AGENDA
COUNCIL MEETING
MUNICIPAL DISTRICT OF PINCHER CREEK NO. 9
July 12, 2022 6:00 pm
Council Chambers

A. ADOPTION OF AGENDA

B. PUBLIC HEARING BYLAW 1338-22
   a) Agenda
   b) Bylaw 1338-22
   c) Written Responses Received

C. DELEGATION

D. MINUTES/NOTES
   1. Committee Meeting Minutes
      - June 28, 2022
   2. Council Meeting Minutes
      - June 28, 2022

E. BUSINESS ARISING FROM THE MINUTES

F. UNFINISHED BUSINESS
   a) Appointment of CAO

G. COMMITTEE REPORTS / DIVISIONAL CONCERNS
   1. Councillor Tony Bruder – Division 1
      - ORRSC Cryptocurrency Mining
      - ASB Minutes June 1, 2022
   2. Reeve Rick Lemire – Division 2
   3. Councillor Dave Cox– Division 3
   4. Councillor Harold Hollingshead - Division 4
   5. Councillor John MacGarva – Division 5

H. ADMINISTRATION REPORTS

   1. Operations

      a) Operations Report
         - Report from Public Works dated July 7, 2022
         - Public Works Call Log
      b) Airfield Lighting Replacement – Tender Update
         - Report from Administration dated July 5, 2022
      c) 10 Year Bridge Structure Asset Management Plan
         - Report from Administration, dated July 6, 2022
      d) BF 76294 Range Road 15 Over a 2nd Tributary to Castle River
         - Report from Administration, dated July 6, 2022

   2. Finance

      a) Municipal Asset Management Program Grant Application
         - Report from Administration, dated July 7, 2022

   3. Planning and Community Services

      a) AES Activity Reports
         - Report from AES for June and July 2022

   4. Municipal

      a) Interim Chief Administrative Officer Report
         - Report from Interim CAO, dated July 7, 2022
      b) Art for Municipal Building
         - Report from Administration, dated July 7, 2022

I. POLICY REVIEW

      a) Corporate Policies C-FIN 529 & C-PW-001
         - Report from Administration, dated July 6, 2022

J. CORRESPONDENCE

1. For Action

a) RMA Fall 2022 Convention Invite
   - Invitation to meet with Minister McIver

b) South West Waste Management concerns
   - Letter received June 30, 2022

c) Ag for Life – Connecting Kids to Agriculture
   - Request for Funding

2. For Information

a) Allied Arts Council
   - MD Invitation to Balcony Concerts

b) Alberta Transportation Southern Region Open Golf Tournament
   - Invitation to attend Golf Tournament August 16, 2022

K. NEW BUSINESS

L. CLOSED MEETING SESSION

a) Employer Labor Negotiations Committee – FOIP Sec. 17

b) Pincher Creek Emergency Services Commission Funding - FOIP Sec. 17

M. ADJOURNMENT

PUBLIC HEARING
Municipal District of Pincher Creek No. 9
Bylaw No. 1338-22
Tuesday, July 12, 2022
6:00 pm

1. Call Public Hearing to Order

2. Advertising requirement

3. Purpose of the hearing

   The purpose of Bylaw No. 1338-22 being the bylaw to amend Bylaw 1289-18 (being the Land Use Bylaw) to change the land use designation of lands legally described as a portion of Block OT, Plan 2420JK within NE 27-4-28 W4M from “Agriculture - A” to “Rural Recreation 1 – RR1”; and whereas the purpose of the proposed amendment is to allow for the development of a campground.

4. Presentations:

   VERBAL:

   WRITTEN:

   a) Alberta Environment and Parks
   b) Alberta Transportation

5. Closing Comments

6. Adjournment from Public Hearing

MUNICIPAL DISTRICT OF PINCHER CREEK NO. 9
BYLAW NO. 1338-22

Being a bylaw of the Municipal District of Pincher Creek No. 9 in the Province of Alberta, to amend Bylaw No. 1289-18, being the Land Use Bylaw.

WHEREAS Section 639 of the Municipal Government Act, Revised Statutes of Alberta 2000, Chapter M-26, as amended, provides that a municipality must pass a Land Use Bylaw; and

WHEREAS The Municipal District of Pincher Creek No. 9 is in receipt of a request to change the land use designation of lands legally described as:

A portion of Block OT, Plan 2420JK within NE 27-4-28 W4M

And as shown on Schedule 'A' attached hereto, from "Agriculture - A" to "Rural Recreation 1 – RR1"; and

WHEREAS The purpose of the proposed amendment is to allow for the development of a campground;

NOW THEREFORE, under the authority and subject to the provisions of the *Municipal Government Act*, Revised Statutes of Alberta 2000, Chapter M-26, as amended, the Council of the Municipal District of Pincher Creek No. 9, in the Province of Alberta, duly assembled does hereby enact the following:

1. This bylaw shall be cited as "Land Use Bylaw Amendment No. 1338-22".

2. Amendments to Land Use Bylaw No. 1289-18 as per "Schedule A" attached.

3. This bylaw shall come into force and effect upon third and final passing thereof.

READ a first time this 14 day of June , 2022.

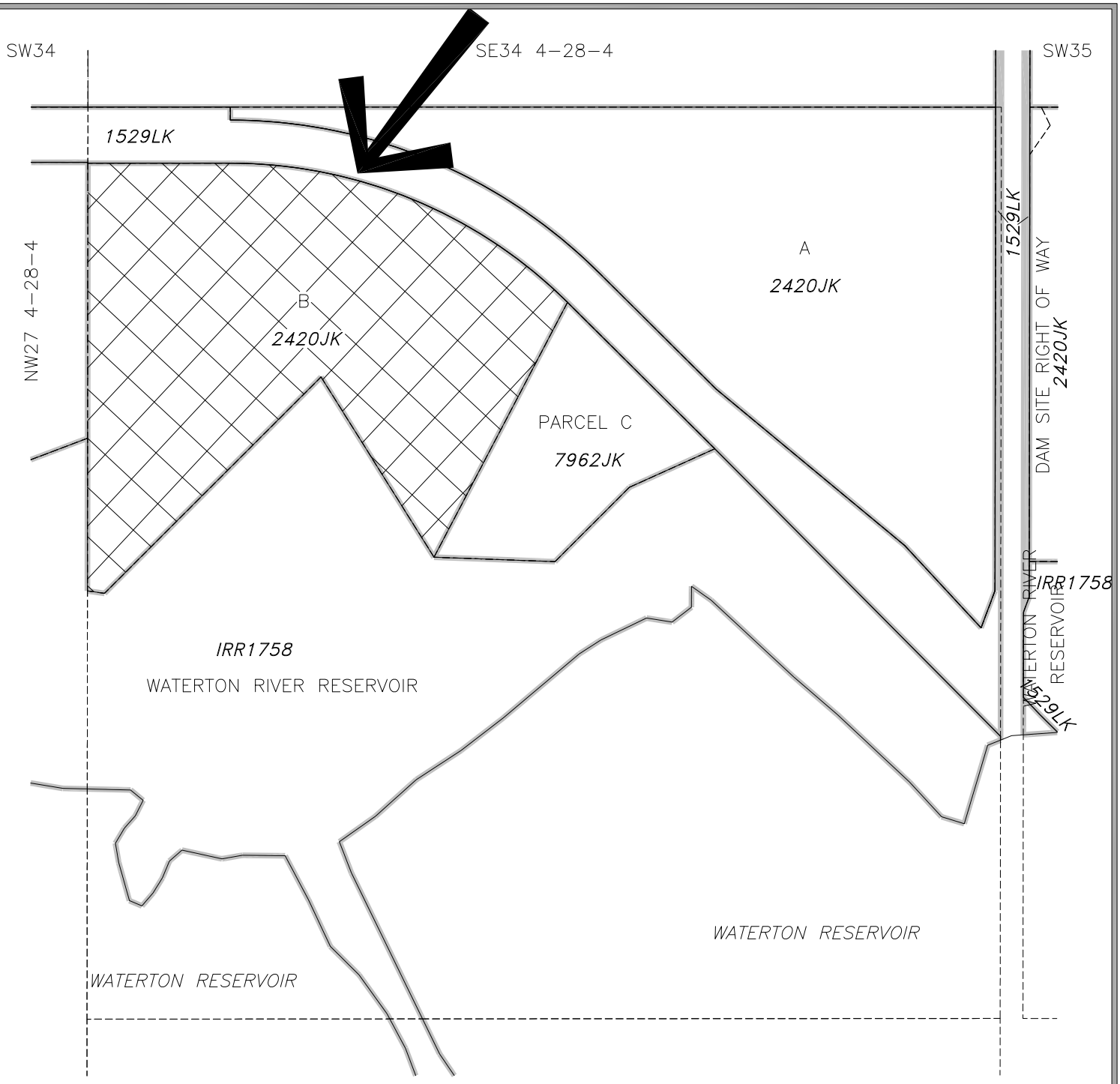
A PUBLIC HEARING was held this ____ day of _____, 2022.

READ a second time this ____ day of _____, 2022.

READ a third time and finally PASSED this ____ day of _____, 2022.

Reeve	***(Interim) Chief Administrative Officer***
Rick Lemire	*Roland Milligan*

Attachment
- "Schedule A"



LAND USE DISTRICT REDESIGNATION
SCHEDULE 'A'

FROM: Agriculture 'A'

TO: Rural Recreation 1 'RR-1'

DAM SITE B, PLAN 2420JK WITHIN
NE 1/4 SEC 27, TWP 4, RGE 28, W4 M
MUNICIPALITY: MUNICIPAL DISTRICT OF PINCHER CREEK
DATE: JUNE 14, 2022

Bylaw #: **1338-22**

Date: _____

OLDMAN RIVER REGIONAL SERVICES COMMISSION

0 Metres 100 200 300 400

N

MAP PREPARED BY:
OLDMAN RIVER REGIONAL SERVICES COMMISSION
3105 16th AVENUE NORTH, LETHBRIDGE, ALBERTA T1H 5E8
TEL. 403-329-1344

"NOT RESPONSIBLE FOR ERRORS OR OMISSIONS"

January 07, 2021 N:\Pincher-Creek-MD\Pincher-Creek-MD LUD & Land Use Redesignations\MD of Pincher Creek - Bylaw No.1324-21 Dam Site B, Plan 2020JK.dwg

Bc

Water Infrastructure Operations Branch
2nd Floor, Provincial Building
200-5 Avenue South
Lethbridge, Alberta T1J 4L1
Telephone: 403-381-5300
Fax: 403-381-5969

File: 32/806

May 19, 2022

Glenda Kettles
VIA Email @ glendakettles@msn.com

RE: Proposed Development (previously Bylaw 1324-21)
NW 27-004-28-W4

Dear Ms. Kettles,

Thank you for the submitting your revised plans for the proposed seasonal campground at NW 27-004-28-W4 and the opportunity to provide comments as it relates to the water management infrastructure in the area.

Further to the letter dated February 2, 2021 to the MD of Pincher creek and associated Memorandum, dated February 5, 2021, the response from Water Infrastructure and Operations Branch (WIOB) remains the same: Due to flooding concerns that could result from a major event, WIOB does not support the proposed activity. Any agreements related to development that may result from your most recent proposal will be strictly between you and the municipality.

If you have any questions or concerns, please contact the WIOB Land Team at AEP.OIBLands@gov.ab.ca.

Sincerely,

Jessica Firth
Land Management Technologist

Enclosure

cc: M.D. of Pincher Creek (via email)
L. Wegwitz (via email)

JF:10632

Classification: Protected A

Alberta Environment and Parks

Water Infrastructure Operations Branch
2nd Floor, Provincial Building
200-5 Avenue South
Lethbridge, Alberta T1J 4L1
Telephone: 403-381-5300
Fax: 403-381-5969

File: 32/806

February 2, 2021

M.D. of Pincher Creek No. 9
PO Box 279
Pincher Creek, Alberta
T0K 1W0

Attention: Roland Milligan
Director of Development and Community Services

RE: Proposed Bylaw No 1324-21
NW 27-004-28-W4

Thank you for the opportunity to respond to **Proposed Bylaw 1324-21.** Water Infrastructure Operations Branch provides the following:

Waterton Reservoir is a multi-use facility however, its primary purpose is water supply. Alberta Environment and Parks is responsible for operating and maintaining the reservoir to store water during runoff periods for use during other times of the year and to provide a small degree of flood attenuation.

The proposed development lies on land that would be inundated by high reservoir levels and flood flows during and extreme event. The Emergency Preparedness Plan for Waterton Dam which is shared annually shows this routing and it appears that it may not have been referenced for the proposal. In addition, there is a future construction plan involving the Waterton Dam infrastructure and as a result the proposed development area, referred to as the west overflow section, will remain a primary concern for flood flow handling. Please refer to the supporting documentation enclosed for detailed information.

Due to the flooding concerns potentially directly impacting the proposed development, Water Infrastructure Operations Branch does not support rezoning this land from agriculture to rural recreation.

JF:10500

Classification: Protected A

If you have any questions or concerns, please contact me via email at AEP.OIBLands@gov.ab.ca or by phone at 403-388-8165.

Sincerely,

Jessica Firth
Land Management Technologist

Enclosure

cc: P. Elser
L. Wegwitz

JF:10500
Classification: Protected A

Feb 5, 2021

Memorandum
Waterton Dam
Proposed Recreational Development
NW, NE 27-4-28-W4

The proposed recreational development area is unsuited for recreational development. It is an identified area for flood flow handling as an auxiliary spillway. The area will be inundated at high reservoir levels below a maximum flood level. At inflows approaching very high rates, the area becomes flood flow passage. An annual updated Emergency Preparedness Plan for Waterton Dam can be referenced for more information, specifically showing the flood flow passage through the N 1/2 27-4-28 W4.

In 2011/2022 Alberta Environment commissioned Northwest Hydraulic Consultants Ltd. to conduct a Dam Breach Inundation Study of the Waterton Dam and to provide inundation maps which are required to prepare an Emergency Preparedness Plan (EPP) and an Emergency Response Plan (ERP). This is a part of the due diligence required by a Dam Owner under the Canadian Dam Association Guidelines.

This very detailed report which identifies the flood risk and inundation paths based on flood events from standardized hydrology. During the Inundation Study, the original design and existing geometry of the dam and surrounding geography is modelled to produce detailed overland flooding. The spill capacity of the structure and most optimum flood handling strategy is included in the report, with the end result to determine how to prevent or mitigate a catastrophic dam failure through an overtopping scenario.

From the report's executive summary this section quoted in its entirety describes maximum flood flow handling. A bolded section highlights information about the west dyke section.

> *The outlet structures of the Waterton Dam include a gated service spillway, a low level diversion outlet tunnel, and an irrigation canal outlet structure. The spillway is controlled by seven radial gates and it has a discharge capacity of 1360 m3/s at the FSL. The capacity of the spillway is insufficient to safely pass the probable maximum flood (PMF) updated in 2010. However, there are some* ***sections along the west and east dykes of the reservoir where the top elevations are lower than the top of the main dam. Overflow via these low sections would occur during the PMF event and would prevent overtopping of the main dam.*** *Reservoir routing analysis was undertaken to predict the response of the reservoir during the PMF event. Results of seven scenarios of various combinations of spillway gate openings and hypothetical dyke modifications indicate that the main dam will not be overtopped by the PMF even if the spillway gates are closed and inoperative. The west dyke can be considered as an auxiliary spillway and outflow via the dyke has no detrimental impacts to the downstream area. However, the east dyke would be overtopped first as it is currently lower than the west dyke. Overflow via the east dyke could adversely affect some existing roads and residences located downstream of the dyke.*

Although the report is focussed on maximum flood levels, it should be noted that inflow flood events at some range up to the PMF will inundate the area up to the west dyke. This is the entire area shown as a proposal for development.

The Conclusions and Recommendations section has several points related to the west end of the reservoir which was designed as an overflow auxiliary spillway:

> *2) The low section of the west dyke can be utilized as an emergency auxiliary spillway. It will provide sufficient flow capacity to prevent the main dam from being overtopped during a PMF event.*
> *3) Under the current conditions, overflow could occur via the west and east dyke and consequently, the main dam will not be overtopped by the PMF event. If the east dyke is raised while the west dyke serves as an auxiliary spillway, the main dam will not be overtopped.*

This information is reflected in the Waterton Dam Emergency Preparedness Inundation mapping sheet 2 on page 35 of the pdf document.

Reference material

Figure 3 pdf page 53

Figure 9 pdf page 59

Innundation map page 35 of EPP

QRY_SearchReport

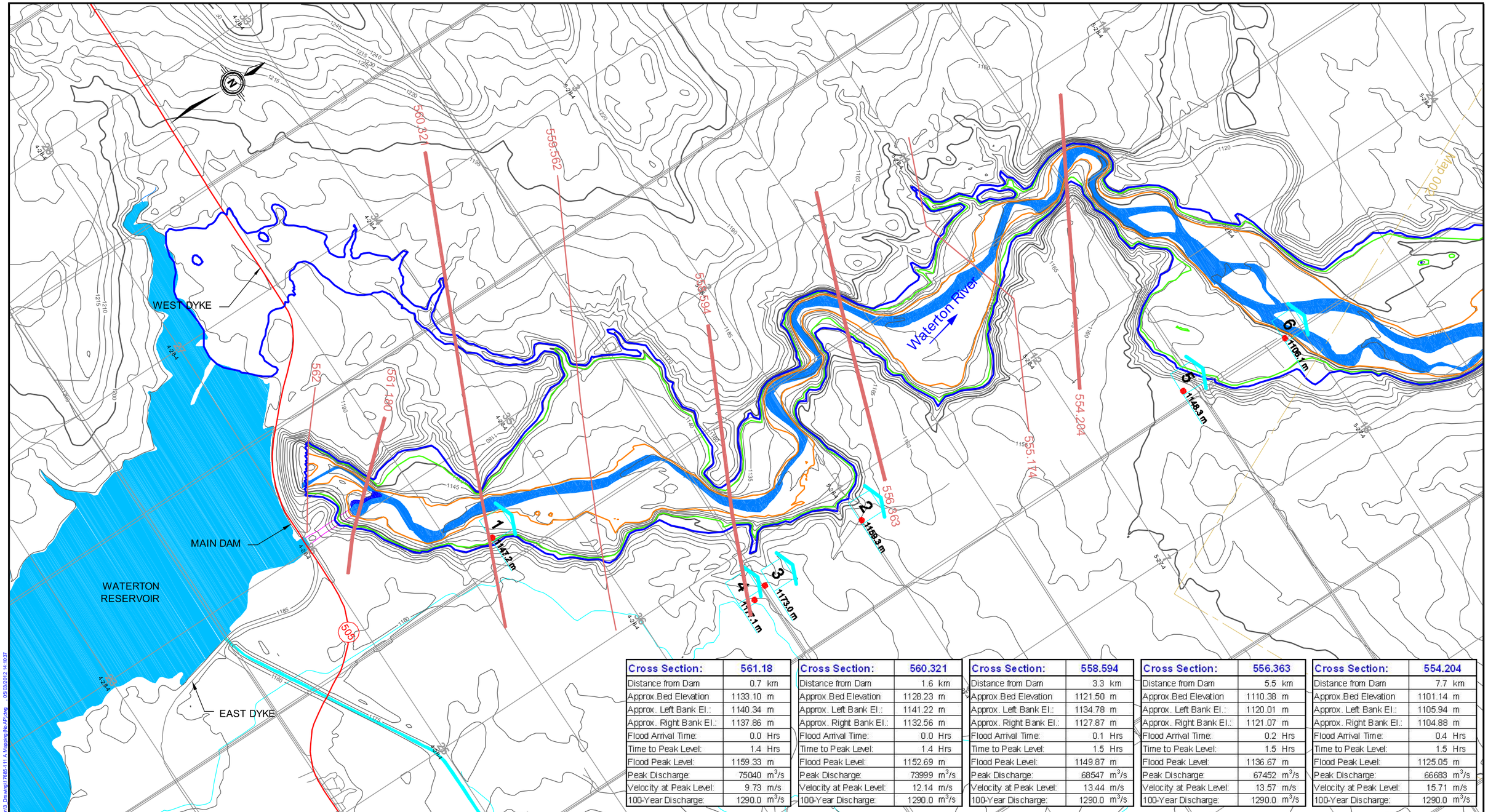
HW	Title	Author	Report Date	Digital Copy Filed?	Originating Agency	Missing	Environmental Mitigation Monitoring
3512	Waterton Dam Dam Breach Inundation Study Final Report	Northwest Hydraulic Consultants	01-Mar-12	Yes	AEW	No	No

Rob Malmberg

Alberta Environment and Parks

Water Infrastructure and Operations Branch

Lethbridge, Alberta



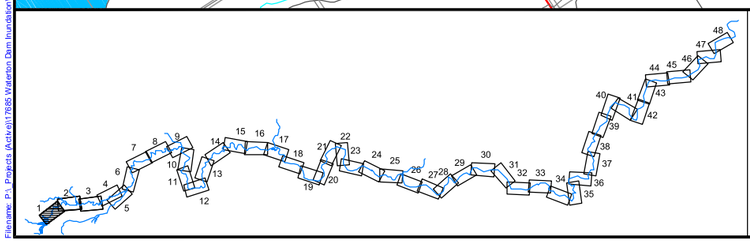
Cross Section:	561.18
Distance from Dam	0.7 km
Approx.Bed Elevation	1133.10 m
Approx. Left Bank El.:	1140.34 m
Approx. Right Bank El.:	1137.86 m
Flood Arrival Time:	0.0 Hrs
Time to Peak Level:	1.4 Hrs
Flood Peak Level:	1159.33 m
Peak Discharge:	75040 m^3/s
Velocity at Peak Level:	9.73 m/s
100-Year Discharge:	1290.0 m^3/s

Cross Section:	560.321
Distance from Dam	1.6 km
Approx.Bed Elevation	1128.23 m
Approx. Left Bank El.:	1141.22 m
Approx. Right Bank El.:	1132.56 m
Flood Arrival Time:	0.0 Hrs
Time to Peak Level:	1.4 Hrs
Flood Peak Level:	1152.69 m
Peak Discharge:	73999 m^3/s
Velocity at Peak Level:	12.14 m/s
100-Year Discharge:	1290.0 m^3/s

Cross Section:	558.594
Distance from Dam	3.3 km
Approx.Bed Elevation	1121.50 m
Approx. Left Bank El.:	1134.78 m
Approx. Right Bank El.:	1127.87 m
Flood Arrival Time:	0.1 Hrs
Time to Peak Level:	1.5 Hrs
Flood Peak Level:	1149.87 m
Peak Discharge:	68547 m^3/s
Velocity at Peak Level:	13.44 m/s
100-Year Discharge:	1290.0 m^3/s

Cross Section:	556.363
Distance from Dam	5.5 km
Approx.Bed Elevation	1110.38 m
Approx. Left Bank El.:	1120.01 m
Approx. Right Bank El.:	1121.07 m
Flood Arrival Time:	0.2 Hrs
Time to Peak Level:	1.5 Hrs
Flood Peak Level:	1136.67 m
Peak Discharge:	67452 m^3/s
Velocity at Peak Level:	13.57 m/s
100-Year Discharge:	1290.0 m^3/s

Cross Section:	554.204
Distance from Dam	7.7 km
Approx.Bed Elevation	1101.14 m
Approx. Left Bank El.:	1105.94 m
Approx. Right Bank El.:	1104.88 m
Flood Arrival Time:	0.4 Hrs
Time to Peak Level:	1.5 Hrs
Flood Peak Level:	1125.05 m
Peak Discharge:	66683 m^3/s
Velocity at Peak Level:	15.71 m/s
100-Year Discharge:	1290.0 m^3/s



LEGEND

- (842) HIGHWAY
- SECONDARY ROAD/STREET
- RAILROAD
- BRIDGE
- 1:100 FLOOD INUNDATION LIMIT
- SUNNY DAY PIPING FAILURE
- PMF OVERTOPPING FAILURE
- 18 RESIDENCE/ELEVATION
- 504.236 CROSS SECTION
- SEC=7,TWP=11,RGE=17 ,W4
- MAJOR RIVER
- RIVER/STREAM
- IRRIGATION CANAL

500 0 500 m
SCALE 1:25,000

NOTES

1. CROSS SECTION NUMBER REPRESENTS THE DISTANCE ALONG THE ESTIMATED CHANNEL CENTERLINE, STARTING DOWNSTREAM AT THE ALBERTA/SASKATCHEWAN BORDER.
2. CROSS SECTION TABLE INFORMATION IS FOR PMF OVERTOPPING FAILURE SCENARIO.
3. CONTOUR INTERVAL IS 5 m. (INTER 25 m, MAJOR 50 m)
4. AIR-PHOTO IMAGERY PROVIDED BY ALBERTA ENVIRONMENT TAKEN 2006.
5. COORDINATE SYSTEM 10TM (CENTRAL MERIDIAN = 115.00W, SCALE FACTOR = 0.999200, DATUM = NAD 83, FE = 500,000)

nhc northwest hydraulic consultants

Government of Alberta
Environment and Water

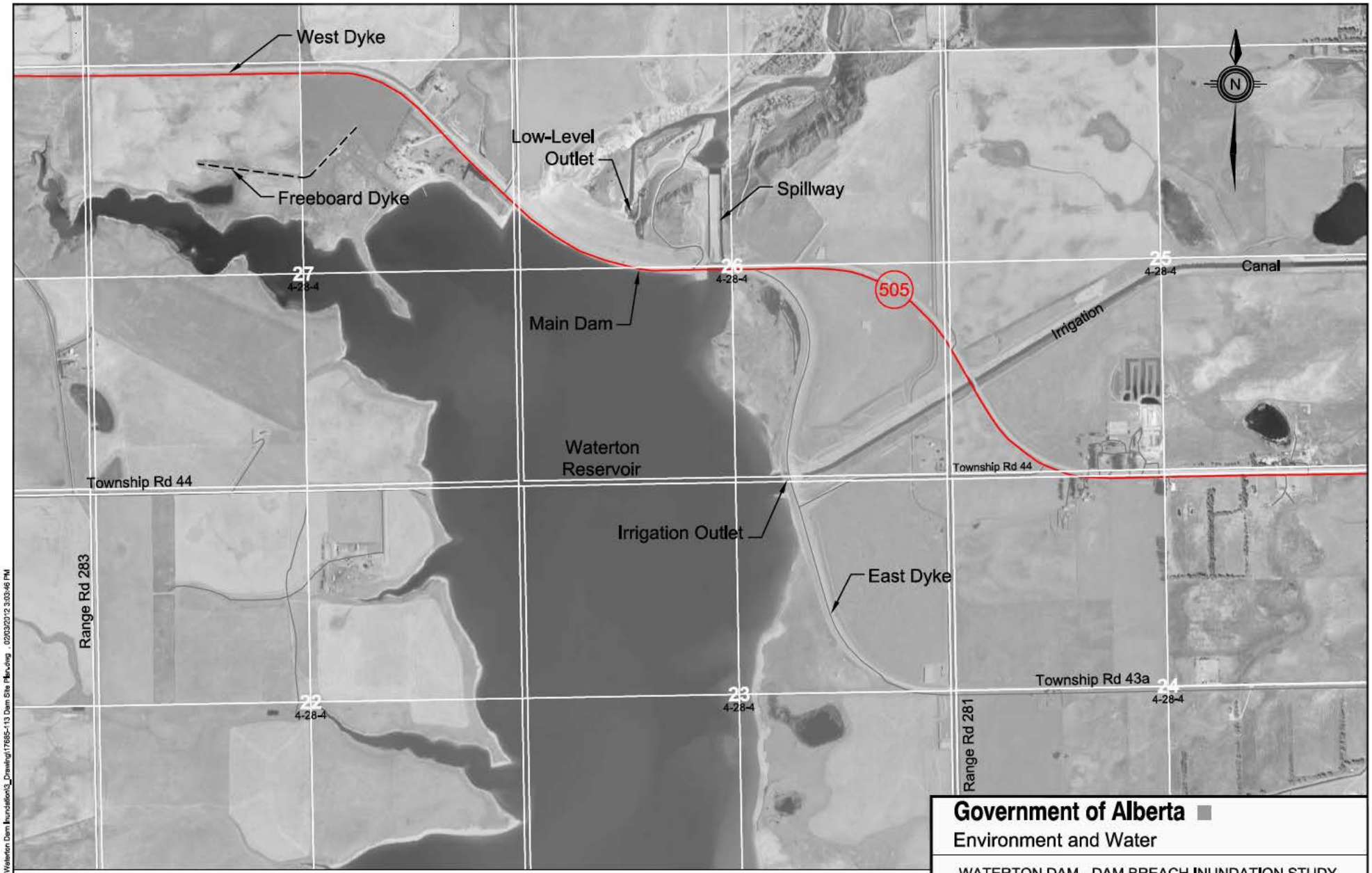
WATERTON DAM - DAM BREACH INUNDATION STUDY

FLOOD INUNDATION MAPPING

Dwg. 17685-111	MARCH 2012	**MAP 001/48**

northwest hydraulic consultants ltd.

Filename: P:\...\Projects (Active)\17685 Waterton Dam Inundation\3 Drawings\17685-111 A Mapping\17685-111 A MAP.dwg 03/02/2012 14:10:57



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SCALE 1:20,000

nhc
northwest hydraulic consultants

Government of Alberta
Environment and Water

WATERTON DAM - DAM BREACH INUNDATION STUDY

DAM SITE PLAN

Dwg. 17685-113	FEBRUARY 2012	**Figure 2**

northwest hydraulic consultants ltd.

Filename: P:_Projects (Active)\17685 Waterton Dam Inundation\3_Drawing\17685-113 Dam Site Plan.dwg , 02/03/2012 3:03:46 PM

From:	Leah Olsen
To:	Roland Milligan
Cc:	Joyce Mackenzie-Grieve; Gavin Scott (gavinscott@orrsc.com); Darren S Davis; Rick Lemire; Leah Olsen
Subject:	RE: Proposed Private Campground/RV Park
Date:	February 18, 2021 9:36:26 AM
Attachments:	Roadside Development Instructions.pdf Roadside Development Application.pdf Sign Application Procedures.pdf Sign Application.pdf On Premise Signs.pdf

Our Reference: 2511-NE 27-4-28-W4M (505)

Good Morning Roland,

The applicant/landowner will need to relocate and upgrade the existing access further to the west to align with the field access on the north side of Highway 505.
The proposed campground and access relocation/upgrade can be applied for on a Roadside Development Permit application (attached). All costs associated with the access upgrades are at the developers expense.
Alberta Transportation accepts no responsibility for the noise impact of highway traffic upon any development or occupants thereof. Noise impact and the need for attenuation should be thoroughly assessed. The applicant is advised that provisions for noise attenuation are the sole responsibility of the developer and should be incorporated as required into the development design.
Any peripheral lighting (yard lights/area lighting) that may be considered a distraction to the motoring public or deemed to create a traffic hazard will not be permitted.
Should the applicant wish to erect an On Premise sign I have attached an application and the Recommended Practice with relation to the size and setback distance.
Also if the applicant is wishing to have a blue TODS (Tourist Oriented Directional Sign) they can go to www.signupalberta.com
Thank you for the referral and opportunity to comment.

Leah Olsen
Development/Planning Technologist
Southern Region
Construction and Maintenance Division

Tel 403-388-3105
Cell 403-308-2601
Fax 403-382-4057
leah.olsen@gov.ab.ca

Alberta Transportation

Classification: Protected A

From: Roland Milligan <AdminDirDev@mdpinchercreek.ab.ca>
Sent: Tuesday, February 16, 2021 9:53 AM
To: Leah Olsen <leah.olsen@gov.ab.ca>
Cc: Joyce Mackenzie-Grieve <AdminTaxClerk@mdpinchercreek.ab.ca>; Gavin Scott

(gavinscott@orrsc.com) <gavinscott@orrsc.com>
Subject: Proposed Private Campground/RV Park

Hello Leah,
We have received a Land Use Bylaw amendment application to rezone a parcel of land adjacent to Hwy 505 and the Waterton Reservoir.
The First Phase will consists of 63 lots. A Second Phase looks for the development of an additional 55 or so lots.
Prior to making a formal Roadside DP application, can you please take a quick review of the attached preliminary concept plan and give us some feed back.
Thanks in advance.
Regards,
Roland Milligan
Director of Development and Community Services
M.D. of Pincher Creek No. 9
1037 Herron Avenue
PO Box 279, Pincher Creek, AB T0K 1W0
Ph: 403.627.3130 M: 403.632.6881 Fx: 403.627.5070
rmilligan@mdpinchercreek.ab.ca

MINUTES
REGULAR COUNCIL COMMITTEE MEETING
MUNICIPAL DISTRICT OF PINCHER CREEK NO. 9
Tuesday, June 28, 2022 2:00 pm
Council Chambers

Present: Reeve Rick Lemire, Deputy Reeve Tony Bruder, and Councillors Dave Cox, Harold Hollingshead and John MacGarva.

Staff: Interim CAO Roland Milligan, Director of Finance Meghan Dobie, David Desabrais Utilities & Infrastructure Specialist, and Executive Assistant Jessica McClelland.

Reeve Rick Lemire called the meeting to order, the time being 2:01 pm.

1. Approval of Agenda

Councillor Dave Cox

Moved that the agenda for Council Committee Meeting on June 28, 2022 be amended with the following changes:

- Removal of 2c) Delegation – Chinook Regional Library *rescheduled due to illness
- Addition 4c) Closed – Operational Issues – FOIP Sec. 17

AND THAT the agenda be approved as amended.

Carried

2. Delegations

a) Pincher Creek Food Center

Anne Gover, Chair with the Pincher Creek Food Center, attended the meeting at this time to present to Council an update on the Food Center as well as future plans.

Moving forward the Food Center has plans on building a kitchen to assist the community's needs. Anne mentioned that they have an annual food drive in the early fall and it was suggested she contact the MD to see how we can collaborate to include MD residents and utilize MD staff to assist.

Anne Gover left the meeting at this time, the time being 2:30 pm.

b) Chief Mountain Gas

Jim Welsch, Chair, and Ed Janzen, past Chair, with Chief Mountain Gas Co-op attended the meeting at this time to update Council on what the Co-op does as well as their recent expansion.

Jim Welsch and Ed Janzen left the meeting at this time, the time being 2:45 pm.

3. Round Table

Strategic planning was discussed.

4. Closed Session

Councillor John MacGarva

Moved that Council move into closed session to discuss the following, the time being 3:15 pm:

a. Beaver Mines Lot Servicing (Private Hook Ups) – FOIP Sec. 17
b. CAO Next Steps – FOIP Sec. 17
c. Operational Issues – FOIP Sec. 17

Councillor Dave Cox

Moved that Council move out of closed session, the time being 5:13 pm.

Carried

5. Adjournment

Councillor Harold Hollingshead

Moved that the Committee Meeting adjourn, the time being 5:14 pm.

Carried

MINUTES
MUNICIPAL DISTRICT OF PINCHER CREEK NO. 9
REGULAR COUNCIL MEETING
JUNE 28, 2022

The Regular Meeting of Council of the Municipal District of Pincher Creek No. 9 was held on Tuesday, June 28, 2022, at 6:00 pm, in the Council Chambers of the Municipal District Administration Building, Pincher Creek, Alberta.

PRESENT Reeve Rick Lemire, Deputy Reeve Tony Bruder, Councillors Dave Cox, Harold Hollingshead and John MacGarva.

STAFF Interim CAO Roland Milligan, Director of Finance Meghan Dobie, Public Works Superintendent Eric Blanchard, David Desabrais Utilities & Infrastructure Supervisor, and Executive Assistant Jessica McClelland.

Reeve Rick Lemire called the meeting to order at 6:00 pm.

A. ADOPTION OF AGENDA

Councillor Dave Cox 22/277

Moved that the Council Agenda for June 28, 2022 be amended to include:

- Correspondence Action
  - Meeting invitation with Minister Shandro
- Correspondence Information
  - 2022 Minister of Seniors Services Awards
- Closed Session
  - Follow Up Code of Conduct – FOIP Sec. 17
  - Eco Station Funding Update – FOIP Sec. 17

And that the agenda be approved as amended.

Carried

B. DELEGATION

C. MINUTES

a) Committee Meeting Minutes – June 14, 2022

Councillor John MacGarva 22/278

Moved that the Council Meeting Minutes of June 14, 2022 be approved as presented.

Carried

2. Council Meeting Minutes – June 14, 2022

Councillor Tony Bruder 22/279

Moved that the Council Meeting Minutes of June 14, 2022 be approved as presented.

Carried

D. BUSINESS ARISING FROM THE MINUTES

a) Presentations from Delegations of June 14, 2022

Y2Y

Councillor John MacGarva 22/280

Moved that the presentation from Y2Y, presented to Council on June 14, 2022, be received as information.

Carried

Minutes
Council Meeting
Municipal District of Pincher Creek No. 9
June 28, 2022

RCMP Pincher Creek Crime Statistics

Councillor Harold Hollingshead 22/281

Moved that the RCMP Pincher Creek Crime Statistics, presented to Council on June 14, 2022, be received as information.

Carried

E. UNFINISHED BUSINESS

F. COMMITTEE REPORTS / DIVISIONAL CONCERNS

1. Councillor Tony Bruder – Division 1
   a) Oldman Watershed Council AGM
2. Reeve Rick Lemire – Division 2
   a) National Indigenous Day Flag Raising
   b) Intermunicipal Development Plan Meeting
   c) Meeting with Health Minister
   d) Upcoming Canada Day Celebration at Kootenai Brown Pioneer Village
3. Councillor Dave Cox– Division 3
   a) Pincher Creek Library
   b) Family and Community Services
   c) Pincher Creek Foundation
   d) Beaver Mines Community Association
   e) Intermunicipal Development Plan Meeting
4. Councillor Harold Hollingshead - Division 4
5. Councillor John MacGarva – Division 5
   a) Crowsnest/Pincher Creek Waste & Recycle Center
   b) Windy Slopes Plaque Dedication

Councillor Dave Cox 22/282

Moved to accept the Committee Reports as information.

Carried

G. ADMINISTRATION REPORTS

1. Operations

a) Operations Report

Councillor Tony Bruder 22/283

Moved that Council receive the Operations report, which includes the call log, for the period June 14, 2022 to June 27, 2022 as information.

Carried

b) Lundbreck Hydrant Replacement Work

Councillor Herald Hollingshead 22/284

Moved that Council approve $30,100 for capital work for the Lundbreck Hydrant Replacement Project with said funds coming from the water and wastewater infrastructure reserve.

Carried

2. Finance

a) Financial Summary

Councillor John MacGarva 22/285

Moved that the financial summary for June 2022, be received as information.

Carried

3. Development and Community Services

a) Land Use Bylaw Amendment, Bylaw No. 1337-22, SE 15-4-30 W4M, Agriculture to Rural Recreation 1

Councillor Tony Bruder 22/286

Moved that Council give first reading to Bylaw No. 1337-22, being a bylaw to amend Land Use Bylaw No.1289-19, to change the land use in SE 15-4-30 W4M, from Agriculture to Rural Recreation 1,

AND THAT the required Public Hearing be scheduled for August 23, 2022 at 6:00 pm.

Carried

b) Road Closure Bylaw 1339-22 Portion of Statutory Road Allowance East of SE 4-7-2 W5M

Councillor John MacGarva 22/287

Moved that Council give first reading to Road Closure Bylaw No. 1339-22, being the Bylaw to close a portion of statutory road allowance East of SE 4-7-2 W5M,

AND THAT the required Public Hearing be set for August 23, 2022, following Public Hearing for Bylaw 1289-19.

Carried

4. Municipal

a) Interim Chief Administrative Officer Report

Councillor Harold Hollingshead 22/288

Moved that Council receive for information, the Interim Chief Administrative Officer's report for the period of June 11, 2022 to June 23, 2022.

Carried

b) Agricultural Service Board Appeal Committee

Councillor Tony Bruder 22/289

Moved that as per policy C-AES-005 Agricultural Service Board Appeal Committee, the following Council members be appointed to that committee:

- Reeve Rick Lemire
- Councillor Dave Cox
- Councillor John MacGarva

Carried

Minutes
Council Meeting
Municipal District of Pincher Creek No. 9
June 28, 2022

H. POLICY REVIEW

I. CORRESPONDENCE

1. For Action

a) Pincher Creek Rodeo Parade Day– August 20, 2022

Dave Cox 22/290

Moved that administration be directed to register a float for the Pincher Creek Rodeo Parade on August 20, 2022,

AND THAT interested Councillors be authorized to attend the Pincher Creek Rodeo Parade,

AND FURTHER THAT interested Councillors respond to administration regarding the dignitary luncheon.

Carried

b) Notification of Meeting/Request for Resolutions - Regular Fall Meeting of the Foothills Little Bow Municipal Association September 16, 2022

Councillor Tony Bruder 22/291

Moved to receive for information the Foothills Little Bow Municipal Association Fall Meeting.

Carried

c) Virtual Meeting with Minister Shandro

Councillor Tony Bruder 22/292

Moved that interested Councillors be authorized to attend the virtual meeting with Minister Shandro on July 13, 2022 at 10:00 am.

Carried

2. For Information

Councillor Dave Cox 22/293

Moved that the following be received as information:

a) Invitation Chief Mountain Gas Co-op Ltd. –
- Staff Appreciation Golf Day August 25, 2022
b) Alberta Rising Cost of Utility Fee
- Letter from County of St. Paul
c) Pincher Creek Curling Club Steering Committee
- Letter from Town of Pincher Creek
d) 2022 Minister of Seniors Services Awards

Carried

J. NEW BUSINESS

K. CLOSED SESSION

Councillor Harold Hollingshead 22/294

Moved that Council move into closed session to discuss the following, the time being 7:36 pm:

a) Road Concern – FOIP Sec 17
b) Landowner Concern Council Guidance Request – FOIP Sec 17
c) Landowner Concern – Texas Gate – FOIP Sec 17
d) Eco Station Funding Update – FOIP Sec 17
e) Follow Up Code of Conduct – FOIP Sec 17

Carried

Councillor Dave Cox 22/295

Moved that Council open the meeting to the public, the time being 8:26 pm.

Carried

L. ADJOURNMENT

Councillor Tony Bruder 22/296

Moved that Council adjourn the meeting, the time being 8:27 pm.

Carried

_____
REEVE

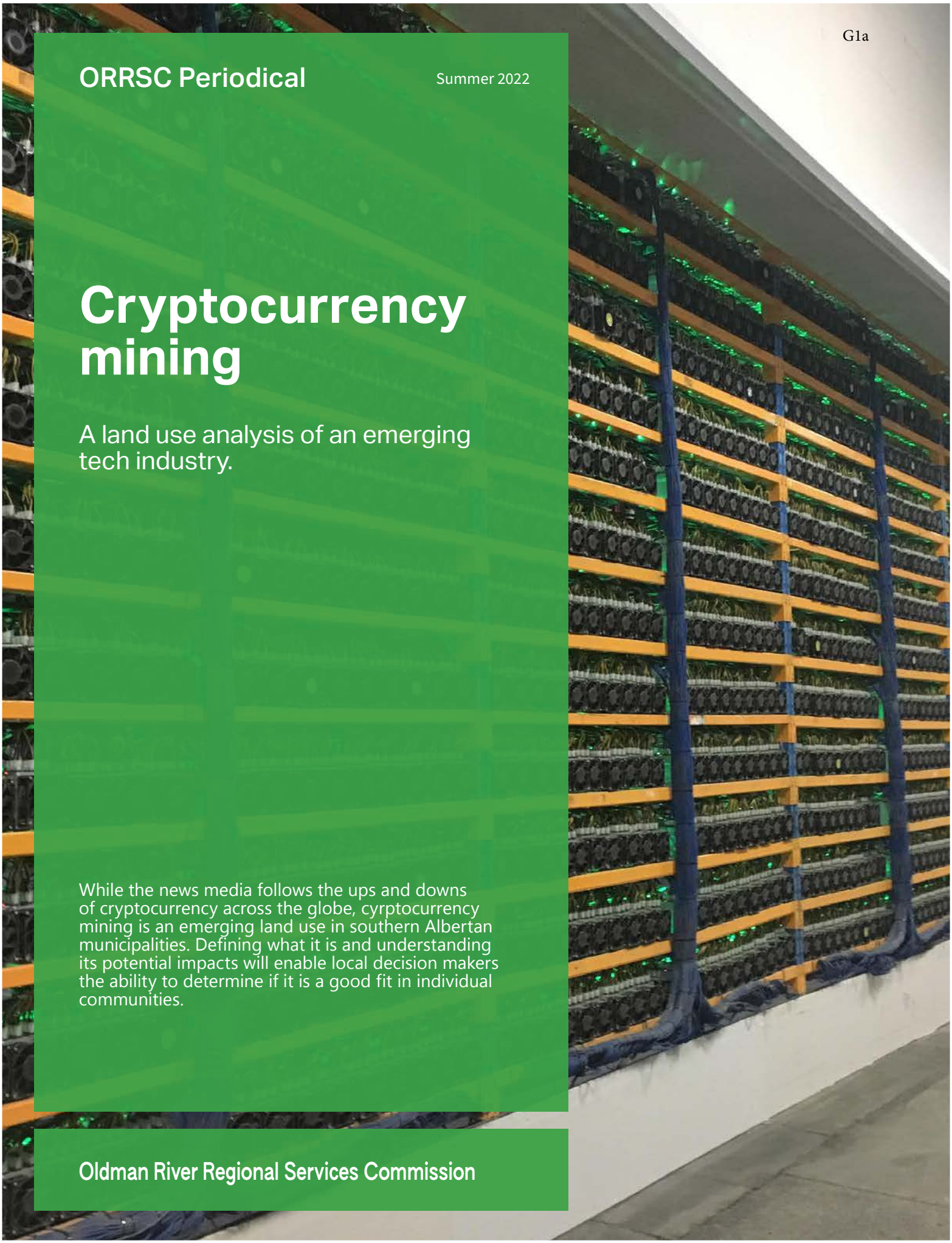
_____
CHIEF ADMINISTRATIVE OFFICER

ORRSC Periodical

Summer 2022

Cryptocurrency mining

A land use analysis of an emerging tech industry.



While the news media follows the ups and downs of cryptocurrency across the globe, cyrptocurrency mining is an emerging land use in southern Albertan municipalities. Defining what it is and understanding its potential impacts will enable local decision makers the ability to determine if it is a good fit in individual communities.

Oldman River Regional Services Commission

What is cryptocurrency mining?

Cryptocurrency mining (crypto mining) is the process by which crypto miners use specialized computers, data, codes, and calculations to validate crypto currency transactions and subsequently earn cryptocurrency as compensation for their work. While traditional mining takes place in a physical mine or specific geographic place, crypto mining takes place in a decentralized system where anyone with a computer and power source—anywhere in the world—can be a part of the digital data recordkeeping required for cryptocurrency transactions. Crypto miners range from companies with multiple facilities and miner machines to individual's small computer setups to verify cryptocurrency.

Several southern Alberta communities have already processed and provided approvals for this new use including the Town of Bassano, City of Medicine Hat, and the MD of Willow Creek. Others have inquired with ORRSC as to the nature of these operations and whether they should have concerns. This use is subject to local development permit processes and comes with many considerations that may not be familiar.

Among the common considerations for this type of use are the energy source, noise from HVAC systems (and energy generators), the type of buildings being used, and the environmental footprint of a high energy consumer. This periodical will explore the nuance of this development type and provide insight for communities to consider when contemplating the use.

Hut 8 Mining Facility, City of Medicine Hat

Land use context

In the context of land use, cryptocurrency mining externalities equate to an industrial use and are best suited to industrial-zoned property, although some agricultural or commercial zones may be able to accommodate the development. In the early days of cryptocurrency, small scale mining operations did occur in residential locations, but as the difficulty of the processing work increased, the number of computers and power needs outstripped the ability to work mines in neighborhoods without disrupting power capacity or annoying neighbours. Current facilities involve banks of computers that utilize a 'power plant' to operate but they house very few employees. The lack of employees and large scale of the facilities make it a use that runs counter to traditional planning policy, which promotes creating vibrant commercial areas. Therefore, including the use in commercial zoning may not be the best fit for most southern Alberta urban communities.

Access to cheap and reliable electricity is everything for crypto mining operations. In Alberta, a deregulated electrical system, green energy power sources, availability of natural gas, and a government open for

Electrical Deregulation

The evolution to a deregulated market began in 1996, when the Power Pool of Alberta was created to dispatch energy across Alberta through a real-time energy market. The goal of this market was to encourage efficiencies by introducing competition in the electricity generation sector. The market was set up for energy to be dispatched through an economic merit order with a single equilibrium price.

The market evolved to full deregulation in 2001, following the auction of Power Purchase Arrangements (PPAs) in 2000. PPAs allowed the existing utility owners to continue to own and operate their facilities, but auctioned the dispatch rights of the associated energy to new buyers. This framework provided a competitive landscape by immediately introducing new players into the market.

- Alberta Electric System Operator

Municipal Government Act Part 1 Section 3(a.1) was added in 2017 and among other purposes states: "The purpose of a municipality is to foster the well-being of the environment".

development has this up-start industry seeking local approvals. For most crypto mining applications, the proponent will be tying into the local electrical grid as its 'power plant'. Communities unsure of their capacity to feed a high energy demand development should consult their local service provider to better understand capacity of their electrical infrastructure. Communities with established industrial parks may have already received the necessary upgrades to substations and feeder lines to accommodate the use.

In the case of other power sources (natural gas, solar, wind etc.) for 'power plants', proponents are to consult with the Alberta Utilities Commission (AUC) to ensure they comply with provincial requirements. The AUC governs the generation of electric energy under the *Hydro and Electric Energy Act*. The electricity market is deregulated in Alberta, so AUC focuses its decisions primarily on the siting of power plants, having regard to noise and environmental impacts. An entity who wishes to operate a power plant must apply to AUC for approval under Rule 007: Applications for Power Plans, Substations, Transmission Lines, Industrial System Designations and Hydro Developments. Most crypto applications will need less than a 10 MW power plant. In such a case, the proponent must file a Checklist Application for New Power Plants Equal or Greater than 1 MW and Less than 10 MW with the AUC. The AUC will review and determine eligibility. Municipalities are advised to request a copy of the AUC approval during the development process.

The types of buildings and structures being used can vary with each proposal. Whereas reuse of an existing warehouse style building may be ideal many applications are housing the computers within shipping containers. Shipping containers may have development control requirements within a land use bylaw and should be reviewed with the applicant proposing the development. Each type of building may be able to mitigate sound where needed but the mitigation measures will need to be understood prior to moving forward with the application. Additionally, the cost of the equipment housed in the building requires heightened security measures including security fencing and lighting which may have an effect on adjacent properties. Requesting information regarding these needs is prudent at the development application submittal stage.

The environmental consideration for impacts related to crypto mining in a municipality relates to higher level planning documents including the South Saskatchewan Regional Plan, the *Municipal Government Act* (section 3(a.1)), Municipal Development Plan, or Sustainability Plan. At a municipal level the two main concerns are the carbon footprint and noise impact. The high energy consumption of cryptocurrency mining operations may run counter to a municipalities objective to reduce its carbon footprint. As well, some crypto mining operations are designed to use water as a coolant at quantities that are not easily obtainable without affecting water need elsewhere in the local economy.

In general, the power usage of one crypto mining computer per month uses the equivalent electrical energy used by one Alberta household. When the development is designed to house hundreds of computers public concern rises because the transmission infrastructure bill in Alberta to support such development is borne by each consumer. Conversely, rural locations where transmission infrastructure has been built to support wind and solar development may provide opportunity for a development location.

Noise is the largest byproduct of a crypto mining development. The design requirement for cooling fans to ensure the banks of computers do not burn out and the exhausting of these fans to the exterior on a 24/7/365 running time should be cause for concern in any municipality. Understanding the decibel (dBA) levels at various distances from the development can alleviate concern or expose the need to mitigate. In a MD of Willow Creek development approval located at the Claresholm Airport, the applicant running 280 computers and five fans in shipping containers declared the design noise to be 85.5 dBA (equal to a gas powered mower running 24/7) when 8m away and 36.5 dBA (equal to a library) at the nearest dwelling 224m away.

Noise control

Most municipalities will have an adopted noise control bylaw. This bylaw is unlikely to control external development noise, and many will exempt noise produced in an industrial area. It therefore necessitates that noise, as the key concern for development, be addressed.

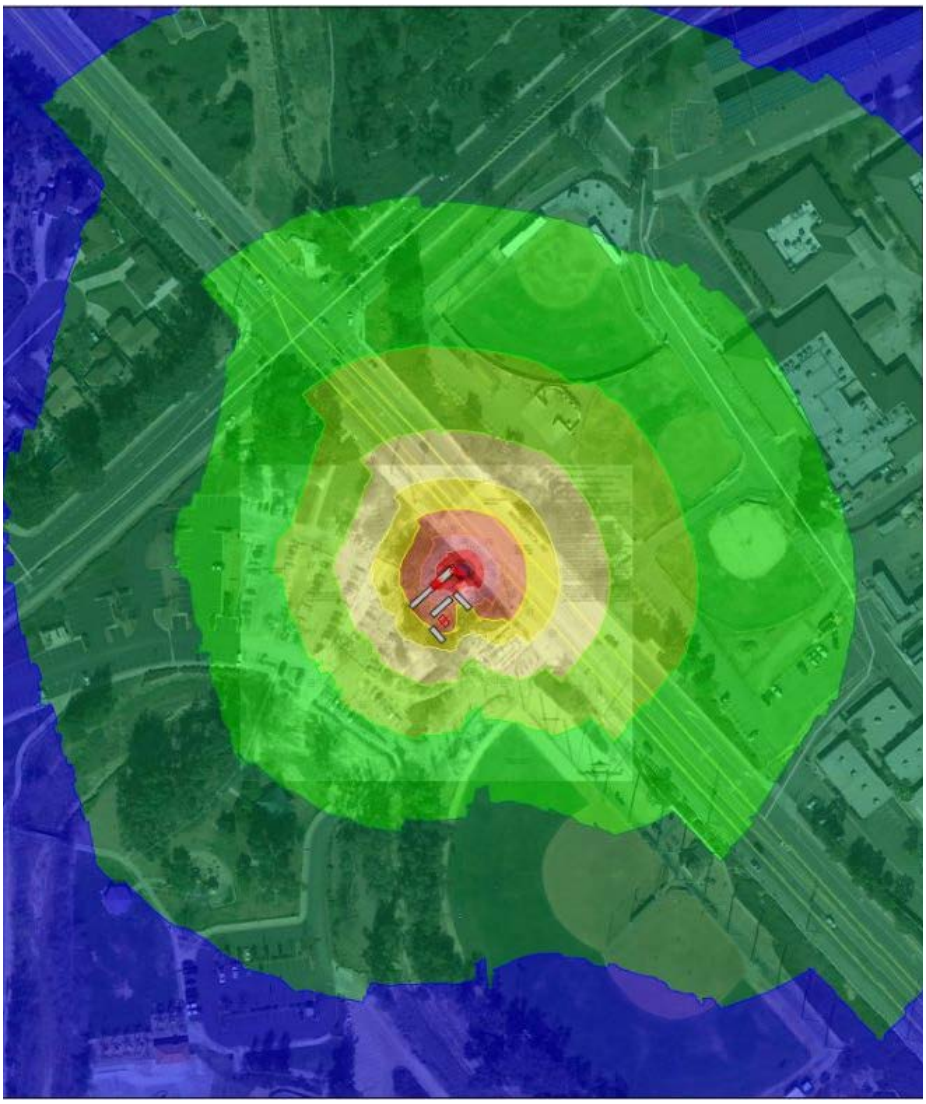
Southern Alberta's experience with noise control in an industrial context has been utilized under the AUC Rule 012 for power plants. Each wind farm and solar development have had to comply with Rule 012 for approvals. Among the approval submittals for wind turbine proponents has been an analysis of sound through computer modeling. These models consider the ambient sound of the area and then add the generated sound from the engineered locations for the turbines.

Rule 012 defines ambient sound level (ASL) as the sound level that is a composite of different airborne sounds from many sources far away from and near the point of measurement. The average nighttime ASL in rural Alberta is approximately 35 dBA and daytime is approximately 45 dBA. In the MD of Willow Creek example, the receptor (house) at 224 m away would still enjoy the accepted nighttime ASL.

Sound modelling may be a new concept to urban municipalities, but there are many companies that provide the service, and it can be relied upon to assure neighborhood concerns. In a draft bylaw amendment for the Town of Bassano, ORRSC utilized the AUC sound table to outline the requirements for cryptocurrency mining sound requirements.

Predictive Sound Modelling is the computer generated assessment of point source noise using calculation standards accepted by the the International Organization for Standardization (ISO).

The sound modelling image depicts a typical noise gradient being emitted from a point source development and emanating into the surrounding community. The sound level in the darker reds represent 85 dBA and the blue 40 dBA.



Mining proposals that cannot meet the standard may propose mitigation strategies. These include choosing different venting equipment, sound proofing, barrier walls, advanced sound monitoring equipment that makes operational adjustments to reduce sound levels in real time, or simply choose a more remote site. Proper choice of location given the nature of mining operations is an issue that may require the mining operation to provide sound analysis ahead of the application being processed. There is no use contemplating the location if it cannot meet the noise level requirements at the nearest residences or hotels.

The industry is also producing quieter computers and investigating alternatives to fans. Immersion cooling eliminates the sound by submerging the hardware in dielectric fluid. These methods are a hopeful means by which a new industry as well as similar industries can fit into municipalities in southern Alberta.

Concluding remarks

Because of its high energy use, noise, use of non-traditional buildings and structures, and climate footprint, the cryptocurrency mining business is one to be prepared for locally. The province's recently passed *Financial Innovation Act* supports cryptocurrency companies by temporarily relaxing rules that will facilitate the launch of financial products and services outside the scope of traditional offerings. Although, the financial markets and the industry themselves suggests that the long term need for cryptocurrency mining may have a horizon where it is no longer necessary. Municipalities may choose not to open their community up to this use and thereby avoid the externalities. Those that do include the use are advised to seek planning advice and consider other municipal experiences as to what is working and what is not in relation to approvals.

For more information on this topic contact admin@orrsc.com or visit our website at orrsc.com.

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Meeting Minutes
of the
Agricultural Service Board – Municipal District of Pincher Creek No. 9
June 1, 2022 – MD Council Chambers

Present: Vice Chair Martin Puch, Councillor Harold Hollingshead, Councillor Tony Bruder, as well as Members Anna Welsch, David Robbins.

Also Present: Director of Development and Community Services Roland Milligan, Agricultural Fieldman Shane Poulson, and Executive Assistant Jessica McClelland.

Not Present: Chair Frank Welsch

Vice Chair Martin Puch opened the meeting at 1:30 pm.

A. ADOPTION OF AGENDA

Councillor Harold Hollingshead 22/040

Moved that agenda for June 1, 2022 be approved as presented.

Carried

B. DELEGATION

C. MINUTES

Anna Welsch 22/041

Moved that the minutes of April 20, 2022 be approved as presented.

Carried

D. BUSINESS ARISING FROM THE MINUTES

David Robbins 22/042

Moved that the following be accepted as information:

a. Discussion on mid-September composting workshop – latest information will be provided at meeting
b. Perry Abramenko, with Alberta Agriculture, Forestry and Rural Economic Development will attend July 6, 2022 ASB Meeting
c. Avian flu
- Website Posting (Screenshot)
- Link https://mdpinchercreek.ab.ca/content.php?n=550
- Requirements to follow for entry onto land with poultry

Carried

E. UNFINISHED BUSINESS

F. 2022 AES DEPARTMENT REPORT

Councillor Tony Bruder 22/043

Moved to accept the departmental reports from the Agricultural Fieldman for May 2022.

Carried

G. CORRESPONDENCE

1. For Action

2. For Information

Anna Welsch 22/044

Moved that the following be received as information:

a. AFRED letter about lack of response to Resolution 2-22
b. Vet Shortage
    i. Workforce Shortage – What can be done?
    ii. Saddle Hills County
c. Moisture Situation Pictures
    i. Precipitation Past 7 Days
    ii. 60 Day Precipitation Accumulations Relative to Long Term
    iii. Precipitation Received During the Past 60 Days
d. Crop Report – May 17, 2022

Carried

H. NEW BUSINESS

Councillor Tony Bruder 22/045

Moved that administration draft letters to the Minister of Agriculture regarding the potential for grazing around the Oldman Dam as well as question the availability for drought assistance programs for our area.

Carried

I. CLOSED SESSION

J. NEXT MEETING – July 6, 2022

K. ADJOURNMENT

Councillor Harold Hollingshead 22/046

Moved to adjourn the meeting, the time being 2:52 pm.

Carried

_____ _____

ASB Chairperson ASB Secretary

M.D. OF PINCHER CREEK NO. 9

OPERATIONS REPORT

Current Public Works Activity

- Road Maintenance – Public Works has Six (6) graders out on the roads doing road maintenance and recovery after extended period of rain.
- Gravel Program started May 17, 2022 with 6 contracted gravel trucks. Division 4, 5 and 3 have been completed and the crew is now working their way through division 2 from Hengerer Pit.
- Dust Control program started June 06, 2022 in Division 4. The Dust control crew will be working their way counter clock wise throughout the divisions. Dust Control on Maycroft has been completed and crew is now in division 3.
- PW Mechanic going over road side mower for expected start mid-July.
- Cattle guards have been delivered to site on Olin Creek and Cabin creek ready for installation. Installation schedule has begun June 23, 2022 and is expected to be completed July 7, 2022.
- ISL engineering submitted a fee proposal for the Engineering cost and preliminary design for a grant application for the improvement of Maycroft.
- Reclamation has been completed at the old Olson Pit. Seeding will have to be coordinate with AES. Equipment to be move to the drain pit.
- Partial reclamation and road reject cleanup has been completed at the Bruder pit. Full reclamation would only be completed when gravel pile is depleted.
- Cattle guard annual inspection has been completed. Local Hydrovac has been hired to clean 15 structure across all division and work has been completed July 06, 2022
- PW is working with CPP environmental to do a full desktop assessment of our gravel pit liability. Review is still ongoing. CPP received information from AEP. Proposals need to be review by Public Works. Meeting has held May 25, 2022 to review the proposals and another meeting was held with AEP to discussed the reclamation liability of Scotton Pit. Email has been sent to AEP regarding Castle falls and Carbondale pit. AEP has no interest in taking the disposition back therefore, the MD will remain responsible for the reclamation and CPP will be contacted to provide a reclamation plan. Meeting to be schedule with the owner of Scotten pit.
- ISL provided a design to remediate the water pooling on the east side of Patton Avenue in Lundbreck. Contractor will be contacted to provide pricing for the scope.
- Traffic counters are out and collecting data on Maycroft and Christie Mine Road.
- Bridge deck cleaning has started and will be on-going throughout the season.
- Work on going for the new eco station site Monday May 02, 2022. Concrete has been completed June 23rd 2022. Waiting on first call refresh to complete fencing and electrical.
- Garbage, Recycling, water to the airport… being done weekly by PW crew.
- Working on call log items daily.

Capital Projects Update - Bridges

- **Bridge File 75377 – Local Road over Screwdriver Creek, NW-08-06-02-W5M**
  - Project has gone back to Council and is deferred until Aug. of 2022. MD has issued payment to Armtec for the culvert. The culvert will stay in the PW yard until installed in the Summer of '22.
  - Don Boyce (2nd lowest contractor on original bid) has confirmed he is available to do the job and has confirmed his pricing
  - Culvert was damaged in 2022, needs to be replaced. Refusal from contractor to install/fix the damaged pipe due to significantly lower expected life span of culvert
  - Replacement culvert ordered, construction likely to take place in August, 2022
  - ~~Don Boyce to be given award for construction by Roseke by June 28th council meeting~~

- **Bridge File 75265 – Local Road over Heath Creek, NE-11-10-01-W5M**
  - Tender awarded for engineering in 2021
    - Roseke Engineering at **$52,162.00 (Budget $53,000.00)**
  - Tender cancelled for construction in 2022
    - Low Bid at **$491,297 (Eng. Estimate $384,700)**
  - Construction set to commence in 2022
  - Roseke Engineering has been instructed to complete the bridge design detail as well as provide engineering and construction estimates for an adjacent stream bank protection work.
  - Survey has determined that the whole bridge and road is off the road right of way. Roseke Engineering will provide the MD with a survey plan to use for land negotiations.
  - The Historical Resources Application for this project has been approved.
  - Land is purchased and agreements are signed. Title registration may take a few months
  - Tender opening on the 26th/27th was significantly over budget & STIP funding has not been received. Tender cancelled, to be retendered this Winter for 2023 construction, apply for STIP

- **Bridge File 7743 – Local Road over Gladstone Creek, SW-23-05-02-W5M**
  - Tender awarded for engineering in 2021
    - Roseke Engineering at **$45,015.00 (Budget $46,000.00)**
  - Tender awarded for construction in 2022
    - Volker Stevin at **$267,700 (Budget $280,500)**
  - Have requested updated proposed construction costs to be ready for September for 2022 budget discussions
  - The contractor has indicated that work is underway.
    - Construction set to commence in 2022
    - Coring has been scheduled following changes to Alberta Transportation changes to inspector ratings.
    - Coring has been completed with favourable results.

- A tender package is to be completed by the end of November for Budgeting and allocation of Gas Tax Funds. AT has confirmed this bridge is not eligible for STIP-LRB funding given its current condition rating.
    - Preliminary report & design review received December 6.
    - Council approval of increased scope January 11, 2022.
    - All affected landowners/stakeholders contacted regarding anticipated 3 day closure.
    - Council approved $79,000 in additional 2022 funds for full strip-deck replacement on this bridge April 21, 2022.
- Tender released April 29th, 2022. Tenders opened May 26th, 2022. Tender awarded to low bidder
- Construction expected late Summer/early Fall
- Engineering firm and Volker Stevin have been in contact regarding potential to keep this bridge partially open (very small lane) during construction. Working on path forward

- **Bridge File 2488 – Fisher Bridge, NW-26-07-02-W5M**
    - Engineering to be completed in 2021 due to change in rating since first inspected
    - Construction/replacement/removal options to be presented to Council for action in 2022
    - The STIP-LRB grant application for this project has been submitted.
    - Pending AT Grant and Council approval this bridge can be built outside of the Restricted Activity Period (RAP) as no contact with the water is needed
    - STIP funding has been approved (was submitted by ISL Engineering). Revised proposal, schedule, & estimate received from ISL. Within budget & STIP grant funding allotment
    - ISL awarded Supply-Build Engineering contract
        - RFQ for Design, Supply, & Fabrication of Prefabricated Bridge has been released to qualified fabricators
        - RFPQ (Request for Contractor Pre-Qualification) has been sent out and is closing July 20th

- **Bridge File 74260– Tributary to Foothills Creek, SW 13-05-029-W4M**
    - Budgeted for engineering completion in 2022 with construction in 2023
    - Proposal ~~requested~~ received from Roseke Engineering June 21st, 2022 to complete initial design services
    - Plan to proceed with preliminary design post-council meeting

- **10 Year Study**
    - Awarded to Roseke to assist with future bridge & culvert maintenance planning
    - Final report complete, to be presented to council for forecasted capital planning at this council meeting

- **Watercourse Crossing Inspection & Remediation Project – 100% Grant funded**
    - **$150,000** in grant funding awarded for Year 1 of this program
    - **Fintegrate** awarded initial contract to assess all MD crossings, prioritize for remediation, & perform detailed regulatory authorizations
    - Alignment with 10 year bridge study to be completed where feasible

- Work has begun on prioritization & initial assessment, ~~40+~~ 100+ crossings reviewed
- 4 crossings have been identified to date that are in poor structural condition and have serious fish passage concerns

Roads

- **Range Road 1-2 (Bitango Road) - *Engineering 2022 – Budget $40,000 - Const. 2023***

  Replace 64m of culvert 24" culverts with a 36"diameters culvert. Repair slides and sink holes on side slope.

  - Engineering Proposals have been submitted by 3 different firms and is under review by Public Work. Engineering contract will be awarded in 2022.
  - Service agreement for professional service has been signed with ISL Engineering and Land Services LTD on February 23rd 2022.
  - Geotechnical Boring scheduled for April 05, 2022.
  - Site Visit was held April 21st 2022.
  - Environmental Scientist was on site June 29, 2022 to begin the environmental review.

- **Station Street (Pincher Station) - *Engineering 2022 – Budget $40,000 - Const. 2023***

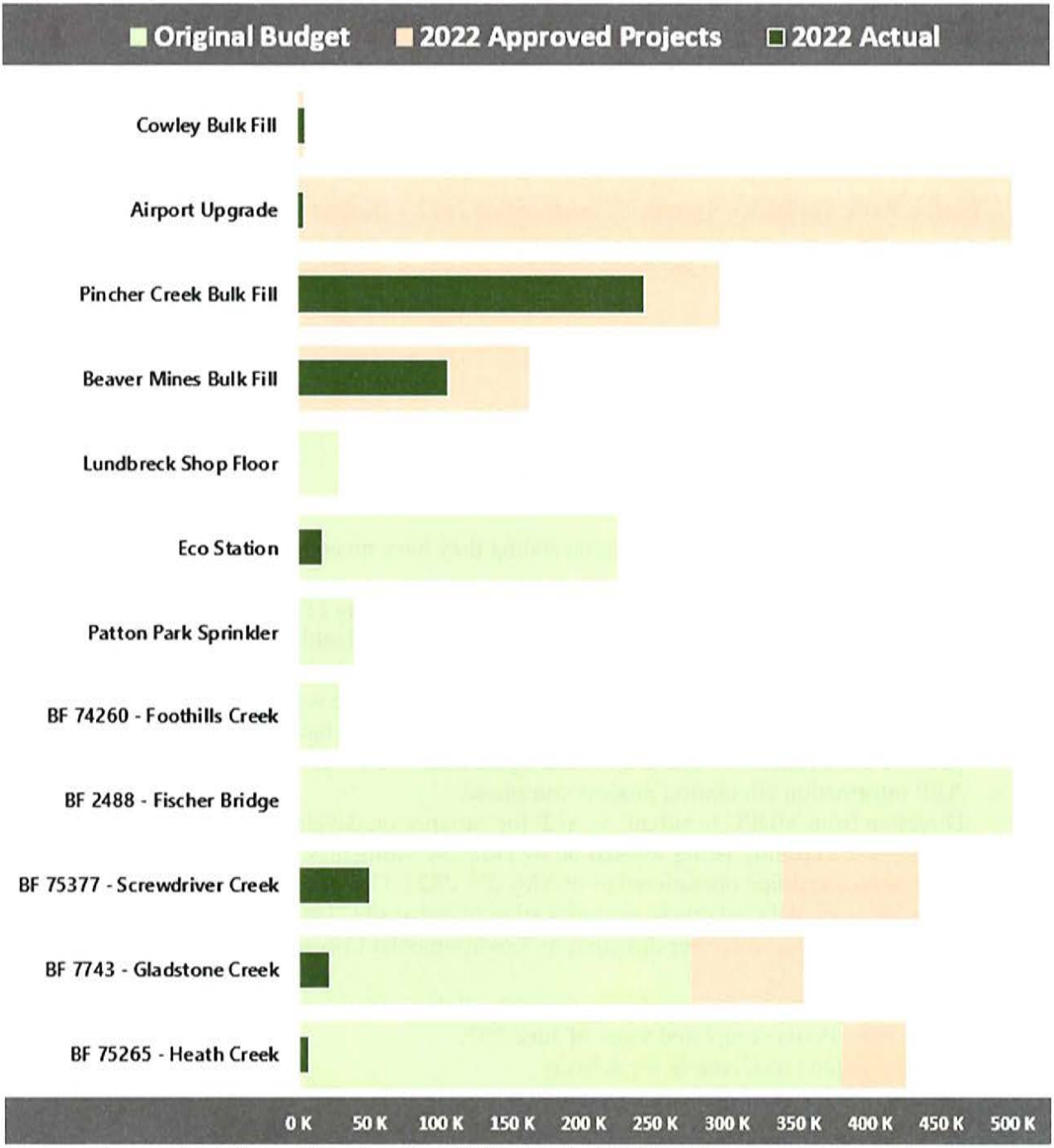
  Repair subgrade and install new asphalt on approximately 70m on intersection of 3rd avenue and Station Street and approximately 360m on Station Street going east to seed cleaning plant. Install culvert across 3rd avenue to drain water from North side of Station Street.

  - Engineering Proposals have been submitted by 3 different firms and is under review by Public Work. Engineering contract will be awarded in 2022.
  - Service agreement for professional service has been signed with ISL Engineering and Land Services LTD on February 23rd 2022.
  - Geotechnical Boring scheduled for April 05, 2022.
  - Site Visit was held April 21st 2022.

- **Cabin Hill Road - *Engineering 2021 , Construction moved to 2023***

  - Wood Engineering to design the Local Road - Design option have been reviewed.
  - I approved SC#2 to include post construction legal survey. Topographic survey was completed April 8-9 and Geotechnical drilling was completed April 15-16
  - Detailed design and C-estimate has been received June 23rd 2021.
  - Preliminary design drawing have been reviewed and accepted September 27, 2021
  - Council approved a motion to move the construction to 2023.

Large Capital and other Water Projects



- **Airport Lighting** – ***Construction 2022 - Budget $917,000***

  Install Airport Airfield Lighting Replacement, with portion of funds from STIP

  - Contractor (Leo Reedyk) engaged to manage tendering, project award, construction, commissioning, etc.
  - Tendered, site visit complete with prospective bidders. Bids due back June 30th. Recommendation expected by July 8th
  - Tenders received and qualification completed. Recommendation to be presented to Council at this meeting

- **Lundbreck Shop Floor - *Construction 2022 – Budget $30,000***

  Install concrete floor and sumps into the Lundbreck shop.

  - Quotes and Estimates from local contractor are being requested, and review for construction to begin Spring of 2022.

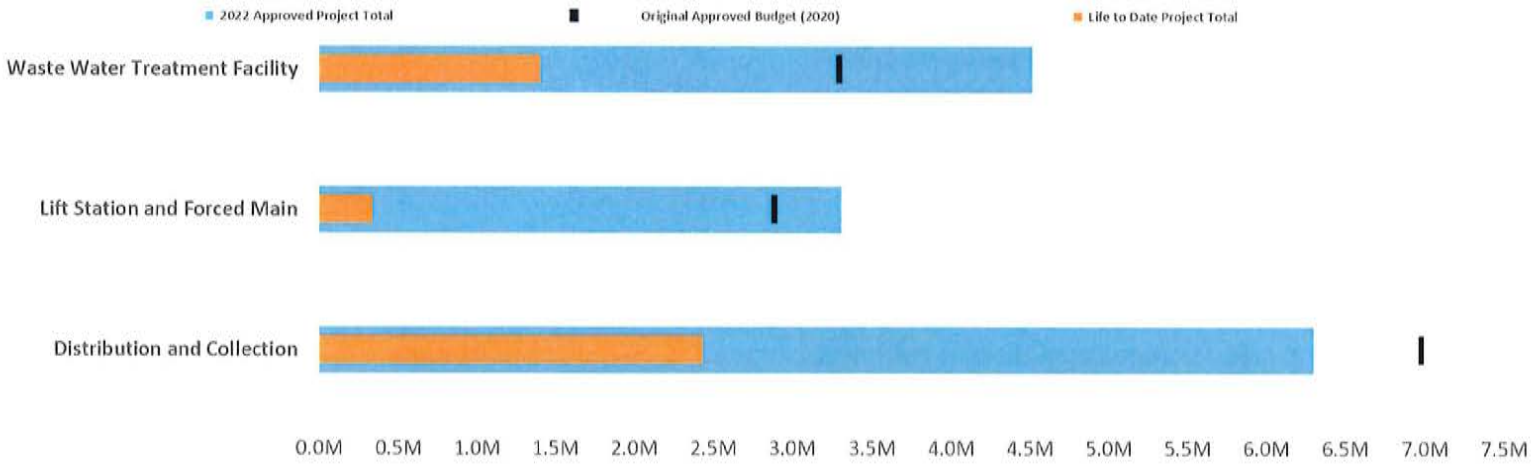
- **Patton Park Sprinkler System - *Construction 2022 – Budget $40,000***

  Connect the Patton Park Sprinkler and drip system to the Municipal Water distribution line.
  - Construction awarded to Scenic Landscaping at **$37,105 (Budget $40,000)**
  - Construction to begin Summer of 2022.
  - Construction scheduled for August.

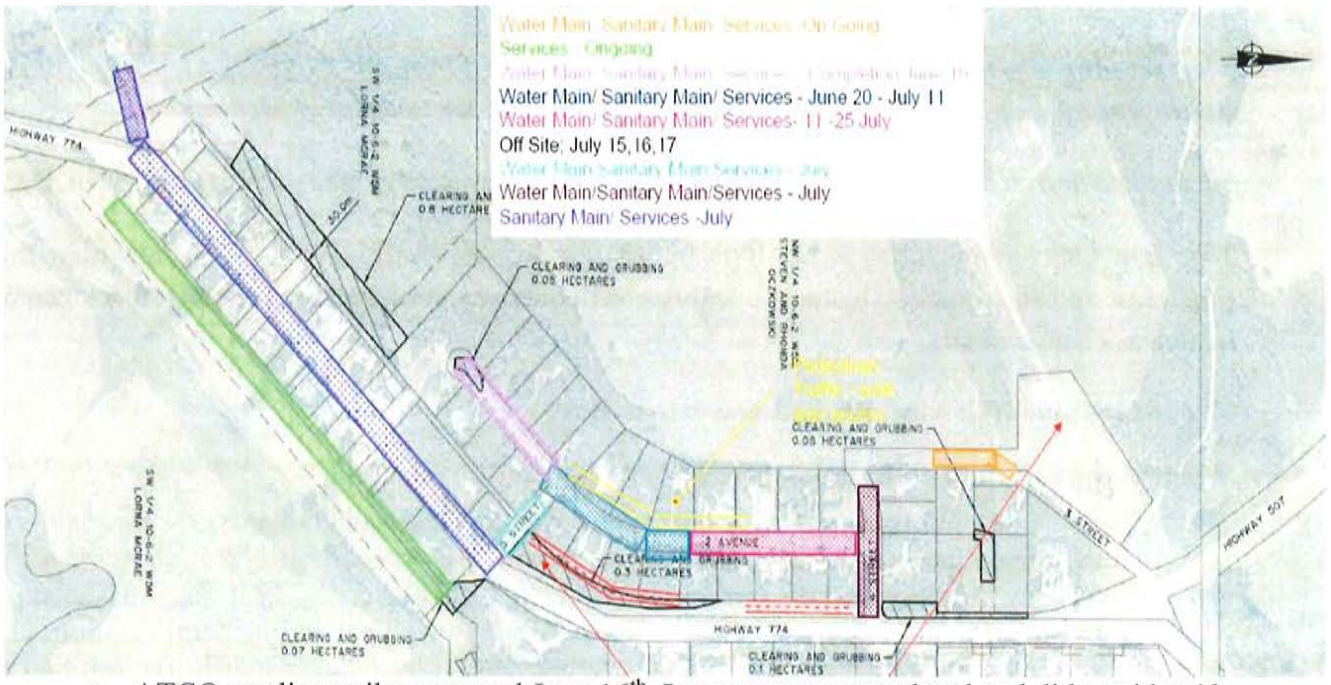
- **ECO Station**

  - IMDP Committee passed a resolution stating they have no concerns with this development.
  - Continued work with AEP for approval process and issuing of MD Development Permit
  - September 17, 2021, project information sent to Alberta Health Services for comment.
  - September 22, 2021, letters requesting consent to vary the *Subdivision and Development Regulation*'s 300m setback requirement from a Storage Site were sent via registered mail to all landowners within the 300m radius of the site. Many have been returned with positive endorsement of this project and agreement to the waiver.
  - AEP information circulation process completed.
  - Direction from MDPC to submit to AEP for variance on development permit on Dec 08. Submission currently being worked on by Director Milligan. Construction in Spring 2022
  - Pronghorn standpipe operational as of May 2nd, 2022. Construction underway
  - Concrete work delayed due to contamination found at site. Testing & excavation of contamination complete per direction by Environmental Consultant. Final clearance report received
  - Grading completed, concrete ~~forms~~ complete. Rebar and pours delayed due to significant rain events. Pours completed week of June 20th.
  - Site office purchased, ready for delivery
  - Fencing & Electrical work expected to begin week of July 12th council meeting after additional grading work for site office and levelled fencing is complete

BEAVER MINES



- **Beaver Mines Water Distribution, Collection System.**
    - Tender was awarded to BYZ on July 21, 2021.
      1. BYZ Enterprises Inc. $5,468,977.50 **(Budget $6,251,600)**
    - Virtual discussion meeting held with BMCA & Beaver Mines residences May 18th with good attendance and many takeaways
    - Bi –weekly construction updates ongoing



    - ATCO gas line strike occurred June 16th. Locates were completed and did not identify gas line as the machine did not pickup tracer wire
    - Continued engagement from Beaver Mines Community

- **Beaver Mines Waste Facility/System**
    - Tender was awarded to BYZ on May 31, 2022
        1. BYZ Enterprises **$2,338,309.00 (Budget $2,076,999)**

- Anticipating minor changes post-Tender regarding control system integration with WTP and building envelope
- Waste System will not be ready until 2023 at the earliest to allow for the AEP Approval Process to run its course
- Tender opening and contract signing completed
- Construction kickoff completed June 17th with Banner, BYZ, & Parcon (mechanical contractor). Mobilization delayed due to weather

- **Beaver Mines Forcemain & Lift Station**
  - Tender was awarded to Parcon for Lift Station June 15th **$2,326,091**
  - The tender package for the forcemain work is being drafted by MPE
  - Pre-construction kickoff completed June 23rd, 2022 for Lift Station
  - Site mobilization for lift station expected mid July. Long lead generator could be of concern, working with contractor on solution

24 August, 2021 – Appellants withdraw their request for "a stay" in regards to our construction based upon the proposed build schedule. Where the Force Main and Waste Water Facility will be later in 2022 and 2023, it is felt that there is enough time for the Appeal to run its natural course without impacting our proposed construction schedule. This approach by the Appellants was very much appreciated by the MD.

Our first pre-meeting with the Board was Dec 8th, 2021
Our first Mediated Meeting with the Board and the Appellants is Dec 15th, 2021. (Calgary)

First meeting was held and follow up meeting is slated for February 23, 2022. Meeting with the Board was on Feb 23rd ~~and now we are awaiting the date for round 2 of Mediation.~~

Second mediation date scheduling underway, currently expected to take place August 10th, 2022

This is a multi-month process, so it is hoped our Appeal process will conclude within this timeframe and any direction by the Appeal Board in the manner of additions to our project, can be treated as change orders.

- **Standpipes (Cowley, PC and new site in BM)**
  - BM standpipe coin & credit is fully operational.
    - Work remains to extend/grade corners and install bollards
  - PC standpipe coin & credit is fully operational.
  - Cowley interface upgrade has been completed. Coin and credit/debit cards accepted.
  - Complaints have been received regarding inaccurate volumes at Pincher fill station. The site has been calibrated various times. Working to price out a cost effective solution to this issue

Recommendation:

That the Operations report for the period June 28th-July 6th is received as information.

Prepared by: Roland/Eric/David — Date: July 6th, 2022

Submitted to: Council — Date: June 12th, 2022

	DIVISION	CONCERN/REQUEST	ASSIGNED TO	ACTION TAKEN	REQUEST DATE	FOLLOW UPDATE	COMPLETION DATE
3138	Division 1	Re wanting to clean ditch for drainage to direct water from his property to drain into the culvert	Jonathan	-	August 30, 2021	Meet with him, might have to wait till spring 2022	-
3178	Division 2	Requested Grader to level his field after fence has been removed.	Eric/John	-	September 20, 2021	Met with Mick on July 5, 2022. Will get quotes from local contractor to complete the work.	-
3233	Division 1	Permanent snow fence is in bad condition due to the wind	Eric	-	November 29, 2021	Eric talk to Paul May 17, 2022. Will meet with Paul on site to look at a disposal site for the old fence. Will be looked after when gravel program is completed.	-
2022-58	Division 1	Old Snow Fence falling/inquiring about rebuild	Don J	-	January 26, 2022	Old snow fence have been cleaned up. First call has been submitted for the rebuild.Will be looked after when gravel program is completed.	-
2022-103	Division 5	Requested bus turnaround at end of Rock Creek Rd.	John/Eric	-	March 8, 2022	Went to visit site May 17, 2022. Will be built before start of next School year.	-
2022-156	Division 1	North end of snow fence broken	Tony N	-	May 25, 2022	Will be look after when Gravel program is completed	-
2022-158	Division 3	Requesting Grading on the shared road	Shawn D	All complete!	May 25, 2022	Grading form need to be sign by all land owner. John has talk to him.	June 28, 2022
2022-164	Division 3	Request Driveway Grading	Shawn D	Complete	June 1, 2022	Part of Liscombe Road	June 28, 2022
2022-165	Division 4	Request Driveway Grading	Tony T	Complete	June 1, 2022	Brad went to inspect and has been demmed unsafe	June 22, 2022
2022-178	Division 5	Request Driveway Grading	Dave S	-	June 9, 2022	form has been received. Grader to get it done when in area.	-
2022-187	Division 5	There is over flow happening at the north end of the DU Ranch, and the culvert needs to be lowered.	Tony N/Bob M	Complete	June 14, 2022	Culvert under review by Fintegrate under the watercourse crossing mediation grant through AEP. Would be complete in order of priority after review is completed.	July 5, 2022
2022-188	Division 1	Concerned about traffic and speed on hill and blind corners between Myers corner and Waterton colony	Eric B	Complete	June 15, 2022	Spoke to her again on June 23rd. Will be looking at installing blind corner signs whenever possible.	June 23, 2022
2022-190	Beaver Mines	Outhouses Need Pumping out Playground/Swings Need fresh gravel No screen on top of gazebo chimney Garbage bin at the gate needs to be empited Grass needs to be cut and general land maintenance	Jon	-	June 20, 2022	Most item completed, Outhouse schedule to be pumped out July 7, 2022	-
2022-197	Division 1	Would like someone to check out Fish Lake Road.	Eric B	-	June 22, 2022	Spoke to him, will be meeting in the next week or 2 to look at potential improvement.	-
2022-198	Division 4	Would like to know the classification of RR 30-0 from HWY 510 to the North. Also wondering about TWP 83/84 between 29-3 and 30-0. Has been reading road Maintainance Policy and is 'curious'.	Eric B	Complete	June 22, 2022	Eric talk to him and gave him the right classification.	June 23, 2022
2022-199	Division 4	Wondering if road leading to Boat Club N of Cowley could be graded today, before campers start rolling in this weekend.	Tony T	Complete	June 23, 2022	Gravel has been added and graded.	July 6, 2022
2022-200	Division 2	As per Fire Permit - has been requested to get more gravel around firepit at Fishburn Park. Would have volunteers that could spread it.	Jon G	Complete	June 27, 2022	Would be taken care of when gravel crew move to Hengerer Pit.	July 7, 2022
2022-201	Division 4	Old snow fence / debris still left in field and would like cleaned up.	Tony N	-	June 27, 2022	-	-
2022-202	Division 5	Has a cage around fire hydrant. Has been requesting since winter for cage to be turned 1/4 since snow / ploughs cause problems for her driveway and she is worried about hitting it.	Eric B	Complete	June 28, 2022	David D. talk to her July 7, 2022. Hydrant cage was place there to protect the infrastructure and the cage cannot be turned as it need to be access by the front for fire fighting.	July 7, 2022
2022-203	-	NOVA is looking to store timber within stockpile site. Waiting for reply. (Message from Josh's phone)	Eric B	Complete	June 21, 24, 27, 2022	Roland to give her a call for permit application	July 5, 2022
2022-204	Division 4	RR 30-0 from HWY 510 to TWP 8-4 is garbage and has 6 miles of washboard. Needs attention ASAP	Joh J	Complete	June 30, 2022	-	July 6, 2022
2022-205	Division 4	RR 29-5 Needs grading ASAP	Tony T	Complete	June 30, 2022	Called again Monday July 4th. Has gotten worse.	July 6, 2022

	DIVISION	CONCERN/REQUEST	ASSIGNED TO	ACTION TAKEN	REQUEST DATE	FOLLOW UPDATE	COMPLETION DATE
2022-206	Division 2	Woman left message saying she needed to drive in 4x4 to navigate Crook Rd. Needing gravel	Kent Z	Complete	July 4, 2022	Crook Road was graded this morning	July 5, 2022
2022-207	Division 2	Road in bad condition, no crown on the road.	Kent Z	Complete	July 5, 2022	Crook Road was graded this morning	July 5, 2022
2022-208	Division 1	3 culverts in a single location mostly blocked. Another rain will most likely wash out the road. (Message from Jason) *see picture in email of location	Brad B	Complete	July 4, 2022	-	July 6, 2022
2022-209	Division 2	Roads in this division are extremely poor. Had to get out and drain puddle by hand with a shovel.	KentZ	Complete	July 5, 2022	Road has been graded	July 6, 2022
2022-210	Division 4	Curious if road is slated for gravel soon? Road is full of pot holes and needs attention.	Tony N	Complete	July 5, 2022		July 6, 2022
2022-211	Division 2	Rough Roads need attention, in poor shape after rain	Kent Z	Complete	July 5, 2022	Road was graded July 5 in the afternoon	July 5, 2022
2022-212	Division 2	Water staying on road @ same location as before.	Kent Z	Complete	July 5. 2022	Road was graded July 5 in the afternoon	July 5, 2022
2022-213	Division 5	Brent would like to invite Eric out to his property to go over a drainage issue that he's having.	Eric B	-	July 5. 2022	Met with him July 6, 2022. Will bring 1 load a gravel to fill hole.	-
2022-214	Division 2	Soft spot on the road. Same as always after rain.	Shawn D	Complete	July 5. 2022	thick layer of gravel added	July 6, 2022
2022-215	Division 5	Water pooling infront of metal gate in ditches, would like it to flow for drainage and mosquito issue.	Eric B	-	July 6, 2022	Meet with him in the afternoon. Will look at minor ditch cleaning later this summer.	-
2022-216	Division 4	Has safety concerns over accaessibilty issues of fire/police/ambulance being able to drive on Boat Club Road. It has deteriorated severly.	Jonh	Complete	July 5. 2022	Joh graded boat club road July 6, 2022, James was heading there with gravel after?	July 6, 2022
2022-217	Division 4	North Pincher Station Road is very pitted and needs grading.	Joh	Complete	July 6, 2022		July 7, 2022
2022-218	Division 1	West Kerr Road needs grading	Brian L	-	July 6, 2022	-	-
			Indicates Completed				
			Indicates Defered to Spring				
			indicates On the To Do List				

Recommendation to Council

TITLE: Airfield Lighting Replacement – Tender Update			
PREPARED BY: Leo Reedyk/David Desabrais		**DATE: July 5, 2022**	
DEPARTMENT: Capital Projects			
			ATTACHMENTS: **1. May 18, 2022 Council Briefing** **2. Tender Preliminary Results**
Department Supervisor		**Date**	

APPROVALS:

David Desabrais	22/07/05	Richard McLiggon	2022/07/05
Department Director	**Date**	**Interim CAO**	**Date**

RECOMMENDATION:

That Council approve an additional $125,000 for capital work for the Airport Airfield Lighting Replacement with said funds coming from the Municipal Sustainability Initiative.

BACKGROUND:

As per section 248(1) of the MGA, a council resolution is required for any capital purchase not included in the 2022 budget.

- At the May 18, 2022 Council Meeting $917,000.00 in Capital spending was approved from the Strategic Transportation Infrastructure Program and Municipal Sustainability Initiative for the Airfield Lighting Replacement project (ATTACHMENT #1)
- A Request for Quotations (RFQ) was developed for the project and placed online for interested contractors to develop proposals. The RFQ was published on June 10, 2022, and an onsite meeting was convened on June 16, 2022. Submission deadline of June 30, 2022 resulted in 5 contractors providing RFQ documentation (ATTACHMENT #2)
- The RFQ documents were reviewed and the lowest cost proposal from Black & McDonald Ltd. from Ottawa, Ontario was found to be qualified.
- The RFQ was developed to provide costs for incremental work should the extended runway become a viable option and Council approves the additional spending.
- The RFQ from Black and McDonald Ltd for lighting *the existing runway configuration* is $900.000. Including administration costs and contingency would require an additional **$25,000** from what Council initially approved **($917,000)**
- The RFQ from Black and McDonald Ltd for lighting *the extended runway configuration* is $979,600. Including administration costs and contingency requires an additional **$100,000** from what Council initially approved **($917,000).**

Recommendation to Council ATTACHMENT #1

TITLE: Airfield Lighting Replacement			
PREPARED BY: David Desabrais		**DATE: May 18, 2022**	
DEPARTMENT: Capital Projects			
			ATTACHMENTS:
Department Supervisor		**Date**	**1. NIL**
APPROVALS:			
	05/19/22	Roland Milligan	2022/05/19
Department Director	**Date**	**CAO**	**Date**

RECOMMENDATION:

That Council approve $917,000 for capital work for the Airport Airfield Lighting Replacement with said funds coming from the Strategic Transportation Infrastructure Program and the Municipal Sustainability Initiative.

BACKGROUND:

- As per section 248(1) of the MGA, a council resolution is required for any capital purchase not included in the 2022 budget.
- The Pincher Creek Airport (CZPC) had a significant failure of its electrical systems in the fall of 2021, after the 2022 budget had been prepared.
- Given the timing of the failure and repair attempts, in October and November, a grant application was prepared for submission to the Alberta Strategic Transportation Infrastructure Program – Community Airport Program funding stream. Given the age of the airfield lighting, a major capital rehabilitation to meet *Transport Canada TP 3125th Edition* standards for runway, taxiway and apron edge lighting, precision approach path indicators, airfield directional signage and a field electric center was proposed.
- On May 12, 2022 a letter was received from the Minister of Transportation approving the application to 75% of eligible project costs to a maximum of $585,000 with 25% funding of $195,000 the responsibility of the MD.
- The project offers the opportunity to review if the existing 6,600' runway length can be utilized versus the 5,000' runway length currently in use. Currently about 1,583' of asphalt is not available for landing. Should CZPC be able to use full length of the asphalt given current regulations, the placement of the lighting fixtures would change. Additionally, the paint markings on the runway would require replacement at a cost of $72,000 and the flight charts would need to be revised at an estimated cost of $25,000. This repainting cost is not included in the grant application although the

assessment is. The review of obstructions in the area and runway threshold elevations that would determine if the threshold locations can be changed.

- 2022 capital budget would include actual construction and final engineering costs (tendering, field inspections, commissioning, quality assurance, record drawing closeout)
- This project would replace the 40+ year old electrical infrastructure, would reduce power consumption at the airport thereby improving energy efficiency. It would re-establish the ability to fly at nighttime and during inclement weather. This level of service includes forestry fire attack aircraft, emergency medical flights, private and corporate aviation. The safety improvements to the airport are significant including the new *TP 312 5th Edition* standards, replacing obsolete equipment and include installing stand by emergency power.
- Depending on the availability of fuel options for the standby generator it may be natural gas, propane or diesel. Pending the size of the generator required for the airfield lighting, a small increment of available emergency power may be available for the Airport Terminal Building.
- Numerous components of this project are long lead time procurement items that could delay completion therefore an early start to the project is recommended. The project should be tendered in June and awarded prior to July 1, 2022 as this would allow the contractor too initiate the review and design work while the materials are ordered for installation in the fall and commissioning prior to November 30, 2022.
- Estimated administrative costs of $25,000 not included in the grant application covers project administrative consulting costs related to developing the scope of work, managing the tender process, project award, construction, commissioning, grant close out etc.
- Decision points can be implemented into the project to allow Council an opportunity to be informed of the tender results, results of the runway length review as well as updated budget numbers and project status.

FINANCIAL IMPLICATIONS:

The proposed $917,000 Airfield Lighting Replacement Project costs are split as follows:

$585,000 - Strategic Transportation Infrastructure Program

$195,000 - MD's 25% commitment to the grant
$ 72,000 - Runway line painting if required
$ 25,000 - Flight Charts if required
$ 25,000 - Contract administration
$ 15,000 – Additional contingency
$332,000 - Municipal Sustainability Initiative

ATTACHMENT #2

June 30, 2022

Pincher Creek Airport (CZPC) - Airfield Lighting Replacement - Request for Quotation

#22-03-03-01-02 – Preliminary Results

Tristar Electric Inc	Mississauga, ON	$1,577,136.00
Signal Electric Ltd.	Sidney, BC	$1,412,133.60
Western Pacific Enterprises Ltd.	Nisku, AB	$1,648,590.09
Black and McDonald Ltd.	Ottawa, ON	$979,600.00
SVEMY Construction Ltd.	Calgary, AB	$1,983,600.00

Preliminary results for information, compiled by Leo Reedyk.

Recommendation to Council

TITLE: 10 Year Bridge Structure Asset Management Plan			
PREPARED BY: David Desabrais		**DATE: July 6th, 2022**	
DEPARTMENT: Capital Projects			
		ATTACHMENTS:	
Department Supervisor	**Date**	**1. 10 Year Bridge Study**	
APPROVALS:			
David Desabrais	22/06/07		2022/07/07
Department Director	**Date**	**Interim CAO**	**Date**

RECOMMENDATION :

That Council receive the Bridge Structure Asset Management Plan; 10 Year Prioritization Plan as information.

BACKGROUND:

Roseke Engineering was contracted to provide a 10 yr. bridge report in Spring of 2022 (ATTACHMENT #1). The report reviewed the MD's 160 in service structures and summarized the bridge inventory, location, current condition, known deficiencies, and provided a budget plan for the replacement or repair of structures over the next ten years based on a prioritized system.

Highlights include:

- **Total Estimated Average Budget Allocation (2022-2023): $1,460,500**
- Average year of construction = 1969
- Average structure age = 53 years
- Thirteen (13) structures currently require additional monitoring due to presence of known significant deficiencies

The report contains location maps for high priority bridge files, inventory statistics per bridge/culvert type, and inventory summary data.

The report also contains a 10-year prioritization list (ATTACHMENT #1; Appendix D) which summarizes the 40 highest priority structures in detail along with preliminary recommended courses of action (maintenance or replacement). The highest 10 priority structures have been numbered for ease of reference.

Recommendation to Council

Typical bridge/culvert work requiring engineering has been done over the course of two (2) years in the past, with engineering and grant funding applications completed in year 1 and construction completed in year 2.

FINANCIAL IMPLICATIONS:

N/A

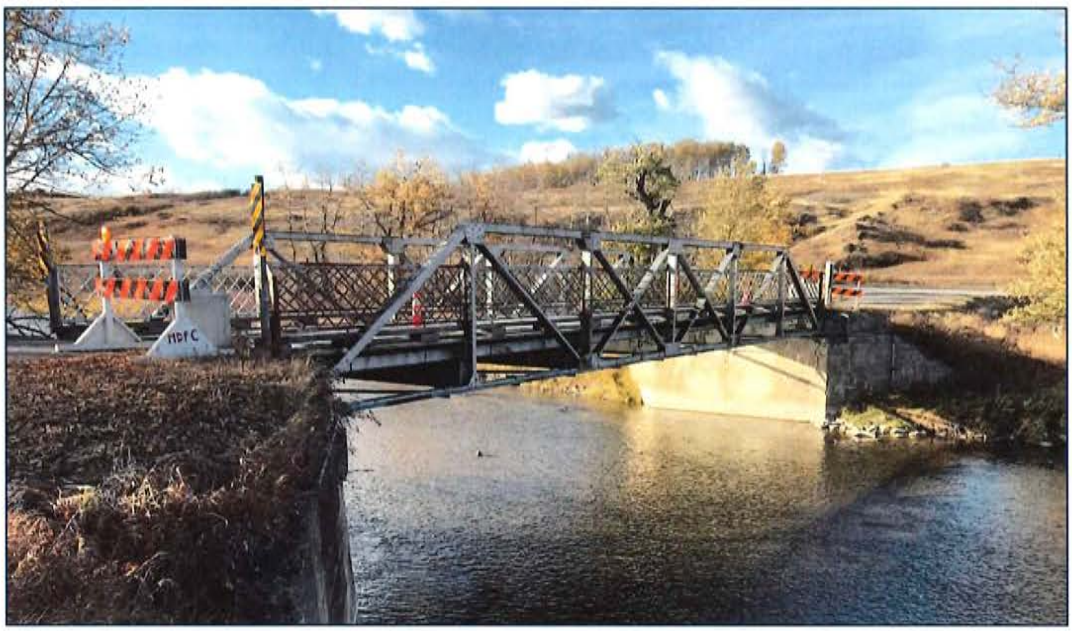
10 Year Bridge Report & 2022 Bridge Report ATTACHMENT #1

ROSEKE ENGINEERING

MUNICIPAL DISTRICT OF PINCHER CREEK NO. 9

BRIDGE STRUCTURE ASSET MANAGEMENT PLAN

10 Year Prioritization Plan



Roseke Engineering File No.: REL221015
Municipal District of Pincher Creek No. 9 File No.: 2022_01_01

June 2022

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List of Appendices

1 Introduction

Roseke Engineering Ltd. (Roseke) has been commissioned by the Municipal District of Pincher Creek No. 9 (the M.D.) to develop a ten-year prioritized asset management plan for all bridge structures located in the M.D. that are under their control and management. The following report summarizes the bridge inventory, the location, the current condition, the known deficiencies, other impacts, and provides a budget plan for the replacement of repair of structures over the next ten years based on a prioritized system.

This plan forms a living document that should be updated regularly. The information is based on the current known inventory and deficiencies and prioritized accordingly. It is recommended that the M.D. continue routine inspections, update the inventory regularly and update the ten (10) year plan every five years to acknowledge potential inventory changes, maintenance completed, significant deterioration, accident/flood damage, and to ensure the budget is appropriately managed for these assets.

2 Resources

Bridge inventory information was primarily gathered from the following two sources:

- Alberta Transportation's Bridge Information System (BIS) which is a division of the Transportation Infrastructure Management System (TIMS) that provides inventory reports for all structures in the Municipal District of Pincher Creek No. 9 being used for the study.

- Alberta Transportation's Bridge Inspection and Maintenance (BIM) system, which is a subset of the BIS system and provides data from all recent bridge inspections completed in the M.D. Terminology, acronyms, and rating guidelines found in these inspections align with Alberta Transportation's Bridge Inspection and Maintenance (BIM) Manual, the Bridge Inspection Reference Manual and recent BIM Bulletins and publications.

Additional technical information used to assess the structures and determine an estimated anticipated scope of work for the ten-year prioritization list was provided by Alberta Transportation's Bridges and Structures Technical Standards website, which can be found through the following link:

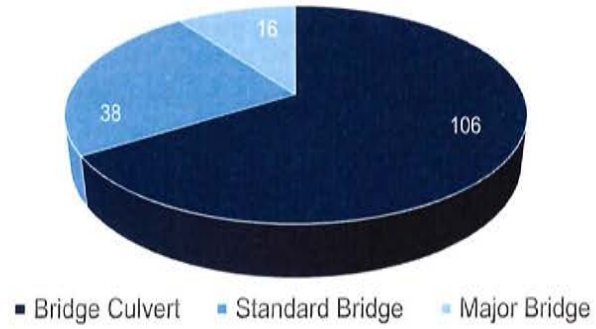
https://www.alberta.ca/bridges-and-structure-technical-standards.aspx

Additional background information was gathered by researching topography, checking aerial imagery, examining historical photos, reviewing level 2 inspections, searching for BIS flow data, accessing archived hydrometric data from Environment Canada, comparing other structures on the watercourse, checking environmental requirements, reviewing pricing for similar projects, and using mathematical tools to estimate sizing requirements.

3 Inventory Information

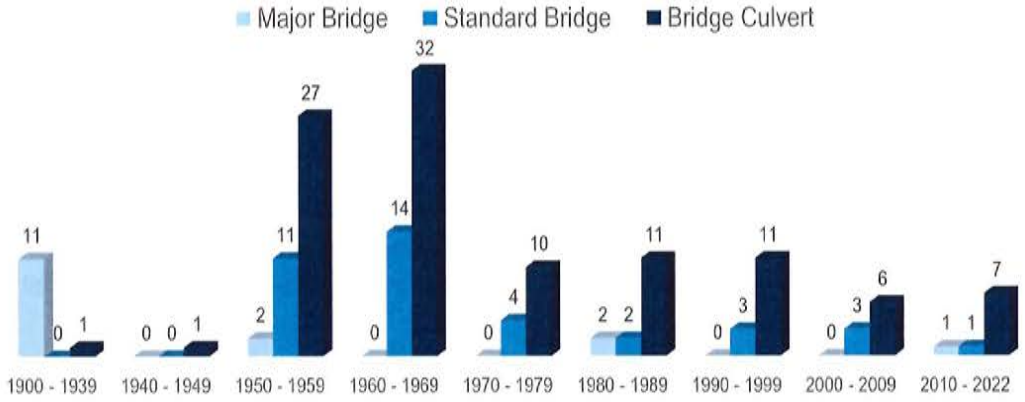
The Municipal District of Pincher Creek No. 9 has 160 structures in their inventory that are currently in service. The previous study completed in 2013 indicated that there were 169 structures, but upon review it was found that 9 were cancelled or removed from inventory for which the exact reasons are unknown. Of the remaining structure in service, 106 are bridge-sized culverts (1.5 m equivalent diameter or larger), 38 are standard bridges, and 16 are major bridges as shown in the figure below:

Municipal District of Pincher Creek Structure Inventory



The average year of construction for all structures is 1969 which makes them 53 years old on average. The following figure shows quantity of structures (by type) constructed per decade:

Municipal District of Pincher Creek
Quantity of Bridge Structures and Year of Construction



New bridge structures are typically designed for a 75-year service life and bridge culverts are typically designed for a 50-year service life. Most structures were constructed during the 1950's and 1960's when Alberta Transportation had a designated bridge construction crew that completed most of this work. As is evident, the bridge inventory is aging, and construction of new/replacement structures has declined. In fact, it was found that 96 of the 160 structures in the M.D. (60%) have an estimated replacement year (as listed on the most recent inspection) occurring within the next ten (10) years.

Further review has determined that approximately 15 structures have been replaced within the last 15 years and additional maintenance has been completed on several more for which the total quantity could not be confirmed. Additional resource allocation will likely be required due to the total quantity of structures aging at similar rates.

At the time of this report, it was found that 57 of the 160 structures (36%) in the M.D. currently require maintenance. An additional 13 require that additional monitoring to be completed due to the presence of known significant deficiencies. Several of these structures also include recommendations to monitor on reduced inspection cycles.

The data presented was based on the information available at the time of this report. Through discussions with the M.D. of Pincher Creek, it was found that a couple of structures were replaced, and the inventory information was not updated. These structures were prioritized based on the current information available and any additional comments recorded should be reviewed to confirm prioritization for maintenance and/or repairs.

A location map for all sites in the Municipal District of Pincher Creek No. 9 has been included in Appendix A.

Detailed inventory statistics have been included in Appendix B outlining the types of structures, age, condition, roadway classifications, usage, and replacement years.

4 Methodology

Roseke Engineering started the evaluation by reviewing inspection information for all structures located on local or municipal roads that are currently in service and under the control and management of the Municipal District of Pincher Creek No. 9. Structures located on the provincial highway network, non-bridge sized culverts, proposed structures, and structures removed from the inventory were not included in the assessment. A total of 160 structures were identified in the search and inspection data for each crossing was reviewed in detail and organized based on the following criteria:

1) Structural Condition Rating
2) Sufficiency Rating
3) Estimated Replacement Year / Age of Structure
4) Recent Maintenance Recommendations

This criterion was used as a baseline for establishing the structures in worst condition. Appendix C contains a summary of all structures with general inventory information, sorted by condition, sufficiency, and replacement year. Secondary inventory lists showing only bridge culverts or only bridge structures were also included. Roseke Engineering will provide a copy of the digital inventory list to the M.D. of Pincher Creek No. 9. This form can be a living document and should be updated yearly as inspections are completed, maintenance is done, or as structures are replaced. The inventory list can be used as a tool to assist with the management of these assets and the prioritization of structures requiring repairs/replacement.

The inspection forms are set up so that each element at a crossing is assigned an individual rating. The rating for the critical elements results in a general rating being assigned to each category. The ratings for each element are used to calculate a structural condition rating and a sufficiency rating for each structure. By analyzing the ratings for each element, the corresponding comments, and supporting information (if available) the deficiencies can be assessed on an individual basis to develop a prioritization plan. The low ratings identified result in a repair or replacement prioritization as outlined below:

BIM Rating	Description	Maintenance Priority
5 -9	Element is in acceptable condition and functioning as intended	No Action Required
4	Element is below minimal acceptable condition	Low Priority for Repair
3	Element is showing signs of deterioration or distress and therefore not functioning as intended	Medium Priority for Repair
2	Element has severe deterioration or distress, and/or is presenting a hazardous condition.	High Priority for Repair
1	Danger of Collapse or Danger to Users	Immediate Action Required

The structures with the highest priority were evaluated in greater detail to examine the current condition and functionality of the structure based on the severity of the identified deficiencies. A total of 40 structures with ratings or conditions that suggest significant maintenance and/or replacement will be required within the next ten years were evaluated. They are circled on the location maps in Appendix A and a list of these structures is provided below:

Bridge File #	Year Built	Location	Crossing Name	Nearest Town	Roadway Standard	Structural Condition Rating	Sufficiency Rating	Maintenance Required?	BIM ERY
02488-01	1927	NW 26-07-02 W4M	Crowsnest River	Lundbreck	RLU-209G-090	22.2%	30.3%	Y	2020
00468-01	1968	SE 04-06-20 W4M	Kettles Creek	Pincher Creek	RLU-208G-090	22.2%	46.2%	N	2018
75737-01	1953	NE 23-09-03 W5M	South Todd Creek	Burmis	RLU-208G-090	22.2%	52.3%	N	2018
76294-01	1965	SW 32-06-01 W5M	Trib. To Castle River	Cowley	RLU-208G-090	22.2%	52.8%	M	2022
75265-01	1960	NE 11-10-01 W5M	Heath Creek	Cowley	RLU-208G-090	33.3%	34.6%	Y	2023
01113-01	1971	SE 31-07-29 W4M	Trib. To Oldman River	Pincher Creek	RLU-208G-090	33.3%	40.3%	M	2033
74048-01	1962	NW 36-09-03 W5M	Todd Creek	Burmis	RLU-207G-060	33.3%	49.2%	M	2029
75801-01	1953	SW 09-10-01 W5M	Trib. To Oldman River	Cowley	RLU-208G-090	33.3%	51.0%	Y	2030
75481-01	1961	SW 23-09-01 W5M	Trib. To Olin Creek	Cowley	RLU-208G-090	33.3%	51.1%	M	2030
00470-01	1988	SE 02-06-01 W5M	Trib. To Pincher Creek	Pincher Creek	RLU-208G-090	33.3%	53.1%	M	2032
74260-01	1954	SW 13-05-29 W4M	Trib. To Foothill Creek	Pincher Creek	RLU-208G-090	33.3%	54.0%	Y	2020
07080-01	1974	SW 17-03-29 W4M	Dungarvan Creek	Twin Butte	RLU-208G-090	33.3%	54.1%	M	2030
76203-01	1965	NW 26-10-03 W5M	Ernst Creek	Maycroft	RLU-208G-090	33.3%	54.5%	M	2027
71542-01	1967	SE 07-10-01 W5M	Indian Creek	Maycroft	RLU-207G-060	33.3%	56.5%	M	2035
13960-01	1961	SE 11-08-01 W5M	Trib. To Oldman River	Cowley	RLU-207G-060	33.3%	58.1%	M	2031
01077-01	1963	NW 12-05-29 W4M	Foothill Creek	Pincher Creek	RLU-208G-090	38.9%	60.1%	Y	2032
70175-01	1957	NW 22-03-30 W4M	Yarrow Creek	Twin Butte	RLU-209G-090	44.4%	34.6%	Y	2024
76636-01	1962	SE 17-06-01 W5M	Trib. To Castle River	Pincher Creek	RLU-207G-060	44.4%	44.5%	N	2023
75377-01	1962	NW 08-06-02 W5M	Screwdriver Creek	Burmis	RLU-208G-090	44.4%	47.5%	Y	2020
01348-01	1969	SW 03-08-02 W5M	Connelly Creek	Lundbreck	RLU-208G-090	44.4%	49.8%	N	2030
07743-01	1908	SW 23-05-02 W5M	Gladstone Creek	Pincher Creek	RLU-209G-090	44.4%	49.9%	Y	2025
02187-01	1968	NW 27-03-29 W4M	Trib. To Dungarvan Creek	Twin Butte	RLU-207G-060	44.4%	50.5%	Y	2024
00673-01	1958	SE 21-09-01 W5M	Olin Creek	Cowley	RLU-208G-090	44.4%	52.4%	N	2028
74110-01	1957	SW 36-09-03 W5M	Todd Creek	Burmis	RLU-207G-060	44.4%	53.3%	N	2025
01528-01	1953	NW 25-05-01 W5M	Pincher Creek	Pincher Creek	RLU-208G-090	44.4%	56.2%	Y	2028
00471-01	1960	SW 02-06-01 W5M	Trib. To Pincher Creek	Pincher Creek	RLU-209G-090	44.4%	56.4%	N	2033
73602-01	1972	SE 31-05-01 W5M	Trib. To Gladstone Creek	Pincher Creek	RLU-208G-060	44.4%	56.4%	Y	2034
74425-01	1955	NW 23-05-02 W5M	Trib. To Gladstone Creek	Beaver Mines	RLU-209G-090	44.4%	59.5%	N	2030
01410-01	1958	SW 14-05-28 W4M	Trib. To Waterton River	Brocket	RLU-208G-090	44.4%	60.3%	N	2029
07982-01	1982	SW 20-03-29 W4M	Trib. To Dungarvan Creek	Twin Butte	RLU-207G-060	44.4%	60.4%	Y	2028
77192-01	1970	SE 27-06-01 W5M	Trib. To Castle River	Pincher Creek	RLU-207G-060	44.4%	60.9%	N	2028
78427-01	1980	SE 25-08-29 W4M	Trib. To Beaver Creek	Brocket	RLU-208G-090	44.4%	61.9%	Y	2035
06906-01	1913	SE 13-07-03 W5M	Crowsnest River	Burmis	RLU-207G-060	50.0%	36.8%	Y	2035
70417-01	1960	SE 05-07-01 W5M	Trib. To Castle River	Pincher Creek	RLU-208G-090	50.0%	62.8%	Y	2024
74259-01	1954	SE 01-06-30 W4M	Trib. To Indianfarm Creek	Pincher Creek	RLU-207G-060	55.6%	49.6%	M	2025
02360-01	1955	NW 18-08-29 W4M	Trib. To Oldman River	Pincher Creek	RLU-207G-060	55.6%	56.9%	M	2030
08685-01	1953	SW 05-05-29 W4M	Foothill Creek	Twin Butte	RLU-208G-090	55.6%	59.7%	Y	2030
06836-01	1953	SE 29-09-02-W5M	Todd Creek	Lundbreck	RLU-208G-090	55.6%	63.5%	Y	2031
74906-01	1962	SW 06-05-29 W4M	Foothill Creek	Pincher Creek	RLU-208G-090	61.1%	65.8%	Y	2030
06765-01	1990	NW 03-06-02 W5M	Beaver Mines Creek	Pincher Creek	RLU-208G-090	66.7%	72.8%	Y	2038
06559-01	1910	NW 36-04-30 W4M	Foothill Creek	Twin Butte	RLU-208G-090	77.8%	74.8%	Y	2020

The most recent inspection report identifies the need for maintenance as "yes" or "no". Occasionally, additional maintenance is not specified, but monitoring is so an "M" was used to indicate that additional routine monitoring, usage restriction, or reduced inspection cycles were advised. Additional comments were included in the digital copy of the inventory list. The M.D. is also advised that data from level 2 coring inspections was not necessarily updated on the level 1 inspection, so the ratings were not accurately reflected. The M.D. should review the inspections, comments, and check the site conditions annually hen considering replacement/maintenance at each crossing.

A Ten-Year Prioritization List was developed for the 40 structures reviewed and has been included in Appendix D with comments and budgetary pricing. This list contains the following information:

- Bridge File Number
- Location & Structure Type
- The Estimated Replacement Year as listed on the inspection form
- Structural Condition and Sufficiency Ratings
- Inventory Information – Including additional researched information pertaining to that site
- Commentary regarding the condition of the structure and the reasoning for replacement or maintenance.
- The estimated preferred action for each site and the target year to complete that work.
- The estimated maintenance or replacement costs for each site.

Depending on the structure type, the deficiencies identified, and the site conditions, further technical assessments or engineering may be required to verify the correct course of action. We have provided an estimated budget based on the assumptions made during the review. The M.D. should consider that conditions or requirements may change, and that this evaluation was done for ranking and estimating purposes based on the information available at the time. Although we attempt to consider deterioration rates and estimate the action years, limited data, incomplete information, or other factors may contribute work being required earlier or later than expected. Continued monitoring and routine maintenance should be continued. The inventory list should be updated annually at a minimum, and it is recommended that the ten-year prioritization list be reviewed and updated every five years.

The M.D. should consider that existing structures were constructed to current standards in their respective year of construction. Since then, standards and specifications for bridges and culverts has changed, and the existing structures may not be adequately serving the needs of the public and/or resulting in potential hazards. Both the inventory list and the ten-year prioritization list identify substandard allowable loading on bridge structures, steep embankment, missing slopes, reduced height of cover and other factors which may be considered substandard. Other structures that were not prioritized may also have substandard features or hazardous conditions and additional routine maintenance may be required to correct these deficiencies. When also considering the effects of the frequency of flooding, the environmental requirements, usage, and the level of service, replacement alternatives are typically required to be larger than the existing structure. The implementation of maintenance actions may also be influenced by the hydraulic capacity of the structure in relation to historic flood levels and potential adverse impacts to the environment.

Maintenance alternatives were suggested for structures nearing the end of their service life if the evaluation suggested that the associated costs in relation to the extended life span could provide additional value. Life cycle cost and net present value analysis should be completed to verify the correct course of action on an individual basis. Furthermore, there may be maintenance requirements for other structures not prioritized that need to be addressed to ensure safety, improve the condition or functionality of the structure, and minimize the potential for early replacement.

The review of the historical bridge inventory and inspection data is based on the information provided as of the most recent inspection. Roseke has not visited the sites to verify the inspection data, or to complete detailed assessments at each site. This evaluation was based on a desktop review and is partially dependent upon the accuracy of the information acquired. Furthermore, the default inspection cycle for standard bridges on culverts on local roads is 57 months, and 37 months for major structures. Hence, conditions could have changed since the last inspection. The evaluation did not consider potential impact damage, flooding, unidentified deficiencies, or other unknown factors which may result in other structures requiring replacement or maintenance at an earlier interval.

5 Asset Budget Allocation

Roseke has provided an estimated cost to complete maintenance or replace each structure on the ten-year list so that budget projections could be made. Budgetary information was based off other similar projects and considers the replacement structure type, the size of the structure, the effort required and the detour requirements. These are "A" level estimates that include engineering fees for the assumed work being completed by others. Considerations for land acquisition, habitat compensation, additional work, historical resources, supply chain issues, inflation or other factors may contribute to a variance in the total project costs. To minimize the potential for budget overruns, it is recommended that detailed Preliminary Engineering be completed prior to the target replacement year so that all factors can be considered, and higher-level cost estimates can be provided to confirm the work meets the M.D.'s budgetary constraints for the next fiscal year.

The M.D.'s desired or approved annual budget allocation for these assets is unknown so the yearly expenditure was based on an estimated total average yearly expenditure being required to repair or replace the 40 identified structures. The M.D. may adjust target years based on funding availability, budgetary constraints, and/or need. Minor adjustments to the prioritization order could also be considered if needed to work within the annual budget constraints. Diligent monitoring should be completed, especially on structures with low ratings, so that the safety of the public is maintained. The M.D. may also consider increasing budgets and advancing the program to alleviate additional expenditure requirements in the next decade as the assets age.

Costs for routine maintenance were not included in the assessment under the pretense that most maintenance work will be completed by M.D. public works staff, and that the work is not critical to operation of the structure and additional funding sources are not available. An estimated $50,000 annual budget should be reserved for additional routine maintenance to be completed.

A summary of the estimated average costs for the maintenance and replacement of structures through the next ten years is shown below:

Bridge Structure Budgetary Allocation	Total Program	Yearly Average
Estimated Bridge Structure Maintenance Costs (2023 – 2033)	$ 1,840,000	$ 184,000 /year
Estimated Bridge Structure Replacement Costs (2023 – 2033)	$ 2,526,000	$ 252,600 / year
Estimated Bridge Culvert Maintenance Costs (2023 – 2033)	$ 225,000	$ 22,500 / year
Estimated Bridge Culvert Replacement Costs (2023 – 2033)	$ 10,014,000	$ 1,001,400/ year
Estimated Total Required Maintenance Budget (2023 – 2033)	$ 2,065,000	$ 206,500 / year
Estimated Total Required Replacement Budget (2023 – 2033)	$ 12,540,000	$ 1,254,000 / year
Total Estimated Average Budget Allocation (2023-2033)	**$ 14,605,000**	**$ 1,460,500 / year**

Budget costs for 2022 were not included under the presumption that funding has already been included in the current fiscal budget. It is estimated that the M.D. has already allocated approximately $354,000 for maintenance and $2,045,200 for replacement based on available information.

The assumed maintenance work will typically extend the life of a structure for 10 – 15 years. The planned $2.07 million in maintenance costs to be incurred over the next 10 years will result in an approximate $ 11,118,000 of replacement costs being deferred to the next decade. It is recommended that the 10-year prioritization list be updated in five years to review the inventory condition and estimate costs going forward as other structures age. The inventory analysis revealed a large quantity of structures requiring replacement in the 2030's, and budget allocation should be reviewed to confirm if additional funding may be required. Furthermore, variable deterioration rates or condition changes may result in an alternate strategy being required. The M.D. may consider adding a contingency to the budget forecast to capture potential variations in the strategy, or potential cost increases. Routine maintenance costs were excluded from the prioritization plan.

A significant annual variance could be expected depending on the total project costs and funding availability. The annual average should be used as a guideline for establishing budgets with understanding that overruns or underruns will be carried forward to the next fiscal year. The estimates were based on work being completed on approximately 3-4 structures per year based on the 2022 program. Roseke did not attempt to reorganize priority work to create a balanced annual budget. Structures were prioritized based on their current condition. The M.D. may increase or decrease asset funding allocation depending on funding availability, but additional monitoring or maintenance may be required.

A detailed copy of the 2023-2033 asset budget allocation has been included in Appendix E.

6 Funding Alternatives

The Municipal District of Pincher Creek No. 9 is encouraged to apply for funding to complete this work on an annual basis to alleviate the monetary impacts from tax revenue, Municipal Sustainability Initiative (MSI) funding or other sources that can be used for other M.D. needs/projects. A summary of the known potential funding sources is shown below:

6.1 Alberta Transportation Strategic Transportation Infrastructure Program (STIP)

The Local Road Bridge Program (LRB) is one of four funding streams of the Alberta Transportation Strategic Transportation Infrastructure Program (STIP) and provides Municipalities with funding for local road bridge projects on a 75% (AT) / 25% (M.D.) cost share initiative. Engineering, maintenance, rehabilitation and replacement costs can be covered for eligible projects. In order for a project to be deemed eligible, an application needs to be submitted that outlines the basic need, safety, functionality, condition, economic impacts, social benefits, environmental benefits, and condition of the structure. More information can be found here:

https://www.alberta.ca/stip-local-road-bridge-program.aspx#jumplinks-1

As a typical rule, funding under this program is typically only provided for structures with a Structural Condition Rating below 38.9% unless other factors contribute to the need for replacement or joint funding can be provided. Based on the current inventory condition, the M.D. of Pincher Creek No. 9 has 16 potential eligible projects.

6.2 Alberta Environment & Parks Watercourse Crossing Remediation Grant Program

The goal of the watercourse crossing program is to address threats to fish survival stemming from trails and poorly constructed and maintained watercourse crossings that cause habitat fragmentation, erosion, and sedimentation. The Remediation Grant Program was established in 2021 and provides financial assistance for Municipalities to remediate and reclaim roadway crossings. Funding priority is given to activities that clearly demonstrate improvement of fish to access high quality habitat, reduce sedimentation, demonstrate collaboration with other watercourse owners, and

allow for the collection of watercourse crossing data. At this time the program has $8.5 million allocated annually for each fiscal year from 2021 to 2024. Municipalities (including the M.D. of Pincher Creek No. 9) along the eastern slopes of the Rockies in priority 1 watersheds are given priority for funding claims if the benefits can be clearly outlined. Considering the M.D. is prioritized and that an estimated 90% of all waterbodies in the Municipality contain fish and fish habitat, and that additional consideration for assessments, environmental approvals, permitting, construction timing effects, and habitat offsetting has occurred more frequently, prioritization for work may be adjusted if funding can be obtained through this program.

More information regarding the program and how to apply can be found here:

https://www.alberta.ca/watercourse-crossing-program.aspx

6.3 The Department of Fisheries & Oceans (DFO) – Fish Habitat Bank

Although this program does not provide direct funding for local road bridge projects, the Municipal District of Pincher Creek No. 9 is encouraged to develop project specific offsetting plan with DFO to establish offsetting credits for future work. In accordance with the Federal Fisheries Act, the death of fish or the harmful alteration, destruction or disruption to fish habitat is prohibited. If the application to conduct work in a fish bearing waterbody results in this potential condition, the proponent would be required to design, construct, fund, and monitor offsetting measures. Alternatively, if the proponent can prove that the work they are completing will create a significant net gain in habitat, the proponent can apply for a credit for use on other projects. Although there is no tangible funding received for the project, the potential cost savings resulting from the credit bank could be significant, especially when considering that required offsetting measures may have to be developed with an increased high ratio in comparison with the actual loss incurred. More information regarding this program can be found here:

https://www.dfo-mpo.gc.ca/pnw-ppe/reviews-revues/policies-politiques-eng.html#_697

As an example, the M.D. could replace a culvert structure on an environmentally sensitive waterbody with a standard bridge or other structure that facilitates fish passage. The increase in habitat provided at site, in combination with the habitat gained upstream could be credited for use on other bank protection projects, or where a significant net loss of habitat is lost (e.g., installing a long, large diameter culvert where a bridge previously existed).

These potential funding sources are being recommended to alleviate budgetary impacts to the M.D. If you require more information, or need assistance with applications, Roseke Engineering can assist as needed.

7 Conclusion

This report is being provided to the Municipal District of Pincher Creek No. 9 for bridge structure asset management purposes so that the M.D. can identify, plan, and budget the resources necessary to maintain the assets under their control, minimize adverse impacts to residents and industry, and preserve the safety of the travelling public. The information contained herein is based on a detailed review of recent inspections, inventory information and by using judgment, and technical experience to identify the probable and appropriate maintenance or replacement for each site. Additional inspections and/or assessments should be completed to verify the information and assist with the prioritization and implementation of the program going forward.

Detailed location maps, inventory information, the ten-year prioritization list, budgetary estimates and other information contained therein is included in the following Appendices and forms part of this document. Additional digital file information can also be provided at the request of the M.D.

We thank you for the opportunity to provide this information to the Municipal District of Pincher Creek No. 9. We are willing to discuss the information and/or provide additional information as needed via. phone call or meeting at your convenience. If you have questions or comments regarding any of the information provided, please feel free to contact the undersigned at your earliest convenience.

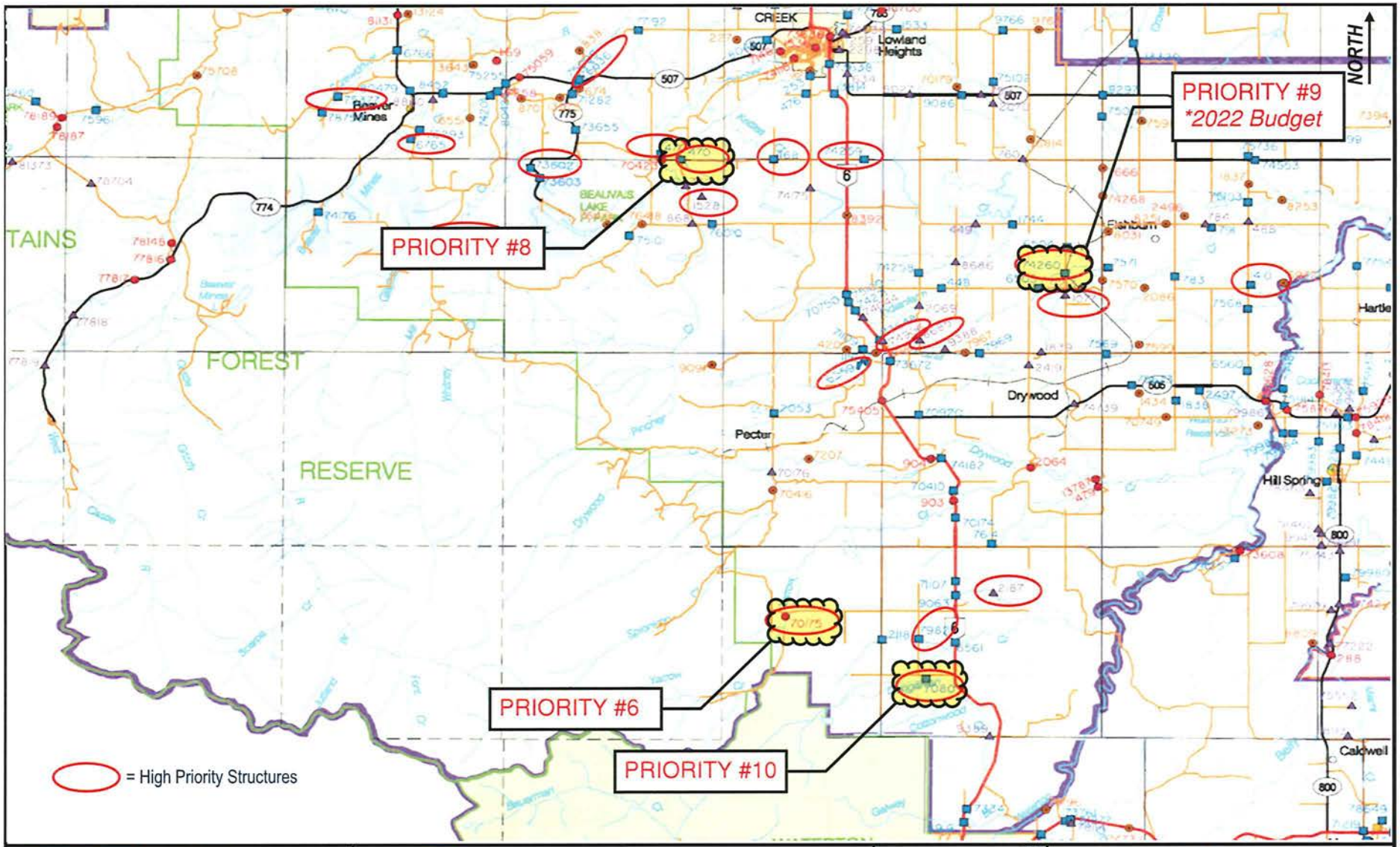
Respectfully submitted by:

Levi Ober, P.Tech.(Eng.), P.L.Eng.
Bridge Engineer
Roseke Engineering Ltd.

Bernie Roseke, P.Eng, PMP
Principal / Owner
Roseke Engineering Ltd.

Appendix A

Location Maps



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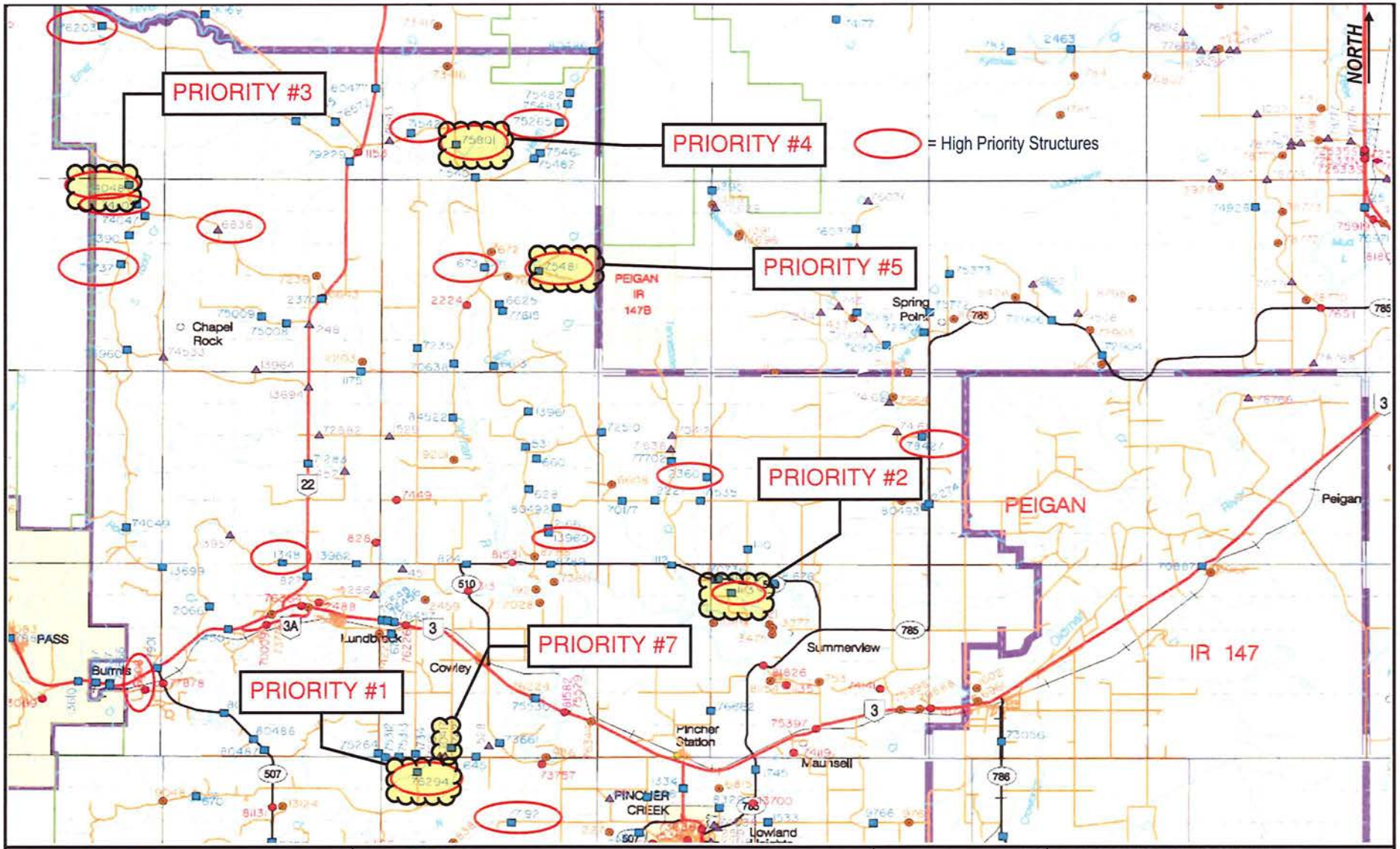
Phone: (403) 942-6170

M.D. of PINCHER CREEK

Municipal District of Pincher Creek No. 9
1037 Herron Avenue
Pincher Creek, AB T0K 1W0

TITLE:	BRIDGE FILE LOCATION MAP #1 (SOUTH)
PROJECT DESCRIPTION:	2022 BIM Asset Management & Planning
HIGH PRIORITY BRIDGE FILES:	468, 7743, 75377, 470, 1077, 74260, 2187, 471, 1528
	70175, 1410, 7982, 73602, 74425, 74259, 8685, 6765,
	74906, 6559



ROSEKE ENGINEERING
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Phone: (403) 942-6170

M.D. of PINCHER CREEK

Municipal District of Pincher Creek No. 9
1037 Herron Avenue
Pincher Creek, AB T0K 1W0

TITLE:	BRIDGE FILE LOCATION MAP #2 (NORTH)
PROJECT DESCRIPTION:	2022 BIM Asset Management & Planning
HIGH PRIORITY BRIDGE FILES:	75737, 76294, 1113, 74048, 75265, 75801, 75481,76203,
	71542, 13960, 673, 74110, 1348, 77192, 78427, 6906
	2360

Appendix B

Inventory Statistics

MUNICIPAL DISTRICT OF PINCHER CREEK No. 9 - BRIDGE INVENTORY STATISTICS

The following Tables Provide Additional information Regarding the MD of Pincher Creek's Bridge Structure Inventory & Includes:

- Table No. 1 - BRIDGE STRUCTURE INVENTORY QUANTITIES
- Table No. 2 - BRIDGE STRUCTURE INVENTORY AGE
- Table No. 3 - BRIDGE STRUCTURE INVENTORY USAGE
- Table No. 4 - BRIDGE STRUCTURE INVENTORY ROADWAY CLASSIFICATION / SERVICE LEVEL
- Table No. 5 - BRIDGE STRUCTURE INVENTORY CONDITION
- Table No. 6 - BRIDGE STRUCTURE INVENTORY ESTIMATED REPLACEMENT YEAR
- Table No. 7 - BRIDGE STRUCTURE INVENTORY WITH MAINTENANCE REQUIREMENTS

ROSEKE ENGINEERING

Table No. 1 - BRIDGE STRUCTURE INVENTORY QUANTITIES

Total Number of Structures in Service and Managed by the Municipal District of Pincher Creek No. 9:			**160**
Total Number of Bridge Sized Culverts:			**106**
CSP / Rolled Culvert Alternatives:	*39*		
Structural Plate Configurations:	*65*		
Rigid Structures (Concrete Box, Steel, Etc):	*2*		
Total Number Standard Bridges:			**38**
Type PG Girder Bridges	*14*		
Type HC Girder Bridges	*11*		
Treated Timber Bridges	*4*		
S-Series Girder Bridges (SM,SL,SC, etc)	*9*		
Major Bridges			**16**
Truss Bridges (TH, PT)	*12*		
Other Types	*4*		

Table No. 2 - BRIDGE STRUCTURE INVENTORY AGE

Avg. Year of Construction (Age) for All Structures in Service in the Municipal District of Pincher Creek:			**1969**	**(53 Years)**
Year of Construction (Age) of all Bridge Sized Culverts:			**1973**	**(49 Years)**
CSP / Rolled Culvert Alternatives:	*1984*	*(38 Years)*		
Structural Plate Configurations:	*1967*	*(55 Years)*		
Rigid Structures (Concrete Box, Steel, Etc)	*1960*	*(62 Years)*		
Year of Construction (Age) of all Standard Bridges:			**1970**	**(52 Years)**
Type PG Girder Bridges	*1957*	*(65 Years)*		
Type HC Girder Bridges	*1965*	*(57 Years)*		
Treated Timber Bridges	*1965*	*(57 Years)*		
S-Series Girder Bridges (SM,SL,SC, etc)	*1998*	*(24 Years)*		
Year of Construction (Age) of all Major Bridges			**1940**	**(82 Years)**
Truss Bridges (TH, PT)	*1926*	*(96 Years)*		
Other Types	*1983*	*(39 Years)*		

MUNICIPAL DISTRICT OF PINCHER CREEK No. 9 - BRIDGE INVENTORY STATISTICS

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ROSEKE ENGINEERING

Table No. 3 - BRIDGE STRUCTURE INVENTORY USAGE

Useage Type for All Structures in Service in the Municipal District of Pincher Creek:		160
Structures Located on Tributaries		**64**
Bridge Sized Culverts	*61*	
Standard Bridges	*3*	
Major Bridges	*0*	
Structure Located on Creeks		**83**
Bridge Sized Culverts	*40*	
Standard Bridges	*35*	
Major Bridges	*8*	
Structures Located on Rivers		**9**
Bridge Sized Culverts	*1*	
Standard Bridges	*0*	
Major Bridges	*8*	
Structures used as Livestock/Over Passes		**4**
Bridge Sized Culverts	*4*	
Standard Bridges	*0*	
Major Bridges	*0*	

Table No. 4 - BRIDGE STRUCTURE INVENTORY ROADWAY CLASSIFICATION / SERVICE LEVEL

Roadway Classification for All Structures in Service in the Municipal District of Pincher Creek:		160
Structures with an RLU-206G-060 Roadway Classification		**2**
Bridge Sized Culverts	*0*	
Standard Bridges	*2*	
Major Bridges	*0*	
Structures with an RLU-207G-060 Roadway Classification		**51**
Bridge Sized Culverts	*33*	
Standard Bridges	*13*	
Major Bridges	*5*	
Structures with an RLU-208G-060 Roadway Classification		**6**
Bridge Sized Culverts	*4*	
Standard Bridges	*1*	
Major Bridges	*1*	
Structures with an RLU-208G-090 Roadway Classification		**79**
Bridge Sized Culverts	*58*	
Standard Bridges	*20*	
Major Bridges	*1*	
Structures with an RLU-208-100 Roadway Classification		**6**
Bridge Sized Culverts	*5*	
Standard Bridges	*0*	
Major Bridges	*1*	
Structures with an RLU-209G-090 Roadway Classification		**16**
Bridge Sized Culverts	*6*	
Standard Bridges	*2*	
Major Bridges	*8*	

MUNICIPAL DISTRICT OF PINCHER CREEK No. 9 - BRIDGE INVENTORY STATISTICS

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ROSEKE ENGINEERING

Table No. 5 - BRIDGE STRUCTURE INVENTORY CONDITION

Structural Condition Rating for All Structures in Service in the Municipal District of Pincher Creek:		**160**
Structures with a Structural Condition Rating Less than 30%		**4**
Bridge Sized Culverts	*3*	
Standard Bridges	*0*	
Major Bridges	*1*	
Structures with a Structural Condition Rating between 30% and 40%		**12**
Bridge Sized Culverts	*11*	
Standard Bridges	*1*	
Major Bridges	*0*	
Structures with a Structural Condition Rating between 40% and 50%		**26**
Bridge Sized Culverts	*12*	
Standard Bridges	*8*	
Major Bridges	*6*	
Structures with a Structural Condition Rating between 50% and 60%		**28**
Bridge Sized Culverts	*14*	
Standard Bridges	*8*	
Major Bridges	*6*	
Structures with a Structural Condtion Rating between 60% and 70%		**31**
Bridge Sized Culverts	*21*	
Standard Bridges	*9*	
Major Bridges	*1*	
Structures with a Structural Condtion Rating greater than 70%		**59**
Bridge Sized Culverts	*45*	
Standard Bridges	*12*	
Major Bridges	*2*	

MUNICIPAL DISTRICT OF PINCHER CREEK No. 9 - BRIDGE INVENTORY STATISTICS

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Table No. 6 - BRIDGE STRUCTURE INVENTORY ESTIMATED REPLACEMENT YEAR

Estimated Replacement Year for All Structures in Service in the Municipal District of Pincher Creek:		160
Structures with an Estimated Replacement Year Occurring prior to 2022		**7**
Bridge Sized Culverts	*6*	
Standard Bridges	*0*	
Major Bridges	*1*	
Structures with an Estimated Replacment Year Occurring Between 2022 and 2027		**28**
Bridge Sized Culverts	*18*	
Standard Bridges	*6*	
Major Bridges	*4*	
Structures with an Estimated Replacement Year Occurring Between 2028 and 2032		**61**
Bridge Sized Culverts	*39*	
Standard Bridges	*19*	
Major Bridges	*3*	
Structures with an Estimated Replacement Year Occurring Between 2033 and 2037		**29**
Bridge Sized Culverts	*19*	
Standard Bridges	*5*	
Major Bridges	*5*	
Structures with an Estimated Replacement Year Occurring Between 2038 and 2042		**13**
Bridge Sized Culverts	*7*	
Standard Bridges	*5*	
Major Bridges	*1*	
Structures with an Estimated Replacement Year Occurring Beyond 2042		**22**
Bridge Sized Culverts	*17*	
Standard Bridges	*3*	
Major Bridges	*2*	

Table No. 7 - BRIDGE STRUCTURE INVENTORY WITH MAINTENANCE REQUIREMENTS

All Structures in Service that Require Maintenance in the Municipal District of Pincher Creek:		160
Maintenance Required		**59**
Bridge Sized Culverts	*27*	
Standard Bridges	*17*	
Major Bridges	*15*	
Maintenance Not Required		**88**
Bridge Sized Culverts	*68*	
Standard Bridges	*20*	
Major Bridges	*0*	
Additional Monitoring Required		**13**
Bridge Sized Culverts	*11*	
Standard Bridges	*1*	
Major Bridges	*1*	

Appendix C

Inventory Summary

MUNICIPAL DISTRICT OF PINCHER CREEK No. 9 - ALL BRIDGE STRUCTURE INVENTORY

Last Updated May 20, 2022

Structures Listed in Order Based on: 1. Structural Condition Rating, 2. 1. Structural Condition Rating, 2. Sufficiency Rating, 3. Estimated Replacement Year, 4. Maintenance Needs

Bridge File #	Year Built	Location	Crossing Name	Nearest Town	Roadway Standard	Structure Type	Span Type	Single Axle Loading	Semi Loading	Train Loading	Equiv. Diameter / Clear Width	Structure Length	Approach Rd General Rating	U/S End General Rating	Barrel General Rating	D/S End General Rating	Superstructure General Rating	Substructure General Rating	Structure Usage / Channel General Rating	Structural Condition Rating	Sufficiency Rating	Maintenance Required?	BIM ERY	Roadway Width (m)	Skew (degrees)	Cover / Height (m)	Detour Length (km)	Est. AADT	AADT Est. Year
02488-01	1927	NW 26-07-02 W4M	Crowsnest River	Lundbreck	RLU-209G-090	Major Bridge	PT	16	26	34	4.9 m	24.4 m	5				2	2	4	22.2%	30.3%	Y	2020	6.2	0	4.4	1	39	2019
00468-01	1908	SE 04-06-20 W4M	Kettles Creek	Pincher Creek	RLU-208G-090	Bridge Culvert	SP				2438 mm	36.0 m	5	7	2	6			7	22.2%	46.2%	N	2018	8.5	-30	3.7	3	48	2015
75737-01	1952	NE 23-09-03 W5M	South Todd Creek	Burmis	RLU-208G-090	Bridge Culvert	RPP				1690 mm	15.5 m	5	6	2	7			7	22.2%	52.3%	N	2018	7.9	15	1.0	16	48	2015
76294-01	1965	SW 32-06-01 W5M	Trib. To Castle River	Cowley	RLU-208G-090	Bridge Culvert	MP				1520 mm	18.3 m	6	7	2	5			6	22.2%	52.8%	M	2022	8.5	0	1.0		134	2021
75265-01	1960	NE 11-10-01 W5M	Heath Creek	Cowley	RLU-208G-090	Bridge Culvert	RPP				1842 mm	18.9 m	4	5		4			4	33.3%	34.6%	Y	2020	6.5	0	1.5	999	32	2018
01113-01	1971	SE 31-07-29 W4M	Trib. To Oldman River	Pincher Creek	RLU-208G-090	Bridge Culvert	SPE				2441 mm	48.5 m	4	5		4			5	33.3%	40.3%	M	2033	7.7	0	7.5	2	20	2018
74048-01	1962	NW 36-09-03 W5M	Todd Creek	Burmis	RLU-207G-060	Bridge Culvert	FP				2950 mm	15.8 m	5	7		5			5	33.3%	49.2%	M	2029	6.0	-15		999	20	2019
75801-01	1953	SW 09-10-01 W5M	Trib. To Oldman River	Cowley	RLU-208G-090	Bridge Culvert	MPE				1528 mm	25.0 m	6	6		4			7	33.3%	51.0%	Y	2030	8.0	0	2.4	1	132	2021
75481-01	1951	SW 23-09-01 W5M	Trib. To Olin Creek	Cowley	RLU-208G-090	Bridge Culvert	MP				1525 mm	23.8 m	6	7		5			7	33.3%	51.1%	M	2030	6.0	30	2.0	999	16	2020
00470-01	1988	SE 02-06-01 W5M	Trib. To Pincher Creek	Pincher Creek	RLU-208G-090	Bridge Culvert	MP				1600 mm	43.0 m	5	4		4			7	33.3%	53.1%	M	2032	8.0	10	4.7	17	28	2021
74260-01	1954	SW 13-05-29 W4M	Trib. To Foothill Creek	Pincher Creek	RLU-208G-090	Bridge Culvert	MPE				1831 mm	15.2 m	5	7		4			4	33.3%	54.0%	Y	2020	8.0	0	0.0	15	17	2018
07080-01	1974	SW 17-03-29 W4M	Dungarvan Creek	Twin Butte	RLU-208G-090	Bridge Culvert	SPE				4275 mm	37.2	5	6		5			4	33.3%	54.1%	M	2030	8.0	-30	1.0	7	15	2020
76203-01	1965	NW 26-10-03 W5M	Ernst Creek	Maycroft	RLU-208G-090	Bridge Culvert	RPP				2120 mm	20.1 m	6	7		6			5	33.3%	54.5%	M	2030	9.4	-30	1.2		146	2017
71542-01	1967	SE 07-10-01 W5M	Indian Creek	Maycroft	RLU-207G-060	Bridge Culvert	SPE				2135 mm	31.7 m	5	6		6			7	33.3%	56.5%	M	2035	7.6	-30	3.4		36	2020
13960-01	1961	SE 11-08-01 W5M	Trib. To Oldman River	Cowley	RLU-207G-060	Bridge Culvert	SPE				1525 mm	49.4 m	5	7		7			7	33.3%	58.1%	M	2031	7.3	0	8.6	6	70	2021
01077-01	1963	NW 12-05-29 W4M	Foothill Creek	Pincher Creek	RLU-208G-090	Standard Bridge	HC	28	49	65	7.3 m	3 x 6.1 m	7					4	7	33.3%	60.1%	Y	2032	7.3	0	4.0	8	38	2021
70175-01	1957	NW 22-03-30 W4M	Yarrow Creek	Twin Butte	RLU-209G-090	Major Bridge	TH/TT	16	22	27	4.3 m	38.1 m - 6.1 m	6				5	2	4	44.4%	34.6%	Y	2020	7.0	0	3.8	13	60	2020
76636-01	1962	SE 17-06-01 W5M	Trib. To Castle River	Pincher Creek	RLU-207G-060	Bridge Culvert	RPP				1842 mm	15.2 m		6	4	6			7	44.4%	44.5%	N	2021	6.0	0	0.9	999	18	2017
75377-01	1962	NW 08-06-02 W5M	Screwdriver Creek	Burmis	RLU-208G-090	Bridge Culvert	SPE				1813 mm	19.5 m	5		4				6	44.4%	47.5%	Y	2020	7.0	0	1.1	999	36	2020
01348-01	1969	SW 03-08-02 W5M	Connelly Creek	Lundbreck	RLU-208G-090	Bridge Culvert	SP				3000 mm	48.8 m	4	6	4	6			7	44.4%	49.8%	N	2030	7.0	30	5.2	999	16	2019
07743-01	1908	SW 23-05-02 W5M	Gladstone Creek	Pincher Creek	RLU-209G-090	Major Bridge	PA/PT/PA	28	49	62	7.3 m	8.5m-18.3m-8.5m	5					5	6	44.4%	49.9%	Y	2020	9.6	0	5.1	999	121	2019
02187-01	1908	NW 27-03-29 W4M	Trib. To Dungarvan Creek	Twin Butte	RLU-207G-060	Standard Bridge	TT	28	49	67	6.1 m	6.1 m					5		5	44.4%	50.5%	Y	2020	4.0	0	3.0	3	10	2019
00673-01	1958	SE 21-09-01 W5M	Olin Creek	Cowley	RLU-208G-090	Bridge Culvert	SPE				2140 mm	54.3 m	4	7	4	6			6	44.4%	52.4%	N	2028	9.3	0	7.1		38	2018
74110-01	1957	SW 36-09-03 W5M	Todd Creek	Burmis	RLU-207G-060	Bridge Culvert	RPP				1840 mm	17.1 m	7	6	4	6			5	44.4%	53.3%	N	2031	6.4	0	0.5	999	25	2017
01528-01	1953	NW 25-05-01 W5M	Pincher Creek	Pincher Creek	RLU-208G-090	Standard Bridge	PG	28	49	62	6.4 m	3 x 6.1 m	6				5		5	44.4%	56.2%	Y	2028	7.2	-45	2.2	5	54	2020
00471-01	1960	SW 02-06-01 W5M	Trib. To Pincher Creek	Pincher Creek	RLU-209G-090	Bridge Culvert	SP				1830 mm	36.0 m	5	6	4	5			6	44.4%	56.4%	N	2033	8.9	-30	3.4	6	100	2018
73602-01	1972	SE 31-05-01 W5M	Trib. To Gladstone Creek	Pincher Creek	RLU-208G-090	Bridge Culvert	SPE				1823 mm	72.5 m	5	6	4	5			6	44.4%	56.4%	Y	2034	5.0	0	10.1	999	18	2021
74425-01	1955	NW 23-05-02 W5M	Trib. To Gladstone Creek	Beaver Mines	RLU-209G-090	Bridge Culvert	SPE				1502 mm	43.3 m	5	7	4	5			6	44.4%	59.5%	N	2030	9.0	0	5.2		90	2020
01410-01	1958	SW 14-05-28 W4M	Trib. To Waterton River	Brocket	RLU-208G-090	Bridge Culvert	MPE				1502 mm	40.7 m	6	5	4	6			6	44.4%	60.3%	N	2029	8.4	40	0.9	3	16	2018
07982-01	1982	SW 20-03-29 W4M	Trib. To Dungarvan Creek	Twin Butte	RLU-207G-060	Bridge Culvert	SP				2280 mm	40.2 m	5	6	4	4			8	44.4%	60.4%	Y	2028	6.8	0	5.6	5	36	2020
77192-01	1970	SE 27-06-01 W5M	Trib. To Castle River	Pincher Creek	RLU-207G-060	Bridge Culvert	MP				1500 mm	32.9 m	5	7	4	7			7	44.4%	60.9%	N	2028	6.5	30	5.5	999	17	2018
78427-01	1980	SE 25-08-29 W4M	Trib. To Beaver Creek	Brocket	RLU-208G-090	Bridge Culvert	MP				1600 mm	44.0 m	7	7	4	5			7	44.4%	61.9%	Y	2035	8.0	-30	3.5	6	25	2019
06906-01	1913	SE 13-07-03 W5M	Crowsnest River	Burmis	RLU-207G-060	Major Bridge	PT	16	35	47	4.3 m	24.4 m	5					6	4	50.0%	36.8%	Y	2035	7.0	0	3.3	999	135	2019
13957-01	1956	NE 05-08-02 W5M	Connelly Creek	Lundbreck	RLU-208G-060	Standard Bridge	TT	28	49	67	6.1 m	6.1 m					5	4	5	50.0%	44.4%	Y	2031	6.0	0	3.0	999	18	2021
73608-01	1921	NE 34-03-28 W4M	Waterton River	Hill Spring	RLU-207G-060	Major Bridge	TT/TH/TT	26	46	59	4.3 m	8.5m-61m-8.5m	5				4	5	7	50.0%	49.4%	Y	2020	7.0	0	2.4	16	87	2019
70423-01	1933	SW 02-06-01 W5M	Pincher Creek	Pincher Creek	RLU-208G-090	Major Bridge	PT/TT	26	43	50		30.5 m - 6.1 m	5				4	5	6	50.0%	52.3%	Y	2029	7.6	0	3.1	6	39	2019
08860-01	1952	NW 11-06-02 W5M	Beaver Mines Creek	Beaver Mines	RLU-207G-060	Standard Bridge	PG	28	49	62	7.2 m	3 x 6.1 m	4				5	4	7	50.0%	55.9%	N	2031	6.3	0	3.0	999	12	2020
74175-01	1958	SW 35-05-30 W4M	Kettles Creek	Pincher Creek	RLU-208G-090	Standard Bridge	PG	28	49	62	6.4 m	6.1 m	7				4	5	7	50.0%	59.4%	Y	2030	8.2	0	2.1	3	54	2020
00828-01	1953	NE 01-08-02 W5M	Cow Creek	Lundbreck	RLU-207G-060	Major Bridge	TT	29	51	73	6.1 m	6.1 m	5				5	4	4	50.0%	61.7%	Y	2031	4.6	0	1.9	999	1	2019
70417-01	1960	SE 05-07-01 W5M	Trib. To Castle River	Pincher Creek	RLU-208G-090	Standard Bridge	PG	28	49	62	7.3 m	6.1 m	7				4	2	6	50.0%	62.8%	Y	2031	8.0	0	1.6	8	60	2021
00760-01	1959	SE 03-06-29 W4M	Indianfarm Creek	Pincher Creek	RLU-208G-060	Standard Bridge	PG	28	49	62	6.4 m	2 x 6.1 m	7				5	4	6	50.0%	62.9%	N	2030	7.0	0	2.2	7	18	2020
02070-01	1965	NW 10-06-29 W4M	Indianfarm Creek	Pincher Creek	RLU-208G-090	Standard Bridge	HC	28	49	65	7.3 m	6.1m-8.5m-6.1m	7				4	5	6	50.0%	64.4%	Y	2030	7.4	0	4.8	7	30	2020
00479-01	1926	NE 12-04-29 W4M	Drywood Creek	Twin Butte	RLU-207G-060	Major Bridge	SL/TH/TT	16	19	26	4.9 m	10m-53.3m-8.5m	4				5	5		55.6%	32.5%	Y	2030	6.0	0	2.1	3	36	2019
01169-01	1921	SE 24-06-02 W5M	Castle River	Pincher Creek	RLU-209G-090	Major Bridge	TH	26	35	47	4.9 m	41.1 m	4				4	6	5	55.6%	37.4%	Y	2038	8.0	0	3.7	6	52	2019
74119-01	1936	SW 04-07-28 W4M	Pincher Creek	Pincher Creek	RLU-209G-090	Major Bridge	PT	24	34	42	4.9 m	30.5 m	4				5	5	4	55.6%	42.4%	Y	2035	5.7	0	3.0	16	39	2022
02224-01	1917	SW 16-09-01 W4M	Oldman River	Cowley	RLU-209G-090	Major Bridge	TH/SG	30	41	44	4.3 m	61 m - 21.3 m	6				5	5	5	55.6%	46.7%	Y	2037	7.0	0	7.7	3	71	2022
74259-01	1954	SE 01-08-30 W4M	Trib. To Indianfarm Creek	Pincher Creek	RLU-207G-060	Bridge Culvert	SP				1830 mm	23.2 m	4	4	5	6			4	55.6%	49.6%	M	1900	4.0	0	2.5	999	6	2019
07449-01	1929	SW 18-08-01 W5M	Todd Creek	Cowley	RLU-207G-060	Major Bridge	PT	18	33	48	4.9 m	18.3 m	5				4	6	4	55.6%	49.7%	M	2035	5.0	0	2.5	999	1	2019
78753-01	1958	SW 08-06-02 W5M	Trib. To Screwdriver Creek	Beaver Mines	RLU-208G-060	Bridge Culvert	RPP				1843 mm	17.7 m	4	6	5	5			5	55.6%	50.5%	N	2029	6.0	0	0.4	999	10	2019
06701-01	1954	NE 30-06-02 W5M	Trib. To Castle River	Burmis	RLU-207G-060	Bridge Culvert	SPE				1829 mm	30.5	2	7	5	5			7	55.6%	53.5%	Y	2020	7.5	0	3.2		32	2020
02053-01	1956	SW 27-04-30 W4M	Foothill Creek	Pincher Creek	RLU-208G-090	Bridge Culvert	SPE				1830 mm	31.1 m	4	6	5	5			5	55.6%	55.3%	N	2032	8.2	0	4.8	15	15	2020
02360-01	1955	NW 18-08-29 W4M	Trib. To Oldman River	Pincher Creek	RLU-207G-060	Bridge Culvert	SPE				1526 mm	60.5 m	4	6	5	6			6	55.6%	56.9%	M	2030	7.0	0	8.0	3	13	2020
73757-01	1981	NE 35-06-01 W5M	Castle River	Pincher Creek	RLU-208G-060	Major Bridge	FM	28	49	62	7.5 m	27m-33.5m-27m	5				4	6	4	55.6%	57.6%	Y	2033	8.0	0	4.0	8	258	2019
75483-01	1964	SW 13-10-01 W5M	Heath Creek	Lundbreck	RLU-208G-090	Bridge Culvert	RPP				1842 mm	14.9 m	5	5	5	4			5	55.6%	59.0%	Y	2030	6.3	0	0.5	999	30	2020
08685-01	1953	SW 05-05-29 W4M	Foothill Creek	Twin Butte	RLU-208G-090	Standard Bridge	PG	28	49	62	6.4 m	3 x 6.1 m	8				5	5	5	55.6%	59.7%	Y	2030	6.8	0	2.7	6	78	2020
71266-01	1953	SE 36-07-02 W5M	Connelly Creek	Lundbreck	RLU-205G-060	Standard Bridge	PG	28	49	62	6.1 m	6.1 m	5				4	6	5	55.6%	60.7%	N	2030	5.6	0	3.0	12	18	2020
00645-01	1956	SE 04-07-01 W5M	Trib. To Castle River	Cowley	RLU-208G-090	Bridge Culvert	MP/MP				1525mm/915mm	31.1m / 35.4m	6	7 / 3	7 / 5	5 / 5			7	55.6%	61.3%	Y	2035	9.0	-20	2.0	11	296	2021
00481-01	1967	SW 28-06-30 W4M	Trib. To Pincher Creek	Pincher Creek	RLU-207G-060	Standard Bridge	PG	28	49	62	6.4 m	6.1 m	7				5	5	5	55.6%	62.3%	N	2030	5.9	0	2.4	3	36	2017
08686-01	1959	NW 16-05-29 W4M	Indianfarm Creek	Pincher Creek	RLU-208G-090	Standard Bridge	PG	28	49	62	6.4 m	3 x 6.1 m	6				5	5	6	55.6%	62.5%	Y	2030	7.4	0	4.0	9	32	2020
75980-01	1964	NW 01-09-03 W5M	Cow Creek	Lundbreck	RLU-208G-090	Bridge Culvert	FP				1475 mm	15.2 m	5	6	5	4			5	55.6%	63.0%	Y	2028	7.8	0	0.8	20	64	2018
06836-01	1953	SE 29-09-02 W5M	Todd Creek	Lundbreck	RLU-208G-090	Standard Bridge	PG	28	49	62	7.0 m	8.5 m	6				5	5	6	55.6%	63.5%	Y	2031	7.0	0	2.5	10	36	2020
01533-01	1959	SW 30-08-29 W4M	Indianfarm Creek	Pincher Creek	RLU-208-100	Bridge Culvert	BPR				5675 mm	33.2 m	7	6	5	4			7	55.6%	64.3%	Y	2030	9.5	0	1.5	10	74	2017
71390-01	1964	SW 25-09-03 W5M	Trib. To S. Todd Creek	Maycroft	RLU-207G-060	Bridge Culvert	FP				1475 mm	20.1 m	5	7	5	6			5	55.6%	66.2%	N	2030	7.8	30	1.3	15	36	2017
71838-01	1971	NE 23-08-30 W4M	Tennessee Creek	Pincher Creek	RLU-207G-060	Standard Bridge	HC	28	49	65	7.3 m	6.1 m	7				5	5	6	55.6%	67.3%	Y	2028	7.5	0	3.0	5	58	2017
02419-01	1965	NE 34-04-29 W4M	Foothill Creek	Pincher Creek	RLU-208G-090	Standard Bridge	HC	28	49	65	7.3 m	3 x 6.1 m	6				6	4	6	55.6%	67.4%	Y	2036	7.3	0	4.0	8	36	2020
00448-01	1958	SE 17-05-29 W4M	Indianfarm Creek	Pincher Creek	RLU-208G-090	Bridge Culvert	SPE				3008 mm	26.2 m	6	7	5	7			6	55.6%	67.9%	N	2040	9.4	0	1.4	8	36	2018
76572-01	1954	NE 11-10-02 W5M	Trib. To Oldman River	Lundbreck	RLU-207G-060	Bridge Culvert	SP				1800 mm	20.7 m	5	6	5	4			7	55.6%	68.1%	Y	2030	7.3	10	1.8	1	16	2017

MUNICIPAL DISTRICT OF PINCHER CREEK No. 9 - ALL BRIDGE STRUCTURE INVENTORY

Last Updated May 20, 2022

Structures Listed in Order Based on: 1. Structural Condition Rating, 2. 1. Structural Condition Rating, 2. Sufficiency Rating, 3. Estimated Replacement Year, 4. Maintenance Needs

Bridge File #	Year Built	Location	Crossing Name	Nearest Town	Roadway Standard	Structure Type	Span Type	Single Axle Loading	Semi Loading	Train Loading	Equiv. Diameter / Clear Width	Structure Length	Approach Rd General Rating	US End General Rating	Barrel General Rating	DS End General Rating	Superstructure General Rating	Substructure General Rating	Structure Useage / Channel General Rating	Structural Condition Rating	Sufficiency Rating	Maintenance Required?	BIM ERY	Roadway Width (m)	Skew (degrees)	Cover / Height (m)	Detour Length (km)	Est. AADT	AADT Est. Year
01839-01	1964	SW 02-05-29 W4M	Foothill Creek	Pincher Creek	RLU-208G-090	Standard Bridge	HC	30	52	75	7.3 m	3 x 8.5m	5				4	6	6	55.6%	68.5%	N		8.3	0	5.0	8	37	2020
75067-01	1962	SW 07-06-28 W4M	Crowfoodge Creek	Pincher Creek	RLU-207G-060	Bridge Culvert	FP				1474 mm	18.9 m	7	7	5	7			8	55.6%	69.4%	N	2030	7.0	-35		3	15	2020
74047-01	2001	NE 25-09-03 W5M	Todd Creek	Burmis	RLU-208G-090	Bridge Culvert	MP/MP				2000mm/1200mm	26.0 m / 26.0 m	5	9 / 9	N / N	9 / 8			7	55.6%	77.3%	N	2061	7.5	-20	0.8	12	50	2018
74141-01	1923	SE 14-07-20 W4M	Oldman River	Brocket	RLU-209G-090	Major Bridge	TH/PG	28	40	46	4.8 m	2x53.3m / 4x6.1m	5				5	6	6	61.1%	48.2%	Y	2030	10.0	0	6.5	10	193	2019
00468-01	1958	SW 26-05-28 W4M	Foothill Creek	Pincher Creek	RLU-208G-090	Standard Bridge	PG	28	49	62	6.4 m	3 x 8.5m	6				5	6	6	61.1%	65.2%	N		7.4	0	2.9	11	36	2017
74906-01	1962	SW 06-05-29 W4M	Foothill Creek	Pincher Creek	RLU-208G-090	Standard Bridge	HC	30	52	75	6.4 m	8.5 m	6				4	7	4	61.1%	65.8%	Y	2030	6.6	15	1.5	2	32	2020
05389-01	1971	SE 04-03-29 W4M	Cottonwood Creek	Twin Butte	RLU-207G-060	Standard Bridge	HC	30	52	75	7.3 m	8.5 m	6				6	5	6	61.1%	71.6%	N	2036	7.0	0	2.2	999	17	2020
02069-01	1962	NW 08-05-29 W4M	Indianfarm Creek	Pincher Creek	RLU-207G-060	Standard Bridge	HC	30	52	75	7.3 m	8.5 m	6				4	7	6	61.1%	74.1%	N	2031	6.4	15	2.0	6	25	2020
02066-01	1953	NW 29-07-02 W5M	Rock Creek	Lundbreck	RLU-207G-060	Bridge Culvert	BP				2237 mm	21.9 m	4	4	6	4			6	66.7%	58.0%	Y	2035	6.3	-15	2.2	999	13	2021
75313-01	1960	SW 06-07-01 W5M	Trib. To Castle River	Cowley	RLU-207G-060	Bridge Culvert	SPE				1831 mm	29.3 m	4	6	6	6			5	66.7%	58.1%	N		7.0	30	2.8	8	17	2017
75462-01	1961	NW 02-10-01 W5M	Webber Creek	Cowley	RLU-207G-060	Bridge Culvert	MP				1500 mm	18.3 m	4	6	6	6			6	66.7%	58.9%	N	2028	7.5	0	1.3	999	18	2019
77762-01	1960	SE 23-08-30 W4M	Tennessee Creek	Pincher Creek	RLU-207G-060	Bridge Culvert	SPE				2135 mm	25.0 m	4	7	6	7			6	66.7%	60.5%	N	2029	7.0	40	2.6	6	30	2019
75009-01	1960	SW 10-09-02 W5M	Wildcat Creek	Lundbreck	RLU-207G-060	Bridge Culvert	SPE				1800 mm	19.5 m	4	7	6	7			5	66.7%	60.8%	N	2030	5.7	0		999	14	2021
76662-01	1967	NW 07-07-29 W4M	Nose Creek	Pincher Creek	RLU-207G-060	Bridge Culvert	MP				1500 mm	21.3 m	4	7	6	5			6	66.7%	61.8%	N		7.2	0	2.2	4	29	2019
71282-01	1963	SE 17-06-01 W5M	Trib. To Castle River	Pincher Creek	RLU-207G-060	Bridge Culvert	SPE				2128 mm	25.6 m	5	7	6	5			6	66.7%	62.3%	N		6.8	0	2.8	999	16	2020
75264-01	1953	SW 06-07-01 W5M	Trib. To Castle River	Lundbreck	RLU-207G-060	Bridge Culvert	SPE				1830 mm	25.6 m	4	6	6	6			7	66.7%	62.5%	N	2029	7.0	0	2.2	10	17	2019
70177-01	1949	SW 15-08-30 W4M	Trib. To Tennessee Creek	Pincher Creek	RLU-209G-090	Bridge Culvert	SP / MP				1830mm/1200mm	25m / 16.8 m	4	7 / 6	6 / 8	6 / 6			7	66.7%	62.5%	N	2032	7.0	0	1.6	7	28	2020
70920-01	1953	SW 29-04-29 W4M	Trib. To Foothill Creek	Twin Butte	RLU-207G-060	Bridge Culvert	SP				1500 mm	12.6 m	4	5	6	5			6	66.7%	63.1%	N	2029	5.0	0	0.1	11	16	2019
09213-01	1952	SW 13-05-29 W4M	Foothill Creek	Pincher Creek	RLU-208G-090	Standard Bridge	PG	28	49	62	7.3 m	8.5 m	4				5	7	6	66.7%	63.1%	Y	2036	5.6	0	2.4	6	6	2020
02497-01	1940	NE 28-04-28 W4M	Trib. To Waterton River	Hill Spring	RLU-208G-090	Bridge Culvert	SP				2750 mm	39.6 m	4	7	6	5			7	66.7%	65.6%	N	2038	8.0	0	2.5	5	17	2019
75482-01	1953	SW 13-10-01 W5M	Heath Creek	Lundbreck	RLU-207G-060	Bridge Culvert	RPP				1690 mm	13.4 m	7	6	6	4			4	66.7%	66.2%	Y	2029	5.5	0	0.5	999	17	2019
00253-01	1973	NE 15-06-30 W4M	Kettles Creek	Pincher Creek	RLU-208G-090	Bridge Culvert	SPE				4305 mm	34.1 m	5	4	6	7			6	66.7%	66.6%	Y	2033	8.5	0	1.6	2	68	2017
70176-01	1971	SE 16-04-30 W4M	South Drywood Creek	Twin Butte	RLU-208G-090	Standard Bridge	HC	35	57	82	7.3 m	3 x 11.6 m	4				5	7	7	66.7%	66.8%	N	2036	8.9	0	5.0	15	54	2020
71109-01	1974	SW 01-05-30 W4M	Trib. To Foothill Creek	Pincher Creek	RLU-208G-090	Bridge Culvert	SPE				2136 mm	27.7	5	6	6	6			7	66.7%	68.2%	N	2039	8.0	0	1.0	4	60	2021
00784-01	1955	SE 28-05-28 W4M	Foothill Creek	Pincher Creek	RLU-207G-060	Standard Bridge	PG	28	49	62	6.4 m	3 x 6.1 m	7				6	6	6	66.7%	68.6%	N		5.8	0	3.8	5	56	2017
75376-01	1977	NW 23-05-02 W5M	Trib. To Gladstone Creek	Pincher Creek	RLU-207G-060	Bridge Culvert	MP				1500 mm	21.8 m	6	6	6	6			7	66.7%	68.9%	N	2030	7.0	0	1.5	999	34	2020
74258-01	1954	NW 17-05-29 W4M	Trib. To Indianfarm Creek	Pincher Creek	RLU-207G-060	Bridge Culvert	SP				1830 mm	14.6 m	5	5	6	5			6	66.7%	69.1%	N	2033	7.0	0	0.8	8	36	2018
70736-01	1956	NW 31-07-29 W4M	Trib. To Oldman River	Pincher Creek	RLU-208G-090	Bridge Culvert	SPE				2136 mm	36.1 m	5	6	6	4			7	66.7%	69.6%	Y	2033	8.3	0	3.0	3	50	2018
75736-01	1963	SW 02-06-28 W4M	Trib. To Foothill Creek	Pincher Creek	RLU-208G-090	Bridge Culvert	RPP				1842 mm	17.7 m	6	6	6	6			5	66.7%	70.6%	N	2028	6.3	0	1.4	3	15	2019
01838-01	1965	SW 28-04-28 W4M	Trib. To Waterton River	Hill Spring	RLU-208G-090	Bridge Culvert	SPE				2478 mm	36.2 m	9	7	6	5			5	66.7%	70.6%	N	2033	8.0	0	N/A	3	28	2019
09388-01	1963	SE 05-05-29 W4M	Foothill Creek	Pincher Creek	RLU-208G-090	Standard Bridge	HC	28	49	65	7.3 m	3 x 6.1 m	5				6	6	6	66.7%	70.7%	Y	2030	8.0	30	3.5	7	68	2020
75266-01	1962	SW 09-06-27 W4M	Scotts Coulee	Pincher Creek	RLU-207G-060	Standard Bridge	TT	29	51	73	6.1 m	8.5 m	6				6	6	6	66.7%	70.8%	Y	2034	6.1	0	2.9	3	19	2018
70750-01	1975	SW 12-05-30 W4M	Indianfarm Creek	Pincher Creek	RLU-208G-090	Bridge Culvert	SPE				2136 mm	25 m	6	5	6	7			6	66.7%	71.0%	N	2029	8.0	0	1.5	7	36	2019
06765-01	1990	NW 03-06-02 W5M	Beaver Mines Creek	Pincher Creek	RLU-208G-090	Bridge Culvert	RPE				3676 mm	29.3 m	5	7	6	4			6	66.7%	72.8%	Y	2038	8.0	-20	1.4	7	72	2020
74044-02	1965	SE 12-05-30 W4M	Indianfarm Creek	Pincher Creek	RLU-206G-060	Standard Bridge	PG	28	49	62	2400	8.53 m	5				6	7	6	72.2%	69.7%	N	2040	5.0	20	1.3	6	4	2017
00868-01	1979	SW 25-05-01 W5M	Pincher Creek	Pincher Creek	RLU-209G-090	Standard Bridge	VS	28	49	62	8.8 m	9.1m-10.7m-9.1m	5				7	7	7	77.5%	77.5%	Y	2040	8.5	0	4.0	5	36	2020
75461-01	1961	NW 02-10-01 W5M	Jim Creek	Cowley	RLU-207G-060	Bridge Culvert	SPE				2036 mm	23.8 m	4	6	7	6			6	77.8%	63.9%	N	2029	8.0	0	1.5	999	18	2019
71535-01	1968	SE 13-08-30 W4M	Trib. To Oldman River	Pincher Creek	RLU-208G-090	Bridge Culvert	SPE				1831 mm	25.0 m	4	6	7	4			5	77.8%	64.4%	Y	2033	6.5	0	2.2	7	28	2018
13964-01	1963	SE 04-09-02 W5M	Cow Creek	Lundbreck	RLU-208G-090	Standard Bridge	HC	28	49	65	7.3 m	6.1 m	4				7	7	7	77.8%	66.2%	N	2021	6.0	0	2.3	999	10	2020
01135-01	1986	SW 16-07-29 W4M	Oldman River	Pincher Creek	RLU-208-100	Major Bridge	DBT/NU	MS300 DL			10.0 m	42m-42m-36.75m	6				6 / 8	8	6	77.8%	68.4%	Y	2055	10.7	0	6.0	3	69	2019
74199-01	1955	NW 06-06-27 W4M	Trib. To Scotts Coulee	Pincher Creek	RLU-207G-060	Bridge Culvert	SPE				2140 mm	19.5 m	4	7	7	7			7	77.8%	69.4%	N	2038	6.9	0	1.4	6	25	2018
71540-01	1963	SE 04-10-01 W5M	Heath Creek	Maycroft	RLU-208G-090	Bridge Culvert	SP				3440 mm	53.0 m	4	6	7	6			6	77.8%	69.9%	N	2045	8.8	0	5.4	15	20	2019
00732-02	1999	SE 35-05-01 W5M	Trib. To Pincher Creek	Pincher Creek	RLU-208G-090	Bridge Culvert	MP				2000 mm	25.0 m	4	8	7	7			5	77.8%	71.4%	N	2053	8.0	-35	1.0	6	100	2019
75101-01	1959	NW 22-05-01 W5M	Trib. To Chipman Creek	Pincher Creek	RLU-207G-060	Bridge Culvert	MP				1500 mm	15.2 m	5	6	7	4			6	77.8%	71.6%	Y	2037	6.7	0	4.0	999	36	2019
74045-01	1962	NE 10-10-02 W5M	Telley Creek	Lundbreck	RLU-208-100	Bridge Culvert	SPE				2135 mm	32.0 m	6	6	7	6			5	77.8%	71.8%	N	2037	8.3	-30	2.4	11	364	2017
06504-01	2005	SW 24-05-29 W4M	Trib. To Foothill Creek	Pincher Creek	RLU-208G-090	Bridge Culvert	MP				1800 mm	14.0 m	6	6	7	5			6	77.8%	72.2%	N	2035	8.3	0	0.4	3	24	2020
01116-01	1974	NW 36-04-30 W4M	Foothill Creek	Pincher Creek	RLU-208G-090	Bridge Culvert	SPE				2743 mm	28.2 m	4	7	7	7			7	77.8%	72.5%	N	2029	8.2	0	1.1	5	18	2019
74201-01	1960	SE 13-08-02 W5M	Trib. To Mill Creek	Pincher Creek	RLU-208-100	Bridge Culvert	SPE				1525 mm	42.3 m	4	8	7	8			5	77.8%	72.6%	N		9.3	0	5.3	15	50	2017
74038-01	1980	NW 24-06-30 W4M	Kettles Creek	Pincher Creek	RLU-207G-060	Standard Bridge	SM	28	49	62	7.6 m	10.0 m	5				7	7	6	77.8%	73.4%	N	2031	8.9	0	2.2	999	54	2017
06559-01	1910	NW 36-04-30 W4M	Foothill Creek	Twin Butte	RLU-208G-090	Bridge Culvert	SPE				2745 mm	27.6 m	5	4	7	6			7	77.8%	74.8%	Y	2020	9.4	0	1.2	4	36	2017
00451-01	1991	NE 31-07-01 W5M	Todd Creek	Lundbreck	RLU-208G-090	Standard Bridge	SC	28	49	62	8.8 m	3 x 11.0 m	5				7	7	6	77.8%	74.9%	N	2040	8.6	20	5.6	17	30	2021
00636-01	1961	NW 27-08-30 W4M	Trib. To Pincher Creek	Pincher Creek	RLU-208G-090	Bridge Culvert	SPE				2140 mm	21.3 m	5	7	7	4			7	77.8%	75.8%	Y	2034	8.0	0	1.5	5	30	2019
07569-01	1959	SW 06-05-28 W4M	Trib. To Foothill Creek	Pincher Creek	RLU-208G-090	Bridge Culvert	SPE				2136 mm	26.4 m	6	6	7				5	77.8%	75.9%	Y	2034	8.0	-20	1.8	13	17	2019
09766-01	2003	SE 27-06-29 W4M	Cattle Pass	Pincher Creek	RLU-208G-090	Bridge Culvert	MP				2100 mm	22.0 m	4	8	7	7			8	77.8%	76.3%	N	2035	8.5	0	1.5	6	231	2019
75312-01	1968	SE 06-07-01 W5M	Trib. To Castle River	Cowley	RLU-208G-090	Bridge Culvert	RPP				1840 mm	14.0 m	6	7	7	6			5	77.8%	76.5%	N		8.0	0		8	18	2019
00476-01	1995	SE 15-06-30 W4M	Trib. To Kettles Creek	Pincher Creek	RLU-208G-060	Bridge Culvert	MP				1800 mm	24.0 m	4	4	7	7			7	77.8%	76.9%	N	2035	5.7	0	1.8	999	29	2021
13962-01	1953	SW 01-08-02 W5M	Trib. To Crowsnest River	Lundbreck	RLU-207G-060	Bridge Culvert	MP/SP/MP				1520 mm/1500mm	6m-13m-8m	5	9	7 / 7	4			6	77.8%	77.2%	Y	2037	6.0	0	0.9	6	15	2017
02227-01	1993	SW 14-08-30 W4M	Tennessee Creek	Pincher Creek	RLU-208G-090	Bridge Culvert	SP				2430 mm	98.2 m	6	7	7	7			6	77.8%	78.1%	N	2030	8.0	16	10.5	15	28	2020
07568-01	1962	SW 11-05-28 W4M	Trib. To Waterton River	Pincher Creek	RLU-208G-090	Bridge Culvert	SPE				1831 mm	32.9 m	7	7	7	7			7	77.8%	78.3%	N	2028	8.0	0	4.0	8	46	2021
06560-01	1990	SW 35-04-28 W4M	Trib. To Waterton River	Hill Spring	RLU-208G-090	Bridge Culvert	SP				2134 mm	66.5 m	5	8	7	7			6	77.8%	79.0%	N	2043	8.0	5	6.7	3	30	2019
70638-01	1974	SW 04-09-01 W5M	Olin Creek	Cowley	RLU-208G-090	Bridge Culvert	SPE/MP				2140mm/1800mm	22.6 m / 25.0 m	7	8 / 7	7 / 8	8 / 8			5	77.8%	61.1%	N	2033	8.5	15	1.3	11	36	2017
75103-01	1959	NE 27-05-28 W4M	Trib. To Foothill Creek	Brocket	RLU-208G-090	Bridge Culvert	MP				1524 mm	20.7 m	8	8	7	6			7	77.8%	81.6%	N	2036	8.5	0	1.2	13	36	2018
73661-01	1989	SW 03-07-01 W5M	Trib. To Castle River	Cowley	RLU-208-100	Bridge Culvert	SP				3670 mm	28.7 m	5	8	7	8			7	77.8%	83.0%	N	2043	7.4	0	1.1	5	90	2019
02166-01	1986	SE 11-08-01 W5M	Cattle Pass	Lundbreck	RLU-208G-090	Bridge Culvert	MP				2400 mm	24.0 m	5	7	7	7			7	77.8%	85.0%	N	2029	8.5	0		12	16	2019
80492-01	1986	NE 11-08-01 W5M	Cattle Pass	Cowley	RLU-208G-090	Bridge Culvert	MP				2200 mm	24.2 m	6	8	7	8			7	77.8%	86.2%	N	2029	8.0	0	1.2	11	70	2019
02118-02	2004	SW 19-03-29 W4M	Trib. To Dungarvan Creek	Twin Butte	RLU-207G-060	Bridge Culvert	MP				2400 mm	27.0 m	5	9	7	9			9	77.8%	86.9%	N	2050	7.0	15	1.0	12	15	2017
74161-02	2009	SW 25-08-29 W4M	Beaver Creek	Brocket	RLU-207G-060	Standard Bridge	SC	28	49	62	6.5 m	12.0 m	5				9	6	6	83.3%	75.0%	N	2030	5.7	0	2.6	11	20	2019

Mmunicipal District of Pincher Creek No. 9 - ALL BRIDGE STRUCTURE INVENTORY

Last Updated May 20, 2022

Structures Listed in Order Based on: 1. Structural Condition Rating, 2. 1. Structural Condition Rating, 2. Sufficiency Rating, 3. Estimated Replacement Year, 4. Maintenance Needs

Bridge File #	Year Built	Location	Crossing Name	Nearest Town	Roadway Standard	Structure Type	Span Type	Single Axle Loading	Semi Loading	Train Loading	Equiv. Diameter / Clear Width	Structure Length	Approach Rd General Rating	U/S End General Rating	Barrel General Rating	D/S End General Rating	Superstructure General Rating	Substructure General Rating	Structural Usage / Channel General Rating	Structural Condition Rating	Sufficiency Rating	Maintenance Required?	BIM ERY	Roadway Width (m)	Skew (degrees)	Cover / Height (m)	Detour Length (km)	Est. AADT	AADT Est. Year
74533-01	1982	SW 06-09-02 W5M	Cow Creek	Lundbreck	RLU-207G-060	Standard Bridge	SM	28	49	62	7.6 m	6.0 m	5				8	7	6	83.3%	79.7%	N	2032	7.6	0	1.7	1	1	2020
01175-01	1990	SW 01-09-02 W5M	Todd Creek	Lundbreck	RLU-208G-090	Bridge Culvert	SP				4300 mm	46.9 m	4	8	8	8			7	88.9%	79.3%	N	2039	6.5	0	5.2	17	21	2018
01734-01	1989	SW 05-07-01 W5M	Trib. To Castle River	Cowley	RLU-207G-060	Bridge Culvert	MP				2200 mm	40.0 m	6	8	8	7			6	88.9%	84.1%	N	2037	7	0	3.5	8	14	2019
74219-01	1994	SW 04-07-01 W5M	Trib. To Castle River	Cowley	RLU-208G-090	Bridge Culvert	MP/MP				2200mm/2200mm	21.0 m / 21.0 m	7	7 / 8	8 / 8	7 / 9			6	88.9%	86.2%	N	2032	6.3	0	0.9	8	15	2017
00783-01	1986	SW 16-05-28 W4M	Foothill Creek	Pincher Creek	RLU-208G-090	Bridge Culvert	RPE				6050 mm	61.6 m	6	7	8	7			7	88.9%	86.9%	N	2028	8.0	10	6.6	8	16	2017
74176-01	1987	SE 30-05-02 W5M	Beaver Mines Creek	Beaver Mines	RLU-208G-060	Bridge Culvert	MP				2200 mm	23.0 m	5	8	8	8			6	88.9%	87.0%	N	2035	7	0		999	18	2017
76010-02	2005	SE 25-05-01 W5M	Trib. To Pincher Creek	Pincher Creek	RLU-208G-090	Bridge Culvert	MP				2700 mm	38.0 m	5	8	8	8			5	88.9%	87.1%	N	2050	9	0	3.1	8	43	2017
75102-01	1997	SW 15-06-29 W4M	Trib. To Indianfarm Creek	Pincher Creek	RLU-209G-090	Bridge Culvert	MP/MP				2200 mm/2700mm	24.0 m / 27.0 m	7	7 / 8	8 / 8	7 / 8			8	88.9%	87.2%	N	2060	9	0	1.3	16	36	2018
84522-01	2003	NW 28-08-01 W5M	Unnamed Watercourse	Cowley	RLU-209G-090	Bridge Culvert	MP				1800 mm	28.0 m	5	9	8	9			5	88.9%	89.0%	N	2046	9.3	0	1.4		36	2017
06505-01	1996	SW 14-05-29 W4M	Trib. To Foothill Creek	Pincher Creek	RLU-208G-090	Bridge Culvert	MP				2200 mm	27.0 m	8	9	8	8			8	88.9%	90.1%	N	2032	8	0	1.6	8	36	2017
80493-01	1986	NE 12-08-29 W4M	Callie Pass	Brocket	RLU-208G-090	Bridge Culvert	MP				2200 mm	24.0 m	5	8	8	8			7	88.9%	91.6%	N	2037	8.3	0	1.1	6	40	2017
74049-01	1996	SW 12-08-03 W5M	Trib. To Rock Creek	Burmis	RLU-208G-090	Bridge Culvert	MP				2000 mm	21.0 m	6	8	8	8			8	88.9%	91.7%	N	2032	8	0	1.0	16	80	2018
02064-02	2015	SW 14-04-29 W4M	Drywood Creek	Twin Butte	RLU-209G-090	Major Bridge	WG	L100 DL			7.2 m	31.0 m	5				9	8	7	94.4%	76.1%	Y	2065	7.2	0	4.0	10	17	2019
01529-01	1996	SW 30-08-01 W5M	Todd Creek	Lundbreck	RLU-209G-090	Standard Bridge	SC	28	49	62	8.0 m	12.0 m	8				9	8	6	94.4%	80.6%	N	2041	8	0	1.2	6	36	2020
07235-01	1967	NW 05-09-01 W5M	Olin Creek	Cowley	RLU-207G-060	Bridge Culvert	SSP				1500 mm	45.0 m	4	4	9	7			6	100.0%	69.7%	Y	2050	7	0	6.3	8	17	2018
00452-02	2010	NW 13-08-02 W5M	Cow Creek	Lundbreck	RLU-207G-060	Standard Bridge	SL	CL800 DL			8.9 m	12.8 m	5				9	9	6	100.0%	83.1%	N	2071	7.1	0	1.1	7	30	2020
71543-02	2008	SW 07-10-01 W5M	Callum Creek	Cowley	RLU-208G-090	Standard Bridge	SL	CL800 DL			9.0 m	2 x 12.8 m	6				9	9	7	100.0%	83.9%	N	2058	8	0	2.5		36	2019
72882-01	1993	SW 26-08-02 W5M	Cow Creek	Lundbreck	RLU-208G-090	Standard Bridge	SC	28	49	62	8.0 m	10.0 m	9				9	9	6	100.0%	85.2%	N	2041	8	0	3.0	10	60	2020
00449-02	2009	SW 28-05-29 W4M	Indianfarm Creek	Pincher Creek	RLU-208G-090	Standard Bridge	SL	28	49	62	9.0 m	2 x 10.0 m	8				9	9	8	100.0%	88.0%	N	2059	9	0	3.7	6	44	2021
75009-02	2021	NE 09-09-02 W5M	Wildcat Creek	Lundbreck	RLU-207G-060	Bridge Culvert	MP				1800 mm	43.0 m	4	9	9	9			7	100.0%	88.3%	N	2071	6.2	-15	4.4	999	12	2018
76293-02	2020	NW 03-06-02 W5M	Trib. To Beaver Mines Creek	Beaver Mines	RLU-208G-090	Bridge Culvert	MP/MP				1200 mm/1200mm	24.0 m / 24.0 m	5	N / N	9 / 9	N / N			5	100.0%	89.4%	N	2070	7.6	15	1.0	10	60	2020
00671-02	2018	NW 19-07-01 W5M	Trib. To Crowsnest River	Lundbreck	RLU-208-100	Bridge Culvert	MP				2700 mm	44.0 m	5	9	9	7			6	100.0%	95.8%	N	2078	8	0	3.3	3	200	2019
01744-02	2019	SW 27-05-29 W4M	Trib. To Indianfarm Creek	Pincher Creek	RLU-208G-090	Bridge Culvert	SP				2430 mm	91.4 m	8	9	9	8			7	100.0%	97.6%	N	2064	8.5	25	8.0	5	50	2020
06613-02	2020	SW 03-09-01 W5M	Cabin Creek	Cowley	RLU-208G-090	Bridge Culvert	SP				2430 mm	73.2 m	5	9	9	9			6	100.0%	97.8%	N	2070	8.5	0	8.3		80	2020
84238-01	2019	NE 20-09-02 W5M	Trib. To S. Todd Creek	Lundbreck	RLU-208G-090	Bridge Culvert	SP				1810 mm	54.8 m	9	9	9	9			7	100.0%	98.5%	N	2064	8.5	14	5.0	10	75	2020
00769-02	2013	SW 05-07-01 W5M	Trib. To Castle River	Pincher Creek	RLU-209G-090	Bridge Culvert	MP				2700 mm	31.0 m	7	9	9	9			8	100.0%	99.3%	N	2060	7.8	10		8	80	2018

COLOR CODING INFORMATION:

Allowable Loading is Adequate
Allowable Loading is Substandard

Road Width < 5m
Road Width 5m-6m
Road Width 6m-7m
Road Width 7m +

High Priority for Repair
Medium Priority for Repair
Low Priority for Repair
Adequate or Better Condition

ERY =< 2022
ERY - 2023-2027
ERY - 2028-2033

Height of Cover < 0.5 m
Height of Cover 0.5m - 1.0m
Height of Cover > 1.0 m

No Detour Available
Detour Between 10 and 20 km
Detour Greater Than 20 km

Structures highlighted in grey had further detailed analysis completed.

MUNICIPAL DISTRICT OF PINCHER CREEK No. 9 - BRIDGE CULVERT INVENTORY

Last Updated May 20, 2022

Structures Listed in Order Based on: 1. Structural Condition Rating, 2. Sufficiency Rating, 3. Estimated Replacement Year, 4. Maintenance Needs

Bridge File #	Year Built	Location	Crossing Name	Nearest Town	Roadway Standard	Structure Type	Span Type	Equiv. Diameter / Clear Width	Structure Length	Approach Rd General Rating	U/S End General Rating	Barrel General Rating	D/S End General Rating	Structure Useage / Channel General Rating	Structural Condition Rating	Sufficiency Rating	Maintenance Required?	BIM ERY	Roadway Width (m)	Skew (degrees)	Cover / Height (m)	Detour Length (km)	Est. AADT	AADT Est. Year
00468-01	1968	SE 04-06-20 W4M	Kettles Creek	Pincher Creek	RLU-208G-090	Bridge Culvert	SP	2438 mm	36.0 m	5	7	2	6	7	22.2%	46.2%	N	2018	8.5	-30	3.7	3	48	2015
75737-01	1953	NE 23-09-03 W5M	South Todd Creek	Burmis	RLU-208G-090	Bridge Culvert	RPP	1690 mm	15.5 m	5	6	2	7	7	22.2%	52.3%	N	2018	7.9	15	1.0	16	48	2015
76294-01	1965	SW 32-06-01 W5M	Trib. To Castle River	Cowley	RLU-208G-090	Bridge Culvert	MP	1520 mm	18.3 m	6	7	2	5	6	22.2%	52.8%	M	2022	8.5	0	1.0		134	2021
75265-01	1960	NE 11-10-01 W5M	Heath Creek	Cowley	RLU-208G-090	Bridge Culvert	RPP	1842 mm	18.9 m	4	5		4	4	33.3%	34.6%	Y	2021	6.5	0	1.5	999	32	2018
01113-01	1971	SE 31-07-29 W4M	Trib. To Oldman River	Pincher Creek	RLU-208G-090	Bridge Culvert	SPE	2441 mm	48.5 m	4	5		4	5	33.3%	40.3%	M	2033	7.7	0	7.5	2	20	2018
74048-01	1962	NW 36-09-03 W5M	Todd Creek	Burmis	RLU-207G-060	Bridge Culvert	FP	2950 mm	15.8 m	5	7		5	5	33.3%	49.2%	M	2029	6.0	-15		999	20	2019
75801-01	1953	SW 09-10-01 W5M	Trib. To Oldman River	Cowley	RLU-208G-090	Bridge Culvert	MPE	1528 mm	25.0 m	6	6		4	7	33.3%	51.0%	Y	2030	8.0	0	2.4	1	132	2021
75481-01	1961	SW 23-09-01 W5M	Trib. To Olin Creek	Cowley	RLU-208G-090	Bridge Culvert	MP	1525 mm	23.8 m	6	7		5	7	33.3%	51.1%	M	2030	6.0	30	2.0	999	16	2020
00470-01	1988	SE 02-06-01 W5M	Trib. To Pincher Creek	Pincher Creek	RLU-208G-090	Bridge Culvert	MP	1600 mm	43.0 m	5	4		4	7	33.3%	53.1%	M	2032	8.0	10	4.7	17	28	2021
74260-01	1954	SW 13-05-29 W4M	Trib. To Foothill Creek	Pincher Creek	RLU-208G-090	Bridge Culvert	MPE	1831 mm	15.2 m	5	7		4	4	33.3%	54.0%	Y	2020	8.0	0		15	17	2018
07080-01	1974	SW 17-03-29 W4M	Dungarvan Creek	Twin Butte	RLU-208G-090	Bridge Culvert	SPE	4275 mm	37.2	5	6		5	4	33.3%	54.1%	M	2030	8.0	-30	1.0	7	15	2020
76203-01	1965	NW 26-10-03 W5M	Ernst Creek	Maycroft	RLU-208G-090	Bridge Culvert	RPP	2120 mm	20.1 m	6	7		6	5	33.3%	54.5%	M	2031	9.4	-30	1.2		146	2017
71542-01	1967	SE 07-10-01 W5M	Indian Creek	Maycroft	RLU-207G-060	Bridge Culvert	SPE	2135 mm	31.7 m	5	6		6	7	33.3%	56.5%	M	2035	7.6	-30	3.4		36	2020
13960-01	1961	SE 11-08-01 W5M	Trib. To Oldman River	Cowley	RLU-207G-060	Bridge Culvert	SPE	1525 mm	49.4 m	5	7		7	7	33.3%	58.1%	M	2031	7.3	0	8.6	6	70	2021
76636-01	1962	SE 17-06-01 W5M	Trib. To Castle River	Pincher Creek	RLU-207G-060	Bridge Culvert	RPP	1842 mm	15.2 m		6	4	6	7	44.4%	44.5%	N	2021	6.0	0	0.9	999	18	2017
75377-01	1962	NW 08-06-02 W5M	Screwdriver Creek	Burmis	RLU-208G-090	Bridge Culvert	SPE	1813 mm	19.5 m	5		4		6	44.4%	47.5%	Y	2020	7.0	0	1.1	999	36	2020
01348-01	1969	SW 03-08-02 W5M	Connelly Creek	Lundbreck	RLU-208G-090	Bridge Culvert	SP	3000 mm	48.8 m	4	6	4	6	7	44.4%	49.8%	N	2030	7.0	30	5.2	999	16	2019
00673-01	1958	SE 21-09-01 W5M	Olin Creek	Cowley	RLU-208G-090	Bridge Culvert	SPE	2140 mm	54.3 m	4	7	4	6	6	44.4%	52.4%	N	2028	9.3	0	7.1		36	2018
74110-01	1957	SW 36-09-03 W5M	Todd Creek	Burmis	RLU-207G-060	Bridge Culvert	RPP	1840 mm	17.1 m	7	6	4	6	5	44.4%	53.3%	N	2029	6.4	0	0.5	999	25	2017
00471-01	1960	SW 02-06-01 W5M	Trib. To Pincher Creek	Pincher Creek	RLU-209G-090	Bridge Culvert	SP	1830 mm	36.0 m	5	6	4	5	6	44.4%	56.4%	N	2033	8.9	-30	3.4	6	100	2018
73602-01	1972	SE 31-05-01 W5M	Trib. To Gladstone Creek	Pincher Creek	RLU-208G-090	Bridge Culvert	SPE	1823 mm	72.5 m	5	6	4	5	6	44.4%	56.4%	Y	2034	5.0	0	10.1	999	18	2021
74425-01	1955	NW 23-05-02 W5M	Trib. To Gladstone Creek	Beaver Mines	RLU-209G-090	Bridge Culvert	SPE	1502 mm	43.3 m	5	7	4	5	6	44.4%	59.5%	N	2030	9.0	0	5.2		90	2020
01410-01	1958	SW 14-05-28 W4M	Trib. To Waterton River	Brocket	RLU-208G-090	Bridge Culvert	MPE	1502 mm	40.7 m	6	5	4	6	6	44.4%	60.3%	N	2029	8.4	40	0.9	3	16	2018
07982-01	1982	SW 20-03-29 W4M	Trib. To Dungarvan Creek	Twin Butte	RLU-207G-060	Bridge Culvert	SP	2280 mm	40.2 m	5	6	4	4	8	44.4%	60.4%	Y	2028	6.8	0	5.6	5	36	2020
77192-01	1970	SE 27-06-01 W5M	Trib. To Castle River	Pincher Creek	RLU-207G-060	Bridge Culvert	MP	1500 mm	32.9 m	5	7	4	7	7	44.4%	60.9%	N	2028	6.5	30	5.5	999	17	2018
78427-01	1980	SE 25-08-29 W4M	Trib. To Beaver Creek	Brocket	RLU-208G-090	Bridge Culvert	MP	1600 mm	44.0 m	7	7	4	5	7	44.4%	61.9%	Y	2035	8.0	-30	3.5	6	25	2019
74259-01	1954	SE 01-06-30 W4M	Trib. To Indianfarm Creek	Pincher Creek	RLU-207G-060	Bridge Culvert	SP	1830 mm	23.2 m	4	4	5	6	4	55.6%	49.6%	M	2032	4.0	0	2.5	999	6	2019
78753-01	1958	SW 08-06-02 W5M	Trib. To Screwdriver Creek	Beaver Mines	RLU-208G-090	Bridge Culvert	RPP	1843 mm	17.7 m	4	6	5	5	5	55.6%	50.5%	N	2029	6.0	0	0.4	999	10	2019
06701-01	1954	NE 30-06-02 W5M	Trib. To Castle River	Burmis	RLU-207G-060	Bridge Culvert	SPE	1829 mm	30.5	2	7	5	5	7	55.6%	53.5%	Y	2029	7.5	0	3.2		32	2020
02053-01	1956	SW 27-04-30 W4M	Foothill Creek	Pincher Creek	RLU-208G-090	Bridge Culvert	SPE	1830 mm	31.1 m	4	6	5	5	5	55.6%	55.3%	N	2032	8.2	0	4.8	15	15	2020
02360-01	1955	NW 18-08-29 W4M	Trib. To Oldman River	Pincher Creek	RLU-207G-060	Bridge Culvert	SPE	1526 mm	60.5 m	4	6	5	6	6	55.6%	56.9%	M	2030	7.0	0	8.0	3	13	2020
75483-01	1984	SW 13-10-01 W5M	Heath Creek	Lundbreck	RLU-208G-090	Bridge Culvert	RPP	1842 mm	14.9 m	5	5	5	4	5	55.6%	59.0%	Y	2030	6.3	0	0.5	999	30	2020
00645-01	1966	SE 04-07-01 W5M	Trib. To Castle River	Cowley	RLU-208G-090	Bridge Culvert	MP/MP	1525mm/915mm	31.1m / 35.4m	6	7 / 3	7 / 5	5 / 5	7	55.6%	61.3%	Y	2035	9.0	-20	2.0	11	296	2021
75960-01	1964	NW 01-09-03 W5M	Cow Creek	Lundbreck	RLU-208G-090	Bridge Culvert	FP	1475 mm	15.2 m	5	6	5	4	5	55.6%	63.0%	Y	2028	7.8	0	0.8	20	64	2018
01533-01	1959	SW 30-06-29 W4M	Indianfarm Creek	Pincher Creek	RLU-208-100	Bridge Culvert	BPR	5675 mm	33.2 m	7	6	5	4	7	55.6%	64.3%	Y	2029	9.5	0	1.5	10	74	2017
71390-01	1964	SW 25-09-03 W5M	Trib. To S. Todd Creek	Maycroft	RLU-207G-060	Bridge Culvert	FP	1475 mm	20.1 m	5	7	5	6	5	55.6%	66.2%	N	2033	7.8	30	1.3	16	36	2017
00448-01	1958	SE 17-05-29 W4M	Indianfarm Creek	Pincher Creek	RLU-208G-090	Bridge Culvert	SPE	3008 mm	26.2 m	6	7	5	7	6	55.6%	67.9%	N	2040	9.4	0	1.4	8	36	2018
76572-01	1954	NE 11-10-02 W5M	Trib. To Oldman River	Lundbreck	RLU-207G-060	Bridge Culvert	SP	1800 mm	20.7 m	5	6	5	4	7	55.6%	68.1%	Y	2030	7.3	10	1.8	1	16	2017
75067-01	1962	SW 07-06-28 W4M	Crowlodge Creek	Pincher Creek	RLU-207G-060	Bridge Culvert	FP	1474 mm	18.9 m	7	7	5	7	8	55.6%	69.4%	N	2030	7.0	-35		3	15	2020
74047-01	2001	NE 25-09-03 W5M	Todd Creek	Burmis	RLU-208G-090	Bridge Culvert	MP/MP	2000mm/1200mm	26.0 m / 26.0 m	5	9 / 9	N / N	9 / 8	7	55.6%	77.3%	N	2061	7.5	-20	0.8	12	50	2018
02066-01	1953	NW 29-07-02 W5M	Rock Creek	Lundbreck	RLU-207G-060	Bridge Culvert	BP	2237 mm	21.9 m	4	4	6	4	6	66.7%	56.0%	Y	2035	6.3	-15	2.2	999	13	2021
75313-01	1960	SW 06-07-01 W5M	Trib. To Castle River	Cowley	RLU-207G-060	Bridge Culvert	SPE	1831 mm	29.3 m	4	6	6	6	5	66.7%	58.1%	N	2027	7.0	30	2.8	8	17	2017
75462-01	1961	NW 02-10-01 W5M	Webber Creek	Cowley	RLU-207G-060	Bridge Culvert	MP	1500 mm	18.3 m	4	6	6	6	6	66.7%	58.9%	N	2028	7.5	0	1.3	999	18	2019
77702-01	1960	SE 23-08-30 W4M	Tennessee Creek	Pincher Creek	RLU-207G-060	Bridge Culvert	SPE	2135 mm	25.0 m	4	7	6	7	6	66.7%	60.5%	N	2029	7.0	40	2.6	6	30	2019
75008-01	1980	SW 10-09-02 W5M	Wildcat Creek	Lundbreck	RLU-207G-060	Bridge Culvert	SPE	1800 mm	19.5 m	4	7	6	7	5	66.7%	60.8%	N	2030	5.7	0		999	14	2021
76662-01	1967	NW 07-07-29 W4M	Nose Creek	Pincher Creek	RLU-207G-060	Bridge Culvert	MP	1500 mm	21.3 m	4	7	6	5	6	66.7%	61.8%	N	2047	7.2	0	2.2	4	29	2019
71282-01	1963	SE 17-06-01 W5M	Trib. To Castle River	Pincher Creek	RLU-207G-060	Bridge Culvert	SPE	2128 mm	25.6 m	5	7	6	5	6	66.7%	62.3%	N	2030	6.8	0	2.8	999	16	2020
75264-01	1953	SW 06-07-01 W5M	Trib. To Castle River	Lundbreck	RLU-207G-060	Bridge Culvert	SPE	1830 mm	25.6 m	4	6	6	6	7	66.7%	62.5%	N	2029	7.0	0	2.2	10	17	2019
70177-01	1949	SW 15-08-30 W4M	Trib. To Tennessee Creek	Pincher Creek	RLU-209G-090	Bridge Culvert	SP / MP	1830mm/1200mm	25m / 16.6 m	4	7 / 6	6 / 8	6 / 6	7	66.7%	62.5%	N	2032	7.0	0	1.6	7	28	2020
70920-01	1953	SW 29-04-29 W4M	Trib. To Foothill Creek	Twin Butte	RLU-207G-060	Bridge Culvert	SP	1500 mm	12.6 m	4	5	6	5	6	66.7%	63.1%	N	2029	5.0	0	0.1	11	16	2019
02497-01	1983	NE 28-04-28 W4M	Trib. To Waterton River	Hill Spring	RLU-208G-090	Bridge Culvert	SP	2750 mm	39.6 m	4	7	6	5	7	66.7%	65.6%	N	2038	8.0	0	2.5	5	17	2019
75482-01	1953	SW 13-10-01 W5M	Heath Creek	Lundbreck	RLU-207G-060	Bridge Culvert	RPP	1690 mm	13.4 m	7	6	6	4	4	66.7%	66.2%	Y	2029	5.5	0	0.5	999	17	2019
00253-01	1973	NE 15-06-30 W4M	Kettles Creek	Pincher Creek	RLU-208G-090	Bridge Culvert	SPE	4305 mm	34.1 m	5	4	6	7	6	66.7%	66.6%	Y	2033	8.5	0	1.6	2	68	2017
71109-01	1974	SW 01-05-30 W4M	Trib. To Foothill Creek	Pincher Creek	RLU-208G-090	Bridge Culvert	SPE	2136 mm	27.7	5	6	6	6	7	66.7%	68.2%	N	2039	8.0	0	1.0	4	60	2021
75376-01	1977	NW 23-05-02 W5M	Trib. To Gladstone Creek	Pincher Creek	RLU-207G-060	Bridge Culvert	MP	1500 mm	21.8 m	6	6	6	6	7	66.7%	68.9%	N	2030	7.0	0	1.5	999	34	2020
74258-01	1954	NW 17-05-29 W4M	Trib. To Indianfarm Creek	Pincher Creek	RLU-207G-060	Bridge Culvert	SP	1830 mm	14.6 m	5	5	6	5	6	66.7%	69.1%	N	2033	7.0	0	0.8	8	36	2018
70736-01	1956	NW 31-07-29 W4M	Trib. To Oldman River	Pincher Creek	RLU-208G-090	Bridge Culvert	SPE	2136 mm	36.1 m	5	6	6	4	7	66.7%	69.6%	Y	2033	8.3	0	3.0	3	50	2018
75736-01	1983	SW 02-06-28 W4M	Trib. To Foothill Creek	Pincher Creek	RLU-208G-090	Bridge Culvert	RPP	1842 mm	17.7 m	6	6	6	6	5	66.7%	70.6%	N	2028	6.3	0	1.4	3	15	2019

MUNICIPAL DISTRICT OF PINCHER CREEK No. 9 - BRIDGE CULVERT INVENTORY

Last Updated May 20, 2022

Structures Listed in Order Based on: 1. Structural Condition Rating, 2. Sufficiency Rating, 3. Estimated Replacement Year, 4. Maintenance Needs

Bridge File #	Year Built	Location	Crossing Name	Nearest Town	Roadway Standard	Structure Type	Span Type	Equiv. Diameter / Clear Width	Structure Length	Approach Rd General Rating	U/S End General Rating	Barrel General Rating	D/S End General Rating	Structure Useage / Channel General Rating	Structural Condition Rating	Sufficiency Rating	Maintenance Required?	BIM ERY	Roadway Width (m)	Skew (degrees)	Cover / Height (m)	Detour Length (km)	Est. AADT	AADT Est. Year
01838-01	1955	SW 28-04-28 W4M	Trib. To Waterton River	Hill Spring	RLU-208G-090	Bridge Culvert	SPE	2478 mm	36.2 m	9	7	6	5	5	66.7%	70.6%	N	2033	8.0	0	N/A	3	28	2019
70750-01	1975	SW 12-05-30 W4M	Indianfarm Creek	Pincher Creek	RLU-208G-090	Bridge Culvert	SPE	2136 mm	25 m	6	5	6	7	6	66.7%	71.0%	N	2029	8.0	0	1.5	7	36	2019
06765-01	1990	NW 03-06-02 W5M	Beaver Mines Creek	Pincher Creek	RLU-208G-090	Bridge Culvert	RPE	3676 mm	29.3 m	5	7	6	4	6	66.7%	72.8%	Y	2038	8.0	-20	1.4	7	72	2020
75461-01	1961	NW 02-10-01 W5M	Jim Creek	Cowley	RLU-207G-060	Bridge Culvert	SPE	2036 mm	23.8 m	4	6	7	6	6	77.8%	63.9%	N	2029	8.0	0	1.5	999	18	2019
71535-01	1960	SE 13-08-30 W4M	Trib. To Oldman River	Pincher Creek	RLU-208G-090	Bridge Culvert	SPE	1831 mm	25.0 m	4	6	7	4	5	77.8%	64.4%	Y	2033	6.5	0	2.2	7	28	2018
74199-01	1955	NW 06-06-27 W4M	Trib. To Scotts Coulee	Pincher Creek	RLU-207G-060	Bridge Culvert	SPE	2140 mm	19.5 m	4	7	7	7	7	77.8%	69.4%	N	2038	6.9	0	1.4	6	25	2018
71540-01	1993	SE 04-10-01 W5M	Heath Creek	Maycroft	RLU-208G-090	Bridge Culvert	SP	3440 mm	53.0 m	4	6	7	6	6	77.8%	69.9%	N	2045	8.8	0	5.4	[illegible]	20	2019
00732-02	1999	SE 35-05-01 W5M	Trib. To Pincher Creek	Pincher Creek	RLU-208G-090	Bridge Culvert	MP	2000 mm	25.0 m	4	8	7	7	5	77.8%	71.4%	N	2053	8.0	-35	1.0	6	100	2019
75101-01	1959	NW 22-05-01 W5M	Trib. To Chipman Creek	Pincher Creek	RLU-207G-060	Bridge Culvert	MP	1500 mm	15.2 m	5	6	7	4	6	77.8%	71.6%	Y	[illegible]	6.7	0	4.0	999	36	2019
74045-01	1962	NE 10-10-02 W5M	Tetley Creek	Lundbreck	RLU-208-100	Bridge Culvert	SPE	2135 mm	32.0 m	6	6	7	6	5	77.8%	71.8%	N	[illegible]	8.3	-30	2.4	[illegible]	364	2017
06504-01	2005	SW 24-05-29 W4M	Trib. To Foothill Creek	Pincher Creek	RLU-208G-090	Bridge Culvert	MP	1800 mm	14.0 m	6	6	7	5	6	77.8%	72.2%	N	2035	8.3	0	0.4	3	24	2020
01116-01	1974	NW 36-04-30 W4M	Foothill Creek	Pincher Creek	RLU-208G-090	Bridge Culvert	SPE	2743 mm	28.2 m	4	7	7	7	7	77.8%	72.5%	N	2029	8.2	0	1.1	5	18	2019
74201-01	1960	SE 13-08-02 W5M	Trib. To Mill Creek	Pincher Creek	RLU-208-100	Bridge Culvert	SPE	1525 mm	42.3 m	4	8	7	8	5	77.8%	72.6%	N	[illegible]	9.3	0	5.3	15	50	2017
06559-01	1910	NW 36-04-30 W4M	Foothill Creek	Twin Butte	RLU-208G-090	Bridge Culvert	SPE	2745 mm	27.6 m	5	4	7	6	7	77.8%	74.8%	Y	2026	9.4	0	1.2	4	36	2017
00636-01	1961	NW 27-06-30 W4M	Trib. To Pincher Creek	Pincher Creek	RLU-208G-090	Bridge Culvert	SPE	2140 mm	21.3 m	5	7	7	4	7	77.8%	75.8%	Y	2034	8.0	0	1.5	5	30	2019
07569-01	1959	SW 06-05-28 W4M	Trib. To Foothill Creek	Pincher Creek	RLU-208G-090	Bridge Culvert	SPE	2136 mm	26.4 m	6	6	7	[illegible]	5	77.8%	75.9%	Y	2034	8.0	-20	1.8	13	17	2019
09766-01	2003	SE 27-06-29 W4M	Cattle Pass	Pincher Creek	RLU-208G-090	Bridge Culvert	MP	2100 mm	22.0 m	4	8	7	7	8	77.8%	76.3%	N	2035	8.5	0	1.5	6	231	2019
75312-01	1960	SE 06-07-01 W5M	Trib. To Castle River	Cowley	RLU-208G-090	Bridge Culvert	RPP	1840 mm	14.0 m	6	7	7	6	5	77.8%	76.5%	N	[illegible]	8.0	0	[illegible]	8	18	2019
00476-01	1995	SE 15-06-30 W4M	Trib. To Kettles Creek	Pincher Creek	RLU-208G-060	Bridge Culvert	MP	1800 mm	24.0 m	4	4	7	7	7	77.8%	76.9%	N	2035	5.7	0	1.8	999	29	2021
13962-01	1953	SW 01-08-02 W5M	Trib. To Crowsnest River	Lundbreck	RLU-207G-060	Bridge Culvert	MP/SP/MP	1520 mm/1500mm	6m-13m-8m	5	9	7 / 7	4	6	77.8%	77.2%	Y	[illegible]	6.0	0	0.9	6	15	2017
02227-01	1993	SW 14-08-30 W4M	Tennessee Creek	Pincher Creek	RLU-208G-090	Bridge Culvert	SP	2430 mm	98.2 m	6	7	7	7	6	77.8%	78.1%	N	2030	8.0	16	10.5	15	28	2020
07568-01	1962	SW 11-05-28 W4M	Trib. To Waterton River	Pincher Creek	RLU-208G-090	Bridge Culvert	SPE	1831 mm	32.9 m	7	7	7	7	7	77.8%	78.3%	N	2028	8.0	0	4.0	8	46	2021
06560-01	1990	SW 35-04-28 W4M	Trib. To Waterton River	Hill Spring	RLU-208G-090	Bridge Culvert	SP	2134 mm	66.5 m	5	8	7	7	6	77.8%	79.0%	N	2043	8.0	5	6.7	3	30	2019
70638-01	1974	SW 04-09-01 W5M	Olin Creek	Cowley	RLU-208G-090	Bridge Culvert	SPE/MP	2140mm/1800mm	22.6 m / 25.0 m	7	8 / 7	7 / 8	8 / 8	5	77.8%	81.1%	N	2033	8.5	15	1.3	[illegible]	36	2017
75103-01	1959	NE 27-05-28 W4M	Trib. To Foothill Creek	Brocket	RLU-208G-090	Bridge Culvert	MP	1524 mm	20.7 m	8	8	7	6	7	77.8%	81.6%	N	2038	8.5	0	1.2	13	36	2018
73661-01	1989	SW 03-07-01 W5M	Trib. To Castle River	Cowley	RLU-208-100	Bridge Culvert	SP	3670 mm	28.7 m	5	8	7	8	7	77.8%	83.0%	N	2043	7.4	0	1.1	5	90	2019
02166-01	1986	SE 11-08-01 W5M	Cattle Pass	Lundbreck	RLU-208G-090	Bridge Culvert	MP	2400 mm	24.0 m	5	7	7	7	7	77.8%	85.0%	N	2029	8.5	0	[illegible]	12	16	2019
80492-01	1986	NE 11-08-01 W5M	Cattle Pass	Cowley	RLU-208G-090	Bridge Culvert	MP	2200 mm	24.2 m	6	8	7	8	7	77.8%	86.2%	N	2029	8.0	0	1.2	11	70	2019
02118-02	2004	SW 19-03-29 W4M	Trib. To Dungarvan Creek	Twin Butte	RLU-207G-060	Bridge Culvert	MP	2400 mm	27.0 m	5	9	7	9	9	77.8%	86.9%	N	2050	7.0	15	1.0	12	15	2017
01175-01	1990	SW 01-08-02 W5M	Todd Creek	Lundbreck	RLU-208G-090	Bridge Culvert	SP	4300 mm	46.9 m	4	8	8	8	7	88.9%	79.3%	N	2039	6.5	0	5.2	17	21	2018
01734-01	1989	SW 05-07-01 W5M	Trib. To Castle River	Cowley	RLU-207G-060	Bridge Culvert	MP	2200 mm	40.0 m	6	8	8	7	6	88.9%	84.1%	N	[illegible]	7	0	3.5	8	14	2019
74219-01	1994	SW 04-07-01 W5M	Trib. To Castle River	Cowley	RLU-208G-090	Bridge Culvert	MP/MP	2200mm/2200mm	21.0 m / 21.0 m	7	7 / 8	8 / 8	7 / 9	6	88.9%	86.2%	N	2032	6.3	0	0.9	8	15	2017
00783-01	1986	SW 16-05-28 W4M	Foothill Creek	Pincher Creek	RLU-208G-090	Bridge Culvert	RPE	6050 mm	61.6 m	6	7	8	7	7	88.9%	86.9%	N	2028	8.0	10	6.6	8	16	2017
74176-01	1987	SE 30-05-02 W5M	Beaver Mines Creek	Beaver Mines	RLU-208G-060	Bridge Culvert	MP	2200 mm	23.0 m	5	8	8	8	6	88.9%	87.0%	N	2035	7	0	[illegible]	999	18	2017
76010-02	2005	SE 25-05-01 W5M	Trib. To Pincher Creek	Pincher Creek	RLU-208G-090	Bridge Culvert	MP	2700 mm	38.0 m	5	8	8	8	5	88.9%	87.1%	N	2050	9	0	3.1	6	43	2017
75102-01	1997	SW 15-06-29 W4M	Trib. To Indianfarm Creek	Pincher Creek	RLU-209G-090	Bridge Culvert	MP/MP	2200 mm/2700mm	24.0 m / 27.0 m	7	7 / 8	8 / 8	7 / 8	8	88.9%	87.2%	N	2060	9	0	1.3	16	36	2018
84522-01	2003	NW 28-08-01 W5M	Unnamed Watercourse	Cowley	RLU-209G-090	Bridge Culvert	MP	1800 mm	28.0 m	5	9	8	9	5	88.9%	89.0%	N	2046	9.3	0	1.4	[illegible]	36	2017
06505-01	1996	SW 14-05-29 W4M	Trib. To Foothill Creek	Pincher Creek	RLU-208G-090	Bridge Culvert	MP	2200 mm	27.0 m	8	9	8	8	8	88.9%	90.1%	N	2032	8	0	1.6	8	36	2017
80493-01	1986	NE 12-08-29 W4M	Cattle Pass	Brocket	RLU-208G-090	Bridge Culvert	MP	2200 mm	24.0 m	5	8	8	8	7	88.9%	91.6%	N	[illegible]	8.3	0	1.1	6	40	2017
74049-01	1996	SW 12-08-03 W5M	Trib. To Rock Creek	Burmis	RLU-208G-090	Bridge Culvert	MP	2000 mm	21.0 m	6	8	8	8	8	88.9%	91.7%	N	2032	8	0	1.0	16	80	2018
07235-01	1987	NW 05-09-01 W5M	Olin Creek	Cowley	RLU-207G-060	Bridge Culvert	SSP	1500 mm	45.0 m	4	4	9	7	6	100.0%	69.7%	Y	2050	7	0	6.3	8	17	2018
75009-02	2021	NE 09-09-02 W5M	Wildcat Creek	Lundbreck	RLU-207G-060	Bridge Culvert	MP	1800 mm	43.0 m	4	9	9	9	7	100.0%	88.3%	N	2071	6.2	-15	4.4	999	12	2018
76293-02	2020	NW 03-06-02 W5M	Trib. To Beaver Mines Creek	Beaver Mines	RLU-208G-090	Bridge Culvert	MP/MP	1200 mm/1200mm	24.0 m / 24.0 m	5	N / N	9 / 9	N / N	5	100.0%	89.4%	N	2070	7.6	15	1.0	10	60	2020
00671-02	2018	NW 19-07-01 W5M	Trib. To Crowsnest River	Lundbreck	RLU-208-100	Bridge Culvert	MP	2700 mm	44.0 m	5	9	9	7	6	100.0%	95.8%	N	2078	8	0	3.3	3	200	2019
01744-02	2019	SW 27-05-29 W4M	Trib. To Indianfarm Creek	Pincher Creek	RLU-208G-090	Bridge Culvert	SP	2430 mm	91.4 m	8	9	9	8	7	100.0%	97.6%	N	2064	8.5	25	8.0	5	50	2020
06613-02	2020	SW 03-09-01 W5M	Cabin Creek	Cowley	RLU-208G-090	Bridge Culvert	SP	2430 mm	73.2 m	5	9	9	9	6	100.0%	97.8%	N	2070	8.5	0	8.3	[illegible]	80	2020
84238-01	2019	NE 20-09-02 W5M	Trib. To S. Todd Creek	Lundbreck	RLU-208G-090	Bridge Culvert	SP	1810 mm	54.8 m	9	9	9	9	7	100.0%	98.5%	N	2064	8.5	14	5.0	10	75	2020
00769-02	2013	SW 05-07-01 W5M	Trib. To Castle River	Pincher Creek	RLU-209G-090	Bridge Culvert	MP	2700 mm	31.0 m	7	9	9	9	8	100.0%	99.3%	N	2060	7.8	10	[illegible]	8	80	2018

COLOR CODING INFORMATION:

Structures highlighted in grey had further detailed analysis completed.

High Priority for Repair
Medium Priority for Repair
Low Priority for Repair
Adequate or Better Condition

ERY =< 2022
ERY - 2023 - 2027
ERY - 2028-2033

Height of Cover < 0.5 m
Height of Cover 0.5m - 1.0 m
Height of Cover 0.8m - 1.0m

No Detour Available
Detour Between 10 and 20 km

MUNICIPAL DISTRICT OF PINCHER CREEK No. 9 - BRIDGE INVENTORY

Last Updated May 20, 2022

Structures Listed in Order Based on: 1. Structural Condition Rating, 2. 1. Structural Condition Rating, 2. Sufficiency Rating, 3. Estimated Replacement Year, 4. Maintenance Needs

Bridge File #	Year Built	Location	Crossing Name	Nearest Town	Roadway Standard	Structure Type	Span Type	Single Axle Loading	Semi Loading	Train Loading	Equiv. Diameter / Clear Width	Structure Length	Approach Rd General Rating	Superstructure General Rating	Substructure General Rating	Structure Useage / Channel General Rating	Structural Condition Rating	Sufficiency Rating	Maintenance Required?	BIM ERY	Roadway Width (m)	Skew (degrees)	Cover / Height (m)	Detour Length (km)	Est. AADT	AADT Est. Year
02488-01	1927	NW 26-07-02 W4M	Crowsnest River	Lundbreck	RLU-209G-090	Major Bridge	PT	16	26	34	4.9 m	24.4 m	5	2	2	4	22.2%	30.3%	Y	2020	6.2	0	4.4	1	39	2019
01077-01	1963	NW 12-05-29 W4M	Foothill Creek	Pincher Creek	RLU-208G-090	Standard Bridge	HC	28	49	65	7.3 m	3 x 6.1 m	7		4	7	38.9%	60.1%	Y	2032	7.3	0	4.0	8	38	2021
70175-01	1957	NW 22-03-30 W4M	Yarrow Creek	Twin Butte	RLU-209G-090	Major Bridge	TH/TT	16	22	27	4.3 m	38.1 m - 6.1 m	6	5	2	4	44.4%	34.6%	Y	2022	7.0	0	3.8	13	60	2020
07743-01	1908	SW 23-05-02 W5M	Gladstone Creek	Pincher Creek	RLU-209G-090	Major Bridge	PA/PT/PA	28	49	62	7.3 m	8.5m-18.3m-8.5m	5		5	6	44.4%	49.9%	Y	2022	9.6	0	5.1	999	121	2019
02187-01	1968	NW 27-03-29 W4M	Trib. To Dungarvan Creek	Twin Butte	RLU-207G-060	Standard Bridge	TT	28	49	67	6.1 m	6.1 m		5		5	44.4%	50.5%	Y	2022	4.0	0	3.0	3	10	2019
01528-01	1953	NW 25-05-01 W5M	Pincher Creek	Pincher Creek	RLU-208G-090	Standard Bridge	PG	28	49	62	6.4 m	3 x 6.1 m	6	5		5	44.4%	56.2%	Y	2028	7.2	-45	2.2	5	54	2020
06906-01	1913	SE 13-07-03 W5M	Crowsnest River	Burmis	RLU-207G-060	Major Bridge	PT	19	35	47	4.3 m	24.4 m	5		6	4	50.0%	36.8%	Y	2035	7.0	0	3.3	999	135	2019
13957-01	1965	NE 05-08-02 W5M	Connelly Creek	Lundbreck	RLU-208G-060	Standard Bridge	TT	28	49	67	6.1 m	6.1 m		5	4	5	50.0%	44.4%	Y	2031	6.0	0	3.0	999	18	2021
73608-01	1921	NE 34-03-28 W4M	Waterton River	Hill Spring	RLU-207G-060	Major Bridge	TT/TH/TT	26	46	59	4.9 m	8.5m-61m-8.5m	5	4	5	7	50.0%	49.4%	Y	2022	7.0	0	2.4	16	87	2019
70423-01	1933	SW 02-08-01 W5M	Pincher Creek	Pincher Creek	RLU-208G-090	Major Bridge	PT/TT	26	43	59	4.9 m	30.5 m - 6.1 m	5	4	5	6	50.0%	52.3%	Y	2029	7.6	0	3.1	6	39	2019
08860-01	1952	NW 11-06-02 W5M	Beaver Mines Creek	Beaver Mines	RLU-207G-060	Standard Bridge	PG	28	49	62	7.2 m	3 x 6.1 m	4	5	4	7	50.0%	55.9%	N	2031	6.3	0	3.0	999	12	2020
74175-01	1958	SW 35-05-30 W4M	Kettles Creek	Pincher Creek	RLU-208G-090	Standard Bridge	PG	28	49	62	6.4 m	6.1 m	7	4	5	7	50.0%	59.4%	Y	2030	8.2	0	2.1	3	54	2020
00828-01	1950	NE 01-08-02 W5M	Cow Creek	Lundbreck	RLU-207G-060	Major Bridge	TT	29	51	73	6.1 m	6.1 m	5	5	4	4	50.0%	61.7%	Y	2022	4.6	0	1.9	999	1	2019
70417-01	1980	SE 05-07-01 W5M	Trib. To Castle River	Pincher Creek	RLU-208G-090	Standard Bridge	PG	28	49	62	7.3 m	6.1 m	7	4	2	6	50.0%	62.8%	Y	2022	8.0	0	1.6	8	60	2021
00760-01	1959	SE 03-06-29 W4M	Indianfarm Creek	Pincher Creek	RLU-207G-060	Standard Bridge	PG	28	49	62	6.4 m	2 x 6.1 m	7	5	4	6	50.0%	62.9%	N	2030	7.0	0	2.2	7	18	2020
02070-01	1965	NW 10-06-29 W4M	Indianfarm Creek	Pincher Creek	RLU-208G-090	Standard Bridge	HC	28	49	65	7.3 m	6.1m-8.5m-6.1m	7	4	5	6	50.0%	64.4%	Y	2030	7.4	0	4.8	7	30	2020
00479-01	1926	NE 12-04-29 W4M	Drywood Creek	Twin Butte	RLU-207G-060	Major Bridge	SL/TH/TT	16	19	26	4.9 m	10m-53.3m-8.5m	4	5	5		55.6%	32.5%	Y	2030	6.0	0	2.1	3	36	2019
01169-01	1921	SE 24-06-02 W5M	Castle River	Pincher Creek	RLU-209G-090	Major Bridge	TH	20	35	47	4.9 m	41.1 m	4	4	6	5	55.6%	37.4%	Y	2038	8.0	0	3.7	6	52	2019
74119-01	1936	SW 04-07-29 W4M	Pincher Creek	Pincher Creek	RLU-209G-090	Major Bridge	PT	24	34	42	4.9 m	30.5 m	4	5	5	4	55.6%	42.4%	Y	2035	5.7	0	3.0	16	39	2022
02224-01	1917	SW 16-09-01 W4M	Oldman River	Cowley	RLU-209G-090	Major Bridge	TH/SG	30	41	44	4.3 m	61 m - 21.3 m	6	5	5	5	55.6%	46.7%	Y	2037	7.0	0	7.7	3	71	2022
07449-01	1929	SW 18-08-01 W5M	Todd Creek	Cowley	RLU-207G-060	Major Bridge	PT	18	33	48	4.9 m	18.3 m	5	4	6	4	55.6%	49.7%	M	2035	5.0	0	2.5	999	1	2019
73757-01	1981	NE 35-06-01 W5M	Castle River	Pincher Creek	RLU-208G-060	Major Bridge	FM	28	49	62	7.5 m	27m-33.5m-27m	5	4	6	4	55.6%	57.6%	Y	2033	8.0	0	4.0	8	258	2019
08885-01	1953	SW 05-05-29 W4M	Foothill Creek	Twin Butte	RLU-208G-090	Standard Bridge	PG	28	49	62	6.4 m	3 x 6.1 m	8	5	5	5	55.6%	59.7%	Y	2030	6.8	0	2.7	6	76	2020
71266-01	1953	SE 36-07-02 W5M	Connelly Creek	Lundbreck	RLU-206G-060	Standard Bridge	PG	28	49	62	6.1 m	6.1 m	5	4	6	5	55.6%	60.7%	N	2030	5.6	0	3.0	12	18	2020
00481-01	1967	SW 28-06-30 W4M	Trib. To Pincher Creek	Pincher Creek	RLU-207G-060	Standard Bridge	PG	28	49	62	6.4 m	6.1 m	7	5	5	5	55.6%	62.3%	N	2022	5.9	0	2.4	3	36	2017
08686-01	1959	NW 16-05-29 W4M	Indianfarm Creek	Pincher Creek	RLU-208G-090	Standard Bridge	PG	28	49	62	6.4 m	3 x 6.1 m	6	5	5	6	55.6%	62.5%	Y	2030	7.4	0	4.0	9	32	2020
06836-01	1953	SE 29-09-02-W5M	Todd Creek	Lundbreck	RLU-208G-090	Standard Bridge	PG	28	49	62	7.0 m	8.5 m	6	5	5	6	55.6%	63.5%	Y	2031	7.0	0	2.5	10	36	2020
71838-01	1971	NE 23-08-30 W4M	Tennessee Creek	Pincher Creek	RLU-207G-060	Standard Bridge	HC	28	49	65	7.3 m	6.1 m	7	5	5	6	55.6%	67.3%	Y	2028	7.5	0	3.0	5	56	2017
02419-01	1965	NE 34-04-29 W4M	Foothill Creek	Pincher Creek	RLU-208G-090	Standard Bridge	HC	28	49	65	7.3 m	3 x 6.1 m	6	6	4	6	55.6%	67.4%	Y	2036	7.3	0	4.0	8	36	2020
01839-01	1964	SW 02-05-29 W4M	Foothill Creek	Pincher Creek	RLU-208G-090	Standard Bridge	HC	30	52	75	7.3 m	3 x 8.5m	5	4	6	6	55.6%	68.5%	N	2022	8.3	0	5.0	8	37	2020
74141-01	1923	SE 14-07-20 W4M	Oldman River	Brocket	RLU-209G-090	Major Bridge	TH/PG	28	40	46	4.8 m	2x53.3m / 4x6.1m	5	5	6	6	61.1%	48.2%	Y	2030	10.0	0	6.5	10	193	2019
00488-01	1958	SW 25-05-28 W4M	Foothill Creek	Pincher Creek	RLU-208G-090	Standard Bridge	PG	28	49	62	6.4 m	3 x 8.5m	6	5	6	6	61.1%	65.2%	N	2022	7.4	0	2.9	11	36	2017
74906-01	1962	SW 05-05-29 W4M	Foothill Creek	Pincher Creek	RLU-208G-090	Standard Bridge	HC	30	52	75	6.4 m	8.5 m	6	4	7	4	61.1%	65.8%	Y	2030	6.6	15	1.5	2	32	2020
09389-01	1971	SE 04-03-29 W4M	Cottonwood Creek	Twin Butte	RLU-207G-060	Standard Bridge	HC	30	52	75	7.3 m	8.5 m	6	6	5	6	61.1%	71.6%	N	2036	7.0	0	2.2	999	17	2020
02069-01	1982	NW 08-05-29 W4M	Indianfarm Creek	Pincher Creek	RLU-207G-060	Standard Bridge	HC	30	52	75	7.3 m	8.5 m	6	4	7	6	61.1%	74.1%	N	2031	6.4	15	2.0	6	25	2020
09213-01	1952	SW 13-05-29 W4M	Foothill Creek	Pincher Creek	RLU-208G-090	Standard Bridge	PG	28	49	62	7.3 m	8.5 m	4	5	7	6	66.7%	63.1%	Y	2036	5.6	0	2.4	6	6	2020
70176-01	1971	SE 16-04-30 W4M	South Drywood Creek	Twin Butte	RLU-208G-090	Standard Bridge	HC	35	57	82	7.3 m	3 x 11.6 m	4	5	7	7	66.7%	66.8%	N	2036	8.9	0	5.0	15	54	2020
00784-01	1955	SE 28-05-28 W4M	Foothill Creek	Pincher Creek	RLU-207G-060	Standard Bridge	PG	28	49	62	6.4 m	3 x 6.1 m	7	6	6	6	66.7%	68.6%	N	2022	5.8	0	3.8	5	56	2017
09388-01	1963	SE 05-05-29 W4M	Foothill Creek	Pincher Creek	RLU-208G-090	Standard Bridge	HC	28	49	65	7.3 m	3 x 6.1 m	5	6	6	6	66.7%	70.7%	Y	2030	8.0	30	3.5	7	68	2020
75266-01	1960	SW 09-06-27 W4M	Scotts Coulee	Pincher Creek	RLU-207G-060	Standard Bridge	TT	29	51	73	6.1 m	8.5 m	6	6	6	6	66.7%	70.8%	Y	2034	6.1	0	2.9	3	19	2018
74044-02	1965	SE 12-05-30 W4M	Indianfarm Creek	Pincher Creek	RLU-208G-060	Standard Bridge	PG	28	49	62	6.4 m	8.53 m	5	6	7	6	72.2%	69.7%	N	2040	5.0	20	1.3	6	4	2017
00868-01	1979	SW 25-05-01 W5M	Pincher Creek	Pincher Creek	RLU-209G-090	Standard Bridge	VS	28	49	62	8.8 m	9.1m-10.7m-9.1m	5	7	7	7	77.5%	77.5%	Y	2040	8.5	0	4.0	5	36	2020
13964-01	1963	SE 04-09-02 W5M	Cow Creek	Lundbreck	RLU-208G-090	Standard Bridge	HC	28	49	65	7.3 m	6.1 m	4	7	7	7	77.8%	66.2%	N	2031	6.0	0	2.3	999	10	2020
01135-01	1986	SW 18-07-29 W4M	Oldman River	Pincher Creek	RLU-208-100	Major Bridge	DBT/NU	MS300 DL			10.0 m	42m-42m-36.75m	6	6 / 8	8	6	77.8%	68.4%	Y	2055	10.7	0	6.0	3	69	2019
74038-01	1980	NW 24-05-30 W4M	Kettles Creek	Pincher Creek	RLU-207G-060	Standard Bridge	SM	28	49	62	7.6 m	10.0 m	5	7	7	6	77.8%	73.4%	N	2031	6.9	0	2.2	999	54	2017
00451-01	1991	NE 31-07-01 W5M	Todd Creek	Lundbreck	RLU-208G-090	Standard Bridge	SC	28	49	62	8.8 m	3 x 11.0 m	5	7	7	6	77.8%	74.9%	N	2040	8.6	20	5.6	17	30	2021
74161-02	2009	SW 25-08-29 W4M	Beaver Creek	Brocket	RLU-207G-060	Standard Bridge	SC	28	49	62	6.5 m	12.0 m	5	9	6	6	83.3%	75.0%	N	2030	5.7	0	2.6	11	20	2019
74533-01	1982	SW 06-09-02 W5M	Cow Creek	Lundbreck	RLU-207G-060	Standard Bridge	SM	28	49	62	7.6 m	6.0 m	5	8	7	6	83.3%	79.7%	N	2032	7.6	0	1.7	1	1	2020
02064-02	2015	SW 14-04-29 W4M	Drywood Creek	Twin Butte	RLU-209G-090	Major Bridge	WG	L100 DL			7.2 m	31.0 m	5	9	8	7	94.4%	78.1%	Y	2065	7.2	0	4.0	10	17	2019
01529-01	1998	SW 30-08-01 W5M	Todd Creek	Lundbreck	RLU-209G-090	Standard Bridge	SC	28	49	62	8.0 m	12.0 m	8	9	8	6	94.4%	80.6%	N	2041	8	0	1.2	6	36	2020
00452-02	2010	NW 13-08-02 W5M	Cow Creek	Lundbreck	RLU-207G-060	Standard Bridge	SL	CL800 DL			8.9 m	12.8 m	5	9	9	6	100.0%	83.1%	N	2071	7.1	0	1.1	7	30	2020
71543-02	2008	SW 07-10-01 W5M	Callum Creek	Cowley	RLU-208G-090	Standard Bridge	SL	CL800 DL			9.0 m	2 x 12.8 m	6	9	9	7	100.0%	83.9%	N	2058	8	0	2.5	36	36	2019
72882-01	1993	SW 26-08-02 W5M	Cow Creek	Lundbreck	RLU-208G-090	Standard Bridge	SC	28	49	62	8.0 m	10.0 m	9	9	9	6	100.0%	85.2%	N	2041	8	0	3.0	10	60	2020
00449-02	2009	SW 25-05-29 W4M	Indianfarm Creek	Pincher Creek	RLU-208G-090	Standard Bridge	SL	28	49	62	9.0 m	2 x 10.0 m	8	9	9	8	100.0%	88.0%	N	2059	9	0	3.7	6	44	2021

COLOR CODING INFORMATION:

Allowable Loading is Adequate
Allowable Loading is Substandard

Road Width < 5m
Road Width 6m-7m
Road Width 7m +

High Priority for Repair
Low Priority for Repair
Adequate or Better Condition

ERY =< 2022
ERY - 2023-2033

No Detour Available
Detour Between 10 and 20 km

Structures highlighted in grey had further detailed analysis completed.

Appendix D

Ten-Year Prioritization List

Appendix E

Bridge Structure Budget Allocation

MD of PINCHER CREEK NO. 9
ESTIMATED 10 YEAR BUDGET FOR CAPITAL BRIDGE PROGRAM

Bridge File Number	Target Year	Target Year Estimated Maintenance Costs	Target Year Estimated Replacement Costs	Estimated Replacement Year	Future Estimated Replacement Costs
02488-01	2022	$ -	$ 1,225,200		$ -
75265-01	2022	$ -	$ 420,000		$ -
75377-01	2022	$ -	$ 400,000		$ -
07743-01	2022	$ 354,000	$ -	2034	$ 1,272,000
76294-01	2023	$ -	$ 268,000		$ -
01113-01	2023	$ -	$ 681,000		$ -
74048-01	2023	$ 30,000	$ -	2036	$ 334,000
75801-01	2023	$ 45,000	$ -	2036	$ 389,000
75481-01	2024	$ -	$ 303,000		$ -
70175-01	2024	$ 350,000		2035	$ 1,292,000
70417-01	2024	$ -	$ 397,000		
00470-01	2025	$ -	$ 358,000		$ -
74260-01	2025	$ -	$ 414,000		$ -
07080-01	2025	$ -	$ 520,000		$ -
76203-01	2025	$ 30,000	$ -	2038	$ 485,000
71542-01	2026	$ -	$ 600,000		$ -
13960-01	2026	$ -	$ 463,000		$ -
01077-01	2026	$ 350,000	$ -	2037	$ 1,236,000
08685-01	2027	$ 375,000	$ -	2039	$ 1,231,000
06836-01	2027	$ 275,000	$ -	2039	$ 1,094,000
74906-01	2027	$ 245,000	$ -	2039	$ 756,000
76636-01	2027	$ 30,000	$ -	2040	$ 379,000
01348-01	2027	$ 30,000	$ -	2040	$ 862,000
02187-01	2027	$ 245,000	$ -	2041	$ 661,000
00673-01	2027	$ 30,000	$ -	2041	$ 743,000
74110-01	2027	$ 30,000	$ -	2041	$ 384,000
01528-01	2028	$ -	$ 1,292,000		$ -
00471-01	2029	$ -	$ 460,000		$ -
73602-01	2029	$ -	$ 1,303,000		$ -
74425-01	2030	$ -	$ 460,000		$ -
01410-01	2030	$ -	$ 302,000		$ -
07982-01	2030	$ -	$ 594,000		$ -
77192-01	2031	$ -	$ 532,000		$ -
78427-01	2031	$ -	$ 368,000		$ -
06906-01	2032	$ -	$ 1,234,000		$ -
06559-01	2032	$ -	$ 411,000		$ -
74259-01	2033	$ -	$ 306,000		$ -
02360-01	2033	$ -	$ 587,000		$ -
06765-01	2033	$ -	$ 687,000		$ -
TOTALS	**2022-2033**	**$ 2,419,000**	**$ 14,585,200**	**Deferred**	**$ 11,118,000**

MD of PINCHER CREEK NO. 9
ESTIMATED 10 YEAR BUDGET FOR CAPITAL BRIDGE PROGRAM

Bridge File Number	Target Year	Target Year Estimated Maintenance Costs	Target Year Estimated Replacement Costs	Estimated Replacement Year	Future Estimated Replacement Costs

SUMMARY:

Estimated Maintenance Costs 2022:	$	354,000
Estimated Replacement Costs 2022:	$	2,045,200
Total Estimated Bridge Structure Maintenance Costs 2023 - 2033:	$	1,060,000
Total Estimated Bridge Structure Replacement Costs 2023 - 2033:	$	2,297,000
Total Estimated Bridge Culvert Maintenance Costs 2023 - 2033:	$	1,005,000
Total Estimated Bridge Culvert Replacement Costs 2023 - 2033:	$	10,243,000
Total Estimated Maintenance Costs 2023 - 2033:	$	2,065,000
Total Estimated Replacement Costs 2023 - 2033:	$	12,540,000
TOTAL ESTIMATED BUDGET FOR BRIDGE STRUCTURES (2023-2033):	$	14,605,000
ESTIMATED AVERAGE ANNUAL BUDGET ALLOCATION:	$	1,460,500
Recommend Additional Annual Allocation For Routine Maintenance:	$	50,000
TOTAL ESTIMATED REPLACEMENT COSTS DEFERRED 10 YEARS:	$	11,118,000

NOTES:

1. Costs estimated based on 2022 unit rate data and adjusted based on available tender data. Material shortages/inflation/escalation costs not considered.
2. Preliminary Engineering should be completed prior to confirm appropriate maintenance/replacement strategy prior to allocating the estimated funding.
3. Land Acquisition Costs, Administration Costs, etc. were not included.
4. GST not included in estimates.
5. Variable deterioration rates, damage, flooding, or other factors could affect costs, and/or prioritization sequence.
6. The MD may consider adding a contingency to account for unknown factors, emergencies, and/or for other planning purposes.

Municipal District of Pincher Creek No. 9

BRIDGE INSPECTION AND MAINTENANCE PROGRAM - 2022 ASSET MANAGEMENT & PLANNING - PRIORITIZED REPLACEMENT LIST

1. Target Year 2. Structural Condition Rating, 3. Sufficiency Rating, 4. Maintenance Needs

Bridge File #	Year Built	Location & Description	BIM Background Information / Comments / Maintenance Actions / Recommendations	BIM Estimated Replacement Year	Structural Condition Rating	Sufficiency Rating	Bridge File Inventory Background Information	Bridge File Review Commentary	Estimated Preferred Maintenance Strategy or Replacement Alternative	TARGET Year	Estimated Maintenance Cost	Estimated Replacement Cost
06765 -01	1990	LOCAL ROAD OVER BEAVER MINES CREEK near PINCHER CREEK, AB NW 03-06-02 W5M (1) 4436 mm (span) x 2915 mm (rise) x 29.3 m SPCSP Ellipse	This structure is in fairly good condition but there was a maintenance recommendation to reduce the inspection cycle in half to monitor floor perforations in this culvert or install a concrete floor. Upon review, it was found that there are isolated perforations in Ring 2 and surface rust. No other concerns were identified besides some scour/erosion downstream. Roof deflection is near 5%.	2038	**66.7%**	**72.8%**	- 8.0 m roadway width, 20 deg. LHF skew - 2020 Est. AADT = 72 vpd - 7 km Detour Route - 1.4 m of cover, 3:1 side slopes - concrete end treatment both ends - U/S invert 400 mm below streambed - D/S invert 100 mm below streambed - Erosion at D/S end. - 1200 mm dia. overflow pipe 9 m east. - Class C Waterbody (Sept 1 to Aug 15) - BIS DA = 42 km^2, Q = 24 m^3/s - Historic Flood Photo shows flow at approx. 1 m from crown.	Upon review, it was found that the isolated perforations have been identified since 2013. The perforations are located approximately 5 m from the upstream end where there is reduced loading. Continued monitoring should be completed until corrosion severity increases to "extensive" or "severe" at which time maintenance / replacement should be considered. Depending on the severity of the corrosion throughout this structure, isolated repair options may be permitted. Oversized replacement ends could be installed. A concrete floor may be able to be installed. Detailed hydrological and hydraulic review and considerations for fish passage will be required. At this time it is assumed that a replacement structure will be required. Liners will not be adequate based on the shape and anticipated flows. A dual structure may be required based on the available cover but may perform better based on thee flow width vs. depth. Further analysis required.	Recommended Maintenance Action: Continue Monitoring Floor Perforations If conditions worsen - consider assessing for a concrete floor or replacement. **Estimated Replacement Structure** **(2) 2400 mm diameter x 40 m CSP**	**2033**	$ -	$ 687,000
00468 -01	1968	LOCAL ROAD OVER KETTLES CREEK near PINCHER CREEK, AB SE 04-06-30 W4M (1) 2438 mm dia. X 36.0 m SPCSP with Vertical Struts	This structure was replaced in 2017/2018. The inventory has not been updated. The MD has contacted WSP to update the inspection and inventory information so that the ratings and ERY can be updated accordingly. The previous structure has significant deflections, cracked longitudinal seams, extensive corrosion, and the vertical struts are in very poor condition. Roof Deflections were at 9%. Sidewall deflections were at 9%. Roof = 4, Sidewall = 2. Vertical Struts - 3 are missing and the top chord is crushing. Cracked Seams - There is only 30 mm of steel remaining between cracks. There are 3 rings with two or more cracked seams. There are 5 rings with at least one cracked seam.	2018	**22.2%**	**46.2%**	- Previous Structure Inventory Information: - 8.5m roadway width. 30 degree LHF skew. AADT est. = 48 vpd. - 3.7 m of cover, 2:1 side slopes. - Scour and Erosion = 7 - Inverts are below Streambed - HWM Not Visible. - Class C Waterbody (Sept 1 to Aug 15) - 6.1 m Bridge U/S. - BIS DA = 30 km^2 - BIS Q = 8 m^3/s	The inventory and inspection information for this structure needs to be updated following replacement in 2017 / 2018. The current information is for structure #1 which is no longer in service. It is assumed that the new structure is currently in good condition and functioning as intended. This structure is located on Twp. Rd. 60 a correction line at an intersection. The detour length is actually 21 km. Local Road detour may work depending on landowner farm access requirements. They can get to Pincher Creek without much difficulty, but if they have land on the opposite side of construction, a local road detour may be problematic. Assumed localized detour.	**Recommended Maintenance Action:** **Update Inventory Information, Complete a New Inspection and Continue Monitoring at Regular Intervals** **Estimated Replacement Year** **2068**	**2068**	$ -	$ -
75737 -01	1953	LOCAL ROAD OVER SOUTH TODD CREEK near BURMIS, AB NE 23-09-03 W5M (1) 1930 mm (span) x 1450 mm (rise) x 15.5 m SPCSP Pipe Arch	This structure was replaced in 2017/2018. The inventory has not been updated. The MD has contacted WSP to update the inspection and inventory information so that the ratings and ERY can be updated accordingly. This structure is in poor condition primarily as a result of a cracked longitudinal seam (R3) where there is only a minimum of 35 mm of steel remaining between the cracks in 9 corrugations. There is currently 5% roof deflection and 4% sidewall deflection. There is minor superficial corrosion. A recommendation has been made to inspect this structure annually until it is replaced but no formal inspection data is available.	2018	**22.2%**	**52.3%**	- Previous structure Inventory Information: - 7.9 m wide road. Rural local road west of Hwy 22. 15 deg. RHF skew. - 2015 AADT Est. = 48 vpd - 1m of cover - 1:1 Side slopes - Inverts are near streambed elev. No erosion concerns noted on BIM - Class C Waterbody (Sept 16 to April 15 and May 1 to Aug 15) - 16 km Detour Length - BIS DA = 8 km^2 - BIS Q = 6 m^3/s - Aerial review suggests this is located on a tributary to S. Todd Creek - not the main leg.	The inventory and inspection information for this structure needs to be updated following replacement in 2017 / 2018. The current information is for structure #1 which is no longer in service. It is assumed that the new structure is currently in good condition and functioning as intended. Depending on Flow Levels & Timing - Care of Water and Permitting may be required to complete maintenance.	**Recommended Maintenance Action:** **Update Inventory Information, Complete a New Inspection and Continue Monitoring at Regular Intervals** **Estimated Replacement Year** **2068**	**2068**	$ -	$ -

1. 160 Structures in Service Under the control and Management of the MD of Pincher Creek No. 9. Detailed Analysis Completed for all Structures with Structural Condition Rating < 50%.
2. Maintenance/Replacement Prioritization subject to change pending further inspection/review. Strategy may be dependant upon life cycle costs or other external factors.
3. Maintenance should be completed as soon as possible to ensure design life is achieved.
4. Information provided based on a desktop review of inspection data and available background information and is subject to change.
5. Information should be reviewed annually and following the completion of subsequent inspections. Prioritization could be modified based on condition and/or available funding.
6. Continued Monitoring Required to verify recommended Year of Action for structures with target action years in excess of 5 years.

Estimated Total Maintenance Budget (2023 - 2033):	**$2,065,000.00**
Estimated Total Replacement Budget (2023 - 2033):	**$12,540,000.00**
Estimated Total 10 Year Bridge File Asset Management Budget:	**$14,605,000.00**
Estimated Average Expenditure per year:	**$1,460,500.00**

Municipal District of Pincher Creek No. 9
BRIDGE INSPECTION AND MAINTENANCE PROGRAM - 2022 ASSET MANAGEMENT & PLANNING - PRIORITIZED REPLACEMENT LIST

1. Target Year 2. Structural Condition Rating, 3. Sufficiency Rating, 4. Maintenance Needs

Bridge File #	Year Built	Location & Description	BIM Background Information / Comments / Maintenance Actions / Recommendations	BIM Estimated Replacement Year	Structural Condition Rating	Sufficiency Rating	Bridge File Inventory Background Information	Bridge File Review Commentary	Estimated Preferred Maintenance Strategy or Replacement Alternative	TARGET Year	Estimated Maintenance Cost	Estimated Replacement Cost
06906 -01	1913	LOCAL ROAD OVER CROWSNEST RIVER near BURMIS, AB "Burmis Lake" SE 13-07-03 W5M 24.4 m Single Span Pony Truss Bridge on a Concrete Substructure	This structure has W-Beam Guardrail (currently substandard) that is lapped incorrectly. The NE turndown end is 450 mm above grade with the blunt end facing traffic and creating a hazard. The SE turndown end has a split post and damaged flex beam. The guardrail is rated "3". The strip deck and isolated sub deck areas were replaced in 2018 and is in good condition. The bridge rail has some bends in it. There is a 1 mm corner crack at U5-L4N found during a level 2 inspection that is driving the superstructure rating to "3". Otherwise the structure is in fair to good condition. This diagonal member may need to be replaced if the crack extends beyond the rivet head. Maintenance recommendations include the repair of guardrail and posts.	2035	**50.0%**	**36.8%**	- 4.3 m clear width, 8.0 m roadway - Zero degree skew - 2019 Est. AADT = 135 - No detour available - 4.8 m pier abutment, 1.50 m abutment height - HWM 1.3 below Top of Curb - Class B Waterbody (May 15 to July 15 and Sept 1 to Aug 15) - SARA listed species - BIS DA = 582 km^2, Q = 170 m^3/s.	This structure was included as part of the assessment because there was a medium priority rating for the superstructure. Upon review, it is the diagonal member with a crack that is driving this rating. Continue to monitor, complete routine maintenance and replace truss member if needed to maintain design life.	**Recommended Maintenance Action:** **Complete Routine Maintenance & Continue Monitoring Bridge and replace diagonal truss member if crack growth occurs.** Estimated Replacement Year 2035 Estimated Replacement Structure = 3 Span Standard Bridge	**2032**	$ -	$ 1,234,000
06559 -01	1910	LOCAL ROAD OVER FOOTHILL CREEK near TWIN BUTTE, AB NW 36-04-30 W4M (1) 2610 mm (span) x 2880 mm (rise) x 27.6 m SPCSP Ellipse	This culvert has a relatively high structural condition rating, but a maintenance recommendation was made to replace this pipe in 2020. The only deficiency identified was the isolated perforations in rings # 1, #4 and #5. Perforations were also identified on the upstream bevel end.	2020	**77.8%**	**74.8%**	- 9.4 m roadway width, zero degree skew - 2017 Est. AADT = 36 vpd - 4 km Detour length - 1.2 m of cover, 3:1 side slopes - U/S invert 300 mm below streambed - D/S invert 300 mm above streambed - Rip Rap U/S and D/S - no scour/erosion - mapped Class D Waterbody - BIS DA = 23 km^2, No Q Info	Upon review, it was found that the isolated perforations were just identified since the last inspection, and that surface rust was just present since 2013. the corrosion rate appears to be increasing due to the loss of galvanizing. But the size, severity and quantity of the perforations is unknown. Continued monitoring should be completed until corrosion severity increases to "extensive" or "severe" at which time maintenance / replacement should be considered. Detailed hydrological and hydraulic review and considerations for fish passage will be required to determine if a liner or concrete floor can be installed. At this time it is assumed that a replacement structure will be required.	Recommended Maintenance Action: Continue Monitoring Floor Perforations If conditions worsen - consider assessing for a concrete floor or replacement. **Estimated Replacement Structure** **(1) 3000 mm diameter x 32 m CSP**	**2032**	$ -	$ 411,000
74259 -01	1954	LOCAL ROAD OVER 2nd TRIBUTARY TO INDIANFARM CREEK near PINCHER CREEK, AB "Ash Vale" SE 01-06-30 W4M (1) 1830 mm dia. X 23.2 m SPCSP	This bridge culvert has corrosion issues that caused isolated perforations to appear in the floor of Rings #2, #3, #4, and #5. Roof deflection is near 4% and sidewall deflection is near 1%. There is a hole in the west wall of the downstream bevel from equipment damage. There are no erosion concerns at this site. There is poor channel alignment and poor vertical roadway alignment due to a 20% grade increasing in both directions from the culvert. Maintenance recommendation included continuing monitoring of perforations on the floor.	2025	**55.6%**	**49.6%**	- 4.0 m roadway width, zero degree skew. - 2019 Est. AADT = 6 vpd - No detour available - 2.5 m of cover, 1.5:1 side slopes - U/S Invert below streambed 400 mm. No Rip Rap - No erosion - D/S Invert below streambed 300 mm. - 500 mm Rip Rap - No erosion. - Unmapped Class D Waterbody - BIS DA = 8 km^2, Q = 6 m^3/s.	This structure is located near the end of a dead end road. Construction should be able to proceed with a road closure. This structure has a structural rating greater than 50% but was reviewed due to the presence of perforations in the floor. Corrosion rates are expected to increase due to the loss of galvanizing. The current, quantity, size and severity of the perforations is not known. Continued monitoring should be completed until corrosion severity increases to "extensive" or "severe" at which time maintenance / replacement should be considered. A concrete floor may be able to be installed, pending hydraulic review but at this time it is assumed that a replacement structure will be required. It is also assumed that the skew angle will need to be increased to better align with the stream. The poor vertical alignment should be improved, but additional signage may be adequate considering the road dead ends approximately 60 m to the east. This structure appears to provide land access for a local resident otherwise the need for this structure should be evaluated..	Recommended Maintenance Action: Continue Monitoring Floor Perforations If conditions worsen - consider assessing for a concrete floor or replacement. **Estimated Replacement Structure** **(1) 2000 mm diameter x 34 m CSP**	**2033**	$ -	$ 306,000
02360 -01	1955	LOCAL ROAD OVER A TRIBUTARY TO THE OLDMAN RIVER near PINCHER CREEK, AB NW 18-08-29 W4M (1) 1451 mm (span) x 1600 mm (rise) x 60.5 m long SPCSP Ellipse	This structure is located on a local road with poor vertical and horizontal alignment (R=4) that ends at a farm yard near the crossing.. There is corrosion along the floor and isolated perforations in ring 3. (R=4). A maintenance recommendation was made to monitor these perforations at a reduced cycle (~2 years). There is 5% - 6% barrel deflection. No other concerns were identified.	2030	**55.6%**	**56.9%**	- 7.0 m roadway width, zero degree skew. - 2020 Est. AADT = 13 vpd - 3 km detour available - 8.0 m of cover, 2:1 side slopes - U/S Invert below streambed 200 mm. 300 mm Rip Rap - No erosion - D/S Invert below streambed 200 mm. - 400 mm Rip Rap - No erosion. - Unmapped Class D Waterbody - BIS DA = 8 km^2, Q = 6 m^3/s.	Upon review, it was found that the isolated perforations have been identified since 2015. The perforations are also located approximately 10 - 13 m from the upstream end where there is reduced loading. Continued monitoring should be completed until corrosion severity increases to "extensive" or "severe" at which time maintenance / replacement should be considered. Depending on the severity of the corrosion throughout this structure, isolated repair options may be permitted. Oversized replacement ends could be installed. A concrete floor may be able to be installed. Pending further hydraulic review and considerations for fish passage will be required. At this time it is assumed that a replacement structure will be required. A geotechnical evaluation may be required due to the total depth of fill. Auguring may also be an option.	Recommended Maintenance Action: Continue Monitoring Floor Perforations If conditions worsen - consider assessing for a concrete floor or replacement. **Estimated Replacement Structure** **(1) 2000 mm diameter x 70 m CSP**	**2033**	$ -	$ 578,000

Municipal District of Pincher Creek No. 9

BRIDGE INSPECTION AND MAINTENANCE PROGRAM - 2022 ASSET MANAGEMENT & PLANNING - PRIORITIZED REPLACEMENT LIST

1. Target Year 2. Structural Condition Rating, 3. Sufficiency Rating, 4. Maintenance Needs

Bridge File #	Year Built	Location & Description	BIM Background Information / Comments / Maintenance Actions / Recommendations	BIM Estimated Replacement Year	Structural Condition Rating	Sufficiency Rating	Bridge File Inventory Background Information	Bridge File Review Commentary	Estimated Preferred Maintenance Strategy or Replacement Alternative	TARGET Year	Estimated Maintenance Cost	Estimated Replacement Cost
01410 -01	1958	LOCAL ROAD OVER A 2nd TRIBUTARY TO THE WATERTON RIVER near BROCKET, AB "Jenkins Road" SW 14-05-28 W4M (1) 1429 mm (span) x 1575 mm (rise) x 40.7 m CSP Ellipse	This culvert has 8% roof deflection (R=5) and 9% sidewall deflection (R=4). The pipe is not well aligned and there is 110 mm circumferential seam separation. There is minimal cover and the structure is under a T-intersection. No scour/erosion concerns noted. Concrete Rip Rap (800 mm in dia.) at D/S. Hanging D/S End (700 mm).	2029	**44.4%**	**60.3%**	- 8.4 m roadway width, 40 deg. RHF skew - 3 km detour length - 2018 Est. AADT = 16 vpd - 0.9 m of cover - 3:1 side slopes - No scour/erosion concerns - No HWM visible - 300 mm dia. Rip Rap at U/S - Unmapped Class D Waterbody - Possibly Class C (Sept 1 to Aug 15)	The deflections have been present since 2003 although some minor changes have occurred. Corrosion is not currently an issue, and continued monitoring should be completed at regular cycles to monitor. If deflections increase to 15% in either direction, further action would be required. Eg. Temporary struts or full replacement.	Recommended Maintenance Action: Continue Monitoring Deflections **Estimated Replacement Structure** **(1) 1600 mm x 42 m CSP**	**2030**	$ -	$ 302,000
07982 -01	1982	LOCAL ROAD OVER A TRIBUTARY TO DUNGARVAN CREEK near TWIN BUTTE, AB "Allred Road" SW 20-03-29 W4M (1) 2280 mm dia. X 40.2 m SPCSP	There is a hill to the south and to the north of this culvert. This structure has moderate rust on the floor (R=5). Roof and sidewall deflections are at 9%. Other than the scour hole at the downstream end, there are no other significant concerns. Maintenance recommendation was to place 60 cu.m of Class 2 at the downstream end.	2028	**44.4%**	**60.4%**	- 6.8 m roadway width, zero degree skew - 2020 Est. AADT = 36 vpd - 5 km detour route - 5.6 m of cover - 2.5:1 side slopes - U/S invert below streambed 500 mm and no scour/erosion - D/S Invert above streambed 300 mm with 3m x 5m scour hole - HWM not visible - Class B Waterbody (Sept 1 to Aug 15)	Upon review of historical inspections it appears as though the deflections have been present since 1998 and are stable. Continued monitoring should be conducted and additional maintenance will be required if deflections exceed 15%. Otherwise plan for replacement in the future. Maintenance not likely to be permitted due to fish passage requirements. Road can be closed for construction, detour available.	Recommended Maintenance Action: Continue Monitoring Deflections **Revised Estimated Replacement Year = 2033** **Estimated Replacement Structure** **(1) 3000 mm x 48 m CSP**	**2030**	$ -	$ 594,000
77192 -01	1970	LOCAL ROAD OVER A TRIBUTARY TO CASTLE RIVER near PINCHER CREEK, AB "West of Honey Lane" SE 27-06-01 W5M (1) 1500 mm dia. X 32.9 m CSP	This structure has a hill to the east with a 9% grade and a long hill to the west. There is 9% sidewall deflection (R=4) and 6% roof deflection. There is superficial corrosion on the floor and some ponding at the downstream end due to a deep burial depth (600 mm). No erosion concerns noted but a local farmer indicated high water has been 1 m over the crown.	2028	**44.4%**	**60.9%**	- 6.5 m roadway width, 30 deg. RHF skew - 2018 Est. AADT = 17 vpd. - No Detour route available - 2:1 side slopes - 5.5 m of cover - U/S Invert below stream bed 500 mm - D/S Invert below stream bed 600 mm - No scour / erosion concerns noted - HWM 1 m above crown - Class C Waterbody (Sept 1 to Aug 15) - BIS DA = 5 km^2, Q = 2 m^3/s (Likely More based on comments)	This structure serves 2 landowners and there is no available detour route. It is undersized based on the estimated high water mark. The deflections have been present since 2000 and have increased approximately 1% for the sidewall and 2% for the roof. It appears to have been stable through the past 2 decades. There is also superficial corrosion along the floor. The MD should continue to monitor the deflections. If they exceed 15% additional maintenance will be required. Pending a review of the corrosion issues at that time, full replacement may be warranted. Due to the proximity to Pincher Creek, the environmental requirements, and the deflections, and historic flow levels, liners are not assumed to be adequate. Full replacement will likely be required at the end of its service life.	Recommended Maintenance Action: Continue Monitoring Deflections **Estimated Replacement Structure** **(1) 2400 mm diameter x 48 m CSP**	**2031**	$ -	$ 532,000
78427 -01	1980	LOCAL ROAD OVER A TRIBUTARY TO BEAVER CREEK near BROCKET, AB "East Sheep Camp" SE 25-08-29 W4M (1) 1600 mm dia. X 44 m CSP	This structure has 10% roof deflection (R=4) and 8% sidewall deflection (R=4). There is also some minor surface corrosion noted (R=7). There is a 6m x 3m x0.5 m deep scour hole at the downstream end. No other concerns were identified. If deflections near 15%, struts should be installed.	2035	**44.4%**	**61.9%**	- 8. m roadway width, 30 deg. LHF skew - 2019 Est. AADT = 25 vpd - 6 km detour route - 3.5 m of cover - 3:1 side slopes -500 mm rip rap U/S. Invert 200 mm below streambed - 600 mm rip rap D/S. Invert 200 mm below streambed - HWM not visible - mapped Class C Waterbody (May 1 to Aug 15) - No BIS flow data available.	Upon review of historical inspections it appears as though the deflections have been present since 1994 and is relatively stable. Minor changes occurred during this time. Continued monitoring should be completed. Additional maintenance will be required if deflections exceed 15%. There is an available local road detour for construction. The structure is on a class waterbody, but confirmation of fish presence is required due to potential channel disconnects and a potential barrier downstream. it is assumed that fish passage will likely need to be accommodated at this time but further review should be completed as the channel also appears to go dry. The structure is assumed to be adequate for flows but it is well protected with rip rap so confirmation of velocities will be required.	Recommended Maintenance Action: Continue Monitoring Deflections **Estimated Replacement Structure** **(1) 1800 mm diameter x 46 m CSP**	**2031**	$ -	$ 368,000

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BRIDGE INSPECTION AND MAINTENANCE PROGRAM - 2022 ASSET MANAGEMENT & PLANNING - PRIORITIZED REPLACEMENT LIST

1. Target Year 2. Structural Condition Rating, 3. Sufficiency Rating, 4. Maintenance Needs

Bridge File #	Year Built	Location & Description	BIM Background Information / Comments / Maintenance Actions / Recommendations	BIM Estimated Replacement Year	Structural Condition Rating	Sufficiency Rating	Bridge File Inventory Background Information	Bridge File Review Commentary	Estimated Preferred Maintenance Strategy or Replacement Alternative	TARGET Year	Estimated Maintenance Cost	Estimated Replacement Cost
01528 -01	1953	LOCAL ROAD OVER PINCHER CREEK near PINCHER CREEK, AB "Christi Mines Road" NW 25-05-01 W5M 3 Span (6.1 m Each) PG Girder Bridge on a Treated Timber Substructure	This structure has a treated timber bridge rail and posts that are deteriorating. R = 4. There is no guardrail at this location. 3 of 27 Girders have wide longitudinal cracks outside the anchorage zone and some minor spalling. Caps and Piles were cored in 2016. No rot in caps except for Pier 2 sub cap and the east cap which had rot beginning. The piles were also cored in 2016 at which time 9 of 14 pier piles and 4 of 14 abutment piles had beginning rot. Piles rated 4 at abutments and 3 at piers. Sheathing is missing on the bottom two rows at the piers. The backwalls are missing lower planks, and there is a broken plank at the N. Abutment. The nose plates are too high by approximately 1 m. There is scour at the piers 0.6 m deep. There is also channel alignment concerns - the creek turns right (north) approx. 20 m U/S and drift gets caught at the SE corner. A guide bank at the north has washed out previously. No other scour/erosion concerns noted at this time.	2028	**44.4%**	**56.2%**	- 7.2 m roadway width, 45 deg. LHF skew - 5 km detour length - 2020 Est. AADT = 54 vpd - Backwall height is 3.60 m, pier height listed as 2.20 m? - Rip Rap placed at U/S N. bank. - No scour noted at abutments. - Class B Waterbody due to Proximity to Pincher Creek (Sept 1 to Aug 15) - Historic Flood Photo shows significant drift accumulation that resulted in the roadway being washed out. Scour along banks - flow was full width of channel.	This structure requires that repairs be made to several timber substructure elements since coring was completed 6 years ago. Based on the deficiencies identified and the work involved to complete maintenance, even low priority elements should be repaired or the potential additional life span may not be fully realized. It is estimated that 13 of 28 piles would need splice repairs, 2 pile caps would need to be replaced and backwall sheathing would need to be repaired or replaced. It is recommended that a full life cycle cost analysis be completed to confirm the appropriate strategy at this site. The overall repair costs are expected to be substantial in relation to the potential life span achieved and the MD may be better off replacing this structure with a newer larger standard bridge capable of handling larger flows and drift considering that a washed out has occurred at this location before. At this time, it is presumed that a longer standard bridge structure will provide better value and reduce the overall risks.	At this time, it is preferred to monitor the structure and complete a full life cycle cost analysis. Pending further review, it is estimated that a replacement standard bridge structure will be preferred **Estimated Replacement Structure** **3 Span (8m-10m-8m) SL510 Girder Bridge on a Steel Substructure**	**2028**	$ 350,000	$ 1,292,000
73602 -01	1972	LOCAL ROAD OVER A TRIBUTARY TO GLADSTONE CREEK near PINCHER CREEK, AB SE 31-05-01 W5M (1) 1745 mm (span) x 1901 mm (rise) x 72.5 m SPCSP Ellipse	This culvert is located on a long curve but the alignment is rated acceptably. This structure has 8% roof deflection and 7% sidewall deflection. Both R=4). There is superficial corrosion on the roof and floor and some water infiltration due to seams not being well nestled. There is a scour hole at the downstream end 3m x 4m x 1.2 m deep and the outlet is hanging 800 mm above streambed. Recommendation was made to place 60 cu.m. of Class 1 rip rap at downstream end.	2034	**44.0%**	**56.4%**	- 5.0 m roadway width, zero degree skew - No available detour route - 2021 Est. AADT = 18 vpd - 10.1 m of cover - 2.5:1 side slopes - U/S Invert below streambed 100 mm, no rip rap but no erosion. - D/S Invert is 800 mm above streambed and there is a large scour hole with no rip rap. - HWM not visible - Unmapped Class C waterbody (Sept 1 to Aug 15)	Upon review of historical inspections it appears as though the deflections have been present since 2000 and are stable. Continued monitoring and routine maintenance should be completed. Additional maintenance will be required if deflections exceed 15%. Otherwise plan for replacement in the future. This structure is on an access road with no detour and high fills. Fish passage will likely need to be accommodated. Appears to possibly be undersized due to high outlet velocities. Fish passage likely currently impeded. Due to height of cover, SPCSP may be required. Concrete Box may be required due to extended life span provided. Replacement is expensive and extensive planning should be completed to verify best alternative. The MD may also be able to realign the road south of the crossing to the next access road to avoid need for this structure.	Recommended Maintenance Action: Continue Monitoring Deflections **Revised Estimated Replacement Year = 2033** **Estimated Replacement Structure** **(1) 2400 mm x 2400 mm x 76 m Precast Concrete Box**	**2029**	$ -	$ 1,303,000
00471 -01	1960	LOCAL ROAD OVER A TRIBUTARY TO PINCHER CREEK near PINCHER CREEK, AB "Christi Mines Road" SW 02-06-01 W5M (1) 1830 mm dia. X 36 m SPCSP	This structure has 9% roof deflection and 5% sidewall deflection. In addition, there is one cracked seam (Ring 3) with 128 mm of steel remaining. Ring 2 is torn on the floor at the downstream south side. There is corrosion along the floor with isolated perforations. There is a T intersection 20 m south and it is located on a curve. No scour/erosion concerns noted. No maintenance actions made at this time.	2033	**44.4%**	**56.4%**	- 8.9 m roadway width, 30 degree LHF skew - 2018 Est. AADT = 100 vpd. - 6 km Detour length - 3.4 m of cover - 1.5:1 side slopes - U/S End heaving 100 mm and Below streambed 200 mm - D/S end above streambed 500 mm - HWM not visible - Class B Watercourse due to proximity to Pincher Creek (Sept 1 to Aug 15). SARA listed species.	This structure has a cracked seam and corrosion issues which are contributing to the low ratings. There is no maintenance action to be completed at this time. The MD should continue to monitor this structure. The cracked seam has been identified since 2008 but the isolated perforations in the floor have just appeared since the last inspection (2018). Considering that the cracked seam appears stable, the MD should plan to replace the structure once the perforations worsen. This is expected to occur within 5-10 years and pending no other change to the condition of the cracked seam. A liner is the preferred future maintenance action, but based on the hanging outlet, the resulting reduction in cross-sectional area, and the fish passage requirements, liners are assumed to not be feasible a this time. Full replacement will likely be required.	Recommended Maintenance Action: Continue Monitoring Cracked Seam and Floor Perforations Revised Estimated Replacement Year = 2029 **Estimated Replacement Structure** **(1) 2400 mm x 40 m CSP**	**2029**	$ -	$ 460,000
74425 -01	1955	LOCAL ROAD OVER A TRIBUTARY TO GLADSTONE CREEK near BEAVER MINES, AB "Gladstone Intersection" NW 23-05-02 W5M (1) 1429 mm (span) x 1575 mm (rise) x 43.3 m SPCSP Ellipse	This structure is located 50 m north of a "Y" Intersection and there is a hill to the north but the alignment elements are rated 5. The upstream end has no scour and erosion issues and there is no rip rap. The bevel is off level at bit, but no concerns were identified. There is 8% roof deflection and 11% sidewall deflection. Both rated 4. There are isolated perforations in the floor of ring 2 and a 50 mm floor bulge. There is minor surface rust elsewhere, with some staining around the bolts. The downstream end is hanging 0.5 m above streambed and there is some rip rap that appears to be adequate.	2030	**44.4%**	**59.5%**	- 9.0 m roadway width, zero deg. Skew. - 2020 Est. AADT = 90 vpd - 72 km detour route - side slopes are 3:1 to fence line and 2:1 beyond - There is 5.2 m of cover - U/S Invert below streambed 200 mm, Downstream above 500 mm. - 300 mm rip rap D/S, None U/S. - Class C Waterbody (Sept 1 to Aug 15) - BIS DA = 13 km^2, Q = 4 m^3/s	Upon review of historical inspections it appears as though the deflections have been present since 2005 and increased 1% as of the most recent inspection. Continued monitoring should be completed. Additional maintenance will be required if deflections exceed 15%. Corrosion is also a concern and there are isolated perforations so it is probably wise to plan for replacement in the future. This structure is on a road with no detour and 5.2 m of cover. Fish passage will likely need to be accommodated since it outlets into Gladstone Creek <2 km downstream. The structure size appears to be adequate, although there is room for backwater. Will probably have to oversize to maintain burial depth and minimize velocities for passage.	Recommended Maintenance Action: Continue Monitoring Deflections **Revised Estimated Replacement Year = 2033** **(1) 2000 mm diameter x 48 m CSP**	**2030**	$ -	$ 460,000

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1. Target Year 2. Structural Condition Rating, 3. Sufficiency Rating, 4. Maintenance Needs

Bridge File #	Year Built	Location & Description	BIM Background Information / Comments / Maintenance Actions / Recommendations	BIM Estimated Replacement Year	Structural Condition Rating	Sufficiency Rating	Bridge File Inventory Background Information	Bridge File Review Commentary	Estimated Preferred Maintenance Strategy or Replacement Alternative	TARGET Year	Estimated Maintenance Cost	Estimated Replacement Cost
08685 -01	1965	LOCAL ROAD OVER FOOTHILL CREEK near TWIN BUTTE, AB "Township Line Road" SW 05-05-29 W4M 3 Span (6.1 m each) PG Girder Bridge on a Treated Timber Substructure	The most recent inspection and ratings indicate this structure is in fair to good condition with some deficiencies: There is no guardrail. There is some minor spalling occurring on the tops of the girders. There are six girders with wide cracks or spalling occurring outside the anchorage zone. One girder has narrow shear cracks. No other concerns were noted on the most recent inspection. However, in September of 2021, a level 2 timber coring inspection was completed and it was found that there is significant rot in the timber elements, including: Abutment 1 has rot with a void forming in Pile #3 (R=3) Pier 1 has rot with void in the shim cap (R=3) and beginning rot in the cap and pile 1 (R=4) Pier 2 has beginning rot in Piles 1,3 and 4 (R=4) and in the shim cap. the top Cap has extensive rot with a void forming (R=3) Abutment 2 has significant rot in the top cap R=3 These "3" ratings signify a medium priority for repair and where not included in the level 1 inspection.	2030	**55.6%**	**59.7%**	- 6.4 m clear roadway, 6.8 m roadway width, zero degree skew - no guardrail - HWM 2.0 m below deck top - Mapped Class D Waterbody - 2.70 m pier height - BIS DA = 31 km^2, Q = 28 m^3/s	An evaluation should be completed to determine if more value is provided by performing repairs and/or replacing this structure. At this time, it is believed that maintenance should be completed to fix timber substructure elements. Consideration for girder replacement should also be included. The installation of guardrail as well. If the assessment determines that the cost of repairs does not provide value based on the estimated life span provided, replacement may be warranted depending on the structure type. Full hydrological and hydraulic study should be completed to verify. Ratings from the Level 2 Coring inspection should be included on next BIM inspection.	At this time, maintenance is probably the preferred course of action to extend the Estimated Replacement Year: **Recommended Maintenance Action:** **Replace Rotten Cap, Rotten Piles, Cracked Girders and Install Guardrail** Maintenance may extend the life an additional 10-15 years. Revised Estimated Replacement Year = 2039 Estimated Replacement Structure: Either a Standard Bridge consisting of 3 x 8 m spans. or (2) 3600 mm dia. x 32 m CSP	**2027**	$ 375,000	$ 1,231,000
06836 -01	1953	LOCAL ROAD OVER TODD CREEK near LUNDBRECK, AB "Willow Valley Road" SW 06-05-29 W4M 8.5 m HC Girder Bridge on a Timber Substructure	The most recent inspection and ratings indicate this structure is in fair to good condition with some deficiencies: There is no guardrail. There is some cracking occurring on the curbs. The timber bridge rail is in poor condition. The backwall is missing planks. rot is suspected in the piles. there is some erosion under the south backwall. No other concerns were noted on the most recent inspection. However, in September of 2021, a level 2 timber coring inspection was completed and it was found that there is t rot in the timber elements, including: Abutment 2 has beginning rot in Piles #2 & #6 (R=4) Abutment 1 has significant rot in the cap (R=3) and beginning rot in piles #3 and #5. These "3" ratings signify a medium priority for repair and where not included in the level 1 inspection.	2031	**55.6%**	**63.5%**	- 7.0 m clear roadway width, zero deg. Skew. - 2020 Est. AADT = 36 vpd - 10 km detour route - No guardrail - HWM not visible - Some scour under south backwall - Class C Waterbody (Sept 16 to Apr 15 and May 1 to Aug 15) - BIS DA = 54 km^2. - D/S Structure is 3 span VS Girder Bridge (BF 02370) Hwy 22 - BIS 2360 DA = 83 km^2, Q = 24 m^3/s.	An evaluation should be completed to determine if more value is provided by performing repairs and/or replacing this structure. At this time, it is believed that maintenance should be completed to fix timber substructure elements. Consideration for girder replacement and bridge rail replacement should also be included. The installation of guardrail as well. If the assessment determines that the cost of repairs does not provide value based on the estimated life span provided, replacement may be warranted depending on the structure type. Full hydrological and hydraulic study should be completed to verify. Fish passage will be required, but pending review of flows, may allow for a large dual culvert structure to be installed. There is no available detour route - Its actually very long and the adjacent landowner has buildings on both sides of the creek. Consideration for traffic accommodation measures will be required. Ratings from the Level 2 Coring inspection should be included on next BIM inspection.	**Recommended Maintenance Action:** **Replace Rotten Cap, Rotten Piles, Cracked Girders and Replace Bridge Rail** Maintenance may extend the life an additional 10-15 years. Revised Estimated Replacement Year = 2039 Estimated Replacement Structure: Either a single 12 m span standard bridge or (2) 3000 mm dia. x 32 m CSP	**2027**	$ 275,000	$ 1,094,000
74906 -01		LOCAL ROAD OVER FOOTHILL CREEK near PINCHER CREEK, AB SW 06-05-29 W4M 8.5 m HC Girder Bridge on a Timber Substructure	The most recent inspection and ratings indicate this structure is in fair to good condition with some deficiencies: The guardrail has blunt ends that is creating a hazard. There is cracking and spalling occurring throughout the girders. There is poor channel alignment. No other concerns were noted on the most recent inspection. However, in September of 2021, a level 2 timber coring inspection was completed and it was found that there is t rot in the timber elements, including: Abutment 1 has isolated rot at Piles #2 & #4 (R=4) There is also isolated rot and beginning rot in the cap (R=3) Abutment 2 has isolated rot in pile 2 and pile 6 (R=4) and no rot in the cap. These ratings signify a medium priority for repair and where not included in the level 1 inspection which currently has these elements rated 7/8.	2030	**61.1%**	**65.8%**	- 6.4 m clear width, 6.6 m roadway width, 15 deg. RHF Skew. - 2020 Est. AADT = 32 vpd - 2 km detour route available - HWM not visible - No scour/erosion concerns - Poor channel alignment - skew does not match creek - Mapped Class D Waterbody - BIS DA = 54 km^2. - BF 08685 is D/S - BIS DA = 13 km^2, 4 m^3/s - Historic Flood Photo shows water at girder level with significant overbank flooding.	An evaluation should be completed to determine if more value is provided by performing repairs and/or replacing this structure. At this time, it is believed that maintenance should be completed to fix timber substructure elements. Consideration for girder replacement t should also be included. If the assessment determines that the cost of repairs does not provide value based on the estimated life span provided, replacement may be warranted depending on the structure type. Full hydrological and hydraulic study should be completed to verify. Fish passage may or may not be required, pending further review. A large culvert structure may be sufficient. Ratings from the Level 2 Coring inspection should be included on next BIM inspection.	At this time, maintenance is probably the preferred course of action to extend the Estimated Replacement Year: **Recommended Maintenance Action:** **Replace Timber elements with rot (piles and cap)** **Assess girder for replacement** Maintenance may extend the life an additional 10-15 years. Revised Estimated Replacement Year = 2039 Estimated Replacement Structure: (2) 3300 mm dia. x 32 m CSP	**2027**	$ 245,000	$ 756,000

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1. Target Year 2. Structural Condition Rating, 3. Sufficiency Rating, 4. Maintenance Needs

Bridge File #	Year Built	Location & Description	BIM Background Information / Comments / Maintenance Actions / Recommendations	BIM Estimated Replacement Year	Structural Condition Rating	Sufficiency Rating	Bridge File Inventory Background Information	Bridge File Review Commentary	Estimated Preferred Maintenance Strategy or Replacement Alternative	TARGET Year	Estimated Maintenance Cost	Estimated Replacement Cost
02187 -01	1968	LOCAL ROAD OVER A TRIBUTARY TO DUNGARVAN CREEK near TWIN BUTTE, AB NW 27-03-29 W4M Single Span (6.1 m) Treated Timber Bridge on Treated Timber Substructure	There is poor alignment at this structure. Rating = 3. Kink and sharp drop to bridge. Curve off of bridge on north side. There is also poor drainage as water runs onto the deck from both sides. A new earing surface as installed in 2008 and is now dirt covered. The bridge rail is split, spliced and rotten. There are two rotten posts and the coating is wearing off. There is no guardrail at this location. It is suspected that piles 3,4 and 5 at abutment 1 have rot. it is also suspected that piles 1,3,4 and 5 at abutment 2 have rot. There was also some potential bulging occurring at the 3rd pile on abutment 2. Abutment 1 appears to be moving. The struts are in poor condition. #1 and #5 are bowed. This structure is used daily by a local farmer. A level 2 Timber Coring Inspection was completed September 23, 2021. Pile 2,3, and 5 are showing signs of bowing. Pile 5 had beginning rot in two bottom cores. No other rot was found. R=3 for the piles.	2024	**44.4%**	**50.5%**	- 6.1 m clear roadway, 4.0 m roadway width, zero degree skew, - 2019 Est. AADT = 10 vpd - 3 km Detour length - No scour protection except for some 300 mm rip rap at the SW corner. No erosion concerns noted at this time. - 3.0 m backwall height. - HWM 1.0 m below top of curb - Unmapped Class B Waterbody (Sept 1 to Aug 15) - No BIS Available. U/S Structures provide an estimated 30 km^2 DA, and a flow of Est. 15 m^3/s	The need for this structure should be evaluated as it appears to be on an undeveloped road with poor alignment but is apparently used by single farmer/landowner on a daily basis. There are four options for this crossing: Option #1 - Remove the structure from Service. Option #2 - Continue monitoring structure - implement load restriction if condition worsens. Plan for repairs, replacement or remove from inventory. Option #3 - Complete Maintenance - Replace Timber Bridge Rail, Complete a pile splice repair, install (2) struts. However, there are also 3 piles showing signs of bowing. Consider additional pile repairs or drive new additional piles. Option #4 - Replace Structure with a large diameter culvert structure. Estimate (2) 3300 mm x 28 m CSP's. At this time, Roseke feels that it is an expensive asset to maintain for use by a single landowner and the MD consider removing this structure from inventory. If it is desirable to keep it, the MD should could continue to monitor (Option #2) and plan for significant repairs/replacement in 5-10 years.	**Recommended Maintenance Action:** **Replace Timber Rail, Complete Pile Repairs, and Install Struts.** Maintenance may extend the life an additional 10 years. Revised Estimated Replacement Year = 2037 Estimated Replacement Structure: Large Diameter Culvert(s) (2) 3300 mm dia. x 28 m CSP	**2027**	$ 245,000	$ 661,000
00673 -01	1958	LOCAL ROAD OVER OLIN CREEK near COWLEY, AB "Skyline" SE 21-09-01 W5M (1) 2040 mm (span) x 2240 mm (rise) x 54.3 m SPCSP	This structure has 6% roof deflection and 5% sidewall deflection. There are also 3 cracked seams along the north side of Rings #18, #19, & # 20 with 105 mm of steel remaining. Minor superficial corrosion. Missing bolts in roof, loose bolt sections in R14-R17. Poor horizontal and vertical alignment (R=4) due to crossing being located on a curve with hills to the north and south.	2028	**44.4%**	**52.4%**	- 9.3 m roadway width, zero degree skew - 7.1 m of cover - 2:1 side slopes - 2018 Est. AADT = 36 vpd. - 41 km detour length - Some Class 2 rip rap U/S. No erosion. Invert 200 mm below streambed. - Class 2 rip rap D/S. No erosion. Invert above 200 mm. - Class C Waterbody (Sept 1 to Aug 15) - No historic flow information available	There are no current maintenance actions for this structure. A review of historical inspections indicates that the cracked seams have been present since 2014. It will be an expensive replacement project due to the high depth of fill, and the detour requirements. Maintenance should be completed to maximize design life span. The MD should continue to monitor the cracked seams at regular cycles. If it is found, that the cracks are growing, and there is less than 100 mm of steel remaining, the elements will be down rated to a "3" rating. At that time, the MD should increasing the inspection cycle to monitor or complete additional repairs to the cracked seam at that time. You could evaluate for a liner, but I suspect that fish passage will need to be accommodated. The inverts are currently above streambed and inhibit passage. Due to the reduction in cross-sectional area, it is unlikely that a liner will be adequate for these conditions. Improvements to the road alignment should also be considered. An on-site detour strategy will likely be required.	**Recommended Maintenance Action:** **Continue Monitoring Cracked Seams** If conditions worsen in next 5-10 years Repair Cracked Seam, Increase Monitoring Frequency, or plan for replacement. Revised Estimated Replacement Year = 2035 Estimated Replacement Structure (1) 3000 mm x 60 m CSP	**2027**	$ 30,000.00	$ 743,000
74110 -01	1957	LOCAL ROAD OVER TODD CREEK near BURMIS, AB "Willow Valley Road" SW 36-09-03 W5M (1) 2130 mm (span) x 1550 mm (rise) x 17.1 m SPCSP Pipe Arch	This culvert has minimal cover over it and there are four cracked seams with a minimum of 127 mm of steel remaining. Roof deflection is near 3%, and sidewall deflection is near 2%. Sidewall and seams are rated 4. No other concerns were noted.	2025	**44.4%**	**53.3%**	- 6.4 m roadway width, zero degree skew - 0.5 m of cover - 3:1 side slopes - 2017 Est. AADT = 25 vpd - No detour route available - U/S Invert is 100 mm above streambed, there is no rip rap, but there is no erosion either. - D/S invert is heaving 100 mm, and is 400 mm above the streambed. No rip rap present and no scour/erosion identified. - HWM not visible - Class C Waterbody (May 1 to Aug 15 and Sept 16 to April 15) - BIS DA = 15 km^2, Q = 9 m^3/s	There are no current maintenance actions for this structure. A review of historical inspections indicates that the cracked seams were identified during the most recent inspection in 2017. The cracked seams are likely due to the pipe shape in combination with the low cover over the structure. The MD should continue to monitor the cracked seams at regular cycles. If it is found, that the cracks are growing, and there is less than 100 mm of steel remaining, the elements will be down rated to a "3" rating. At that time, the MD should increasing the inspection cycle to monitor or complete additional repairs to the cracked seam at that time. Consideration for improving the height of cover may also help alleviate structural concerns. You could evaluate for a liner, but I suspect that fish passage will need to be accommodated and the inverts are above streambed and inhibit passage. Due to the reduction in cross-sectional area it is unlikely that a liner will be adequate for these conditions. An-onsite detour strategy will likely be required.	**Recommended Maintenance Action:** **Continue Monitoring Cracked Seams** If conditions worsen in next 5-10 years Repair Cracked Seam, Increase Monitoring Frequency, or plan for replacement. Revised Estimated Replacement Year = 2035 Estimated Replacement Structure (1) 2700 mm x 28 m CSP	**2027**	$ 30,000.00	$ 384,000

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1. Target Year 2. Structural Condition Rating, 3. Sufficiency Rating, 4. Maintenance Needs

Bridge File #	Year Built	Location & Description	BIM Background Information / Comments / Maintenance Actions / Recommendations	BIM Estimated Replacement Year	Structural Condition Rating	Sufficiency Rating	Bridge File Inventory Background Information	Bridge File Review Commentary	Estimated Preferred Maintenance Strategy or Replacement Alternative	TARGET Year	Estimated Maintenance Cost	Estimated Replacement Cost
01077 -01	1963	LOCAL ROAD OVER FOOTHILLS CREEK near PINCHER CREEK, AB "SGT Wild Rd" NW 12-05-29 W4M 3 Span (6.1m Each) HC Girder Bridge on a Treated Timber Substructure	This structure has minor spalls in the deck top and curbs. There is no guardrail at this site and the timber bridge rail is showing signs of decay. There is 1 girder rated 3 due to wide longitudinal cracks in two legs in the AZ with unsounds concrete (Sp. 2 G4). Five other girders have the same condition with sound concrete. Three other girders have cracking limited to a single leg. The caps were installed on abutments and piers in March of 2017 with steel bearing plates. Piles were cored in July 2016 by BVBS. A2-P5 was spliced with new H-Pile. P2-P2 was showing signs of rot at the waterline. Recommendation was made to replace bridge rail.	2032	**38.9%**	**60.1%**	- 7.3 m Clear Roadway Width - Zero degree skew - Bird Nests - Some maintenance completed. - No guardrail - inadequate bridge rail - HC Girders cracking - New caps and 1 new pile (2017) - Coring completed 2016. - 2021 Est. AADT = 38 vpd. - No scour/erosion concerns noted. - Detour Length = 8 km. (REL Est. 6km) - Mapped Class D Waterbody. - Q = 15.3 m^3/s in 1993 (WSC) - Bridges U/S and D/S, Pier Height 4 m.	This structure had maintenance completed in 2017 (New Caps) and now 11 of 29 girders have deficiencies. The guard rail and bridge rail are also inadequate to protect the public from the hazards. Option #1 - Complete a detailed investigation of girders. Consider completing updated level 2 coring to verify timber condition. Replace approximately half of all girders (Est. 15). Install new bridge rail and guardrail. Option #2 - Replace Bridge. Cannot confirm if large double culvert configuration (Est. 2 x 3600 mm diameter) or standard bridge will be preferred. Three 8.5 m span bridge U/S, single 8.5 m span bridge D/S. Cost-benefit analysis required to verify appropriate strategy. At this time, it is estimated that a standard bridge will be preferred based on extended design life provided. Hydrological and Geotechnical information required to confirm. At this time, considering that some maintenance has been completed - the preferred alternative is replace half of the girders and upgrade the railing to extend the ERY by 10-15 years. A detailed preliminary engineering report should be completed to assess maintenance costs vs. replacement costs with respect to design life span and potential impacts to the environment and users.	**Recommended Maintenance Action:** **Replace Girders, Replace Bridge Rail and Install Guardrail.** Maintenance may extend the life an additional 10-15 years. Revised Estimated Replacement Year = 2037 Estimated Replacement Structure: 3 Span Standard Bridge or (2) 3600 mm dia. x 40 m CSP	**2026**	$ 350,000	$ 1,236,000
76636 -01	1962	LOCAL ROAD OVER A TRIBUTARY TO CASTLE RIVER near PINCHER CREEK, AB SE 17-06-01 W5M (1) 2134 mm (span) x 1549 mm (rise) x 15.2 m SPCSP Pipe Arch	This structure is located in a sag curve with a vertical alignment rating of 3. Roof deflections are near 6% and sidewall deflections are near 3%. There is also 8 cracked bolts in Ring 3 with a minimum of 190 mm of steel remaining. There is a note that this pipe washed out in 1995. Superficial corrosion is present.	2023	**44.4%**	**44.5%**	- 6.0 m roadway width, zero degree skew - No detour route available - 2017 Est. AADT = 18 vpd. - 0.9 m of cover - 2:1 side slopes - The U/S end is 20 mm above streambed. - The D/S end is 600 mm above streambed. - New rip rap placed in 1995 - HWM 1 m above crown - Class C Waterbody (Sept 1 to Aug 15) - U/S Structure is 2200 mm dia. BF 75099 - BIS DA = 16 km^2, Q = 8 m^3/s BF 75099 - BIS DA = 13 km^2, Q = 7 m^3/s BF 76636	The cracked seam in Ring 3 just appeared following the last inspection but there is quite a bit of steel remaining. Corrosion is not an issue at this time, but the limited cover in combination with the pipe shape and cracked seams require that monitoring be continued at regular intervals. If the cracks worsen, seam repairs and/or additional increased monitoring frequency should be completed to extend the life span of the structure further. The structure is known to be undersized due to historic washouts, and fish passage will need to be maintained. Consequently, a liner is not expected to be feasible and full replacement will be required in the future. An on-site detour will likely be required for construction. Grade line improvements should also be considered to improve cover and level of safety.	At this time, maintenance is probably the preferred course of action to extend the Estimated Replacement Year: **Recommended Maintenance Action:** **Continue Monitoring Cracked Seams** If conditions worsen in next 5-10 years Repair Cracked Seam, Increase Monitoring Frequency, or plan for replacement. Revised Estimated Replacement Year = 2037 Estimated Replacement Structure (1) 2200 mm x 32 m CSP	**2027**	$ 30,000.00	$ 379,000
01348 -01	1969	LOCAL ROAD OVER CONNELLY CREEK near LUNDBRECK, AB "Connley Road" SW 03-08-02 W5M (1) 3000 mm x 48.8 m SPCSP	This structure has two cracked rings (R5 and R6) with 145 mm of steel remaining. No significant deflection present. There is minor surface rust (R=5) with a comment that there are rust spots 15-20 mm in diameter in Rings 4-10. The vertical and horizontal alignment are rated 4 due to the structure being on a long curve with hills to the east and west.	2030	**44.4%**	**49.8%**	- 7.0 m roadway width, 30 degree RHF skew - 2019 Est. AADT = 16 vpd. - No detour route available - 5.2 m of cover - 2:1 side slopes - Class 2 rip rap U/S and D/S. - U/S below streambed 100 mm, D/S above 300 mm - No HWM visible - Actual size 3050 mm dia. - Class C Waterbody (Sept 1 to Aug 15) - BIS DA = 36 km^2, Q = 16 m^3/s	There are no current maintenance actions for this structure. A review of historical inspections indicates that the cracked seams were identified during the most recent inspection in 2019. The MD should continue to monitor the cracked seams at regular cycles. If it is found, that the cracks are growing, and there is less than 100 mm of steel remaining, the elements will be down rated to a "3" rating. At that time, the MD should increase the inspection cycle to monitor or complete additional repairs to the cracked seam at that time. If corrosion is a concerning factor at that time, full replacement may be required. You could assess for a liner, but I suspect that fish passage will need to be accommodated and the inverts are above streambed and inhibit passage. Due to the reduction in cross-sectional area it is unlikely that a liner will be adequate for these conditions. An-on site detour strategy will likely be required.	**Recommended Maintenance Action:** **Continue Monitoring Cracked Seams** If conditions worsen in next 5-10 years Repair Cracked Seam, Increase Monitoring Frequency, or plan for replacement. Revised Estimated Replacement Year = 2037 Estimated Replacement Structure (1) 3600 mm x 58 m CSP	**2027**	$ 30,000.0	$ 862,000

Municipal District of Pincher Creek No. 9

BRIDGE INSPECTION AND MAINTENANCE PROGRAM - 2022 ASSET MANAGEMENT & PLANNING - PRIORITIZED REPLACEMENT LIST

1. Target Year 2. Structural Condition Rating, 3. Sufficiency Rating, 4. Maintenance Needs

Bridge File #	Year Built	Location & Description	BIM Background Information / Comments / Maintenance Actions / Recommendations	BIM Estimated Replacement Year	Structural Condition Rating	Sufficiency Rating	Bridge File Inventory Background Information	Bridge File Review Commentary	Estimated Preferred Maintenance Strategy or Replacement Alternative	TARGET Year	Estimated Maintenance Cost	Estimated Replacement Cost
76203 -01	1965	LOCAL ROAD OVER ERNST CREEK near MAYCROFT, AB "West End Maycroft" NW 26-10-03 W5M (1) 2490 mm (span) x 1750 mm (rise) x 20.1 m SPCSP Pipe Arch	This structure has 3 cracked rings (#6,#7 & #8). There is a minimum 85 mm of steel remaining. It results in the sidewall being rated a 3. There is minimal deflection in this pipe. Some corrosion with scaling along the floor at U/S end. Heavy natural vegetation with rip rap at both ends. Some additional rip rap placed at SE to direct flow. No maintenance action made for cracked rings at this time. Continue to monitor.	2027	**33.3%**	**54.5%**	- 9.4 m roadway width, 30 deg. LHF skew - 2017 Est. AADT = 146 vpd. - 50 km detour route - 1.2 m of cover. - 3:1 side slopes - No bevel ends. - U/S Invert 300 mm below, D/S Invert 200 mm above streambed - No scour/erosion concerns - Mapped Class D but <2 km to Class B (Sept 1 to Aug 15). Bull Trout and Other SARA listed species. - On the Gap Road/ Maycroft Road. - BIS DA = 16 km^2, Q = 11 m^3/s	This structure has minimal deflection and there are 35 cracked bolts in 3 rings that were just identified in the most recent inspection. Traffic Volumes expected to be much higher in summer months. An inspection is due shortly, and if there is no significant change in the condition of this pipe, it is recommended that the MD continue monitoring and consider repairing the cracked seam by one of the following methods: 1. Install a shotcrete beam 2. Complete weld repairs. If deflections worse, and or the cracks continue getting worse - full replacement will likely be required due to the shape, maximum liner size, and to maintain fish passage. If the cracked seam is repaired, it is estimated that an additional 10 years of life could be achieved. (Revised ERY of 2033). At that time, it is estimated that a large diameter culvert 2700 mm in diameter and with a 38 m invert length will be required. Fish passage will be a design constraint. Timing, Dewatering, and permitting requirements will have to be confirmed before maintenance activities to proceed.	**Recommended Maintenance Action:** **Repair the Cracked Seams** Maintenance may extend the life an additional 10 years. Revised Estimated Replacement Year = 2033 Estimated Replacement Structure: (1) 2700 mm dia. x 38 m CSP	**2025**	$ 30,000.00	$ 485,000
71542 -01	1967	LOCAL ROAD OVER INDIAN CREEK near MAYCROFT, AB "East End Maycroft" SE 07-10-01 W5M (1) 2030 mm (span) x 2240 mm (rise) x 31.7 m SPCSP	This structure has isolated perforations in the roof of Ring 5, Ring 6 and Ring 7. Roof currently rated 3. There is also isolated perforations in Ring 1 on the floor. Roof Deflection is near 4% and the sidewall deflection near 3%. The coating rating is 3 based on the perforations. Largest Perforation is 60 mm x 10 mm. Recommendation was made to Monitor Roof and floor perforations at 1/2 cycle (every ~ 2 years)	2035	**33.3%**	**56.5%**	- 7.6 m Roadway Width, 30 deg. LHF skew - 2020 Est. AADT = 36 vpd. - Detour length = 28 km. - 3.4 m of cover - 2:1 Side slopes - No scour/erosion concerns - Rip Rap U/S and D/S 300-400 mm - HWM Mark is above top of culvert. - Outlet is above streambed - Inlet is below streambed 200 mm - Class C Waterbody (Sept 1 to Aug 15) - BIS DA = 13 km^2, Q = 7 m^3/s	This structure has significant corrosion problems. The recommend repair would involve the installation of a liner but at this time it is not expected that a liner will be sufficient considering that there is evidence that water has exceeded the crown elevation and that it would not pass fish. Consequently, replacement of this pipe will likely be required. Monitoring should continue on 1/2 cycles until replacement. If infiltration starts to occur, or voids develop, replacement should be prioritized. It is estimated that (1) 3300 mm diameter x 40.0 m CSP will be the preferred alternative assuming fish passage can be provided. A concrete end treatment will be required at the upstream end.	**Estimated Replacement Structure:** **(1) 3300 mm dia. X 40 m long CSP**	**2026**	$ -	$ 600,000
13960 -01	1961	LOCAL ROAD OVER A TRIBUTARY TO OLDMAN RIVER near COWLEY, AB "Lower Tennessee" SE 11-08-01 W5M (1) 1450 mm (span) x 1600 mm (rise) x 49.4 m SPCSP	This structure has 14% roof deflection (R=3) and 11% sidewall deflection (R=3). There is also a hole in the roof in R5 and isolated perforations in R2,R4,R5, and R9 on the floor. The floor and coating are rated 4. Regional Consultant commented on form indicating deflections have been stable since 1993. Continue Monitoring.	2031	**33.3%**	**58.1%**	- 7.7 m Roadway Width, Zero deg. Skew. - 8.6 m of Cover - 1.5:1 side slopes. 3:1 from shoulder to fence line. - 2021 Est. AADT = 70 - 6 km Detour Route - Rip Rap appears adequate U/S & D/S - No scour/erosion concerns. - D/S Invert above Streambed. U/S Invert below 600 mm (45%) - HWM not visible - Class B Waterbody by default. (Sept 1 to Aug 15) - BIS DA = 5 km^2, Q = 4 m^3/s - Small reservoir downstream - potentially steep slopes	This structure corrosion problems, deflections and it is under 8.5 m of fill. An extensive hydraulic review and liner feasibility study will be required to determine if a 1219 mm diameter liner can be installed at this location. Based on the structures downstream, and upstream, a 2000 mm diameter structure is likely required. Additionally, this structure connects to the Oldman Reservoir, and fish passage requirements will need to be assessed. The downstream structure and/or the small reservoir downstream may act as barriers to fish. If fish passage is not an issue, and backwater can be temporarily stored upstream, then a liner may work. Otherwise full replacement with a 2000 mm diameter x 55 m CSP may be required. Pending further review, the MD may be able to line the existing CSP and tunnel a secondary SWSP next to it to accommodate flows. A detailed preliminary engineering report should be completed to verify the correct strategy, but at this time it is assumed that full replacement will be required. The road can be closed during construction due to an available detour route.	**Estimated Replacement Structure:** **(1) 2000 mm dia. X 55 m long CSP**	**2026**	$ -	$ 463,000

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1. Target Year 2. Structural Condition Rating, 3. Sufficiency Rating, 4. Maintenance Needs

Bridge File #	Year Built	Location & Description	BIM Background Information / Comments / Maintenance Actions / Recommendations	BIM Estimated Replacement Year	Structural Condition Rating	Sufficiency Rating	Bridge File Inventory Background Information	Bridge File Review Commentary	Estimated Preferred Maintenance Strategy or Replacement Alternative	TARGET Year	Estimated Maintenance Cost	Estimated Replacement Cost
70417 -01	1960	LOCAL ROAD OVER TRIBUTARY TO CASTLE RIVER near PINCHER CREEK, AB SE 05-07-01 W5M Single 6.1 m Clear Span PG Girder Bridge on Timber Substructure	This structure is in fair condition based on the level 1 BIM, but a level 2 timber coring inspection was completed in October 2021 and it was discovered that there was extensive rot and large full height void in pile 3 at abutment 1. (R=2). There was also beginning rot in 3 consecutive cores in the cap over piles 1 and 2. At abutment 2 isolated rot was found in pile 6 and beginning rot was found in the cap over piles 1-3. R=4. Other than those deficiencies noted from the level 2 inspection the level 1 inspection just identified some cracking girders identified. (R=4).	2026	**50.0%**	**62.8%**	- 7.3 m clear roadway width, zero degree skew - 2017 Est. AADT = 52 vpd - 8 km Detour Route - 1.6 m backwall height - No erosion concerns noted. - Class C Waterbody (Sept 1 to Aug 15) - No BIS Data available. Dry Oct. 2021. - D/S and U/S structures are culverts. - D/S BIS (74219) Q =15 cms, DA = 32 sqkm. For a 1:25 year event. (2) 2200 mm CSP	The timber components of this structure are deteriorating. At this time, it is presumed that the timber elements could be replaced/repaired. to extend the life of the structure an estimated 10 years. The work would involve the replacement of both caps and two piles. The replacement of at least two girders should also be considered if this work is occurring. Alternatively, it is assumed that a replacement structure would consist of dual culverts with diameters near 2200 mm. The existing bridge has been in service for 72 years and maintenance may extend the life of the structure an additional 10 years, but continuous deterioration of the timber components is likely to occur and additional maintenance would likely be required. It is recommended that a Preliminary Engineering be completed to verify the hydrological, environmental, and geometric requirements for this site and to complete a net present value analysis to confirm the appropriate course of action. Continued annual monitoring is also required at this site - until repairs or replacement is completed. At this time, it is presumed that replacement with a CSP will reduce future maintenance and monitoring costs and provide overall better value but further analysis is required to confirm.	Recommended Maintenance Action: Complete Pile Repairs, Change Caps, Replace Girders & Other Work Revised Estimated Replacement Year = 2034 **Estimated Replacement Structure** **(2) 2200 mm diameter x 32 m CSP**	**2024**	$275,000.00	$ 397,000
00470 -01	1988	LOCAL ROAD OVER A TRIBUTARY TO PINCHER CREEK near PINCHER CREEK, AB "Murrays Corner" SE 02-06-01 W5M (1) 1600 mm dia. X 43 m CSP	This structure has isolated perforations in Rings 2,3 & 4 in the roof and sidewall. R=3 for both elements. The floor hasn't been visible for consecutive inspections. There is also 5% sidewall deflection and 3% roof deflection. The bevel ends are also rated 4 due to perforations. There is rip rap at both ends and no scour or erosion concerns were noted. There is a 4 way intersection located 30 m West. Recommendation Made to Monitor perforations in roof and sidewall. No further action at present.	2032	**33.3%**	**53.1%**	- 8.0 m roadway width. 10 deg. RHF skew. - 17 km Detour Route. - 2021 Est. AADT = 28 vpd. - 4.7 m of Cover - 140 mm Circ. Seam separation - Inverts below streambed 400mm - Drift present - No scour/erosion concerns - HWM not visible - Class B Waterbody (Sept 1 to Aug 15) - Bull Trout / SARA Species - No historic flow information available.	The size and the severity of the isolated perforations are unknown. Continue monitoring. If infiltration starts to occur - this structure will have to be prioritized. There is another unknown structure 30 m downstream for which the age, size and condition are unknown. This structure is located near an intersection and there is no detour route available. An on-site detour or staged construction approach will probably be required. This structure appears to be adequate for the historic flows at this location and replacement alternatives will likely be similar in size.	**Estimated Replacement Structure:** **(1) 1600 mm dia. X 43 m long CSP**	**2025**	$ -	$ 358,000
74260 -01	1954	LOCAL ROAD OVER A TRIBUTARY TO FOOTHILL CREEK near PINCHER CREEK, AB "Buck Jack" SW 13-05-29 W4M (1) 1742 mm (span) x 1920 mm (rise) x 15.2 m long SPCSP	This structure is in poor condition due to 15% roof deflection (R=3) and 12% sidewall deflection (R=3). There is also heavy corrosion on the floor with perforations occurring. There is a 7 m x 7 m x 0.5 m deep scour hole at the outlet with no rip rap protection. The D/S invert is approximately 100 mm above streambed. There is also poor channel alignment because flow comes down the south ditch for approximately 8m. There is a hill to the north. R=5.	2020	**33.3%**	**54.0%**	- 8. m Roadway Width. Zero degree skew - 15 km detour length - 2018 Est. AADT = 17 vpd - 0.6 m of Cover - 2:1 side slopes - No bevel ends - U/S Rip Rap is good. - U/S Invert is 50 mm below streambed - No HWM Visible - Active Erosion 100 m D/S - Unmapped Class D Waterbody - BIS DA = 10 km^2, Q = 6 m^3/s - U/S Structure is a 2.2 m dia. CSP	This structure appears to be undersized due to the high velocities, and the scour hole downstream. The upstream structure is also larger and was installed in 1996. The major deficiencies include both deflections and corrosion. It is therefore recommended that this structure be replaced. The deflections appear to be due to low cover. The road grade will have to be raised, or if a dual culvert configuration can be utilized. There is a comment indicating there is a hill to the north, but a cost benefit analysis will likely be required to determine if grade line improvements or the dual structure is preferred and to assess fish passage. A local road detour could be utilized - 1 mile to the east. 6.2 km total detour length.	**Estimated Replacement Structure:** **(2) 2000 mm dia. X 28 m long CSP**	**2025**	$ -	$ 414,000
07080 -01	1974	LOCAL ROAD OVER DUNGARVAN CREEK near TWIN BUTTE, AB "Pine Creek" SW 17-03-29 W4M (1) 4070 mm (span) x 4480 mm (rise) x 37.2 m SPCSP	This structure has a cracked roof seam in Ring 10. There is an estimated 60 mm of steel remaining between the cracked bolt holes. This condition is driving the "3" Rating. There are isolated perforations in the floor in ring 1, and minor surface rust. Deflections are at 1%. There is a scour hole at the downstream end, but the rating is still adequate and there is rip rap protection. The current maintenance recommendation is to monitor the cracked roof seam.	2030	**33.3%**	**54.1%**	- 8.0 m roadway width, 30 degree LHF skew. - 3:1 side slopes & 1.0 m of cover - Concrete End Treatment U/S - Class 1 U/S - no erosion - Class 3 D/S with scour hole R=5 - 7 km Detour Length - 2020 Est. AADT = 15 vpd. - Poor channel alignment at U/S - BIS DA = 23 km^2, Q = 39 m^3/s. - D/S Structure is 6.7 m Concrete Box. - Bank Protection added to road at SW.	Minimum cover requirements for a structure this large is 1.18 m which is 0.18 m greater than what is there based on the information on the BIM form. The noted cracked roof seam is in the last ring which suggests it is not under loading from the road. The cracked roof seam has been there since 2002. Based on the current condition of the pipe in combination with the type and location of the deficiency identified, the immediate course of action is to continue monitoring this culvert. This is a fairly large creek and it is estimated that (2) 3600 mm diameter x 50 m CSP's will be required to accommodate flows. However, at this size, a cost benefit analysis should be completed to assess costs and. lifespan with a standard bridge alternative. The culvert alternative is cheaper, but negatively impacts environment and only has a 50 year design life. A standard bridge is more expensive and will last longer but there are also typically more maintenance costs. Hydrological, Environmental and Geotechnical will need to be considered. At this time, it is presumed that the dual pipe configuration will work. Skew angle will likely have to be increased due to current channel alignment. U/S Concrete End Treatment will also be required.	**Estimated Replacement Structure:** **(2) 3600 mm dia. X 50 m long CSP**	**2025**	$ -	$ 520,000

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1. Target Year 2. Structural Condition Rating, 3. Sufficiency Rating, 4. Maintenance Needs

Bridge File #	Year Built	Location & Description	BIM Background Information / Comments / Maintenance Actions / Recommendations	BIM Estimated Replacement Year	Structural Condition Rating	Sufficiency Rating	Bridge File Inventory Background Information	Bridge File Review Commentary	Estimated Preferred Maintenance Strategy or Replacement Alternative	TARGET Year	Estimated Maintenance Cost	Estimated Replacement Cost
75801 -01	1953	LOCAL ROAD OVER A TRIBUTARY TO OLDMAN RIVER near COWLEY, AB "Northern Skyline" SW 09-10-01 W5M (1) 1455 mm (span) x 1600 mm (rise) x 25.0 m CSP Ellipse	This pipe has 15% roof deflection (R=3) and 13% sidewall deflection (R=3). No maintenance recommendation was made for this deficiency. Continue to monitor. There is only minor superficial corrosion at this location. There is a scour hole downstream for which a maintenance recommendation was made to place additional rip rap.	2030	**33.3%**	**51.0%**	- 8.0 m roadway width, zero deg. Skew - 2021 Est. AADT = 132 vpd - No available detour route on BIM - 2.4 m of cover - 3:1 side slopes - Hill to north and south. No alignment concerns noted. - U/S Invert 400 mm, D/S Invert is below 100 mm. - D/S Scour hole 3m x 5m x 1m - No HWM visible. - Mapped Class D but 2 km to Class C (Sept 1 to Aug 15) - Small reservoir D/S. - BIS DA = 8 km^2, Q = 5 m^3/s	Deflections have been present since 2003 and appear to have remained stable since 2008. The structure appears to be undersized due to high outlet velocities that cause a scour hole at the downstream end and likely impedes fish passage. However, there is small reservoir downstream D/S that is assumed to be a barrier to fish. A road closure may be possible during construction. Length of detour only becomes a problem for landowners who live south/east travelling north on Highway 22. Further discussions required. Only minor superficial corrosion indicated on BIM, so recommended maintenance action is to install struts to maintain shape until replacement is warranted. Struts will, however, reduce the cross-sectional area and cause a reduction in flow capacity. Replacement alternatives will likely consist of a 2200 mm diameter x 35.0 m in 10-15 years (Estimate 2035).	**Recommended Maintenance Action:** **Install Vertical Steel Struts** Maintenance may extend the life an additional 10 years. Revised Estimated Replacement Year = 2034 Estimated Replacement Structure: (1) 2200 mm x 35.0 m CSP	**2023**	$ 45,000.00	$ 389,000
75481 -01	1961	LOCAL ROAD OVER TRIBUTARY TO OLIN CREEK near COWLEY, AB "Olin" SW 23-09-01 W5M (1) 1525 mm dia. X 23.8 m CSP	This structure has 12% roof deflection (R=3) and 9% sidewall deflection (R=4). There is some corrosion with pitting occurring on the floor. There is also a rusty roof with a comment indicating this pipe was salvaged and the roof used to be the floor. There is hanging outlet (300mm) and no rip rap protection on either end but no noted erosion concerns. No maintenance actions made for roof deflections.	2030	**33.3%**	**51.1%**	- 6.0 m roadway width, 30 deg. RHF skew, 2 m of cover - 2020 Est. AADT = 16 vpd - No detour route available - U/S below streambed, D/S above - 80 mm vertical seam separation - No rip rap but No scour/erosion - 2:1 side slopes - No road or channel alignment concerns - Class C Waterbody (Sept 1 to Aug15) - BIS DA = 4 km^2, Q = 4 m^3/s.	The deflections appear to have been stable since 2002. Recommend continued monitoring. Because of the corrosion on the floor and the roof, vertical struts may not be effective as a repair due to the reduced structural capacity of the steel at these locations. The estimated replacement structure will likely be a 1600 mm - 1800 mm diameter culvert to include adequate burial depth and maintain fish passage. Localized Detour will likely be required.	**Estimated Replacement Structure:** **(1) 1800 mm dia. X 30 m long CSP**	**2024**	$ -	$ 303,000
70175 -01	1957 1908	LCOAL ROAD OVER YARROW CREEK near TWIN BUTTE, AB "Spread Eagle Road" NW 22-03-30 W4M 2 Span Bridge (38.1 m Through Truss with a 6.1 m Treated Timber Approach Span) on a Treated Timber Substructure	Maintenance was completed on this structure in 2019. Unfortunately, the BIM was completed in the winter and lots of the new elements were not visible. It appears as though a new strip deck was installed and new wheel guards were installed. There was some potholes creating a bump on approach to the bridge but the alignment ratings indicate the roadway is adequate. There is no guardrail at this location. There is some minor damage or defects to the truss members and one missing bolt. There is corrosion and pitting on the splash zone of the truss. The timber bridge rail on the approach span in untreated and needs to be painted. There is some scour at the west side within 1 m of abutment 1. There are steep banks along the west side with no rip rap protection. Recommendation was made to place 60 m^3 of Class 1 Rip Rap. A timber coring inspection was completed in October 2021 at which time it was revealed that there was beginning rot in vert. blocks of piles 2 and 6 at abutment 1 (R=4). and piles 2 and 3 at abutment 2 (R=4). Additionally, there is extensive rot with a void in Pile 3 East, and Pile 5 West at Pier 1 (R=2) Two additional piles had large vertical splits (R=4). The Cap at Abut 2 has beginning rot, the rest are ok.	2025	**44.4%**	**34.6%**	- 4.3 m clear roadway width, 7 m roadway width, zero degree skew - 4.3 m vertical clearance - 2020 Est. AADT = 60 vpd. - 13 km detour length - 3.8 m pier height - No guardrail - Class B Waterbody (Sept 1 to Aug 15) - SARA listed species	This structure had significant maintenance completed in 2019, some deficiencies still exist and there are some routine maintenance actions remaining to complete following the completion of the coring inspection in October of 2021. The current maintenance recommendations include: 1. Repair/Replace Timber Piles (Est. Qty = 4) 2. Consider Replacing Cap at Abutment #2. 3. Replace one (1) treated timber wheel guard 4. Place 60 cu.m of Class 1 Rip Rap at South abutment 5. Cut the top of the SW Wing Wall Pile and Place a tin cap over it 6. Paint or replace rail and posts on treated timber span. Consider upgrades to CCA or flex beam. This structure should be inspected annually until repairs or replacement is completed. The current ratings and estimated replacement year on the Level 2 Coring Report are not accurately reflected on the Level 1 Inspection Form. It currently requires high priority repair and has an estimated replacement year of 2024 vs. 2025 on the BIM Form. Based on the information reviewed and considering additional maintenance has already been completed, continued maintenance and monitoring should be completed as soon as possible to extend the life span of the bridge an estimated 10 years.	**Recommended Maintenance Action:** **Complete Pile Repairs, Change Cap, Place Rip Rap, and Fix Timber Components** Revised Estimated Replacement Year = 2034 Estimated Replacement Structure Large Standard Bridge (3x14 m Spans) or Major Bridge	**2024**	$350,000.00	$ 1,292,000

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1. Target Year 2. Structural Condition Rating, 3. Sufficiency Rating, 4. Maintenance Needs

Bridge File #	Year Built	Location & Description	BIM Background Information / Comments / Maintenance Actions / Recommendations	BIM Estimated Replacement Year	Structural Condition Rating	Sufficiency Rating	Bridge File Inventory Background Information	Bridge File Review Commentary	Estimated Preferred Maintenance Strategy or Replacement Alternative	TARGET Year	Estimated Maintenance Cost	Estimated Replacement Cost
76294 -01	1965	LOCAL ROAD OVER A 2ND TRIBUTARY TO CASTLE RIVER near COWLEY, AB SW 32-06-01 W4M (1) 1520 mm dia. X 18.3 m CSP	This structure has 6% roof deflection and 3% sidewall deflection. There are also extensive perforations due to corrosion in Ring 2 and Ring 3. Sidewall and Coating R=2. Low Rating Notification Filed with MD. Inspection Cycle reduced to 6 months to monitor but no additional recent formal inspection information is available.	2022	**22.2%**	**52.8%**	- 8.5 m roadway width. Zero degree skew. - 3:1 Side slopes - 1.0 m of cover - 2021 Est. AADT = 134 vpd. - 32 km detour length - Rip Rap at U/S, None D/S - HWM Not visible - No Scour/Erosion - Inverts 200 - 300 mm below streambed - Unmapped Class C Waterbody. (Sept 1 to Aug 15) Possible Bull Trout/SARA Species. - BIS DA = 5 km^2 - BIS Q = 3 m^3/s - Bridge D/S - No crossings U/S - Ponds/Dugouts U/S	A steel liner is the preferred maintenance strategy at this location, but the reduction in cross-sectional area is likely to result in an increase in velocities that impede fish passage. At this time, it is presumed that a liner will not be feasible for these reasons. The maximum estimated liner size would be 1216 mm in diameter due to current deflections and providing space for grouting of the annular void. Further assessment required. The structure appears hydraulically adequate for the flows, but there is some storage available upstream and it is a relatively small drainage area. Estimated replacement structure size is 1600 mm. On-site detour or staged construction approach likely required.	**Estimated Replacement Structure:** **(1) 1600 mm dia. X 28 m long CSP**	**2023**	$ -	$ 268,000
01113 -01	1971	LOCAL ROAD OVER A TRIBUTARY TO OLDMAN RIVER near PINCHER CREEK, AB "Demotsu Loop" SE 31-07-29 W4M (1) 2322 mm (span) x 2560 mm (rise) x 48.5 m SPCSP	This structure has poor alignment due to the presence of a intersection 50 m to the west, its on a long horizontal curve, and in a valley with hills in both directions. There is also an erosion gully along the west side. Approach Road GR = 4. There are 4 cracked seams with a minimum of 50 mm of steel remaining. Roof deflection is 7%, Sidewall deflection is 6%. Sidewall R =3. Roof R = 5. There is also superficial corrosion along the floor. There is some erosion at the downstream end. The bank above the culvert has sloughed 92 m (2007 Note).	2033	**33.3%**	**40.3%**	- 7.7 m Roadway Width, Zero deg. Skew. On a curve. Y Intersection 50 m S. - 2:1 Side slopes & 7.5 m of cover - U/S End 1 m below streambed. - D/S End 300 mm below streambed. - 300 mm Rip Rap both ends - 2 km Detour length - 2018 Est. AADT = 2- vpd. - Some siltation in pipe. - Tributary to Oldman Reservoir. Unmapped. Class C by default. (Sept 1 to Aug 15). - Listed as Tennessee Creek (BIS) - Small Reservoir D/S impedes flow to Oldman Reservoir. When Oldman is a FSL, it backs up to this reservoir. - High fill with some backwater storage available. I also think this culvert is on a steep slope. - BIS DA = 31 km^2, BIS Q = 13 m^3/s	The cracked seams have been identified since 2002 and appear stable. There is a minor change in deflection since then and the coating on the floor is rated 5 (superficial rust). Based on the aerial imagery, the overflow channel from the D/S reservoir is assumed to go dry annually due to the storage provided so fish passage may not be a design constraint but considerations of sedimentation will be required. This structure may also have a steep slope that may also impede passage. Further environmental evaluation required. At this time, the three preferred options are estimated to be: 1. Pending a complete review of hydrology, hydraulics and fish passage requirements - install a 2134 mm (84") diameter x 55.0 m long SWSP Liner 2. Install a liner and tunnel a second pipe beside the liner. Geotechnical investigation and confirmation of fish passage required to confirm feasibility. 3. Open cut installation of (1) 3000 mm dia. x 55.0 m CSP. Localized Detour not required. The MD could also potentially close this road due to minor local detour being available but it might cause push back from 2 landowners. Recommend continue monitoring of cracks and deflections on half cycle until replacement is completed.	**Estimated Replacement Structure:** **(1) 3000 mm dia. X 55 m long CSP** Concrete End Treatment Required at U/S	**2023**	$ -	$ 681,000
74048 -01	1962	LOCAL ROAD OVER TODD CREEK near BURMIS, AB "Willow Valley" NW 36-09-03 W5M (1) 1830 mm (span) x 1120 mm (rise) x 15.8 m Pipe Arch	This structure has 13% roof deflection (R=3) and only 2% sidewall deflection. There is minor superficial corrosion and no erosion concerns were noted. There was a recommendation to reduce inspection cycle in half (~ 2 years) until replaced.	2029	**33.3%**	**49.2%**	- 6.0 m Roadway width.15 deg. LHF skew. - No Detour available. - 2019 Est. AADT = 20 vpd - 3:2 side slopes & 0.6 m of cover - No Bevel Ends - U/S invert Below streambed 50 mm - D/S invert Above streambed 100 mm - No Rip Rap protection (minimal) - No scour/erosion problems - HWM Not visible - Class C Waterbody (May 1 to Aug 15 and Sept 16 to April 5)	The deflection problems are likely a result of low cover over the existing arch shaped pipe. Deflections have worsened 3% since 2014 inspection. Vertical steel struts could be installed to extend the life of this structure but they are typically not required unless deflections exceed 15%, but may be warranted now due to the reduced cover. An estimated 10 years of additional life span could potentially be achieved. However, the constructability might be a minor issue considering that there is only 980 mm of height available at the lowest point. Care of Water will also need to be considered. Replacement alternative will likely consist of a double 1200 mm dia. x 28 m culvert configuration due to low cover. Alternatively, if permitted - a grade raise would be required to facilitate installation of a 1500 mm dia. CSP. The dual pipe configuration is expected to be better for velocities and reduced roadway work costs. Fish passage will need to be considered and there is no available detour so a localized detour will be required.	**Recommended Maintenance Action:** **Install Vertical Steel Struts** Maintenance may extend the life an additional 10 years. Revised Estimated Replacement Year = 2034 Estimated Replacement Structure: (2) 1200 mm dia. x 30 m CSP	**2023**	$ 30,000.00	$ 334,000

Municipal District of Pincher Creek No. 9
BRIDGE INSPECTION AND MAINTENANCE PROGRAM - 2022 ASSET MANAGEMENT & PLANNING - PRIORITIZED REPLACEMENT LIST

1. Target Year 2. Structural Condition Rating, 3. Sufficiency Rating, 4. Maintenance Needs

Bridge File #	Year Built	Location & Description	BIM Background Information / Comments / Maintenance Actions / Recommendations	BIM Estimated Replacement Year	Structural Condition Rating	Sufficiency Rating	Bridge File Inventory Background Information	Bridge File Review Commentary	Estimated Preferred Maintenance Strategy or Replacement Alternative	TARGET Year	Estimated Maintenance Cost	Estimated Replacement Cost
02488 -01	1927	LOCAL ROAD OVER THE CROWSNEST RIVER near LUNDBRECK, AB "Fishers" NW 26-07-02 W4M (1) 24.4 m Long Pony Truss Bridge on Concrete Substructure	This is the Fisher Bridge. The bridge and road are currently closed to public traffic due to the poor condition of this structure. Poor wearing surface, Abutment delamination at bearing locations, missing bearing anchor bolts, wide cracking on abutments, undermined bearing, delaminating concrete, poor abutment stability. Some corrosion and minor wide load damage. Road alignment not great but reduced speed. It is our understanding that ISL Engineering and Land Services is preparing a design for the replacement of this structure in the near future pending funding approval.	2020	**22.2%**	**30.3%**	- 4.9 m clear roadway width. 6.2 m road width. - Vertical eroded banks in vicinity of bridge. Water starting to undercut south abutment. - Est. Deck to Streambed = 5 m - HWM Est. 1.1 m below curb. - Class B Waterbody (Sept 1 to Aug 15)	The structure is currently closed and is in the worst condition of all structures in the MD. It is our understanding the MD of Pincher Creek has obtained the services of ISL Engineering Ltd. to design and tender a prefabricated replacement bridge structure at this location. No further action required at this time. Post-Construction BIM to be completed to update inventory once complete.	This one is being replaced. An additional 50 - 100 years of life span should be achieved depending on structure types and details which are unknown. Ball Park Cost Estimate Assumed costs were incorporated in 2020 or 2021 budget. Not considered for this assessment.	**2022**	$ -	$ 1,225,200
75265 -01	1960	LOCAL ROAD OVER HEATH CREEK near COWLEY, AB "Heath Creek" NE 11-10-01 W5M (1) 2134 mm (span) x 1549 mm (rise) x 18.9 m SPCSP Pipe Arch	The existing structure is in poor condition due to the presence of 4 cracked sidewall seams with a minimum of 55 mm of steel remaining. All cracks are on the north side and the sidewall rating is 3. There is also 7% roof deflection. The vertical and horizontal alignment are poor due to curves in both directions and hills in both directions. There is a significant scour hole downstream There is a comment to inspect pipe annually until replaced. A replacement structure has been designed and is ready for tender for construction to occur 2022.	2023	**33.3%**	**34.6%**	- 6.5 m roadway width Zero degree skew - 1.5 m of cover - 1:1 side slopes - Both inverts above streambed - Poor channel alignment - Large D/S scour hole - HWM 0.2 m above crown - No detour route available -Class C Waterbody (Sept 1 to Aug 15)	Roseke Engineering Ltd. prepared an extensive preliminary engineering report for this site in 2021. The recommendation was to replace the existing pipe with a 3000 mm diameter x 28 m CSP. Some additional bank protection measures were included to protect the road upstream, and boulder clusters were included to improve fish passage. As of now the design is complete, land has been purchased, the tender has been prepared and the permits were obtained. This project is expected to be tendered in the Spring of 2022 with construction to occur August 15 - September 15 2022.	**Replacement Structure:** **(1) 3000 mm dia. X 28 m long CSP** Assumed costs were incorporated in 2021 budget. Not considered for this assessment.	**2022**	$ -	$ 400,000
75377 -01	1962	LOCAL ROAD OVER SCREWDRIVER CREEK near BURMIS, AB "7 Gates" NW 08-06-02 W5M (1) 1724 mm (span) x 1901 mm (rise) x 19.5 m SPCSP Ellipse	This structure is located NW of Beaver Mines on a dead end road with curves and a hill to the east. The structure currently has severe perforations in the floor from Ring 1 through to Ring 6 which has resulted in a 3 rating. There is 2% roof deflection and 2% sidewall deflection. A recommendation was made to monitor the floor in inspection 1/2 cycles. The upstream end has perforations in the floor. The downstream end is hanging 200 mm above streambed and there are perforations in the floor of the bevel as well. No other concerns were noted but a recommendation was made to replace the culvert. Roseke Engineering completed the preliminary engineering, design and tender for a replacement structure at this location in 2020.	2020	**44.4%**	**47.5%**	- 8 m clear roadway, the inspection indicates its on a zero degree skew but its actually a 33.5 deg. LHF skew. - 1.1 m of cover - 2:1 side slopes - 2020 Est. AADT = 36 vpd - No Detour Route available - Class C Waterbody (Sept 1 to Aug 15) - SARA listed Species	In 2020, Roseke Engineering completed the preliminary engineering and design for a replacement structure that consisted of a single 2700 mm dia. X 37 m long CSP with corner baffles along the upstream half of the pipe to improve fish passage. The project was tendered for construction in 2021, but the Contractor went into default and the contract was terminated. It is expected that the project will be retendered and construction will proceed in 2022. Estimated replacement budget is expected to be for remaining costs to complete construction and does not include previous annual expenditures. Design Life Span of the structure may be reduced due to the current shape and condition of the supplied pipe following damage from a wind event in 2021.	**Replacement Structure:** **(1) 2700 mm dia. X 37 m long CSP** Assumed costs were incorporated in 2020 or 2021 budget. Not considered for this assessment.	**2022**		$ 420,000
07743 -01	1908	LOCAL ROAD OVER GLADSTONE CREEK near PINCHER CREEK "Gladstone" SW 23-05-02 W5M 3 Span Bridge (8.5 m PA Girders - 18.3 m Pony Truss - 8.5 m PA Girders) on a Treated Timber and Steel Substructure	A level 2 coring inspection was completed by Bow Valley Bridge Services at this location and Roseke Engineering has prepared a Tender to complete maintenance at this location in 2022. Currently there are significant problems with the guardrail, wearing surface, wheel guards, stringers, bridge paint, a cracked diagonal member, and the timber subdeck. The PA Girders on the approach spans have wide cracks in the anchorage zone. Sp.1 G2 is in unsound concrete. All interior girders are in good condition.	2025	**50.0%**	**44.4%**	- 7.3 m clear width, 9.6 m roadway width, zero degree skew - 2019 AADT Est. = 121 vpd. - No detour available - No scour/erosion concerns - 5.1 m pier height - HWM not visible - Class B Waterbody (Sept 1 to Aug 15) - Historic flood photo shows drift accumulation on piers and significant loss of fill at south abutment.	Roseke Engineering Ltd. has reviewed all documentation and prepared a tender for maintenance to be completed at this site. The work will involve the replacement of the timber stringers, replacement of the subdeck, replacement of the strip deck, replacement of the bridge rail and guardrail and other miscellaneous repairs. This project is being tendered in 2022 for construction to occur later in 2022.	**Maintenance being Completed:** **Replace Strip Deck, Replace Subdeck, Replace Timber Stringers, Replacement of Bridge Rail & Guardrail & Other Misc. Work** Maintenance may extend the life an additional 10-15 years. Revised Estimated Replacement Year = 2037 Assumed costs were incorporated in 2021 budget and were not considered for this assessment. Estimated Future Replacement Structure 3 Span (12 m-14 m-12 m) SL510 Standard Bridge	**2022**	$ 354,000	$ 1,272,000

Recommendation to Council

H1d

TITLE: BF 76294 Range Road 15 Over a 2nd Tributary to Castle River Capital Adjustment

PREPARED BY: David Desabrais | **DATE: July 6th, 2022**

DEPARTMENT: Capital Projects

			ATTACHMENTS: **1. 10 Year Bridge Study Information** **2. Location Map**
Department Supervisor		**Date**	

APPROVALS:

Dave Desabrais	22/06/07		2022/07/07
Department Director	**Date**	**Interim CAO**	**Date**

RECOMMENDATION:

That Council approve $30,000 in 2022 Engineering funds for BF 76294; Range Road 15 over a 2nd Tributary to Castle River with said funds coming from the Municipal Sustainability Initiative.

BACKGROUND:

On October 15th, 2021 an inspection was completed on BF 76294; Range Road 15 over a 2nd Tributary to Castle River which found excessive deficiencies. These deficiencies resulted in a "2" rating of the sidewall per Alberta BIM manual. A low rating notification was filed and it is now recommended the structure be inspected and monitored at 6 month intervals until replaced. The recently completed 10 year bridge report has given more insight into the need for work to be completed on this bridge file.

This is the lowest rated structural condition rating of bridge structures not currently planned for construction within the MD (Fisher Bridge & Screwdriver Creek have the same structural rating) and is a strong candidate for a successful STIP grant application.

MD bridge files usually extend over two years, with the first year being mainly for engineering work, followed by construction in year 2. As a result of the low rating, it is recommended Council proceed with engineering work in 2022 so that construction can be complete in 2023. Construction costs are dependent on the engineering work. These costs will be submitted to Council as part of the 2023 Capital Budget.

10-year report information for the bridge has been attached (ATTACHMENT #1), along with other currently planned bridges to help give an idea of the priority to replace this structure. ATTACHMENT #1 is sorted by Structural Condition Rating.

The location has also been attached for reference (ATTACHMENT #2).

FINANCIAL IMPLICATIONS:

$30,000 from Municipal Sustainability Initiative

Municipal District of Pincher Creek No. 9

BRIDGE INSPECTION AND MAINTENANCE PROGRAM - 2022 ASSET MANAGEMENT & PLANNING - PRIORITIZED REPLACEMENT LIST

CURRENTLY PLANNED WORK

LEGEND		Planned for 2022 Construction
		Engineering Complete or To Be Completed by end of 2022
		Not Currently Budgetted

Bridge File #	Year Built	Location & Description	BIM Background Information / Comments / Maintenance Actions / Recommendations	Structural Condition Rating	Sufficiency Rating	Bridge File Inventory Background Information	Bridge File Review Commentary	Estimated Preferred Maintenance Strategy or Replacement Alternative
02488 -01	1927	LOCAL ROAD OVER THE CROWSNEST RIVER near LUNDBRECK, AB "Fishers" NW 26-07-02 W4M (1) 24.4 m Long Pony Truss Bridge on Concrete Substructure	This is the Fisher Bridge. The bridge and road are currently closed to public traffic due to the poor condition of this structure. Poor wearing surface, Abutment delamination at bearing locations, missing bearing anchor bolts, wide cracking on abutments, undermined bearing, delaminating concrete, poor abutment stability. Some corrosion and minor wide load damage. Road alignment not great but reduced speed. It is our understanding that ISL Engineering and Land Services is preparing a design for the replacement of this structure in the near future pending funding approval.	**22.2%**	**30.3%**	- 4.9 m clear roadway width. 6.2 m road width. - Vertical eroded banks in vicinity of bridge. Water starting to undercut south abutment. - Est. Deck to Streambed = 5 m - HWM Est. 1.1 m below curb. - Class B Waterbody (Sept 1 to Aug 15)	The structure is currently closed and is in the worst condition of all structures in the MD. It is our understanding the MD of Pincher Creek has obtained the services of ISL Engineering Ltd. to design and tender a prefabricated replacement bridge structure at this location. No further action required at this time. Post-Construction BIM to be completed to update inventory once complete.	This one is being replaced. An additional 50 - 100 years of life span should be achieved depending on structure types and details which are unknown. Ball Park Cost Estimate Assumed costs were incorporated in 2020 or 2021 budget. Not considered for this assessment.
76294 -01	1965	LOCAL ROAD OVER A 2ND TRIBUTARY TO CASTLE RIVER near COWLEY, AB SW 32-06-01 W4M (1) 1520 mm dia. X 18.3 m CSP	This structure has 6% roof deflection and 3% sidewall deflection. There are also extensive perforations due to corrosion in Ring 2 and Ring 3. Sidewall and Coating R=2. Low Rating Notification Filed with MD. Inspection Cycle reduced to 6 months to monitor but no additional recent formal inspection information is available.	**22.2%**	**52.8%**	- 8.5 m roadway width. Zero degree skew. - 3:1 Side slopes - 1.0 m of cover - 2021 Est. AADT = 134 vpd. - 32 km detour length - Rip Rap at U/S, None D/S - HWM Not visible - No Scour/Erosion - Inverts 200 - 300 mm below streambed - Unmapped Class C Waterbody. (Sept 1 to Aug 15) Possible Bull Trout/SARA Species. - BIS DA = 5 km^2 - BIS Q = 3 m^3/s - Bridge D/S - No crossings U/S - Ponds/Dugouts U/S	A steel liner is the preferred maintenance strategy at this location, but the reduction in cross-sectional area is likely to result in an increase in velocities that impede fish passage. At this time, it is presumed that a liner will not be feasible for these reasons. The maximum estimated liner size would be 1216 mm in diameter due to current deflections and providing space for grouting of the annular void. Further assessment required. The structure appears hydraulically adequate for the flows, but there is some storage available upstream and it is a relatively small drainage area. Estimated replacement structure size is 1600 mm. On-site detour or staged construction approach likely required.	**Estimated Replacement Structure:** **(1) 1600 mm dia. X 28 m long CSP**
75265 -01	1960	LOCAL ROAD OVER HEATH CREEK near COWLEY, AB "Heath Creek" NE 11-10-01 W5M (1) 2134 mm (span) x 1549 mm (rise) x 18.9 m SPCSP Pipe Arch	The existing structure is in poor condition due to the presence of 4 cracked sidewall seams with a minimum of 55 mm of steel remaining. All cracks are on the north side and the sidewall rating is 3. There is also 7% roof deflection. The vertical and horizontal alignment are poor due to curves in both directions and hills in both directions. There is a significant scour hole downstream There is a comment to inspect pipe annually until replaced. A replacement structure has been designed and is ready for tender for construction to occur 2022.	**33.3%**	**34.6%**	- 6.5 m roadway width Zero degree skew - 1.5 m of cover - 1:1 side slopes - Both inverts above streambed - Poor channel alignment - Large D/S scour hole - HWM 0.2 m above crown - No detour route available -Class C Waterbody (Sept 1 to Aug 15)	Roseke Engineering Ltd. prepared an extensive preliminary engineering report for this site in 2021. The recommendation was to replace the existing pipe with a 3000 mm diameter x 28 m CSP. Some additional bank protection measures were included to protect the road upstream, and boulder clusters were included to improve fish passage. As of now the design is complete, land has been purchased, the tender has been prepared and the permits were obtained. This project is expected to be tendered in the Spring of 2022 with construction to occur August 15 - September 15 2022.	**Replacement Structure:** **(1) 3000 mm dia. X 28 m long CSP** Assumed costs were incorporated in 2021 budget. Not considered for this assessment.

Municipal District of Pincher Creek No. 9

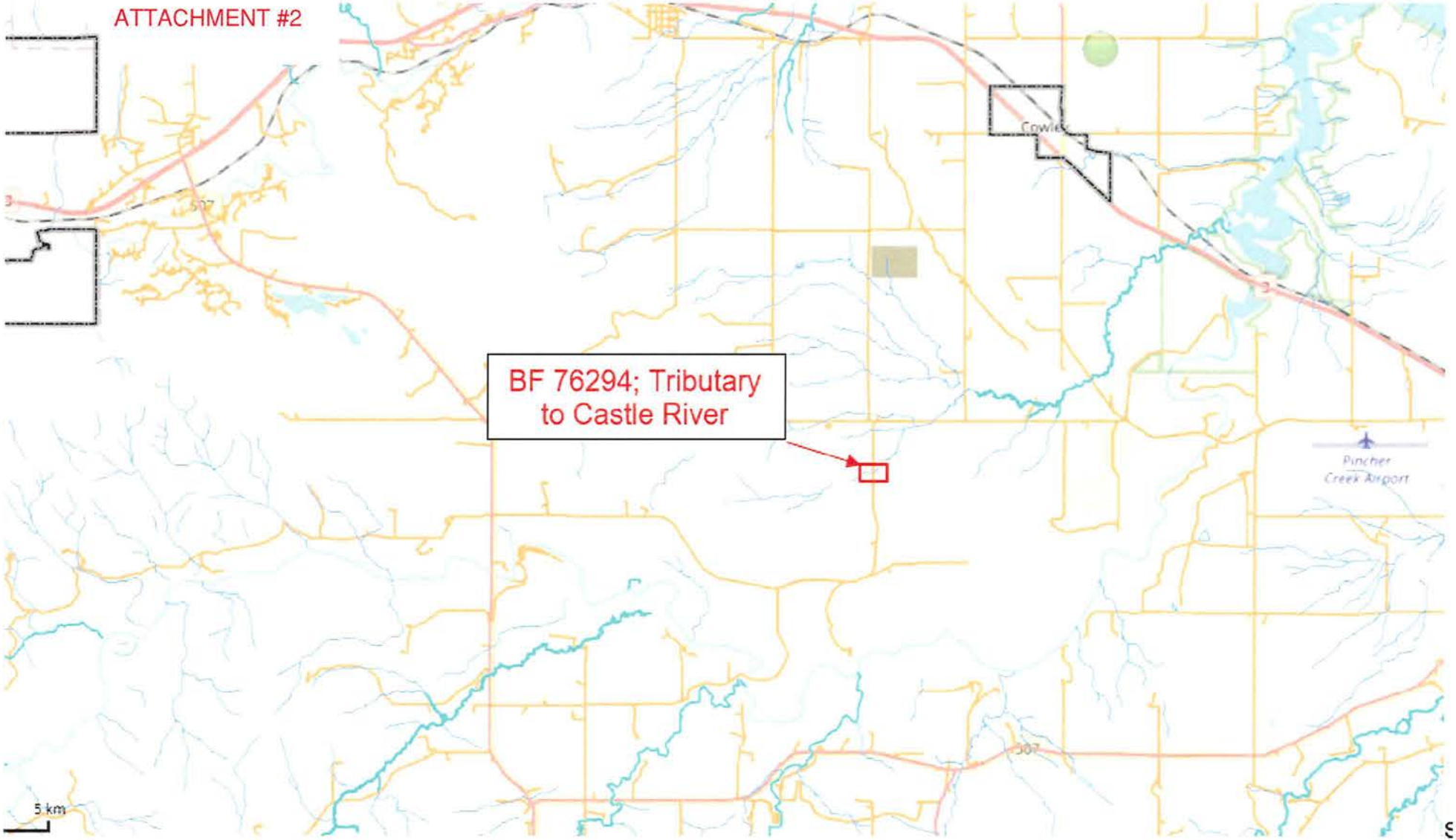
BRIDGE INSPECTION AND MAINTENANCE PROGRAM - 2022 ASSET MANAGEMENT & PLANNING - PRIORITIZED REPLACEMENT LIST

CURRENTLY PLANNED WORK

LEGEND		Planned for 2022 Construction
		Engineering Complete or To Be Completed by end of 2022
		Not Currently Budgetted

Bridge File #	Year Built	Location & Description	BIM Background Information / Comments / Maintenance Actions / Recommendations	Structural Condition Rating	Sufficiency Rating	Bridge File Inventory Background Information	Bridge File Review Commentary	Estimated Preferred Maintenance Strategy or Replacement Alternative
74260 -01	1954	LOCAL ROAD OVER A TRIBUTARY TO FOOTHILL CREEK near PINCHER CREEK, AB "Buck Jack" SW 13-05-29 W4M (1) 1742 mm (span) x 1920 mm (rise) x 15.2 m long SPCSP	This structure is in poor condition due to 15% roof deflection (R=3) and 12% sidewall deflection (R=3). There is also heavy corrosion on the floor with perforations occurring. There is a 7 m x 7 m x 0.5 m deep scour hole at the outlet with no rip rap protection. The D/S invert is approximately 100 mm above streambed. There is also poor channel alignment because flow comes down the south ditch for approximately 8m. There is a hill to the north. R=5.	**33.3%**	**54.0%**	- 8. m Roadway Width. Zero degree skew - 15 km detour length - 2018 Est. AADT = 17 vpd - 0.6 m of Cover - 2:1 side slopes - No bevel ends - U/S Rip Rap is good. - U/S Invert is 50 mm below streambed - No HWM Visible - Active Erosion 100 m D/S - Unmapped Class D Waterbody - BIS DA = 10 km^2, Q = 6 m^3/s - U/S Structure is a 2.2 m dia. CSP	This structure appears to be undersized due to the high velocities, and the scour hole downstream. The upstream structure is also larger and was installed in 1996. The major deficiencies include both deflections and corrosion. It is therefore recommended that this structure be replaced. The deflections appear to be due to low cover. The road grade will have to be raised, or if a dual culvert configuration can be utilized. There is a comment indicating there is a hill to the north, but a cost benefit analysis will likely be required to determine if grade line improvements or the dual structure is preferred and to assess fish passage. A local road detour could be utilized - 1 mile to the east. 6.2 km total detour length.	**Estimated Replacement Structure:** **(2) 2000 mm dia. X 28 m long CSP**
75377 -01	1962	LOCAL ROAD OVER SCREWDRIVER CREEK near BURMIS, AB "7 Gates" NW 08-06-02 W5M (1) 1724 mm (span) x 1901 mm (rise) x 19.5 m SPCSP Ellipse	This structure is located NW of Beaver Mines on a dead end road with curves and a hill to the east. The structure currently has severe perforations in the floor from Ring 1 through to Ring 6 which has resulted in a 3 rating. There is 2% roof deflection and 2% sidewall deflection. A recommendation was made to monitor the floor in inspection 1/2 cycles. The upstream end has perforations in the floor. The downstream end is hanging 200 mm above streambed and there are perforations in the floor of the bevel as well. No other concerns were noted but a recommendation was made to replace the culvert. Roseke Engineering completed the preliminary engineering, design and tender for a replacement structure at this location in 2020.	**44.4%**	**47.5%**	- 8 m clear roadway, the inspection indicates its on a zero degree skew but its actually a 33.5 deg. LHF skew. - 1.1 m of cover - 2:1 side slopes - 2020 Est. AADT = 36 vpd - No Detour Route available - Class C Waterbody (Sept 1 to Aug 15) - SARA listed Species	In 2020, Roseke Engineering completed the preliminary engineering and design for a replacement structure that consisted of a single 2700 mm dia. X 37 m long CSP with corner baffles along the upstream half of the pipe to improve fish passage. The project was tendered for construction in 2021, but the Contractor went into default and the contract was terminated. It is expected that the project will be retendered and construction will proceed in 2022. Estimated replacement budget is expected to be for remaining costs to complete construction and does not include previous annual expenditures. Design Life Span of the structure may be reduced due to the current shape and condition of the supplied pipe following damage from a wind event in 2021.	**Replacement Structure:** **(1) 2700 mm dia. X 37 m long CSP** Assumed costs were incorporated in 2020 or 2021 budget. Not considered for this assessment.
07743 -01	1908	LOCAL ROAD OVER GLADSTONE CREEK near PINCHER CREEK "Gladstone" SW 23-05-02 W5M 3 Span Bridge (8.5 m PA Girders - 18.3 m Pony Truss - 8.5 m PA Girders) on a Treated Timber and Steel Substructure	A level 2 coring inspection was completed by Bow Valley Bridge Services at this location and Roseke Engineering has prepared a Tender to complete maintenance at this location in 2022. Currently there are significant problems with the guardrail, wearing surface, wheel guards, stringers, bridge paint, a cracked diagonal member, and the timber subdeck. The PA Girders on the approach spans have wide cracks in the anchorage zone. Sp.1 G2 is in unsound concrete. All interior girders are in good condition.	**50.0%**	**44.4%**	- 7.3 m clear width, 9.6 m roadway width, zero degree skew - 2019 AADT Est. = 121 vpd. - No detour available - No scour/erosion concerns - 5.1 m pier height - HWM not visible - Class B Waterbody (Sept 1 to Aug 15) - Historic flood photo shows drift accumulation on piers and significant loss of fill at south abutment.	Roseke Engineering Ltd. has reviewed all documentation and prepared a tender for maintenance to be completed at this site. The work will involve the replacement of the timber stringers, replacement of the subdeck, replacement of the strip deck, replacement of the bridge rail and guardrail and other miscellaneous repairs. This project is being tendered in 2022 for construction to occur later in 2022.	**Maintenance being Completed:** **Replace Strip Deck, Replace Subdeck, Replace Timber Stringers, Replacement of Bridge Rail & Guardrail & Other Misc. Work** Maintenance may extend the life an additional 10-15 years. Revised Estimated Replacement Year = 2037 Assumed costs were incorporated in 2021 budget and were not considered for this assessment. Estimated Future Replacement Structure 3 Span (12 m-14 m-12 m) SL510 Standard Bridge

ATTACHMENT #2



Recommendation to Council

H2a

TITLE: Municipal Asset Management Program Grant Application	
PREPARED BY: Brendan Schlossberger	**DATE: July 07, 2022**
DEPARTMENT: ADMINISTRATION	
Department Supervisor / **Date**	**ATTACHMENTS:** **1. Municipal Asset Management Program Guide**

APPROVALS:

Meghan Dobie			
			2022/07/07
Department Director	**Date**	**CAO**	**Date**

RECOMMENDATION:

That Council direct Administration to apply for a grant opportunity from the Federation of Canadian Municipalities Municipal Asset Management Program for Infrastructure Inventory Collection & Condition Assessment; and further

That the MD of Pincher Creek commits to: conducting data collection on municipal infrastructure including bridges, cattle guards, culverts, guardrails, signs, and snow-fence in its proposed project submitted to the Federation of Canadian Municipalities' Municipal Asset Management Program to advance our asset management program; and further

That the MD of Pincher Creek commits $9,000 from its 2023 operating budget to be put towards the costs of this Asset Management initiative.

BACKGROUND:

The MD of Pincher Creek's Asset Management team has proposed a project to address gaps in our current asset management practices. The asset groups listed above have been identified as key groups that lack replacement costs, useful lives, condition ratings, and in some cases a record that they exist.

Recommendation to Council

The goal is to collect data and enable staff to make informed decision regarding replacement and rehab of these assets. This data collection is key to getting the MD to a point of preventative rehab/replacement rather than our current reactive state.

The project would include two summer students doing data collection throughout the MD in the summer of 2023. The FCM grant is for a maximum of $50,000 and can represent no more than 80% of the total project cost.

The Data Collection Project is estimated at $45,000.

Funding:

FCM Grant	*$36,000*
MD Portion	*$9,000*

FINANCIAL IMPLICATIONS:

$9,000 from the 2023 operating budget

FCM FEDERATION OF CANADIAN MUNICIPALITIES | FÉDÉRATION CANADIENNE DES MUNICIPALITÉS

Municipal Asset Management Program

Grants for Municipalities

Application Guide

Program summary

The Municipal Asset Management Program (MAMP) is an eight-year, $110-million program funded by Infrastructure Canada to support Canadian municipalities and communities in making informed infrastructure investment decisions based on stronger asset management practices. The program offers municipal grant funding (the subject of this guide), as well as grants to partner organizations to provide training and capacity-building activities to increase skills within local governments to sustainably maintain their asset management programs now and in the future.

For more information on MAMP, including partner grants as well as training and capacity-building activities, visit our website: **fcm.ca/assetmanagementprogram.**

This funding offer is open to all municipal governments in Canada. It focuses on building strong foundations in asset management by supporting activities that incorporate asset management into daily practices. **Subject to funding availability**, applications will be accepted until **October 31, 2022**.

All projects must be completed and final reports submitted by March 31, 2024.

This guide outlines everything you need to know to submit an application. It **should be read in its entirety before completing or submitting an application**. Refer to the **Quick Start Guide** for an overview of the steps required to successfully complete the MAMP Grants for Municipalities application.

Quick Start Guide — MAMP Grants for Municipalities

The Asset Management Readiness Scale

The Asset Management Readiness Scale (AMRS) will be used to evaluate your proposed project. You can also use this scale to help you plan, prioritize, and set milestones to manage the assets in your municipality.

If you have not reviewed the documentation that describes the AMRS, STOP this application process and learn about it and how you can use it to assess your current state of asset management maturity and identify areas for improvement.

Applicant eligibility

The main target group for MAMP Grants for Municipalities program is Canadian municipalities. If you are a Canadian municipality, you are well on your way!

If you are applying in partnership with a Canadian municipality, please read section 2 of this guide for more detailed eligibility criteria.

Project scope

To qualify, your project must lead to improvement of your municipality's asset management practices (progress is measured using the AMRS). This could include a range of practices. Here are a few examples: creating a policy, strategy and roadmap; creating asset class–specific asset management plans; or improving your employees' asset management skills. For more details on which activities can be undertaken, please refer to section 1.1.

Your project must focus on municipally owned infrastructure assets. These can be either constructed or natural assets. Consider adding the impact of climate change to the risk assessment section of your asset management plans; it is best to plan for the impact it will have on your investment decisions.

Capital works do not qualify for this funding.

Project timing

Related approval timelines

MAMP Grants for Municipalities proved to be very popular in the last round of funding, with applications coming in at a much greater rate than we had predicted. Assuming that this second round will be just as popular, it is difficult to predict how long it will take to process and approve your application. For this reason, we recommend that you create your project with flexible timelines. For example, if your project involves activities that are seasonal, be prepared to delay the start date to accommodate the technical review process.

You can reduce processing time by taking the necessary time up front to ensure that your application meets all of the submission criteria. Please read the full text of this guide and refer to it often to ensure that you have adequately covered all requirements.

Summary of application documents

We have created a simplified application process with streamlined reporting needs to meet the requirements of our funding agreement with Infrastructure Canada, while at the same time allowing for an efficient third-party technical review of your application. The following will be required in your application package:

1. Application form

You will need to complete the application form, which includes: identification and contact details; a short project description; clear tangible deliverables for each of your identified activities; and your assessment of your current AMRS maturity and what improvement(s) you expect to see immediately after completing your project. You will also identify in your application the principal outcomes of your project that will improve your AMRS maturity, summarize the resources you will dedicate to the project, and outline how your project fits with your province or territory's approach to asset management in the municipal sector.

2. Asset Management Readiness Scale assessment tool

As a part of your application, you will need to indicate your asset management readiness competency levels by using the AMRS assessment tool (please use the MS Excel worksheet provided) to address each outcome area in the notes section. Every community and organization manages its assets and the tool was designed to help you understand and describe your current asset management practices.

3. Workplan and budget

You will need to identify one to three activities that you will undertake to achieve your project's goals. Then you will need to identify the costs associated with each of those activities (please use the MS Excel worksheet provided).

4. Resolution

Submit a council (or board) resolution authorizing/supporting your asset management project, clearly stating that it commits to the municipality's/organization's portion of project costs. We have created a template that you can use for your resolution.

5. Letter of support

If you are a municipal partner applying for funding in association with a municipal government, you must provide a letter of support from the municipal government.

6. Letter of commitment

If you are submitting an application as part of a group of municipalities that are collaborating to improve knowledge-sharing or achieve economies of scale, you will need to include one letter of commitment signed by each of the participating communities. The letter should identify the expected tangible benefits of working together. Each municipality should include a copy of that letter with their application to MAMP.

Summary

While this quick start guide does not contain all the details you will need to consider in order to successfully complete a funding application, we hope it helps you understand the overall effort required. A thorough understanding of the AMRS resource and this Application Guide will help you prepare an application that meets all requirements, eliminating the need for multiple information exchanges between you and the MAMP team. These exchanges can significantly add to the application processing time.

1 Eligible activities

1.1 What activities are eligible?

The Federation of Canadian Municipalities (FCM) strives to be flexible in funding projects that improve municipal decision-making related to infrastructure. If you do not see your proposed activity on this list, please contact an FCM representative.

Eligible activities	Examples
Asset management assessments	• Asset management needs assessments or risk assessments
Asset management plans, policies and strategies	• Development of asset management strategies, policies, or plans; or asset risk management plans
Data collection and reporting	• Asset condition assessments • Data collection to establish and track levels of service • Inventory of existing assets (e.g., type of asset, asset ID, location, costs to operate and maintain, future costs to replace, remaining useful life) • Long-term financial modelling to support asset management decisions • Improvements to data reporting (e.g., introducing a "state of infrastructure" report)
Training and organizational development	• Asset management training for employees and/or elected officials • Establishment of an asset management committee (e.g., developing terms of reference, facilitating discussions) • Clarification of asset management roles and responsibilities across the organization (e.g., modifying job descriptions) • Adoption of new asset management systems or processes (e.g., paying for internal or external resources to lead organizational change)
Knowledge transfer	• Contributions to communities of practice, conferences and peer-to-peer learning opportunities (e.g., time employees spend developing materials to share or giving presentations) • Supporting a peer community in its asset management work (e.g., time employees spend mentoring another municipality) • Developing or adapting frameworks, tools, training or approaches to use in your organization

Ineligible activities

- Any activity and/or effort conducted in the normal course of business not related to the improvement of asset management practices (e.g., regular operation, normal repairs and/or maintenance expenses, etc.)
- Employee time that is not directly associated with eligible asset management–related deliverables
- Employee time spent participating in training or learning events
- Collection and organization of data for the sole purpose of meeting PS-3150 requirements
- Development of a software program

1.2 What costs are eligible?

Eligible costs include all costs considered to be direct and necessary for the successful implementation of a project. Please see **Annex A** for full details.

AES, June, 2022

Summer Weed Program – All crews assigned to a Truck, Sprayer & Division

- Hoary Cress (**HC**) – Still spraying, with cool weather keeping this a viable option. Fall spraying has been working well to reduce many infestations. Will start in Oldman Reservoir with new funding
- Wild Caraway (**WC**) – has been slow to show up, doesn't do as well in a dry year like this
- Common Mullein (**CM**) – has become one of the most aggressive weeds of late with the Forestry Area being badly infested with it and our rivers becoming covered due to that
- Blueweed (**BW**) – pursuing mapped areas and roadside plants.
- Scentless Chamomile (**SC**) – has been looking good but reported in some mapped areas, with some new spread along Hwy #505
- Leafy Spurge (**LS**) – our roads are looking good, biocontrol is doing well with the exception of Lee Lake area. Bug sweeping and releases will begin in hot (25C and higher) weather mid July
- Dame's Rocket (**DR**) – has bloomed and is being pulled and sprayed. Many new patches showing up everywhere
- Knapweeds (**SKW & DKW**)
    - Spotted Knapweed (**SKW**) will be bolting by June 13, with flowering to be about mid July, Diffuse Knapweed (**DKW**) is just coming up June 1st
- Hawkweeds (**OHW & HW**) – Only visible so far in Forestry Area, will do along with Ox-Eye Daisy (**OD**)
- Field Scabious (**FS**) – will look at mapped areas at the end of the month
- Queen Anne's Lace (**QL**) – not up yet (as of June 1st)
- Babys Breath (**BB**)– haven't looked yet (June 8), pretty scattered and hard to see, usually starts to show by end of June
- Field Bindweed (**FB**)– spray known areas by end of June
- Downy/Japanese Brome (**DB & JB**) – good success with fall spraying large areas with Esplanade, will map areas for repeat this fall. Also good word from many on new Ag herbicide called Focus.
- Yellow Toadflax (**YT**) – mostly left to biocontrol in Gladstone Valley, will look for up in Forestry Areas mid to late June
- Creeping Bellflower (**CB**) – Mostly a town problem, quite a bit seen in lawns, will inspect Pincher Creek for plants during and after looking for **DR**

- **Roadside Program** – Our Roadside Unit will be out spraying for Sweet Clover (not regulated but a hazard on shoulder of Highways), Canada Thistle (**CT)**, **OD** & Yellow Buttercup (**YB**) as well as some small, scattered patches of tougher weeds (listed above)
- **Weed Free Gravel Program** – working to gather data from last 20 years (minimum) to put up on website this fall
- **Premix Sales Program** – selling well, with pick-up on Thursdays well established now

- **Provincial Weeds**
    - Alberta Parks (think that's the title) has confirmed that they've put out a contract to spray weeds around Oldman Reservoir and in Green Area of the Castle, with around $40,000 available
    - Our funding from Alberta Parks for VPL area came in at $20,000 again this year, twice

    - Crop Report – important considering possible disaster declaration due to drought
    - Pest Surveillance – Clubroot and other Canola diseases, Pest Surveillance Branch reporting on insect and crop disease progressions, one beaver report
- **Other Provincial Programs** – all the information and Acts supported by our funding from the province.
    - Agricultural Pests Act – ongoing **Pests** that we are gearing up to inspect are, Clubroot, Grasshoppers and **Nuisances** we will be dealing with are Beaver (ratepayer information)
    - Animal Health – Avian Flu still ongoing
        - Deadstock Removal Program – working well with a few logbook and recording issues to be resolved
    - Soil Conservation – some erosion from one windy day in early May, has been good since even accounting for dry weather

- June 1 – 30, excellent time to spray (most) weeds, will be taking every opportunity to do so as described above and with a few planned events as described below
- June 1, ASB Meeting, **SKW** & **BW** sites start
- June 2, reporting, contracts (with Province), Premix sales, MRF & records, safety, general office
- June 6 – 13, rental equipment, mowing around admin & airport
- June 6 – 9, Dalmatian Toadflax (**DT**) Biocontrol, **HC** spraying, watercourses inspections (including Summerview, depending on weather)
- June 6, Roadside spraying (**HC**), grass seeding (Lundbreck),
- June 7, AES Safety Meeting, fire extinguisher inspections, gravel pit inspections (rainy day)
- June 8, JHSC Meeting, AES Facility Inspection follow-up, start Forestry spraying
- June 9, Premix sales, Biocontrol (**DT**), Summerview inspection
- June 13, divisional inspections, record reviews, caraway inspections
- June 14, weed inspections and spraying (all weeds, all divisional roads), Oldman River Recreation Area weed control
- June 15, watercourse inspections (if not too high), visits and control (other than Summerview), **DR** inspections and talks with town
- June 16, Premix sales, gravel pit meeting, weeds around Admin
- June 20, 21, Alberta Parks inspections and control (multi crew with nurse truck)
- June 22 – 30, Divisional inspections with crews
- June 23, Premix sales, equipment, Provincial & Volker billing, reporting, CPR, dams
- June 27 – July 18, watercourse inspections, all crews
- June 28, reporting, ASB package, admin building weeds, start **BB** inspections
- June 29, emergency procedures training, highways training review & work
- June 30, Premix sales, **WC**, **HC** & **DR** control inspections (with crew), deadstock bins cleanout

Sincerely,

Shane Poulsen,
Agricultural Services Manager

AES, July, 2022

- July 1, STAT – July is shaping up to be typical for weeds but we've been lucky, so far, that timely rain has made most crops successful to this point. Even the hay has actually started to grow (and some pasture as well), and compared to many in southern Alberta we will do ok provided the rain doesn't stop.
- July 1 – 31, Summer Weed Program – Prohibited Noxious – please refer to acronyms on page #3. **Spot spraying** – **SKW** has been a focus from the start of the year and will continue to be, with it having done well in known areas, mostly on Provincial Lands. It will flower from July 11 – 29, depending on elevation and moisture, but most has been sprayed so picking and fall spraying will be focussed on unknown areas. **OHW** is blooming as of June 30, in scattered patches in Divisions #1 & #3 & Beaver Mines, mostly, and will be a focus in Castle Provincial Park areas. **NTH & PTH** are starting to bolt on schedule, with both in small amounts but **NTH** being spread over a large area. **DKW** will be scattered in its usual area (sprayed patches of it July of last year), but will mostly be hard to spot until August when we comb the area and pick it. **RKW, SCF** & **BKW** single patches will be checked at the end of the month, just in case of regrowth. All of these plants are in small amounts, with the exception of one area of **SKW** on an area of river that is constantly in flood and shifting and. All are easily killed by spraying up to the point of flowering, when they are picked and sprayed.
- July 1 – 31, Summer Weed Program – **Roadside spraying** – Sweet Clover is looking better this year on the Provincial Highways, with scattered plants showing as it flowers. It's a hazard that reduces sightlines for driving but it also hides the ever increasing amount of regulated weeds spread by traffic (plants on the shoulders are brought in by traffic). While doing this, **CT** is getting 'knocked over', as it has mostly bolted and is somewhat visible. This will keep it from going to seed until later but won't kill it, but that is the ultimate goal with this weed. Knock it over to prevent seed set, then kill it in the fall. Noxious Weeds – **Roadside spraying** – there is an ever increasing amount of scattered plants, most visibly **BW**, but most commonly **YH,** that show up in our ditches. Other than **YH, OD, TB & WC**, which can be done with the Roadside Unit, these weeds require a spot spraying crew to get rid of them, and they are constantly pulling and spraying these as traffic and weather allows. Last year **WC** was early but it's not this year and isn't quite done, and **PS** has been hit by the drought and isn't showing up as much this year yet. We like to spray it along with **OD, TB** will have to wait and do it with **CT** this year. **CM** continues to spread very fast this year and is almost out of control in the Park Lands. **CM, OD, YB & YH** are all out of control in the Forestry area and will take much of the $40,000 contract dollars to bring back into control on certain areas this year. These species are widespread up there and can be done effectively by boom spraying. **DR** is late again this year and was still being picked and sprayed by July.
- July 1 – 31, Summer Weed Program – Noxious – **Spot spraying** – As mentioned, some weeds only respond to Spot Spraying. Some, like **SC**, tend to grow in developed areas and are best handled individually. Other reasons are that they need specific herbicides and rates and we are working to eradicate them, so personal attention is required. **BW** would be the best example of this, with it occurring in large amounts and difficult to kill, especially without killing the grass. If boom sprayed, this would result in more damage than good, so we only do that rarely. **LS, DT & HT** are mostly being dealt with by biocontrol, and we will spray small patches that can't support a release of bugs. **CM** is a problem on watercourses and showing up increasingly on roadways but can be boom sprayed there if done early enough. **HC** spring spraying is done, but mapped areas big enough to return to will be revisited in the fall with the intent of eradicating it.

- July 1 – 31, rental equipment, Premix sales (Thursdays), mowing crew still going with 4+ inch rains kicking grass growth into high gear – rental equipment has been slow, Premix has been busy, Kelly is working hard to get ALUS up and running so we can get projects on the ground up and running
- July 1 – 31, Alberta Vacant Public Lands contract to be done and billed out by 25th of month
- July 1 – 31, Alberta Transportation roadside work (to be done and billed out by 25th of month), watercourses inspections and control (Drywood/Yarrow, Waterton River focus),
- July 1 – 31, divisional inspections and roadside control, spot spraying crews on Prohibited Noxious private control and Noxious roadside spot spraying
- July 1 – 31, Alberta Parks spraying for 2022 contract and inspections for 2022 contract funding (which we just got on June 30th)
- July 5, CPR Inspections, roadside spraying, roadside seeding (raining)
- July 6, highway spraying, Summerview work, Scentless Chamomile (**SC**) in Pincher Station
- July 7, AES Safety Meeting, roadside picking/spraying Hwy #3, crews on **BW** in acreages and hamlets, reporting
- July 11, Leafy Spurge (**LS**) Biocontrol, safety, Boulder Run **BW** **&** **SKW**, mowing, Premix
- July 12, Crop report, Ag Pests inspections, Clubroot/Blackleg inspections
- July 13, reporting, phone calls for **BW**, Roadside spraying, Nodding/Plumeless Thistle (**PTH**) inspection
- July 14, JHS meeting, Pincher Creek inspections, visits and control
- July 18, Lundbreck weed control (**SKW**, **BW, HC**), Premix, gravel pit inspections, Divisional road inspections
- July 19, Deadstock Bin sheets replacement
- July 19 – 29, the above mentioned Summer Weed Program
- July 20, Dams
- July 21, Castle River **BW** patches
- July 25, equipment, MRF and mapping, records and billing (Ab. Trans., Alberta VPL & Alberta Parks),
- July 26, **SKW** in Burmis area, reporting (crew was in crime scene area!)
- July 26, 27, grasshopper inspections, Drywood/Yarrow **SKW**
- July 27, 28, Therriault dam water release for aquifer replenishment, Nodding Thistle (**NTH**) inspection & control, **SKW** @ Burmis
- July 29, Drywood/Yarrow **SKW**, mowing at Beaver Mines, Premix

Sincerely,

Shane Poulsen,
Agricultural Services Manager

Invasive Plant Acronyms – species listed in red are a problem in our MD, in purple were here and were eradicated, in green are present but not yet a problem, and the ones in black could become established in our MD at any time.

PROHIBITED NOXIOUS (must be eradicated)

Autumn Olive	– AOV	Plumeless Thistle	– PTH
Bighead Knapweed	– BHK	Purple Loosestrife	– PLS
Common Crupina	– CCR	Russian Knapweed	– RKW
Diffuse Knapweed	– DKW	Saltcedar	– SCD
Dyer's Woad	– DWD	Spotted Knapweed	– SKW
Hoary Alyssum	– HAL	St John's Wort	– SJW
Marsh Thistle	– MTH	Sulfur Cinquefoil	– SCF
Meadow Hawkweed	– MHW	Tansy Ragwort	– TRW
Nodding Thistle	– NTH	Yellow Starthistle	– YST
Orange Hawkweed	– OHW		

NOXIOUS (must be controlled)

Baby's Breath	– BB	Houndstongue	– HT
Black Henbane	– BH	Japanese Brome	– JB
Blueweed	– BW	Leafy Spurge	– LS
Burdock	– B	Oxeye Daisy	– OD
Canada Thistle	– CT	Pepper Grass	– PG
Common Mullein	– CM	Perennial Sowthistle	– PS
Common Tansy	– CTy	Queen Anne's Lace	– QA
Creeping Bellflower	– CB	Scentless Chamomile	– SC
Dalmatian Toadflax	– DT	Tall Buttercup	– TB
Dame's Rocket	– DR	Wild Caraway	– WC
Downy Brome	– DB	White Cockle	– WCk
Field Bindweed	– FB	Yellow Clematis	– YC
Field Scabious	– FS	Yellow Hawkweeds	– YH
Hoary Cress	– HC	Yellow Toadflax	– YT

CHIEF ADMINISTRATIVE OFFICER'S REPORT

June 24, 2022 to July 7, 2022

Discussion:

June 24	Intermunicipal Development Plan Meeting (DP 2022-23)
June 27	SDO
June 28	Council Committee Meeting and Council Meeting
June 29	ICF Meeting at Town
July 01	Canada Day Stat
July 05	Planning Meeting
July 05	Subdivision Authority Meeting
July 05	Municipal Planning Commission Meeting
July 06	PW Monthly Safety Meeting
July 06	Agriculture Service Board Meeting
July 07	PCREMO Core Working Group Meeting
July 07	Council Package Preparation
July 07	Joint Health and Safety Meeting – Administration Building Inspection

RECOMMENDATION:

That Council receive for information, the Interim Chief Administrative Officer's report for the period June 23, 2022 – July 7, 2022.

Prepared by: Interim CAO, Roland Milligan Date: July 7, 2022

Respectfully presented to: Council Date: July 12, 2022

Administrative Support Activity since last Council Meeting
– prepared by Jessica McClelland, EA

Correspondence from last Council:

Thank you for attending Council meeting:

- Pincher Creek RCMP
- Y2Y
- Chief Mountain Gas
- Pincher Creek and District Food Center

Art Committee

Advertising/social:

Debit System Issue with Standpipe/Fixed
Skyline Road Closure (July 11, 2022)
Beaver Mines Project Update

Other Activities:

ICF at Town Office
ASB Package Preparation and Meeting
Council Package Preparation
Administration Assistance for Utilities & Infrastructure Supervisor
Registration for Parade – working with AES/PW to organize equipment into parade as well

Upcoming Meetings of Importance:

Public Hearing Bylaw 1338-12 July 12, 2022
Regular Committee and Council July 12, 2022
Next Council Meeting August 23, 2022

Administration Guidance Request

TITLE: Art for Municipal Building	
PREPARED BY: Jessica McClelland	**DATE: July 7, 2022**
DEPARTMENT: Administration	
	ATTACHMENT:
Department Supervisor / **Date**	

APPROVALS:

			2022/07/07
Department Director	**Date**	**CAO**	**Date**

REQUEST:

That Council determine what direction administration should take with regards to art in the Municipal building.

BACKGROUND:

Council, at their meeting of February 26, 2019, approved the establishment of an Ad Hoc Art Committee. At that time there were 3 community members appointed, since that time 1 member has moved out of the area, and the other 2 have recently advised they are no longer interested in pursuing this venture.

FINANCIAL IMPLICATIONS:

None at this time.

Recommendation to Council

TITLE: CORPORATE POLICIES C-FIN 529 & C-PW-001	
PREPARED BY: JESSICA MCCLELLAND	**DATE: July 6, 2022**
DEPARTMENT: ADMINISTRATION	
Department Supervisor / **Date**	**ATTACHMENTS:** **Draft C-FIN-529 Fees and Charges** **Draft C-PW-001 Driveway Maintenance** **Draft Driveway Maintenance Form**

APPROVALS:

Department Director	**Date**	**CAO**	**Date**
			2022/07/07

RECOMMENDATION:

That Council approve updated policies C-FIN-529 Fees and Charges, and C-PW-001 Driveway Maintenance.

BACKGROUND:

Historically Public Works was assisting residents with driveway mowing, grading and gravelling as time allowed. Driveway mowing wasn't included in policy and didn't have a specific inspection form.

FINANCIAL IMPLICATIONS:

None at this time.

FEES AND CHARGES

All Items GST Extra Except
* GST Included
** GST Exempt

Approved by Council	**Date: August 25, 2015**
Revised by Council	**Date: October 11, 2016**
Revised by Council	**Date: January 10, 2017**
Revised by Council	**Date: July 11, 2017**
Revised by Council	**Date: April 24, 2018**
Revised by Council	**Date: May 22, 2018**
Revised by Council	**Date: May 14, 2019**
Revised by Council	**Date: May 26, 2020**
Revised by Council	**Date: *July 12, 2022***

Administration

Assessment

Appeals	
Commercial	$50.00 Parcel **
Farmland	$20.00 Parcel **
Industrial	$500.00 Parcel **
Residential	$20.00 Parcel **
Assessment Details	
Taxpayer or Agent	No Charge
Non Taxpayer	$10.00 per Parcel **
Assessment Roll Viewing	
Taxpayer or Agent	No Charge
Non Taxpayer	$10.00 per Parcel **

G.I.S.

Aerial Photography 8 ½" X 11"	
Taxpayer or Agent	$2.50 each
Non Taxpayer	$5.00 each
Aerial Photography 11" X 17"	
Taxpayer or Agent	$5.00 each
Non Taxpayer	$10.00 each
Greater than 11" X 17"	
Taxpayer or Agent	$25.00 each
Non Taxpayer	$50.00 each
Digital	
Taxpayer or Agent	$5.00 per section plus $30.00 pr/hr admin. and media costs
Non Taxpayer	$10.00 per section plus $30.00 pr/hr admin. and media costs

Custom G.I.S. Work	
Taxpayer or Agent	$50.00 plus $30.00 pr/hr plus media costs
Non Taxpayer	$100.00 plus $30.00 pr/hr plus media costs

Information Requests

Less than 15 Minutes of Staff Time	
Taxpayer or Agent	No Charge
Non Taxpayer	$25.00
Greater than 15 Minutes of Staff Time	
Taxpayer or Agent	$25.00 plus $25.00 per/hr after first hr
Non Taxpayer	$50.00 plus $25.00 pr/hr after first hr

Leases

MD Property	by Agreement Varies	
Airport	per Year	$1.00 / square meter of lot size
Road Allowance for Each ½ Mile or Less		$20.00 year *

Maps

Paper Map	
Museum	$9.00 each *
Picked Up	$10.00 each *
Folded and Mailed	$12.50 each *
Rolled and Mailed	$25.00 each *
Laminated Map	
Picked Up	$20.00 each *
Rolled and Mailed	$35.00 each *
Map Books	
Picked Up	$20.00 each *
Mailed	$30.00 each *
Digital	$10.00 plus media costs

Photocopies

MD Bylaws	$0.25 per page **
Council/Committee Minutes	
Up to 6 Months Old	One Set No Charge
	More than One Set $0.50 per page **
Minutes Older than 6 Months	$0.50 per page **
Miscellaneous Information	$0.25 per page **
Complete Agenda Packages	
Current	$10.00 per package **
Previous	$15.00 per package **

Taxes

Tax Certificates	$25.00 Parcel **
Tax Notification Registration	$25.00 Parcel **applied to Tax Account
Tax Receipts	
Current Year	
Taxpayer or Agent	No Charge
Non Taxpayer	Not for Sale
Prior Years	
Taxpayer or Agent	$2.00 each **
Non Taxpayer	Not for Sale
Tax Sale	Cost Recovery Plus $25.00 Parcel ** Applied to Tax Account

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Agricultural and Environmental Services

Products

Herbicide	Premix 2,4D/Banvel	$10.00 10L Jug * *Chemicals will be sold to MD residents only

Rentals

Live Skunk Traps	
Returned Within a Month	No Charge
Returned After One Month	$60.00 each

Livestock Equipment *Weekend Considered as One Day

Electronic Scale	$40.00 day plus $60.00 Damage Deposit **
Loading Chute	$40.00 day plus $60.00 Damage Deposit **
Panels	$40.00 day plus $60.00 Damage Deposit **
Squeeze	$40.00 day plus $60.00 Damage Deposit **
Solar Watering System	$150.00 per two-weeks plus $150.00 Damage Deposit**
Electric Fencing Unit	$150.00 per two-weeks plus $150.00 Damage Deposit**

Services

Weed Spraying Equipment and Operator	
Mule (side by side UTV)	$100.00 pr/hr
Quad (ATV)	$75.00 pr/hr
Roadside Sprayer	$150.00 pr/hr
Small Boom Truck	$125.00 pr/hr
Truck and Spot Sprayer	$125.00 pr/hr

Planning and Development

Publications

Area Structure Plans	
Burmis Lundbreck	$20.00 each **
Castle Mountain Resort	$20.00 each **
Oldman River Reservoir	$20.00 each **
Intermunicipal Dev. Plan	$15.00 each **
Land Use Bylaw	$30.00 each **
Municipal Development Plan	$15.00 each **

Services

Amendments	
Area Structure Plans	$600.00 each **
Intermunicipal Dev. Plan	$600.00 each **
Land Use Bylaw	$600.00 each **
Municipal Dev. Plan	$600.00 each **
Appeal Fees:	
Development	$600.00 each **
Subdivision	$600.00 each **
Cash in Lieu of Land	Subdivision Market Value of Land
Compliance Certificates	$50.00 each **
Development Permits:	
Permitted Use	$100.00 each **
Discretionary Use	$150.00 each **
WECS Category 1	$100.00 per Titled Parcel **
WECS Category 2	$200.00 per Titled Parcel **
WECS Category 3	$500.00 per Titled Parcel **
MET Towers	$100.00 each **
After Development Commences	Double Regular Fee **
Utility Permits	$25.00 **
Rezoning/Redesignation Fee	$600.00 each **
Road Closures Application	$600.00 each **

Public Works

Services

Grader Work	Roads and Driveways Alberta Road Builders Rate plus 20% **
Oil, Gas and Seismic Activities	
Approaches	$200.00 each **
Pipeline Crossings	$200.00 each
Seismic Approvals	$200.00 each

Rig Moves – Pre Inspec.	$450.00 each
Rig Moves – Post Inspec.	$450.00 each

Snow Plowing	$200pr/hr, prorated *minimum charge $100
Driveway Mowing	*$250 pr/hr, prorated *minimum ½ hr charge*
Overweight/Over Dimension Permit Fee	$22.50
Land/ Crop Disturbance	$250/ acre**

Products

Dust Control	
Individual Taxpayers	$250.00 per 100 Meters **
Commercial	$600.00 per 100 Meters **
¾" Crushed Gravel	
Taxpayer or Agent	Cost Plus 20% Plus $0.50 Yard if MD loaded
Non Taxpayer	Council Resolution
Pit Run Gravel	
Taxpayer or Agent	Cost Plus 20% Plus $0.50 Yard if MD loaded
Non Taxpayer	Council Resolution
Water Standpipe	
Cowley	$1.00 100 gallons **
Pincher Creek	$1.00 100 gallons **
Beaver Mines	*$1.00 100 gallons **

Rick Lemire	**Roland Milligan**
Reeve	Chief Administrative Officer

MD OF PINCHER CREEK NO. 9

CORPORATE POLICY

C-PW-001

TITLE: PRIVATE DRIVEWAY ~~GRAVEL AND GRADING~~ *MAINTENANCE*

Approved by Council **Date: October 9, 2018**

Revised by Council **Date: *July 12, 2022***

Policy Statement

The MD of Pincher Creek No. 9 has established a policy to direct the use of Municipal resources for *maintenance on* Private Driveway*s* ~~grading~~.

1.0 Criteria

a. All private driveways must meet standards for safety and accessibility for equipment, as per Public Works Superintendents discretion, to be considered for municipal ~~grading~~ *maintenance.*

b. For the purpose of this policy, maintenance shall consist of gravelling, grading and mowing.

c. Inspection and Agreement to Purchase Materials or Services must be complete prior to ~~grading~~ *maintenance* occurring.

d. A private driveway must be recognized by the Municipal District of Pincher Creek No. 9 Addressing System (911 system) and serve to a permanent dwelling.

e. Upon request from a ratepayer, a motor grader operator may grade a private driveway one time per year/to a maximum of one hour, at no charge. Snow removal is not included with this policy. Any work above and beyond as stated in policy will be billed as per Fees and Charges Policy C-FIN-27.

f. During the course of gravelling or regravelling a municipal road, up to 10 cubic yards of gravel may be applied on an approach within the public right-of-way, leading to a private residence, without charge to the owner of the residence. At the discretion of the Public Works Superintendent.

g. All private driveway maintenance will be scheduled at the discretion of the Public Works Superintendent.

2.0 Procedure

a. An Agreement to Purchase Materials or Services shall be made in writing, on the approved form, to the Municipal District of Pincher Creek No. 9.

b. Upon receipt of the agreement, the Public Works Department shall:
   1) Review the information for completeness
   2) Determine if a charge is applicable in accordance with the policy.

TITLE: PRIVATE DRIVEWAY ~~GRAVEL AND GRADING~~ *MAINTENANCE*

Approved by Council **Date: October 9, 2018**

Revised by Council **Date: *July 12, 2022***

3) Ensure driveway meets standards for safety and accessibility.

c. If ~~grading~~ *maintenance* is approved, Public Works shall:
   1) Contact the applicant to inform them that they meet the MD's requirements and that ~~grading~~ *maintenance* will be completed when operator is in the area.
   2) Complete ~~grading~~ *maintenance*.
   3) Upon completion invoice the applicant in accordance with the (fees and charges) policy, if required.

d. If ~~grading~~ *maintenance* is not approved, Public Works shall:
   1) Contact the applicant to inform them that they did not meet the MD's requirements.
   2) Instruct the applicant why they did not meet the MD's requirements and what can be done, if anything, to meet the requirements.

Rick Lemire	**Roland Milligan**
Reeve	Chief Administrative Officer

MD of Pincher Creek No.9
Agreement to Purchase Services

DRIVEWAY MAINTENANCE

Between:

Landowner Name	Mailing Address	City	Prov.	Postal Code	Phone

Hereinafter called the APPLICANT(S) and the MD of Pincher Creek, hereinafter referred to as the MD, the APPLICANT(S) do hereby request the following driveway grading be done as outlined below:

Legal Land Description	Civic Address	Driveway Inspection Report Complete

In consideration of the mutual covenants contained in this AGREEMENT, THE PARTIES AGREE AS FOLLOWS:

1. As per Policy C-PW-001 the APPLICANT(s) may apply to have their private driveway graded at no charge, one time per year/to a maximum of one hour, to a permanent dwelling only.
2. Any work above and beyond, *including mowing,* as stated in policy will be billed as per Fees and Charges Policy C-FIN-529.
3. Prior to driveway maintenance, an inspection of the driveway by an MD employee has been completed.
4. By signing this document you will waive certain legal rights including the right to sue, claim for damages, or seek compensation from the MD of Pincher Creek No.9
5. To **Hold Harmless and Indemnify** the MD from any and all liability for injury, death, property damage, property loss or any other loss or expense to any party, including myself/ourselves, or any other financial loss or expense including without restriction. Legal expenses and costs on a solicitor-and-his-own-client full indemnity basis, as a result of the MD supplying materials or services.

I acknowledge that I have read, have had the opportunity to ask questions and clarifications before signing, and understand this entire application form including the waiver of Liability and release and I agree to be legally bound by it.

Dated this _____ day of _____, 20__, in the MD of Pincher Creek in the Province of Alberta.

_____ _____

Applicant Witness

This personal information is being collected under the authority of the MD of Pincher Creek. It is protected by the privacy provision of the FOIP Act. If you have any questions about the collection, contact the FOIP Coordinator at 403-627-3130 MD Box 279 Pincher Creek Alberta T0K 1W0/1037 Herron Ave/P 403-627-3130/F 403-627-5070/info@mdpinchercreek.ab.ca

Jessica McClelland

To: Roland Milligan
Subject: RE: RMA Fall 2022 Convention Invite

Subject: RMA Fall 2022 Convention Invite

Dear Chief Administrative Officers:

We are writing to inform you of a potential opportunity for municipal councils to meet with the Honourable Ric McIver, Minister of Municipal Affairs, at the 2022 RMA Fall Convention, scheduled to take place at the Edmonton Convention Centre from November 7-10, 2022. These meetings will be in person at the convention centre.

Should your council wish to meet with Minister McIver during the convention, please submit a request by email to ma.engagement@gov.ab.ca no later than August 10, 2022.

In your meeting request, please be sure to include one to three specific policy items or issues your municipality would like to discuss with the Minister.

We generally receive more requests to meet with the Minister than can be reasonably accommodated over the course of the convention. To ensure suitable consideration of requests, municipalities should be mindful of the following criteria:

- Policy items or issues directly relevant to the Minister of Municipal Affairs and the department will be given priority.
- Municipalities located within the Capital Region can be more easily accommodated throughout the year, so priority will be given to requests from municipalities at a distance from Edmonton and to municipalities with whom Minister McIver has not yet had an opportunity to meet.
- Meeting requests received after the deadline will not be considered for the convention, but may be considered for future meeting opportunities.

Meeting times with the Minister are scheduled for approximately 15 minutes per municipality. This will allow the Minister the opportunity to engage with as many municipal councils as possible. All municipalities submitting meeting requests will be notified at least two weeks prior to the convention as to the status of their request.

Municipal Affairs will make every effort to find alternative opportunities throughout the remainder of the year for those municipalities the Minister is unable to accommodate during the convention.

Engagement Team
Municipal Services Division

Classification: Protected A

South West
WASTE MANAGEMENT
A Division of 2036326 Alberta Ltd.

ORDER DESK: 403-627-3585
OFFICE: 403-627-2242

Large & Small Garbage Bins
Portable Toilets
Security Fencing

Septic Tank Cleaning
Potable Water Truck
Dust Control Services
Small Picker Crane Truck

Dear Councilors for the MD of Pincher Creek.

We are South West Waste Management, based here in Pincher Creek, and have been providing our waste management services to clients within the town and surrounding areas for several years. We wanted to inquire with the MD of Pincher Creek to discuss a potential conflict of interest.

The MD of Pincher Creek runs the landfill; however, they also have their own bins and garbage collection service. This could be viewed as a conflict of interest, with shared ownership of both the garbage bins and the land where the garbage is going. We have discussed this with two different councilors recently, who asked that we put our concerns in writing. As per our trade show discussion, and prior conversations with Mr. Cox and Mr. Lemire, we wanted to formally inquire about this, to confirm that this situation is equal and fair for all parties involved.

We are deeply concerned about the conflict, as this situation has continued to strongly affect our business in a negative way. We would like to set up a face-to-face meeting, to discuss this further in-person, and to see a resolution brought to the table.

With the MD of Pincher Creek running the landfill itself, the opportunity for collection services should be left open to other local service providers within the community.

We look forward to hearing back regarding this matter, and would be very interested in an in-person meeting to discuss this further. Thank you for your time.

Warm Regards,

Kendall Toews Taylen Oancia

Kendall Toews & Taylen Oancia

South West Waste Management

Ag for Life

June 29, 2022

Dear Sir/Madam,

RE: Connecting Kids to Agriculture

Food connects us all to agriculture. Now more than ever, our youth are disconnected from the story of their food. At Agriculture for Life (Ag for Life) we envision a province where all Albertans understand and appreciate the agriculture industry and the impact it has on their lives. We believe education is key.

Ag for Life is the go-to source for agriculture education resources and programs in the province. We are Agriculture in the Classroom – Alberta and are a known and trusted source in the sector, supported by the agriculture industry, teachers, parents, and most importantly, the students. Since 2011, we have been helping kids across the province discover themselves in agriculture through hands-on, immersive learning experiences.

Whether we are speaking with students about the depth and importance of the sector in our province or exposing them to the vast career opportunities, we are delivering positive messages and building agriculture trust with Albertans.

Supporting agriculture education today means informed customers tomorrow; consumers who care about the food they eat, where it was grown, and the farmers who grew it.

We hope you will consider being an annual supporter of Ag for Life and agriculture education in Alberta. Thank you for your consideration.

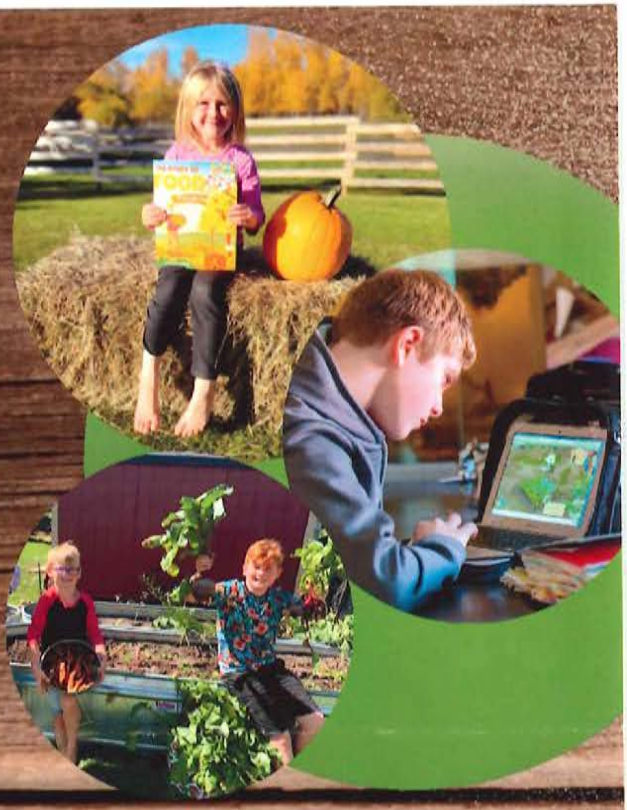
Sincerely,

Beth Halford
Manager, Strategic Partnerships

32 Priddis Creek Drive, Foothills, AB T0L 1W2
Cell 403 862 5049 Email bhalford@agricultureforlife.ca

ANNUAL SUPPORTER

Connecting Kids to Agriculture!



Too few Alberta students and teachers understand the importance of agriculture in their lives — but they're hungry to learn, and that's why we're here.
But we can't do it alone!

Your support is crucial in our ability to deliver high-impact agricultural, safety and career education programs to K-12 students in communities and classrooms across the province. Help us build awareness and understanding of agriculture through education. Become an annual supporter today.

Your Support Will:

- Help plant the seeds of agricultural literacy in Alberta classrooms.
- Grow knowledge about Alberta's agriculture industry in the minds of tomorrow's consumers, educators, innovators and decision-makers.
- Meet increasing demand from teachers for accurate, balanced and current agriculture programs, tools and resources linked to Alberta curriculum.

CORPORATE/ACADEMIC/MD'S/ASSOCIATIONS & SOCIETIES

- $1,500 annually
- Name listing on Ag for Life's website
- Opportunity to access Ag for Life printed resources for distribution*
- Opportunity to promote news and events on Ag for Life's social media channels*
- Opportunity to provide subject matter experts and/or interviewees in the development of Ag for Life educational resources including, magazines, social media, digital, videos, podcasts, blogs and more
- Charitable tax receipt available upon request

*When available/Limited quantities

Ag for Life
INFO@AGRICULTUREFORLIFE.CA

Thursday June 23rd, 2022

cultivate creativity
@TheLebel
ALLIED ARTS COUNCIL OF PINCHER CREEK

M.D. of Pincher Creek
Attn: M.D. Council

Dear M.D. of Pincher Creek Council,

The Allied Arts Council of Pincher Creek is excited to be just a couple of weeks away from our latest creative adventure- our Balcony Concert Series coming up over the months of July and August on the Lebel Mansion grounds. These five community oriented, family friendly, live music events will take place on Thursday evenings, with our talented roster of entertainers from across the province performing from the balcony out onto the lawn.

After a long two years of disconnect we recognize the need to gather and celebrate with our community in a safe way more than ever before and we hope these events offer a space to do so, while also supporting a new branch of artists and offering a new arts and cultural opportunity in our area.

The Allied Arts Council Board of Directors and Staff would like to extend an invitation to members of M.D. to join us at one or more of our upcoming events. Attached you will find a poster with all of our concert dates and performances. More details about each event can be found by visiting www.thelebel.ca.

Thank you for helping us cultivate creativity in our area, the Arts in Pincher Creek and grow and flourish with your continued support!

Sincerely,
Kassandra Chancey
Assistant Director
Allied Arts Council of Pincher Creek

The Balcony Concerts are made possible with the support of The Panoram Foundation and Alberta Foundation For The Arts. Special thanks to The Heritage Hotel for providing a discount on accommodations for our events in July, Coop Grocery for donation of a gift card which will assist us in providing hospitality to our visiting artists and to all the local businesses who have helped share and promote our events. The Allied Arts Council thanks the Town and M.D. of Pincher Creek for their support of our organization.

Alberta Transportation Southern Region Open Golf Tournament

Tuesday, August 16, 2022

Paradise Canyon Golf Resort

(185 Canyon Boulevard, Lethbridge, Alberta)

Registration: 11:30 am – 12:30 pm
Shot Gun: 1:00 pm
Supper and wrap-up after

Cost: $210/person (includes 18 holes golf, cart and supper)

Golfer	First Name	Last Name	Handicap	Company	Phone	Email
1						
2						
3						
4						
	Is this a team entry? Yes / No					

Please make cheques payable to: *ATSRWC*

Mail cheque to: Alberta Transportation
Attention: Cindy Helm
909 – 3rd Avenue North, Box 314
Lethbridge, AB T1H 0H5

Registration for each person is only complete with submission of both the entry form and fee.