The Corporation of the Village of Salmo

REGULAR MEETING (#03-24)
INCLUDING ITEMS CLOSED TO THE PUBLIC

A Regular Meeting of the Council of the Village of Salmo to be held in Council Chambers at 423 Davies Avenue, Salmo, B.C. on **Tuesday, March 12, 2024** at **7:00 p.m.**

The public may attend in person or electronically. The electronic link will be available on our website on Tuesday.

Traditional Lands Acknowledgement Statement: We acknowledge and respect the indigenous peoples within whose traditional lands we are meeting today.

AGENDA:

1. **Call to Order**
2. **Adoption of Agenda**

   STAFF RECOMMENDATION: Pg.1

   That the draft agenda of Regular Meeting #03-24 of Tuesday, March 12, 2024 be adopted as amended from *Council Procedure Bylaw #663, 2014* Schedule "A" to include a New Business section, an Administrative section, a Public Question period, and an *In Camera* section.
3. **Delegations - NIL**
4. **New Business**
5. **Adoption of the Minutes**

   (1) **STAFF RECOMMENDATION:** Pg.5

   That the draft minutes of Regular Council meeting #02-24 of Tuesday, February 27, 2024 be adopted as presented.

   (2) **STAFF RECOMMENDATION:** Pg.11

   That the draft minutes of Special Council meeting of Monday, March 4, 2024 be adopted as presented.
6. **Referrals from Delegations - NIL**
7. **Referrals from Prior Meetings - NIL**
8. **Policy Development & Review - NIL**
9. **Bylaw Development & Review**

   (1) **STAFF RECOMMENDATION:** Pg.13

   That Council receive for information the report prepared by Patricia Dehnel of Dehnel Planning regarding the preparation of the Development Applications Procedures Bylaw.

   (2) **Development Procedures Bylaw No. 753, 2024** Pg.15

STAFF RECOMMENDATION:

That the *"Development Procedures Bylaw No. 753, 2024"*, be given first reading.

That the *"Development Procedures Bylaw No. 753, 2024"*, be given second reading.

10. Administrative Section

(1) Water Conservation Plan Pg.37

STAFF RECOMMENDATION:

That Council approve staff advancing a project with Waterline to update the DRAFT Source Water Protection Plan;

And further,

That Council approve staff advancing a comprehensive plan to get our water system into compliance and create a project list for a comprehensive water management plan and bring it back to Council for consideration.

(2) Provincial Legislation Pg.107

STAFF RECOMMENDATION:

That Council receive for information the report prepared by CAO Qualizza regarding Provincial Legislation.

11. Accounts Payable

STAFF RECOMMENDATION: Pg.111

That Council receive for information the list of accounts payable cheques and electronic fund transfers from February 23, 2024 to March 7, 2024 totaling $98,310.37.

12. Correspondence Requiring a Council Decision - NIL

13. Correspondence for Information Only

STAFF RECOMMENDATION:

That Council receive for information the following correspondence from:

(1) Kootenay Emergency Response Physicians Association (KERPA) Gala May 25, 2024 - #15 Pg.113

14. Member Reports & Inquiries

(1) Councillor Cox

(2) Councillor Heatlie

(3) Councillor Lins

(4) Councillor Neil

(5) Mayor Lockwood

STAFF RECOMMENDATION:

That the verbal and written reports of Mayor and Council be received for information.

15. Public Question Period

16. In Camera Resolution

That the meeting be closed to the public under Sections 90(1)(c) of the *Community Charter*.

17. In Camera Items

(1) Labour

18. Adjournment

The next regularly scheduled Council meeting will be on March 26, 2024 at 7:00 p.m.

The Corporation of the Village of Salmo

DRAFT

REGULAR MEETING MINUTES

Minutes of the Regular Meeting of the Council of the Village of Salmo held in Council Chambers at 423 Davies Avenue in Salmo, B.C. on Tuesday, February 27, 2024 at 7:00 p.m.

PRESENT:

In Person:
Mayor Diana Lockwood
Councillor Melanie Cox
Councillor Jonathon Heatlie
Councillor Jennifer Lins
Councillor Kenzie Neil

CAO/CO Ange Qualizza
Members of Public - 2
Electronically:
Members of the Public - 0

CALL TO ORDER: Mayor Lockwood called the meeting to order at 7:00 p.m.

AGENDA:

R1-02-24 Moved and seconded, that the draft agenda of Regular Meeting #02-24 of Tuesday, February 27, 2024 be adopted as amended from Council Procedure Bylaw No. 663, 2014 Schedule "B" include a New Business section, a Bylaw Development & Review section, a Public Question Period, and an *In Camera* section.

Carried.

DELEGATIONS: NIL

NEW BUSINESS: NIL

MINUTES: (Note: See official minutes and agenda package for applicable reports.)

R2-02-24
Regular Meeting
January 9, 2024

Moved and seconded, that the draft minutes of the Regular Council meeting #01-24 of Tuesday, January 9, 2024 be adopted as presented.

Carried.

R3-02-24
Special Meeting
January 23, 2024

Moved and seconded, that the draft minutes of the Special Council meeting of Tuesday, January 23, 2024 be adopted as presented.

Carried.

R4-02-24
Special Meeting
February 13, 2024

Moved and seconded, that the draft minutes of the Special Council meeting of Tuesday, February 13, 2024 be adopted as presented.

Carried.

REFERRALS FROM DELEGATIONS: NIL

REFERRALS FROM PRIOR MEETINGS: NIL

BYLAW DEVELOPMENT & REVIEW:

R5-02-24 Municipal Utilities User Fees Bylaw #752, 2024 - First Reading	Moved and seconded, that the *"Municipal Utilities User Fees Bylaw #752, 2024"*, be given first reading. Carried.
R6-02-24 Municipal Utilities User Fees Bylaw #752, 2024 - Second & Third Reading	Moved and seconded, that the *"Municipal Utilities User Fees Bylaw #752, 2024"*, be given second & third reading. Carried.

OPERATIONAL REPORTS:

R7-02-24 Civic Works	Moved and seconded, that Council receive for information the written report as presented by Civic Works Foreman Fred Paton dated February 22, 2024. (see *Appendix A*). Carried.
R8-02-24 Notice of Motion	Moved and seconded, that Council direct staff to put out some information about the public washroom on social media. Carried.
R9-02-24 Fire Department	Moved and seconded, that Council receive for information the written report dated February 1, 2024 provided by Fire Chief David Hearn for the period of January 2024. (see *Appendix A*). Carried.
R10-02-24 Bylaw Enforcement	Moved and seconded, that Council receive for information the written report on bylaw enforcement for the period of November 2023, December 2023, and January 2024. (see *Appendix A*). Carried.
R11-02-24 Administration – AKBLG	Moved and seconded, that Council direct staff to book Councillor Cox, and Councillor Lins to attend the Association of Kootenay Boundary Local Government annual AGM and Convention. (see *Appendix A*). Carried.
R12-02-24 Administration – WWTP Inspection Update	Moved and seconded, that Council receive for information the written report by CAO Qualizza regarding the Wastewater Treatment Plant inspection update. (see *Appendix A*). Carried.
R13-02-24 Strategic Plan	Moved and seconded, that Council adopt the draft strategic plan as presented in the agenda, and direct staff to bring back the updated prioritized plan excluding the pool for information. (see *Appendix A*). Carried.

FINANCIAL REPORTS:

R14-02-24 Accounts Payable	Moved and seconded, that Council receive for information the list of accounts payable cheques and electronic fund transfers from January 5, 2024 to February 22, 2024 totaling $302,615. Carried.
R15-02-24 Treasurer's Report	Moved and seconded, that Council receive for information the Treasurer's report for January 2024. Carried.

CORRESPONDENCE REQUIRING A DECISION:

R16-02-24 Mr. Khan Re: Request for the Facilitation of Setting Up Education Academy in the Village of Salmo - #03	Moved and seconded, that Council direct staff to respond to Mr. Khan's request advising that Council for the Village of Salmo does not involve itself with facilitating development of this nature. Carried.
R17-02-24 Todd Doherty, MP Re: Displaying 988 Information Poster- #04	Moved and seconded, that Council adopt the following motion in support of displaying the 988 Crisis Line Poster: WHEREAS Canada has adopted 988, a National three-digit suicide and crisis hotline; AND WHEREAS Council for the Village of Salmo recognizes that it is a significant and important initiative to ensure critical barriers are removed to those in crisis and seeking help; NOW THEREFORE BE IT RESOLVED THAT Council for the Village of Salmo continues to endorse the 988 crisis line initiative and will display the 988 information poster in all municipal buildings. Carried.
R18-02-24 Noise Complaint for Snow Plowing at the Salmo Pump - #10	Moved and seconded, that Council direct staff to write to the Salmo Pump advising them they are allowed to perform snow plow activities in winter conditions prior to the 7:00 a.m. time stipulated in *Noise Control Bylaw #216, 1979*, but noting not before 5:00 a.m., in order to keep their business area safe for users. Carried.

CORRESPONDENCE FOR INFORMATION ONLY:

R19-02-24	Moved and seconded, that Council receive for information the following correspondence from: (1) Regional District of Nanaimo Re: Legislative Reform Initiative Update - #05 (2) Forest Enhancement Society of BC Re: Accomplishments Update - #06 (3) District of Sicamous Re: Support for Bill-34 - #07 (4) City of Abbotsford Re: Support for Resolution - #09

(5) Fire Underwriters Survey Re: 1999 Apparatus Age Extension - #12
(6) Village of Silverton Re: Resolution to AKBLG - #13

Carried.

MEMBER REPORTS & INQUIRIES:

Councillor Cox	Attending BC accessibility meeting on Monday. They have a link to the webpage.
Councillor Heatlie	Nothing to report.
Councillor Lins	Nothing to report. SYVCC meeting in March.
Councillor Neil	Will bring back the librarian report for the next meeting. Invasive Species meetings are challenging to make during the day.
Mayor Lockwood	See *Appendix B*.
R20-02-24 Verbal & Written Reports of Mayor & Council	Moved and seconded, that the verbal and written reports of Mayor and Council be received for information. Carried.

PUBLIC QUESTION PERIOD:

A request to follow up on the bylaw complaint regarding snow removal from private property onto the Village's property.

IN CAMERA RESOLUTION:

R21-02-24 Moved and seconded, that the meeting be closed to the public under Sections 90(1)(c)(m) of the *Community Charter*.

Carried.

RECONVENE OPEN MEETING: Council reconvened the meeting at 9:07 p.m.

RISE & REPORT:

R22-02-24 Moved and seconded, that Council approve a budget to replace the Glendale Well Pump and advance a complete evaluation of the Glendale Well System by Redi Engineering for a cost of $14,000.

Carried.

R23-02-24 Moved and seconded, that Council direct staff to evict Heritage Hub from 423 and 419 Railway Avenue immediately.

Carried.

ADJOURNMENT: Moved and seconded, that the meeting be adjourned.
R24-02-24

Carried.

I hereby certify the preceding to be a true and correct account of the Regular Meeting of Council held on Tuesday, February 27, 2024.

Mayor

Chief Administrative Officer/CO

The Corporation of the Village of Salmo

DRAFT

SPECIAL MEETING MINUTES

Minutes of the Special Meeting of the Council of the Village of Salmo held in Council Chambers at 423 Davies Avenue in Salmo, B.C. on Monday, March 4, 2024 at 7:45 p.m.

PRESENT:

In Person:
Mayor Diana Lockwood
Councillor Melanie Cox
Councillor Jonathon Heatlie
Councillor Kenzie Neil

CAO/CO Ange Qualizza
Members of Public - 0

Electronically
Members of Public - 0

REGRETS: Councillor Lins.

CALL TO ORDER: Mayor Lockwood called the meeting to order at 7:45 p.m.

AGENDA:

R1-0304-24 Moved and seconded, that the draft agenda of Special Meeting of Monday, March 4, 2024 be adopted as presented.

Carried.

BYLAW REVIEW & DEVELOPMENT:

R2-0304-24
Municipal Utilities User Fees Bylaw #752, 2024 - Adoption

Moved and seconded, that the "*Municipal Utilities User Fees Bylaw #752, 2024*", having had three readings, be reconsidered and adopted.

Carried.

PUBLIC QUESTION PERIOD: Nil

ADJOURNMENT:
R3-0304-24 Moved and seconded, that the meeting be adjourned.

Carried.

I hereby certify the preceding to be a true and correct account of the Special Meeting of Council held on Monday, March 4, 2024.

Mayor

Chief Administrative Officer/CO

Dehnel Planning

To:	CAO
From:	Planner
Date:	March 7, 2024
Re:	Preparation of Development Applications Procedures Bylaw

This memo describes the process to prepare the Draft Development Applications Procedures Bylaw.

Background:

With the Provincial adoption of Bill 44, the Village of Salmo has begun review of its development procedures and related bylaws. The Village contracted Dehnel Planning in February 2024 to support the Village's implementation of Bill 44.

Bylaw Preparation

Dehnel Planning and Village staff reviewed current practice to process and approve OCP and Rezoning Applications, Temporary Use Permits and Development / Development Variance Permits. This review does not include Subdivision applications. Staff are extremely knowledgeable in the legislation, Salmo bylaws and practice of development applications procedures and general planning and development in the community. The purpose of the Development Applications Procedures Bylaw is intended to clarify and standardize the application process for all, including applicants, community, future staff and the development industry.

Reference:

To draft the Development Applications Procedures Bylaw, research on local bylaws and best practice in nearby communities was reviewed. The following resources are the main references:

- *Local Government Act*
- *Development Approvals Process Review*, final report from a province-wide stakeholder consultation, September 2019 (Province of BC)
- City of Castlegar Planning and Development Procedures and Fees Bylaw No. 1336, 2020
- City of Nelson Development Applications Procedures Bylaw No. 3526, 2022
- Village of Nakusp Development Approvals Bylaw No. 714, 2022
- Village of Salmo Official Community Plan, 2020especially
- Current Salmo bylaws (especially Development Approval Information Bylaw No. 688, 2017 and application forms / practice.

Bylaw Features:

The intent of this bylaw is to update the development application process in Salmo. As such it repeals the Village of Salmo Development Approval Information Bylaw No. 688. Information from the former bylaw has been transferred to the new bylaw and accompanying application form. Note that the application form does not form part of the bylaw, but rather is a reference piece. The draft new bylaw makes the following new points:

- A potential applicant must contact Village staff for a pre-development meeting so that the process and timeline can be reviewed prior to application submission.
- A complete application must be received prior to staff beginning review.
- The CAO is authorized to designate whether it is staff or Council that will provide approval on specific applications.

- Although it is the CAO named to coordinate an application, the CAO has the prerogative to name their designate. This may be a staff member or engineering/planning/development consultants hired by the Village. In 2024, Dehnel Planning is available to support staff in development review. These designates, along with the CAO, will continue in their development application review roles.
- Fees and Charges for Development Approvals have been established based on fees used in the local area and will be listed in the upcoming Salmo Fees and Charges Bylaw
- A definition and application review process has been outlined for Minor Development Permits and Minor Development Variance Permits. As outlined in the Local Government Act, this bylaw provides the authority for the CAO or their designate to approve minor permits
- Once a complete application for OCP Amendments, Zoning Amendments and Temporary Use Permits, has been received, the Village may list it on the Village website or the like (i.e., Village notice board, Village newsletter), to notify the public of the pending application review. Application notification by the Village is not a legislated requirement of the application process. However, depending on the complexity of the application, staff may request that the applicant host a public information meeting at their own expense.
- Security deposits established in the OCP, are fully described in the bylaw and depending on the complexity of development, may be required by staff to ensure that the development is completed and, if necessary, the Village has the resources to complete any unfinished project.
- When required, neighbourhood notification of an application is 30 m from the subject property.
- Public Hearing requirements or prohibition are referenced in the Bylaw. If Public Hearing is prohibited, notification of the Bylaw First Reading is to be prepared as per the *Local Government Act* 466.

Next Steps:

- Adoption of Development Applications Procedures Bylaw – in process;
- New streamlined development application form – draft attached and in development to be released once bylaw adopted;
- Website: update building and development page: to clarify the development process for all (potential applicants, staff, residents, development community, etc.) and link to the RDCK building permit application page to remind applicants that all approved development projects require building permits administered through RDCK. Reminder that development in Salmo is to follow the principles, goals and vision of the Village OCP. All development applications shall follow the Development Applications Procedures Bylaw.
- Review of Subdivision Bylaw and subdivision application process, Zoning Bylaw per Bill 44, Development Cost Charges, Amenity Cost Charges, and other associated development fees.

Resolution:

That Council introduce and read the Development Applications Procedure Bylaw for the first and second time.

Patricia Dehnel

Patricia (Trish) Dehnel, RPP MCIP
Registered Professional Planner

DEVELOPMENT APPLICATIONS PROCEDURES
BYLAW NO. 753
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DEVELOPMENT APPLICATIONS PROCEDURES BYLAW NO. 753

A BYLAW TO ESTABLISH PROCEDURES AND FEES FOR THE PROCESSING OF LAND DEVELOPMENT APPLICATIONS

WHEREAS the Council of the Village of Salmo shall, by bylaw, define procedures under which an owner of land may apply for amendment to an official community plan, zoning bylaw or for the issuance of a permit pursuant to Section 460 of the *Local Government Act*;

AND WHEREAS Council has designated areas within where a Temporary Use Permit may be issued and within which Development Permits are required;

AND WHEREAS Council may, by bylaw, specify a distance from a property under application for the purposes of notifying owners and occupants of proposed bylaw amendments and permits;

AND WHEREAS Council may, by bylaw, delegate its powers, duties and functions to an officer or employee of the municipality;

NOW THEREFORE the Council of the Village of Salmo in open meeting assembled enacts as follows:

PART 1 – TITLE

TITLE

1. (1) This Bylaw may be cited as Development Application Procedures Bylaw No. 753, 2024.

PART 2 – DEFINITIONS

DEFINITIONS

2. In this Bylaw, unless context requires otherwise:

(1) 'Applicant' means any landowner who makes application under the provision of this Bylaw or anyone who is authorized by the owner of the lands to make application;

(2) 'Application' means an application for an official community plan amendment, zoning bylaw amendment, temporary use permit, development variance permit, or development permit.

(3) 'Application Form' means a form provided by the Village of Salmo for the purposes of application for an official community plan amendment, zoning bylaw amendment, temporary use permit, development variance permit, or development permit;

(4) 'CAO' means the Chief Administrative Officer of the Village of Salmo;

(5) 'Local Government Act" (LGA) means the *Local Government Act [RSBC 2015] Chapter 1* as amended;

(6) 'Minor Development Permit' means a permit approved by an officer or employee of the Village of Salmo as delegated by Council which conforms to the Development Permit Guidelines of the Official Community Plan and does not require any variances and that meets the following criteria:

a) the addition of floor space of less than 20 square meters or 25% of the existing gross floor area, whichever is greater;
b) façade improvements for buildings that do not require any structural alterations;
c) exterior signage that is affixed to the building, meets sign regulations and does not require a Building Permit or Encroachment Agreement;
d) additions or exterior improvements that do not exceed $25,000 in value; and
e) landscaping and screening.

(7) 'Minor Development Variance Permit' means a permit approved by an officer or employee of the Village of Salmo as delegated by Council which, in the opinion of the CAO or their designate, is deemed minor if it meets the following criteria:

a) consistent with neighbourhood character;
b) does not increase the appearance of building bulk from the street or surrounding neighbourhood;
c) does not reduce light access, privacy, or views of adjacent lots;
d) does not require extensive site preparation and disturbance;
e) does not include unattractive building elements, such as unscreened foundations or blank, flat walls with little variation;
f) does not exceed $10,000 in value; and
g) does not interfere with municipal operations and services.

(8) 'Regional District' means the Regional District of Central Kootenay;

(9) 'Regular Office Hours' means Monday to Friday 8:30 am – 4:3 pm, except for Statuary Holidays or otherwise posted;

(10) 'Security Deposit' means an unconditional irrevocable letter of credit or deposit of securities in a form satisfactory to the Village of Salmo;

(11) "Village' means the Village of Salmo;

(12) 'Village Office' means the Municipal office of the Village of Salmo located at 423 Davies Avenue, PO Box 280, Salmo British Columbia V0G 1Z0.

PART 3 - SCOPE

SCOPE

3. (1) This Bylaw establishes procedures and fees in relation to the following:

a) An Amendment to the Official Community Plan and/or Zoning Bylaw.
b) A Development Permit.
c) A Development Variance Permit.
d) A Temporary Use Permit.

(2) The fees are prescribed in the Fees and Charges Bylaw, as amended from time to time.

PART 4 - APPLICATION

APPLICATION

4. (1) Applications shall be made by the owner of the land or by the person authorized by the owner.

(2) Applications shall be submitted to the CAO or their designate, on the applicable form provided by the Village of Salmo.

(3) The Village may require a site visit or further information to be provided after the initial application and prior to proceeding to Council.

(4) Applications shall contain all applicable information and follow the procedures as prescribed in the following Schedules, which are attached to, and form part of this Bylaw:

a) Procedures for application to amend the Official Community Plan and/or Zoning Bylaw are outlined as Schedule 1 of this Bylaw.
b) Procedures for application for a Development Permit are outlined as Schedule 2 of this Bylaw.
c) Procedures for application for a Development Variance Permit are outlined as Schedule 3 of this Bylaw.
d) Procedures for application for a Temporary Use Permit are outlined as Schedule 4 of this Bylaw.
e) Procedures for the calculation and release of a security deposit as required as part of a Development Permit, Development Variance Permit or Temporary Use Permit are outlined as Schedule 5 of this Bylaw.

(5) Application fees, in accordance with Schedule 6 of this Bylaw, are payable to the Village of Salmo at the time of application submission.

(6) Applications will not be considered complete and will not be processed until all the necessary documentation and application fees have been received.

(7) Where an application has been refused by Council, the CAO or their designate, shall notify the applicant in writing within fifteen (15) days immediately following the date of refusal.

(8) Applications that are refused by Council will not be reconsidered within six (6) months of refusal, unless the CAO or their designate, has deemed the application to be substantially different from that originally submitted or pursuant to the provisions of the *Local Government Act*.

(9) Applications under this Bylaw shall be considered lapsed and new application shall be required where the applicant has not communicated and/or submitted outstanding materials or information within six (6) months of the initial receipt of the application by the Village or where a decision on the application has not been made within eighteen (18) months of the initial receipt of application. Upon written request by an applicant prior to lapse of an application, Council, may extend the deadline for a period of six (6) months from the date of request, by resolution.

PART 5 - DELEGATION

DELEGATION

5. (1) Council delegates its authority to issue and amend minor Development Permits and minor Development Variance Permits to the CAO or their designate.

(2) Where the CAO or their designate has refused issuance or required amendment of a minor Development Permit or a minor Development Variance the applicant may request that Council reconsider the decision, within thirty (30) days immediately following the date of refusal or amendment; requests must be received in writing to the Village Office.

PART 6 - NOTIFICATION

NOTIFICATION

6. (1) At least fourteen (14) working days prior to consideration of First Reading for an amendment to an Official Community Plan and/or Zoning Bylaw, the CAO or their designate, must:

a) Mail or otherwise deliver written notification of application to the applicant, applicable agencies and registered owners or occupiers of real property located within 30 meters of the subject property or properties.

b) This requirement is not applicable to amendments of the Official Community Plan and/or Zoning Bylaw that involve more than ten (10) properties.

(2) In the case where a Public Hearing is required for adoption of an Official Community Plan Bylaw and/or a Zoning Bylaw, at least ten (10) days prior to a Public Hearing, the CAO or their designate, must:

a) Mail or otherwise deliver written notification of the Public Hearing to the applicant and registered owners or occupiers of real property located within 30 meters of the subject property or properties.

b) This requirement is not applicable to amendments of the Official Community Plan and/or Zoning Bylaw that involve more than ten (10) properties.

c) Publish notice in accordance with the requirements of the *Local Government Act*.

(3) In the case where a Public Hearing is prohibited or not required for adoption of a Zoning Bylaw, at least ten (10) days prior to First Reading of the bylaw, the CAO or their designate, must:

a) Mail or otherwise deliver written notification of the general purpose of the Zoning Bylaw to the applicant and registered owners or occupiers of real property located within 30 meters of the subject property or properties.

b) This requirement is not applicable to amendments to a Zoning Bylaw that involve more than ten (10) properties.

c) Publish notice in accordance with the requirements of the *Local Government Act*.

(4) At least fourteen (14) working days prior to consideration of issuance of a Development Variance Permit, the CAO or their designate, must:

a) Mail or otherwise deliver written notification of application to the applicant, applicable agencies and registered owners or occupiers of real property located within 30 meters of the subject property or properties.

b) Minor Development Variance Permits are exempt from written notification outlined above in 6.4 a).

(4) At least fourteen (14) working days prior to consideration of the issuance of a Temporary Use Permit, the CAO or their designate, must:

a) Mail or otherwise deliver written notification of application to the applicant, applicable agencies and registered owners or occupiers of real property located within 30 meters of the subject property or properties.

b) Publish notice in accordance with the requirements of the *Local Government Act*.

(5) For the purposes of notification of the public of proposed Official Community Plan Amendments and/or Zoning Amendments and for Temporary Use Permits, Complete Applications may be listed on the Village website or other form of public notification as notice of proposal.

PART 7 - SCHEDULES

SCHEDULES

7. (1) The following Schedules are attached to, and form part of this Bylaw:

a) Schedule 1: Procedures for application to amend the Official Community Plan and/or Zoning Bylaw

b) Schedule 2: Procedures for application for a Development Permit

c) Schedule 3: Procedures for application for a Development Variance Permit

d) Schedule 4: Procedures for application for a Temporary Use Permit

e) Schedule 5: Procedures for the calculation and release of a Security Deposit

f) Schedule 6: Fees and Charges

PART 8 – SEVERABILITY AND REPEAL

SEVERABILITY AND REPEAL

8. (1) If any portion of this Bylaw is declared invalid by a court, the invalid portion shall be severed and the remainder of the Bylaw is deemed valid.

(2) Village of Salmo Development Approval Information Bylaw No. 688, 2017 and all its amendments thereto are hereby repealed.

READ A FIRST TIME THIS _____ DAY OF _____, 2024

READ A SECOND TIME THIS _____ DAY OF _____, 2024

READ A THIRD TIME THIS _____ DAY OF _____, 2024

ADOPTED THIS _____ DAY OF _____, 2024

_____ Mayor

_____ Chief Administrative Officer

SCHEDULES

Schedule 1: Procedures for application to amend the Official Community Plan and/or Zoning Bylaw

REQUIRED DOCUMENTATION	NOTES
1. Completed Application Form	Applicant will provide a Completed Application Form as provided by the Village of Salmo, including agent authorization, if not the property owner. Applicant will pay the prescribed application fee.
2. Project Proposal	Applicant will provide detail as to their development proposal and what changes to the current regulations are being requested. Applicants should include any anticipated benefits or impacts to the village and surrounding property owners. The applicant may be required to provide information on and a systematic detailed assessment of the following: • Compliance of the activity or development with the Official Community Plan and any other relevant Village bylaw, plan or policy; • Compatibility with adjacent and community land uses, functions, form, character, aesthetic and scale of development; • The impact on ground and surface water quality including, but not limited to pollution, temperature, oxygen levels, acidity, nutrients, silts and pathogens; • Geotechnical conditions including, but not limited to soil composition, profile, classification, agricultural suitability and capability, geologic process and terrain stability; • Hydrological or hydrogeological assessment, or both, including, but not limited to, infiltration, interception, groundwater and overland flow as well as hydrologic processes including accretion and erosion; • The phasing and timing of the activity or development; • Compatibility with adjacent Village owned land, ROW, covenants and easements; • Other impacts of the proposed activity or development considered important by the CAO or their designate.
3. Site Plan	Applicant will provide a detailed site plan for each property under application, including: • Location and siting of proposed and existing development (including dimensions and measurements from property lines and road access); • Location and detail of existing rights of way, easements, restrictive covenants; • Location, siting and dimensions of any proposed screening, landscaping or other improvements; • Location and siting of any existing and/or proposed infrastructure such as water, sewer, hydro and drainage.

4. Site Profile	A completed site profile is required for any property where it is reasonably known to have been used, or is currently being used, for commercial and/or industrial activity.
5. Title	A Certificate of Title as issued within the last thirty (30) days of making application.
6. Additional Requirements	Professional reports or other supportive material may be requested. Supportive material may include traffic impact assessments, geotechnical assessments, land contour and topographic condition, infrastructure impact analysis, environmental assessments or other supportive documentation applicable to the proposed development.

PROCESS FOR OFFICIAL COMMUNITY PLAN AND/OR ZONING BYLAW AMENDMENTS

- Applicant makes arrangements to have a pre-application meeting where staff can advise on application requirements and timelines.
- Completed Application Form, Application Fee and Required Documentation is submitted and reviewed by staff. This includes notification and review by other applicable Village of Salmo departments. Staff will notify the applicant of any deficiencies. Incomplete Applications will not be processed until such a time as required documentation is received.
- Complete Applications become public information and may be listed on the Village website or other form of public notice, by the CAO or their designate as notice of proposal.
- Staff will prepare a referral package for notification of the applicant, applicable agencies and registered owners or occupiers of real property located within 30 meters of the subject property or properties. If appropriate, a Public Information Meeting will be requested, at the applicant's expense.
- Following the notification period, staff will prepare a report to Council for consideration of First Reading.
- If the *Local Government Act* prohibits or does not require a Public Hearing, then ten days prior to First Reading, staff shall prepare notification of the Bylaw and deliver the notice according to the requirements of the *Local Government Act*.
- When a Public Hearing is required for adoption of an Official Community Plan bylaw and/or adoption of limited Zoning Bylaws, staff will prepare notification of the Public Hearing after First Reading and deliver notification ten days prior to the Public Hearing according to the requirements of the *Local Government Act*.
- Council may consider the Bylaw or propose amendments, and may choose to refuse, table or impose conditions on the Bylaw or amendments. Specific bylaw amendments may require Provincial approval prior to Adoption. These include proposals within 800 metres of a controlled access highway or proposals involving commercial or industrial buildings exceeding 4,500 square metres in gross floor area.

Schedule 2: Procedures for application for a Development Permit

REQUIRED DOCUMENTATION	NOTES
1. Completed Application Form	Applicant will provide a Completed Application Form as provided by the Village of Salmo, including agent authorization, if not the property owner. Applicant will pay the prescribed application fee.
2. Project Proposal	Applicant will provide detail as to their development proposal. Applicants should include any anticipated benefits or impacts to the village and surrounding property owners.
3. Site Plan	Applicant will provide a detailed site plan for each property under application, including: • Location and siting of proposed and existing development (including dimensions and measurements from property lines and road access), • Location and detail of existing right of ways, easements, restrictive covenants, • Location, siting and dimensions of any proposed screening, landscaping or other improvements, • Location and siting of any existing and/or proposed infrastructure such as water, sewer, hydro and drainage, • Additional requirements may include: standard building elevation drawings, landscape and streetscape drawings.
4. Site Profile	A completed site profile is required for any property where it is reasonably known to have been used or is currently being used for commercial and/or industrial activity.
5. Title	A Certificate of Title as issued within the last thirty (30) days of making application.
6. Additional Requirements	Professional reports or other supportive material may be requested. Supportive material may include traffic impact assessments, geotechnical assessments, land contour and topographic condition, infrastructure impact analysis, environmental assessments, aquifer protection report, drainage plan, slope assessment, fire risk assessment and fuel management strategy, tree cutting permit in relation to areas affected by flooding or other hazards, or other supportive documentation applicable to the proposed development. Required development approval information must be prepared by a Qualified Professional and provided at the Applicant's Cost.

PROCESS FOR DEVELOPMENT PERMITS

- Applicant makes arrangements to have a pre-application meeting where staff can advise on application requirements and timelines.
- Completed Application Form, Application Fee and Required Documentation is submitted and reviewed by staff. This includes notification and review by other applicable Village of Salmo departments. Staff will notify the applicant of any deficiencies. Incomplete Applications will not be processed until such a time as required documentation is received.
- Staff will review the completed Application and may impose conditions including a request for security to provide assurance of performance. Staff will determine if the application meets the Minor Development Permit criteria.

- Minor Development Permits shall be reviewed by the CAO or their delegate, and issued or refused accordingly. If refused, the applicant may request reconsideration by Council within thirty (30) days of the refusal. Requests must be made in writing.
- Major Development Permits shall be presented for Council consideration. Council may consider to issue the Development Permit, issue the Development Permit with conditions, or refuse the Development Permit based on the applicable Development Permit Guidelines. Specific Development Permits may require Provincial approval prior to Issuance. These include proposals within 800 metres of a controlled access highway or proposals involving commercial or industrial buildings exceeding 4,500 square metres in gross floor area.
- Any Development Permit that requires variances to the specifications of a Zoning Bylaw or Subdivision and Servicing Bylaw will be required to make separate application for a Development Variance Permit.
- If applicable, assurance of performance security must be received prior to the issuance and registration of the Development Permit.
- Staff file notice of the approved Development Permit in the Land Titles Office.

Schedule 3: Procedures for application for a Development Variance Permit

REQUIRED DOCUMENTATION	NOTES
1. Completed Application Form	Applicant will provide a Completed Application Form as provided by the Village of Salmo, including agent authorization, if not the property owner. Applicant will pay the prescribed application fee.
2. Project Proposal	Applicant will provide detail as to their development proposal and what variances to the current regulations are being requested. Applicants should include any anticipated benefits or impacts to the village and surrounding property owners.
3. Site Plan	Applicant will provide a detailed site plan for each property under application, including: • Location and siting of proposed and existing development (including dimensions and measurements from property lines and road access) • Location and detail of existing right of ways, easements, restrictive covenants • Location and siting of any existing and/or proposed infrastructure such as water, sewer, hydro and drainage
4. Site Profile	A completed site profile is required for any property where it is reasonably known to have been used or is currently being used for commercial and/or industrial activity.
5. Title	A Certificate of Title as issued within the last thirty (30) days of making application.
6. Additional Requirements	Professional reports or other supportive material may be requested. Supportive material may include traffic impact assessments, geotechnical assessments, land contour and topographic condition, infrastructure impact analysis, environmental assessments, aquifer protection report, drainage plan, slope assessment, fire risk assessment and fuel management strategy, tree cutting permit in relation to areas affected by flooding or other hazards, or other supportive documentation applicable to the proposed development. Required development approval information must be prepared by a Qualified Professional and provided at the Applicant's Cost.

PROCESS FOR DEVELOPMENT VARIANCE PERMITS
• Applicant makes arrangements to have a pre-application meeting where staff can advise on application requirements and timelines. • Completed Application Form, Application Fee and Required Documentation is submitted and reviewed by staff. This includes notification and review by other applicable Village of Salmo departments. Staff will notify the applicant of any deficiencies. Incomplete Applications will not be processed until such a time as required documentation is received. • Staff will review the completed Application and may impose conditions including a request for security to provide assurance of performance. To process the complete application, the CAO or their designate will determine if the application meets the Minor Development Variance Permit criteria.

- Minor Development Variance Permit Applications shall be processed as follows:
    - Staff will evaluate the proposal for compliance with relevant Village bylaws and policies and may request additional information from the Applicant if deemed necessary for staff to determine if the criteria for a minor variance is met.
    - To be considered a minor variance, in the opinion of the CAO or designate, the proposal shall:

        a) be consistent with neighbourhood character;

        b) not increase the appearance of building bulk from the street or surrounding neighbourhood;

        c) not reduce light access, privacy, or views of adjacent lots;

        d) not require extensive site preparation and disturbance;

        e) not include unattractive building elements, such as unscreened foundations or blank, flat walls with little variation;

        f) not exceed $10,000 in project value; and

        g) not interfere with municipal operations and services.

    - A relaxation to the required number of parking stalls shall not be considered as a minor variance.
    - The CAO or designate will use the following guidelines in deciding whether to issue or not issue a minor development variance permit:

        a) the ability to use or develop the property is unreasonably constrained or hindered by having to comply with the bylaw requirement;

        b) the applicant has demonstrated that there are special conditions of the property that distinguish it from other properties in the area;

        c) the proposed variance would allow for more efficient and effective use and development of the subject property; and

        d) the variance provides for compatibility with adjacent land uses.

    - Minor Development Variance Permits shall be reviewed by the CAO or their delegate, and issued or refused accordingly. If refused, the applicant may request reconsideration by Council within thirty (30) days of the refusal. Requests must be made in writing.
- Major Development Variance Permit Applications shall be processed as follows:
    - Staff will prepare a referral package for notification of the applicant, applicable agencies and registered owners or occupiers of real property located within 30 meters of the subject property or properties.
    - Following the notification period, staff will prepare a report to Council. Council may consider to issue the Development Variance Permit, issue the Development Variance Permit with conditions, or refuse the Development Variance Permit based on the feedback received.
- If applicable, assurance of performance security must be received prior to the issuance and registration of the Development Variance Permit.
- Staff file notice of the approved Development Variance Permit in the Land Titles Office.

Schedule 4: Procedures for application for a Temporary Use Permit

REQUIRED DOCUMENTATION	NOTES
1. Completed Application Form	Applicant will provide a Completed Application Form as provided by the Village of Salmo, including agent authorization, if not the property owner. Applicant will pay the prescribed application fee.
2. Project Proposal	Applicant will provide detail as to their development proposal and the seasonality or temporary nature of the proposal. Applicants should include any anticipated benefits or impacts to the village and surrounding property owners.
3. Site Plan	Applicant will provide a detailed site plan for each property under application, including: • Location and siting of proposed and existing development (including dimensions and measurements from property lines and road access); • Location and detail of existing rights of way, easements, restrictive covenants; • Location and siting of any existing and/or proposed infrastructure such as water, sewer, hydro and drainage.
4. Site Profile	A completed site profile is required for any property where it is reasonably known to have been used or is currently being used for commercial and/or industrial activity.
5. Title	A Certificate of Title as issued within the last thirty (30) days of making application.
6. Additional Requirements	Professional reports or other supportive material may be requested. Supportive material may include traffic impact assessments, geotechnical assessments, land contour and topographic condition, infrastructure impact analysis, environmental assessments, aquifer protection report, drainage plan, slope assessment, fire risk assessment and fuel management strategy, tree cutting permit in relation to areas affected by flooding or other hazards, or other supportive documentation applicable to the proposed development. Required development approval information must be prepared by a Qualified Professional and provided at the Applicant's Cost.

PROCESS FOR TEMPORARY USE PERMITS
• Applicant makes arrangements to have a pre-application meeting where staff can advise on application requirements and timelines. • Completed Application Form, Application Fee and Required Documentation is submitted and reviewed by staff. This includes notification and review by other applicable Village of Salmo departments. Staff will notify the applicant of any deficiencies. Incomplete Applications will not be processed until such a time as required documentation is received.

- Staff will review the complete Application and may impose conditions including a request for security to provide assurance of performance.
- Complete Applications become public information and may be listed on the Village website or other form of public notice, by the CAO or their designate as notice of proposal.
- Staff will prepare a referral package for notification of the applicant, applicable agencies and registered owners or occupiers of real property located within 30 meters of the subject property or properties and place notice accordingly to the requirements of the *Local Government Act*.
- Temporary Use Permits shall be presented for Council consideration. Council may consider to issue the Temporary Use Permit, issue the Temporary Use Permit with conditions, or refuse the Temporary Use Permit based on the feedback provided. Specific Temporary Use Permits may require Provincial approval prior to Issuance. These include proposals within 800 metres of a controlled access highway or proposals involving commercial or industrial buildings exceeding 4,500 square metres in gross floor area.
- If applicable, assurance of performance security must be received prior to the issuance and registration of the Temporary Use Permit.
- Staff file notice of the approved Temporary Use Permit in the Land Titles Office.

Schedule 5: Procedures for the calculation and release of a Security Deposit

The *Local Government Act* enables the Village of Salmo to require security as a condition of the issuance of a Development Permit, Development Variance Permit and Temporary Use Permit for the following purposes:

- To ensure that the performance of conditions associated with the issuance of Development Permit, Development Variance Permit or Temporary Use Permit are completed to the Village's satisfaction.
- To remedy an unsafe condition that has resulted as a consequence of contravention of a condition in a Development Permit, Development Variance Permit or Temporary Use Permit
- To remedy damages to the natural environment that has resulted as a consequence of contravention of a condition in a Development Permit, Development Variance Permit or Temporary Use Permit

PROCESS FOR THE CALCULATION OF SECURITY DEPOSIT

Form of Security

Security shall be provided in a form allowable under the *Local Government Act* as either an automatically renewing irrevocable letter of credit or security deposit satisfactory to the CAO or their designate. Interest earned on the security accrues to the holder of the permit and must be paid to the holder immediately on return of the security, or on default, becomes part of the security amount.

Amount of Security

The amount of security must be specified in the permit and will be calculated as follows:

a. Landscaping security shall be 125% of an itemized estimate or quote of the cost of work submitted by a Landscape Architect, Qualified Environmental Professional, landscaping company or other professional approved by the CAO or their designate.

b. Remediation security shall be 125% of an itemized estimate or quote of the cost of work submitted by a Landscape Architect, Qualified Environmental Professional, landscaping company or other professional approved by the CAO or their designate.

c. Security must be received prior to the issuance and registration of the applicable permit.

Return of Security

d. If a permit is cancelled by the applicant and no work has occurred related to the security deposit, the security deposit will be returned in full.

e. When works are required to be completed, the applicant may contact staff to request inspection prior to obtaining refund of the security. 80% of the security shall be returned following initial inspection if the landscaping and remediation works have been completed to the satisfaction of the Village of Salmo. The remaining 20% will be withheld for a period of one (1) year following the completion of works to ensure they are maintained.

f. The Village of Salmo may require that the security inspection be carried out by the Landscape Architect, Qualified Environmental Professional, landscaping company or other professional that provided recommendation to ensure that the performance of conditions associated with the issuance of Development Permit, Development Variance Permit or Temporary Use Permit are completed as recommended.

Schedule 6: Fees and Charges

This Schedule is provided for convenience only. All Fees are prescribed in the Village of Salmo Fees and Charges Bylaw and Amendments from time to time.

APPLICATION TYPE	FEES AND CHARGES
Official Community Plan Amendment	$1000
Zoning Bylaw Amendment	$1000
Joint Official Community Plan and Zoning Amendment	$1500
Major Development Permit	$1000
Minor Development Permit	$500
Major Development Variance Permit	$1000
Minor Development Variance Permit	$500
Temporary Use Permit	$700

Fees and charges are refundable under the following circumstances:

1. Application fees for an Official Community Plan and/or Zoning Bylaw Amendment shall be refunded 50% of the application fee if the application is withdrawn or refused by Council prior to First Reading.

2. Application fees for a Development Permit, Development Variance Permit or Temporary Use Permit shall be refunded 50% of the application fee if the application is withdrawn prior to proceeding to Council or to the Delegated Authority for minor Development Permits and minor Development Variance Permits.

3. Applications that are withdrawn or lapse prior to substantial staff review and external referral, shall be refunded for the full amount of the application fee but charged a $100 administrative fee.

A duly processed application that is denied is not eligible for an Application Fee reimbursement.

Planning & Development Approval Application

Village of Salmo
423 Davies Avenue, PO Box 1000, Salmo B.C., V0G 1Z0
Telephone: (250) 357-9433 Fax: (250) 357-9633
Email: planning@salmo.ca Website: www.salmo.ca

PLEASE NOTE: A pre-development meeting with Village of Salmo Staff is required to complete the checklist and prior to submitting your application. Please contact the Village at **(250) 357-9433** or **planning@salmo.ca** to arrange a project information / pre-development meeting.

PART 1. NATURE OF APPLICATION

Application Type *Check all that apply*

☐ Official Community Plan Amendment	☐ Development Variance Permit (major)
☐ Zoning Bylaw Amendment	☐ Development Variance Permit (minor)
☐ Temporary Use Permit	☐ Development Permit (major)
	☐ Development Permit (minor)

PART 2. LAND DEVELOPMENT INFORMATION

Project Name or Owner			Permit Number
Civic Address of Proposal			Date of Application
Legal Description: Lot	Block	Plan	PID Number
Current Development or Land Use			
Description of Proposed Development or Land Use			

PART 3. APPLICANT AND PARTICIPATING PARTIES

Owner: Last Name	First Name	Phone Number
Email Address	Mailing Address	
Applicant/Agent: Last Name	First Name	Phone Number
Email Address	Mailing Address	
Architect/Designer: Last Name	First Name	Phone Number
Email Address	Mailing Address	

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PART 4. SIGNATURES

As the applicant or authorized agent, I declare that the information and supportive documentation submitted in support of this application are, to the best of my knowledge, true and correct.

I accept that further information may be required by the Village in accordance with Development Applications Procedures Bylaw No. 753, 2024 and accept responsibility for processing delays that are caused by insufficient application materials.

I understand that all fees charged in connection with this application are in accordance with Fees and Charges Bylaw, as amended from time to time, and that further charges may be required including Amenity Cost Charges, Development Cost Charges, Utility Connection fees, and/or Security Deposits.

Name of Agent/Owner	Signature of Agent/Owner

PART 5. AGENT AUTHORIZATION

I,_____(name of agent) solemnly declare that I am the Authorized Agent for_____(owner(s) of property), who is the registered owner(s) of the real property legally described as: _____

Name of Agent	Signature of Agent
Name of All Registered Owners	Signature of All Registered Owners

PART 6. FEE SCHEDULE BY APPLICATION TYPE (provided for convenience only)

Fees and charges are refundable under these circumstances:

1. Application fees for an Official Community Plan and/or Zoning Bylaw Amendment shall be refunded 50% of the application fee if the application is withdrawn or refused by Council prior to First Reading.
2. Application fees for a Development Permit, Development Variance Permit or Temporary Use Permit shall be refunded 50% of the application fee if the application is withdrawn prior to proceeding to Council or to the Delegated Authority for minor Development Permits and minor Development Variance Permits.
3. Applications that are withdrawn or lapse prior to substantial staff review and external referral shall be refunded for the full amount of the application fee but charged a $100 administrative fee.

Official Community Plan Amendment	$1000
Zoning Bylaw Amendment	$1000
Joint Official Community Plan and Zoning Amendment	$1500
Major Development Permit	$1000
Minor Development Permit	$500
Major Development Variance Permit	$1000
Minor Development Variance Permit	$500
Temporary Use Permit	$700

The personal information collected on this form is collected for the purposes of a development approval of the Village of Salmo as authorized by Section 26 of the Freedom of Information and Protection of Privacy Act. All information collected with this form shall be disclosed to the public upon request. Copies of any associated documentation submitted as part of this application becomes part of the local government's records and therefore subject to the Freedom of Information and Protection of Privacy Act. If you have any questions about the collection and use of information, please contact the Village Office at (250) 357-9433.

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PART 7. SUBMISSION CHECKLIST KEY

Use this key to locate the details for the required submission documents in Part 8, Submission Document Details.

Application Type	Submission Requirements	As Requested
Official Community Plan Amendment, Zoning Bylaw Amendment, Joint OCP and Zoning Amendment, Development Permit (Minor or Major), Development Variance Permit (Minor or Major), Temporary Use Permit.	A, B, C, D, F, G, H	E, F, I

PART 8. SUBMISSION CHECKLIST DETAILS

This checklist provides the basic requirements to complete an application. Depending on the nature and complexity of the application, additional requirements may be requested following internal review.

Documentation	Details	Required	Received
A. Pre-Development Meeting	Have you had your pre-development meeting? If not, contact Village Staff at 250-357-9433 or planning@salmo.ca to arrange a meeting before proceeding. Staff will assist in completion of Section I of this form. In planning your project, it is suggested you review RDCK sustainability checklists: Residential Sustainability Checklist or Commercial Sustainability Checklist	☐	☐
B. Completed Application Form	All forms must be submitted in person or electronically to planning@salmo.ca. Incomplete applications will delay review of your application.	☐	☐
C. Application Fee	Application fees are set out in the Village's Fees and Charges Bylaw as amended from time to time. Applicable fees to be paid at the time of application.	☐	☐
D. State of Title Certificate and Charges on Title	Must be printed within the last 30 days of application date. Titles and related documents can be obtained from ltsa.ca or through a lawyer, notary, or search company. Titles may also be provided by the Village for an additional fee. All development is subject to comply with any rights of way, easements, covenants or other charges on Title.	☐	☐
E. Agent Authorization	Written consent of all property owners, with one or more owners appointing an applicant to act as an agent for all purposes of the application. (if applicable)	☐	☐
F. Provincial Site Profile	Required for any development proposal on lands that may have been contaminated during past or current commercial or industrial activity. (See BC Contaminated Sites Regulation)	☐	☐
G. Proposal Summary	An outline of the proposed development or land use, including an explanation of conformance to current land use regulations or rationale for a proposed variance. If applicable, the number of lots, units or gross floor area of the development and an explanation of benefits and impacts to surrounding properties or the character of the neighborhood in which the development is proposed. aa	☐	☐
H. Site Plans	Site Plans must be based on the registered legal Lot Plan (LTSA) and must contain: north arrow, correct scale and scale bar; property lines; name and extent of adjacent laneways or roadways; existing right of ways or easements; location, area, and dimensions including setbacks of existing and proposed structures; location and grade of accesses; location of any steep slopes, watercourses or other natural features on or adjacent to the property; location of existing wells or water sources, location of existing or proposed septic fields, location of any existing utilities. **(2 copies full size printed and one electronic set)**	☐	☐

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Instructions for this page: Village of Salmo Staff, at your pre-development meeting, will determine and advise which documents are requested and required to complete this application. Please contact the Village at **(250) 357-9433** or **planning@salmo.ca** to arrange a pre-development meeting.

Documentation	Details	Required	Received
I. Additional Documentation as Requested **PLEASE NOTE:** All reports must be completed by a qualified professional.	a. Architectural building drawings of exterior elevations, floor plans, and cross sections	☐	☐
	b. Details regarding colors and exterior finishes for form and character development permits.	☐	☐
	c. Design rationale: written explanation of how the project conforms to relevant development permit guidelines regarding architectural design, landscaping, parking, signage, access and integration with surrounding developments.	☐	☐
	d. Parking plan: to include all off-street parking spaces to scale with dimensions.	☐	☐
	e. Traffic impact assessment report: to include, but not limited to, impacts to area traffic patterns, additional loads on local and major intersections, proposed improvements to area street systems, and a rationale for vehicle access points.	☐	☐
	f. Geotechnical assessment: report to assess the suitability of the site if land stability problems are suspected.	☐	☐
	g. Environmental or riparian assessment: report to include, but not limited to, watercourse, wildlife and bird habitat, discharges to air and water, land disturbance and clearing, and proposed mitigation.	☐	☐
	h. Wildfire interface assessment: a report by a Registered Forest Professional identifying potential hazards and mitigation measures.	☐	☐
	i. Tree removal and management plan: report to show general location and type of vegetation, description of trees and tree groupings, listing species, size of trees, and identifying any significant trees.	☐	☐
	j. Storm water management plan prepared by a qualified professional showing proposed servicing locations.	☐	☐
	k. Servicing and drainage concept plan, and for Aquifer Protection, a report prepared by a qualified professional that outlines: an estimate of volumes of surface drainage water; geotechnical assessment; assurance that no foreign materials enter any ground or surface water course; mitigation of potential environmental impacts or development hazards; and post construction revegetation plan to preserve disturbed soils, prevent erosion and sloughing and restore native flora.	☐	☐
	l. Landscape plan prepared by a qualified professional drawn to scale showing existing and proposed screening, plantings, garbage enclosures, walkways and amenities.	☐	☐
	m. Landscape quote and security deposit.	☐	☐
	n. Streetscape: a drawing or photomontage prepared by a qualified professional showing how the proposed development fits in the street relative to the built environment.	☐	☐
	o. Other	☐	☐

Additional Notes:

Planning & Development Approval Application

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FOR OFFICE USE ONLY	
Current Zoning Designation	Current OCP Designation
Proposed Zoning Designation	Proposed OCP Designation
Development Permit Area ☐ Yes ☐ No	DP Number
Development Variance ☐ Yes ☐ No	DVP Number
Application Fee $	**Security Deposit $**
Applicable Development Cost Charges Sewer $ Water $ Drainage $ Road $ Open Space $	**Security Hold Back $** Notes: Date Security Deposit Received: Receipt Number: Date Security Deposit Refunded: Receipt Number:

Total Fees $ _____

Additional Notes:

The Corporation of the Village of Salmo

Report to Council

Report Date:	March 6, 2024
Meeting Date:	March 12, 2024 (#03-24)
From:	CAO Qualizza
Subject:	Water Conservation Plan

1. REQUEST FOR DECISION

RECOMMENDATION:

That Council approve staff advancing a project with Waterline to update the DRAFT Source Water Protection Plan;

And further,

That Council approve staff advancing a comprehensive plan to get our water system into compliance and create a project list for a comprehensive water management plan and bring it back to Council for consideration.

2. DISCUSSION

In a circular provided by the Ministry of Municipal Affairs (see attachment), we are being advised to prepare for potential drought conditions in 2024. As the circular advises they will be reaching out local governments to collect water supply status information, that to improve drought resilience local governments should be monitoring water supplies to gauge their current conditions to anticipate future water scarcity and prepare a water conservation plan. Additionally, we should have procedures in place to regularly monitor available information about water conditions.

3. BACKGROUND

After receiving this circular, CAO Qualizza began looking for any water management plans we may have on file to support us with this work. The only report on file is a DRAFT Source Water Protection Plan from 2017, written by Waterline Resources Inc.

This project commenced in response to the new licensing requirements put forward by Interior Health.

The Village hired Waterline to develop a Source Water Protection Plan to comply with the permit requirements as outlined by Interior Health. That work advanced in August 23, 2017.

A draft report was received for review by the Village of Salmo and the project stopped advancing.

Upon review of correspondence, CAO Qualizza reached out to Waterline to request the report as we do not currently have a finalized plan in our records. It was confirmed from Waterline that due to no response from the Village, the project stayed in draft. They have not finalized the report.

Accordingly, they also were only paid a portion of the contract.

Further, upon review of our Interior Health Operating Permit, it is also in draft and we are not in compliance with finalizing our Source Protection Plan, and we are unaware of our Emergency Response Plan as it has not been updated annually as per the requirement of the permit.

CAO Qualizza reached out to Interior Health to discuss the matter, and has scheduled a site visit with Special Environmental Health Officer, Mr. Pouria Mojtahedi to rectify our situation.

4. FINANCIAL IMPACT

There are a lot of water deliverables to work through, but to simply update the DRAFT Source Water Protection Plan an estimate has been provided by Waterline. This project could begin immediately.

- Task 1: General updates to report, including updating references to meet 2024 standards = $ 640
- Task 2: Adding additional water chemistry results to update section 2.4 and Appendix D of the report = $1280
- Task 3: Updating Section 2.6.2 of the report based on the new water quality results = $370
- Task 4: Updating all Waterline figures and site photos (Appendix C) = $890
- Task 5: General updates to the recommendations section based on new site conditions = $ 370
- Senior review = $430
- Total cost: $3980 (24-hours)

CFO Narthan Russ has advised LGCAP (Local Government Climate Action Program/Plan) will be an excellent source for this project, with $120,000 in this fund that must be spent by March 2025.

5. STRATEGIC PRIORITIES

Council has recently adopted a prioritized strategic plan that identifies water management as a top priority for 2024.

6. CONCLUSION

As we have a very healthy budget available in the Local Government Action Program/ Plan, it would be very important to advance a large portion of this work simultaneously, as you can see from the recommendations from the 2017 DRAFT Salmo Water Protection Plan it is very important the Council advance this work.

Respectfully submitted,

CAO Qualizza

Attachments:

Draft Source Water Protection Plan, Waterline

Interior Health Draft Proposed Conditions on Operating Permit

Circular on Drought Management

SOURCE WATER PROTECTION PLAN
VILLAGE OF SALMO, BRITISH COLUMBIA

Submitted To:

Village of Salmo
423 Davies Street
Salmo, British Columbia
V0G 1Z0

Waterline

Submitted By:

Waterline Resources Inc.
Nanaimo, British Columbia
December 11, 2017
2640-17-001

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1.0 INTRODUCTION

1.1 Background

The Village of Salmo (Salmo) is a community located in the central Kootenay region, in southeastern British Columbia and located within the territory of the Sinixt and Ktanaxa peoples. Salmo is located approximately 34 kilometers south of Nelson, British Columbia and 22 kilometers north of the Canada/United States Border (Figure 1). Based on 2016 census data, Salmo has a population of 1,141.

Salmo is surrounded by the Selkirk Mountains and is situated within a narrow, north-south trending valley. The valley bottom is relatively flat and is bounded by mountains that rise to the east and west (Golder, 2005). Salmo is bordered on the east by the Salmo River with the eastern portion of Salmo is built on the Salmo River Floodplain. Erie Creek runs through the community from the northwest and flows into the Salmo River just outside of Salmo's eastern municipal boundary (Figure 1; Golder, 2005; Village of Salmo, 2017).

Salmo is currently diverting groundwater from two supply wells identified in this report as the Glendale[1] and Sayward[2] wells and services approximately 1,200 people (pers.com. J. Birk, November 6, 2017). The Glendale well is located at the community recreation complex on Glendale Avenue and the Sayward well is located on the west side of the community-owned Knights of Pythias Park, northeast of the intersection of 3rd street and Sayward Avenue. The wells are used for both domestic and irrigation supply, servicing residential (including two trailer parks) and industrial users. The wells are completed in a fluvial sand and gravel aquifer, identified as BC Aquifer 496, which is the largest aquifer in the Salmo area (Figure 2). Water from the wells is diverted to a 380 m^3 (100,000 US gallon) closed reservoir for storage to meet demand during peak periods (Figure 1; Golder, 2005). The reservoir is located approximately 570 m northwest of the Sayward well.

Salmo formerly sourced its water from the wellfield located along Motel Avenue (Figure 1). Although well protection measures were identified in the *Village of Salmo Community Water Wells Management Strategy* (Golder, 2005), the wells were judged to be at risk of being groundwater under the direct influence of surface water (GWUDI) and therefore at risk of pathogen contamination. Groundwater diversion from the wells (PW1, PW2, PW3, and PW4) was suspended in 2013 and the inflow and outflow connections subsequently removed. Salmo will determine whether the wells will be decommissioned or maintained as a potential firefighting supply following the completion of their Water Master Plan, which is currently under development.

Groundwater in Salmo is not treated as the wells produce high quality groundwater and proactive measures have been taken to protect their groundwater supply, including designating an Aquifer Protection Development Permit Area according to section 488 of the *Local Government Act* (Appendix A; BC Government, 2015). Salmo is working with the Regional District of Central

[1] The Glendale well has been referred to as PW5 in previous reports (Golder, 2005).
[2] The Sayward well has been referred to as Well #6 (Golder, 2008) and the KP Well.

Kootenay, provincial ministries, property owners, and the private sector to prevent negative impacts on Salmo's aquifer from land use and development in the surrounding areas (Village of Salmo, 2017).

Salmo retained Waterline Resources Inc. (Waterline) to develop a Source Water Protection Plan (SWPP) to satisfy section 18 (2) (a)[3] of the *Drinking Water Protection Act* (BC Government, 2001) as outlined by the Interior Health Authority (IHA). The SWPP is intended to identify risks to the aquifer and recommend a variety of management strategies to help protect the aquifer and the water supply wells.

1.2 Source Water Protection Plan Requirements

The Comprehensive Drinking Water Source-to-Tap Assessment (CS2TA) satisfies the requirements of a water source or system assessment that can be ordered by a drinking water officer when risks to a water system are identified (MHLS, 2010). The CS2TA serves as a tool for the community to develop a more comprehensive understanding of the measures that can be taken to ensure safety and security of their water supplies.

As part of the SWPP, the IHA has instructed Salmo to complete several modules of the CS2TA for the Glendale and Sayward Wells, suitable for the size of their water system, including the following:

Table 1: CS2TA Requirements

Module	Glendale Well	Sayward Well
1) Delineate and characterize drinking water source(s)		X
2) Conduct contaminant source inventory	X	X
7) Characterize risks from source to tap	X	X
8) Recommend actions to improve drinking water protection	X	X

Note: The *Community Water Wells Management Strategy Report* prepared by Golder & Associates in 2005 satisfies module 1 for the Glendale Well, however Waterline has revised this module with more recently obtained information.

Salmo is also required to complete a preliminary (Level 1) *Ground Water at Risk of Containing Pathogens (GARP)*. The GARP assessment includes a *Ground Water Under Direct Influence of Surface Water (GWUDI)* assessment (Ministry of Health, 2015), along with an assessment of other potential sources of pathogens reaching the water supply.

1.3 Objectives and Scope of Work

The objective of Waterline's study is to provide Salmo with a SWPP to help protect their water source including the supply wells and the aquifer. Waterline completed the following scope of work to complete the SWPP:

- Worked with Salmo's water technician who conducted an initial site visit to collect the required hydrogeologic and municipal information from the planning team;

[3] The purpose of an assessment is to identify, inventory, and assess the drinking water source for the water supply system, including land use and other activities and conditions that may affect that source.

- Reviewed and compiled available information on geology, hydrogeology, hydrology, land use, monitoring data, and water works for the site;
- Defined the well capture zone and well protection area for the Sayward well based on a review of available hydrogeologic information including well logs, historical pumping test results, monitoring data and aquifer mapping;
- Defined the well capture zone and well protection area for the Glendale well based on a review of available hydrogeologic information from previous reporting efforts;
- Completed a Level 1 GWUDI/GARP Assessment for the wells;
- Identified potential hazards to groundwater quality and quantity based on existing and proposed land use activities, historical contaminated sites, satellite imagery interpretation and input from community members;
- Developed a management plan to address groundwater hazards;
- Developed a groundwater monitoring program that will allow the community to detect changes in water quality, well performance, and aquifer performance; and,
- Prepared a report outlining the SWPP.

2.0 MODULE 1: CHARACTERIZATION OF DRINKING WATER SOURCES

2.1 Hydrogeology

There are three mapped aquifers around Salmo, all of which reside entirely within the Pend-d'Oreille Watershed (Figure 2). Regional aquifer mapping indicates that the Sayward and Glendale Wells are located within Aquifer 496 (MOE, 1998).

Aquifer 496 is the largest mapped aquifer within the Salmo area. It has a footprint of approximately 15 km^2 (Figure 2) and is located within the Salmo Creek and Beaver/Erie Creek Floodplains. Aquifer 496 is a two-layer unconfined aquifer comprised of post-glacial fluvial sediments underlain by reworked and undisturbed glacial deposits. Based on lithology records reviewed for this reporting effort, the sediments are differentiated between sandy/clayey gravel deposits and underlying sandy deposits (Figures 3 and 4). Semiconfined conditions may exists in some areas where clay lenses are present. Groundwater depths in Aquifer 496 range between 1 to 17 metres below the ground level (mbgl). Shallower portions of Aquifer 496 are likely hydraulically connected to surface water, which could influence aquifer recharge during certain times of the year from nearby streams, creeks, and rivers. The aquifer is moderately productive with estimated well yields ranging between 0.45 and 4.4 L/s, based on well testing reports.

The western portion of Salmo is located along Erie Creek where Aquifers 497 and 498 have been mapped (Figure 2). Aquifer 497 is the second largest aquifer within the Salmo area (1.3 km^2) and is located between Erie Lake and the Salmo town site. Based on well lithology reports, Aquifer 497 is a confined aquifer comprised of glaciofluvial deposits. Groundwater depths in Aquifer 497 are variable but range between 2 and 5.5 mbgl. Aquifer 497 may be hydraulically connected to Erie Lake in some locations which could influence aquifer recharge during certain times of the year. Aquifer 497 is highly productive with estimated well yields ranging between 0.61 and 37.8 L/s, based on well testing reports.

Aquifer 498 is the smallest aquifer within the Salmo area with a footprint of approximately 1.0 km^2 and is located on the Erie Lake alluvial fan, northeast of Erie Lake. Based on well lithology reports, Aquifer 498 is a confined aquifer comprised of post-glacial alluvial fan deposits. Groundwater depths in Aquifer 498 are variable but range between 1.8 and 8.2 mbgl. The Aquifer may be hydraulically connected to Erie Creek in some locations which could influence aquifer recharge during certain times of the year. Aquifer 498 is moderately productive with estimated well yields ranging between 0.61 and 1.5 L/s, based on a limited number of well testing reports.

2.2 Water Supply Wells

Salmo's water supply well locations are shown on Figures 1 and 2. Well construction details are summarized below in Table 2 and the well logs for the Sayward and Glendale wells are provided for reference in Appendix B.

Table 2: Salmo Water Supply Well Information

Well Name	Glendale Well	Sayward Well
BC Well Tag #	-	-
Construction Date (dd-mmm-yr)	1997	September 27, 2007
Latitude	49.18597	49.19532
Longitude	-117.27386	-117.27503
Ground Elevation (masl)	657	660
Well Depth (mbgl)	46.0	51.4
Screen Interval (mbgl)	36.8-46.0	39.1-54.4
Depth to Groundwater (mbgl)	4.0	2.4
Confined/unconfined aquifer	Unconfined	Unconfined
Depth of casing (m)	36.8	38.5
Casing Diameter (mm)	200	250
Stick-up (magl)	0.8	0.6
Drillers Estimated Well Yield (m^3/d)	2,833.92	4,138.56

Notes: 'masl' metres above sea level; 'magl' metres above ground level; 'mbgl' metres below ground level; 'mbtoc' metres below top of casing; '*' Ground elevation estimated from Google Earth; construction information about the Glendale well is adapted from Golder, 2005 and information provided by Salmo's water technician; Well numbers will be assigned to the wells when the groundwater diversion licence is approved by FrontCounter BC.

The Sayward well is protected from vehicle traffic by concrete barriers and the Glendale well in located within a fenced enclosure. The pump in the Glendale well was replaced by JR Drilling on December 23, 2014. Photos of the wells are provided in Appendix C for reference.

Salmo upgraded their supervisory control and data acquisition (SCADA) system in 2015 with a new flow meter, data logger, remote access system, backflow preventer and enabled night time flow analysis. The data is accessed via a computer located at the Civic Works shop which is used only for this purpose. SCADA monitoring is overseen by Westec Controls who remotely accesses the data through TeamViewer software. The data is currently stored to the computer's hard drive.

2.3 Water Demand

Salmo's water demand is approximately 3.5 times higher during the summer's irrigation season (approximately 100 days long) compared to the rest of the year. Based on a water conservation and drought management study prepared for Salmo in 2005 (UST, 2005), long-term predictions for maximum daily withdrawals during the irrigation season were on the order of 4,000 m^3/d (740 USgpm) based on a population of 1,200 people. The average annual volume of extraction was predicted to be 950,000 m^3/yr, which is significantly less than the current reported water demand.

Gross community water demands decreased by 0.3% between 2009 and 2015, partly due to the Water Smart community initiatives to reduce water consumption. Average daily water demands are approximately 0.894 cubic metres per day per person (m^3/person/d). Previous reporting efforts indicated that the population of Salmo is not expected to increase significantly (Golder, 2005), therefore the current water demand is expected to remain relatively stable.

2.4 Groundwater Quality

Water samples are collected from five different locations purposely situated at large distances from the wellheads. The samples are not collected at these locations on a rotational basis. Water samples are collected on a weekly basis and analyzed for total coliform and *E. coli*. The sample locations include the following:

- Site 1: Village Office
- Site 2: Village Shop
- Site 3: Sal-Crest motel
- Site 4: Salmo Valley Youth & Community Centre
- Site 5: Reno Motel

The system was under two separate boil water advisories after total coliform was detected in a sample collected at the Sal-Crest motel (June 12, 2017) and the Reno Motel (February 23, 2016). In both instances, the water was retested immediately after the total coliform was detected, and retested daily for two weeks thereafter. At the SalCrest motel, the reason for the positive test result was determined to be from a poor connection between two pipes that were no longer in use. The connection has been repaired and the pipes removed (J. Birk, Pers. Comm., November 6, 2017). The cause of the coliform detection at the Reno Motel is not clear, however, following the detection the sample hydrant was flushed and immediately resampled. The sample collected and all samples thereafter did not test positive for any coliform (J. Birk, Pers. Comm., November 21, 2017).

Testing of the Sayward well suggests that the aquifer provides high quality groundwater that is suitable for human consumption. Historical testing of groundwater sourced from the Glendale well was not available for this assessment. Based on historical testing results, Salmo is not required to treat water in its distribution system by means of chlorine disinfection or ultraviolet (UV) purification.

Chemical and physical parameters were tested in raw water samples from a test well located adjacent to the Sayward Well in May 2007 and from the Sayward Well in October 2007 (Golder, 2008). The following analytical suite was analyzed to evaluate the water quality of the groundwater:

- Physical tests (colour, conductivity, pH, turbidity, total dissolved solids and total hardness);
- Anion scan (alkalinity as $CaCO_3$, chloride, fluoride, sulphate, and sulphide);
- Nutrients (ammonia as N, total kjeldahl nitrogen (TKN), nitrate and nitrite as N, organic nitrogen (TKN + ammonia), total nitrogen, and ortho-phosphate as P);
- Total cyanide, total organic carbon, and dissolved organic carbon;
- Total and dissolved metals;
- Radiological parameters (gross alpha and gross beta); and
- Bacteriological parameters (total coliform and *E. coli).*

All of the parameters analyzed were within the Guidelines for Canadian Drinking Water Quality (GCDWQ, Health Canada, 2014). Groundwater from the wells is considered "soft" (hardness concentration between 60 – 120 mg/L) with relatively low total dissolved solids (TDS) concentration (139 and 142 mg/L), suggesting the aquifer is recharged from precipitation and/or surface water. The results of these analyses are provided for reference in Appendix D.

Waterline recommends future water quality results are compiled in a database system to more easily assess water quality changes or concerns.

2.5 Aquifer Evaluation

2.5.1 Conceptual Hydrogeologic Model

In order to provide an understanding of how water cycles through the aquifers, rivers, creeks, and streams in the Salmo Valley, a conceptual site model is useful. The following provides some important facts about groundwater flow in the Salmo area that help to provide a framework for the conceptual site model:

- All of the water in Aquifer 496 used by Salmo originates in upgradient catchment areas of the Salmo River and Erie Creek. Runoff from snowmelt and rainfall contributes to the recharge in the aquifer;
- Both surface and groundwater systems are gravity driven. Water entering an aquifer, river, stream and/or creek flows southward under the force of gravity towards Salmo if it is not captured by a water user along its path. The flow rate is directly dependant on the gradient (i.e., topography), and for aquifers, also dependant on the permeability of geologic materials. Groundwater and surface water flow is constrained by the extent of the Salmo valley which is approximately 2.3 km in width near the town center, narrowing to approximately 0.9 km to the south.
- The lithology and stratigraphy of the Salmo valley sediments suggests that glacial deposits were reworked in places, likely during post-glacial fluvial events. This reworking resulted in the erosion of the confining till layer present in Aquifer 497, but absent in Aquifer 496, with

the exception of some isolated clay lenses. The reworked glacial and post-glacial sediments are up to 12 m thick and provide the groundwater supply for the majority of the domestic wells within the Salmo valley. The underlying water bearing sands, which provide Salmo's municipal water supply, increase in thickness towards the center of the valley. Based on the reported depth to bedrock in the Salmo area[4], the Glendale and Sayward wells are likely completed in or near the thalweg of the valley.

- The unconsolidated sediments are underlain by bedrock from the Jurassic Rossland Group in the central and western portions of Salmo and the Cretaceous-age Anstey pluton to the east. The bedrock is expected to provide minimal recharge to the aquifer system.

Hydrogeological cross-sections are provided in Figure 3 and Figure 4 to illustrate Salmo's wells in relation to the local and regional groundwater flow system. Cross-section traces are outlined on Figure 2.

2.5.1.1 Aquifer Parameter Estimates

Aquifer parameter estimates were determined for the community water management strategy completed by Golder in 2005. These estimates are based on testing completed on the Motel Avenue well field (PW1 – PW4) and the Glendale well (PW5). The Motel Avenue well field consisted of four wells that were completed between 12.5 and 18.6 mbgl, which is approximately 28 m above the completion interval of the Glendale well. The aquifer parameters provided in the 2005 report are assumed to be ranges between the five wells. The transmissivity (T) is estimated to range between 500 to 1,000 m^2/d, the annual Darcy flux is estimated to be 1.3×10^7 m^3/yr to 5.1×10^7 m^3/yr, and the hydraulic gradient (i) ranged between 0.05 and 0.1 m/m based on the ground elevation and the corresponding flow gradient along Erie Creek.

Based on the hydrogeologic conceptual model that suggests the aquifer is differentiated between coarser sand and gravel deposits underlain by cleaner sand deposits, these estimates are considered more representative of the shallower unconsolidated sediments. Recent testing of the Sayward well in 2007 is considered more representative of the deeper aquifer conditions that are relevant to Salmo's water use and this SWPP.

Following the drilling and installation of the Sayward well in 2007, an aquifer test was completed to assess the aquifer's response to pumping and to estimate the aquifer's hydraulic parameters. A 24.5 hour constant rate test was completed on October 17 and 18, 2007. The discharge rate was 47.9 L/s (760 USgpm). The total available drawdown was approximately 30 m and the maximum drawdown observed during the test was 5.04 m. The drawdown stabilized after approximately 250 minutes of pumping. The well recovered in approximately 120 minutes after the pumping stopped. Additional details regarding the test can be found in Golder (2008).

Based on the analysis of the aquifer test, T was estimated to be 3,000 m^2/d (0.035 m^2/s), and storativity (S) to be 0.017. The aquifer's hydraulic conductivity (K) was calculated to be 50 m/d

[4] On west side of the Salmo valley the depth to the bedrock subcrop is approximately 18 m ((Well Tag # 74868) and 24 mbgl (Well Tag #). On the east side of the valley the depth to the bedrock subcrop is approximately 3 mbgl (Well Tag # 113397).

(5.79×10^{-4} m/s) using T (3,000 m^2/d) and an estimated aquifer thickness (b) of 61 m. These values are representative of a permeable sand aquifer (Freeze and Cherry, 1979). The hydraulic gradient (i) is estimated to be 0.005 m/m based on the water levels in the aquifer, the shallow topography of the valley and the gradient of the Salmo River in the catchment area upgradient of the Sayward well.

2.5.2 Capture Zone Assessment

The well capture zone must be determined to provide the physical boundaries for the source water protection planning process. The capture zone defines the recharge area most vulnerable to contamination, whereby spills or other events occurring up gradient of the supply wells could potentially be drawn into the aquifer and contaminate the water supply. Capture zone assessments have previously been completed for both the Glendale and the Sayward wells, using the calculated fixed radius method (Golder, 2005; Golder, 2008). Waterline has re-calculated the extent of both capture zones using a combination of aquifer mapping and analytical equations. These methods provide a more representative capture zone assessment as they consider groundwater flow directions, aquifer properties, pumping rates of each well and are suitable for water systems with more than 100 connections. Waterline has referenced the British Columbia Ministry of Environment's (MOE) Well Protection Toolkit (2004).

Because the aquifer conditions at the Glendale well location are more comparable to the Sayward well location (e.g., aquifer thickness greater than 50 m) than the well field, Waterline has used the aquifer parameter estimates generated from the Sayward aquifer test to complete the capture zone assessment.

The capture zone half width method was applied as follows:

$$y = \frac{Q}{2000 \times T \times i}$$

Where: y = the capture zone half width (m)
Q = pumping rate (L/s)
T = aquifer transmissivity (m^2/s)
i = hydraulic gradient in the aquifer (m/m)

The calculated half width of the flow paths to the wells are as follows:

Table 3: Calculated Half Widths of Groundwater Flow Paths

Well	Pumping Rate (L/s)	Calculated half width (m)
Sayward	47.9	137
Glendale	32.8	94

The distance to the downgradient limit of the capture zone is estimated to be:

$$x = \frac{Y}{\pi}$$

Where: x = the capture zone boundary downgradient of the well

Table 4: Downgradient Limit to Capture Zone

Well	Calculated half width (m)	Downgradient limit (m)
Sayward	68.4	44
Glendale	46.9	30

The upgradient distance for the capture zone is calculated using the following calculation:

$$d = \frac{t \times K \times i}{n}$$

Where: d = the upgradient limit of the capture zone (m)
t = time (years)
K = aquifer hydraulic conductivity (m/yr)
i = hydraulic gradient in the aquifer (m/m)
n = aquifer porosity (0.3)

The capture zones extend upgradient of each well but terminate at the aquifer boundary where the unconsolidated sediments contact the bedrock. Recharge to the aquifer upgradient of the capture zones is expected to be primarily from surface runoff from the upland areas. Table5 summarizes the capture zone extents and Figure 5 shows the extent of the capture zones and estimated groundwater travel times.

Table 5: Capture Zone Assessment

Method	Capture Zone	Upgradient Capture Zone Extent (m)	
		Sayward	Glendale
Analytical Equation	200 day	167	167
	1 year	304	304
	2 year	609	609
	5 year	1522	1522

2.5.3 Aquifer Vulnerability Assessment

Vulnerability mapping is a method used by the Province of BC to communicate high risk activities and vulnerable hydrogeologic conditions. The BC aquifer classification system categorizes aquifers according to level of development and vulnerability to contamination (Table 6; MOE, 1998).

Table 6: Aquifer Classification

Class	I	II	III
A	IA- heavily developed, high vulnerability aquifer	IIA- moderately developed, high vulnerability aquifer	IIIA–lightly developed, high vulnerability aquifer
B	IB- heavily developed, moderate vulnerability aquifer	IIB - moderately developed, moderate vulnerability aquifer	IIIB–lightly developed, moderate vulnerability aquifer
C	IC–heavily developed, low vulnerability aquifer	IIC – moderately developed, low vulnerability aquifer	IIIC –lightly developed, low vulnerability aquifer

Using this system, MOE has classified Aquifer 496 as "496 IIA" indicating this aquifer is highly vulnerable to contamination from surface sources, and has a moderate demand relative to its productivity. Aquifer 497 is classified as "497 IIB" indicating this aquifer is classified as moderately vulnerable to contamination from surface sources (due to overlying till, hardpan, and clay), and has a moderate demand relative to its productivity. Aquifer 498 is classified as "498 IIIB" indicating this Aquifer is classified as moderately vulnerable to contamination from surface sources (due to overlying till, hardpan, and clay), and has a light demand relative to its productivity.

Although Salmo only obtains its water supply from Aquifer 496, activities in the Salmo area may potentially affect 497 or 498 as the aquifers are likely in direct hydraulic connection. As the groundwater and surface water supplies are interconnected systems, particularly where unconfined conditions result in seasonal or perennial GWUDI conditions, efforts should be made to protect all aquifers in the area.

2.6 Groundwater at Risk of Containing Pathogens (GARP)

2.6.1 Background

Surface water contaminants such as pathogenic bacteria can be of concern to a community water supply, particularly when aquifers are found to be in direct hydraulic communication with the ground surface. Waterline has completed a screening level assessment using the *Guidance Document for Determining Groundwater at Risk of Containing Pathogens* (GARP), Version 2 (Ministry of Health, 2015). The GARP document identifies four main hazard categories to be considered in the initial Stage 1 assessment that could increase the risk to groundwater. Within the categories, there are 13 equally weighted hazards that require consideration when determining whether or not the water supply is GARP. Waterline has reproduced the evaluation table presented in the guidance document (i.e., Table 3-1, Page 7; MOE, 2015), which outlines the hazards and their hazard categories in Table 7 below.

Table 7 GARP Hazard Categories and Hazards Considered for Determining GARP

Hazard Category	Hazard
Water Quality Results	A-1: Exhibits recurring presence of total coliform bacteria, fecal coliform bacteria, or Escherichia coli (*E. coli*).
	A-2: Has reported intermittent turbidity or has a history of consistent turbidity greater than 1 NTU.
Source Type and Location	B-1: Situated inside setback distances from possible sources of contamination as per section 8 of the HHR.
	B-2: Has an intake depth <15 mbgl that is located within a natural boundary of surface water or a flood prone area.
	B-3: Has an intake depth between the high-water mark and surface water bottom (or < 15 m below the normal water level), and located within, or less than 150 m from the natural boundary of any surface water.
	B-4: Located within 300 m of a source of probable enteric viral contamination without a barrier to viral transport.
Well Construction Details	C-1: Does not meet GWPR (section 7) for surface sealing.
	C-2: Does not meet GWPR (section 10) for well caps and covers.
	C-3: Does not meet GWPR (section 11) for floodproofing.
	C-4: Does not meet GWPR (section 12) for wellhead protection.
Aquifer Type and Setting	D-1: Has an Intake depth <15 mbgl.
	D-2: Is situated in a highly vulnerable, unconfined, unconsolidated or fractured bedrock aquifer.
	D-3: Is completed in a karst bedrock aquifer, regardless of depth.

Notes: *'NTU'* means Nephelometric Turbidity; *HHR'* means *Health Hazards Regulation*; '*GWPR'* means *Ground Water Protection Regulation*, under the *Water Sustainability Act; 'mbgl'* means metres below ground level.

The GARP document states that if none of the hazards identified in Table 7 are present during the initial Hazard and Screening Assessment (Stage 1), the water source is considered to be "at low risk" of containing pathogens. If one or more of the hazards are present, further assessment is needed.

2.6.2 Screening Level GARP Assessment

Waterline has evaluated the Glendale and Sayward wells against the Stage 1 hazard screening level criteria. Table 8 present the Stage 1 GARP Hazard and Screening Assessment for each well.

Table 8 GARP Hazard Screening for groundwater supplied for the Salmo Wells

Risk Factors and Criteria	Glendale Well			Sayward Well		
	Yes: Potentially at Risk	No: Low Risk	Comments	Yes: Potentially at Risk	No: Low Risk	Comments
Water Quality Results						
A-1: Exhibits recurring presence of total coliform bacteria, fecal coliform bacteria, or *Escherichia coli* (*E. coli*).	X		Total coliform was detected once at the Reno Motel on February 23, 2016 and once at the SalCrest Motel on June 12, 2017. *E. coli* was not detected from 2016-2017.	X		Total coliform was detected once at the Reno Motel on February 23, 2016 and once at the SalCrest Motel on June 12, 2017. *E. coli* was not detected from 2016-2017.
A-2: Has reported intermittent turbidity or has a history of consistent turbidity greater than 1 NTU.	X		Turbidity from this well has not been reported.		X	Turbidity was reported to be 0.12 NTU after drilling was completed, October 18, 2007.
Source Type and Location						
B-1: Situated inside setback distances from possible sources of contamination as per section 8 of the HHR[5].		X	There are no sources of contamination (e.g. storage tanks, roads) within 30 m; the distance to the nearest dwellings is 50 m to the north; Salmo cemetery is located is 2.3 km to the northwest though contamination would be unlikely because of the physical conformation.		X	There are no sources of contamination (e.g. storage tanks, roads) within 30 m; the distance to the nearest dwellings is 35 m to the north west; Salmo cemetery is located is 1.9 km to the west, though contamination would be unlikely because of the physical conformation.
B-2: Has an intake depth <15 m below ground surface that is located within a natural boundary of surface water or a flood prone area.		X	Wells has an intake depth of 36.8 to 46.0 mbgl (Appendix B)		X	The well is completed from 39.1 - 51.4 mbgl and has and recommended intake depth of 28 mbgl (Appendix B)
B-3: Has an intake depth between the high-water mark and surface water bottom (or < 15 m below the		X	Intake depth (approximately 620 mbgl) is 30 m below approximate water level of the Salmo River		X	Intake depth (approximately 633 mbgl) is 32 m below approximate water level of the Salmo River (665

[5]Government of British Columbia, 2016. Health Hazard Regulation: (a) 30 m from any probable source of contamination, (b) 6 m from any private dwelling, and (c) unless contamination of the well would be impossible because of the physical conformation, 120 m from any cemetery or dumping ground.

Risk Factors and Criteria	Glendale Well			Sayward Well		
	Yes: Potentially at Risk	No: Low Risk	Comments	Yes: Potentially at Risk	No: Low Risk	Comments
normal water level), and located within, or less than 150 m from the natural boundary of any surface water.			(654 masl); Well is >150 m from any natural surface water boundary			masl); Well is >150 m from any natural surface water boundary
B-4: Located within 300 m of a source of probable enteric viral contamination without a barrier to viral transport.		X	Well is >300 m from Erie Creek and the Salmo River; municipal effluent is directed to the water treatment plant; there are no septic systems located upgradient of the well.		X	Well is >500 m from the Salmo River; municipal effluent is directed to the water treatment plant; well is 220 m downgradient from the nearest septic system[1].
Well Construction						
C-1 Does not meet GWPR[6] (section 7) for surface sealing.		X	Cannot verify; no well log is available or results from a well camera survey.		X	The well log indicates that there is a bentonite surface seal to 12.5 mbgl.
C-2: Well does not meet GWPR (section 10) for well caps and covers.		X	The well is covered with a bolt-down cap (Appendix C).		X	The well is secured with a lockable well cap (Appendix C).
C-3: Well does not meet GWPR (section 11) for floodproofing.	X		It is unconfirmed if the well meets the GWPR surface sealing requirements and therefore entry from the surface could be possible; the well is located within the 200-year mapped floodplain area (Appendix A)		X	The well prevents contamination from the surface via proper surface sealing, stickup, and well covering criteria; the well is located within the 200-year mapped floodplain area (Appendix A)
C-4: Well does not meet GWPR (section 12) for wellhead protection.		X	The well has a stickup of approximately 0.8 m; the well is located approximate 10 m from the pump house; the ground is slightly graded around the wellhead (Appendix C).		X	The well has a stickup of approximately 0.5 m; the well is located approximate 4.5 m from the pump house; the ground is slightly graded around the wellhead (Appendix C).
Aquifer Type and Setting						

[6] Government of British Columbia, 2016. Groundwater Protection Regulation, Water Sustainability Act.

Risk Factors and Criteria	Glendale Well			Sayward Well		
	Yes: Potentially at Risk	No: Low Risk	Comments	Yes: Potentially at Risk	No: Low Risk	Comments
D-1: Well with intake depth < 15 m below ground surface.		X	The well intake depth is reportedly between 36.8 and 46 mbgl (Appendix B)		X	The well completion depth is 39.1 – 51.4 mbgl and the pump intake depth is approximately 28 m (Appendix B)
D-2: Is situated in a highly vulnerable, unconfined, unconsolidated or fractured bedrock aquifer.	X		Aquifer 496 is considered a highly vulnerable unconfined and unconsolidated aquifer	X		Aquifer 496 is considered a highly vulnerable unconfined and unconsolidated aquifer
D-3: Well completed in a karst bedrock aquifer, regardless of depth.		X	Well is completed in sand/gravel aquifer		X	Well is completed in sand/gravel aquifer

Notes: *'NTU'* means Nephelometric Turbidity; *HHR'* means *Health Hazards Regulation*; '*GWPR*' means *Ground Water Protection Regulation*, under the *Water Act; 'masl'* means metres above sea level; *'mbgl'* means metres below ground level; *'magl'* means metres above ground level; [1]personal communication with J. Brik (November 6, 2017) .

Based on the criteria outlined in this preliminary assessment, groundwater supplied from the Glendale and Sayward wells are identified as being potentially at risk for GAPR or GUDI because they are completed in a vulnerable aquifer and total coliform has previously been detected at a point of consumption.

Salmo has taken actions to reduce the risk of surface water pooling and leaking around the well casings, including the following:

- Directing drainage away from the wellheads; and
- Regular wellhead inspections by the water system Operator.

Implementing the enclosed SWPP and continuing regular monitoring from the supply wells, including extending the range of groundwater quality parameters being tested, will help ensure groundwater remains high quality and free of pathogens. Collecting and testing groundwater samples from each well will indicate the groundwater quality prior to entering the water system. Continuing to test water at the current points of use will differentiate the water quality between the two source locations and determine if there is any influence to the water quality from the distribution system.

Photos of each wellhead and pump house were provided by Salmo and are shown in Appendix C.

3.0 MODULES 2 & 7: CONTAMINANT SOURCE INVENTORY AND RISK CHARACTERIZATION

3.1 Land Use and Utilities

The Land Use Designations Map indicates that land use is primarily residential in Salmo, with extensive rural areas zoned on the north side of Highway 3 (Appendix A). The Sayward and Glendale wells are located in Park/Open Space/Institution zoned area. Single and two family residential and estate residential are located adjacent to and upgradient of the Sayward well. Single and two family residential is located adjacent to and upgradient of the Glendale well.

Residents are believed to use a variety of sources for heating including electric, wood stoves, and gas and oil furnaces. A sewage treatment plant services Salmo's residents and businesses and is located south (i.e., downgradient) of Salmo (see the Land Use Designations Map in Appendix A). There are no known septic systems within the Salmo's municipal boundaries. Residences located outside of the municipal boundaries (including within the capture zone for the Sayward well) are assumed to be serviced by septic systems.

3.2 Inventory of Potential Hazards

The most common hazards to groundwater and their associated land use are summarized below:

- Agricultural: heavy chemical use farming, pesticides and fertilizers, manure storage;
- Transportation Corridors: fuel spills on highways, road salts

- Commercial: gas stations, paint strippers, dry cleaners, auto body and repair;
- Industrial: chemical, petroleum, wood processing, food processing;
- Municipal: stormwater runoff, pesticides and fertilizers; and
- Residential: septic systems, abandoned wells, sewer mains.

The planning team has identified a list of potential hazards that are of concern in the Well Protection Area (Table 9). The hazards are include anthropogenic and natural sources.

Table 9: Potential Hazards to Groundwater

Hazard	Reason for Concern	Transport Mechanism
Agriculture	Manure storage and/or spreading manure for small scale farming operations, small hobby farms and/or horse stables. These may be located to the north and east of Salmo's municipal boundaries within Sayward's well protection area	Runoff, groundwater
Roads, highway	Fuel or other contaminant spills	Runoff, groundwater
Roads, highway	2% road salt mixed with gravel is used in the winter; Magnesium Chloride is used for dust suppression in the summer	Runoff, groundwater
Septic system discharge	Risk of pathogens; septic systems are located upgradient of the Sayward well.	Groundwater
Salmo wells (well cap, surface drainage, surface seal)	Potential for infiltration around the annulus between the borehole and the casing or direct entry into the well during flooding, runoff, and/or spills	Wellbore, annulus
Climate change and extreme weather	Flooding, drought, low flow events; both wells are within the 200-year floodplain boundary, but outside of the 20-year floodplain boundary.	-

3.2.1 Contaminated Site Registry

Waterline completed a search of the BC Contaminated Site Registry within the municipal boundaries of Salmo (MOE, 2017a). The database is administered by MOE and provides a record of sites that the MOE has documented as contaminated or as having undergone a contaminated sites investigation. The database search returned nine sites, however, none of them are located within the well protection boundaries (Figure 5). As each of the sites is located north of Erie Creek or either downgradient or cross-gradient from the Sayward well, it is unlikely that the sites pose an environmental risk to Salmo's water supply wells. Details regarding the dates of the site registries, the action(s) taken to remediate the sites, and the outcome of the investigations can be found in Appendix E.

3.2.2 Waste Management Database

A search was completed on the BC Waste Management Database (MOE, 2017b) to identify any active discharge permits, approvals, orders, and regulated sites under the Environmental Management Act. The search did not find any records related to projects within the well protection areas or Salmo's municipal boundaries. Authorizations within close proximity to Salmo's municipal boundaries include:

1. Municipal landfill (Authorization No. 18067);
2. Vehicle dismantling and recycling facility (Authorization No. 103169); and
3. Municipal sewage treatment facility (Authorization No. 2500).

Facilities 2 and 3 are located downgradient of the well protection areas and are not considered a risk to Salmo's water supply. Facility 1 is located approximately 1.5 km west-northwest of the Glendale well and is believed to be a low risk based on the groundwater conceptual model and groundwater travel time within the aquifer.

3.3 Source Water Risk Assessment

The source water risk assessment is a technique that allows groundwater hazards to be assigned a relative magnitude in comparison to other hazards based on the likelihood that a hazard will occur and the consequences or impact of that hazard. The hazards are then ranked from highest to lowest risk in order to prioritize management actions aimed at reducing the risks to the water source (MLHS, 2010).

Table 10 and Table 11 summarize how each hazard has been assessed using the Likelihood of Occurrence and Magnitude of Consequences methods.

Table 10: Likelihood of Occurrence

Level	Descriptor	Description	Probability of Occurrence in Next 10 Years
A	Almost Certain	Is expected to occur in most circumstances	>90%
B	Likely	Will probably occur in most circumstances	71-90%
C	Possible	Will probably occur at some time	31-70%
D	Unlikely	Could occur at some time	10-30%
E	Rare	May only occur in exceptional circumstances	<10%

Notes: MLHS, 2010

Table 11: Magnitude of Consequence

Level	Descriptor	Description
1	Insignificant	Insignificant impact, no illness, little disruption to normal operation, little or no increase in normal operating costs
2	Minor	Minor impact for small population, mild illness moderately likely, some manageable operation disruption, small increase in operating costs
3	Moderate	Minor impact for large population, mild to moderate illness probable, significant modification to normal operation but manageable, operating costs increase, increased monitoring
4	Major	Major impact for small population, severe illness probable, systems significantly compromised and abnormal operation if at all, high level monitoring required
5	Catastrophic	Major impact for large population, severe illness probable, complete failure of systems

Notes: MLHS, 2010

Once a ranking for both the likelihood and consequence were assigned, the two were multiplied together to determine the risk assessment score.

Likelihood x Consequence = Risk Assessment Score

Table 12 shows the range of risk scores which identify low, moderate, high, and very high risk.

Table 12: Risk Assessment Matrix

Likelihood	Consequences				
	1 Insignificant	2 Minor	3 Moderate	4 Major	5 Catastrophic
A (almost certain)	Moderate	High	Very High	Very High	Very High
B (likely)	Moderate	High	High	Very High	Very High
C (possible)	Low	Moderate	High	Very High	Very High
D (unlikely)	Low	Low	Moderate	High	Very High
E (rare)	Low	Low	Moderate	High	High

Notes: MLHS, 2010

3.3.1 Risk Ranking

Using the risk matrix above, the potential hazards identified for the Salmo water supply were ranked from highest to lowest and are shown in Table 13.

Table 13: Risk Assessment Results

Hazard	Likelihood Level	Consequence Level	Risk Level	Comments
Agriculture - manure	D	4	High	Unlikely to reach the aquifer but would have major consequences (probable illness and increased operating costs) if pathogens were detected. Pathogen sources outside the 200-day capture zone are lower risk.
Roads – fuel spill	E	4	High	Low likelihood spill occurs and reaches the aquifer but the impact of a large hydrocarbon plume in the aquifer would have significant effects on the water system and could cause illness.
Salmo wells (well cap, surface drainage, surface seal)	D	3	Moderate	Unlikely surface contaminants can enter the wells as wells are protected by surface seals and well caps. However, if contamination occurred the impact would be significant and would require increased monitoring.
Septic system discharge	E	3	Moderate	Low likelihood discharge leaches through to aquifer (~ 50 m). Contamination would cause significant but manageable impact.
Vehicle traffic	E	3	Moderate	Low likelihood. Moderate to major consequences if vehicle ran into wellhead.
Climate change and extreme weather	B	1	Moderate	Extreme weather events are likely to occur but have historically had an insignificant impact to the wells and aquifer.
Roads – road salt	E	2	Low	Low likelihood to reach the aquifer. Minor impact to water system at concentrations applied within well capture zone

4.0 MODULE 8: ACTIONS TO IMPROVE DRINKING WATER PROTECTION

Waterline has developed a management action plan aimed at reducing the groundwater risks to an acceptable level. Table 14 outlines the management actions and proposed timeline for implementation. Salmo team members are responsible for implementing these actions within the proposed timelines.

The well protection area boundary is based on capture zone calculations and interpreted catchment area associated with each well based on the conceptual hydrogeological model of the valley aquifers. In addition to applying the groundwater protection measures within the well protection area, Waterline recommends that these measures be applied aquifer-wide and with consideration of Aquifers 497 and 498. Further to the management actions listed below, Salmo should install signs on the ground to delineate the well protection area. Additionally, community education about the aquifer and potential groundwater hazards is an important element of reducing the risks to the groundwater supply and will build community capacity that will contribute to groundwater protection.

Table 14: Risk Management Actions and Implementation

Hazard	Recommended Management Action	Proposed Timeframe
Agriculture - manure	• Promote best practices for manure handling and storage within the well protection area • Water quality monitoring – Total coliform and *E.coli* [1] (weekly)	1 year
Roads - fuel spill	• Spill response to be addressed in the Emergency Response Plan	1 year
Salmo wells (well cap, surface drainage, surface seal)	• Weekly inspection to ensure well caps are secure and surface drainage is directed away from the wellheads • Water quality monitoring – Total coliform and *E.coli*[1] (weekly)	Immediate
Septic system discharge	• Water quality monitoring – Total coliform and *E.coli* [1] (weekly)	Immediate
Fuel storage tanks	• Promote best practices for use and storage of fuel within the well protection area. • Water quality monitoring – Hydrocarbons (annually)	1 year
Climate change and extreme weather	• Water quality monitoring – Routine water package (twice per year) • Install a pressure transducer in Glendale well to monitoring groundwater levels • Complete an annual review of groundwater and surface water monitoring for record keeping purposes	1 year
Abandoned wells	• Abandoned wells should be located and properly decommissioned	1 to 3 years
Roads – road salt	• Water quality monitoring – Routine water package (twice per year)	1 year

Notes: 1 – currently in place

4.1 Long-term Monitoring Plan

4.1.1 Groundwater Level and Production

To ensure the SWPP is effective, a groundwater monitoring program is required. Upgrades to the Salmo system includes installing a pressure transducer in the Glendale well similar to the Sayward well to measure water levels. The pressure transducer can be lowered in a drop tube to bypass any well infrastructure and should be downloaded quarterly with data complied annually. The wells are already equipped with flow meters to record pumping rates. This data can be tabulated and presented graphically to show the response of the water level in the wells to pumping, and if and how it varies throughout the year.

The SCADA system allows for the monitoring data to be accessed and reviewed remotely. The data should be compiled and reviewed periodically which has the following benefits:

- Advanced warning of potential water supply problems (e.g., declining water levels);
- Increased pump protection; and

- Long-term understanding of well and aquifer performance.

A Water Survey of Canada monitoring station (08NE074) is located approximately 15 km south of Salmo. The river discharge and elevation data is available within the public domain and Salmo should monitor this data to help identify any connection between the deeper aquifer and surrounding surface water bodies. If Salmo wishes to expand this monitoring to Erie Creek to further understand the groundwater response to seasonally changing surface water levels in the western reaches of the valley, Salmo should consider hiring a surface water consultant to set up a monitoring station on Erie Creek near the 6th Street Glendale Avenue Bridge.

4.1.2 Water Quality

Groundwater quality monitoring will provide an indication of the current and ongoing health of the aquifer and the community water supply. Salmo currently collects a single weekly samples for total coliform and *E.coli* bacteria from various locations around the water system. Monitoring is completed in cooperation with IH.

Waterline has developed a site-specific monitoring program for Salmo, as outlined in Table 15. The proposed program will increase the monitoring budget, however, it is important to establish current baseline conditions in the aquifer. All lab results should be compiled in a database system to assess future water quality changes or concerns.

Table 15: Proposed Monitoring Program

Parameter	Target Contaminants	Estimated Lab Costs	Sample Frequency
Routine Water	Physical parameters (pH, EC, TDS, etc.) Major anions (HCO_3, CO_3, Cl^-, SO_4^{2-}, F^-) Major cations (Ca^{2+}, Mg^{2+}, K^+, Na^{2+}) Nutrients (Nitrate, Nitrite, etc.) Total and dissolved metals	$200	Twice per year
Total Coliform and *E.coli*	Sewage and other pathogenic contaminants	$50	Twice per year (source); Weekly (distribution system)
Turbidity	Indicator of contamination from surface water	$6	Twice per year
Volatile Organic Compounds (VOC, BTEX, MTBE, VPH)	Gasoline and solvents	$140	Annually
Extractible Hydrocarbons (LEPH, HEPH)	Gasoline, diesel, heating oil, oil	$150	Annually
Polycyclic aromatic hydrocarbons (PAH)	Gasoline, diesel, heating oil, oil and grease, creosote	Included with LEPH, HEPH	Annually
Pesticides and Herbicides	Agricultural runoff	$475	Once every 2 years

4.1.3 Monitoring Wells

Monitoring water levels and water quality at other strategic locations within the aquifer provides information that can help to understand the aquifer's capacity to support future growth, as well as providing an early warning system for potential contaminants moving towards Salmo's supply wells. To reduce overall costs, Salmo could identify an existing well(s) completed in the same aquifer upgradient of the supply wells to be used for monitoring. Additional monitoring of a shallow well(s) to assess conditions in the shallow aquifer and the degree of connectivity with the deep aquifer and/or surface water bodies would improve the understanding of the vulnerability of the aquifer to contamination from surface. Alternatively, a new well(s) could be drilled and used specifically for monitoring purposes.

4.2 Emergency Response Planning

In general, the Emergency Response Plan (ERP) should include the following elements:

- Contact information of key individuals and agencies involved in the water system and infrastructure, including:
  - System owners and operators;
  - Repair services;
  - Alternative water suppliers;
  - Media representatives;
  - Government agencies; and
  - Community water users.
- Location of the as-built drawings of the water system, which will include, but are not limited to: the water main, control points, access routes, and maintenance equipment.
- Standard operating procedures for using alternate or backup water supplies and associated equipment.

An emergency response within the context of the SWPP could be triggered by several different events including:

- The detection of contaminants in a supply well during a routine sampling event;
- The detection of pathogens in the water system during a weekly sampling event;
- A spill event within the well protection area; and
- Pump failure, power failure, broken water main, or other system malfunctions.

If there is a spill event within the well protection area or contamination is detected at a monitoring location, the following actions should be taken:

1) The risk to the community water supply must be immediately assessed to determine if an alternative water source is required.
2) Appropriate drinking water advisories and notifications should be issued to the community.

3) The source of contamination should be identified and a plan should be initiated to remove the source, and mitigate any impacts.

4.3 Groundwater Protection

4.3.1 Community Involvement and Awareness

The SWPP will be most successful if there is community interest and awareness regarding the need to prevent contaminants from entering the groundwater. The team is responsible to educate and promote awareness within the community. In addition to the public outreach Salmo is engaged in through the Water Smart initiatives, Salmo can help to raise community awareness with regards to groundwater protection in some of the following ways:

- Promote the SWPP by erecting warning signs to delineate the well protection area;
- Offer community outreach to advise residents on best management practices to protect groundwater using newspaper ads, mail-outs, radio, or the internet; and
- Educate youth through school based classroom activities (e.g., field trips to water supply facilities) and presentations on the aquifer and water system.

4.3.2 Decommissioning Abandoned Wells

Historical wells and boreholes that remain open or unsecured potentially provide a direct conduit for introducing contaminants to the subsurface. Any abandoned wells within the well protection area should be verified and decommissioned by a certified well driller. Another option for historical wells that remain open is to recondition them as monitoring wells to provide more information on groundwater conditions in the area.

4.3.3 Other Regulatory Controls

Local council can develop bylaws and policies (e.g., an aquifer protection bylaw) to guide future land activities in the well protection area. The community planning team is responsible to advise local council members of such policies. Some examples include:

- Prevent commercial/industrial operations that present a high risk to groundwater contamination within the well protection area (i.e., gas stations, manufacturing/processing, waste storage facilities, etc.);
- Require future developments within the well protection area to conduct a hydrogeologic investigation prior to construction to confirm the aquifer extent and vulnerability beneath their land. Any new wells/piezometers drilled could be added to the Salmo monitoring network;
- Require current and future commercial/industrial operations to conduct environmental compliance audits and develop pollution prevention plans; and
- Enforce best management practices for storage and handling of potential groundwater contaminants in the community.

4.3.4 SWPP Review and Update

The SWPP is a living document that should be continually reviewed and updated. Each year Salmo should issue an annual report which includes a summary of site inspections, community outreach initiatives, any SWPP enforcement issues/orders, and the results of on-going monitoring (water levels, flow rates, and water chemistry). Monitoring data should be reviewed by a qualified groundwater professional. The annual report should serve as the basis for:

- Communicating the state of source water protection to the community;
- Maintaining water supply integrity;
- Integrating land use planning initiatives; and
- Evaluating and updating the SWPP as required.

4.4 Groundwater Licencing

The new BC *Water Sustainability Act* (WSA) and associated regulations came into effect on February 29, 2016 (FLNRO, 2016b). The WSA is intended to regulate and protect groundwater and surface water resources. The WSA requires licensing of all groundwater wells in the Province, except for those used exclusively for single household domestic use. Water supply wells servicing communities need to be licensed under the WSA.

Under the WSA, Salmo submitted a licence application for their supply wells on June 21, 2016 through FrontCounter BC.

5.0 CONCLUSIONS AND RECOMMENDATIONS

The following conclusions were reached from the Salmo source water protection plan (SWPP):

- Waterline completed a SWPP for Salmo's two water wells as requested by BC's Interior Health Authority (IH). The assessment followed BC's Well Protection Toolkit guidelines.
- Salmo's wells are completed in Aquifer 496 which is a highly vulnerable and moderately developed, unconfined aquifer. The aquifer is comprised of glacial sands, reworked glacial till, and post-glacial sediments. Some areas of the aquifer are locally confined by overlying clay lenses or layers.
- Groundwater from the wells has relatively low total dissolved solids concentration (between 132 and 142 mg/L), suggesting the aquifer is recharged from precipitation and/or surface water. Samples collected in October 2007 indicated all chemical parameters were below Health Canada guidelines.
- Capture zones for the Glendale and Sayward wells were calculated to show the area most vulnerable to contamination, where spills or other events occurring upgradient of the supply wells could potentially be drawn into the aquifer and contaminate the water supply. Land use within the capture zone is primarily residential, with land upgradient of the Sayward being designated as estate residential.
- Based on the screening level GARP assessment the wells are considered "potentially at risk" because they are completed in a highly vulnerable, unconfined and unconsolidated aquifer and testing has identified *E. coli* twice in the past two years. In addition, the Glendale is considered "potentially at risk" because no known turbidity analyses are available and there is no information to confirm if the well meets the groundwater protection regulations for surface sealing.
- The well protection areas cover the area designated by the theoretical capture zone, and the expected catchment area associated with each well. The well protection areas terminate at the aquifer boundary where the bedrock is anticipated to contact the valley fill sediments. The well protection areas are areas where the wells are at the greatest risk to contamination from surface activities.
- Salmo has designated the area within the municipal boundary as an Aquifer Protection Development Permit Area, which requires an Aquifer Protection Development Permit prior to receiving development approval from Salmo. This is to ensure that care will be taken in storing, handling, manufacturing, and using products within the area and therefore above the aquifer.
- Potential hazards to groundwater were identified within the well protection area. The groundwater hazards were ranked based on their likelihood to occur and the consequences or impact of the hazard. Of the 10 hazards identified, two were ranked as high risk to the aquifer. The high risk hazards are as follows:
    - Manure runoff and seepage from agricultural operations; and
    - Large fuel spills most likely to occur along a major roadway.

Based on the conclusions above, the following recommendations are provided for Salmo:

- A Stage 1 Risk/Vulnerability Assessment should be undertaken by the drinking water officer to determine if the groundwater source is GARP from surface water or another pathogen source, or if it is at a low risk for pathogen contamination.
- In the absence of a well log confirming that the Glendale well meets the surface sealing requirements of the Groundwater Protection Regulation (GWPR), Salmo should hire a licensed water well driller to complete a camera survey of the well and reseal the annular space at the surface with bentonite if required. This will confirm that there is no leakage from the borehole to the Glendale well.
- Salmo should consider hiring a surface water consultant to set up a monitoring station within the Salmo's municipal boundaries at Erie Creek.
- Promote the SWPP by placing warning signs to delineate the well protection areas.
- Advise residents on best management practices to protect groundwater using newspaper ads, mail-outs, radio, or the internet. Residents should be advised on proper manure handling and storage, as well as proper waste disposal.
- Consult with local council about amending bylaws to ensuring that a hydrogeologic investigation is completed prior to construction above the aquifer to confirm the aquifer extents and vulnerability beneath building sites. Construction should only proceed in a way that protects the aquifer. Wells drilled in this area should be completed by a registered well driller.
- Consult with local council to prevent commercial/industrial operations that present a high risk to groundwater contamination within the well protection area (i.e., gas stations, manufacturing/processing, waste storage facilities, etc.).
- Implement the long-term groundwater monitoring plan outlined in Section 4.1. Groundwater chemistry results should be compiled in a database system to assess future water quality changes or concerns. The monitoring data should be reviewed annually by a qualified groundwater professional and the results should be used to evaluate and update the SWPP as needed.
- The enclosed SWPP should be incorporated into Salmo's emergency response plan (ERP). The ERP could be triggered by several different events including:
    - The detection of contaminants in a supply well during a routine sampling event;
    - The detection of pathogens in the water system during a weekly sampling event;
    - A spill event within the well protection area; and
    - Pump failure, power failure, broken water main, or other system malfunctions.

6.0 CERTIFICATION

This document was prepared under the direction of a professional geoscientist registered in the Province of British Columbia. Limitations on the use of the information provided herein are indicated in Section 8.0 of this report.

Waterline Resources Inc. trusts that the information provided in this document is sufficient for your requirements. Should you have any questions or concerns, please do not hesitate to contact the undersigned.

Respectfully submitted,

Waterline Resources Inc.

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Reviewed By:

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Senior Hydrogeological Engineer

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8.0 LIMITATIONS AND USE

The information presented in this document was compiled exclusively for the Village of Salmo (the Client) by Waterline Resources Inc. (Waterline). This work was completed in accordance with the scope of work for this project that was agreed between Waterline and the Client. Waterline exercised reasonable skill, care and diligence to assess the information acquired during the preparation of this document, but makes no guarantees or warranties as to the accuracy or completeness of this information. The information contained in this document is based upon, and limited by, the circumstances and conditions acknowledged herein, and upon information available at the time of the preparation of this document. Any information provided by others is believed to be accurate but cannot be guaranteed. No other warranty, expressed or implied, is made as to the professional services provided to the Client.

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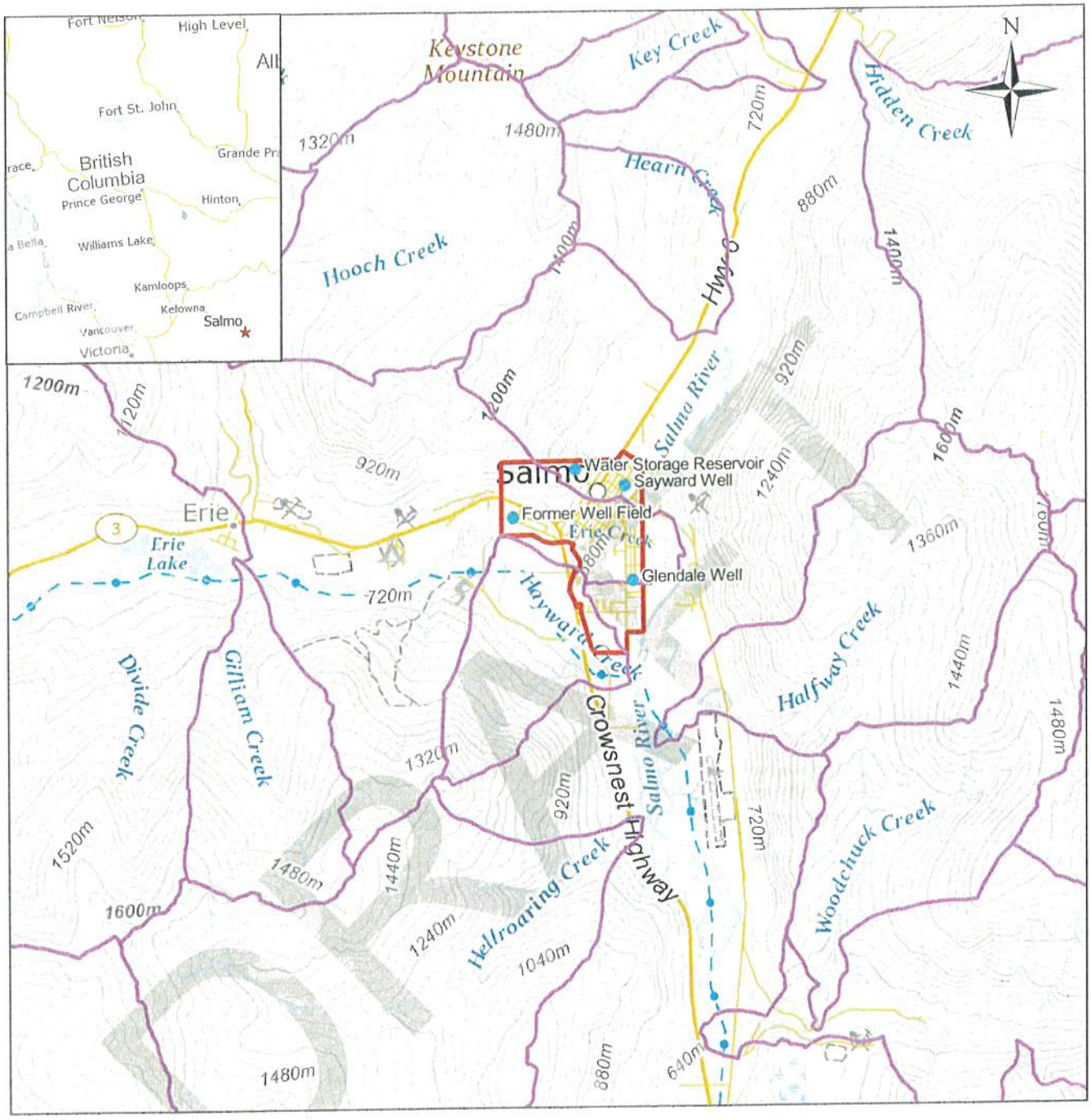
FIGURES



Legend:

- Project Locations
- Rivers, Streams, Creeks
- Watersheds
- Municipal Boundary

0 1000 2000 3000 m

Scale: 1:100,000

Coordinate System: WGS 84 / Psuedo Mercator

Sources:
This map contains data licensed under the Open Government License - British Columbia. Government of BC Ministry of Forests, Lands and Natural Resource Operations - GeoBC, 2011. Freshwater Atlas Named Watersheds. https://catalogue.data.gov.bc.ca/dataset/ea63ea04-eab0-4b83-8729-f8a93ac688a1. Accessed September 2015.

Source Water Protection Plan
Village of Salmo
Salmo, BC

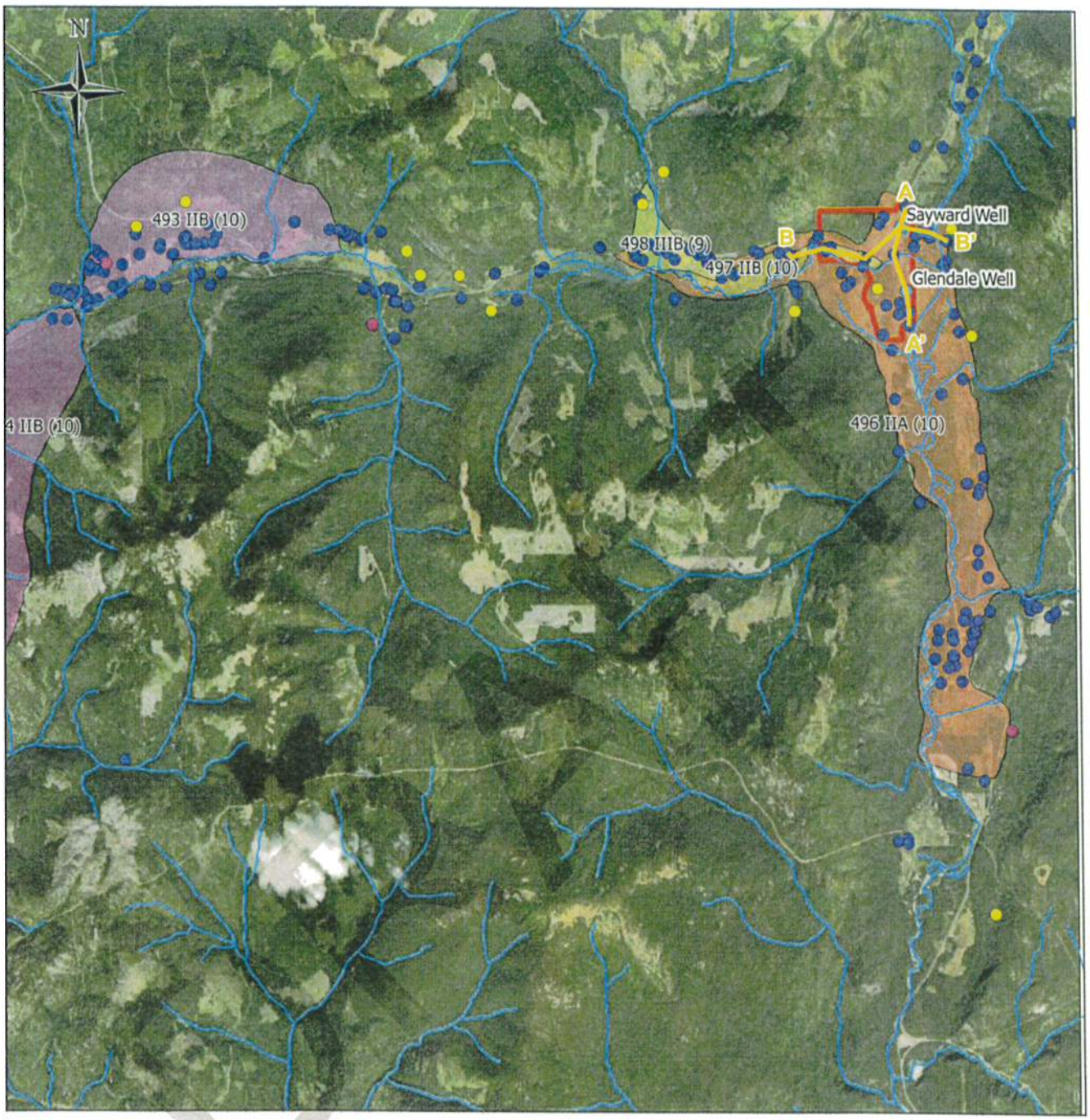
LOCATION PLAN

Waterline

Prepared By:	Waterline Resources Inc.
Project Number:	2640-17-001
Compiled By:	MS
Date Issued:	2017-Nov-03
Date Revised:	--

FIGURE 1

G:/Projects/Projects_2017/2640-17-Salmo WPP/Figure 1 - Location Map.qgs



Legend:

- Rivers, Streams, Creeks
- Project Well
- Artesian Flow Well, Spring
- Licensed Spring
- Water Well
- Municipal Boundary
- A—A' Cross-Section Trace
- Aquifers in Bedrock

Aquifers in Overburden (classification)

- IIA
- IIB
- IIIB

Scale: 1:150,000

0 1 2 3 4 5 km

Coordinate System: WGS 84 / Psuedo Mercator

Sources:
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Source Water Protection Plan
Village of Salmo
Salmo, BC

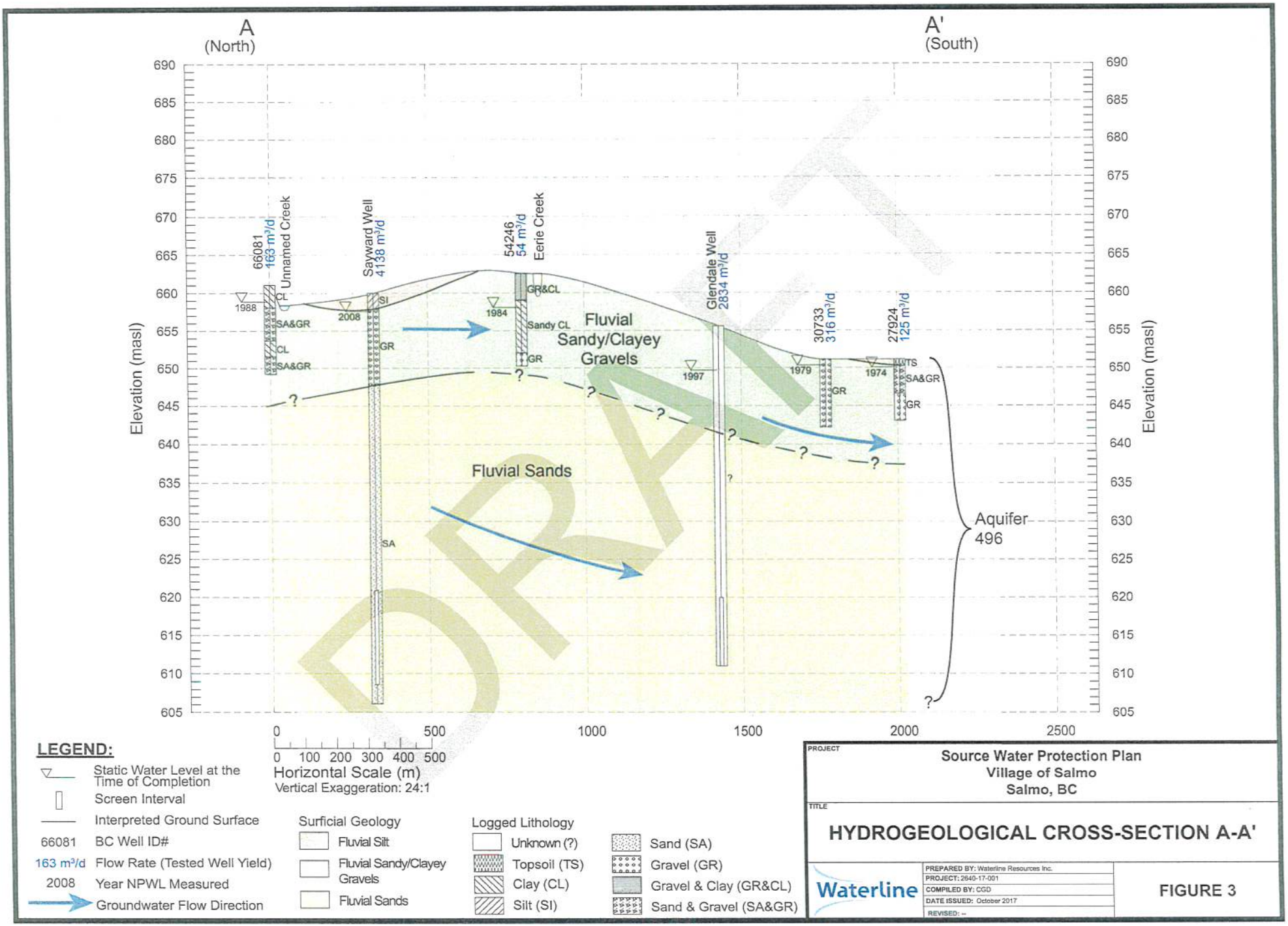
GROUNDWATER WELL LOCATIONS AND MAPPED AQUIFERS

Waterline

Prepared By:	Waterline Resources Inc.
Project Number:	2640-17-001
Compiled By:	MS
Date Issued:	2017-Nov-07
Date Revised:	--

FIGURE 2

G:/Projects/Projects_2017/2640-17-Salmo WPP/Figure 3 - Mapped Aquifers.qgs



LEGEND:

- Static Water Level at the Time of Completion
- Screen Interval
- Interpreted Ground Surface
- 66081 BC Well ID#
- 163 m³/d Flow Rate (Tested Well Yield)
- 2008 Year NPWL Measured
- Groundwater Flow Direction

Surficial Geology
- Fluvial Silt
- Fluvial Sandy/Clayey Gravels
- Fluvial Sands

Logged Lithology
- Unknown (?)
- Topsoil (TS)
- Clay (CL)
- Silt (SI)
- Sand (SA)
- Gravel (GR)
- Gravel & Clay (GR&CL)
- Sand & Gravel (SA&GR)

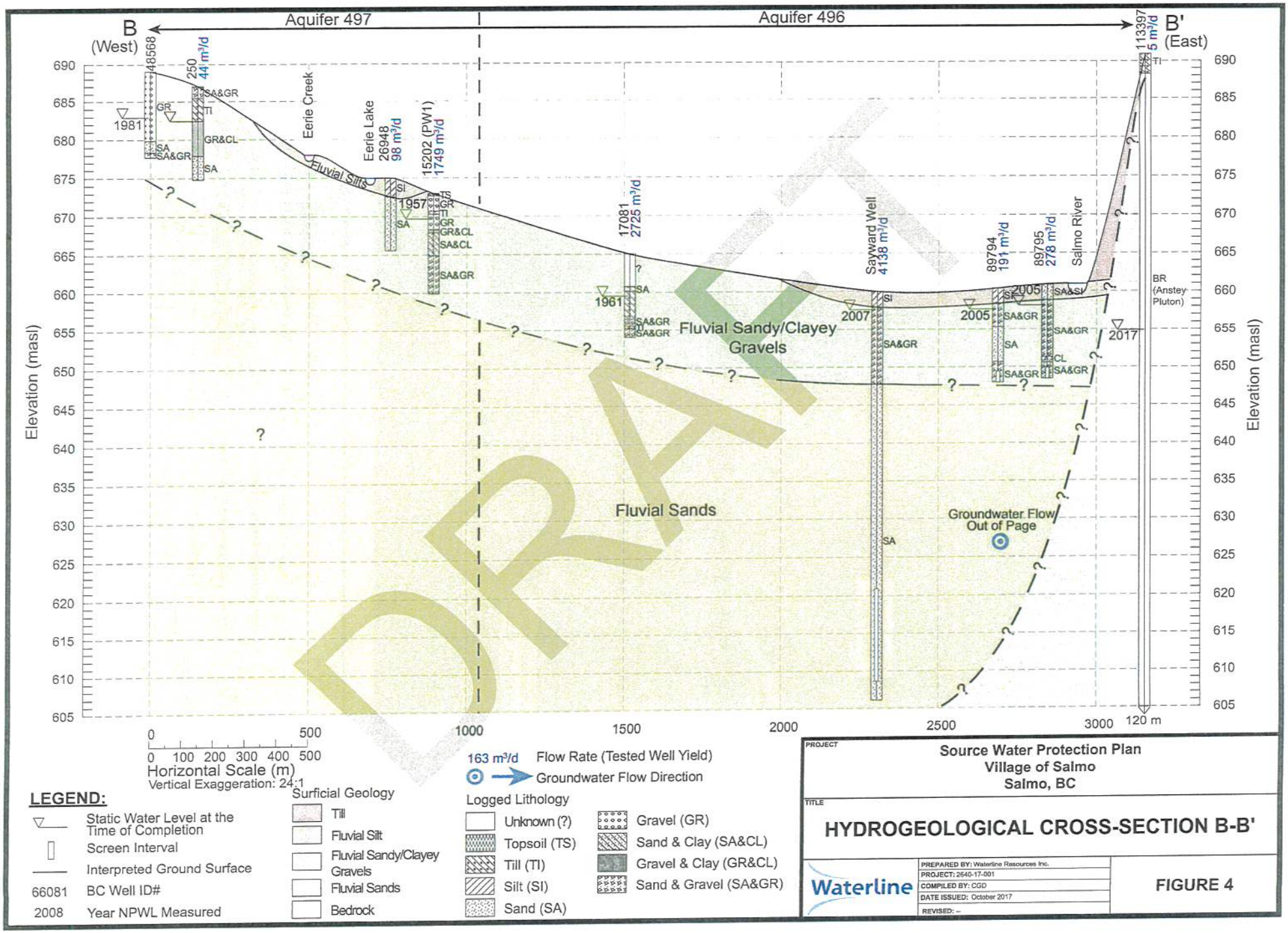
PROJECT
Source Water Protection Plan
Village of Salmo
Salmo, BC

TITLE
HYDROGEOLOGICAL CROSS-SECTION A-A'

Waterline

PREPARED BY:	Waterline Resources Inc.
PROJECT:	2640-17-001
COMPILED BY:	CGD
DATE ISSUED:	October 2017
REVISED:	--

FIGURE 3



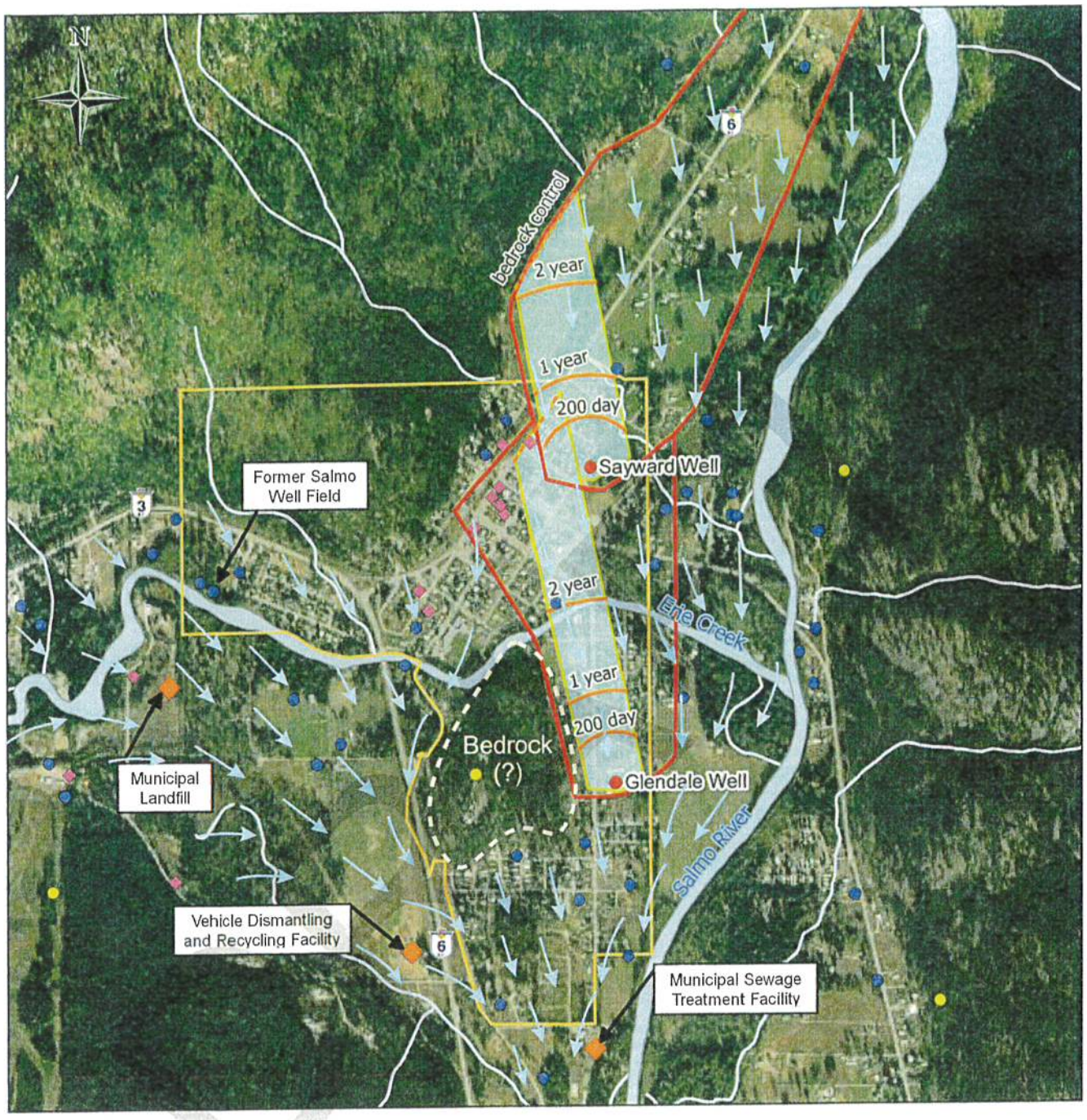
PROJECT
Source Water Protection Plan
Village of Salmo
Salmo, BC

TITLE
HYDROGEOLOGICAL CROSS-SECTION B-B'

Waterline

PREPARED BY:	Waterline Resources Inc.
PROJECT:	2640-17-001
COMPILED BY:	CGD
DATE ISSUED:	October 2017
REVISED:	–

FIGURE 4



Legend:

- Project Well
- Licensed Spring
- Water Well
- Waste Discharge Authorization
- Contaminated Site
- Municipal Boundary
- River
- Creek/Stream

Ground Water Travel Time

- Groundwater Travel Time
- Bedrock Control
- Well Protection Area
- Well Capture Zone
- Groundwater Flow

0 250 500 750 1000 m

Scale: 1:30,000

Coordinate System: WGS 84 / Psuedo Mercator

Sources:
This map contains data licensed under the Open Government License - British Columbia. Government of BC Ministry of Environment, 2016. Contaminated Sites Site Registry. Site Information Request Custom Query. http://www2.gov.bc.ca/gov/content/environment/air-land-water/site-remediation/contaminated-sites/information-about-sites. Accessed March 2016

Source Water Protection Plan
Village of Salmo
Salmo, BC

WELL PROTECTION AREA AND ESTIMATED TRAVEL TIME

Waterline

Prepared By:	Waterline Resources Inc.
Project Number:	2640-17-001
Compiled By:	MS
Date Issued:	2017-Dec-11
Date Revised:	–

FIGURE 5

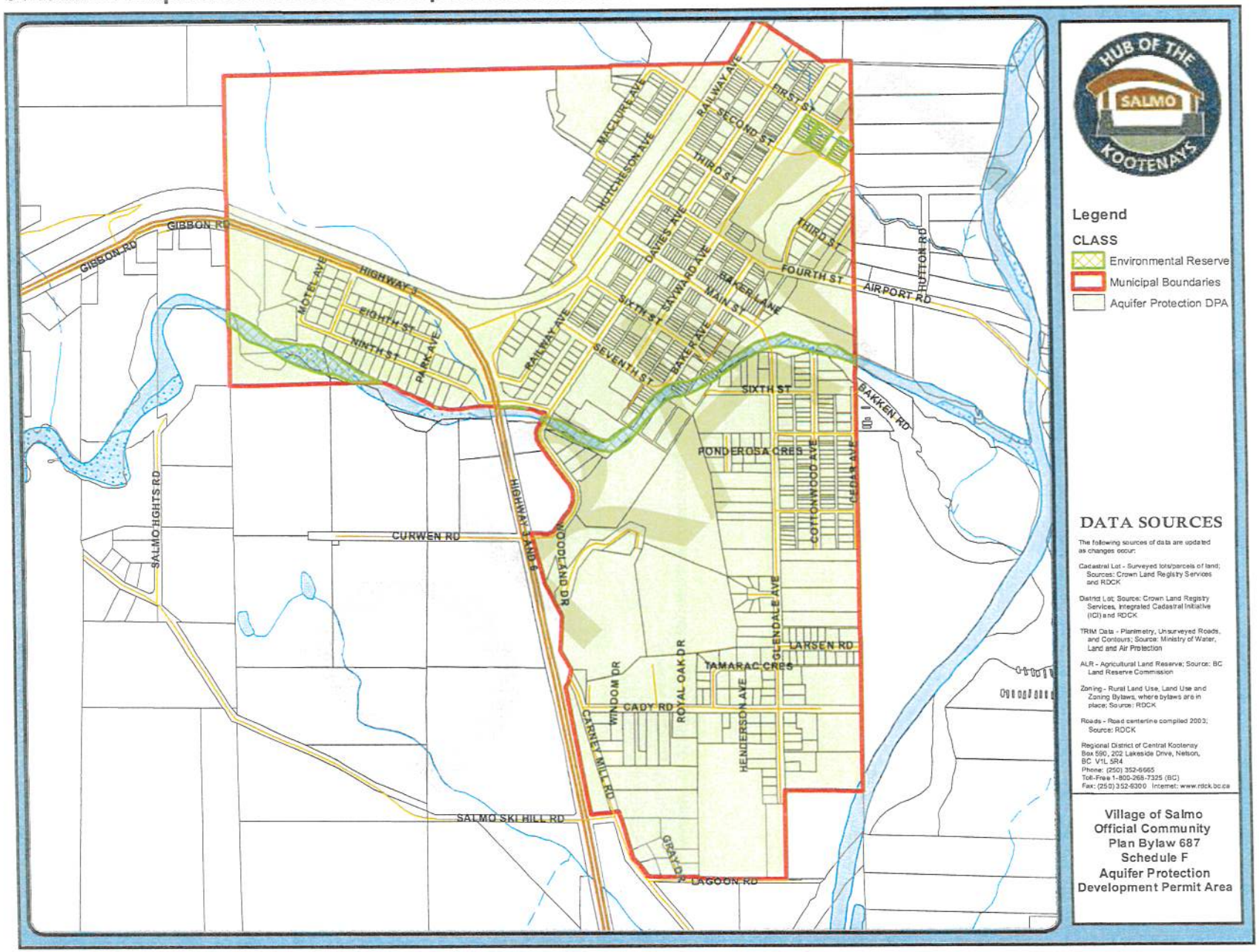
G:\Projects\Projects_2017\2640-17-Salmo WPP\Figure 5 - Capture Zones.qgs

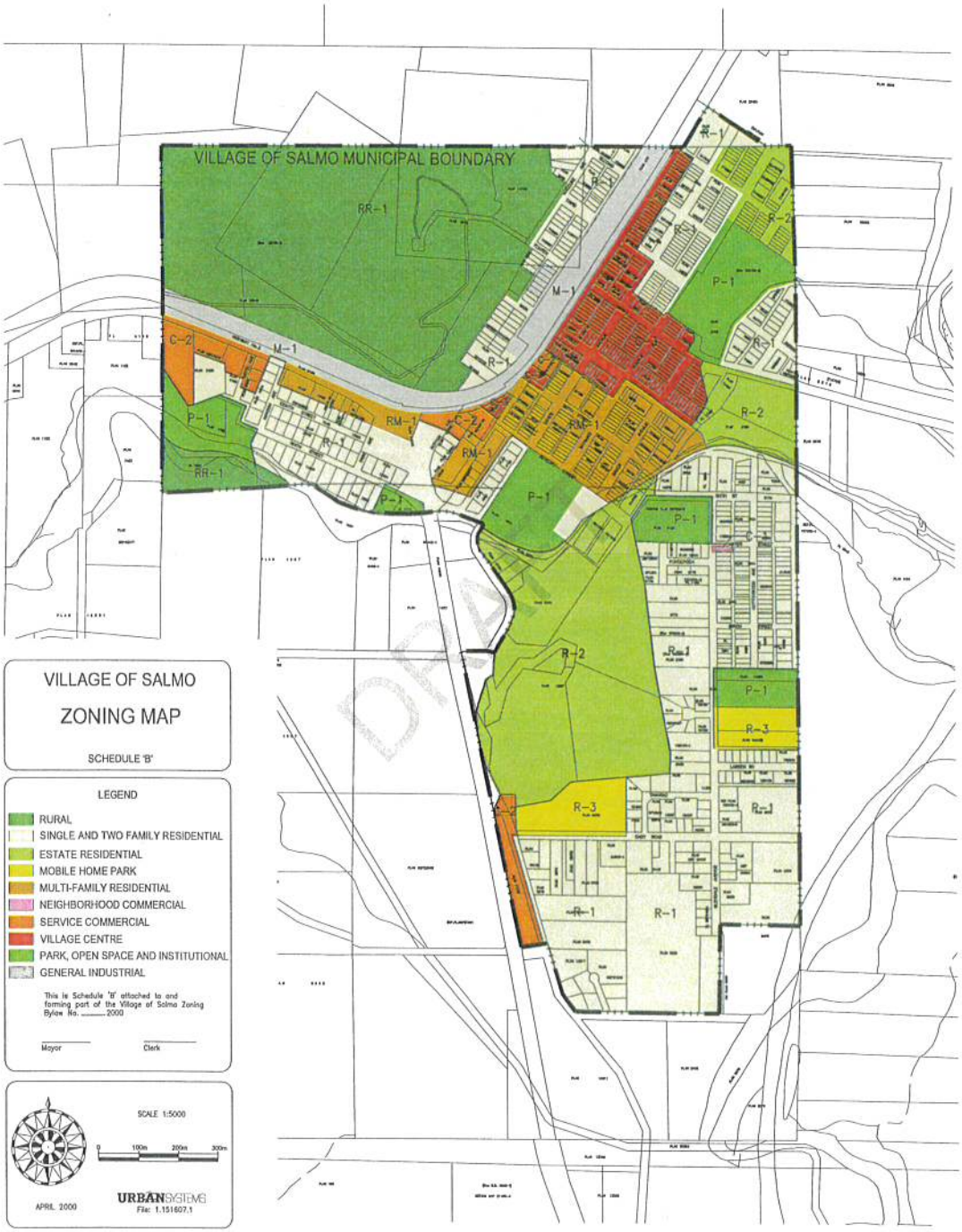
Appendix A

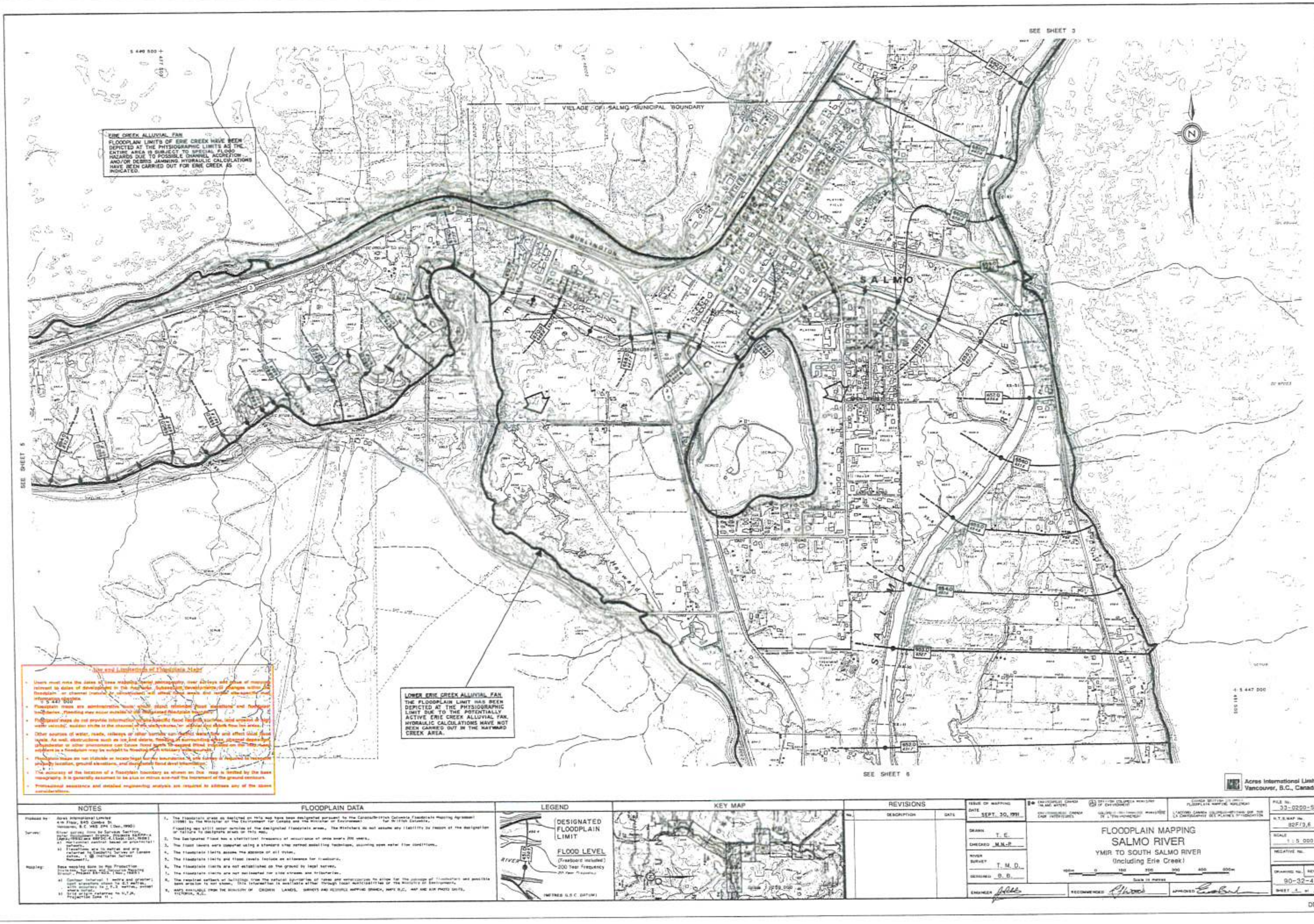
Area Maps

Aquifer Protection Development Permit Area
Land Use Designations
Floodplain Mapping

Schedule F: Aquifer Protection Development Permit Area

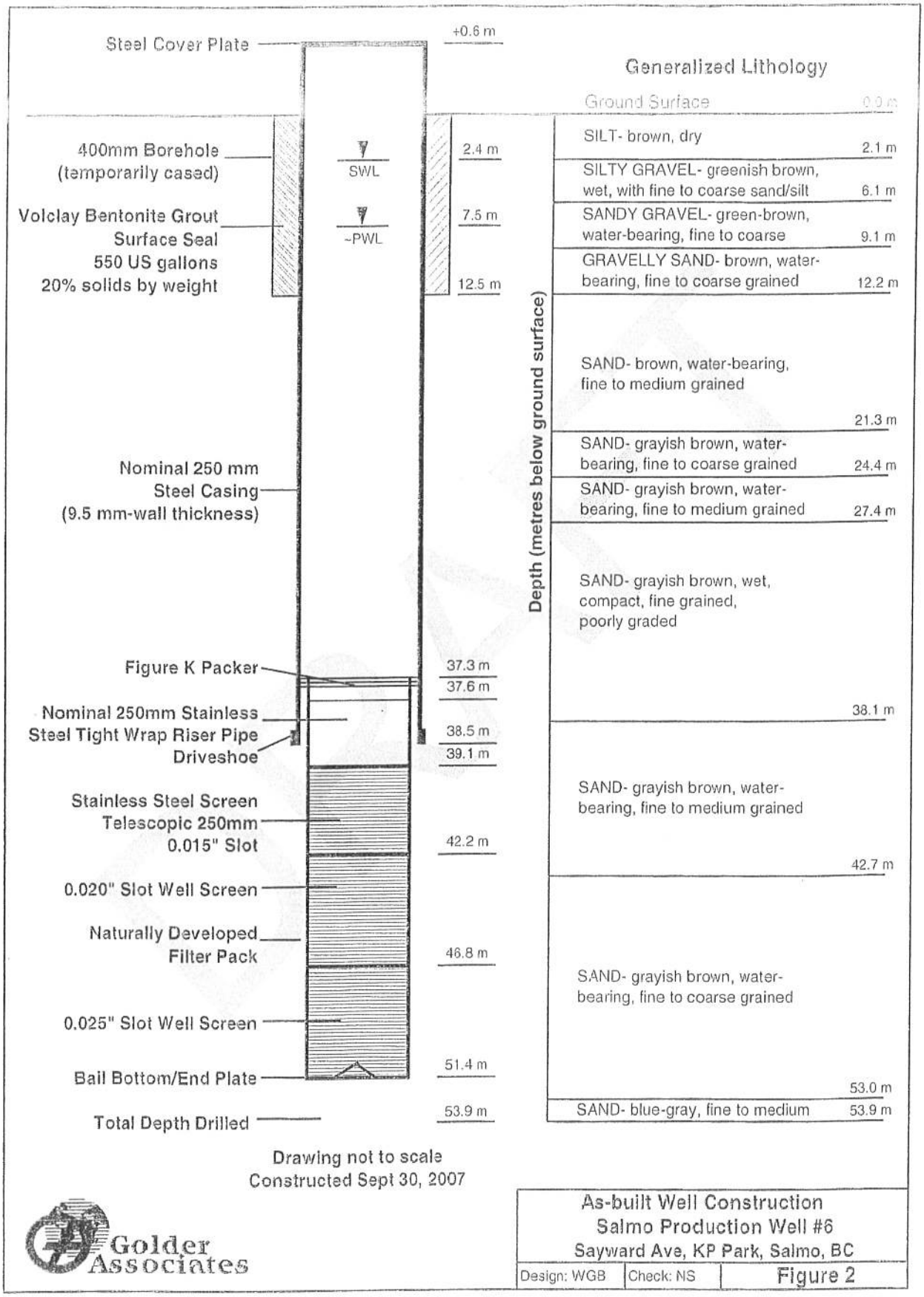



VILLAGE OF SALMO MUNICIPAL BOUNDARY
RR-1
M-1
C-2
P-1
RM-1
R-1
R-2
R-3
VILLAGE OF SALMO
ZONING MAP
SCHEDULE 'B'
LEGEND
RURAL
SINGLE AND TWO FAMILY RESIDENTIAL
ESTATE RESIDENTIAL
MOBILE HOME PARK
MULTI-FAMILY RESIDENTIAL
NEIGHBORHOOD COMMERCIAL
SERVICE COMMERCIAL
VILLAGE CENTRE
PARK, OPEN SPACE AND INSTITUTIONAL
GENERAL INDUSTRIAL
This is Schedule 'B' attached to and forming part of the Village of Salmo Zoning Bylaw No. ____ 2000
Mayor
Clerk
SCALE 1:5000
0 100m 200m 300m
APRIL 2000
URBAN SYSTEMS
File: 1.151607.1
DRAFT


SEE SHEET 3
SEE SHEET 5
SEE SHEET 6
VILLAGE OF SALMO MUNICIPAL BOUNDARY
ERIE CREEK ALLUVIAL FAN
FLOODPLAIN LIMITS OF ERIE CREEK HAVE BEEN DEPICTED AT THE PHYSIOGRAPHIC LIMITS AS THE ENTIRE AREA IS SUBJECT TO SPECIAL FLOOD HAZARDS DUE TO POSSIBLE CHANNEL ACCRETION AND/OR DEBRIS JAMMING. HYDRAULIC CALCULATIONS HAVE BEEN CARRIED OUT FOR ERIE CREEK AS INDICATED.
LOWER ERIE CREEK ALLUVIAL FAN
THE FLOODPLAIN LIMIT HAS BEEN DEPICTED AT THE PHYSIOGRAPHIC LIMIT DUE TO THE POTENTIALLY ACTIVE ERIE CREEK ALLUVIAL FAN. HYDRAULIC CALCULATIONS HAVE NOT BEEN CARRIED OUT IN THE HAYWARD CREEK AREA.
SALMO
BURLINGTON
Hayward
Use and Limitations of Floodplain Maps
Acres International Limited
Vancouver, B.C., Canada
NOTES
FLOODPLAIN DATA
LEGEND
DESIGNATED FLOODPLAIN LIMIT
FLOOD LEVEL
(Freeboard included)
200 Year Frequency
KEY MAP
REVISIONS
DESCRIPTION
DATE
ISSUE OF MAPPING
DATE SEPT. 30, 1991
DRAWN T. E.
CHECKED M.N.-P.
RIVER SURVEY T. M. D.
DESIGNED B. B.
ENGINEER
FLOODPLAIN MAPPING
SALMO RIVER
YMIR TO SOUTH SALMO RIVER
(Including Erie Creek)
Scale in metres
RECOMMENDED
APPROVED
FILE No. 33-0200-S.2
N.T.S. MAP No. 82F/3,6
SCALE 1:5 000
DRAWING No. 90-32-4
DDIimg

Appendix B

Well Logs



N:\Active\8000\2007 Projects\07-1430-0060 Salmo Production Well\Reporting\Figure 2 As-built Well Construction.xls

Village of Salmo, British Columbia	Source Water Protection Plan	BOREHOLE: Glendale Well
INSTALLED BY: Unknown		PROJECT #: 2640-17
DRILL TYPE: Unknown	EAST: 480043.8812 NORTH: 5448165.6922	ELEVATION: 657.00 (masl)

FILL TYPE: Backfill | Bentonite | Grout | Open Hole | Cement | Sand | Slough | Unknown

SAMPLE TYPE: Shelby Tube | No Recovery | Split Spoon | Disturbed | Dynamic Cone | Core | Grab Sample

Depth (m)	SOIL DESCRIPTION	WELL INSTALLATION (Casing diam. = 0.020 m)
2	**Note**: Well completion infomation was obtained from the *Village of Salmo Community Water Wells Management Strategy* (Golder, 2005). In the absence of the original drilling or well completion report, this well log was used as a visual representation of the available well construction details.	
4		Static Water Level = 4.0 mbgl
6		
8		
10		
12		
14		
16		Casing Diameter = 200 mm
18		
20		
22		
24		
26		
28		
30		
32		
34		
36		Top of Screen at 36.8 mbgl
38		
40		Unconfined Aquifer
42		Drillers Estimated Well Yield = 2833.92 m3/d
44		
46	END OF HOLE AT 46.0 m	Bottom of Screen at 46.0 mbgl
48		

Waterline Resources Inc.

TYPE: Water Supply Well	COMPLETION DEPTH: 46.0 (m)
LOGGED BY:	COMPLETION DATE: 1997
CHECKED BY:	Date printed: 18-Oct-2017

Appendix C

Well Photos

Photo 1: Sayward Well and Pumphouse (facing northwest)

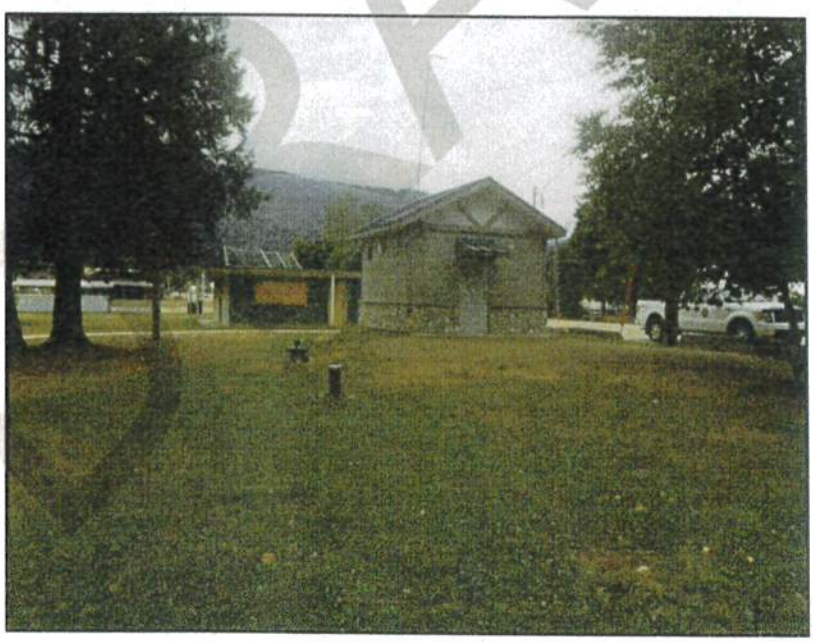


Photo 2: Sayward Well and Pumphouse (facing southwest)

Photo 3: Sayward Well and Pumphouse (facing northeast)

Photo 4: Sayward Wellhead

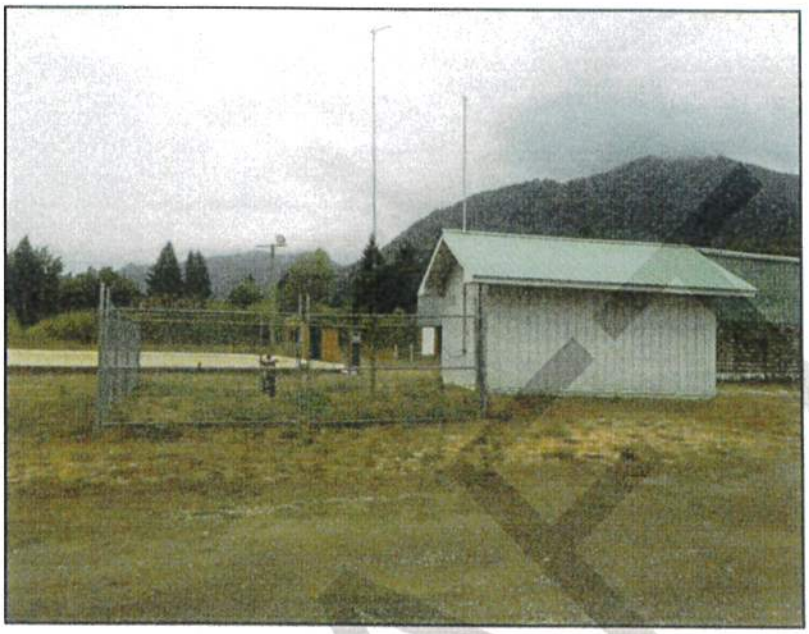


Photo 5: Glendale Well and Pumphouse (facing south)

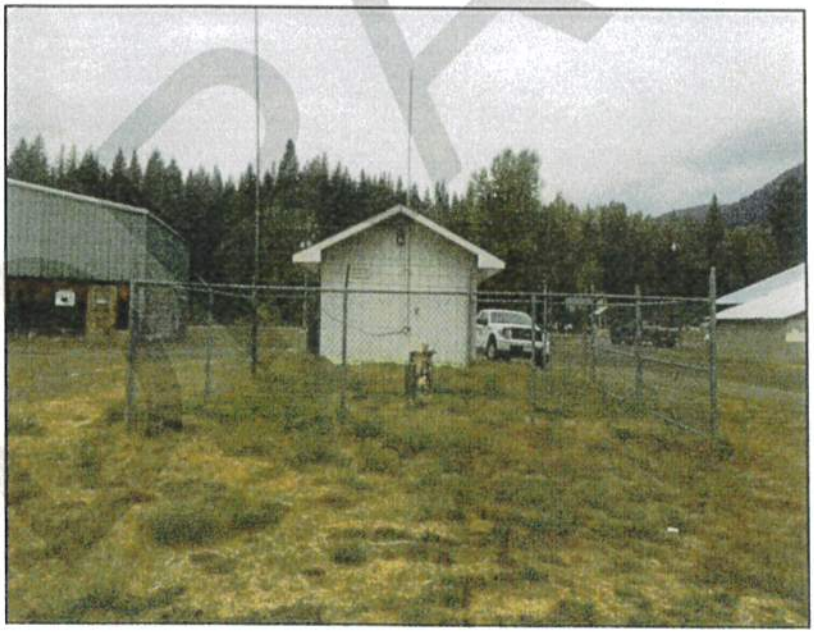


Photo 6: Glendale Well and Pumphouse (facing west)

Photo 7: Glendale Well and Pumphouse (facing east)

Photo 8: Glendale Wellhead

Appendix D

Sayward Well Water Quality

Table 1
Salmo Production Well #6 Groundwater Quality Results
Analytical Results reported in units of mg/L, unless noted otherwise

	Drinking Water Guidelines		Analytical Results	
			Production Well #6	Upper Test Well
	(MAC)	(AO)	18-Oct-07	24-May-07
Physical Tests				
Colour (CU)		15	<5	<5
Field Conductivity (uS/cm)			250	250
Lab Conductivity (uS/cm)			229	210
Total Dissolved Solids		500	139	142
Hardness CaCO3		None,>200=poor	107	118
Field pH (SI Units)		6.5-8.5	7.45	7.37
Lab pH (SI Units)		6.5-8.5	7.87	8.10
Field Temperature (°C)		≤15	7.1	7.1
Field Odour		Inoffensive	None	None
Field Dissolved Oxygen			5.0	6.5
Field Redox Potential (mV)			105	135
Turbidity (NTU)	0.3	1	0.12	<0.10
Dissolved Anions				
Alkalinity-Total CaCO3			102	83.5
Chloride Cl		250	2.54	1.89
Fluoride F	1.5		<0.05	0.031
Sulphate SO4		500	19.7	17.8
Sulphide as S		0.05	<0.05	<0.02
Nutrients				
Ammonia Nitrogen N			<0.01	<0.020
Total Kjeldahl Nitrogen N			<0.2	<0.05
Nitrate Nitrogen N	10		0.11	0.17
Nitrite Nitrogen N	1		<0.002	<0.001
Organic Nitrogen N			<0.2	<0.070
Total Nitrogen N			<0.2	--
Ortho Phosphorus as P			<0.02	0.0046
Bacteriological Tests				
E. coli (MPN)	No detection		<2	<1
Coliform Bacteria-Total (MPN)	No detection		<2	<1
Cyanides				
Total Cyanide CN	0.2		<0.01	0.0052
Organic Parameters				
Total Organic Carbon TOC	4 *		2.3	<0.5
Dissolved Organic Carbon DOC			<1	<0.5
Radiological Parameters				
Gross Alpha (Bq/L)	0.1 (inferred)		<0.06	<0.05
Gross Beta (Bq/L)	1 (inferred)		0.09	0.04

*The recommended guideline from the BC MoE for TOC is 4 mg/L for raw drinking water in systems that use chlorination for disinfection. The guideline is not applicable for systems that do not chlorinate.

Table 1 Salmo Production Well #6 Groundwater Quality Results Analytical Results reported in units of mg/L, unless noted otherwise				
	Drinking Water Guidelines		Analytical Results	
			Production Well #6	Upper Test Well
	(MAC)	(AO)	18-Oct-07	24-May-07
Total Metals				
Aluminum T-Al		0.1	<0.005	<0.005
Antimony T-Sb	0.006		<0.001	<0.0005
Arsenic T-As	0.01		<0.001	<0.0005
Barium T-Ba	1		0.026	<0.02
Beryllium T-Be			<0.001	<0.001
Bismuth T-Bi			<0.001	<0.20
Boron T-B	5		<0.05	<0.10
Cadmium T-Cd	0.005		<0.0002	<0.0005
Calcium T-Ca			37.6	42.5
Chromium T-Cr	0.05		<0.001	<0.001
Cobalt T-Co			<0.001	<0.0003
Copper T-Cu		1	<0.001	<0.001
Iron T-Fe		0.3	<0.05	<0.03
Lead T-Pb	0.01		<0.001	<0.0005
Lithium T-Li			0.001	<0.005
Magnesium T-Mg			3.10	3.39
Manganese T-Mn		0.05	0.005	<0.0003
Mercury T-Hg	0.001		<0.00002	<0.00005
Molybdenum T-Mo			0.0011	<0.001
Nickel T-Ni			<0.001	<0.001
Phosphorus T-P			<0.15	<0.30
Potassium T-K			1.5	<2
Selenium T-Se	0.01		0.002	<0.001
Silicon T-Si			4.6	6.0
Silver T-Ag			<0.00025	<0.00002
Sodium T-Na		200	2.31	2.4
Strontium T-Sr			0.16	0.196
Tellurium T-Te			<0.001	--
Thallium T-Tl			<0.0001	<0.0002
Thorium T-Th			<0.0005	--
Tin T-Sn			<0.001	<0.0005
Titanium T-Ti			<0.001	<0.01
Uranium T-U	0.02		0.0008	0.00049
Vanadium T-V			0.001	<0.03
Zinc T-Zn		5	<0.005	<0.005
Zirconium T-Zr			<0.01	--

Table 1
Salmo Production Well #6 Groundwater Quality Results
Analytical Results reported in units of mg/L, unless noted otherwise

	Drinking Water Guidelines		Analytical Results	
			Production Well #6	Upper Test Well
	(MAC)	(AO)	18-Oct-07	24-May-07
Dissolved Metals				
Aluminum D-Al		0.1	<0.005	<0.005
Antimony D-Sb	0.006		<0.001	<0.0005
Arsenic D-As	0.01		<0.001	<0.0005
Barium D-Ba	1		0.027	<0.02
Beryllium D-Be			<0.001	<0.001
Bismuth D-Bi			<0.001	<0.20
Boron D-B	5		<0.05	<0.10
Cadmium D-Cd	0.005		<0.0002	<0.0005
Calcium D-Ca			38.5	41.9
Chromium D-Cr	0.05		<0.001	<0.001
Cobalt D-Co			<0.001	<0.0003
Copper D-Cu		1	0.001	<0.001
Iron D-Fe		0.3	<0.05	<0.03
Lead D-Pb	0.01		<0.001	<0.0005
Lithium D-Li			0.001	<0.005
Magnesium D-Mg			3.17	3.33
Manganese D-Mn		0.05	0.006	<0.0003
Mercury D-Hg	0.001		<0.00002	<0.00005
Molybdenum D-Mo			0.0011	<0.001
Nickel D-Ni			<0.001	<0.001
Phosphorus D-P			<0.15	<0.30
Potassium D-K			1.6	<2
Selenium D-Se	0.01		0.002	0.0012
Silicon D-Si			4.8	5.9
Silver D-Ag			<0.00025	<0.00002
Sodium D-Na		200	2.36	2.4
Strontium D-Sr			0.19	0.192
Tellurium D-Te			<0.001	--
Thallium D-Tl			<0.0001	<0.0002
Thorium D-Th			<0.0005	--
Tin D-Sn			<0.001	<0.0005
Titanium D-Ti			<0.001	<0.01
Uranium D-U	0.02		0.0008	0.00050
Vanadium D-V			0.001	<0.03
Zinc D-Zn		5	<0.005	<0.005
Zirconium T-Zr			<0.01	--

Appendix E

BC Registered Contaminated Sites

Table E1: Registered Contaminated Sites: General Information
Table E2: Registered Contaminated Sites: Notations
Table E3: Registered Contaminated Sites: Documents

Table E1: Registered Contaminated Sites: General Information

Site ID	Address	Urban Area	Region File	Victoria File	Latitude and Longitude	Date Created
2742	Former Shell Bulk Plant - Salmo	SALMO	26250-20/2742	26250-20/2742	Verified	18/03/1996 0:00
3995	90 7th Street, Salmo	SALMO	26250-20/3995 26100-20/3995	No File	Unconfirmed	29/05/1997 12:35
5095	Former Esso Service Station	SALMO	26250-20/5095 26100-20/5095	26250-20/5095	Verified	27/05/1998 0:00
5143	Thrifty Gas - 223 Railway Avenue, Salmo	SALMO	26250-20/5143	No File	Unconfirmed	15/06/1998 0:00
5303	The Coyote Cafe	SALMO	26250-20/5303 26250-20/5095	26250-20/5303	Unconfirmed	13/08/1998 0:00
5311	Main Street Video	SALMO	26250-20/5311 26250-20/5095	No File	Unconfirmed	18/08/1998 0:00
5313	Waterstreet, Dennis And Norma	SALMO	26250-20/5313 26250-20/5095	No File	Unconfirmed	18/08/1998 0:00
8322	Salmo Highways Yard	SALMO	26250-20/8322	No File	Unconfirmed	11/07/2003 0:00
14499	416 Davies Avenue, Salmo	SALMO	No File	26250-20/14499	Verified	23/10/2012 0:00

Table E2: Registered Contaminated Sites: Notations

Site ID	Notations
2742	[SPILL REPORTED. Administrative,1988-03-02,Approximately 43,000 Litres Of Diesel Fuel Spilled To The Ground After A Valve Broke On A Fuel Storage Tank. Initial Response Recovered Approximately 90% Of The Fuel.,No Actions Entered] [SITE INVESTIGATION REQUESTED. Administrative,1988-03-02,No Notes Entered,Bc Environment Requested Shell To Test All Other Tanks And Pipes For Leakeage, And To Conduct A Subsurface Investigation Into The Potential Long Term Soil And Groundwater Impacts Of The Spill.] [REMEDIATION PLAN REQUESTED. Administrative,1988-05-16,No Notes Entered,Bc Environment Requests Esso (Located Adjacent To South) To Conduct A Subsurface Investigation To Determine If They Could Be A Possible Source Of Petroleum Hydrocarbon Contamination.] [SITE INVESTIGATION REPORT SUBMITTED. Administrative,1988-05-16,Detailed Site Investigation Report Submitted On Direction Of Bc Environment. Sample Analysis Identified Two Types Of Petroleum Hydrocarbon Contamination: Fresh Diesel Fuel And Old Gasoline. Consultant Concluded There Were At Least Two Sources Of Contamination, One Being The Diesel Spill. A Product Recovery Pump Was Installed In Two Wells And Is Now Operational.,No Actions Entered] [CASE MANAGEMENT ITEM. Administrative,1988-06-08,A Meeting Of All Affected Parties Indicated There Were No Records That Esso Ever Had An Operational Fuel Storage Tank On Its Site,No Actions Entered] [MONITORING REPORT SUBMITTED. Administrative,1988-09-26,Report Monitors Vapour Concentrations And Apparent Product Thickness.,Results Indicate A Third Recovery Sump Is Needed.] [MONITORING REPORT DUE. Administrative,1989-01-17,No Notes Entered,Bc Environment Requests All Subsequent Monitoring Reports And Remedial Progress Be Submitted.] [MONITORING REPORT SUBMITTED. Administrative,1989-04-10,Report Continues To Monitor Vapour Concentrations And Apparent Product Thickness.,As Significant Contamination Still Exists, Remedial Measures Should Be Reanalysed For Effectiveness.] [MONITORING REPORT SUBMITTED. Administrative,1989-04-13,Report Monitors Vapour Concentrations And Apparent Product Thickness.,Recommended That An Automated Recovery Pump System Be Installed] [MONITORING REPORT SUBMITTED. Administrative,1989-07-20,Report Monitors Vapour Concentrations And Apparent Product Thickness. Product Recovery Continues To Be Pumped From Wells.,No Actions Entered] [MONITORING REPORT SUBMITTED. Administrative,1989-11-06,Report Monitors Vapour Concentrations And Apparent Product Thickness. Product Recovery Continues To Be Pumped From Wells.,No Actions Entered] [MONITORING REPORT SUBMITTED. Administrative,1990-04-11,Report Monitors Vapour Concentrations And Apparent Product Thickness. Product Recovery Continues To Be Pumped From Wells.,No Actions Entered] [MONITORING REPORT SUBMITTED. Administrative,1990-08-02,Report Monitors Vapour Concentrations And Apparent Product Thickness. Product Recovery Continues To Be Pumped From Wells.,Bulk Plant Was Closed July 15, 1990 And All On-Site Facilities Are To Be Removed Shortly.] [MONITORING REPORT SUBMITTED. Administrative,1991-08-13,Report Monitors Vapour Concentrations And Apparent Product Thickness. Product Recovery Continues To Be Pumped From Wells. All On-Site Structures Were Removed 90-10-07.,Morrow Requests Bc Environment Permission To Operate The Groundwater Depression And Rescharge System They Have Been Testing And Analysing.] [MONITORING REPORT DUE. Administrative,1991-10-31,Bc Environment Grants Permission To Discharge Groundwater To A Surface Depression Given That Relevant Parameters In The Groundwater Are Below Detection Limits And Will Be Continually Monitored.,No Actions Entered] [MONITORING REPORT SUBMITTED. Administrative,1992-04-13,Report Monitors Vapour Concentrations And Apparent Product Thickness. Product Recovery Continues To Be Pumped From Wells.,No Actions Entered] [CONCENTRATION CRITERIA APPROACH USED. Administrative,1993-11-08,No Notes Entered,No Actions Entered] [REMEDIATION PLAN REPORT SUBMITTED. Administrative,1993-11-08,Detailed Plan For The Proposed Treated Water Discharge System.,Bc Environment Is Requested To Issue A Formal Approval For The Discharge Of Treated Groundwater.] [WASTE MANAGEMENT APPROVAL ISSUED. Legal Requirement,1993-11-16,As-12580 Authorization To Discharge Treated Water To Ground Subsurface For One Week As Of 93-11-19.,No Actions Entered] [MONITORING REPORT SUBMITTED. Administrative,1996-04-23,4 Of Available 20 Monitoring Wells Were Sampled. No Indication Of Why These Four Were Selected. Morrow (Consultant) Recommends That All Monitoring Wells And Sumps Be Monitored For Potentiometric Level Twice Per Year.,No Actions Entered] [HISTORICAL SITE NOTIFICATION ISSUED (WMA 26.3(3)). Waste Management Act: Contaminated Sites Notations,1997-05-09,No Notes Entered,No Actions Entered] [NOTIFICATION RECEIVED ABOUT LIKELY OR ACTUAL SUBSTANCE MIGRATION TO NEIGHBOURING SITE. Environmental Management Act: General,2011-09-27,Hutcheson Street, Salmo(Do Not Flag) 643289 Bc Ltd. (Do Not Flag) Box 642 (Do Not Flag),No Actions Entered] [NOTICE OF INDEPENDENT REMEDIATION INITIATION SUBMITTED. Environmental Management Act: General,2011-09-27,Start: 2011-10-03,No Actions Entered] [NOTIFICATION RECEIVED ABOUT LIKELY OR ACTUAL SUBSTANCE MIGRATION TO NEIGHBOURING SITE. Environmental Management Act: General,2011-09-27,Hutcheson Street, Salmo (Do Not Flag) 423 Davies Avenue Po Box 1000 (Do Not Flag),No Actions Entered] [SITE RISK CLASSIFIED - AFFECTED SITE IS NON-HIGH RISK. Environmental Management Act: General,2011-10-03,No Notes Entered,No Actions Entered] [SITE RISK CLASSIFIED - SITE IS NON-HIGH RISK. Environmental Management Act: General,2011-10-03,No Notes Entered,No Actions Entered]
3995	[SITE PROFILE RECEIVED. Waste Management Act: Contaminated Sites Notations,1997-05-28,Notation Generated In Site Profile On 97-05-29 By Lhagel,No Actions Entered] [SITE PROFILE - FURTHER INVESTIGATION REQUIRED BY THE MINISTRY. Waste Management Act: Contaminated Sites Notations,1997-06-05,Auto Inserted From Site Profile.,Bc Environment Requires A Stage One And Stage Two Preliminary Site Investigation.] [PRELIMINARY SITE INVESTIGATION REPORT: INTERNAL REVIEW REQUESTED. Waste Management Act: Contaminated Sites Notations,1997-07-03,Phase I Environmental Site Assessment(Stage I Preliminary Site Investigation) Submitted On Bc Environment Request. Historic Review Found That 2 Underground Storage Tanks Were Removed In 1995 (Installed Around 1945). Consultant Inspected Tanks & Determined Tanks To Be Sound. Site Was Service Station Until 1973.,1997-07-22 - Bc Environment Completed Report Review And Concurred With Findings. Report Did Not Include Any Quantitative Assessment Or Analysis Of Soils In Proximity To Former Location Of Two Underground Fuel Storage Tanks Removed In 1995. Bc Environment Recommends That Quantitative Sub-Surface Assessment (Ie. Stage Ii) Preliminary Site Investigation Be Conducted In Future Should Area Of Former Underground Storage Tanks Be Involved In Re-Development.] [PRELIMINARY SITE INVESTIGATION REPORT ACCEPTED (WMA 26.2). Waste Management Act: Contaminated Sites Notations,1998-04-01,Letter Report Providing Phase Ii (Preliminary Site Investigation) Information In Support Of Information Provided On June 26,1997. Preliminary Site Investigation Report Submitted For Information Only, No Review Requested. Bc Environment Requires No Further Assessment At This Time.,No Actions Entered]

Table E2: Registered Contaminated Sites: Notations

Site ID	Notations
5095	[REMEDIATION PLAN REQUESTED. Administrative,1998-05-27,Bc Environment Received Written Commitment From Site Owners Accepting Responsibility For Historic Hydrocarbon Contamination And To Conduct Further Assessessment To Confirm The Extent Of Off-Site Contaminant Migration. Also, Site Owners Committed To Entering Into The Ministry Process Of Review/Supervision Of Site Works, Assessment Reports, And Commitment To Request An Approval In Principle For A Remedial Plan Addressing On-Site And Off-Site Contaminant Issues,Site Owners Are To Conduct Further Assessment To Delineate The Hydrocarbon Plume In Soils And Groundwater And Submit A Request For An Approval In Principle For A Comprehensive Remedial Plan Prior To October, 1998.] [PRELIMINARY SITE INVESTIGATION REPORT: INTERNAL REVIEW REQUESTED. Waste Management Act: Contaminated Sites Notations,1998-05-27,Stage 1 & 2 Preliminary Site Investigation Reports Submitted. Petroleum Hydrocarbon Contamination Exceeding Special Waste Levels Was Identified In Soil And Groundwater.,Detailed Assessment Of On-Site And Off-Site Contaminant Conditions Is To Be Pursued.] [DETAILED SITE INVESTIGATION REPORT: INTERNAL REVIEW REQUESTED. Waste Management Act: Contaminated Sites Notations,1998-05-27,Report Provides Results Of Off-Site Investigation Adjacent To 503 Railway Ave, Salmo, Bc. Analysis Of Ground-Water & Soils Conducted. Off-Site Hydrocarbon Contamination Of Groundwater Confirmed.,Additional Assessment Of Off-Site Groundwater Contaminant Levels (Ie. Further Down-Gradient) Is Required To Delineate Contaminant Plume.] [DETAILED SITE INVESTIGATION REPORT ACCEPTED (WMA 26.2). Waste Management Act: Contaminated Sites Notations,1998-08-12,Bc Environment Completed Review Of A Detailed Site Investigation Report. Review Was Limited To Information Specific To The 503 Railway Street Property. Review Comments Were Provided To 431386 Bc Ltd And Imperial Oil In A Letter Dated August 12, 1998.,Imperial Oil Has Conducted Additional Assessment Works To Characterize Impacts Of Off-Site Contaminant Migration. Upon Completion Of Site Assessment Works, Imperial Oil Must Submit A Detailed Site Assessment Report Characterizing Off-Site Contaminant Conditions. Also Required Shall Be An Application To Bc Environment For An Approval In Principle For A Remedial Plan Addressing On And Off-Site Contaminant Issues.] [PRELIMINARY SITE INVESTIGATION REPORT ACCEPTED (WMA 26.2). Waste Management Act: Contaminated Sites Notations,1998-08-12,Bc Environment Completed Review Of Report. Review Comments Provided To 431386 Bc Ltd. And Imperial Oil In Letter Dated August 12, 1998.,No Actions Entered] [SITE INVESTIGATION REQUESTED. Administrative,1998-08-31,Bc Environment Received Letter Report Prepared By Imperial Oil'S Consultant Explaining Rationale For Not Considering Numerical Standards Considerate Of Drinking Water Use Of Groundwater During The Assessment Of On-Site And Off-Site Remedial Requirements. Bc Environment Responded In Sept 18/98 Letter Confirming That Applicable Standards Are Those Protective Of Aquatic Life.,Esso - Imperial Oil Is To Prepare A Detailed Site Investigation Report Characterizing Off-Site Contaminant Issues And Submit To Bc Environment For Review.] [SITE PROFILE RECEIVED. Waste Management Act: Contaminated Sites Notations,1999-05-31,Submission Triggered By Request For Demolition Permit To Remove Building. Removal Of Structures Will Facilitate Completion Of Site Assessment And Remedial Works.,No Actions Entered] [SITE PROFILE - NO FURTHER INVESTIGATION REQUIRED BY THE MINISTRY. Waste Management Act: Contaminated Sites Notations,1999-06-02,No Further Investigation Requested As Site Assessment Already Initiated At Site And Development Of Remedial Plan Addressing On-Site And Off-Site Issues In Progress. Also, Demolition Of Building Will Assist Completion Of Site Assessment And Remedial Plan Development.,No Actions Entered] [REMEDIATION PLAN REPORT SUBMITTED. Administrative,1999-07-14,Imperial Oil Sent Letter To Regional Manager Providing Written Commitment To Remediation Of On-Site And Off-Site Petroleum Hydrocarbon Contaminant Issues Within The Ministry Process Of Review. The Letter Described Action Plan Leading Up To Development Of Remedial Plan And Formal Request For An Approval In Principle. The Submission Also Included Updated Schedule Of Planned Activities. Similar Notification Also Was Provided To Impacted Property Owners And Village Of Salmo.,The Updated Action Plan Commits To Submitting A Detailed Remedial Plan With Application For Approval In Principle Prior To April, 2000.] [MONITORING REPORT SUBMITTED. Administrative,1999-11-19,Submission Included An Updated Site Plan Showing Location Of All Existing Borehole And Monitoring Well Locations. It Also Includes A Summary Of Groundwater Analytical Results For Hydrocarbons, Dissolved Anions And Metals. Summary Included Data For All Wells With Exception Of New Monitoring Wells 99-6 Through 99-24.,No Actions Entered] [REMEDIATION PLAN REPORT SUBMITTED. Administrative,1999-11-25,Letter Received From Morrow Environmental Describing Pilot Scale Tests Intended To Identify Feasibility Of Remedial Approaches (Pump And Treat Groundwater And Soil Vapour Extraction).,No Actions Entered] [MONITORING REPORT SUBMITTED. Administrative,1999-12-22,Letter Report Summarizes Groundwater Monitoring Results From The Pilot Test Of The Air Sparging System (Well 99-12) As Sampled Between 1999-11-12 And 1999-11-14. The Monitoring Report Included Analysis Of Hydrocarbons And Total Metals.,No Actions Entered] [DETAILED SITE INVESTIGATION REPORT: INTERNAL REVIEW REQUESTED. Waste Management Act: Contaminated Sites Notations,2000-02-01,Site Investigation Report Summarizes Details And Results Of Subsurface Site Investigation Works Conducted At And Adjacent To The Former Salmo Service Station Between 1997 And 1999. Summary Includes Characterization Of Petroleum Hydrocarbons, Total And Dissolved Metals, Dissolved Anions And Pah Concentrations In Soils And Groundwater.,Bc Environment To Review Report And Provide Written Comment. Property Owner Is To Subsequently Submit A Detailed Remedial Plan Addressing On-Site And Off-Site Contaminant Issues Originating From The Service Station Site.] [RISK ASSESSMENT SUBMITTED. Administrative,2000-04-11,Draft Copy Of Human Health Risk Assessment Dated April 6/00 Was Submitted To Bc Environment.,A More Formally Documented Risk Assessment Report Must Be Provided To Bc Environment Prior To Review Of A Remedial Action Plan.] [REMEDIAL PLAN SUBMITTED WITH RISK ASSESSMENT: INTERNAL REVIEW REQUESTED. Waste Management Act: Contaminated Sites Notations,2000-04-26,Imperial Oil Submitted A Remedial Action Plan Outlining The Remedial Strategy For Addressing Subsurface Petroleum Hydrocarbon Contamination At The Former Service Station Site And On Down-Gradient Impacted Properties. The Remedial Plan Involves Removal Of Localized Liquid Petroleum Hydrocarbon And Monitoring Of Site Conditions. Proposed Remediation Will Rely Mainly On Natural Attentuation Of Contaminants And Will Be Supported By A Human Health And Ecological Risk Assessment.,The Human Health And Ecological Risk Assessment Must Be Provided To Bc Environment Prior To Final Review Of The Remedial Action Plan And Processing Of An Approval In Principle.] [APPROVAL IN PRINCIPLE REQUESTED.

Table E2: Registered Contaminated Sites: Notations

Site ID	Notations
5095 cont.	Waste Management Act: Contaminated Sites Notations,2000-04-26,Bc Environment Received An Application Dated April 20/00 Requesting That An Approval In Principle Be Issued For A Remedial Plan. Note That The Remedial Plan Was Not Complete At Time Of Application. Risk Assessment Supporting Plan Remains Under Development.,Application For Approval In Principle Is To Be Processed Following Review Of Final Remedial Plan And Risk Assessment Report.] [RISK ASSESSMENT SUBMITTED. Administrative,2000-07-17,Imperial Oil Submitted Copies Of Formal Human Health And Ecological Risk Assessment Report To Bc Environment In Support Of Application For An Approval In Principle Of Remedial Plan .,Bc Environment (Victoria Office) Is To Review Remedial Plan And Risk Assessment Report And Issue An Approval In Principle If Considered Appropriate.] [MONITORING REPORT DUE. Administrative,2000-07-24,Letter From Bc Environment Requesting Imperial Oil Ltd Conduct Petroleum Hydrocarbon Vapour Sampling/Monitoring In Soils Beneath Buildings On Properties Impacted By Contaminant Migration From The Former Salmo Esso Site, 503 Railway Avenue, Salmo, Bc. Properties Where Testing Is To Be Conducted Are Located At 419 Railway Avenue, 423 Railway Avenue And 111 Main Street.,Results Of Testing Along With An Interpretative Summary Is To Be Provided To Respective Property Owners And Any Correspondence Copied To The Bc Environment Office. 2000-08-01 - Letter Submitted By Imperial Oil Authorizing Morrow Environmental Counsultants Inc To Undertake Soil Vapour Sampling Beneath Main Street Video, At 423 Railway Avenue, Salmo, Bc.] [REMEDIATION ORDER ISSUED (WMA 27.1(1)). Waste Management Act: Contaminated Sites Notations,2001-06-14,No Notes Entered,No Actions Entered] [NOTICE OF APPEAL RECEIVED. Legal Requirement,2001-07-19,No Notes Entered,No Actions Entered] [REQUIREMENT(S) IMPOSED IN APPROVAL IN PRINCIPLE. Environmental Management Act: General,2002-03-14,No Notes Entered,Schedule B Condition 5 - "All Monitoring Data Will Be Submitted Quarterly In A Format Acceptable To The Regional Waste Manager Within 30 Days Following The End Of Each Quarter."] [APPROVAL IN PRINCIPLE ISSUED. Waste Management Act: Contaminated Sites Notations,2002-03-15,The Lands Covered By This Approval Are Located At: 503 Railway Avenue (Pids: 012 051 942, 012 051 985, 012 052 001), 423 Railway Avenue (Pid 008 342 514), 419 Railway Avenue (Pid 008 324 646), And 111 Main Street (Pid 023 954 485), Salmo.,Also See Instrument Schedule B Condition 6 - "The Ministry May Request The Development And Implementation Of An Alternative Remediation Plan If: (A) The Contaminant Plume Is Determined To Have Migrated Further Than Currently Delineated...; Or (B) The Concentrations Of Contaminants In The Plume Are Observed To Have Not Stabilized And The Trend Analysis Does Not Show Concentrations Decreasing Over The Time Period Envisaged In The Remedial Action Plan..."] [MONITORING REPORT SUBMITTED. Administrative,2002-08-27,Quarterly Monitoring Report For Period April - June, 2002. Sampling Was Performed As Requirement Of Approval In Principle.,No Actions Entered] [SITE INVESTIGATION REPORT SUBMITTED. Administrative,2002-09-06,No Notes Entered,Proposed Installation Of 4 New Shallow Vapour Monitoring Wells At Areas Stipulated In The Approval In Principle. Installation Will Allow Assessing Soil Vapour Levels Representative Of Potential Exposure To Occupants Of Nearby Residential And Commercial Properties.] [MONITORING REPORT SUBMITTED. Administrative,2002-10-07,Quarterly Monitoring Report For July-September, 2002. Sampling Was Performed As Requirement Of Approval In Principle.,No Actions Entered] [MONITORING REPORT SUBMITTED. Administrative,2002-12-12,Quarterly Monitoring Report For October 21-23, 2002. Sampling Performed As Requirement Of Approval In Principle. Product Was Identified In 12 Monitoring Wells Located On Railway St And Main St.,No Actions Entered] [MONITORING REPORT SUBMITTED. Administrative,2003-05-27,Quarterly Monitoring Report For March 24-27 Sampling Event. Sampling Was Performed As A Requirement Of The Approval In Principle.,No Actions Entered] [MONITORING REPORT SUBMITTED. Administrative,2003-06-09,Additional Stage Of Assessment Former Esso Service Station At 503 Railway Avenue, Salmo, Bc (Location No. 990333/R02311),No Actions Entered] [MONITORING REPORT SUBMITTED. Administrative,2003-09-23,Quarterly Monitoring Report. Sampling Dates August 11-14, 2003. Sampling Performed As A Requirement Of The Approval In Principle.,No Actions Entered] [MONITORING REPORT SUBMITTED. Administrative,2003-09-25,Quarterly Monitoring Report. Sampling Dates June 9-13, 2003. Sampling Performed As A Requirement Of The Approval In Principle. Sampling Results Indicate That The Plume Is Stable.,No Actions Entered] [MONITORING REPORT SUBMITTED. Administrative,2003-12-15,Quarterly Monitoring And Sampling Report For October 26 To 30, 2003 Event,No Actions Entered] [MONITORING REPORT SUBMITTED. Administrative,2007-07-27,Validation Monitoring Program Progress Report Years 2005 And 2006 Former Esso Service Station 503 Railway Avenue, Salmo, Bc (Location No. R02311),No Actions Entered] [MONITORING REPORT SUBMITTED. Administrative,2008-03-30,Monitoring Report And Risk Calculation In Application For Cessation Of Vapour Monitoring. Application Was Denied Due To Technical Deficiencies.,No Actions Entered] [MONITORING REPORT SUBMITTED. Administrative,2010-02-01,Submitted As A Requirement Of Approval In Principle Issued March 2002.,No Actions Entered] [MONITORING REPORT SUBMITTED. Administrative,2011-11-23,No Notes Entered,No Actions Entered] [SITE RISK CLASSIFIED - SITE IS NON-HIGH RISK. Environmental Management Act: General,2011-11-30,No Notes Entered,No Actions Entered] [NOTIFICATION RECEIVED ABOUT LIKELY OR ACTUAL SUBSTANCE MIGRATION TO NEIGHBOURING SITE. Environmental Management Act: General,2012-10-19,Affected Parcel 416 Davies Avenue, Salmo Site 14499,No Actions Entered]
5143	[CASE MANAGEMENT ITEM. Administrative,1998-06-15,Petroleum Hydrocarbon Contamination Suspected.,No Actions Entered]
5303	[CASE MANAGEMENT ITEM. Administrative,1998-05-27,Written Recognition That Coyote Cafe Property Has Potentially Received Petroleum Hydrocarbon Contamination From Salmo Esso, As Evident In Site Assessment Report Submitted By Morrow Environmental Consultants To Bc Environment.,Parties Responsible For Petroleum Contamination Shall Be Required To Develop A Remedial Plan Addressing Contaminant Issues On The Source (Salmo Esso) Site As Well As Down-Gradient Areas Impacted By Off-Site Migration. Remediation Shall Be Conducted In Accordance With A Remedial Plan Approved By Bc Environment.] [MONITORING REPORT SUBMITTED. Administrative,1999-09-02,This Is A Letter Report Provided To Myles Rubeniuk By Imperial Oil. Report Summarizes Groundwater Monitoring Results Specific To Well 98-16 As Sampled Between May 1998 And July 1999. The Monitoring Report Included Analysis Of Hydrocarbons, Dissolved Anions And Dissolved Metals.,No Actions Entered] [MONITORING REPORT SUBMITTED. Administrative,1999-12-01,This Is A Letter Report Provided To Myles Rubeniuk By Imperial Oil. Report Summarizes Groundwater And Soil Monitoring Results Specific To Wells 98-16 And 99-10 As Sampled Between May 1998 And October 1999. The Monitoring Report Included Analysis Of Hydrocarbons, Dissolved Anions And Dissolved Metals.,No Actions Entered] [MONITORING REPORT SUBMITTED. Administrative,1999-12-17,Letter Report Provided To Myles Rubeniuk By Imperial Oil Summarizing Groundwater Monitoring Results Specific To Wells 98-16 And 99-10 As Sampled Between May 1998 And November 1999. The Monitoring Report Includes Analysis Of Hydrocarbons, Dissolved Anions And Dissolved Metals.,No Actions Entered] [CASE MANAGEMENT ITEM. Administrative,2000-08-01,Letter Submitted By Imperial Oil Authorizing Morrow Environmental Counsultants Inc. To Undertake Soil Vapour Sampling Beneath Building At 419 Railway Avenue, Salmo, British Columbia.,No Actions Entered]
5311	[CASE MANAGEMENT ITEM. Administrative,1998-08-18,Site Is Located Down Gradient And Within An Identified Contaminant Plume Sourced From Salmo Esso (Site #5095). Information Provided To Bc Environment By Salmo Esso Site Owner Indicates Down-Gradient Migration Of Petroleum Hydrocarbon Contamination From The Salmo Esso Has Impacted This Site.,Parties Responsible For Petroleum Contamination Shall Be Required To Develop A Remedial Plan Addressing Contaminant Issues On The Source (Salmo Esso) Site As Well As Down-Gradient Areas Impacted By Off-Site Migration. Remediation Shall Be Conducted In Accordance With A Remedial Plan Approved By Bc Environment.] [MONITORING REPORT SUBMITTED. Administrative,1999-07-27,This Is A Letter Report Provided To 473984 Bc Ltd. By Imperial Oil. Report Summarizes Groundwater Monitoring Results Specific To Well 98-9 As Sampled Between May 1998 And June 1999. The Monitoring Report Included Analysis Of Hydrocarbons, Dissolved Anions And Dissolved Metals.,No Actions Entered] [MONITORING REPORT SUBMITTED. Administrative,1999-08-23,This Is A Letter Report Provided To 473984 Bc Ltd. By Imperial Oil. Report Summarizes Groundwater Monitoring Results Specific To Well 98-9 As Sampled Between May 1998 And July 1999. The Monitoring Report Included Analysis Of Hydrocarbons, Dissolved Anions And Dissolved Metals.,No Actions Entered] [MONITORING REPORT SUBMITTED. Administrative,1999-12-01,This Is A Letter Report Provided To 473984 Bc Ltd. By Imperial Oil. Report Summarizes Groundwater And Soil Monitoring Results Specific To Wells 98-9, 99-11 And 99-19 As Sampled Between May 1998 And October 1999. The Monitoring Report Included Analysis Of Hydrocarbons, Dissolved Anions, Total And Dissolved Metals.,No Actions Entered] [MONITORING REPORT SUBMITTED. Administrative,1999-12-17,Letter Report Provided To 473984 Bc Ltd. By Imperial Oil Summarizing Groundwater Monitoring Results Specific To Wells 98-9, 99-11 And 99-19 As Sampled Between May 1998 And November 1999. The Monitoring Report Includes Analysis Of Hydrocarbons, Dissolved Anions And Dissolved Metals.,No Actions Entered] [CASE MANAGEMENT ITEM. Administrative,2000-08-01,Letter Submitted By Imperial Oil Authorizing Morrow Environmental Counsultants Inc. To Undertake Soil Vapour Sampling Beneath Main Street Video, At 423 Railway Avenue, Salmo, British Columbia.,No Actions Entered]

Table E2: Registered Contaminated Sites: Notations

Site ID	Notations
5313	[CASE MANAGEMENT ITEM. Administrative,1998-08-18,Site Is Located Down Gradient And Within An Identified Contaminant Plume Sourced From Salmo Esso (Site #5095). Information Provided To Bc Environment By Salmo Esso Site Owner Indicates Down-Gradient Migration Of Petroleum Hydrocarbon Contamination From The Salmo Esso Has Impacted This Site.,Parties Responsible For Petroleum Contamination Shall Be Required To Develop A Remedial Plan Addressing Contaminant Issues On The Source (Salmo Esso) Site As Well As Down-Gradient Areas Impacted By Off-Site Migration. Remediation Shall Be Conducted In Accordance With A Remedial Plan Approved By Bc Environment.] [MONITORING REPORT SUBMITTED. Administrative,1999-07-27,Letter Report Provided To The Waterstreets By Imperial Oil. Report Summarizes Groundwater Monitoring Results Specific To Well 98-11 As Sampled Between May 1998 And June 1999. The Monitoring Report Included Analysis Of Hydrocarbons, Dissolved Anions And Dissolved Metals.,No Actions Entered] [MONITORING REPORT SUBMITTED. Administrative,1999-12-01,Letter Report Provided To The Waterstreets By Imperial Oil. Report Summarizes Groundwater And Soil Monitoring Results Specific To Wells 98-11, 99-8 And 99-9 As Sampled Between May 1998 And October 1999. The Monitoring Report Included Analysis Of Hydrocarbons, Dissolved Anions, Total And Dissolved Metals.,No Actions Entered] [MONITORING REPORT SUBMITTED. Administrative,1999-12-17,Letter Report Provided To The Waterstreets By Imperial Oil Summarizing Groundwater Monitoring Results Specific To Wells 98-11, 99-8 And 99-9 As Sampled Between May 1998 And November 1999. The Monitoring Report Includes Analysis Of Hydrocarbons, Dissolved Anions And Dissolved Metals.,No Actions Entered] [CASE MANAGEMENT ITEM. Administrative,2000-08-01,Letter Submitted By Imperial Oil Authorizing Morrow Environmental Counsultants Inc. To Undertake Soil Vapour Sampling Beneath The Residence Of Dennis And Norma Waterstreet, At 111 Main Street, Salmo, British Columbia.,No Actions Entered]
8322	[NOTICE OF INDEPENDENT REMEDIATION INITIATION SUBMITTED (WMA 28(2)). Waste Management Act: Contaminated Sites Notations,2003-07-08,Areas Of Potential Concern Include Soil Surface Staining (Hydrocarbons) & Salt Issues. No Mention If Groundwater Encountered.,Remedial Plan Is To Excavate Impacted Soils And Either Remove To A Permitted Off-Site Facility Or Treat In A Biocell On Propetry Owned By Bcbc. Salt Impact Will Be Assessed And Delineated And A Separate Remedial Plan Will Be Drawn Up, If Needed.] [NOTICE OF INDEPENDENT REMEDIATION COMPLETION SUBMITTED (WMA 28(2)). Waste Management Act: Contaminated Sites Notations,2003-08-28,Re: Notice Of Completion Of Independent Remediation,No Actions Entered]
14499	[NOTIFICATION RECEIVED ABOUT LIKELY OR ACTUAL SUBSTANCE MIGRATION FROM NEIGHBOURING SITE. Environmental Management Act: General,2012-10-19,Source Parcel 503 Railway Avenue, Salmo Site 5095,No Actions Entered]

Table E3: Registered Contaminated Sites: Documents

Site ID	Documents
2742	["Satellite Bulk Plant, Salmo, Bc - Subsurface Contamination Assessment", 16-May-1988, Shell Canada Products Limited (Vancouver) - Commissioner; Jensen, Jim - Reviewer; Morrow Recovery Systems Inc (North Vancouver) - Author] ["Satellite Bulk Plant, Salmo, Bc - Subsurface Contamination Assessment - Progress Report # 2", 26-Sep-1988, Shell Canada Products Limited (Vancouver) - Commissioner; Jensen, Jim - Reviewer; Morrow Recovery Systems Inc (North Vancouver) - Author] ["Satellite Bulk Plant, Salmo, Bc Location Code 2835 - Subsurface Contamination Assesment, Progress Report 3", 15-Dec-1988, Shell Canada Products Limited (Vancouver) - Commissioner; Jensen, Jim - Reviewer; Morrow Recovery Systems Inc (North Vancouver) - Author] ["Satellite Bulk Plant, Salmo, Bc Location Code 2835 - Subsurface Contamination Assesment, Progress Report 4", 04-Apr-1989, Jensen, Jim - Reviewer; Shell Canada Products Limited (Vancouver) - Commissioner; Morrow Recovery Systems Inc (North Vancouver) - Author] ["Satellite Bulk Plant, Salmo, Bc Location Code 2835 - Subsurface Contamination Assesment, Progress Report 5", 26-Jun-1989, Shell Canada Products Limited (Vancouver) - Commissioner; Morrow Recovery Systems Inc (North Vancouver) - Author; Jensen, Jim - Reviewer] ["Satellite Bulk Plant, Salmo, Bc Location Code 2835 - Subsurface Contamination Assesment, Progress Report 6", 31-Oct-1989, Jensen, Jim - Reviewer; Morrow Recovery Systems Inc (North Vancouver) - Author; Shell Canada Products Limited (Vancouver) - Commissioner] ["Satellite Bulk Plant, Salmo, Bc Location Code 2835 - Progress Report 7", 28-Feb-1990, Jensen, Jim - Reviewer; Shell Canada Products Limited (Vancouver) - Commissioner; Morrow Recovery Systems Inc (North Vancouver) - Author] ["Satellite Bulk Plant, Salmo, Bc Location Code 2835 Progress Report 8", 27-Jul-1990, Jensen, Jim - Reviewer; Shell Canada Products Limited (Vancouver) - Commissioner; Morrow Recovery Systems Inc (North Vancouver) - Author] ["Satellite Bulk Plant, Salmo, Bc Location Code 2835 Progress Report 9", 06-Nov-1990, Morrow Environmental Consultants Inc (North Vancouver) - Author; Stockerl, Ed (Nelson) - Reviewer; Shell Canada Products Limited (Vancouver) - Commissioner] ["Satellite Bulk Plant, Salmo, Bc Location Code 2835 Progress Report 10", 01-Aug-1991, Morrow Environmental Consultants Inc (North Vancouver) - Author; Shell Canada Products Limited (Vancouver) - Commissioner; Stockerl, Ed (Nelson) - Reviewer] ["Former Shell Bulk Plant Salmo, Bc Progress Report 11", 19-Feb-1992, Shell Canada Products Limited (Vancouver) - Commissioner; Morrow Environmental Consultants Inc (North Vancouver) - Author; Stockerl, Ed (Nelson) - Reviewer] ["Former Shell Canada Bulk Plant, Salmo Bc, District Lot 206a, Lease No. 212044 K.L.D.", 08-Nov-1993, Shell Canada Products Limited (Vancouver) - Commissioner; Morrow Environmental Consultants Inc (North Vancouver) - Author; Stockerl, Ed (Nelson) - Reviewer] ["Environmental Management Program Salmo Former Bulk Plant - Location Code P00275", 29-Mar-1996, Stockerl, Ed (Nelson) - Recipient; Shell Canada Products Limited (Vancouver) - Commissioner; Morrow Environmental Consultants Inc (Burnaby (Commerce Court)) - Author]
3995	["Phase I Environmental Site Assessment 80-7th Street Salmo, B.C.", 26-Jun-1997, Hanson, Merle And Corinne - Commissioner; Stockerl, Ed (Nelson) - Recipient; Kootenay Engineering Ltd. (Robson, B.C.) - Author]
5095	["Stage 2 Preliminary Site Investigation (Psi) Drilling Intrusive Assessment 501 Railway Avenue At Main Street, Salmo, Bc", 08-Oct-1997, Stockerl, Ed (Nelson) - Reviewer; Morrow Environmental Consultants Inc (Burnaby (Commerce Court)) - Author; Imperial Oil Limited (Burnaby) - Commissioner] ["Supplementary Off-Site Investigation 501 Railway Avenue, Salmo, Bc", 31-Dec-1997, Morrow Environmental Consultants Inc (Burnaby (Commerce Court)) - Author; Imperial Oil Limited (Burnaby) - Commissioner; Stockerl, Ed (Nelson) - Reviewer] ["Stage 1 Preliminary Site Investigation, Esso Service Station 503 Railway Avenue, Salmo, Bc", 21-May-1998, Morrow Environmental Consultants Inc (Burnaby (Commerce Court)) - Author; Stockerl, Ed (Nelson) - Reviewer; Imperial Oil Limited (Burnaby) - Commissioner] ["Additional Off-Site Drilling Intrusive Assessment 503 Railway Avenue, Salmo, Bc Location No. 990333", 24-Jul-1998, Morrow Environmental Consultants Inc (Burnaby (Commerce Court)) - Author; Stockerl, Ed (Nelson) - Recipient; Imperial Oil Limited (Burnaby) - Commissioner] ["Evaluation Of Applicable Groundwater Assessment And Remediation Critieria, 503 Railway Avenue, Salmo, Bc", 27-Aug-1998, Imperial Oil Limited (Burnaby) - Commissioner; Morrow Environmental Consultants Inc (Burnaby (Commerce Court)) - Author; Stockerl, Ed (Nelson) - Reviewer] ["Pilot Scale Testing Program - 503 Railway Avenue, Salmo, Bc", 24-Nov-1999, Imperial Oil Limited (Burnaby) - Commissioner; Stockerl, Ed (Nelson) - Recipient; Morrow Environmental Consultants Inc (Burnaby (Commerce Court)) - Author] ["Discharge To Storm Sewer From The Former Imperial Oil Service Station Located At 503 Railway Avenue, Salmo Bc", 22-Dec-1999, Morrow Environmental Consultants Inc (Burnaby (Commerce Court)) - Author; Stockerl, Ed (Nelson) - Recipient] ["Volume 1 Detailed Site Investigation, Former Service Station, 503 Railway Avenue, Salmo Bc", 28-Jan-2000, Morrow Environmental Consultants Inc (Burnaby (Commerce Court)) - Author] ["Detailed Site Investigation, Former Service Station, 503 Railway Avenue, Salmo, Bc V0g 1z0 (Location No. 990333/R02311)", 28-Jan-2000, Imperial Oil Limited (Burnaby) - Commissioner; Morrow Environmental Consultants Inc (Burnaby (Commerce Court)) - Author; Stockerl, Ed (Nelson) - Recipient] ["Volume 2 Detailed Site Investigation, Former Service Station", 28-Jan-2000, Morrow Environmental Consultants Inc (Burnaby (Commerce Court)) - Author] ["Human Health Risk Assessment, Former Essso Service Station, 503 Railway Avenue, Salmo, Bc", 06-Apr-2000, Imperial Oil Limited (Burnaby) - Commissioner; Wilson Scientific Consulting Inc. (Vancouver) - Co-Author; Morrow Environmental Consultants Inc (Burnaby (Commerce Court)) - Author] ["Remedial Action Plan In Support Of An Application For Approval In Principle For The Former Service Station, 503 Railway Avenue, Salmo, Bc", 18-Apr-2000, Morrow Environmental Consultants Inc (Burnaby (Commerce Court)) - Author; Imperial Oil Limited (Burnaby) - Commissioner; Stockerl, Ed (Nelson) - Recipient] ["Human Health And Ecological Risk Assessment, 503 Railway Avenue, Salmo, Bc", 27-Jun-2000, Morrow Environmental Consultants Inc (Burnaby (Commerce Court)) - Author; Imperial Oil Limited (Burnaby) - Commissioner; Harris, Glenn E - Reviewer] ["Site Monitoring & Sampling Report", 26-Aug-2002, Imperial Oil Limited (Burnaby) - Commissioner; Stockerl, Ed (Nelson) - Reviewer; Morrow Environmental Consultants Inc (Burnaby (Commerce Court)) - Author] ["Soil Vapour Sampling Methodology", 27-Aug-2002, Imperial Oil Limited (Burnaby) - Commissioner; Morrow Environmental Consultants Inc (Burnaby (Commerce Court)) - Author; Stockerl, Ed (Nelson) - Reviewer] ["Quarterly Monitoring Report For The Periods Of July - September, 2002", 01-Oct-2002, Imperial Oil Limited (Burnaby) - Commissioner; Stockerl, Ed (Nelson) - Reviewer; Morrow Environmental Consultants Inc (Burnaby (Commerce Court)) - Author] ["Site Monitoring & Sampling Report", 03-Dec-2002, Imperial Oil Limited (Burnaby) - Commissioner; Morrow Environmental Consultants Inc (Burnaby (Commerce Court)) - Author] ["503 Railway Avenue Salmo, Bc Mwlap File 26250-20/5095 Site 5095", 21-May-2003, Murdoch, Wendy R (Cranbrook) - Reviewer; Imperial Oil Limited (Burnaby) - Author] ["Additional Stage Of Assessment - Former Esso Service Station At 503 Railway Avenue, Salmo, Bc (Location No. 990333/R02311)", 03-Jun-2003, Murdoch, Wendy R (Cranbrook) - Recipient;

Table E3: Registered Contaminated Sites: Documents

Site ID	Documents
	Imperial Oil Limited (Burnaby) - Commissioner; Morrow Environmental Consultants Inc (Burnaby (Commerce Court)) - Author] ["Site Monitoring And Sampling Report - 503 Railway Avenue, Salmo, Bc (Sampling Dates June 9-13, 2003)", 27-Aug-2003, Imperial Oil Limited (Burnaby) - Author] ["Site Monitoring And Sampling Report", 23-Sep-2003, Murdoch, Wendy R (Cranbrook) - Reviewer; Imperial Oil Limited - Author] ["Demonstration Monitoring Program Progress Report Years 2001-2003", 09-Mar-2004, Morrow Environmental Consultants Inc (Burnaby (Commerce Court)) - Author] ["Demonstration Monitoring Program Progress Reort Years 2001-2003", 09-Mar-2004, Morrow Environmental Consultants Inc (Burnaby (Commerce Court)) - Author] ["Site Monitoring & Sampling Report", 26-Apr-2004, Morrow Environmental Consultants Inc (Burnaby (Commerce Court)) - Author] ["Site Monitoring & Sampling Report - March 9-11, 2004", 26-Apr-2004, Morrow Environmental Consultants Inc (Burnaby (Commerce Court)) - Author] ["Monitoring And Sampling Report For The September & October 2004 Events", 07-Dec-2004, Morrow Environmental Consultants Inc (Burnaby (Commerce Court)) - Author] ["Demonstration Monitoring Program Progess Report Year 2004", 26-Apr-2005, Morrow Environmental Consultants Inc (Burnaby (Commerce Court)) - Author] ["Validation Monitoring Program Progress Report Years 2005 And 2006 Former Esso Service Station 503 Railway Avenue, Salmo, Bc (Location No. R02311)", 10-Jul-2007, Snc-Lavalin Morrow Environmental - Author] ["Validation Monitoring Phase Progress Report For 2009 503 Railway Avenue Salmo, Bc Loction No. 88002202 / Sap No. R02311", 28-Jan-2010, O'Connor Associates - Author] ["Validation Monitoring Phase Progress Report For 2010 503 Railway Avenue Salmo, Bc Loction No. 88002202 / Sap No. R02311validation", 27-Jan-2011, O'Connor Associates - Author] ["Validation Monitoring Phase Progress Report For 2011, 503 Railway Ave, Salmo", 30-Jan-2012, O'Connor Associates - Author; Imperial Oil - Commissioner] ["Validation Monitoring Phase Progress Report For 2011, 503 Railway Ave, Salmo", 31-Jan-2014, Parsons - Author] ["Validation Monitoring Phase Progress Report 2014 503 Railway Avenue Salmo, British Columbia Location No: 88004702/Sap No. Jf. 00531", 23-Jan-2015, Parsons - Author] ["Validation Monitoring Phase Progress Report 2015 503 Railway Avenue, Salmo, British Columbia Location No: 88004702/Sap No. Jf.00531", 20-Jan-2016, Parsons - Author] ["Approval In Principle Dated March 2002 503 Railway Salmo British Columbia Location No. 88002202 Sap No. Jf.00531", 26-Jan-2016, Parsons - Author]
5143	n.d.
5303	["Former Salmo Service Station, 503 Railway Avenue, Salmo, B.C.", 31-Aug-1999, Morrow Environmental Consultants Inc (Burnaby (Commerce Court)) - Author; Rubeniuk, Myles - Recipient; Imperial Oil Limited (Burnaby) - Commissioner] ["Former Salmo Service Station, 503 Railway Avenue, Salmo, B.C.", 29-Nov-1999, Morrow Environmental Consultants Inc (Burnaby (Commerce Court)) - Author; Imperial Oil Limited (Burnaby) - Commissioner; Rubeniuk, Myles - Recipient] ["Former Salmo Service Station, 503 Railway Avenue, Salmo, B.C.", 16-Dec-1999, Rubeniuk, Myles - Recipient; Imperial Oil Limited (Burnaby) - Commissioner; Morrow Environmental Consultants Inc (Burnaby (Commerce Court)) - Author]
5311	["Former Salmo Service Station, 503 Railway Avenue, Salmo, B.C.", 27-Jul-1999, 473984 Bc Ltd (Salmo) - Recipient; Morrow Environmental Consultants Inc (Burnaby (Commerce Court)) - Author; Imperial Oil Limited (Burnaby) - Commissioner] ["Former Salmo Service Station, 503 Railway Avenue, Salmo, B.C.", 16-Aug-1999, Imperial Oil Limited (Burnaby) - Commissioner; 473984 Bc Ltd (Salmo) - Recipient; Morrow Environmental Consultants Inc (Burnaby (Commerce Court)) - Author] ["Former Salmo Service Station, 503 Railway Avenue, Salmo, B.C.", 29-Nov-1999, Morrow Environmental Consultants Inc (Burnaby (Commerce Court)) - Author; 473984 Bc Ltd (Salmo) - Recipient; Imperial Oil Limited (Burnaby) - Commissioner] ["Former Salmo Service Station, 503 Railway Avenue, Salmo, B.C.", 16-Dec-1999, 473984 Bc Ltd (Salmo) - Recipient; Imperial Oil Limited (Burnaby) - Commissioner; Morrow Environmental Consultants Inc (Burnaby (Commerce Court)) - Author]
5313	["Former Salmo Service Station, 503 Railway Avenue, Salmo, B.C.", 27-Jul-1999, Waterstreet, Dennis And Norma - Recipient; Morrow Environmental Consultants Inc (Burnaby (Commerce Court)) - Author; Imperial Oil Limited (Burnaby) - Commissioner] ["Former Salmo Service Station, 503 Railway Avenue, Salmo, B.C.", 20-Nov-1999, Imperial Oil Limited (Burnaby) - Commissioner; Waterstreet, Dennis And Norma - Recipient; Morrow Environmental Consultants Inc (Burnaby (Commerce Court)) - Author] ["Former Salmo Service Station, 503 Railway Avenue, Salmo, B.C.", 16-Dec-1999, Imperial Oil Limited (Burnaby) - Commissioner; Waterstreet, Dennis And Norma - Recipient; Morrow Environmental Consultants Inc (Burnaby (Commerce Court)) - Author]
8322	["Notice Of Independent Remediation: Salmo Highways Yard, Salmo, Bc", 26-Jun-2003, Technology Resource Inc (North Vancouver) - Author; Murdoch, Wendy R (Cranbrook) - Recipient; Bc Buildings Corporation (Victoria) - Commissioner] ["Notice Of Completion Of Independent Remediation.", 26-Aug-2003, Technology Resource Inc (North Vancouver) - Author; Stockerl, Ed (Nelson) - Recipient]
14499	n.d.

Interior Health
Every person matters

July 25, 2017

Diane Kalen-Sukra, Chief Administrative Officer
Village of Salmo
423 Davies Avenue
Salmo, BC, V0G 1Z0

RE: Village of Salmo Water System, Facility # 0211640, Proposed Conditions on Operating Permit

The following terms and conditions are proposed for the Village of Salmo Water System operating permit pursuant to Section 8 of the Drinking Water Protection Act. These terms and conditions replace any previous terms and conditions included in the operating permit. Pursuant to Section 8(4), please provide your comments to the proposed changes for our consideration by September 1, 2017.

Terms and Conditions

1. **Provide a Source Protection Plan for Each Water Source**

- The purpose of the source protection plan is to identify areas and activities that could affect the quality, quantity and timing of flow of the drinking water sources. By identifying critical areas and activities, the water supplier can influence planning and measure impacts on their system. Additionally, the purpose of the source protection plan is to reduce threats to water quality and provide an additional barrier for drinking water protection. *DWP Act Section 18 (2) (a)*
- **Status: In-Progress**
- Community Water Wells Management Strategy Report prepared by Golder & Associates in 2005. This report satisfies module 1 of the Comprehensive Drinking Water Source-to-Tap Assessment for the Glendale Well.
- **Request:** Complete module 2, 7 and 8 of the Comprehensive Drinking Water Source-to-Tap Assessment or comparable guideline for the Glendale Well.
- Complete module 1, 2, 7 & 8 of the Comprehensive Drinking Water Source-to-Tap Assessment or comparable guideline for the KP Park Well.
- **Target Date:** January1, 2020

2. **Provide a Certified Operator to operate the System**

- **Status: In Compliance**
- This water system is classified as WD- II. The EOCP website indicates that the facility has certified operators.
- **Request:** None at this time

Reception: 250-505-7200
Direct: 250-505-7234
Email: Pouria.mojtahedi@interiorhealth.ca
Web: www.interiorhealth.ca

INTERIOR HEALTH
Health Protection
2nd floor-333Victoria Street
Nelson, BC V1L 4K3

3. Operate According to Your Water Quality Monitoring Program

- Develop and maintain a water quality monitoring program which encompasses both source and distribution sides of the system. *DWP Act Section* 11 & *DWP Reg. Section* 8 & Schedule A & B
- **Status: In-Progress**
- Updated Drinking Water quality monitoring program has been submitted
- Weekly bacteriological sampling is being conducted
- **Request:** Include full comprehensive raw water analysis of each water source every two years
- **Target date:** December 31, 2017

4. Operate According to Your Cross Connection Control Program

- If a water system is not protected against backflow from a cross connection, this becomes a potential source of contamination and therefore a significant health hazard. Water suppliers can protect against cross connections through a Cross Connection Control Program (CCCP), which will compliment other barriers of the multi-barrier approach to providing safe drinking water. DWP Act section 22(3) & DWP Regulation section 15.
- **Status: Not In Compliance**
- **Request:** Provide a timeline for development of a Cross Connection Control Program which will identify, eliminate and prevent cross connections with non-potable water sources for the Village of Salmo.
- **Target date:** June 30, 2018

5. Provide Long term Plans for Source, Treatment and Distribution System Improvements Taking into Account the Provincial Treatment Objectives

- Goal is to provide a plan to be compliant with provincial legislation with consideration of the financial, technical and water quality objectives for sustainable water infrastructure. Long term business plans must reflect sustainability of the water supply system to provide clean, safe, and reliable tap water for all users of the system
- **Status: Working Towards Compliance**
- **Request:** Complete a preliminary GWUDI/GARP assessment for all wells in the water system to determine if further treatment is required in order to meet the Drinking Water Protection Regulation
- **Target Date:** January 1, 2020

6. Review and Update the Emergency Response Plan Annually

- **Status: In Compliance**
- Updated Emergency Response Plan has been submitted.
- **Request:** Review and update the Emergency Response Plan annually.
- **Target Date:** June 30, 2018

7. Provide Monthly and annual Reports

- **Monthly Report Status: In Compliance**
- Monthly reports summarize the monitoring information from the Water Quality Monitoring Program and identify anomalies in the data. The reports should also include summary information on daily water consumption, microbiological test results, comments on service disruptions and significant events.
- **Request:** None at this time

- **Annual Report Status: Not In Compliance**
- Annual reports should be provided to water users to enhance communications regarding water quality, operations, monitoring results and capital works projects for water supply system.
- **Request:** A complete annual report is to be made available to the public/users within six months of the end of the calendar year. A copy to be provided to Interior Health by June, 30th.
- **Target Date:** June 30, 2018

These terms and conditions can be changed by the Drinking Water Officer or an issuing official after consultation with the water supplier.

These terms and conditions will be included in the operating permit and are in addition to the requirements of the Drinking Water Protection Act and Regulation.

Requirements of the Drinking Water Protection Act and Regulation include:

- Provide Potable Water: DWPA Section 6

- Construction Permits: DWPA Section 7, DWPR Section 6

Please provide your comments to the proposed changes for our consideration by September 1, 2017.

Sincerely,

Pouria Mojtahedi
Specialist Environmental Health Officer

cc by email: Dan Byron, Large Water Program Team Leader
Marianne Crowe, Public Health Engineer

BRITISH COLUMBIA

Ministry of Municipal Affairs

Local Government Infrastructure and Finance
PO Box 9838 Stn Prov Govt
(4th Floor - 800 Johnson Street)
Victoria, BC V8W 9T1

CIRCULAR

Circular No. 24:05
February 29, 2024

To: Chief Administrative Officers

Re: Potential for Drought Conditions in 2024

Please be advised that streamflow and groundwater monitoring data along with the snow conditions being reported regularly by the BC River Forecast Centre (RFC) suggest it is possible that the drought conditions experienced across the province in recent years will persist again into this year. Based on these early indicators, we recommend local governments prepare for an elevated risk of experiencing drought in 2024.

The Province has several online resources to support local governments through drought conditions. The BC Drought and Water Scarcity Response Plan provides an overview of drought response in the province, including management responsibilities, pre-drought preparedness, descriptions of the provincial drought levels and the potential regulatory actions that may be taken. This plan is updated annually, so please look for the updated 2024 plan on the BC drought information web site mid-April.

The Province produces datasets to better understand water availability regionally including:

- Map of 7-Day Average Streamflow displays all Water Survey of Canada streamflow gauges in BC.
- The Drought Information Portal displays regional Drought Levels based on indicators.

To translate these regional-scale drought levels to a more local scale, the Ministry of Water, Land and Resource Stewardship (WLRS), in partnership with the Regional Health Authorities and the Ministry of Health, will be reaching out directly to drinking water suppliers across the province to collect water supply status information. These surveys will be conducted at regular intervals and will help to understand the state of drinking water supplies throughout the impending 2024 drought season and streamline communication from drinking water suppliers to the provincial government to determine communities at risk of water supply issues and where provincial support is needed.

To improve drought resilience, all local governments should be monitoring water supplies to gauge their current conditions and anticipate future water scarcity, as well as prepare a water conservation plan. This Water Conservation Guide provides guidance on creating these plans, which should be kept current and reviewed and updated at least every five years. An up-to-date water conservation plan endorsed by a local government's Council or Board is required for water and wastewater application-based capital funding through the Ministry of Municipal Affairs.

To understand trends in water availability, it is important to have procedures in place to regularly monitor available information about water conditions, including information provided through the BC Drought Information Portal and Water Survey of Canada streamflow gauges relevant to your area. If your water sources (raw water storage and inflows, or groundwater levels) are not gauged, consider establishing a water supply monitoring program, which will enable you to quantify the water available to your community and adjust water use accordingly. Professional consultants can help design an appropriate monitoring program for your systems.

A Water Conservation Plan can help you develop, or update, a Water Conservation Bylaw, which may limit water use seasonally or in stages based on projections of water availability. As well as bylaws that implement water use restrictions, bylaws can be tied to permit approval processes, such as building or plumbing bylaws that offset additional water demands through conservation improvements or require water efficient or drought tolerant landscaping. Public outreach and communication can be an effective tool to explain the importance of water conservation, its impacts and what individuals need to do to participate. Universal water metering is also a very useful tool for demand management. If you have water metering, consider pricing structures that encourage water conservation. Other examples of opportunities for conservation can include rebates towards low flow appliances and rain barrels, or the elimination of once-through cooling systems in commercial buildings.

It is helpful to consider options for the future, even if these cannot be ready for 2024. Capital projects that improve drought resilience include leakage reduction, universal water metering, water reuse or reclamation, increased raw water storage and development of secondary or back-up water sources.

Caretaking the natural cycle that results in recharge of local water sources can also ensure that fresh water is retained or returned to local waterbodies and aquifers to maintain availability of drinking water and environmental flows. Consider how to protect watersheds and retain and absorb stormwater run-off. Low impact development, permeable infrastructure, and natural assets can retain valuable water. The following sites have associated resources:

- B.C. Climate Action Toolkit's Green Bylaws Toolkit provides practical tools for protecting green infrastructure: https://toolkit.bc.ca/tool/8018-2/.
- Integrated stormwater management: https://www2.gov.bc.ca/gov/content/governments/local-governments/infrastructure/water-systems/stormwater-infrastructure.
- Asset Management B.C.'s Primer on Integrating Natural Assets: https://www.assetmanagementbc.ca/framework/.
- The Partnership for Water Sustainability in B.C. also has some additional resources: https://waterbucket.ca/guidance-resources/.

The Infrastructure Planning Grant Program (IPGP) is available to local governments to plan, design and manage infrastructure. The IPGP provides an opportunity to obtain grant funding up to $10,000 to develop or update a Water Conservation Plan, or to plan capital projects that improve drought resilience. Program information is available on the Ministry's website.

Thank you for your cooperation and attention to the drought preparation.

Brian Bedford

Executive Director
Local Government Infrastructure and Finance Branch
Ministry of Municipal Affairs

The Corporation of the Village of Salmo

Report to Council

Report Date:	March 6, 2024
Meeting Date:	March 12, 2024 (#03-24)
From:	CAO Qualizza
Subject:	Provincial Legislation

1. INFORMATION ONLY

PURPOSE:

To provide Council with an overview of the changes made by the Province of British Columbia to planning legislation, and the tentative schedule of work we will be advancing as a result.

2. BACKGROUND

In a letter received December 21, 2023 from the Ministry of Housing, the Village of Salmo was notified that we will be awarded $156,221 by the end of January 2024 for local governments to advance the work of implementing Bill 44, 46 and 47.

This funding is intended to support activities or projects to support activities local governments must undertake to meet the new legislative requirements. Examples include updates to existing zoning bylaw, parking bylaw, Official Community Plan (OCP), Official Development Plan (ODP), Development Cost Charge (DCC Bylaw), Development Cost Levy (DCL) or Housing Needs Report (HNR), as well as the development of a new zoning bylaw, OCP, ODP, DCL, or develop a new amenity cost charge (ACC) bylaw.

Currently royal assent has been provided to four provincial bills;

- Bill 35 deals with Short Term Rentals
- Bill 44 deals with Housing Needs Reports and Small-Scale Multi-Unit Housing
- Bill 46 introduces new development financing tools that the Village of Salmo may choose to use.
- Bill 47 affects housing statutes for transit orientated which will not affect the Village of Salmo.

3. DISCUSSION

Public Hearings

The Village of Salmo is now prohibited from holding public hearings for a zoning bylaw or zoning bylaw amendment which in whole or in part to permit residential development that is consistent with the Official Community Plan.

Local governments may wish to consider adopting a policy to set out alternate forms of public engagement when a public hearing is prohibited under the legislation.

Interim Housing Needs Assessment

The changes in legislation now require a housing needs report to contemplate the 20-year housing needs of Salmo, this report is due to be completed and accepted by Council January 1, 2025. As with the previous Housing Needs Legislation, an updated report is required every 5 years.

The RDCK is planning to seek a consultant to update the 2020 Regional Housing Needs Assessment and have reached out seeking interest in member municipalities to do a regional assessment again.

Official Community Plan and Zoning Bylaw Changes

Bill 44 requires OCPs to be updated every five years and be consistent with housing needs reports. OCPs now must address 20 years of housing supply (rather than the previous 5 years), and zoning bylaws must be updated to permit the use and density to accommodate total number of housing units needed over the next 20 years.

Bill 44 also shifts the local planning and zoning processes to happen up front at the OCP stage and has phased out one-off public hearings for housing project rezonings that align with OCPs.

Small Scale Multi-Unit Housing (SSMUH)

The SSMUH zoning requirements mandate all local governments to exercise their zoning powers to permit at least one secondary suite or accessory dwelling unit on a parcel where the zone would otherwise restrict the permitted residential use to detached single-family dwellings. The only exception to this requirement is if a qualified professional certifies that the additional density would significantly increase a hazardous condition: s. 3(1) of the Zoning Bylaw Regulation.

Additionally, it is important to note that the legislation does not vest automatic rights to the SSMUH density. The density entitlements will occur when the local government has adopted the necessary zoning bylaw amendments by June 30, 2024. Until June 30, 2024 our current local government zoning regulations with respect to density will continue to apply.

We have been advised by Lidstone that should we seek an application in advance of that, we should advise the applicant that their requested zoning will take effect once the SSMUH density requirements are adopted and allow them to proceed with an immediate application or wait until June 30.

Development Cost Charges (DCCs)

DCCs have been expanded to include fire protection, police, solid waste and recycling facilities. Previously DCC's were limited to providing, constructing, altering, or expanding sewage, water, drainage, and highway facilities other than off-street parking and providing or improving parkland.

Amenity Cost Charges (ACCs)

The new legislation allows for the creation of an Amenity Cost Charge that will help mitigate the impact of growth, applying to community centres, libraries and recreation centres.

Impacts on Staff Workload

There have been several pieces of legislation that have received royal assent that will impact staff's ability to advance Council's strategic priorities alongside our routine business. We have a significant amount of work to do with the Housing Legislation, the Emergency Management Legislation and E911 compliance.

For a community our size, this workload seems disproportionately impactful. It has been raised at every Housing seminar I have attended that small communities simply do not have capacity to execute this work.

Council should be prepared for delays in advancing new projects, but we will endeavour to have a productive and effective 2024.

Scope of Work and Timeline

February 2024

Review and analyze current policy, bylaws, Zoning Bylaw, and regulations.

Prepare internal documents: Development Application Forms/ Development Approval Processes.

Waiting for Provincial guidelines for the Interim Housing Needs Report.

March 2024

Present to Council amendments to the Development Applications Procedure Bylaw to address changes in the public hearing process.

Capacity review of infrastructure to provide information on fee bylaw updates. (True Consulting Engineering - underway)

Receive the fee bylaw analysis from True Consulting and prepare amended fee bylaws.

Work with the RDCK on our regional Housing Needs Report.

Provide information to the public and stakeholders via our webpage on legislative requirements and proposed zoning amendments.

April 2024

Legal review of bylaws.

Start the process for Development Cost Charges bylaws and the new Amenity Cost Charge Bylaw.

May 2024

Prepare the final zoning amendments and Council report.

Notify the province to gain approval by May 15.

June 2024

Present to Council the Zoning Amendment.

November – December 2024

Present the Interim Housing Needs Report to Council for acceptance. (required before January 1, 2025).

Develop a Request for Proposals for the OCP amendment.

Before December 30, 2025

Council adopts necessary OCP and Zoning Bylaw Amendments.

Respectfully submitted,

CAO Qualizza

Village of Salmo
Accounts Payable February 23 to March 7, 2024

Cheque #	Pay Date	Vendor Name	Description	Paid Amount
017169	2024-02-29	Ace Courier Systems	CW/Water Sample Shipping	$202.01
017186	2024-03-07	Ace Courier Systems	Shipping Expenses	$102.52
017170	2024-02-29	Andrew Sheret Limited	Sewer/WWTP Supplies	$105.26
017187	2024-03-07	Andrew Sheret Limited	FD Truck Maintenance, Water Supplies	$113.07
017172	2024-02-29	B Speers Contracting	Well Maintenance Supplies	$96.65
017190	2024-03-07	Beaver Falls Machining Ltd.	WWTP Supplies	$483.02
017191	2024-03-07	BH Safety Gear	CW Safety Equipment	$143.85
017189	2024-03-07	Bill's Heavy Duty Enterprises(2004) LTD	FD Truck Maintenance	$737.25
017171	2024-02-29	Brandt Tractor Ltd.	Loader Maintenance	$5,151.95
017188	2024-03-07	Brandt Tractor Ltd.	Loader Maintenance	$90.94
017173	2024-02-29	Commissionaires British Columbia	Bylaw Enforcement	$300.89
017166	2024-02-29	Eco/Logic Environmental	Effluent Testing	$1,981.17
017181	2029-02-24	Fortis BC - Natural Gas	Natural Gas Expenses	$1,149.93
017174	2024-02-29	Fortis BC Inc.	Electricity Expenses	$2,711.39
017192	2024-03-07	Fortis BC Inc.	Electricity Expenses	$796.52
017193	2024-03-07	GFL Environmental Inc. 2020	Garbage Services	$12,214.58
017175	2024-02-29	Hall Printing	Fire Dept Supplies	$141.70
017167	2024-02-29	Kootenay Monument Installations	Cemetary Maintenance	$2,319.45
017177	2024-02-29	M.J. Fabrication & Maintenance Welding	Fire Dept Maintenance	$722.25
017195	2024-03-07	M.J. Fabrication & Maintenance Welding	FD Truck Maintenance	$590.50
017176	2024-02-29	Mills Office Productivity	Office Supplies	$114.99
017194	2024-03-07	Mills Office Productivity	Office Supplies	$28.40
017168	2024-02-29	Ready Engineering	Engineering Services	$6,185.76
017178	2024-02-29	Regional District of Central Kootenay	Bylaw #106/579 & Bylaw #116 Remittance	$19,110.97
017197	2024-03-07	Richlu Manufacturing	SDJ Promo Supplies	$932.23
017196	2024-03-07	Rogers	CAO/CW Cellphone Expenses	$270.89
Pre-Authorized Debit	2024-03-04	Royal Bank Central Card Services	Service Fees	$49.96
017179	2024-02-29	Scrap King Auto Wrecking	F.D. Supplies, Towing Services	$1,061.99
017198	2024-03-07	Skyway Hardware (1985) Ltd.	CW Shop/IH Plow/Office/Water/WWTP Supplies	$407.37

Village of Salmo
Accounts Payable February 23 to March 7, 2024

Cheque #	Pay Date	Vendor Name	Description	Paid Amount
017199	2024-03-07	Summit Truck & Equipment	IHC Plow/Loader Maintenance	$2,399.77
017180	2029-02-24	Sunco Communication & Installation	Office Supplies, IT Services	$1,539.93
017182	2024-02-29	Telus	Alarm Monitoring	$59.49
017184	2024-02-29	VH Sport	CW Safety Supplies	$66.15
017183	2024-02-29	Vimar Equipment Ltd	Sweeper Maintenance	$1,214.84
017200	2024-03-07	West Erie Mechanical	FD Truck/IHC Plow Maintenance	$157.50
017185	2024-02-29	Wholesale Fire & Rescue Ltd.	FD Turn Out Gear	$12,996.28
		Employee Benefits, Reimbursements and Salaries (PP5, Council 2)		$21,558.95
			Total:	**$98,310.37**

DATE Mar. 8/24
NO 15 TO M&C-MAR.12/24
FILE NO 0230-01
VILLAGE OF SALMO

KERPA Gala - Celebrating a Decade of Service.

Kootenay Emergency Response Physicians Association (KERPA) is hosting an upcoming Fundraising Gala Event on Saturday, May 25th, 2024, to celebrate 10 years of dedicated service to our community.

Our community is the reason KERPA has been able to come this far and help so many people over the last 10 years. Join us in celebrating this major milestone and be part of getting KERPA started in our next 10 years! We look forward to sharing this evening with all those who we work with in helping patients, those whose lives have been impacted by KERPA, and our KERPA community of supporters.

Event Details:

- **Date:** Saturday, May 25th, 2024
- **Time:** Doors open 5 pm
- **Venue:** Prestige Lakeside Resort Nelson, Nelson, BC

Highlights of the Evening:

- Silent Auction
- Buffet dinner
- Special Guest Speaker: Dr. Mark Forrest - Medical Director/Founder of The ATACC Group. NHS Assoc Medical Director and Consultant in Anaesthetics & Critical Care, HEMS consultant. Fire & Rescue and Police Medical Director. (UK)

Ticket and Table Information:

- Individual Tickets: $90 per person
- Reserved Tables: $720 per table (seats 8)

How to Purchase:

For event information, to purchase tickets or reserve a table please contact:

Luisa Zimich
KERPA Event Coordinator
Email: rlzimich@gmail.com
Phone: (403) 389 4868

Don't miss this opportunity to be part of a night filled with celebration, reflection, and the joy of giving back. Secure your tickets and tables now and help us make the KERPA Fundraising Gala a memorable and impactful experience!