

Union Bay Improvement District

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Comox Valley Regional Water Governance Forum

Tuesday, January 12th, 2016

4:00pm – 8:00pm

CVRD Board Room, 550 Comox Road, Courtenay, BC

UBID Presentation Notes

1. Water Source

Langley Lake – UBID has legal title and ownership of the lake bed which consists of 78 acres surrounded by a 20-acre set-back with a main distribution pipeline and road access extending from the lake. Total area is 101.932 acres or 14% of the Hart (Washer) Creek Watershed within which it resides.

Hart (Washer) Creek Watershed – located entirely within Island Timberlands and Hancock Holdings property, the watershed comprises of 395 hectares. Langley Lake is a tributary drainage of the watershed and a designated Water Supply Area for the community of Union Bay to provide water for domestic, commercial and fire protection purposes. As of 2004, more than 80% of the watershed had been previously logged. UBID will be furthering dialogue with Island Timberlands in 2016 in an effort to commence with the joint development of a watershed protection plan for the Hart (Washer) Creek Watershed. Our duty to ensure ample drinking water protection will form an integral part of this plan.

Water License – UBID's current water system license permits an annual maximum withdrawal of 809,204 m³, or 25.7 litres per second, which could reasonably support no more than the equivalent of 1,045 residential units. Presently, UBID services 656 active water connections, comprising of 638 residential and 18 commercial connections.

2. Water Storage (Reservoirs)

Union Bay has two in-ground reservoirs, the primary McLeod Road Reservoir and the secondary or balancing McKay Road reservoir. The McLeod Road facility, built in 1976, feeds the entire system with water flowing via gravity alone directly into the reservoir after it is pressure reduced and chlorinated. Its holding capacity is 137,000 imperial gallons or 620 m³. As part of our recent efforts to conduct a comprehensive review of our water system, it has been determined by our engineers that this reservoir is today undersized to accommodate our existing potable water, fire protection (flow) and drought management needs.

The McKay Road tank was built in the mid-1990s and is located on the south-end of our system. It supplements water demand for maximum daytime demand and fire flows for the southern area of Union Bay. It has a holding capacity of 65,000 imperial gallons or 300 m³ and is fed via a 200mm water main along McKay Road.

3. Water Treatment – Present

The sole water treatment process UBID performs currently is chlorination. Typically observed contact or holding times for chlorine within the McLeod Road reservoir vary from 12 hours during the summer months to nearly 24 hours in the winter.

However, UBID is mandated to implement further water treatment processes in order to fully comply with Island Health's Surface Water Quality Treatment Objectives. As such, a plan submitted to Island Health in September 2014 has been approved, which will result in a water filtration plant being constructed and commissioned on or before August 31st, 2018. A second primary disinfectant, such as ultraviolet, may also be required which would need to be implemented prior to August 2021.

4. Water Distribution Network

The distribution network boundaries are Tsable River / Buckley Bay Rest Stop in the south, to Spindrift Road in the north, to the Inland Highway (Highway 19) in the west and the waterfront along the east. The total network includes approximately 40km of main line. Pipe construction for the distribution water mains consists of asbestos cement (80%), PVC (10%) and polyethylene or other (10%). All service lines are 100% polyethylene.

5. Current Issues

Langley Lake has a natural high organic content from peat and tannins, creating colour concerns during the summer months. Overall, current issues consist of:

- Elevated colour, turbidity, total organic carbon and occasional iron and manganese spikes;
- Seasonal variations in water quality;
- Concern for the development of trihalomethanes (THMs);
- Sufficiency of water supply in the summer due in large part to ongoing climate change effects; and
- Low pressure / flow events at the ends of our system, particularly in the north end. UBID continues to have an agreement with the CVRD, which carried over from the former Royston Improvement District, for utilizing an inter-connection between the two systems under specific circumstances.

As an Improvement District, the lack of direct access to supportive grant funding from senior levels of government continues to be a critical capacity gap we face in moving much need capital infrastructure projects forward in a timely and appropriate manner.

6. Forward Plans

As mentioned above, UBID submitted a plan to Island Health in September 2014 in response to their Surface Water Quality Treatment Objectives. In addition to a new DAF treatment facility by 2018, to be located on a new site with higher elevation than the current 451 McLeod Road location, UBID is also planning to construct prior to 2020 a new primary reservoir which will be situated on the same new site as water treatment. A comprehensive review of public works and water management in Union Bay was also completed in November 2014 which will also drive our planning, infrastructure renewal and asset management practices going forward over the long-term.

7. Kensington Island Properties

- The Water Infrastructure Agreement between UBID and 34083 Yukon Inc. (Kensington Island Properties) expired on December 31st, 2014.
 - UBID drafted a new Water Service Agreement that it presented to the developer in August 2015 in an effort to commence negotiations. To date however we have been unsuccessful in getting these new negotiations begun.
- The Master Development Agreement between the developer and the CVRD, signed in April 2010, never contemplated that Langley Lake would supply the entire 3,354 units proposed for the development with potable water.

8. CVRD – UBID Water Supply Asset Transfer Agreement

In May 2012, UBID entered into a Water Supply Asset Transfer Agreement with the CVRD which, under specific conditions and/or circumstances, would trigger the transfer of assets, liabilities and equities of UBID's water supply system to the CVRD.

In the case of a request potentially being initiated by UBID, the implications of whether the community would have to authorize the UBID Board of Trustees to present such a request requires further investigation.