INFORMATION MEETING

The End of a Long Journey….

Completion of the Faulder Water System Upgrades

February 2, 2016

Candace M. Pilling, Engineering Technologist

Welcome

- Introductions:
  - Director Brydon
  - RDOS
- Presentation - Simple questions or clarifications
- After presentation - Detailed question period
- Brochure changes
- Questionnaire

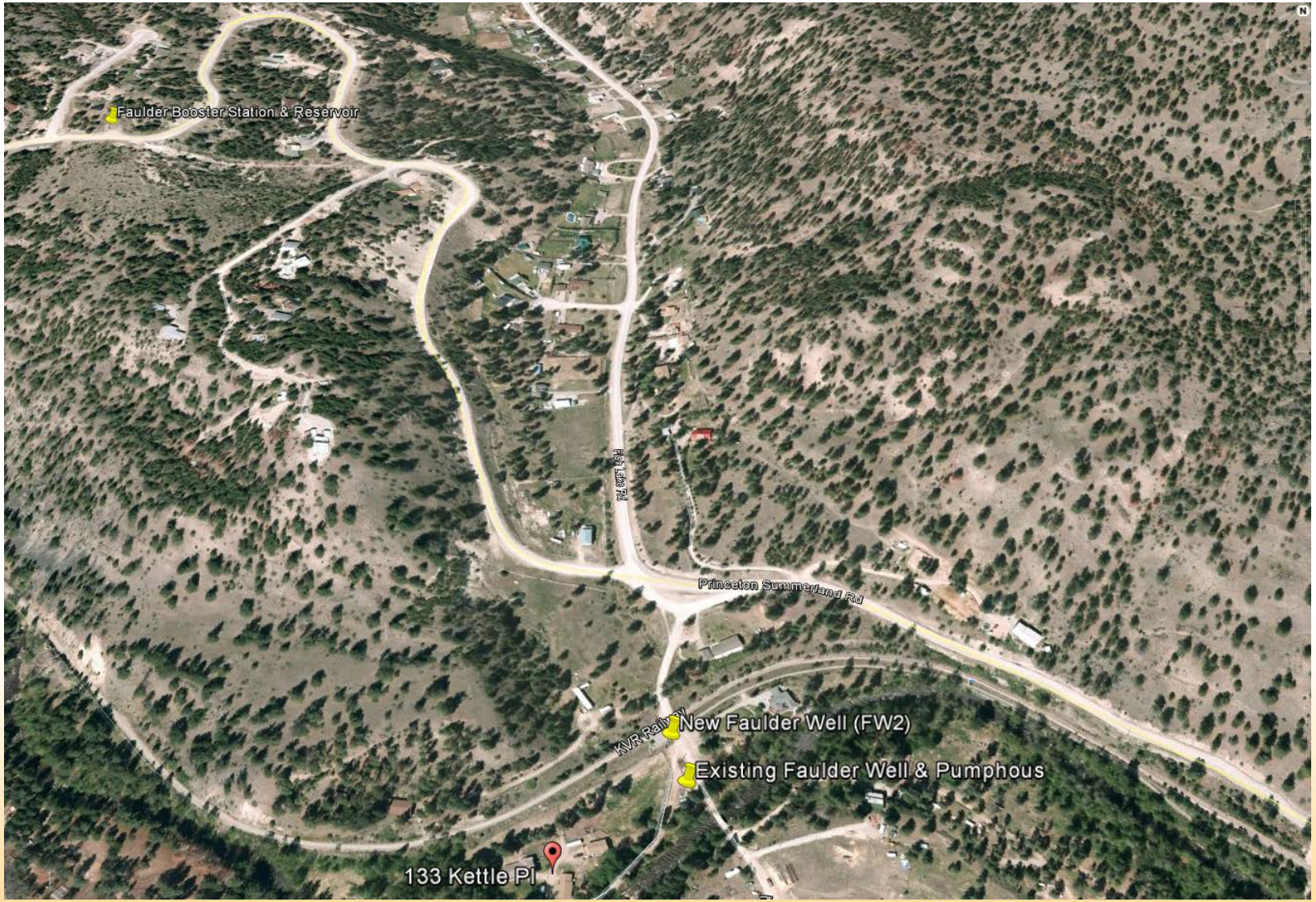
Welcome

- Faulder Water Citizens Group:
  - David and Cindy Boehm
  - Udo and Michelle Heidrich
  - Ivan Haag
  - Daniel Boehm
  - Ian Christensen
  - Kevin and Cari Turk
  - Gary and Mandy Smith
  - Dane and Bonnie Milton
- Others interested contact Cindy Boehm

Agenda

- Project Update
- Presentation by Interior Health Authority
  - Tristin Wilson
- Finance Update
- Golder Associates-New well discussion
  - Jacqueline Foley & Pattie Amison
- Water System Well Protection Planning Report
  - Ecora Engineering, Caleb Pomeroy
- Water Conservation Plan
  - Ecora Engineering, Caleb Pomeroy
- Questions and closing

Project Update
A quick review of the Faulder Water System



Project Update
Uranium Standards

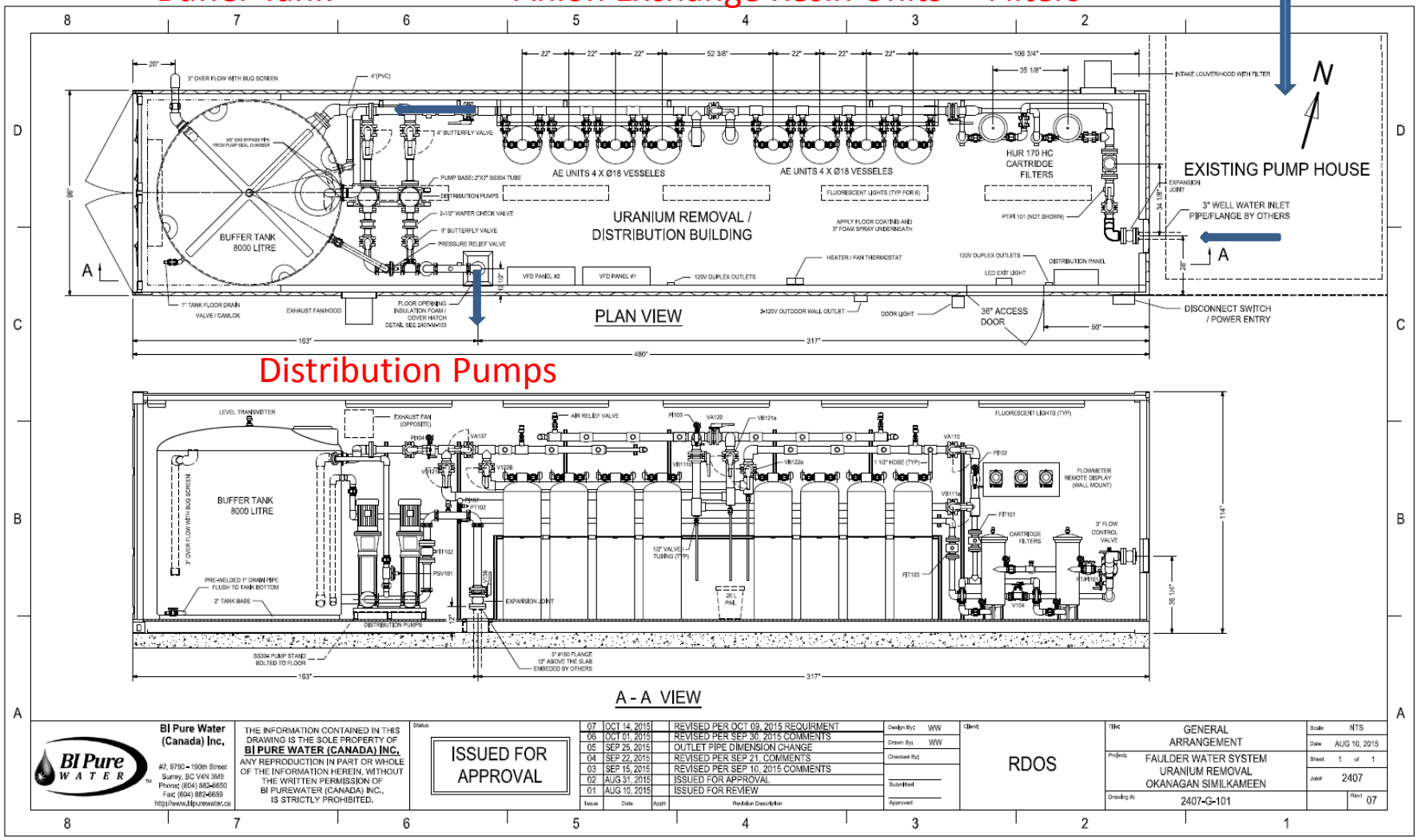
- 2007 - Guidelines for Canadian Drinking Water
  - New uranium allowable concentration 0.020 mg/l.
  - Average concentration of uranium in the Faulder well is approximately 0.028 mg/L.
  - 2007 - Water Quality Advisory issued to inform residents of the issues and to advise on potential health concerns

Project Update
Uranium Treatment System (UTS)

- UTS
  - January 2013 Request for Proposals (RFP)
  - BI Pure Water (Canada) Inc.
  - RFP based on treating 50 US gpm which was the current pumping rate of the existing well
  - Uranium treatment system was redesigned to treat up to 160 US gpm to meet the new well pumping rate.
  - 40%/60% to 90%/10% Mixing Capacity
  - UTS can be bypassed if necessary

Project Update
Uranium Treatment System (UTS)

Buffer Tank Anion Exchange Resin Units Filters

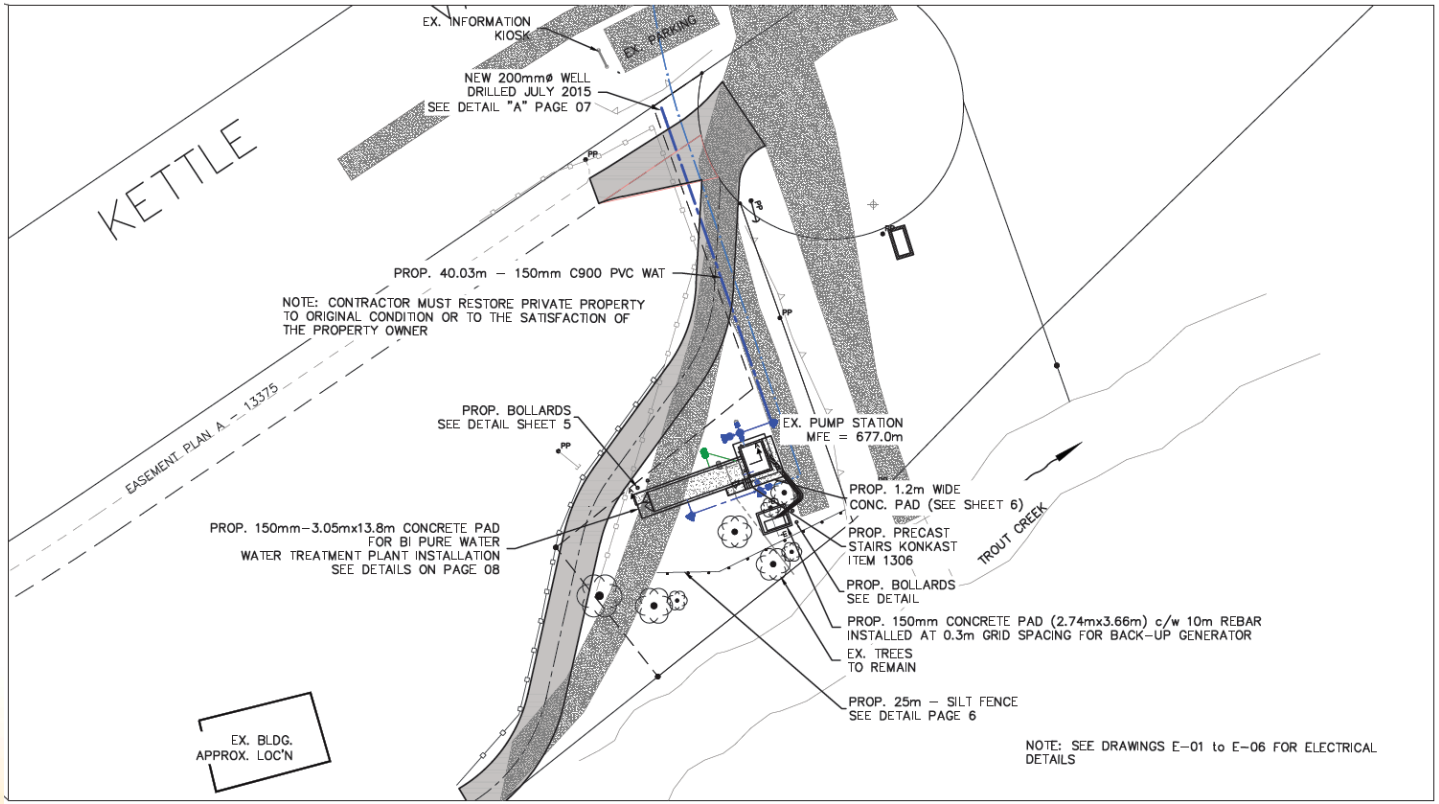


Project Update
Uranium Treatment System (UTS)

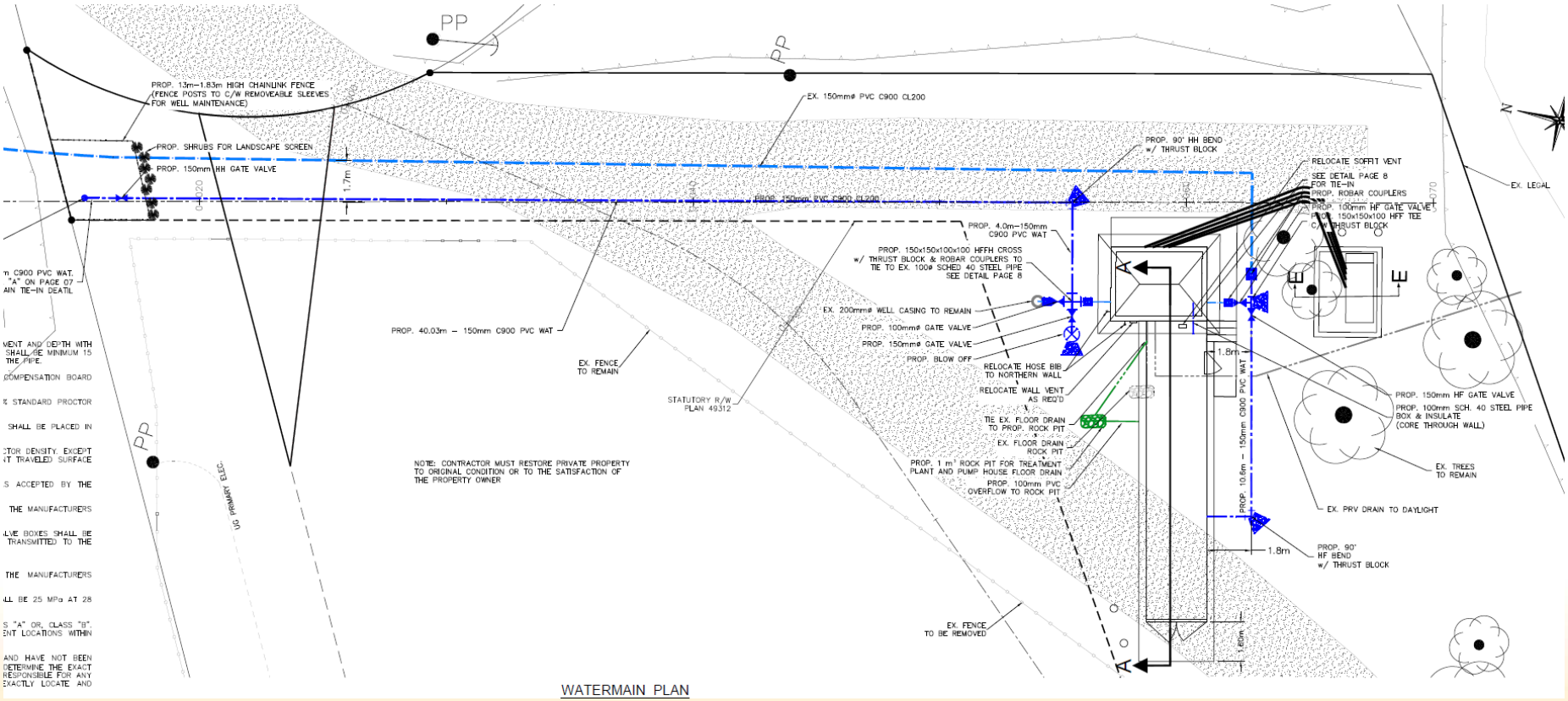
Project Update
Faulder Water System Upgrades

- June 2015 RFP
- Engineered design drawings, tendering services and construction services
- Ecora Engineering & Resource Group Ltd.

Project Update
Faulder Water System Upgrades



Project Update
Faulder Water System Upgrades



WATERMAIN PLAN

Project Update
New Faulder Well (FW2)

- Golder Associates and Field Drilling
- Drilled late July 2015
- Within existing easement at 133 Kettle Place
- Drilled to 94.18m (309 feet) below the drilling pad surface

Project Update
New Faulder Well (FW2)

Project Update
Old Faulder Well (FW1)

- Backup well
  - Drilled to a depth of 63.7 m (209 feet) below ground surface
  - IHA confirmed that the RDOS is able to keep the “old well” (and not decommission) as an emergency back-up supply

Project Update
Faulder Water System Upgrades

- August 2015 Tender
- Grizzly Excavating Ltd.
- Construction of the following:
  - Install a new well pump and associated components into the new 200mm well
  - Install piping from the new well to the existing system
  - Complete all necessary mechanical and electrical work to connect the new UTS and pumphouse
  - Complete electrical and communications upgrades
  - Re-grade and relocate existing driveways and associated restoration works.

Project Update
Faulder Water System Upgrades

- Pumphouse
  - Control system was upgraded
  - Connected up to SCADA
    (Supervisory Control and Data Acquisition)
  - Electrical system upgraded and reconfigured to accommodate the UTS and generator
  - Door overhang to prevent snow/ice buildup
  - Benefits:
    - Increased remote capabilities, monitoring
      - SCADA allows for viewing alarm conditions and system operations from remote location
    - Eliminated a rented Telus line

Project Update
Faulder Water System Upgrades

- Booster station
  - Faulder booster station door added
  - Eliminates a confined space for operators

Project Update
Uranium Treatment System

- Stand-by Generator
  - Kohler 80kW
  - Automatic Transfer Switch
  - Diesel

Project Update
Uranium Treatment System

- System Upgrades – Status Update
  - 95% complete
  - Finalizing installation of the UTS and the generator this week
  - BI Pure to commission UTS next week
  - Testing to start next week
    - Bacteria
    - Uranium
  - Deficiencies and Clean up

Interior Health Authority

- Tristan Wilson, C.P.H.I. (C),
  - Small Water System Environmental Health Officer

Interior Health
Every person matters

Project Cost and Funding

Project Cost	$1,331,350
Grant funds:	
Towns for Tomorrow	$332,800
Building Canada Grant	$610,234
Reserve Funds	
(estimated 2015 ending balance)	
Operating Reserve	$251,066
DCC	$7,250
To finance	$130,000

Borrowing Costs

Borrow	$130,000
3.5% for 20 years	
Annual Debt Servicing	$9,147
Parcel tax increase for debt servicing in 2017	**$125**

- At the September 2014 Faulder Meeting, it was estimated that the cost to drill a new well and install a packaged treatment system to remove the uranium would be approximately $150/year over 20 years.

Municipal Finance Authority

- Rates are estimates
  - Finalized when debenture actually drawn
  - Debenture will be drawn out in October
- Rates are given for 10 years at a time
  - In October will get guaranteed rate for 10 years
- Rate will reset in the 11th year
  - Unknown at this time what rate would be then

Parcel Tax Future Estimates

2015 Parcel Tax	$1,817
2016 Parcel Tax with reserve transfer	$1,840
2017 Parcel Tax with reserve transfer and $125 for debt servicing at 3.5%	$2,000

The New Faulder Well

- Golder Associates:
  - Jacqueline Foley, M.SC., Geo.L., Associate, Senior Hydrogeologist
  - Pattie Amison, M.Sc., Ept Scientist, Hydrogeology Group

Water Conservation Plan

- Water Conservation Plan addresses the following:
  - Community water use profile;
  - Forecasting future water demand;
  - Water use targets;
  - Water conservation measures and tools;
  - Evaluating measures and tools; and
  - A detailed implementation strategy.

Water System Well Protection Planning Report

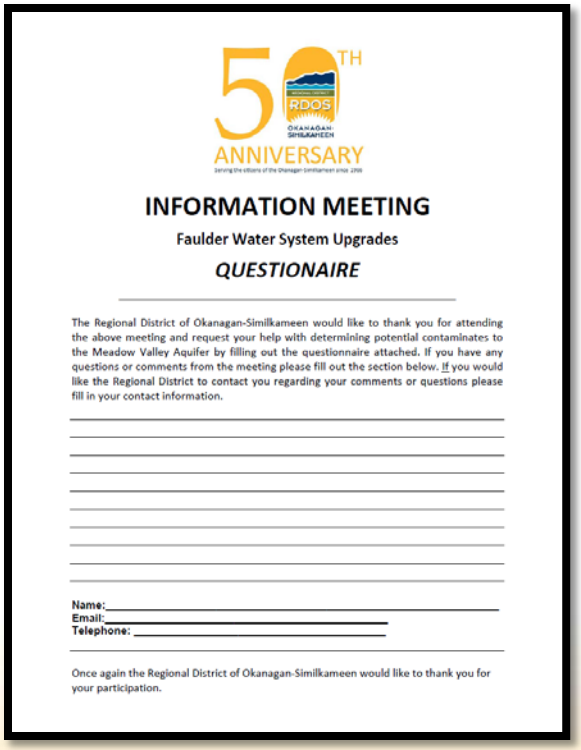
- Water System Well Protection Planning Report addresses the following:
  - Public consultation and education;
  - Defining the well protection area;
  - Identifying and Characterizing Risks from Source to Tap of potential contaminants; and
  - Recommendation of Actions to Improve Drinking Water Protection.

Water Conservation Plan and Water System Well Protection Planning Report

- Ecora Engineering & Resource Group Ltd.:
  - Caleb Pomeroy, EIT, PMP, Junior Civil Engineer

Questions and Wrap up

- Questionnaire



50TH ANNIVERSARY

INFORMATION MEETING

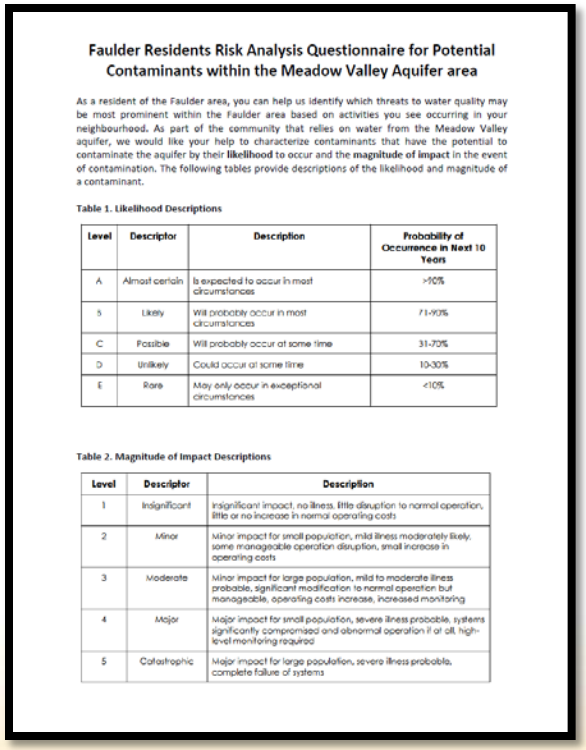
Faulder Water System Upgrades

QUESTIONAIRE

The Regional District of Okanagan-Similkameen would like to thank you for attending the above meeting and request your help with determining potential contaminates to the Meadow Valley Aquifer by filling out the questionnaire attached. If you have any questions or comments from the meeting please fill out the section below. If you would like the Regional District to contact you regarding your comments or questions please fill in your contact information.

Name:_____
Email:_____
Telephone: _____

Once again the Regional District of Okanagan-Similkameen would like to thank you for your participation.



Faulder Residents Risk Analysis Questionnaire for Potential Contaminants within the Meadow Valley Aquifer area

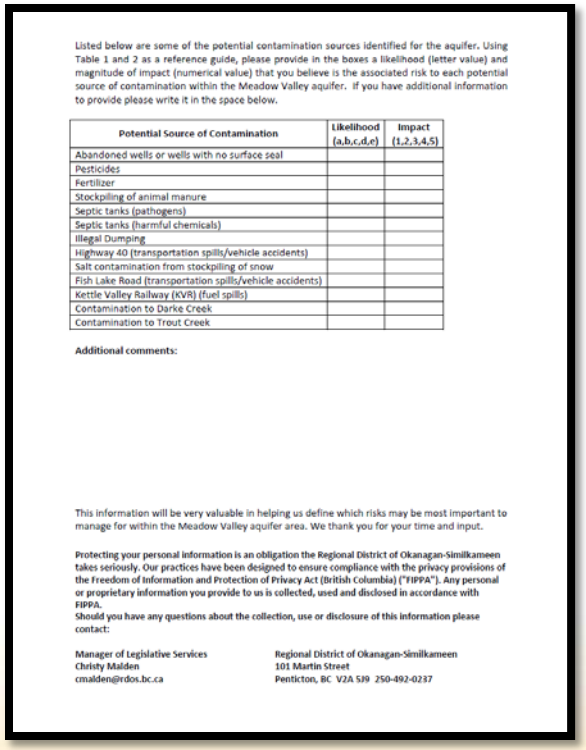
As a resident of the Faulder area, you can help us identify which threats to water quality may be most prominent within the Faulder area based on activities you see occurring in your neighbourhood. As part of the community that relies on water from the Meadow Valley aquifer, we would like your help to characterize contaminants that have the potential to contaminate the aquifer by their **likelihood** to occur and the **magnitude of impact** in the event of contamination. The following tables provide descriptions of the likelihood and magnitude of a contaminant.

Table 1. Likelihood Descriptions

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%

Table 2. Magnitude of Impact Descriptions

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



Listed below are some of the potential contamination sources identified for the aquifer. Using Table 1 and 2 as a reference guide, please provide in the boxes a likelihood (letter value) and magnitude of impact (numerical value) that you believe is the associated risk to each potential source of contamination within the Meadow Valley aquifer. If you have additional information to provide please write it in the space below.

Potential Source of Contamination	Likelihood (a,b,c,d,e)	Impact (1,2,3,4,5)
Abandoned wells or wells with no surface seal		
Pesticides		
Fertilizer		
Stockpiling of animal manure		
Septic tanks (pathogens)		
Septic tanks (harmful chemicals)		
Illegal Dumping		
Highway 40 (transportation spills/vehicle accidents)		
Salt contamination from stockpiling of snow		
Fish Lake Road (transportation spills/vehicle accidents)		
Kettle Valley Railway (KVR) (fuel spills)		
Contamination to Darke Creek		
Contamination to Trout Creek		

Additional comments:

This information will be very valuable in helping us define which risks may be most important to manage for within the Meadow Valley aquifer area. We thank you for your time and input.

Protecting your personal information is an obligation the Regional District of Okanagan-Similkameen takes seriously. Our practices have been designed to ensure compliance with the privacy provisions of the Freedom of Information and Protection of Privacy Act (British Columbia) ("FIPPA"). Any personal or proprietary information you provide to us is collected, used and disclosed in accordance with FIPPA.
Should you have any questions about the collection, use or disclosure of this information please contact:

Manager of Legislative Services
Christy Malden
cmalden@rdos.bc.ca

Regional District of Okanagan-Similkameen
101 Martin Street
Penticton, BC V2A 5J9 250-492-0237

Thank You

50TH ANNIVERSARY

Serving the citizens of the Okanagan-Similkameen since 1966.

All's *Well* that Ends *Well*...

Welcome to the End of a Long Journey!!

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