PINEVIEW IMPROVEMENT DISTRICT
Community Meeting
MINUTES
October 21, 2025

1. Welcome Meeting started 6:04pm
2. Intro – PID board & guests Brenda Heft (Board Chair) introduced everyone
   Holly Herzog Office Manager
   Board members: Greg Poitras, Kathy Yeulet, Nancy Wellburn and Jeremy Larsen
   Guests: David Franzmann and Andrew Brink from Radloff Engineering.
   David Addison from Northern Health
3. Opening remarks
   - PID chair Greg welcomed everybody to the second community water meeting.
   - History notes – back in 2012 Greg had a meeting with Northern Health they introduced to (Greg as he was the Board Chair at the time), that there was going to be changes in the Health Canada acceptance levels for Manganese. Our directive at that time was that PID be looking towards a solution, for example Over the last 13 years PID has delved into many different attempted solutions, we have looked at putting filtration systems in everyone's homes in Pineview, we looked at a full water treatment facility, which was presented to the community about 3 years ago. That brings us here tonight, we feel we have found a reasonable solution and the purpose of tonight's meeting is to share those finding with you.

At the end of the presentation, we will have a Q&A period, for you to ask your questions.

4. NH– Health Canada Guidelines – David Addison a public Health Engineer with Northern Health.
   Spoke about Manganese and the health risk and why it is important. In 2019 Health Canada changed the maximum acceptable concentration (MAC) of Manganese. What that entails is highly trained toxicologists look at human health impact from different community waters.
   Too much manganese has negative neurological affects. This affects all populations. PID water tested 5 times the MAC of manganese.
   Greg elaborated on what David said, that what manganese also does is introduces the substance into our distribution system. We have 6" pipes that are encrusted with 4" of manganese so there is a 2" hole allowing the water to go through. We as a Board have looked at remedying that but we can not fix the lines without doing something about the water, so it is an operational concern that we deal with on an ongoing basis.

5. Radloff – Presentation

David Franzman spoke about a solution they found while working closely with PID. Currently Pineview doesn't treat the water

• The raw water has elevated levels of iron (0.11mg/L MAC 0.3mg/L) and manganese (0.52mg/L MAC 0.12mg/L)
• Radloff has been in discussions with BI Pure Water on how best to treat the water.
• BI Pure Water, a designer and manufacturer of water and wastewater treatment plants, headquartered in Surrey, BC, has designed, manufactured, and installed/ commissioned water and wastewater treatment plants locally and globally over the past 25 years.
• Proposed treatment is based on oxidizing the dissolved iron and manganese

- A clarifier is used to settle out the iron and manganese.

The oxidation of dissolved iron (Fe2+) and manganese (Mn2+) in water converts them into insoluble, solid forms (Fe3+) and (Mn4+) that can be removed through filtration or settling.

- • A Mazzei Injector to draw 71 L/min of air and blend it with water

Pressurized water enters the Mazzei injector inlet.
• The inlet is constricted toward the injection chamber and changes into a high-velocity jet stream.
• The increased velocity draws air in through the injection chamber and mixes it into the water stream.

- • The stream is diffused toward the injector outlet; its velocity is reduced and resumes its flow in a thoroughly mixed state.

After the water leaves the Mazzei injector it will enter the lamella clarifier.
• A Lamella Clarifier is a type of sedimentation tank that uses a series of inclined plates to separate solid particles from liquid.
• These lamella plates, are arranged at an angle to increase the effective settling area while reducing the footprint of the tank.
• The inclined plates create a flow pattern that allows solids to settle on the plates surface and slide down to the bottom of the tank.

- • The clarified liquid exits the tank through a collection system located at the top.
- Sediment collects at the bottom and will need to be pumped out.

Proposed Timeline (if passed)

November 2025
– Issue POs to start work (if community approves)
– Start Water Plant Design and Site Layout
• December 2025
– Approve Designs
– Start Plant Construction (Bi Pure)
• February 2026
– Permit approvals
• April 2026
– Tender Civil, Electrical and Installation Works
– Factory Testing
• May 2026
– Civil, Electrical and Installation Works Award
• June 2026
– Plant arrives on site
– Commissioning

• July 2026
– Project Completion

PROPOSED COSTS

Mobilization & Demobilization	$15,750
Watermain	$54,075
Water Treatment Plant and Site Preparation	$527,550
Permitting	$5,545
Engineering	$51,959
Estimated Taxes	$61,801
Total Estimated Costs (Including Taxes)	**$716,680**
Total Estimated Costs (**Including 25% Contingency**)	$895,850

PID – Summary & review Jeremy Larsen

Just to summarize this unit that we are proposing uses a venturi air injection system and aeration through a clarifier which helps separate minerals such as manganese out of the water before the main water distribution. So, it goes in between the main reservoir and the wells.

- Next steps to start the voting process, the voting will be in place till November 4, 2025

6. Recommendations from PID & funding - The PID Board feel we can totally fund this project in its entirety, without coming to the community for funding.
   With this proposal it is the PID recommendation that we proceed with this project.
7. Q&A – Kathy to host

Q. Alex Addams -Who is going to monitor and maintain and cost?
A. Kathy Y -We have two maintenance people that will be trained in maintaining and monitoring the equipment we have estimated that it will cost around $20,000.00 per year to run.

Q. Shelia Lewis – What is the life span

A. Radloff – We expect 20 – 25 years but it would not be a full reconstruction. Most of the parts can be replaced.

Q. Heather S. -Is there a warranty on this.
A. Radloff – Yes there is a warranty.

Q. Scott – Is there a monitor that measures spikes in the manganese levels
A. David N.H. – You can get a hand-held meter, part of the testing. Ground water does change with the seasons but the aquifer PID pulls from is very deep and very confined, in the event that it does change, the operators will just make adjustments for that. It is pretty straight forward that you are just adding air into to oxidize.

Q. Residual long term affect of manganese is it short term or long term?
A. David N.H.- Talk with the toxicologist at CDC. I do not know but talk to me after and I can direct you where to ask the questions.

Q. To Greg you mention the water mains being compromised by over 65% - does that include all the line that are contaminated?
A. from Greg – We have 22 km of water lines to fix, we have identified key locations that resonate from the pumphouse, one was the Pooley Road which we upgraded a number of years ago. We have put a stop to other water line repairs because the filtration system needed to be done first. We can only bite off so much to accommodate this.
Q. Are we still going to get a percent of Manganese that is stuck on the pipes delivered to us?
A. Greg we looked at cleaning the lines but was not a viable option as they are at the end of their life and would not survive, they are

old AC pipes late 60's yearly 70's they are in need of replacement. To clean is not a option, we need to replace.

Q/Statement. Ron Carter- When we did water testing it was not coming through to end of user with high levels of Manganese.

Q. Carol Price – Asking about going under Reginal District
A. Kathy – That is an option we are looking at, but it will take years. The Regional District has not done this before. We are working on this and gathering all the information the Regional District needs from us to pursue this option.

Q. Dustin M. – When we did the testing none were over the limit only at well.
A. Greg – The problem is that the water that comes out of the well it has a higher concentration of manganese and the encrustation gets built up in the lines, if we can clean the water that comes from the source than we should be able to have clean water and then start to clean distribution lines.

Q. Berta C. – If we do this separation will the manganese get flushed out?
A. Greg – We flush the water lines regularly. Our commitment to the community is to continue flushing the lines spring and fall and we have noticed a improvement in the flushing process. When we do it, we don't end up with as much concentration. In your instance with the hot water tank the sooner we get clean water into the system the sooner it will diminish.

Q. Judy S. – How much are the taxes an tolls going to go up?

A. Kathy – We look at the tolls and taxes every year. We can only increase 10% per year. (Without government permission). The Board have been saving for a number of years for this type of initiative, so we are lucky at this point of time that we can say this project will be fully funded.

Q. Beth Beeson – The lamella clarifier where is it made and are the parts always going to be available?
A. Radloff- The parts are made in Surrey and will be available.

Q. Adrian – This system that we are voting on is it an active system? or are we looking at rotating tanks?
A. Radloff – N.H. requires it at the well. It is a tank NFS certified, with a whole bunch of plates that will settle out the solids and slows down the speed of the water going up the plate and as that happens the solids settle out and drop down to the bottom. It is usually the electronics that we see fail.
Greg – Previously we have had our well water pump into the reservoir. We have had to have that cleaned, it was around $10,000.00 and we did this a couple years ago. We had to get certified scuba divers to clean this out. This system is a step in between the well and the reservoir to make this happen in a contained structure so that we have control and can extract it on a regular basis.

Kathy – It has taken us years and many different options that we have look at. I believe with Radloff we have come up with a viable option.
Q. Deanna Wood – This system we are looking at is not going to cost us and the last one was?

A. Greg – We needed some options we got some new people some new interests regarding direction we wanted to go. We will be funding it. Our proposal and recommendation is that we procced with it, it is not getting any cheaper.

Q. Mark – Appreciate the effort you put into this new design and cut the cost as well.
Greg – Comment I would like to commend Jeremy's diligence in seeing this through, it was his vison and working with Radloff to come up with this vision.

Voting will be held at the Office until November 4, 2025 at 2 pm.

Q. Scott M- I was just wondering what Health Canada & Northern Health will do if this is voted down?
A. David – Northern Health will not be going away. This is a public health issue. If this is voted no it will only get more expensive, and we will go back to the drawing board to figure something out as this is a public health risk.

Q. Joe C.- Sample do you take the water and or the sediment for testing?
A. Scott Y. – I was involved in that water sampling and if there was black stuff we took that and got it all sampled. Every house we checked did not have in it and if they did, we tested it. It came back with iron and manganese, all the test, we got back other than at source came back under the Health Canada Guidelines.

Q. Lutz K – What cost to residents?
A. Kathy – No cost to residents we will be funding it all.

A. Greg – PID funding it, there will be no additional fees or charges to make this project come to be.

Q. Kevin W.- Are we looking at upgrading the pumps and sensors?
A. Kathy- We have been waiting on the sensors for weeks now, they are going in as we speak and the pumps have already been installed.
Q. How long will the water be down while this gets installed?
A. Radloff – Because you have the tower this will not affect too much maybe 2 hours.

Q. Braden – The cost of extracting and disposing the sludge is that included or extra costs?
A. Kathy – The estimate we have for that is about $2,000.00 per year.
A. Jeremy – We are looking at the sludge being hauled away we have figured about $500.00 each time we are anticipating annually but looking at doing every 6 months.

Q. Sheila L.- Is there going to be any money left over?
A. Kathy – Yes, the Board feel that we have enough money in our coffers and feel comfortable with this.

Q. Judy – How close is this to the car wash systems in Kamloops?
A. Radloff- Similar - typically car washes have lots of soap and chemicals.

Q. Ron Empey – I think you guys have done a great job lets get at it and put it in.

8. Vote- will be in affect till November 4 /25 2 pm there will be no proxy votes. Voting must be done only by registered - on title - land owners in Pineview.

10. Close – Thank you to everyone who came out.