

Welcome to the Okanagan Falls WWTP Pre-Design Information Meeting

The goal of this information meeting is to:

- Show you what the new treatment plant site will look like after construction
- Describe the treatment process and how the effluent will be managed
- Update the cost estimates

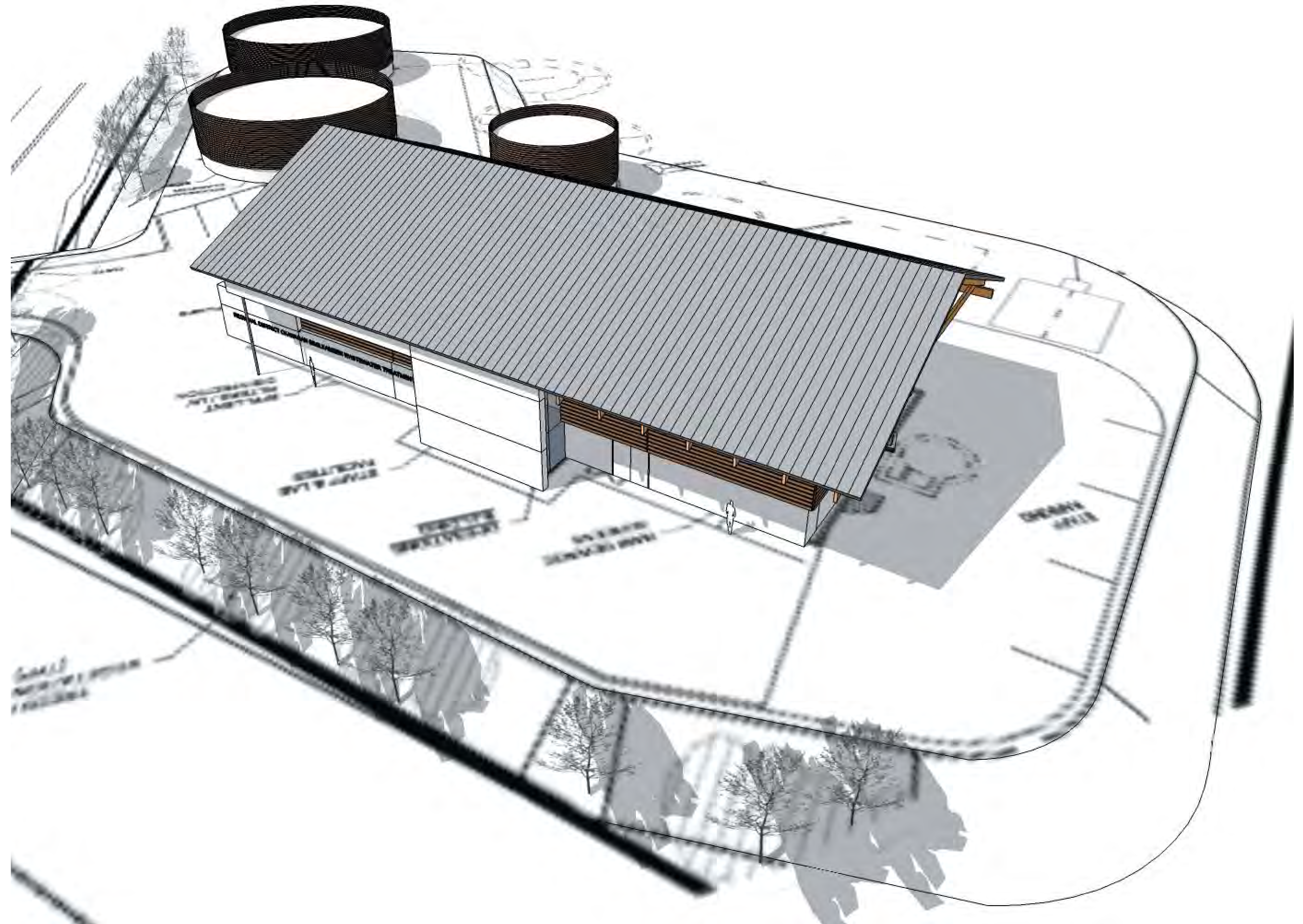
RDOS Staff, Advisory Committee Members and AECOM consultants are here to answer your questions

Presentations begin at 5pm, 6pm and 7pm



Pre-Design Review

- Three different wastewater treatment options were short-listed and compared
- Conventional biological nutrient removal (BNR) was selected based on a consideration of economic, social, environmental and technical criteria
- The selected option has the lowest life-cycle cost, is a proven, robust technology and provides flexibility in future staging of upgrades
- The new wastewater treatment plant (WWTP) will be designed to produce effluent with very low nutrient concentrations to allow direct discharge to the Okanagan River
- Odour control and treatment will be incorporated in the design
- Architectural renderings have been used to ensure aesthetics are addressed



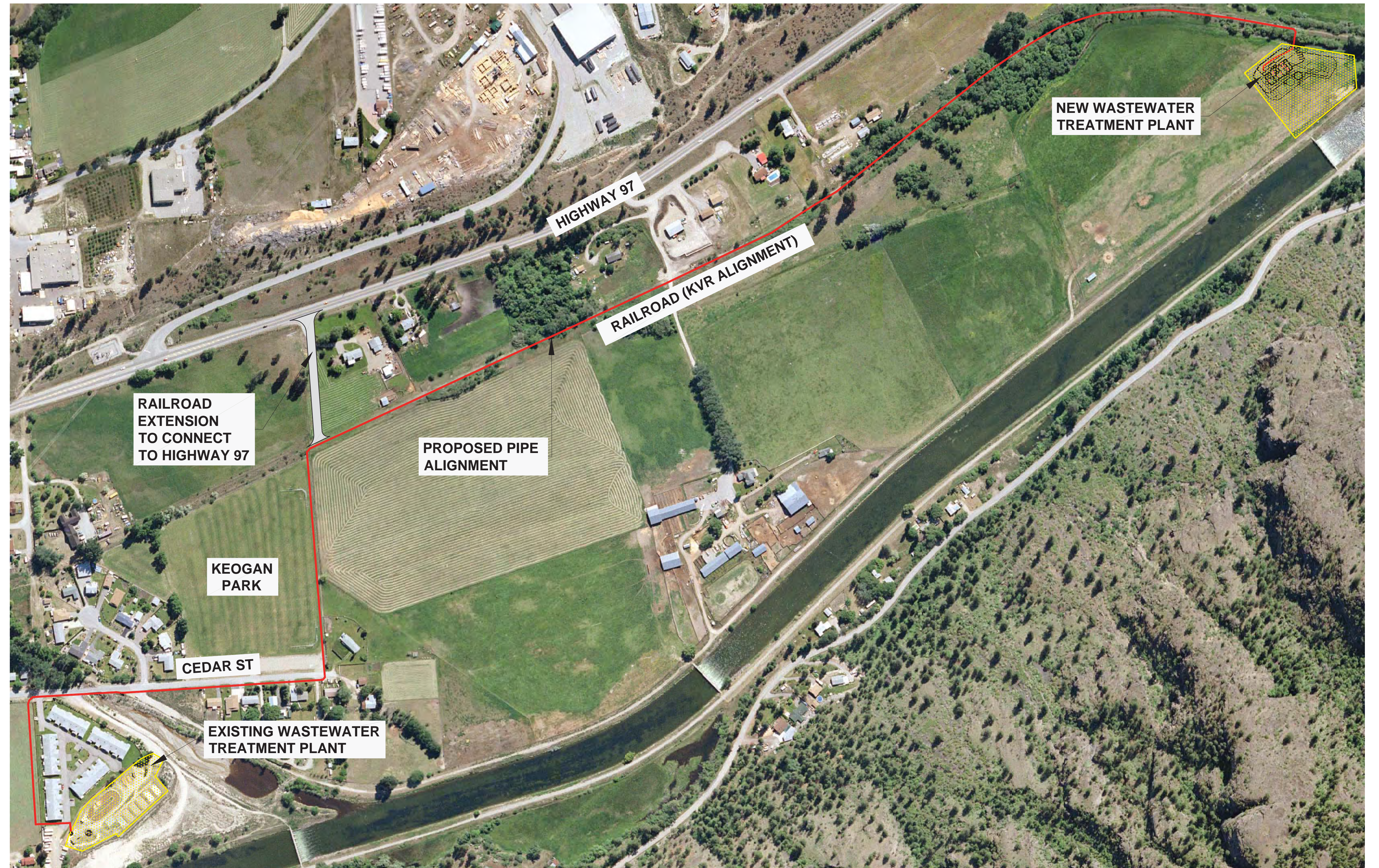
Rendering of Proposed New WWTP

- Architectural rendering showing the appearance of the new WWTP building, by Bevanda Architecture



Proposed Alignment of Sewer Main

- A new pumped forcemain will be used to convey wastewater from the current plant site to the new wastewater treatment plant (WWTP)
- The existing KVR alignment will be used as an access road to the new WWTP
- A new extension to Rail Road will be constructed to allow connection to Highway 97



Costing Update

- The total WWTP capital cost and the annual operating and maintenance costs are shown as well as the annual Cost per Connection
- The capital cost per connection includes all Federal/Provincial grant monies, the OBWB grant and capital reserves
- The total cost per connection is estimated to be \$585 per year

Annual Cost per Connection (User)

| Estimated Capital Cost Breakdown | Total Cost | Estimated Annual Cost per Connection AFTER all grants |
|--|--------------|---|
| Overall Pre-design Capital Cost Estimate | \$11,033,000 | \$210 |
| Overall Operating + Maintenance (O&M) Cost each year | \$462,920 | \$375 |
| Total Cost per Connection per year | - | \$585 |

Cost Savings from Postponed Items

- Some items have been deferred to minimize capital costs – these savings have been accounted for in the estimated \$585 per year connection
- Preferred items could be added back into this stage of the project if there is sufficient support from the ratepayers of Okanagan Falls
- Additional potential options could be incorporated into future upgrades to the WWTP, including when sewer service is extended to include Skaha Estates and the Kaleden Lakeshore area
- The Rail Road upgrade was a requirement from the Ministry of Transportation and Highways and RDOS staff are determining whether it can be deferred
- The cost of upgrading Rail Road is included in the \$585 per year connection estimate

Items Deferred From Current Stage to Lower Costs

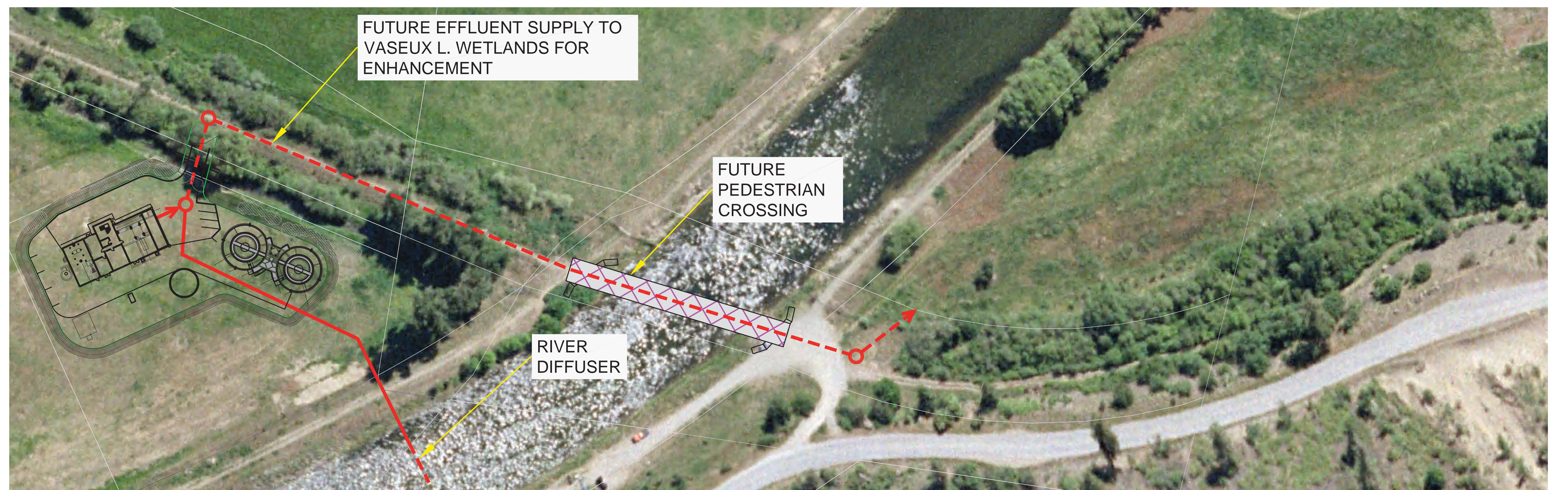
| Additional Potential Options | Total Additional Estimated Capital Cost (Includes Contingency & Engineering) | Estimated Sewer Tax | Comments |
|--|---|---------------------|---|
| 1. Enhancement of Vaseux Lake Wetlands Includes supply pipeline below river and development of head pond and treatment marsh | \$430,000 | \$27 | Would provide for reduced effluent discharged to Okanagan River |
| 2. Effluent Reuse Includes pumps and piping to supply effluent for irrigation at Keogan park and adjacent farm land | \$250,000 | \$16 | Would allow for beneficial reuse of effluent and reduces potable water demand |
| 3. Grit Removal | \$500,000 | \$32 | Would reduce wear and increase life expectancy of process equipment |
| 4. Sludge Dewatering Includes a centrifuge decanter to achieve 20-25% solids content of sludge | \$1,080,000 | \$69 | Would reduce transportation requirements for hauling thickened sludge to Penticon WWTP and allows for direct disposal of dewatered sludge to the compost facility |

Items Being Considered for Deferral

| Additional Potential Options | Total Additional Estimated Capital Cost (Includes Contingency & Engineering) | Estimated Sewer Tax | Comments |
|--|---|---------------------|---|
| 1. Upgrade Rail Road Between Highway 97 & Rail Bed Includes providing for highway connection and upgrade to rural road section | \$240,000 | \$15 | RDOS staff investigating whether this feature is a requirement of the project |

Plant Effluent Discharge to River and to Wetlands

- As part of the current upgrades, treated effluent will be discharged to the Okanagan River using an outfall fitted with a diffuser (see upper pane)
- In the future when funding becomes available a portion of the effluent could be conveyed to the Vaseux Lake wetlands on the opposite side of the river channel and used for habitat enhancement (see lower pane)
- The option of enhancing the Vaseux Lake wetlands is currently being discussed with Environment Canada and Ministry of Environment staff to determine detailed requirements



Rendering of Proposed New WWTP

- The first rendering shows the new WWTP buildings superimposed on a view from a nearby resident's property
- In the second rendering, vegetation is added to show how the completed plant landscaping could help blend the plant structures into the background

