

| Bridge Culvert Inspection |  |  |                     |                |
|---------------------------|--|--|---------------------|----------------|
| Bridge File Number        | 07371 -1 Bridge Culvert                    |  | Form Type           | CUL1           |
| Year Built                | 1958                                       |  | Lot No.             | 4              |
| Bridge or Town Name       | COUTTS                                     |  | Inspector Name      | Jason Rusu     |
| Located Over              | TRIBUTARY TO MILK RIVER, 1.13, WATERCRS-ST |  | Inspector Class     | BR CLS A       |
| Located On                | 500:02 C1 12.171                           |  | Assistant Name      |                |
| Water Body Cl./Year       |  |  | Assistant Class     |                |
| Navigabil. Cl./Year       |  |  | Inspection Date     | 08-Jun-2012    |
| Legal Land Location       | SE SEC 16 TWP 1 RGE 14 W4M                 |  | Data Entry By       | Kelsey Roberts |
| Longitude, Latitude       | -111:49:00, 49:01:42                       |  | Data Entry Date     | 16-Jul-2012    |
| Road Authority            | Alberta Transportation (AIT)               |  | Reviewer Name       | Garry Roberts  |
| Contract Main. Area       | CMA24                                      |  | Review Date         | 10-Jul-2012    |
| Clear Roadway/Skew        | 7.5 /                                      |  | Dept. Reviewer Name | Tim Davies     |
| AADT/Year                 | 110 / 2011 (A)                             |  | Dept. Review Date   | 17-Jul-2012    |
| Road Classification       | RCU-209-110                                |  | Follow-Up By        |                |
| Detour Length (km)        | 3  |  |                     |                |

**Bridge Culvert Information**

|                          |        |      |                |      |        |               |                    |           |
|--------------------------|--------|------|----------------|------|--------|---------------|--------------------|-----------|
| Number of Culverts       | 1      |      |                |      |        |               |                    |           |
| Pipe #                   | Barrel | Span | Rise (or Dia.) | Type | Length | Corr. Profile | Pl./Slab Thickness | Shape     |
| 1                        | MAIN   | 2490 | 1750           | RPP  | 22.6   | 152X51        | 3.5,3.5,3.5        | PIPE ARCH |
| Special Features         |        |      |                |      |        |               |                    |           |
| Special Features Comment |        |      |                |      |        |               |                    |           |

**Utilities (Located at)**

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

**Approach Road / Embankment**

|  |       | Last     | Now      | Explanation of Condition |
|--|-------|----------|----------|--------------------------|
| Horizontal Alignment                             |       | 9        | 9        | Road rises to the W & E  |
| Vertical Alignment                               |       | 6        | 6        |                          |
| Roadway Width (m)                                | 7.500 |          |          |                          |
| Embankment                                       |       | 6        | 6        |                          |
| Sideslope ( __:1)                                | 2.0   |          |          |                          |
| (Height of Cover(m) : 2.3)                       |       |          |          |                          |
| 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                                     |       |      |     | SOUTH                    |
| 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  |             | 6        | 6        |  |
| Heaving (mm)   | 100         |          |          |  |
| Invert Above/Below Stream Bed  | BELOW       |          |          |  |
| Above/Below (mm)   | 100         |          |          |  |
| Scour Protection   |             | 7        | 7        |  |
| (Type : <b>RIP RAP</b> )   |             |          |          |  |
| (Avg. Rock Size(mm) : <b>250</b> )   |             |          |          |  |
| Scour/Erosion  |             | 7        | 7        |  |
| Beavers (Y/N)  | No          |          |          |  |
| <b>Upstream End General Rating</b>   |             | <b>6</b> | <b>6</b> |  |
| Bridge Culvert Barrel  |             |          |          |  |
| Culvert Component  |             | Last     | Now      | Explanation of Condition               |
| (Pipe # : 1, Primary Span, Location Code: MAIN, Span (mm): 2490, Rise (mm): 1750, Type: RPP) |             |          |          |  |
| Barrel Last Accessible Date  | 08-Jun-2012 |          |          |  |
| <b>Special Features</b>  |             |          |          |  |
| Special Feature  |             |          |          |  |
| (Type : )  |             |          |          |  |
| Special Feature  |             |          |          |  |
| (Type : )  |             |          |          |  |
| Roof   |             | 6        | 6        |  |
| Measured Rise (mm)   | 1695        |          |          |  |
| Measured At Ring No.   | 3           |          |          |  |
| Sag (mm)   | 55          |          |          |  |
| Percent Sag  | 3           |          |          |  |
| Sidewall   |             | 4        | 4        | DUE TO CRACKED RING                    |
| Measured Span (mm)   | 2553        |          |          |  |
| Measured At Ring No.   | 3           |          |          |  |
| Deflection (mm)  | 63          |          |          |  |
| Percent Deflection   | 3           |          |          |  |
| Floor  |             | 5        | 5        |  |
| Bulge (mm)   | 0           |          |          |  |
| Measured At Ring No.   |             |          |          |  |
| Abrasion (Y/N)   | Yes         |          |          |  |
| Circumferential Seams  |             | 7        | 7        |  |
| Separation (mm)  | 0           |          |          |  |
| Longitudinal Seams   |             | 4        | 4        | ALL CRACKS WEST SIDEWALL FROM U/S      |
| Total No. of Cracked Rings   | 1           |          |          | 12 cracked bolts in ring 3 - west s/w  |
| Total No. of Rings with Two Cracked Seams  | 0           |          |          |  |
| Min. Remaining Steel Between Cracks (mm)   | 55          |          |          |  |
| Proper Lap (Y/N)   | No          |          |          |  |
| Longitudinal Stagger (Y/N)   | No          |          |          | No stagger at lower haunch             |
| Coating  |             | 4        | 4        | PITTED RUST ON FLOOR & ALKALI STAINING |
| Corrosion By Soil (Y/N)  | Yes         |          |          |  |
| Corrosion By Water (Y/N)   | Yes         |          |          |  |
| Camber POS/ZERO/NEG  | ZERO        |          |          |  |

| Bridge Culvert Barrel  |           |          |          |  |
|--|-----------|----------|----------|--|
| Culvert Component  |           | Last     | Now      | Explanation of Condition   |
| (Pipe # : 1, Primary Span, Location Code: MAIN, Span (mm): 2490, Rise (mm): 1750, Type: RPP) |           |          |          |  |
| Ponding (Y/N)  | No        |          |          |  |
| Fish Passage Adequacy  |           | 5        | 5        |  |
| Baffle   |           | X        | X        |  |
| (Type : )  |           |          |          |  |
| Waterway Adequacy  |           | 6        | 6        | SOME ROCK IN BARREL  |
| Icing (Y/N)  | No        |          |          |  |
| Silting (Y/N)  | No        |          |          |  |
| Drift (Y/N)  | No        |          |          |  |
| <b>Barrel General Rating</b>   |           | <b>4</b> | <b>4</b> |  |
| Downstream End   |           |          |          |  |
| Culvert Component  |           | Last     | Now      | Explanation of Condition   |
| Direction  |           |          |          | NORTH  |
| End Treatment (Concrete, Steel, Others, None)  | STEEL     |          |          |  |
| Headwall   |           | X        | X        |  |
| Collar   |           | X        | X        |  |
| Wingwalls  |           | X        | X        |  |
| (Shape : )   |           |          |          |  |
| Cutoff Wall  |           | X        | X        |  |
| Bevel End  |           | 6        | 6        |  |
| Heaving (mm)   | 100       |          |          |  |
| Invert Above/Below Stream Bed  | BELOW     |          |          |  |
| Above/Below (mm)   | 200       |          |          |  |
| Scour Protection   |           | 5        | 5        |  |
| (Type : RIP RAP)   |           |          |          |  |
| (Avg. Rock Size(mm) : 400)   |           |          |          |  |
| Scour/Erosion  |           | 5        | 5        | 1 M DEEP HOLE X 15 M LONG IS ROCK protected - not affecting barrel |
| Beavers (Y/N)  | No        |          |          | PROTECTED  |
| <b>Downstream End General Rating</b>   |           | <b>5</b> | <b>5</b> |  |
| Structure Usage  |           |          |          |  |
|  |           | Last     | Now      | Explanation of Condition   |
| <b>Channel (U/S and D/S)</b>   |           |          |          |  |
| Alignment  |           | 5        | 5        |  |
| Bank Stability   |           | 6        | 6        |  |
| HWM (m below Top of Culvert)   | 1.0       |          |          | No visible HWM   |
| Drift (Y/N)  | No        |          |          |  |
| Channel Bottom Degrading/Aggrading   | DEGRADING |          |          |  |
| Beavers (Y/N)  | No        |          |          |  |
| (Fish Compensation Measure 1 : NONE)   |           |          |          |  |
| (Fish Compensation Measure 2 : NONE)   |           |          |          |  |
| <b>Channel General Rating</b>  |           | <b>5</b> | <b>5</b> |  |

| <b>Structure Usage</b> |  |             |            |                                 |
|------------------------|--|-------------|------------|---------------------------------|
|                        |  | <b>Last</b> | <b>Now</b> | <b>Explanation of Condition</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                                      |                  |  |                           |               |           |                   |    |
| OTHER ACTION                                      |                  |  |                           |               |           |                   |    |
| OTHER ACTION                                      |                  |  |                           |               |           |                   |    |
| OTHER ACTION                                      |                  |  |                           |               |           |                   |    |
| <b>Structural Condition Rating (Last/Now) (%)</b> | <b>44.4/44.4</b> | <b>Sufficiency Rating (Last/Now) (%)</b> | <b>55.6/55.7</b>          | Est. Repl. Yr | 2020      | Maint. Req. (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                         | Garry Roberts    |  | Previous Assistant's Name |               |           |                   |    |
| Next Inspection Date                              | 08-Sep-2015      |  | Previous Inspection Date  | 17-Jun-2009   |           |                   |    |
| Inspection Cycle (Default) (months)               | 39               |  |                           |               |           |                   |    |
| Comment   |                  |  |                           |               |           |                   |    |