## Bridge Culvert Inspection

| | | | |
|---|---|---|---|
| Bridge File Number | 01043 -2 Bridge Culvert | Form Type | CUL1 |
| Year Built | 2012 | Lot No. | 4 |
| Bridge or Town Name | MORNINGSIDE | Inspector Name | Owen Salava |
| Located Over | WOLF CREEK, 5.56, WATERCRS-ST | Inspector Class | BR CLS A |
| Located On | 604:02 C1 17.329 | Assistant Name | |
| Water Body Cl./Year | | Assistant Class | |
| Navigabil. Cl./Year | | Inspection Date | 04-Feb-2013 |
| Legal Land Location | SE SEC 3 TWP 42 RGE 26 W4M | Data Entry By | Marcia Chavez |
| Longitude, Latitude | -113:39:34, 52:34:46 | Data Entry Date | 06-Mar-2013 |
| Road Authority | Alberta Transportation (AIT) | Reviewer Name | John O'Brien |
| Contract Main. Area | CMA17 | Review Date | 13-Feb-2013 |
| Clear Roadway/Skew | 16 / -32 deg. (LHF) | Dept. Reviewer Name | Chris Black |
| AADT/Year | 670 / 2011 (A) | Dept. Review Date | 14-Mar-2013 |
| Road Classification | RLU-208-100 | Follow-Up By | |
| Detour Length (km) | 2 | | |

**Bridge Culvert Information**

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Number of Culverts | | 1 | | | | | | |
| Pipe # | Barrel | Span | Rise (or Dia.) | Type | Length | Corr. Profile | Pl./Slab Thickness | Shape |
| 1 | MAIN | - | 3990 | SP | 59.74 | 152X51 | 3.0 | ROUND |
| Special Features | | | | | | | | |
| Special Features Comment | | | | | | | | |

## Utilities (Located at)

| | | | |
|---|---|---|---|
| Utility Attachments | | | |
| Telephone | Plowed in S r/w. | Gas | Gas line crossing 100m W, 20m N. |
| Power | S ditch | Municipal | |
| Others | | Problem (Y/N) | No |
| Remarks | | | |

## Approach Road / Embankment

| | | Last | Now | Explanation of Condition |
|---|---|---|---|---|
| Horizontal Alignment | | 7 | 7 | HWY 2 access 150m W. Shallow sag curve; posted for 50km/h. |
| Vertical Alignment | | 8 | 8 | |
| Roadway Width (m) | 9.500 | | | |
| Embankment | | 8 | 7 | N side. |
| Sideslope (__:1) | 2.5 | | | |
| (Height of Cover(m) : **5**) | | | | |
| Guardrail (Y/N) | Yes | | | A wire cable both sides. |
| **Approach Road / Embankment General Rating** | | **7** | **7** | |

## Upstream End

| **Culvert Component** | | **Last** | **Now** | **Explanation of Condition** |
|---|---|---|---|---|
| Direction | | S | | |
| End Treatment (Concrete, Steel, Others, None) | CONCRETE | | | |
| Headwall | | 8 | 8 | |
| Collar | | 8 | N | Snow covered. |
| Wingwalls | | X | X | |
| (Shape : ) | | | | |
| Cutoff Wall | | 8 | N | Buried |

| Upstream End | | | | |
|---|---|---|---|---|
| **Culvert Component** | | **Last** | **Now** | **Explanation of Condition** |
| Bevel End | | 8 | 8 | |
| Heaving (mm) | 0 | | | |
| Invert Above/Below Stream Bed | BELOW | | | Est. |
| Above/Below (mm) | 800 | | | |
| Scour Protection | | 7 | N | (Rock varies from 150-900mm. 13Sep2012) - Snow covered. |
| (Type : **RIP RAP**) | | | | |
| (Avg. Rock Size(mm) : **300**) | | | | |
| Scour/Erosion | | 8 | N | |
| Beavers (Y/N) | No | | | |
| **Upstream End General Rating** | | **7** | **8** | |

| Bridge Culvert Barrel | | | | |
|---|---|---|---|---|
| **Culvert Component** | | **Last** | **Now** | **Explanation of Condition** |
| (Pipe # : **1, Primary Span, Location Code: MAIN, Span (mm): , Rise (mm): 3990, Type: SP**) | | | | |
| Barrel Last Accessible Date | 04-Feb-2013 | | | |
| **Special Features** | | | | |
| Special Feature | | | | |
| (Type : ) | | | | |
| Special Feature | | | | |
| (Type : ) | | | | |
| Roof | | 9 | 9 | Unable to measure due to ice. |
| Measured Rise (mm) | | | | |
| Measured At Ring No. | | | | |
| Sag (mm) | 0 | | | |
| Percent Sag | | | | |
| Sidewall | | 9 | 9 | Ice above mid-height; looks good. |
| Measured Span (mm) | | | | |
| Measured At Ring No. | | | | |
| Deflection (mm) | 0 | | | |
| Percent Deflection | | | | |
| Floor | | 9 | N | |
| Bulge (mm) | 0 | | | |
| Measured At Ring No. | | | | |
| Abrasion (Y/N) | No | | | |
| Circumferential Seams | | 9 | 9 | |
| Separation (mm) | 0 | | | |
| Longitudinal Seams | | 9 | 9 | |
| Total No. of Cracked Rings | 0 | | | |
| Total No. of Rings with Two Cracked Seams | | | | |
| Min. Remaining Steel Between Cracks (mm) | | | | |
| Proper Lap (Y/N) | Yes | | | |
| Longitudinal Stagger (Y/N) | Yes | | | |
| Coating | | 9 | 9 | Stained at waterline. |
| Corrosion By Soil (Y/N) | No | | | |
| Corrosion By Water (Y/N) | No | | | |
| Camber POS/ZERO/NEG | ZERO | | | |
| Ponding (Y/N) | No | | | |

| Bridge Culvert Barrel | | | | |
|---|---|---|---|---|
| **Culvert Component** | | **Last** | **Now** | **Explanation of Condition** |
| (Pipe # : **1, Primary Span, Location Code: MAIN, Span (mm): , Rise (mm): 3990, Type: SP**) | | | | |
| Fish Passage Adequacy | | 6 | 7 | |
| Baffle | | X | X | |
| (Type : ) | | | | |
| Waterway Adequacy | | 7 | 9 | |
| Icing (Y/N) | No | | | |
| Silting (Y/N) | No | | | |
| Drift (Y/N) | No | | | |
| **Barrel General Rating** | | **9** | **9** | |

| Downstream End | | | | |
|---|---|---|---|---|
| **Culvert Component** | | **Last** | **Now** | **Explanation of Condition** |
| Direction | | N | | |
| End Treatment (Concrete, Steel, Others, None) | CONCRETE | | | |
| Headwall | | 8 | 8 | |
| Collar | | 8 | N | Snow covered. |
| Wingwalls | | X | X | |
| (Shape : ) | | | | |
| Cutoff Wall | | 8 | N | Buried |
| Bevel End | | 8 | 8 | |
| Heaving (mm) | 0 | | | |
| Invert Above/Below Stream Bed | BELOW | | | Est. |
| Above/Below (mm) | 800 | | | |
| Scour Protection | | 7 | N | (Varies from 150-900mm. 13Sep2012) - Snow covered. |
| (Type : **RIP RAP**) | | | | |
| (Avg. Rock Size(mm) : **200**) | | | | |
| Scour/Erosion | | 8 | N | |
| Beavers (Y/N) | No | | | |
| **Downstream End General Rating** | | **7** | **8** | |

| Structure Usage | | | | |
|---|---|---|---|---|
| | | **Last** | **Now** | **Explanation of Condition** |
| **Channel (U/S and D/S)** | | | | |
| Alignment | | 7 | 7 | |
| Bank Stability | | 7 | 7 | |
| HWM (m below Top of Culvert) | | | | HWM not visible. |
| Drift (Y/N) | No | | | |
| Channel Bottom Degrading/Aggrading | DEGRADING | | | |
| Beavers (Y/N) | No | | | |
| (Fish Compensation Measure 1 : **Boulders**) | | | | 10 CL3 clusters u/s; 4 d/s. |
| (Fish Compensation Measure 2 : **Fish Pond**) | | | | |
| **Channel General Rating** | | **7** | **7** | |

**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) (%)** | **100.0/100.0** | **Sufficiency Rating (Last/Now) (%)** | **87.5/96.5** | Est. Repl. Yr | 2072 | 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 | Wade Nanninga | Previous Assistant's Name | | | |
| Next Inspection Date | 04-May-2016 | Previous Inspection Date | 13-Sep-2012 | | |
| Inspection Cycle (Default) (months) | 39 | | | | |
| Comment | | | | | |