

STRUCTURES INSPECTION FIELD REPORT

2-DIST
01B.I.N.
C12

CULVERT & SPECIAL MEMBER INSPECTION

BR. DEPT. NO.
P-10-080

CITY/TOWN PITTSFIELD	8-STRUCTURE NO. P10080-C12-MUN-BRI	11-Kilo. POINT 000.000	41-STATUS D:OPEN	90-ROUTINE INSP. DATE JAN 22, 2024
07-FACILITY CARRIED HWY D CASEY M DR	MEMORIAL NAME/LOCAL NAME	27-YR BUILT 1940	106-YR REBUILT 0000	YR REHAB'D (NON 106) 0000
06-FEATURES INTERSECTED WATER ONOTA LAKE	26-FUNCTIONAL CLASS Urban Collector	DIST. BRIDGE INSPECTION ENGINEER L. A. Briqas		
43-STRUCTURE TYPE 319 : Steel Culvert	22-OWNER City/ Municipal Highway A	21-MAINTAINER City/ Municipal Highway A	TEAM LEADER R. Mancari	
107-DECK TYPE N : Not applicable	WEATHER Sunny	TEMP. (air) -8°C	TEAM MEMBERS M. RANZONI	

TYPE OF CULVERT:

SHAPE:	ROUND
MATERIAL:	STEEL
COATING:	NONE

BARRELS: (In Meters)

SIZE:	2.13Wx2.13H	NUMBER:	3
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DEPTH OF COVER

(To the nearest tenth of a meter)

N	S
0.5	0.5

CURB REVEAL

(In millimeters)

N	N
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ITEM 62 CULVERT & RETAINING WALLS

2

I62 (Dive Report):

N

I62 (This Report):

2

1. Roof	Dive This Rpt.	DEF	7. Protective Coating	Dive This Rpt.	DEF	13. Member Alignment	Dive This Rpt.	DEF	UNDERMINING (Y/N) If YES please explain
2. Floor	N	N	8. Embankment	N	2	14. Deformation	N	H	N
3. Walls	N	N	9. Wearing Surface	N	4	15. Scour	N	4	
4. Headwall	N	2	10. Railing	N	4	16. Settlement	N	H	
5. Wingwall	N	N	11. Sidewalks	N	N	17.	N	N	
6. Pipe	N	H	12. Utilities	N	N	18.	N	N	

COLLISION DAMAGE: **Please explain**
None (X) Minor () Moderate () Severe ()

LOAD VIBRATION: **Please explain**
None (X) Minor () Moderate () Severe ()

ITEM 61 CHANNEL & CHANNEL PROTECTION

3

STREAM FLOW VELOCITY:

Tidal () High () Moderate () Low (X)

APPROACH CONDITION

1. Channel Scour	Dive This Rpt.	DEF	5. Utilities	Dive This Rpt.	DEF	a. Appr. Pavement Condition	DEF
2. Embankment Erosion	N	3	6. Rip-Rap/Slope Protection	N	3	b. Appr. Roadway Settlement	M-P
3. Debris	N	2	7. Aggradation	N	7	c. Appr. Sidewalk Settlement	-
4. Vegetation	N	7				d.	-

ITEM 61 (Dive Report): N

ITEM 61 (This Report): 3

93b- U/W INSP DATE: 00/00/0000

WEIGHT POSTING

Not Applicable X

Actual Posting

H	3	3S2	Single
N	N	N	N

Recommended Posting

N	N	N	N
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Waived Date:

00/00/0000

EJDMT Date:

00/00/0000

Signs In Place
(Y=Yes, N=No,
NR=Not Required)
Legibility/
Visibility

At bridge

E	W

Advance

E	W

ITEM 36 TRAFFIC SAFETY

ACCESSIBILITY (Y/N/P):

TOTAL HOURS

6

A. Bridge Railing	36	COND	DEF	Ladder	Needed	Used	Other:	Needed	Used	PLANS (Y/N):
B. Transitions	0	7	-	Boat	N	N	Dive	P	N	N
C. Approach Guardrail	0	7	-	Waders	Y	N				(V.C.R.) (Y/N):
D. Approach Guardrail Ends	1	N	-							N

TAPE#: _____

RATING

Rating Report (Y/N):

N

Date: 00/00/0000

Inspection data at time of existing rating

I 62: - Date: 00/00/0000

Recommend for Rating or Rerating (Y/N):

N

If YES please give priority:

HIGH () MEDIUM () LOW ()

REASON: _____

X=UNKNOWN

N=NOT APPLICABLE

H=HIDDEN/INACCESSIBLE

R=REMOVED

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CULVERT & SPECIAL MEMBER INSPECTIONBR. DEPT. NO.
P-10-080

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07-FACILITY CARRIED HWY D CASEY M DR	MEMORIAL NAME/LOCAL NAME	27-YR BUILT 1940	106-YR REBUILT 0000	*YR REHAB'D (NON 106) 0000
06-FEATURES INTERSECTED WATER ONOTA LAKE	26-FUNCTIONAL CLASS Urban Collector	DIST. BRIDGE INSPECTION ENGINEER L. A. Briggs		
43-STRUCTURE TYPE 319 : Steel Culvert	22-OWNER City/ Municipal Highway A	21-MAINTAINER City/ Municipal Highway A	TEAM LEADER R. Mancari	
107-DECK TYPE N : Not applicable	WEATHER Sunny	TEMP. (air) -8°C	TEAM MEMBERS M. RANZONI	

WEIGHT POSTING		Not Applicable ☒		At bridge		Advance		PLANS (Y/N): N	
	H	3	3S2	Single	E	W	E	W	
Actual Posting	N	N	N	N					
Recommended Posting	N	N	N	N					(V.C.R.) (Y/N): N
Waived Date: 00/00/0000	EJDMT Date: 00/00/0000								TAPE#: _____

RATING		Rating Report (Y/N): N Date: ----		Recommend for Rating or Rerating (Y/N): N		If YES please give priority: HIGH () MEDIUM () LOW ()	
Inspection data at time of existing rating I 58: - I 59: - I 60: - I 62: - Date : 00/00/0000				REASON: _____			

SPECIAL MEMBER(S):										
	MEMBER	CRACK (Y/N):	WELD'S CONDITION (0-9)	LOCATION OF CORROSION, SECTION LOSS (%), CRACKS, COLLISION DAMAGE, STRESS CONCENTRATION, ETC.	CONDITION		INV. RATING OF MEMBER FROM RATING ANALYSIS			Deficiencies
					PREVIOUS	PRESENT				
					(0-9)	(0-9)	H-20	3	3S2	
A	Item 61.2 - Embankment Erosion	N		See remarks in comments section.	3	3	Not Rated			S-A
B	Item 61.3 - Debris	N		See remarks in comments section.	2	2	Not Rated			S-A
C	Item 61.6 - Rip-Rap/Slope Protection	N		See remarks in comments section.	3	3	Not Rated			S-A
D	Item 62.4 - Headwall	N		See remarks in comments section.	2	2	Not Rated			S-A
E	Item 62.6 - Pipe	N		See remarks in comments section.	2	H	Not Rated			S-A

List of field tests performed:	I-58	I-59	I-60	I-62	
	(Overall Previous Condition)	-	-	-	2
	(Overall Current Condition)	-	-	-	2

DEFICIENCY: A defect in a structure that requires corrective action.

CATEGORIES OF DEFICIENCIES:

M= Minor Deficiency Deficiencies which are minor in nature, generally do not impact the structural integrity of the bridge and could easily be repaired. Examples include but are not limited to: Spalled concrete, Minor pot holes, Minor corrosion of steel, Minor scouring, Clogged drainage, etc.

S= Severe/Major Deficiency Deficiencies which are more extensive in nature and need more planning and effort to repair. Examples include but are not limited to: Moderate to major deterioration in concrete, Exposed and corroded rebars, Considerable settlement, Considerable scouring or undermining, Moderate to extensive corrosion to structural steel with measurable loss of section, etc.

C-S= Critical Structural Deficiency A deficiency in a structural element of a bridge that poses an extreme unsafe condition due to the failure or imminent failure of the element which will affect the structural integrity of the bridge.

C-H= Critical Hazard Deficiency A deficiency in a component or element of a bridge that poses an extreme hazard or unsafe condition to the public, but does not impair the structural integrity of the bridge. Examples include but are not limited to: Loose concrete hanging down over traffic or pedestrians, A hole in a sidewalk that may cause injuries to pedestrians, Missing section of bridge railing, etc.

URGENCY OF REPAIR:

I = Immediate- [Inspector(s) immediately contact District Bridge Inspection Engineer (DBIE) to report the Deficiency and to receive further instruction from him/her].

A = ASAP- [Action/Repair should be initiated by District Maintenance Engineer or the Responsible Party (if not a State owned bridge) upon receipt of the Inspection Report].

P = Prioritize- [Shall be prioritized by District Maintenance Engineer or the Responsible Party (if not a State owned bridge) and repairs made when funds and/or manpower is available].

Y=UNKNOWN

N=NOT APPLICABLE

H=HIDDEN/INACCESSIBLE

R=REMOVED

[illegible]

CITY/TOWN PITTSFIELD	B.I.N. C12	BR. DEPT. NO. P-10-080	8.-STRUCTURE NO. P10080-C12-MUN-BRI	INSPECTION DATE JAN 22, 2024
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REMARKS, PHOTOS & SKETCHES

BRIDGE ORIENTATION

Dan Casey Memorial Drive travels east and west. Onota Lake flows from north to south. This culvert consists of one boiler iron plate pipe, 84" diameter, and two corrugated steel pipes, 36" diameter, that support gravel fill with an asphalt wearing surface. Report notes are taken from south to north, downstream to upstream, in accordance with the 2015 Bridge Inspection Handbook. See photo 1.

GENERAL REMARKS

Temporary barriers have been installed. The barriers are not tied down and the north barrier is undermined, 10' long x up to 10" deep. The horizontal roadway clearance is to 27.8' (8.47 meters). See photo 1.

Channel profile readings could not be taken due to the collapsed headwall and ice.

ITEM 62 - CULVERT

Item 62.4 - Headwall

The north stone masonry headwall has collapsed in front of the culvert inlets. See photo 3.

The south stone masonry headwall has areas of severe settlement and loose stones throughout. Several stones have fallen out of the wall allowing fill to spill through. This has left a settled area and holes in the embankment adjacent to the south edge of the roadway, which previously has been partially filled in with small stones. See photo 2.

CONDITION RATING GUIDE

	CODE	CONDITION	DEFECTS
	N	NOT APPLICABLE	Use if structure is not a culvert.
G	9	EXCELLENT	No deficiencies.
G	8	VERY GOOD	No noticeable or noteworthy differences which affect the condition of the culvert. Insignificant scrape marks caused by drift.
G	7	GOOD	Shrinkage cracks, light scaling, and insignificant spalling, which does not expose reinforcing steel. Insignificant damage caused by drift with not misalignment and not requiring corrective action. Some minor scouring has occurred near curtain walls, wingwalls, or pipes. Metal culverts have a smooth symmetrical curvature with superficial corrosion and no pitting.
F	6	SATISFACTORY	Deterioration or initial disintegration, minor chloride contamination, cracking with some leaching, or spalls on concrete or masonry walls and slabs. Local minor scouring at curtain walls, wingwalls, or pipes. Metal culverts have a smooth curvature, non-symmetrical shape, significant corrosion or moderate pitting.
F	5	FAIR	Moderate to major deterioration, or disintegration, extensive cracking and leaching, or spalls on concrete or masonry walls and slabs. Minor settlement or misalignment. Noticeable scouring or erosion at curtain walls, wingwalls, or pipes. Metal culverts have significant distortion and deflection in one section, significant corrosion or deep pitting.
P	4	POOR	Large spalls, heavy scaling, wide cracks, considerable efflorescence, or opened construction joints permitting loss of backfill. Considerable settlement or misalignment. Considerable scouring or erosion at curtain walls, wingwalls, or pipes. Metal culverts have significant distortion and deflection throughout, extensive corrosion or deep pitting.
P	3	SERIOUS	Any condition described in Code 4 but which is excessive in scope. Severe movement or differential settlement of the segments, or loss of fill. Holes may exist in walls or slabs. Integral wingwalls, nearly severed from culvert. Severe scour or erosion at curtain walls, wingwalls, or pipes. Metal culverts have extreme distortion and deflection in one section, extensive corrosion, or deep pitting with scattered perforations.
C	2	CRITICAL	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.
C	1	"IMMINENT" FAILURE	Bridge closed. Corrective action may put back in light service.
	0	FAILED	Bridge closed. Replacement necessary.

DEFICIENCY REPORTING GUIDE

DEFICIENCY: A defect in a structure that requires corrective action.

CATEGORIES OF DEFICIENCIES:

M = Minor Deficiency (Examples include but are not limited to: Spalled concrete, minor to moderate corrosion to steel culverts, minor settlement or misalignment, minor scouring, minor damage to guardrail, etc.)

S = Severe/Major Deficiency (Examples include but are not limited to: Large spalls, wide cracks, moderate to major deterioration in concrete, considerable settlement, considerable scouring or undermining, extensive corrosion and deflection in steel culverts, etc.)

C-S = Critical Deficiency - A deficiency in a structural component or element of a bridge that poses an extreme hazard or unsafe condition to the public. (Follow-up Critical Deficiency Report must be submitted separately)

URGENCY OF REPAIR:

I = Immediate- [Inspector(s) stay at the bridge until the District Maintenance crew or the responsible Agency crew (if not a State bridge) show up and corrective action is taken.]

A = ASAP- [Action will be taken by the District Maintenance Engineer or the Responsible Agency (if not a State owned bridge) upon receipt of the Inspection Report].

P = Prioritize- [Shall be prioritized by District Maintenance Engineer or the Responsible Party (if not a State owned bridge) and repairs made when funds and/or manpower is available].

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REMARKS

Item 62.6 - Pipe

At the time of inspection, all pipes were mostly submerged by water. The Special Member Inspection Report, dated 07/17/2023, rated this item a 2 (S-A) with the following comments:

At the center of the pipes, there is a large amount of debris.

All pipes have severe rusting with delamination and section loss.

The two 36" diameter corrugated steel pipes are collapsed due to severe corrosion and deformation. The north ends of the pipes are hidden by debris and portions of the collapsed headwall.

The center pipe has settled downward near the centerline of the roadway.

Item 62.7 - Protective Coating

The asphaltic coating on the corrugated steel pipes has failed.

The boiler iron plate pipe does not have a coating.

Item 62.8 - Embankment

The embankments between the headwalls and the traveled way have sinkholes due to the failure of the pipes and headwalls, up to 8' diameter x 36" deep. These sinkholes have reached the fog line, and are partially filled with stones. See photo 3 & 4.

The northeast embankment is quickly eroding. See photos 4 & 5.

Item 62.9 - Wearing Surface

There are areas of cracking and minor settlement, with transverse cracks. See photo 6.

The center has an area of moderate to severe settlement, 6' diameter x up to 2" deep. See photo 6. This area has several patches.

At the northeast corner, a sinkhole is undermining the roadway, 6' long x 6' wide x 26" of unsupported asphalt. See photos 3 - 5.

At the east end of the wearing surface extending into the approach a steel plate has been paved into the roadway. The plate appears to be settled and heaved. See photo 6.

Item 62.10 - Railing

Along the north railing posts have been exposed by the settlement / sinkhole. barriers are in front of these areas. See photo 4.

Item 62.13 - Member Alignment

At the time of inspection, all pipes were mostly submerged by water. The Routine Inspection Report, dated 01/29/2018, rated this item a 4 (S-P) with the following comments:

All of the pipes are settled and misaligned.

The two corrugated steel pipes have collapsed entirely.

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REMARKS

Item 62.14 - Deformation

At the time of inspection, all pipes were mostly submerged by water. The Special Member Inspection Report, dated 7/26/2021, rated this item a 2 (S-A) with the following comment:

Refer to Item 62.6 - Pipe.

Item 62.15 - Scour

At the north (upstream) end of the pipes, there is severe scour and erosion of the surrounding embankments and fill. See photo 3.

Item 62.16 - Settlement

Refer to Item 62.6 - Pipe.

ITEM 61 - CHANNEL AND CHANNEL PROTECTION

Item 61.2 - Embankment Erosion

The embankments between the headwalls and the traveled way have sinkholes due to the failure of the pipes and headwalls, 8' diameter x 36" deep. These sinkholes have reached the fog line and are partially filled with stone. See photos 2 - 4.

Item 61.3 - Debris

All pipe inlets are blocked and hidden by the failed headwalls as well as driftwood and other debris. This debris is restricting the flow through the structure. See photo 3.

Item 61.6 - Rip-Rap/Slope Protection

Both stone masonry retaining walls have areas of severe settlement, loose stones, and failure. See photo 2 - 4.

APPROACHES

Approaches a - Appr. Pavement Condition

Throughout both approaches, there are heaves and areas of mapcracking.

In the gravel shoulders, there are areas of severe settlement related to the failure of the adjacent retaining walls. See photos 3 & 4.

Approaches b - Appr. Roadway Settlement

In the gravel shoulders, there are areas of settlement related to the failure of the adjacent retaining walls. See photos 3 & 4.

TRAFFIC SAFETY

Item 36a - Bridge Railing

The railing over the culvert consists of single steel W-beam panels mounted on steel posts with steel blockouts, spaced at 6'.

The bridge railing has minor scrapes and dents.

Item 36b - Transitions

The transitions consist of single steel W-beam panels mounted on steel posts with steel blockouts, spaced at 6', continuous with the railing over the culvert.

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REMARKS

The transition rails have minor scrapes and dents.

Item 36c - Approach Guardrail

The approach guardrails consist of single steel W-beam panels mounted on steel posts with steel blockouts, spaced at 6', continuous with the transitions.

Item 36d - Approach Guardrail Ends

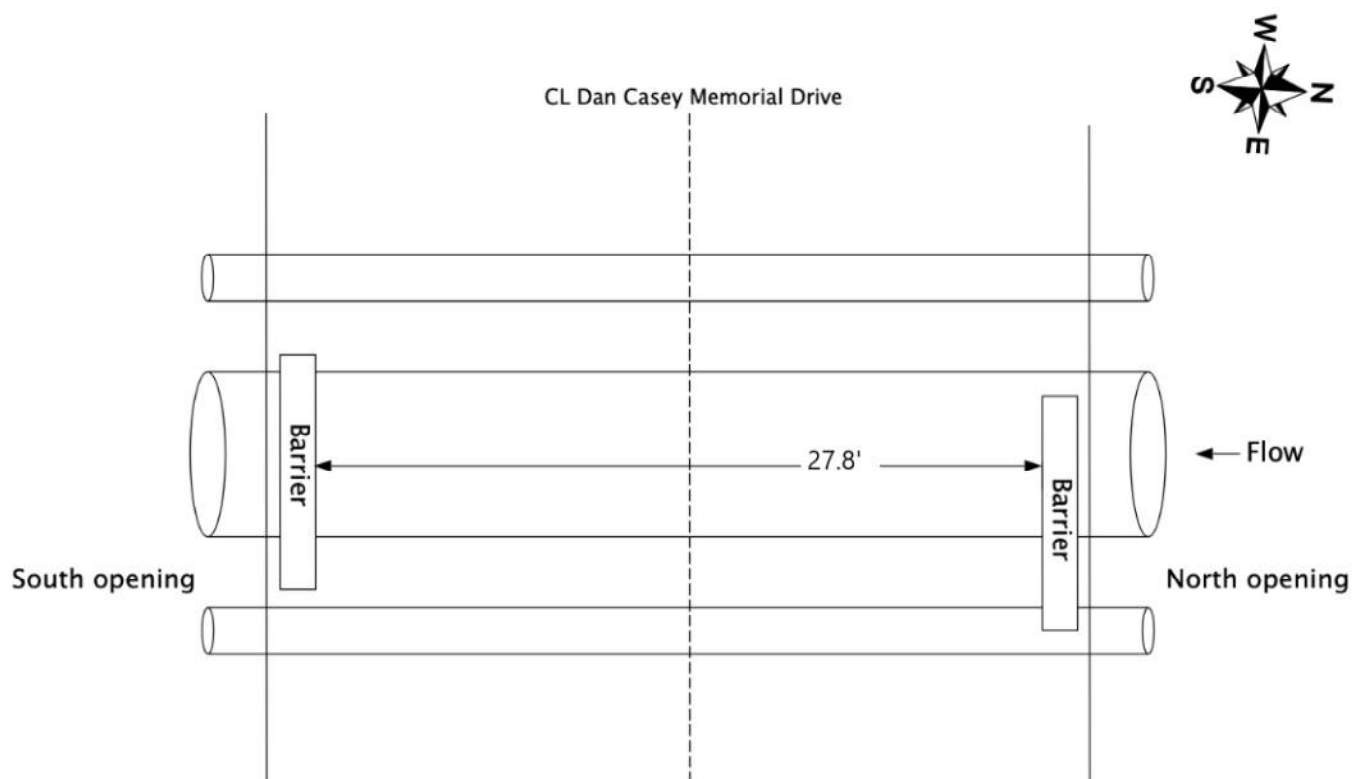
The approach guardrails are continuous along Dan Casey Memorial Drive.

Sketch / Photo Log

Sketch 1 : Framing plan.
 Photo 1 : General topside, looking west.
 Photo 2 : South end of the pipe.
 Photo 3 : Debris blocking the north end of the pipe and the collapsed north headwall.
 Photo 4 : Northeast embankment.
 Photo 5 : January 2023 vs January 2024.
 Photo 6 : Cracking and plate in the wearing surface.

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SKETCHES



Sketch 1: Framing plan.

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PHOTOS

Photo 1: General topside, looking west.



Photo 2: South end of the pipe.

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PHOTOS

Photo 3: Debris blocking the north end of the pipe and the collapsed north headwall.



Photo 4: Northeast embankment.

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PHOTOS

Photo 5: January 2023 vs January 2024.



Photo 6: Cracking and plate in the wearing surface.