## Bridge Culvert Inspection

| | | | |
|---|---|---|---|
| Bridge File Number | 73144 -2 Bridge Culvert | Form Type | CULM |
| Year Built | 2001 | Lot No. | 4 |
| Bridge or Town Name | LETHBRIDGE | Inspector Name | Tom Carey |
| Located Over | SMR - IRRIGATION C, WATERCRS-IC | Inspector Class | BR CLS A |
| Located On | 3:10 L1 3.384;3:10 R1 3.385 | Assistant Name | |
| Water Body Cl./Year | | Assistant Class | |
| Navigabil. Cl./Year | | Inspection Date | 12-Nov-2011 |
| Legal Land Location | NW SEC 1 TWP 9 RGE 21 W4M | Data Entry By | Alyssa Boynton |
| Longitude, Latitude | -112:44:02, 49:42:32 | Data Entry Date | 07-Dec-2011 |
| Road Authority | Alberta Transportation (AIT) | Reviewer Name | Garry Roberts |
| Contract Main. Area | CMA25 | Review Date | 21-Nov-2011 |
| Clear Roadway/Skew | 30.6 / | Dept. Reviewer Name | Tim Davies |
| AADT/Year | 16,540 / 2010 (A) | Dept. Review Date | 15-Dec-2011 |
| Road Classification | RFD-412.4-130 | Follow-Up By | |
| Detour Length (km) | 1 | | |

### Bridge Culvert Information

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Number of Culverts | | 1 | | | | | | |
| Pipe # | Barrel | Span | Rise (or Dia.) | Type | Length | Corr. Profile | Pl./Slab Thickness | Shape |
| 1 | MAIN | 6098 | 2439 | BP | 45 | | | RECTANGLE |
| Special Features | | | | | | | | |
| Special Features Comment | | | | | | | | |

## Utilities (Located at)

| | | | |
|---|---|---|---|
| Utility Attachments | TELEPHONE UTILITIES-PHONE LINE; POWER UTILITIES-POWER LINE | | |
| Telephone | N ditch | Gas | |
| Power | 3 wire 10m South | Municipal | |
| Others | | Problem (Y/N) | No |
| Remarks | | | |

## Approach Road / Embankment

| | | Last | Now | Explanation of Condition |
|---|---|---|---|---|
| Horizontal Alignment | | 8 | 8 | RR 21-1 intersection located 30m W |
| Vertical Alignment | | 9 | 9 | tapered lanes<br>Double layer-W-beam |
| Roadway Width (m) | 30.000 | | | |
| Embankment | | 8 | 8 | Very minor only 200mm at ends- 0.3m at road at median |
| Sideslope (__:1) | 6.0 | | | |
| (Height of Cover(m) : **0.3**) | | | | |
| Guardrail (Y/N) | Yes | | | |
| **Approach Road / Embankment General Rating** | | **8** | **8** | |

## Upstream End

| Culvert Component | | Last | Now | Explanation of Condition |
|---|---|---|---|---|
| Direction | | S | | S end |
| End Treatment (Concrete, Steel, Others, None) | CONCRETE | | | |
| Headwall | | 8 | 8 | |
| Collar | | X | X | |
| Wingwalls | | 8 | 8 | |
| (Shape : ) | | | | |

| Upstream End | | | | |
|---|---|---|---|---|
| **Culvert Component** | | **Last** | **Now** | **Explanation of Condition** |
| Cutoff Wall | | X | X | |
| Bevel End | | X | X | |
| Heaving (mm) | | | | |
| Invert Above/Below Stream Bed | ABOVE | | | |
| Above/Below (mm) | 100 | | | |
| Scour Protection | | 8 | 8 | |
| (Type : **RIP RAP**) | | | | |
| (Avg. Rock Size(mm) : **200**) | | | | |
| Scour/Erosion | | 8 | 8 | |
| Beavers (Y/N) | No | | | |
| **Upstream End General Rating** | | **8** | **8** | |

| Bridge Culvert Barrel | | | | |
|---|---|---|---|---|
| **Culvert Component** | | **Last** | **Now** | **Explanation of Condition** |
| (Pipe # : **1, Primary Span, Location Code: MAIN, Span (mm): 3049, Rise (mm): 2439, Type: BP, Cell Sequence: 1**) | | | | |
| Barrel Last Accessible Date | 12-Nov-2011 | | | West cell |
| **Special Features** | | | | |
| Special Feature | | | | |
| (Type : ) | | | | |
| Special Feature | | | | |
| (Type : ) | | | | |
| Roof | | 8 | 8 | |
| Measured Rise (mm) | 2439 | | | |
| Measured At Ring No. | 1 | | | |
| Sag (mm) | 0 | | | |
| Percent Sag | 0 | | | |
| Sidewall | | 8 | 8 | |
| Measured Span (mm) | 3049 | | | |
| Measured At Ring No. | 1 | | | |
| Deflection (mm) | 0 | | | |
| Percent Deflection | 0 | | | |
| Floor | | 8 | 8 | |
| Bulge (mm) | 0 | | | |
| Measured At Ring No. | | | | |
| Abrasion (Y/N) | No | | | |
| Circumferential Seams | | 8 | 8 | foam filled |
| Separation (mm) | 20 | | | |
| Longitudinal Seams | | X | X | |
| Total No. of Cracked Rings | | | | |
| Total No. of Rings with Two Cracked Seams | | | | |
| Min. Remaining Steel Between Cracks (mm) | | | | |
| Proper Lap (Y/N) | | | | |
| Longitudinal Stagger (Y/N) | | | | |
| Coating | | X | X | |
| Corrosion By Soil (Y/N) | | | | |
| Corrosion By Water (Y/N) | | | | |
| Camber POS/ZERO/NEG | ZERO | | | |

| Bridge Culvert Barrel | | | | |
|---|---|---|---|---|
| **Culvert Component** | | **Last** | **Now** | **Explanation of Condition** |
| (Pipe # : **1, Primary Span, Location Code: MAIN, Span (mm): 3049, Rise (mm): 2439, Type: BP, Cell Sequence: 1**) | | | | |
| Ponding (Y/N) | No | | | |
| Fish Passage Adequacy | | X | X | |
| Baffle | | X | X | |
| (Type : ) | | | | |
| Waterway Adequacy | | 9 | 9 | |
| Icing (Y/N) | No | | | |
| Silting (Y/N) | No | | | |
| Drift (Y/N) | No | | | |
| **Barrel General Rating** | | **8** | **8** | |

| Bridge Culvert Barrel | | | | |
|---|---|---|---|---|
| **Culvert Component** | | **Last** | **Now** | **Explanation of Condition** |
| (Pipe # : **1, Primary Span, Location Code: MAIN, Span (mm): 3049, Rise (mm): 2439, Type: BP, Cell Sequence: 2**) | | | | |
| Barrel Last Accessible Date | 12-Nov-2011 | | | east cell |
| **Special Features** | | | | |
| Special Feature | | | | |
| (Type : ) | | | | |
| Special Feature | | | | |
| (Type : ) | | | | |
| Roof | | 8 | 8 | |
| Measured Rise (mm) | 2439 | | | |
| Measured At Ring No. | 1 | | | |
| Sag (mm) | 0 | | | |
| Percent Sag | | | | |
| Sidewall | | 8 | 8 | |
| Measured Span (mm) | 3049 | | | |
| Measured At Ring No. | 1 | | | |
| Deflection (mm) | 0 | | | |
| Percent Deflection | | | | |
| Floor | | 8 | 8 | |
| Bulge (mm) | 0 | | | |
| Measured At Ring No. | | | | |
| Abrasion (Y/N) | No | | | |
| Circumferential Seams | | 8 | 8 | foam filled |
| Separation (mm) | 60 | | | |
| Longitudinal Seams | | X | X | |
| Total No. of Cracked Rings | | | | |
| Total No. of Rings with Two Cracked Seams | | | | |
| Min. Remaining Steel Between Cracks (mm) | | | | |
| Proper Lap (Y/N) | | | | |
| Longitudinal Stagger (Y/N) | | | | |
| Coating | | X | X | |
| Corrosion By Soil (Y/N) | | | | |
| Corrosion By Water (Y/N) | | | | |
| Camber POS/ZERO/NEG | ZERO | | | |

| Bridge Culvert Barrel | | | | |
|---|---|---|---|---|
| **Culvert Component** | | **Last** | **Now** | **Explanation of Condition** |
| (Pipe # : **1, Primary Span, Location Code: MAIN, Span (mm): 3049, Rise (mm): 2439, Type: BP, Cell Sequence: 2**) | | | | |
| Ponding (Y/N) | No | | | |
| Fish Passage Adequacy | | X | X | |
| Baffle | | X | X | |
| (Type : ) | | | | |
| Waterway Adequacy | | 9 | 9 | |
| Icing (Y/N) | No | | | |
| Silting (Y/N) | No | | | |
| Drift (Y/N) | No | | | |
| **Barrel General Rating** | | **8** | **8** | |

| Downstream End | | | | |
|---|---|---|---|---|
| **Culvert Component** | | **Last** | **Now** | **Explanation of Condition** |
| Direction | | N | | North end |
| End Treatment (Concrete, Steel, Others, None) | CONCRETE | | | |
| Headwall | | 8 | 8 | |
| Collar | | X | X | |
| Wingwalls | | 8 | 8 | |
| (Shape : ) | | | | |
| Cutoff Wall | | X | X | |
| Bevel End | | X | X | |
| Heaving (mm) | | | | |
| Invert Above/Below Stream Bed | | | | |
| Above/Below (mm) | | | | |
| Scour Protection | | 8 | 8 | |
| (Type : **RIP RAP**) | | | | |
| (Avg. Rock Size(mm) : **200**) | | | | |
| Scour/Erosion | | 8 | 8 | |
| Beavers (Y/N) | No | | | |
| **Downstream End General Rating** | | **8** | **8** | |

| Structure Usage | | | | |
|---|---|---|---|---|
| | | **Last** | **Now** | **Explanation of Condition** |
| **Channel (U/S and D/S)** | | | | |
| Alignment | | 8 | 8 | 3-2700mm CSP's located 20m u/s<br>RR bridge located 20m d/s |
| Bank Stability | | 8 | 8 | |
| HWM (m below Top of Culvert) | 1.1 | | | |
| Drift (Y/N) | No | | | |
| Channel Bottom Degrading/Aggrading | | | | |
| Beavers (Y/N) | No | | | |
| (Fish Compensation Measure 1 : **NONE**) | | | | |
| (Fish Compensation Measure 2 : **NONE**) | | | | |
| **Channel General Rating** | | **8** | **8** | |

**Maintenance Recommendations**

| Inspector Recommendations | Year | Inspector Comments | Department Comments | Target Year | Est. Cost | Cat # |
|---|---|---|---|---|---|---|
| SHOTCRETE REPAIRS | | | | | | |
| PLACE ADDITIONAL RIP RAP | | | | | | |
| REMOVE DRIFT ACCUMULATION | | | | | | |
| INSTALL CONCRETE/STEEL LINING | | | | | | |
| INSTALL STRUTS | | | | | | |
| INSTALL CONCRETE COLLAR/CUTOFF | | | | | | |
| REPAIR SEAMS | | | | | | |
| OTHER ACTION | | | | | | |
| OTHER ACTION | | | | | | |
| OTHER ACTION | | | | | | |
| OTHER ACTION | | | | | | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Structural Condition Rating (Last/Now) (%)** | **88.9/88.9** | **Sufficiency Rating (Last/Now) (%)** | **91.0/91.0** | Est. Repl. Yr | 2060 | Maint. Reqd. (Y/N) | No |

| | | | |
|---|---|---|---|
| Special Comments for Next Inspection | | Department Comments | |

| | | | | | |
|---|---|---|---|---|---|
| Maintenance Reviewed By | | Date | | Estimated Total | 0 |
| Proposed Long-Term Strategy | | | | | |
| On 3-Year Program (Y/N) | | | | | |
| Proposed Action | | | | | |

| | | | |
|---|---|---|---|
| Previous Inspector's Name | Tom Carey | Previous Assistant's Name | |
| Next Inspection Date | 12-Aug-2013 | Previous Inspection Date | 24-Jun-2010 |
| Inspection Cycle (Default) (months) | 21 | | |
| Comment | | | |