

STRUCTURES INSPECTION FIELD REPORT

2-DIST
01

B.I.N.
C41

CULVERT INSPECTION

BR. DEPT. NO.
A-13-042

| | | | | |
|---|---|--|---|--|
| CITY/TOWN ASHFIELD | 8.-STRUCTURE NO. A13042-C41-MUN-BRI | 11-Kilo. POINT 000.000 | 41-STATUS A:OPEN | 90-ROUTINE INSP. DATE MAR 20, 2025 |
| 07-FACILITY CARRIED HWY BPTST COR RD | MEMORIAL NAME/LOCAL NAME | 27-YR BUILT 1987 | 106-YR REBUILT 0000 | YR REHAB'D (NON 106) 0000 |
| 06-FEATURES INTERSECTED WATER SOUTH RIVER | 26-FUNCTIONAL CLASS Rural Local | DIST. BRIDGE INSPECTION ENGINEER <i>Michael P. McCabe</i> | | |
| 43-STRUCTURE TYPE 119 : Concrete Culvert | 22-OWNER Town Agency | 21-MAINTAINER Town Agency | TEAM LEADER R. Mancari <i>Reed Mancari</i> | |
| 107-DECK TYPE N : Not applicable | WEATHER Cloudy | TEMP. (air) 6°C | TEAM MEMBERS E. GEMINDER <i>E. Geminder</i> | |

| | |
|------------------------------------|--|
| TYPE OF CULVERT: | BARRELS: (In Meters) |
| SHAPE: BOX, 4-SIDED | SIZE: 3.04Wx1.21H NUMBER: 1 |
| MATERIAL: CONCRETE, PRECAST | DEPTH OF COVER (To the nearest tenth of a meter) 0.7 0.7 |
| COATING: NONE | CURB REVEAL (In millimeters) N N |

ITEM 62 CULVERT & RETAINING WALLS 7 162 (Dive Report): N 162 (This Report): 7

| | Dive This Rpt. | DEF | | Dive This Rpt. | DEF | | Dive This Rpt. | DEF | | | |
|-------------|----------------|-----|---|-----------------------|-----|---|----------------|----------------------|---|---|-----|
| 1. Roof | N | 7 | - | 7. Protective Coating | N | N | - | 13. Member Alignment | N | 7 | - |
| 2. Floor | N | 7 | - | 8. Embankment | N | 7 | - | 14. Deformation | N | 7 | - |
| 3. Walls | N | 7 | - | 9. Wearing Surface | N | 7 | - | 15. Scour | N | 5 | S-P |
| 4. Headwall | N | N | - | 10. Railing | N | 7 | - | 16. Settlement | N | 7 | - |
| 5. Wingwall | N | N | - | 11. Sidewalks | N | N | - | 17. | N | N | - |
| 6. Pipe | N | N | - | 12. Utilities | N | N | - | 18. | N | N | - |

UNDERMINING (Y/N) If YES please explain **N**

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

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

ITEM 61 CHANNEL & CHANNEL PROTECTION 6

| | Dive This Rpt. | DEF | | Dive This Rpt. | DEF | | |
|-----------------------|----------------|-----|---|-----------------------------|-----|---|---|
| 1. Channel Scour | N | 6 | - | 5. Utilities | N | N | - |
| 2. Embankment Erosion | N | 7 | - | 6. Rip-Rap/Slope Protection | N | 7 | - |
| 3. Debris | N | 7 | - | 7. Aggradation | N | 7 | - |
| 4. Vegetation | N | 7 | - | | | | |

STREAM FLOW VELOCITY: Tidal () High () Moderate () Low (X)

ITEM 61 (Dive Report): **N**

ITEM 61 (This Report): **6**

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

APPROACH CONDITION

| | DEF |
|------------------------------|-----|
| a. Appr. Pavement Condition | 7 - |
| b. Appr. Roadway Settlement | 7 - |
| c. Appr. Sidewalk Settlement | N - |
| d. | N - |

WEIGHT POSTING

Actual Posting **Not Applicable** (X)

Recommended Posting **N** **N** **N** **N**

Waived Date: **00/00/0000** EJDMT Date: **00/00/0000**

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

| At bridge | | Advance | |
|--------------------------|--------------------------|--------------------------|--------------------------|
| E | W | E | W |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

ITEM 36 TRAFFIC SAFETY

| | 36 | COND | DEF |
|----------------------------|----|------|-----|
| A. Bridge Railing | 0 | 7 | - |
| B. Transitions | 0 | 7 | - |
| C. Approach Guardrail | 0 | 7 | - |
| D. Approach Guardrail Ends | 0 | 6 | M-P |

ACCESSIBILITY (Y/N/P):

| | Needed | Used | Needed | Used |
|--------|--------|------|--------|------|
| Ladder | N | N | | |
| Boat | N | N | N | N |
| Waders | Y | Y | | |

TOTAL HOURS **8**

PLANS (Y/N): **N**

(V.C.R.) (Y/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**

REASON:

If YES please give priority:
HIGH () MEDIUM () LOW ()

X=UNKNOWN N=NOT APPLICABLE H=HIDDEN/INACCESSIBLE R=REMOVED

| | | | | |
|------------------------------|----------------------|----------------------------------|---|--|
| CITY/TOWN ASHFIELD | B.I.N. C41 | BR. DEPT. NO. A-13-042 | 8.-STRUCTURE NO. A13042-C41-MUN-BRI | INSPECTION DATE MAR 20, 2025 |
|------------------------------|----------------------|----------------------------------|---|--|

REMARKS, PHOTOS & SKETCHES

BRIDGE ORIENTATION

Baptist Corner Road travels north and south. South River flows from west to east. This single span culvert consists of a precast concrete box in seven sections, supporting fill, and an asphalt wearing surface. Sections are numbered from west to east, upstream to downstream, in accordance with the 2015 Bridge Inspection Handbook. **See Sketch 1 and Photos 1 & 2.**

ITEM 62 - CULVERT

Item 62.1 - Roof

There is active leakage at several of the joints between sections. **See Photo 2.**

At the downstream end, at the bottom, there are two chips / spalls, up to 12" wide x 2" high x 2" deep.

Item 62.2 - Floor

The floor has widespread minor abrasion.

In both floor to wall haunches at the upstream end, there are chips / spalls, up to 12" long x 4" high x 1" deep.

Refer to Item 62.15 - Scour.

Item 62.10 - Railing

Both railings have minor plow scrapes. The galvanized coating is dull.

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 62.15 - Scour

At the upstream end, the floor is exposed, full width x up to 4" high.

At the downstream end, there is a plunge pool, with the floor end face exposed, full culvert width. **See Photo 3.**

For channel profile / scour measurements, **refer to Chart 1.**

ITEM 61 - CHANNEL AND CHANNEL PROTECTION

Item 61.1 - Channel Scour

At the structure outfall, the downstream channel has a plunge pool, approximately 10' diameter x 28" deep. **See Photo 3.**

Refer to Item 62.15 - Scour.

For channel profile readings, **refer to Chart 1.**

APPROACHES

Approaches a - Appr. Pavement Condition

The south approach has two transverse cracks, full roadway width x up to 1/2" wide. Along the west edge of roadway, there is an area of minor mapcracking and settlement.

The north approach has two transverse cracks, up to full roadway width x 1/4" wide. **See Photo 1.**

Approaches b - Appr. Roadway Settlement

Refer to Appr. a - Appr. Pavement Condition.

TRAFFIC SAFETY

Item 36a - Bridge Railing

The railings over the culvert consist of single steel W-beam panels mounted on steel posts with no blockouts, spaced at 6'.

Item 36b - Transitions

The transitions consist of single steel W-beam panels continuous with the railings over the culvert and mounted on steel posts with no blockouts, spaced at 6'.

Item 36c - Approach Guardrail

The approach guardrails consist of single steel W-beam panels mounted on steel posts with no blockouts, spaced at 6'.

Item 36d - Approach Guardrail Ends

The approach guardrails have steel terminal ends not swept away from traffic.

All have minor damage.

Sketch / Chart / Photo Log

Sketch 1 : Framing Plan.

Chart 1 : Channel profile readings.

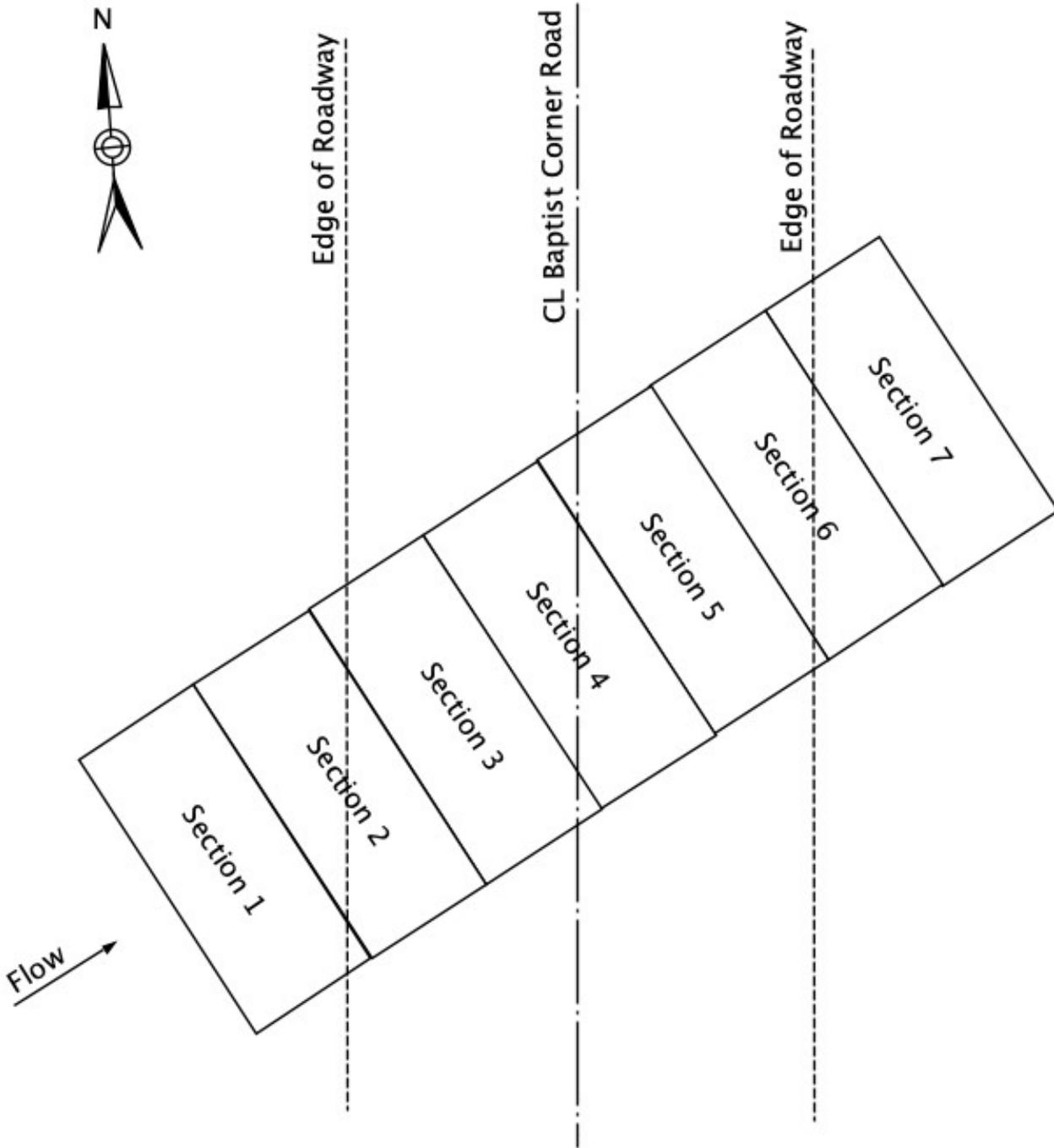
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REMARKS

Photo 1 : General topside, looking south.
Photo 2 : General underside, looking east.
Photo 3 : Downstream plunge pool.

| | | | | |
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SKETCHES

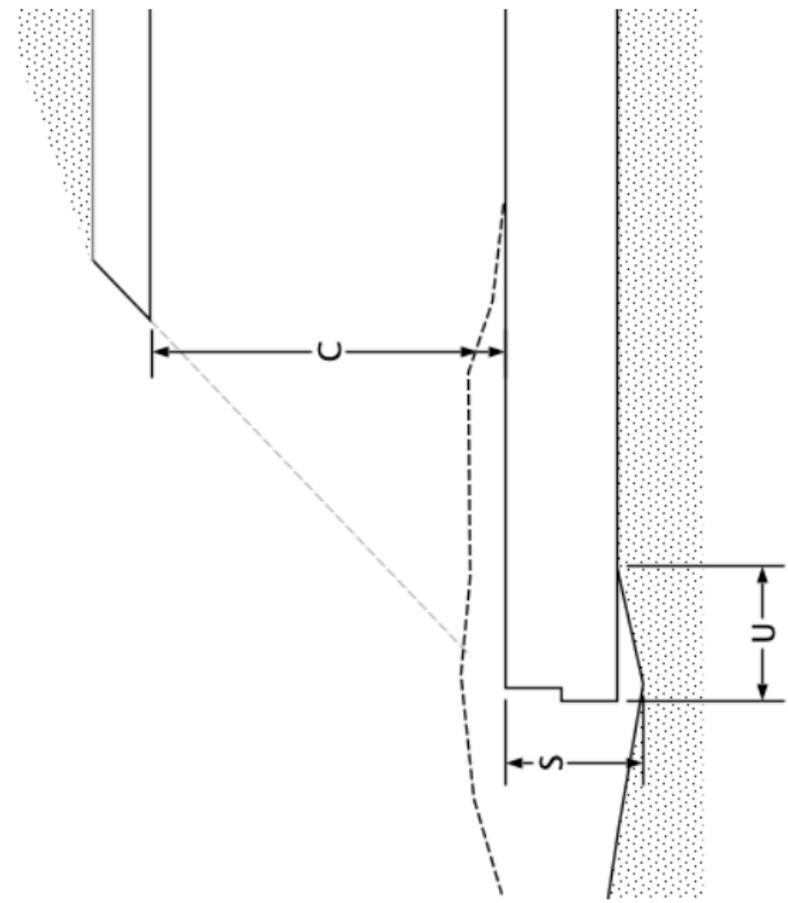


Sketch 1: Framing Plan.

| | | | | |
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CHARTS

| DATE | A13042 Channel Profile Readings (ft) | | | | | | | | | | | | | | | |
|-----------|--------------------------------------|-----|----------|-----|------------|-----|------------|-----|----------|-----|------------|-----|-----|-----|-----|-----|
| | West End | | | | | | East End | | | | | | | | | |
| | North Wall | | Mid-Span | | South Wall | | North Wall | | Mid-Span | | South Wall | | | | | |
| C | S | C | S | C | S | C | S | C | S | C | S | C | S | U | | |
| 3/20/2025 | 4.0 | 0.3 | 0.0 | 0.0 | 4.0 | 0.3 | 0.0 | 0.0 | 4.0 | 0.0 | 0.0 | 3.3 | 0.0 | 4.0 | 3.3 | 0.0 |
| | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | |



Notes:
 C = clearance
 S = scour
 U = undermining
 I/A = area was inaccessible

Chart 1: Channel profile readings.

| | | | | |
|-----------------------|---------------|---------------------------|--|---------------------------------|
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PHOTOS

Photo 1: General topside, looking south.



Photo 2: General underside, looking east.

| | | | | |
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PHOTOS



Photo 3: Downstream plunge pool.