

| Bridge Culvert Inspection | | | | |
|---------------------------|---|--|---------------------|----------------|
| Bridge File Number | 13864 -1 Bridge Culvert | | Form Type | CUL1 |
| Year Built | 1953 | | Lot No. | 1 |
| Bridge or Town Name | MYRNAM | | Inspector Name | Owen Salava |
| Located Over | TRIBUTARY TO SLAWA CREEK, 6.19.1, WATERCRS-ST | | Inspector Class | BR CLS A |
| Located On | 881:10 C1 0.200 | | Assistant Name | |
| Water Body Cl./Year | | | Assistant Class | |
| Navigabil. Cl./Year | | | Inspection Date | 08-Aug-2011 |
| Legal Land Location | NW SEC 11 TWP 54 RGE 9 W4M | | Data Entry By | Marcia Chavez |
| Longitude, Latitude | -111:13:51, 53:39:25 | | Data Entry Date | 16-Sep-2011 |
| Road Authority | Alberta Transportation (AIT) | | Reviewer Name | John O'Brien |
| Contract Main. Area | CMA15 | | Review Date | 15-Aug-2011 |
| Clear Roadway/Skew | 7.3 / 0 deg. | | Dept. Reviewer Name | Andrew Smikles |
| AADT/Year | 660 / 2010 (A) | | Dept. Review Date | 19-Sep-2011 |
| Road Classification | RCU-208-110 | | 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 | 2489 | 1753 | RPP | 45.1 | 152X51 | 3.5 | PIPE ARCH |
| Special Features | | | | | | | | |
| Special Features Comment | | | | | | | | |

| Utilities (Located at) | | | |
|------------------------|-----------------------------|---------------|----|
| Utility Attachments | | | |
| Telephone | East ditch. | Gas | |
| Power | 20m E of CL. & wire o/h. | Municipal | |
| Others | Superwet cable West row | Problem (Y/N) | No |
| Remarks | Power runs over E end.(50m) | | |

| Approach Road / Embankment | | | | |
|--|-------|----------|----------|---|
| | | Last | Now | Explanation of Condition |
| Horizontal Alignment | | 7 | 7 | Horiz. curve to S starts at culvert. Jct with Hwy 45 is 300m S. Road on minor grade. Located at S end of Myrnam. |
| Vertical Alignment | | 7 | 7 | |
| Roadway Width (m) | 7.300 | | | |
| Embankment | | 8 | 8 | |
| Sideslope (__:1) | 2.0 | | | |
| (Height of Cover(m) : 4.2) | | | | |
| Guardrail (Y/N) | No | | | |
| Approach Road / Embankment General Rating | | 7 | 7 | |

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

| Upstream End | | | | |
|---|-------------|----------|----------|---|
| Culvert Component | | Last | Now | Explanation of Condition |
| Cutoff Wall | | X | X | |
| Bevel End | | 5 | 5 | (2 punctures in S side. 1 dent in E side. Water corrosion. 06Jul2007). |
| Heaving (mm) | 30 | | | |
| Invert Above/Below Stream Bed | | | | Can't confirm invert height. |
| Above/Below (mm) | 0 | | | |
| Scour Protection | | 5 | 5 | |
| (Type : NATURAL) | | | | |
| (Avg. Rock Size(mm) :) | | | | |
| Scour/Erosion | | 5 | 5 | no scour. |
| Beavers (Y/N) | Yes | | | |
| Upstream End General Rating | | 5 | 5 | |
| Bridge Culvert Barrel | | | | |
| Culvert Component | | Last | Now | Explanation of Condition |
| (Pipe # : 1, Primary Span, Location Code: MAIN, Span (mm): 2489, Rise (mm): 1753, Type: RPP) | | | | |
| Barrel Last Accessible Date | 06-Jul-2007 | | | (Rings counted from U/S end of inlet bevel. E end R13 is part of old bevel w/ roof plates cut. Lower roof on E side R13 buckled out @ E end. 18-Mar-04). Can't confirm due to high water 1m deep; viewed from ends, appears OK. |
| Special Features | | | | |
| Special Feature | | | | |
| (Type :) | | | | |
| Special Feature | | | | |
| (Type :) | | | | |
| Roof | | N | N | (Rise @ E end R10 1540mm (12.2% sag). Span @ E end R10. 18Mar2004). Can't confirm due to high water. |
| Measured Rise (mm) | 1540 | | | |
| Measured At Ring No. | 10 | | | |
| Sag (mm) | 113 | | | Notes from 18Mar2004 suggest 12.4% sag, but could be 6.5% if adjusted for 100mm bulge - not sure. |
| Percent Sag | 7 | | | |
| Sidewall | | 6 | N | |
| Measured Span (mm) | 2580 | | | |
| Measured At Ring No. | 10 | | | |
| Deflection (mm) | 91 | | | (06Jul2007) |
| Percent Deflection | 3 | | | |
| Floor | | N | N | (Corroded plate at R9 - photos. 06Jul2007). |
| Bulge (mm) | 100 | | | |
| Measured At Ring No. | 9 | | | |
| Abrasion (Y/N) | | | | |
| Circumferential Seams | | N | N | |
| Separation (mm) | 0 | | | No bolts in crown area joining R13-14. Seam joining R6-7 mismatched with holes drilled through R7. Missing 12 bolts at circ. seam R5 to line up with R6 holes. No bolts in floor seam joining R6-7. 06Jul2007). |
| Longitudinal Seams | | 3 | N | |
| Total No. of Cracked Rings | 8 | | | (100mm steel remaining btwn cracks in longit. seams. ICE-09Jan2001). |
| Total No. of Rings with Two Cracked Seams | 0 | | | (Can't confirm. Water too deep at d/s end of barrel. <100mm remaining steel of lower seam N wall of R8 - photo. 06Jul2007). |
| Min. Remaining Steel Between Cracks (mm) | 100 | | | (09Jan2001) |
| Proper Lap (Y/N) | No | | | |
| Longitudinal Stagger (Y/N) | No | | | |

| Bridge Culvert Barrel | | | | |
|--|-------|----------|----------|--|
| Culvert Component | | Last | Now | Explanation of Condition |
| (Pipe # : 1, Primary Span, Location Code: MAIN, Span (mm): 2489, Rise (mm): 1753, Type: RPP) | | | | |
| Coating | | 5 | N | |
| Corrosion By Soil (Y/N) | No | | | |
| Corrosion By Water (Y/N) | Yes | | | |
| Camber POS/ZERO/NEG | ZERO | | | |
| Ponding (Y/N) | No | | | |
| Fish Passage Adequacy | | 7 | 7 | |
| Baffle | | X | X | |
| (Type :) | | | | |
| Waterway Adequacy | | 5 | 5 | |
| Icing (Y/N) | No | | | |
| Silting (Y/N) | Yes | | | |
| Drift (Y/N) | No | | | |
| Barrel General Rating | | 3 | 3 | GR carried forward from 06Jul2007. |
| Downstream 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 | |
| Bevel End | | N | N | (Missing bolts in roof to sidewall seam allowing plates to separate. 18Mar2004). |
| Heaving (mm) | 0 | | | |
| Invert Above/Below Stream Bed | | | | |
| Above/Below (mm) | 0 | | | |
| Scour Protection | | 6 | 6 | |
| (Type : RIP RAP) | | | | |
| (Avg. Rock Size(mm) : 300) | | | | |
| Scour/Erosion | | 6 | 6 | No scour. |
| Beavers (Y/N) | Yes | | | Beaver dam approx 40m D/S |
| Downstream End General Rating | | 4 | 4 | GR carried forward from 18Mar2004. |
| Structure Usage | | | | |
| | | Last | Now | Explanation of Condition |
| Channel (U/S and D/S) | | | | |
| Alignment | | 6 | 6 | D/S channel curves to S. |
| Bank Stability | | 8 | 8 | |
| HWM (m below Top of Culvert) | | | | HWM not visible. |
| Drift (Y/N) | Yes | | | |
| Channel Bottom Degrading/Aggrading | | | | Can't determine. Beaver at u/s end; dam 40m d/s. |
| Beavers (Y/N) | Yes | | | |

| Structure Usage | | | | |
|--|--|----------|----------|--------------------------|
| | | Last | Now | Explanation of Condition |
| (Fish Compensation Measure 1 : NONE) | | | | |
| (Fish Compensation Measure 2 : NONE) | | | | |
| Channel General Rating | | 6 | 6 | |

| 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 | 2012 | Dewater & inspect barrel. | | 2020 | | | | | | |
| OTHER ACTION | | | | | | | | | | |
| OTHER ACTION | | | | | | | | | | |
| OTHER ACTION | | | | | | | | | | |
| Structural Condition Rating (Last/Now) (%) | 33.3/33.3 | Sufficiency Rating (Last/Now) (%) | 44.9/45.1 | Est. Repl. Yr | 2020 | Maint. Req. (Y/N) | Yes | | | |
| Special Comments for Next Inspection | Need to dewater barrel to properly inspect. | | 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 | Jason Rusu | Previous Assistant's Name | | | | | | | | |
| Next Inspection Date | 08-Nov-2014 | Previous Inspection Date | 06-Jul-2007 | | | | | | | |
| Inspection Cycle (Default) (months) | 39 | | | | | | | | | |
| Comment | | | | | | | | | | |

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 | 2012 | Dewatear & inspect barrel. | Defer | | | |
| OTHER ACTION | | | | | | |
| OTHER ACTION | | | | | | |
| OTHER ACTION | | | | | | |
| Structural Condition Rating (Last/Now) (%) | 33.3/33.3 | Sufficiency Rating (Last/Now) (%) | 44.9/45.1 | Est. Repl. Yr | 2020 | Maint. Req. (Y/N) Yes |
| Special Comments for Next Inspection | Need to dewater barrel to properly inspect. | | Department Comments | Tentatively programmed to be replaced in 2022. AS | | |
| Maintenance Reviewed By | Andrew Smikles | | Date | 22-Aug-2012 | Estimated Total | 0 |
| Proposed Long-Term Strategy | | | | | | |
| On 3-Year Program (Y/N) | | | | | | |
| Proposed Action | | | | | | |
| Previous Inspector's Name | Jason Rusu | | Previous Assistant's Name | | | |
| Next Inspection Date | 08-Nov-2014 | | Previous Inspection Date | 06-Jul-2007 | | |
| Inspection Cycle (Default) (months) | 39 | | | | | |
| Comment | | | | | | |