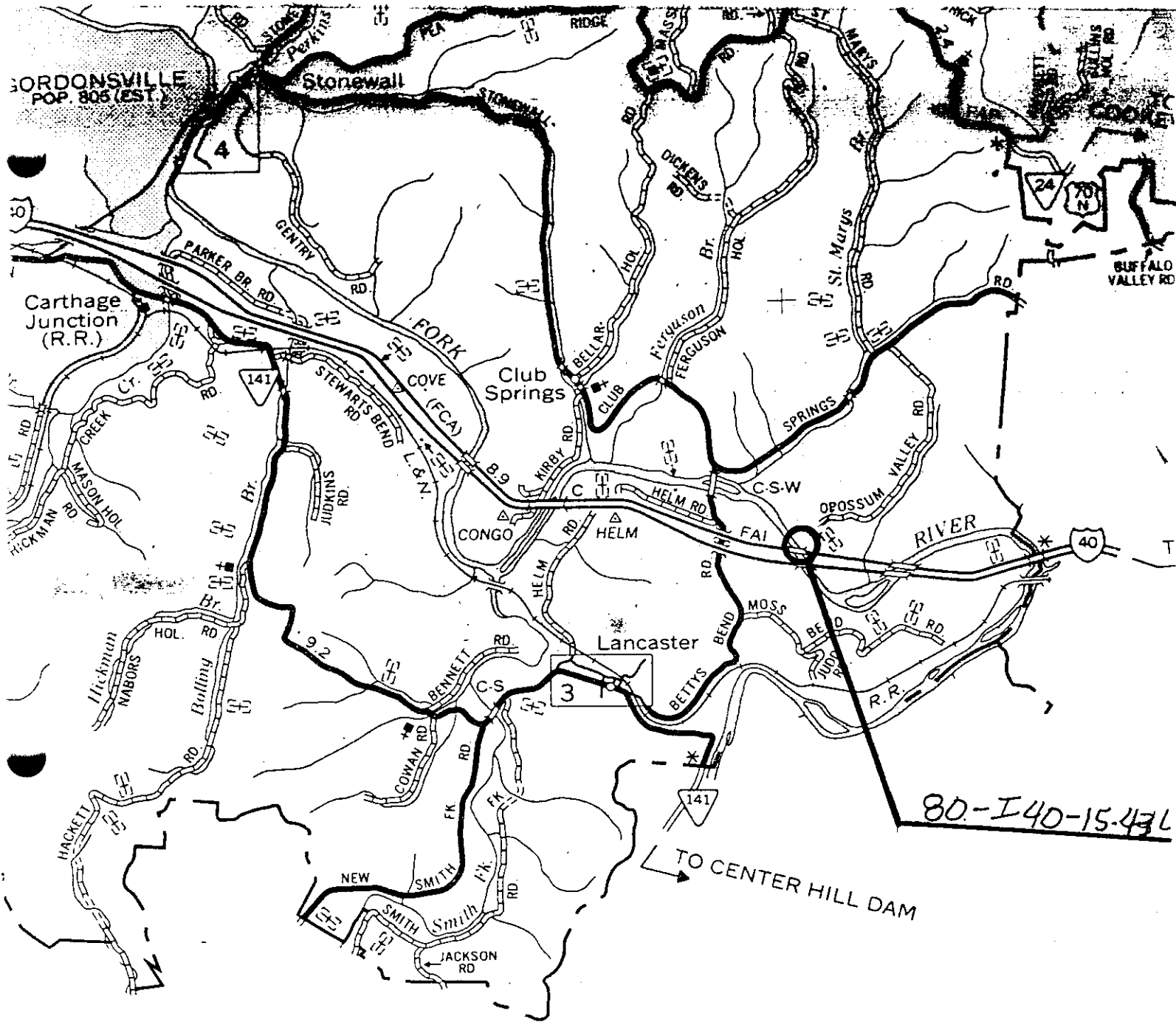




COUNTY

Bridge Maintenance Recommendations

Page No. _____

Page 1 of 1

Bridge Location No.: 80 - I0040 - 15.43 L

Co. Route Log Mile

Crossing: CANEY FORK RIVER *

Bridge Rating: GOOD

Inspection Cycle: 16

Inspection Date: 4/25/2003

Comments:

Bridge Number: 80I00400032

County: Smith

Region: 03

District: 32

Maint.Resp.: 01

Spec.Case: 0

Co.Seq: 01

Maintenance Recommendations:

Maintenance Completed

By / Date

REPAIR DIAPHRAGMS.

REPAIR BREAKOUT IN DECK SPAN #5.

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 - 15.43 L

Co. Route Log Mile

Crossing: CANEY FORK RIVER *

Bridge Rating: GOOD

Inspection Cycle: 15

Inspection Date: 6/13/01

Bridge Number: 80I00400032

County: Smith

Region: 03

District: 32

Maint.Resp.: 01

Spec.Case: 0

Co.Seq: 01

Comments: REPAIR BREAKOUT IN DECK SPAN #5. ALSO REPAIR DIAPHRAGMS.

Maintenance Recommendations:

Maintenance Completed

By / Date

XXXXXXXXXXXX

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. : 80I00400032

BRIDGE NO. : 80 - I0040 - 1543 - L
OVER : CANEY FORK RIVER *

DATE : 06/21/99 BRIDGE RATING : GOOD COUNTY : Smith
CO. SEQ. : 01 INSPECTION CYCLE : 14 MAINT DIST : 32
SPEC. CASE : 1 INSPECTION DATE : 06/21/99 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 : 005
046 - SPANS, APPROACH : 0000
049 - STRUCTURE LENGTH : 000395
032 - APPROACH ROADWAY WIDTH : 038
034 - SKEW : 50
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 XXXXXXXXXXXX

: MAINTENANCE COMPLETED :

1 BY _____ DATE _____

: COMMENTS FOR BRIDGE SEQ. NO. : 80I00400032 :

REPAIR BREAKOUT IN DECK SPAN #5. ALSO REPAIR DIAPHRAGMS.

COMPLETION NOTIFICATION : RETURN WITHIN 6 MONTHS OF INSPECTION DATE

MAINTENANCE ACTIVITIES ARE

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

EXPLANATIONS AND COMMENTS:



STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

Bridge Condition Coding Form

Revised 06/15/2000

Bridge Number: 80I004000321
(Includes Item 5A)

Feature Intersected: CANEY FORK RIVER

County: 80
Route: 10040
Special Case: 0
County Sequence: 01
Log Mile: 15.43

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>4/25/2003</u>	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.
36	TRAFFIC SAFETY FEATURES		5 FAIR CONDITION - ALL PRIMARY STRUCTURAL ELEMENTS ARE SOUND BUT MAY HAVE MINOR SECTION LOSS, CRACKING, SPALLING OR SCOUR.
	Br. Rail Trans. Appr. Rail Appr. Rail Ends		
	1 1 1 1		
41	STRC OPEN/CLOSED/POSTED	A	4 POOR CONDITION - ADVANCED SECTION LOSS, DETERIORATION, SPALLING OR SCOUR.
	A K P		
58	DECK	<u>8</u>	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.
		<u>7</u>	
59	SUPERSTRUCTURE	<u>7</u>	

60	SUBSTRUCTURE	<u>7</u>	

61	CHANL/CHANL PROTECTION	<u>7</u>	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.

62	CULVERT AND RETAIN WALL	<u>N</u>	

71	WATERWAY ADEQUACY	<u>7</u>	

72	APPROACH RDWY ALIGNMENT (USE VALUES OF 3, 6, OR 8)	<u>8</u>	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.

521	OVERALL CONDITION (Circle One)		

Gilbert Wayne Hunter
TEAM LEADER SIGNATURE

4/25/2003
REVIEW DATE

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



STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

Bridge Condition Coding Form

Revised 06/15/2000

Bridge Number: 80I004000321
(Includes Item 5A)

Feature Intersected: CANEY FORK RIVER

County: 80
Route: 10040
Special Case: 0
County Sequence: 01
Log Mile: 15.43

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>06/21/1999</u>	
		<u>6113101</u>	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.
36	TRAFFIC SAFETY FEATURES		5 FAIR CONDITION - ALL PRIMARY STRUCTURAL ELEMENTS ARE SOUND BUT MAY HAVE MINOR SECTION LOSS, CRACKING, SPALLING OR SCOUR.
	Br. Rail Trans. Appr. Rail Appr. Rail Ends		4 POOR CONDITION - ADVANCED SECTION LOSS, DETERIORATION, SPALLING OR SCOUR.
	1 1 1 1		3 SERIOUS CONDITION - LOSS OF SECTION, DETERIORATION, SPALLING OR SCOUR HAVE SERIOUSLY AFFECTED PRIMARY STRUCTURAL COMPONENTS. LOCAL FAILURES ARE POSSIBLE. FATIGUE CRACKS IN STEEL OR SHEAR CRACKS IN CONCRETE MAY BE PRESENT.
41	STRC OPEN/CLOSED/POSTED	A	2 CRITICAL CONDITION - ADVANCED DETERIORATION OF PRIMARY STRUCTURAL ELEMENTS. FATIGUE CRACKS IN STEEL OR SHEAR CRACKS IN CONCRETE MAY BE PRESENT OR SCOUR MAY HAVE REMOVED SUBSTRUCTURE SUPPORT. UNLESS CLOSELY MONITORED IT MAY BE NECESSARY TO CLOSE THE BRIDGE UNTIL CORRECTIVE ACTION IS TAKEN.
	A K P		1 "IMMINENT" FAILURE CONDITION - MAJOR DETERIORATION OR SECTION LOSS PRESENT IN CRITICAL STRUCTURAL COMPONENTS OR OBVIOUS VERTICAL OR HORIZONTAL MOVEMENT AFFECTING STRUCTURAL STABILITY. BRIDGE IS CLOSED TO TRAFFIC BUT CORRECTIVE ACTION MAY PUT BACK IN LIGHT SERVICE.
58	DECK	8	0 FAILED CONDITION - OUT OF SERVICE AND BEYOND CORRECTIVE ACTION.
59	SUPERSTRUCTURE	7	
60	SUBSTRUCTURE	7	
61	CHANL/CHANL PROTECTION	7	
62	CULVERT AND RETAIN WALL	N	
71	WATERWAY ADEQUACY	7	
72	APPROACH RDWY ALIGNMENT (USE VALUES OF 3, 6, OR 8)	8	
521	OVERALL CONDITION (Circle One)		
	GOOD FAIR POOR CRITICAL		
	<u>GOOD</u>		
	<u>6113101</u>		
	TEAM LEADER SIGNATURE	REVIEW DATE	



STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

Bridge Condition Coding Form

County: 80

Route: 10040

Special Case: 0

County Sequence: 1

Log Mile: 15.43

Bridge Number:
(Includes Item 5A) 80I004000321

Feature Intersected: CANEY FORK RIVER

CODE ONLY THOSE NUMBERS WHICH HAVE CHANGED

ITEM #	DESCRIPTION	VALUE	COMMENTS
90	INSPECTION DATE	5/1/97	RATINGS FOR CODING ITEMS 58, 59, 60 AND 62
		6/21/99	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	8	
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		
	GILBERT WAYNE HARDEN	6/21/99	
	SIGNATURE	DATE	

Bridge No.: 80 — 10040 — 1543
Crossing: CANEY FORK RIVER *
Federal No.: 80I00400032

Date:

April 25, 2003

PIC1



VIEW ACROSS DECK FROM B-APPR

Bridge No.: 80 — I0040 — 1543
Crossing:: CANEY FORK RIVER *
Federal No 80I00400032

Date:

April 25, 2003

PIC2



INLET-ELEV

PIC3



BRIDGE NO. AT ABUTMENT # 1

Bridge No.: 80 — 10040 — 1543
Crossing:: CANEY FORK RIVER *
Federal No.: 80I00400032

Date:

June 13, 2001

PIC1



INLET-ELEV

Bridge No.: 80 — 10040 — 1543
Crossing:: CANEY FORK RIVER *
Federal N 80I00400032

Date:

June 13, 2001

PIC2



VIEW ACROSS DECK

PIC3

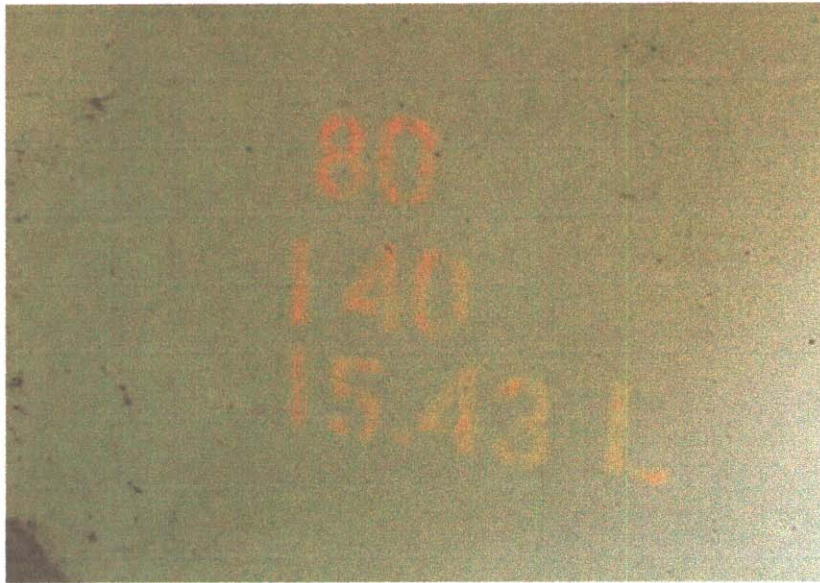


BRIDGE NO. AT ABUTMENT # 1

Bridge No.: 80 — 10040 — 1543
Crossing:: CANEY FORK RIVER *
Federal No.: 80I00400032

Date: June 21, 1999

PIC6



BRIDGE NO. AT ABUTMENT # 1

PIC7



ABUTMENT TYPICAL

Bridge No.: 80 — 10040 — 1543
Crossing:: CANEY FORK RIVER *
Federal No.: 80100400032

Date:

June 21, 1999

PIC1



ACROSS TOP OF DECK

Bridge No.: 80 — 10040 — 1543
Crossing: CANEY FORK RIVER *
Federal No 80100400032

Date:

June 21, 1999

PIC2



APPROACH #1

PIC3



APPROACH #2

Bridge No.: 80 — 10040 — 1543
Crossing: CANEY FORK RIVER *
Federal No.: 80I00400032

Date:

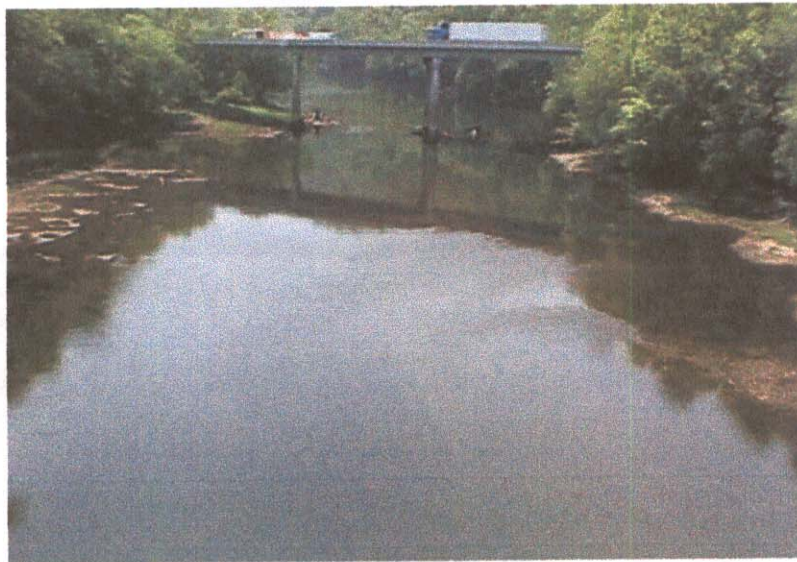
June 21, 1999

PIC4



DOWNSTREAM

PIC5



UPSTREAM

Bridge No.: 80 — I0040 — 1543
Crossing:: CANEY FORK RIVER *
Federal No.: 80I00400032

Date: June 21, 1999

PIC8



PIER TYPICAL

PIC9



SPAN #2 EXPOSED REBAR BETWEEN 'C' AND 'D'

Bridge No.: 80 — 10040 — 1543
Crossing: CANEY FORK RIVER *
Federal No.: 80I00400032

Date: June 21, 1999

PIC10



BOTTOM OF DECK

PIC11



ELEVATION INLET

ROUTINE BRIDGE INSPECTION REPORT

Page No. _____

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

Field Report No. 16 Date 4-25-2003
Previous Report No. 15 Date 6/13/2001
Plans: Yes

Bridge No. 80I00400032
Eleven Digit No.

Bridge Location No. 80 - I0040 - 15.43 L
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

Crutcher

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)

<u>G</u>	
<u>G</u>	
<u>G</u>	
<u>G</u>	
<u>F</u>	<u>2" deep spalls</u>
<u>G</u>	
<u>G</u>	
<u>NV</u>	
<u>G</u>	
<u>G</u>	
<u>G</u>	

UNDERWATER INSPECTION

To Be Performed By: None required

Date Underwater Insp. _____

BRIDGE is: Good

COMMENTS:

Weight Limit Posted NO

Gross..... Tons

2 Axle..... Tons

3 or more Axles.. Tons

Supervising Bridge Inspector:

Wayne Hunter

BRIDGE RATING: GOOD

SUMMARY
80-I40-15.43 LT LANE
4/25/2003

I40/Caney Fork River
5 Span/P.P.C.I.B.

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

The wearing surface is good. The drains are good. Expansion joint is good. The bottom deck is good, but there was a 1 ½" deep breakout with exposed steel in span #5. The bottom deck has random transverse hair cracks with efflorescence. Bearing devices are good, along with beams and alignment of members. Diaphragms have some 2" deep spalls and are rated fair. Sub-structure units are in good condition. There is no problem with debris build-up or 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 6/21/99
Previous Report No. 15 Date 6/13/99
Plans: Yes

Bridge No. 80I00400032
Eleven Digit No. I-40

Bridge Location No. 80 - I0040 - 15.43 L
Co. Route Log Mile

Road Name over CANEY FORK RIVER *
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	
G	
G	
G	
F	2" deep spalls
G	
G	
NV	
G	
G	
G	

UNDERWATER INSPECTION

To Be Performed By: NONE required

Date Underwater Insp.

BRIDGE is: open

COMMENTS:

Weight Limit Posted NO

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

Supervising Bridge Inspector: Wilbert Wayne Hunter

BRIDGE RATING: GOOD

SUMMARY
80-I40-15.43 LT LANE
6-13-01

I40/Caney Fork River
5 Span/P.P.C.I.B.

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

The wearing surface is good. The drains are good. Expansion joint is good. The bottom deck is good, but there was a 1 ½" deep breakout with exposed steel in span #5. The bottom deck has random transverse hair cracks with efflorescence. Bearing devices are good, along with beams and alignment of members. Diaphragms have some 2" deep spalls and are rated fair. Sub-structure units are in good condition. There is no problem with debris build-up or scour at this time.

Gilbert Hunter

BRIDGE INSPECTION REPORT

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

FIELD REPORT NO. 14 DATE 6-21-99
REVIOUS REPORT NO. 13 DATE 5-7-97
PLANS ---- YES ☒ NO ☐

BRIDGE NO. 80I00400032
ELEVEN DIGIT NO.

BRIDGE LOC. NO. 80 - I40 - 15.43
CO. ROUTE LOG MILE

I40 WBL OVER Cane Fork River
ROAD NAME FEATURE INTERSECTED

YEAR CONSTRUCTED '59 COUNTY Smith STRUCTURE NAME (IF NAMED)
(ESTIMATED OR ACTUAL) MAINTENANCE DISTRICT NO. 32

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

YEAR REHABILITATED 1991
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 50° LT ☐ RT ☒

INSPECTORS

STRUCTURE TYPE PPCIB NO. SPANS 5
Main Span Main Span

STRUCTURE TYPE - NO. SPANS -
Approach Spans Approach Spans

MAXIMUM SPAN LENGTH 80' TOTAL LENGTH 395'

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

WIDTHS
DECK OUT-TO-OUT 44'
ROADWAY CURB/CURB 42'
SIDEWALK - RT - LT
*APPROACH ROADWAY 24'
APPR. SHLD. 10 RT 4 LT
*DOES NOT INCLUDE SHOULDER

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

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

UNDERWATER INSPECTION

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

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

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

COMMENTS: _____

Gilbert Wayne Hunter
SUPERVISING BRIDGE INSPECTOR

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

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

BRIDGE LOC. NO. 80 - I40 - 15.43^{LL}
CO. ROUTE L.M.

DATE: 6-21-99

PERFORMANCE EVALUATION

Time of day inspected 11:00 Weather conditions SUNNY 75°

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>NA</u>
Joints	G	F	P	C	<u>NV</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 Paddleboard decals are on terminals

Comments Regarding Any Problems With Signing _____

Other Recommendations _____

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

BRIDGE LOC. NO. 80 - I40 - 15.43
CO. ROUTE L.M.

L.L.

DATE: 6-21-99

DECK

COMMENTS

WEARING SURFACE	(G)	F	P	C	<u>New A.C. Overlay</u>
DECK - STRUCTURAL	(G)	F	P	C	<u>H.L. cracks with leaching</u>
CONDITION					
CURBS	G	F	P	C	<u>NA</u>
MEDIAN	G	F	P	C	<u>NA</u>
SIDEWALKS	G	F	P	C	<u>NA</u>
PARAPET	(G)	F	P	C	
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	<u>NV Paved over</u>

SUPERSTRUCTURE

COMMENTS

BEARING DEVICES	(G)	F	P	C	
GIRDERS 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	
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 []
STAINING	G	(F)	P	C	NEEDS REPAINTING? YES [x] NO []
SCALING	G	(F)	P	C	
FADING	G	(F)	P	C	

COMMENTS: Moderate fading, staining, & scaling on piers

RECOMMENDATIONS _____

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

BRIDGE LOC. NO. 80 - I40 - 15.43
CO. ROUTE L.M.

DATE: 6-21-99

SUBSTRUCTURE

ABUTMENTS

COMMENTS

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

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

PIERS

CAPS	(G)	F	P	C	
COLUMNS	(G)	F	P	C	
PLUMB	(G)	F	P	C	
FOOTINGS	G	F	P	C	NV
PILES	G	F	P	C	NV
BEARING SURFACE	(G)	F	P	C	
BEARINGS	(G)	F	P	C	
BENTS					

CAPS	(G)	F	P	C	
COLUMNS	(G)	F	P	C	
PLUMB	(G)	F	P	C	
FOOTINGS	G	F	P	C	NV
PILES	G	F	P	C	NV
BEARING SURFACE	(G)	F	P	C	
BEARINGS	(G)	F	P	C	

SCOUR CONDITION NONE [X]

RECOMMENDATIONS:

BRIDGE LOC. NO. 80-T40-1543 ()
CO. ROUTE L.M. (LOG km)

DATE: 6-21-99

STREAM CHANNEL DATA AND CONDITIONS

STREAM CROSSING: Caney Fork River

- I. 1. Type of bed material? Boulders & 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 P 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 []
(c) boulders [X] (d) flat slopes []
(≤2:1)

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

IV. Comments: 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-I40-15.43 LT LANE
6-21-99

I40/Caney Fork River
5 Span/P.P.C.I.B.

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

The wearing surface is good. The drains are good. Expansion joint has been covered by new asphalt overlay and is not visible. The bottom deck is good, but there was a 1 1/2" deep breakout with exposed steel in span #5. The bottom deck has random transverse hair cracks with efflorescence. Bearing devices are good, along with beams and alignment of members. Diaphragms have some 2" deep spalls and are rated fair. Sub-structure units are in good condition. There is no problem with debris build-up or scour at this time.

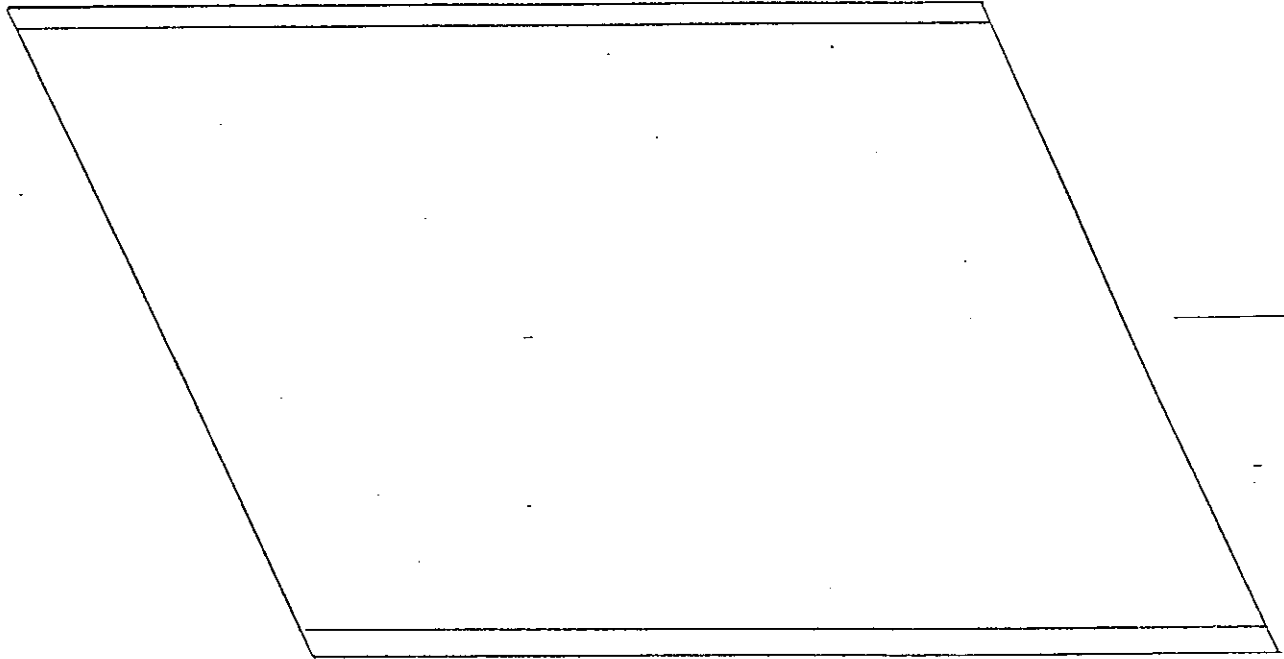
Gilbert Hunter

ELEVATION DATA

STATION	TOP OF CURB	GRADING	REMARKS	DATE	BY
Top RT. Curb	Abut. A.		Elev.	500.00	
	LT.			RT.	
OUT A	499.60	498.98	499.44	500.00	
er 1	499.40	498.90	499.30	499.80	
2	499.25	498.75	499.20	499.70	
3	499.25	498.72	499.20	499.75	
4	499.38	498.87	499.35	499.87	
OUT B	499.60	499.06	499.60	499.15	
80 - 740 - 15.51					
LT. Lane					
Rep # 3					

6-24-94

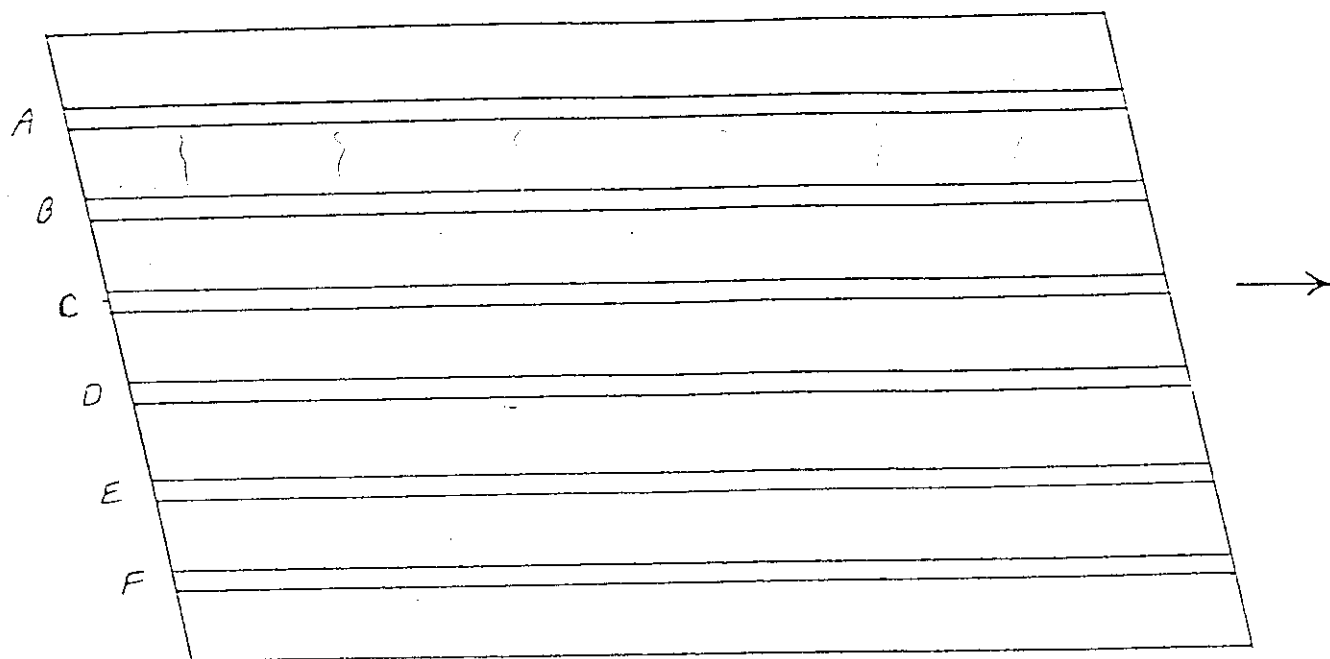
Lu 14



Top Slab ± 5

Br. ^{II} 80-140-15.43 L.L.

DECK	NV	New A.C. over lay
Parapet	G	
Drains	NA	
Joints	NA	



BOTTOM Slab = 1

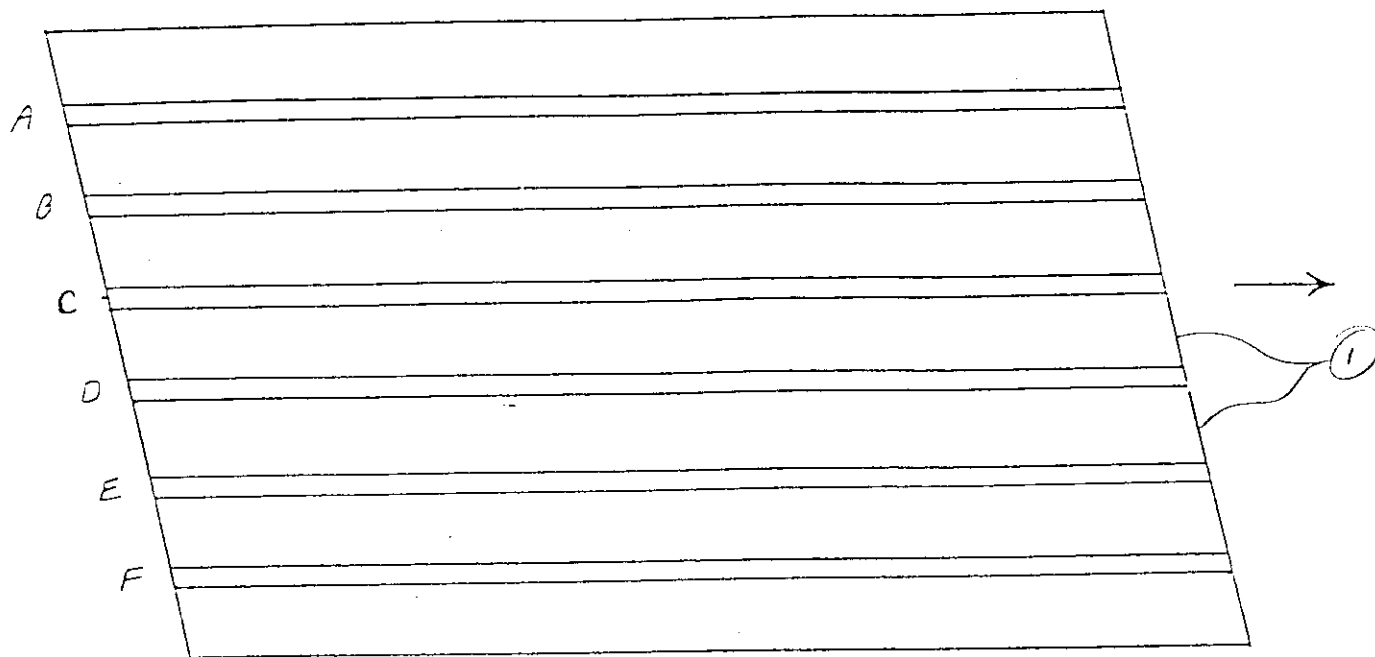
Br. = 80-140-15.43 L.L.

Deck	Good	random transverse hair cracks w/ efflor.
------	------	--

Diaph.	Good	
--------	------	--

Beams	Good	
-------	------	--

6-21-99AD



Bottom Slab = Z

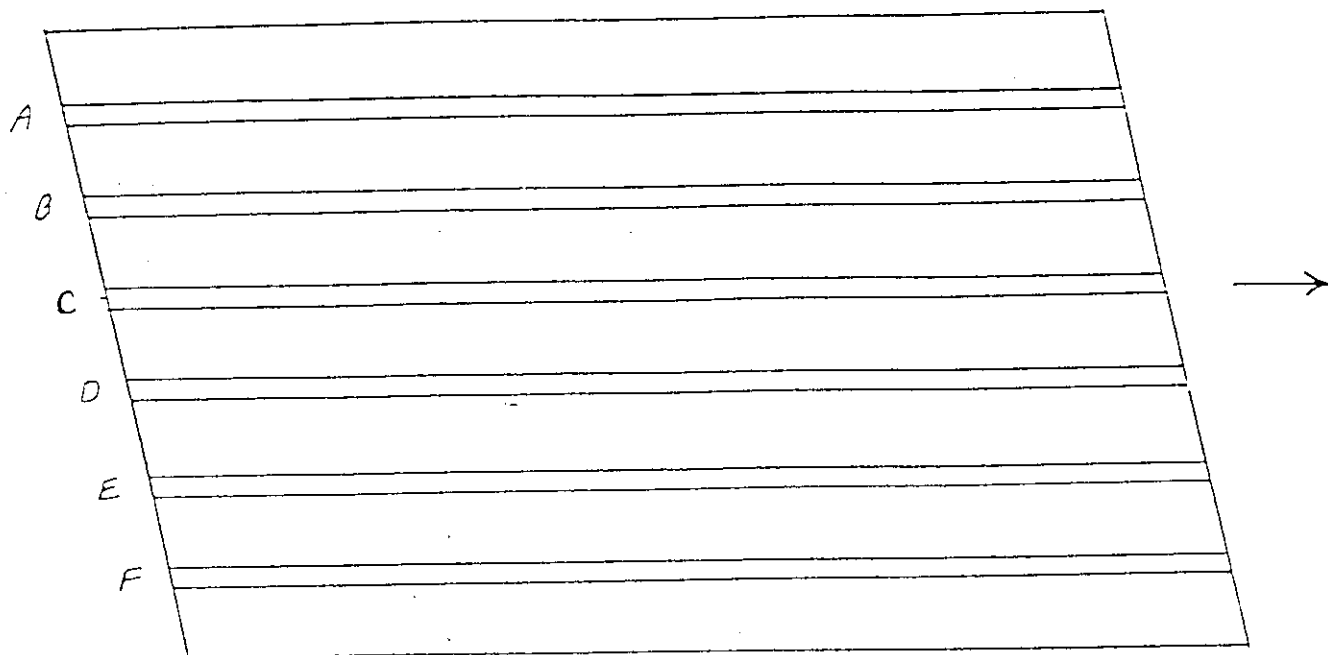
Br. = 80-140-15.43 L.L.

Deck	Good
------	------

Diaph.	Fair	① spalls w/ exp. rebar over pier Z
--------	------	------------------------------------

Beams	Good
-------	------

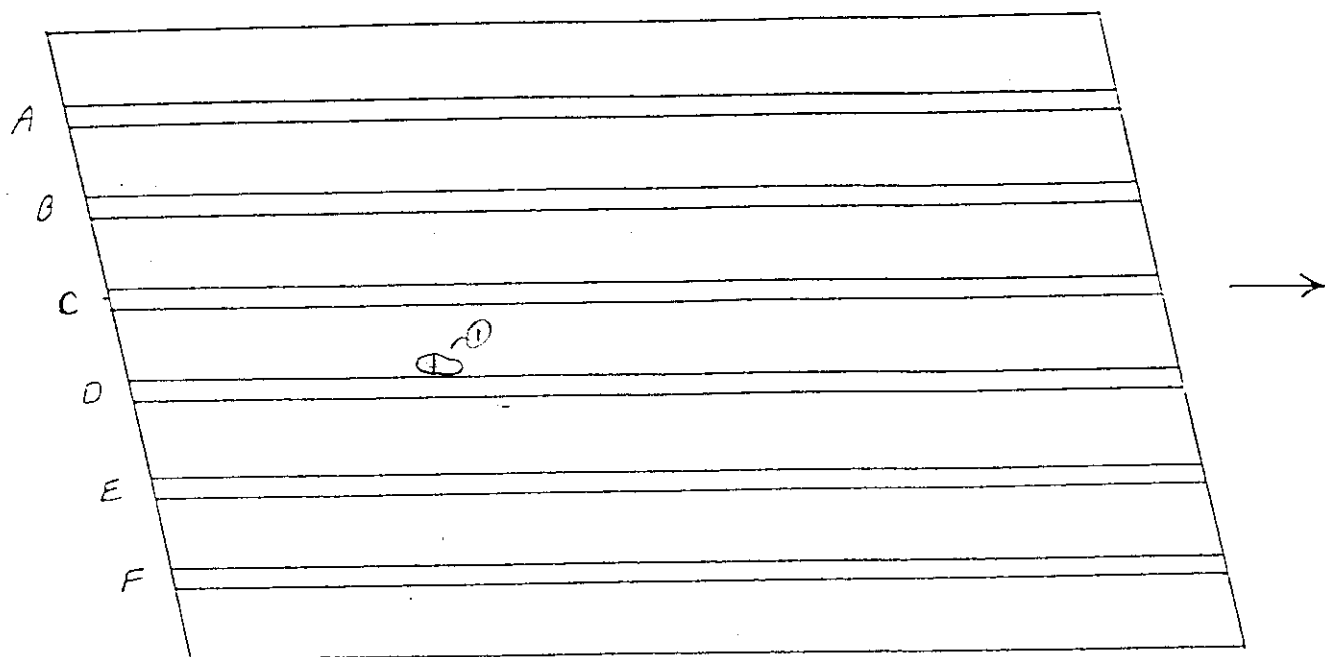
6-21-79MD



Bottom Slab = 3

Br. = 80-140-15.43 L.L.

Deck	Good
Diaph.	Good
Beams	Good



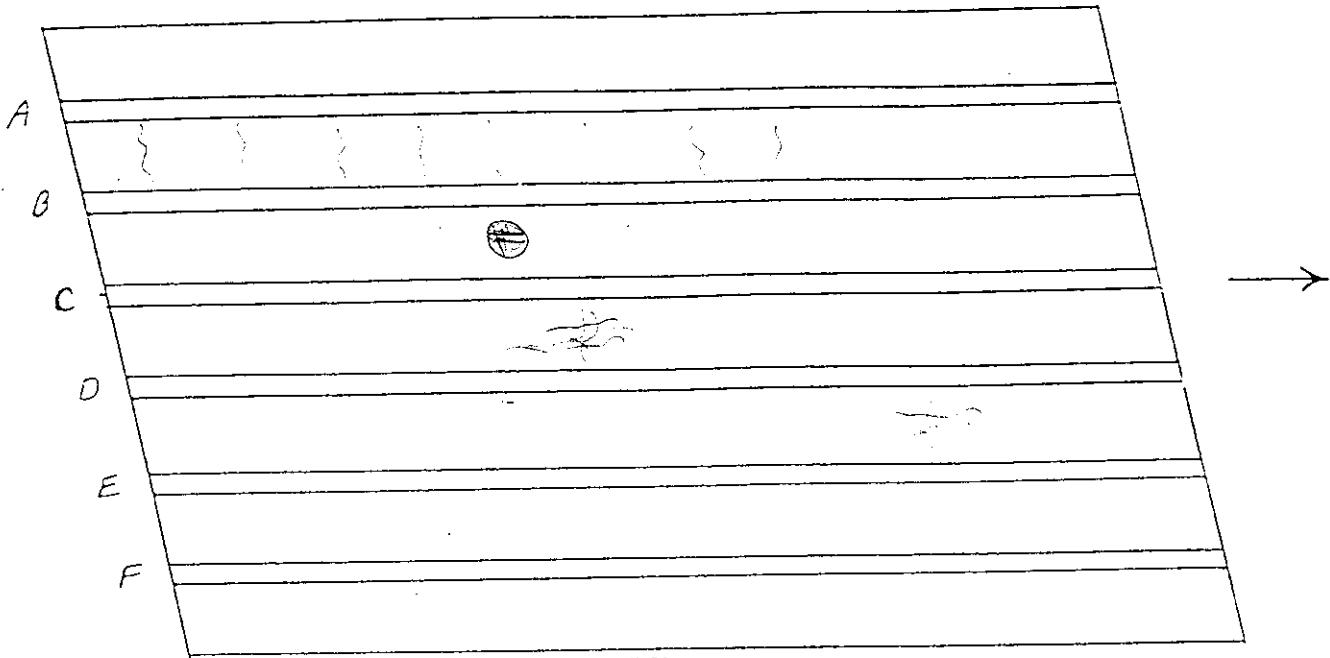
Bottom Slab = 4

Br. = 80-I40-15.43 L.L.

Deck	Good	① P.D. w/ steel 2.5' x 1.5' x 2" ϕ
------	------	---

Diaph.	Good	
--------	------	--

Beams	Good	
-------	------	--



Bottom Slab = 5

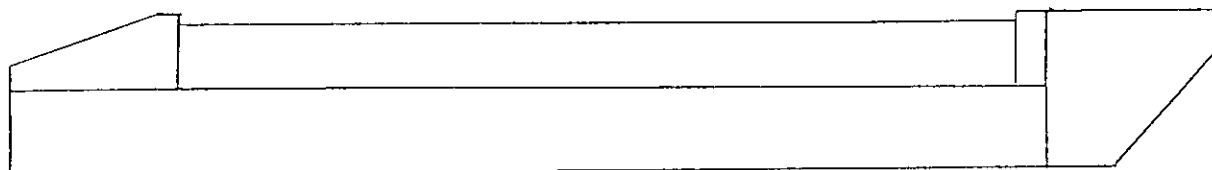
Br. = 80-140-15.43 L.L.

Deck Good | corbor h.c.s w/ efflor. / break-outs w/ exp. steel up to 2" dp

Diaph. G

Beams G

6.21.79MD



ABUT #

Br. # 80-140-15.43 L.L.

BACKWALL NV

CAP G

WINGS G

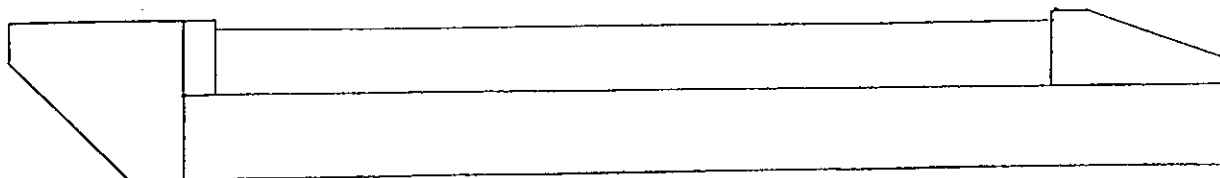
Bearings NV

The image displays four orthographic views of a mechanical component, arranged in a standard layout. The views are as follows:

- Top View (Top Left):** Shows the component from above. It features a rectangular base with a central rectangular cutout. A vertical support structure is visible on the left side, and a horizontal flange is at the top.
- Front View (Top Right):** Shows the component from the front. It features a rectangular base with a central rectangular cutout. A vertical support structure is visible on the left side, and a horizontal flange is at the top.
- Left Side View (Bottom Left):** Shows the component from the left side. It features a rectangular base with a central rectangular cutout. A vertical support structure is visible on the left side, and a horizontal flange is at the top.
- Right Side View (Bottom Right):** Shows the component from the right side. It features a rectangular base with a central rectangular cutout. A vertical support structure is visible on the right side, and a horizontal flange is at the top.

Br. # 80-140-15.43 L.L.

CAP	G
Wall	G
FTG.	N/V
Bearings	G



ABUT #2

Br. # 80-I40-15.43 L.L.

BACKWALL NIV

CAP G

WINGS G

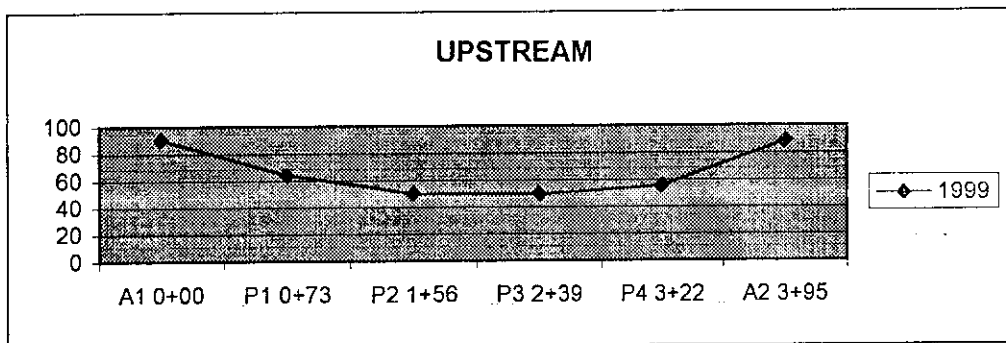
BEARINGS NIV

80-I40-15.43 Lt.
 ASSUMED ELEV.-- 100 Ft.-- TOP OF PARAPET
 STATION ELEV.

6/21/99

1999

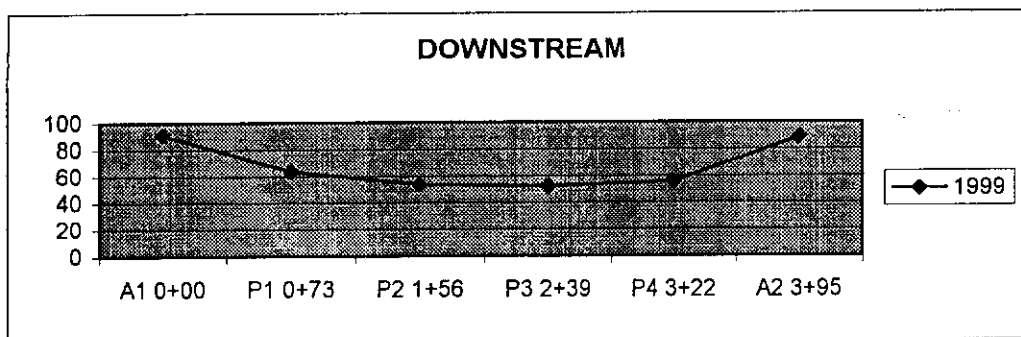
A1 0+00	90.6
P1 0+73	64
P2 1+56	50.4
P3 2+39	50
P4 3+22	55.7
A2 3+95	88.3

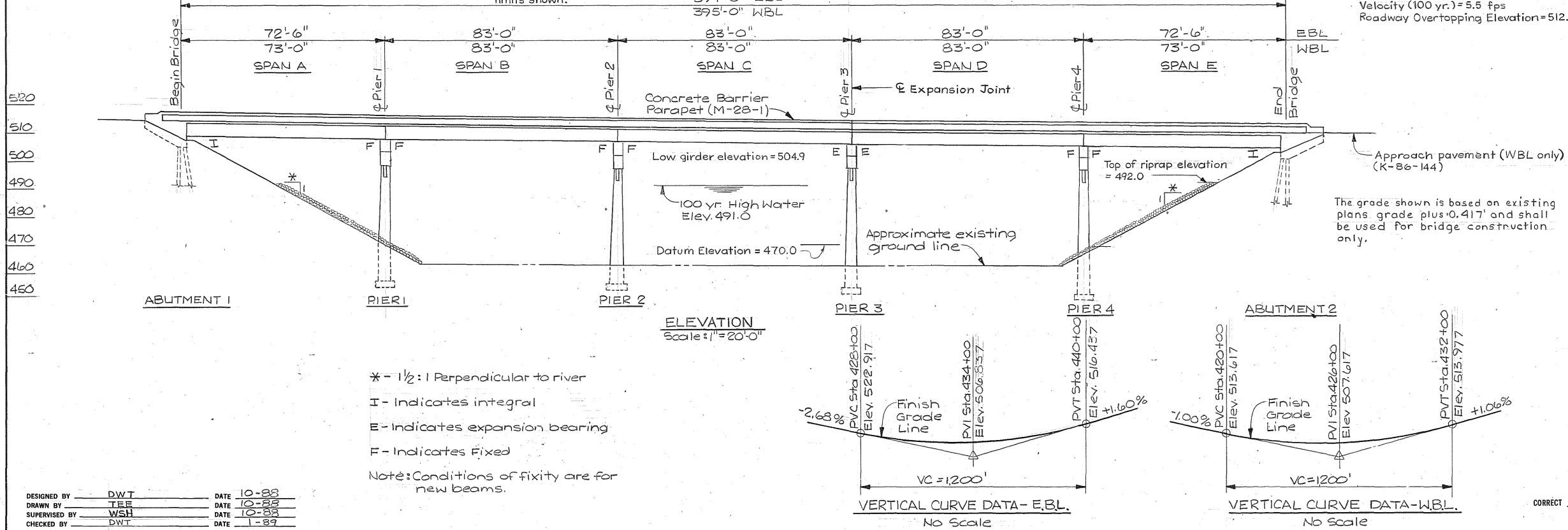
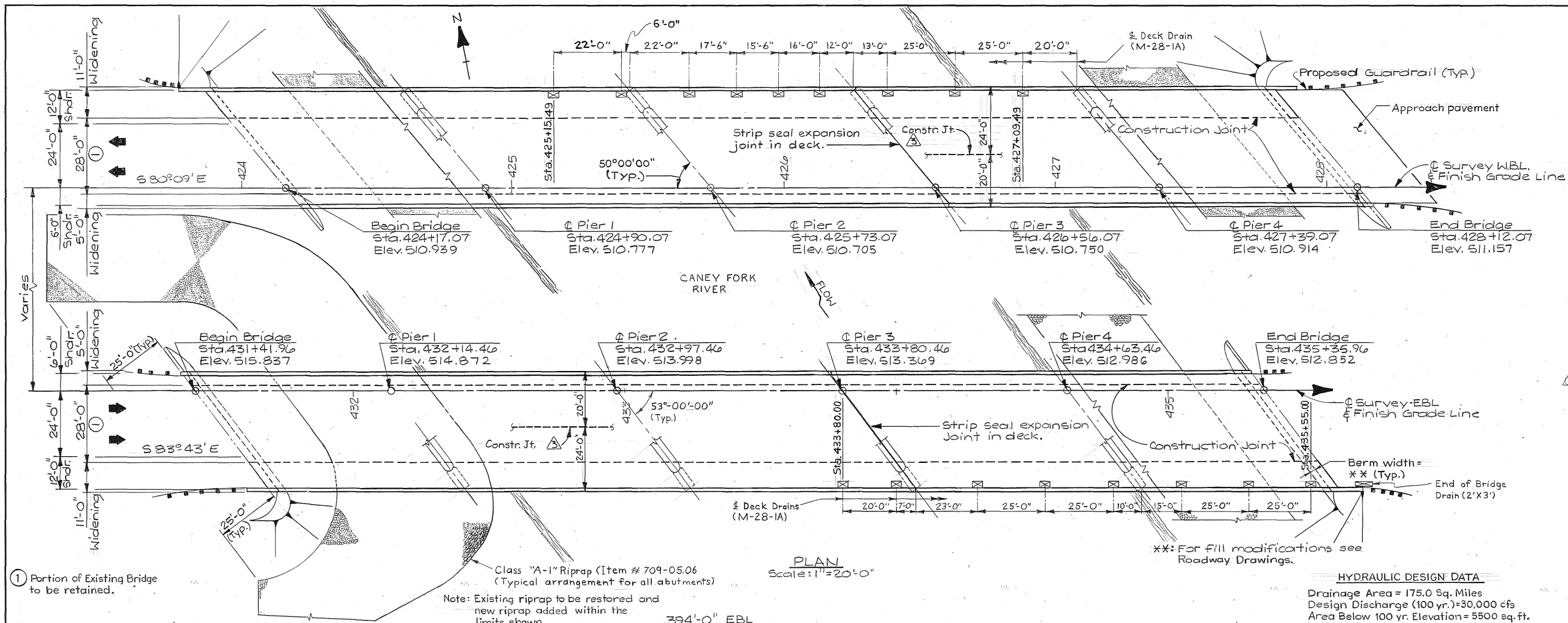


STATION ELEV.

1999

A1 0+00	91
P1 0+73	63.5
P2 1+56	53.7
P3 2+39	52.1
P4 3+22	55.7
A2 3+95	88.3





CONSTR. NO. 80001-3152-44

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

REVISIONS

NO.	DATE	BY	BRIEF DESCRIPTION
1	10/2/89	WHP	ELIMINATED PREVIOUS NOTE
2	9/1/89	DWT	ADDED NEW NOTE
3	8/14/89	DWT	Bench Mark Elev. Corrected
			Constr. Jt. Added

Note:

For Roadway Data not shown, see Roadway Plans.

Denotes direction of one lane of traffic.

2009 ADT = 30,000

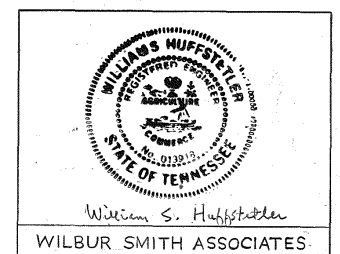
Design Velocity = 65 mph

Note: For construction sequence see DWG. NO. M-214-59A.

Bench Mark:

Top of Leftside abutment beam, Abutment
1-EBL Elev. 510.11

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



BRIDGE NO. 4

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAYS

LAYOUT OF BRIDGE WIDENINGS

I-40 OVER CANEY FORK RIVER

STA. 431+41.96 & SURVEY E.B. I-40

STA. 424+17.07 & SURVEY W.B. I-40

BRIDGE ID # EBL 80I00400031

BRIDGE ID # WBL 80I00400032

SMITH COUNTY

1989

CORRECT

ENGINEER OF STRUCTURES

APPROVED

DIRECTOR OF HIGHWAYS

M-214-109

LIST OF DRAWINGS

Layout of Bridge Widening
General Notes
Estimated Quantities
Repair Details
Superstructure Details (1)
Superstructure Details (2)
Superstructure Details (3)
Superstructure Details (4)
Prestr. Conc. I-Beam - spans A&E W.B.L.
Prestr. Conc. I-Beam - spans (B-D) W.B.L.
Prestr. Conc. I-Beam - spans A&E E.B.L.
Prestr. Conc. I-Beam - spans (B-D) E.B.L.
Bearing Details
Abutment Details (1)
Abutment Details (2)
Abutment Details (3)
Piers 1,2,3 & 4 - W.B.L. & E.B.L.
Piers 1,2,3 & 4 - W.B.L. & E.B.L.
Bill of Steel
Bill of Steel
Bill of Steel
Bar Bending Details
* ~~CONSTRUCTION SEQUENCE~~
Existing Bridge Drawings
* ~~Note: Only Dwg. G-15-82 thru G-15-103 to be printed with Plans.~~
Note: Drawing Nos. M-214-113 & M-214-114 not used.
* ~~Stage Construction - Abutments Bridge No. 2, 4 & 5~~
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.

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
105A
602
603A
604
604C
604R
604S
607D
709
907A

Date
LATEST REVISION

07-21-87
09-30-88
11-01-88
11-06-87
01-26-88
01-20-89
03-14-88
02-20-85
05-04-87
03-25-85

LIST OF SPECIAL PROVISIONS

Regarding Approval of Shop Drawings
Regarding Section 609 Steel Structures
Regarding Painting
Regarding Concrete Structures
Regarding Structural Concrete
Regarding Rideability of Bridge Decks and Roadway Approaches
Regarding Strip Seal Expansion Joints
Regarding Side Drains and Bridge Drains
Regarding Machined Rip-Rap
Regarding Epoxy Coated Reinforcing Steel

DRAWING NO.

LATEST REV. DATE

M-214-109
M-214-110
M-214-111
M-214-112
M-214-115
M-214-116
M-214-117
M-214-118
M-214-119
M-214-120
M-214-121
M-214-122
M-214-123
M-214-124
M-214-125
M-214-126
M-214-127
M-214-127A
M-214-128
M-214-129
M-214-129A, 151B, 151C
M-214-130
M-214-130A
G-15-82 thru G-15-103
G-10-99

M-214-79A

M-156-108, 108A 02-21-89

GENERAL NOTES

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

LOADING: HS20-44 with Alternate Military.

DESIGN SPECIFICATIONS: AASHTO 1983 Edition with addenda.

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

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

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

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

Bearing Devices shall be in accordance with the details and dimensions shown on drawing M-214-123.

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 Abutments shall be equipped with APF 20 lb. Pruyt 75750, DFP 23 lb. Hard-bite, VERSA-BITE 20 lb. VB310 or I.C.E. 20 lb. Std. pile point driving tips or approved equal welded to the pile in accordance with the manufacturers recommendation. The cost of the driving tips shall be included in the unit price bid for piles.

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

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

SHOP DRAWINGS: See Special Provision No. 105A.

CONCRETE SEAL: To be either:

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

c. Koppers 300M

Concrete Seal to be applied to the Top Surface of Pier 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., 18,000 lbs. for 3/4" dia. Anchors, 12,000 lbs. for 5/8" dia. Anchors and 9,000 lbs. for 1/2" dia. Anchors. In Place Requirements: The units shall be sub-set 3/32" to 1/4" and torqued, with base plate in place, to an equivalent direct pull out load of 60 percent of required ultimate load. Slippage shall not exceed 1/4". The Department will perform testing of Anchors on site to insure the specified in place requirements. Installations not meeting these requirements must be corrected at the contractors expense.

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

FINISHING CONCRETE SURFACES: Concrete finishing shall be in accordance with Section 604.22 of the Tennessee Standard Specification. An Applied Texture Finish shall be used in lieu of a Class 'B' 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.

RIP-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.

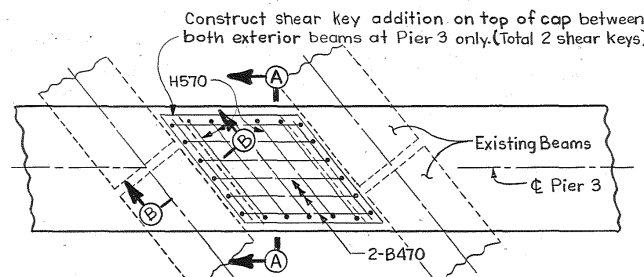
RADIOGRAPHIC, ULTRASONIC, AND MAGNETIC INSPECTION: See Special Provision No. 602. Notes on Drawing No. M-214-127A.

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

GENERAL NOTES (cont'd)

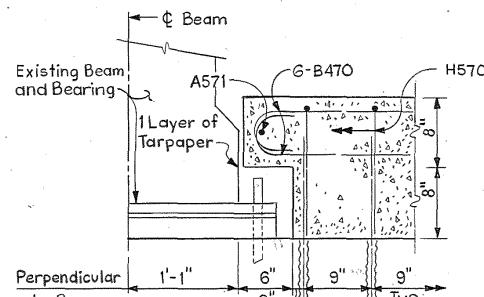
NOTE: The Contractor shall accept full responsibility of maintaining the structural integrity of the existing bridge during construction. Any damage to structural members to be left in place shall be repaired to the satisfaction of the Engineer and paid for at the Contractor's expense.

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



PLAN OF SHEAR KEY ADDITION

No Scale

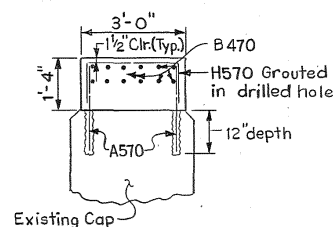


SECTION "B-B"

No Scale

ESTIMATED QUANTITIES

	Class 'A' Concrete (Bridges) C.Y.	Steel Bar Reinforcement (Bridges) LBS.
Pier 3 WBL	1	224
Pier 3 EBL	1	217

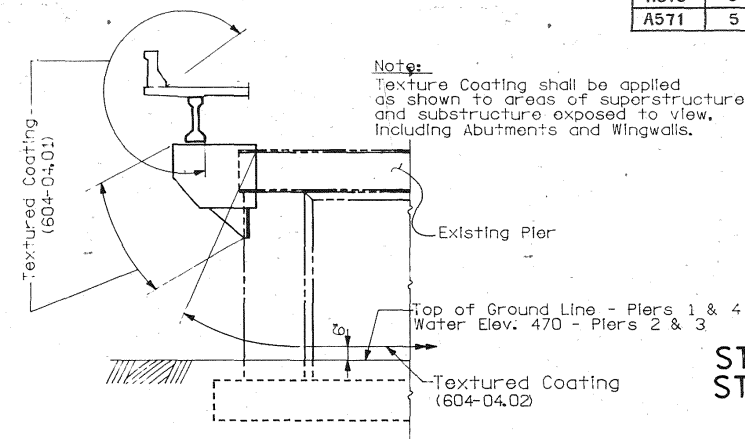


SECTION "A-A"

(Through Shear Key Addition)
No Scale

BILL OF REINFORCING

Total for Pier 3 (2 Shear Keys)					
H-Bar			B-Bar		
Mark	Size	No.	EBL a	WBL a	b
A570	5	20	2'-2"	2'-2"	
B470	4	24	5'-1 1/2"	5'-4"	0'-6"
H570	5	10	3'-5"	3'-5"	1'-2"
A571	5	4	3'-5"	3'-5"	



DETAIL SHOWING LIMITS OF TEXTURED COATING

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAYS

GENERAL NOTES

I-40 OVER

CANEY FORK RIVER

STA. 431+41.96 @ SURVEY E.B.L.

STA. 424+17.07 @ SURVEY W.B.L.

SMITH COUNTY

1989

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

CORRECT

ENGINEER OF STRUCTURES

APPROVED

DIRECTOR OF HIGHWAYS

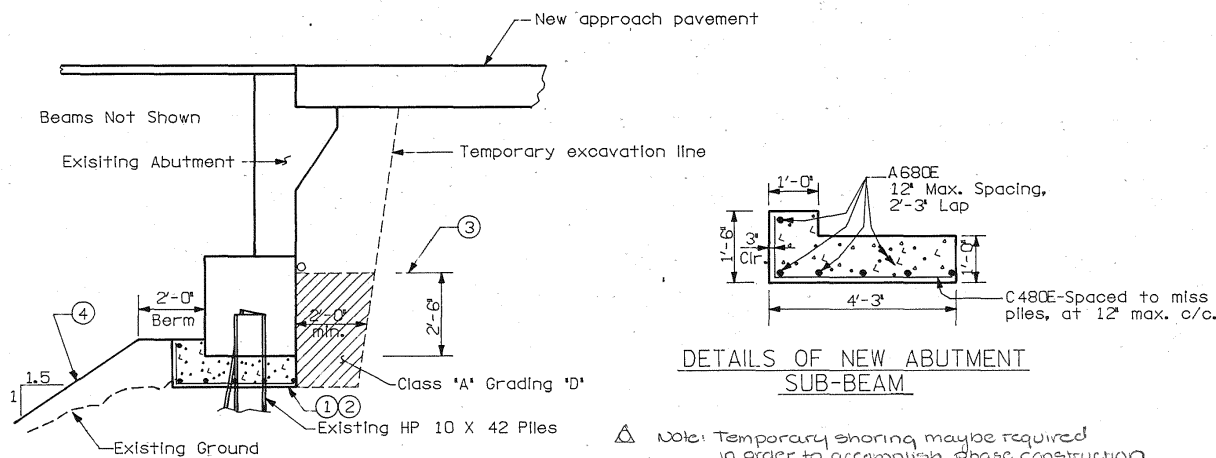
M-214-110

- (15) The use of a rammer is prohibited for removal of concrete. See notes on Dwg. No. M-214-112.
- (16) ~~Guardrail attachment to bridge rail post shall be installed prior to all traffic being detoured onto Westbound Bridge. All materials, labor, etc. for installation shall be included under item 705 10.23.~~
- (17) For sketches and notes on Concrete Repair, see drawing No. M-214-112.
- (18) Includes quantities for Abutment Sub-beam, see Dwg. M-214-112.
- (19) Includes quantities for Pier Shear Keys, see Dwg. M-214-110.

[illegible]

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAYS
ESTIMATED QUANTITIES
I-40 OVER
CANEY FORK RIVER
STA. 431+41.96 @ SURVEY E.B.L.
STA. 424+17.07 @ SURVEY W.B.L.
SMITH COUNTY
1989

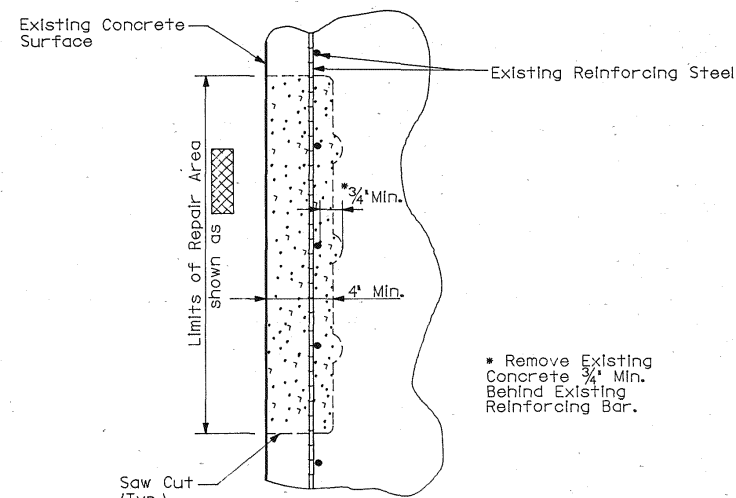
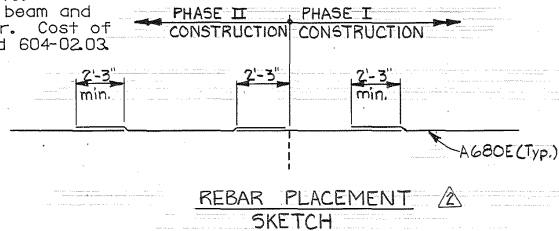
CORRECT _____
ENGINEER OF STRUCTURES
APPROVED _____
DIRECTOR OF HIGHWAYS



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 of piles shall be wire brushed or blast cleaned and repainted per Specification Section 606.19. No separate payment will be made for painting or cleaning.
- ② Construct abutment sub-beam using Class 'A', $f'_c=3,000$ psi concrete. Sub-beam shall be cast full length of existing retained abutment beam and to the depth specified, unless otherwise directed by the Engineer. Cost of material and labor shall be included in the bid items 604-03.01 and 604-02.03.
- ③ Backfill to limit shown with Class A Grading D Material. Install backfill and underdrain in compliance with Std. Drawing K-85-150.
- ④ Reestablish fill slope to lines shown.



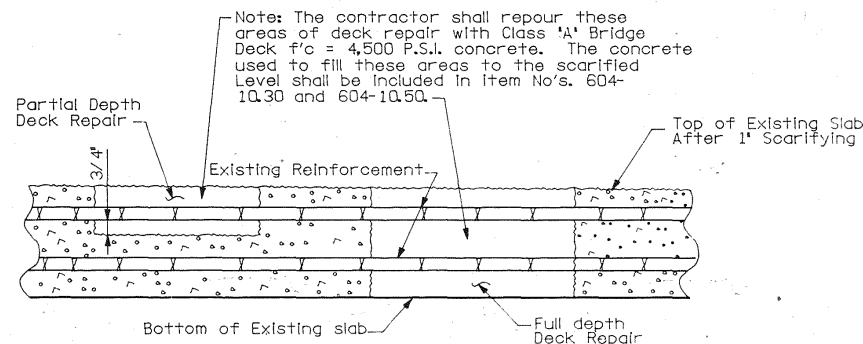
DETAIL "Y"
DETAIL SHOWING EXISTING CONCRETE SURFACE
TO BE REPAIRED

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.

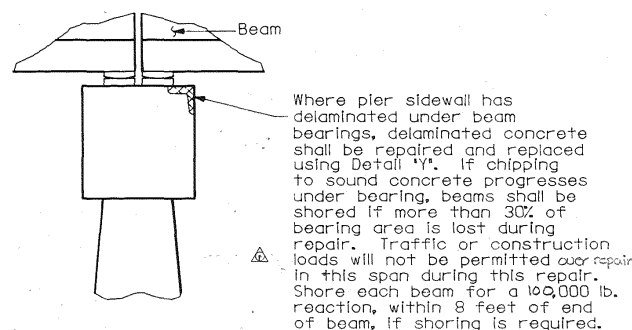
Cost of removing deteriorated concrete, all blast cleaning, forming, high early strength concrete, labor and all additional materials necessary to complete the repairs as shown in details shall be included under item No. 604-10.42, Concrete Repairs, C.F..



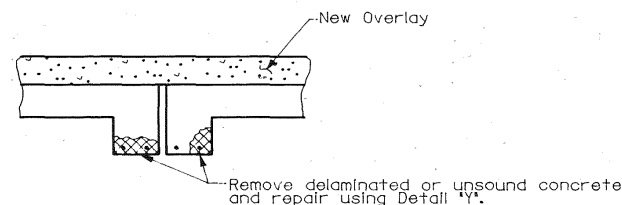
DETAIL SHOWING FULL AND PARTIAL DEPTH DECK REPAIR

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



SECTION THRU W.B.L. PIER 1 &
E.B.L. PIER 4



SECTION THRU SLAB BUILD - DOWNS
W.B.L. PIER 1 & E.B.L. PIER 3 & 4

CONSTR. NO. 80001-3152-44

PROJECT NO.		YEAR	SHEET NO.
IR-40-591/257		1989	
REVISIONS			
NO.	DATE	BY	BRIEF DESCRIPTION
1	6/14/89	WHP	Revised and added Notes
2	9/14/89	DWT	SKETCH ADDED

GENERAL NOTES

NOTE: Existing reinforcing which protrudes from the top of E.B.L. Pier 3 cap shall be removed to 1' below concrete surface and patched flush with surface. No separate payment will be made for this work.

SPECIAL NOTE

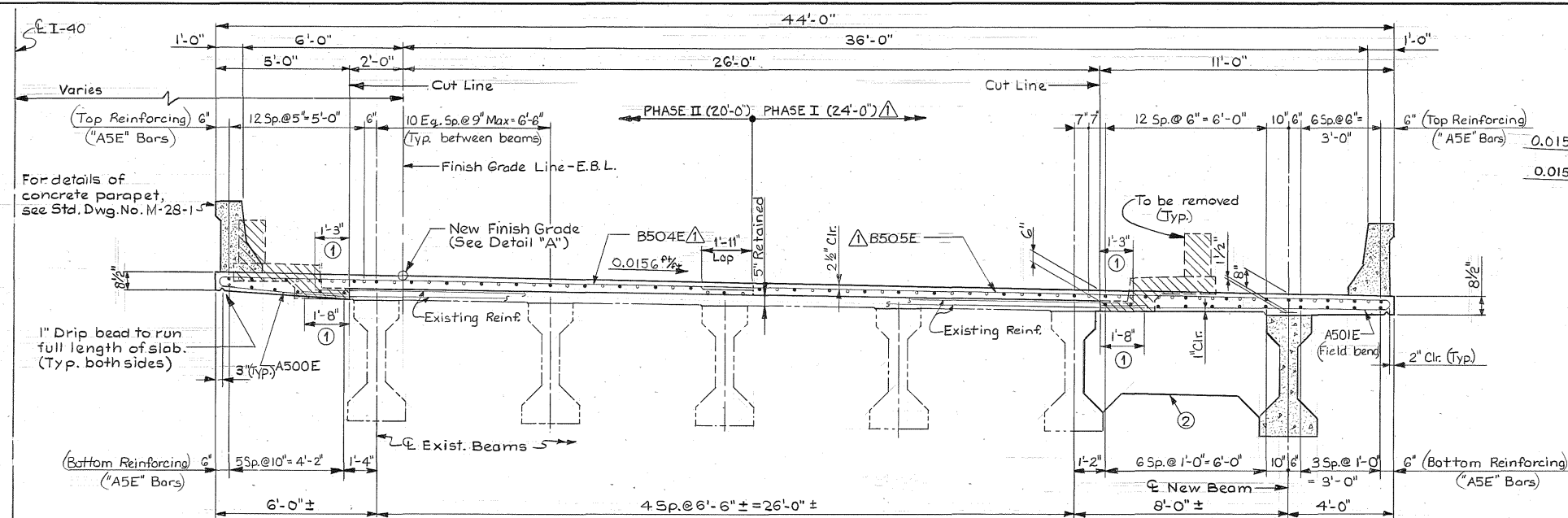
Necessary concrete repairs at piers of this bridge shown before the addition of the cantilever beam bracket. In general, these repairs which may be conflicting or may be obscured by the angle strap will be required to be completed before the addition of the angle support frame and the concrete bracket.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

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAYS

REPAIR DETAILS
I-40 OVER
CANEEY FORK RIVER
STA. 431+41.96 @ SURVEY E.B.L.
STA. 424+17.07 @ SURVEY W.B.L.
SMITH COUNTY
1989

CORRECT
ENGINEER OF STRUCTURES
APPROVED
DIRECTOR OF HIGHWAYS

M-214-112

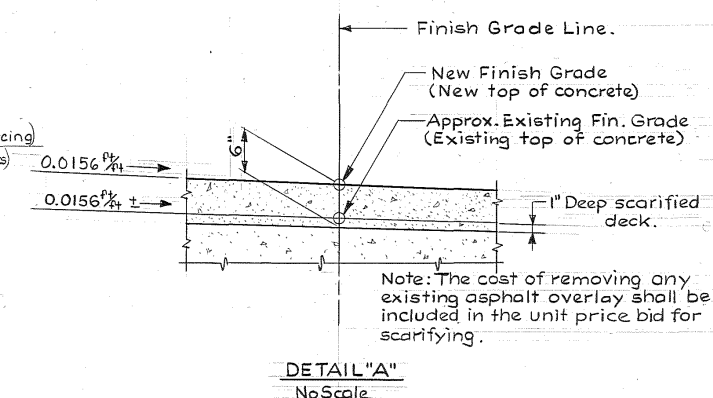


Note:

- - Continuous longitudinal reinforcement.
- - Non-Continuous longitudinal reinforcement.

- ① Retain 1'-3" or 1'-8" extension of transverse existing deck reinforcing into new concrete. Any existing deck bar which cannot be preserved shall be replaced at the same location by drilling and grouting a 2'-8" #4 dowel bar, embedded 12" in existing concrete, at no additional cost to the Department. Do not use precast deck forms in bay adjacent to existing deck.

- ② New concrete diaphragm. For location and details, see Dwg. No. M-214-118.



Notes:

When pouring deck, provision shall be made for setting reinforcing steel for parapet. The parapet shall not be poured until the slab is poured and cured.

All girders to be supported during construction of slab to prevent rotation.

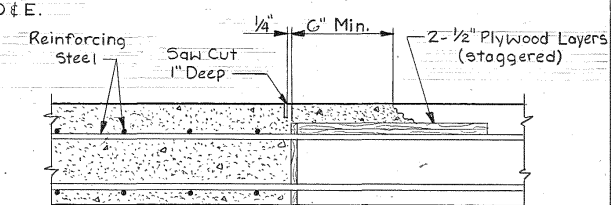
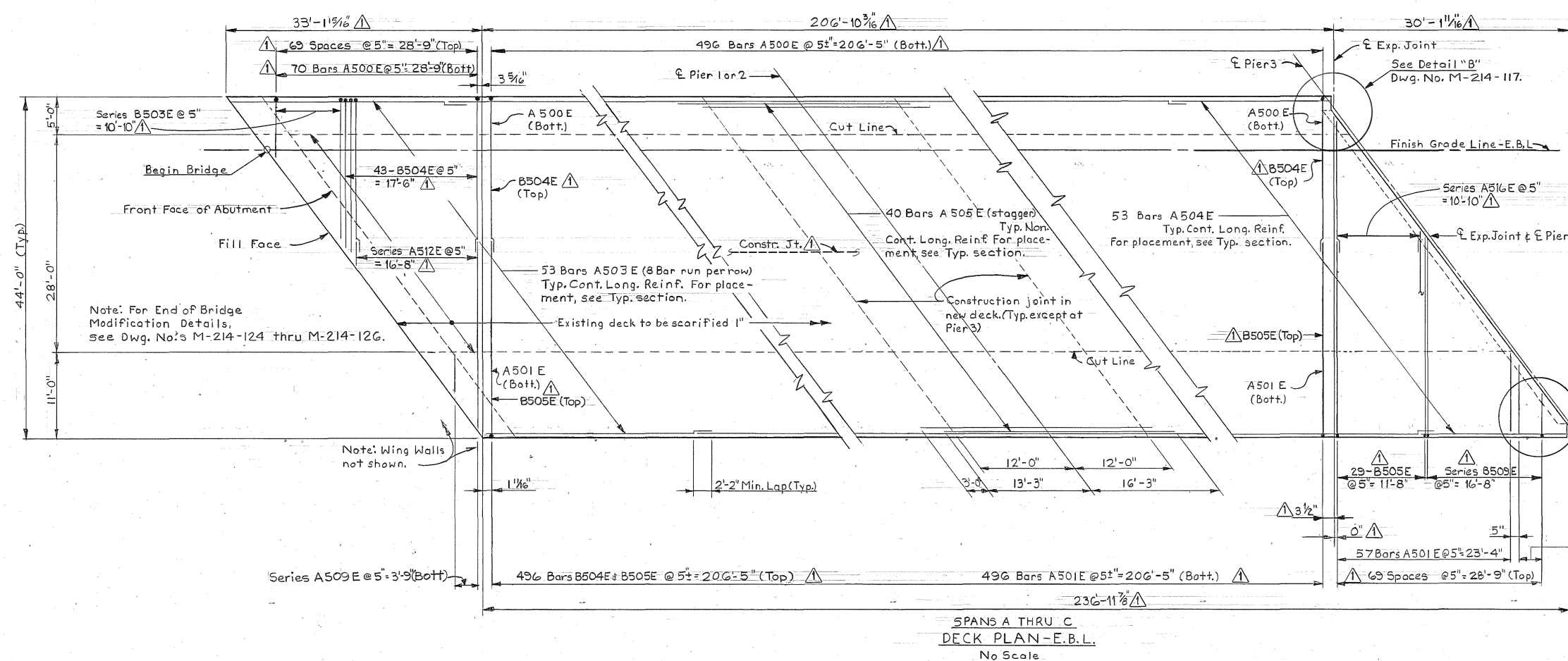
For estimated quantities, see Dwg. No. M-214-117.
For slab pouring sequence, see Dwg. No. M-214-117.

For expected erection camber values, see
Dwg. No. M-214-118.

For bituminous filler detail at expansion joints, see Dwg. No. M-214-118.

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

- For existing beam camber, see Dead Load Correction Curve, Dwg. No. M-214-116.



SLAB CONSTRUCTION JOINT
No. Scale

Note: See Dwg. No. M-214-11G
for spans D & E.

See Detail "C"
Dwg. No. M-124-117

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

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAYS

BUREAU OF HIGHWAYS

SUPERSTRUCTURE DETAILS (I)

I-40 OVER CANEY FORK RIVER

STA.431+41.96 ♀ SURVEY E.B. I-40

STA.424+17.07 ♀ SURVEY W.B. I-40

SMITH COUNTY

1989

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

CORRECT

ENGINEER OF STRUCTURE

APPROVED

DIRECTOR OF HIGHWAY

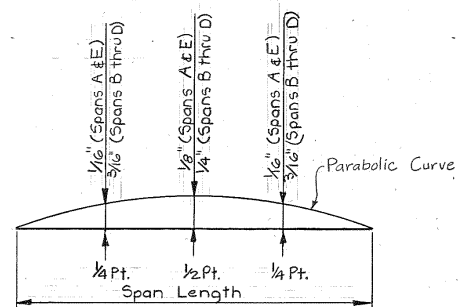
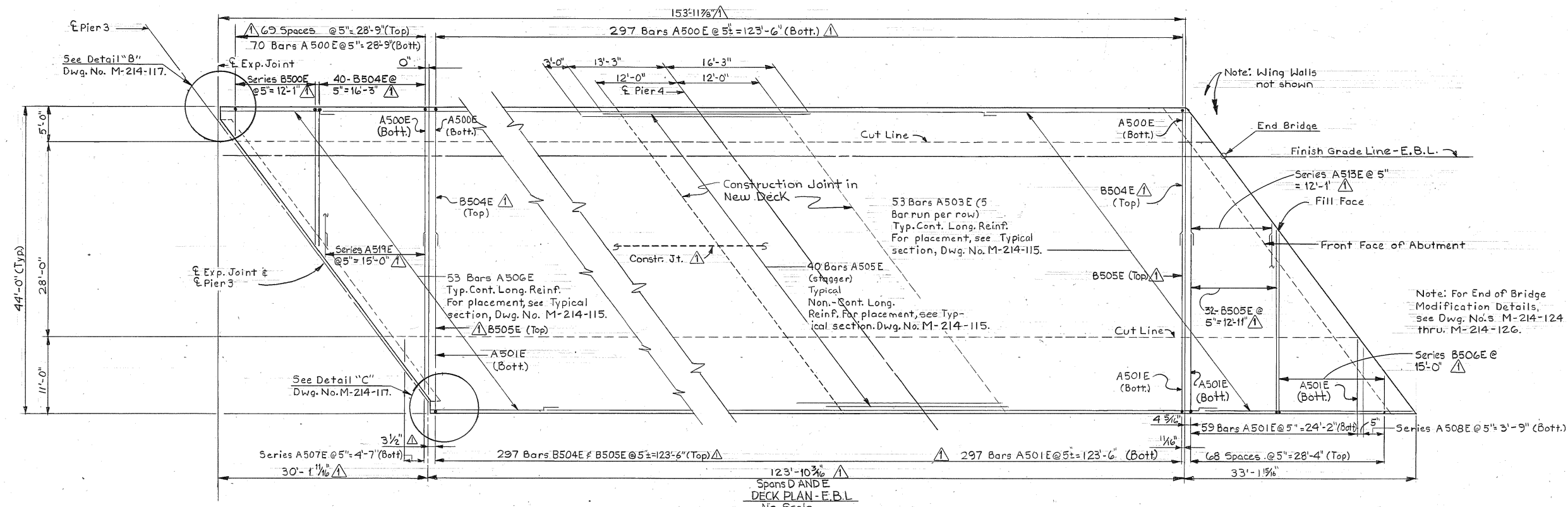
M-214-115

CONSTR. NO. 80001-3152-44

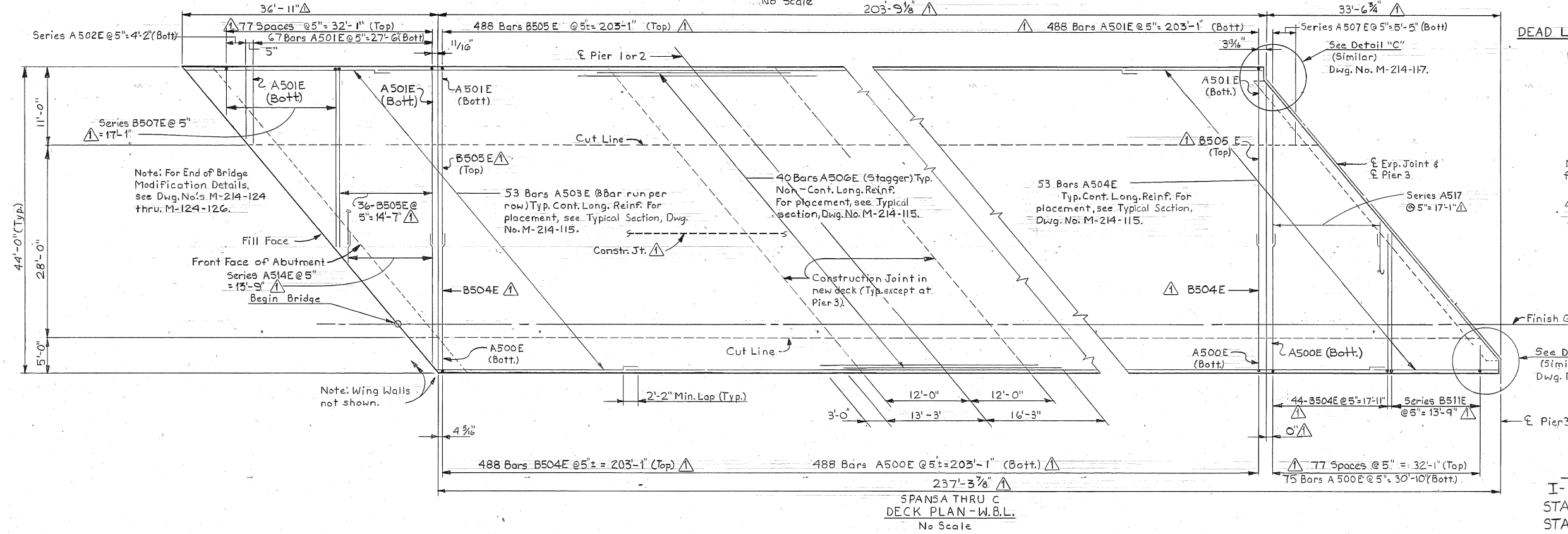
PROJECT NO.	YEAR	SHEET NO.
IR-40-5(9)257	1989	

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

Note:
For additional notes, see Dwg. No. M-214-115.
For estimated quantities, see Dwg. No. M-214-117.
For slab pouring sequence, see Dwg. No. M-214-117.



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.



Note: See Dwg. No. M-214-117 for Spans D & E.
See Dwg. No. M-214-59A for Construction Joint and Phase Construction Details.

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAYS
SUPERSTRUCTURE DETAILS (2)
I-40 OVER CANEY FORK RIVER
STA. 431+41.96 @ SURVEY E.B. I-40
STA. 424+17.07 @ SURVEY W.B. I-40
SMITH COUNTY
1989

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

CORRECT
ENGINEER OF STRUCTURES
APPROVED
DIRECTOR OF HIGHWAYS

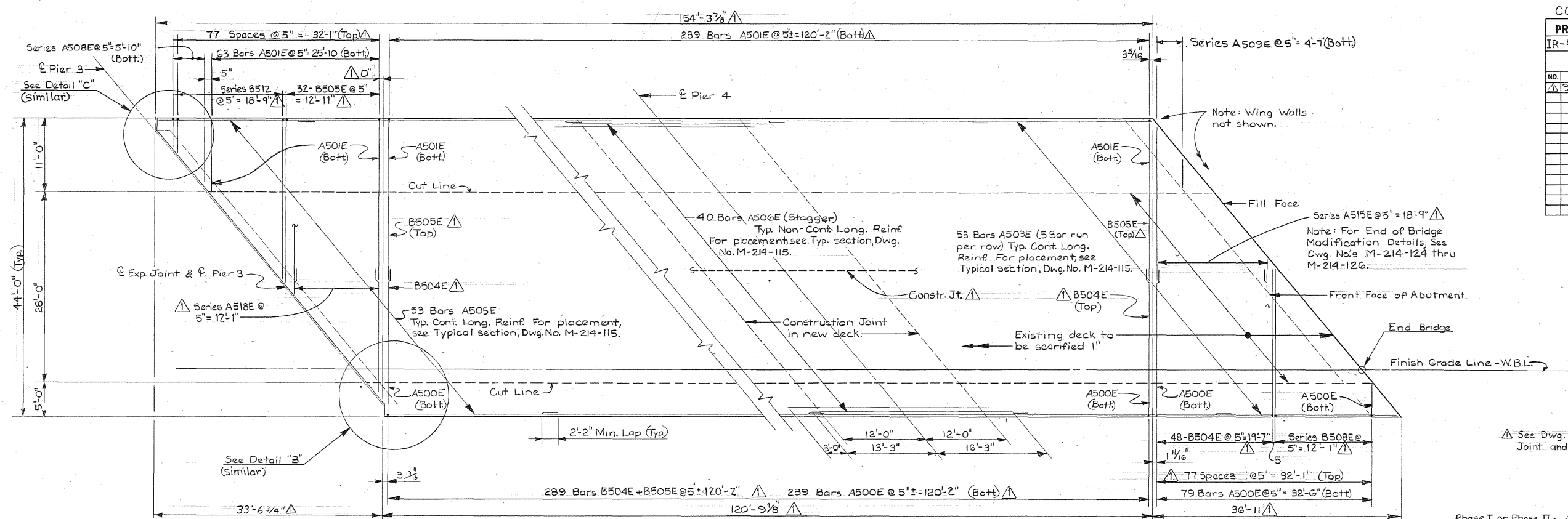
M-214-116

CONSTR. NO. 80001-3152-44

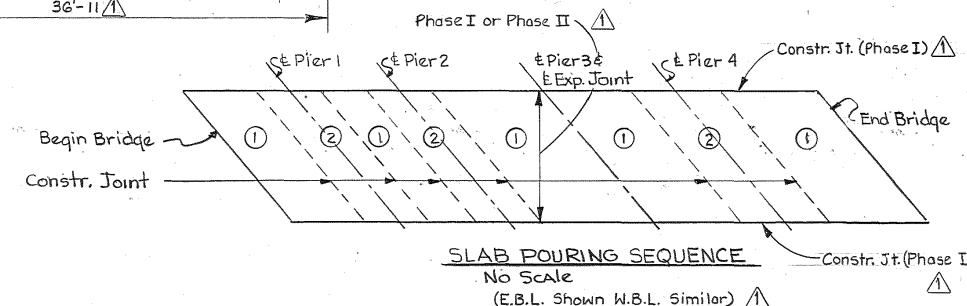
PROJECT NO.	YEAR	SHEET NO.
IR-40-5(9)257	1989	

REVISIONS

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



SPANS D & E
DECK PLAN - W.B.L.
No Scale

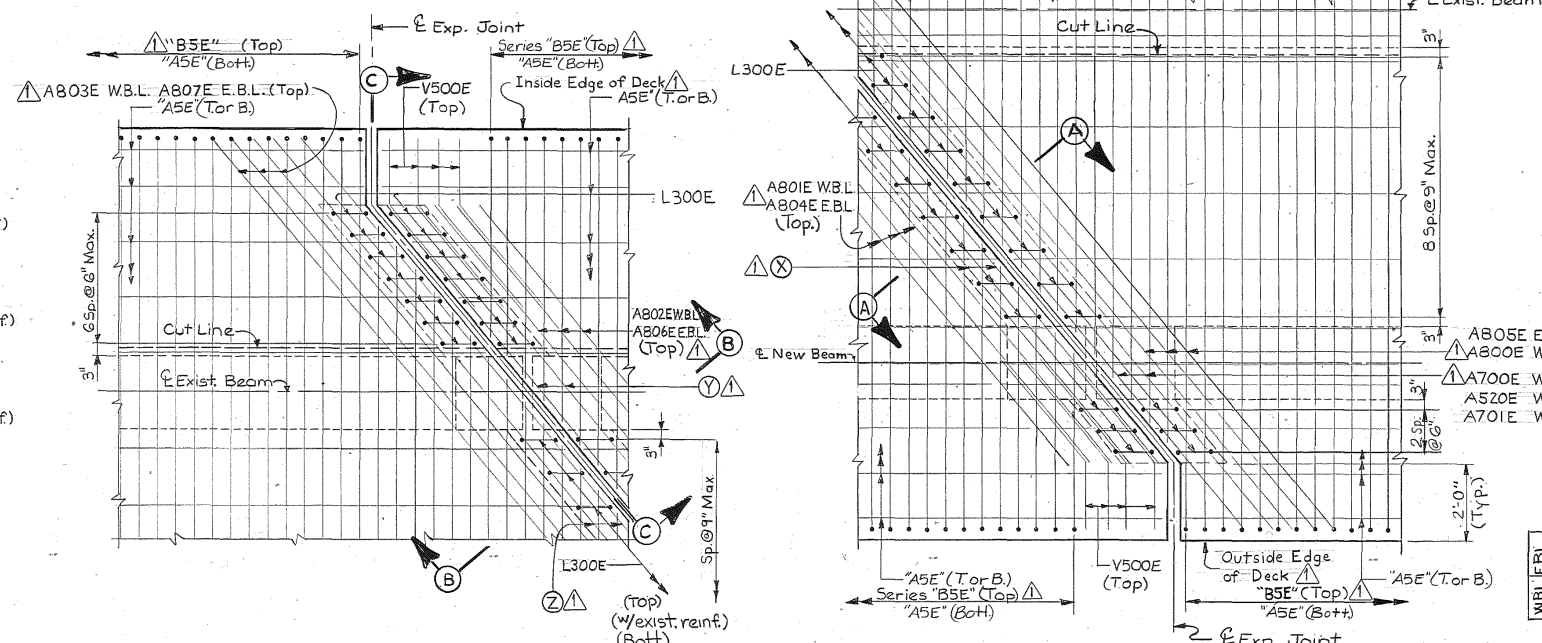


Note:
All pours to be made in numerical sequence. Pour No. 1 in exterior spans, shall proceed in a direction from mid-span to the abutment. Pours with the same numerical designation may be made simultaneously. Also, pours 1 and 2 may be made simultaneously provided the 1 sections are placed on each side of any 2 section placed during a particular pour. The contractor shall make adequate provisions during placement of slab to prevent the exterior beams 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. M-214-115.

⊗ A701E W.B.L. A704E E.B.L. (Top)
A520E W.B.L. A523E E.B.L. (w/exist. reinf.)
A701E W.B.L. A704E E.B.L. (Bottom)

⊙ A702E W.B.L. A706E E.B.L. (Top)
A521E W.B.L. A525E E.B.L. (w/exist. reinf.)
A702E W.B.L. A706E E.B.L. (Bottom)

⊙ A703E W.B.L. A707E E.B.L. (Top)
A521E W.B.L. A525E E.B.L. (w/exist. reinf.)
A702E W.B.L. A706E E.B.L. (Bottom)



DETAIL "B"
No Scale

Note:
For sections A-A, B-B and C-C
see Dwg. No. M-214-118.

DETAIL "C"
No Scale

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 & General Notes Dwg.

ESTIMATED	QUANTITIES
Class A Concrete Bridge Deck CY.	Epoxy Coated Reinforcing Steel Lb.
388	30922
389	30974

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAYS

SUPERSTRUCTURE DETAILS (3)
I-40 OVER CANEY FORK RIVER
STA. 431+41.96 & SURVEY E.B. I-40
STA. 424+17.07 & SURVEY W.B. I-40
SMITH COUNTY
1989

CORRECT

ENGINEER OF STRUCTURES

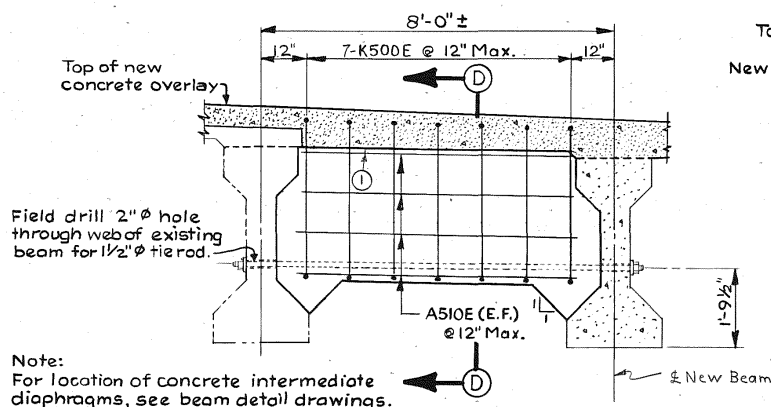
APPROVED

DIRECTOR OF HIGHWAYS

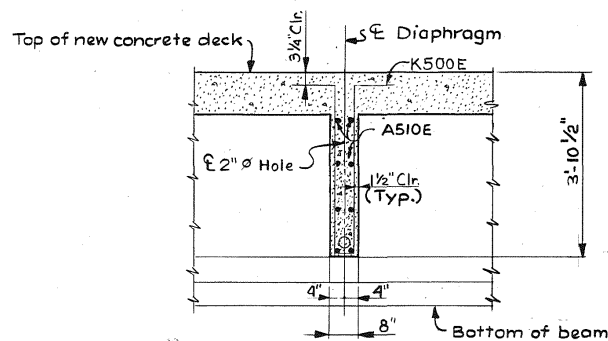
M-214-117

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

① Required Construction Joint. Diaphragm shall be cast & cured before new deck is poured.

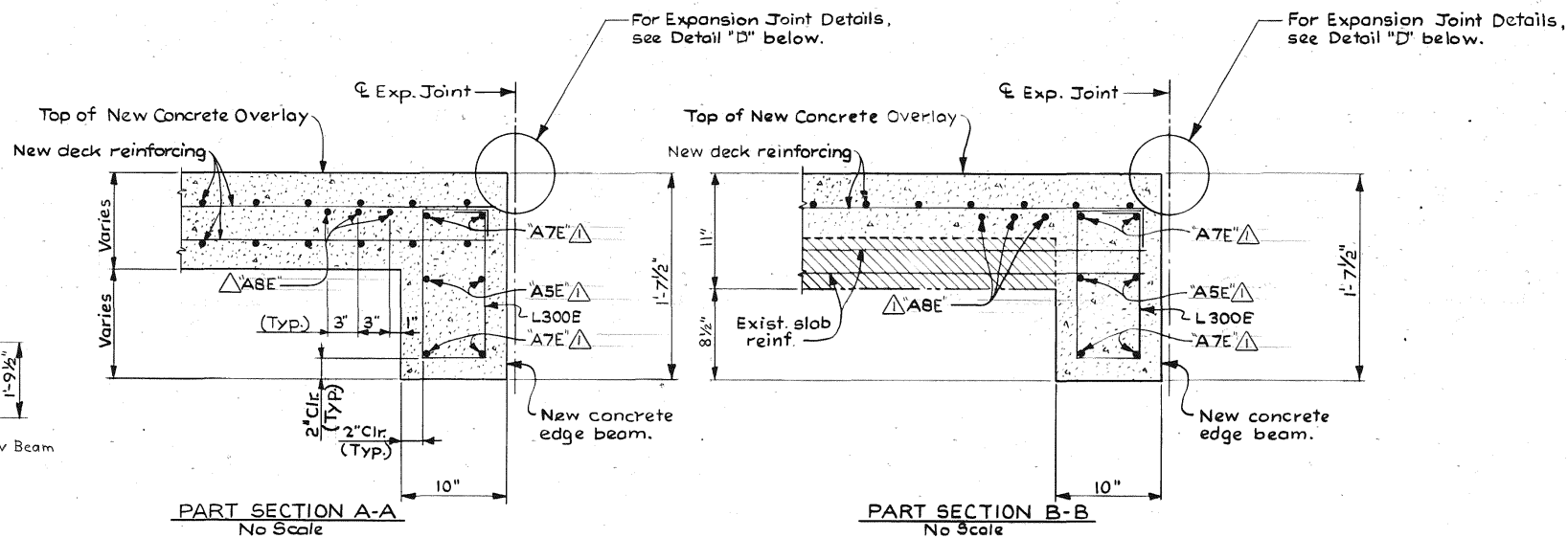


TYPICAL INTERMEDIATE DIAPHRAGM
No Scale



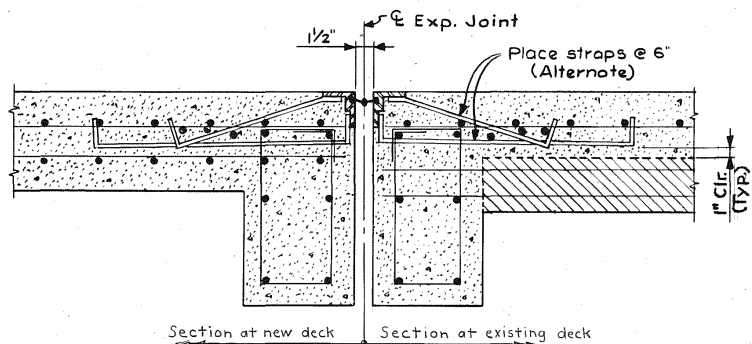
SECTION D-D
No Scale

Note:
Top part of Abutments shall be poured concurrently with the deck slab and included in the quantity for Item 604-01.12 as shown on abutment sheets.

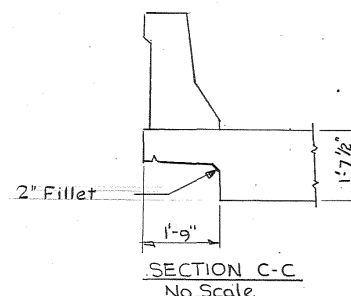


PART SECTION A-A
No Scale

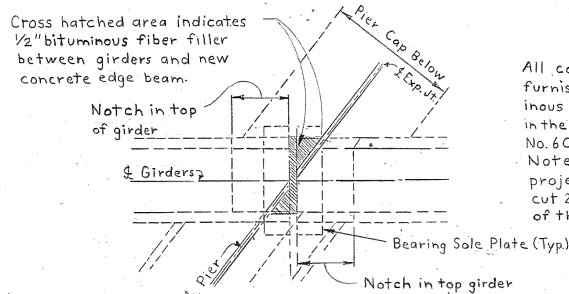
PART SECTION B-B
No Scale



DETAIL "D" - EXPANSION JOINT DETAILS
No Scale



SECTION C-C
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. 604-01.12.
Note: Girder reinforcing projecting in notch shall be cut 2" back from the face of the expansion joint.

CONSTR. NO. 80001-3152-44

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

REVISIONS			
NO.	DATE	BY	BRIEF DESCRIPTION
1	9-14-89	DWT	Revised Reinf. for Const. Jt.

Notes:
1. Details of Strip Seal Expansion Joint shall be in accordance with details shown on Standard Dwg. No. M-156-108 #1084. 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. 604-11.03.

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

Expected 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	Note: A positive value indicates an upward Camber.
A	1 1/4"	1 3/8"	
B-D	2 1/2"	2 3/8"	
E	1 1/4"	1 3/8"	

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.

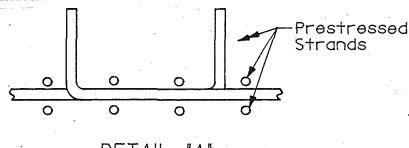
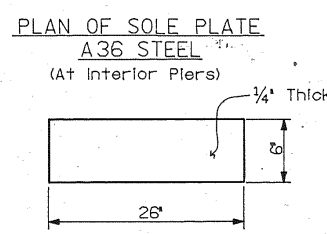
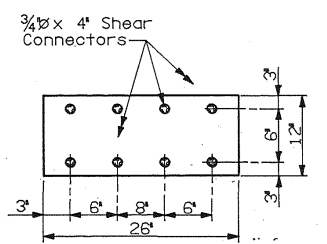
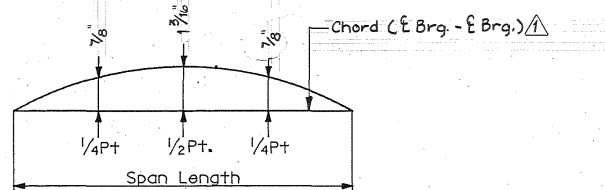
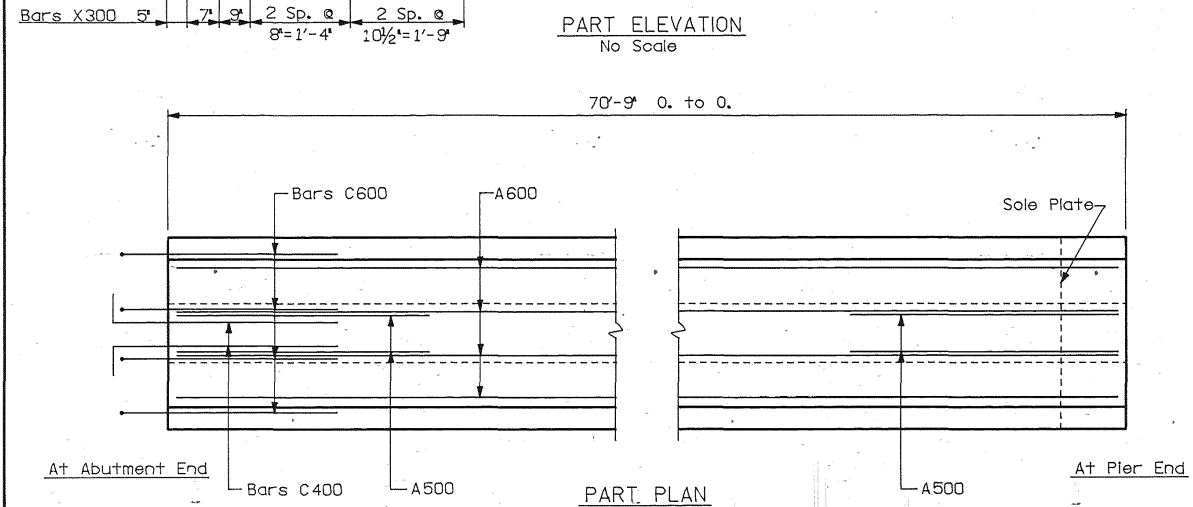
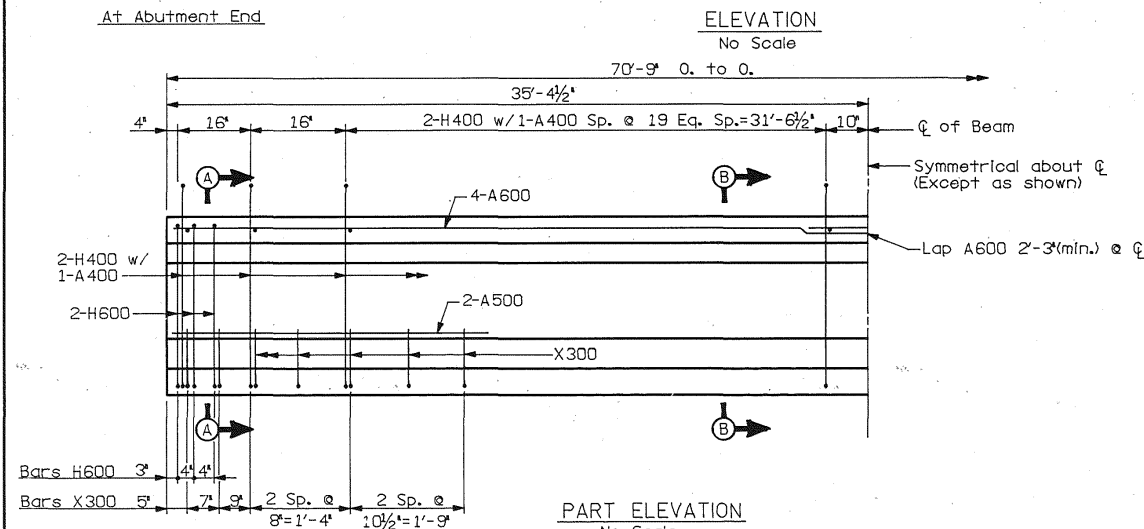
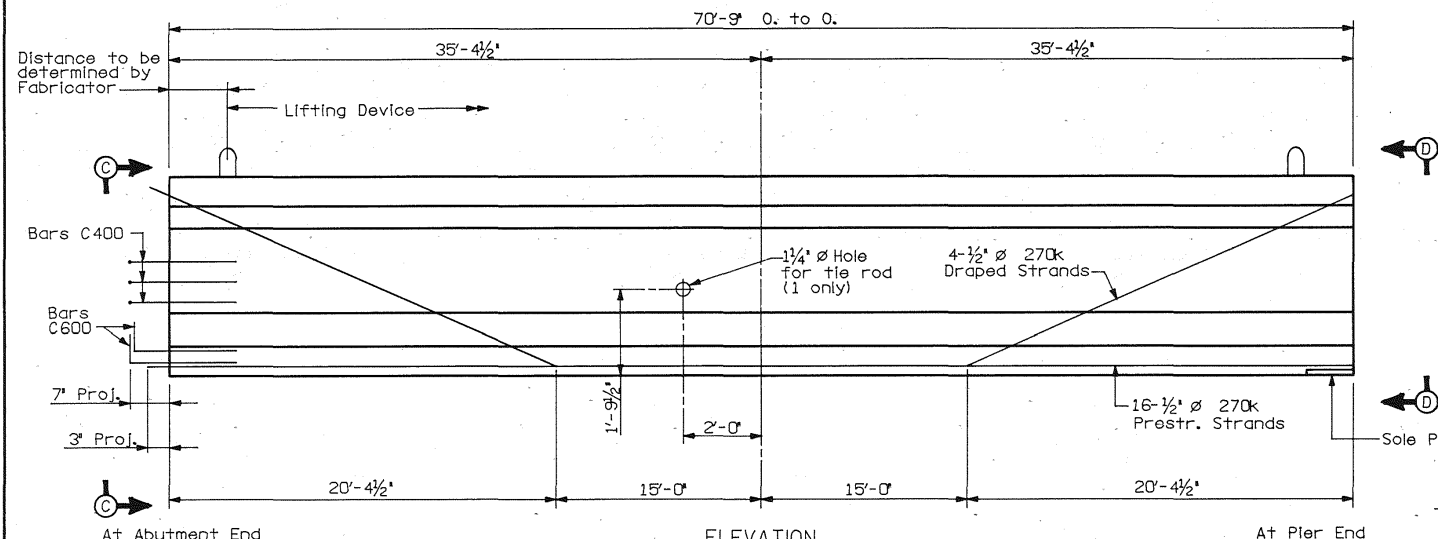
STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAYS
SUPERSTRUCTURE DETAILS (4)
I-40 OVER CANEY FORK RIVER
STA. 431+41.96 & SURVEY E.B. I-40
STA. 424+17.07 & SURVEY W.B. I-40
SMITH COUNTY
1989

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

CORRECT
ENGINEER OF STRUCTURES

APPROVED
DIRECTOR OF HIGHWAYS

M-214-118



WESTBOUND LANE					
BILL OF STEEL - ONE BEAM					
BARS	SIZE	NO. REQ'D	LENGTH	NO. REQ'D	LENGTH
A400	4	44	1'-6"	44	1'-6"
A500	5	4	5'-0"	4	5'-0"
A600	6	8	36'-10"	8	36'-10"
C400	4	6	3'-6"	6	3'-6"
C600	6	6	3'-6"	6	3'-6"
H400	4	88	6'-5"	88	6'-5"
H600	6	12	5'-8"	12	5'-8"
X300	3	14	6'-8"	14	6'-8"

WESTBOUND LANE				
ESTIMATED QUANTITIES - ONE BEAM				
ITEM	UNIT	SPAN A	SPAN E	
CLASS 'A' CONCRETE	C.Y.	14.4	14.4	
REINFORCING STEEL	LB.	1,080	1,080	
PRESTRESSING STRANDS	LB.	748	748	

- Denotes Grade 60 Reinf. Steel
- Denotes Prestressing Strand

CONSTR. NO. 80001-3152-44		
PROJECT NO. IR-40-5911257	YEAR 1989	SHEET NO.

REVISIONS			
NO.	DATE	BY	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" 270k 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"x1/4" (Plain) at abutment ends. For details of bearings at pier ends, see Dwg. No. M-214-123.

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.

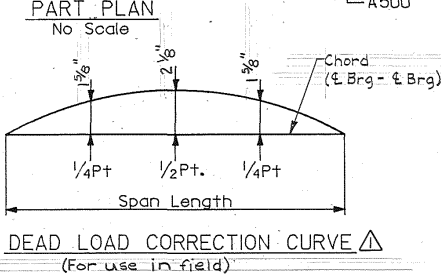
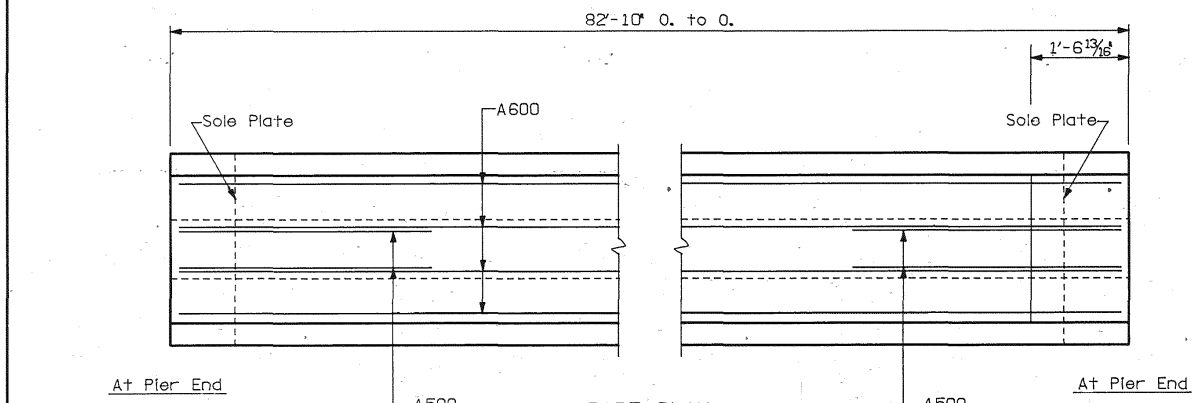
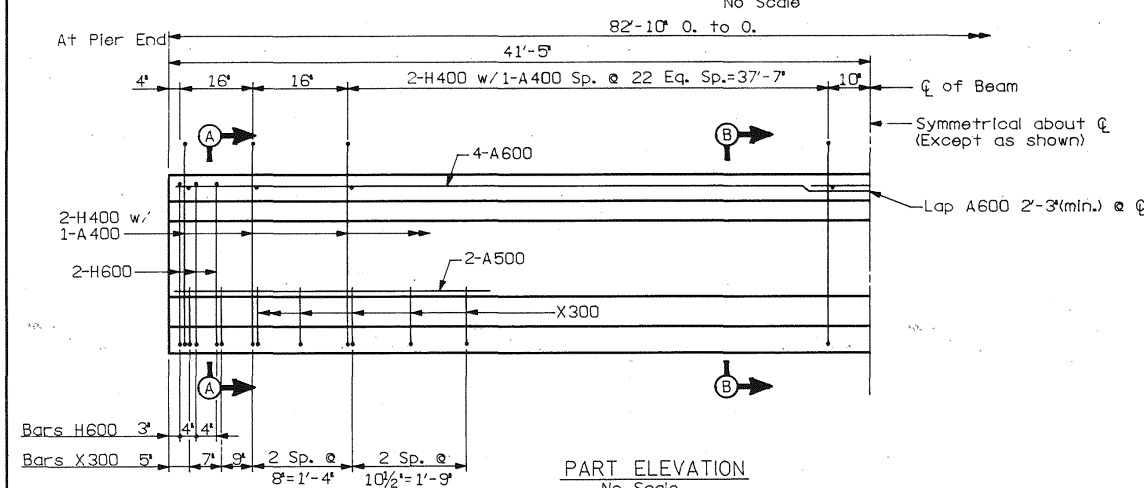
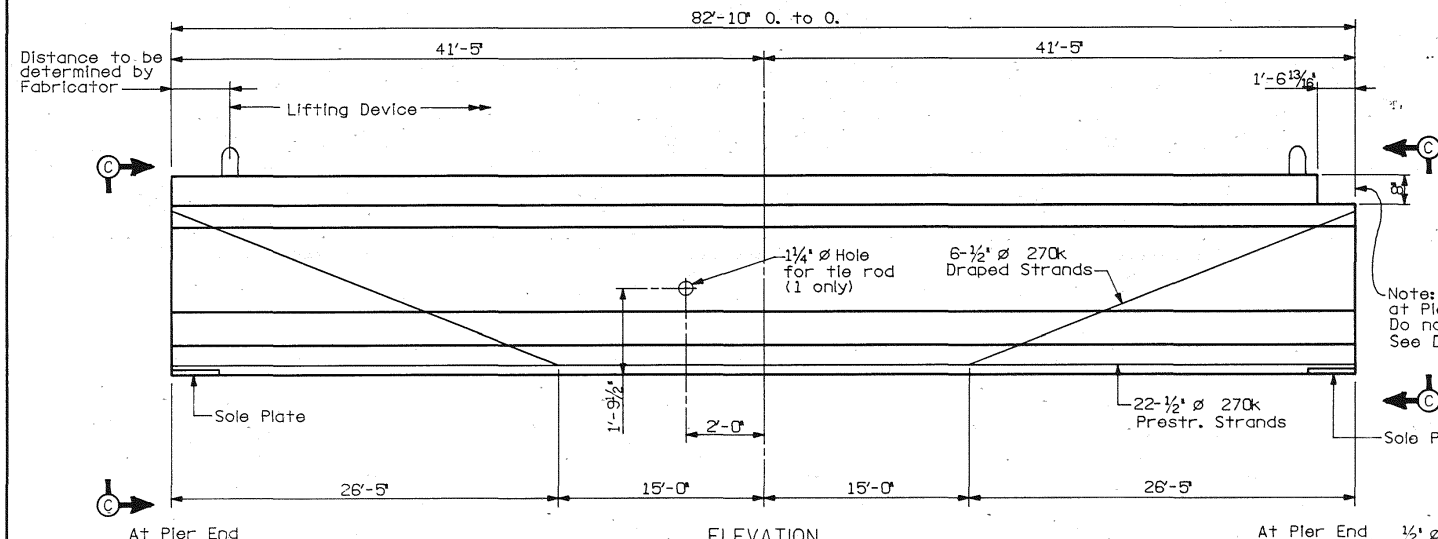
The sequence for transfer of stress or the cutting strands shall be in accordance with Article 615.14 of the 'Standard Specifications for Road and Bridge Construction' and shall be shown on the approved shop drawings. At no time shall more than 1/6th of the total prestressing force be eccentric about 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 & E - WESTBOUND LANE
I-40 OVER CANEY FORK RIVER
STA. 424+17.07 @ SURVEY W.B. I-40
SMITH COUNTY
1989

DESIGNED BY DWT
DRAWN BY FAB
SUPERVISED BY WSH
CHECKED BY HIZ
DATE 11-88
DATE 11-88
DATE 11-88
DATE

CORRECT
ENGINEER OF STRUCTURES
APPROVED
DIRECTOR OF HIGHWAYS
M-214-119



WESTBOUND LANE						
BILL OF STEEL - ONE BEAM						
BARS	SIZE	NO. REQ'D	LENGTH	NO. REQ'D	LENGTH	NO. REQ'D
A400	4	50	1'-6"	50	1'-6"	50
A500	5	4	5'-0"	4	5'-0"	4
A600	6	8	42'-9"	8	42'-9"	8
H400	4	100	6'-5"	100	6'-5"	100
H600	6	12	5'-8"	12	5'-8"	12
X300	3	14	6'-8"	14	6'-8"	14

WESTBOUND LANE				
ESTIMATED QUANTITIES - ONE BEAM				
ITEM	UNIT	SPAN B	SPAN C	SPAN D
CLASS 'A' CONCRETE	C.Y.	16.8	16.8	16.8
REINFORCING STEEL	LB.	1,160	1,160	1,160
PRESTRESSING STRANDS	LB.	1,220	1,220	1,220

• 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
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" $\varnothing$ 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.

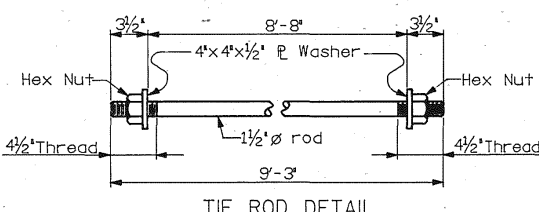
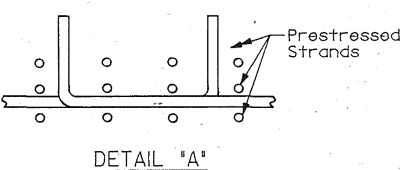
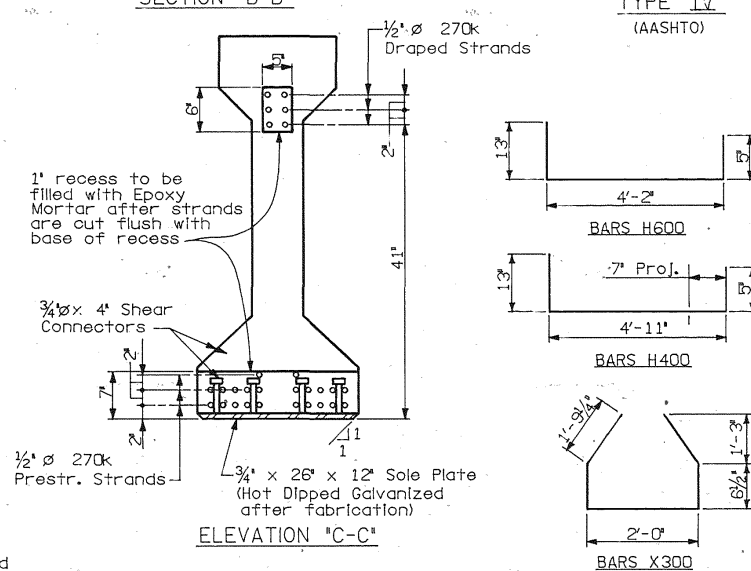
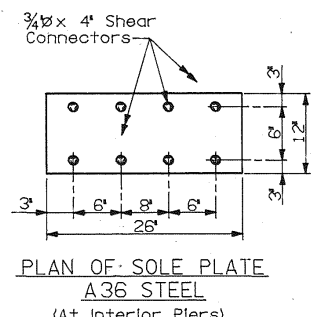
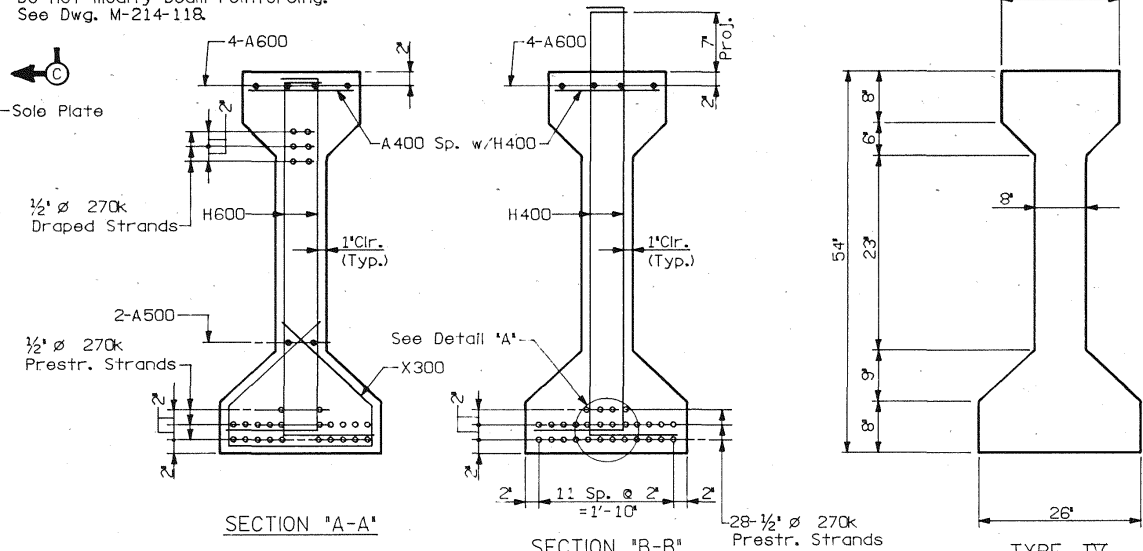
1" recess shall be formed at each end of beam and fill with epoxy mortar as shown. For details of bearings at pier ends, see Dwg. No. M-214-123.

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

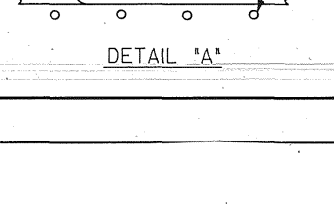
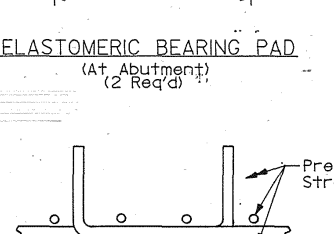
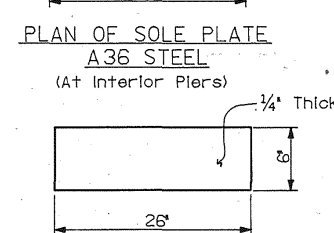
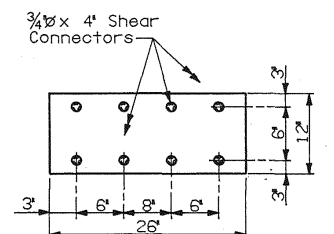
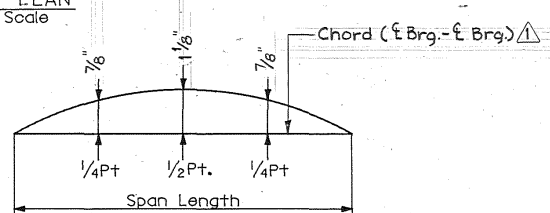
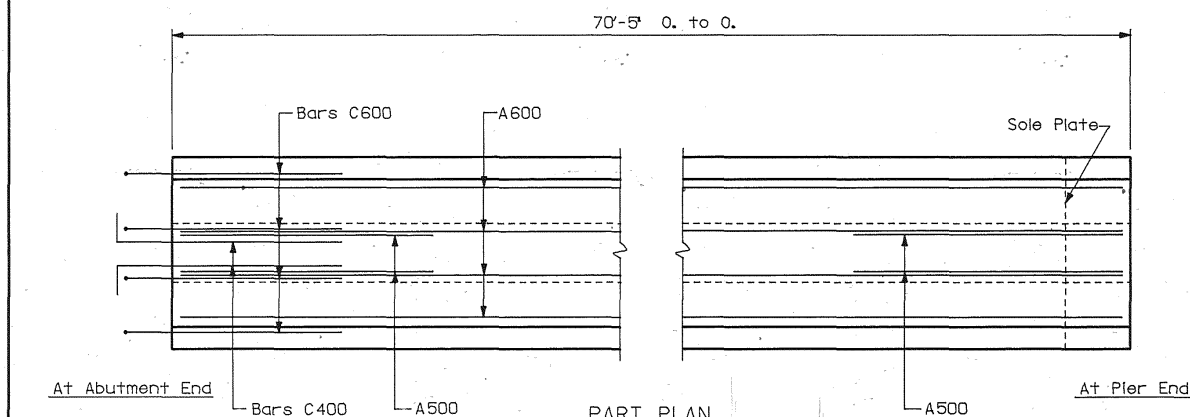
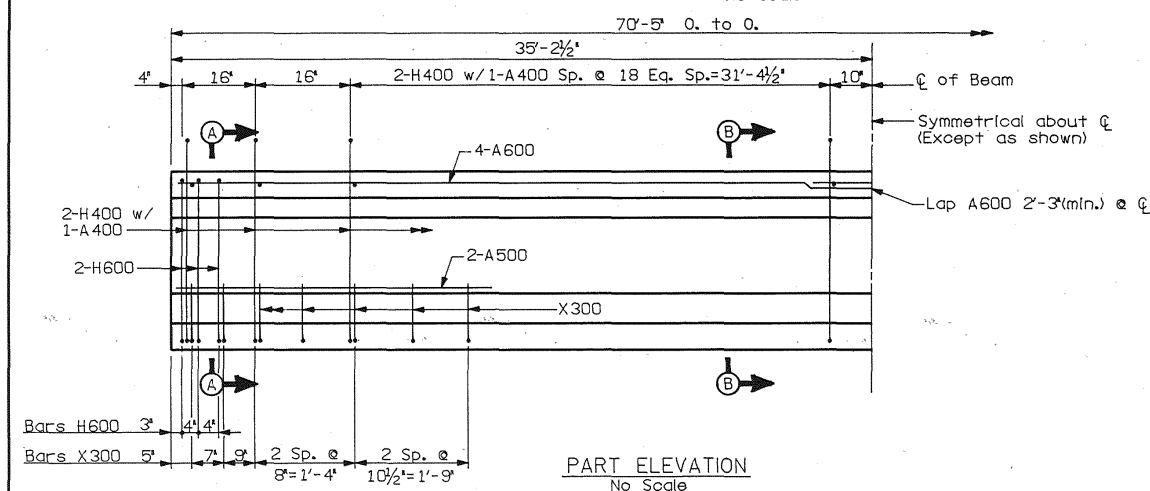
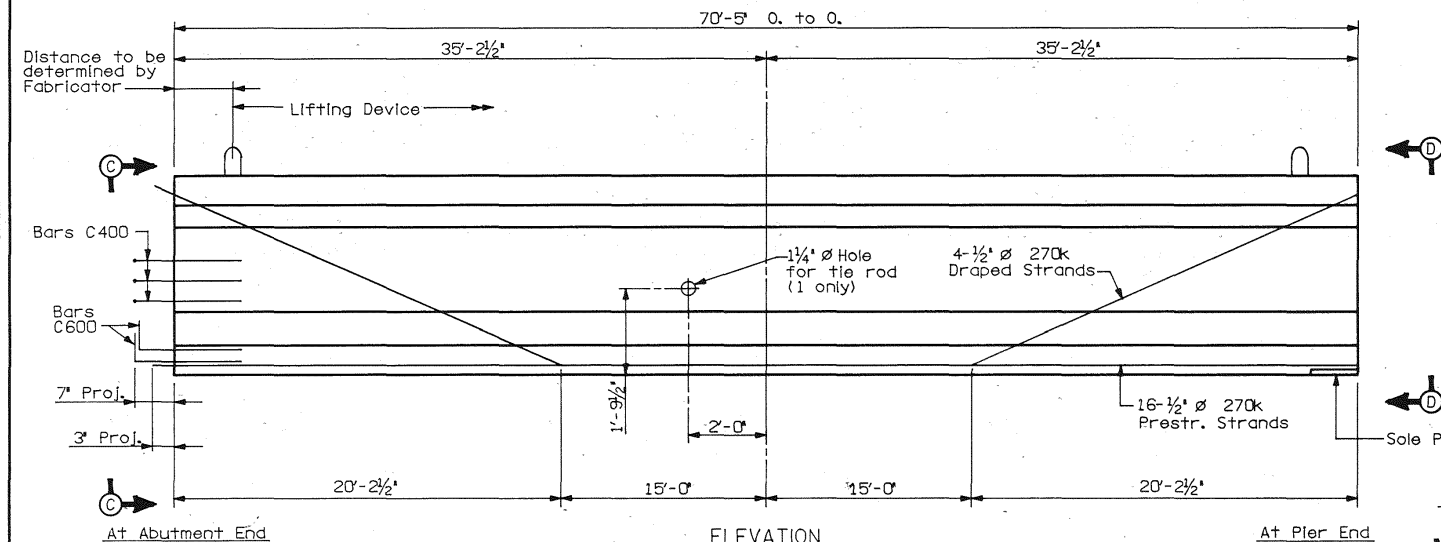
PRESTRESSED CONCRETE I-BEAM (TYPE IV)
SPANS B, C & D - WESTBOUND LANE
I-40 OVER CANEY FORK RIVER
STA. 424+7.07 $\pm$ SURVEY W.B. I-40
SMITH COUNTY
1989

DESIGNED BY DWT
DRAWN BY EAB
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-214-120



EASTBOUND LANE					
BILL OF STEEL - ONE BEAM					
BARS	SIZE	NO. REQ'D	LENGTH	NO. REQ'D	LENGTH
A400	4	42	1'-6"	42	1'-6"
A500	5	4	5'-0"	4	5'-0"
A600	6	8	36'-8"	8	36'-8"
C400	4	6	3'-6"	6	3'-6"
C600	6	6	3'-6"	6	3'-6"
H400	4	84	6'-5"	84	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 E	
CLASS 'A' CONCRETE	C.Y.	14.3	14.3	
REINFORCING STEEL	LB.	1,043	1,043	
PRESTRESSING STRANDS	LB.	745	745	

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

CONSTR. NO. 80001-3152-44		
PROJECT NO.	YEAR	SHEET NO.
IR-40-5(91)257	1989	
REVISIONS		
NO.	DATE	BY
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" 270k 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-214-123.

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 & E - EASTBOUND LANE

I-40 OVER CANEY FORK RIVER

STA. 431+41.96 Q SURVEY E.B. I-40

SMITH COUNTY

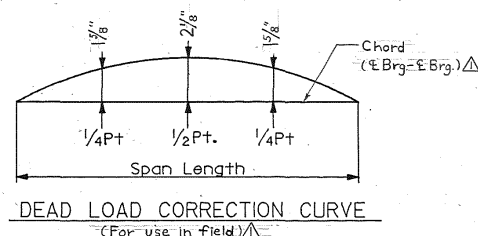
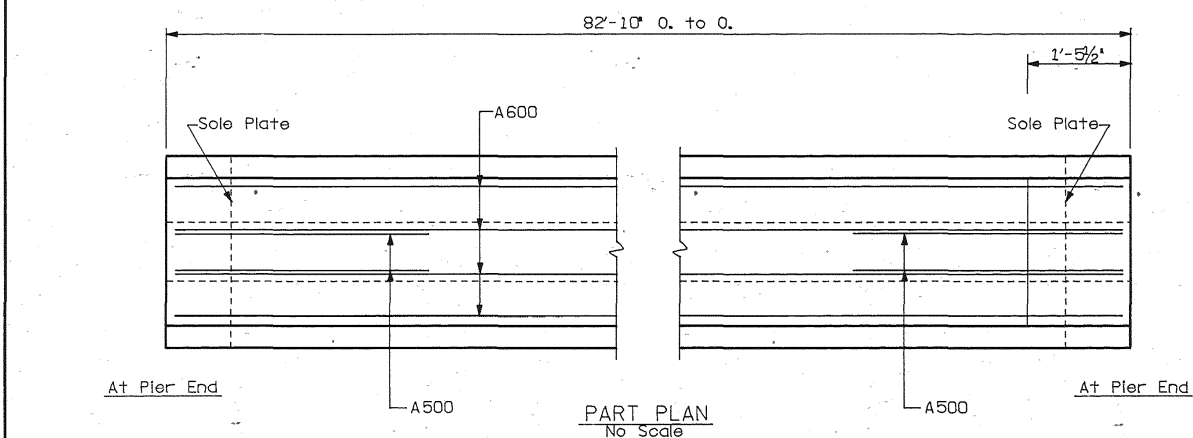
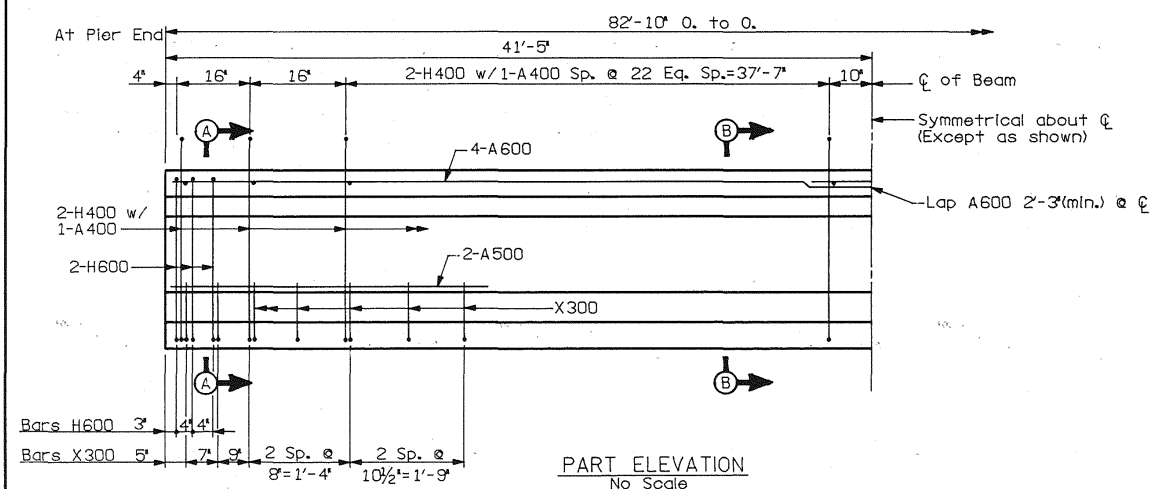
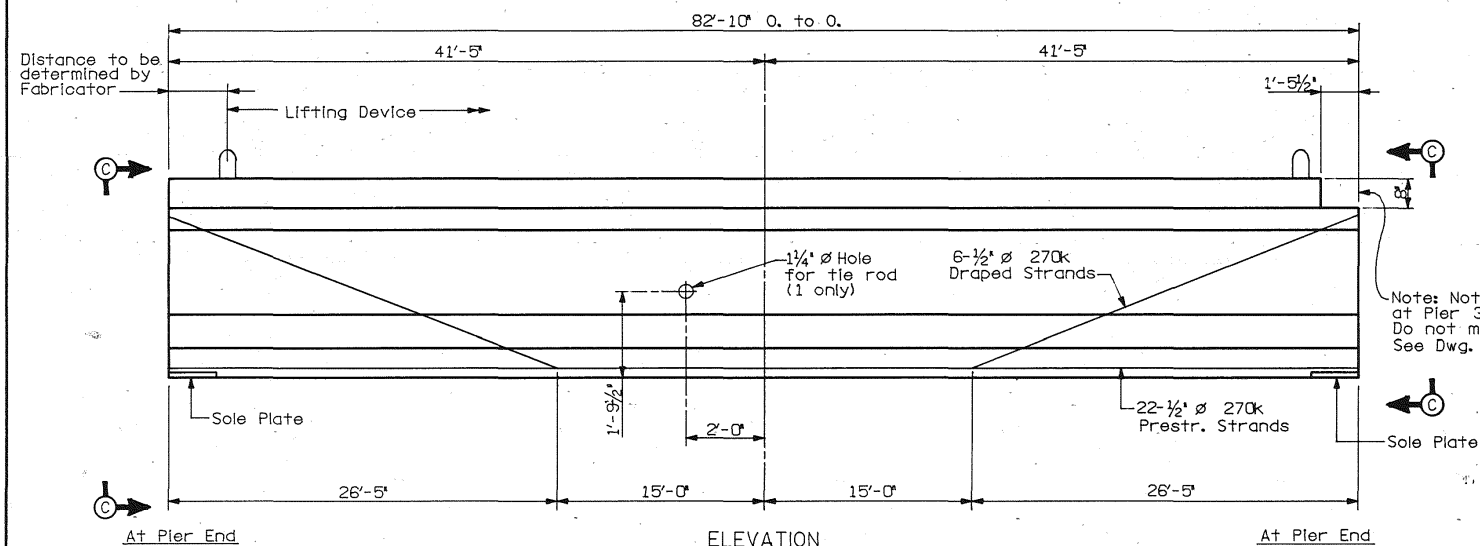
1989

DESIGNED BY DWT
DRAWN BY FAB
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

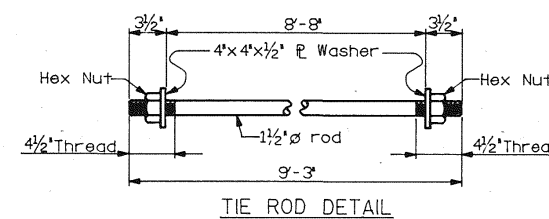
M-214-121



EASTBOUND LANE					
BILL OF STEEL - ONE BEAM					
BARS	SIZE	NO. REQ'D	LENGTH	NO. REQ'D	LENGTH
A400	4	50	1'-6"	50	1'-6"
A500	5	4	5'-0"	4	5'-0"
A600	6	8	42'-9"	8	42'-9"
H400	4	100	6'-5"	100	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 B	SPAN C	SPAN D
CLASS 'A' CONCRETE	C.Y.	16.8	16.8	16.8
REINFORCING STEEL	LB.	1,160	1,160	1,160
PRESTRESSING STRANDS	LB.	1,220	1,220	1,220

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



CONSTR. NO. 80001-3152-44

PROJECT NO.	YEAR	SHEET NO.
IR-40-5911/257	1989	

REVISIONS			
NO.	DATE	BY	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" $\varnothing$ 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-214-123.

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 - EASTBOUND LANE
I-40 OVER CANEY FORK RIVER
STA. 431+41.96 @ 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

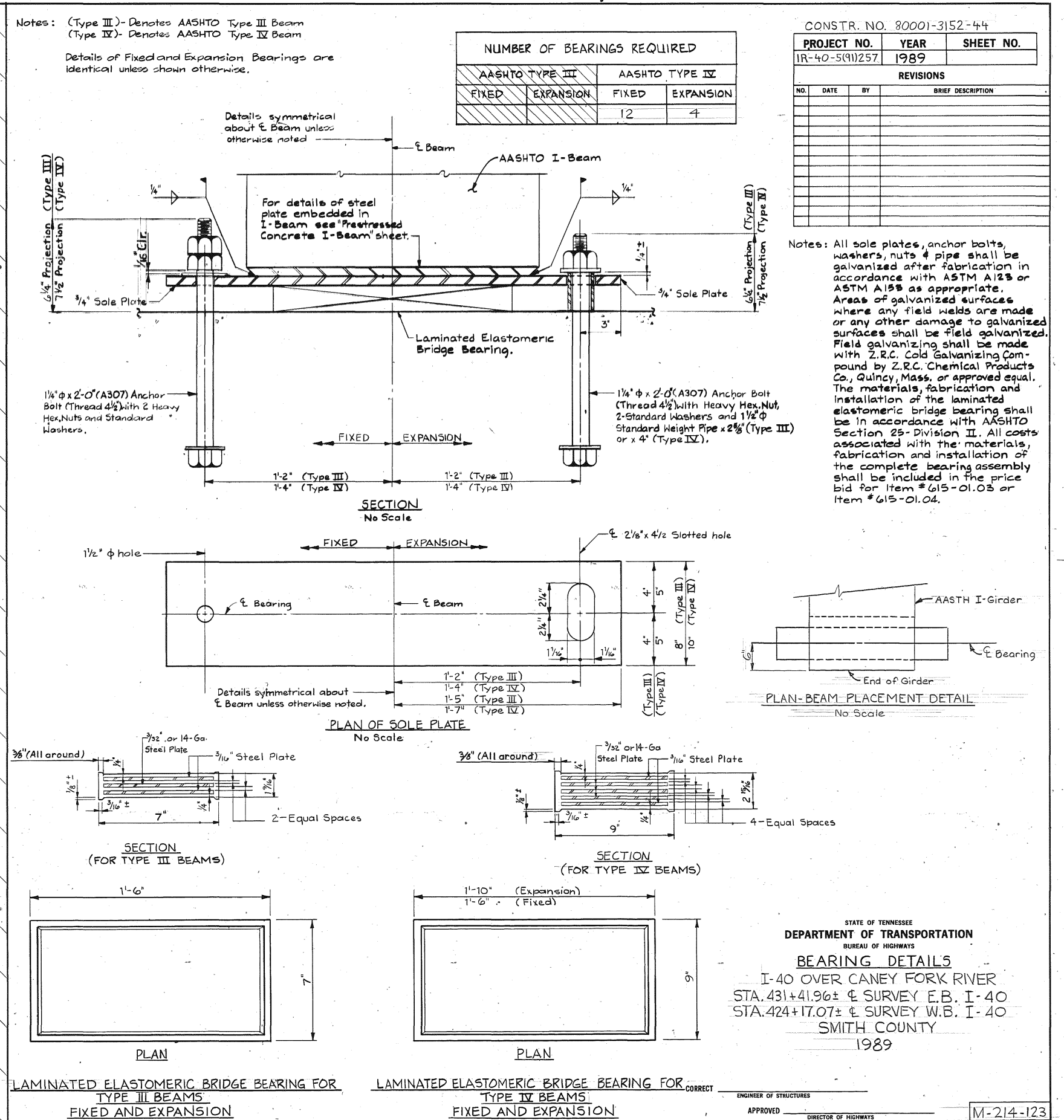
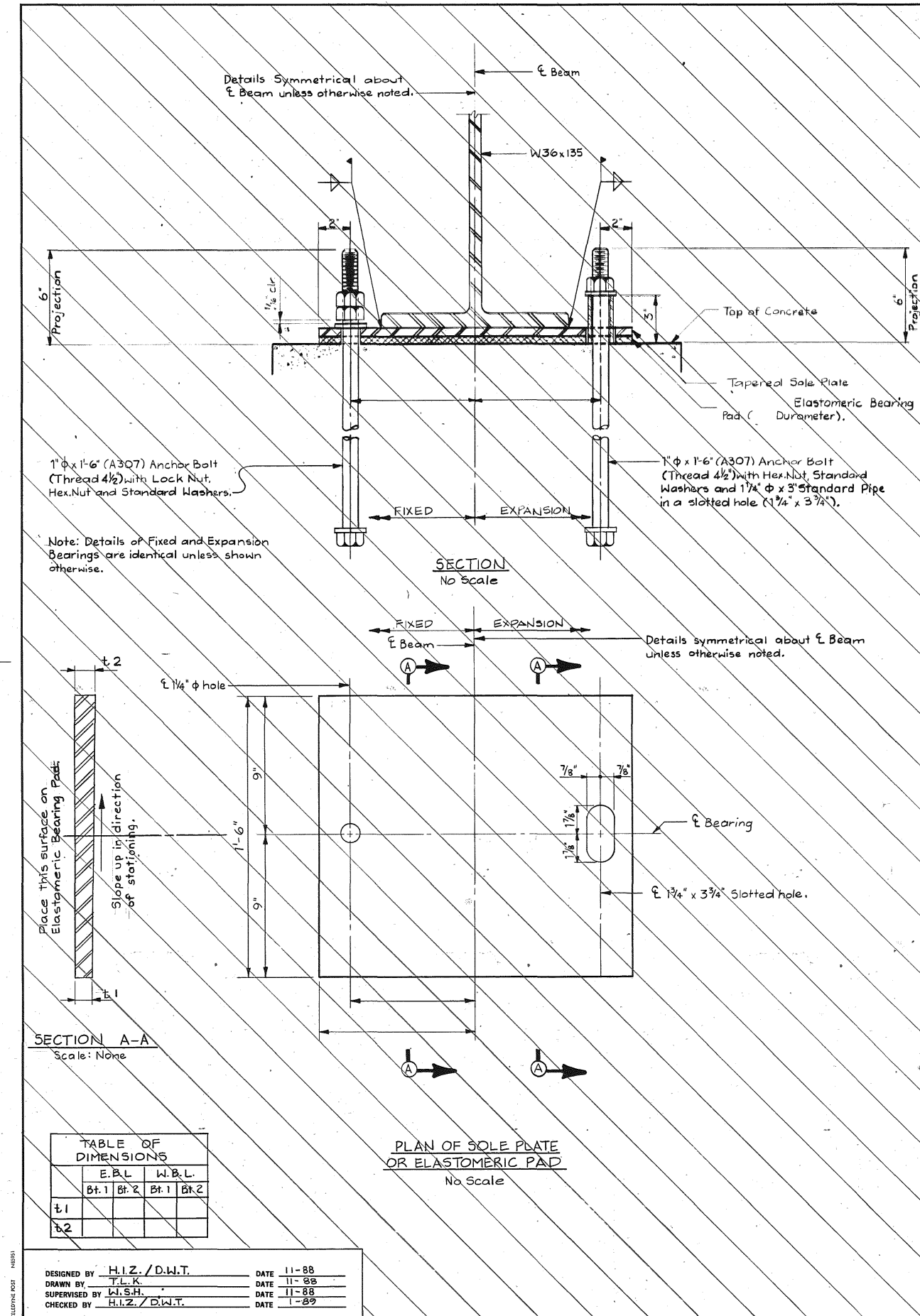
CORRECT

ENGINEER OF STRUCTURES

APPROVED

DIRECTOR OF HIGHWAYS

M-214-122



All surfaces of the existing abutment against which new concrete is to be placed shall be cleaned and intentionally roughened.

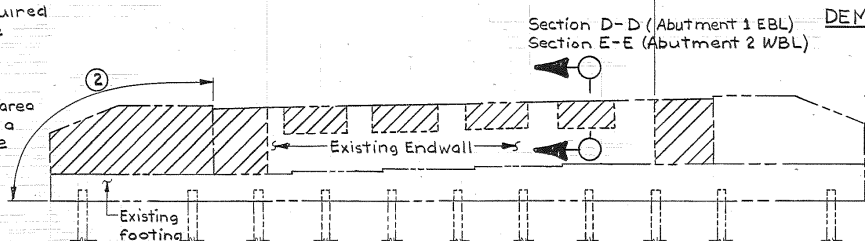
All materials removed become the property of the Contractor and shall be disposed of by him.

All costs associated with the demolition and disposal and surface preparation required shall be included in the price bid for item No. 202-02.04.

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

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

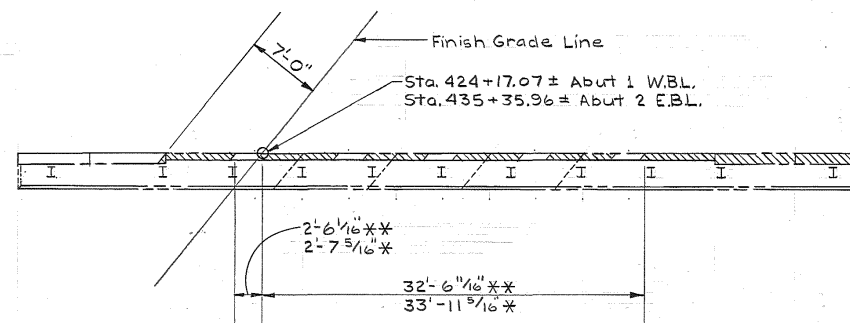
No Scale



ELEVATION

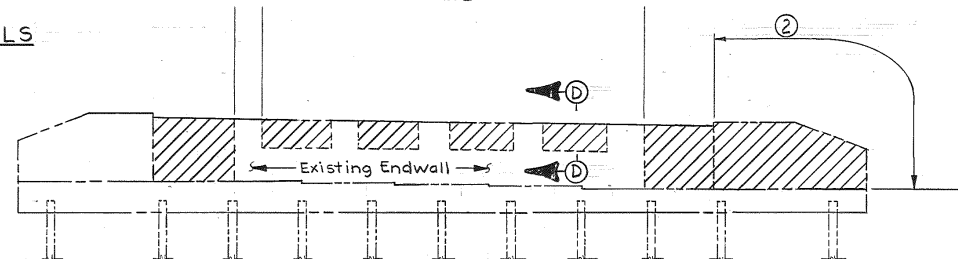
No Scale

(Abutment 1 E.B.L. looking back on stationing or abutment 2 W.B.L. looking in direction of stationing)



PLAN-ABUTMENT 1 W.B.L. OR ABUTMENT 2 E.B.L.

No Scale



ELEVATION

No Scale

(Abutment 1 W.B.L. looking back on stationing or abutment 2 E.B.L. looking in direction of stationing)

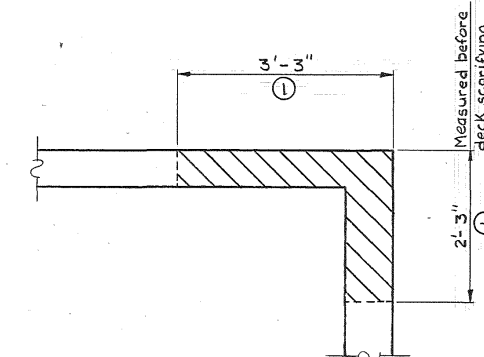
Denotes existing structure to be removed. Retain reinforcing unless otherwise noted.

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

Constr. No. 80001-3152-44

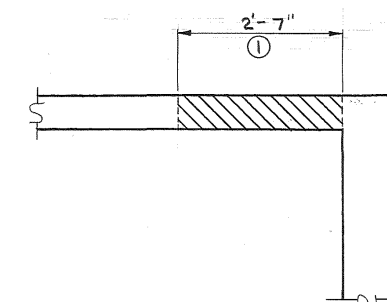
PROJECT NO.	YEAR	SHEET NO.
IR-40-59(1) 257	1989	

REVISIONS			
NO.	DATE	BY	BRIEF DESCRIPTION



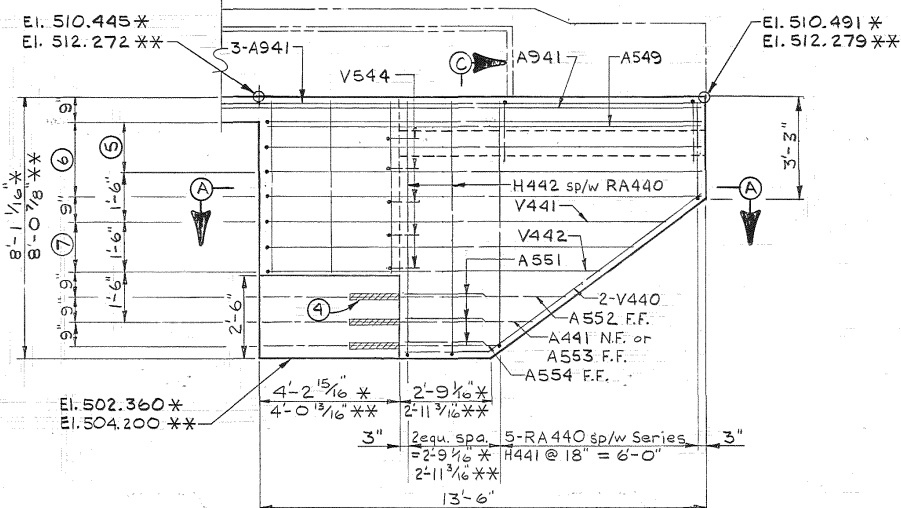
SECTION E-E ABUTMENT 2 W.B.L. ONLY

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



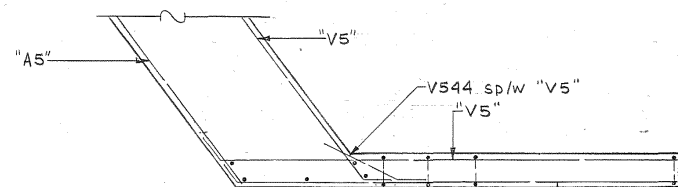
SECTION D-D

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



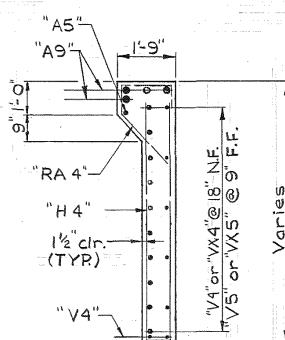
ELEVATION-WINGWALL 2

No Scale



SECTION A-A

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

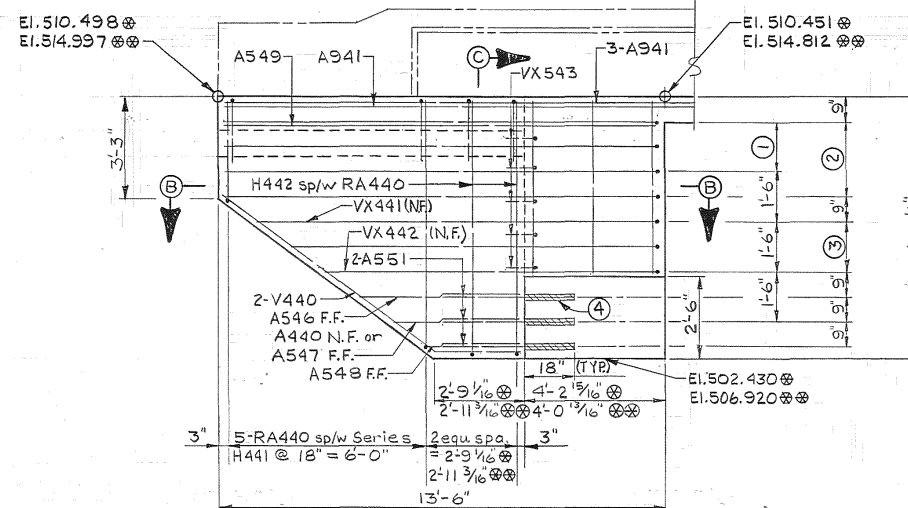


SECTION C-C

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

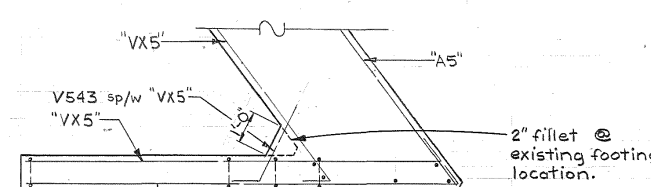
* Wingwall 2 ABUTMENT 1 W.B.L.
** Wingwall 2 ABUTMENT 2 E.B.L.
⊗ Wingwall 1 ABUTMENT 2 W.B.L.
⊗⊗ Wingwall 1 ABUTMENT 1 E.B.L.

- ① 2-VX440 @ 18" NF = 1'-6".
- ② 4-VX541 @ 9" = 2'-3" F.F.
- ③ Series VX542 @ 9" = 1'-6" F.F.
- ④ Install grouted bars in drilled holes in accordance with General Notes Drawing.
- ⑤ 2-V443 @ 18" (N.F.) = 1'-6"
- ⑥ 4-V541 @ 9" = 2'-3" (FF)
- ⑦ Series V542 @ 9" = 1'-6" (FF)



ELEVATION-WINGWALL 1

No Scale



SECTION B-B

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

Note: At Wingwall reduce 1'-4" dimension to 1'-0" in vicinity of bridge end drain only. (Eliminate Bracket) Form at constant 1'-0" height for full height at these locations. Omit Bars "RA4" and field cut "A9" & "A5" at drains. Adjust placement of remaining reinforcing to fit while maintaining clearances. See Std. Draw D-85-1 for limits of bridge end drain.

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAYS

ABUTMENT DETAILS (I)
I-40 OVER CANEY FORK RIVER
STA. 431+41.96 ± SURVEY E.B. I-40
STA. 424+17.07 ± SURVEY W.B. I-40
SMITH COUNTY
1989

CORRECT

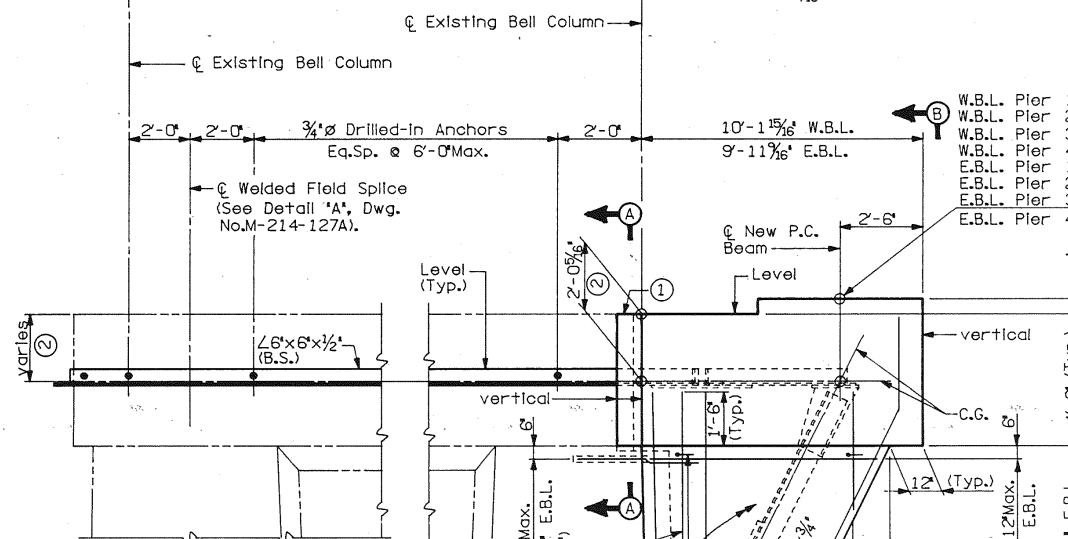
ENGINEER OF STRUCTURES

APPROVED

DIRECTOR OF HIGHWAYS

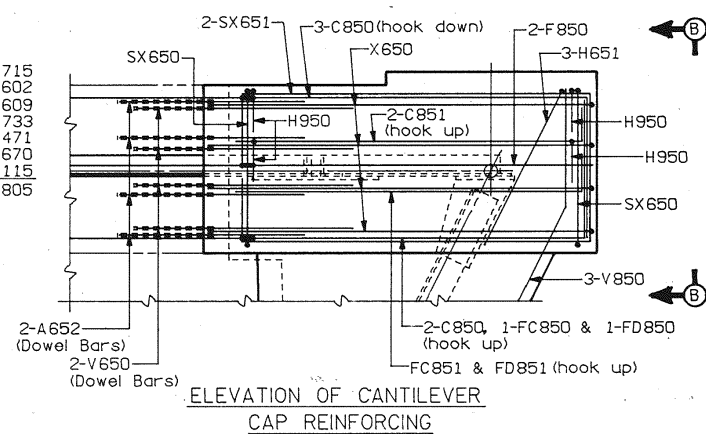
M-214-124

DESIGNED BY D.W.T. DATE 2-89
DRAWN BY W.D.M. DATE 2-89
SUPERVISED BY W.S.H. DATE 2-89
CHECKED BY D.W.T. DATE 3-89



- See Detail 'G'—
Dwg. No. M-214-127A

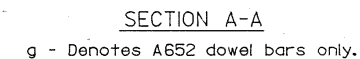
DESIGNED BY: WGA DATE 2-89
DRAWN BY: EAB DATE 2-89
SUPERVISED BY: WSH DATE 2-89
CHECKED BY: WGA DATE 3-89



The image contains two architectural drawings of a riser block, labeled 'ELEVATION - RISER BLOCK' and 'PLAN - RISER BLOCK'.

ELEVATION - RISER BLOCK: This drawing shows the side profile of the block. The total width is 5'-0". The central section is 6'-0" wide and contains 9 vertical bars (9 Sp. @ 6'-0") of A350 reinforcement. The block is 3'-0" high. The top surface is finished with 1 1/2" of concrete (1 1/2" Cir.). The reinforcement bars are labeled A350 and A351. The drawing includes a section line with the number 3.

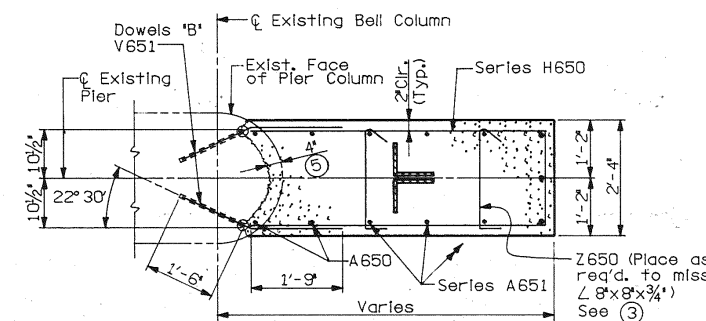
PLAN - RISER BLOCK: This drawing shows the top-down view of the block. The block is 3'-0" wide and 9'-0" deep. The depth is defined by 9 equal spaces (9 Eq. Sp. = 4'-8") of A351 reinforcement bars. The block is 1 1/2" high (1 1/2" Cir. (Typ.)). The drawing includes a section line with the number 3 and a label 'Exist.' with an arrow pointing to the existing ground level.



ANCHOR BOLT PLACEMENT SKETCH
No Scale

Note:
For notes, see Dwg. No. M-214-127A.

ESTIMATED QUANTITIES			
Item	Class 'A' Concrete (Bridges)	Structural Steel	Steel Bar Reinforcement (Bridges)
Pier No.	C.Y.	Lb.	Lb.
W.B.L. - 1	14	4,100	2,870
W.B.L. - 2	14	4,100	2,870
W.B.L. - 3	~~14~~ 15	4,100	3044 ~~2,870~~
W.B.L. - 4	14	4,100	2,870
E.B.L. - 1	14	4,000	2,795
E.B.L. - 2	14	4,000	2,795
E.B.L. - 3	~~14~~ 15	4,000	3044 ~~2,795~~
E.B.L. - 4	14	4,000	2,795



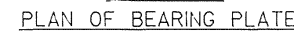
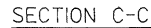
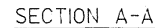
SECTION C-C
(Layout Dowels 'B')
STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAYS

PIERS 1, 2, 3 & 4
I-40 OVER
CANEY FORK RIVER W.B.L. & E.B.L.
STA. 424+17.07 C SURVEY W.B.L.
STA. 431+41.96 C SURVEY E.B.L.
SMITH COUNTY
1989

CORRECT _____
ENGINEER OF STRUCTURES
APPROVED _____
DIRECTOR OF HIGHWAYS

Scale: None

M-214-127



Notes:

For General Notes, see Dwg No. M-214-11Q.

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

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

All structural steel not completely encased in concrete shall conform to AASHTO M 222 (ASTM A589), Fy=50 ksi minimum. All structural steel completely encased in concrete shall conform to AASHTO M 183 (ASTM A36), Fy=36 ksi.

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

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

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

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

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

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

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

PIERS 1, 2, 3 & 4

1-40 OVER
CANEY FORK RIVER W.B.L. & E.B.L.
STA. 424+17.07+ C SURVEY W.B.L.
STA. 431+41.96+ C SURVEY E.B.L.
SMITH COUNTY
1989

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

CORRECT

ENGINEER OF STRUCTURES

APPROVED _____
DIRECTOR OF HIGHWAYS

Scale: None

M-214-127A

MARK	T	LOCATION	SZ	NO. REQ'D	DIMENSIONS FT-IN					LENGTH FT-IN	WEIGHT LBS	MARK	T	LOCATION	SZ	NO. REQ'D	DIMENSIONS FT-IN					LENGTH FT-IN	WEIGHT LBS	MARK	T	LOCATION	SZ	NO. REQ'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 E - W.B.L.												ABUTMENT 1 W.B.L.												PIER 3 - W.B.L.													
A500	E	DECK	5	931	4-9					4-9	4612	V544	"	"	5	5	3-3	0-10	0-9	0-4 1/2		4-1	21	A651	"	"	6	2	15-7					15-7	219		
A501	E	"	5	907	10-9					10-9	10170	A743	E	ABUTMENT	7	5	25-4					25-4	259		"	"	"	8	2	15-7					15-7	219	
A502	E	"	5	1	10-2					10-2	88		"	"										"	"	"	"	8	2	15-7					15-7	219	
	"	"			5-3					5-3			"	"										"	"	"	"	8	2	15-7					15-7	219	
	"	"			5-3					5-3			"	"										"	"	"	"	8	2	15-7					15-7	219	
A503	E	"	5	689	30-0					30-0	21559		"	"										"	"	"	"	8	2	15-7					15-7	219	
A504	E	"	5	53	17-0					17-0	940		"	"										"	"	"	"	8	2	15-7					15-7	219	
A505	E	"	5	53	17-6					17-6	967		"	"										"	"	"	"	8	2	15-7					15-7	219	
A506	E	"	5	120	29-6					29-6	3692	A350	"	RISER BLOCK	3	10	4-10					4-10	18	FC851	"	"	"	8	1	5-11	0-2	3-8	0-1 3/4	1-0	10-9	29	
A507	E	"	5	1	8-7					8-7	79	A351	"	"	3	10	4-8					4-8	18	FD850	"	"	"	8	1	5-3 1/2	0-10 1/2	3-8	0-9	3-5 1/2	13-3	35	
	"	"			2-3					2-3		A650	"	CANT.COLUMN	6	4	15-7					15-7	94	FD851	"	"	"	8	1	6-1	0-2	3-8	0-1 3/4	1-0	10-11	29	
	"	"			2-3					2-3		A651	"	"	6	2	15-7					15-7	219	H650	"	"	"	6	1	2-0	8-2 1/2			18-5	258		
A508	E	"	5	1	10-3					10-3	107		"	"										"	"	"	"	8	2	15-7					15-7	219	
	"	"			3-5					3-5		A652	"	CANT.CAP	6	8	3-6					3-6	42	H651	"	"	"	6	3	1-0	4-0			9-0	41		
A509	E	"	5	1	10-6					10-6	97	C850	"	"	8	5	9-9	3-5 1/2				13-3	177	H950	"	"	"	9	22	4-10	1-0			6-10	511		
	"	"			5-0					5-0		C851	"	"	8	2	10-0 1/2	1-0				11-1	59	SX650	"	"	"	6	11	4-9 1/2	3-7 1/2	1-0		14-1	233		
	"	"			5-0					5-0		FC850	"	"	8	2	1-4 1/4	0-9	7-9	0-6 1/4	0-6 1/4	9-10	53	SX651	"	"	"	6	2	3-5 1/4	10-0	1-9		27-0	81		
A510	E	"	5	40	6-2					6-2	257	FC850	"	"	8	1	5-3 1/2	0-10 1/2	3-8	0-9	3-5 1/2	13-3	35	V650	"	"	"	6	8	3-3	1-9	1-2 7/8	1-2 7/8	5-0	60		
A519	E	"	5	4	33-3					33-3	219	FC851	"	"	8	1	5-11	0-2	3-8	0-1 3/4	1-0	10-9	29	V651	"	"	"	6	30	1-9	1-9	1-7 3/8	0-8	3-6	158		
A700	E	"	7	2	31-8					31-8	129	FD850	"	"	8	1	5-3 1/2	0-10 1/2	3-8	0-9	3-5 1/2	13-3	35	V850	"	"	"	8	3	17-3 3/4	2-4 1/2	2-1 1/2	1-0 3/4	19-8	158		
A701	E	"	7	2	29-1					29-1	357	FD851	"	"	8	1	6-1	0-2	3-8	0-1 3/4	1-0	10-11	29	X650	"	"	"	6	4	4-7 3/4	9-11 1/2	1-0	0-8 1/2	26-7	160		
A800	E	"	8	3	31-8					31-8	254	H650	"	"	6	1	2-0	8-2 1/2				18-5	258	Z650	"	"	"	6	73	1-0	2-0	0-8		3-8	402		
B500	E	"	5	2	43-3	0-7				43-3	4034		"	"										"	"	"	"	8	2	15-7					15-7	219	
	"	"			5-2					5-2		H651	"	"	6	3	1-0	4-0				9-0	41		"	"	"	8	5	9-9	3-5 1/2			13-3	177		
B501	E	"	5	1	41-6	0-7				41-6	1871	H950	"	"	9	22	4-10	1-0				6-10	511		"	"	"	8	2	10-0 1/2	1-0			11-1	59		
	"	"			3-4					3-4		SX650	"	"	6	11	4-9 1/2	3-7 1/2	1-0			14-1	233	A350	"	"	"	3	10	4-10				4-10	18		
	"	"			3-4					3-4		SX651	"	"	6	2	3-5 1/4	10-0	1-9			27-0	81	A351	"	"	"	3	10	4-8				4-8	18		
B502	E	"	5	1	41-6	0-7				41-6	1864	V650	"	"	6	8	3-3	1-9	1-2 7/8	1-2 7/8	5-0	60	A650	"	"	"	6	4	15-7					15-7	94		
	"	"			3-9					3-9		V651	"	"	6	30	1-9	1-9	1-7 3/8	0-8		3-6	158	A651	"	"	"	6	2	15-7					15-7	219	
	"	"			3-9					3-9		V850	"	"	8	3	17-3 3/4	2-4 1/2	2-1 1/2	1-0 3/4		19-8	158		"	"	"	8	3	17-3 3/4	2-4 1/2	2-1 1/2	1-0 3/4	19-8	158		
B504	E	"	5	869	19-10	0-7				19-10	18505	X650	"	"	6	4	4-7 3/4	9-11 1/2	1-0	0-8 1/2		26-7	160		"	"	"	6	4	4-7 3/4	9-11 1/2	1-0	0-8 1/2	26-7	160		
K500	E	"	5	35	0-10	3-6	0-5			0-10	332	Z650	"	"	6	73	1-0	2-0	0-8			3-8	402	A652	"	"	"	6	8	3-6				3-6	42		
L300	E	"	3	66	1-2 1/2	0-6	0-4			1-2 1/2	101		"	"										C850	"	"	"	8	5	9-9	3-5 1/2			13-3	177		
V500	E	"	5	8	2-0	1-7	1-2 1/2	1-0 1/4		2-0	30		"	"										C851	"	"	"	8	2	10-0 1/2	1-0			11-1	59		
FOR CONTINUATION SEE SHEET M-214-151B												PIER 2 - W.B.L.												PIER 4 - W.B.L.													
***TOTAL INCLUDES 90974 LBS OF EPOXY COATED BARS												***TOTAL WEIGHT (LBS) 90974												***TOTAL WEIGHT (LBS) 2870													
ABUTMENT 1 W.B.L.												ABUTMENT 1 W.B.L.												ABUTMENT 1 W.B.L.													
A441	E	WINGWALL 2	4	1	3-7					3-7	2	A350	"	RISER BLOCK	3	10	4-10					4-10	18	FC851	"	"	"	8	1	5-11	0-2	3-8	0-1 3/4	1-0	10-9	29	
A540	E	ABUTMENT	5	98	4-2					4-2	426	A351	"	"	3	10	4-8					4-8	18	FD850	"	"	"	8	1	5-3 1/2	0-10 1/2	3-8	0-9	3-5 1/2	13-3	35	
A541	E	ABUT & WM 2	5	5	3-3					3-3	17	A652	"	CANT.CAP	6	8	3-6					3-6	42	H651	"	"	"	6	3	1-0	4-0			9-0	41		
A542	E	ABUTMENT	5	5	7-1					7-1	37	C850	"	"	8	5	9-9	3-5 1/2				13-3	177	H950	"	"	"	9	22	4-10	1-0			6-10	511		
A543	"	"	5	20	5-3					5-3	110	C851	"	"	8	2	10-0 1/2	1-0				11-1	59	SX650	"	"	"	6	11	4-9 1/2	3-7 1/2	1-0		14-1	233		
A544	"	"	5	10	5-9					5-9	60	FC850	"	"	8	2	1-4 1/4	0-9	7-9	0-6 1/4	0-6 1/4	9-10	53	SX651	"	"	"	6	2	3-5 1/4	10-0	1-9		27-0	81		
A545	E	"	5	49	11-6					11-6	588	FC850	"	"	8	1	5-3 1/2	0-10 1/2	3-8	0-9	3-5 1/2	13-3	35	V650	"	"	"	6	8	3-3	1-9	1-2 7/8	1-2 7/8	5-0	60		
A549	"	"	5	1	12-0					12-0	13	FC851	"	"	8	1	5-11	0-2	3-8	0-1 3/4	1-0	10-9	29	V651	"	"											

ABUTMENT 2 W.B.L.												SPANS A THRU E - E.B.L.												PIER 1 - E.B.L.																		
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											
A440	E	WINGWALL 1	4	1	3-7					3-7	2	B502	E	"	5	1	41-7	0-7					42-2	1092	V650	"	6	8	3-3	1-9	1-27/8	1-27/8		5-0	60							
A540	E	ABUTMENT	5	98	4-2					4-2	426	* 70 BAR SERIES EACH TO												V651	CANT.COLUMN	6	28	1-9	1-9	1-73/8	0-8		3-6	147								
A541	E	ABUT. & W.W. 1	5	5	3-3					3-3	17	* 70 BAR SERIES EACH TO												V850	"	8	3	17-1	2-4 1/2	2-1 1/2	1-0 3/4		19-6	156								
A542	E	ABUTMENT	5	5	7-1					7-1	37	B504	E	"	5	876	19-10	0-7					20-5	18654	X650	CANT.CAP	6	4	4-7 3/4	9-9	1-0	0-8 1/2		26-2	157							
A543	E	"	5	20	5-3					5-3	110	K500	E	"	5	35	0-10	3-6	0-5			9-1	332	Z650	CANT.COLUMN	6	69	1-0	2-0	0-8		3-8	380									
A544	E	"	5	10	5-9					5-9	60	L300	E	"	3	66	1-2 1/2	0-6	0-4			4-1	101																			
A546	E	WINGWALL 1	5	1	4-0					4-0	4	V500	E	"	5	8	2-0	1-7	1-3/4	0-1 1/8		3-7	30	***TOTAL WEIGHT (LBS)												2795						
A547	E	"	5	1	3-0					3-0	3													PIER 2 - E.B.L.																		
A548	E	"	5	1	2-0					2-0	2	***TOTAL INCLUDES 90922 LBS OF EPOXY COATED BARS												A350	RISER BLOCK	3	10	4-10				4-10	18									
A549	E	"	5	1	12-0					12-0	13	FOR CONTINUATION SEE SHEET 151B												A351	"	3	10	4-8				4-8	18									
A551	E	"	5	6	4-0					4-0	25	ABUTMENT 1 E.B.L.												A650	CANT.COLUMN	6	4	15-2 1/4				15-2	91									
A680	E	FD'N REPAIR	6	24	22-1					22-1	796													A651	"	6	2	15-2 1/4				15-2	214									
A741	E	ABUTMENT	7	5	31-7					31-7	323													* 8 BAR SERIES EACH TO																		
A940	E	"	9	3	25-4					25-4	258	A440	E	WINGWALL 1	4	1	3-7					3-7	2																			
A941	E	WINGWALL 1	9	4	13-10					13-10	188	A540	E	ABUTMENT	5	98	4-2					4-2	426	A652	CANT.CAP	6	8	3-6				3-6	42									
C480	E	FD'N REPAIR	4	78	1-0	3-9				4-9	247	A541	E	ABUT. & W.W. 1	5	5	3-3					3-3	17	C850	"	8	5	9-6 1/2	3-5 1/2			13-0	174									
C540	E	ABUTMENT	5	49	10-0	0-10				10-10	554	A542	E	ABUTMENT	5	5	7-1					7-1	37	C851	"	8	2	9-10	1-0			10-10	58									
H441	E	WINGWALL 1	4	1	0-9	7-3				15-3	36	A543	E	"	5	20	5-3					5-3	110	F850	"	8	2	1-4 1/4	0-9	7-8	0-6 1/4	0-6 1/4	9-9	52								
* 5 BAR SERIES EACH TO												A544	E	"	5	10	5-9					5-9	60	FC850	"	8	1	5-1	0-10 3/8	3-8	0-9	3-5 1/2	13-1	35								
H442	E	"	4	2	0-9	7-4				15-5	21	A545	E	"	5	49	11-6					11-6	588	FC851	"	8	1	5-8 1/2	0-2	3-8	0-1 3/4	1-0	10-7	28								
H540	E	ABUTMENT	5	21	3-0	5-0				13-0	285	A546	E	WINGWALL 1	5	1	4-0					4-0	4	FD850	"	8	1	5-1	0-10 3/8	3-8	0-9	3-5 1/2	13-1	35								
H541	E	"	5	28	2-4	5-0				12-4	360	A547	E	"	5	1	3-0					3-0	3	FD851	"	8	1	5-8 1/2	0-2	3-8	0-1 3/4	1-0	10-7	28								
R540	E	ABUTMENT	5	21	3-0	0-6	5-3	3-8 3/8		8-9	192	A548	E	"	5	1	2-0					2-0	2	H650	CANT.COLUMN	6	1	2-0	8-0			18-0	237									
RA440	E	WINGWALL	4	7	0-8	1-6	0-10	2-1	1-5 3/8	5-1	24	A549	E	"	5	6	4-0					4-0	25	* 14 BAR SERIES EACH TO																		
RC540	E	ABUTMENT	5	36	3-0	0-6	1-5	2-0	1-0	6-11	260	A740	E	ABUTMENT	7	5	30-5					30-5	311	H651	CANT.CAP	6	3	1-0	4-0			9-0	41									
V440	E	WINGWALL 1	4	2	2-7	7-10	6-4	4-7 1/2		10-5	14	A941	E	WINGWALL 1	9	4	13-10					13-10	188	H950	"	9	22	4-10	1-0			6-10	511									
VX440	E	WINGWALL 1	4	2	13-0	0-8	0-5	0-6 1/4		13-8	18	H441	E	WINGWALL 1	4	1	0-9	7-3				15-3	36	SX650	"	6	11	4-9 1/2	3-7 1/2	1-0		14-1	233									
VX441	E	"	4	1	12-0	0-8	0-5	0-6 1/4		12-8	8	* 5 BAR SERIES EACH TO												SX651	"	6	2	3-5 3/4	9-9 3/4	1-9		26-7	80									
VX442	E	"	4	1	10-0	0-8	0-5	0-6 1/4		10-8	7	H442	E	"	4	2	0-9	7-4				15-5	21	V650	"	6	8	3-3	1-9	1-27/8	1-27/8	5-0	60									
VX540	E	ABUTMENT	5	13	5-0	0-10	0-6 1/4	0-7 3/8		14-3	74	H540	E	ABUTMENT 1	5	21	3-0	5-0				13-0	285	V651	CANT.COLUMN	6	28	1-9	1-9	1-7 3/8	0-8		3-6	147								
VX541	E	WINGWALL 1	5	4	12-4	0-10	0-6 1/4	0-7 3/8		13-2	55	H541	E	"	5	28	2-4	5-0				12-4	360	V850	"	8	3	17-1	2-4 1/2	2-1 1/2	1-0 3/4		19-6	156								
VX542	E	"	5	1	11-5	0-10	0-6 1/4	0-7 3/8		12-3	35	RA440	E	WINGWALL 1	4	7	0-8	1-6	0-10	2-1	1-5 3/8	5-1	24	X650	CANT.CAP	6	4	4-7 3/4	9-9	1-0	0-8 1/2		26-2	157								
* 3 BAR SERIES EACH TO												V440	E	WINGWALL 1	4	2	2-7	7-10	6-4	4-7 1/2		10-5	14	Z650	CANT.COLUMN	6	69	1-0	2-0	0-8		3-8	380									
VX543	E	"	5	5	3-3	0-10	0-4 1/2	0-9		4-1	21	VX440	E	"	4	2	13-0	0-8	0-5	0-6 1/4		13-8	18	***TOTAL WEIGHT (LBS)												2795						
A743	E	ABUTMENT	7	5	25-4					25-4	253	VX441	E	"	4	1	12-0	0-8	0-5	0-6 1/4		12-8	8																			
A942	E	"	9	3	31-7					31-7	322	VX442	E	"	4	1	10-0	0-8	0-5	0-6 1/4		10-8	7	PIER 3 - E.B.L.																		
***TOTAL WEIGHT (LBS) 5056												VX540	E	ABUTMENT	5	13	5-0	0-10	0-6 1/4	0-7 3/8		14-3	74	A350	RISER BLOCK	3	10	4-10				4-10	18									
***TOTAL INCLUDES 2232 LBS OF NON EPOXY COATED BARS, 2824 LBS OF EPOXY COATED												VX541	E	WINGWALL 1	5	4	12-4	0-10	0-6 1/4	0-7 3/8		13-2	55	A351	"	3	10	4-8				4-8	18									
SPANS A THRU E - E.B.L.												VX542	E	"	5	1	11-5	0-10	0-6 1/4	0-7 3/8		12-3	35	A650	CANT.COLUMN	6	4	15-2 1/4				15-2	91									
A500	E	DECK	5	932	4-9					4-9	4617	* 3 BAR SERIES EACH TO												A651	"	6	2	15-2 1/4				15-2	214									
A501	E	"	5	909	10-9					10-9	10192	***TOTAL INCLUDES 1792 LBS OF EPOXY COATED BARS												* 8 BAR SERIES EACH TO																		
A502	E	"	5	1	10-1					10-1	92	***TOTAL INCLUDES 1200 LBS OF NON EPOXY COATED BARS												* 8 BAR SERIES EACH TO																		
* 13 BAR SERIES EACH TO																								A652	CANT.CAP	6	8	3-6				3-6	42									
A503	E	"	5	689	30-0					30-0	21559	C850	"	8	5	9-6 1/2	3-5 1/2					13-0	174	C851	"	8	2	9-10	1-0			10-10	58									
A504	E	"	5	53	16-4					16-4	903	F850	"	8	2	1-4 1/4	0-9	7-8	0-6 1/4	0-6 1/4	9-9	52	FC850	"	8	1	5-1	0-10 3/8	3-8	0-9	3-5 1/2	13-1	35									
A505	E	"	5	120	29-6					29-6	3692	FC851	"	8	1	5-8 1/2	0-2	3-8	0-1 3/4	1-0	10-7	28	FD850	"	8	1	5-1	0-10 3/8	3-8	0-9	3-5 1/2	13-1	35									
A506	E	"	5	53	16-10					16-10	931	FD851	"	8	1	5-8 1/2	0-2	3-8	0-1 3/4	1-0	10-7	28	FD851	"	8	1	5-8 1/2	0-2	3-8	0-1 3/4	1-0	10-7	28									
A507	E	"	5	1	8-8					8-8	70	* 12 BAR SERIES EACH TO												H650	CANT.COLUMN	6	1	2-0	8-0			18-0	237									
* 10 BAR SERIES EACH TO												A508	E	"	5	1	10-5					10-5	83	* 14 BAR SERIES EACH TO																		
* 10 BAR SERIES EACH TO												A509	E	"	5	1	10-3					10-3	81	H651	CANT.CAP	6	3	1-0	4-0			9-0	41									
A510	E	"	5	40	6-2					6-2	257	A652	CANT.CAP	6	8	3-6					3-6	42	H950	"	9	22	4-10	1-0			6-10	511										
A511	E	"	5	4	50-0					50-0	209	C851	"	8	5	9-6 1/2	3-5 1/2					13-0	174	SX650	"	6	11	4-9 1/2	3-7 1/2	1-0		14-1	233									
A700	E	"	7	4	52-5					52-5	429	C851	"	8	2	9-10	1-0					10-10	58	SX651	"	6	2	3-5 3/4	9-9 3/4	1-9		26-7	80									
A701	E	"	7	4	50-0					50-0	409	F850	"	8	2	1-4 1/4	0-9	7-8	0-6 1/4	0-6 1/4	9-9	52	V650	"	6	8	3-3	1-9	1-27/8	1-27/8	5-0	60										
A800	E	"	8	6	52-5					52-5	849	FC851	"	8	1	5-8 1/2	0-2	3-8	0-9	3-5 1/2	13-1	35	V651	CANT.COLUMN	6	28	1-9	1-9	1-7 3/8	0-8		3-6	147									
B500	E	"	5	2	43-2	0-7				43-9	3586	FD851	"	8	1	5-8 1/2	0-2	3-8	0-1 3/4	1-0	10-7	28	V850	"	8	3	17-1	2-4 1/2	2-1 1/2	1-0 3/4		19-6	156									
* 69 BAR SERIES EACH TO												CANT.COLUMN												6	1	2-0	8-0			18-0	237	X650	CANT.CAP	6	4	4-7 3/4	9-9	1-0	0-8 1/2		26-2	157

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

TYPE	SIZE	SERIES
A	5	06

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

<u>LOCATION</u>	<u>SERIES</u>
SUPERSTRUCTURE	00
BUTMENT	50
ER	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

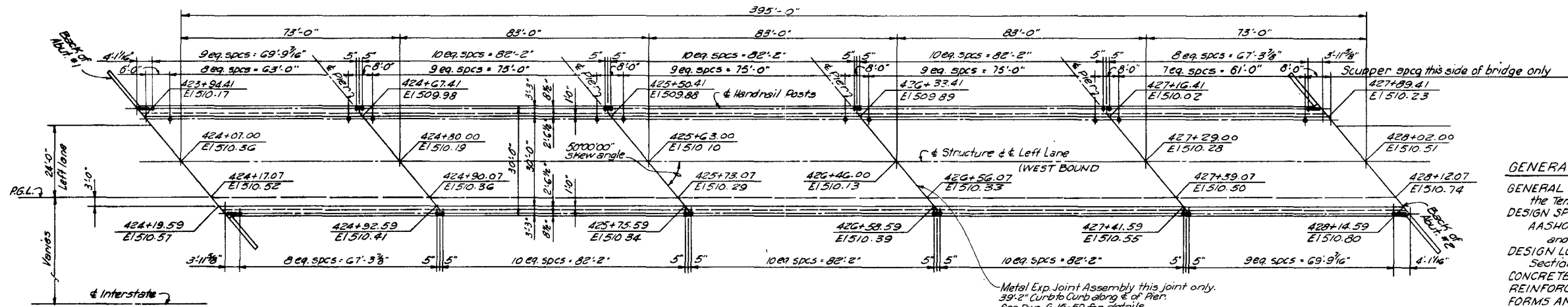
I-40 OVER
CANEEY FORK RIVER
STA. 431+41.96 C SURVEY E.B.L.
STA. 424+17.07 C SURVEY W.B.L.
SMITH COUNTY
1989

CORRECT _____
ENGINEER OF STRUCTURES

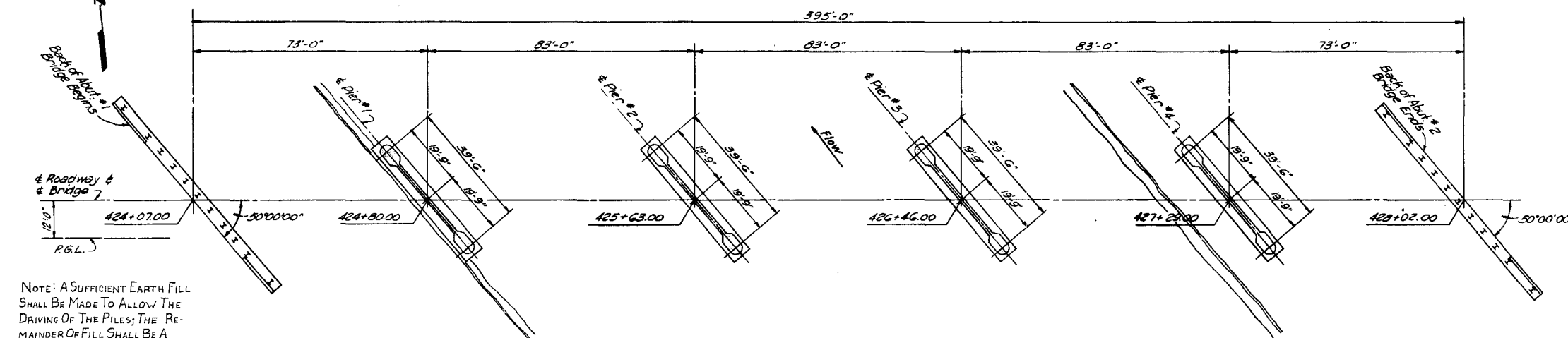
APPROVED _____
DIRECTOR OF HIGHWAYS

1-214-129A

FED. ROAD DIST. No.	T E N	FEDERAL AID PROJECT No.	FISCAL YEAR	SHEET No.	TOTAL SHEETS
3		I-40-5(9)264		50	372



PLAN-LEFT LANE BRIDGE (4B) RIVER MILE 18.7
(WEST BOUND)

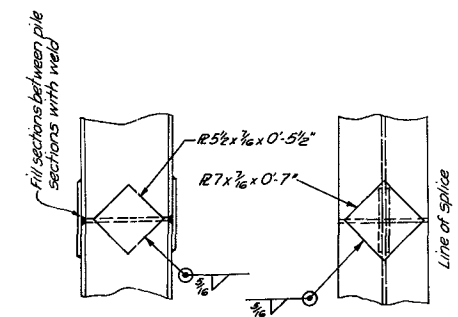


FOUNDATION PLAN-LEFT LANE BRIDGE

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

GENERAL NOTES:

GENERAL SPECIFICATIONS: Standard Road and Bridge Specification of the Tennessee Department of Highways and Public Works.
DESIGN SPECIFICATIONS: Standard Specifications for Highway Bridges AASHTO 1957 and tentative AASHTO Specifications covering prestressed design and construction (with subsequent revisions)
DESIGN LOADING: H20-S16-44 and for alternate loading as per Section 4C of PPM 20-4.
CONCRETE: All concrete shall be Class "A" and shall be air entrained.
REINFORCING STEEL: See Specifications.
FORMS AND FINISH: See Specifications.
HAND RAILS: Standard 2-bar steel Hand-railing, Tennessee Highway Department Standard.
PRECAST PRESTRESSED CONCRETE GIRDERS: See special provisions.
SELF LUBRICATING BEARING PLATES: See special provisions.



DETAIL OF PILE SPLICE
Scale 1"=1'-0"

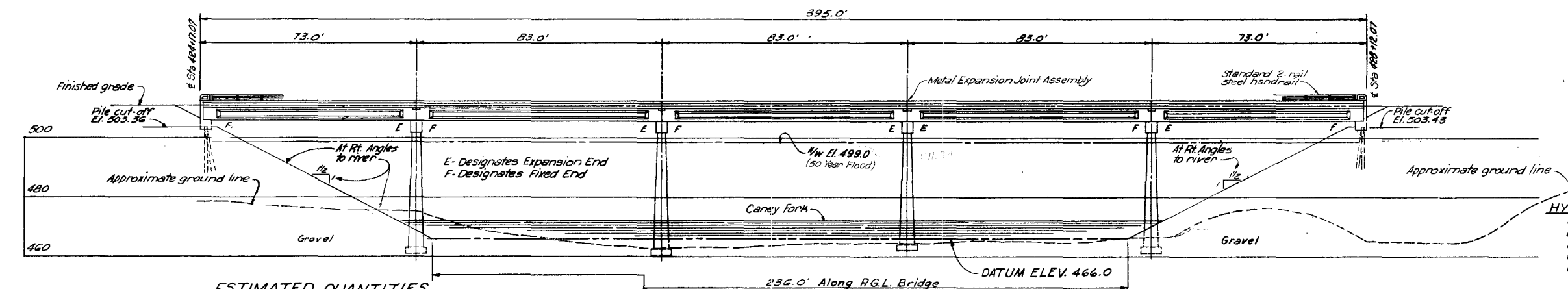
LIST OF DRAWINGS

	DWG. No
Layout of Bridge	G-15-93
Layout & Log of Core Borings	G-15-94
Abutments Nos 1 & 2	G-15-95
Piers Nos 1, 2 & 4	G-15-96
Pier No 3	G-15-97
Slab & Girder Details	G-15-98
Superstructure and Girder	
Bearing Details	G-15-99
Slab Reinforcing Plans and Details	G-15-100
Prestressed Girder Details	G-15-101
Reinforcing Steel Schedule No.1	G-15-102
Reinforcing Steel Schedule No.2	G-15-103
Steel Handrailing	G-10-99

HYDRAULIC DESIGN DATA

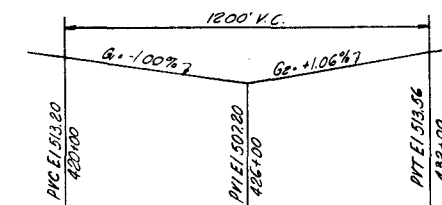
High Water Elevation	499.0
Design Discharge	Q = 40,300 c.f.s.
Design Velocity	V = 6 f.p.s.
Opening Required	AR = 6700 sq. ft.
Opening Furnished	AR = 7300 sq. ft. (Gross)

30'-0" Roadway with Safety Curbs.
Scale 1"=20' Unless otherwise noted.



ELEVATION-LEFT LANE BRIDGE

- NOTES:
- Refer to Abutment Detail drawings for layout of piles.
 - Piles for Abutments shall be 10B P42 and shall be driven to rock or to a minimum bearing of 30 tons.
 - End fills shall be in place and compacted before driving piles for Abutments.
 - Pier footings shall set a minimum of 10' into rock.
 - Contractor shall exercise special care in backfilling at piers to prevent overturning.



VERTICAL CURVE DATA

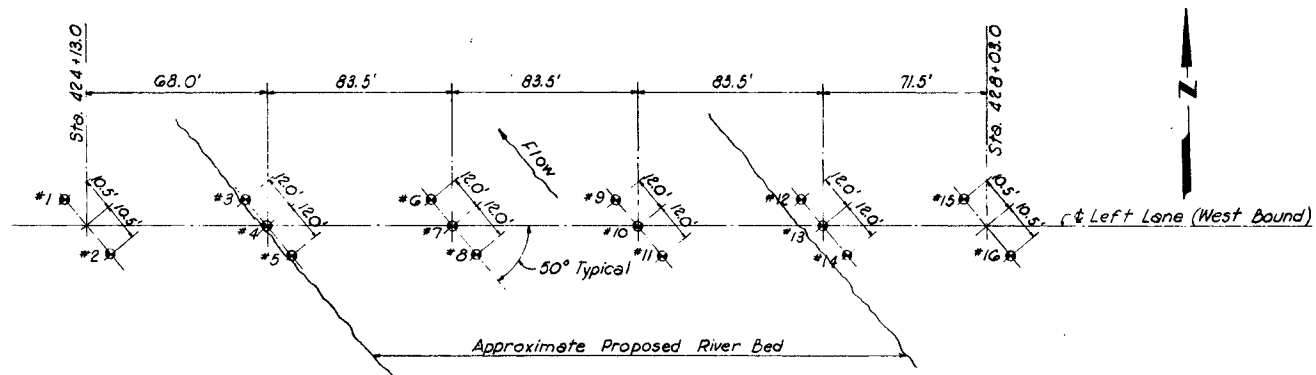
ESTIMATED QUANTITIES

ITEM NO.	173	172	174	135-4	135-12	702	154-PT 7	154-PT 6	137-3	132-1
ITEMS	EXCAVATION	WET	DRY	ROCK	CONC. CLASS "A"	REINF. STEEL CUB. Yds.	STEEL HANDRAIL 2-BAR Lbs.	TYPE IV AASHTO 54" DEEP "I" BEAMS L=70-104 L=82-10	10B P42 BEARING PILES	STRUCTURAL STEEL
UNIT	CU. Yds.	CU. Yds.	CU. Yds.	CU. Yds.	CU. Yds.	Lbs.	Lin. Ft.	Each	Each	Lbs.
SUPERSTRUCTURE					358.7	88,498	774	10	15	1900
ABUTMENT NO1					30.7	3591				
ABUTMENT NO2					31.5	3601				
PIER NO1	67	155	26	151.4	13,203					
PIER NO2	67	28	151.5	13,203						
PIER NO3	60	18	148.3	13,050						
PIER NO4	72	20	151.6	13,203						
TOTALS	266	155	92	1023.7	148,349	774	10	15	905	1900

All joint material shall be included in the Unit Price bid for Class "A" Concrete.

MID-SOUTH ENGINEERING CO., INC. 820 BROADWAY, N. E. KNOXVILLE, TENNESSEE	
BRIDGE OVER CANEY FORK RIVER - RIVER MILE 18.7 STA 424+17.07 - LEFT LANE (WEST BOUND) (4B)	
LAYOUT OF BRIDGE	
STATE OF TENNESSEE DEPARTMENT OF HIGHWAYS AND PUBLIC WORKS NASHVILLE	
DR. R. W. R. CHK'D R. A. H. APP'D. W. R.	DATE 11-16-59 G-15-93

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



PLAN-CORE DRILLING LAYOUT
(RIVER MILE 18.7 LT. LANE - WEST BOUND)

	Abut. No 1		Pier No 1			Pier No 2			Pier No 3			Pier No 4			Abut. No 2	
Hole Number	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
480	478.4	478.7														
470	8.0	8.0	4.5	4.0	4.0	471.7	471.5	471.5	472.0	472.5	473.5	474.3	474.4	474.6	473.0	473.0
460	14.6	14.7	12.7	12.8	12.0	9.4	9.2	9.7	9.5	10.2	10.9	12.5	12.8	12.7	11.6	11.5
450	20.6	20.7	18.7	18.8	18.0	15.4	15.2	15.7	15.5	16.2	16.9	18.5	18.8	18.7	17.6	17.5
440																

LEGEND

W____Water
C____Clay and Silt
S____Sand
S&G____Sand and Gravel
WR____Weathered Rock
R____Rock (Limestone)
B____Boulders

LOG OF CORE BORINGS

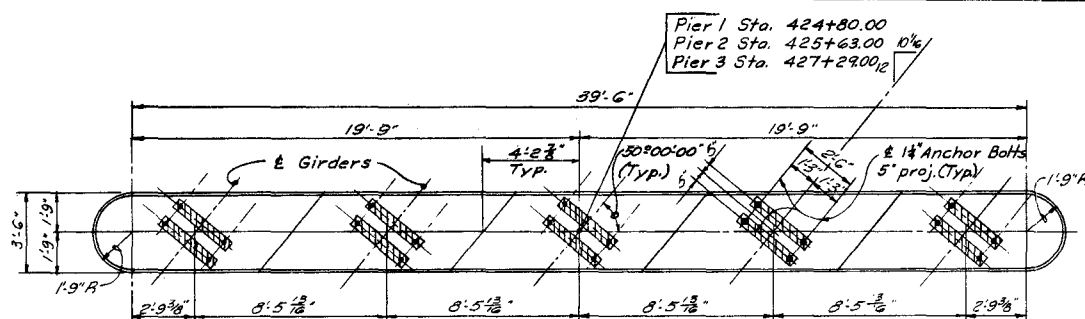
NOTE: Water elevation in
Caney Fork River fluctuates
depending on discharge
at Center Hill Dam.

MID-SOUTH ENGINEERING CO., INC. 820 BROADWAY, N. E. KNOXVILLE, TENNESSEE	
BRIDGE OVER CANEY FORK RIVER - RIVER MILE 18.7 STA. 424+17.07 LEFT LANE (WEST BOUND)	
LAYOUT & LOG OF CORE BORINGS	
STATE OF TENNESSEE DEPARTMENT OF HIGHWAYS AND PUBLIC WORKS NASHVILLE	
DR. W.R.S. CHK'D. R.A.H. APP'D. W.R.	DATE 11-16-59 G-15-94

FED. ROAD DIST. No.	T E N	FEDERAL AID PROJECT No.	FISCAL YEAR	SHEET No.	TOTAL SHEETS
3		I-40-5(9)264		107	372

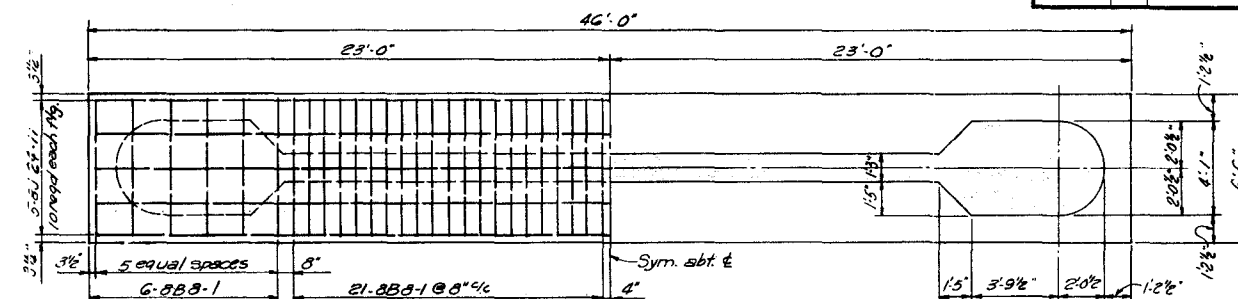
ESTIMATED QUANTITIES

	PIER#1	PIER#2	PIER#4
Class "A" Conc. Cu.Yds.	151.4	151.5	151.6
Reinf. Steel Lbs.	13,203	13,203	13,203



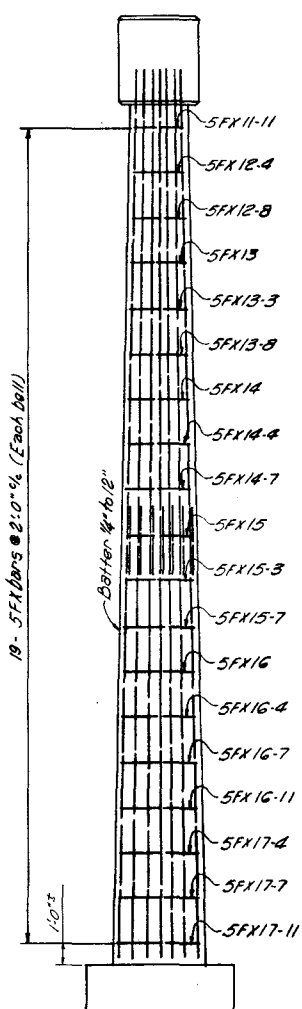
PLAN-CAP

Scale 1/4"=1'-0"



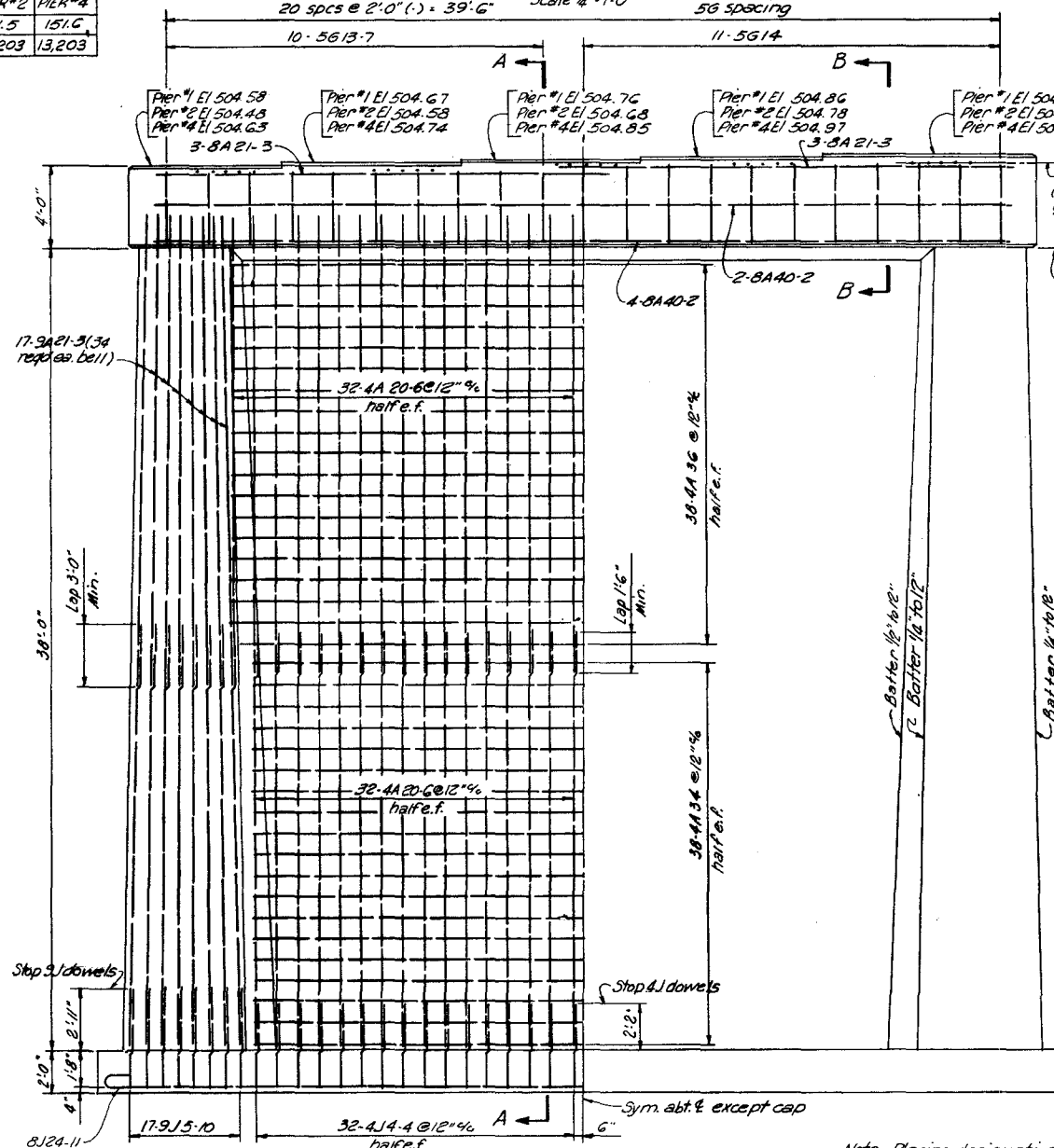
PLAN-FOOTING

Scale 1/4"=1'-0"



END ELEVATION

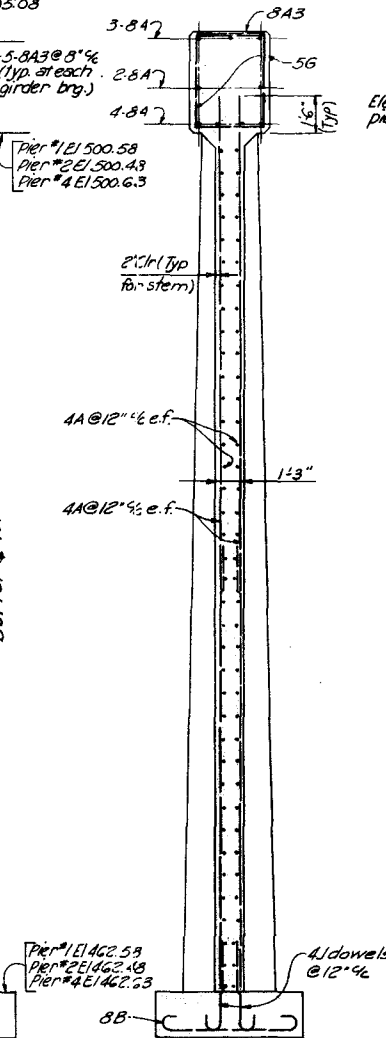
Scale 1/4"=1'-0"



SIDE ELEVATION

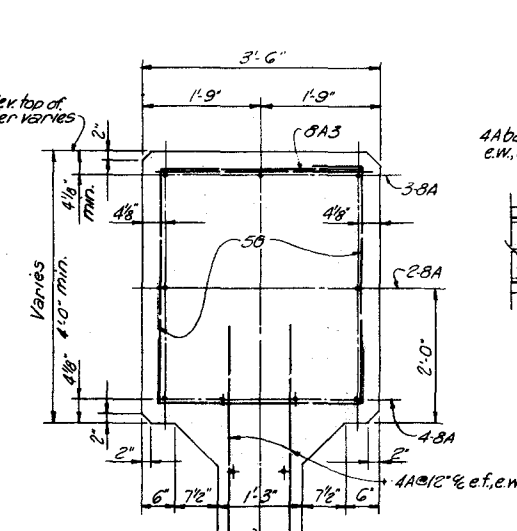
LOOKING FORWARD ON SURVEY

Scale 1/4"=1'-0"



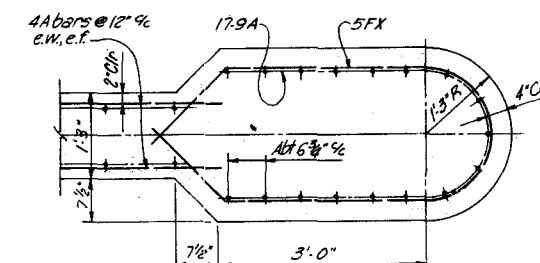
SECTION A-A

Scale 1/4"=1'-0"



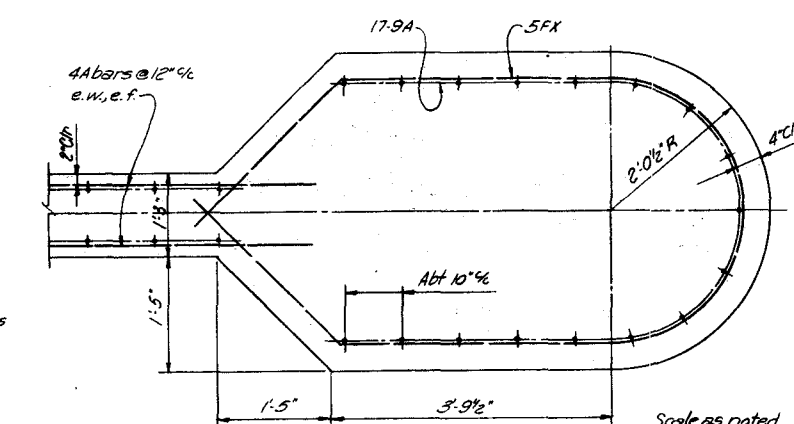
SECTION B-B

Scale 1/4"=1'-0"



PLAN-BELL BELOW CAP

Scale 1/4"=1'-0"



PLAN-BELL AT FOOTING

Scale 1/4"=1'-0"

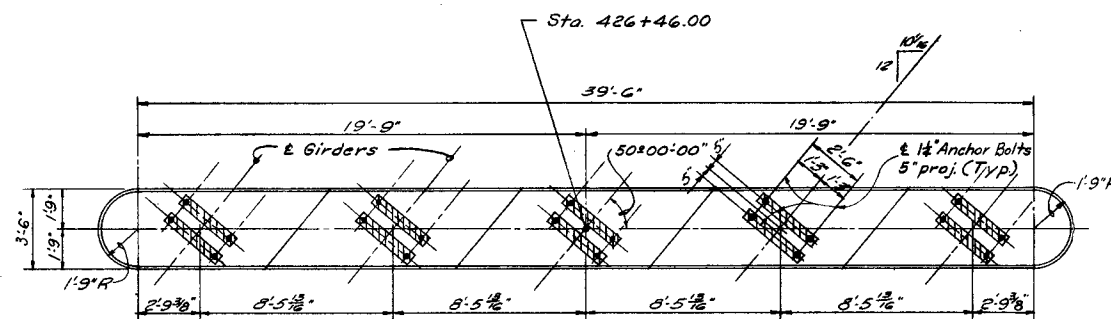
Note: Placing designation as follows:
e.f. - each face
e.w. - each way

Scale as noted

MID-SOUTH ENGINEERING CO., INC. 820 BROADWAY, N. E. KNOXVILLE, TENNESSEE	
BRIDGE OVER CANEY FORK RIVER - RIVER MILE 18.7 STA 424+17.07 - LEFT LANE (WEST BOUND) (4B)	
PIERS NOS 1, 2 & 4	
STATE OF TENNESSEE DEPARTMENT OF HIGHWAYS AND PUBLIC WORKS NASHVILLE	
DR. R.W.P.	DATE
CHKD. R.A.H.	11-16-59
APP'D. W.R.	G-15-96

Rev. 8-22-60

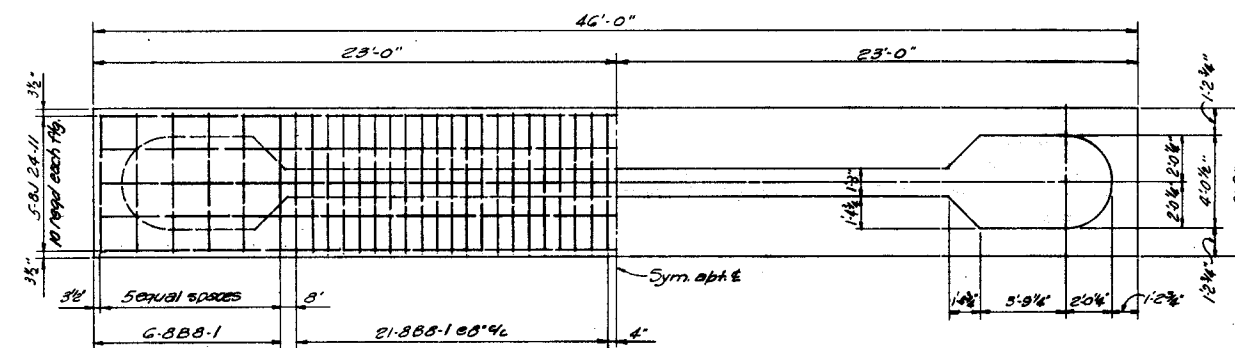
FED. ROAD DIST. No.	T E N N	FEDERAL AID PROJECT No.	FISCAL YEAR	SHEET No.	TOTAL SHEETS
3		I-40-5(9)264		108	372



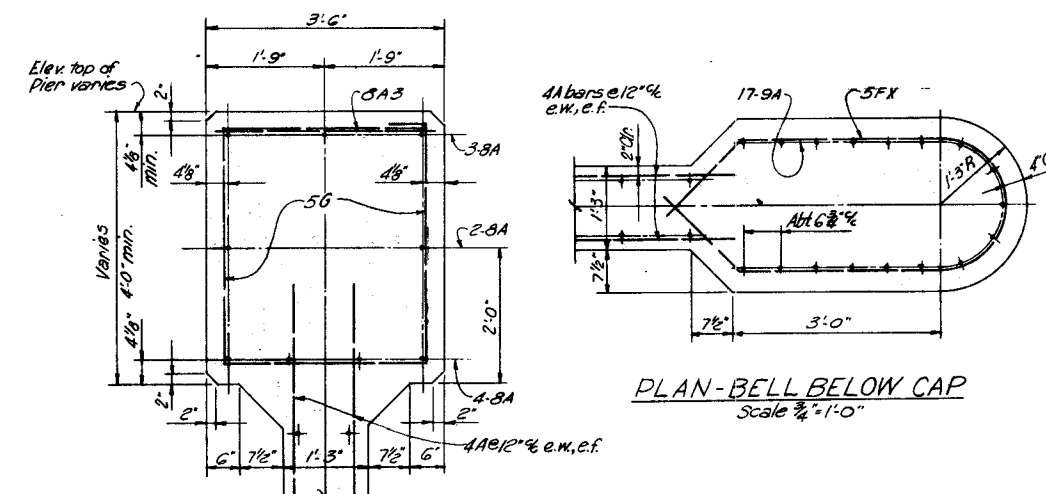
ESTIMATED QUANTITIES

		PIER #3
Class "A" Conc.	Cu. Yds.	148.3
Reinf. Steel	Lbs.	13,050

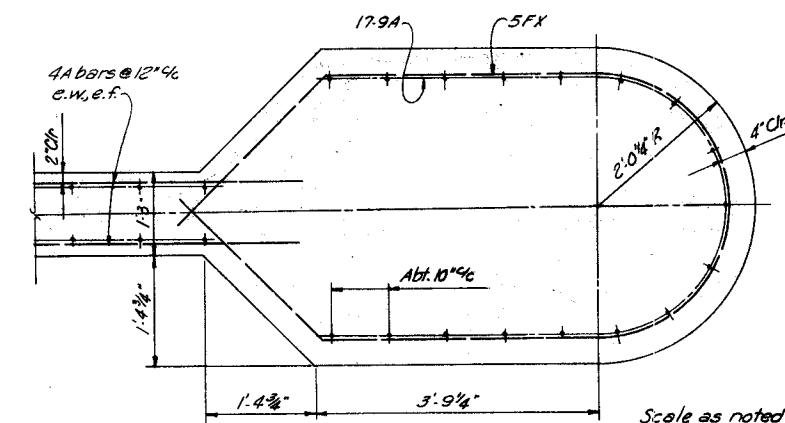
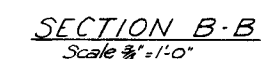
PLAN - CAP
Scale 1/4" = 1'-0"



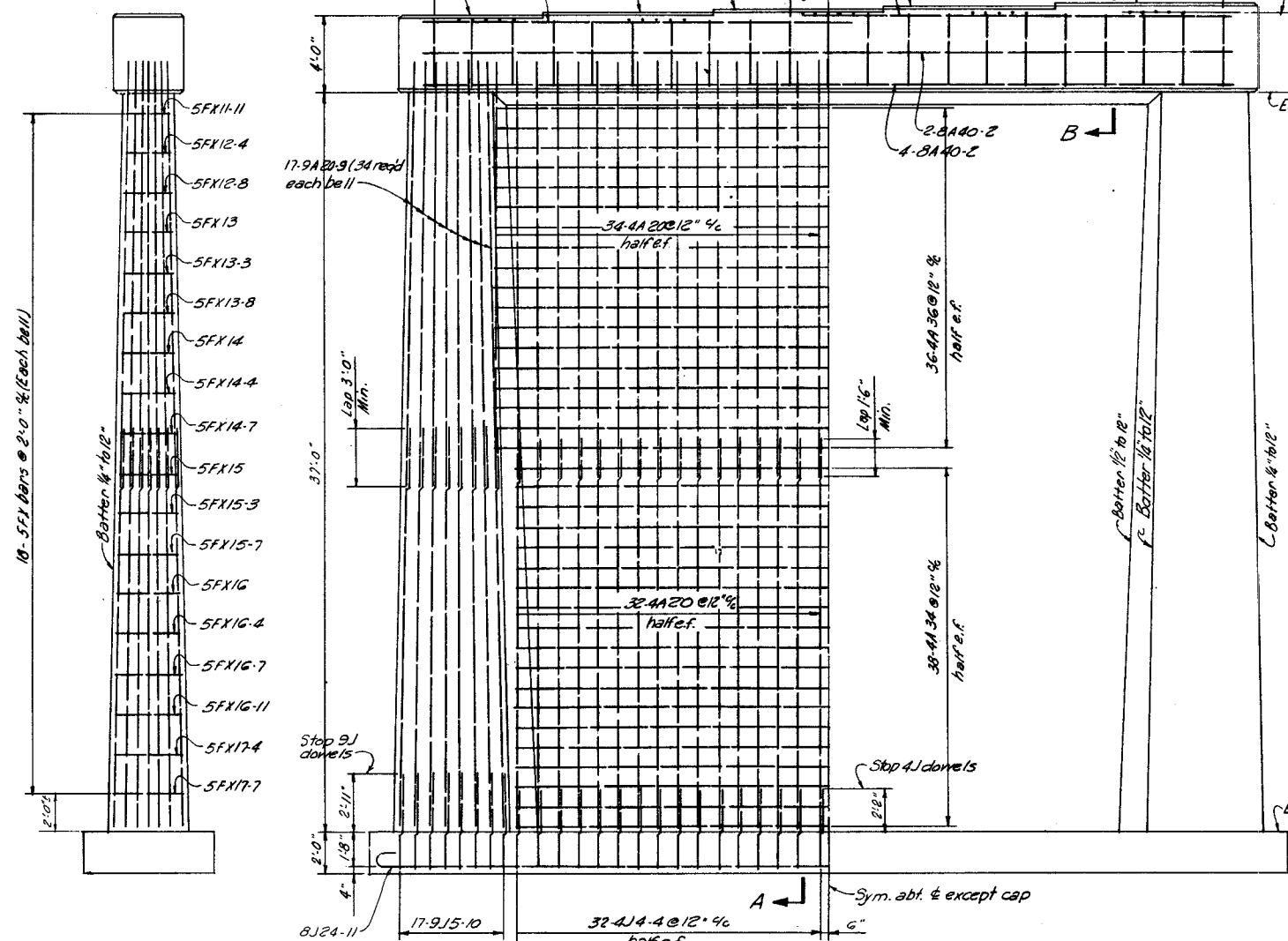
PLAN-FOOTING
Scale 1/4"=1'-0"



PLAN-BELL BELOW CAP
Scale $\frac{3}{4}"=1'-0"$



PLAN-BELL AT FOOTING
Scale $\frac{3}{4}" = 1'-0"$



END ELEVATION
Scale 1/4" = 1'-0"

SIDE ELEVATION
LOOKING FORWARD ON SURVEY
Scale 1/4" = 1'-0"

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

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

Scale as noted

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

BRIDGE OVER CANEY FORK RIVER-RIVER MILE 18.7
STA 424+17.07-LEFT LANE (WEST BOUND)(4B)

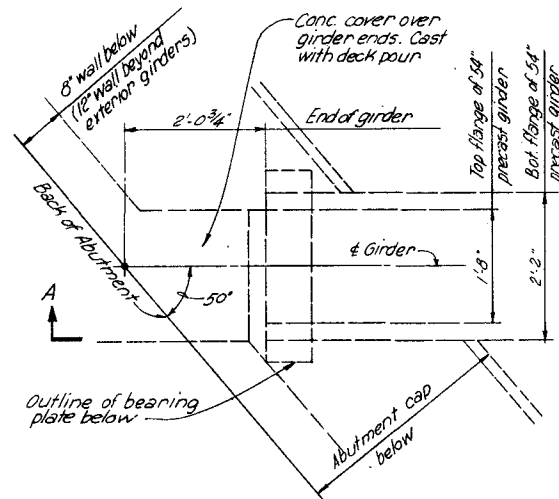
PIER № 3

STATE OF TENNESSEE
DEPARTMENT OF HIGHWAYS
AND PUBLIC WORKS
NASHVILLE

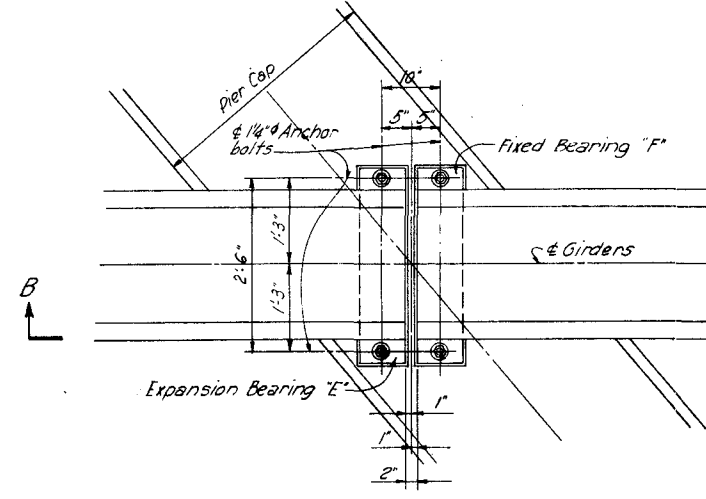
DR. <u>R.W.P.</u>	DATE _____
CHK'D <u>R.A.H.</u>	_____
APP'D <u>W.R.</u>	<u>11-16-59</u>

G-15-97

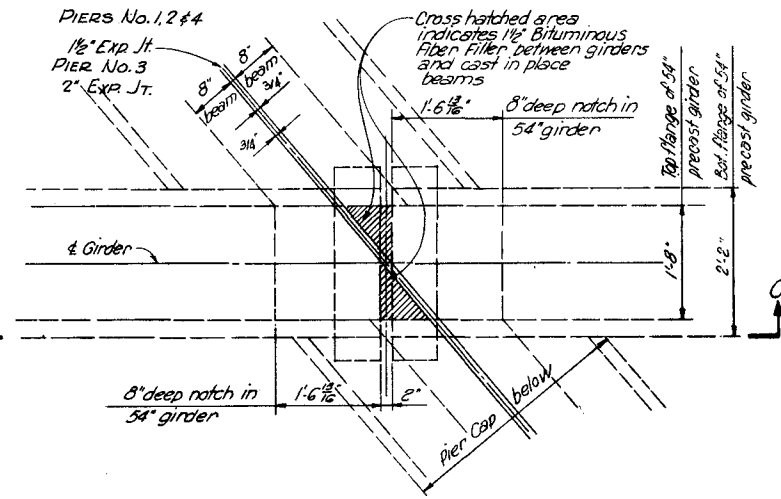
FED. ROAD DIST. No.	T E N	FEDERAL AID PROJECT No.	FISCAL YEAR	SHEET No.	TOTAL SHEETS
3	N	7-40-5(9)264		109	372



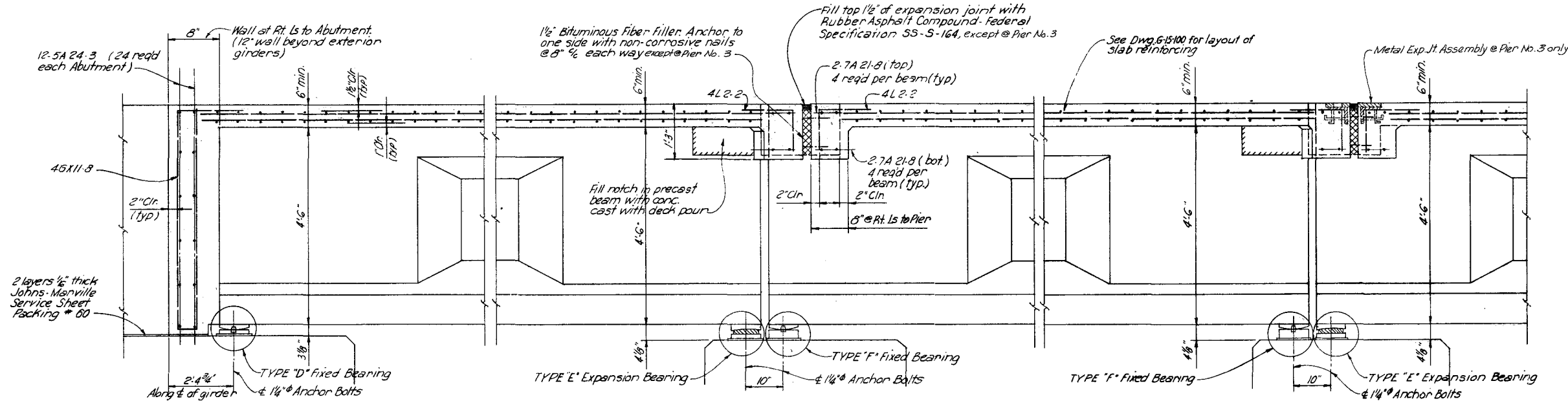
PLAN-SLAB ABOVE GIRDER
BEARING @ ABUTMENT
Scale 3/4" = 1'-0"



PLAN-54" GIRDERS BEARING
AT PIER
Scale 3/4" = 1'-0"



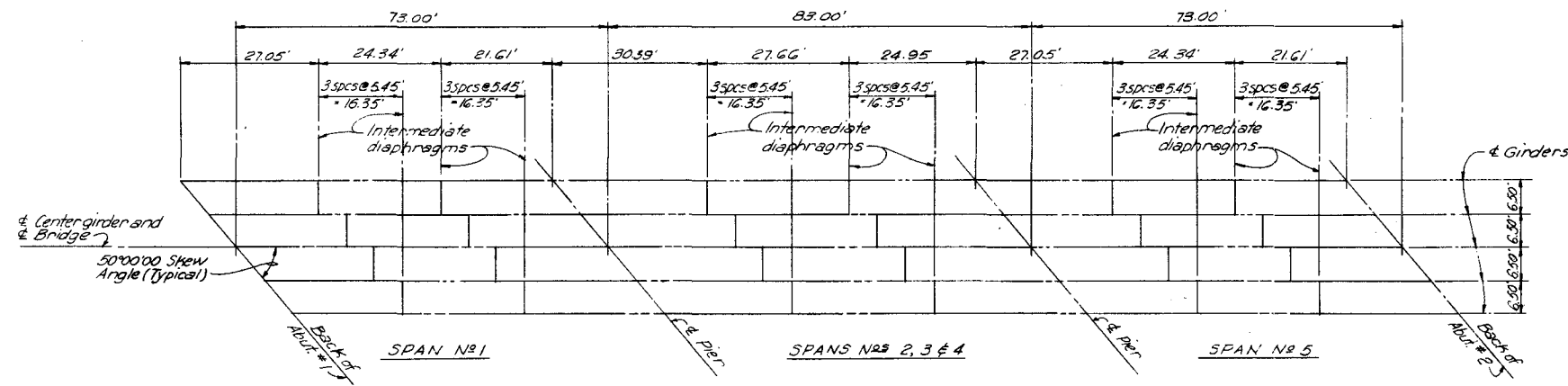
PLAN-SLAB ABOVE GIRDERS
BEARING AT PIER
Scale 3/4" = 1'-0"



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

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

SECTION C-C
Scale 3/4" = 1'-0"



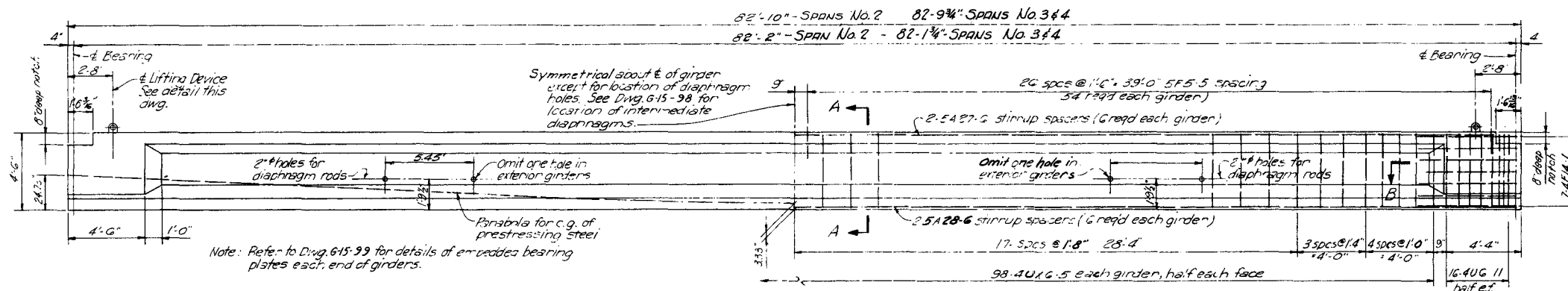
PART PLAN - GIRDER AND DIAPHRAGM LAYOUT
Scale 1/4" = 1'-0"

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

Scale as noted

MID-SOUTH ENGINEERING CO., INC. 820 BROADWAY, N. E. KNOXVILLE, TENNESSEE	
BRIDGE OVER CANEY FORK RIVER - RIVER MILE 18.7 STA 424+17.07- LEFT LANE (WEST BOUND (4B))	
SLAB AND GIRDER DETAILS	
STATE OF TENNESSEE DEPARTMENT OF HIGHWAYS AND PUBLIC WORKS NASHVILLE	
DR. R.W.P. CHK'D. R.A.H. APP'D. W.R.	DATE 11-16-59 G-15-98

REV. 4-19-60



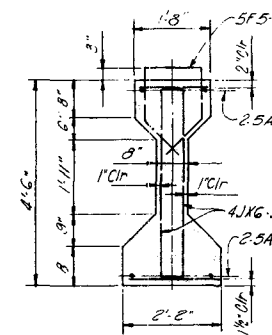
ELEVATION - INTERIOR SPAN GIRDERS (TYPE IV A.A.S.H.O. "I")

Approx. wt. ea. girder = 36 tons
Scale 1/4\" 1'-0"

15 REQD.

INTERIOR SPAN GIRDER NOTES:

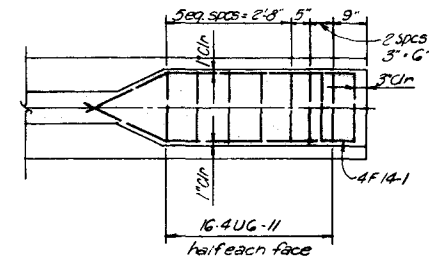
1. Type unit: 18 x 0.196 (18-0.196" diameter high tension wires anchored in each unit) 9 units required each girder.
2. The initial prestressing force shall be 866,250 lbs. (96,250 lbs. each unit). This is based on assumed losses of 20% due to creep, shrinkage, elastic deformation and cable friction 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 E of span.



SECTION A-A

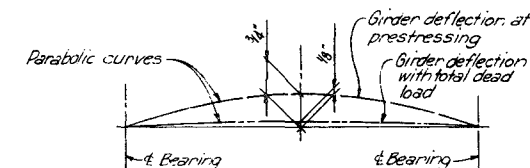
Scale 1/2\" 1'-0"

FED. ROAD DIST. No.	T E N N	FEDERAL AID PROJECT No.	FISCAL YEAR	SHEET No.	TOTAL SHEETS
3		T-40-5(9)264		112	372

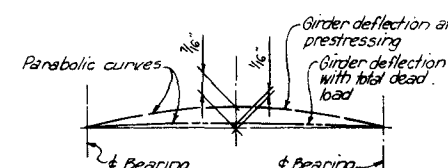


SECTION B-B

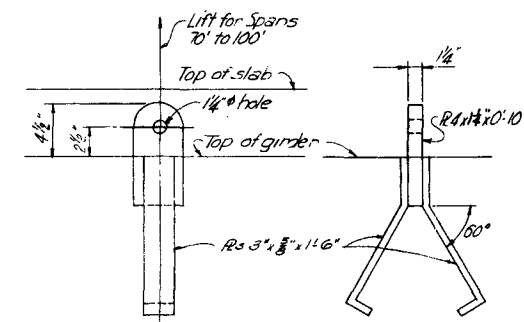
Scale 1/2\" 1'-0"

DEFLECTION DIAGRAM
INTERIOR SPAN GIRDERS

N.T.S.

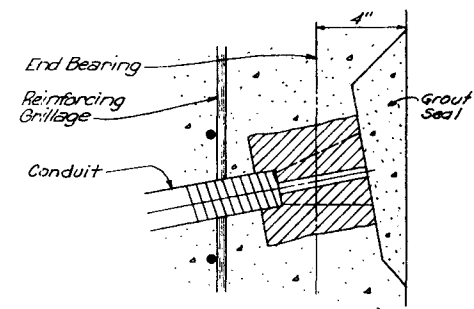
DEFLECTION DIAGRAM
END SPAN GIRDERS

N.T.S.



DETAIL - SUGGESTED LIFTING DEVICE

Scale 1/2\" 1'-0"



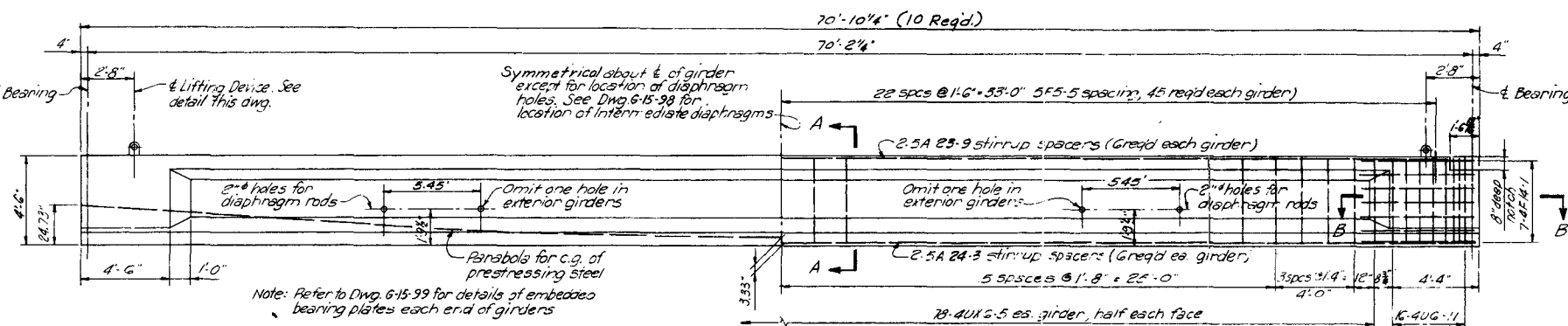
TYP. SECTION - END ANCHORAGE

Scale 3\" 1'-0"

GENERAL GIRDER NOTES:

1. Details are for parallel wire system.
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 relaxed 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#/sq. ft. dead load for future wearing surface.

Scale as noted



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

Approx. wt. ea. girder = 31 tons
Scale 1/4\" 1'-0"

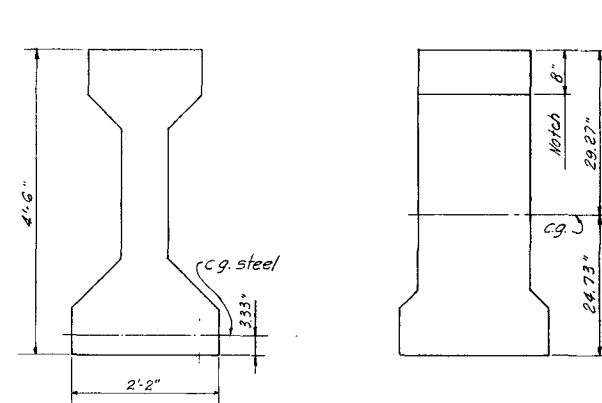
END SPAN GIRDER NOTES:

1. Type unit: 15 x 0.196 (15-0.196" diameter high tension wires anchored in each unit) 7 units required each girder.
2. The initial prestressing force shall be 673,750 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 539,000 lbs. (77,000 lbs. each unit) at the E of span.

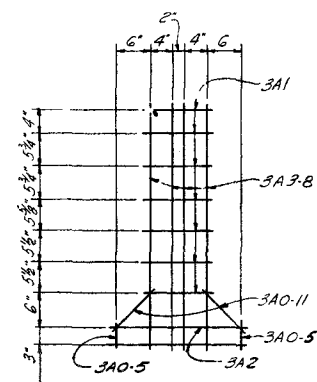
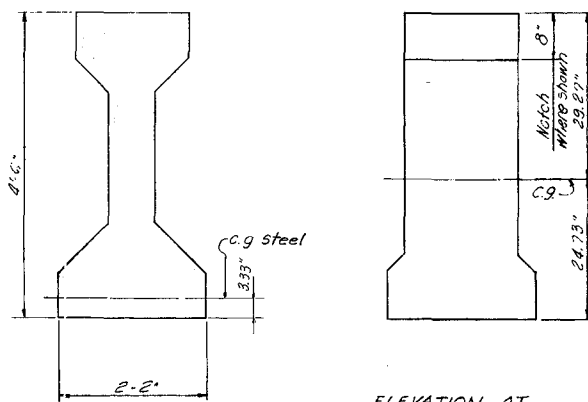
ESTIMATED QUANTITIES

5000 psi Concrete	Cu. Yds.	415.8
High-tensile Reinf. Steel	Lbs.	31,001
Reinforcing Steel	Lbs.	32,541
* Structural Steel	Lbs.	18,527

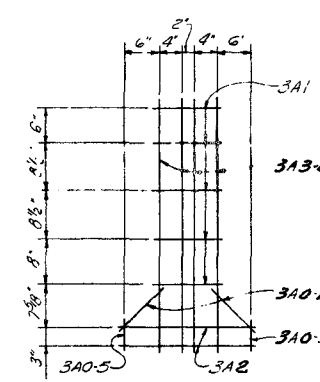
* Includes Brg. Rs, Tie Rods & Lifting Devices



SECTION 2 OF GIRDER

ELEVATION AT
END OF GIRDERDETAIL - REINFORCING
GRILLAGE - ONE REQD EA.
END OF GIRDER

SECTION 2 OF GIRDER

ELEVATION AT
END OF GIRDERDETAIL - REINFORCING
GRILLAGE - ONE REQD
EACH END OF GIRDERDETAILS - PRESTRESSING STEEL LAYOUT
FOR INTERIOR SPAN GIRDERS

Scale 3/8\" 1'-0"

DETAILS - PRESTRESSING STEEL LAYOUT
FOR END SPAN GIRDERS

Scale 3/8\" 1'-0"

MID-SOUTH ENGINEERING CO., INC. 820 BROADWAY, N. E. KNOXVILLE, TENNESSEE	
BRIDGE OVER CANEY FORK RIVER - RIVER MILE 18.7 STA 424+17.07- LEFT LANE (WEST BOUND) (4B)	
PRESTRESSED GIRDER DETAILS	
STATE OF TENNESSEE DEPARTMENT OF HIGHWAYS AND PUBLIC WORKS NASHVILLE	
DR. R.W.P. CHK'D R.A.H. APP'D W.R.	DATE 11-16-59 G-15-101

