

Union Bay Improvement District,

Then and Now – Union Bay, B. C.

Then: excerpt from The Friendly Port –Janette Glover Geidt

Union Bay (Union Wharf), known as the Friendly Port during its mining days, was the processing and shipping community for coal being mined in Cumberland. The water source and system (Langley Lake) was originally developed for the industry.

Everyone went to the community wells for water. It was a great place to catch up on the local news. Water was precious so none was wasted. After heating the water and using it for washing clothes, the water would then be used to wash the floors, and what was leftover was put on the garden. A technique now being revisited in modern day water conservation concepts.

Around the turn of the century, Langley Lake, at 500' elevation was dammed to supply the Washer with water at 200 lb. pressure. An earth-fill dam was built with large timbers facing the toe side. Then a 10" pipe was laid to the Washer, crossing the 200' span at Canyon Creek. It was supported by a 100' high bridge that was only 5' wide. In 1912 the dam burst, flooding Chinatown and the colliery yards. The dam was built stronger and is still in use today.

By the 1930's, the main supply line was in need of repair, so a pump house was installed behind Chinatown with the water taken directly from the creek. The pump house is still located beside Washer Creek at the Community Hall property



Canyon Creek trestle span

In the early 1940's the main town line was replaced and extended north as far as the weigh station and up McLeod Road to four or five houses above the tracks. Bob and

Jim McKay led a large crew of Chinese workers installing 4" wooden staves pipes. Each 16' long pipe was made of wooden staves bound together with galvanized wire. The pipes were joined with wooden sleeves. Galvanized pipes were attached from the main line to each home. After the new road was put through in 1947, the line was similarly extended south to the town limits.



Chinese crew in 1947 laying pipe

When the company closed in 1960, it sold the water system to the newly formed Union Bay Water Board for \$1.00. The board also bought Langley Lake for \$1,000, one of the few lakes in BC which is privately owned.

Now:

Today the community known as Union Bay still uses Langley Lake as its water source; however the wooden stave pipes have been replaced with asbestos and PVC pipes. The system expanded and there were some areas in town that had very low pressure or no water at certain times of the day or year. The reservoir at the top of McLeod Road was not large enough to support community use during high use times. The water was still being supplied from the pump house at Washer Creek. The Harry Glover Reservoir was constructed at the top of McLeod Road on land leased from the Weldwood Company in 1976 and the use of the pump house was discontinued. Water mains came directly from Langley Lake into the reservoir for distribution.

The water system today provides water from Spindrift Drive in the north to the Buckley Bay Ferry Terminal in the south, and services 640 properties. The extension of the service to the Buckley Bay area took place in the early 1970's and McKay Reservoir was built. The dam was refurbished in the late 70's and a new deep intake to the lake was installed in 1999.

Langley Lake is a spring fed area that was dammed for water supply purposes for the washer for the coal industry. It also has several creeks that fed it in the wet season from the Island Timberlands property that forms the watershed area. It has a strong presence of peat demonstrated by floating islands of peat. Turbidity levels fluctuate depending on the incoming flows into the lake. In addition there is high level of organics and a low pH level to the water. It has a licensed storage capacity of 690,000m³. Millions of gallons of water flow over the spillway for approximately seven months of the year (October to April).



Top of Langley Lake Spill

The transformation of the system is not without incident and as more changes are made to the system, some of the past becomes known. The most common problem is when the information on file does not match what is found in the ground. When this happens, someone will remember that “Joe Somebody did that, let's talk to him and see if he remembers.” Unfortunately in 2009, this no longer happening as most of this knowledge is no longer available.

Changing the intake in Langley Lake had its challenges. The intake was located in a shallower area of the lake and it was decided after an engineering study that it should be moved to a deeper section of the lake. The engineering study took place in 1994 with the actual work was not being scheduled till 1998. During this time frame some information was overlooked in the planning and installation. This turned a \$160,000

project into a \$330,000 project - a serious impact on the reserves of an improvement district.

Looping of Nelson Street to McLeod Road took place in 2003. This looping improved the much needed fire flows for the properties in the McLeod Road core area. 2003 also marked the 20-year planning update. Future development of the Union Bay area was being discussed which made water conservation and planning for the future the next priority. The services of an engineering company were contracted to determine current usage practices and the water supply available to increase the number of connections expected for future development. The report finalized in early 2004, indicated that at the current usage rate there may be a possibility of water shortage by the summer of 2007. The Board of Trustees took the proactive approach of having meters installed with the customers responsible for the cost of installation, since improvement districts do not qualify for infrastructure funding. This was met with some resistance. However, during the installation of the meters major leaks in the infrastructure were discovered and corrected. One such leak changed the water pressure in one area by 10 psi. In addition to the water meters a drought management and water conservation plan was put in place in 2005. Increased water storage and water treatment was scheduled for 2006. As well, replacement and expansion of water mains was spread out, setting priority areas over the next 10 years. A review after 5 years was planned to evaluate the progress of the plan.

Today the water usage has changed from 513,000 m³ in 2003 to 147,000 m³ in 2008. We now service 640 connections up from 613 in 2003. Customer leaks and main line leaks are easier to find and every billing period seems to reveal another leak that needs repair.

The added benefits derived from metering are better water management practices, more accurate determination of future needs and water conservation education.

Union Bay, similar to many communities on Vancouver Island, is expecting to grow significantly as the island develops. Water and sewer service considerations are the most important factors in ensuring that development can be supported, while continuing to support the existing community.

The major development currently under review has undergone numerous engineering studies of service considerations for water and sewer. The ongoing updating of the Union Bay Improvement District 20-year plan is a necessary factor in determining whether the district is in a position to provide water for development to move forward.

The changing legislation for water purveying has mandated that 4-3-2-1-0 treatment process to be in place in the near future. With the proposal of new development the immediate implementation of treatment may form part of the requirement to purvey water to new subdivisions. In 2005 Union Bay conducted a pilot-project to determine which type of treatment would be appropriate to handle source water high in organics and turbidity and low in pH. The costs were estimated and the schedule set for implementation in 2006. However, this schedule has been delayed until the funds are

raised or landowner approval has been granted to borrow the money to cover the costs of installation.

The other major maintenance consideration for Langley Lake is the dam. The dam requires regular inspection and the dam area must be kept clear of debris, and weeds. Weekly inspections are conducted and property maintenance is performed by UBID staff. Dam Safety Review inspections are conducted by outside agencies. Once a service provided through the Ministry of Environment, the most recent one was completed by a professional engineering company in June 2009. Langley Lake is currently rated as a low risk dam and considered in very good condition.

Union Bay Improvement District is looking positively to the future growth of the area and the influx of infrastructure support that development brings with it. Improvement Districts continue to depend on funds from the landowners to improve the infrastructure.

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Historical pictures courtesy of the Union Bay Historical Society
Current day pictures courtesy of the Union Bay Improvement District