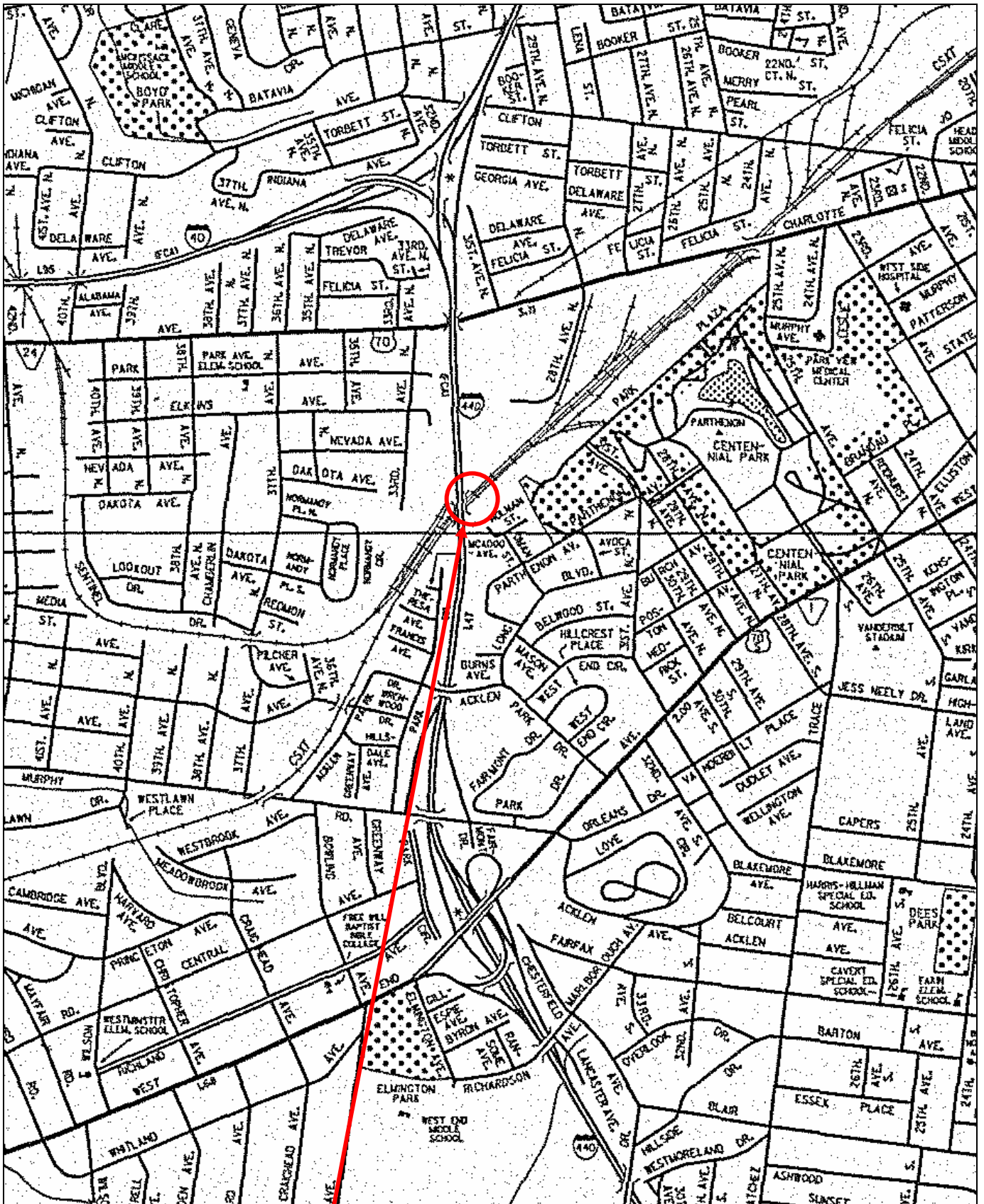


DAVIDSON COUNTY



19I04400004
19-I0440-0.72 LT
1440 LL/CSX RR

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BRIDGE MAINTENANCE RECOMMENDATIONS



Tennessee Department
of Transportation

COUNTY: DAVIDSON
 LOCATION: 19-I0440-00.72-L
 CO. SEQ.: 1 SPEC. CASE: 0
 MILEPOST: 0.63

CROSSING: I440-LL / CSX RR
 FED. BRIDGE NO.: 19I04400004
 MAINT. DIST.: 19

REPAIR LIST NO.: N
 DATE ADDED:
 REVISED: 04/01/2010

FACILITY CARRIED:	I440	NUMBER OF MAIN SPANS:	3
HIGHWAY SYSTEM:	02-INTERSTATE URBAN	NUMBER OF APPROACH SPANS:	0
BRIDGE WIDTH (CURB TO CURB):	54 FT 1 IN	BRIDGE LENGTH (FT):	248
BRIDGE WIDTH (OUT TO OUT):	56 FT 1 IN	MAXIMUM SPAN LENGTH (FT):	115
APPROACH ROADWAY (W/SHOULDERS):	54 FT 1 IN	SKEW ANGLE (DEGREES):	52
MAINTAINED BY:	STATE HIGHWAY AGENCY		
MAIN SPAN MATERIAL:	PRESTRESSED CONCRETE CONTINUOUS		
MAIN SPAN DESIGN TYPE:	BOX BEAM OR GIRDERS - SINGLE OR SPREAD		
APPROACH SPAN MATERIAL:	OTHER OR NOT APPLICABLE		
APPROACH SPAN DESIGN TYPE:	OTHER OR NOT APPLICABLE		
INSPECTION DATE:	02/22/2016	GENERAL CONDITION:	FAIR
EVALUATION DATE:	05/08/2014	STRUCTURALLY DEFICIENT:	NO
PPRM PIN NUMBER:			
H TRUCK RATING @ INV.:	20 TONS	SUFFICIENCY RATING:	83.0

No.	RECOMMENDATIONS	REPAIR DATE	REPAIRED BY
1.	REPAIR APPROACH ROADWAY "A" END		
2.	LEVEL APPROACHES		

SUGGESTED ROUTINE MAINTENANCE AND COMMENTS
REMOVE TRASH @ ABUTMENTS
REPAIR SETTLEMENT @ BOTH ABUTMENTS
SEAL CONCRETE WEARING SURFACE
REPAIR EXPANSION JOINT AT APPROACH SLAB "A" END
REPAIR CONCRETE BASE UNDER LIGHT FIXTURE
SEAL BRIDGE PARAPET

GENERAL COMMENTS:
REPAIRED BREAKOUTS AT ABUTMENT # 1 & BREAKOUT ON CONCRETE RAIL OVER ABUT # 1... 04/05/2010 M.H.



STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

Bridge Condition Coding Form

Revised 02/22/2016

Bridge Number: 19I044000041
(Includes Item 5A)

Feature Intersected: I440-LL / CSX RR

Evaluation Status: CONDITION ITEM CHANGE

County: 19

Route: I0440

Special Case: 0

County Sequence: 1

Log Mile: 0.72

CODE ONLY THOSE VALUES WHICH HAVE CHANGED

ITEM #	DESCRIPTION	VALUE	CONDITION CODING GUIDELINES
90	LAST INSPECTION DATE	02/22/2016	(Values for Coding Items 58, 59, 60 and 62)
	EARLIEST DATE OF NEXT REGULAR INSPECTION	12/23/2017	
		<u> / /</u>	
10	MINIMUM V.C. OVER DECK (ROADWAY + SHOULDERS)	99 FT. 99 IN.	N NOT APPLICABLE 9 EXCELLENT CONDITION 8 VERY GOOD CONDITION - NO PROBLEMS NOTED.
		<u> FT. IN.</u>	
520	MINIMUM V.C. OVER DECK (EXCLUDES SHOULDERS)	99 FT. 99 IN.	7 GOOD CONDITION - SOME MINOR PROBLEMS. 6 SATISFACTORY CONDITION - MINOR DETERIORATION OF STRUCTURAL ELEMENTS.
		<u> FT. IN.</u>	
36	TRAFFIC SAFETY FEATURES		5 FAIR CONDITION - ALL PRIMARY STRUCTURAL ELEMENTS ARE SOUND BUT MAY HAVE MINOR SECTION LOSS, CRACKING, SPALLING OR SCOUR.
	Br. Rail Trans. Appr. Rail Terminal SPEED LIMIT	1 0 0 1 55	
41	STRC OPEN/CLOSED/POSTED	A	4 POOR CONDITION - ADVANCED SECTION LOSS, DETERIORATION, SPALLING OR SCOUR.
	A K P	<u> </u>	
58	DECK	5	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.
59	SUPERSTRUCTURE	7	
60	SUBSTRUCTURE	7	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.
61	CHANL/CHANL PROTECTION	N	
62	CULVERT AND RETAIN WALL	N	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.
71	WATERWAY ADEQUACY	N	
72	APPROACH RDWY ALIGNMENT	8	0 FAILED CONDITION - OUT OF SERVICE AND BEYOND CORRECTIVE ACTION.
521	OVERALL CONDITION	FAIR	
16	LATITUDE	17 LONGITUDE	
	N 36° 8.8940'	W 86° 49.3390'	
	<u> </u>	<u> </u>	
		<u> / /</u>	
	TEAM LEADER SIGNATURE	REVIEW DATE	

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Bridge ID#: 19I04400004

Date: 02/22/2016



BTM DECK VIEW SP. #2



BENT #1 - BACK VIEW

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SETTLEMENT AT ABUTMENT #2



EXP. PILE W/ CORROSION AT ABUT. #2

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CLEARANCE VIEW LT. SIDE



SETTLEMENT AT ABUTMENT #1

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EXP. PILE W/ PITTING AT ABUT. #1



BRIDGE NO.

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Date: 02/22/2016



APPROACH "A"



VIEW ACROSS TOP OF WEARING SURFACE

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APPROACH "B"



APPR. "B" END W/ PATCHES

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BRIDGE INSPECTION REPORT

Page No. _____

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

Field Report No. 20 Date 2/22/2016
Previous Report No. 19 Date 2/25/2014
Plans: DESIGN

Bridge No. 19I04400004
Eleven Digit No.

Bridge Location No. 19 - I0440 - 0.72 L
Co. Route Log Mile

I440 over CSX
Road Name Crossing Structure Name (If Named)
Year Constructed 1986 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 52° RT
Structure Type (Main Span) HBB
Structure Type (Appr.Spans) _____
No. Main Spans 3 No. Approach Spans _____
Maximum Span Length 114.5' (**.* ft.)
Total Length 248' (**.* ft.)

INSPECTORS

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

WIDTHS (*.* ft.)

Deck Out-to-Out 56'
Roadway Curb/Curb _____
Roadway Rail/Rail 54.0'
Sidewalk Rt. 0 Lt. 0
*Approach Roadway 36
*(Does Not Include Shoulders)
Approach Shoulder Rt. 12'
Lt. 6'

CLEARANCES

Min. Vertical Clearance over Deck 20'1" (ft.-in.)
Min. Vertical Under Clearance 25'2" (ft.-in.)
Min. Lateral Under Clearance Rt. 16.5' (*.* 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: NA Date _____

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

COMMENTS:

Supervising Bridge Inspector: GEREMY BILLINGSLEY

BRIDGE RATING: GOOD

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PERFORMANCE EVALUATION

Time of Day Inspected 10:30 AM Weather Conditions CLDY 54
Vehicles Observed ALL

LIVE LOAD BEHAVIOR

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

APPROACH

	Rating	Comments
Alignment	GOOD	
Slab	POOR	MOD LONGIT AND TRANS 1/16" OPEN CRACKS, A/C PATCHES, HVY SPALLS
Joints	POOR	MOD SPALLS & TORN FILLER
Pavement	NA	
Embankment	POOR	MOD-HVY EROSION @ 'B' END LT
Drains	N/A	

TRAFFIC SAFETY FEATURES

	Rating	Standard/ SubStandard	Comments
Bridgerailing	GOOD	STANDARD	LGH. SCALE
Transitions	GOOD	SUBSTANDARD	RUB RAIL NON EXIST-INCORRECT BLOCKOUTS
Guardrail	FAIR	SUBSTANDARD	INCORRECT BLOCKOUTS, MISSING POST @ 'B' END LT
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	MOD TRANS AND HORZ CRACKS 1/16"-1/8" OPEN
Deck - Structural Condition	GOOD	DECK PANELS- SP #3 BAY 'C' & 'D'- PANEL 7-TRANSV. & LONGIT CRACKS
Curbs	N/A	
Median	N/A	
Sidewalks	N/A	
Parapet	GOOD	LGH. SCALING ALL SPANS
Railing	N/A	
Paint	N/A	
Drains	N/A	
Lighting Standards	FAIR	LOSS OF CON UNDER BASE LT SIDE SPAN #2
Utilities	N/A	
Joint Leakage	GOOD	
Expansion Joints	POOR	MISSING FILLER, ADHESION FAIL, A/C PATCHES

SUPERSTRUCTURE

Bearing Devices	GOOD	
Girders or Beams	GOOD	H.L. MAP CRACKS @ ABUTMENTS
Floor Beams	N/A	
Stringers	N/A	
Diaphragms	GOOD	
Bracing	N/A	
Trusses - General	N/A	
Portals	N/A	
Bracing	N/A	
Paint	N/A	
Alignment of Members	GOOD	

TEXTURE COAT

Condition Rating NA Needs Spot Painting NO
 Overall Appearance Needs Repainting NO
 Staining Rating Comments
 Fading Rating
 Scaling Rating

SUBSTRUCTURE

ABUTMENTS

	Rating	Comments
Caps	GOOD	
Breastwall	N/A	
Wings	GOOD	
Backwall	N/A	
Plumb	GOOD	
Footing	N/A	
Piles	GOOD	5 EXP.
Embankment	FAIR	SETTLEMENT @ ABUT #1 WITH 3 EXP PILES, 2 EXP. @ ABUT. #2
Bearing Surface	GOOD	
Slope Paving	N/A	
Rip Rap	GOOD	

PIERS

Caps	NA	
Columns		
Plumb		
Footings		
Piles		
Bearing Surface		

BENTS

Caps	GOOD	
Columns	GOOD	
Plumb	GOOD	
Footings	N/V	
Piles	N/V	
Bearing Surface	GOOD	

Piles Need Replacement: NO

Piles To Be Replaced:

SUMMARY
19-I440-0.72 LT
2/22/2016

I440/C.S.X. R.R.
3 Span/B.B.

This bridge was inspected and found to be in **fair** condition. Approach alignment is good. Approach embankment at 'B' end left is fair with moderate-heavy erosion. Approach slabs are poor with moderate scale, cracks ½" open, A/C patches, and spalls upto 3.5' long x 1.5' wide x 2" deep. Approach guardrail and transitions are good but substandard with impact damage and missing post at 'B' end left. Bridge parapet rail is good and standard. End terminals are standard and good.

The concrete wearing surface is fair with moderate to heavy longitudinal and transverse cracks and moderate scaling. Expansion joints are poor with failing filler and breakouts.

Beams and bearings are good.

Abutments and bents are good. Abutment #1 has moderate settlement with two exposed piles. Abutment #2 has moderate settlement with two exposed piles with light rust.

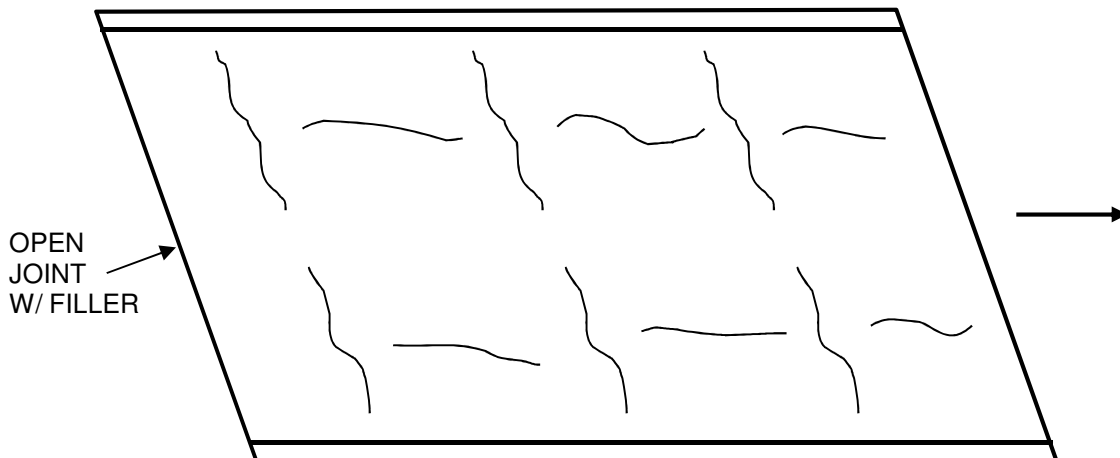
The minimum distance from the centerline of track to the nearest bent is 16'. The crash barriers are in place and good.

Jeremy Billingsley

Top of Deck Span No. 1

Date 2/22/2016
GB

Bridge Location No. 19 I440 0.72 LT.
County Route Log Mile

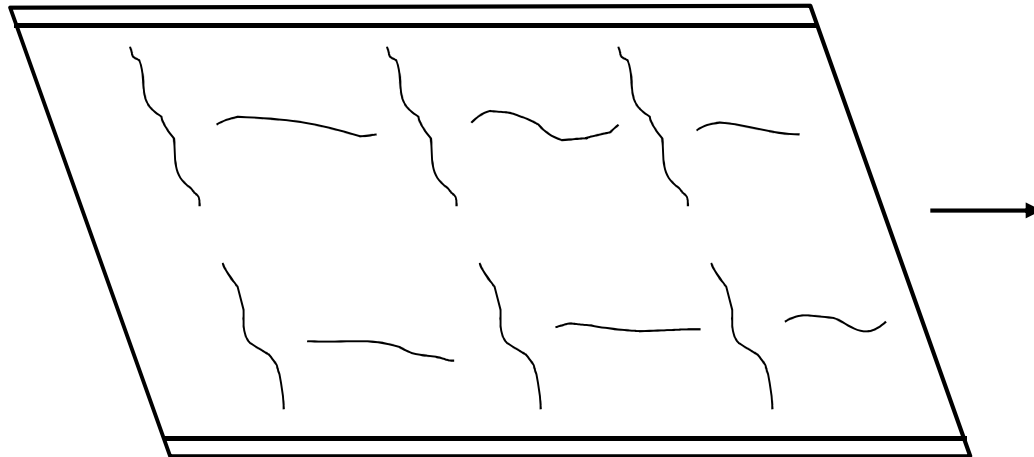


DECK	FAIR	CONCRETE- MOD - HVY TRANSV. & LONGIT CRACKS 1/8" OPEN, MOD. SCALE, AGG POPOUTS
PARAPET	GOOD	STANDARD-LGH SCALE, AGG POPOUTS, LONGIT CRACKS 1/16" OPEN
JOINTS	POOR	OPEN TYPE W/ FILLER LOSS OF FILLER, A/C PATCHES

Top of Deck Span No. 2

Date 2/22/2016
GB

Bridge Location No. 19 I440 0.72 LT.
County Route Log Mile

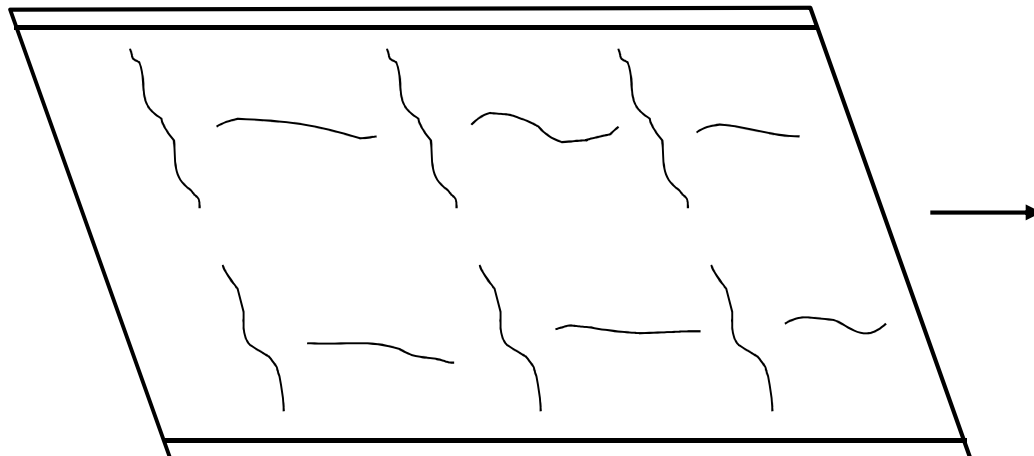


DECK	FAIR	CONCRETE-MOD - HVY TRANSV. & LONGIT CRACKS 1/8" OPEN,
		MOD. SCALE
PARAPET	GOOD	STANDARD-LGH SCALE, LONGIT CRACKS 1/16" OPEN

Top of Deck Span No. 3

Date 2/22/2016
GB

Bridge Location No. 19 I440 0.72 LT.
County Route Log Mile

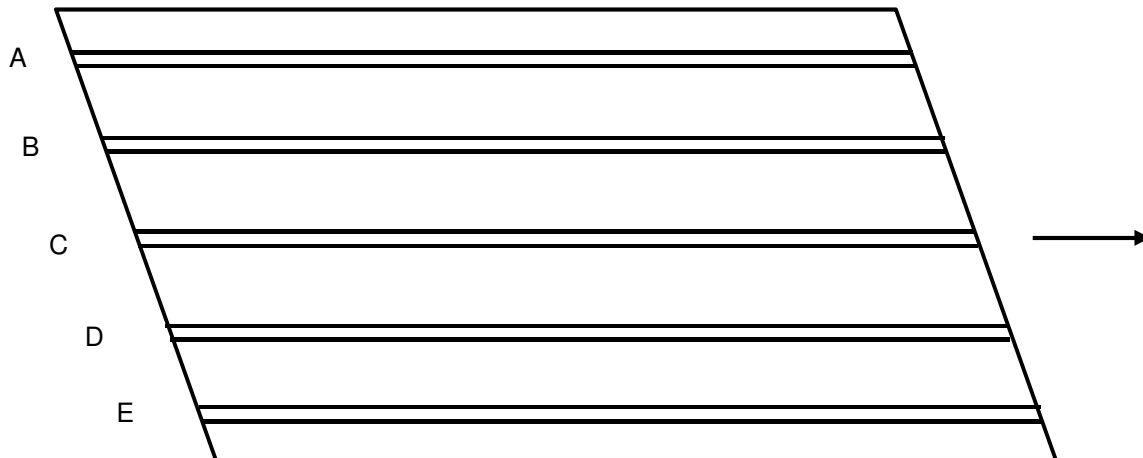


DECK	FAIR	CONCRETE-MOD - HVY TRANSV. & LONGIT CRACKS 1/8" OPEN, MOD. SCALE, & AGG. POPOUTS
PARAPET	GOOD	STANDARD-LGH. SCALE, AGG POPOUTS
JOINTS	FAIR	FILLER LOSS, ADHESIVE FAILURES

Bottom of Slab Span No. 1

Date 2/22/2016
JB

Bridge Location No. 19 I440 0.72 LT.
County Route Log Mile

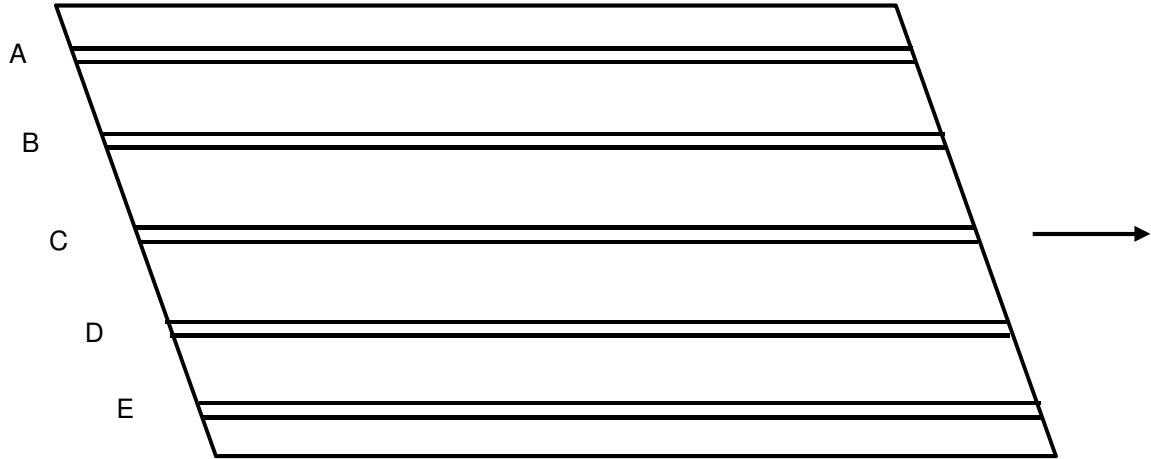


DECK	GOOD	
DIAPHRAGMS	GOOD	
BEAMS	GOOD	H.L. MAP CRACKS ALL BEAMS @ ABUT.
OVERHANG	GOOD	

Bottom of Slab Span No. 2

Date 2/22/2016
JB

Bridge Location No. 19 I440 0.72 LT.
County Route Log Mile

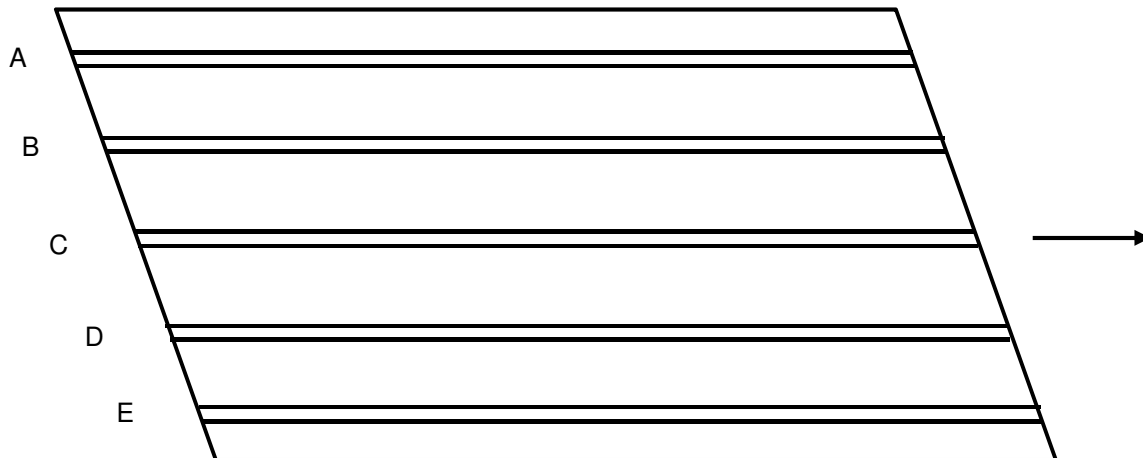


DECK	GOOD	SOOT STAINS
DIAPHRAGMS	GOOD	
BEAMS	GOOD	SOOT STAINS
OVERHANG	GOOD	

Bottom of Slab Span No. 3

Date 2/22/2016
JB

Bridge Location No. 19 I440 0.72 LT.
County Route Log Mile

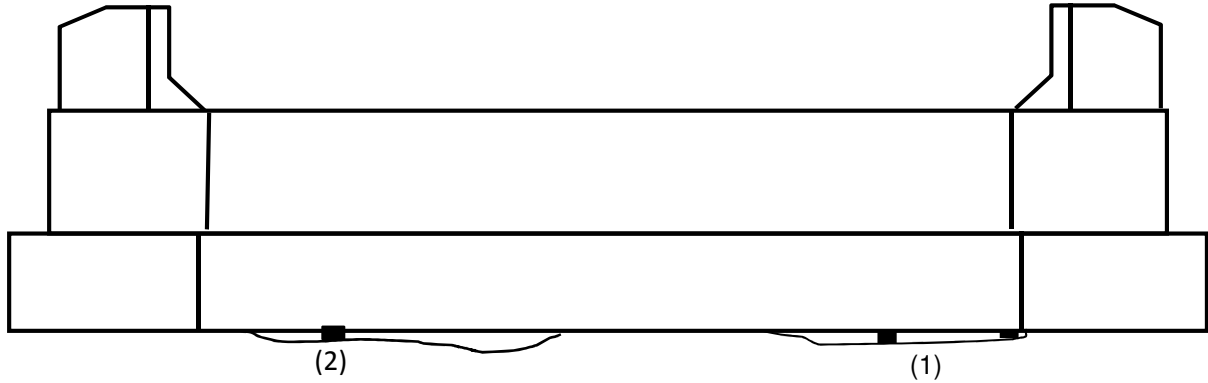


DECK	GOOD	TRANSV./LONGIT. H.C.'S PANEL #7, BAYS 'C' & 'D'
DIAPHRAGMS	GOOD	
BEAMS	GOOD	H.L. MAP CRACKS ALL BEAMS @ ABUT.
OVERHANG	GOOD	

Abutment No. 1

Date 2/22/2016
JV

Bridge Location No. 19 I440 0.72 LT.
County Route Log Mile

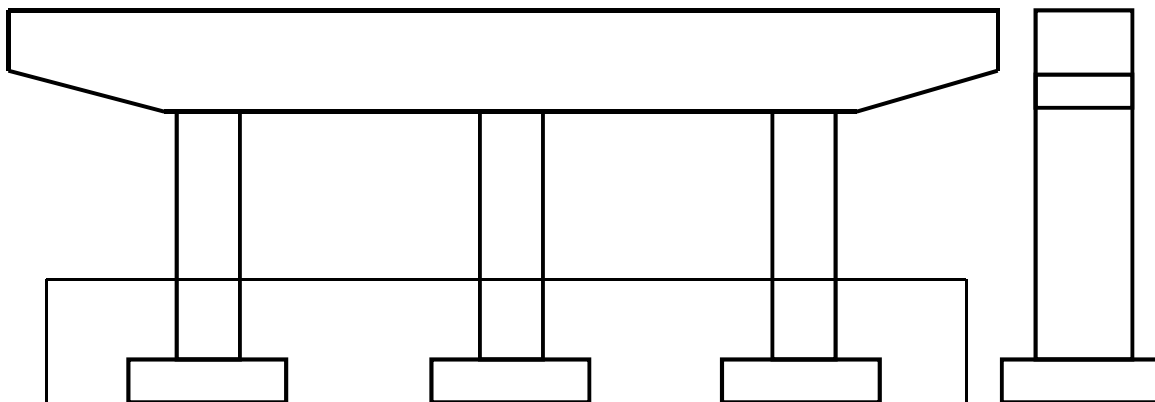


BACKWALL	GOOD	RANDING H.C.'S
CAP	GOOD	
WINGS	GOOD	
BEARINGS	GOOD	
EMBANKMENT	FAIR	(1) SETTLEMENT 6" DP X 2.5' UNDER X 16' L W/ 2 EXPOSED PILES HVY TRASH BLD. UP, (2) SETTLEMENT 4"DP X 2.5' UNDER X 12'L W/1 EXP. PILE
PILES	GOOD	LIGHT CORR. (3 EXPOSED)

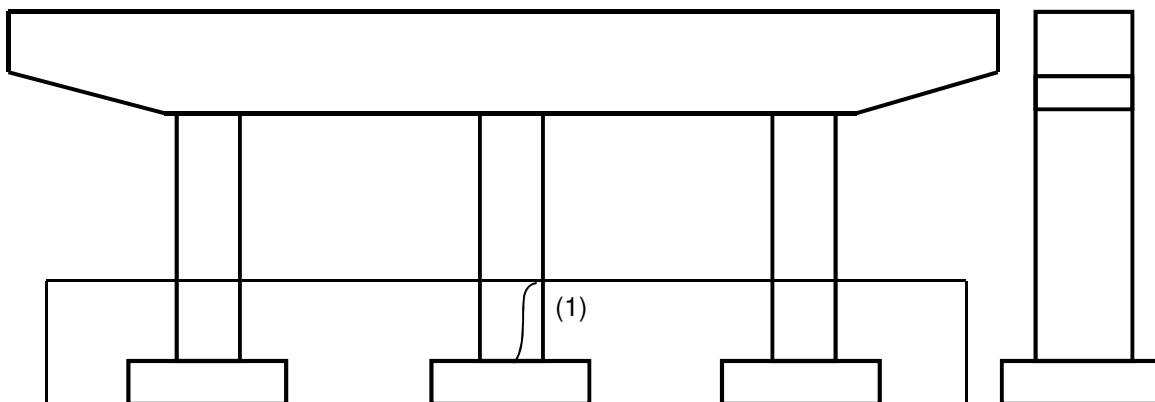
Bent No. 1

Date 2/22/2016
JV

Bridge Location No. 19 I440 0.72 LT.
County Route Log Mile



FRONT



BACK

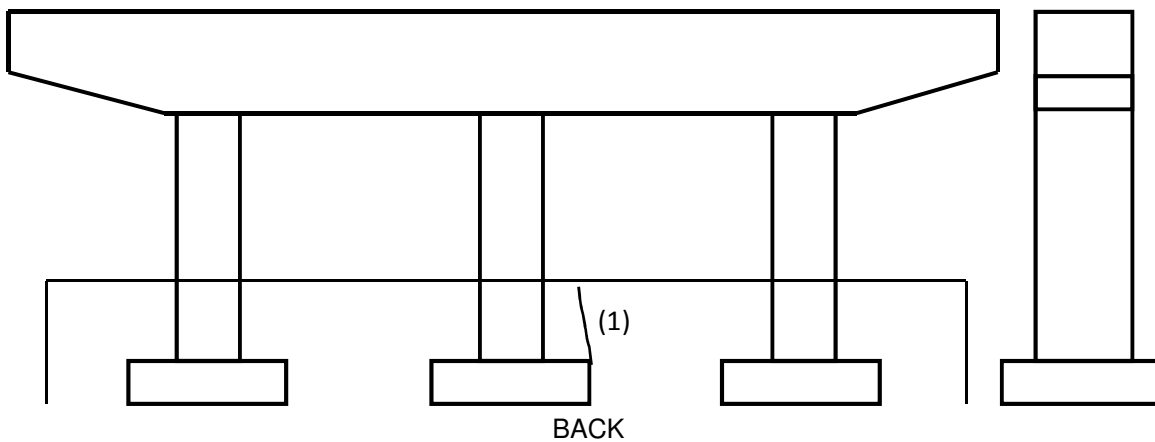
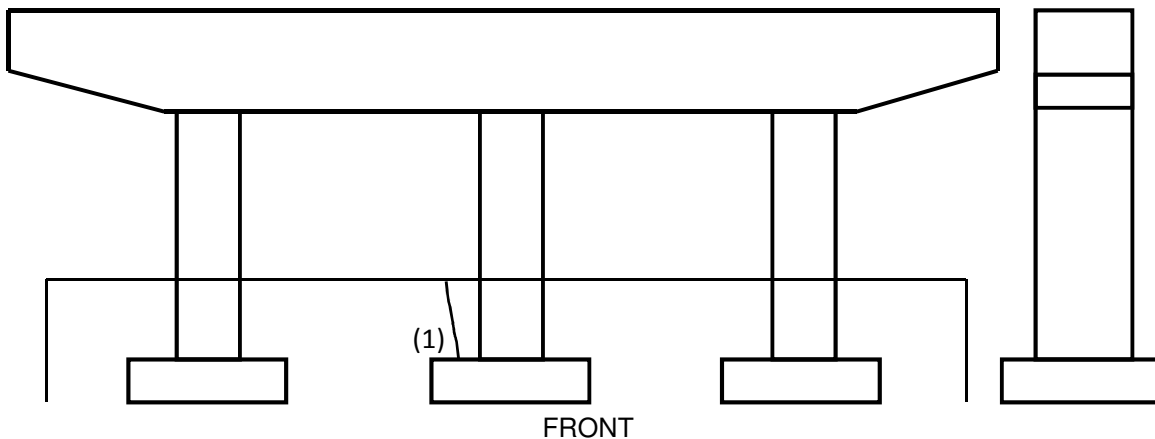
CAP	GOOD	H.C.'S
COLUMNS	GOOD	
FOOTINGS	NV	
BEARINGS	GOOD	
CRASH WALL	GOOD	(1) 1/8" OPEN VERT. CRACK FULL HEIGHT

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Bent No. 2

Date 2/22/2016
JV

Bridge Location No. 19 I440 0.72 LT.
County Route Log Mile



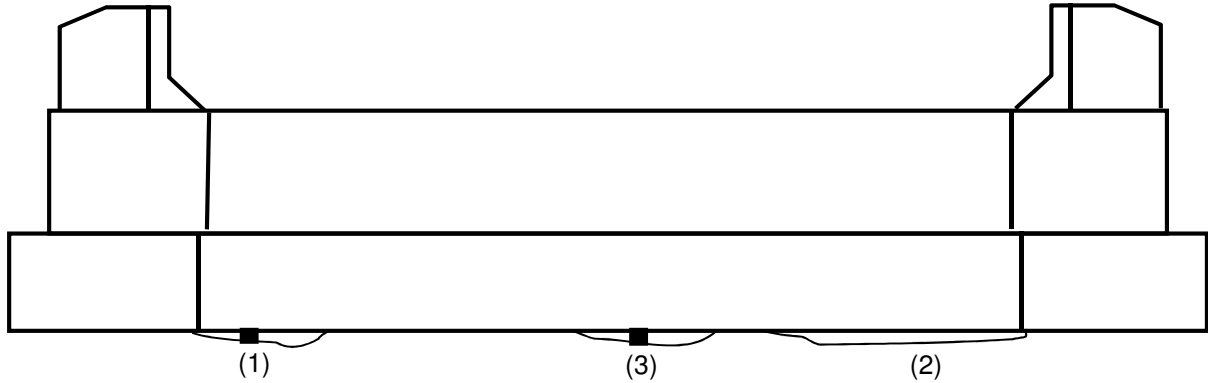
CAP	GOOD	
COLUMNS	GOOD	
FOOTINGS	NV	
BEARINGS	GOOD	
CRASH WALL	GOOD	(1) 1/8" VERT. OPEN CRACK

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Abutment No. 2

Date 2/22/2016
JV

Bridge Location No. 19 I440 0.72 LT.
County Route Log Mile

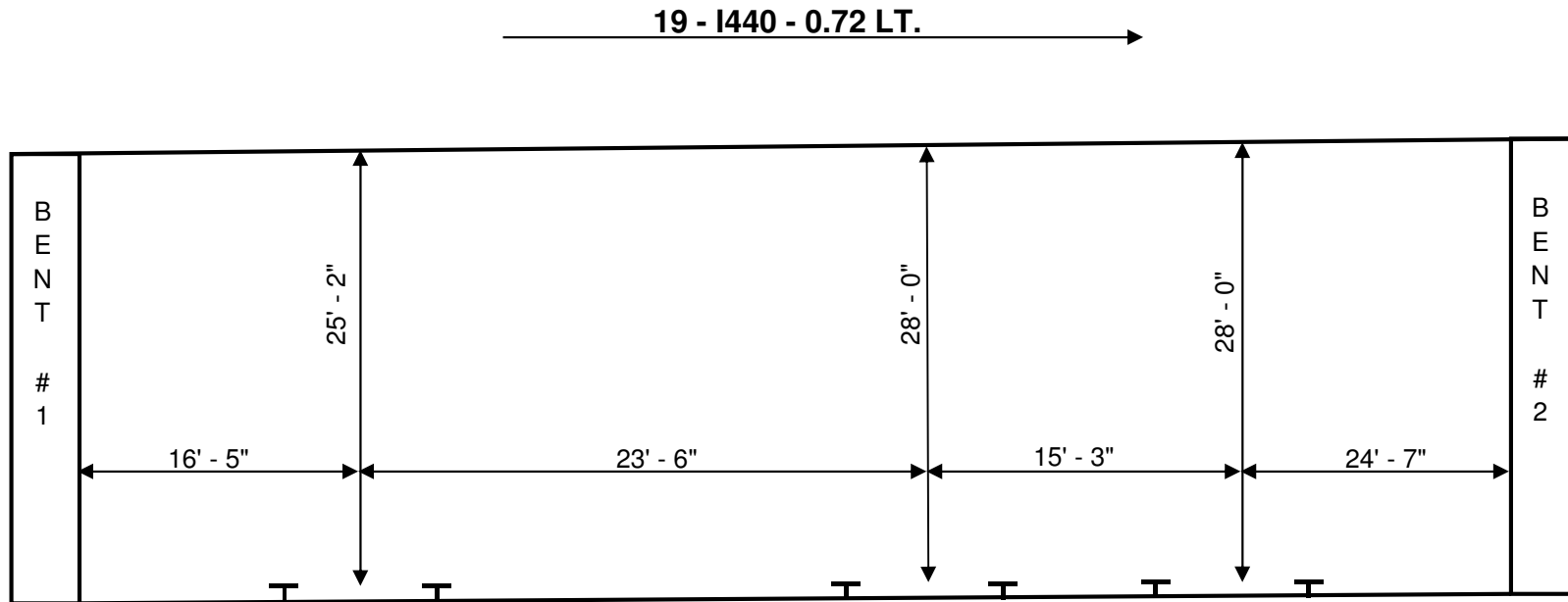


BACKWALL	GOOD	
CAP	GOOD	
WINGS	GOOD	
BEARINGS	GOOD	
EMBANKMENT	FAIR	(1) SETTLEMENT 3" H X 2' UNDER X 6' L W/ 1 EXPOSED PILE
		(2) SETTLEMENT 3" H X 1' UNDER X 25' L , HVY TRASH BLD-UP
		(3) SETTLEMENT 3' L X 4" H X 2' UNDER W/ 1 EXPOSED PILE
PILES	GOOD	(1) & (3) LIGHT CORR. (2 EXPOSED)

CLEARANCE SKETCH

Date 2/22/2016

Bridge Location No. 19 I440 0.72 LT.
County Route Log Mile



— S.S. R.R. —

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