

| Bridge Culvert Inspection | | | | |
|---------------------------|----------------------------------|--|---------------------|---------------|
| Bridge File Number | 72008 -1 Bridge Culvert | | Form Type | CUL1 |
| Year Built | 1973 | | Lot No. | 2 |
| Bridge or Town Name | BEARBERRY | | Inspector Name | Owen Salava |
| Located Over | BREAD CREEK, 3.95.4, WATERCRS-ST | | Inspector Class | BR CLS A |
| Located On | 734:12 C1 43.647 | | Assistant Name | |
| Water Body Cl./Year | | | Assistant Class | |
| Navigabil. Cl./Year | | | Inspection Date | 30-Nov-2010 |
| Legal Land Location | SW SEC 32 TWP 33 RGE 8 W5M | | Data Entry By | Marcia Chavez |
| Longitude, Latitude | -115:06:17, 51:52:13 | | Data Entry Date | 02-Jan-2011 |
| Road Authority | Alberta Transportation (AIT) | | Reviewer Name | John O'Brien |
| Contract Main. Area | CMA18 | | Review Date | 16-Dec-2010 |
| Clear Roadway/Skew | 7 / 0 deg. | | Dept. Reviewer Name | Chris Black |
| AADT/Year | 100 / 2009 (A) | | Dept. Review Date | 05-Jan-2011 |
| Road Classification | RLU-208G-90 | | Follow-Up By | |
| Detour Length (km) | 200 | | | |

| Bridge Culvert Information | | | | | | | | |
|----------------------------|--------|------|----------------|------|--------|---------------|--------------------|-------|
| Number of Culverts | | 1 | | | | | | |
| Pipe # | Barrel | Span | Rise (or Dia.) | Type | Length | Corr. Profile | PI./Slab Thickness | Shape |
| 1 | MAIN | - | 2438 | SP | 32 | 152X51 | 2.8 | ROUND |
| Special Features | | | | | | | | |
| Special Features Comment | | | | | | | | |

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

| Approach Road / Embankment | | | | |
|--|-------|----------|----------|--|
| | | Last | Now | Explanation of Condition |
| Horizontal Alignment | | 4 | 4 | 584 intersection 50m N. Curve 75m N. Hill to the N & S. On #734, limited sight distance. |
| Vertical Alignment | | 4 | 4 | |
| Roadway Width (m) | 7.000 | | | |
| Embankment | | 4 | 4 | Scour / erosion, East embankment - photo. |
| Sideslope (__:1) | 2.0 | | | |
| (Height of Cover(m) : 2.4) | | | | |
| Guardrail (Y/N) | No | | | |
| Approach Road / Embankment General Rating | | 4 | 4 | |

| Upstream End | | | | |
|---|------|------|-----|--------------------------|
| Culvert Component | | Last | Now | Explanation of Condition |
| Direction | | W | | |
| End Treatment (Concrete, Steel, Others, None) | NONE | | | |
| 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 | | X | X | No bevel. |
| Heaving (mm) | 400 | | | |
| Invert Above/Below Stream Bed | BELOW | | | |
| Above/Below (mm) | 100 | | | |
| Scour Protection (Type : RIP RAP) | | 5 | N | (Repaired but virgin & suseptable to erosion. 23Nov2005). Snow covered. |
| (Avg. Rock Size(mm) : 400) | | | | |
| Scour/Erosion | | 5 | N | (Too much granular, not enough armour rock. 23Nov2005). |
| Beavers (Y/N) | No | | | |
| Upstream End General Rating | | 5 | 5 | GR carried forward from 23Nov2005. |
| Bridge Culvert Barrel | | | | |
| Culvert Component | | Last | Now | Explanation of Condition |
| (Pipe # : 1 , Primary Span, Location Code: MAIN , Span (mm): , Rise (mm): 2438 , Type: SP) | | | | |
| Barrel Last Accessible Date | 30-Nov-2010 | | | |
| Special Features | | | | |
| Special Feature | | | | |
| (Type :) | | | | |
| Special Feature | | | | |
| (Type :) | | | | |
| Roof | | 7 | 7 | Not measured due to ice. |
| Measured Rise (mm) | 2517 | | | |
| Measured At Ring No. | 6 | | | |
| Sag (mm) | 35 | | | |
| Percent Sag | 1 | | | (1.4%. 23Nov2005). |
| Sidewall | | 6 | 6 | |
| Measured Span (mm) | 2380 | | | |
| Measured At Ring No. | 6 | | | |
| Deflection (mm) | 66 | | | 2.8% |
| Percent Deflection | 3 | | | |
| Floor | | N | N | (Hole @ ring 10. Oct. 16/02). (Holes in ring 1 - photo. 23Nov2005). Not visible, under ice. |
| Bulge (mm) | 0 | | | |
| Measured At Ring No. | | | | |
| Abrasion (Y/N) | No | | | |
| Circumferential Seams | | 5 | 5 | Damage @ seam, ring 6 - minor crimping. |
| Separation (mm) | 0 | | | |
| Longitudinal Seams | | 5 | 5 | |
| Total No. of Cracked Rings | 0 | | | |
| Total No. of Rings with Two Cracked Seams | | | | |
| Min. Remaining Steel Between Cracks (mm) | | | | |
| Proper Lap (Y/N) | No | | | |
| Longitudinal Stagger (Y/N) | Yes | | | |
| Coating | | 3 | N | (Small perforations in floor of ring 1 - photo. 23Nov2005). |
| 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): 2438, Type: SP) | | | | |
| Fish Passage Adequacy | | 7 | 7 | |
| Baffle | | X | X | |
| (Type :) | | | | |
| Waterway Adequacy | | 7 | 7 | |
| Icing (Y/N) | No | | | |
| Silting (Y/N) | No | | | |
| Drift (Y/N) | No | | | |
| Barrel General Rating | | 4 | 4 | |
| 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 | | 4 | 4 | (Bevel is undermined - photo. 02/10/16). (Armoured by rocks. 23Nov2005). Bevel slightly bent out of shape - photo. Minor. |
| Heaving (mm) | 0 | | | |
| Invert Above/Below Stream Bed | ABOVE | | | |
| Above/Below (mm) | 500 | | | |
| Scour Protection | | 4 | N | (Repaired but insufficient rock @ NE bevel - photo. 23Nov2005). Snow covered. |
| (Type : RIP RAP) | | | | |
| (Avg. Rock Size(mm) : 400) | | | | |
| Scour/Erosion | | 4 | N | (Too much granular, not enough rock. 23Nov2005). Eroding beside bevel @ NE embankment - photo. |
| Beavers (Y/N) | No | | | |
| Downstream End General Rating | | 4 | 4 | |
| Structure Usage | | | | |
| | | Last | Now | Explanation of Condition |
| Channel (U/S and D/S) | | | | |
| Alignment | | 6 | 6 | |
| Bank Stability | | 4 | 4 | NE bank erosion caused by velocity of flow during high water & granular material susceptible to erosion. |
| HWM (m below Top of Culvert) | 3.5 | | | |
| Drift (Y/N) | Yes | | | |
| Channel Bottom Degrading/Aggrading | DEGRADING | | | |
| Beavers (Y/N) | No | | | |
| (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 | 2011 | 30 yrds Class II, N side outlet. | | | | | | | | | |
| REMOVE DRIFT ACCUMULATION | | | | | | | | | | | |
| INSTALL CONCRETE/STEEL LINING | | | | | | | | | | | |
| INSTALL STRUTS | | | | | | | | | | | |
| INSTALL CONCRETE COLLAR/CUTOFF | | | | | | | | | | | |
| REPAIR SEAMS | | | | | | | | | | | |
| OTHER ACTION | 2011 | Replace U/S bevel. | | | | | | | | | |
| OTHER ACTION | | | | | | | | | | | |
| OTHER ACTION | | | | | | | | | | | |
| OTHER ACTION | | | | | | | | | | | |
| Structural Condition Rating (Last/Now) (%) | 44.4/44.4 | Sufficiency Rating (Last/Now) (%) | 45.0/45.0 | Est. Repl. Yr | 2015 | Maint. Req. (Y/N) | Yes | | | | |
| Special Comments for Next Inspection | Check culvert section 6 for further deterioration, unchanged at this time, 30Nov2010. Department Comments | | | | | | | | | | |
| Maintenance Reviewed By | | | Date | Estimated Total | | | | | | | 0 |
| Proposed Long-Term Strategy | 2004.05.30 Culvert should be okay until 2013. Replace if Hwy 734 upgraded. | | | | | | | | | | |
| On 3-Year Program (Y/N) | | | | | | | | | | | |
| Proposed Action | | | | | | | | | | | |
| Previous Inspector's Name | Dave Lam | | Previous Assistant's Name | | | | | | | | |
| Next Inspection Date | 28-Feb-2014 | | Previous Inspection Date | 23-Nov-2005 | | | | | | | |
| 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 | 2011 | 30 yrds Class II, N side outlet. | Scheduled replacement 2015 | | | |
| REMOVE DRIFT ACCUMULATION | | | | | | |
| INSTALL CONCRETE/STEEL LINING | | | | | | |
| INSTALL STRUTS | | | | | | |
| INSTALL CONCRETE COLLAR/CUTOFF | | | | | | |
| REPAIR SEAMS | | | | | | |
| OTHER ACTION | 2011 | Replace U/S bevel. | Scheduled replacement 2015 | | | |
| OTHER ACTION | | | | | | |
| OTHER ACTION | | | | | | |
| OTHER ACTION | | | | | | |
| Structural Condition Rating (Last/Now) (%) | 44.4/44.4 | Sufficiency Rating (Last/Now) (%) | 45.0/45.0 | Est. Repl. Yr | 2015 | Maint. Req. (Y/N) Yes |
| Special Comments for Next Inspection | Check culvert section 6 for further deterioration, unchanged at this time, 30Nov2010. | | Department Comments | Design for pipe replacement complete. Current schedule year to be replaced is 2015. AS | | |
| Maintenance Reviewed By | Andrew Smikles | | Date | 04-Apr-2012 | Estimated Total | 0 |
| Proposed Long-Term Strategy | 2004.05.30 Culvert should be okay until 2013. Replace if Hwy 734 upgraded. | | | | | |
| On 3-Year Program (Y/N) | | | | | | |
| Proposed Action | | | | | | |
| Previous Inspector's Name | Dave Lam | | Previous Assistant's Name | | | |
| Next Inspection Date | 28-Feb-2014 | | Previous Inspection Date | 23-Nov-2005 | | |
| Inspection Cycle (Default) (months) | 39 | | | | | |
| Comment | | | | | | |