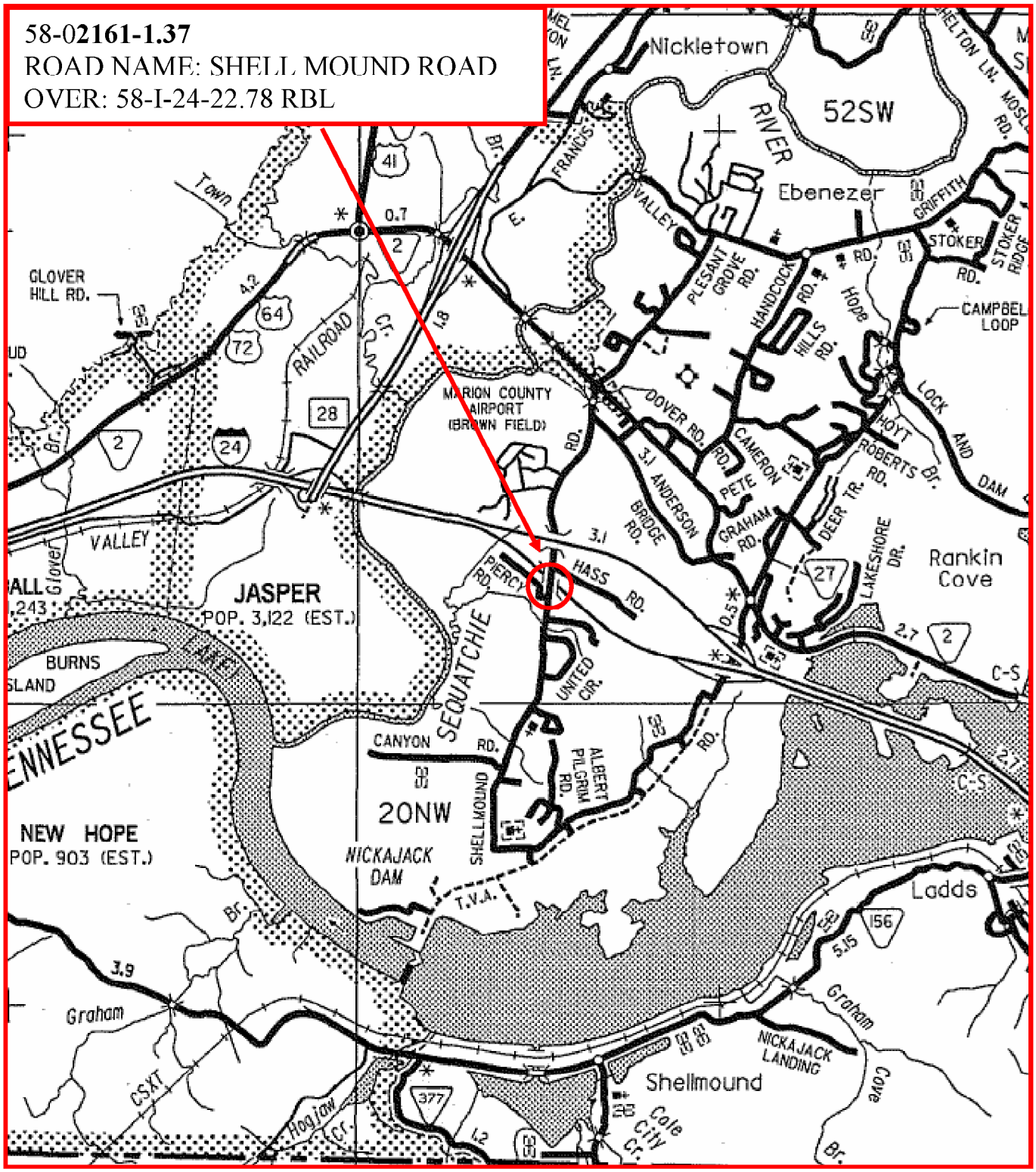
MARION COUNY



STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

STRUCTURES DIVISION
BRIDGE INSPECTION AND REPAIR OFFICE
SUITE 1200, JAMES K. POLK BUILDING
505 DEADERICK STREET
NASHVILLE, TN 37243-1403
(615) 741-0776

CLAY BRIGHT
COMMISIONER

BILL LEE
GOVERNOR

November 22, 2021

To: Steve Hutchings
Tennessee Department Of Transportation
Regional Bridge Engineer

Subject: New Weight Limit Posting Requirement
Bridge Federal ID No. 58I00240039
Bridge Location No. 58 - 02161 - 1.36
Shellmound Rd. over Shellmound Rd. / I-24 Eb
Marion County

We have completed the most recent evaluation of the subject bridge and have determined that the bridge is now required to be posted for a gross weight limit of 40 tons for all vehicles.

The new weight limit posting signs shall be installed by December 6, 2021. Compliance with the weight limit posting requirements can be confirmed by taking photographs of all the bridge weight posting signs and emailing these photographs to TDOT.BridgeEval@tn.gov. Each photograph must show the face of the sign clearly so that the weight limit values can be confirmed.

Posting signs shall meet the minimum requirements of the MUTCD (Manual of Uniform Traffic Control Devices). See the attached “Tennessee Standard Weight Posting Signs” for additional details.

If structural repairs are completed, the TDOT Regional Bridge Engineer should be notified so a follow-up inspection can be completed. Please email any construction plans or as-built drawings to TDOT.BridgeEval@tn.gov so that we can better evaluate the work performed.

Should you have any questions, please advise.

Sincerely,

Ted A Kniazewycz

Ted Kniazewycz, PE
Director of Structures

Luke Dalton

From: Nail Alammori
Sent: Wednesday, December 15, 2021 4:11 PM
To: Luke Dalton
Cc: TDOT BridgeEval
Subject: FW: Bridge postings past due
Attachments: 58I00240039_Weight Posting.pdf

From: Elizabeth Roadinger <Elizabeth.Roadinger@tn.gov>
Sent: Wednesday, December 15, 2021 4:06 PM
To: Steve Hutchings <Steve.Hutchings@tn.gov>; Nail Alammori <Nail.Alammori@tn.gov>
Cc: Joshua Gentry <Joshua.Gentry@tn.gov>
Subject: RE: Bridge postings past due

Bridge 58I00240039 is correctly posted at both approaches. Attached are photos for reference.

Thanks,

Elizabeth Roadinger, E.I. | Graduate Trans Associate
Region 2 Bridge Inspection - Tullahoma
1210 E. Carroll St. Tullahoma, TN 37388
p. 423-634-6677 c. 931-409-2552
Elizabeth. Roadinger@tn.gov

From: Steve Hutchings <Steve.Hutchings@tn.gov>
Sent: Tuesday, December 14, 2021 11:20 AM
To: Joshua Gentry <Joshua.Gentry@tn.gov>; Mason Hensley <Mason.Hensley@tn.gov>; Elizabeth Roadinger <Elizabeth.Roadinger@tn.gov>; Seth Davis <Seth.Davis@tn.gov>
Subject: Fwd: Bridge postings past due

Can we get pictures of these postings as soon as possible?
Thanks,
Steve

Sent from my iPhone

Begin forwarded message:

> **From:** Steve Hutchings <Steve.Hutchings@tn.gov>
> **Date:** December 14, 2021 at 12:18:30 PM EST
> **To:** Wade Goss <Wade.Goss@tn.gov>
> **Subject: Fwd: Bridge postings past due**
>
> Wade,
> Have these bridges been posted?
> Thanks,

Steve

Sent from my iPhone

Begin forwarded message:

> **From:** Nail Alammori <Nail.Alammori@tn.gov>
> **Date:** December 14, 2021 at 11:43:36 AM EST
> **To:** Steve Hutchings <Steve.Hutchings@tn.gov>
> **Cc:** Rebecca Hayworth <Rebecca.Hayworth@tn.gov>, TDOT BridgeEval <TDOT.BridgeEval@tn.gov>
> **Subject: Bridge postings past due**
>
> Steve,
>
> I just want to bring to your attention that the following bridges are past due for posting:
> 89SR0300001
> 58I00240039
> 06SR0740005
>
> Please see attached letters for more details.
>
> Thank you,
>
> **Na'il Alammori** | Transp. Project Spec. Sr.
> Structures Division **-** Bridge Inspection
> James K. Polk Bldg. 12th Floor
> 505 Deaderick St., Nashville, TN 37243
> p. (615) 741- 7315
> Nail.Alammori@tn.gov
> tn.gov/tdot

Inspection Photographs

Bridge Federal ID No. 58I00240039 *December 15, 2021*

POSTING WARNING AT APPROACH #1

WEIGHT POSTING AT APPROACH #1

Inspection Photographs

Bridge Federal ID No. 58I00240039 *December 15, 2021*

POSTING WARNING AT APPROACH #2

WEIGHT POSTING AT APPROACH #2

BRIDGE MAINTENANCE RECOMMENDATIONS

Tennessee Department of Transportation

COUNTY: MARION
LOCATION: 58-02161-01.37-
CO. SEQ.: 1 **SPEC. CASE: 0**

CROSSING: I24 EBL
FED. BRIDGE NO.: 58I00240039
MAINT. DIST.: 22

REPAIR LIST NO.: N
DATE ADDED: 09/16/2002
REVISED: 09/16/2002

FACILITY CARRIED:	NFA 2161 (SA 5802)	NUMBER OF MAIN SPANS:	3
HIGHWAY SYSTEM:	11-OTHER COUNTY ROADS	NUMBER OF APPROACH SPANS:	0
BRIDGE WIDTH (CURB TO CURB):	27 FT 10 IN	BRIDGE LENGTH (FT):	140
BRIDGE WIDTH (OUT TO OUT):	34 FT 5 IN	MAXIMUM SPAN LENGTH (FT):	61
APPROACH ROADWAY (W/SHOULDERS):	27 FT 10 IN	SKEW ANGLE (DEGREES):	58

MAINTAINED BY:	STATE HIGHWAY AGENCY
MAIN SPAN MATERIAL:	CONCRETE CONTINUOUS
MAIN SPAN DESIGN TYPE:	TEE BEAM
APPROACH SPAN MATERIAL:	OTHER OR NOT APPLICABLE
APPROACH SPAN DESIGN TYPE:	OTHER OR NOT APPLICABLE

INSPECTION DATE:	09/16/2002	GENERAL CONDITION:	GOOD
EVALUATION DATE:	03/26/2001	STRUCTURALLY DEFICIENT:	NO
PROPOSED REPLACEMENT:			
H TRUCK RATING @ INV.:	20 TONS	SUFFICIENCY RATING:	84.9

No.	RECOMMENDATIONS	REPAIR DATE	REPAIRED BY
1.	CLEAN DECK		
2.	SEAL CRACK(S) IN DECK WEARING SURFACE NO. ALL		
3.	REPAIR ROADWAY EXPANSION DEVICE AT ABUTMENT NO. 1 & 2		
4.	LEVEL THE WEARING SURFACE AT BOTH APPROACHES.		
5.	REPAIR COLLISION DAMAGE TO GUARDRAIL		
6.	BRIDGERAILS ARE SUBSTANDARD		
7.	APPROACH GUARDRAILS ARE SUBSTANDARD		
8.	INSTALL PADDLEBOARD SIGNS AT APPROPRIATE LOCATIONS		
9.	REPLACE DAMAGED PADDLEBOARD		
10.	REPLACE MISSING PADDLEBOARD SIGN(S)		

COMMENTS:

Page 1 of 1

BRIDGE MAINTENANCE RECOMMENDATIONS

Tennessee Department of Transportation

COUNTY: MARION
LOCATION: 58-I0024-22.78-
CO. SEQ.: 1 **SPEC. CASE: 0**

CROSSING: I24 EBL
FED. BRIDGE NO.: 58I00240039
MAINT. DIST.: 22

REPAIR LIST NO.: **N-**
DATE ADDED: 09/16/2002
REVISED: 09/16/2002

FACILITY CARRIED:	NFA 2161	NUMBER OF MAIN SPANS:	
HIGHWAY SYSTEM:	01-INTERSTATE RURAL	NUMBER OF APPROACH SPANS:	
BRIDGE WIDTH (CURB TO CURB):	N/A FT IN	BRIDGE LENGTH (FT):	140
BRIDGE WIDTH (OUT TO OUT):	N/A FT IN	MAXIMUM SPAN LENGTH (FT):	61
APPROACH ROADWAY (W/SHOULDERS):	129 FT 11 IN	SKEW ANGLE (DEGREES):	N/A

MAINTAINED BY:
MAIN SPAN MATERIAL: CONCRETE CONTINUOUS
MAIN SPAN DESIGN TYPE: TEE BEAM
APPROACH SPAN MATERIAL:
APPROACH SPAN DESIGN TYPE:

INSPECTION DATE:	09/16/2002	GENERAL CONDITION:	GOOD
EVALUATION DATE:	03/26/2001	STRUCTURALLY DEFICIENT:	
PROPOSED REPLACEMENT:			
H TRUCK RATING @ INV.:	TONS	SUFFICIENCY RATING:	

No.	RECOMMENDATIONS	REPAIR DATE	REPAIRED BY
1.	NO RECOMMENDATIONS AT THIS TIME		

COMMENTS:

Bridge Maintenance Recommendations

Bridge Location No.: 58 - 02161 - 0137 N
Co. Route Log Mile

Bridge Number: 58I00240039

Crossing: 58-I0024-22.78

County: Marion

Region: 02

Bridge Rating: GOOD

District: 22

Maint.Resp.: 01

Inspection Cycle: 14

Spec.Case: 0

Inspection Date: 9/19/00

Co.Seq: 01

Comments: SUBSTRUCTURE UNITS ARE PROTECTED BY GUARDRAIL. I24 LOG MILE IS 157.05.

Maintenance Recommendations:

Maintenance Completed By / Date

001	**LEVEL APPROACH NO. 1 & 2**
003	**REPAIR APPROACH NO. 1& 2**
027	**INSTALL PADDLEBOARD SIGNS AT APPROACH #2**
226	**GUARDRAIL TERMINALS AT APPROACH NO. 1 & 2_ ARE SUBSTANDARD**
228	**APPROACH GUARDRAILS ARE SUBSTANDARD**
276	**SEAL CRACK(S) IN DECK WEARING SURFACE IN SPAN NO.ALL_**

COMPLETION NOTIFICATION: RETURN WITHIN 6 MONTHS OF INSPECTION DATE.

INITIAL AND DATE RECOMMENDATIONS WHEN COMPLETED.

MAINTENANCE ACTIVITIES ARE COMPLETED (DATE) _____ BY_____

MAINTENANCE ACTIVITIES ARE PARTIALLY COMPLETED (DATE) _____ BY_____

MAINTENANCE ACTIVITIES ARE INCOMPLETE, SCHEDULED FOR (DATE) _____

EXPLANATIONS AND COMMENTS:

CONTACT:

MR. LEONARD WILLIAMS
REGIONAL BRIDGE ENGINEER
D.O.T. BRIDGE INSPECTION
P.O. BOX 22368
CHATTANOOGA, TN 37422-2368
PHONE: 423-510-1151

T.C. HARRYMAN
D.O.T. BRIDGE INSPECTION
PO BOX 98 TULLAHOMA, TN 37388 PHONE: 931-454-1918

BRIDGE MAINTENANCE RECOMMENDATIONS

BRIDGE SEQ. NO. : 58I00240039 BRIDGE NO. : 58 - 02161 - 0137 - N
OVER : 58-I0024-22.78

DATE	: 09/08/98	BRIDGE RATING	: GOOD	COUNTY	: Marion
CO. SEQ.	: 01	INSPECTION CYCLE	: 13	MAINT DIST	: 22
SPEC. CASE	: 0	INSPECTION DATE	: 09/04/98	REGION	: 02

007	FACILITY CARRIED BY STRUCT	: NFA 2161 (SA 5802)
021	MAINTENANCE RESPONSIBILITY	: 01
022	OWNER	: 01
042	TYPE OF SERVICE	: 11
043	STRUCTURE TYPE, MAIN	: 202
044	STRUCTURE TYPE, APPROACH	: 000
045	SPANS, MAIN UNIT	: 003
046	SPANS, APPROACH	: 0000
049	STRUCTURE LENGTH	: 000140
032	APPROACH ROADWAY WIDTH	: 028
034	SKEW	: 58
051	BRDG RDWY WID, CRB-TO-CRB	: 0280
052	DECK WIDTH, OUT-TO-OUT	: 0345
500	HWY OF THE INVENTORY ROUTE	: 11

: MAINTENANCE & REPAIR RECOMMENDATIONS :		: MAINTENANCE COMPLETED :		
1	LEVEL APPROACH NO. 1	1	BY ____	DATE _____
2	REPAIR APPROACH NO. 2	2	BY ____	DATE _____
3	REPAIR GUARDRAIL AT APPROACH NO. 1 LT. & NO.2 LT.	3	BY ____	DATE _____
4	APPROACH GUARDRAILS ARE SUBSTANDARD	4	BY ____	DATE _____
5	BRIDGE RAILS ARE SUBSTANDARD	5	BY ____	DATE _____

: COMMENTS FOR BRIDGE SEQ. NO. : 58I00240039 :

SUBSTRUCTURE UNITS ARE PROTECTED BY GUARDRAIL. I24 LOG MILE IS 157.05.

COMPLETION NOTIFICATION : RETURN WITHIN 6 MONTHS OF INSPECTION DATE

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

EXPLANATIONS AND COMMENTS:

TENNESSEE BRIDGE INSPECTION PROGRAM
SUMMARY OF EVALUATION

REV. 03-05-2003

BRIDGE ID NO: 58I00240039 *LOCATION NO:* 58 - 02161 - 1.36

(6A) CROSSING: SHELLMOUND RD. / I-24 EB

(505) METHOD OF ANALYSIS: LOAD FACTOR METHOD *(548) RATING BASED ON:* VIRTIS ANALYSIS - 3" ASPHALT

LOAD RATINGS IN TONS

INVENTORY (503) H	16	*(518B) HS*	20
OPERATING (504) H	26	*(519) HS*	35

(549) EVALUATOR: JPA
(522) EVAL. DATE: 9/6/2018
LAST UPDATED BY: TORABIAN
(29) ADT: 1,700 *(30) ADT YR:* 2018
(100) STRAHNET ROUTE: NO
(19) DETOUR LENGTH: 8 *KM*
(520) VC OVER RDWY: 99.99 *METERS*

CONDITION RATINGS

(58) DECK RATING:	7
(59) SUPERSTRUCTURE RATING:	5
(60) SUBSTRUCTURE RATING:	7
(61) CHANNEL PROTECTION:	N
(62) CULVERT RATING:	N
(113A) NBIS SCOUR CODE:	N
(113B) TDOT SCOUR CODE:	

APPRAISAL RATINGS

(67) STRUCTURAL EVALUATION:	5
(68) DECK GEOMETRY:	5
(69) UNDER CLEARANCE:	3
(70) BRIDGE POSTING:	5
(71) WATERWAY ADEQUACY:	N
(72) APPROACH RDWY ALIGNMENT:	6

CODE VALUES

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

OTHER RATING ITEMS

(521) OVERALL CONDITION:	F
(513) TEXTURE COAT RATING:	N
(514) PAINT CONDITION RATING:	N
(41) WEIGHT POSTING CODE:	A
(36) TRAFFIC SAFETY FEATURES:	0 0 0 0
(525) REPAIR LIST NO:	N

COMMENTS

MONITOR FELXURE CRACKS IN BOTTOM OF BEAMS. - 10/17/2016.

(502) SUFF. RATING:	54.2
(528) STR. DEFICIENT:	NO
(529) FUNC. OBSOLETE:	YES

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

Bridge Condition Coding Form

Revised 09/12/2001

County:	58
Route:	02161
Special Case:	0
County Sequence:	01
Log Mile:	1.37

Bridge Number: (Includes Item 5A) 58I002400391

Feature Intersected: I24 EBL

CODE ONLY THOSE VALUES WHICH HAVE CHANGED

ITEM #	DESCRIPTION	VALUE
90	INSPECTION DATE	09/14/2000 09/16/02
10	MINIMUM V.C. OVER DECK (ROADWAY + SHOULDERS)	99 FT. 99 IN. ____ FT. ____ IN.
520	MINIMUM V.C. OVER DECK (EXCLUDES SHOULDERS)	99 FT. 99 IN. ____ FT. ____ IN.
36	TRAFFIC SAFETY FEATURES	

Br. Rail	Trans.	Appr. Rail	Terminal	SPEED LIMIT
0	0	0	0	UNKNOWN
---	---	---	---	---

41	STRC OPEN/CLOSED/POSTED (A K P)	A
58	DECK	7
59	SUPERSTRUCTURE	7
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)	6
521	OVERALL CONDITION (Circle One)	

GOOD FAIR POOR CRITICAL

Patrick Dickson — TEAM LEADER SIGNATURE

09/16/02 — 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.

3A

Revised 09/21/2001

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

Underpass Condition Coding Form

County:	58
Route:	I0024
Special Case:	0
County Sequence:	01
Log Mile:	22.78

Bridge Number: (Includes Item 5A) 58I002400392

Feature Intersected: I24 EBL

CODE ONLY THOSE VALUES WHICH HAVE CHANGED

ITEM #	DESCRIPTION	VALUE
90	INSPECTION DATE	09/14/2000 09/16/02
10	MINIMUM V.C. OVER ROADWAY (ROADWAY + SHOULDERS)	16 FT. 6 IN. ____ FT. ____ IN.
520	MINIMUM V.C. OVER ROADWAY (EXCLUDES SHOULDERS)	17 FT. 1 IN. 17 FT. 2 IN.
47	TOTAL HORIZONTAL UNDERCLEARANCE	47 FT. 2 IN. 41 FT. 3 IN.
54	MINIMUM VERTICAL UNDERCLEARANCE (EXCLUDES SHOULDERS) Circle One: (H) R	17 FT. 2 IN.
55	MINIMUM LATERAL UNDERCLEARANCE ON RIGHT SIDE Circle One: (H) R	11 FT. 0 IN.
56	MINIMUM LATERAL UNDERCLEARANCE ON LEFT SIDE	5 FT. 8 IN.

UNDERPASS SAFETY FEATURES

515 (A) TYPE UNDERPASS BARRIER
Mixed Metal/Conc. Rail

Revised Barrier Type

(B) ADEQUACY OF BARRIER OR RAIL 1

(C) ADEQUACY OF TRANSITIONS 1

(D) ADEQUACY OF TERMINALS 1

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

Patrick Dickson
TEAM LEADER SIGNATURE

09/16/02
REVIEW DATE

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

Bridge Condition Coding Form

County:	58
Route:	02161
Special Case:	0
County Sequence:	1
Log Mile:	1.37

Bridge Number: (Includes Item 5A) 58I002400391

Feature Intersected: I24 EBL

CODE ONLY THOSE NUMBERS WHICH HAVE CHANGED

ITEM #	DESCRIPTION	VALUE
90	INSPECTION DATE	9/4/98 09/14/00
10	MINIMUM V.C. OVER DECK (ROADWAY + SHOULDERS)	99 FT. 99 IN. ___ FT. ___ IN.
520	MINIMUM V.C. OVER DECK (EXCLUDES SHOULDERS)	99 FT. 99 IN. ___ FT. ___ IN.
54	MINIMUM VERTICAL UNDERCLEARANCE (EXCLUDES SHOULDERS)	H 16 FT. 6 IN. Circle One: H R N 17 FT. 1½ IN.
36	TRAFFIC SAFETY FEATURES	Br. Rail / Trans. / Appr. Rail / Appr. Rail Ends: 0 / 0 / 0 / 0
41	STRC OPEN/CLOSED/POSTED (A K P)	A
58	DECK	7
59	SUPERSTRUCTURE	7
60	SUBSTRUCTURE	7
61	CHANL/CHANL PROTECTION	N
62	CULVERT AND RETAIN WALL	N
72	APPROACH RDWY ALIGNMENT (USE VALUES OF 3, 6, OR 8)	6

OVERALL CONDITION (Circle One)

(GOOD) FAIR POOR CRITICAL

James Faris — SIGNATURE

09/19/00 — DATE

COMMENTS

RATINGS FOR CODING ITEMS 58, 59, 60 AND 62

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

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

Underpass Condition Coding Form

31

County:	58
Route:	I0024
Special Case:	0
County Sequence:	1
Log Mile:	22.78

Bridge Number: (Includes Item 5A) 58I002400392

Feature Intersected: I24 EBL

CODE ONLY THOSE NUMBERS WHICH HAVE CHANGED

ITEM #	DESCRIPTION	VALUE
90	INSPECTION DATE	9/4/98 09/14/00
10	MINIMUM V.C. OVER DECK (ROADWAY + SHOULDERS)	16 FT. 6 IN. 16 FT. 6 1/2 IN.
520	MINIMUM V.C. OVER DECK (EXCLUDES SHOULDERS)	17 FT. 3 IN. 17 FT. 1 1/2 IN.
47	TOTAL HORIZONTAL UNDERCLEARANCE	47 FT. 2 IN. ____ FT. ____ IN.
55	MINIMUM LATERAL UNDERCLEARANCE ON RIGHT SIDE [H]	11 FT. 1 IN. Circle One: H R N ____ FT. ____ IN.
56	MINIMUM LATERAL UNDERCLEARANCE ON LEFT SIDE	5 FT. 10 IN. ____ FT. ____ IN.

UNDERPASS SAFETY FEATURES

(A) TYPE UNDERPASS BARRIER
Mixed Metal/Conc. Rail

Revised Barrier Type

(B) ADEQUACY OF BARRIER OR RAIL 1

(C) ADEQUACY OF TRANSITIONS 1

(D) ADEQUACY OF TERMINALS 1

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

OVERALL CONDITION (Circle One)

(GOOD) FAIR POOR CRITICAL

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

NOTE: DESCRIBE ANY PROBLEMS ON BRIDGES THAT THE STATE DOES NOT INSPECT (SUCH AS RAILROAD OR PRIVATE BRIDGES) THAT WOULD AFFECT THE ROADWAY SUCH AS LOOSE MEMBERS, SEVERELY SPALLED OR CRACKED CONCRETE, EXCESSIVE SECTION LOSS ON STEEL, EXCESSIVE TIMBER DECAY, ETC. ALSO, DESCRIBE ANY UNSAFE ITEMS.

COMMENTS New Acceptable G.R. & Terminals

James Favis
SIGNATURE

09/14/00
DATE

Bridge Name: Shellmound road over I-24 EB lanes
NBI Structure ID: 58I00240039
Bridge ID: 58I00240039

Analyzed By: bridgeware
Analyze Date: Tuesday, March 19, 2019 14:34:31
Analysis Engine: AASHTO LFR Engine Version 6.8.1.3001
Analysis Preference Setting: None

Report By: bridgeware
Report Date: Tuesday, March 19, 2019 14:37:18

Structure Definition Name: GS
Member Name: G1
Member Alternative Name: mad1

Load Factor Rating Summary

Girder Summary

Live Load		Rating Factor	Controls	Capacity (Ton)	Span	Location (ft)	Percent	Impact	Lane
H 15-44	Inventory	0.940	Design Flexure - Concrete	14.11	1	16.30	40.0	As Requested	As Requested
H 15-44	Operating	1.571	Design Flexure - Concrete	23.56	1	16.30	40.0	As Requested	As Requested
HS 20-44	Inventory	0.543	Design Shear - Concrete	19.54	2	15.84	26.2	As Requested	As Requested
HS 20-44	Operating	0.933	Design Flexure - Concrete	33.57	1	12.22	30.0	As Requested	As Requested
Type 3S2	Inventory	0.778	Design Flexure - Concrete	28.00	1	16.30	40.0	As Requested	As Requested
Type 3S2	Operating	1.285	Design Shear - Concrete	46.25	2	54.33	89.8	As Requested	As Requested
Annual Permit 1	Inventory	0.440	Design Shear - Concrete	36.32	2	6.17	10.2	As Requested	As Requested
Annual	Operating	0.725	Design	59.84	2	6.17	10.2	As	As

Permit 1			Shear - Concrete					Requested	Requested
Annual Permit 2	Inventory	0.423	Design Shear - Concrete	34.91	2	54.45	90.0	As Requested	As Requested
Annual Permit 2	Operating	0.694	Design Shear - Concrete	57.22	2	54.33	89.8	As Requested	As Requested
Gravel Truck	Inventory	0.479	Design Flexure - Concrete	17.71	1	16.30	40.0	As Requested	As Requested
Gravel Truck	Operating	0.800	Design Flexure - Concrete	29.58	1	16.30	40.0	As Requested	As Requested
Overweight Permit	Inventory	0.387	Design Shear - Concrete	49.36	2	6.17	10.2	As Requested	As Requested
Overweight Permit	Operating	0.632	Design Shear - Concrete	80.60	2	6.17	10.2	As Requested	As Requested
EV2	Operating	0.990	Design Flexure - Concrete	28.47	1	12.22	30.0	As Requested	As Requested
EV3	Operating	0.651	Design Flexure - Concrete	27.98	1	16.30	40.0	As Requested	As Requested
SU6 LFR	Operating	0.877	Design Flexure - Concrete	30.47	1	16.30	40.0	As Requested	As Requested
SU7 LFR	Operating	0.837	Design Flexure - Concrete	32.45	1	16.30	40.0	As Requested	As Requested

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

Bridge Name: Shellmound road over I-24 EB lanes
NBI Structure ID: 58I00240039
Bridge ID: 58I00240039

Analyzed By: bridgeware
Analyze Date: Tuesday, March 19, 2019 14:34:31
Analysis Engine: AASHTO LFR Engine Version 6.8.1.3001
Analysis Preference Setting: None

Report By: bridgeware
Report Date: Tuesday, March 19, 2019 14:37:18

Structure Definition Name: GS
Member Name: G2
Member Alternative Name: mad2

Load Factor Rating Summary

Girder Summary

Live Load		Rating Factor	Controls	Capacity (Ton)	Span	Location (ft)	Percent	Impact	Lane
H 15-44	Inventory	1.064	Design Shear - Concrete	15.96	2	6.17	10.2	As Requested	As Requested
H 15-44	Operating	1.736	Design Shear - Concrete	26.03	2	6.17	10.2	As Requested	As Requested
HS 20-44	Inventory	0.561	Design Shear - Concrete	20.19	2	15.84	26.2	As Requested	As Requested
HS 20-44	Operating	0.973	Design Shear - Concrete	35.03	2	15.84	26.2	As Requested	As Requested
Type 3S2	Inventory	0.818	Design Shear - Concrete	29.43	2	54.45	90.0	As Requested	As Requested
Type 3S2	Operating	1.322	Design Shear - Concrete	47.61	2	54.33	89.8	As Requested	As Requested
Annual Permit 1	Inventory	0.454	Design Shear - Concrete	37.42	2	6.17	10.2	As Requested	As Requested
Annual	Operating	0.747	Design	61.64	2	6.17	10.2	As	As

Permit 1			Shear - Concrete					Requested	Requested
Annual Permit 2	Inventory	0.436	Design Shear - Concrete	35.96	2	54.45	90.0	As Requested	As Requested
Annual Permit 2	Operating	0.714	Design Shear - Concrete	58.92	2	54.33	89.8	As Requested	As Requested
Gravel Truck	Inventory	0.520	Design Shear - Concrete	19.25	2	15.84	26.2	As Requested	As Requested
Gravel Truck	Operating	0.901	Design Shear - Concrete	33.32	2	15.84	26.2	As Requested	As Requested
Overweight Permit	Inventory	0.399	Design Shear - Concrete	50.83	2	6.17	10.2	As Requested	As Requested
Overweight Permit	Operating	0.651	Design Shear - Concrete	82.99	2	6.17	10.2	As Requested	As Requested
EV2	Operating	1.080	Design Shear - Concrete	31.04	2	15.84	26.2	As Requested	As Requested
EV3	Operating	0.698	Design Shear - Concrete	30.02	2	15.84	26.2	As Requested	As Requested
SU6 LFR	Operating	1.010	Design Flexure - Concrete	35.09	1	16.30	40.0	As Requested	As Requested
SU7 LFR	Operating	0.964	Design Flexure - Concrete	37.36	1	16.30	40.0	As Requested	As Requested

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

DETERMINE "H" AND "HS" RATINGS FOR TRIMS

DATE : 2/3/2011 **EVALUATOR :** KLS

BRIDGE NUMBER : 58I00240039

MEMBER : INTERIOR GIRDER

COMMENTS :
NO LOSS OF SECTION
4" ASPHALT
1.4 RATE POINT

INPUT DATA :

BRIDGE CAPACITY AT INVENTORY LEVEL ---------- (K-FT) :	315.50
BRIDGE CAPACITY AT OPERATING LEVEL ---------- (K-FT) :	525.80
H----15 - TRUCK - LIVE LOAD + IMPACT ---------- (K-FT) :	298.10
HS- 20 - TRUCK - LIVE LOAD + IMPACT ---------- (K-FT) :	501.10

OUTPUT RESULTS :

INVENTORY RATINGS :		**OPERATING RATINGS :**	
H - 15 ---- (TONS) =	**15.88**	**H - 15 ---- (TONS) =**	**26.46**
HS - 20 -- (TONS) =	**22.67**	**HS - 20 -- (TONS) =**	**37.77**

NOTES : **WHEN YOU INPUT DATA FROM A BARS STEEL LOAD FACTOR RUN, CHECK TO SEE IF SERVICEABILITY CONTROLS.**

THE POSITION OF THESE RATING VALUES LINE UP WITH DATA FIELDS IN TRIMS.

DETERMINE "H" AND "HS" RATINGS FOR TRIMS

DATE : 2/3/2011 **EVALUATOR :** KLS

BRIDGE NUMBER : 58I00240039

MEMBER : INTERIOR GIRDER

COMMENTS :
NO LOSS OF SECTION
4" ASPHALT
2.5 RATE POINT

INPUT DATA :

BRIDGE CAPACITY AT INVENTORY LEVEL ---------- (K-FT) :	346.80
BRIDGE CAPACITY AT OPERATING LEVEL ---------- (K-FT) :	578.00
H----15 - TRUCK - LIVE LOAD + IMPACT ---------- (K-FT) :	311.40
HS- 20 - TRUCK - LIVE LOAD + IMPACT ---------- (K-FT) :	554.10

OUTPUT RESULTS :

INVENTORY RATINGS :		**OPERATING RATINGS :**	
H - 15 ---- (TONS) =	**16.71**	**H - 15 ---- (TONS) =**	**27.84**
HS - 20 -- (TONS) =	**22.53**	**HS - 20 -- (TONS) =**	**37.55**

NOTES : WHEN YOU INPUT DATA FROM A BARS STEEL LOAD FACTOR RUN, CHECK TO SEE IF SERVICEABILITY CONTROLS.

THE POSITION OF THESE RATING VALUES LINE UP WITH DATA FIELDS IN TRIMS.

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

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

AMERICAN ASSOCIATION OF STATE HIGHWAY
AND TRANSPORTATION OFFICIALS

A PROPRIETARY COMPUTER SOFTWARE PRODUCT

AASHTOWAREtm

BBBBBBBBBBBB AAAAAAA RRRRRRRRRRR SSSSSSSSSSSS
BBBBBBBBBBBBB AAAAAAAAA RRRRRRRRRRRR SSSSSSSSSSSSS
BBB BBB AA AA RRR RRR SSSS SSSS
BBB BBB AAA AAA RRR RRR SSS
BBB BBB AAA AAA RRR RRR SSSS
BBBBBBBBBBBB AAA AAA RRRRRRRRRRRR SSSSSSSSSSSSS
BBBBBBBBBBBBB AAA AAA RRRRRRRRRR SSSSSSSSSSSSS
BBB BBB AAAAAAAAAAAAA RRR RRR SSSS
BBB BBB AAAAAAAAAAAAA RRR RRR SSS
BBB BBB AAA AAA RRR RRR SSSS SSSS
BBBBBBBBBBBBB AAA AAA RRR RRR SSSSSSSSSSSSS
BBBBBBBBBBBB AAA AAA RRR RRR SSSSSSSSSSSS

BRIDGE ANALYSIS AND RATING SYSTEM

444 NORTH CAPITOL STREET, N.W., SUITE 249
WASHINGTON, D.C. 20001 U.S.A.
(202) 624-5800

RELEASE 5.5 - MOD 3.3

FEBRUARY 5, 1997

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

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        020311 K.L. SIMPSON      H15                                  *LF*
01                                          CDG   65   139 6 0    28 0 0 3
02KLS717 K. SIMPSON
05KLS717LM 1.36 2 58NFA 2161
06KLS7171 G01 IS THE TYPICAL INTERIOR GIRDER
06KLS7172 NO LOSS OF SECTION - 4" ASPHALT OVERLAY
06KLS7173 DESIGNED FOR HS20-44, SHELLMOUND ROAD OVER I-24 EB
06KLS7174 OVERPASS ONLY, NO INTERSECTION, NO RAMPS
07KLS717        40000 3000
08KLS717G01 03          40 0 0    60 6 0    37 6 0 RC          2.182
10KLS717G01 01                     W 657.         40 0 0
10KLS717G01 02                     W 657.         60 6 0
10KLS717G01 02                30 3 0 P 0.87
10KLS717G01 03                     W 684.         37 6 0
11KLS717G01 0101       22 0 001
11KLS717G01 0102       18 0 00203PB
11KLS717G01 0201       18 0 00302PB
11KLS717G01 0202       24 6 004
11KLS717G01 0203       18 0 00203PB
11KLS717G01 0301       18 0 00506PB
11KLS717G01 0302       19 6 007
13KLS717G01   01    24.021.00116.0 26.0 7.5 01B 0610 21.00
13KLS717G01   01                            02B 0610 18.00
13KLS717G01   01                            03B 0610  2.88X
13KLS717G01   02    24.021.00116.0 26.0 7.5 01B 0610 21.00X
13KLS717G01   02                            02B 1410  2.88
13KLS717G01   03    48.045.00116.0 26.0  7.501B 0610 45.00X
13KLS717G01   03                            02B 1410  2.88
13KLS717G01   04    24.021.00116.0 26.0  7.501B 0610 21.00
13KLS717G01   04                            02B 0610 18.00
13KLS717G01   04                            03B 0610 15.00
13KLS717G01   04                            04B 0610  2.88X
13KLS717G01   05    48.045.00112.5 26.0  7.501B 0610 45.00X
13KLS717G01   05                            02B 1410  2.88
13KLS717G01   06    24.021.00112.5 26.0  7.501B 0610 21.00X
13KLS717G01   06                            02B 1410  2.88
13KLS717G01   07    24.021.00112.5 26.0  7.501B 0610 21.00
13KLS717G01   07                            02B 0610 18.00
13KLS717G01   07                            03B 0610  2.88X
13KLS717G01

THE FOLLOWING STRUCTURES WERE SELECTED


KLS717
```

RECORD

REC.NO.
100
100
200
300
400
500
600
700
800
900
1000
1100
1200
1300
1400
1500
1600
1700
1800
1900
2000
2100
2200
2300
2400
2500
2600
2700
2800
2900
3000
3100
3200
3300
3400
3500
3600
3700

ONE LANE D.F. = 1 + (5/11) = 1.4545
TWO LANE D.F. = 2 [(9/11 + 3/11) = 2.1818

ACTUAL BEAM SPACING = 132"
EFFECTIVE BEAM SPACING =
SPAN 1 & 2 = (7.5/12) + 26 = 116"
SPAN 3 = (37.5 X 12) / 4 = 112.5"

SPAN LENGTHS

S1 = 40.0'
S2 = 60.5'
S3 = 37.5'

DEAD LOADS
DISTRIBUTED
S1 & S2
4" ASPH = (4 / 12) (11.0) (145) = 532 LBS
INEFFECTIVE DECK =
[(132-116) / 12] [7.5 / 12] [150] = 125 LBS

TOTAL 657 LBS

DEAD LOADS
DISTRIBUTED
S3
4" ASPH = (4 / 12) (11.0) (145) = 532 LBS
INEFFECTIVE DECK =
[(132-112.5) / 12] [7.5 / 12] [150] = 152 LBS

TOTAL 684 LBS

POINT LOADS (DIAPHRAGM IN SPAN 2)

[(10.5 / 12) (9 / 12) (8.833) (150)] 1000 LBS / K = 0.869 K

```
 ********************************************************************************************************************************
*                                                STRUCTURE HEADER AND DESCRIPTION                                               *
 ********************************************************************************************************************************

               K. SIMPSON       EA/I/O/P =               FILE REQUESTS AND OUTPUT DATA EXCEPTIONS
                              CDG      YEAR =   65  LEN =  139.50 FT.       WIDTH =   28.00 FT.       3 SPANS SP.LOAD =
100-- 2                                 OP.LL.TRK.=


 ********************************************************************************************************************************
*                                    STRUCTURE LOCATION AND PERMANENT IDENTIFICATION FACTORS                                   *
 ********************************************************************************************************************************

              BRIDGE=LM 1.36    DIST./CO.= 2    58  CONST. ROUTE = NFA 2161   CONST. SECT.=            CONST. STA.=   0+   .
                                   DESIGN PLANS=           COMPUTATIONS=           CORRESPONDENCE=
200-- 5                                  MARKED ROUTE =
TYPE =
INV.LL.TRK.=

 ********************************************************************************************************************************
*                                                        COMMENTS                                                                *
 ********************************************************************************************************************************

MICROFILM REEL NO
STRUCTURE I.D. =KLS-717
               1   G01 IS THE TYPICAL INTERIOR GIRDER
               2   NO LOSS OF SECTION - 4" ASPHALT OVERLAY
ROUTE I.D.=    3   DESIGNED FOR HS20-44, SHELLMOUND ROAD OVER I-24 EB
400-- 6        4   OVERPASS ONLY, NO INTERSECTION, NO RAMPS
500-- 6
600-- 6

 ********************************************************************************************************************************
*                                    SPECIFICATIONS GENERALLY APPLICABLE TO STRUCTURE MEMBERS                                   *
 ********************************************************************************************************************************


                              REINF.      COMPOSITE          PRESTRESSED                    IMPACT FACTOR         TIMBER
                             CONCRETE     STEEL/CONC          CONCRETE                    INV   OP POST SPEC

              FY=    0.     FY =40000.    FY =    0.    LOSS =    0.  F"S =    0.    MAX =.00  .00  .00  .00     FY =    0.
                                          F"C=    0.    EG/ES=  .000  F"". C=    0.    MIN =.00  .00  .00  .00     FV =    0.
700-- 7


STRUCT
STEEL ********************************************************************************************************************************
*                          MEMBER SPECIFICATIONS AND REQUIRED ANALYSIS-GIRDER,STRINGER AND FLOOR BEAM                            *
 ********************************************************************************************************************************

                     STIFF. SPAN 1     SPAN 2     SPAN 3   MATL   ALLOWABLE STRESS   LL DIST.  END  THRU  MAX  IMPACT  FACTOR
                  SYMM CODE (SPAN 4)   (SPAN 5)   (SPAN 6)  CODE     FY   FB FC* FC**  FACTOR  FL.BM DECK  INV  OP.  POST  SPEC

 BARS-PC R5.5 G 1    3          40.000     60.500     37.500    RC       .00       .00    2.182             .00  .00  .00   .00

800-- 8
MEMBER SPANS
```

SUPERIMPOSED DEAD LOADS-GIRDERS,STRINGERS AND FLOOR BEAMS

	NO.	DISTANCE FR. LEFT SUPP.	LOAD TYPE	LOAD P OR W(L)	W(R)	LENGTH
G 1	1	.000FT.	W	657.0	.0	40.000FT.
G 1	2	.000FT.	W	657.0	.0	60.500FT.
G 1	2	30.250FT.	P	.9	.0	.000FT.
G 1	3	.000FT.	W	684.0	.0	37.500FT.

MEMBER SYMM. SPAN

ID

SECTION RANGE SPECIFICATIONS

	NO.	RANGE NO.	RANGE LENGTH	SECTION NO. LEFT	RIGHT	SEC. VAR.	HINGE CODE	HINGE 1 DIST.	HINGE 2 DIST.	HYBRID GIRDER CODE	FY	CODE	FY
G 1	1	1	22.000FT.	1	0			.000FT.	.000FT.		0.		0.
G 1	1	2	18.000FT.	2	3		PB	.000FT.	.000FT.		0.		0.
G 1	2	1	18.000FT.	3	2		PB	.000FT.	.000FT.		0.		0.
G 1	2	2	24.500FT.	4	0			.000FT.	.000FT.		0.		0.
G 1	2	3	18.000FT.	2	3		PB	.000FT.	.000FT.		0.		0.
G 1	3	1	18.000FT.	5	6		PB	.000FT.	.000FT.		0.		0.
G 1	3	2	19.500FT.	7	0			.000FT.	.000FT.		0.		0.

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

	NO.	BFL AS ADR	H	A	B	B*	T	I	R	AS	D	COMP CODE
G 1	1	0	24.00	21.00	116.00	26.00	7.50	1	B	61.00	21.00	
G 1	1	0	.00	.00	.00	.00	.00	2	B	61.00	18.00	
G 1	1	0	.00	.00	.00	.00	.00	3	B	61.00	2.88	X
G 1	2	0	24.00	21.00	116.00	26.00	7.50	1	B	61.00	21.00	X
G 1	2	0	.00	.00	.00	.00	.00	2	B	141.00	2.88	
G 1	3	0	48.00	45.00	116.00	26.00	7.50	1	B	61.00	45.00	X
G 1	3	0	.00	.00	.00	.00	.00	2	B	141.00	2.88	
G 1	4	0	24.00	21.00	116.00	26.00	7.50	1	B	61.00	21.00	
G 1	4	0	.00	.00	.00	.00	.00	2	B	61.00	18.00	
G 1	4	0	.00	.00	.00	.00	.00	3	B	61.00	15.00	
G 1	4	0	.00	.00	.00	.00	.00	4	B	61.00	2.88	X
G 1	5	0	48.00	45.00	112.50	26.00	7.50	1	B	61.00	45.00	X
G 1	5	0	.00	.00	.00	.00	.00	2	B	141.00	2.88	
G 1	6	0	24.00	21.00	112.50	26.00	7.50	1	B	61.00	21.00	X
G 1	6	0	.00	.00	.00	.00	.00	2	B	141.00	2.88	
G 1	7	0	24.00	21.00	112.50	26.00	7.50	1	B	61.00	21.00	
G 1	7	0	.00	.00	.00	.00	.00	2	B	61.00	18.00	
G 1	7	0	.00	.00	.00	.00	.00	3	B	61.00	2.88	X

MEMBER SECT. SAME

ID

STRUCTURE LM 1.36 D/P STR. I.D.-- KLS-717

2/ 3/11
K. SIMPSON

	INVENTORY LIVE LOAD	INVENTORY RATING	OPERATING LIVE LOAD	OPERATING RATING
INPUT CODING --	H	15.87	HS20	HS 20.86

DATE
BY

LOCATION --

DISTRICT	2
COUNTY	58
CONSTR. RTE.	NFA 2161
CONSTR. SEC.	
CONSTR. STA.	0+ .
KEY RTE.	

MICROFILM REEL NUMBERS --

DESIGN PLANS
COMPUTATIONS
CORRESPONDENCE

SUMMARY OF RATING CALCULATIONS

STRUCTURE DESCRIPTION --	LM 1.36
	CDG
	1965---STRUCTURE MEMBER
	139.50 FEET
	28.00 FEET
	3

IDENTIFICATION
TYPE
YEAR OF CONSTR.
INVENTORY AND/OR OPERATING ANALYSIS
LENGTH
ROADWAY WIDTH
NUMBER OF SPANS

H15

INVENTORY RATING SUMMARY --

	G 1
	1
	16.0 FEET
	H15
MEMBER ID.	
SPAN	
ANALYST REMARKS --	
CRITICAL C.P. DIST.	
LIVE LOAD DESIGNATION	
	844.4
	123.8
MEMBER CAPACITY	315.5
DL EFFECT	298.1
CAPACITY FOR (LL+I)	
ACTUAL (LL+I)	H 15.87
MARKED RTE.	
INVENTORY RATING	
(MOMENT KIPS)	

G01 IS THE TYPICAL INTERIOR GIRDER
NO LOSS OF SECTION - 4" ASPHALT OVERLAY
DESIGNED FOR HS20-44, SHELLMOUND ROAD OVER I-24 EB
OVERPASS ONLY - NO INTERSECTION, NO RAMPS

OPERATING RATING SUMMARY --

MEMBER ID.	G 1
SPAN	2
CRITICAL C.P. DIST.	30.3 FEET
LIVE LOAD DESIGNATION	HS20
	MOMENT (FT. KIPS)
MEMBER CAPACITY	1128.4
DL EFFECT	290.1
CAPACITY FOR (LL+I)	578.0
ACTUAL (LL+I)	554.1
OPERATING RATING	HS 20.86

BARS-PC RELEASE 5.5

D/P STR. ID-- KLS-717

		LIVE LOAD	RATING	OPERATING LIVE LOAD	RATING
INPUT CODING--	2/ 3/11	H	15.9	HS20	HS 20.9
	K. SIMPSON				

DATE

BY

LOCATION--

MICROFILM REEL NUMBERS--

*** FINAL SUMMARY OF RATING RESULTS FOR --- STRUCTURE ID. KLS-717

STRUCTURE DESCRIPTION--

	LM 1.36	DISTRICT	2
	SDG	COUNTY	58
	1965	CONSTR. RTE.	NFA 2161
	139.50 FEET	CONSTR. SEC.	
	28.00 FEET	CONSTR. STA.	0+ .
	3	KEY RTE.	

DESIGN PLANS
COMPUTATIONS
CORRESPONDENCE

IDENTIFICATION
TYPE
YEAR OF CONSTR.
LENGTH
ROADWAY WIDTH
NUMBER OF SPANS

INVENTORY AND/OR OPERATING ANALYSIS

INVENTORY
H15

STRUCTURE LM 1.36

ANALYST REMARKS--
G01 IS THE TYPICAL INTERIOR GIRDER
NO LOSS OF SECTION - 4" ASPHALT OVERLAY
DESIGNED FOR H520-44, SHELLMOUND ROAD OVER I-24 EB
OVERPASS ONLY, NO INTERSECTION, NO RAMPS

OPERATING RATING SUMMARY

INVENTORY RATING SUMMARY

MEMBER I.D.	G 1	G 1
SPAN	1	2
CRITICAL C.P. DIST.	16.0 FEET	30.3 FEET
LIVE LOAD DESIGNATION	H15	HS20
		MOMENT (FOOT-KIPS)
MEMBER CAPACITY	844.4	1128.4
DL EFFECT	123.8	290.1
CAPACITY FOR (LL+I)	315.5	578.0
ACTUAL (LL+I)	298.1	554.1
MARKED RTE.		
CAPACITY FOR (LL+I)		
ACTUAL (LL+I)	H 15.87	HS 20.86

INVENTORY RATING
(MOMENT-KIPS)

D/P STRUCTURE I.D. KLS-717

DATE 02/03/11

MATERIAL--RC

LL DIST. FACT. = 2.182

NOT SYMMETRICAL

SPAN NO.	LENGTH FT.	RNG. NO.	LENGTH FT.	SEC.NO. LT	SEC.NO. RT	T P	T B	DL DUE TO MEM. WEIGHT W(LT) LBS/FT	DL DUE TO MEM. WEIGHT W(RT) LBS/FT
1	40.000	1	22.000	01	01			1353.1	1353.1
			18.000	02	03	P	B	1353.1	2003.1
2	60.500	1	18.000	03	02	P	B	2003.1	1353.1
			24.500	04	04			1353.1	1353.1
			18.000	02	03	P	B	1353.1	2003.1
3	37.500	1	18.000	05	06	P	B	1975.8	1325.8
			19.500	07	07			1325.8	1325.8

SUPERIMPOSED DISTRIBUTED DL(S) LENGTH DISTRIBUTED DIST. FROM LT SUPPORT

SPAN NO.	W(LT) LBS/FT	W(RT) LBS/FT	* FT.	* FT.
1	657.0	657.0	.000	40.000
2	657.0	657.0	40.000	60.500
3	684.0	684.0	100.500	37.500

SUPERIMPOSED CONCENTRATED DL(S) DIST. FROM LT SUPPORT

STIFF TRANS.	STIFF LONG.	SPAN NO.	P KIPS	* FT.
		2	.9	70.250

DETAIL DATA FOR FLEXURAL MEMBER

SPAN NO.	DIS FRM LT SPRT FT.	FUNC M	FUNC VL	FUNC VR
	.000			X
	16.000	X	X	X
	40.000	X	X	X
	.000	X	X	X
	30.250	X	X	X
	60.500	X	X	X
	.000	X	X	X
	22.500	X	X	X
	37.500		X	

MEMBER I.D.--G01

SPAN NO.	DIS FRM LT SPRT FT.	FUNC M	FUNC VL	FUNC VR
1	.000			X
	16.000	X	X	X
2	40.000	X	X	X

CHECK POINTS RATED--

DATE 02/03/11

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

	B IN.	T IN.	BP IN.		AREA SQ.IN.	IX IN**4	AS SQ.IN.	D IN.	ASP SQ.IN.	DP IN.	A IN.	K	J
	116.00	7.50	26.00	+BEND	1299.0	55185.3	15.24	19.50	7.62	2.88	.93	.000	.000
					624.0	29952.0	7.62	21.12	15.24	4.50	1.01	.000	.000

***** INFLUENCE LINE (SIMPLE SPAN)

W*****
IN.
24.00

POS AREA =

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

X-DIST (FT.) 1 SPAN 2 SPAN 3 SPAN 4 SPAN 5 SPAN 6

Y-ORDINATE

	.000	.000	.000	.000	.000	.000
	1.940	-1.310	.210	.000	.000	.000
	3.912	-2.232	.377	.000	.000	.000
	5.948	-2.716	.499	.000	.000	.000
T 0	8.078	-2.791	.568	.000	.000	.000
E 1	6.335	-2.548	.577	.000	.000	.000
N 2	4.750	-2.088	.529	.000	.000	.000
T 3	3.344	-1.512	.436	.000	.000	.000
H 4	2.088	-1.022	.310	.000	.000	.000
5	.985	-.405	.161	.000	.000	.000
P 6	.000	.000	.000	.000	.000	.000
O 7						
I 8						
N 9	149.6	.0	13.7	.0	.0	.0
T 0	.0	100.0	.0	.0	.0	.0

POS AREA
NEG AREA

***** ALLOWABLE STRESS

	CONC PSI	STEEL PSI
	22000.0	1200.0
OPERATING	30000.0	1636.4
POST VEH1	.0	.0
POST VEH2	.0	.0
POST VEH3	.0	.0
POST SPEC	.0	.0

***** TOTAL DL MOMENT EFFECT

FT-KIPS
123.8

AREA

***** MOMENT CAPACITY

	CONC + BEND FT-KIPS	REINF - BEND FT-KIPS	REINF + BEND FT-KIPS	CONC - BEND FT-KIPS
	844.4	430.3	844.4	430.3
	844.4	430.3	844.4	430.3
	.0	.0	.0	.0
	.0	.0	.0	.0
	.0	.0	.0	.0
	.0	.0	.0	.0

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

	TOP +BEND F-KPS	TOP -BEND F-KPS	BOT +BEND F-KPS	BOT -BEND F-KPS
INVENTORY	315.5	272.8	315.5	272.8
OPERATING	525.8	454.7	525.8	454.7
VEH. 1	.0	.0	.0	.0
VEH. 2	.0	.0	.0	.0
VEH. 3	.0	.0	.0	.0
SPECIAL	.0	.0	.0	.0

DETAIL DATA AT MOMENT CHECK POINT FOR
REINFORCED CONCRETE FLEXURAL MEMBER

***** LIVE LOAD AND RATING CALCULATIONS (IMPACT FACTOR = .300 FOR +BEND AND = .270 FOR -BEND)

		LL+IMP	LL	LOC.NO. 1 WHEEL FT.	DIR	AXLE SPACE FT.	-------LANE LOAD------- LL+IMP FT-KIPS	LL FT-KIPS	LOC.CONC LOAD FT.	LOC.CONC LOAD 2 FT.	RATING FACT.	SAFE LOAD CAPACITY TONS	RATING VALUE
LIVE	H15 +BEND	298.1	229.3	30.000	R	.0	265.7	204.4	16.000		1.058	15.9	H 15.9
INV LOAD		110.2	86.8	72.153	R	.0	119.3	93.9	64.200	.000			
OPER HS20	+BEND	501.1	385.5	2.000	L	.0	354.2	272.5	16.000		1.049	37.8	HS 21.0
		241.2	190.0	84.251	R	.0	159.0	125.2	64.200	.000			

---------TRUCK LOAD----------

POST	+BEND	.0	.0	.000							.000	.0	
-BEND		.0	.0	.000									
FT-KIPS FT-KIPS													
	+BEND	.0	.0	.000							.000	.0	
POST -BEND		.0	.0	.000									
	+BEND	.0	.0	.000							.000	.0	
POST -BEND		.0	.0	.000									
INVENTORY													
POST SPEC	+BEND	.0	.0	.000							.000	.0	
-BEND		.0	.0	.000									

MEMBER I.D.--G01
REINF.
C.P. LOCATION
-BEND

-BEND

DATE 02/03/11

***** SECTION PROPERTIES IN RANGE 1 OF SPAN 2

	B IN.	T IN.	BP IN.		AREA SQ.IN.	IX IN**4	AS SQ.IN.	D IN.	ASP SQ.IN.	DP IN.	A IN.	K	J
	116.00	7.50	26.00	+BEND	1923.0	422414.3	7.62	45.00	17.78	2.88	1.00	.000	.000
					1248.0	239616.0	17.78	45.12	7.62	3.00	1.00	.000	.000

***** INFLUENCE LINE (SIMPLE SPAN)

W
IN.
48.00

POS AREA =

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

X-DIST (FT.)	1 SPAN	2 SPAN	3 SPAN	4 SPAN	5 SPAN	6 SPAN	
Y-ORDINATE	.000	.000	.000	.000	.000	.000	
	-1.149	-3.275	.525	.000	.000	.000	
	-2.219	-5.580	.941	.000	.000	.000	
T 0	-3.131	-6.789	1.247	.000	.000	.000	
E 1	-3.805	-6.977	1.421	.000	.000	.000	
N 2	-4.162	-6.369	1.442	.000	.000	.000	
T 3	-4.124	-5.219	1.323	.000	.000	.000	
H 4	-3.639	-3.781	1.091	.000	.000	.000	
5	-2.765	-2.205	.774	.000	.000	.000	
P 6	-1.537	-1.012	.401	.000	.000	.000	
O 7	.000	.000	.000	.000	.000	.000	AREA
I 8							
N 9	.0	.0	34.4	.0	.0	.0	34.4
T 0	106.1	249.9	.0	.0	.0	.0	356.0

POS AREA
NEG AREA

***** ALLOWABLE STRESS

	STEEL PSI	CONC PSI
	22000.0	1200.0
OPERATING	30000.0	1636.4
POST VEH1	.0	.0
POST VEH2	.0	.0
POST VEH3	.0	.0
POST SPEC	.0	.0

***** TOTAL DL MOMENT EFFECT

FT-KIPS
-673.4

***** MOMENT CAPACITY

	CONC + BEND FT-KIPS	REINF - BEND FT-KIPS	REINF + BEND FT-KIPS	CONC - BEND FT-KIPS
	1016.9	2244.7	1016.9	2244.7
OPERATING	1016.9	2244.7	1016.9	2244.7
POST VEH1	.0	.0	.0	.0
POST VEH2	.0	.0	.0	.0
POST VEH3	.0	.0	.0	.0
POST SPEC	.0	.0	.0	.0

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

	TOP +BEND F-KPS	TOP -BEND F-KPS	BOT +BEND F-KPS	BOT -BEND F-KPS
INVENTORY	873.4	632.0	873.4	632.0
OPERATING	1455.7	1053.3	1455.7	1053.3
VEH. 1	.0	.0	.0	.0
VEH. 2	.0	.0	.0	.0
VEH. 3	.0	.0	.0	.0
SPECIAL	.0	.0	.0	.0

DETAIL DATA AT MOMENT CHECK POINT FOR
REINFORCED CONCRETE FLEXURAL MEMBER

***** LIVE LOAD AND RATING CALCULATIONS (IMPACT FACTOR = .300 FOR +BEND AND = .285 FOR -BEND)

		LL+IMP	LL	LOC.NO. 1 WHEEL FT.	DIR	AXLE SPACE FT.	-------LANE LOAD------- LL+IMP FT-KIPS	LL FT-KIPS	LOC.CONC LOAD FT.	LOC.CONC LOAD 2 FT.	RATING FACT.	SAFE LOAD CAPACITY TONS	RATING VALUE
LIVE	H15 +BEND	55.7	42.8	129.499	R	.0	51.2	39.4	119.250				
INV LOAD		279.0	217.1	72.153	R	.0	452.7	352.2	64.200	20.000	1.396	20.9	H 20.9
OPER HS20	+BEND	108.9	83.8	139.750	R	.0	68.3	52.5	119.250				
		610.6	475.1	84.251	R	.0	603.6	469.6	64.200	20.000	1.725	62.1	HS 34.5

---------TRUCK LOAD----------

POST	+BEND	.0	.0	.000							.000	.0	
-BEND		.0	.0	.000									
FT-KIPS FT-KIPS													
POST	+BEND	.0	.0	.000							.000	.0	
-BEND		.0	.0	.000									
	+BEND	.0	.0	.000							.000	.0	
POST -BEND		.0	.0	.000									
INVENTORY													
POST SPEC	+BEND	.0	.0	.000							.000	.0	
-BEND		.0	.0	.000									

MEMBER I.D.--G01
REINF.
C.P. LOCATION
-BEND

-BEND

DATE 02/03/11

***** SECTION PROPERTIES IN RANGE 2 OF SPAN 2

	B IN.	T IN.	BP IN.		AREA SQ.IN.	IX IN**4	AS SQ.IN.	D IN.	ASP SQ.IN.	DP IN.	A IN.	K	J
	116.00	7.50	26.00	+BEND	1299.0	55185.3	22.86	18.00	7.62	2.88	.86	.000	.000
					624.0	29952.0	7.62	21.12	22.86	6.00	1.01	.000	.000

***** INFLUENCE LINE (SIMPLE SPAN)

W IN. 24.00

POS AREA =

***** ALLOWABLE STRESS ***** MOMENT CAPACITY

	CONC PSI	STEEL PSI	CONC + BEND FT-KIPS	REINF - BEND FT-KIPS	REINF + BEND FT-KIPS	CONC - BEND FT-KIPS
	22000.0	1200.0	1128.4	430.3	1128.4	430.3
OPERATING	30000.0	1636.4	1128.4	430.3	1128.4	430.3
POST VEH1	.0	.0	.0	.0	.0	.0
POST VEH2	.0	.0	.0	.0	.0	.0
POST VEH3	.0	.0	.0	.0	.0	.0
POST SPEC	.0	.0	.0	.0	.0	.0

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

X-DIST (FT.)	1 SPAN	2 SPAN	3 SPAN	4 SPAN	5 SPAN	6
Y-ORDINATE	.000	.000	.000	.000	.000	.000
	-.344	.836	-.413	.000	.000	.000
	-.664	2.018	-.741	.000	.000	.000
T 0	-.937	3.662	-.981	.000	.000	.000
E 1	-1.139	5.844	-1.118	.000	.000	.000
N 2	-1.246	8.580	-1.135	.000	.000	.000
T 3	-1.234	5.823	-1.041	.000	.000	.000
H 4	-1.089	3.627	-.858	.000	.000	.000
5	-.825	1.980	-.609	.000	.000	.000
P 6	-.460	.809	-.316	.000	.000	.000
O 7	.000	.000	.000	.000	.000	.000
I 8						
N 9	.0	200.7	.0	.0	.0	.0
T 0	31.8	.0	27.0	.0	.0	.0
POS AREA						
NEG AREA						

***** TOTAL DL MOMENT EFFECT

FT-KIPS 290.1

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

	TOP +BEND F-KPS	TOP -BEND F-KPS	BOT +BEND F-KPS	BOT -BEND F-KPS
INVENTORY	346.8	372.6	346.8	372.6
OPERATING	578.0	621.0	578.0	621.0
VEH. 1	.0	.0	.0	.0
VEH. 2	.0	.0	.0	.0
VEH. 3	.0	.0	.0	.0
SPECIAL	.0	.0	.0	.0

DETAIL DATA AT MOMENT CHECK POINT FOR REINFORCED CONCRETE FLEXURAL MEMBER

***** LIVE LOAD AND RATING CALCULATIONS (IMPACT FACTOR = .270 FOR +BEND AND = .300 FOR -BEND)

		LL+IMP	LL	LOC.NO. 1 WHEEL FT.	DIR	AXLE SPACE FT.	-------LANE LOAD------- LL+IMP FT-KIPS	LL FT-KIPS	LOC.CONC LOAD FT.	LOC.CONC LOAD 2 FT.	RATING FACT.	SAFE LOAD CAPACITY TONS	RATING VALUE
LIVE	H15 +BEND	311.4	245.3	56.250	L	.0	296.4	233.4	70.250		1.114	16.7	H 16.7
INV LOAD		48.8	37.6	10.001	L	.0	64.2	49.4	20.000	.000			
OPER HS20	+BEND	554.1	436.5	84.249	R	.0	395.1	311.3	70.250		1.043	37.5	HS 20.9
		97.1	74.7	1.998	L	.0	85.7	65.9	20.000	.000			

---------TRUCK LOAD----------

POST	+BEND	.0	.0	.000							.000	.0	
-BEND		.0	.0	.000									
FT-KIPS FT-KIPS													
POST	+BEND	.0	.0	.000							.000	.0	
-BEND		.0	.0	.000									
	+BEND	.0	.0	.000							.000	.0	
POST -BEND		.0	.0	.000									
INVENTORY													
POST SPEC	+BEND	.0	.0	.000							.000	.0	
-BEND		.0	.0	.000									

MEMBER I.D.--G01

REINF. C.P. LOCATION

-BEND

-BEND

DATE 02/03/11

***** SECTION PROPERTIES IN RANGE 1 OF SPAN 3

	B IN.	T IN.	BP IN.		AREA SQ.IN.	IX IN**4	AS SQ.IN.	D IN.	ASP SQ.IN.	DP IN.	A IN.	K	J
	112.50	7.50	26.00	+BEND	1896.8	417694.8	7.62	45.00	17.78	2.88	1.00	.000	.000
					1248.0	239616.0	17.78	45.12	7.62	3.00	1.00	.000	.000

***** INFLUENCE LINE (SIMPLE SPAN)

W
IN.
48.00

POS AREA =

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

X-DIST (FT.)
Y-ORDINATE

	1 SPAN	2 SPAN	3 SPAN	4 SPAN	5 SPAN	6 SPAN
	.000	.000	.000	.000	.000	.000
	.461	-1.104	-1.350	.000	.000	.000
	.891	-2.484	-2.422	.000	.000	.000
T 0	1.257	-4.037	-3.209	.000	.000	.000
E 1	1.527	-5.535	-3.657	.000	.000	.000
N 2	1.671	-6.721	-3.711	.000	.000	.000
T 3	1.655	-7.335	-3.405	.000	.000	.000
H 4	1.461	-7.116	-2.808	.000	.000	.000
5	1.186	-6.286	-2.093	.000	.000	.000
P 6	.617	-3.420	-1.033	.000	.000	.000
O 7	.000	.000	.000	.000	.000	.000
I 8						
N 9	42.6	.0	.0	.0	.0	.0
T 0	.0	263.7	88.5	.0	.0	.0

AREA

	42.6						42.6
	.0	263.7	88.5	.0	.0	.0	352.2

***** ALLOWABLE STRESS ***** MOMENT CAPACITY

	STEEL PSI	CONC PSI	CONC + BEND FT-KIPS	REINF - BEND FT-KIPS	REINF + BEND FT-KIPS	CONC - BEND FT-KIPS
	22000.0	1200.0	1016.6	2244.7	1016.6	2244.7
OPERATING	30000.0	1636.4	1016.6	2244.7	1016.6	2244.7
POST VEH1	.0	.0	.0	.0	.0	.0
POST VEH2	.0	.0	.0	.0	.0	.0
POST VEH3	.0	.0	.0	.0	.0	.0
POST SPEC	.0	.0	.0	.0	.0	.0

***** TOTAL DL MOMENT EFFECT

FT-KIPS
-649.3

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

	TOP +BEND F-KPS	TOP -BEND F-KPS	BOT +BEND F-KPS	BOT -BEND F-KPS
INVENTORY	858.8	646.4	858.8	646.4
OPERATING	1431.3	1077.4	1431.3	1077.4
VEH. 1	.0	.0	.0	.0
VEH. 2	.0	.0	.0	.0
VEH. 3	.0	.0	.0	.0
SPECIAL	.0	.0	.0	.0

SDETAIL DATA AT MOMENT CHECK POINT FOR
REINFORCED CONCRETE FLEXURAL MEMBER

POS AREA
NEG AREA

***** LIVE LOAD AND RATING CALCULATIONS (IMPACT FACTOR = .300 FOR +BEND AND = .287 FOR -BEND)

		LL+IMP	LL	LOC.NO. 1 WHEEL FT.	DIR	AXLE SPACE FT.	-------LANE LOAD------- LL+IMP FT-KIPS	LL FT-KIPS	LOC.CONC LOAD FT.	LOC.CONC LOAD 2 FT.	RATING FACT.	SAFE LOAD CAPACITY TONS	RATING VALUE
LIVE INV LOAD	H15 +BEND	65.5	50.4	10.001	L	.0	61.2	47.1	20.000				
		293.4	227.9	68.345	L	.0	449.0	348.8	76.300	119.250	1.440	21.6	H 21.6
OPER HS20	+BEND	130.2	100.1	1.998	L	.0	81.7	62.8	20.000				
		643.7	500.0	56.249	L	.0	598.7	465.1	76.300	119.250	1.674	60.3	HS 33.5

---------TRUCK LOAD----------

POST	+BEND	.0	.0	.000							.000	.0	
-BEND		.0	.0	.000									
FT-KIPS FT-KIPS													
POST	+BEND	.0	.0	.000							.000	.0	
-BEND		.0	.0	.000									
	+BEND	.0	.0	.000							.000	.0	
POST -BEND		.0	.0	.000									
INVENTORY													
POST SPEC	+BEND	.0	.0	.000							.000	.0	
-BEND		.0	.0	.000									

MEMBER I.D.--G01
REINF.
C.P. LOCATION
-BEND

-BEND

DATE 02/03/11

***** SECTION PROPERTIES IN RANGE 2 OF SPAN 3

	B IN.	T IN.	BP IN.		AREA SQ.IN.	IX IN**4	AS SQ.IN.	D IN.	ASP SQ.IN.	DP IN.	A IN.	K	J
	112.50	7.50	26.00	+BEND	1272.8	54641.5	15.24	19.50	7.62	2.88	.93	.000	.000
					624.0	29952.0	7.62	21.12	15.24	4.50	1.01	.000	.000

***** INFLUENCE LINE (SIMPLE SPAN)

H
IN.
24.00

POS AREA =

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

X-DIST (FT.)
Y-ORDINATE

	1 SPAN	2 SPAN	3 SPAN	4 SPAN	5 SPAN	6
	.000	.000	.000	.000	.000	.000
	.185	-.442	.960	.000	.000	.000
	.356	-.994	2.031	.000	.000	.000
	.503	-1.615	3.216	.000	.000	.000
	.611	-2.214	4.537	.000	.000	.000
	.668	-2.688	6.015	.000	.000	.000
	.662	-2.934	7.638	.000	.000	.000
	.584	-2.847	5.627	.000	.000	.000
	.442	-2.284	3.703	.000	.000	.000
	.247	-1.368	1.837	.000	.000	.000
	.000	.000	.000	.000	.000	.000
	17.0	.0	133.4	.0	.0	.0
	.0	105.5	.0	.0	.0	.0

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

		STEEL PSI	CONC PSI	CONC + BEND FT-KIPS	REINF - BEND FT-KIPS	REINF + BEND FT-KIPS	CONC - BEND FT-KIPS
***** ALLOWABLE STRESS ***** MOMENT CAPACITY		22000.0	1200.0	843.0	430.3	843.0	430.3
	OPERATING	30000.0	1636.4	843.0	430.3	843.0	430.3
	POST VEH1	.0	.0	.0	.0	.0	.0
	POST VEH2	.0	.0	.0	.0	.0	.0
	POST VEH3	.0	.0	.0	.0	.0	.0
	POST SPEC	.0	.0	.0	.0	.0	.0

***** TOTAL DL MOMENT EFFECT

FT-KIPS
86.6

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

	TOP +BEND F-KPS	TOP -BEND F-KPS	BOT +BEND F-KPS	BOT -BEND F-KPS
INVENTORY	337.1	250.5	337.1	250.5
OPERATING	561.8	417.6	561.8	417.6
VEH. 1	.0	.0	.0	.0
VEH. 2	.0	.0	.0	.0
VEH. 3	.0	.0	.0	.0
SPECIAL	.0	.0	.0	.0

SDETAIL DATA AT MOMENT CHECK POINT FOR
REINFORCED CONCRETE FLEXURAL MEMBER
+BEND
-BEND

***** LIVE LOAD AND RATING CALCULATIONS (IMPACT FACTOR = .300 FOR +BEND AND = .270 FOR -BEND)

		LL+IMP	LL	LOC.NO. 1 WHEEL FT.	DIR	AXLE SPACE FT.	-------LANE LOAD------- LL+IMP FT-KIPS	LL FT-KIPS	LOC.CONC LOAD FT.	LOC.CONC LOAD 2 FT.	RATING FACT.	SAFE LOAD CAPACITY TONS	RATING VALUE
LIVE LOAD	H15 +BEND	280.0	215.4	109.000	L	.0	248.5	191.2	123.000		1.204	18.1	H 18.1
INV		115.7	91.2	68.345	L	.0	125.6	99.0	76.300	.000			
OPER HS20	+BEND	458.7	352.9	137.000	R	.0	331.4	254.9	123.000		1.225	44.1	HS 24.5
		253.9	200.0	56.249	L	.0	167.5	131.9	76.300	.000			

---------TRUCK LOAD----------

POST	+BEND	.0	.0	.000							.000	.0	
-BEND		.0	.0	.000									
FT-KIPS FT-KIPS													
	+BEND	.0	.0	.000							.000	.0	
POST -BEND		.0	.0	.000									
	+BEND	.0	.0	.000							.000	.0	
POST -BEND		.0	.0	.000									
INVENTORY													
POST SPEC	+BEND	.0	.0	.000							.000	.0	
-BEND		.0	.0	.000									

MEMBER I.D.--G01
REINF.
C.P. LOCATION
-BEND

-BEND

D/P STRUCTURE I.D. KLS-717

DATE 02/03/11

MEMB. ID	MATL	SPAN NO.	DIS FRM LT SPRT R	DL SHEAR KIPS	SDL SHEAR KIPS	LL+I MAX.V KIPS	T L	LL+I MIN.V KIPS	T L	---OPERATING--- LL+I MAX.V KIPS	T L	LL+I MIN.V KIPS	T L	--VEH. 1 -- LL+I MAX.V KIPS	LL+I MIN.V KIPS	--VEH. 2 -- LL+I MAX.V KIPS	LL+I MIN.V KIPS	--VEH. 3 -- LL+I MAX.V KIPS	LL+I MIN.V KIPS	--SPECIAL-- LL+I MAX.V KIPS	LL+I MIN.V KIPS
	RC	1	.000 L	16.1	7.7	40.0	L	9.1	L	73.3	T	15.4	T								
G01			16.000 L	5.6	2.8	18.6	T	20.7	L	30.0	T	27.7	L								
			.000 L	45.2	20.4	52.6	L	3.7	L	88.7	T	6.4	T								
			30.250 L	.3	.5	21.1	L	21.4	L	32.3	T	33.3	T								
			.000 L	40.0	18.5	48.4	L	2.0	L	81.7	T	3.5	T								
			22.500 L	6.2	3.1	21.0	L	18.7	T	28.0	L	29.8	T								
			37.500 L	13.7	7.2	10.2	L	39.6	L	17.3	T	71.9	T								

FT.
1
2
2
3
3
3

---INVENTORY---

SUMMARY OF SHEAR ANALYSIS

58	2161	1.37	RIGHT	9/16/2002	4
COUNTY	ROUTE	LOG MILE		DATE	PAGE

LOOKING AHEAD

ACROSS DECK

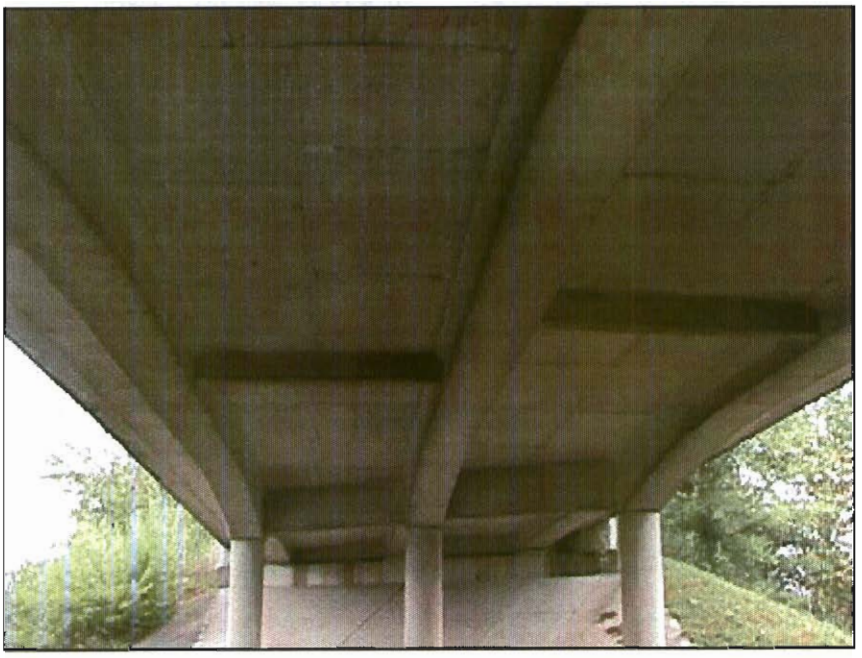
58	2161	1.37	RIGHT	9/16/2002	4A
COUNTY	ROUTE	LOG MILE		DATE	PAGE

LOOKING BACK

SIDE VIEW

58	2161	1.37	RIGHT	9/16/2002	4B
COUNTY	ROUTE	LOG MILE		DATE	PAGE

BOTTOM DECK

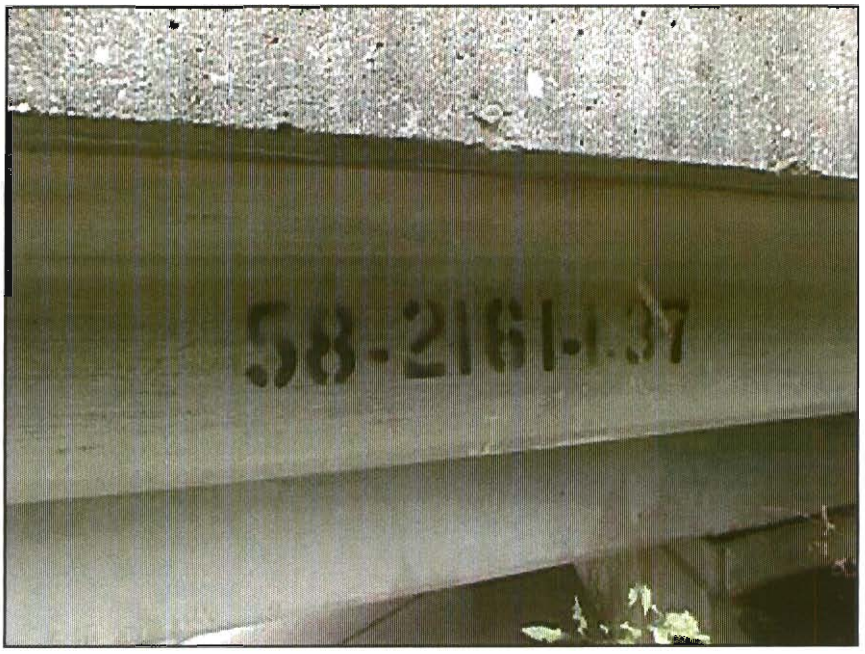


UNDERCLEARANCE EBL LOOKING WEST

58	2161	1.37	RIGHT	9/16/2002	4C
COUNTY	ROUTE	LOG MILE		DATE	PAGE

UNDERCLEARANCE EBL LOOKING EAST

BRIDGE NUMBER



Form BIR 3.0C PAGE 5 Field Report No. 15 Date 9/16/02
(Rev. 10-92) Previous Report No. 14 Date 9/14/00
DT-1537 Plans----yes[X] no[ ]

ROUTINE BRIDGE INSPECTION REPORT

Bridge No. 58I00240039 Bridge Loc. No. 58 - 2161 - 1.37 RT.
Eleven Digit No. Co. Route Log Mile

SHELLMOUND RD.
2161 over I-24 RBL Indepth Insp. Req'd: yes [ ] no [X]
ROAD NAME (If yes itemize limits under comments)

STRUCTURE TYPE CDG FRACTURE CRITICAL
yes [ ] no [X]

FEATURE CHANGES
Wearing surface yes [ ] no [X] TYPE ASPHALT DEPTH 4 IN
Bridge Rail yes [ ] no [X] Describe METAL RAILING
Approach Rail yes [ ] no [X] Describe "W" SHAPE G.R.

CLEARANCE CHANGES yes [ ] no [X] (If yes provide dimensions) INSPECTORS
Vertical Clearance over deck UNL ft. in. FARRIS
Vertical Under Clearance 16 ft. 6 in. DICKSON
Lateral Under Clearance 41 FT 3 in. HICKERSON
Deck Roadway Width 28 FT 0 IN.
Sidewalk Width NA . ft. (Rt.) NA . ft. (Lt.)

CONDITION (If change describe in comments)

	G	F	P	C	COMMENTS
Approaches		FP			POTHOLES, LARGE CKS, SETTLEMENT AT BRIDGE ENDS
Deck Condition (Item 58)		G			NUMEROUS CRACKS IN WEARING SURFACE
Superstructure (Item 59)		G			H.L. CKS. W/ STAINS IN OVERHANG
a. Beams		G			RANDOM H.L. TENSION CRACKS
b. Bearings		G			NEOPRENE
c. Diaphragms		G			
Substructure (Item 60)		G			
a. Caps/Bridge Seats		G			WATER SEEPAGE AT ABUT2 RT.
b. Columns/Piles		G			
c. Footings					N.V.
d. Wing W./Breast W.		G			
Scour/Erosion					N/A

UNDERWATER INSPECTION
To Be Performed By:
Dot Field Team [ ] Month Year
Contract Diver [ ] Month Year
None Required [X]

BRIDGE is:
Open [X]
Closed [ ]

WEIGHT LIMIT POSTED
Yes [ ] No [X]

ACTUAL POSTING
Gross - Tons
2-Axle - Tons
3-Axle - Tons

COMMENTS (Provide Pictures as required to verify problems--minimum of 3 required)

Bridge Rating [X] Good [ ] Fair [ ] Poor [ ] Critical

PATRICK DICKSON
Supervising Bridge Inspector

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FORM BIR 3.0A
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DT-1443

CURRENT FIELD REPORT NO. 15 DATE 9/16/02
PREVIOUS FIELD REPORT NO. 14 DATE 9/14/00

INSPECTION REPORT FOR UNDERPASS ROUTE

BRIDGE NO. 58I00240039 (ELEVEN DIGIT NUMBER) UNDERPASS LOC.NO. 58 (CO.) -I24 R (RTE.) -22.78 (L.M.)

58 (CO.) -2162 (RTE.) - 1.37 (L.M.) OVER 58 (CO.) -I24 R (RTE.) - 22.78 (L.M.) STRUCTURE NAME (IF NAMED)

COUNTY MARION

YEAR CONSTRUCTED 1965 YEAR WIDENED _____ YEAR REHABILITATED _____
ESTIMATED [ ] ACTUAL [X]

GEOMETRIC FEATURES UNDER BRIDGE

DIVIDED HIGHWAY - - - - LEFT RDWY [ ] RIGHT RDWY [X] N.A. [ ]
TYPE OF WEARING SURFACE - - - CONCRETE [ ] ASPHALT [X] GRAVEL [ ]
WIDTH OF APPROACH TRAVELED ROADWAY 24 FT. (DOES NOT INCLUDE SHOULDERS)
WIDTH OF MEDIAN IF DIVIDED HIGHWAY NA FT.
APPROACH SHOULDER WIDTH (RT.) 10 FT. (LT.) 6
**HORIZONTAL CLEARANCE UNDER BRIDGE 41 FT. 3 IN.
**DISTANCE BETWEEN PIER PROTECTION GUARDRAIL AND SUBSTRUCTURE (RT.) 0 FT. (LT.) 6.2 FT.
**WIDTH OF SIDEWALK UNDER BRIDGE (RT.) NA FT. (LT.) NA FT.
**MINIMUM VERTICAL CLEARANCE 16 FT. 6 in.

SHOW ON A SKETCH

TRAFFIC SAFETY FEATURES FOR UNDERPASS ROUTE		STANDARD	SUB-STANDARD
PIER PROTECTION RAILING OR PARAPET	[G] F P C [X]	RT. SIDE [ ]	NON EXIST [ ]
APPROACH GUARDRAIL TRANSITIONS	[G] F P C [X]	[ ]	NON EXIST [ ]
APPROACH GUARDRAIL	[G] F P C [X]	[ ]	NON EXIST [ ]
APPROACH GUARDRAIL TERMINAL	[G] F P C [X]	[ ]	NON EXIST [ ]

SIGNING FOR UNDERPASS ROUTE

				INSPECTORS
PADDLEBOARD	YES [ ]	NO [X]	NEEDED [ ]	
VERTICAL CLEARANCE 1. FARRIS (<14')	YES [ ]	NO [X]	NEEDED [ ]	2. DICKSON
NARROW PASSAGE	YES [ ]	NO [X]	NEEDED [ ]	3. FARRIS
ONE LANE PASSAGE	YES [ ]	NO [X]	NEEDED [ ]	4. HICKERSON
				5. _____
				6. _____

PAGE 8 9-16-02
FORM BIR 3.0A (CONTINUED)
REV. 6-9-92
DT-1443 UNDERPASS LOC. NO. _58_-I24R_-_22.78

OTHER SIGNS OR PLAQUES _____

COMMENTS REGARDING ANY PROBLEM WITH SIGNING _____

BRIDGE FEATURES

BRIDGE SKEW 58
STRUCTURE TYPE __CDG____ NO. SPANS _3___
MAIN SPAN MAIN TYPE
STRUCTURE TYPE _____ NO. SPANS _____
APPROACH SPAN APPROACH TYPE
MAXIMUM SPAN LENGTH _60 FT 5 IN TOTAL LENGTH 139 FT. 5 IN
WIDTH OF BRIDGE OUT-TO-OUT 34 FT 5 IN. (RT. < TO L OF BRIDGE)
WIDTH OF BRIDGE ALONG SKEW 40 FT. 7 IN(IF UNABLE TO MEASURE AT RT. ANGLE TO LT. OF BRIDGE)
NUMBER OF LANES/TRACKS ON BRIDGE __2__

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 FAILURE OF MAJOR MEMBERS? YES [ ] NO [X]

COMMENT ON ANY CONDITIONS OF BRIDGE THAT WOULD EFFECT ROADWAY BENEATH _____

NOTE: IF UNDERPASS ROUTE IS DIVIDED HIGHWAY, USE TWO (2) 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 NO. 58 2161 1.37 09/16/02

COUNTY ROUTE NO. LOG MILE DATE

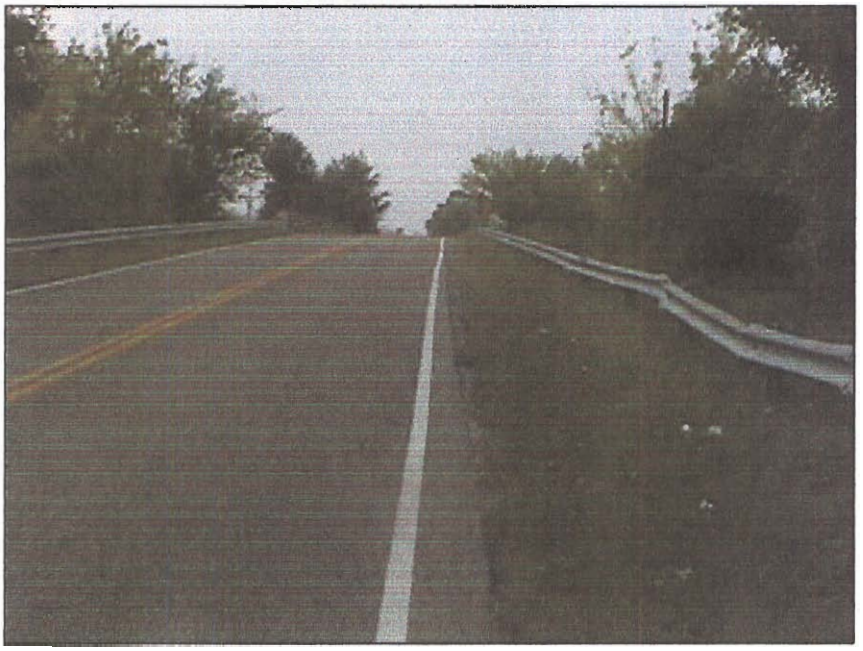
ON SEPTEMBER 16, 2002, A REGION TWO BRIDGE INSPECTION TEAM OF TULLAHOMA INSPECTED THIS STRUCTURE AND FOUND IT IN GOOD CONDITION.

APPROACH NO. 1 HAS HEAVY CRACKING AROUND THE BRIDGE END. APPROACH NO. 2 HAS 1" TO 2" OF SETTLEMENT WITH (1) LARGE TRANSVERSE CRACK. THE APPROACH GUARDRAIL @ APPROACH NO. 2 HAS HEAVY COLLISION DAMAGE.

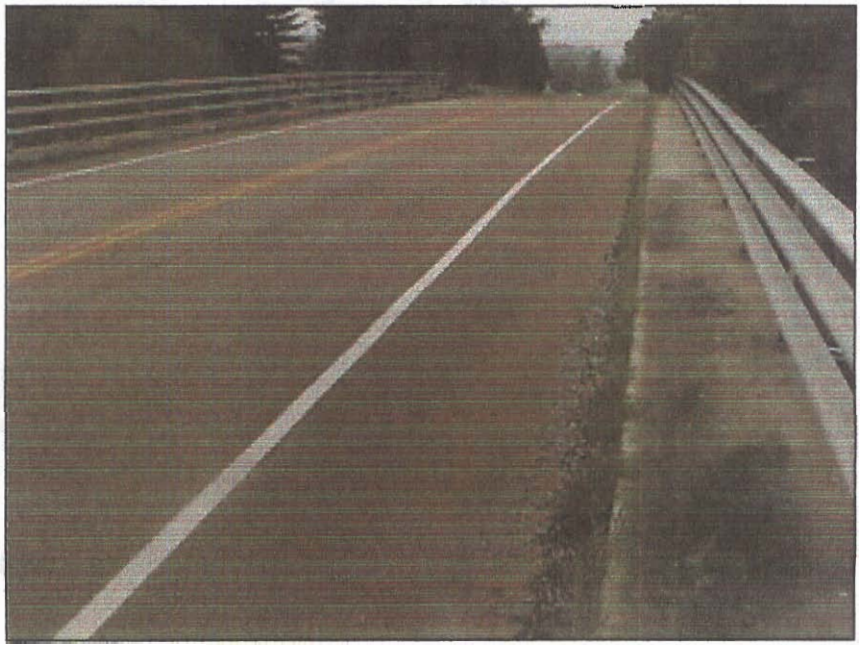
NOTE: I-24 EBL RECENTLY PAVED AND NEW ACCEPTABLE G.R. INSTALLED 1999?.

58	2161	1.37 RT.	9/14/00	4
COUNTY	ROUTE	LOGMILE	DATE	PAGENO

LOOKING AHEAD



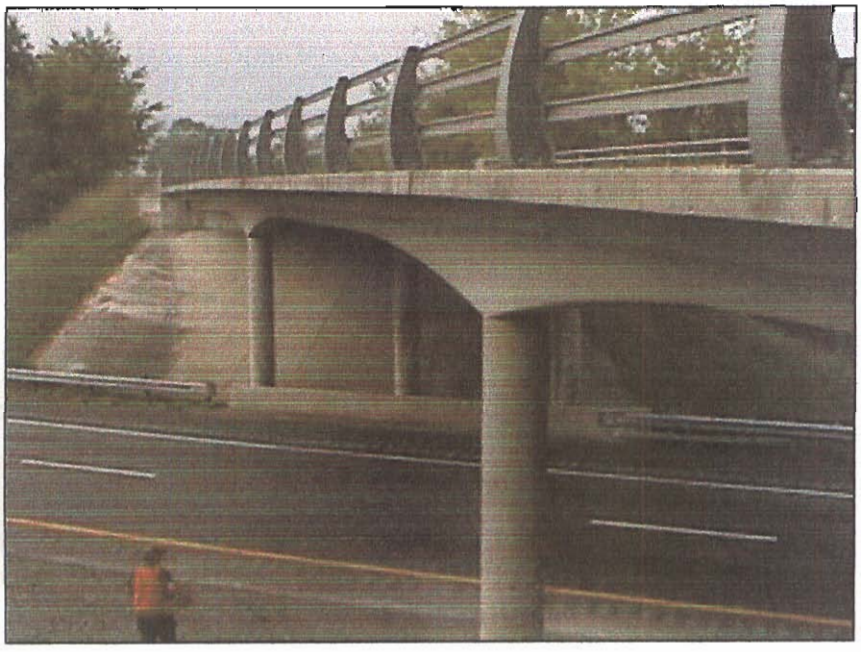
ACROSS DECK



58	2161	1.37 RT.	9/14/00	4A
COUNTY	ROUTE	LOGMILE	DATE	PAGENO

LOOKING BACK

SIDE VIEW



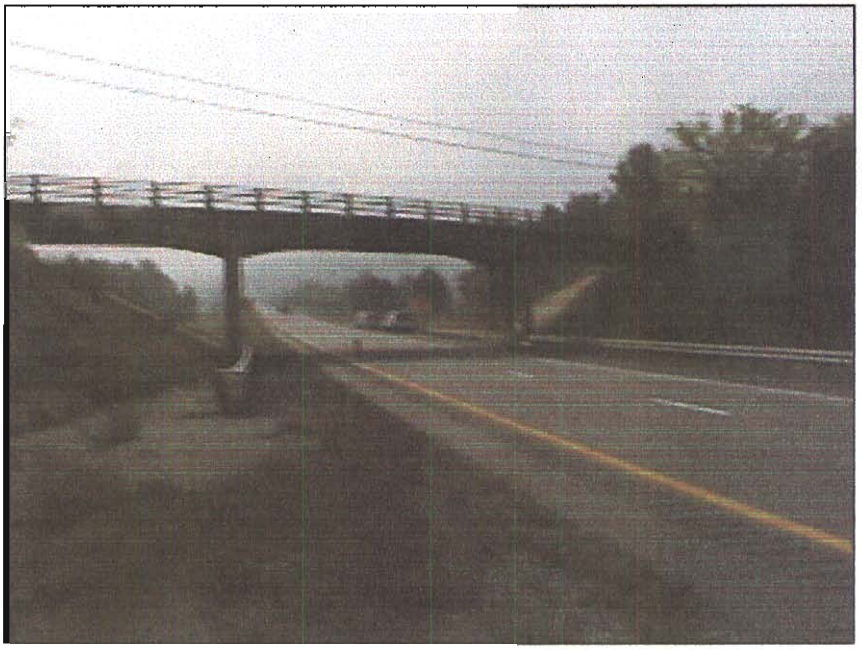
58	2161	1.37 RT.	9/14/00	4B
COUNTY	ROUTE	LOGMILE	DATE	PAGENO

APP. 1 JOINT SETTLEM ENT AND BROKEN PAVEMENT

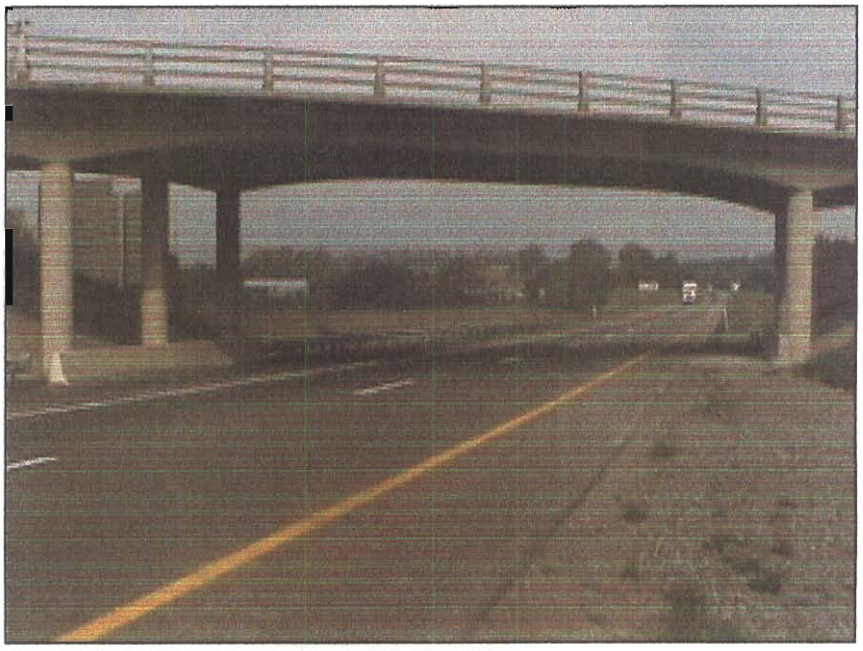
BOTTOM DECK

58	2161	1.37 RT.	9/14/00	4C
COUNTY	ROUTE	LOGMILE	DATE	PAGENO

UNDERPASS LK. EAST IN E.B.L.



UNDERPASS LK. WEST IN E.B.L.



58	2161	1.37 RT.	9/14/00	4D
COUNTY	ROUTE	LOGMILE	DATE	PAGENO

BRIDGE NUMBER

Form BIR 3.0C PAGE 5 Field Report No. 14 Date 9/14/00
(Rev. 10-92) Previous Report No. 13 Date 9/04/98
DT-1537 Plans----yes[X] no[ ]

ROUTINE BRIDGE INSPECTION REPORT

Bridge No. 58I00240039 (Eleven Digit No.) Bridge Loc. No. 58 (Co.) - 2161 (Route) - 1.37 (Log Mile)

SHELLMOUND RD.
2161 (ROAD NAME) over I-24 RBL Indepth Insp. Req'd: yes [ ] no [X]
(If yes itemize limits under comments)

STRUCTURE TYPE CDG FRACTURE CRITICAL yes [ ] no [X]

FEATURE CHANGES
Wearing surface yes [ ] no [X] TYPE ASPHALT DEPTH
Bridge Rail yes [ ] no [X] Describe METAL RAILING
Approach Rail yes [ ] no [X] Describe "W" SHAPE G.R.

CLEARANCE CHANGES yes [ ] no [X] (If yes provide dimensions)
Vertical Clearance over deck UNL ft. in.
Vertical Under Clearance 16 ft. 2 in.
Lateral Under Clearance 17 .1 ½ in.
Deck Roadway Width 28 . 0 ft.
Sidewalk Width NA . ft. (Rt.) NA . ft. (Lt.)

INSPECTORS
FARRIS
DICKSON
BRASSFIELD

CONDITION (If change describe in comments)	G F P C	COMMENTS
Approaches	FP	SPALLS AROUND JT. APPR. 1 LG. CKS. BOTH END, SETTLEMENT BOTH ENDS
Deck Condition (Item 58)	G	SM. CRACKS IN OVERLAY
Superstructure (Item 59)	G	H.L. CKS. @ OVERHANGS
a. Beams	G	
b. Bearings	G	
c. Diaphragms	G	
Substructure (Item 60)	G	
a. Caps/Bridge Seats	G	
b. Columns/Piles	G	
c. Footings		N.V.
d. Wing W./Breast W.	G	
Scour/Erosion		N/A

UNDERWATER INSPECTION
To Be Performed By:
Dot Field Team [ ] Month Year
Contract Diver [ ] Month Year
None Required [X] Month Year

BRIDGE is:
Open [X]
Closed [ ]

WEIGHT LIMIT POSTED
Yes [ ] No [X]

ACTUAL POSTING
Gross - Tons
2-Axle - Tons
3-Axle - Tons

COMMENTS (Provide Pictures as required to verify problems--minimum of 3 required) NOTE: UNDERCLEARANCE I-24 EBL PAVED AND NEW ACCEPTABLE G.R. INSTALLED 1999?.

Bridge Rating [X] Good [ ] Fair [ ] Poor [ ] Critical

PATRICK DICKSON
Supervising Bridge Inspector

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FORM BIR 3.0A
REV. 6-9-92
DT-1443

CURRENT FIELD REPORT NO. 14 DATE 9/14/00
PREVIOUS FIELD REPORT NO. 13 DATE 9/04/98

INSPECTION REPORT FOR UNDERPASS ROUTE

BRIDGE NO. 58I00240039 (ELEVEN DIGIT NUMBER) UNDERPASS LOC.NO. 58 (CO.) -I24 R (RTE.) -22.78 (L.M.)

58 (CO.) -2162 (RTE.) - 1.37 (L.M.) OVER 58 (CO.) -I24 R (RTE.) - 22.78 (L.M.) STRUCTURE NAME (IF NAMED)

COUNTY MARION

YEAR CONSTRUCTED 1965 YEAR WIDENED _____ YEAR REHABILITATED _____
ESTIMATED [ ] ACTUAL [X]

GEOMETRIC FEATURES UNDER BRIDGE

DIVIDED HIGHWAY - - - - LEFT RDWY [ ] RIGHT RDWY [ ] N.A. [X]
TYPE OF WEARING SURFACE - - - CONCRETE [ ] ASPHALT [X] GRAVEL [ ]
WIDTH OF APPROACH TRAVELED ROADWAY 24 FT. (DOES NOT INCLUDE SHOULDERS)
WIDTH OF MEDIAN IF DIVIDED HIGHWAY NA FT.
APPROACH SHOULDER WIDTH (RT.) 10 FT. (LT.) 6
**HORIZONTAL CLEARANCE UNDER BRIDGE 47 FT. 7 IN.
**DISTANCE BETWEEN PIER PROTECTION GUARDRAIL AND SUBSTRUCTURE (RT.) 0 FT. (LT.) 6.2 FT.
**WIDTH OF SIDEWALK UNDER BRIDGE (RT.) NA FT. (LT.) NA FT.
**MINIMUM VERTICAL CLEARANCE 17 FT. 1 ½ in.

SHOW ON A SKETCH

TRAFFIC SAFETY FEATURES FOR UNDERPASS ROUTE	STANDARD				SUB-STANDARD	RT. SIDE	
PIER PROTECTION RAILING OR PARAPET	[G]	F	P	C	[X]	[ ]	NON EXIST [ ]
APPROACH GUARDRAIL TRANSITIONS	[G]	F	P	C	[X]	[ ]	NON EXIST [ ]
APPROACH GUARDRAIL	[G]	F	P	C	[X]	[ ]	NON EXIST [ ]
APPROACH GUARDRAIL TERMINAL	[G]	F	P	C	[X]	[ ]	NON EXIST [ ]

SIGNING FOR UNDERPASS ROUTE

				INSPECTORS
PADDLEBOARD	YES [ ]	NO [X]	NEEDED [ ]	
VERTICAL CLEARANCE 1. FARRIS (<14')	YES [ ]	NO [X]	NEEDED [ ]	2. DICKSON
NARROW PASSAGE	YES [ ]	NO [X]	NEEDED [ ]	3. FARRIS
ONE LANE PASSAGE	YES [ ]	NO [X]	NEEDED [ ]	4. BRASSFIELD
				5. _____
				6. _____

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FORM BIR 3.0A (CONTINUED)
REV. 6-9-92
DT-1443 UNDERPASS LOC. NO. 58 -I24R - 22.78

OTHER SIGNS OR PLAQUES _____

COMMENTS REGARDING ANY PROBLEM WITH SIGNING _____

BRIDGE FEATURES

BRIDGE SKEW 58 LT.
STRUCTURE TYPE CDG (MAIN SPAN) NO. SPANS 3 (MAIN TYPE)
STRUCTURE TYPE _____ (APPROACH SPAN) NO. SPANS _____ (APPROACH TYPE)
MAXIMUM SPAN LENGTH 60.5 FT. TOTAL LENGTH 139.5 FT.
WIDTH OF BRIDGE OUT-TO-OUT 34.5 FT. (RT. < TO L OF BRIDGE)
WIDTH OF BRIDGE ALONG SKEW 40.7 FT. (IF UNABLE TO MEASURE AT RT. ANGLE TO LT. OF BRIDGE)
NUMBER OF LANES/TRACKS ON BRIDGE 2

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 FAILURE OF MAJOR MEMBERS? YES [ ] NO [X]

COMMENT ON ANY CONDITIONS OF BRIDGE THAT WOULD EFFECT ROADWAY BENEATH _____

NOTE: IF UNDERPASS ROUTE IS DIVIDED HIGHWAY, USE TWO (2) 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 NO. 58 2161 1.37 09/14/00

COUNTY ROUTE NO. LOG MILE DATE

ON SEPTEMBER 14, 2000, A REGION TWO BRIDGE INSPECTION TEAM OF TULLAHOMA INSPECTED THIS STRUCTURE AND FOUND IT IN GOOD CONDITION.

APPROACH NO. 1 HAS HEAVY CRACKING AROUND THE BRIDGE END. APPROACH NO. 2 HAS 1" TO 2" OF SETTLEMENT WITH (1) LARGE TRANSVERSE CRACK. THE APPROACH GUARDRAIL @ APPROACH NO. 2 HAS HEAVY COLLISION DAMAGE. THE GUARDRAIL UNDER THE BRIDGE @ THE RIGHT SIDE @ THE EAST END HAS HEAVY COLLISION DAMAGE WITH 30' THAT HAS BEEN TORN DOWN.

NOTE: I-24 EBL RECENTLY PAVED AND NEW ACCEPTABLE G.R. INSTALLED 1999?.

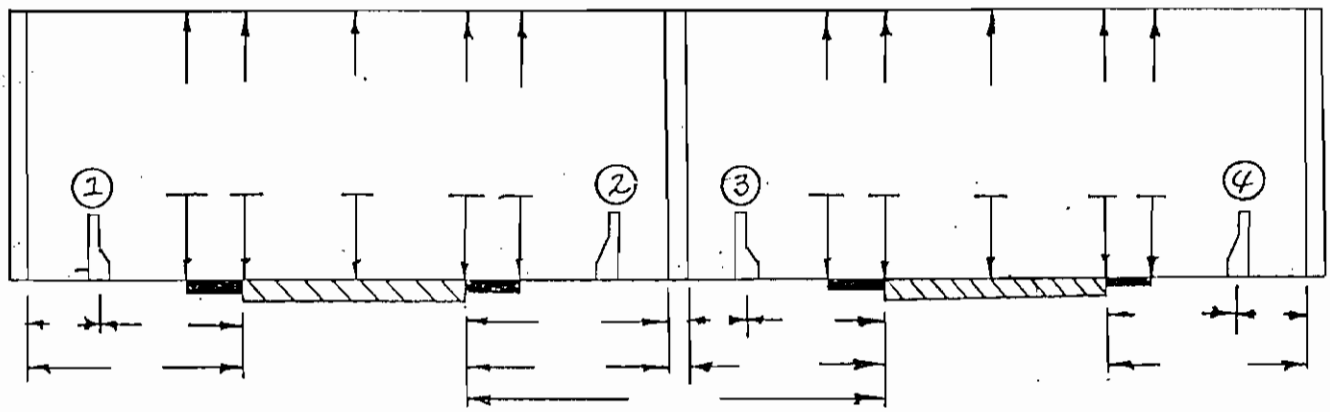
BIR 3.10
Rev. 6-9-92
DT-1510

BRIDGE LOC. NO. 58 / CO. -216 / RTE. -1.37 / L.M.

DATE 09-16-02

LATERAL AND VERTICAL CLEARANCES

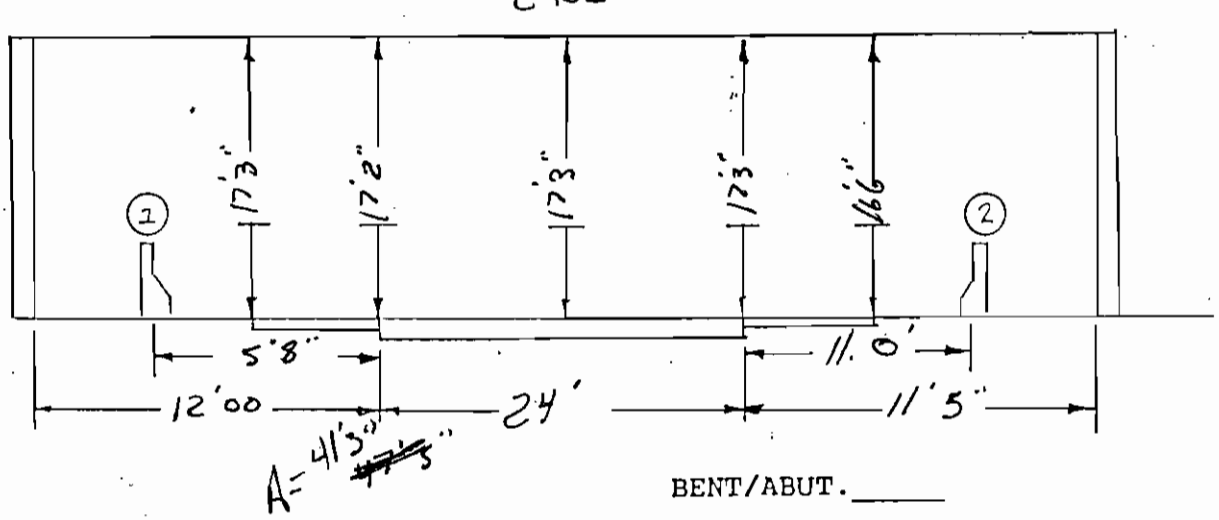
BENT/ABUT._____ BENT_____ BENT/ABUT._____



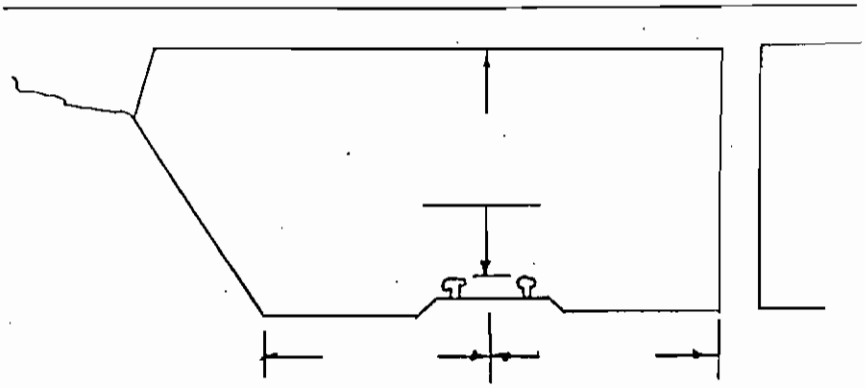
1.	RAIL/~~BARRIER~~ TYPE:	W-SHAPE [ ]	CONC. BARRIER [X]	NONE [ ]
2.	RAIL/BARRIER TYPE:	W-SHAPE [X]	CONC. BARRIER [ ]	NONE [X]
3.	RAIL/~~BARRIER~~ TYPE:	W-SHAPE [Ø]	CONC. BARRIER [ ]	NONE [X]
4.	RAIL/BARRIER TYPE:	W-SHAPE [ ]	CONC. BARRIER [X]	NONE [ ]

BENT/ABUT._____ BENT/ABUT._____

EBL RT



BENT/ABUT._____

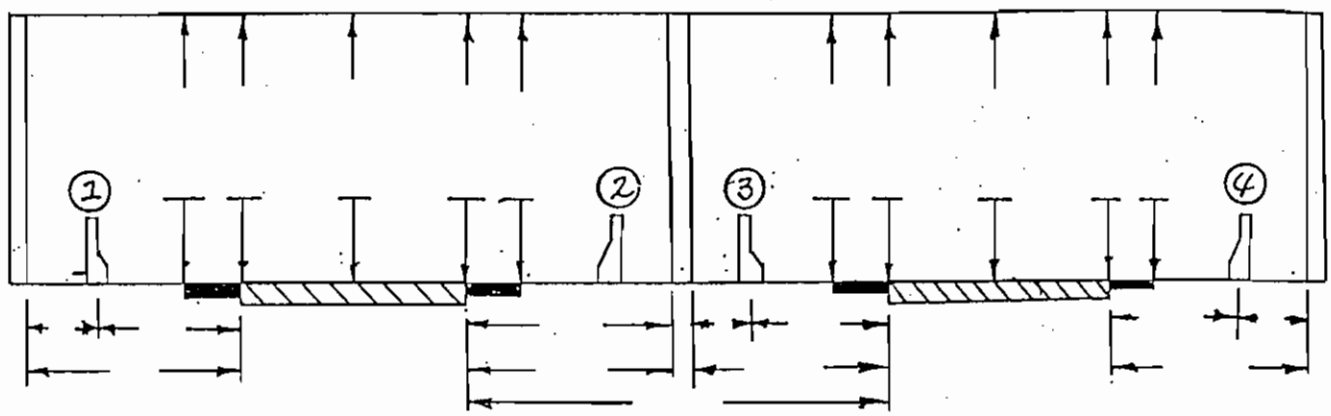


BIR 3.10
Rev. 6-9-92
DT-1510

BRIDGE LOC. NO. 58 - 2161 - 1.37 2.40 Km (CO. - RTE. - L.M.) DATE ~~9-9-98~~ 9-14-00

LATERAL AND VERTICAL CLEARANCES

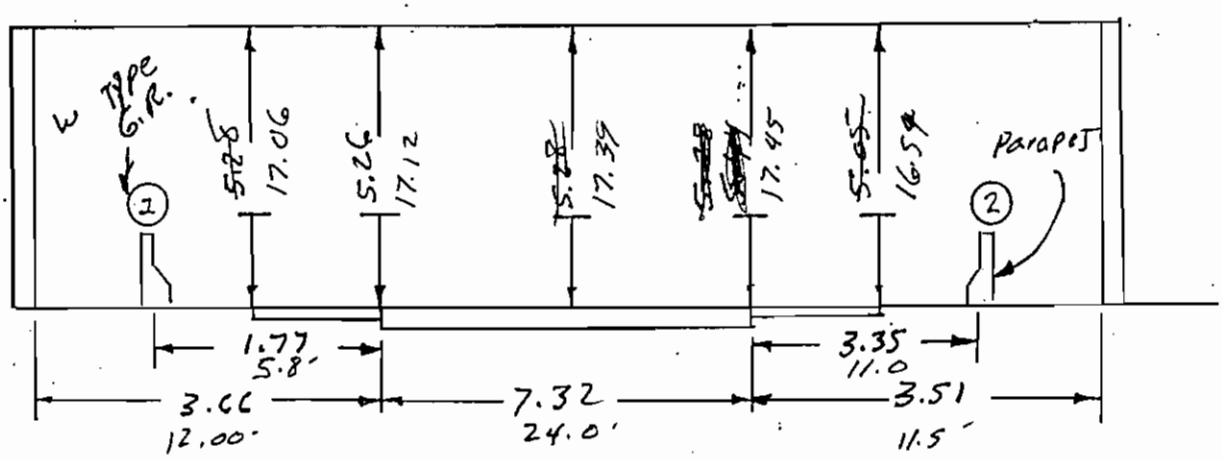
BENT/ABUT._____ BENT_____ BENT/ABUT._____



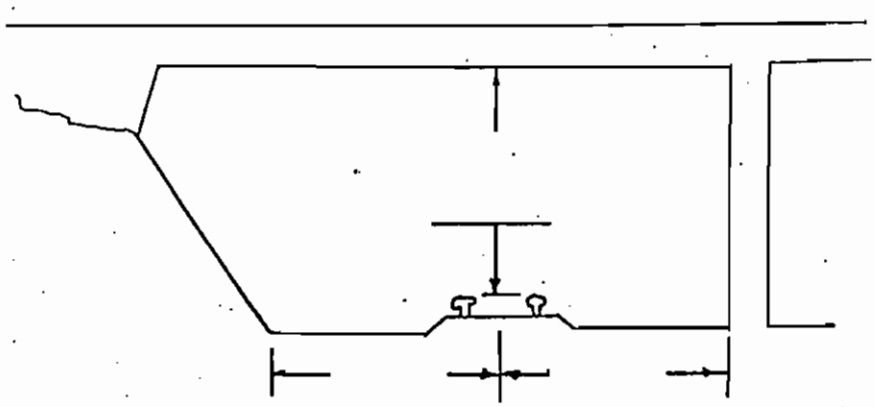
1.	RAIL/BARRIER TYPE:	W-SHAPE [ ]	CONC. BARRIER [X]	NONE [ ]
2.	RAIL/BARRIER TYPE:	W-SHAPE [ ]	CONC. BARRIER [ ]	NONE [X]
3.	RAIL/BARRIER TYPE:	W-SHAPE [ ]	CONC. BARRIER [ ]	NONE [X]
4.	RAIL/BARRIER TYPE:	W-SHAPE [ ]	CONC. BARRIER [X]	NONE [ ]

CLOTT

BENT/ABUT._____ BENT/ABUT._____



BENT/ABUT._____

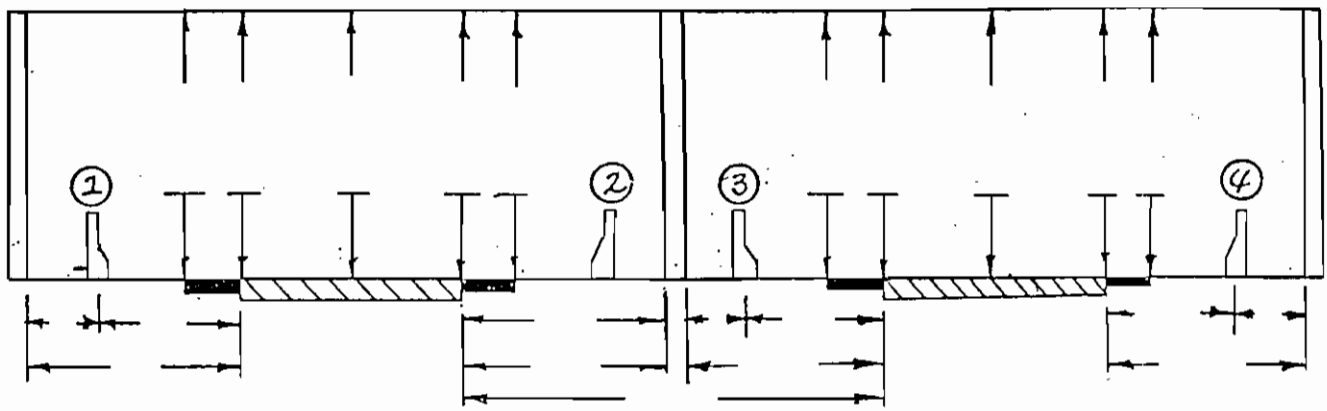


BIR 3.10
Rev. 6-9-92
DT-1510

BRIDGE LOC. NO. 58 (CO.) - 2161 (RTE.) - 1.37 (L.M.) 2.40 (Km) DATE 9-4-98

LATERAL AND VERTICAL CLEARANCES

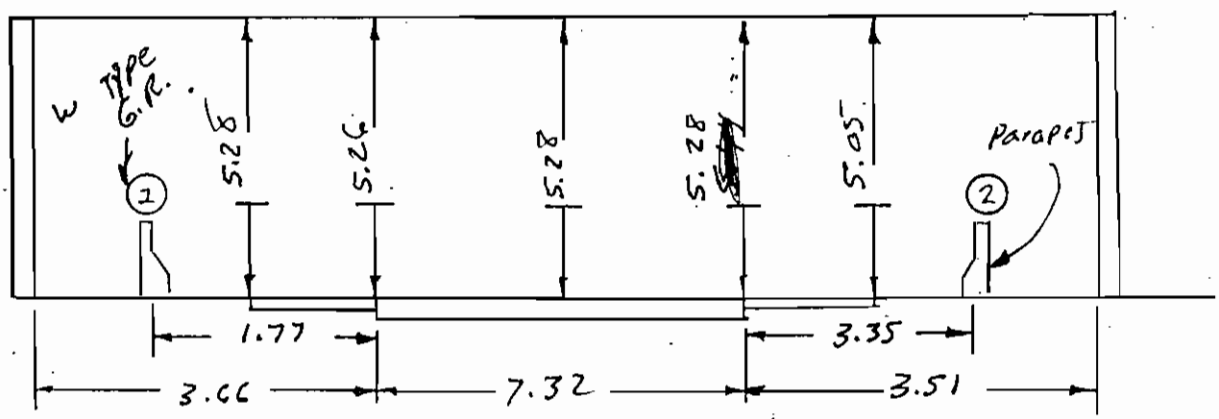
BENT/ABUT._____ BENT_____ BENT/ABUT._____



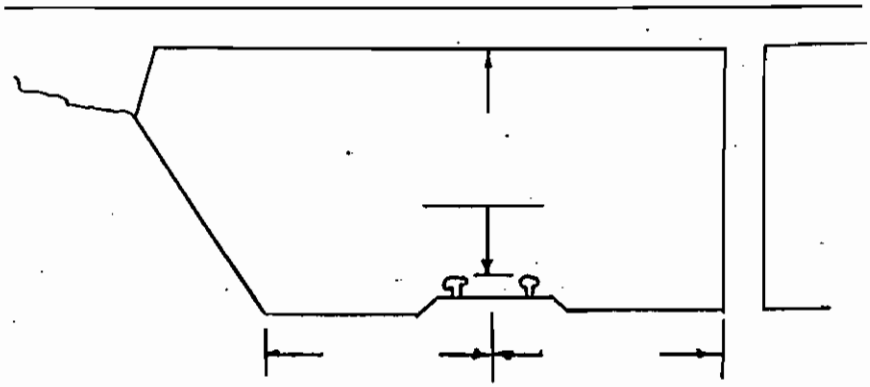
1.	RAIL/BARRIER TYPE:	W-SHAPE [ ]	CONC. BARRIER [ ]	NONE [ ]
2.	RAIL/BARRIER TYPE:	W-SHAPE [ ]	CONC. BARRIER [ ]	NONE [ ]
3.	RAIL/BARRIER TYPE:	W-SHAPE [ ]	CONC. BARRIER [ ]	NONE [ ]
4.	RAIL/BARRIER TYPE:	W-SHAPE [ ]	CONC. BARRIER [ ]	NONE [ ]

CHATT

BENT/ABUT._____ BENT/ABUT._____



BENT/ABUT._____



ELEVATIONS

BRIDGE NO. 58 (COUNTY) 2161 (ROUTE) 1.37 (LOG MILE) 9-4-98 (DATE)

STATION	TOP OF CURB	GUTTERLINE	CENTERLINE	GUTTERLINE	TOP OF CUR
ABUTMENT NO. 1	198.126	197.974		197.922	198.079
BENT NO. 1	198.135	198.013		198.007	198.138
BENT NO. 2	197.922	197.791		197.891	198.013
ABUTMENT NO. 2	198.138	197.587		197.718	197.858

BENCH MARK	TOP OF BRIDGE SEAT RT. SIDE ABUT. # 1
ELEVATION 646.93	

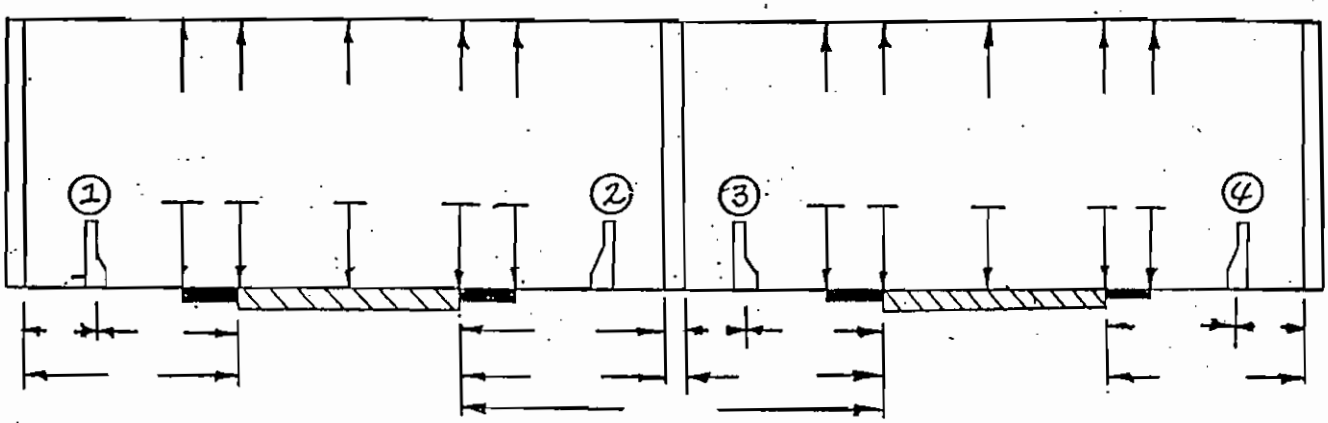
BIR 3.10
Rev. 6-9-92
DT-1510

BRIDGE LOC. NO. 58 - 2161 - 1.37 (CO. - RTE. - L.M.)

DATE 9-4-96

LATERAL AND VERTICAL CLEARANCES

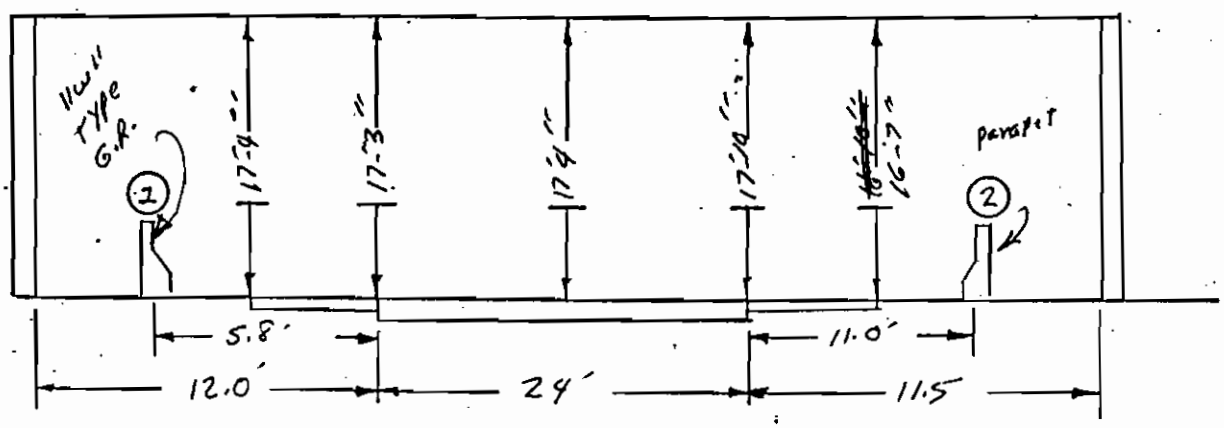
BENT/ABUT._____ BENT_____ BENT/ABUT._____



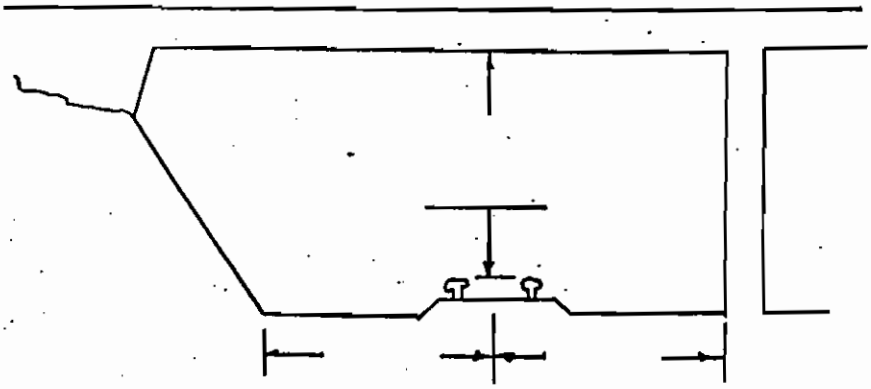
1.	RAIL/BARRIER TYPE:	W-SHAPE [ ]	CONC. BARRIER [ ]	NONE [ ]
2.	RAIL/BARRIER TYPE:	W-SHAPE [ ]	CONC. BARRIER [ ]	NONE [ ]
3.	RAIL/BARRIER TYPE:	W-SHAPE [ ]	CONC. BARRIER [ ]	NONE [ ]
4.	RAIL/BARRIER TYPE:	W-SHAPE [ ]	CONC. BARRIER [ ]	NONE [ ]

chart 4

BENT/ABUT._____ BENT/ABUT._____



BENT/ABUT._____



BIR 3.10
Rev. 4/20/90
DT-1510

ER

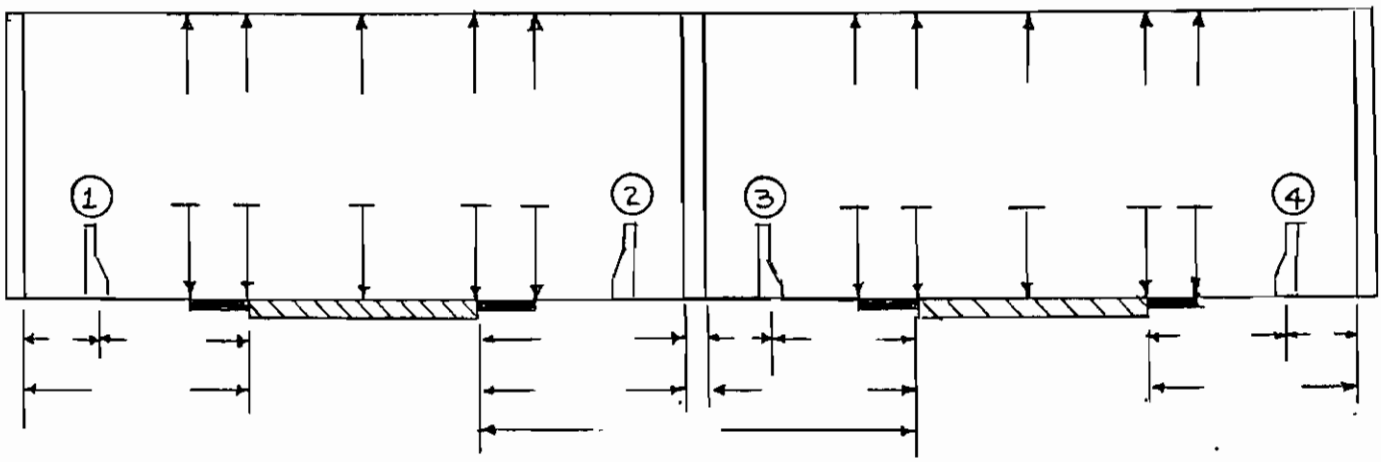
• 00010

BRIDGE NO. 58 — 216 — 1.37

DATE: 7/29/92

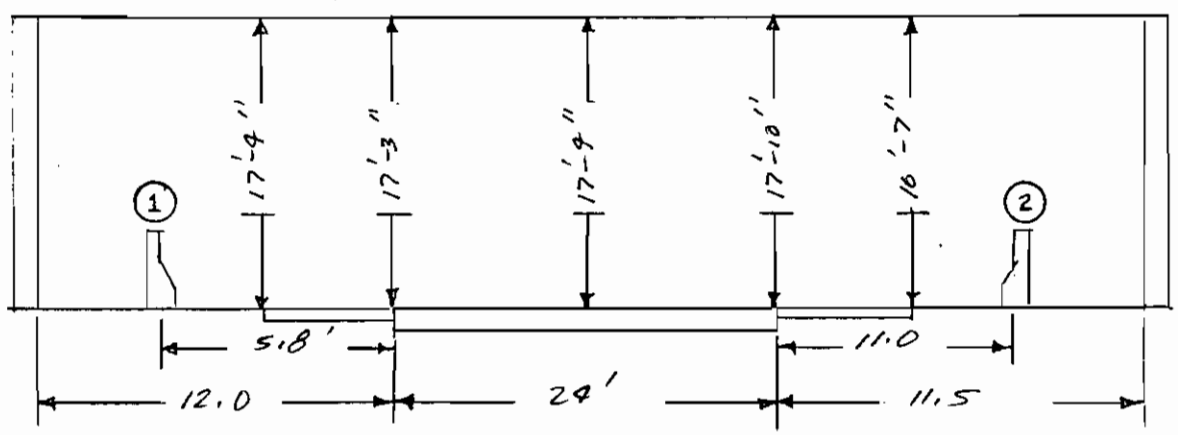
LATERAL AND VERTICAL CLEARANCES

BENT/ABUT.____ BENT____ BENT/ABUT.____

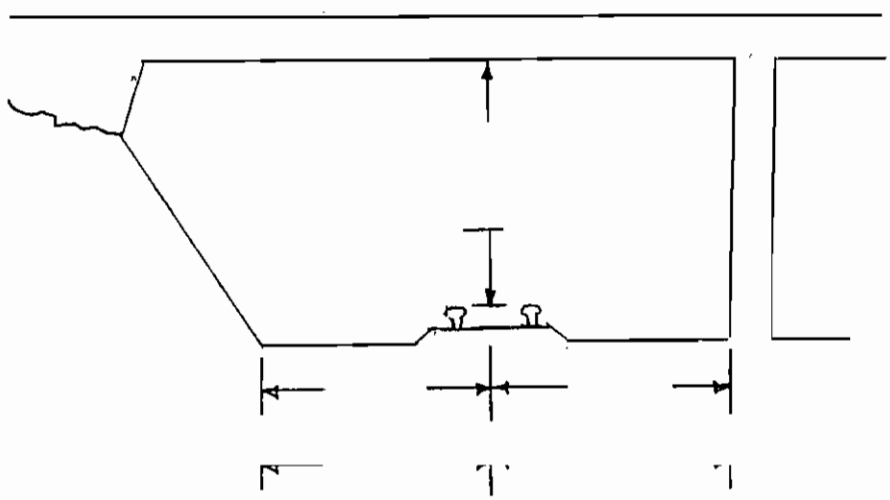


①	RAIL/BARRIER TYPE:	W-Shape	☒	Conc. barrier	☐	None	☐
②	RAIL/BARRIER TYPE:	W-Shape	☐	Conc. barrier	☒	None	☐
③	RAIL/BARRIER TYPE:	W-Shape	☐	Conc. barrier	☐	None	☐
④	RAIL/BARRIER TYPE:	W-Shape	☐	Conc. barrier	☐	None	☐

BENT/ABUT.____ BENT/ABUT.____



BENT/ABUT.____



XXXXXXX
SAME AS PREVIOUS REPORT

ELEVATIONS

PAGE NO. 00014

BRIDGE NO. 58 (COUNTY) 2161 (ROUTE) 1.37 (LOG MILE) 7-29-92 (DATE)

STATION	TOP OF CURB	GUTTERLINE	CENTERLINE	GUTTERLINE	TOP OF CURB
ABUTMENT NO. 1	650.02	649.52		649.35	649.85
BENT NO. 1	650.05	649.65		649.63	650.06
BENT NO. 2	649.35	648.92		649.25	649.65
ABUTMENT NO. 2	648.66	648.25		648.68	649.14

BENCH MARK	TOP OF BRIDGE SEAT RT. SIDE ABUT. # 1
ELEVATION 646.93	

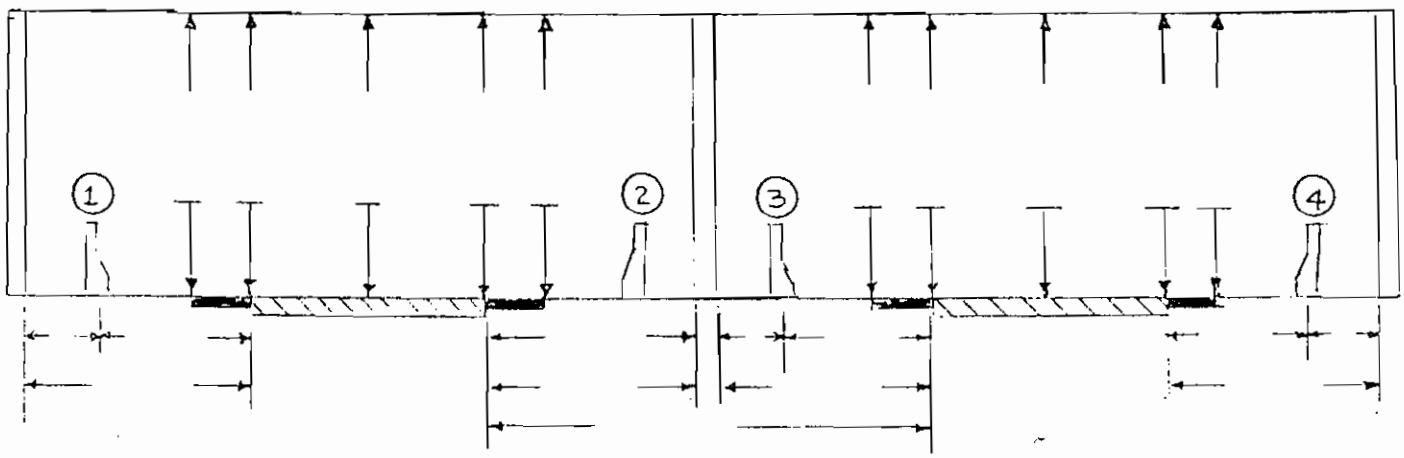
BIR 3.10
Rev. 4/20/90
DT-1510

EBL

BRIDGE NO. 58 — 2161 — 1.37 DATE: 6/4/90

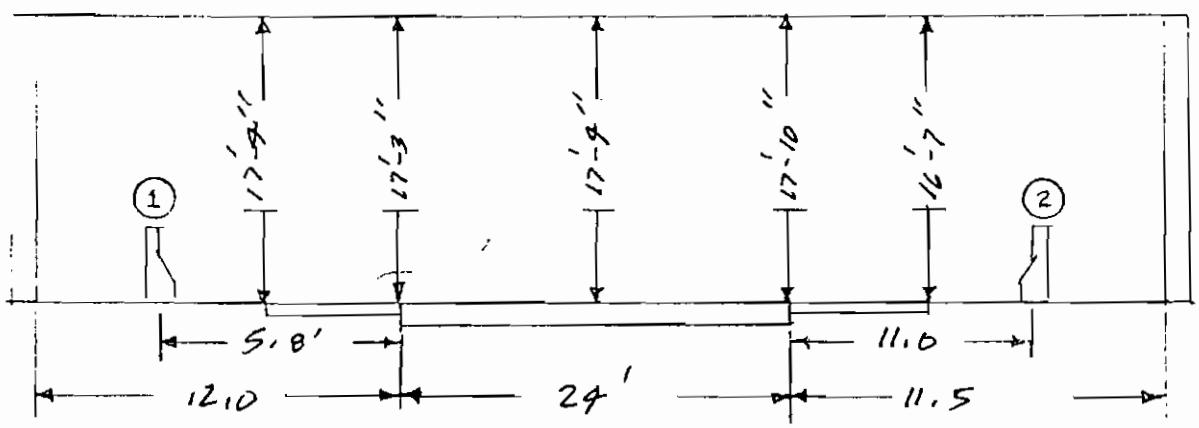
LATERAL AND VERTICAL CLEARANCES

BENT/~~ABUT~~. 1 BENT ____ BENT/~~ABUT~~. 2

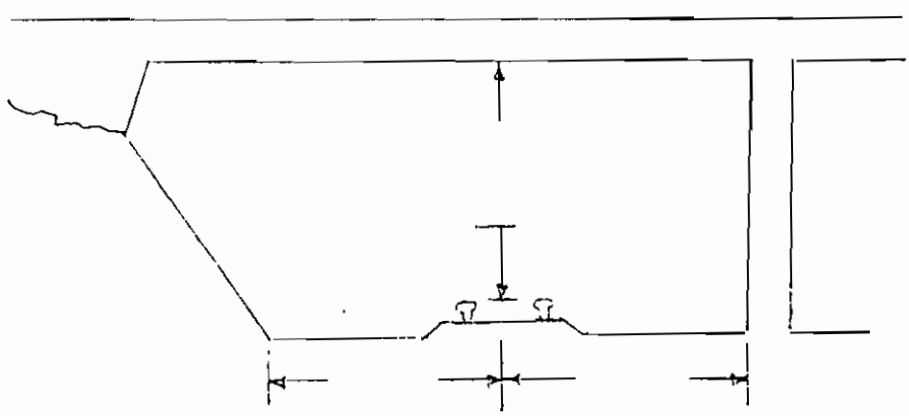


1	RAIL/BARRIER TYPE:	W-Shape	☒	Conc. barrier	☐	None	☐
2	RAIL/BARRIER TYPE:	W-Shape	☐	Conc. barrier	☒	None	☐
3	RAIL/BARRIER TYPE:	W-Shape	☐	Conc. barrier	☐	None	☐
4	RAIL/BARRIER TYPE:	W-Shape	☐	Conc. barrier	☐	None	☐

BENT/ABUT. ____ BENT/ABUT. ____



BENT/ABUT. ____



SAME AS PREVIOUS REPORT **ELEVATIONS** PAGE NO. 12

BRIDGE NO. 58 (COUNTY) 2161 I-24 EBL (ROUTE) 1.37 ~~22.91~~ 22.78 (LOG MILE) 6-4-90 (DATE)

STATION	TOP OF CURB	GUTTERLINE	CENTERLINE	GUTTERLINE	TOP OF CURB
ABUTMENT NO. 1	650.02	649.52		649.35	649.85
BENT NO. 1	650.05	649.65		649.63	650.06
BENT NO. 2	649.35	648.92		649.25	649.65
ABUTMENT NO. 2	648.66	648.25		648.68	649.17

BENCH MARK

ELEVATION 646.93

TOP OF BRIDGE SEAT RT. SIDE ABUT. # 1

000013

ELEVATIONS OF DECK

PAGE NO

DT0905

58 COUNTY | 2161 ROUTE | 1.37 LOG MILE | 4-18-88 DATE

STATION	TOP OF CURB	GUTTER	CENTER LINE	GUTTER	TOP OF CURB
ABUT 1	650.02	649.52		649.35	649.85
BENT 1	650.05	649.65		649.63	650.06
BENT 2	649.35	648.92		649.25	649.65
ABUT 2	648.66	648.25		648.68	649.14
	TAKEN	FROM	PREVIOUS	REPORT	

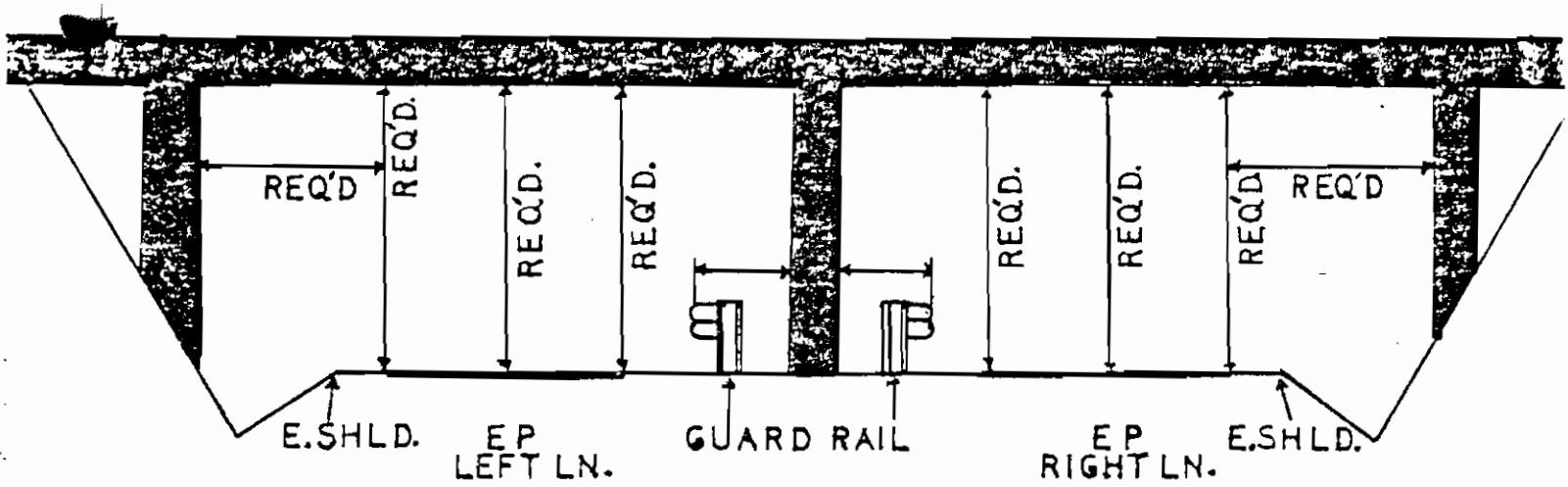
BENCH MARK BRIDGE SEAT ABUT 1 - RT SIDE
LOCATION

646.93
ELEVATION

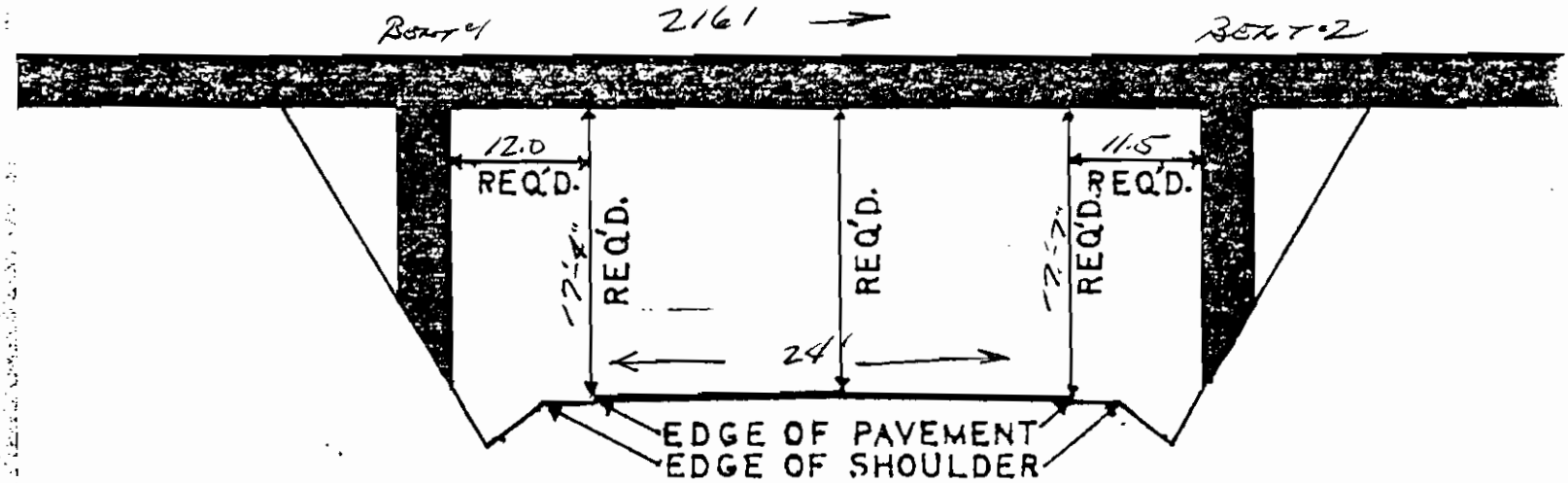
58 | 2161/4.24 | 1.0 / 22.9 | 4-18-88 00001 | PAGE N

COUNTY | ROUTE | LOG MILE | DATE

REQUIRED VERTICAL AND HORIZONTAL CLEARANCES ON INTERSECTING ROUTES



DIVIDED HIGHWAY



TWO LANE HIGHWAY

NOTE: ALL CLEARANCES ARE MINIMUM

Looking AHEAD ON I-24 (EAST)

DT-0771

BRIDGE NO. 58	2161	1.37	09-04-98
COUNTY	ROUTE	LOG MILE	DATE

APPROACH LOOKING NORTH

SIDE VIEW

BRIDGE NO.	58	2161	1.37	9-4-98
	COUNTY	ROUTE	LOG MILE	DATE

APPROACH LOOKING SOUTH

LOOKING ACROSS DECK

PHOTOS

BRIDGE NO.	58	2161	1.37	9-4-98
	COUNTY	ROUTE	LOG MILE	DATE

JOINT AT APPROACH NUMBER 2

JOINT AT APPROACH NUMBER 1

BRIDGE NO.	58	2161	1.37	09-08-98
	COUNTY	ROUTE	LOG MILE	DATE

UNDERCLEARANCE EBL LOOKING WEST

UNDERCLEARANCE EBL LOOKING EAST

BRIDGE NO.	58	2161	1.37	09-08-98
	COUNTY	ROUTE	LOG MILE	DATE

BOTTOM DECK

BRIDGE NUMBER

BRIDGE INSPECTION REPORT PAGE 5
FORM BIR 3.0 FIELD REPORT NO._13__ DATE__09-04-98__
Rev. 3-1-97 PREVIOUS REPORT NO._12__ DATE__09-04-96__
DT-0069 PLANS ---- YES [X] NO [ ]
BRIDGE NO._58I00240039____ BRIDGE LOC. NO._58_-2161_-_1.37___ (_2.20___)
ELEVEN DIGIT NO. CO. ROUTE LOG MILE (LOG km)
SHELL MOUND ROAD OVER _RT.LN.I-24-22.78__ _____
ROAD NAME FEATURE INTERSECTED STRUCTURE NAME (IF NAMED)
YEAR CONSTRUCTED _1965_ COUNTY __MARION_____ MAINTENANCE DISTRICT NO._22__
(ESTIMATED OR ACTUAL)
[ ] [X]
YEAR WIDENED _____ YEAR REHABILITATED _____
ESTIMATED OR ACTUAL ESTIMATED OR ACTUAL
[ ] [ ] [ ] [ ]

FEATURES
WEARING SURFACE-- CONCRETE [ ] TIMBER [ ] ASPHALT [X] (DEPTH=_100_mm)
FLARED WIDTH --------- YES [ ] NO [X]
NAVIGATIONAL CONTROL-- YES [ ] NO [X]
MEDIAN WIDTH -------- OPEN [ ] NONE [X] CLOSED [ ]
BRIDGE SKEW 58 _ LT [X] RT [ ]

INSPECTORS

STRUCTURE TYPE____C.D.G._____ NO. SPANS___3____
Main Span Main Span

1. _BRASSFIELD_____
2. _FARRIS_____

STRUCTURE TYPE_____ NO. SPANS_____
Approach Spans Approach Spans

3. _____
4. _____

MAXIMUM SPAN LENGTH__18.44__ TOTAL LENGTH__42.52____

5. _____

WIDTHS (*.**m) CLEARANCES (*.**m)

6. _____

DECK OUT-TO-OUT __10.52 MIN. VERTICAL OVER DECK_UNL__

7. _____

ROADWAY CURB/CURB ___8.53 MIN. VERTICAL UNDER CL._5.05_
SIDEWALK_N/A__RT_N/A__LT MIN. LATERAL UNDER CLEARANCE: 8. _____
*APPROACH ROADWAY _6.71__ __3.35_RT

9. _____

APPROACH SHLD. __0.91_RT __1.77_LT
__0.91_LT

*DOES NOT INCLUDE SHOULDER

UNDERWATER INSPECTION

(< 7.62 m)
NBIS BRIDGE
LENGTH_____
(*.**m)

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

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

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

COMMENTS:APPS. NEED OVERLAID.REPAIR G.R. AND BRING UP TO STANDARD.

_____JAMES FARRIS_____ BRIDGE RATING [X] [ ] [ ] [ ]
SUPERVISING BRIDGE INSPECTOR GOOD FAIR POOR CRITICAL

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

FORM BIR 3.1 PAGE 6
Rev. 3-1-97 BRIDGE LOC. NO. 58 -2161 - 1.37 (2.20) DATE: 9-4-98
DT-0080 CO. ROUTE L.M. (LOG km)

PERFORMANCE EVALUATION

Time of day inspected P.M. Weather conditions SUNNY

Vehicles observed AUTOS AND PICKUPS

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

APPROACH

Alignment	G [F] P C	VERTICAL TRANSITION BOTH ENDS
Slab	G F P C	
Joints	G F P C	
Pavement	G [F] P C	APP. 1 SETTLED,APP. 2 ROUGH,CRACKS
Embankment	[G] F P C	
Drains	G [F] P C	PARTLY BLOCKED WITH DEBRIS

TRAFFIC SAFETY FEATURES

		STANDARD	SUB-STANDARD	
Bridgerailing	[G] F P C	[ ]	[X]	
Transitions	G F P [C]	[ ]	[X]	
Guardrail	G F [P] C	[ ]	[X]	COL. DAM. #1L,#2L
Guardrail Terminal	G F [P] C	[ ]	[X]	12' SPACING

SIGNING

	YES	NO	NEEDED	
Paddleboard - - - - - - - - - - - -	[X]	[ ]	[ ]	WEIGHT LIMIT POSTED YES [ ] NO [X]
Vertical Clearance (< 4.4 m) - - -	[ ]	[X]	[ ]	
Narrow [ ] One Lane Bridge [ ] -	[ ]	[X]	[ ]	GROSS-- TONS
				2 AXLE - TONS
				3 OR MORE AXLES--- TONS

Other Signs or Plaques

Comments Regarding Any Problems With Signing

RECOMMENDATIONS

Bridgerail Is Substandard	[X]	Install Post Load Limit Signs	[ ]
Approach Rail Is Substandard	[X]	Level Approach #1	[X]
Install Paddleboard Signs	[ ]		

Other Recommendations REPAIR APPROACH 2

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

DECK					COMMENTS
WEARING SURFACE	[G]	F	P	C	ASPHALT
DECK - STRUCTURAL CONDITION	[G]	[F]	P	C	H.L. CRACKS AT OVERHANGS
CURBS	[G]	[F]	P	C	SM. TRANSVERSE CRACKS
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 STD'S	G	F	P	C	
UTILITIES	G	F	P	C	
JOINT LEAKAGE	G	[F]	P	C	SOME LEAKAGE ONTO ABUTMENTS
EXPANSION JOINTS	G	F	P	C	

SUPERSTRUCTURE					COMMENTS
BEARING DEVICES	[G]	F	P	C	
GIRDERS OR BEAMS	[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 NONE

CONDITION RATING G F P C FADING G F P C

OVERALL APPEARANCE G F P C NEEDS SPOT PAINTING? YES [ ] NO [ ]

STAINING G F P C NEEDS REPAINTING? YES [ ] NO [ ]

COMMENTS: _____ SCALING G F P C

RECOMMENDATIONS _____ CLEAN & SEAL JOINTS [ ]

_____ CLEAN DRAINS [ ]

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

FORM BIR 3.3 PAGE 8
Rev. 8-26-97 BRIDGE LOC. NO._58_-2161_-_1.37_ (_2.20_) DATE:_9-4-98____
DT-0082 CO. ROUTE L.M. (LOG km)

SUBSTRUCTURE

ABUTMENTS					COMMENTS
CAPS	[G]	F	P	C	
BREASTWALL	[G]	F	P	C	_FEW H.L. CRACKS
WINGS	[G]	F	P	C	
BACKWALL	[G]	F	P	C	
PLUMB	[G]	F	P	C	
FOOTING	G	F	P	C	_N.V.
PILES	G	F	P	C	_N.V.
EMBANKMENT	[G]	F	P	C	
BEARING SURFACE	[G]	F	P	C	
SLOPE PAVING	[G]	F	P	C	

PIERS NONE

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 SURFACE	G	F	P	C	

BENTS

CAPS	G	F	P	C	
COLUMNS	[G]	F	P	C	
PLUMB	[G]	F	P	C	
FOOTINGS	G	F	P	C	_N.V.
PILES	G	F	P	C	_N.V.
BEARING SURFACE	[G]	F	P	C	

PILES NEED REPLACEMENT NO [X] YES [ ]_____PILES TO BE REPLACED

			PILE(S)	BENT	PILE(S)	BENT
CUT VEGETATION	NO [X]	YES [ ]				
CLEAR DRIFT	NO [X]	YES [ ]				

RECOMMENDATIONS:_____

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

FRACTURE CRITICAL MEMBERS AND DETAILS

NOTE: Questions I and II both must be answered.

I. Is this a non-redundant bridge? YES [ ] NO [X]
(If YES then answer question III)

II. Does it have Fracture Critical Details? YES [ ] NO [X]
(If YES then answer question IV)

NOTE: Only check items that apply for questions III and IV.

III. Type of non-redundant bridge:
1. Simply supported two girder system . . . . . [ ]
2. Continuous two girder system . . . . . [ ]
3. Simply supported truss. . [ ]
4. Continuous truss. . . . . [ ]
5. Simply supported longitudinal box beam . . [ ]
6. Continuous longitudinal box beam. . . . . [ ]
7. Suspension bridge . . . . [ ]
8. Tied arch bridge. . . . . [ ]
9. Steel pier/bent cap . . . [ ]
10. Single bearing devices. . [ ]

IV. Fracture critical details:
1. Changes in cross section at:
   A. Cover plates . . [ ]
   B. Insert plates. . [ ]
   C. Coped sections . [ ]
2. Framing system member connected at tension areas of:
   A. Floor beams. . . [ ]
   B. Bracing members. [ ]
   C. Diaphragms or cross frames . . [ ]
3. Web stiffeners . . . [ ]
4. Eyebars. . . . . [ ]
5. Pin and hanger connections. . . . . [ ]
6. Single bearing devices. . . . . [ ]

V. Structural condition of FC members and details: (note location)

A. 1. Cracking of FC members? YES [ ] NO [ ]
2. Cracking of FC details? YES [ ] NO [ ]

B. 1. Corrosion of FC members? G F P C
2. Corrosion of FC details? G F P C

VI. Comments: _____

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

FORM BIR 3.0A CURRENT FIELD REPORT NO. 13 DATE 9-4-98
Rev. 7-1-98 PREVIOUS FIELD REPORT NO. 12 DATE 9-4-96
DT-1443

INSPECTION REPORT FOR UNDERPASS ROUTE

BRIDGE NO. 58I00240039 UNDERPASS LOC. NO. 58 - I-24- 22.78 (36.66)
ELEVEN DIGIT NO. CO. ROUTE L.M. (LOG km)
58 - 2161- 1.37 (2.20) OVER 58 - I 24- 22.78 (36.66)
CO. ROUTE L.M. (LOG km) CO. ROUTE L.M. (LOG km)
COUNTY MARION STRUCTURE NAME
YEAR CONSTRUCTED 1965 YEAR WIDENED YEAR REHABILITATED
ESTIMATED[ ] ACTUAL[X] ESTIMATED[ ] ACTUAL[ ] ESTIMATED[ ] ACTUAL[ ]

GEOMETRIC FEATURES UNDER BRIDGE
DIVIDED HIGHWAY - - - - LEFT ROADWAY [ ] RIGHT ROADWAY [ ] N.A. [X]
TYPE OF WEARING SURFACE - - - - CONCRETE [ ] ASPHALT [X] GRAVEL [ ]
WIDTH OF APPROACH TRAVELED ROADWAY 7.32 m (DOES NOT INCLUDE SHOULDERS)
WIDTH OF MEDIAN IF DIVIDED HIGHWAY N/A m
APPROACH SHOULDER WIDTH 3.05 m (RT.) 1.83 m (LT.)
*HORIZONTAL CLEARANCE UNDER BRIDGE 14.53 m
*DISTANCE BETWEEN PIER PROTECTION GUARDRAIL AND
SUBSTRUCTURE 0 m (RT.) 1.89 m (LT.)
*WIDTH OF SIDEWALK UNDER BRIDGE N/A m (RT.) N/A m (LT.)
MINIMUM VERTICAL CLEARANCE 5.05 m (.**m)
*SHOW ON SKETCH

TRAFFIC SAFETY FEATURES FOR UNDERPASS ROUTE

					STANDARD	SUB-STANDARD	
PIER PROTECTION RAILING OR PARAPET	[G]	F	P	C	[X]	[ ]	NON EXIST [ ]
APPROACH GUARDRAIL TRANSITIONS	[G]	[F]	P	C	[X]	[ ]	NON EXIST [ ]
APPROACH GUARDRAIL	[G]	F	P	C	[X]	[ ]	NON EXIST [ ]
APPROACH GUARDRAIL TERMINAL	[G]	F	P	C	[X]	[ ]	NON EXIST [ ]

MINOR COL. W.B. SIDE OF TRANSITION

SIGNING FOR UNDERPASS ROUTE

				INSPECTORS
PADDLEBOARD	YES [ ]	NO [X]	NEEDED [ ]	
VERTICAL CLEARANCE (< 4.4 m)	YES [ ]	NO [X]	NEEDED [ ]	1. BRASSFIELD 2. FARRIS
NARROW PASSAGE	YES [ ]	NO [X]	NEEDED [ ]	3.
ONE LANE PASSAGE	YES [ ]	NO [X]	NEEDED [ ]	4.
				5.
				6.

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

UNDERPASS LOC. NO. 58 -I 24 - 22.78 (36.66)
CO. ROUTE L.M. (LOG km)

OTHER SIGNS OR PLAQUES

COMMENTS REGARDING ANY PROBLEM WITH SIGNING

BRIDGE FEATURES
BRIDGE SKEW 58ø LT [X] RT [ ]
STRUCTURE TYPE C.D.G. NO. SPANS 3
MAIN SPAN MAIN TYPE
STRUCTURE TYPE NO. SPANS
APPROACH SPAN APPROACH TYPE
MAXIMUM SPAN LENGTH 18.44 m TOTAL LENGTH 42.52 m
WIDTH OF BRIDGE OUT-TO-OUT 10.52 m (RIGHT ANGLE TO CENTERLINE OF BRIDGE)
WIDTH OF BRIDGE ALONG SKEW 12.40 m (IF UNABLE TO MEASURE AT RIGHT ANGLE TO CENTERLINE OF BRIDGE)
NUMBER OF LANES/TRACKS ON BRIDGE 2

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 MEMBERS? YES [ ] NO [X]

COMMENT ON ANY CONDITIONS OF BRIDGE THAT WOULD EFFECT ROADWAY BENEATH:

NOTE: IF UNDERPASS ROUTE IS DIVIDED HIGHWAY, USE TWO (2) 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

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

INSPECTION TEAM'S SUMMARY

BRIDGE NO.	58	2161	1.37	2.20	9-4-98
	COUNTY	ROUTE NO.	LOG MILE	LOGkm	DATE

ON SEPTEMBER 4, 1998, A REGION TWO BRIDGE INSPECTION TEAM OF TULLAHOMA INSPECTED THIS STRUCTURE AND FOUND IT IN GOOD CONDITION.

APPROACH NO. 1 HAS HEAVY CRACKING AROUND THE BRIDGE END. APPROACH NO. 2 HAS 1" TO 2" OF SETTLEMENT WITH (1) LARGE TRANSVERSE CRACK. THE APPROACH GUARDRAIL @ APPROACH NO. 2 HAS HEAVY COLLISION DAMAGE. THE GUARDRAIL UNDER THE BRIDGE @ THE RIGHT SIDE @ THE EAST END HAS HEAVY COLLISION DAMAGE WITH 30' THAT HAS BEEN TORN DOWN.

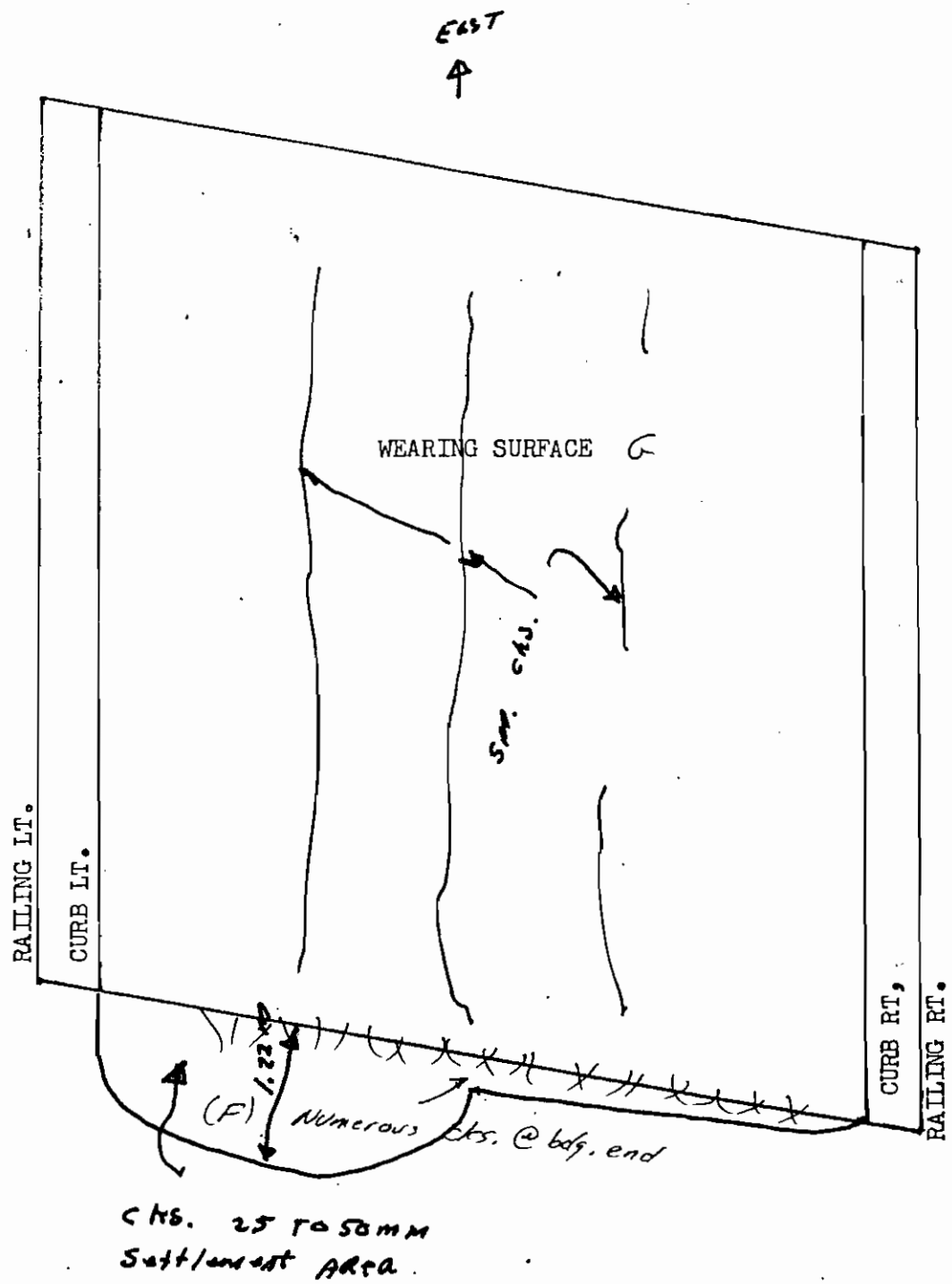
TOP SPAN NO. 1 PAGE NO. 00015

BRIDGE NO. 58 (COUNTY) 2161 (ROUTE) 1.37 (LOG MILE) ~~7-29-92~~ 9-4-95 (DATE)

ELEMENT	RATING	COMMENTS
WEARING SURFACE	G	Two are Three 3M. Longt. cks. in the
		Asphalt overlay
APPROACHES	F	Heavy cracking ground bdg. ends, 25mm to 50mm
		Settlement
BRIDGE RAIL	G	
CURBS	G	AGG. Pop-out
DRAINS Appr.	F	Partly blocked by veg.
EXPANSION DEVICE	—	NV
JOINTS	—	

TOP SPAN NO. 1 PAGE NO. 00016

BRIDGE NO. 58 (COUNTY) 2161 (ROUTE) 1.37 (LOG MILE) 9-4-98 (DATE)



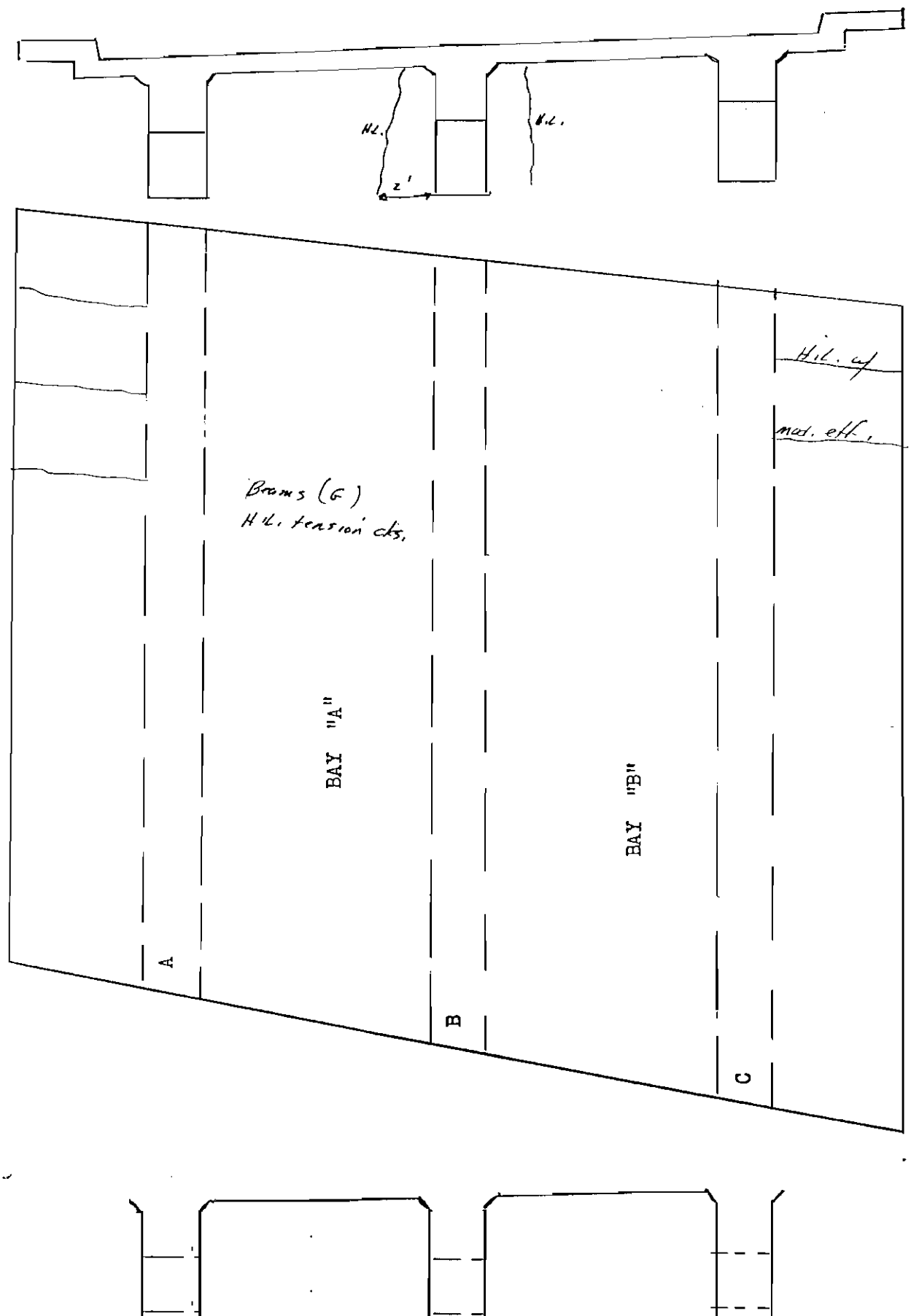
BOTTOM SPAN NO. 1 PAGE NO. 00017

BRIDGE NO. 58 (COUNTY) 2161 (ROUTE) 1.37 (LOG MILE) 9-4-98 (DATE)

ELEMENT	RATING	COMMENTS
BEAMS	G	H.L. tension cks.
DECK	G	
DIAPHRAGM'S	G	2 H.L. cks.
Overhangs	G	H.L. cks. w/ mod. eff. Leakage

BOTTOM SPAN NO. / PAGE NO. 00018

BRIDGE NO.	58	2161	1.37	7-8-98 ~~7-9-72~~
	COUNTY	ROUTE	LOG MILE	DATE



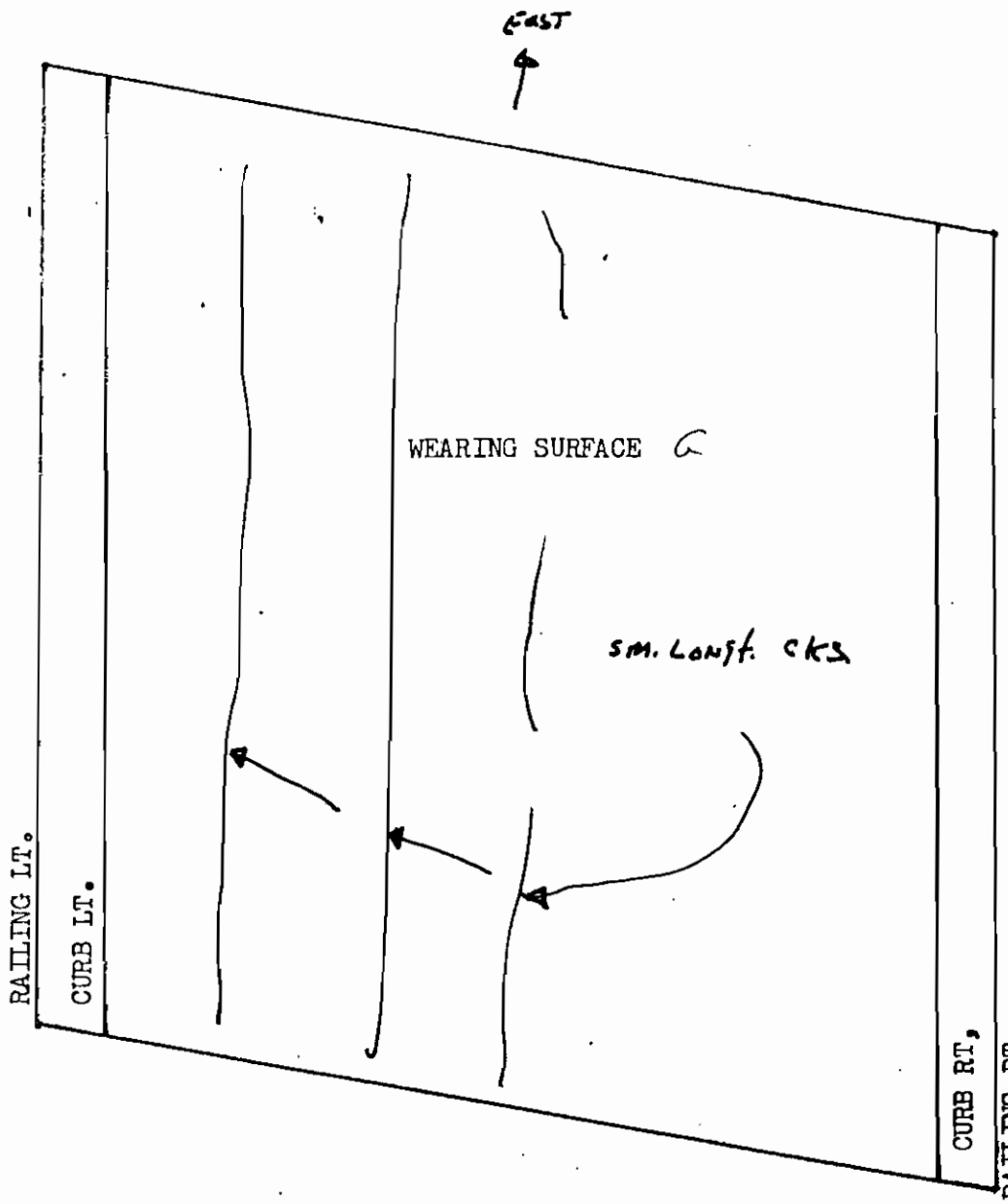
TOP SPAN NO. 2 PAGE NO. 00019

BRIDGE NO. 58 (COUNTY) 2161 (ROUTE) ~~1.37~~ P.9.98 (LOG MILE) 7-29-92 (DATE)

ELEMENT	RATING	COMMENTS
WEARING SURFACE	G	Few sm. longit. cks. in asphalt overlay
APPROACHES	—	
BRIDGE RAIL	G	
CURBS	G	Popouts
DRAINS	—	
EXPANSION DEVICE	—	
JOINTS	—	

TOP SPAN NO. 2 PAGE NO. 00020

BRIDGE NO. 58 (COUNTY) 2161 (ROUTE) 1.37 (LOG MILE) 9-4-98 (DATE)



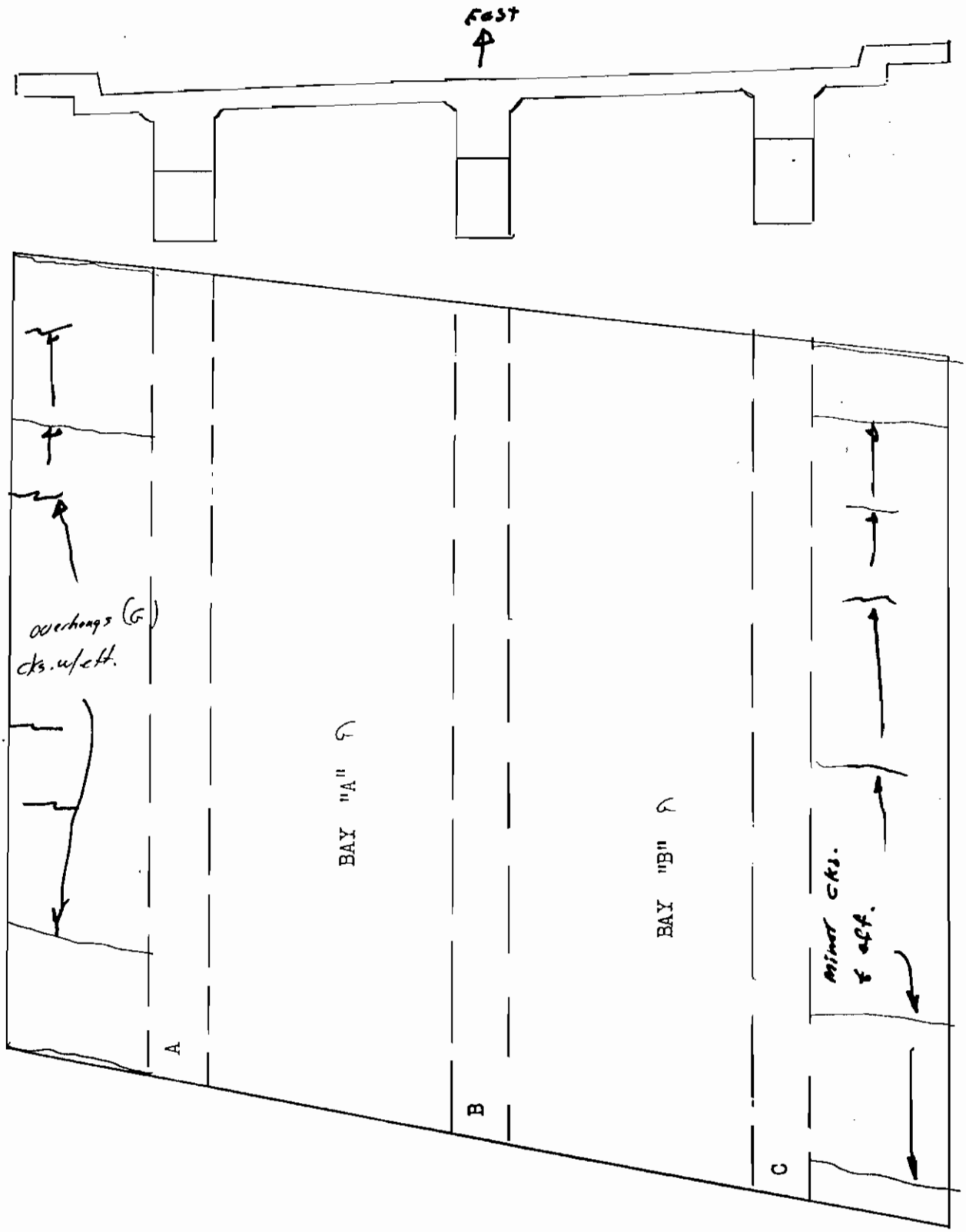
BOTTOM SPAN NO. 2 PAGE NO. 00021

BRIDGE NO. 58 (COUNTY) 2161 (ROUTE) 1.37 (LOG MILE) 9-28 (DATE)

ELEMENT	RATING	COMMENTS
BEAMS	G	H.L. tension cks.
DECK	G	Random H.L. Trans cks. w/ minor eff. Bottom
		of overhangs
DIAPHRAGM'S	G	
Overhangs	G	H.L. cks. w/ mod. eff. Leakage

BOTTOM SPAN NO. 2 PAGE NO. 00022

BRIDGE NO.	58	2161	1.37	~~7-29-92~~ 5-4-98
	COUNTY	ROUTE	LOG MILE	DATE



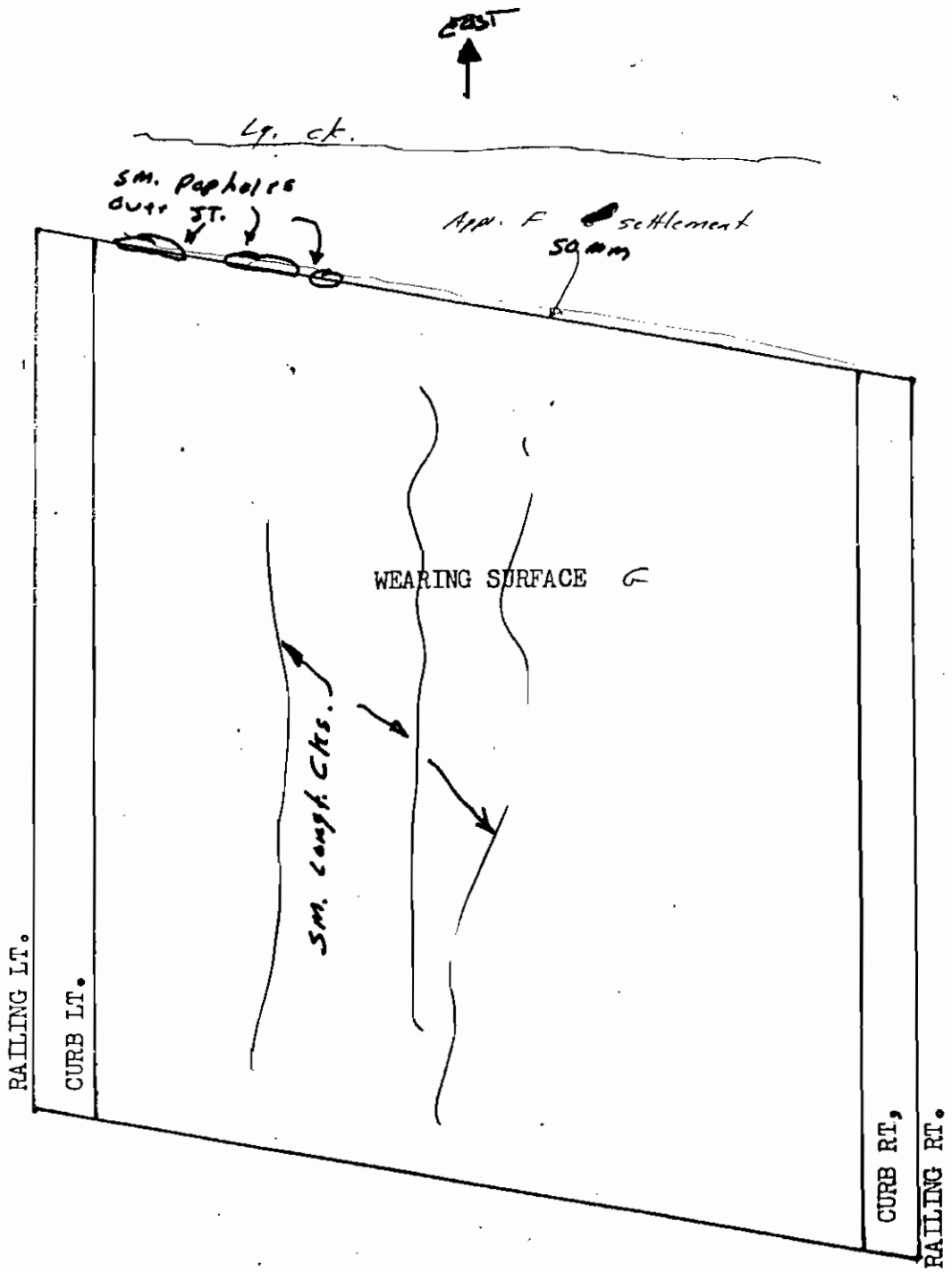
TOP SPAN NO. 3 PAGE NO. 1 000

BRIDGE NO. 58 (COUNTY) 2161 (ROUTE) 1.37 (LOG MILE) 5-4-98 (DATE)

ELEMENT	RATING	COMMENTS
WEARING SURFACE	C	Few sm. longit. cks.
APPROACHES	F	one lg. trans. ck. 2" settlement
BRIDGE RAIL	G	
CURBS	G	Pepouts
DRAINS Appr.	F	Partly blocked w/veg.
EXPANSION DEVICE	—	
JOINTS	—	

TOP SPAN NO. 3 PAGE NO. 00024

BRIDGE NO. 58 (COUNTY) 2161 (ROUTE) 1.37 (LOG MILE) 9-3-98 (DATE)



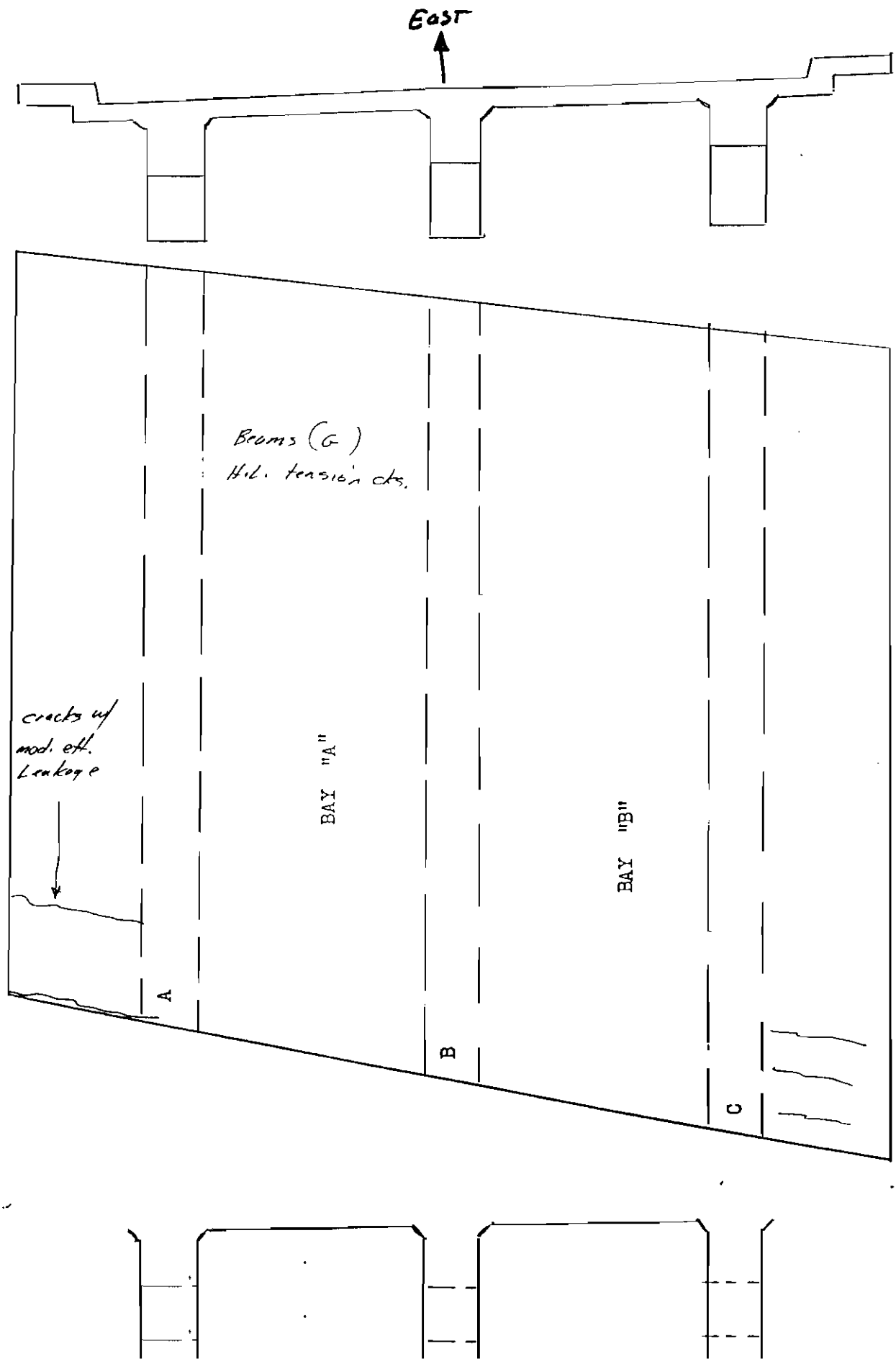
BOTTOM SPAN NO. 3 PAGE NO. 00025

BRIDGE NO. 58 (COUNTY) 2161 (ROUTE) 1.37 (LOG MILE) 7-3-98 (DATE)

ELEMENT	RATING	COMMENTS
BEAMS	G	H.L. tension cks.
DECK	G	
DIAPHRAGM'S	G	
Overhangs	G	H.L. cks. w/ mod. exp. leakage

BOTTOM SPAN NO. 3 PAGE NO. 00026

BRIDGE NO.	58	2161	1.37	7-3-96 ~~7-5-92~~
	COUNTY	ROUTE	LOG MILE	DATE



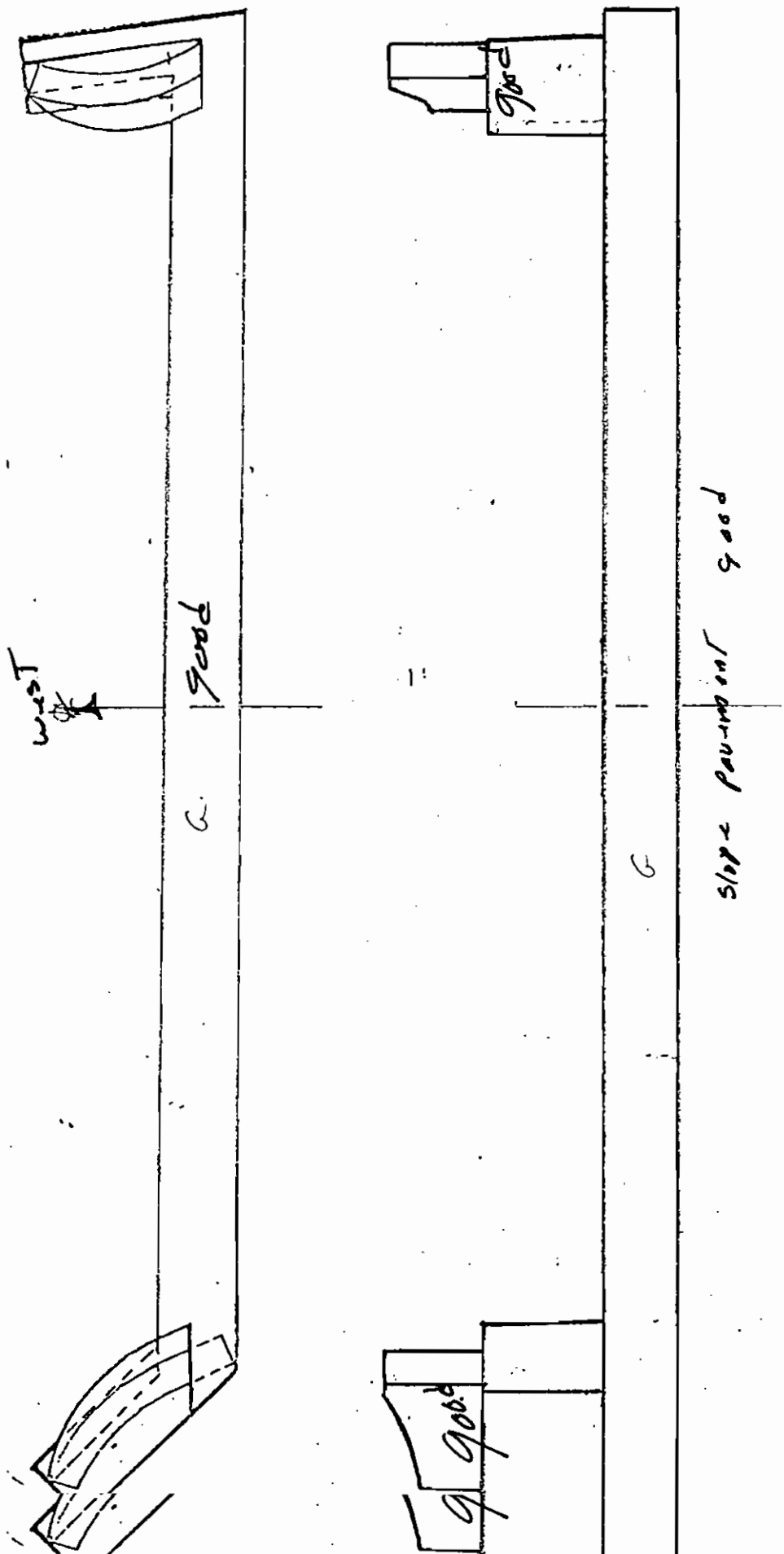
ABUTMENT NO. 1

BRIDGE NO. 58 (COUNTY) 2161 (ROUTE) 1.37 (LOG MILE) 9-4-98 [redacted] (DATE)

ELEMENT	RATING	COMMENTS
BACKWALL	G	
BRIDGE SEAT	G	
RISER BLOCKS	G	
BEARINGS	G	
BREAST WALL	G	Some staining
WINGS	G	
FOOTING		N.V.
PILING		N.V.
SLOPE	G	
SLOPE	G	

ABUTMENT NO. 1 PAGE NO. 00028

BRIDGE NO. 58 (COUNTY) 2161 (ROUTE) 1.37 (LOG MILE) 9-4-98 ~~7-29-92~~ (DATE)



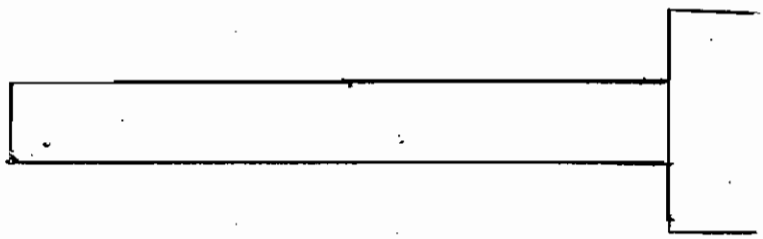
BENT NO. 1 PAGE NO. 00029

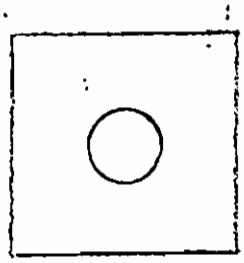
BRIDGE NO. 58 (COUNTY) 2161 (ROUTE) 1.37 (LOG MILE) 9-4-98 (DATE)

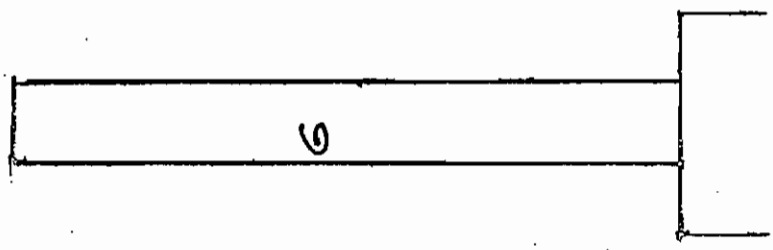
ELEMENT	RATING	COMMENTS
BRIDGESEAT	—	
BEARINGS	—	
CAP	—	
COLUMNS	G	
COLLARS	—	
FOOTINGS		N.V.
RISERS	—	

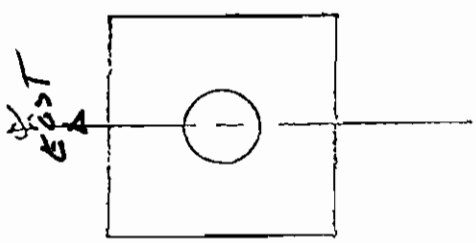
BENT NO. 1 PAGE NO. 00030

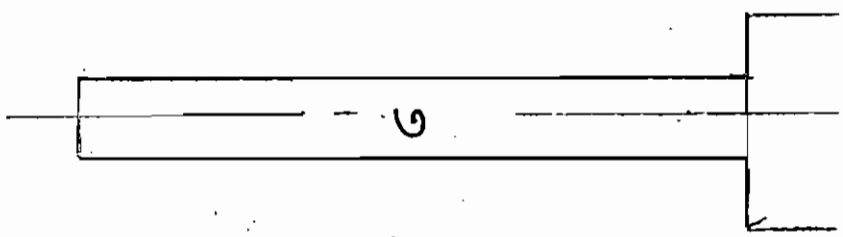
BRIDGE NO.	58	2161	1.37	5-4-98
	COUNTY	ROUTE	LOG MILE	DATE

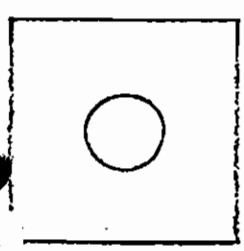


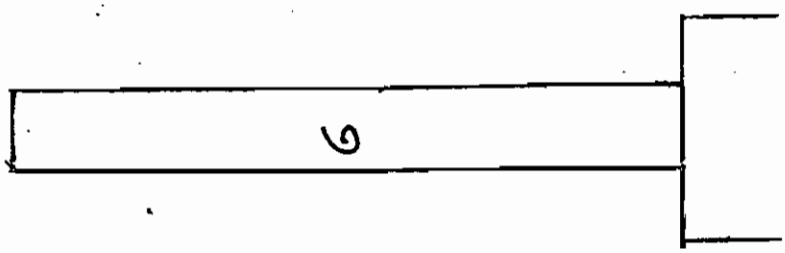












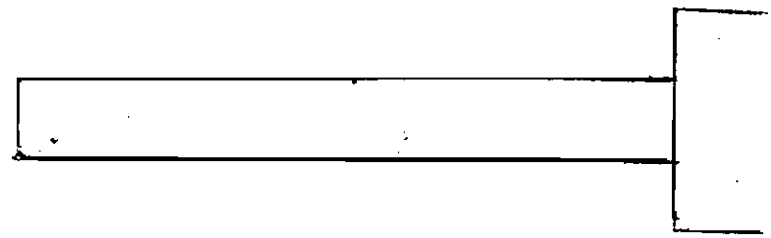
BENT NO. 2

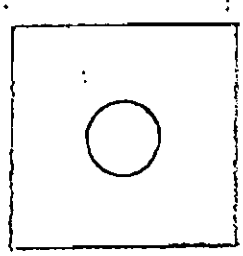
BRIDGE NO. 58 (COUNTY) 2161 (ROUTE) 1.37 (LOG MILE) 9-4-96 (DATE)

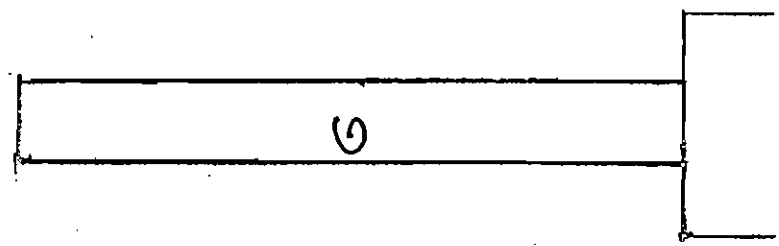
ELEMENT	RATING	COMMENTS
BRIDGESEAT	—	
BEARINGS	—	
CAP	—	
COLUMNS	G	
COLLARS	—	
FOOTINGS		N.V.
RISERS	—	

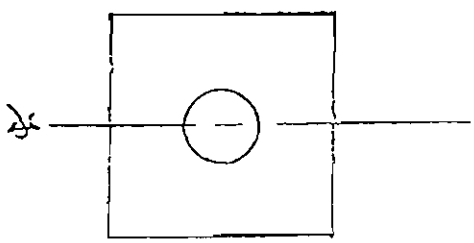
BENT NO. 2 PAGE NO. 00032

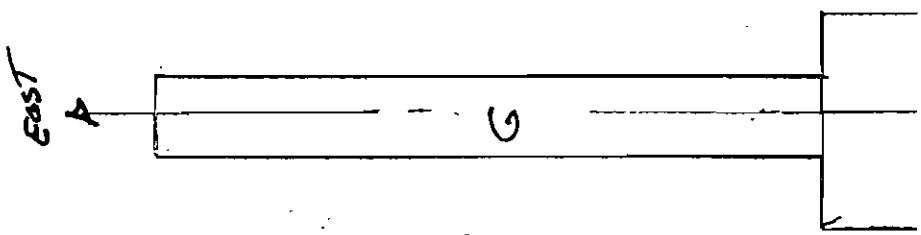
BRIDGE NO.	58	2161	1.37	9-4-98
	COUNTY	ROUTE	LOG MILE	DATE

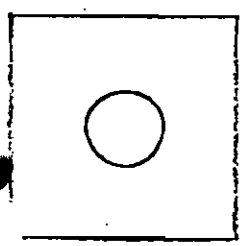


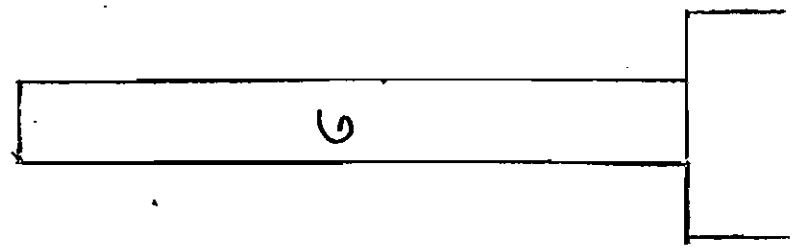












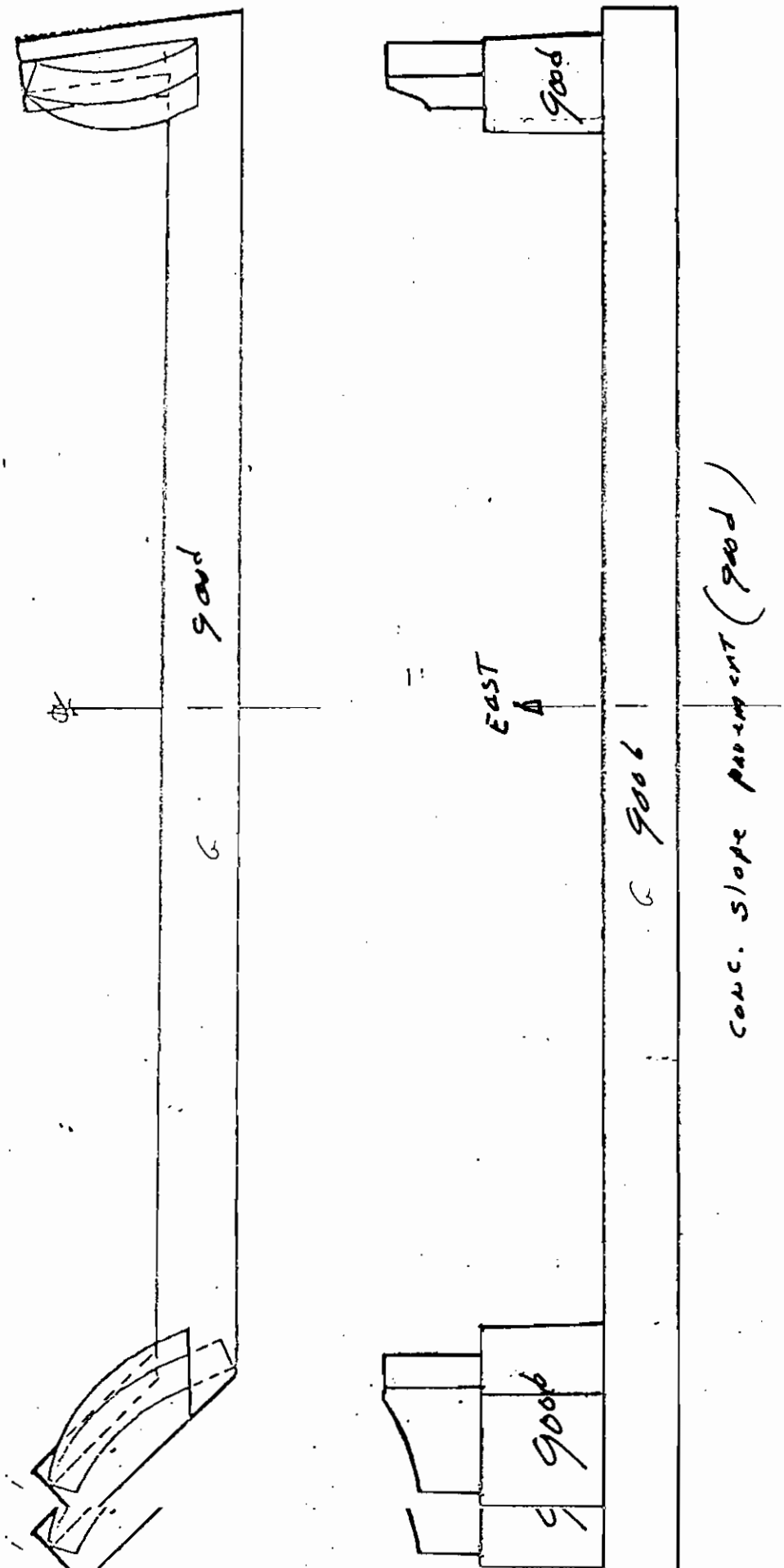
ABUTMENT NO. 2

BRIDGE NO. 58 (COUNTY) 2161 (ROUTE) 1.37 (LOG MILE) 9-4-98 (DATE)

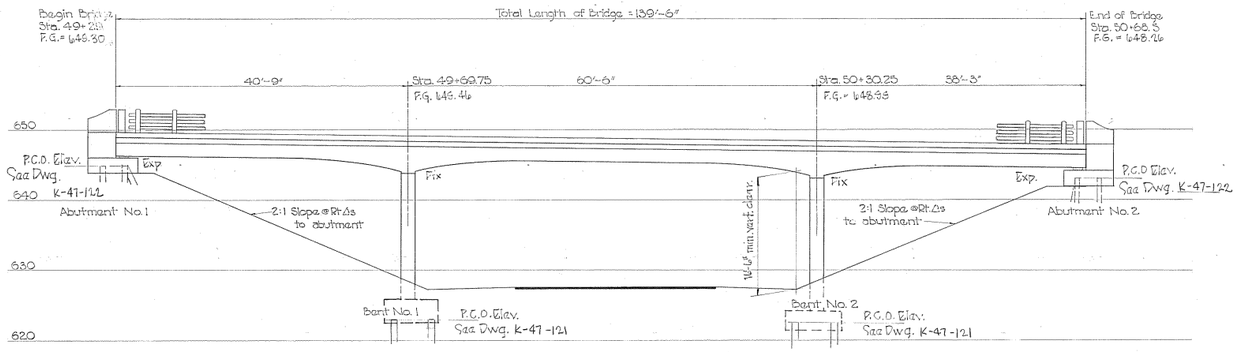
ELEMENT	RATING	COMMENTS
BACKWALL	G	
BRIDGE SEAT	G	Some staining
RISER BLOCKS	G	
BEARINGS	G	
BREAST WALL	G	
WINGS	G	
FOOTING		N.V.
PILING		N.V.
SLOPE	G	
[illegible]	G	

ABUTMENT NO. 2 PAGE NO. 00034

BRIDGE NO. 58 (COUNTY) 2161 (ROUTE) 1.37 (LOG MILE) 9-4-98 ~~9-29-97~~ (DATE)

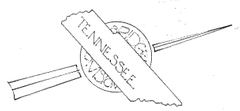


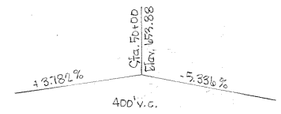
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
3	TENN.		19		



ELEVATION AT RT. Δs TO ℄ SURVEY SHELLMOUND RD #1

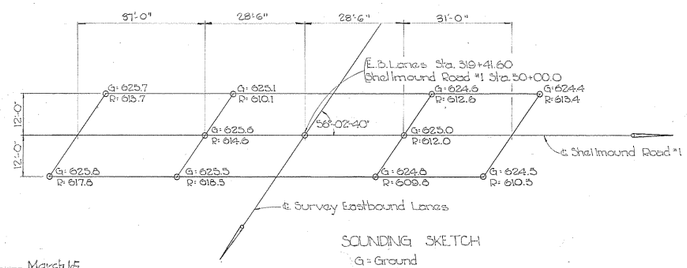
NOTE: Fills at end of Bridge to be in place and thoroughly compacted before abutment piles are driven





SKETCH OF FINISHED GRADES
Shellmound Road #1

PLAN



SOUNDING SKETCH
G = Ground
R = Rock

GENERAL NOTES

SPECIFICATIONS: Standard Road and Bridge Specifications of the Tennessee Department of Highways.
LOADING: HS 20-44
CONCRETE: To be Class "A"
REINFORCING STEEL: To be Intermediate or Hard Grade. Standard CRSI Hook Details shall apply.
DESIGN SPECIFICATIONS: AASHO 1961 Edition.
NEOPRENE PADS: See special provisions.
PILES: To be 10" BP 42.

JOINT SEALER: See Special Provisions. Class "A" or "B"
LINSEED OIL TREATMENT: See Special Provisions.

FOUNDATION NOTE

Foundation for Bents shall be excavated to the pile cut off elevations shown; rod soundings shall then be made as directed by the Engineer. From the results obtained, the Engineer will decide if piles will be used or the footing carried to rock. Piles shall be driven to rock or minimum bearing of 31 ton for Bents and 31 tons for Abutments. No reinforcing steel for columns shall be ordered until final footing elevations are established. Cost of rod soundings shall be included in the cost of items bid on.

BRIDGE RAIL NOTE

Build Bridgerail according to Dwg. No. K-38-149 or K-38-150.
Use endpost as shown on Dwg. No. K-47-122
Steel Rail 17 Spaces @ L = 8'-9½" with X = 1'-0⅛"
Aluminum Rail 17 Spaces @ L = 7'-9" with X = 1'-0⅛"

LIST OF DRAWINGS

TRAFFIC DATA

1985 ADT-12612

ESTIMATED QUANTITIES

ITEM	Dry Excavation Cu.Yds.	Concrete Class "A" Cu.Yds.	Reinforcing Steel Lbs.	Metal Bridgerail Lin. Ft.	Steel Piles 10" BP 42 Lin. Ft.	Linseed Oil Treatment Sq.Yds.
Superstructure		184.1	70,715			
Abutment No.1		17.7	1,981			
Bent No.1		17.0	2,436			
Bent No.2		16.9	2,404			
Abutment No.2		17.7	1,981			
Totals	86	253.4	79,517	268	604	585

Notes: Cost of Neoprene Bearing Pads, Rubber Bonding Cement and all Joint Material to be included in the Unit Price Bid for Class "A" Concrete.

The special provisions on Linseed Oil Treatment does not apply to Bent Caps.

28'-0" Roadway with safety curbs

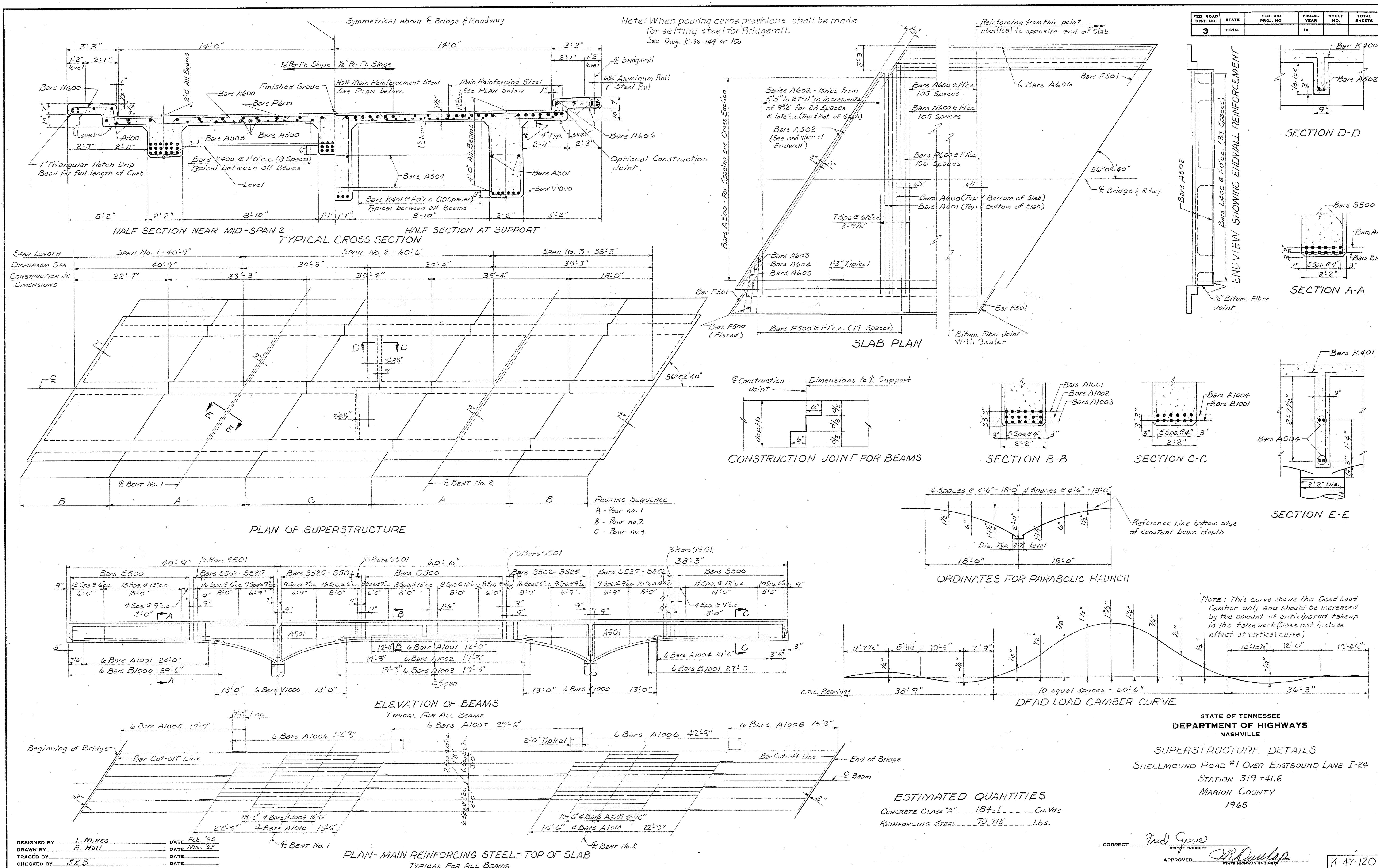
STATE OF TENNESSEE
DEPARTMENT OF HIGHWAYS
NASHVILLE

LAYOUT
SHELLMOUND ROAD #1 OVER EASTBOUND LANE I-24
STATION 319+41.6
MARION COUNTY
1965

DESIGNED BY H. Mixon & Burke DATE March 65
DRAWN BY J.R. LITTRELL DATE MARCH 65
TRACED BY DATE
CHECKED BY Burke DATE Mar 65

CORRECT Fred Greve BRIDGE ENGINEER
APPROVED W. Dunlap STATE HIGHWAY ENGINEER

K-47-119



ESTIMATED QUANTITIES

Concrete Class "A" 184.1 Cu. Yds.

Reinforcing Steel 70,715 Lbs.

STATE OF TENNESSEE
DEPARTMENT OF HIGHWAYS
NASHVILLE

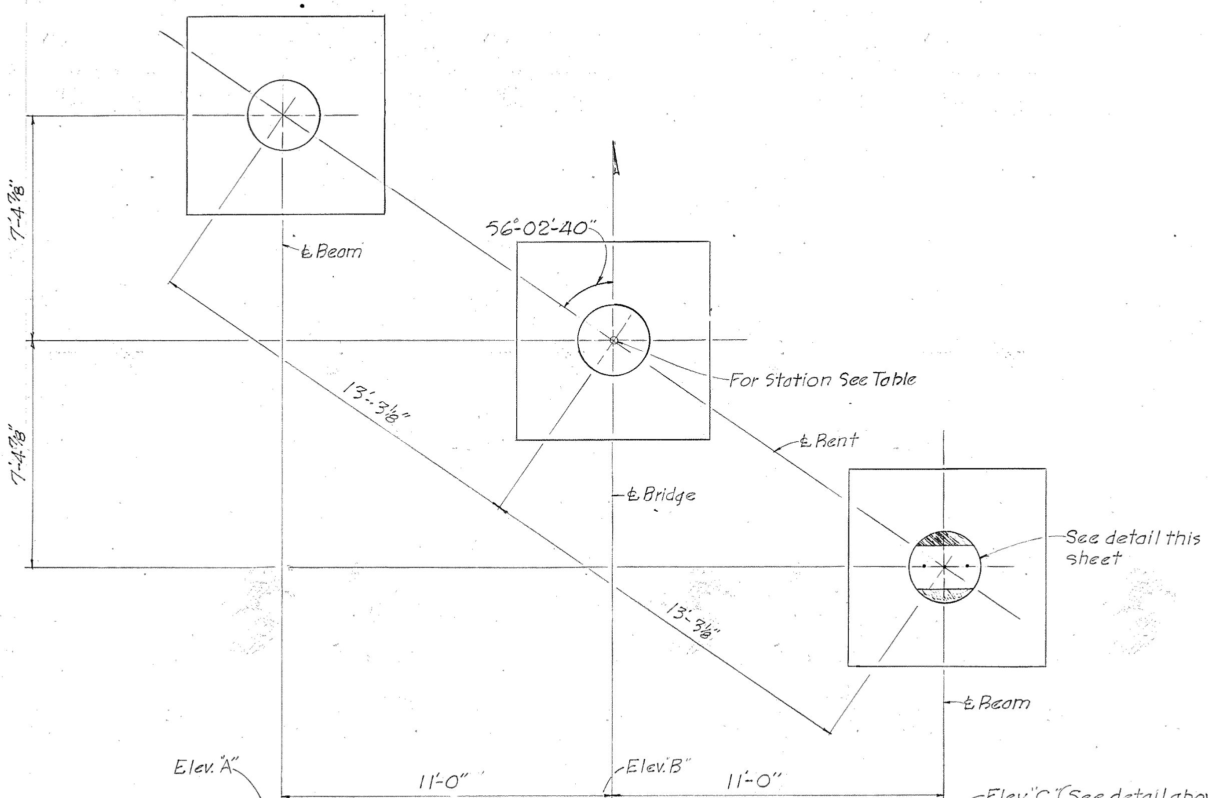
SUPERSTRUCTURE DETAILS
SHELLMOUND ROAD #1 OVER EASTBOUND LANE I-24
STATION 319 + 41.6
MARION COUNTY
1965

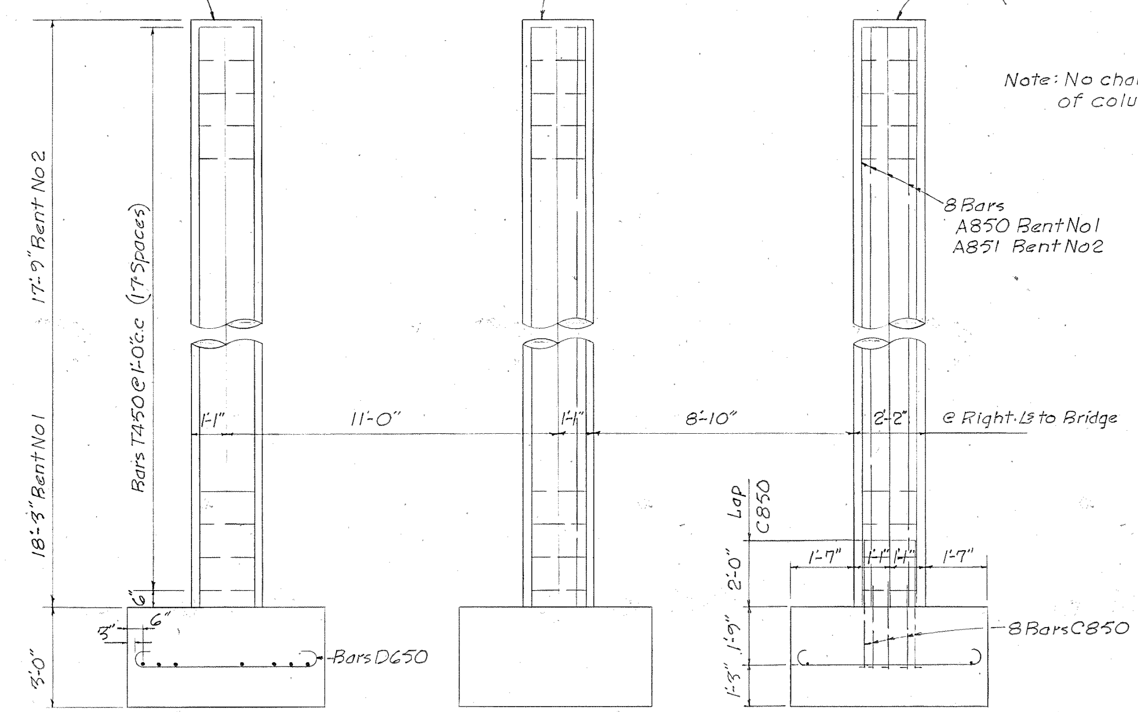
DESIGNED BY L. Mires DATE Feb. '65
DRAWN BY E. Hall DATE Mar. '65
TRACED BY DATE
CHECKED BY B.E.B. DATE

CORRECT Fred Greve, BRIDGE ENGINEER
APPROVED [signature], STATE HIGHWAY ENGINEER

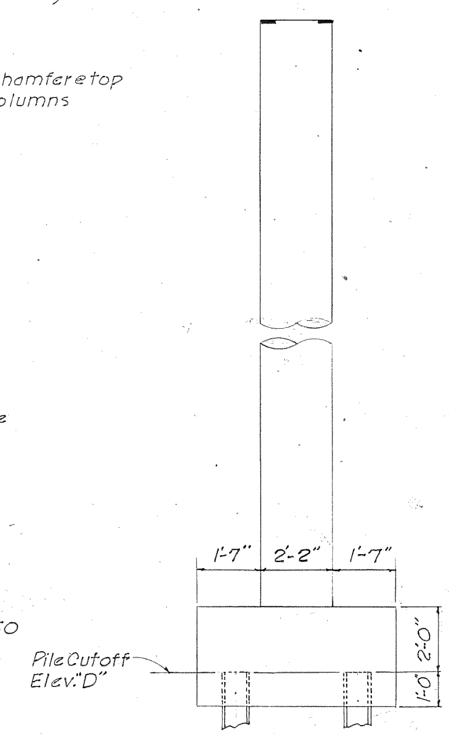
K-47-120

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

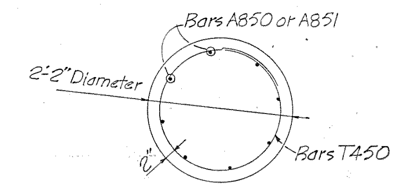




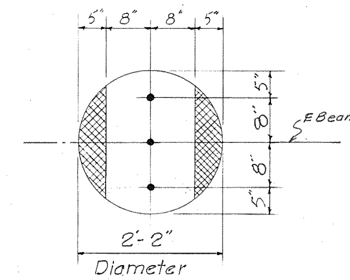
ELEVATION - BENTS
Looking forward on Survey



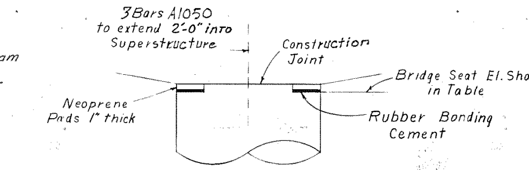
END ELEVATION



TYPICAL COLUMN SECTION

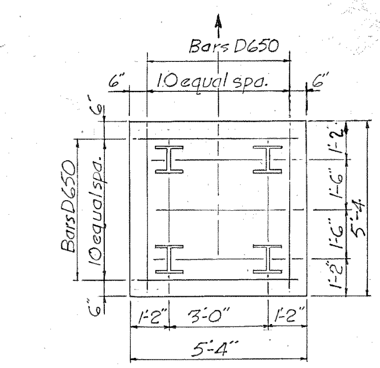


PLAN
Typical all Columns



ELEVATION

Note: Neoprene Pads shall be in place a minimum of two days befor being disturbed by placing superstructure forms or concrete. Place Rubber Bonding Cement in such a way that Column surfaces will not be stained



PLAN OF FOOTING

TABLE OF STATIONS AND ELEVATIONS

Location	Stations	Elevations "A"	Elevations "B"	Elevations "C"	Elevations "D"
Bent No1	49+69.75	645.25	645.38	645.26	625.00
Bent No2	50+30.25	644.68	644.91	644.90	624.93

ESTIMATED QUANTITIES

Item	Concrete Class "A" Cu.Yds.	Reinforcing Steel Lbs.
Bent No.1	17.0	2,436
Bent No.2	16.9	2,404

STATE OF TENNESSEE
DEPARTMENT OF HIGHWAYS
NASHVILLE

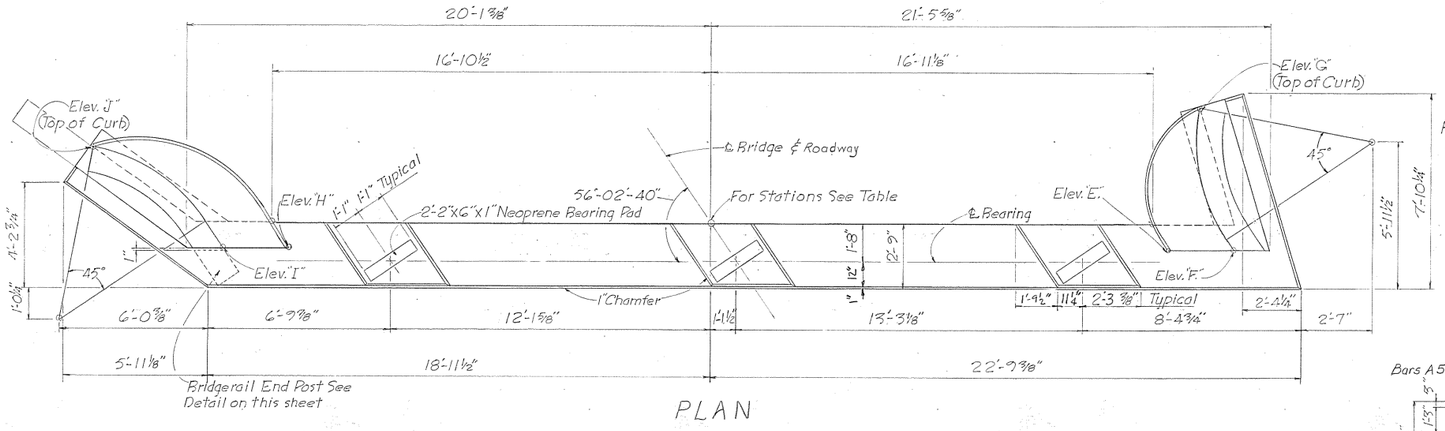
BENTS No. 1 & 2
SHELLMOUND RD. #1 OVER EASTBOUND LN. I-24
STATION 319+41.6
MARION COUNTY
1965

CORRECT Fred Grave BRIDGE ENGINEER
APPROVED [signature] STATE HIGHWAY ENGINEER

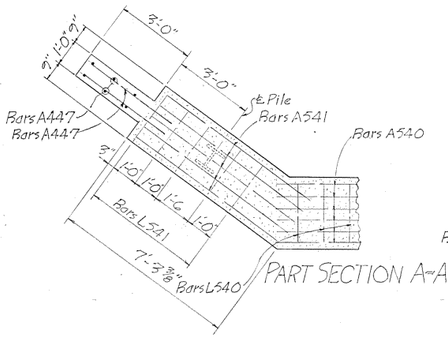
DESIGNED BY Burke DATE
DRAWN BY James Fields DATE
TRACED BY DATE
CHECKED BY Burke DATE

K-47-121

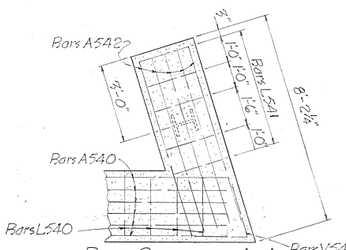
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
3	TENN.		19		



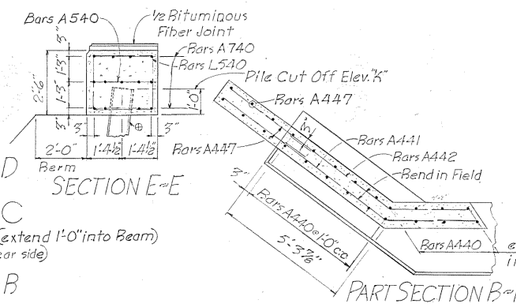
PLAN



PART SECTION A-A

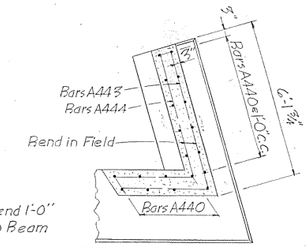


PART SECTION A-A



SECTION E-E

PART SECTION B-B



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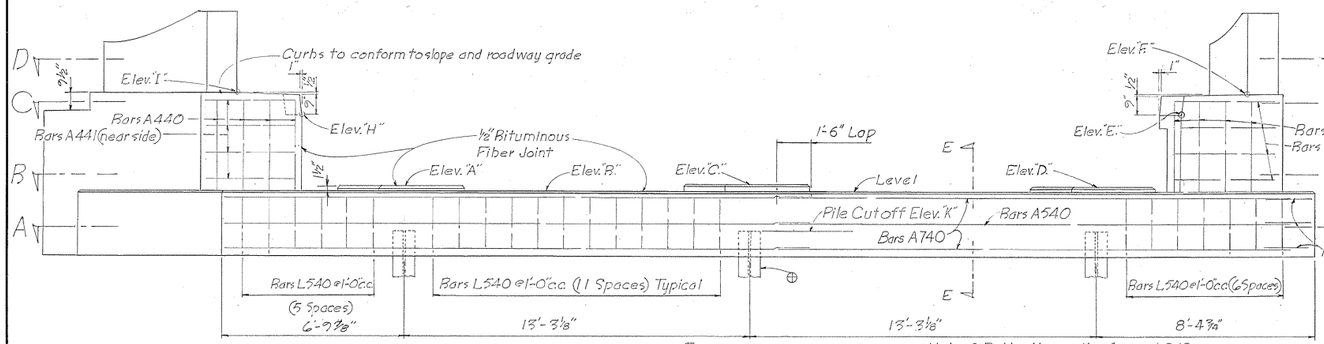
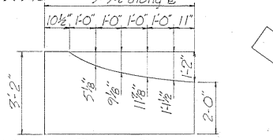


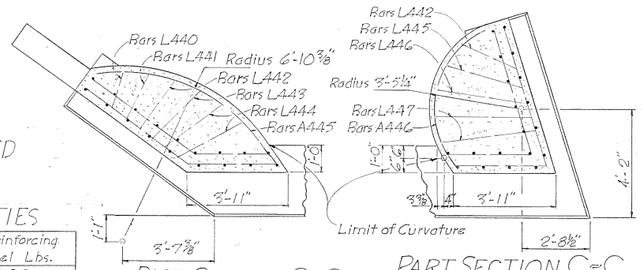
ELEVATION

Abutment No1 Looking Back on Survey
Abutment No2 Looking Forward on Survey

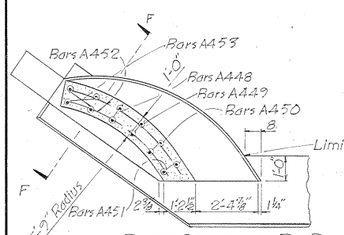
Note: ℄ Batter these piles forward 2:12



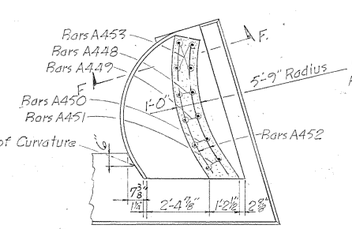
WING POST DEVELOPED



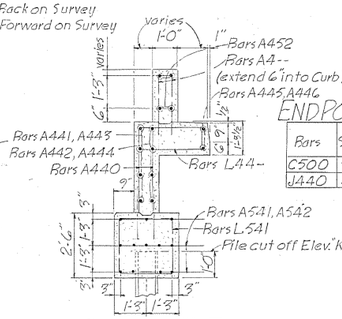
PART SECTION C-C



PART SECTION D-D



PART SECTION D-D



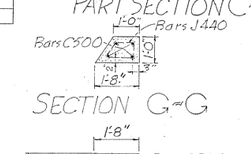
SECTION F-F

END POST - LIST OF MATERIALS - EACH

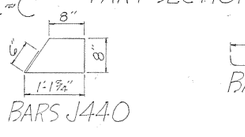
Bars	Size	No	Length	Quantities	
				concrete class "A" cu.yds.	Reinforcing steel Lbs.
C500	5	4	3'-8"	.16	25
J440	4	4	3'-8"		

ESTIMATED QUANTITIES

Item	Concrete Class "A" Cu. Yds.	Reinforcing Steel Lbs.
Abutment No 1	17.7	1,981
Abutment No 2	17.7	1,981

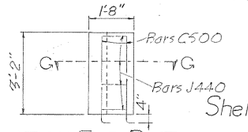


SECTION G-G



BARS J440

BARS C500



ELEVATION END POST

Cost of end post to be included in the unit price bid for Bridgerail

TABLE OF ELEVATIONS AND STATIONS

Item	Stations	Elevation "A"	"B"	"C"	"D"	"E"	"F"	"G"	"H"	"I"	"J"	"K"
Abutment No 1	49+29.00	647.06	646.93	647.24	647.18	649.23	650.02	650.00	649.08	649.86	649.79	645.43
Abutment No 2	50+68.50	645.94	645.83	646.23	646.28	648.36	649.18	649.07	647.93	648.67	648.53	644.33

STATE OF TENNESSEE
DEPARTMENT OF HIGHWAYS
NASHVILLE

Abutments No 1 and 2
Shellmound Road #1 over E.B. Lane Interstate 24
Station 319+41.6
Marion County
1965

CORRECT Fred Greve BRIDGE ENGINEER
APPROVED M. Dunlap STATE HIGHWAY ENGINEER

K-47-122

DESIGNED BY
DRAWN BY Tommy Eual Peters DATE 3-5-65
TRACED BY DATE
CHECKED BY DATE

BILL OF STEEL

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

SUPERSTRUCTURE

BAR	LOCATION	SIZE	NO. REQ'D	BENDING DIMENSIONS a	b	c	d	LENGTH
A500	Slab	5	136					35'-8"
A501	Beam	5	12					28'-6"
A502	Endwall	5	8					33'-3"
A503	In. Diaph	5	4					11'-0"
A504	Support Diaph	5	8					26'-6"
A600	Slab	6	114					29'-8"
A601	Slab	6	12					28'-8"
A602	Slab Series	6	4	Length varies in equal increments from 5'-5" to 27'-11" (29 Bars)				483'-4"
A603	Slab	6	4					4'-9"
A604	Slab	6	4					4'-2"
A605	Slab	6	4					4'-0"
A606	Curb	6	48					35'-0"
A1001	Beam	10	36					24'-0"
A1002	Beam	10	18					34'-6"
A1003	Beam	10	18					38'-6"
A1004	Beam	10	18					21'-6"
A1005	Slab	10	18					17'-9"
A1006	Slab	10	36					42'-3"
A1007	Slab	10	18					29'-6"
A1008	Slab	10	18					15'-3"
A1009	Slab	10	24					28'-6"
A1010	Slab	10	24					38'-3"
B1000	Beam	10	18	29'-6				30'-11"
B1001	Beam	10	18	27'-0				28'-5"
F500	Slab & Curb	5	40	2'-0"	1½"	2'-9"	1'-1"	6'-9"
F501	Slab & Curb	5	4	2'-0"	1½"	3'-4	1'-1"	7'-4"
K400	In. Diaph.	4	18	6"	5"	10"		3'-1"
K401	Support Diaph.	4	44	6"	5"	2'-10"		7'-1"
L400	Endwall	4	68	5"	6"	1'-10"		5'-0"
N600	Slab	6	106	34'-2	2'-10"	28'-3"	1'-1"	37'-11"
P600	Slab	6	107	29'-6	6'-8"	4'-5"	5'-10"	30'-2"
S500	Beam	5	264	1'-10"	1'-8"			6'-0"
S501	Beam	5	36	1'-10"	1'-8½"			6'-1"
S502	Beam	5	12	1'-10"	1'-9"			6'-2"
S503	Beam	5	12	1'-10"	1'-9"			6'-2"
S504	Beam	5	12	1'-10"	1'-9½"			6'-3
S505	Beam	5	12	1'-10"	1'-10"			6'-4"

SUPERSTRUCTURE

BAR	LOCATION	SIZE	NO. REQ'D	BENDING DIMENSIONS a	b	c	d	LENGTH
S506	Beam	5	12	1'-10"	1'-10"			6'-4"
S507	Beam	5	12	1'-10"	1'-10½"			6'-5"
S508	Beam	5	12	1'-10"	1'-11"			6'-6"
S509	Beam	5	12	1'-10"	1'-11½"			6'-7"
S510	Beam	5	12	1'-10"	2'-0"			6'-8"
S511	Beam	5	12	1'-10"	2'-0½"			6'-9"
S512	Beam	5	12	1'-10"	2'-1"			6'-10"
S513	Beam	5	12	1'-10"	2'-2"			7'-0"
S514	Beam	5	12	1'-10"	2'-2½"			7'-1"
S515	Beam	5	12	1'-10"	2'-3½"			7'-3"
S516	Beam	5	12	1'-10"	2'-4"			7'-4"
S517	Beam	5	12	1'-10"	2'-5½"			7'-7"
S518	Beam	5	12	1'-10"	2'-6½"			7'-9"
S519	Beam	5	12	1'-10"	2'-8"			8'-0"
S520	Beam	5	12	1'-10"	2'-9½"			8'-3"
S521	Beam	5	12	1'-10"	2'-11"			8'-6"
S522	Beam	5	12	1'-10"	3'-0½"			8'-9"
S523	Beam	5	12	1'-10"	3'-2"			9'-0"
S524	Beam	5	12	1'-10"	3'-4"			9'-4"
S525	Beam	5	12	1'-10"	3'-6"			9'-8"
W1000	Beam	10	36	13'-0"	1'-10"	1'-5½"	10"	26'-3"

ABUTMENTS NO. 1, 2

BAR	LOCATION	SIZE	NO. REQ'D	BENDING DIMENSIONS a	b	c	d	LENGTH
A440	Wingwall	4	74					3'-8"
A441	Wingwall	4	8					8'-3"
A442	Wingwall	4	8					7'-8"
A443	Wingwall	4	8					8'-9"
A444	Wingwall	4	8					7'-10"
A445	Curb	4	4					8'-1"
A446	Curb	4	4					6'-2"
A447	Wingwall	4	36					4'-3"
A448	Wingpost	4	8					2'-6"
A449	Wingpost	4	8					2'-9"
A450	Wingpost	4	8					3'-1"
A451	Wingpost	4	8					3'-5"
A452	Wingpost	4	16					5'3"
A453	Wingpost	4	16					2'-4"
A540	Abutment Beam	5	20					21'-3"
A541	Abutment Beam	5	24					6'-10"
A542	Abutment Beam	5	24					7'-8"
A740	Abutment Beam	7	32					21'-3"
L440	Curb	4	2	1'-6"	6"	11"		5'-4"
L441	Curb	4	2	2'-0"	6"	11"		6'-4"
L442	Curb	4	4	2'-4"	6"	11"		7'-0"
L443	Curb	4	2	2'-7"	6"	11"		7'-6"
L444	Curb	4	4	2'-9"	6"	11"		7'-10"
L445	Curb	4	2	3'-0"	6"	11"		8'-4"
L446	Curb	4	2	3'-6"	6"	11"		9'-4"
L447	Curb	4	4	3'-9"	6"	11"		9'-10"
L540	Abutment Beam	5	74	2'-5"	1'-0"	2'-2"		10'-2"
L541	Abutment Beam	5	20	2'-2"	1'-0"	2'-2"		9'-8"
Y540	Abutment Beam (Bend in Field)	5	6					5'-0"

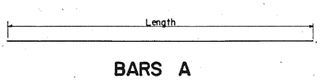
BENT NO. 1, 2

BAR	LOCATION	SIZE	NO. REQ'D	BENDING DIMENSIONS a	b	c	d	LENGTH
A850	Column Bent No. 1	8	24					18'-0"
A851	Column Bent No. 2	8	24					17'-6"
C850	Footing	8	48	3'-9"				4'-3"
D650	Footing	6	132	4'-10"				6'-2"
T450	Column	4	108	1'-10"	1'-0"			6'-9"
A1050	Dowel Bars	10	18					4'-0"

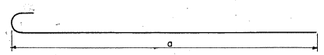
REINFORCING STEEL CODE

TYPE	SIZE	SERIES
A	5	06

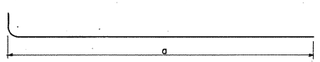
NOTE: Dimensions shown on this sheet are outside to outside of Bar.



BARS A



BARS B



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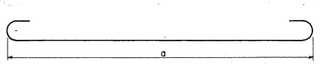

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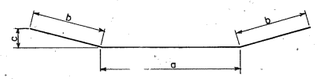

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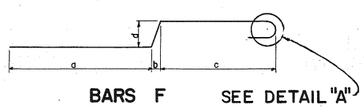
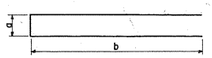
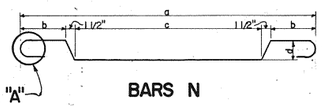


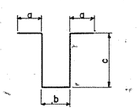
BARS F SEE DETAIL "A"



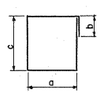
BARS H



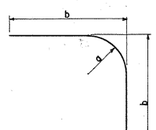
SEE DETAIL "A" BARS N



BARS K



BARS L



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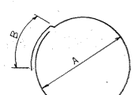
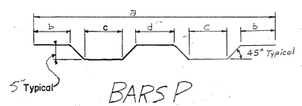


BARST



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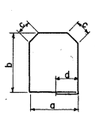
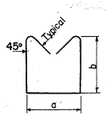
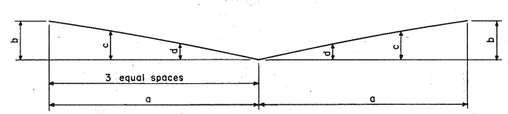


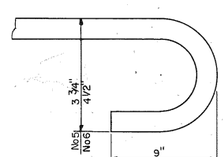
BARS M



BARS S



BARS V



DETAILS SHOWING HOOK ON F or N BARS

DETAIL "A"

STATE OF TENNESSEE
DEPARTMENT OF HIGHWAYS
NASHVILLE

BILL OF STEEL

SHELLMOUND ROAD #1 OVER E.B. LANE INTERSTATE 24
STATION 319+41.6
MARION COUNTY
1965

DESIGNED BY Mires & Burke DATE
DRAWN BY T. P. DATE
TRACED BY JWS, B. Gayl Parker DATE 11-14-60
CHECKED BY Burke DATE

CORRECT Fred Grove BRIDGE ENGINEER
APPROVED R. Dunlap STATE HIGHWAY ENGINEER

K-47-123

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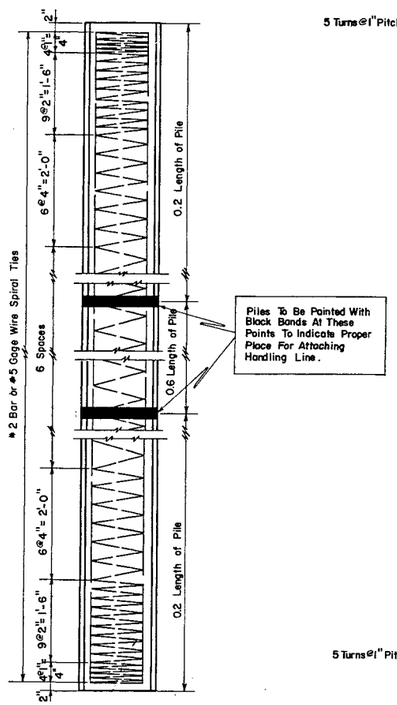
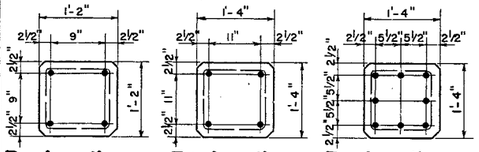


PRECAST CONCRETE PILE

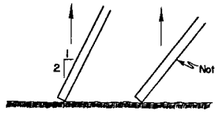


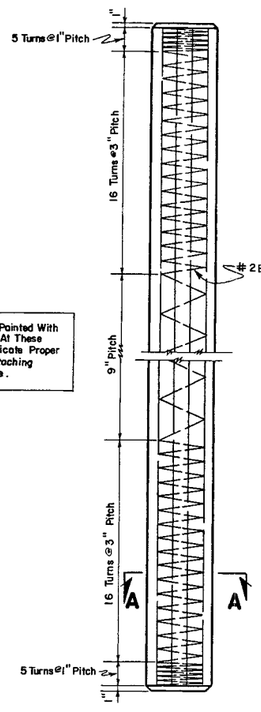
For Lengths Up To 40' | **For Lengths From 41' To 50'** | **For Lengths From 51' To 60'**

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

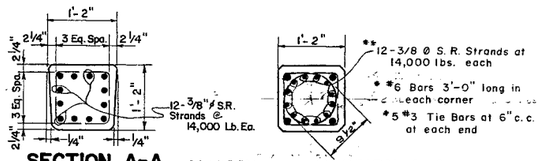
Length Of Of Pile	Longitudinal Reinforcing	Weight Of Steel Per Ft.	Weight Of Pile Per Ft.
Up To 35'	4 #7 Bars	9.6 #	205.3 #
36' To 40'	4 #8 Bars	12.2 #	205.3 #
41' To 45'	4 #9 Bars	15.1 #	265.3 #
46' To 50'	4 #10 Bars	18.8 #	265.3 #
51' To 55'	8 # 9 Bars	28.9 #	265.3 #
56' To 60'	8 # 10 Bars	36.2 #	265.3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

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.





PRESTRESSED CONCRETE PILE

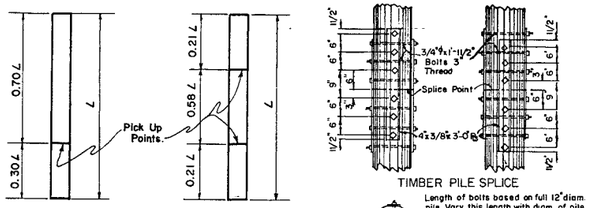


SECTION A-A

ALTERNATE SECTION A-A

* NOTE: End reinforcement required at tip end and driving end for all piles with circular strand patterns.

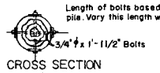
** NOTE: Subject to the approval of the Engineer of Structures, alternate strand sizes and arrangements of equivalent total force may be substituted.



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

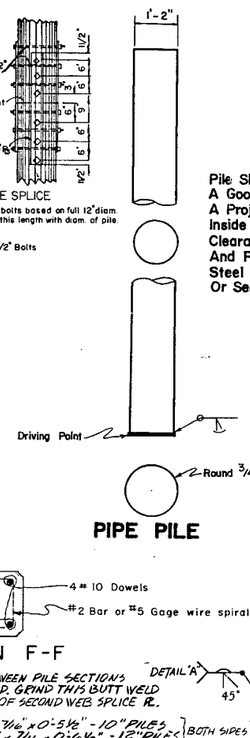
TIMBER PILE SPLICE

Length of bolts based on full 12" diam. pile. Vary this length with diam. of pile.



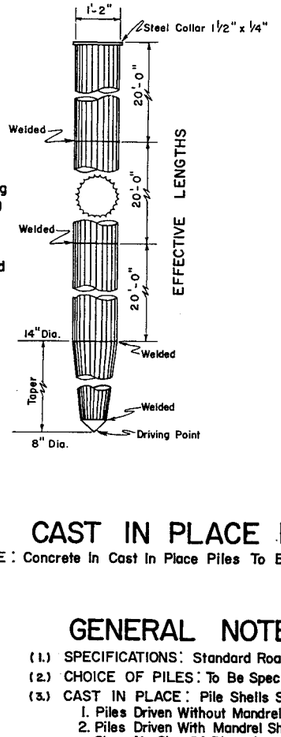
CROSS SECTION

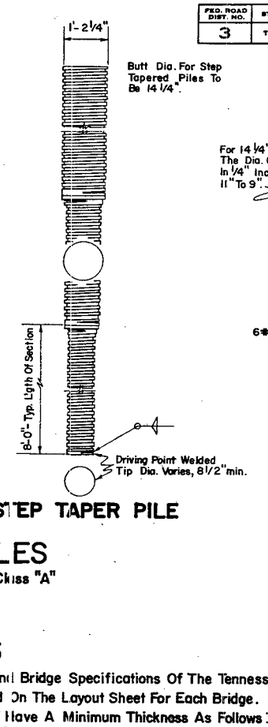
NOTES: (1.) Maximum Length Single Pick Up Point - 60'-0"
(2.) Maximum Length Double Pick Up Point - 85'-0"
(3.) Piles To Be Marked At These Points To Indicate Proper Place For Attaching Handling Lines.
(4.) For Greater Lengths Three Point Pick-up Is Required.



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 ¼". Steel Pipe May Be Welded Or Seamless Steel.



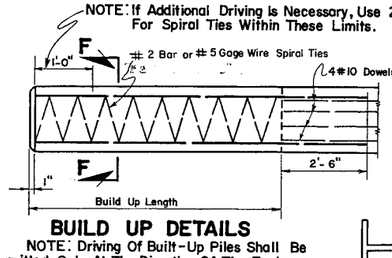


STEP TAPER PILE

STEEL CAGE FOR MANDREL DRIVEN PILE.

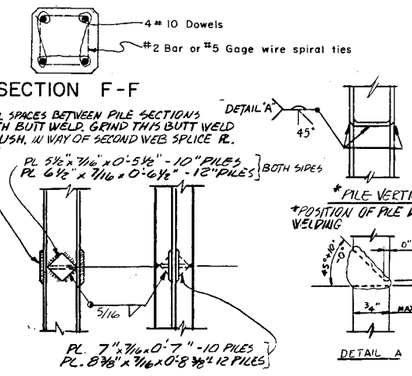
CAST IN PLACE PILES

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.

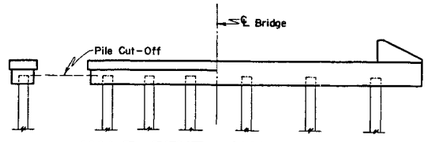
(7.) DRIVING FORMULA: Piles Shall Be Driven To A Minimum Capacity As Specified On The Layout Sheet As Determined By The Driving Formulas Stipulated In The Specifications.

(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.

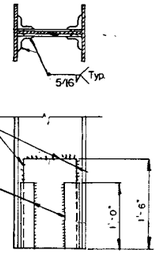
DETAIL OF PILE SPLICE



HALF BENT HALF ABUTMENT

CASE II

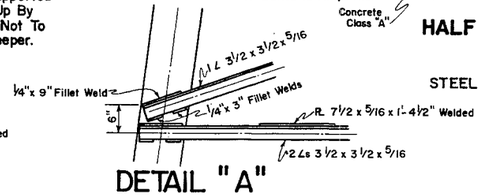
PRECAST CONCRETE FOR STEEL



DETAIL OF PILE DRIVING POINT

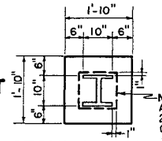
NOTE Cost of driving point to be included in the unit price bid for steel piles

Pile	2 Pl.	4 L's
10"	6" x 1/2"	3½" x 3½" 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"



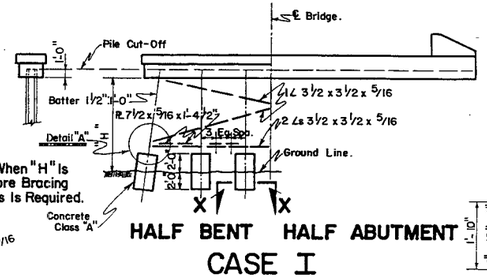
DETAIL "A"

Welds Typical For All End Joints And Intersections.



NOTE: Wrap Pile With American Welded Fabric 2"x2" No. 10 Wire. Cost of Wire Fabric to be included in Unit Price Bid for Class "A" Concrete

SECTION X-X



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

HALF BENT HALF ABUTMENT

CASE I

STEEL FOR PRECAST 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.

STEEL PILES

REV. - FEB. 6, 1962	REV. - JULY 25, 1960	REV. - NOV. 12, 1982 DETAIL OF PILE SPLICE
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	

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

STATE OF TENNESSEE
DEPARTMENT OF HIGHWAYS
NASHVILLE

STANDARD PILE DETAILS

V 0 15

CORRECT Fred Green BRIDGE ENGINEER

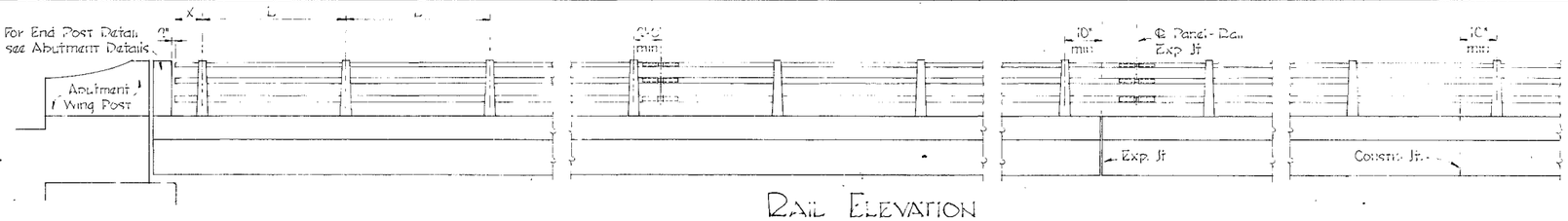
APPROVED [signature] STATE HIGHWAY ENGINEER

H-5-111

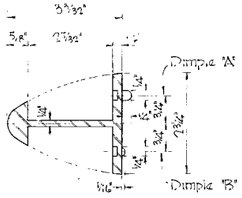
SEE Std.-5-1 & 5-2

FED. ROAD DIST NO	STATE	FED. AID PROJ. NO	FISCAL YEAR	SHEET NO	TOTAL SHEETS
3	TENN		19	50	184

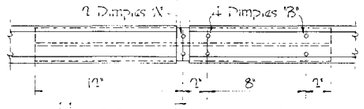
NOTE : For X & L dimensions see Layout of Bridge.
Dim X .0" min. ; 1'-6" max.
Dim L 8'-0" max



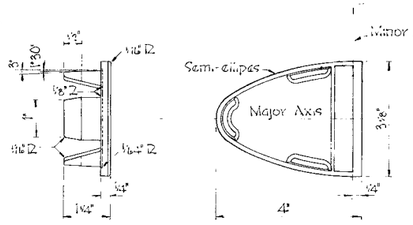
Rail Elevation



Handrail Splice Member

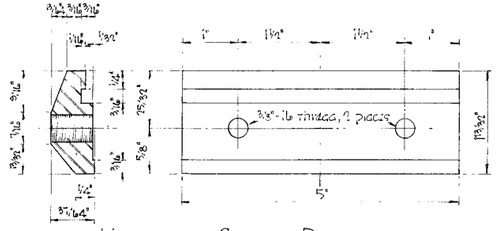


Handrail Expansion & Splice Joints



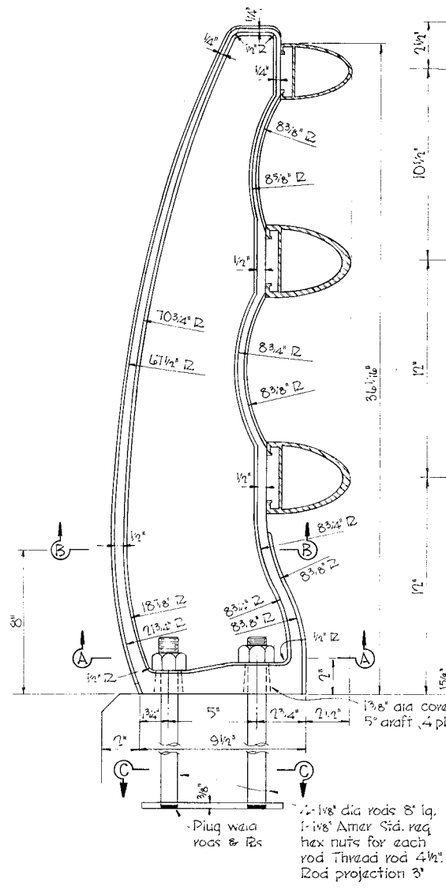
Handrail End Cap

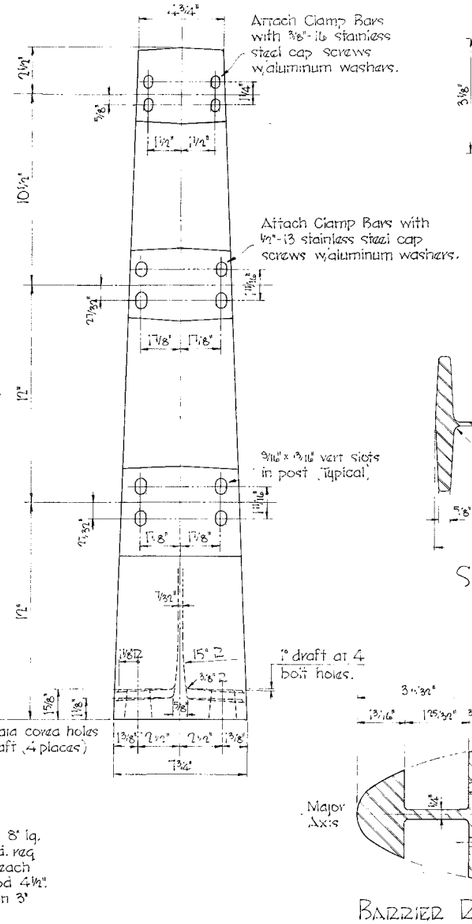
Cast Aluminum - Drwg. 7

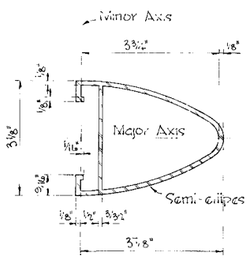


Handrail Clamp Bar

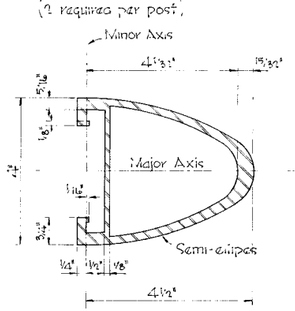
(2 required per post)



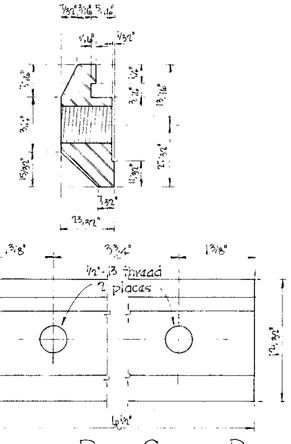




Handrail Section

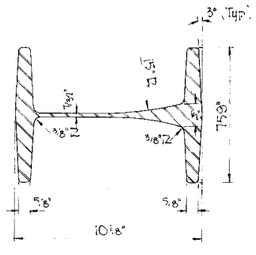


Barrier Rail Section

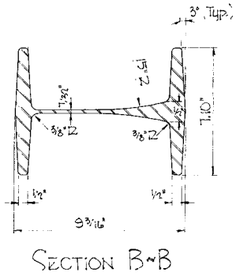


Barrier Rail Clamp Bar

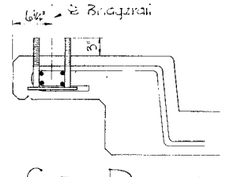
(4 required per post)



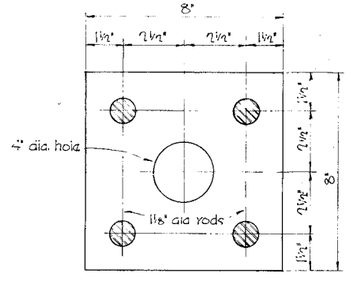
Section A-A



Section B-B

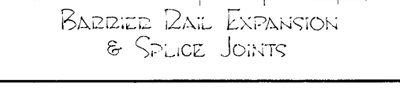


Curb Details

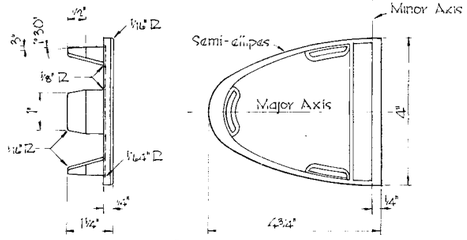


Section C-C

Barrier Rail Splice Member



Barrier Rail Expansion & Splice Joints



Barrier Rail End Cap

Cast Aluminum - Drwg. 7A

General Notes

DESIGN : AASHO 1961 Interim Specifications.
All anchorage provisions and hardware are considered as parts of the rail for payment.
All open ends of rail members shall be capped.
Panel lengths of rail shall be attached to a minimum of 4 posts.
Rail post shall be set plumb unless otherwise noted on Plans.
Anchor bolts & nuts to be steel galvanized to ASTM A-153.
Posts & End Caps shall be cast aluminum Alloy A356.1-T6.
Material for rail members shall be aluminum ASTM B221 Alloy 6061-T6, or 6062-T6.
Castings shall have a maximum draft of 3° and a minimum radius of fillet of ⅛" unless otherwise shown.
Shim material required to plumb post shall be aluminum alloy made from sheet or plate conforming to ASTM Specification B209-61, Alloy 1100 Condition O. Shims shall be of such dimensions to provide full bearing for the post.
All aluminum surfaces in contact with concrete shall be given a shop coat of zinc chromate paint.

All rails to be sawed to length. Flame cutting is not permitted. Rails may be heated to a temperature not exceeding 400°F, for a period not exceeding 30 minutes, to facilitate bending.
Anchor bolts & nuts shall be ASTM A307 & anchor plates shall be ASTM A36 or A7.
Clamping Bar Attachment : Clamp Bars to be aluminum ASTM B221, Alloy 6061-T6 or 6062-T6. Stainless steel cap screws shall be ASTM A-193, grade B-8, 100,000 psi minimum yield & aluminum washers Alcad 2024.

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
NASHVILLE

Standard Three Rail Aluminum Bridgerailing

DESIGNED BY
DRAWN BY JWS DATE
TRACED BY DATE
CHECKED BY DATE

CORRECT Fred Greve, BRIDGE ENGINEER
APPROVED A. D. Dunlap, STATE HIGHWAY ENGINEER

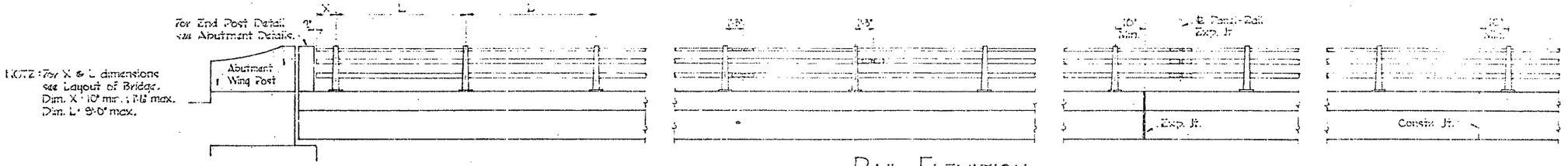
L-38-149

4 Copies

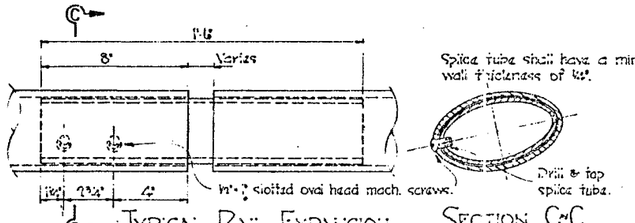
Revised : May 21, 1965 (Dist to Sec. B-B)
Revised : April 9, 1965 (Rail Material)
Revised : March 30, 1965 (12th Spikes)
Revised : Sept 13, 1966

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
9	TENN.		19	49	164

F-082-1(9)



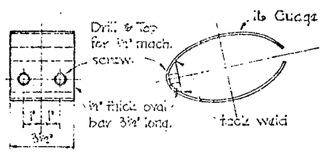
RAIL ELEVATION



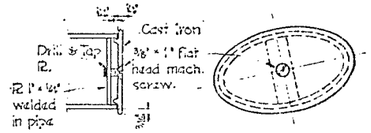
Splice tube shall have a minimum wall thickness of ¼".

TYPICAL RAIL EXPANSION & SPLICE JOINTS

SECTION C-C



TYPICAL FASTENER DETAIL



TYPICAL RAIL END CAP DETAIL

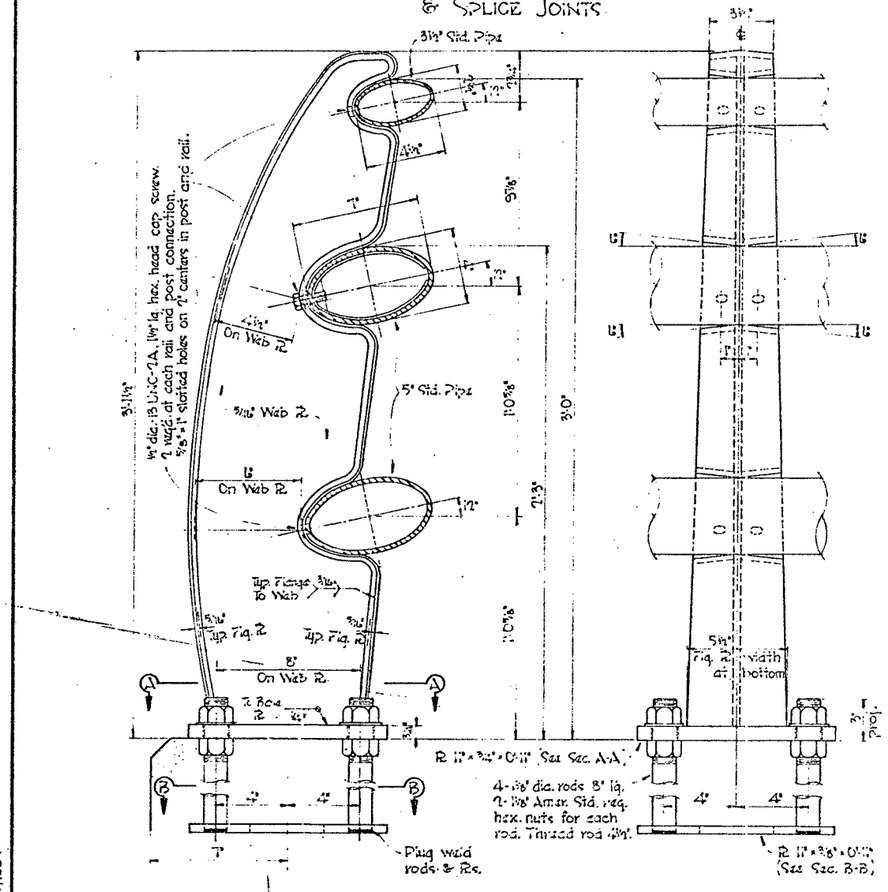
GENERAL NOTES

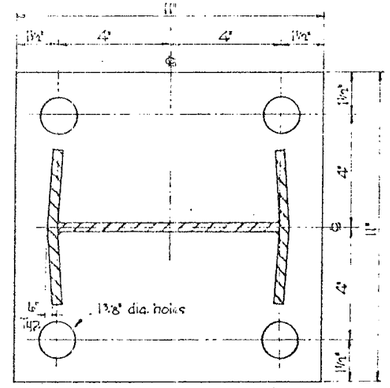
DESIGN: AASHO 1961 Interim Specifications.
POST, ANCHOR BOLT ASSEMBLY: ASTM-A36
RAILING: Steel rail pipe, schedule 40 ASTM-A53 grade A or B.
END CAPS: ASTM A48-48 Class 30
RAIL FASTENER & MISC. ITEMS: ASTM-A7 or A36.
TUBING FOR SPLICE JOINTS: ASTM A-106 Seamless tubing: Grade A or B.
BOLTS, MACHINE SCREWS & NUTS: ASTM-A307
GENERAL FABRICATION & ERECTION REQUIREMENTS:
(a) Rail shall be attached to a minimum of 4 post.
(b) Each rail length furnished with splice joint at one end as required.
(c) All welding shall conform to the Specs. Provisions regarding Welded Structures.
(d) Railing to be fabricated and erected parallel to top of curb and each other. Post to be set plumb or truly vertical unless otherwise noted on Plans.

RAIL ITEM: This item shall include rails and caps, fasteners, machine screws, splice joints, post, anchor bolt assemblies and all other items to complete the railing.

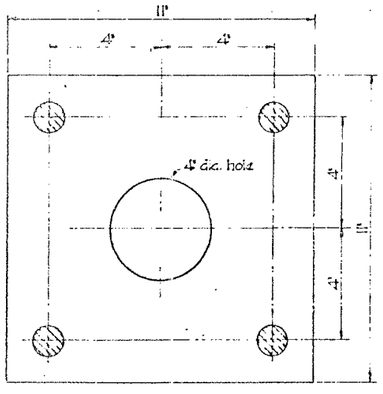
GALVANIZING:
(a) Post and rails to be hot dip galvanized to ASTM A123 after fabrication.
(b) Anchor bolts, end caps, fasteners, splice joints, bolts and nuts to be galvanized to ASTM A153.

SPECIAL NOTE: Since the finished railing must meet all requirements of fit, alignment, grade and verticality of posts to the full satisfaction of the engineer, it is suggested that complete field measurements be made before any shop fabrication is performed.

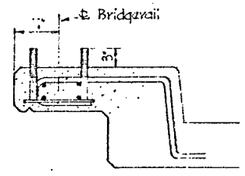




SECTION A-A



SECTION B-B



CURB DETAILS

STATE OF TENNESSEE
DEPARTMENT OF HIGHWAYS
NASHVILLE

STANDARD
THREE RAIL
STEEL BRIDGE RAILING

DESIGNED BY
DRAWN BY JWS
TRACED BY
CHECKED BY
DATE

CORRECT Fred Crews
APPROVED

K-38-150

4 Copies

Revised: Sept. 15, 1964