

| Bridge Culvert Inspection | | | |
|---------------------------|--|---------------------|-----------------|
| Bridge File Number | 71983 -1 Bridge Culvert | Form Type | CUL1 |
| Year Built | 1982 | Lot No. | 4 |
| Bridge or Town Name | MARLBORO | Inspector Name | Shane Hall |
| Located Over | TRIBUTARY TO MCLEOD RIVER, 8.11.107.35, WATERCRS-ST | Inspector Class | BR CLS A |
| Located On | 16:04 L1 22.926;16:04 R1 22.950 | Assistant Name | |
| Water Body Cl./Year | | Assistant Class | |
| Navigabil. Cl./Year | | Inspection Date | 11-Aug-2012 |
| Legal Land Location | SW SEC 6 TWP 53 RGE 20 W5M | Data Entry By | Theresa Lacusta |
| Longitude, Latitude | -116:56:56, 53:32:42 | Data Entry Date | 19-Sep-2012 |
| Road Authority | Alberta Transportation (AIT) | Reviewer Name | Eric Carcoux |
| Contract Main. Area | CMA13 | Review Date | 27-Aug-2012 |
| Clear Roadway/Skew | 25.2 / -5 deg. (LHF) | Dept. Reviewer Name | Brent Herrick |
| AADT/Year | 6,080 / 2011 (A) | Dept. Review Date | 09-Oct-2012 |
| Road Classification | RAD-412.4-120 | 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 | - | 1500 | SP | 128.7 | 152X51 | 2.8 | ROUND |
| Special Features | | | | | | | | |
| Special Features Comment | | | | | | | | |

Utilities (Located at)

| | | | |
|---------------------|-------------------------------|---------------|---------------------|
| Utility Attachments | | | |
| Telephone | North r/w. | Gas | Crosses 30 m North. |
| Power | 4 wires O/H 100m North. | Municipal | |
| Others | Survey markers at inlet. | Problem (Y/N) | No |
| Remarks | File tag in place U/S, rusty. | | |

Approach Road / Embankment

| | | Last | Now | Explanation of Condition |
|--|--------|----------|----------|--|
| Horizontal Alignment | | 7 | 7 | Gradual curve. |
| Vertical Alignment | | 8 | 8 | |
| Roadway Width (m) | 25.200 | | | EBL 12.9 WBL 12.3m |
| Embankment | | 5 | 5 | Gully on SW embankment, 40m x 2m wide x 1.5m deep. Vegetated. Stable |
| Sideslope (__:1) | 3.0 | | | |
| (Height of Cover(m) : 11.2) | | | | |
| Guardrail (Y/N) | Yes | | | N side of WBL only. |
| Approach Road / Embankment General Rating | | 7 | 7 | |

Upstream End

| Culvert Component | | Last | Now | Explanation of Condition |
|---|-------|------|-----|--------------------------|
| Direction | | N | | |
| 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 | 5 | |
| Heaving (mm) | 500 | | | |
| Invert Above/Below Stream Bed | ABOVE | | | |
| Above/Below (mm) | 100 | | | |
| Scour Protection | | 4 | 4 | Bevel undermined 1.5m+ |
| (Type : RIP RAP) | | | | |
| (Avg. Rock Size(mm) : 700) | | | | |
| Scour/Erosion | | 4 | 4 | Loss of fill along bevel. |
| Beavers (Y/N) | No | | | |
| Upstream End General Rating | | 4 | 4 | |
| Bridge Culvert Barrel | | | | |
| Culvert Component | | Last | Now | Explanation of Condition |
| (Pipe # : 1, Primary Span, Location Code: MAIN, Span (mm): , Rise (mm): 1500, Type: SP) | | | | |
| Barrel Last Accessible Date | 11-Aug-2012 | | | |
| Special Features | | | | |
| Special Feature | | | | Drain at median blocked. |
| (Type :) | | | | |
| Special Feature | | | | |
| (Type :) | | | | |
| Roof | | N | 6 | Roof pushed up max 60mm at ring14. |
| Measured Rise (mm) | 1476 | | | near cl |
| Measured At Ring No. | | | | |
| Sag (mm) | 24 | | | |
| Percent Sag | 2 | | | |
| Sidewall | | N | 5 | W sidewall pushed in from ring 5 to near culvert cl-max inward deflection-60mm at ring 14. |
| Measured Span (mm) | 1520 | | | |
| Measured At Ring No. | | | | Construction damage/tear in W sidewall at ring 14.-photo |
| Deflection (mm) | 20 | | | Barrel has long bend in culvert, appears that sidewall is significantly |
| Percent Deflection | 17 | | | pushed in when viewed from end but shape is good. |
| Floor | | N | 5 | |
| Bulge (mm) | | | | |
| Measured At Ring No. | | | | |
| Abrasion (Y/N) | No | | | |
| Circumferential Seams | | N | 5 | |
| Separation (mm) | 0 | | | |
| Longitudinal Seams | | N | 5 | |
| Total No. of Cracked Rings | 0 | | | |
| Total No. of Rings with Two Cracked Seams | | | | 1N stagger |
| Min. Remaining Steel Between Cracks (mm) | | | | |
| Proper Lap (Y/N) | No | | | |
| Longitudinal Stagger (Y/N) | Yes | | | |
| Coating | | N | 5 | |
| Corrosion By Soil (Y/N) | No | | | |
| 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): 1500, Type: SP) | | | | |
| Fish Passage Adequacy | | 5 | 5 | |
| Baffle | | N | X | |
| (Type :) | | | | |
| Waterway Adequacy | | 6 | 6 | (Silt stains on roof - high water capacity. 09/Mar/2007) |
| Icing (Y/N) | Yes | | | |
| Silting (Y/N) | Yes | | | |
| Drift (Y/N) | No | | | |
| Barrel General Rating | | N | 5 | |

| Downstream End | | | | |
|---|-------|----------|----------|--------------------------|
| Culvert Component | | Last | Now | Explanation of Condition |
| Direction | | S | | |
| 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) | 300 | | | |
| Scour Protection | | 7 | 7 | |
| (Type : RIP RAP) | | | | |
| (Avg. Rock Size(mm) : 250) | | | | |
| Scour/Erosion | | 7 | 7 | |
| Beavers (Y/N) | No | | | |
| Downstream End General Rating | | 6 | 6 | |

| Structure Usage | | | | |
|--------------------------------------|-----------|----------|----------|---|
| | | Last | Now | Explanation of Condition |
| Channel (U/S and D/S) | | | | |
| Alignment | | 7 | 7 | Meandering stream. |
| Bank Stability | | 7 | 7 | |
| HWM (m below Top of Culvert) | 0.0 | | | To crown-maybe higher, grass on roof bolts.-photo |
| Drift (Y/N) | No | | | |
| Channel Bottom Degrading/Aggrading | AGGRADING | | | Channel bottom lined with rock. |
| Beavers (Y/N) | No | | | |
| (Fish Compensation Measure 1 : NONE) | | | | |
| (Fish Compensation Measure 2 : NONE) | | | | |
| 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) (%) | 55.6/55.6 | Sufficiency Rating (Last/Now) (%) | 59.0/59.0 | Est. Repl. Yr | 2041 | Maint. Req. (Y/N) | No |
| Special Comments for Next Inspection | Monitor scour/erosion @ u/s bevel. | | 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 | Todd Warshawski | | Previous Assistant's Name | | | | |
| Next Inspection Date | 11-May-2014 | | Previous Inspection Date | 28-Sep-2010 | | | |
| Inspection Cycle (Default) (months) | 21 | | | | | | |
| Comment | | | | | | | |