                                                 03A 0606  4.50               1500
15ARM121G01  01                                                 04A 0406  6.00               1600
15ARM121G01  01                                                 05B 0705 54.19               1700
15ARM121G02  01                                                 01A 2806  1.50TNB17          1800
15ARM121G02  01                                                 02B 0705 54.19               1900
15ARM121G03  01                                                 01A 2806  1.50TNB17          2000
15ARM121G03  01                                                 02A 1006  3.00               2100
15ARM121G03  01                                                 03B 0705 54.19               2200
```

THE FOLLOWING STRUCTURES WERE SELECTED

ARM121

****

* STRUCTURE HEADER AND DESCRIPTION *

****

100-- 2 A. MCNABB EA/I/O/P = FILE REQUESTS AND OUTPUT DATA EXCEPTIONS
TYPE = PCBB YEAR = 60 LEN = 490.11 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 ID	SPANS SYMM	STIFF. CODE	SPAN 1 (SPAN 4)	SPAN 2 (SPAN 5)	SPAN 3 (SPAN 6)	MATL CODE	ALLOWABLE STRESS FY	FB	FC*	FC**	LL DIST. FACTOR	END FL.BM	THRU DECK	MAX INV	IMPACT OP.	IMPACT POST	FACTOR SPEC
400-- 8	G 1	1		89.854	.000	.000	PSC	.00		.00		.679			.00	.00	.00	.00
500-- 8	G 2	1		53.958	.000	.000	PSC	.00		.00		.842			.00	.00	.00	.00
600-- 8	G 3	1		62.917	.000	.000	PSC	.00		.00		.842			.00	.00	.00	.00

****

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

****

	MEMBER ID	SYMM. SPAN NO.	DISTANCE FR. LEFT SUPP.	LOAD TYPE	LOAD P OR W(L)	W(R)	LENGTH
700--10	G 1	1	.000FT.	W	550.0	.0	89.854FT.
800--10	G 2	1	.000FT.	W	550.0	.0	53.958FT.
900--10	G 3	1	.000FT.	W	550.0	.0	62.917FT.

****

SECTION RANGE SPECIFICATIONS

MEMBER ID	SYMM.	SPAN NO.	RANGE NO.	RANGE LENGTH	SECTION NO. LEFT	SECTION NO. RIGHT	SEC. VAR.	HINGE CODE	HINGE 1 DIST.	HINGE 2 DIST.	HYBRID GIRDER CODE	HYBRID GIRDER FY	CODE	FY
1000--11	G 1	1	1	89.854FT.	1	0			.000FT.	.000FT.		0.		0.
1100--11	G 2	1	1	53.958FT.	1	0			.000FT.	.000FT.		0.		0.
1200--11	G 3	1	1	62.917FT.	1	0			.000FT.	.000FT.		0.		0.

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

MEMBER ID.	SECT	ADR	** VOIDS DESCRIPTION ** DEPTH	WIDTH	DIST.	BEAM DESCRIPTION CODE	DEPTH	TFLW	TFLT	TFIT	WEBT	BFIT	BFLT	BFLW	STRANDS I	ASI	DI
1300--15	G 1	1 0	.0	.00	.0	TNB	19.00	.0	.0	.00	.00	.00	.0	.0	1 A	2806.00	1.50
1400--15	G 1	1 0	.0	.00	.0		.00	.0	.0	.00	.00	.00	.0	.0	2 A	2406.00	3.00
1500--15	G 1	1 0	.0	.00	.0		.00	.0	.0	.00	.00	.00	.0	.0	3 A	606.00	4.50
1600--15	G 1	1 0	.0	.00	.0		.00	.0	.0	.00	.00	.00	.0	.0	4 A	406.00	6.00
1700--15	G 1	1 0	.0	.00	.0		.00	.0	.0	.00	.00	.00	.0	.0	5 B	705.00	54.19
1800--15	G 2	1 0	.0	.00	.0	TNB	17.00	.0	.0	.00	.00	.00	.0	.0	1 A	2806.00	1.50
1900--15	G 2	1 0	.0	.00	.0		.00	.0	.0	.00	.00	.00	.0	.0	2 B	705.00	54.19
2000--15	G 3	1 0	.0	.00	.0	TNB	17.00	.0	.0	.00	.00	.00	.0	.0	1 A	2806.00	1.50
2100--15	G 3	1 0	.0	.00	.0		.00	.0	.0	.00	.00	.00	.0	.0	2 A	1006.00	3.00
2200--15	G 3	1 0	.0	.00	.0		.00	.0	.0	.00	.00	.00	.0	.0	3 B	705.00	54.19

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

INPUT CODING -- STRUCTURE LM 12.91 D/P STR. I.D.-- ARM-121

DATE 10/21/97
BY A. MCNABB

	INVENTORY		OPERATING	
	LIVE LOAD	RATING	LIVE LOAD	RATING
	H15	H 40.72	HS20	HS 49.02

STRUCTURE DESCRIPTION --

IDENTIFICATION	LM 12.91
TYPE	PCBB
YEAR OF CONSTR.	1960
LENGTH	490.11 FEET
ROADWAY WIDTH	42.00 FEET
NUMBER OF SPANS	7

LOCATION --

DISTRICT	3
COUNTY	80
CONSTR. RTE.	I-40
CONSTR. SEC.	
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 ID.	G 1
SPAN	1
CRITICAL C.P. DIST.	44.9 FEET
LIVE LOAD DESIGNATION	H15

	MOMENT (FT. KIPS)
MEMBER CAPACITY	2255.8
DL EFFECT	1360.9
CAPACITY FOR (LL+I)	894.9
ACTUAL (LL+I)	329.7
INVENTORY RATING	H 40.72

OPERATING RATING SUMMARY --

MEMBER ID.	G 1
SPAN	1
CRITICAL C.P. DIST.	44.9 FEET
LIVE LOAD DESIGNATION	HS20

	MOMENT (FT. KIPS)
MEMBER CAPACITY	2732.8
DL EFFECT	1360.9
CAPACITY FOR (LL+I)	1371.9
ACTUAL (LL+I)	559.7
OPERATING RATING	HS 49.02

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

INPUT CODING -- STRUCTURE LM 12.91 D/P STR. I.D.-- ARM-121

DATE 10/21/97
BY A. MCNABB

	INVENTORY			OPERATING		
	LIVE LOAD	RATING		LIVE LOAD	RATING	
	H15	H	28.11	HS20	HS	31.56

STRUCTURE DESCRIPTION --

IDENTIFICATION	LM 12.91
TYPE	PCBB
YEAR OF CONSTR.	1960
LENGTH	490.11 FEET
ROADWAY WIDTH	42.00 FEET
NUMBER OF SPANS	7

LOCATION --

DISTRICT	3
COUNTY	80
CONSTR. RTE.	I-40
CONSTR. SEC.	
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 ID.	G 2
SPAN	1
CRITICAL C.P. DIST.	27.0 FEET
LIVE LOAD DESIGNATION	H15

	MOMENT (FT. KIPS)
MEMBER CAPACITY	826.1
DL EFFECT	460.0
CAPACITY FOR (LL+I)	366.1
ACTUAL (LL+I)	195.4
INVENTORY RATING	H 28.11

OPERATING RATING SUMMARY --

MEMBER ID.	G 2
SPAN	1
CRITICAL C.P. DIST.	27.0 FEET
LIVE LOAD DESIGNATION	HS20

	MOMENT (FT. KIPS)
MEMBER CAPACITY	1047.6
DL EFFECT	460.0
CAPACITY FOR (LL+I)	587.5
ACTUAL (LL+I)	372.3
OPERATING RATING	HS 31.56

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

INPUT CODING -- STRUCTURE LM 12.91 D/P STR. I.D.-- ARM-121

DATE 10/21/97
BY A. MCNABB

	INVENTORY		OPERATING	
	LIVE LOAD	RATING	LIVE LOAD	RATING
	H15	H 29.41	HS20	HS 32.76

STRUCTURE DESCRIPTION --

IDENTIFICATION	LM 12.91
TYPE	PCBB
YEAR OF CONSTR.	1960
LENGTH	490.11 FEET
ROADWAY WIDTH	42.00 FEET
NUMBER OF SPANS	7

LOCATION --

DISTRICT	3
COUNTY	80
CONSTR. RTE.	I-40
CONSTR. SEC.	
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 ID.	G 3
SPAN	1
CRITICAL C.P. DIST.	31.5 FEET
LIVE LOAD DESIGNATION	H15

	MOMENT (FT. KIPS)
MEMBER CAPACITY	1095.6
DL EFFECT	625.5
CAPACITY FOR (LL+I)	470.2
ACTUAL (LL+I)	239.8

INVENTORY RATING H 29.41

OPERATING RATING SUMMARY --

MEMBER ID.	G 3
SPAN	1
CRITICAL C.P. DIST.	31.5 FEET
LIVE LOAD DESIGNATION	HS20

	MOMENT (FT. KIPS)
MEMBER CAPACITY	1369.7
DL EFFECT	625.5
CAPACITY FOR (LL+I)	744.2
ACTUAL (LL+I)	454.4

OPERATING RATING HS 32.76

*** FINAL SUMMARY OF RATING RESULTS FOR --- STRUCTURE ID. ARM-121 BARS-PC RELEASE 5.5
INVENTORY AND/OR OPERATING ANALYSIS

STRUCTURE LM 12.91 D/P STR. ID-- ARM-121

INPUT CODING--

DATE 10/21/97

BY A. MCNABB

	INVENTORY			OPERATING		
	LIVE LOAD		RATING	LIVE LOAD		RATING
	H15	H	28.1	HS20	HS	31.6

STRUCTURE DESCRIPTION--

IDENTIFICATION	LM 12.91
TYPE	PCBB
YEAR OF CONSTR.	1960
LENGTH	490.11 FEET
ROADWAY WIDTH	42.00 FEET
NUMBER OF SPANS	7

LOCATION--

DISTRICT	3
COUNTY	80
CONSTR. RTE.	I-40
CONSTR. SEC.	
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.	27.0 FEET
LIVE LOAD DESIGNATION	H15

	MOMENT (FOOT-KIPS)
MEMBER CAPACITY	826.1
DL EFFECT	460.0
CAPACITY FOR (LL+I)	366.1
ACTUAL (LL+I)	195.4

INVENTORY RATING H 28.11

OPERATING RATING SUMMARY

MEMBER I.D.	G 2
SPAN	1
CRITICAL C.P. DIST.	27.0 FEET
LIVE LOAD DESIGNATION	HS20

	MOMENT (FOOT-KIPS)
MEMBER CAPACITY	1047.6
DL EFFECT	460.0
CAPACITY FOR (LL+I)	587.5
ACTUAL (LL+I)	372.3

OPERATING RATING HS 31.56

DETAIL DATA FOR FLEXURAL MEMBER

DATE 10/21/97

D/P STRUCTURE I.D. ARM-121
MEMBER I.D.--G01
MATERIAL--PSC
LL DIST. FACT. = .679

NO. SPANS = 1
NOT SYMMETRICAL

SPAN NO.	LENGTH FT.	RNG. NO.	LENGTH FT.	SEC.NO. LT	SEC.NO. RT	VAR CODE S T P	VAR CODE S T B	DL DUE TO MEM. WEIGHT W(LT) LBS/FT	DL DUE TO MEM. WEIGHT W(RT) LBS/FT	SUPERIMPOSED DISTRIBUTED DL(S) LENGTH DISTRIBUTED DIST. FROM LT SUPPORT SPAN NO.	W(LT) LBS/FT	W(RT) LBS/FT	* FT.	* FT.	SUPERIMPOSED CONCENTRATED DL(S) DIST. FROM LT SUPPORT STIFF TRANS.	SPAN LONG. NO.	P KIPS	* FT.
1	89.854	1	89.854	01	01			798.4	798.4	1	550.0	550.0	.000	89.854				

CHECK POINTS RATED--

SPAN NO.	DIS FRM LT SPRT FT.	FUNC M	FUNC VL	FUNC VR	SPAN NO.	DIS FRM LT SPRT FT.	FUNC M	FUNC VL	FUNC VR
1	.000			X					
1	44.927	X							
1	89.854			X					

DETAIL DATA FOR FLEXURAL MEMBER

DATE 10/21/97

D/P STRUCTURE I.D. ARM-121
MEMBER I.D.--G02
MATERIAL--PSC
LL DIST. FACT. = .842

NO. SPANS = 1
NOT SYMMETRICAL

SPAN NO.	LENGTH FT.	RNG. NO.	LENGTH FT.	SEC.NO. LT	SEC.NO. RT	VAR CODE S T P	VAR CODE S T B	DL DUE TO MEM. WEIGHT W(LT) LBS/FT	DL DUE TO MEM. WEIGHT W(RT) LBS/FT
1	53.958	1	53.958	01	01			714.1	714.1

SUPERIMPOSED DISTRIBUTED DL(S) LENGTH DISTRIBUTED DIST. FROM LT SUPPORT					SUPERIMPOSED CONCENTRATED DL(S) DIST. FROM LT SUPPORT			
SPAN NO.	W(LT) LBS/FT	W(RT) LBS/FT	* FT.	* FT.	STIFF TRANS.	SPAN LONG. NO.	P KIPS	* FT.
1	550.0	550.0	.000	53.958				

CHECK POINTS RATED--

SPAN NO.	DIS FRM LT SPRT FT.	FUNC M	FUNC VL	FUNC VR	SPAN NO.	DIS FRM LT SPRT FT.	FUNC M	FUNC VL	FUNC VR
1	.000			X					
1	26.979	X							
1	53.958			X					

DETAIL DATA FOR FLEXURAL MEMBER

DATE 10/21/97

D/P STRUCTURE I.D. ARM-121
MEMBER I.D.--G03
MATERIAL--PSC
LL DIST. FACT. = .842

NO. SPANS = 1
NOT SYMMETRICAL

SPAN NO.	LENGTH FT.	RNG. NO.	LENGTH FT.	SEC.NO. LT	SEC.NO. RT	VAR CODE S T P	VAR CODE S T B	DL DUE TO MEM. WEIGHT W(LT) LBS/FT	DL DUE TO MEM. WEIGHT W(RT) LBS/FT	SUPERIMPOSED DISTRIBUTED DL(S) LENGTH DISTRIBUTED********** DIST. FROM LT SUPPORT*** SPAN NO.	W(LT) LBS/FT	W(RT) LBS/FT	* FT.	* FT.	SUPERIMPOSED CONCENTRATED DL(S) DIST. FROM LT SUPPORT**** STIFF TRANS.	STIFF LONG.	SPAN NO.	P KIPS	* FT.
1	62.917	1	62.917	01	01			714.1	714.1	1	550.0	550.0	.000	62.917					

CHECK POINTS RATED--

SPAN NO.	DIS FRM LT SPRT FT.	FUNC M	FUNC VL	FUNC VR	SPAN NO.	DIS FRM LT SPRT FT.	FUNC M	FUNC VL	FUNC VR
1	.000			X					
1	31.458	X							
1	62.917		X						

DETAIL DATA AT MOMENT CHECK POINT FOR
PRESTRESSED CONCRETE FLEXURAL MEMBER

BARS RELEASE 5.5

DATE 10/21/97

D/P STRUCTURE I.D. ARM-121
MEMBER I.D.--G01
C.P. LOCATION 1.50

***** SECTION PROPERTIES IN RANGE 1 OF SPAN 1

H	AREA	AS	CT	DA	ECC	FI	IX + BEND	IX - BEND	C (BOT)	SECTION MODULUS TOP + BEND	SECTION MODULUS TOP - BEND	SECTION MODULUS BOTTOM + BEND	SECTION MODULUS BOTTOM - BEND
IN.	SQ.IN.	SQ.IN.	IN.	IN.	IN	KIPS	IN**4	IN**4	IN.	IN**3	IN**3	IN**3	IN**3
42.00	766.50	4.95	21.77	1.50	17.57	860.0	302133.4	302133.4	20.23	13878.4	.0	14934.9	39.3

LOSS = 43478.6
FF = 644.6

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

***** INFLUENCE LINE (SIMPLE SPAN)

X-DIST (FT.)	.000	44.927	89.854	POS AREA = 1009.2
Y-ORDINATE	.000	22.464	.000	

***** ORDINATES OF AND AREAS UNDER INFLUENCE LINE (CONTINUOUS SPAN)

	SPAN	SPAN	SPAN	SPAN	SPAN	SPAN
T 0						
E 1						
N 2						
T 3						
H 4						
5						
P 6						
O 7						
I 8						
N 9						
T 0						
POS AREA	.0	.0	.0	.0	.0	.0
NEG AREA	.0	.0	.0	.0	.0	.0

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

	PRESTRESS STEEL PSI	CONC PSI	TOP + BEND FT-KIPS	TOP - BEND FT-KIPS	BOTTOM + BEND FT-KIPS	BOTTOM - BEND FT-KIPS
INVENTORY	248000.0	5000.0	1711.4	.0	1711.4	.0
OPERATING	248000.0	5000.0	2852.4	.0	2852.4	.0
POST VEH1	.0	.0	.0	.0	.0	.0
POST VEH2	.0	.0	.0	.0	.0	.0
POST VEH3	.0	.0	.0	.0	.0	.0
POST SPEC	.0	.0	.0	.0	.0	.0

***** TOTAL DL MOMENT EFFECT

FT-KIPS
1360.9

AREA *** ULTIMATE MOMENT CAPAC. TOTALS
.0
FT-KIPS
3708.1

***** AVAIL.CAPAC.FOR LL+IMPACT

	TOP +BEND F-KPS	TOP -BEND F-KPS	BOT +BEND F-KPS	BOT -BEND F-KPS
INVENTORY	894.9	.0	894.9	.0
OPERATING	1491.5	.0	1371.9	.0
VEH. 1	.0	.0	.0	.0
VEH. 2	.0	.0	.0	.0
VEH. 3	.0	.0	.0	.0
SPECIAL	.0	.0	.0	.0

***** LIVE LOAD AND RATING CALCULATIONS (IMPACT FACTOR = .233 FOR +BEND AND = .233 FOR -BEND)

LIVE LOAD		TRUCK LOAD LL+IMP FT-KIPS	TRUCK LOAD LL FT-KIPS	LOC.NO. 1 WHEEL FT.	DIR	AXLE SPACE FT.	LANE LOAD LL+IMP FT-KIPS	LANE LOAD LL FT-KIPS	LOC.CONC LOAD FT.	LOC.CONC LOAD 2 FT.	RATING FACT.	SAFE LOAD CAPACITY TONS	RATING VALUE
INV H15	+BEND	264.5	214.5	30.927	L	.0	329.7	267.4	44.927		2.715	40.7	H 40.7
	-BEND	.0	.0	.000	L	.0	.0	.0	.000	.000			
OPER HS20	+BEND	559.7	454.0	30.927	L	.0	439.5	356.6	44.927		2.451	88.2	HS 49.0
	-BEND	.0	.0	.000	L	.0	.0	.0	.000	.000			
POST	+BEND	.0	.0	.000							.000	.0	
	-BEND	.0	.0	.000									
POST	+BEND	.0	.0	.000							.000	.0	
	-BEND	.0	.0	.000									
POST	+BEND	.0	.0	.000							.000	.0	
	-BEND	.0	.0	.000									
POST SPEC	+BEND	.0	.0	.000							.000	.0	
	-BEND	.0	.0	.000									

DETAIL DATA AT MOMENT CHECK POINT FOR
PRESTRESSED CONCRETE FLEXURAL MEMBER

BARS RELEASE 5.5

DATE 10/21/97

D/P STRUCTURE I.D. ARM-121
MEMBER I.D.--G02
C.P. LOCATION 1.50

***** SECTION PROPERTIES IN RANGE 1 OF SPAN 1

H	AREA	AS	CT	DA	ECC	FI	IX + BEND	IX - BEND	C (BOT)	SECTION MODULUS TOP + BEND	SECTION MODULUS TOP - BEND	SECTION MODULUS BOTTOM + BEND	SECTION MODULUS BOTTOM - BEND
IN.	SQ.IN.	SQ.IN.	IN.	IN.	IN	KIPS	IN**4	IN**4	IN.	IN**3	IN**3	IN**3	IN**3
33.00	685.50	2.24	16.92	1.50	14.58	388.4	144942.4	144942.4	16.08	8567.9	.0	9012.0	31.5

LOSS = 35969.6
FF = 307.9

NON-COMP: D = 31.50 KD = 5.65 JD = 29.62

***** INFLUENCE LINE (SIMPLE SPAN)

X-DIST (FT.) .000 26.979 53.958 POS AREA = 363.9
Y-ORDINATE .000 13.490 .000

***** ORDINATES OF AND AREAS UNDER INFLUENCE LINE (CONTINUOUS SPAN)

	SPAN	SPAN	SPAN	SPAN	SPAN	SPAN
T 0						
E 1						
N 2						
T 3						
H 4						
5						
P 6						
O 7						
I 8						
N 9						
T 0						
POS AREA	.0	.0	.0	.0	.0	.0
NEG AREA	.0	.0	.0	.0	.0	.0

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

	PRESTRESS STEEL PSI	CONC PSI	TOP + BEND FT-KIPS	TOP - BEND FT-KIPS	BOTTOM + BEND FT-KIPS	BOTTOM - BEND FT-KIPS
INVENTORY	248000.0	5000.0	642.1	.0	642.1	.0
OPERATING	248000.0	5000.0	1070.2	.0	1070.2	.0
POST VEH1	.0	.0	.0	.0	.0	.0
POST VEH2	.0	.0	.0	.0	.0	.0
POST VEH3	.0	.0	.0	.0	.0	.0
POST SPEC	.0	.0	.0	.0	.0	.0

***** TOTAL DL MOMENT EFFECT

FT-KIPS
460.0

AREA *** ULTIMATE MOMENT CAPAC.
TOTALS FT-KIPS
.0 1391.3

***** AVAIL.CAPAC.FOR LL+IMPACT

	TOP +BEND F-KPS	TOP -BEND F-KPS	BOT +BEND F-KPS	BOT -BEND F-KPS
INVENTORY	366.1	.0	366.1	.0
OPERATING	610.2	.0	587.5	.0
VEH. 1	.0	.0	.0	.0
VEH. 2	.0	.0	.0	.0
VEH. 3	.0	.0	.0	.0
SPECIAL	.0	.0	.0	.0

***** LIVE LOAD AND RATING CALCULATIONS (IMPACT FACTOR = .279 FOR +BEND AND = .279 FOR -BEND)

LIVE LOAD		TRUCK LOAD LL+IMP FT-KIPS	TRUCK LOAD LL FT-KIPS	TRUCK LOAD LOC.NO. 1 WHEEL FT.	DIR	AXLE SPACE FT.	LANE LOAD LL+IMP FT-KIPS	LANE LOAD LL FT-KIPS	LOC.CONC LOAD FT.	LOC.CONC LOAD 2 FT.	RATING FACT.	SAFE LOAD CAPACITY TONS	RATING VALUE
INV H15	+BEND	195.4	152.7	12.979	L	.0	192.2	150.2	26.979		1.874	28.1	H 28.1
	-BEND	.0	.0	.000	L	.0	.0	.0	.000	.000			
OPER HS20	+BEND	372.3	291.0	12.979	L	.0	256.2	200.3	26.979		1.578	56.8	HS 31.6
	-BEND	.0	.0	.000	L	.0	.0	.0	.000	.000			
POST	+BEND	.0	.0	.000							.000	.0	
	-BEND	.0	.0	.000									
POST	+BEND	.0	.0	.000							.000	.0	
	-BEND	.0	.0	.000									
POST	+BEND	.0	.0	.000							.000	.0	
	-BEND	.0	.0	.000									
POST SPEC	+BEND	.0	.0	.000							.000	.0	
	-BEND	.0	.0	.000									

H20 INV $\frac{366.1 \times 15}{195.0} = 28.1$ Tons

H20 OPR $\frac{587.5}{195.0} \times 15 = 45.1$ Tons

HS INV $\frac{366.1}{372.3} \times 36 = 35.4$ T

HS OPR $\frac{587.5}{372.3} \times 36 = 56.8$ T

DETAIL DATA AT MOMENT CHECK POINT FOR
PRESTRESSED CONCRETE FLEXURAL MEMBER

BARS RELEASE 5.5

DATE 10/21/97

D/P STRUCTURE I.D. ARM-121
MEMBER I.D.--G03
C.P. LOCATION 1.50

***** SECTION PROPERTIES IN RANGE 1 OF SPAN 1

H	AREA	AS	CT	DA	ECC	FI	IX + BEND	IX - BEND	C	SECTION MODULUS TOP + BEND	SECTION MODULUS TOP - BEND	SECTION MODULUS BOTTOM + BEND	SECTION MODULUS BOTTOM - BEND
IN.	SQ.IN.	SQ.IN.	IN.	IN.	IN	KIPS	IN**4	IN**4	(BOT) IN.	IN**3	IN**3	IN**3	IN**3
33.00	685.50	3.04	16.99	1.50	14.11	527.1	145675.0	145675.0	16.01	8573.5	.0	9099.8	31.1

LOSS = 39143.1
FF = 408.2

NON-COMP: D = 31.11 KD = 6.39 JD = 28.99

***** INFLUENCE LINE (SIMPLE SPAN)

X-DIST (FT.) .000 31.459 62.917 POS AREA = 494.8
Y-ORDINATE .000 15.729 .000

***** ORDINATES OF AND AREAS UNDER INFLUENCE LINE (CONTINUOUS SPAN)

	SPAN	SPAN	SPAN	SPAN	SPAN	SPAN
T 0						
E 1						
N 2						
T 3						
H 4						
5						
P 6						
O 7						
I 8						
N 9						
T 0						
POS AREA	.0	.0	.0	.0	.0	.0
NEG AREA	.0	.0	.0	.0	.0	.0

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

	PRESTRESS STEEL PSI	CONC PSI	TOP + BEND FT-KIPS	TOP - BEND FT-KIPS	BOTTOM + BEND FT-KIPS	BOTTOM - BEND FT-KIPS
INVENTORY	248000.0	5000.0	845.4	.0	845.4	.0
OPERATING	248000.0	5000.0	1409.1	.0	1409.1	.0
POST VEH1	.0	.0	.0	.0	.0	.0
POST VEH2	.0	.0	.0	.0	.0	.0
POST VEH3	.0	.0	.0	.0	.0	.0
POST SPEC	.0	.0	.0	.0	.0	.0

***** TOTAL DL MOMENT EFFECT

FT-KIPS
625.5

AREA *** ULTIMATE MOMENT CAPAC. TOTALS
.0 FT-KIPS
1831.8

***** AVAIL.CAPAC.FOR LL+IMPACT

	TOP +BEND F-KPS	TOP -BEND F-KPS	BOT +BEND F-KPS	BOT -BEND F-KPS
INVENTORY	470.2	.0	470.2	.0
OPERATING	783.6	.0	744.2	.0
VEH. 1	.0	.0	.0	.0
VEH. 2	.0	.0	.0	.0
VEH. 3	.0	.0	.0	.0
SPECIAL	.0	.0	.0	.0

***** LIVE LOAD AND RATING CALCULATIONS (IMPACT FACTOR = .266 FOR +BEND AND = .266 FOR -BEND)

LIVE LOAD		TRUCK LOAD LL+IMP FT-KIPS	TRUCK LOAD LL FT-KIPS	LOC.NO. 1 WHEEL FT.	DIR	AXLE SPACE FT.	LANE LOAD LL+IMP FT-KIPS	LANE LOAD LL FT-KIPS	LOC.CONC LOAD FT.	LOC.CONC LOAD 2 FT.	RATING FACT.	SAFE LOAD CAPACITY TONS	RATING VALUE
INV H15	+BEND	229.1	181.0	17.458	L	.0	239.8	189.4	31.458		1.961	29.4	H 29.4
	-BEND	.0	.0	.000	L	.0	.0	.0	.000	.000			
OPER HS20	+BEND	454.4	358.9	17.458	L	.0	319.7	252.5	31.458		1.638	59.0	HS 32.8
	-BEND	.0	.0	.000	L	.0	.0	.0	.000	.000			
POST	+BEND	.0	.0	.000							.000	.0	
	-BEND	.0	.0	.000									
POST	+BEND	.0	.0	.000							.000	.0	
	-BEND	.0	.0	.000									
POST	+BEND	.0	.0	.000							.000	.0	
	-BEND	.0	.0	.000									
POST SPEC	+BEND	.0	.0	.000							.000	.0	
	-BEND	.0	.0	.000									

SUMMARY OF SHEAR ANALYSIS

DATE 10/21/97

D/P STRUCTURE I.D. ARM-121

MEMB. ID	MATL	SPAN NO.	DIS FRM LT SPRT FT.	L R	DL SHEAR KIPS	SDL SHEAR KIPS	---INVENTORY--- LL+I MAX.V KIPS	T L	LL+I MIN.V KIPS	T L	---OPERATING--- LL+I MAX.V KIPS	T L	LL+I MIN.V KIPS	T L	--VEH. 1 -- LL+I MAX.V KIPS	LL+I MIN.V KIPS	--VEH. 2 -- LL+I MAX.V KIPS	LL+I MIN.V KIPS	--VEH. 3 -- LL+I MAX.V KIPS	LL+I MIN.V KIPS	--SPECIAL-- LL+I MAX.V KIPS	LL+I MIN.V KIPS
G01	PSC	1	.000	L	35.9	24.7	17.2	L	.0	T	27.0	T	.0	T										
		1	44.927	L	.0	.0	6.2	T	6.2	T	12.5	T	12.5	T										
		1	89.854	L	35.9	24.7	.0	T	18.1	L	.0	T	28.5	T										
G02	PSC	1	.000	L	19.3	14.8	17.5	L	.0	T	32.1	T	.0	T										
		1	26.979	L	.0	.0	7.4	T	7.4	T	13.0	T	13.0	T										
		1	53.958	L	19.3	14.8	.0	T	17.8	L	.0	T	32.6	T										
G03	PSC	1	.000	L	22.5	17.3	18.4	L	.0	T	32.7	T	.0	T										
		1	31.458	L	.0	.0	7.5	T	7.5	T	13.9	T	13.9	T										
		1	62.917	L	22.5	17.3	.0	T	18.9	L	.0	T	33.6	T										

Rt & Lt Lanes

Terry MacLeie

ASSESSMENT FORM

BRIDGES OVER WATER THAT HAVE NOT BEEN ANALYZED FOR SCOUR

3-15-00

Bridge No. BO-I40-12.91 over Caney Fk River

widened 1989

Design Plans? (yes) / no date (year)= 1959

Do plans contain foundation data? (yes) / no ground/rock elevation probe Yes

Soil strata boring information Yes

Hydraulic Data: Drainage area= 332 sq. mi.

Bridge Description: total length = 512 no. of spans 7 skew 73°

Bridge type(simple/(continuous), concrete/steel) PCBB

Has underwater inspection been performed at site? Yes (No) insp. Date ___-___-___

Foundation of the Substructures

Ex. Abut. = stub on concrete piles

Abut. = vertical on spread footing on rock

Bent #1 = 2 post bent on steel pile supported footings

Bent #2 = concrete pile bent

Abutment #1 (south/west) = Stub on Steel Piles

Is abutment embankment armored? ___No

___sacked sand placed and stable

___sacked sand placed and unstable

___rip-rap placed and stable

___rip-rap placed and unstable

___does not apply

___other_____

Abutment #2 (north/east)= Stub on steel Piles

Is abutment embankment armored? ___No

___sacked sand placed and stable

___sacked sand placed and unstable

___rip-rap placed and stable

___rip-rap placed and unstable

___does not apply

___other_____

(Bent/Pier #1= Two Post Conc Bent on Steel Piles

Is construction field book information available? Yes No

___ Plans show footing on rock

___ Piles are assumed to be on rock due to pile type and rock elevation

___ Pile length is taken from total pile length divided by No. of piles

pile length= ___ft.

___ Pile length is unknown due to lack of information on plans

280' / 19 Piles = 15.5'

(Bent/Pier #2= Same as Bent 1

Is construction field book information available? Yes No

___ Plans show footing on rock

___ Piles are assumed to be on rock due to pile type and rock elevation

___ Pile length is taken from total pile length divided by No. of piles

pile length= ___ft.

___ Pile length is unknown due to lack of information on plans

From PCO's to rock is TO ≈ 75'

Piles are probably driven To Rock

Bent /Pier #3= Same as Bent 1

Is construction field book information available? Yes No

___ Plans show footing on rock
___ Piles are assumed to be on rock due to pile type and rock elevation
___ Pile length is taken from total pile length divided by No. of piles
pile length= ___ft.
___ Pile length is unknown due to lack of information on plans

Bent /Pier #4= Solid Shaft on Rock

Is construction field book information available? Yes No

___ Plans show footing on rock
___ Piles are assumed to be on rock due to pile type and rock elevation
___ Pile length is taken from total pile length divided by No. of piles
pile length= ___ft.
___ Pile length is unknown due to lack of information on plans

Bent /Pier #5= Solid Shaft on Rock

Is construction field book information available? Yes No

___ Plans show footing on rock
___ Piles are assumed to be on rock due to pile type and rock elevation
___ Pile length is taken from total pile length divided by No. of piles
pile length= ___ft.
___ Pile length is unknown due to lack of information on plans

Bent /Pier #6= Solid Shaft on Rock

Is construction field book information available? Yes No

___ Plans show footing on rock
___ Piles are assumed to be on rock due to pile type and rock elevation
___ Pile length is taken from total pile length divided by No. of piles
pile length= ___ft.
___ Pile length is unknown due to lack of information on plans

Bent /Pier #7=

Is construction field book information available? Yes No

___ Plans show footing on rock
___ Piles are assumed to be on rock due to pile type and rock elevation
___ Pile length is taken from total pile length divided by No. of piles
pile length= ___ft.
___ Pile length is unknown due to lack of information on plans

Bent /Pier #8=

Is construction field book information available? Yes No

___ Plans show footing on rock
___ Piles are assumed to be on rock due to pile type and rock elevation
___ Pile length is taken from total pile length divided by No. of piles
pile length= ___ft.
___ Pile length is unknown due to lack of information on plans

Bent /Pier #8=

Is construction field book information available? Yes No

___ Plans show footing on rock
___ Piles are assumed to be on rock due to pile type and rock elevation
___ Pile length is taken from total pile length divided by No. of piles
pile length= ___ft.
___ Pile length is unknown due to lack of information on plans

Stream Information

Streambed material: solid rock - cobble rocks - round brown rocks - coarse gravel – small gravel
Sand – clay - silt – can't see - other _____ (circle all that apply)

According to photos and general stream information, is stream channel stable? Yes no
___Channel and bank conditions are very stable
___Channel and bank conditions are generally stable (minor erosion of bank)
X Channel and bank conditions are slightly unstable (moderate bank erosion)
___Channel and bank conditions are generally unstable (scalped banks/sloughing trees)
___Channel and bank conditions are severely unstable (steep banks/visible degradation)
___ other _____

Has channel shifted?

Laterally		Vertically	
No movement (X)	not apparent ( )	No movement ( )	not apparent (X)
Slight(<=1') (X)	moderate ( )	moderate ( )	moderate (X)
Severe(> 5') ( )		severe(> 5') ( )	

Any prior observed scour noted in Bridge Inspection report or U.W. Inspection report? yes (no)

Is there an observed history of drift at this location? (yes) no

Does bridge constrict the channel? Yes___ No✓
Does bridge constrict the floodplain? Yes___ No✓

Is stream flow controlled by a dam or reservoir? Yes___(name it)_____
No✓

Is stream in a Flood Insurance Study (yes / no) or Area (yes / no)

Should this structure be hydraulically analyzed using HEC-RAS and HEC18? YES NO
Why?

In the opinion of this committee, is this assessment acceptable for identifying this structure as being stable (not prone to failure due to scour) in the event of a major flood? YES NO

Recommend Item 113-A/B = 8/8

Main Piers founded on Rock
Approach bents are on pile supported footings. Piles taken to rock

Review Committee:

_____ Hydraulics Section 4/4/03

_____ Br. Insp. And Repair Section

_____ Structural Design Section

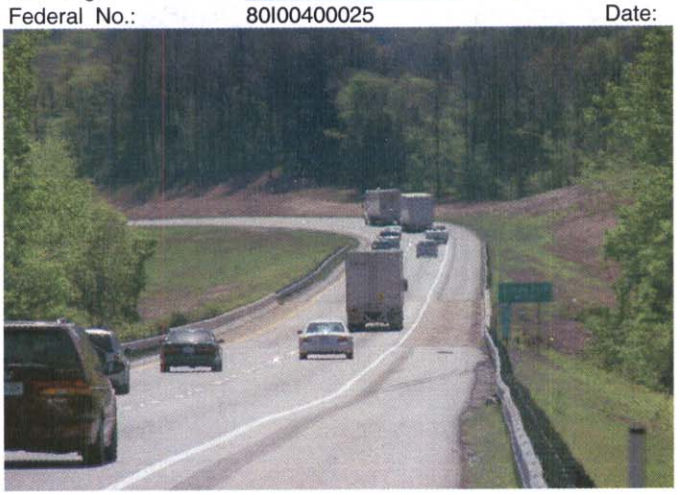
_____ Geotech (as needed)

4-4-03 Date of Review

NIF- 3-9-04

Bridge No.: 80 — I0040 — 1293
Crossing:: CANEY FORK RIVER *
Federal No.: 80I00400025 Date: April 23, 2003

PIC1



VIEW ACROSS DECK FROM A-APPR

Bridge No.: 80 — I0040 — 1293
Crossing:: CANEY FORK RIVER *
Federal No 80I00400025 Date: April 23, 2003

PIC2



INLET-ELEV

PIC3



BRIDGE NO. AT ABUTMENT # 1

Bridge No.: 80 — I0040 — 1293
Crossing:: CANEY FORK RIVER *
Federal No.: 80I00400025 Date: April 23, 2003

PIC4



SETTLEMENT @ ABUT-1

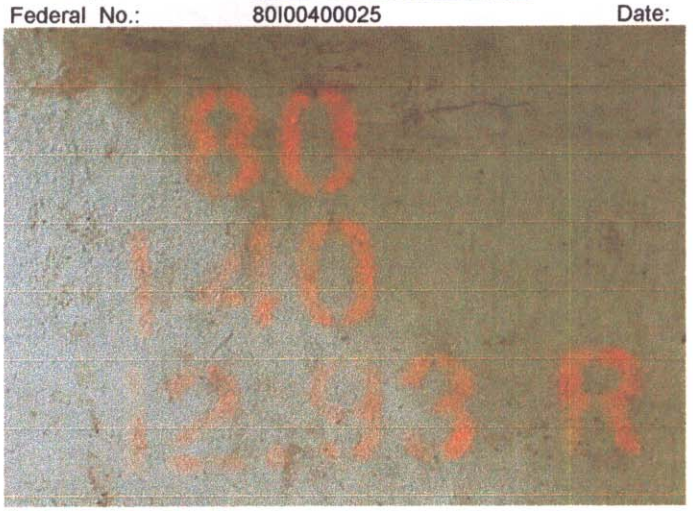
PIC5



BREAKOUTS @ CENTER LINE JOINT TOP DECK SPAN-6

Bridge No.: 80 — I0040 — 1291
Crossing:: CANEY FORK RIVER *
Federal No.: 80I00400025 Date: June 12, 2001

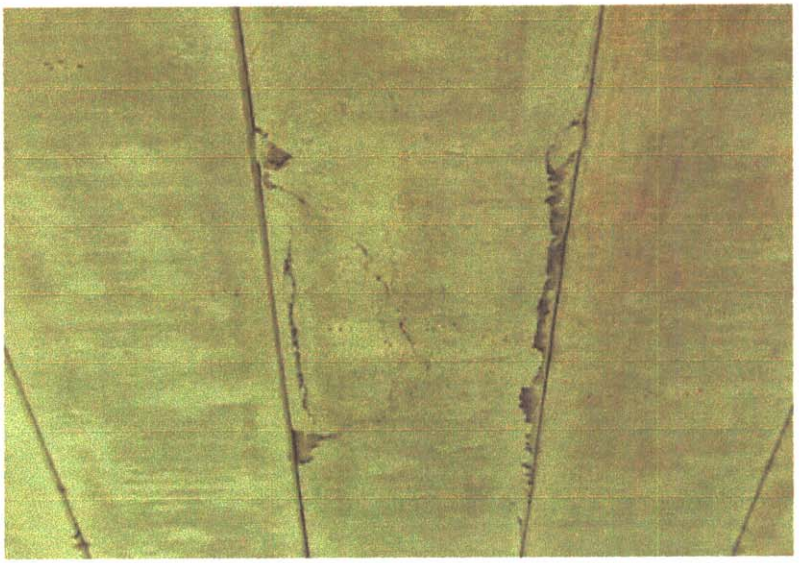
PIC1



BRIDGE NO. AT ABUTMENT # 1

Bridge No.: 80 — I0040 — 1291
Crossing:: CANEY FORK RIVER *
Federal No 80I00400025 Date: June 12, 2001

PIC2



SPALL BEAM-E SPAN-2

PIC3



DRIFT @ PIER-2 INLET

Bridge No.: 80 — I0040 — 1291
Crossing:: CANEY FORK RIVER *
Federal No.: 80I00400025 Date: June 12, 2001

PIC4



INLET-ELEV

PIC5



VIEW ACROSS DECK

Bridge No.: 80 — I0040 — 1293
Crossing:: CANEY FORK RIVER *
Federal No.: 80I00400025 Date: June 15, 1999

PIC6



BRIDGE NO. AT ABUTMENT # 1

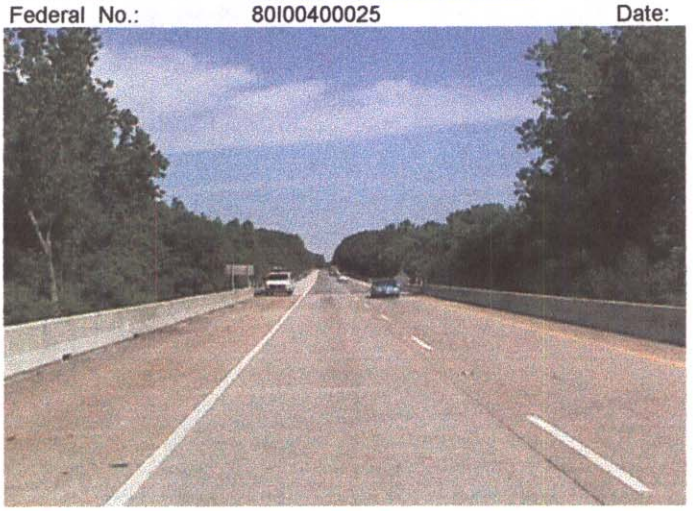
PIC7



ABUTMENT TYPICAL

Bridge No.: 80 — I0040 — 1293
Crossing:: CANEY FORK RIVER *
Federal No.: 80I00400025 Date: June 15, 1999

PIC1



APPROACH #1

Bridge No.: 80 — I0040 — 1293
Crossing:: CANEY FORK RIVER *
Federal No 80I00400025 Date: June 15, 1999

PIC2



APPROACH #2

PIC3



ACROSS TOP OF DECK

Bridge No.: 80 — I0040 — 1293
Crossing:: CANEY FORK RIVER *
Federal No.: 80I00400025 Date: June 15, 1999

PIC4



UPSTREAM

PIC5



DOWNSTREAM

Bridge No.: 80 — I0040 — 1293
Crossing:: CANEY FORK RIVER *
Federal No.: 80I00400025 Date: June 15, 1999

PIC8



BENT TYPICAL

PIC9



PIER TYPICAL

Bridge No.: 80 — I0040 — 1293
Crossing:: CANEY FORK RIVER *
Federal No.: 80I00400025 Date: June 15, 1999

PIC10



DRIFTWOOD PIER #2

PIC11



ELEVATION INLET

Bridge No.: 80 — I0040 — 1293
Crossing:: CANEY FORK RIVER *
Federal No.: 80I00400025 Date: June 15, 1999

PIC12



BOTTOM OF DECK

PIC13



POTHOLE DEVELOPING EXIT SLAB 'B' END

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. 80I00400025 (Eleven Digit No.)
Bridge Location No. 80 - I0040 - 12.93 R (Co. - Route - Log Mile)

I 40 (Road Name) over CANEY FORK RIVER * (Crossing)
Indepth Insp. Req'd: no (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	G	
Deck Condition (Item 58)	F	1/16" open crack all spans/2" dp B.O. @ ℄ joint span #6
Superstructure (Item 59)	G	
a. Beams	G	24"x 12" x 2" dp spall span # 4
b. Bearings	G	
c. Diaphragms	N/A	
Substructure (Item 60)	G	
a. Caps/Bridge Seats	G	
b. Columns/Piles	G	
c. Footings	N/A	
d. Wing W./Breast W.	G	
Scour/Erosion	G	settlement @ Abut. # 1 up to 6" dp
Channel (Item 61)	G	

UNDERWATER INSPECTION

To Be Performed By: n/a
Date Underwater Insp. —
BRIDGE is: Open

Weight Limit Posted no
Gross..... ___ Tons
2 Axle..... ___ Tons
3 or more Axles.. ___ Tons

COMMENTS:

Supervising Bridge Inspector: Martin Daniel

BRIDGE RATING: **GOOD**

SUMMARY
80-I40-12.93 RT
4/23/2003

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

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

Wearing surface is fair with large patched area in span #4. Deck is rated fair due to random 1/16" open cracks in each span. There is also small breakouts in span #6 up to 2" deep and 25'L. Parapet, and drains are good. The expansion joint is good but need gravel and debris removed from top of seal. There is only light joint leakage on pier #1 cap. Bottom deck, bearings, beams, and alignment of members are good. There was a small 2" deep breakout with exposed cable in beam "E" span #4.

The abutments are good, along with the piers and bents. There is moderate drift at pier #2 but no scour at this time.

Martin Daniel

ROUTINE BRIDGE INSPECTION REPORT

Page No.___

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

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

Bridge No. 80I00400025 (Eleven Digit No.)
Bridge Location No. 80 - I0040 - 12.93 R (Co. Route Log Mile)

I 40 (Road Name) over CANEY FORK RIVER * (Crossing)
Indepth Insp. Req'd: NO (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
Waller
Thompson

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

		Comments
Approaches	G	
Deck Condition (Item 58)	F	RANDOM 1/16" open CRACKS SCALE IN SPAN #1 AT E
Superstructure (Item 59)		
a. Beams	G	
b. Bearings	G	
c. Diaphragms	G	
Substructure (Item 60)		
a. Caps/Bridge Seats	G	
b. Columns/Piles	G	
c. Footings	G	
d. Wing W./Breast W.	G	
Scour/Erosion		
Channel (Item 61)	G	

UNDERWATER INSPECTION
To Be Performed By: None required
Date Underwater Insp. ___
BRIDGE is: open

Weight Limit Posted NO
Gross..... ___ Tons
2 Axle..... ___ Tons
3 or more Axles.. ___ Tons

COMMENTS:

Supervising Bridge Inspector: Hilbert Wayne Hunter BRIDGE RATING: **GOOD**

SUMMARY
80-I40-12.93 RT
6-12-01

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

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

Wearing surface is good with large patched area in span #4. Deck is rated fair due to random 1/16" open cracks in each span. There is also small scale developing in span #6 up to 2" deep and 25'L. Parapet, and drains are good. The expansion joint is good but need gravel and debris removed from top of seal. There is only light joint leakage on pier #1 cap. Bottom deck, bearings, beams, and alignment of members are good. There was a small 2" deep breakout with exposed cable in beam "E" span #4.

The abutments are good, along with the piers and bents. There is moderate drift at pier #2 but no scour at this time.

Gilbert Hunter

BRIDGE INSPECTION REPORT

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

FIELD REPORT NO. 14 DATE 6-15-99
REVIOUS REPORT NO. 13 DATE 5-6-97
PLANS ---- YES [X] NO [ ]

BRIDGE NO. 80T004000Z5 (ELEVEN DIGIT NO.)
BRIDGE LOC. NO. 80 - I40 - 12.93 (CO. ROUTE LOG MILE)

I40 E.B.L. (ROAD NAME) OVER Caney Fork River (FEATURE INTERSECTED)
— (STRUCTURE NAME (IF NAMED))

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

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

FEATURES

WEARING SURFACE-- CONCRETE [X] TIMBER [ ] ASPHALT [ ] (DEPTH=_____)
FLARED WIDTH --------- YES [ ] NO [X]
NAVIGATIONAL CONTROL-- YES [ ] NO [X]
MEDIAN WIDTH -------- OPEN [X] NONE [ ] CLOSED [ ]

BRIDGE SKEW 71° LT [ ] RT [X]

STRUCTURE TYPE B.B. (Main Span) NO. SPANS 7 (Main Span)
STRUCTURE TYPE — (Approach Spans) NO. SPANS — (Approach Spans)
MAXIMUM SPAN LENGTH 90' TOTAL LENGTH 490.2'

INSPECTORS

1. Hunter
2. Daniel
3. Crutcher
4. Waller
5.
6.
7.
8.
9.

WIDTHS

DECK OUT-TO-OUT 44'
ROADWAY CURB/CURB 42'
SIDEWALK — RT — LT
*APPROACH ROADWAY 24'
APPR. SHLD. 10' RT 3' LT
*DOES NOT INCLUDE SHOULDER

CLEARANCES

MIN. VERTICAL OVER DECK /
MIN. VERTICAL UNDER CL /
MIN. LATERAL UNDER CL / RT
/ LT

UNDERWATER INSPECTION

INSPECTION PERFORMED BY:
DOT FIELD TEAM [ ] DATE_____
CONTRACT DIVERS [ ] DATE_____
NONE REQUIRED [X]

(<25')
NBIS BRIDGE LENGTH > 25' (ft) (in)

FRACTURE CRITICAL DETAILS: YES [ ] NO [X]
IF YES, INCLUDE BIR 3.9

CHANGE IN STRUCTURAL CONDITION YES [ ] NO [X]
MAJOR REPAIRS MADE YES [ ] NO [X]

COMMENTS:

Gilbert Wayne Hunter
SUPERVISING BRIDGE INSPECTOR

BRIDGE RATING [X] [ ] [ ] [ ]
GOOD FAIR POOR CRITICAL

FORM BIR 3.1
Rev. 09/24/98
DT-0080

BRIDGE LOC. NO. 80 (CO.) - I40 (ROUTE) - 12.93 R.L. (L.M.)

DATE: 6-15-99

PERFORMANCE EVALUATION

Time of day inspected 10:00 Weather conditions 80° sunny

Vehicles observed Tractor Trailer & passenger type

LIVE LOAD BEHAVIOR	YES	NO	COMMENTS
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	Pothole developing at 'B' end approach slab
Joints	G	(F)	P	C	Needs debris cleaned from joint
Pavement	G	(F)	P	C	Slight settlement at approach slab
Embankment	(G)	F	P	C	
Drains	(G)	F	P	C	

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]	[ ]
Vertical Clearance (< 14')	[ ]	[ ]	[ ]
Narrow [ ] One Lane Bridge [ ]	[ ]	[X]	[ ]

WEIGHT LIMIT POSTED
YES [ ] NO [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
DT-0081

BRIDGE LOC. NO. 80 - I40 - 12.93 R.L. DATE: 6-15-99
CO. ROUTE L.M.

DECK					*COMMENTS*
WEARING SURFACE	(G)	F	P	C	
DECK - STRUCTURAL CONDITION	G	(F)	P	C	N/Random open cracks up to ½
CURBS	G	F	P	C	NA
MEDIAN	G	F	P	C	NA
SIDEWALKS	G	F	P	C	NA
PARAPET	(G)	F	P	C	H.L. cracks
RAILING	G	F	P	C	NA
PAINT	G	F	P	C	NA
DRAINS	G	F	P	C	NA
LIGHTING STD'S	G	F	P	C	NA
UTILITIES	G	F	P	C	NA
JOINT LEAKAGE	(G)	F	P	C	
EXPANSION JOINTS	G	(F)	P	C	Needs cleaning

SUPERSTRUCTURE					*COMMENTS*
BEARING DEVICES	(G)	F	P	C	
GIRDERS OR BEAMS	(G)	F	P	C	Beam "E" span #4 has breakout 2'x1'x2" deep
FLOOR BEAMS	G	F	P	C	NA
STRINGERS	G	F	P	C	NA
DIAPHRAGMS	G	F	P	C	NA
BRACING	G	F	P	C	NA
TRUSSES - GENERAL	G	F	P	C	
- PORTALS	G	F	P	C	
- BRACING	G	F	P	C	
PAINT	G	F	P	C	NA
ALIGNMENT OF MEMBERS	(G)	F	P	C	

TEXTURE COAT

CONDITION RATING	G	F	P	C		
OVERALL APPEARANCE	G	F	P	C	NEEDS SPOT PAINTING?	YES [ ] NO [X]
STAINING	G	F	P	C	NEEDS REPAINTING?	YES [ ] NO [X]
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 - 12.93 K.L.
CO. ROUTE L.M.

DATE: 6-15-99

SUBSTRUCTURE

ABUTMENTS					COMMENTS
CAPS	(G)	F	P	C	
BREASTWALL	G	F	P	C	NA
WINGS	(G)	F	P	C	
BACKWALL	G	F	P	C	NV
PLUMB	(G)	F	P	C	
FOOTING	G	F	P	C	NV
PILES	G	F	P	C	NV
EMBANKMENT	(G)	F	P	C	
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	
PLUMB	(G)	F	P	C	
FOOTINGS	G	F	P	C	NV
PILES	G	F	P	C	NA
BEARING SURFACE	(G)	F	P	C	
BEARINGS	(G)	F	P	C	

BENTS					
CAPS	(G)	F	P	C	
COLUMNS	(G)	F	P	C	
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:

FORM BIR 3.8
Rev. 3-1-97
DT-1508

BRIDGE LOC. NO. 80 - I40 - 12.95 (K.L.) (_____)
CO. ROUTE L.M. (LOG km)

DATE: 6-15-99

STREAM CHANNEL DATA AND CONDITIONS

STREAM CROSSING: Caney Fork River

I. 1. Type of bed material? Gravel & Boulders
2. Has the channel shifted? YES [ ] NO [X] NOT APPARENT [ ]
3. Condition of rip-rap? G F P C Est. % failed ____ N/A [X]
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 [X]
If yes, why? _____

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

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

IV. Comments: clear drift PIER #2

* *

SPECIAL INSPECTION DATA - FOR REASONS OTHER THAN FC OR SCOUR

I. Does this bridge need a special inspection? YES [ ] NO [X]
II. Reason for special inspection: _____

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

SUMMARY
80-I40-12.93 RT
6-15-99

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

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

Wearing surface is good with large patched area in span #4. Deck is rated fair due to random 1/16" open cracks in each span. Parapet, and drains are good. The expansion joint is good but need gravel and debris removed from top of seal. There is only light joint leakage on pier #1 cap. Bottom deck, bearings, beams, and alignment of members are good. There was a small 2" deep breakout with exposed cable in beam "E" span #4.

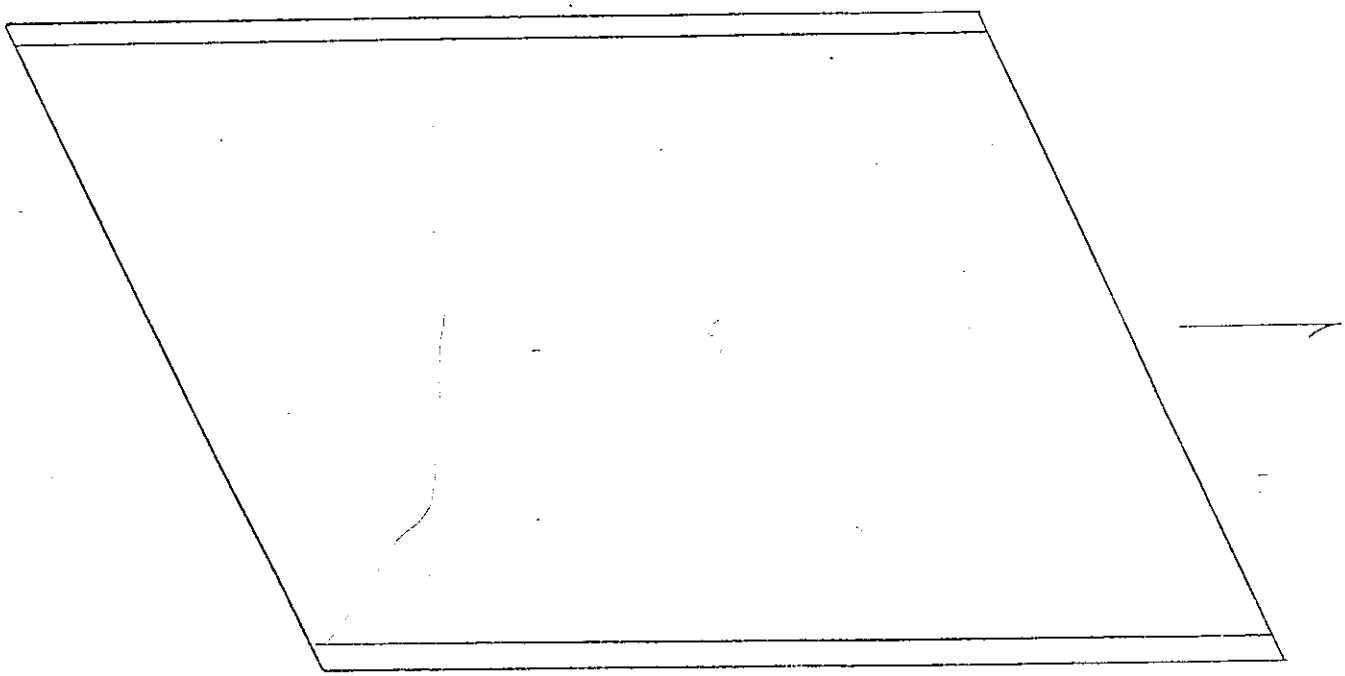
The abutments are good, along with the piers and bents. There is moderate drift at pier #2 but no scour at this time.

Gilbert Hunter

Top RT.	Curb	Abut. A.	RT Lane	Elev.	500.00
	LT.				RT.
Abut A	500.55	499.91		499.46	500.00
Bent 1	500.29	499.72		499.24	499.77
" 2	500.06	499.48		499.04	499.57
" 3	499.94	499.38		498.91	499.45
Pier 1	499.93	499.32		498.89	499.46
" 2	500.05	499.43		499.06	499.62
" 3	500.41	499.87		499.51	499.98
Abut B	500.81	500.24		499.82	500.37

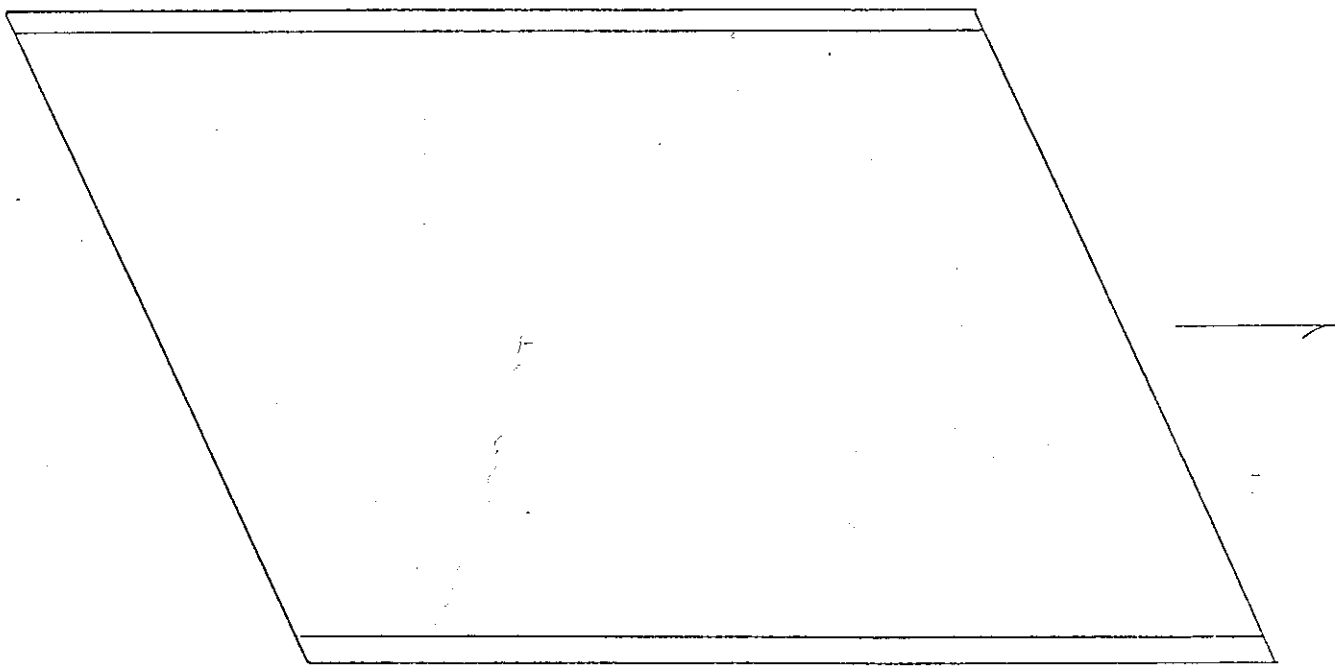
80-740-12.99

Rep # 3 RT. Lane



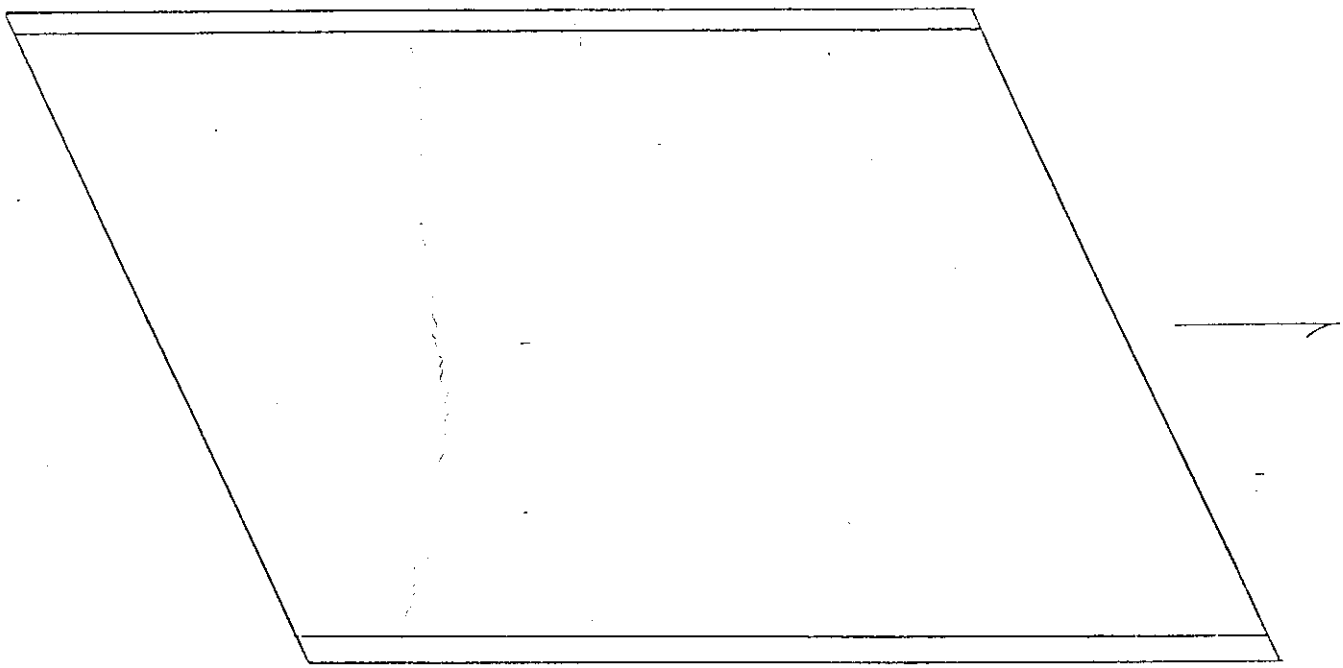
Top Slab # 1 Br. # 80-I40-12.93 R.L.

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



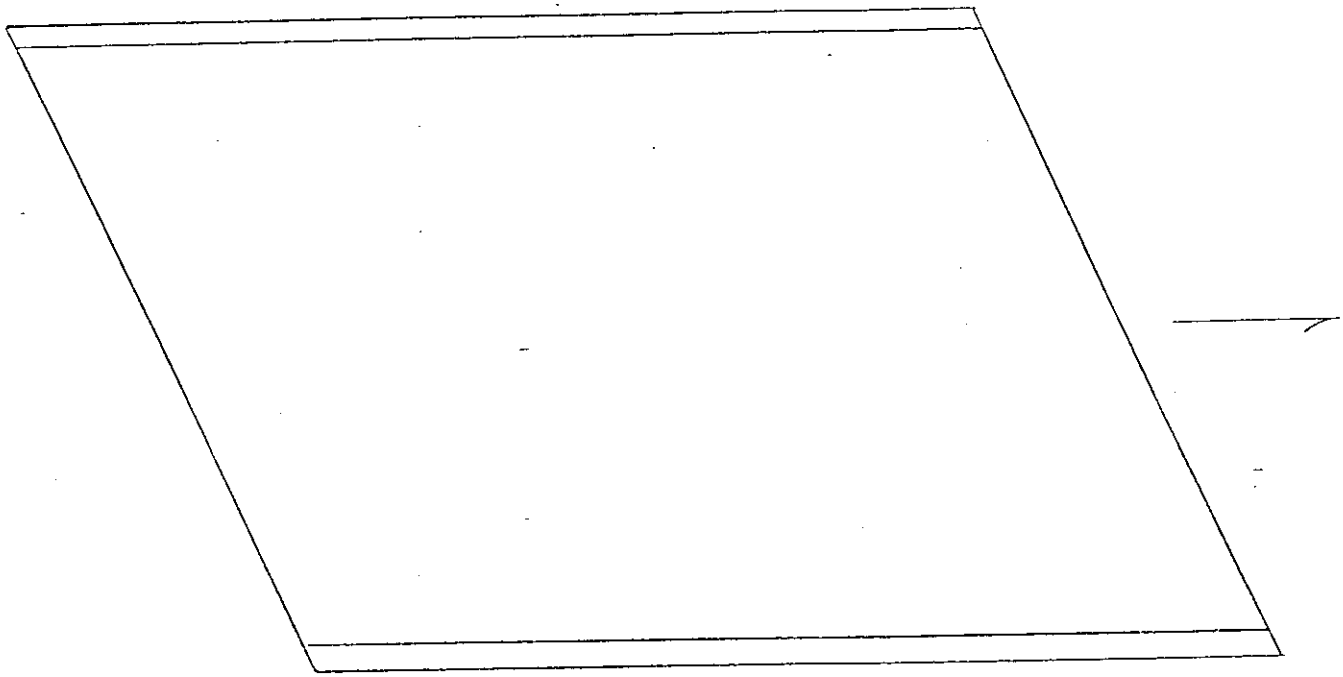
Top Slab = 2 Br. = 80-I40-12.93 R.L.

Deck	F	1/16" open cracks
Parapet	G	H.L. cracks
Drains	NA	
Joints	NA	



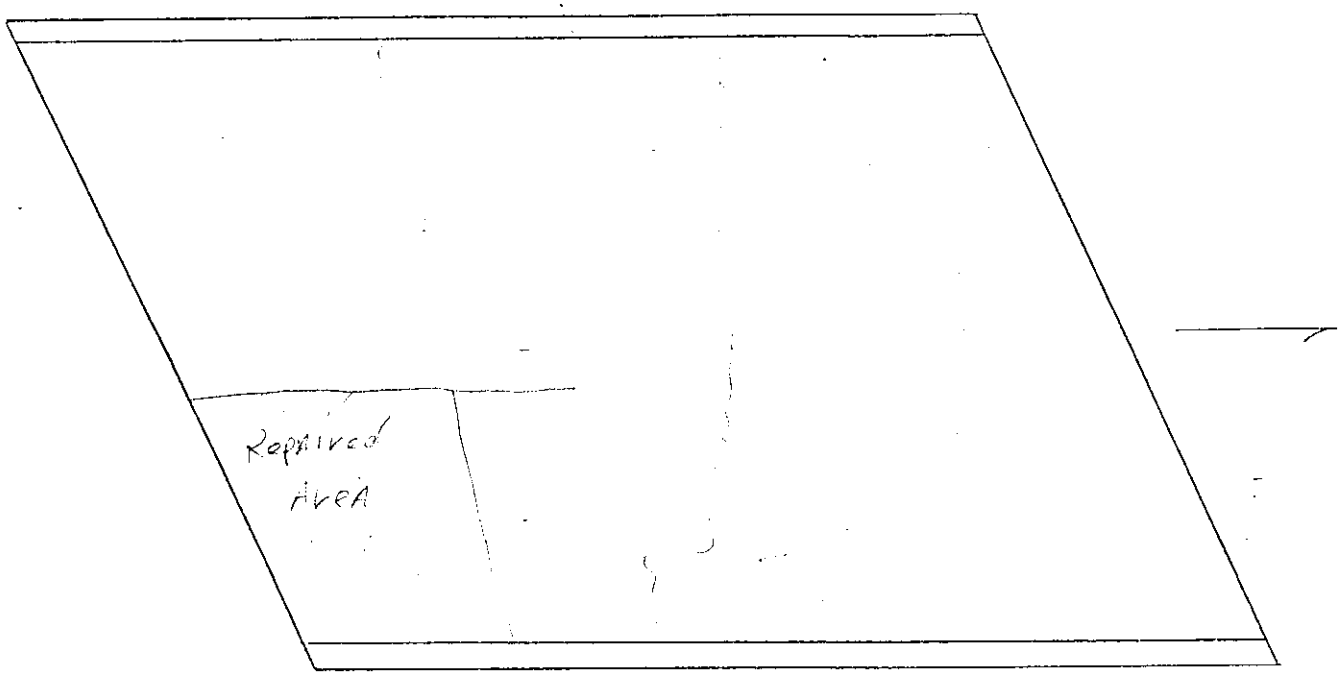
Top Slab = 3 Br. = 80-I40-12.93 R.L.

Deck	F	1/16" open cracks
Parapet	G.	H.L. cracks
Drains	G	
Joints	NA	



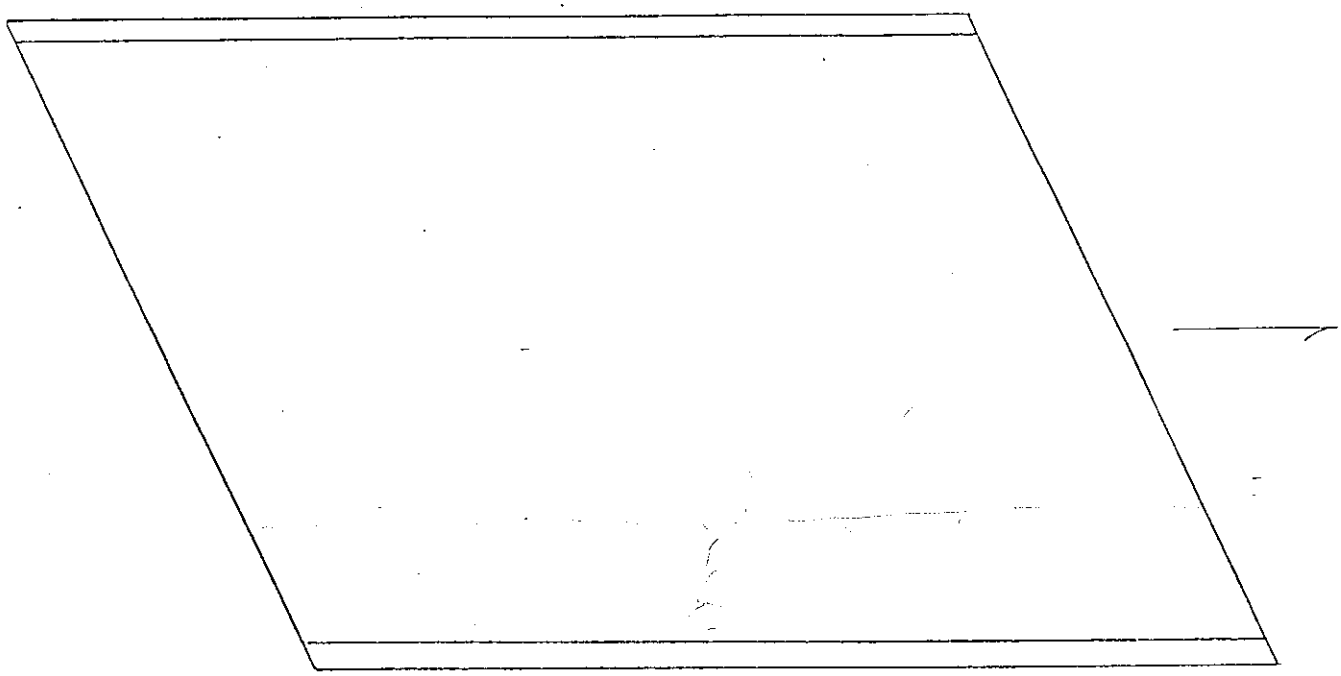
Top Slab # 4 Br. # 80-I40-12.93 R.L.

Deck	F	1/16" open cracks
Parapet	G	H.L. cracks
Drains	G	
Joints	F	Needs debries cleaned from joint



Top Slab = 5 Br. = 80-I40-12.93 R.L.

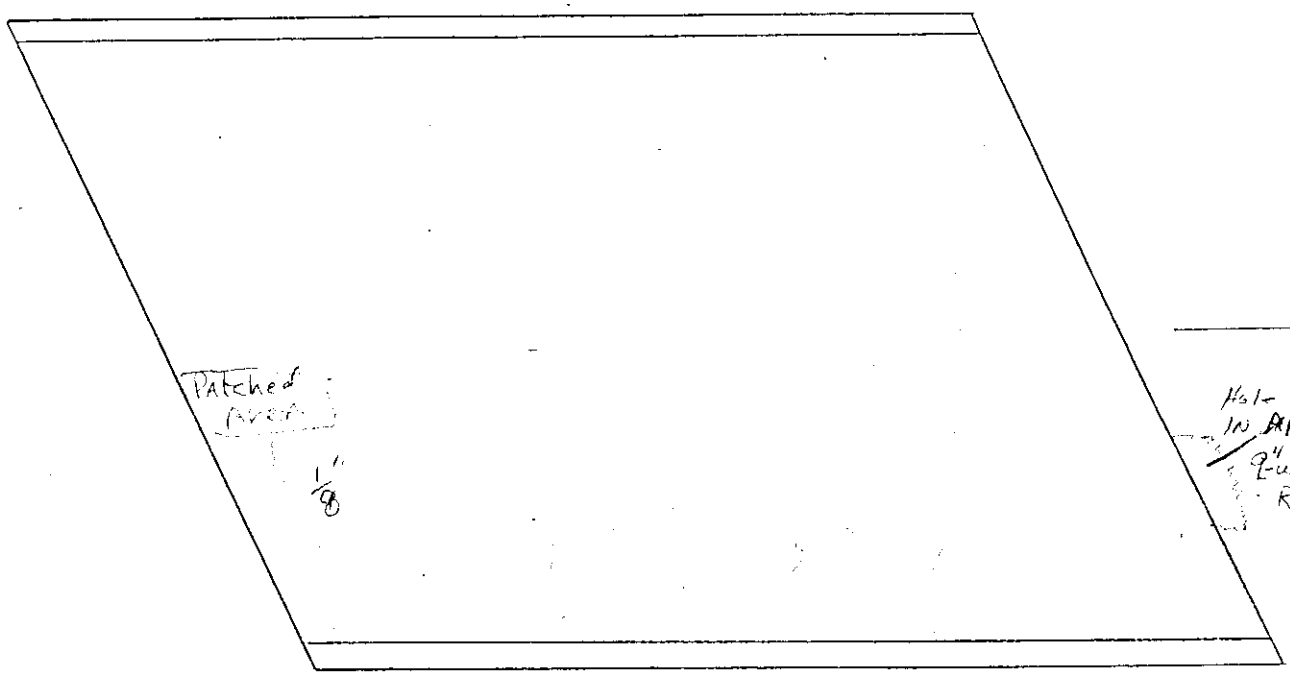
Deck	F	1/16" open cracks
Parapet	G	H.L. cracks
Drains	G	
Joints	NA	



Top Slab = 6 Br. = 80-I40-12.93 R.L.

Deck	F	1/16 open cracks
Parapet	G	H.L. cracks
Drains	NA	
Joints	NA	

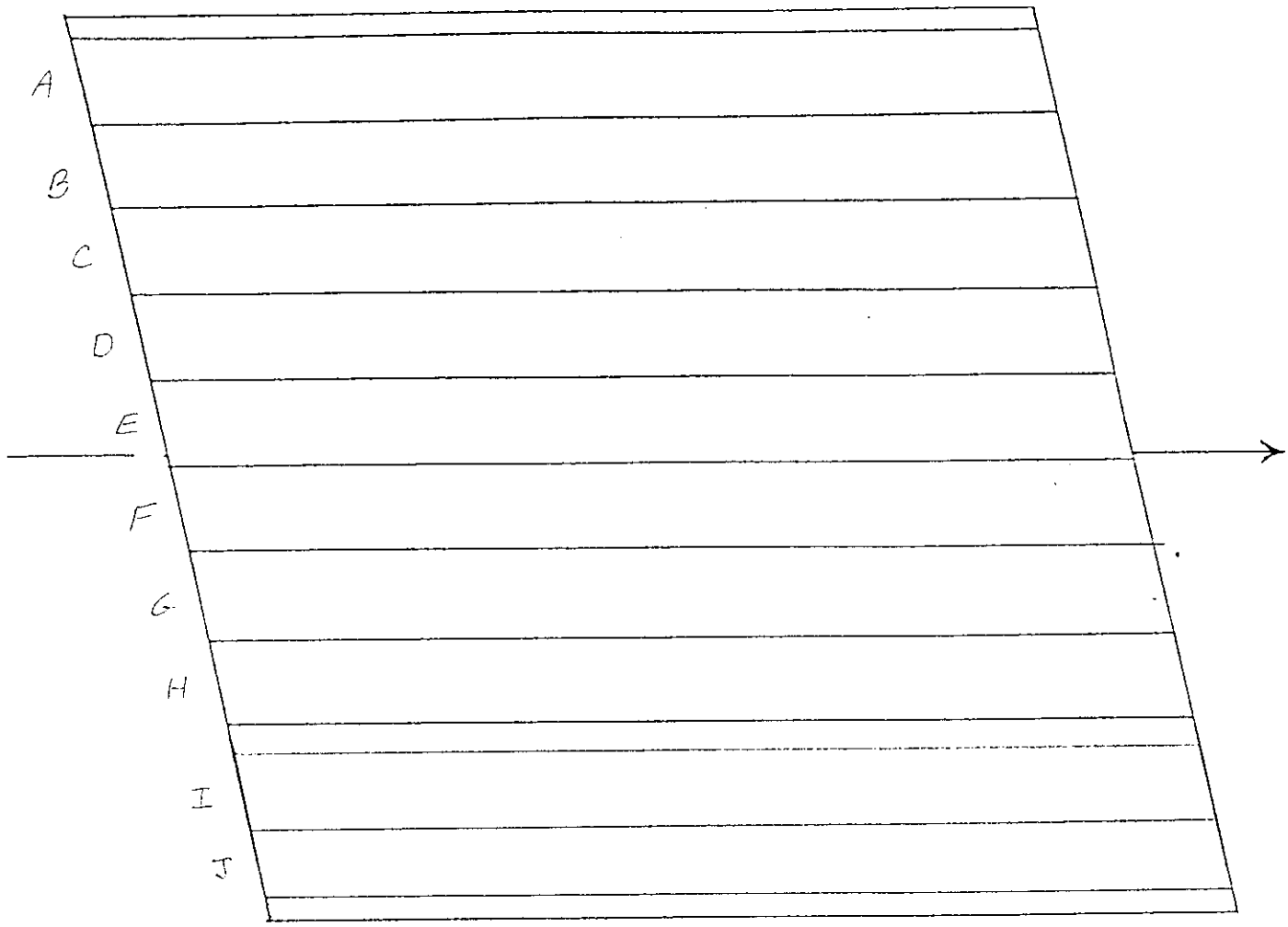
6-15-11
P



Top Slab # 7 Br. # 80-I40-12.93 R.L.

Deck	F	1/16" & 1/8" open cracks
Parapet	G	H.L. cracks
Drains	NA	
Joints	NA	

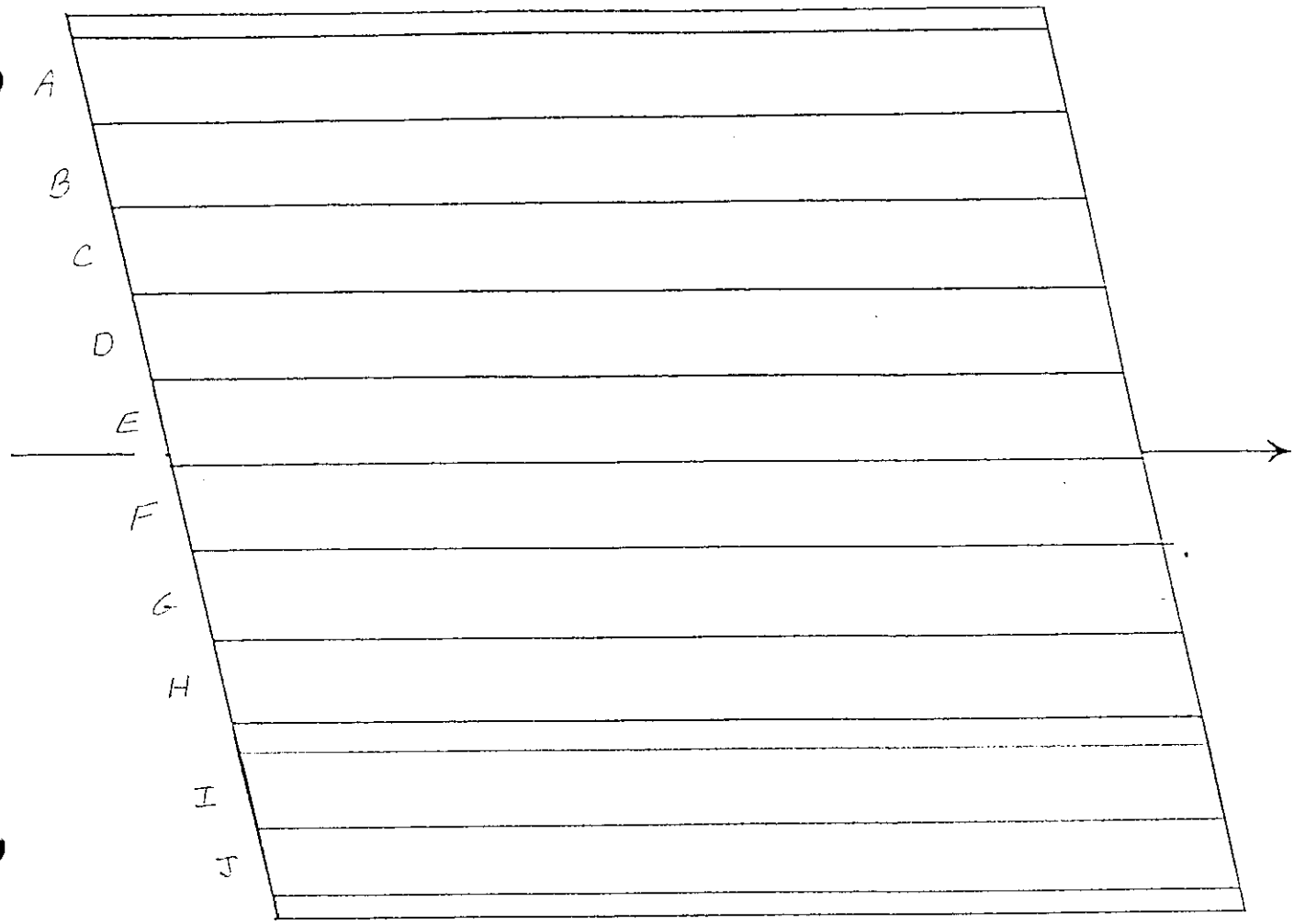
6-15-99 RD



BOTTOM SLAB = 1 Br. = 80-I40-12.93 R.L.

Deck	N/V	over hangs are good
Diaph.	N/A	
Beams	Good	

6-15-44MD

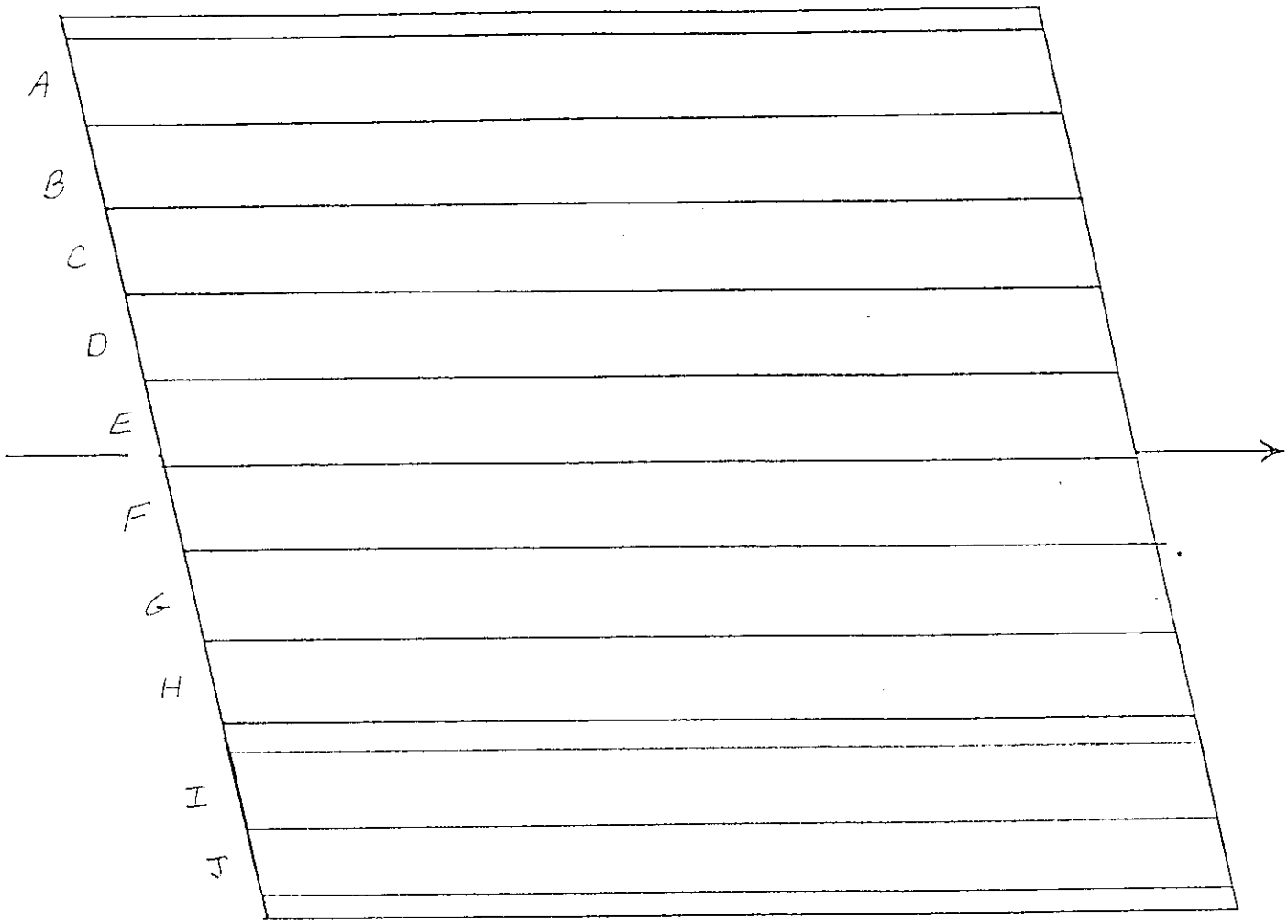


BOTTOM SLAB = 2

Br. = 80-I40-12.93 R.L.

Deck	N/V.
Diaph.	N/A
Beams	Good

6-15-99 MA

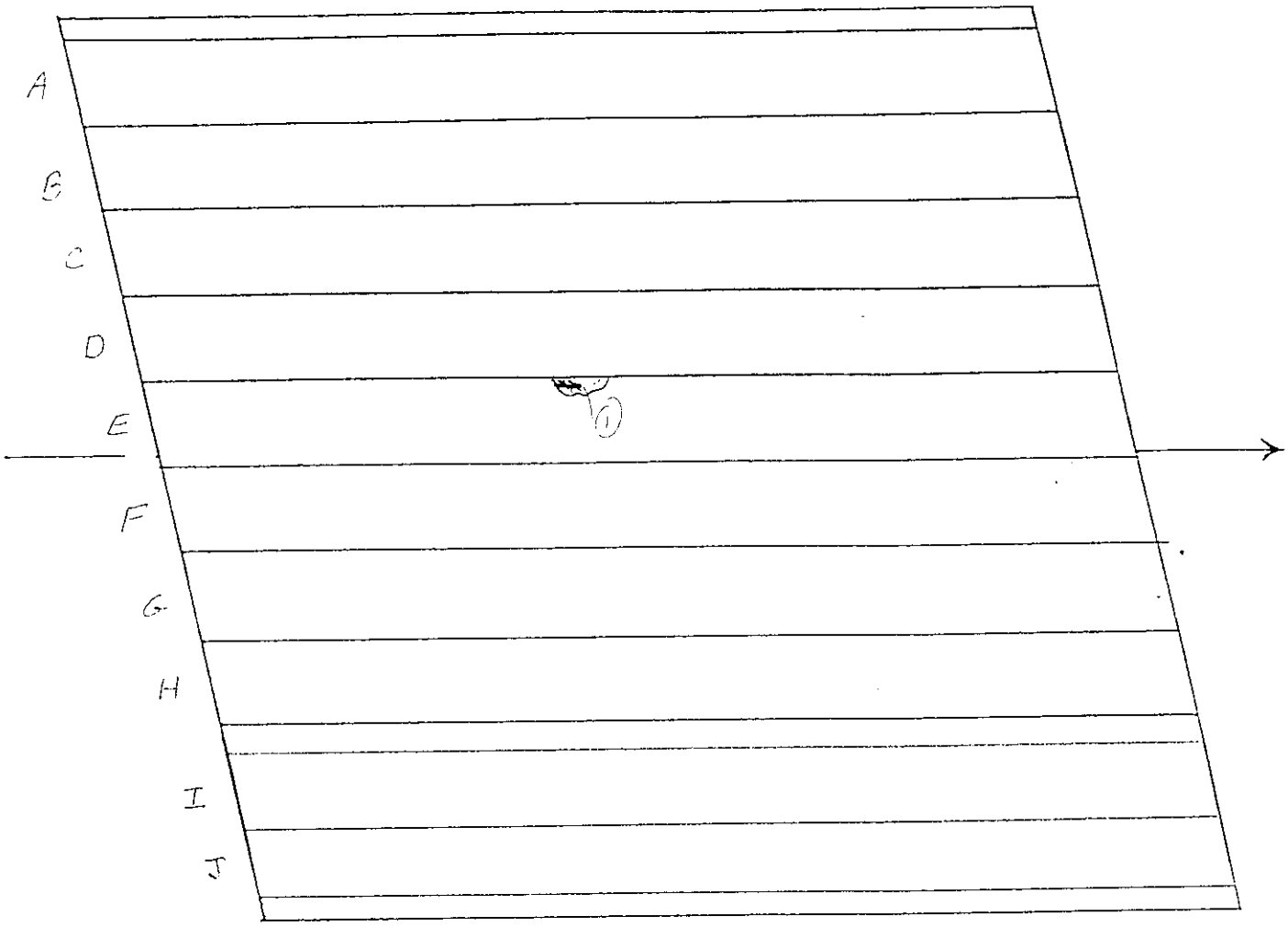


Bottom Slab = 3

Br. = 80-I40-12.93 R.L.

Deck	N/V
Diaph.	N/A
Beams	Good

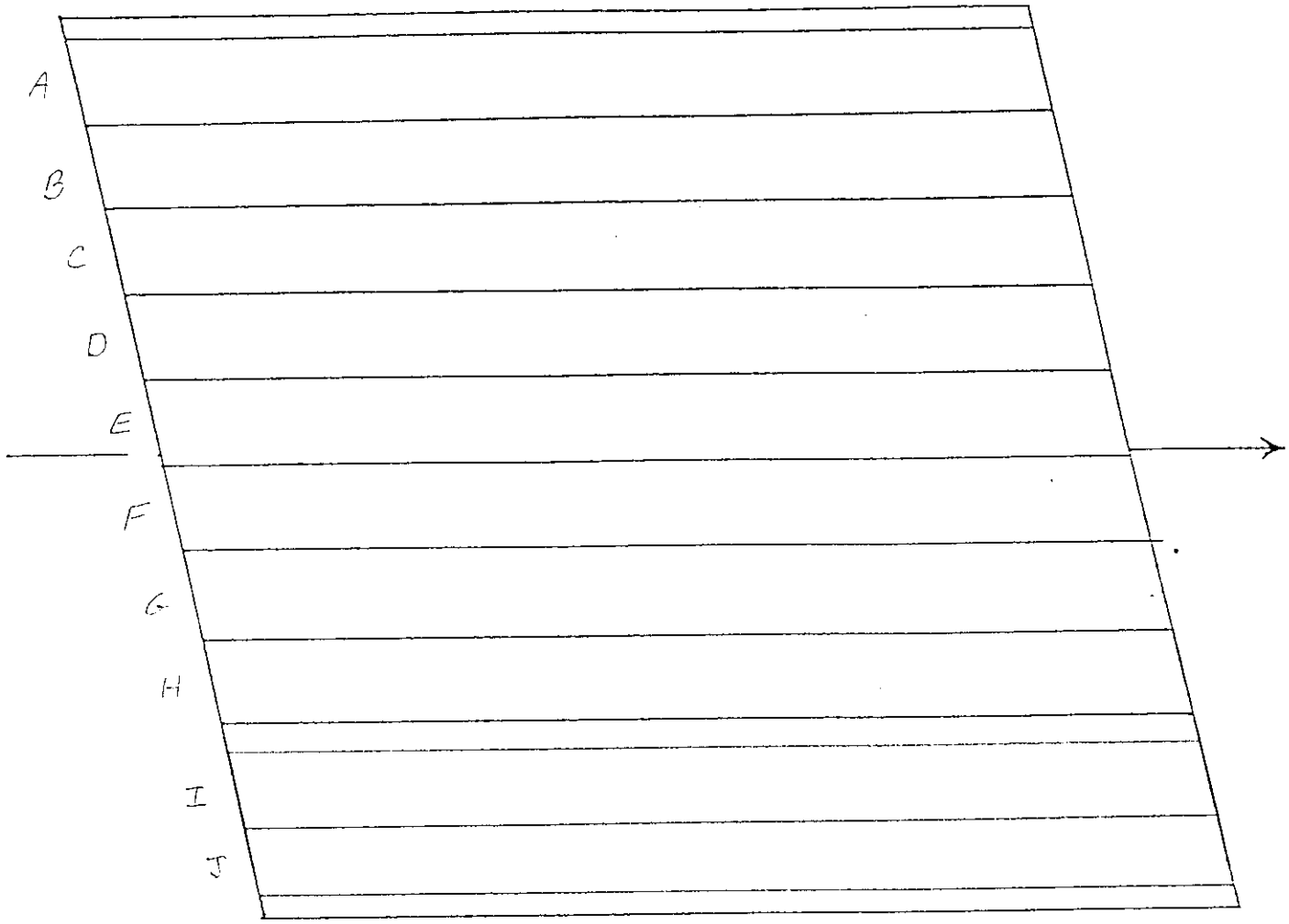
6-15-94 MD



Bottom Slab = 4 Br. = 80-I40-12.93 R.L.

Deck	N/V	
Diaph.	N/A	
Beams	Good	① Break-out approx. 2'x1'x7" dp w/ exp. steel

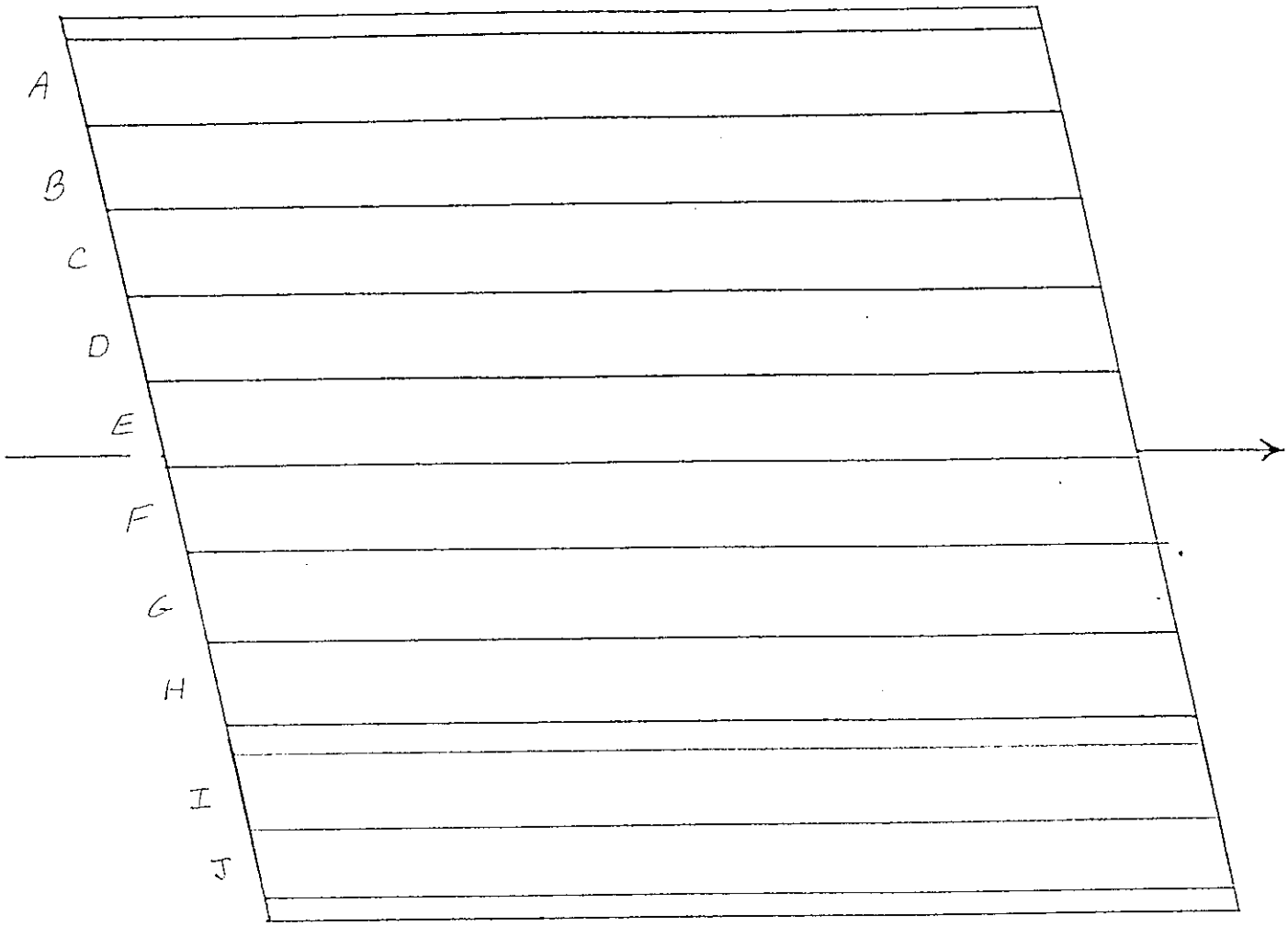
6-15-14MD



Bottom Slab = 5 Br. = 80-I40-12.93 R.L.

Deck	N/V	
Diaph.	N/A	
Beams	Good	mod. leaching between beams

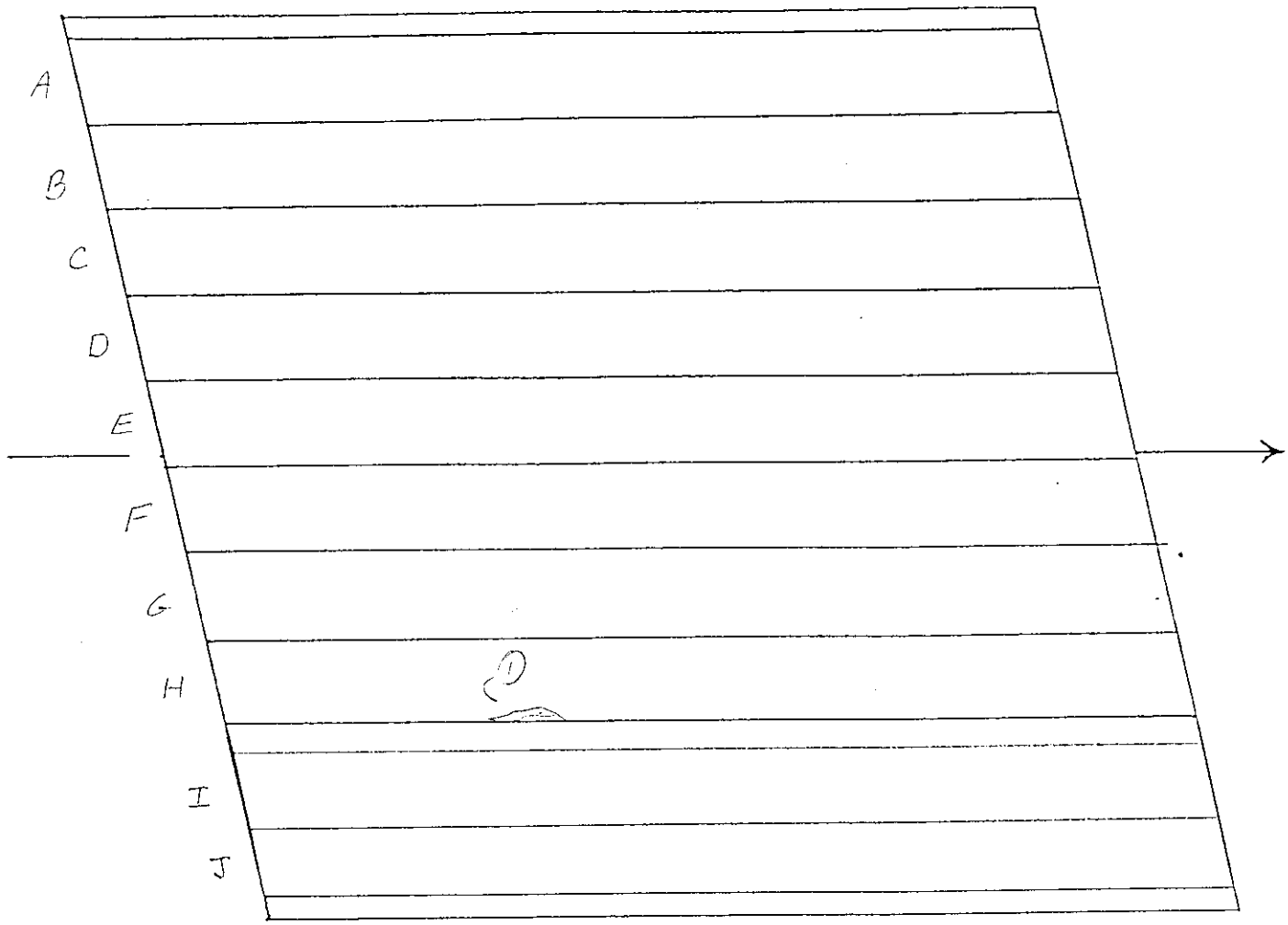
6-15-17 MW



BOTTOM SLAB = Ca Br. = 80-I40-12.93 R.L.

Deck	N/V	overhangs are good
Diaph.	N/A	
Beams	Good	

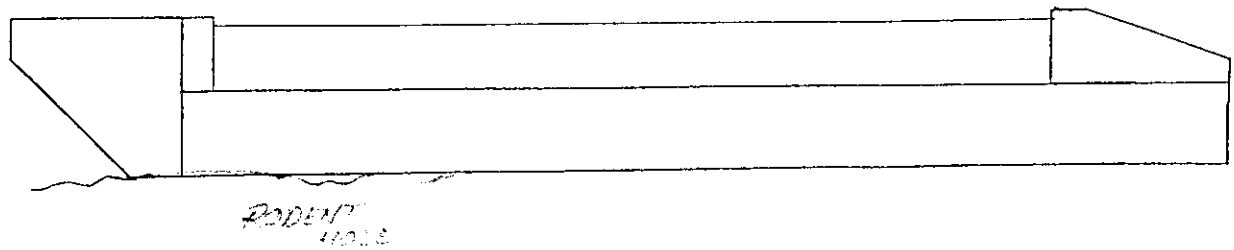
6-13-19 MD



Bottom Slab = 7 Br. = 80-I40-12.93 R.L.

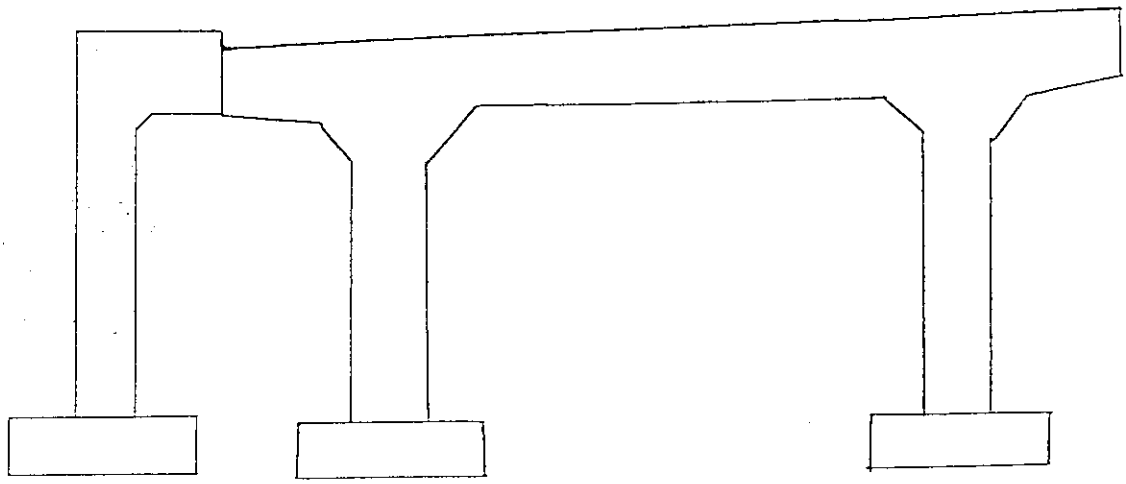
Deck	N/V	overhangs are good
Diaph.	N/A	
Beams	Good	(1) 2' x 6" x 7" dp break-out w/ steel

6-15-11

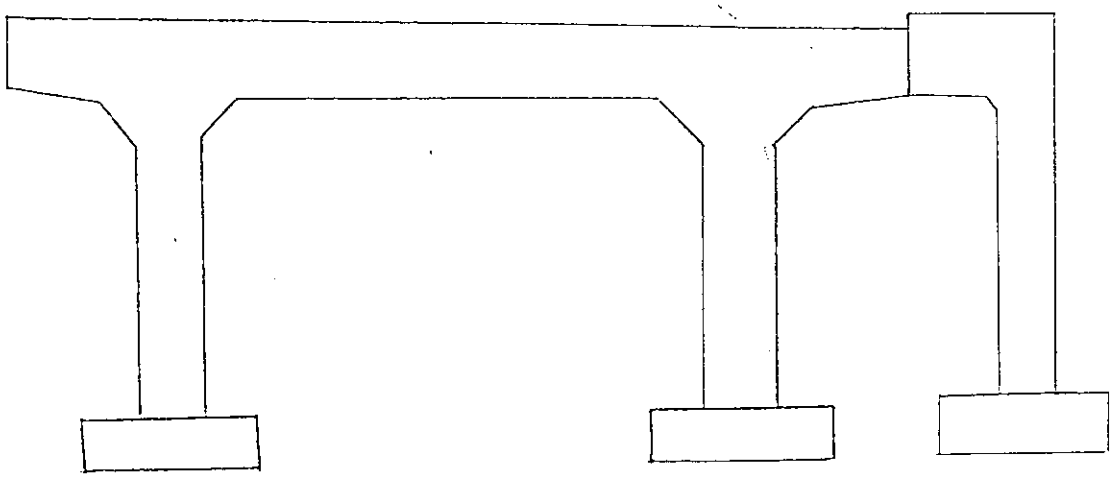


ABUT # 1 Br. # 80-I40-12.93 R.L.

BACKwall	NV
CAP	G
wingS	G
BearingS	G



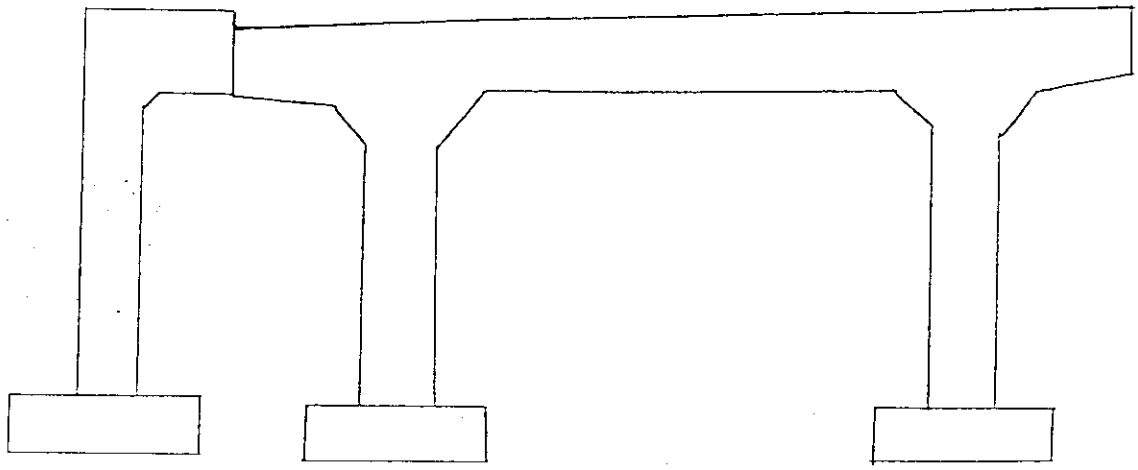
Back



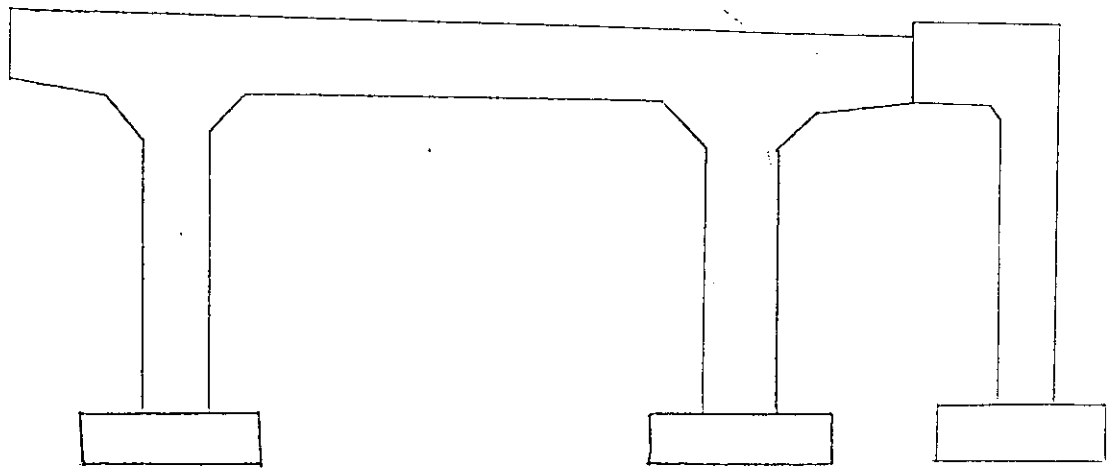
Front

Bent #1 Br. # 80-I40-12.93 R.L.

CAP	G
Columns	G
FTG.	NV
Footings	G



Back

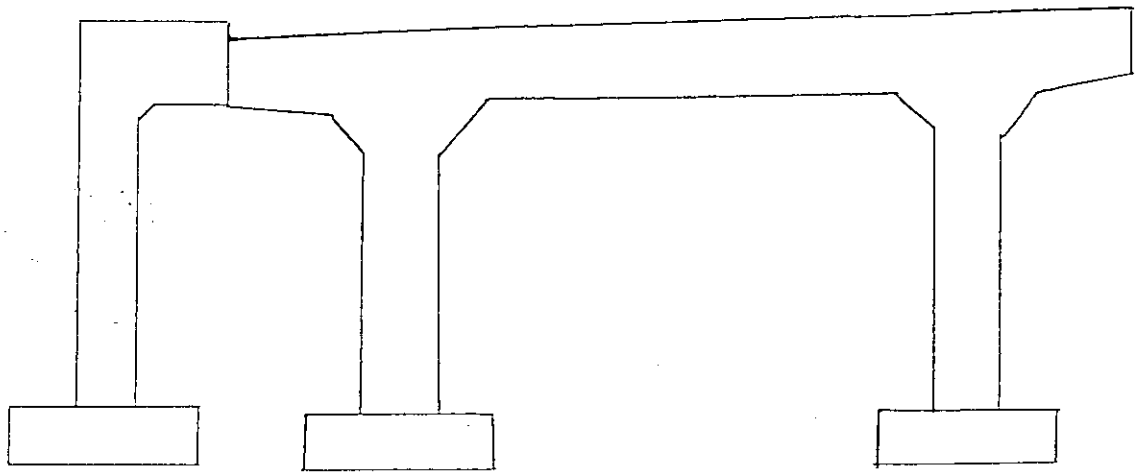


Front

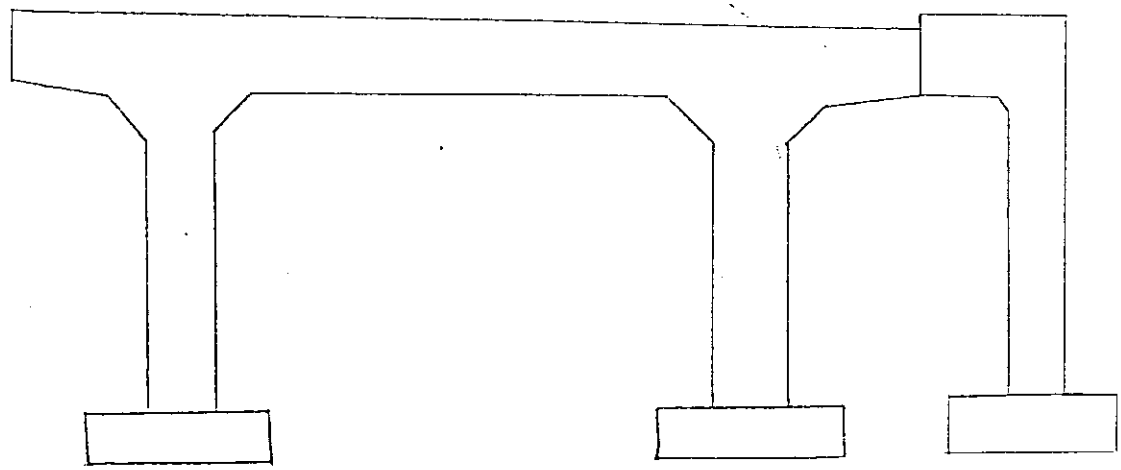
Bent = 2 Br. = 80-I40-12.93 R.L.

CAP	G
Columns	G
FTG.	NV
Bearings	G

6-13-11
D



Back

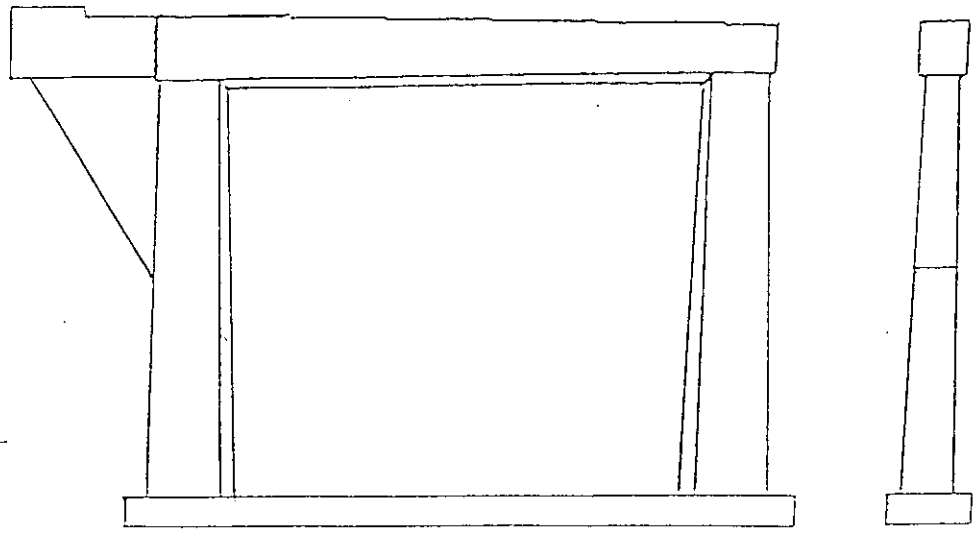


Front

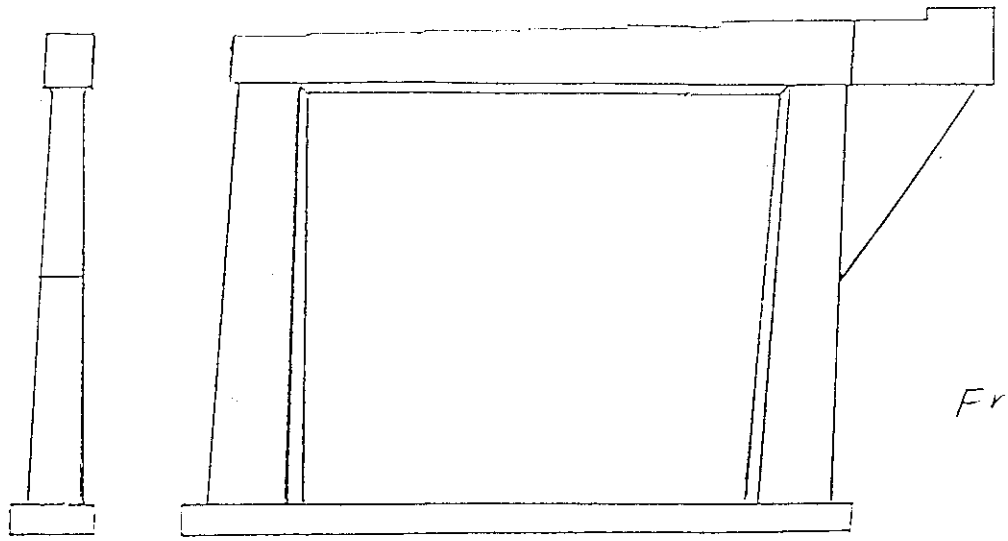
Bent = 3 Br. = 80-I40-12.93 R.L.

CAP	G
Columns	G
FTG.	NV
Bearings	G

6-15-11
R



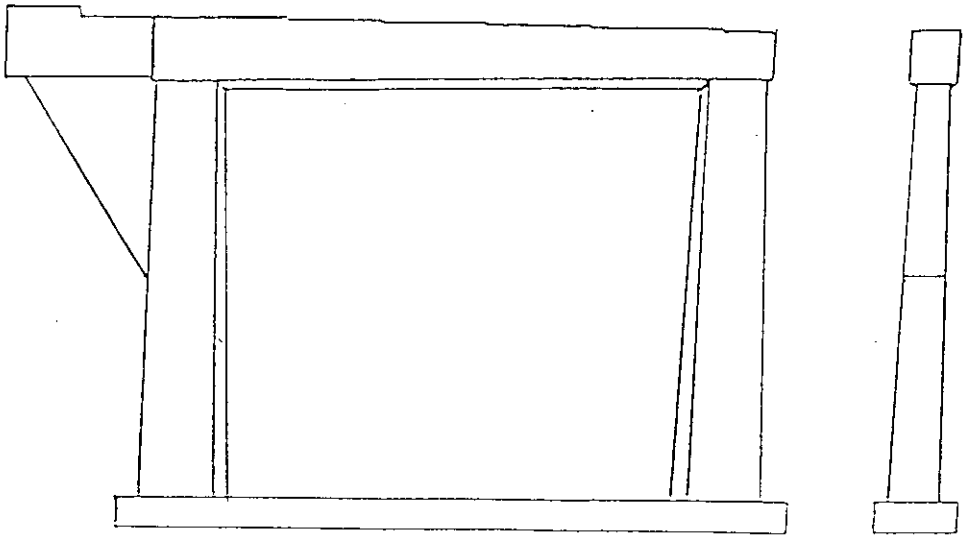
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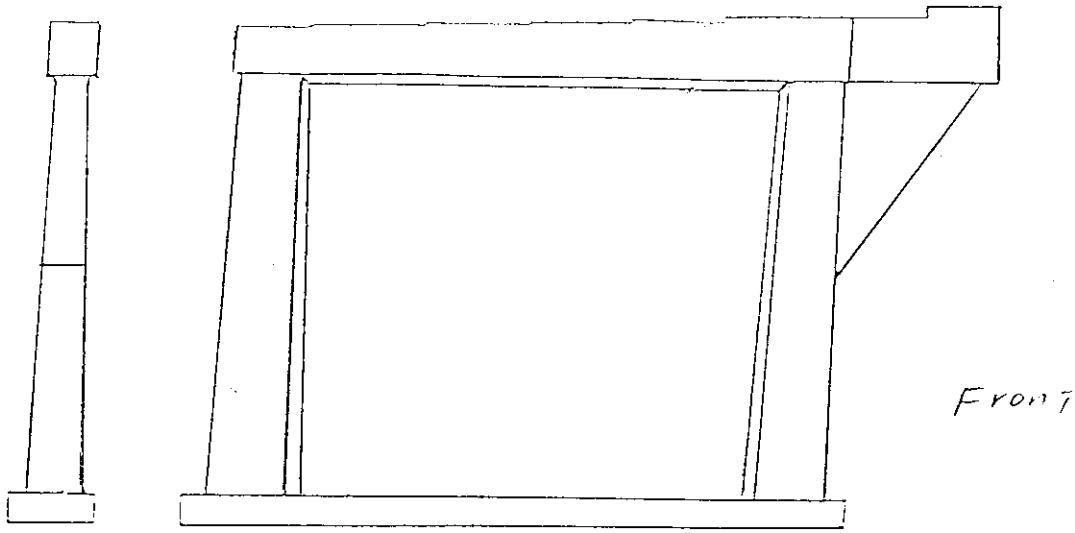


FRONT

Pier # 1 Br. # 80-I40-12.93 R.L.

CAP	G
wall	G
FTG.	NV
Bearings	G

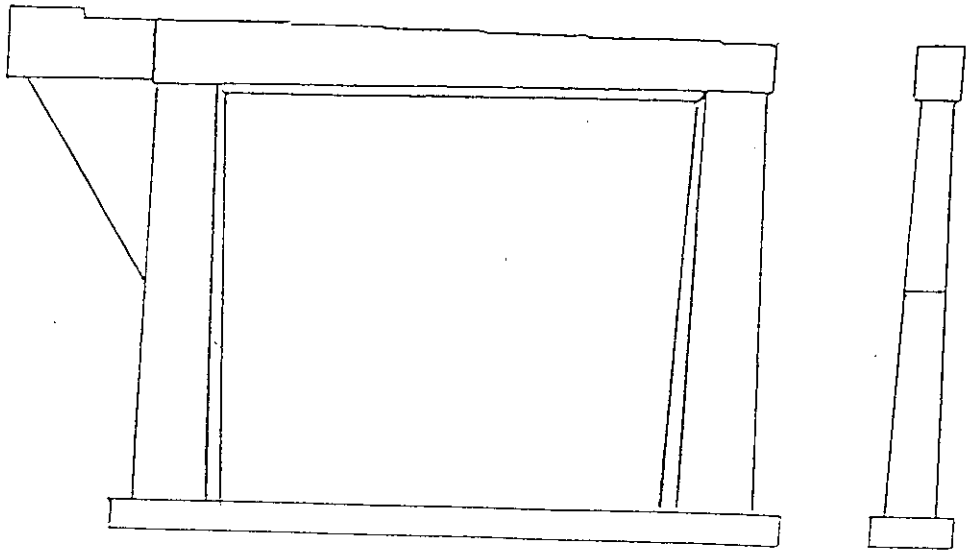


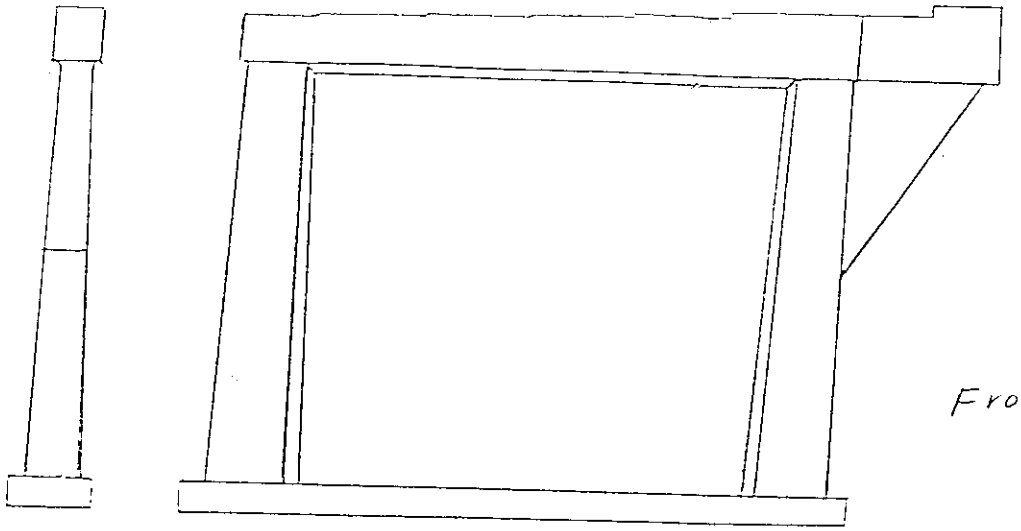


Pier # 2 Br. # 80-I40-12.93 R.L.

CAP	G
wall	G
FTG.	NV
Bearings	G

6-15-99
P



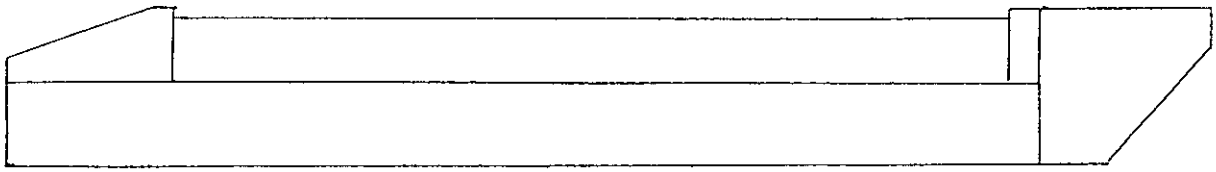


Pier # 3

Br. # 80-I40-12.93 R.L.

CAP	
wall	
FTG.	
Bearings	

6-13-77



ABUT # 2 Br. # 80-I40-12.93 R.L.

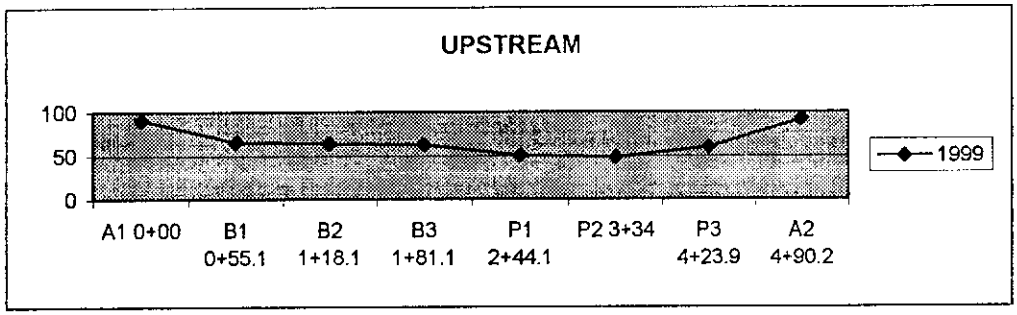
BACKWALL	NV
CAP	
WINGS	
BEARINGS	

80-I40-12.93 Rt. 6/15/99

ASSUMED ELEV.-- 100 Ft.-- TOP OF PARAPET

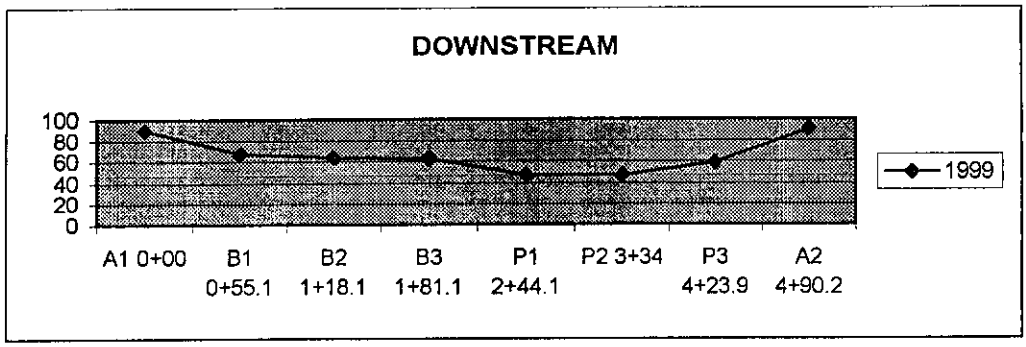
STATION ELEV.

	1999
A1 0+00	91.5
B1 0+55.1	66.5
B2 1+18.1	64.6
B3 1+81.1	63.3
P1 2+44.1	51.1
P2 3+34	48.2
P3 4+23.9	60.6
A2 4+90.2	91.8



STATION ELEV.

	1999
A1 0+00	90.1
B1 0+55.1	67.7
B2 1+18.1	63.6
B3 1+81.1	62.7
P1 2+44.1	47.2
P2 3+34	47.4
P3 4+23.9	59
A2 4+90.2	90.8



STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
BRIDGE INSPECTION AND REPAIR OFFICE
NASHVILLE, TENNESSEE 37243-0338

September 23, 1998

Mr. Terry Milburn
Region 3 Construction Engineer
6601 Centennial Boulevard
Nashville, TN. 37243-0360

Project: 80001-4160-04
Contract No. 5404
I-40 (W.B.L.) Bridges over Hickman Creek (L.M. 10.37) and Caney Fork River (L.M. 12.91)
Smith County

Dear Mr. Milburn:

Enclosed are eight (8) large-size and five (5) half-size copies of revised drawings BR-32-89, 90, 93, and 94.

The revision consists of changing footnotes, scope of work, expansion joint repair details and notes.

Please furnish the Contractor and Resident Engineer with the necessary copies.

Yours very truly,

Terry D. Mackie

(for)
Hollis Tackitt
Civil Engineering Manager 2
Bridge Inspection and Repair

Enclosure

CC: Wayne Seger
Paul Sharp ✓
Files

RECEIVED
SEP 23 1998
D.O.T.
BRIDGE INSPECTION & REPAIR

PLS

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
BRIDGE INSPECTION AND REPAIR OFFICE
NASHVILLE, TENNESSEE 37243-0338

August 17, 1998

Mr. Paul Sharp
Bridge Inv. & Repair Office
Suite 1200
J. K. Polk Bldg.

RE: Contract Maintenance
July 24, 1998 Letting

Mr. Sharp;

Enclosed are two (2) 1/2 size sets of repair details of in house and/or consultant repair projects for the July 24, 1998 Letting.

COUNTY	BRIDGE NO.	DESCRIPTION	DONE BY & CONTRACT NO.
KNOX	47-SR115-5.29	SR115 / TENNESSEE RIVER & NEYLAND DR.	IN HOUSE
	(WORKING DAYS - ON OR BEFORE DECEMBER 22, 1998)		NO. 5367
McNAIRY	55-SR57-8.25	SR57 / CYPRESS CREEK	
" "	55-SR117-3.50	SR117 / GRAHAM CREEK	
" "	55-SR199-2.68	SR199 / HUGGINS CREEK	
	(WORKING DAYS - ON OR BEFORE NOVEMBER 1, 1998) (NO PLANS - SCOUR)		CONSULTANT NO. 5374
SCOTT	76-SR297-14.26	SR297 / NORFOLK SOUTHERN R.R.	IN HOUSE
	(WORKING DAYS - ON OR BEFORE NOVEMBER 2, 1998)		NO. 5397
SHELBY	79-SR204-7.52	SR204 / LOOSAHATCHIE RIVER	
	(WORKING DAYS - ON OR BEFORE NOVEMBER 15, 1998) (NO PLANS - SCOUR)		CONSULTANT NO. 5402
SMITH	80-I40-10.37	I-40 / HICKMAN CREEK	
" "	80-I40-12.91	I-40 / CANRY FORK RIVER	IN HOUSE
	(WORKING DAYS - ON OR BEFORE OCTOBER 31, 1998)		NO. 5404
TROUSDALE	85-SR10-4.36	SR10 / ROCKY CREEK	IN HOUSE
	(WORKING DAYS - ON OR BEFORE DECEMBER 20, 1999)		NO. 5409

WILLIAMSON 94-SR46-1.41 SR46 / HARETH RIVER
" " 94-1928-0.97 1928 (THOMPSON STATION RD.)
/ I-65 CONSULTANT
(WORKING DAYS - ON OR BEFORE JUNE 1.1999) NO. 5415

If we can be of any further assistance, please contact us.

Yours very truly,

(for)
Hollis Tackitt
Civil Engineering Manager 2
Bridge Inspection and Repair

WJS:hl
Enclosure
cc: file

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
BRIDGE INSPECTION AND REPAIR OFFICE
NASHVILLE, TENNESSEE 37243-0338

AUGUST 30, 1996

Mr. Hollis Tackitt
Bridge Inv. & Repair Office
Suite 1200
J. K. Polk Bldg.

RE: Contract Maintenance
August 2, 1996 Letting

Mr. Tackitt;

Enclosed are two (2) 1/2 size sets of repair details of in house and/or consultant repair projects for the August 2, 1996 Letting.

COUNTY	BRIDGE NO.	DESCRIPTION	DONE BY & CONTRACT NO.
BENTON	3-SR391-3.26	SR391 / CANE CREEK	
" "	3-SR391-3.45	SR391 / CSX RAILROAD	CONSULTANT
" "	3-SR391-4.09	SR391 / CYPRESS CREEK	NO. 4340
BENTON	3-SR1-12.65	SR1 / TENNESSEE RIVER	IN HOUSE NO. 4341
CHESTER	12-SR5-8.50 L.& R.	SR5 / TURKEY CREEK	
" "	12-SR100-14.05	SR100 / SOUTH FORK OF FORKED DEER RIVER	IN HOUSE NO PLANS SCOUR
McNAIRY	55-SR15-2.87	SR15 / WOODYVILLE CREEK	NO. 4346
HAYWOOD	38-SR1-19.88	SR1 / BRANCH OF MUD CREEK	
" "	38-SR1-23.64	SR1 / MUD CREEK	
MADISON	57-SR1-10.64 L.& R.	SR1 / JOHNSON CREEK	IN HOUSE
" "	57-SR1-10.84 L.& R.	SR1 / BRANCH OF JOHNSON CREEK	NO PLANS SCOUR NO. 4369
JEFFERSON	45-SR92-3.12	SR92 / MUDDY CREEK	CONSULTANT NO. 4376
McNAIRY	55-SR15-11.63	SR15 / CYPRESS CREEK	CONSULTANT NO. 4387

SHELBY	79-5155-1.48	5155 (SHADY GROVE RD.) / I-40	CONSULTANT NO. 4401
SHELBY	79-SR14-26.26	SR14 / OVERFLOW OF LOOSAHATCHIE RIVER	
" "	79-SR14-26.56	SR14 / OVERFLOW OF LOOSAHATCHIE RIVER	
" "	79-SR14-26.88	SR14 / LOOSAHATCHIE RIVER	IN HOUSE
" "	79-SR14-27.22	SR14 / OVERFLOW LOOSAHATCHIE RIVER	NO PLANS SCOUR NO. 4402
SMITH	80-I40-12/93	I-40 / CANEY FORK RIVER	IN HOUSE NO. 4403
UNION	87-SR33-15.68	SR33 / CLINCH RIVER	IN HOUSE NO. 4409
WEAKLEY	92-SR190-25.04	SR190 / LITTLE CANE CREEK	IN HOUSE
" "	92-SR190-30.60	SR190 / MAYO CREEK	NO PLANS SCOUR NO. 4415

If we can be of any further assistance, please contact us.

Yours very truly,

Thomas E. Quinn

(for)
W. P. Wasserman
Civil Engineering Director

WJS:hl
Enclosure
cc: file

BRIDGE PROJECTS LET TO CONTRACT

(August 2, 1996)

REGION 3

Robertson County (Contract No. 4395) Bridge No. 74-SR49-20.61

Project No.: BR-STP-49(5), 74008-3214-94

The construction of one (1) prestressed concrete box beam bridge over S.R. 49 over South Fork Red River (L.M. 20.61) including grading and drainage, paving with bituminous materials (plant mix), installation of guardrail, and pavement marking.

Working days - On or before April 15, 1997
Contractor - Brown Builders, Inc. (Springfield, TN)

Smith County (Contract No. 4403) Bridge No. 80-I40-12.93

Project No.: S.P. 80001-4158-04

The repair of the bridge on I-40 east bound lanes over the Caney Fork River (L.M. 12.93) including expansion joint and bridge deck repairs and sealant.

Working days - On or before November 15, 1996
Contractor - Mid-State Construction Company, Inc. (Livingston, TN)

SM00 13 COST ESTIMATE $_____

Station 295+91.96	Length 512'-1"	Designer Wilbur Smith

Description (Span Data)- Prestressed Concrete Box Bm. (Side x Side) with concrete deck slab.
67'-6½", 3@ 67'-0", 2@ 90'-0" and 63'-6½"

Roadway Description	Out-to Out 44'-0"	Width Between Curbs or Bridgerails 42'-0"	
Sidewalk Width N/A	Rail Type M-28-1	Median Description N/A	Slab Depth 8½"
X-Slope or S.E.= 0.015 6/1		Min. Vert. Clearance N/A	
Horizontal Curve N/A Lt/Rt		Skew 73°40' Lt/(Rt)	Exp.Jts. (Y)/N
Hydraulic Drainage Area = 352.0 Sq.Mi.		Deck Area= 22,532 Sq.Ft	
Beam Spacing 3'-0" (C.L. to C.L.)		Cantilever Distance 3'-0" (C.L. to E.O.S.)	

Beam Size Info.	Steel N/A	Other
	Concrete: Type N/A I-Beam *OR* D 27/39 x W 36/36 Box Beam	
Abutment Type Stub		Pier Type Solid Shaft & Multi-Post Bent
Footing Type Piles		Footing Type Pile & Spread

LIST OF DRAWINGS

Items	Dwg. No.	Items	Dwg. No.
Layout	M-214-60	Bill of Steel	M-214-83
General Notes	M-214-62	" "	M-214-84
Estimated Quantities	M-214-63	" "	M-214-84A
Repair Details	M-214-64	" "	M-214-85
Superstructure Details	M-214-67	Sounding Sketch	M-214-86
Prestressed Box Bm. Details	M-214-69		
" " " "	M-214-70		
" " " "	M-214-71		
" " " "	M-214-72		
Abut. Details	M-214-77		
" "	M-214-78		
" "	M-214-79		
Bent Details	M-214-80		
Pier Details	M-214-81		
Brg. Replacement Details	M-214-81A		
Pier Details	M-214-82A		

Remarks: (old layout no., widening info., route class, etc.)
Widening - Old layout no. - G-15-45

Bridge I.D. No. 80 10040 00026	Project Limits: From S.R. 153 (Gordonsville Interch.) to the Putnam Co. Line

Project	County	Route	L.M.	Loading	Roadway	Location:
IR-40-5(91)257	Smith	I-40		HS2044	42'-0"	I-40 WBL/Caney Fk. River

SMOO 13 COST ESTIMATE $_____

Station 296+14.68	Length 490'-1 3/8"	Designer Wilbur Smith

Description (Span Data) Prestressed Concrete Box Bm. (Site x Site) with concrete deck slab
55'-0 11/16", 3@63'-0", 2@90'-0" & 66'-0 11/16"

Roadway Description	Out-to Out 44'-0"	Width Between Curbs or Bridgerails 42'-0"	
Sidewalk Width N/A	Rail Type M-28-1	Median Description N/A	Slab Depth 8 1/2"
X-Slope or S.E.= 0.015 6%		Min. Vert. Clearance N/A	
Horizontal Curve N/A Lt/Rt		Skew 71° Lt/(Rt)	Exp.Jts. (Y)/N
Hydraulic Drainage Area = 352.0 Sq.Mi.		Deck Area= 21,565 Sq.Ft	
Beam Spacing 3'-0" (C.L. to C.L.)		Cantilever Distance 3'-0" (C.L. to E.O.S.)	
Beam Size Info.	Steel N/A	Other	
	Concrete: Type N/A I-Beam *OR* D 27/39 x W 36/36 Box Beam		
Abutment Type Stub		Pier Type Solid Shaft & Multi Post Bent	
Footing Type Piles		Footing Type Pile & Spread	

LIST OF DRAWINGS

Items	Dwg. No.	Items	Dwg. No.
Layout	M-214-61	Bill of Steel	M-214-83
General Notes	M-214-62	" "	M-214-84
Estimated Quantities	M-214-63	" "	M-214-84A
Repair Details	M-214-64	" "	M-214-85
Superstr. Details	M-214-68	Sounding Sketch	M-214-87
Prestressed Box Bm. Details	M-214-73		
" " " "	M-214-74		
" " " "	M-214-75		
" " " "	M-214-76		
Abuts. Details	M-214-77		
" "	M-214-78		
" "	M-214-79		
Bent Details	M-214-80		
Pier Details	M-214-81A		
Pier 1 & 3	M-214-82		
Pier 2	M-214-82A		

Remarks: (old layout no., widening info., route class, etc.)
Widening - Old layout no. - G-15-36

Bridge I.D. No. 80 1004000025	Project Limits: From S.R. 153 (Cordonsville Intch.) to Putnam Co. Line					
Project IR-40-5(61)247	County Smith	Route I-40	L.M.	Loading HS2044	Roadway 42'-0"	Location: I-40 EBL/Caney FK. River

ESTIMATED QUANTITIES

	ITEM NO.	DESCRIPTION	UNIT	80-140-10.37 OVER HICKMAN CREEK	80-140-12.91 OVER CANEY FORK RIVER	TOTAL QUANTITIES
	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 (A)	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 SPECIFCATIONS. 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.

WAYNE J. SEGER REGISTERED ENGINEER AGRICULTURE COMMERCE NO. 19224 STATE OF TENNESSEE 9/98

PROJECT NO.	YEAR	SHEET NO.
80001-4160-04	1998	2

REVISIONS

NO.	DATE	BY	BRIEF DESCRIPTION
1	9-16-98	TDM	REVISED FOOTNOTE 1
2	9-29-98	TDM	CHANGED QUANTITY

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

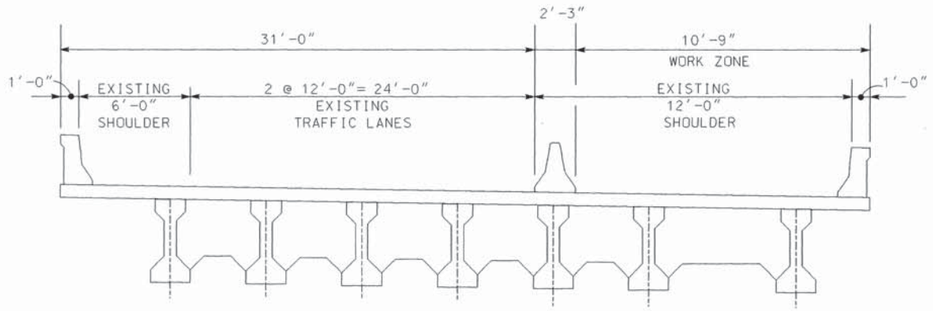
ESTIMATED QUANTITIES & GENERAL NOTES
INTERSTATE 40 (W.B.L.) OVER
HICKMAN CREEK AND CANEY FORK RIVER
BRIDGE NO. 80-140-10.37
BRIDGE NO. 80-140-12.91
SMITH COUNTY
1998

BR-32-90

PROJECT NO.	YEAR	SHEET NO.
80001-4160-04	1998	

REVISIONS

NO.	DATE	BY	BRIEF DESCRIPTION

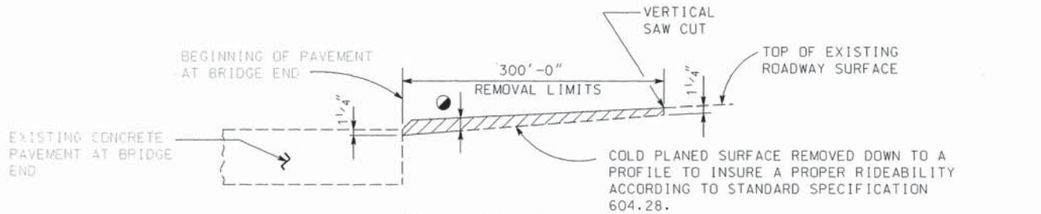


TYPICAL CROSS-SECTION

PHASE I

LOOKING WEST

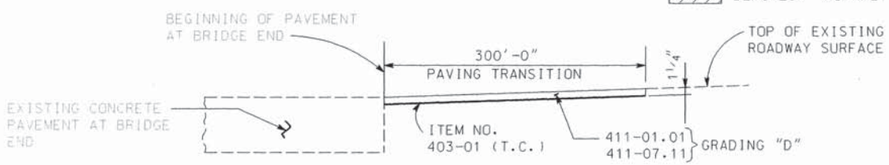
NOTE: AFTER PHASE I CONSTRUCTION IS FINISHED, THE APPROACH ASPHALT SHALL BE COLD-PLANED AND A NEW 1¼" ASPHALT OVERLAY PLACED. THE NEW ASPHALT OVERLAY SURFACE SHALL MEET PROPER RIDEABILITY STANDARDS. TEMPORARY TRAFFIC CONTROL WILL BE NEEDED DURING THE COLD PLANING AND REPAVING OPERATIONS.



ASPHALT REMOVAL

◔ DENOTES: VARYING ASPHALT THICKNESS (1¼" TO 2½") 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.



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

BR-32-91

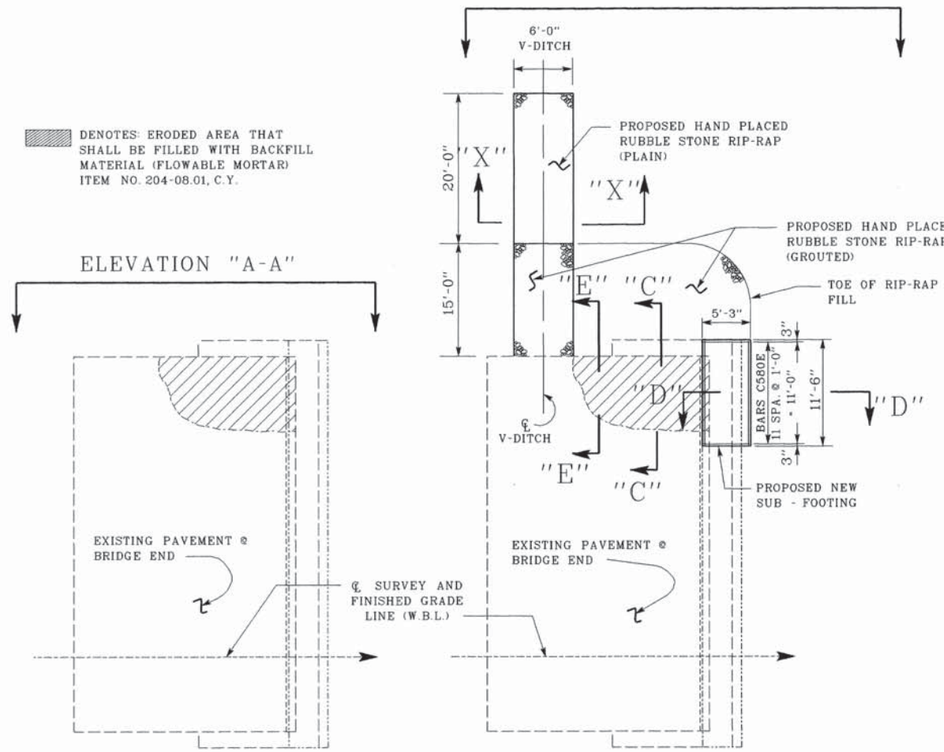
DESIGNED BY Terry Mackie DATE April 1998
DRAWN BY Don Kimber DATE May 1998
SUPERVISED BY W. Seger & T. Christianson DATE April 1998
CHECKED BY W. Seger & Terry Mackie DATE May 1998

PROJECT NO.	YEAR	SHEET NO.
80001-4160-04	1998	

REVISIONS

NO.	DATE	BY	BRIEF DESCRIPTION

ELEVATION "B-B"

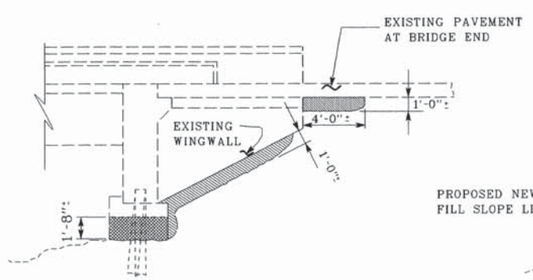


SHOWING AREA TO REPAIR

SHOWING PROPOSED REPAIRS

PLAN VIEW OF EXISTING ABUTMENT NO.1 (W.B.L.)

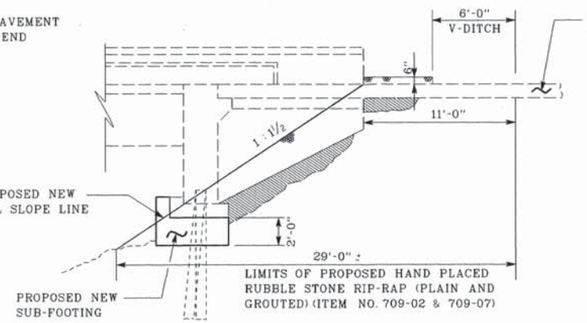
HIGH EARLY STRENGTH CONCRETE (SUB-FOOTING REPAIRS): THE MIX TO MEET THE REQUIREMENTS OF THE STANDARD SPECIFICATIONS, CLASS 'A', EXCEPT THE CEMENT CONTENT SHALL BE A MINIMUM OF 714 LBS., THE WATER CEMENT RATIO SHALL BE A MAXIMUM OF 0.40, NO FLY ASH REPLACEMENT WILL BE PERMITTED, AND THE MINIMUM 28 DAY 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. COST OF THE CONCRETE SHALL BE INCLUDED IN ITEM NO. 604-03.01.



DENOTES: AREAS REMOVED BY EROSION THAT SHALL BE BACKFILLED WITH BACKFILL MATERIAL (FLOWABLE MORTAR), ITEM NO. 204-08.01, C.Y.

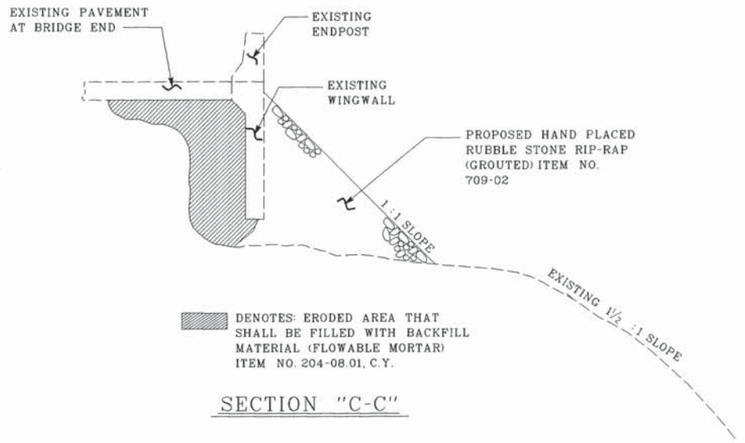
DENOTES: AREA UNDER EXISTING FOOTING WHERE NEW FOOTING SHALL BE INSTALLED.

ELEVATION "A-A"



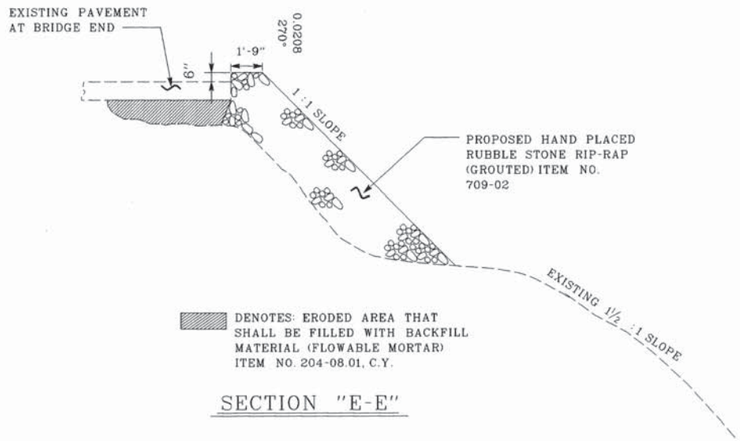
DENOTES BACKFILL MATERIAL (FLOWABLE MORTAR) ITEM NO. 204-08.01, C.Y.

ELEVATION "B-B"



DENOTES: ERODED AREA THAT SHALL BE FILLED WITH BACKFILL MATERIAL (FLOWABLE MORTAR) ITEM NO. 204-08.01, C.Y.

SECTION "C-C"

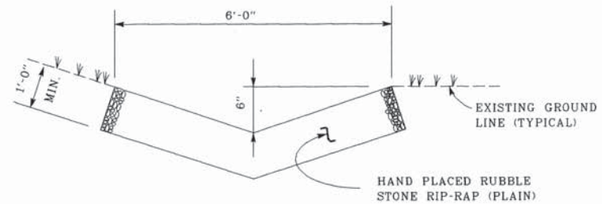


DENOTES: ERODED AREA THAT SHALL BE FILLED WITH BACKFILL MATERIAL (FLOWABLE MORTAR) ITEM NO. 204-08.01, C.Y.

SECTION "E-E"

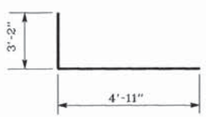
NOTES:

1. BEFORE ADDITION OF NEW SUB-FOOTING, EXISTING BACKFILL SHALL BE EXCAVATED SUFFICIENT TO EXPOSE FRONT AND BACK OF ALL PILES WITHIN LIMITS OF NEW SUB-FOOTING.
2. CONSTRUCT ABUTMENT SUB- FOOTING USING CLASS 'A', f'c-3,000 psi CONCRETE. SUB-FOOTING SHALL BE CAST AS INDICATED IN DETAILS THIS SHEET, UNLESS OTHERWISE DIRECTED BY THE ENGINEER. COST OF MATERIAL AND LABOR SHALL BE INCLUDED IN THE BID ITEMS 604-03.01 AND 604-10.18.
3. REESTABLISH FILL SLOPE TO LINES SHOWN.
4. AFTER EXCAVATION AND PLACING RIP-RAP, THE CONTRACTOR SHALL GRADE AND REPAIR ALL ENDFILL AND SIDE FILL SLOPE AREAS INCLUDING SEEDING AND SODDING. COST OF ALL GRADING, SEEDING AND SODDING SHALL BE INCLUDED IN ITEMS BID ON.



SECTION "X-X"

SHOWING DETAILS OF NEW DRAINAGE DITCH. COST OF PLACING NEW DRAINAGE DITCH AS SHOWN IN SECTION X-X ABOVE TO BE INCLUDED IN ITEM NO. 709-07, RUBBLE STONE RIP-RAP (PLAIN), C.Y. APPROXIMATELY 35'-0" ± LINEAR FEET OF NEW DRAINAGE DITCH WILL BE REQUIRED AT ABUTMENT NO. 1 SIDE FILL SLOPE AREAS. SEE PLAN VIEW OF EXISTING ABUTMENT NO. 1 THIS SHEET.



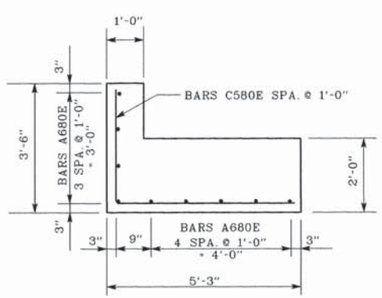
TOTAL NO. REQUIRED = 12

BARS C580E



TOTAL NO. REQUIRED = 9

BARS A580E



SECTION "D-D"

(SHOWING PROPOSED SUB-FOOTING ONLY)

BAR BENDS

WAYNE J. SEGER REGISTERED ENGINEER AGRICULTURE & COMMERCE NO. 19224 STATE OF TENNESSEE

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

BRIDGE REPAIR DETAILS INTERSTATE 40 OVER HICKMAN CREEK BRIDGE NO. 80-I40-10.37 SMITH COUNTY 1998

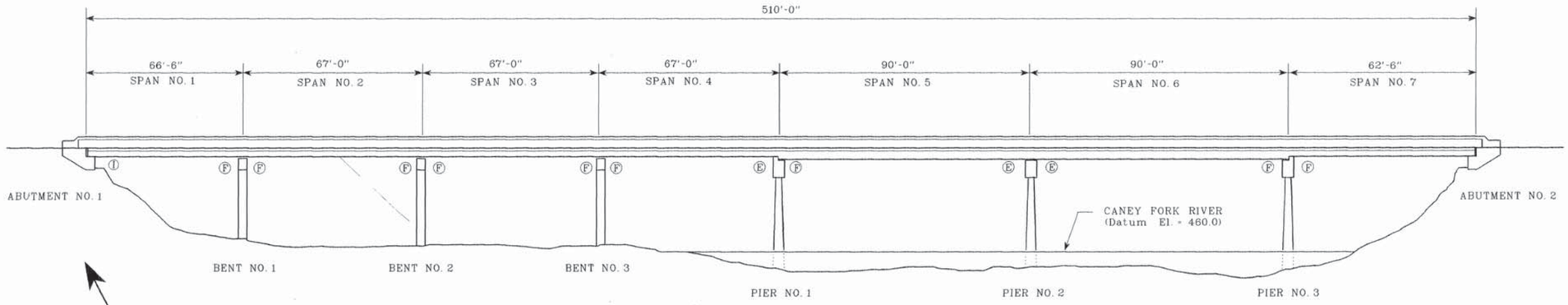
BR-32-92

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

PROJECT NO.	YEAR	SHEET NO.
80001-4160-04	1998	

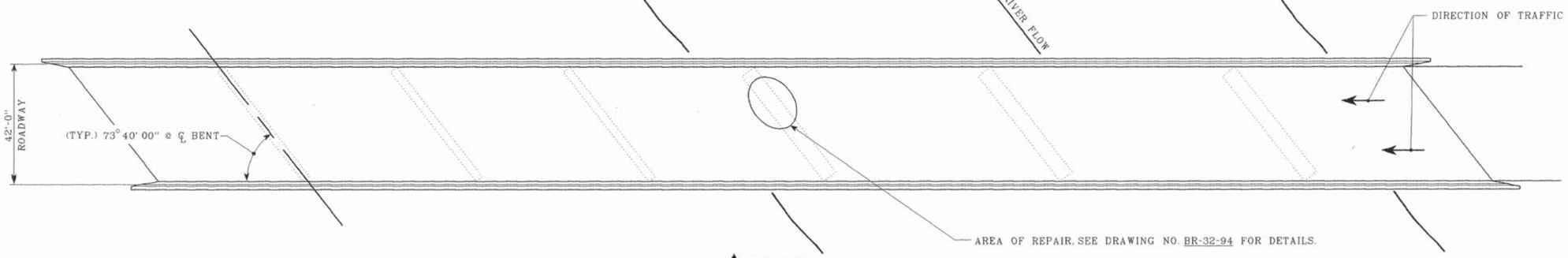
REVISIONS

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



ELEVATION

ⓘ DENOTES: INTEGRAL
Ⓕ DENOTES: FIXED
Ⓔ DENOTES: EXPANSION



ⓘ PLAN

ⓘ 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).

ⓘ② 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.

WAYNE J. SEGER — REGISTERED ENGINEER — AGRICULTURE — COMMERCE — NO. 19224 — STATE OF TENNESSEE — 1998

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

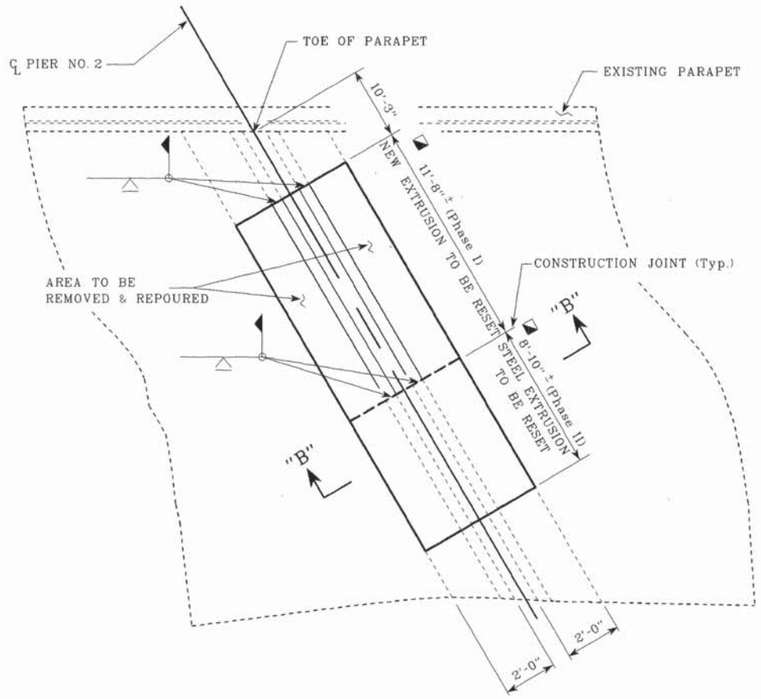
BR-32-93

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

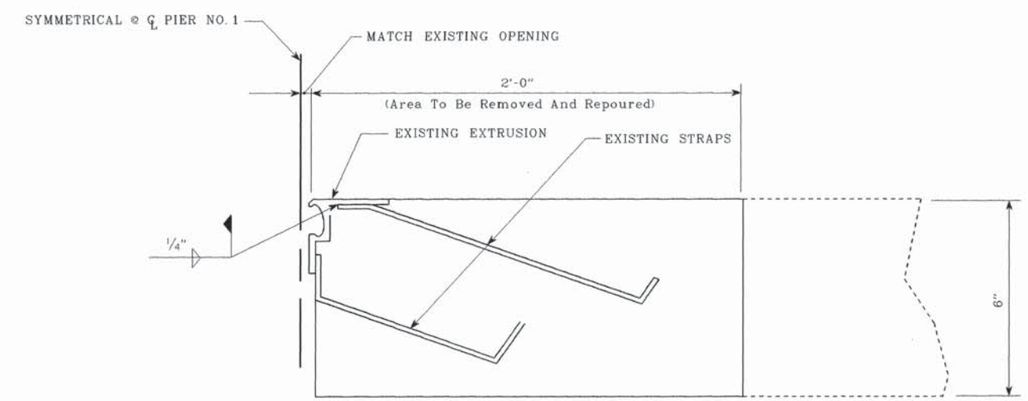


① DETAIL "A"

(Limits Of Extrusion To Be Reset)

◪ DENOTES:

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



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.

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 SAHLL 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.

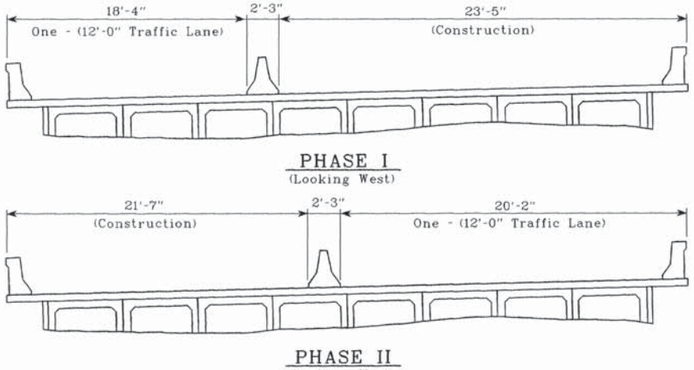
① NOTES:

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.



PHASE I
(Looking West)

PHASE II
(Looking West)

① TYPICAL CROSS SECTION

(Westbound Lane)

NOTE:

THIS PHASE CONSTRUCTION SEQUENCE REQUIRES NO NEW STRIPING.

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

WAYNE J. SEGER
REGISTERED ENGINEER
AGRICULTURE
COMMERCE
NO. 19724
STATE OF TENNESSEE

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

BRIDGE REPAIR DETAILS
INTERSTATE 40 (W.B.L.) OVER CANEY FORK RIVER
BRIDGE NO. 80-140-12.91
SMITH COUNTY
1998

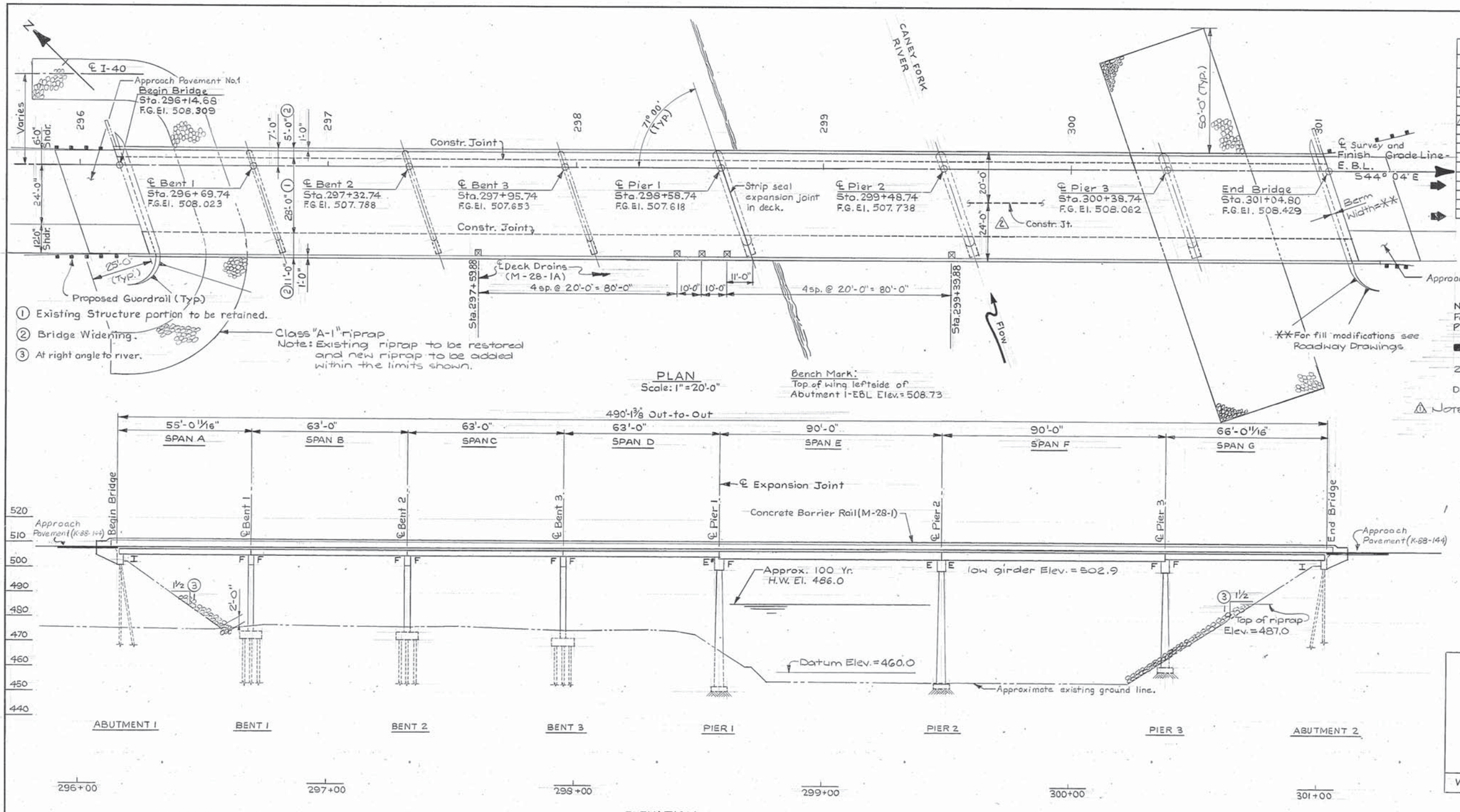
BR-32-94

CONSTR. 80001-3152-44

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

REVISIONS

NO.	DATE	BY	BRIEF DESCRIPTION
1	6/12/89	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 leftside of Abutment 1-EBL Elev. = 508.73

Notes:
For Roadway Data not shown, see Roadway Plans.

➡ - Denotes direction of one lane of traffic.

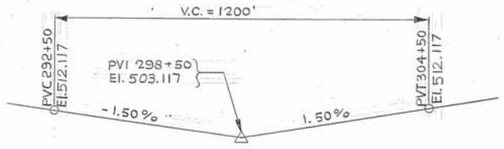
2009 ADT = 30,000

Design Velocity = 65 MPH

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

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

296+00 297+00 298+00 299+00 300+00 301+00



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

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

Hydraulic Design Data:
Drainage Area = 352.0 sq. miles
Design Discharge (100 yr.) = 30 000 cfs
Area Below 100 yr. Elevation = 6700 sq. ft
Velocity (100 yr.) = 4.5 fps
Roadway Overtopping Elevation = 507.2

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

Note: Conditions of fixity are shown for new beams.

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

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

WILLIAM S. HUFFSTETLER
REGISTERED ENGINEER
No. 013818
STATE OF TENNESSEE
William S. Huffstetler
WILBUR SMITH ASSOCIATES

BRIDGE NO. 2
SHEET 2 OF 2

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAYS

LAYOUT OF BRIDGE WIDENING
I-40 E.B.L OVER
CANEY FORK RIVER
STA. 296+14.68 E.B.L. I-40
BRIDGE ID# EBL 80100400025
SMITH COUNTY
1989

DESIGNED BY	DWT	DATE	10-88
DRAWN BY	HJK	DATE	10-88
SUPERVISED BY	WSH	DATE	10-88
CHECKED BY	HJZ	DATE	10-88

CORRECT _____ ENGINEER OF STRUCTURES.

APPROVED _____ DIRECTOR OF HIGHWAYS

M-214-61

CLASS "A", GRADING "D" = 40 · C.Y.

U.S.A. No:DTNOXX016A

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DTNOXX

LIST OF DRAWINGS

	DRAWING NO.	LATEST REV. DATE
Layout of Bridge Widening - W.B.L.	M-214-60	
Layout of Bridge Widening - E.B.L.	M-214-61	
General Notes	M-214-62	
Estimated Quantities	M-214-63	
Repair Details	M-214-64	
Superstructure Details - W.B.L.	M-214-67	
Superstructure Details - E.B.L.	M-214-68	
Prestr. Conc. Box Beam span A - W.B.L.	M-214-69	
Prestr. Conc. Box Beam spans (B-D) - W.B.L.	M-214-70	
Prestr. Conc. Box Beam span E&F - W.B.L.	M-214-71	
Prestr. Conc. Box Beam span G - W.B.L.	M-214-72	
Prestr. Conc. Box Beam span A - E.B.L.	M-214-73	
Prestr. Conc. Box Beam spans (B-D) - E.B.L.	M-214-74	
Prestr. Conc. Box Beam span E&F - E.B.L.	M-214-75	
Prestr. Conc. Box Beam span G - E.B.L.	M-214-76	
Abutment Details (1)	M-214-77	
Abutment Details (2)	M-214-78	
Abutment Details (3)	M-214-79	
Bents 1 - 3	M-214-80	
Piers 1 & 3 - W.B.L.	M-214-81	
Piers 1,2 & 3	M-214-81A	
Piers 1 & 3 - E.B.L.	M-214-82	
Pier 2 - W.B.L. & E.B.L.	M-214-82A	
Bill of Steel	M-214-83	
Bill of Steel	M-214-84	
Bill of Steel	M-214-84A,151B (2)	
Bar Bending Details	M-214-85	
Sounding Sketch - W.B.L.	M-214-86	
Sounding Sketch - E.B.L.	M-214-87	
** (1)(2) CONSTRUCTION SEQUENCE	M-214-89A	
Existing Bridge Drawings	G-15-36 thru G-15-53	
** Note: Only Existing Bridge Drawing G-15-36 & G-15-45 to be printed with Plans	G-10-99	
Note: Drawing No's M-214-65 & M-214-66 not used.		
* (2) Pier No.1 Bearing Replacement Details	M-214-81AA	

STANDARD DRAWINGS

Std. Reinf. Bar Support	K-80-14	08-27-76
Misc. Abutment & Drainage Details	K-85-150	06-25-87
Pneumatic Concrete Repairs	K-86-4	02-05-73
Reinf. Concrete Pavement at Bridge Ends	K-86-144	07-17-81
*Bridge Railing-Concrete Parapet	M-28-1	11-01-88
*Concrete Median Barrier and Parapet Drains	M-28-1A	09-08-87
*Stripseal Expansion Joint new construction	M-156-108,108A	02-21-89
*Std. Pile Details	M-174-150	

*Asterisk denotes these standards to be printed with plans.

LIST OF SPECIAL PROVISIONS

SPECIAL PROVISION NUMBER	Date LATEST REVISION	LIST OF SPECIAL PROVISIONS
105A	07-21-87	Regarding Approval of Shop Drawings
602	~~09-30-86~~ 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~~	~~02-20-86~~	~~Regarding Side Drains and Bridge Drains~~
709	05-04-87	Regarding Machined Rip-Rap
907A	03-25-85	Regarding Epoxy Coated Reinforcing Steel

(1)
(2) Stage Construction - Abutments Bridge No. 2,4 & 5 M-214-79A

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

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 +/-1/2" for spacing and -1/8" or + 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. Pruyn 7575Q, DFP 23 lb. Hard-bite, VERSA-BITE 20 lb. VB310, or I.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. Slippage 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. 36440, 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 - Urethene 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.

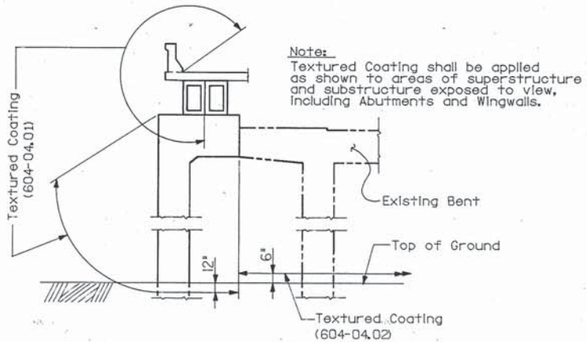
TESTING MECHANICAL COUPLERS: In addition to the requirments stated elswhere within these plans, the Contractor will prepare, under field conditions, two (2) specimens of each size utilized. This will be in addition to required certifications. Each coupled rebar in the specimens shall be a minimum of 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

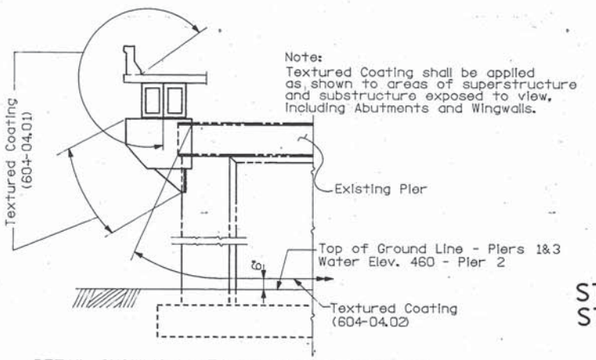
PROJECT NO.	YEAR	SHEET NO.
IR-40-5(91)257	1989	

REVISIONS

NO.	DATE	BY	BRIEF DESCRIPTION
1	6/12/89	WHP	ADDED DWG. NO. M-214-89A
2	6/16/89	WHP	AMND DWG NO M-214-81AA
(2)	9/18/89	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 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-214-62

B.S.A. No: DTNOXX017A

(1) NOTE: Square yard for pavement at bridge ends shall be measured as road surface area and shall include all joint material, notch for roadway drain, surface finish as per SP604 and any other incidentals necessary for complete installation.

(2) Excavation based on existing ground.

(3) NOTE: Cost of 25 bridge deck drains to be included in the unit price bid for Class 'A' Concrete (Bridge Deck). For Drain Locations see Dwg. No. M-214-60 & M-214-61.

(4) NOTE: Cost of Elastomeric pads, rubber bonding cement, and dowel bars to be included in the cost of prestressed beam.
⚠ For bearing pad details see dwg M-214-70 and 74

(5) NOTE: The cost of 14 insert assemblies and 56-7/8" dia. x 4" hex head bolts, (A307), to be included in Item M-28-1.

(6) NOTE: The cost of removing the exterior portion of the existing slab, portions of the existing abutment, and the bridge rail shall be included in the unit price bid for Item 202-04.02.

(7) All reinforcing steel in the parapet shall be epoxy coated. Cost to be included in the price bid for Item 620-03.

(8) The expansion joint at Pier 1 shall be in accordance with Special Provision 604S and Standard Drawing M-156-108.9 108A. The total required movement is 4" Inches. Shop drawings shall be submitted to the Engineer of Structures for Approval.

(9) The cost of removing any existing asphalt overlay shall be included in the unit price bid for scarifying.

(10) NOTE: Cost of polyethylene sheeting and all miscellaneous items necessary for installation to be included in cost of perforated Pipe.

(11) Jacking at Pier No.1 for existing Bearing replacement, see Drawing No. M-214-82AA ⚠ for Details.

(12) BRIDGE ID# W.B.L. 80I00400026 (Sta. 295+91.96)
BRIDGE ID# E.B.L. 80I00400025 (Sta. 296+14.68)

(13) For sketch and notes on Deck Repair see Drawing No. M-214-64.

(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 bridgerail 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 705-10.22~~

(18) Includes quantities for Abutment Sub-beam, see Dwg. M-214-64.

CONSTR. NO. 80001-3152-44

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

REVISIONS

NO.	DATE	BY	BRIEF DESCRIPTION
1	6/16/89	WSH	Revised Notes
⚠	8/1/89	DWT	Revised Quantities
⚠	9/14/89	DWT	REVISED QUANTITIES

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	710-03.01	710-03.02	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	(6)(12)(15) L.S.	(2) C.Y.	(12)(15) LB.	(3) C.Y.	(18) ⚠ LB.	(18) C.Y.	⚠ LB.	(1) S.Y.	⚠ S.Y.	S.Y.	(13)(14) S.Y.	(13)(14) C.F.	(13)(14) S.Y.	(8) L.F.	(9) S.Y.	L.F.	(4) L.F.	(4) L.F.	(5)(7) L.F.	(13)(14) S.F.	(17) L.F.	(14) TON	(10) L.F.	(10) L.F.	(11)(12) L.S.
WEST BOUND LANE	Superstructure				499	77,944				1450	400							659	359					62	12	
	Abutment 1		44		14	1801	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													
	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	1801	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	1803	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															
	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	1803	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

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAYS

ESTIMATED QUANTITIES

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

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

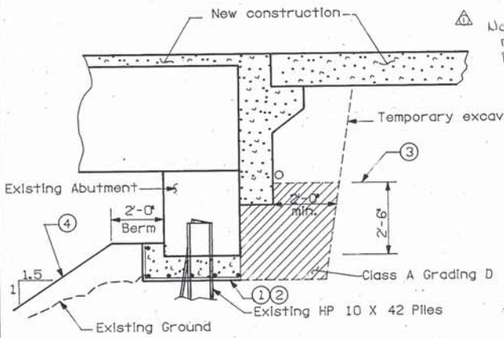
CORRECT _____ ENGINEER OF STRUCTURES
APPROVED _____ DIRECTOR OF HIGHWAYS

M-214-63

ZFL458.240TNDOXX017.DGN 08:22 08-FEB-1989 DTNOXX

25-SR-2-TDTNDXX304.FIGS01
DTNDXX
8-MAR-1989 15:09

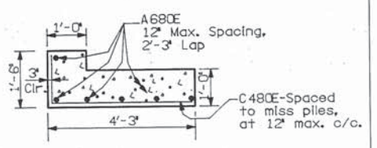
W.S.A. No.: DTNDXX304



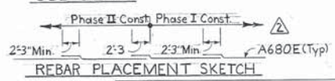
SECTION THRU W.B.L. ABUTMENT 1 & 2

SECTION THRU E.B.L. ABUTMENT 1 & 2

⚠ Note: Temporary shoring may be required to accomplish phase construction



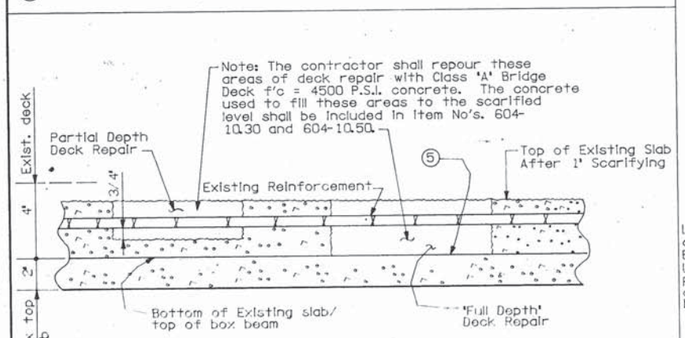
DETAILS OF NEW ABUTMENT SUB-BEAM



REBAR PLACEMENT SKETCH

NOTES:

1. 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.
2. 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.
3. Backfill to limit shown with Class A Grading D Material. Install backfill and underdrain in compliance with Std. Drawing K-85-150.
4. Reestablish fill slope to lines shown.

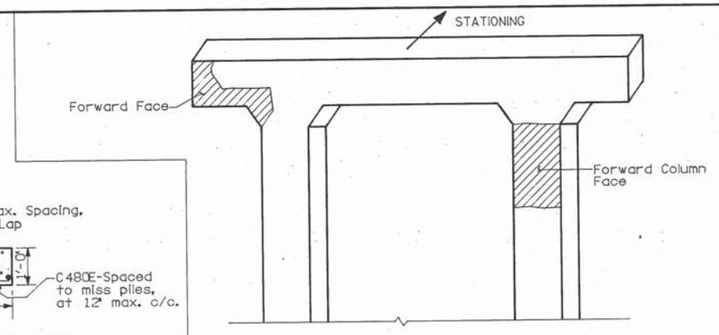


DETAIL SHOWING FULL AND PARTIAL DEPTH DECK REPAIR

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 personnal 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, Brige 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.

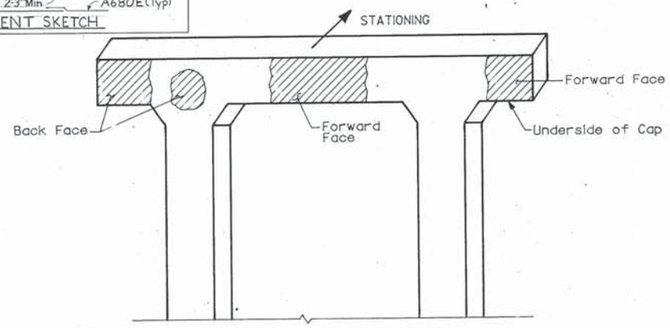
5 The Contractor is advised to use extreme care during any attempted full-depth removal, to avoid damaging existing box beam surfaces. Max. depth of box slab chipping shall not exceed ½ inch.

DESIGNED BY	WSH	DATE 1/89
DRAWN BY	TLK	DATE 1/89
SUPERVISED BY	WSH	DATE 1/89
CHECKED BY	WSH	DATE 3/89



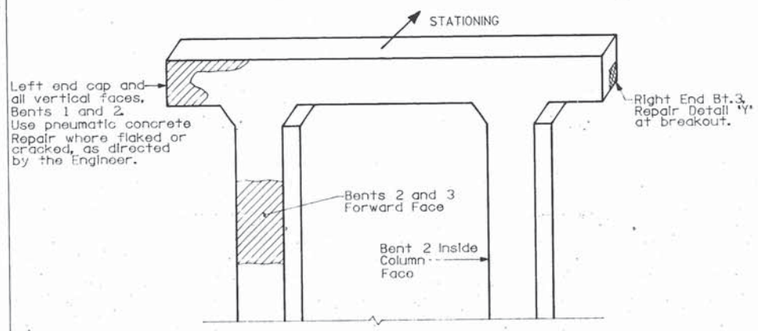
E.B.L. BENT 1 REPAIR AREAS

(Looking in Direction of Stationing)



E.B.L. BENT 2 REPAIR AREAS

(Looking in Direction of Stationing)



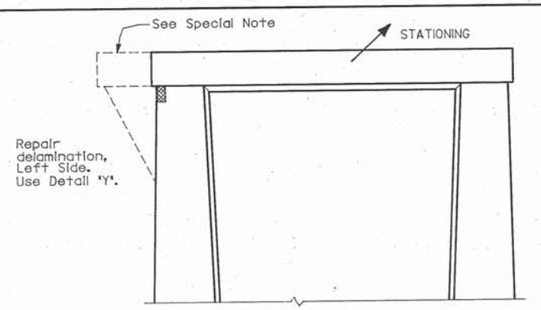
W.B.L. BENT 1,2 & 3 REPAIR AREAS

(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.

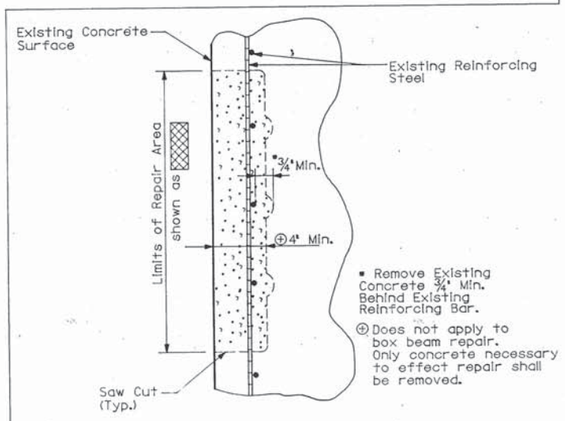
Note: See Tennessee Standard Specifications Section 622 Pneumatically Placed Concrete and Standard Drawing K-86-4.

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

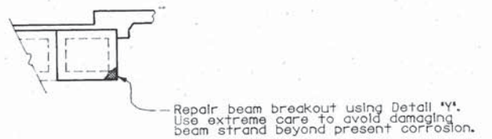
NOTES FOR DETAIL Y:

Care shall be taken when removing existing deteriorated concrete in designated repair areas so as not to damage the existing reinforcing steel. All exisiting 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 calender 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.Y..



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	BRIEF DESCRIPTION
1	6/16/89	WJHP	Revised Notes
⚠ 2	9/14/89	DWT	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 bracket. However, the necessary surface 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.

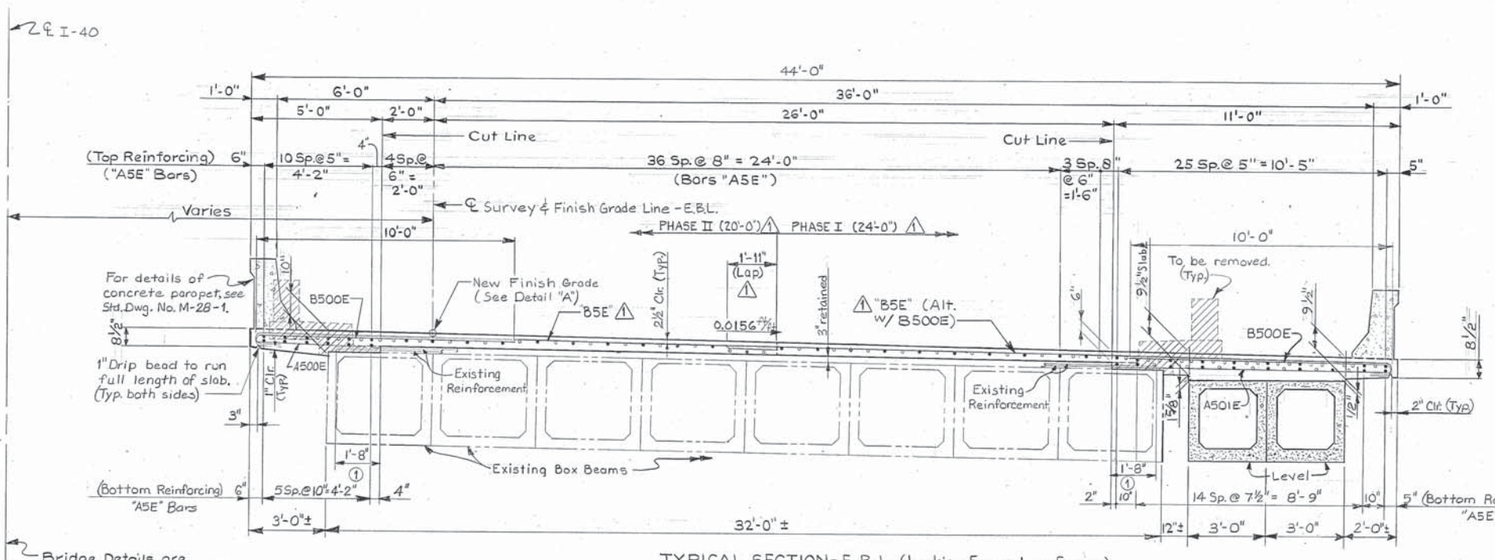
STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAYS

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

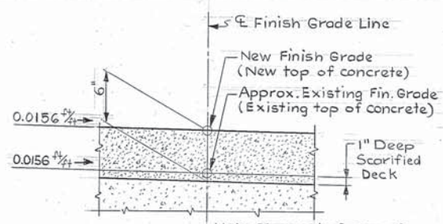
CORRECT _____ ENGINEER OF STRUCTURES

APPROVED _____ DIRECTOR OF HIGHWAYS

M-214-64



TYPICAL SECTION - E.B.L. (Looking Forward on Survey)
(W.B.L. Opposite Hand)
Scale: 3/8" = 1'-0"



Note: The cost of removing any exist. asphalt overlay shall be included in the unit price bid for scarifying.

DETAIL "A"
No Scale

Note:

● - Continuous longitudinal reinforcement.

○ - Non-continuous longitudinal reinf.

① Retain 1'-8" extension of transverse existing deck reinforcing into new concrete. Any existing deck bar which cannot be preserved shall be replaced at the same location by drilling and grouting a 2'-8" length # 4 dowel bar, embedded 12" in existing concrete, at no additional cost to the Department. Do not use precast deck panels.

Constr. No. 80001-3152-44

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

REVISIONS

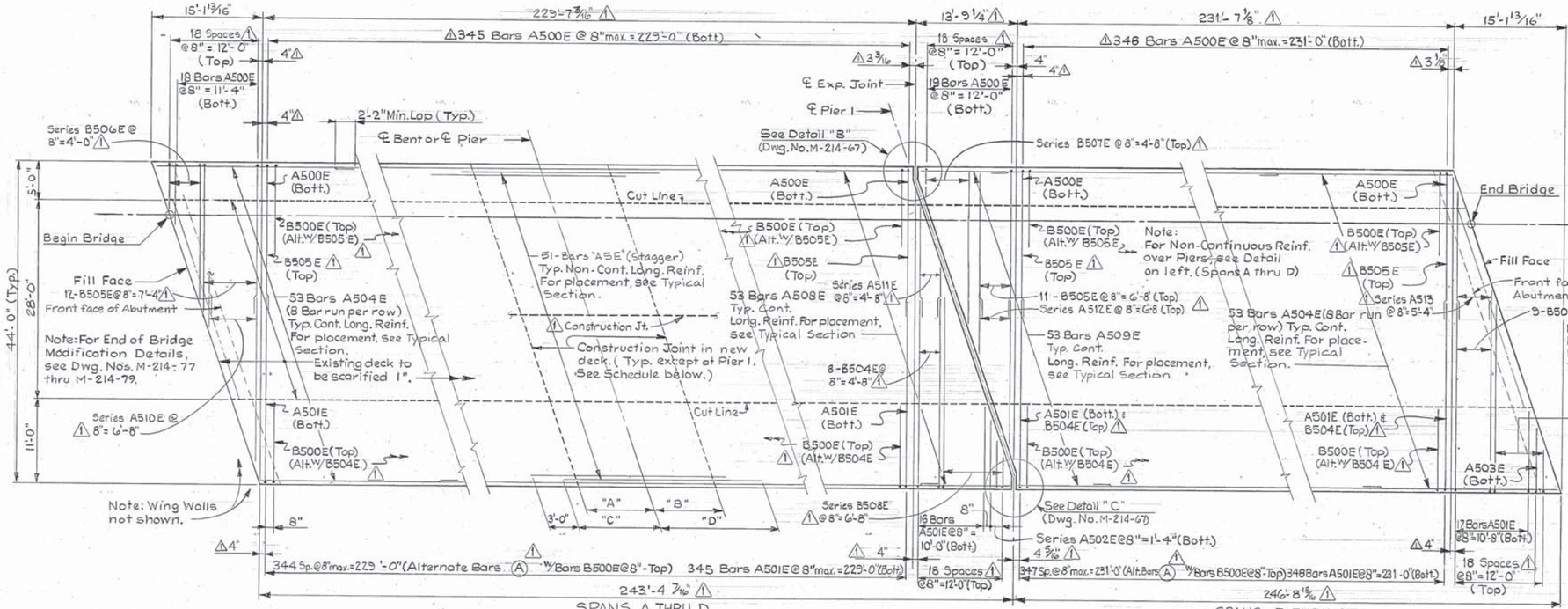
NO.	DATE	BY	BRIEF DESCRIPTION
⚠1	9/14/89	DWT	REVISIONS FOR CONSTR. JT.

Notes:
Top part of Abutments shall be poured concurrently with deck slab and included in the quantity for item 604-01.12 given on abutment sheets.
When pouring deck, provisions shall be made for setting reinforcing steel for parapet. The parapet shall not be poured until the slab is poured and cured.

When pouring wingwalls, provisions shall be made for setting reinforcing steel for wingpost and parapet. For details of wingpost and parapet, see Standard Dwg. No. M-28-1.

All slab construction joints shall be in accordance with the slab construction joint detail shown on Dwg. No. M-214-67.

For expected erection camber values, see Dwg. No. M-214-67.



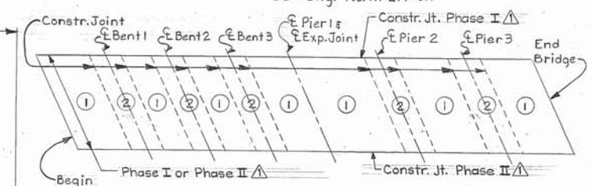
SPANS A THRU D

DECK PLAN - E.B.L.
No Scale

SPANS E THRU G

Ⓐ B504E & B505E ⚠1

CONSTRUCTION JOINT & NON-CONT. BAR DIMENSIONS - E.B.L.					
Loc. Dim.	"A"	"B"	"C"	"D"	"Bar"
Bent 1	9'-0"	9'-0"	10'-3"	13'-3"	A505E
Bent 2	9'-0"	9'-0"	10'-3"	13'-3"	A505E
Bent 3	9'-0"	9'-0"	10'-3"	13'-3"	A505E
Pier 2	13'-0"	13'-0"	14'-3"	17'-3"	A506E
Pier 3	13'-0"	9'-0"	14'-3"	13'-3"	A507E



SLAB POURING SEQUENCE
No Scale
⚠1 (E.B.L. shown. W.B.L. similar)

Note:
All pours are to be made in numerical sequence. Pour No. ① in exterior spans shall proceed in a direction from mid-span to the abutment or pier. Pours with the same numerical designation may be made simultaneously. Also, pours ① & ② may be made simultaneously provided the ① sections are placed on each side of any ② section placed during a particular pour. No equipment shall be permitted on the bridge until all pours are made and the concrete is properly cured.
All slab construction joints shall be in accordance with the Slab Construction Joint detail on Dwg. No. M-214-67.

ESTIMATED QUANTITIES - EBL	
Class "A" Concrete (Bridge Deck) CY	Epoxy Coated Reinforcing Steel Lb
477	75358 ⚠1

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAYS

SUPERSTRUCTURE DETAILS
I-40 E.B.L OVER CANEY FORK RIVER
STA. 296+14.68 ℄ SURVEY E.B.L. I-40
SMITH COUNTY
1989

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

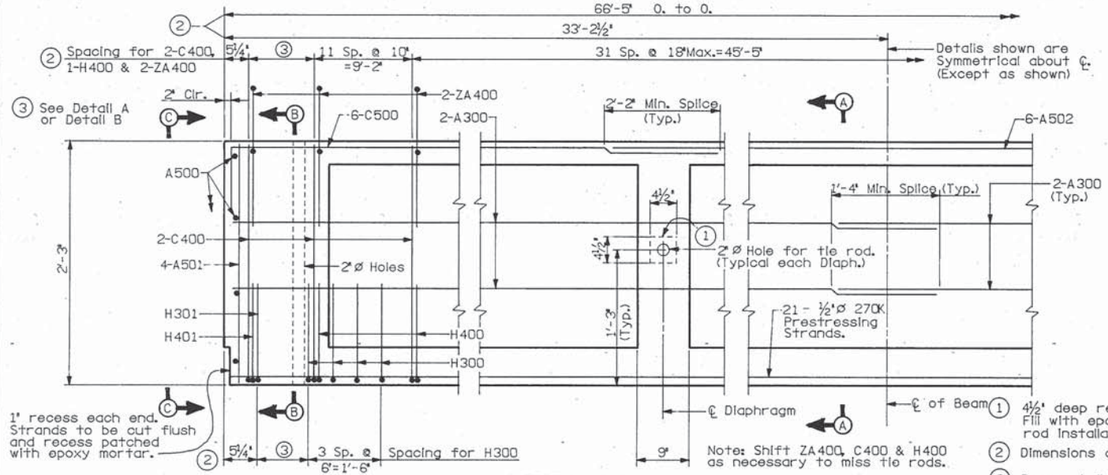
CORRECT _____ ENGINEER OF STRUCTURES

APPROVED _____ DIRECTOR OF HIGHWAYS

M-214-68

T.S.A. No. DTN0XX303A

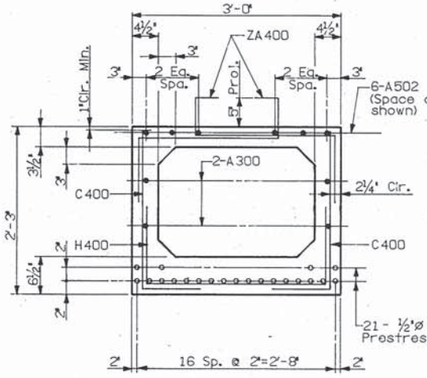
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DTN0XX
8-FEB-1989 08:38



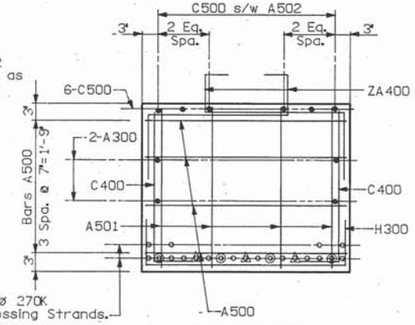
1 4½" deep recess in exposed face. Fill with epoxy mortar after tie rod installation.

2 Dimensions along ℄ Beam

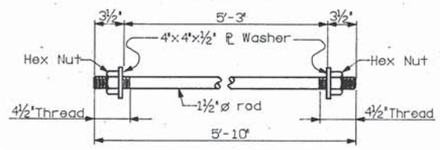
6 Beams shall be marked West End after fabrication as detailed.



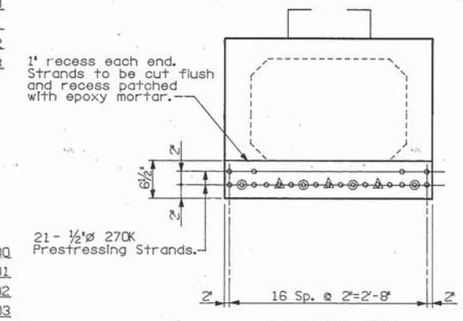
SECTION A-A
Scale: 1"=1'-0"



SECTION B-B
Scale: 1"=1'-0"

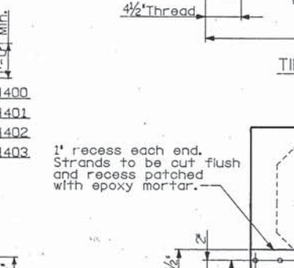


TIE ROD DETAIL

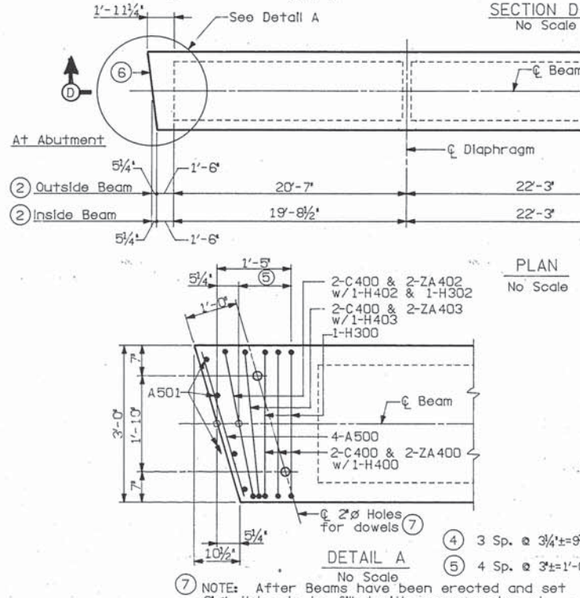


ELEVATION C-C
Scale: 1"=1'-0"

Note:
- Denotes De-bonded Strand 6'-0" from each end.
- Denotes De-bonded Strand 3'-0" from each end.
- Denotes Prestressing Strand
- Denotes Grade 60 Reinf. Steel



DEAD LOAD CORRECTION CURVE ⚠
(For use in Field)

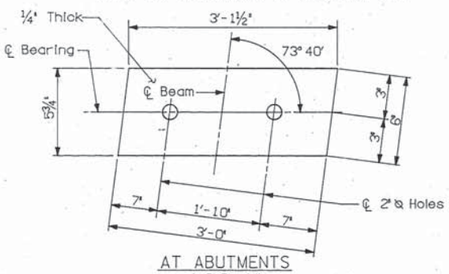


PLAN
No Scale

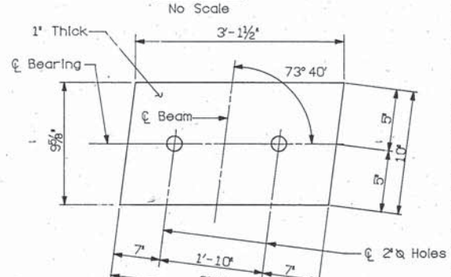
DETAIL A
No Scale

DETAIL B
No Scale

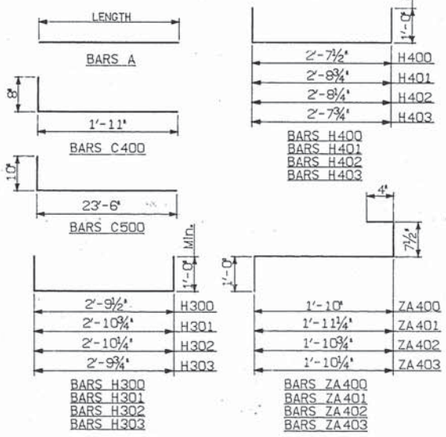
7 NOTE: After Beams have been erected and set 2"ø Holes to be filled with epoxy mortar at Fixed End and bitumen at Expansion End.



AT ABUTMENTS
(2 Req'd)



AT PIERS
(2 Req'd)



BILL OF STEEL - ONE BEAM

		SPAN A					
BARS	SIZE	NO. REQ'D	LENGTH				
A300	3	8	33'-9"				
A500	5	8	2'-9"				
A501	5	8	1'-11"				
A502	5	6	23'-5"				
C400	4	122	2'-7"				
C500	5	12	24'-4"				
H300	3	9	4'-10"				
H301	3	1	4'-11"				
H302	3	1	4'-11"				
H303	3	1	4'-10"				
H400	4	56	4'-8"				
H401	4	1	4'-9"				
H402	4	2	4'-9"				
H403	4	2	4'-8"				
ZA400	4	112	3'-10"				
ZA401	4	2	3'-11"				
ZA402	4	4	3'-11"				
ZA403	4	4	3'-10"				

ESTIMATED QUANTITIES - ONE BEAM

ITEM	UNIT	SPAN A		
CLASS 'A' CONCRETE	C.Y.	9.7		
REINFORCING STEEL	LB.	1,327		
PRESTRESSING STRANDS	LB.	730		

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

60 DURO.
DETAILS OF ELASTOMERIC BEARING PADS.
No Scale

CONSTR. NO. 80001-3152-44

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

REVISIONS

NO.	DATE	BY	BRIEF DESCRIPTION
1	5/14/89	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 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.

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

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 inital 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" ø 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

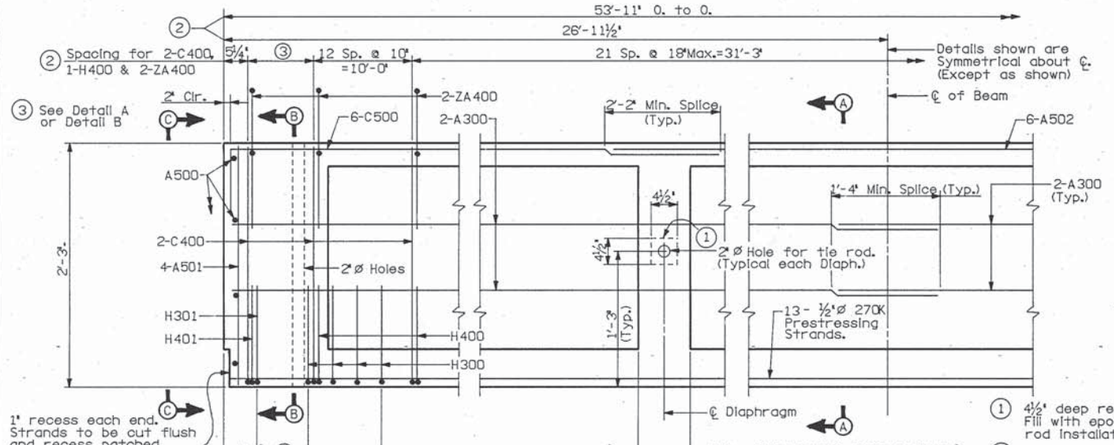
CORRECT _____ ENGINEER OF STRUCTURES

APPROVED _____ DIRECTOR OF HIGHWAYS

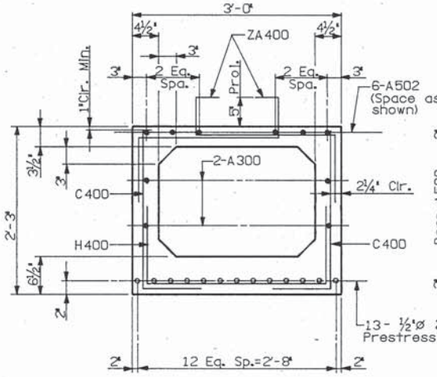
M-214-69

R.S.A. No. DTNOXX303C

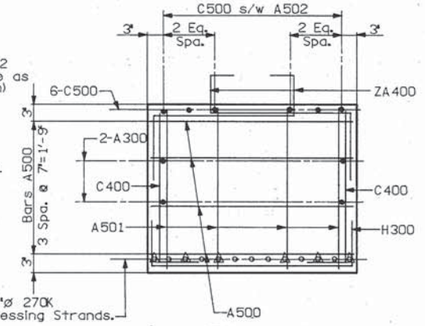
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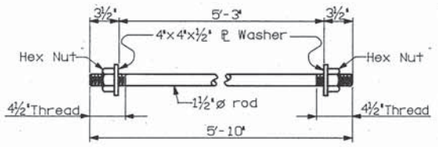
1. 4½" deep recess in exposed face. Fill with epoxy mortar after tie rod installation.
2. Dimensions along ℄ Beam
6. Beams shall be marked West End after fabrication as detailed.



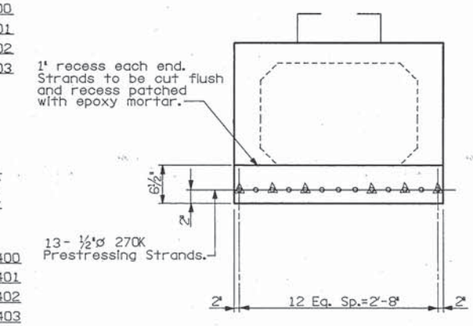
SECTION A-A
Scale: 1"= 1'-0"



SECTION B-B
Scale: 1"= 1'-0"

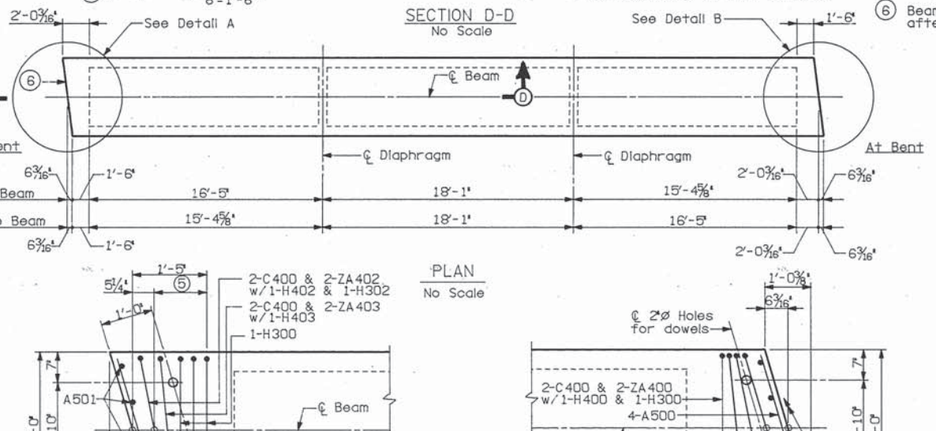


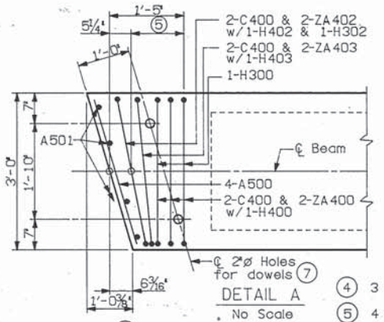
TIE ROD DETAIL

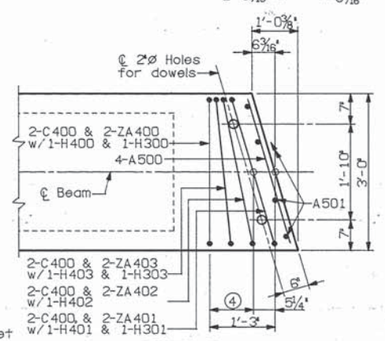


ELEVATION C-C
Scale: 1"= 1'-0"

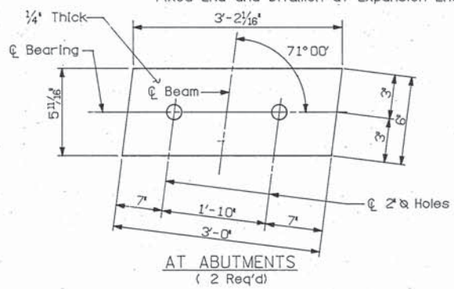
Note:
△ - Denotes De-bonded Strand 3'-0" from each end.
○ - Denotes Prestressing Strand
● - Denotes Grade 60 Reinf. Steel

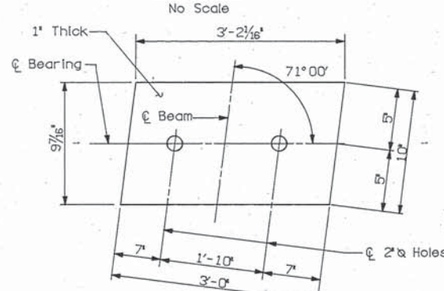


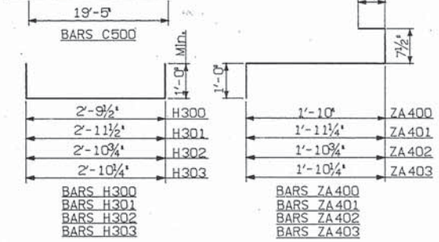




(4) 3 Sp. @ 3¼"±=9¾"
(5) 4 Sp. @ 3"±=1'-0"
(7) NOTE: After Beams have been erected and set 2"ø Holes to be filled with epoxy mortar at Fixed End and bitumen at Expansion End.

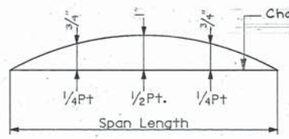






BILL OF STEEL - ONE BEAM

		SPAN A					
BARS	SIZE	NO. REQ'D	LENGTH				
A300	3	8	27'-6"				
A500	5	8	2'-10"				
A501	5	8	1'-11"				
A502	5	6	19'-1"				
C400	4	106	2'-7"				
C500	5	12	20'-3"				
H300	3	9	4'-10"				
H301	3	1	5'-0"				
H302	3	1	4'-11"				
H303	3	1	4'-11"				
H400	4	48	4'-8"				
H401	4	1	4'-10"				
H402	4	2	4'-9"				
H403	4	2	4'-8"				
ZA400	4	96	3'-10"				
ZA401	4	2	3'-11"				
ZA402	4	4	3'-11"				
ZA403	4	4	3'-10"				



DEAD LOAD CORRECTION CURVE
(For use in field) △

ESTIMATED QUANTITIES - ONE BEAM

ITEM	UNIT	SPAN A		
CLASS 'A' CONCRETE	C.Y.	8.0		
REINFORCING STEEL	LB.	1,140		
PRESTRESSING STRANDS	LB.	368		

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

60 DURO.
DETAILS OF ELASTOMERIC BEARING PADS
No Scale

CONSTR. NO. 80001-3152-44

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

REVISIONS

NO.	DATE	BY	BRIEF DESCRIPTION
△	9/19/89	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 scrubed 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.

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

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 inital 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"ø 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.

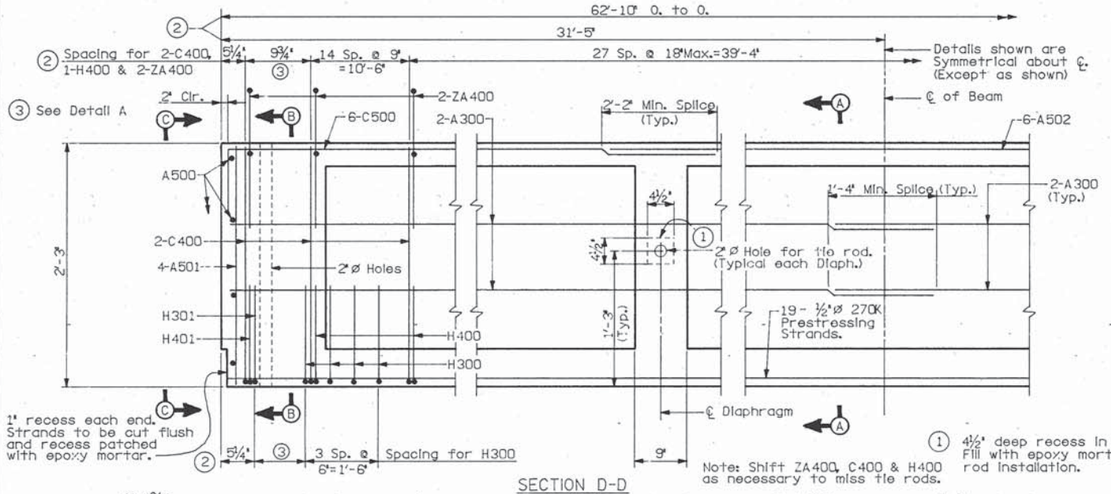
STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAYS

PRESTRESSED BOX BEAM DETAILS
SPAN A E.B.L.
I-40 OVER CANEY FORK RIVER
STA. 296+14.68 ℄ SURVEY E.B. I-40
SMITH COUNTY
1989

CORRECT _____ ENGINEER OF STRUCTURES
APPROVED _____ DIRECTOR OF HIGHWAYS

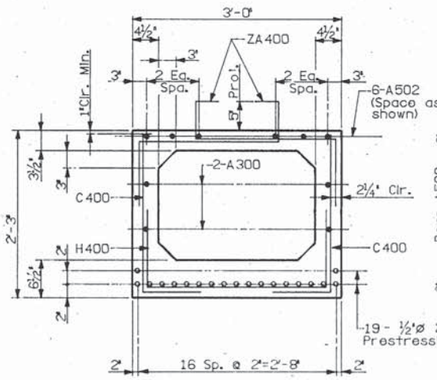
M-214-73

ZFil58,24-3DTN0XX302-DRN1
DTN0XX
8-FEB-1989 8545

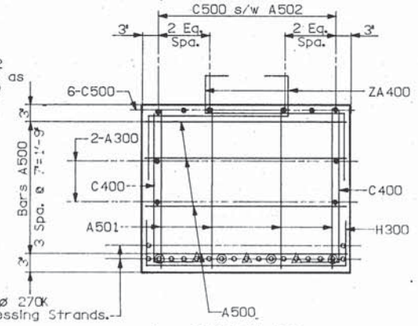


(1) 4½" deep recess in exposed face. Fill with epoxy mortar after tie rod installation.

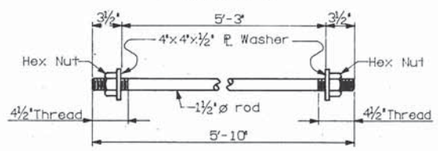
Note: Shift ZA400, C400 & H400 as necessary to miss tie rods.



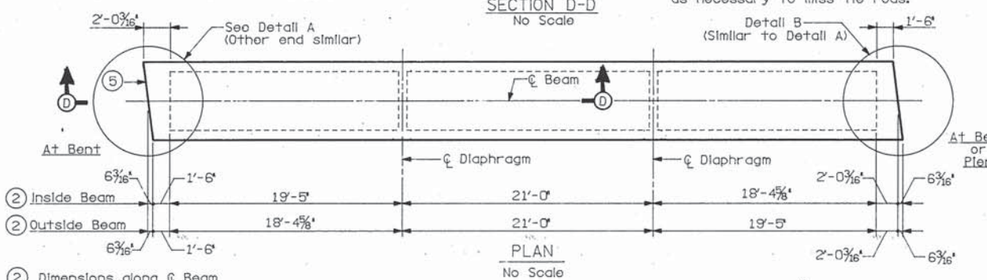
SECTION A-A
Scale: 1"=1'-0"



SECTION B-B
Scale: 1"=1'-0"

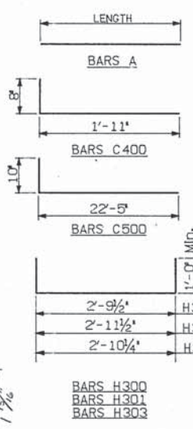


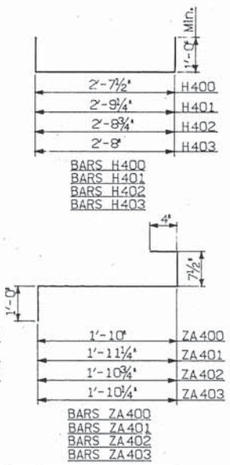
TIE ROD DETAIL

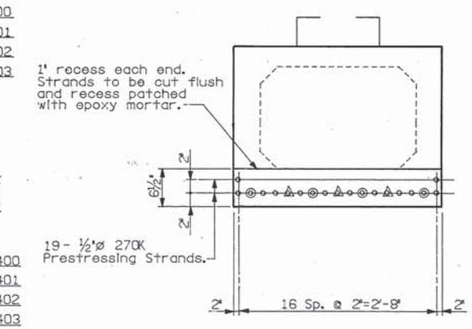


PLAN
No Scale

(2) Dimensions along ℄ Beam
(4) 3 Sp. @ 3¼"±=9¾"
(5) Beams shall be marked West End after fabrication as detailed.

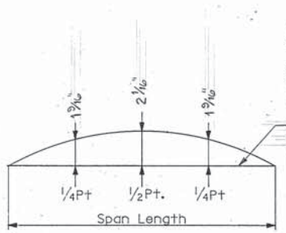




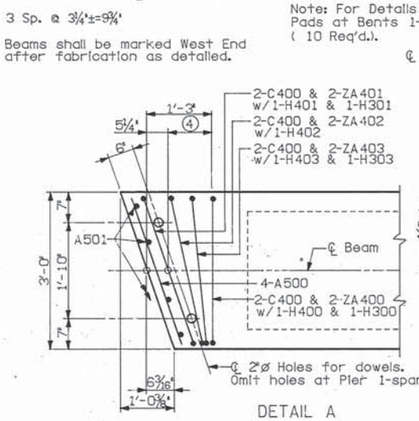


ELEVATION C-C
Scale: 1"=1'-0"

Note:
Δ - Denotes De-bonded Strand 6'-0" from each end.
Ⓓ - Denotes De-bonded Strand 3'-0" from each end.
∘ - Denotes Prestressing strand.
• - Denotes Grade 60 Reinf. Steel.

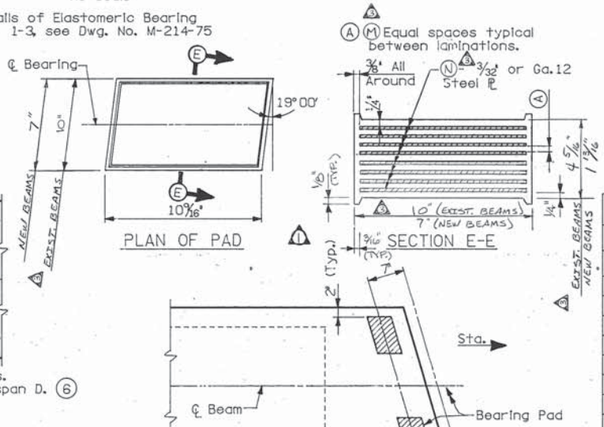


DEAD LOAD CORRECTION CURVE Δ
(For use in Field)



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.



PLAN OF PAD

PAD LAYOUT
SPAN D AT PIER 1
(Ⓑ 20 Req'd)
A36 STEEL
50 DURO

Δ (A) (M) Equal spaces typical between laminations.

Δ (M) - 7 (EXISTING BEAMS)
- 3 (NEW BEAMS)

Δ (N) - 8 (EXISTING BEAMS)
- 4 (NEW BEAMS)

Ⓑ Includes 16 pads for existing box beams. For details of jacking procedure for bearing replacement, see Dwg. M-214-81AA.

LAMINATED ELASTOMERIC BEARING PADS
No Scale

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	31'-11"	8	31'-11"	8	31'-11"
A500	5	8	2'-10"	8	2'-10"	8	2'-10"
A501	5	8	1'-11"	8	1'-11"	8	1'-11"
A502	5	6	22'-0"	6	22'-0"	6	22'-0"
C400	4	124	2'-7"	124	2'-7"	124	2'-7"
C500	5	12	23'-3"	12	23'-3"	12	23'-3"
H300	3	8	4'-10"	8	4'-10"	8	4'-10"
H301	3	2	5'-0"	2	5'-0"	2	5'-0"
H303	3	2	4'-11"	2	4'-11"	2	4'-11"
H400	4	56	4'-8"	56	4'-8"	56	4'-8"
H401	4	2	4'-10"	2	4'-10"	2	4'-10"
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"

ESTIMATED QUANTITIES - ONE BEAM

ITEM	UNIT	SPAN B	SPAN C	SPAN D
CLASS "A" CONCRETE	C.Y.	9.2	9.2	9.2
REINFORCING STEEL	LB.	1,312	1,312	1,312
PRESTRESSING STRANDS	LB.	625	625	625

CONSTR. NO. 80001-3152-44

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

REVISIONS

NO.	DATE	BY	BRIEF DESCRIPTION
1	6-16-89	WHP	REVISED BRG. DEVICE DET.'S
Δ	9/14/89	DWT	REVISED DEAD LOAD CORRECTION VALUES
3	10/24/89	PS	REVISED BRG. DEVICE DETAILS

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.

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An inital 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" ø 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.

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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 B - D E.B.L.
I-40 OVER CANEY FORK RIVER
STA. 296+14.68 ℄ SURVEY E.B. I-40
SMITH COUNTY
1989

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-214-74

T.S.A. No. DTNOXX302D

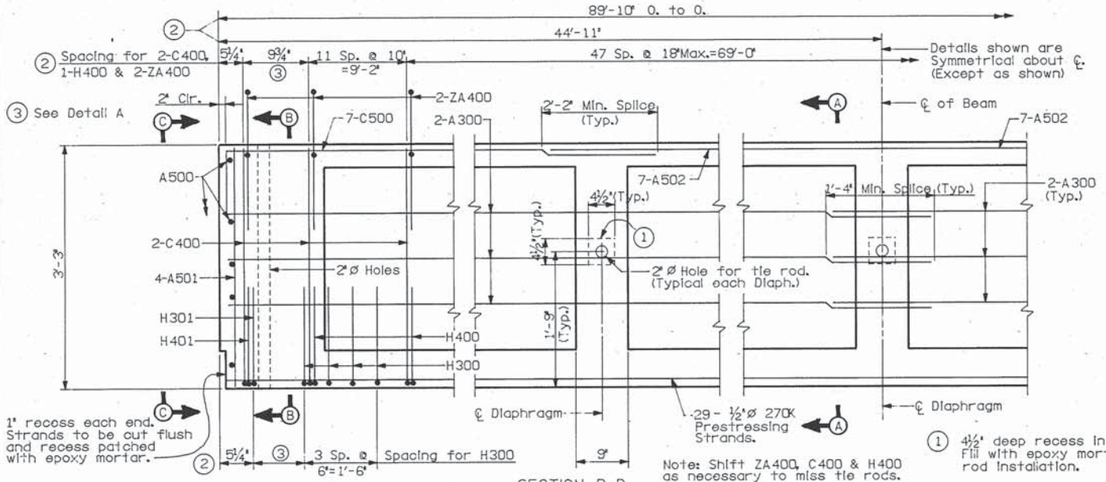
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CONSTR. NO. 80001-3152-44

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

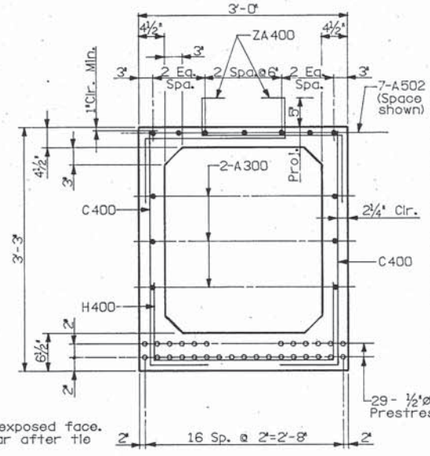
REVISIONS

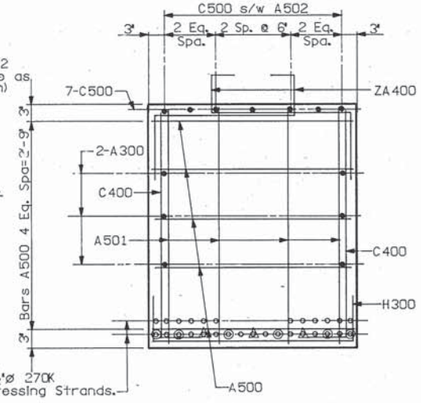
NO.	DATE	BY	BRIEF DESCRIPTION
1	9-14-89	DWT	Revised Dead Load Correction Values



Note: Shift ZA400, C400 & H400 as necessary to miss tie rods.

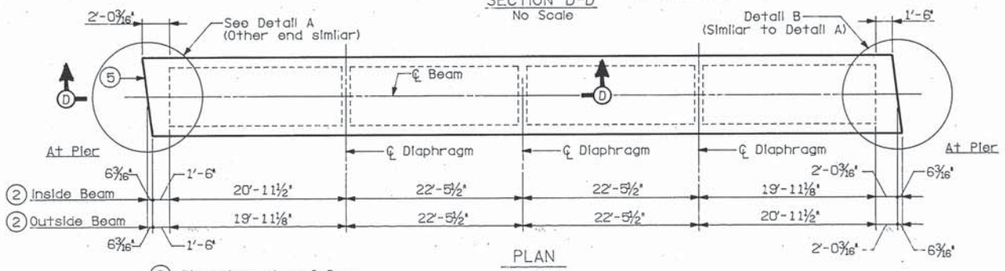
(1) 4½" deep recess in exposed face. Fill with epoxy mortar after tie rod installation.





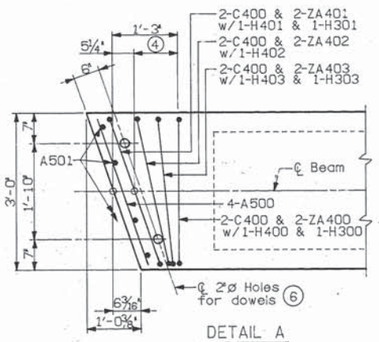
SECTION B-B
Scale: 1"=1'-0"

SECTION D-D
No Scale



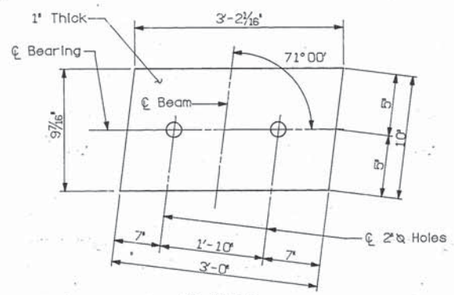
PLAN
No Scale

(2) Dimensions along ℄ Beam
(4) 3 Sp. @ 3¾"±=9¾"
(5) Beams shall be marked West End after fabrication as detailed.



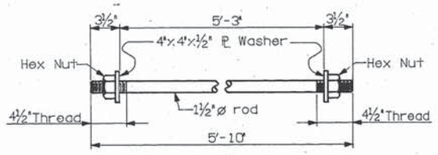
DETAIL A
(Detail B Similar)
No Scale

(6) NOTE: After Beams gave been erected and set 2ø Holes to be filled with epoxy mortar at Fixed End and bitumen at Expansion End.

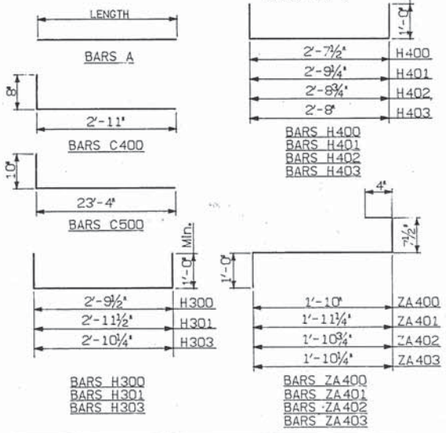


AT PIERS
(8 Req'd)
60 DURO.

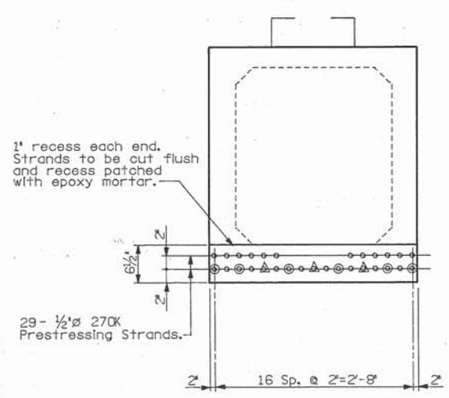
DETAILS OF ELASTOMERIC BEARING PADS
No Scale



TIE ROD DETAIL



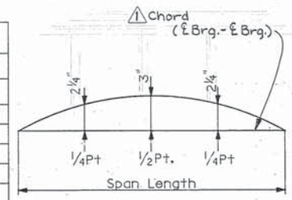
SECTION A-A
Scale: 1"=1'-0"



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

BILL OF STEEL - ONE BEAM

		SPAN E		SPAN F			
BARS	SIZE	NO. REQ'D	LENGTH	NO. REQ'D	LENGTH		
A300	3	12	45'-5"	12	45'-5"		
A500	5	10	2'-10"	10	2'-10"		
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	5'-0"	2	5'-0"		
H303	3	2	4'-11"	2	4'-11"		
H400	4	70	4'-8"	70	4'-8"		
H401	4	2	4'-10"	2	4'-10"		
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"		



DEAD LOAD CORRECTION CURVE ⚠
(For use in field)

Note:
⚠ - Denotes De-bonded Strand 15'-0" from each end.
◎ - Denotes De-bonded Strand 6'-0" from each end.
○ - Denotes Prestressed Strand
● - Denotes Grade 60 Reinf. Steel.

ESTIMATED QUANTITIES - ONE BEAM

ITEM	UNIT	SPAN E	SPAN F	
CLASS 'A' CONCRETE	C.Y.	16.6	16.6	
REINFORCING STEEL	LB.	1,985	1,985	
PRESTRESSING STRANDS	LB.	1,368	1,368	

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.

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

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 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.

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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 E.B.L.
I-40 OVER CANEY FORK RIVER
STA. 296+14.68 ℄ SURVEY E.B. I-40
SMITH COUNTY
1989

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

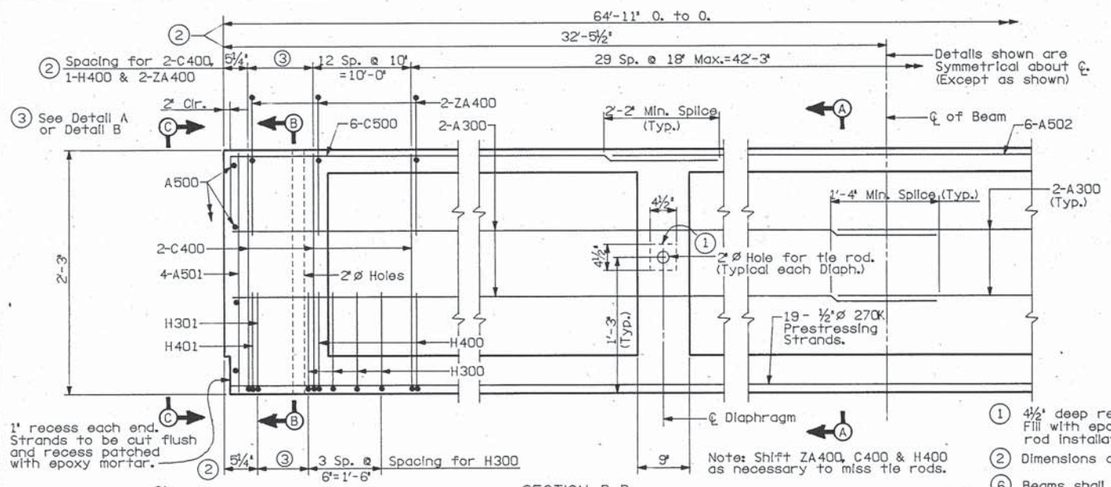
CORRECT _____ ENGINEER OF STRUCTURES

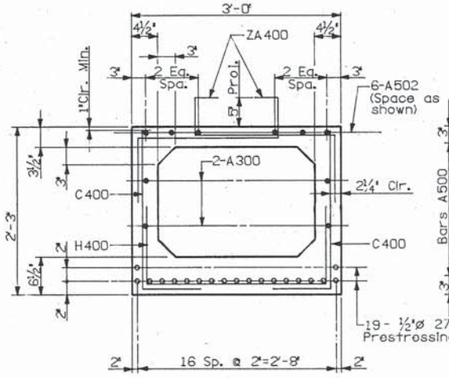
APPROVED _____ DIRECTOR OF HIGHWAYS

M-214-75

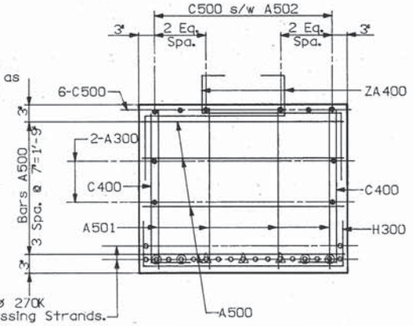
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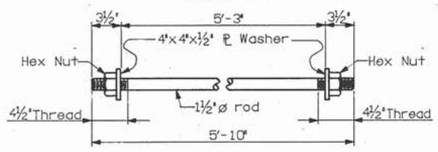




SECTION A-A
Scale: 1"=1'-0"



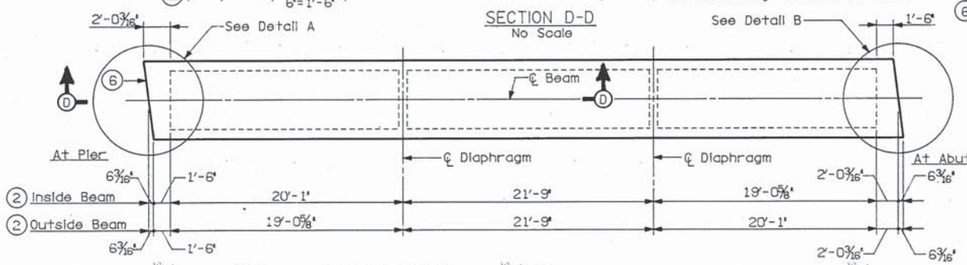
SECTION B-B
Scale: 1"=1'-0"

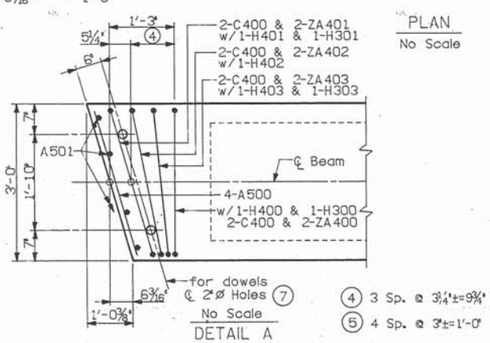


TIE ROD DETAIL

1. 4½" deep recess in exposed face. Fill with epoxy mortar after tie rod installation.
2. Dimensions along ℄ Beam
6. Beams shall be marked West End after fabrication as detailed.

SECTION D-D
No Scale

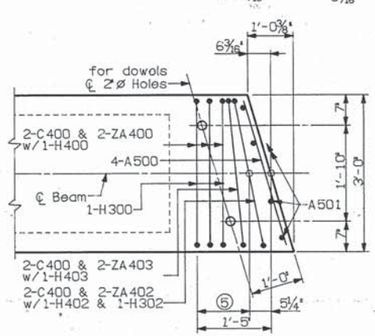




PLAN
No Scale

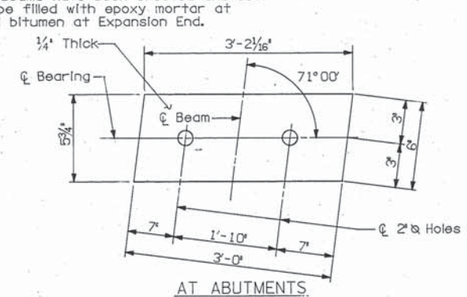
DETAIL A
No Scale

(4) 3 Sp. @ 3¼"±=9¾"
(5) 4 Sp. @ 3"±=1'-0"

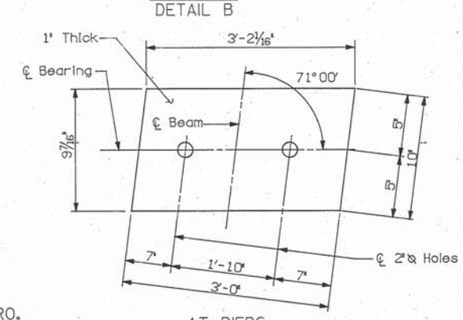


DETAIL B
No Scale

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

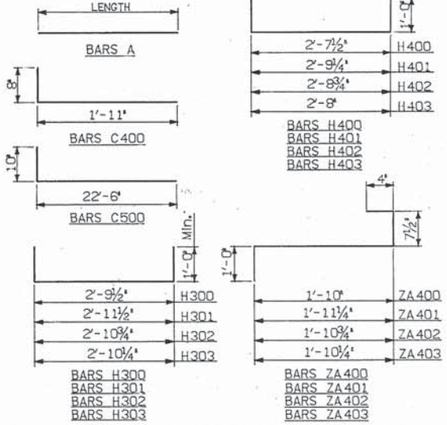


AT ABUTMENTS
(2 Req'd)



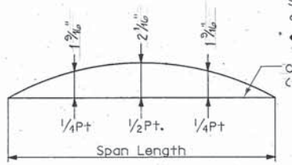
AT PIERS
(2 Req'd)

60 DURO.
DETAILS OF ELASTOMERIC BEARING PADS
No Scale



BILL OF STEEL - ONE BEAM

		SPAN G				
BARS	SIZE	NO. REQ'D	LENGTH			
A300	3	8	33'-0"			
A500	5	8	2'-10"			
A501	5	8	1'-11"			
A502	5	6	23'-11"			
C400	4	122	2'-7"			
C500	5	12	23'-4"			
H300	3	9	4'-10"			
H301	3	1	5'-0"			
H302	3	1	4'-11"			
H303	3	1	4'-11"			
H400	4	56	4'-8"			
H401	4	1	4'-10"			
H402	4	2	4'-9"			
H403	4	2	4'-8"			
ZA400	4	112	3'-10"			
ZA401	4	2	3'-11"			
ZA402	4	4	3'-11"			
ZA403	4	4	3'-10"			



DEAD LOAD CORRECTION CURVE (For use in Field) ⚠

ESTIMATED QUANTITIES - ONE BEAM

ITEM	UNIT	SPAN G		
CLASS 'A' CONCRETE	C.Y.	9.5		
REINFORCING STEEL	LB.	1,321		
PRESTRESSING STRANDS	LB.	646		

Note:
⚠ - Denotes De-bonded Strand 6'-0" from each end.
◎ - Denotes De-bonded Strand 3'-0" from each end.
o - Denotes Prestressing Strand.
• - Denotes Grade 60 Reinf. Steel.

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	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 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.

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

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 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" ø 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 G E.B.L.
I-40 OVER CANEY FORK RIVER
STA. 296+14.68 ℄ SURVEY E.B. I-40
SMITH COUNTY
1989

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-214-76

CONSTR. NO. 80001-3152-44

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

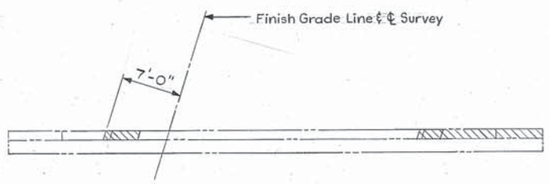
REVISIONS

NO.	DATE	BY	BRIEF DESCRIPTION
1	9/11/89	DWT	Change due to long. Constr. Jt.



PLAN-EXISTING ABUTMENT 1 E.B.L. or EXISTING ABUTMENT 2 W.B.L.

No Scale



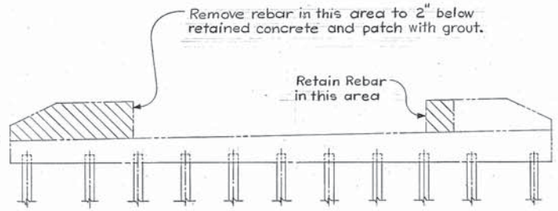
PLAN-EXISTING ABUTMENT 1 W.B.L. or EXISTING ABUTMENT 2 E.B.L.

No Scale

Notes:

All surfaces of the existing abutment against which new concrete is to be placed shall be cleaned and intentionally roughened.
All materials removed become the property of the Contractor and shall be disposed of by him.
All costs associated with the demolition and disposal and surface preparation required shall be included in the price bid for Item No. 202-04.02.

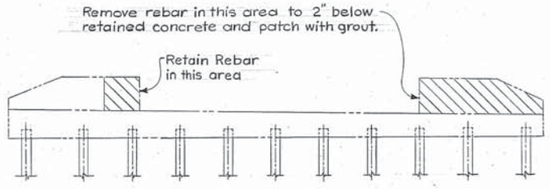
▨ - Existing structure to be removed.



ELEVATION

No Scale

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

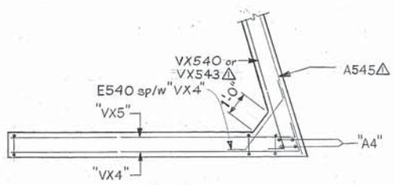


ELEVATION

No Scale

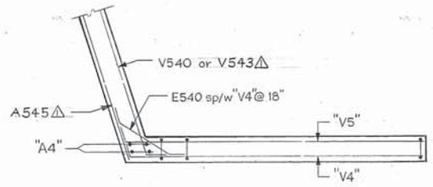
(Abutment 1 WBL looking back on Stationing or Abutment 2 EBL looking in direction of Stationing)

DEMOLITION DETAILS



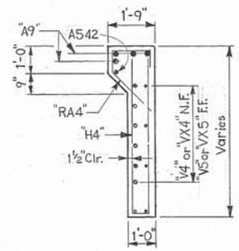
SECTION "A-A"

Scale: None



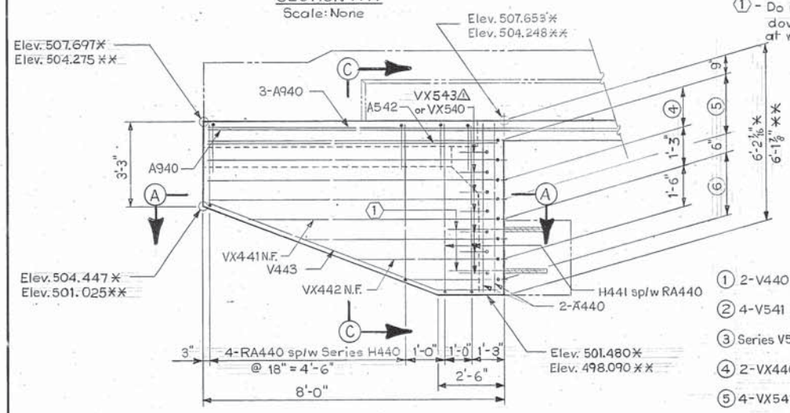
SECTION "B-B"

Scale: None



SECTION "C-C"

Scale: None



ELEVATION-WINGWALL 1

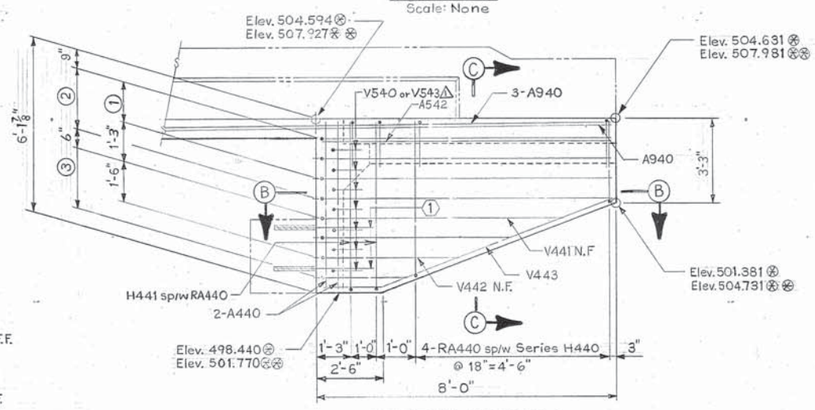
Scale: None

① - Do not field bend doweled "A5" bars at wing location.

① 2-V440 @ 18" N.F.
② 4-V541 @ 9" = 2'-3" F.F.
③ Series V542 @ 9" = 2'-3" F.F.
④ 2-VX440 @ 18" N.F.
⑤ 4-VX541 @ 9" = 2'-3" F.F.
⑥ Series VX542 @ 9" = 2'-3" F.F.

✳-Abutment 1 EBL
✳✳-Abutment 2 WBL
⊛-Abutment 1 WBL
⊛⊛-Abutment 2 EBL

N.F.- Near Face
F.F.- Far Face



ELEVATION-WINGWALL 2

Scale: None

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

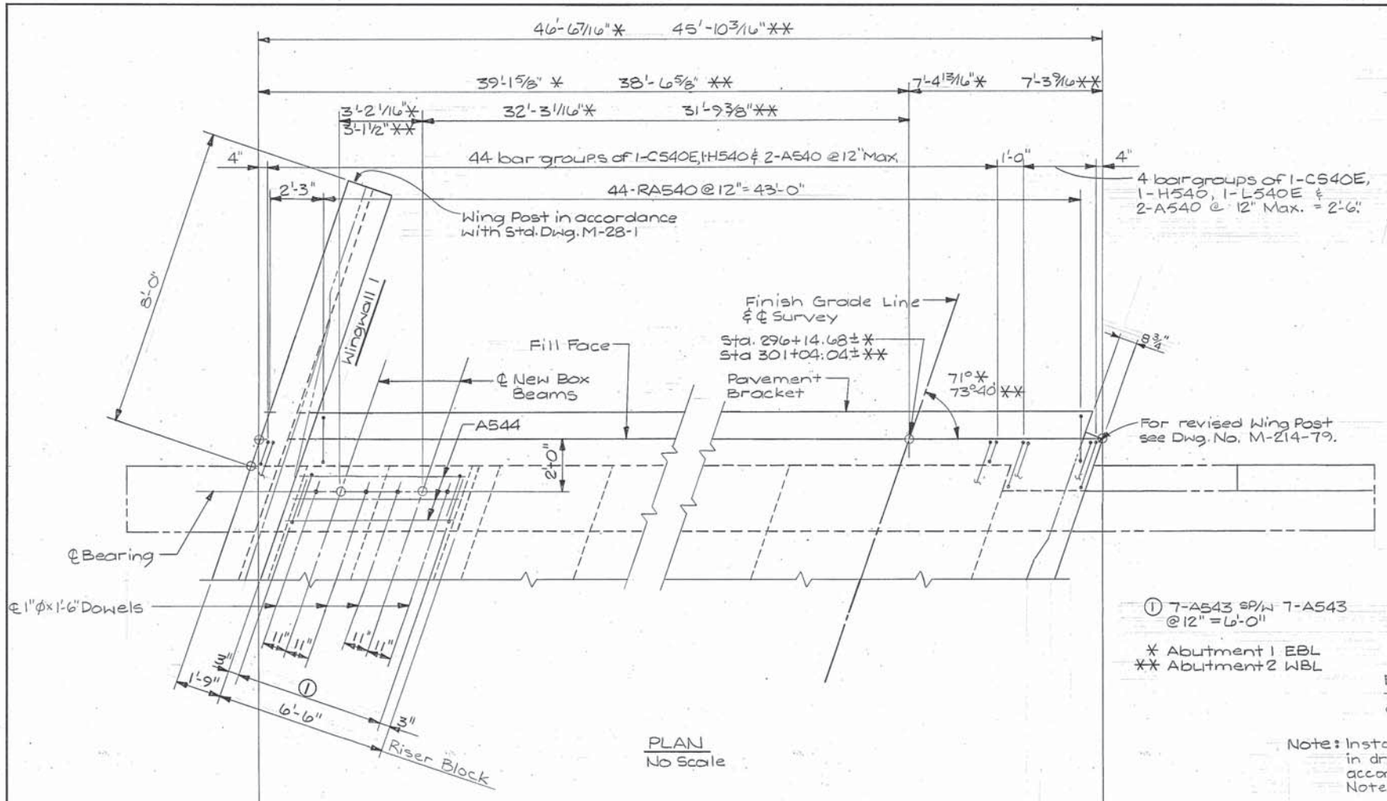
STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAYS

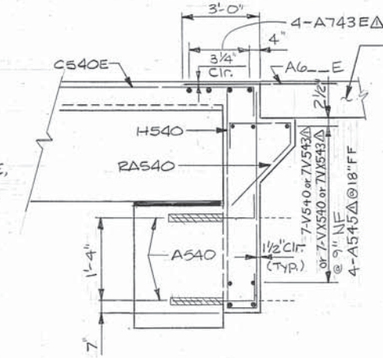
ABUTMENT DETAILS (1)
I-40 OVER CANEY FORK RIVER
STA. 295+91.96 W.B.L. I-40
STA. 296+14.68 E.B.L. I-40
SMITH COUNTY
1989

CORRECT _____ ENGINEER OF STRUCTURES

APPROVED _____ DIRECTOR OF HIGHWAYS

M-214-77





SECTION B-B
No Scale

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.

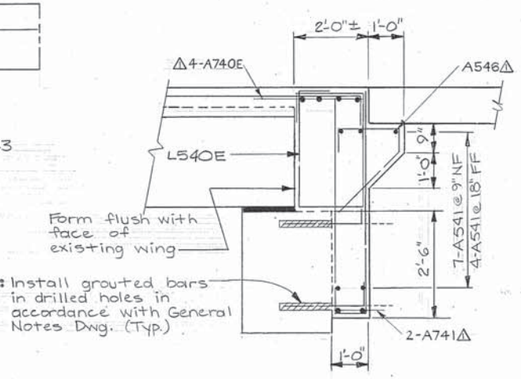
CONSTR. NO. 80001-3152-44

PROJECT NO.	YEAR	SHEET NO.
1R-40-5(91)257	1989	

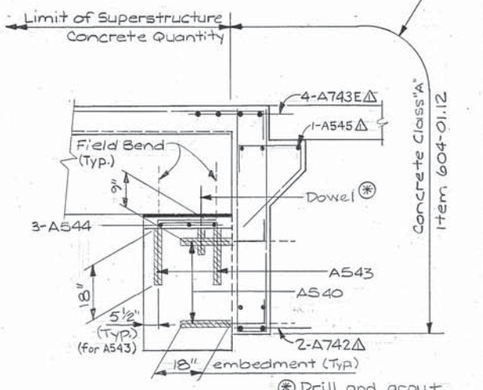
REVISIONS

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

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.



SECTION A-A
No Scale



⊛ Drill and grout into existing abutment as necessary to satisfy embedment requirement.

SECTION C-C
No Scale

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

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	TEE	DATE	1-89
SUPERVISED BY	WSH	DATE	1-89
CHECKED BY	DWT	DATE	2-89

CORRECT _____ ENGINEER OF STRUCTURES

APPROVED _____ DIRECTOR OF HIGHWAYS

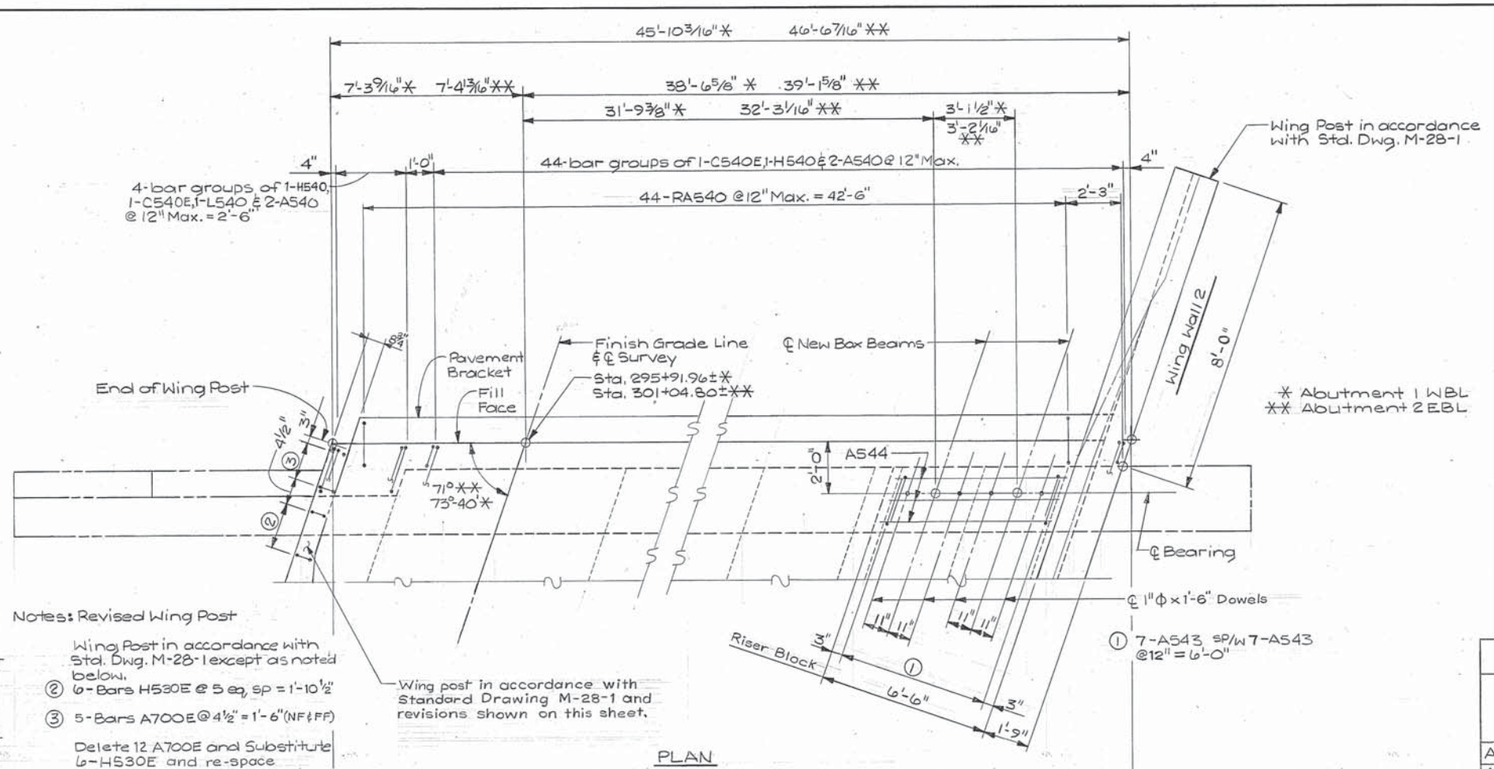
M-214-78

CONSTR. NO. 80001-3152-44

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

REVISIONS

NO.	DATE	BY	BRIEF DESCRIPTION
1	9/19/89	DWT	Changes due to long Constr. Jt.



* Abutment 1 WBL
** Abutment 2 EBL

PLAN
No Scale

Notes: Revised Wing Post

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

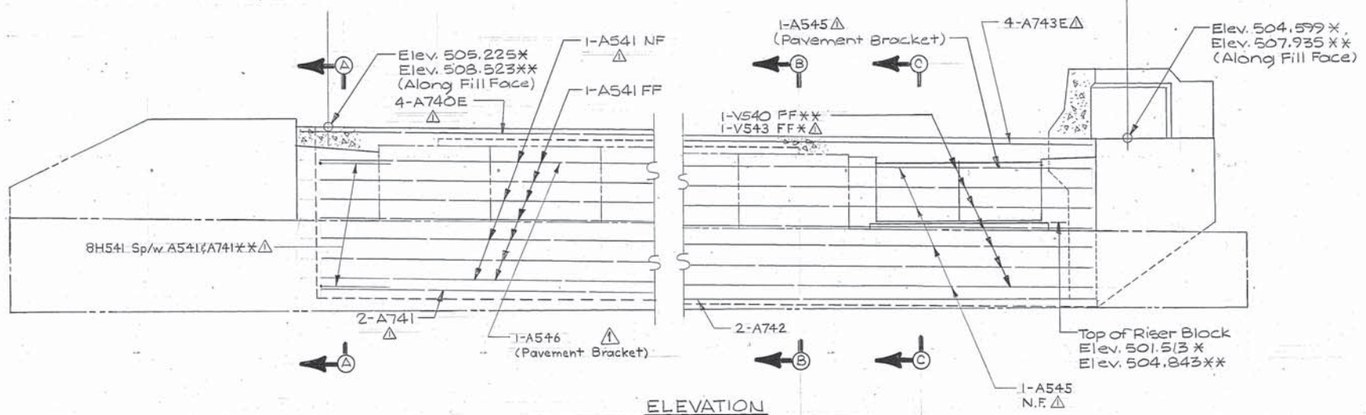
② 6-Bars H530E @ 5 eq. sp = 1'-10½"

③ 5-Bars A700E @ 4½" = 1'-6" (NF & FF)

Delete 12 A700E and Substitute 6-H530E and re-space remaining bars as shown. Revise 1'-4" dimension on GA500E to 1'-10½"



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



ELEVATION
No Scale

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

ESTIMATED QUANTITES

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

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 WDM/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

U.S.A. No.: TNOXXREV 1A

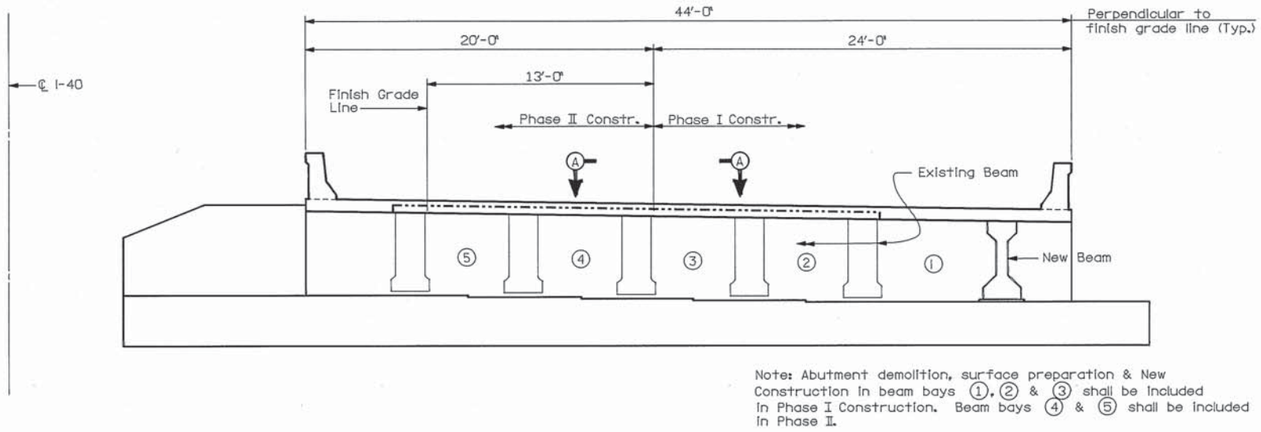
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CONSTR. NO. 80001-3152-44

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

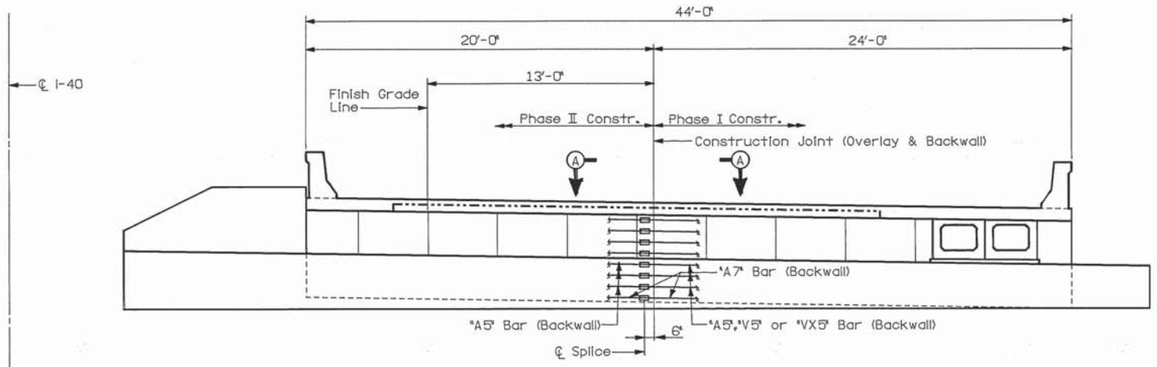
REVISIONS

NO.	DATE	BY	BRIEF DESCRIPTION
1	9/14/89	DWT	THIS SHEET ADDED

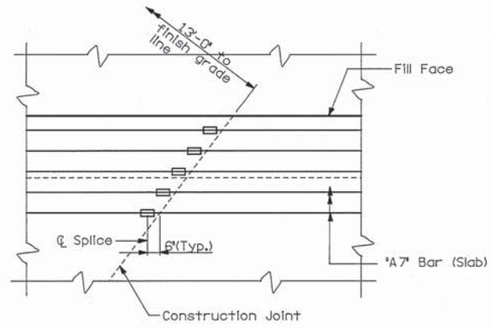


Note: Abutment demolition, surface preparation & New Construction in beam bays ①, ② & ③ shall be included in Phase I Construction. Beam bays ④ & ⑤ shall be included in Phase II.

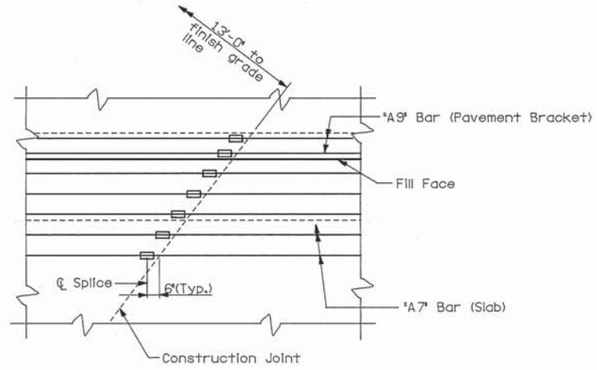
TYPICAL SECTION - BRIDGES 4 & 5



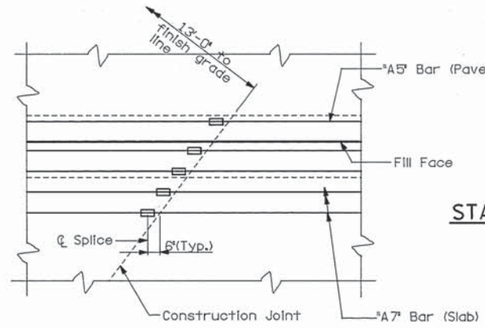
TYPICAL SECTION - BRIDGE 2



PART PLAN A-A
(Bridges 4 & 5 Abutment 1 WBL & Abutments 1 & 2 EBL)



PART PLAN A-A
(Bridges 4 & 5 Abutment 2 WBL)



PART PLAN A-A
(Bridge 2)

Notes:

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

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAYS

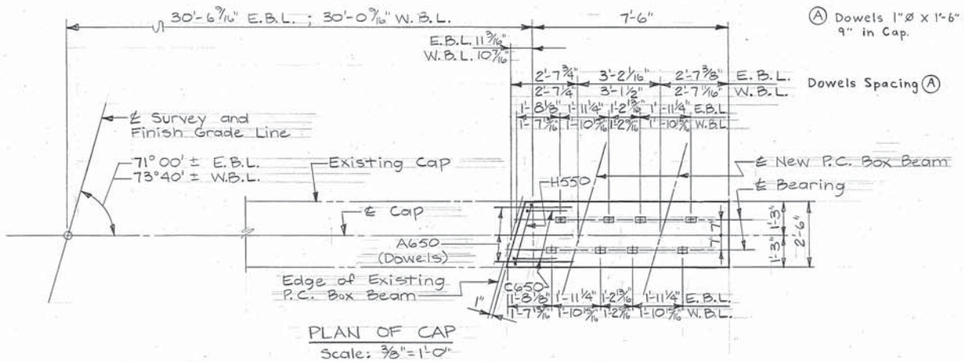
STAGE CONSTRUCTION - ABUTMENTS ⚠1
BRIDGE NO. 2, 4 & 5
I-40 OVER CANEY FORK RIVER
SMITH COUNTY
1989

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

CORRECT _____
ENGINEER OF STRUCTURES

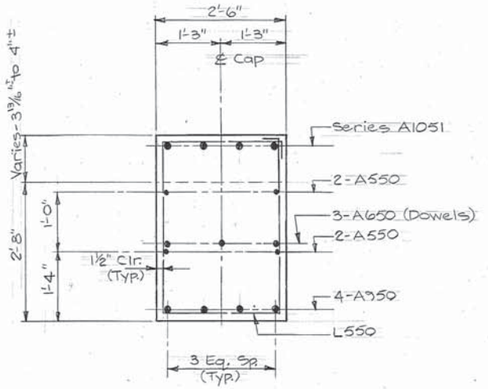
APPROVED _____
DIRECTOR OF HIGHWAYS

M-214-79A

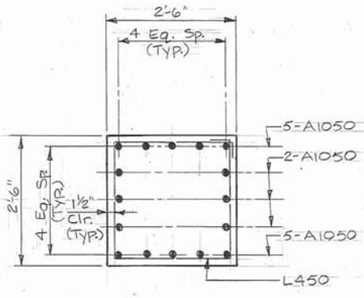


PLAN OF CAP
Scale: 3/8"=1'-0"

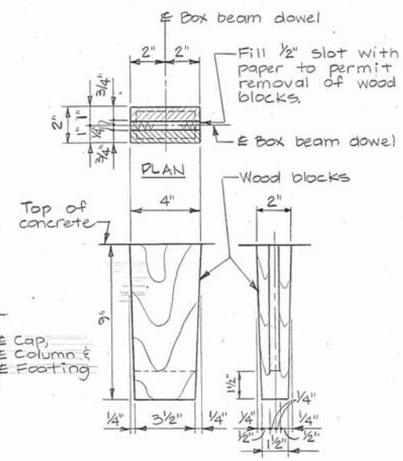
Ⓐ Dowels 1"Ø X 1'-6" embedded 9" in Cap.



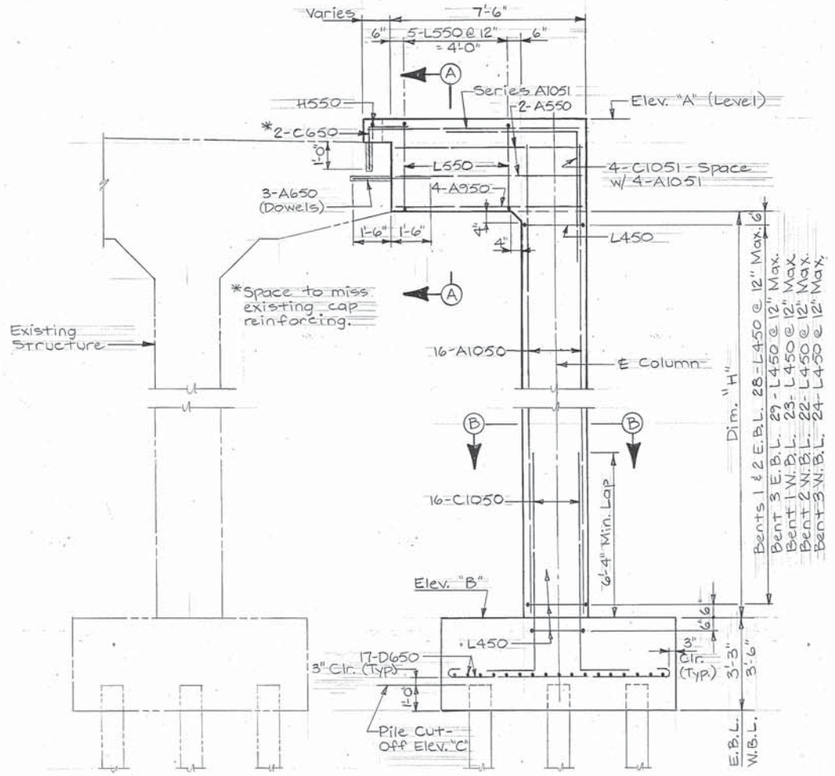
SECTION A-A
Scale: 3/4"=1'-0"



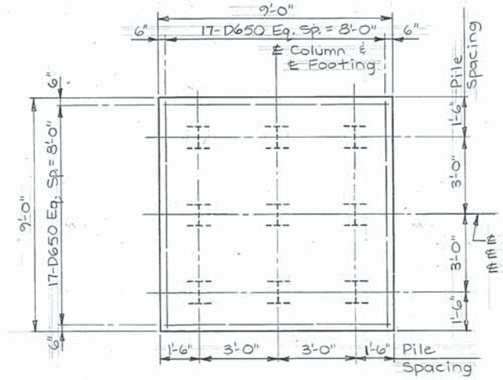
SECTION B-B
Scale: 3/4"=1'-0"



TYPICAL DOWEL SLOT
Scale: 3"=1'-0"



ELEVATION
Scale: 3/8"=1'-0"
(Looking in direction of Sta. E.B.L.; Looking back on Sta. W.B.L.)



PLAN OF FOOTING
Scale: 3/8"=1'-0"

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.

CONSTR. NO. 80001-3152-44

PROJECT NO.	YEAR	SHEET NO.
1R-40-5(91)257	1989	

REVISIONS

NO.	DATE	BY	BRIEF DESCRIPTION

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 1/4"
	Bent 2	504.046	474.000	471.750	27'- 0 5/8"
	Bent 3	503.928	472.000	469.750	28'- 11 5/16"
W.B.L.	Bent 1	501.171	476.000	473.750	22'- 2 1/16"
	Bent 2	500.960	476.000	473.750	21'- 11 5/16"
	Bent 3	500.322	474.000	471.750	23'- 10"

ESTIMATED QUANTITIES

ITEM		Concrete f'c= 3000 psi C.Y.	Reinforcing Steel LBS.	HP10x42 Steel Piles L. F.
E.B.L.	Bent 1	18	3945	140
	Bent 2	18	3928	140
	Bent 3	19	4060	140
W.B.L.	Bent 1	18	3580	163
	Bent 2	18	3557	163
	Bent 3	18	3702	163

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

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAYS

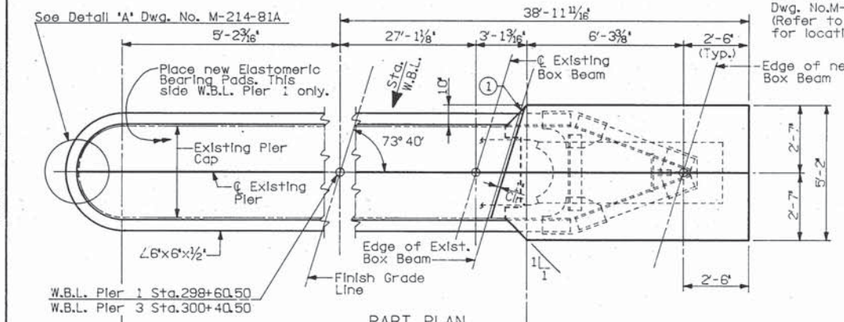
BENTS 1,2 & 3- E.B.L. & W.B.L.
I-40 OVER
CANEY FORK RIVER
STA. 296+14.68 E.B.L. I-40
STA. 295+91.96 W.B.L. I-40
SMITH COUNTY
1989

CORRECT _____ ENGINEER OF STRUCTURES
APPROVED _____ DIRECTOR OF HIGHWAYS

M-214-80

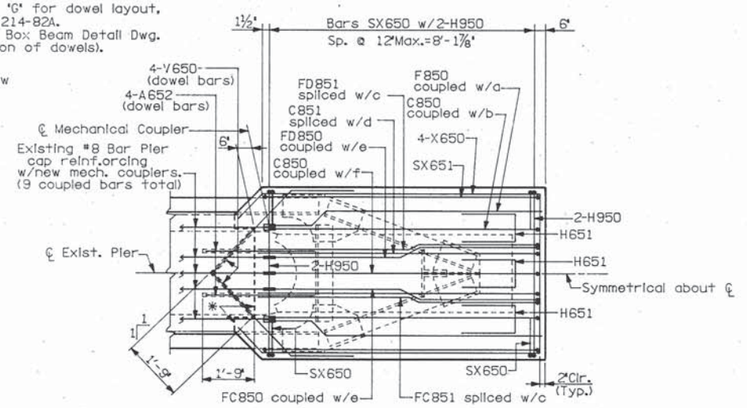
TELEFAX #202 - 248101

R.S.A. No. DTN0XX3078



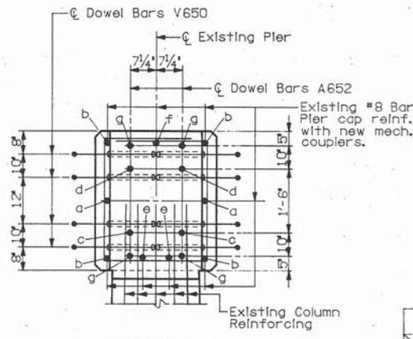
PART PLAN
Pier 1 Shown
Pier 3 Similar

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



* Remove concrete to this line.

PLAN OF CANTILEVER CAP REINFORCING



SECTION A-A

g - Denotes A652 dowel bars only.

CONSTR. NO. 80001-3152-44

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

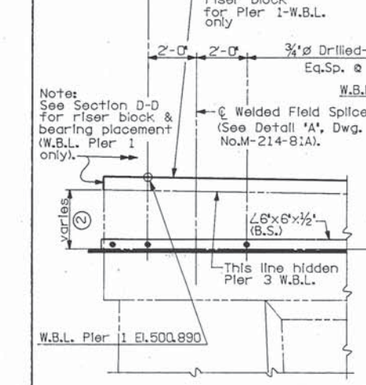
REVISIONS

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

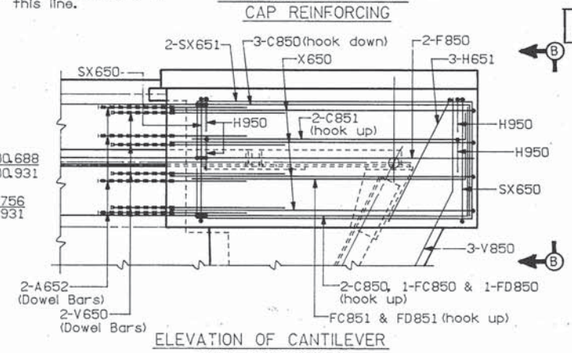
Note:
For notes, see Dwg. No. M-214-81A.

ESTIMATED QUANTITIES - W.B.L.

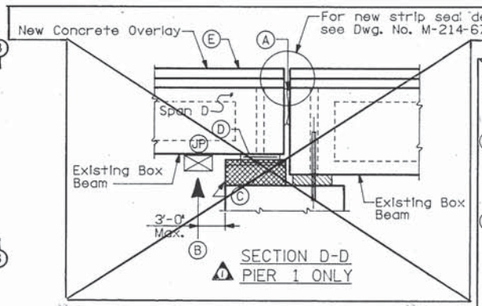
Item / Pier No.	Class 'A' Concrete (Bridges) C.Y.	Structural Steel Lb.	Steel Bar Reinforcement (Bridges) Lb.
1	12	3,700	2,515
3	13	3,700	2,515



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



ELEVATION OF CANTILEVER CAP REINFORCING



SECTION D-D
PIER 1 ONLY

Ⓐ Note: For Pier 1 Bearing Seat Modifications (Pier 1 W.B.L. & E.B.L. only)

Remove all joint filler at Bent 3 and Pier 1.

Ⓑ 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.

Ⓒ 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.

Ⓓ Place new Elastomeric Bearing Pads, as shown. (Total 16 required). For details of bearings, see Box Beam Detail Dwgs.

Ⓔ Lower Span D in accordance with approved Jacking Details.

Ⓕ Proceed with remaining construction.

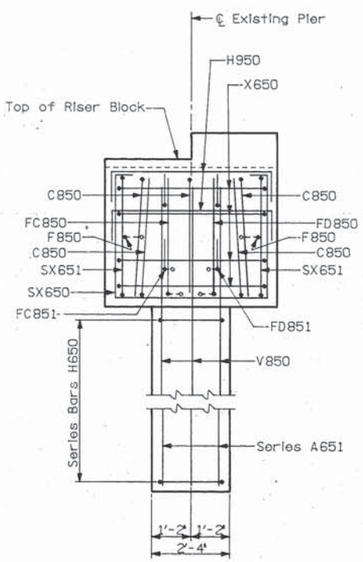
① Flush w/existing top of Pier.

② To C.G. of Angle.

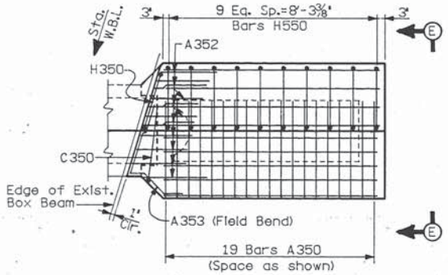
③ Place 1-Z650 at every intersection of Series H650 with Series A651 bars and A650 bars as shown. Omit where ∠8"x8"x¾" interferes.

④ Not used

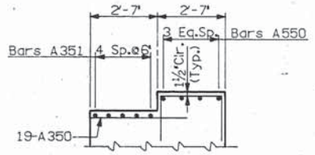
⑤ Existing Pier Cap/Column Concrete to be chipped back 4" minimum.



ELEVATION B-B

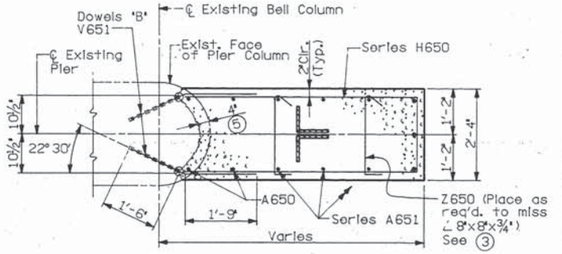


PLAN OF RISER BLOCK - PIER 1 W.B.L.
(Pier 3 E.B.L. - similar)



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

CORRECT _____ ENGINEER OF STRUCTURES

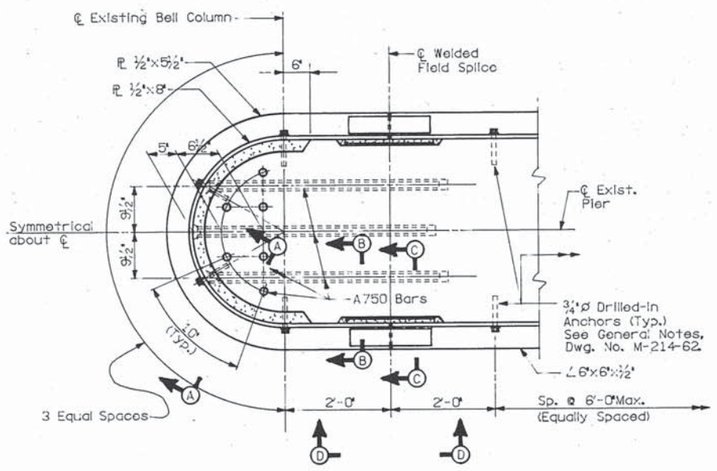
APPROVED _____ DIRECTOR OF HIGHWAYS

Scale: None

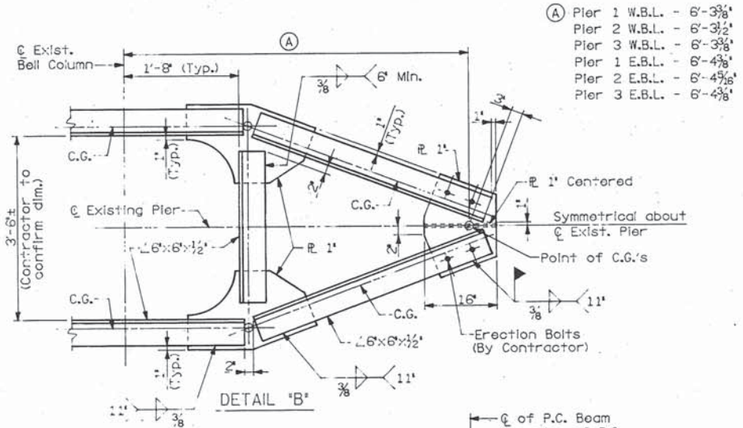
M-214-81

U.S.A. No. DTNOXX307E

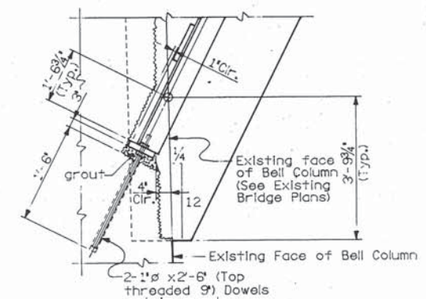
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DTNOXX 11-MAR-1989 12:56



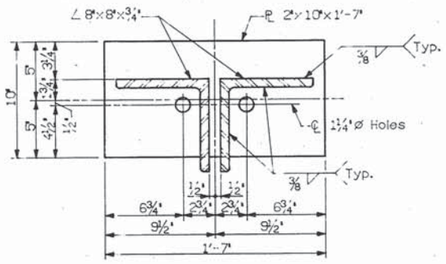
DETAIL "A"



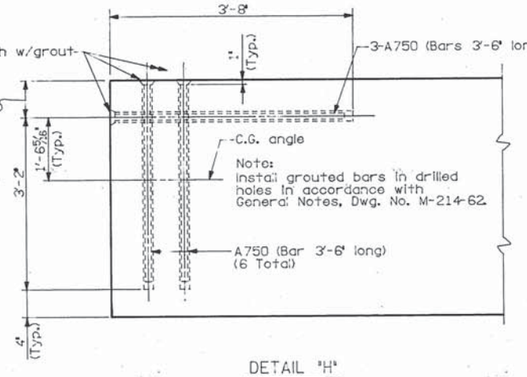
DETAIL "B"



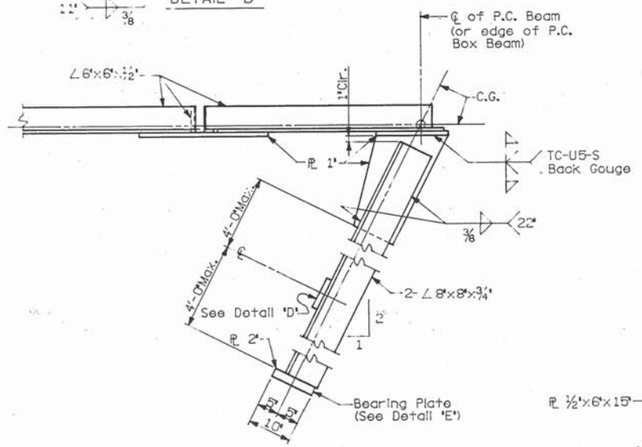
DETAIL "G"



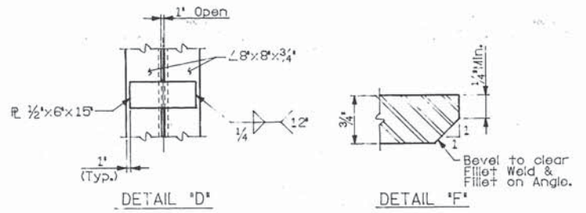
DETAIL "E"
PLAN OF BEARING PLATE



DETAIL "H"

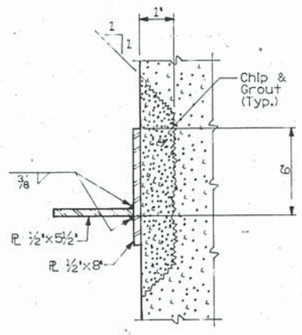


DETAIL "C"

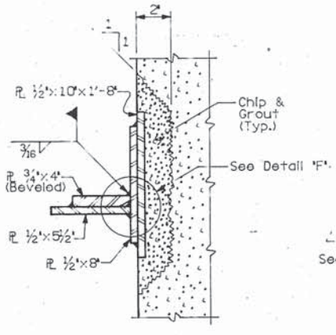


DETAIL "D"

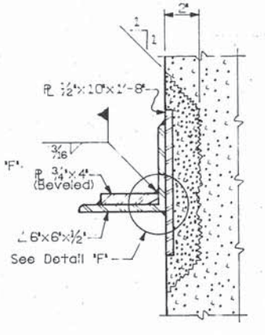
DETAIL "F"



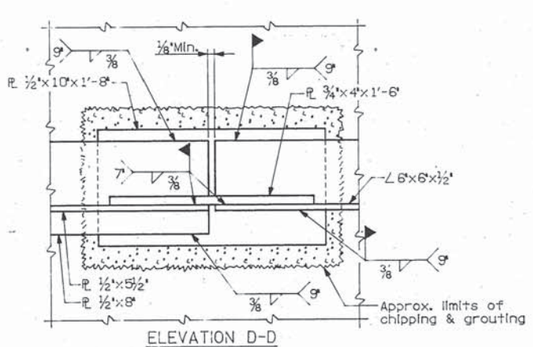
SECTION A-A



SECTION B-B



SECTION C-C



ELEVATION D-D

Notes Con't:

Drilled-in anchors shall be in accordance with General Notes.

Riser blocks to be poured monolithically with Cantilever cap beam.

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

Riser block bearing pad surface to conform to bottom of beam grade.

Anchor bolts shall be in place when Cantilever cap is poured.

Reinforcement shall be adjusted as needed to prevent interference with anchor bolt placement. Drilled and grouted anchor bolts shall not be allowed.

CONSTR. NO. 80001-3152-44

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

REVISIONS

NO.	DATE	BY	BRIEF DESCRIPTION

Notes:

For General Notes, see Dwg No. M-214-62.

Dimensions shown on this drawing are necessarily approximate. Contractor shall field verify dimensions of existing structure before proceeding with work, which includes but is not limited to the fabrication of structural steel, reinforcement, girders and formwork.

All welds and weld inspections to be in accordance with ANSI/AASHTO/AWS D1.5-88 and Special Provision No. 602. All welds, including fillet welds, to be inspected. All structural steel shall be considered main members for the purpose of determining frequency of inspection of fillet welds.

All structural steel not completely encased in concrete shall conform to AASHTO M 222 (ASTM A588), FY=50 ksi minimum. All structural steel completely encased in concrete shall conform to AASHTO M 183 (ASTM A36), FY=36 ksi.

All structural steel exposed to the atmosphere shall be finished with paint in accordance with General Notes for painting structural steel. In addition, surfaces not accessible after erection shall receive an additional shop primer coat of inorganic zinc paint.

Chipping portions of existing pier necessary for bracket addition and drilling and grouting of dowels shall be considered incidental to the work and shall not be paid for separately.

The 4 inch chipping of concrete may not be sufficient to insure the removal of all unsound concrete. If more concrete removal is required to reach sound material, care shall be taken not to cut or otherwise damage existing reinforcement.

Concrete shall obtain 90 per cent of the specified 28 day strength prior to placement of the girders.

Grout shall be non-shrink, F'c=5,000 psi. Grout shall be allowed to achieve a strength of 3,000 psi before being loaded.

Care shall be taken during placement of concrete to insure that concrete completely fills space under structural steel gusset plates and that no pockets or voids exist adjacent to gusset plates.

Mechanical couplers shall be Cold Forged Mechanical Splices applied by octagonal dies and be capable of developing 125% of the specified yield strength of the reinforcement, in accordance with Provisions of AASHTO Art.8.32. Certification of AASHTO compliance will be required prior to approval. All costs associated with installing mechanical couplers, labor, equipment and incidentals shall be included in the cost for item 604-03.02.

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAYS

PIERS 1, 2 & 3
I-40 W.B.L. & E.B.L. OVER CANEY FORK RIVER
STA. 295+91.96 ℄ SURVEY W.B.L. I-40
STA. 296+14.68 ℄ SURVEY E.B.L. I-40
SMITH COUNTY
1989

DESIGNED BY	WGA	DATE	2-89
DRAWN BY	EAS	DATE	2-89
SUPERVISED BY	WSH	DATE	2-89
CHECKED BY	WGA	DATE	2-89

CORRECT _____ ENGINEER OF STRUCTURES

APPROVED _____ DIRECTOR OF HIGHWAYS

Scale: None

M-214-81A

CONST. NO. 80001-3152-44

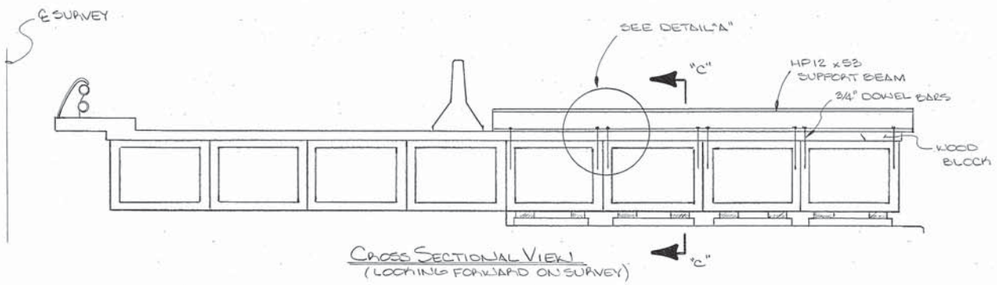
PROJECT NO.	YEAR	SHEET NO.
IM-40-5(91)257	1989	

REVISIONS

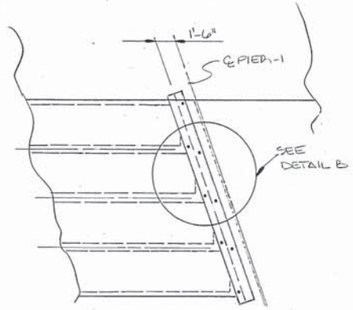
NO.	DATE	BY	BRIEF DESCRIPTION
1	06/16/89	WJHP	Added Sheet

NOTE:

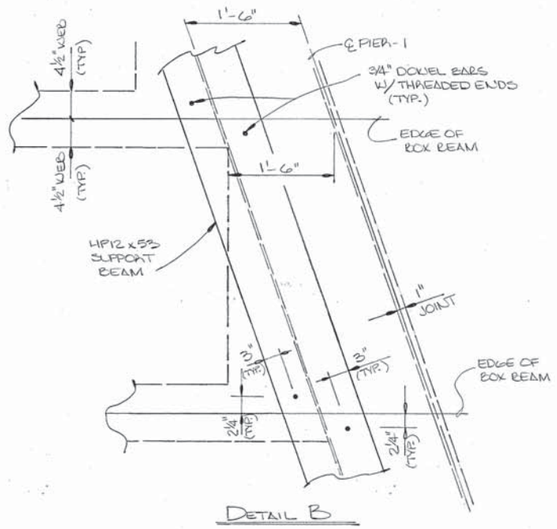
1) SEE NOTE ON GENERAL NOTES SHEET ABOUT GROUTED BARS.
2) THE HOLES FOR THE 3/4" DOWEL BAR ANCHORS NEED TO BE LOCATED AS CLOSE TO THE ℄ WEB OF THE EXISTING BOX BEAM TO PREVENT DAMAGE TO EXISTING BEAM.
3) THE CONTRACTOR CAN ELECT TO DO ONE RISER BLOCK AND BEARING REPLACEMENT UNDER ONE BEAM OR SEQUENCE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



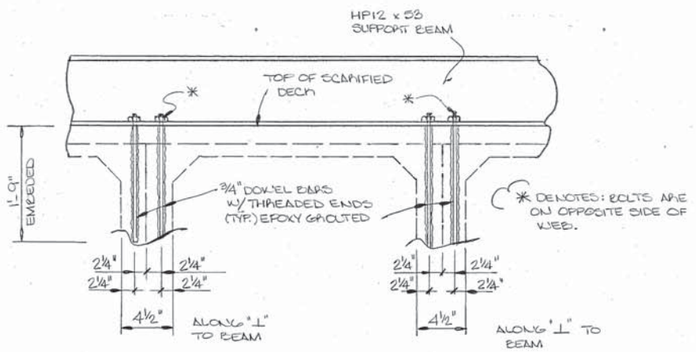
CROSS SECTIONAL VIEW
(LOOKING FORWARD ON SURVEY)



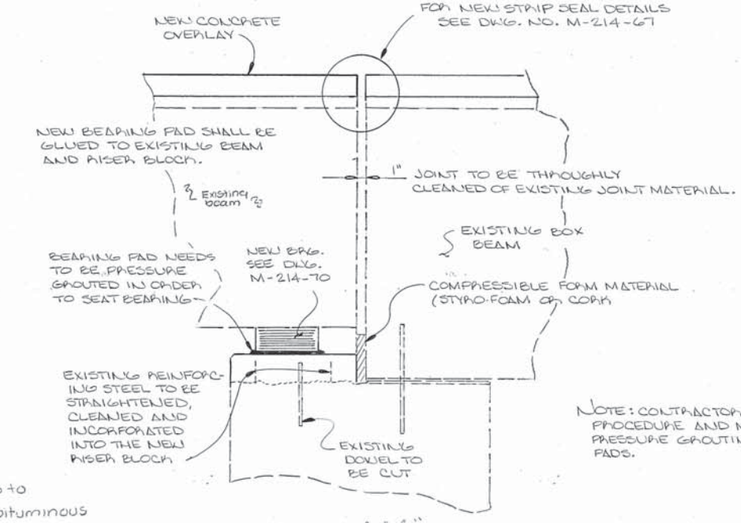
PLAN VIEW



DETAIL B



DETAIL "A"



SECTION "C-C"

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

Top of riser blocks to be painted with Bituminous paint.

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAYS

⚠ - Pier No. 1
Bearing Replacement Details
I-40 over
Caney Fork River
Sta. 295+91.96 ℄ Survey W.B.L. I-40
Smith County
1989

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

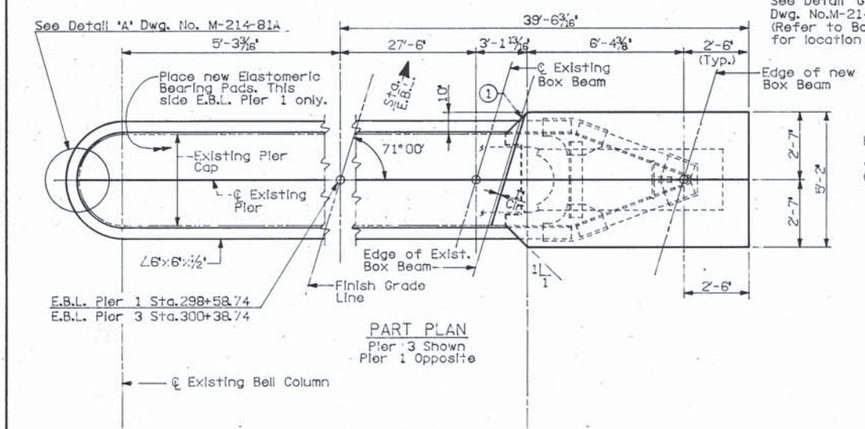
CORRECT _____
ENGINEER OF STRUCTURES

APPROVED _____
DIRECTOR OF HIGHWAYS

M-214-81AA

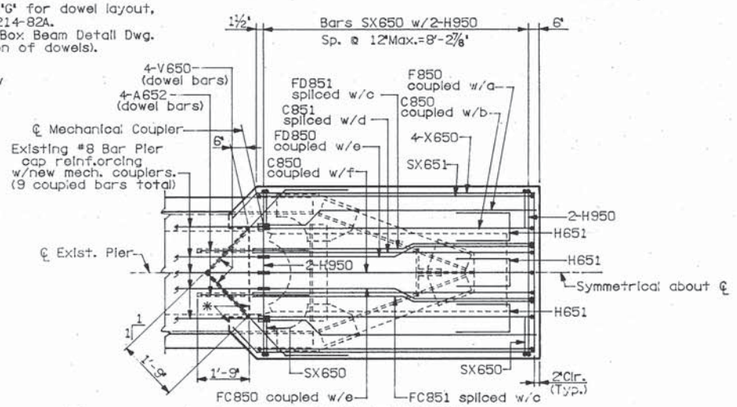
TELEFILM POST 9403951

U.S.A. No. DTNOXX307A



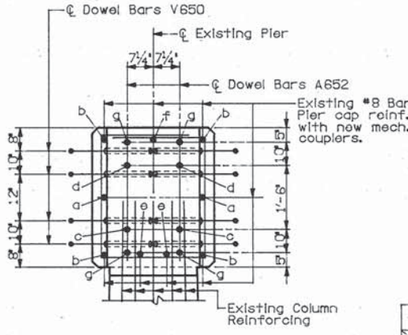
PART PLAN
Pier 3 Shown
Pier 1 Opposite

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



* Remove concrete to this line.

PLAN OF CANTILEVER CAP REINFORCING



SECTION A-A

g - Denotes A652 dowel bars only.

CONSTR. NO. 80001-3152-44

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

REVISIONS

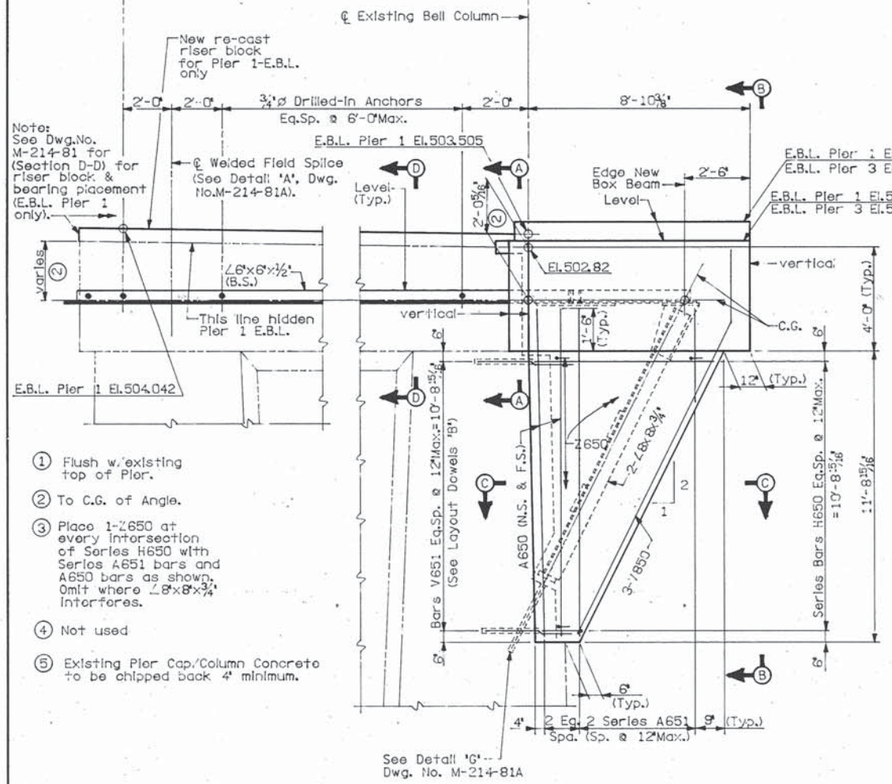
NO.	DATE	BY	BRIEF DESCRIPTION

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

ESTIMATED QUANTITIES - E.B.L.

Item / Pier No.	Class 'A' Concrete (Bridges) C.Y.	Structural Steel Lb.	Steel Bar Reinforcement (Bridges) Lb.
1	13	3,700	2,529
3	13	3,700	2,529

See Dwg. M-214-81, for Bearing Seat Modification notes.



① Flush w/existing top of Pier.

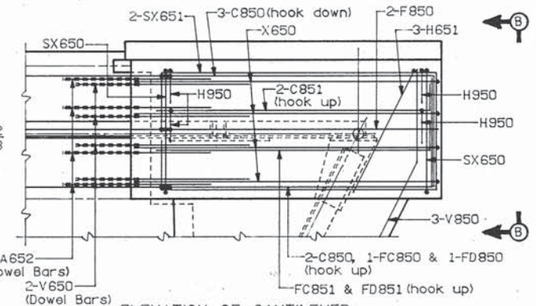
② To C.G. of Angle.

③ Place 1-Z650 at every intersection of Series H650 with Series A651 bars and A650 bars as shown. Omit where ∠8"x8"x¾" interferes.

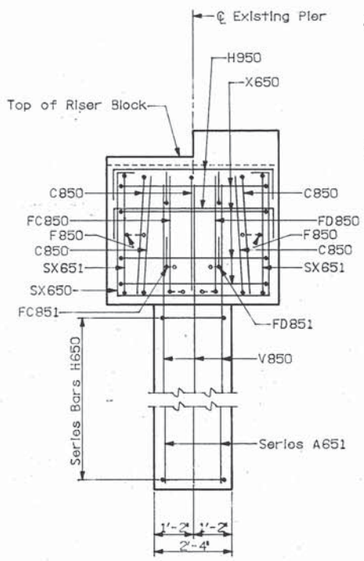
④ Not used

⑤ Existing Pier Cap/Column Concrete to be chipped back 4" minimum.

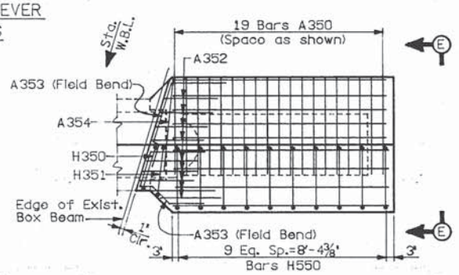
PART ELEVATION
(Showing Cantilever Column Reinforcing)
Pier 3 shown
Pier 1 similar



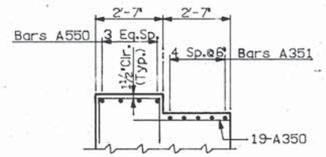
ELEVATION OF CANTILEVER CAP REINFORCING



ELEVATION B-B

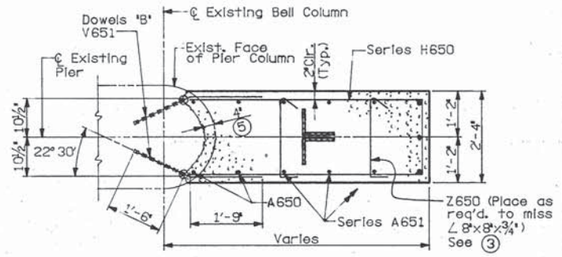


PLAN OF RISER BLOCK - PIER 1 E.B.L.
(Pier 3 W.B.L. - similar)



ELEVATION E-E
Pier 1 shown

Note:
For Pier 3 E.B.L. Riser Block Details, see Dwg. No.M-214-81.



SECTION C-C
(Layout Dowels 'B')

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAYS

PIERS 1 & 3
I-40 E.B.L. OVER CANEY FORK RIVER
STA. 296+14.68 ℄ SURVEY E.B.L. I-40
SMITH COUNTY
1989

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

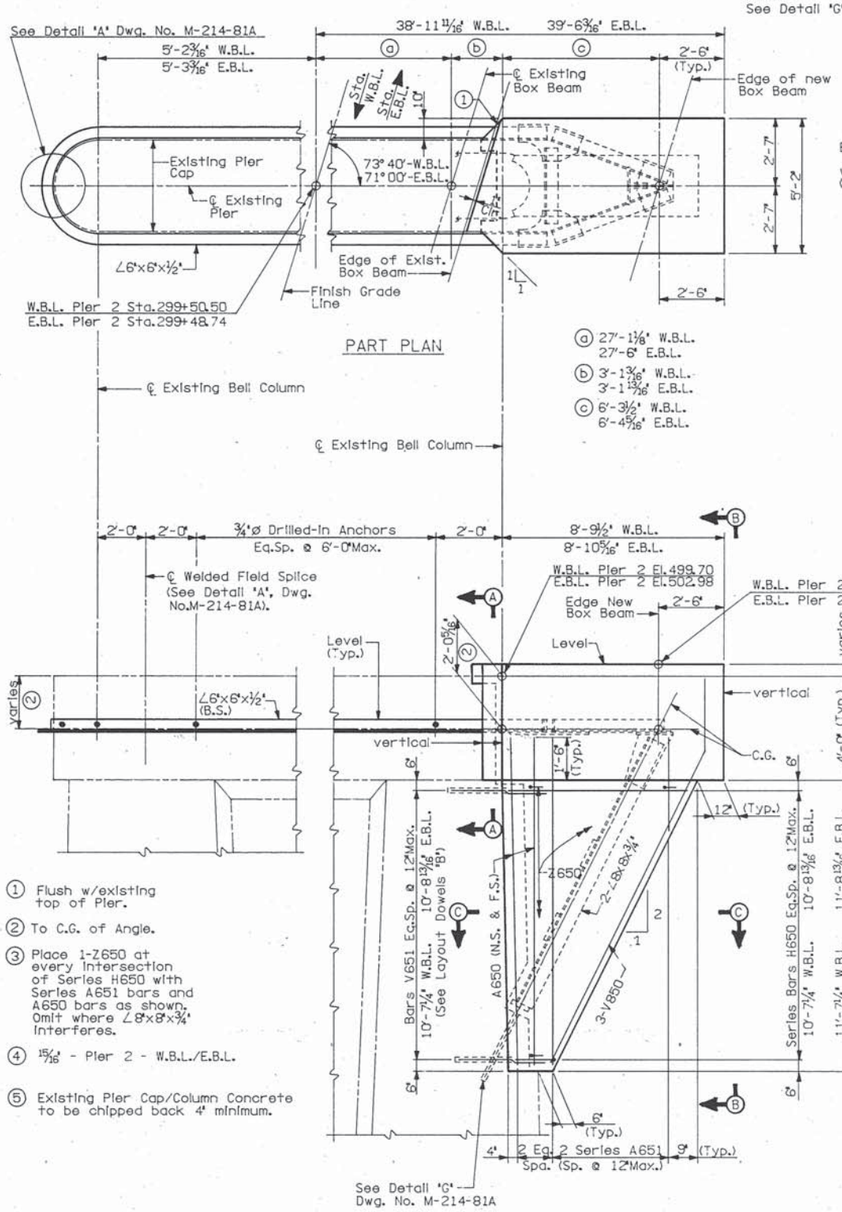
CORRECT _____ ENGINEER OF STRUCTURES

APPROVED _____ DIRECTOR OF HIGHWAYS

Scale: None

M-214-82

B.S.A. No. DTNOXX307C



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"x¾" interferes.

④ 15/16" - Pier 2 - W.B.L./E.B.L.

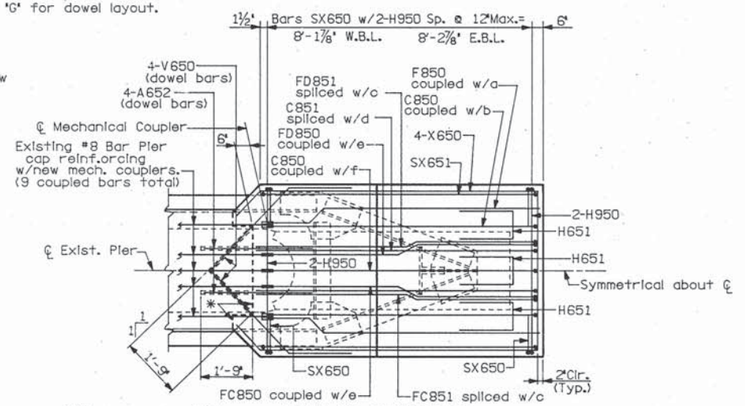
⑤ Existing Pier Cap/Column Concrete to be chipped back 4" minimum.

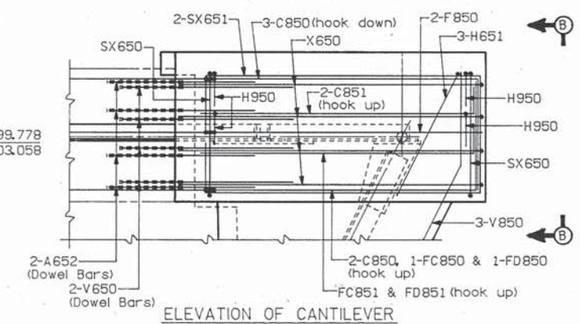
ⓐ 27'-1⅛" W.B.L.
27'-6" E.B.L.

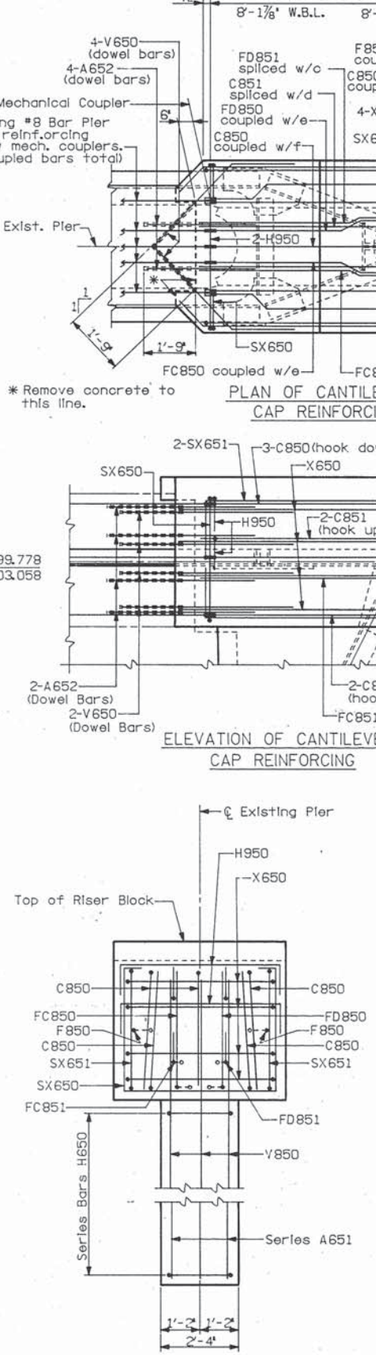
ⓑ 3'-1 3/16" W.B.L.
3'-1 13/16" E.B.L.

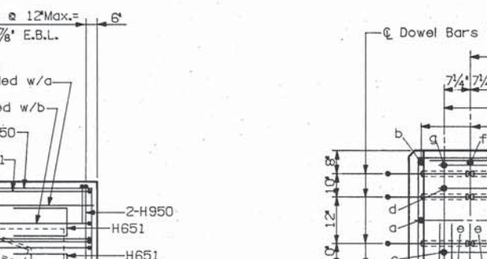
ⓒ 6'-3½" W.B.L.
6'-4 5/16" E.B.L.

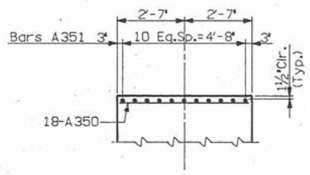
Note:
See Detail 'G' for dowel layout.

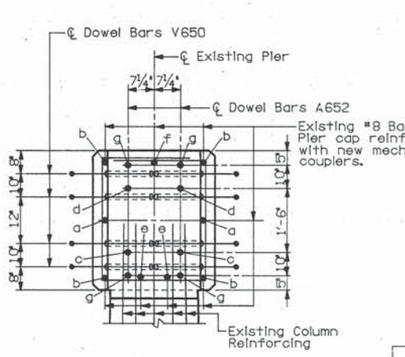












CONSTR. NO. 80001-3152-44

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

REVISIONS

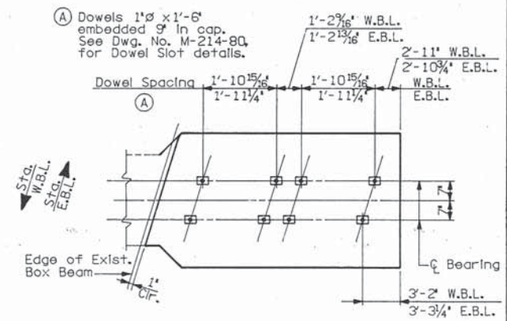
NO.	DATE	BY	BRIEF DESCRIPTION

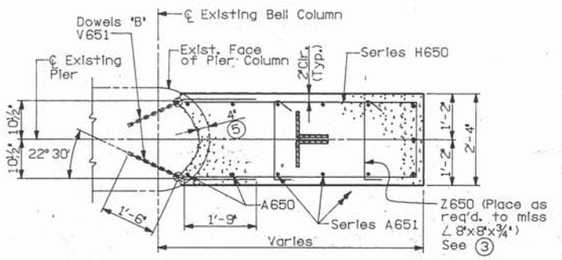
Note:
For notes, see Dwg. No. M-214-81A.

ESTIMATED QUANTITIES

Item / Pier No.	Class 'A' Concrete (Bridges) C.Y.	Structural Steel Lb.	Steel Bar Reinforcement (Bridges) Lb.
W.B.L. - 2	12	3,700	2435
E.B.L. - 2	12	3,700	2472

Ⓐ Dowels 1"ø x 1'-6" embedded 9" in cap. See Dwg. No. M-214-80 for Dowel Slot details.





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+14.68 ℄ SURVEY E.B.L. I-40

SMITH COUNTY
1989

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

CORRECT _____ ENGINEER OF STRUCTURES

APPROVED _____ DIRECTOR OF HIGHWAYS

Scale: None

M-214-82A

U.S.A. No. DTNOXX305A

ZFHT5B243DTNOXX305A0501
DTNOXX
13-JAN-1989 11:15

MARK	T	LOCATION	SZ	NO. RQ'D	DIMENSIONS FT-IN a	b	c	d	e	LENGTH FT-IN	WEIGHT LBS
SPAN A THRU G - W.B.L.											
A500	E	DECK	5	759	4- 9					4- 9	3760
A501	E	"	5	756	10- 9					10- 9	8476
A502	E	"	5	1	9- 8					9- 8	10
A503	E	"	5	1	8- 3					8- 3	9
A504	E	"	5	901	30- 0					30- 0	28192
A505	E	"	5	153	25- 6					25- 6	4069
A506	E	"	5	51	35- 6					35- 6	1888
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
⚠ B500	E	"	5	730	10- 0	0- 7				10- 7	8058
⚠ B501	E	"	5	1	41- 6	0- 7				42- 1	409
		~~@ 15 BAR SERIES~~		~~EACH~~	~~TO~~					TO	
					~~9- 8~~					10- 3	
⚠ B502	E	"	5	2	40- 1	0- 7				40- 8	789
		~~@ 16 BAR SERIES~~		~~EACH~~	~~TO~~					~~TO~~	
					~~6- 0~~					~~6- 7~~	
⚠ B503	E	"	5	1	42- 8	0- 7				43- 3	428
		~~@ 15 BAR SERIES~~		~~EACH~~	~~TO~~					~~TO~~	
					~~10-10~~					~~11- 5~~	
⚠ B504	E	"	5	381	25- 9	0- 7				26- 4	10464
L300	E	"	3	8	0- 6	1-10	0- 6			5- 8	17
V700	E	"	7	6	1- 7	5- 0	4- 9½	1- 4⅞		6- 7	81
⚠ B505	E	"	5	386	19-10	0-7				20- 5	8220
FOR CONTINUATION SEE SHEET M-214-151B					***TOTAL WEIGHT (LBS)						77944
***TOTAL INCLUDES 77944 LBS OF EPOXY COATED BARS											
ABUTMENT 1 W.B.L.											
A440		WINGWALL 2	4	4	5- 9					5- 9	15
A540		ABUTMENT	5	96	3- 8					3- 8	367
⚠ A541		ABUTMENT	5	11	20- 2					20- 2	231
A542		WINGWALL 2	5	1	7- 8					7- 8	8
A543		ABUTMENT	5	14	3- 6					3- 6	51
A544		"	5	3	6- 2					6- 2	19
⚠ A740	E	"	7	4	20- 2					20- 2	165
⚠ A741		"	7	2	20- 2					20- 2	82
A940		WINGWALL 2	9	4	14- 6					14- 6	197
C540	E	ABUTMENT	5	48	10- 0	0-10				10-10	542
E541		WINGWALL 2	5	4	1- 8	0-10	0- 5⅞	0- 8⅛		3- 4	14
H440		WINGWALL 2	4	1	0- 9	3- 0				6- 9	24
		@ 4 BAR SERIES		EACH		TO				TO	
						5- 5				11- 7	
H441		"	4	2	0- 9	5- 8				12- 1	16
H540		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		WINGWALL 2	4	6	0- 8	1- 6	0- 9½	2- 1½	1- 6	5- 1	20
RA540		ABUTMENT	5	44	0-10	1- 9	0- 6	2- 5	1- 8½	5- 6	252
V440		WINGWALL 2	4	2	7- 8	0- 8	0- 2½	0- 7⅜		8- 4	11
V441		"	4	1	6- 7	0- 8	0- 2½	0- 7⅜		7- 3	5
V442		"	4	1	3- 9	0- 8	0- 2½	0- 7⅜		4- 5	3
V443		"	4	2	2- 2¼	6- 0	5- 4	2-10½		8- 2	11
⚠ V543		ABUTMENT	5	7	25- 4	0-10	0- 3⅛	0- 9⅝		26- 2	191
V541		WINGWALL 2	5	4	8- 0	0-10	0- 3⅛	0- 9⅝		8-10	37
V542		"	5	1	2- 0	0-10	0- 3⅛	0- 9⅝		2-10	21
		@ 4 BAR SERIES		EACH	TO					TO	
					6- 3					7- 1	
⚠ A545		ABUTMENT	5	5	25- 4					25- 4	132
⚠ A546		"	5	1	19- 4					19- 4	20
⚠ A742		"	7	2	25- 4					25- 4	104
⚠ A743	E	"	7	4	25- 4					25- 4	207
⚠ TOTAL WEIGHT (LBS) 3395 INCLUDES 2436 LBS OF NON EPOXY, 959 LBS OF EPOXY											
BENT 1 - W.B.L.											
A550		CAP	5	4	7- 3					7- 3	30
A650		"	6	3	3- 0					3- 0	14
A950		"	9	4	7- 3					7- 3	99
A1050		COLUMN	10	16	24- 8					24- 8	1698
A1051		CAP	10	1	8- 3					8- 3	136
		@ 4 BAR SERIES		EACH	TO					TO	
					7- 7					7- 7	

MARK	T	LOCATION	SZ	NO. RQ'D	DIMENSIONS FT-IN a	b	c	d	e	LENGTH FT-IN	WEIGHT LBS
BENT 1 - W.B.L.											
D650		CAP	6	2	1- 2	1- 0				2- 2	7
C1050		FOOTING	10	16	8- 5	1-10				10- 3	706
C1051		CAP	10	4	5- 0	5- 0				10- 0	172
D650		FOOTING	6	34	8- 6	0- 8				9-10	502
H550		CAP	5	1	2- 4	0- 2½				2- 9	3
L450		COLUMN	4	24	2- 3	2- 3	0- 4½			9- 9	156
L550		CAP	5	5	2- 8½	2- 3	0- 6			10-11	57
***TOTAL WEIGHT (LBS)											3580
BENT 2 - W.B.L.											
A550		CAP	5	4	7- 3					7- 3	30
A650		"	6	3	3- 0					3- 0	14
A950		"	9	4	7- 3					7- 3	99
A1050		COLUMN	10	16	24- 5					24- 5	1681
A1051		CAP	10	1	8- 3					8- 3	136
		@ 4 BAR SERIES		EACH	TO					TO	
					7- 7					7- 7	
D650		CAP	6	2	1- 2	1- 0				2- 2	7
C1050		FOOTING	10	16	8- 5	1-10				10- 3	706
C1051		CAP	10	4	5- 0	5- 0				10- 0	172
D650		FOOTING	6	34	8- 6	0- 8				9-10	502
H550		CAP	5	1	2- 4	0- 2½				2- 9	3
L450		COLUMN	4	23	2- 3	2- 3	0- 4½			9- 9	150
L550		CAP	5	5	2- 8½	2- 3	0- 6			10-11	57
***TOTAL WEIGHT (LBS)											3557
BENT 3 - W.B.L.											
A550		CAP	5	4	7- 3					7- 3	30
A650		"	6	3	3- 0					3- 0	14
A950		"	9	4	7- 3					7- 3	99
A1050		COLUMN	10	16	26- 4					26- 4	1813
A1051		CAP	10	1	8- 3					8- 3	136
		@ 4 BAR SERIES		EACH	TO					TO	
					7- 7					7- 7	
D650		CAP	6	2	1- 2	1- 0				2- 2	7
C1050		FOOTING	10	16	8- 5	1-10				10- 3	706
C1051		CAP	10	4	5- 0	5- 0				10- 0	172
D650		FOOTING	6	34	8- 6	0- 8				9-10	502
H550		CAP	5	1	2- 4	0- 2½				2- 9	3
L450		COLUMN	4	25	2- 3	2- 3	0- 4½			9- 9	163
L550		CAP	5	5	2- 8½	2- 3	0- 6			10-11	57
***TOTAL WEIGHT (LBS)											3702
PIER 1 - W.B.L.											
A350		RISER BLOCK	3	19	3- 6					3- 6	25
A351		"	3	5	8- 6					8- 6	16
A352		"	3	10	2- 6					2- 6	9
A353		"	3	1	6- 0					6- 0	2
A550		"	5	4	8- 6					8- 6	35
A650		CANT.COLUMN	6	4	12-11					12-11	78
A651		"	6	2	12-11					12-11	140
@ 6 BAR SERIES				EACH	TO					TO	
					2- 7½					2- 8	
A652		CANT.CAP	6	8	3- 6					3- 6	42
C350		RISERBLOCK	3	1	3- 0	1- 0				4- 0	2
C850		CANT.CAP	8	5	8- 4¼	3- 5½				11-10	158
C851		"	8	2	8- 7¾	1- 0				9- 8	52
F850		"	8	2	1- 4¼	0- 9	6- 5¼	0- 6¼	0- 6¼	8- 7	46
FC850		"	8	1	3-10⅜	0-10⅜	3- 8	0- 9	3- 5½	11-11	32
FC851		"	8	1	4- 6¼	0- 2	3- 8	0- 1¾	1- 0	9- 4	25
FD850		"	8	1	3-11	0-10⅜	3- 8	0- 9	3- 5½	11-11	32
FD851		"	8	1	4- 6¼	0- 2	3- 8	0- 1¾	1- 0	9- 4	25
H650		CANT.COLUMN	6	1	2- 0	6- 9¾				15- 8	182
@ 12 BAR SERIES				EACH		TO				TO	
						1- 3				4- 6	
H651		CANT.CAP	6	3	1- 0	4- 0				9- 0	41
H950		"	9	20	4-10	1- 0				6-10	465
SX650		"	6	10	4- 9½	3- 7½	1- 0			14- 1	212
SX651		"	6	2	3- 5¾	8- 7½	1- 9			24- 3	73
V650		"	6	8	3- 3	1- 9	1- 2⅞	1- 2⅞		5- 0	60
V651		CANT.COLUMN	6	24	1- 9	1- 9	1- 7⅜	0- 8		3- 6	126
V850		"	8	3	14- 4	2- 4½	2- 1½	1- 0¾		16- 9	134
X650		CANT.CAP	6	4	4- 7¾	8- 6¾	1- 0	0- 8½		23- 9	143
Z650		CANT.COLUMN	6	53	1- 0	2- 0	0- 8			3- 8	292
***TOTAL WEIGHT (LBS)											2515
PIER 2 - W.B.L.											
A350		RISER BLOCK	3	18	4-11					4-11	33
A351		"	3	1	9- 9					9- 9	38
@ 11 BAR SERIES				EACH	TO					TO	
					8- 8					8- 8	
A352		"	3	4	4- 1					4- 1	6
A650		CANT.COLUMN	6	4	12-11					12-11	78
A651		"	6	2	12-11					12-11	140
@ 6 BAR SERIES				EACH	TO					TO	
					2- 7½					2- 8	
A652		CANT.CAP	6	8	3- 6					3- 6	42
C850		"	8	5	8- 4¼	3- 5½				11-10	158
C851		"	8	2	8- 8	1- 0				9- 8	52
F850		"	8	2	1- 4¼	0- 9	6- 5¼	0- 6¼	0- 6¼	8- 7	46
FC850		"	8	1	3-11	0-10⅜	3- 8	0- 9	3- 5½	11-11	32
FC851		"	8	1	4- 6¼	0- 2	3- 8	0- 1¾	1- 0	9- 4	25
FD850		"	8	1	3-11	0-10⅜	3- 8	0- 9	3- 5½	11-11	32
FD851		"	8	1	4- 6¼	0- 2	3- 8	0- 1¾	1- 0	9- 4	25
H650		CANT.COLUMN	6	1	2- 0	6- 9¾				15- 8	182
@ 12 BAR SERIES				EACH		TO				TO	
						1- 3				4- 6	
H651		CANT.CAP	6	3	1- 0	4- 0				9- 0	41
H950		"	9	20	4-10	1- 0				6-10	465
SX650		"	6	10	4- 9½	3- 7½	1- 0			14- 1	212
SX651		"	6	2	3- 5¾	8- 7½	1- 9			24- 3	73
V650		"	6	8	3- 3	1- 9	1- 2⅞	1- 2⅞		5- 0	60
V651		CANT.COLUMN	6	24	1- 9	1- 9	1- 7⅜	0- 8		3- 6	126
V850		"	8	3	14- 4	2- 4½	2- 1½	1- 0¾		16- 9	134
X650		CANT.CAP	6	4	4- 7¾	8- 7	1- 0	0- 8½		23-10	143
Z650		CANT.COLUMN	6	53	1- 0	2- 0	0- 8			3- 8	292
***TOTAL WEIGHT (LBS)											2435
ABUTMENT 1 WBL FOUNDATION REPAIR											
A680	E	FD'N. REPAIR	6	24	18-9					18-9	676
C480	E	"	4	62	1-0	3-0				4-0	166
***TOTAL WEIGHT (LBS)											842
***TOTAL INCLUDES 842 LBS OF EPOXY COATED BARS											

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	REVISED REINF.

REINFORCING STEEL CODE

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.

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAYS

BILL OF STEEL

I-40 OVER CANEY FORK RIVER

STA. 295+91.96 W.B.L.
STA. 296+14.68 E.B.L.
SMITH COUNTY
1989

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 _____ DIRECTOR OF HIGHWAYS

M-214-83

U.S.A. Mod DTNOXX305A

ZFL1F09.24)DTNØXX305J(DGN)1
13-JAN-1989 11:51
DTNØXX

PIER 3 - W.B.L.

MARK	T	LOCATION	SZ	NO. RQ'D	DIMENSIONS FT-IN a	b	c	d	e	LENGTH FT-IN	WEIGHT LBS
A350		RISER BLOCK	3	19	3- 6					3- 6	25
A351		"	3	5	8- 6					8- 6	16
A352		"	3	10	2- 6					2- 6	9
A353		"	3	1	6- 0					6- 0	2
A550		"	5	4	8- 6					8- 6	35
A650		CANT. COLUMN	6	4	12-11					12-11	78
A651		"	6	2	12-11					12-11	140
		@ 6 BAR SERIES		EACH	TO					TO	
					2- 7½					2- 8	
A652		CANT. CAP	6	8	3- 6					3- 6	42
C350		RISERBLOCK	3	1	3- 0	1- 0				4- 0	2
C850		CANT. CAP	8	5	8- 4¼	3- 5½				11-10	158
C851		"	8	2	8- 7¾	1- 0				9- 8	52
F850		"	8	2	1- 4¼	0- 9	6- 5¼	0- 6¼	0- 6¼	8- 7	46
FC850		"	8	1	3-10¾	0-10⅜	3- 8	0- 9	3- 5½	11-11	32
FC851		"	8	1	4- 6¼	0- 2	3- 8	0- 1¾	1- 0	9- 4	25
FD850		"	8	1	3-11	0-10⅜	3- 8	0- 9	3- 5½	11-11	32
FD851		"	8	1	4- 6¼	0- 2	3- 8	0- 1¾	1- 0	9- 4	25
H350		RISERBLOCK	3	1	2- 2	1- 0				4- 2	2
H550		"	5	10	2- 4	2- 0				6- 4	66
H650		CANT. COLUMN	6	1	2- 0	6-10				15- 8	182
		@ 12 BAR SERIES		EACH		TO				TO	
						1- 3				4- 6	
H651		CANT. CAP	6	3	1- 0	4- 0				9- 0	41
H950		"	9	20	4-10	1- 0				6-10	465
SX650		"	6	10	4- 9½	3- 7½	1- 0			14- 1	212
SX651		"	6	2	3- 5¾	8- 7½	1- 9			24- 3	73
V650		"	6	8	3- 3	1- 9	1- 2⅞	1- 2⅞		5- 0	60
V651		CANT. COLUMN	6	24	1- 9	1- 9	1- 7⅜	0- 8		3- 6	126
V850		"	8	3	14- 4	2- 4½	2- 1½	1- 0¾		16- 9	134
X650		CANT. CAP	6	4	4- 7¾	8- 6¾	1- 0	0- 8½		23- 9	143
Z650		CANT. COLUMN	6	53	1- 0	2- 0	0- 8			3- 8	292

***TOTAL WEIGHT (LBS) 2515

ABUTMENT 2 W.B.L.

MARK	T	LOCATION	SZ	NO. RQ'D	DIMENSIONS FT-IN a	b	c	d	e	LENGTH FT-IN	WEIGHT LBS
A440		WINGWALL 1	4	4	5- 9					5- 9	15
A540		ABUTMENT	5	96	3- 8					3- 8	367
⚠ A541		"	5	11	20-2					20- 2	231
A542		WINGWALL 1	5	1	7- 8					7- 8	8
A543		ABUTMENT	5	14	3- 6					3- 6	51
A544		"	5	3	6- 2					6- 2	19
⚠ A740	E	"	7	4	20- 2					20- 2	165
⚠ A741		"	7	2	20- 2					20- 2	82
A940		WINGWALL 1	9	4	14- 6					14- 6	197
C540	E	ABUTMENT	5	48	10- 0	0-10				10-10	542
E540		WINGWALL 1	5	4	3- 0	0-10	0- 8	0- 6		4- 8	19
H440		WINGWALL 1	4	1	0- 9	3- 0				6- 9	24
		@ 4 BAR SERIES		EACH		TO				TO	
						5- 5				11- 7	
H441		WINGWALL 1	4	2	0- 9	5- 8				12- 1	16
H540		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		WINGWALL 1	4	6	0- 8	1- 6	0- 9½	2- 1½	1- 6	5- 1	20
RA540		ABUTMENT	5	44	0-10	1- 9	0- 6	2- 5	1- 8½	5- 6	252
V443		"	4	2	2- 2¼	6- 0	5- 4	2-10½		8- 2	11
VX440		"	4	2	7- 7	0- 8	0- 2½	0- 7⅜		8- 3	11
VX441		"	4	1	7- 0	0- 8	0- 2½	0- 7⅜		7- 8	5
VX442		"	4	1	4- 0	0- 8	0- 2½	0- 7⅜		4- 8	3
⚠ VX543		ABUTMENT	5	7	25- 4	0-10	0- 3⅛	0- 9⅜		26- 2	191
VX541		WINGWALL	5	4	7- 4	0-10	0- 3⅛	0- 9⅜		8- 2	34
VX542		WINGWALL 1	5	1	2- 7	0-10	0- 3⅛	0- 9⅜		3- 5	23
		@ 4 BAR SERIES		EACH	TO	6- 9				TO	
										7- 7	
⚠ A545		ABUTMENT	5	5	25-4					25-4	132
⚠ A546		"	5	1	19-4					19-4	20
⚠ A742		"	7	2	25-4					25-4	104
⚠ A743	E	"	7	4	25-4					25-4	207

***TOTAL WEIGHT (LBS) 3399

⚠ *** TOTAL INCLUDES 959 LBS OF EPOXY COATED BARS

⚠ *** TOTAL INCLUDES 2440 LBS OF NON EPOXY COATED BARS

SPAN A THRU G - E.B.L.

MARK	T	LOCATION	SZ	NO. RQ'D	DIMENSIONS FT-IN a	b	c	d	e	LENGTH FT-IN	WEIGHT LBS
A500	E	DECK	5	730	4- 9					4- 9	3617
A501	E	"	5	⚠ 726	10- 9					10- 9	8140
A502	E	"	5	1	9- 5					9- 5	23
		@ 3 BAR SERIES		EACH	TO					TO	
					5- 7					5- 7	
A503	E	"	5	1	9- 0					9- 0	9
A504	E	"	5	848	30- 0					30- 0	26534
A505	E	"	5	153	23- 6					23- 6	3750
A506	E	"	5	57	31- 6					31- 6	1676
A507	E	"	5	57	27- 6					27- 6	1463
A508	E	"	5	53	21- 7 ⚠					21- 7	1193
A509	E	"	5	53	23- 0 ⚠					23- 0	1271
A700	E	"	7	3	7- 2					7- 2	44
B500	E	"	5	692	10- 0	0- 7				10- 7	7638
B501	E	"	5	2	41-11	0- 7				42- 6	978
⚠		@ 18 BAR SERIES		EACH	TO					TO	
					9- 0					9- 7	
⚠ B502	E	"	5	2	40- 2	0- 7				40- 9	930
		@ 19 BAR SERIES		EACH	TO					TO	
					5- 7					6- 2	
B504	E	"	5	366	25- 9	0- 7				26- 4	10052
L300	E	"	3	8	0- 6	1-10	0- 6			5- 8	17
V700	E	"	7	6	1- 7	5- 0	4- 8¾	1- 7½		6- 7	81
B505	E	"	5	370	19-10					20- 5	7879

⚠ (1) ***TOTAL WEIGHT (LBS) 75358

*** TOTAL INCLUDES 75358 LBS OF EPOXY COATED BARS

ABUTMENT 1 E.B.L.

MARK	T	LOCATION	SZ	NO. RQ'D	DIMENSIONS FT-IN a	b	c	d	e	LENGTH FT-IN	WEIGHT LBS
A440		WINGWALL 1	4	4	5- 9					5- 9	15
A540		ABUTMENT	5	96	3- 8					3- 8	367
⚠ A541		"	5	11	20- 2					20- 2	231
A542		WINGWALL 1	5	1	7- 8					7- 8	8
A543		ABUTMENT	5	14	3- 6					3- 6	51
A544		"	5	3	6- 2					6- 2	19
⚠ A740	E	"	7	4	20- 2					20- 2	165
⚠ A741		"	7	2	20- 2					20- 2	82
C540	E	ABUTMENT	5	48	10- 0	0-10				10-10	542
E540		WINGWALL 1	5	4	3- 0	0-10	0- 8	0- 6		4- 8	19
H440		WINGWALL 1	4	1	0- 9	3- 0				6- 9	24
		@ 4 BAR SERIES		EACH		TO				TO	
						5- 5				11- 7	
H441		WINGWALL 1	4	2	0- 9	5- 8				12- 1	16
H540		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		WINGWALL 1	4	6	0- 8	1- 6	0- 9½	2- 1½	1- 6	5- 1	20
RA540		ABUTMENT	5	44	0-10	1- 9	0- 6	2- 5	1- 8½	5- 6	252
V443		"	4	2	2- 2¼	6- 0	5- 4	2-10½		8- 2	11
VX440		"	4	2	7- 7	0- 8	0- 2½	0- 7⅜		8- 3	11
VX441		"	4	1	7- 0	0- 8	0- 2½	0- 7⅜		7- 8	5
VX442		"	4	1	4- 0	0- 8	0- 2½	0- 7⅜		4- 8	3
VX540		ABUTMENT ⚠	5	7	25- 8	0-10	0- 3⅛	0- 9⅜		26- 6	193
VX541		WINGWALL	5	4	7- 4	0-10	0- 3⅛	0- 9⅜		8- 2	34
VX542		WINGWALL 1	5	1	2- 7	0-10	0- 3⅛	0- 9⅜		3- 5	23
		@ 4 BAR SERIES		EACH	TO					TO	
					6- 9					7- 7	

SEE CONTINUATION AT BOTTOM OF THIS SHEET ⚠

***TOTAL WEIGHT (LBS) ⚠ 3442

*** TOTAL INCLUDES ⚠ 959 LBS OF EPOXY COATED BARS

*** TOTAL INCLUDES ⚠ 2483 LBS OF NON EPOXY COATED BARS

BENT 1 - E.B.L.

MARK	T	LOCATION	SZ	NO. RQ'D	DIMENSIONS FT-IN a	b	c	d	e	LENGTH FT-IN	WEIGHT LBS
A550		CAP	5	4	7- 3					7- 3	30
A650		"	6	3	3- 0					3- 0	14
A950		"	9	4	7- 3					7- 3	99
A1050		COLUMN	10	16	29- 9					29- 9	2048
A1051		CAP	10	1	8- 3					8- 3	136
		@ 4 BAR SERIES		EACH	TO					TO	
					7- 7					7- 7	
O650		"	6	2	1- 2	1- 0				2- 2	7

⚠ ABUTMENT 1 E.B.L. CONT.

MARK	T	LOCATION	SZ	NO. RQ'D	DIMENSIONS FT-IN a	b	c	d	e	LENGTH FT-IN	WEIGHT LBS
⚠ A545		ABUTMENT	5	5	25-4					25-4	132
⚠ A546		"	5	1	19-4					19-4	20
⚠ A742		"	7	2	25-4					25-4	104
⚠ A743	E	"	7	4	25-4					25-4	207
⚠ H541		"	5	8	0-7½	2-2				5-0	41

BENT 1 - E.B.L.

MARK	T	LOCATION	SZ	NO. RQ'D	DIMENSIONS FT-IN a	b	c	d	e	LENGTH FT-IN	WEIGHT LBS
C1050		FOOTING	10	16	8- 2	1-10				10- 0	688
C1051		CAP	10	4	5- 0	5- 0				10- 0	172
D650		FOOTING	6	34	8- 6	0- 8				9-10	502
H650		CAP	5	1	2- 4	0- 2½				2- 9	3
L450		COLUMN	4	29	2- 3	2- 3	0- 4½			9- 9	189
L550		CAP	5	5	2- 8½	2- 3	0- 6			10-11	57

***TOTAL WEIGHT (LBS) 3945

BENT 2 - E.B.L.

MARK	T	LOCATION	SZ	NO. RQ'D	DIMENSIONS FT-IN a	b	c	d	e	LENGTH FT-IN	WEIGHT LBS
A550		CAP	5	4	7- 3					7- 3	30
A650		"	6	3	3- 0					3- 0	14
A950		"	9	4	7- 3					7- 3	99
A1050		COLUMN	10	16	29- 6					29- 6	2031
A1051		CAP	10	1	8- 3					8- 3	136
		@ 4 BAR SERIES		EACH	TO					TO	
					7- 7					7- 7	
C650		CAP	6	2	1- 2	1- 0				2- 2	7
C1050		FOOTING	10	16	8- 2	1-10				10- 0	688
C1051		CAP	10	4	5- 0	5- 0				10- 0	172
D650		FOOTING	6	34	8- 6	0- 8				9-10	502
H650		CAP	5	1	2- 4	0- 2½				2- 9	3
L450		COLUMN	4	29	2- 3	2- 3	0- 4½			9- 9	189
L550		CAP	5	5	2- 8½	2- 3	0- 6			10-11	57

***TOTAL WEIGHT (LBS) 3928

BENT 3 - E.B.L.

MARK	T	LOCATION	SZ	NO. RQ'D	DIMENSIONS FT-IN a	b	c	d	e	LENGTH FT-IN	WEIGHT LBS
A550		CAP	5	4	7- 3					7- 3	30
A650		"	6	3	3- 0					3- 0	14
A950		"	9	4	7- 3					7- 3	99
A1050		COLUMN	10	16	31- 5					31- 5	2163
A1051		CAP	10	1	8- 3					8- 3	136
		@ 4 BAR SERIES		EACH	TO					TO	
					7- 7					7- 7	
O650		CAP	6	2	1- 2	1- 0				2- 2	7
C1050		FOOTING	10	16	8- 2	1-10				10- 0	688
C1051		CAP	10	4	5- 0	5- 0				10- 0	172
D650		FOOTING	6	34	8- 6	0- 8				9-10	502
H650		CAP	5	1	2- 4	0- 2½				2- 9	3
L450		COLUMN	4	30	2- 3	2- 3	0- 4½			9- 9	195
L550		CAP	5	5	2- 8½	2- 3	0- 6			10-11	57

***TOTAL WEIGHT (LBS) 4066

ABUTMENT 2 W.B.L. FOUNDATION REPAIR

MARK	T	LOCATION	SZ	NO. RQ'D	DIMENSIONS FT-IN a	b	c	d	e	LENGTH FT-IN	WEIGHT LBS
A680	E	FD'N. REPAIR	6	24	18-9					18-9	676 ⚠
C480	E	"	4	62	1-0	3-0				4-0	166

***TOTAL WEIGHT (LBS) 842 ⚠

*** TOTAL INCLUDES 842 LBS OF EPOXY COATED BARS ⚠

ABUTMENT 1 E.B.L. FOUNDATION REPAIR

MARK	T	LOCATION	SZ	NO. RQ'D	DIMENSIONS FT-IN a	b	c	d	e	LENGTH FT-IN	WEIGHT LBS
A680	E	FD'N. REPAIR	6	24	18-9					18-9	676 ⚠
C480	E	"	4	63	1-0	3-0				4-0	168

***TOTAL WEIGHT (LBS) 844 ⚠

*** TOTAL INCLUDES 844 LBS OF EPOXY COATED BARS ⚠

ABUTMENT 2 E.B.L. FOUNDATION REPAIR

MARK	T	LOCATION	SZ	NO. RQ'D	DIMENSIONS FT-IN a	b	c	d	e	LENGTH FT-IN	WEIGHT LBS
A680	E	FD'N. REPAIR	6	24	18-9					18-9	676 ⚠
C480	E	"	4	63	1-0	3-0				4-0	168

***TOTAL WEIGHT (LBS) 844 ⚠

*** TOTAL INCLUDES 844 LBS OF EPOXY COATED BARS ⚠

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

CONSTR. NO. 80001-3152-44

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

REVISIONS

NO.	DATE	BY	BRIEF DESCRIPTION
⚠ 1	9-W-89	DWT	REVISED REINF.

REINFORCING STEEL CODE

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+91.96 W.B.L.
STA. 296+14.68 E.B.L.
SMITH COUNTY
1989

CORRECT _____ ENGINEER OF STRUCTURES

APPROVED _____ DIRECTOR OF HIGHWAYS

M-214-84

B.S.A. No. DTNOXX305A

MARK	T	LOCATION	SZ	NO. RQ'D	DIMENSIONS FT-IN a	b	c	d	e	LENGTH FT-IN	WEIGHT LBS
PIER 1 - E.B.L.											
A350		RISER BLOCK	3	19	3- 6					3- 6	25
A351		"	3	5	8- 7					8- 7	16
A352		"	3	9	2- 6					2- 6	8
A353		"	3	2	5- 9					5- 9	4
A354		"	3	1	3- 6					3- 6	1
A550		"	5	4	8- 7					8- 7	36
A650		CANT.COLUMN	6	4	13- 1					13- 1	79
A651		"	6	2	13- 1					13- 1	142
		@ 6 BAR SERIES		EACH	TO					TO	
					2- 7½					2- 8	
A652		CANT.CAP	6	8	3- 6					3- 6	42
C850		"	8	5	8- 5½	3- 5½				11-11	159
C851		"	8	2	8- 8¾	1- 0				9- 9	52
F850		"	8	2	1- 4¼	0- 9	6- 6½	0- 6¼	0- 6¼	8- 8	46
FC850		"	8	1	3-11¾	0-10⅜	3- 8	0- 9	3- 5½	12- 0	32
FC851		"	8	1	4- 7¼	0- 2	3- 8	0- 1¾	1- 0	9- 5	25
FD850		"	8	1	4- 0	0-10⅜	3- 8	0- 9	3- 5½	12- 0	32
FD851		"	8	1	4- 7½	0- 2	3- 8	0- 1¾	1- 0	9- 6	25
H350		RISERBLOCK	3	1	1- 7	0- 9				3- 1	1
H351		"	3	1	1-11	1- 0				3-11	1
H550		"	5	10	2- 4	2- 0				6- 4	66
H650		CANT.COLUMN	6	1	2- 0	6-10¾				15-10	183
		@ 12 BAR SERIES		EACH		TO				TO	
						1- 3				4- 6	
H651		CANT.CAP	6	3	1- 0	4- 0				9- 0	41
H950		"	9	20	4-10	1- 0				6-10	465
SX650		"	6	10	4- 9½	3- 7½	1- 0			14- 1	212
SX651		"	6	2	3- 5¾	8- 8½	1- 9			24- 5	73
V650		"	6	8	3- 3	1- 9	1- 2⅞	1- 2⅞		5- 0	60
V651		CANT.COLUMN	6	24	1- 9	1- 9	1- 7⅜	0- 8		3- 6	126
V850		"	8	3	14- 6	2- 4½	2- 1½	1- 0¾		16-11	136
X650		CANT.CAP	6	4	4- 7¾	8- 7¾	1- 0	0- 8½		23-11	144
Z650		CANT.COLUMN	6	54	1- 0	2- 0	0- 8			3- 8	297
										***TOTAL WEIGHT (LBS)	2529

MARK	T	LOCATION	SZ	NO. RQ'D	DIMENSIONS FT-IN a	b	c	d	e	LENGTH FT-IN	WEIGHT LBS
PIER 3 - E.B.L.											
A350		RISER BLOCK	3	19	3- 6					3- 6	25
A351		"	3	5	8- 7					8- 7	16
A352		"	3	9	2- 6					2- 6	8
A353		"	3	2	5- 9					5- 9	4
A354		"	3	1	3- 6					3- 6	1
A550		"	5	4	8- 7					8- 7	36
A650		CANT.COLUMN	6	4	13- 1					13- 1	79
A651		"	6	2	13- 1					13- 1	142
		@ 6 BAR SERIES		EACH	TO					TO	
					2- 7½					2- 8	
A652		CANT.CAP	6	8	3- 6					3- 6	42
C850		"	8	5	8- 5½	3- 5½				11-11	159
C851		"	8	2	8- 8¾	1- 0				9- 9	52
F850		"	8	2	1- 4¼	0- 9	6- 6½	0- 6¼	0- 6¼	8- 8	46
FC850		"	8	1	3-11¾	0-10⅜	3- 8	0- 9	3- 5½	12- 0	32
FC851		"	8	1	4- 7¼	0- 2	3- 8	0- 1¾	1- 0	9- 5	25
FD850		"	8	1	4- 0	0-10⅜	3- 8	0- 9	3- 5½	12- 0	32
FD851		"	8	1	4- 7½	0- 2	3- 8	0- 1¾	1- 0	9- 6	25
H350		RISERBLOCK	3	1	1- 7	0- 9				3- 1	1
H351		"	3	1	1-11	1- 0				3-11	1
H550		"	5	10	2- 4	2- 0				6- 4	66
H650		CANT.COLUMN	6	1	2- 0	6-10¾				15-10	183
		@ 12 BAR SERIES		EACH		TO				TO	
						1- 3				4- 6	
H651		CANT.CAP	6	3	1- 0	4- 0				9- 0	41
H950		"	9	20	4-10	1- 0				6-10	465
SX650		"	6	10	4- 9½	3- 7½	1- 0			14- 1	212
SX651		"	6	2	3- 5¾	8- 8½	1- 9			24- 5	73
V650		"	6	8	3- 3	1- 9	1- 2⅞	1- 2⅞		5- 0	60
V651		CANT.COLUMN	6	24	1- 9	1- 9	1- 7⅜	0- 8		3- 6	126
V850		"	8	3	14- 6	2- 4½	2- 1½	1- 0¾		16-11	136
X650		CANT.CAP	6	4	4- 7¾	8- 7¾	1- 0	0- 8½		23-11	144
Z650		CANT.COLUMN	6	54	1- 0	2- 0	0- 8			3- 8	297
										***TOTAL WEIGHT (LBS)	2529

MARK	T	LOCATION	SZ	NO. RQ'D	DIMENSIONS FT-IN a	b	c	d	e	LENGTH FT-IN	WEIGHT LBS
PIER 2 - E.B.L.											
A350		RISER BLOCK	3	18	4-11					4-11	33
A351		"	3	1	9-10					9-10	38
		@ 11 BAR SERIES		EACH	TO					TO	
					8- 9					8- 9	
A352		"	3	4	4- 1					4- 1	6
A650		CANT.COLUMN	6	4	13- 1					13- 1	79
A651		"	6	2	13- 1					13- 1	166
		@ 7 BAR SERIES		EACH	TO					TO	
					2- 7½					2- 8	
A652		CANT.CAP	6	8	3- 6					3- 6	42
C850		"	8	5	8- 5¼	3- 5½				11-11	159
C851		"	8	2	8- 8¾	1- 0				9- 9	52
F850		"	8	2	1- 4¼	0- 9	6- 6¼	0- 6¼	0- 6¼	8- 8	46
FC850		"	8	1	4- 0	0-10⅜	3- 8	0- 9	3- 5½	12- 0	32
FC851		"	8	1	4- 7¼	0- 2	3- 8	0- 1¾	1- 0	9- 5	25
FD850		"	8	1	4- 0	0-10⅜	3- 8	0- 9	3- 5½	12- 0	32
FD851		"	8	1	4- 7¼	0- 2	3- 8	0- 1¾	1- 0	9- 5	25
H650		CANT.COLUMN	6	1	2- 0	6-11				15-10	183
		@ 12 BAR SERIES		EACH		TO				TO	
						1- 3				4- 6	
H651		CANT.CAP	6	3	1- 0	4- 0				9- 0	41
H950		"	9	20	4-10	1- 0				6-10	465
SX650		"	6	10	4- 9½	3- 7½	1- 0			14- 1	212
SX651		"	6	2	3- 5¾	8- 8½	1- 9			24- 5	73
V650		"	6	8	3- 3	1- 9	1- 2⅞	1- 2⅞		5- 0	60
V651		CANT.COLUMN	6	24	1- 9	1- 9	1- 7⅜	0- 8		3- 6	126
V850		"	8	3	14- 6	2- 4½	2- 1½	1- 0¾		16-11	136
X650		CANT.CAP	6	4	4- 7¾	8- 7¾	1- 0	0- 8½		23-11	144
Z650		CANT.COLUMN	6	54	1- 0	2- 0	0- 8			3- 8	297
										***TOTAL WEIGHT (LBS)	2472

MARK	T	LOCATION	SZ	NO. RQ'D	DIMENSIONS FT-IN a	b	c	d	e	LENGTH FT-IN	WEIGHT LBS
ABUTMENT 2 E.B.L.											
A440		WINGWALL 2	4	4	5- 9					5- 9	15
A540		ABUTMENT	5	96	3- 8					3- 8	367
A541		ABUTMENT	5	11	20-2 ⚠1					20-2	231
A542		WINGWALL 2	5	1	7- 8					7- 8	8
A543		ABUTMENT	5	14	3- 6					3- 6	51
A544		"	5	3	6- 2					6- 2	19
A740 E		"	7	4	20-2 ⚠1					20-2	165
A741		"	7	2	20-2 ⚠1					20-2	82
A940		WINGWALL 2	9	4	14- 6					14- 6	197
C540 E		ABUTMENT	5	48	10- 0	0-10				10-10	542
E541		WINGWALL 2	5	4	1- 8	0-10	0- 5⅞	0- 8⅛		3- 4	14
H440		WINGWALL 2	4	1	0- 9	3- 0				6- 9	24
		@ 4 BAR SERIES		EACH		TO				TO	
						5- 5				11- 7	
H441		"	4	2	0- 9	5- 8				12- 1	16
H540		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		WINGWALL 2	4	6	0- 8	1- 6	0- 9½	2- 1½	1- 6	5- 1	20
RA540		ABUTMENT	5	44	0-10	1- 9	0- 6	2- 5	1- 8½	5- 6	252
V440		WINGWALL 2	4	2	7- 8	0- 8	0- 2½	0- 7⅜		8- 4	11
V441		"	4	1	6- 7	0- 8	0- 2½	0- 7⅜		7- 3	5
V442		"	4	1	3- 9	0- 8	0- 2½	0- 7⅜		4- 5	3
V443		"	4	2	2- 2¼	6- 0	5- 4	2-10½		8- 2	11
V540		ABUTMENT ⚠1	5	7	25-8	0-10	0- 3⅛	0- 9⅜		26-6	193
V541		WINGWALL 2	5	4	8- 0	0-10	0- 3⅛	0- 9⅜		8-10	37
V542		"	5	1	2- 0	0-10	0- 3⅛	0- 9⅜		2-10	21
		@ 4 BAR SERIES		EACH	TO					TO	
					6- 3					7- 1	
A545	-	ABUTMENT	5	5	25-4					25-4	132 ⚠
A546		"	5	1	19-4					19-4	20 ⚠
A742		"	7	2	25-4					25-4	104 ⚠
A743 E		"	7	4	25-4					25-4	207 ⚠
H541		"	5	8	0-7½"	2- 2				5-0	41 ⚠
TOTAL WEIGHT (LBS) 3438 INCLUDES 2479 LBS OF NON EPOXY, 959 EPOXY											⚠

***TOTAL WEIGHT (LBS) 2529

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

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	REVISED REINF.

REINFORCING STEEL CODE

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.

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAYS

BILL OF STEEL

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-214-84A

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DTNOXX
1-MAR-1989 14:22

U.S.A. No. DTNXX306A

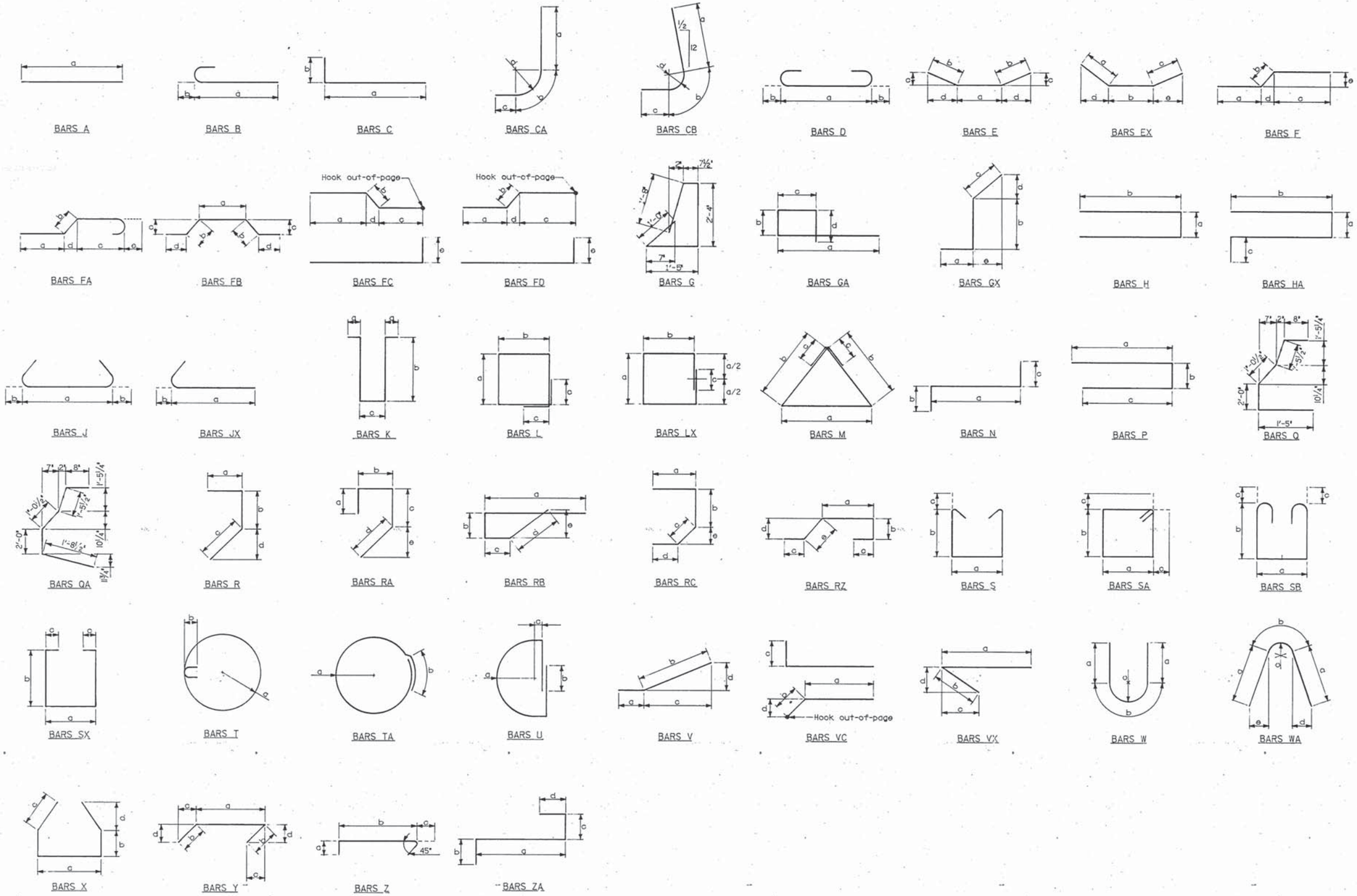
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DTNXX

CONSTR. NO. 80001-3152-44

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

REVISIONS

NO.	DATE	BY	BRIEF DESCRIPTION



DESIGNED BY W. S. HUFFSTETLER DATE 1-89
DRAWN BY EAB DATE 1-89
SUPERVISED BY W. S. HUFFSTETLER DATE 1-89
CHECKED BY CWT DATE 2-89

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAYS

REINFORCING STEEL BAR BENDING DETAILS

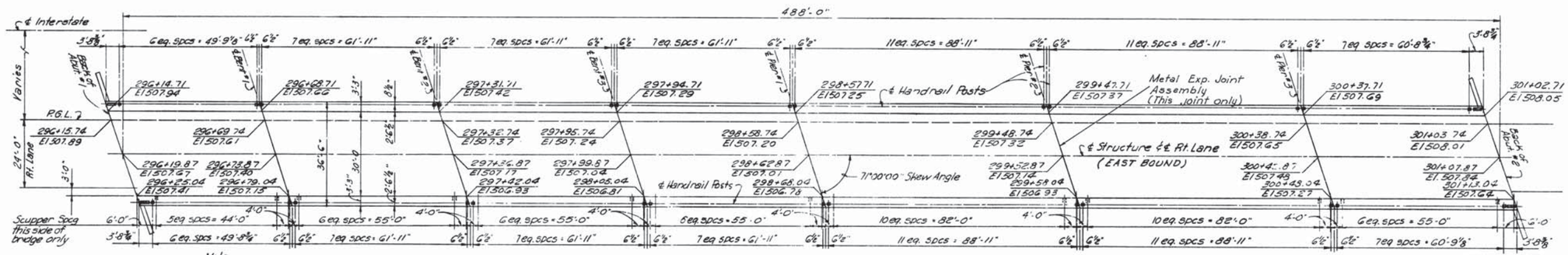
I-40 OVER
CANEY FORK RIVER
STA. 295+91.96 W.B.L.
STA. 296+14.68 E.B.L.
SMITH COUNTY
1989

CORRECT _____ ENGINEER OF STRUCTURES

APPROVED _____ DIRECTOR OF HIGHWAYS

M-214-85

FED. ROAD DIST. No.		FEDERAL AID PROJECT No.	FISCAL YEAR	SHEET No	TOTAL SHEETS
3	TENN	I-40-5(9)364		44	~~368~~ 372



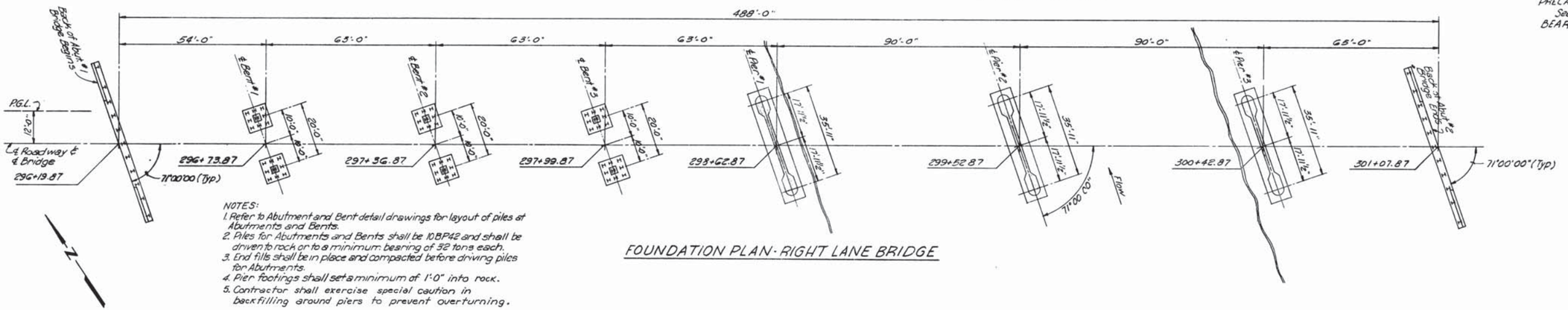
Note. All elevations shown refer to top of composite concrete slab.

PLAN - RIGHT LANE BRIDGE (1A) RIVER MILE 15.0
(EAST BOUND)

SPECIAL NOTE: The concrete for prestressed box girders on the 90' spans shall be manufactured with 6000 psi concrete (ultimate compressive strength at 28 days).

GENERAL NOTES:

GENERAL SPECIFICATIONS. Standard Road and Bridge Specifications of the Tennessee Department of Highways and Public Works.
DESIGN SPECIFICATIONS: Standard Specifications for Highway Bridges AASHO 1957 and tentative AASHO Specifications covering prestressed conc. design & construction (with subsequent revisions)
DESIGN LOADING: H20-S16-44 and for alternate loading as per Section 4C of PPM 20-4.
CONCRETE: All concrete shall be Class "A" and shall be air entrained.
REINFORCING STEEL: See Specifications.
FORMS AND FINISH: See Specifications.
HAND RAILS: Standard 2-Bar Steel Handrailing, Tennessee Highway Department Standard.
PRECAST PRESTRESSED CONCRETE GIRDERS: See Special Provisions.
BEARING PADS: See Special Provisions.

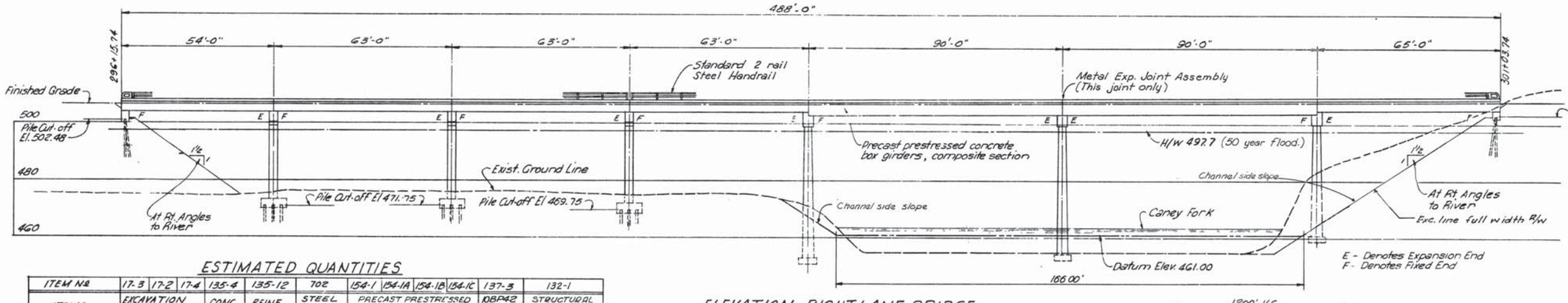


NOTES:
1. Refer to Abutment and Bent detail drawings for layout of piles at Abutments and Bents.
2. Piles for Abutments and Bents shall be 10BP42 and shall be driven to rock or to a minimum bearing of 32 tons each.
3. End fills shall be in place and compacted before driving piles for Abutments.
4. Pier footings shall set a minimum of 1'-0" into rock.
5. Contractor shall exercise special caution in backfilling around piers to prevent overturning.

FOUNDATION PLAN - RIGHT LANE BRIDGE

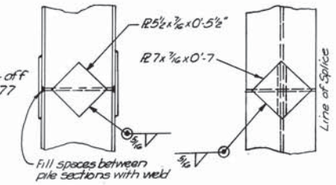
LIST OF DRAWINGS:

	DWG. Nº
Layout of Bridge	G-15-36
Layout & Log of Core Borings	G-15-37
Abutments Nºs 1 & 2	G-15-38
Bents Nºs 1, 2 & 3	G-15-39
Piers Nºs 1 & 3	G-15-40
Pier Nº 2	G-15-41
Box Girder Layout and Details	G-15-42
Slab and Safety Curbs Layout and Details	G-15-43
Reinforcing Steel Schedule	G-15-44
Steel Hand Rails	G-10-99



ELEVATION - RIGHT LANE BRIDGE

VERTICAL CURVE DATA



DETAIL OF PILE SPLICE

ESTIMATED QUANTITIES

ITEM Nº	17-3	17-2	17-4	135-4	135-12	702	154-1	154-1A	154-1B	154-1C	137-3	132-1
ITEMS	EXCAVATION			CONC. CLASS "A"	REINF. STEEL	STEEL HANDRAIL E-BAR	PRECAST PRESTRESSED CONC. BOX GIRDERS 48"x33" L=62'	48"x33" L=63'	48"x42" L=90'	48"x42" L=63'	10BP42 BEARING PILES	STRUCTURAL STEEL
	WET	DRY	ROCK									
UNIT	Cu. Yds.			Cu Yds.	Lbs.	Lin. Ft.	Each	Each	Each	Each	Lin. Ft.	Lbs.
SUPERSTRUCTURE				287.3	60,997	962						1550
GIRDERS							8	24	16	8		
ABUTMENT Nº1				21.0	2,896						550	
ABUTMENT Nº2				20.3	2,896						450	
BENT Nº1		59		43.9	10,279						280	
BENT Nº2		60		43.8	10,240						280	
BENT Nº3		64		44.7	10,498						278	
PIER Nº1	208	48	56	170.2	13,775							
PIER Nº2	96		41	163.3	13,547							
PIER Nº3	16		67	149.7	12,694							
TOTALS	320	231	164	938.2	137,822	962	8	24	16	8	1838	1550

Note: All joint material shall be included in the Unit Price Bid for Class "A" concrete unless provided for in Special Provisions for Prestressed Box Girders.

NOTE: A SUFFICIENT EARTH FILL SHALL BE MADE TO ALLOW THE DRIVING OF THE PILES; THE REMAINDER OF FILL SHALL BE A ROCK FILL WITH A MINIMUM THICKNESS OF 5'0", UP TO 1'-0" ABOVE HIGHWATER.

HYDRAULIC DESIGN DATA

High Water Elevation	497.7
Design Discharge	Q = 66,600 cfs
Design Velocity	V = 6 fps
Opening Required	A_R = 11,000 sq. ft.
Opening Furnished	A_F = 11,700 sq. ft

SMITH COUNTY
30'-0" Roadway with Safety Curbs

Scale 1"=20'

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

BRIDGE OVER CANEY FORK RIVER - RIVER MILE 15.0
STA 296+15.74 - RIGHT LANE (EAST BOUND)(1A)

LAYOUT OF BRIDGE

STATE OF TENNESSEE
DEPARTMENT OF HIGHWAYS AND PUBLIC WORKS
NASHVILLE

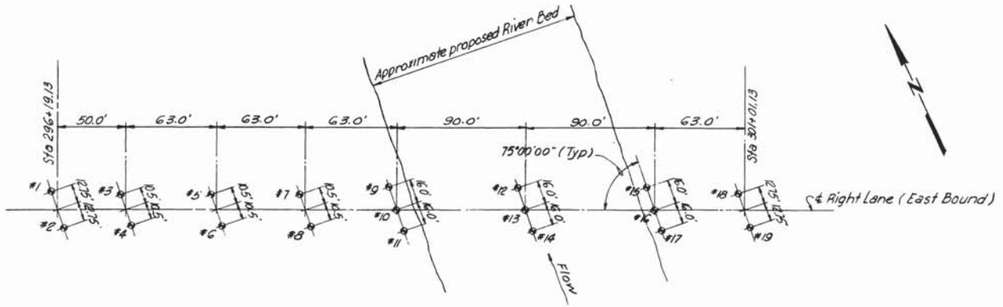
DR. R.W.P. | CHK'D. R.A.H. | APP'D. W.E. | DATE 11-16-59

G-15-36

Rev. 4-26-60
Rev. 4-18-60

DIETZGEN NO. 167 BRISTOL

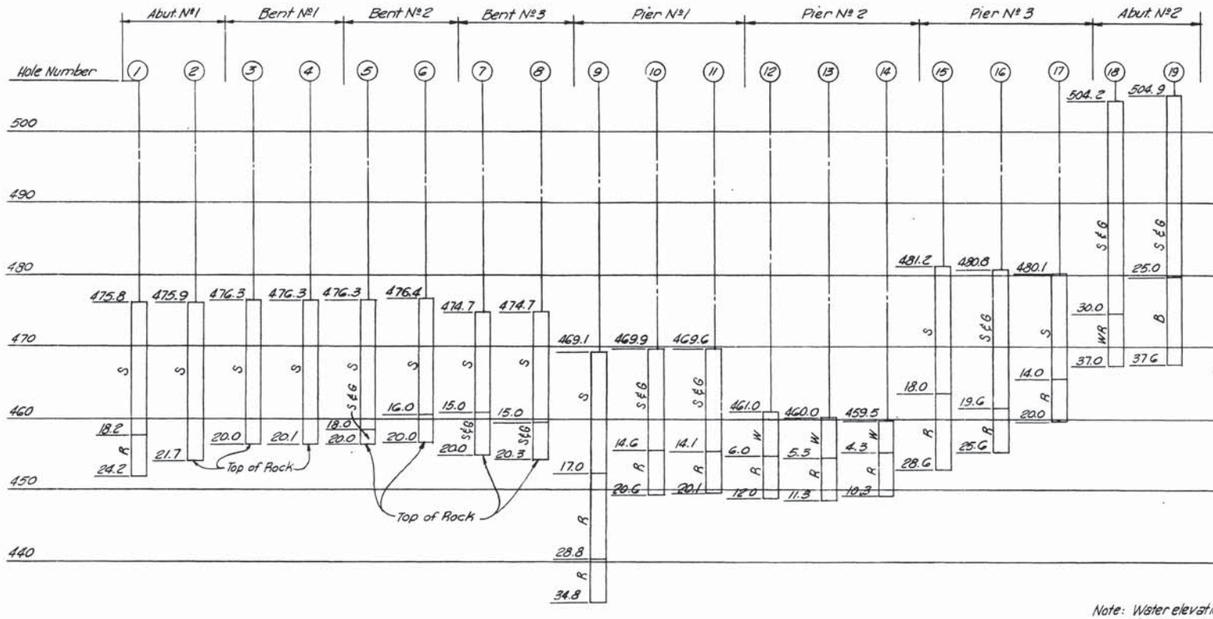
FED. ROAD DIST. No.	T E N N	FEDERAL AID PROJECT No.	FISCAL YEAR	SHEET No.	TOTAL SHEETS
3		I-40-5(9)264		54	372



PLAN - CORE DRILLING LAYOUT

River Mile 15.0 - Right Lane (East Bound)

Scale: 1" = 50'



LOG OF CORE BORINGS

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 Caney 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 296+15.74 - RIGHT LANE (EAST BOUND)(1A)

LAYOUT & LOG OF CORE BORINGS

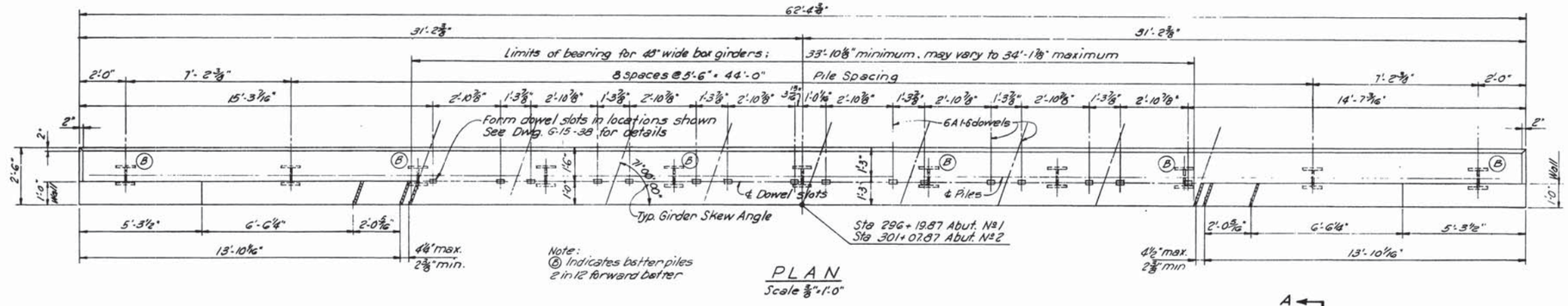
STATE OF TENNESSEE
DEPARTMENT OF HIGHWAYS
AND PUBLIC WORKS
NASHVILLE

DR. R.W.P.
CHK'D. R.A.H.
APP'D. W.R.
DATE 11-16-59

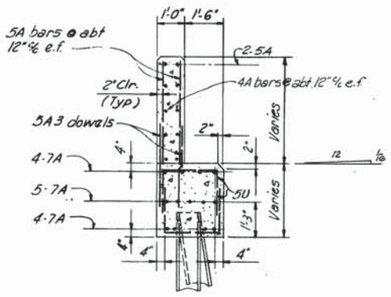
G-15-37

DIETZGEN NO. 167 BRISTOL

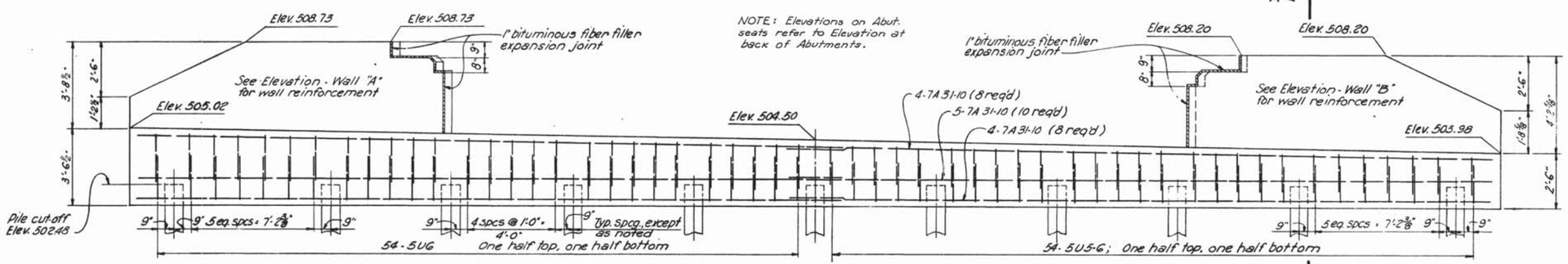
FED. ROAD DIST. No.	TENN	FEDERAL AID PROJECT No.	FISCAL YEAR	SHEET No.	TOTAL SHEETS
3		I-40S(9)26A		55	372


62'-4⅜"
31'-2⅜"
31'-2⅜"
Limits of bearing for 48" wide box girders ;
33'-10⅛" minimum, may vary to 34'-1⅛" maximum
8 spaces @ 5'-6" = 44'-0"
Pile Spacing
2'-0"
7'-2⅜"
15'-3⅞"
14'-7⅜"
Form dowel slots in locations shown See Dwg. G-15-38 for details
6 A1-6 dowels
℄ Dowel slots
℄ Piles
Typ. Girder Skew Angle
Sta 29G+19.87 Abut. No 1
Sta 301+07.87 Abut. No 2
5'-3½"
6'-6¼"
2'-0⅝"
13'-10⅛"
4½" max.
2⅜" min.
2'-0⅜"
6'-6¼"
5'-3½"
13'-10⅛"
Note:
Ⓑ Indicates batter piles
2 in 12 forward batter

PLAN
Scale ⅜" = 1'-0"



SECTION A-A
Scale ⅜" = 1'-0"

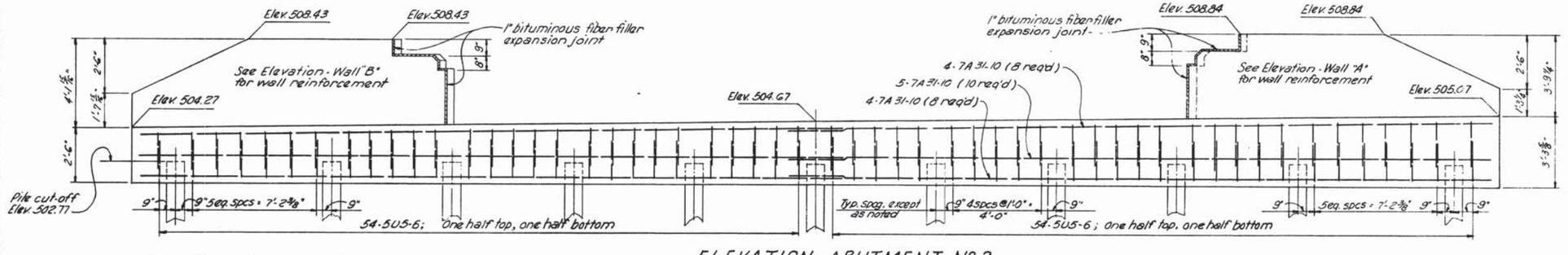


NOTE : Elevations on Abut. seats refer to Elevation at back of Abutments.

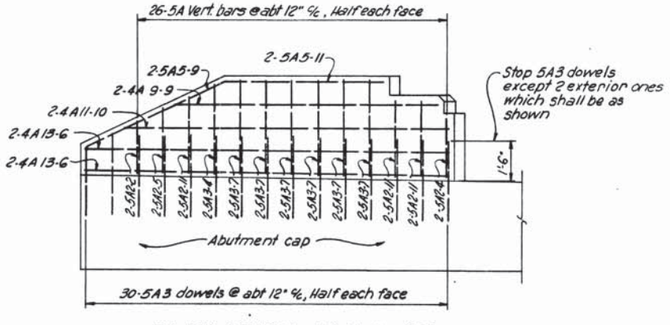
ELEVATION - ABUTMENT No 1
LOOKING FORWARD ON SURVEY
Scale ⅜" = 1'-0"

ESTIMATED QUANTITIES

		ABUT. No 1 RT. LANE	ABUT. No 2 RT. LANE
Class "A" Concrete	Cu Yds.	21.0	20.3
Reinforcing Steel	Lbs.	2896	2896

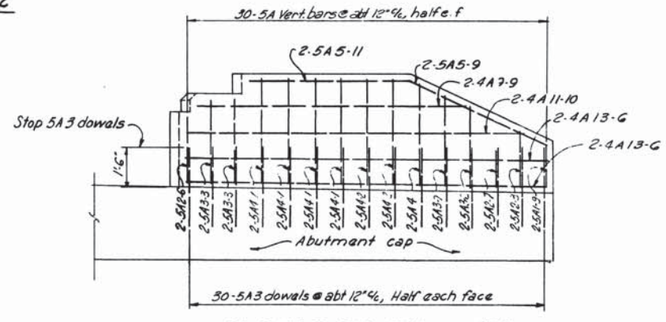


ELEVATION - ABUTMENT No 2
LOOKING BACK ON SURVEY
Scale ⅜" = 1'-0"

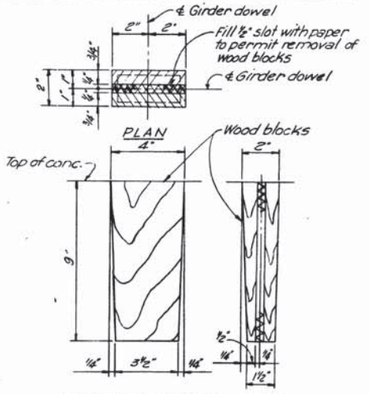


ELEVATION - WALL "A"
ABUTMENT No 1 - AS SHOWN - ABUTMENT No 2 - OPP. HAND
Scale ⅜" = 1'-0"

NOTES :
1. Wingwalls shall be cast after girders and Safety curbs are in place.
2. All exposed edges shall have a ¾" x ¾" chamfer, unless otherwise noted.



ELEVATION - WALL "B"
ABUTMENT No 1 - AS SHOWN - ABUTMENT No 2 - OPP. HAND
Scale ⅜" = 1'-0"



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

Scale as noted

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

BRIDGE OVER CANEY FORK RIVER - RIVER MILE 15.0
STA 29G+15.74 - RIGHT LANE (EAST BOUND)(1A)

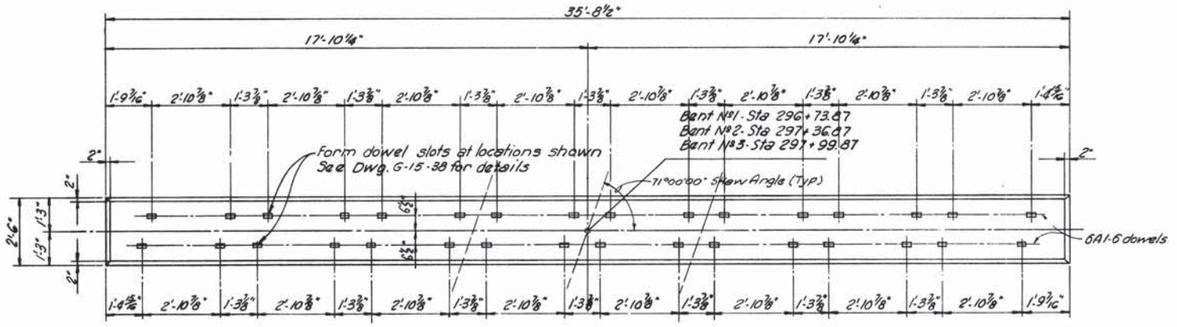
ABUTMENTS Nos 1 AND 2

STATE OF TENNESSEE
DEPARTMENT OF HIGHWAYS AND PUBLIC WORKS
NASHVILLE

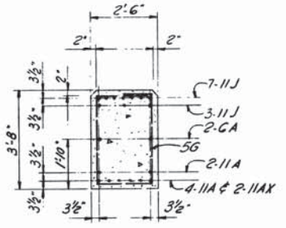
DR. R.W.P.	DATE 11-16-39	G-15-38
CH'K'D R.A.H.		
APP'D W.R.		

DIETZGEN NO. 167 BRISTOW

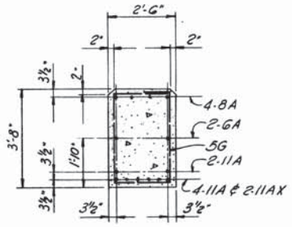
FED. ROAD DIST. No.	T E N N	FEDERAL AID PROJECT No.	FISCAL YEAR	SHEET No.	TOTAL SHEETS
3		I-40-5(9)206A		56	372



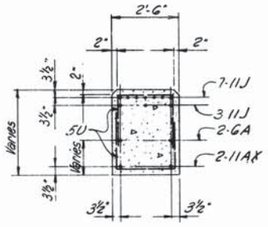
PLAN
Scale ⅜" = 1'-0"



SECTION A-A
Scale ⅜" = 1'-0"

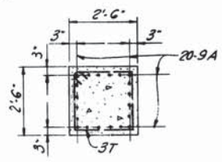


SECTION B-B
Scale ⅜" = 1'-0"

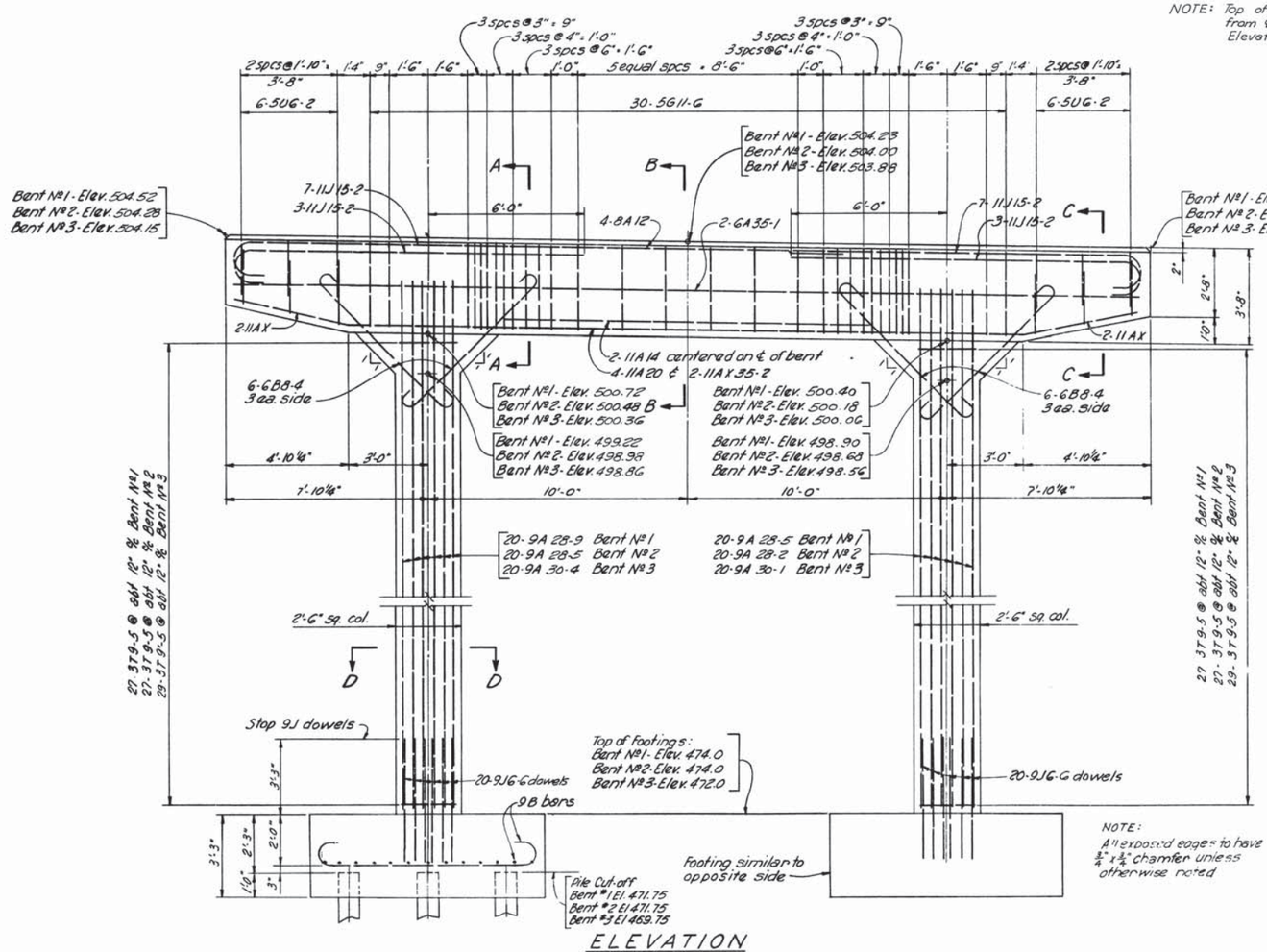


SECTION C-C
Scale ⅜" = 1'-0"

NOTE: Top of bent caps shall slope in each direction from ℄ of bent to conform with slope of girders. Elevations noted are at ℄ of bents.

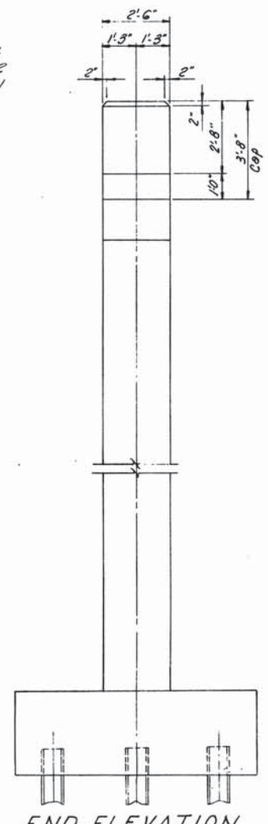


SECTION D-D
Scale ⅜" = 1'-0"

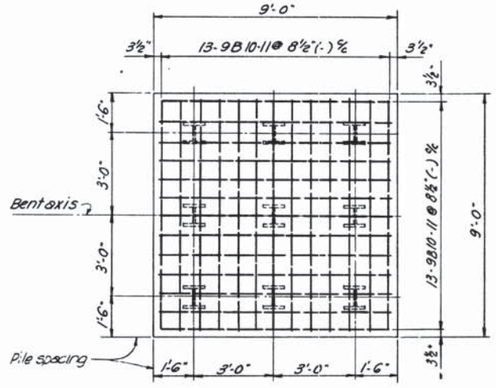


ELEVATION
LOOKING FORWARD ON SURVEY
Scale ⅜" = 1'-0"

NOTE:
All exposed edges to have ¾" x ¾" chamfer unless otherwise noted



END ELEVATION
Scale ⅜" = 1'-0"



PLAN - PILE LAYOUT AND
FOOTING REINFORCING PLAN
Scale ⅜" = 1'-0"

ESTIMATED QUANTITIES

		BENT No1	BENT No2	BENT No3
Class "A" Concrete	Cu. Yds.	43.9	43.8	44.7
Reinforcing Steel	Lbs.	10,279	10,240	10,498

Scale as noted

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

BRIDGE OVER CANEY FORK RIVER - RIVER MILE 15.0
STA 296+15.74 - RIGHT LANE (EAST BOUND)(IA)

BENTS Nos 1, 2 & 3

STATE OF TENNESSEE
DEPARTMENT OF HIGHWAYS
AND PUBLIC WORKS
NASHVILLE

DR. R.W.P.
CHK'D. R.A.H.
APP'D. W.E.
DATE 11-16-59

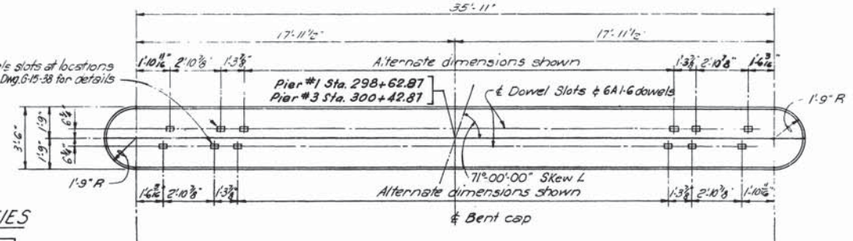
G-15-39

NOTE: Top of piers shall slope in each direction from ℄ of piers to conform with slope of girders. Elevations shown are ℄ of piers.

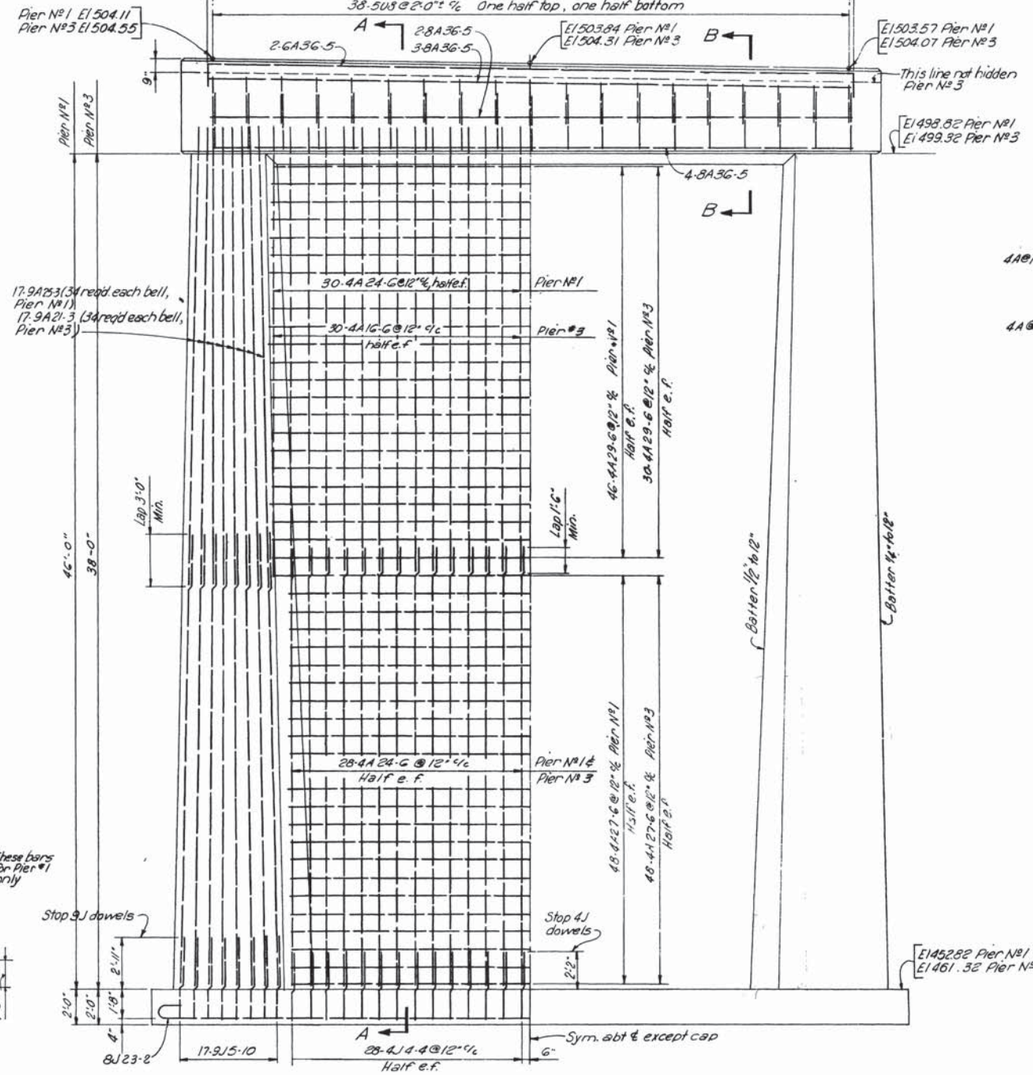
FED. ROAD DIST. No.	T E N N	FEDERAL AID PROJECT No.	FISCAL YEAR	SHEET No.	TOTAL SHEETS
3		I-40-5(9)264		57	372

ESTIMATED QUANTITIES

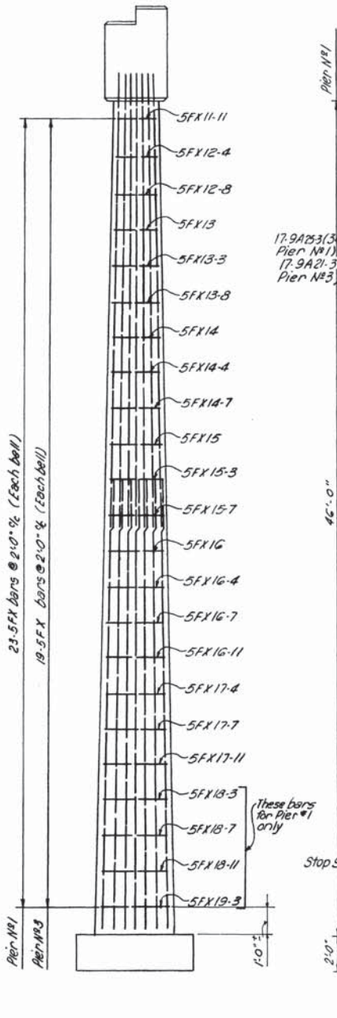
		PIER Nº1	PIER Nº3
Class "A" Conc.	Cu.Yds.	170.2	143.7
Reinf. Steel	Lbs	13,775	12,694



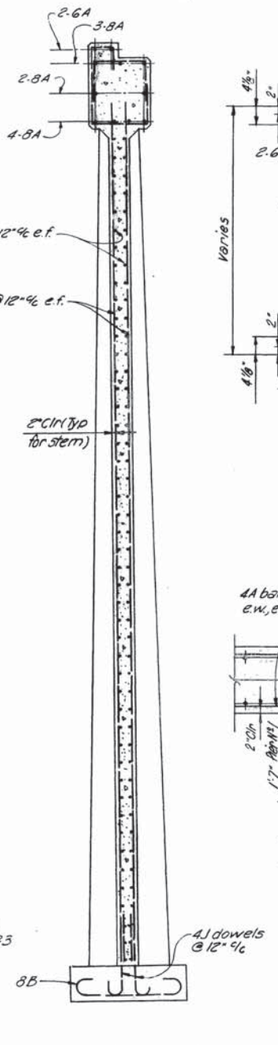
PLAN - CAP
Scale ¼" = 1'-0"



SIDE ELEVATION
LOOKING FORWARD ON SURVEY
Scale ¼" = 1'-0"

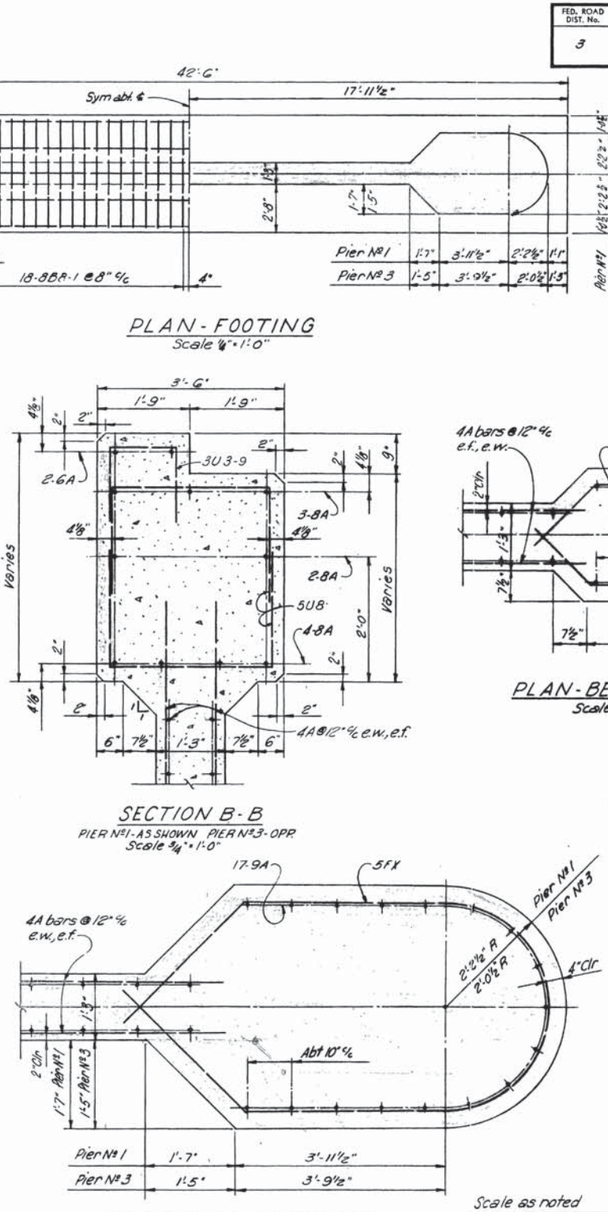


END ELEVATION
Scale ¾" = 1'-0"

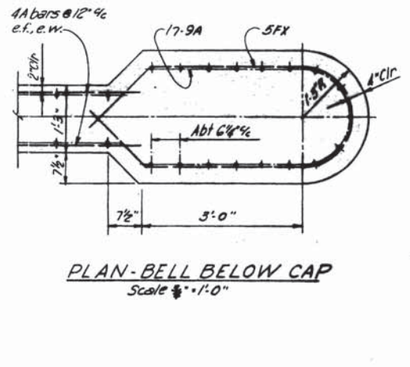


SECTION A-A
Scale ½" = 1'-0"

SECTION B-B
PIER Nº1 - AS SHOWN PIER Nº3 - OPP
Scale ¾" = 1'-0"



PLAN - FOOTING
Scale ¾" = 1'-0"



PLAN - BELL BELOW CAP
Scale ¾" = 1'-0"

PLAN - BELL AT FOOTING
Scale ¾" = 1'-0"

Note: Placing designation as follows:
e.f. - each face
e.w. - each way

Scale as noted

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

BRIDGE OVER CANEY FORK RIVER - RIVER MILE 15.0
STA 296 + 15.74 - RIGHT LANE (EAST BOUND)(1A)

PIERS Nos 1 & 3

STATE OF TENNESSEE
DEPARTMENT OF HIGHWAYS AND PUBLIC WORKS
NASHVILLE

DR. R.W.P.	DATE 11-16-59	G-15-40
CHK'D. E.A.H.		
APP'D. W.E.		

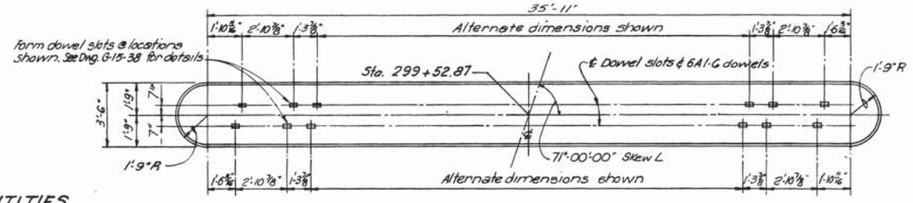
Revised: 8-22-60

DIETZGEN NO. 167 BRISTOL

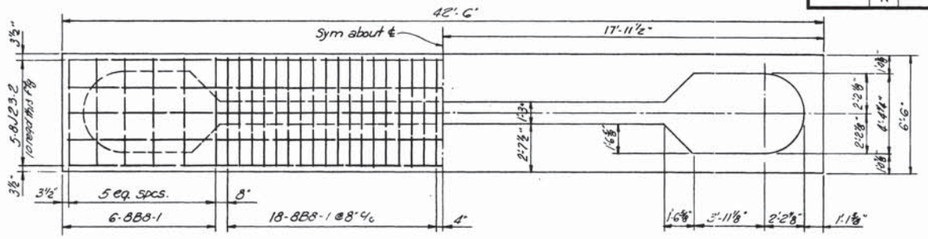
FED. ROAD DIST. No.	T E N N	FEDERAL AID PROJECT No.	FISCAL YEAR	SHEET No.	TOTAL SHEETS
3		I-40-5(9)264		58	372

ESTIMATED QUANTITIES

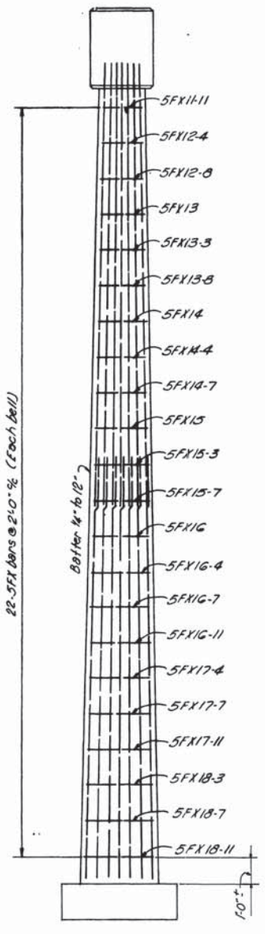
		PIER Nº 2
Class "A" Conc.	Cu.Yds.	163.3
Reinf. Steel	Lbs.	13,547



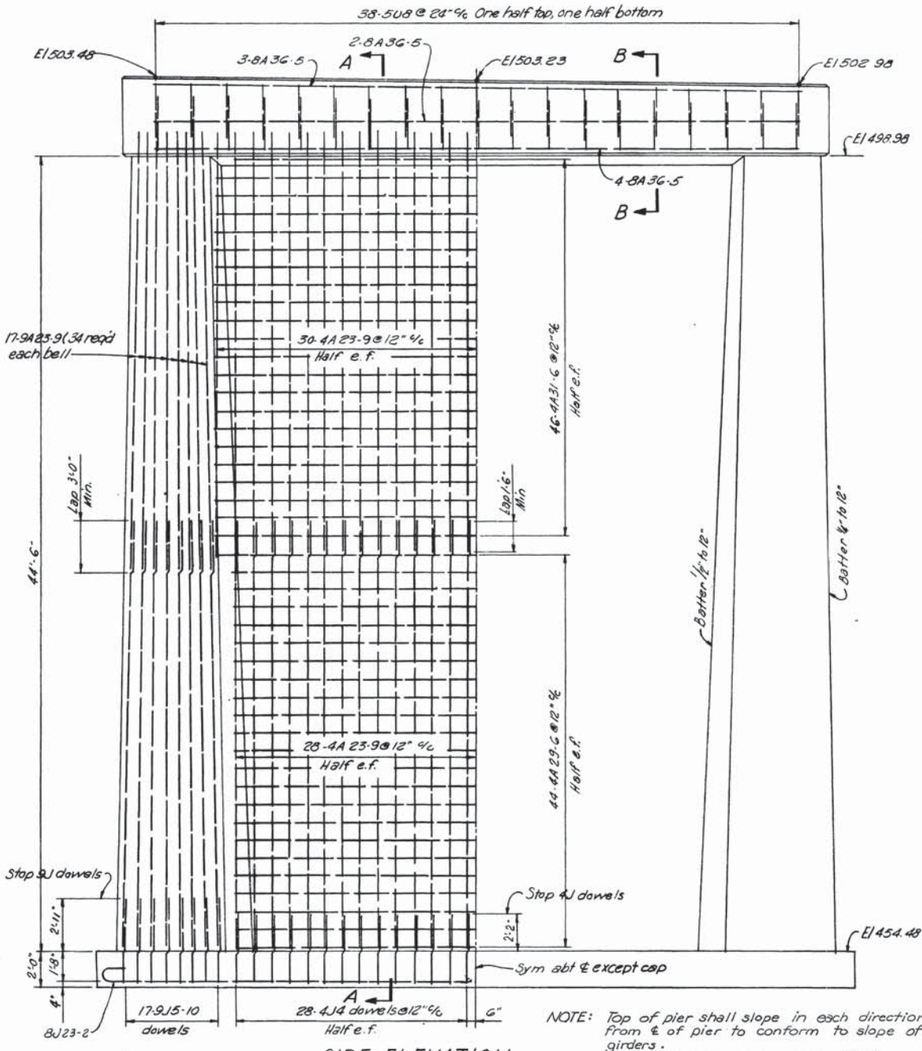
PLAN - CAP
Scale ¼" = 1'-0"



PLAN - FOOTING
Scale ¼" = 1'-0"

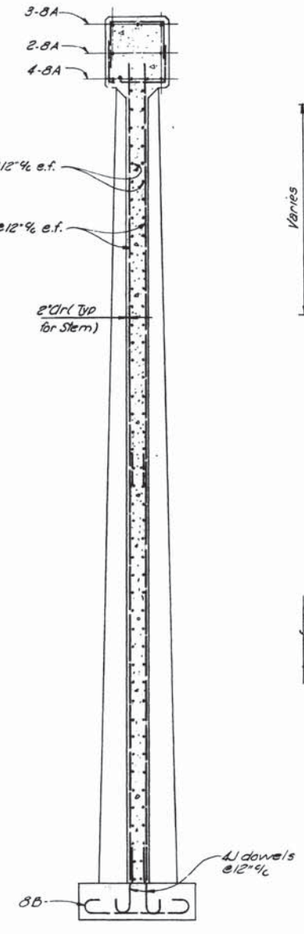


END ELEVATION
Scale ⅛" = 1'-0"

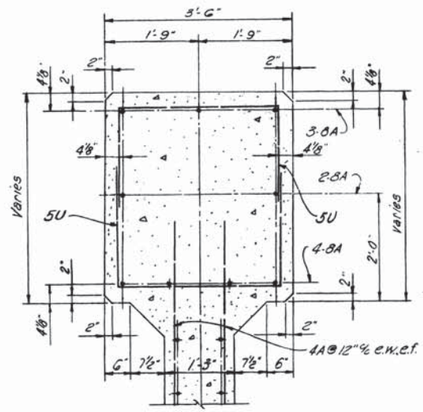


SIDE ELEVATION
LOOKING FORWARD ON SURVEY
Scale ⅛" = 1'-0"

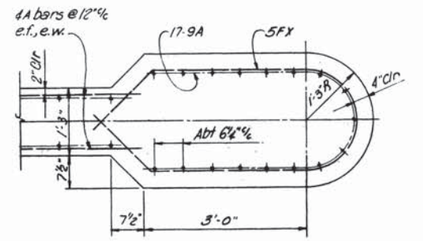
NOTE: Top of pier shall slope in each direction from ℄ of pier to conform to slope of girders. Elevations shown are at ℄ of Pier.



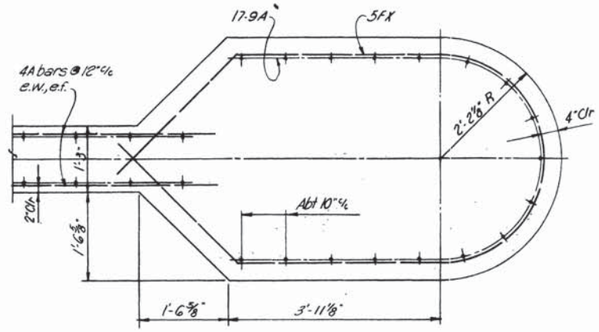
SECTION A-A
Scale ⅛" = 1'-0"



SECTION B-B
Scale ⅜" = 1'-0"



PLAN - BELL BELOW CAP
Scale ⅜" = 1'-0"



PLAN - BELL AT FOOTING
Scale ⅜" = 1'-0"

Note: Placing designation as follows:
e.f. - each face
e.w. - each way

Scale as noted

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

BRIDGE OVER CANEY FORK RIVER - RIVER MILE 15.0
STA 296+15.14 - RIGHT LANE (EAST BOUND)(1A)

PIER Nº 2

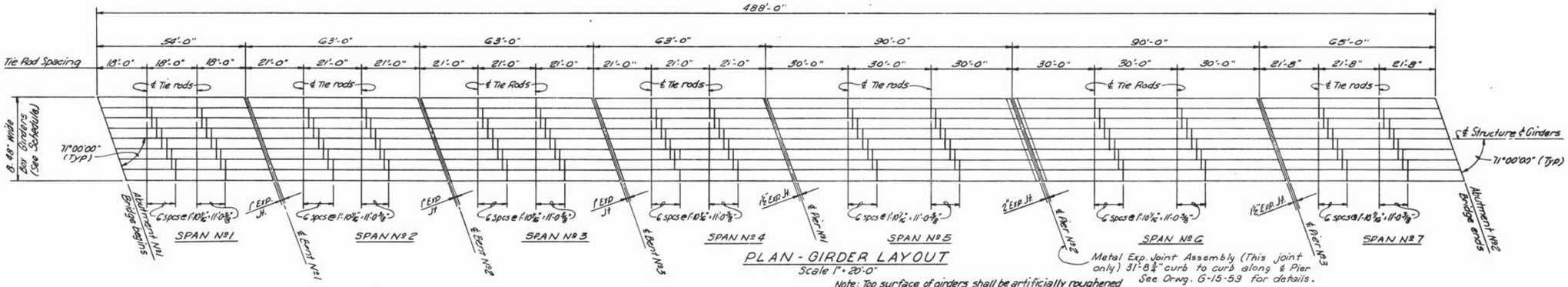
STATE OF TENNESSEE
DEPARTMENT OF HIGHWAYS AND PUBLIC WORKS
NASHVILLE

DR. R.W.P.	DATE 11-16-59	G-15-41
CHK'D. R.A.H.		
APP'D. W.E.		

Rev. 8-22-60
Rev. 4-19-60

DIETZGEN NO. 127 GRIPTON

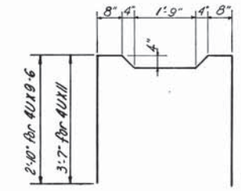
FED. ROAD DIST. No.		FEDERAL AID PROJECT No.	FISCAL YEAR	SHEET No.	TOTAL SHEETS
8	TENN	I-40-5(9)264		59	372



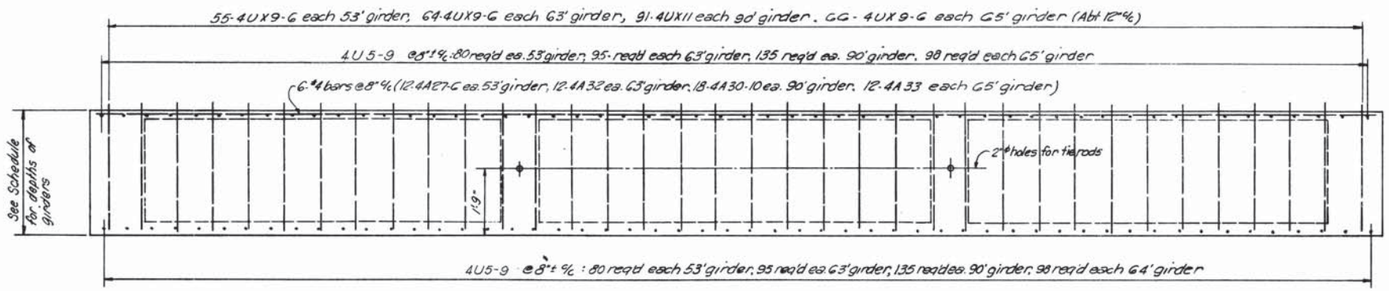
PLAN - GIRDER LAYOUT
Scale 1" = 20'-0"

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

Metal Exp. Joint Assembly (This joint only) 31'-8¾" curb to curb along ℄ Pier See Drwg. G-15-53 for details.



DETAIL - 4UX9-G & 4UX11 BARS



ELEVATION - BOX GIRDERS

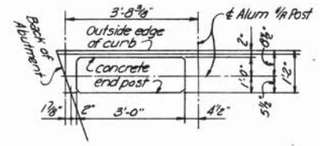
SHOWING MILD STEEL REINFORCING : SEE SCHEDULE AND SECTIONS THIS DRAWING FOR NUMBER, SIZE, AND LOCATION OF HIGH TENSILE PRESTRESSING STEEL CABLES.

GIRDER SCHEDULE

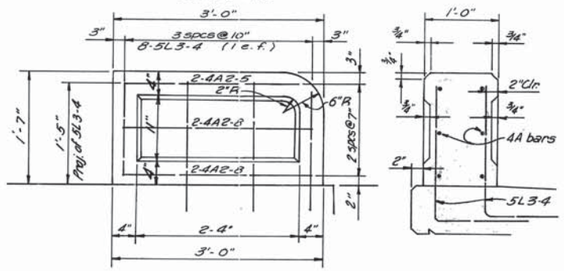
SPAN No	BOX SIZE	OUT TO OUT LENGTH	PRESTRESSING STEEL AREA	PRESTRESSING STEEL No. STRANDS	No ⅜" STRANDS PER ROW 1	2	3	4	5	6	7	"a"	"e"	WEIGHT (LBS) EACH GIRDER
No 1	48"x33"	53'-11⅞"	2.2372 sq in	28	28							1.75	12.52	41,616
No's 2 & 3	48"x33"	62'-11"	3.0362 sq in	38	24	14						2.30	11.97	46,925
No 4	48"x33"	62'-10⅜"	3.0362 sq in	38	24	14						2.30	11.97	46,911
* No's 5 & 6	48"x42"	89'-10¼"	4.9538 sq in	62	18	22	6	4	4	4	4	4.31	14.06	73,814
No 7	48"x33"	64'-11⅛"	3.1161 sq in	39	23	16						2.37	11.90	46,245

* Concrete for girders for spans No's 5 & 6 (90') shall have f'_c = 6000 psi, f'_{ci} = 4800 psi

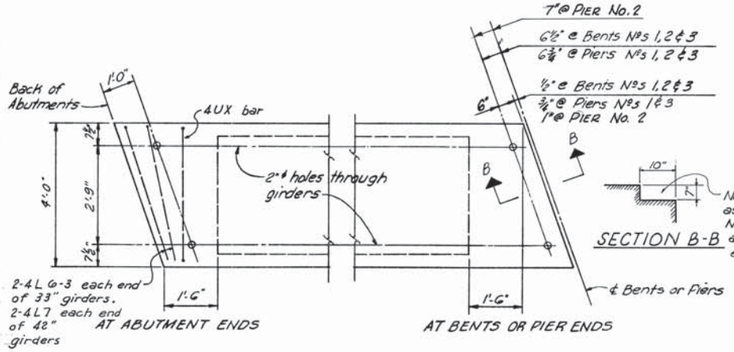
Pretensioning steel: An initial force of 14,000 lbs. shall be applied to each strand in all girders.



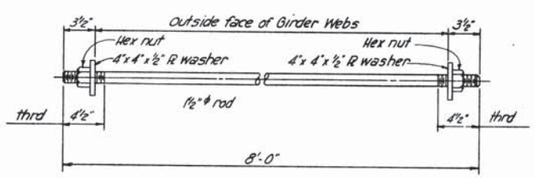
LOCATION PLANS - CONCRETE END POSTS
Scale ½" = 1'-0"



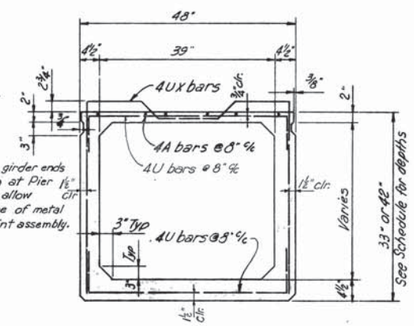
DETAILS - CONCRETE END POSTS
Scale 1" = 1'-0"



PART PLAN - BOX GIRDERS
Scale ½" = 1'-0"

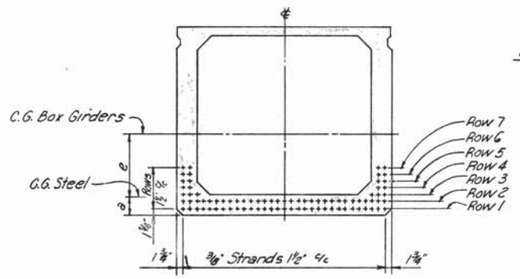


TIE ROD DETAIL
Scale ½" = 1'-0"

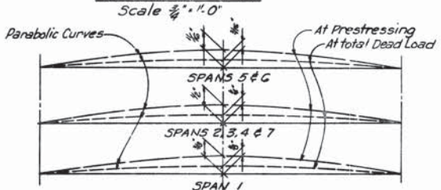


SECTION B-B

SECTION A-A
Scale ⅜" = 1'-0"



CABLE PATTERN
Locate strands symmetrically abt. Vert. ℄



DEFLECTION DIAGRAMS

ESTIMATED QUANTITIES
BOX GIRDERS

5000 psi Concrete	Cu. Yds.	451.6
6000 psi Concrete	Cu. Yds	291.6
Hi. tensile reinforcing strands	Lbs.	50,647
Reinforcing steel	Lbs.	89,580

Scale as noted

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

BRIDGE OVER CANEY FORK RIVER - RIVER MILE 15.0
STA 296+15.74 - RIGHT LANE (EAST BOUND) (1A)

BOX GIRDER LAYOUT AND DETAILS

STATE OF TENNESSEE
DEPARTMENT OF HIGHWAYS AND PUBLIC WORKS
NASHVILLE

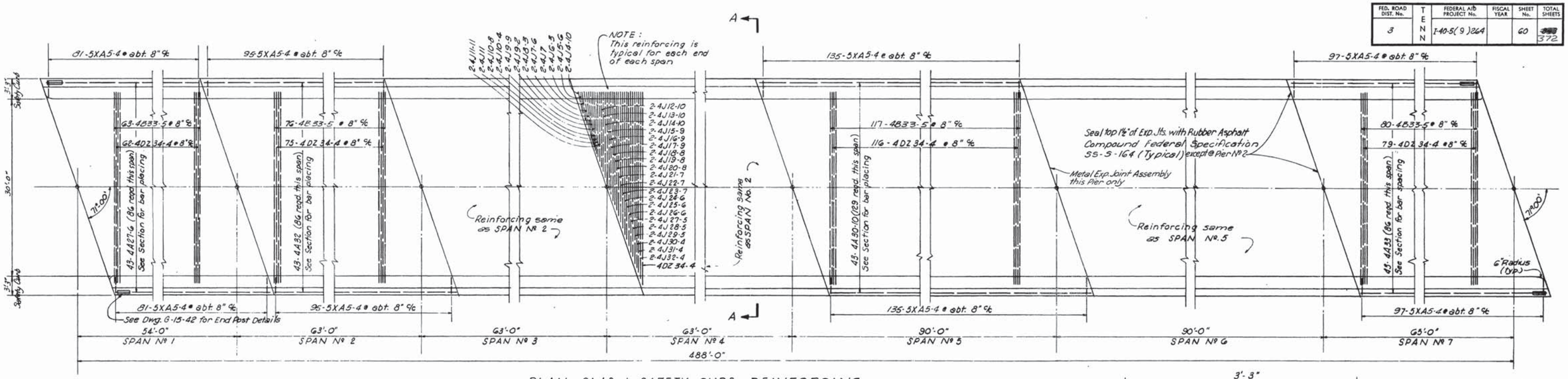
DR. R.W.P. | CHK'D. E.A.H. | APP'D. W.E. | DATE 11-16-59

G-15-42

REV. 4-19-60

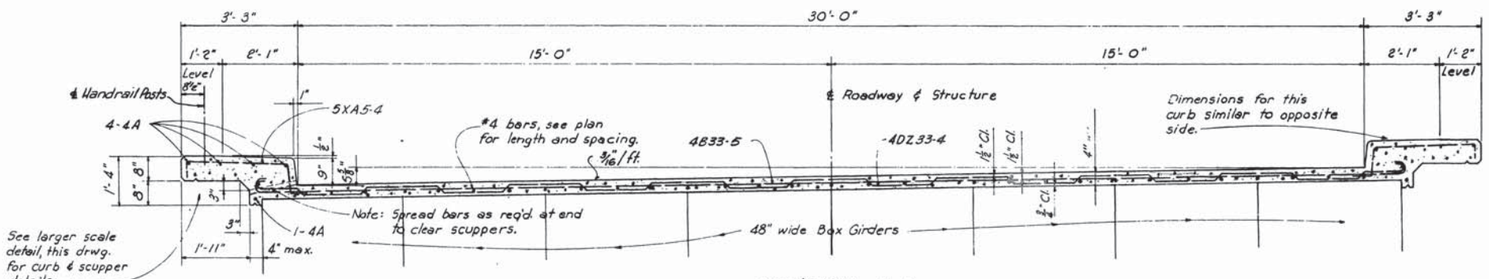
DIETZGEN NO. 107 BRISTON

FED. ROAD DIST. No.		FEDERAL AID PROJECT No.	FISCAL YEAR	SHEET No.	TOTAL SHEETS
3	TENN	I-40-5(9)264		60	372



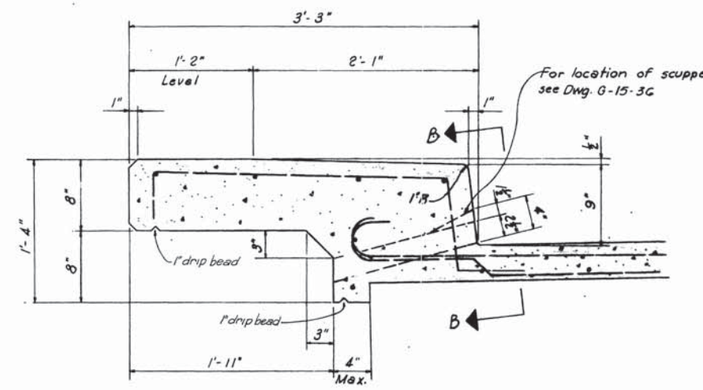
PLAN - SLAB & SAFETY CURB REINFORCING

Scale: $\frac{1}{8}$" = 1'-0"



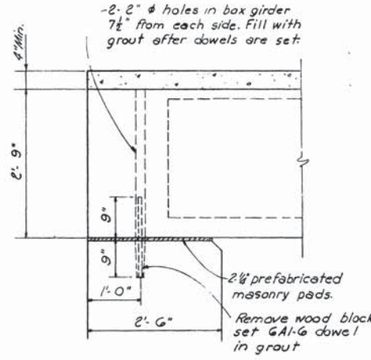
SECTION A-A

Scale: $\frac{1}{4}$" = 1'-0"



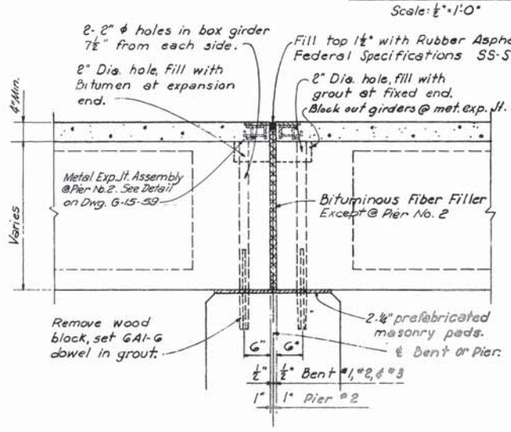
DETAIL OF SAFETY CURB & SCUPPER

Scale: 1½" = 1'-0"



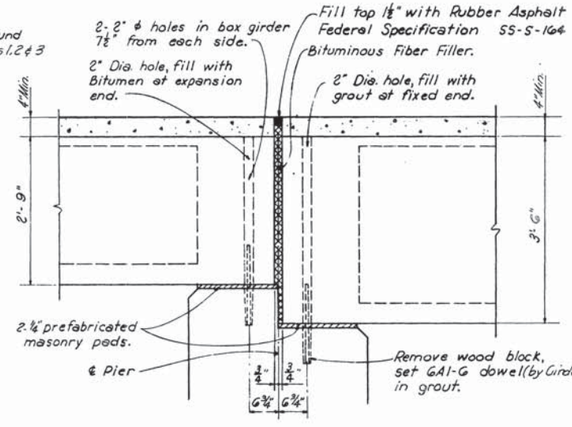
SECTION AT ABUTMENT

Scale: $\frac{3}{4}$" = 1'-0"



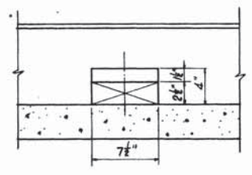
SECTION AT BENT #1, #2, #3, & PIER #2

Scale: $\frac{3}{4}$" = 1'-0"



SECTION AT PIER #1 - AS SHOWN
SECTION AT PIER #3 - OPPOSITE

Scale: $\frac{3}{4}$" = 1'-0"



SECTION B-B

Showing Scupper Inlet Opening

Scale: 1½" = 1'-0"

ESTIMATED QUANTITIES

*	Class "A" Concrete	Cu. Yds.	287.3
	Reinforcing Steel	Lbs.	61,039

* Includes End Posts Detailed on Dwg. G-15-42

Scale: As noted

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

BRIDGE OVER CANEY FORK RIVER - RIVER MILE 15.0
STA 29G+15.74 - RIGHT LANE (EAST BOUND)(1A)

SLAB & SAFETY CURB LAYOUT & DETAILS

STATE OF TENNESSEE
DEPARTMENT OF HIGHWAYS AND PUBLIC WORKS
NASHVILLE

DR. W.R.S.	DATE 11-16-59	G-15-43
CHK'D R.A.H.		
APP'D W.R.		

REV. 4-19-60

DIETZGEN NO. 197 BRISTOL

ITEM:	PROJECT:	PAGE ____ OF ____

LOCATION	BAR MARK	NO. REQD	BENDING DIMENSIONS - FEET & INCHES a	b	c	e	f	g	h	o	r	WEIGHT
	ABUTMENT Nº 1 & 2											
	(Half each Abutment except as otherwise noted.)											
	7A31-10	52										3383
	5A5-11	8										49
	5A5-9	8										48
	5A4-2	8										35
	5A4-1	16										68
	5A4	4										17
	5A3-7	28										105
	5A3-4	4										14
	5A3-3	8										27
	5A3-2	4										13
	5A3	120										375
	5A2-7	4										11
	5A2-6	4										10
	5A2-5	4										10
	5A2-4	4										10
	5A2-3	4										9
	5A2-2	4										9
	5A2-11	12										37
	5A1-9	4										7
	5U6	108	2-0	2-0								676
	5U5-6	108	2-0	1-9								620
	4A13-6	16										116
	4A11-10	8										63
	4A9-9	8										52
										Total Abut.#1		2890
										Total Abut.#2		2890
	BENTS Nº 1, 2 & 3											
	(3 each Bent except as otherwise Noted.)											
	11A20	12										1275
	11A14	6										646
	11AX35-2	6	(See Bending Diagrams)									1121
	11J15-2	60								13-7		4836
Bent Nº 3	9A30-4	20										2062
" " 3	9A30-1	20										2065
" " 1	9A28-9	20										1955
" " 1	9A28-5	20										1933
" " 2	9A28-5	20										1933
" " 2	9A28-2	20										1916
	9B10-1	156								8-5		5792
	9J6-6	120								5-3		2652
	8A12	12										384
	6A35-1	6										316
	6B8-4	36								7-0		450
	5G11-6	90	2-1¾	3-3¾	Total Bent Nº1 ---- 10,279							1080
	5U6-2	36	2-1¾	2-0⅝	Total Bent Nº2 ---- 10,240							232
Bent 1 & 2 @ 2, Bent 3 @ 38.00.	3T9-5	16.6	2-1¼	2-1⅝	Total Bent Nº3 ---- 10,498							588
	48" Box GIRDERS PRESTRESSED											
	(Reinforcing Furnished by Girder Supplier)											
	4A33	96										2116
	4A32	288										6156
	4A30-10	288										5931
	4A27-6	96										1764
	4U5-9	1172	3-9	1-0								45,047
	4L7	64	3-9	3-3								300
	4L9-2	160	3-9	2-8								6928
	4UX11	1456	See Bending Diagram on Drwg. G15-42									104,999
	4UX9-6	2504	" " " " Drwg. G15-42									158,890
dowels	6A1-6	224										1009

ITEM:	PROJECT:	PAGE ____ OF ____

LOCATION	BAR MARK	NO. REQD	BENDING DIMENSIONS - FEET & INCHES a	b	c	e	f	g	h	o	r	WEIGHT
	PIERS Nº 1 & 3											
	(Half each Pier except as otherwise noted.)											
	9A25-3	68										5838
	9A21-3	68										4913
	9J5-10	68								4-7		1398
	8A36-5	18										1750
	8B8-1	96								5-11		2071
	8J23-2	20								22-1		1237
	6A36-5	4										219
	5FX19-3	2	3-9½	2-0⅛	2-11¼					5-9	1-10	60
	5FX18-11	2	3-9⅛	2-0⅜	2-10½					5-7½	1-9½	60
	5FX18-7	2	3-8⅜	1-11⅛	2-9⅜					5-6	1-9	39
	5FX18-3	2	3-8¼	1-11⅛	2-9					5-5½	1-8⅝	38
	5FX17-11	4	3-7⅜	1-10⅛	2-8⅜					5-2⅜	1-8	75
	5FX17-7	4	3-7⅛	1-10⅜	2-7½					5-1¼	1-7½	73
	5FX17-4	4	3-6¾	1-10⅛	2-7⅛					4-11⅜	1-7	72
	5FX16-11	4	3-6¼	1-9⅝	2-6¼					4-10	1-6½	71
	5FX16-7	4	3-5⅜	1-8⅝	2-5⅛					4-8⅝	1-6	64
	5FX16-4	4	3-5⅛	1-8¼	2-5⅛					4-7	1-5½	68
	5FX16	4	3-4⅞	1-8⅛	2-4½					4-5½	1-5	67
	5FX15-7	4	3-4¼	1-7⅜	2-3⅛					4-3¾	1-4½	65
	5FX15-3	4	3-3⅜	1-6⅛	2-2⅝					4-2¾	1-4	64
	5FX15	4	3-3¼	1-6⅛	2-2⅛					4-2⅜	1-3½	63
	5FX14-7	4	3-2⅜	1-5⅝	2-1¼					3-11	1-3	61
	5FX14-4	4	3-2⅛	1-5¼	2-1					3-9½	1-2¾	60
	5FX13-8	4	3-1¾	1-5⅛	1-11½					3-6½	1-2	57
	5FX13-3	4	3-0⅜	1-4⅛	1-10⅜					3-3⅜	1-1	55
	5FX13	4	3-0¼	1-3⅝	1-10⅛					3-3¼	1-0⅝	54
	5FX12-8	4	2-11⅜	1-2⅛	1-9⅝					3-1⅜	1-0	53
	5FX12-4	4	2-11¼	1-2⅛	1-8⅞					3-0	0-11½	51
	5FX11-11	4	2-10⅜	1-2⅛	1-8					2-10⅝	0-11	50
	5FX14	6	3-1¾	1-5⅝	2-0⅛					3-8	1-2	58
	5U8	76	3-0	2-6								634
	4A29-6	76										1498
	4A27-6	96										1764
	4A24-6	172										2815
	4A16-6	60										661
	4J4-4	112								3-10		324
	3U3-9	38	1-2	1-3½								54
										Total Pier "1		13,775
	PIER Nº 2									Total Pier "3		12,694
	9A23-9	68										5491
	9J5-10	34								4-7		674
	8A36-5	9										875
	8B8-1	48								5-11		1036
	8J23-2	10								22-1		619
	5FX18-11	2	3-9¼	2-0⅜	2-10½					5-7½	1-9½	40
	5FX18-7	3	3-8¾	1-11⅛	2-9⅜					5-6	1-9	39
	5FX18-3	2	3-8¼	1-11⅛	2-9					5-5½	1-8⅝	38
	5FX17-11	2	3-7⅜	1-10⅛	2-8⅜					5-2⅜	1-8	37
	5FX17-7	2	3-7¼	1-10⅜	2-7½					5-1¼	1-7½	37
	5FX17-4	2	3-6¾	1-10⅛	2-7⅛					4-11⅜	1-7	36

Total = 68 obs

ITEM:	PROJECT:	PAGE ____ OF ____

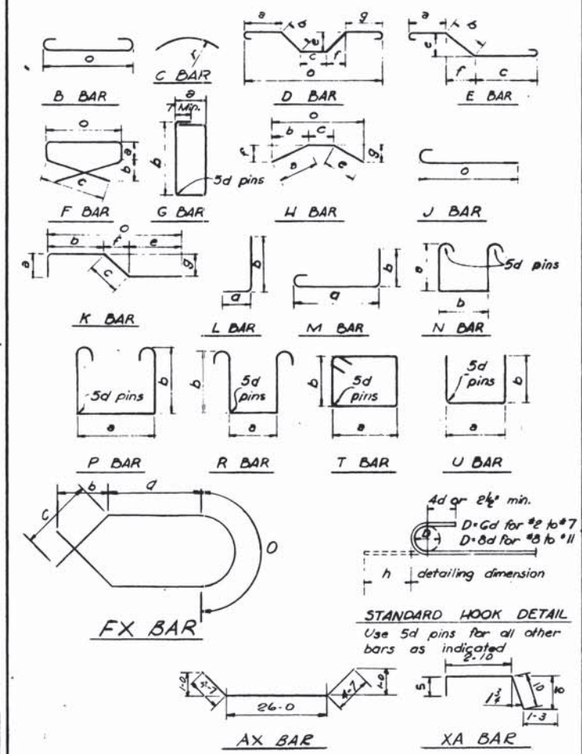
LOCATION	BAR MARK	NO. REQD	BENDING DIMENSIONS - FEET & INCHES a	b	c	e	f	g	h	o	r	WEIGHT
Pier 2 cont.	5FX16-11	2	3-6¼	1-9⅝	2-6¼					4-10	1-6½	35
	5FX16-7	2	3-5⅜	1-8⅝	2-5⅛					4-8⅝	1-6	35
	5FX16-4	2	3-5⅛	1-8¼	2-5⅛					4-7	1-5½	34
	5FX16	2	3-4⅞	1-8⅛	2-4½					4-5½	1-5	33
	5FX15-7	2	3-4¼	1-7⅜	2-3⅛					4-3¾	1-4½	33
	5FX15-3	2	3-3⅜	1-6⅛	2-2⅝					4-2¾	1-4	32
	5FX15	2	3-3¼	1-6⅛	2-2⅛					4-2⅜	1-3½	31
	5FX14-7	2	3-2⅜	1-5⅝	2-1¼					3-11	1-3	30
	5FX14-4	2	3-2⅛	1-5¼	2-1					3-9½	1-2¾	30
	5FX14	2	3-1¾	1-5⅝	2-0⅛					3-8	1-2	29
	5FX13-8	2	3-1¾	1-4⅞	1-11½					3-6½	1-1⅝	29
	5FX13-3	2	3-0⅜	1-4⅛	1-10⅜					3-4⅜	1-1	28
	5FX13	2	3-0¼	1-3⅝	1-10⅛					3-3¼	1-0⅝	27
	5FX12-8	2	2-11⅜	1-2⅛	1-9⅝					3-1⅜	1-0	26
	5FX12-4	2	2-11¼	1-2⅛	1-8⅞					3-0	0-11½	26
	5FX11-11	2	2-10⅜	1-2⅛	1-8					2-10⅝	0-11	25
	5U8	38	3-0	2-6								317
	4A31-6	46										968
	4A29-6	44										867
	4A23-9	116										1840
	4J4	56								3-6		150
										Total Pier 2		13,547
	SLABS SPANS Nº 1 THRU 7											
	5A2-10	24										71
	5L3-4	32	1-8	1-8								111
	5XA4-4	1466	(See Bending Diagrams)									8150
	4A33	86										1896
	4A32	258										5515
	4A30-10	258										5313
	4A27-6	86										1580
	4A2-8	16										29
	4A2-5	8										13
	4B33-5	605								32-5		13,506
	4DZ34-4	612	(See Bending Diagrams)									16,035
	4J32-4	28								31-10		605
	4J31-4	28								30-10		586
	4J30-4	28								29-10		567
	4J29-5	28								28-11		550
	4J28-5	28								27-11		532
	4J27-5	28								26-11		513
	4J26-6	28								26-0		496
	4J25-6	28								25-0		477
	4J24-6	28								24-0		458
	4J23-7	28								23-1		441
	4J22-7	28								22-1		419
	4J21-7	28								21-1		401
	4J20-8	28								20-2		387
	4J19-8	28								19-2		368
	4J18-8	28								18-2		349
	4J17-9	28								17-3		332
	4J16-9	28								16-3		313
	4J15-9	28								15-3		295
	4J14-10	28								14-4		277
	4J13-10	28								13-4		259
	4J12-10	28								12-4		240
	4J11-11	28								11-5		223
	4J11	28								10-6		206
	4J10-8	28								10-2		200
	4J10-9	28								9-2		193
	4J9-9	28								9-3		182
	4J9-2	28								8-8		172
	4J8-3	28								7-9		154
	4J7-6	28								7-0		140
	4J7	28								6-6		131
	4J6-3	28								5-9		117
	4J5-9	28								5-0		103
	4J5-2	28								4-6		89

Total = 6099 lbs

ITEM: BENDING DIAGRAMS

FED. ROAD DIST.	TENN	FEDERAL AID PROJECT No.	FISCAL YEAR	SHEET No.	TOTAL SHEETS
3		I-40-5(9)264		61	372

Bending diagrams shown with symbols for variable dimensions are standard types of bars. Some types shown may not be billed in the attached lists. All bars "Mark A" are straight.



Notes:
1. The figures to the left of the letter, or letters, represents the bar size number -- 4 = ½"; 5 = ⅝"; G = ⅜" etc.
2. The letter represents the type of bar - A, L, J, etc. Special type bars are designated by letters "XA", etc. Bars of same type and same length, but different bends are marked La, Lb, Ka, Kb, etc.
3. The figures to the right of the letter, or letters, represent the length in feet and inches, 10-3, 12-6, etc. Thus a bar, Mark GE21-3, represents a No. 6 bar, type E, 21'-3" long. For bar lengths in even feet, the dash and zero (- and 0) are omitted.
4. Dimensions are out - out.

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

BRIDGE OVER CANEY FORK RIVER-RIVER MILE 15.0 STA. 296+15.74-RT. LN. (EAST BND)(1A)

REINFORCING STEEL SCHEDULE NO. 1

STATE OF TENNESSEE
DEPARTMENT OF HIGHWAYS AND PUBLIC WORKS
NASHVILLE

DR. L.E.S. | DATE 11-16-59
CK'D R.A.H.
APP'D W.E.

G-15-44