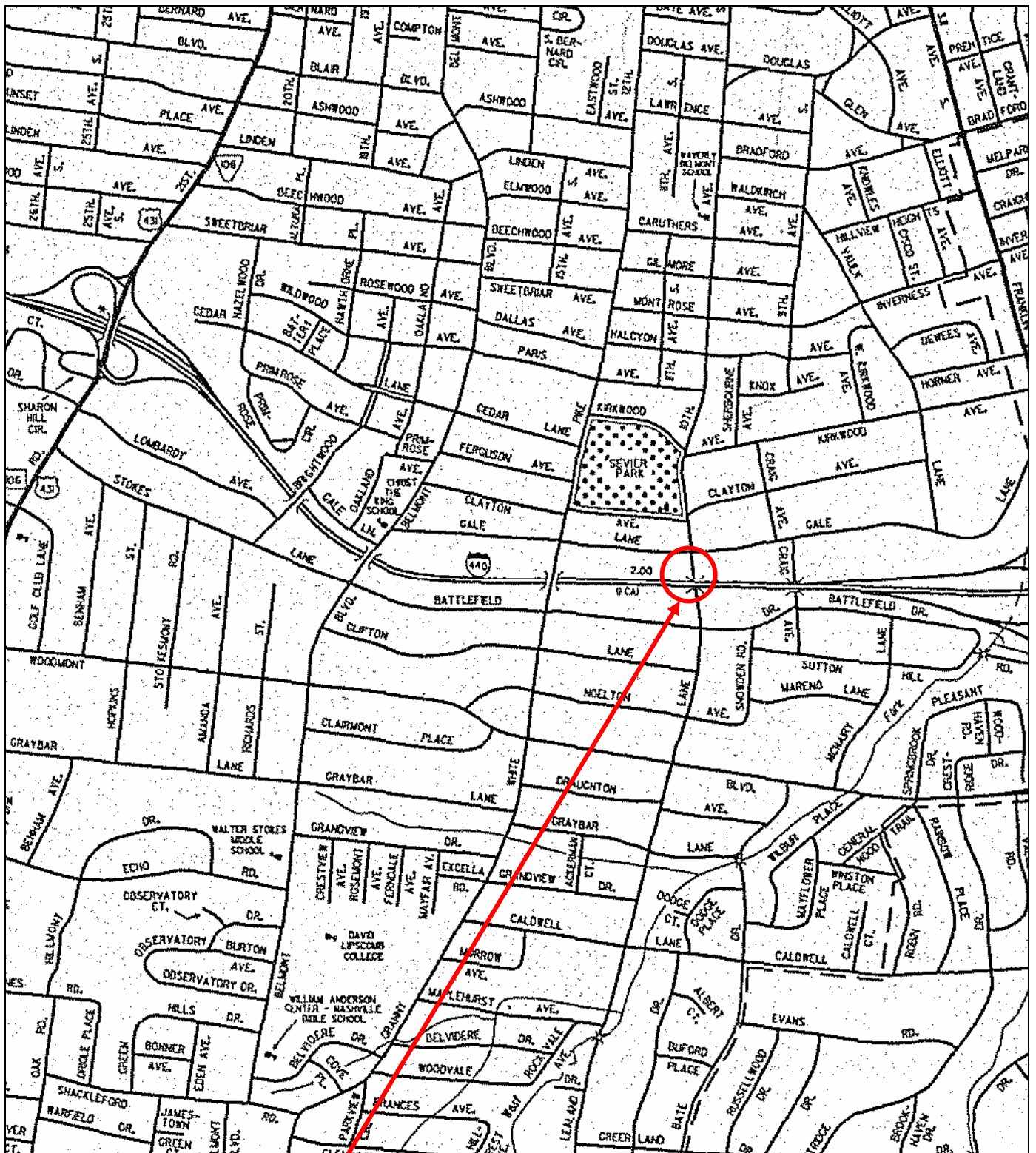


DAVIDSON COUNTY



19104400028
19-10440-4.17 LT
10440 LL/LELAND LANE

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BRIDGE MAINTENANCE RECOMMENDATIONS



Tennessee Department of Transportation

COUNTY: DAVIDSON
 LOCATION: 19-I0440-04.17-L
 CO. SEQ.: 1 SPEC. CASE: 0
 MILEPOST: 4.11

CROSSING: I440-LL / LELAND LANE
 FED. BRIDGE NO.: 19I04400028
 MAINT. DIST.: 19

REPAIR LIST NO.: N
 DATE ADDED:
 REVISED: 03/06/2014

FACILITY CARRIED:	I440	NUMBER OF MAIN SPANS:	1
HIGHWAY SYSTEM:	02-INTERSTATE URBAN	NUMBER OF APPROACH SPANS:	0
BRIDGE WIDTH (CURB TO CURB):	54 FT 1 IN	BRIDGE LENGTH (FT):	111
BRIDGE WIDTH (OUT TO OUT):	56 FT 1 IN	MAXIMUM SPAN LENGTH (FT):	109
APPROACH ROADWAY (W/SHOULDERS):	54 FT 1 IN	SKEW ANGLE (DEGREES):	80
MAINTAINED BY:	STATE HIGHWAY AGENCY		
MAIN SPAN MATERIAL:	PRESTRESSED CONCRETE		
MAIN SPAN DESIGN TYPE:	BOX BEAM OR GIRDERS - MULTIPLE		
APPROACH SPAN MATERIAL:	OTHER OR NOT APPLICABLE		
APPROACH SPAN DESIGN TYPE:	OTHER OR NOT APPLICABLE		
INSPECTION DATE:	03/04/2016	GENERAL CONDITION:	FAIR
EVALUATION DATE:	05/08/2014	STRUCTURALLY DEFICIENT:	NO
PPRM PIN NUMBER:		SUFFICIENCY RATING:	83.0
H TRUCK RATING @ INV.:	20 TONS		

No.	RECOMMENDATIONS	REPAIR DATE	REPAIRED BY
1.	REPAIR APPROACH PAVEMENT "A" AND "B" ENDS		
2.	REPAIR EXPANSION JOINTS AT "A" AND "B" ENDS		

SUGGESTED ROUTINE MAINTENANCE AND COMMENTS
CLEAN AND SEAL TOP DECK
CLEAN & SEAL APPROACH SLABS

GENERAL COMMENTS:
PATCHED HOLE IN BRIDGE DECK, RIGHT LANE, EAST BOUND DEMONSTRATION PERMANENT CONCRETE REPAIR; 09/24/2013 M.H. & H.H.



STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

Bridge Condition Coding Form

Revised 03/07/2016

Bridge Number: 19I044000281
(Includes Item 5A)

Feature Intersected: I440-LL / LELAND LANE

Evaluation Status: CONDITION ITEM CHANGE

County: 19

Route: I0440

Special Case: 0

County Sequence: 1

Log Mile: 4.17

CODE ONLY THOSE VALUES WHICH HAVE CHANGED

ITEM #	DESCRIPTION	VALUE	CONDITION CODING GUIDELINES (Values for Coding Items 58, 59, 60 and 62)			
90	LAST INSPECTION DATE	03/04/2016	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 SERIOUSLY 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 IT BACK IN LIGHT SERVICE. 0 FAILED CONDITION - OUT OF SERVICE AND BEYOND CORRECTIVE ACTION.			
	EARLIEST DATE OF NEXT REGULAR INSPECTION	01/03/2018				
		<u> / /</u>				
10	MINIMUM V.C. OVER DECK (ROADWAY + SHOULDERS)	99 FT. 99 IN.				
520	MINIMUM V.C. OVER DECK (EXCLUDES SHOULDERS)	99 FT. 99 IN.				
36	TRAFFIC SAFETY FEATURES					
	Br. Rail	Trans.	Appr. Rail	Terminal	SPEED LIMIT	
	1	0	1	0	55	
	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	
41	STRC OPEN/CLOSED/POSTED	A				
	A K P	<u> </u>				
58	DECK	5				
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	8				
521	OVERALL CONDITION	FAIR				
16	LATITUDE	17 LONGITUDE				
	N 36° 6.9680'	W 86° 47.2240'				
	<u> </u>	<u> </u>				
	<u> </u>	<u> </u>				

TEAM LEADER SIGNATURE

REVIEW DATE

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Photographs

Bridge ID#: 19I04400028

Date: 03/04/2016



BRIDGE NO.



VIEW LOOKING SOUTH ON LEALAND AVE.

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Bridge ID#: 19I04400028

Date: 03/04/2016



VIEW LOOKING NORTH ON LEALAND AVE.



CLEARANCE VIEW LT. SIDE

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Bridge ID#: 19I04400028

Date: 03/04/2016



ABUTMENT #1



UNDERSIDE VIEW H.B.B.

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Bridge ID#: 19I04400028

Date: 03/04/2016



APPROACH "A" - WBL



VIEW ACROSS TOP OF WEARING SURFACE WBL

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Bridge ID#: 19I04400028

Date: 03/04/2016



APPROACH "B" - WBL



APPR."A" END JOINT W/ PATCHES WBL

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BRIDGE INSPECTION REPORT

Page No. _____

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

Field Report No. 21 Date 3/4/2016
Previous Report No. 20 Date 3/6/2014
Plans: DESIGN

Bridge No. 19I04400028
Eleven Digit No.

Bridge Location No. 19 - I0440 - 4.17 L
Co. Route Log Mile

I440 over LELAND LN
Road Name Crossing Structure Name (If Named)
Year Constructed 1985 ACTUAL County Davidson Maintenance District 37
Year Widened _____ Year Rehabilitated _____

FEATURES

Wearing Surface CONCRETE Depth _____ (in.)
Flared Width NO Median Width OPEN
Navigational Control NO Bridge Skew 80° RT
Structure Type (Main Span) HBB
Structure Type (Appr.Spans) _____
No. Main Spans 1 No. Approach Spans _____
Maximum Span Length 111' (**.* ft.)
Total Length 111' (**.* ft.)

INSPECTORS

1. HALIBURTON TL
2. VOGEL
3. BROWN
4. LOVE
5. _____
6. _____
7. _____
8. _____

WIDTHS (*.* ft.)

Deck Out-to-Out 56'
Roadway Curb/Curb 54'
Roadway Rail/Rail _____
Sidewalk Rt. _____ Lt. _____
*Approach Roadway 36'
*(Does Not Include Shoulders)
Approach Shoulder Rt. 12'
Lt. 6'

CLEARANCES

Min. Vertical Clearance over Deck _____ (ft.-in.)
Min. Vertical Under Clearance 16'9" (ft.-in.)
Min. Lateral Under Clearance Rt. 10' (*.* ft.)
Min. Lateral Under Clearance Lt. _____ (*.* ft.)

FRACTURE CRITICAL: NO
(If Yes, Include BIR 3.9)

NBIS Bridge Length (<25 ft.) OVER 25' (ft.-in.)

UNDERWATER INSPECTION

To Be Performed By: N/A Date _____

Change in Structural Condition: NO Major Repairs Made: NO BRIDGE is: OPEN

COMMENTS:

Supervising Bridge Inspector: JOHN HALIBURTON

BRIDGE RATING: FAIR

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PERFORMANCE EVALUATION

Time of Day Inspected 9:26 AM Weather Conditions CLDY 45
Vehicles Observed ALL TYPES

LIVE LOAD BEHAVIOR

Substructure	Yes/No	Comments
Horiz./ Vert. Defl.	NO	
Vibration	NO	
Superstructure		
Horiz./ Vert. Defl.	NO	
Vibration	NO	

APPROACH

	Rating	Comments
Alignment	GOOD	
Slab	FAIR	<i>1/8" OPEN LONGIT CRACKS 'A' & 'B' ENDS</i>
Joints	FAIR	<i>A/C PATCHES & B.O.'S 'A' & 'B' END MISSING FILLER</i>
Pavement	FAIR	<i>A/C PATCHES</i>
Embankment	GOOD	
Drains	NA	

TRAFFIC SAFETY FEATURES

	Rating	Standard/ SubStandard	Comments
Bridgerailing	GOOD	STANDARD	
Transitions	GOOD	SUBSTANDARD	
Guardrail	GOOD	SUBSTANDARD	<i>INCORRECT BLOCKOUTS</i>
Guardrail Terminal	GOOD	STANDARD	

SIGNING

	Yes/ No/ Needed
Paddleboards	NO
Vertical Clearance (<14'-6")	NO
Narrow Bridge Signs	NO
One Lane Bridge Signs	NO

Weight Limit Posted NO
Gross..... _____ Tons
2 Axle..... _____ Tons
3 or more Axles.. _____ Tons

Other Signs or Plaques:

Comments Regarding any
Problems with Signing:

DECK

	Rating	Comments
Wearing Surface	FAIR	CONCRETE--1/8" LONGIT CRACKS & CONCRETE PATCHES 5' X FULL WIDTH
Deck - Structural Condition	FAIR	(BTM--N/V) SIDE-BY-SIDE BOX BEAMS. OVERHANGS GOOD
Curbs	NA	
Median	NA	
Sidewalks	NA	
Parapet	GOOD	STANDARD-SURFACE SCALE, VERT H.C.'S
Railing	NA	
Paint	NA	
Drains	NA	
Lighting Standards	GOOD	
Utilities	NA	
Joint Leakage	GOOD	
Expansion Joints	POOR	HVY LOSS OF FILLER AND UP TO 90% PAVED OVER

SUPERSTRUCTURE

Bearing Devices	GOOD	
Girders or Beams	GOOD	1/8" LONGIT. CRACKS FULL LENGTH BMS A & M, BM 'E'-LGHT SPALL
Floor Beams	NA	
Stringers	NA	
Diaphragms	NV	
Bracing	NA	
Trusses - General	NA	
Portals	NA	
Bracing	NA	
Paint	NA	
Alignment of Members	GOOD	

TEXTURE COAT

Condition Rating	<u>FAIR</u>	Needs Spot Painting	<u>NO</u>
Overall Appearance	<u>FAIR</u>	Needs Repainting	<u>YES</u>
Staining Rating	<u>FAIR</u>	Comments	
Fading Rating	<u>FAIR</u>		
Scaling Rating	<u>FAIR</u>		

SUBSTRUCTURE

ABUTMENTS

	Rating	Comments
Caps	NA	
Breastwall	GOOD	<i>RANDOM VERT H.C.'S</i>
Wings	GOOD	
Backwall	NV	
Plumb	GOOD	
Footing	NV	
Piles	NV	
Embankment	GOOD	
Bearing Surface	GOOD	
Slope Paving	NA	
Rip Rap	GOOD	<i>SHOT ROCK</i>

PIERS

Caps	N/A	
Columns	N/A	
Plumb	N/A	
Footings	N/A	
Piles	N/A	
Bearing Surface	N/A	

BENTS

Caps	N/A	
Columns	N/A	
Plumb	N/A	
Footings	N/A	
Piles	N/A	
Bearing Surface	N/A	

Piles Need Replacement: NO

Piles To Be Replaced:

SUMMARY
19-I440-4.17 LT
3/4/2016

I440 LL/Leland Ln.
1 Span/H.B.B.

This bridge was inspected and found to be in **fair** condition. Approach alignment is good. Approach pavement and slabs are fair with breakouts and rough A/C patches at “A” & “B” ends. Approach joints are poor with heavy debris, missing filler, and A/C patches. Approach traffic safety features are good but substandard. Bridge parapet rails are fair and standard with surface scale and hairline vertical cracks.

The concrete wearing surface is fair with longitudinal cracks noted in top slab up to 1/8” open. Expansion joints are poor at “A” and “B” ends with concrete patches and heavy filler loss.

Side-by-side box beams, bearings are good.

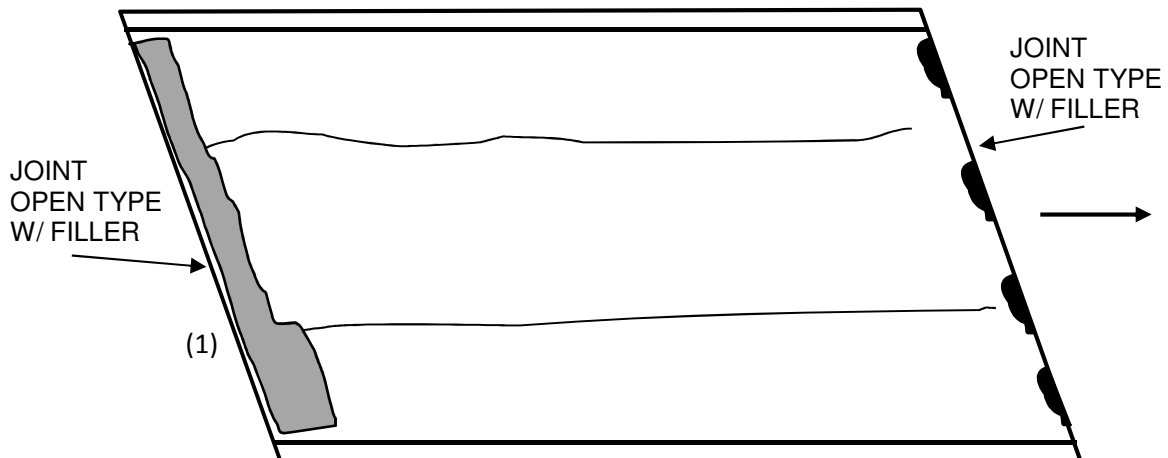
Abutments are good.

John Haliburton

Top of Deck Span No. 1

Date 3/4/2016
 JH

Bridge Location No. 19 I440 4.17 LT.
 County Route Log Mile

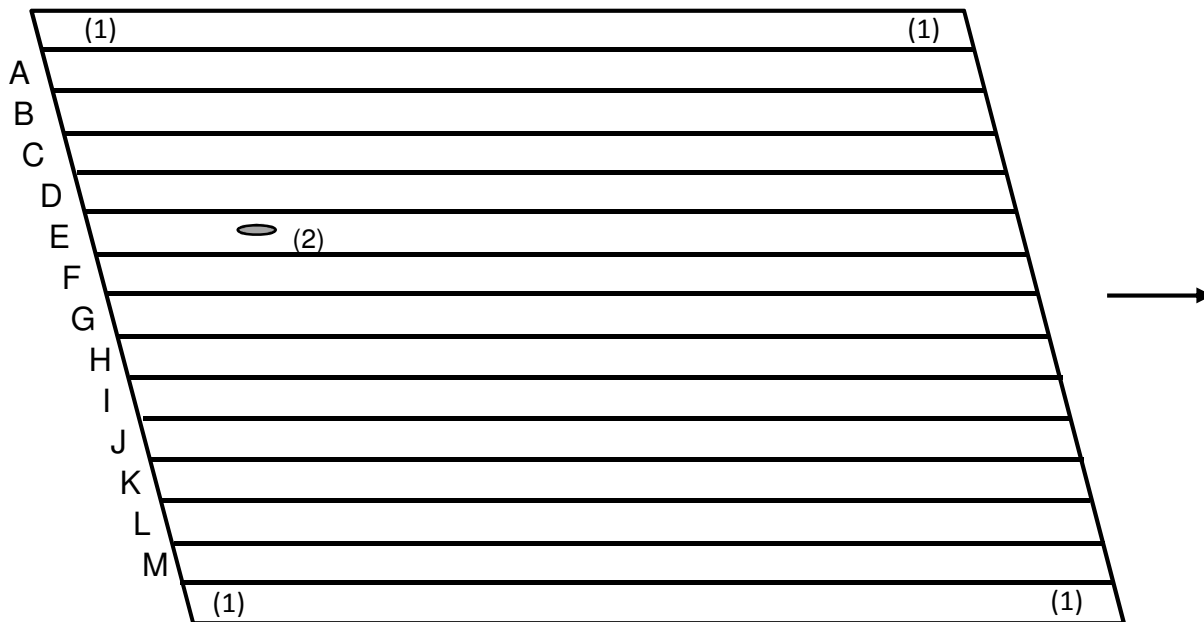


DECK	FAIR	1/8" OPEN LONGIT CRACK, (1) CONC. PATCH 5' X FULL WIDTH
PARAPET	FAIR	STANDARD- SURFACE SCALE & H.L. VERT CRACKS
JOINTS	POOR	90% PAVED OVER @ "A" END. "B" END HAS PATCHES WITH 70% FILLER LOSS AND HVY DEBRIS

Bottom of Slab Span No. 1

Date 3/4/2016
JB

Bridge Location No. 19 I440 4.17 LT.
County Route Log Mile

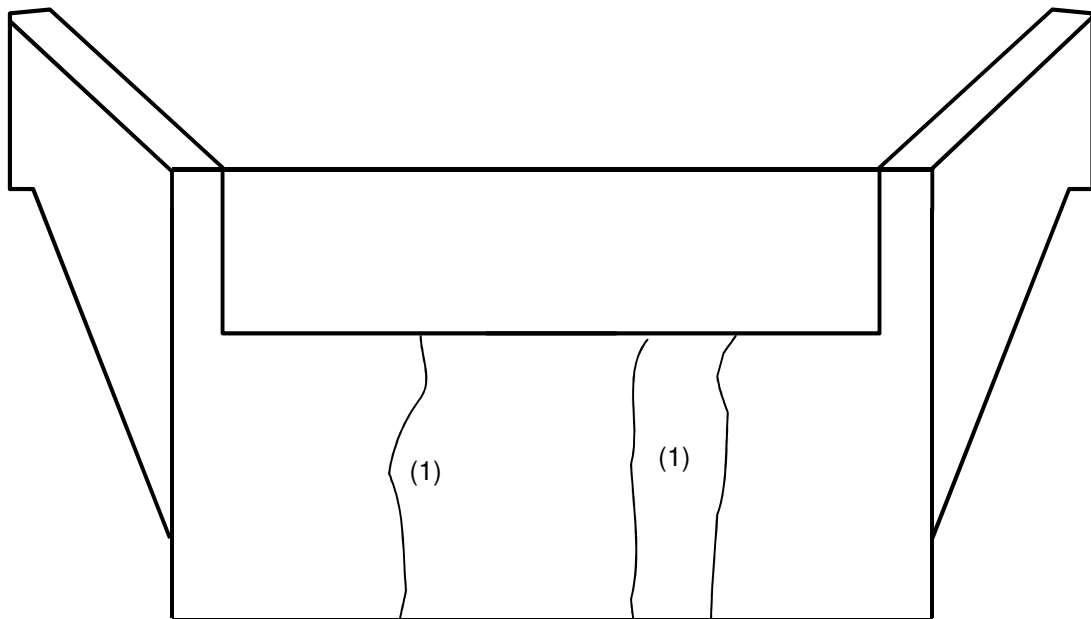


DECK	NV	
BEAMS	GOOD	
"A" & "M"	GOOD	(1) LONGIT. CRACKS .010" OPEN X FULL LENGTH
"E"	GOOD	(2) B.O. 1'L X 4" W X 1/2" DP
OVERHANGS	GOOD	

Abutment No. 1

Date 3/4/2016
JV

Bridge Location No. 19 I440 4.17 LT.
County Route Log Mile

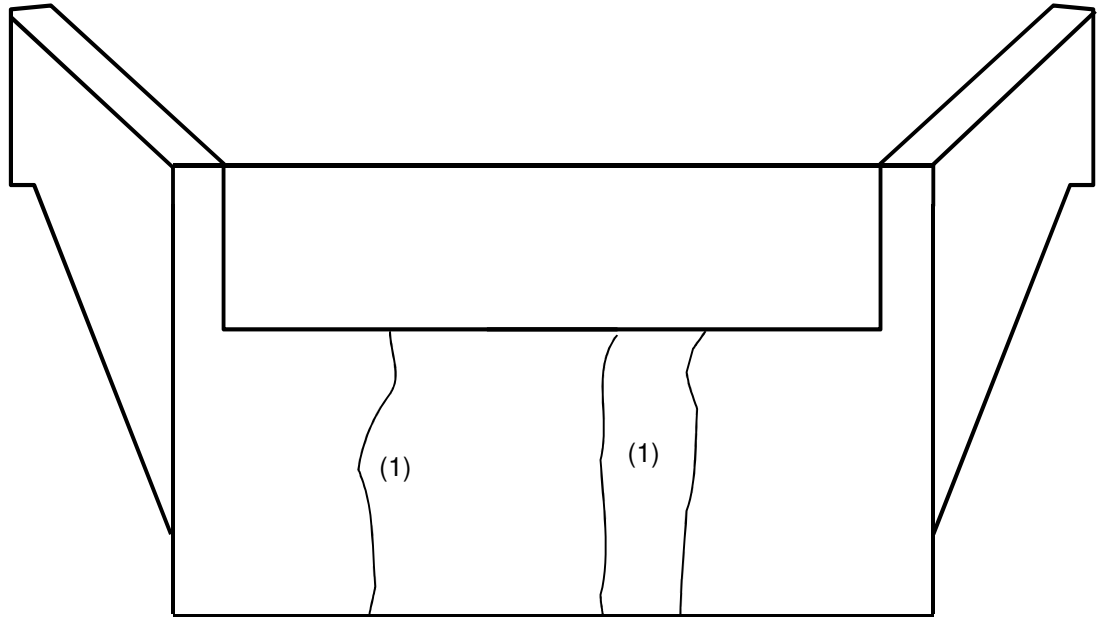


BACKWALL	GOOD	
WALL	GOOD	(1) VERT. CRACK .UP TO 1/16" OPEN FULL HEIGHT
WINGS	GOOD	
BEARINGS	NV	

Abutment No. 2

Date 3/4/2016
JV

Bridge Location No. 19 I440 4.17 LT.
County Route Log Mile



BACKWALL	GOOD	
WALL	GOOD	REPAIRED
		(1) VERT. CRACK UP TO 1/16" OPEN FULL HEIGHT
WINGS	GOOD	
BEARINGS	GOOD	



STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

Underpass Condition Coding Form

Revised 03/07/2016

County: 19

Route: 0C433

Special Case: 0

County Sequence: 1

Bridge Number: 19I044000282
(Includes Item 5A)

Feature Intersected: I440-LL / LELAND LANE

Log Mile: 2.72

CODE ONLY THOSE VALUES WHICH HAVE CHANGED

ITEM #	DESCRIPTION	VALUE	UNDERPASS SAFETY FEATURES
90	LAST INSPECTION DATE	03/04/2016	
	EARLIEST DATE OF NEXT REGULAR INSPECTION	01/03/2018	515 (A) TYPE UNDERPASS BARRIER NONE EXISTS BUT NEEDED
		<u> / /</u>	
10	MINIMUM V.C. OVER DECK (ROADWAY + SHOULDERS)	16 FT. 9 IN.	Revised Barrier Type
		<u> FT. IN.</u>	(B) ADEQUACY OF BARRIER OR RAIL N
520	MINIMUM V.C. OVER DECK (EXCLUDES SHOULDERS)	16 FT. 9 IN.	
		<u> FT. IN.</u>	(C) ADEQUACY OF TRANSITIONS N
47	TOTAL HORIZONTAL UNDERCLEARANCE	59 FT. 9 IN.	
		<u> FT. IN.</u>	(D) ADEQUACY OF TERMINALS N
54	MINIMUM VERTICAL UNDERCLEARANCE (EXCLUDES SHOULDERS)		
	Circle One: H R	<u> FT. IN.</u>	554 VERTICAL CLEARANCE LISTED ON HEIGHT POSTING
55	MINIMUM LATERAL UNDERCLEARANCE ON RIGHT SIDE		
	Circle One: H R	<u> FT. IN.</u>	<u> FT. IN.</u>
		<u> FT. IN.</u>	<u> FT. IN.</u>
56	MINIMUM LATERAL UNDERCLEARANCE ON LEFT SIDE		16 LATITUDE 17 LONGITUDE
		<u> FT. IN.</u>	N 36° 6.9680' W 86° 47.2240'
521	OVERALL CONDITION	FAIR	HEIGHT POSTED AT BOTH APPROACHES? YES [] NO [] N/A []
555	COMMENTS		

TEAM LEADER SIGNATURE

REVIEW DATE

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INSPECTION REPORT FOR UNDERPASS ROUTE

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

Field Report No. 21 Date 3/4/2016
Previous Report No. 20 Date 3/6/2014

Bridge No. 19104400028 Underpass Location No. 19 - C433 - 2.72
Eleven Digit No. Co. Route Log Mile
I440 LL/LELAND LN or 19 - I440 - 0417 L over 19 - C433 - 2.72
Railroad/Walkway Co. Route Log Mile Co. Route Log Mile
County Davidson Structure Name (If Named) _____
Year Constructed 1985 ACTUAL
Year Widened _____ Year Rehabilitated _____

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

Divided Highway N/A Type of Wearing Surface ASPHALT
Width of Approach Traveled Roadway 40' ft. (Does Not Include Shoulders)
Width of Median if Divided Highway _____ ft.
Approach Shoulder Width 2' ft. Right 2' ft. Left
*Horizontal Clearance Under Bridge 60' ft.
*Distance Between Pier Protection Guardrail and Substructure _____ ft. Right _____ ft. Left
*Width of Sidewalk Under Bridge 5' ft. Right _____ ft. Left
*Minimum Vertical Clearance: 16' ft. 9" in. (ft.-in.)
*Show on Sketch

TRAFFIC SAFETY FEATURES

Pier Protection Railing or Parapet
Approach Guardrail Terminals
Approach Guardrail
Approach Guardrail Terminal

Rating	Standard/ SubStandard Non Exist
	NONEXIST
	NONEXIST
	NONEXIST
	NONEXIST

INSPECTORS

- HALIBURTON TL
- VOGEL
- LOVE
- BROWN
- _____
- _____

SIGNING

	Yes/ No/ Needed
Paddleboards	NO
Vertical Clearance (<14'-6")	NO
Narrow Passage	NO
One Lane Passage	NO
Other Underpass Signs Needed	

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

Date 3/4/2016

Underpass Location No. 19 - C433 - 2.72
Co. Route Log Mile

Other Signs or Plaques:

Comments Regarding any
Problems with Signing:

BRIDGE FEATURES (*.* ft.)

Bridge Skew <u>80 ° RT</u>	Number of Lanes/Tracks on Bridge <u>3</u>
Structure Type (Main Span) <u>HBB</u>	No. Main Spans <u>1</u>
Structure Type (Appr.Spans) _____	No. Appr. Spans _____
Maximum Span Length <u>111'</u> (ft.)	Total Length <u>111'</u> (ft.)
Width of Bridge Out-to-Out <u>56'</u> (ft.)	Right Angle to Centerline of Bridge)
Width of Bridge Along Skew _____ (ft.)	(If Unable to Measure at Right Angle to Centerline of Bridge)

BRIDGE CONDITION: FAIR

Does Potential Exist for Elements from Bridge Falling on Roadway Beneath? NO

Does Potential Exist Because of Deteriorated Condition or Failure of Major Members? NO

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

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

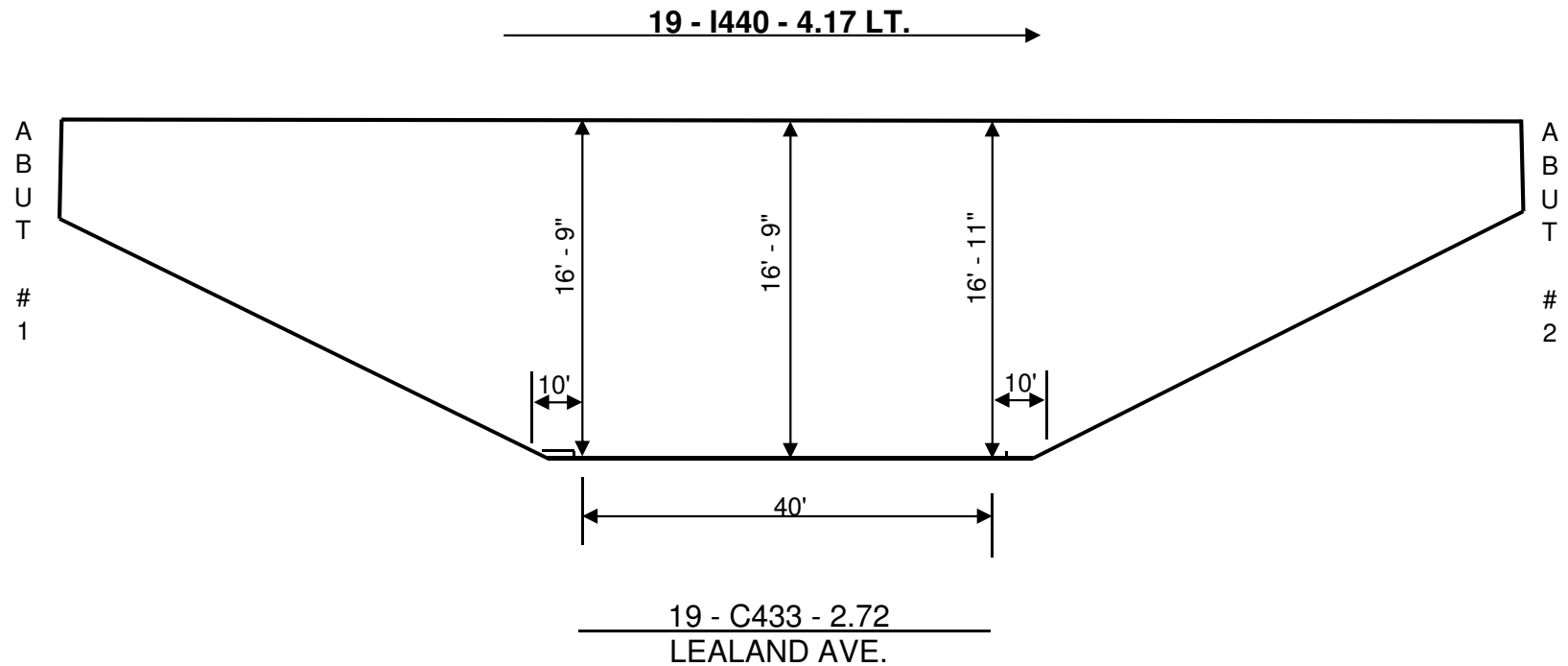
MINIMUM PICTURES REQUIRED

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

CLEARANCE SKETCH

Date 3/4/2016

Bridge Location No. 19 I440 4.17 LT.
County Route Log Mile



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