

BRIDGE MAINTENANCE RECOMMENDATIONS



COUNTY: BLOUNT
 CITY: N/A
 LOCATION: 5-01267-01.75-
 CO. SEQ.: 1 SPEC. CASE: 0

CLOVERHILL

CROSSING: BAKER CREEK
 FED BRIDGE NO.: 05012670001

REVISED: 11/09/2021

FACILITY CARRIED:	NFA 1276	NUMBER OF MAIN SPANS:	2
HIGHWAY SYSTEM:	18-STP URBAN, NON-STATE SYS.	NUMBER OF APPROACH SPANS:	0
BRIDGE WIDTH (CURB TO CURB):	20 FT 8 IN	BRIDGE LENGTH (FT):	17
BRIDGE WIDTH (OUT TO OUT):	20 FT 8 IN	MAXIMUM SPAN LENGTH (FT):	8
APPROACH ROADWAY (W/SHOULDERS):	18 FT 0 IN	SKEW ANGLE (DEGREES):	90
MAINTAINED BY:	COUNTY HIGHWAY AGENCY		
MAIN SPAN MATERIAL:	CONCRETE CONTINUOUS		
MAIN SPAN DESIGN TYPE:	CULVERT (INCLUDES FRAME CULVERTS)		
APPROACH SPAN MATERIAL:	OTHER OR NOT APPLICABLE		
APPROACH SPAN DESIGN TYPE:	OTHER OR NOT APPLICABLE		
INSPECTION DATE:	11/08/2021	GENERAL CONDITION:	POOR
PPRM PIN NUMBER:	126874.00	STRUCTURALLY DEFICIENT:	YES
H TRUCK RATING @ INV.:	6 TONS	SUFFICIENCY RATING:	26.2

No.	RECOMMENDATIONS	REPAIR DATE	REPAIRED BY
1.	REPAIR WINGWALLS		
2.	REPAIR EMBANKMENT EROSION ON LEFT SIDE OF APPROACH NO. 2		
3.	REPAIR VOIDS/SPALLS IN BARREL WALLS		
4.	STABILIZE RIGHT SIDE HEADWALL		
5.	REPAIR UNDERMINING AT OUTLET END OF BARRELS AND WING		

SUGGESTED ROUTINE MAINTENANCE AND COMMENTS

APPROACH GUARDRAILS ARE NON-EXISTENT

INSTALL "NARROW BRIDGE" WARNING SIGNS AT APPROPRIATE LOCATIONS

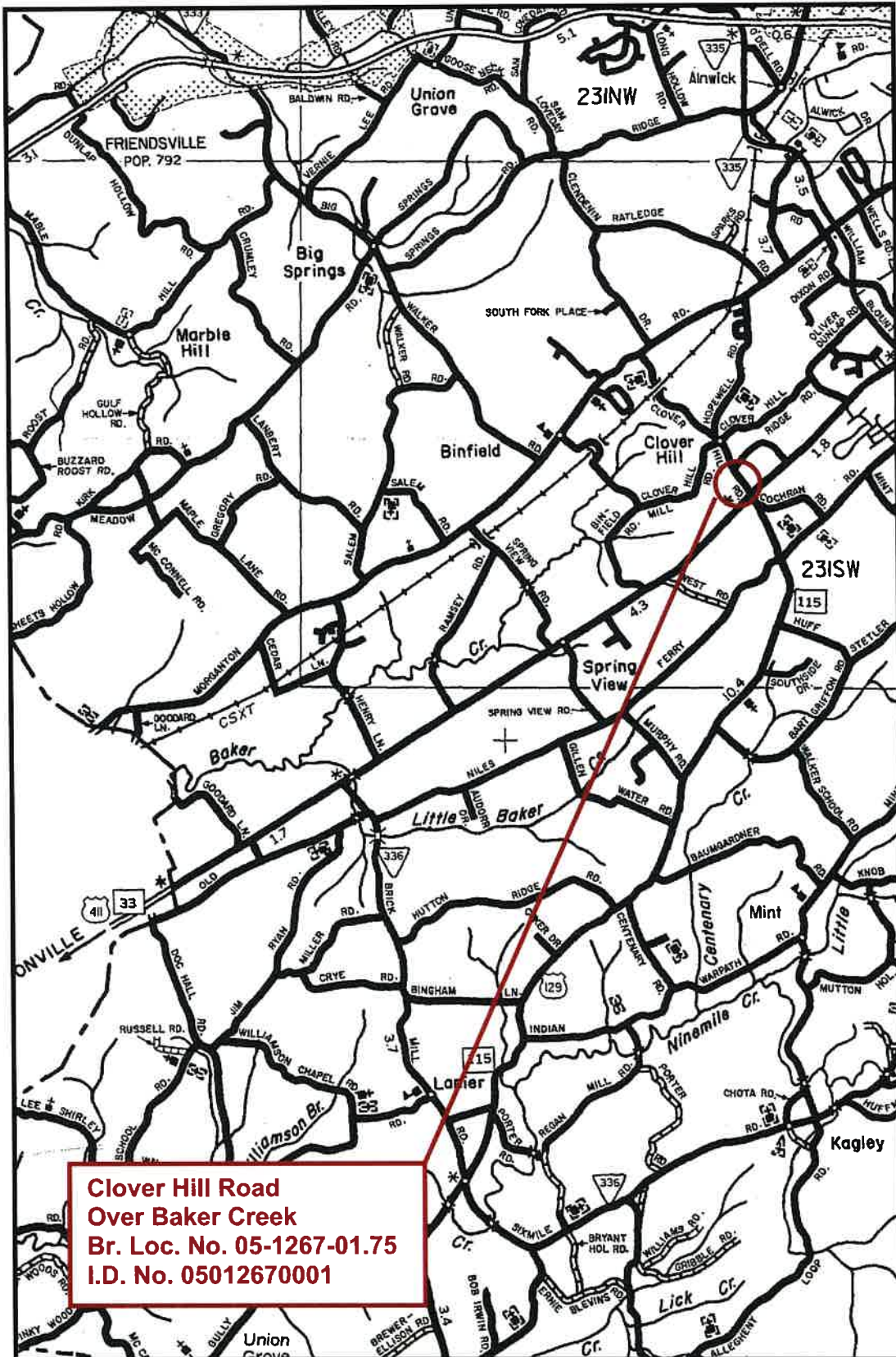
INSTALL PADDLEBOARD SIGNS AT APPROPRIATE LOCATIONS

GENERAL COMMENTS:

A CONCRETE INTERLOCKING BLOCK WALL HAS BEEN INSTALLED IN PLACE OF THE FAILING WING AT APPROACH 2 LEFT. 07/24/2017.

BRIDGE IS ON A GRANT LIST TO BE REPLACED.

BLOUNT COUNTY



**Clover Hill Road
Over Baker Creek
Br. Loc. No. 05-1267-01.75
I.D. No. 05012670001**

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 CO. SEQ.: 1 SPEC. CASE: 0



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STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

Bridge Condition Coding Form

Revised 11/09/2021

Bridge Number: 050126700011
(Includes Item 5A)
Feature Intersected: BAKER CREEK

County: 5
Route: 01267
Special Case: 0
County Sequence: 1
Log Mile: 1.75

Evaluation Status: **CONDITION ITEM CHANGE**

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	11/08/2021	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 CORREC
	EARLIEST DATE OF NEXT REGULAR INSPECTION	09/09/2023	
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	N N N N 30	
41	STRC OPEN/CLOSED/POSTED	P	
	A K P		
58	DECK	N	
59	SUPERSTRUCTURE	N	
60	SUBSTRUCTURE	N	
61	CHANL/CHANL PROTECTION	7	
62	CULVERT AND RETAIN WALL	3	
71	WATERWAY ADEQUACY	6	
72	APPROACH RDWY ALIGNMENT	8	
521	OVERALL CONDITION	POOR	
16	LATITUDE	17 LONGITUDE	
	N 35° 41.9330'	W 84° 2.7610'	
TEAM LEADER SIGNATURE		REVIEW DATE	

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Photographs

Bridge ID#: 05012670001

Date: 11/08/2021



APPROACH FORWARD ON LOG



VIEW ACROSS TOP DECK

Photographs

Bridge ID#: 05012670001

Date: 11/08/2021



WEIGHT POSTING SIGN AT APPROACH #2



APPROACH BACK ON LOG

Photographs

Bridge ID#: 05012670001

Date: 11/08/2021



WEIGHT POSTING SIGN AT APPROACH #1



VOID BEHIND WING 2 LEFT

Photographs

Bridge ID#: 05012670001

Date: 11/08/2021



VOID BEHIND ABUTMENT 2 AND WING 2 RIGHT



SCALE AT MIDWALL INLET WATERLINE

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Photographs

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LOOKING UPSTREAM LEFT



ELEVATION LEFT INLET

Photographs

Bridge ID#: 05012670001

Date: 11/08/2021



BRIDGE LOCATION NUMBER



UNDERMINING AT BARREL 1 OUTLET

Photographs

Bridge ID#: 05012670001

Date: 11/08/2021



UNDERMINING AT WING 1 RIGHT OUTLET



HEAVY SCALE MIDWALL AT OUTLET WATERLINE

Photographs

Bridge ID#: 05012670001

Date: 11/08/2021



LOOKING DOWNSTREAM RIGHT



ELEVATION RIGHT OUTLET

Photographs

Bridge ID#: 05012670001

Date: 11/08/2021



ROTATION OF RIGHT SIDE HEADWALL



CRACK AND ROTATION OF WING 2 RIGHT

Photographs

Bridge ID#: 05012670001

Date: 11/08/2021



ROTATION OF RIGHT HEADWALL NOTE SEPARATION CRACK



SLUMPING/SETTLEMENT AT APPROACH 1 RIGHT

FORM BIR 3.5
03/20/78
REV. 9-22-98
DT-1540

FIELD REPORT NO. 05 DATE 11-08-21
PREVIOUS REPORT NO. 04 DATE 11-19-19
PLANS--DESIGN [] AS BUILT [] NONE [X]

BRIDGE INSPECTION REPORT (CULVERTS)

BRIDGE NO. 05012670001 BRIDGE LOCATION NO. 05 - 1267 - 01.75
ELEVEN DIGIT NO. CO. ROUTE LOG MILE

CLOVER HILL ROAD OVER BAKER CREEK
ROAD NAME STREAM NAME STRUCTURE NAME (IF NAMED)

YEAR CONSTRUCTED _____ COUNTY BLOUNT MAINTENANCE DISTRICT NO. 19
(Estimated [] or Actual [])

FEATURES

WEARING SURFACE--CONCRETE [] ASPHALT [X] (DEPTH= 3 in.)
TIMBER [] GRAVEL [] (DEPTH= _____ in.)
FLARED WIDTH ----- YES [] NO [X]
MEDIAN WIDTH ----- OPEN [] NONE [X] CLOSED [] (< 25 FT.)
BRIDGE SKEW 90° LT [X] RT [] UNDER 0.00' FILL NBIS LENGTH _____
DEPTH (ft.) (in.)

STRUCTURE TYPE CB BARRELS 2 @ 8' X 5.5'
NO. SPAN DEPTH

WIDTHS (*.*ft.)

INSPECTORS

DECK OUT-TO-OUT: 20.5 *SEE NEXT PAGE 1. BROOKS-TL
BRIDGE LENGTH: 17.0 2. RADER
ROADWAY: RAIL-TO-RAIL N/A CURB-TO-CURB _____ 3. CARICO
APPROACH ROADWAY (NOT INCLUDING SHOULDERS): 18.0' 4. MUSTAIN
APPROACH SHOULDER: 0.0' RT 0.0' LT 5. SAUTNER
SIDEWALK: N/A RT N/A LT 6. HAAS
OTHER (EX: MEDIAN): _____ 7. _____
8. _____

SIGNING

YES NO NEEDED WEIGHT LIMIT POSTED
PADDLEBOARD - - - [X] [] [X] YES [X] NO []
BRIDGE NUMBER - - - [] [X] [] GROSS . . . _____ TONS
NARROW BRIDGE - - - [] [X] [X] 2 AXLE . . . 6 TONS
ONE LANE BRIDGE - - [] [X] [] 3 OR MORE AXLE 11 TONS

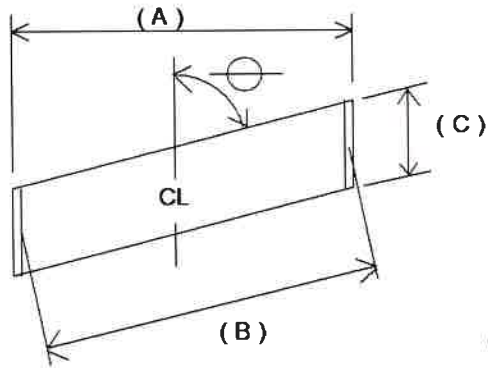
OTHER SIGNS & COMMENTS _____

COMMENTS:

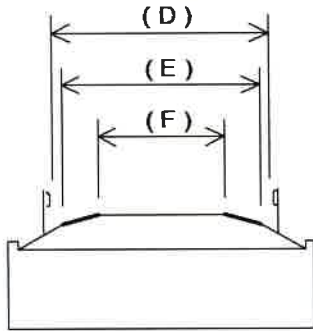
Ronald L Brooks Digitally signed by Ronald L Brooks
Date: 2021.11.09 15:40:34 -05'00'
SUPERVISING BRIDGE INSPECTOR

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

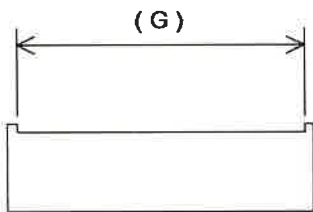
CULVERT DIMENSIONS



PLAN VIEW

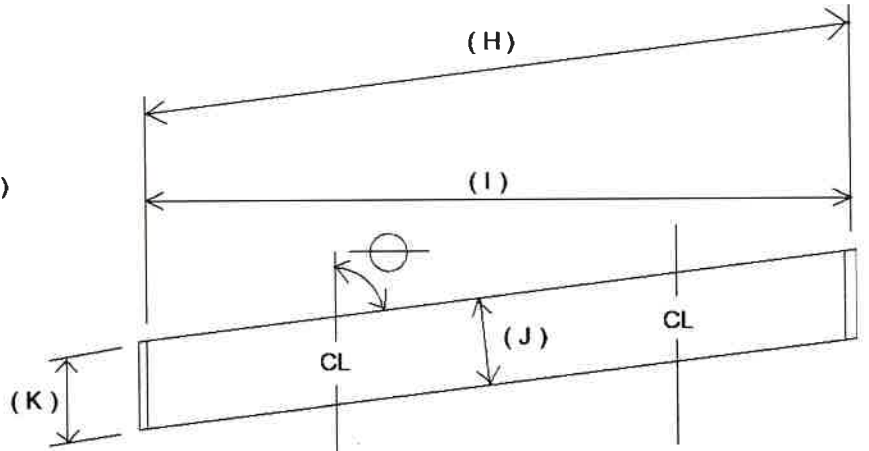


CROSS SECTION VIEW (WITH FILL)

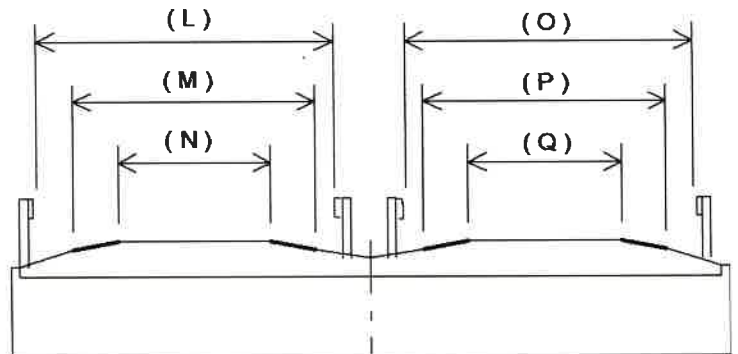


CROSS SECTION VIEW (WITHOUT FILL)

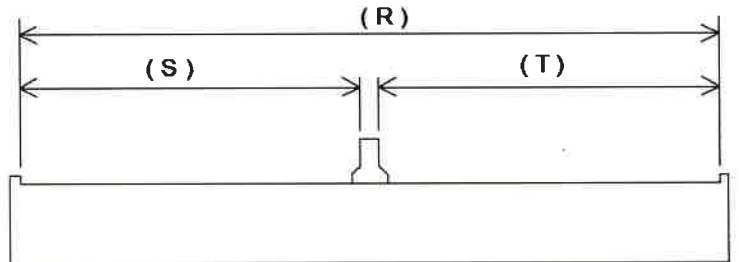
**.* ft.



PLAN VIEW



CROSS SECTION VIEW (WITH FILL)



CROSS SECTION (WITHOUT FILL)

**.* ft.

(H) _____ (I) _____ (J) _____ (K) _____

(A) 20.5' (B) _____ (C) 17.0' (L) _____ (M) _____ (N) _____ (O) _____

(D) _____ (E) _____ (F) 18.0' (P) _____ (Q) _____ (R) _____ (S) _____

(G) _____ (T) _____

FORM BIR 3.7
 Rev. 9-22-98
 DT-1424

BRIDGE LOCATION NO. 05- 1267 - 01.75
 CO. ROUTE LOG MILE

DATE: 11-08-21

TRAFFIC SAFETY FEATURES

					<u>STANDARD</u>	<u>SUB-STANDARD</u>	<u>COMMENTS</u>
BRIDGE RAILING	G	F	P	C	[]	[]	N/A
TRANSITION	G	F	P	C	[]	[]	N/A
GUARDRAIL	G	F	P	C	[]	[]	N/A
GUARDRAIL TERMINAL	G	F	P	C	[]	[]	N/A

CULVERT & RETAINING WALLS

BARREL: CONCRETE	G	F	<u>P</u>	C	SPALLING/HONEYCOMBING UP TO 8" DEEP EXPOSING FILL BEHIND OUTSIDE WALLS HEAVY SCALE OF MIDWALL AT INLET AND OUTLET		
TIMBER	G	F	P	C			
HEADWALL/CURBS	G	F	<u>P</u>	C	1/2" ROTATION AWAY FROM ROAD OF THE RIGHT HDWALL WITH SUPPORT FAILING. SCALE		
WINGWALL	G	F	<u>P</u>	C	WING 2 LEFT REPLACED WIDE CONCRETE BLOCKS *** WING 1 RIGHT IS COMPLETELY UNDERMINED WING 2 RIGHT CRACKING WITH ROTATION		
ADEQUACY	G	<u>F</u>	P	C	OPENING SEEMS SMALL TO HANDLE PEAK FLOW		
DEBRIS/DRIFT	<u>G</u>	F	P	C			
SEDIMENT	<u>G</u>	F	P	C			
VEGETATION	<u>G</u>	F	P	C			
CHANNEL SCOUR	G	F	<u>P</u>	C	UP TO 1' BACK UNDER AT BOTH INLET AND OUTLET WING 1 RIGHT IS COMPLETELY UNDERMINED		
DRAINS	G	F	P	C	N/A		

APPROACHES

ALIGNMENT	<u>G</u>	F	P	C			
PAVEMENT	<u>G</u>	F	P	C			
EMBANKMENT	G	F	<u>P</u>	C	THERE IS AN EROSION HOLE OF UNKNOWN SIZE *		

COMMENTS: * BEHIND ABUTMENT 2 LEFT AND WING 2 LEFT.
 *** VOIDS STILL EXIST BEHIND IT.

INSPECTION TEAM'S SUMMARY

Federal ID # 05012670001

Bridge # 05-01267-01.75

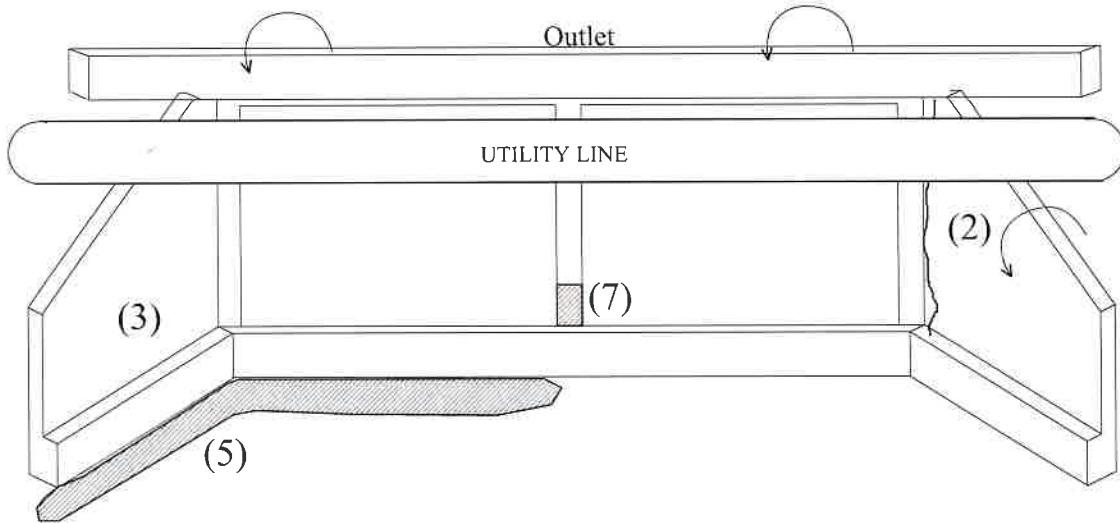
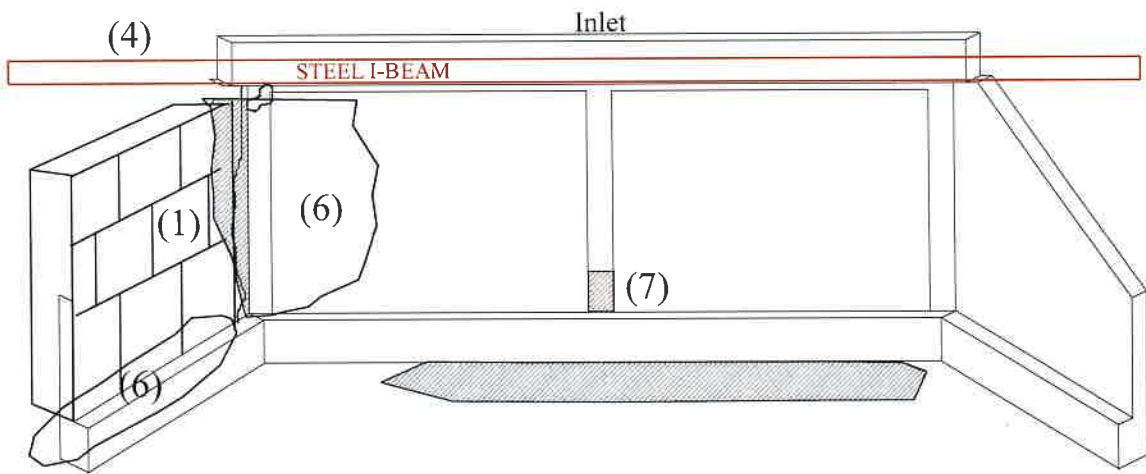
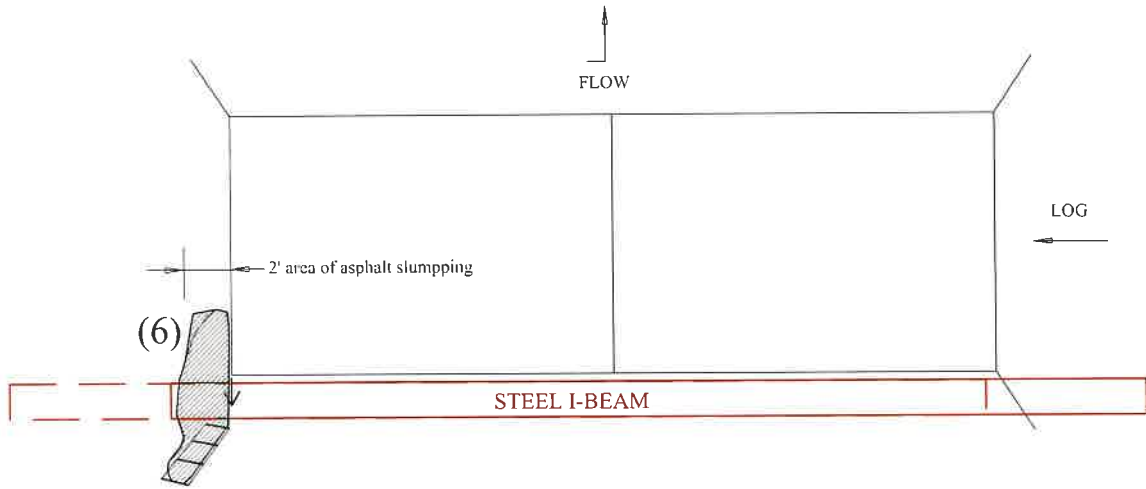
Monday, November 8, 2021

The subject box culvert bridge was inspected on the above date and found to be in serious condition. Roadway alignment is good. Continuous asphalt overlay across the approaches and the top of the bridge is in good condition, however, there is slumping and settlement at approach 1 right and approach 2 left due to the voids and undermining. No traffic safety features exist. Paddleboard signs are in place for approaching traffic; however they are needed at all four corners. Weight posting signs for 6/11 TONS are present at both approaches.

Barrel concrete is in poor condition with spalling and honeycombing deep enough to expose the fill behind the outside walls. The mid-wall has scale up to 6" deep at the waterline, both inlet and outlet sides. The wings are rated poor with wing 2 right being cracked and having a slight rotation toward the stream. Wing 1 right is completely undermined and is just hanging there. Wing 2 left was replaced with concrete interlocking blocks, but there are still unknown voids behind it. Headwalls are in poor condition with the right headwall having a 1/2" rotation away from the roadway. There is a steel I-beam placed on the outside of the headwall on the left side and with the rotation of the wing, there is less than an inch of bearing area left holding it up. It is unknown how far the I-beam extends along the roadway and onto the fill.

Channel is rated good.

RB
TPS-SPV1

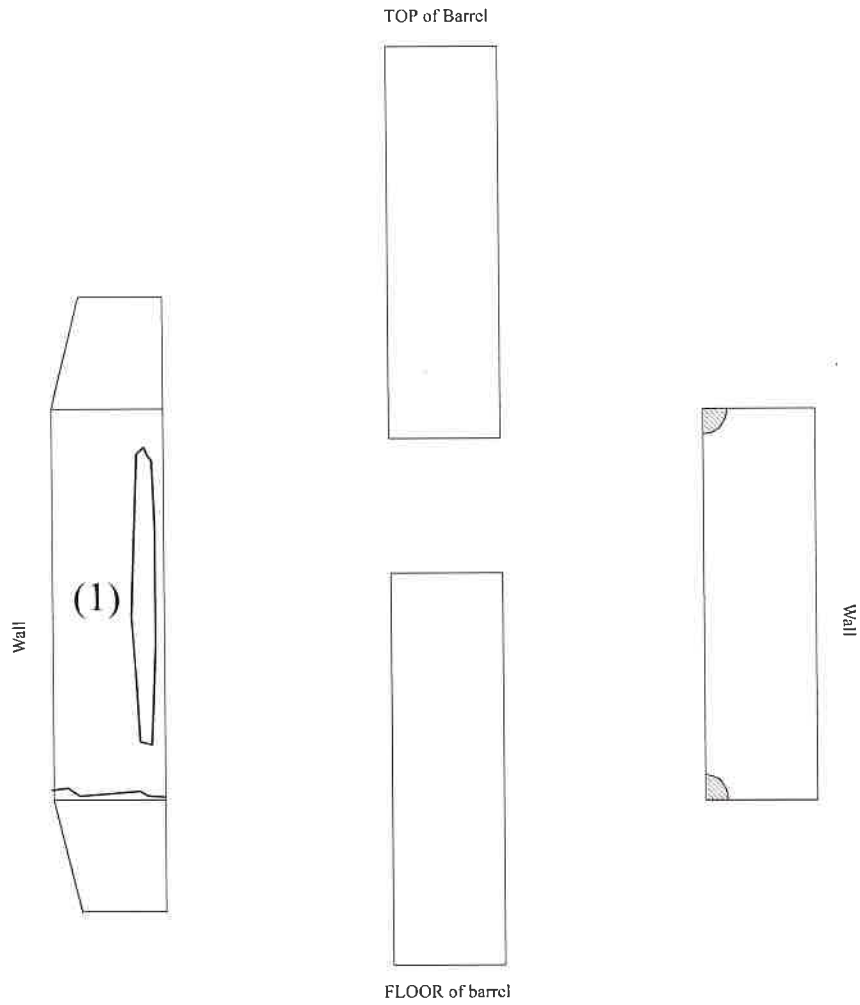
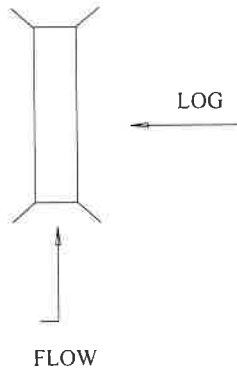


LOC. 05-1267-1.75

11-08-21 GH

INLET HDWALL	F	(7)HEAVY SCALE OF MIDWALL AT WATERLINE
WINGS	P	(1)WING 2 LEFT REPLACED WITH CONCRETE INTERLOCKING BLOCKS, UNKNOWN VOIDS BEHIND THEM (4)A STEEL I-BEAM HAS BEEN PLACE ON THE INLET SIDE FOR SUPPORT OF FILL
OUTLET HDWALL	F	(7)HEAVY SCALE OF MIDWALL AT WATERLINE
WINGS	P	(2)WING 2 RIGHT HAS CRACKING AND MODERATE ROTATION (3)WING 1 LEFT IS COMPLETELY UNDERMINED AND IS HANGING IN MID-AIR
SCOUR	P	(5)SCOUR IS PRESENT AT BOTH INLET AND OUTLET WITH WING 1 RIGHT COMPLETEL
EMBANKMENT	P	(6)VOID BEHIND BARREL WALL AND WING 2 LEFT

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LOC. 05-1267-1.75		11-08-21 RC	BARREL 1 & 2
BARREL:	P	(1) SPALLING AND HONEYCOMBING UP TO 8" DEEP EXPOSING FILL BEHIND OUTSIDE WALLS	
		CRACKING WITH HEAVY SEPARATION OF BARRELS AND WINGWALLS	
		HEAVY SCALE OF MID-WALL AT OUTLET WATERLINE	

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