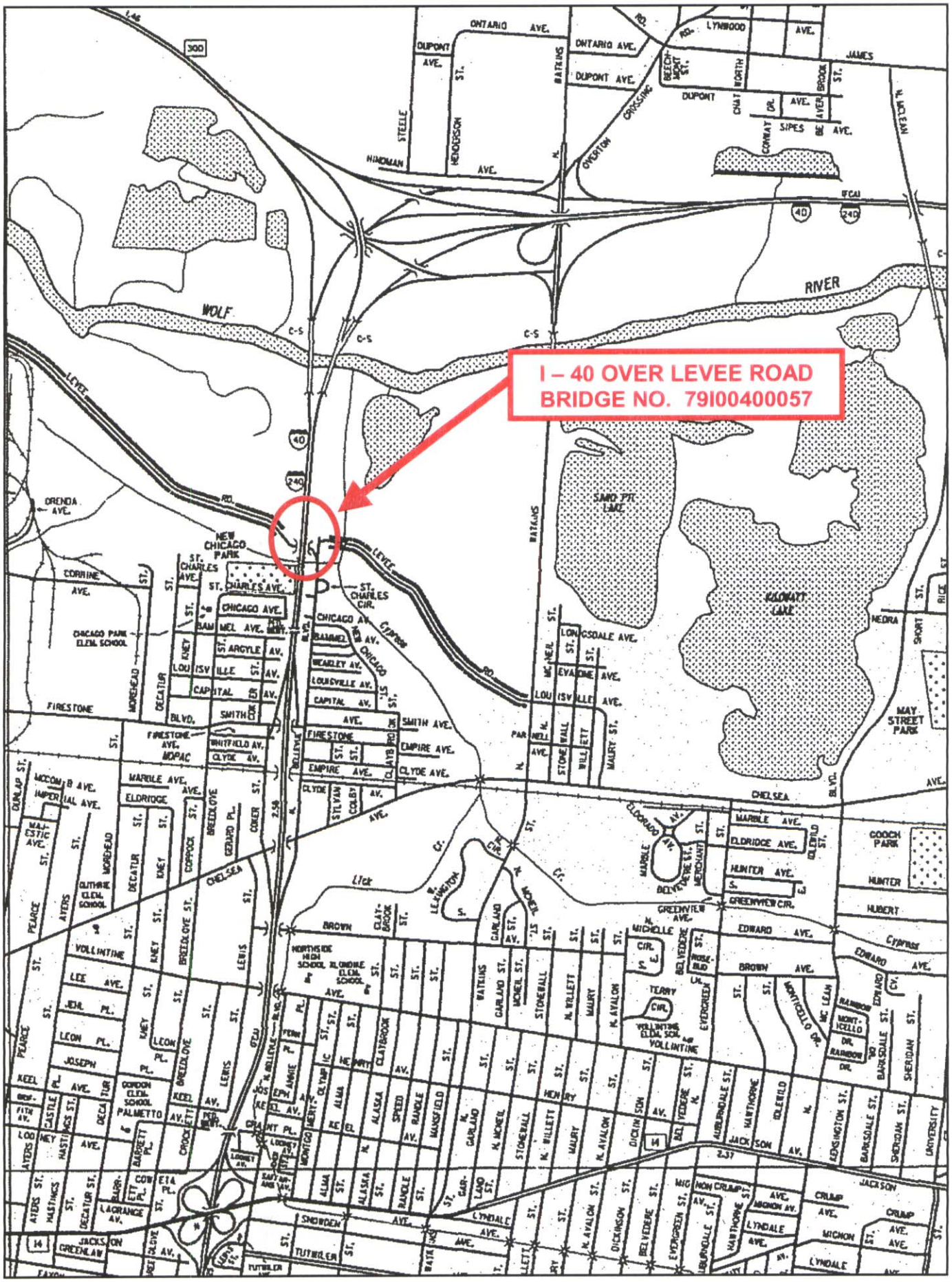
SHELBY COUNTY



Bridge Maintenance Recommendations

Bridge Location No.: **79 - I0040 - 0471** Over/Under Pass No. 79 - 0J244 - 0044
Co. Route Log Mile

Bridge Number: **79I00400057**

Crossing:

Road Name:

Road Name #2: LEVEE ROAD

Region: 04

District: 45 Spec.Case: 0

Maint.Resp.: 01 Co.Seq: 01

Bridge Rating: FAIR

Inspection Cycle: 16 County: Shelby

@ ' x '
Barrels Length Width

Inspection Date: 8/8/2003 City:

Comments:

Maintenance Recommendations: **Maintenance Completed: by/date**

233	**UNDERPASS SUBSTRUCTURE PROTECTION GUARDRAILS ARE NON-EXISTENT**
228	**APPROACH GUARDRAILS ARE SUBSTANDARD**
226	**GUARDRAIL TERMINALS AT APPROACH NO. 1 & 2 ARE SUBSTANDARD**
024	**POST VERTICAL CLEARANCE SIGNS AT APPROACH NO. _1 & 2**
243	**PATCH BOTTOM OF DECK IN SPAN NO. _2**
204	**CUT VEGETATION**

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:

Bridge Maintenance Recommendations

Bridge Location No.: **79 - I0040 - 0471**
Co. Route Log Mile

Over/Under Pass No.: 79 - 0J244 - 0044

Bridge Number: **79I00400057**

Crossing:

Road Name:

Road Name #2: LEVEE ROAD

Bridge Rating: FAIR

Region: 04

District: 45 Spec.Case: 0

Maint.Resp.: 01 Co.Seq: 01

@ ' x '
Barrels Length Width

Inspection Cycle: 15 County: Shelby

Inspection Date: 9/10/01 City:

Comments:

Maintenance Recommendations:

		Maintenance Completed by/date
228	**APPROACH GUARDRAILS ARE SUBSTANDARD**	
226	**GUARDRAIL TERMINALS AT APPROACH NO. 1 & 2 ARE SUBSTANDARD**	
204	**CUT VEGETATION**	
233	**UNDERPASS SUBSTRUCTURE PROTECTION GUARDRAILS ARE NON-EXISTENT**	

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:

David Domm

From: David Domm
Sent: Tuesday, July 7, 2020 9:53 AM
To: Brian Egli
Cc: Bryan Liner
Subject: Bridge 79I00400057
Attachments: 79I00400057JUL20 (DAMAGE).pdf

Mr. Egli,

I have added bridge 79I00400057 to repair list 2 due the collision damage. I've attached the damage report.

Thanks,

David Domm | Trans. Proj. Specialist Sr.
Structures Division / Bridge Inspection HQ
James K. Polk Bldg, 12th Floor
505 Deaderick St., Nashville, Tn 37243
p. 615-253-6410
David.domm@tn.gov

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

Bridge Condition Coding Form

Revised 09/12/2001

County:	79
Route:	10040
Special Case:	0
County Sequence:	01
Log Mile:	4.71

Bridge Number: (Includes Item 5A) 79I004000571

Feature Intersected: I40 / LEVEE RD

CODE ONLY THOSE VALUES WHICH HAVE CHANGED

ITEM #	DESCRIPTION	VALUE
90	INSPECTION DATE	09/10/2001 8/9/2003
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.: 0 / Appr. Rail: 0 / Terminal: ~~N~~ 0 / SPEED LIMIT: 55
41	STRC OPEN/CLOSED/POSTED (A K P)	A
58	DECK	6
59	SUPERSTRUCTURE	5
60	SUBSTRUCTURE	7
61	CHANL/CHANL PROTECTION	N
62	CULVERT AND RETAIN WALL	N
71	WATERWAY ADEQUACY	N
72	APPROACH RDWY ALIGNMENT (USE VALUES OF 3, 6, OR 8)	8
521	OVERALL CONDITION (Circle One)	GOOD (FAIR) POOR CRITICAL

8/8/2003
TEAM LEADER SIGNATURE — 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.

Revised 09/21/2001

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

Underpass Condition Coding Form

County: 79
Route: 0J244
Special Case: 0
County Sequence: 01
Log Mile: 0.44

Bridge Number: (Includes Item 5A) 79I004000572
Feature Intersected: I40 / LEVEE RD.

CODE ONLY THOSE VALUES WHICH HAVE CHANGED

ITEM #	DESCRIPTION	VALUE
90	INSPECTION DATE	09/10/2001 8/8/2003
10	MINIMUM V.C. OVER ROADWAY (ROADWAY + SHOULDERS)	14 FT. 6 IN. ___ FT. ___ IN.
520	MINIMUM V.C. OVER ROADWAY (EXCLUDES SHOULDERS)	14 FT. 6 IN. ___ FT. ___ IN.
47	TOTAL HORIZONTAL UNDERCLEARANCE	~~32~~ FT. ~~0~~ IN. 32 FT. 0 IN.
54	MINIMUM VERTICAL UNDERCLEARANCE (EXCLUDES SHOULDERS) Circle One: (H) R	14 FT. 6 IN.
55	MINIMUM LATERAL UNDERCLEARANCE ON RIGHT SIDE Circle One: (H) R	4 FT. 0 IN.
56	MINIMUM LATERAL UNDERCLEARANCE ON LEFT SIDE	0 FT. 0 IN.

UNDERPASS SAFETY FEATURES

515 (A) TYPE UNDERPASS BARRIER
None Exists but Needed

Revised Barrier Type

(B) ADEQUACY OF BARRIER OR RAIL 0

(C) ADEQUACY OF TRANSITIONS 0

(D) ADEQUACY OF TERMINALS 0

554 VERTICAL CLEARANCE LISTED ON HEIGHT POSTING
99 FT. 99 IN.
___ FT. ___ IN.

521 OVERALL CONDITION (Circle One)
GOOD (FAIR) POOR CRITICAL

HEIGHT POSTED AT BOTH APPROACHES? YES [ ] NO [X] N/A [ ]

555 COMMENTS

8/8/2003
TEAM LEADER SIGNATURE — REVIEW DATE

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

Bridge Condition Coding Form

Revised 06/15/2000

County:	79
Route:	I0040
Special Case:	0
County Sequence:	01
Log Mile:	4.71

Bridge Number: (Includes Item 5A) 79I004000571

Feature Intersected: I40 / LEVEE RD

CODE ONLY THOSE VALUES WHICH HAVE CHANGED

ITEM #	DESCRIPTION	VALUE
90	INSPECTION DATE	01/18/2000 9/10/2001
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.: 0 / Appr. Rail: 0 / Appr. Rail Ends: 0
41	STRC OPEN/CLOSED/POSTED (A K P)	A
58	DECK	7
59	SUPERSTRUCTURE	5
60	SUBSTRUCTURE	7
61	CHANL/CHANL PROTECTION	N
62	CULVERT AND RETAIN WALL	N
71	WATERWAY ADEQUACY	N
72	APPROACH RDWY ALIGNMENT (USE VALUES OF 3, 6, OR 8)	8
521	OVERALL CONDITION (Circle One)	GOOD (FAIR) POOR CRITICAL

TEAM LEADER SIGNATURE

9/10/2001
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.

Revised 06/15/2000

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

Underpass Condition Coding Form

County:	79
Route:	0J244
Special Case:	0
County Sequence:	01
Log Mile:	0.44

Bridge Number: (Includes Item 5A) 79I004000572

Feature Intersected: I40 / LEVEE RD.

CODE ONLY THOSE VALUES WHICH HAVE CHANGED

ITEM #	DESCRIPTION	VALUE
90	INSPECTION DATE	01/18/2000 9/10/2001
10	MINIMUM V.C. OVER DECK (ROADWAY + SHOULDERS)	~~14~~ FT. ~~7~~ IN. 14 FT. 6 IN.
520	MINIMUM V.C. OVER DECK (EXCLUDES SHOULDERS)	~~14~~ FT. ~~7~~ IN. 14 FT. 6 IN.
47	TOTAL HORIZONTAL UNDERCLEARANCE	~~32~~ FT. ~~9~~ IN. 30 FT. 0 IN.
54	MINIMUM VERTICAL UNDERCLEARANCE (EXCLUDES SHOULDERS) Circle One: (H) R	14 FT. 6 IN.
55	MINIMUM LATERAL UNDERCLEARANCE ON RIGHT SIDE Circle One: (H) R	0 FT. 0 IN.
56	MINIMUM LATERAL UNDERCLEARANCE ON LEFT SIDE	0 FT. 0 IN.

UNDERPASS SAFETY FEATURES

515 (A) TYPE UNDERPASS BARRIER
None Exists but Needed

Revised Barrier Type

(B) ADEQUACY OF BARRIER OR RAIL 0

(C) ADEQUACY OF TRANSITIONS 0

(D) ADEQUACY OF TERMINALS 0

554 VERTICAL CLEARANCE LISTED ON HEIGHT POSTING
99 FT. 99 IN.
____ FT. ____ IN.

521 OVERALL CONDITION (Circle One)
GOOD (FAIR) POOR CRITICAL

HEIGHT POSTED AT BOTH APPROACHES? YES [ ] NO [X] N/A [ ]

555 COMMENTS

TEAM LEADER SIGNATURE

9/10/2001
REVIEW DATE

Bridge Loc. No: 79 - I0040 - 04.71 Date: 08-08-03

BRIDGE NO. ON RIGHT RAIL

BENT #1, REAR SIDE

Bridge Loc. No: 79 - I0040 - 04.71 **Date: 08-08-03**

ELEVATION LEFT SIDE

LOOKING AHEAD ON ROUTE

Bridge Loc. No: 79 - I0040 - 04.71 **Date: 08-08-03**

VIEW ACROSS TOP OF DECK

LOOKING BACK ON ROUTE

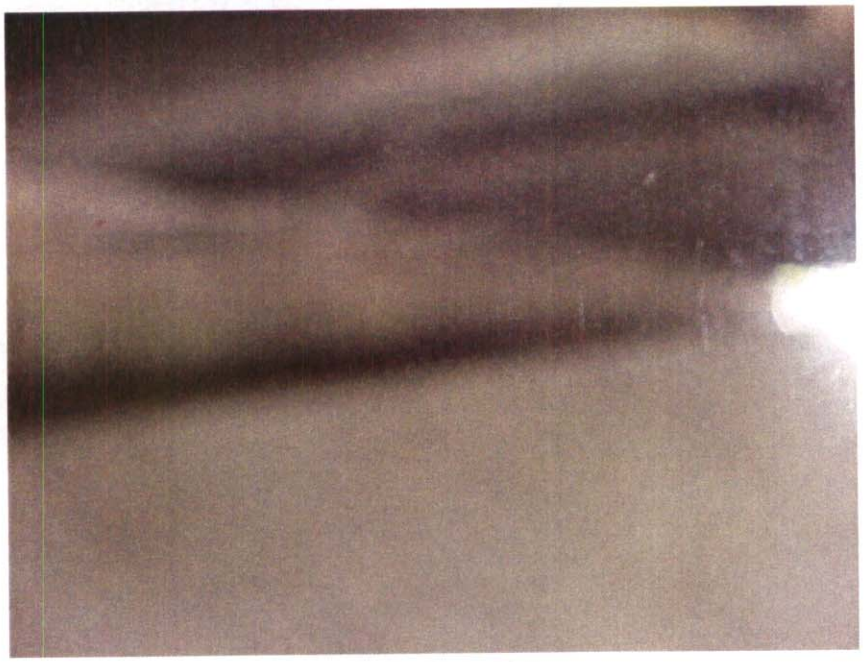
Bridge Loc. No: 79 - I0040 - 04.71 Date: 08-08-03

ELEVATION RIGHT SIDE

SPAN #2, BOTTOM OF DECK

Bridge Loc. No: 79 - I0040 - 04.71 **Date: 08-08-03**

SPAN #2, BOTTOM OF DECK SPALLED TO STEEL



ABUTMENT #2

Bridge Loc. No: 79 - I0040 - 04.71 Date: 08-08-03

SPANS #1 & #2, CONCRETE "I" BEAMS WITH FINE CRACKS (NOT POOR)

ABUTMENT #1

Bridge Loc. No: 79 - I0040 - 04.71 **Date: 08-08-03**

SPAN #2, BOTTOM OF DECK

SPAN #2, SHOWING EARTHQUAKE DEVICES

Bridge Loc. No: 79 - I0040 - 04.71 **Date: 08-08-03**

SPAN #3, SHOWING EARTHQUAKE DEVICES

BRIDGE INSPECTION REPORT

Form BIR 3.0
(Rev. 9-22-98)
DT-0069

Field Report No. 16 Date 8-8-03
Previous Report No. _____ Date _____
Plans: YES ( ) NO ( )

Bridge No. 79I00400057 (Eleven Digit No.) Bridge Location No. 79 - I0040 - 0471 (Co. Route Log Mile) 79 - 0J244 - 0044 (OVER/UNDER PASS)

_____ (Road Name) over _____ (Crossing) _____ (CITY)

Year Constructed _____ County Shelby Maintenance District 45

Year Widened _____ Year Rehabilitated _____ _____ (Structure Name (If Named))

FEATURES

Wearing Surface Concrete ( ) Timber ( ) Asphalt (X) Depth _____(in.)

Flared Width Yes ( ) No (X) Median Width Open ( ) None ( ) Closed (X)

Navigational Control Yes ( ) No (X) Bridge Skew 90 ° LT ( ) RT ( )

Structure Type (Main Span) CONC. I. BEAM

Structure Type (Appr.Spans) _____

No. Main Spans 3 No. Approach Spans _____

Maximum Span Length 36.0 (**.* ft.)

Total Length 67.0 (**.* ft.)

INSPECTORS

1. GREER
2. LOVE
3. ADAMS
4. BYRD
5. _____
6. _____
7. _____
8. _____

WIDTHS (*.* ft.)

Deck Out-to-Out 144.8

Roadway Curb/Curb _____

Roadway Rail/Rail _____

Sidewalk Rt. _____ Lt. _____

*Approach Roadway 36
*(Does Not Include Shoulders)

Approach Shoulder Rt. _____
Lt. _____

CLEARANCES

Min. Vertical Clearance over Deck _____ (ft.-in.)

Min. Vertical Under Clearance 14'6" (ft.-in.)

Min. Lateral Under Clearance Rt. 4' (*.* ft.)

Min. Lateral Under Clearance Lt. 0' (*.* ft.)

FRACTURE CRITICAL: _____
(If Yes, Include BIR 3.9)

NBIS Bridge Length (<25 ft.) _____ (ft.-in.)

UNDERWATER INSPECTION

To Be Performed By: _____ Date _____

DOT FIELD TEAM ( ) CONTRACT DIVERS ( ) NONE REQUIRED (X)

Change in Structural Condition: Yes ( ) No (X) Major Repairs Made: Yes ( ) No (X)

COMMENTS

N035 ° 10 ' 49.5 "
W090 ° 01 ' 03.9 "
G.P.S. Location

BRIDGE RATING: ( ) (X) ( ) ( )
GOOD FAIR POOR CRITICAL

Supervising Bridge Inspector: Greer

Form BIR 3.1
(Rev. 9-22-98)
DT-0080

Bridge Location No. 79 - I0040 - 4.71 - Date AUG
Co. Route Log Mile

PERFORMANCE EVALUATION

Time of Day Inspected 11:30 AM Weather Conditions SUNNY 80°

Vehicles Observed

LIVE LOAD BEHAVIOR

	YES	NO	Comments
Substructure			
Horiz./ Vert. Defl.	( )	(X)	
Vibration	( )	(X)	
Superstructure			
Horiz./ Vert. Defl.	( )	(X)	
Vibration	( )	(X)	

APPROACH

	Rating	Comments
Alignment	(G) F P C	
Slab	G F P C	N/V
Joints	G F P C	N/A
Pavement	G (F) P C	
Embankment	(G) F P C	
Drains	G F P C	

TRAFFIC SAFETY FEATURES

	Rating	STANDARD	SUB-STANDARD	Comments
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
Paddleboards	( )	(X)	( )
Vertical Clearance (<14'-6")	( )	(X)	(X) (?)
NARROW ( )	( )	(X)	( )
ONE LANE BRIDGE ( )	( )	(X)	( )

Weight Limit Posted
YES ( ) NO (X)
Gross..... Tons
2 Axle..... Tons
3 or more Axles.. Tons

Other Signs or Plaques: NONE

Comments Regarding any Problems with Signing: NONE

Form BIR 3.2
(Rev. 9-22-98)
DT-0081

Bridge Location No. 79 - 10040 - 4.71 - Date _____
Co. Route Log Mile

DECK	Rating	Comments
Wearing Surface	G (F) P C	
Deck - Structural Condition	G F (P) C	SPAN # 2 - SPALLED TO STEEL (243)
Curbs	G F P C	
Median	G F P C	
Sidewalks	G F P C	
Parapet	G (F) P C	
Railing	G F P C	
Paint	G F P C	
Drains	G F P C	
Lighting Standards	G F P C	
Utilities	G F P C	
Joint Leakage	G F P C	
Expansion Joints	G F P C	CONT. DECK
SUPERSTRUCTURE		
Bearing Devices	G F P C	
Beams C.I.B	G (F) P C	
Girders	G F P C	
P C C S	G F P C	
BOLTS (PCCS)	G F P C	
Floor Beams	G F P C	
~~Stringers~~ STABALIZER RODS	(G) F P C	
Diaphragms	G (F) P C	
Bracing	G F P C	
Trusses - General	G F P C	
Portals	G F P C	
Bracing	G F P C	
Paint	G F P C	
Alignment of Members	(G) F P C	

TEXTURE COAT

Condition Rating	G (F) P C	Fading	G (F) P C
Overall Appearance	G (F) P C	Needs Spot Painting	YES ( ) NO (X)
Staining Rating	G (F) P C	Needs Repainting	YES ( ) NO (X)

Comments NONE

Scaling Rating G (F) P C

RECOMMENDATIONS: NONE

CLEAN SEAL JOINTS ( )

CLEAN DRAINS ( )

Form BIR 3.3
(Rev. 9-22-98)
DT-0082

Bridge Location No. 79 - 10040 - 4.71 -
Co. Route Log Mile

Date _____

SUBSTRUCTURE

ABUTMENTS

	Rating	Comments	PILES TO BE REPLACED PILE(S)	ABUTMENT
Caps	G (F) P C			
Breastwall	G F P C			
Wings	G (F) P C			
Backwall	G (F) P C			
Plumb	(G) F P C			
Footing	G F P C			
Piles	G F P C			
Embankment	(G) F P C			
Bearing	(G) F P C			
Slope Paving	(G) F P C			
Rip Rap	G F P C			
Earthquake Devices	(G) F P C			

PIERS

		PILE(S)	PIER
Caps	G F P C		
Columns	G F P C		
Plumb	G F P C		
Footings	G F P C	N/A	
Piles	G F P C		
Bearing	G F P C		
Web	G F P C		
Earthquake Devices	G F P C		

BENTS

		PILE(S)	BENT
Caps	G (F) P C		
Columns	G (F) P C		
Plumb	(G) F P C		
Footings	G F P C		
Piles	G F P C		
Bearing	(G) F P C		
~~Bracing~~ SLOPE PAVING	G (F) P C		
Earthquake Devices	G F P C		

Piles Need Replacement: NO (X) YES ( )

CUT VEGETATION NO ( ) YES (X) (204) HEAVY IN GENERAL

CLEAR DRIFT NO (X) YES ( )

RECOMMENDATIONS: _____

INSPECTION REPORT FOR UNDERPASS ROUTE

Page No.___

Form BIR 3.0A
(Rev. 9-22-98)
DT-1443

Field Report No. _____ Date _____
Previous Report No. _____ Date _____

Bridge No. 79I00400057 (Eleven Digit No.)

Underpass Location No. 79 (Co.) - I0040 (Route) - 0471 (Log Mile) -

-0- (Railroad/Walkway) or ___ (Co.) - ___ (Route) - ___ (Log Mile)

over/under 79 (Co.) - 0J244 (Route) - 0044 (Log Mile)

County Shelby

Structure Name (If Named) _____

Year Constructed _____

Year Widened _____ Year Rehabilitated _____

GEOMETRIC FEATURES UNDER BRIDGE *(*.* ft. unless otherwise noted)*

Divided Highway LEFT RDWY ( ) RIGHT RDWY ( ) N.A. (X)

Type of Wearing Surface CONCRETE ( ) ASPHALT (X) GRAVEL ( )

Width of Approach Traveled Roadway	30 ft. (Does Not Include Shoulders)			
Width of Median if Divided Highway	N/A ft.			
Approach Shoulder Width	4' ft.	Right	4' ft.	Left
*Horizontal Clearance Under Bridge	32 ft.		0 IN.	
*Distance Between Pier Protection Guardrail and Substructure	N/A ft.	Right	N/A ft.	Left
*Width of Sidewalk Under Bridge	N/A ft.	Right	N/A ft.	Left
*Minimum Vertical Clearance:	14 ft.		6 in.	

*Show on Sketch

TRAFFIC SAFETY FEATURES FOR UNDERPASS ROUTE

		STANDARD	SUB-STANDARD	NON EXIST
Pier Protection Railing or Parapet	G F P C	( )	( )	(X)
Approach Guardrail Transitions	G F P C	( )	( )	(X)
Approach Guardrail	G F P C	( )	( )	(X)
Approach Guardrail Terminal	G F P C	( )	( )	(X)

SIGNING FOR UNDERPASS ROUTE

Paddleboards	YES ( )	NO (X)	NEEDED ( )
Vertical Clearance (<14'-6")	YES ( )	NO (X)	NEEDED (X)
Narrow Passage	YES ( )	NO (X)	NEEDED ( )
One Lane Passage	YES ( )	NO (X)	NEEDED ( )

Other Underpass Signs Needed

MINIMUM VERTICAL CLEARANCE IS 14'6". SIGN NEEDED.

INSPECTORS

1. BYRD
2. LOVE
3. ___
4. ___
5. ___
6. ___

Page No.___

Form BIR 3.0A (Continued)
(Rev. 9-22-98)
DT-1443

Date _____

Underpass Location No. 79 - 10040 - 0471 -
Co. Route Log Mile

Other Signs or Plaques: NONE

Comments Regarding any
Problems with Signing: VERTICAL CLEARANCE SIGN NEEDED.

BRIDGE FEATURES *(*.* ft.)*

Bridge Skew 90 °

Structure Type (Main Span) CIB No. Main Spans 1

Structure Type (Appr.Spans) CIB No. Appr. Spans 2

Maximum Span Length 36 (ft.) Total Length 67 (ft.)

Width of Bridge Out-to-Out 114.8 (ft.) Right Angle to Centerline of Bridge)

Width of Bridge Along Skew _____ (ft.) (If Unable to Measure at Right Angle to Centerline of Bridge)

Number of Lanes/Tracks on Bridge 6

BRIDGE CONDITION: G F P C

Does Potential Exist for Elements from Bridge Falling on Roadway Beneath YES (X) NO ( )

Does Potential Exist Because of Deteriorated Condition or Failure of Major Member YES (X) NO ( )

Comment on any Conditions of Bridge that would Effect Roadway Beneath:

NONE

Note: If Underpass Route is Divided Highway, Use Two of These Forms, One for Each Roadway.

MINIMUM PICTURES REQUIRED

1. Elevation View of Bridge on Both Sides Showing Underpass
2. View Showing Both Approaches to Bridge
3. View Showing Safety Features
4. View Showing Any Problems

Inspection Team's Summary

Bridge Location No. 79 -I0040 -04.71 -

Inspection Date 08-08-03

Bridge Rating FAIR

This three barrel CIB bridge with concrete substructure is in fair condition. Substandard bridgerails, substandard guardrails & terminals are in place. Span #2 bottom of deck is spalled to steel. Min. vertical under clearance is 14'6". No low clearance signs posted.

Carolyn Adams

INSPECTOR

CROSS SECTION: YES ( ) NO (X) PONTIS: YES ( ) NO (X)

AUG 1 2 2003

2003

79I00400057 | 79 | I0040 | 0471 | | SKEW: 90

BRIDGE NO.: | CO. | ROUTE | L.M. | L/R

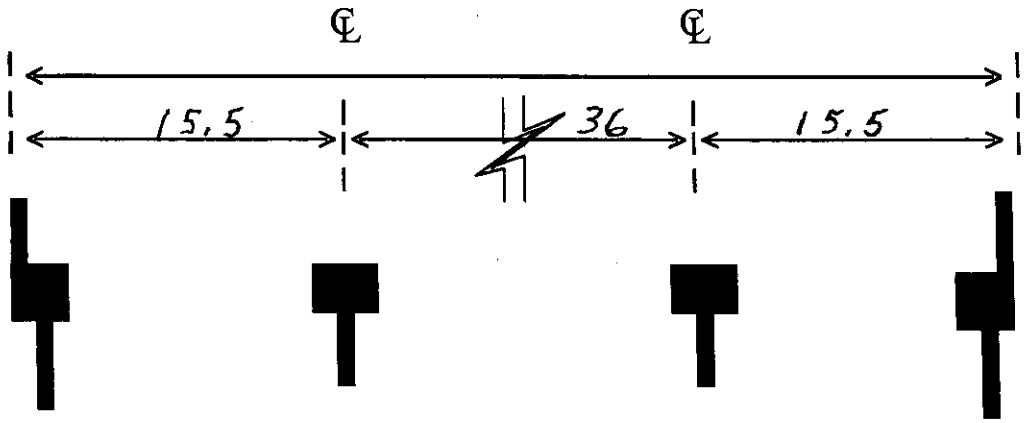
Direction of Route →

F = FIXED

E = EXPANSION

S = SIMPLE

C = CONTINUOUS



ABUT #1 BENT #1 ABUT #2

SIDE OF BRIDGE

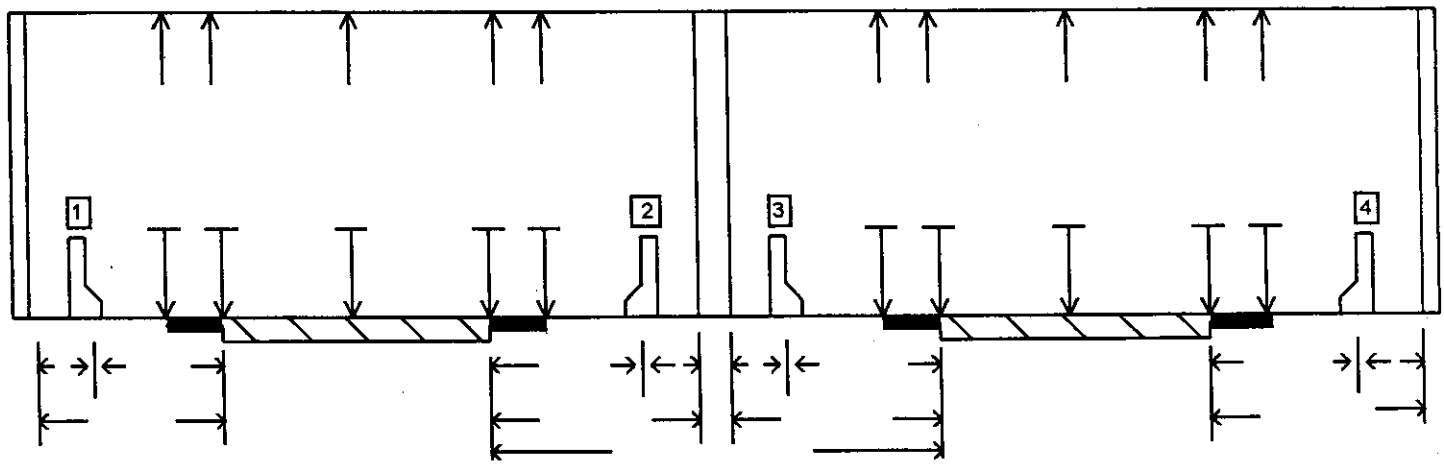
BIR 3.10
Rev. 06/22/01
ET-1510

BRIDGE LOC. NO. 79 I0040 0471 -
CO. ROUTE L. M. L/R

DATE: 2003

LATERAL AND VERTICAL CLEARANCES

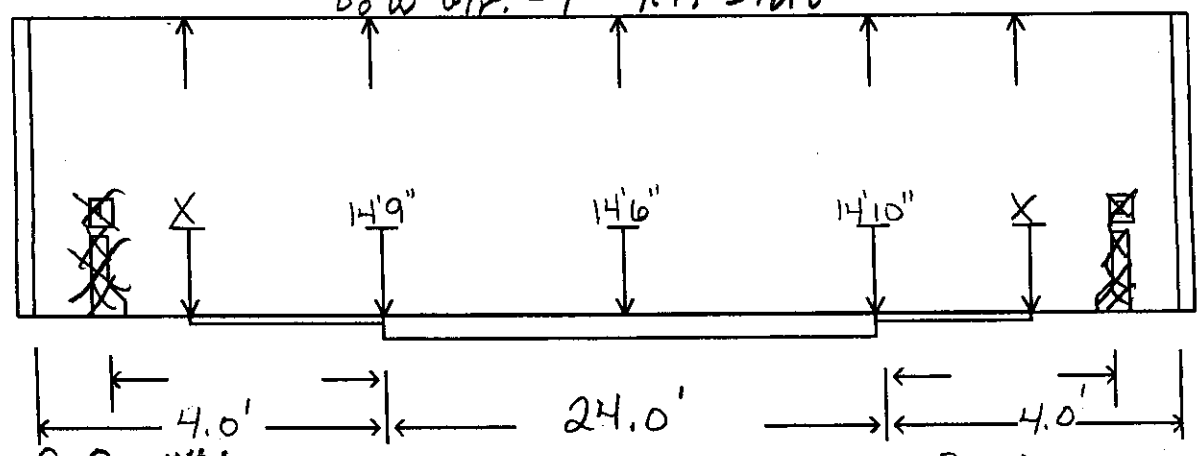
BENT/ABUT._____ BENT_____ BENT/ABUT._____



1.	RAIL/BARRIER TYPE:	W-SHAPE	[ ]	CONC. BARRIER	[ ]	NONE	[X]
2.	RAIL/BARRIER TYPE:	W-SHAPE	[ ]	CONC. BARRIER	[ ]	NONE	[X]
3.	RAIL/BARRIER TYPE:	W-SHAPE	[ ]	CONC. BARRIER	[ ]	NONE	[X]
4.	RAIL/BARRIER TYPE:	W-SHAPE	[ ]	CONC. BARRIER	[ ]	NONE	[X]

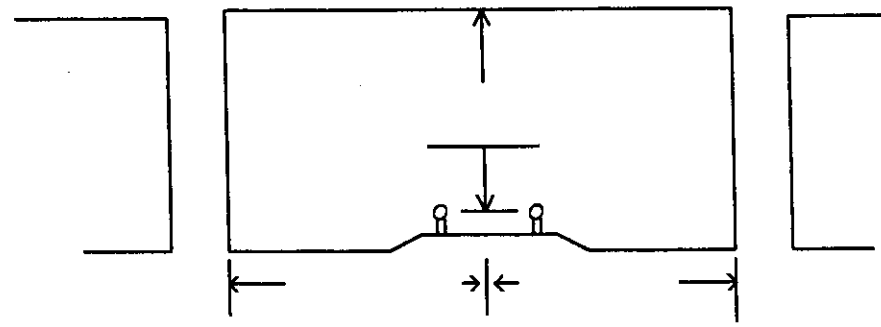
BENT/ABUT. 1 BENT/ABUT. 2

Low Cir. -P- Rt. Side

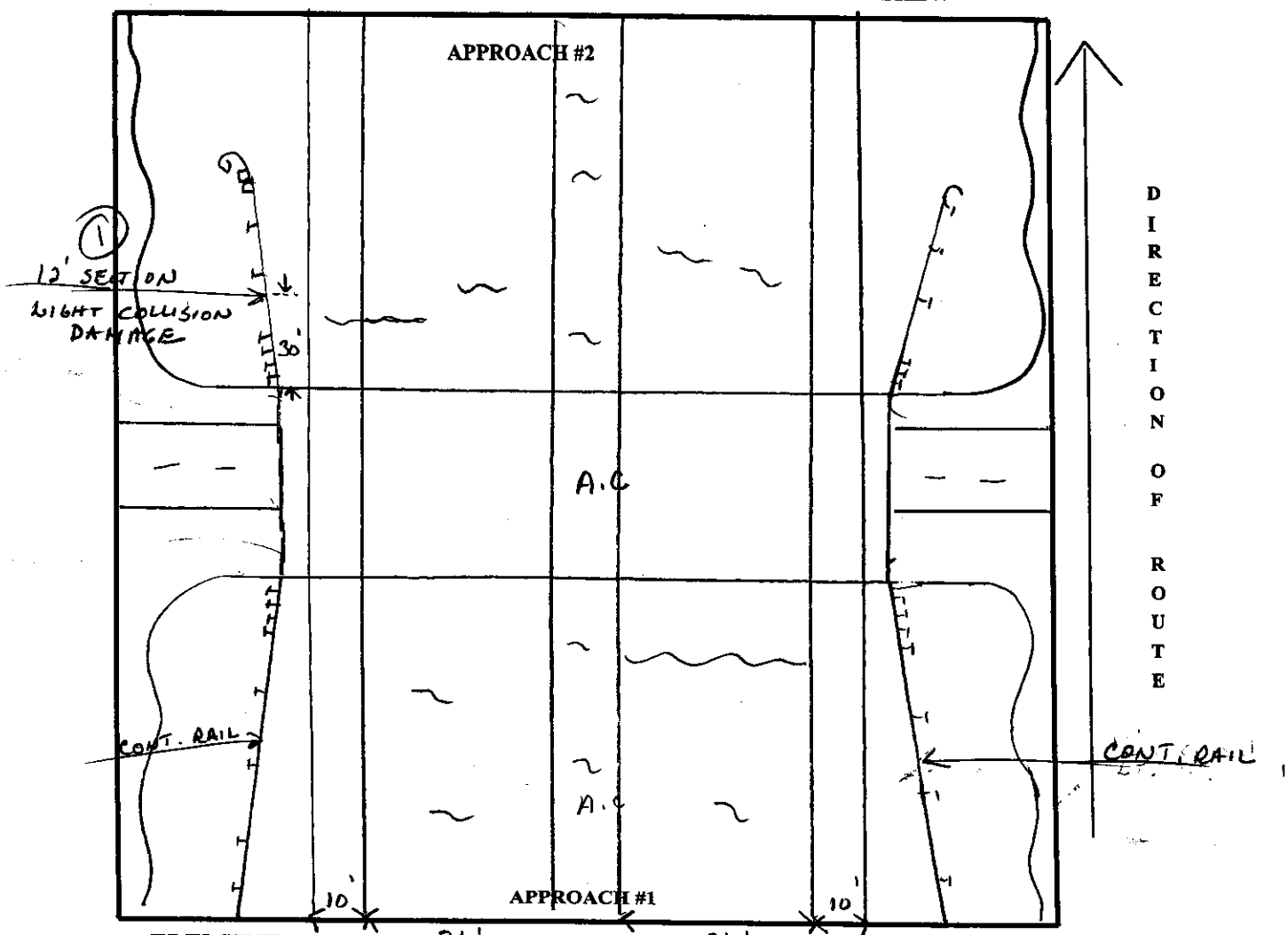


@ Bent #1 Column -F-
BENT/ABUT._____

@ Bent 2 Column -A-
BENT/ABUT._____

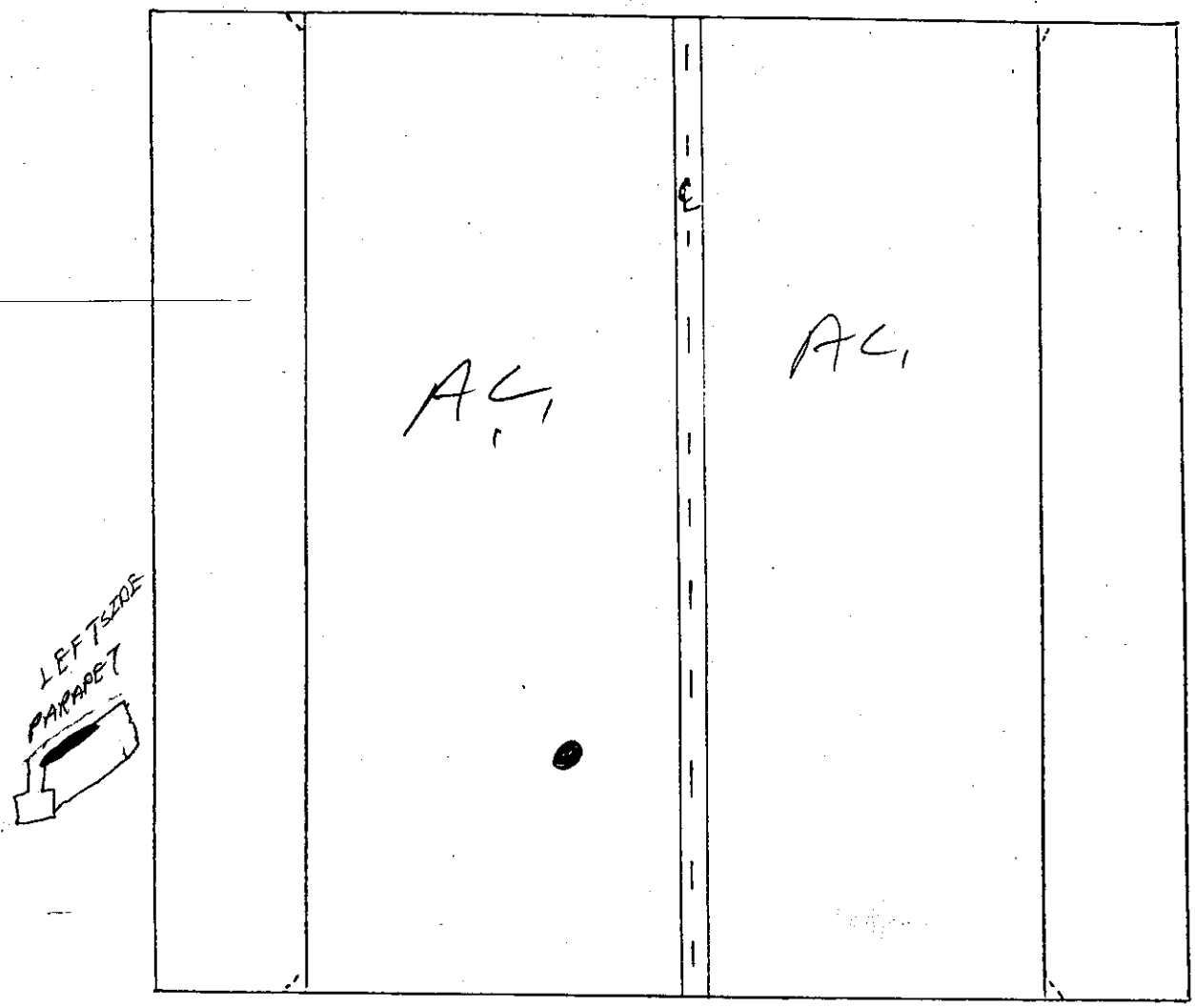


BRIDGE NO.: 79I00400057 | 79 (CO.) | I0040 (ROUTE) | 0471 (LOG MILE) | - | 90 (SKEW) | DATE: _____



ALIGNMENT	(G) F P C	
APPROACH PAVEMENT	G (F) P C	APP. # 1 & 2 - SCATTERED FINE CRACKS
APPROACH SLAB	G F P C	N/V
APPROACH GUARDRAIL	G (F) P C	SEE (1)
EMBANKMENT	(G) F P C	
DRAINS	G F P C	N/A
APPROACH JOINT	G F P C	N/A
SIGNS	G F P C	N/A

BR. NO. 79 I-40 4.71 SPAN NO. 1



ELEMENT	RATING	COMMENT
TOP DECK	G (F) P C	AC SPALLED AREA 5" DIA x 2" D
CURBS	~~G F P C~~	
PARAPET ~~RAIL POST~~	G (F) P C	SPALLED AREA LEFT SIDE 2' x 5" x 2" AND FENCING
DRAINS	G F P C	N/A
JOINTS	G F P C	//
~~PARAPET~~	~~G F P C~~	

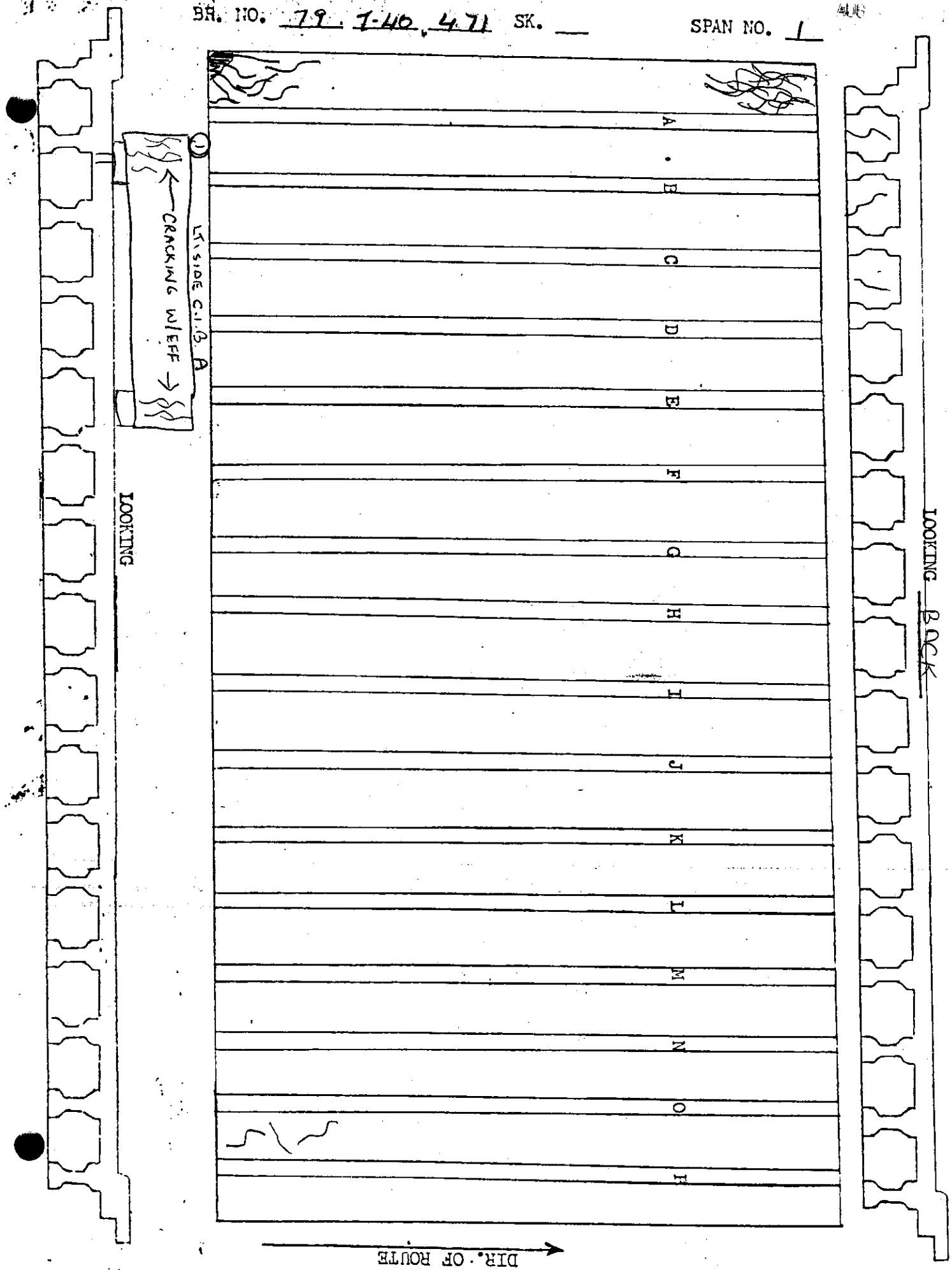
DB

BRIDGE NO. 79 I-40 4.71

BENT NO. _____ SPAN NO. 1 ABT. NO. _____ PIER NO. _____

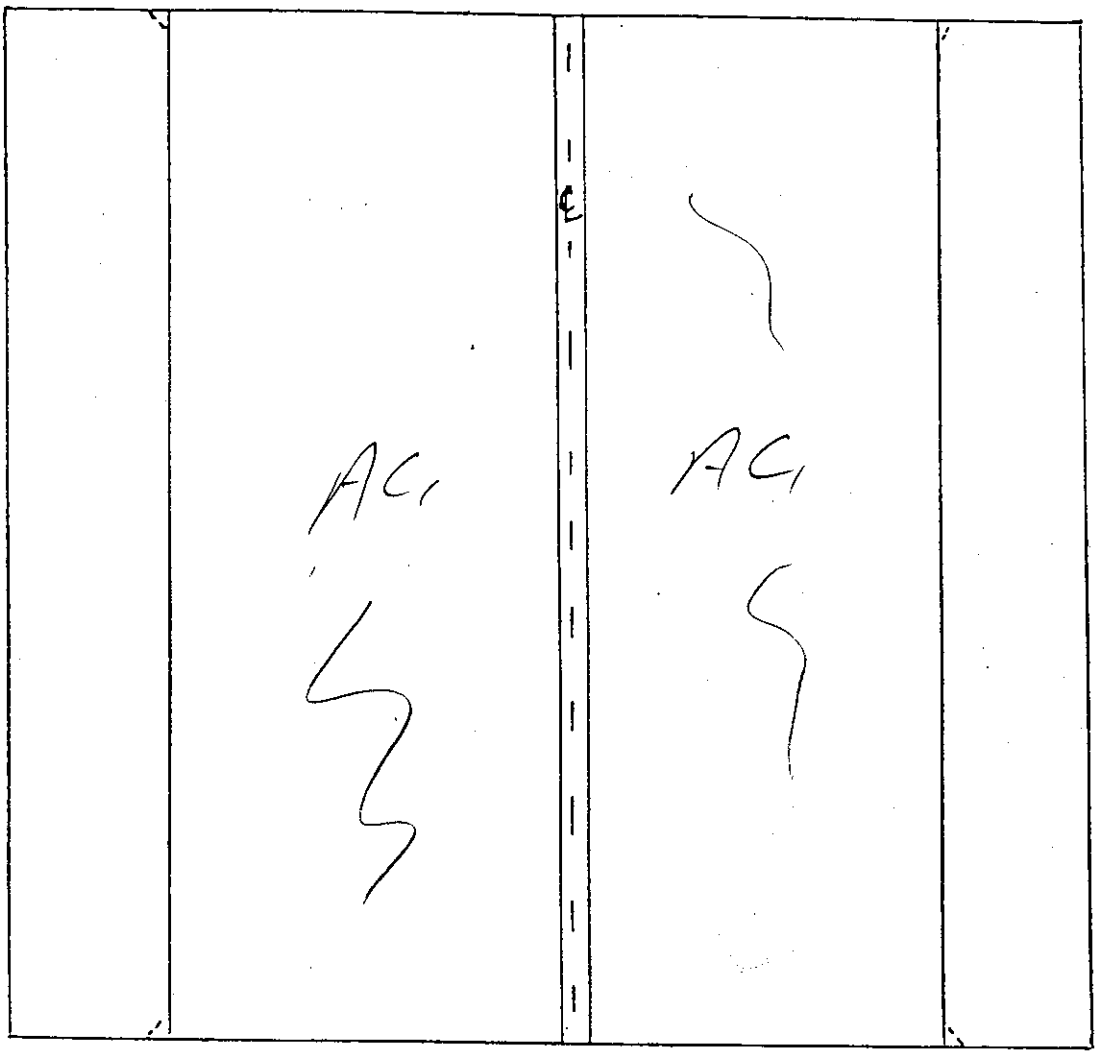
ELEMENT	RATING	COMMENTS
BOTTOM DECK	G (F) P C	MED RAND CRACKING W/EFF.
CONC. I. BEAMS		
A	G (F) P C	SEE (1)
B	(G) F P C	
C	(G) F P C	
D E F	(G) F P C	
_____	G F P C	
G H I	(G) F P C	
_____	G F P C	
J K L	(G) F P C	
_____	G F P C	
M N O	(G) F P C	
_____	G F P C	
P	(G) F P C	
STABILIZERS	(G)	BOLTED FROM SPAN #1 TO SPAN #2
BACKWALLS	G (F) P C	FINE CRACKS

BR. NO. 79 1-40, 471 SK. — SPAN NO. 1



AUG 75

BR. NO. 79 I-40 4.71 SPAN NO. 2



DIR. OF TRAFFIC

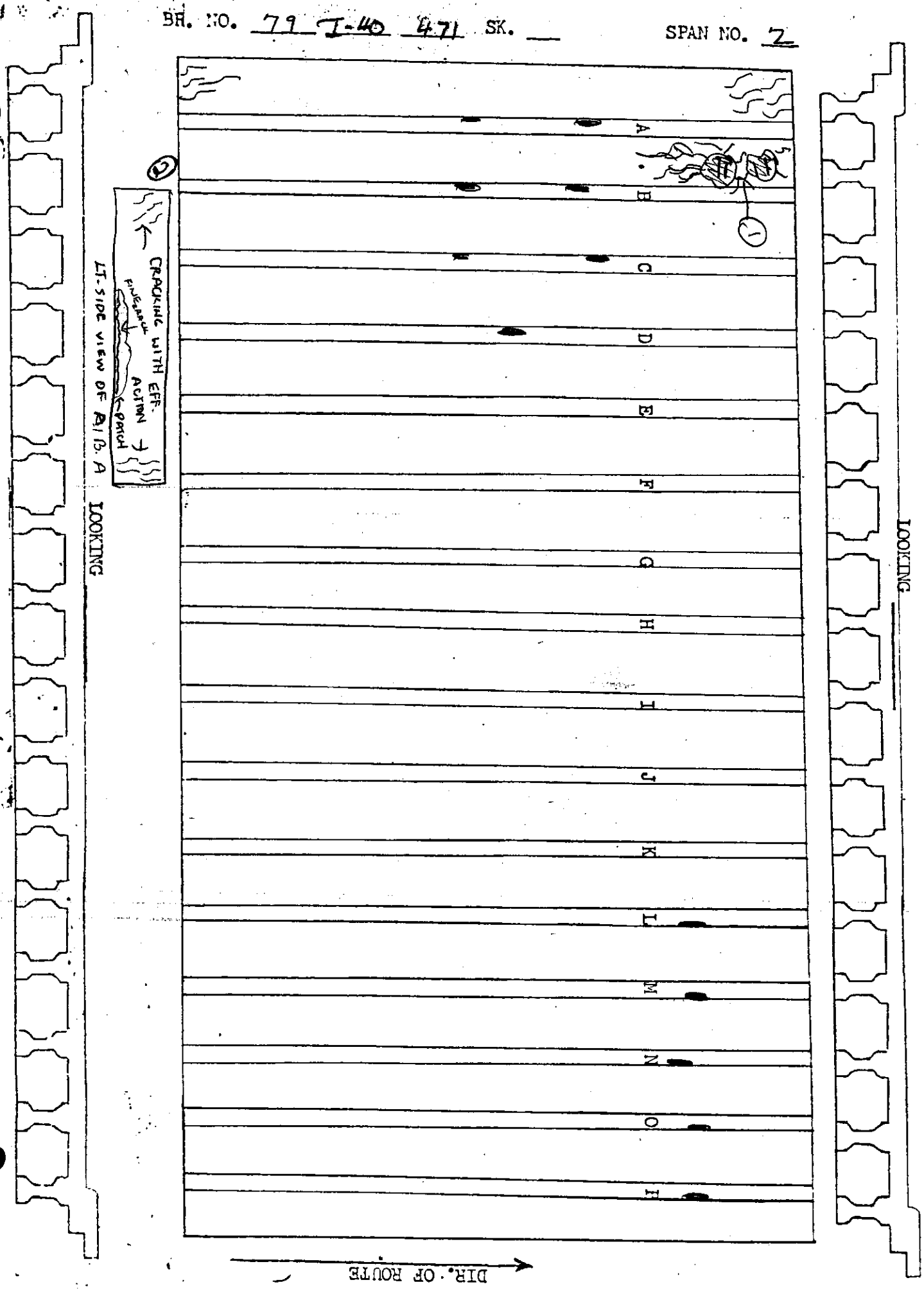
ELEMENT	RATING	COMMENT
TOP DECK	G (F) P C	FINE CRACKS
CURBS	G F P C	
RAILS & POST	~~G P P C~~	
DRAINS	G F P C	N/A
JOINTS	G F P C	
PARAPET	G (F) P C	FINE CRACKS

BRIDGE NO. 79 I-40 471 NB

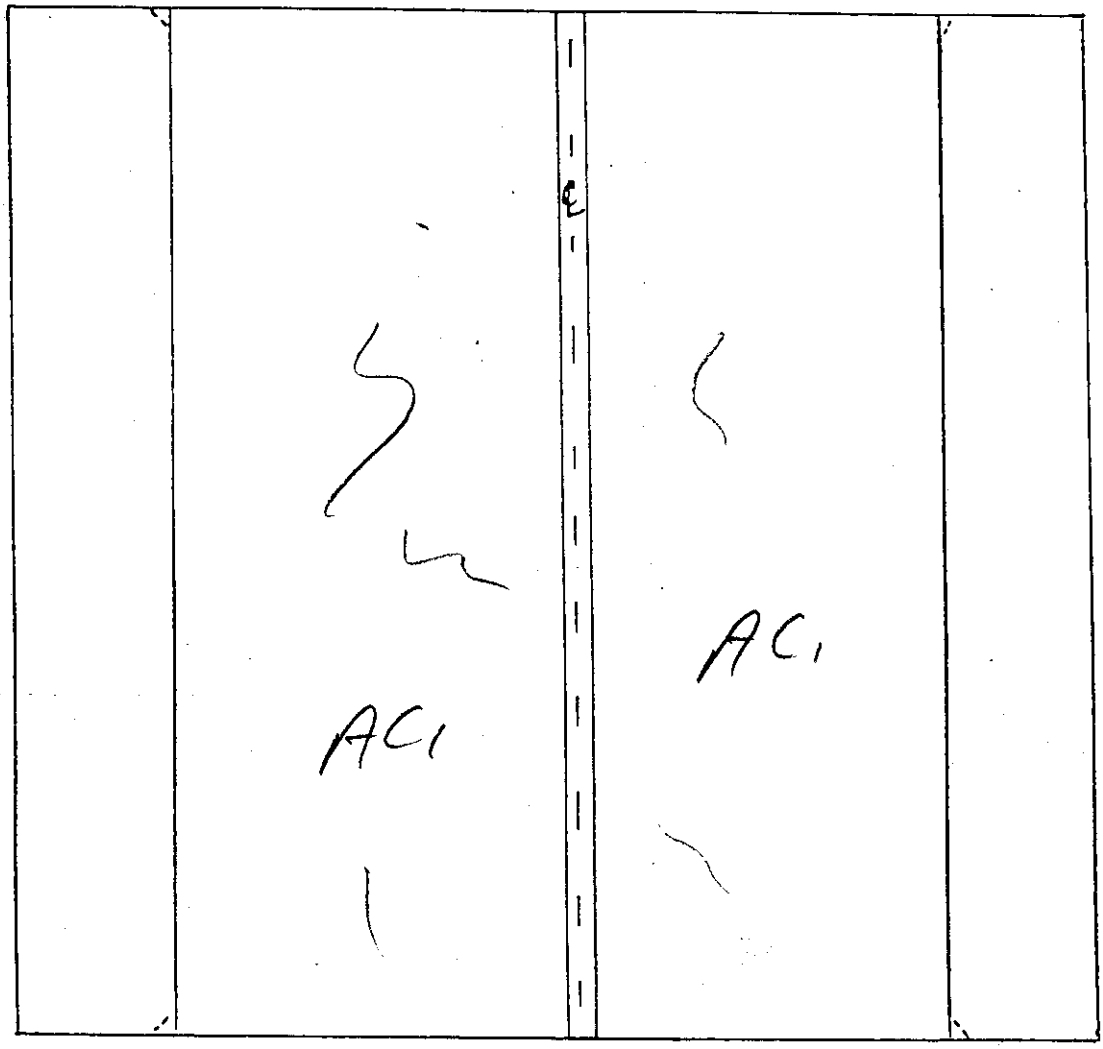
BENT NO. _____ SPAN NO. 2 ABT. NO. _____ PIER NO. _____

ELEMENT	RATING	COMMENTS
BOTTOM DECK	G F (P) C	SEE (1) - SPALLED TO STEEL 1'Lx2'Wx2"D
		WITH CRACKING AND EFF. ACTION
CONC. I. BEAMS		
A	G (F) P C	SEE (2) & COLLISION DAMAGE
B	G (F) P C	COLLISION DAMAGE
C	(F)	| |
D-E-F	(G) F P C	
E	G F P C	
G H I	(G) F P C	
	G F P C	
J K L	(G) F P C	
	G F P C	
M	G (F) P C	COLLISION DAMAGE
N	G (F) P C	| |
O	(F)	| |
P	G (F) P C	| |
STABILIZER	(G)	BOLTED FROM SPAN #2 TO SPAN #3
BACKWALLS	G F P C	
DIA	(G) P C	FULL

BR. NO. 79 I-40 471 SK. ___ SPAN NO. 2



BR. NO. 79 I-40 4.71 SPAN NO. 3



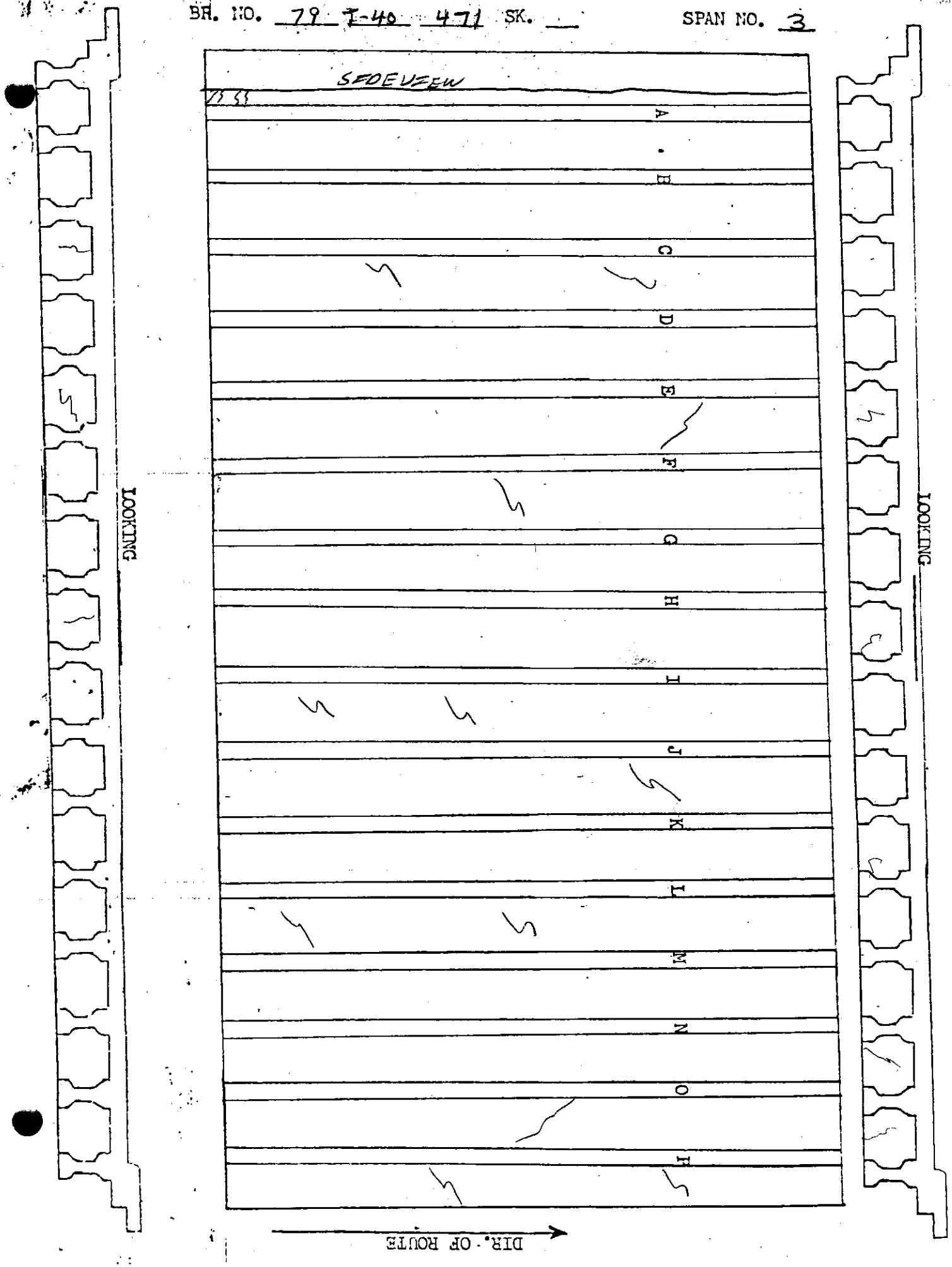
ELEMENT	RATING	COMMENT
TOP DECK	G (F) P C	SCATTERED FINE CRACKS
CURBS	G ~~F P C~~	
RAILS & POST	G ~~F P C~~	
DRAINS	G F P C	N/A
JOINTS	G F P C	N/A
PARAPET	G (F) P C	FINE CRACKS

BRIDGE NO. 79 I40 471

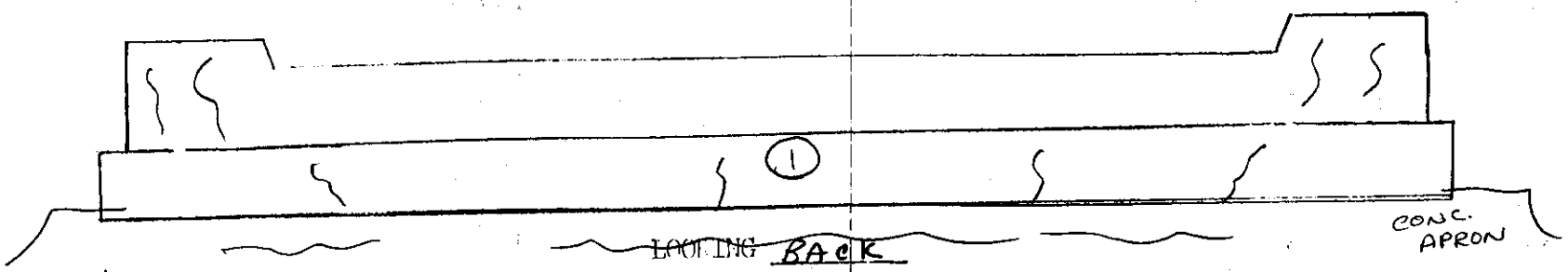
BENT NO. _____ SPAN NO. 3 ABT. NO. _____ PIER NO. _____

ELEMENT	RATING	COMMENTS
BOTTOM DECK	G (F) P C	SCATTERED FINE CRACKS
CONC. I. BEAMS		
A [redacted]	G (F) P C	SCATTERED FINE CRACKS ON LEFT SIDE OF "A"
B C	(G) F P C	
D E F	(G) F P C	
_____	G F P C	
G H I	(G) F P C	
_____	G F P C	
J K L	(G) F P C	
_____	G F P C	
M N O	(G) F P C	
_____	G F P C	
P	(G) F P C	
BACKWALLS	G (F) P C	FINE CRACKS

BR. NO. 79 I-40 471 SK. ___ SPAN NO. 3



DB



BRIDGE NO. 79 140 471 ABUT. NO. 1

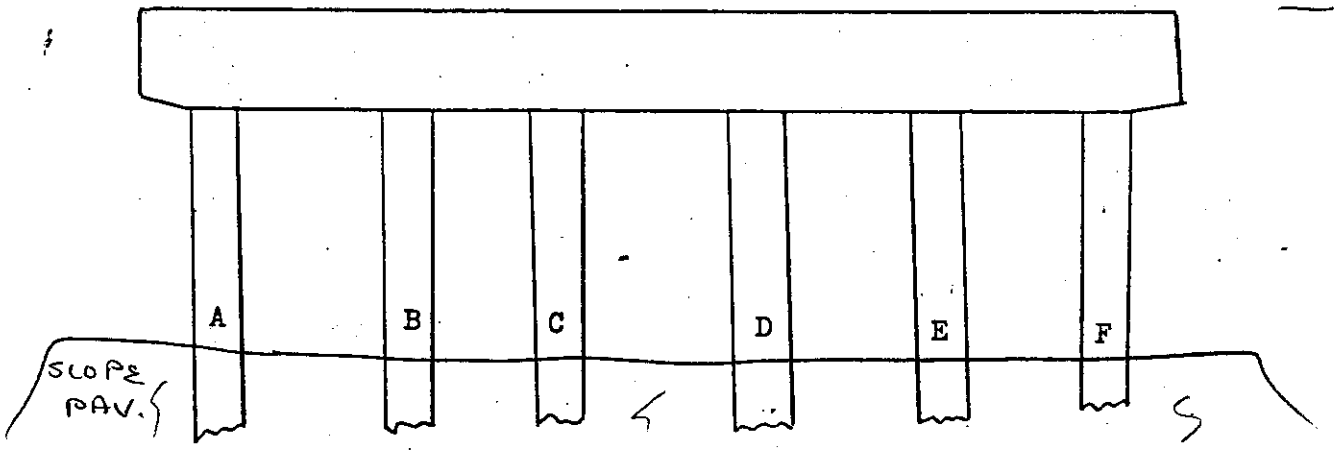
ELEMENT	RATING	COMMENT
BEARING	(G) F P C	
CAP	G (F) P C	FINE CRACKS
RAILINGS.	G (F) P C	FINE CRACKS
SLOPE PAVING	G (F) P C	FINE CRACKS
EMBANKMENT	(G) F P C	
VEGETATION	G F (P) C	HEAVY IN GENERAL
EQ	(G) F P C	(1)

AUG 0 2 20

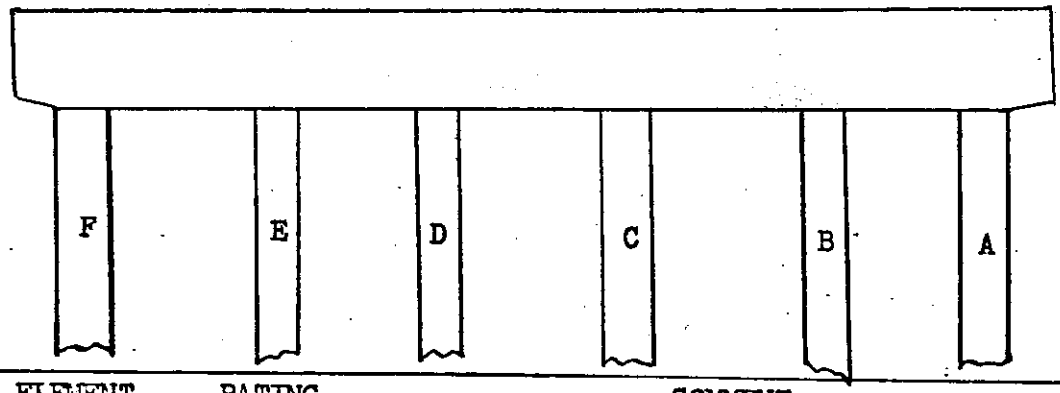
BR. NO. 77 I-40 471 SK. 90' BENT NO. 1

DB

FRONT



REAR

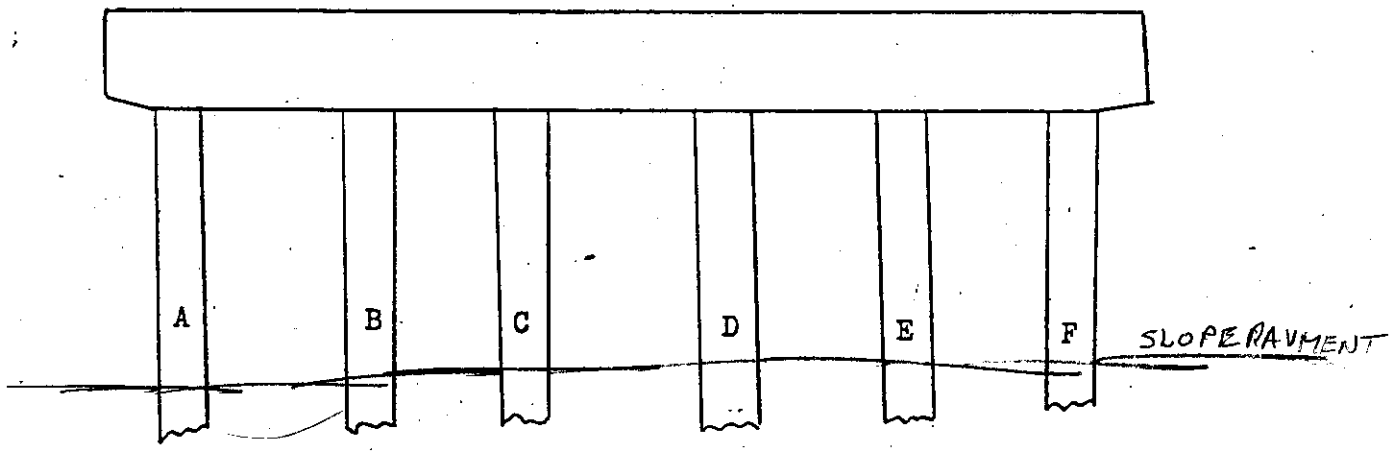


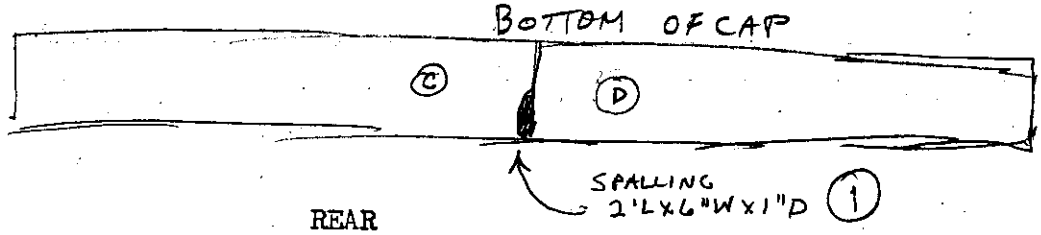
ELEMENT	RATING	COMMENT
BEARINGS	(G) F P C	
CAP	G (F) P C	SCATT. POPOUTS
COLUMNS A	G (F) P C	
B	G (F) P C	
C	G (F) P C	
D	G (F) P C	
E	G (F) P C	
F	G (F) P C	
FOOTING	G F P C	N/V
S.P.	(F)	FINE CRACKS

BR. NO. 79 I-40 4.71 SK. 90° BENT NO. 2

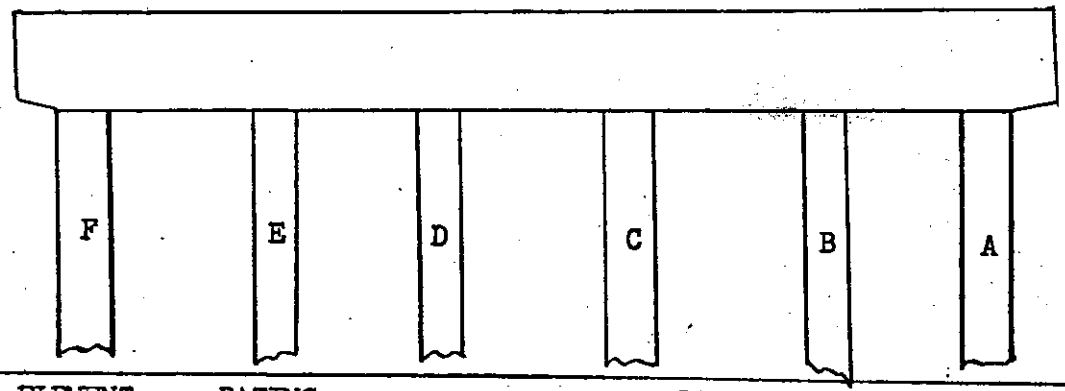
C.A.

FRONT





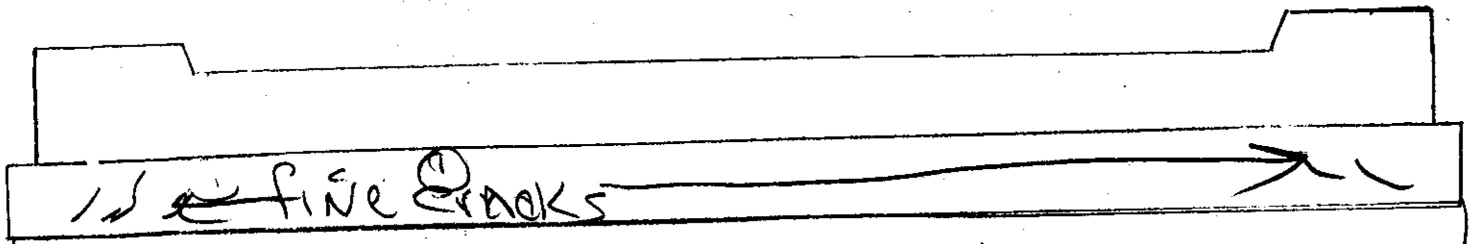
REAR



ELEMENT	RATING	COMMENT
BEARINGS	(G) F P C	
CAP	G (F) P C	SEE (1)
COLUMNS A	G (F) P C	SCATTERED POPOUTS
B	G (F) P C	
C	G (F) P C	
D	G (F) P C	
E	G (F) P C	
F	G (F) P C	
FOOTING	G F P C	N/V
SLOPE PAVEMENT	(G)	

BRIDGE NO. 79 I 40 471 ABUT. NO. 2

AUG 0 8 [illegible]

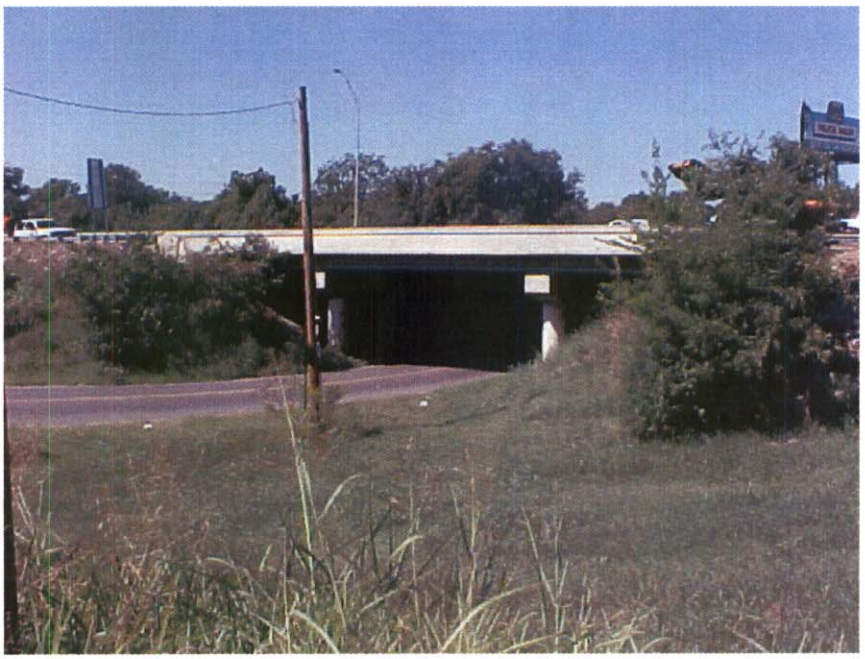


LOOKING Ahead Slope paving

LEMENT	RATING	COMMENT
EARING	(G) F P C	
AP	G (F) P C	fine cracks
INGS.	G (F) P C	Norm Abr.
LOPE PAVING	(G) F P C	
BANKMENT	(G) F P C	
EGETATION	G F (P) C	Heavy in General
EQO	(6)	(1)

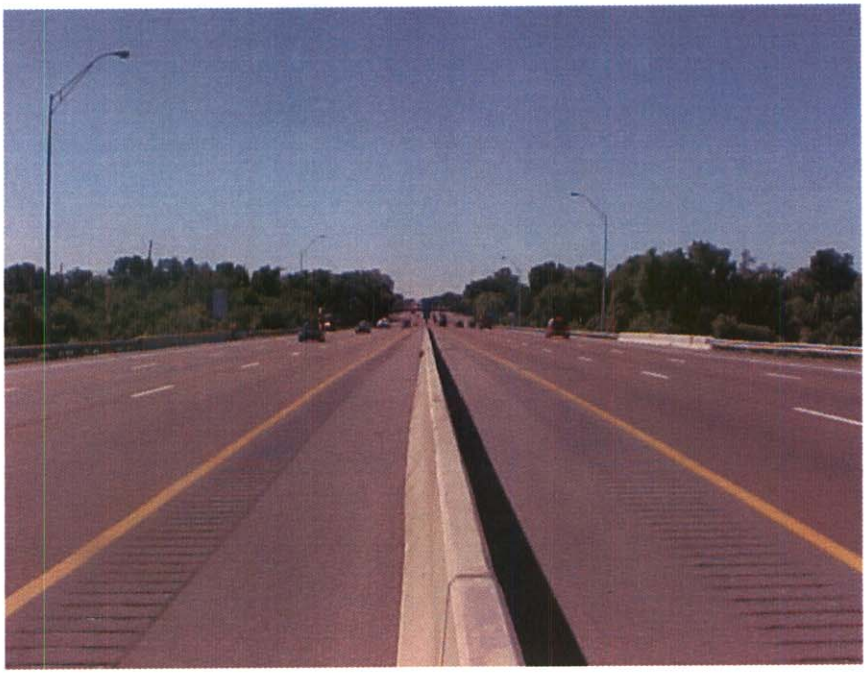
Bridge Loc. No: 79 - I0040 - 04.71 Date: 09-10-01

BRIDGE NO.



ELEVATION RIGHT SIDE

Bridge Loc. No: 79 - I0040 - 04.71 Date: 09-10-01



LOOKING BACK ON ROUTE

VIEW ACROSS TOP OF DECK, LEFT LANE

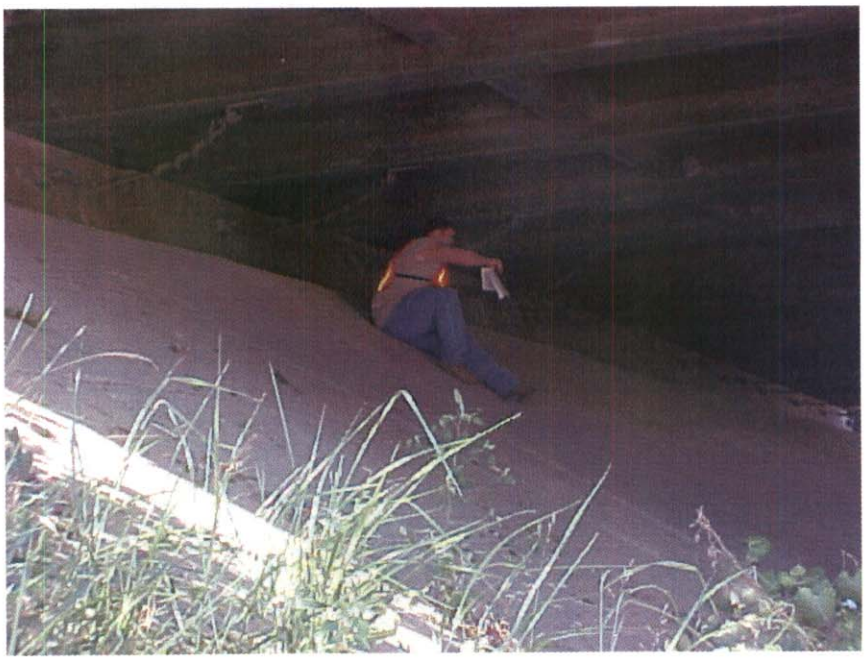
Bridge Loc. No: 79 - I0040 - 04.71 **Date: 09-10-01**

VIEW ACROSS TOP OF DECK, RIGHT LANE

LOOKING AHEAD ON ROUTE

Bridge Loc. No: 79 - I0040 - 04.71 Date: 09-10-01

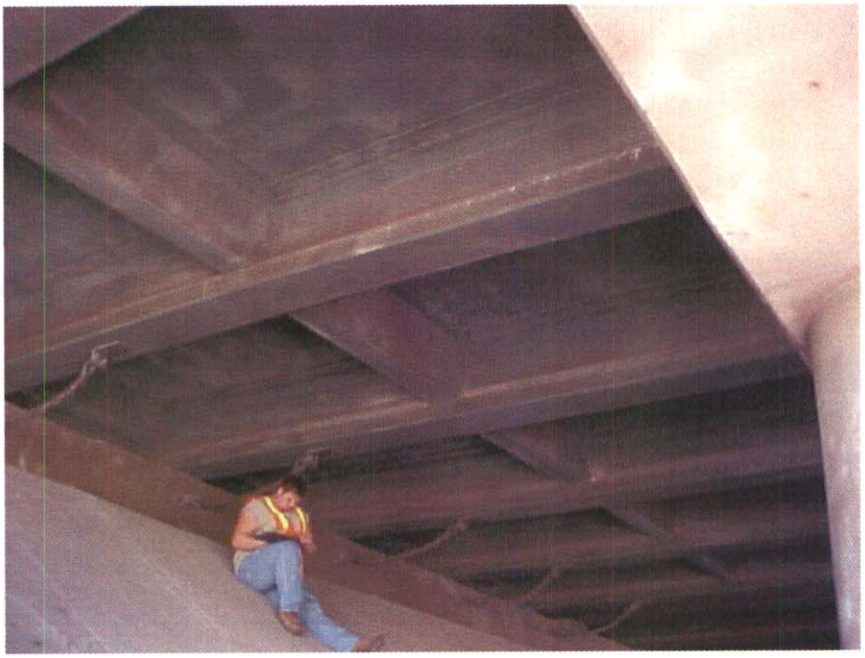
BENT #2



ABUTMENT #1

Bridge Loc. No: 79 - I0040 - 04.71 Date: 09-10-01

SPAN #2, BOTTOM OF DECK



SPAN #1, BOTTOM OF DECK

Bridge Loc. No: 79 - I0040 - 04.71 **Date: 09-10-01**

ELEVATION LEFT SIDE

SEP 1 1 2001

BRIDGE INSPECTION REPORT

Form BIR 3.0
(Rev. 9-22-98)
DT-0069

Field Report No. 15 Date 9-10-01
Previous Report No. 14 Date 1-18-00
Plans: YES (X) NO ( )

Bridge No. 79I00400057 Bridge Location No. 79 - I0040 - 4.71 - 79 - 0J244 - 0044
Eleven Digit No. | Co. Route Log Mile | OVER/UNDER PASS

Road Name over -0- Crossing | Structure Name (If Named)

Year Constructed _____ County Shelby Maintenance District 45

Year Widened _____ Year Rehabilitated _____

FEATURES

Wearing Surface Concrete ( ) Timber ( ) Asphalt (X) Depth 1" (in.)
Flared Width Yes ( ) No (X) Median Width Open ( ) None ( ) Closed (X)
Navigational Control Yes ( ) No (X) Bridge Skew 90° LT ( ) RT ( )
Structure Type (Main Span) CONC. I. BEAM
Structure Type (Appr.Spans) _____
No. Main Spans 3 No. Approach Spans _____
Maximum Span Length _____ (**.* ft.)
Total Length 67.0 (**.* ft.)

INSPECTORS

1. COLLINS
2. ADAMS
3. BYRD
4. REEVES
5. _____
6. _____
7. _____
8. _____

WIDTHS (*.* ft.)

Deck Out-to-Out 144.8
Roadway Curb/Curb _____
Roadway Rail/Rail _____
Sidewalk Rt. _____ Lt. _____
*Approach Roadway 2@36'
*(Does Not Include Shoulders)
Approach Shoulder Rt. 12'
Lt. 8'

CLEARANCES

Min. Vertical Clearance over Deck _____ (ft.-in.)
Min. Vertical Under Clearance 14'6" (ft.-in.)
Min. Lateral Under Clearance Rt. 2.5' (*.* ft.)
Min. Lateral Under Clearance Lt. 0 (*.* ft.)

FRACTURE CRITICAL: _____
(If Yes, Include BIR 3.9)

NBIS Bridge Length (<25 ft.) _____ (ft.-in.)

UNDERWATER INSPECTION

To Be Performed By: Date _____

DOT FIELD TEAM ( ) CONTRACT DIVERS ( ) NONE REQUIRED ( )

Change in Structural Condition: Yes ( ) No (X) Major Repairs Made: Yes ( ) No (X)

COMMENTS:

N - 35° - 10' - 49.5"
W - 90° - 01' - 03.9"

BRIDGE RATING: ( ) (X) ( ) ( )
GOOD FAIR POOR CRITICAL

Supervising Bridge Inspector: [signature]

Form BIR 3.1
(Rev. 9-22-98)
DT-0080

SEP 10 2001

Bridge Location No. 79 - I0040 - 4.71 - (Co. - Route - Log Mile) Date _____

PERFORMANCE EVALUATION

Time of Day Inspected 11:00AM Weather Conditions SUNNY 78°

Vehicles Observed ALL TYPES

LIVE LOAD BEHAVIOR

	YES	NO	Comments
Substructure			
Horiz./ Vert. Defl.	( )	(X)	
Vibration	( )	(X)	
Superstructure			
Horiz./ Vert. Defl.	( )	(X)	
Vibration	( )	(X)	

APPROACH

	Rating	Comments
Alignment	(G) F P C	
Slab	G F P C	
Joints	G F P C	
Pavement	G (F) P C	
Embankment	G (F) P C	
Drains	G F P C	

TRAFFIC SAFETY FEATURES

	Rating	STANDARD	SUB-STANDARD	Comments
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
Paddleboards	( )	(X)	( )
Vertical Clearance (<14'-6")	( )	(X)	( )
NARROW ( )	( )	(X)	( )
ONE LANE BRIDGE ( )	( )	(X)	( )

Weight Limit Posted
YES ( ) NO (X)
Gross..... _____ Tons
2 Axle..... _____ Tons
3 or more Axles.. _____ Tons

Other Signs or Plaques: NONE

Comments Regarding any Problems with Signing:

Form BIR 3.2
(Rev. 9-22-98)
DT-0081

SEP 10 2001

Bridge Location No. 79 - 10040 - 4.71 - Date _____
Co. Route Log Mile

DECK	Rating	Comments
Wearing Surface	G (F) P C	
Deck - Structural Condition	G (F) P C	
Curbs	G F P C	
Median	G F P C	
Sidewalks	G F P C	
Parapet	G (F) P C	
Railing	G F P C	
Paint	G F P C	
Drains	G F P C	
Lighting Standards	G F P C	
Utilities	G F P C	
Joint Leakage	G F P C	CONT. DECK
Expansion Joints	G F P C	

SUPERSTRUCTURE	Rating	Comments
Bearing Devices	G F P C	
Beams C.I.B	G (F) P C	
Girders	G F P C	
P C C S	G F P C	
BOLTS (PCCS)	G F P C	
Floor Beams	G F P C	
Stringers	G F P C	
Diaphragms	(G) F P C	
Bracing	G F P C	
Trusses - General	G F P C	
Portals	G F P C	
Bracing	G F P C	
Paint	G F P C	
Alignment of Members	(G) F P C	

TEXTURE COAT

Condition Rating G (F) P C
Overall Appearance G (F) P C
Staining Rating G (F) P C

Fading G (F) P C
Needs Spot Painting YES ( ) NO (X)
Needs Repainting YES ( ) NO (X)

Comments _____ Scaling Rating G (F) P C

RECOMMENDATIONS: _____ CLEAN SEAL JOINTS ( )

_____ CLEAN DRAINS ( )

Form BIR 3.3
(Rev. 9-22-98)
DT-0082

Bridge Location No. 79 - 10040 - 4.71 -
Co. Route Log Mile

Date _____

SUBSTRUCTURE

PILES TO BE REPLACED

ABUTMENTS

	Rating	Comments	PILE(S)	ABUTMENT
Caps	(G) F P C			
Breastwall	G F P C			
Wings	G (F) P C			
Backwall	(G) F P C			
Plumb	(G) F P C			
Footing	G F P C			
Piles	G F P C			
Embankment	(G) F P C			
Bearing	(G) F P C			
Slope Paving	G (F) P C			
Rip Rap	G F P C			
Earthquake Devices	(G) F P C			

PIERS

		PILE(S)	PIER
Caps	G F P C		
Columns	G F P C		
Plumb	G F P C		
Footings	G F P C N/A		
Piles	G F P C		
Bearing	G F P C		
Web	G F P C		
Earthquake Devices	G F P C		

BENTS

		PILE(S)	BENT
Caps	G (F) P C		
Columns	G (F) P C		
Plumb	(G) F P C		
Footings	G F P C		
Piles	G F P C		
Bearing	(G) F P C		
Bracing	G F P C		
Earthquake Devices	(G) F P C		

Piles Need Replacement: NO (X) YES ( )

CUT VEGETATION NO ( ) YES (X) HEAVY IN GENERAL (204)

CLEAR DRIFT NO (X) YES ( )

RECOMMENDATIONS: _____

SEP 14 2001

Page 1 of 2

INSPECTION REPORT FOR UNDERPASS ROUTE

Page No.___

Form BIR 3.0A
(Rev. 9-22-98)
DT-1443

Field Report No. _____ Date _____
Previous Report No. _____ Date _____

Bridge No. 79I00400057 (Eleven Digit No.)

Underpass Location No. 79 - I0040 - 0471 - (Co. Route Log Mile)

-0- (Railroad/Walkway) or ___ - ___ - ___ (Co. Route Log Mile)

over/under 79 - 0J244 - 0044 (Co. Route Log Mile)

County Shelby

Structure Name (If Named) _____

Year Constructed _____

Year Widened _____ Year Rehabilitated _____

GEOMETRIC FEATURES UNDER BRIDGE *(*.* ft. unless otherwise noted)*

Divided Highway LEFT RDWY ( ) RIGHT RDWY ( ) N.A. (X)

Type of Wearing Surface CONCRETE ( ) ASPHALT (X) GRAVEL ( )

Width of Approach Traveled Roadway 30' ft. (Does Not Include Shoulders)

Width of Median if Divided Highway N/A ft.

Approach Shoulder Width N/A ft. Right N/A ft. Left

*Horizontal Clearance Under Bridge 365 ft. 0 IN.

*Distance Between Pier Protection Guardrail and Substructure N/A ft. Right N/A ft. Left

*Width of Sidewalk Under Bridge N/A ft. Right N/A ft. Left

*Minimum Vertical Clearance: 14' ft. 6 in.

*Show on Sketch

TRAFFIC SAFETY FEATURES FOR UNDERPASS ROUTE

		STANDARD	SUB-STANDARD	NON EXIST
Pier Protection Railing or Parapet	G F P C	( )	( )	(X)
Approach Guardrail Transitions	G F P C	( )	( )	(X)
Approach Guardrail	G F P C	( )	( )	(X)
Approach Guardrail Terminal	G F P C	( )	( )	(X)

SIGNING FOR UNDERPASS ROUTE

Paddleboards	YES ( ) NO (X)	NEEDED (X)
Vertical Clearance (<14'-6")	YES ( ) NO (X)	NEEDED (X)
Narrow Passage	YES ( ) NO (X)	NEEDED ( )
One Lane Passage	YES ( ) NO (X)	NEEDED ( )

Other Underpass Signs Needed

_____

_____

INSPECTORS

1. Collins
2. Byrd
3. _____
4. _____
5. _____
6. _____

SEP 1 0 2001

Page No.___

Form BIR 3.0A (Continued)
(Rev. 9-22-98)
DT-1443

Date _____

Underpass Location No. 79 - 10040 - 0471 -
Co. Route Log Mile

Other Signs or Plaques: NONE

Comments Regarding any Problems with Signing: NONE

BRIDGE FEATURES *(*.* ft.)*

Bridge Skew 90 °

Structure Type (Main Span) C I B No. Main Spans 1

Structure Type (Appr.Spans) C I B No. Appr. Spans 2

Maximum Span Length 36 (ft.) Total Length 67 (ft.)

Width of Bridge Out-to-Out 114.8 (ft.) Right Angle to Centerline of Bridge)

Width of Bridge Along Skew _____ (ft.) (If Unable to Measure at Right Angle to Centerline of Bridge)

Number of Lanes/Tracks on Bridge 6

BRIDGE CONDITION: G (F) P C

Does Potential Exist for Elements from Bridge Falling on Roadway Beneath YES ( ) NO (X)

Does Potential Exist Because of Deteriorated Condition or Failure of Major Member YES ( ) NO (X)

Comment on any Conditions of Bridge that would Effect Roadway Beneath:

NONE

Note: If Underpass Route is Divided Highway, Use Two of These Forms, One for Each Roadway.

MINIMUM PICTURES REQUIRED

1. Elevation View of Bridge on Both Sides Showing Underpass
2. View Showing Both Approaches to Bridge
3. View Showing Safety Features
4. View Showing Any Problems

Inspection Team's Summary

Bridge Location No. 79 - 10040 - 4.71 -

Inspection Date 9-10-01

Bridge Rating FAIR

SFD - 2001

THIS THREE SPAN C.I.B. WITH CONC-
SUBSTRUCTURE BRIDGE IS IN FAIR CONDITION.
ALL TRAFFIC SAFETY FEATURES ARE PRESENT.
THERE ARE NO PROBLEMS WITH THIS BRIDGE.
THE MINIMUM VERTICAL CLEARANCE IS 14'6".
THERE IS NO VERTICAL CLEARANCE SIGN AND IT
IS 14'6" ON RT. SIDE.

Dwt Byrd

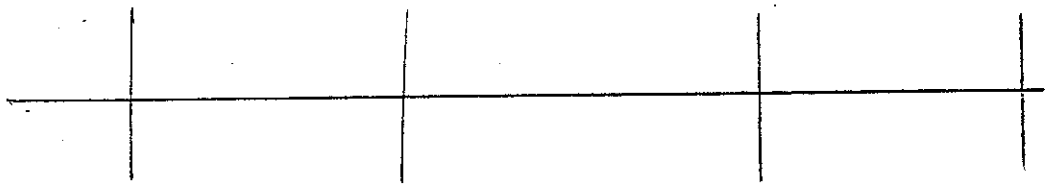
Cross Section: yes ( ) no (X)

Pontis: yes ( ) no (X)

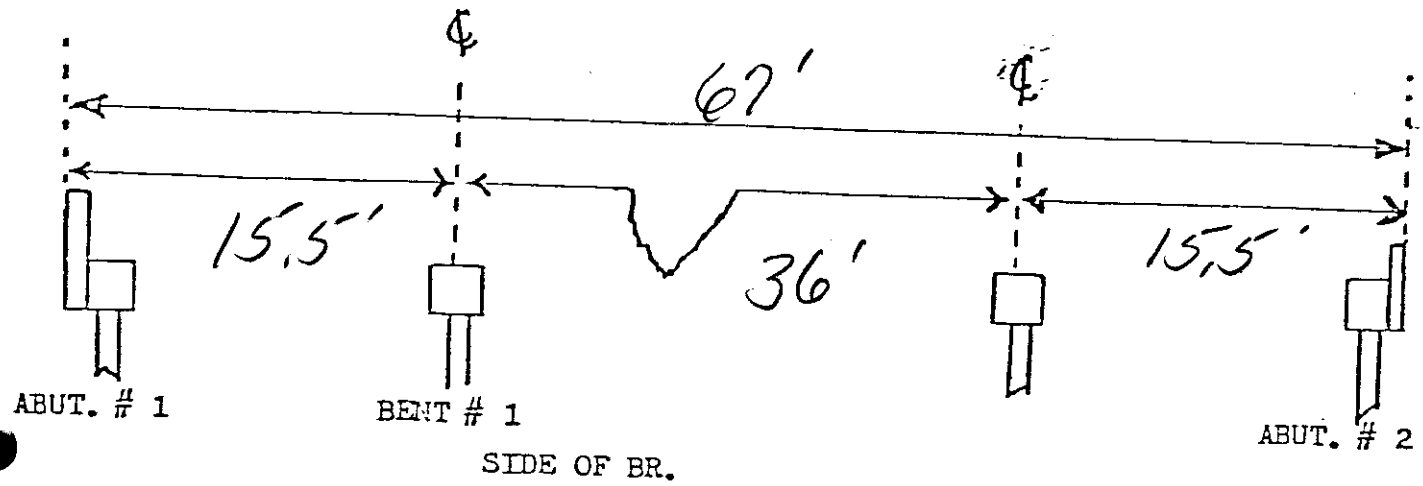
BR. NO. 79 I-40 4.71

SEP 10 2001

DIR. OF ROUTE →



F = FIXED
E = EXPANSION
S = SIMPLE
C = CONTINUOUS



SIDE OF BR.

SEP 1 (illegible)

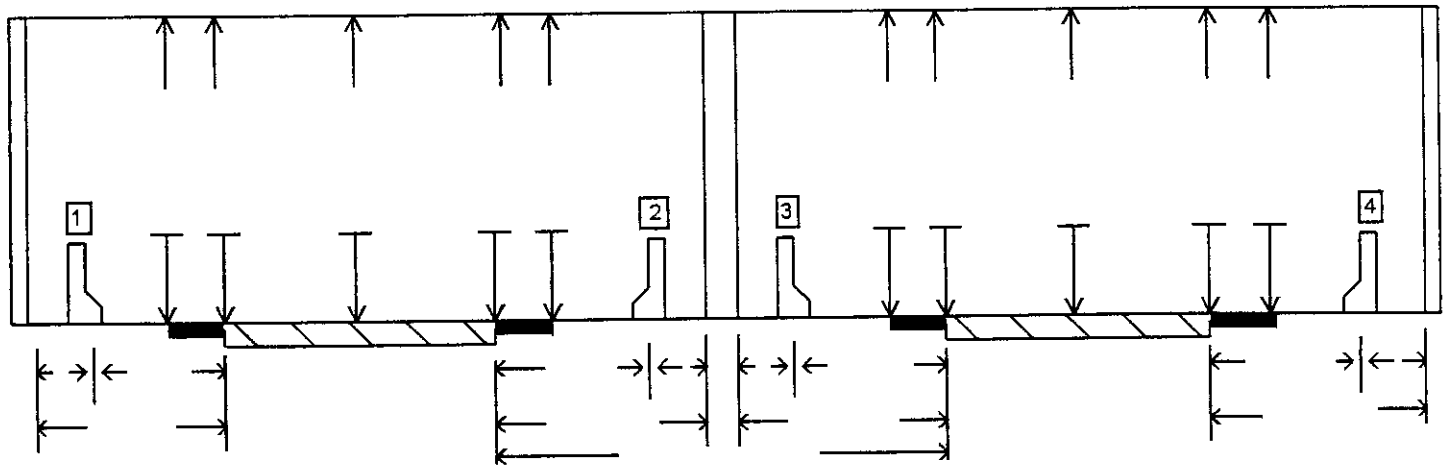
BIR 3.10
Rev. 06/22/01
ET-1510

BRIDGE LOC. NO. 79 I0040 0471 - (CO. ROUTE L. M. L/R)

DATE: 2001

LATERAL AND VERTICAL CLEARANCES

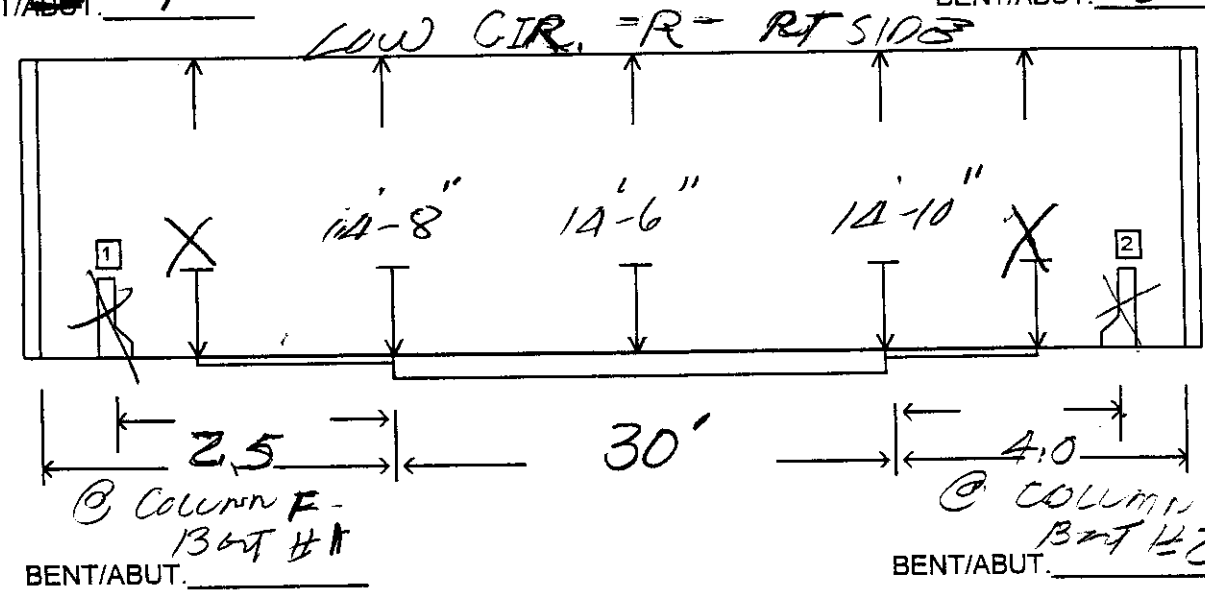
BENT/ABUT._____ BENT_____ BENT/ABUT._____



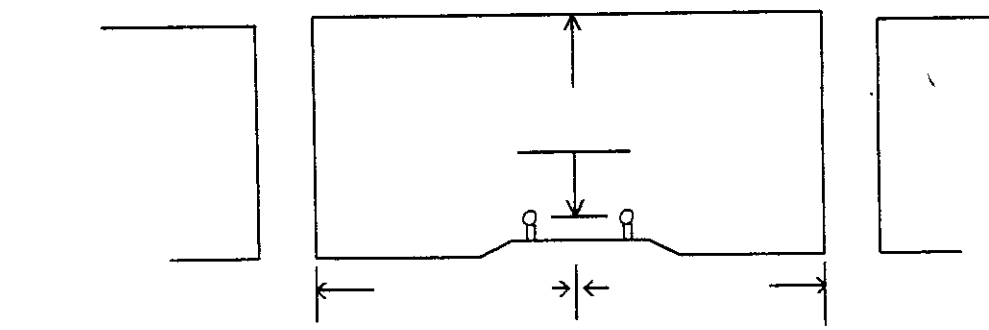
1.	RAIL/BARRIER TYPE:	W-SHAPE	[ ]	CONC. BARRIER	[ ]	NONE	[X]
2.	RAIL/BARRIER TYPE:	W-SHAPE	[ ]	CONC. BARRIER	[ ]	NONE	[X]
3.	RAIL/BARRIER TYPE:	W-SHAPE	[ ]	CONC. BARRIER	[ ]	NONE	[X]
4.	RAIL/BARRIER TYPE:	W-SHAPE	[ ]	CONC. BARRIER	[ ]	NONE	[X]

BENT/~~ABUT~~. 1

BENT/~~ABUT~~. 2



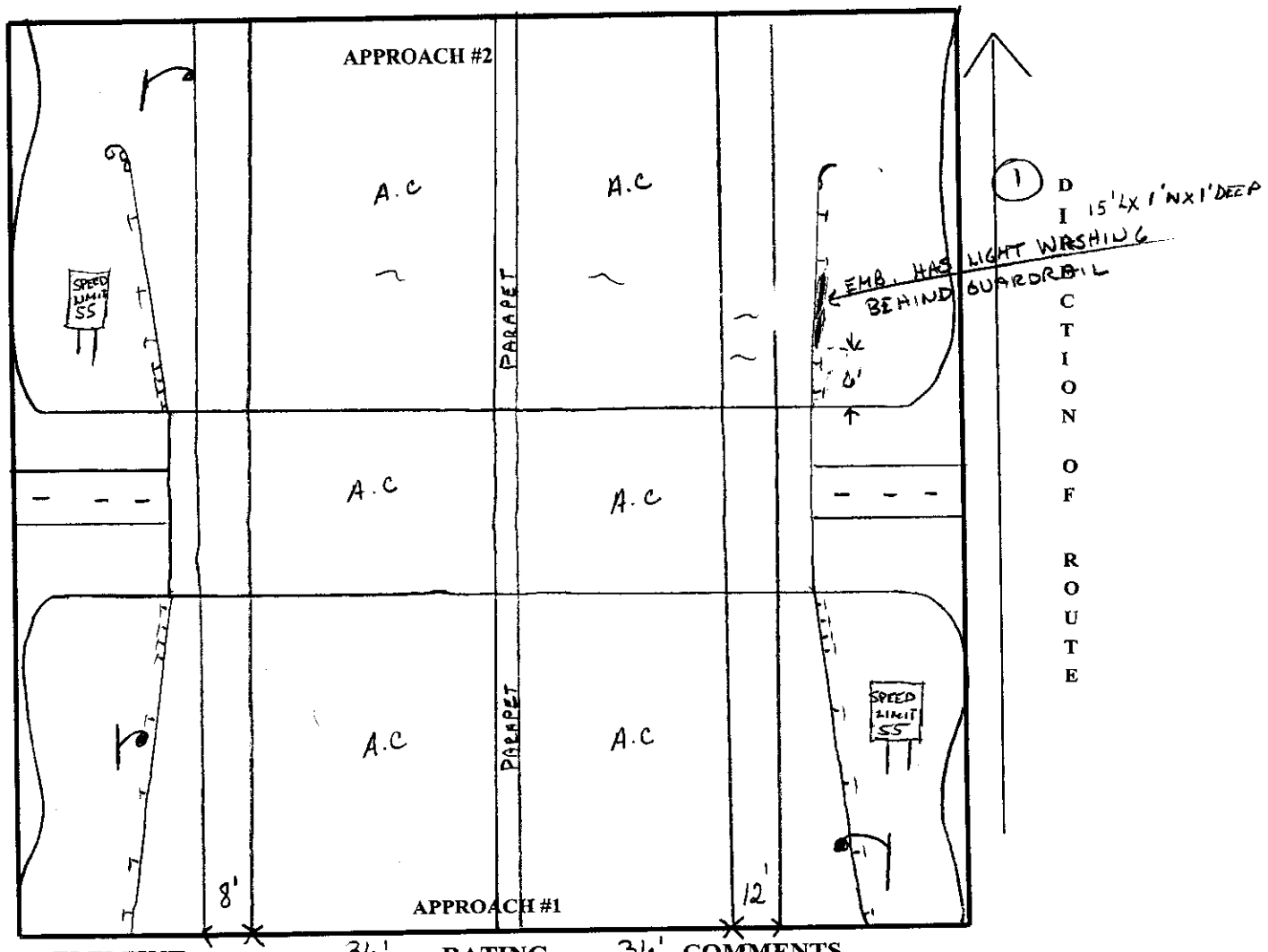
BENT/ABUT._____ BENT/ABUT._____



SEP 1 0 2001

BRIDGE NO.: 79I00400057 | 79 | I0040 | 0471 | - | 90 | DATE: _____

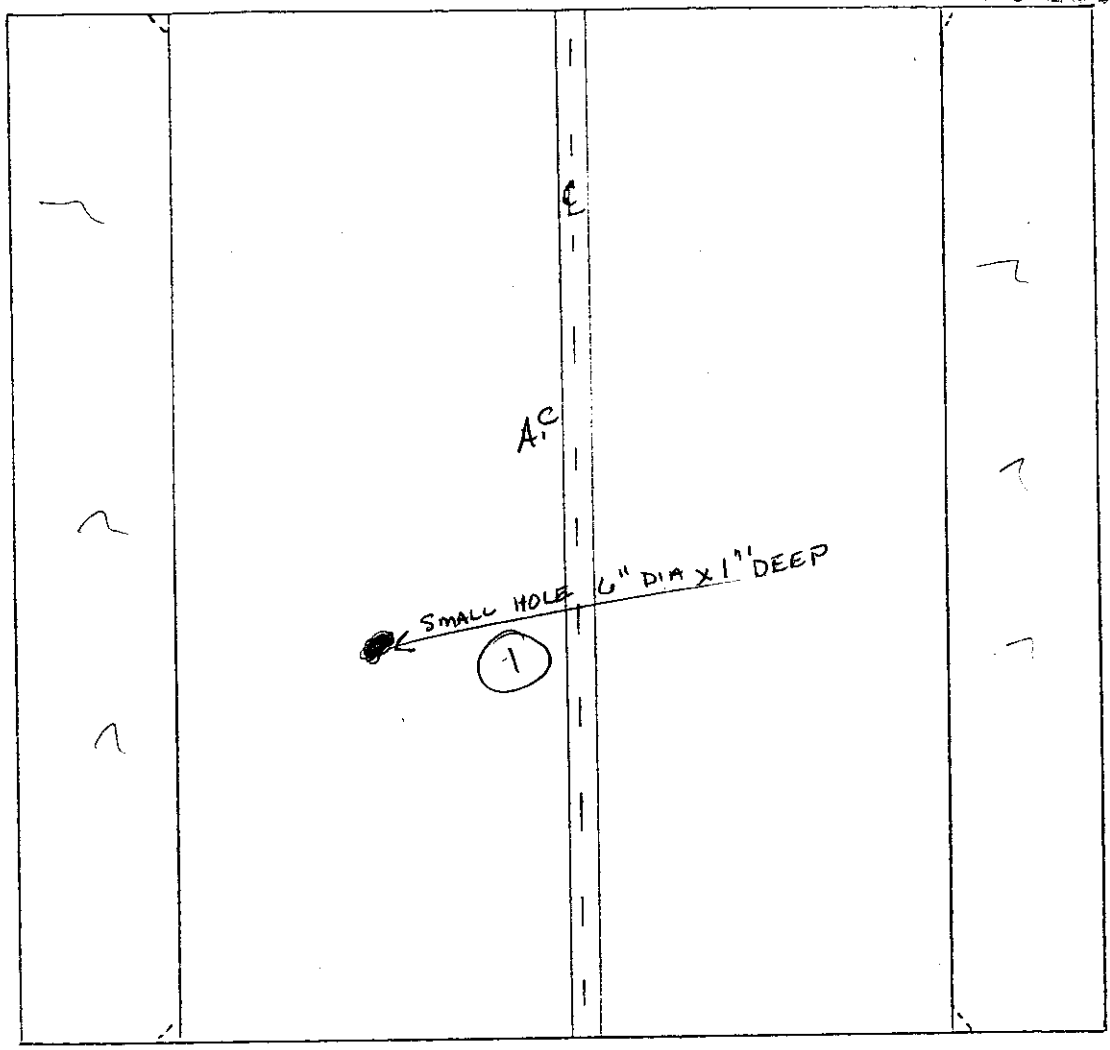
CO. ROUTE LOG MILE L/R SKEW



ELEMENT	RATING	COMMENTS
ALIGNMENT	(G) F P C	
APPROACH PAVEMENT	G (F) P C	SCATTERED FINE CRACKS APP. #2 RT & LT
APPROACH SLAB	G F P C	N/A
APPROACH GUARDRAIL	(G) F P C	
EMBANKMENT	G (F) P C	SEE (1)
DRAINS	G F P C	N/A
APPROACH JOINT	G F P C	N/A
SIGNS	(G) F P C	

BR. NO. 79 I40 4.71 SPAN NO. 1

SEP 1 0 2001



DIR. OF ROUTE

ELEMENT	RATING	COMMENT
TOP DECK	G (F) P C	SEE (1)
CURBS	G F P C	N/A
PARAPET ~~RAIL & POST~~	G (F) P C	SCATTERED FINE CRACKS
DRAINS	G F P C	N/A
JOINTS	G F P C	CONT. DECK
~~RAILS~~	G F P C	N/A

SEP 10 2001

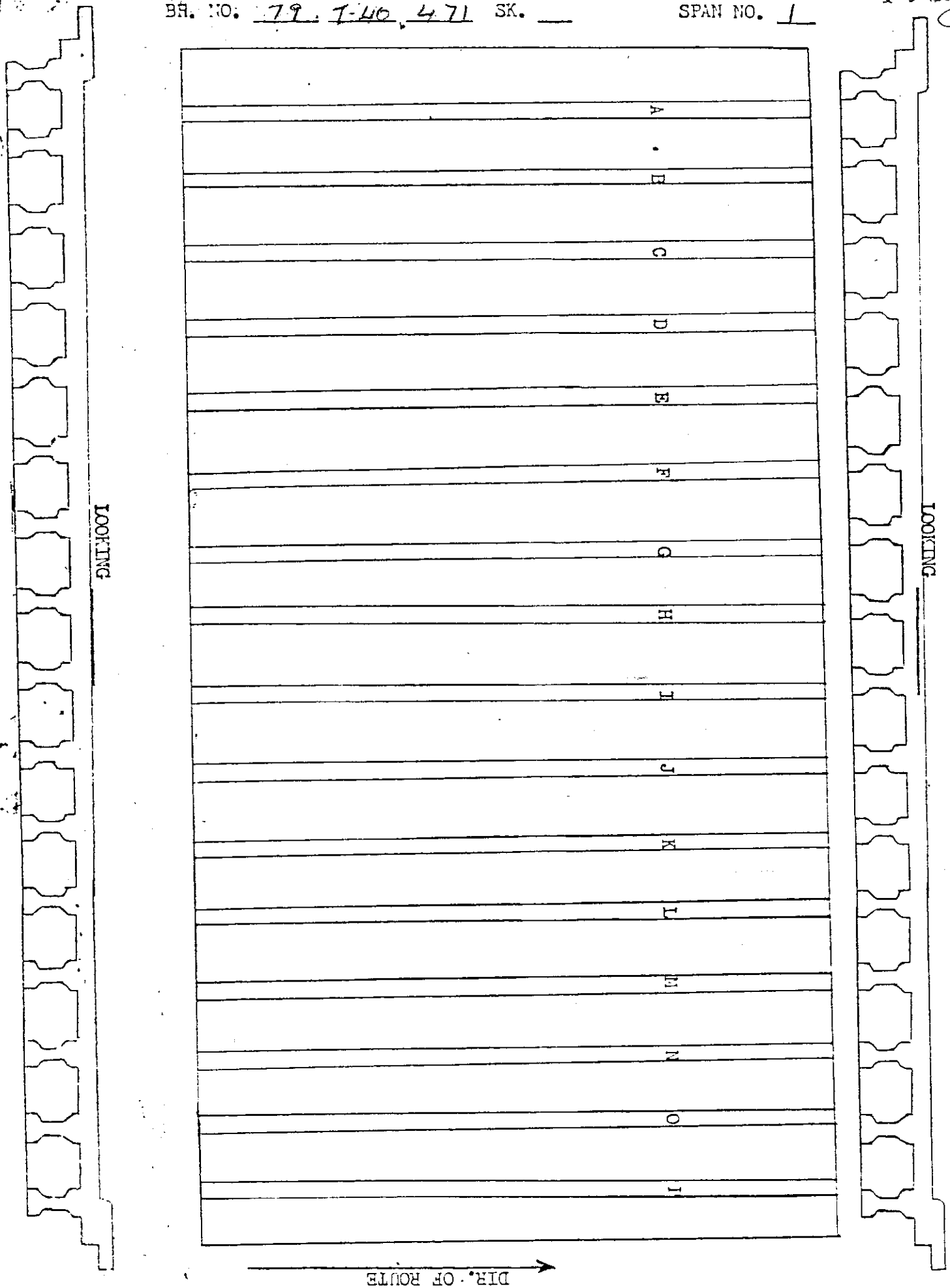
BRIDGE NO. 79 I-40 4.71

BENT NO. _____ SPAN NO. 1 ABT. NO. _____ PIER NO. _____

ELEMENT	RATING	COMMENTS
BOTTOM DECK	(G) F P C	
CONC. I. BEAMS		
A B C	(G) F P C	
_____	G F P C	
D E F	(G) F P C	
_____	G F P C	
G H I	(G) F P C	
_____	G F P C	
J K L	(G) F P C	
_____	G F P C	
M N O	(G) F P C	
_____	G F P C	
P	(G) F P C	
E.Q.	(L)	
BACKWALLS	(G) F P C	
...DIA...	(G) F P C	

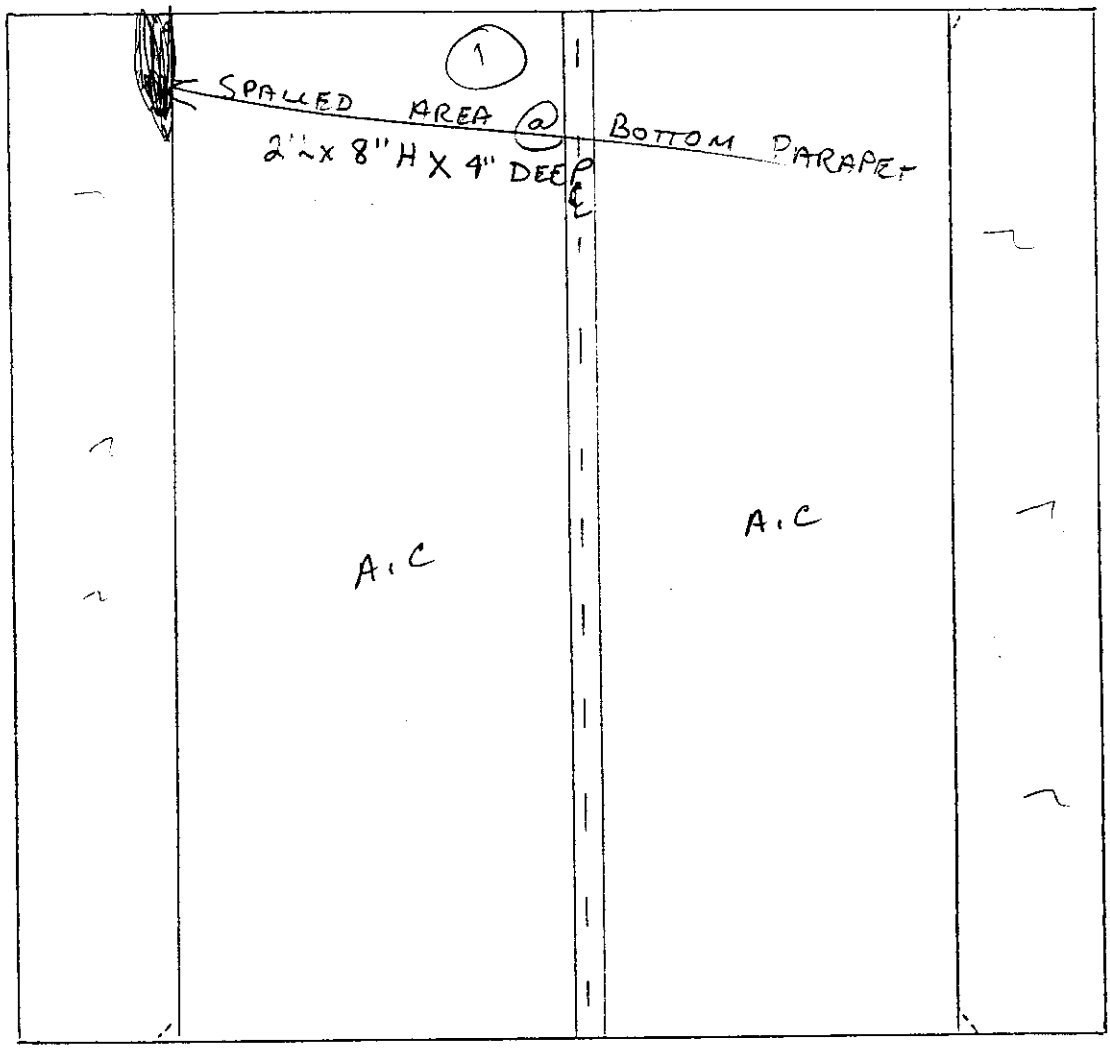
SEP 10 2001

BR. NO. 79-T-40,471 SK. ___ SPAN NO. 1



SEP 1 0

BR. NO. 79 I-40 4.71 SPAN NO. 2



ELEMENT	RATING	COMMENT
TOP DECK	(G) F P C	
CURBS	G F P C	N/A
RAILS & POST	G F P C	N/A
DRAINS	G F P C	N/A
JOINTS	G F P C	N/A
PARAPET	G (F) P C	SEE (1) & SCATTERED FINE CRACKS

SEP 10 2001

BRIDGE NO. 79 I-40 471

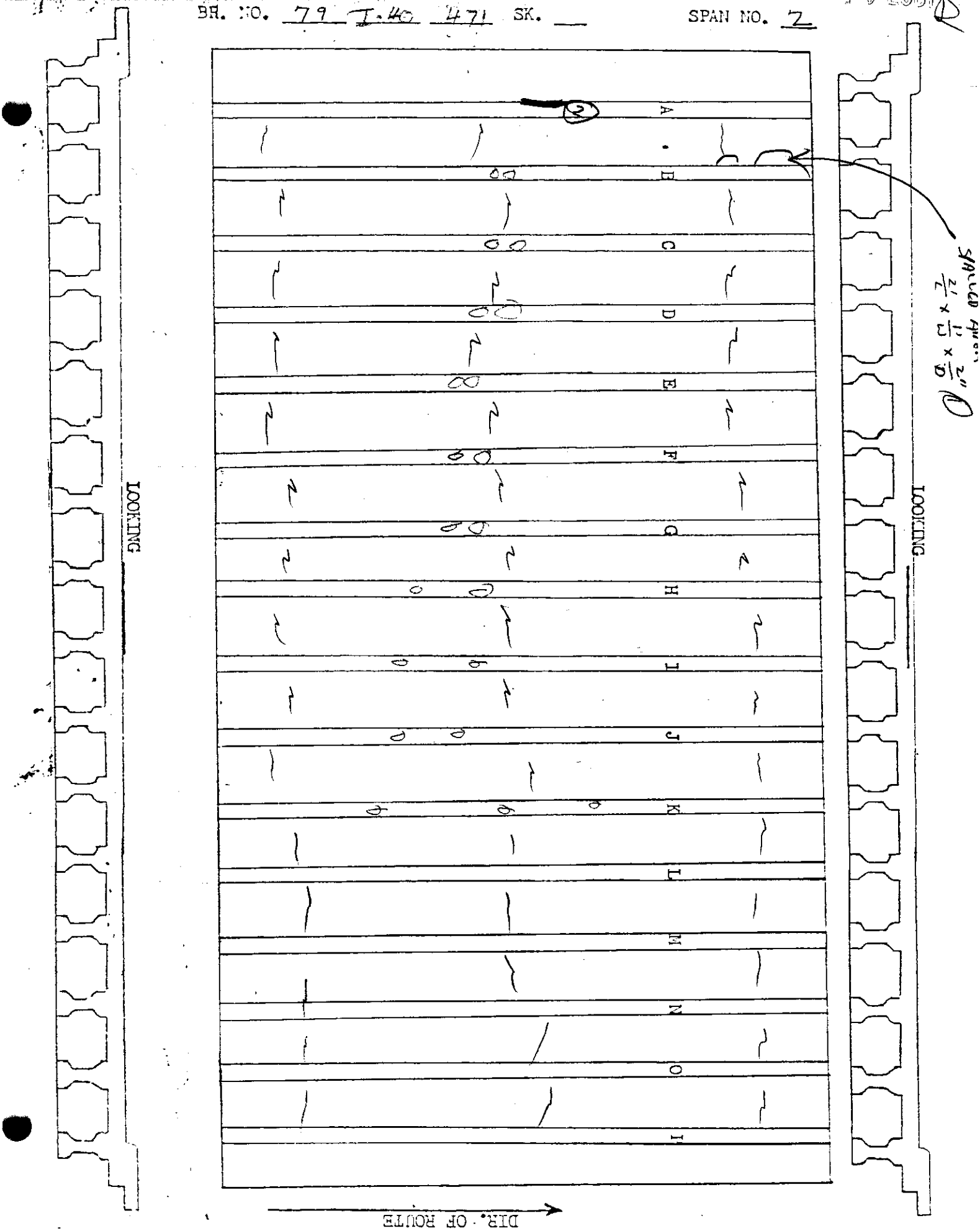
BENT NO. _____ SPAN NO. 2 ABT. NO. _____ PIER NO. _____

ELEMENT	RATING	COMMENTS
BOTTOM DECK	G (F) P C	FINE CRACK) + SEE (1)
CONC. I. BEAMS		
A B C	G (F) P C	"4" SEE (2) CHIPED AREAS
_____	G F P C	
D E F	G (F) P C	
_____	G F P C	
G H I	G (F) P C	
_____	G F P C	
J K L	G (F) P C	
_____	G F P C	
M N O	G (F) P C	
_____	G F P C	
P	G (F) P C	
E.Q.	(C) /	
BACKWALLS	G F P C	
	(C) F P C	

(2)
COLLISION DAMAGE
2' x 6" x 1"

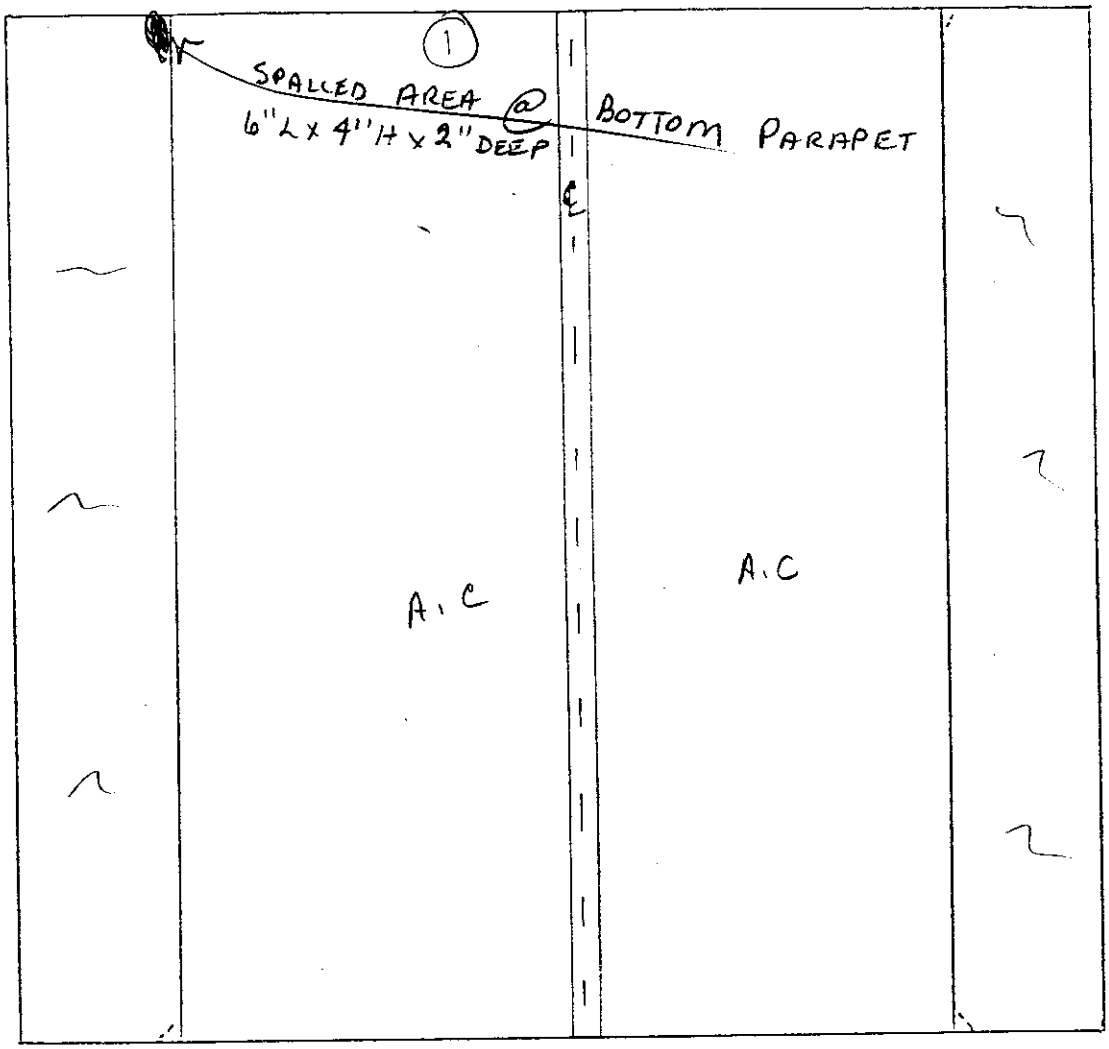
BR. NO. 79 I.40 471 SK. ___ SPAN NO. 2

SEP 10 2001



SEP 19 2003

BR. NO. 79 I-40 4.71 SPAN NO. 3



ELEMENT	RATING	COMMENT
TOP DECK	(G) F P C	
CURBS	G F P C	N/A
RAILS & POST	G F P C	N/A
DRAINS	G F P C	N/A
JOINTS	G F P C	N/A
PARAPET	G (F) P C	SEE (1) & SCATTERED FINE CRACKS

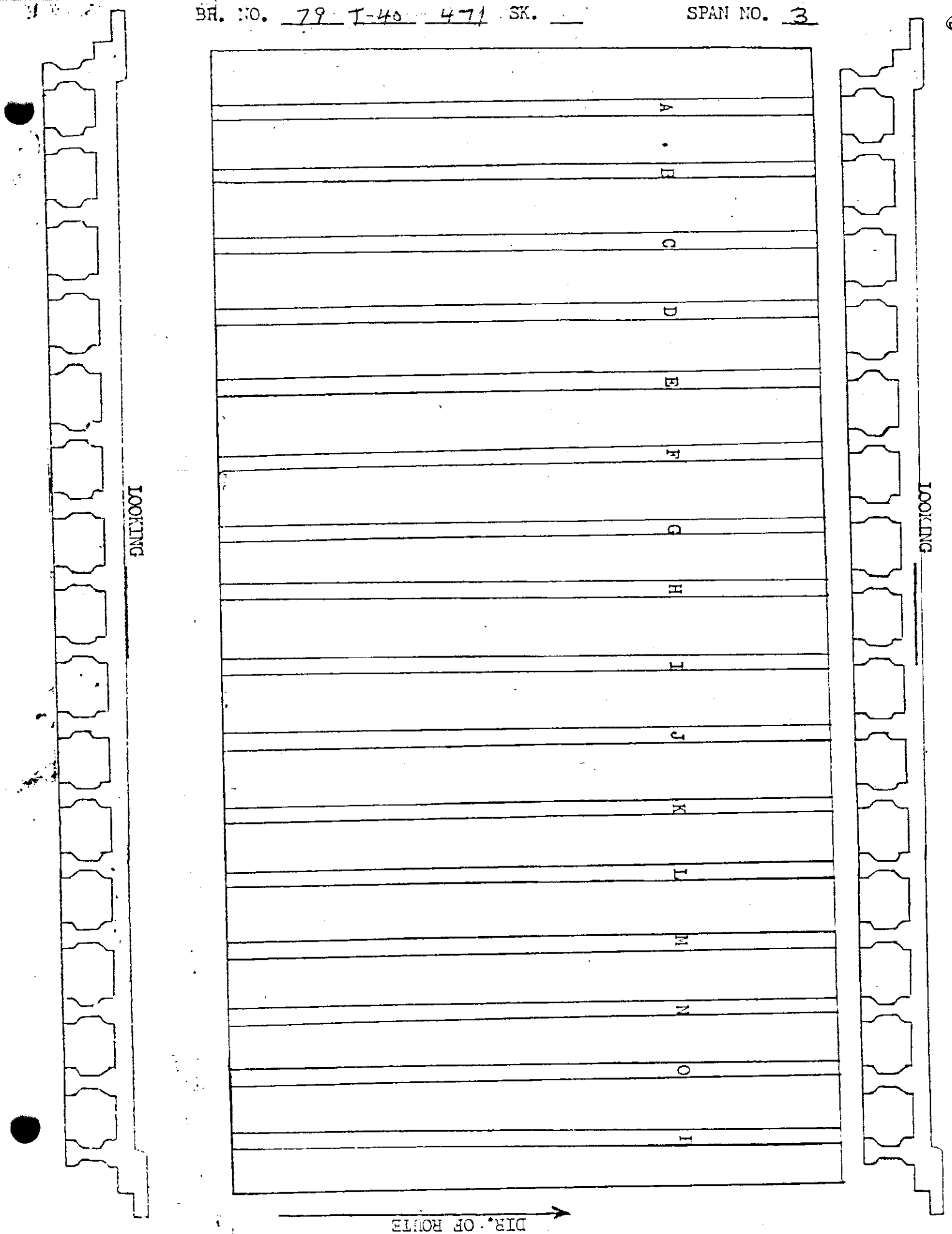
BRIDGE NO. 79 T40 471

BENT NO. _____ SPAN NO. 3 ABT. NO. _____ PIER NO. _____

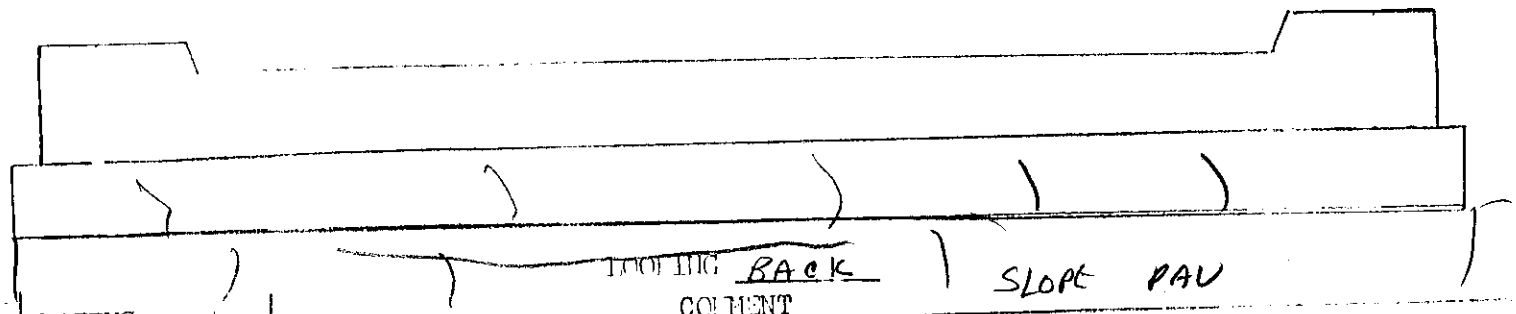
ELEMENT	RATING	COMMENTS
BOTTOM DECK	(G) F P C	
CONC. I. BEAMS		
A B C	(G) F P C	
_____	G F P C	
D E F	(G) F P C	
_____	G F P C	
G H I	(G) F P C	
_____	G F P C	
J K L	(G) F P C	
_____	G F P C	
M N O	(G) F P C	
_____	G F P C	
P	(G) F P C	
E.Q.	(6)	
BACKWALLS	(G) F P C	
DIA.	(G) F P C	

SEP 10 2001

BR. NO. 79 T-40 471 SK. — SPAN NO. 3



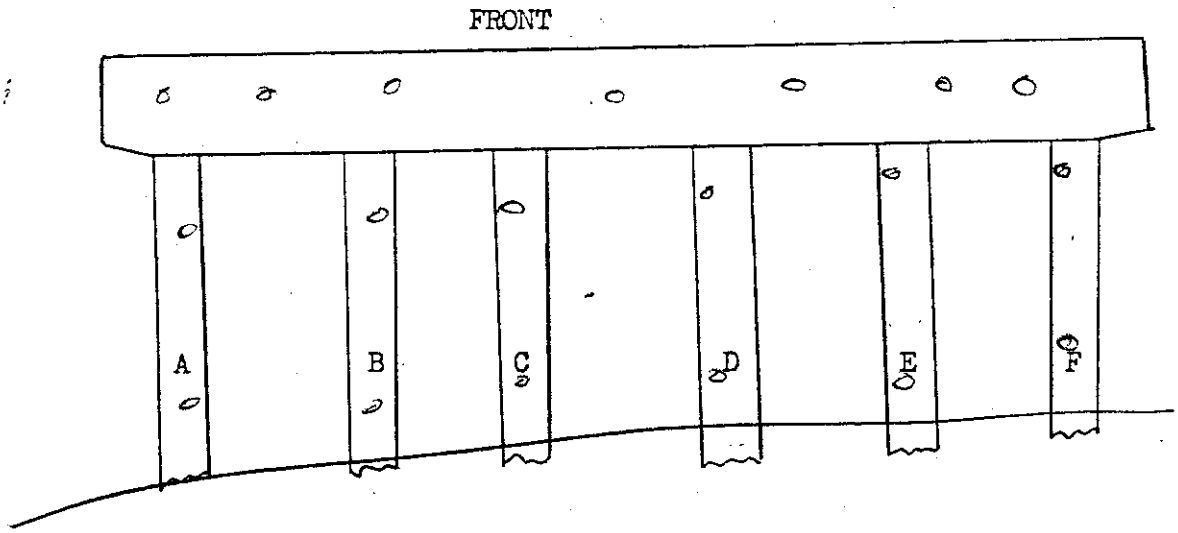
BRIDGE NO. 79-170-471 ABUT. NO. 1



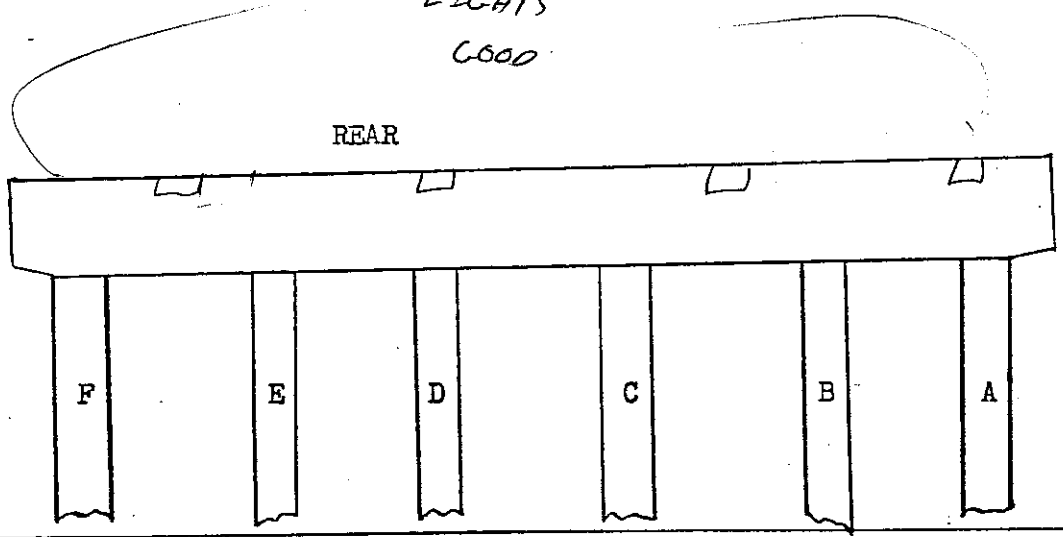
ELEMENT	RATING	COMMENT
BEARING	G F P C	
CAP	G (F) P C	FINE CRACKS
WINGS.	G (F) P C	FINE CRACKS
SLOPE PAVING	G (F) P C	CRACKS
EMBANKMENT	(G) F P C	
VEGETATION	G F (P) C	HEAVY @ WINGS
EARTH QUACK	(G)	

SEP 107

BR. NO. 79 T-40 471 SK. 90 BENT NO. 1

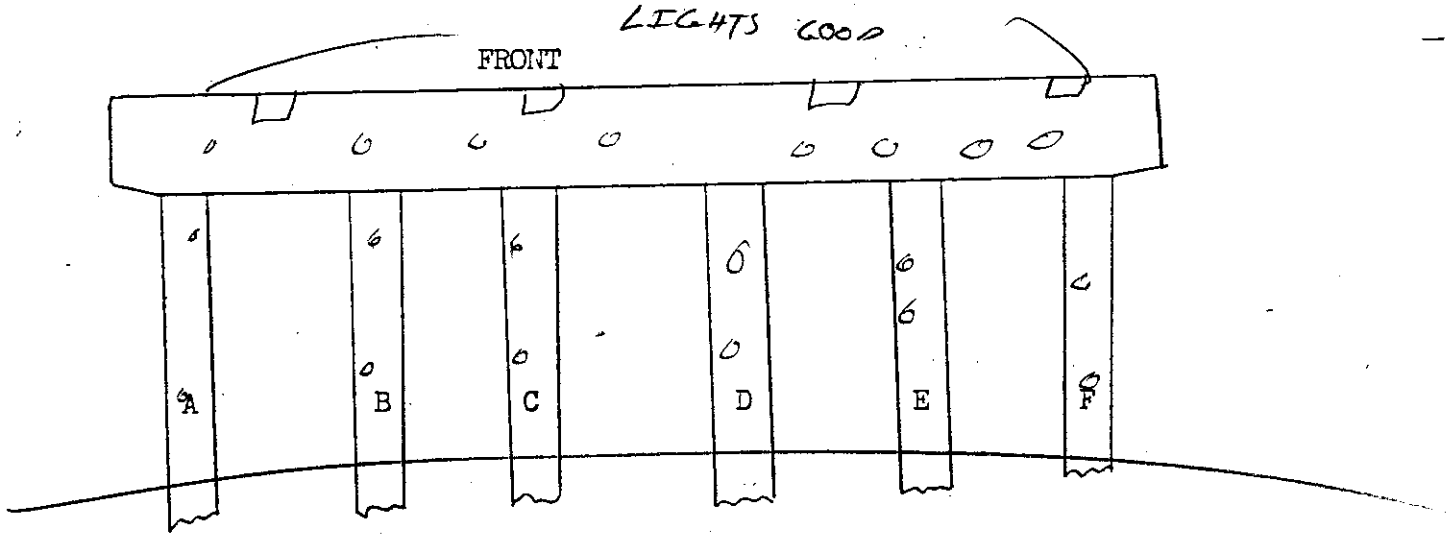


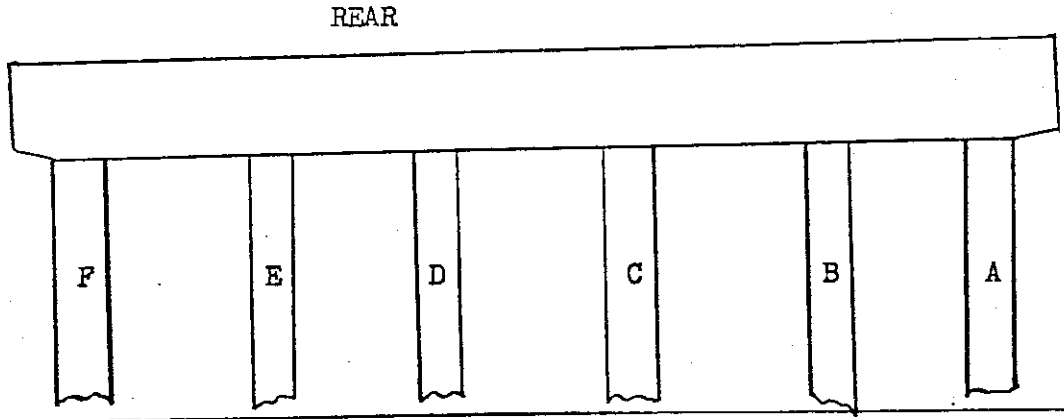
LIGHTS
GOOD



ELEMENT	RATING	COMMENT
BEARINGS	(G) F P C	
CAP	G (F) P C	LIGHT POPOUTS
COLUMNS A	G (F) P C	
B	G (F) P C	
C	G (F) P C	
D	G (F) P C	
E	G (F) P C	
F	G (F) P C	
FOOTING	G F P C	N/V

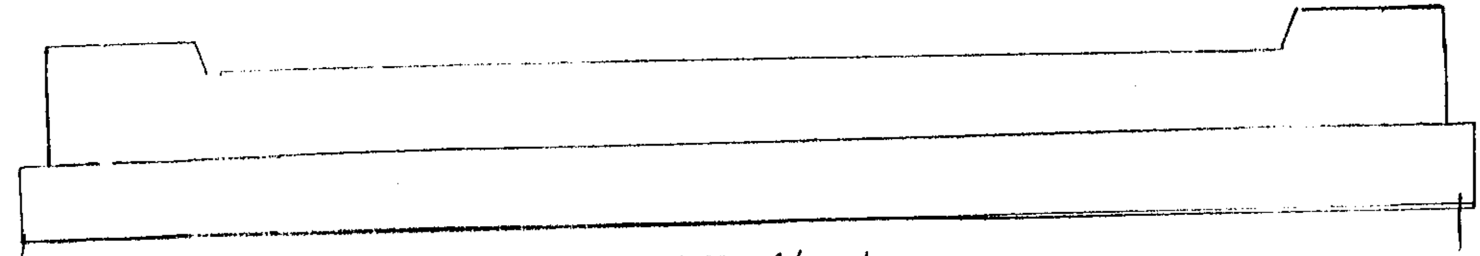
BR. NO. 79 I-40 4.71 SK. 90° BENT NO. 2





ELEMENT	RATING	COMMENT
BEARINGS	(G) F P C	
CAP	G (F) P C	LIGHT POINTS
COLUMNS A	G (F) P C	
B	G (F) P C	
C	G (F) P C	
D	G (F) P C	
E	G (F) P C	
F	G (F) P C	
FOOTING	G F P C	N/A

BRIDGE NO. 79 E 40 4.71 ABUT. NO. 2 SEP 10 2000



SLOPE LOOKING Ahead PAV.

ELEMENT	RATING	COMMENT
BEARING	(G) F P C	
CAP	G (F) P C	FINE CRACKS
WINGS.	G (F) P C	〃
SLOPE PAVING	G (F) P C	〃
EMBANKMENT	(G) F P C	
VEGETATION	G F (P) C	HEAVY @ WINGS
EARTHQUACK	(G)	

INDEX OF SHEETS

SHEET NO.	TITLE
1	TITLE SHEET
2 (BR-2)	ESTIMATED QUANTITIES
3 (BR-3)	GENERAL NOTES
4	TRAFFIC CONTROL - LEVEE ROAD DETOUR
5	TRAFFIC CONTROL - CHELSEA AVENUE
6	TRAFFIC CONTROL - ESTIMATED QUANTITIES

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
BUREAU OF ENGINEERING

SHELBY COUNTY

INTERSTATE 40 OVER LEVEE ROAD

INTERSTATE 40 OVER CHELSEA AVENUE

STATE HIGHWAY NO. F.A.H.S. NO. N/A

TENN.	YEAR	SHEET NO.
	2012	1
FED. AID PROJ. NO.		
STATE PROJ. NO.	79007-4175-04	

PROJECT LOCATION

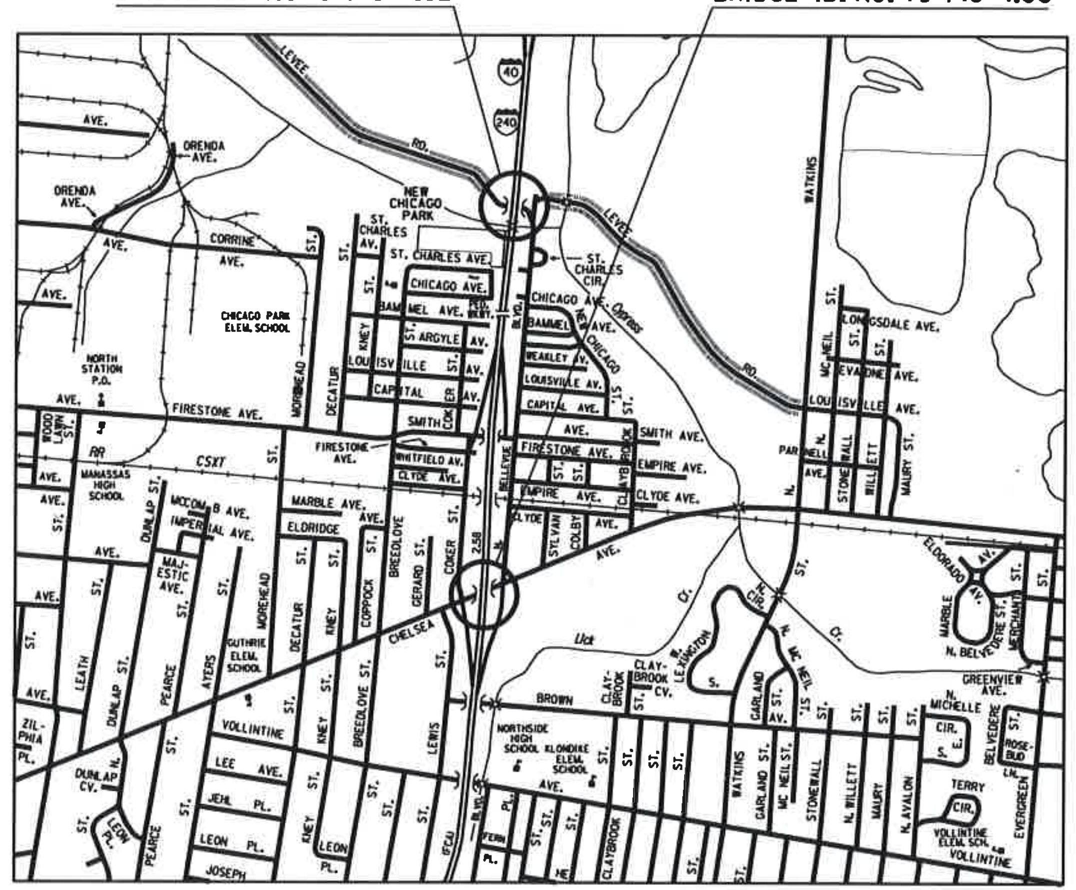
NO EQUATIONS
NO EXCLUSIONS

LIST OF STANDARD DRAWINGS

DWG. NO.	DATE OF LAST REV.	TITLE
STD-1-1SS	10-15-08	BRIDGE RAILING SINGLE SLOPE CONCRETE PARAPET
STD-2-1	10-15-08	BRIDGE MOUNTED INTERCONNECTED PORTABLE BARRIER RAIL
STD-5-1	10-25-93	BRIDGE MOUNTED INTERCONNECTED PORTABLE BARRIER RAIL
STD-6-1	5-21-99	STANDARD SEISMIC DETAILS
STD-9-1	10-07-08	REINFORCING BAR SUPPORT DETAILS FOR CONCRETE SLABS
T-FAB-1	5-27-97	FLASHING YELLOW ARROW BOARD
T-PBR-1	6-30-09	INTERCONNECTED PORTABLE BARRIER RAIL
T-WZ-18	3-13-09	SHOULDER CLOSURE DETAIL FOR FREEWAYS AND DIVIDED HIGHWAYS

BRIDGE ID. NO. 79-140-4.62

BRIDGE ID. NO. 79-140-4.00



LIST OF REFERENCE DRAWINGS

(TO BE PRINTED WITH PLANS)

DWG. NO.	DATE OF LAST REV.	TITLE
1963 PLANS		
K-40-70		BRIDGE LAYOUT
K-40-71		ABUTMENTS A & D
K-40-72		PIERS B & C
K-40-73		SUPERSTRUCTURE SLAB
K-40-74		TYPE I PRESTRESSED BEAMS
1976 PLANS - WIDENING PLANS		
M-24-58		BRIDGE LAYOUT
M-24-60		ABUTMENTS A & D
M-24-61		PIERS B & C
M-24-62		TYPICAL SECTION
M-24-63		SLAB PLAN
M-24-64		FRAMING PLAN AND SCREED ELEVATIONS
M-24-65		PRESTRESSED BEAM DETAILS
1995 PLANS - BRIDGE REPAIR PLANS		
BR-18-43		LAYOUT OF BRIDGE
BR-18-44		ESTIMATED QUANTITIES & GENERAL NOTES
BR-18-45		SEISMIC RETROFIT DETAILS - TYPE ①
BR-18-46		SEISMIC RETROFIT DETAILS - TYPE ②
BR-18-47		MISCELLANEOUS REPAIR DETAILS

LIST OF REFERENCE DRAWINGS

(TO BE PRINTED WITH PLANS)

DWG. NO.	DATE OF LAST REV.	TITLE
1966 PLANS		
K-40-45		BRIDGE LAYOUT
K-40-46		ABUTMENTS A & D
K-40-47		PIERS B & C
K-40-48		TYPE I PRESTRESSED CONCRETE BOX BEAMS
K-40-49		SUPERSTRUCTURE SLAB
1976 PLANS - WIDENING PLANS		
M-24-20		BRIDGE LAYOUT
M-24-22		ABUTMENT A
M-24-23		PIERS B & C
M-24-24		ABUTMENT D
M-24-25		TYPICAL SECTION
M-24-28		PRESTRESSED BEAM DETAILS
1998 PLANS - BRIDGE REPAIR PLANS		
BR-34-11		EXTENDED BEARING SEAT LAYOUT
BR-34-12		TYPICAL SECTION

LIST OF BRIDGE DRAWINGS

DWG. NO.	TITLE
BR-2	ESTIMATED QUANTITIES
BR-3	GENERAL NOTES
BR-4	MISCELLANEOUS ROPE AND ANCHOR DETAILS
BR-5	MISCELLANEOUS REPAIR DETAILS
BR-6	LAYOUT OF BRIDGE NO. 1
BR-7	TYPICAL SECTION AND SLAB PLAN
BR-8	FRAMING PLAN
BR-9	TYPE I BEAM DETAILS
BR-10	SEISMIC RESTRAINER LAYOUT
BR-11	SEISMIC RESTRAINER DETAILS - ABUTMENTS
BR-12	SEISMIC RESTRAINER DETAILS - PIERS
BR-13	LAYOUT OF BRIDGE NO. 2
BR-14	BEAM REPAIR

SPECIAL NOTES

PROPOSALS MAY BE REJECTED BY THE COMMISSIONER IF ANY OF THE UNIT PRICES CONTAINED THEREIN ARE OBVIOUSLY UNBALANCED, EITHER EXCESSIVE OR BELOW THE REASONABLE COST ANALYSIS VALUE.

THIS PROJECT TO BE CONSTRUCTED UNDER THE STANDARD SPECIFICATIONS OF THE TENNESSEE DEPARTMENT OF TRANSPORTATION DATED MARCH 1, 2006 AND ADDITIONAL SPECIFICATIONS AND SPECIAL PROVISIONS CONTAINED IN THE PLANS AND IN THE PROPOSAL CONTRACT

DES. ENG. SV. MIKE LAWSON

DESIGNED BY PARSONS TRANSPORTATION GROUP

DESIGNER D.R. NOLTE CHECKED BY I.C. ENGSTROM

P. E. NO. 79030-4125-04 PIN 116133.00

APPROVED: Paul D. Degges
PAUL D. DEGGES, CHIEF ENGINEER

DATE:

APPROVED:
JOHN SCHROER, COMMISSIONER

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION

APPROVED:

DIVISION ADMINISTRATOR DATE

ESTIMATED BRIDGE QUANTITIES

	ITEM NO.	DESCRIPTION	UNIT	TOTAL
(1)			EACH	-
(2)	602-10.60	BEARING DEVICE (NEW GIRDER)	EACH	-
(3)	604-03.60	BRIDGE JOINT SEISMIC MODIFICATION	EACH	-
	-			-
	604-05.31	BRIDGE DECK GROOVING (MECHANICAL)	SY	-
(4)	604-04.01	APPLIED TEXTURE FINISH (NEW STRUCTURES)		-
(20)(8)				-
(5)	604-10.13	CONCRETE SLAB REMOVAL		-
	604-10.18	REINFORCING STEEL (REPAIRS)		-
(6)	604-10.54	CONCRETE REPAIRS	SF	-
(20)(7)	604-10.62	EPOXY INJECTION REPAIR (COMPLETE AND IN PLACE)	LF	-
	604-10.85	CLASS "D" CONCRETE (SLAB, DIAPHRAGMS, RISERS)		-
(9)	617-02	BRIDGE DECK CRACK SEALING	LF	-
(10)	617-05	SEALANT	GAL	-
	620-05.01	CONCRETE PARAPET SINGLE SLOPE (STD-I-ISS)		-
				-
				-

ESTIMATED ROADWAY QUANTITIES

	ITEM NO.	DESCRIPTION	UNIT		TOTAL
(20)(11)	203-10	EMBANKMENT (COMPACTED IN PLACE)	CY		200
(20)(12)	209-08.02	TEMPORARY SILT FENCE (WITH BACKING)	LF		-
	403-01	BITUMINOUS MATERIAL FOR TACK COAT (TC)	TON		-
	411-02.10	ACS MIX(PG70-22) GRADING D	TON		-
(20)(13)	415-01.02	COLD PLANING BITUMINOUS PAVEMENT	SY		-
(14)	705-08.51	PORTABLE IMPACT ATTENUATOR NCHRP350 TL-3	EACH	*	-
	712-01	TRAFFIC CONTROL	LS		1
	712-02.02	INTERCONNECTED PORTABLE BARRIER RAIL	LF		-
	712-02.47	BRIDGE MOUNTED INTERCONNECTED PORTABLE BARRIER RAIL	LF		-
(15)	712-04.01	FLEXIBLE DRUMS (CHANNELIZING)	EACH	*	-
(16)	712-04.50	PORTABLE BARRIER RAIL DELINEATORS	EACH		-
	712-05.03	WARNING LIGHTS (TYPE C)	EACH	*	-
(17)	712-06	SIGNS (CONSTRUCTION)	SF	*	-
	712-09.01	REMOVABLE PAVEMENT MARKING LINE	LF		-
	712-09.04	REMOVABLE PAVEMENT MARKING LINE (STOP LINE)	LF		-
	716-13.01	SPRAY THERMO PVMT MRKNG (60 mil) (4IN LINE)	LM		1
(20)(18)	801-01	SEEDING (WITH MULCH)	UNIT		50
(20)(19)	803-01	SODDING (NEW SOD)	SY		

* TOTAL TRAFFIC CONTROL QUANTITY SHOWN REPRESENTS THE MAXIMUM NUMBER REQUIRED TO BE IN PLACE AT ANY ONE TIME, AND NOT THE TOTAL NUMBER SHOWN IN ALL PHASES.

(1) INCLUDES THE COST OF LABOR, GALVANIZING, DRILLING, ANCHOR BOLTS, ANGLES AND ANY OTHER MISCELLANEOUS MATERIALS REQUIRED TO INSTALL STRUCTURAL STEEL LATERAL RESTRAINERS. SEE DWG NOS. BR-11 THRU BR-13.

(2) INCLUDES THE COST OF ALL LABOR AND MATERIALS REQUIRED TO REMOVE EXISTING BEARINGS AT ABUTMENTS A & E, AND INSTALLING NEW NEOPRENE PADS. SEE DWG. NO. BR-7.

(3) INCLUDES THE COST OF LABOR, GALVANIZING, DRILLING, ANCHOR BOLTS, STEEL ROPE AND ITS ACCESSORIES, ANGLES, BOLTS AND ANY OTHER MISCELLANEOUS MATERIALS REQUIRED TO INSTALL SEISMIC RESTRAINERS. SEE DWG. NOS. BR-11 THRU BR-13.

(4)

(5)

(6) INCLUDES THE COST OF ALL LABOR AND EQUIPMENT, AND MATERIALS REQUIRED TO MAKE MISCELLANEOUS CONCRETE REPAIRS AS SHOWN ON BR-10.

(7) INCLUDES THE COST OF LABOR, EPOXY INJECTION AND ANY OTHER MISCELLANEOUS MATERIALS REQUIRED TO PERFORM EPOXY INJECTIONS IN CONCRETE. SEE DWG. NO. BR-10.

(8) INCLUDES THE COST OF LABOR, FORMING, EPOXY COATED REINFORCING STEEL AND ANY MATERIALS NECESSARY TO PLACE BACKER ROD JOINT & SEALANT SYSTEM AS SHOWN ON DWG. NO. BR-3.

(9) INCLUDES ALL COST FOR INSTALLING THE BRIDGE DECK CRACK SEALER (HMWM) INCLUDING CRACK PREPARATION, CLEANING, LABOR, AND ALL MISCELLANEOUS MATERIALS REQUIRED TO SEAL CONSTRUCTION JOINTS ACCORDING TO MANUFACTURERS SPECIFICATIONS.

(10) INCLUDES ALL COST FOR FURNISHING THE SEALER MATERIAL (HMWM) FOR SEALING CRACKS. THE SEALER (HMWM) SHALL BE IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS.

(11) INCLUDES THE COST OF ALL LABOR AND MATERIALS REQUIRED TO PLACE EMBANKMENT (COMPACTED IN PLACE) AS DIRECTED BY THE ENGINEER.

(12) INCLUDES THE COST OF LABOR AND ANY MISCELLANEOUS MATERIALS REQUIRED TO INSTALL TEMPORARY SILT FENCE WITH BACKING ALONG TOE OF EMBANKMENTS AS DIRECTED BY THE ENGINEER.

(13) INCLUDES THE COST OF ALL LABOR AND MATERIALS REQUIRED TO MILL THE APPROACH ASPHALT AS SHOWN ON DWG. NO. BR-10.

(14) THIS ITEM SHALL BE A PORTABLE ENERGY ABSORBING TERMINAL MEETING THE REQUIREMENTS OF NCHRP 350 FOR TEST LEVEL 3. EXAMPLES WOULD BE A QUAD-GUARD, A REACT 350 OR A TRACC. THE PAY ITEM WILL INCLUDE FURNISHING AND INSTALLING ALL COMPONENTS AS SHOWN ON THE MANUFACTURERS DRAWING.

(15) PLACEMENT OF FLEXIBLE DRUMS TO BE IN ACCORDANCE WITH THE TRAFFIC CONTROL PLANS OR AS DIRECTED BY THE ENGINEER.

(16)

(17) INCLUDES THE INSTALLATION AND MAINTENANCE OF A NEW SIGN PANEL, SHEETING AND SUPPORTS. SEE SECTION 712 OF THE STANDARD SPECIFICATIONS.

(18) INCLUDES THE COST OF LABOR AND ANY MISCELLANEOUS MATERIALS REQUIRED TO ADD SEEDING WITH MULCH IN DISTURBED AREAS AS NEEDED.

(19) INCLUDES THE COST OF LABOR AND ANY MISCELLANEOUS MATERIALS REQUIRED TO ADD SOD FOR PERMANENT STABILIZATION ON EMBANKMENT SLOPES AS NEEDED.

(20) THIS ITEM SHALL BE BID WITH THE CONTINGENCY THAT THE QUANTITY MAY INCREASE, DECREASE OR BE ELIMINATED AT THE DISCRETION OF THE ENGINEER.

PROJECT NO.	YEAR	SHEET NO.
-	2011	2

REVISIONS

NO.	DATE	BY	BRIEF DESCRIPTION
*	*	*	

DAVID R. NOLTE — STATE OF TENNESSEE — REGISTERED ENGINEER — AGRICULTURE

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

BRIDGE REPAIR DETAILS
ESTIMATED QUANTITIES

INTERSTATE 40 OVER LEVEE ROAD

BRIDGE ID. NO 79-140-4.62

SHELBY COUNTY
2011

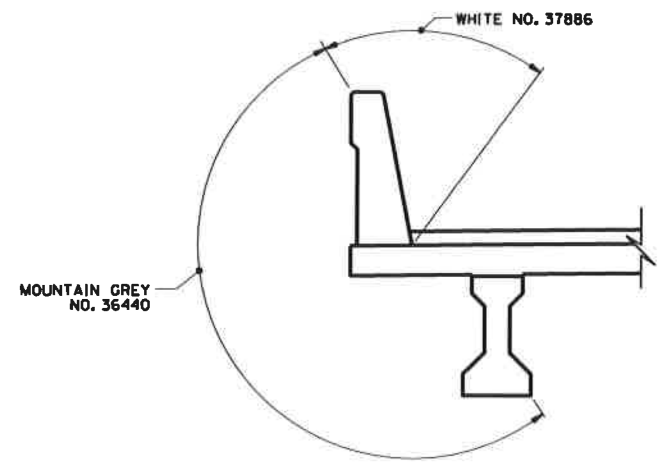
PARSONS TRANSPORTATION GROUP
MEMPHIS, TENNESSEE

DESIGNED BY M.A. TAYLOR DATE 10-2011
DRAWN BY M.A. TAYLOR DATE 10-2011
SUPERVISED BY D.R. NOLTE DATE 10-2011
CHECKED BY DATE

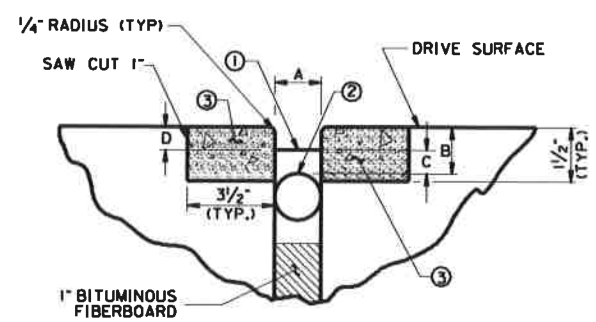
TN. D.O.T. ENGINEERING SUPERVISOR : M. LAWSON.

GENERAL NOTES

1. SPECIFICATIONS: STANDARD ROAD AND BRIDGE SPECIFICATIONS OF THE TENNESSEE DEPARTMENT OF TRANSPORTATION. (MARCH 1, 2006 EDITION)
2. LOADING: AS DESIGNED HS20-44
3. ALL CONCRETE TO BE CLASS "A" CONCRETE (f'c = 3000 psi), UNLESS NOTED OTHERWISE.
4. DESIGN SPECIFICATIONS: AASHTO 2002 - 17th EDITION.
5. CONCRETE CURING: ALL CONCRETE IN REPAIR AREAS SHALL BE CURED ACCORDING TO THE STANDARD SPECIFICATION.
6. SPECIAL NOTE FOR UTILITIES: IT IS INTENDED THAT THE COST OF MATERIALS AND LABOR NECESSARY FOR THE COMPLETE INSTALLATION OF UTILITIES SHALL BE BORNE BY OTHERS AND SHALL NOT BE PAID FOR AS A PART OF THIS CONTRACT. THE CONTRACTOR SHALL COOPERATE WITH OTHERS IN THE INSTALLATION OF UTILITIES WITH NO ADDITIONAL COMPENSATION ALLOWED THE CONTRACTOR AS A RESULT.
7. REINFORCING STEEL: SHALL BE ASTM A615 GRADE 60 UNLESS NOTED OTHERWISE. SEE SECTION 604 AND 907 OF THE STANDARD SPECIFICATIONS.
8. REQUIREMENTS AND RESTRICTIONS FOR PHASED CONSTRUCTION:
   -
   -
   -
9. GROUTED BARS IN DRILLED HOLES: HORIZONTALLY DRILLED HOLES SHALL BE DRILLED ½" IN DIAMETER LARGER THAN THE BAR, CLEANED, PACKED WITH NON-SHRINK GROUT AND THE BAR ROTATED (NOT DRIVEN) TO ITS SEAT. VERTICALLY DRILLED HOLES SHALL BE DRILLED ¼" IN DIAMETER LARGER THAN THE BAR, CLEANED, PACKED WITH EPOXY GROUT AND THE BAR SHALL BE DRIVEN TO ITS SEAT. ALL GROUTING MATERIAL SHALL BE APPROVED BY T.D.O.T. MATERIALS AND TESTS.
10. APPROVAL OF MATERIALS: NO FABRICATION SHALL BE STARTED UNTIL THE MATERIALS INVOLVED HAVE BEEN APPROVED BY THE TENNESSEE DEPARTMENT OF TRANSPORTATION, DIVISION OF MATERIALS AND TESTS, WITH A COPY OF THE TEST REPORTS ALSO GOING TO THE TENNESSEE DEPARTMENT OF TRANSPORTATION, DIVISION OF MATERIALS AND TESTS.
11. SHOP DRAWINGS: SHALL BE SUBMITTED ACCORDING TO THE STANDARD SPECIFICATIONS. EXCEPT SHOP DRAWINGS SHALL BE SUBMITTED TO THE HEADQUARTERS BRIDGE INSPECTION AND REPAIR OFFICE IN LIEU OF THE DIVISION OF STRUCTURES.
12. ROADSIDE BANKS/SLOPES USED BY CONTRACTOR FOR WORK ACCESS, PARKING, AND ANY OTHER OPERATIONS THAT ARE DISTURBED BY HIS OPERATIONS SHALL BE REPAIRED BY REGRADING, RESEEDING, MULCHING OR WHATEVER MEANS ARE NECESSARY TO RESTORE THE BANKS/SLOPES TO THE ORIGINAL CONDITION. ALL RESTORATION WORK SHALL MEET THE FULL SATISFACTION OF THE ENGINEER. COST OF ALL RESTORATION WORK SHALL BE INCLUDED IN ITEMS BID ON.
13. DEMOLITION: THE CONTRACTOR SHALL TAKE SPECIAL CARE TO PROTECT ANY PARTS OF THE STRUCTURE THAT ARE NOT TO BE REMOVED SPECIFICALLY. THE CONTRACTOR IS NOT ALLOWED TO USE A HYDRAULIC RAM MOUNTED ON A BACKHOE (COMMONLY CALLED A HOE RAM) OR OTHER SIMILARLY HEAVY EQUIPMENT FOR CONCRETE REMOVAL. PNEUMATIC HAMMERS MAY ALSO BE USED TO REMOVE UNSOUND CONCRETE.
14. FOR SUBSTRUCTURE CONCRETE REMOVAL , THE MAXIMUM HAMMER SIZE IS 90 POUND CLASS. SAWING OR CUTTING OF THE CONCRETE IS ACCEPTABLE SO LONG AS ANY SPECIFIED PROJECTION OF THE EXISTING REINFORCING STEEL IS MAINTAINED. ALL DEVICES PROPOSED FOR CONCRETE DEMOLITION SHALL MEET THE APPROVAL OF THE ENGINEER.
15. SPECIAL NOTE TO CONTRACTOR: CONTRACTOR SHALL USE EXTREME CARE AND TAKE ANY MEASURE NECESSARY TO INSURE THAT NO DEBRIS IS DROPPED INTO STREAM BELOW, IF APPLICABLE. ANY DEBRIS WHICH IS ALLOWED TO DROP BELOW THE BRIDGE SHALL BE REMOVED AND DISPOSED OF BY THE CONTRACTOR. COST OF REMOVING AND DISPOSING OF DEBRIS SHALL BE INCLUDED IN ITEMS BID ON.
16. RIDEABILITY OF BRIDGE DECK AND APPROACHES: TO BE IN ACCORDANCE WITH ARTICLE 604.27 OF THE STANDARD SPECIFICATIONS.
17. FINISHING CONCRETE SURFACES: CONCRETE FINISHING SHALL BE IN ACCORDANCE WITH SECTION 604.22 OF THE TENNESSEE STANDARD SPECIFICATIONS. AN APPLIED TEXTURE FINISH SHALL BE USED IN LIEU OF A CLASS II FINISH. THE COLOR OF THE FINISH SHALL BE SIMILAR TO MOUNTAIN GREY, FEDERAL SPECIFICATION NO. 36440, FEDERAL COLOR STANDARD NO. 595A OR SIMILAR TO WHITE, FEDERAL SPECIFICATION NO. 37886. A COLOR SAMPLE SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL. NO TEXTURE FINISH SHALL BE APPLIED PRIOR TO THE COMPLETION OF PAVING AND HAULING OPERATIONS AT THE BRIDGE SITE. PAYMENT FOR THE APPLIED TEXTURE FINISH SHALL BE UNDER ITEM NO. 604-04.01, APPLIED TEXTURE FINISH (NEW STRUCTURE), S.Y. SEE SKETCH THIS DRAWING.
18. BRIDGERAIL SYSTEM: SHALL BE IN ACCORDANCE WITH STANDARD DRAWING STD-1-1SS, SBR-2-124 THRU SBR-2-126.
19. DISPOSAL OF MATERIALS: ALL MATERIALS NOT USED IN THE COMPLETED STRUCTURE NOR TO BE FURNISHED TO THE DOT SHALL BE DISPOSED OF OFF SITE BY THE CONTRACTOR.
20. FIELD VERIFICATIONS: THE CONTRACTOR IS RESPONSIBLE FOR FIELD VERIFICATION OF ALL MEASUREMENTS AND DIMENSIONS PRIOR TO FABRICATION.
21. THE CONTRACTOR SHALL PROVIDE 100% UNCONDITIONAL FALL PROTECTION FOR WORKERS INSTALLING DECKING ABOVE 15 FEET.
22. WIRE ROPES: SEE DRAWING BR-4 FOR ADDITIONAL NOTES AND DETAILS.
23. BRIDGE DECK SURFACE FINISH SHALL BE IN ACCORDANCE WITH NOTE "C" IN ARTICLE 604.22 OF THE STANDARD SPECIFICATIONS.
24. CONCRETE SEALER: CONCRETE SEALER SHALL BE APPLIED TO SUBSTRUCTURES BEFORE PLACEMENT OF BEARING DEVICES AND APPLYING TEXTURE COATING. CONCRETE SEALER SHALL BE APPLIED TO ACCESSIBLE AREAS OF THE TOP AND VERTICAL SURFACES OF THE BENT OR PIER CAP.
25. CONCRETE SHALL BE CLEAN AND DRY BEFORE APPLYING THE CONCRETE SEAL, AND THE THICKNESS OF THE SEAL BE AS RECOMMENDED BY THE SEALANT MANUFACTURER. ACCEPTABLE CONCRETE SEALERS ARE INCLUDED IN THE QUALIFIED PRODUCTS LIST FOR NON-PENETRATING CONCRETE SEALS MAINTAINED BY THE DIVISION OF MATERIALS AND TESTS. THE SEALER SHALL BE CLEAR OR SIMILAR TO THE COLOR OF EXISTING CONCRETE SURFACES TO BE SEALED. THE COST OF THE SEALER, COMPLETE AND IN PLACE, SHALL BE PAID FOR UNDER ITEM NO. 604-10.17, NON-PENETRATING CONCRETE SEAL, S.Y.
26. BEARING DEVICES SHALL BE IN ACCORDANCE WITH DETAILS AND DIMENSIONS SHOWN ON DWG. NO. BR-7.



APPLIED TEXTURE FINISH SKETCH
(SEE NOTE NO. 17)



DETAIL "A"
ELASTOMERIC BRIDGE JOINTS AND JOINT SYSTEMS
(TYP.)

A JOINT OPENING AT TIME OF SEALING	B DISTANCE FROM TOP OF BACKER ROD TO DRIVE SURFACE	C DEPTH OF SEALANT FROM TOP OF BACKER ROD TO SURFACE OF SEALANT	D DISTANCE FROM TOP OF SEALANT TO DRIVE SURFACE
1"	1" MIN 1⅛" MAX	½"	½" - ⅝"

BASED ON TEMPERATURE OF 77°F ±2° AND 50% RH ±5%

① EXPANSION JOINT SEALANT.

② BACKER ROD SHALL BE A CLOSED CELL NON-GASSING FOAM MATERIAL CAPABLE OF WITHSTANDING ELEVATED TEMPERATURES RESULTING FROM THE REACTION OF THE TWO COMPONENT JOINT SEAL.

③ ELASTOMERIC NOSING MATERIAL

NOTE:
SEE TENNESSEE D.O.T. QUALIFIED PRODUCT LIST 9 FOR ELASTOMERIC BRIDGE JOINTS AND BRIDGE JOINT SYSTEMS.

NOTE: ANY DISTURBED AREAS ALONG ROADWAYS TO BE SEEDED AND MULCHED. COST TO BE INCLUDED IN OTHER ITEMS BID ON.

NOTE: CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING ADEQUATE SHORING TO MAINTAIN TRAFFIC DURING STAGED CONSTRUCTION.

SPECIAL NOTE CONCERNING CURING OF NEW CONCRETE PARAPET

THE CONTRACTOR SHALL CURE ALL NEW BARRIERS AS FOLLOWS: IMMEDIATELY AFTER PLACEMENT OF NEW BARRIER, PRE-SOAKED WET BURLAP SHALL BE PLACED OVER THE NEW BARRIER. THIS WOULD BE DONE AS SOON AS THE NEW BARRIER WILL HOLD THE WEIGHT OF THE WET BURLAP AFTER THE SLIP FORM HAS PASSED. A SOAKER HOSE WILL THEN BE PLACED ON TOP OF THE NEW BARRIER AND PLASTIC BE PLACED OVER THE SOAKER HOSE AND BURLAP. THE NEW BARRIER WILL BE CONTINUOUSLY WET CURED FOR APPROXIMATELY 24 HOURS.

PAVEMENT MARKING NOTES

PERMANENT PAVEMENT LINE MARKINGS SHALL BE 4" SPRAY THERMOPLASTIC (60 MIL). THESE MARKINGS WILL BE MEASURED AND PAID FOR UNDER ITEM NO. 716-13.01, SPRAY THERMO PVMT MRKNG (60 MIL).

PROJECT NO.	YEAR	SHEET NO.
-	2011	3

REVISIONS

NO.	DATE	BY	BRIEF DESCRIPTION
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CONST. WORK ZONE TRAFFIC CONTROL

1. ADVANCED WARNING SIGNS SHALL NOT BE DISPLAYED MORE THAN FORTY-EIGHT (48) HOURS BEFORE PHYSICAL CONSTRUCTION BEGINS. SIGNS MAY BE ERECTED UP TO ONE (1) WEEK BEFORE NEEDED, IF THE SIGN FACE IS FULLY COVERED.
2. IF THE CONTRACTOR MOVES OFF THE PROJECT, HE SHALL COVER OR REMOVE ALL UNNEEDED SIGNS AS DIRECTED BY THE ENGINEER. COSTS OF REMOVAL, COVERING, AND REINSTALLING SIGNS SHALL NOT BE MEASURED AND PAID FOR SEPARATELY, BUT ALL COSTS SHALL BE INCLUDED IN THE ORIGINAL UNIT PRICE BID FOR ITEM NO. 712-06, SIGNS (CONSTRUCTION) PER SQUARE FOOT.
3. A LONG TERM BUT SPORADIC USE OF WARNING SIGN. SUCH AS FLAGGER SIGNS MAY REMAIN IN PLACE WHEN NOT REQUIRED PROVIDED THE SIGN FACE IS FULLY COVERED.
4. TRAFFIC CONTROL DEVICES SHALL NOT BE DISPLAYED OR ERECTED UNLESS RELATED CONDITIONS ARE PRESENT NECESSITATING WARNING.
5. USE OF BARRICADES, PORTABLE BARRIER RAILS, VERTICAL PANELS AND DRUMS, SHALL BE LIMITED TO THE IMMEDIATE AREAS OF CONSTRUCTION WHERE A HAZARD IS PRESENT. THESE DEVICES SHALL NOT BE STORED ALONG THE ROADWAY WITHIN THIRTY (30) FEET OF THE EDGE OF THE TRAVELED WAY BEFORE OR AFTER USE UNLESS PROTECTED BY GUARDRAIL, BRIDGE RAIL, AND/OR BARRIERS INSTALLED FOR OTHER PURPOSES. THESE DEVICES SHALL BE REMOVED FROM THE CONSTRUCTION WORK ZONE WHEN THE ENGINEER DETERMINES THEY ARE NO LONGER NEEDED. WHERE THERE IS INSUFFICIENT RIGHT-OF-WAY TO PROVIDE FOR THIS THIRTY (30) FEET SETBACK. THE ENGINEER SHALL APPROVE ALTERNATE LOCATIONS.
6. ALL DETOUR AND CONSTRUCTION SIGNING SHALL BE IN STRICT ACCORDANCE WITH THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.
7. THE CONTRACTOR WILL NOT BE PERMITTED TO PARK ANY VEHICLES OR CONSTRUCTION EQUIPMENT DURING PERIODS OF INACTIVITY WITHIN THIRTY (30) FEET OF THE EDGE OF PAVEMENT WHEN THE LANE IS OPEN TO TRAFFIC, UNLESS PROTECTED BY GUARDRAIL, BRIDGE RAIL, AND/OR BARRIERS INSTALLED FOR OTHER PURPOSES. PRIVATELY OWNED VEHICLES SHALL NOT BE ALLOWED TO BE PARKED WITHIN THIRTY (30) FEET OF AN OPEN TRAFFIC LANE AT ANY TIME UNLESS PROTECTED AS DESCRIBED ABOVE. WHERE THERE IS INSUFFICIENT RIGHT-OF-WAY TO PROVIDE FOR THIS THIRTY (30) FEET SETBACK, THE CONTRACTOR SHALL DETERMINE THE ALTERNATE LOCATIONS AND REQUEST THE ENGINEERS APPROVAL TO USE THEM.

UTILITIES NOTE

1. THE LOCATIONS OF UTILITIES SHOWN WITHIN THESE PLANS ARE APPROXIMATE ONLY. EXACT LOCATIONS SHALL BE DETERMINED IN THE FIELD BY CONTACTING THE UTILITY COMPANIES INVOLVED. NOTIFICATION BY CALLING THE TENNESSEE ONE CALL SYSTEM, INC., AT 1-800-351-1111 AS REQUIRED BY TCA 65-31-106 WILL BE REQUIRED.
2. UNLESS OTHERWISE NOTED, ALL UTILITY ADJUSTMENTS WILL BE PERFORMED BY THE UTILITY OR ITS REPRESENTATIVE. THE CONTRACTOR AND UTILITY OWNERS WILL BE REQUIRED TO COOPERATE WITH EACH OTHER IN ORDER TO EXPEDITE THE WORK REQUIRED ON CONTRACTS WHERE THERE ARE CONSTRUCTION STAKES, LINES, AND GRADES, OR OTHER ESSENTIAL SURVEY STAKING TO PREVENT CONFLICTS WITH THE HIGHWAY CONSTRUCTION. FREQUENTLY, THIS WILL BE REQUIRED AS THE FIRST ITEM OF WORK AND AT ANY LOCATION ON THE PROJECT DIRECTED BY THE ENGINEER.
3. THE CONTRACTOR WILL PROVIDE ALL NECESSARY PROTECTIVE MEASURES TO SAFEGUARD EXISTING UTILITIES FROM DAMAGE DURING CONSTRUCTION OF THIS PROJECT. IN THE EVENT THAT SPECIAL EQUIPMENT IS REQUIRED TO WORK OVER AND AROUND THE UTILITIES, THE CONTRACTOR WILL BE REQUIRED TO FURNISH SUCH EQUIPMENT. THE COST OF PROTECTING UTILITIES FROM DAMAGE AND FURNISHING SPECIAL EQUIPMENT WILL BE INCLUDED IN THE PRICE BID FOR OTHER ITEMS OF CONSTRUCTION.
4. PRIOR TO SUBMITTING HIS BID, THE CONTRACTOR WILL BE SOLELY RESPONSIBLE FOR CONTACTING OWNERS OF ALL AFFECTED UTILITIES IN ORDER TO DETERMINE THE EXTENT TO WHICH UTILITY RELOCATIONS AND/OR ADJUSTMENTS WILL HAVE UPON THE SCHEDULE OF WORK FOR THE PROJECT. WHILE SOME WORK MAY BE REQUIRED 'AROUND' UTILITY FACILITIES THAT WILL REMAIN IN PLACE, OTHER UTILITY FACILITIES MAY NEED TO BE ADJUSTED CONCURRENTLY WITH THE CONTRACTOR'S OPERATIONS. ADVANCE CLEAR CUTTING MAY BE REQUIRED BY THE ENGINEER AT ANY LOCATION WHERE CLEARING IS CALLED FOR IN THE SPECIFICATIONS AND CLEAR CUTTING IS NECESSARY FOR A UTILITY RELOCATION. ANY ADDITIONAL COST WILL BE INCLUDED IN THE UNIT PRICE BID FOR THE CLEARING ITEM SPECIFIED IN THE PLANS.
5. THE CONTRACTOR SHALL NOTIFY EACH INDIVIDUAL UTILITY OWNER OF HIS PLAN OF OPERATION IN THE AREA OF THE UTILITIES. PRIOR TO COMMENCING WORK, THE CONTRACTOR SHALL CONTACT THE UTILITY OWNERS AND REQUEST THEM TO PROPERLY LOCATE THEIR RESPECTIVE UTILITY ON THE GROUND. THIS NOTIFICATION SHALL BE GIVEN AT LEAST THREE (3) BUSINESS DAYS PRIOR TO COMMENCEMENT OF OPERATIONS AROUND THE UTILITY IN ACCORDANCE WITH TCA 65-31-106.

DAVID R. NOLTE
STATE OF TENNESSEE

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

BRIDGE REPAIR DETAILS
GENERAL NOTES

INTERSTATE 40 OVER LEVEE ROAD
BRIDGE ID. NO. 79-140-4.62
SHELBY COUNTY
2011

PARSONS TRANSPORTATION GROUP
MEMPHIS, TENNESSEE

DESIGNED BY	M.A. TAYLOR	DATE	10-2011
DRAWN BY	M.A. TAYLOR	DATE	10-2011
SUPERVISED BY	D.R. NOLTE	DATE	10-2011
CHECKED BY		DATE	

TN. D.O.T. ENGINEERING SUPERVISOR : M. LAWSON.

BR-3

PROJECT NO.	YEAR	SHEET NO.
79007-4175-04	2012	·

REVISIONS

NO.	DATE	BY	BRIEF DESCRIPTION
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PROCEDURE FOR INSTALLATION OF ANCHOR BOLTS:

(¾" ø DRILLCO MAXI-BOLT OR WILLIAMS BOLTS)(UNDERCUTTING REQUIRED)

1. LOCATE PLACEMENT OF EXISTING REBAR IN VICINITY OF ANCHORS WITH A REBAR LOCATING DEVICE AND MAKE NECESSARY CORRECTIONS IN LOCATIONS OF ANCHORS ON CONCRETE. ANCHOR LOCATION MAY VARY PLUS OR MINUS 3 INCHES IN ANY DIRECTION BUT THE HOLE SHALL BE DRILLED WITHIN 6 DEGREES PERPENDICULAR TO THE NOMINAL CONCRETE SURFACE. CUTTING OF REBAR WILL BE ALLOWED.
2. HOLES SHALL BE DRILLED WITH A CARBIDE PERCUSSION DRILL BIT, A "REBAR EATER" BIT OR A DIAMOND CORE BIT.
3. THE DRILL BIT DIAMETER AND HOLE DEPTHS ARE SPECIFIED AS FOLLOWS:
   a) THE MAXIMUM DRILL BIT DIAMETER SHALL NOT EXCEED 1.172 INCH DIAMETER.
   b) THE HOLE DEPTH SHALL NOT BE LESS THAN THE ANCHOR EMBEDMENT PLUS 1½ INCHES BUT MAY EXCEED THE SPECIFIED HOLE DEPTH BY NOT MORE THAN 1 INCH.
4. IF AN ANCHOR MUST BE RELOCATED AND A NEW HOLE DRILLED, THE OLD HOLE SHALL BE REPAIRED WITH A NON-SHRINKAGE PACK GROUT.
5. UNDERCUT IN PRIMARY HOLE SHALL BE AS SPECIFIED BY THE MANUFACTURER OF THE UNDERCUTTING TOOL.
6. CLEAN THE HOLE OF CONCRETE DUST AND DEBRIS USING OIL FREE COMPRESSED AIR OR BY VACUUMING. PLACE BEARING SLEEVE FLUSH WITH THE CONCRETE SURFACE.
7. THE EXPANSION SLEEVE IS TO EXPAND INTO THE UNDERCUT CREATED BY THE UNDERCUTTING TOOL THEREFORE THE ANCHOR TUBE MUST TERMINATE AT THE BASE OF THE UNDERCUT SECTION.
8. TO SET THE ANCHOR, IT IS NECESSARY TO DRAW THE CONICAL NUT OF THE STUD BOLT INTO THE ANCHOR SLEEVE. AFTER THE ASSEMBLY IS INSERTED INTO THE DRILLED HOLE, THE ANCHOR WILL BE CONSIDERED SET WHEN THE DIMENSION "A" (SEE ANCHOR SETTING DETAILS) HAS INCREASED BY AN AMOUNT EQUAL TO DIMENSION "B". AFTER THE STEEL PLATES ARE IN PLACE THE CONTRACTOR SHALL TAKE STEPS TO ENSURE THAT NO LOOSING OCCURS, BY ADDING A LOCKING NUT OR BY ANY OTHER METHOD APPROVED BY THE ENGINEER.
9. BECAUSE OF CLOSE TOLERANCE BETWEEN CONICAL NUT O.D. AND HOLE I.D. IT MAY BE NECESSARY TO LIGHTLY HAMMER THE ANCHOR INTO THE HOLE. IF HAMMERING IS NECESSARY, STEPS SHALL BE EMPLOYED WHICH WILL PREVENT DAMAGE TO THE STUD BOLT THREADS.
10. INSTALLATION PROCEDURES REQUIRED BY THE ANCHOR MANUFACTURER IN ADDITION TO THE INSTRUCTIONS LISTED ABOVE SHALL BE FOLLOWED.
11. ANGLES AND PLATES SHALL BE ASTM A709 (GRADE 36) MATERIAL GALVANIZED TO ASTM A123 STANDARD.
12. POSITION OF PLATE OR ANGLE ON BEAM:
    BENT: AFTER ONE ANCHOR HAS BEEN ATTACHED THE ANGLE OF THE OTHER SHALL BE POSITIONED ON THE BEAM WITH CABLE IN THE FULL EXTENDED POSITION ANGLE POSITION MARKED. THE PLATE OR ANGLE SHALL THEN BE SHIFTED TOWARD THE BENT 3" AND THE ANCHOR BOLT LOCATIONS MARKED THROUGH THE ANGLE ANCHOR HOLE.

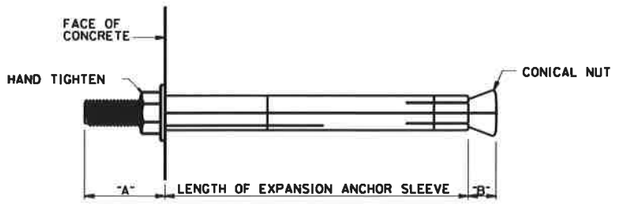
NOTE: ALL STRUCTURAL STEEL FOR SEISMIC RESTRAINERS AND LATERAL RESTRAINERS, EXCEPT FOR NON-CORROSIVE WIRE ROPE AND THIMBLES, SHALL BE FABRICATED BY AISC, SIMPLE SPAN BRIDGES CATEGORY, CERTIFIED SHOP.

NOTE CONCERNING HILTI BOLTS.:

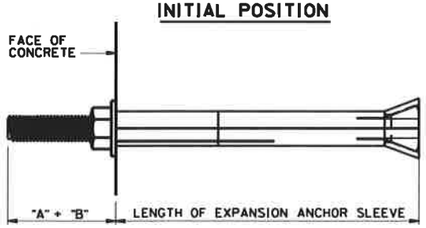
HILTI BOLTS SHALL BE HILTI KWIK BOLT 3 EXPANSION ANCHORS, SIZE AND EMBEDMENT LENGTH SHALL BE AS SHOWN IN THE PLANS. ANY SUBSTITUTIONS MUST BE APPROVED BY THE TENNESSEE DEPARTMENT OF TRANSPORTATIOMNS DIVISION OF MATERIAL AND TESTS.

NOTES:

1. SEE DWG. NO. BR-11 FOR SEISMIC RESTRAINER DETAILS AT THE ABUTMENTS.
2. SEE DWG. NO. BR-12 FOR SEISMIC RESTRAINER DETAILS AT THE PIERS.
3. SEE DWG. NO. BR-12 FOR ESTIMATED QUANTITIES.

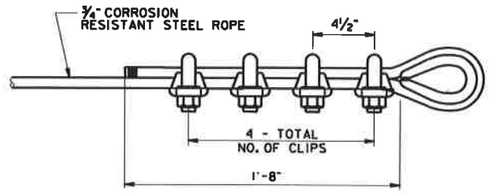


INITIAL POSITION



SET POSITION

ANCHOR SETTING DETAILS



WIRE ROPE CLIPS

NOTES CONCERNING WIRE ROPE

1. WIRE ROPE SHALL BE AS SPECIFIED IN AASHTO DESIGNATION M277-81 (1990).
2. WIRE ROPE CLIPS: EACH CONNECTION SHALL HAVE A MINIMUM OF 4 WIRE ROPE CLIPS, AND CUMULATIVELY DEVELOP 125 PERCENT OF THE YIELD STRESS OF THE WIRE ROPE. CLIPS SHALL BE CROSBY G-450 OR EQUAL.
3. WIRE ROPE THIMBLES SHALL BE CROSBY G-414 OR EQUAL.

PARSONS TRANSPORTATION GROUP MEMPHIS, TENNESSEE

DESIGNED BY D. RANDALL DATE 9-2011
DRAWN BY D. RANDALL DATE 9-2011
SUPERVISED BY D.R. NOLTE DATE 9-2011
CHECKED BY DATE

TN. D.O.T. ENGINEERING SUPERVISOR : M. LAWSON.

DAVID R. NOLTE — REGISTERED ENGINEER — AGRICULTURE — STATE OF TENNESSEE

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

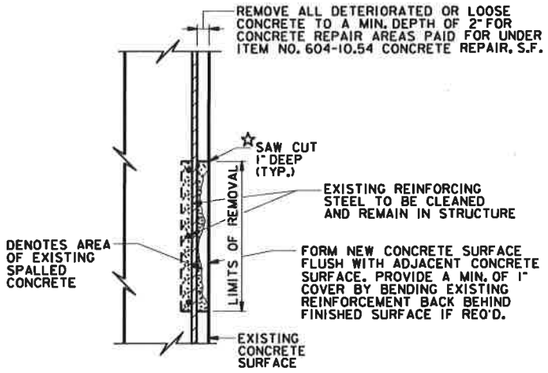
BRIDGE REPAIR DETAILS

MISCELLANEOUS ROPE AND ANCHOR DETAILS

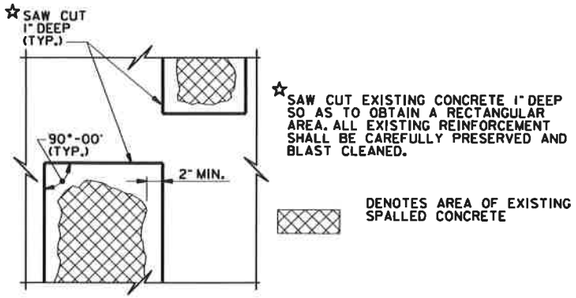
INTERSTATE 40 OVER LEVEE ROAD

BRIDGE ID. NO. 79-140-4.62

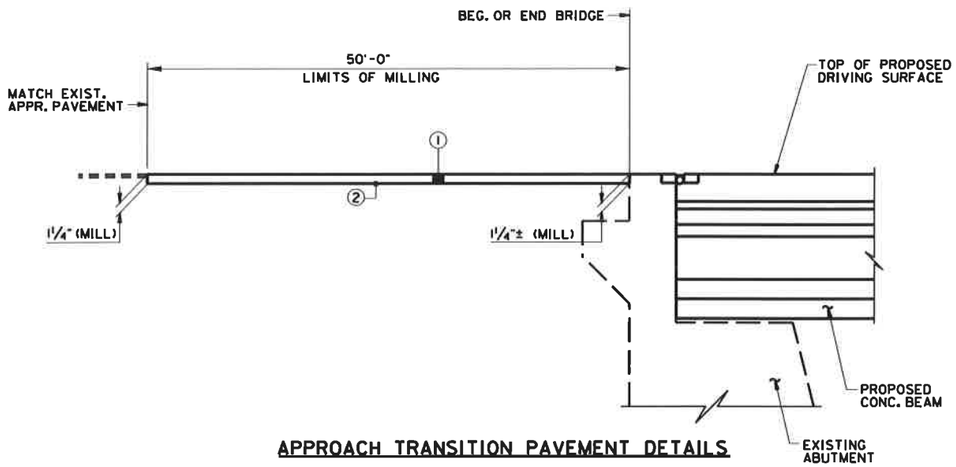
SHELBY COUNTY
2012



DETAIL "C"



SPALL SURFACE REPAIR DETAILS



APPROACH TRANSITION PAVEMENT DETAILS

PROPOSED PAVEMENT SCHEDULE		
①	SURFACING 1¼" THICK (APPROX. 132.5 LBS./S.Y.)	
	411-02.10	ACS MIX(PG70-22) GRADING D
②	TACK COAT	
	403-01	BITUMINOUS MATERIAL FOR TACK COAT (T.C.) AT 0.02 GAL/S.Y.

NOTE: THE COST OF MILLING APPROACH ROADWAY TO BE INCLUDED UNDER ITEM NO. 415-01.02 COLD PLANING BITUMINOUS PAVEMENT, S.Y.

PROJECT NO.	YEAR	SHEET NO.
79007-4175-04	2012	*

REVISIONS

NO.	DATE	BY	BRIEF DESCRIPTION
*	*		

NOTES FOR ITEM 604-10.54:

THE COST OF SAW CUTTING, REMOVING SPALLED OR CRACKED CONCRETE, BLAST CLEANING, PATCHING MATERIAL, LABOR AND ANY MISCELLANEOUS MATERIALS NECESSARY TO COMPLETE THE REPAIRS AS SHOWN SHALL BE INCLUDED IN ITEM NO. 604-10.54, CONCRETE REPAIRS, S.F.

PATCHING MATERIAL SHALL BE A POLYMER-MODIFIED CEMENTITIOUS STRUCTURAL PATCHING VERTICAL AND OVERHEAD MATERIAL. SEE T.D.O.T. QUALIFIED PRODUCTS LIST 13, SPEC. CATEGORY J, SUBLIST F FOR ACCEPTABLE PATCHING MATERIALS.

EPOXY INJECTION NOTES

1. THESE QUANTITIES SHOWN ON THIS SHEET MAY INCREASE OR DECREASE AS DIRECTED BY THE ENGINEER FROM THE OFFICE OF INSPECTION AND REPAIR. ACTUAL LOCATIONS TO BE DESIGNATED BY THE ENGINEER FROM THE OFFICE OF INSPECTION AND REPAIR.
2. THE CONTRACTOR SHALL TAKE EXTREME CARE WHEN REMOVING EXISTING CONCRETE SO AS NOT TO DAMAGE EXISTING REINFORCING STEEL. IF REINFORCING STEEL IS DAMAGED OR DEEMED UNSUITABLE BY THE ENGINEER A #5 DOWEL BAR (WITH 1'-0" EMBED. & 2'-2" INTO NEW CONC.) SHALL BE PROVIDED AT THE CONTRACTOR'S EXPENSE.

   SEE DWG. NO. BR-3 FOR NOTE CONCERNING LIMITS OF HAMMER SIZE FOR STRUCTURE REMOVAL.
3. ALL CRACKS SMALLER THAN ¼" SHALL BE INJECTED WITH AN APPROVED EPOXY RESIN ADHESIVE. ALL CRACKS ¼" OR LARGER SHALL BE INJECTED WITH AN APPROVED EPOXY RESIN ADHESIVE OF THE GEL TYPE.
4. EXTREME CAUTION SHALL BE TAKEN WHEN SELECTING A PRESSURE NECESSARY TO COMPLETE THE EPOXY INJECTION CRACK REPAIR SO AS NOT TO DAMAGE THE STRUCTURE BY CAUSING ADDITIONAL CRACKING. IF ADDITIONAL DAMAGE OCCURS, THE CONTRACTOR SHALL BEAR FULL RESPONSIBILITY. ALL EPOXY INJECTION WORK SHALL MEET WITH THE FULL APPROVAL OF THE ENGINEER.
5. ALL EPOXY INJECTION CONTRACTORS AND/OR SUBCONTRACTORS SHALL BE APPROVED BY THE TENNESSEE DEPARTMENT OF TRANSPORTATION, DIVISION OF MATERIALS AND TESTS.
6. AFTER EPOXY INJECTION IS COMPLETE, ALL INJECTION PORTS SHALL BE REMOVED AND ALL EXCESS SEALING MATERIAL AND EPOXY SHALL BE REMOVED FLUSH WITH THE SURROUNDING CONCRETE SURFACES.
7. CRACK LOCATIONS SHOWN ON THIS SHEET ARE APPROXIMATE ONLY. THE ENGINEER FROM THE TENNESSEE DEPARTMENT OF TRANSPORTATION, DIVISION OF MATERIALS AND TESTS WILL MARK EXACT CRACK LOCATIONS TO RECEIVED EPOXY INJECTION.
8. CERTIFICATION OF THE STRENGTH AND QUALITY OF THE EPOXY RESIN FROM THE MANUFACTURER SHALL BE PROVIDED TO THE TENNESSEE DEPARTMENT OF TRANSPORTATION, DIVISION OF MATERIALS AND TESTS.
9. IF THE CRACKS ARE NOT FULLY SEALED OR THE STRENGTH REQUIREMENTS ARE NOT MET, THEN REDUCTION IN PAYMENT DETERMINED BY THE ENGINEER WILL BE MADE TO THE CONTRACTORS BID PRICE OF ITEM NO. 604-10.62, EPOXY INJECTION REPAIRS (COMPLETE AND IN PLACE), L.F.
10. THE ENGINEER FROM THE STRUCTURES DIVISION, BRIDGE INSPECTION AND REPAIR OFFICE SHALL DESIGNATE TWO (2) RANDOM LOCATIONS WHERE THE CRACKS HAVE BEEN EPOXY INJECTED FOR THE CONTRACTOR TO CORE. THE ONE (1) INCH DIAMETER CORES WILL BE IMMEDIATELY TURNED OVER TO THE ENGINEER FOR INSPECTION AND TO VERIFY FULL SEALING OF THE CRACKS. COST OF CORING SHALL BE INCLUDED IN ITEM NO. 604-10.62, EPOXY INJECTION REPAIRS (COMPLETE AND IN PLACE), L.F. CORES SHALL BE LOCATED TO MISS REINFORCING STEEL. IF REINFORCING STEEL IS ENCOUNTERED, THE CORE LOCATION SHALL BE SHIFTED TO AVOID THE REINFORCING STEEL.
11. COST OF ALL LABOR AND MISCELLANEOUS MATERIALS NECESSARY TO COMPLETE THE EPOXY INJECTION REPAIRS TO EXISTING CONCRETE CRACKS SHALL BE INCLUDED UNDER ITEM NO. 604-10.62, EPOXY INJECTION REPAIRS (COMPLETE AND IN PLACE), L.F. ITEM NO. 604-10.62 SHALL BE BID SUCH THAT THIS ITEM MAY BE INCREASED, DECREASED OR ELIMINATED AS DIRECTED BY THE ENGINEER.

ESTIMATED BRIDGE QUANTITIES

ITEM NO.	DESCRIPTION	UNIT	TOTAL
604-10.54	CONCRETE REPAIRS	SF	100
604-10.62	EPOXY INJECTION REPAIRS (COMPLETE AND IN PLACE)	LF	125

NOTE: THESE QUANTITIES MAY INCREASE OR DECREASE AS DIRECTED BY THE ENGINEER FROM THE OFFICE OF INSPECTION AND REPAIR.

ACTUAL LOCATIONS TO BE DESIGNATED BY THE ENGINEER FROM THE OFFICE OF INSPECTION AND REPAIR.

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

BRIDGE REPAIR DETAILS
REPAIR DETAILS

INTERSTATE 40 OVER LEVEE ROAD

BRIDGE ID. NO. 79-140-4.62

SHELBY COUNTY
2011

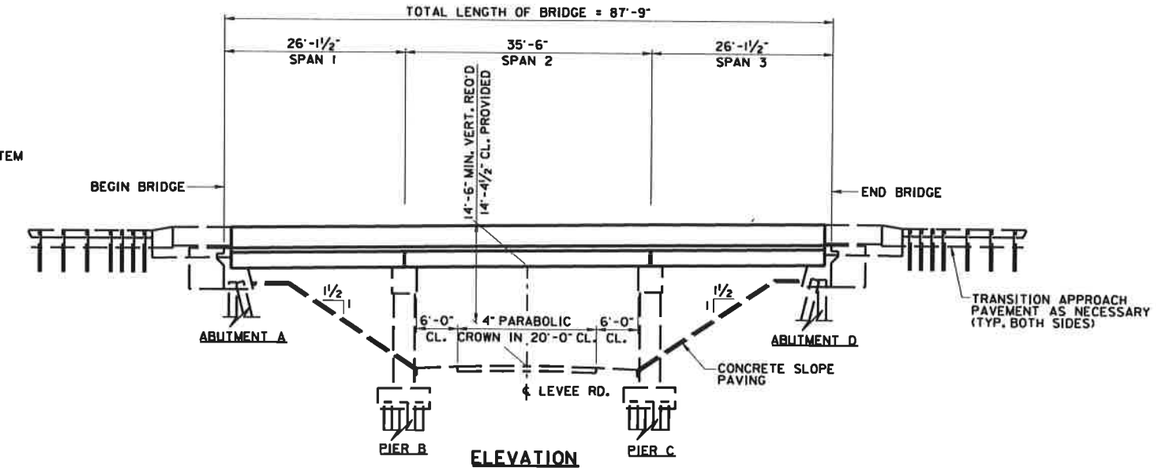
PARSONS TRANSPORTATION GROUP TENNESSEE
MEMPHIS,

DESIGNED BY M.A. TAYLOR DATE 2-2012
DRAWN BY M.A. TAYLOR DATE 2-2012
SUPERVISED BY D.R. NOLTE DATE 2-2012
CHECKED BY — DATE 2-2012

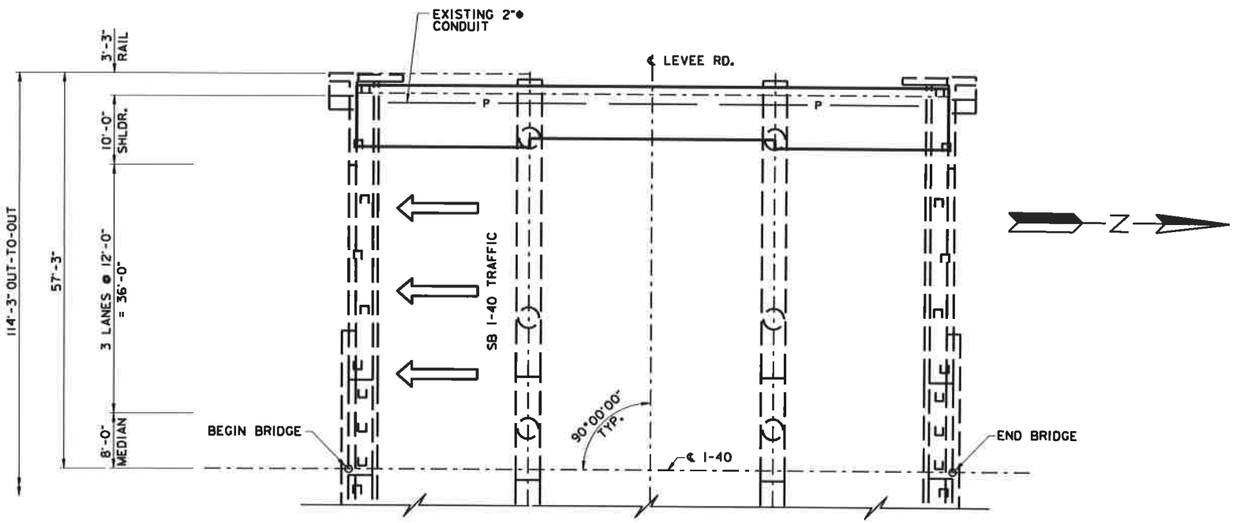
TN. D.O.T. ENGINEERING SUPERVISOR : M. LAWSON.

LEGEND:

- (F) DENOTES EXISTING FIXED BEARING
- (I) DENOTES EXISTING INTERNAL BEARING
- [C] DENOTES PROPOSED CONTINUOUS SLAB AND BEAM
- [F] DENOTES PROPOSED FIXED BEARING
- [J] DENOTES PROPOSED BACKER ROD SEALANT SYSTEM
- ◆ DENOTES GUARDRAIL ATTACHMENT REQUIRED



ELEVATION



PLAN

PROJECT NO.	YEAR	SHEET NO.
79007-4175-04	2012	*

REVISIONS

NO.	DATE	BY	BRIEF DESCRIPTION
*	*	*	

GENERAL SCOPE OF WORK

1. REMOVE EXTERIOR BEAM LINE (3 TOTAL) (BEAM A), OVERHANG AND PARAPET ON WEST SIDE OF BRIDGE.
2. REMOVE FIRST SLAB BAY TO THE CENTER OF FIRST INTERIOR BEAM LINE (BEAM B).
3. PLACE NEW BEAMS, DECK AND PARAPET.
4. PLACE BACKER ROD AND SEALANT SYSTEM IN JOINTS (TO BEAM LINE B) AT ABUTMENT 1 AND 2.
5. PLACE 3¼" ASPHALT SYSTEM SEALANT SYSTEM (TO BEAM LINE B) ON BRIDGE DECK.
6. TRANSITION APPROACHES AND REPLACE APPROACH PAVEMENT (TO BEAM LINE B) AS NECESSARY.
7. MISCELLANEOUS SUPERSTRUCTURE AND SUBSTRUCTURE CONCRETE REPAIRS AS NECESSARY.
8. REMOVE AND REPLACE LONGITUDINAL SEISMIC RESTRAINERS AT ALL SUBSTRUCTURE UNITS.
9. TRAFFIC CONTROL:
   A. INTERSTATE 40 - CLOSE SHOULDER ON SB LANES OF I-40 FOR DURATION OF PROJECT.
   B. LEVEE ROAD - CLOSE ROAD FOR DURATION OF PROJECT.

LIST OF BRIDGE DRAWINGS

DWG. NO.	TITLE
BR-2	ESTIMATED QUANTITIES
BR-3	GENERAL NOTES
BR-4	MISCELLANEOUS ROPE AND ANCHOR DETAILS
BR-5	MISCELLANEOUS REPAIR DETAILS
BR-6	LAYOUT OF BRIDGE NO. 1
BR-7	TYPICAL SECTION AND SLAB PLAN
BR-8	FRAMING PLAN
BR-9	TYPE I BEAM DETAILS
BR-10	SEISMIC RESTRAINER LAYOUT
BR-11	SEISMIC RESTRAINER DETAILS-ABUTMENTS
BR-12	SEISMIC RESTRAINER DETAILS-PIERS

LIST OF STANDARD DRAWINGS

DWG. NO.	DATE OF LAST REV.	TITLE
STD-1-ISS	10-15-08	BRIDGE RAILING SINGLE SLOPE CONCRETE PARAPET
STD-2-1	10-15-08	BRIDGE MOUNTED INTERCONNECTED PORTABLE BARRIER RAIL
STD-5-1	10-25-93	BRIDGE MOUNTED INTERCONNECTED PORTABLE BARRIER RAIL
STD-6-1	5-21-99	STANDARD SEISMIC DETAILS
STD-9-1	10-07-08	REINFORCING BAR SUPPORT DETAILS FOR CONCRETE SLABS

LIST OF REFERENCE DRAWINGS

(TO BE PRINTED WITH PLANS)

DWG. NO.	DATE OF LAST REV.	TITLE
		1963 PLANS
K-40-70		BRIDGE LAYOUT
K-40-71		ABUTMENTS A & D
K-40-72		PIERS B & C
K-40-73		SUPERSTRUCTURE SLAB
K-40-74		TYPE I PRESTRESSED BEAMS
		1976 PLANS - WIDENING PLANS
M-24-58		BRIDGE LAYOUT
M-24-59		GENERAL NOTES & ESTIMATED QUANTITIES
M-24-60		ABUTMENTS A & D
M-24-61		PIERS B & C
M-24-62		TYPICAL SECTION
M-24-63		SLAB PLAN
M-24-64		FRAMING PLAN AND SCREED ELEVATIONS
M-24-65		PRESTRESSED BEAM DETAILS

LIST OF REFERENCE DRAWINGS

(TO BE PRINTED WITH PLANS)

DWG. NO.	DATE OF LAST REV.	TITLE
		1995 REPAIR PLANS
BR-18-43		LAYOUT OF BRIDGE
BR-18-45		SEISMIC RETROFIT DETAILS - TYPE 1
BR-18-46		SEISMIC RETROFIT DETAILS - TYPE 2

PARSONS TRANSPORTATION GROUP MEMPHIS, TENNESSEE

DESIGNED BY M.A. TAYLOR DATE 2-2012
DRAWN BY M.A. TAYLOR DATE 2-2012
SUPERVISED BY D.R. NOLTE DATE 2-2012
CHECKED BY DATE

TN. D.O.T. ENGINEERING SUPERVISOR : M. LAWSON.

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

BRIDGE REPAIR DETAILS
LAYOUT OF BRIDGE
INTERSTATE 40 OVER LEVEE ROAD
BRIDGE ID. NO. 79-140-4.62
SHELBY COUNTY
2012

DAVID R. NOLTE — 220 — REGISTERED ENGINEER — AGRICULTURE — STATE OF TENNESSEE

PROJECT NO.	YEAR	SHEET NO.
79007-4175-04	2012	•

REVISIONS

NO.	DATE	BY	BRIEF DESCRIPTION
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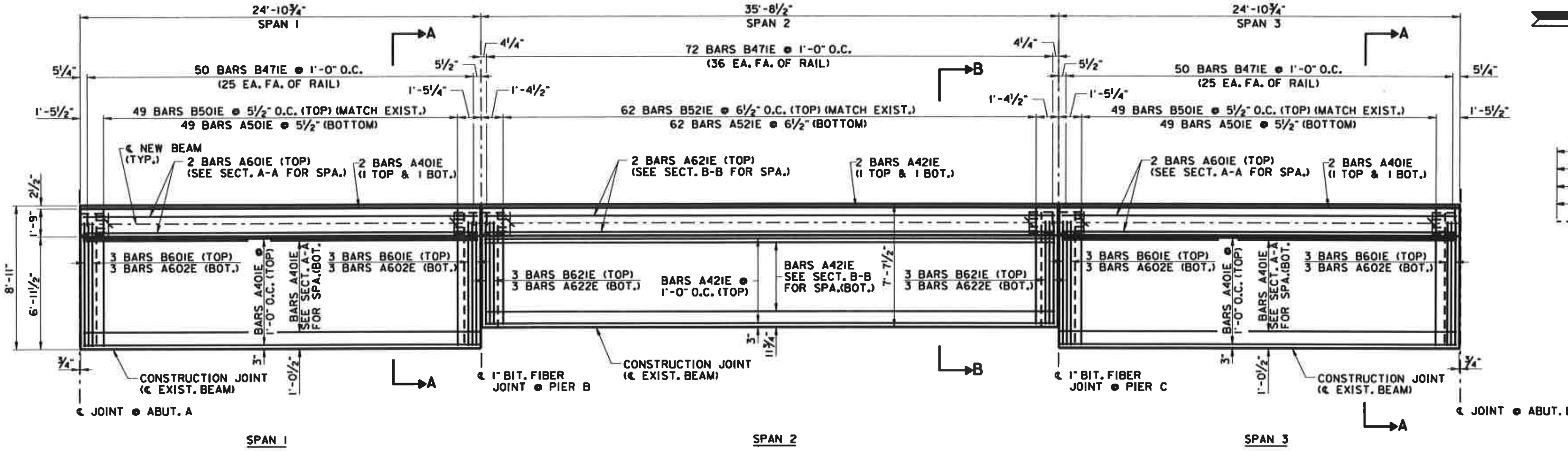
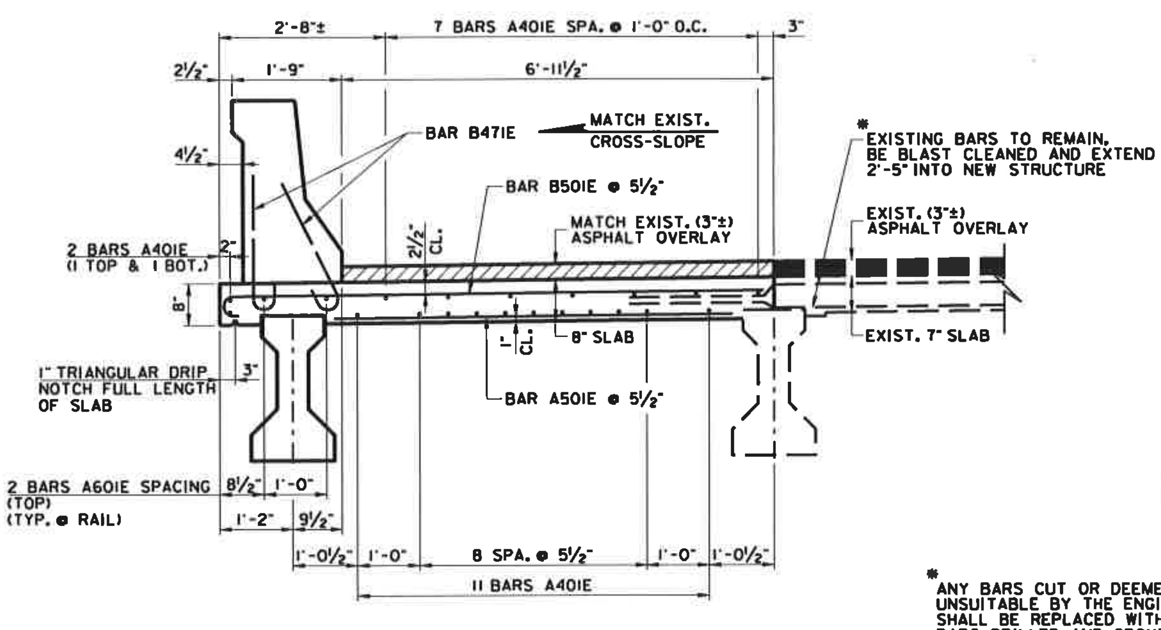
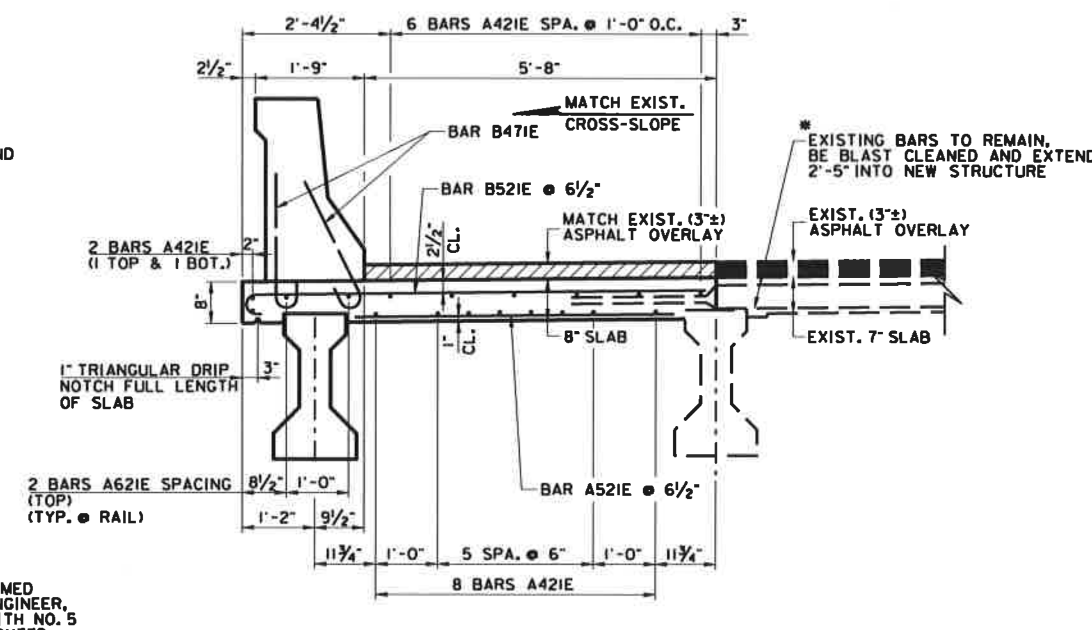


SLAB PLAN

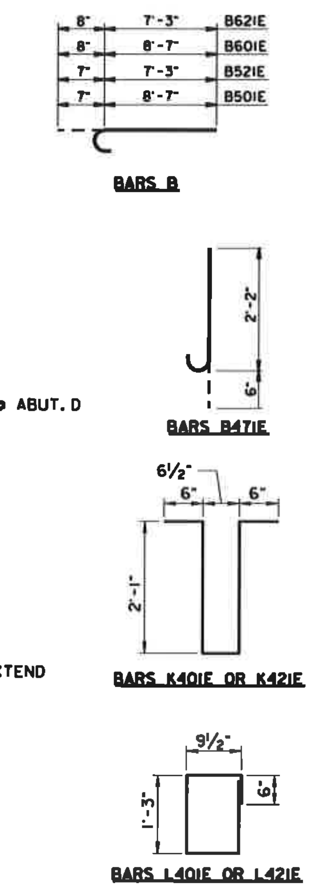


SECTION A-A



SECTION B-B

*ANY BARS CUT OR DEEMED UNSUITABLE BY THE ENGINEER, SHALL BE REPLACED WITH NO. 5 BARS DRILLED AND GROUTED (1'-0" MIN. EMBED.)



BAR BEND DETAILS

BAR	NO.	LENGTH	SHAPE	LOCATION
SPAN 1 SHOWN, SPAN 3 SIMILAR				
A401E	20	24'-7"	———	SLAB
A402E	4	6'-9"	———	INT. DIAPH.
A501E	49	6'-5"	———	SLAB
A601E	4	24'-7"	———	UNDER PARAPET
A602E	6	6'-9"	———	END DIAPH.
A603E	2	6'-5"	———	INT. DIAPH.
B501E	49	9'-2"	⊂——	SLAB
B601E	6	9'-3"	⊂——	END DIAPH.
B471E	50	2'-8"	⊂——	PARAPET
K401E	7	5'-9"	‾|_|‾	INT. DIAPH.
L401E	14	4'-7"	▯	END DIAPH.
SPAN 2				
A421E	16	35'-5"	———	SLAB
A422E	4	5'-6"	———	INT. DIAPH.
A521E	62	5'-2"	———	SLAB
A621E	2	35'-5"	———	UNDER PARAPET
A622E	6	5'-6"	———	END DIAPH.
A623E	2	5'-2"	———	INT. DIAPH.
B521E	62	7'-10"	⊂——	SLAB
B621E	6	7'-11"	⊂——	END DIAPH.
B471E	72	2'-8"	⊂——	PARAPET
K421E	6	5'-9"	‾|_|‾	INT. DIAPH.
L421E	12	4'-7"	▯	END DIAPH.

ESTIMATED QUANTITIES - SPANS 1 & 3

ITEM	DESCRIPTION	UNIT	QUANTITY
604-10.85	CLASS "D" CONCRETE (SLAB AND DIAPHRAGMS)	CY	13
•	•	•	•
604-10.18	REINFORCING STEEL (REPAIRS)	LB.	3078

NOTE: THE COST OF FORMING, NEW CONCRETE, LABOR AND ALL MISCELLANEOUS MATERIALS REQUIRED TO PLACE SLAB AS DETAILED ON THIS SHEET AND DWG. NO. BR-8 SHALL BE INCLUDED UNDER ITEM NO. 604-10.85, CLASS "D" CONCRETE (SLAB AND DIAPHRAGMS), C.Y.

NOTE: THE COST TO FURNISH AND PLACE ALL REINFORCING STEEL REQUIRED TO PLACE SLAB AS DETAILED ON THIS SHEET AND DWG. NO. BR-8 SHALL BE INCLUDED UNDER ITEM NO. 604-10.18, REINFORCING STEEL (REPAIRS), LB.

ESTIMATED QUANTITIES - SPAN 2

ITEM	DESCRIPTION	UNIT	QUANTITY
920-10.03	CLASS "D" CONCRETE (SLAB AND DIAPHRAGMS)	CY	8
•	•	•	•
920-10.06	REINFORCING STEEL (REPAIRS)	LB.	1665

NOTE: THE COST OF FORMING, NEW CONCRETE, LABOR AND ALL MISCELLANEOUS MATERIALS REQUIRED TO PLACE SLAB AS DETAILED ON THIS SHEET AND DWG. NO. BR-8 SHALL BE INCLUDED UNDER ITEM NO. 920-10.03, CLASS "D" CONCRETE (SLAB AND DIPHRAGMS), C.Y.

NOTE: THE COST TO FURNISH AND PLACE ALL REINFORCING STEEL REQUIRED TO PLACE SLAB AS DETAILED ON THIS SHEET AND DWG. NO. BR-8 SHALL BE INCLUDED UNDER ITEM NO. 920-10.06, REINFORCING STEEL (REPAIRS), LB.

NOTES:

1. SEE DWG. NO. BR-8 FOR FRAMING PLAN AND DIAPHRAGM DETAILS.
2. LAP LENGTH FOR #5 BARS = 2'-5".
3. SEE STANDARD DRAWING STD-1-1 FOR ADDITIONAL PARAPET NOTES AND DETAILS.

DAVID R. NOLTE — STATE OF TENNESSEE

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

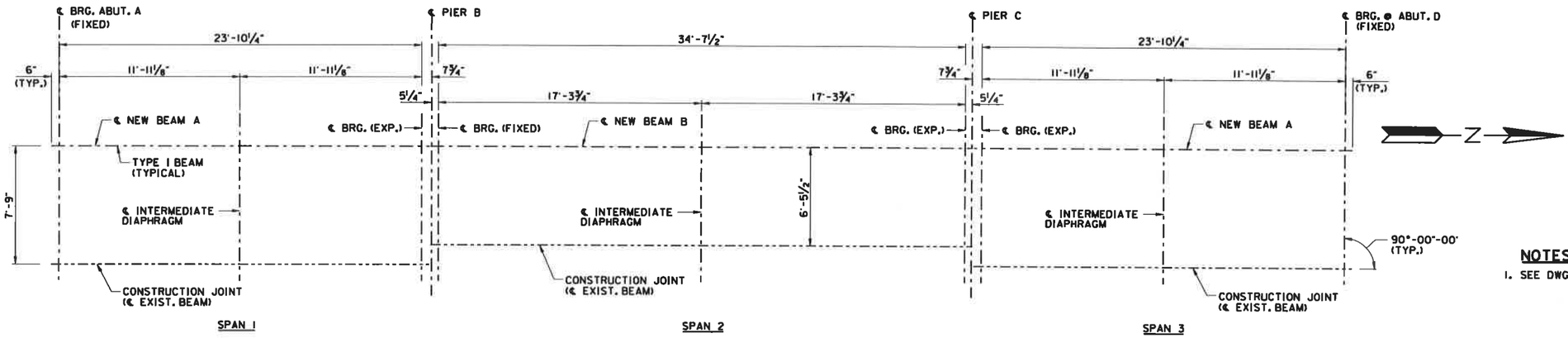
BRIDGE REPAIR DETAILS
SLAB PLAN

INTERSTATE 40 OVER LEVEE ROAD
BRIDGE ID. NO. 79-I40-4.62
SHELBY COUNTY
2012

PARSONS TRANSPORTATION GROUP
MEMPHIS, TENNESSEE

DESIGNED BY D. RANDALL — DATE 2-2012
DRAWN BY D. RANDALL — DATE 2-2012
SUPERVISED BY D.R. NOLTE — DATE 2-2012
CHECKED BY I.C. ENGSTROM — DATE 2-2012

TN. D.O.T. ENGINEERING SUPERVISOR : M. LAWSON.



FRAMING PLAN

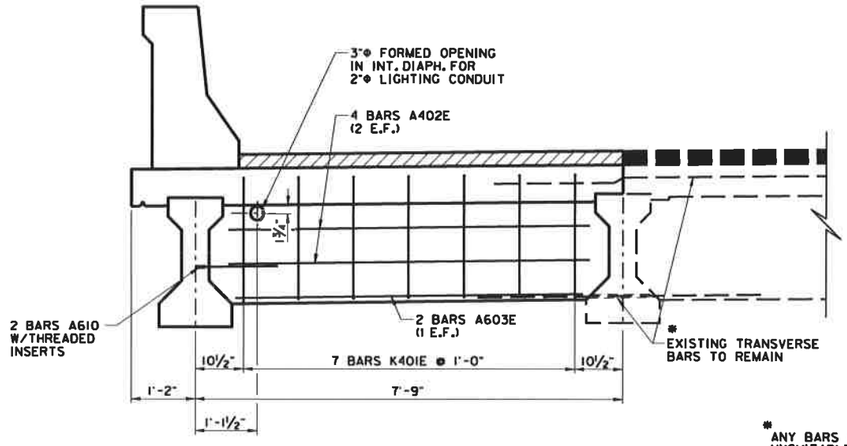
PROJECT NO.	YEAR	SHEET NO.
79007-4175-04	2012	*

REVISIONS

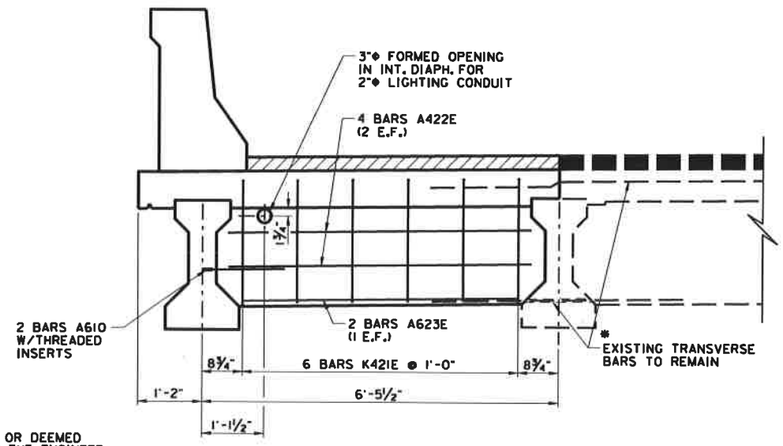
NO.	DATE	BY	BRIEF DESCRIPTION
*	*	*	

NOTES:

1. SEE DWG. NO. BR-9 FOR BEAM DETAILS.

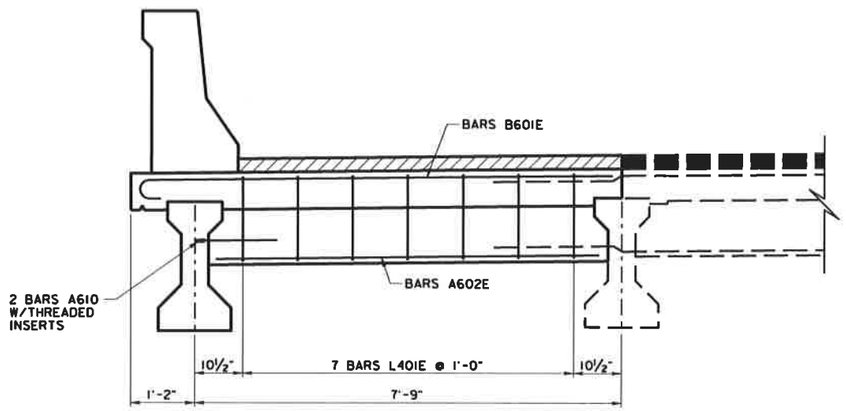


INTERMEDIATE DIAPHRAGM - SPANS 1 & 3

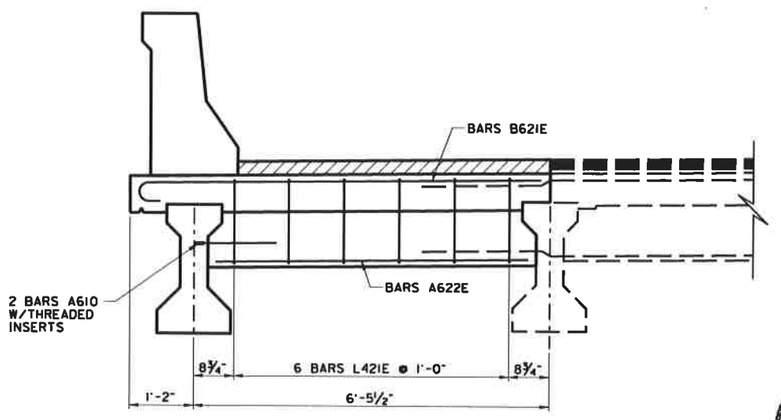


INTERMEDIATE DIAPHRAGM - SPAN 2

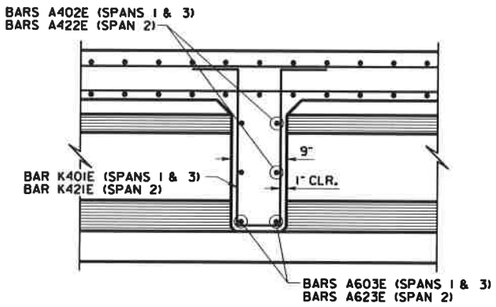
* ANY BARS CUT OR DEEMED UNSUITABLE BY THE ENGINEER, SHALL BE REPLACED WITH NO. 5 BARS DRILLED AND GROUTED (1'-0" MIN. EMBED.)



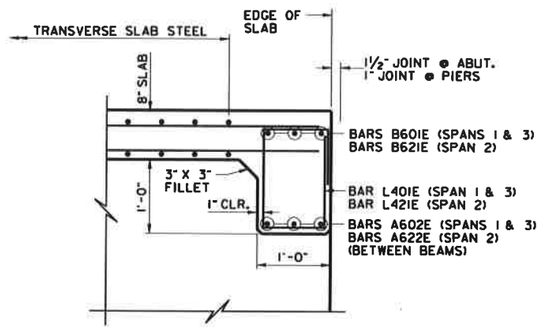
END DIAPHRAGM - SPANS 1 & 3



END DIAPHRAGM - SPAN 2



TYPICAL INTERMEDIATE DIAPHRAGM



TYPICAL END DIAPHRAGM

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

BRIDGE REPAIR DETAILS
FRAMING PLAN

INTERSTATE 40 OVER LEVEE ROAD

BRIDGE ID. NO. 79-140-4.62

SHELBY COUNTY
2012

PARSONS TRANSPORTATION GROUP
MEMPHIS, TENNESSEE

DESIGNED BY D. RANDALL DATE 2-2012
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TN. D.O.T. ENGINEERING SUPERVISOR : M. LAWSON.

DAVID R. NOLTE — REGISTERED ENGINEER — STATE OF TENNESSEE

PROJECT NO.	YEAR	SHEET NO.
79007-4175-04	2012	•

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NO.	DATE	BY	BRIEF DESCRIPTION
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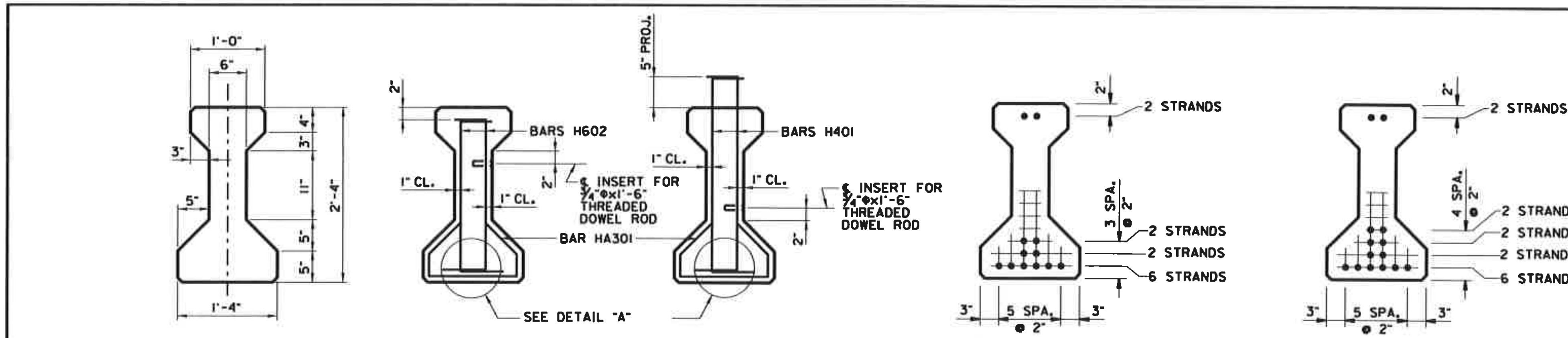
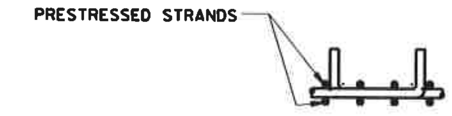


AASHTO TYPE I BEAM **SECTION A-A** **SECTION B-B**

SECTION C-C
STRAND PATTERN - SPANS 1 & 3
12-1/2" ⌀ 270 KSI LOW-RELAXATION STRANDS.

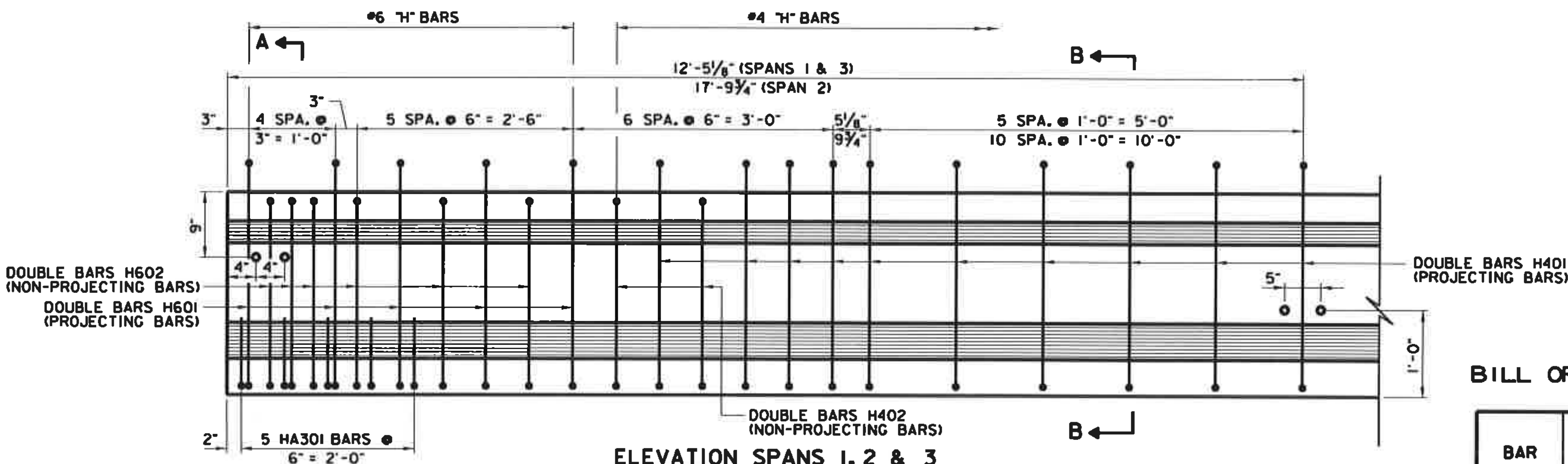
SECTION D-D
STRAND PATTERN - SPAN 2
14-1/2" ⌀ 270 KSI LOW-RELAXATION STRANDS.



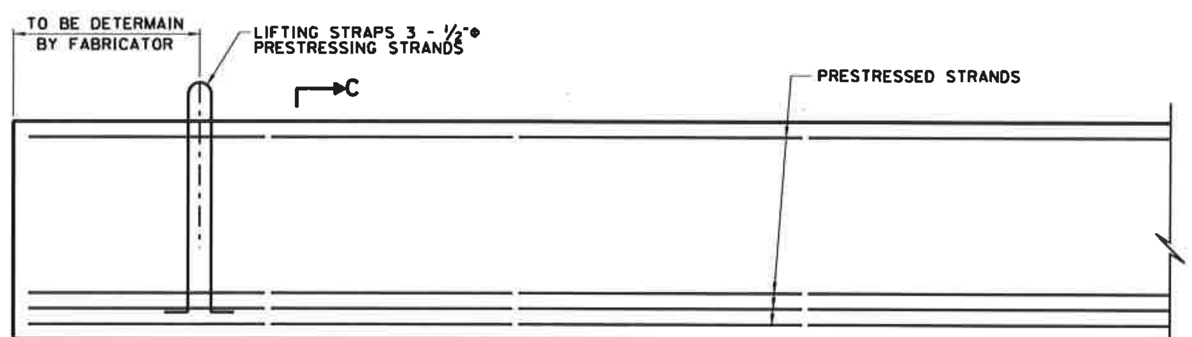
DETAIL "A"

NOTES:

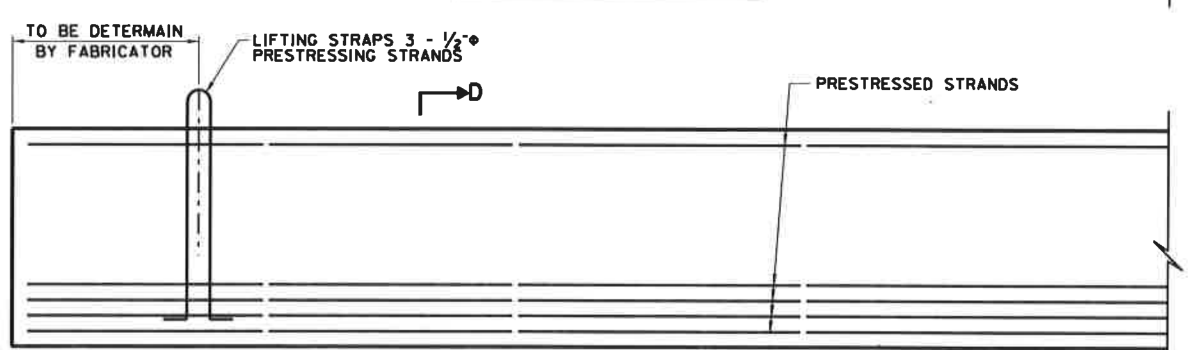
1. SEE STD-14-2 FOR I BEAM STANDARD DETAILS, NOTES, AND REINFORCING.
2. PREFORMED HOLES FOR DIAPHRAGM CONNECTION AT PIERS B & C AND INTERIOR BEAMS AT ABUTMENTS SHALL BE 1½" ⌀ SEE DRAWING BR- & BR-.
3. INSERTS FOR DIAPHRAGM ARE TO BE DOUBLE THREADED TYPE (CAST-IN-PLACE). ¾" ⌀ THREADED RODS FOR INSERTS ARE TO PROVIDE A 2'-0" SPLICE WITH THE DIAPHRAGM REINFORCEMENT.
4. ALL PRESTRESSING STRANDS TO BE ½" ⌀ ASTM GRADE 270K, 7 WIRE UNCOATED STRESS RELIEVED LOW RELAXATION PRESTRESSING STRANDS.
5. AN INITIAL FORCE OF 31003 LB. SHALL BE APPLIED TO EACH STRAND IN ALL BEAMS.
6. THE CONCRETE FOR THIS CONSTRUCTION SHALL BE OF SUCH PROPERTIES AS TO ATTAIN A COMPRESSIVE STRENGTH OF NOT LESS THAN 6,000 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 4,500 PSI. SEE GENERAL NOTES FOR CONCRETE FINISHING NOTE.
7. SEE DWG. NO. BR- FOR BEARING DETAILS.
8. BEAM ENDS AT PIERS B & C AND INTERIOR BEAMS AT ABUTMENTS 1 & 2 SHALL HAVE THE STRANDS CUT FLUSH AND A PROTECTIVE COATING PLACED ON THE ENDS OF THE BEAM.



ELEVATION SPANS 1, 2 & 3



ELEVATION SPANS 1 & 3



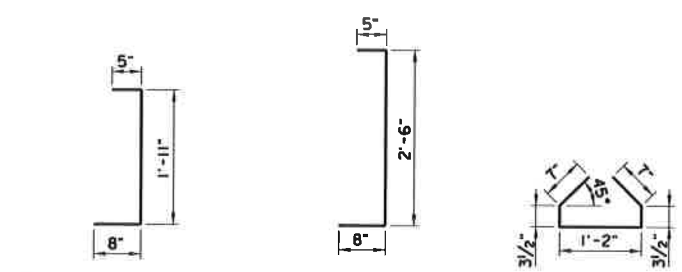
ELEVATION SPAN 2

BILL OF STEEL (BEAM 1, SHOWN BEAM 3 SIMILAR)

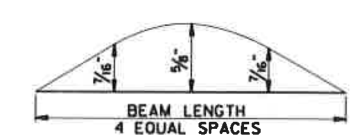
BAR	SIZE	NO. REQ'D.	LENGTH	SHAPE
A501	5	4	5'-6"	
H401	4	38	3'-7"	
H402	4	8	3'-0"	
H601	6	20	3'-7"	
H602	6	24	3'-0"	
HA301	3	10	2'-11"	

BILL OF STEEL (BEAM 2)

BAR	SIZE	NO. REQ'D.	LENGTH	SHAPE
A501	5	4	5'-6"	
H401	4	58	3'-7"	
H402	4	8	3'-0"	
H601	6	20	3'-7"	
H602	6	24	3'-0"	
HA301	3	10	2'-11"	



BAR BENDS



DEAD LOAD DEFLECTIONS

PRESTRESS BEAM DESIGN DATA - PER BEAM

LIVE LOAD DISTRIBUTION FACTOR = 0.8 TRUCKS PER BEAM
COMPOSITE DEAD LOAD = .523 LBS/FT
COMPOSOSITE SLAB DESIGN STRENGTH: 3000 PSI

ESTIMATED QUANTITIES (BEAMS 1 & 3)

LOCATION	NO. OF BEAMS REQ'D.	CONCRETE (C.Y.)	REINFORCING STEEL (LB.)	PRESTR. STEEL (LB.)
SPANS 1-3	2	1.8	357	157

ESTIMATED QUANTITIES (BEAM 2)

LOCATION	NO. OF BEAMS REQ'D.	CONCRETE (C.Y.)	REINFORCING STEEL (LB.)	PRESTR. STEEL (LB.)
SPAN 2	1	2.5	405	262

IAN C. ENGSTROM — STATE OF TENNESSEE

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

BRIDGE REPAIR DETAILS
PRESTRESSED BEAM DETAILS

INTERSTATE 40 OVER LEVEE ROAD

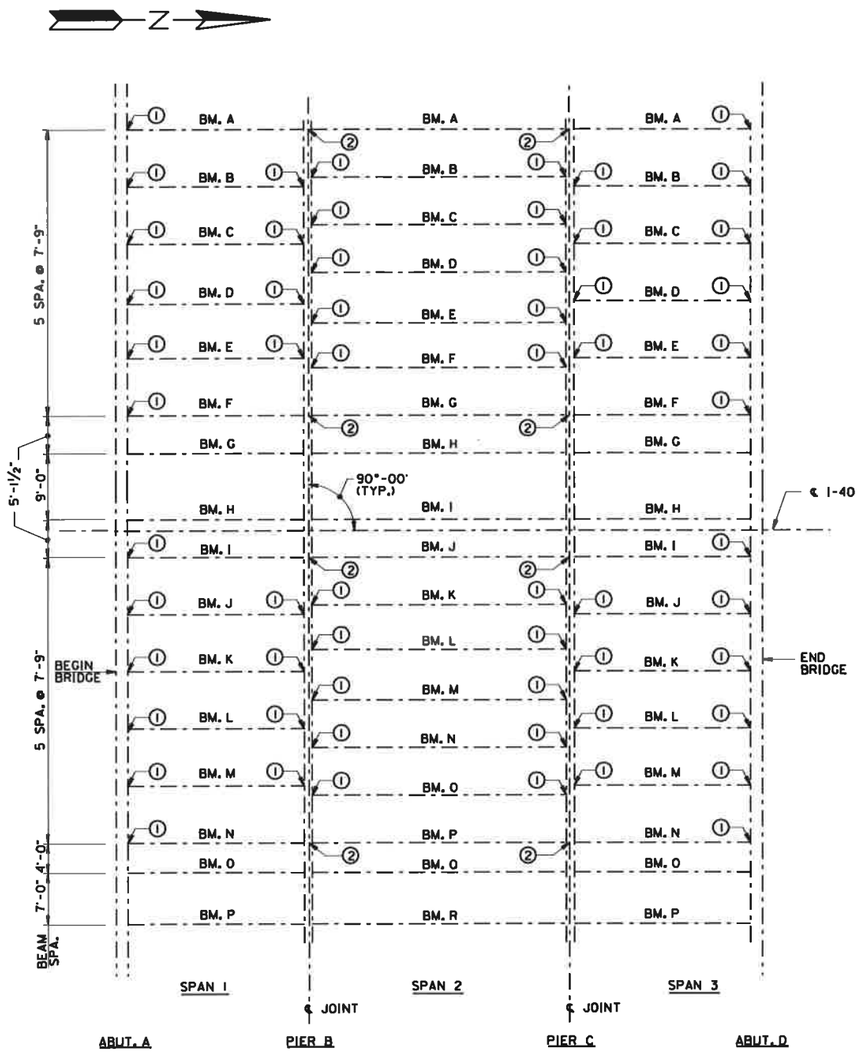
BRIDGE ID. NO. 79-140-4.62
SHELBY COUNTY
2012

PARSONS TRANSPORTATION GROUP
MEMPHIS, TENNESSEE

DESIGNED BY D. RANDALL DATE 2-2012
DRAWN BY D. RANDALL DATE 2-2012
SUPERVISED BY D.R. NOLTE DATE 2-2012
CHECKED BY DATE 2-2012

TN. D.O.T. ENGINEERING SUPERVISOR : M. LAWSON.

BR-9



LEGEND:

① DENOTES TYPE 1 SEISMIC RESTRAINER
② DENOTES TYPE 2 SEISMIC RESTRAINER

PROJECT NO.	YEAR	SHEET NO.
79007-4175-04	2012	*

REVISIONS

NO.	DATE	BY	BRIEF DESCRIPTION
*	*	*	

NOTES:

1. SEE DWG. NOS. BR-11 & 12 FOR SEISMIC RESTRAINER TYPE 1 DETAILS.
2. SEE DWG. NOS. BR-12 FOR SEISMIC RESTRAINER TYPE 2 DETAILS.
3. SEE DWG. NO. BR-2 FOR ESTIMATED QUANTITIES.

ESTIMATED QUANTITIES

ITEM NO.	DESCRIPTION	UNIT	QUANTITY
604-03.60	BRIDGE JOINT SEISMIC MODIFICATION	EACH	68

NOTE:

THE COST OF ALL LABOR AND MATERIALS REQUIRED FOR COMPLETE INSTALLATION OF SEISMIC RESTRAINER TYPES 1 & 2 ARE TO BE INCLUDED IN THE PRICE BID FOR ITEM NO. 604-03.60 BRIDGE JOINT SEISMIC MODIFICATION, EACH. A PAIR OF STEEL ROPES, GROUT AND ACCOMPANYING PLATES, BOLTS, NUTS, WASHERS AND GALVANIZING IS CONSIDERED ONE RESTRAINER.

RESTRAINER TYPE	ABUT A	PIER B	PIER C	ABUT D
TYPE 1	12	18	18	12
TYPE 2	-	4	4	-

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

BRIDGE REPAIR DETAILS
SEISMIC RESTRAINER LAYOUT
INTERSTATE 40 OVER LEVEE ROAD
BRIDGE ID. NO. 79-140-4.62
SHELBY COUNTY
2011

PARSONS TRANSPORTATION GROUP
MEMPHIS, TENNESSEE

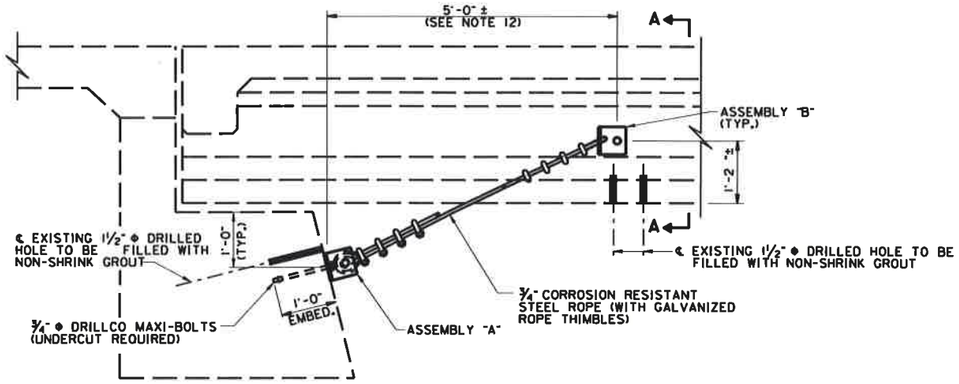
DESIGNED BY I.C. ENGSTROM DATE 2-2012
DRAWN BY D. RANDALL DATE 2-2012
SUPERVISED BY D.R. NOLTE DATE 2-2012
CHECKED BY I.C. ENGSTROM DATE 2-2012

TN. D.O.T. ENGINEERING SUPERVISOR : M. LAWSON.

PROJECT NO.	YEAR	SHEET NO.
79007-4175-04	2012	*

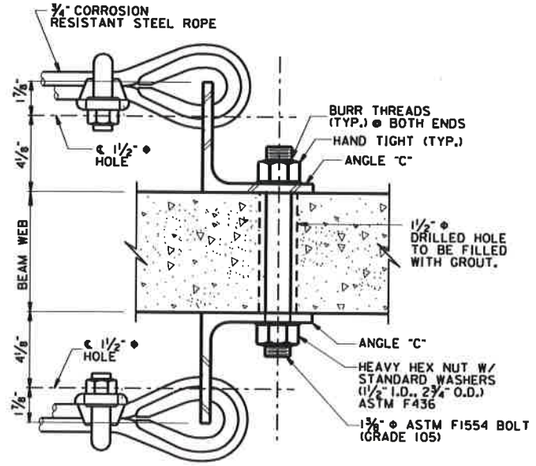
REVISIONS

NO.	DATE	BY	BRIEF DESCRIPTION
*	*	*	



TYPE ① SEISMIC RESTRAINER @ ABUTMENTS

NOTE: COST OF INSTALLING TYPE ① SEISMIC RESTRAINERS INCLUDING LABOR, DRILLING, ANCHOR BOLTS, STEEL ROPE AND ITS ACCESSORIES, PLATES, PAINTING, AND ANY OTHER MISCELLANEOUS MATERIAL REQUIRED SHALL BE INCLUDED UNDER ITEM NO. 604-03.60. BRIDGE JOINT SEISMIC MODIFICATION, EA.

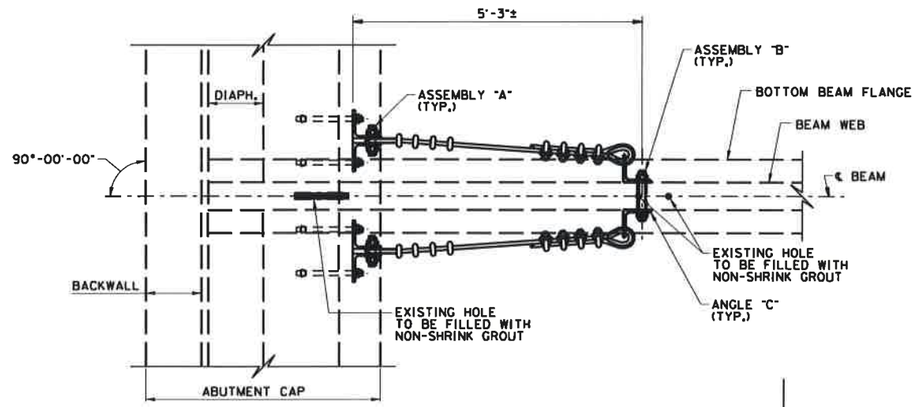


PLAN

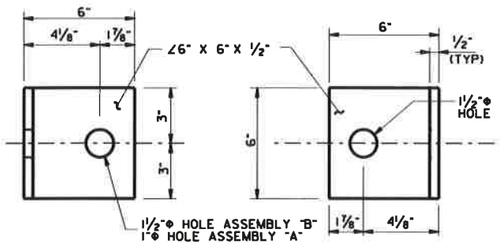
ASSEMBLY "B"

NOTES:

1. TYPE I -- THE LABOR, A PAIR OF STEEL ROPES, DRILLING, GROUT, GALVANIZING, ANGLES, BOLTS, NUTS, WASHERS AND ANY OTHER MISCELLANEOUS MATERIAL REQUIRED TO INSTALL A RESTRAINER ON EACH SIDE OF ONE BEAM IS CONSIDERED ONE ASSEMBLY.
2. SEE DWG. NO. BR-3 FOR GENERAL NOTES.
3. SEE DWG. NO. BR-10 FOR SEISMIC RESTRAINER LAYOUT.
4. SEE DWG. NO. BR-4 FOR PROCEDURE FOR INSTALLATION OF ANCHOR BOLTS.
5. SEE DWG. NO. BR-2 FOR ESTIMATED QUANTITIES.
6. ALL STEEL IN SEISMIC RESTRAINERS SHALL BE GALVANIZED IN ACCORDANCE WITH GENERAL NOTES ON DWG. NOs. BR-3 & 4.

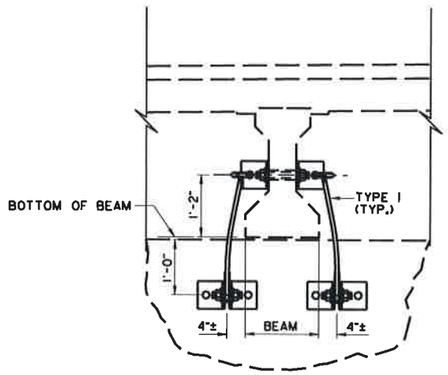


PLAN



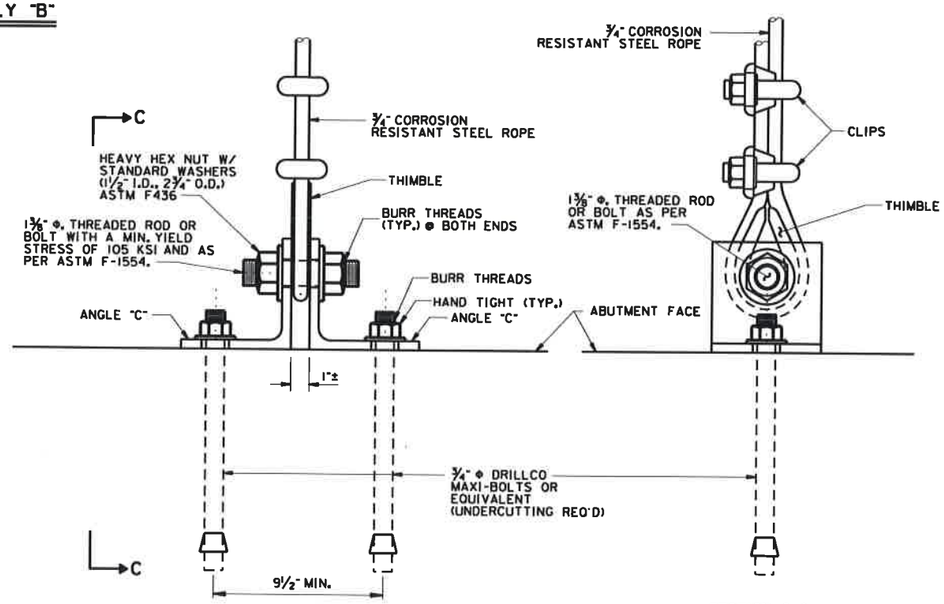
ANGLE "C" DETAILS

(2 REQ'D PER TYPE I)
(4 REQ'D PER TYPE 2)



VIEW A-A

(EXISTING CONCRETE BEAM SHOWN)



PLAN VIEW

SECTION C-C

ASSEMBLY "A"

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

BRIDGE REPAIR DETAILS
SEISMIC RESTRAINERS - ABUTMENTS
INTERSTATE 40 OVER LEVEE ROAD
BRIDGE ID. NO. 79-140-4.62
SHELBY COUNTY
2012

DAVID R. NOLTE — LICENSED PROFESSIONAL ENGINEER — STATE OF TENNESSEE

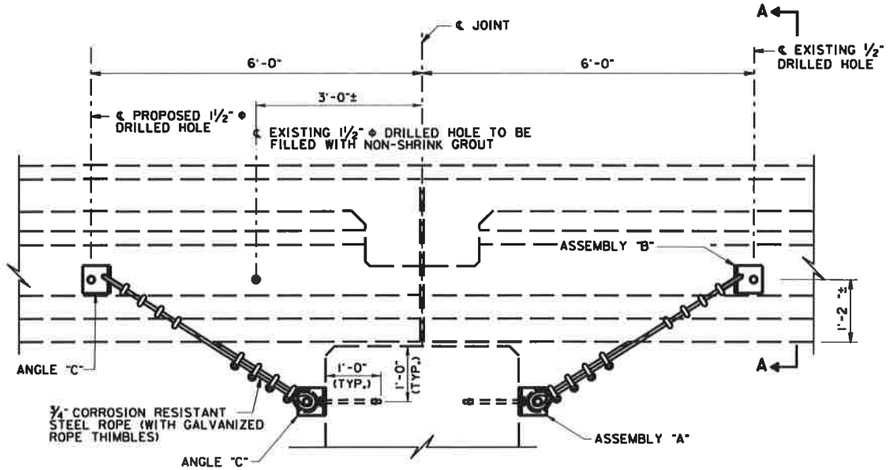
PARSONS TRANSPORTATION GROUP
MEMPHIS, TENNESSEE

DESIGNED BY D. RANDALL DATE 2-2012
DRAWN BY D. RANDALL DATE 2-2012
SUPERVISED BY D.R. NOLTE DATE 2-2012
CHECKED BY J.B. McELYEA DATE 2-2012

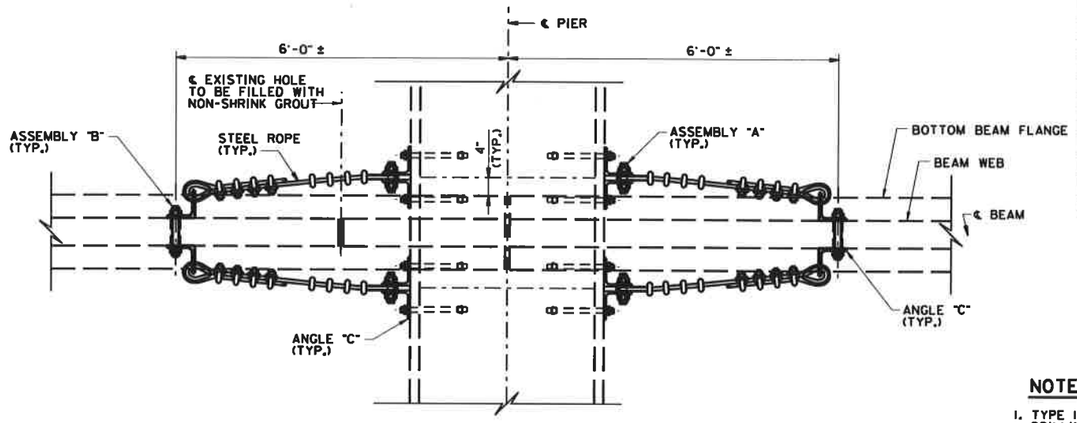
TN. D.O.T. ENGINEERING SUPERVISOR : M. LAWSON.

LONGITUDINAL RESTRAINER - TYPE I @ ABUTMENTS

(24 REQ'D)



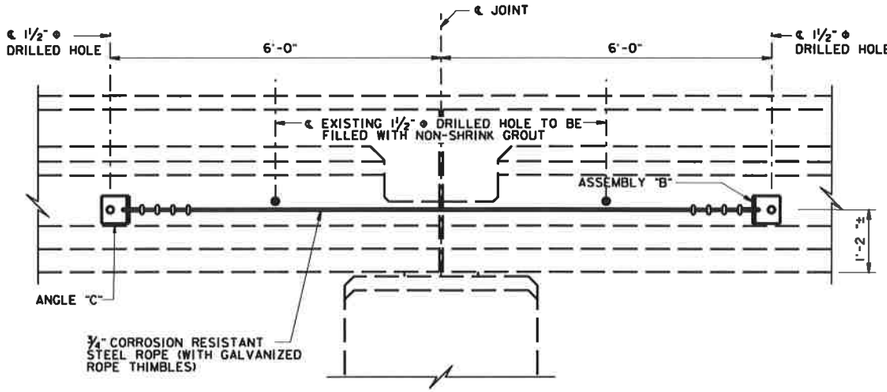
ELEVATION



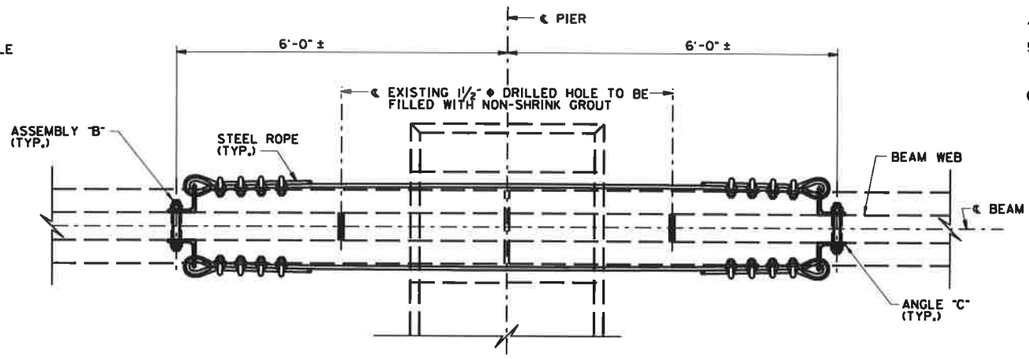
PLAN

TYPE ① SEISMIC RESTRAINER

(36 REQ'D AT PIERS)



ELEVATION



PLAN

TYPE ② SEISMIC RESTRAINER

(8 REQ'D)

PROJECT NO.	YEAR	SHEET NO.
79007-4175-04	2012	*

REVISIONS

NO.	DATE	BY	BRIEF DESCRIPTION
*	*	*	

NOTES:

1. TYPE 1 -- THE LABOR, A PAIR OF STEEL ROPES, DRILLING, GROUT, GALVANIZING, ANGLES, BOLTS, NUTS, WASHERS AND ANY OTHER MISCELLANEOUS MATERIAL REQUIRED TO INSTALL A RESTRAINER ON EACH SIDE OF ONE BEAM IS CONSIDERED ONE ASSEMBLY.
2. TYPE 2 -- THE LABOR, A PAIR OF STEEL ROPES, DRILLING, GALVANIZING, ANGLES, BOLTS, NUTS, WASHERS AND ANY OTHER MISCELLANEOUS MATERIAL REQUIRED TO INSTALL A RESTRAINER ON EACH SIDE OF ONE BEAM IS CONSIDERED ONE ASSEMBLY.
3. ALL STEEL IN SEISMIC RESTRAINERS SHALL BE GALVANIZED IN ACCORDANCE WITH GENERAL NOTE ON DWG. NO. BR-3.
4. SEE DWG NO. BR-2 FOR ESTIMATED QUANTITIES.
5. SEE DWG. NO. BR-3 FOR GENERAL NOTES AND DWG. NO. BR-4 FOR PROCEDURE FOR INSTALLATION OF ANCHOR BOLTS.
6. SEE BR-11 FOR VIEW A-A, ASSEMBLY "A", ASSEMBLY "B", AND ANGLE "C" DETAILS.

DAVID R. NOLTE — REGISTERED ENGINEER — AGRICULTURE — STATE OF TENNESSEE

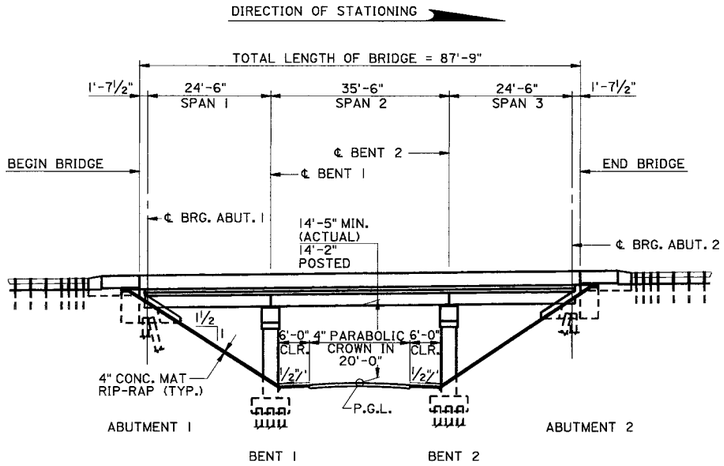
STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

BRIDGE REPAIR DETAILS
SEISMIC RESTRAINERS - PIERS
INTERSTATE 40 OVER LEVEE ROAD
BRIDGE ID. NO. 79-140-4.62
SHELBY COUNTY
2012

PARSONS TRANSPORTATION GROUP MEMPHIS, TENNESSEE

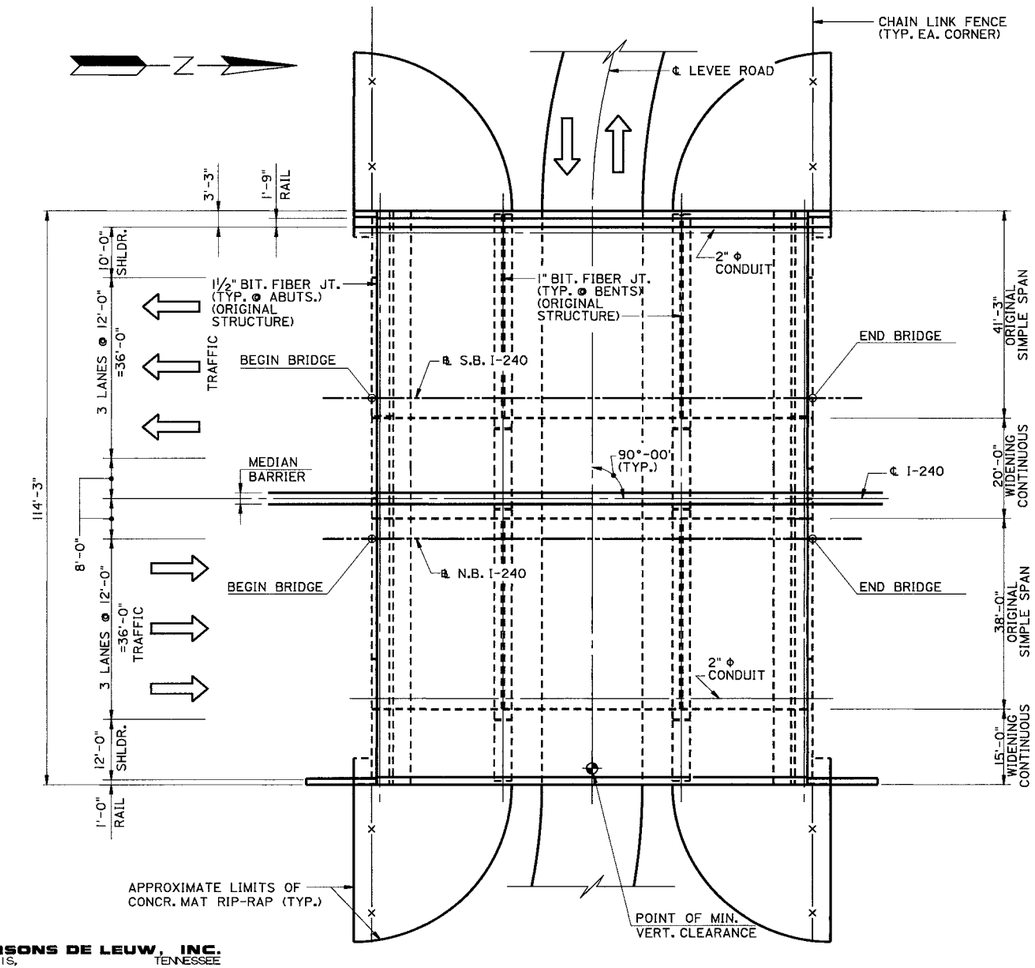
DESIGNED BY	D. RANDALL	DATE 2-2012
DRAWN BY	D. RANDALL	DATE 2-2012
SUPERVISED BY	D.R. NOLTE	DATE 2-2012
CHECKED BY	I.C. ENGSTROM	DATE 2-2012

TN. D.O.T. ENGINEERING SUPERVISOR : M. LAWSON.



ELEVATION

SCALE: 1" = 15'-0"



PLAN

SCALE: 1" = 15'-0"

PARSONS DE LEUW, INC.
MEMPHIS, TENNESSEE

DESIGNED BY	T.L. DAWSON	DATE	11-94
DRAWN BY	D. RANDALL	DATE	11-94
SUPERVISED BY	C.H. BRYANT	DATE	11-94
CHECKED BY	M.E. MCGUIRE	DATE	11-94

NOTES: THE ORIGINAL STRUCTURE IS SIMPLE SPAN, FIXED AT ABUTMENTS.

THE WIDENED STRUCTURE IS CONTINUOUS, INTEGRAL AT ABUTMENTS (SEE PLAN VIEW).

PROJECT NO.	YEAR	SHEET NO.
79001-4171-04	1995	

REVISIONS

NO.	DATE	BY	BRIEF DESCRIPTION

GENERAL SCOPE OF WORK

PROVIDE TRAFFIC CONTROL IN ACCORDANCE WITH SHEETS 3 & 4 AND STD. DWGS. T-CP-1 THRU T-CP-3.

REPAIR THE SURFACE OF BEAM A SPAN 2 AS DETAILED ON DWG. BR-18-47.

REPAIR COLUMN B OF BENT 2 AS DETAILED ON DWG. BR-18-47.

REPAIR THE SLOPE PAVEMENT AT ABUTMENTS 1 & 2 AS DETAILED ON DWG. BR-18-47.

PLACE TYPE (1) SEISMIC RESTRAINERS AT BENTS AS DETAILED ON DWG. BR-18-45.

PLACE TYPE (2) SEISMIC RESTRAINERS AT ABUTMENTS AS DETAILED ON DWG. BR-18-46.

LIST OF BRIDGE DRAWINGS

DWG. NO.	DATE OF LAST REV.	TITLE
BR-18-43		LAYOUT OF BRIDGE
BR-18-44		ESTIMATED QUANTITIES & GENERAL NOTES
BR-18-45		SEISMIC RETROFIT DETAILS - TYPE (1)
BR-18-46		SEISMIC RETROFIT DETAILS - TYPE (2)
BR-18-47		MISCELLANEOUS REPAIR DETAILS

LIST OF REFERENCE DRAWINGS

TO BE PRINTED WITH PLANS

DWG. NO.	DATE OF LAST REV.	TITLE
1963 PLANS		
K-40-70		BRIDGE LAYOUT
K-40-71		ABUTMENTS A & D
K-40-72		PIERS B & C
K-40-73		SUPERSTRUCTURE SLAB
K-40-74		TYPE I PRESTRESSED BEAMS
1976 PLANS - WIDENING		
M-24-58		BRIDGE LAYOUT
M-24-59		GENERAL NOTES & ESTIMATED QUANTITIES
M-24-60		ABUTMENTS A & D
M-24-61		PIERS B & C
M-24-62		TYPICAL SECTION
M-24-63		SLAB PLAN
M-24-64		FRAMING PLAN AND SCREED ELEVATIONS
M-24-65		PRESTRESSED BEAM DETAILS

21 DEC 94

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAYS

BRIDGE REPAIRS
LAYOUT OF BRIDGE

INTERSTATE 40 OVER LEVEE ROAD

BRIDGE ID. NO. 79-140-4.71
SHELBY COUNTY
1995

BRIDGE NO. 79I00400057

BR-18-43

GENERAL NOTES

1. SPECIFICATIONS: STANDARD ROAD AND BRIDGE SPECIFICATIONS OF THE TENNESSEE DEPARTMENT OF TRANSPORTATION. (MARCH 1981 EDITION).
2. LOADING: AS CONSTRUCTED - HS20-44 WITH ALTERNATE MILITARY LOADING
   AS DESIGNED - HS20-44 WITH ALTERNATE MILITARY LOADING
3. DESIGN SPECIFICATIONS: AASHTO 1992 EDITION WITH ADDENDA.
4. CONCRETE TO BE CLASS "A" CONCRETE UNLESS NOTED OTHERWISE IN ACCORDANCE WITH SPECIAL PROVISION NO. 604CX
5. CONCRETE CURING. ALL CONCRETE IN REPAIR AREAS SHALL BE CURED ACCORDING TO SPECIAL PROVISION NO. 604.
6. SPECIAL NOTE: TO IMPROVE THE FLOWABILITY OF THE CONCRETE, THE CONTRACTOR MAY USE ADMIXTURES, (SUPERPLASTICIZERS) IN ACCORDANCE WITH SPECIAL PROVISION NO. 604CX. CONCRETE ADMIXTURES (SUPERPLASTICIZERS) USED SHALL BE APPROVED BY THE TENNESSEE DEPARTMENT OF TRANSPORTATION MATERIALS AND TEST DIVISION PRIOR TO USE. COARSE AGGREGATE FOR THE CONCRETE USED IN THE REPAIR AREAS SHALL BE SIZE 67 STONE.
7. GROUTED BARS IN DRILLED HOLES: HORIZONTALLY DRILLED HOLES SHALL BE DRILLED ½" IN DIAMETER LARGER THAN THE BAR, CLEANED, PACKED WITH NON-SHRINK GROUT AND DRIVEN TO ITS SEAT. VERTICALLY DRILLED HOLES SHALL BE DRILLED ¼" 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.
8. SHOP DRAWINGS: SHALL BE SUBMITTED ACCORDING TO SPECIAL PROVISION NO. 105A, EXCEPT SHOP DRAWINGS SHALL BE SUBMITTED TO THE HEADQUARTERS BRIDGE INSPECTION AND REPAIR OFFICE IN LIEU OF THE DIVISION OF STRUCTURES.
9. 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
10. REQUIREMENTS AND RESTRICTIONS FOR PHASED CONSTRUCTION FOR UNDERNEATH ROADWAY (LEVEE ROAD): ONE 10 FOOT TRAFFIC LANE SHALL BE MAINTAINED AT ALL TIMES VIA TRAFFIC SIGNALS. SEE SHEETS 3 & 4 FOR DETAILS.
11. DISPOSAL OF MATERIALS: ALL MATERIALS NOT USED IN THE COMPLETED STRUCTURE NOR TO BE FURNISHED TO THE DOT SHALL BE DISPOSED OF OFF SITE BY THE CONTRACTOR.
12. HAND TOOLS USED FOR THE REMOVAL OF UNSOUND CONCRETE IN ALL PORTIONS OF STRUCTURE ARE SUBJECT TO THE FOLLOWING RESTRICTIONS: 1) PNEUMATIC HAMMERS HEAVIER THAN NOMINAL 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 NO HOE RAMS SHALL BE USED FOR THIS PROJECT.
13. STRUCTURAL STEEL SHALL CONFORM TO AASHTO M270 GRADE 36 (ASTM A709 GRADE 36) UNLESS OTHERWISE NOTED
14. APPROVAL OF MATERIALS. NO FABRICATION SHALL BE STARTED UNTIL THE MATERIALS INVOLVED HAVE BEEN APPROVED BY THE TENNESSEE DEPARTMENT OF TRANSPORTATION, DIVISION OF MATERIALS AND TESTS
15. PAINT SYSTEM FOR THE SEISMIC RESTRAINERS SHALL BE SYSTEM B - INORGANIC ZINC - URETHANE FINISH GREY TOP COAT SEE TENNESSEE STANDARD SPECIFICATION 603.05(b) AND SPECIAL PROVISION 603A.

UTILITIES NOTE

THE LOCATIONS OF UTILITIES SHOWN WITHIN PLANS ARE APPROXIMATE ONLY. EXACT LOCATIONS SHALL BE DETERMINED IN THE FIELD BY CONTACTING THE UTILITY COMPANIES INVOLVED.

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

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

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

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

SOME UTILITIES CAN BE LOCATED BY CALLING THE TENNESSEE ONE CALL SYSTEM, INC. AT 1-800-351-1111.

PARSONS DE LEUW, INC.
MEMPHIS, TENNESSEE

DESIGNED BY T L DAWSON DATE 11-94
DRAWN BY T MALONE DATE 11-94
SUPERVISED BY C H BRYANT DATE 11-94
CHECKED BY M E MCGUIRE DATE 11-94

ESTIMATED QUANTITIES

	ITEM NO.	DESCRIPTION	UNIT	TOTAL
⑦①	604-01.08	CLASS "A" CONCRETE (FOUNDATION LEVELING)	C.Y.	5
⑥②	604-03.21	BRIDGE JOINT SEISMIC MODIFICATION	EA.	52
⑦⑤④③	604-10.54	CONCRETE REPAIRS	S.F.	25

① INCLUDES THE COST OF ALL LABOR AND MATERIALS REQUIRED TO PUMP LEVELING CONCRETE UNDER THE SLOPE PAVING AT ABUTMENTS 1 AND 2 AS DETAILED ON DWG. BR-18-47.

② INCLUDES THE COST OF ALL LABOR AND MATERIALS REQUIRED TO PLACE 28 TYPE ① SEISMIC RESTRAINERS AT BENTS AS DETAILED ON DWG BR-18-45.

③ INCLUDES THE COST OF ALL LABOR AND MATERIALS REQUIRED TO REPAIR THE SURFACE OF BENT 2 AS DETAILED ON DWG. BR-18-47.

④ INCLUDES THE COST OF ALL LABOR AND MATERIALS REQUIRED TO REPAIR THE BEAM WEB AS DETAILED ON DWG. BR-18-47.

⑤ INCLUDES THE COST OF ALL LABOR AND MATERIALS REQUIRED TO REPAIR THE SURFACE OF BEAMS AS DETAILED ON DWG. BR-18-47.

⑥ INCLUDES THE COST OF ALL LABOR AND MATERIALS REQUIRED TO PLACE 24 TYPE ② SEISMIC RESTRAINERS AT ABUTMENTS AS DETAILED ON DWG. BR-18-46.

⑦ THIS ITEM SHALL BE BID WITH THE CONTINGENCY THAT IT MAY INCREASE, DECREASE, OR BE ELIMINATED AS DIRECTED BY THE ENGINEER.

⑧ "INTERNATIONAL TRAFFIC SIGNAL SYSTEMS INC. LAKELAND, FL. - OPB 1000 RF SERIES (SPAN WIRE MOUNTED)

SPECIAL PROVISIONS

SPECIAL PROVISION NUMBER	LATEST REVISION DATE	REGARDING
100	**	REVISIONS AND ADDITIONS TO STANDARD SPECIFICATIONS
105A	**	APPROVAL OF SHOP DRAWINGS
602	**	SECTION 602-STEEL STRUCTURES
603A	**	PAINTING
604	**	CONCRETE STRUCTURES
604CX	**	CONTRACTOR - MIX DESIGN AND TESTING STRUCTURAL CONCRETE
712	**	TEMPORARY TRAFFIC CONTROL
712A	**	FLEXIBLE DRUMS (CHANNELIZING)

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

PROJECT NO.	YEAR	SHEET NO.
79001-4171-04	1995	2

REVISIONS

NO	DATE	BY	BRIEF DESCRIPTION

ROADWAY QUANTITIES

ITEM NO.	DESCRIPTION	UNIT	TOTAL
712-01	TRAFFIC CONTROL	LS	1
712-02.02	INTERCONNECTED PORTABLE BARRIER RAIL	LF	490
712-04.01	FLEXIBLE DRUMS (CHANNELIZING)	EA	31
712-05.01	WARNING LIGHTS (TYPE A)	EA	4
712-05.03	WARNING LIGHTS (TYPE C)	EA	31
712-06	SIGNS (CONSTRUCTION)	SF	285
712-06.01	VERTICAL PANELS	SF	*80
712-09.01	REMOVABLE PAVEMENT MARKING LINE	LF	1350
712-09.04	REMOVABLE PAVEMENT MARKING (STOP LINE)	LF	36
716-05.01	PAINTED PAVEMENT MARKING (LINE)	LIN. MI	0.4
717-01	MOBILIZATION	LS	1
730-40	TEMPORARY TRAFFIC SIGNAL SYSTEM	EA	1
⑧ 730-50	TEMPORARY TRAFFIC SIGNAL SYSTEM (RADIO CONTROLLED)	EA	1

* 40 S.F. OF VP-1R AND 40 S.F. OF VP-1L PANELS ARE REQUIRED.

TRAFFIC CONTROL NOTES

1. ADVANCED WARNING SIGNS SHALL NOT BE DISPLAYED MORE THAN FORTY-EIGHT (48) HOURS BEFORE PHYSICAL CONSTRUCTION BEGINS. SIGNS MAY BE ERECTED UP TO ONE WEEK BEFORE NEEDED IF THE SIGN FACE IS FULLY COVERED.
2. IF THE CONTRACTOR MOVES OFF THE PROJECT, HE SHALL COVER OR REMOVE ALL UNNEEDED SIGNS AS DIRECTED BY THE ENGINEER. COSTS OF REMOVAL, COVERING, AND REINSTALLING SIGNS SHALL NOT BE MEASURED AND PAID FOR SEPARATELY, BUT ALL COSTS SHALL BE INCLUDED IN THE ORIGINAL UNIT PRICE BID FOR ITEM NO. 712-06, SIGNS (CONSTRUCTION) PER SQUARE FEET.
3. A LONG TERM BUT SPORADIC USE WARNING SIGN, SUCH AS FLAGGER SIGNS, MAY REMAIN IN PLACE WHEN NOT REQUIRED PROVIDED THE SIGN FACE IS FULLY COVERED.
4. TRAFFIC CONTROL DEVICES SHALL NOT BE DISPLAYED OR ERECTED UNLESS RELATED CONDITIONS ARE PRESENT NECESSITATING WARNING.
5. USE OF BARRICADES, PORTABLE BARRIER RAILS, VERTICAL PANELS, AND DRUMS SHALL BE LIMITED TO THE IMMEDIATE AREAS OF CONSTRUCTION WHERE A HAZARD IS PRESENT THESE DEVICES SHALL NOT BE STORED ALONG THE ROADWAY WITHIN THIRTY (30) FEET OF THE EDGE OF THE TRAVELED WAY BEFORE OR AFTER USE UNLESS PROTECTED BY GUARDRAIL, BRIDGE RAIL, AND/OR BARRIERS INSTALLED FOR OTHER PURPOSES. THESE DEVICES SHALL BE REMOVED FROM THE CONSTRUCTION WORK ZONE WHEN THE ENGINEER DETERMINES THEY ARE NO LONGER NEEDED. WHERE THERE IS INSUFFICIENT RIGHT-OF-WAY TO PROVIDE FOR THIS THIRTY (30) FEET SETBACK, THE ENGINEER SHALL APPROVE ALTERNATE LOCATIONS.
6. THE CONTRACTOR WILL NOT BE PERMITTED TO PARK ANY VEHICLES OR CONSTRUCTION EQUIPMENT DURING PERIODS OF INACTIVITY WITHIN THIRTY (30) FEET OF THE EDGE OF PAVEMENT WHEN THE LANE IS OPEN TO TRAFFIC, UNLESS PROTECTED BY GUARDRAIL, BRIDGE RAIL, AND/OR BARRIERS INSTALLED FOR OTHER PURPOSES. PRIVATELY OWNED VEHICLES SHALL NOT BE ALLOWED TO BE PARKED WITHIN THIRTY (30) FEET OF AN OPEN TRAFFIC LANE AT ANY TIME UNLESS PROTECTED AS DESCRIBED ABOVE WHERE THERE IS INSUFFICIENT RIGHT-OF-WAY TO PROVIDE FOR THIS THIRTY (30) FEET SETBACK, THE ENGINEER SHALL APPROVE ALTERNATE LOCATIONS.

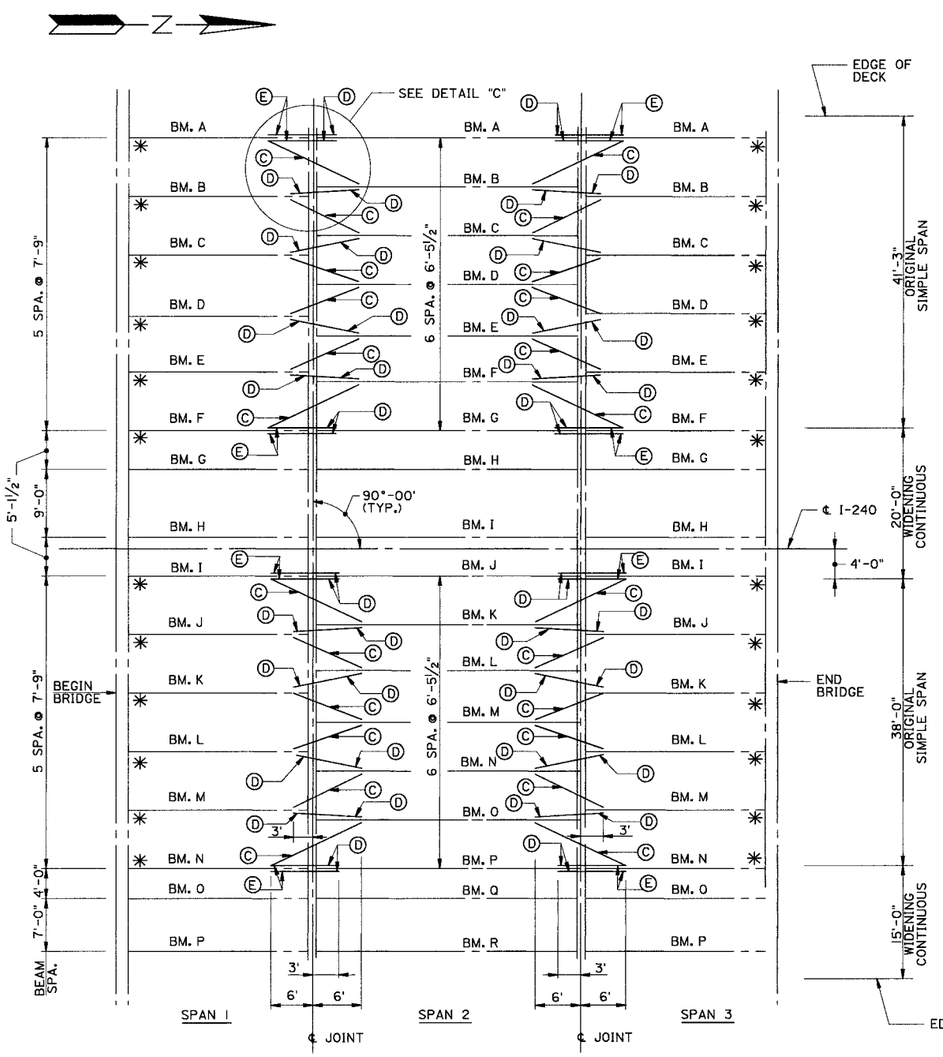
STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAYS

Tonya L Dawson
20 JAN 95

BRIDGE REPAIR DETAILS
ESTIMATED QUANTITIES & GENERAL NOTES

INTERSTATE 40 OVER LEVEE ROAD

BRIDGE ID. NO. 79-140-4.71
SHELBY COUNTY
1995



PLAN OF SEISMIC RESTRAINER LOCATIONS

* DENOTES TYPE ② SEISMIC RESTRAINER LOCATIONS SEE DWG. BR-18-46 FOR DETAILS

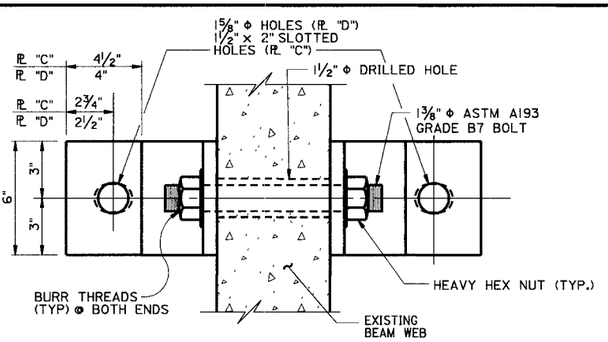
—— DENOTES TYPE ① SEISMIC RESTRAINER LOCATIONS

Ⓒ DENOTES BENT PLATE "C" TO BE USED ON BOTH ENDS OF THE ROD

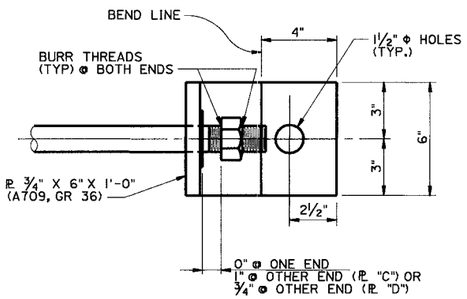
Ⓓ DENOTES BENT PLATE "D" TO BE USED AT END OF THE ROD

Ⓔ DENOTES BENT PLATE "E" TO BE USED AT END OF THE ROD

NOTE: BEAM DESIGNATIONS ARE FROM LEFT TO RIGHT LOOKING IN DIRECTION OF ROUTE.

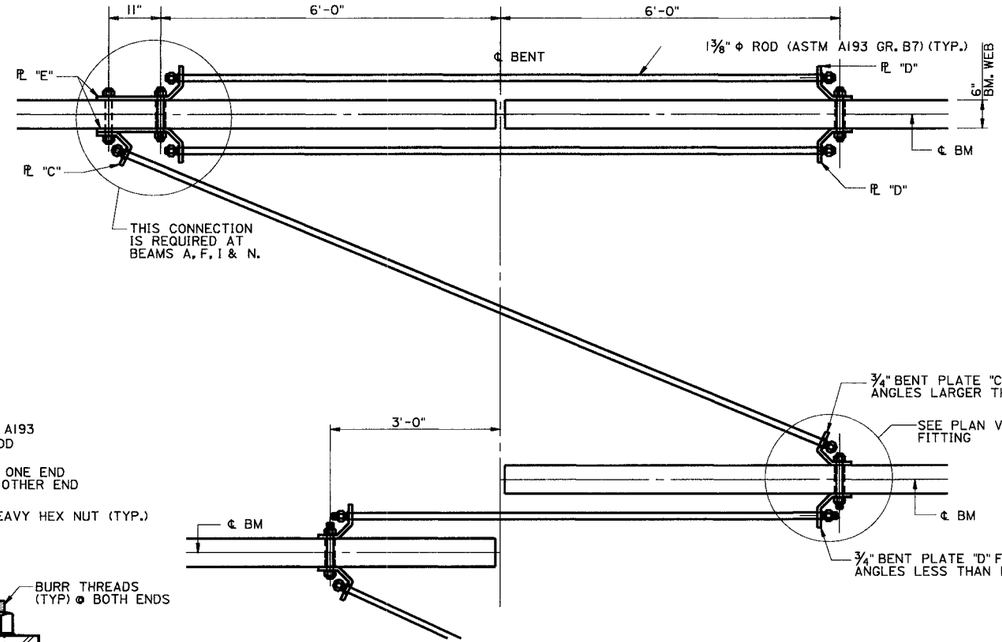


SECTION X-X



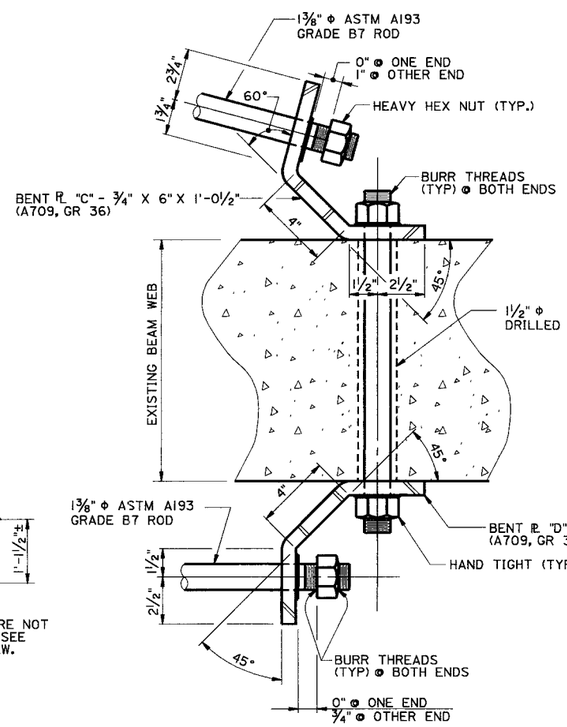
DETAIL BENT ℄ "C" OR "D"

(48 BENT ℄'S "C" REQUIRED)
(48 BENT ℄'S "D" REQUIRED)

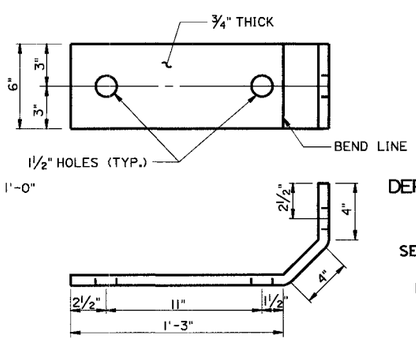


DETAIL "C"

TYPE ① SEISMIC RESTRAINER @ BENTS



PLAN VIEW @ FITTING



DETAIL BENT ℄ "E"

(16 REQUIRED)

ELEVATION - TYPE ① SEISMIC RESTRAINER

NOTES:

1. THE COST OF ALL LABOR AND MATERIALS REQUIRED FOR COMPLETE INSTALLATION OF SEISMIC RESTRAINER, TYPE ①, IS TO BE INCLUDED IN THE PRICE BID FOR ITEM NO. 604-03.21, BRIDGE JOINT SEISMIC MODIFICATION, EACH. A PAIR OF BARS AND ACCOMPANYING PLATES, BOLTS, NUTS AND WASHERS IS CONSIDERED ONE UNIT.
2. ALL STEEL IN SEISMIC RESTRAINERS SHALL BE PAINTED IN ACCORDANCE WITH NOTE 15 ON DWG. BR-18-44. COST TO BE INCLUDED UNDER ITEM NO. 604-03.21.
3. ALL WASHERS SHALL BE STANDARD WASHERS (1½" I.D., 2¾" O.D.) ASTM F436.

PROJECT NO.	YEAR	SHEET NO.
79001-4171-04	1995	

REVISIONS

NO.	DATE	BY	BRIEF DESCRIPTION

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAYS

BRIDGE REPAIR
SEISMIC RETROFIT DETAILS - TYPE ①

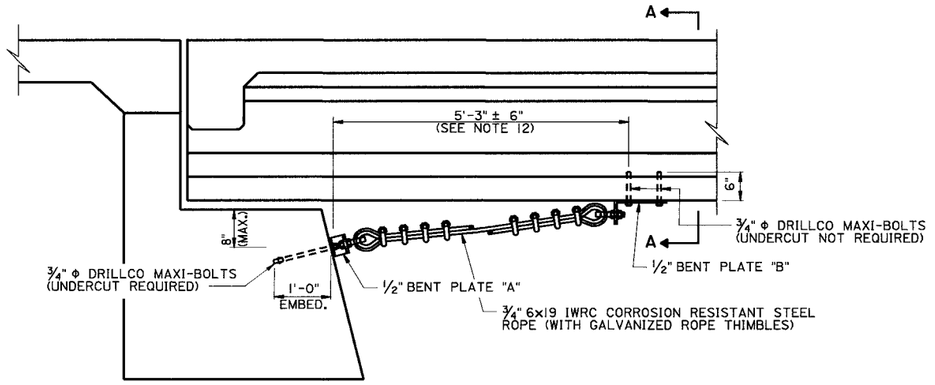
INTERSTATE 40 OVER LEVEE ROAD

BRIDGE ID. NO. 79-140-4.71
SHELBY COUNTY
1995

PARSONS DE LEUW, INC.
MEMPHIS, TENNESSEE

DESIGNED BY	T.L. DAWSON	DATE 11-94
DRAWN BY	T.L. DAWSON	DATE 11-94
SUPERVISED BY	C.H. BRYANT	DATE 11-94
CHECKED BY	M.E. MCGUIRE	DATE 11-94

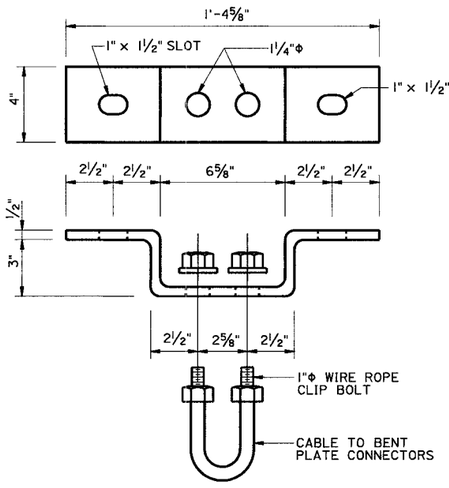
BR-18-45



TYPE ② SEISMIC RESTRAINER @ ABUTMENTS

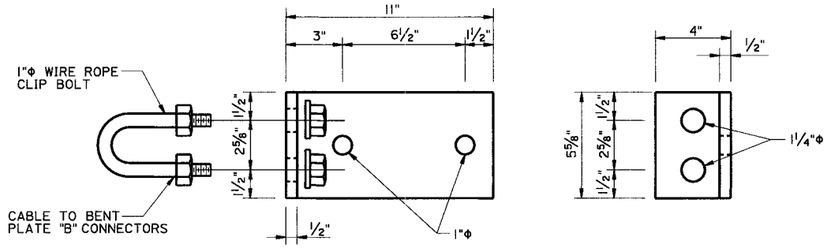
SCALE: 3/4" = 1'-0"

NOTE: COST OF INSTALLING TYPE ② SEISMIC RESTRAINERS INCLUDING LABOR, DRILLING, ANCHOR BOLTS, STEEL ROPE AND ITS ACCESSORIES, PLATES, PAINTING, AND ANY OTHER MISCELLANEOUS MATERIAL REQUIRED SHALL BE INCLUDED UNDER ITEM NO. 604-03.21, BRIDGE JOINT SEISMIC MODIFICATION, EA.



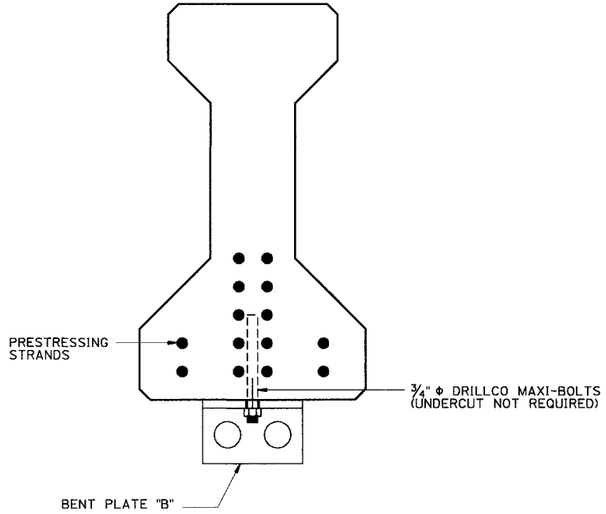
BENT PLATE "A"

SCALE: 3" = 1'-0"



BENT PLATE "B"

SCALE: 3" = 1'-0"



SECTION A-A

(SEE PLAN OF SEISMIC RESTRAINER ON DWG. BR-18-45 FOR LOCATIONS)
(24 SEISMIC RESTRAINERS REQ'D.)

PROJECT NO.	YEAR	SHEET NO.
79001-4171-04	1995	

REVISIONS

NO	DATE	BY	BRIEF DESCRIPTION

PROCEDURE FOR INSTALLATION OF ANCHOR BOLTS:

1. LOCATE PLACEMENT OF EXISTING REBAR AND PRESTRESSING STRANDS IN VICINITY OF ANCHORS WITH A REBAR LOCATING DEVICE AND MAKE NECESSARY CORRECTIONS IN LOCATIONS OF ANCHORS ON CONCRETE. ANCHOR LOCATION MAY VARY PLUS OR MINUS 3 INCHES IN ANY DIRECTION BUT THE HOLE SHALL BE DRILLED WITHIN 6 DEGREES OF PERPENDICULAR TO THE NOMINAL CONCRETE SURFACE. CUTTING OF REBAR AND PRESTRESSING STRANDS WILL NOT BE ALLOWED.
2. HOLES SHALL BE DRILLED WITH A DRILLCO CARBIDE PERCUSSION DRILL BIT, A DRILLCO "REBAR EATER" BIT OR A DRILLCO DIAMOND CORE BIT. ANY OTHER BRAND NAME SYSTEM WITH THE SAME MECHANICAL CONNECTION SYSTEM MAY BE USED SUBJECT TO THE APPROVAL OF THE HEADQUARTERS BRIDGE INSPECTION AND REPAIR OFFICE.
3. THE DRILL BIT DIAMETER AND HOLE DEPTHS ARE SPECIFIED AS FOLLOWS:
   a) THE MAXIMUM DRILL BIT DIAMETER SHALL NOT EXCEED 1.172 INCH DIAMETER.
   b) THE HOLE DEPTH SHALL NOT BE LESS THAN THE ANCHOR EMBEDMENT PLUS 1 1/2 INCHES BUT MAY EXCEED THE SPECIFIED HOLE DEPTH BY NOT MORE THAN 1 INCH.
4. IF AN ANCHOR MUST BE RELOCATED AND A NEW HOLE DRILLED, THE OLD HOLE SHALL BE REPAIRED WITH A NON SHRINKAGE PACK GROUT.
5. UNDERCUT IN PRIMARY HOLE SHALL BE AS SPECIFIED BY THE MANUFACTURER OF THE UNDERCUTTING TOOL.
6. CLEAN THE HOLE OF CONCRETE DUST AND DEBRIS USING OIL FREE COMPRESSED AIR OR BY VACUUMING. PLACE BEARING SLEEVE FLUSH WITH THE CONCRETE SURFACE.
7. THE EXPANSION SLEEVE IS TO EXPAND INTO THE UNDERCUT CREATED BY THE UNDERCUTTING TOOL, THEREFORE, THE ANCHOR TUBE MUST TERMINATE AT THE BASE OF THE UNDERCUT SECTION.
8. TO SET THE ANCHOR, IT IS NECESSARY TO DRAW THE CONICAL NUT OF THE STUD BOLT INTO THE ANCHOR SLEEVE. THE REQUIRED SEATING TORQUE IS 345 TO 350 FT-LBS AND SEATING FORCE IS 17,535 LBS. AFTER THE STEEL PLATES ARE IN PLACE THE FINAL TENSION LOAD OF 28400 LBS. SHALL BE APPLIED. THE ANCHOR LOADS MAY BE APPLIED BY MANUAL TORQUING OR HYDRAULIC TENSIONING.
9. BECAUSE OF CLOSE TOLERANCE BETWEEN CONICAL NUT O.D. AND HOLE I.D. IT MAY BE NECESSARY TO LIGHTLY HAMMER THE ANCHOR INTO THE HOLE. IF HAMMERING IS NECESSARY, STEPS SHALL BE EMPLOYED WHICH WILL PREVENT DAMAGE TO THE STUD BOLT THREADS.
10. INSTALLATION PROCEDURES REQUIRED BY THE ANCHOR MANUFACTURER IN ADDITION TO THE INSTRUCTIONS LISTED ABOVE SHALL BE FOLLOWED AS REQUIRED.
11. BENT PLATES SHALL BE ASTM A709 (GRADE 36) MATERIAL PAINTED IN ACCORDANCE WITH NOTE 15 ON DWG. BR-18-44.
12. PLATE B SHALL BE POSITIONED ON THE BEAM OR GIRDER WITH CABLE IN THE FULLY EXTENDED POSITION AND PLATE POSITION MARKED. THE PLATE SHALL THEN BE SHIFTED TOWARD ABUTMENT THE DISTANCE OF 1" AND THE ANCHOR BOLT LOCATIONS MARKED THROUGH PLATE B ANCHOR HOLES.

PARSONS DE LEUW, INC.
MEMPHIS, TENNESSEE

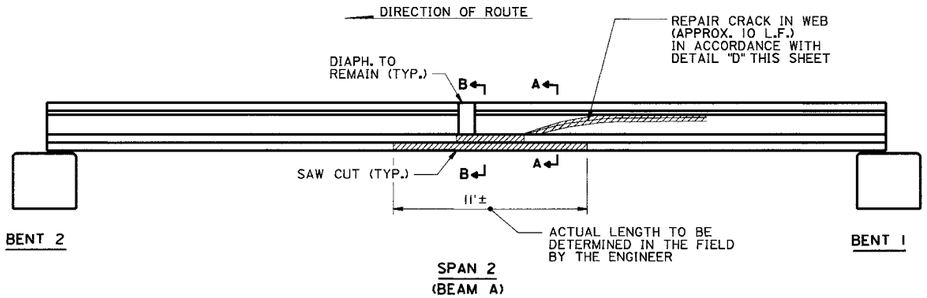
DESIGNED BY T.L. DAWSON DATE 11-94
DRAWN BY T.L. DAWSON DATE 11-94
SUPERVISED BY C.H. BRYANT DATE 11-94
CHECKED BY M.E. MCGUIRE DATE 11-94

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAYS

BRIDGE REPAIR DETAILS
SEISMIC RETROFIT DETAILS - TYPE ②

INTERSTATE 40 OVER LEVEE ROAD

BRIDGE ID. NO. 79-140-4.71
SHELBY COUNTY
1995



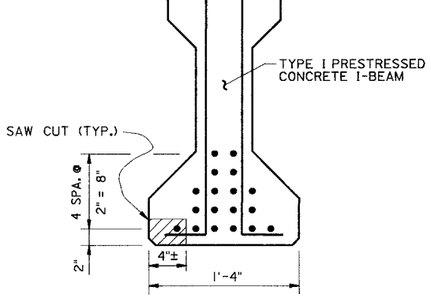
BEAM SURFACE REPAIR

N.T.S.

NOTE: CONTRACTOR SHALL TAKE EXTREME CARE WHEN REMOVING EXISTING CONCRETE SO AS NOT TO DAMAGE THE EXISTING PRESTRESSED STRANDS. ANY DAMAGE SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE TO THE FULL SATISFACTION OF THE ENGINEER.

NOTE:

THE BEAM SHALL BE SUPPORTED DURING REPAIRS OF BEAM. COST OF SUPPORT SYSTEM TO BE INCLUDED UNDER ITEM 604-10.54. DETAILS OF TEMPORARY SHORING AND CALCULATIONS SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL.



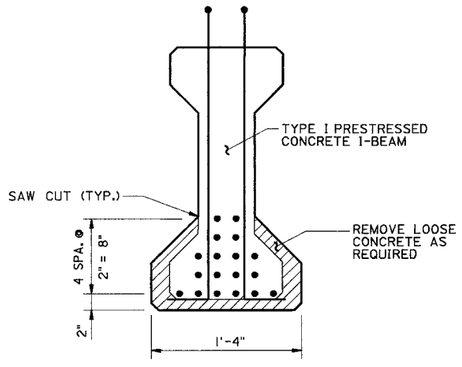
SECTION A-A

(REQUIRED FOR APPROX. 8 FT. OF BEAM)

▨ DENOTES APPROXIMATE AREAS OF REMOVAL.

CONSTRUCTION PROCEDURE FOR REPAIRING DAMAGED PRESTRESSED BEAMS

1. SAW CUT AND REMOVE PORTIONS OF THE PRESTRESSED BEAMS AS SHOWN IN THESE PLANS TO INSURE THAT SOUND CONCRETE IS REACHED IN ALL AREAS.
2. WET REPAIR AREAS WITH WATER AND APPLY TWO (2) COMPONENT BONDING COMPOUND TO ALL CONCRETE SURFACES, PRESTRESSING STRANDS, AND REINFORCING STEEL. BONDING COMPOUND SHALL CONSIST OF THE TWO (2) COMPONENT, CEMENTITIOUS POLYMER MODIFIED CONCRETE (SIKATOP 123 OR EQUAL).
3. FORM AND POUR REPAIR AREA WITH CEMENTITIOUS POLYMER MODIFIED CONCRETE (SIKATOP 123 OR EQUAL) TO ORIGINAL BEAM LINES. THE SIKATOP 123 IS PREPACKAGED IN A ONE-HALF (1/2) CUBIC FOOT KIT, TWO (2) COMPONENT SYSTEM. ADD TO EACH KIT THREE AND ONE-HALF (3 1/2) GALLONS OF PEA GRAVEL AND WATER AS PER MANUFACTURERS RECOMMENDATIONS.



SECTION B-B

(REQUIRED FOR APPROX. 3 FT. OF BEAM)

TABLE A

BEAM REPAIR LOCATIONS

LOCATION	⊙ BEAM	S.F.	LENGTH L (FT.)
SPAN 2	A	16	11' -0"
TOTAL			

L = TOTAL LENGTH OF ALL DAMAGED AREAS PER BEAM.

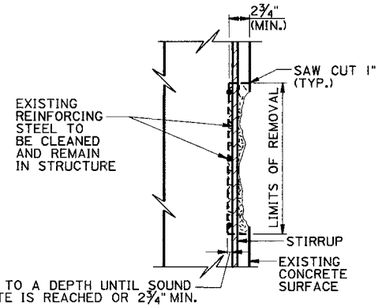
⊙ BEAMS ARE LETTERED FROM LEFT TO RIGHT LOOKING IN DIRECTION OF ROUTE.

NOTE: THE COST OF SAW CUTTING, REMOVING SPALLED CONCRETE, FORMING, NEW CEMENTITOUS POLYMER MODIFIED CONCRETE, LABOR AND ANY MISCELLANEOUS MATERIALS NECESSARY TO COMPLETE THE REPAIRS OF PRESTRESSED CONCRETE BEAMS TO BE INCLUDED UNDER ITEM NO. 604-10.54, CONCRETE REPAIRS, S.F. THE ENGINEER SHALL DESIGNATE AREAS OF REPAIRS FOR THIS ITEM NO.

SPECIAL NOTE TO CONTRACTOR: PRESTRESSED CONCRETE I-BEAM REPAIRS SHOWN THIS SHEET ARE APPROXIMATE AREAS AND LENGTHS ONLY, AND MAY BE INCREASED OR DECREASED AS DIRECTED BY THE ENGINEER. ADDITIONAL BEAMS WITHIN THE BRIDGE MAY BE DESIGNATED TO RECEIVE SIMILAR TYPE REPAIRS. ALL AREAS OF PRESTRESSED BEAM REPAIR SHALL BE DESIGNATED BY THE ENGINEER FROM THE OFFICE OF INSPECTION AND REPAIR AT TELEPHONE NO. (615) 741-8410. ANY ADDITIONAL AREAS SHALL BE PAID FOR AT THE UNIT PRICE BID FOR ITEM NO. 604-10.54 CONCRETE REPAIRS, S.F.

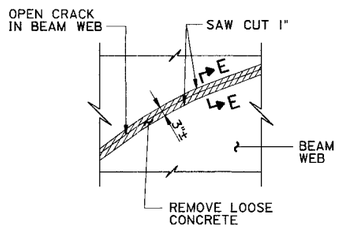
PARSONS DE LEUW, INC.
MEMPHIS, TENNESSEE

DESIGNED BY T.L. DAWSON DATE 11-94
DRAWN BY T.L. DAWSON DATE 11-94
SUPERVISED BY C.H. BRYANT DATE 11-94
CHECKED BY M.E. MCGUIRE DATE 11-94



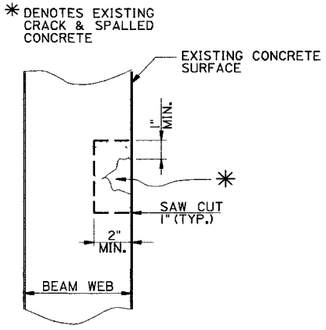
DETAIL "C"

(REQUIRED AT COLUMN)



DETAIL "D"

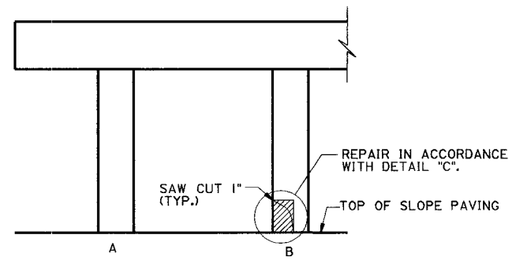
(REQ'D AT BM. WEB)



SECTION E-E

NOTE: THE CONCRETE USED FOR SURFACE REPAIRS SHALL BE POLYMER MODIFIED CEMENTITOUS PATCHING MATERIAL SUCH AS SIKA TOP 123 OR EQUAL. THE CONTRACTOR MAY OBTAIN A LIST OF ACCEPTABLE BRANDS OF PATCHING MATERIAL FROM THE TENNESSEE DEPARTMENT OF TRANSPORTATION, DIVISION OF MATERIAL AND TESTS.

NOTE: THE COST OF SAW CUTTING, REMOVING SPALLED CONCRETE, BLAST CLEANING, NEW PATCHING MATERIAL, LABOR, AND ANY MISCELLANEOUS MATERIALS NECESSARY TO COMPLETE THE REPAIRS ON BENT AS SHOWN TO BE INCLUDED UNDER ITEM NO. 604-10.54, CONCRETE REPAIRS, S.F.



PARTIAL ELEVATION OF BENT 2

BENT SURFACE REPAIR DETAILS

▨ DENOTES APPROXIMATE AREA OF REMOVAL.

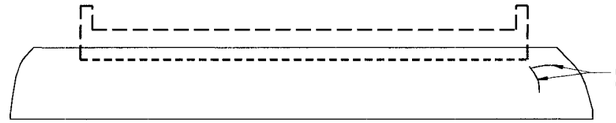
ESTIMATED QUANTITIES

ITEM	DESCRIPTION	UNIT	QUANTITY
604-01.08	CLASS "A" CONCRETE (FOUNDATION LEVELING)	C.Y.	5
604-10.54	CONCRETE REPAIRS	S.F.	25

PROJECT NO.	YEAR	SHEET NO.
79001-4171-04	1995	

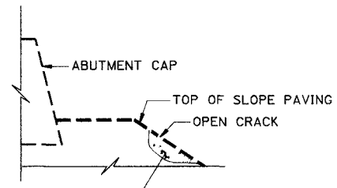
REVISIONS

NO	DATE	BY	BRIEF DESCRIPTION



TYPICAL ABUTMENT ELEVATION

LEVELING CONCRETE SHALL BE PLACED IN ALL CRACKS 1/2" OR GREATER.

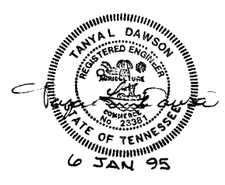


SECTION THRU CRACKED SLOPE PAVING

SLOPE PAVING REPAIR DETAILS

NOTE: THE COST OF LABOR AND MATERIALS REQUIRED TO PUMP LEVELING CONCRETE UNDER THE SLOPE PAVING AT ABUTMENTS 1 & 2 AND ANY DRILLING OF HOLES IN THE SLOPE PAVING REQUIRED TO PROVIDE ACCESS SHALL BE INCLUDED UNDER ITEM NO. 604-01.08, CLASS "A" CONCRETE (FOUNDATION LEVELING), CY.

THIS QUANTITY MAY INCREASE OR DECREASE AS DIRECTED BY THE ENGINEER.



STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAYS

BRIDGE REPAIR DETAILS
MISCELLANEOUS REPAIR DETAILS

INTERSTATE 40 OVER LEVEE ROAD

BRIDGE ID. NO. 79-140-4.71
SHELBY COUNTY
1995

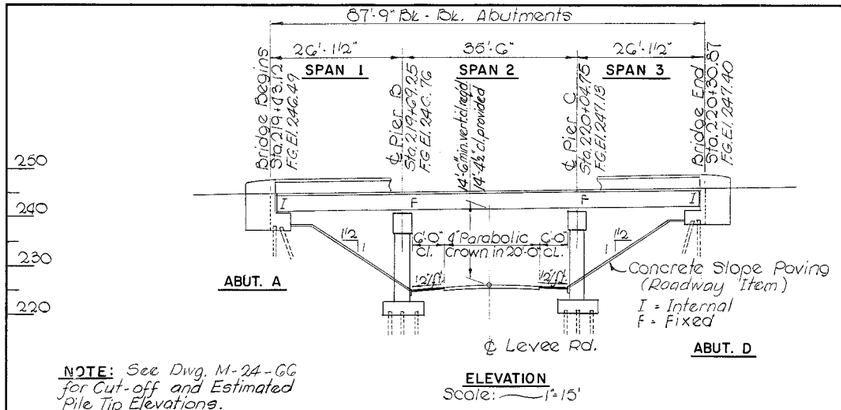
BR-18-47

CODE : X-281

CONST. NO.	PROJECT NO.	YEAR	SHEET NO.
79007-3134-44	I-240-1(137)3	1976	85

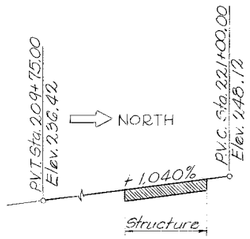
REVISIONS

NO.	DATE	BY	BRIEF DESCRIPTION

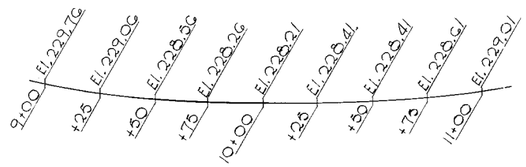


ELEVATION
Scale: 1"=15'

NOTE: See Dwg. M-24-GG for Cut-off and Estimated Pile Tip Elevations.



FINISHED GRADE — I-240



EXISTING GRADE — LEVEE ROAD

NOTE: Any additional fill req'd at the ends of the bridge shall be in place and thoroughly compacted before any pile construction is begun. Any slope paving that is damaged or removed must be replaced by the contractor. The fill at the toe of slope shall also be in place before the pier footing is constructed. Extreme care shall be taken while back-filling for the footing to prevent damage or misalignment of the column.

INDEX TO DRAWINGS

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M-24-58	Bridge Layout.
M-24-59	General Notes and Estimated Quantities.
M-24-60	Abutments A & D
M-24-61	Piers B & C
M-24-62	Typical Section
M-24-63	Slab Plan
M-24-64	Framing Plan & Screed Elevations
M-24-65	Prestressed Beam Details
M-24-66	Foundation Data
M-24-67	Underpass Lighting Details

		REVISION DATES STANDARD DWGS.
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K-80-14	Reinforcing Bar Support Details	1-14-75
K-86-144	Reinforced Concrete Pavement @ Bridge Ends	8-30-76
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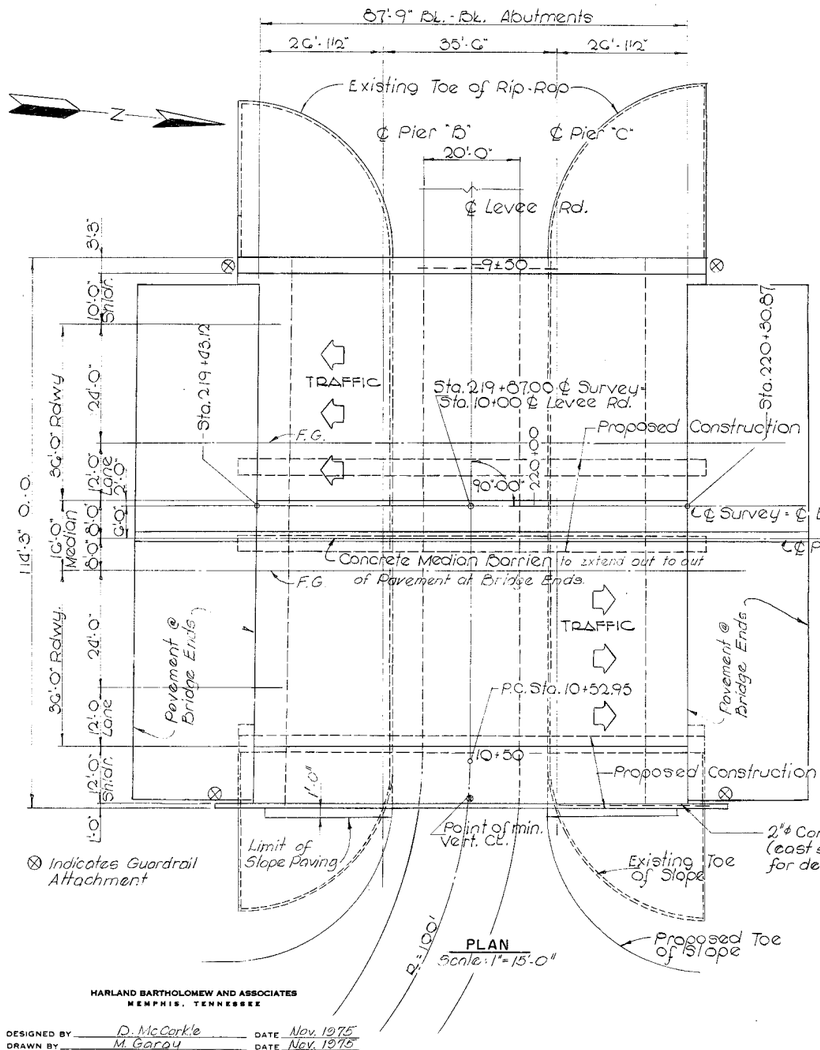
K-40-71
K-40-72
K-40-73
K-40-74



PLAN
Scale: 1"=15'-0"

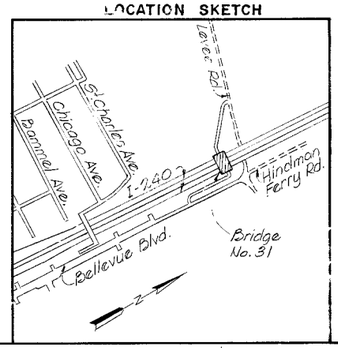
NOTE: The Contractor shall verify the location of all substructure and span lengths before fabricating girders.

2"ϕ Conduit to be placed in parapet (east side only). See Std. Dwg. M-8-149 for details @ abutments.

HARLAND BARTHOLOMEW AND ASSOCIATES
MEMPHIS, TENNESSEE

DESIGNED BY	D. McCorkle	DATE	Nov. 1975
DRAWN BY	M. Garay	DATE	Nov. 1975
SUPERVISED BY	D. McCorkle	DATE	Nov. 1975
CHECKED BY	F. Hoffman	DATE	Nov. 1975

LOCATION SKETCH



BRIDGE NO. 79I00400057

41'-4" Roadway with Concrete Parapets and Concrete Median Barrier.

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAYS

BRIDGE NO. 31
I-240 OVER LEVEE RD.
(WIDENING)

BRIDGE LAYOUT
STA. 219+87.00
SHELBY COUNTY

CORRECT _____ ENGINEER OF STRUCTURES
APPROVED _____ DIRECTOR OF HIGHWAYS

M-24-58

Bridge Deck Sealant 1970 Sq. Yds. Class "A" Grading D 105 Cu. Yds.

GENERAL NOTES

1. SPECIFICATIONS: Standard Road and Bridge Specifications of the Tennessee Department of Highways (1968 Edition)

2. LOADING: HS-20-44 & Alternate Military

3. DESIGN SPECIFICATIONS: 1973 AASHTO and Addenda.

4. CONCRETE: To be Class "A" cast-in-place, f'_c = 3000 psi. See Special Provision Regarding Section 604 Concrete Structures. Special Provision No. 130.

5. REINFORCING STEEL: To be ASTM A615 Grade 60. Standard C.R.S.I. hook details apply unless otherwise noted on Bill of Steel. Bending dimensions shown are based on Grade 60 Steel. Spacing dimensions are Center to Center unless otherwise noted on detail drawings.

6. BRIDGE RAIL: Build bridge rail in accordance with Tenn. Std. Dwg. M-28-1 on east side and in accordance with M-28-1(mod.) on west side. See Dwg. M-24-14 for details.

7. FINISHING CONCRETE SURFACES: Concrete finishing shall be in accordance with Section 604.22 of the Tennessee Standard Specifications except as modified by the Special Provision Regarding Section 604 Concrete Structures. A Textured Coated Finish shall be used in lieu of a Class 2 Finish. The color of the finish shall be similar to Federal Specification No. (See Detail) Federal Color Standard 595a, and a color sample shall be submitted to the Engineer of Structures for approval. All exposed concrete surfaces, including concrete parapets and wingposts, median barrier, piers, and abutments above grade (but not including bridge slab), shall receive a textured coated finish.

8. FOUNDATION NOTE: FRICTION PILES: After excavating to the proposed footing elevations a test pile shall be driven at each substructure at the location designated on Drawing Nos. M-24-60 & 61. A load test will then be applied to the test pile on Pier C. The load test shall be in accordance with "Special Provision Regarding Load Test for Friction Piles." From the results of the load test the Engineer of Structures will determine final pile tip elevations. For pile design loads, cut-off elevations and pile tip elevations see table on Dwg. No. M-24-66.

9. ALTERNATE PILES: The contractor may use piling of a different material or configuration from that shown on the plans provided the substitution meets minimum design standard and specifications, is approved by the Engineer and conforms to conditions established by the Special Provision No. 131, Regarding Section 606, Piling, dated Oct. 1, 1975.

10. Test piles in Abutments A & D, & Pier B to be correlated to the load test in Pier C.

11. See Special Provision Regarding Subsection 906.13 - Elastomeric Bearing Pads.

12. BRIDGE DECK FORMS: Bridge deck forms for concrete decks shall be constructed using either removable forms or permanent forms. In either case forms shall be attached by means other than welding to support members. See Special Provision No. 450 "Special Provision Regarding Permanent Steel Bridge Deck Forms", Revised November 9, 1978.

13. BRIDGE DECK SEALANT: The bridge deck and reinforced approach slab shall be sealed in accordance with Special Provision No. 435 System A or B (modified) Special Provision regarding bridge deck sealant, dated May 22, 1975. Deck Sealant shall be paid for under a Roadway Item (1670 Sq. Yds. Req'd.). See Dwg. M-24-4 for details of Deck Sealant System.

14. BAR DESIGNATIONS: The first number of all bar marks is the size of the bar: eg. H400 = #4 bars, H1100 = #11 bars.

15. PRECAST PRESTRESSED BRIDGE DECK PANELS: A portion of the concrete deck may be constructed of precast prestressed bridge deck panels fabricated and used in accordance with Std. Dwg. K-80-15.

16. 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 5/8"ϕ anchors is 19,000 lbs., 18,000 lbs. for 3/4"ϕ anchors, 12,000 lbs. for 5/8"ϕ anchors and 9,000 lbs. for 1/2"ϕ 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.

17. MAINTENANCE AND PROTECTION OF TRAFFIC: During the widening and paving of the structure, the Contractor must maintain horizontal and vertical clearance, sufficient for 2-10ft. lanes on Levee Rd. The Contractor shall submit to the Engineer of Structures for approval details of the system to be used to protect traffic from falling debris during removal of rails and curbs.

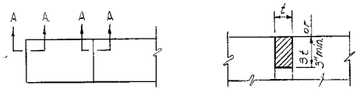
18. EXISTING CONDUIT & PULL BOXES: on east side of existing structure shall be removed. Any salvagable material shall be the property of the Contractor.

19. EPOXY: The binder mix, sand aggregate batch, placing method, temperature and humidity limitations and curing times shall be as recommended by the manufacturer. Acceptable brands of epoxy are: EPI-Top 100-Celanese Coating Co.; Colma Dur-Sika Chemical Corp.; Sinmast Mortar Mix Resin #4-Sinmast Corporation of America; Sikastix 370-Sika Chemical Corp. Cost of joint preparation and epoxy in place to be included in items bid on.

CONST. NO.	PROJECT NO.	YEAR	SHEET NO.
79007-3134-44	I-240-1(137)3	1976	86

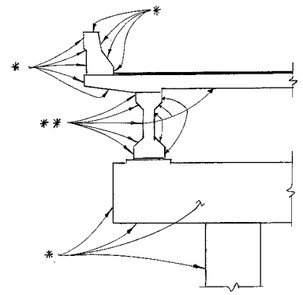
REVISIONS

NO.	DATE	BY	BRIEF DESCRIPTION
1	1-77	CH	TEXTURE COATING CHANGE



TYPICAL DETAILS

(Total Length Joints Required = 216 Lin. ft.)



TEXTURED COATING DETAIL

All surfaces marked with (*) shall have a textured coated finish similar to Beige (Fed. Spec. No. 33690), in addition to the surfaces marked, all exposed abutment, endwall, wingwall and wingpost surfaces.
Δ Median barrier shall receive a finish similar to off-white (Fed. Spec. #37778). Surfaces marked with (**) shall receive a textured coated finish similar to leaf green (Fed. Spec. No. 34227)

SUMMARY OF ESTIMATED QUANTITIES

Item No.	204-02.01	604-03.01	604-03.02	604-25.03	604-25.04	606-09.01	606-09.02	606-09.03	615-01.01	616-08	705-08.08		714-01.07
Description	Dry Excavation (Bridges)(1)	Class A Concrete (Bridges)	Steel Bar Reinforcement (Bridges)	Textured Coated Finish (Old Structures)	Textured Coated Finish (New Structures)	Test Piles Precast Conc. Size 1) (2)	Loading Tests (Precast Conc.) (Size 1)	Precast Conc. Piles - Size 1 (2)	Prestressed Conc. I Beam (Type I) (6)	Conc. Parapet (M-28-1) & (M-28-1)Mod.(5)	Reinf. Concrete Median Barrier (Bridges)		Structure Lighting (3)
Unit	Cu. Yds.	Cu. Yds.	Lbs.	Sq. Yds.	Sq. Yds.	Lin. Ft.	Each	Lin. Ft.	Lin. Ft.	Lin. Ft.	Lin. Ft.		Lump Sum
Abutment "A"	10	12.1	1230	10	6	20	—	100	—				
Pier "B"	65	30.9	4010	55	160	30	—	270	—				
Pier "C"	65	30.9	4010	55	160	30	1	270	—				
Abutment "D"	10	12.1	1230	10	6	20	—	100	—	—			
Paymt@Br. Ends		234.4	59,660			—	—	—	—	—	49		
Superstructure		98.0	31,000	1659	817	—	—		338	193	88		1
Total	150	418.4	101,140	1769	1147	100	1	740	338	193	137		1

(1) Excavation based on existing ground profile. Δ Δ

(2) See Alternate Pile note.

(3) Lump Sum for structure lighting (Item No. 714-01.07) includes; 122± ft. 2"ϕ conduit, 84 ft. 1"ϕ flexible conduit, 212 ft. 1"ϕ rigid conduit, 8 underpass luminaires, 4 junction boxes and all elbows, conduits and auxiliary equipment necessary for installation.

(4) The cost of 16 threaded steel inserts and 16-7/8"ϕ x 4" hex head bolts (A 307) shall be included in Bridge Items bid on.

(5) The quantity given is out to out of wingposts. The cost of Bridge Rail End Post is to be included in the cost of the Bridge Rail System.

(6) Cost of Elastomeric bearing pads, rubber bonding cement and dowel bars to be included in the cost of Prestressed Concrete Beams.

(7) The cost of removal of parts of the structure as indicated on the drawings shall be included in the cost of items bid on. All salvagable materials shall be the property of the contractor.

(8) The cost of bituminous fiberboard, epoxy joints and all miscellaneous joint material to be included in bridge items bid on.

HARLAND BARTHOLOMEW AND ASSOCIATES
MEMPHIS, TENNESSEE

DESIGNED BY D. McCorkle DATE Nov. 1975
DRAWN BY M. Gorau DATE Nov. 1975
SUPERVISED BY D. McCorkle DATE Nov. 1975
CHECKED BY F. Hoffman DATE Nov. 1975

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAYS
BRIDGE NO. 31
I-240 OVER LEVEE RD.
(WIDENING)

GENERAL NOTES & ESTIMATED QUANTITIES
STA. 219+87.00

SHELBY COUNTY

CORRECT _____ ENGINEER OF STRUCTURES
APPROVED _____ DIRECTOR OF HIGHWAYS

M-24-59

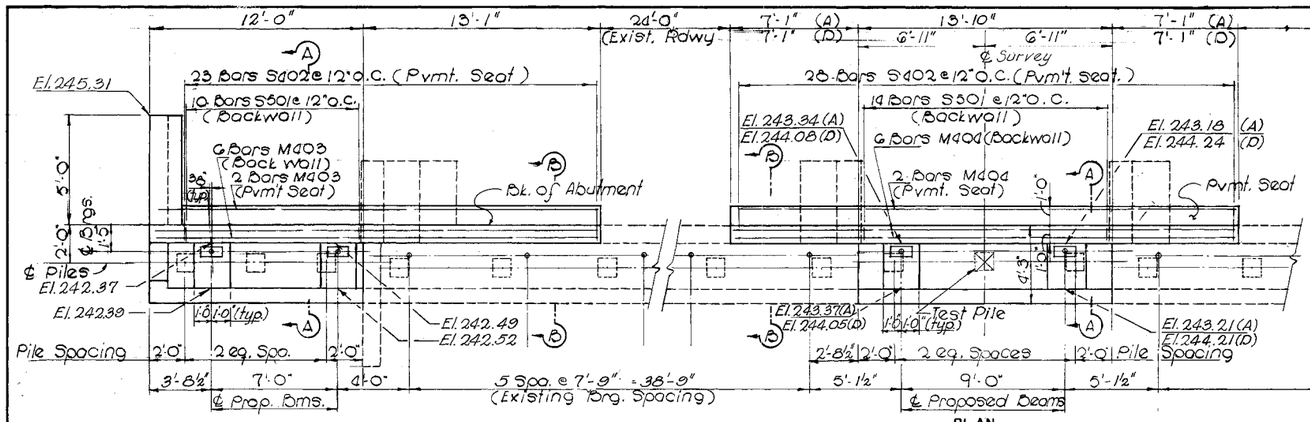
MICROFILMED

N1346

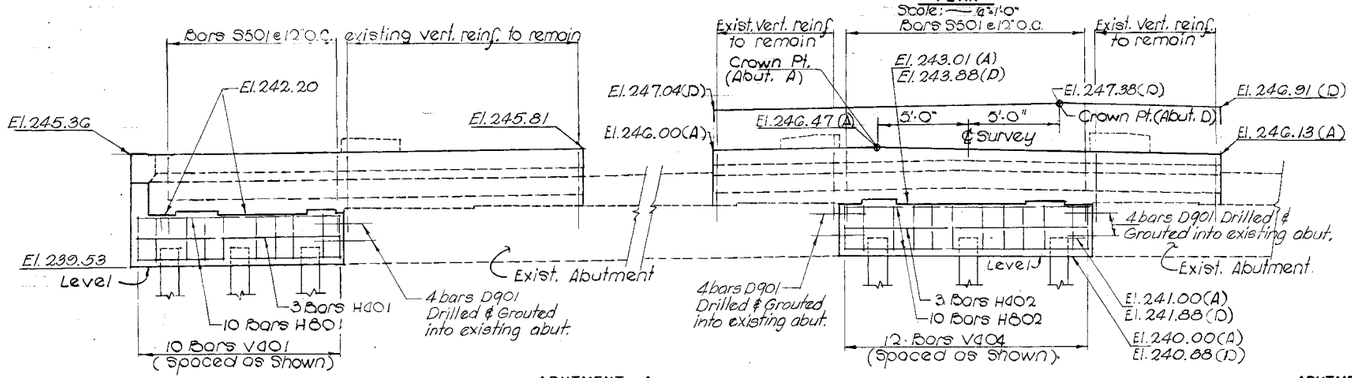
CONST. NO.	PROJECT NO.	YEAR	SHEET NO.
79007-3134-44	I-240-1(137)3	1976	8-7

REVISIONS

NO.	DATE	BY	BRIEF DESCRIPTION

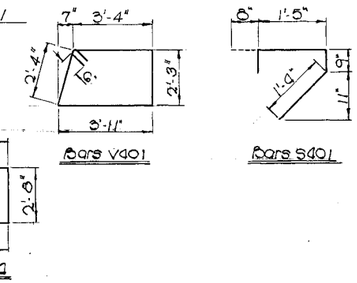


PLAN
Scale: — 1/8"=1'-0"



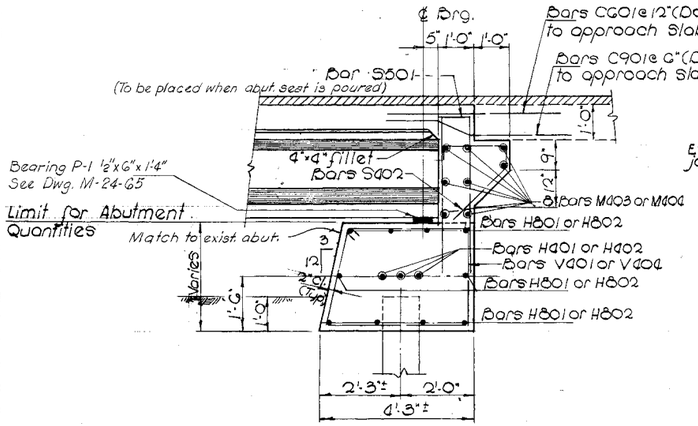
BILL OF STEEL - 1 ABUT. (2 REQ'D.)

Mark	No. reqd.	Length	Shape
H401	3	11'-9"	—
H402	3	13'-6"	—
H403	10	7'-10"	—
H404	4	5'-8"	—
H801	10	11'-9"	—
H802	10	13'-6"	—
V401	10	12'-10"	⌐
V402	12	5'-5"	—
V403	6	3'-9"	—
V404	12	13'-7"	⌐
S401	6	9'-2"	⌐
D901	12	4'-0"	—



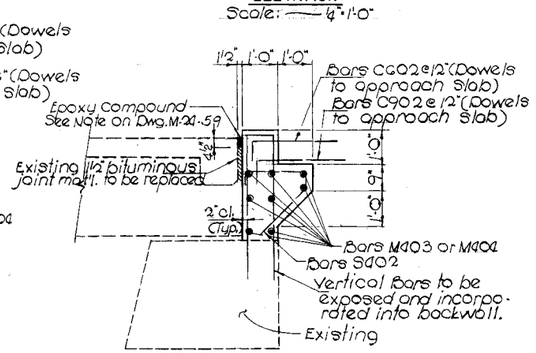
PILE NOTE: Drive all piles to an ultimate bearing capacity of 45 tons/pile. 6 piles req'd. each abutment. See Dwg. M-24-66 for estimated pile tip elevations.

ABUTMENT A



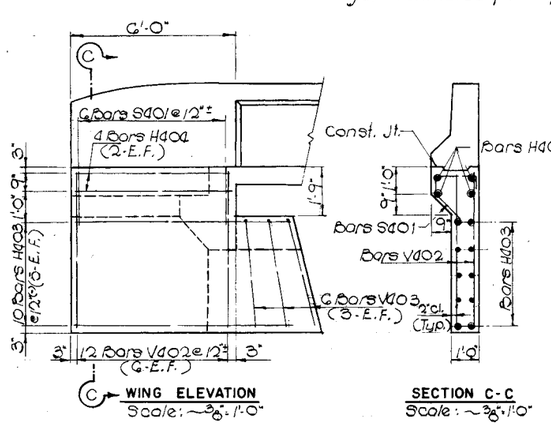
SECTION A-A
Scale: — 1/2"=1'-0"

ELEVATION
Scale: — 1/2"=1'-0"



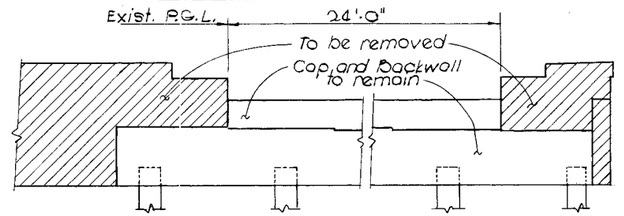
SECTION B-B

ABUTMENT D



WING ELEVATION
Scale: — 3/8"=1'-0"

SECTION C-C
Scale: — 3/8"=1'-0"



MEDIAN

EAST WIDENING

REMOVAL OF STRUCTURES - DETAIL
No Scale

ESTIMATED QUANTITIES

Item No.	Item	Unit	Quantities Abut. A	Quantities Abut. D
204-02.01	Dry Excavation	Cu. Yds.	10	10
604-03.01	Class A Concrete (Bridges)	Cu. Yds.	12.1	12.1
604-03.02	Steel Bar Reinforcement (Bridges)	Lbs.	1230	1230
606-09.01	Test Piles (Precast Conc. Size 1)	Lin. Ft.	20	20
606-09.03	Precast Concrete Piling Size 1	Lin. Ft.	100	100

NOTES:
1. Riser blocks to be poured monolithically with abutment beam. Riser blocks to conform to bottom of beam grade.
2. For Bearing details see Dwg. M-24-65.
3. See Std. Dwg. M-28-1 & Dwg. M-24-14 for details of Wingpost and reinforcement to be placed in wingwalls for Wingpost.
4. See Std. Dwg. K-8C-10A & Dwg. M-24-64 for details of approach slab.
5. Cost of wing posts to be included in cost of bridgerail system.
6. Care shall be taken when removing the backwall on the west side to protect the existing conduit for electrical wiring.

HARLAND BARTHOLOMEW AND ASSOCIATES
MEMPHIS, TENNESSEE

DESIGNED BY D. McCorkle DATE Nov. '75
DRAWN BY M. Good DATE "
SUPERVISED BY D. McCorkle DATE "
CHECKED BY F. Hoffman DATE "

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAYS

BRIDGE NO. 31
I-240 OVER LEVEE RD.
(WIDENING)

ABUTMENTS A AND D
STA. 219 + 87.00

SHELBY COUNTY

CORRECT _____ ENGINEER OF STRUCTURES
APPROVED _____ DIRECTOR OF HIGHWAYS

M-24-60

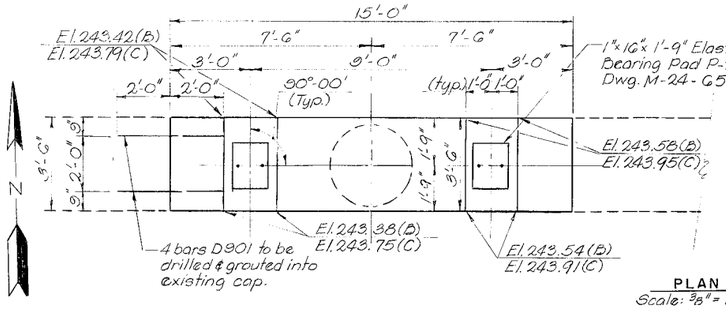
MICROFILMED

N1158

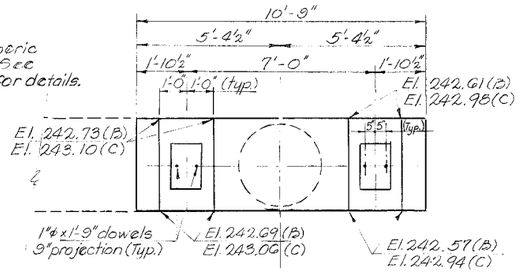
CONST. NO.	PROJECT NO.	YEAR	SHEET NO.
79007-3134-44	I-240-1(13.7)3	1976	88

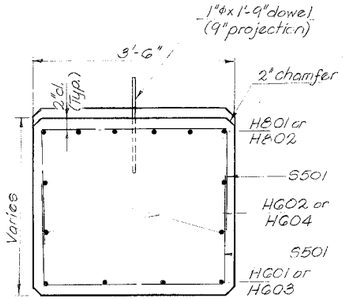
REVISIONS

NO.	DATE	BY	BRIEF DESCRIPTION

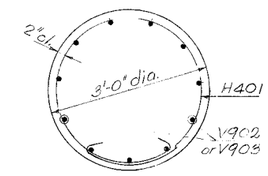


PLAN
Scale: 3/8" = 1'-0"

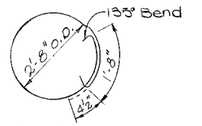




NOTE: Dowel bars shall be bent an amount sufficient to clear diaphragm forming by a minimum of 1" at all fascia beams.



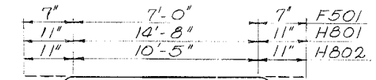
SECTION B-B
Scale: 3/4" = 1'-0"



Bar H401

NOTES:

1. When pouring the Pier Cap provision shall be made for setting the dowel bars. If the Contractor elects to drill holes for the dowels, the reinforcement shall be placed so as not to interfere with the drilling. Dowel projection = 9". The top of dowels to be covered with ½" of compressible material and the projection wrapped with two layers of waterproof paper.
2. See Dwg. M-24-G5 for Bearing Details.
3. See Dwg. M-24-G7 for Underpass Lighting Details.
4. See Dwg. M-24-G6 for Pile Tip Elevations.
5. Min. bar laps shall be: S500 = 1'-8"
   V901 = 6'-2"
6. Riser blocks to be poured monolithically with Pier Cap beam. Bearing Pad surface to conform to bottom of beam grade.

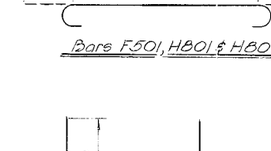


Bars F501, H801 & H802

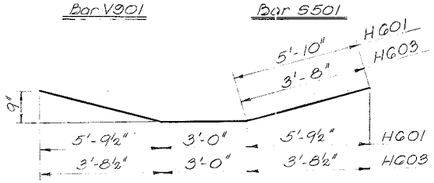
BILL OF STEEL*

Bar	No.	Length	Shape
F501	60	8'-2"	
V901	22	9'-6"	
V902	11	17'-1"	
V903	11	16'-2"	
H401	37	10'-9"	
HG01	4	14'-8"	
HG02	4	14'-8"	
HG03	4	10'-4"	
HG04	4	10'-5"	
H801	6	16'-6"	
H802	6	12'-3"	
S501	40	8'-4"	
D901	12	4'-0"	

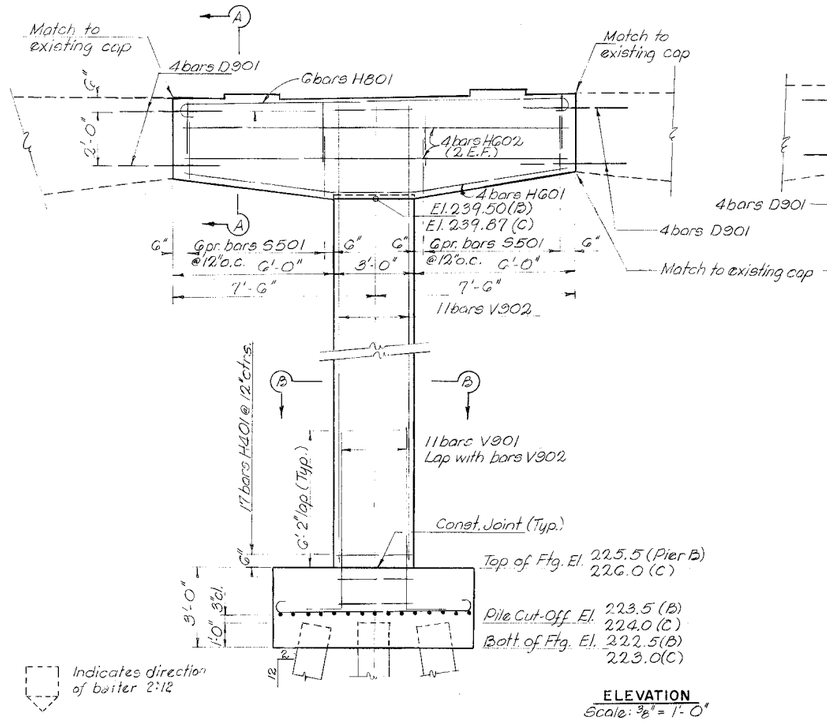
* Bill of Steel for 1 pier only.



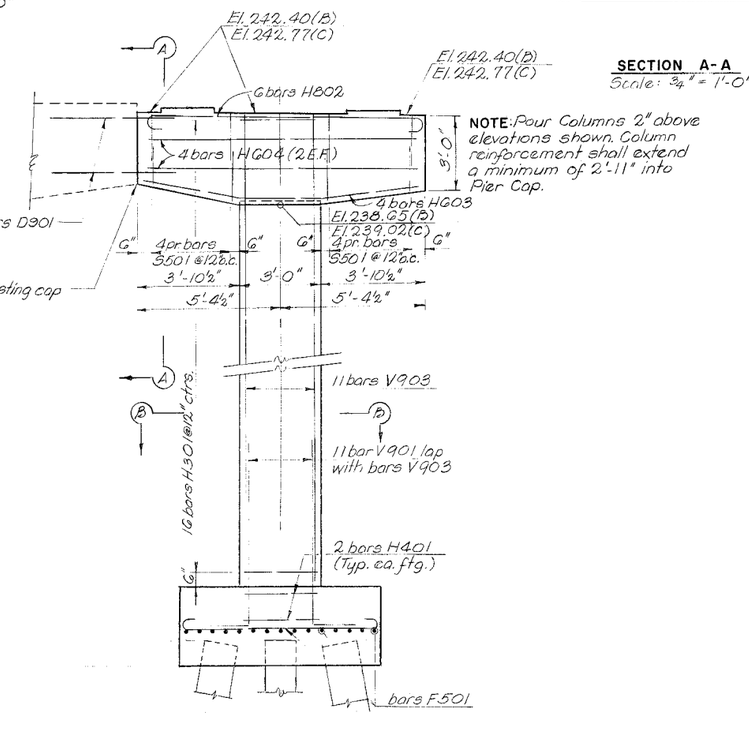
Bar V901 Bar S501



Bars HG01 & HG03

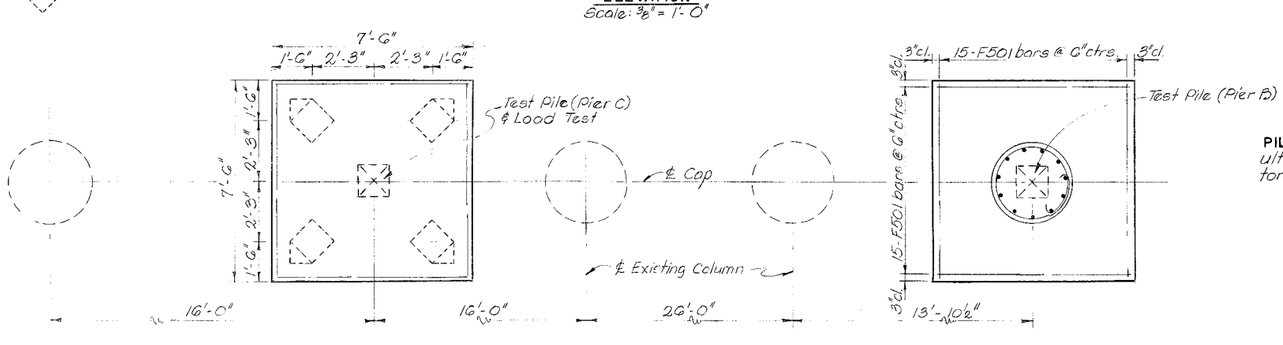


ELEVATION
Scale: 3/8" = 1'-0"



NOTE: Pour Columns 2" above elevations shown. Column reinforcement shall extend a minimum of 2'-11" into Pier Cap.

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



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

PILE NOTE: Drive all piles to an ultimate bearing capacity of 90 tons. 10 piles per pier req'd.

ESTIMATED QUANTITIES (ONE PIER ONLY)

Item	Description	Unit	Quantity
204-02.01	Dry Excavation	Cu. Yds.	65
604-03.01	Class A Concrete	Cu. Yds.	30.9
604-03.02	Steel Bar Reinforcement	Lbs.	4010
606-09.01	Test Piles Precast Conc. Piles (Size 1)	Lin. Ft.	30
606-09.03	Precast Conc. Piles Size 1	Lin. Ft.	270
606-09.02	Load Test (Pier C only)	Each	1

HARLAND BARTHOLOMEW AND ASSOCIATES
MEMPHIS, TENNESSEE

DESIGNED BY	D. McCorkle	DATE	Nov. 1975
DRAWN BY	J. Starr	DATE	Nov. 1975
SUPERVISED BY	D. McCorkle	DATE	Nov. 1975
CHECKED BY	F. Huffman	DATE	Dec. 1975

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAYS

BRIDGE NO. 31
I-240 OVER LEVEE RD.
(WIDENING)

PIERS B & C
STA. 219+87.00
SHELBY COUNTY

CORRECT _____ ENGINEER OF STRUCTURES
APPROVED _____ DIRECTOR OF HIGHWAYS

M-24-61

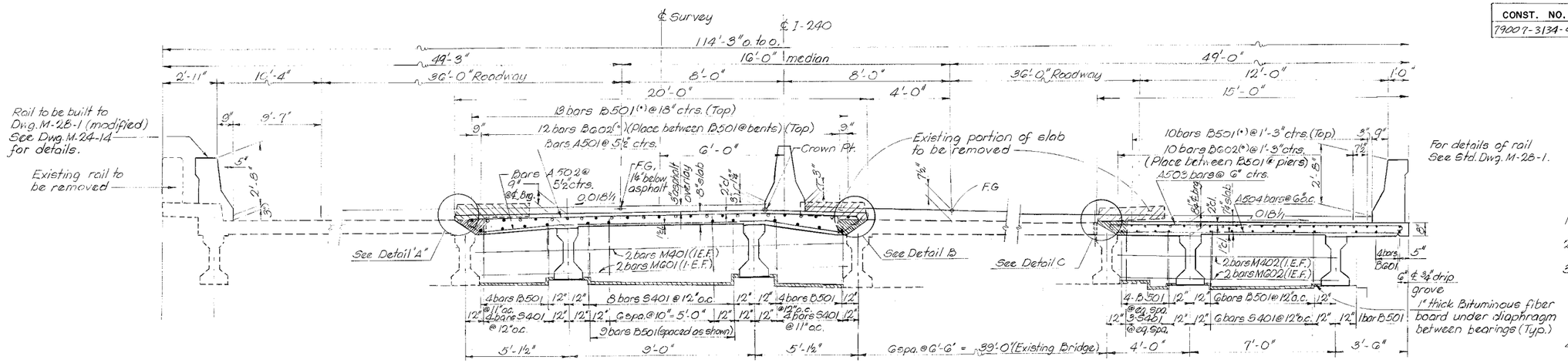
MICROFILMED

N1545

CONST. NO.	PROJECT NO.	YEAR	SHEET NO.
79007-3134-44	I-240-1(137)3	1976	81

REVISIONS

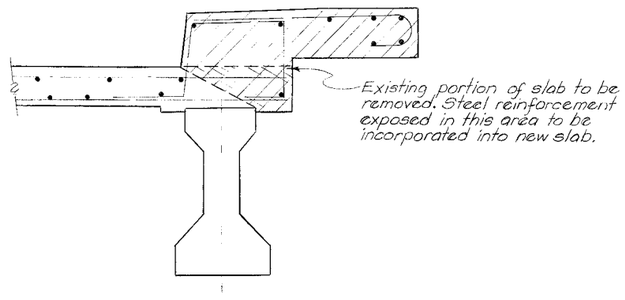
NO.	DATE	BY	BRIEF DESCRIPTION
1	2-77	C.H.	ADD DRAIN HOLES



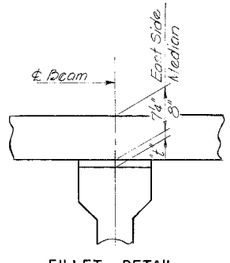
TYPICAL SECTION
(Showing diaphragms @ Piers)
Scale: 3/8" = 1'-0"

NOTES:

1. See Dwg. M-24-59 for General Notes and Design Stresses.
2. See Dwg. M-24-64 for finished slab screed elevations.
3. When pouring slab, provisions shall be made for setting reinforcing for parapet & median barrier. See Tenn. Dwg. M-28-1 for details of bridgerail and placement of reinforcing. The parapet shall not be poured until the slab is poured and cured.
4. Tranverse slab const. joints may be located at the contractor's option, except, no joint may be located closer than ⅛ span length from an interior support. The Contractor shall make provisions during placement of slab to prevent the beams from twisting. No equipment shall be permitted on the bridge until all pours are made and concrete is properly cured.
5. See Dwg. M-24-63 for Estimated Quantities.
6. See Dwg. M-24-44 for details of Reinforced Concrete Median Barrier.

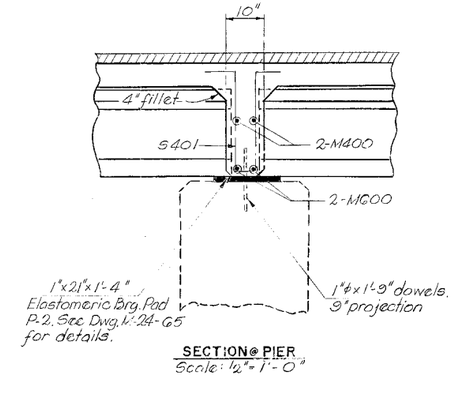


SECTION SHOWING EXISTING REINFORCING
Scale: 1" = 1'-0"

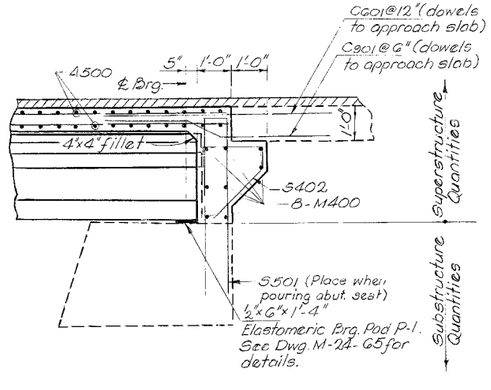


FILLET DETAIL
No Scale.

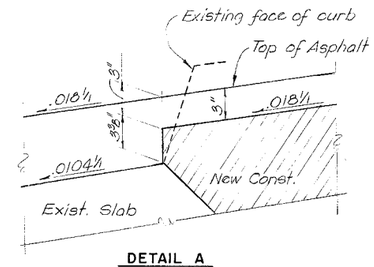
Fillet Note: After the beams are in place, the Contractor shall field measure the top of beam elevations. These elevations subtracted from the finished surface elevations minus the slab thickness plus the algebraic dead load deflections (See Dwg M-24-G5) equals the required fillet thickness "t".



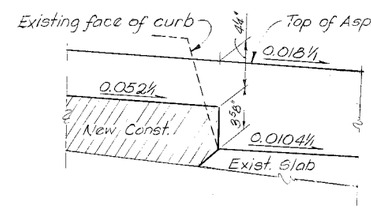
SECTION @ PIER
Scale: ½" = 1'-0"



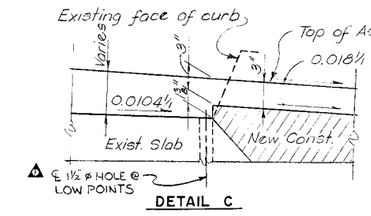
SECTION @ ABUTMENT
Scale: ½" = 1'-0"



DETAIL A



DETAIL B



DETAIL C

OVERLAY DETAILS
No Scale.

HARLAND BARTHOLOMEW AND ASSOCIATES
MEMPHIS, TENNESSEE

DESIGNED BY	D. McCorkle	DATE	Nov. 1975
DRAWN BY	J. Starr	DATE	Nov. 1975
SUPERVISED BY	D. McCorkle	DATE	Nov. 1975
CHECKED BY	F. Hoffman	DATE	Nov. 1975

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAYS

BRIDGE NO. 31
I-240 OVER LEVEE RD.
(WIDENING)

TYPICAL SECTION
STA. 219 + 87.00

CORRECT _____ ENGINEER OF STRUCTURES
APPROVED _____ DIRECTOR OF HIGHWAYS

M-24-62

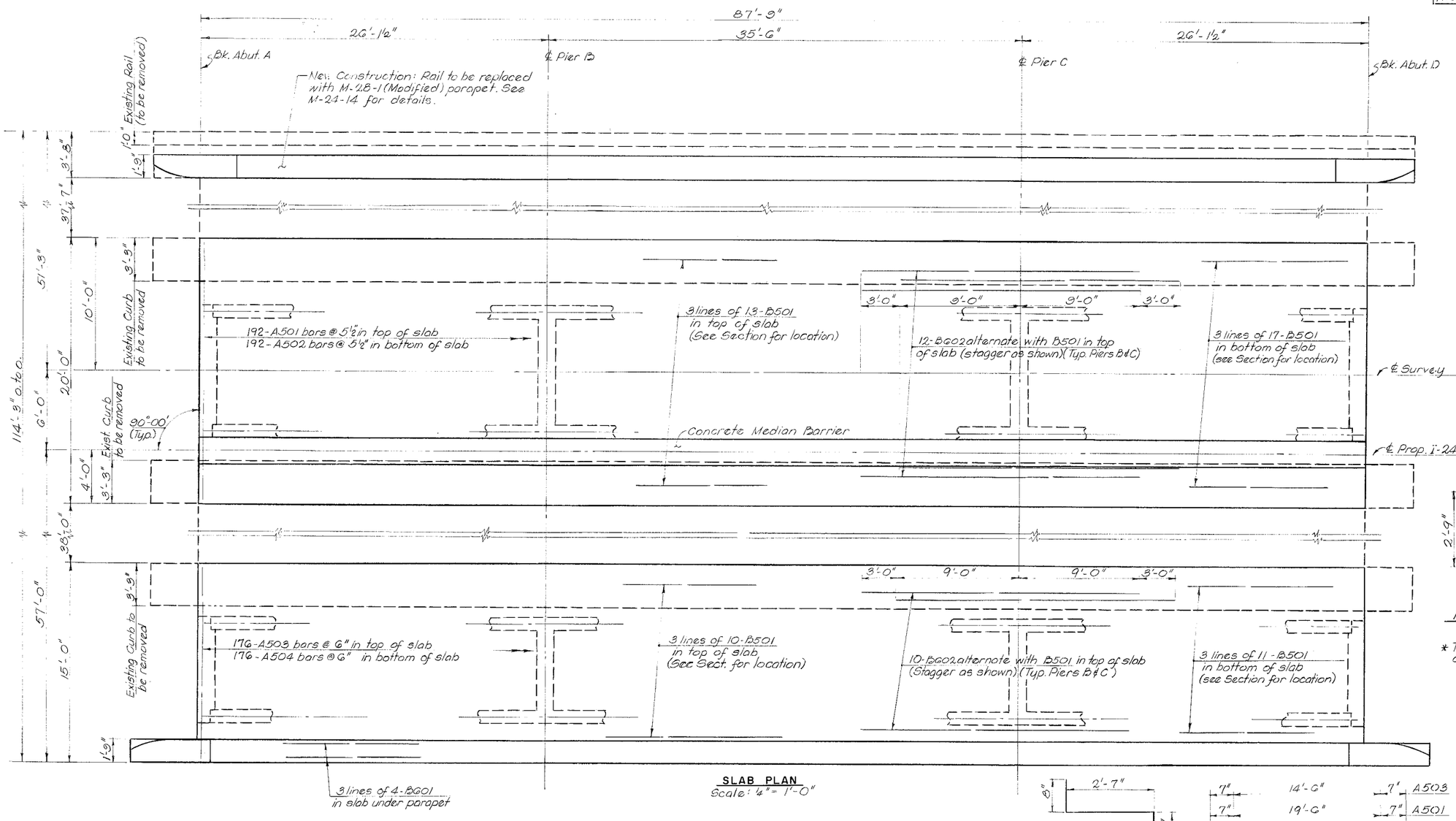
MICROFILMED

N1345

CONST. NO.	PROJECT NO.	YEAR	SHEET NO.
79007-3134-44	I-240-1(137)3	1976	90

REVISIONS

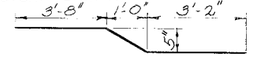
NO.	DATE	BY	BRIEF DESCRIPTION



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

NOTES:

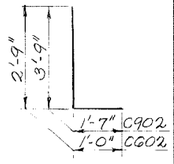
1. See Dwg. M-24-G2 for Typical Section, and Pier Diaphragm Details.
2. For details of Backwall at Abutments see Dwg. M-24-GC.
3. Minimum bar laps shall be as follows: B500 = 1'-7", BG00 = 2'-2".
4. When pouring slab, provision shall be made for placing parapet reinforcing See Std. Dwg. M-28-1 for details.
5. All girders to be supported during construction to prevent rotation.



Bars C901

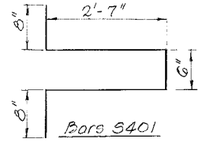
BILL OF STEEL

Bar	No. Req'd.	Length	Shape
A501	192	20'-8"	
A502	192	18'-3"	
A503	176	15'-8"	
A504	176	13'-9"	
B501	153	30'-3"	
BG01	12	30'-9"	
BG02	44	21'-0"	
CG01	66	4'-10"	
CG02	56	3'-9"	
*CG03	96	2'-6"	
C902	112	5'-4"	
C901	130	7'-11"	
M401	4	18'-2"	
M402	4	10'-7"	
M403	16	24'-9"	
M404	16	27'-8"	
MG01	4	17'-4"	
MG02	4	10'-7"	
S401	50	7'-0"	
S402	102	4'-10"	
S501	48	9'-2"	

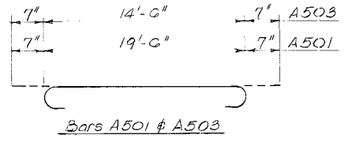


Bars CG02 & C902

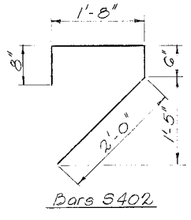
* To be threaded one end only.



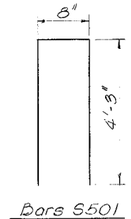
Bars S401



Bars A501 & A503



Bars S402



Bars S501

ESTIMATED QUANTITIES

Item	Description	Unit	Quantity
604-03.01	Class A Concrete (Bridges)	Cu. Yds.	98.0
604-03.02	Steel Bar Reinforcement (Bridges)	Lbs.	31,000

HARLAND BARTHOLOMEW AND ASSOCIATES
MEMPHIS, TENNESSEE

DESIGNED BY	D. McCorkle	DATE	Nov. 1975
DRAWN BY	J. Starr	DATE	Nov. 1975
SUPERVISED BY	D. McCorkle	DATE	Nov. 1975
CHECKED BY	F. Hoffman	DATE	Nov. 1975

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAYS

BRIDGE NO. 31

I-240 OVER LEVEE RD.
(WIDENING)

SLAB PLAN
STA. 219 + 87.00

SHELBY COUNTY

CORRECT _____ ENGINEER OF STRUCTURES

APPROVED _____ DIRECTOR OF HIGHWAYS

M-24-63

MICROFILMED

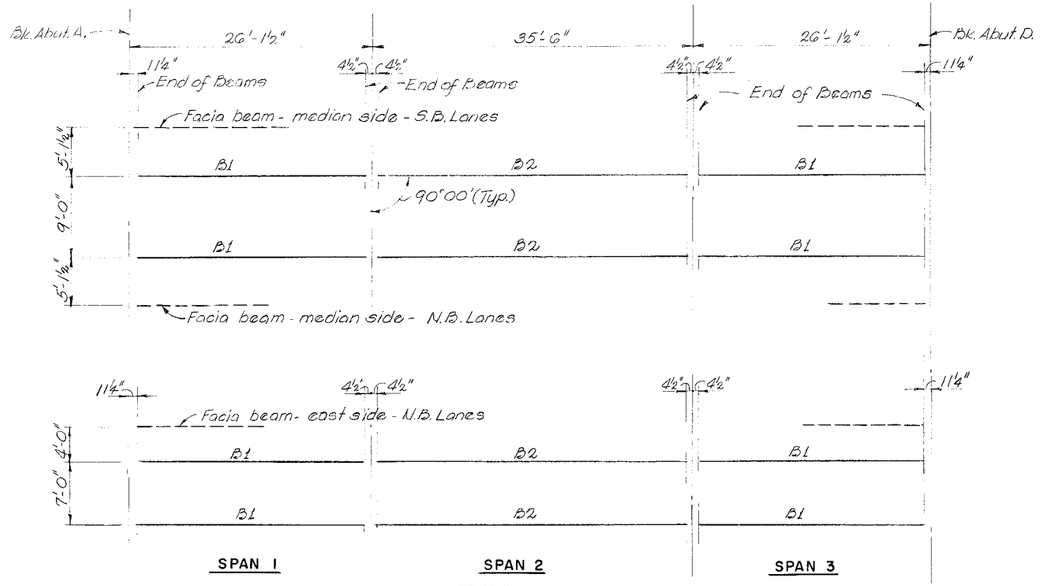
N11545

CONST. NO.	PROJECT NO.	YEAR	SHEET NO.
79007-3134-44	I-240-1(137)3	1976	91

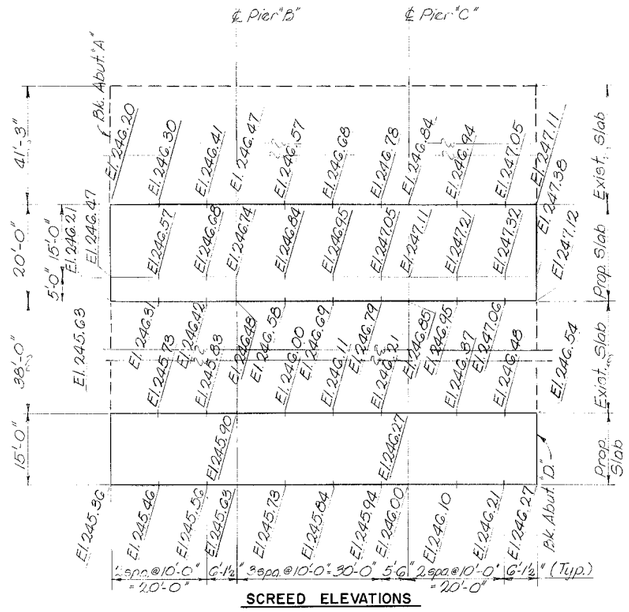
REVISIONS

NO.	DATE	BY	BRIEF DESCRIPTION

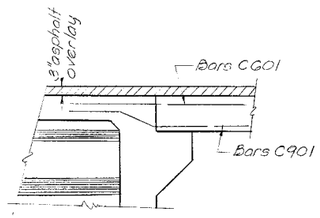
NOTES:
1. See Std. Dwg. K-BG-144 for additional details of pavement @ Bridge Ends.

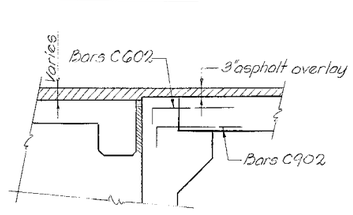


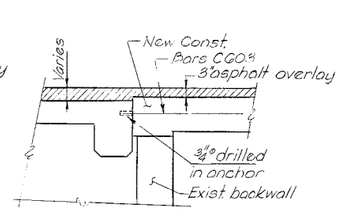
FRAMING PLAN

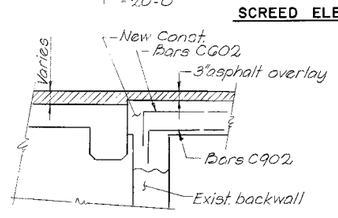


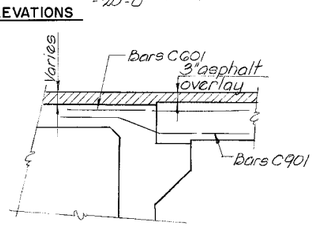
SCREED ELEVATIONS

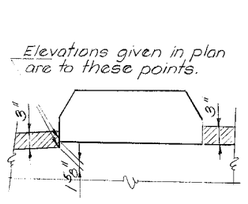












SECTION A-A
Scale: ½" = 1'-0"

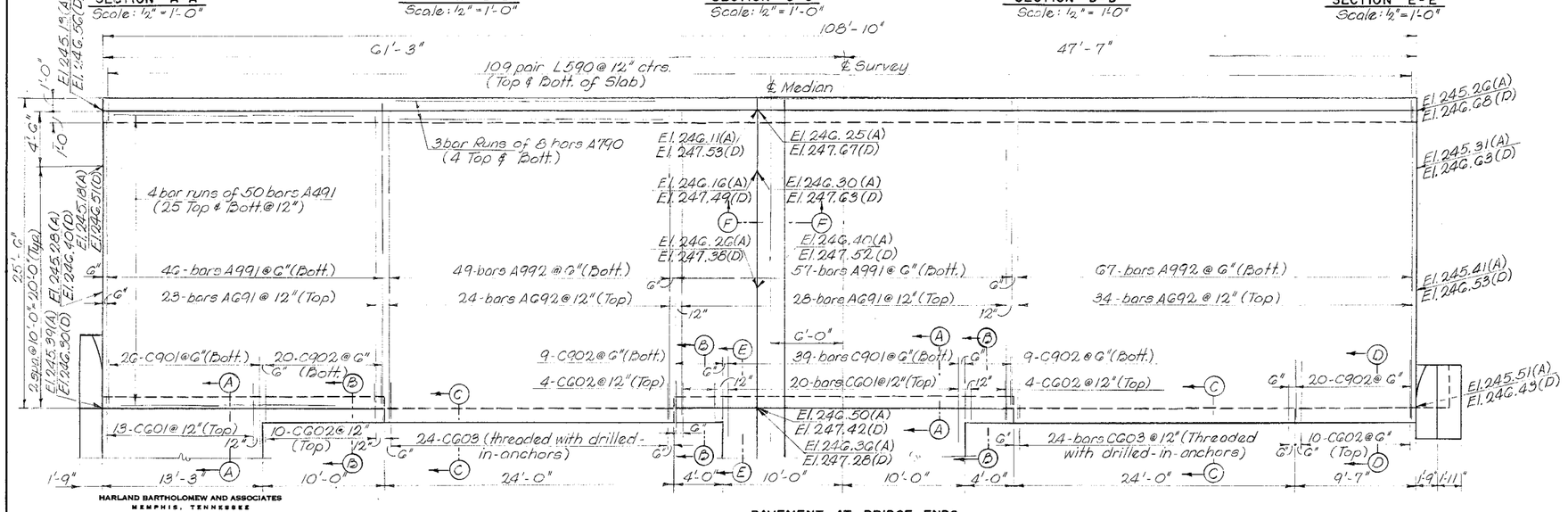
SECTION B-B
Scale: ½" = 1'-0"

SECTION C-C
Scale: ½" = 1'-0"

SECTION D-D
Scale: ½" = 1'-0"

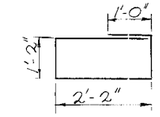
SECTION E-E
Scale: ½" = 1'-0"

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



HARLAND BARTHOLOMEW AND ASSOCIATES
MEMPHIS, TENNESSEE

PAVEMENT AT BRIDGE ENDS
(Abutment 'A' shown, Abutment D opposite hand)
Scale: ¾" = 1'-0"



BILL OF STEEL

Bar	No. Reqd.	Length	Shape
A991	206	24'-2"	
A992	232	25'-2"	
A790	48	37'-11"	
AG91	102	24'-2"	
AG92	116	25'-2"	
A492	4	23'-8"	
A491	400	28'-2"	
L590	456	7'-8"	

DESIGNED BY	D. McCorkle	DATE	Dec. 1975
DRAWN BY	J. Starr	DATE	Dec. 1975
SUPERVISED BY	D. McCorkle	DATE	Dec. 1975
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STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAYS

BRIDGE NO. 31

I-240 OVER LEVEE RD.
(WIDENING)

FRAMING PLAN & SCREED ELEVATIONS
STA. 219 + 87.00

SHELBY COUNTY

CORRECT _____ ENGINEER OF STRUCTURES

APPROVED _____ DIRECTOR OF HIGHWAYS

M-24-64

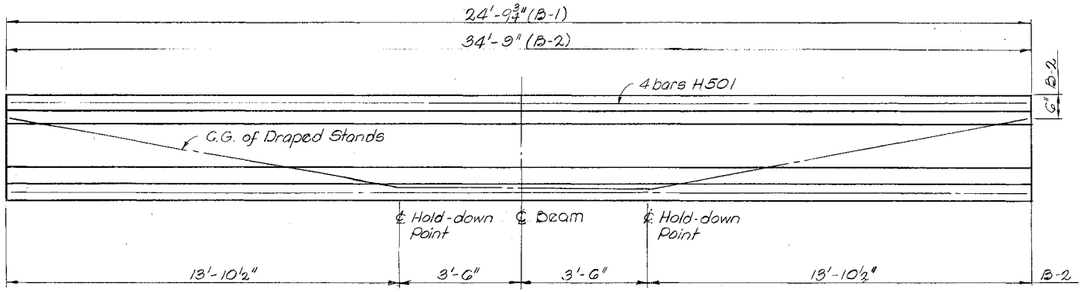
MICROFILMED

N11545

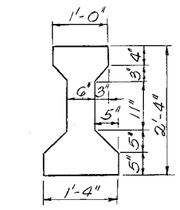
CONST. NO.	PROJECT NO.	YEAR	SHEET NO.
79007-3134-44	I-240-1(13)73	1976	92

REVISIONS

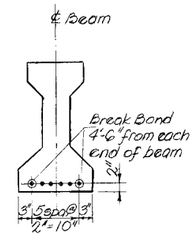
NO.	DATE	BY	BRIEF DESCRIPTION



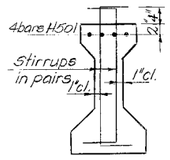
BEAM ELEVATION
(Showing Strand Deflection Pattern)



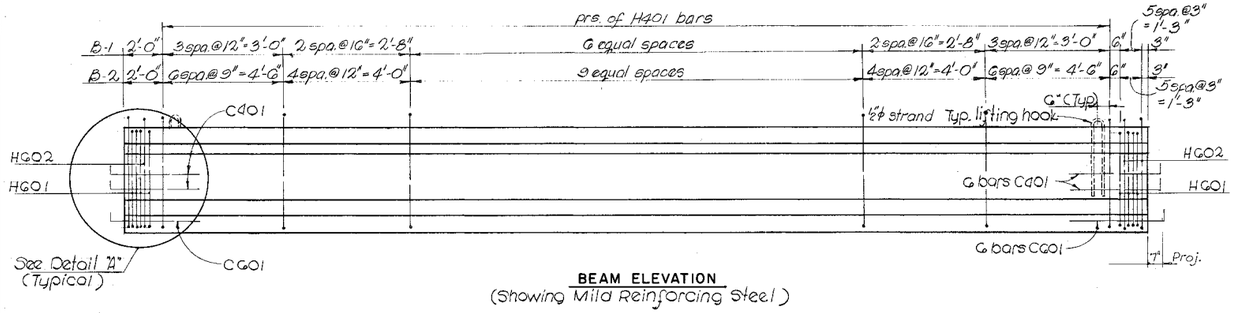
AASHTO TYPE I BEAM



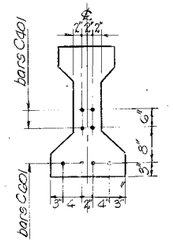
STRAND PATTERN A
6 - ½"ϕ strands



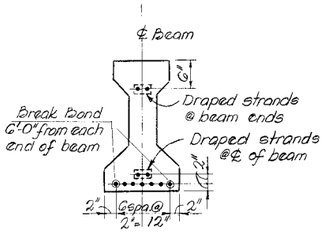
TYP. WEB REINFORCING



BEAM ELEVATION
(Showing Mild Reinforcing Steel)



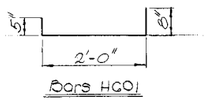
DETAIL A



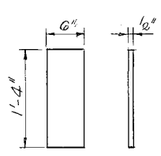
STRAND PATTERN B
9 - ½"ϕ strands

NOTES:

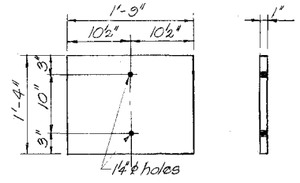
1. The tops of all beams are to be rough floated. At approximately the time of initial set the tops of the beams will also be scrubbed transversely with a coarse wire brush to remove all laitance and produce a rough surface.
2. Mild reinforcing shall be ASTM. A615 Grade 60.
3. All prestressing strands to be ½"ϕ high strength type 270 K 7 wire uncoated stress-relieved prestressing strands
4. An initial force of 28,910 lbs. shall be applied to each strand in all beams.
5. All beams are AASHTO-PCI Standard Type I
6. After the beam is removed from the prestressing bed, the bars CG01 & C401 shall be bent horizontally a sufficient amount so as to permit the "C" bars of adjoining beam to mesh when in the erected position.
7. At the ends of the beams, the prestressing strands shall be left projecting 3" from the ends of the beams. There shall be no protective coating placed on the ends of beams or on the projecting strands.
8. The concrete for this construction shall be of such properties as to attain a compressive strength of not less than 5000 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 4000 psi. See Dwg. M-24-59 for Concrete Finishing note (Note No. 7)
9. The cost of furnishing and placing all plain Elastomeric Pads, dowel bars, and rubber bonding cement shall be included in the bid price for the beams.
10. All beams to be supported during slab construction to prevent rotation.
11. Elastomeric bearing pads shall conform to Section 25 of AASHTO Standard Specifications for Highway Bridges (1973) plus interim (1974). Bearing may be made of 70 durometer hardness elastomers.



Bars HG01

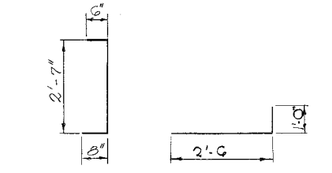


BEARING P-1
8 Required



BEARING P-2
8 Required

ELASTOMERIC BEARING PADS



Bars HG02 & H401 Bars CG01 & C401

BAR BENDING DIAGRAM

BILL OF STEEL (ONE BEAM)

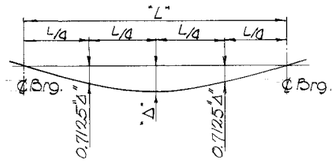
Mark	No. Req'd.	Length	Shape
C401	8	3'-6"	
CG01	8	3'-6"	
H401	*	3'-9"	
H501	4	**	
HG01	16	3'-1"	
HG02	8	3'-9"	

* 34 req'd. for B-1 & 58 req'd for B-2.
** 24'-6" for B-1 & 34'-5" for B-2.

BEAM DATA & ESTIMATED QUANTITIES

Beam	No. Req'd.	Length	Strand Pattern	Δ (ft.)	Estimated Quantities per Beam: Concrete (Cu. Yds.)	Reinf. Steel (lbs.)	Prestressing Steel (lbs.)
B-1	8	24'-9¾"	A	0.0098	1.8	368	80
B-2	4	34'-9"	B	0.0371	2.5	469	165

Note: Cost of plain Elastomeric Pads, 1"ϕ x 1'-9" dowel bars, and rubber bonding cement to be included in the cost of prestressed beams.



NOTE: This curve is for dead load of the slab and all dead loads that are applied after the slab is in place, and should be corrected to compensate for the effects due to vertical curve. For values of "Δ" see table below.

DEAD LOAD DEFLECTION DIAGRAM

HARLAND BARTHOLOMEW AND ASSOCIATES
MEMPHIS, TENNESSEE

DESIGNED BY D. McCorkle DATE Dec. '75
DRAWN BY M. Gorey DATE "
SUPERVISED BY D. McCorkle DATE "
CHECKED BY P. Hoffman DATE "

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAYS

BRIDGE NO. 31

I-240 OVER LEVEE RD.
(WIDENING)

PRESTRESSED BEAM DETAILS

STA. 219 + 87.00
SHELBY COUNTY

CORRECT _____ ENGINEER OF STRUCTURES

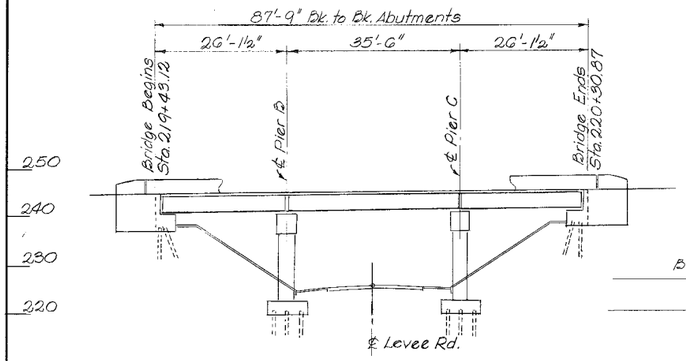
APPROVED _____ DIRECTOR OF HIGHWAYS

M-24-65

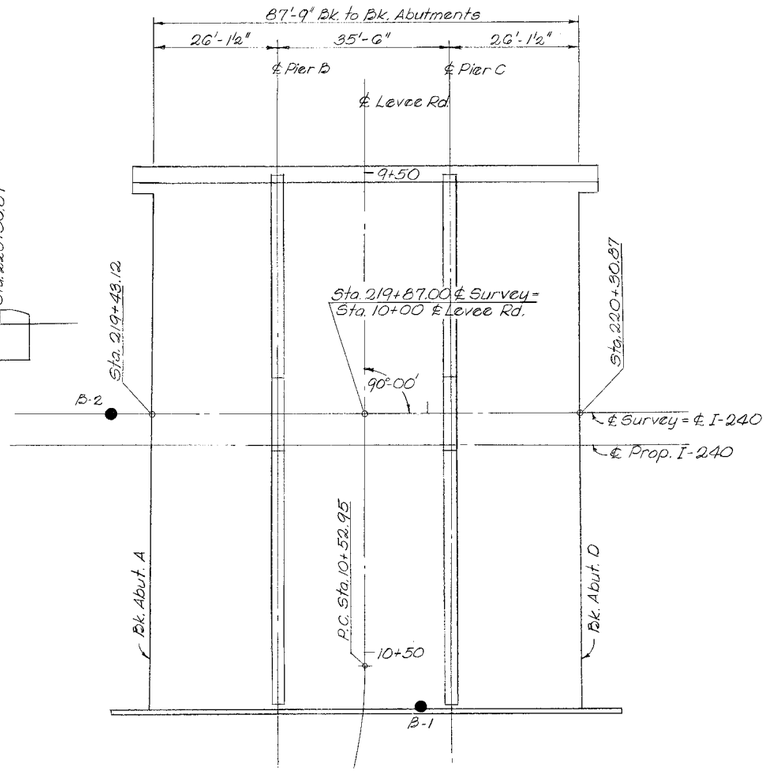
MICROFILMED

N1545

CONST. NO	PROJECT NO.	YEAR	SHEET NO.
79007-3134-44	I-240-1(137)3	1976	93



ELEVATION
Scale: 1"=15'-0"

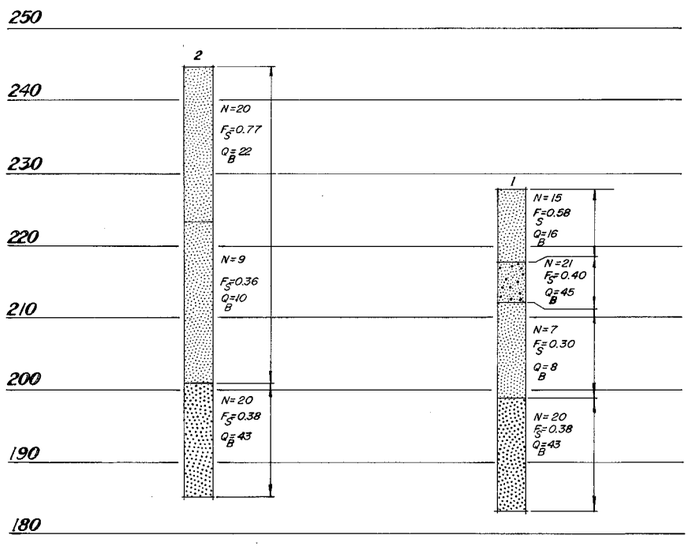


PLAN
Scale: 1"=15'-0"

SUMMARY OF PILE DATA

	Pile Design Load (1)	Pile Cut-off Elev. (3)	Pile Tip Elev.	Pile Length (2)
Abut. A	45	Varies	Varies	20'
Pier B	90	223.5	193.5	30'
Pier C	90	224.0	194.0	30'
Abut. D	45	Varies	Varies	20'

(1) Design Loads based on Factored Loads.
(2) Pile Length subject to change after reviewing results of load tests.
(3) For Abutment pile cut-off elevations see Dwg. M-24-60.



Legend

GRAVEL

SAND

SILT

(2) 59.5' DEPTH AUGERED HOLE NUMBERS
2

N="N" VALUE
F_S= TONS/FT.^{2}
Q_B=TONS/FT.^{2}

NOTE: This sheet is not to be used as a layout.

STATE OF TENNESSEE
DEPARTMENT OF HIGHWAYS
NASHVILLE

PROJECT I-240—CHELSEA TO LEVEE RD
I-240 OVER LEVEE ROAD

FOUNDATION DATA
BRIDGE No. 31

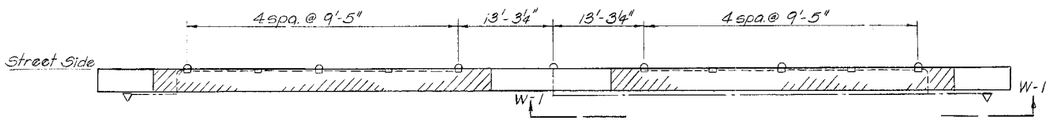
SHELBY COUNTY

M-24-66

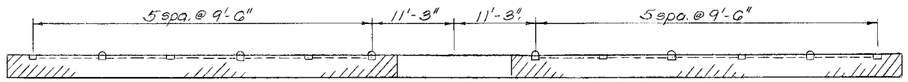
CONST. NO.	PROJECT NO.	YEAR	SHEET NO.
19007-3134-94	I-240-1(137)3	1976	94

REVISIONS

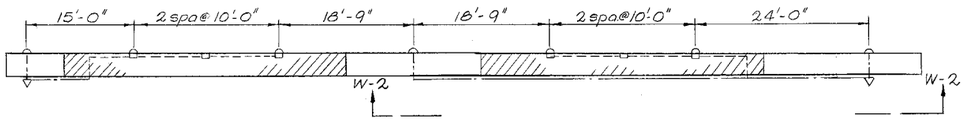
NO	DATE	BY	BRIEF DESCRIPTION
1	1-77	MO	ADD SAFETY SWITCH



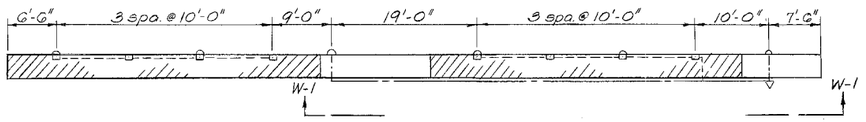
VOLLINTINE AVE.



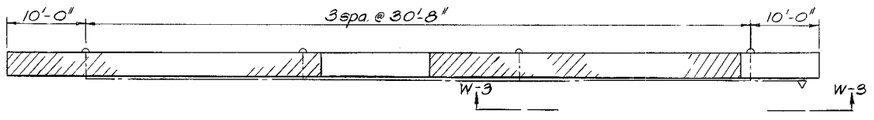
BROWN AVE.



CHELSEA AVE.



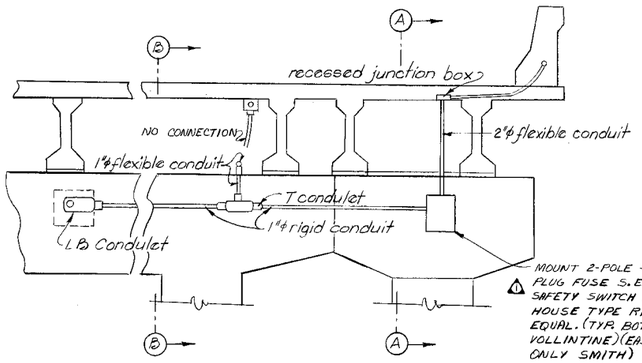
SMITH AVE.



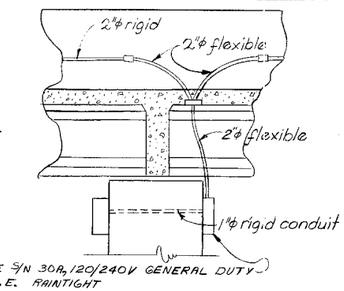
LEVEE ROAD

LEGEND

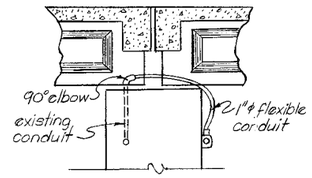
- Surface mounted 100w mercury vapor luminaire
- Existing recessed incadescent luminaire
- Junction box
- Existing conduit
- New conduit
- Existing concrete cap
- New Construction



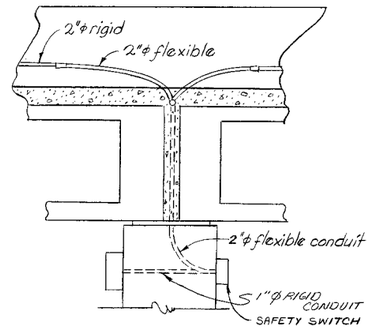
VIEW W-1



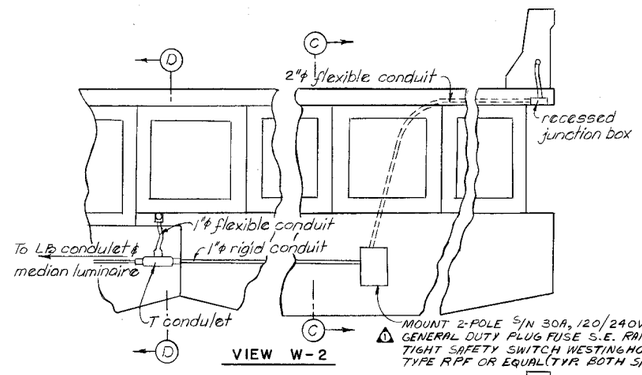
SECTION A-A



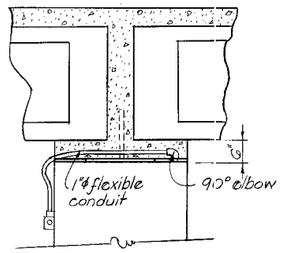
SECTION B-B



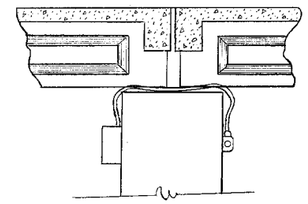
SECTION C-C



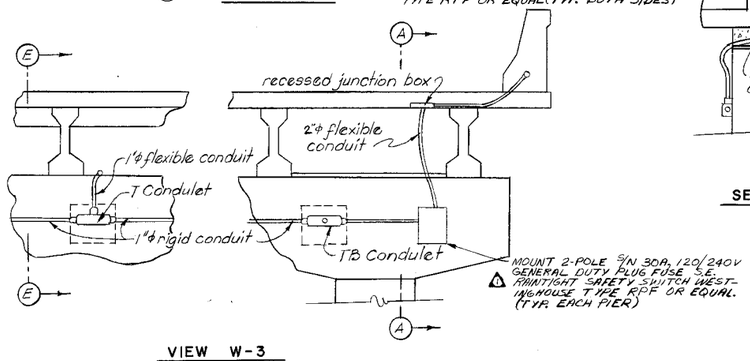
VIEW W-2



SECTION D-D



SECTION E-E



VIEW W-3

NOTES:

1. For Quantities see Estimated Quantities Summary for each individual bridge.
2. Luminaires shall be Holophane G02-000-BA-PA or equal.
3. Luminaires shall be mounted at approximately mid-height of the pier cap face.
4. Alternate luminaires or conduit details must be approved by the Engineer of Structures.
5. Existing conduit on the side(s) of the bridge that is being widened shall be removed and shall become the property of the Contractor.
6. The pits of the existing incandescent luminaires, where not covered by a new fixture, shall be covered by a 8⅜" × 12⅜" steel plate.

Δ 1. SAFETY SWITCHES REQUIRED: 2-VOLLINTINE 2-CHELSEA 1-SMITH 2-LEVEE

HARLAND BARTHOLOMEW AND ASSOCIATES
MEMPHIS, TENNESSEE

Δ HB & A

DESIGNED BY	D. McCorkle	DATE	Jan. 1976
DRAWN BY	J. Starr	DATE	Jan. 1976
SUPERVISED BY	D. McCorkle	DATE	Jan. 1976
CHECKED BY	F. Hoffman	DATE	Jan. 1976

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAYS

BRIDGES 25 THRU 31
I-240 FROM VOLLINTINE AVE. TO LEVEE ROAD

UNDERPASS LIGHTING DETAILS

SHELBY COUNTY

CORRECT _____ ENGINEER OF STRUCTURES

APPROVED _____ DIRECTOR OF HIGHWAYS

M-24-67

BILL OF STEEL

Const. No. 23004-3228-04

SUPERSTRUCTURE

BAR	LOCATION	SIZE	NO. REQ'D	BENDING DIMENSIONS a	b	c	d	LENGTH
A400	ENDWALL	4	24					29'-10"
A401	ENDWALL	4	29					58'-5"
A402	ENDWALL & WINGS	4	202					3'-2"
A403	WINGS	4	8					7'-2"
A500	SUPPORT DIAPHRAGM	5	64					8'-4"
A501	SUPPORT DIAPHRAGM	5	56					5'-4"
A502	SUPPORT DIAPHRAGM	5	16					2'-8"
A503	WINGS	5	4					6'-6"
A504	ENDWALL & WINGS	5	202					3'-2"
A600	SLAB	6	54					60'-0"
A601	SLAB	6	54					53'-4"
A602	SLAB	6	72					10'-0"
A603	SLAB	6	108					27'-2"
A604	SLAB	6	324					30'-0"
A605	SLAB	6	436					30'-1"
A606	SLAB	6	436					58'-0"
A607	ENDWALL	6	166					4'-7"
C500	WINGS	5	8	6'-9"				7'-5"
CD400	WINGS	4	8	7'-2"	1'-0"	1"		8'-2"
CD500	WINGS	5	8	6'-9"	1'-0"	1"		7'-9"
F900	ENDWALL	9	332	3'-2"	1'-0"	3'-8"	3½"	7'-11"
H500	ENDWALL	5	170	1'-8"	6"			2'-7"
K400	SUPPORT DIAPHRAGM	4	144	6"	6"	2'-8"		6'-2"

ABUTMENTS 1 & 2

BAR	LOCATION	SIZE	NO. REQ'D	BENDING DIMENSIONS a	b	c	d	LENGTH
A540	BEAM	5	10					31'-6"
A541	BEAM	5	10					58'-10"
A542	WING BEAM	5	20					8'-7"
A740	BEAM	7	18					31'-6"
A741	BEAM	7	18					58'-10"
A742	WING BEAM	7	36					8'-7"
H540	WING BEAM	5	32	8"	3'-1"			6'-9"
H840	BEAM	8	170	8"	3'-4"			7'-2"
L540	BEAM	5	172	2'-2"	1'-0"	2'-2"		9'-6"
	PAVEMENT @ BRIDGE ENDS							
A490	SLAB	4	100					27'-6"
A491	SLAB	4	100					56'-6"
A690	SLAB	6	166					24'-2"
A790	FOOTING	7	16					28'-3"
A791	FOOTING	7	16					56'-6"
A990	SLAB	9	330					24'-2"
*A1190	SLAB	11	* 8					6'-0"
L590	FOOTING	5	332	1'-2"	1'-0"	2'-2"		7'-6"
	(* AT ABUTMENT NO. 2 ONLY)							

BENTS 1 & 2

BAR	LOCATION	SIZE	NO. REQ'D	BENDING DIMENSIONS a	b	c	d	LENGTH
A650	CAP BEAM	6	8					56'-9"
A651	CAP BEAM	6	12					17'-7"
A652	CAP BEAM	6	8					24'-6"
A850	COLUMN BENT 1	8	72					23'-2"
A851	COLUMN BENT 1	8	36					23'-8"
A852	COLUMN BENT 2	8	72					23'-0"
A853	COLUMN BENT 2	8	36					23'-6"
A950	CAP BEAM	9	12					31'-0"
A951	CAP BEAM	9	8					14'-10"
A952	CAP BEAM	9	8					20'-0"
A953	CAP BEAM	9	8					21'-0"
B950	CAP BEAM	9	8	29'-9"				31'-0"
B951	CAP BEAM	9	8	29'-7"				30'-10"
B952	CAP BEAM	9	8	28'-9"				30'-0"
C850	FOOTING & COLUMN	8	216	9'-4"				10'-7"
D850	FOOTING	8	108	8'-8"				10'-6"
D851	FOOTING	8	54	14'-8"				16'-6"
E950	CAP BEAM	9	8	8'-0"	11'-8"	2'-4 3/8"	11'-5"	31'-9"
EA951	CAP BEAM	9	8	8'-0"	9'-6 3/8"	1'-11 3/8"	9'-9"	29'-2"
EA952	CAP BEAM	9	8	8'-0"	8'-6 3/8"	1'-8 3/8"	8'-9"	28'-2"
L450	COLUMN	4	240	8'-6 1/4"	1'-0"	2'-2"		10'-3"
SERIES								
L550	CAP BEAM	5	8	1'-4 3/4"	1'-0"	C DIM. VARIES FROM 1'-11 1/8" TO 3'-6 5/8" IN INC. OF 1 3/8" (13 BARS)		11'-10"
SERIES	CAP BEAM	5	4	1'-4 3/4"	1'-0"	C DIM. VARIES FROM 3'-7 3/4" TO 2'-7" IN INC. OF 2 1/8" (6 BARS)		68'-8"
L551								
L552	CAP BEAM	5	4	1'-4 3/4"	1'-0"	2'-6"		8'-7"
L553	CAP BEAM	5	4	1'-4 3/4"	1'-0"	2'-4 3/4"		8'-5"
SERIES								
L554	CAP BEAM	5	4	1'-4 3/4"	1'-0"	C DIM. VARIES FROM 2'-3" TO 1'-8 3/8" IN INC. OF 2 1/8" (4 BARS)		31'-1"

BAR	LOCATION	SIZE	NO. REQ'D	BENDING DIMENSIONS a	b	c	d	LENGTH
SERIES								
L555	CAP BEAM	5	4	1'-4 3/4"	1'-0"	C DIM. VARIES FROM 1'-5 3/8" TO 3'-7 3/8" IN INC. OF 2 1/8" (12 BARS)		107'-1"
L556	CAP BEAM	5	8	1'-4 3/4"	1'-0"	C DIM. VARIES FROM 3'-7 1/8" TO 1'-9 3/8" IN INC. OF 2 1/8" (11 BARS)		99'-0"
L557	CAP BEAM	5	4	1'-4 3/4"	1'-0"	1'-8"		6'-11"
X450	COLUMN	4	240	1'-0"	2'-2"	1'-7 7/8"	1'-0 7/4"	9'-10"

BAR	LOCATION	SIZE	NO. REQ'D	BENDING DIMENSIONS a	b	c	d	e	f	g	LENGTH
SERIES											
EA953	CAP BEAM	9	8	8'-0"	7'-6 3/8"	1'-5 3/8"	7'-3"	11'-8"	2'-4 3/8"	11'-5"	28'-2"
EA954	CAP BEAM	9	8	8'-0"	6'-6 3/8"	1'-2 3/8"	6'-3"	11'-8"	2'-4 3/8"	11'-5"	27'-2"

REVISIONS

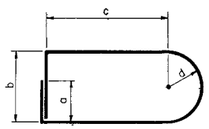
NO.	DATE	BY	BRIEF DESCRIPTION

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
3	TENN.		1977		

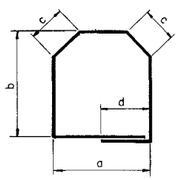
REINFORCING STEEL CODE

TYPE	SIZE	SERIES
A	5	06

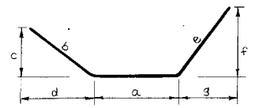
NOTE Dimensions shown on this sheet are outside to outside of bar. Standard C R S. I. Hook Details Shall Apply, Except As Noted.



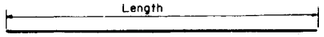
BARS X



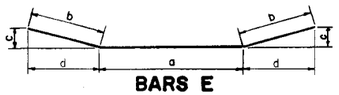
BARS M



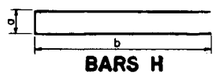
BARS EA



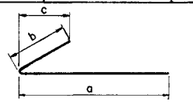
BARS A



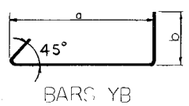
BARS E



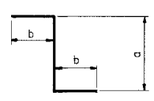
BARS H



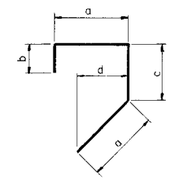
BARS CB



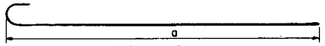
BARS YB



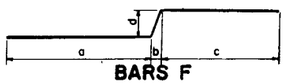
BARS Z



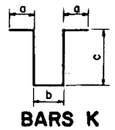
BARS J



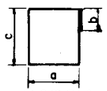
BARS B



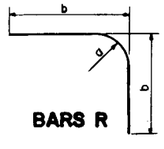
BARS F



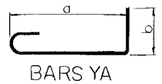
BARS K



BARS L

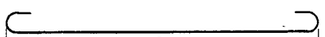


BARS R

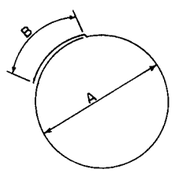


BARS YA

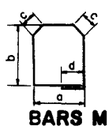
BARS C



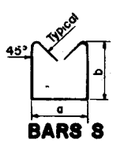
BARS D



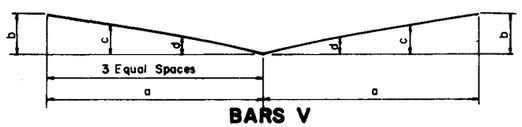
BARS T



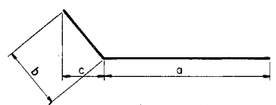
BARS M



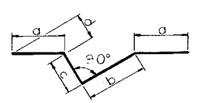
BARS S



BARS V



BARS CD



BARS JX

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAYS

BILL OF STEEL

STATE ROUTE 3 OVER LEWIS CREEK DRAINAGE CANAL
STATION 63+27.00
DYER COUNTY
1977

DESIGNED BY J. KENNEY DATE FEB. 76
DRAWN BY C. MARTIN SANDERS DATE 10-26-76
SUPERVISED BY R.L.H. & M.B. DATE 10-76
CHECKED BY R.L.H. DATE 10-76

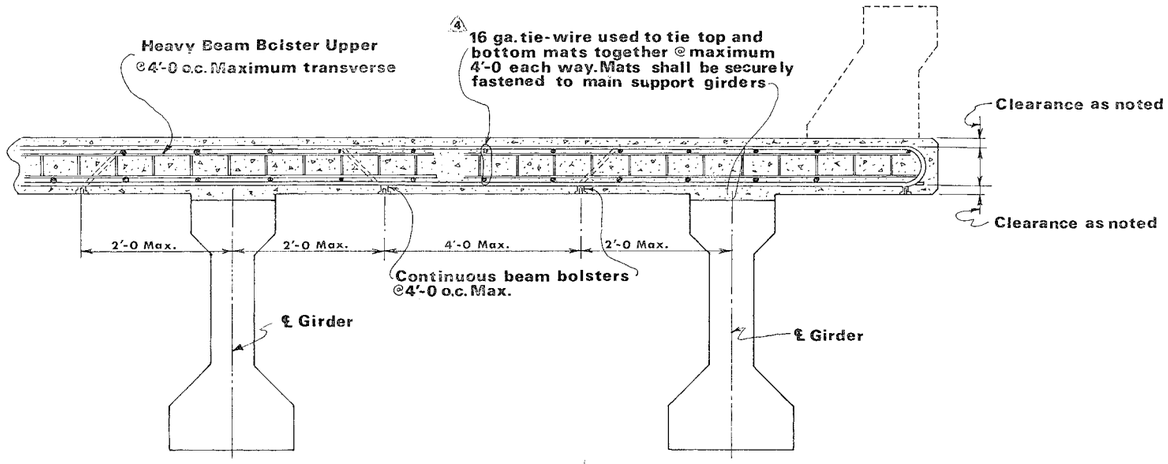
CORRECT _____ ENGINEER OF STRUCTURES

APPROVED _____ DIRECTOR OF HIGHWAYS

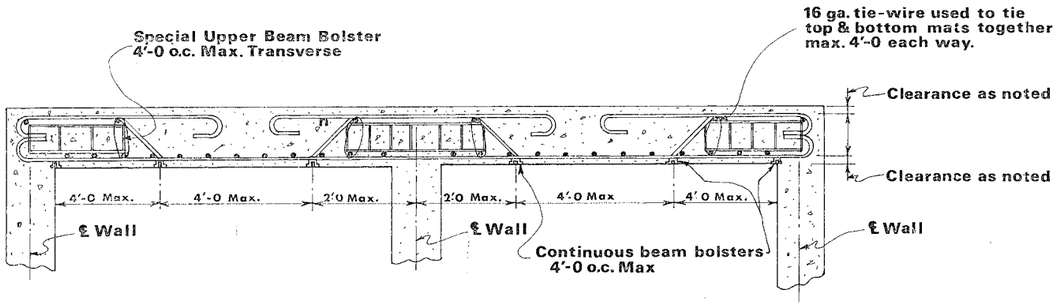
M-59-12

MICROFILMED

5-0-2



TYPICAL DETAILS FOR GIRDER TYPE BRIDGES



TYPICAL DETAILS FOR BOX TYPE STRUCTURES

④ **TABLE A**

Ba Size	Approx dia. outside deformations (inches)
#3	7/16
#4	9/16
#5	11/16
#6	7/8
#7	1

⑤ **TABLE B**

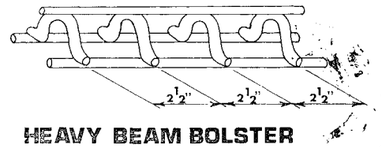
Bar Size	Approx dia. outside deformations (inches)
8	$1\frac{1}{8}$
9	$1\frac{1}{4}$
10	$1\frac{7}{16}$
11	$1\frac{5}{8}$
14	$1\frac{7}{8}$
13	$2\frac{1}{2}$

PROJECT NO.	YEAR	SHEET NO.

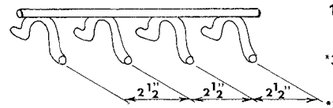
REVISIONS

NO.	DATE	BY	BRIEF DESCRIPTION
1	10-13-59		Reinf bar clearance
2	6-16-70		Gen. Revisions
3	9-12-74		Note 3 Changed
4	1-14-75		Revised Note
5	8-27-76		Revised Note #10 & added TABLE A & B, added note 13.

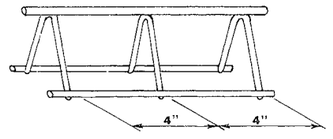
1. Reinforcement in Bridge slabs and top slabs of boxes shall be securely spaced from the forms by metal spacers as indicated this sheet. Other type spacers will not be permitted.
2. All beam bolsters (BB) & heavy beam bolster upper (HBBU) and Special Upper Beam bolster shall be made according to C.R.S.I. Specifications.
*3. Beam bolster (BB) legs in contact with forms and to be at exposed surface of concrete, shall be either "plastic protected" or "stainless steel protected"
4. Reinforcing bars shall be securely fastened together at each intersection using a minimum 16 ga. tie wire, except where spacing is less than one foot in each direction, alternate intersections shall be fastened.
5. Reinforcing bar supports shall be furnished to minus $\frac{1}{16}$" or plus $\frac{1}{8}$" of specified bar.
6. The top and bottom reinforcing mats shall be tied together at maximum of 4'-0 o.c. each way.
7. When any type shear connector protrudes from the top flange of the beam, the reinforcing steel shall be tied to these connectors at maximum 2'-0 o.c. along the beam.
8. Reinforcing steel shall not be used to support concrete buggies, material carts, or bundles of re-bars.
9. Cost of all bar supports and tie wire shall be included in bid price for reinforcing steel.
④ 10. A reinforcing bar may be substituted when a heavy Beam Bolster Upper of a 1" or less height is required. See Table A above.
11. A special Upper Beam Bolster (as detailed this sheet) may be substituted for heavy Beam Bolster Uppers required in heights of $5\frac{1}{4}$" or greater.
12. Steel in top & bottom of slabs of Reinforced Concrete Hollow Box Girders will be supported in accordance with this drawing.
*3a. Plastic protected legs shall be dipped and baked onto the upturned legs per the latest C.R.S.I. specifications.
*3b. Stainless protected legs shall be made from stainless steel with a minimum chromium content of 16% (similar to AISI TYPE 430). Per the latest C.R.S.I. specifications.
⑤ 13. Use table A and/or B for bar sizes to determine beam bolster size to use.



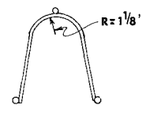
HEAVY BEAM BOLSTER UPPER (HBBU)



BEAM BOLSTER (B B)



SPECIAL UPPER BEAM BOLSTER



END VIEW

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAYS

STANDARD REINFORCING BAR SUPPORT DETAILS FOR CONCRETE SLABS

DESIGNED BY _____ DATE _____
DRAWN BY G.P. Mullican DATE 8-29-73
SUPERVISED BY _____ DATE _____
CHECKED BY _____ DATE _____

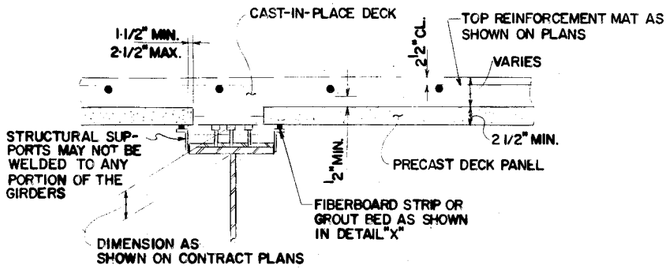
CORRECT H W Lochridge
ENGINEER OF STRUCTURES
APPROVED James Evans
DIRECTOR OF HIGHWAYS

K-80-14

· NOTES ·

1. PORTIONS OF THE CONCRETE DECK FOR BRIDGES AND CULVERTS MAY BE CONSTRUCTED OF PRECAST PRESTRESSED BRIDGE DECK PANELS PROVIDED THEY ARE FABRICATED AND USED IN ACCORDANCE WITH THIS DRAWING.
2. THE PANELS DETAILED ON THIS SHEET ARE FOR USE ON BRIDGE DECKS WITH GIRDER SPACINGS WITHIN THE RANGE SHOWN. PANELS FOR OTHER GIRDER SPACINGS AND FOR TOP SLABS OF BOX AND SLAB CULVERTS MAY BE DESIGNED AND DETAILED BY THE CONTRACTOR AND SUBMITTED TO THE ENGINEER OF STRUCTURES FOR APPROVAL. EACH SUBMITTAL OF SHOP DRAWINGS FOR PANELS THAT DIFFER FROM THE DESIGN SHOWN ON THIS SHEET SHALL BE ACCOMPANIED BY A SET OF DESIGN CALCULATIONS.
3. PANELS SHALL BE DESIGNED TO SUPPORT THE DEAD LOAD OF PANEL, REINFORCEMENT, PLASTIC CONCRETE, AND A 50 LBS. PER SQUARE FOOT CONSTRUCTION LOAD. THE PANEL AND SLAB SHALL BE DESIGNED TO SUPPORT THE DEAD LOAD OF THE PANEL, REINFORCEMENT, AND PLASTIC CONCRETE ACTING ON THE NON-COMPOSITE SECTION PLUS THE DESIGN LIVE LOADS AND DEAD LOADS ACTING ON THE COMPOSITE SECTION.
4. THE DESIGN SPAN OF THE PRECAST PANEL SHALL BE THE CLEAR SPAN PLUS TWO (2) INCHES, MEASURED PARALLEL TO THE PANEL EDGES.
5. REINFORCEMENT AND STRANDS IN THE PANEL SHALL HAVE A MINIMUM OF ONE (1) INCH CONCRETE COVER ON THE BOTTOM SIDE OF THE PANEL. REINFORCEMENT IN THE CAST IN PLACE CONCRETE SHALL HAVE ONE-HALF (1/2) INCH MINIMUM COVER BETWEEN THE PANEL AND SLAB REINFORCEMENT.
6. IF PANELS ARE USED THE BOTTOM MATS OF TRANSVERSE AND LONGITUDINAL SLAB REINFORCEMENT MAY BE OMITTED BETWEEN EXTERIOR BEAMS. BARS F5-- AND ANY OTHER SUPPLEMENTAL BARS REQUIRED TO BE PLACED IN CAST-IN-PLACE PORTIONS OF THE SLAB SHALL BE ASTM A615, GRADE 60.
7. PRECAST CONCRETE PANELS SHALL NOT BE CONSIDERED AS LATERAL BRACING FOR FLANGES OF SUPPORTING STRUCTURAL MEMBERS.
8. ANY APPRECIABLE INCREASE IN TOTAL SLAB THICKNESS MAY REQUIRE AN INCREASE IN THE SIZE OF MAIN STRUCTURAL MEMBERS. ANY SUCH INCREASE WILL BE AT THE CONTRACTOR'S EXPENSE.
9. SHOP DRAWINGS AND PROPOSED CONSTRUCTION DETAILS SHALL BE SUBMITTED TO THE ENGINEER OF STRUCTURES FOR APPROVAL.
10. PANELS MUST BE ATTACHED TO OR SUPPORTED BY MAIN SUPPORTING MEMBERS BY MEANS OTHER THAN WELDING AND SHALL BEAR UNIFORMLY ON A ONE (1) INCH WIDE STRIP OF FIBER BOARD OR A 2" WIDE CONCRETE GROUT BED SUPPORTED DIRECTLY BY MAIN STRUCTURAL MEMBERS. THE THICKNESS OF FIBER BOARD AND DEPTH OF GROUT BED MUST BE ADJUSTED AS DIRECTED BY THE ENGINEER TO PRODUCE THE PROPER DECK PROFILE. A MINIMUM THICKNESS OF ONE-HALF (1/2) INCH WILL BE REQUIRED TO PROVIDE UNIFORM BEARING. THE THICKNESS (OR HEIGHT) OF THE FIBERBOARD PADS SHALL NOT EXCEED THEIR WIDTH.
11. THE TOP OF PANELS SHALL HAVE A ROUGHENED SURFACE WITH APPROXIMATELY ONE-QUARTER (1/4) INCH DEEP DEPRESSIONS. CARE SHALL BE TAKEN SO AS NOT TO DISPLACE THE COARSE AGGREGATES WHEN PREPARING THE ROUGHENED SURFACE.
12. ALL INTERIOR DIAPHRAGMS MAY BE CONSTRUCTED THREE (3) INCHES CLEAR OF THE BOTTOM OF THE PANELS TO ALLOW CONTINUOUS PLACEMENT OF PANELS.
13. CONCRETE SHALL BE PLACED IN ACCORDANCE WITH THE CONTRACT SPECIFICATIONS. PARTICULAR EMPHASIS SHOULD BE GIVEN TO PROPER VIBRATION OF THE CONCRETE TO AVOID HONEYCOMBS AND VOIDS, ESPECIALLY AT CONSTRUCTION JOINTS, EXPANSION JOINTS, AND ENDS OF PANELS. ALL PANEL JOINTS MUST BE MORTAR TIGHT. IMMEDIATELY PRIOR TO PLACING THE CAST-IN-PLACE PORTION OF THE DECK SLAB, THE PRECAST DECK SLABS SHALL BE WETTED UNTIL FREE MOISTURE APPEARS AND REMAINS.
14. THE FIBERBOARD STRIP SHALL BE HELD IN PLACE BY EITHER GLUE OR EPOXY.
15. PAYMENT WILL BE BASED ON PLANS DIMENSIONS AND DETAILS FOR THE REGULAR REINFORCED CONCRETE SLAB. NO ADDITIONAL COMPENSATION SHALL BE MADE SHOULD PROBLEMS ARISE DUE TO CAMBER OR VERTICAL CURVE ADJUSTMENTS IN CONJUNCTION WITH THE USE OF PANELS.
16. MATING SURFACES OF THE PRECAST PANELS SHALL NOT DEVIATE FROM A STRAIGHT LINE BY MORE THAN 1/8 INCH IN TEN (10) FEET. ALL OTHER DIMENSIONS SHALL BE FABRICATED TO + 1/4, - 1/8 INCH EXCEPT STRANDS SHALL BE LOCATED TO ± 1/16 INCH VERTICALLY.
17. THE SIZE AND ADEQUACY OF THE LIFTING STRAPS SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.
18. CONTRACTOR MAY SUBSTITUTE 6X6 - D6 X D6 WELDED WIRE FABRIC, ASTM A497, FOR NO. 3 BARS.
19. PANELS SHALL BE SUPPORTED SO AS TO PRESENT A UNIFORM BOTTOM SURFACE.

· SUPERSTRUCTURE SECTION ·
(SHOWING TYPICAL REINFORCING. SEE CONTRACT DRAWINGS FOR REINFORCING SIZE AND SPACING AND SLAB DIMENSIONS.)



· DETAIL Y ·
SUGGESTED SUPPORT SYSTEM FOR STEEL GIRDERS WHENEVER TOP FLANGE VARIES.

PROJECT NO.	YEAR	SHEET NO.

REVISIONS

NO.	DATE	BY	BRIEF DESCRIPTION

· GENERAL NOTES ·

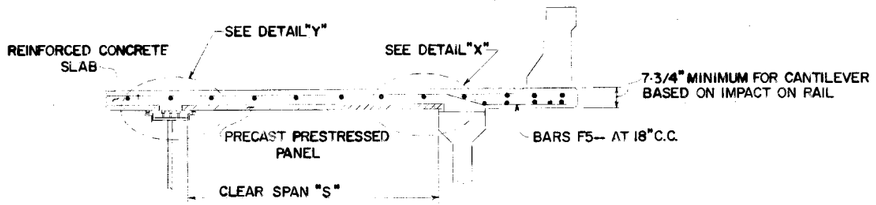
SPECIFICATIONS: STANDARD ROAD AND BRIDGE SPECIFICATIONS OF THE TENNESSEE DEPARTMENT OF HIGHWAYS (1968 EDITION).

DESIGN SPECIFICATIONS: AASHTO 1977 EDITION WITH ADDENDA.

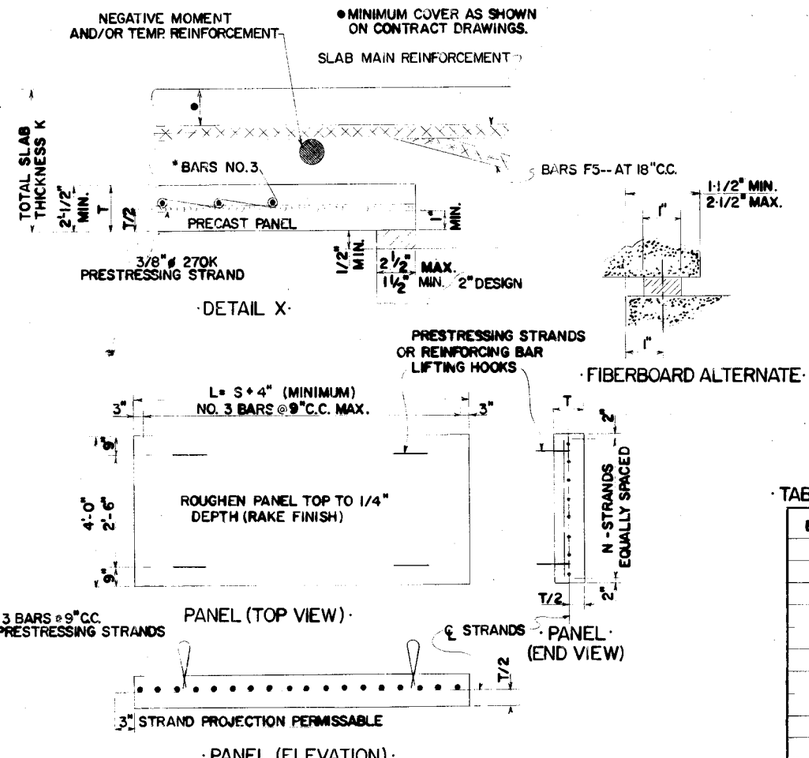
CONCRETE: SHALL HAVE A MINIMUM 28 DAY COMPRESSIVE STRENGTH OF 5,000 PSI AND A MINIMUM RELEASE STRENGTH OF 4,000 PSI.

REINFORCING STEEL: FOR PANELS, TO BE ASTM A615 GRADE 40 OR GRADE 60. SEE NOTE 6.

PRESTRESSING STRANDS: TO BE 3/8"ϕ 270K, HIGH STRENGTH, 7 WIRE UNCOATED STRESS RELIEVED PRESTRESSING STRANDS WITH AN INITAL TENSION OF 16,100 LBS. PER STRAND UNLESS OTHERWISE APPROVED BY THE ENGINEER OF STRUCTURES. SEE NOTE 2.



· SUPERSTRUCTURE SECTION ·
(SHOWING PRECAST DECK PANEL)



· TABLE OF VARIABLE DIMENSIONS ·

S MAX. FT.	① TOTAL SLAB THICKNESS K (IN.)	PANEL THICKNESS T (IN.)	N, NUMBER OF 3/8"ϕ 270K STRANDS (MIN.)
4.5	8.0	2-1/2	4
5.0	8.0	2-1/2	5
5.5	8.0	2-1/2	6
6.0	8.0	2-1/2	7
6.5	8.0	2-1/2	8
7.0	8.0	2-1/2	9
7.5	8.0	2-1/2	10
7.5	8.5	3	9
8.0	8.5	3	11
8.5	8.5	3	12
8.5	8.75	3	12
9.0	8.75	3	13
9.5	8.75	3	14
9.5	9.0	3-1/2	13
10.0	9.0	3-1/2	14
10.5	9.0	3-1/2	16
10.5	9.5	4	15
11.0	9.5	4	16
11.5	9.5	4	17

① BASED ON 5 1/2" THICKNESS OF CAST IN PLACE CONCRETE.

· TABLE OF BAR DIAMETERS FOR CLEARANCES ·

BAR SIZE	APPROX. DIA. OUTSIDE DEFOR. (IN.)
3	7/16
4	9/16
5	11/16
6	7/8
7	1
8	1 1/8
9	1 1/4
10	1 7/16
11	1 5/8
14	1 7/8
18	2 1/2

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAYS

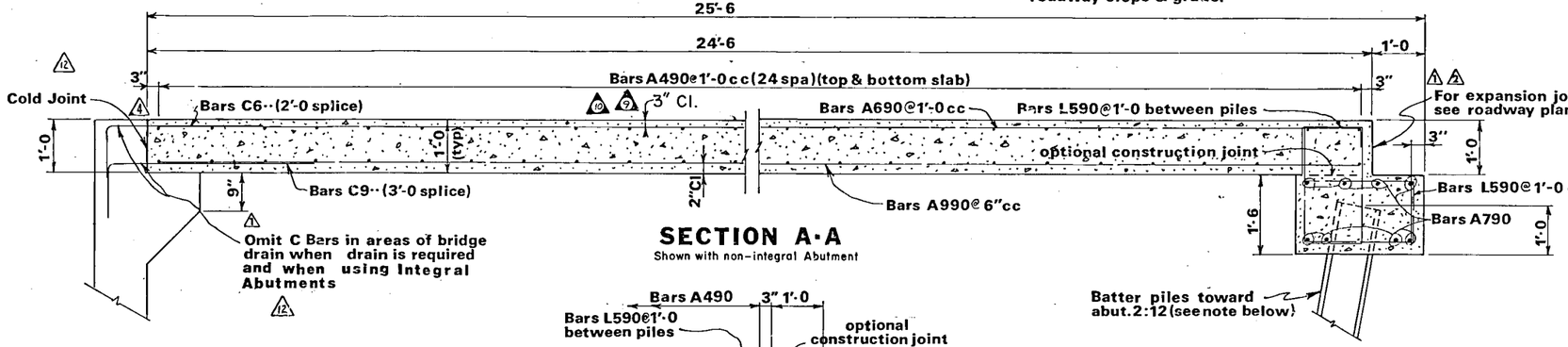
TENNESSEE STANDARD
PRECAST PRESTRESSED BRIDGE DECK PANELS
1979

DESIGNED BY _____ DATE _____
DRAWN BY D. Briley DATE 8/79
SUPERVISED BY _____ DATE _____
CHECKED BY _____ DATE _____

CORRECT _____ ENGINEER OF STRUCTURES
APPROVED _____ DIRECTOR OF HIGHWAYS

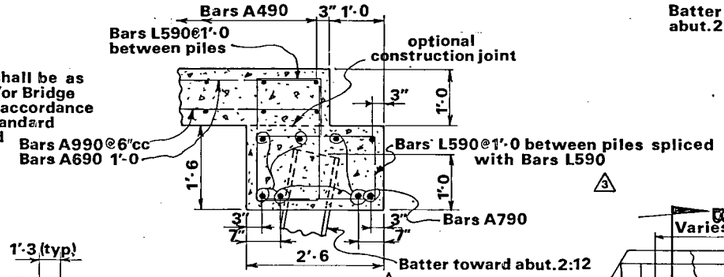
K-80-15A

NOTE: Top of slab to conform to roadway slope & grade.



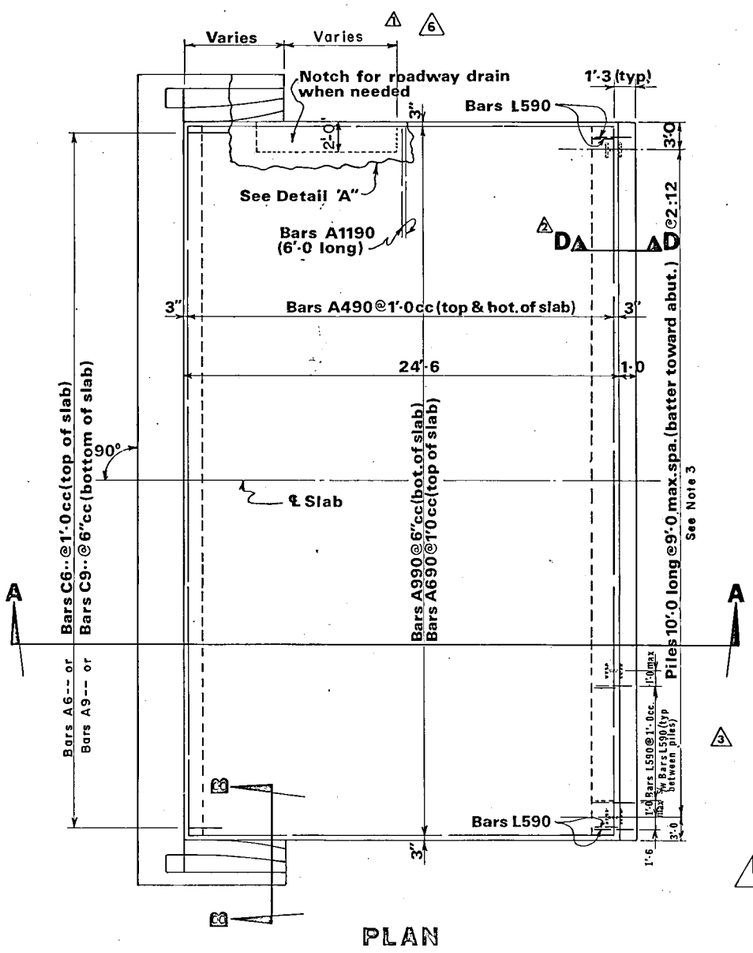
SECTION A-A

Shown with non-integral Abutment

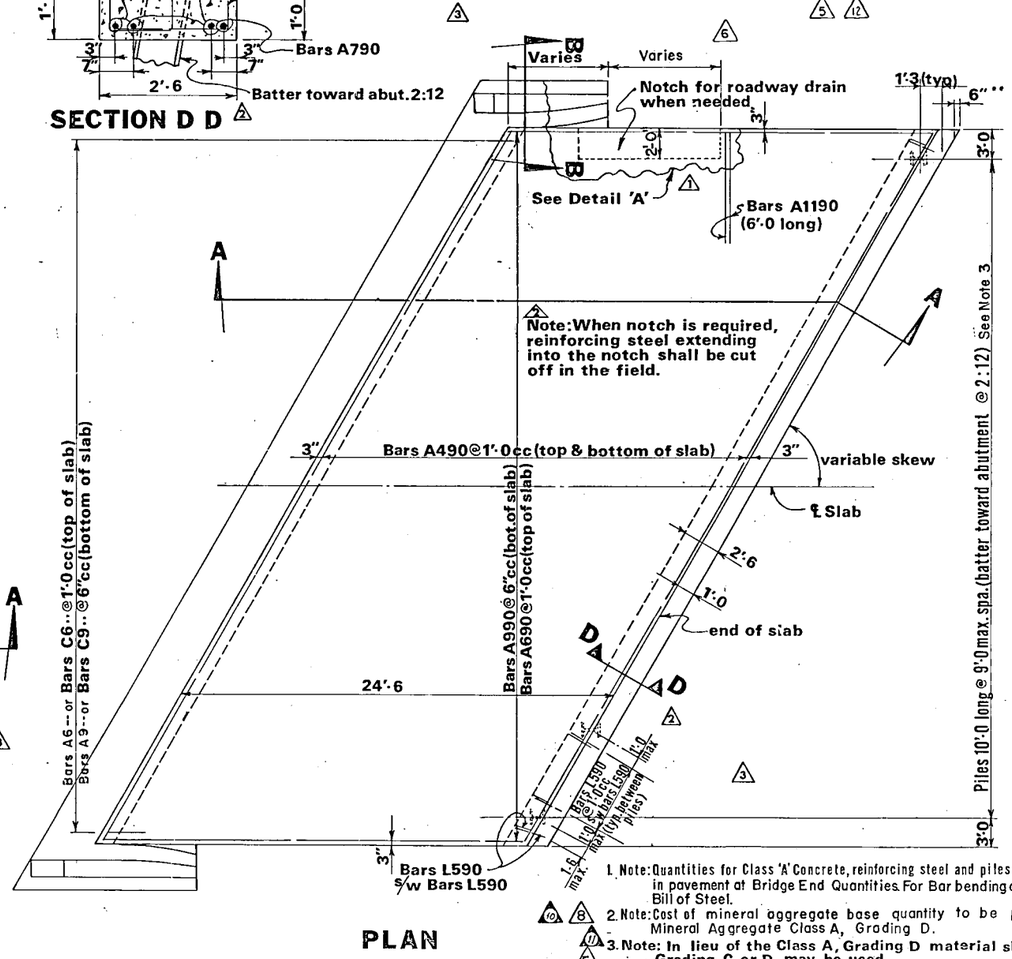


SECTION D D

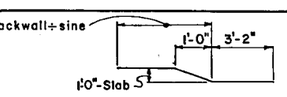
Note: Location of notch for bridge drain shall be as shown on the Roadway Plans and/or Bridge Plans and shall be constructed in accordance with the fit-up requirements of Standard Drawing D-CB-9 or as directed by the Engineer



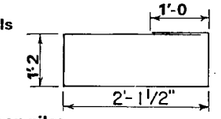
PLAN



PLAN

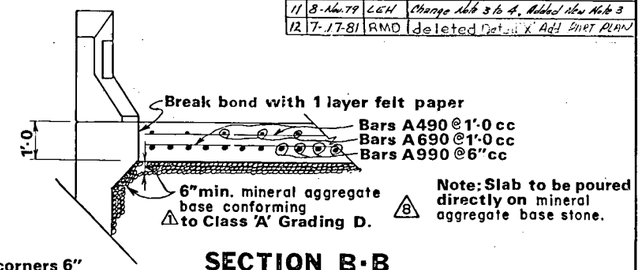


BARS F9--



BARS L ⚠9

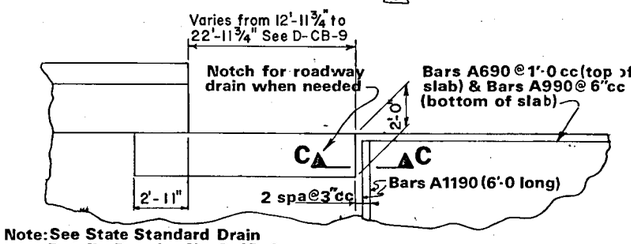
Total Length: 7'-5"



⚠8 Note: Slab to be poured directly on mineral aggregate base stone.

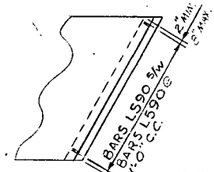
"Clip corners 6" for 60° or less

SECTION B-B

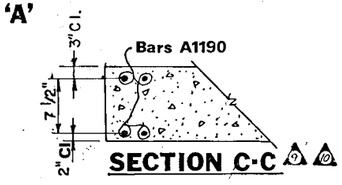


Note: See State Standard Drain Details Drawing No. D CB-9

DETAIL 'A'



PART PLAN (SHOWING L BAR SPA. WITH PILES OMITTED)



SECTION C-C

GENERAL NOTES

CONCRETE: To be Class 'A' (F'c = 3,000 psi)
REINFORCING STEEL: To be ASTM A615. Bending dimensions shown are based on Grade 40. Spacing dimensions are center to center unless otherwise noted.
SPECIFICATIONS: Standard Road & Bridge Specifications of the Tennessee Department of Highways (Current Edition)

1. Note: Quantities for Class 'A' Concrete, reinforcing steel and piles are included in pavement at Bridge End Quantities. For Bar bending dimensions, see Bill of Steel.
2. Note: Cost of mineral aggregate base quantity to be paid as Item 303-01 Mineral Aggregate Class A, Grading D.
3. Note: In lieu of the Class A, Grading D material shown, Class B, Grading C or D may be used.
4. Note: Piles shall be HP10@42# or Precast Concrete Size I as shown in Estimated Quantities. Piles shall have a maximum length of 10'-0 regardless of bearing and shall be spaced at 9'-0 maximum. Piles shall be omitted if beam is supported on rock or rock fill or if the Abutment is integral.

PROJECT NO.	YEAR	SHEET NO.

REVISIONS

NO.	DATE	BY	BRIEF DESCRIPTION
1	11-16-70	CMH	Compression seal added, aggregate size changed. General notes revised & bridge drain details.
2	12-18-70	CMH	Section D-D & notes added, compression seal note removed & Expansion joint note added
3	8-12-71	RMD	Clarified spacing & no. of L590 bars
4	3 12 74	RMD	Removed V Notch
5	7-18-75	RMD	Added Detail X & Revised Note 3
6	8-18-75	RMD	Revised Roadway Drain
7	3-2-76	CPR	Changed Dwg. No. on Detail "A"
8	6-17-76	CMH	Revised aggregate designation
9	8-30-76	RMD	Revised minimum clearances
10	5-Dec-77	EPW	Rev. Note 2 & Min. Cl. on top Rebar
11	8-Nov-79	CGH	Change Note 3 to 4, Added New Note 3
12	7-17-81	RMD	deleted Detail X Add SHT PLAN

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAYS

STANDARD DRAWING
REINFORCED CONCRETE PAVEMENT AT BRIDGE ENDS

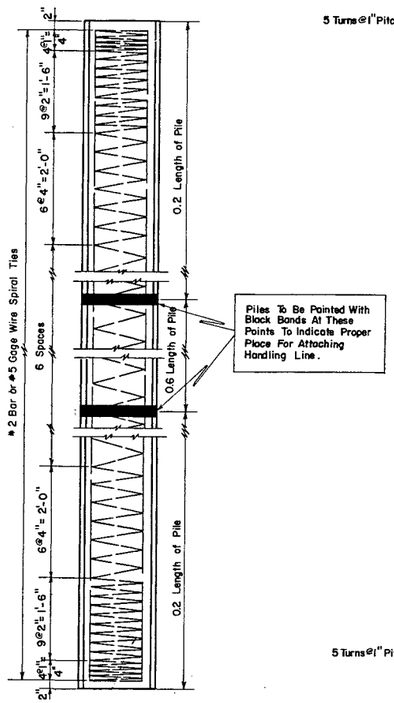
DESIGNED BY C.M.Hiles DATE 8-70
DRAWN BY GPM DATE
SUPERVISED BY C.M.Hiles DATE
CHECKED BY D.W.Fortner DATE 10-8-70

CORRECT _____ ENGINEER OF STRUCTURES
APPROVED _____ DIRECTOR OF HIGHWAYS

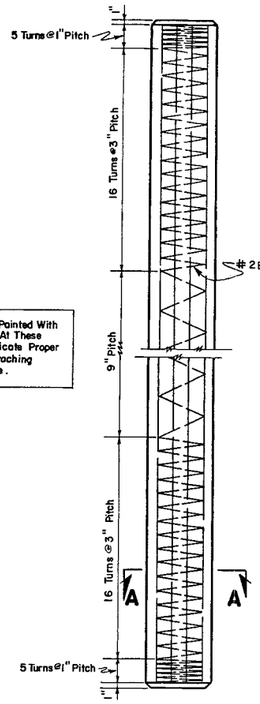
K-86-144

Copy - 1 OF 4 2-5-82

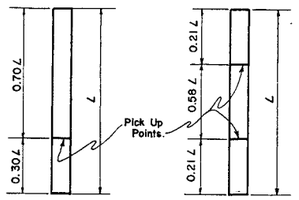
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
3	TENN.		19		



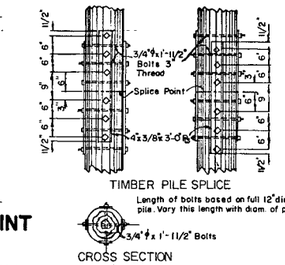
PRECAST CONCRETE PILE



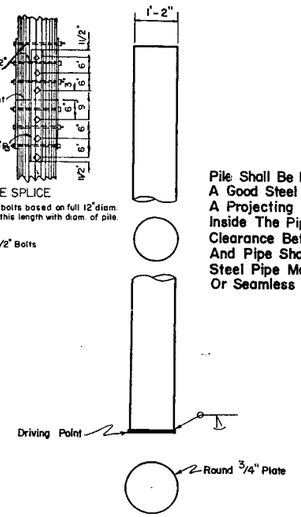
PRESTRESSED CONCRETE PILE



SINGLE POINT PICK-UP **DOUBLE POINT PICK-UP**

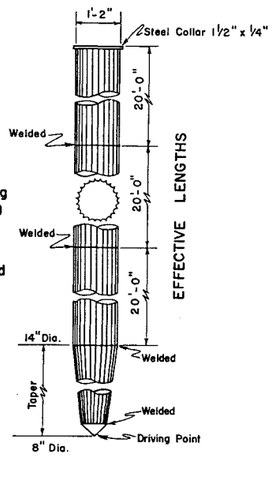


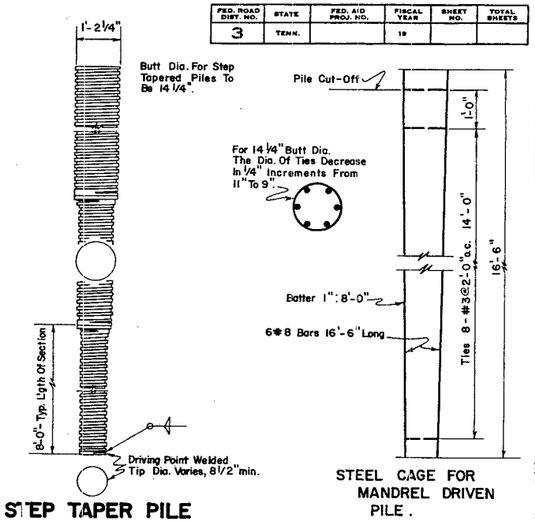
NOTES: (1.) Maximum Length Single Pick Up Point - 60'-0"
(2.) Maximum Length Double Pick Up Point - 85'-0"
(3.) Piles To Be Marked At These Points To Indicate Proper Place For Attaching Handling Lines.
(4.) For Greater Lengths Three Point Pick-up Is Required.



PIPE PILE

Pile Shall Be Driven With A Good Steel Head Having A Projecting Ring Fitting Inside The Pipe. Clearance Between Ring And Pipe Should Be 1/4". Steel Pipe May Be Welded Or Seamless Steel.



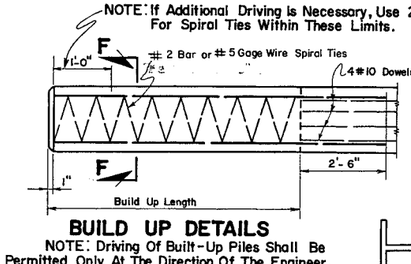


STEP TAPER PILE

STEEL CAGE FOR MANDREL DRIVEN PILE.

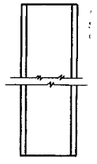
CAST IN PLACE PILES

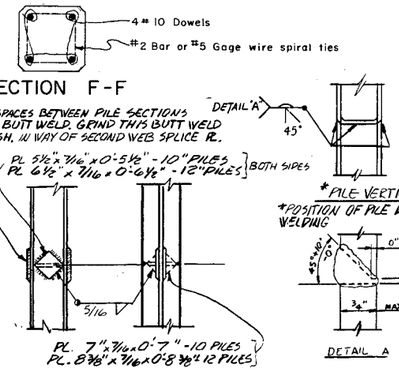
NOTE: Concrete In Cast In Place Piles To Be Class "A"



BUILD UP DETAILS

NOTE: Driving Of Built-Up Piles Shall Be Permitted Only At The Direction Of The Engineer.





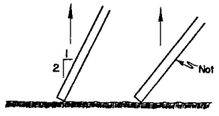
GENERAL NOTES

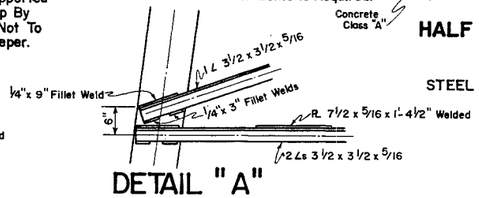
(1.) SPECIFICATIONS: Standard Road And Bridge Specifications Of The Tennessee Department Of Highways.
(2.) CHOICE OF PILES: To Be Specified On The Layout Sheet For Each Bridge.
(3.) CAST IN PLACE: Pile Shells Shall Have A Minimum Thickness As Follows:
1. Piles Driven Without Mandrel - 7 Gage.
2. Piles Driven With Mandrel Shall Be Of Sufficient Strength And Thickness To Hold Its Original Form And Show No Sign Of Distortion After The Core Has Been Withdrawn.
3. Steel Pipe Shall Be Welded Or Seamless Steel Conforming To ASTM Designation A-252 Grade 2 Welded And Seamless Steel Pipe Piles.
Steel Cage For All Mandrel Driver Piles Will Be Required.
The Contractor Shall Maintain On The Job At All Time Prior To And During The Filling Of The Shells, A Light Suitable For Their Inspection. Improperly Driven, Broken Or Otherwise Defective Shells Shall Be Removed And Replaced Or Otherwise Corrected To The Satisfaction Of The Engineer By Removal And Replacement Or The Driving Of An Additional Pile At No Extra Cost.
(4.) PRESTRESSED CONCRETE PILES: 1. Concrete Shall Have A Minimum 28 Day Strength Of 5000 PSI With A Release Strength Of 3500 PSI For 3/8" ø Strands.
2. Spiral Ties Shall Be Tied To Corner Strands At Intervals Adequate To Prevent Excessive Movement During Vibration. They May Be Manufactured From Stock Meeting Any Grade Of Reinforcing Steel Or Hard Drawn Wire.
(5.) PILE POINTS: All Cast In Place Piles Shall Be Equipped With A Steel Driving Point. Driving Points Shall Be Mill Welded To The Pile Shell. Driving Points May Be Either Structural Steel, Forged Steel Or Cast Steel. Steel Piles Shall Have A Square Cut End Only. No Driving Point Is Required Unless Shown On The Bridge Plans.
(6.) SPLICES: Splice Details For Cast In Place Piles Shall Be Made In Accordance With The Manufacturers Recommendations, Subject To The Approval Of The Engineer. Splice Details For Steel And Prestressed Concrete Piles Shall Be In Accordance With The Details Shown On This Sheet.
(7.) DRIVING FORMULA: Piles Shall Be Driven To A Minimum Capacity As Specified On The Layout Sheet As Determined By The Driving Formulas Stipulated In The Specifications.
(8.) MILL TEST REPORTS: Notarized Mill Test Reports Will Be Required For All Steel Piles And Cast In Place Pile Shells.
(9) WELDING SPECIFICATIONS: AWS for Bridges.
(10) STRUCTURAL STEEL: Structural Steel conforming to ASTM A-7 or ASTM A-36-62T will be acceptable.

NOTE: If It Becomes Necessary To Use Size 2 Piles The Contractor Will Be Allowed An Increase In The Size 1 Bid Of 25 %.

Length Of Of Pile	Longitudinal Reinforcing	Weight Of Steel Per Ft.	Weight Of Pile Per Ft.
Up To 35'	4 # 7 Bars	9.6 #	205.3 #
36' To 40'	4 # 8 Bars	12.2 #	205.3 #
41' To 45'	4 # 9 Bars	15.1 #	265.3 #
46' To 50'	4 # 10 Bars	18.8 #	265.3 #
51' To 55'	8 # 9 Bars	28.9 #	265.3 #
56' To 60'	8 # 10 Bars	36.2 #	265.3 #

NOTE: In Handling The Piles, They Shall Be Supported At The Points Indicated. Piles To Be Picked Up By Pulling On Both Lines Uniformly. End Of Pile Not To Touch Ground Unless Piles Inclined 1:2 Or Steeper.



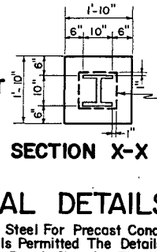


DETAIL "A"
Welds Typical For All End Joints And Intersections.

HALF BENT HALF ABUTMENT

CASE I
STEEL FOR PRECAST CONCRETE

NOTE: When "H" Is 10' Or More Bracing For Bents Is Required.



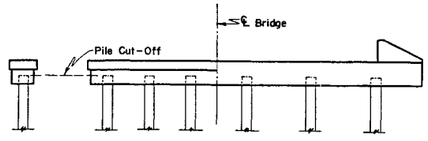
SECTION X-X

NOTE: Wrap Pile With American Welded Fabric 2" x 2" No. 10 Wire. Cost of Wire Fabric to be included in Unit Price Bid for Class "A" Concrete

TYPICAL DETAILS

When The Substitution Of Steel For Precast Concrete Piles Or Precast Concrete For Steel Piles Is Permitted The Details Will Be As Shown Above. The Substitution Does Not Permit Changing The Number Of Piles In Either Case. Should The Contractor, When Permitted, Elect To Make The Substitution Of Case I, The Cost Of Encasing Blocks At Ground Lines And Bracing If Required Shall Be Included In The Price Per Lin. Ft. Of Piles.

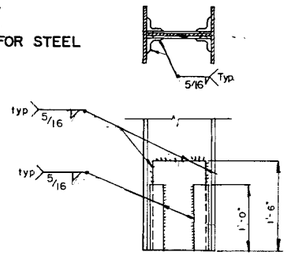
DETAIL OF PILE SPLICE



HALF BENT HALF ABUTMENT

CASE II
PRECAST CONCRETE FOR STEEL

Pile	2 Pls	4 Ls
10"	6" x 1/2"	3 1/2" x 3 1/2" x 1/2"
12"	7" x 1/2"	4" x 4" x 1/2"
14"	8" x 1/2"	5" x 5" x 1/2"



DETAIL OF PILE DRIVING POINT
NOTE Cost of driving point to be included in the unit price bid for steel piles

REV. - FEB. 6, 1962	REV. - JULY 25, 1960
REV. - MAR. 1, 1961 BATTER ON PRESTRESSED PILE	REV. - DEC. 14, 1964 SPIRAL TIES
REV. - DEC. 8, 1960	REV. - JAN. 22, 1964 COST OF WIRE FABRIC
REV. - OCT. 27, 1960	REV. - FEB. 24, 1966 TIMBER PILE SPLICE, DETAIL OF PILE DRIVING POINT
REV. - SEPT. 27, 1960 DELETE PILE SUBSTITUTIONS	REV. - NOV. 27, 1973 ADDED ALT. SECTION A-A
	REV. - NOV. 12, 1982 DETAIL OF PILE SPLICE

DESIGNED BY
DRAWN BY J.W. SOUTHERLAND DATE 5-27-60
RETRACED BY JOE B. CANTRELL JR. DATE 2-6-62
CHECKED BY DATE

STATE OF TENNESSEE
DEPARTMENT OF HIGHWAYS
NASHVILLE

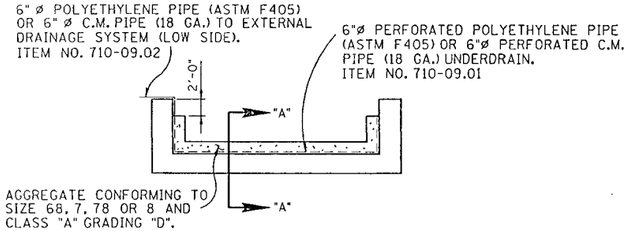
STANDARD PILE DETAILS

CORRECT Fred Green BRIDGE ENGINEER
APPROVED [illegible] STATE HIGHWAY ENGINEER

H-5-III

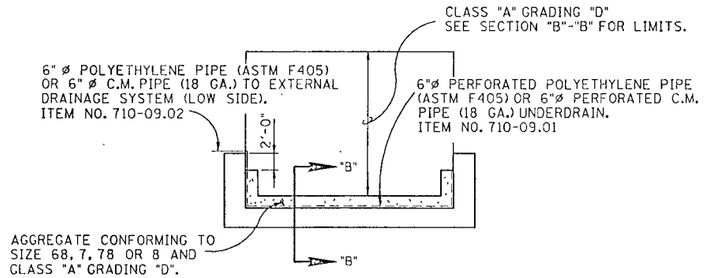
SEE Std.-5-1 & 5-2

STD 10 1.DGN



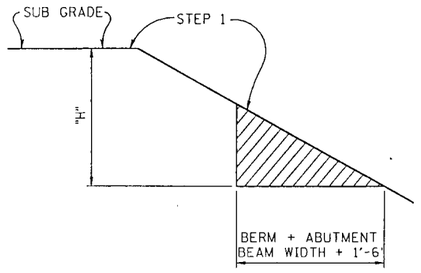
PLAN A (8)

DIMENSION "H" 10'-0" OR LESS



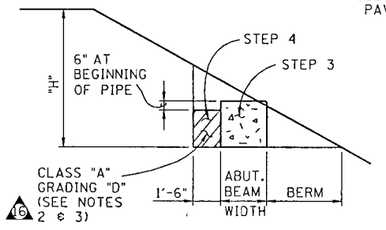
PLAN B (8)

DIMENSION "H" GREATER THAN 10'-0".



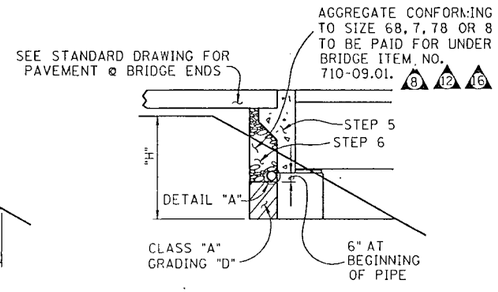
STEP 1: PLACE AND COMPACT END FILL.

STEP 2: EXCAVATE SHADED AREA AS SHOWN. SHALL BE PAID AS DRY EXCAVATION (BRIDGE) OR UNCLASSIFIED EXCAVATION (BRIDGE).



STEP 3: POUR ABUTMENT BEAM.

STEP 4: PLACE BACKFILL MATERIAL BEHIND ABUTMENT BEAM. SEE NOTE 1. (10)

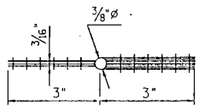


STEP 5: POUR ENDWALL.

STEP 6: PLACE BACKFILL MATERIAL BEHIND ENDWALL. SEE NOTE 1. (10)

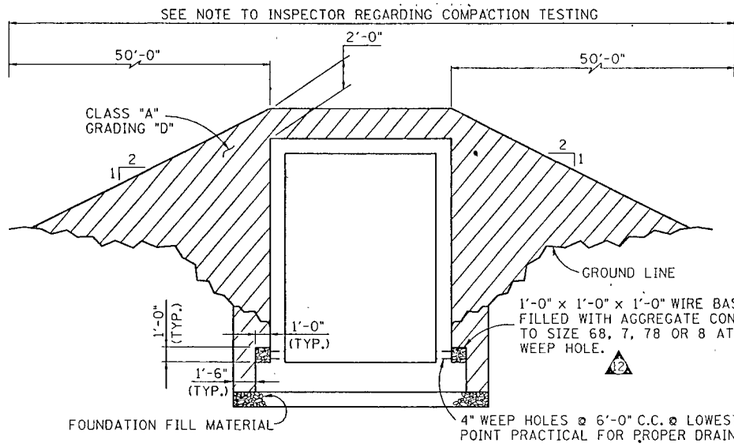
SECTION "A"-"A"

NOTE: THE CONSTRUCTION SEQUENCE SHOWN ABOVE IS APPLICABLE WHERE DIMENSION "H" IS LESS THAN OR EQUAL TO 10'-0".



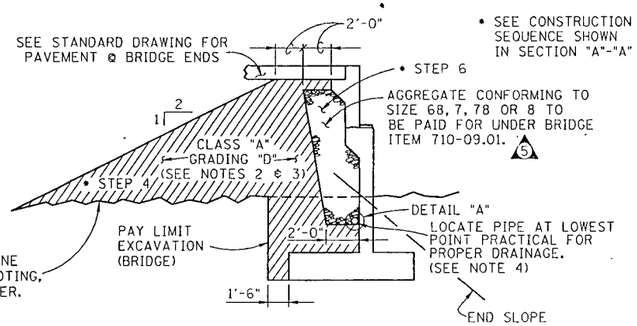
WATERSTOP DETAIL

(FOR LOCATION SEE DESIGN DRAWING)



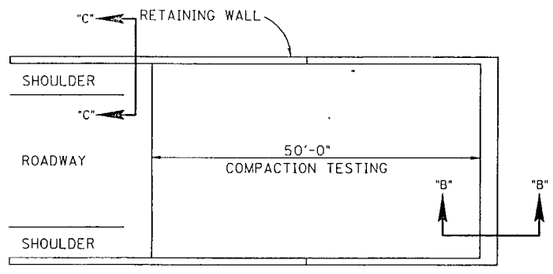
(10) (9) BOX CULVERT OR BRIDGE

NOTE: CLASS "A" GRADING "D" LIMITS ARE TYPICAL FOR BOX CULVERT OR BRIDGE AND WINGWALLS. CLASS "A" GRADING "D" MATERIALS SHALL BE PAID FOR UNDER ROADWAY ITEM NO. 303-01.01. (SEE ROADWAY PLANS.)



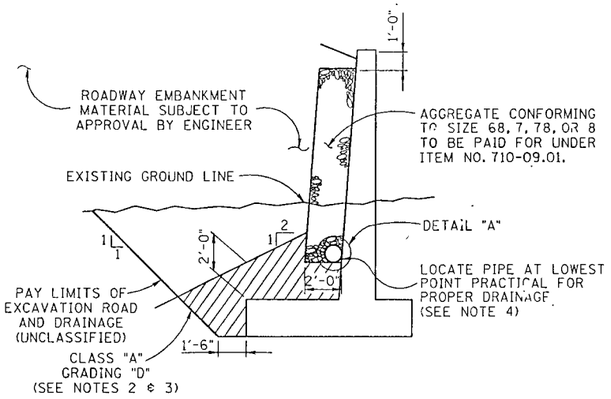
SECTION "B"-"B" (3) (9) (11) (16)

(TYPICAL FOR COUNTERFORT OR CANTILEVER CLOSED ABUTMENTS GREATER THAN 10' IN HEIGHT)

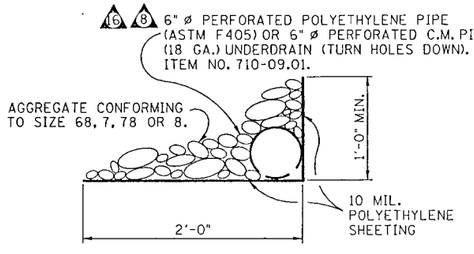


PLAN OF APPROACH ROADWAY AND ABUTMENT

(10) NOTE TO INSPECTOR: SEE MATERIALS AND TESTS SAMPLING AND TESTING SCHEDULE FOR FREQUENCY OF COMPACTION TESTING OF EMBANKMENT AND BACKFILL MATERIAL. ALSO NOTE 1.



(16) (13) (9) RETAINING WALL SECTION "C"-"C"



DETAIL "A"

PROJECT NO.	YEAR	SHEET NO.
	1971	

REVISIONS

NO.	DATE	BY	BRIEF DESCRIPTION
1	2-24-71	R.G.	
2	3-18-71	E.R.G.	ADDED NOTE NO.3
3	10-8-71	R.M.D.	EXCAVATION SECTION "B"-"B" CLARIFIED
4	10-10-72	R.M.D.	
5	11-27-72	R.M.D.	
6	9-9-72	C.L.L.	CHANGE NOTE
7	1-9-75	R.M.D.	NOTE CHANGED
8	7-17-86	R.M.D.	ADDED POLYETHYLENE PIPE
9	2-9-87	D.W.F.	GENERAL REVISIONS
10	6-25-87	R.M.D.	REV. PAY LIMIT BOX CULVERT, REMOVED INSERT & ADDED ITEM NO. FOR CLASS "A" GRADING "D"
11	1-7-91	R.M.D.	REV. ITEM NO. 710-09.02 TO 710-09.01 AND REV. ITEM NO. 303-01.01 TO 303-01.02
12	2-8-91	R.M.D.	REV. NOTE 2 TO INCLUDE RETAINING WALLS AND REV. ITEM NO. 710-09.02 TO 710-09.01
13	6-24-91	M.A.H.	ADDED SECTION SHOWING GEOCOMPOSITE DRAINAGE SYSTEM AND NOTE NO.4
14	9-1-91	M.A.H.	CHANGED DWG. NO. FROM K-85-150
15	9-18-91	M.A.H.	REMOVED WATERPROOFING
16	5-11-92	M.A.H.	DELETED ALTERNATE "B" AND NOTES

NOTES

(10) 1. BACKFILLING: UNLESS OTHERWISE SPECIFIED OR DIRECTED, THE CONTRACTOR SHALL BACKFILL BEHIND ABUTMENTS, RETAINING WALLS OF BOX TYPE BRIDGES AND CULVERTS AS SOON AS THE FOLLOWING CONDITIONS ARE MET:

A. CONCRETE SURFACES AGAINST WHICH BACKFILL WILL BE PLACED HAVE BEEN GIVEN A CLASS 1 FINISH AS SPECIFIED IN SUBSECTION 604.22.

B. REPRESENTATIVE SPECIMENS OF THE CONCRETE IN THE STRUCTURE, SECTION OR UNIT, CURED BY THE METHODS AND IN THE MANNER THAT THE CONCRETE WHICH THE TEST SPECIMENS REPRESENT IS CURED, ATTAIN A COMPRESSIVE STRENGTH OF 3,000 POUNDS PER SQUARE INCH.

C. THE CONCRETE SHALL HAVE BEEN PLACED A MINIMUM OF 7 DAYS, NOT COUNTING THE DAYS OF TWENTY-FOUR HOURS EACH IN WHICH THE TEMPERATURE FALLS BELOW FOURTY DEGREES FAHRENHEIT, OR 21 CALENDAR DAYS WHICHEVER OCCURS FIRST.

THE PLACEMENT OF BACKFILL AND EMBANKMENT SHALL BE IN ACCORDANCE WITH SUBSECTION 204.11 AND SUBSECTION 205.04, REPECTIVELY, AND AS SPECIFIED ON THE PLANS.

(10) (11) (12) 2. CLASS "A" GRADING "D" MATERIAL SHALL BE PAID FOR UNDER ITEM NO. 303-01.02, GRANULAR BACKFILL (BRIDGES) OR ITEM 303-01.03 THRU 303-01.08, GRANULAR BACKFILL (RETAINING WALLS).

(2) 3. IN LIEU OF THE CLASS "A" GRADING "D" MATERIAL SHOWN, CLASS "B" GRADING "C" OR "D" MAY BE USED.

(16) 4. LOCATE PIPE AT LOWEST POINT PRACTICAL FOR PROPER DRAINAGE WITH SLOPE PARALLEL TO ABUTMENT BEAM OR RETAINING WALL (1/8" PER FOOT MINIMUM). INSTALL PIPE AND 1'-0" OF COVER AS SOON AS POSSIBLE AFTER FORMING WALL.

1/16 MINOR REVISION - FHWA 1/16 APPROVAL NOT REQUIRED

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

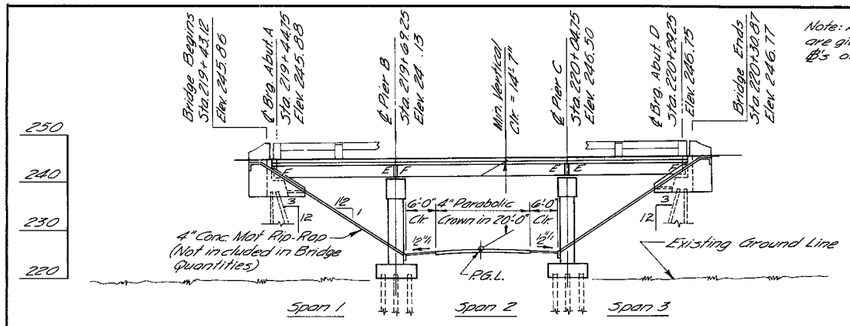
MISCELLANEOUS ABUTMENT AND DRAINAGE DETAILS 1971

DESIGNED BY R. DISHNER DATE
DRAWN BY KEITH DOUGLAS DATE 1-91
SUPERVISED BY DATE
CHECKED BY R. DISHNER DATE 1-91

CORRECT Edward P. Wasserman
ENGINEER OF STRUCTURES

(14) STD-10-1

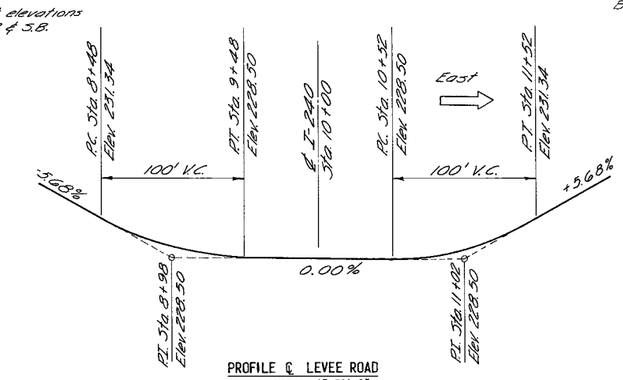
K-85-150 Replaced with Std-10-1



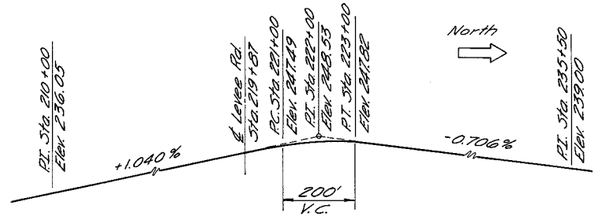
Note: All Stations & elevations are given along N.B. & S.B. ℄s of I-240.

Note: See Bridge Dwg. 2 & 3 for Pile cut-off elevations.

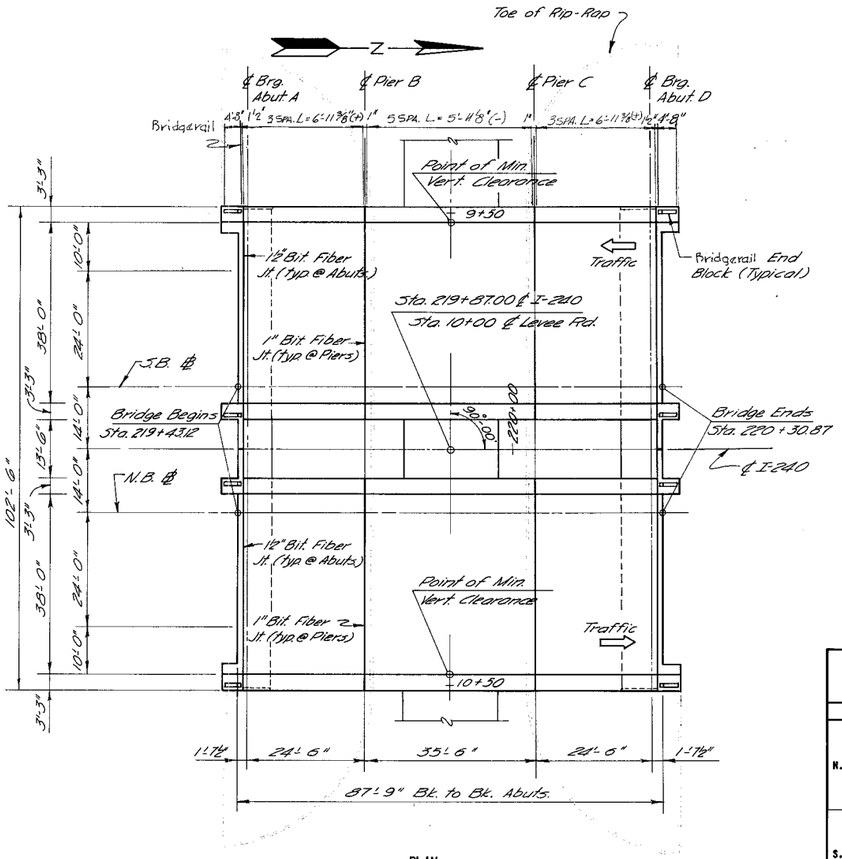
ELEVATION
SCALE: 1"=15'-0"



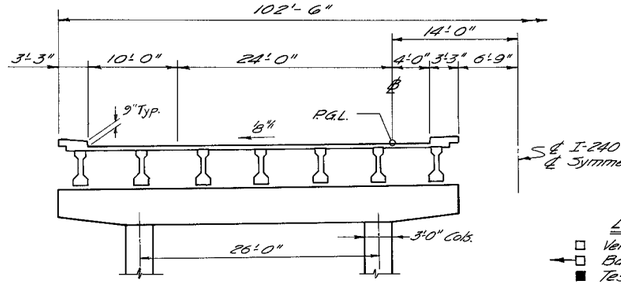
PROFILE ℄ LEVEE ROAD
SCALE: HORIZ. 1"=50'-0"
VERT. 1"=5'-0"



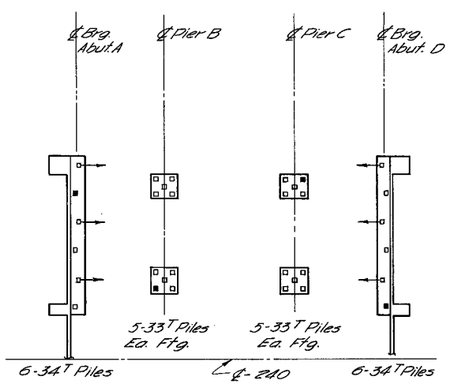
PROFILE ℄ I-240
SCALE: HORIZ. 1"=200'
VERT. 1"=10'-0"



PLAN
SCALE: 1"=15'-0"

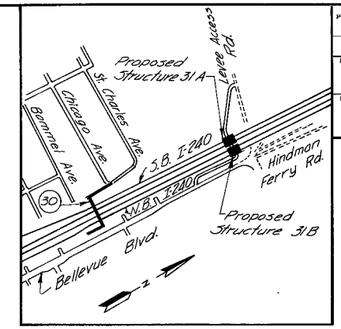


TYPICAL CROSS SECTION (SPAN 2)
SCALE: 1/8"=1'-0"



LEGEND
- Vertical Pile
- Batter Pile (3:12)
- Test Pile (40' long)

PILE LOCATION S.B. (N.B. IDENTICAL)
NO SCALE



LOCATION SKETCH

SUMMARY OF ESTIMATED QUANTITIES

ITEM			DRY EXCAVATION ①	CLASS A CONCRETE ②	STEEL BAR REINFORCEMENT	PRECAST CONCRETE PILES SIZE I	TEST PILES	PRESTRESSED CONCRETE BEAMS TYPE I ③	PRESTRESSED CONCRETE BEAMS TYPE I ③	Bridge-Rail	LIGHTING SYSTEM ⑤	Linseed oil Treatment
UNIT			CU. YDS.	CU. YDS.	LBS.	LIN. FT.	LIN. FT.	EACH	EACH	LIN. FT.	LUMP SUM	SQ. YDS.
N.B.	SUPERSTRUCTURE			104.2	25,182			12 (24'-10½")	7 (35'-7½")	170		
	SUBSTRUCTURE	ABUT. A		28.5	2284							
		PIER B	41	39.5	5500							
		PIER C	41	39.5	5500							
		ABUT. D		28.5	2284							
S.B.	SUPERSTRUCTURE			104.2	25,182			12 (24'-10½")	7 (35'-7½")	170		
	SUBSTRUCTURE	ABUT. A		28.5	2284							
		PIER B	41	39.5	5500							
		PIER C	41	39.5	5500							
		ABUT. D		28.5	2284							
TOTAL			164	480.4	81,500	1500	160	24	14	340	Lump Sum	1165

Dry Excavation is based on lower roadway profile.

① ALL EXCAVATION SHALL BE CONSIDERED DRY EXCAVATION (BRIDGES)
② ALL BRIDGE JOINT MATERIALS SHALL BE CONSIDERED INCIDENTAL TO THE UNIT PRICE BID FOR CLASS A CONCRETE.
③ ALL BEARING PADS, THREADED DIAPHRAGM DOWELS, AND ALL ITEMS CAST INTO THE BEAMS SHALL BE CONSIDERED INCIDENTAL TO THE UNIT PRICE BID FOR "FURNISH AND PLACE PRESTRESSED BEAMS TYPE I". REQUIRED FOR BEARINGS FOR THESE STRUCTURES ARE 51 SQ. FT. OF 1/2" NEOPRENE PADS.

⑤ THE CONTRACTOR SHALL FURNISH AND INSTALL CONDUITS, CONDULETS, HANGERS, PULLBOXES, AND AUXILIARY EQUIPMENT.

PUB. ROADS REG. NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
3	TENNESSEE	I-240-1(82)2	19	157	208
REVISION					
REVISION					

NOTES

1. SPECIFICATIONS: STANDARD ROAD AND BRIDGE SPECIFICATIONS OF THE TENNESSEE DEPARTMENT OF HIGHWAYS
2. CAST-IN-PLACE CONCRETE SHALL BE CLASS A. SEE SPECIFICATIONS.
3. REINFORCING STEEL: SEE SPECIFICATIONS. INTERMEDIATE OR HARD GRADE SHALL BE USED. ALL DIMENSIONS ARE TO THE CENTER OF BARS UNLESS OTHERWISE INDICATED.
   ALL BARS SHALL HAVE A MINIMUM COVER OF 3 INCHES IN FOOTINGS, 2 INCHES IN ABUTMENT WALLS, PIER CAPS, AND COLUMNS, AND 1 INCH IN SLABS, EXCEPT AS OTHERWISE INDICATED.
4. NOTES ON DETAILING REINFORCING STEEL: STANDARD ABBREVIATIONS USED THROUGHOUT.
   FF - FAR FACE; NF - NEAR FACE; EF - EACH FACE
   EXAMPLE: 8-#5Ha3@12
   8 - NUMBER OF BARS; #5 - BAR SIZE
   Ha - POSITION AND LOCATION; 12 - SPACING
5. PILES SHALL BE PRECAST OR PRESTRESSED CONCRETE AS SHOWN ON TENNESSEE STANDARD DWG. H-S-111. MINIMUM BEARING CAPACITIES SHALL BE AS SHOWN ON THIS SHEET.
6. PRESTRESSED CONCRETE PILES: SEE SPECIAL PROVISIONS.
7. TEST PILES: BEFORE ANY PILES ARE ORDERED, TEST PILES SHALL BE DRIVEN IN THE LOCATION AS SHOWN ON THIS SHEET. FROM THE RESULTS, ALL PILES SHALL BE ORDERED OF SUCH LENGTHS AS TO PROVIDE THE MINIMUM BEARING CAPACITIES SHOWN. TEST PILES SHALL BE DRIVEN IN FINAL LOCATIONS IN FOOTINGS.
8. FILL: ALL FILL SHALL BE PLACED AND COMPACTED BEFORE PILES ARE DRIVEN.
9. BRIDGE JOINT SEALER: SHALL BE CLASS A. OR B. SEE SPECIAL PROVISIONS.
10. NEOPRENE BEARING PADS: SEE SPECIAL PROVISIONS.

DESIGN STRESSES

LOADING: H20-S16-44 (MODIFIED)

CAST IN PLACE CONCRETE:	f'c = 3,000 psi
	fc = 1,200 psi
	n = 10
REINFORCING STEEL (INT. GRADE)	fs = 20,000 psi

11. Lighting: See Special Provisions.
12. Design: AASHO 1961 And Subsequent Interim Specs.
13. BRIDGERAIL: Build Bridgerail According to Std. Concrete Bridgerail dwg. no. k-38-151 With Endblock As Shown On dwg No. K-40-37 And Dimensions As Shown This Sheet.

LIST OF DRAWINGS		DWG. NO.
BRIDGE LAYOUT	K-40-70	(1)
ABUTMENTS A & D	" - 71	(2)
PIERS B & C	" - 72	(3)
SUPERSTRUCTURE: SLAB	" - 73	(4)
TYPE I PRESTRESSED BEAMS	K-40-74	(5)
STANDARD PILE DETAILS (STD. H-S-111)	SHT. 194	
Std. Concrete Bridgerail	k-38-151	
Bridgerail EndBlock	K-40-37	

2-38'-0" Roadway with 3'-3" Safety Curbs.

BRIDGE NO. 79I00400057

BRIDGE NOS. 31A & 31B

STATE OF TENNESSEE
DEPARTMENT OF HIGHWAYS AND PUBLIC WORKS
INTERSTATE HIGHWAY SYSTEM
MEMPHIS AND SHELBY COUNTY

HARLAND BARTHOLOMEW AND ASSOCIATES
AND
CLARK, DAILY AND DIETZ

N.B. & S.B. I-240 OVER LEVEE ACCESS RD.
BRIDGE LAYOUT

DATE:	DESIGNED BY	DRAWN BY:	CHECKED BY:	IN CHARGE:	SCALE
May 1963	RGB	JWN	RGB	MFT	As noted

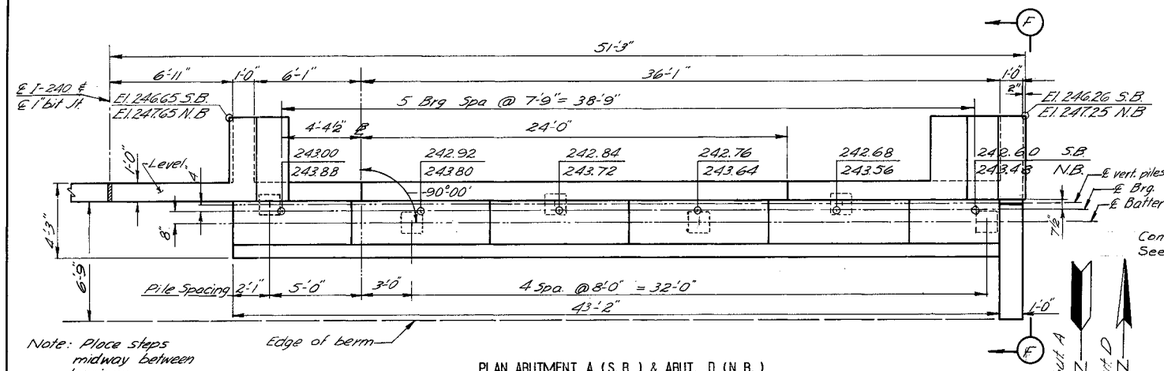
JOB NO. 4622-A

K-40-70

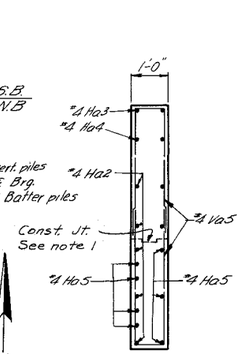
PUB. ROADS REG. NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
3	TENNESSEE	I-240-1(62)2	19	158	208
REVISION					
REVISION					

NOTES

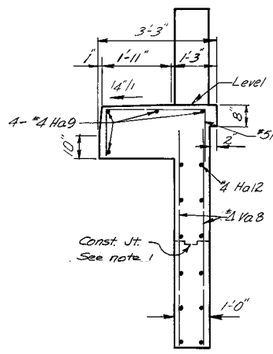
1. THE CONCRETE ABOVE THE CONSTRUCTION JOINT SHALL BE POURED AFTER THE SUPERSTRUCTURE SLAB HAS BEEN FINISHED SO THAT THE TOP OF THE ABUTMENT MAY BE FINISHED TO THE PROPER ELEVATION AND GRADE.
2. THE STEEL REINFORCEMENT FOR END BLOCKS TO BE PLACED IN THE CURB EXTENSION BEFORE CURB EXTENSION IS POURED HAS NOT BEEN SHOWN. See Dwg. No. K-40-37 FOR REINFORCEMENT.



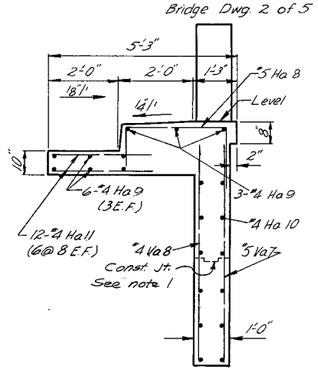
PLAN ABUTMENT A (S.B.) & ABUT. D (N.B.)
SCALE: 1/4"=1'-0"



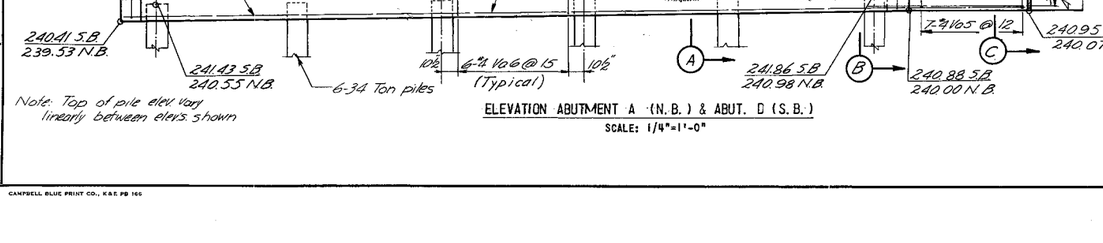
SECTION C-C
SCALE: 1/2"=1'-0"



SECTION E-E
SCALE: 1/2"=1'-0"

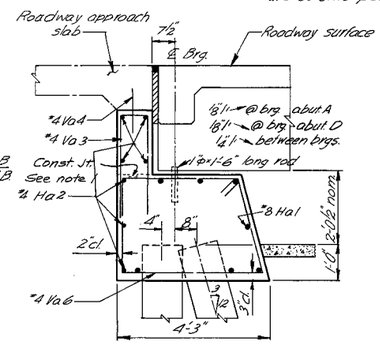


SECTION D-D
SCALE: 1/2"=1'-0"

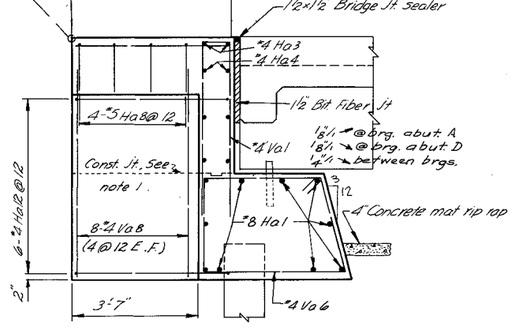


Note: Top of pile elevations vary linearly between elevations shown.

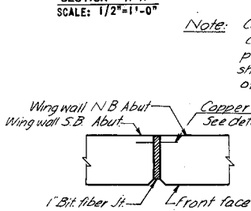
ELEVATION ABUTMENT A (S.B.) & ABUT. D (N.B.)
SCALE: 1/4"=1'-0"



SECTION 'A-A'
SCALE: 1/2"=1'-0"

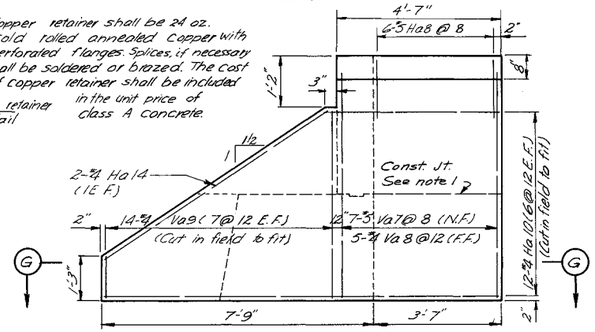


SECTION 'B-B'
SCALE: 1/2"=1'-0"

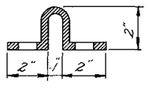


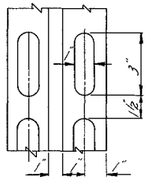
JOINT DETAIL
NO SCALE

Note: Copper retainer shall be 24 oz. cold rolled annealed copper with perforated flanges. Splices, if necessary shall be soldered or brazed. The cost of copper retainer shall be included in the unit price of class A concrete.

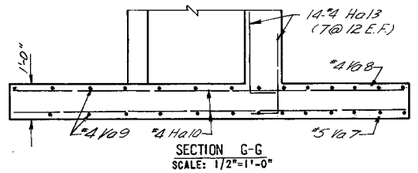


SECTION 'F-F'
SCALE: 1/2"=1'-0"

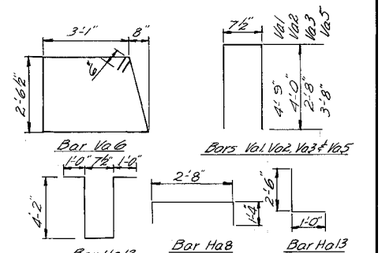




COPPER RETAINER
NO SCALE



SECTION G-G
SCALE: 1/2"=1'-0"



BAR BENDING DIAGRAMS

BILL OF STEEL (ONE ABUT.)

BAR	SIZE	NO.	LENGTH	SHAPE	LOCATION
Ha1	#8	7	43'-10"	——	Seat
Ha2	#4	7	50'-9"	——	Parapet
Ha3	#4	2	9'-8"	——	Parapet
Ha4	#4	2	13'-8"	——	Parapet
Ha5	#4	7	8'-6"	——	W. Wall
Ha6	#4	2	2'-10"	——	Parapet
Ha7	#4	2	12'-9"	——	Parapet
Ha8	#5	10	5'-4"	⊓	Slab (E. blk.)
Ha9	#4	13	4'-3"	——	Slab (E. blk.)
Ha10	#4	12	11'-0"	——	W. Wall
Ha11	#4	12	3'-3"	——	Slab (E. blk.)
Ha12	#4	6	11'-0"	⊔	E. blk. base
Ha13	#4	14	3'-6"	⊔	W. Wall
Ha14	#4	2	7'-4"	——	W. Wall
Va1	#4	7	10'-2"	⊓	Parapet
Va2	#4	14	8'-8"	⊓	Parapet
Va3	#4	24	6'-0"	⊓	Parapet
Va4	#4	24	2'-0"	|	Parapet
Va5	#4	14	8'-0"	⊓	W. Wall
Va6	#4	32	13'-0"	⊿	Seat
Va7	#5	7	6'-4"	|	W. Wall
Va8	#4	13	5'-6"	|	W. Wall
Va9	#4	14	5'-2"	|	W. Wall

* ESTIMATED QUANTITIES (ONE ABUT.)

ITEM	UNIT	QUANTITY N.B.	QUANTITY S.B.
CLASS A CONCRETE	CU. YDS.	28.5	28.5
STEEL BAR REINFORCEMENT	LBS.	2284	2284

*Includes Bridgerail EndBlock Quantities

BRIDGE NOS. 31A & 31B

STATE OF TENNESSEE
DEPARTMENT OF HIGHWAYS AND PUBLIC WORKS
INTERSTATE HIGHWAY SYSTEM
MEMPHIS AND SHELBY COUNTY

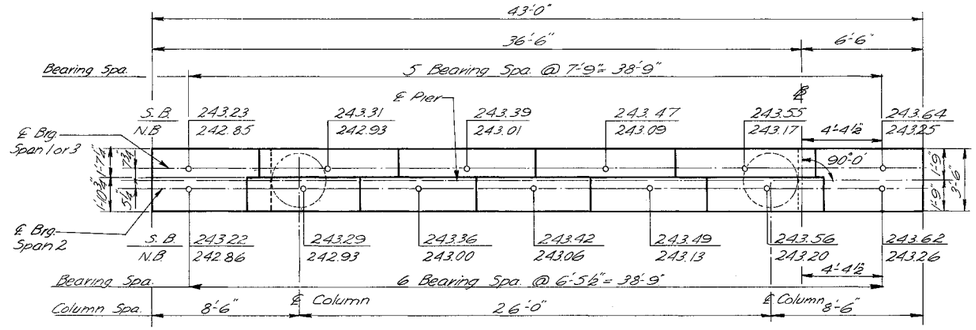
HARLAND BARTHOLOMEW AND ASSOCIATES AND CLARK, DAILY AND DIETZ

N.B. & S.B. I-240 OVER LEVEE ACCESS RD.
ABUTMENTS A & D

DATE:	DESIGNED BY	DRAWN BY:	CHECKED BY:	IN CHARGE:	SCALE
May 1963	R.G.B	M.K.J.	R.G.B	M.F.T	As noted

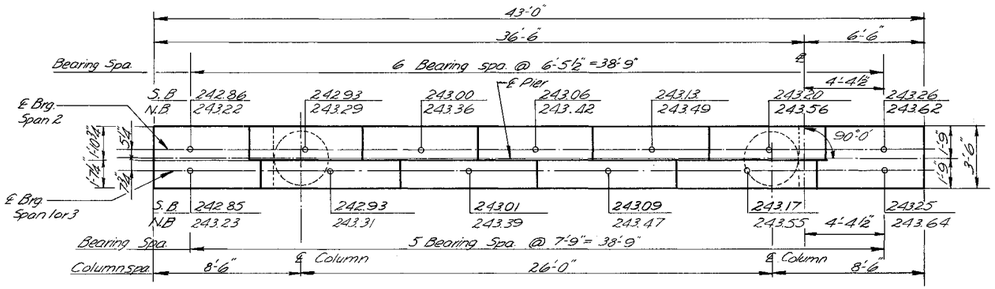
K-40-71

PUB. ROADS REG. NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
3	TENNESSEE	I-240-1(62)2	19	159	208
REVISION					
REVISION					

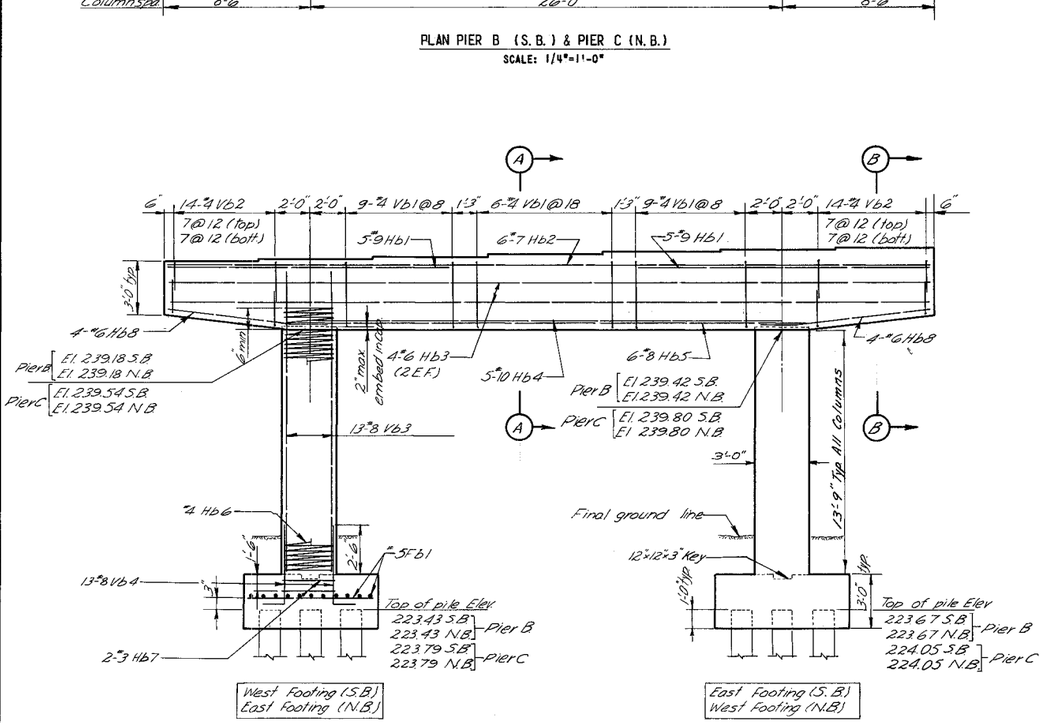


PLAN PIER C (S.B.) & PIER B (N.B.)
SCALE: 1/4"=1'-0"

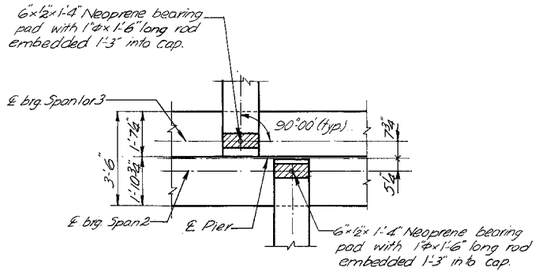
Note: Steps to be placed midway between bearings.



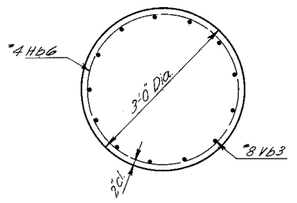
PLAN PIER B (S.B.) & PIER C (N.B.)
SCALE: 1/4"=1'-0"



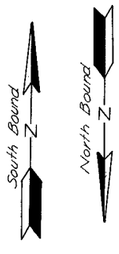
ELEVATION PIERS B OR C
SCALE: 1/4"=1'-0"



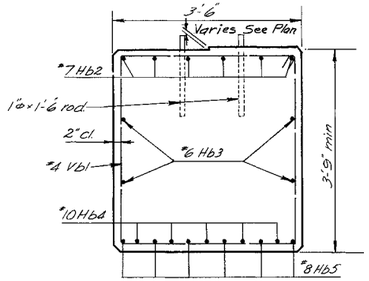
TYPICAL BEARING DETAIL
SCALE: 3/8"=1'-0"



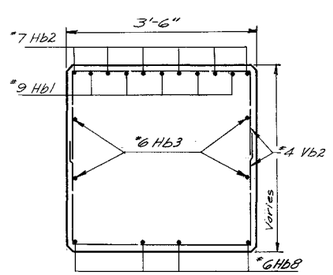
TYPICAL COLUMN SECTION
SCALE: 3/4"=1'-0"



PIER CAP SLOPES



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



Note: Horizontal bars in pier cap shall be equally spaced.

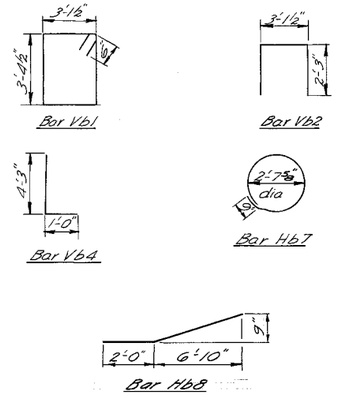
SECTION B-B
SCALE: 3/4"=1'-0"

NOTES

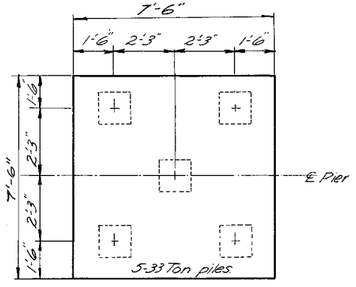
1. SPIRAL REINFORCEMENT: IN LIEU OF #4 BAR SPIRALS AS SHOWN, THE CONTRACTOR MAY SUBSTITUTE COLD DRAWN STEEL WIRE, ASTM A-82-61T, WITH NO ADJUSTMENT IN QUANTITIES OR UNIT PRICE FOR STEEL BAR REINFORCEMENT. THE WIRE SHALL BE A.S. & W. GAGE 0000 AT 2 1/2" PITCH. ALL SPIRALS SHALL HAVE 1 1/2 EXTRA TURNS AT EACH END. SPLICES SHALL BE MADE EITHER BY WELDING OR LAPPING 1 1/2 TURNS.

BILL OF STEEL (ONE PIER)

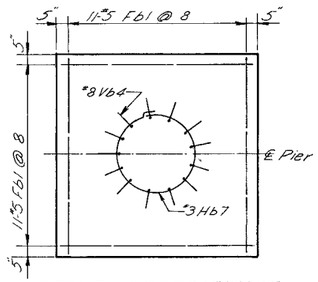
BAR	SIZE	NO.	LENGTH	SHAPE	LOCATION
Hb1	#9	10	16'-0"	—	Cap
Hb2	#7	6	42'-8"	—	Cap
Hb3	#6	4	42'-8"	—	Cap
Hb4	#10	5	26'-0"	—	Cap
Hb5	#8	6	29'-0"	—	Cap
Hb6	#4	2	545-3"	Spiral	Column
Hb7	#3	4	9'-0"	○	Ftg.
Hb8	#6	8	9'-0"	⌒	Cap
Vb1	#4	24	14'-0"	⊏	Cap
Vb2	#4	28	7'-8"	⊓	Cap
Vb3	#8	26	16'-9"	I	Column
Vb4	#8	26	5'-3"	L	Ftg.
Fb1	#5	44	7'-0"	—	Ftg.



BAR BENDING DIAGRAMS



FOOTING PLAN SHOWING DIMENSIONS
SCALE: 3/8"=1'-0"



FOOTING PLAN SHOWING REINFORCEMENT
SCALE: 3/8"=1'-0"

ESTIMATED QUANTITIES (ONE PIER)

ITEM	UNIT	QUANTITY N.B.	QUANTITY S.B.
CLASS A CONCRETE	CU. YDS.	39.5	39.5
STEEL BAR REINFORCEMENT	LBS.	5500	5500

BRIDGE NOS. 31A & 31B

STATE OF TENNESSEE
DEPARTMENT OF HIGHWAYS AND PUBLIC WORKS
INTERSTATE HIGHWAY SYSTEM
MEMPHIS AND SHELBY COUNTY

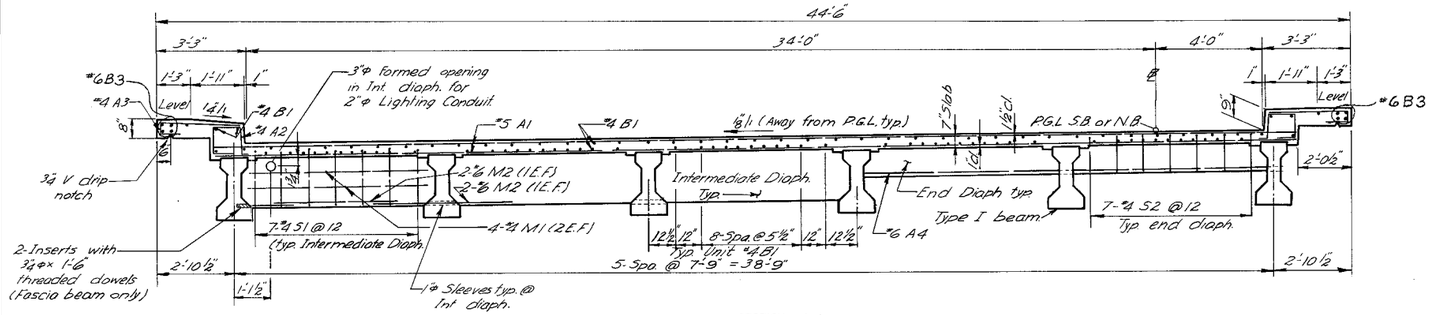
HARLAND BARTHOLOMEW AND ASSOCIATES AND CLARK, DAILY AND DIETZ

N.B. & S.B. I-240 OVER LEVEE ACCESS RD.
PIERS B & C

DATE:	DESIGNED BY	DRAWN BY:	CHECKED BY:	IN CHARGE:	SCALE
May 1963	R.G.B.	M.K.J.	R.G.B.	M.F.T.	As Noted

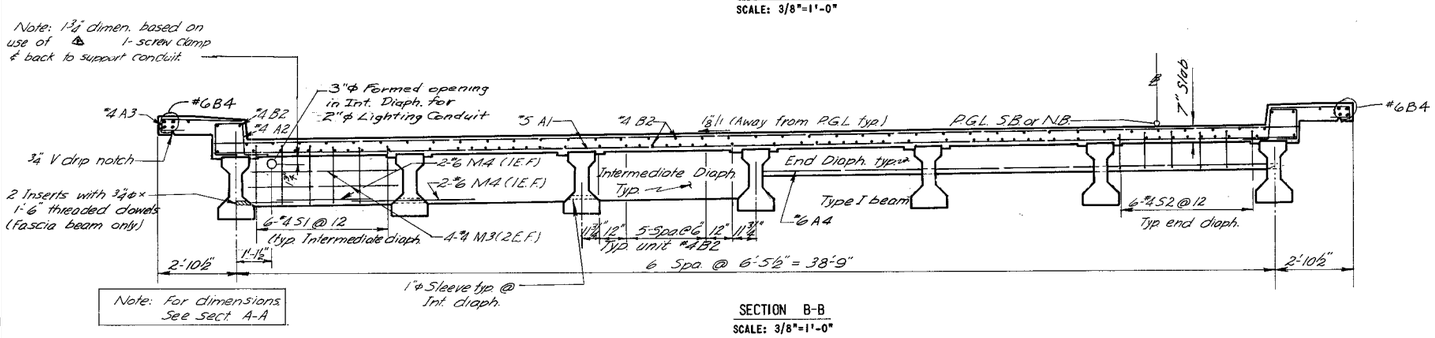
JOB NO. 462-CA

K-40-72



SECTION A-A

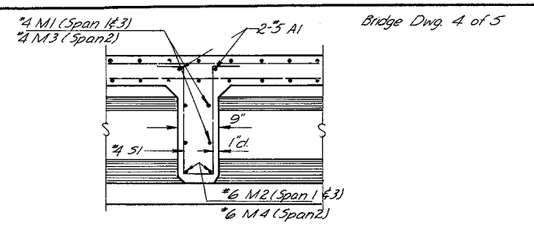
SCALE: 3/8"=1'-0"



Note: For dimensions See Sect. A-A

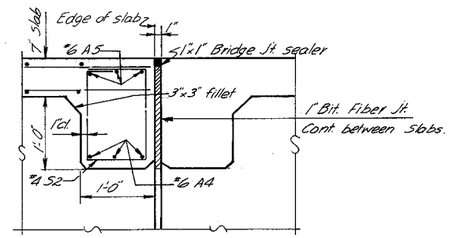
SECTION B-B

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



TYPICAL INTERMEDIATE DIAPHRAGM

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



TYPICAL END DIAPHRAGM @ PIERS

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

NOTES

1. When pouring curb provisions shall be made for setting reinforcing for bridgerail. Ports. For details see Std. Dwg. K-38-151 and Dwg. No. K-40-70
2. Lighting. See Special Provisions.

FILLET NOTES

1. AFTER THE BEAMS ARE IN PLACE, THE CONTRACTOR SHALL FIELD MEASURE ELEVATIONS AT THE ENDS AND CENTER POINTS OF EACH BEAM.
2. THE FIELD ELEVATIONS SUBTRACTED FROM THE FINISHED ROADWAY ELEVATION, PLUS THE DEAD LOAD DEFLECTION OF THE SLAB & DIAPHRAGMS MINUS THE SLAB THICKNESS WILL EQUAL THE REQUIRED FILLET THICKNESS ABOVE THE BEAM.

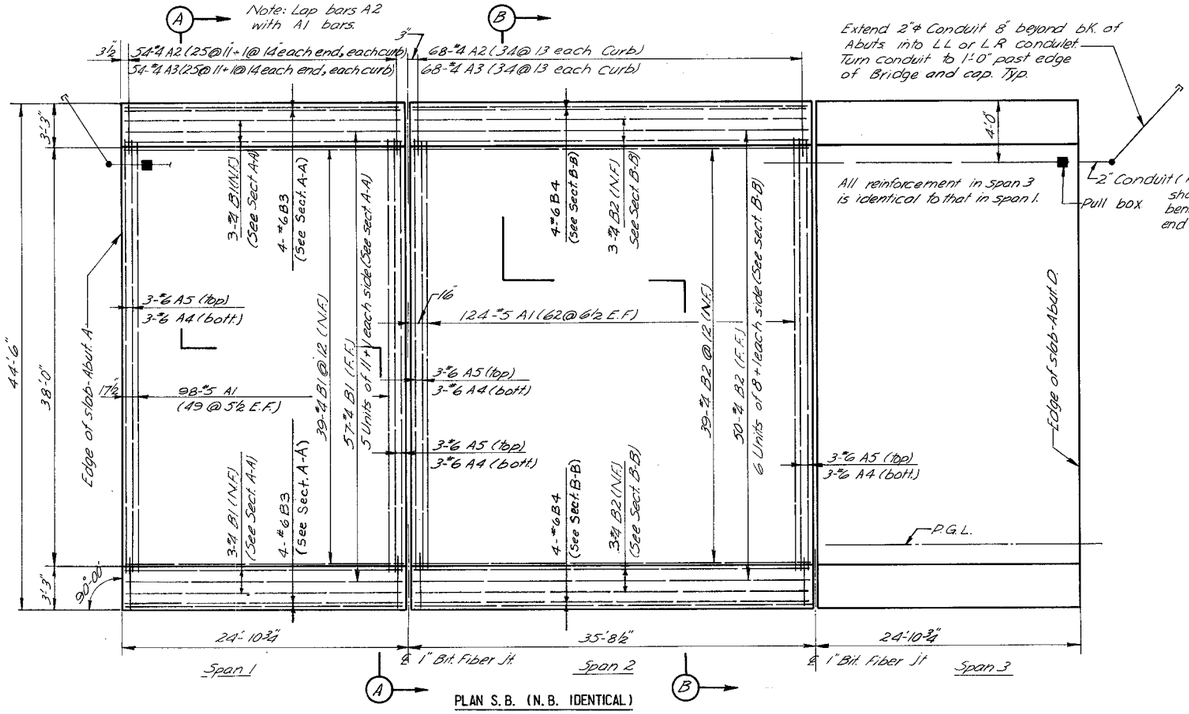
BILL OF STEEL (ONE BRIDGE)

BAR	SIZE	NO.	LENGTH	SHAPE	LOCATION
*A1	#5	320	40'-2"	——	Slab
A2	#4	176	4'-7"	⌐¬	Curb
A3	#4	176	3'-11"	—⊃	Curb
A4	#6	18	39'-6"	——	end diaph
A5	#6	18	40'-2"	——	end diaph
B1	#4	206	24'-7"	——	Slab
B2	#4	95	35'-5"	——	Slab
B3	#6	8	24'-7"	——	Curb
B4	#6	8	35'-5"	——	Curb
M1	#4	40	6'-9"	——	Int. diaph.
M2	#6	36	5'-3"	——	Int. diaph.
M3	#4	24	5'-6"	——	Int. diaph.
M4	#6	22	4'-7"	——	Int. diaph.
S1	#4	106	5'-9"	⊓	Int. diaph.
S2	#4	212	4'-7"	□	End diaph.

* Includes 6 bars over Intermediate diaphragms.

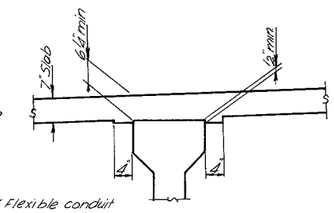
BILL OF MATERIAL

ITEM	UNIT	QUANTITY N.B.	QUANTITY S.B.
2" ϕ CONDUIT	LIN. FT.	95'	95'
FLEXIBLE CONDUIT	LIN. FT.	14	14
PULLBOX	EACH	2	2



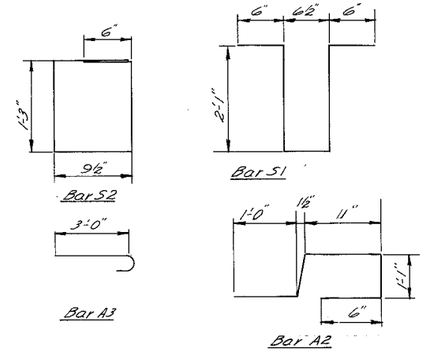
PLAN S.B. (N.B. IDENTICAL)

NO SCALE

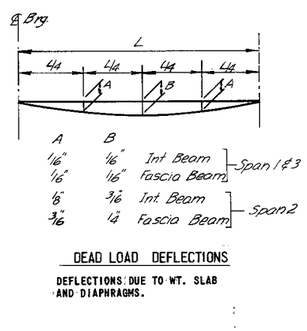


TYPICAL FILLET DETAIL

NO SCALE

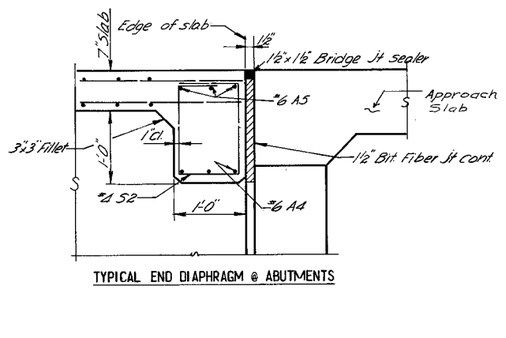


BAR BENDING DIAGRAMS



DEAD LOAD DEFLECTIONS

DEFLECTIONS DUE TO WT. SLAB AND DIAPHRAGMS.



TYPICAL END DIAPHRAGM @ ABUTMENTS

ESTIMATED QUANTITIES (ONE BRIDGE)

ITEM	UNIT	QUANTITY SPAN 1	QUANTITY SPAN 2	QUANTITY SPAN 3
CLASS A CONCRETE	CU. YDS.	31.0	42.2	31.0
STEEL BAR REIN.	LBS.	7767	9648	7767

BRIDGE NOS. 31A & 31B

STATE OF TENNESSEE
DEPARTMENT OF HIGHWAYS AND PUBLIC WORKS
INTERSTATE HIGHWAY SYSTEM
MEMPHIS AND SHELBY COUNTY

HARLAND BARTHOLOMEW AND ASSOCIATES AND CLARK, DAILY AND DIETZ

N.B. & S.B. I-240 OVER LEVEE ACCESS RD.
SUPERSTRUCTURE SLAB

DATE:	DESIGNED BY:	DRAWN BY:	CHECKED BY:	IN CHARGE:	SCALE
May 1963	R.G.B.	M.K.J.	R.G.B.	M.F.T.	As noted

PUB. ROADS REG. NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
3	TENNESSEE	I-240-1(62)2	19	160	208

REVISION △ 9-28-66

REVISION

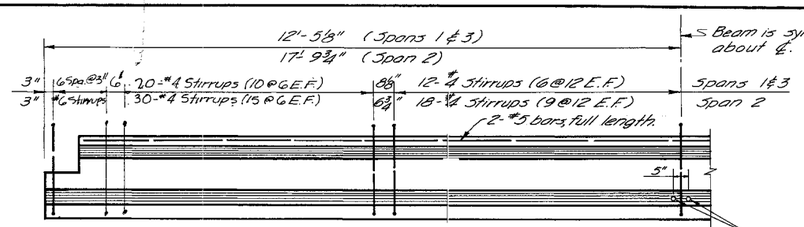
Bridge Dwg. 4 of 5

Bridge Dwg. 4 of 5

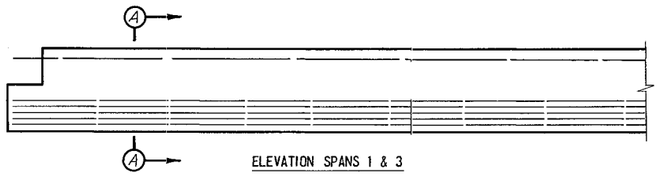
JOB NO. 462 CA

K-40-73

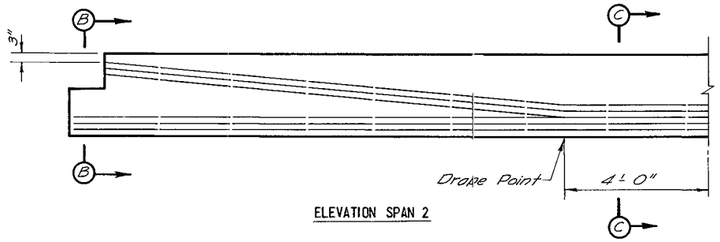
PUB. ROADS REG. NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
3	TENNESSEE	I-240-1(62)2	19	161	208
REVISION					
REVISION					



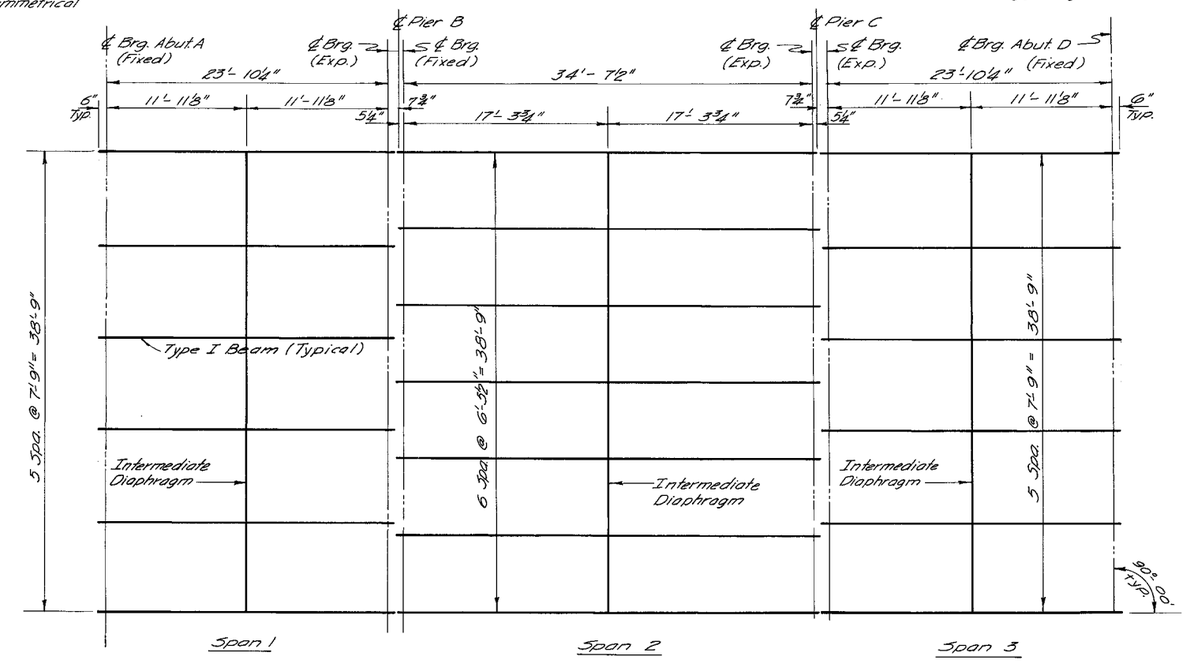
ELEVATION SPANS 1: 2 & 3

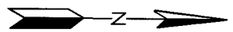


ELEVATION SPANS 1 & 3

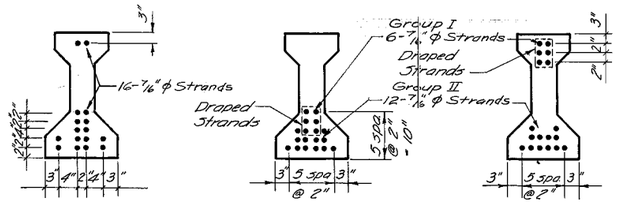


ELEVATION SPAN 2





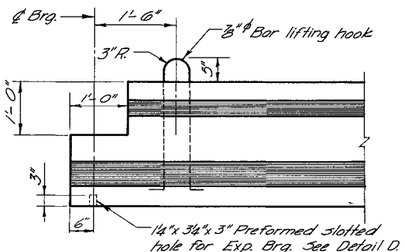
FRAMING PLAN N.B. OR S.B.
NO SCALE



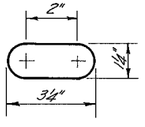
SECTION A-A
SCALE: 3/4"=1'-0"

SECTION C-C
SCALE: 3/4"=1'-0"

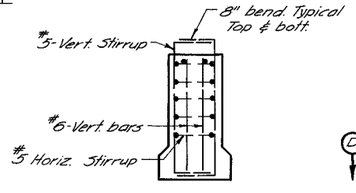
SECTION B-B
SCALE: 3/4"=1'-0"



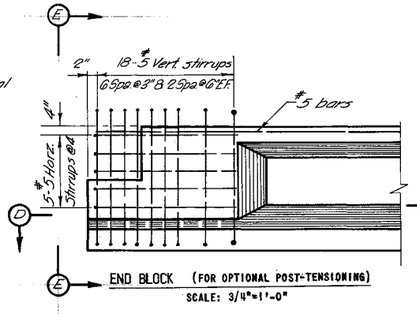
ELEVATION (END OF BEAM)
SCALE: 3/4"=1'-0"



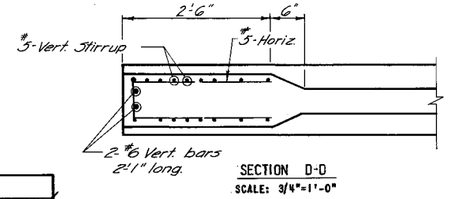
DETAIL D



SECTION E-E
SCALE: 3/4"=1'-0"

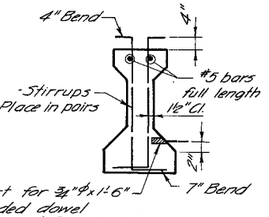


END BLOCK (FOR OPTIONAL POST-TENSIONING)
SCALE: 3/4"=1'-0"

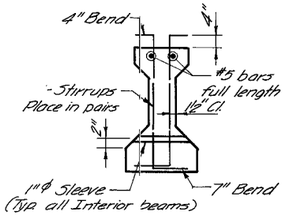


SECTION D-D
SCALE: 3/4"=1'-0"

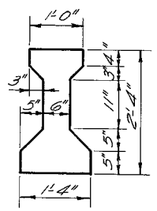
	Span 1 or 3	Span 2
Total Initial Prestress force	302ᵏ	340ᵏ
Final Prestress force	236ᵏ	266ᵏ



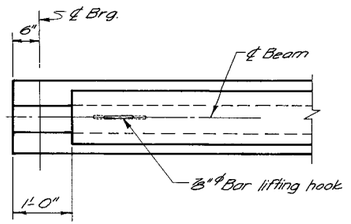
WEB REINFORCEMENT FASCIA BEAM
SCALE: 3/4"=1'-0"



WEB REINFORCEMENT INTERIOR BEAM
SCALE: 3/4"=1'-0"



TYPE I AASHO BEAM
SCALE: 3/4"=1'-0"



PLAN (END OF BEAM)
SCALE: 3/4"=1'-0"

TABLE OF MOMENTS & SHEARS

LOADING	SPANS 1 OR 3		SPAN 2	
	MOMENT (FT. KIPS)	SHEAR @ BRG. (KIPS)	MOMENT (FT. KIPS)	SHEAR @ BRG. (KIPS)
D.L. BEAM	21	3.5	43	5.0
D.L. SLAB & DIAPHRAGMS	58	8.9	97	10.5
D.L. HANDRAIL & FUTURE WEARING SURFACE	14	2.3	25	2.9
LIVE LOAD + IMPACT	220	32.9	277	36.5

NOTES

1. ALL PRESTRESSING STRANDS ARE TO BE 7/16" ϕ 7-WIRE UNCOATED, STRESS RELIEVED, PRESTRESSED CONCRETE STRANDS. HOWEVER, THE CONTRACTOR MAY SUBSTITUTE 1/2" ϕ STRANDS PROVIDED THE ECCENTRICITY AND TOTAL INITIAL FORCE REMAIN THE SAME.
2. AN INITIAL FORCE OF 18,900 LBS. SHALL BE APPLIED TO EACH 7/16" ϕ STRAND IN ALL BEAMS.
3. TOP OF BEAM SHALL BE ROUGHLY FLOATED. AT APPROXIMATELY THE TIME OF INITIAL SET THE TOP OF THE BEAM SHALL BE SCRUBBED TRANSVERSELY WITH A COARSE BRUSH TO REMOVE ALL LAITANCE AND TO PRODUCE A ROUGH FINISH.
4. ALL BEARING PADS, THREADED DIAPHRAGM DOWELS, AND ALL ITEMS CAST INTO THE BEAMS SHALL BE CONSIDERED INCIDENTAL TO THE UNIT PRICE BID FOR FURNISH AND PLACE PRESTRESSED BEAMS, TYPE I.
5. ALL BEAMS ARE AASHO - PCI STANDARD TYPE I.
6. IF THE CONTRACTOR PREFERS TO POST TENSION OR USE A COMBINATION BEAM, THE END BLOCK (FOR OPTIONAL POST-TENSIONING) SHALL BE USED AT ENDS OF BEAMS.

ESTIMATED QUANTITIES (ONE BRIDGE)

ITEM	UNIT	QUANTITY
TYPE I PRESTRESSED BEAMS LENGTH 24'-10 1/4"	EACH	12
TYPE I PRESTRESSED BEAMS LENGTH 35'-7 1/2"	EACH	7

ESTIMATED QUANTITIES (PER BEAM)

ITEM	UNIT	QUANTITY		
		SPAN 1	SPAN 2	SPAN 3
CLASS A CONCRETE	CU. YDS.	1.7	2.5	1.7
STEEL BAR REINFORCEMENT	LBS.	347	437	347
PREST. STEEL (7/16" DIA.)	LIN. FT.	398	641	398

BRIDGE NOS. 31A & 31B

STATE OF TENNESSEE
DEPARTMENT OF HIGHWAYS AND PUBLIC WORKS
INTERSTATE HIGHWAY SYSTEM
MEMPHIS AND SHELBY COUNTY

HARLAND BARTHOLOMEW AND ASSOCIATES
AND
CLARK, DAILY AND DIETZ

N. B. & S. B. I-240 OVER LEVEE ACCESS RD.
TYPE I PRESTRESSED BEAMS

DATE:	DESIGNED BY	DRAWN BY:	CHECKED BY:	IN CHARGE:	SCALE
May 1963	R.G.B.	J.W.N.	R.G.B.	M.F.T.	As Noted

JOB NO. 4622-A

K-40-74