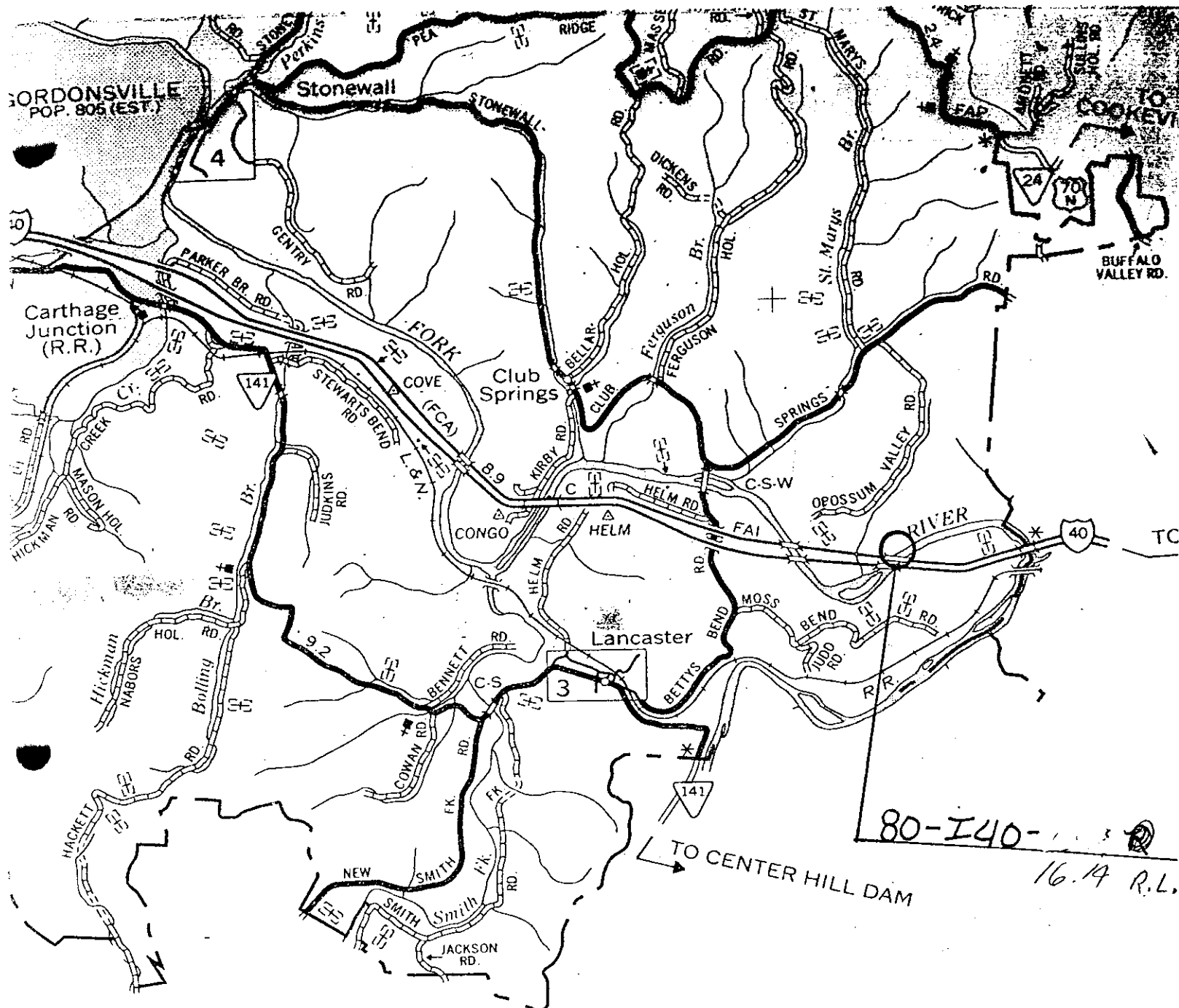




COUNTY

Bridge Maintenance Recommendations

Page No. _____

Page 1 of 1

Bridge Location No.: 80 - I0040 - 16.14 R

Co. Route Log Mile

Crossing: CANEY FORK RIVER *

Bridge Rating: GOOD

Inspection Cycle: 16

Inspection Date: 4/28/2003

Comments: *

Bridge Number: 80I004000033

County: Smith

Region: 03

District: 32

Maint.Resp.: 01

Spec.Case: 0

Co.Seq: 01

Maintenance Recommendations:

Maintenance Completed

By / Date

086	REPAIR DIAPHRAGMS IN SPAN NO. 0005
162	PROTECT ABUTMENT FROM SCOUR AT ABUTMENT NO.0002

COMPLETION NOTIFICATION: RETURN WITHIN 6 MONTHS OF INSPECTION DATE.

INITIAL AND DATE RECOMMENDATIONS WHEN COMPLETED.

MAINTENANCE ACTIVITIES ARE COMPLETED (DATE) _____ BY _____

MAINTENANCE ACTIVITIES ARE PARTIALLY COMPLETED (DATE) _____ BY _____

MAINTENANCE ACTIVITIES ARE INCOMPLETE, SCHEDULED FOR (DATE) _____

EXPLANATIONS AND COMMENTS:

CONTACT:

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

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

Bridge Maintenance Recommendations

Page No. _____

Page 1 of 1

Bridge Location No.: 80 - I0040 - 16.14 R

Co. Route Log Mile

Crossing: CANEY FORK RIVER *

Bridge Rating: GOOD

Inspection Cycle: 15

Inspection Date: 6/13/01

Comments: *

Bridge Number: 80I00400033

County: Smith

Region: 03

District: 32

Maint.Resp.: 01

Spec.Case: 0

Co.Seq: 01

Maintenance Recommendations:

Maintenance Completed
By / Date

086	REPAIR DIAPHRAGMS IN SPAN NO. 0005
162	PROTECT ABUTMENT FROM SCOUR AT ABUTMENT NO.0002
	REPAIR EROSION ON PAVED SHOULDER "A" APPROACH

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. : 80I00400033

BRIDGE NO. : 80 - I0040 - 1614 - R
OVER : CANEY FORK RIVER *

DATE : 06/17/99 BRIDGE RATING : GOOD COUNTY : Smith
CO. SEQ. : 01 INSPECTION CYCLE : 14 MAINT DIST : 32
SPEC. CASE : 1 INSPECTION DATE : 06/17/99 REGION : 03

007 - FACILITY CARRIED BY STRUCT : I40
021 - MAINTENANCE RESPONSIBILITY : 01
022 - OWNER : 01
042 - TYPE OF STRUCTURE : 15
043 - STRUCTURE TYPE, MAIN : 502
044 - STRUCTURE TYPE, APPROACH : 000
045 - SPANS, MAIN UNIT : 006
046 - SPANS, APPROACH : 0000
049 - STRUCTURE LENGTH : 000474
032 - APPROACH ROADWAY WIDTH : 038
034 - SKEW : 49
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 :

- 1 PROTECT ABUTMENT FROM SCOUR AT ABUTMENT NO.0002
- 2 REPAIR DIAPHRAGMS IN SPAN NO. 0005___

: MAINTENANCE COMPLETED :

- 1 BY _____ DATE _____
- 2 BY _____ DATE _____

: COMMENTS FOR BRIDGE SEQ. NO. : 80I00400033 :

*

COMPLETION NOTIFICATION : RETURN WITHIN 6 MONTHS OF INSPECTION DATE

MAINTENANCE ACTIVITIES ARE

--- COMPLETED (DATE) -----
--- PARTIALLY COMPLETE (DATE) -----
--- INCOMPLETE SCHEDULED FOR (DATE) -----

EXPLANATIONS AND COMMENTS:

MEMORANDUM

DATE: 1-25-99

TO: Mr. Wayne Seger
Civil Engineering Manager I

FROM: Mr. Phillip Shraybman
Structural Specialist Supervisor II

SUBJECT: THE ADDITION OF 3.25" OF ASPHALT TO THE FOLLOWING

STRUCTURES(S): 80-I40-8.94/ CSX RR AND A COUNTY ROAD WBL & EBL
80-I40-9.77/ SR 264 AND A BRANCH WBL & EBL
80-I40-10.37/ HICKMAN CREEK AND NFA A156 WBL
80-I40-10.45/ HICKMAN CREEK AND NFA A156 EBL
80-I40-13.61/ CANEY FORK RIVER WBL & EBL
80-I40-15.43/ CANEY FORK RIVER WBL
80-I40-15.49/ CANEY FORK RIVER EBL
80-I40-16.14/ CANEY FORK RIVER EBL
80-I40-16.18/ CANEY FORK RIVER WBL
80-I40-17.13/ NFA A431 AND CANEY FK. RV.WBL & EBL

We have recently evaluated the above bridge(s) and have determined that the addition of the 3.25" of asphalt will be acceptable.



STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

Bridge Condition Coding Form

Revised 06/15/2000

Bridge Number: 80I004000331
(Includes Item 5A)

Feature Intersected: CANEY FORK RIVER

County: 80

Route: 10040

Special Case: 0

County Sequence: 01

Log Mile: 16.14

CODE ONLY THOSE VALUES WHICH HAVE CHANGED

ITEM #	DESCRIPTION	VALUE	CONDITION CODING GUIDELINES (Values for Coding Items 58, 59, 60 and 62)
90	INSPECTION DATE	<u>06/13/2001</u> <u>4 / 28 / 03</u>	N NOT APPLICABLE
10	MINIMUM V.C. OVER DECK (ROADWAY + SHOULDERS)	99 FT. 99 IN. ____ FT. ____ IN.	9 EXCELLENT CONDITION
520	MINIMUM V.C. OVER DECK (EXCLUDES SHOULDERS)	99 FT. 99 IN. ____ FT. ____ IN.	8 VERY GOOD CONDITION - NO PROBLEMS NOTED.
36	TRAFFIC SAFETY FEATURES		7 GOOD CONDITION - SOME MINOR PROBLEMS.
	Br. Rail Trans. Appr. Rail Appr. Rail Ends		6 SATISFACTORY CONDITION - MINOR DETERIORATION OF STRUCTURAL ELEMENTS.
	1 1 1 1		5 FAIR CONDITION - ALL PRIMARY STRUCTURAL ELEMENTS ARE SOUND BUT MAY HAVE MINOR SECTION LOSS, CRACKING, SPALLING OR SCOUR.
41	STRC OPEN/CLOSED/POSTED A K P	A	4 POOR CONDITION - ADVANCED SECTION LOSS, DETERIORATION, SPALLING OR SCOUR.
58	DECK	7	3 SERIOUS CONDITION - LOSS OF SECTION, DETERIORATION, SPALLING OR SCOUR HAVE SERIOUSLY AFFECTED PRIMARY STRUCTURAL COMPONENTS. LOCAL FAILURES ARE POSSIBLE. FATIGUE CRACKS IN STEEL OR SHEAR CRACKS IN CONCRETE MAY BE PRESENT.
59	SUPERSTRUCTURE	7	2 CRITICAL CONDITION - ADVANCED DETERIORATION OF PRIMARY STRUCTURAL ELEMENTS. FATIGUE CRACKS IN STEEL OR SHEAR CRACKS IN CONCRETE MAY BE PRESENT OR SCOUR MAY HAVE REMOVED SUBSTRUCTURE SUPPORT. UNLESS CLOSELY MONITORED IT MAY BE NECESSARY TO CLOSE THE BRIDGE UNTIL CORRECTIVE ACTION IS TAKEN.
60	SUBSTRUCTURE	7	1 "IMMINENT" FAILURE CONDITION - MAJOR DETERIORATION OR SECTION LOSS PRESENT IN CRITICAL STRUCTURAL COMPONENTS OR OBVIOUS VERTICAL OR HORIZONTAL MOVEMENT AFFECTING STRUCTURAL STABILITY. BRIDGE IS CLOSED TO TRAFFIC BUT CORRECTIVE ACTION MAY PUT BACK IN LIGHT SERVICE.
61	CHANL/CHANL PROTECTION	7	0 FAILED CONDITION - OUT OF SERVICE AND BEYOND CORRECTIVE ACTION.
62	CULVERT AND RETAIN WALL	N	
71	WATERWAY ADEQUACY	6	
72	APPROACH RDWY ALIGNMENT (USE VALUES OF 3, 6, OR 8)	8	
521	OVERALL CONDITION (Circle One)		
	<u>GOOD</u> FAIR POOR CRITICAL		
		<u>4 / 28 / 03</u>	
TEAM LEADER SIGNATURE		REVIEW DATE	



STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

Bridge Condition Coding Form

Revised 06/15/2000

Bridge Number: 80I004000331
(Includes Item 5A)

Feature Intersected: CANEY FORK RIVER

County: 80

Route: 10040

Special Case: 0

County Sequence: 01

Log Mile: 16.14

CODE ONLY THOSE VALUES WHICH HAVE CHANGED

ITEM #	DESCRIPTION	VALUE	CONDITION CODING GUIDELINES (Values for Coding Items 58, 59, 60 and 62)
90	INSPECTION DATE	<u>06/17/1999</u> <u>6/13/01</u>	N NOT APPLICABLE
10	MINIMUM V.C. OVER DECK (ROADWAY + SHOULDERS)	99 FT. 99 IN. ____ FT. ____ IN.	9 EXCELLENT CONDITION
520	MINIMUM V.C. OVER DECK (EXCLUDES SHOULDERS)	99 FT. 99 IN. ____ FT. ____ IN.	8 VERY GOOD CONDITION - NO PROBLEMS NOTED.
36	TRAFFIC SAFETY FEATURES		7 GOOD CONDITION - SOME MINOR PROBLEMS.
	Br. Rail Trans. Appr. Rail Appr. Rail Ends		6 SATISFACTORY CONDITION - MINOR DETERIORATION OF STRUCTURAL ELEMENTS.
	1 1 1 1		5 FAIR CONDITION - ALL PRIMARY STRUCTURAL ELEMENTS ARE SOUND BUT MAY HAVE MINOR SECTION LOSS, CRACKING, SPALLING OR SCOUR.
41	STRC OPEN/CLOSED/POSTED A K P	A	4 POOR CONDITION - ADVANCED SECTION LOSS, DETERIORATION, SPALLING OR SCOUR.
58	DECK	7	3 SERIOUS CONDITION - LOSS OF SECTION, DETERIORATION, SPALLING OR SCOUR HAVE SERIOUSLY AFFECTED PRIMARY STRUCTURAL COMPONENTS. LOCAL FAILURES ARE POSSIBLE. FATIGUE CRACKS IN STEEL OR SHEAR CRACKS IN CONCRETE MAY BE PRESENT.
59	SUPERSTRUCTURE	7	2 CRITICAL CONDITION - ADVANCED DETERIORATION OF PRIMARY STRUCTURAL ELEMENTS. FATIGUE CRACKS IN STEEL OR SHEAR CRACKS IN CONCRETE MAY BE PRESENT OR SCOUR MAY HAVE REMOVED SUBSTRUCTURE SUPPORT. UNLESS CLOSELY MONITORED IT MAY BE NECESSARY TO CLOSE THE BRIDGE UNTIL CORRECTIVE ACTION IS TAKEN.
60	SUBSTRUCTURE	7	1 "IMMINENT" FAILURE CONDITION - MAJOR DETERIORATION OR SECTION LOSS PRESENT IN CRITICAL STRUCTURAL COMPONENTS OR OBVIOUS VERTICAL OR HORIZONTAL MOVEMENT AFFECTING STRUCTURAL STABILITY. BRIDGE IS CLOSED TO TRAFFIC BUT CORRECTIVE ACTION MAY PUT BACK IN LIGHT SERVICE.
61	CHANL/CHANL PROTECTION	7	0 FAILED CONDITION - OUT OF SERVICE AND BEYOND CORRECTIVE ACTION.
62	CULVERT AND RETAIN WALL	N	
71	WATERWAY ADEQUACY	6	
72	APPROACH RDWY ALIGNMENT (USE VALUES OF 3, 6, OR 8)	3	
521	OVERALL CONDITION (Circle One)		
	<u>GOOD</u> FAIR POOR CRITICAL		

Hilbert Wayne Hunter
TEAM LEADER SIGNATURE

6/13/01
REVIEW DATE



STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

Bridge Condition Coding Form

County: 80

Route: 10040

Special Case: 0

County Sequence: 1

Log Mile: 16.14

Bridge Number: 80I004000331
(Includes Item 5A)

Feature Intersected: CANEY FORK RIVER

CODE ONLY THOSE NUMBERS WHICH HAVE CHANGED

ITEM #	DESCRIPTION	VALUE	COMMENTS
90	INSPECTION DATE	5/1/97 <u>6/17/99</u>	RATINGS FOR CODING ITEMS 58, 59, 60 AND 62
			N NOT APPLICABLE
10	MINIMUM V.C. OVER DECK (ROADWAY + SHOULDERS)	99 FT. 99 IN.	9 EXCELLENT CONDITION
		FT. IN.	8 VERY GOOD CONDITION - NO PROBLEMS NOTED.
520	MINIMUM V.C. OVER DECK (EXCLUDES SHOULDERS)	99 FT. 99 IN.	7 GOOD CONDITION - SOME MINOR PROBLEMS.
		FT. IN.	6 SATISFACTORY CONDITION - MINOR DETERIORATION OF STRUCTURAL ELEMENTS.
54	MINIMUM VERTICAL UNDERCLEARANCE (EXCLUDES SHOULDERS)	N 0 FT. 0 IN.	5 FAIR CONDITION - ALL PRIMARY STRUCTURAL ELEMENTS ARE SOUND BUT MAY HAVE MINOR SECTION LOSS, CRACKING, SPALLING OR SCOUR.
	Circle One: H R N	FT. IN.	4 POOR CONDITION - ADVANCED SECTION LOSS, DETERIORATION, SPALLING OR SCOUR.
36	TRAFFIC SAFETY FEATURES		3 SERIOUS CONDITION - LOSS OF SECTION, DETERIORATION, SPALLING OR SCOUR HAVE SERIOUSLY AFFECTED PRIMARY STRUCTURAL COMPONENTS. LOCAL FAILURES ARE POSSIBLE. FATIGUE CRACKS IN STEEL OR SHEAR CRACKS IN CONCRETE MAY BE PRESENT.
	Br. Rail Trans. Appr. Rail Appr. Rail Ends		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 1 1 1		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.
41	STRC OPEN/CLOSED/POSTED	A	0 FAILED CONDITION - OUT OF SERVICE AND BEYOND CORRECTIVE ACTION.
	A K P		
58	DECK	7	
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		
	SIGNATURE	DATE	
	<i>Silbert Wayne Hurst</i>	<u>6/17/99</u>	

BRIDGE CONDITION CODING SHEET
DATA ENTRY JOB NO. 5043, P4
BRIDGE NO. CO: 80 LOCATION NO.
ROUTE: 100400
SEQ. NO: 033

CULP5023
TRIMS KEY
CO. NO: 80
ROUTE: 10040
SC/CSQ: 0 01
LOG MILE: 1614
BR-SEQ: 033

FEATURE INTERSECTED: CANEY FORK RIVER *

CODE ONLY THOSE NUMBERS WHICH HAVE CHANGED

ITEM #	DESCRIPTION	VALUE	COMMENTS
90	INSPECTION DATE	08 / 05 / 95 05 / 07 / 97	RATINGS FOR CODING ITEMS 58 THRU 62
10	MINIMUM V. C. OVER DECK (PAVEMENT + SHOULDERS)	99 FT. 99 IN. ___ FT. ___ IN.	N NOT APPLICABLE 9 EXCELLENT CONDITION 8 VERY GOOD CONDITION- NO PROBLEMS NOTED
14	MINIMUM V. C. OVER DECK (EXCLUDES SHOULDERS)	99 FT. 99 IN. ___ FT. ___ IN.	7 GOOD CONDITION- SOME MINOR PROBLEMS
54	MINIMUM VERTICAL H R N UNDERCLEARANCE	00 FT. 00 IN. ___ FT. ___ IN.	6 SATISFACTORY CONDITION MINOR DETERIORATION OF STRUCTURAL ELEMENTS
36	TRAFFIC SAFETY FEATURE	1 1 1 1 ___	5 FAIR CONDITION-PRIMARY STRUCTURAL DEFECTS, SOUND BUT SHOW MINOR SECTION LOSS, SCOUR, CRACKING, SPALLING
41	STRC OPEN/CLOSED/POSTED A K P	A ___	4 POOR CONDITION- ADVANCED SECTION LOSS, DETERIORATION, SCOUR, SPALLING
58	DECK	8 7	3 SERIOUS CONDITION-LOSS OF SECTION, DETERIORA- TION, SPALLING, SCOUR SERIOUSLY EFFECT PRIMARY MEMBERS, FAILURES POSSIBLE, FATIGUE OR SHEAR CRACKS POSSIBLE
59	SUPERSTRUCTURE	7 ___	2 CRITICAL CONDITION- ADVANCED DETERIORATION OF PRIMARY ELEMENTS OR FATIGUE OR SHEAR CRACK OR SEVERE SCOUR COND- ITION, MAY REQUIRE CLOSURE FOR REPAIRS
60	SUBSTRUCTURE	7 ___	1 IMMINENT FAILURE CONDITION-MAJOR SECTIC LOSS OR CRITICAL COND- ITION OF STRUCTURAL COMPONENT OR UNSTABLE OR CLOSED BUT REPAIR- ABLE FOR LIGHT TRAFFIC
61	CHANL/CHANL PROTECTION	7 ___	0 FAILED CONDITION-OUT OF SERVICE AND BEYOND CORRECTIVE ACTION
62	CULV & RETAIN WALL	N ___	
72	APPROACH RDWY ALIGNMENT (CODE 3, 6, OR 8 UNLESS NECESSARY)	6 8	
OVERALL CONDITION			
GOOD	Ca	POOR	___
FAIR	___	CRIT	___
SIGNATURE		DATE	

BRIDGE DECK EVALUATION

County SMITH Route I-40 Date 1-20-83
 Bridge Number 80-I40-16.14 E.B.L Over CANEY FORK RIVER
 Bridge Length 474.0' Bridge Width 30.0'
 Total Deck Area Evaluated 14,220 sq. ft.

CORROSION

Over 0.35v

ASD OVERLAY sq. ft.
N/A %

VISUAL

Spalls

ASD OVERLAY sq. ft.
N/A %

Scalling

ASD OVERLAY sq. ft.
N/A %

DELAMINATIONS

Chain Drag

ASD OVERLAY sq. ft.
- N/A %

CHLORIDES

No. Tests Over 2 lbs/yd³ 3

Total No. of Tests 6

% Tests Over 2 lbs/yd³ .50

CALCULATIONS

Total Sq. Ft. > 0.35v Corrosion Potential

N/A sq. ft.

Sq. Ft. Spalls Outside > 0.35v

N/A sq. ft.

Sq. Ft. Delamination Outside > 0.35v

N/A sq. ft.

Total Contaminated Deck Sq. Ft. (-Chloride)

N/A sq. ft.

Total Deck Area

14,220 sq. ft.

Total Contaminated Deck Area (-Chloride)

N/A sq. ft.

Total Deck Not > 0.35v, Spalled, Delaminated

14,220 sq. ft.

% Chloride Tests Over
2 lbs per yd³

100

X

Total Deck Area Not
> 0.35v, Spalled Delaminated =

Deck Area
Contaminated

.50 X 14,220 = 7,110 sq. ft.

Total Contaminated Deck Area (-Chloride)

N/A sq. ft.

Total Contaminated Deck Area

7,110 sq. ft.

Total Contaminated Deck Area ÷ Total Area =

.50

053

76

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
DIVISION OF MATERIALS AND TESTS

28

Form DT-004
Re: Form T-2

ORIGINAL OR CHECK SAMPLE OF Bridge Deck Core

Project Reference No. _____ County Smith
Project No. 99102-520394-436109-501 Contract No. _____ Region 3
Ord. No. _____ Req. No. _____ Heat No. _____ Size _____
Date Sampled 12-30 1987 Date Received at Lab. 12-30 1987
Identification _____
Submitted by Bill Green Sampled by J. Hill
Sampled from Bridge Deck Amount Represented 12 Cores
Producer _____ Location _____
Manufacturer _____ Location _____
Serial No. C57 Report No. _____

FOR LAB USE ONLY

FIELD USE

Core	% Chloride	lbs/yc ₃	
1	.23	9.01	WBL
2	.17	6.66	"
3	.23	9.01	"
4	.21	8.22	"
5	.14	5.48	"
6	.06	2.35	"
1	.06	2.35	EBL
2	.06	2.35	"
3	.01	0.39	"
4	.02	0.78	"
5	.04	1.57	"
6	.11	4.31	"

80-I-40 16.14

Caney Fork

REMARKS:

This material information the requirements of the specifications

for Bridge Deck Core Tested by J. Hill

Approved J. Hill

Bridge No.: 80 — I0040 — 1614
Crossing: CANEY FORK RIVER *
Federal No.: 80I00400033

Date:

April 25, 2003

PIC1



VIEW ACROSS DECK FROM A-APPR

Bridge No.: 80 — I0040 — 1614
Crossing:: CANEY FORK RIVER *
Federal No 80I00400033

Date:

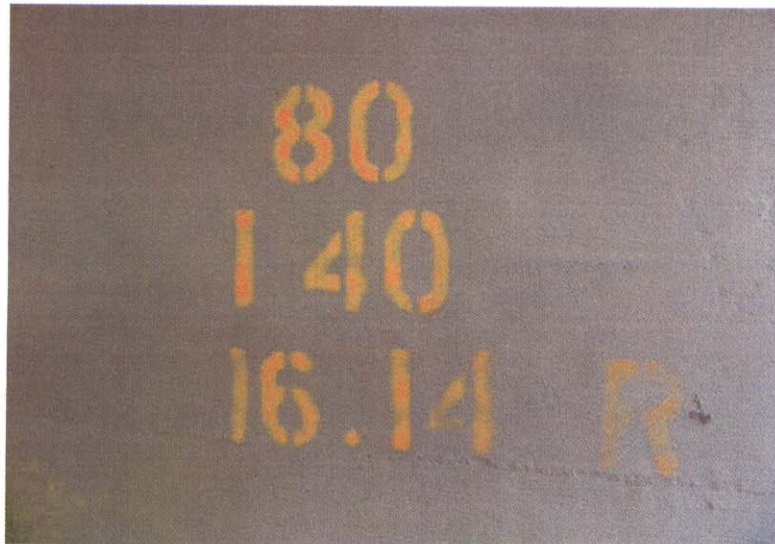
April 25, 2003

PIC2



INLET-ELEV

PIC3



BRIDGE NO. AT ABUTMENT # 1

Bridge No.: 80 — 10040 — 1614
Crossing:: CANEY FORK RIVER *
Federal No.: 80I00400033

Date:

April 25, 2003

PIC4

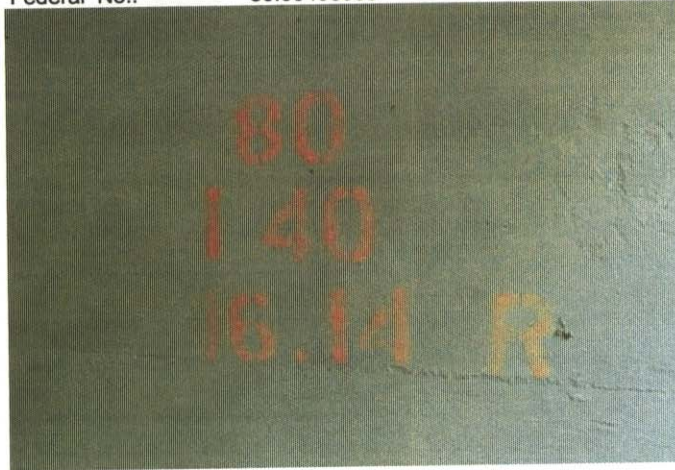


SPALL W/EXP REBAR ON DIAPHRAGM BTWN BEAMS C & D JOINT @ PIER-2

Bridge No.: 80 — 10040 — 1614
Crossing:: CANEY FORK RIVER *
Federal No.: 80I00400033 Date:

June 13, 2001

PIC1



BRIDGE NO. AT ABUTMENT #1

Bridge No.: 80 — 10040 — 1614
Crossing:: CANEY FORK RIVER *
Federal N 80100400033

Date:

June 13, 2001

PIC2



INLET-ELEV

PIC3



EROSION R.S. A-APPR.

Bridge No.: 80 — 10040 — 1614
Crossing:: CANEY FORK RIVER *
Federal No. 80I00400033

Date:

June 13, 2001

PIC4



VIEW ACROSS DECK

Bridge No.: 80 — 10040 — 1614
Crossing:: CANEY FORK RIVER *
Federal No.: 80100400033 Date:

June 21, 1999

PIC1



BRIDGE NO. AT ABUTMENT # 1

Bridge No.: 80 — I0040 — 1614
Crossing:: CANEY FORK RIVER *
Federal No 80I00400033

Date:

June 21, 1999

PIC2



ABUTMENT TYPICAL

PIC3



APPROACH #1

Bridge No.: 80 — 10040 — 1614
Crossing:: CANEY FORK RIVER *
Federal No.: 80I00400033

Date:

June 21, 1999

PIC4



APPROACH #2

PIC5



UPSTREAM

Bridge No.: 80 — I0040 — 1614
Crossing:: CANEY FORK RIVER *
Federal No.: 80I00400033

Date:

June 21, 1999

PIC6



DOWNSTREAM

PIC7



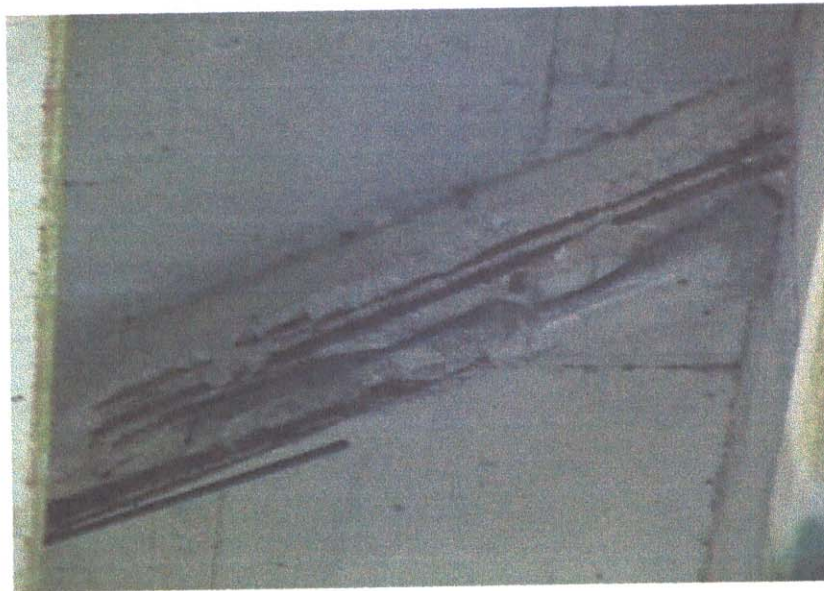
ACROSS TOP OF DECK

Bridge No.: 80 — 10040 — 1614
Crossing:: CANEY FORK RIVER *
Federal No.: 80I00400033

Date:

June 21, 1999

PIC8



SPALLS WITH EXPOSED REBAR OVER PIER #4

PIC9



BOTTOM OF DECK

Bridge No.: 80 — 10040 — 1614
Crossing:: CANEY FORK RIVER *
Federal No.: 80I00400033

Date: June 21, 1999

PIC10



PIER TYPICAL

PIC11



ELEVATION INLET

ROUTINE BRIDGE INSPECTION REPORT

Page No. _____

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

Field Report No. 16 Date 4-28-03
Previous Report No. 15 Date 6/13/2001
Plans: yes

Bridge No. 80100400033
Eleven Digit No.

Bridge Location No. 80 - 10040 - 16.14 R
Co. Route Log Mile

I 40 over CANEY FORK RIVER *
Road Name Crossing

Indepth Insp. Req'd: No
(If yes itemize limits under comment)

Structure Type PPCIB

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 Thompson
Daniel _____
Crutcher _____
Waller _____

Condition: GOOD (If change describe in comments)

Comments

Approaches	<u>G</u>	
Deck Condition (Item 58)	<u>G</u>	
Superstructure (Item 59)		
a. Beams	<u>G</u>	
b. Bearings	<u>G</u>	
c. Diaphragms	<u>G</u>	<u>small diaphragms at joint are poor w. scale exposed</u>
Substructure (Item 60)		
a. Caps/Bridge Seats	<u>G</u>	
b. Columns/Piles	<u>G</u>	
c. Footings	<u>WV</u>	
d. Wing W./Breast W.	<u>G</u>	
Scour/Erosion	<u>G</u>	<u>slight erosion at abut #2</u>
Channel (Item 61)	<u>G</u>	

UNDERWATER INSPECTION

To Be Performed By: none required
Date Underwater Insp. 5
BRIDGE is: Good

Weight Limit Posted No
Gross..... 5 Tons
2 Axle..... 5 Tons
3 or more Axles.. 5 Tons

COMMENTS:

Supervising Bridge Inspector: Gilbert Wayne Hunter

BRIDGE RATING: GOOD

SUMMARY
80-I40-16.14 RT LANE
4/28/2003

I40/Caney Fork Creek
6 Span/P.P.C.I.B.

This bridge was inspected and found to be in **good** condition. Approach alignment, embankment, and drains are good. Approach pavement is new A.C. overlay. The approach guardrail and parapet are standard type and good. There are no paddleboards.

The wearing surface, drains, joint leakage, and expansion joints are good. The bottom deck is good, along with bearing devices. The beams and alignment of beams are good. Diaphragms are fair with 4" deep spall in span #5.

There is settlement at abutment #2 up to 6"H with slight erosion but no piles are visible. The abutments are good, along with the piers. There is moderate drift build-up and no scour at this time.

Gilbert Hunter

ROUTINE BRIDGE INSPECTION REPORT

Page No. _____

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

Field Report No. 14 Date 6/17/99
Previous Report No. 15 Date 6-13-01
Plans: yes

Bridge No. 80I00400033
Eleven Digit No.

Bridge Location No. 80 - I0040 - 16.14 R
Co. Route Log Mile

I40 over CANEY FORK RIVER *
Road Name Crossing

Indepth Insp. Req'd: NO
(If yes itemize limits under comment)

Structure Type PPCIB

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
Deck Condition (Item 58)
Superstructure (Item 59)
a. Beams
b. Bearings
c. Diaphragms
Substructure (Item 60)
a. Caps/Bridge Seats
b. Columns/Piles
c. Footings
d. Wing W./Breast W.
Scour/Erosion
Channel (Item 61)

G	There is AN erosion hole on paved shoulder	App. #1 18"0X1"0 X7'-L
G		
G		
G		
F	4" deep spalls	
G		
G		
NV		
G		
F	slight erosion Abut #2 6"-14"	
G		

UNDERWATER INSPECTION

To Be Performed By: none required

Date Underwater Insp. 1

BRIDGE is: open

COMMENTS:

Weight Limit Posted NO

Gross..... Tons
2 Axle..... Tons
3 or more Axles.. Tons

Supervising Bridge Inspector:

Willard Wayne Hunter

BRIDGE RATING: GOOD

SUMMARY
80-I40-16.14 RT LANE
6-13-01

I40/Caney Fork Creek
6 Span/P.P.C.I.B.

This bridge was inspected and found to be in **good** condition. Approach alignment, embankment, and drains are good. Approach pavement is new A.C. overlay. The approach guardrail and parapet are standard type and good. There are no paddleboards.

The wearing surface, drains, joint leakage, and expansion joints are good. The bottom deck is good, along with bearing devices. The beams and alignment of beams are good. Diaphragms are fair with 4" deep spall in span #5.

There is settlement at abutment #2 up to 6"H with slight erosion but no piles are visible. The abutments are good, along with the piers. There is moderate drift build-up and 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 6-17-99
REVIEW REPORT NO. 13 DATE 5-7-97
PLANS ---- YES ☒ NO ☐

BRIDGE NO. 80I00400033
ELEVEN DIGIT NO.

BRIDGE LOC. NO. 80-I40-16.14 K.L.
CO. ROUTE LOG MILE

I40 OVER Covey Fork River
ROAD NAME FEATURE INTERSECTED

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

YEAR WIDENED 1991 YEAR REHABILITATED 1991
(ESTIMATED OR ACTUAL) (ESTIMATED OR ACTUAL)

FEATURES

WEARING SURFACE-- CONCRETE ☐ TIMBER ☐ ASPHALT ☒ (DEPTH= 3 1/4)
FLARED WIDTH ----- YES ☐ NO ☒
NAVIGATIONAL CONTROL-- YES ☐ NO ☒
MEDIAN WIDTH ----- OPEN ☒ NONE ☐ CLOSED ☐

BRIDGE SKEW 49° LT ☒ RT ☐

STRUCTURE TYPE PPCIB NO. SPANS 6
Main Span Main Span

STRUCTURE TYPE — NO. SPANS —
Approach Spans Approach Spans

MAXIMUM SPAN LENGTH 80' TOTAL LENGTH 474'

WIDTHS
DECK OUT-TO-OUT 44'
ROADWAY CURB/CURB 42'
SIDEWALK — RT — LT
*APPROACH ROADWAY 24
APPR. SHLD. 10 RT 4 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 ☒

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

COMMENTS: —

INSPECTORS

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

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

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

BRIDGE RATING ☒ ☐ ☐ ☐ ☐

SUPERVISING BRIDGE INSPECTOR

GOOD FAIR POOR CRITICAL

Albert Wayne Hunter

PERFORMANCE EVALUATION

Time of day inspected 10:45 Weather conditions Sunny 70°

Vehicles observed Tractor Trailer & passenger type

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

APPROACH

Alignment	(G) F P C	
Slab	G F P C	<u>NU</u>
Joints	G F P C	<u>NU</u>
Pavement	(G) F P C	
Embankment	(G) F P C	
Drains	G F P C	<u>NA</u>

TRAFFIC SAFETY FEATURES

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

SIGNING

	YES	NO	NEEDED	
Paddleboard - - - - -	[]	[X]	[]	WEIGHT LIMIT POSTED
				YES [] NO [X]
Vertical Clearance (< 14') - - - -	[]	[]	[]	
Narrow [] One Lane Bridge [] - []	[X]	[]	[]	GROSS _____ TONS
				2 AXLE _____ TONS
				3 OR MORE
				AXLES _____ TONS

Other Signs or Plaques _____

Comments Regarding Any Problems With Signing _____

Other Recommendations _____

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

BRIDGE LOC. NO. 80 - I40 - 16.14 ^{R.L.}
CO. ROUTE L.M.

DATE: 6-17-99

DECK

COMMENTS

WEARING SURFACE	(G)	F	P	C	<u>New AC overlay</u>
DECK - STRUCTURAL	(G)	F	P	C	
CONDITION					
CURBS	G	F	P	C	<u>NA</u>
MEDIAN	G	F	P	C	<u>NA</u>
SIDEWALKS	G	F	P	C	<u>NA</u>
PARAPET	(G)	F	P	C	
RAILING	G	F	P	C	<u>NA</u>
PAINT	G	F	P	C	<u>NA</u>
DRAINS	G	F	P	C	
LIGHTING STD'S	G	F	P	C	<u>NA</u>
UTILITIES	G	F	P	C	<u>NA</u>
JOINT LEAKAGE	(G)	F	P	C	
EXPANSION JOINTS	(G)	F	P	C	

SUPERSTRUCTURE

COMMENTS

BEARING DEVICES	(G)	F	P	C	
TRIDERS OR BEAMS	(G)	F	P	C	
FLOOR BEAMS	G	F	P	C	<u>NA</u>
STRINGERS	G	F	P	C	<u>NA</u>
DIAPHRAGMS	G	(F)	P	C	<u>5"-D spall w. Exp rebar span span #5</u>
BRACING	G	F	P	C	<u>NA</u>
TRUSSES - GENERAL	G	F	P	C	
- PORTALS	G	F	P	C	
- BRACING	G	F	P	C	
PAINT	G	F	P	C	<u>NA</u>
ALIGNMENT OF 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: _____

RECOMMENDATIONS _____

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

BRIDGE LOC. NO. 80 - I40 - 16.14 R.L.
CO. ROUTE L.M.

DATE: 6-17-99

SUBSTRUCTURE

ABUTMENTS

COMMENTS

CAPS	(G)	F	P	C	
BREASTWALL	G	F	P	C	NA
WINGS	(G)	F	P	C	
BACKWALL	G	F	P	C	NU
PLUMB	(G)	F	P	C	
FOOTING	G	F	P	C	NU
PILES	G	F	P	C	NU
EMBANKMENT	G	(F)	P	C	Slight settlement at Abut #2 up to 5" 3'-L
BEARING SURFACE	G	F	P	C	NU w. slight erosion
BEARINGS	G	F	P	C	NU
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	NU
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	NU
PILES	G	F	P	C	NU
BEARING SURFACE	(G)	F	P	C	
BEARINGS	(G)	F	P	C	

SCOUR CONDITION NONE [X] _____

RECOMMENDATIONS: _____

BRIDGE LOC. NO. 80 - I40 - 16.14 ^{R.L.} ()
CO. ROUTE L.M. (LOG km)

DATE: 6-17-99

STREAM CHANNEL DATA AND CONDITIONS

STREAM CROSSING: Carrey Fork River

- I. 1. Type of bed material? Redrock & Gravel
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 (a) low growth [] (b) large timber [X]
Vegetation (c) dead trees [X] (d) clear banks []
4. Sediment or gravel accumulation: YES [X] NO [] UNKNOWN []
5. Channel altered or straightened: YES [] NO [X] UNKNOWN []
6. Stable conditions: (a) live growth [X] (b) bedrock [X]
(c) boulders [X] (d) flat slopes []
($\leq 2:1$)

- 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: light drift

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-I40-16.14 RT LANE
6-17-99

I40/Caney Fork Creek
6 Span/P.P.C.I.B.

This bridge was inspected and found to be in good condition. Approach alignment, embankment, and drains are good. Approach pavement is new A.C. overlay. The approach guardrail and parapet are standard type and good. There are no paddleboards.

The wearing surface, drains, joint leakage, and expansion joints are good. The bottom deck is good, along with bearing devices. The beams and alignment of beams are good. Diaphragms are fair with 4" deep spall in span #5.

There is settlement at abutment #2 up to 6"H with slight erosion but no piles are visible. The abutments are good, along with the piers. There is no problem with light drift build-up or scour at this time.

Gilbert Hunter

Top of RT. curb About A. Elev. 500.00

LT.

RT.

about A	500.07	499.44	499.40	500.00
Pier 1	498.85	497.31	498.33	498.81
" 2	497.75	497.20	497.07	497.60
" 3	496.79	496.25	496.10	496.58
" 4	496.14	495.64	495.35	495.85
" 5	495.68	495.15	494.88	495.32
but B	495.50	494.90	494.50	495.04

80 - 140 16.23

Report 7

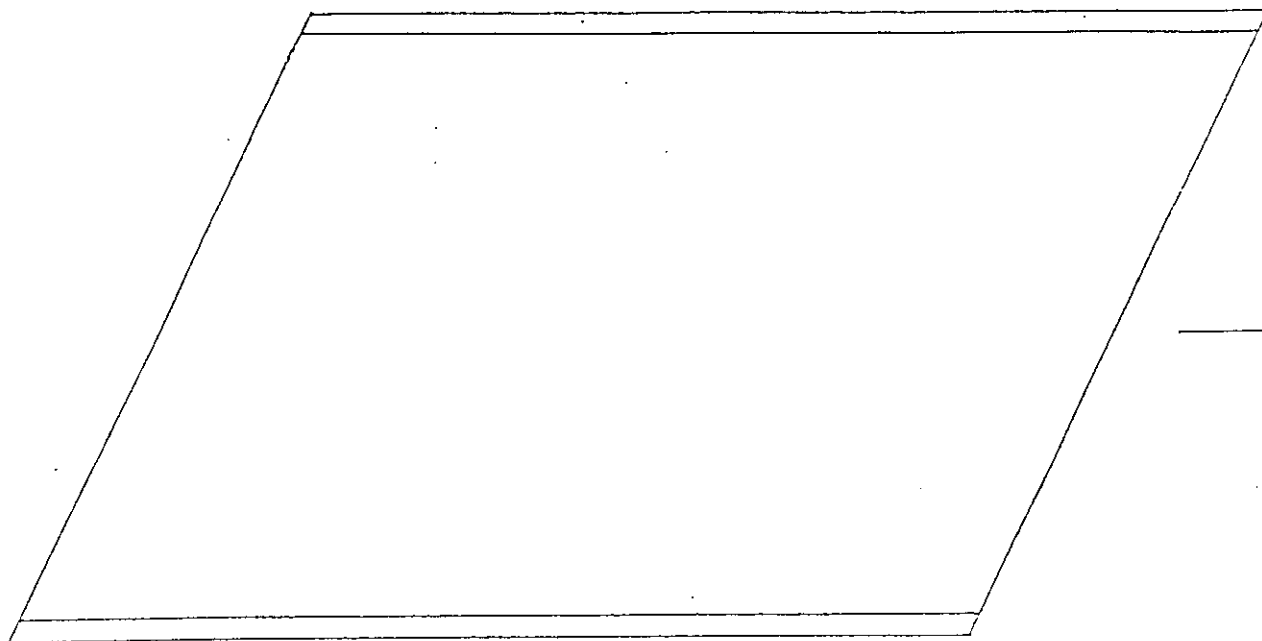
" 3

RT. Lane

466.58

[illegible]

6-17-11
R

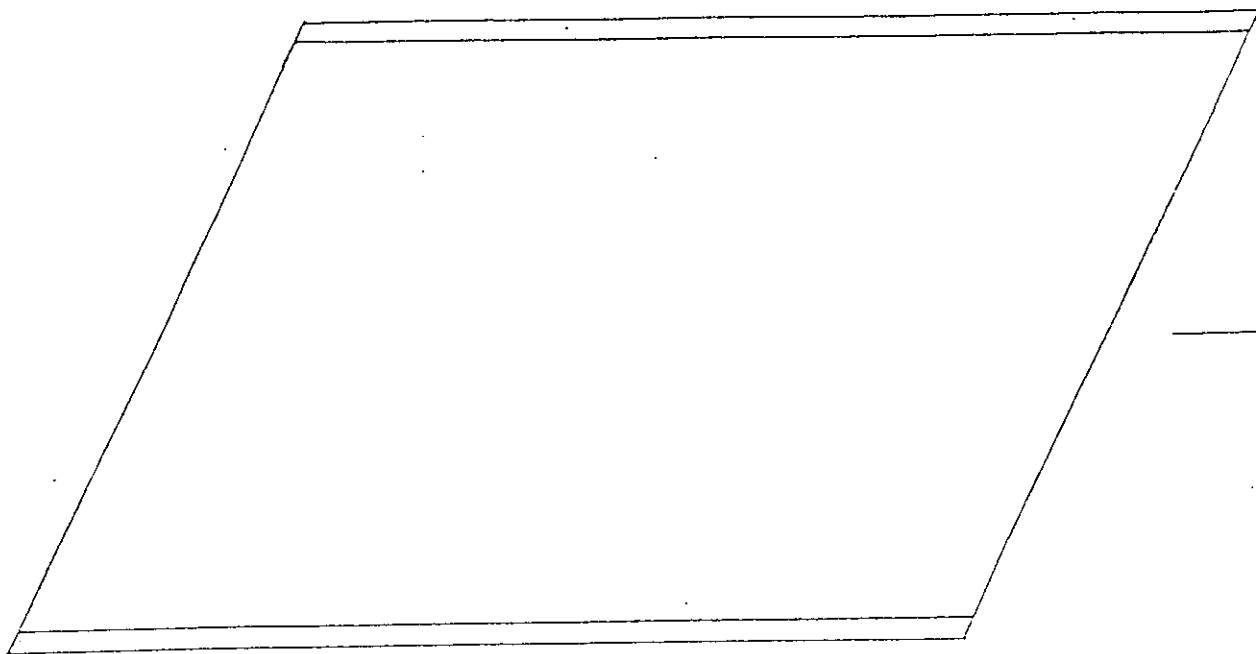


TOP Slab #1

Br. # 80-I40-16.14 R.L.

Deck	NV	AC OVERLAY
Parapet	G	
Drains	NA	
Joints	NV	PAVED OVER

6-17-11
R

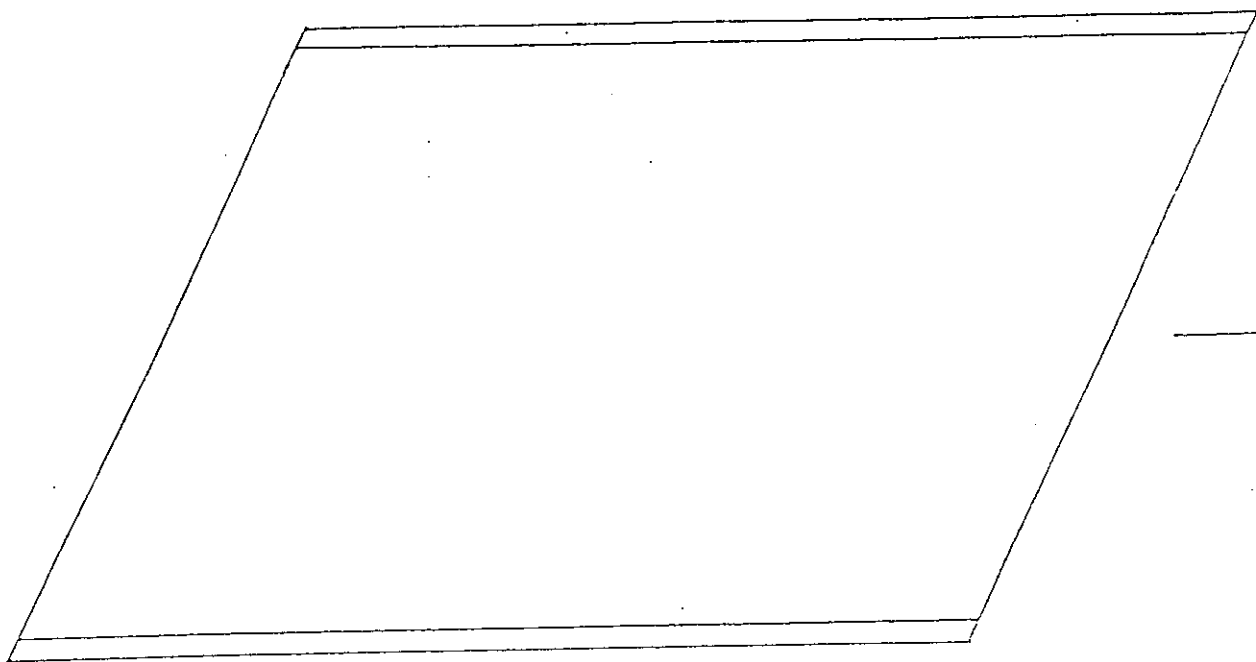


TOP Slab #2

Br. # 80-I40-16.14 R.L.

Deck	NU	AC OVERLAY
Parapet	G	
Drains	NA	
Joints	NU	PAVED OVER

6-11-77



Top Slab II 4

Br. II 30-140-16.14 R.L.

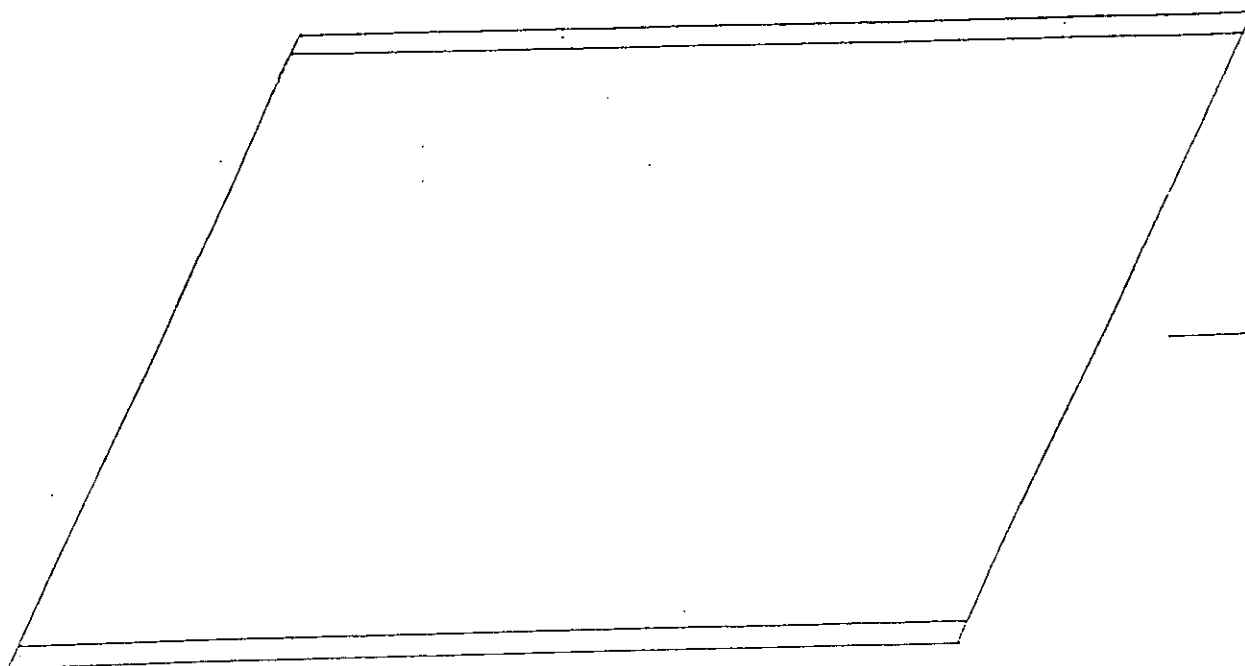
Deck	NV	AC MET HW
------	----	-----------

Parapet G

Drain S	G
---------	---

JO 1475	G
---------	---

6-11-11
R

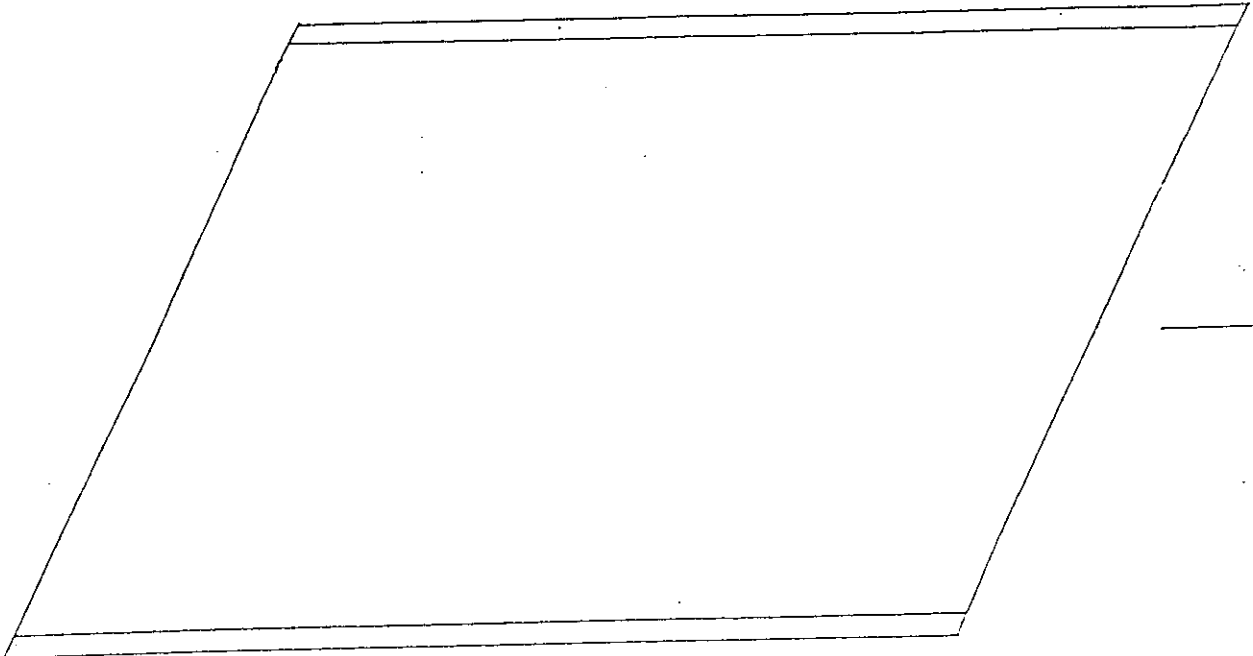


Top Slab #5

Br. # 80-I40-16.14 R.L.

Deck	NV	AC OVERLAY
Parapet	G	
Drains	G	
Joints	NV	PAVED OVER

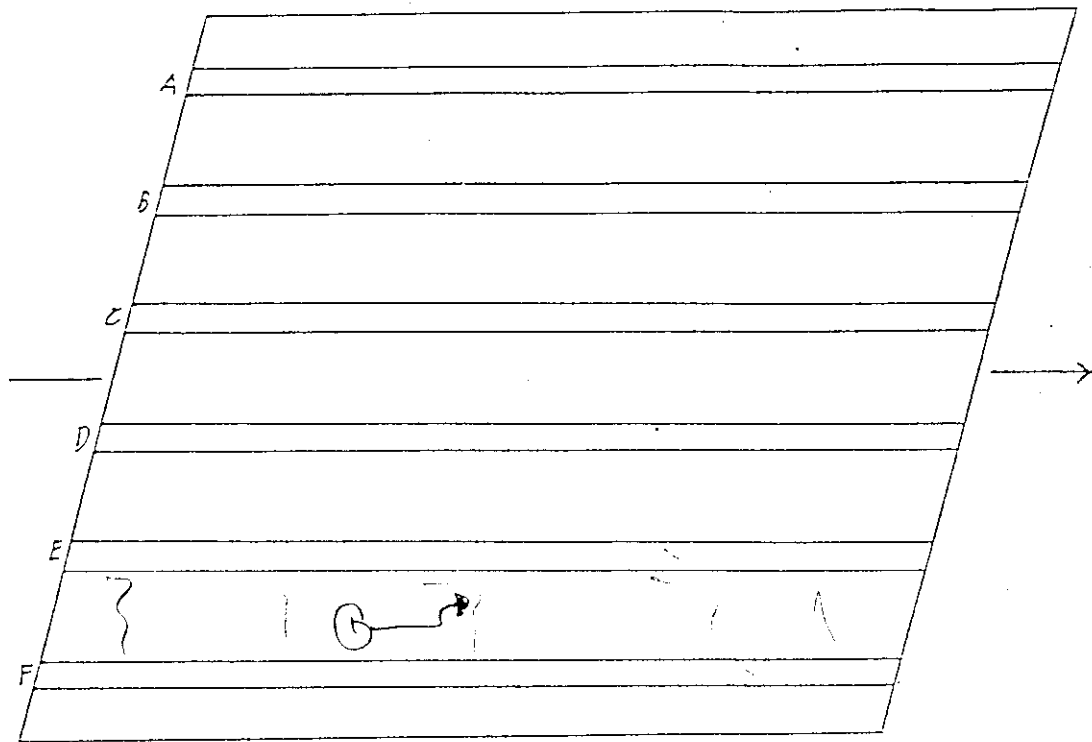
6-11-71
R



TOP Slab = 6

Br. # 80-140-16.14 R.L.

Deck	NV	AC OVERLAY
Parapet	G	
Drains	G	
Joints	NV	PAVED OVER



Bottom Slab #

B. # 80-140-16.14 R.L.

Deck Q

① TRANSVERSE CRACKS w/ LEARNING BETWEEN BEAMS
"E" & "F"

Diaph. G

Beams G

Br. # 80-140-16.14 R.L.

Deck	A	① TRANSVERSE CRACKS W/ LEACHING BETWEEN BEAMS "E" & "F" @ TOILET SIDE BY BEAM "A" OVER HATCH PLATFORM
Diaph.	F	4" - 5" DEEP SPALLS W/ EXPOSED REBAR OVER DECK PLATE
Beams	C	

A diagram of a 6-row, 2-column grid. The rows are labeled A through F on the left side. Row A contains the number 5 and a right-pointing arrow. Row F contains a left-pointing bracket, the number 1, a right-pointing arrow, and a right-pointing bracket. Arrows point from the left and right edges of the grid towards the center.

B. # 80-140-16.14 R.L.

Deck	C	① TRANSVERSE CRACKS w/ LEARNING
------	---	---------------------------------

Diaph.	C
--------	---

Beams	✓
-------	---

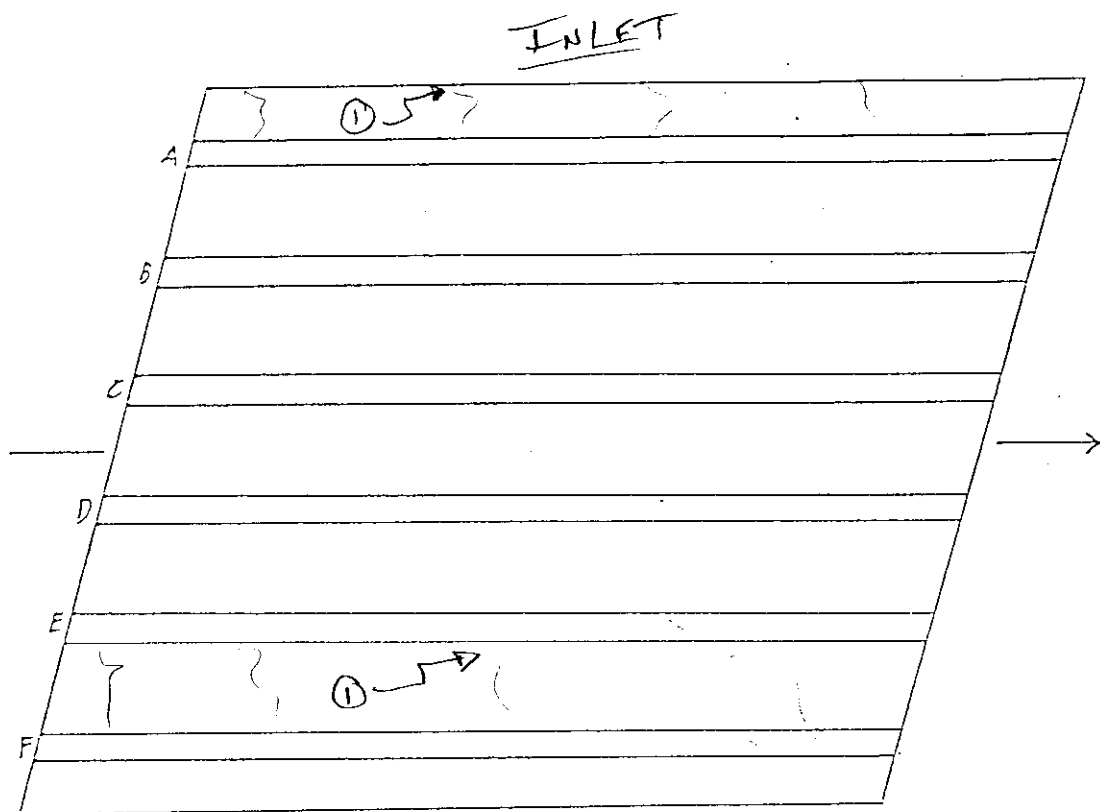
B. # 80 - I 40 - 16.14 R.L.

Deck	2
------	---

① TRANSVESES CRACKS w/ LEACHING

Diaph.	C
--------	---

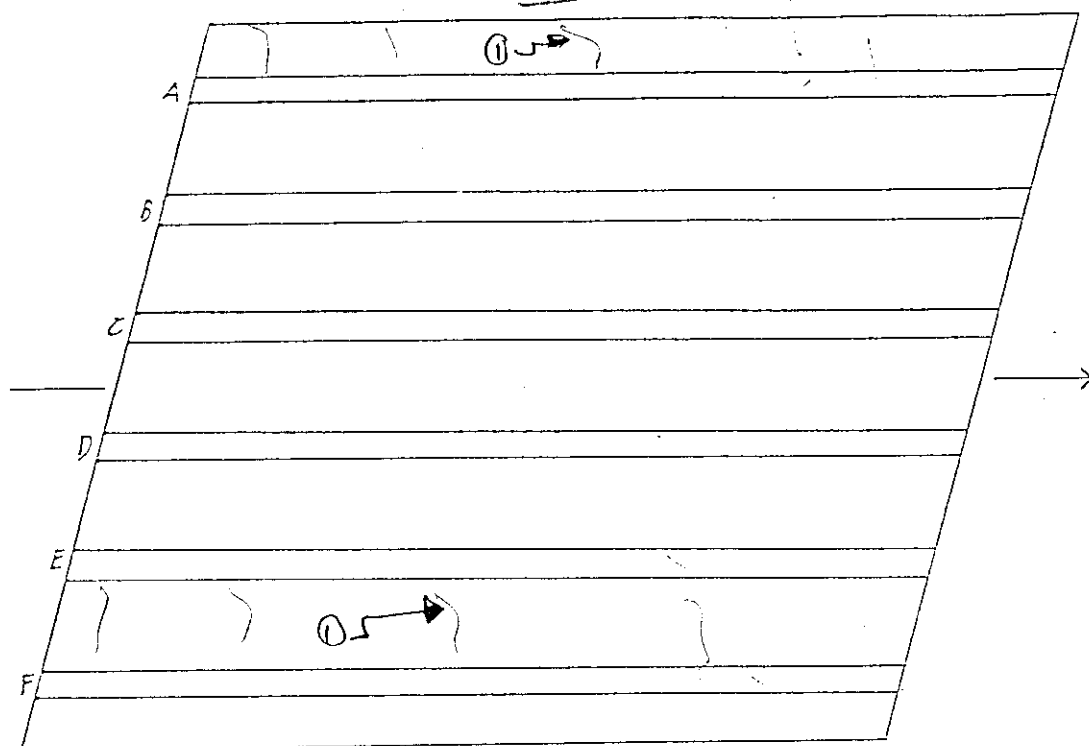
Bears	0
-------	---



Bottom Slab # 2

Deck	C	① TRANSVERSE CRACKS W/ LEADING
Diaph.	C	
Beams	C	

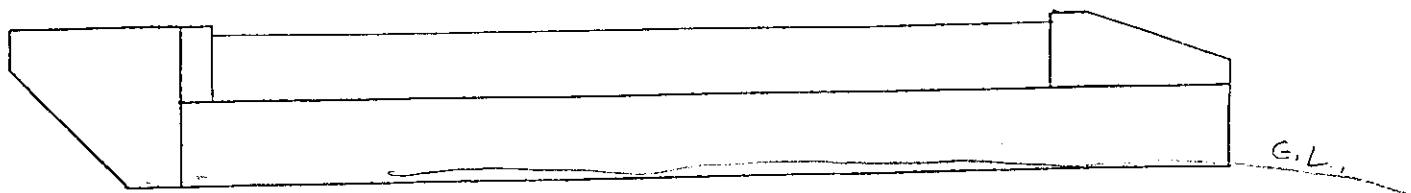
TULET



Bottom Slab ± 1

B..[±] 80-140-16.14 R.L.

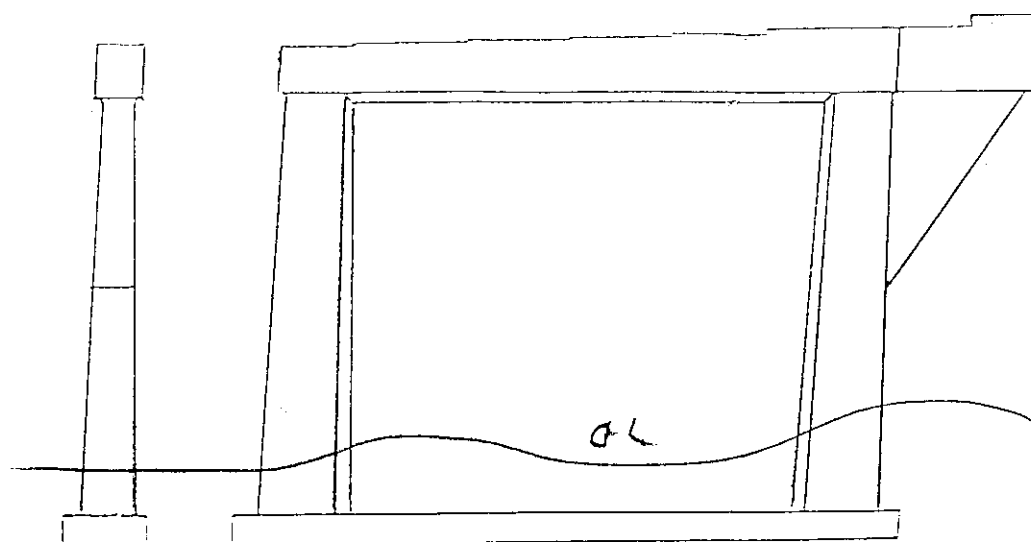
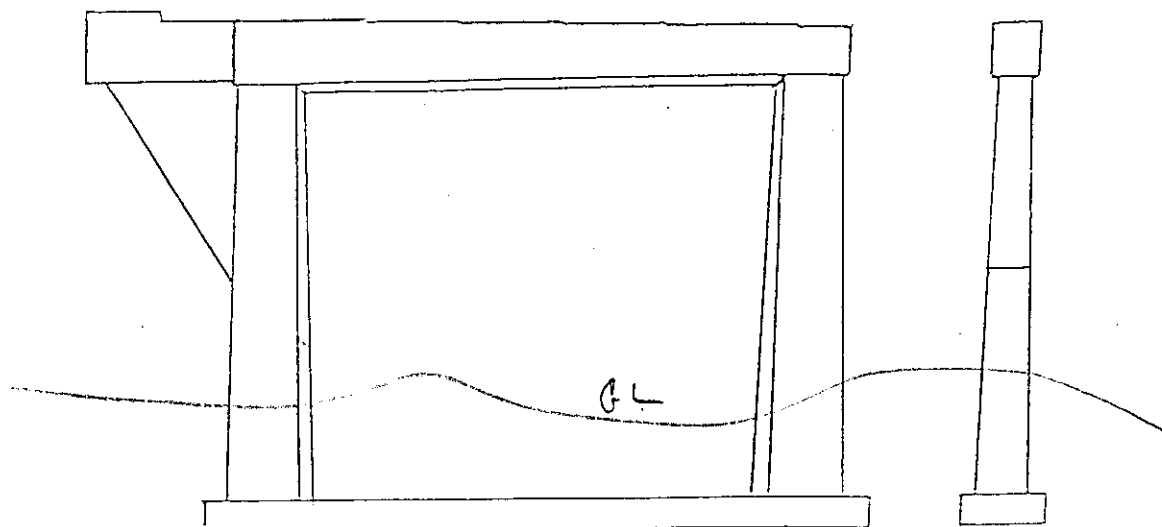
Deck	Q	TRANSVERES CRACKS W/ LEAKING
Diaph.	Q	
Beams	U	



ABUT #1

Br. # 80-140-16.14 R.L.

Backwall	NV
CAP	G
wings	G
Bearings	NV



Pier #1

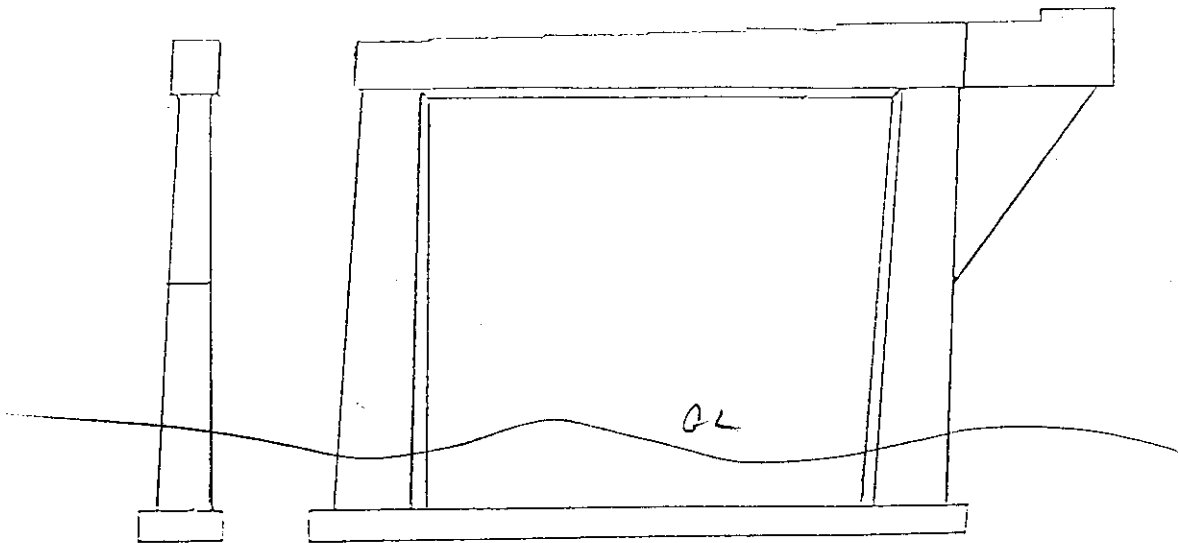
Br. # 80-I40-16.14 R.L.

CAP | Q

wall	g
------	---

FTG.	only
------	------

Bearings	0
----------	---



Br. # 80-I40-16.14 R.L.

CAP	Q
Wall	Q
FTG.	NIV
Bearings	Q

3/12/12



PLANT



Pier # 4

Br. # 80-I40-16.14 R.L.

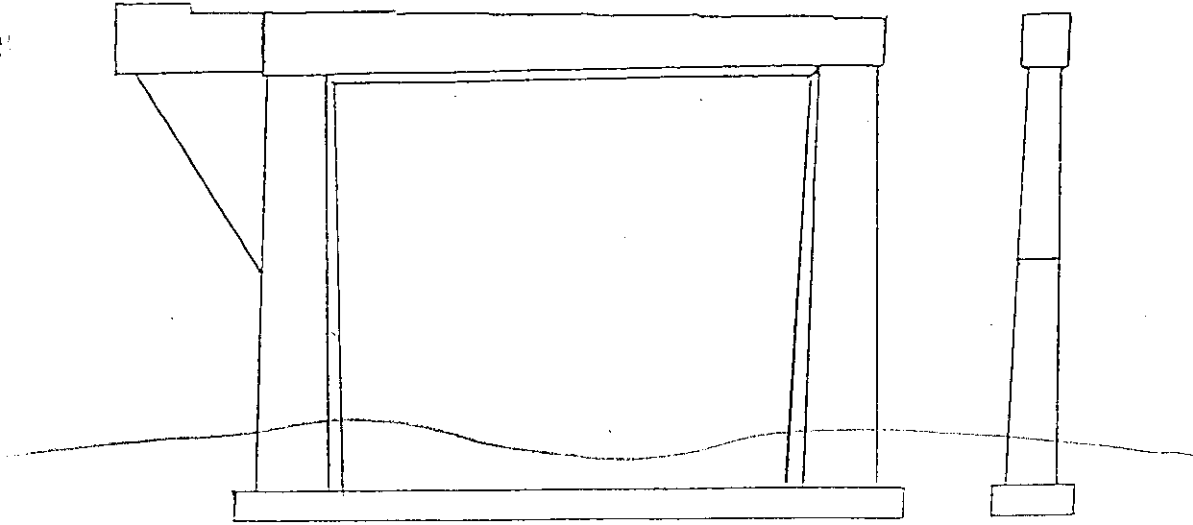
CAP	L
-----	---

wall	G
------	---

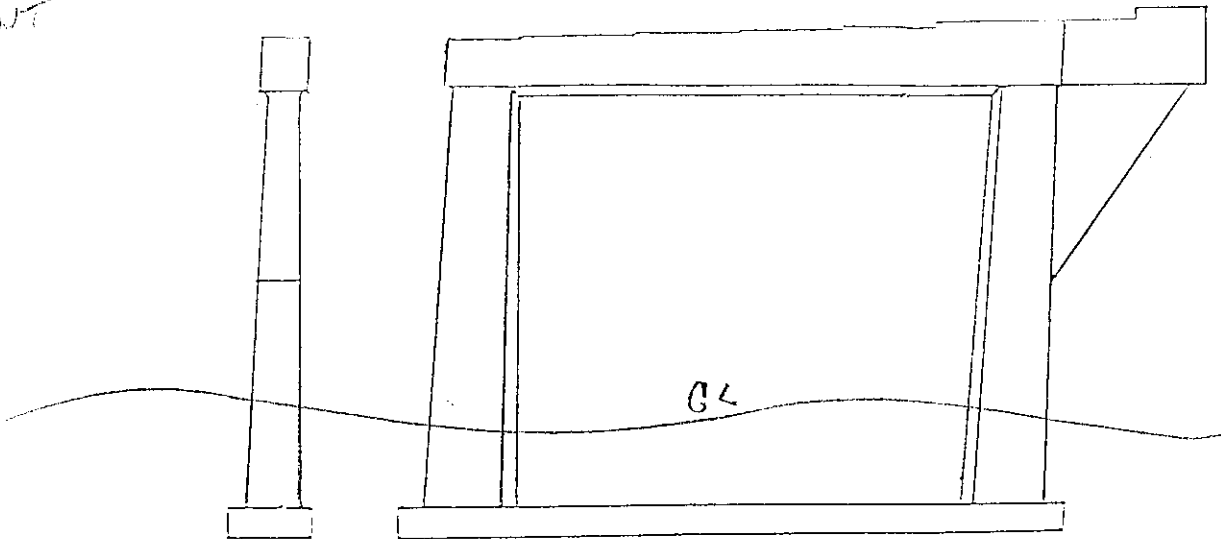
FTG.	N/V
------	-----

Bearings	✓
----------	---

BRON



FRONT



Pier #5

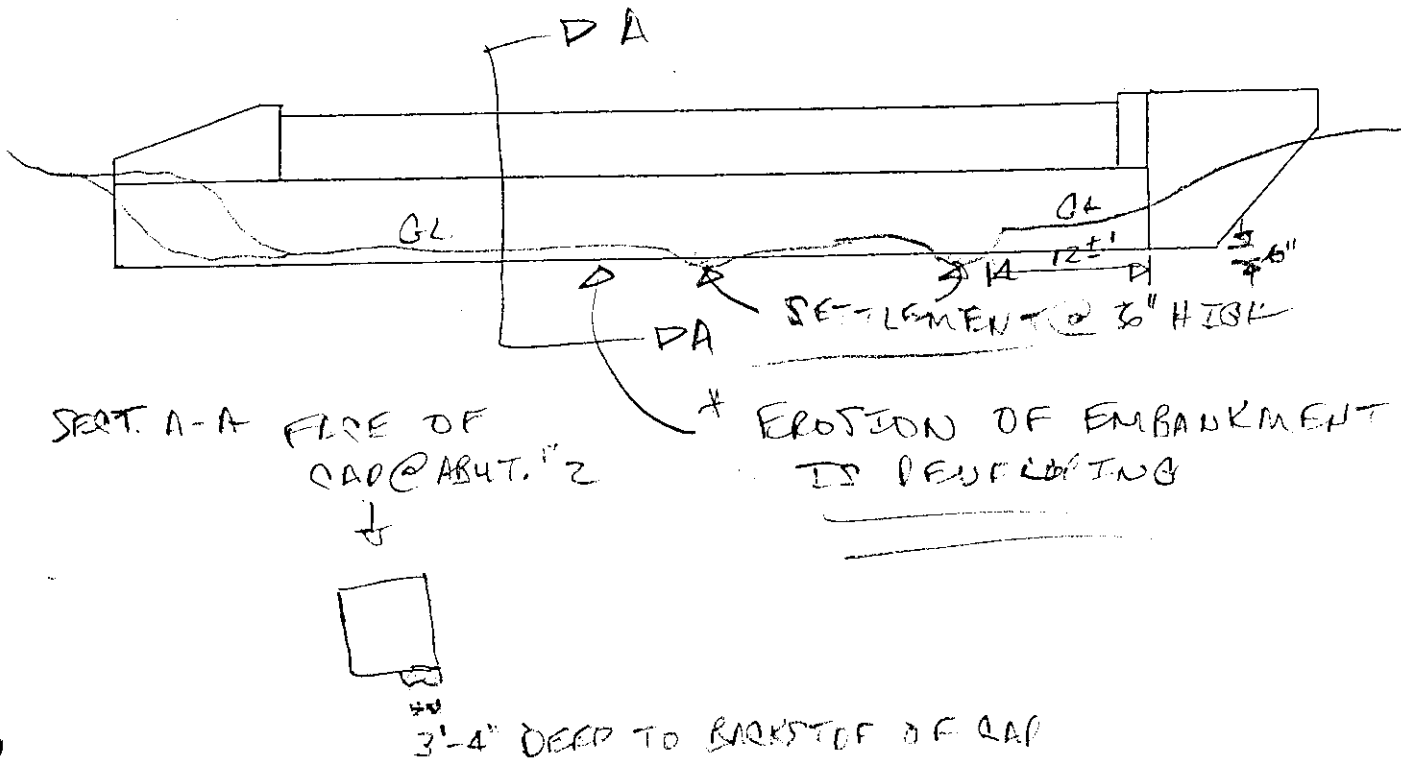
Br. # 80-I40-16.14 R.L.

CAP C

Wall C

FTG.

Bearings C



ABUT # 2

Br. # 80-140-16.14 RL

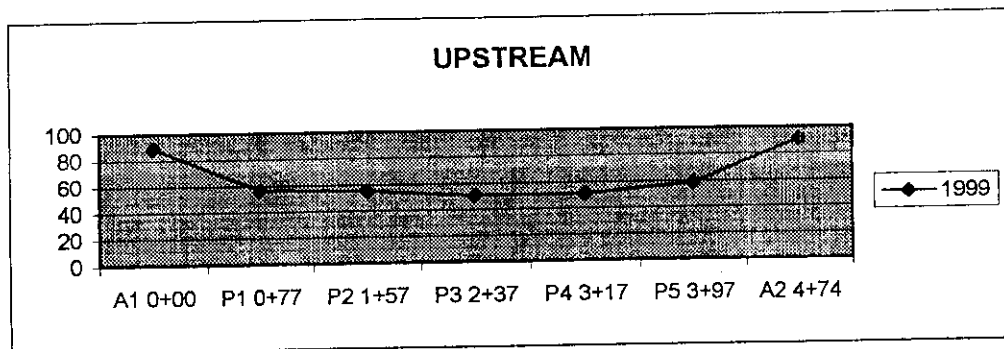
BACKWALL	NV	
CAP	✓	SETTLEMENT @ 6" HIGH PLUS EROSION OF SLOPE/EMBANKMENT NO PILES ARE VISIBLE
WINGS	✓	
Bearings	NIV	

80-I40-16.14 Rt.
 ASSUMED ELEV.-- 100 Ft.-- TOP OF PARAPET
 STATION ELEV.

6/17/99

1999

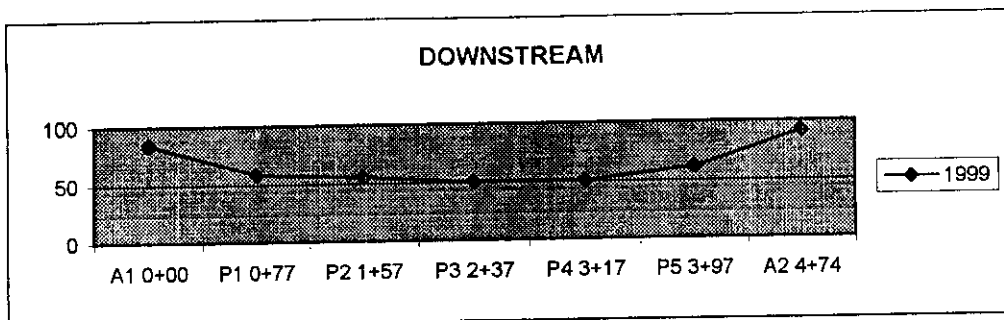
A1 0+00	88.6
P1 0+77	56.5
P2 1+57	55.2
P3 2+37	50.8
P4 3+17	51
P5 3+97	58.3
A2 4+74	90.6



STATION ELEV.

1999

A1 0+00	84.7
P1 0+77	58.4
P2 1+57	55
P3 2+37	50.1
P4 3+17	50.4
P5 3+97	62.1
A2 4+74	91.9



SM00 13 COST ESTIMATE \$ _____					
Station <u>EBL-466+15.62</u> <u>WBL-464+32.38</u>		Length <u>EBL-474'-0"</u> <u>WBL-433'-0"</u>		Designer <u>Wilbur-Smith</u>	
Description (Span Data) <u>Prestressed Concrete I-Beam with composite concrete deck slab</u> <u>EBL- 2@ 71'-0" and 4@ 80'-0"</u> <u>WBL- 2@ 56'-6" and 4@ 80'-0"</u>					
Roadway Description		Out-to-Out <u>44'-0"</u>		Width Between Curbs or Bridgerails <u>42'-0"</u>	
Sidewalk Width		Rail Type <u>M-28-1</u>		Median Description <u>N/A</u>	
				Slab Depth <u>8 1/2'</u>	
X-Slope or S.E. = <u>0.0156%</u>		Min. Vert. Clearance <u>N/A</u>			
Horizontal Curve <u>N/A</u> Lt/Rt		Skew <u>48°-30'</u> <u>Q</u> /Rt		Exp. Jts. <u>(V)/N</u>	
Hydraulic Drainage Area = <u>174</u> Sq. Mi.				Deck Area = <u>EBL-20836</u> <u>WBL-19022</u> Sq. Ft	
Beam Spacing <u>8'-0"</u> (C.L. to C.L.)		Cantilever Distance <u>4'-8"</u> (C.L. to E.O.S.)			
Beam Size Info.	Steel <u>N/A</u>		Other <u>N/A</u>		
	Concrete: Type <u>III</u> I-Beam *OR* D _____ x W _____ Box Beam				
Abutment Type <u>Slab</u>			Pier Type <u>Solid Shaft</u>		
Footing Type <u>Spread & Piles</u>			Footing Type <u>Spread</u>		
LIST OF DRAWINGS					
Items		Dwg. No.		Items	
Layout		M-214-131		Pier Details	
General Notes		M-214-132		" "	
Est. Quantities		M-214-133		Bill of Steel	
Repair Details		M-214-134		" " "	
Superstructure Details		M-214-137		" " "	
" "		M-214-138		" " "	
" "		M-214-139			
Prestressed Conc I-Beam		M-214-140			
" " " "		M-214-141			
" " " "		M-214-142			
" " " "		M-214-143			
Bearing Details		M-214-144			
Abutment Details		M-214-145			
" "		M-214-146			
" "		M-214-147			
Pier Details		M-214-148			
Remarks: (old layout no., widening info., route class, etc.) <u>Widening - Old Layout No. - G-15-104 & G-15-115</u>					
Bridge I.D. No. <u>EBL-80100400033</u> <u>WBL-80100400034</u>		Project Limits: <u>From SR. 153 (Cordonsville Intch.)</u> <u>to the Putnam Co. Line</u>			
Project <u>IR-40-5(9)257</u>	County <u>Smith</u>	Route <u>I-40</u>	L.M. <u>162044</u>	Width <u>42'-0"</u>	Location: <u>Widening</u> <u>I-40/Caneys Fk. River</u>

CONSTR. NO. 80001-3152-44

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

REVISIONS

NO.	DATE	BY	BRIEF DESCRIPTION
1	6/12/89	WHF	ELIMINATED PREVIOUS NOTE, ADDED NEW NOTE
2	9/14/89	DWT	Constr. Jt. Added

Notes:
2009 ADT = 39,000
Design velocity = 65 mph

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

Bench Mark: Top Leftside abutment beam, Abutment 1-EBL Elev. = 509.36

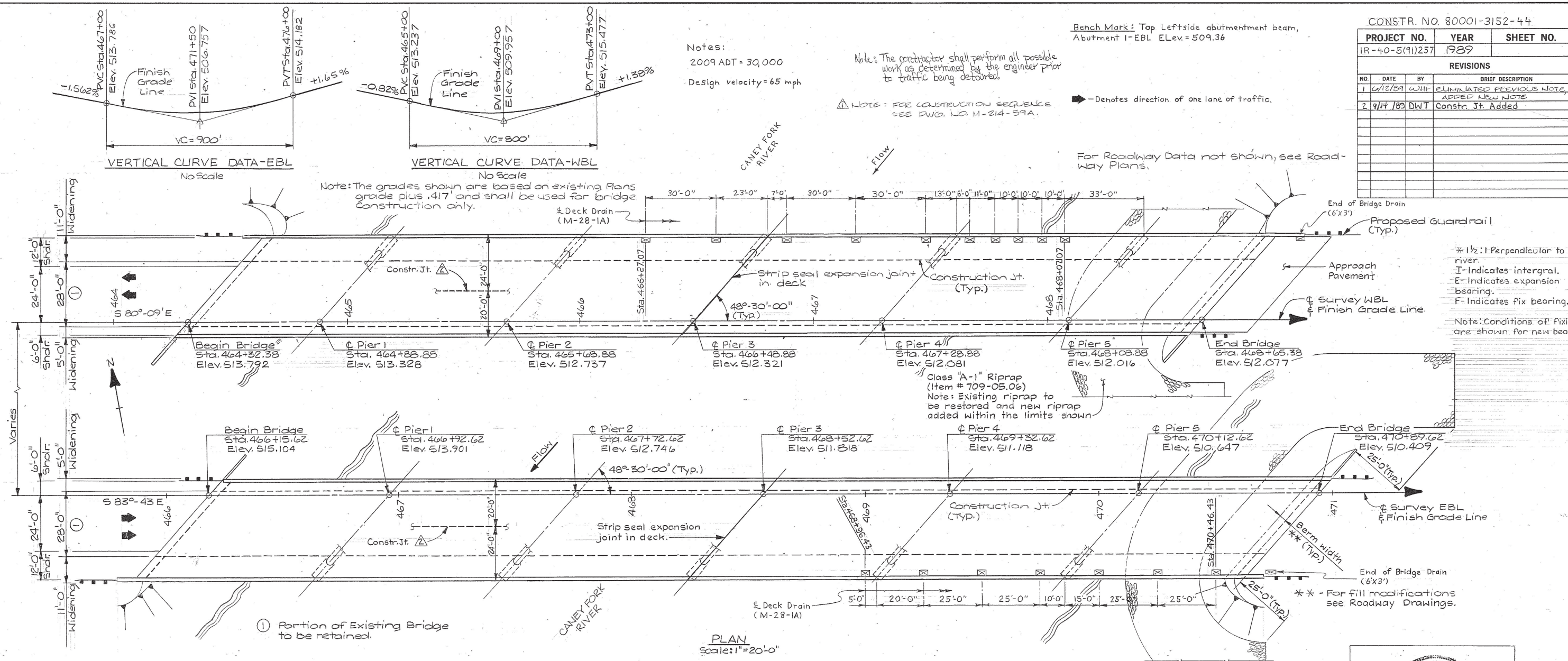
NOTE: FOR CONSTRUCTION SEQUENCE SEE DWG. NO. M-214-59A.

Denotes direction of one lane of traffic.

For Roadway Data not shown, see Roadway Plans.

* 1/2:1 Perpendicular to river.
I- Indicates integral.
E- Indicates expansion bearing.
F- Indicates fix bearing.

Note: Conditions of fixity are shown for new beams.



PLAN
Scale: 1" = 20'-0"

474'-0" EBL
433'-0" WBL

77'-0" SPAN A
56'-6" SPAN B
80'-0" SPAN C
80'-0" SPAN D
80'-0" SPAN E
77'-0" SPAN F

Expansion Joint

Concrete Barrier Parapet (M-28-1)

Low girder elevation = 504.6

Top of riprap elevation = 493.2

100 yr High Water Elev 492.2

Datum Elev. 468.0

Approximate existing ground line

ABUTMENT 1

PIER 1

PIER 2

PIER 3

PIER 4

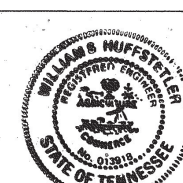
PIER 5

ABUTMENT 2

Hydraulic Design Data - W.B.L.
Drainage Area = 174.0 sq. miles
Design Discharge (100 yr.) = 30000 cfs
Area Below 100 yr. Elevation = 6000 sq. ft.
Velocity (100 yr.) = 5.0 fps
Roadway Overlapping Elevation = 511.6

Hydraulic Design Data - E.B.L.
Drainage Area = 174.0 sq. miles
Design Discharge (100 yr.) = 30000 cfs
Area Below 100 yr. Elevation = 6700 sq. ft.
Velocity (100 yr.) = 4.5 fps
Roadway Overlapping Elevation = 509.9

ELEVATION
Scale: 1" = 20'-0"



William S. Huffstetler

WILBUR SMITH ASSOCIATES

BRIDGE NO. 5

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAYS

LAYOUT OF BRIDGE WIDENING
I-40 OVER CANEY FORK RIVER
STA. 466+15.62 & SURVEY E.B. I-40
STA. 464+32.38 & SURVEY W.B. I-40
BRIDGE ID # E.B.L. 80I00400033
BRIDGE ID # W.B.L. 80I00400034
SMITH COUNTY
1989

CORRECT

ENGINEER OF STRUCTURES

APPROVED

DIRECTOR OF HIGHWAYS

M-214-131

CLASS "A", GRADING "D" = 24 C.Y.

DESIGNED BY DW TAYLOR
DRAWN BY TEELMORE
SUPERVISED BY W.S. HUFFSTETLER
CHECKED BY DW TAYLOR

DATE 10-88
DATE 10-88
DATE 10-88
DATE 10-88

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

ELEVATION
Scale: 1" = 20'-0"

LIST OF DRAWINGS

Layout of Bridge Widening
General Notes
Estimated Quantities
Repair Details
Superstructure Details (1)
Superstructure Details (2)
Superstructure Details (3)
Prestr. Conc. I-Beam spans - A&F W.B.L.
Prestr. Conc. I-Beam spans - (B-E) W.B.L.
Prestr. Conc. I-Beam spans - A&F E.B.L.
Prestr. Conc. I-Beam spans - (B-E) E.B.L.
Bearing Details
Abutment Details (1)
Abutment Details (2)
Abutment Details (3)
Piers 2-4 W.B.L. & 1-5 E.B.L.
Piers 1-5 W.B.L. & E.B.L.
Piers 1 & 5 W.B.L.
Bill of Steel
Bill of Steel
Bill of Steel
Bar Bending Details
*A CONSTRUCTION SEQUENCE

Existing Bridge Drawings

Note: Only Existing Draw G-15-104 & 115 to be printed with Plans.
M-124-136 not used.

STANDARD DRAWINGS

Std. Reinf. Bar Support
Misc. Abutment &
Drainage Details
Reinf. Concrete Pavement
at Bridge Ends
*Bridge Railing-Concrete
Parapet
Concrete Median Barrier
and Parapet Drains

*Stripseal Exp. Joint
new construction

* 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	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	02-20-85	Regarding Side Drains and Bridge Drains
709	05-04-87	Regarding Machined Rip-Rap
907A	03-25-85	Regarding Epoxy Coated Reinforcing Steel

① Stage Construction-Abutments Bridge No. 2, 4 & 5

DRAWING NO.

LATEST REV. DATE

G-15-104 thru G-15-126,
G-10-99

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.

Bearing Devices shall be in accordance with the details and dimensions shown on drawing M-214-144.

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

PILES: To be HP10x42 driven to refusal on rock or minimum bearing of 55 tons per pile.

Piles at Abutment 2 shall be equipped with APF 20 lb. Pruyu 7575Q DFP 23 lb. Hard-bite, VERSA-BITE 20 lb. VB310 or C.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:

- Sonneborn HLM 5000 S, B, or R (spray, brush, or roll on)
- 3M Scotch Clad, cold applied, single component moisture curing polyurethane elastomer.
- Koppers 300M

Concrete Seal to be applied to the Top Surface of Pier 3 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., 12,000 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.

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

RIE-RAP: Machined rip-rap shall be Class A-1 in accordance with Special Provision 709 and shall be paid for under item 709-05.06 - Ton.

STRUCTURAL STEEL: See notes on Drawing No. M-214-127A.

WELDING: See Special Provisions No. 602 and notes on Drawing No. M-214-127A.

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

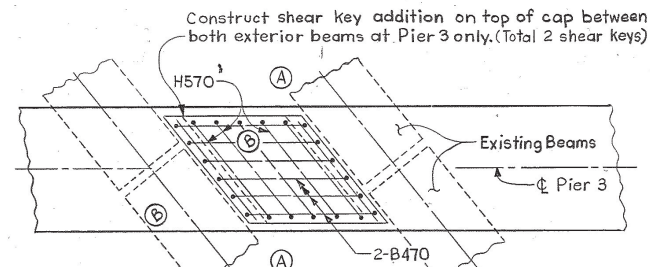
RADIOGRAPHIC, ULTRASONIC, AND MAGNETIC INSPECTION: See Special Provision No. 602 Notes on Drawing No. M-214-127A.

STEEL STRUCTURES: See Tennessee Standard Specifications Section 602 and notes on Drawing No. M-214-127A.

GENERAL NOTES (cont'd)

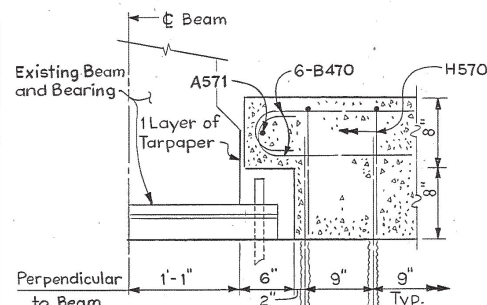
NOTE: The Contractor shall accept full responsibility of maintaining the structural integrity of the existing bridge during construction. Any damage to structural members to be left in place shall be repaired to the satisfaction of the Engineer and paid for at the Contractor's expense.

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



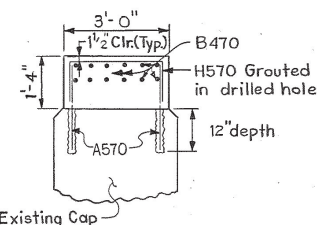
PLAN OF SHEAR KEY ADDITION

No Scale



SECTION "B-B"

No Scale



SECTION "A-A"

(Through Shear Key Addition)
No Scale

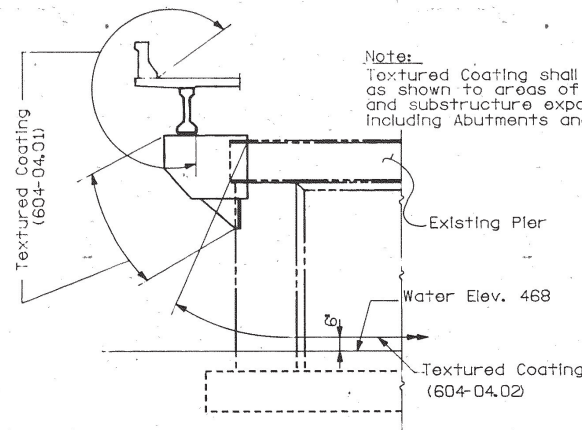
ESTIMATED QUANTITIES

	Class "A" Concrete (Bridges) C.Y.	Steel Bar Reinforcement (Bridges) LBS.
Pier 3 WBL	1	227
Pier 3 EBL	1	227

BILL OF REINFORCING

Total for Pier 3 (2 Shear Keys)

Mark	Size	No.	a	b
A570	5	20	2'-2"	
B470	4	24	5'-5 1/2"	0'-6"
H570	5	10	3'-8"	1'-2"
A571	5	4	3'-8"	



Note:

Textured Coating shall be applied as shown to areas of superstructure and substructure exposed to view, including Abutments and Wingwalls.

DETAIL SHOWING LIMITS OF TEXTURED COATING

CONSTR. NO. 80001-3152-44

PROJECT NO.	YEAR	SHEET NO.
IR-40-591/257	1989	

REVISIONS

NO.	DATE	BY	BRIEF DESCRIPTION
1	12/12/89	WHP	ADDED DWG. NO. M-214-59A
2	9/14/89	DWT	Added Dwg. No. M-214-79A
			1# M-214-151B

DESIGNED BY: HDL DATE: 12/88
DRAWN BY: TLK/EAB DATE: 12/88
SUPERVISED BY: WSH DATE: 12/88
CHECKED BY: HDL DATE: 3/89

CORRECT

ENGINEER OF STRUCTURES

APPROVED DIRECTOR OF HIGHWAYS

M-214-132

- CONSTR. NO. 80001-3152-44

REVISIONS

[illegible]

BID ITEM NO.		ESTIMATED QUANTITIES																								
		202-04.05 REMOVAL OF STRUCTURES	204-02.01 DRY EXCAVATION	602-02.05 STRUCTURAL STEEL	603-02.04 REPAINTING EXISTING STEEL STRUCTURES	604-01.12 CLASS 'A' CONCRETE (BRIDGE DECK)	604-02.03 EPOXY COATED REINFORCING STEEL	604-03.01 CLASS 'A' CONCRETE (BRIDGES)	604-03.02 STEEL BAR REINFORCEMENT (BRIDGES)	604-03.04 PAVEMENT AT BRIDGE ENDS	604-04.01 APPLIED TEXTURE FINISH (NEW STRUCTURES)	604-04.02 APPLIED TEXTURE FINISH (EXISTING STRUCTURES)	604-10.30 BRIDGE DECK REPAIRS (FULL DEPTH)	604-10.42 CONCRETE REPAIRS	604-10.50 BRIDGE DECK REPAIR (PARTIAL DEPTH)	604-11.04 EXPANSION DEVICE (STRIP SEAL JOINT 4' MOVEMENT)	604-36 SCARIFYING	606-02.03 STEEL PILES (10 INCH)	615-01.03 PRESTRESSED CONCRETE I-BEAM (TYPE III) 48' DEEP	615-01.04 PRESTRESSED CONCRETE I-BEAM (TYPE IV) 54' DEEP	620-03 CONCRETE PARAPET (M-28-1)	705-10.23 GUARDRAIL ATTACHMENT TO BRIDGERAIL POST	709-05.06 MACHINED RIP-RAP (CLASS A-1)	710-09.01 6" PERF. PIPE WITH VERTICAL DRAIN SYSTEM	710-09.02 6" PIPE UNDERDRAIN	920-02.12 JACKING STRUCTURES
ITEM	STRUCTURE	(4)(9)(17) L.S.	(13) C.Y.	(9)(16) LB.	(9)(15) L.S.	(1) C.Y.	(19) L.S.	(23)(19) C.Y.	(20) LB.	(11) S.Y.	S.Y.	S.Y.	(10)(14) S.Y.	(10)(14) C.F.	(10)(14) S.Y.	(6) L.F.	(7) S.Y.	L.F.	(2) L.F.	(2) L.F.	(3)(5) L.F.	(18) L.F.	(14) TON	(8) L.F.	(8) L.F.	(9)(12) L.S.
Superstructure						426	101,298				1466	331							109	319						
Abutment 1			8			29	1738		1007		33	28												40	12	
Pier 1				4100				15	3008		36	375	16													
Pier 2				4100				15	2903		36	370														
Pier 3				4100				16	3130		36	366														
Pier 4				4100				15	2903		36	365														
Pier 5				4100				15	3008		36	122														
Abutment 2			49			33	2794	14	2010		33	28								881				77	12	
Subtotal		.5	57	20500	.5	488	105830	90	17969	110	1712	1985	35	16	118	58	1347		109	319			170	117	24	.65
Superstructure						467	110575				1616	378							469							
Abutment 1			9			33	1738		1137		38	28												40	12	
Pier 1				4100				15	2903		36	386														
Pier 2				4100				15	2903		36	375														
Pier 3				4100				16	3130		36	366														
Pier 4				4100				15	2903		36	365														
Pier 5				4100				15	2903		36	355	12													
Abutment 2			9			34	1738		1141		39	28														

ESTIMATED QUANTITIES

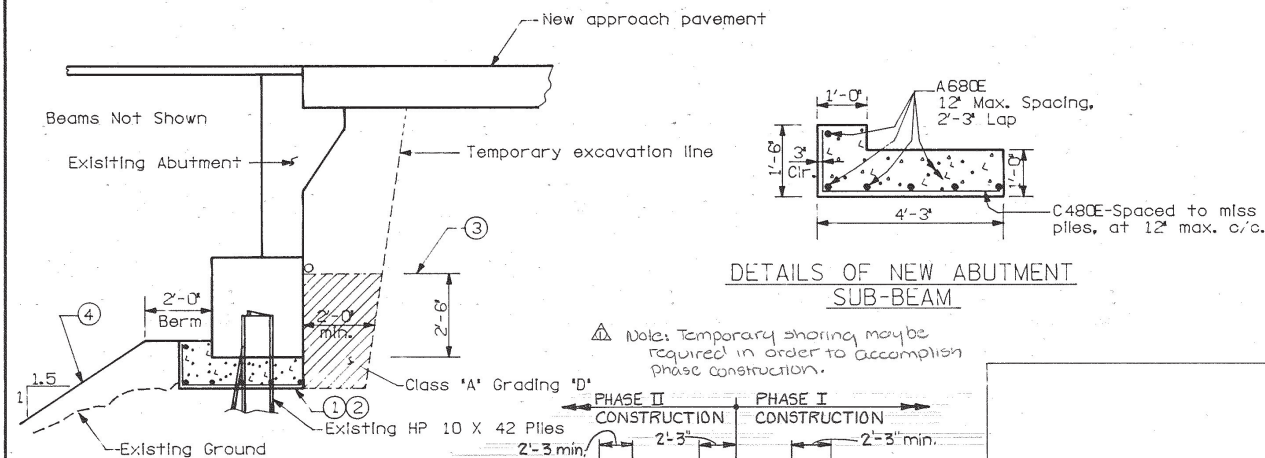
DESIGNED BY	HDL	DATE	12/88
DRAWN BY	TLK/EAB	DATE	12/88
SUPERVISED BY	WSH	DATE	12/88
CHECKED BY	HDL	DATE	3/89

CORRECT .

ENGINEER OF STRUCTURES

APPROVED _____
DIRECTOR OF HIGHWAYS

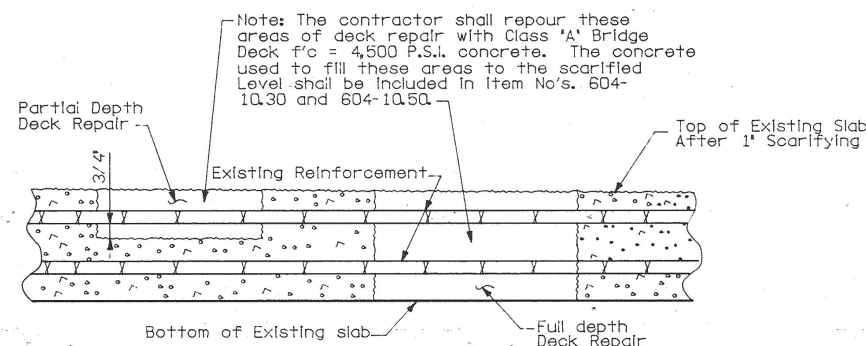
M-214-133



SECTION THRU W.B.L. ABUTMENT 2

NOTES:

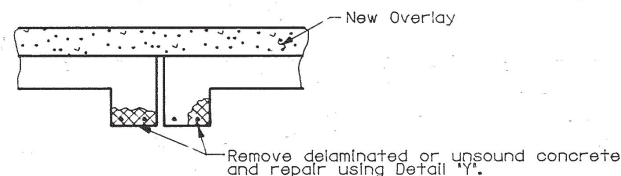
- 1 Before addition of new approach pavement, backfill shall be excavated sufficient to expose front and back of all piles. Vehicular and construction loads will not be permitted on the constructed portion of the bridge during this operation. Corroded areas shall be wire brushed or blast cleaned and 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.



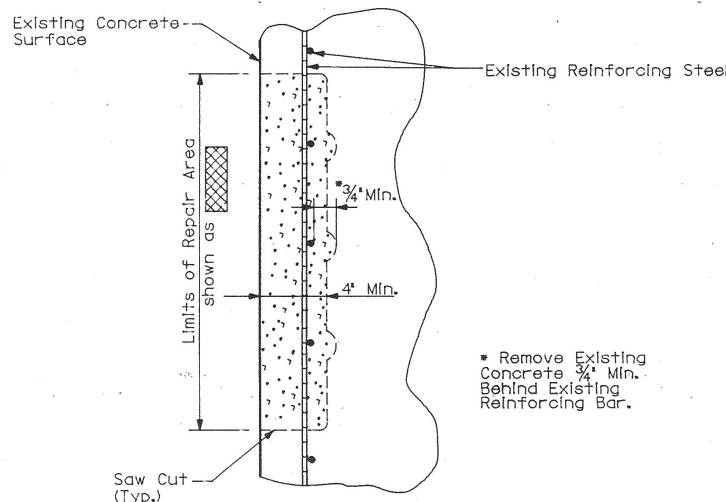
DETAIL SHOWING FULL AND PARTIAL DEPTH DECK REPAIR

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 personnel from the Division of Structures. Deck repair will be paid for under Item No. 604-10.50. Bridge deck repair, (partial depth of slab) S.Y. If deteriorated concrete is encountered which appears to run full depth of slab, the Engineer may designate these areas to be repaired under Item No. 604-10.30. Bridge deck repair, (full depth of slab), S.Y. Power driven hand tools used for removal of unsound concrete. In making partial depth repairs are subject to the following restrictions: 1) Pneumatic Hammers heavier than 35 pound class shall not be used. 2) Chipping hammers of the 15 pound class shall be used to remove concrete from beneath any reinforcing steel.

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



SECTION THRU SLAB BUILD - DOWNS
 W.B.L. PIER 1 & 5, E.B.L. PIER 5



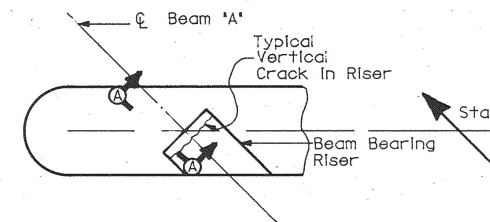
DETAIL "Y"
 DETAIL SHOWING EXISTING CONCRETE SURFACE
 TO BE REPAIRED

NOTES FOR DETAIL "Y" REPAIR:

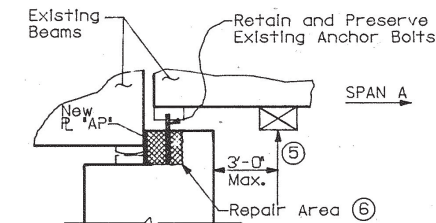
Care shall be taken when removing existing deteriorated concrete in designated repair areas so as not to damage the existing reinforcing steel. All existing reinforcing steel shall be blast cleaned to remove all rust before pouring new concrete.

Concrete for the repaired areas shall be high early strength, f'c = 3,000 p.s.i.; Type III cement shall be used in lieu of Type I cement. No traffic or other loading will be allowed on the repaired areas until 10 calendar days have elapsed and representative test specimens have attained a compressive strength of not less than 3,000 p.s.i.

Cost of removing deteriorated concrete, all blast cleaning, forming, high early strength concrete, labor and all additional materials necessary to complete the repairs as shown in details shall be included under Item No. 604-10.42, Concrete Repairs, C.F..



PLAN OF W.B.L., PIER 1, SPAN A RISER
 (BEAMS NOT SHOWN)



SECTION A-A THRU RISER REPAIR AT PIER 1, W.B.L.

(APPLIES TO BEAMS A, B, C AND OTHERS WHICH MAY BE CRACKED AS DIRECTED BY THE ENGINEER)

- 5 Loosen or remove anchor bolt nuts and jack span A a sufficient amount to remove all load on bearings and provide working clearances for placement and finishing of new concrete repair. Total jacking force for one end of Span A is approximately 170 tons.
- 6 Remove all spalled, cracked or otherwise unsound concrete to a minimum of 1" behind existing riser reinforcing; see Detail 'Y' for repair. Sufficient concrete shall be removed for insertion of armor plate 'AP'. Recast concrete with 'AP' in place as shown. The cost of PL 'AP' shall be included in items 604-10.42, Concrete Repairs.
- 7 Clean and repaint existing bearings in place. After repair concrete has obtained strength, lower Span A and tighten or reinstall anchor bolt nuts.

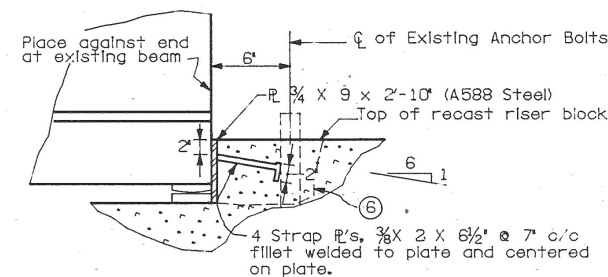


PLATE "AP" DETAIL & PLACEMENT

CONSTR. NO. 80001-3152-44

PROJECT NO.	YEAR	SHEET NO.
IR-40-591257	1989	

REVISIONS			
NO.	DATE	BY	BRIEF DESCRIPTION
1	6/16/89	WHP	Revised and added Notes
2	9/14/89	DWT	SKETCH ADDED

GENERAL NOTES:

- 1) Protruding reinforcing or formwork ties near base of Pier 1, W.B.L. Bridge, shall be removed 1' below the existing concrete surface and the concrete surface patched to a smooth finish.
- 2) At E.B.L. Pier 1, south column, a column tie is exposed and corroded, approximately 5 feet below cap level. Concrete shall be chipped from around this reinforcing, the rebar cleaned of corrosion, and the concrete surface patched to a smooth finish.

STATE OF TENNESSEE
 DEPARTMENT OF TRANSPORTATION
 BUREAU OF HIGHWAYS

REPAIR DETAILS

1-40 OVER
 CANEY FORK RIVER
 STA. 466+15.62 CL SURVEY E.B.L.
 STA. 464+32.38 CL SURVEY W.B.L.
 SMITH COUNTY
 1989

CORRECT

ENGINEER OF STRUCTURES

APPROVED

DIRECTOR OF HIGHWAYS

M-214-134

CONSTR. NO. 80001-3152-44

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

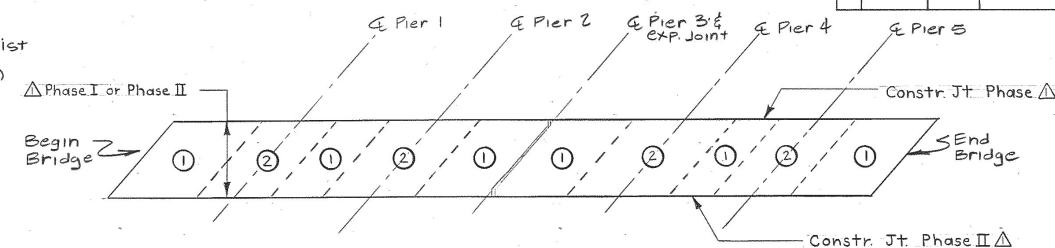
REVISIONS

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

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. Pours with the same numerical designation may be poured 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. The Contractor shall make adequate provisions during placement of slab to prevent the exterior beam from twisting. 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 shown on Dwg. No. M-214-139.

Note: All #7 & #8 bars in Details "B" & "C" shall be mechanically coupled at the Phase I/Phase II construction joint using mechanical couplers in accordance with AASHTO 8.32.2.3 and General Notes Dwg.



SLAB POURING SEQUENCE (See note above)

No Scale
 (E.B.L. shown, W.B.L. Similar)

See Dwg. No. M-214-59A for Construction Jt. and Phase Construction Details.

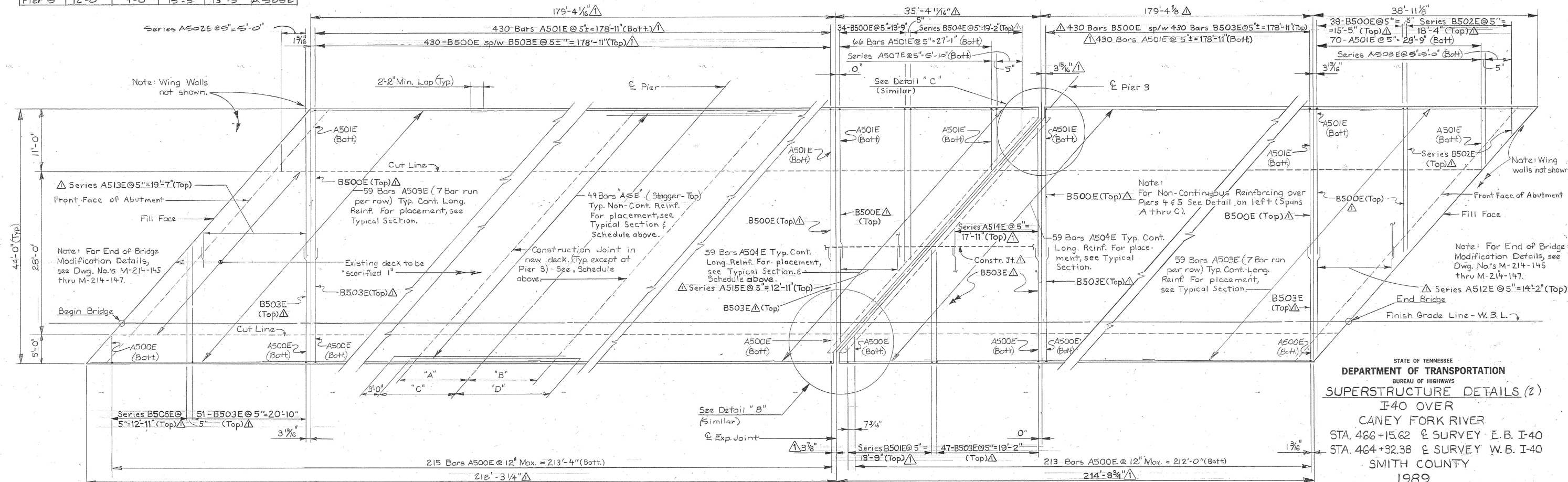
* Place bars under series "B5E" bars

DETAIL "C"

No scale

ESTIMATED QUANTITIES-WBL	
Class "A" Concrete (Bridge Deck)	Epoxy Coated Reinforcing Steel
426	101,238

CONSTRUCTION JOINT & NON-CONT. BAR DIMENSIONS-WBL					
LOC.	"A"	"B"	"C"	"D"	"Bar"
Pier 1	9'-0"	12'-0"	10'-3"	16'-3"	A505E
Pier 2	12'-0"	12'-0"	13'-3"	16'-3"	A506E
Pier 4	12'-0"	12'-0"	13'-3"	16'-3"	A506E
Pier 5	12'-0"	9'-0"	13'-3"	13'-3"	A505E



STATE OF TENNESSEE
 DEPARTMENT OF TRANSPORTATION
 BUREAU OF HIGHWAYS
SUPERSTRUCTURE DETAILS (2)
 I-40 OVER
 CANEY FORK RIVER
 STA. 466+15.62 & SURVEY E.B. I-40
 STA. 464+32.38 & SURVEY W.B. I-40
 SMITH COUNTY
 1989

DESIGNED BY DKE
 DRAWN BY HJK/DGW
 SUPERVISED BY LSH
 CHECKED BY DKR

DATE 11-88
 DATE 11-88
 DATE 11-88
 DATE 2-89

SPANS A THRU C

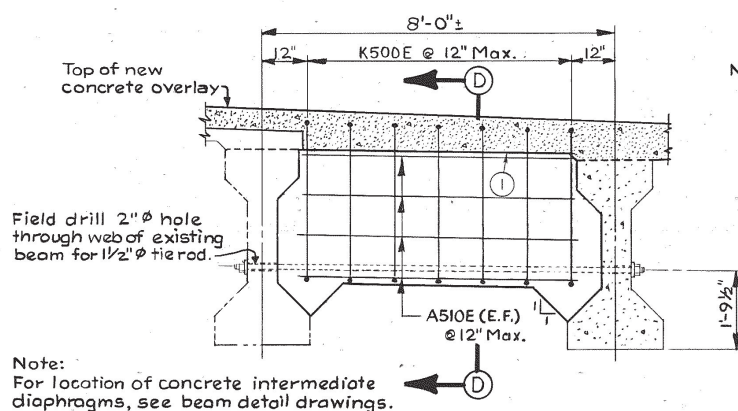
DECK PLAN - W.B.L.
 No Scale

SPANS D THRU F

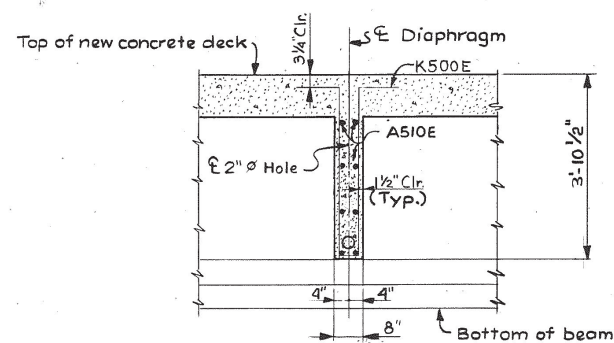
CORRECT
 ENGINEER OF STRUCTURES
 APPROVED
 DIRECTOR OF HIGHWAYS

M-214-138

- ① Required construction joint. Diaphragm shall be cast and cured before new deck is poured.

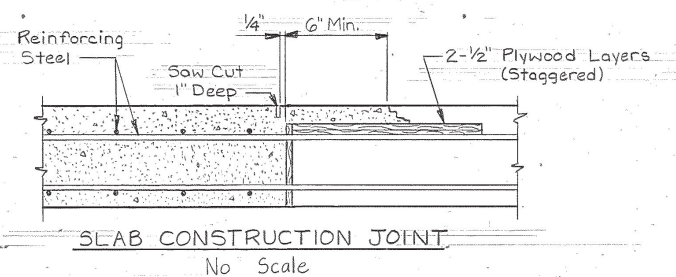


TYPICAL INTERMEDIATE DIAPHRAGM
No Scale

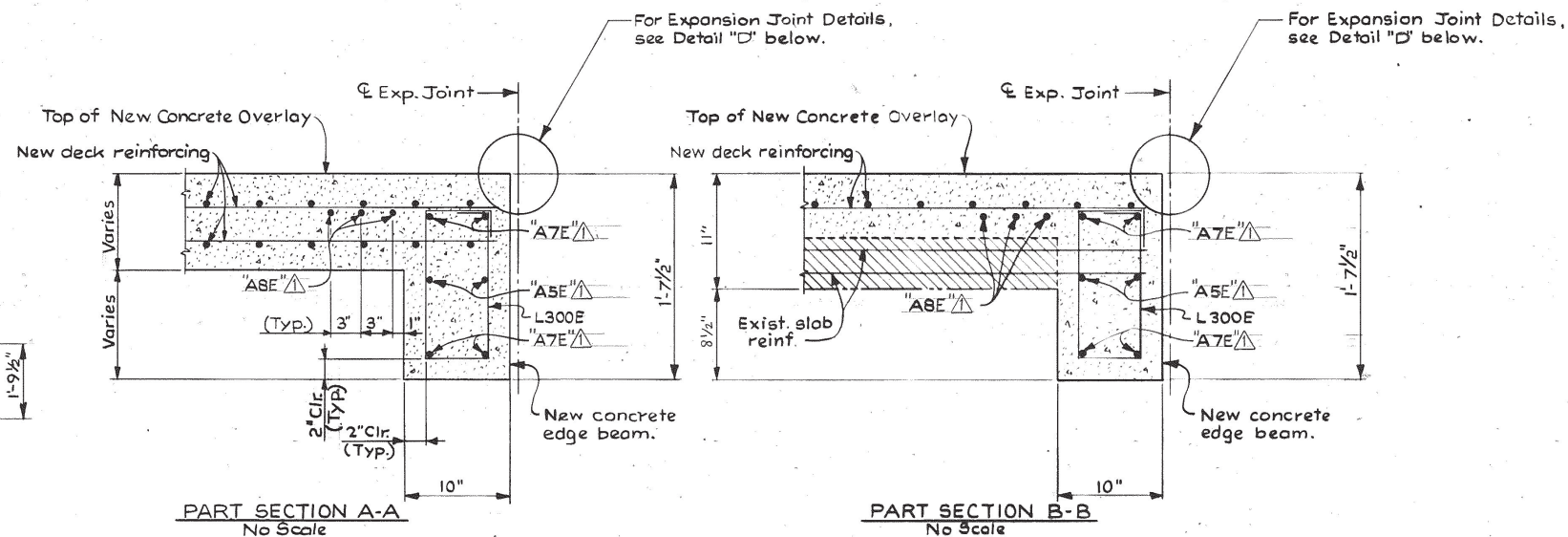


SECTION D-D
No Scale

Note:
Top part of abutments shall be poured concurrently with the deck slab and included in the quantity for item 604-0112 as shown on Abutment sheets.

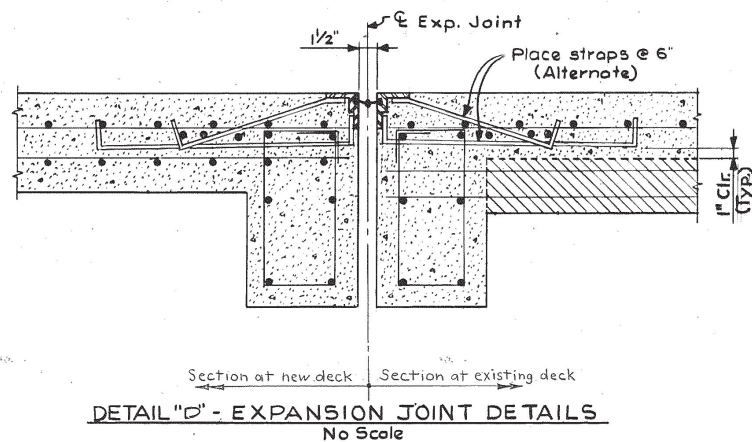


SLAB CONSTRUCTION JOINT
No Scale

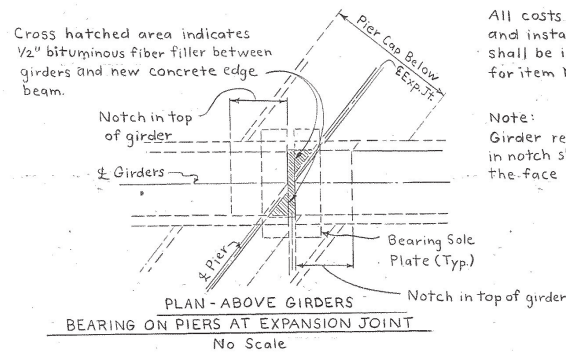


PART SECTION A-A
No Scale

PART SECTION B-B
No Scale



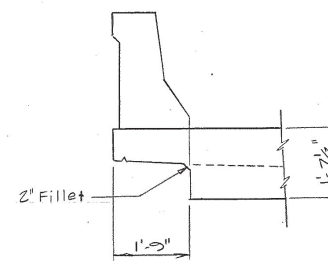
DETAIL 'D' - EXPANSION JOINT DETAILS
No Scale



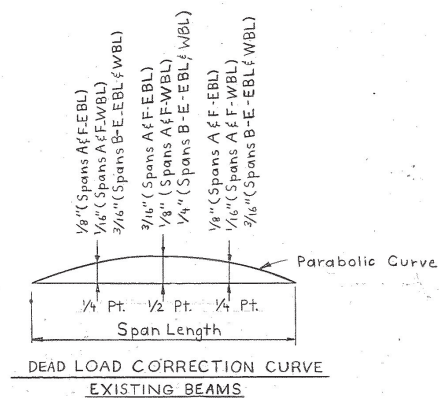
PLAN - ABOVE GIRDERS
BEARING ON PIERS AT EXPANSION JOINT
No Scale

All costs associated with furnishing and installing bituminous material shall be included in the price bid for item No. 604-0112.

Note:
Girder reinforcing steel projecting in notch shall be cut 2" back from the face of the expansion joint.



SECTION C-C
No Scale



Note:
This curve includes deflection of existing bridge under load of new deck overlay and new rails. Contractor shall use this information to make the necessary screed adjustment.

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:
Strip Seal Expansion Joints
1. Details of Strip Seal Expansion Joint shall be in accordance with details shown on Standard Dwg. No. M-156-108#108A. Concrete details and reinforcing steel shall be as shown on this drawing except modifications shall be allowed as stipulated in Special Provision No. 604.5.

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

3. Cost of furnishing and installing the Strip Seal Expansion Joint complete in place including all labor, equipment, and other incidental material necessary to complete the work in accordance with plans, specifications and Special Provisions shall be included in bid for Item No. 604-11.02.

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

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

SPAN	EBL	WBL
A	2"	1"
B	2"	2 1/4"
C	2"	2 1/8"
D	2"	2 1/8"
E	2"	2 1/8"
F	15/8"	7/8"

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

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

For bituminous filler detail at expansion joints, see Dwg. No. M-214-139.

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAYS

SUPERSTRUCTURE DETAILS (3)
I-40 OVER CANEY FORK RIVER
STA. 466+15.62 & SURVEY EB I-40
STA. 464+32.38 & SURVEY WB I-40
SMITH COUNTY
1989

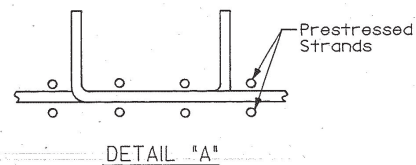
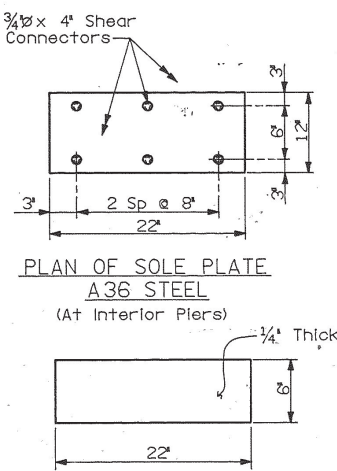
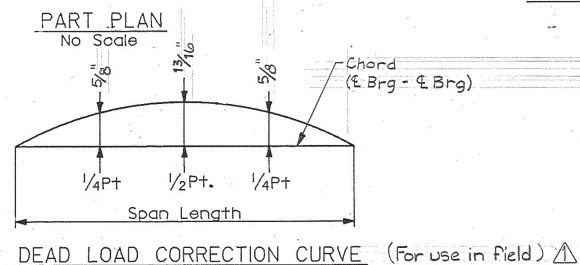
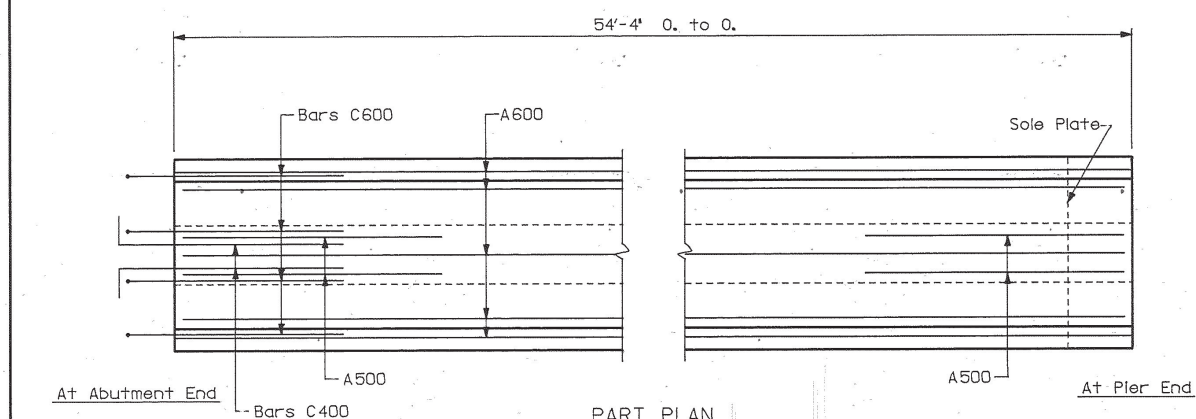
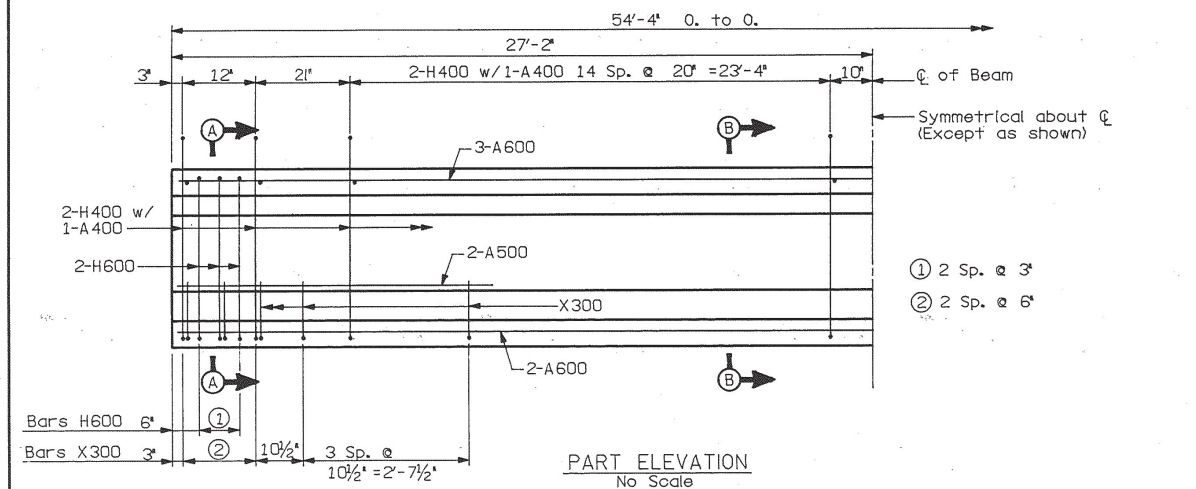
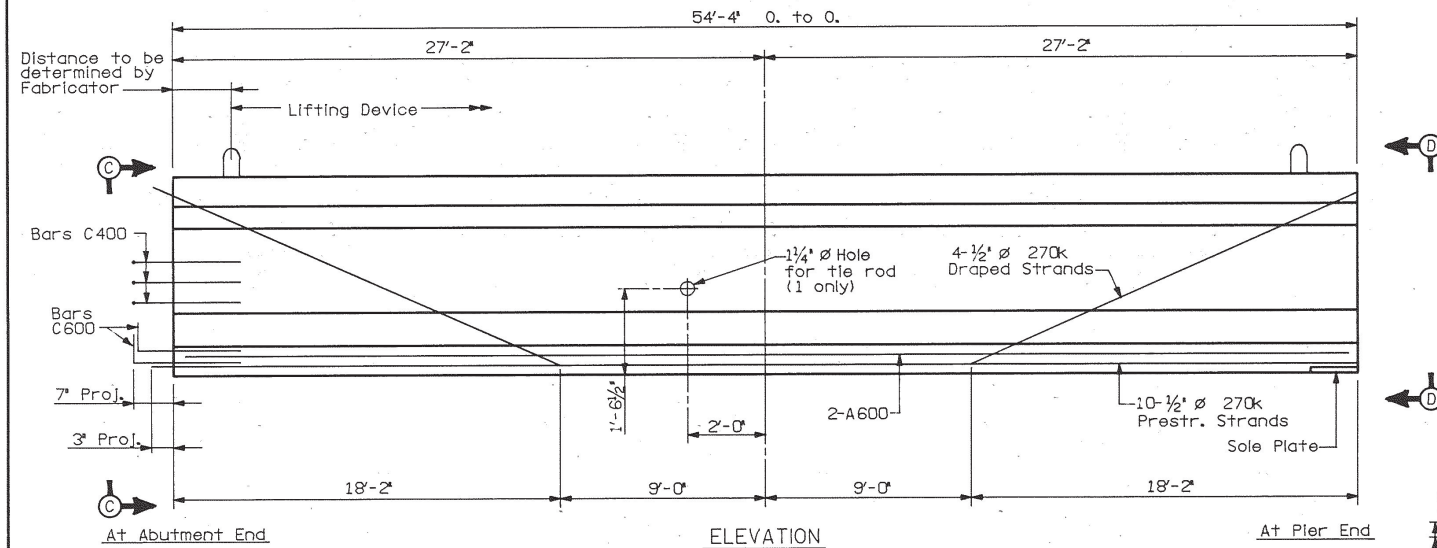
DESIGNED BY DKR DATE 11-88
DRAWN BY HJK DATE 1-89
SUPERVISED BY WSH DATE 1-89
CHECKED BY DKR DATE 2-89

CORRECT

ENGINEER OF STRUCTURES

APPROVED DIRECTOR OF HIGHWAYS

M-214-139



WESTBOUND LANE					
BILL OF STEEL - ONE BEAM					
BARS	SIZE	NO. REQ'D	LENGTH	NO. REQ'D	LENGTH
A400	4	34	1'-6"	34	1'-6"
A500	5	4	5'-0"	4	5'-0"
A600	6	5	54'-0"	5	54'-0"
C400	4	6	3'-6"	6	3'-6"
C600	6	6	3'-6"	6	3'-6"
H400	4	68	5'-6"	68	5'-6"
H600	6	12	4'-9"	12	4'-9"
X300	3	14	5'-6"	14	5'-6"

WESTBOUND LANE				
ESTIMATED QUANTITIES - ONE BEAM				
ITEM	UNIT	SPAN A	SPAN F	
CLASS 'A' CONCRETE	C.Y.	7.8	7.8	
REINFORCING STEEL	LB.	866	866	
PRESTRESSING STRANDS	LB.	406	406	

- - Denotes Grade 60 Reinf. Steel
- - Denotes Prestressing Strand

CONSTR. NO. 80001-3152-44			
PROJECT NO.	YEAR	SHEET NO.	
IR-40-591257	1989		
REVISIONS			
NO.	DATE	BY	BRIEF DESCRIPTION
1	9/14/89	DWT	REVISED DEAD LOAD CORRECTION VALUES

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

Mild steel reinforcing shall be ASTM A615 Grade 60.
All prestressing strands to be 1/2" ASTM Grade 270K, 7 wire uncoated Low relaxation prestressing strands.
An initial force at anchorage (after seating) of 31,000 Lbs., shall be applied to each strand in all beams.

All beams are AASHTO - PCI standard type IV.
After the beam is removed from the prestressing bed, bars C600 and C400, At Abutment end, shall be bent as shown.
The prestressing strands shall be left projecting 3' +/- from the ends of the beams at abutment ends. There shall not be any protective coating placed on the ends of the beams or on the projecting strands. At pier ends, 1' recess shall be formed and fill with epoxy mortar as shown.

Elastomeric pads to be 6"x26"x (Plain) at abutment ends. For details of bearings at pier ends, see Dwg. No. M-214-144.
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.

NOTE: Cost of 1/4" plain elastomeric pads, elastomeric bearings, anchor bolts, sole plates, bearing plates, tie rods and rubber bonding cement to be included in the cost of prestressed beam.

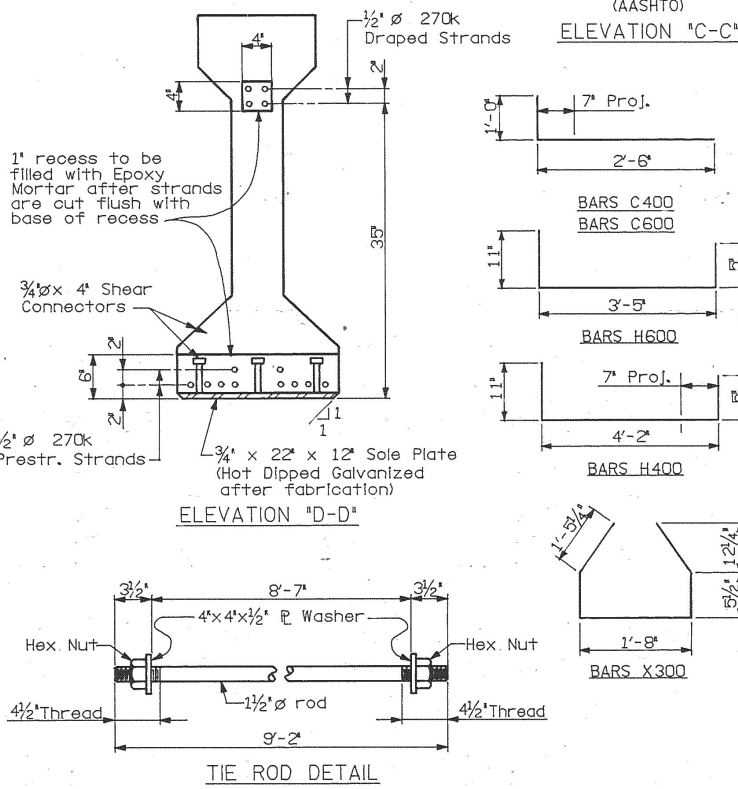
The sequence for transfer of stress or the cutting strands shall be in accordance with Article 615.14 of the 'Standard Specifications for Road and Bridge Construction' and shall be shown on the approved shop drawings. At no time shall more than 1/6th of the total prestressing force be eccentric about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

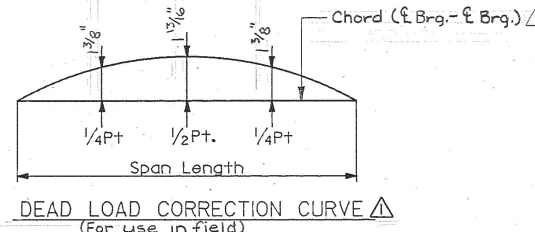
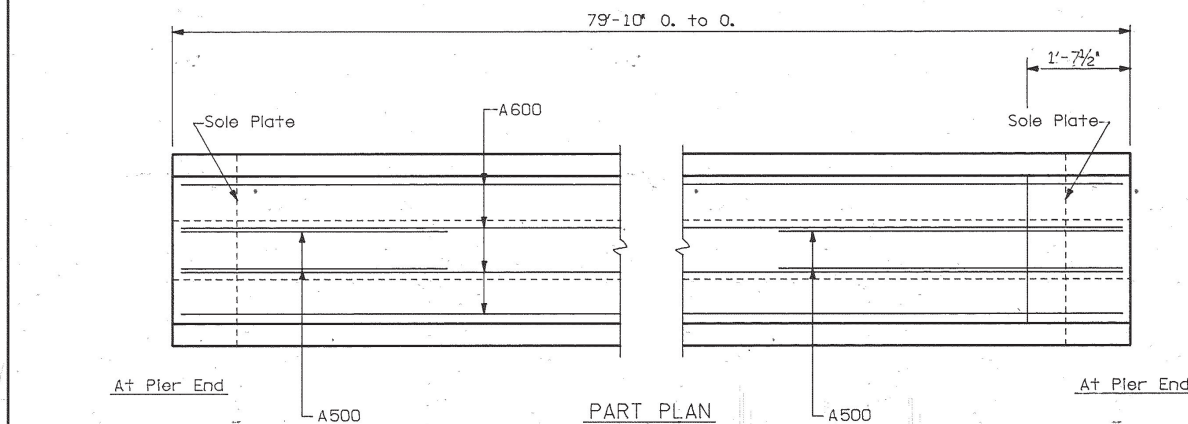
DEAD LOAD CORRECTION CURVE: This curve is for dead load slab and all dead loads that are applied after slab is in place and should be corrected to compensate for the effects due to vertical curve.

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAYS
PRESTRESSED CONCRETE I-BEAM (TYPE III)
SPANS A & F - WESTBOUND LANE
I-40 OVER CANEY FORK RIVER
STA.464+32.38 Q SURVEY W.B. I-40
SMITH COUNTY
1989

DESIGNED BY: DWT
DRAWN BY: FAR
SUPERVISED BY: WSH
CHECKED BY: HIZ
DATE: 11-88
DATE: 11-88
DATE: 11-88
DATE: 2-89

CORRECT
ENGINEER OF STRUCTURES
APPROVED: DIRECTOR OF HIGHWAYS
M-214-140





DESIGNED BY DWT DATE 11-88
DRAWN BY EAB DATE 11-88
SUPERVISED BY WSH DATE 11-88
CHECKED BY HIZ DATE 2-89

WESTBOUND LANE						
BILL OF STEEL - ONE BEAM						
		SPANS B-E				
BARS	SIZE	NO. REQ'D	LENGTH			
A400	4	48	1'-6"			
A500	5	4	5'-0"			
A600	6	8	41'-3"			
H400	4	96	6'-5"			
H600	6	12	5'-8"			
X300	3	14	6'-8"			

WESTBOUND LANE				
ESTIMATED QUANTITIES - ONE BEAM				
ITEM	UNIT	SPANS B-E		
CLASS 'A' CONCRETE	C.Y.	16.2		
REINFORCING STEEL	LB.	1,115		
PRESTRESSING STRANDS	LB.	1,092		

- - Denotes Grade 60 Reinf. Steel
- - Denotes Prestressing Strand

[illegible]

NOTES:

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

Mild steel reinforcing shall be ASTM
A615 Grade 60.

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

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

All beams are AASHTO - PCI standard type IV.

1. recess shall be formed at each end of Beam and fill with epoxy mortar as shown.

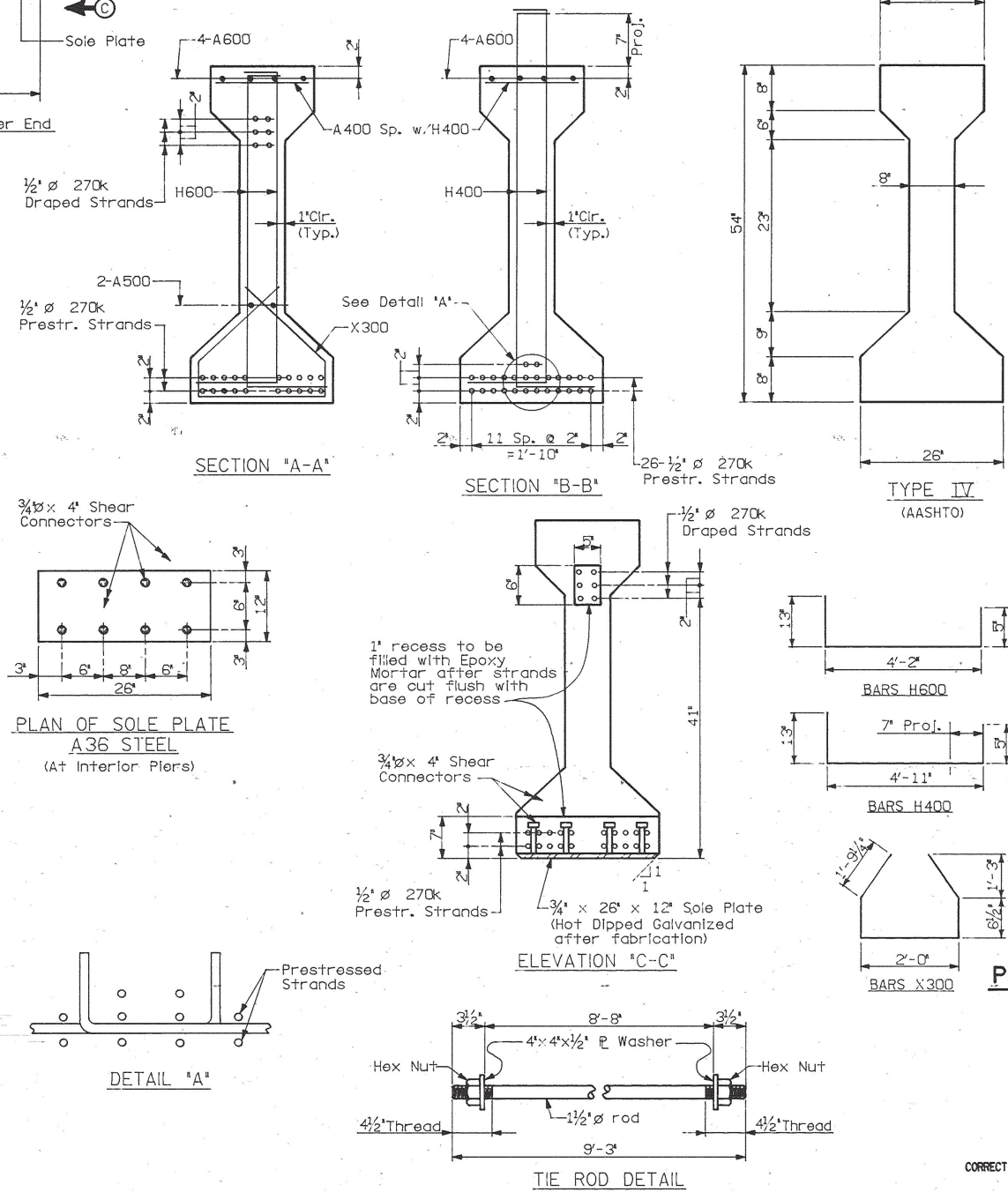
For details of bearings at pier ends,
see Dwg. No. M-214-144.

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.

NOTE: Cost of elastomeric bearings, anchor bolts, sole plates, bearing plates, tie rods 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 CONCRETE I-BEAM (TYPE IV)
SPANS B,C,D & E - WESTBOUND LANE
I-40 OVER CANEY FORK RIVER
STA.464+32.38 C SURVEY W.B. I-40
SMITH COUNTY
1989

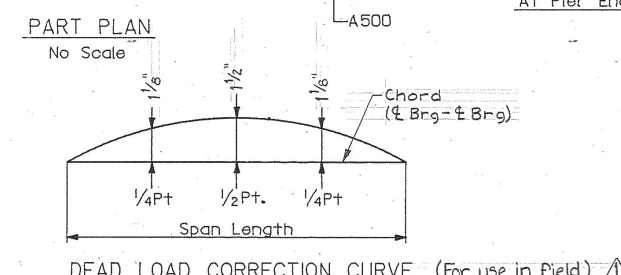
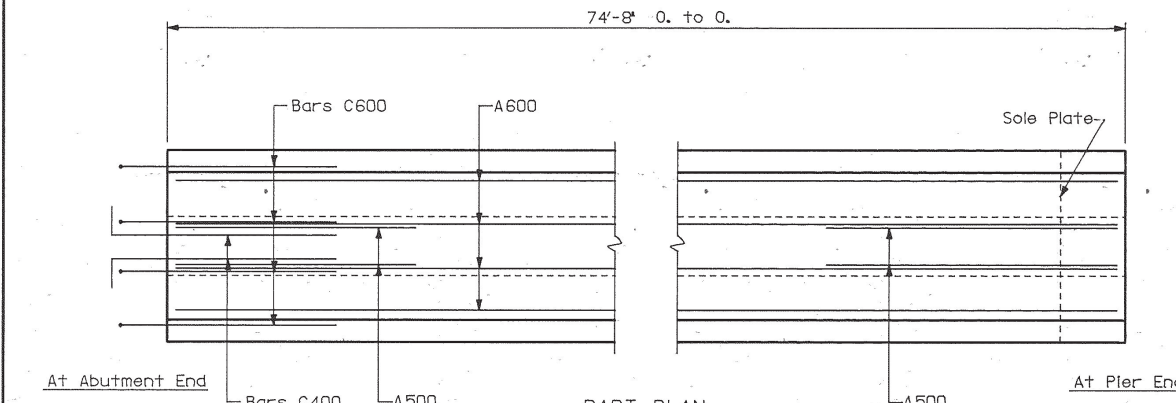
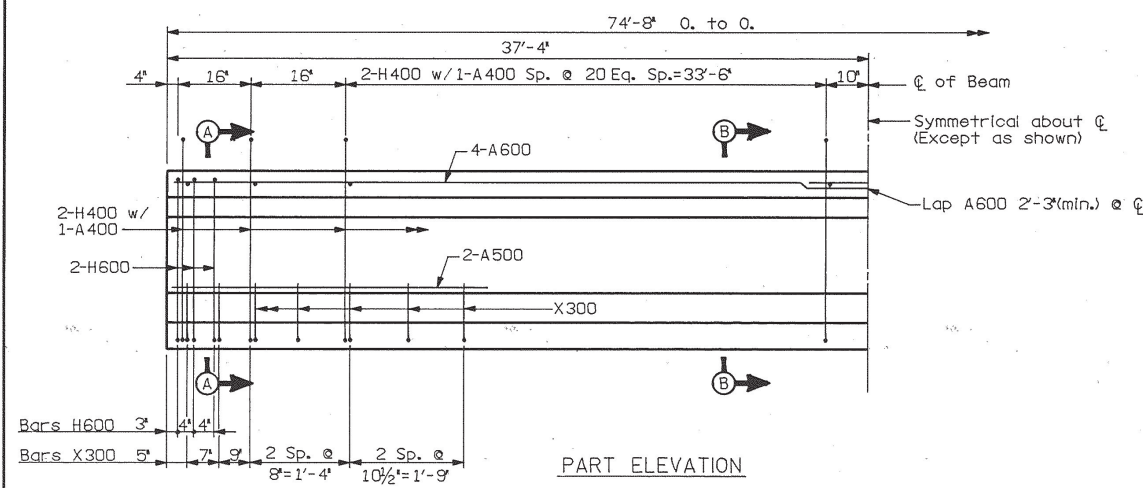
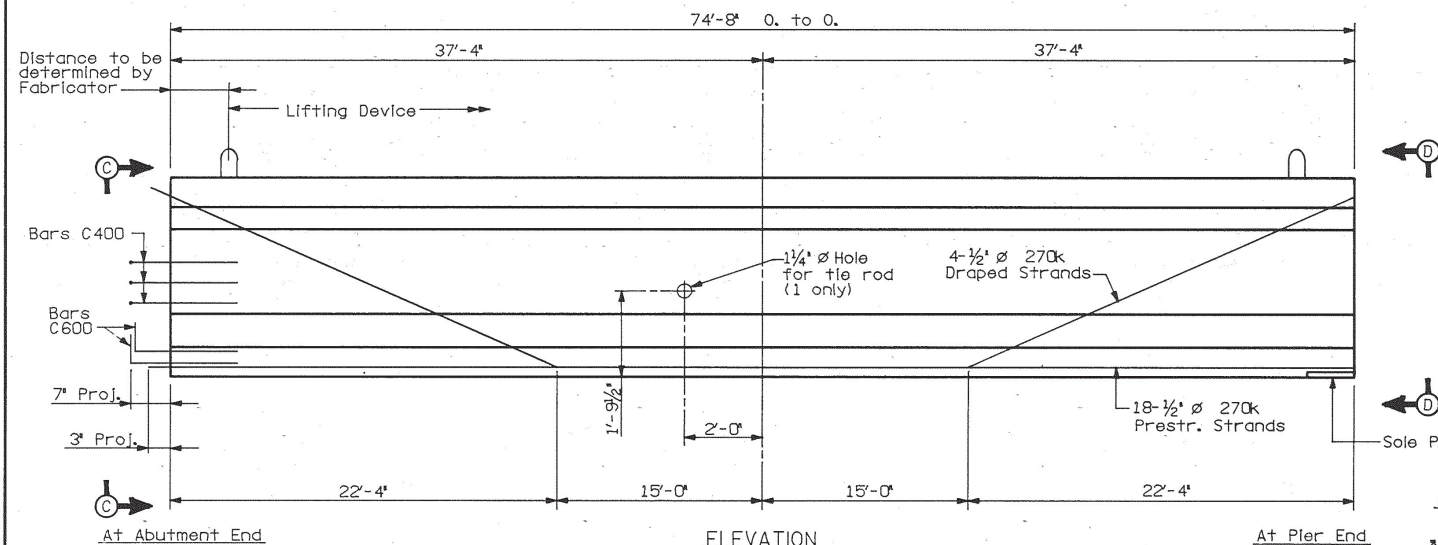
CORRECT

ENGINEER OF STRUCTURES

APPROVED _____
DIRECTOR OF HIGHWAYS

M-214-141

REVISED 2-4-1989 BY DWT
20 FEB 1989 0846



EASTBOUND LANE					
BILL OF STEEL - ONE BEAM					
BARS	SIZE	NO. REQ'D	LENGTH	NO. REQ'D	LENGTH
A400	4	46	1'-6"	46	1'-6"
A500	5	4	5'-0"	4	5'-0"
A600	6	8	38'-10"	8	38'-10"
C400	4	6	3'-6"	6	3'-6"
C600	6	6	3'-6"	6	3'-6"
H400	4	92	6'-5"	92	6'-5"
H600	6	12	5'-8"	12	5'-8"
X300	3	14	6'-8"	14	6'-8"

EASTBOUND LANE				
ESTIMATED QUANTITIES - ONE BEAM				
ITEM	UNIT	SPAN A	SPAN F	
CLASS 'A' CONCRETE	C.Y.	15.2	15.2	
REINFORCING STEEL	LB.	1,110	1,110	
PRESTRESSING STRANDS	LB.	860	860	

- Denotes Grade 60 Reinf. Steel
- Denotes Prestressing Strand

CONSTR. NO. 80001-3152-44			
PROJECT NO.	YEAR	SHEET NO.	
IR-40-591257	1989		
REVISIONS			
NOL	DATE	BY	BRIEF DESCRIPTION
1	9/14/89	DWT	REVISED DEAD LOAD CORRECTION VALUES
	</		

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

Mild steel reinforcing shall be ASTM A615 Grade 60.
All prestressing strands to be 1/2" ASTM Grade 270K, 7 wire uncoated Low relaxation prestressing strands.

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

All beams are AASHTO - PCI standard type IV.

After the beam is removed from the prestressing bed, bars C600 and C400, At Abutment end, shall be bent as shown. The prestressing strands shall be left projecting 3" +/- from the ends of the beams at abutment ends. There shall not be any protective coating placed on the ends of the beams or on the projecting strands.

At pier ends, 1" recess shall be formed and fill with epoxy mortar as shown.

Elastomeric pads to be 6"x26"x (Plain) at abutment ends. For details of bearings at pier ends, see Dwg. No. M-214-144.

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.

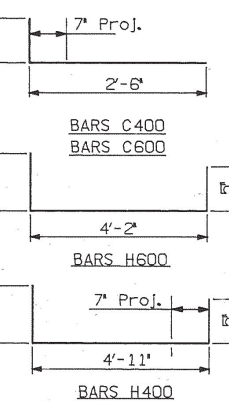
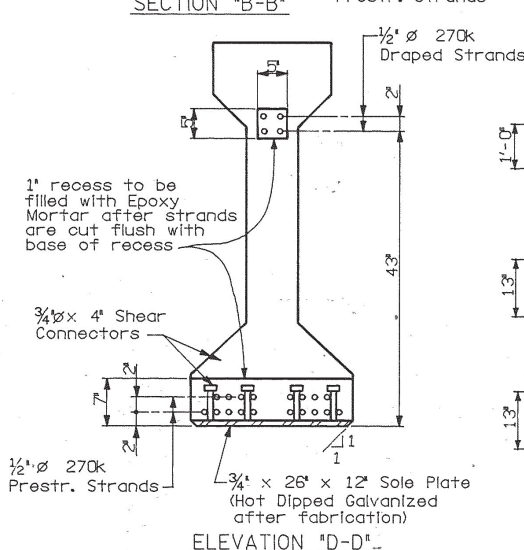
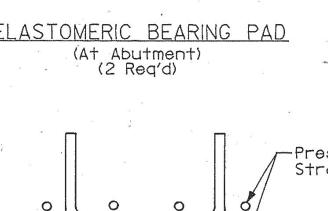
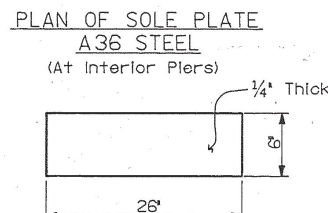
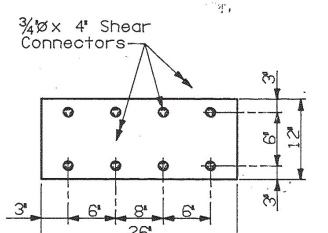
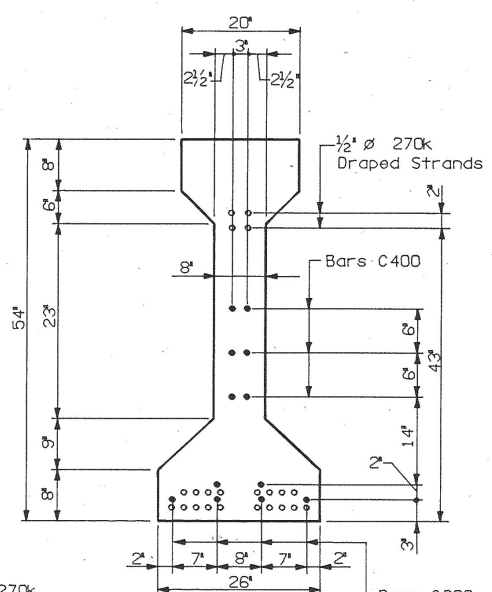
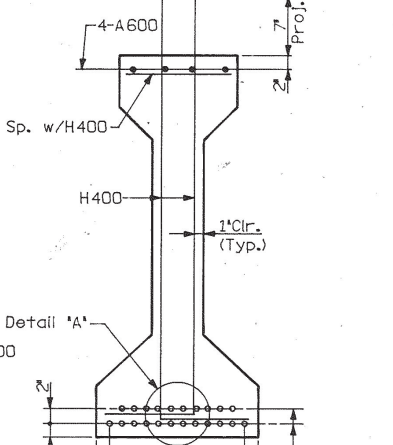
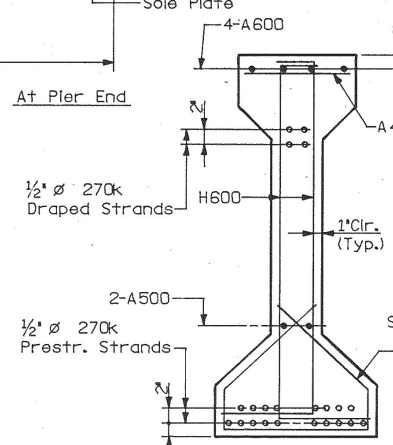
NOTE: Cost of 1/4" plain elastomeric pads, elastomeric bearings, anchor bolts, sole plates, bearing plates, tie rods and rubber bonding cement to be included in the cost of prestressed beam.

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.

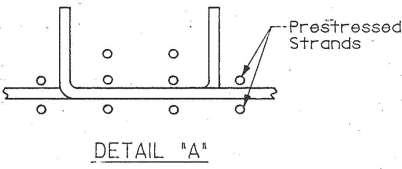
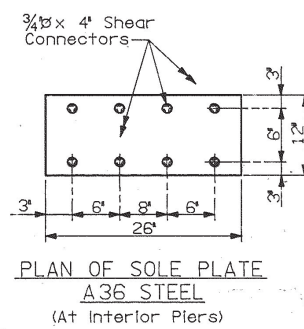
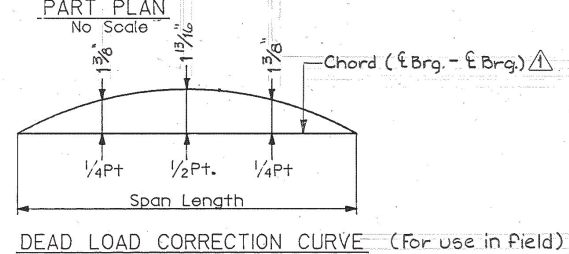
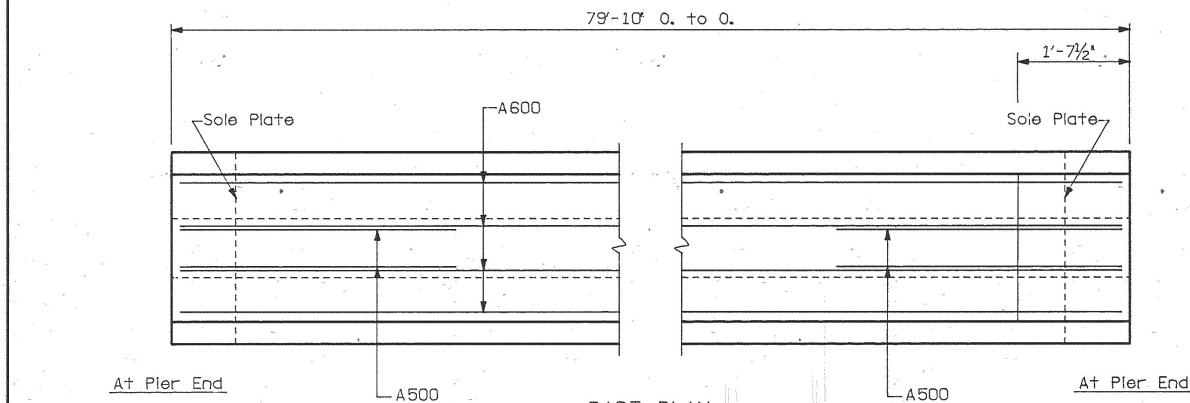
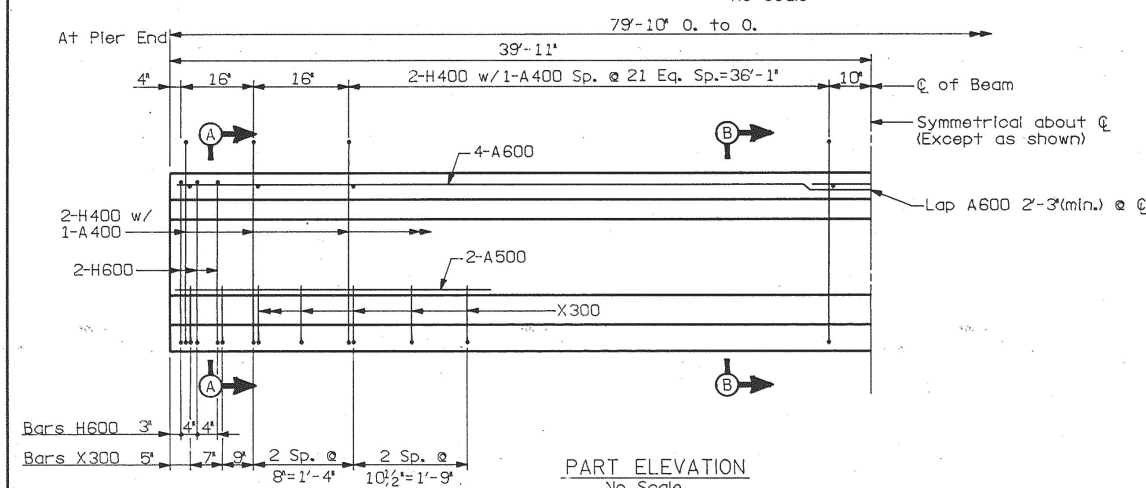
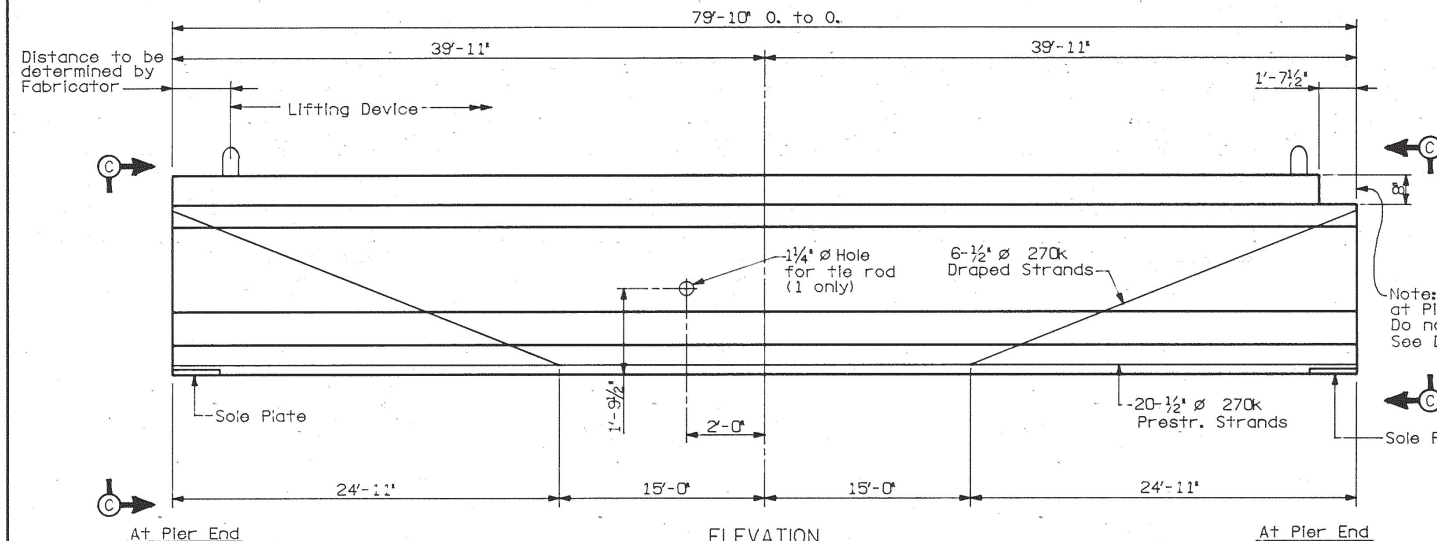
STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAYS

PRESTRESSED CONCRETE I-BEAM (TYPE IV)
SPANS A & F - EASTBOUND LANE
I-40 OVER CANEY FORK RIVER
STA.466+15.62 & SURVEY E.B. I-40
SMITH COUNTY
1989



DESIGNED BY: DWT
DRAWN BY: FAR
SUPERVISED BY: WSH
CHECKED BY: HZZ
DATE: 11-88
DATE: 11-88
DATE: 11-88
DATE: 2-89

CORRECT
ENGINEER OF STRUCTURES
APPROVED
DIRECTOR OF HIGHWAYS
M-214-142



EASTBOUND LANE					
BILL OF STEEL - ONE BEAM					
BARS	SIZE	NO. REQ'D	LENGTH		
A400	4	48	1'-6"		
A500	5	4	5'-0"		
A600	6	8	41'-3"		
H400	4	96	6'-5"		
H600	6	12	5'-8"		
X300	3	14	6'-8"		

EASTBOUND LANE				
ESTIMATED QUANTITIES - ONE BEAM				
ITEM	UNIT	SPANS B-E		
CLASS 'A' CONCRETE	C.Y.	16.2		
REINFORCING STEEL	LB.	1,115		
PRESTRESSING STRANDS	LB.	1,092		

- Denotes Grade 60 Reinf. Steel
- Denotes Prestressing Strand

CONSTR. NO. 80001-3152-44			
PROJECT NO.		YEAR	SHEET NO.
IR-40-5(9)1257		1989	
REVISIONS			
NO.	DATE	BY	BRIEF DESCRIPTION
1	5/14/89	DWT	REVISED DEAD LOAD CORRECTION VALUES
	</		

NOTES:

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

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.

All beams are AASHTO - PCI standard type IV.

1" recess shall be formed at each end of beam and fill with epoxy mortar as shown.

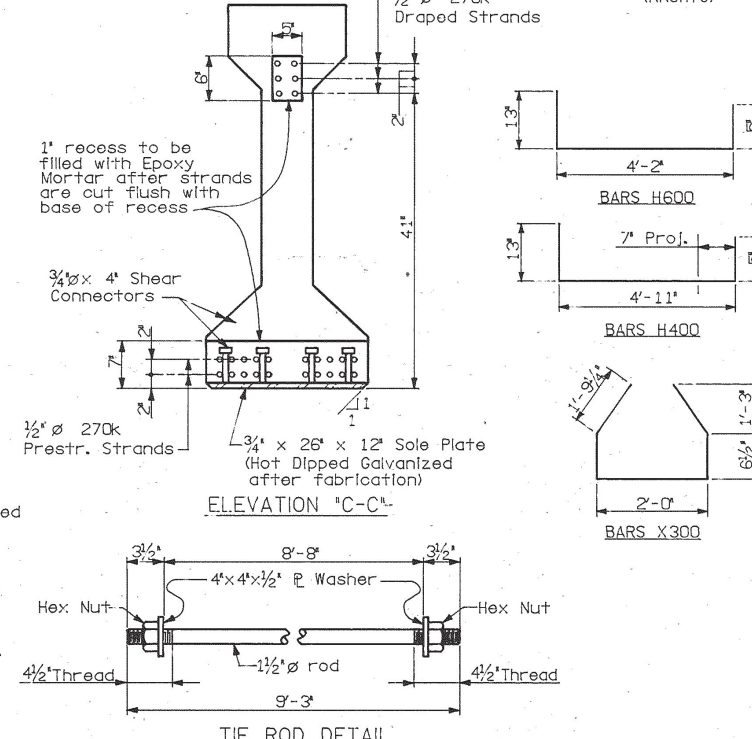
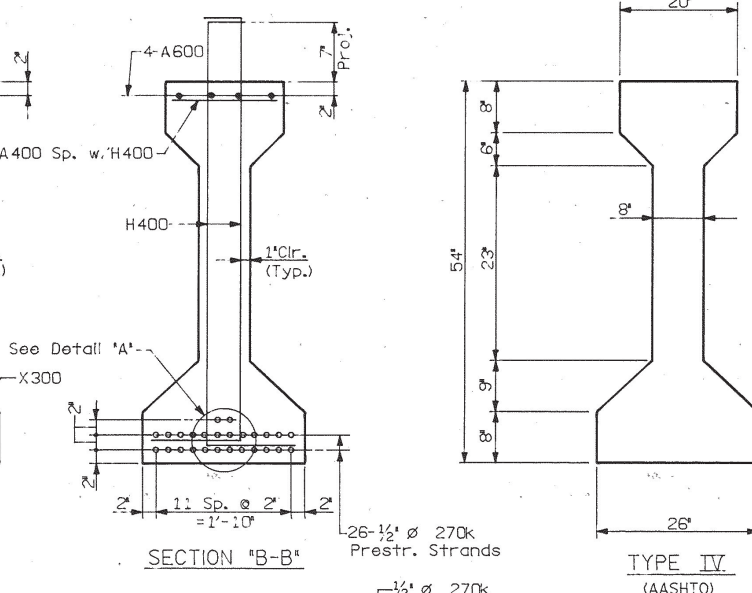
For details of bearings at pier ends, see Dwg. No. M-214-144.

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.

NOTE: Cost of elastomeric bearings, anchor bolts, sole plates, bearing plates, tie rods 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.



DESIGNED BY: DWT
DRAWN BY: FAB
SUPERVISED BY: WSH
CHECKED BY: HTZ

DATE: 11-88
DATE: 11-88
DATE: 11-88
DATE: 2-89

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAYS

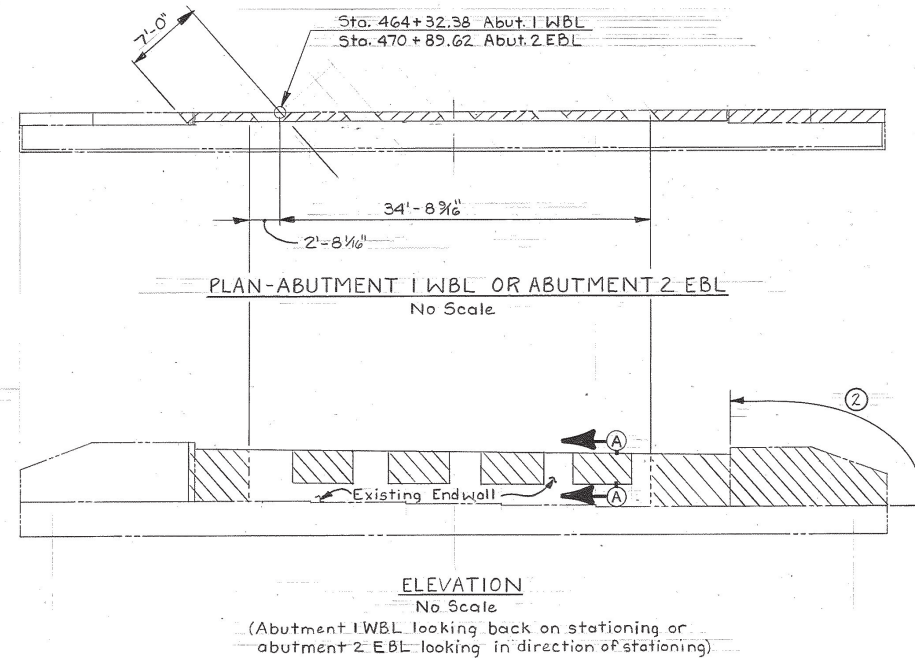
PRESTRESSED CONCRETE I-BEAM (TYPE IV)
SPANS B,C,D & E - EASTBOUND LANE
I-40 OVER CANEY FORK RIVER
STA.466+15.62 & SURVEY E.B. I-40
SMITH COUNTY
1989

CORRECT
ENGINEER OF STRUCTURES
APPROVED
DIRECTOR OF HIGHWAYS

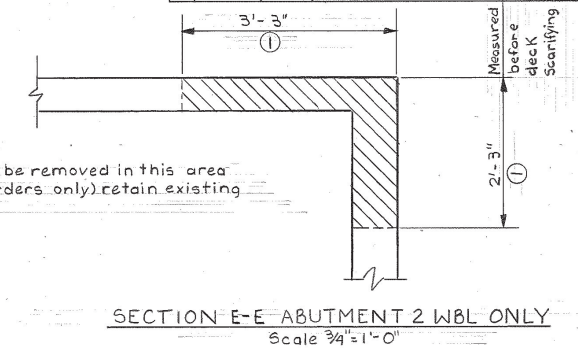
M-214-143

M-214-144

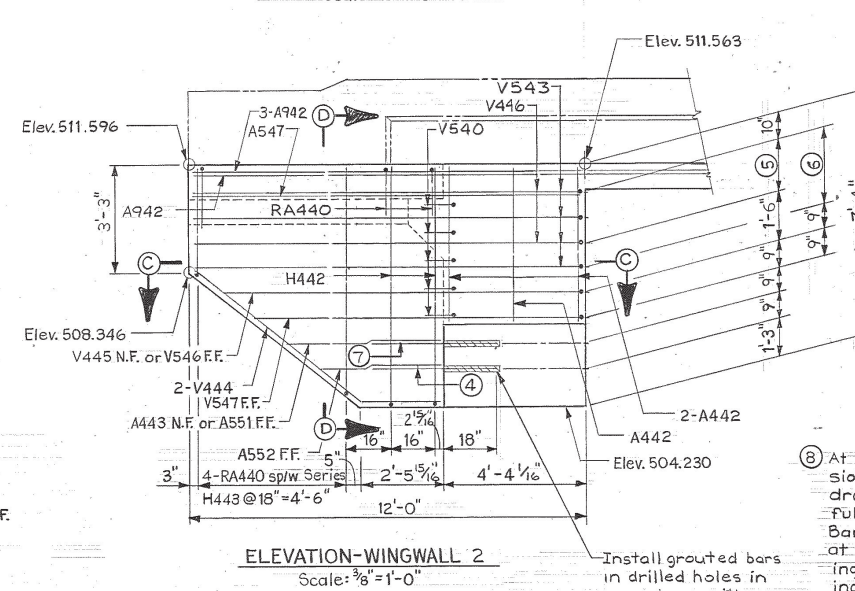
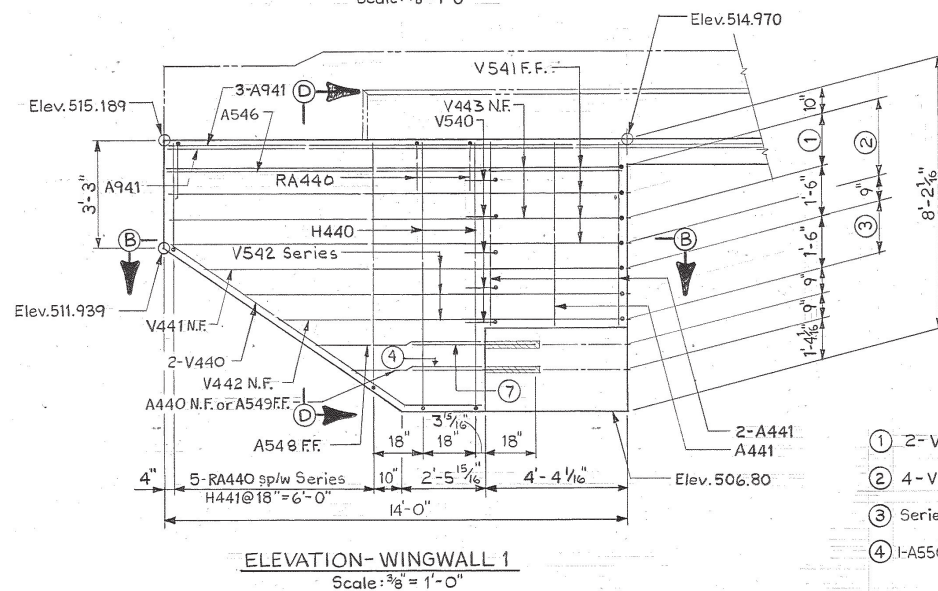
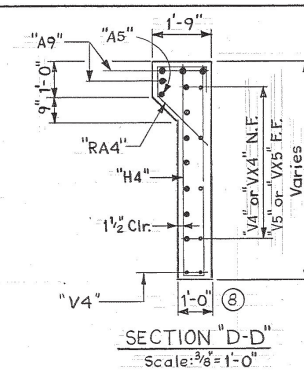
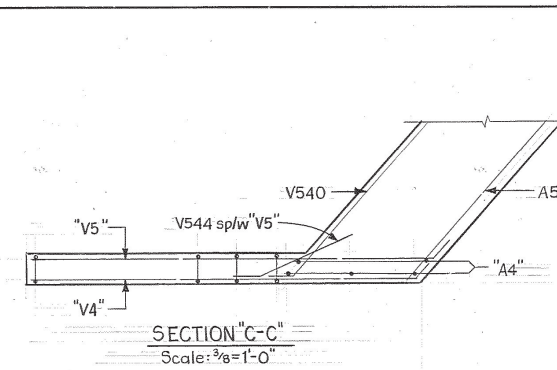
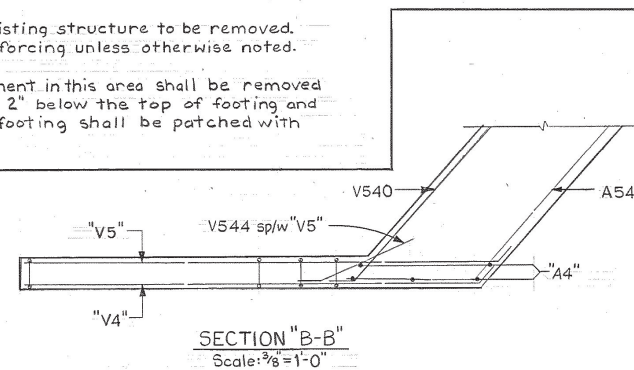
All costs associated with the demolition and disposal and surface preparation required shall be included in the price bid for item No. 202-04.05.



① Concrete to be removed in this area (between girders only) retain existing reinforcing.



② - Reinforcement in this area shall be removed to a depth 2" below the top of footing and then the footing shall be patched with grout.



⑧ At Wingwall 4 (EBL) reduce 1'-9" dimension to 1'-0" in vicinity of bridge end drain only. Form at constant 1'-0" for full height at these locations. Omit Bars "RA4" and field cut "A9" and A545 at drains. Adjust placement of remaining reinforcing to fit while maintaining clearances, see std. Dwg. D-BE-3 for limits of bridge end drain.

ESTIMATED QUANTITIES				
ITEM	CLASS "A" CONCRETE (BRIDGE DECK) C.Y.	CLASS "A" CONCRETE (BRIDGES) C.Y.	STEEL BAR REINFORCEMENT (BRIDGES) LBS.	EPOXY COATED REINFORCING STEEL LBS.
ABUTMENT 1 EBL	33	—	1137	1738
ABUTMENT 2 EBL	34	—	1141	1738
ABUTMENT 1 WBL	29	—	1007	1738
ABUTMENT 2 WBL	33	14	2010	2794

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAYS
ABUTMENT DETAILS(I)
-40 OVER CANEY FORK RIVER
A.466+15.62 C SURVEY E.B.
A.464+32.38 C SURVEY W.B.
SMITH COUNTY
1989

DESIGNED BY DWT DATE 1-89
DRAWN BY HJK DATE 1-89
SUPERVISED BY WSH DATE 1-89
CHECKED BY HIZ DATE 3-89

Note:
N.F.-Near Face
F.F.-Far Face

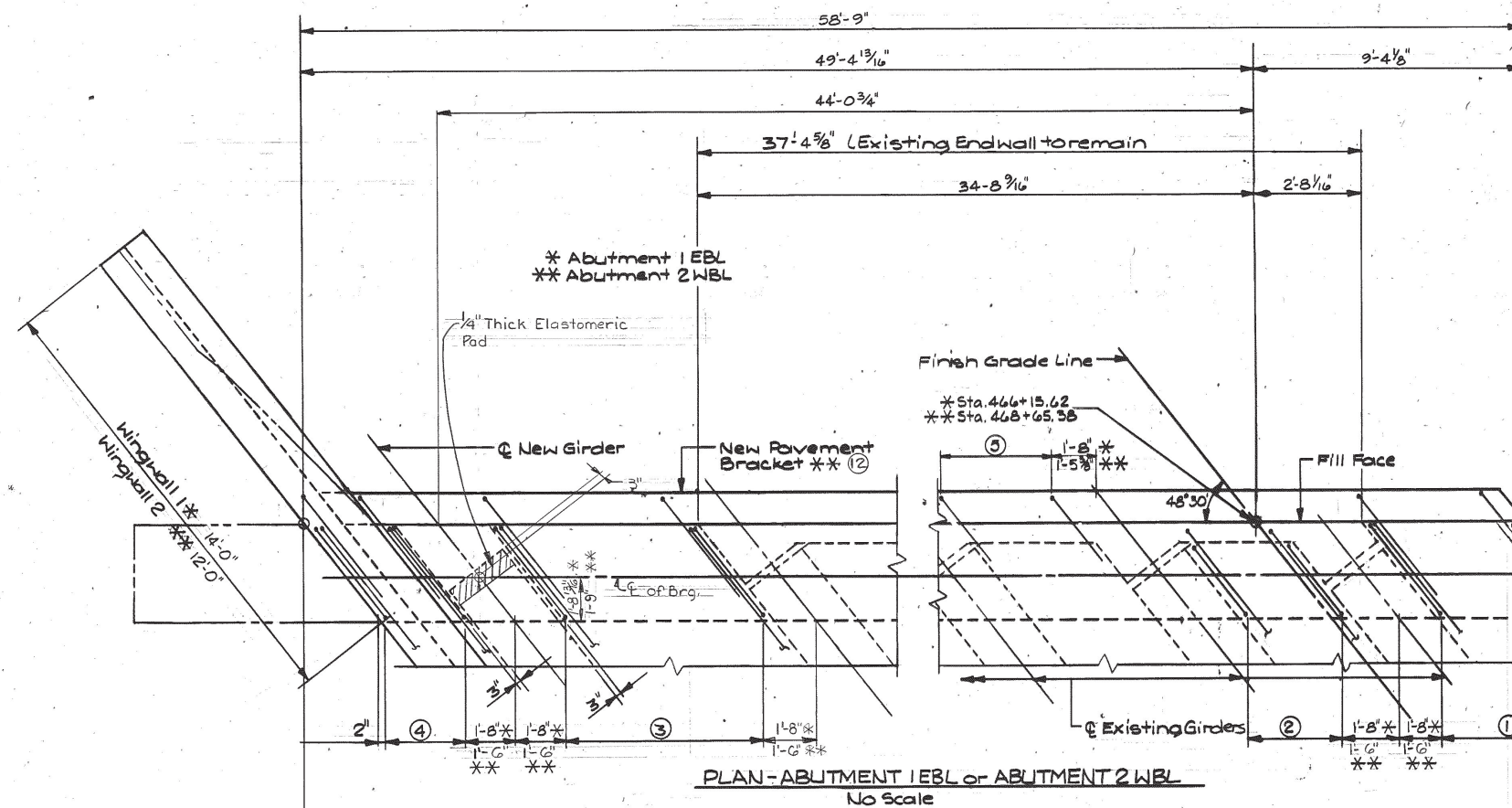
- ① 2- V443 @ 18" N.F.
- ② 4- V541 @ 9" = 2'-8" F.F.
- ③ Series V542 @ 9" = 1'-6" F.F.
- ④ 1-A550 dowel F.F.
- ⑤ 2- V446 @ 18" N.F.
- ⑥ 4- V543 @ 9" = 2'-3" F.F.
- ⑦ 2- A550 dowels (One each face)

Install grouted bars in drilled holes in accordance with General Notes Dwg (Typ.)

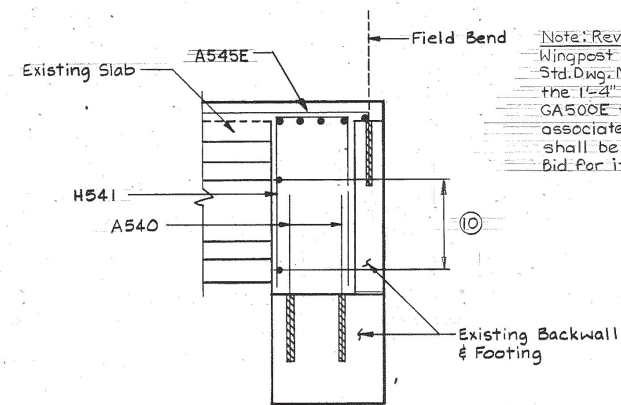
CORRECT _____
ENGINEER OF STRUCTURES

APPROVED _____
DIRECTOR OF HIGHWAYS

M-214-145

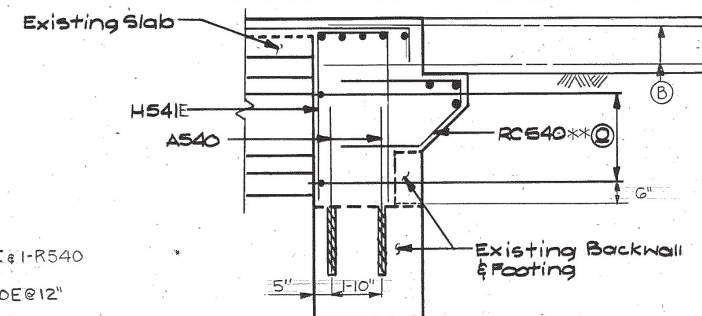


PLAN-ABUTMENT 1 EBL or ABUTMENT 2 WBL
No Scale



SECTION B-B
No Scale

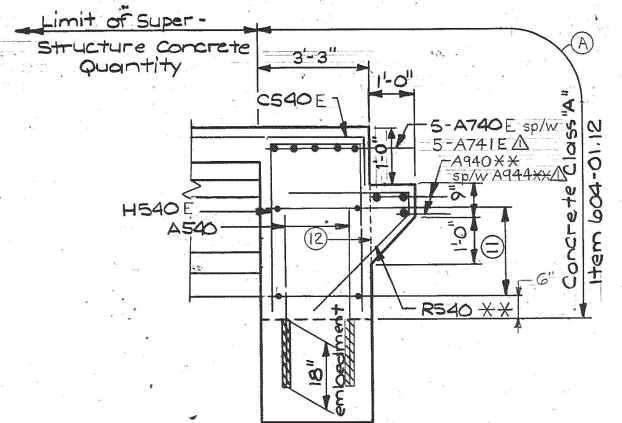
(Details and Reinforcing are the same as Section A-A unless otherwise noted.)



SECTION C-C
No Scale

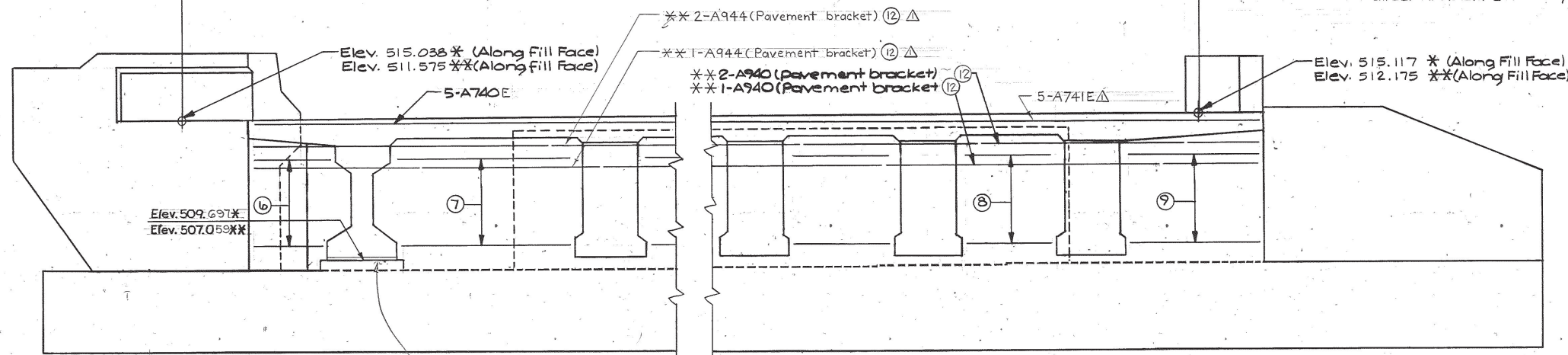
(This Section applies at Abutment 2 WBL only)
(Details and Reinforcing are the same as Section A-A unless otherwise noted.)

- ① 7-Bar Groups of 1-H540E, 2-A540, 1-C540E & 1-R540 @ 12" Max.
- ② 7-Bar Groups of 1-H540E, 2-A540 & 1-C540E @ 12" Max. (Abutment 1 EBL Only).
- ③ 6-Bar Groups of 1-H541E, 2-A540 & 1-C540E @ 12" Max. (Typical Between Existing Girders).
- ④ 6-Bar Groups of 1-H541E, 2-A540 & 1-A545E @ 12" Max. (Typical Between Existing Girders Abutment 1 EBL Only).
- ⑤ 8-Bar Groups of 1-H540E, 2-A540, 1-C540E & 1-R540 @ 12" Max.
- ⑥ 8-Bar Groups of 1-H540E, 2-A540 & 1-C540E @ 12" Max. (Abutment 1 EBL Only).
- ⑦ 4-Bar Groups of 1-H540E, 2-A540 & 1-C540E & 1-R540 @ 12" Max.
- ⑧ 4-Bar Groups of 1-H540E, 1-A540 & 1-C540E @ 12" Max. (Abutment 1 EBL Only).
- ⑨ 11- RC540 @ 6" Max. (Typical Between Existing Girder Abutment 2 WBL Only).



SECTION A-A
No Scale

(A) This section shall not be poured until the beam is in place. Also, this section shall be poured concurrently with end of deck slab.



ELEVATION
No Scale

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

- ⑥ 5-A541 NF or 5-V540 FF
- ⑦ 5-A542 NF
- ⑧ 5-A543 NF (Typical Between Existing Girders)
- ⑨ 5-A544 NF or 5-A544 FF
- ⑩ 5-A543 FF, @ 12"
- ⑪ 5-A5" F.F. or 5-V5" or 5-VX5" N.F. @ 12" = 4'-0"
- ⑫ Pavement Bracket required only at Abutment 2 WBL. Omit bars A940, A944 & R540 and form fill face flush at all other locations.

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

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAYS

ABUTMENT DETAILS (2)
I-40 OVER CANEY FORK RIVER
STA. 466+15.62 & SURVEY E.B. I-40
STA. 464+32.38 & SURVEY W.B. I-40
SMITH COUNTY,
1989

DESIGNED BY TEE
DRAWN BY WSH
SUPERVISED BY HIZ
CHECKED BY
DATE 1-89
DATE 1-89
DATE 3-89

CORRECT

ENGINEER OF STRUCTURES

APPROVED DIRECTOR OF HIGHWAYS

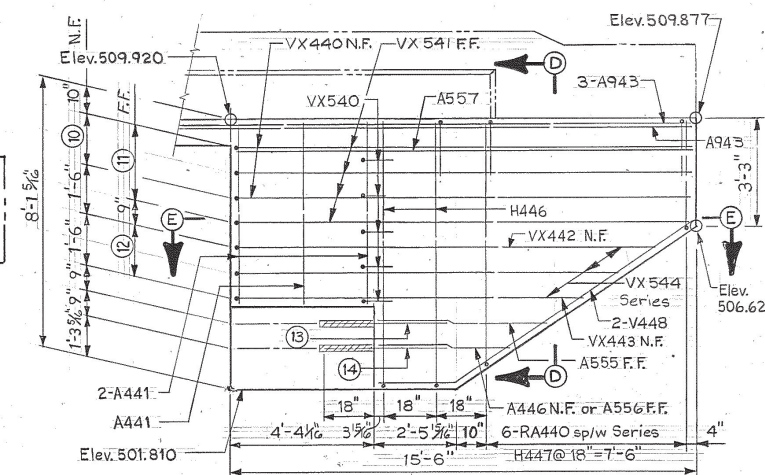
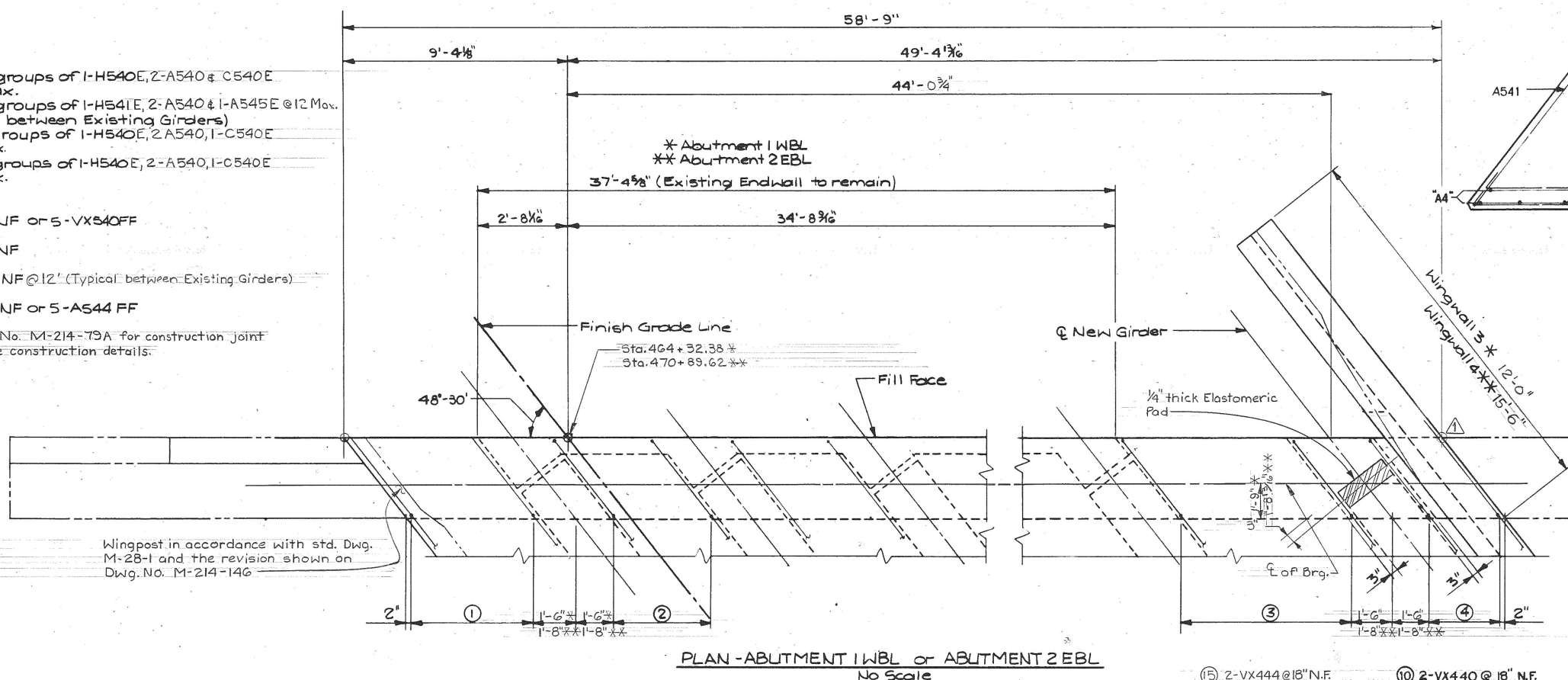
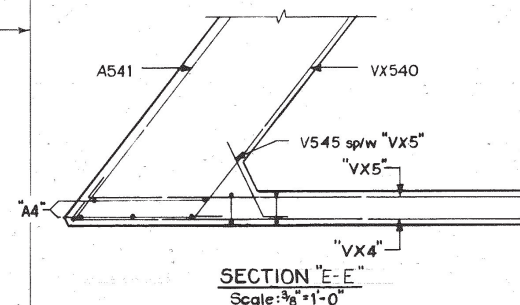
M-214-146

Constr. No. 80001-3152-44			
PROJECT NO.		YEAR	SHEET NO.
IR-40-5(9)257		1989	
REVISIONS			
NO.	DATE	BY	BRIEF DESCRIPTION
1	9-1-89	DWT	Changes due to long Constr. J.T.

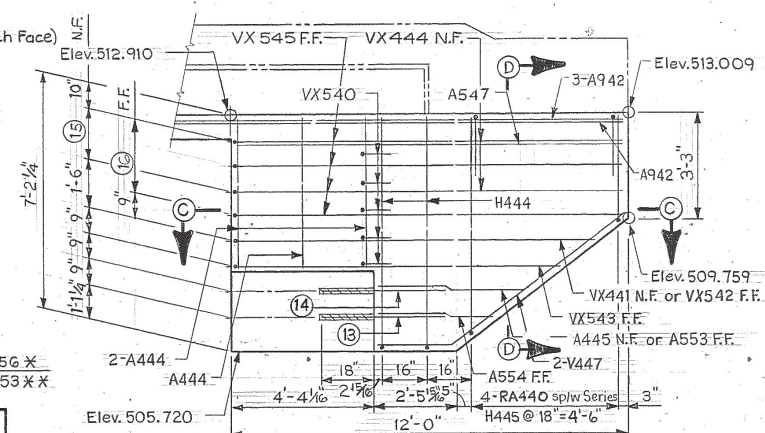
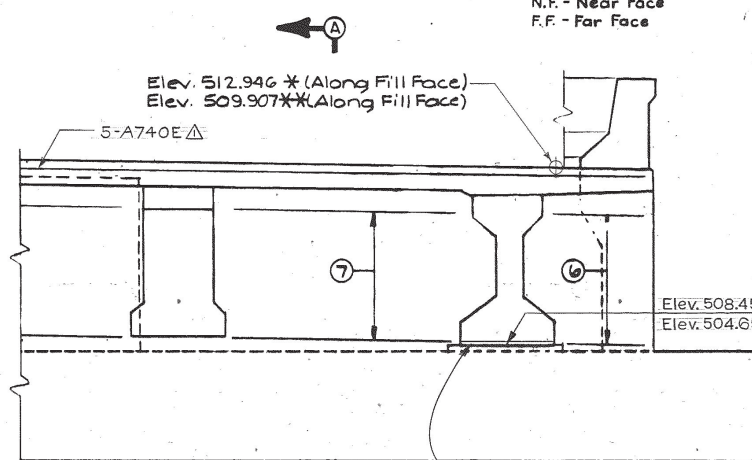
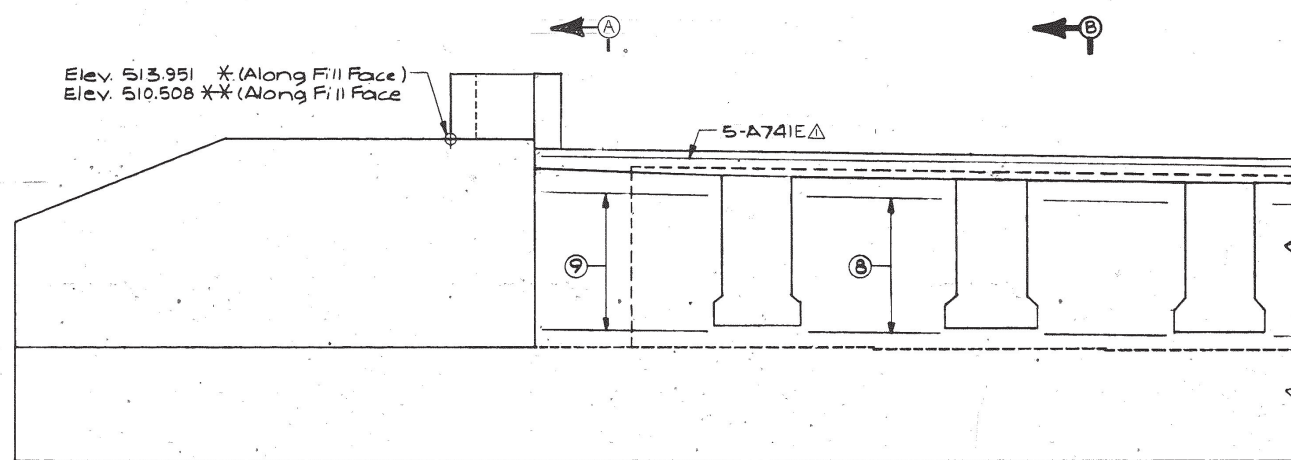
- ① 7-bar groups of 1-H540E, 2-A540 & C540E @ 12" Max.
- ② 6-bar groups of 1-H541E, 2-A540 & 1-A545E @ 12" Max. (Typical between Existing Girders)
- ③ 8-bar groups of 1-H540E, 2-A540, 1-C540E @ 12" Max.
- ④ 4-bar groups of 1-H540E, 2-A540, 1-C540E @ 12" Max.

- ⑥ 5-A541 NF or 5-VX540FF
- ⑦ 5-A542 NF
- ⑧ 5-A543 NF @ 12" (Typical between Existing Girders)
- ⑨ 5-A544 NF or 5-A544 FF

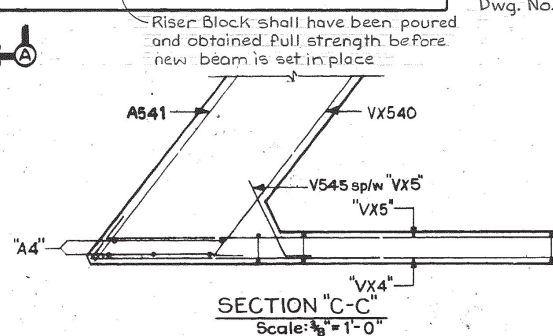
△ See Dwg. No. M-214-79A for construction joint and phase construction details.



- ⑮ 2-VX444 @ 18" N.F.
 - ⑯ 4-VX545 @ 9" F.F. = 2'-3"
 - ⑩ 2-VX440 @ 18" N.F.
 - ⑪ 4-VX541 @ 9" F.F. = 2'-3"
 - ⑫ Series VX544 @ 9" F.F. = 1'-6"
 - ⑬ A550 dowel F.F.
 - ⑭ 2-A550 dowels (One Each Face)
- N.F. - Near Face
F.F. - Far Face



Note:
For Section "D-D" see
Dwg. No. M-214-145



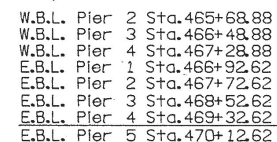
STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAYS
ABUTMENT DETAILS (3)
I-40 OVER CANEY FORK RIVER
STA. 466+15.62 & SURVEY E.B. I-40
STA. 464+32.38 & SURVEY W.B. I-40
SMITH COUNTY
1989

DESIGNED BY: DWT
DRAWN BY: TEE
SUPERVISED BY: WSH
CHECKED BY: HJZ
DATE: 1-89
DATE: 1-89
DATE: 1-89
DATE: 3-89

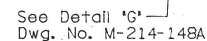
CORRECT

ENGINEER OF STRUCTURES
APPROVED
DIRECTOR OF HIGHWAYS

M-214-147

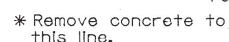


Existing Bell Column

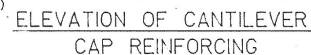


PART ELEVATION
(Showing Cantilever Column Reinforcing)

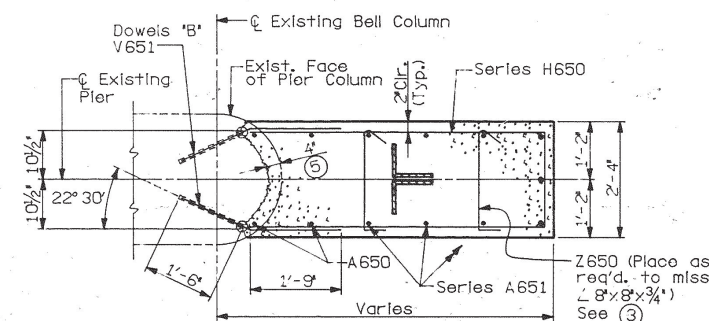
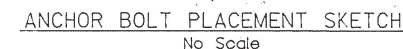
- ① Flush w/existing top of Pier.
- ② To C.G. of Angle.
- ③ Place 1-Z650 at every intersection of Series H650 with Series A651 bars and A650 bars as shown. Omit where $\angle 8 \times 8 \times \frac{3}{4}$ interfaces.
- ④
 - 1' - Pier 2 W.B.L.
 - $\frac{13}{16}$ ' - Pier 3 W.B.L.
 - $\frac{1}{16}$ ' - Pier 4 W.B.L.
 - $2\frac{15}{16}$ ' - Pier 1 E.B.L.
 - $\frac{25}{16}$ ' - Pier 2 E.B.L.
 - $2\frac{1}{16}$ ' - Pier 3 E.B.L.
 - $2\frac{1}{16}$ ' - Pier 4 E.B.L.
 - $\frac{1}{16}$ ' - Pier 5 E.B.L.
- ⑤ Existing Pier Cap/Column Concrete to be chipped back 4" minimum.



PLAN OF CANTILEVER
CAP REINFORCING



g - Denotes A652 dowel bars only.



SECTION C-C
(Layout Dowels "B")

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAYS

PIERS 2,3 & 4 W.B.L.
PIERS 1,2,3,4 & 5 E.B.L.
I-40 OVER CANEY FORK RIVER
STA.464+32.38 C SURVEY W.B.L.
STA.466+15.62 C SURVEY E.B.L.
SMITH COUNTY
1989

CONSTR. NO. 80001-3152-44

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

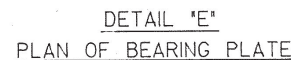
REVISIONS

[illegible]

Note:
For notes, see Dwg. No. M-214-148A.

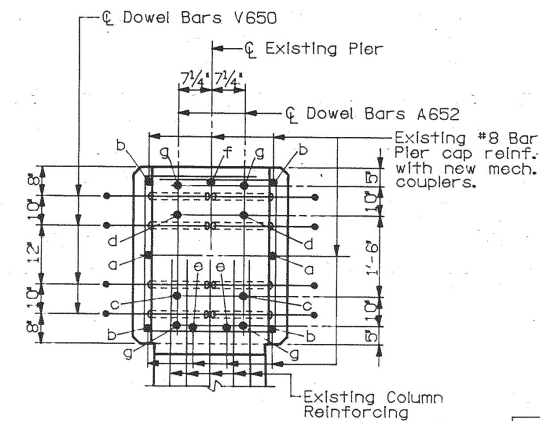
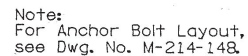
ESTIMATED QUANTITIES

ESTIMATED QUANTITIES			
Item	Class 'A' Concrete (Bridges)	Structural Steel	Steel Bar Reinforcement (Bridges)
Pier No.	C.Y.	Lb.	Lb.
W.B.L. - 2	15	4,100	2,903
W.B.L. - 3	15 16	4,100	310 2,903
W.B.L. - 4	15	4,100	2,903
E.B.L. - 1	15	4,100	2,903
E.B.L. - 2	15	4,100	2,903
E.B.L. - 3	15 16	4,100	310 2,903
E.B.L. - 4	15	4,100	2,903
E.B.L. - 5	15	4,100	2,903

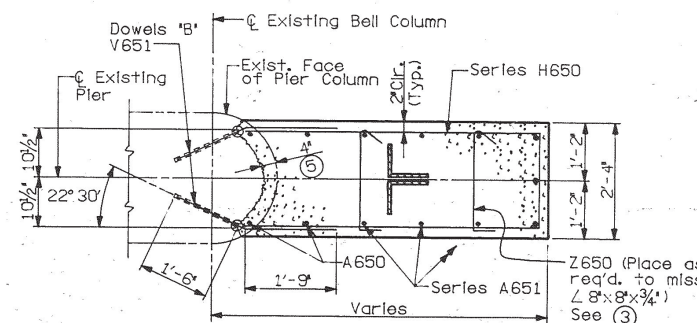
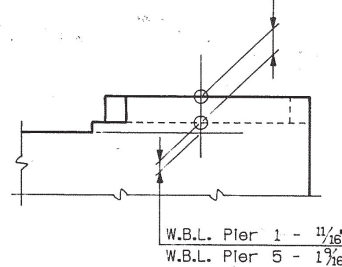
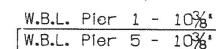
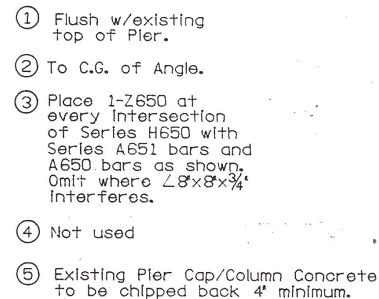


DESIGNED BY WGA DATE 2-89
 DRAWN BY EAB DATE 2-89
 SUPERVISED BY WSH DATE 2-89
 CHECKED BY WGA DATE 3-89

M-214-1484



Note:
For notes, see Dwg. No. M-214-148A.

ESTIMATED QUANTITIES

CORRECT _____
ENGINEER OF STRUCTURES
APPROVED _____
DIRECTOR OF HIGHWAY

Scale: None

M-214-149

MARK	T	LOCATION	SZ	NO. RQ'D	DIMENSIONS FT-IN					LENGTH FT-IN	WEIGHT LBS	MARK	T	LOCATION	SZ	NO. RQ'D	DIMENSIONS FT-IN					LENGTH FT-IN	WEIGHT LBS	MARK	T	LOCATION	SZ	NO. RQ'D	DIMENSIONS FT-IN					LENGTH FT-IN	WEIGHT LBS		
					a	b	c	d	e								a	b	c	d	e								a	b	c	d	e				
SPANS A THRU F - W.B.L.												PIER 1 W.B.L.												PIER 3 W.B.L.													
A500	E	DECK	5	428	4-9					4-9	2120	A350	RISER BLOCK	3	10	4-10						4-10	18	A350	RISER BLOCK	3	10	4-10						4-10	18		
A501	E	"	5	996	10-9					10-9	11167	A351	"	3	10	4-8						4-8	18	A351	"	3	10	4-8						4-8	18		
A502	E	"	5	1	10-4					10-4	102	A650	CANT. COLUMN	6	4	15-10 1/4						15-11	96	A650	CANT. COLUMN	6	4	15-10 1/4						15-11	96		
		* 13 BAR SERIES	EACH	TO						TO		A651	"	6	2	15-10 1/4						15-11	223	A651	"	6	2	15-10 1/4						15-11	223		
A503	E	"	5	826	30-0					4-8	25846		* 8 BAR SERIES	EACH	TO							TO			* 8 BAR SERIES	EACH	TO						TO				
A504	E	"	5	118	22-9					22-9	2800	A652	CANT. CAP	6	8	3-6						3-6	42	A652	CANT. CAP	6	8	3-6						3-6	42		
A505	E	"	5	98	26-6					26-6	2709	C850	"	8	5	9-11	3-5 1/2					13-5	179	C850	"	8	5	9-11	3-5 1/2					13-5	179		
A506	E	"	5	98	29-6					29-6	3015	C851	"	8	2	10-2 1/2	1-0					11-3	60	C851	"	8	2	10-2 1/2	1-0					11-3	60		
A507	E	"	5	1	10-5					10-5	111	F850	"	8	2	1-4 1/4	0-9	8-0	0-6 1/4	0-6 1/4		10-1	54	F850	"	8	2	1-4 1/4	0-9	8-0	0-6 1/4	0-6 1/4	10-1	54			
		* 15 BAR SERIES	EACH	TO						TO		FC850	"	8	1	5-5 1/2	0-10 3/8	3-8	0-9	3-5 1/2		13-5	36	FC850	"	8	1	5-5 1/2	0-10 3/8	3-8	0-9	3-5 1/2	13-5	36			
A508	E	"	5	1	10-3					10-3	100	FD850	"	8	1	6-1	0-2	3-8	0-1 3/4	1-0		10-11	29	FD850	"	8	1	6-1	0-2	3-8	0-1 3/4	1-0	10-11	29			
		* 13 BAR SERIES	EACH	TO						TO		FD851	"	8	1	5-5 1/4	0-10 3/8	3-8	0-9	3-5 1/2		13-6	36	FD850	"	8	1	5-5 1/4	0-10 3/8	3-8	0-9	3-5 1/2	13-6	36			
A510	E	"	5	48	6-0					4-6		H550	RISER BLOCK	5	4	4-4	1-10					8-0	33	H550	RISER BLOCK	5	4	4-4	1-10					8-0	33		
A511	E	"	5	4	23-9					23-9	99	H551	"	5	1	3-5	1-10					7-1	19	H551	"	5	1	3-5	1-10					7-1	19		
A700	E	"	7	2	26-0					26-0	106		* 3 BAR SERIES	EACH	TO							TO				* 15 BAR SERIES	EACH	TO						TO			
A701	E	"	7	6	29-9					29-9	365	H552	"	5	1	2-11	1-10					6-7	30	H950	"	9	22	4-10	1-0					6-10	511		
A800	E	"	8	3	26-0					26-0	208		* 5 BAR SERIES	EACH	TO							TO			SX650	"	6	11	4-9 1/2	3-7 1/2	1-0			14-1	233		
B500	E	"	5	932	25-9	0-7				26-4	25598			5	1	1-1						4-9	82	SX651	"	6	2	3-5 1/4	10-2	1-9			27-4	82			
												H553	"	5	1	2-8	1-10					6-4	23	V650	"	6	8	3-3	1-9	1-2 7/8	1-2 7/8		5-0	60			
B501	E	"	5	1	19-5	0-7				20-0	433		* 4 BAR SERIES	EACH	TO							TO			V651	CANT. COLUMN	6	30	1-9	1-9	1-7 3/8	0-8		3-6	158		
		* 34 BAR SERIES	EACH	TO						TO		H650	CANT. COLUMN	6	1	2-0	8-4 1/2					18-9	262	X650	CANT. CAP	6	4	4-7 3/4	10-1 1/2	1-0	0-8 1/2		26-11	162			
B500	E	"	5	860	43-8	0-7				44-10	40215		* 15 BAR SERIES	EACH	TO							TO			Z650	CANT. COLUMN	6	75	1-0	2-0	0-8			3-8	413		
K500	E	"	5	42	0-10	3-5 1/4	0-5			9-1	398	H651	CANT. CAP	6	3	1-0	4-0					9-0	41	***TOTAL WEIGHT (LBS) 2903													
L300	E	"	3	94	1-2 1/2	0-6	0-4			4-1	144	H950	"	9	22	4-10	1-0					6-10	511	PIER 4 W.B.L.													
V500	E	"	5	11	2-0	1-10	1-4 1/2	1-2 1/2		3-10	44	SX650	"	6	11	4-9 1/2	3-7 1/2	1-0				14-1	233	A350	RISER BLOCK	3	10	4-10						4-10	18		
For Continuation See Sheet No. M-214-151B												SX651	"	6	2	3-5 1/4	10-2	1-9				27-4	82	A351	"	3	10	4-8						4-8	18		
***TOTAL INCLUDES 101298 LBS OF EPOXY COATED BARS												V650	"	6	8	3-3	1-9	1-2 7/8	1-2 7/8			5-0	60	A650	CANT. COLUMN	6	4	15-10 1/4						15-11	96		
ABUTMENT 1 W.B.L.												V651	CANT. COLUMN	6	30	1-9	1-9	1-7 3/8	0-8			3-6	158	A651	"	6	2	15-10 1/4						15-11	223		
A444	WINGWALL 3	4	5	4-4						4-4	14	V850	"	8	3	17-8	2-4 1/2	2-1 1/2	1-0 3/4			20-1	161		* 8 BAR SERIES	EACH	TO						TO				
A445	"	4	1	4-10						4-10	3	Z650	CANT. COLUMN	6	75	1-0	2-0	0-8				3-8	413														
A540	ABUTMENT	5	82	3-8						3-8	314	***TOTAL WEIGHT (LBS) 3008												A652	CANT. CAP	6	8	3-6						3-6	42		
A541	"	5	5	3-6						3-6	18	C850	"	8	5	9-11	3-5 1/2					13-5	179														
A542	"	5	5	7-4						7-4	38	C851	"	8	2	10-2 1/2	1-0					11-3	60														
A543	"	5	20	5-4						5-4	111	A350	RISER BLOCK	3	10	4-10						4-10	18	FC850	"	8	1	5-5 1/2	0-10 3/8	3-8	0-9	3-5 1/2	13-5	36			
A544	"	5	10	6-2						6-2	64	A351	"	3	10	4-8						4-8	18	FC851	"	8	1	6-1	0-2	3-8	0-1 3/4	1-0	10-11	29			
A545	E	"	5	24	11-6					11-6	288	A650	CANT. COLUMN	6	4	15-10 1/4						15-11	96	FD850	"	8	1	5-5 1/4	0-10 3/8	3-8	0-9	3-5 1/2	13-6	36			
A547	WINGWALL 3	5	1	11-0						11-0	11	A651	"	6	2	15-10 1/4						15-11	223	FD851	"	8	1	6-1	0-2	3-8	0-1 3/4	1-0	10-11	29			
A550	WINGWALL 3	5	3	3-8						3-8	11		* 8 BAR SERIES	EACH	TO							TO			H650	CANT. COLUMN	6	1	2-0	8-4 1/2				18-9	262		
A553	WINGWALL 3	5	1	4-10						4-10		A652	CANT. CAP	6	8	3-6						3-6	42		* 15 BAR SERIES	EACH	TO						TO				
A554	"	5	1	3-10						3-10	4	C850	"	8	5	9-11	3-5 1/2					13-5	179	H651	CANT. CAP	6	3	1-0	4-0				9-0	41			
A740	E ABUTMENT	7	5	32-5 1/4						32-5 1/4	331	C851	"	8	2	10-2 1/2	1-0					11-3	60	H950	"	9	22	4-10	1-0					6-10	511		
A942	WINGWALL 3	9	4	11-0						11-0	150	F850	"	8	2	1-4 1/4	0-9	8-0	0-6 1/4	0-6 1/4		10-1	54	SX650	"	6	11	4-9 1/2	3-7 1/2	1-0			14-1	233			
C540	E ABUTMENT	5	19	10-0	0-10					10-10	215	FC850	"	8	1	5-5 1/																					

[illegible]

TYPE	SIZE	SERIES
A	5	06*

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

LOCATION	SERIES
SUPERSTRUCTURE	00
BUTMENT	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

I-40 OVER
CANEEY FORK RIVER
STA. 466+15.62 G SURVEY E.B.L.
STA. 464+32.68 C SURVEY W.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 STRUCTURE

APPROVED _____
DIRECTOR OF HIGHWAYS

M-214-151

[illegible]

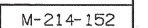
Note: Dimensions shown on this sheet are outside to outside of bar. Standard C.R.S.I. Hook Details shall apply, except as noted.

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

M-214-151A

MARK	T	LOCATION	SZ	NO. RQ'D	DIMENSIONS FT-IN					LENGTH FT-IN	WEIGHT LBS	MARK	T	LOCATION	SZ	NO. RQ'D	DIMENSIONS FT-IN					LENGTH FT-IN	WEIGHT LBS	MARK	T	LOCATION	SZ	NO. RQ'D	DIMENSIONS FT-IN					LENGTH FT-IN	WEIGHT LBS					
					a	b	c	d	e								a	b	c	d	e								a	b	c	d	e							
BRIDGE 2 SUPERSTRUCTURE - SPANS A THRU G (WBL) (CONTINUED)												BRIDGE 4 SUPERSTRUCTURE - SPANS A THRU E (WBL) (CONTINUED)												BRIDGE 5 SUPERSTRUCTURE - SPANS A THRU F (WBL) (CONTINUED)																
A511	E	DECK		5	1	17- 9					17- 9	80	A520	E	"		5	4	30- 5					30- 5	127	A512	E	DECK		5	1	19- 6						19- 6	420	
		7 BAR SERIES	EACH	TO							TO		A521	E	"		5	4	23- 4					23- 4	97			35 BAR SERIES	EACH	TO							TO			
						4- 1					4- 1		A702	E	"		7	6	22- 8					22- 8	278											3- 6				
A512	E	"		5	1	15-10					15-10	66	A703	E	"		7	2	25- 3					25- 3	103	A513	E	"		5	1	25- 5						25- 5	715	
		7 BAR SERIES	EACH	TO							TO		A801	E	"		8	3	29- 4					29- 4	235			48 BAR SERIES	EACH	TO							TO			
						2- 2					2- 2		A802	E	"		8	3	22-10					22-10	183											3- 2				
A513	E	"		5	1	24- 9					24- 9	152	A803	E	"		8	3	25- 3					25- 3	202	A514	E	"		5	1	23- 7						23- 7	616	
		10 BAR SERIES	EACH	TO							TO		B505	E	"		5	845	25- 9	0- 7			26- 4	23208			44 BAR SERIES	EACH	TO							TO				
						4- 4					4- 4		B507	E	"		5	1	25- 8	0- 7			26- 3	701											3- 3					
A514	E	"		5	1	3-10					3-10	122			42 BAR SERIES	EACH	TO						TO			A515	E	"		5	1	17- 8						17- 8	346	
		9 BAR SERIES	EACH	TO							TO						5- 2						5- 9				32 BAR SERIES	EACH	TO							TO				
						22- 2					22- 2		B508	E	"		5	1	19- 7	0- 7			20- 2	405											3- 1					
B506	E	"		5	1	10-11	0- 7				11- 6	84			30 BAR SERIES	EACH	TO						TO			A518	E	"		5	4	31- 2						31- 2	130	
		5 BAR SERIES	EACH	TO							TO						5- 2						5- 9			A702	E	"		7	6	23- 3						23- 3	285	
						20- 0					20- 7		B511	E	"		5	1	19- 8	0- 7			20- 3	428			A703	E	"		7	2	32- 4						32- 4	132
B507	E	"		5	1	25- 8	0- 7				26- 3	153			34 BAR SERIES	EACH	TO						TO			A801	E	"		8	3	29- 7						29- 7	237	
		8 BAR SERIES	EACH	TO							TO						3- 4						3-11			A802	E	"		8	3	23- 3						23- 3	186	
						9-10					10- 5		B512	E	"		5	1	25- 8	0- 7			26- 3	724			A803	E	"		8	3	32- 5						32- 5	260
B508	E	"		5	1	23- 9	0- 7				24- 4	143			46 BAR SERIES	EACH	TO						TO			B502	E	"		5	1	25- 6	0- 7						26- 1	737
		9 BAR SERIES	EACH	TO							TO						3- 4						3-11					45 BAR SERIES	EACH	TO							TO			
						5- 6					6- 1																									5- 4				
B509	E	"		5	1	19- 7	0- 7				20- 2	97													B503	E	"		5	958	19-10	0- 7						20- 5	20400	
		7 BAR SERIES	EACH	TO							TO														B504	E	"		5	1	25- 6	0- 7						26- 1	748	
						5-11					6- 6																47 BAR SERIES	EACH	TO							TO				
																																					4- 5			
													A512	E	DECK		5	1	25- 3					25- 3	608													5- 4		
															41 BAR SERIES	EACH	TO						TO																	
													A513	E	"		5	1	19- 3					19- 3	352															
															30 BAR SERIES	EACH	TO						TO																	
A510	E	DECK		5	1	24- 5					24- 5	170																												
		11 BAR SERIES	EACH	TO							TO																													
						5- 2					5- 2		A516	E	"		5	1	17- 8					17- 8	295															
A511	E	"		5	1	16- 4					16- 4	80			27 BAR SERIES	EACH	TO						TO																	
		8 BAR SERIES	EACH	TO							TO																													
						2-10					2-10		A519	E	"		5	1	3- 8					3- 8	526															
A512	E	"		5	1	22- 3					22- 3	144			37 BAR SERIES	EACH	TO						TO																	
		11 BAR SERIES	EACH	TO							TO																													
						2-11					2-11		A523	E	"		5	4	29- 8					29- 8	124															
A513	E	"		5	1	18- 6					18- 6	101	A525	E	"		5	4	22- 3					22- 3	93															
		9 BAR SERIES	EACH	TO							TO		A704	E	"		7	6	27-10					27-10	341	A514	E	"		5	1	23- 7						23- 7	616	
						3- 0					3- 0		A705	E	"		7	2	30- 4					30- 4	124															
B506	E	"		5	1	7- 6	0- 7				8- 1	101	A706	E	"		7	6	21- 9					21- 9	267			44 BAR SERIES	EACH	TO							3- 3			
		7 BAR SERIES	EACH	TO																																				

PROJECT NO.	YEAR	SHEET NO.
IR-40-591/257	1989	

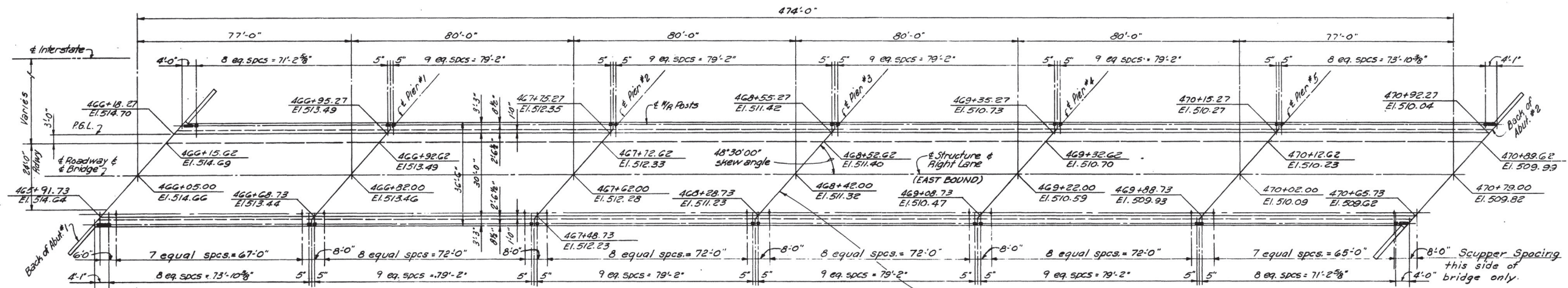
[illegible]

DATA DELETED BY DATA
I-40 OVER
CANEEY FORK RIVER
STA. 466+15.62 C SURVEY E.B.L.
STA. 464+32.38 C SURVEY W.B.L.
SMITH COUNTY
1989

FED. ROAD DIST. No.	T E N N	FEDERAL AID PROJECT No.	FISCAL YEAR	SHEET No.	TOTAL SHEETS
3		I-40-5(9)264		51	372

GENERAL NOTES:

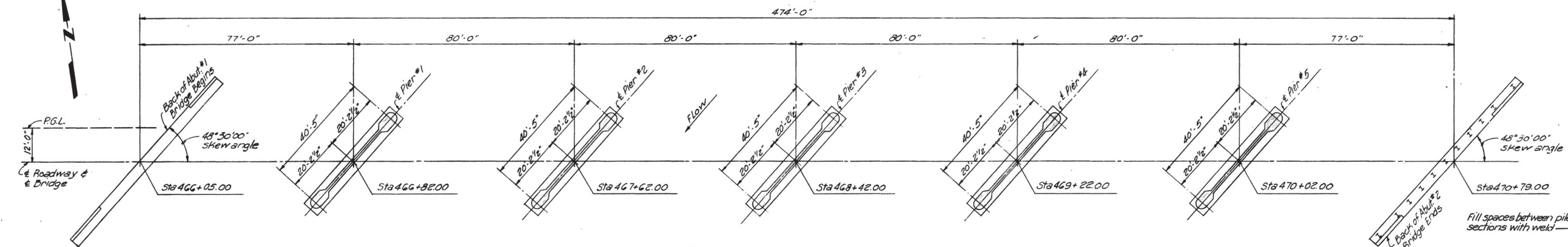
GENERAL SPECIFICATIONS: Standard Road and Bridge Specifications of the Tennessee Dept. of Highways and Public Works.
DESIGN SPECIFICATIONS: Standard Specifications for Highway Bridges AASHTO 1957 and tentative AASHTO Specs. for prestressed concrete design and construction (with subsequent revisions).
DESIGN LOADING: 4-20-516-44 and for alternate loading as per Section 4C of PPM 20-4.
CONCRETE: All concrete shall be Class "A" and shall be air entrained.
REINFORCED STEEL: See Specifications.
FORMS AND FINISH: See Specifications.
HAND RAILS: Standard 2-Bar Steel Hand-Railing. Tennessee Highway Department Standard.
PRECAST, PRESTRESSED CONCRETE GIRDERS: See Special Provisions.
SELF LUBRICATING BEARING PLATES: See Special Provisions.



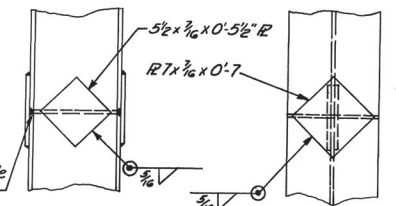
NOTE:
All Elevations shown refer to top of composite concrete slab.

PLAN-RIGHT LANE BRIDGE (5A) RIVER MILE 19.7
(EAST BOUND)

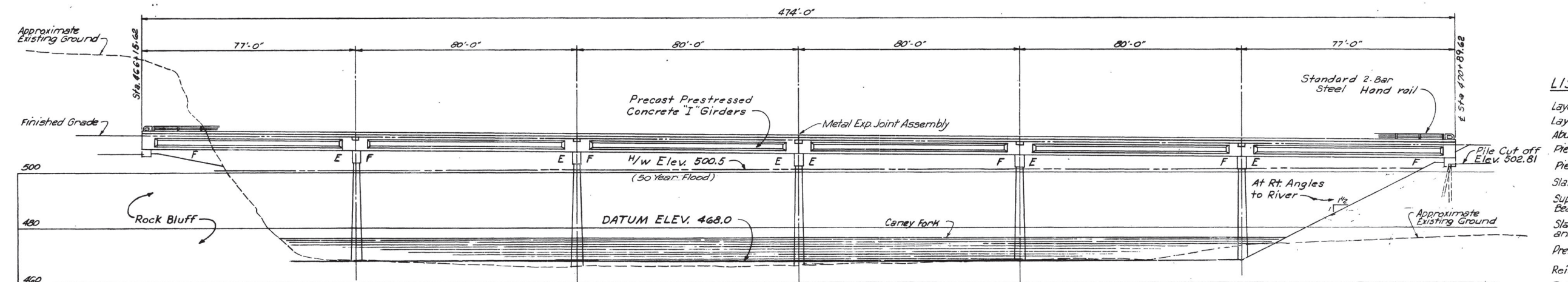
Metal Exp. Joint Assembly this joint only.
40'-0\"/>



FOUNDATION PLAN-RIGHT LANE BRIDGE



DETAIL OF PILE SPLICE
Scale 1\"/>



LIST OF DRAWINGS	DRAWING NO.
Layout of Bridge	G-15-104
Layout & Log of Core Borings	G-15-105
Abutments Nos 1 & 2	G-15-106
Piers Nos 1, 2 & 3	G-15-107
Piers Nos 4 & 5	G-15-108
Slab and Girder Details	G-15-109
Superstructure & Girder Bearing Details	G-15-110
Slab Reinforcing Plan and Details	G-15-111
Prestressed Girder Details	G-15-112
Reinforcing Steel Schedule No. 1	G-15-113
Reinforcing Steel Schedule No. 2	G-15-114
Steel Handrailing	G-10-99

ESTIMATED QUANTITIES

Note: All joint material shall be included in the unit price bid for Class "A" Concrete.

ITEM NO	17-3	17-2	17-4	135-4	135-12	702	154-PT8	154-PT10	137-3	132-1
ITEM	EXCAVATION			CONC.	REINF.	STEEL	TYPE III AASHTO	DBP42	STRUCTURE	
	WET	DRY	ROCK	CLASS "A"	STEEL	HANDRAIL 2-BAR	54" DEEP "I" BEAMS L: 78'-9" L: 79'-10"	BEARING PILES		STEEL
UNIT	CU. YDS.			CU. YDS.	Lbs.	Lin. Ft.	Each	Each	Lin. Ft.	Lbs.
SUPERSTRUCTURE				426.3	104,172	932				1935
GIRDERS							10	20		
ABUTMENT #1				30.1	2,648					
ABUTMENT #2				31.6	3,680				475	
PIER #1	44		35	165.3	14,120					
PIER #2	136		35	169.0	14,360					
PIER #3	164		16	167.4	14,198					
PIER #4	154		21	164.0	14,039					
PIER #5	129		21	157.3	13,597					
TOTALS	627		128	1311.0	180,814	932	10	20	475	1935

ELEVATION-RIGHT LANE BRIDGE

NOTES:

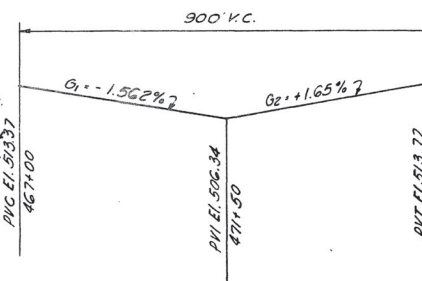
- Refer to Abutment details for layout of piles for Abutment No. 2.
- Piles for Abutment No. 2 shall be 10BP42 and shall be driven to rock or to a minimum bearing of 35 tons each.
- End fills shall be in place and compacted before driving piles for Abutment No. 2.
- Pier footings and Abutment No. 1 shall set a minimum of 1'-0\"/>

E Designates Expansion End
F Designates Fixed End

HYDRAULIC DESIGN DATA

High Water Elevation 500.5
Design Discharge $Q = 40,100$ cfs.
Design Velocity $V = 6$ f.p.s.
Opening Required $A_o = 6,700$ sq.ft.
Opening Furnished $A_f = 7,800$ sq.ft.

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\"/>

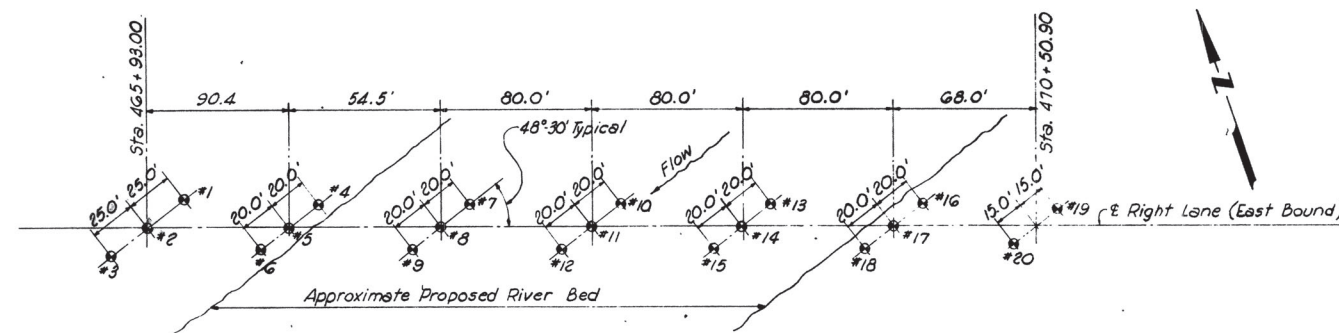


VERTICAL CURVE DATA

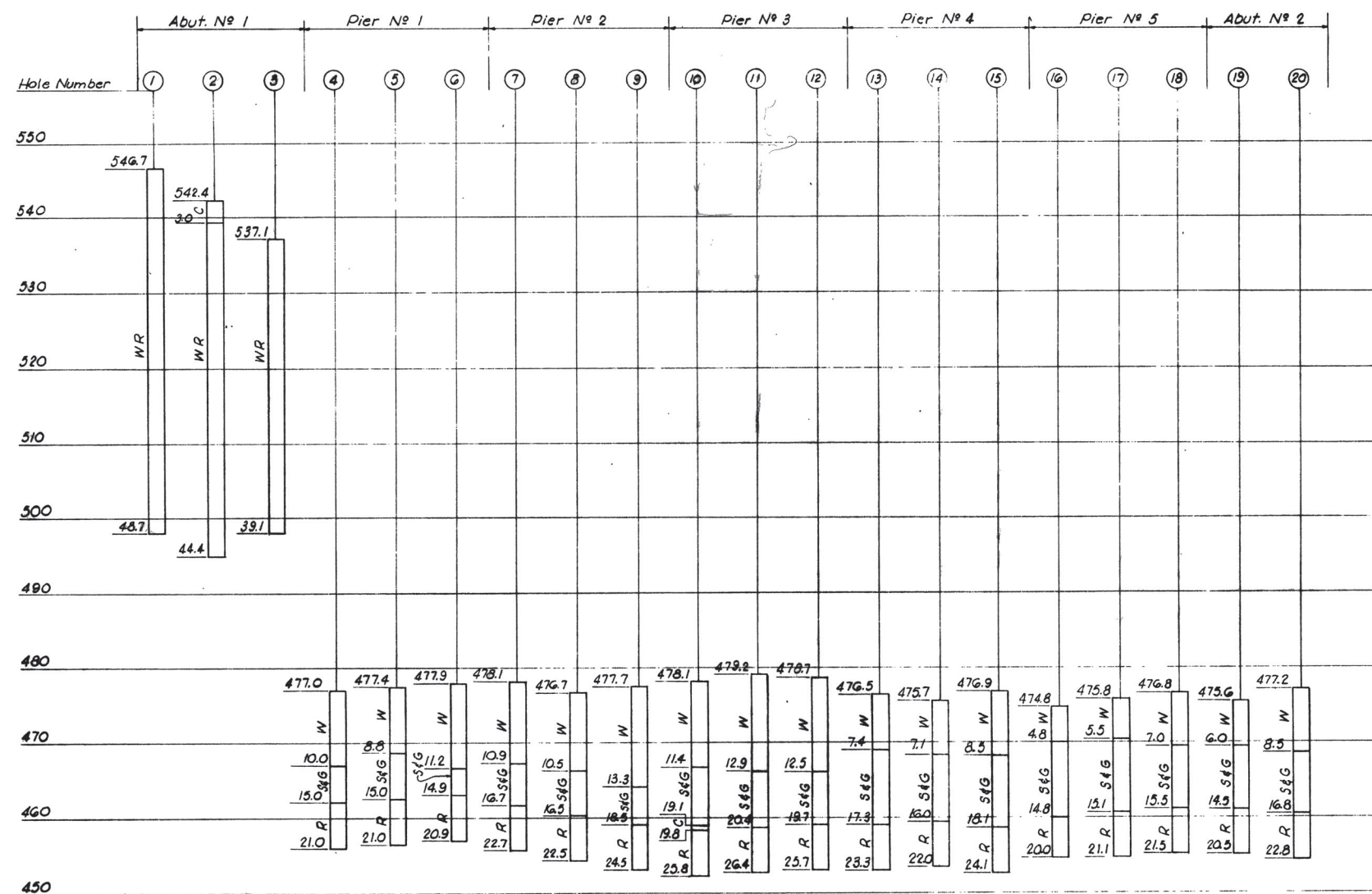
Scale 1\"/>

MID-SOUTH ENGINEERING CO., INC. 820 BROADWAY, N. E. KNOXVILLE, TENNESSEE	
BRIDGE OVER CANEY FORK RIVER - RIVER MILE 19.7 STA 466+15.27 - RIGHT LANE (EAST BOUND) (5A)	
LAYOUT OF BRIDGE	
STATE OF TENNESSEE DEPARTMENT OF HIGHWAYS AND PUBLIC WORKS NASHVILLE	
DR. R.W.R. CHK'D. RAH APP'D. KR	DATE 11-16-59
G-15-104	

REV 4-26-60
REV 4-18-60



PLAN-CORE DRILLING LAYOUT
(RIVER MILE 19.7 RT. LANE - EAST BOUND)



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.

LOG OF CORE BORINGS

MID-SOUTH ENGINEERING CO., INC. 820 BROADWAY, N. E. KNOXVILLE, TENNESSEE	
BRIDGE OVER CANEY FORK RIVER - RIVER MILE 19.7 STA. 465+93.0 RIGHT LANE (EAST BOUND)	
LAYOUT & LOG OF CORE BORINGS	
STATE OF TENNESSEE DEPARTMENT OF HIGHWAYS AND PUBLIC WORKS NASHVILLE	
DR. W.R.S. CHK'D. R.E. APP'D. R.E.	DATE 11-16-59
G-15-105	

Pier #1 Sta. 466+82.00
 Pier #2 Sta. 467+62.00
 Pier #3 Sta. 468+42.00
 NOTE: Refer to Drwg. G-15-110 for Bolt Projection

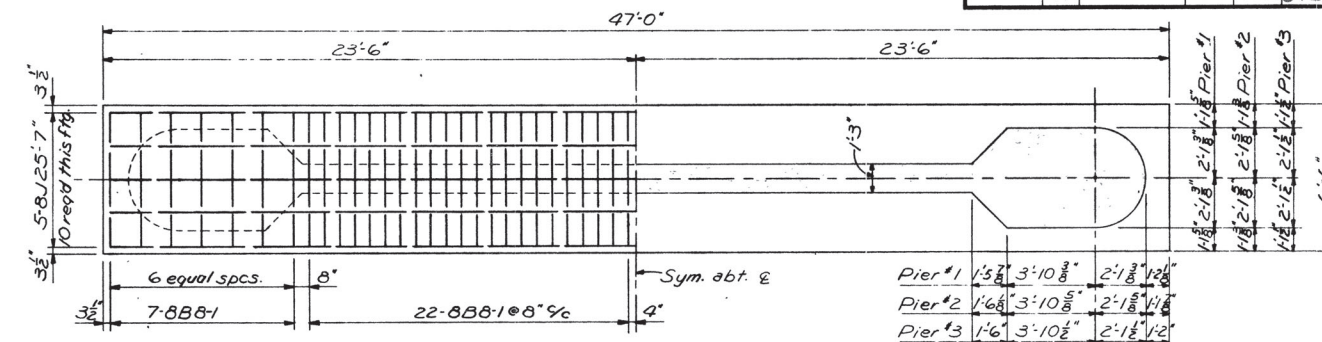
Dimensions and Notes:
 - Total width: 40'-5"
 - Girder spacing: 2'-10 3/8" (typical), 8'-8 1/8"
 - Bracing member size: 4" x 4" (typical)
 - Bracing angle: 45° and 30°
 - Anchor bolts: 1/4" diameter
 - Typical bracing at each girder bearing: 2" x 6"
 - Radius: 1'-9" R

	Pier #1	Pier #2	Pier #3
Class A Conc.-Cu. Yds.	165.3	169.0	167.4
Reinf. Steel-Lbs.	14,120	14,360	14,198

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

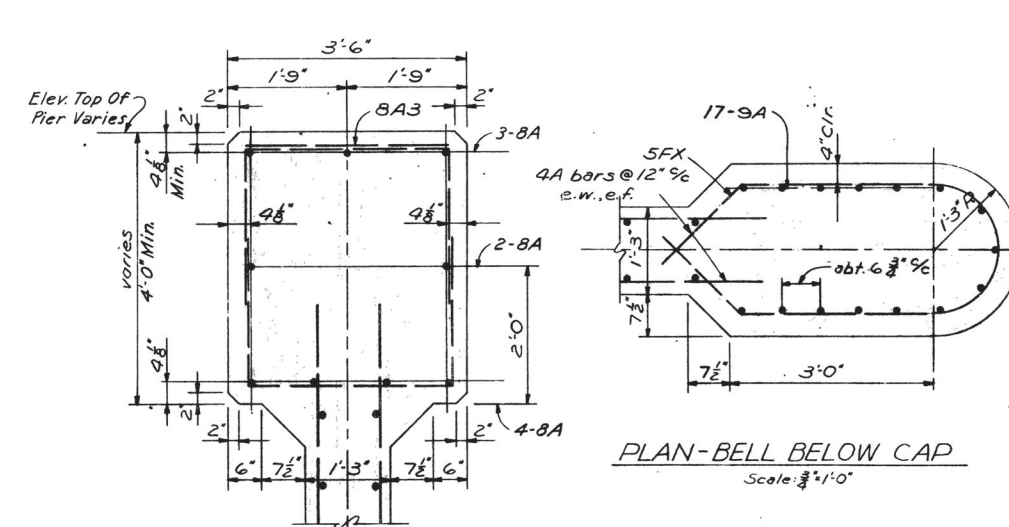
Scale: $\frac{1}{8}'' = 1'-0''$

40-5U7-8 @ 24" c/c
One half top, one half bottom



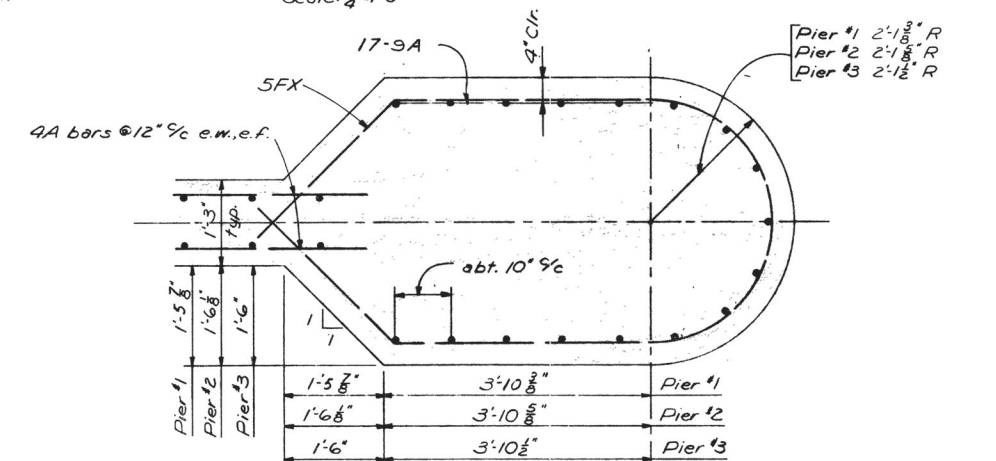
Scale: $\frac{1}{2}'' = 1'-0''$

Scale: $\frac{1}{2}'' = 1'-0''$



Scale: $\frac{3}{8}'' = 1'$

Scale: $\frac{3}{8}$ " = 1'



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

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

BRIDGE OVER CANEY FORK RIVER - RIVERMILE 19.7
STA 466+15.62 RIGHT LANE (EAST BOUND) (5A)

PIERS NOS. 1 2 & 3

DR. <u>JJF</u>	DATE _____	G-15-107
CHK'D <u>RAH</u>	_____	
APP'D <u>KR</u>	<u>11-16-59</u>	

DR. <u>JJF</u>	DATE _____	G-15-107
CHK'D <u>RAH</u>	_____	
APP'D <u>KR</u>	<u>11-16-59</u>	

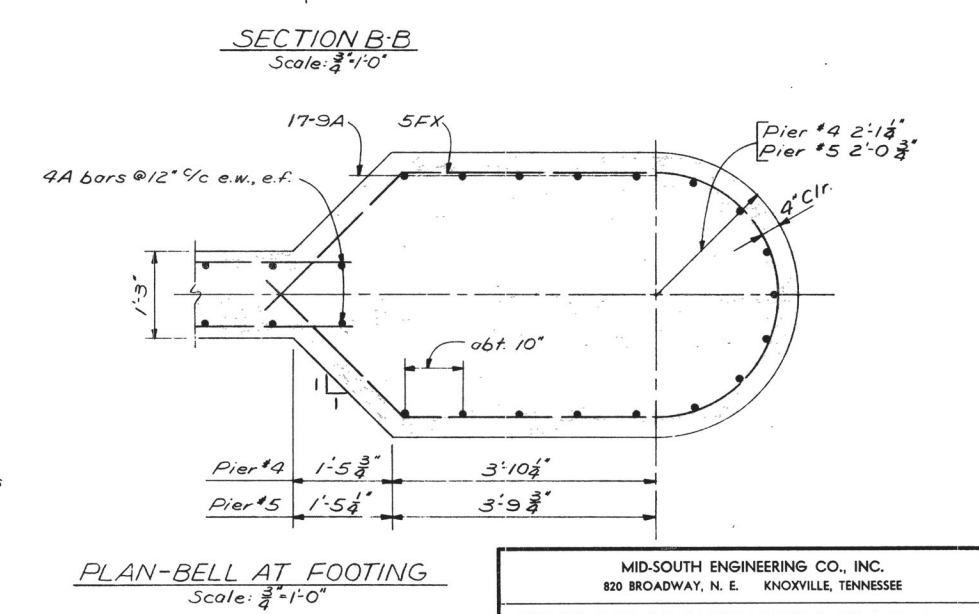
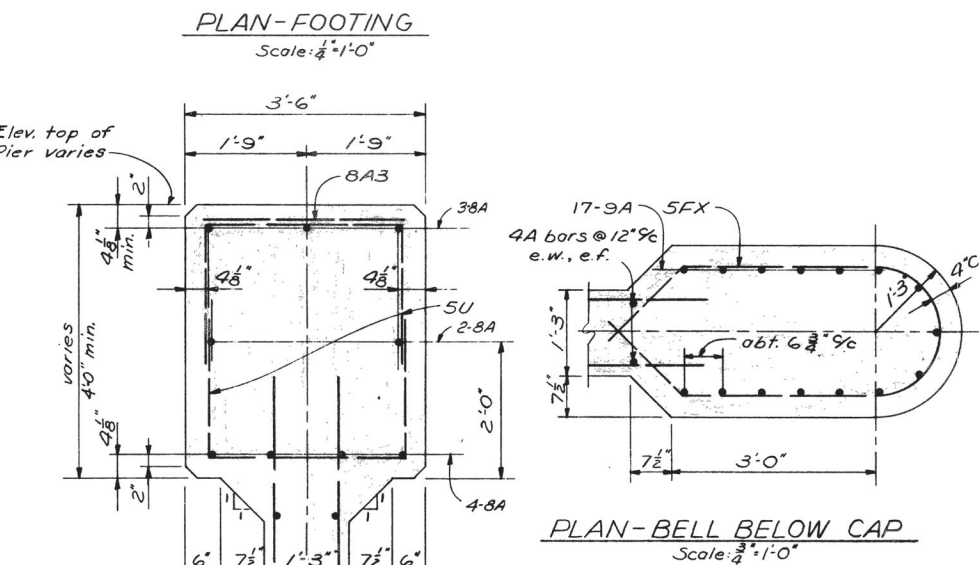
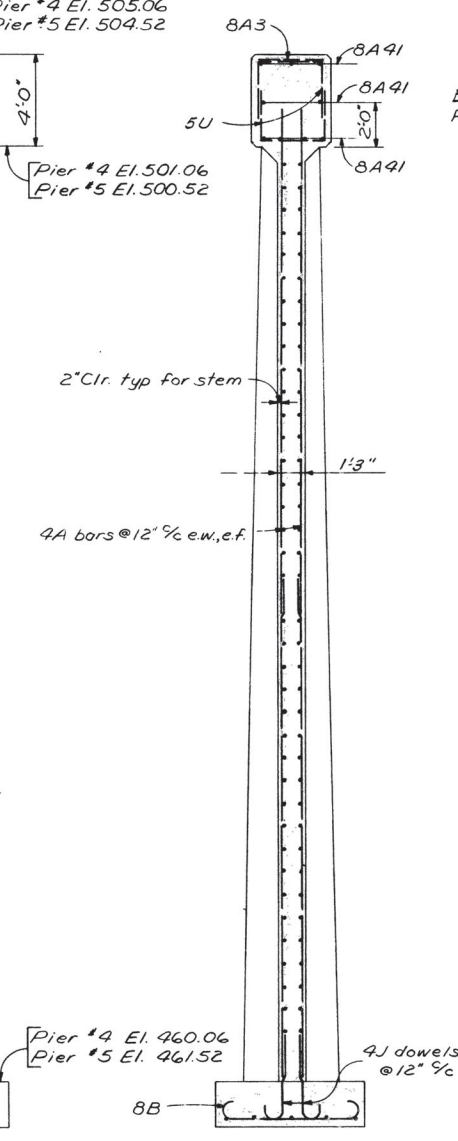
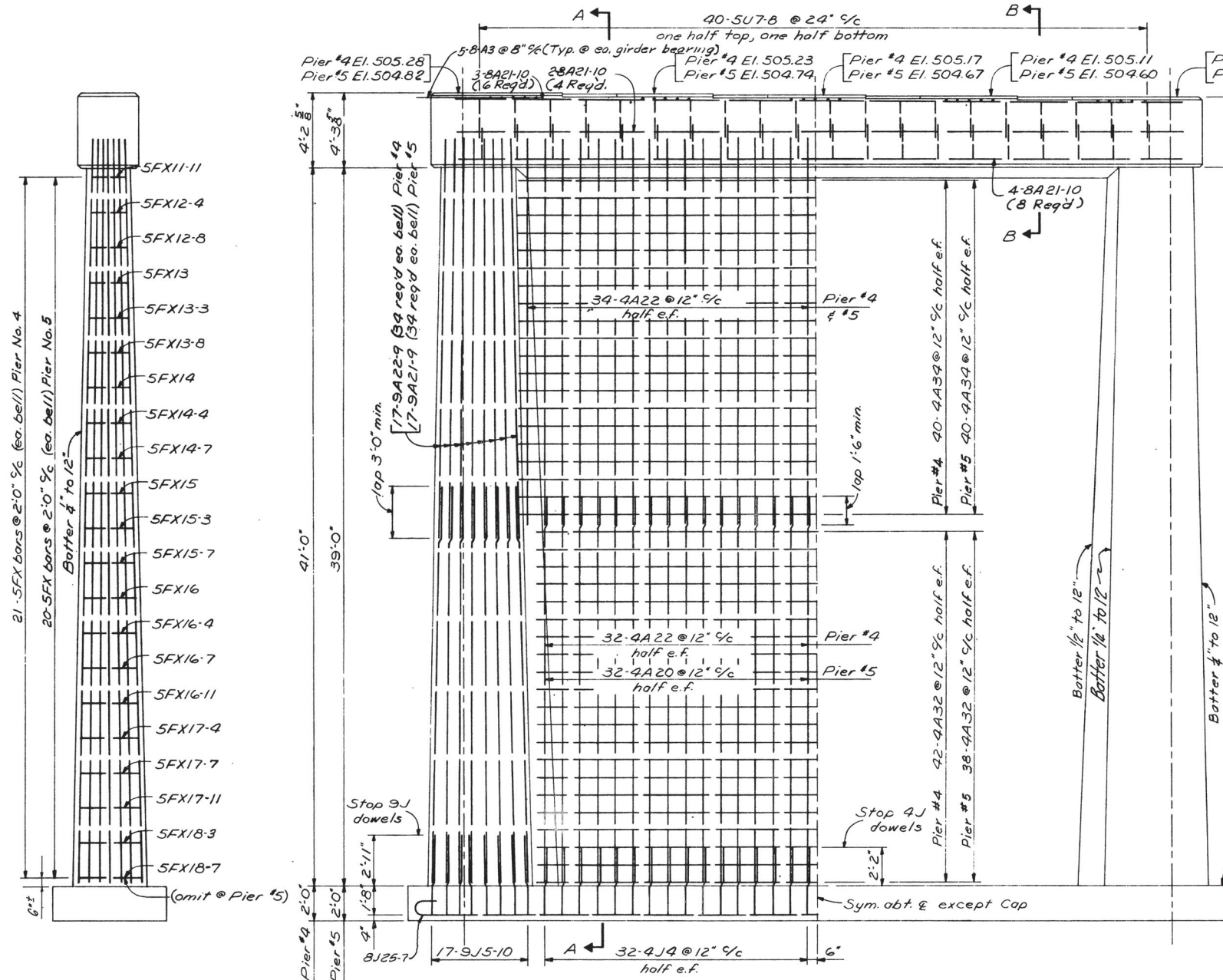
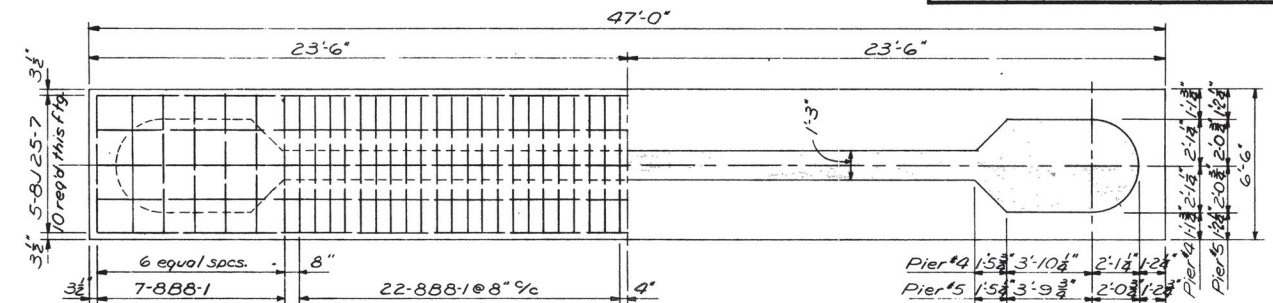
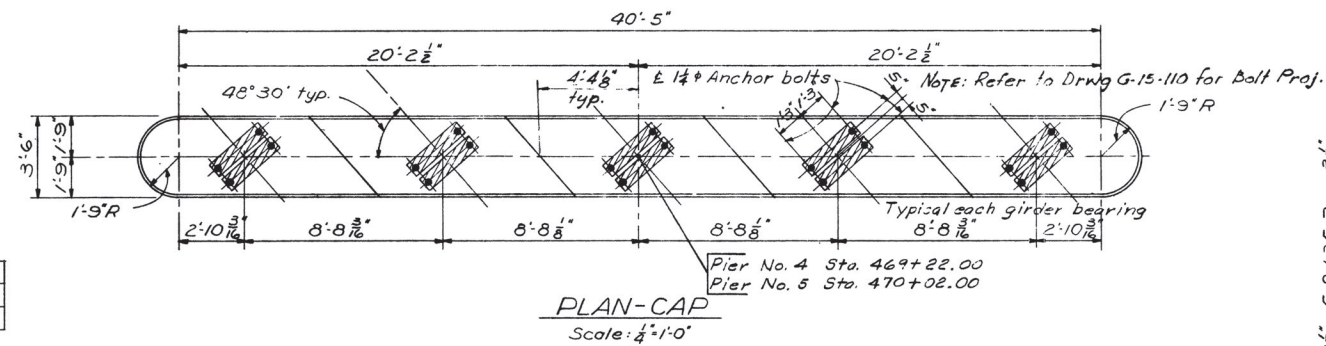
Rev. 8-22-60.

QUESTEN NO. 187 INKSTON

FED. ROAD DIST. No.	T E N N	FEDERAL AID PROJECT No.	FISCAL YEAR	SHEET No.	TOTAL SHEETS
3		I-405(9)264		118	372

ESTIMATED QUANTITIES

	Pier #4	Pier #5
Class A Conc. Cu.Yds.	164.0	157.3
Reinf. Steel Lbs.	14,039	13,597

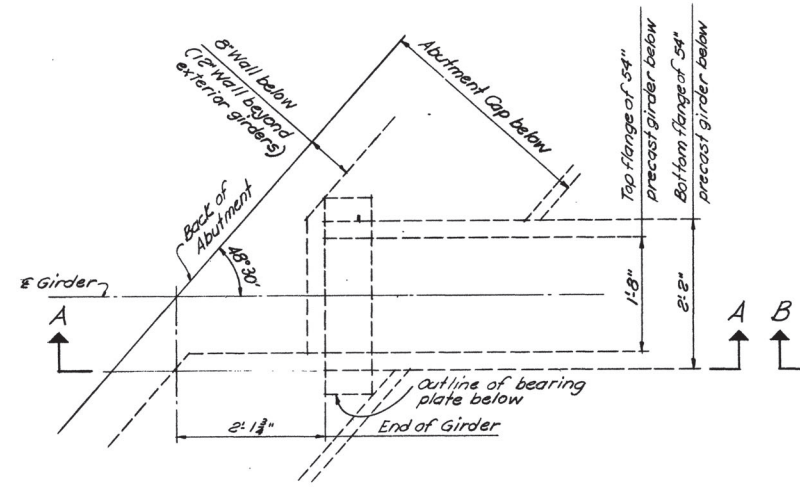


MID-SOUTH ENGINEERING CO., INC. 820 BROADWAY, N. E. KNOXVILLE, TENNESSEE	
BRIDGE OVER CANEY FORK RIVER RIVERMILE 19.7 STA. 466+16.52 RIGHT LANE (EAST BOUND) (5A)	
PIERS NOS. 4 & 5	
STATE OF TENNESSEE DEPARTMENT OF HIGHWAYS AND PUBLIC WORKS NASHVILLE	
DR. JJF	DATE
CHK'D. EAH	11.16.59
APP'D. NR	

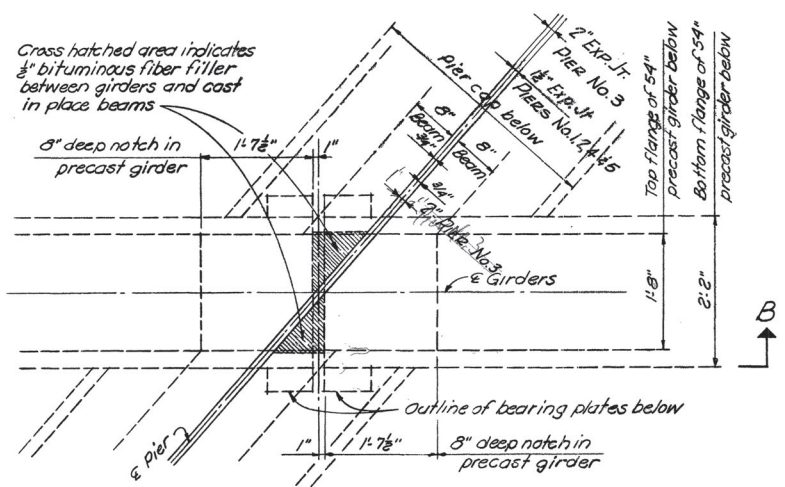
G-15-108

Rev. 8-22-60

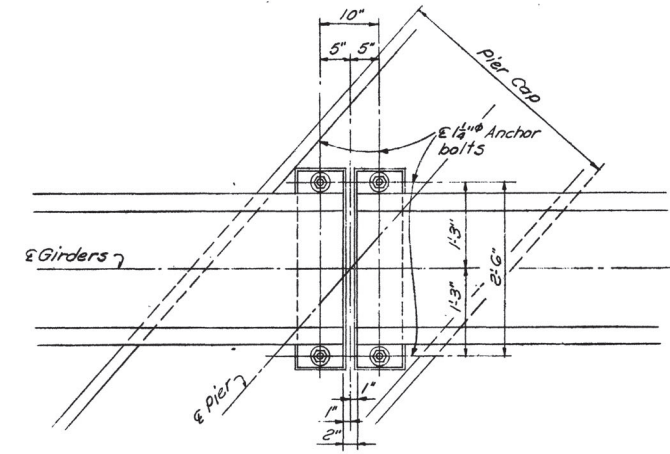
FED. ROAD DIST. No.	T E N N	FEDERAL AID PROJECT No.	FISCAL YEAR	SHEET No.	TOTAL SHEETS
3		I-40-5 (9) 264		119	372



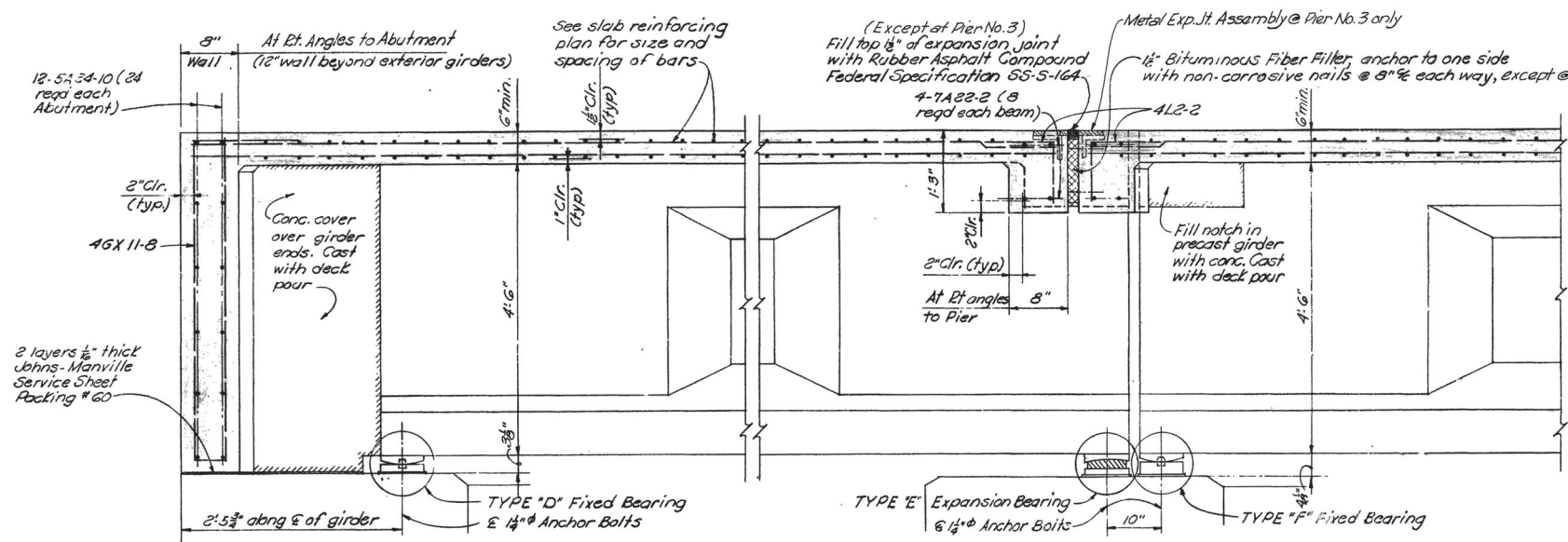
PLAN-SLAB ABOVE GIRDER
BEARING AT ABUTMENT



PLAN-SLAB ABOVE GIRDERS
BEARING AT PIERS



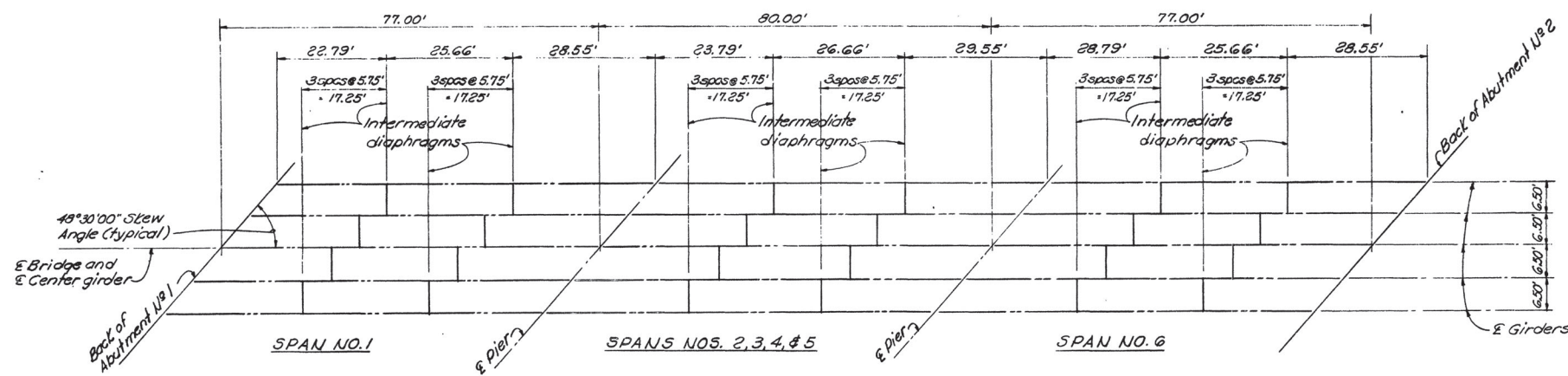
PLAN-GIRDERS
BEARING AT PIER



SECTION A-A

SECTION B-B

Note:
Pier No. 3 has double Exp. brng.
with Metal Exp. Jt. in slab. See
Dwg. G-15-59 for details.



PART PLAN-GIRDER AND DIAPHRAGM LAYOUT

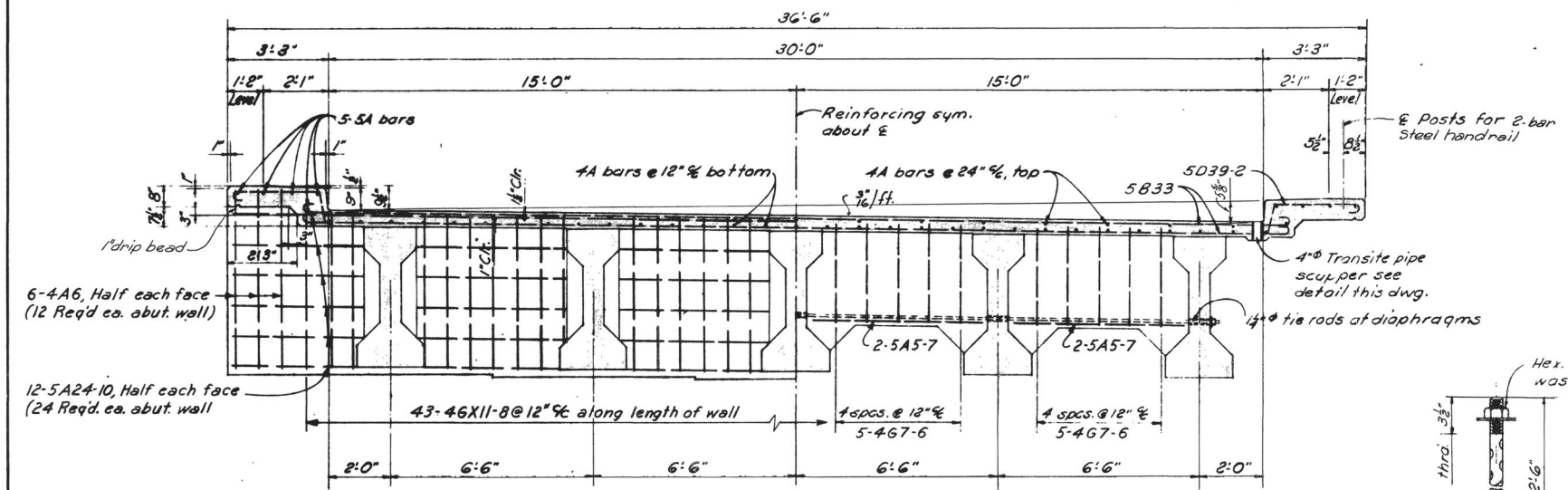
Scale: 1/4" = 1'-0"

Scale: 3/4" = 1'-0" Unless Otherwise Noted

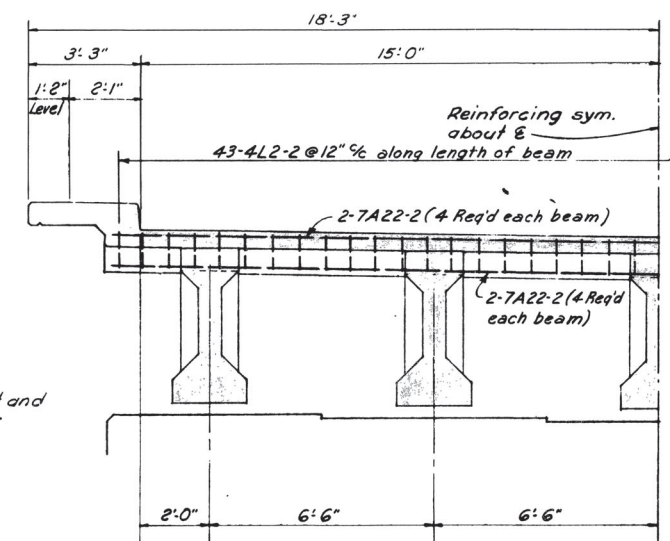
MID-SOUTH ENGINEERING CO., INC. 820 BROADWAY, N. E. KNOXVILLE, TENNESSEE	
BRIDGE OVER CANEY FORK RIVER - RIVER MILE 19.7 STA 466+15.62 - RIGHT LANE (EAST BOUND)(5A)	
SLAB AND GIRDER DETAILS	
STATE OF TENNESSEE DEPARTMENT OF HIGHWAYS AND PUBLIC WORKS NASHVILLE	
DR. R.A.H. CHK'D. K.R. APP'D. K.R.	DATE 11.16.59 G-15-109

REV. 4-19-60

EST. ROAD DIST. No.	FEDERAL AID PROJECT No.	FISCAL YEAR	SHEET No.	TOTAL SHEETS
3	I-40-5(9)264		120	172

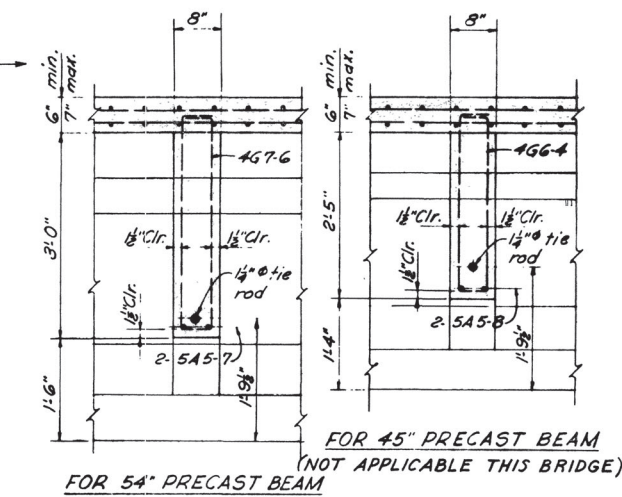


HALF-SECTION AT ABUTMENTS
Scale: 3/8"=1'-0"

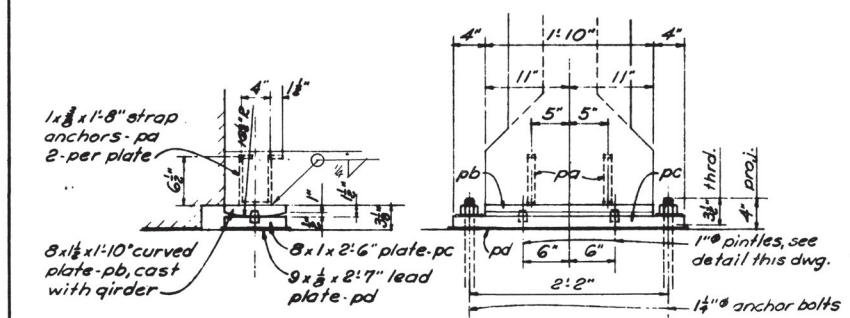


NOTE: Slab reinforcing omitted for clarity

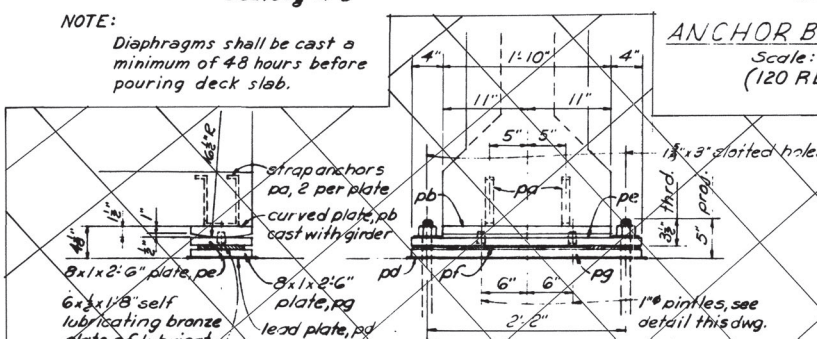
HALF SECTION AT BENTS OR PIERS
Scale: 3/8"=1'-0"



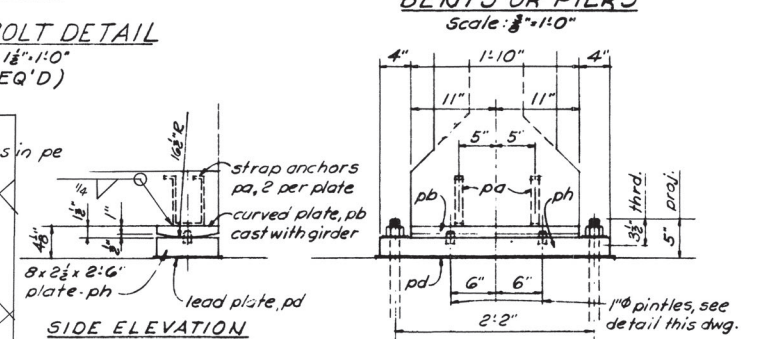
SECTION THRU INTERMEDIATE DIAPHRAGMS
Scale: 3/8"=1'-0"



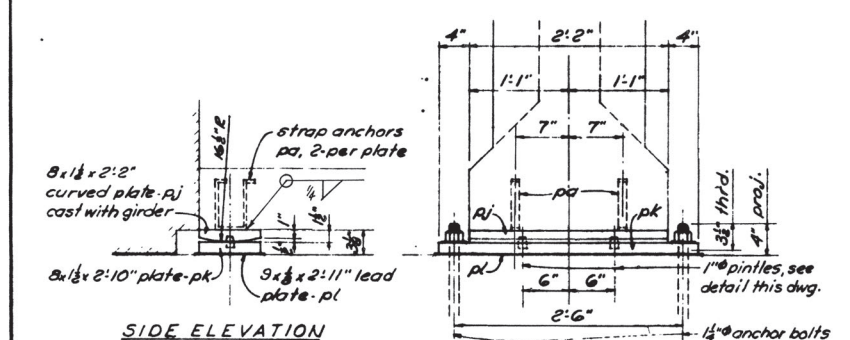
DETAILS-FIXED BEARING "A"
Scale: 1"=1'-0"
(NOT APPLICABLE THIS BRIDGE)



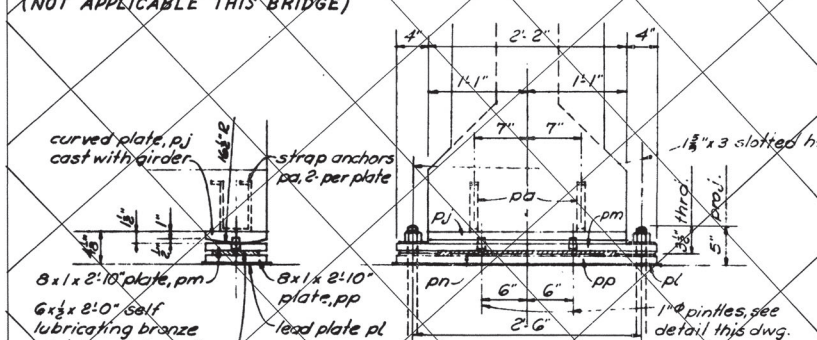
DETAILS-EXPANSION BEARING "B"
Scale: 1"=1'-0"
(NOT APPLICABLE THIS BRIDGE)



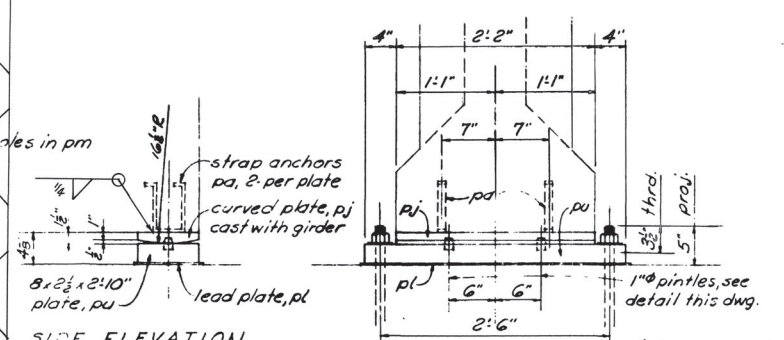
DETAILS-FIXED BEARING "C"
Scale: 1"=1'-0"
(NOT APPLICABLE THIS BRIDGE)



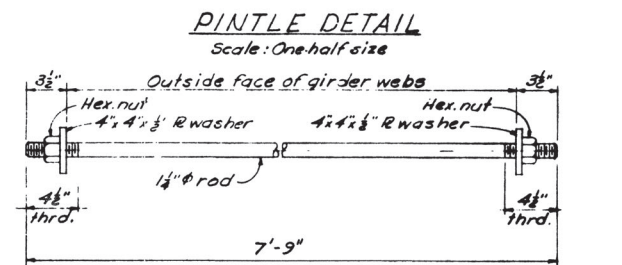
DETAILS-FIXED BEARING "D"
Scale: 1"=1'-0"



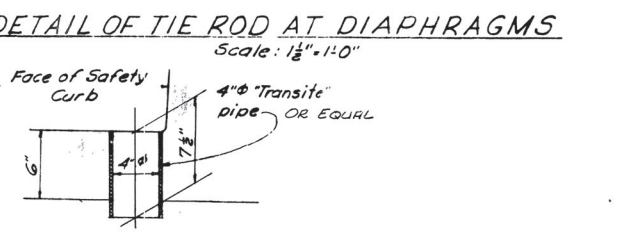
DETAILS-EXPANSION BEARING "E"
Scale: 1"=1'-0"



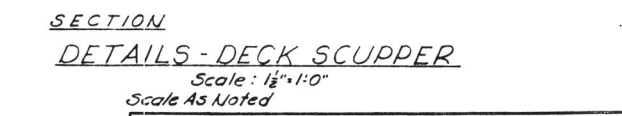
DETAILS-FIXED BEARING "F"
Scale: 1"=1'-0"



PINTLE DETAIL
Scale: One-half size



DETAIL OF TIE ROD AT DIAPHRAGMS
Scale: 1/2"=1'-0"



SECTION DETAILS-DECK SCUPPER
Scale: 1/2"=1'-0"
Scale As Noted

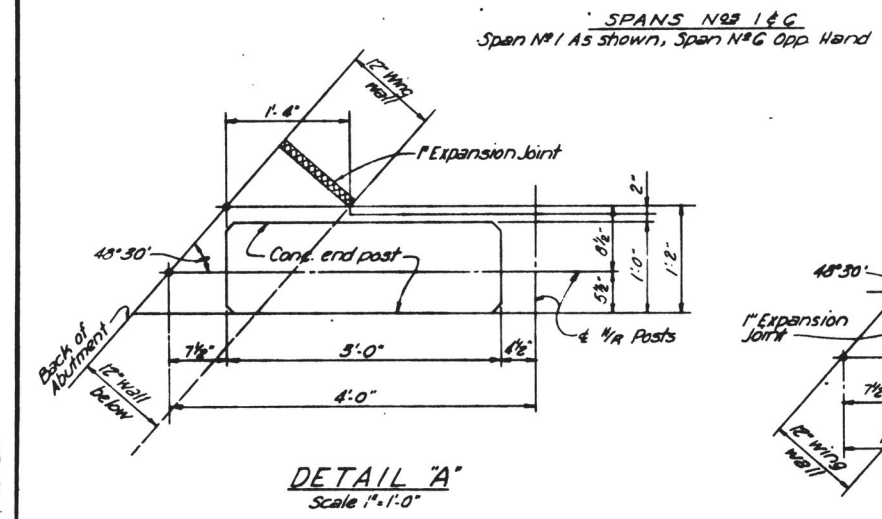
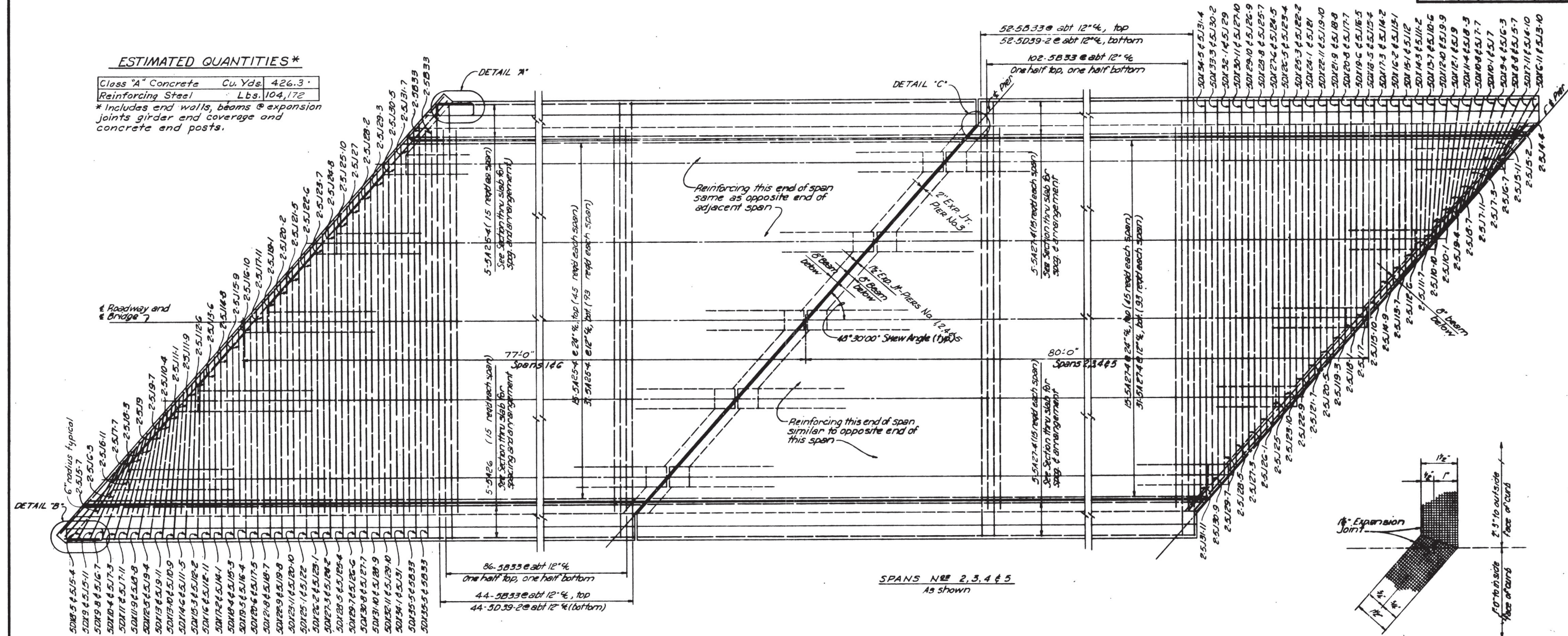
MID-SOUTH ENGINEERING CO., INC. 820 BROADWAY, N. E. KNOXVILLE, TENNESSEE				
BRIDGE OVER CANEY FORK RIVER; RIVER MILE STA. 466+15.62 RIGHT LANE (EAST BOUND)(5A)				
SUPERSTRUCTURE AND GIRDER BEARING DETAILS				
STATE OF TENNESSEE DEPARTMENT OF HIGHWAYS AND PUBLIC WORKS NASHVILLE				
DR. R.A.H.	DATE	G-15-110		
CHK'D. H.R.				
APP'D. H.R.	11-16-59			

FED. ROAD DIST. No.	T E Z	FEDERAL AID PROJECT No.	FISCAL YEAR	SHEET No.	TOTAL SHEETS
3	Z	1-40-5(2)264		121	372

ESTIMATED QUANTITIES*

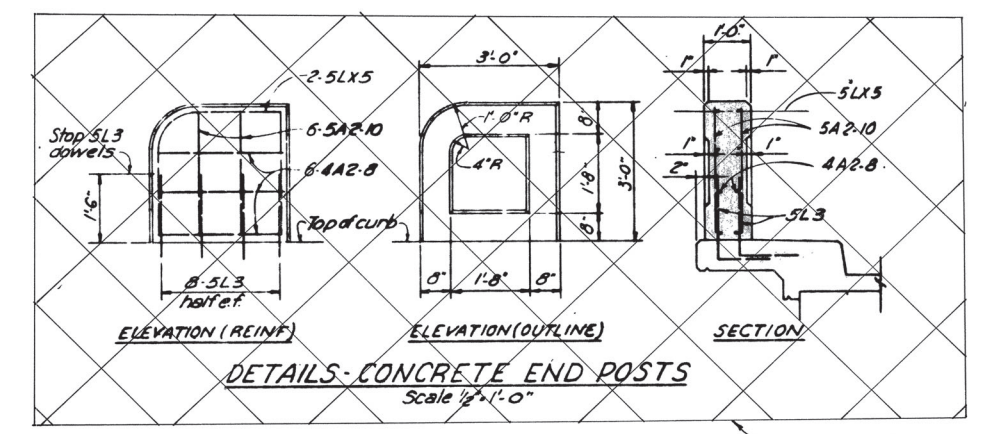
Class "A" Concrete	Cu. Yds. 426.3
Reinforcing Steel	Lbs. 104,172

* Includes end walls, beams @ expansion joints girder end coverage and concrete end posts.



PART PLAN - SLAB REINFORCING
Scale 1/4" = 1'-0"

DETAIL 'C' - EXPANSION JOINT IN SAFETY CURB
Scale: One half full size



DETAILS - CONCRETE END POSTS
Scale 1/2" = 1'-0"

Scale as noted

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

BRIDGE OVER CANEY FORK RIVER-RIVER MILE 19.7
STA. 466+15.62 RIGHT LANE (EAST BOUND) (5A)

SLAB REINFORCEMENT AND DETAILS

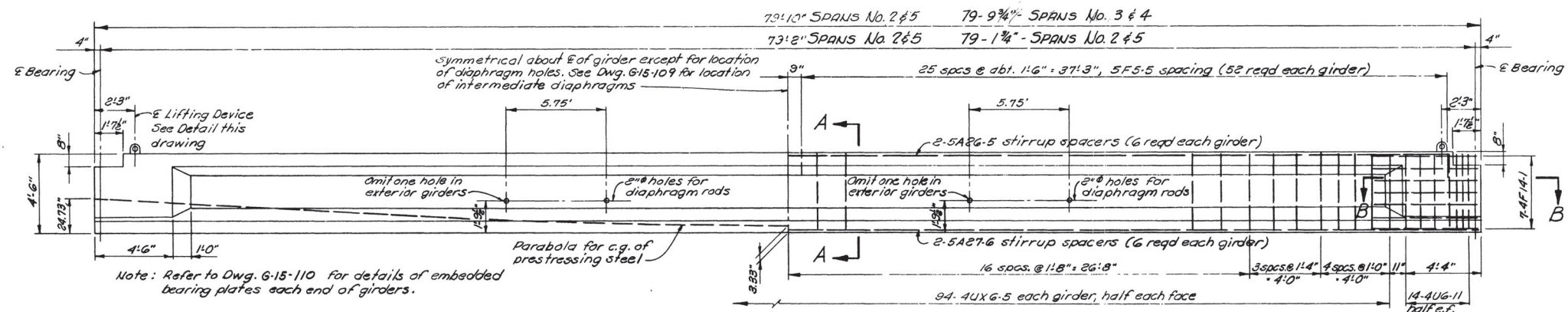
STATE OF TENNESSEE
DEPARTMENT OF HIGHWAYS
AND PUBLIC WORKS
NASHVILLE

DR. R.M.P. DATE
CHKD. R.A.H. 11-16-59
APPD. R.D.

G-15-III

REV. 4-19-60

"VOID"
See Dwg. G-15-42 for new detail

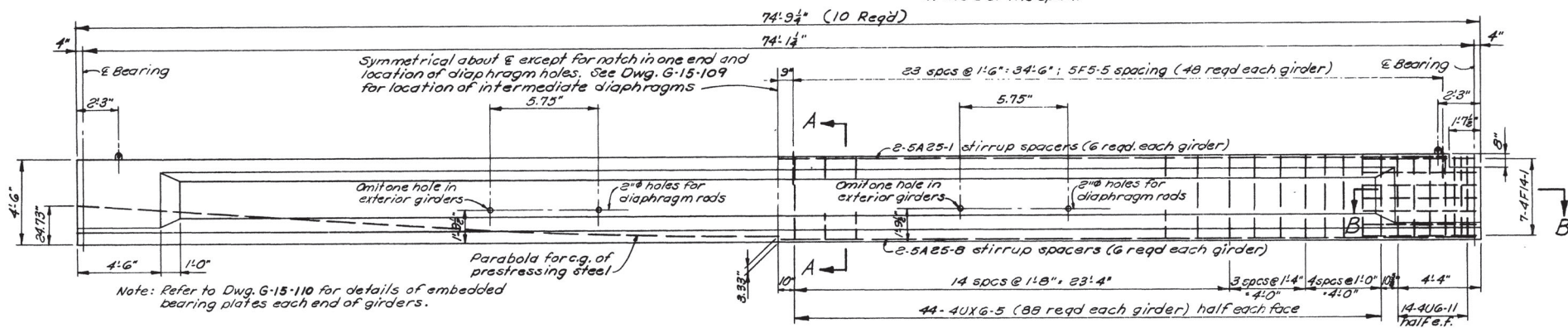


ELEVATION-INTERIOR SPAN GIRDERS (TYPE IV A.A.S.H.O. "I")

Approx. wt. each girder = 34.5 tons
Scale: 1/4" = 1'-0"
20 REQD.

INTERIOR SPAN GIRDER NOTES:

1. Type Unit: 18 x 0.136 (18-0.136" diameter high tension wires anchored in each unit). 9 units required each girder.
2. The initial prestressing force shall be 866,250 lbs. (96,250 lbs. each unit) this is based on assumed losses of 20% due to creep, shrinkage, elastic deformation and cable friction losses. An amount sufficient to allow for the anchorage losses as determined by test, shall be added to the initial prestressing force.
3. The final prestressing force shall be 693,000 lbs. (77,000 lbs. each unit) at the $\bar{c}$ of the span.



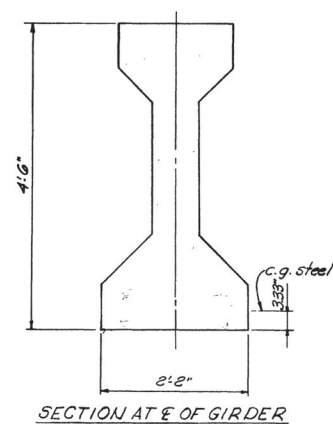
ELEVATION-END SPAN GIRDERS (TYPE IV A.A.S.H.O. "I")

Approx. wt. each girder = 32.5 tons
Scale: 1/4" = 1'-0"

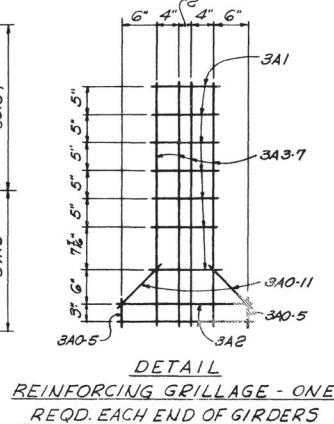
ESTIMATED QUANTITIES

5000 psi Concrete	Cu. Yds.	499.4
Hi. tensile reinf. steel	Lbs.	39,015
Reinforcing Steel	Lbs.	38,812
* Structural Steel	Lbs.	22,387

* Includes bearing plates, tie rods and lifting devices

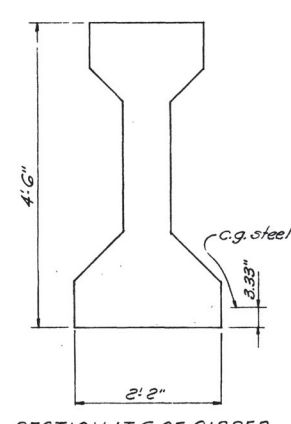


ELEVATION AT
END OF GIRDER

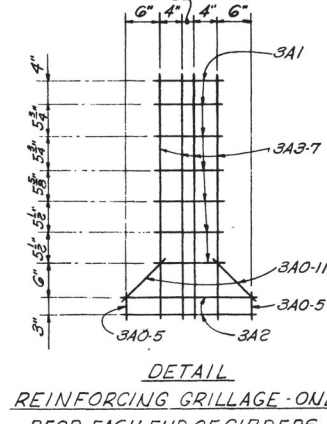


PRESTRESSING STEEL DETAILS FOR END SPAN GIRDERS

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

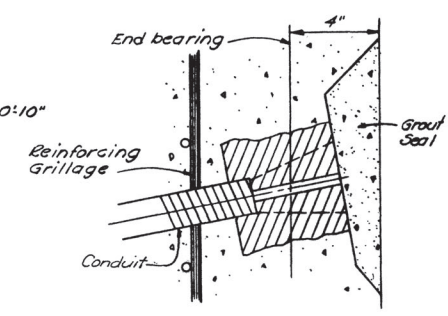
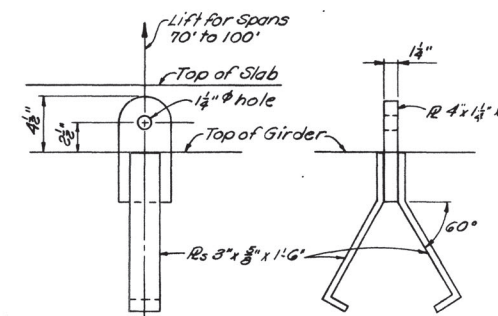
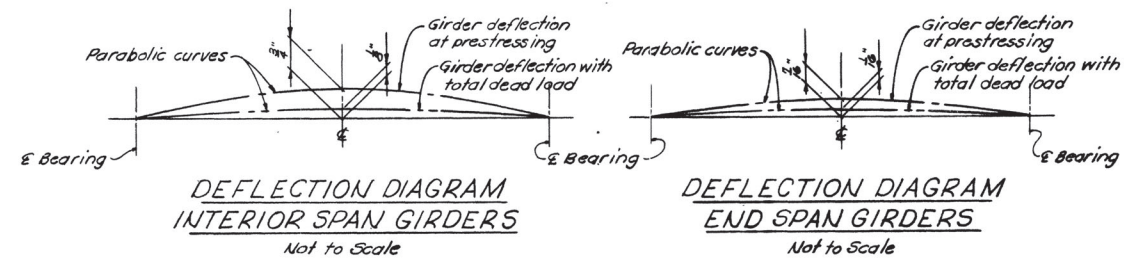
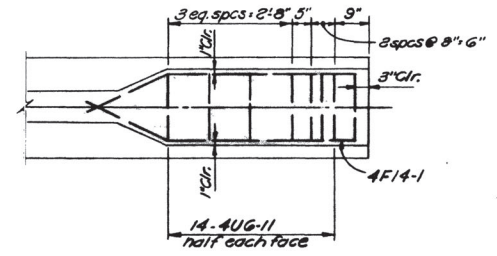
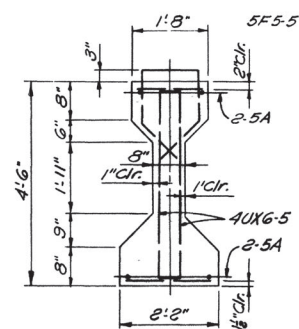


ELEVATION AT
END OF GIRDER



PRESTRESSING STEEL DETAILS FOR INTERIOR SPAN GIRDERS

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



GENERAL GIRDER NOTES:

1. Details are for parallel wire.
2. The following information shall be submitted to the Engineer for approval: The proposed type of tendons which will be used in post-tensioning the sections; all necessary additional details, including those for anchorage, methods to be employed, procedures to be followed and the total rebred post-tension force for each girder, including allowances for all losses.
3. The tops of all girders shall be artificially roughened to insure bond with the concrete slab.
4. Allow 25 lb/sq. ft. dead load for future wearing surface.

Scale as Noted

MID-SOUTH ENGINEERING CO., INC. 820 BROADWAY, N. E. KNOXVILLE, TENNESSEE	
BRIDGE OVER CAHEY FORK RIVER - RIVER MILE 19.7 STA. 466+15.62 - RIGHT LANE (EAST BOUND) (5A)	
PRESTRESSED GIRDER DETAILS	
STATE OF TENNESSEE DEPARTMENT OF HIGHWAYS AND PUBLIC WORKS NASHVILLE	
DR. R.S. & E.A.H. CHK'D. R.P. APP'D. R.P.	DATE 11/16-59
G-15-112	

