

| Bridge Culvert Inspection |  |                     |               |
|---------------------------|--|---------------------|---------------|
| Bridge File Number        | 79466 -1 Bridge Culvert                                | Form Type           | CUL1          |
| Year Built                | 1984   | Lot No.             | 4             |
| Bridge or Town Name       | JENNER   | Inspector Name      | Jason Saly    |
| Located Over              | TRIBUTARY TO BLOOD INDIAN CREEK,<br>3.9.2, WATERCRS-ST | Inspector Class     | BR CLS A      |
| Located On                | 884:06 C1 11.386                                       | Assistant Name      |               |
| Water Body Cl./Year       |  | Assistant Class     |               |
| Navigabil. Cl./Year       |  | Inspection Date     | 22-Nov-2010   |
| Legal Land Location       | NW SEC 3 TWP 24 RGE 9 W4M                              | Data Entry By       | Marcia Chavez |
| Longitude, Latitude       | -111:11:28, 51:01:06                                   | Data Entry Date     | 11-Jan-2011   |
| Road Authority            | Alberta Transportation (AIT)                           | Reviewer Name       | John O'Brien  |
| Contract Main. Area       | CMA22  | Review Date         | 12-Dec-2010   |
| Clear Roadway/Skew        | 9.3 / 50 deg. (RHF)                                    | Dept. Reviewer Name | Chris Black   |
| AADT/Year                 | 300 / 2009 (A)   | Dept. Review Date   | 11-Jan-2011   |
| Road Classification       | RCU-210-110  | Follow-Up By        |               |
| Detour Length (km)        | 100  |                     |               |

**Bridge Culvert Information**

|                          |        |      |                |      |        |               |                    |       |
|--------------------------|--------|------|----------------|------|--------|---------------|--------------------|-------|
| Number of Culverts       | 1      |      |                |      |        |               |                    |       |
| Pipe #                   | Barrel | Span | Rise (or Dia.) | Type | Length | Corr. Profile | Pl./Slab Thickness | Shape |
| 1                        | MAIN   | -    | 2134           | SP   | 111    | 152X51        | 3.0                | ROUND |
| Special Features         |        |      |                |      |        |               |                    |       |
| Special Features Comment |        |      |                |      |        |               |                    |       |

**Utilities (Located at)**

|                     |              |               |    |
|---------------------|--------------|---------------|----|
| Utility Attachments |              |               |    |
| Telephone           |              | Gas           |    |
| Power               |              | Municipal     |    |
| Others              |              | Problem (Y/N) | No |
| Remarks             | No utilities |               |    |

**Approach Road / Embankment**

|  | Last     | Now      | Explanation of Condition                               |
|--|----------|----------|--|
| Horizontal Alignment                             | 7        | 7        | Horiz curve over crest to North.                       |
| Vertical Alignment                               | 6        | 6        | Sag curve. Crest to the N with limited sight distance. |
| Roadway Width (m)                                | 9.300    |          |  |
| Embankment                                       | 3        | 3        | Erosion at East end encroaching on fenceline.          |
| Sideslope (__:1)                                 | 3.0      |          | Estimate 9m.   |
| (Height of Cover(m) : )                          |          |          |  |
| Guardrail (Y/N)                                  | No       |          |  |
| <b>Approach Road / Embankment General Rating</b> | <b>6</b> | <b>6</b> |  |

**Upstream End**

| Culvert Component                             | Last  | Now | Explanation of Condition |
|---|-------|-----|--------------------------|
| Direction                                     | E     |     |                          |
| End Treatment (Concrete, Steel, Others, None) | STEEL |     |                          |
| Headwall                                      | X     | X   |                          |
| Collar  | X     | X   |                          |
| Wingwalls                                     | X     | X   |                          |
| (Shape : )                                    |       |     |                          |
| Cutoff Wall                                   | X     | X   |                          |

| Upstream End  |             |          |          |   |
|---|-------------|----------|----------|---|
| Culvert Component   |             | Last     | Now      | Explanation of Condition  |
| Bevel End   |             | 7        | 7        |   |
| Heaving (mm)  | 0           |          |          |   |
| Invert Above/Below Stream Bed   | BELOW       |          |          |   |
| Above/Below (mm)  | 400         |          |          |   |
| Scour Protection  |             | 7        | N        | Snow covered.   |
| (Type : <b>RIP RAP</b> )  |             |          |          |   |
| (Avg. Rock Size(mm) : <b>300</b> )  |             |          |          |   |
| Scour/Erosion   |             | 7        | N        | Snow covered.   |
| Beavers (Y/N)   | No          |          |          |   |
| <b>Upstream End General Rating</b>  |             | <b>7</b> | <b>7</b> |   |
| Bridge Culvert Barrel   |             |          |          |   |
| Culvert Component   |             | Last     | Now      | Explanation of Condition  |
| (Pipe # : <b>1</b> , Primary Span, Location Code: <b>MAIN</b> , Span (mm): , Rise (mm): <b>2134</b> , Type: <b>SP</b> ) |             |          |          |   |
| Barrel Last Accessible Date   | 22-Nov-2010 |          |          | Plates 6N, 5N, 6N, 6N, 5N from bottom   |
| <b>Special Features</b>   |             |          |          |   |
| Special Feature   |             |          |          |   |
| (Type : )   |             |          |          |   |
| Special Feature   |             |          |          |   |
| (Type : )   |             |          |          |   |
| Roof  |             | 7        | 7        | Rise measured at R2=2092 - 42mm; R6=2098 - 36mm; R12=2090 - 44mm=2.1%.                                  |
| Measured Rise (mm)  | 2090        |          |          |   |
| Measured At Ring No.  | 12          |          |          |   |
| Sag (mm)  | 44          |          |          |   |
| Percent Sag   | 2           |          |          |   |
| Sidewall  |             | 7        | 7        | Span measured at R2=2091 - 43mm=2.0%; R6=2096 - 38mm; R12=2104 - 30mm; R18=2122 - 12mm; R24=2128 - 6mm. |
| Measured Span (mm)  | 2091        |          |          |   |
| Measured At Ring No.  | 2           |          |          |   |
| Deflection (mm)   | 43          |          |          |   |
| Percent Deflection  | 2           |          |          |   |
| Floor   |             | 6        | 6        |   |
| Bulge (mm)  | 0           |          |          |   |
| Measured At Ring No.  |             |          |          |   |
| Abrasion (Y/N)  | No          |          |          |   |
| Circumferential Seams   |             | 6        | 6        |   |
| Separation (mm)   | 0           |          |          |   |
| Longitudinal Seams  |             | 7        | 7        | 1N Stagger  |
| Total No. of Cracked Rings  | 0           |          |          |   |
| Total No. of Rings with Two Cracked Seams   | 0           |          |          |   |
| Min. Remaining Steel Between Cracks (mm)  |             |          |          |   |
| Proper Lap (Y/N)  | No          |          |          |   |
| Longitudinal Stagger (Y/N)  | Yes         |          |          |   |
| Coating   |             | 6        | 5        | Alkali starting to appear on sides.<br>Some deposits on bolt holes (5%).<br><br>Light Corrosion         |
| Corrosion By Soil (Y/N)   | Yes         |          |          |   |
| Corrosion By Water (Y/N)  | Yes         |          |          |   |
| Camber POS/ZERO/NEG   | NEG         |          |          |   |
| 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): 2134, Type: SP) |     |           |          |   |
| Fish Passage Adequacy   |     | 5         | 5        | Corrosion by S&W.                         |
| Baffle  |     | X         | X        |   |
| (Type : )   |     |           |          |   |
| Waterway Adequacy   |     | 5         | 5        | 0.6 deep silt at D/S 1/4                  |
| Icing (Y/N)   | No  |           |          |   |
| Silting (Y/N)   | Yes |           |          |   |
| Drift (Y/N)   | No  |           |          |   |
| <b>Barrel General Rating</b>  |     | <b>6</b>  | <b>6</b> |   |
| Downstream End  |     |           |          |   |
| Culvert Component   |     | Last      | Now      | Explanation of Condition                  |
| Direction   |     | W         |          | Farmer placed metal gate against opening. |
| End Treatment (Concrete, Steel, Others, None)   |     | STEEL     |          |   |
| Headwall  |     | X         | X        |   |
| Collar  |     | X         | X        |   |
| Wingwalls   |     | X         | X        |   |
| (Shape : )  |     |           |          |   |
| Cutoff Wall   |     | X         | X        |   |
| Bevel End   |     | 6         | N        | Snow covered.                             |
| Heaving (mm)  | 0   |           |          |   |
| Invert Above/Below Stream Bed   |     | BELOW     |          | as ground level.                          |
| Above/Below (mm)  | 60  |           |          |   |
| Scour Protection  |     | 7         | N        | Snow covered.                             |
| (Type : RIP RAP)  |     |           |          |   |
| (Avg. Rock Size(mm) : 300)  |     |           |          |   |
| Scour/Erosion   |     | 7         | N        | Snow covered.                             |
| Beavers (Y/N)   |     | No        |          |   |
| <b>Downstream End General Rating</b>  |     | <b>6</b>  | <b>N</b> | Previous GR was 6 from 30Jan2009.         |
| Structure Usage   |     |           |          |   |
|   |     | Last      | Now      | Explanation of Condition                  |
| Channel (U/S and D/S)   |     |           |          |   |
| Alignment   |     | 7         | 7        | Bends to and from pipe.                   |
| Bank Stability  |     | 7         | N        | Snow covered.                             |
| HWM (m below Top of Culvert)  |     |           |          | Not visible.                              |
| Drift (Y/N)   |     | No        |          |   |
| Channel Bottom Degrading/Aggrading  |     | AGGRADING |          |   |
| Beavers (Y/N)   |     | No        |          |   |
| (Fish Compensation Measure 1 : NONE)  |     |           |          |   |
| (Fish Compensation Measure 2 : NONE)  |     |           |          |   |
| <b>Channel General Rating</b>   |     | <b>7</b>  | <b>7</b> |   |

| 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                                      | 2011             | Repair bank erosion east end.<br>70 m3 pit run then top soil<br>20 m3 C1.1 |                           |               |           |                   |     |
| OTHER ACTION                                      |                  |  |                           |               |           |                   |     |
| OTHER ACTION                                      |                  |  |                           |               |           |                   |     |
| OTHER ACTION                                      |                  |  |                           |               |           |                   |     |
| <b>Structural Condition Rating (Last/Now) (%)</b> | <b>66.7/66.7</b> | <b>Sufficiency Rating (Last/Now) (%)</b>                                   | <b>62.0/60.9</b>          | Est. Repl. Yr | 2031      | Maint. Req. (Y/N) | Yes |
| 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                         | Garry Roberts    |  | Previous Assistant's Name |               |           |                   |     |
| Next Inspection Date                              | 22-Feb-2014      |  | Previous Inspection Date  | 30-Jan-2009   |           |                   |     |
| Inspection Cycle (Default) (months)               | 39               |  |                           |               |           |                   |     |
| Comment   |                  |  |                           |               |           |                   |     |