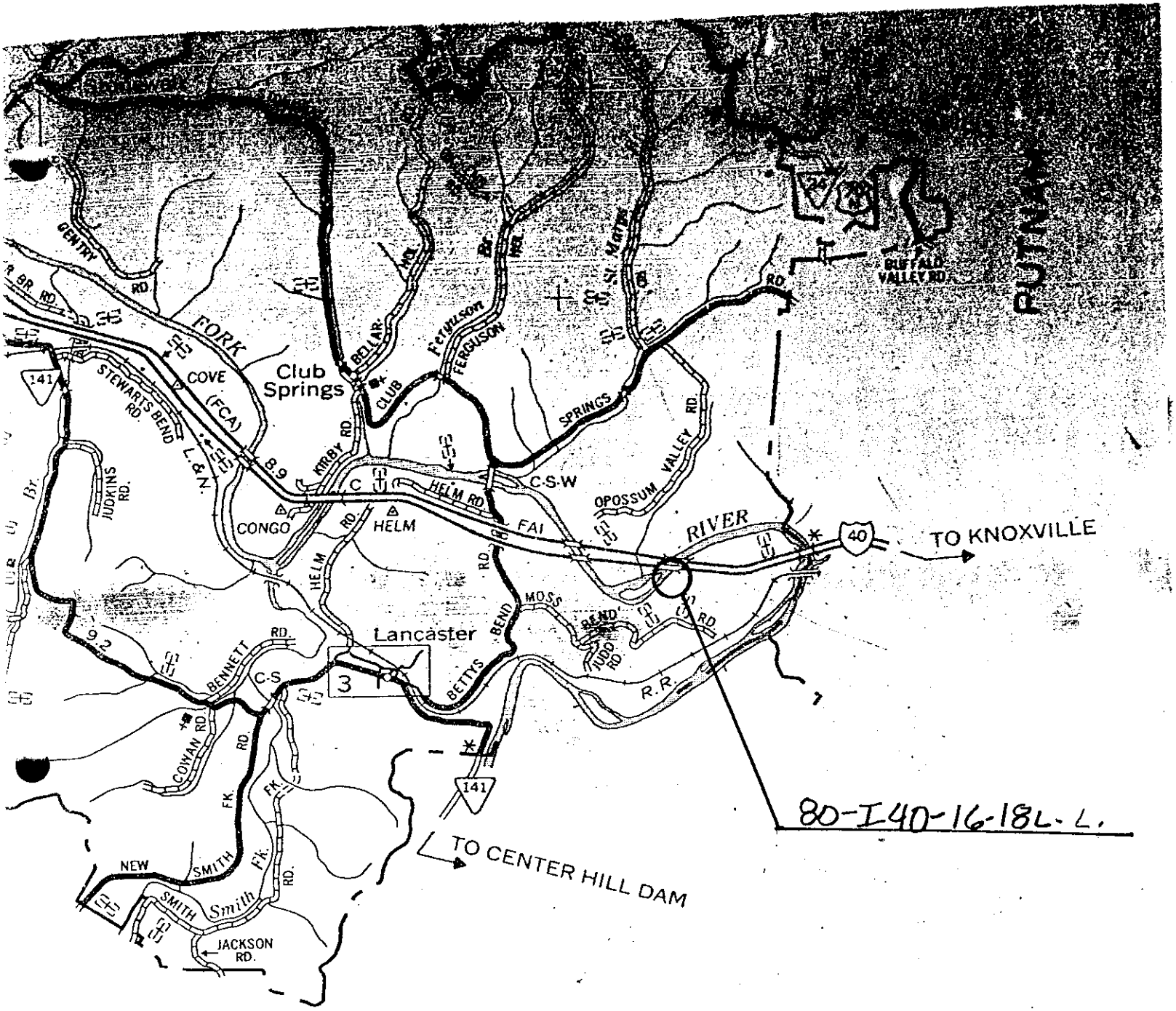

Club Springs
Lancaster
COVE (FCA)
FORK
CONGO
HELM
HELM RD
KIRBY RD
STEWARTS BEND
JUDKINS RD.
BENNETT RD.
COWAN RD.
NEW SMITH FK. RD.
SMITH
JACKSON RD.
BETTYS BEND
MOSS BEND
JUDD RD.
OPOSSUM VALLEY RD
SPRINGS RD
FERGUSON
BUFFALO VALLEY RD.
GENTRY RD
C.S.W
C.S.
R.R.
L & N.
FAI
RIVER
141
40
3
8.9
9.2
TO KNOXVILLE
TO CENTER HILL DAM
80-I40-16-18L-L.

COUNTY

Bridge Maintenance Recommendations

Bridge Location No.: 80 - I0040 - 16.18
Co. Route Log Mile

Crossing: CANEY FORK RIVER *

Bridge Rating: FAIR

Inspection Cycle: 16

Inspection Date: 4/28/2003

Bridge Number: 80I00400034
County: Smith
Region: 03
District: 32
Maint.Resp.: 01
Spec.Case: 0
Co.Seq: 01

Comments: REPAIR EMBANKMENT EROSION AT ABUTMENT #2.

Maintenance Recommendations:

Maintenance Completed By / Date

086	**REPAIR DIAPHGRAMS IN SPAN NO. 0005____**
243	**PATCH BOTTOM OF DECK IN SPAN NO. 0005**

COMPLETION NOTIFICATION: RETURN WITHIN 6 MONTHS OF INSPECTION DATE.

INITIAL AND DATE RECOMMENDATIONS WHEN COMPLETED.

MAINTENANCE ACTIVITIES ARE COMPLETED (DATE) _____ BY_____

MAINTENANCE ACTIVITIES ARE PARTIALLY COMPLETED (DATE) _____ BY_____

MAINTENANCE ACTIVITIES ARE INCOMPLETE, SCHEDULED FOR (DATE) _____

EXPLANATIONS AND COMMENTS:

CONTACT:

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

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

Bridge Maintenance Recommendations

Bridge Location No.: 80 - I0040 - 16.18
Co. Route Log Mile

Crossing: CANEY FORK RIVER *

Bridge Rating: FAIR

Inspection Cycle: 15

Inspection Date: 6/13/01

Bridge Number: 80I00400034
County: Smith
Region: 03
District: 32
Maint.Resp.: 01
Spec.Case: 0
Co.Seq: 01

Comments: REPAIR EMBANKMENT EROSION AT ABUTMENT #2.

Maintenance Recommendations:

Maintenance Completed By / Date

086	**REPAIR DIAPHGRAMS IN SPAN NO. 0005**
243	**PATCH BOTTOM OF DECK IN SPAN NO. 0005**

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. : 80I00400034 BRIDGE NO. : 80 - I0040 - 1618 - N
OVER : CANEY FORK RIVER *

DATE : 05/07/97 BRIDGE RATING : FAIR 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 : 006
046 - SPANS, APPROACH : 0000
049 - STRUCTURE LENGTH : 000433
032 - APPROACH ROADWAY WIDTH : 038
034 - SKEW : 49
051 - BRDG RDWY WID, CRB-TO-CRB : 0420
052 - DECK WIDTH, OUT-TO-OUT : 0440
500 - HWY OF THE INVENTORY ROUTE : 01

: MAINTENANCE & REPAIR RECOMMENDATIONS :	: MAINTENANCE COMPLETED :
1 PATCH BOTTOM OF DECK IN SPAN NO. 0005	1 BY _____ DATE _____
2 REPAIR DIAPHGRAMS IN SPAN NO. 0005___	2 BY _____ DATE _____

: COMMENTS FOR BRIDGE SEQ. NO. : 80I00400034 :

REPAIR EMBANKMENT EROSION AT ABUTMENT #2.

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 INSPECTION AND REPAIR OFFICE
NASHVILLE, TENNESSEE 37243-0338

September 09, 1991

Mr. John Burke
Regional Civil Engineer Director
6601 Centennial Blvd.
Nashville, Tn 37209

RE: Bridge No. 80-I40-16.18
Westbound I-40 over Caney Fork River
Smith County

Dear Mr. Burke:

Mr. Billy Dawson of the Region III Bridge Repair Office has informed us that the expansion joint at pier no. 3 of the subject bridge has become loose and has movement under traffic loads.

After a field review by Mr. Richard Gentry and Mr. Lon Mires of our office, we do not feel that there is an emergency situation at this time. We recommend that the joint be monitored on a daily basis to ensure that the condition is not worsening and becoming a hazard to traffic. If the joint appears to be in danger of coming completely out, the joint extrusion should be removed.

Plans are currently being developed to repair the joint and the daily monitoring should be continued until the contract is awarded and the work is underway.

If you have any questions, please contact us.

Yours very truly,

Thomas E. Irwin

Larry E. Hinds
Civil Engineering Manager 2

RBG:teq

cc: Mr. Ben Teague
Mr. Charles Hunter ✓
Mr. Richard B. Gentry
File

BRIDGE DECK EVALUATION

County SMITH Route I-40 Date 1-20-88

Bridge Number 80-I40-16.14 W.B.L Over CANEY FORK RV.

Bridge Length 433.0' Bridge Width 30.0'

Total Deck Area Evaluated 12,990.0' sq. ft.

CORROSION

Over 0.35v

ASP. OVERLAY sq. ft.

N/A %

VISUAL

Spalls	Scalling
ASP. OVERLAY sq. ft.	ASP. OVERLAY sq. ft.
N/A %	N/A %

DELAMINATIONS

Chain Drag

ASP. OVERLAY sq.ft.

N/A %

CHLORIDES

No. Tests Over 2 lbs/yd^3 6

Total No. of Tests 6

% Tests Over 2 lbs/yd^3 100

CALCULATIONS

Total Sq. Ft. > 0.35v Corrosion Potential N/A sq. ft.

Sq. Ft. Spalls Outside > 0.35v N/A sq. ft.

Sq. Ft. Delamination Outside > 0.35v N/A sq. ft.

Total Contaminated Deck Sq. Ft. (-Chloride) N/A sq. ft.

Total Deck Area 12,990 sq. ft.

Total Contaminated Deck Area (-Chloride) N/A sq. ft.

Total Deck Not > 0.35v, Spalled, Delaminated 12,990 sq. ft.

$$\frac{\text{\% Chloride Tests Over 2 lbs per yd}^3}{100} \times \text{Total Deck Area Not > 0.35v, Spalled Delaminated} = \text{Deck Area Contaminated}$$

1.00 x 12,990 = 12,990 sq. ft.

Total Contaminated Deck Area (-Chloride) N/A sq. ft.

Total Contaminated Deck Area 12,990 sq. ft.

Total Contaminated Deck Area ÷ Total Area = 100 %

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

Bridge Condition Coding Form

Revised 06/15/2000

County:	80
Route:	I0040
Special Case:	0
County Sequence:	01
Log Mile:	16.18

Bridge Number: (Includes Item 5A) 80I004000341

Feature Intersected: CANEY FORK RIVER

CODE ONLY THOSE VALUES WHICH HAVE CHANGED

ITEM #	DESCRIPTION	VALUE
90	INSPECTION DATE	06/13/2001 4 / 28 / 2003
10	MINIMUM V.C. OVER DECK (ROADWAY + SHOULDERS)	99 FT. 99 IN. ____ FT. ____ IN.
520	MINIMUM V.C. OVER DECK (EXCLUDES SHOULDERS)	99 FT. 99 IN. ____ FT. ____ IN.
36	TRAFFIC SAFETY FEATURES	Br. Rail: 1 / Trans.: 1 / Appr. Rail: 1 / Appr. Rail Ends: 1
41	STRC OPEN/CLOSED/POSTED (A K P)	A
58	DECK	6
59	SUPERSTRUCTURE	6
60	SUBSTRUCTURE	7
61	CHANL/CHANL PROTECTION	7
62	CULVERT AND RETAIN WALL	N
71	WATERWAY ADEQUACY	6
72	APPROACH RDWY ALIGNMENT (USE VALUES OF 3, 6, OR 8)	8
521	OVERALL CONDITION (Circle One)	GOOD (FAIR) POOR CRITICAL

Gilbert Wayne Hunter — TEAM LEADER SIGNATURE

4 / 28 / 2003 — REVIEW DATE

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

- N NOT APPLICABLE
- 9 EXCELLENT CONDITION
- 8 VERY GOOD CONDITION - NO PROBLEMS NOTED.
- 7 GOOD CONDITION - SOME MINOR PROBLEMS.
- 6 SATISFACTORY CONDITION - MINOR DETERIORATION OF STRUCTURAL ELEMENTS.
- 5 FAIR CONDITION - ALL PRIMARY STRUCTURAL ELEMENTS ARE SOUND BUT MAY HAVE MINOR SECTION LOSS, CRACKING, SPALLING OR SCOUR.
- 4 POOR CONDITION - ADVANCED SECTION LOSS, DETERIORATION, SPALLING OR SCOUR.
- 3 SERIOUS CONDITION - LOSS OF SECTION, DETERIORATION, SPALLING OR SCOUR HAVE SERIOURSLY AFFECTED PRIMARY STRUCTURAL COMPONENTS. LOCAL FAILURES ARE POSSIBLE. FATIGUE CRACKS IN STEEL OR SHEAR CRACKS IN CONCRETE MAY BE PRESENT.
- 2 CRITICAL CONDITION - ADVANCED DETERIORATION OF PRIMARY STRUCTURAL ELEMENTS. FATIGUE CRACKS IN STEEL OR SHEAR CRACKS IN CONCRETE MAY BE PRESENT OR SCOUR MAY HAVE REMOVED SUBSTRUCTURE SUPPORT. UNLESS CLOSELY MONITORED IT MAY BE NECESSARY TO CLOSE THE BRIDGE UNTIL CORRECTIVE ACTION IS TAKEN.
- 1 "IMMINENT" FAILURE CONDITION - MAJOR DETERIORATION OR SECTION LOSS PRESENT IN CRITICAL STRUCTURAL COMPONENTS OR OBVIOUS VERTICAL OR HORIZONTAL MOVEMENT AFFECTING STRUCTURAL STABILITY. BRIDGE IS CLOSED TO TRAFFIC BUT CORRECTIVE ACTION MAY PUT BACK IN LIGHT SERVICE.
- 0 FAILED CONDITION - OUT OF SERVICE AND BEYOND CORRECTIVE ACTION.

TENNESSEE BRIDGE INSPECTION PROGRAM
SUMMARY OF EVALUATION

REV. 03-05-2003

BRIDGE ID NO: 80I00400034 *LOCATION NO:* 80 - I0040 - 16.20 L

(6A) CROSSING: CANEY FORK RIVER

(505) METHOD OF ANALYSIS: LOAD FACTOR METHOD

(548) RATING BASED ON: AASHTOWARE BRIDGE RATING (4" OF ASPHALT)

LOAD RATINGS IN TONS

INVENTORY (503) H	20	*(518B) HS*	30
OPERATING (504) H	36	*(519) HS*	50

(549) EVALUATOR: DCD

(522) EVAL. DATE: 8/4/2017

LAST UPDATED BY: DOMM

(29) ADT: 39,420 *(30) ADT YR:* 2017

(100) STRAHNET ROUTE: YES

(19) DETOUR LENGTH: 2 *KM*

(520) VC OVER RDWY: 99.99 *METERS*

CONDITION RATINGS

(58) DECK RATING:	4
(59) SUPERSTRUCTURE RATING:	6
(60) SUBSTRUCTURE RATING:	7
(61) CHANNEL PROTECTION:	7
(62) CULVERT RATING:	N
(113A) NBIS SCOUR CODE:	8
(113B) TDOT SCOUR CODE:	R

APPRAISAL RATINGS

(67) STRUCTURAL EVALUATION:	6
(68) DECK GEOMETRY:	8
(69) UNDER CLEARANCE:	N
(70) BRIDGE POSTING:	5
(71) WATERWAY ADEQUACY:	6
(72) APPROACH RDWY ALIGNMENT:	8

CODE VALUES

N - NOT APPLICABLE
9 - EXCELLENT CONDITION
8 - VERY GOOD CONDITION
7 - GOOD CONDITION
6 - SATISFACTORY
5 - FAIR CONDITION
4 - POOR CONDITION
3 - SERIOUS CONDITION
2 - CRITICAL CONDITION
1 - FAILURE IS IMMINENT
0 - FAILED CONDITION

OTHER RATING ITEMS

(521) OVERALL CONDITION:	P		
(513) TEXTURE COAT RATING:	G	10	
(514) PAINT CONDITION RATING:	N		
(41) WEIGHT POSTING CODE:	A		

(36) TRAFFIC SAFETY FEATURES: 1 0 0 1

(525) REPAIR LIST NO: 2

COMMENTS

2017 - SPOKE WITH BRIAN EGLI ABOUT ADDING TO RL1 BUT HE WANT TO KEEP IT ON RL2 BECAUSE IT MAY BE REPLACE BY THE IMPROVE ACT

(502) SUFF. RATING:	85.9
(528) STR. DEFICIENT:	YES
(529) FUNC. OBSOLETE:	NO

Bridge Name: LEFT I-40 OVER CANEY FORK RIVER
NBI Structure ID: 80I00400034
Bridge ID: 80I00400034

Analyzed By: bridgeware
Analyze Date: Thursday, February 07, 2019 09:16:04
Analysis Engine: AASHTO LFR Engine Version 6.8.1.3001
Analysis Preference Setting: None

Report By: bridgeware
Report Date: Thursday, February 07, 2019 09:23:03

Structure Definition Name: GSS
Member Name: G5
Member Alternative Name: OLD INT

Load Factor Rating Summary

Girder Summary

Live Load		Rating Factor	Controls	Capacity (Ton)	Span	Location (ft)	Percent	Impact	Lane
H 15-44	Inventory	1.433	Design Shear - Concrete	21.50	1	52.00	95.6	As Requested	As Requested
H 15-44	Operating	2.394	Design Shear - Concrete	35.91	1	52.00	95.6	As Requested	As Requested
HS 20-44	Inventory	0.832	Design Shear - Concrete	29.96	1	52.00	95.6	As Requested	As Requested
HS 20-44	Operating	1.390	Design Shear - Concrete	50.03	1	52.00	95.6	As Requested	As Requested
Type 3S2	Inventory	1.043	Design Shear - Concrete	37.56	1	52.00	95.6	As Requested	As Requested
Type 3S2	Operating	1.742	Design Shear - Concrete	62.73	1	52.00	95.6	As Requested	As Requested
Annual Permit 1	Inventory	0.616	Design Shear - Concrete	50.83	1	52.00	95.6	As Requested	As Requested
Annual Permit 1	Operating	1.029	Design Shear - Concrete	84.88	1	52.00	95.6	As Requested	As Requested
Annual Permit 2	Inventory	0.554	Design Shear - Concrete	45.69	2	78.08	97.0	As Requested	As Requested

Annual Permit 2	Operating	0.925	Design Shear - Concrete	76.30	2	78.08	97.0	As Requested	As Requested
Gravel Truck	Inventory	0.787	Design Shear - Concrete	29.12	1	52.00	95.6	As Requested	As Requested
Gravel Truck	Operating	1.314	Design Shear - Concrete	48.62	1	52.00	95.6	As Requested	As Requested
Overweight Permit	Inventory	0.480	Design Shear - Concrete	61.23	1	52.00	95.6	As Requested	As Requested
Overweight Permit	Operating	0.802	Design Shear - Concrete	102.26	1	52.00	95.6	As Requested	As Requested
EV2	Operating	1.648	Design Shear - Concrete	47.38	1	52.00	95.6	As Requested	As Requested
EV3	Operating	1.099	Design Shear - Concrete	47.26	1	52.00	95.6	As Requested	As Requested
SU6 LFR	Operating	1.461	Design Shear - Concrete	50.75	1	52.00	95.6	As Requested	As Requested
SU7 LFR	Operating	1.375	Design Shear - Concrete	53.29	1	52.00	95.6	As Requested	As Requested

Note:
"N/A" indicates not applicable
"**" indicates not available

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

Bridge Condition Coding Form

Revised 06/15/2000

County:	80
Route:	10040
Special Case:	0
County Sequence:	01
Log Mile:	16.18

Bridge Number: (Includes Item 5A) 801004000341

Feature Intersected: CANEY FORK RIVER

CODE ONLY THOSE VALUES WHICH HAVE CHANGED

ITEM #	DESCRIPTION	VALUE
90	INSPECTION DATE	06/21/1999
		6/13/01
10	MINIMUM V.C. OVER DECK (ROADWAY + SHOULDERS)	99 FT. 99 IN.
		____ FT. ____ IN.
520	MINIMUM V.C. OVER DECK (EXCLUDES SHOULDERS)	99 FT. 99 IN.
		____ FT. ____ IN.
36	TRAFFIC SAFETY FEATURES	
	Br. Rail / Trans. / Appr. Rail / Appr. Rail Ends	1 / 1 / 1 / 1
		___ / ___ / ___ / ___
41	STRC OPEN/CLOSED/POSTED (A / K / P)	A
		___
58	DECK	6
		___
59	SUPERSTRUCTURE	6
		___
60	SUBSTRUCTURE	7
		___
61	CHANL/CHANL PROTECTION	7
		___
62	CULVERT AND RETAIN WALL	N
		___
71	WATERWAY ADEQUACY	6
		___
72	APPROACH RDWY ALIGNMENT (USE VALUES OF 3, 6, OR 8)	8
		___
521	OVERALL CONDITION (Circle One)	

GOOD (FAIR) POOR CRITICAL

Gilbert Wayne Hunter — TEAM LEADER SIGNATURE

6/13/01 — REVIEW DATE

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

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

Bridge Condition Coding Form

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

County:	80
Route:	I0040
Special Case:	0
County Sequence:	1
Log Mile:	16.18

Bridge Number: (Includes Item 5A) 80I004000341

Feature Intersected: CANEY FORK RIVER

CODE ONLY THOSE NUMBERS WHICH HAVE CHANGED

ITEM #	DESCRIPTION	VALUE
90	INSPECTION DATE	5/1/97 6/21/99
10	MINIMUM V.C. OVER DECK (ROADWAY + SHOULDERS)	99 FT. 99 IN. ____ FT. ____ IN.
520	MINIMUM V.C. OVER DECK (EXCLUDES SHOULDERS)	99 FT. 99 IN. ____ FT. ____ IN.
54	MINIMUM VERTICAL UNDERCLEARANCE (EXCLUDES SHOULDERS) Circle One: H R N	N 0 FT. 0 IN. ____ FT. ____ IN.
36	TRAFFIC SAFETY FEATURES	
	Br. Rail	1
	Trans.	1
	Appr. Rail	1
	Appr. Rail Ends	1
		___
41	STRC OPEN/CLOSED/POSTED A K P	A ___
58	DECK	7 6
59	SUPERSTRUCTURE	6 ___
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 Hunter — SIGNATURE

6/21/99 — DATE

COMMENTS

RATINGS FOR CODING ITEMS 58, 59, 60 AND 62

N NOT APPLICABLE

9 EXCELLENT CONDITION

8 VERY GOOD CONDITION - NO PROBLEMS NOTED.

7 GOOD CONDITION - SOME MINOR PROBLEMS.

6 SATISFACTORY CONDITION - MINOR DETERIORATION OF STRUCTURAL ELEMENTS.

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

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

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

2 CRITICAL CONDITION - ADVANCED DETERIORATION OF PRIMARY STRUCTURAL ELEMENTS. FATIGUE CRACKS IN STEEL OR SHEAR CRACKS IN CONCRETE MAY BE PRESENT OR SCOUR MAY HAVE REMOVED SUBSTRUCTURE SUPPORT. UNLESS CLOSELY MONITORED IT MAY BE NECESSARY TO CLOSE THE BRIDGE UNTIL CORRECTIVE ACTION IS TAKEN.

1 "IMMINENT" FAILURE CONDITION - MAJOR DETERIORATION OR SECTION LOSS PRESENT IN CRITICAL STRUCTURAL COMPONENTS OR OBVIOUS VERTICAL OR HORIZONTAL MOVEMENT AFFECTING STRUCTURAL STABILITY. BRIDGE IS CLOSED TO TRAFFIC BUT CORRECTIVE ACTION MAY PUT BACK IN LIGHT SERVICE.

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

TENNESSEE BRIDGE INSPECTION PROGRAM

DT-1449 SUMMARY OF EVALUATION REV. 06-28-90

RATING BASED ON: LFR (BARS)

INVENTORY 503 H 20 Tons 66 HS 36 Tons

OPERATING 504 H 27 Tons 64 HS 45 Tons

TN LEGAL LOAD 517 T____ Tons

Bridge No.: 80-79C-16.15

Evaluator: A. MSN/BB

Date: 10-22-92

ADT: 3[illegible] (19[illegible]) Defense Rte.

Detour length: 50 Yes[X] No[ ]

V.C. Over Deck____ft.____in. [X]NA

CONDITION RATING (Structural)

	Culverts	
58 Deck	N	7
59 Superstructure	N	6
60 Substructure	N	7
61 Chl & Chl Protection		7
62 Culv & Ret Walls		N
113 Scour Condition		6

APPRAISAL RATING (Relation to System)

	Culverts	
67 Structural Evaluation		6
68 Deck Geometry		8
69 Under Clearance	N	N
70 Bridge Posting		5
71 Waterway Adequacy		6
72 Approach Rdy Alignment		8

Overall Condition (65): G F P C

Texture Coat (513): 6/1/92 N/A

Paint Condition (514): | | | | | | N/A

(36) Br. Rail, Trans., Appr. rails, Terminals

Traffic Safety features: 1/1/1/1

Rail Under Bridge (515): N/N/N/N

Comments and Recommendations:

** ART. 5.1.2 OF MAINT. MAN. FOR CONC. BR. WITH UNK. REINF
*** DES. STD. OR DES. PLANS FOR H15 OR HS20 LOADING

COMMENTARY (Condition)

N NOT APPLICABLE
9 EXCELLENT CONDITION
8 VERY GOOD CONDITION - no problems noted
7 GOOD CONDITION - Some minor problems
6 SATISFACTORY CONDITION - structural elements show some minor deterioration
5 FAIR CONDITION - all primary structural elements are sound but may have minor section loss, deterioration, spalling or scour
4 POOR CONDITION - advanced section loss, deterioration, spalling or scour
3 SERIOUS CONDITION - loss of section, deterioration, spalling or scour have affected primary structural components - local failures are possible - fatigue cracks in steel or shear cracks in concrete may be present
2 CRITICAL CONDITION - advanced deterioration of primary structural elements - fatigue cracks in steel or shear cracks in concrete may be present or scour may have removed substructure support - unless closely monitored it may be necessary to close the bridge until corrective action is taken
1 "IMMINENT" FAILURE CONDITION - major deterioration or section loss present in critical structural components or obvious vertical or horizontal movement affecting structure stability - bridge is closed to traffic but corrective action may put back in light service
0 FAILED CONDITION - out of service - beyond corrective action

COMMENTARY (Appraisal)

N Not applicable
9 Superior to present desirable criteria
8 Equal to present desirable criteria
7 Better than present minimum criteria
6 Equal to present minimum criteria
5 Somewhat better than minimum adequacy to tolerate being left in place as is
4 Meets minimum tolerable limits to be left in place as is
3 Basically intolerable requiring high priority of corrective action
2 Basically intolerable requiring high priority of replacement
1 This value of rating code not used
0 Bridge closed

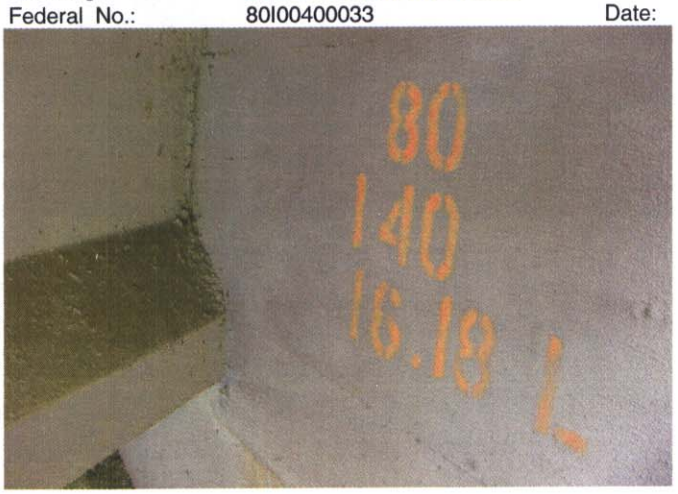
GOOD-------7, 8 & 9
FAIR-------5 & 6
POOR-------3 & 4
CRITICAL 0, 1 & 2

Sufficiency Rating 95.2

Dated: _____

Bridge No.: 80 — I0040 — 1614
Crossing:: CANEY FORK RIVER *
Federal No.: 80I00400033 Date: April 28, 2003

PIC1



BRIDGE NO. AT ABUTMENT # 1

Bridge No.: 80 — I0040 — 1614
Crossing:: CANEY FORK RIVER *
Federal No 80I00400033 Date: April 28, 2003

PIC2



INLET-ELEV

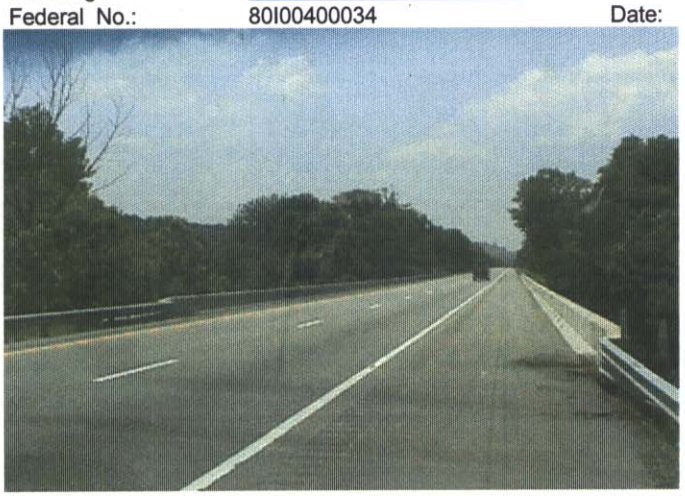
PIC3



VIEW ACROSS DECK FROM A-APPR

Bridge No.: 80 — I0040 — 1618
Crossing:: CANEY FORK RIVER *
Federal No.: 80I00400034 Date: June 13, 2001

PIC1



VIEW ACROSS DECK

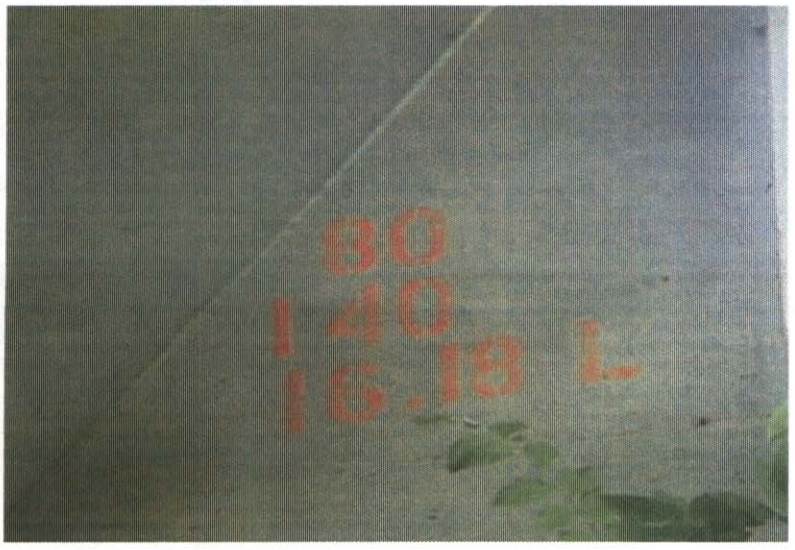
Bridge No.: 80 — I0040 — 1618
Crossing:: CANEY FORK RIVER *
Federal N 80I00400034 Date: June 13, 2001

PIC2



INLET-ELEV

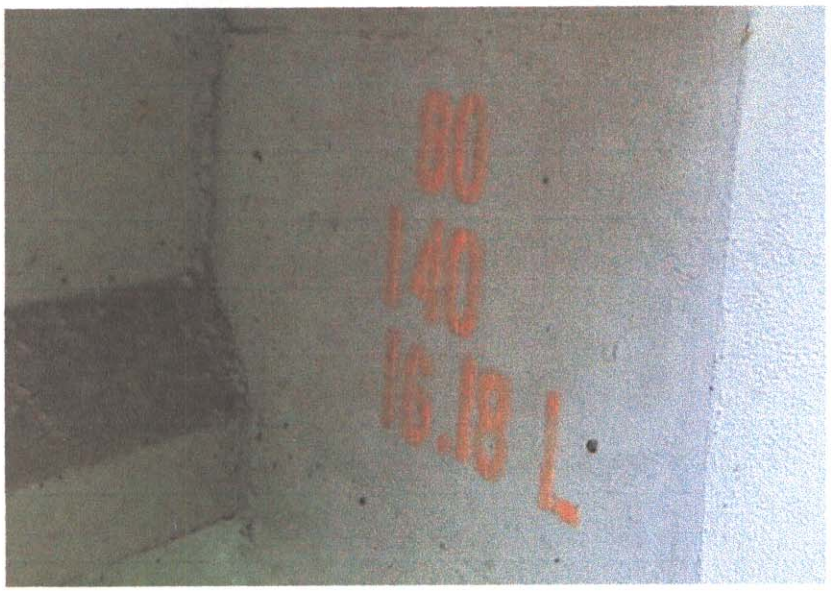
PIC3



BRIDGE NO. AT ABUTMENT # 1

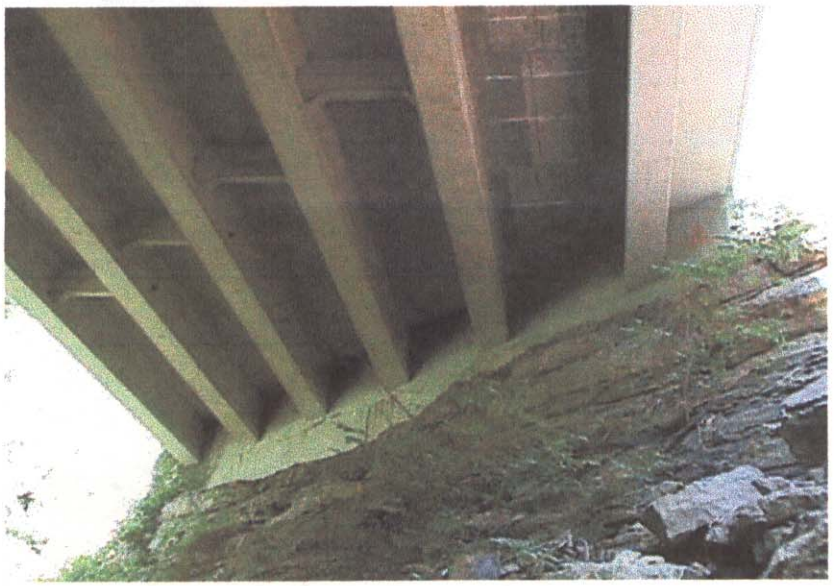
Bridge No.: 80 — I0040 — 1618
Crossing:: CANEY FORK RIVER *
Federal No.: 80I00400034 Date: June 21, 1999

PIC6



BRIDGE NO. AT ABUTMENT # 1

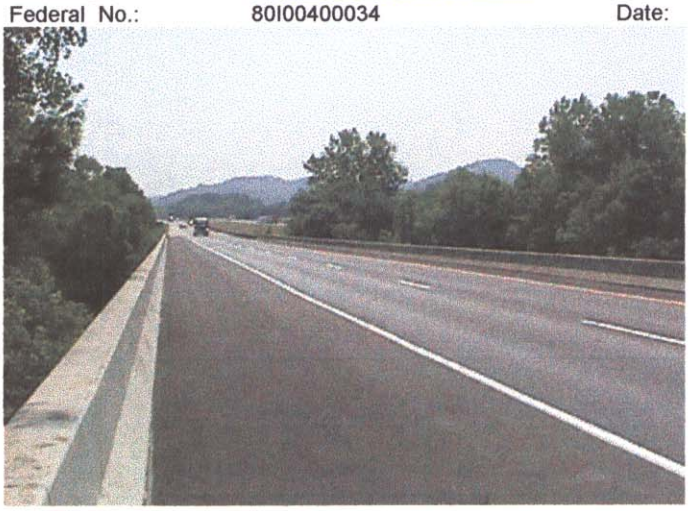
PIC7



ABUTMENT TYPICAL

Bridge No.: 80 — I0040 — 1618
Crossing:: CANEY FORK RIVER *
Federal No.: 80I00400034 Date: June 21, 1999

PIC1



ACROSS TOP OF DECK

Bridge No.: 80 — I0040 — 1618
Crossing:: CANEY FORK RIVER *
Federal No 80I00400034 Date: June 21, 1999

PIC2



APPROACH #1

PIC3



APPROACH #2

Bridge No.: 80 — I0040 — 1618
Crossing:: CANEY FORK RIVER *
Federal No.: 80I00400034 Date: June 21, 1999

PIC4



UPSTREAM

PIC5



DOWNSTREAM

Bridge No.: 80 — I0040 — 1618
Crossing:: CANEY FORK RIVER *
Federal No.: 80I00400034 Date: June 21, 1999

PIC8



SPAN #2 BREAKOUT DECK

PIC9



BOTTOM OF DECK

Bridge No.: 80 — I0040 — 1618
Crossing:: CANEY FORK RIVER *
Federal No.: 80I00400034 Date: June 21, 1999

PIC10



PIER TYPICAL

PIC11



ELEVATION INLET

ROUTINE BRIDGE INSPECTION REPORT

Page No.___

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

Field Report No. 16 Date 4-28-2003
Previous Report No. 15 Date 6/13/2001
Plans: Yes

Bridge No. 80I00400034 (Eleven Digit No.)
Bridge Location No. 80 - I0040 - 16.18 (Co. - Route - Log Mile)

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

Structure Type PPCIB
FRACTURE CRITICAL: NO

FEATURE CHANGES:

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

CLEARANCE CHANGES: (If yes make changes below)

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

INSPECTORS

Hunter Thompson
Daniel
Crutcher
Waller

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

		Comments
Approaches	G	
Deck Condition (Item 58)	F	2½" deep breakouts w. transverse hair cracks
Superstructure (Item 59)		
a. Beams	G	
b. Bearings	G	
c. Diaphragms	F	4" deep spalls
Substructure (Item 60)		
a. Caps/Bridge Seats	G	
b. Columns/Piles	G	
c. Footings	NV	
d. Wing W./Breast W.	G	
Scour/Erosion	F	slight settlement of embankment
Channel (Item 61)	G	

UNDERWATER INSPECTION

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

Weight Limit Posted NO

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

COMMENTS:

Supervising Bridge Inspector: Gilbert Wayne Hunter

BRIDGE RATING: **FAIR**

SUMMARY
80-I40-16.18 LT LANE
4/28/2003

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

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

The wearing surface is good. The expansion joint over pier #3 is good. Bottom deck is in fair condition with some 2 ½" deep breakouts with exposed steel and random transverse hair cracks with efflorescence. Beams are good. Bearing devices and diaphragms are fair with 4" deep spall with exposed rebar in span #5. Sub-structure units are in good condition. There is a slight problem of embankment at abutment #2 but no piles visible at this time. 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 6-13-01
Plans: Yes

Bridge No. 80100400034 (Eleven Digit No.)
Bridge Location No. 80 - I0040 - 16.18 L (Co. Route Log Mile)

IHD (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: FAIR (If change describe in comments)

		Comments
Approaches	G	
Deck Condition (Item 58)	F	2"-3" deep breakouts w. exp. rebar
Superstructure (Item 59)		
a. Beams	F	2" deep breakouts w. exp rebar
b. Bearings	G	
c. Diaphragms	F	3" deep spalls
Substructure (Item 60)		
a. Caps/Bridge Seats	G	
b. Columns/Piles	G	
c. Footings	NV	
d. Wing W./Breast W.	G	
Scour/Erosion	G	slight under Abut #2
Channel (Item 61)	G	

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

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

COMMENTS:

Supervising Bridge Inspector: Gilbert Wayne Hunter
BRIDGE RATING: FAIR

SUMMARY
80-I40-16.18 LT LANE
6-13-01

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

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

The wearing surface is good. The expansion joint over pier #3 is good - being repaired since last inspection. Bottom deck is in fair condition with some 2 ½" deep breakouts with exposed steel and random transverse hair cracks with efflorescence. Beams are good. Bearing devices and diaphragms are fair with 4" deep spall with exposed rebar in span #5. Sub-structure units are in good condition. There is a slight problem of embankment at abutment #2 but no piles visible at this time. 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 [X] NO [ ]

BRIDGE NO. 80I00409034 (ELEVEN DIGIT NO.)
BRIDGE LOC. NO. 80 - I40 - 16.18 (CO. ROUTE LOG MILE)

I40 W.B.L. (ROAD NAME) OVER Canoe Fork River (FEATURE INTERSECTED)
(STRUCTURE NAME (IF NAMED))

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

YEAR WIDENED [ ] [X] 1991 (ESTIMATED OR ACTUAL)
YEAR REHABILITATED '91 [ ] [X] (ESTIMATED OR ACTUAL)

FEATURES

WEARING SURFACE-- CONCRETE [ ] TIMBER [ ] ASPHALT [X] (DEPTH= 3¼)
FLARED WIDTH --------- YES [ ] NO [X]
NAVIGATIONAL CONTROL-- YES [ ] NO [X]
MEDIAN WIDTH -------- OPEN [X] NONE [ ] CLOSED [ ]

BRIDGE SKEW 49° LT [X] RT [ ]

STRUCTURE TYPE PPCTB (Main Span) NO. SPANS 6 (Main Span)
STRUCTURE TYPE — (Approach Spans) NO. SPANS — (Approach Spans)
MAXIMUM SPAN LENGTH 80' TOTAL LENGTH 433'

INSPECTORS
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 [X]
IF YES, INCLUDE BIR 3.9

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

COMMENTS:

Gilbert Wayne Hunter
SUPERVISING BRIDGE INSPECTOR

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

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

BRIDGE LOC. NO. 80 - I40 - 16.18 L.L.
CO. ROUTE L.M.

DATE: 6-21-99

PERFORMANCE EVALUATION

Time of day inspected 10:30 Weather conditions SUNNY, 75°

Vehicles observed Tractor trailer & passenger type

LIVE LOAD BEHAVIOR	YES	NO	COMMENTS
Substructure			
Horiz. & Vert. Defl.	[ ]	[X]	
Vibration	[ ]	[X]	
Superstructure			
Horiz. & Vert. Defl.	[X]	[ ]	
Vibration	[X]	[ ]	

APPROACH

Alignment	(G)	F	P	C	
Slab	G	F	P	C	NV
Joints	G	F	P	C	NA
Pavement	(G)	F	P	C	
Embankment	(G)	F	P	C	
Drains	(G)	F	P	C	

TRAFFIC SAFETY FEATURES

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

SIGNING

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

Other Signs or Plaques —

Comments Regarding Any Problems With Signing —

Other Recommendations

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

BRIDGE LOC. NO. 80 - I40 - 16.18 (CO. - ROUTE - L.M.)

DATE: 6-21-99

DECK					*COMMENTS*
WEARING SURFACE	(G)	F	P	C	
DECK - STRUCTURAL CONDITION	G	(F)	P	C	Mod Breakouts w. exp rebar Spans 5 Between B&C & C&E Deck has random H.L. cracks with leaching
CURBS	G	F	P	C	NA
MEDIAN	G	F	P	C	NA
SIDEWALKS	G	F	P	C	NA
PARAPET	(G)	F	P	C	
RAILING	G	F	P	C	NA
PAINT	G	F	P	C	NA
DRAINS	(G)	F	P	C	
LIGHTING STD'S	G	F	P	C	NA
UTILITIES	G	F	P	C	NA
JOINT LEAKAGE	(G)	F	P	C	
EXPANSION JOINTS	G	F	P	C	NV paved over

SUPERSTRUCTURE					*COMMENTS*
BEARING DEVICES	(G)	F	P	C	
GIRDERS OR BEAMS	G	(F)	P	C	Breakouts in beams Span 1-B 3" Deep X 1' X 1' near drop
FLOOR BEAMS	G	F	P	C	NA
STRINGERS	G	F	P	C	NA
DIAPHRAGMS	(G)	F	P	C	
BRACING	G	F	P	C	NA
TRUSSES - GENERAL	G	F	P	C	
- PORTALS	G	F	P	C	
- BRACING	G	F	P	C	
PAINT	G	F	P	C	NA
ALIGNMENT OF MEMBERS	(G)	F	P	C	

TEXTURE COAT

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

COMMENTS: Moderate scaling on piers & staining

RECOMMENDATIONS

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

BRIDGE LOC. NO. 80 - I40 - 16.18
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	
PILES	G	F	P	C	NV 20'-L up to 8"-11 up to 1-Back
EMBANKMENT	G	(F)	P	C	Slight Erosion & settlement Abut #2 No piles visible
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:

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

BRIDGE LOC. NO. 80 - I40 - 16.18 (_____) DATE: 6-21-99
CO. ROUTE L.M. (LOG km)

STREAM CHANNEL DATA AND CONDITIONS

STREAM CROSSING: Caney Fork River

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

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

Top Rt curb Abut A Elev Survey

	Lt.			Rt.
Abut A	499.33	498.70	499.45	500.00
Pier 1	498.80	498.35	499.00	499.50
" 2	498.23	497.75	498.36	498.87
" 3	497.81	497.30	497.90	498.41
" 4	497.60	497.14	497.60	498.10
" 5	497.56	497.12	497.57	498.02
Abut B	497.65	497.15	497.56	498.09

80 - I40 - 16.26

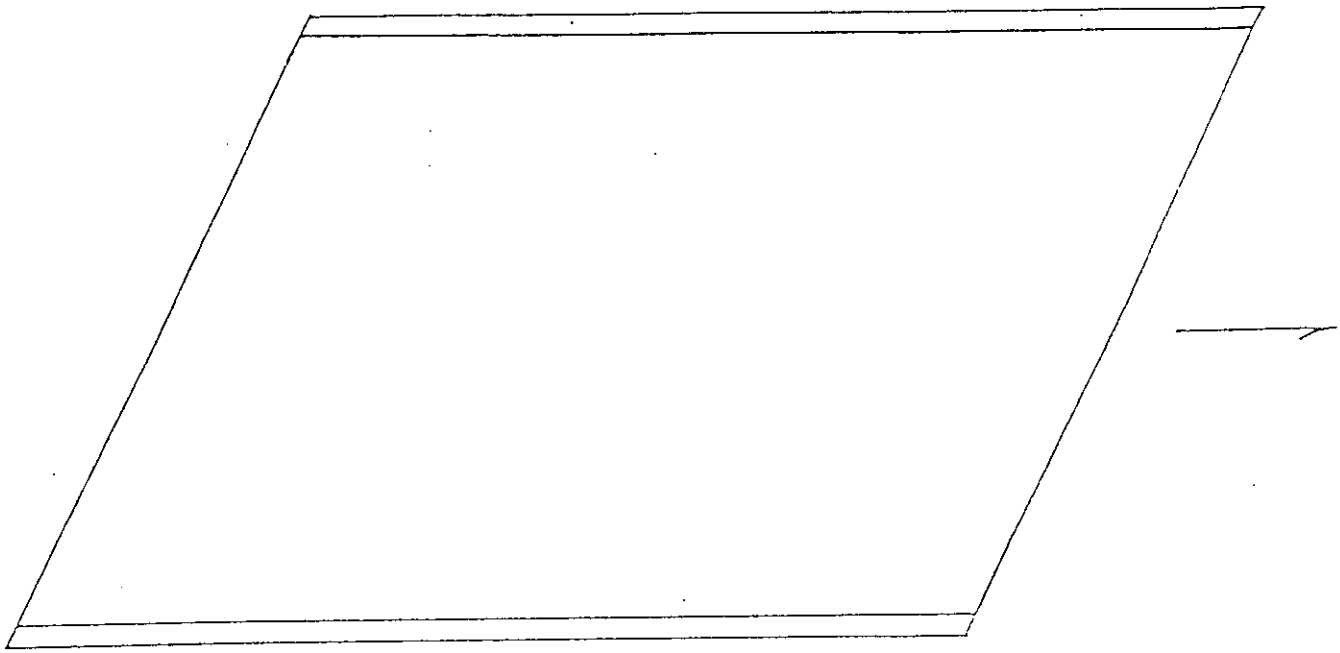
Report #3 Lt. Lane

ELEVATIONS

266-61

Station	Top Of Curb	Gutter Line	Center Line	Gutter Line	Top Of Curb
	ELEV. TOP	RT CURB	ABUT. A		500.00
1	LT				RT
Abut A	499.33	499.71		499.45	500.00
Pier 1	498.81	499.26		499.00	499.50
Pier 2	498.23	497.77		498.35	498.86
Pier 3	497.82	497.30		497.89	498.40
Pier 4	497.61	497.12		497.61	498.13
Pier 5	497.57	497.11		497.57	498.02
Abut B	497.65	497.13		497.53	498.08

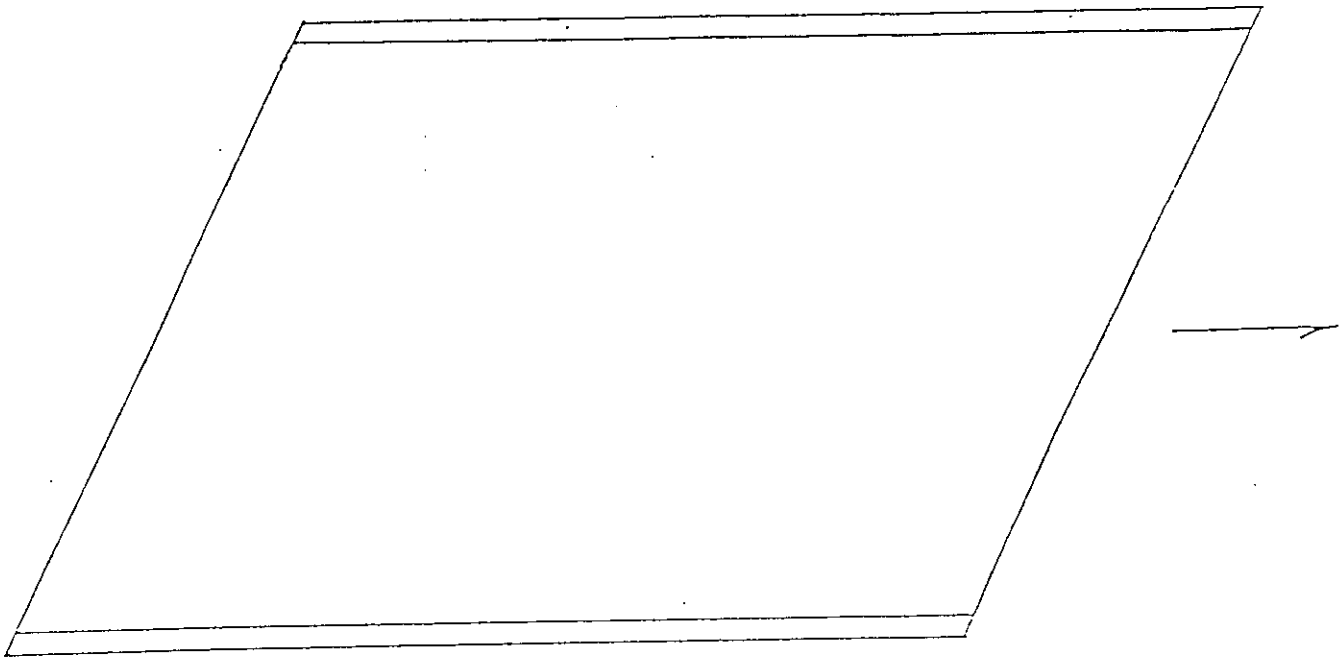
6-21-74
EWH



Top Slab # 1 Br. # 80-I40-16.18 L.L.

Deck	NV	New AC. overlay
Parapet	G	
Drains	NA	
Joints	NA	

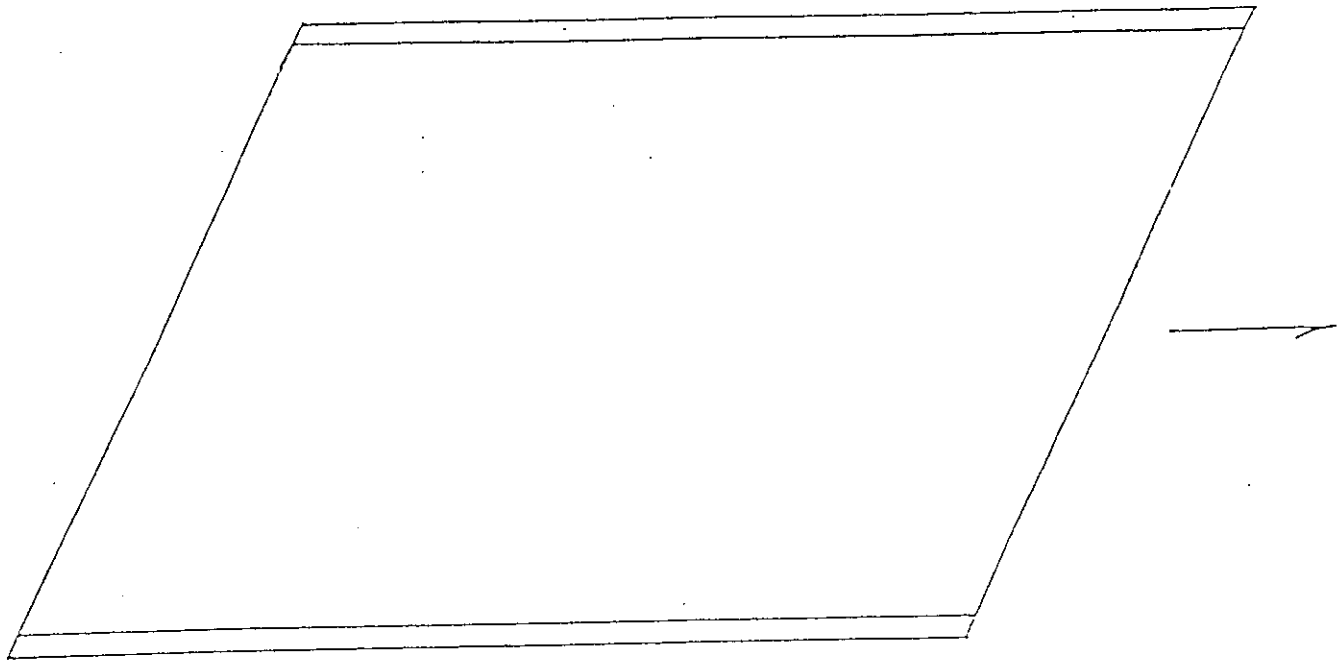
6-21-77
SW-H



Top Slab = 2 Br. # 80-I40-16.18 L.L.

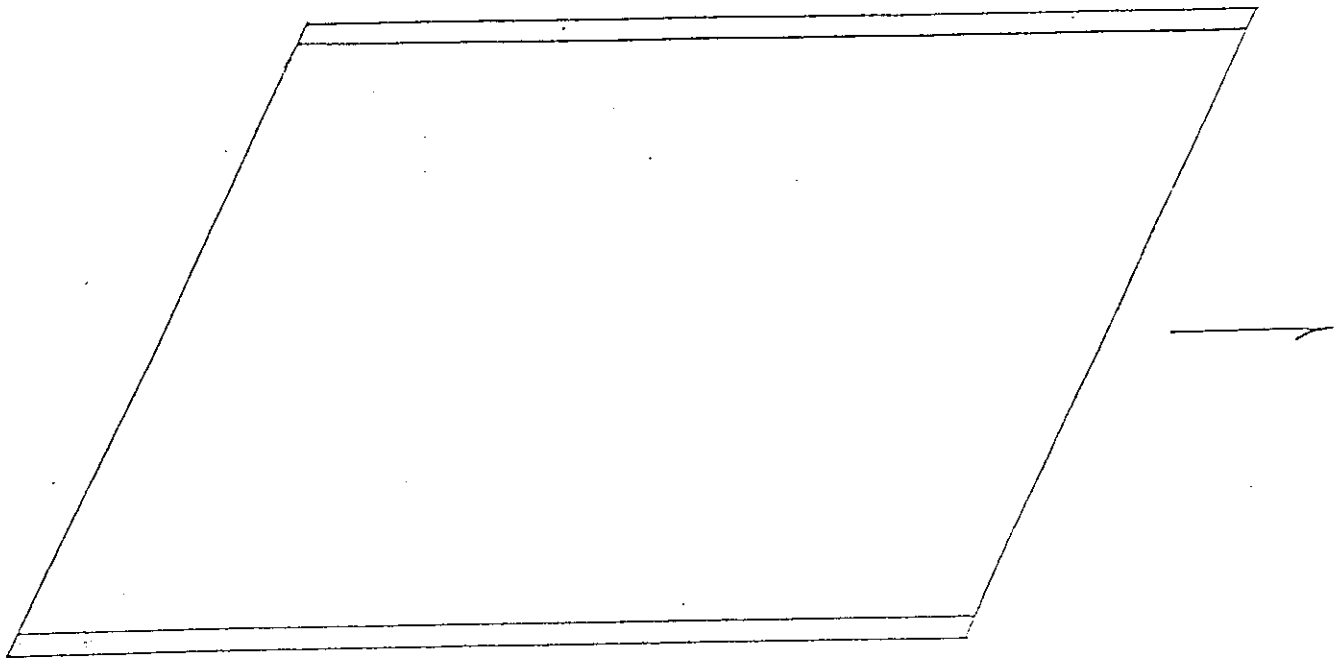
Deck	NV	New A.C. overlay
Parapet	G	
Drains	NA	
Joints	NA	

6-21-77
LWH



Top Slab # 3 Br. # 80-I40-16.18 L.L.

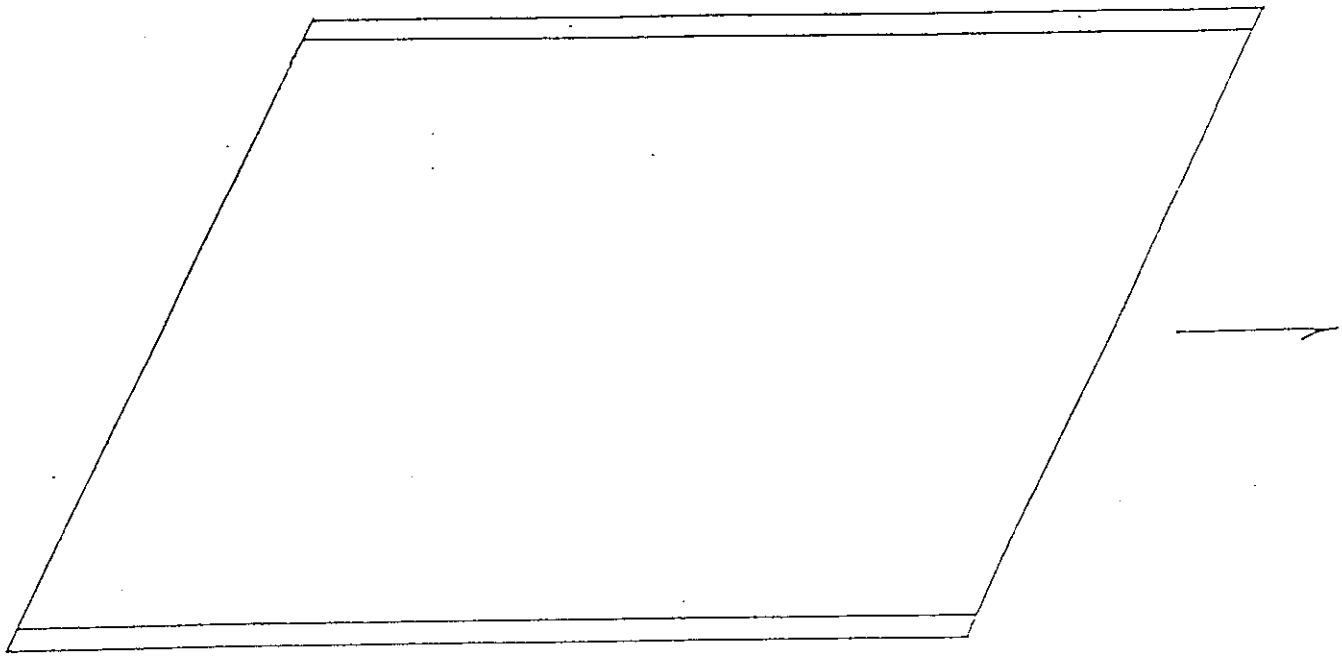
Deck	NV	New A.C. overlay
Parapet	G	
Drains	G	
Joints	NV	paved over



Top Slab # 4 Br. # 80-I40-16.18 L.L.

Deck	NV	New A.C. overlay
Parapet	G	
Drains	G	
Joints	NV	paved over

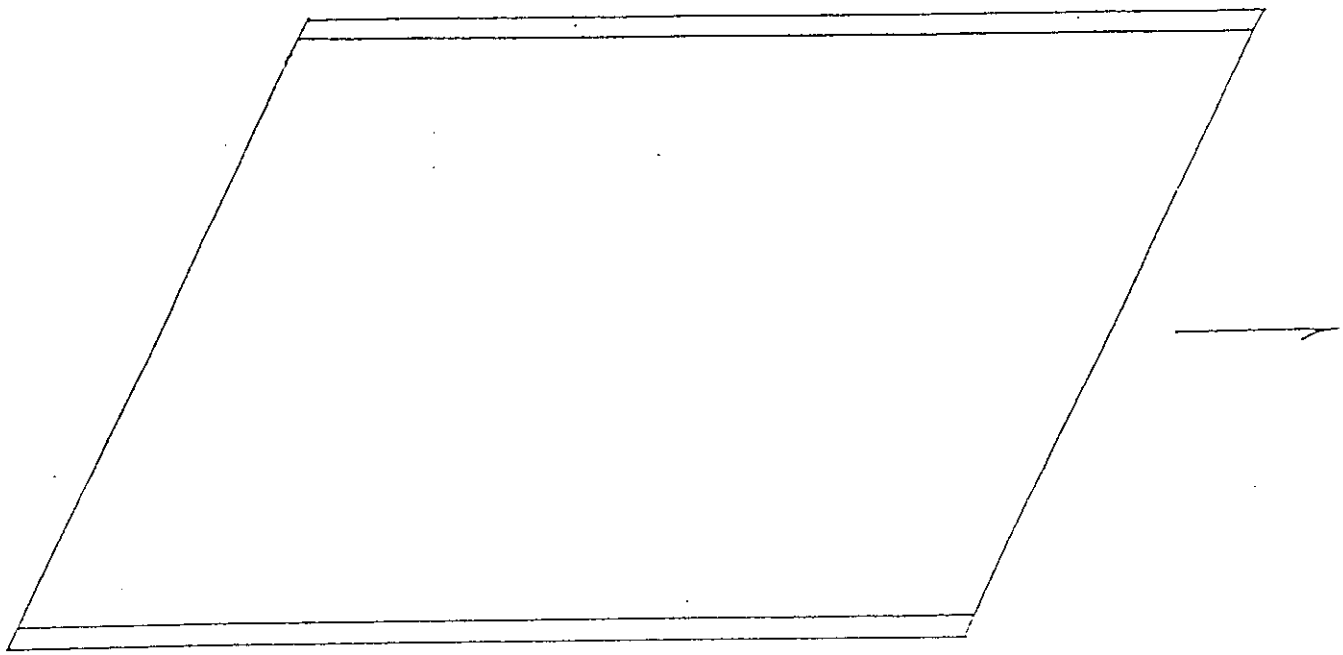
6-21-1
Keith



Top Slab # 5 Br. # 80-I40-16.18 L.L.

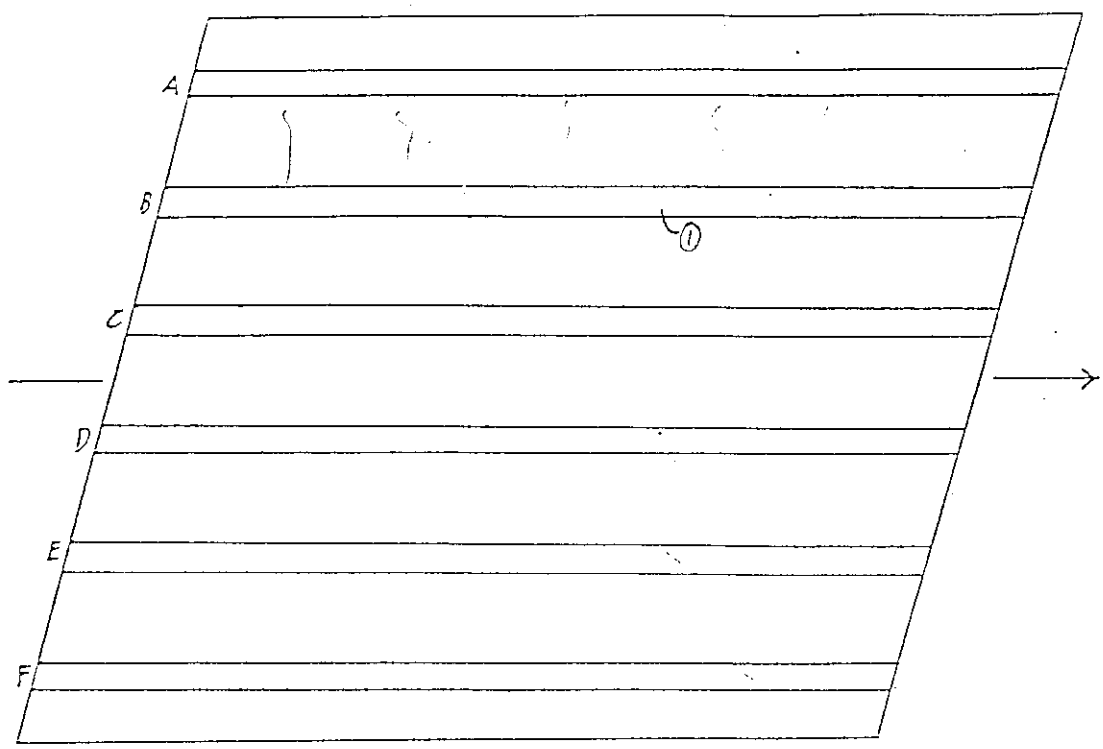
Deck	NV	New A.C. overlay
Parapet	G	
Drains	G	
Joints	NA	

6-21-T
KWK



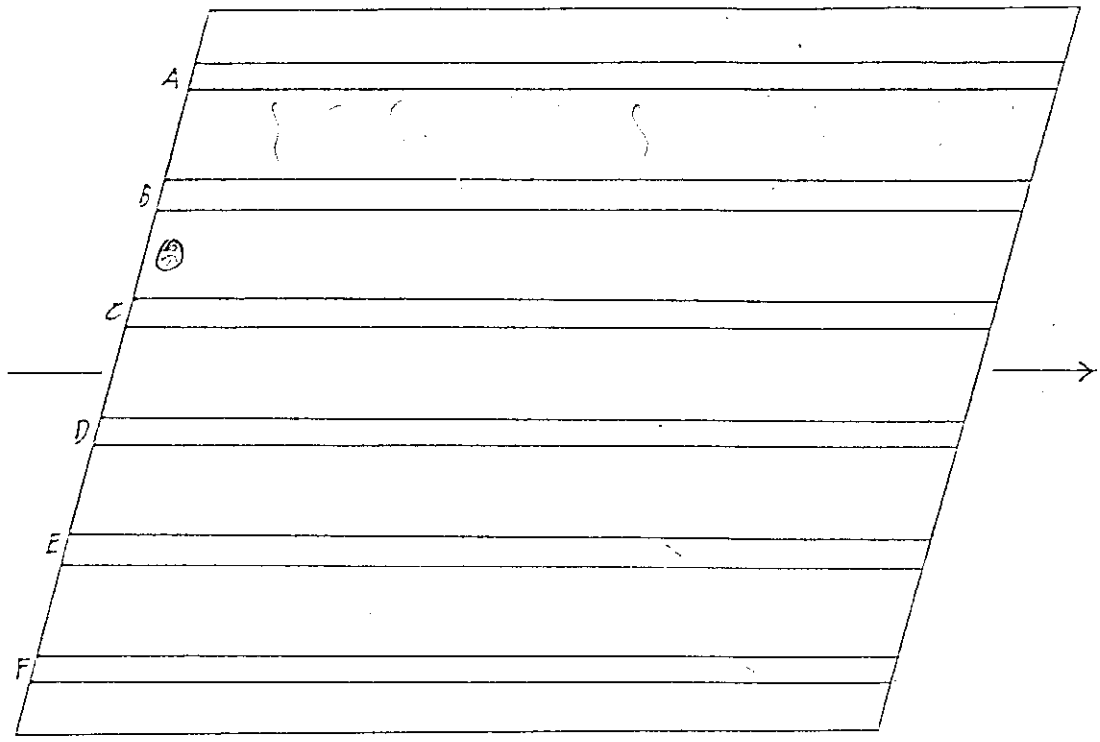
Top Slab # 6 Br. # 80-I40-16.18 L.L.

Deck	NV
Parapet	G
Drains	NA
Joints	NA



Bottom Slab = 1 Br. # 80-I40-16.18 L.L.

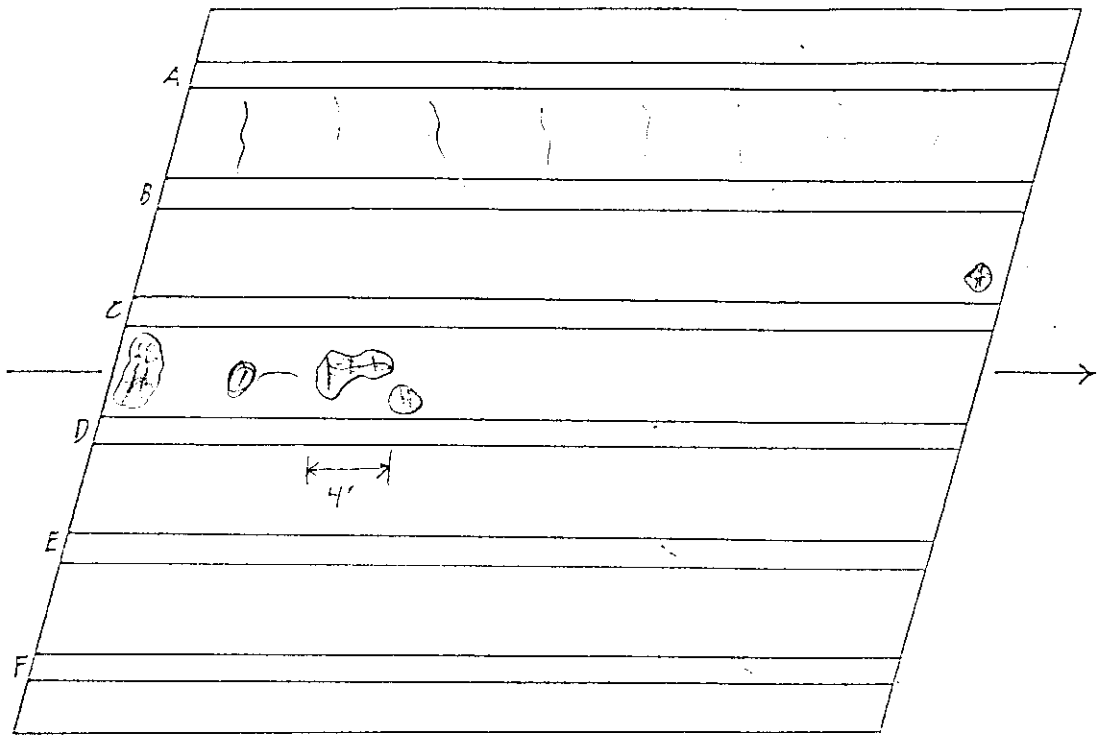
Deck	Fair	random transverse h.c.'s w/ efflor.
Diaph.	Fair	
Beams	Fair	① Break-outs up to 1' x 1' x 3" dp w/ exp. steel where diaphragms are attached



Bottom Slab = ? Br. # 80-I 40-16.18 L.L.

Deck	Good	trans. h.c.'s w/ eff. & random b.o.'s w/ steel 1½" dp
Diaph.	Fair	spalls w/ exp. rebar over pier # 1 up to 2" dp
Beams	Good	

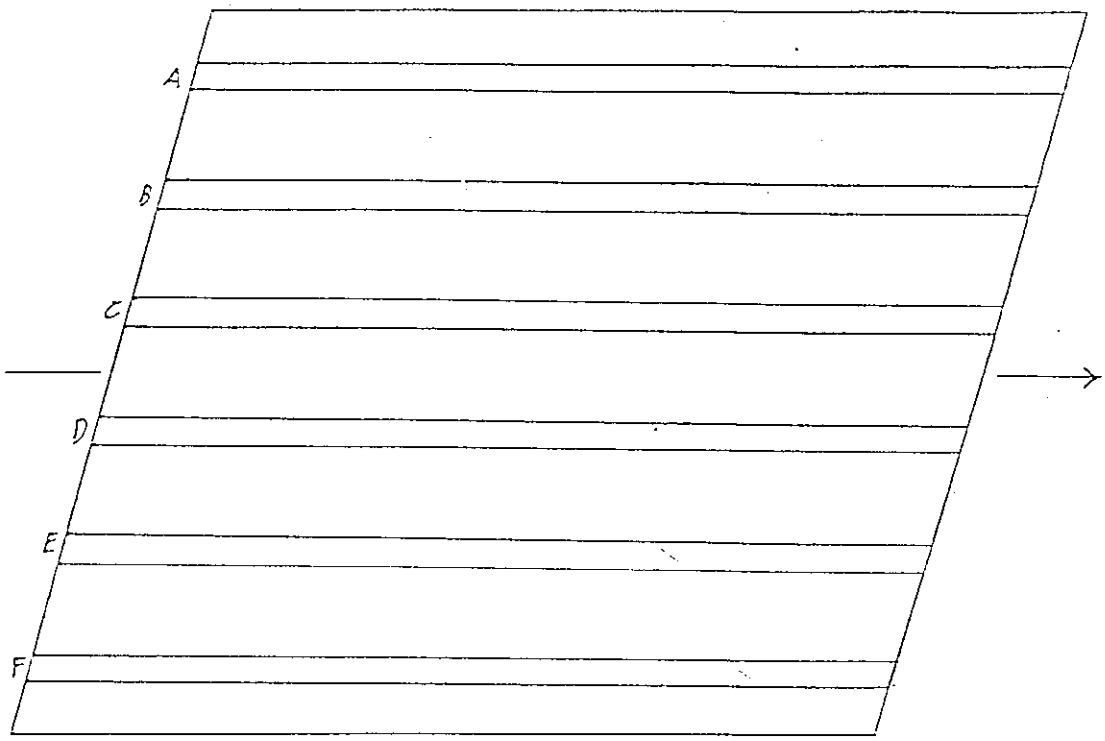
6-21-99 MD



Bottom Slab # 3 Br. # 80-I40-16.18 L.L.

Deck	Good	① Break-outs w/ exp. steel up to 7" dp
Diaph.	Good	
Beams	Good	

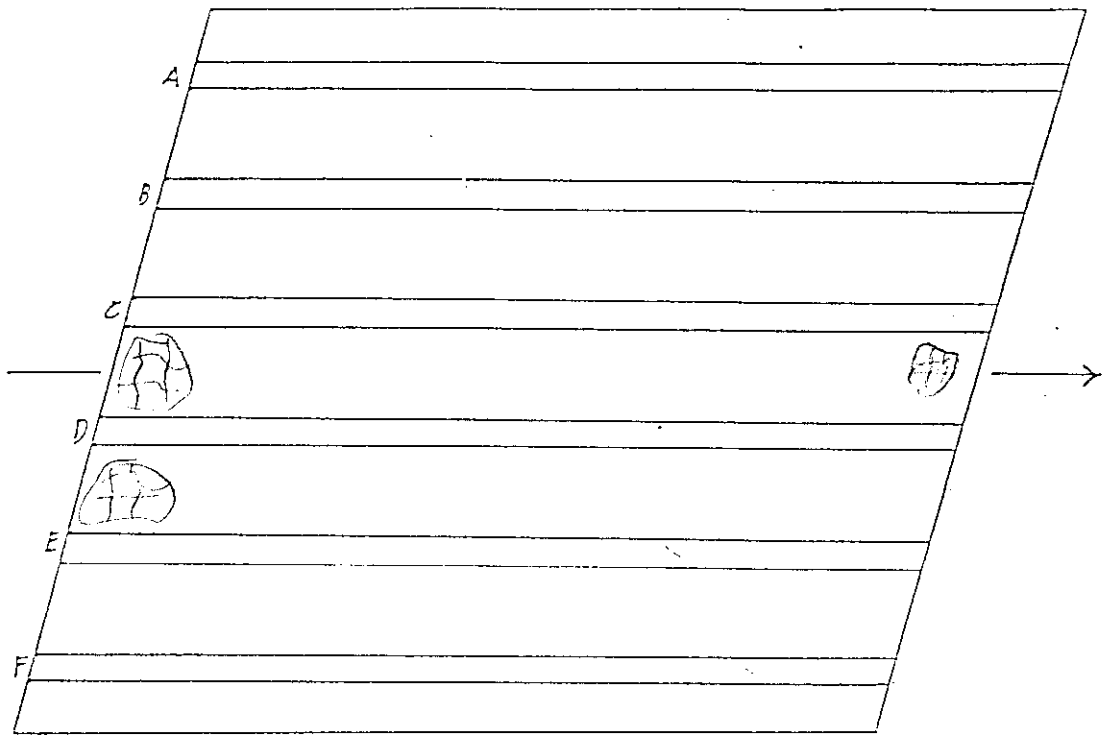
6-21-99 MD



Bottom Slab # 4 Br. # 80-I40-16.18 L.L.

Deck	Good
Diaph.	F
Beams	G

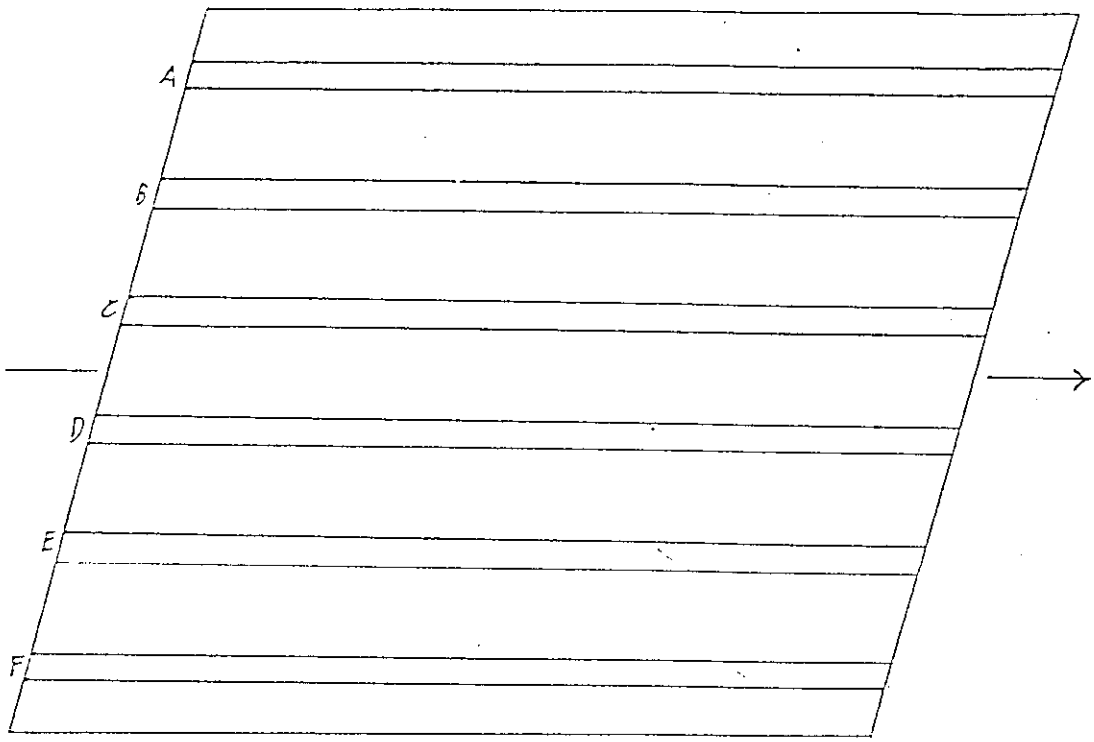
6-21-99MD



Bottom Slab = 5 Br. # 80-I40-16.18 L.L.

Deck	Fair	2" dp break-outs w/ exp. steel
Diaph.	Good	
Beams	Good	

6-21-99 KD



Bottom Slab = 6 Br. # 80-I40-16.18 L.L.

Deck	Good
Diaph.	Good
Beams	Good

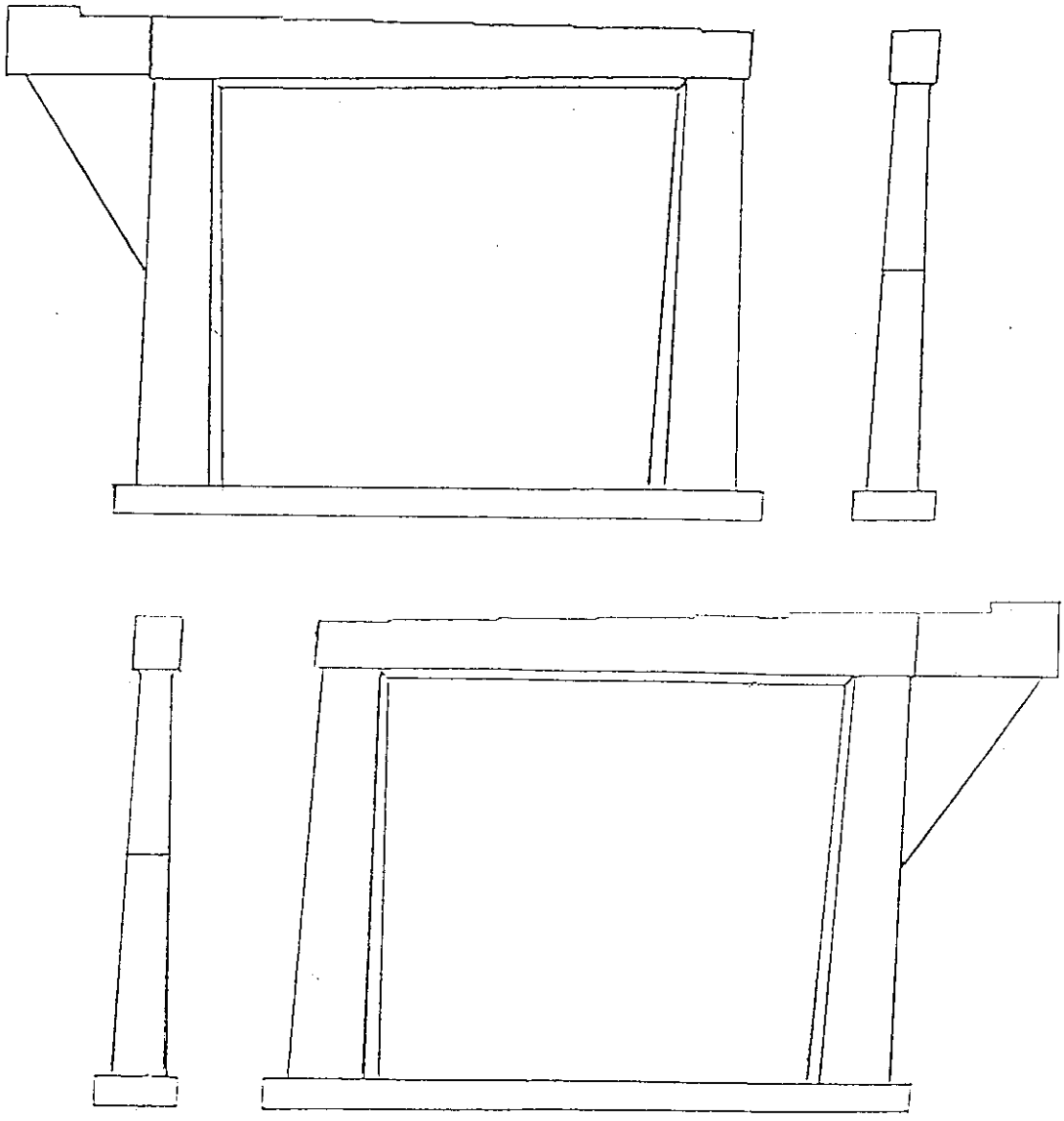
6-21-99 MV



ABUT # 1 Br. # 80-I40-16.18 L.L.

BACKwall	N/V
CAP	Good
wings	Good
Bearings	N/V

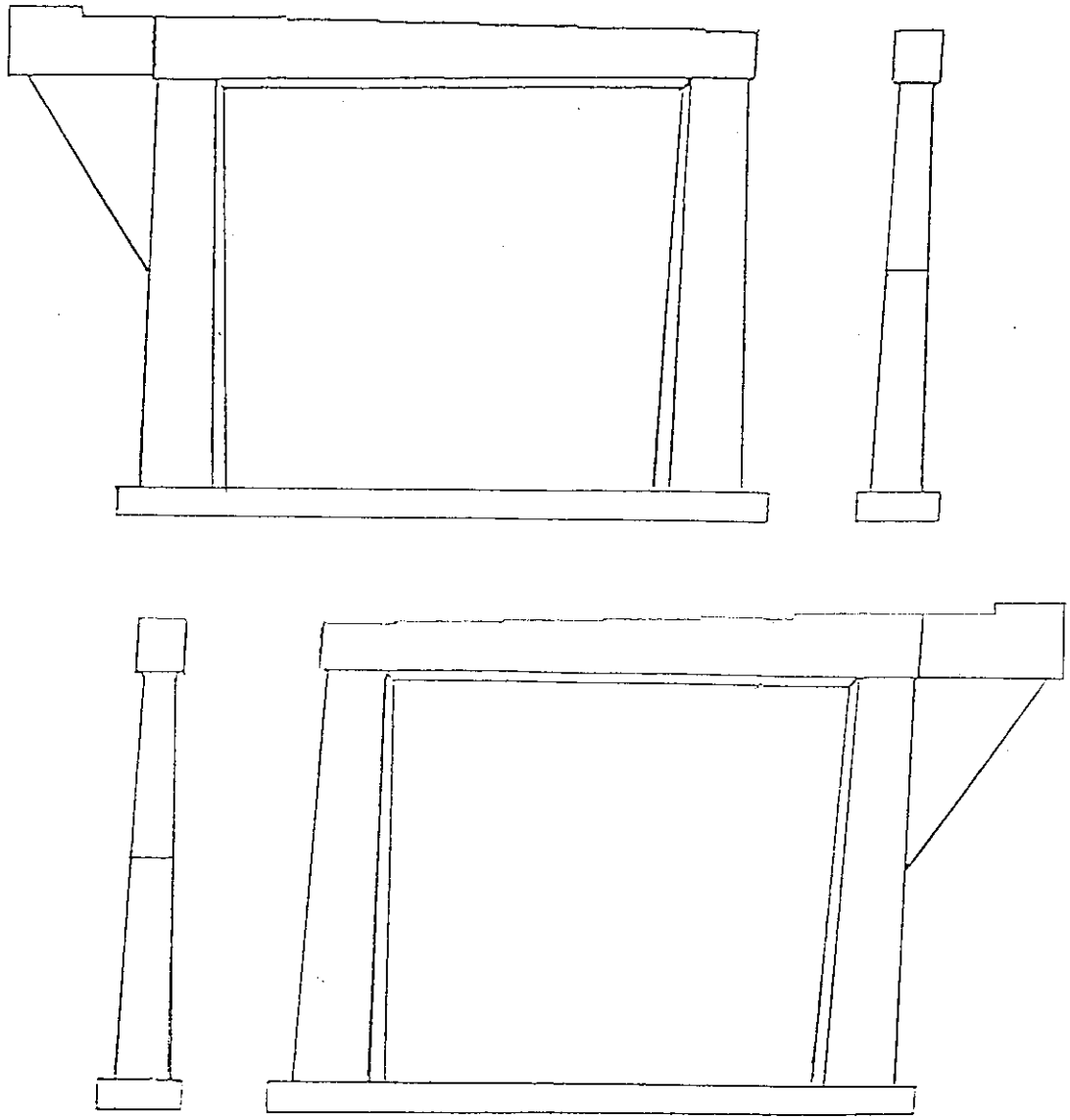
6-21-99



Pier # 1 Br. # 80-I40-16.18 L.L.

CAP	G
wall	G
FTG.	N/V
Bearings	G

6-21-99 MD

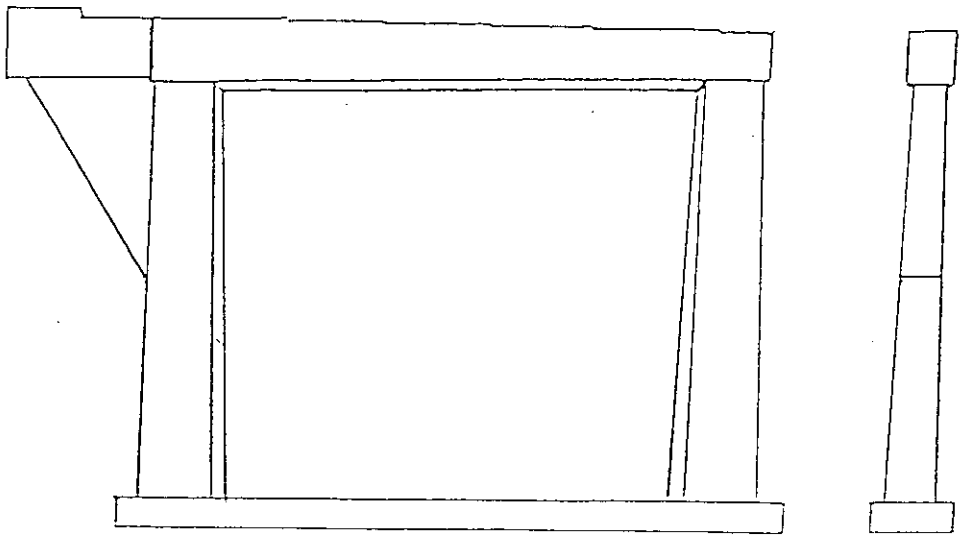


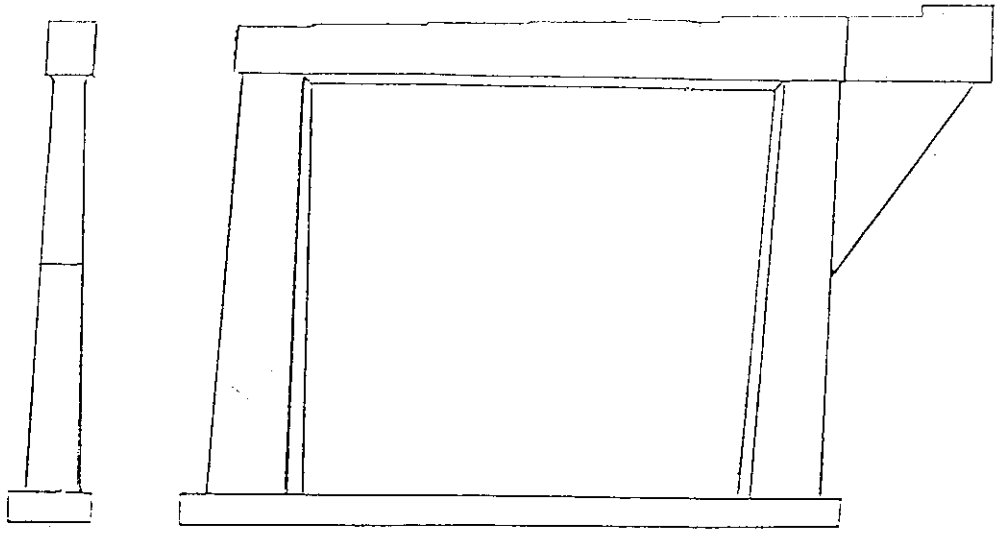
Pier # 2

Br. # 80-I40-16.18 L.L.

CAP	G
wall	G
FTG.	N/V
Bearings	G

6-21-99 MD

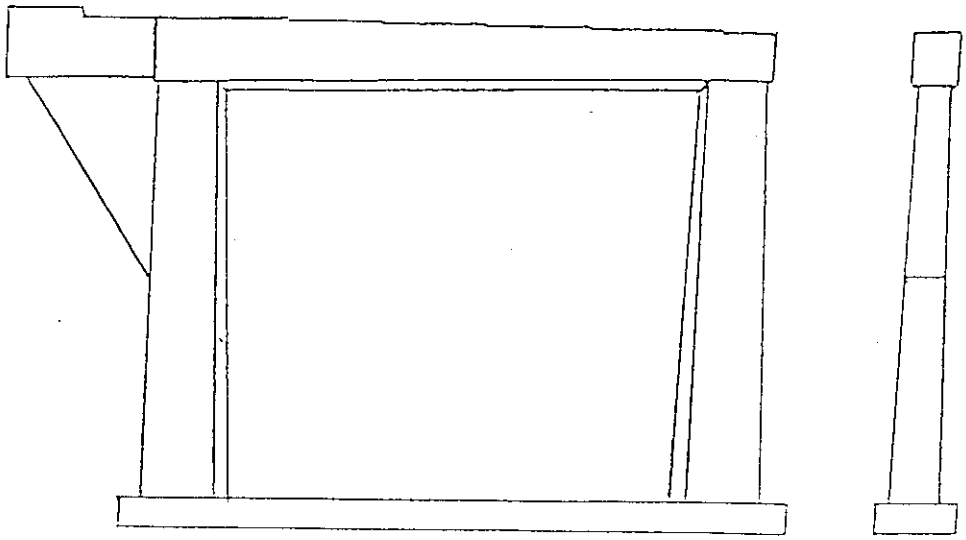


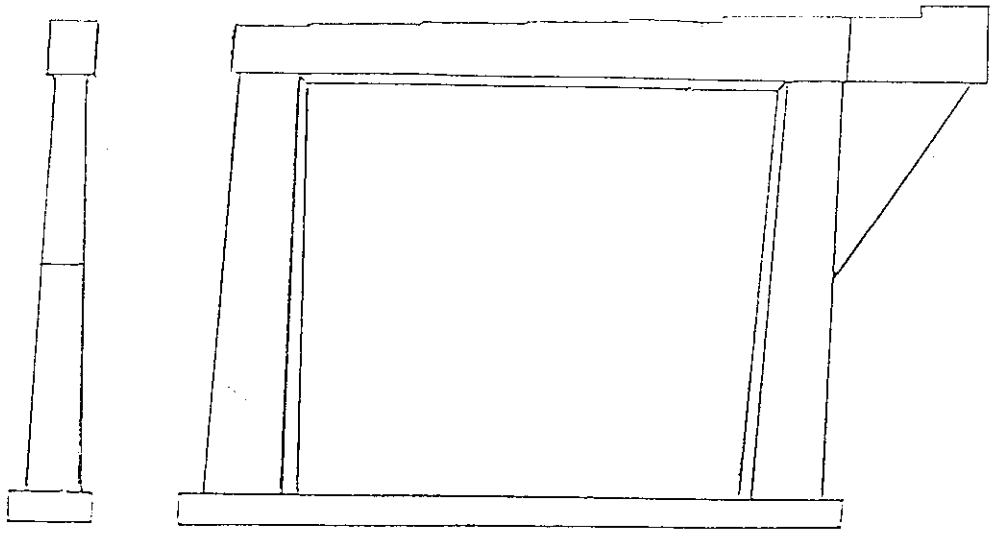


Pier #3 Br. # 80-I40-16.18 L.L.

CAP	G
wall	G
FTG.	N/V
Bearings	G

6-21-99 MD

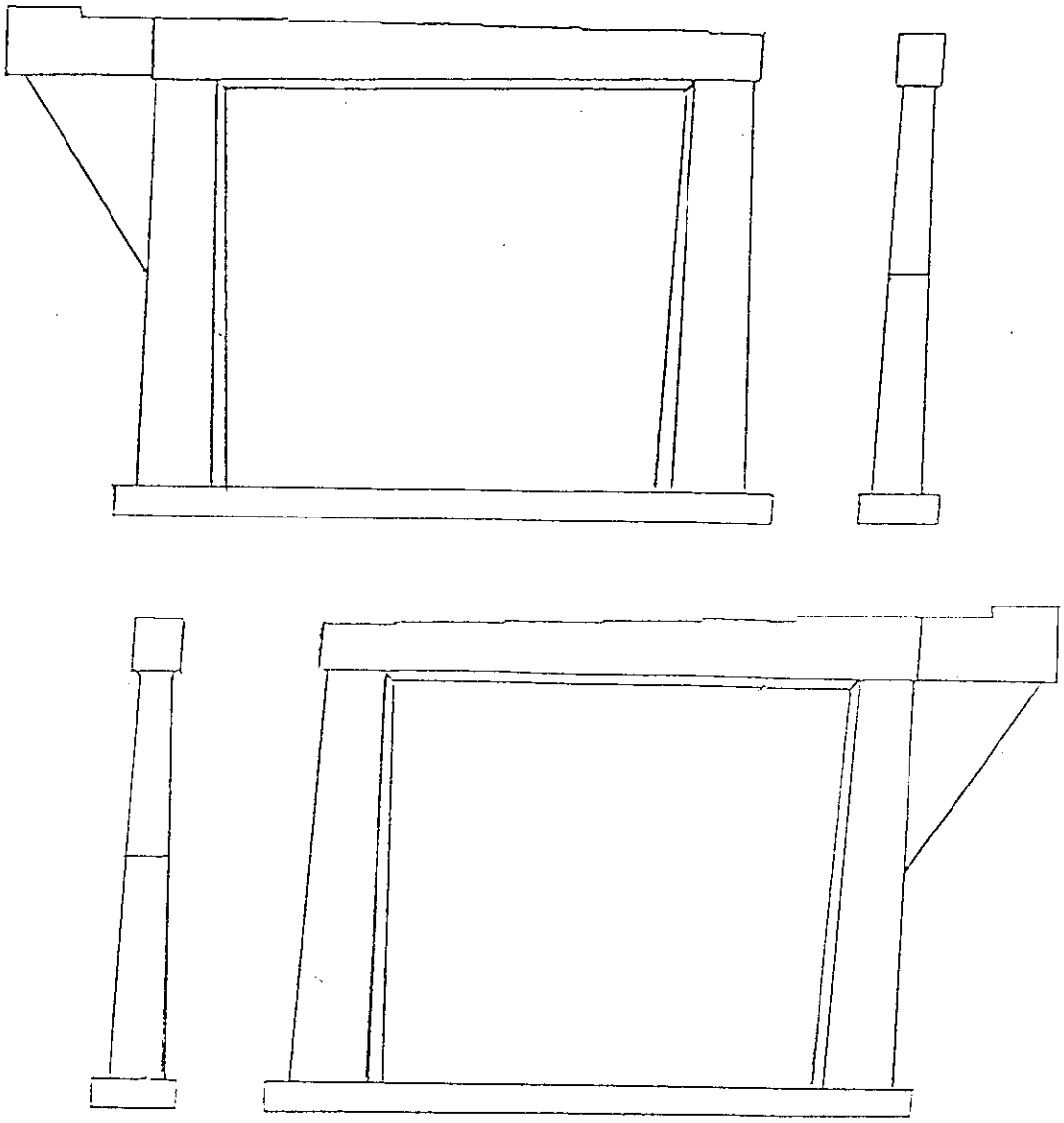




Pier #4 Br. # 80-I40-16.18 L.L.

CAP	G
wall	G
FTG.	N/V
Bearings	G

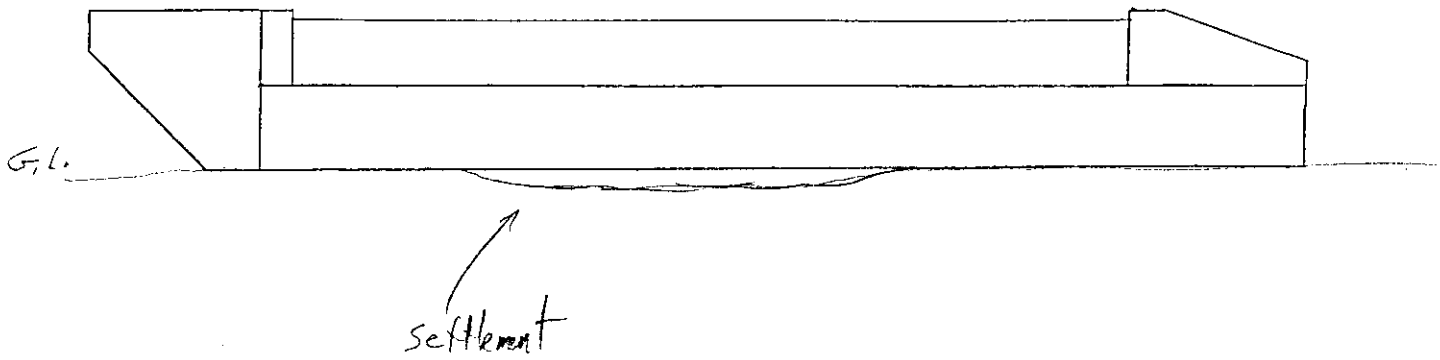
6-21-79



Pier #5 Br. # 80-I40-16.18 L.L.

CAP	G
Wall	G
FTG.	NV
Bearings	G

6-21-99 MD



ABUT # 2 Br. # 80-I40-16.18 L.L.

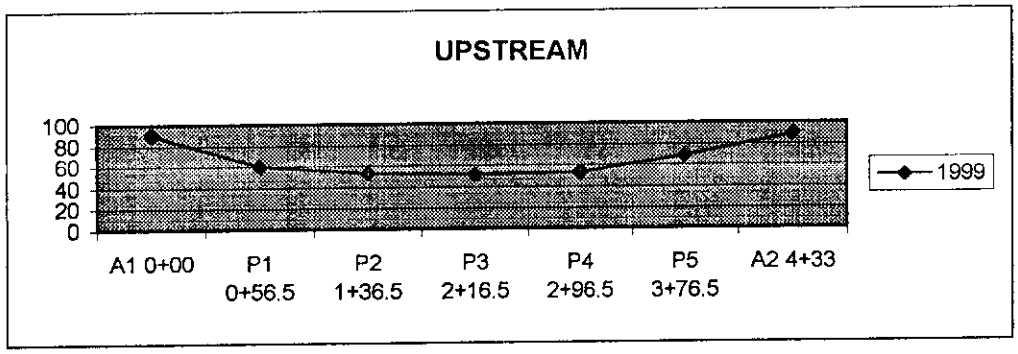
BACKwall	N/V	
CAP	Good	
wingS	Good	
BearingS	N/V	
settlement	Fair	20' x 8" x 1' back under - no exposed piles

80-I40-16.18 Lt. 6/21/99

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

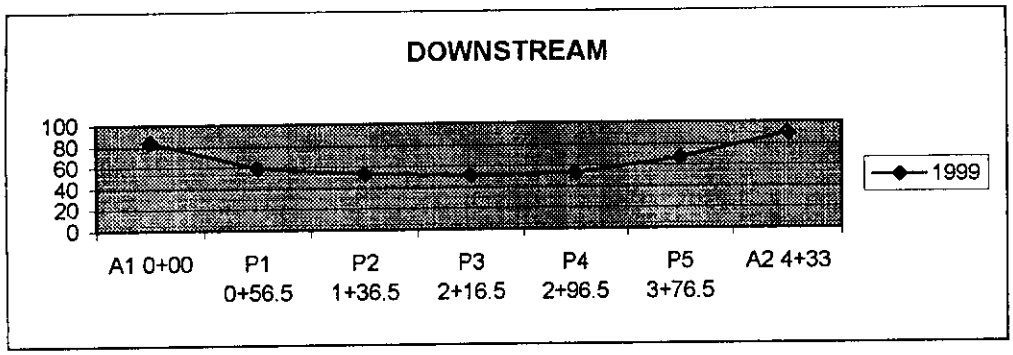
STATION ELEV.

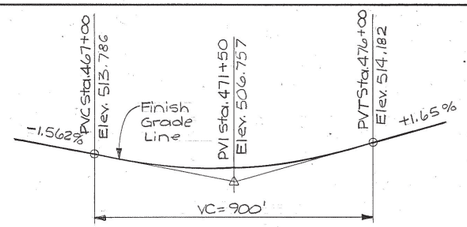
	1999
A1 0+00	90.2
P1 0+56.5	59.9
P2 1+36.5	53.3
P3 2+16.5	51.7
P4 2+96.5	53.6
P5 3+76.5	69
A2 4+33	88.9



STATION ELEV.

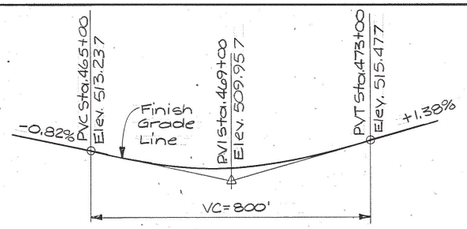
	1999
A1 0+00	83.9
P1 0+56.5	58.9
P2 1+36.5	53.1
P3 2+16.5	51.2
P4 2+96.5	52.9
P5 3+76.5	66.6
A2 4+33	89.9





VERTICAL CURVE DATA-EBL

No Scale



VERTICAL CURVE DATA-WBL

No Scale

Notes:

2009 ADT = 30,000

Design velocity = 65 mph

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

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

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

➡ - Denotes direction of one lane of traffic.

CONSTR. NO. 80001-3152-44

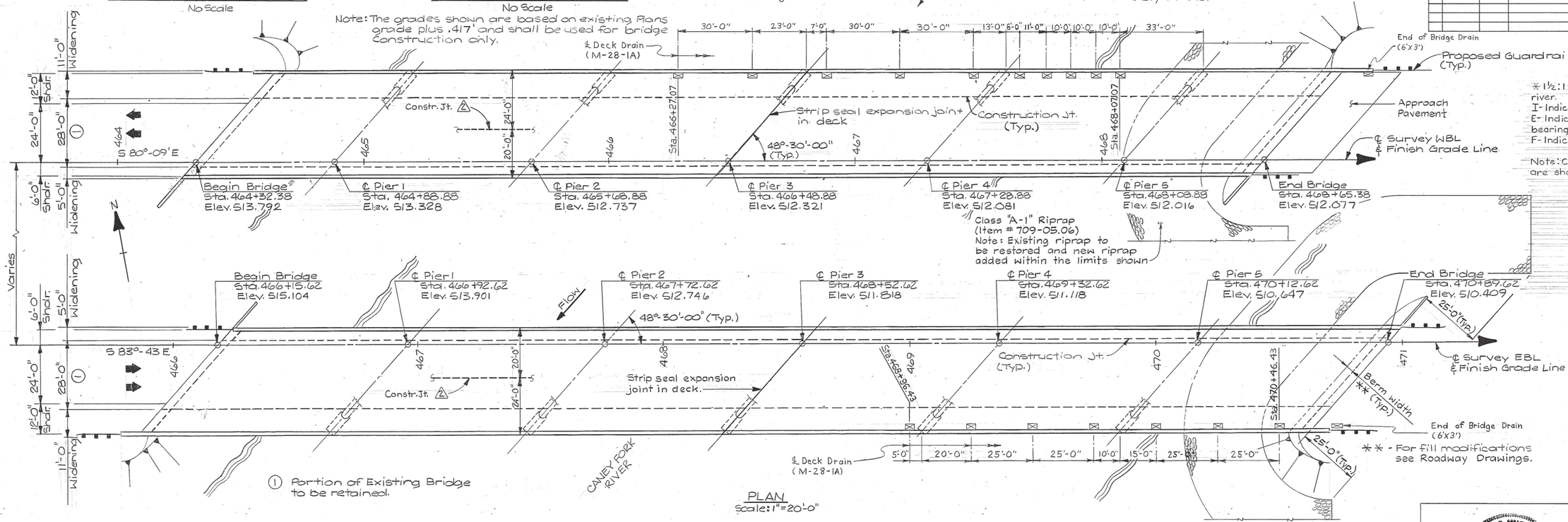
PROJECT NO.	YEAR	SHEET NO.
IR-40-5(91)257	1989	

REVISIONS

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

Note: The grades shown are based on existing plans grade plus .417' and shall be used for bridge construction only.

For Roadway Data not shown, see Roadway Plans.

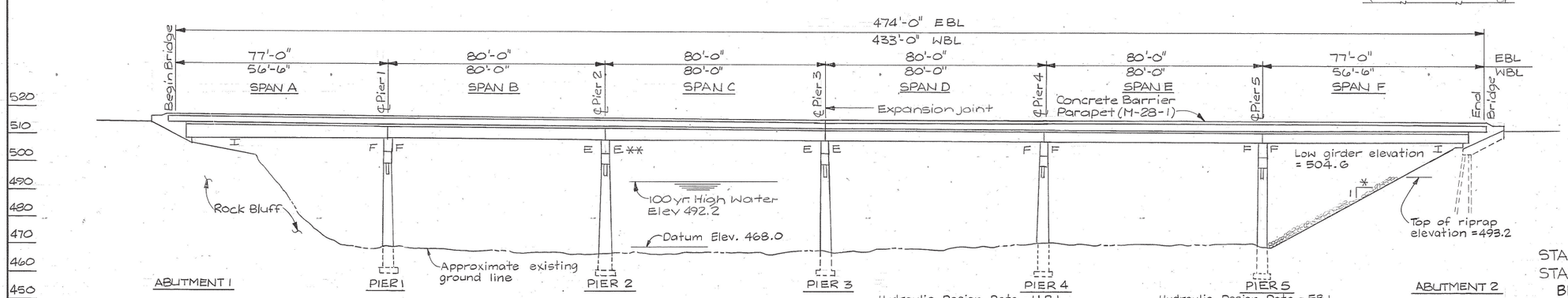


PLAN

Scale: 1"=20'-0"

* 1½:1 Perpendicular to river.
I - Indicates intergral.
E - Indicates expansion bearing.
F - Indicates fix bearing.

Note: Conditions of fixity are shown for new beams.



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

ELEVATION

Scale: 1"=20'-0"

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

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

** - For fill modifications see Roadway Drawings.

WILLIAM S. HUFFSTETLER REGISTERED ENGINEER No. 013918 STATE OF TENNESSEE

William S. Huffstetler

WILBUR SMITH ASSOCIATES

BRIDGE NO. 5

STATE OF TENNESSEE

DEPARTMENT OF TRANSPORTATION

BUREAU OF HIGHWAYS

LAYOUT OF BRIDGE WIDENING

I-40 OVER CANEY FORK RIVER

STA. 466+15.62 ℄ SURVEY E.B I-40

STA. 464+32.38 ℄ SURVEY W.B I-40

BRIDGE ID # E.B.L. 80I00400033

BRIDGE ID # W.B.L. 80I00400034

SMITH COUNTY

1989

DESIGNED BY	DW TAYLOR	DATE	10-88
DRAWN BY	TE ELMORE	DATE	10-88
SUPERVISED BY	W.S. HUFFSTETLER	DATE	10-88
CHECKED BY	DW TAYLOR	DATE	10-88

CORRECT _____ ENGINEER OF STRUCTURES

APPROVED _____ DIRECTOR OF HIGHWAYS

M-214-131

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

T.S.A. No.: DTNOXX022A

ZFH:\SR_240\DTNOXX022.DGN
DTNOXX
8-MAR-1989 13:58

LIST OF DRAWINGS

	DRAWING NO.	LATEST REV. DATE
Layout of Bridge Widening	M-214-131	
General Notes	M-214-132	
Estimated Quantities	M-214-133	
Repair Details	M-214-134	
Superstructure Details (1)	M-214-137	
Superstructure Details (2)	M-214-138	
Superstructure Details (3)	M-214-139	
Prestr. Conc. I-Beam spans - A&F W.B.L.	M-214-140	
Prestr. Conc. I-Beam spans - (B-E) W.B.L.	M-214-141	
Prestr. Conc. I-Beam spans - A&F E.B.L.	M-214-142	
Prestr. Conc. I-Beam spans - (B-E) E.B.L.	M-214-143	
Bearing Details	M-214-144	
Abutment Details (1)	M-214-145	
Abutment Details (2)	M-214-146	
Abutment Details (3)	M-214-147	
Piers 2-4 W.B.L. & 1-5 E.B.L.	M-214-148	
Piers 1-5 W.B.L. & E.B.L.	M-214-148A	
Piers 1 & 5 W.B.L.	M-214-149	
Bill of Steel	M-214-150	
Bill of Steel	M-214-151	
Bill of Steel	M-214-151A, 151B	
Bar Bending Details	M-214-152	
** A CONSTRUCTION SEQUENCE	M-214-79A ① ⚠	
Existing Bridge Drawings	G-15-104 thru G-15-126, G-10-99	

Note: Only Existing Dwgs G-15-104 & 115 to be printed with Plans.

Note: Drawing Nos. M-214-135 & M-124-136 not used.

STANDARD DRAWINGS

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

• Asterisk denotes these standards to be printed with plans.

LIST OF SPECIAL PROVISIONS

SPECIAL PROVISION NUMBER	Date LATEST REVISION	LIST OF SPECIAL PROVISIONS
105A	07-21-87	Regarding Approval of Shop Drawings
602	~~08-30-85~~ 05-15-89	Regarding Section 602 Steel Structures
603A	11-01-88	Regarding Painting
604	11-06-87	Regarding Concrete Structures
604C	* 01-26-88	Regarding Structural Concrete
604R	01-20-89	Regarding Rideability of Bridge Decks and Roadway Approaches
604S	03-14-88	Regarding Strip Seal Expansion Joints
~~607D~~	~~02-20-85~~	~~Regarding Side Drains and Bridge Drains~~
709	05-04-87	Regarding Machined Rip-Rap
907A	03-25-85	Regarding Epoxy Coated Reinforcing Steel

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

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

GENERAL NOTES

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

LOADING: HS20-44 with Alternate Military.

DESIGN SPECIFICATIONS: AASHTO 1983 Edition with addenda.

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

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

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

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

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

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

~~PILES: To be HP10x42 driven to refusal on rock or minimum bearing of 85 tons per pile.~~

~~Piles at Abutment 2 shall be equipped with APF 20 lb. Pruyn 75750, DFP 23 lb. Hard-bite, VERSA-BITE 20 lb. VB310 or T.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 1 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 - Urethene Finish Bright Green Top Coat - See Tennessee Standard Specification 603.05(b) and Special Provision 603A.

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

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

GENERAL NOTES (cont'd)

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

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

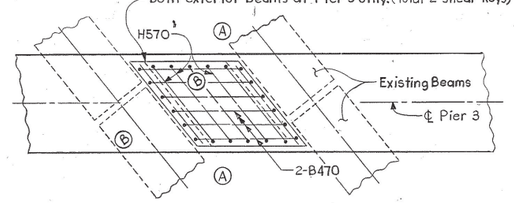
CONSTR. NO. 80001-3152-44

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

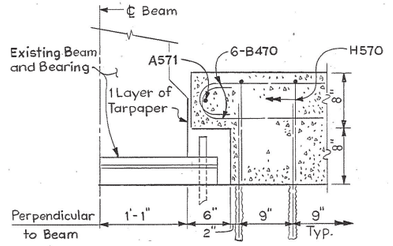
REVISIONS

NO.	DATE	BY	BRIEF DESCRIPTION
1	6/12/89	WHP	ADDED DWG. NO. M-214-59A
⚠	9/14/89	DWT	Added Dwg. No. M-214-79A & M-214-151B

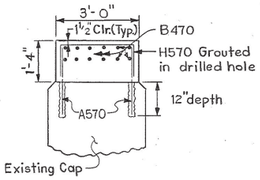
Construct shear key addition on top of cap between both exterior beams at Pier 3 only. (Total 2 shear keys)



PLAN OF SHEAR KEY ADDITION
No Scale



SECTION "B-B"
No Scale



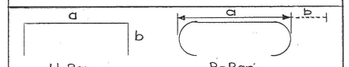
SECTION "A-A"
(Through Shear Key Addition)
No Scale

ESTIMATED QUANTITIES

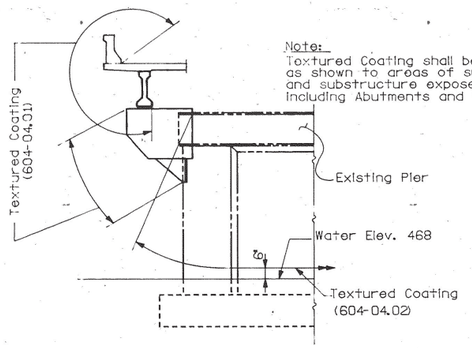
	Class "A" Concrete (Bridges) C.Y.	Steel Bar Reinforcement (Bridges) LBS.
Pier 3 WBL	1	227
Pier 3 EBL	1	227

BILL OF REINFORCING

Total for Pier 3 (2 Shear Keys)



Mark	Size	No.	a	b
A570	5	20	2'-2"	
B470	4	24	5'-5½"	0'-6"
H570	5	10	3'-8"	1'-2"
A571	5	4	3'-8"	



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

DETAIL SHOWING LIMITS OF TEXTURED COATING

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAYS

GENERAL NOTES
I-40 OVER CANEY FORK RIVER
STA. 466+15.62 ℄ SURVEY E.B.L.
STA. 464+32.38 ℄ SURVEY W.B.L.
SMITH COUNTY
1989

CORRECT _____ ENGINEER OF STRUCTURES

APPROVED _____ DIRECTOR OF HIGHWAYS

M-214-132

T.S.A. No: DTNOXX023A

2FileSB:24\DTNOXX023A.DGN
DTNBXX
8-MAR-1989 14:28

(1) NOTE: Cost of 17 bridge deck drains to be included in the unit price bid for Class 'A' Concrete (Bridge Deck). For Drain Locations, see Dwg. No. M-214-131.

(2) NOTE: Cost of Elastomeric pads, rubber bonding cement, and anchor bolts to be included in the cost of prestressed beam.

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

(4) NOTE: The cost of removing the exterior portion of the existing slab, portions of the existing abutment, and the bridge rail shall be included in the unit price bid for Item 202-04.05.

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

(6) The expansion joint at Pier 3 shall be in accordance with Special Provision 604S and Standard Drawing M-156-108.9/108.A The total required movement is 4" inches. Shop drawings shall be submitted to the Engineer of Structures for Approval.

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

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

(9) Bridge ID# E.B.L. 80I00400033(Sta. 466+15.62)
Bridge ID# W.B.L. 80I00400034(Sta. 464+32.38)

(10) For sketches and notes on Concrete Repair, see drawing No. M-214-134.

(11) Note: Square yard for pavement at bridge ends shall be measured as road surface area and shall include all concrete, reinforcing steel, piles, joint materials, notch for roadway drain, surface finish as per SP604 and any other incidentals necessary for complete installation.

(12) Jacking at Pier 1 - Span A, W.B.L. only to facilitate riser block repair and Pier 2 - Span C, E.B.L. & W.B.L. to modify existing bearings. See drawing No. M-214-134 & M-214-144 for details.

(13) Excavation based on existing ground.

(14) Note: Items 604-10.30, 604-10.42, 604-10.50 and 709-05.06 shall be bid with the contingency that these items may be increased, decreased or eliminated as directed by the Engineer.

(15) Includes blast cleaning and painting existing bridge bearings.

(16) Support frame for Pier Extension.

(17) The use of a ramhoe is prohibited for removal of concrete. See notes on Dwg. No. M-214-134.

(18) ~~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.~~

(19) Includes quantities for Abutment Sub-beam, see Dwg. No. M-214-134

(20) Includes quantities for Pier Shear Keys, see Dwg. M-214-132

CONSTR. NO. 80001-3152-44

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

REVISIONS

NO.	DATE	BY	BRIEF DESCRIPTION
1	5/14/89	DWT	REVISED QUANTITY

ESTIMATED QUANTITIES

	BID ITEM NO.	202-04.05	204-02.01	602-02.05	603-02.04	604-01.12	604-02.03	604-03.01	604-03.02	604-03.04	604-04.01	604-04.02	604-10.30	604-10.42	604-10.50	604-11.04	604-36	606-02.03	615-01.03	615-01.04	620-03	705-10.23	709-05.06	710-09.01	710-09.02	920-02.12
	ITEM	REMOVAL OF STRUCTURES	DRY EXCAVATION	STRUCTURAL STEEL	REPAINTING EXISTING STEEL STRUCTURES	CLASS 'A' CONCRETE (BRIDGE DECK)	EPOXY COATED REINFORCING STEEL	CLASS 'A' CONCRETE (BRIDGES)	STEEL BAR REINFORCEMENT (BRIDGES)	PAVEMENT AT BRIDGE ENDS	APPLIED TEXTURE FINISH (NEW STRUCTURES)	APPLIED TEXTURE FINISH (EXISTING STRUCTURES)	BRIDGE DECK REPAIRS (FULL DEPTH)	CONCRETE REPAIRS	BRIDGE DECK REPAIR (PARTIAL DEPTH)	EXPANSION DEVICE (STRIP SEAL JOINT 4" MOVEMENT)	SCARIFYING	STEEL PILES (10 INCH)	PRESTRESSED CONCRETE I-BEAM (TYPE III) 45' DEEP	PRESTRESSED CONCRETE I-BEAM (TYPE IV) 54' DEEP	CONCRETE PARAPET (M-28-1)	GUARDRAIL ATTACHMENT TO BRIDGERAIL POST	MACHINED RIP-RAP (CLASS A-1)	6" PERF. PIPE WITH VERTICAL DRAIN SYSTEM	6" PIPE UNDERDRAIN	JACKING STRUCTURES
	STRUCTURE	(4)(9)(17) L.S.	(13) C.Y.	(9)(16) LB.	(9)(15) L.S.	(1) C.Y.	(19) L.S.	(20)(19) C.Y.	(20) LB.	(11) S.Y.	S.Y.	S.Y.	(10)(14) S.Y.	(10)(14) C.F.	(10)(14) S.Y.	(6) L.F.	(7) S.Y.	L.F.	(2) L.F.	(2) L.F.	(3)(5) L.F.	(18) L.F.	(14) TON	(8) L.F.	(8) L.F.	(9)(12) L.S.
WEST BOUND LANE	Superstructure					426	1 101,298				1466	331							109	319						
	Abutment 1		8			29	1738		1007		33	28												40	12	
	Pier 1			4100				15	3008		36	375		16												
	Pier 2			4100				15	2903		36	370														
	Pier 3			4100				16	3130		36	366														
	Pier 4			4100				15	2903		36	365														
	Pier 5			4100				15	3008		36	122														
	Abutment 2		49			33	1 2794	14	2010		33	28									881			77	12	
	Subtotal	.5	57	20500	.5	488	1 105830	90	17969	110	1712	1985	35	16	118	58	1347		109	319			170	117	24	.65
EAST BOUND LANE	Superstructure					467	1 110575				1616	378								469						
	Abutment 1		9			33	1738		1137		38	28												40	12	
	Pier 1			4100				15	2903		36	386														
	Pier 2			4100				15	2903		36	375														
	Pier 3			4100				16	3130		36	366														
	Pier 4			4100				15	2903		36	365														
	Pier 5			4100				15	2903		36	355		12												
	Abutment 2		9			34	1738		1141		39	28												40	12	
	Subtotal	.5	18	20500	.5	534	114051 1	76	17020	0	1873	2281		12	121	58	1475			469	969		170	80	24	.35
	Totals	1.0	75	41000	1.0	1022	219881 1	166	34989	110	3585	4266	35	28	239	116	2822		109	788	1850		340	197	48	1

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

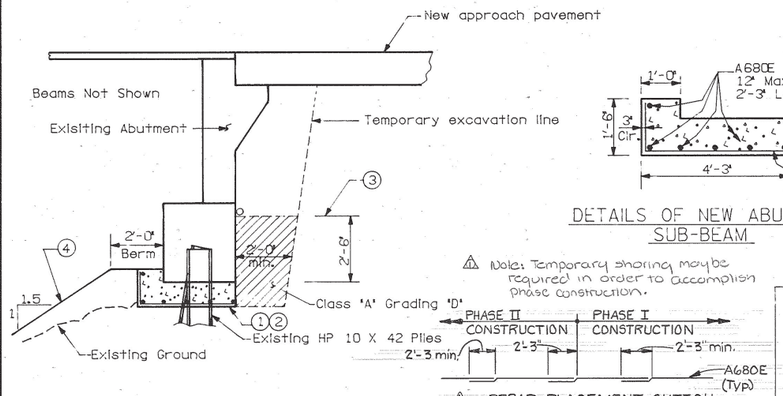
STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAYS

ESTIMATED QUANTITIES
I-40 OVER
CANEY FORK RIVER
STA. 466+15.62 ℄ SURVEY E.B.L.
STA. 464+32.38 ℄ SURVEY W.B.L.
SMITH COUNTY
1989

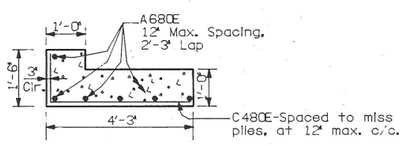
CORRECT _____ ENGINEER OF STRUCTURES

APPROVED _____ DIRECTOR OF HIGHWAYS

M-214-133



SECTION THRU W.B.L. ABUTMENT 2



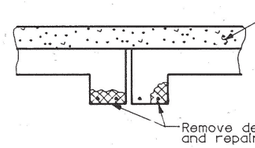
DETAILS OF NEW ABUTMENT SUB-BEAM

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

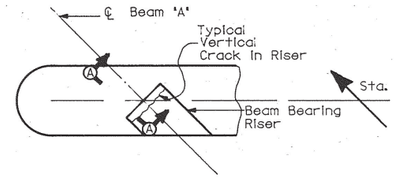
⚠ REBAR PLACEMENT SKETCH

NOTES:

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



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



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

CONSTR. NO. 80001-3152-44

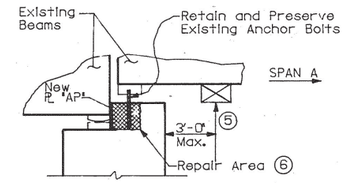
PROJECT NO.	YEAR	SHEET NO.
IR-40-5(91)257	1989	

REVISIONS

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

GENERAL NOTES:

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



SECTION A-A THRU RISER REPAIR AT PIER 1, W.B.L.
(APPLIES TO BEAMS A, B, C AND OTHERS WHICH MAY BE CRACKED AS DIRECTED BY THE ENGINEER)

⑤ Loosen or remove anchor bolt nuts and jack span A a sufficient amount to remove all load on bearings and provide working clearances for placement and finishing of new concrete repair. Total jacking force for one end of Span A is approximately 170 tons.

⑥ Remove all spalled, cracked or otherwise unsound concrete to a minimum of 1" behind existing riser reinforcing: see Detail 'Y' for repair. Sufficient concrete shall be removed for insertion of armor plate 'AP'. Recast concrete with 'AP' in place as shown. The cost of PL 'AP' shall be included in Items 604-10.42, Concrete Repairs.

⑦ Clean and repaint existing bearings in place. After repair concrete has obtained strength, lower Span A and tighten or reinstall anchor bolt nuts.

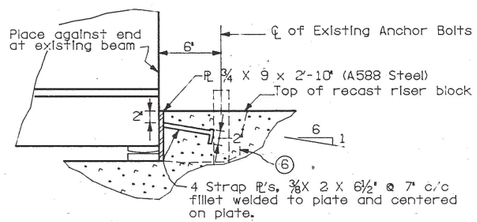
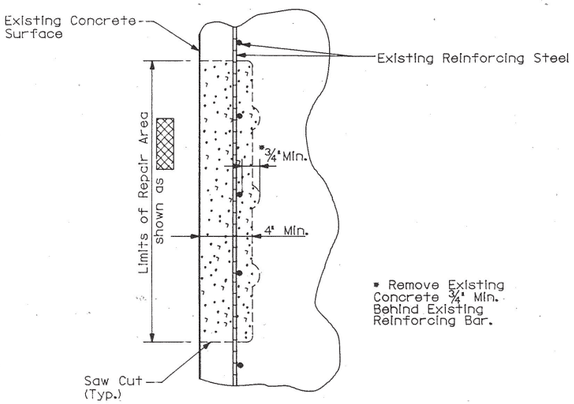


PLATE "AP" DETAIL & PLACEMENT



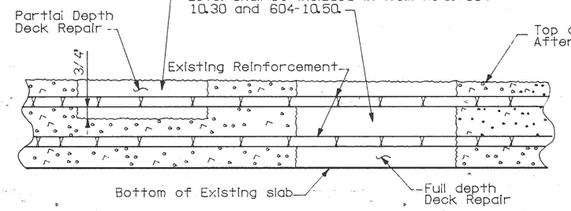
DETAIL "Y"
DETAIL SHOWING EXISTING CONCRETE SURFACE TO BE REPAIRED

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 calender days have elapsed and representative test specimens have attained a compressive strength of not less than 3,000 p.s.i..

Cost of removing deteriorated concrete, all blast cleaning, forming, high early strength concrete, labor and all additional materials necessary to complete the repairs as shown in 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, Brige deck repair, (full depth of slab), S.Y. Power driven hand tools used for removal of unsound concrete. In making partial depth repairs are subject to the following restrictions: 1) Pneumatic Hammers heavier than 35 pound class shall not be used. 2) Chipping hammers of the 15 pound class shall be used to remove concrete from beneath any reinforcing steel.

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

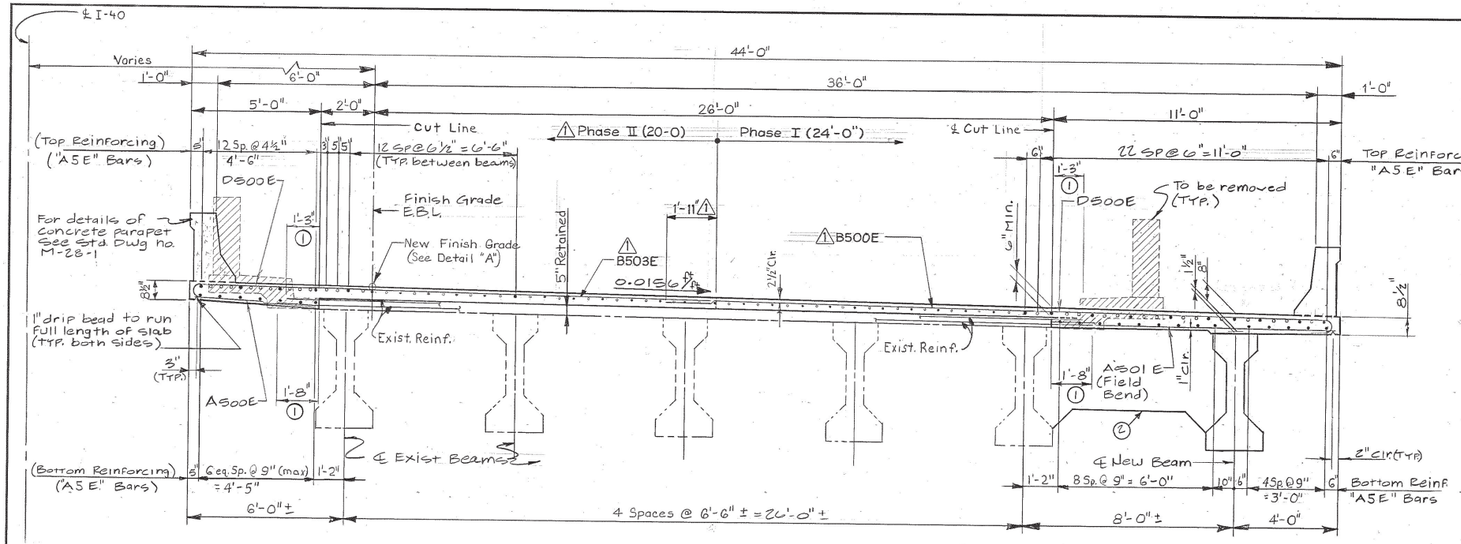
STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAYS

REPAIR DETAILS
I-40 OVER CANEY FORK RIVER
STA. 466+15.62 ℄ SURVEY E.B.L.
STA. 464+32.38 ℄ SURVEY W.B.L.
SMITH COUNTY
1989

CORRECT _____ ENGINEER OF STRUCTURES

APPROVED _____ DIRECTOR OF HIGHWAYS

M-214-134

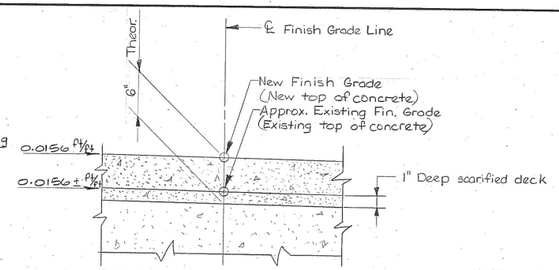


Bridge Details are Symmetrical about ℄ (for W.B.L.)

TYPICAL SECTION - E.B.L. (Looking Forward on Survey)

(WBL Opposite Hand)
Scale: 3/8" = 1'-0"

ESTIMATED QUANTITIES-E.B.L.	
Class "A" Concrete (Bridge Deck) C.Y.	Epoxy Coated Reinforcing Steel LB.
467	⚠1 110575



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

DETAIL "A"
No Scale

Note:
● - Continuous longitudinal reinforcement.

O - 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.

② New concrete diaphragm. For location and details, see Dwg. No. M-214-139.

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

CONSTR. NO. 80001-3152-44

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

REVISIONS

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

Notes:

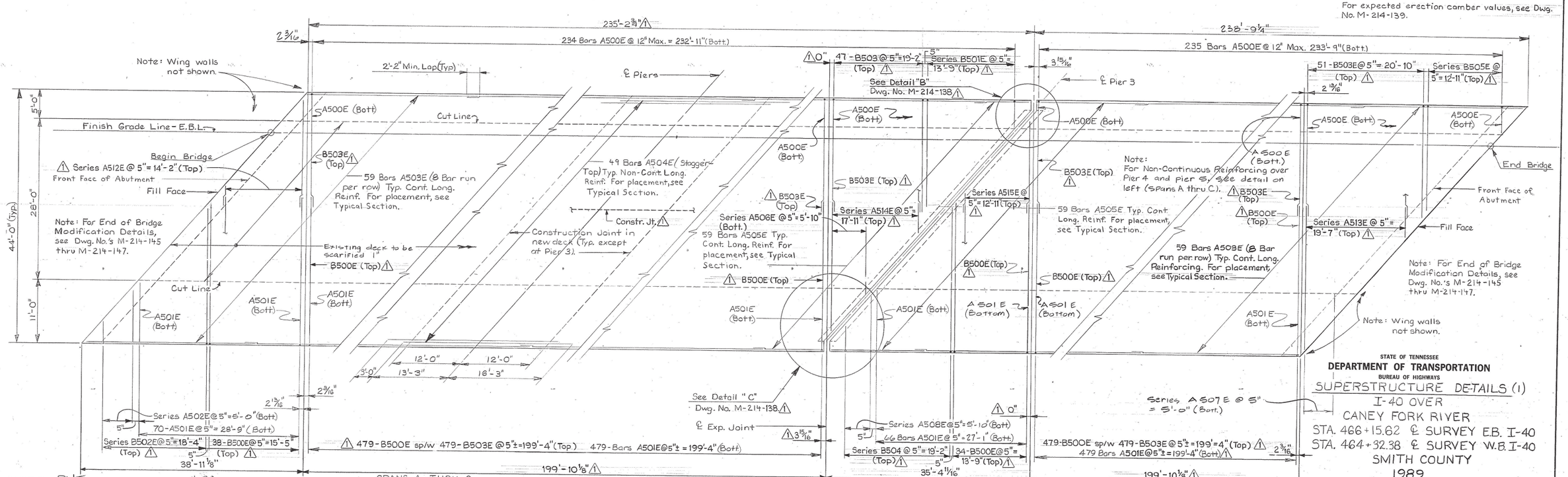
All girders to be supported during construction of slab to prevent rotation.

Top part of Abutments shall be poured concurrently with the deck slab and included in the quantity for item 604-01.12.

No portion of the parapet shall be poured until the entire deck slab is in place & cured.

When pouring deck provisions shall be made for setting reinforcing steel for parapet.

For estimated quantities see drawing no. M-214-138.
For slab pouring seaquence see drawing no. M-214-138.
For expected erection camber values, see Dwg. No. M-214-139.



DESIGNED BY	DWT	DATE	11-88
DRAWN BY	EMH / DAW	DATE	11-88
SUPERVISED BY	WSH	DATE	11-88
CHECKED BY	DKR	DATE	2-89

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAYS

SUPERSTRUCTURE DETAILS (1)

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

CORRECT _____ ENGINEER OF STRUCTURES

APPROVED _____ DIRECTOR OF HIGHWAYS

M-214-137

CONSTR. NO. 80001-3152-44

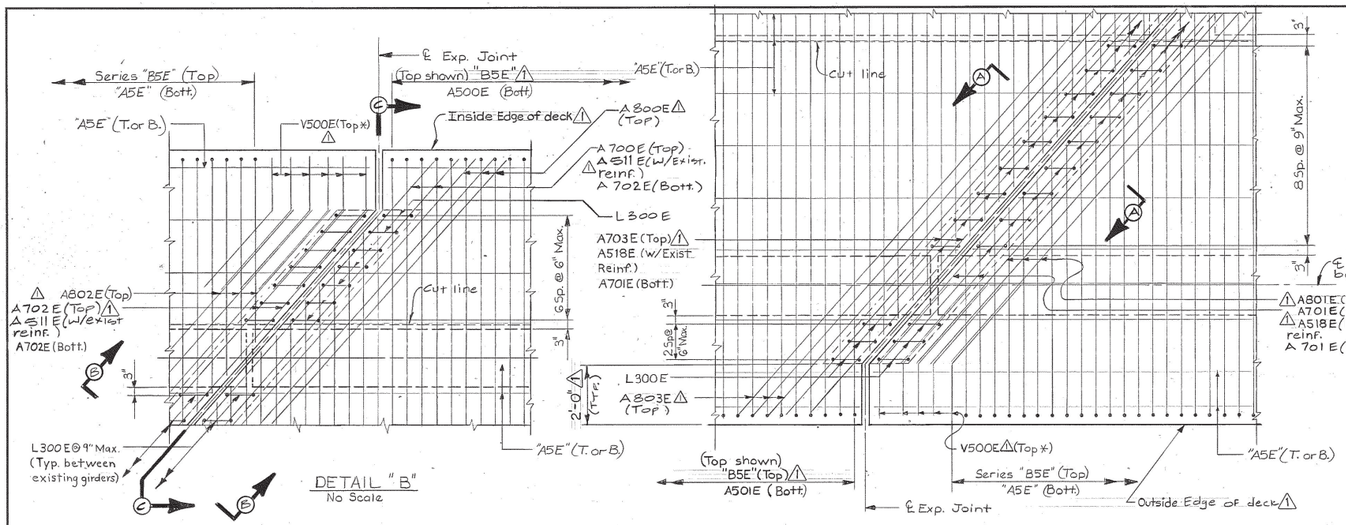
PROJECT NO.	YEAR	SHEET NO.
IR-40-5(91)257	1989	

REVISIONS

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

Note:
All pours are to be made in numerical sequence. Pour no ① in exterior spans shall proceed in a direction from mid-span to the abutment. Pours with the same numerical designation may be poured simultaneously. Also pours ① & ② may be made simultaneously provided the ① sections are placed on each side of any ② Section placed during a particular pour. The Contractor shall make adequate provisions during placement of slab to prevent the exterior beam from twisting. No equipment shall be permitted on the bridge until all pours are made and the concrete is properly cured. All slab construction joints shall be in accordance with the Slab Construction Joint detail shown on Dwg. No. M-214-138.

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

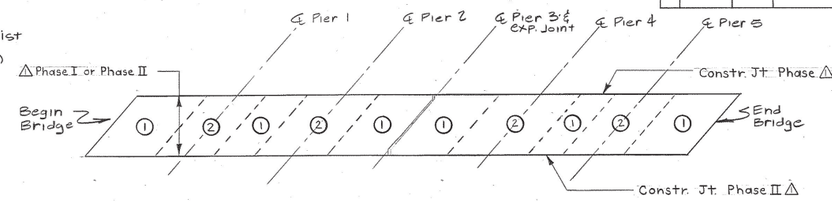


DETAIL "B"
No Scale

ESTIMATED QUANTITIES-WBL	
Class 'A' Concrete (Bridge Deck) CY	Epoxy Coated Reinforcing Steel Lb
426	1 101,298

DETAIL "C"
No scale

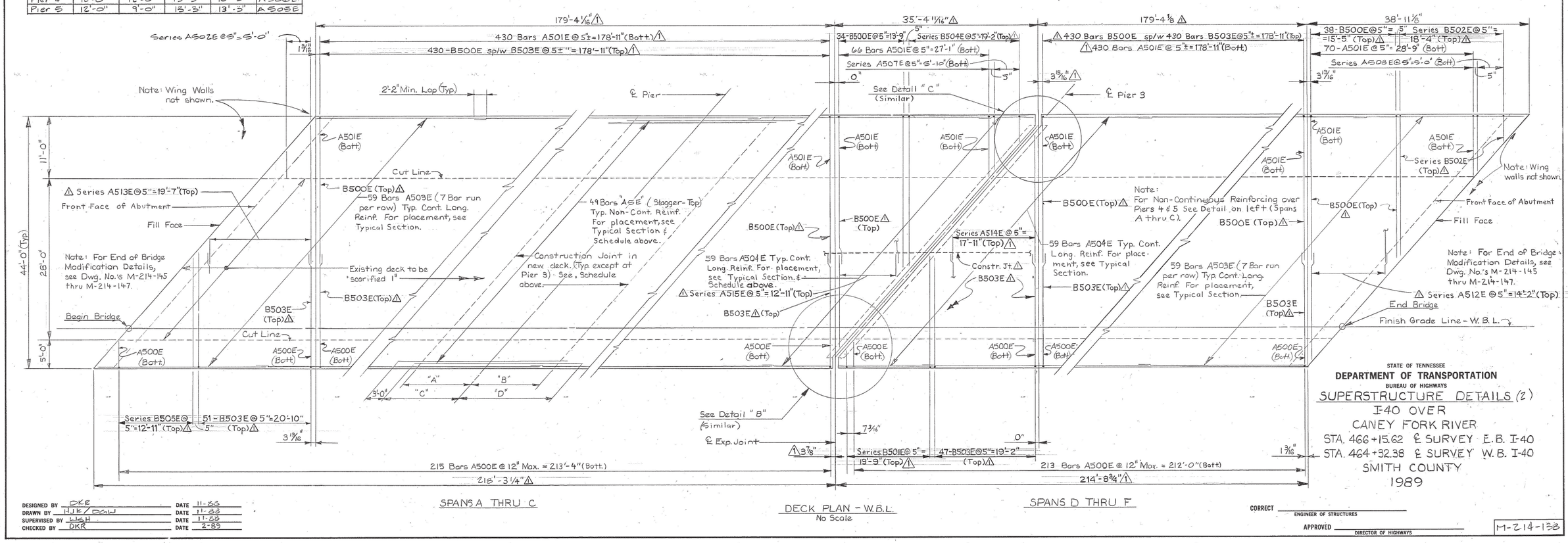
* Place bars under series "B5E" bars



SLAB POURING SEQUENCE (See note above)
No Scale
1 (E.B.L. shown, W.B.L. Similar)

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

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



SPANS A THRU C

DECK PLAN - W.B.L.
No Scale

SPANS D THRU F

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAYS

SUPERSTRUCTURE DETAILS (2)

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

DESIGNED BY	DKR	DATE	11-88
DRAWN BY	HJE / DAW	DATE	11-88
SUPERVISED BY	WSH	DATE	11-88
CHECKED BY	DKR	DATE	2-89

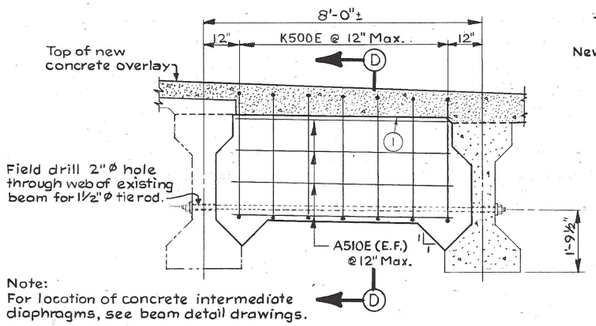
CORRECT _____ ENGINEER OF STRUCTURES

APPROVED _____ DIRECTOR OF HIGHWAYS

M-214-138

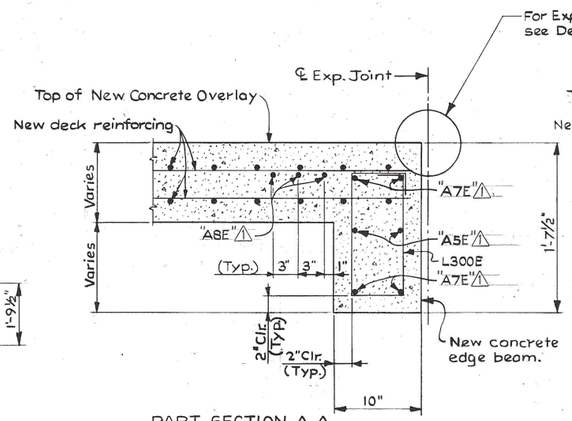
TELEDYNE #251 M80851

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

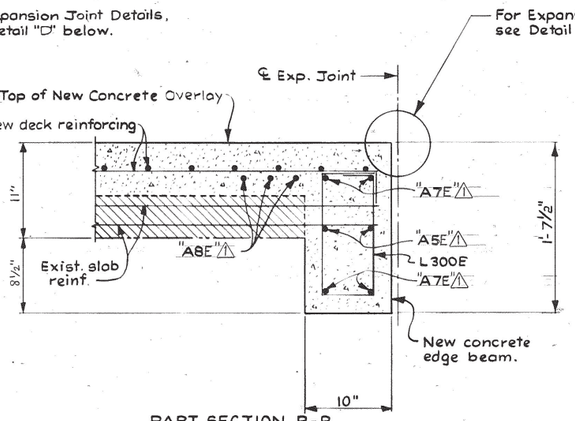


Note:
For location of concrete intermediate diaphragms, see beam detail drawings.

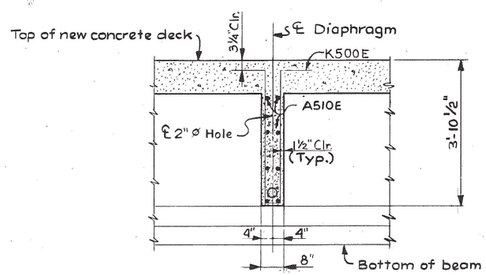
TYPICAL INTERMEDIATE DIAPHRAGM
No Scale



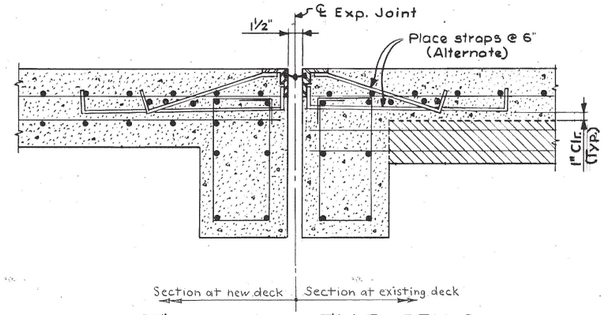
PART SECTION A-A
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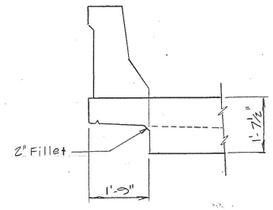
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SECTION D-D
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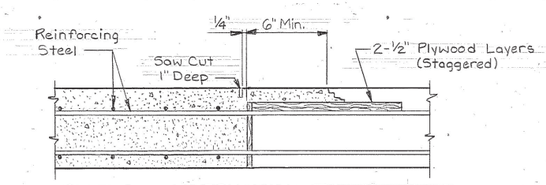


DETAIL "D" - EXPANSION JOINT DETAILS
No Scale

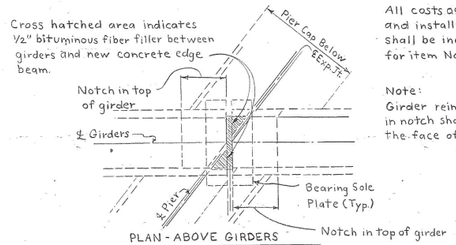


SECTION 'C-C'
No Scale

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.



SLAB CONSTRUCTION JOINT
No Scale

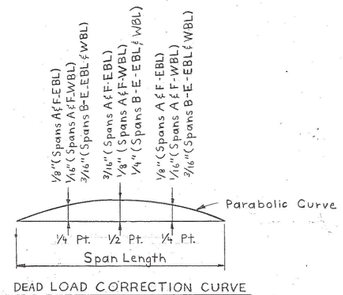


PLAN - ABOVE GIRDERS

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



DEAD LOAD CORRECTION CURVE
EXISTING BEAMS

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

CONSTR. NO. 80001-3152-44

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

REVISIONS

NO.	DATE	BY	BRIEF DESCRIPTION
1	5/14/89	DWT	REVISIONS FOR CONSTR. JT.

Notes:
Strip Seal Expansion Joints

1. Details of Strip Seal Expansion Joint shall be in accordance with details shown on Standard Dwg. No. M-156-108℄108A Concrete Details and reinforcing steel shall be as shown on this drawing except modifications shall be allowed as stipulated in Special Provision No. 604 S.

2. The Strip Seal Expansion Joint shall comply with requirements of Special Provision No. 604 S.

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

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

Erection Camber Note

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

SPAN	EBL	WBL
A	2"	1"
B	2"	2¼"
C	2"	2⅛"
D	2"	2⅛"
E	2"	2⅛"
F	1⅝"	7/8"

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

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

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

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAYS

SUPERSTRUCTURE DETAILS (3)

I-40 OVER CANEY FORK RIVER
STA. 466+15.62 ℄SURVEY EB I-40
STA 464+32.38 ℄SURVEY WB I-40
SMITH COUNTY
1989

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

CORRECT _____ ENGINEER OF STRUCTURES

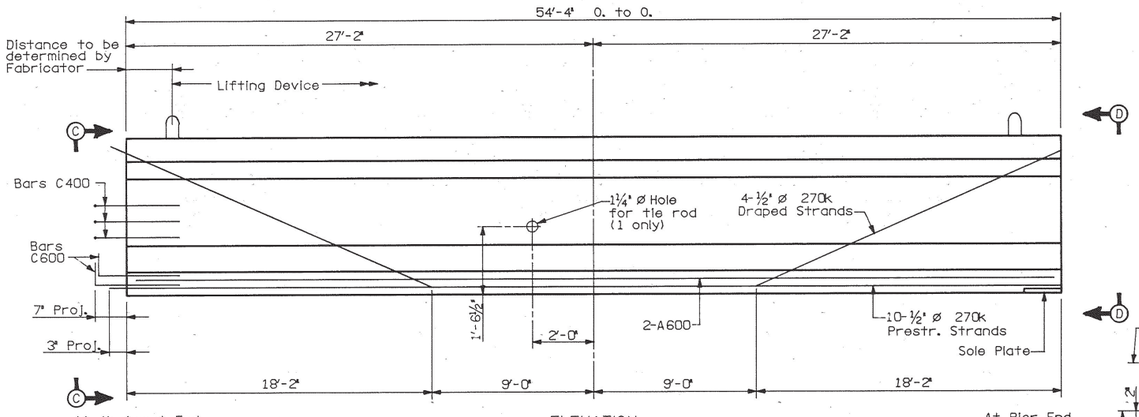
APPROVED _____ DIRECTOR OF HIGHWAYS

M-214-139

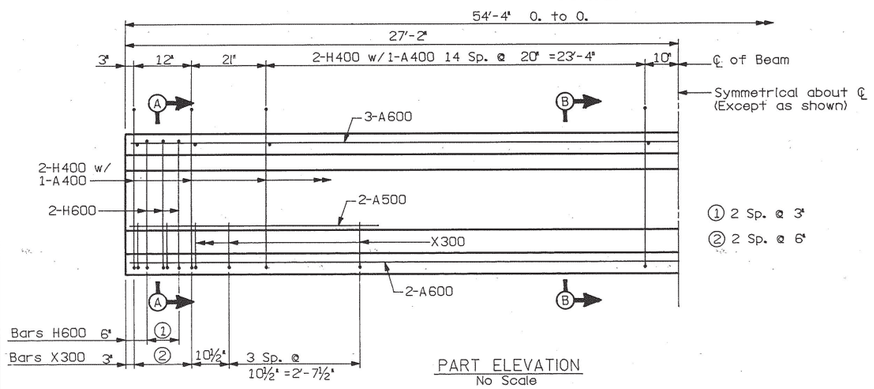
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W.S.A. No. DTNXX602A

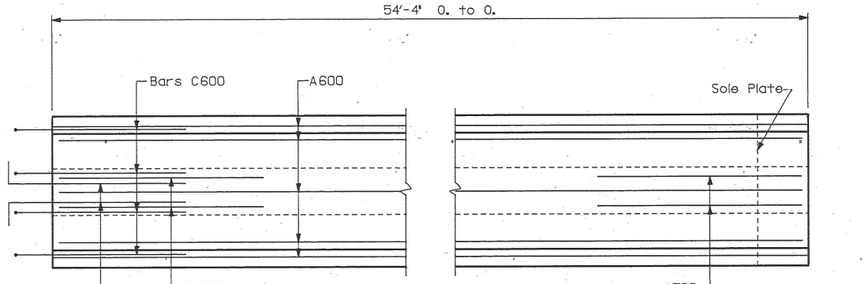
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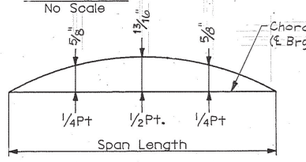
ELEVATION
No Scale



PART ELEVATION
No Scale



PART PLAN
No Scale



DEAD LOAD CORRECTION CURVE (For use in Field) ⚠

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

WESTBOUND LANE
BILL OF STEEL - ONE BEAM

		SPAN A		SPAN F			
BARS	SIZE	NO. REQ'D	LENGTH	NO. REQ'D	LENGTH		
A400	4	34	1'-6"	34	1'-6"		
A500	5	4	5'-0"	4	5'-0"		
A600	6	5	54'-0"	5	54'-0"		
C400	4	6	3'-6"	6	3'-6"		
C600	6	6	3'-6"	6	3'-6"		
H400	4	68	5'-6"	68	5'-6"		
H600	6	12	4'-9"	12	4'-9"		
X300	3	14	5'-6"	14	5'-6"		

WESTBOUND LANE
ESTIMATED QUANTITIES - ONE BEAM

ITEM	UNIT	SPAN A	SPAN F	
CLASS 'A' CONCRETE	C.Y.	7.8	7.8	
REINFORCING STEEL	LB.	866	866	
PRESTRESSING STRANDS	LB.	406	406	

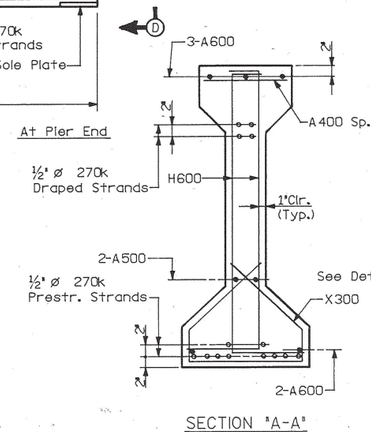
• - Denotes Grade 60 Reinf. Steel
◦ - Denotes Prestressing Strand

CONSTR. NO. 80001-3152-44

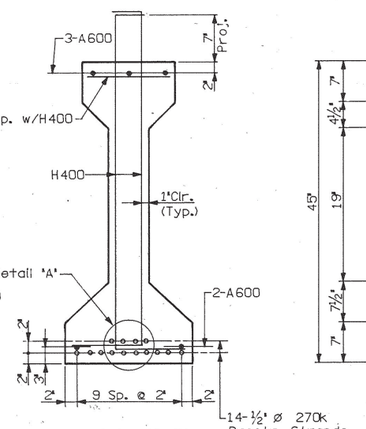
PROJECT NO.	YEAR	SHEET NO.
IR-40-5(91)257	1989	

REVISIONS

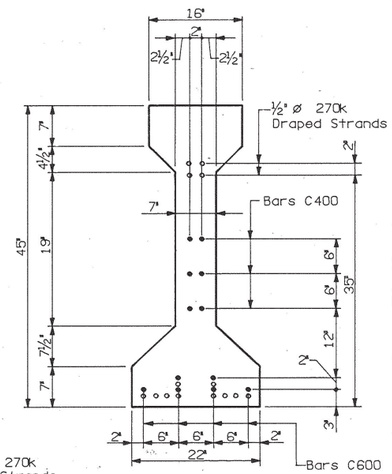
NO.	DATE	BY	BRIEF DESCRIPTION
1	9/14/89	DWT	REVISED DEAD LOAD CORRECTION VALUES



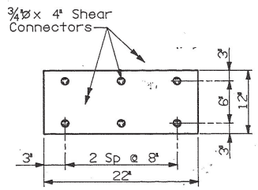
SECTION "A-A"



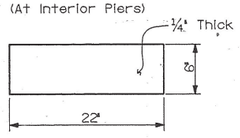
SECTION "B-B"



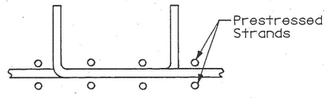
TYPE III
(AASHTO)



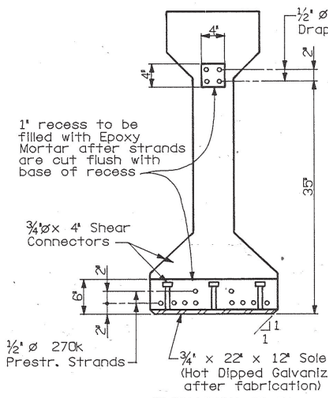
PLAN OF SOLE PLATE
A36 STEEL
(At Interior Piers)



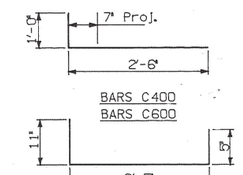
ELASTOMERIC BEARING PAD
(At Abutment)
(2 Req'd)



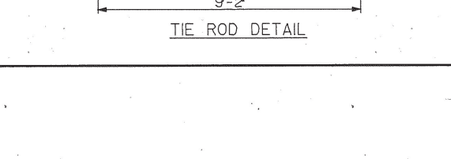
DETAIL "A"



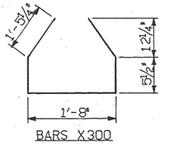
ELEVATION "D-D"



ELEVATION "C-C"



TIE ROD DETAIL



NOTES:

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

Mild steel reinforcing shall be ASTM A615 Grade 60.

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

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

All beams are AASHTO - PCI standard type IV.

After the beam is removed from the prestressing bed, bars C600 and C400, At Abutment end, shall be bent as shown.

The prestressing strands shall be left projecting 3" +/- from the ends of the beams at abutment ends. There shall not be any protective coating placed on the ends of the beams or on the projecting strands At pier ends, 1" recess shall be formed and fill with epoxy mortar as shown.

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

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

NOTE: Cost of ¼" plain elastomeric pads, elastomeric bearings, anchor bolts, sole plates, bearing plates, tie rods and rubber bonding cement to be included in the cost of prestressed beam.

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

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

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAYS

PRESTRESSED CONCRETE I-BEAM (TYPE III)
SPANS A & F - WESTBOUND LANE
I-40 OVER CANEY FORK RIVER
STA.464+32.38 ℄ SURVEY W.B. I-40
SMITH COUNTY
1989

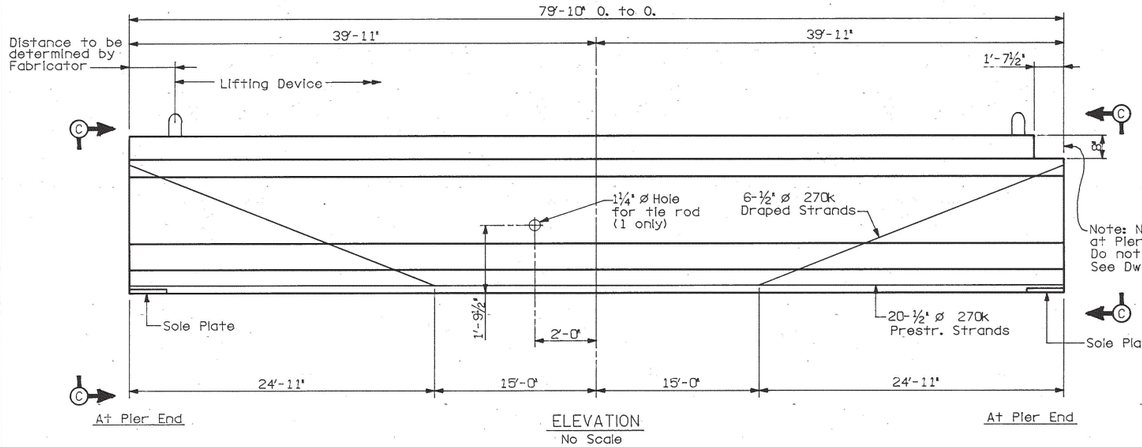
CORRECT _____
ENGINEER OF STRUCTURES

APPROVED: _____
DIRECTOR OF HIGHWAYS

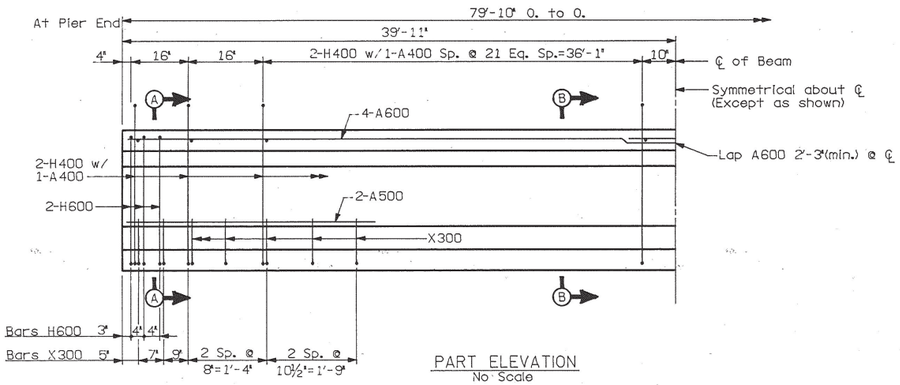
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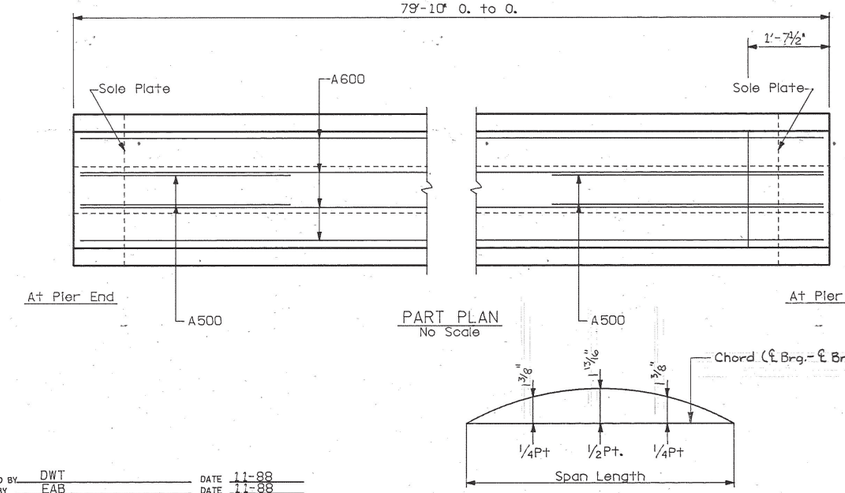
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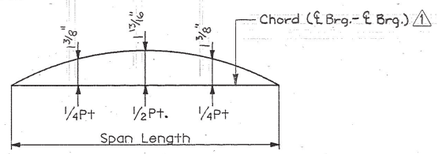
ELEVATION
No Scale



PART ELEVATION
No Scale



PART PLAN
No Scale



DEAD LOAD CORRECTION CURVE ⚠
(For use in field)

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

WESTBOUND LANE

BILL OF STEEL - ONE BEAM

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

WESTBOUND LANE

ESTIMATED QUANTITIES - ONE BEAM

ITEM	UNIT	SPANS B-E		
CLASS "A" CONCRETE	C.Y.	16.2		
REINFORCING STEEL	LB.	1,115		
PRESTRESSING STRANDS	LB.	1,092		

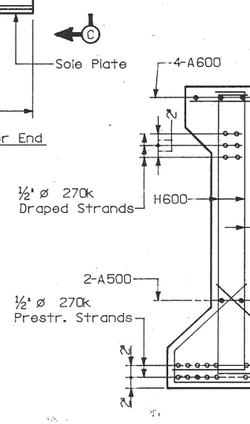
• - Denotes Grade 60 Reinf. Steel
○ - Denotes Prestressing Strand

CONSTR. NO. 80001-3152-44

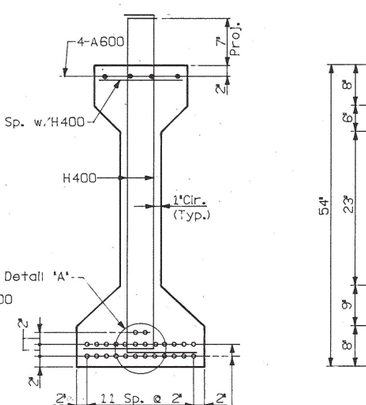
PROJECT NO.	YEAR	SHEET NO.
IR-40-5(91)257	1989	

REVISIONS

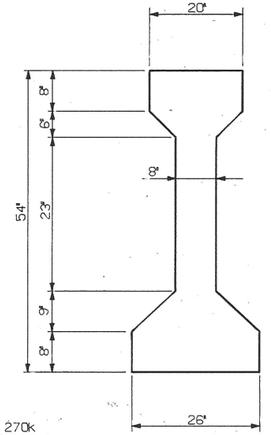
NO.	DATE	BY	BRIEF DESCRIPTION
⚠1	9-14-89	DWT	Revised Dead Load Correction Values



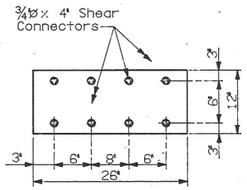
SECTION "A-A"



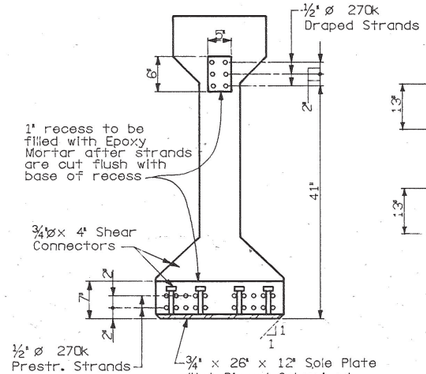
SECTION "B-B"



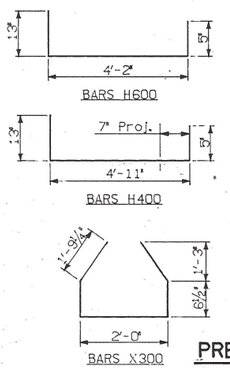
TYPE IV
(AASHTO)

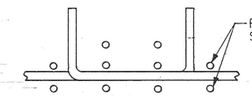


PLAN OF SOLE PLATE
A36 STEEL
(At Interior Piers)

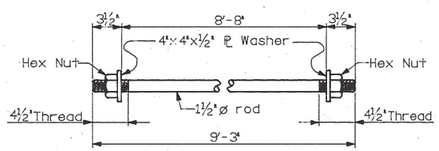


ELEVATION "C-C"





DETAIL "A"



TIE ROD DETAIL

NOTES:

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

Mild steel reinforcing shall be ASTM A615 Grade 60.

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

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

All beams are AASHTO - PCI standard type IV.

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

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

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

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

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

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

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAYS

PRESTRESSED CONCRETE I-BEAM (TYPE IV)

SPANS B,C,D & E - WESTBOUND LANE

I-40 OVER CANEY FORK RIVER
STA. 464+32.38 ℄ SURVEY W.B. I-40
SMITH COUNTY
1989

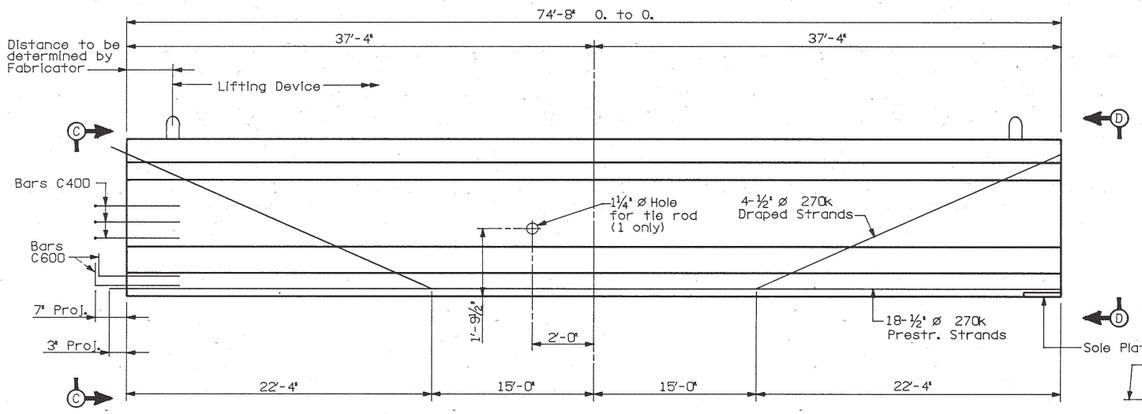
CORRECT _____
ENGINEER OF STRUCTURES

APPROVED _____
DIRECTOR OF HIGHWAYS

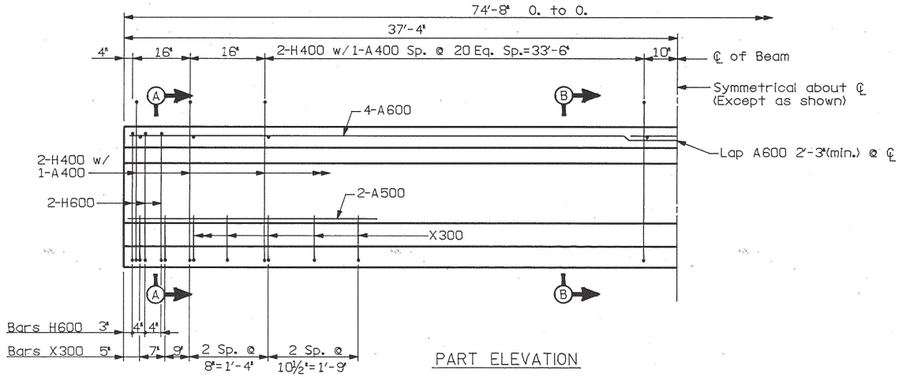
M-214-141

T.S.A. No. DTNOXX602C

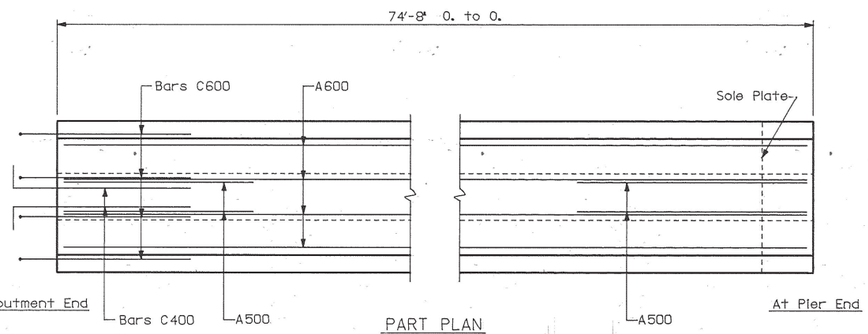
25FEB89 2:10 DTNOXX602.DGN1
DTNOXX 25-FEB-1989 09:46



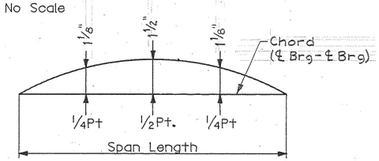
ELEVATION
No Scale



PART ELEVATION



PART PLAN
No Scale



DEAD LOAD CORRECTION CURVE (For use in Field) ⚠

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

EASTBOUND LANE
BILL OF STEEL - ONE BEAM

		SPAN A		SPAN F			
BARS	SIZE	NO. REQ'D	LENGTH	NO. REQ'D	LENGTH		
A400	4	46	1'-6"	46	1'-6"		
A500	5	4	5'-0"	4	5'-0"		
A600	6	8	38'-10"	8	38'-10"		
C400	4	6	3'-6"	6	3'-6"		
C600	6	6	3'-6"	6	3'-6"		
H400	4	92	6'-5"	92	6'-5"		
H600	6	12	5'-8"	12	5'-8"		
X300	3	14	6'-8"	14	6'-8"		

EASTBOUND LANE
ESTIMATED QUANTITIES - ONE BEAM

ITEM	UNIT	SPAN A	SPAN F	
CLASS 'A' CONCRETE	C.Y.	15.2	15.2	
REINFORCING STEEL	LB.	1,110	1,110	
PRESTRESSING STRANDS	LB.	860	860	

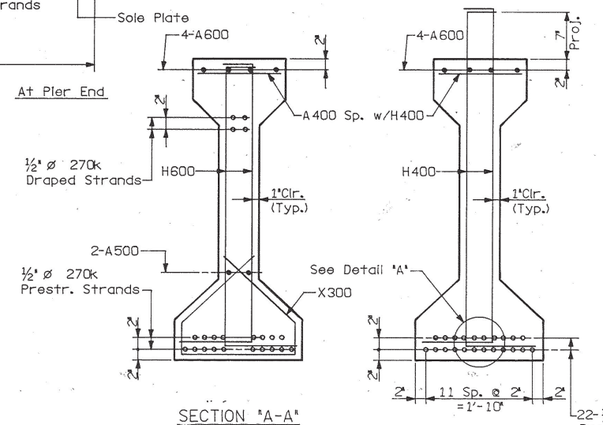
• - Denotes Grade 60 Reinf. Steel
∘ - Denotes Prestressing Strand

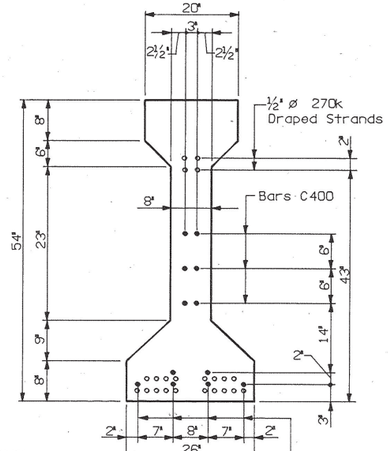
CONSTR. NO. 80001-3152-44

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

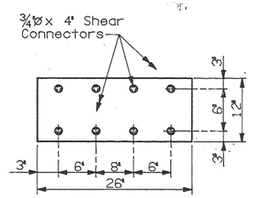
REVISIONS

NO.	DATE	BY	BRIEF DESCRIPTION
1	9/14/89	DWT	REVISED DEAD LOAD
			CORRECTION VALUES

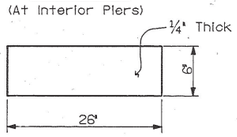




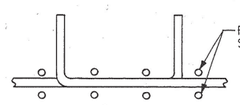
ELEVATION "C-C"



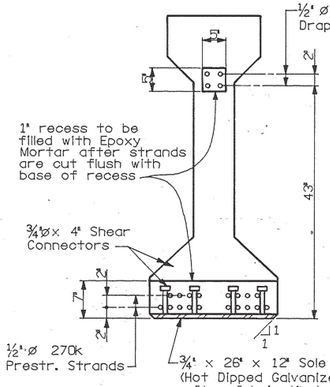
PLAN OF SOLE PLATE
A36 STEEL
(At Interior Piers)



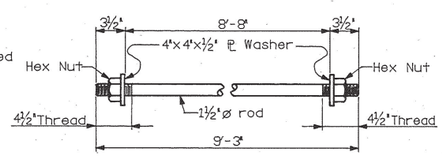
ELASTOMERIC BEARING PAD
(At Abutment)
(2 Req'd)



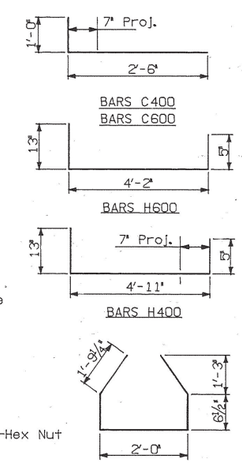
DETAIL "A"



ELEVATION "D-D"



TIE ROD DETAIL



NOTES:

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

Mild steel reinforcing shall be ASTM A615 Grade 60.

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

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

All beams are AASHTO - PCI standard type IV.

After the beam is removed from the prestressing bed, bars C600 and C400, At Abutment end, shall be bent as shown.

The prestressing strands shall be left projecting 3" +/- from the ends of the beams at abutment ends. There shall not be any protective coating placed on the ends of the beams or on the projecting strands At pier ends, 1" recess shall be formed and fill with epoxy mortar as shown.

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

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

NOTE: Cost of ¼" plain elastomeric pads, elastomeric bearings, anchor bolts, sole plates, bearing plates, tie rods and rubber bonding cement to be included in the cost of prestressed beam.

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

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

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAYS

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

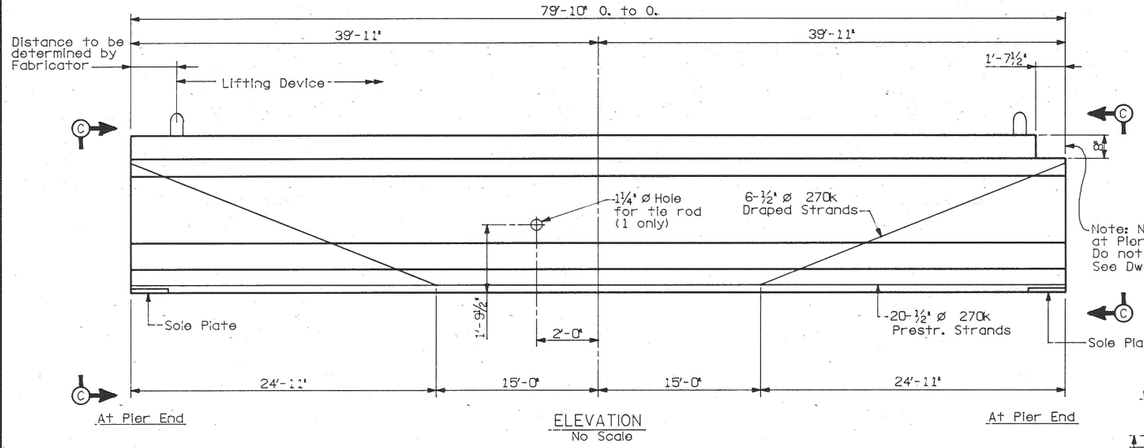
CORRECT _____
ENGINEER OF STRUCTURES

APPROVED _____
DIRECTOR OF HIGHWAYS

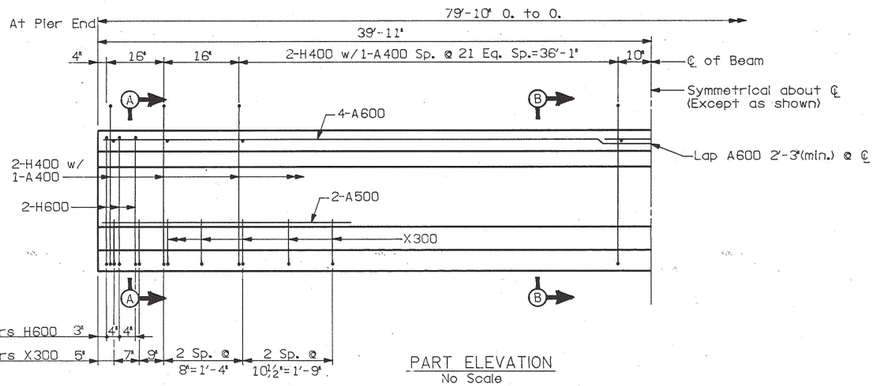
M-214-142

T.S.A. No. DTNOXX602D

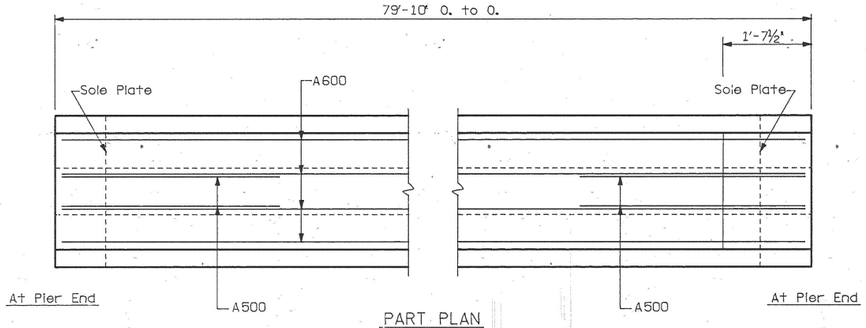
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25-FEB-1989 09:50



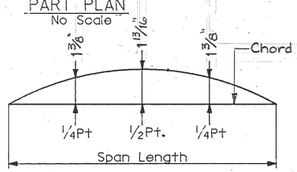
ELEVATION
No Scale



PART ELEVATION
No Scale

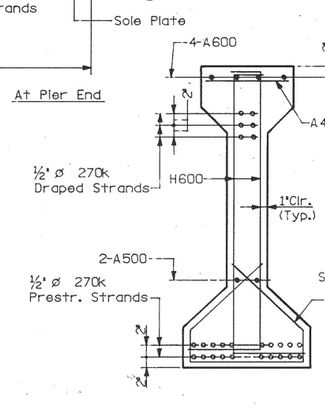


PART PLAN
No Scale

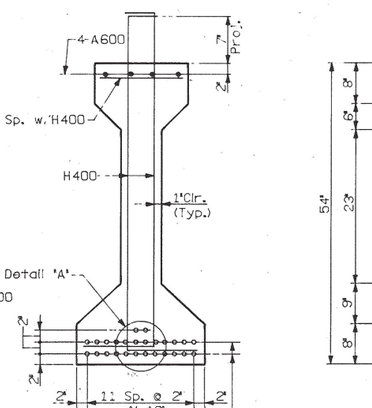


DEAD LOAD CORRECTION CURVE (For use in Field) ⚠1

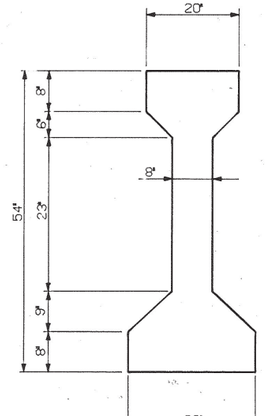
DESIGNED BY	DWT	DATE	11-88
DRAWN BY	FAB	DATE	11-88
SUPERVISED BY	WSH	DATE	11-88
CHECKED BY	HTZ	DATE	2-89



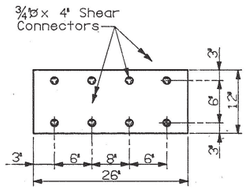
SECTION "A-A"



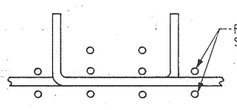
SECTION "B-B"



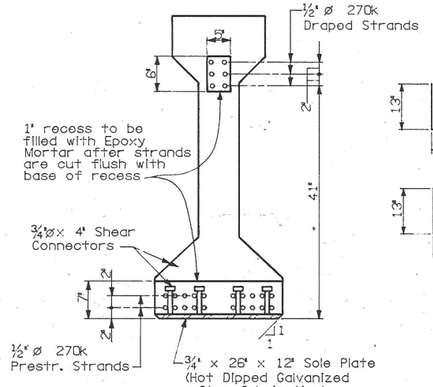
TYPE IV
(AASHTO)



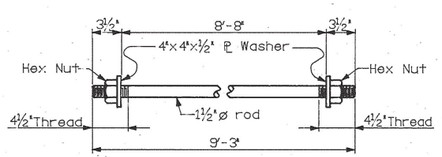
PLAN OF SOLE PLATE
A36 STEEL
(At Interior Piers)



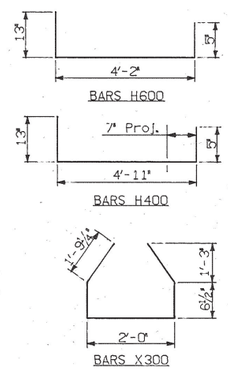
DETAIL "A"



ELEVATION "C-C"



TIE ROD DETAIL



EASTBOUND LANE
BILL OF STEEL - ONE BEAM

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

EASTBOUND LANE
ESTIMATED QUANTITIES - ONE BEAM

ITEM	UNIT	SPANS B-E		
CLASS 'A' CONCRETE	C.Y.	16.2		
REINFORCING STEEL	LB.	1,115		
PRESTRESSING STRANDS	LB.	1,092		

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

CONSTR. NO. 80001-3152-44

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

REVISIONS

NO.	DATE	BY	BRIEF DESCRIPTION
1	9/14/89	DWT	REVISED DEAD LOAD CORRECTION VALUES

NOTES:

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

Mild steel reinforcing shall be ASTM A615 Grade 60.

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

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

All beams are AASHTO - PCI standard type IV.

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

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

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

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

The sequence for transfer of stress or the cutting strands shall be in accordance with Article 815.14 of the 'Standard Specifications for Road and Bridge Construction' and shall be shown on the approved shop drawings. At no time shall more than 1/6th of the total prestressing force be eccentric about the centerline of the beam.

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

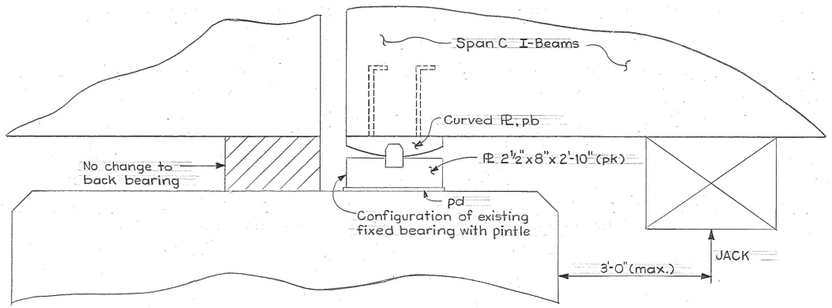
STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAYS

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

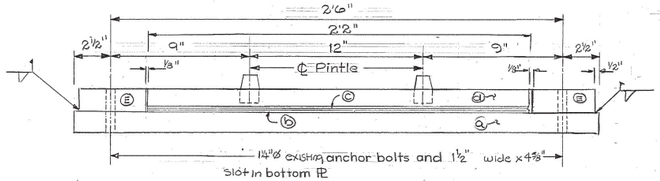
CORRECT _____ ENGINEER OF STRUCTURES

APPROVED _____ DIRECTOR OF HIGHWAYS

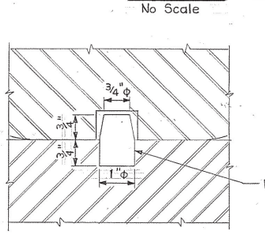
M-214-143



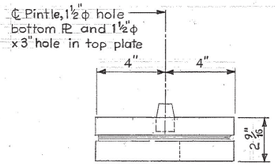
MODIFICATIONS TO FIXED BEARING "F"
AT PIER 2 SPAN C
No Scale



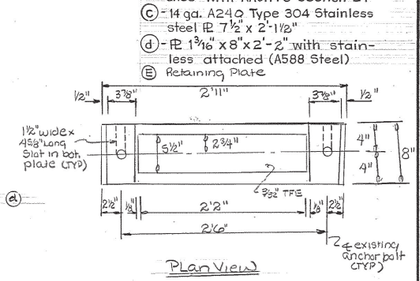
DETAIL "E"
No Scale



PINTLE DETAIL
No Scale



ⓐ - PL 1⅜₁₆" x 8" x 2'-2" with bonded TFE (A588 steel)
ⓑ - 3/32" x 5½ x 2'-2" filled TFE in accordance with AASHTO Section 27
ⓒ - 14 ga. A240 Type 304 Stainless steel PL 7½" x 2'-1½"
ⓓ - PL 1⅜₁₆" x 8" x 2'-2" with stainless attached (A588 Steel)
Ⓔ Retaining Plate



PLAN VIEW

Notes:

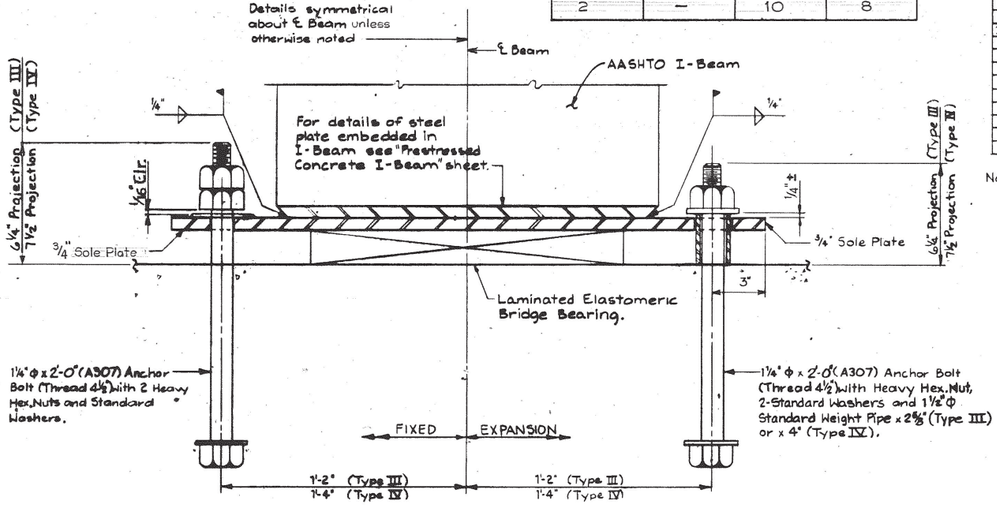
1. For details of existing bearing "F" at Pier 2 (forward) refer to existing bridge drawing G-15-122 and G-15-110.
2. Jack span C at Pier 2 a sufficient amount to allow removal of plate pk and access to upper plate pb. Approximate jack force necessary will be 250 tons. Details of jacking and releasing (lowering) shall be developed by the Contractor and submitted for the approval of the Engineer.
3. Remove anchor bolt nuts and, bearing plate pk. Retain existing 1¼"ø anchor bolts and nuts for reuse (Replace nuts if necessary)
4. Upper curved plate pb is attached to beam and shall be retained. Wire brush or blast clean "pb" and repaint. Ensure that pintle hole is clean and can receive new pintle.
5. Replace plate pk with fabricated bearing plates shown by Detail "E". Existing lead leveling plate (pd) shall be salvaged and reused or replaced.
6. Reinstall all anchor bolt nuts and repaint all exposed steel surfaces. Position upper bearing plate to engage pintles when Span C is lowered by releasing jacks.
7. Payment for modification or replacement of bngs. shall be included in the cost of Jacking Structures, Item No. 920-02.12.

DESIGNED BY	H.I.Z. / D.W.T.	DATE	11-88
DRAWN BY	T.L.K.	DATE	11-88
SUPERVISED BY	W.S.H.	DATE	11-88
CHECKED BY	H.I.Z. / D.W.T.	DATE	1-89

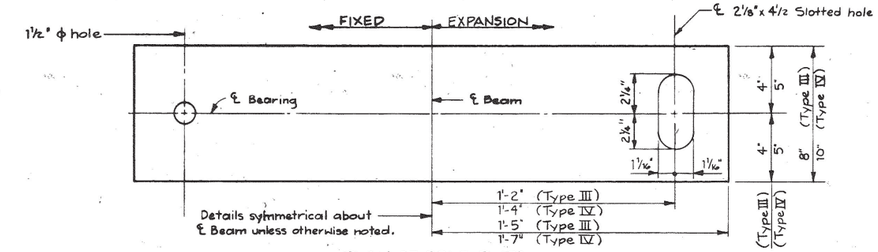
Notes: (Type III)- Denotes AASHTO Type III Beam
(Type IV)- Denotes AASHTO Type IV Beam

Details of Fixed and Expansion Bearings are identical unless shown otherwise.

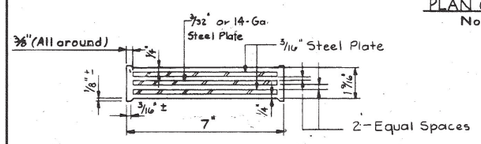
NUMBER OF BEARINGS REQUIRED			
AASHTO TYPE III		AASHTO TYPE IV	
FIXED	EXPANSION	FIXED	EXPANSION
2	—	10	8



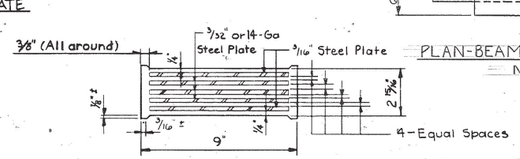
SECTION
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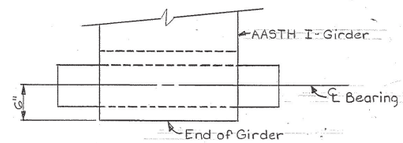
PLAN OF SOLE PLATE
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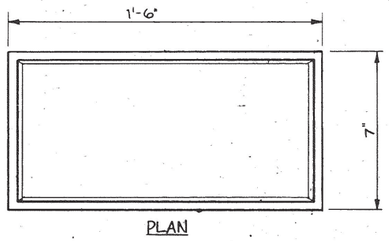
SECTION
(FOR TYPE III BEAMS)



SECTION
(FOR TYPE IV BEAMS)

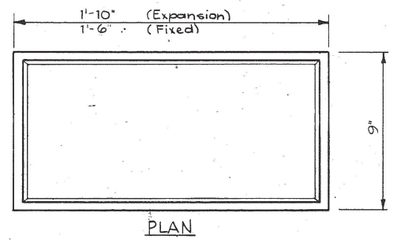


PLAN-BEAM PLACEMENT DETAIL
No Scale



PLAN

LAMINATED ELASTOMERIC BRIDGE BEARING FOR TYPE III BEAMS
FIXED AND EXPANSION



PLAN

LAMINATED ELASTOMERIC BRIDGE BEARING FOR TYPE IV BEAMS
FIXED AND EXPANSION

CONSTR. NO. 80001-3152-44

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

REVISIONS

NO	DATE	BY	BRIEF DESCRIPTION
1	6/16/89	WHP	Revised location and size of TFE plate
2	8/1/89	WHP	Revised plate dimensions and changed notes 3 and 6, added note 8
3	2/27/90	WHP	Revised bearing (TFE)

Notes: All sole plates, anchor bolts, washers, nuts & pipe shall be galvanized after fabrication in accordance with ASTM A123 or ASTM A153 as appropriate. Areas of galvanized surfaces where any field welds are made or any other damage to galvanized surfaces shall be field galvanized. Field galvanizing shall be made with Z.R.C. Cold Galvanizing Compound by Z.R.C. Chemical Products Co., Quincy, Mass. or approved equal. The materials, fabrication and installation of the laminated elastomeric bridge bearing shall be in accordance with AASHTO Section 25- Division II. All costs associated with the materials, fabrication and installation of the complete bearing assembly shall be included in the price bid for Item # 615-01.03 or Item # 615-01.04.

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAYS

BEARING DETAILS

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

CORRECT _____ ENGINEER OF STRUCTURES

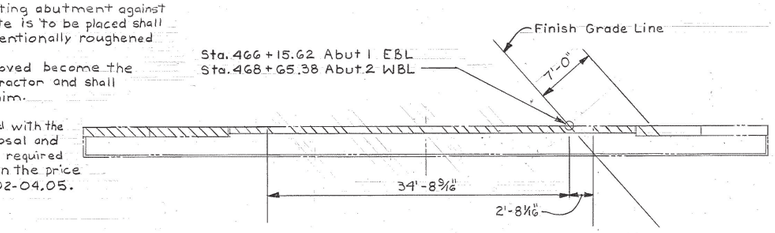
APPROVED _____ DIRECTOR OF HIGHWAYS

M-214-144

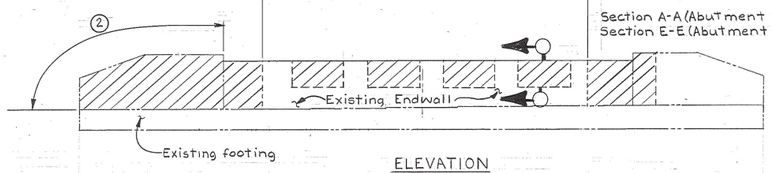
All surface of existing abutment against which new concrete is to be placed shall be cleaned and intentionally roughened

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

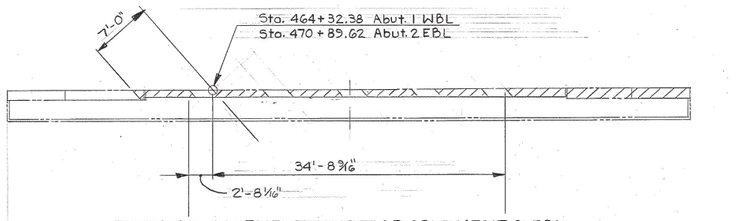
All costs associated with the demolition and disposal and surface preparation required shall be included in the price bid for item No. 202-04.05.



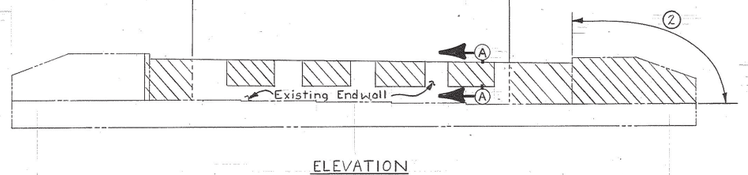
PLAN-ABUTMENT 1 EBL OR ABUTMENT 2 WBL
No Scale



ELEVATION
No Scale
(Abutment 1 EBL looking back on stationing or abutment 2 WBL looking in direction of stationing)



PLAN-ABUTMENT 1 WBL OR ABUTMENT 2 EBL
No Scale



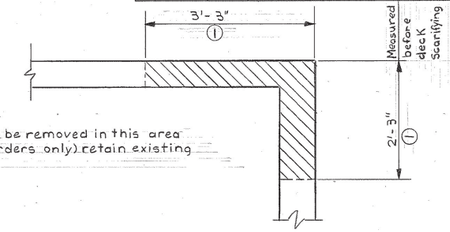
ELEVATION
No Scale
(Abutment 1 WBL looking back on stationing or abutment 2 EBL looking in direction of stationing)

Constr. No. 80001-3152-44

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

REVISIONS

NO.	DATE	BY	BRIEF DESCRIPTION
1	5/19/89	DWT	REVISED REINF.



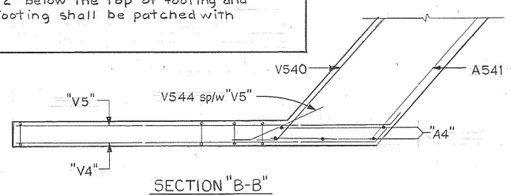
(1) Concrete to be removed in this area (between girders only) retain existing reinforcing.

SECTION E-E ABUTMENT 2 WBL ONLY
Scale 3/4"=1'-0"

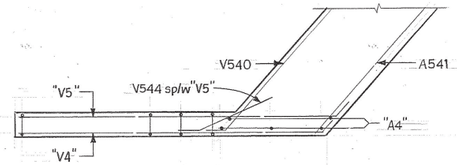
DEMOLITION DETAILS

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

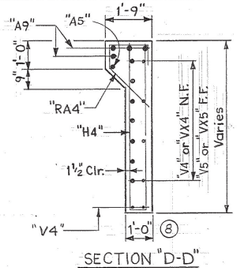
(2) – Reinforcement in this area shall be removed to a depth 2" below the top of footing and then the footing shall be patched with grout.



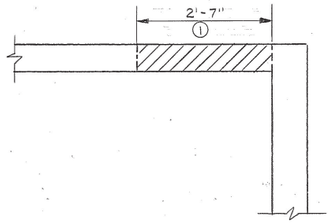
SECTION "B-B"
Scale: 3/8"=1'-0"



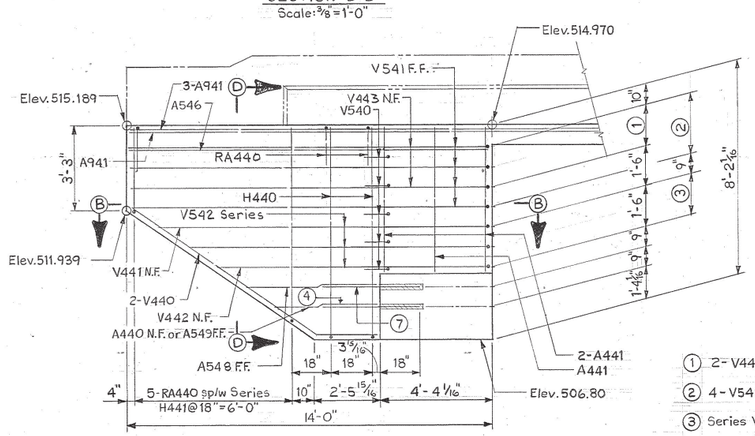
SECTION "C-C"
Scale: 3/8"=1'-0"



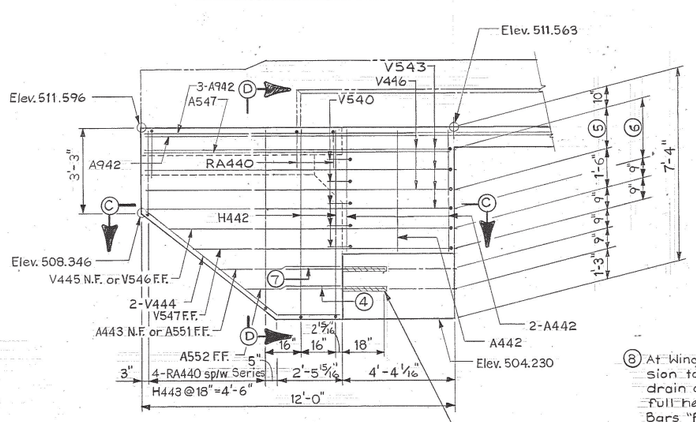
SECTION "D-D"
Scale: 3/8"=1'-0"



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



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



ELEVATION-WINGWALL 2
Scale: 3/8"=1'-0"

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

(1) 2-V443@18" N.F.

(2) 4-V541@9"=2'-3" F.F.

(3) Series V542@9"=1'-6" F.F.

(4) 1-A550 dowel F.F.

(5) 2-V446@18" N.F.

(6) 4-V543@9"=2'-3" F.F.

(7) 2-A550 dowels (One each face)

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

ESTIMATED QUANTITIES

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

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

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAYS

ABUTMENT DETAILS(1)
I-40 OVER CANEY FORK RIVER
STA. 466+15.62 ℄ SURVEY E.B. I-40
STA. 464+32.38 ℄ SURVEY W.B. I-40
SMITH COUNTY
1989

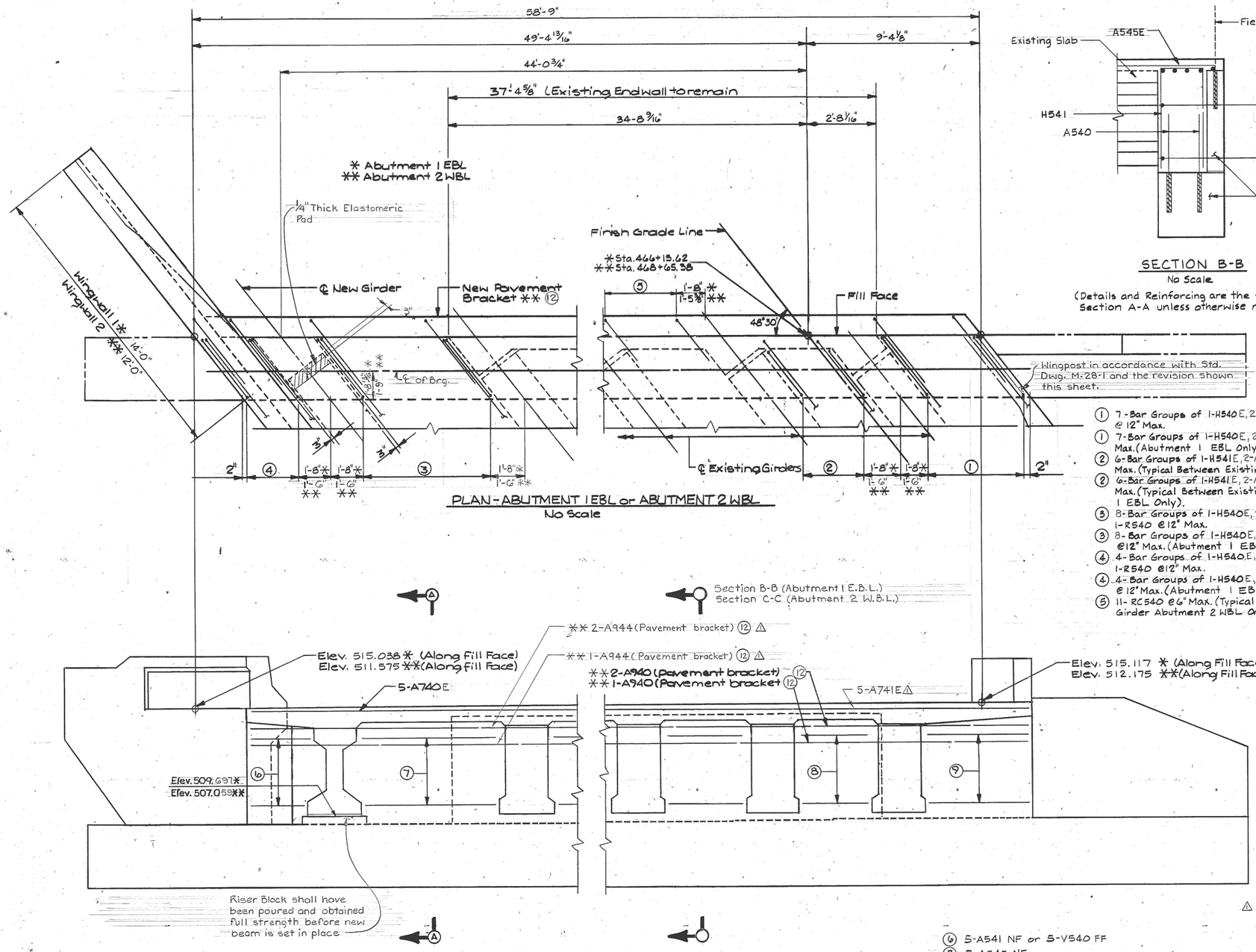
DESIGNED BY	DWT	DATE	1-89
DRAWN BY	HJK	DATE	1-89
SUPERVISED BY	WSH	DATE	1-89
CHECKED BY	HJZ	DATE	3-89

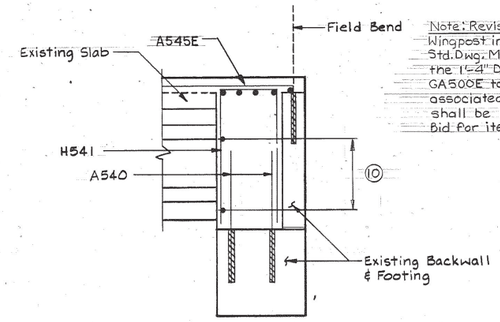
CORRECT _____ ENGINEER OF STRUCTURES

APPROVED _____ DIRECTOR OF HIGHWAYS

M-214-145

REVISIONS 5/89





SECTION B-B
No Scale
(Details and Reinforcing are the same as Section A-A unless otherwise noted.)

Note: Revised Wingpost
Wingpost in accordance with Std. Dwg. M-28-1 except revise the 1'-4" Dimension for Bars GA500E to 1'-0½". All costs associated with this revision shall be included in the price bid for item No. 620-03.

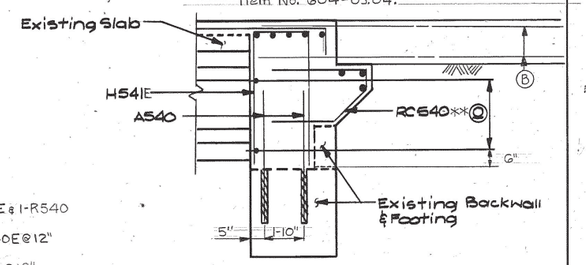
Constr. No. 80001-3152-44

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

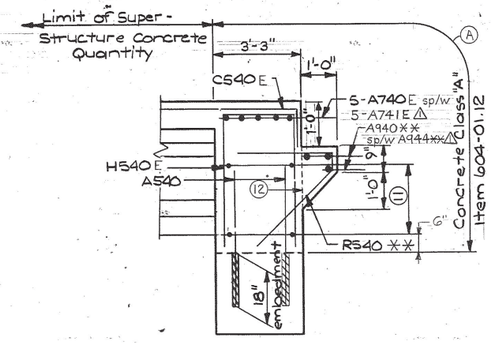
REVISIONS

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

(B) Delete AG-Top & Bott. and substitute AG-(6'-0" Long) @ 12" Top & Bott. (Typ.) (See Std. Dwg. K-86-144) All costs associated with the revision shown shall be included in the price bid for item No. 604-03.04.



SECTION C-C
No Scale
(This Section applies at Abutment 2 W.B.L. only)
(Details and Reinforcing are the same as Section A-A unless otherwise noted.)



SECTION A-A
No Scale

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

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

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

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

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAYS

ABUTMENT DETAILS (2)

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

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

CORRECT _____ ENGINEER OF STRUCTURES

APPROVED _____ DIRECTOR OF HIGHWAYS

M-214-146

TELESPAR POST H80951

Constr. No. 80001-3152-94

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

REVISIONS

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

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

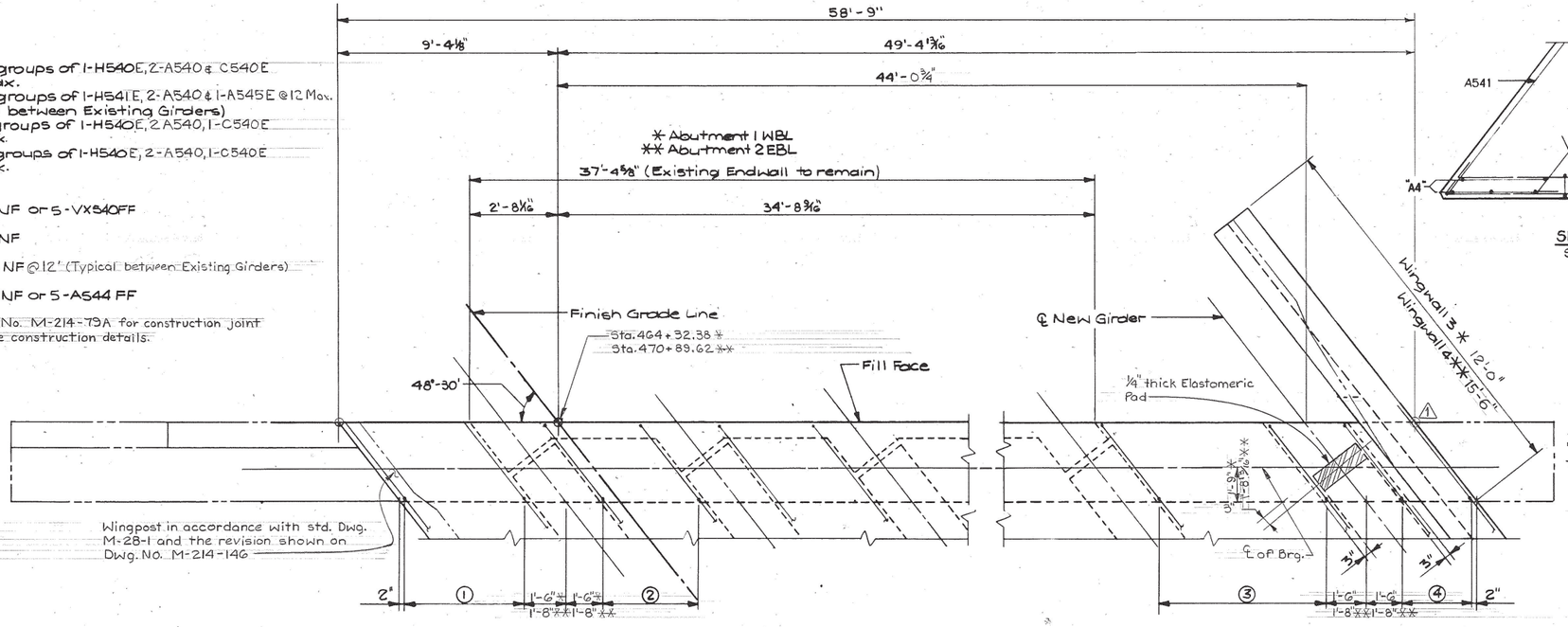
⑥ 5-A541 NF or 5-VX540FF

⑦ 5-A542 NF

⑧ 5-A543 NF @12" (Typical between Existing Girders)

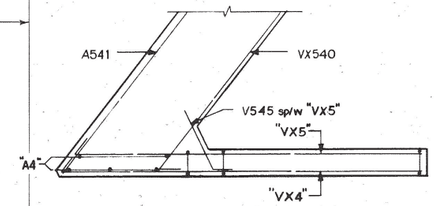
⑨ 5-A544 NF or 5-A544 FF

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

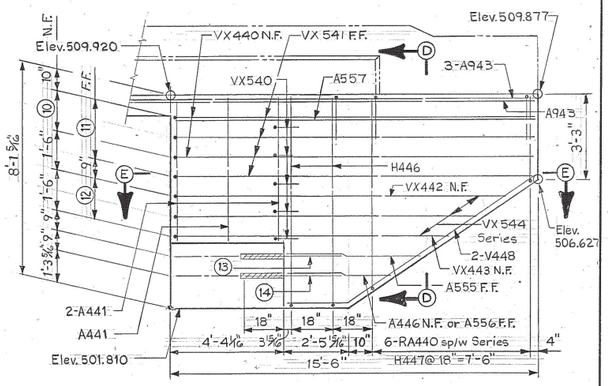


PLAN - ABUTMENT 1 WBL or ABUTMENT 2 EBL
No Scale

** Abutment 2 E.B.L.
* Abutment 1 W.B.L.

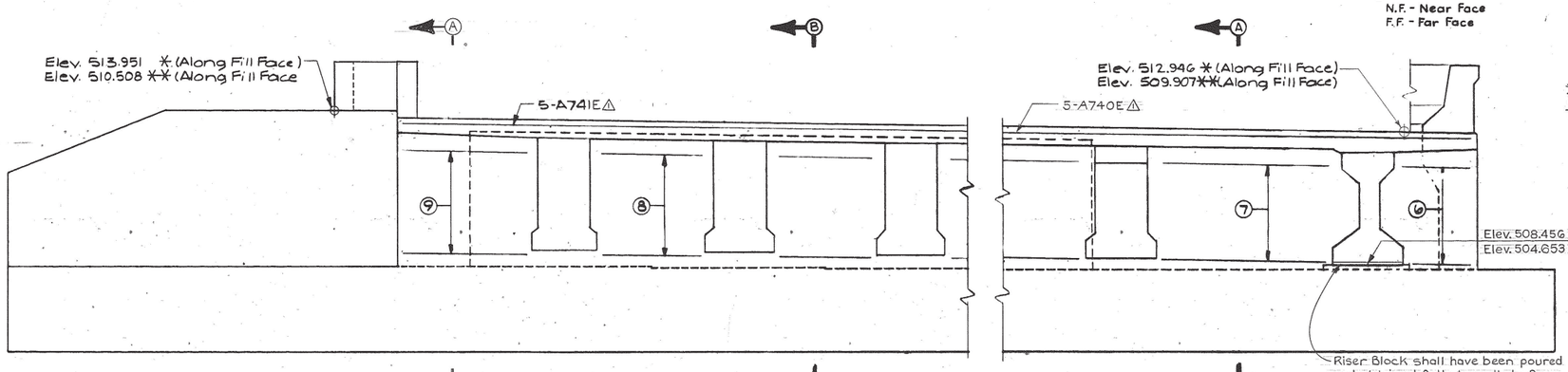


SECTION "E-E"
Scale: ⅜"=1'-0"

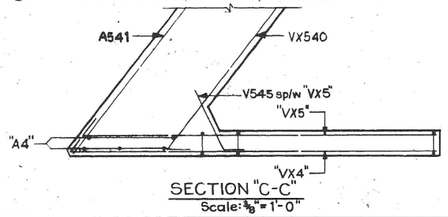


ELEVATION-WINGWALL 4
Scale: ⅜"=1'-0"

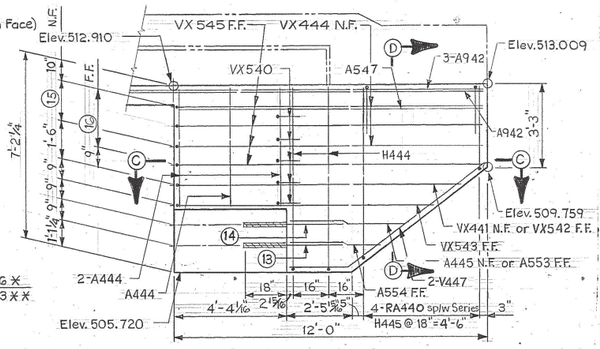
⑮ 2-VX444@18" N.F.
⑯ 4-VX545@9" F.F.=2'-3"
⑩ 2-VX440 @ 18" N.F.
⑪ 4-VX541 @ 9" F.F. = 2'-3"
⑫ Series VX544 @ 9" F.F. = 1'-6"
⑬ A550 dowel F.F.
⑭ 2-A550 dowels (One Each Face)
N.F. - Near Face
F.F. - Far Face



ELEVATION
No Scale
(Abutment 1 WBL looking back on stationing or abutment 2 EBL looking in direction of stationing)



SECTION "C-C"
Scale: ⅜"=1'-0"



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

ELEVATION-WINGWALL 3
Scale: ⅜" = 1'-0"

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAYS

ABUTMENT DETAILS (3)

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

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

CORRECT _____ ENGINEER OF STRUCTURES

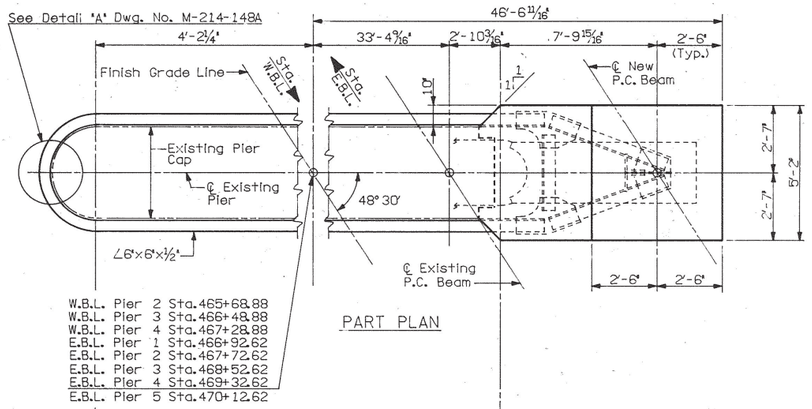
APPROVED _____ DIRECTOR OF HIGHWAYS

M-214-147

RELEASE FOR BIDDING

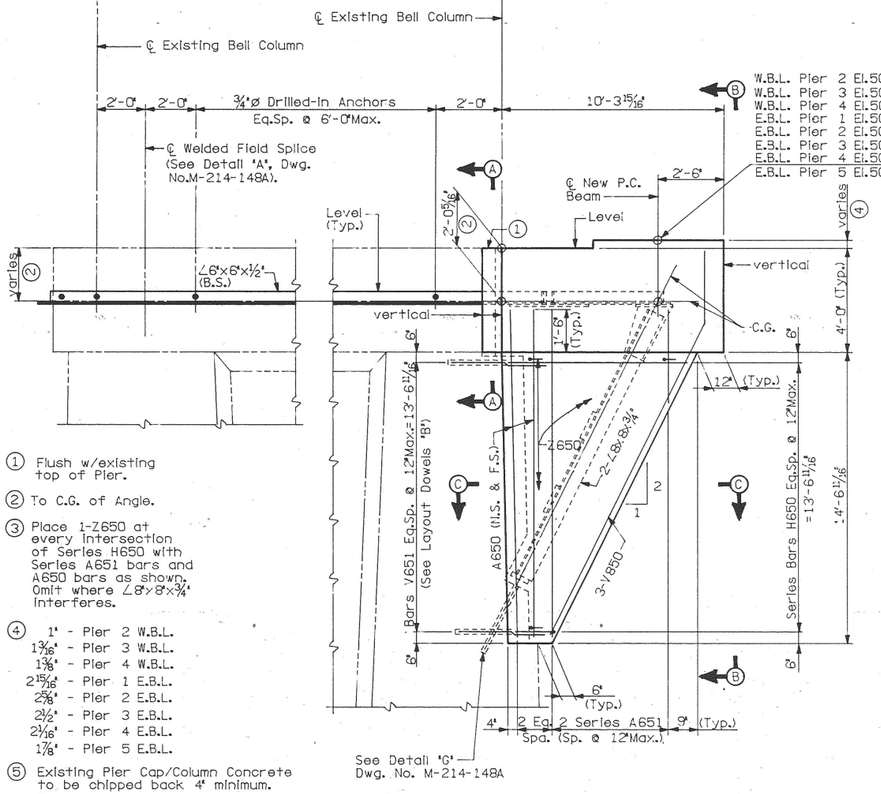
U.S.A. No. DTNOXX610A

ZF1:\50.24\DTNOXX610A\DGN\DTNOXX 18-MAR-1989 12:18



W.B.L. Pier 2 Sta.465+68.88
W.B.L. Pier 3 Sta.466+48.88
W.B.L. Pier 4 Sta.467+28.88
E.B.L. Pier 1 Sta.466+92.62
E.B.L. Pier 2 Sta.467+72.62
E.B.L. Pier 3 Sta.468+52.62
E.B.L. Pier 4 Sta.469+32.62
E.B.L. Pier 5 Sta.470+12.62

PART PLAN



W.B.L. Pier 2 El.506.451
W.B.L. Pier 3 El.506.099
W.B.L. Pier 4 El.505.923
E.B.L. Pier 1 El.508.255
E.B.L. Pier 2 El.507.028
E.B.L. Pier 3 El.506.016
E.B.L. Pier 4 El.505.233
E.B.L. Pier 5 El.504.679

See Detail 'G' Dwg. No. M-214-148A

① Flush w/existing top of Pier.

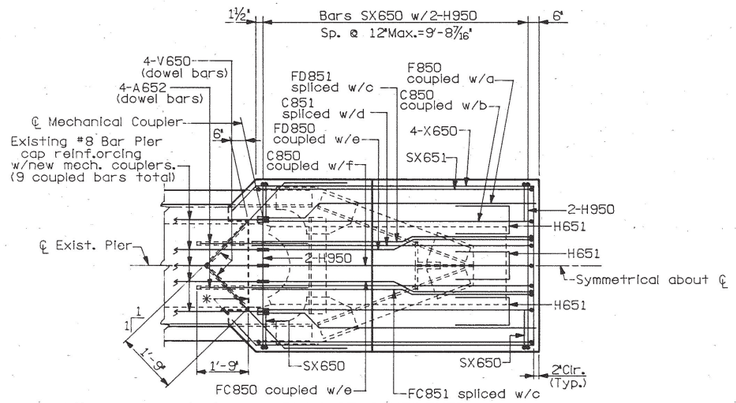
② To C.G. of Angle.

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

④
1" - Pier 2 W.B.L.
1 3/16" - Pier 3 W.B.L.
1 3/8" - Pier 4 W.B.L.
2 15/16" - Pier 1 E.B.L.
2 5/8" - Pier 2 E.B.L.
2 1/2" - Pier 3 E.B.L.
2 1/16" - Pier 4 E.B.L.
1 7/8" - Pier 5 E.B.L.

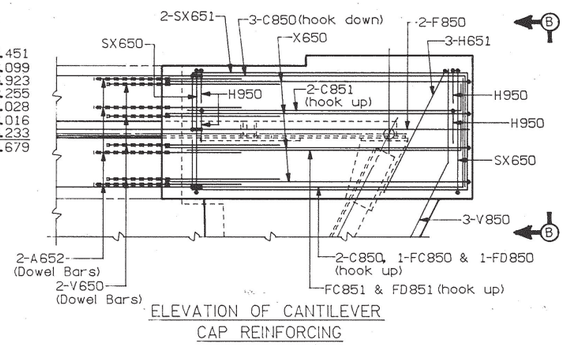
⑤ Existing Pier Cap/Column Concrete to be chipped back 4" minimum.

PART ELEVATION
(Showing Cantilever Column Reinforcing)

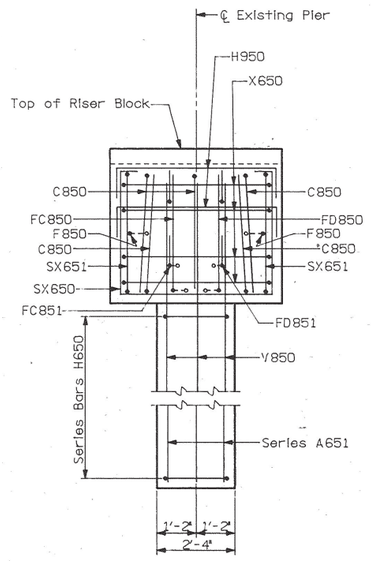


* Remove concrete to this line.

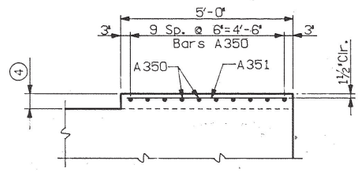
PLAN OF CANTILEVER CAP REINFORCING



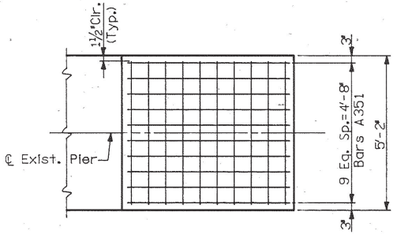
ELEVATION OF CANTILEVER CAP REINFORCING



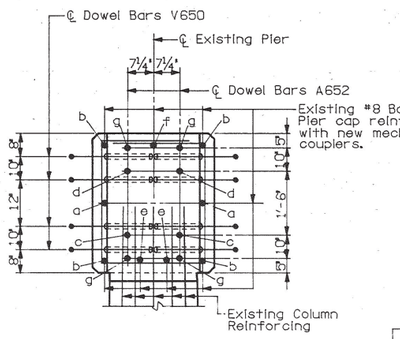
ELEVATION B-B



ELEVATION - RISER BLOCK

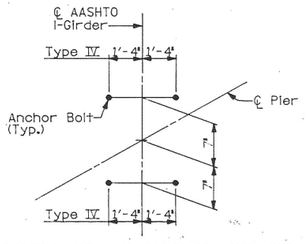


PLAN - RISER BLOCK

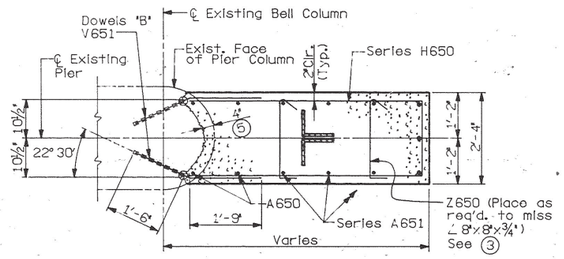


SECTION A-A

g - Denotes A652 dowel bars only.



ANCHOR BOLT PLACEMENT SKETCH
No Scale



SECTION C-C
(Layout Dowels 'B')

CONSTR. NO. 80001-3152-44

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

REVISIONS

NO.	DATE	BY	BRIEF DESCRIPTION

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

ESTIMATED QUANTITIES

Item / Pier No.	Class 'A' Concrete (Bridges) C.Y.	Structural Steel Lb.	Steel Bar Reinforcement (Bridges) Lb.
W.B.L. - 2	15	4,100	2,903
W.B.L. - 3	~~15~~ 16	4,100	3130 ~~2,903~~
W.B.L. - 4	15	4,100	2,903
E.B.L. - 1	15	4,100	2,903
E.B.L. - 2	15	4,100	2,903
E.B.L. - 3	~~15~~ 16	4,100	3130 ~~2,903~~
E.B.L. - 4	15	4,100	2,903
E.B.L. - 5	15	4,100	2,903

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAYS

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

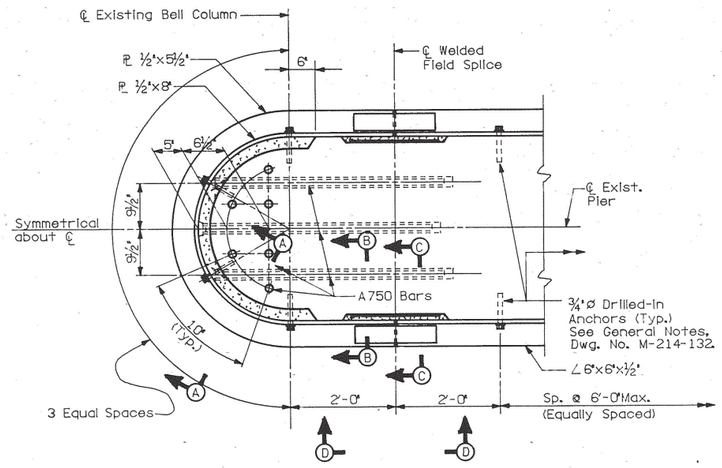
CORRECT _____ ENGINEER OF STRUCTURES

APPROVED _____ DIRECTOR OF HIGHWAYS

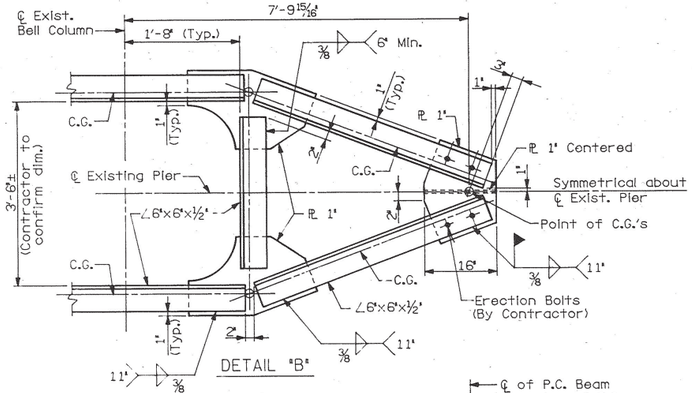
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M-214-148

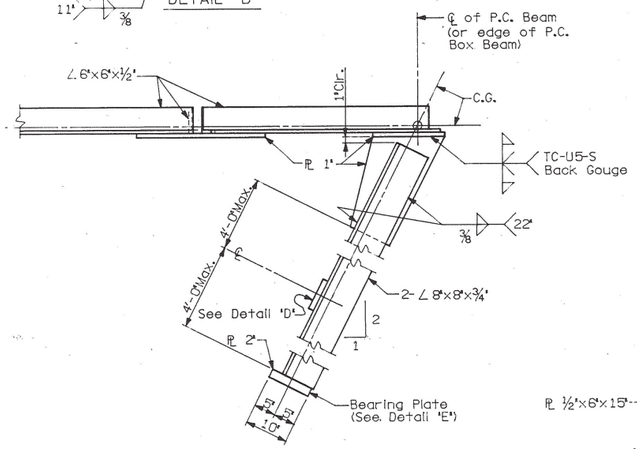
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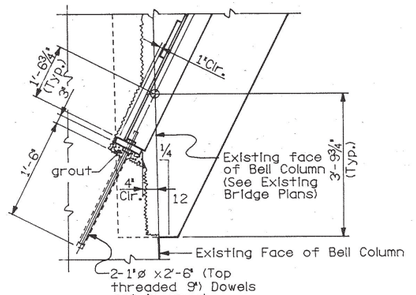
DETAIL "A"



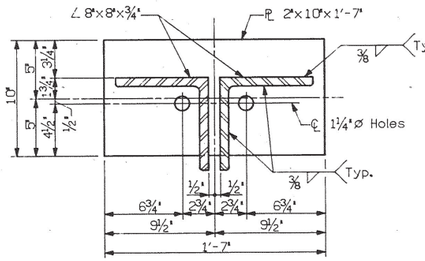
DETAIL "B"



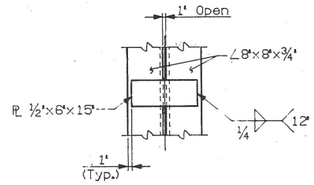
DETAIL "C"



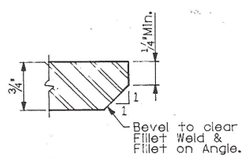
DETAIL "G"



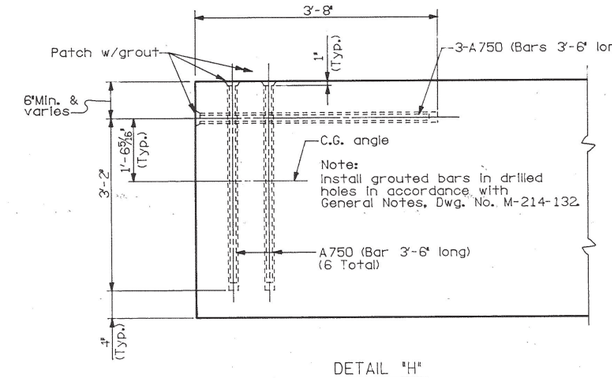
DETAIL "E"
PLAN OF BEARING PLATE



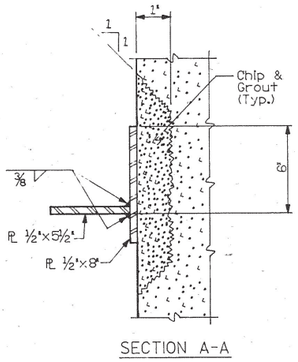
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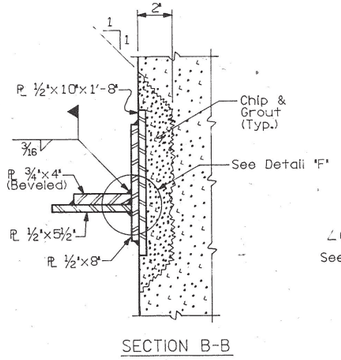
DETAIL "F"



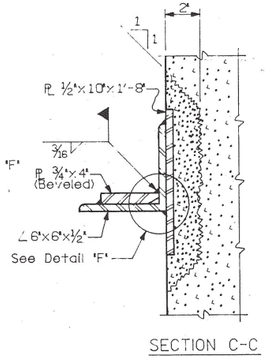
DETAIL "H"



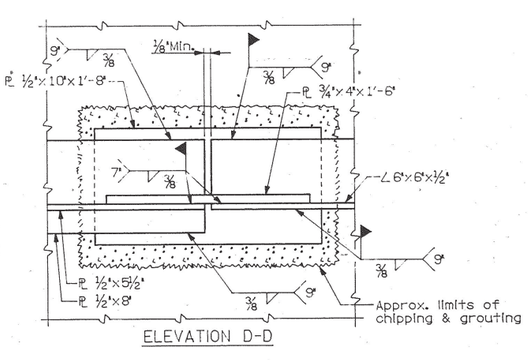
SECTION A-A



SECTION B-B



SECTION C-C



ELEVATION D-D

Notes Con't:

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

Riser blocks to be poured monolithically with Cantilever cap beam.

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

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

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

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

CONSTR. NO. 80001-3152-44

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

REVISIONS

NO.	DATE	BY	BRIEF DESCRIPTION

Notes:

For General Notes, see Dwg No. M-214-132.

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

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

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

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

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

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

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

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

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

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

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAYS

PIERS 1,2,3,4 & 5 W.B.L.
PIERS 1,2,3,4 & 5 E.B.L.
I-40 OVER CANEY FORK RIVER
STA.464+32.38 ℄ SURVEY W.B.L.
STA.466+15.62 ℄ 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	2-89

CORRECT _____ ENGINEER OF STRUCTURES

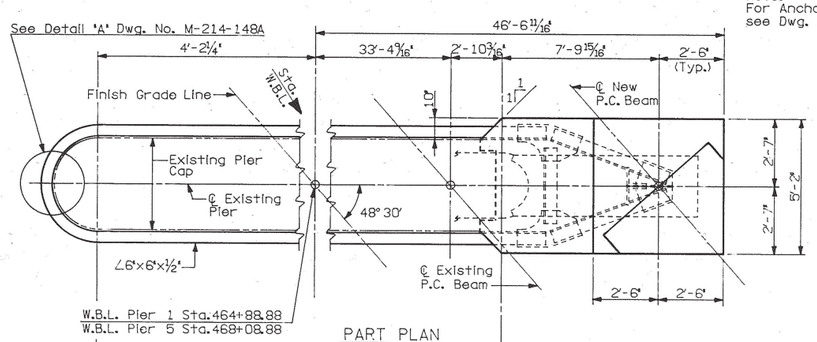
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Scale: None

M-214-148A

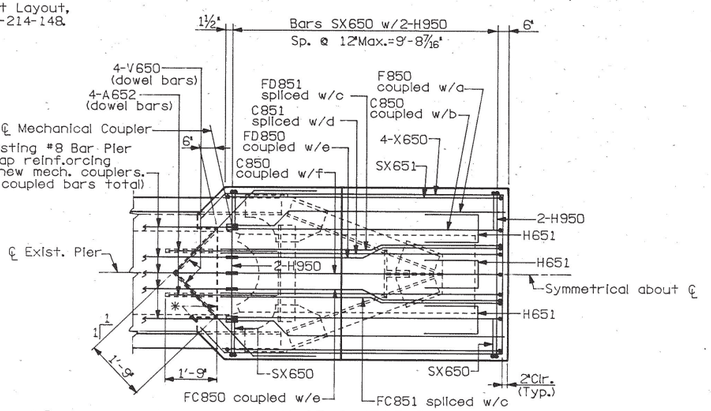
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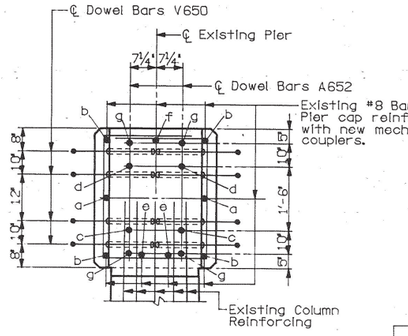


PART PLAN

Note:
For Anchor Bolt Layout, see Dwg. No. M-214-148.



PLAN OF CANTILEVER CAP REINFORCING



SECTION A-A

g - Denotes A652 dowel bars only.

CONSTR. NO. 80001-3152-44

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

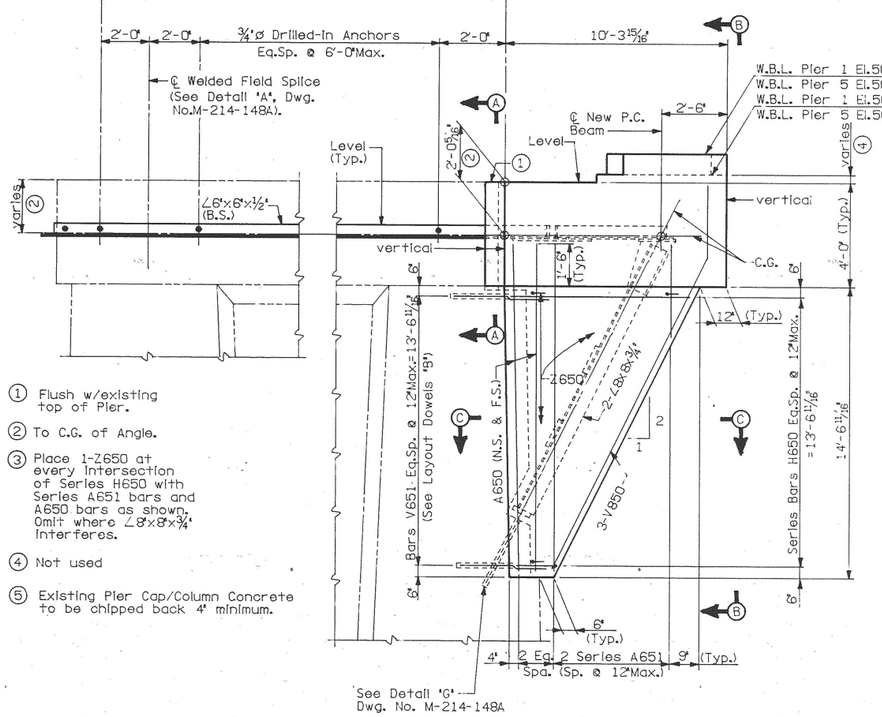
REVISIONS

NO.	DATE	BY	BRIEF DESCRIPTION

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

ESTIMATED QUANTITIES

Item / Pier No.	Class 'A' Concrete (Bridges) C.Y.	Structural Steel Lb.	Steel Bar Reinforcement (Bridges) Lb.
W.B.L. - 1	15	4,100	3,008
W.B.L. - 5	15	4,100	3,008



PART ELEVATION
(Showing Cantilever Column Reinforcing)

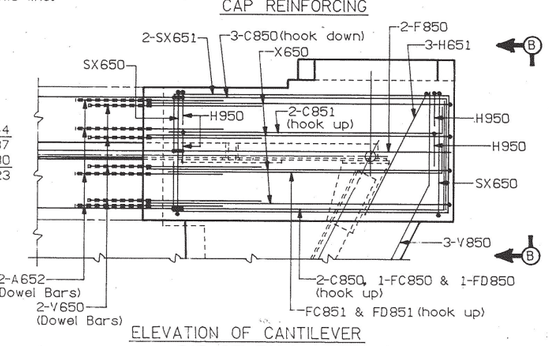
① Flush w/existing top of Pier.

② To C.G. of Angle.

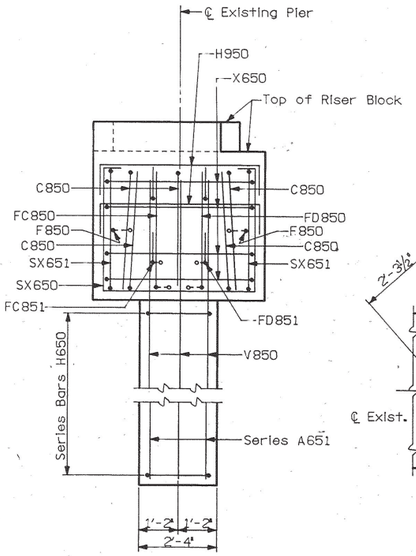
③ Place 1-Z650 at every intersection of Series H650 with Series A651 bars and A650 bars as shown. Omit where ∠8"x8"x¾" interferes.

④ Not used

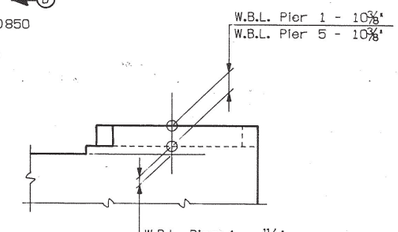
⑤ Existing Pier Cap/Column Concrete to be chipped back 4" minimum.



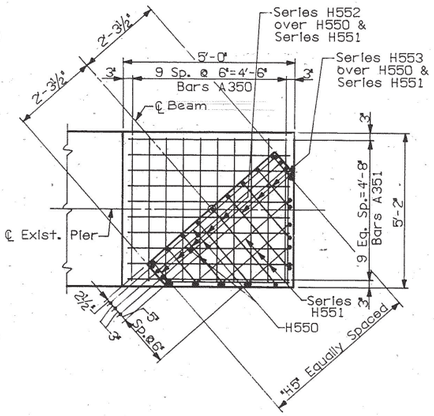
ELEVATION OF CANTILEVER CAP REINFORCING



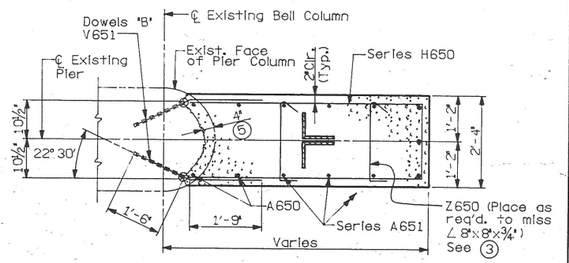
ELEVATION B-B



ELEVATION - RISER BLOCK



PLAN - RISER BLOCK



SECTION C-C
(Layout Dowels 'B')

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAYS

PIERS 1 & 5 W.B.L.
I-40 OVER CANEY FORK RIVER
STA. 464+32.38 ℄ SURVEY W.B.L.
STA. 466+15.62 ℄ 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-214-149

U.S.A. No. DTNOXX6080A

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SPANS A THRU F - W.B.L.

MARK	T	LOCATION	SZ	NO. RQ'D	DIMENSIONS FT-IN a	b	c	d	e	LENGTH FT-IN	WEIGHT LBS
A500	E	DECK	5	428	4- 9					4- 9	2120
A501	E	"	5	996	10- 9					10- 9	11167
A502	E	"	5	1	10- 4					10- 4	102
		@ 13 BAR SERIES		EACH	TO					TO	
					4- 8					4- 8	
A503	E	"	5	826	30- 0					30- 0	25846
A504	E	"	5	118	22- 9					22- 9	2800
A505	E	"	5	98	26- 6					26- 6	2709
A506	E	"	5	98	29- 6					29- 6	3015
A507	E	"	5	1	10- 5					10- 5	111
		@ 15 BAR SERIES		EACH	TO					TO	
					3-10					3-10	
A508	E	"	5	1	10- 3					10- 3	100
		@ 13 BAR SERIES		EACH	TO					TO	
					4- 6					4- 6	
A510	E	"	5	48	6- 0					6- 0	300
⚠ A511	E	"	5	4	23-9					23-9	99
⚠ A700	E	"	7	2	26-0					26-0	106
⚠ A701	E	"	7	6	29-9					29-9	365
⚠ A800	E	"	8	3	26-0					26-0	208
⚠ B500	E	"	5	932	25-9	0- 7				26-4	25598
⚠ B501	E	"	5	1	19-5	0- 7				20-0	433
		@ 34 BAR SERIES		EACH	TO					TO	
					3-10					4- 5	
⚠ ~~B500~~	~~E~~	~~"~~	~~5~~	~~860~~	~~43- 8~~	~~0- 7~~				~~44-10~~	~~40215~~
K500	E	"	5	42	0-10	3- 5¾	0- 5			9- 1	398
L300	E	"	3	94	1- 2½	0- 6	0- 4			4- 1	144
V500	E	"	5	11	2- 0	1-10	1- 4½	1- 2½		3-10	44

⚠ For Continuation See Sheet No. M-214-151B

***TOTAL WEIGHT (LBS) 101298

***TOTAL INCLUDES 101298 LBS OF EPOXY COATED BARS

ABUTMENT 1 W.B.L.

MARK	T	LOCATION	SZ	NO. RQ'D	DIMENSIONS FT-IN a	b	c	d	e	LENGTH FT-IN	WEIGHT LBS
A444		WINGWALL 3	4	5	4- 4					4- 4	14
A445		"	4	1	4-10					4-10	3
A540		ABUTMENT	5	82	3- 8					3- 8	314
A541		"	5	5	3- 6					3- 6	18
A542		"	5	5	7- 4					7- 4	38
A543		"	5	20	5- 4					5- 4	111
A544		"	5	10	6- 2					6- 2	64
A545	E	"	5	24	11- 6					11- 6	288
A547		WINGWALL 3	5	1	11- 0					11- 0	11
A550		WINGWALL 3	5	3	3- 8					3- 8	11
A553		WINGWALL 3	5	1	4-10					4-10	5
A554		"	5	1	3-10					3-10	4
A740	E	ABUTMENT	7	5	32'-5" ⚠					⚠ 32-5"	⚠ 331
A942		WINGWALL 3	9	4	11- 0					11- 0	150
C540	E	ABUTMENT	5	19	10- 0	0-10				10-10	215
H444		WINGWALL 3	4	2	0- 9	6-10				14- 5	19
H445		"	4	1	0- 9	6- 7				13-11	28
		@ 4 BAR SERIES		EACH		TO				TO	
						3- 1				6-11	
H540	E	ABUTMENT	5	19	4- 1	5- 4				14- 9	292
H541	E	"	5	24	3- 2	5- 4				13-10	346
V447		WINGWALL 3	4	2	2- 4	6- 4	5- 0	3-11		8- 8	12
V545		"	5	5	0-10	4- 6	1-10⅜	4- 1½		5- 4	28
VX444		"	4	2	11- 8	0- 8	0- 5¼	0- 6		12- 4	16
VX441		"	4	1	10-11	0- 8	0- 5¼	0- 6		11- 7	8
VX540		ABUTMENT	5	5	14- 8	0-10	0- 6⅜	0- 7½		15- 6	81
VX545		WINGWALL 3	5	4	11- 0	0-10	0- 6⅜	0- 7½		11-10	49
VX542		"	5	1	10- 3	0-10	0- 6⅜	0- 7½		11- 1	12
VX543		"	5	1	9- 3	0-10	0- 6⅜	0- 7½		10- 1	11
A741 ⚠	E	ABUTMENT	7	5	26-0					26-0	266

***TOTAL WEIGHT (LBS) 2745

***TOTAL INCLUDES 1738 LBS OF EPOXY COATED BARS

***TOTAL INCLUDES 1007 LBS OF NON EPOXY COATED BARS

PIER 1 W.B.L.

MARK	T	LOCATION	SZ	NO. RQ'D	DIMENSIONS FT-IN a	b	c	d	e	LENGTH FT-IN	WEIGHT LBS
A350		RISER BLOCK	3	10	4-10					4-10	18
A351		"	3	10	4- 8					4- 8	18
A650		CANT. COLUMN	6	4	15-10¾					15-11	96
A651		"	6	2	15-10¾					15-11	223
		@ 8 BAR SERIES		EACH	TO					TO	
					2- 7½					2- 8	
A652		CANT. CAP	6	8	3- 6					3- 6	42
C850		"	8	5	9-11	3- 5½				13- 5	179
C851		"	8	2	10- 2½	1- 0				11- 3	60
F850		"	8	2	1- 4¼	0- 9	8- 0	0- 6¼	0- 6¼	10- 1	54
FC850		"	8	1	5- 5½	0-10⅜	3- 8	0- 9	3- 5½	13- 5	36
FC851		"	8	1	6- 1	0- 2	3- 8	0- 1¾	1- 0	10-11	29
FD850		"	8	1	5- 5¾	0-10⅜	3- 8	0- 9	3- 5½	13- 6	36
FD851		"	8	1	6- 1	0- 2	3- 8	0- 1¾	1- 0	10-11	29
H550		RISER BLOCK	5	4	4- 4	1-10				8- 0	33
H551		"	5	1	3- 5	1-10				7- 1	19
		@ 3 BAR SERIES		EACH	TO					TO	
					1- 4					5- 0	
H552		"	5	1	2-11	1-10				6- 7	30
		@ 5 BAR SERIES		EACH	TO					TO	
					1- 1					4- 9	
H553		"	5	1	2- 8	1-10				6- 4	23
		@ 4 BAR SERIES		EACH	TO					TO	
					1- 0					4- 8	
H650		CANT. COLUMN	6	1	2- 0	8- 4½				18- 9	262
		@ 15 BAR SERIES		EACH		TO				TO	
						1- 3				4- 6	
H651		CANT. CAP	6	3	1- 0	4- 0				9- 0	41
H950		"	9	22	4-10	1- 0				6-10	511
SX650		"	6	11	4- 9½	3- 7½	1- 0			14- 1	233
SX651		"	6	2	3- 5¾	10- 2	1- 9			27- 4	82
V650		"	6	8	3- 3	1- 9	1- 2⅞	1- 2⅞		5- 0	60
V651		CANT. COLUMN	6	30	1- 9	1- 9	1- 7⅜	0- 8		3- 6	158
V850		"	8	3	17- 8	2- 4½	2- 1½	1- 0¾		20- 1	161
X650		CANT. CAP	6	4	4- 7¾	10- 1½	1- 0	0- 8½		26-11	162
Z650		CANT. COLUMN	6	75	1- 0	2- 0	0- 8			3- 8	413

***TOTAL WEIGHT (LBS) 3008

PIER 2 W.B.L.

MARK	T	LOCATION	SZ	NO. RQ'D	DIMENSIONS FT-IN a	b	c	d	e	LENGTH FT-IN	WEIGHT LBS
A350		RISER BLOCK	3	10	4-10					4-10	18
A351		"	3	10	4- 8					4- 8	18
A650		CANT. COLUMN	6	4	15-10¾					15-11	96
A651		"	6	2	15-10¾					15-11	223
		@ 8 BAR SERIES		EACH	TO					TO	
					2- 7½					2- 8	
A652		CANT. CAP	6	8	3- 6					3- 6	42
C850		"	8	5	9-11	3- 5½				13- 5	179
C851		"	8	2	10- 2½	1- 0				11- 3	60
F850		"	8	2	1- 4¼	0- 9	8- 0	0- 6¼	0- 6¼	10- 1	54
FC850		"	8	1	5- 5½	0-10⅜	3- 8	0- 9	3- 5½	13- 5	36
FC851		"	8	1	6- 1	0- 2	3- 8	0- 1¾	1- 0	10-11	29
FD850		"	8	1	5- 5¾	0-10⅜	3- 8	0- 9	3- 5½	13- 6	36
FD851		"	8	1	6- 1	0- 2	3- 8	0- 1¾	1- 0	10-11	29
H650		CANT. COLUMN	6	1	2- 0	8- 4½				18- 9	262
		@ 15 BAR SERIES		EACH		TO				TO	
						1- 3				4- 6	
H651		CANT. CAP	6	3	1- 0	4- 0				9- 0	41
H950		"	9	22	4-10	1- 0				6-10	511
SX650		"	6	11	4- 9½	3- 7½	1- 0			14- 1	233
SX651		"	6	2	3- 5¾	10- 2	1- 9			27- 4	82
V650		"	6	8	3- 3	1- 9	1- 2⅞	1- 2⅞		5- 0	60
V651		CANT. COLUMN	6	30	1- 9	1- 9	1- 7⅜	0- 8		3- 6	158
V850		"	8	3	17- 8	2- 4½	2- 1½	1- 0¾		20- 1	161
X650		CANT. CAP	6	4	4- 7¾	10- 1½	1- 0	0- 8½		26-11	162
Z650		CANT. COLUMN	6	75	1- 0	2- 0	0- 8			3- 8	413

***TOTAL WEIGHT (LBS) 2903

PIER 3 W.B.L.

MARK	T	LOCATION	SZ	NO. RQ'D	DIMENSIONS FT-IN a	b	c	d	e	LENGTH FT-IN	WEIGHT LBS
A350		RISER BLOCK	3	10	4-10					4-10	18
A351		"	3	10	4- 8					4- 8	18
A650		CANT. COLUMN	6	4	15-10¾					15-11	96
A651		"	6	2	15-10¾					15-11	223
		@ 8 BAR SERIES		EACH	TO					TO	
					2- 7½					2- 8	
A652		CANT. CAP	6	8	3- 6					3- 6	42
C850		"	8	5	9-11	3- 5½				13- 5	179
C851		"	8	2	10- 2½	1- 0				11- 3	60
F850		"	8	2	1- 4¼	0- 9	8- 0	0- 6¼	0- 6¼	10- 1	54
FC850		"	8	1	5- 5½	0-10⅜	3- 8	0- 9	3- 5½	13- 5	36
FC851		"	8	1	6- 1	0- 2	3- 8	0- 1¾	1- 0	10-11	29
FD850		"	8	1	5- 5¾	0-10⅜	3- 8	0- 9	3- 5½	13- 6	36
FD851		"	8	1	6- 1	0- 2	3- 8	0- 1¾	1- 0	10-11	29
H650		CANT. COLUMN	6	1	2- 0	8- 4½				18- 9	262
		@ 15 BAR SERIES		EACH		TO				TO	
						1- 3				4- 6	
H651		CANT. CAP	6	3	1- 0	4- 0				9- 0	41
H950		"	9	22	4-10	1- 0				6-10	511
SX650		"	6	11	4- 9½	3- 7½	1- 0			14- 1	233
SX651		"	6	2	3- 5¾	10- 2	1- 9			27- 4	82
V650		"	6	8	3- 3	1- 9	1- 2⅞	1- 2⅞		5- 0	60
V651		CANT. COLUMN	6	30	1- 9	1- 9	1- 7⅜	0- 8		3- 6	158
V850		"	8	3	17- 8	2- 4½	2- 1½	1- 0¾		20- 1	161
X650		CANT. CAP	6	4	4- 7¾	10- 1½	1- 0	0- 8½		26-11	162
Z650		CANT. COLUMN	6	75	1- 0	2- 0	0- 8			3- 8	413

***TOTAL WEIGHT (LBS) 2903

PIER 4 W.B.L.

MARK	T	LOCATION	SZ	NO. RQ'D	DIMENSIONS FT-IN a	b	c	d	e	LENGTH FT-IN	WEIGHT LBS
A350		RISER BLOCK	3	10	4-10					4-10	18
A351		"	3	10	4- 8					4- 8	18
A650		CANT. COLUMN	6	4	15-10¾					15-11	96
A651		"	6	2	15-10¾					15-11	223
		@ 8 BAR SERIES		EACH	TO					TO	
					2- 7½					2- 8	
A652		CANT. CAP	6	8	3- 6					3- 6	42
C850		"	8	5	9-11	3- 5½				13- 5	179
C851		"	8	2	10- 2½	1- 0				11- 3	60
F850		"	8	2	1- 4¼	0- 9	8- 0	0- 6¼	0- 6¼	10- 1	54
FC850		"	8	1	5- 5½	0-10⅜	3- 8	0- 9	3- 5½	13- 5	36
FC851		"	8	1	6- 1	0- 2	3- 8	0- 1¾	1- 0	10-11	29
FD850		"	8	1	5- 5¾	0-10⅜	3- 8	0- 9	3- 5½	13- 6	36
FD851		"	8	1	6- 1	0- 2	3- 8	0- 1¾	1- 0	10-11	29
H650		CANT. COLUMN	6	1	2- 0	8- 4½				18- 9	262
		@ 15 BAR SERIES		EACH		TO				TO	
						1- 3				4- 6	
H651		CANT. CAP	6	3	1- 0	4- 0				9- 0	41
H950		"	9	22	4-10	1- 0				6-10	511
SX650		"	6	11	4- 9½	3- 7½	1- 0			14- 1	233
SX651		"	6	2	3- 5¾	10- 2	1- 9			27- 4	82
V650		"	6	8	3- 3	1- 9	1- 2⅞	1- 2⅞		5- 0	60
V651		CANT. COLUMN	6	30	1- 9	1- 9	1- 7⅜	0- 8		3- 6	158
V850		"	8	3	17- 8	2- 4½	2- 1½	1- 0¾		20- 1	161
X650		CANT. CAP	6	4	4- 7¾	10- 1½	1- 0	0- 8½		26-11	162
Z650		CANT. COLUMN	6	75	1- 0	2- 0	0- 8			3- 8	413

***TOTAL WEIGHT (LBS) 2903

CONSTR. NO. 80001-3152-44

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

REVISIONS

NO.	DATE	BY	BRIEF DESCRIPTION
⚠	9/14/89	DWT	Revised Reinf.

REINFORCING STEEL CODE

TYPE	SIZE	SERIES
A	5	06*

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

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

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

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAYS

BILL OF STEEL

I-40 OVER
CANEY FORK RIVER
STA. 466+15.62 ℄ SURVEY E.B.L.
STA. 464+32.68 ℄ SURVEY W.B.L.
SMITH COUNTY
1989

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

CORRECT _____ ENGINEER OF STRUCTURES
APPROVED _____ DIRECTOR OF HIGHWAYS

M-214-150

W.S.A. No. DTNOXX608A

ZFHSBJ24DTNOXX608A.DGN
DTNOXX
13-JAN-1989 11:54

PIER 5 W.B.L.

MARK	T	LOCATION	SZ	NO. RQ'D	DIMENSIONS FT-IN a	b	c	d	e	LENGTH FT-IN	WEIGHT LBS
A350		RISER BLOCK	3	10	4-10					4-10	18
A351		"	3	10	4- 8					4- 8	18
A650		CANT.COLUMN	6	4	15-10¾					15-11	96
A651		"	6	2	15-10¾					15-11	223
		@ 8 BAR SERIES		EACH	TO					TO	
					2- 7½					2- 8	
A652		CANT.CAP	6	8	3- 6					3- 6	42
C850		"	8	5	9-11	3- 5½				13- 5	179
C851		"	8	2	10- 2½	1- 0				11- 3	60
F850		"	8	2	1- 4¼	0- 9	8- 0	0- 6¼	0- 6¼	10- 1	54
FC850		"	8	1	5- 5½	0-10⅜	3- 8	0- 9	3- 5½	13- 5	36
FC851		"	8	1	6- 1	0- 2	3- 8	0- 1¾	1- 0	10-11	29
FD850		"	8	1	5- 5¾	0-10⅜	3- 8	0- 9	3- 5½	13- 6	36
FD851		"	8	1	6- 1	0- 2	3- 8	0- 1¾	1- 0	10-11	29
H550		RISER BLOCK	5	4	4- 4	1-10				8- 0	33
H551		"	5	1	3- 5	1-10				7- 1	19
		@ 3 BAR SERIES		EACH	TO					TO	
					1- 4					5- 0	
H552		"	5	1	2-11	1-10				6- 7	30
		@ 5 BAR SERIES		EACH	TO					TO	
					1- 1					4- 9	
H553		"	5	1	2- 8	1-10				6- 4	23
		@ 4 BAR SERIES		EACH	TO					TO	
					1- 0					4- 8	
H650		CANT.COLUMN	6	1	2- 0	8- 4½				18- 9	262
		@ 15 BAR SERIES		EACH		TO				TO	
						1- 3				4- 6	
H651		CANT.CAP	6	3	1- 0	4- 0				9- 0	41
H950		"	9	22	4-10	1- 0				6-10	511
SX650		"	6	11	4- 9½	3- 7½	1- 0			14- 1	233
SX651		"	6	2	3- 5¾	10- 2	1- 9			27- 4	82
V650		"	6	8	3- 3	1- 9	1- 2⅞	1- 2⅞		5- 0	60
V651		CANT.COLUMN	6	30	1- 9	1- 9	1- 7⅜	0- 8		3- 6	158
V850		"	8	3	17- 8	2- 4½	2- 1½	1- 0¾		20- 1	161
X650		CANT.CAP	6	4	4- 7¾	10- 1½	1- 0	0- 8½		26-11	162
Z650		CANT.COLUMN	6	75	1- 0	2- 0	0- 8			3- 8	413
					***TOTAL WEIGHT (LBS)						3008

ABUTMENT 2 W.B.L.

MARK	T	LOCATION	SZ	NO. RQ'D	DIMENSIONS FT-IN a	b	c	d	e	LENGTH FT-IN	WEIGHT LBS
A442		WINGWALL 2	4	5	4- 3					4- 3	14
A443		"	4	1	4-10					4-10	3
A540		ABUTMENT	5	82	3- 8					3- 8	314
A541		"	5	5	3- 6					3- 6	18
A542		"	5	5	7- 4					7- 4	38
A543		"	5	20	5- 4					5- 4	111
A544		"	5	10	6- 2					6- 2	64
A547		WINGWALL 2	5	1	11- 7					11- 7	12
A550		WINGWALL 2	5	3	3- 8					3- 8	11
A551		"	5	1	4-10					4-10	5
A552		"	5	1	3-10					3-10	4
⚠ A680	E	ABUTMENT	6	24	22- 5					22- 5	808
A740	E	ABUTMENT	7	5	32-5 ⚠					32-5/⚠	331
A940		"	9	3	26-0 ⚠					26-0/⚠	265
A942		WINGWALL 2	9	4	11- 7					11- 7	158
C480	E	ABUTMENT	4	80	1- 0	3- 9				4- 9	254
C540	E	ABUTMENT	5	44	10- 0	0-10				10-10	497
H442		WINGWALL 2	4	2	0- 9	7- 0				14- 9	20
H443		"	4	1	0- 9	6- 8				14- 1	28
		@ 4 BAR SERIES		EACH		TO				TO	
						3- 1				6-11	
H540	E	ABUTMENT	5	19	4- 1	5- 4				14- 9	292
H541	E	"	5	24	3- 2	5- 4				13-10	346
R540		"	5	19	3- 3	0- 6	5- 6	3-10¾		9- 3	183
RA440		WINGWALL 2	4	6	0- 8	1- 6	0-10	2- 1	1- 5⅜	5- 1	20
RC540		ABUTMENT	5	24	3- 3	0- 6	1- 5	2- 4	1- 0	7- 6	188
V444		WINGWALL 2	4	2	2- 4	6- 4	4-11½	3-11⅜		8- 8	12
V445		"	4	1	10- 9	0- 8	0- 5¼	0- 6		11- 5	8
V446		"	4	2	11- 7	0- 8	0- 5¼	0- 6		12- 3	16
V540		ABUTMENT	5	5	14- 7	0-10	0- 6⅜	0- 7½		15- 5	80
V543		WINGWALL 2	5	4	12- 3	0-10	0- 6⅜	0- 7½		13- 1	55
V544		"	5	6	0-10	3- 6	1- 5¼	3- 2¼		4- 4	27
⚠ A741	E	ABUTMENT	7	5	26-10					26-10	266
⚠ A944		"	9	3	32-5					32-5	331

ABUTMENT 2 W.B.L.

MARK	T	LOCATION	SZ	NO. RQ'D	DIMENSIONS FT-IN a	b	c	d	e	LENGTH FT-IN	WEIGHT LBS
V546		"	5	1	11- 6	0-10	0- 6⅜	0- 7½		12- 4	13
V547		"	5	1	10- 7	0-10	0- 6⅜	0- 7½		11- 5	12
					⚠					***TOTAL WEIGHT (LBS) ⚠	4804
		***TOTAL INCLUDES 2794 LBS OF EPOXY COATED BARS									
		***TOTAL INCLUDES 2010 LBS OF NON EPOXY COATED BARS									

SPANS A THRU F - E.B.L.

MARK	T	LOCATION	SZ	NO. RQ'D	DIMENSIONS FT-IN a	b	c	d	e	LENGTH FT-IN	WEIGHT LBS
A500	E	DECK	5	469	4- 9					4- 9	2324
A501	E	"	5	1094	10- 9					10- 9	12266
A502	E	"	5	1	10- 4					10- 4	102
		@ 13 BAR SERIES		EACH	TO					TO	
					4- 8					4- 8	
A503	E	"	5	944	30- 0					30- 0	29538
A504	E	"	5	196	29- 6					29- 6	6031
A505	E	"	5	118	15- 6					15- 6	1908
A506	E	"	5	1	8- 8					8- 8	84
		@ 15 BAR SERIES		EACH	TO					TO	
					2- 1					2- 1	
A507	E	"	5	1	10- 5					10- 5	103
		@ 13 BAR SERIES		EACH	TO					TO	
					4- 9					4- 9	
A508	E	"	5	1	10- 5					10- 5	111
		@ 15 BAR SERIES		EACH	TO					TO	
					3-10					3-10	
A510	E	"	5	48	6- 0					6- 0	300
A511	E	"	5	4	23- 9 ⚠					23- 9	99
A700	E	"	7	2	26- 0 ⚠					26- 0	106
A701	E	"	7	6	29- 9 ⚠					29- 9	365
A800	E	"	8	3	26- 0 ⚠					26- 0	208
B500	E	"	5	1030	25- 9	0- 7				26- 4	28291
					⚠						
B501	E	"	5	1	19- 5	0- 7	⚠			20- 0	433
		@ 34 BAR SERIES		EACH	TO					TO	
					3-10					4- 5	
~~B500~~	~~E~~	~~"~~	~~5~~	~~958~~	~~43- 8~~	~~0- 7~~				~~44-10~~	~~44797~~
K500	E	"	5	42	0-10	3- 5¾	0- 5			9- 1	398
L300	E	"	3	94	1- 2½	0- 6	0- 4			4- 1	144
V500	E	" ⚠	5	11	2- 0	1-10	1- 4½	1- 2½		3-10	44
		⚠ FOR CONTINUATION SEE SHEET M-214-1518									
		***TOTAL WEIGHT (LBS) 110575									
		***TOTAL INCLUDES 110575 LBS OF EPOXY COATED BARS									

ABUTMENT 1 E.B.L.

MARK	T	LOCATION	SZ	NO. RQ'D	DIMENSIONS FT-IN a	b	c	d	e	LENGTH FT-IN	WEIGHT LBS
A440		WINGWALL 1	4	1	4- 6					4- 6	3
A441		"	4	5	5- 3					5- 3	18
A540		ABUTMENT	5	82	3- 8					3- 8	314
A541		"	5	5	3- 6					3- 6	18
A542		"	5	5	7- 4					7- 4	38
A543		"	5	20	5- 4					5- 4	111
A544		"	5	10	6- 2					6- 2	64
A545	E	"	5	24	11- 6					11- 6	288
A546		WINGWALL 1	5	1	13- 7					13- 7	14
A548		"	5	1	4- 6					4- 6	5
A549		"	5	1	5- 7					5- 7	6
A550		"	5	3	3- 8					3- 8	11
A740	E	ABUTMENT	7	5	32-5 ⚠					⚠ 32-5	⚠ 331
A941		WINGWALL 1	9	4	13- 7					13- 7	185
C540	E	ABUTMENT	5	19	10- 0	0-10				10-10	215
H440		"	4	2	0- 9	8- 0				16- 9	22
H441		"	4	1	0- 9	7- 1				14-11	36
		@ 5 BAR SERIES		EACH		TO				TO	
						3- 1				6-11	
H540	E	ABUTMENT	5	19	4- 1	5- 4				14- 9	292
H541	E	"	5	24	3- 2	5- 4				13-10	346
RA440		WINGWALL 1	4	7	0- 8	1- 6	0-10	2- 1	1- 5⅜	5- 1	24
V440		"	4	2	2- 4	8- 8	7- 0½	5- 0⅜		11- 0	15
V441		"	4	1	12-11	0- 8	0- 5¼	0- 6		13- 7	9
V442		"	4	1	10-10	0- 8	0- 5¼	0- 6		11- 6	8

ABUTMENT 1 E.B.L.

MARK	T	LOCATION	SZ	NO. RQ'D	DIMENSIONS FT-IN a	b	c	d	e	LENGTH FT-IN	WEIGHT LBS
V443		"	4	2	13- 9	0- 8	0- 5¼	0- 6		14- 5	19
V540		ABUTMENT	5	5	14- 7	0-10	0- 6⅜	0- 7½		15- 5	80
V541		WINGWALL 1	5	4	14- 4	0-10	0- 6⅜	0- 7½		15- 2	63
V542		"	5	1	13- 7	0-10	0- 6⅜	0- 7½		14- 5	42
		@ 3 BAR SERIES		EACH	TO					TO	
					11- 6					12- 4	
V544		"	5	7	0-10	3- 6	1- 5¼	3- 2¼		4- 4	32
A741 ⚠	E	ABUTMENT	7	5	26-0					26-0	266
										***TOTAL WEIGHT (LBS)	2875
		***TOTAL INCLUDES 1738 LBS OF EPOXY COATED BARS									
		***TOTAL INCLUDES 1137 LBS OF NON EPOXY COATED BARS									

PIER 1 E.B.L.

MARK	T	LOCATION	SZ	NO. RQ'D	DIMENSIONS FT-IN a	b	c	d	e	LENGTH FT-IN	WEIGHT LBS
A350		RISER BLOCK	3	10	4-10					4-10	18
A351		"	3	10	4- 8					4- 8	18
A650		CANT.COLUMN	6	4	15-10¾					15-11	96
A651		"	6	2	15-10¾					15-11	223
		@ 8 BAR SERIES		EACH	TO					TO	
					2- 7½					2- 8	
A652		CANT.CAP	6	8	3- 6					3- 6	42
C850		"	8	5	9-11	3- 5½				13- 5	179
C851		"	8	2	10- 2½	1- 0				11- 3	60
F850		"	8	2	1- 4¼	0- 9	8- 0	0- 6¼	0- 6¼	10- 1	54
FC850		"	8	1	5- 5½	0-10⅜	3- 8	0- 9	3- 5½	13- 5	36
FC851		"	8	1	6- 1	0- 2	3- 8	0- 1¾	1- 0	10-11	29
FD850		"	8	1	5- 5¾	0-10⅜	3- 8	0- 9	3- 5½	13- 6	36
FD851		"	8	1	6- 1	0- 2	3- 8	0- 1¾	1- 0	10-11	29
H650		CANT.COLUMN	6	1	2- 0	8- 4½				18- 9	262
		@ 15 BAR SERIES		EACH		TO				TO	
						1- 3				4- 6	
H651		CANT.CAP	6	3	1- 0	4- 0				9- 0	41
H950		"	9	22	4-10	1- 0				6-10	511
SX650		"	6	11	4- 9½	3- 7½	1- 0			14- 1	233
SX651		"	6	2	3- 5¾	10- 2	1- 9			27- 4	82
V650		"	6	8	3- 3	1- 9	1- 2⅞	1- 2⅞		5- 0	60
V651		CANT.COLUMN	6	30	1- 9	1- 9	1- 7⅜	0- 8		3- 6	158
V850		"	8	3	17- 8	2- 4½	2- 1½	1- 0¾		20- 1	161
X650		CANT.CAP	6	4	4- 7¾	10- 1½	1- 0	0- 8½		26-11	162
Z650		CANT.COLUMN	6	75	1- 0	2- 0	0- 8			3- 8	413
										***TOTAL WEIGHT (LBS)	2903

PIER 2 E.B.L.

MARK	T	LOCATION	SZ	NO. RQ'D	DIMENSIONS FT-IN a	b	c	d	e	LENGTH FT-IN	WEIGHT LBS
A350		RISER BLOCK	3	10	4-10					4-10	18
A351		"	3	10	4- 8					4- 8	18
A650		CANT.COLUMN	6	4	15-10¾					15-11	96
A651		"	6	2	15-10¾					15-11	223
		@ 8 BAR SERIES		EACH	TO					TO	
					2- 7½					2- 8	
A652		CANT.CAP	6	8	3- 6					3- 6	42
C850		"	8	5	9-11	3- 5½				13- 5	179
C851		"	8	2	10- 2½	1- 0				11- 3	60
F850		"	8	2	1- 4¼	0- 9	8- 0	0- 6¼	0- 6¼	10- 1	54
FC850		"	8	1	5- 5½	0-10⅜	3- 8	0- 9	3- 5½	13- 5	36
FC851		"	8	1	6- 1	0- 2	3- 8	0- 1¾	1- 0	10-11	29
FD850		"	8	1	5- 5¾	0-10⅜	3- 8	0- 9	3- 5½	13- 6	36
FD851		"	8	1	6- 1	0- 2	3- 8	0- 1¾	1- 0	10-11	29
H650		CANT.COLUMN	6	1	2- 0	8- 4½				18- 9	262
		@ 15 BAR SERIES		EACH		TO				TO	
						1- 3				4- 6	
H651		CANT.CAP	6	3	1- 0	4- 0				9- 0	41
H950		"	9	22	4-10	1- 0				6-10	511
SX650		"	6	11	4- 9½	3- 7½	1- 0			14- 1	233
SX651		"	6	2	3- 5¾	10- 2	1- 9			27- 4	82
V650		"	6	8	3- 3	1- 9	1- 2⅞	1- 2⅞		5- 0	60
V651		CANT.COLUMN	6	30	1- 9	1- 9	1- 7⅜	0- 8		3- 6	158
V850		"	8	3	17- 8	2- 4½	2- 1½	1- 0¾		20- 1	161
X650		CANT.CAP	6	4	4- 7¾	10- 1½	1- 0	0- 8½		26-11	162
Z650		CANT.COLUMN	6	75	1- 0	2- 0	0- 8			3- 8	413
										***TOTAL WEIGHT (LBS)	2903

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

CONSTR. NO. 80001-3152-44

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

REVISIONS

NO.	DATE	BY	BRIEF DESCRIPTION
⚠	3-14-89	DWT	Revised Reinf.

REINFORCING STEEL CODE

TYPE	SIZE	SERIES
A	5	06*

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

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

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

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAYS

BILL OF STEEL

I-40 OVER
CANEY FORK RIVER
STA. 466+15.62 ℄ SURVEY E.B.L.
STA. 464+32.68 ℄ SURVEY W.B.L.
SMITH COUNTY
1989

CORRECT _____
ENGINEER OF STRUCTURES
APPROVED _____
DIRECTOR OF HIGHWAYS

M-214-151

U.S.A. No.DTNOXY608A

ZF:HS9R24JDTN6XX608JDN1 13-JAN-1989 11:54 DTN6XX

PIER 3 E.B.L.

MARK	T	LOCATION	SZ	NO. RQ'D	DIMENSIONS FT-IN a	b	c	d	e	LENGTH FT-IN	WEIGHT LBS
A350		RISER BLOCK	3	10	4-10					4-10	18
A351		"	3	10	4- 8					4- 8	18
A650		CANT.COLUMN	6	4	15-10¾					15-11	96
A651		"	6	2	15-10¾					15-11	223
		@ 8 BAR SERIES		EACH	TO					TO	
					2- 7½					2- 8	
A652		CANT.CAP	6	8	3- 6					3- 6	42
C850		"	8	5	9-11	3- 5½				13- 5	179
C851		"	8	2	10- 2½	1- 0				11- 3	60
F850		"	8	2	1- 4¼	0- 9	8- 0	0- 6¼	0- 6¼	10- 1	54
FC850		"	8	1	5- 5½	0-10⅜	3- 8	0- 9	3- 5½	13- 5	36
FC851		"	8	1	6- 1	0- 2	3- 8	0- 1¾	1- 0	10-11	29
FD850		"	8	1	5- 5¾	0-10⅜	3- 8	0- 9	3- 5½	13- 6	36
FD851		"	8	1	6- 1	0- 2	3- 8	0- 1¾	1- 0	10-11	29
H650		CANT.COLUMN	6	1	2- 0	8- 4½				18- 9	262
		@ 15 BAR SERIES		EACH		TO				TO	
						1- 3				4- 6	
H651		CANT.CAP	6	3	1- 0	4- 0				9- 0	41
H950		"	9	22	4-10	1- 0				6-10	511
SX650		"	6	11	4- 9½	3- 7½	1- 0			14- 1	233
SX651		"	6	2	3- 5¾	10- 2	1- 9			27- 4	82
V650		"	6	8	3- 3	1- 9	1- 2⅞	1- 2⅞		5- 0	60
V651		CANT.COLUMN	6	30	1- 9	1- 9	1- 7⅜	0- 8		3- 6	158
V850		"	8	3	17- 8	2- 4½	2- 1½	1- 0¾		20- 1	161
X650		CANT.CAP	6	4	4- 7¾	10- 1½	1- 0	0- 8½		26-11	162
Z650		CANT.COLUMN	6	75	1- 0	2- 0	0- 8			3- 8	413
										***TOTAL WEIGHT (LBS)	2903

PIER 4 E.B.L.

MARK	T	LOCATION	SZ	NO. RQ'D	DIMENSIONS FT-IN a	b	c	d	e	LENGTH FT-IN	WEIGHT LBS
A350		RISER BLOCK	3	10	4-10					4-10	18
A351		"	3	10	4- 8					4- 8	18
A650		CANT.COLUMN	6	4	15-10¾					15-11	96
A651		"	6	2	15-10¾					15-11	223
		@ 8 BAR SERIES		EACH	TO					TO	
					2- 7½					2- 8	
A652		CANT.CAP	6	8	3- 6					3- 6	42
C850		"	8	5	9-11	3- 5½				13- 5	179
C851		"	8	2	10- 2½	1- 0				11- 3	60
F850		"	8	2	1- 4¼	0- 9	8- 0	0- 6¼	0- 6¼	10- 1	54
FC850		"	8	1	5- 5½	0-10⅜	3- 8	0- 9	3- 5½	13- 5	36
FC851		"	8	1	6- 1	0- 2	3- 8	0- 1¾	1- 0	10-11	29
FD850		"	8	1	5- 5¾	0-10⅜	3- 8	0- 9	3- 5½	13- 6	36
FD851		"	8	1	6- 1	0- 2	3- 8	0- 1¾	1- 0	10-11	29
H650		CANT.COLUMN	6	1	2- 0	8- 4½				18- 9	262
		@ 15 BAR SERIES		EACH		TO				TO	
						1- 3				4- 6	
H651		CANT.CAP	6	3	1- 0	4- 0				9- 0	41
H950		"	9	22	4-10	1- 0				6-10	511
SX650		"	6	11	4- 9½	3- 7½	1- 0			14- 1	233
SX651		"	6	2	3- 5¾	10- 2	1- 9			27- 4	82
V650		"	6	8	3- 3	1- 9	1- 2⅞	1- 2⅞		5- 0	60
V651		CANT.COLUMN	6	30	1- 9	1- 9	1- 7⅜	0- 8		3- 6	158
V850		"	8	3	17- 8	2- 4½	2- 1½	1- 0¾		20- 1	161
X650		CANT.CAP	6	4	4- 7¾	10- 1½	1- 0	0- 8½		26-11	162
Z650		CANT.COLUMN	6	75	1- 0	2- 0	0- 8			3- 8	413
										***TOTAL WEIGHT (LBS)	2903

PIER 5 E.B.L.

MARK	T	LOCATION	SZ	NO. RQ'D	DIMENSIONS FT-IN a	b	c	d	e	LENGTH FT-IN	WEIGHT LBS
A350		RISER BLOCK	3	10	4-10					4-10	18
A351		"	3	10	4- 8					4- 8	18
A650		CANT.COLUMN	6	4	15-10¾					15-11	96
A651		"	6	2	15-10¾					15-11	223
		@ 8 BAR SERIES		EACH	TO					TO	
					2- 7½					2- 8	
A652		CANT.CAP	6	8	3- 6					3- 6	42
C850		"	8	5	9-11	3- 5½				13- 5	179
C851		"	8	2	10- 2½	1- 0				11- 3	60
F850		"	8	2	1- 4¼	0- 9	8- 0	0- 6¼	0- 6¼	10- 1	54
FC850		"	8	1	5- 5½	0-10⅜	3- 8	0- 9	3- 5½	13- 5	36
FC851		"	8	1	6- 1	0- 2	3- 8	0- 1¾	1- 0	10-11	29
FD850		"	8	1	5- 5¾	0-10⅜	3- 8	0- 9	3- 5½	13- 6	36
FD851		"	8	1	6- 1	0- 2	3- 8	0- 1¾	1- 0	10-11	29
H650		CANT.COLUMN	6	1	2- 0	8- 4½				18- 9	262
		@ 15 BAR SERIES		EACH		TO				TO	
						1- 3				4- 6	
H651		CANT.CAP	6	3	1- 0	4- 0				9- 0	41
H950		"	9	22	4-10	1- 0				6-10	511
SX650		"	6	11	4- 9½	3- 7½	1- 0			14- 1	233
SX651		"	6	2	3- 5¾	10- 2	1- 9			27- 4	82
V650		"	6	8	3- 3	1- 9	1- 2⅞	1- 2⅞		5- 0	60
V651		CANT.COLUMN	6	30	1- 9	1- 9	1- 7⅜	0- 8		3- 6	158
V850		"	8	3	17- 8	2- 4½	2- 1½	1- 0		20- 1	161
X650		CANT.CAP	6	4	4- 7¾	10- 1½	1- 0	0- 8½		26-11	162
Z650		CANT.COLUMN	6	75	1- 0	2- 0	0- 8			3- 8	413
										***TOTAL WEIGHT (LBS)	2903

ABUTMENT 2 E.B.L.

MARK	T	LOCATION	SZ	NO. RQ'D	DIMENSIONS FT-IN a	b	c	d	e	LENGTH FT-IN	WEIGHT LBS
A441		WINGWALL 4	4	5	5- 3					5- 3	18
A446		"	4	1	4- 6					4- 6	3
A540		ABUTMENT	5	82	3- 8					3- 8	314
A541		"	5	5	3- 6					3- 6	18
A542		"	5	5	7- 4					7- 4	38
A543		"	5	20	5- 4					5- 4	111
A544		ABUTMENT	5	10	6- 2					6- 2	64
A545	E	"	5	24	11- 6					11- 6	288
A557		WINGWALL 4	5	1	15- 0					15- 0	16
A550		"	5	3	3- 8					3- 8	11
A555		"	5	1	5-10					5-10	6
A556		"	5	1	4- 6					4- 6	5
A740	E	ABUTMENT	7	5	32-5 ⚠1					⚠ 32-5	⚠1 331
A943		WINGWALL 4	9	4	15- 0					15- 0	204
C540	E	ABUTMENT	5	19	10- 0	0-10				10-10	215
H446		WINGWALL 4	4	2	0- 9	7-10				16- 5	22
H447		"	4	1	0- 9	7- 3				15- 3	44
		@ 6 BAR SERIES		EACH		TO				TO	
						3- 1				6-11	
H540	E	ABUTMENT	5	19	4- 1	5- 4				14- 9	292
H541	E	"	5	24	3- 2	5- 4				13-10	346
V448		WINGWALL 4	4	2	2- 4	9- 9	8- 6¼	4- 8¾		12- 1	16
V545		"	5	5	0-10	4- 6	1-10⅜	4- 1½		5- 4	28
VX440		"	4	2	15- 3	0- 8	0- 5¼	0- 6		15-11	21
VX442		"	4	1	14- 1	0- 8	0- 5¼	0- 6		14- 9	10
VX443		"	4	1	11- 6	0- 8	0- 5¼	0- 6		12- 2	8
VX540		ABUTMENT	5	5	14- 7	0-10	0- 6⅜	0- 7½		15- 5	80
VX541		WINGWALL 4	5	4	14- 7	0-10	0- 6⅜	0- 7½		15- 5	64
VX544		"	5	1	13- 2	0-10	0- 6⅜	0- 7½		14- 0	40
		@ 3 BAR SERIES		EACH	TO					TO	
					10- 6					11- 4	
A741 ⚠1	E	ABUTMENT	7	5	26-0					26-0	266
										***TOTAL WEIGHT (LBS)	2879

***TOTAL INCLUDES 1738 LBS OF EPOXY COATED BARS
***TOTAL INCLUDES 1141 LBS OF NON EPOXY COATED BARS

CONSTR. NO. 80001-3152-44

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

REVISIONS

NO.	DATE	BY	BRIEF DESCRIPTION
⚠1	9-14-89	DWT	Revised Reinf.

REINFORCING STEEL CODE

TYPE	SIZE	SERIES
A	5	06*

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

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

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

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAYS

BILL OF STEEL

I-40 OVER
CANEY FORK RIVER
STA. 466+15.62 ℄ SURVEY E.B.L.
STA. 464+32.68 ℄ SURVEY W.B.L.
SMITH COUNTY
1989

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

CORRECT _____
ENGINEER OF STRUCTURES
APPROVED _____
DIRECTOR OF HIGHWAYS

M-214-151A

U.S.A. No.TNCKXREV3B

ZFH59,241TN8XXREV3.DGN
DTN8XX
12-SEP-1989 14:08

BRIDGE 2 SUPERSTRUCTURE - SPANS A THRU G (WBL) (CONTINUED)

MARK	T	LOCATION	SZ	NO. RQ'D	DIMENSIONS FT-IN a	b	c	d	e	LENGTH FT-IN	WEIGHT LBS
A511	E	DECK	5	1	17- 9					17- 9	80
		@ 7 BAR SERIES		EACH	TO					TO	
					4- 1					4- 1	
A512	E	"	5	1	15-10					15-10	66
		@ 7 BAR SERIES		EACH	TO					TO	
					2- 2					2- 2	
A513	E	"	5	1	24- 9					24- 9	152
		@ 10 BAR SERIES		EACH	TO					TO	
					4- 4					4- 4	
A514	E	"	5	1	3-10					3-10	122
		@ 9 BAR SERIES		EACH	TO					TO	
					22- 2					22- 2	
B506	E	"	5	1	10-11	0- 7				11- 6	84
		@ 5 BAR SERIES		EACH	TO					TO	
					20- 0					20- 7	
B507	E	"	5	1	25- 8	0- 7				26- 3	153
		@ 8 BAR SERIES		EACH	TO					TO	
					9-10					10- 5	
B508	E	"	5	1	23- 9	0- 7				24- 4	143
		@ 9 BAR SERIES		EACH	TO					TO	
					5- 6					6- 1	
B509	E	"	5	1	19- 7	0- 7				20- 2	97
		@ 7 BAR SERIES		EACH	TO					TO	
					5-11					6- 6	

BRIDGE 2 SUPERSTRUCTURE - SPANS A THRU G (EBL) (CONTINUED)

MARK	T	LOCATION	SZ	NO. RQ'D	DIMENSIONS FT-IN a	b	c	d	e	LENGTH FT-IN	WEIGHT LBS
A510	E	DECK	5	1	24- 5					24- 5	170
		@ 11 BAR SERIES		EACH	TO					TO	
					5- 2					5- 2	
A511	E	"	5	1	16- 4					16- 4	80
		@ 8 BAR SERIES		EACH	TO					TO	
					2-10					2-10	
A512	E	"	5	1	22- 3					22- 3	144
		@ 11 BAR SERIES		EACH	TO					TO	
					2-11					2-11	
A513	E	"	5	1	18- 6					18- 6	101
		@ 9 BAR SERIES		EACH	TO					TO	
					3- 0					3- 0	
B506	E	"	5	1	7- 6	0- 7				8- 1	101
		@ 7 BAR SERIES		EACH	TO					TO	
					19- 1					19- 8	
B507	E	"	5	1	18-10	0- 7				19- 5	107
		@ 8 BAR SERIES		EACH	TO					TO	
					5- 7					6- 2	
B508	E	"	5	1	24- 9	0- 7				25- 4	181
		@ 11 BAR SERIES		EACH	TO					TO	
					5- 7					6- 2	
B509	E	"	5	1	24- 9	0- 7				25- 4	157
		@ 9 BAR SERIES		EACH	TO					TO	
					7- 6					8- 1	

BRIDGE 4 SUPERSTRUCTURE - SPANS A THRU E (WBL) (CONTINUED)

MARK	T	LOCATION	SZ	NO. RQ'D	DIMENSIONS FT-IN a	b	c	d	e	LENGTH FT-IN	WEIGHT LBS
A514	E	DECK	5	1	19- 6					19- 6	402
		@ 34 BAR SERIES		EACH	TO					TO	
					3- 2					3- 2	
A515	E	"	5	1	25- 5					25- 5	690
		@ 46 BAR SERIES		EACH	TO					TO	
					3- 4					3- 4	
A517	E	"	5	1	23- 7					23- 7	588
		@ 42 BAR SERIES		EACH	TO					TO	
					3- 3					3- 3	
A518	E	"	5	1	3- 3					3- 3	327
		@ 30 BAR SERIES		EACH	TO					TO	
					17- 8					17- 8	

BRIDGE 4 SUPERSTRUCTURE - SPANS A THRU E (WBL) (CONTINUED)

MARK	T	LOCATION	SZ	NO. RQ'D	DIMENSIONS FT-IN a	b	c	d	e	LENGTH FT-IN	WEIGHT LBS
A520	E	"	5	4	30- 5					30- 5	127
A521	E	"	5	4	23- 4					23- 4	97
A702	E	"	7	6	22- 8					22- 8	278
A703	E	"	7	2	25- 3					25- 3	103
A801	E	"	8	3	29- 4					29- 4	235
A802	E	"	8	3	22-10					22-10	183
A803	E	"	8	3	25- 3					25- 3	202
B505	E	"	5	845	25- 9	0- 7				26- 4	23208
B507	E	"	5	1	25- 8	0- 7				26- 3	701
		@ 42 BAR SERIES		EACH	TO					TO	
					5- 2					5- 9	
B508	E	"	5	1	19- 7	0- 7				20- 2	405
		@ 30 BAR SERIES		EACH	TO					TO	
					5- 2					5- 9	
B511	E	"	5	1	19- 8	0- 7				20- 3	428
		@ 34 BAR SERIES		EACH	TO					TO	
					3- 4					3-11	
B512	E	"	5	1	25- 8	0- 7				26- 3	724
		@ 46 BAR SERIES		EACH	TO					TO	
					3- 4					3-11	

BRIDGE 4 SUPERSTRUCTURE - SPANS A THRU E (EBL) (CONTINUED)

MARK	T	LOCATION	SZ	NO. RQ'D	DIMENSIONS FT-IN a	b	c	d	e	LENGTH FT-IN	WEIGHT LBS
A512	E	DECK	5	1	25- 3					25- 3	608
		@ 41 BAR SERIES		EACH	TO					TO	
					3- 2					3- 2	
A513	E	"	5	1	19- 3					19- 3	352
		@ 30 BAR SERIES		EACH	TO					TO	
					3- 3					3- 3	
A516	E	"	5	1	17- 8					17- 8	295
		@ 27 BAR SERIES		EACH	TO					TO	
					3- 3					3- 3	
A519	E	"	5	1	3- 8					3- 8	526
		@ 37 BAR SERIES		EACH	TO					TO	
					23- 7					23- 7	
A523	E	"	5	4	29- 8					29- 8	124
A525	E	"	5	4	22- 3					22- 3	93
A704	E	"	7	6	27-10					27-10	341
A705	E	"	7	2	30- 4					30- 4	124
A706	E	"	7	6	21- 9					21- 9	267
A707	E	"	7	2	24- 3					24- 3	99
A804	E	"	8	3	28- 1					28- 1	225
A805	E	"	8	3	30- 4					30- 4	243
A806	E	"	8	3	21-11					21-11	176
A807	E	"	8	3	24- 3					24- 3	194
B500	E	"	5	1	19- 4	0- 7				19-11	373
		@ 30 BAR SERIES		EACH	TO					TO	
					3- 4					3-11	
B503	E	"	5	1	19- 5	0- 7				20- 0	361
		@ 27 BAR SERIES		EACH	TO					TO	
					5- 1					5- 8	
B505	E	"	5	854	25- 9	0- 7				26- 4	23456
B506	E	"	5	1	25- 5	0- 7				26- 0	619
		@ 37 BAR SERIES		EACH	TO					TO	
					5- 6					6- 1	
B509	E	"	5	1	25- 6	0- 7				26- 1	643
		@ 41 BAR SERIES		EACH	TO					TO	
					3- 5					4- 0	

BRIDGE 5 SUPERSTRUCTURE - SPANS A THRU F (WBL) (CONTINUED)

MARK	T	LOCATION	SZ	NO. RQ'D	DIMENSIONS FT-IN a	b	c	d	e	LENGTH FT-IN	WEIGHT LBS
A512	E	DECK	5	1	19- 6					19- 6	420
		@ 35 BAR SERIES		EACH	TO					TO	
					3- 6					3- 6	
A513	E	"	5	1	25- 5					25- 5	715
		@ 48 BAR SERIES		EACH	TO					TO	
					3- 2					3- 2	
A514	E	"	5	1	23- 7					23- 7	616
		@ 44 BAR SERIES		EACH	TO					TO	
					3- 3					3- 3	
A515	E	"	5	1	17- 8					17- 8	346
		@ 32 BAR SERIES		EACH	TO					TO	
					3- 1					3- 1	
A518	E	"	5	4	31- 2					31- 2	130
A702	E	"	7	6	23- 3					23- 3	285
A703	E	"	7	2	32- 4					32- 4	132
A801	E	"	8	3	29- 7					29- 7	237
A802	E	"	8	3	23- 3					23- 3	186
A803	E	"	8	3	32- 5					32- 5	260
B502	E	"	5	1	25- 6	0- 7				26- 1	737
		@ 45 BAR SERIES		EACH	TO					TO	
					4- 9					5- 4	
B503	E	"	5	958	19-10	0- 7				20- 5	20400
B504	E	"	5	1	25- 6	0- 7				26- 1	748
		@ 47 BAR SERIES		EACH	TO					TO	
					3-10					4- 5	
B505	E	"	5	1	19- 4	0- 7				19-11	421
		@ 32 BAR SERIES		EACH	TO					TO	
					4- 9					5- 4	

BRIDGE 5 SUPERSTRUCTURE - SPANS A THRU F (EBL) (CONTINUED)

MARK	T	LOCATION	SZ	NO. RQ'D	DIMENSIONS FT-IN a	b	c	d	e	LENGTH FT-IN	WEIGHT LBS
A512	E	DECK	5	1	19- 6					19- 6	420
		@ 35 BAR SERIES		EACH	TO					TO	
					3- 6					3- 6	
A513	E	"	5	1	25- 5					25- 5	715
		@ 48 BAR SERIES		EACH	TO					TO	
					3- 2					3- 2	
A514	E	"	5	1	23- 7					23- 7	616
		@ 44 BAR SERIES		EACH	TO					TO	
					3- 3					3- 3	
A515	E	"	5	1	17- 8					17- 8	346
		@ 32 BAR SERIES		EACH	TO					TO	
					3- 1					3- 1	
A518	E	"	5	4	31- 2					31- 2	130
A702	E	"	7	6	23- 3					23- 3	285
A703	E	"	7	2	32- 4					32- 4	132
A801	E	"	8	3	29- 7					29- 7	237
A802	E	"	8	3	23- 3					23- 3	186
A803	E	"	8	3	32- 5					32- 5	260
B502	E	"	5	1	25- 6	0- 7				26- 1	737
		@ 45 BAR SERIES		EACH	TO					TO	
					4- 9					5- 4	
B503	E	"	5	1056	19-10	0- 7				20- 5	22487
B504	E	"	5	1	25- 6	0- 7				26- 1	748
		@ 47 BAR SERIES		EACH	TO					TO	
					3-10					4- 5	
B505	E	"	5	1	19- 4	0- 7				19-11	421
		@ 32 BAR SERIES		EACH	TO					TO	
					4- 9					5- 4	

CONSTR. NO. 80001-3152-44

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

REVISIONS

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

REINFORCING STEEL CODE

TYPE	SIZE	SERIES
A	5	06*

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

*LOCATION	SERIES
SUPERSTRUCTURE	00
ABUTMENT	40, 60-80
PIER	50

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

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAYS

BILL OF STEEL
BRIDGE NO. 2, 4 & 5
I-40 OVER CANEY FORK RIVER
SMITH COUNTY
1989

DESIGNED BY DWT DATE 9/89
DRAWN BY EAB DATE 9/89
SUPERVISED BY WSH DATE 9/89
CHECKED BY DWT DATE 9/89

CORRECT _____ ENGINEER OF STRUCTURES

APPROVED _____ DIRECTOR OF HIGHWAYS

M-214-1518

T.S.A. No. DTNOXX609A

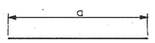
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CONSTR. NO. 80001-3152-44

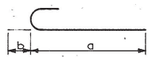
PROJECT NO.	YEAR	SHEET NO.
IR-40-5(91)257	1989	

REVISIONS

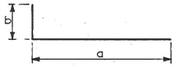
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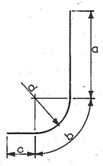
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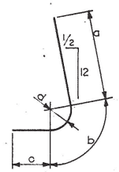
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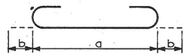
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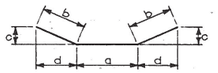
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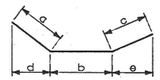
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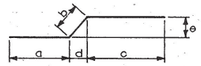
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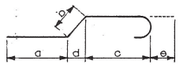
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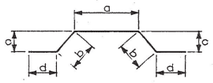
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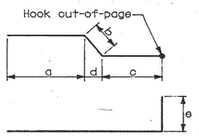
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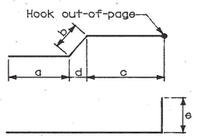
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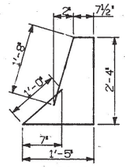
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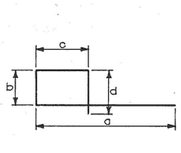
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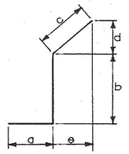
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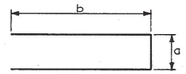
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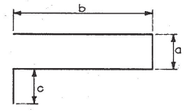
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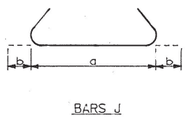
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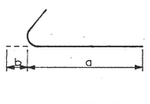
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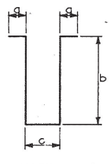
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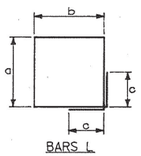
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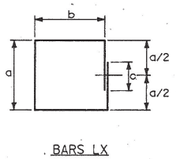
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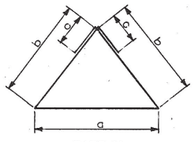
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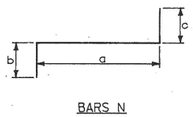
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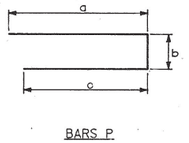
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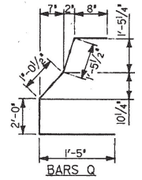
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BARS N



BARS P



BARS Q

BARS QA

BARS R

BARS RA

BARS RB

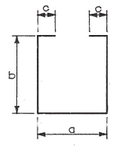
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BARS RZ

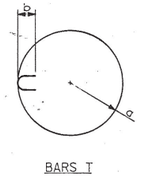
BARS S

BARS SA

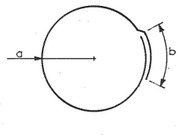
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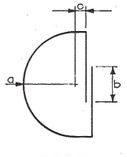
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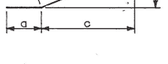
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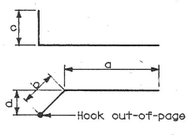
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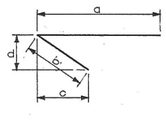
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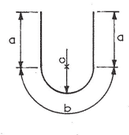
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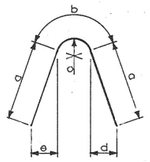
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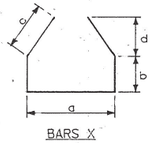
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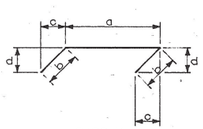
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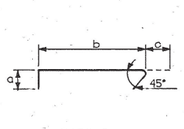
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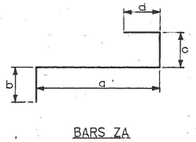
BARS X



BARS Y



BARS Z



BARS ZA

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

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAYS

REINFORCING STEEL
BAR BENDING DETAILS

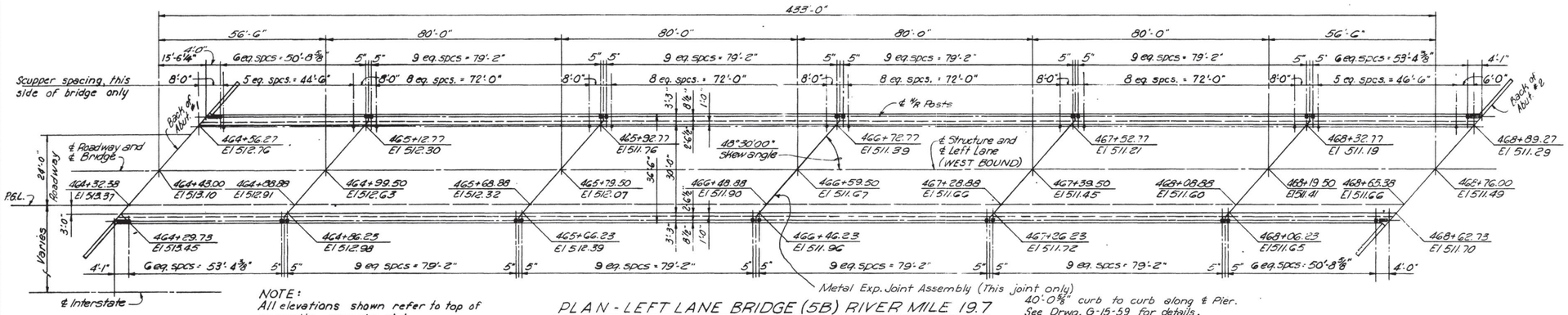
I-40 OVER
CANEY FORK RIVER
STA. 466+15.62 ℄ SURVEY E.B.L.
STA. 464+32.38 ℄ SURVEY W.B.L.
SMITH COUNTY
1989

CORRECT _____
ENGINEER OF STRUCTURES

APPROVED _____
DIRECTOR OF HIGHWAYS

M-214-152

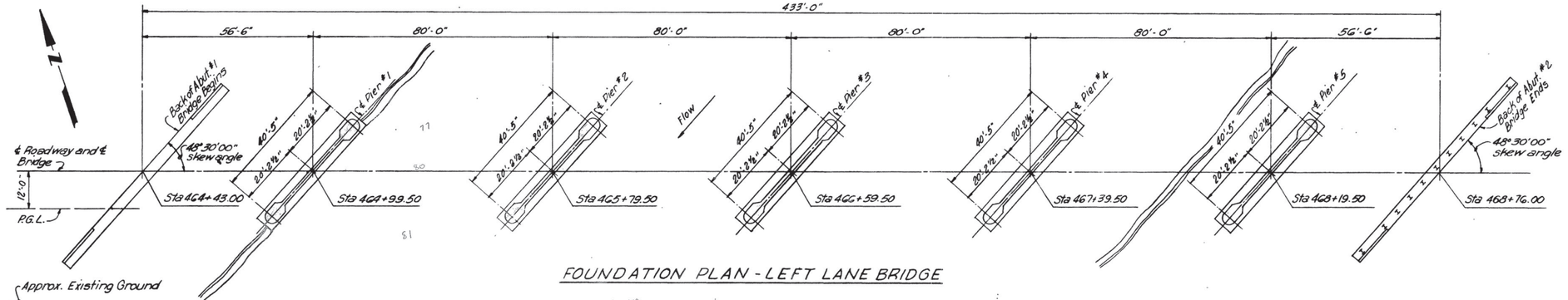
FED. ROAD DIST. No.	STATE	FEDERAL AID PROJECT No.	FISCAL YEAR	SHEET No.	TOTAL SHEETS
3	TENN	I-40-5(9)264		52	372 372



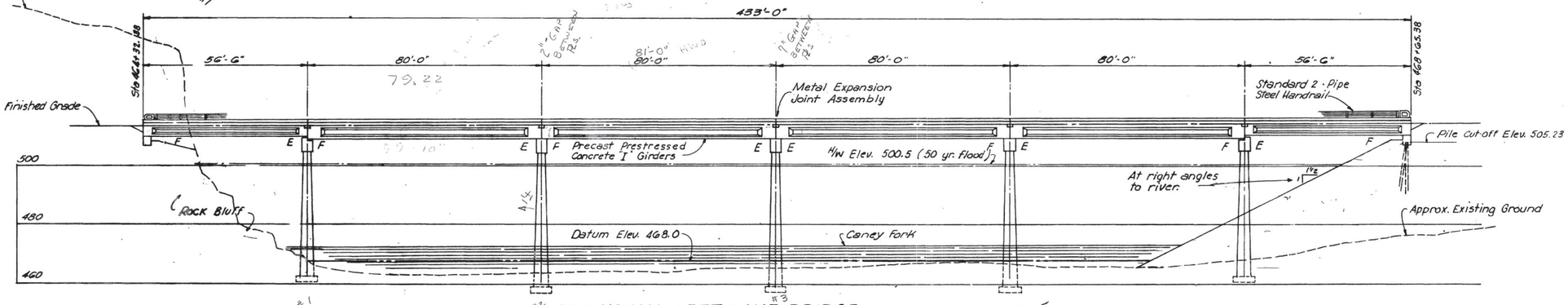
NOTE:
All elevations shown refer to top of composite concrete slab.

PLAN - LEFT LANE BRIDGE (5B) RIVER MILE 19.7
(WEST BOUND)

40'-0⅜" curb to curb along ℄ Pier.
See Drwg. G-15-59 for details.



FOUNDATION PLAN - LEFT LANE BRIDGE



ELEVATION - LEFT LANE BRIDGE

E Designates Expansion End
F Designates Fixed End.

ESTIMATED QUANTITIES

ITEM No.	17-3	17-2	17-4	135-4	135-12	702	154-PT7	154-PT9	137-3	132-1
ITEM	EXCAVATION WET	EXCAVATION DRY	EXCAVATION ROCK	CONC. CLASS A	REINF. STEEL	STEEL HANDRAIL 2-BAR	* L=79'-10"	+ L=54'-3"	10BP42 BEARING PILES	STRUCT. STEEL
UNIT	Cu. Yds.			Cu. Yds.	Lbs.	Lin. Ft.	Each	Each	Lin. Ft.	Lbs.
SUPERSTRUCTURE				387.0	90,483	850				1935
GIRDERS							20	10		
ABUTMENT No 1				31.9	2585					
ABUTMENT No 2				30.6	3594				490	
PIER No 1	109		24	164.2	14,029					
PIER No 2	141		53	173.9	14,550					
PIER No 3	159		35	171.9	14,550					
PIER No 4	146		16	164.7	14,023					
PIER No 5	111		25	160.2	13,824					
TOTALS	666		153	1284.4	173638	850	20	10	490	1935

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

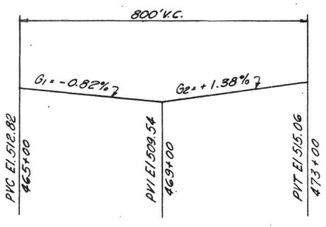
NOTES:
1. Refer to Abutment details for layout of piles for Abutment No 2.
2. Piles for Abutment No 2 shall be 10BP42 and shall be driven to rock or to a minimum bearing 30 tons each.
3. End fills shall be in place and compacted before driving piles for Abutment No 2.
4. Pier footings and Abutment No 1 shall set a minimum of 6" into rock.
5. Contractor shall exercise special care in backfilling at piers to prevent overturning.

* Type IV AASHO 54" deep "I" beams
\+ Type III AASHO 45" deep "I" beams

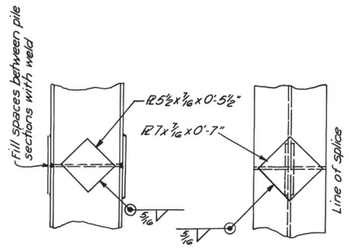
HYDRAULIC DESIGN DATA

High water elevations	500.5
Design discharge	Q=40,100 cfs
Design velocity	V=6 fps
Opening required	A_r=6,700 sq.ft.
Opening furnished	A_f=7,800 sq.ft.

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



VERTICAL CURVE DATA



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

GENERAL NOTES:

GENERAL SPECIFICATIONS: Standard Road and Bridge Specifications of the Tennessee Dept. of Highways & Public Works.
DESIGN SPECIFICATIONS: Standard Specifications for Highway Bridges AASHO 1957 and tentative AASHO Specifications covering prestressed concrete design & construction (with subsequent rev.)
DESIGN LOADING: H-20-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.
HANDRAILS: Standard 2-Bar Steel Hand-Railing, Tennessee Highway Department Standard.
PRECAST PRESTRESSED CONCRETE GIRDERS: See Special Provisions.
SELF LUBRICATING BEARING PLATES: See Special Provisions.

LIST OF DRAWINGS

	DRAWING NO.
Layout of Bridge	G-15-115
Layout & Log of Core Borings	G-15-116
Abutments Nos 1 & 2	G-15-117
Pier No 1	G-15-118
Piers Nos 2, 3 & 4	G-15-119
Pier No 5	G-15-120
Slab & Girder Details	G-15-121
Superstructure & Girder Bearing Details	G-15-122
Slab Reinforcing Plan and Details	G-15-123
Prestressed Girder Details	G-15-124
Reinforcing Steel Schedule No 1	G-15-125
Reinforcing Steel Schedule No 2	G-15-126
Steel Handrailing	G-10-99

Scale 1" = 20' unless otherwise noted

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

BRIDGE OVER CANEY FORK RIVER - RIVER MILE 19.7
STA 4G4+32.38 - LEFT LANE (WEST BOUND) (5B)

LAYOUT OF BRIDGE

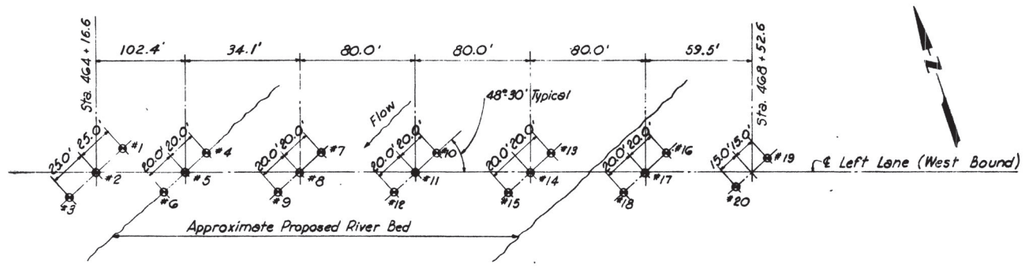
STATE OF TENNESSEE
DEPARTMENT OF HIGHWAYS AND PUBLIC WORKS
NASHVILLE

DR. R.W.P.	DATE	G-15-115
CHK'D. R.A.H.		
APP'D. W.R.	11-16-59	

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

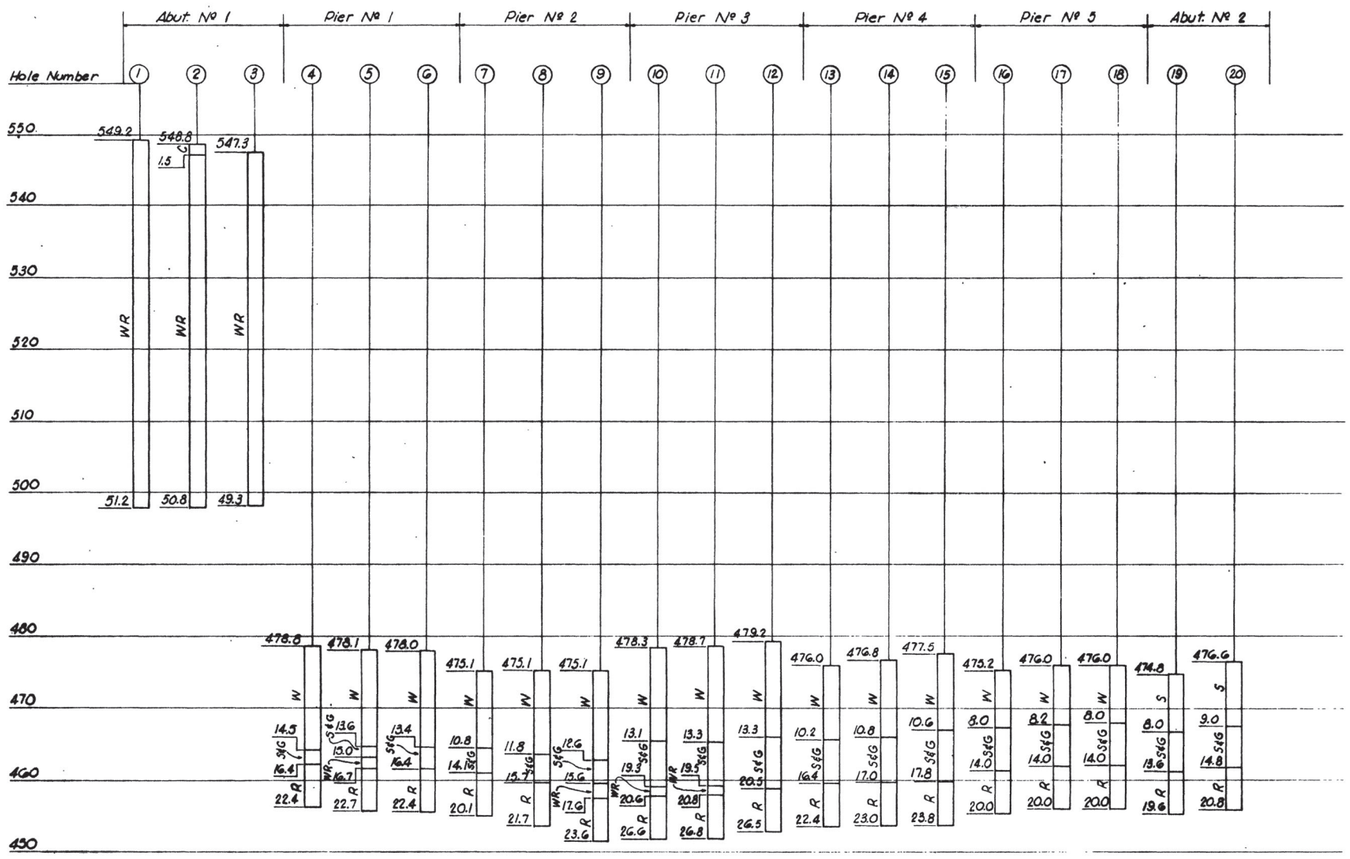
DIETZGEN NO. 107 BRISTOL

FED. ROAD DIST. No.		FEDERAL AID PROJECT No.	FISCAL YEAR	SHEET No.	TOTAL SHEETS
3	TENN	I-40-5(9)264		125	~~372~~ 372



PLAN- CORE DRILLING LAYOUT

(RIVER MILE 19.7 LT. LANE - WEST BOUND)



LOG OF CORE BORINGS

LEGEND

W____Water

C____Clay and Silt

S____Sand

S&G__Sand and Gravel

W R__Weathered Rock

R____Rock (Limestone)

B____Boulders

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

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

BRIDGE OVER CANEY FORK RIVER- RIVER MILE 19.7
STA. 464+32.38 LEFT LANE (WEST BOUND)(SB)

LAYOUT & LOG OF CORE BORINGS

STATE OF TENNESSEE
DEPARTMENT OF HIGHWAYS
AND PUBLIC WORKS
NASHVILLE

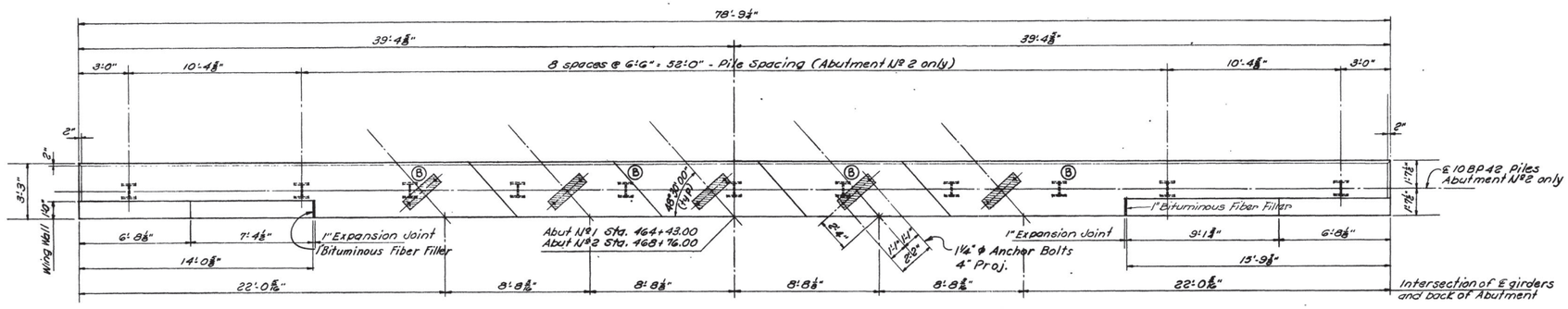
DR. W.R.S.
CHK'D. R.A.H.
APP'D. W.R.

DATE 11-16-59

G-15-116

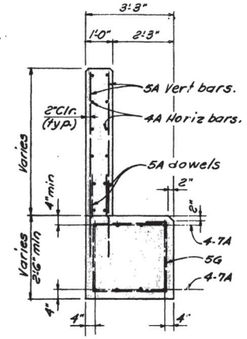
DIETZGEN NO. 167 BRISTOL

FED. ROAD DIST. No.		FEDERAL AID PROJECT No.	FISCAL YEAR	SHEET No.	TOTAL SHEETS
3	TENN	I-40-5(9)264		126	372



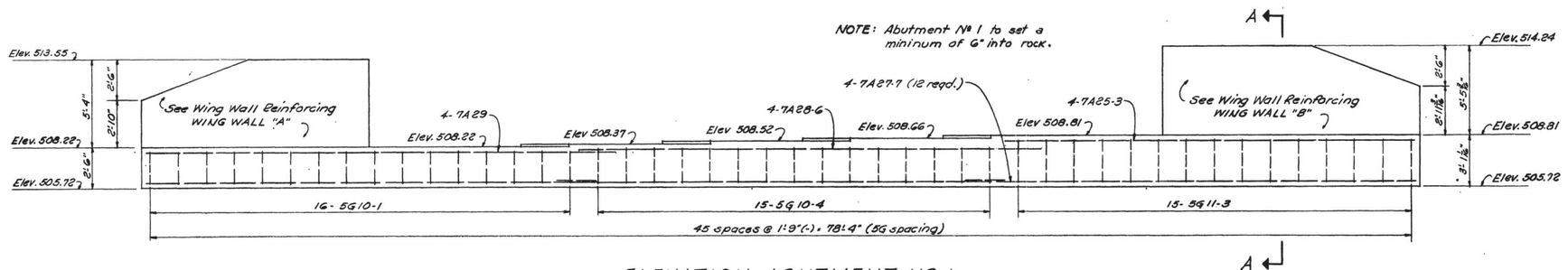
PLAN

NOTE:
Ⓑ Indicates batter piles,
2 in 12 forward batter.



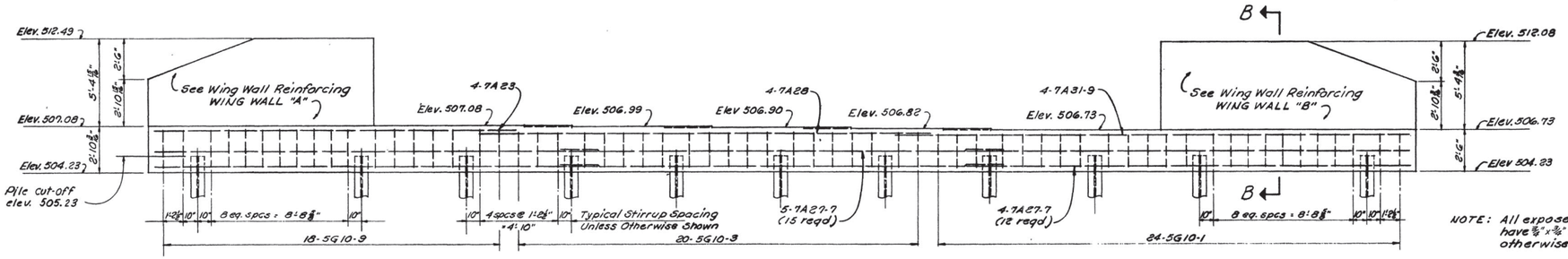
SECTION A-A

Scale: ⅜"=1'-0"



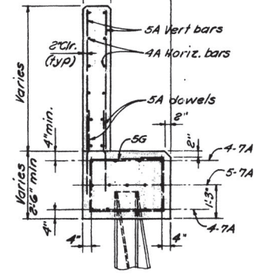
ELEVATION - ABUTMENT NO. 1

LOOKING FORWARD ON SURVEY



ELEVATION - ABUTMENT NO. 2

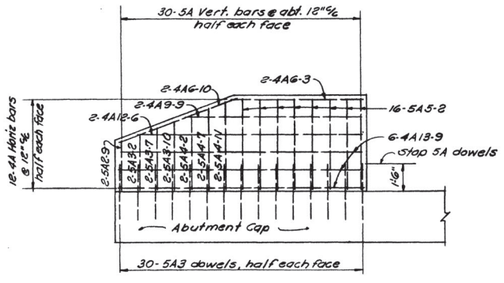
LOOKING BACK ON SURVEY



SECTION B-B

Scale: ⅜"=1'-0"

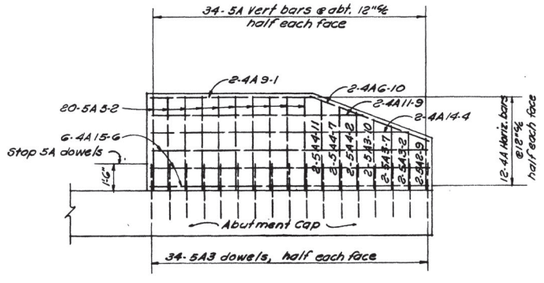
NOTE: All exposed edges to have ⅝"x⅝" chamfer unless otherwise shown.



WING WALL REINFORCING - WING WALL "A"

ESTIMATED QUANTITIES

		Abut. Nº 1	Abut. Nº 2
Class "A" concrete	Cu. Yds.	31.9	30.6
Reinforcing Steel	Lbs.	2585	3594



WING WALL REINFORCING - WING WALL "B"

Scale: ½"=1'-0" Unless Otherwise Noted

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

BRIDGE OVER CANEY FORK RIVER - RIVER MILE 19.7
STA. 464+32.88 - LEFT LANE (WEST BOUND) (5B)

ABUTMENTS NOS 1 & 2

STATE OF TENNESSEE
DEPARTMENT OF HIGHWAYS
AND PUBLIC WORKS
NASHVILLE

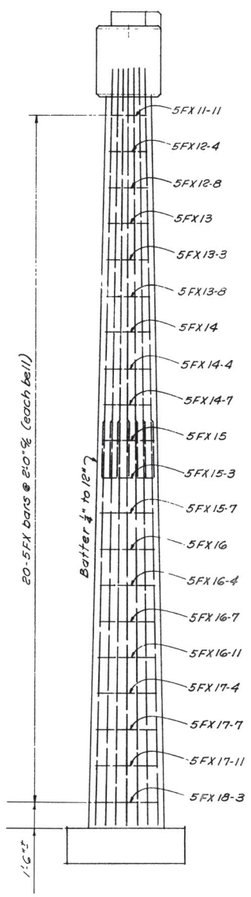
		DATE	
DR.	R.A.H.		G-15-117
CHK'D	W.R.		
APP'D	W.R.	11-16-59	

KEUFFEL & ESSER CO. NO. 197 BRISTOW

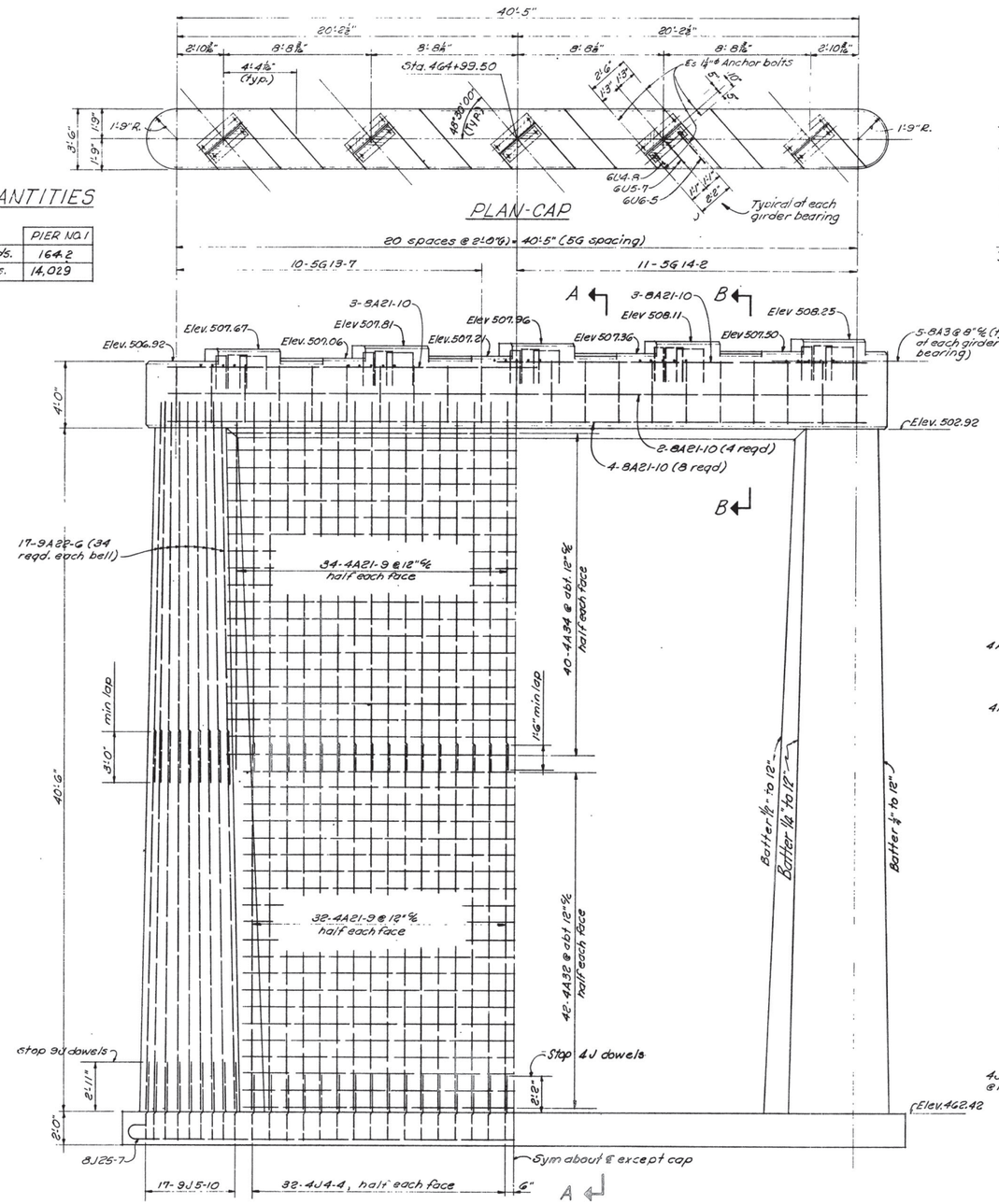
FED. ROAD DIST. No.	T E N N	FEDERAL AID PROJECT No.	FISCAL YEAR	SHEET No.	TOTAL SHEETS
3		I-40-5(9)264		127	372

ESTIMATED QUANTITIES

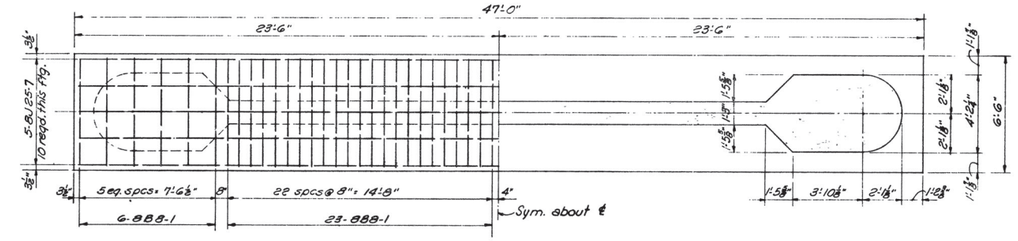
		PIER NO.1
Class "A" Concrete	Cu.Yds.	164.2
Reinforcing Steel	Lbs.	14,029

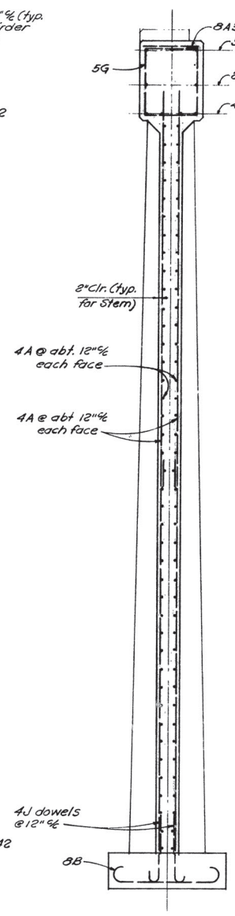


END ELEVATION



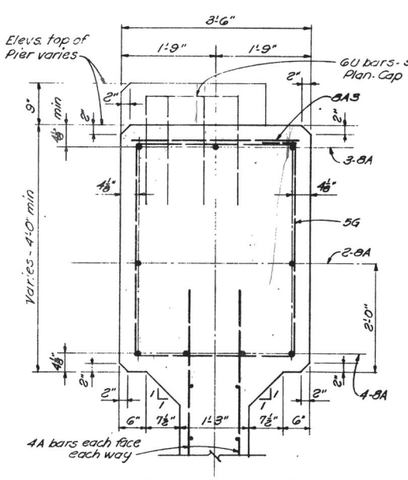
SIDE ELEVATION
(LOOKING FORWARD ON SURVEY)



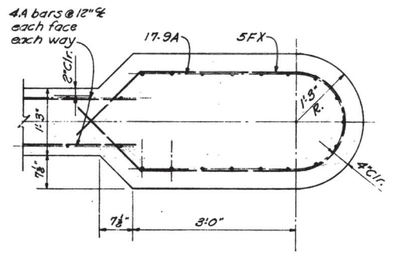


SECTION A-A THRU PIER

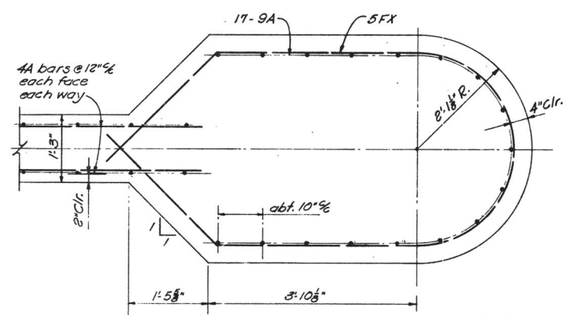
PLAN-FOOTING



SECTION B-B
Scale: ¾"=1'-0"



PLAN-BELL BELOW CAP
Scale: ¾"=1'-0"



PLAN-BELL AT FOOTING
Scale: ¾"=1'-0"

Scale: ¼"=1'-0" Unless Otherwise Noted

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

BRIDGE OVER CANEY FORK RIVER - RIVER MILE 19.7
STA. 464+32.38 - LEFT LANE (WEST BOUND) (5B)

PIER NO. 1

STATE OF TENNESSEE
DEPARTMENT OF HIGHWAYS AND PUBLIC WORKS
NASHVILLE

		DATE	
DR. R.A.H.			G-15-118
CHK'D. W.R.		11-16-59	
APP'D. W.R.			

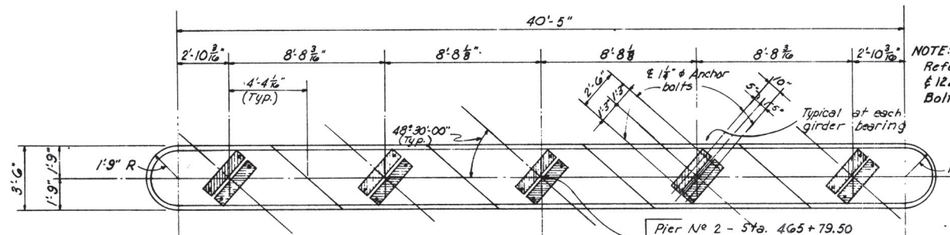
Rev. 8-22-60.

DIETZGEN NO. 157 BRISTON

FED. ROAD DIST. No.	T E N N	FEDERAL AID PROJECT No.	FISCAL YEAR	SHEET No.	TOTAL SHEETS
3		I-40-5(9)264		128	372

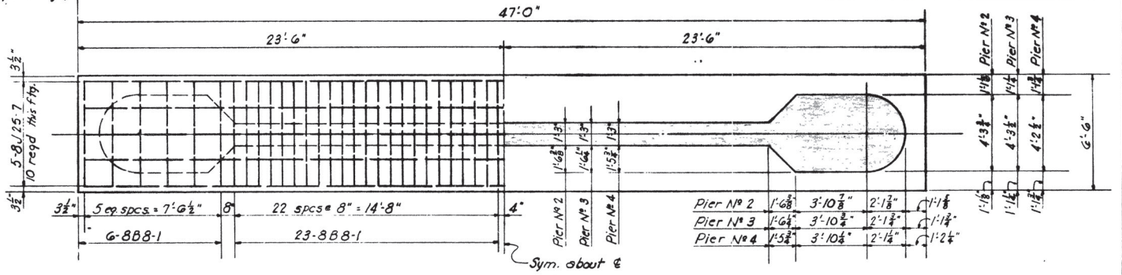
ESTIMATED QUANTITIES

	PIER Nº 2	PIER Nº 3	PIER Nº 4
Class "A" concrete - Cu. Yds.	173.9	171.9	164.7
Reinforcing Steel - Lbs.	14.550	14.550	14.023

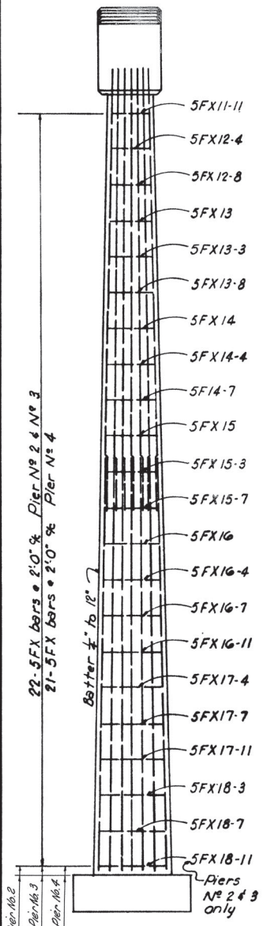


PLAN CAP

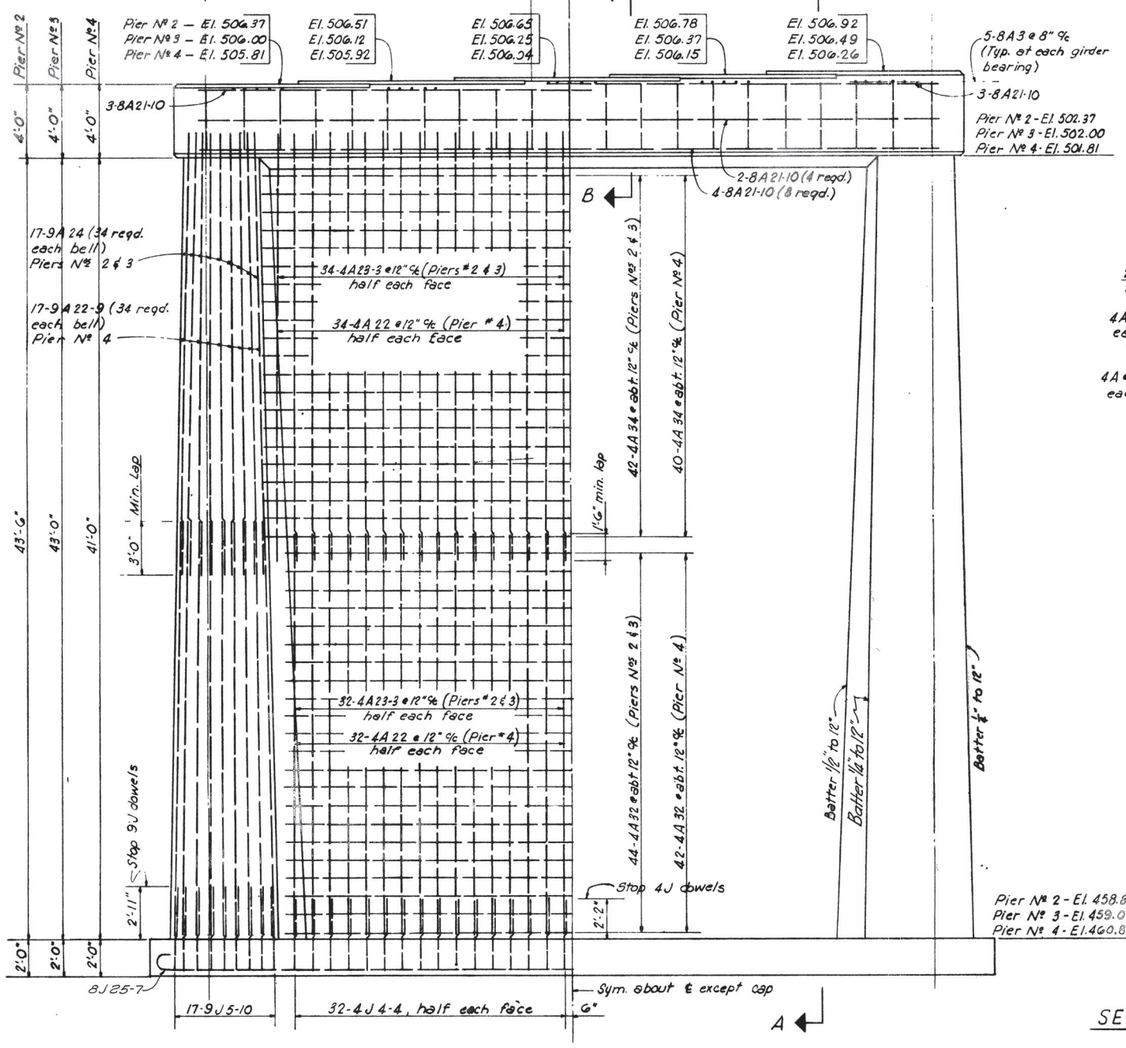
NOTE: Refer to Drwgs G-15-121 & 122 for Type Brng & Bolt Proj.



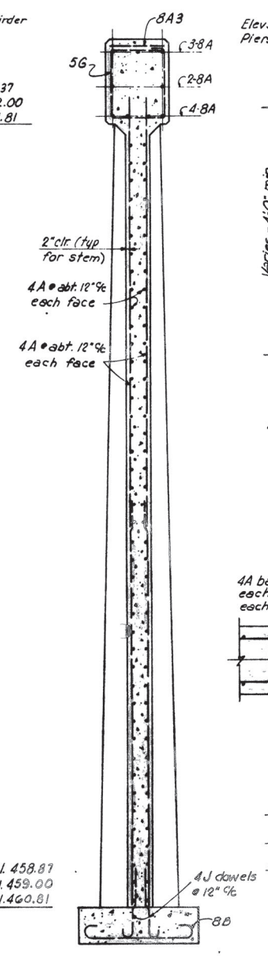
PLAN-FOOTING



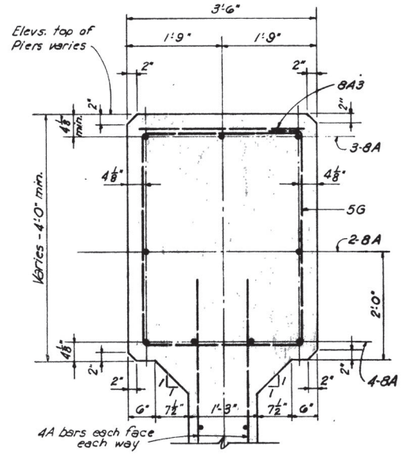
END ELEVATION



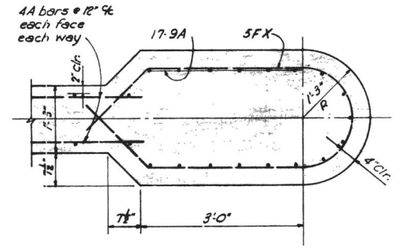
SIDE ELEVATION



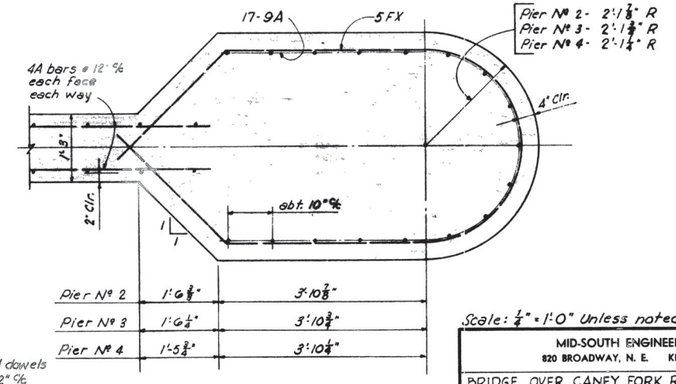
SECTION A-A THRU PIER



SECTION B-B



PLAN-BELL BELOW CAP
Scale: 3/4" = 1'-0"



PLAN-BELL AT FOOTING
Scale: 3/4" = 1'-0"

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

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

BRIDGE OVER CANEY FORK RIVER - RIVER MILE 19.7
STA. 4G4+32.38 - LEFT LANE (WEST BOUND)(5B)

PIERS Nºs 2, 3 & 4

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-15-119

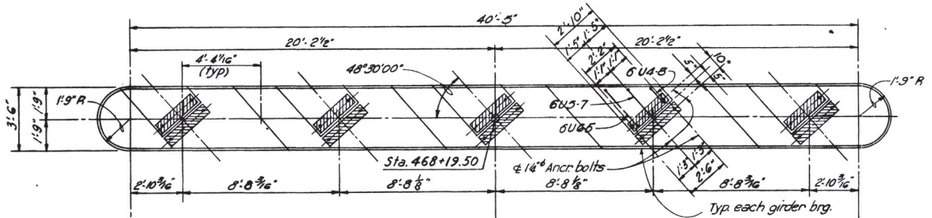
Rev. 8-22-60

SHEFFIELD NO. 107 BRISTOL

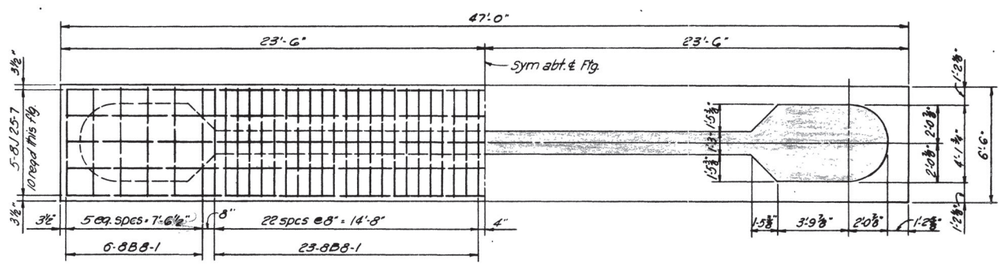
FED. ROAD DIST. No.		FEDERAL AID PROJECT No.	FISCAL YEAR	SHEET No.	TOTAL SHEETS
3	TENN	I-40-5(9)264		129	372

ESTIMATED QUANTITIES

		PIER # 5
Class "A" Concrete	Cu. Yds.	160.2
Reinforcing Steel	Lbs.	13,824



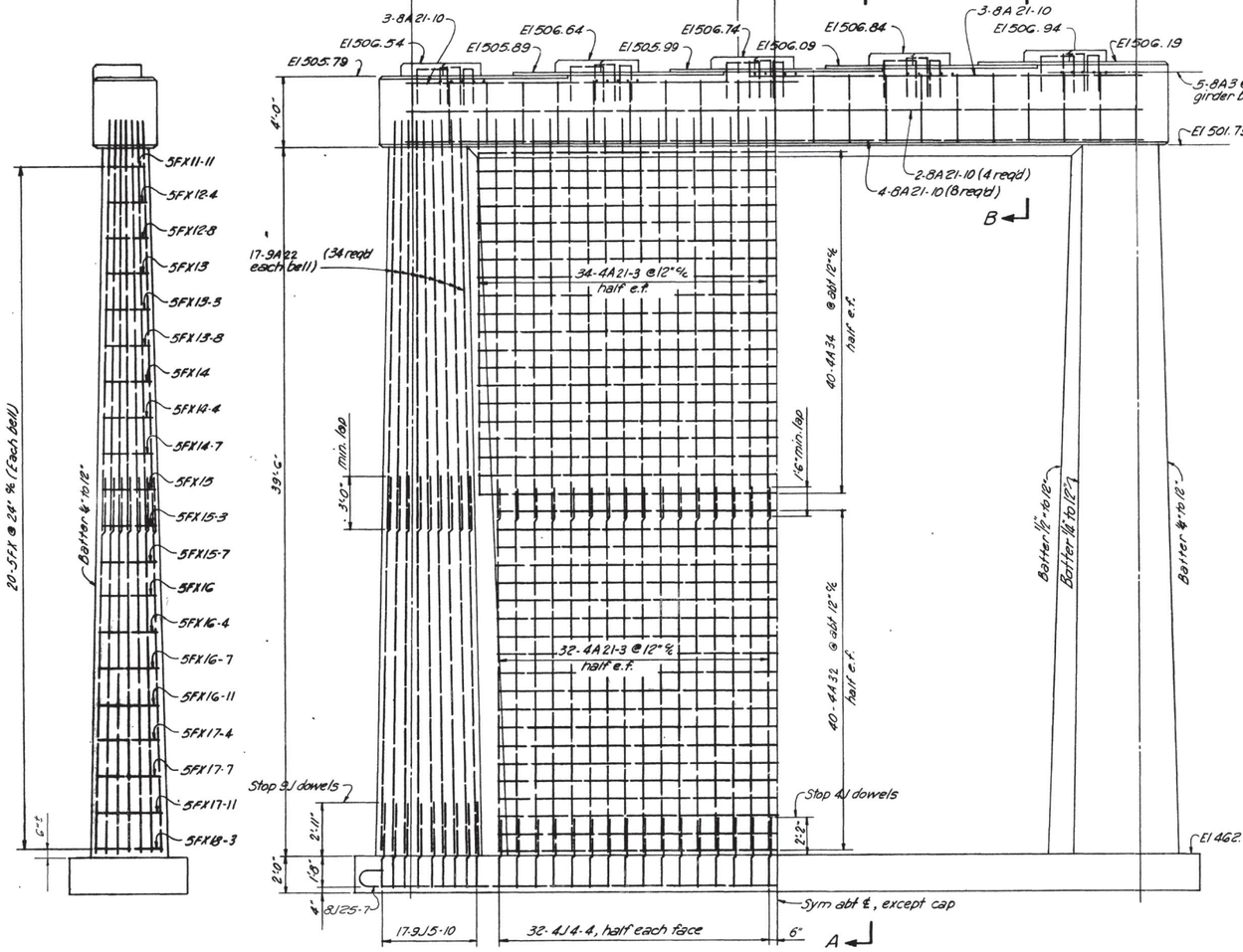
PLAN - CAP
Scale ¼" = 1'-0"



20 spcs @ 2'-0" (±) = 40'-5" (5G spacing)

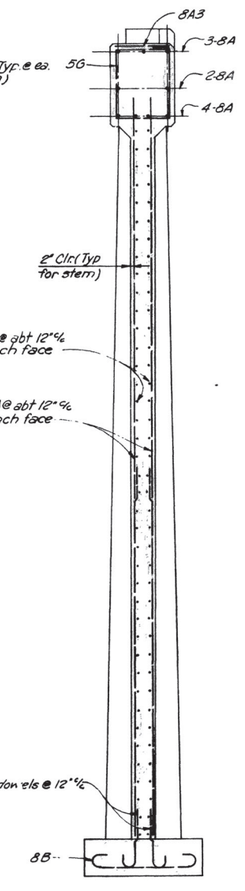
10-5G13-7

11-5G14



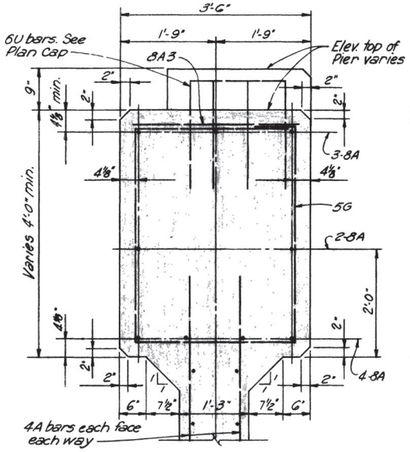
END ELEVATION
Scale ⅛" = 1'-0"

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

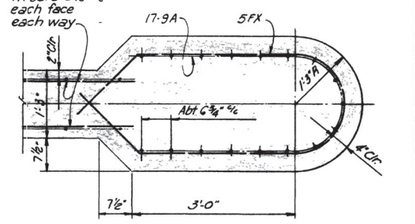


SECTION A-A THRU PIER
Scale ⅛" = 1'-0"

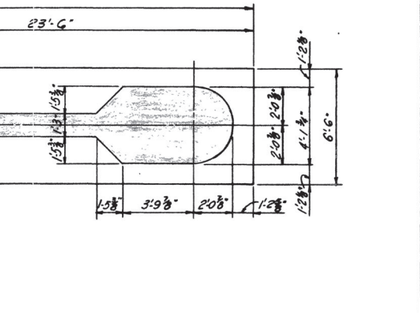
PLAN-FOOTING
Scale ¼" = 1'-0"



SECTION B-B
Scale ⅜" = 1'-0"



PLAN-BELL AT FOOTING
Scale ⅜" = 1'-0"



PLAN-BELL BELOW CAP
Scale ⅜" = 1'-0"

Scale as noted

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

BRIDGE OVER CANEY FORK RIVER - RIVER MILE 19.7
STA. 464+32.38 - LEFT LANE (WEST BOUND) (5B)

PIER NO. 5

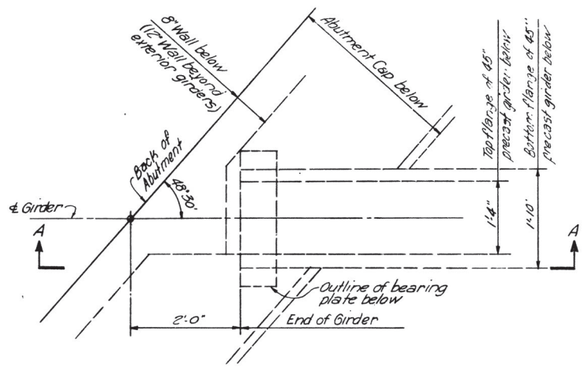
STATE OF TENNESSEE
DEPARTMENT OF HIGHWAYS AND PUBLIC WORKS
NASHVILLE

		DATE	
DR.	R.W.P.		G-15-120
CHK'D	R.A.H.		
APP'D	W.R.	11-16-59	

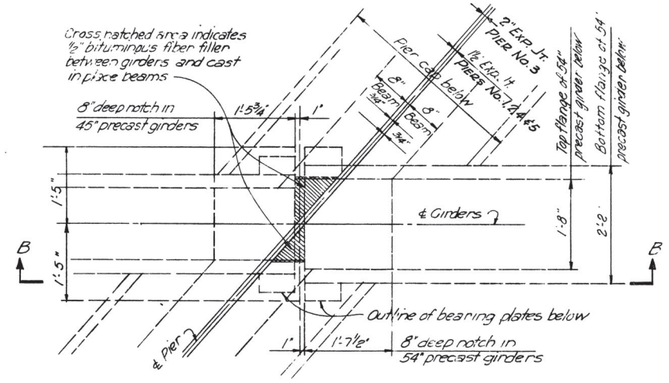
REV. 8-22-60

DIETZGEN NO. 167 BRISTOL

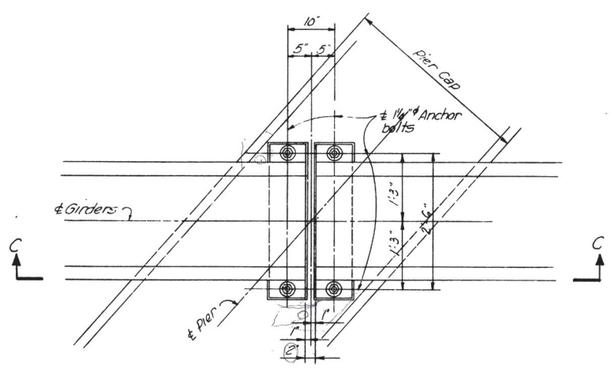
FED. ROAD DIST. No.		FEDERAL AID PROJECT No.	FISCAL YEAR	SHEET No.	TOTAL SHEETS
3	TENN	I-40-5(9)264		130	372



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

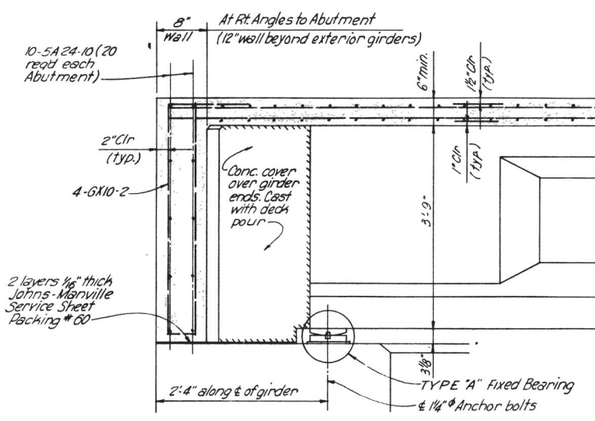


PLAN - SLAB ABOVE GIRDERS
BEARING AT EXTERIOR PIERS
Scale 3/4" = 1'-0"

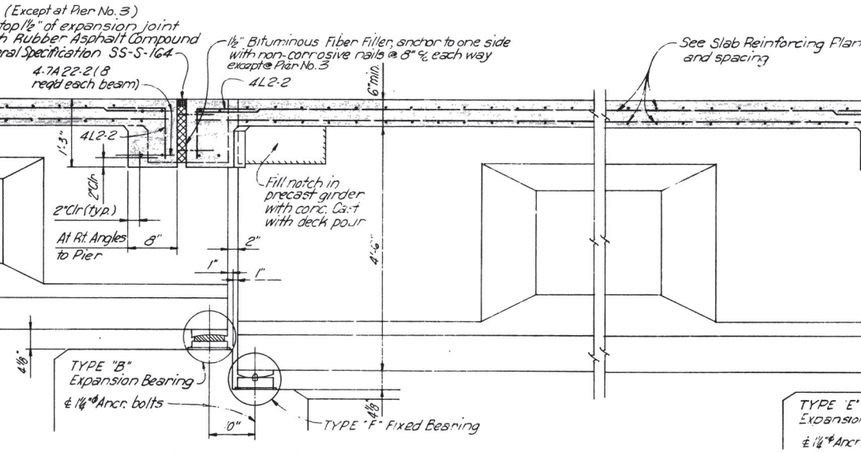


PLAN - 54" GIRDERS
BEARING AT PIER
Scale 3/4" = 1'-0"

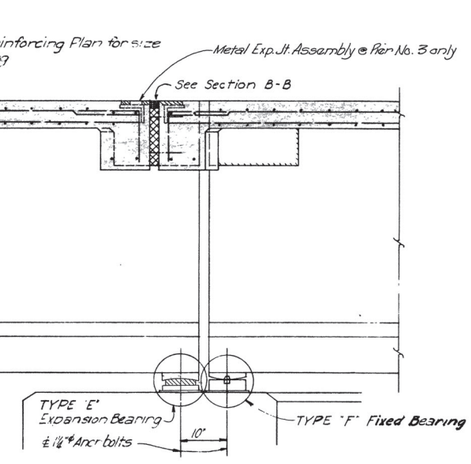
Pier No. 2 2'-5½" 1-2"
" " 9" GAP



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

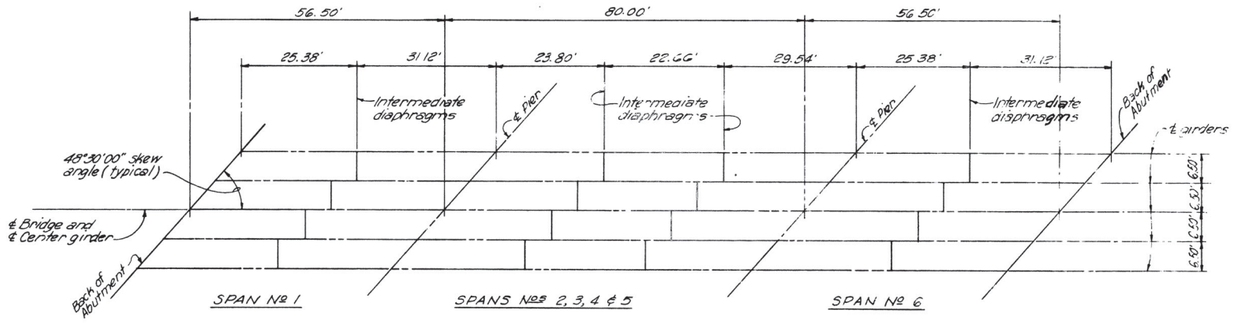


SECTION B-B
Scale 3/4" = 1'-0"



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

Note:
Pier No. 3 has double expansion bearing with metal exp. jt. in slab. See Dwg. G-15-59 for details.



PART PLAN - GIRDER AND DIAPHRAGM LAYOUT
Scale 1/16" = 1'-0"

Scale as noted

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

BRIDGE OVER CANEY FORK RIVER - RIVER MILE 19.7
STA 464+32.38 - LEFT LANE (WEST BOUND)(5B)

SLAB AND GIRDER DETAILS

STATE OF TENNESSEE
DEPARTMENT OF HIGHWAYS
AND PUBLIC WORKS
NASHVILLE

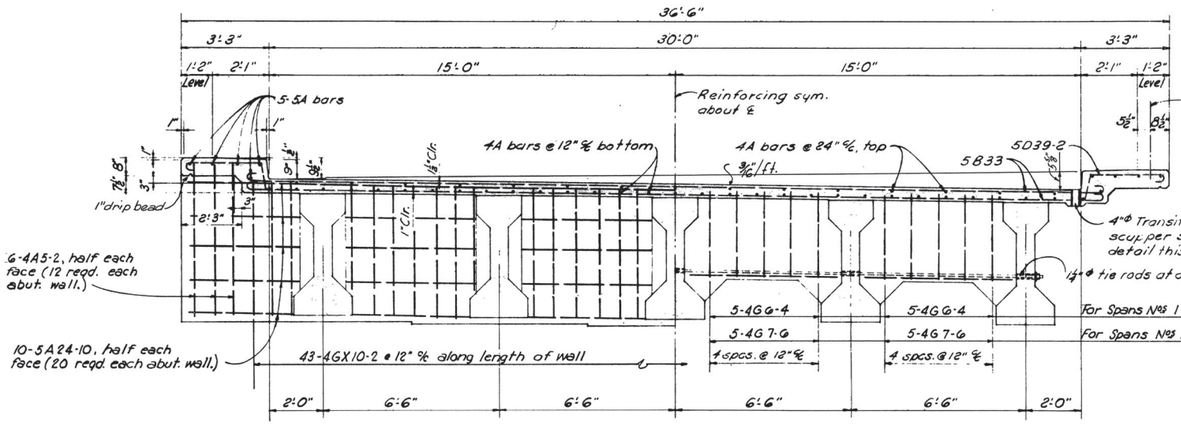
DR. R.W.P.
CHK'D. R.A.H.
APP'D. W.R.
DATE 11-16-59

G-15-121

REV. 4-19-60

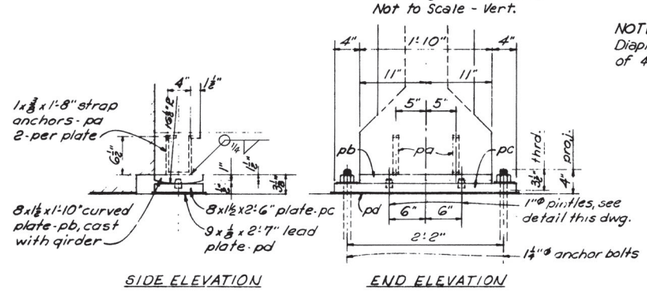
DIETZGEN NO. 187 BRISTOL

FED. ROAD DIST. No.		FEDERAL AID PROJECT No.	FISCAL YEAR	SHEET No.	TOTAL SHEETS
3	TENN	I-40-5(9)264		131	372



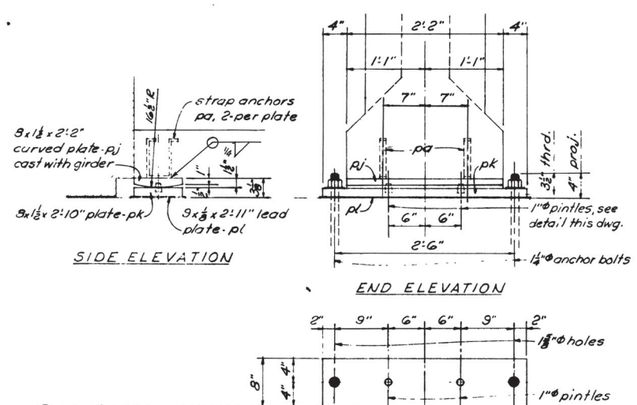
HALF-SECTION AT ABUTMENTS

Scale: 3/8"=1'-0" - Horiz.
Not to Scale - Vert.



DETAILS - FIXED BEARING "A"

Scale: 1"=1'-0"



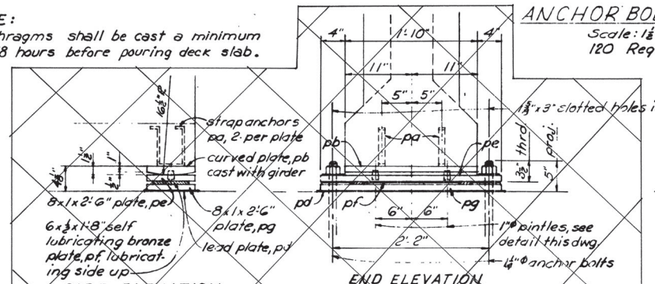
DETAILS - FIXED BEARING "D"

Scale: 1"=1'-0"

HALF SECTION AT DIAPHRAGM

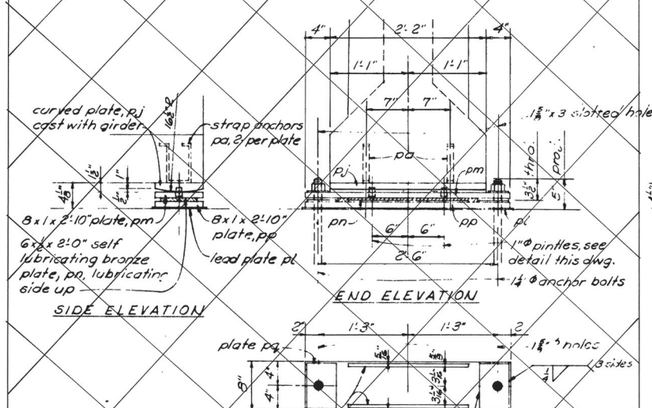
Scale: 3/8"=1'-0"

NOTE:
Diaphragms shall be cast a minimum of 48 hours before pouring deck slab.



DETAILS - EXPANSION BEARING "B"

Scale: 1"=1'-0"

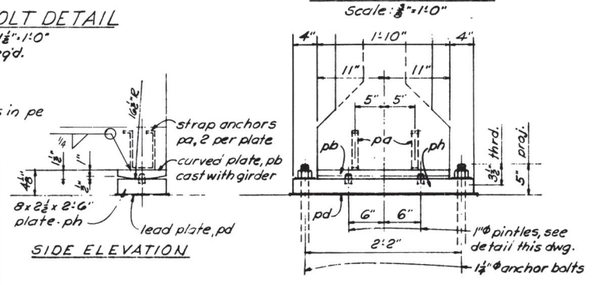


DETAILS - EXPANSION BEARING "E"

Scale: 1"=1'-0"

ANCHOR BOLT DETAIL

Scale: 1 1/2"=1'-0"
120 Req'd.



"VOID"
See Dwg. G-15-39 for Exp. Brngs. "B" & "E"

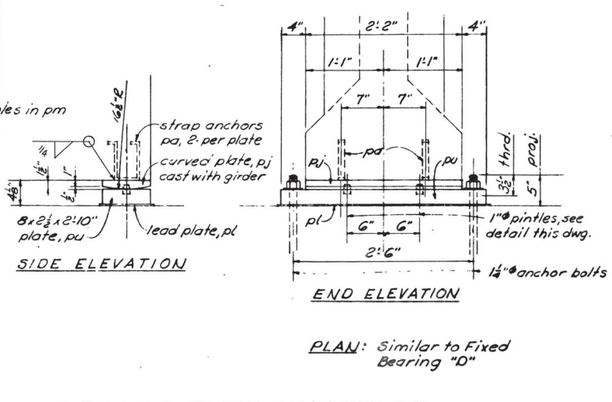
HALF SECTION AT BENTS OR PIERS

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

PLAN: Similar to Fixed Bearing "A"

DETAILS - FIXED BEARING "C"

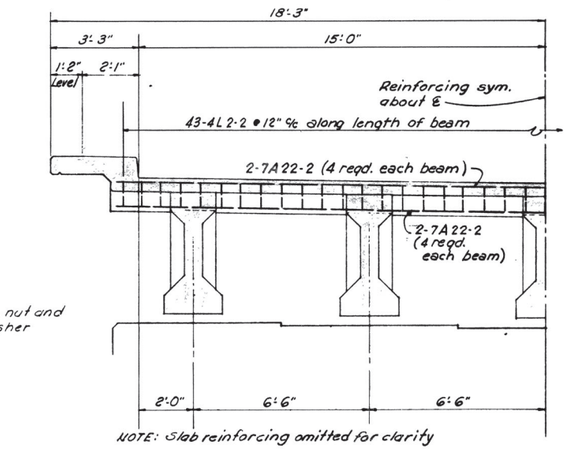
Scale: 1"=1'-0"
(NOT REQUIRED THIS BRIDGE)



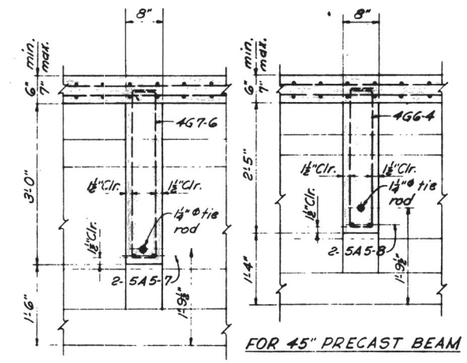
PLAN: Similar to Fixed Bearing "D"

DETAILS - FIXED BEARING "F"

Scale: 1"=1'-0"

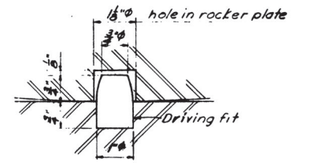


NOTE: Slab reinforcing omitted for clarity



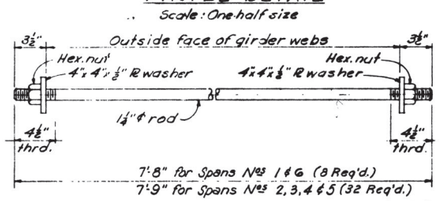
SECTION THRU INTERMEDIATE DIAPHRAGMS

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



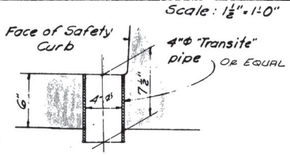
PINTLE DETAIL

Scale: One-half size



DETAIL OF TIE ROD AT DIAPHRAGMS

Scale: 1 1/2"=1'-0"



SECTION

DETAILS - DECK SCUPPER

Scale: 1 1/2"=1'-0"
Scale As Noted

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

BRIDGE OVER CANEY FORK RIVER ; RIVER MILE 19.7
STA. 464+32.38 LEFT LANE (WEST BOUND)(5B)

SUPERSTRUCTURE AND GIRDER BEARING DETAILS

STATE OF TENNESSEE
DEPARTMENT OF HIGHWAYS AND PUBLIC WORKS
NASHVILLE

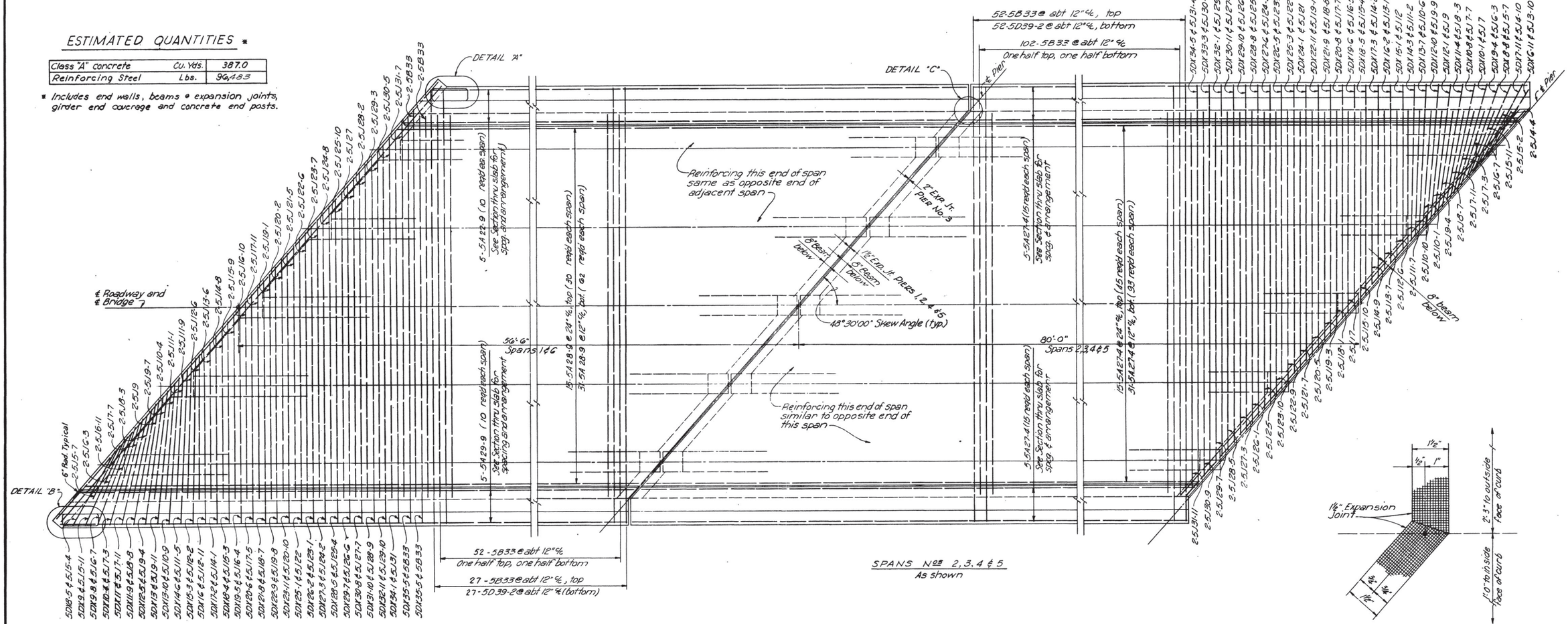
		DATE	
DR.	R.A.H.		G-15-122
CHK'D	W.R.		
APP'D	W.R.	11-16-59	

FED. ROAD DIST. No.		FEDERAL AID PROJECT No.	FISCAL YEAR	SHEET No.	TOTAL SHEETS
3	TENN	I-40-5(9)264		132	372

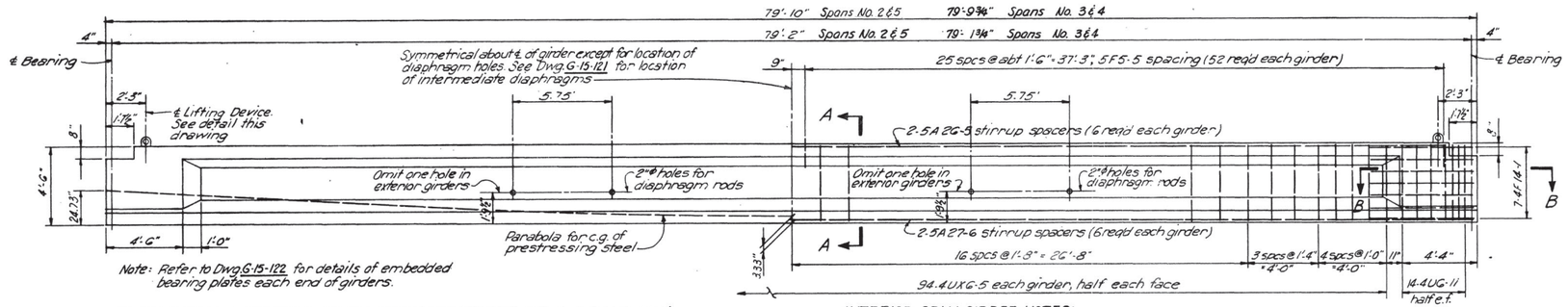
ESTIMATED QUANTITIES *

Class "A" concrete	Cu. Yds.	387.0
Reinforcing Steel	Lbs.	90,483

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


DETAIL "A"
DETAIL "B"
DETAIL "C"
℄ Roadway and ℄ Bridge
℄ Pier
6" Rad Typical
52-5B33 @ abt 12"℄, top
52-5D39-2 @ abt 12"℄, bottom
102-5B33 @ abt 12"℄ One half top, one half bottom
Reinforcing this end of span same as opposite end of adjacent span
2" Exp. Jt. Pier No. 3
6" Beam below
1½" Exp. Jt. Piers 1, 2, 4 & 5
48°30'00" Skew Angle (typ.)
Reinforcing this end of span similar to opposite end of this span
56'-6" Spans 1 & 6
80'-0" Spans 2, 3, 4 & 5
5-5A29.9 (10 rep'd each span) See Section thru Slab for spacing & arrangement
15-5A28.9 @ 24"℄ top (30 rep'd each span)
31-5A28.9 @ 12"℄ bot. (62 rep'd each span)
5-5A27.4 (15 rep'd each span) See Section thru Slab for spacing & arrangement
15-5A27.4 @ 24"℄ top (45 rep'd each span)
31-5A27.4 @ 12"℄ bot. (93 rep'd each span)
52-5B33 @ abt 12"℄ One half top, one half bottom
27-5B33 @ abt 12"℄, top
27-5D39-2 @ abt 12"℄ (bottom)
5D18-5 ℄ 5J5-4
5D19-3 ℄ 5J5-11
5D19-4 ℄ 5J5-7
5D19-5 ℄ 5J5-3
5D19-6 ℄ 5J11-3
5D19-7 ℄ 5J11-9
5D19-8 ℄ 5J9-11
5D19-9 ℄ 5J9-3
5D20-1 ℄ 5J5-8
5D20-2 ℄ 5J5-12
5D20-3 ℄ 5J5-1
5D20-4 ℄ 5J5-5
5D20-5 ℄ 5J5-2
5D20-6 ℄ 5J11-7
5D20-7 ℄ 5J5-6
5D20-8 ℄ 5J5-10
5D20-9 ℄ 5J5-9
5D20-10 ℄ 5J5-13
5D20-11 ℄ 5J5-14
5D20-12 ℄ 5J5-15
5D20-13 ℄ 5J5-16
5D20-14 ℄ 5J5-17
5D20-15 ℄ 5J5-18
5D20-16 ℄ 5J5-19
5D20-17 ℄ 5J5-20
5D20-18 ℄ 5J5-21
5D20-19 ℄ 5J5-22
5D20-20 ℄ 5J5-23
5D20-21 ℄ 5J5-24
5D20-22 ℄ 5J5-25

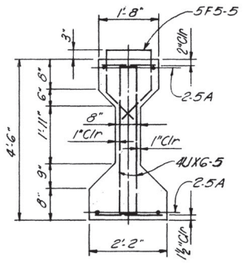
FED. ROAD DIST. No.		FEDERAL AID PROJECT No.	FISCAL YEAR	SHEET No.	TOTAL SHEETS
3	TENN	I40-5(9)264		133	372



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

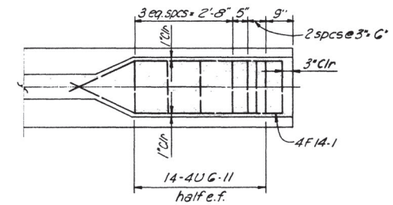
Approx. wt. each girder = 34.5 TONS
Scale ½" = 1'-0"
20 Required

INTERIOR SPAN GIRDER NOTES:
1. Type unit: 18 x 0.196 (18 x 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 ℄ of span.



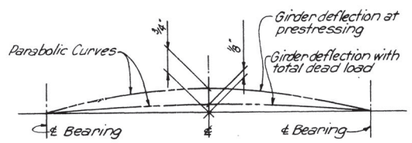
SECTION A-A

Scale ½" = 1'-0"



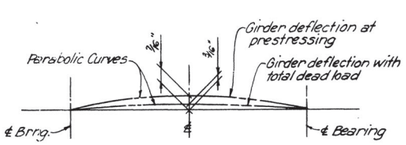
SECTION B-B

Scale ½" = 1'-0"



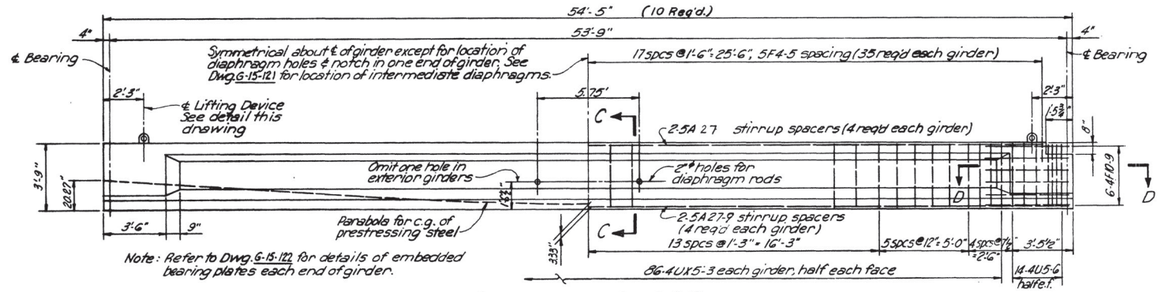
DEFLECTION DIAGRAM INTERIOR SPAN GIRDERS

Not to scale



DEFLECTION DIAGRAM END SPAN GIRDERS

Not to scale



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

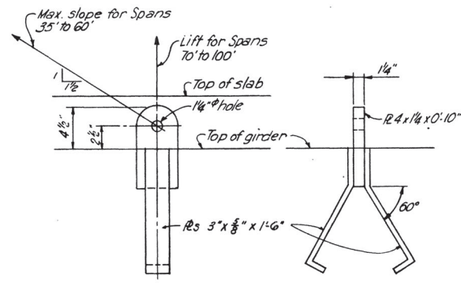
Approx. wt. each girder = 16.5 TONS
Scale ¼" = 1'-0"

END SPAN GIRDER NOTES:
1. Type unit: 18 x 0.196 (18-0.196" diameter high tension wires anchored in each unit) 5 units required each girder.
2. The initial prestressing force shall be 428,125 lbs. (85,625 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 342,500 lbs. (68,500 lbs. each unit.) at the ℄ of span.

ESTIMATED QUANTITIES

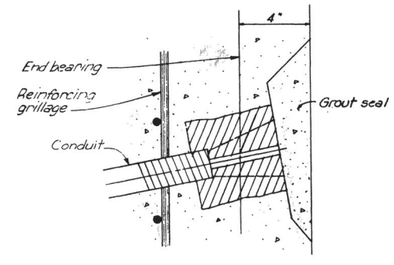
5000 psi concrete	Cu. Yds.	423.1
111 tensile reinf. steel	Lbs.	32,894
Reinforcing steel	Lbs.	35,306
* Structural Steel	Lbs.	21,417

* Includes brg. Rs., Tie rods and Lifting devices



DETAIL - SUGGESTED LIFTING DEVICE

Scale 1½" = 1'-0"

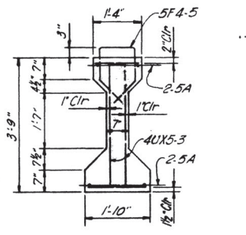


TYP. SECTION - END ANCHORAGE

Scale 3" = 1'-0"

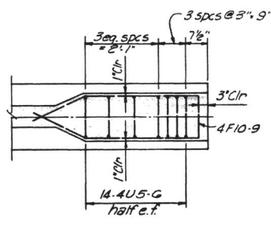
GENERAL GIRDER NOTES:
1. Details are for parallel wires.
2. The following information shall be submitted to the Engineer for approval: The proposed type of tendons which will be used in post-tensioning the sections, all necessary additional details, including those for anchorage, methods to be employed, 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



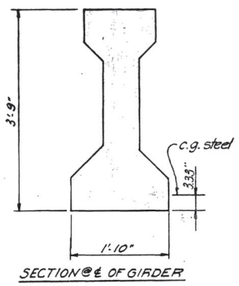
SECTION C-C

Scale ½" = 1'-0"

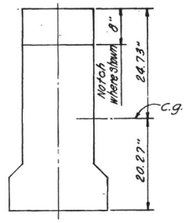


SECTION D-D

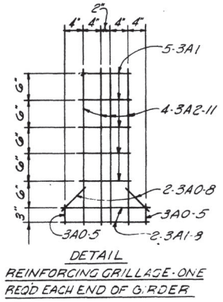
Scale ½" = 1'-0"



SECTION @ ℄ OF GIRDER



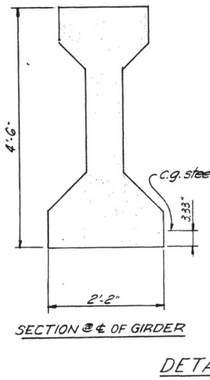
ELEVATION AT END OF GIRDER



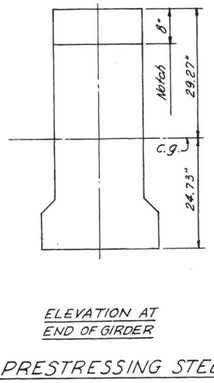
DETAIL REINFORCING GRILLAGE - ONE REQD EACH END OF GIRDER

DETAILS - PRESTRESSING STEEL FOR END SPAN GIRDERS

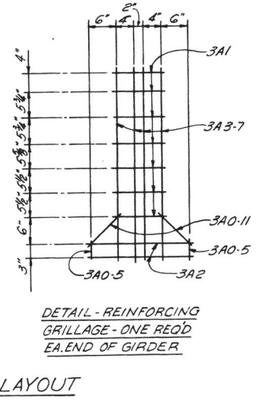
Scale ¾" = 1'-0"



SECTION @ ℄ OF GIRDER



ELEVATION AT END OF GIRDER



DETAIL - REINFORCING GRILLAGE - ONE REQD EA. END OF GIRDER

DETAILS - PRESTRESSING STEEL LAYOUT FOR INTERIOR SPAN GIRDERS

Scale ¾" = 1'-0"

MID-SOUTH ENGINEERING CO., INC. 820 BROADWAY, N. E. KNOXVILLE, TENNESSEE	
BRIDGE OVER CANEY FORK RIVER - RIVER MILE 19.7 STA 4G4+32.38 - LEFT LANE (WEST BOUND) (5B)	
PRESTRESSED GIRDER DETAILS	
STATE OF TENNESSEE DEPARTMENT OF HIGHWAYS AND PUBLIC WORKS NASHVILLE	
DR. B.W.P. CHK'D. R.A.H. APP'D. W.R.	DATE 11-16-59
	G-15-124

REVISED 4-19-60 - D.B.M.

DIETZGEN NO. 167 BRISTOL

PROJECT :

ITEM : PAGE ____ OF ____

LOCATION	BAR MARK	NO. REQD	BENDING DIMENSIONS - FEET & INCHES a	b	c	e	f	g	h	o	r	WEIGHT
		ABUTMENTS Nos 1 & 2 (LEFT LANE)										
		(Half each Abutment except as noted)										
Abut. No 2	7A 31-9	4										260
Abut. No 1	7A 29	4										237
Abut. No 1	7A 28-6	4										233
Abut. No 2	7A 28	4										229
Abut. No 1	7A 27-7	12										676
Abut. No 2	7A 27-7	27										1522
Abut. No 1	7A 25-3	4										206
Abut. No 2	7A 23	4										188
	5A 5-2	72										388
	5A 4-11	8										41
	5A 4-7	8										38
	5A 4-2	8										35
	5A 3-10	8										32
	5A 3-7	8										30
	5A 3-2	8										26
	5A 3	128										401
	5A 2-9	8										23
Abut. No 1	5G 11-3	15	2-9	2-7								176
Abut. No 2	5G 10-9	18	2-9	2-4								202
Abut. No 1	5G 10-4	15	2-9	2-1½								162
Abut. No 2	5G 10-3	20	2-9	2-1								214
Abut. No 1	5G 10-1	16	2-9	2-0								168
Abut. No 2	5G 10-1	24	2-9	2-0								252
	4A 15-6	12										124
	4A 14-4	4										38
	4A 13-9	12										110
	4A 12-6	4										34
	4A 11-9	4										31
	4A 9-9	4										26
	4A 9-1	4										24
	4A 6-10	8										36
	4A 6-3	4										17
							Total Abutment No 1					2585
							Total Abutment No 2					3594
											Total	6179
		PIERS Nos 1, 2, 3, 4 & 5 (One fifth each Pier except as noted)										
Pier No 2	9A 24	68										5549
Pier No 3	9A 24	68										5549
Pier No 4	9A 22-9	68										5260
Pier No 1	9A 22-6	68										5202
Pier No 5	9A 22	68										5086
	9J 5-10	170									4-7	3370
	8A 21-10	90										5246
	8A 3	125										1001
	8B8-1	290									5-11	6256
	8J 25-7	50									24-6	3415
Pier No 1	6UG-5	5	2-5	2-0								48
Pier No 5	6UG-5	5	2-5	2-0								48
Pier No 1	6U5-7	5	1-7	2-0								42
Pier No 5	6U5-7	5	1-7	2-0								42
Pier No 1	6U4-8	5	0-8	2-0								35
Pier No 5	6U4-8	5	0-8	2-0								35
Pier No 1	5G 14-2	11	3-0	3-9½								163
Pier No 2	5G 14-2	11	3-0	3-9½								163
Pier No 3	5G 14-2	11	3-0	3-9½								163
Pier No 4	5G 14-2	11	3-0	3-9½								163
Pier No 5	5G 14	11	3-0	3-8½								161
	5G 13-7	50	3-0	3-6								708
Pier No 2	5FX 18-11	2	3-9½	2-0⅞	2-10½						5-7½ 1-9½	39
Pier No 3	5FX 18-11	2	3-9½	2-0⅞	2-10½						5-7½ 1-9½	39
Pier No 2	5FX 18-7	2	3-8⅝	1-11⅞	2-9⅞						5-6 1-9	39
			(Con't next col.)									

PROJECT :

ITEM : PAGE ____ OF ____

LOCATION	BAR MARK	NO. REQD	BENDING DIMENSIONS - FEET & INCHES a	b	c	e	f	g	h	o	r	WEIGHT
Pier No 3	5FX 18-7	2	3-8⅝	1-11⅞	2-9⅞					5-6	1-9	39
Pier No 4	5FX 18-7	2	3-8⅝	1-11⅞	2-9⅞					5-6	1-9	39
	5FX 18-3	10	3-8¼	1-11⅝	2-9					5-4½	1-8½	190
	5FX 17-11	10	3-7⅜	1-10⅝	2-8⅜					5-2¾	1-8	187
	5FX 17-7	10	3-7¼	1-10⅜	2-7⅝					5-1¼	1-7½	183
	5FX 17-4	10	3-6⅜	1-10⅛	2-7⅛					4-11⅝	1-7	181
	5FX 16-11	10	3-6⅛	1-9⅜	2-6¼					4-10	1-6½	176
	5FX 16-7	10	3-5⅞	1-8⅞	2-5½					4-8½	1-6	173
	5FX 16-4	10	3-5¼	1-8 11/16	2-5¼					4-7	1-5½	170
	5FX 16	10	3-4⅝	1-8⅛	2-4½					4-5½	1-5	167
	5F 15-7	10	3-4¼	1-7⅞	2-3⅞					4-3¾	1-4½	162
	5FX 15-3	10	3-3⅝	1-6 15/16	2-2⅝					4-2⅝	1-4	159
	5F 15	10	3-3¼	1-6 5/8	2-2⅜					4-0⅞	1-3½	156
	5FX 14-7	10	3-2⅝	1-5 7/8	2-1¼					3-11	1-3	152
	5FX 14-4	10	3-2¼	1-5 7/16	2-1					3-9½	1-2½	149
	5FX 14	10	3-1⅝	1-5⅛	2-0⅛					3-8	1-2	146
	5FX 13-8	10	3-1¼	1-4⅞	1-11½					3-6½	1-1½	143
	5FX 13-3	10	3-0⅞	1-4 3/16	1-10⅞					3-4⅝	1-1	138
	5FX 13	10	3-0¼	1-3⅝	1-10⅛					3-3⅝	1-0½	136
	5FX 12-8	10	2-11⅝	1-2 15/16	1-9⅜					3-1⅜	1-0	132
	5FX 12-4	10	2-11¼	1-2 7/16	1-8⅜					3-0	0-11½	129
	5FX 11-11	10	2-10⅝	1-2⅛	1-8					2-10½	0-11	124
Pier No 1	4A 34	40										908
Pier No 2	4A 34	42										954
Pier No 3	4A 34	42										954
Pier No 4	4A 34	40										908
Pier No 5	4A 34	40										908
Pier No 1	4A 32	42										898
Pier No 2	4A 32	44										941
Pier No 3	4A 32	44										941
Pier No 4	4A 32	42										898
Pier No 5	4A 32	40										855
Pier No 2	4A 23-3	132										2050
Pier No 3	4A 23-3	132										2050
Pier No 4	4A 22	132										1940
Pier No 1	4A 21-9	132										1918
Pier No 5	4A 21-3	132										1874
	4J 4-4	320								3-10		926
											Total Pier No 1	14029
											Total Pier No 2	14550
											Total Pier No 3	14550
											Total Pier No 4	14023
											Total Pier No 5	13824
											Total	70976
		SUPERSTRUCTURE - SPANS 1, 2, 3, 4, 5 & 6										
	7A 22	80										3625
	5A 29-9	20										621
	5A 28-9	204										6117
	5A 27-4	672										19155
Abut. Endwall	5A 24-10	40										1036
Diaphragms	5A 5-8	16										95
Diaphragms	5A 5-7	64										372
End Posts	5A 2-10	24										71
	5B 33	786								31-10		27053
	5D 39-2	262	2-9½	1-0¾	3-0-3	1-0½	0-2½	2-3½		36-3		10704
	5DX 35-5	4	30-11½	See bar bending diagram for these dimensions								148
	5DX 34-5	10	29-11½									359
	5DX 34-1	2	29-7½									71
	5DX 33-3	10	28-9½									347
	5DX 32-11	2	28-5½									69
	5DX 32-1	10	27-7½									335
	5DX 31-10	2	27-4½									66
	5DX 30-11	10	26-5½									323
	5DX 30-8	2	26-2½									64
	5DX 29-10	10	25-4½									311
	5DX 29-7	2	25-1½									62
			(Con't next Col.)									

PROJECT :

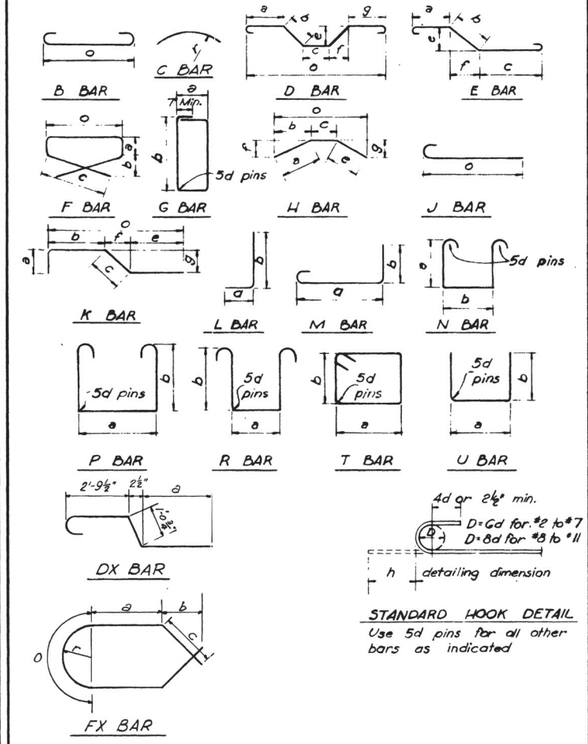
ITEM : PAGE ____ OF ____

LOCATION	BAR MARK	NO. REQD	BENDING DIMENSIONS - FEET & INCHES a	b	c	e	f	g	h	o	r	WEIGHT
	5DX 28-8	10	24-2½									299
	5DX 28-5	2	23-11½									59
	5DX 27-6	10	23-0½									287
	5DX 27-3	2	22-9½									57
	5DX 26-5	10	21-11½									276
	5DX 26-2	2	21-8½									55
	5DX 25-3	10	20-9½									263
	5DX 25-1	2	20-7⅞									52
	5DX 24-1	10	19-7½									251
	5DX 23-11	2	19-5½									50
	5DX 22-11	10	18-5½									239
	5DX 22-9	2	18-3½									47
	5DX 21-9	10	17-3½									227
	5DX 21-8	2	17-2½									45
	5DX 20-8	10	16-2½									216
	5DX 20-6	2	16-0½									43
	5DX 19-6	10	15-0½									203
	5DX 19-5	2	14-11½									41
	5DX 18-5	10	13-11½									192
	5DX 18-4	2	13-10½									38
	5DX 17-3	10	12-9½									180
	5DX 17-2	2	12-8½									36
	5DX 16-2	10	11-8½									169
	5DX 16	2	11-6½									33
	5DX 15-3	2	10-9½									32
	5DX 15-1	10	10-7½									157
	5DX 14-6	2	10-0½									30
	5DX 14-3	10	9-9½									149
	5DX 13-10	2	9-4½									29
	5DX 13-7	10	9-1½									142
	5DX 13	2	8-6½									27
	5DX 12-10	10	8-4½									134
	5DX 12-5	2	7-11½									26
	5DX 12-1	10	7-7½									126
	5DX 11-9	2	7-3½									25
	5DX 11-4	10	6-10½									118
	5DX 11	2	6-6½									23
	5DX 10-8	10	6-2½									111
	5DX 10-4	2	5-10½									22
	5DX 10-1	10	5-7½									105
	5DX 9-8	2	5-2½									20
	5DX 9-4	10	4-10½									97
	5DX 9	2	4-6½									19
	5DX 8-8	10	4-2½									90
	5DX 8-5	2	3-11½									18
	5DX 7-11	10	3-5½									83
	5DX 6-11	10	2-5½									72
	5J 31-11	20								31-4		660
	5J 31-7	4								31-0		132
	5J 31-4	10								30-9		327
	5J 31	2								30-5		65
	5J 30-9	20								30-2		641
	5J 30-5	4								29-10		127
	5J 30-2	10								29-7		315
	5J 29-10	2								29-3		62
	5J 29-7	20								29-0		617
	5J 29-3	4								28-8		122
	5J 29	10								28-5		302
	5J 28-9	2								28-2		60
	5J 28-5	20								27-10		593
	5J 28-2	4								27-7		118
	5J 27-10	10								27-3		290
	5J 27-7	2								27-0		58
	5J 27-3	20								26-8		568
	5J 27	4								26-5		113
	5J 26-9	10								26-2		279
	5J 26-6	2								25-11		55
	5J 26-1	20								25-6		544
	5J 25-10	4								25-3		108
	5J 25-7	10								25-0		267
	5J 25-4	2								24-9		53
	5J 25	20								24-5		522
	5J 24-8	4								24-1		103
	5J 24-5	10								23-10		255
	5J 24-2	2								23-7		50
	5J 23-10	20								23-3		497
	5J 23-7	4								23-0		98
			(Con't on next sheet)									

ITEM : BENDING DIAGRAMS

FED. ROAD DIST.	STATE	FEDERAL AID PROJECT No.	FISCAL YEAR	SHEET No.	TOTAL SHEETS
3	TENN	I-40-5(9)264		134	

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



Use 5d pins for all other bars as indicated

Notes :

1. The figures to the left of the letter, or letters, represents the bar size number -- 4 = ½"; 5 = ⅝"; 6 = ¾" etc.
2. The letter represents the type of bar - A, H, J, etc. Special type bars are designated by letters "XA", etc. Bars of same type and same length, but different bends are marked La, Lb, Ka, Kb, etc.
3. The figures to the right of the letter, or letters, represent the length in feet and inches, 10-3, 12-6, etc. Thus a bar, Mark GE 21-3, represents a No. 6 bar, type E, 21'-3" long. For bar lengths in even feet, the dash and zero (- and 0) are omitted.
4. Dimensions are out-out.

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

BRIDGE OVER CANEY FORK RIVER - RIVER MILE 19.7
STA. 464+32.98 LEFT LANE (WEST BOUND) (58)

REINFORCING STEEL SCHEDULE NO. 1

STATE OF TENNESSEE
DEPARTMENT OF HIGHWAYS AND PUBLIC WORKS
NASHVILLE

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

G-15-125

ITEM: PROJECT: PAGE OF

LOCATION	BAR MARK	NO. REQD	BENDING DIMENSIONS - FEET & INCHES a	b	c	e	f	g	h	o	r	WEIGHT
		SUPERSTRUCTURE (CON'T.)										
	5J23-4	10								22-9		243
	5J23-1	2								22-6		48
	5J22-9	20								22-2		475
	5J22-6	4								21-11		94
	5J22-2	10								21-7		231
	5J22	2								21-5		46
	5J21-7	20								21-0		450
	5J21-5	4								20-10		89
	5J21	10								20-5		219
	5J20-10	2								20-3		43
	5J20-5	20								19-10		426
	5J20-2	4								19-7		84
	5J19-10	10								19-3		207
	5J19-8	2								19-1		41
	5J19-3	20								18-8		402
	5J19-1	4								18-6		80
	5J18-8	10								18-1		195
	5J18-7	2								18-0		39
	5J18-1	20								17-6		377
	5J17-11	4								17-4		75
	5J17-7	10								17-0		183
	5J17-5	2								16-10		36
	5J17	20								16-5		355
	5J16-10	4								16-3		70
	5J16-5	10								15-10		171
	5J16-4	2								15-9		34
	5J15-10	20								15-3		330
	5J15-9	4								15-2		66
	5J15-4	10								14-9		160
	5J15-3	2								14-8		32
	5J14-9	20								14-2		308
	5J14-8	4								14-1		61
	5J14-2	10								13-7		148
	5J14-1	2								13-6		29
	5J13-7	20								13-0		283
	5J13-6	4								12-11		56
	5J13-1	10								12-6		136
	5J12-11	2								12-3		27
	5J12-6	24								11-11		313
	5J12-2	2								11-7		25
	5J12	10								11-5		125
	5J11-9	4								11-2		49
	5J11-7	20								11-0		242
	5J11-5	2								10-10		24
	5J11-2	10								10-7		117
	5J11-1	4								10-6		40
	5J10-10	20								10-3		226
	5J10-9	2								10-2		22
	5J10-6	10								9-11		110
	5J10-4	4								9-9		43
	5J10-1	20								9-6		210
	5J9-11	2								9-4		21
	5J9-9	10								9-2		102
	5J9-7	4								9-0		40
	5J9-4	22								8-9		214
	5J9	14								8-5		131
	5J8-8	2								8-1		18
	5J8-7	20								8-0		179
	5J8-3	14								7-8		120
	5J7-11	22								7-4		182
	5J7-7	14								7-0		111
	5J7-3	22								6-8		166
	5J7	10								6-5		73
	5J6-11	4								6-4		29
	5J6-7	22								6-0		151
	5J6-3	14								5-8		91
	5J5-11	22								5-4		130
	5J5-7	14								5-0		81
	5J5-4	2								4-9		11
	5J5-2	20								4-7		108
	5J4-10	10								4-3		50
	5J4-4	20								3-9		90
	5J3-10	10								3-3		40
Conc. end post	5L3-4	32	1-8	1-8								111
				(Con't. next col.)								

ITEM: PROJECT: PAGE OF

LOCATION	BAR MARK	NO. REQD	BENDING DIMENSIONS - FEET & INCHES a	b	c	e	f	g	h	o	r	WEIGHT
Abut. end wall	4A5-2	24										83
Conc. end post	4A2-8	16										29
Conc. end post	4A2-5	8										13
Diaphragms	4G7-6	160	0-5	3-0½								802
Diaphragms	4G6-4	40	0-5	2-5½								169
Abut. end wall	4GX10-2	86		(See bar bending details)								584
Beam e Exp. joint	4L2-2	430	1-1	1-1								623
									Total Superstructure			96,483
			PRESTRESSED GIRDERS									
			(Furnished by Girder Supplier)									
	5A27-9	40										1158
	5A27-6	120										3442
	5A27	40										1126
	5A26-5	120										
	5F5-5	1040	0-11½	0-9½	1-1⅛					1-3¾		5879
	5F4-5	350	0-10½	0-7⅞	0-10⅜					0-11¾		1614
	4F14-1	280	4-2½	1-10½	2-1					1-6		2634
	4F10-9	120	3-2½	1-5	1-7					1-2		862
	4U6-11	560	4-2½	1-4¾								2589
	4U5-6	280	3-5½	1-0¾								1029
	4UX6-5	1880		See bar bending details								8062
	4UX5-3	860		See bar bending details								3016
	3A3-7	160										215
	3A2-11	80										88
	3A2	80										60
	3A1-8	40										25
	3A1	380										143
	3A0-11	80										28
	3A0-8	40										10
	3A0-5	120										19
									Total Prestressed Girders			35,306

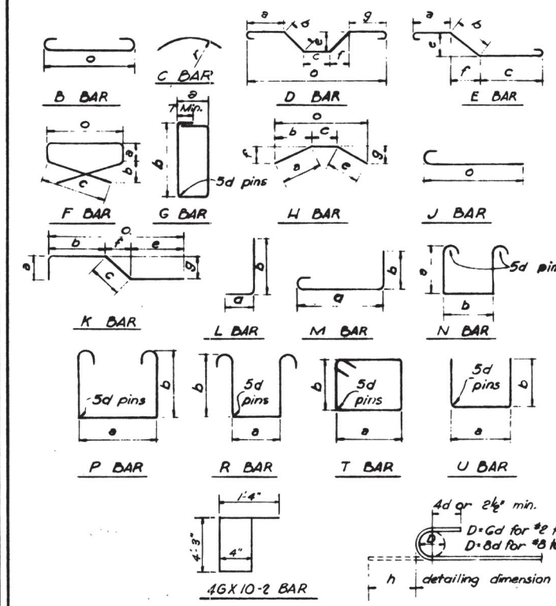
ITEM: PROJECT: PAGE OF

LOCATION	BAR MARK	NO. REQD	BENDING DIMENSIONS - FEET & INCHES a	b	c	e	f	g	h	o	r	WEIGHT

ITEM: BENDING DIAGRAMS

FED. ROAD DIST.	T E N N	FEDERAL AID PROJECT No.	FISCAL YEAR	SHEET No.	TOTAL SHEETS
3		I-40-5(9)264		135	372

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



Notes:

1. The figures to the left of the letter, or letters, represents the bar size number -- 4 = ½"; 5 = ⅝"; 6 = ¾" etc.
2. The letter represents the type of bar - A, H, J, etc. Special type bars are designated by letters "XA", etc. Bars of same type and same length, but different bends are marked La, Lb, Ka, Kb, etc.
3. The figures to the right of the letter, or letters, represent the length in feet and inches, 10-3, 12-6, etc. Thus a bar, Mark GE21-3, represents a No. 6 bar, type E, 21'-3" long. For bar lengths in even feet, the dash and zero (- and 0) are omitted.
4. Dimensions are out-out.

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

BRIDGE OVER CANEY FORK RIVER - RIVER MILE 19.7
STA. 464+32.38 LEFT LANE (WEST BOUND) (SB)

REINFORCING STEEL SCHEDULE NO. 2

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

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