

| Bridge Culvert Inspection |                               |  |                     |                 |
|---------------------------|-------------------------------|--|---------------------|-----------------|
| Bridge File Number        | 81649 -1 Bridge Culvert       |  | Form Type           | CUL1            |
| Year Built                | 1968                          |  | Lot No.             | 4               |
| Bridge or Town Name       | PEACE RIVER                   |  | Inspector Name      | Brian Pientsch  |
| Located Over              | TRAIL-PED, OVER 50000 PS      |  | Inspector Class     | BR CLS A        |
| Located On                | 2:60 L1 37.977;2:60 R1 37.978 |  | Assistant Name      |                 |
| Water Body Cl./Year       |                               |  | Assistant Class     |                 |
| Navigabil. Cl./Year       |                               |  | Inspection Date     | 14-Dec-2012     |
| Legal Land Location       | SW SEC 32 TWP 83 RGE 21 W5M   |  | Data Entry By       | Theresa Lacusta |
| Longitude, Latitude       | -117:17:22, 56:14:21          |  | Data Entry Date     | 24-Jan-2013     |
| Road Authority            | Alberta Transportation (AIT)  |  | Reviewer Name       | Eric Carcoux    |
| Contract Main. Area       | CMA04                         |  | Review Date         | 08-Jan-2013     |
| Clear Roadway/Skew        | 18.7 /                        |  | Dept. Reviewer Name | David Morrison  |
| AADT/Year                 | 5,140 / 2011 (A)              |  | Dept. Review Date   | 21-Mar-2013     |
| Road Classification       | RAD-412.4-120                 |  | Follow-Up By        |                 |
| Detour Length (km)        | 5                             |  |                     |                 |

| Bridge Culvert Information |        |      |                |      |        |               |                    |       |
|----------------------------|--------|------|----------------|------|--------|---------------|--------------------|-------|
| Number of Culverts         |        | 1    |                |      |        |               |                    |       |
| Pipe #                     | Barrel | Span | Rise (or Dia.) | Type | Length | Corr. Profile | PI./Slab Thickness | Shape |
| 1                          | MAIN   | -    | 2743           | SP   | 38.1   | 152X51        | 2.8                | ROUND |
| Special Features           |        |      |                |      |        |               |                    |       |
| Special Features Comment   |        |      |                |      |        |               |                    |       |

| Posting Information                  |      |    |               |  |                  |    |      |    |               |  |                  |    |
|--------------------------------------|------|----|---------------|--|------------------|----|------|----|---------------|--|------------------|----|
| Required Vert. Clearance Posting (m) |      |    |               |  |                  |    |      |    |               |  |                  |    |
| Posted Vertical Clearance (Y/N)      |      |    | No            |  |                  |    |      |    |               |  |                  |    |
| Posted:                              | Lane | NB | On Bridge (m) |  | In Advance (Y/N) | No | Lane | SB | On Bridge (m) |  | In Advance (Y/N) | No |
| Remarks                              |      |    |               |  |                  |    |      |    |               |  |                  |    |

| Utilities (Located at) |                  |  |               |                |
|------------------------|------------------|--|---------------|----------------|
| Utility Attachments    |                  |  |               |                |
| Telephone              | 20m South.       |  | Gas           |                |
| Power                  | Through culvert. |  | Municipal     | Street lights. |
| Others                 |                  |  | Problem (Y/N) | No             |
| Remarks                |                  |  |               |                |

| Approach Road / Embankment                       |        |          |          |  |
|--|--------|----------|----------|--|
|  |        | Last     | Now      | Explanation of Condition   |
| Horizontal Alignment                             |        | 8        | 8        | Pedestrian roadway width 1.9 m.<br>10.2 m westbound, 8.5 m eastbound. (2005/10/19) |
| Vertical Alignment                               |        | 8        | 8        |  |
| Roadway Width (m)                                | 18.700 |          |          |  |
| Embankment                                       |        | 7        | N        | Snow covered.  |
| Sideslope (__:1)                                 | 3.0    |          |          |  |
| (Height of Cover(m) : 1)                         |        |          |          |  |
| Guardrail (Y/N)                                  | Yes    |          |          |  |
| <b>Approach Road / Embankment General Rating</b> |        | <b>8</b> | <b>8</b> |  |

| Upstream End                                  |          |      |     |  |
|---|----------|------|-----|--|
| Culvert Component                             |          | Last | Now | Explanation of Condition   |
| Direction                                     |          | N    |     |  |
| End Treatment (Concrete, Steel, Others, None) | CONCRETE |      |     |  |
| Headwall                                      |          | 6    | N   | Snow covered   |
| Collar  |          | 6    | N   | Random medium lateral cracks concrete.-01-Sep-2011<br>Snow covered |

| Upstream End  |             |          |          |  |
|---|-------------|----------|----------|--|
| Culvert Component   |             | Last     | Now      | Explanation of Condition   |
| Wingwalls<br>(Shape : )   |             | X        | X        |  |
| Cutoff Wall   |             | X        | X        |  |
| Bevel End   |             | 5        | 5        |  |
| Heaving (mm)  | 0           |          |          |  |
| Invert Above/Below Stream Bed   |             |          |          |  |
| Above/Below (mm)  |             |          |          |  |
| Scour Protection<br>(Type : <b>NATURAL</b> )<br>(Avg. Rock Size(mm) : )                 |             | 5        | 5        |  |
| Scour/Erosion   |             | 5        | 5        |  |
| Beavers (Y/N)   | No          |          |          |  |
| <b>Upstream End General Rating</b>  |             | <b>5</b> | <b>5</b> |  |
| Bridge Culvert Barrel   |             |          |          |  |
| Culvert Component   |             | Last     | Now      | Explanation of Condition   |
| (Pipe # : 1, Primary Span, Location Code: MAIN, Span (mm): , Rise (mm): 2743, Type: SP) |             |          |          |  |
| Barrel Last Accessible Date   | 14-Dec-2012 |          |          |  |
| <b>Special Features</b>   |             |          |          |  |
| Special Feature<br>(Type : )  |             |          |          | Concrete roof outcrop & steel supports   |
| Special Feature<br>(Type : )  |             |          |          |  |
| Roof  |             | 2        | 4        | Rise not measured, concrete floor.<br>Corrosion occurring at both barrel ends due to exposure on exterior from highway salt on both embankments. |
| Measured Rise (mm)  |             |          |          |  |
| Measured At Ring No.  |             |          |          |  |
| Sag (mm)  | 0           |          |          |  |
| Percent Sag   | 6           |          |          |  |
| Sidewall  |             | 2        | 4        | Additional concrete placed in the floor covering the rusted area in sidewall.  |
| Measured Span (mm)  | 2590        |          |          |  |
| Measured At Ring No.  | 11          |          |          |  |
| Deflection (mm)   |             |          |          |  |
| Percent Deflection  | 7           |          |          |  |
| Floor   |             | N        | N        | Concrete floor in good condition.<br>Wide cracking across concrete floor @ ring 11 where tying int bridge overpass.                              |
| Bulge (mm)  | 0           |          |          |  |
| Measured At Ring No.  |             |          |          |  |
| Abrasion (Y/N)  | No          |          |          |  |
| Circumferential Seams   |             | 7        | 7        |  |
| Separation (mm)   | 0           |          |          |  |
| Longitudinal Seams  |             | 7        | 7        |  |
| 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   |             | 1        | 4        | New concrete floor has covered perforations. Scaling rust at ends of barrel on sidewalls.-photo - ring 1 & 2                                     |
| Corrosion By Soil (Y/N)   | Yes         |          |          |  |
| Corrosion By Water (Y/N)  | Yes         |          |          |  |

| Bridge Culvert Barrel   |      |          |          |                          |
|---|------|----------|----------|--------------------------|
| Culvert Component   |      | Last     | Now      | Explanation of Condition |
| (Pipe # : 1, Primary Span, Location Code: MAIN, Span (mm): , Rise (mm): 2743, Type: SP) |      |          |          |                          |
| Camber POS/ZERO/NEG   | ZERO |          |          |                          |
| Ponding (Y/N)   | No   |          |          |                          |
| Fish Passage Adequacy   |      | X        | X        |                          |
| Baffle  |      | X        | X        |                          |
| (Type : )   |      |          |          |                          |
| Waterway Adequacy   |      | X        | X        |                          |
| Icing (Y/N)   | No   |          |          |                          |
| Siltng (Y/N)  | No   |          |          |                          |
| Drift (Y/N)   | No   |          |          |                          |
| <b>Barrel General Rating</b>  |      | <b>2</b> | <b>4</b> |                          |

| Downstream End                                |          |          |          |   |
|---|----------|----------|----------|---|
| Culvert Component                             |          | Last     | Now      | Explanation of Condition                        |
| Direction                                     |          | S        |          |   |
| End Treatment (Concrete, Steel, Others, None) | CONCRETE |          |          |   |
| Headwall                                      |          | 6        | N        | Snow  |
| Collar  |          | 6        | N        | Random medium width lateral cracks.-01-Sep-2011 |
| Wingwalls                                     |          | X        | X        |   |
| (Shape : )                                    |          |          |          |   |
| Cutoff Wall                                   |          | X        | X        |   |
| Bevel End                                     |          | 3        | 5        | New concrete floor covers perforations.         |
| Heaving (mm)                                  | 0        |          |          |   |
| Invert Above/Below Stream Bed                 |          |          |          |   |
| Above/Below (mm)                              |          |          |          |   |
| Scour Protection                              |          | 5        | 5        |   |
| (Type : <b>NATURAL</b> )                      |          |          |          |   |
| (Avg. Rock Size(mm) : )                       |          |          |          |   |
| Scour/Erosion                                 |          | 5        | 5        |   |
| Beavers (Y/N)                                 | No       |          |          |   |
| <b>Downstream End General Rating</b>          |          | <b>3</b> | <b>5</b> |   |

| Structure Usage         |           |      |     |                          |
|-------------------------|-----------|------|-----|--------------------------|
|                         |           | Last | Now | Explanation of Condition |
| <b>Grade Separation</b> |           |      |     |                          |
| Road Alignment          |           | X    | X   |                          |
| Roadway Surface         |           | 8    | 8   |                          |
| (Type : <b>ACP</b> )    |           |      |     |                          |
| Icing (Y/N)             | No        |      |     |                          |
| Traffic Safety Features |           | 7    | 7   |                          |
| Type                    | Guardrail |      |     |                          |
| Lighting                |           | 4    | 7   |                          |
| Barrel Leakage (Y/N)    | No        |      |     |                          |

| <b>Structure Usage</b>                 |     |             |            |   |
|--|-----|-------------|------------|---|
|  |     | <b>Last</b> | <b>Now</b> | <b>Explanation of Condition</b>   |
| Drainage                               |     | 4           | N          | Minor drainage scaring on embankment slopes.-01-Sep-2011<br>Snow cover. |
| Structure In Use (Y/N)                 | Yes |             |            |   |
| <b>Grade Separation General Rating</b> |     | <b>4</b>    | <b>4</b>   | GR carried forward from 01-Sep-2011                                     |

| 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>22.2/44.4</b>   | <b>Sufficiency Rating (Last/Now) (%)</b> | <b>47.9/59.4</b>          | Est. Repl. Yr | 2019      | Maint. Req. (Y/N) | No |
| Special Comments for Next Inspection              | Monitor drainage on S side.<br>Monitor corrosion at barrel ends. |  | 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                         | Colin Roy  |  | Previous Assistant's Name |               |           |                   |    |
| Next Inspection Date                              | 14-Sep-2014  |  | Previous Inspection Date  | 01-Sep-2011   |           |                   |    |
| Inspection Cycle (Default) (months)               | 21   |  |                           |               |           |                   |    |
| Comment   |  |  |                           |               |           |                   |    |