



Macaulay Point Pump Station & Forcemain – Design Build

FEATURE PROJECT

Project Requirements

The new Macaulay Point Pump Station, located in Esquimalt, British Columbia, is a Kenaidan-led design build project being built adjacent to the existing pump station. This pump station will connect to the McLoughlin Point Wastewater Treatment Plant, where screened and degritted wastewater will be pumped for further treatment.

This project involves construction of a new 400 ML/day, below-grade pump station and headworks facility. Work includes demolition of the existing structures, 13 m deep rock excavation for the pump station construction, and 800 metres of 1,350 mm large diameter sewage forcemain pipe.

Design for the new pump station mirrors its surroundings along the waterfront and incorporates several LEED sustainable design elements, including:

- Rainwater run-off control using a rain garden and storm water management system
- Native plants to reduce irrigation requirements
- Low-level lighting to minimize light pollution
- Green roof
- Increased open space
- Durable materials (includes aluminum cladding)



Rendering courtesy of Stéphane Laroye Architect Inc.

"As part of the Capital Regional District's Wastewater Treatment Project, the new Macaulay Point Pump Station and Forcemain is a key part of delivering tertiary treatment for the region's wastewater. Kenaidan's design reflects its location on the waterfront, greatly improving the visual impact of the building, and creates a green space for the community to enjoy," Elizabeth Scott, Deputy Project Director for the Wastewater Treatment Project.

Work began in January 2018 and is scheduled to be substantially completed by September 2020. The existing station will remain fully operational throughout construction.

Roles & Responsibilities

- Owner:** Capital Regional District (CRD)
- Primary Consultant:** Stantec Consulting Ltd.
- Design Lead:** Kerr Wood Leidal Associates Ltd.
- Architect & LEED:** Stéphane Laroye Architect Inc.
- Landscape Architect:** LADR Landscape Architects Inc.
- Structural Engineer:** Gygax Engineering Associates Ltd.
- Excavation & Yard Piping:** Scansa Construction Ltd.
- Mechanical:** Archie Johnstone Plumbing & Heating Ltd.
- Electrical:** Western Pacific Enterprises Ltd.
- Concrete Formwork & Placement:** Tom Wood Contracting Ltd.
- Reinforcing Steel:** Harris Rebar, a division of Harris Steel ULC
- Demolition:** Classic Contracting and Demolition Ltd.

Key Challenges

- Blasting and excavation in bedrock adjacent to existing homes and the existing pump station
- Temperature control of mass concrete foundation slabs and walls
- Tight construction schedule with limited local subtrades and suppliers in a very busy Vancouver Island market

Inside This Issue



POINT OF INTEREST
Corbett Creek WPCP
Digester Facilities Upgrade – Phase 1



RECENTLY COMPLETED
Guildwood GO Station
& Corbet Creek WPCP



ROAMING PHOTOGRAPHER
Carl Johnson Retires



Corbett Creek WPCP Digester Facilities Upgrade - Phase 1

POINT OF INTEREST

Rome was not built in a day, but they were laying brick every hour! Whether an engineering design which leaves a lasting legacy or an engineering solution to a complicated construction challenge; extensive planning and analysis goes into arriving at a reliable solution.

The Corbett Creek WPCP Digester Facilities Upgrade – Phase 1 required out-of-the-box thinking to arrive at a construction management solution to deliver the project. The project entailed construction of a primary digester with a hydraulic mixing system, below-grade sludge heat exchanger/pump room and retrofit of certain systems within the existing facility. All of this had to be achieved in a limited construction footprint, adjacent to an existing operational facility and live plant traffic.

The key challenge was to excavate for the primary digester structure without undermining the road which provides access to the plant and the

utilities that ran to the existing facility. The easiest solution was to construct the support for the excavation adjacent to the road and the utility corridor. However, this had both cost and time implications. After review of the soil report, it was ascertained that the excavation adjacent to the road could be carried out at a 45° angle. The excavated slope was covered by tarp to prevent debris sliding into the construction area and jersey barriers placed along the access road to keep traffic a set distance away from the excavation zone.

The side of the excavation, where the utility corridor existed, posed additional challenges. Although most of the utilities were within the slope of the excavation, two active sludge lines were not. Those lines required Kenaidan forces to re-route the lines so that they were within the bank of the excavation. The lines were re-routed utilizing heavy wall HDPE piping during a planned shutdown with the plant. The option to tie these



utilities to the adjacent building was reviewed as unsafe. After much thought and deliberation, a solution to support the utilities using steel grillage was designed. The grillage, held in position with counterweights placed at one end, was cantilevered from the grade into the excavation space. The utilities were then supported from the steel grillage for the duration of the tank construction.

The value of this solution goes beyond cost savings for the Owner. Instead of leaving behind many cubic metres of concrete used for support of excavation, a sustainable temporary works solution was designed. Providing value for less is possible!

Corbett Creek WPCP

RECENTLY COMPLETED



Guildwood GO Station

RECENTLY COMPLETED



Recently Awarded

CN MacMillan Yard
– WWTP Upgrades

R.L. Clark Water Treatment
Plant – Filter No. 2
Rehabilitation

Easier Access Phase III
– Keele Station

GTAA – CUP & INF Hot
Water Pipe Replacement

Safety Week – May 6 to 10 *Kenaidan by Choice*

SAFETY CORNER

At the heart of Kenaidan's employee engagement program is our annual Safety Week. Coinciding with the North American Occupational Safety & Health week, our week-long program involved initiatives aimed at promoting awareness to our workforce to prevent injury and illness in the workplace, at home, and in the community.

As part of our Health & Safety Week initiatives, we adopted a theme to demonstrate Kenaidan's ongoing commitment to safety. This year, Kenaidan recognized our team's dedication to safety and its role in making us an industry leader when it comes to fostering a strong health and safety culture and program which supports it. Therefore, being **Safe by Choice** is synonymous with being **Kenaidan by Choice**, our safety week theme for 2019.

During this campaign, several celebrations were held at various jobsites to show our appreciation to our dedicated workforce. In addition to promoting the Kenaidan by Choice theme, our events also focused on our Wellness Program with Kenaidan STRONG. This is to encourage employees to make choices towards a healthy, more fulfilling life.

Kenaidan's Wellness Program was developed to meet the needs of our employees and to encourage further development of our **social, physical, financial, mental, and community** well-being, also known as the Five Pillars of Wellness.

The highlight of the week was our company-wide half-day event at our Head Office on Thursday, May 9th. Our guest speaker was Rob Ellis from My Safe Work. The inspirational talk he gave to our captivated group focused on choices and how the choices we make can affect so many different aspects of our lives. He elegantly demonstrated how this topic tied back to Kenaidan's Five Pillars of Wellness. The following day, our week-long celebration was culminated by fun, games, and a BBQ lunch at our Head Office.

Kenaidan is very thankful for our dedicated Health & Safety Team. We would like to recognize their exceptional efforts for putting together an informative and engaging week of activities, and more importantly, for everything you do to provide a safe work environment and make sure each and every worker returns home safely.

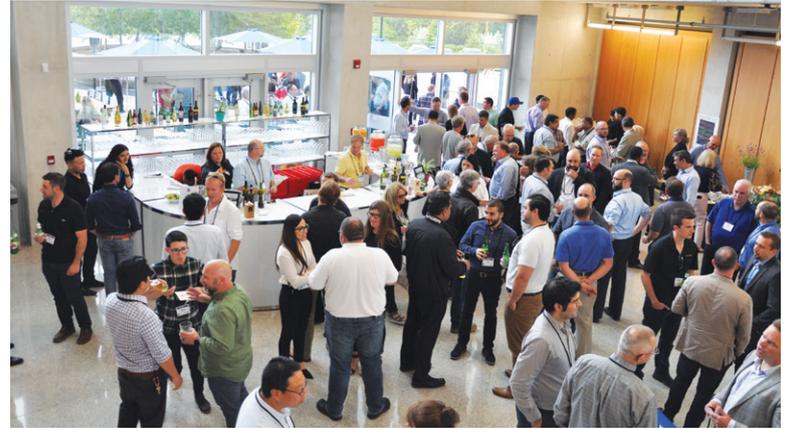


Our Company, Our People

ROAMING PHOTOGRAPHER



Kenaidan's Annual Triathlon Participants displaying this year's "Push Yourself" t-shirt.



Kenaidan welcomes our clients, consultants, subcontractors, and suppliers to our Annual Partnering Party & BBQ.



Farewell to Carl Johnson

June 14th, 2019 marked Carl Johnson's last day at Kenaidan. Over his 23-years with us as a talented carpenter, he has contributed to many successful projects. His career has progressed from his early days at the Ajax Water Supply Plant, to working on jobs such as Terminal 3 – Outbound Bridge and Parking Garage Expansion, Lorne Park WTP Pumping Station Expansion, Erindale GO Station & Parking Structure, and mostly recently at our Bloomington GO Station project.

Always willing to help and always with a smile, Carl will also be remembered fondly on site for his positive attitude and calm demeanor. We will never forget his contributions to Kenaidan and thank him for his commitment and dedication over the years. Please join us in wishing Carl all the best in his retirement.

Kenaidan Welcomes

Philip Marando, Project Engineer
Laurence Patriquin, Assistant Site Supervisor
Teresa Florentino, Accountant
Srimalar Shelton, Financial Cost Accountant
Julia Ferlisi, Project Engineer
Hayder Alali, Project Engineer
Mona Dhillon, Payroll & Benefits Coordinator

Kenaidan Welcomes Back

Oktay Selcuk, Senior Estimator

Congratulations To

Christine Bonner on her new role as Human Resources Coordinator
Valeriy Kukovskyy on his promotion to Senior Estimator
Chris Stewart on obtaining his P.Eng Designation
Chris Phillips on his new role as Health & Safety Advisor

Upcoming Events

Kenaidan Annual Holiday Party,
December 12th, 2019

Corporate Donations

Kenaidan recently made donations to:

- Kids Up Front Foundation
- Liberty for Youth
- Canadian Cancer Society

Charitable Matching Program

Kenaidan has recently matched employee donations to the following charities:

- Ronald McDonald House

Contributing Editors: Patrick Hamlin Satish Radhakrishan David Murray Patricia Pereira Sandra Piccini Marisa Nardini Andrea Howson



Kenaidan's Mission Statement:

- To provide responsible, quality construction services utilizing superior innovation and expertise.
- To develop and maintain long-term relationships with satisfied clients and suppliers.
- To create a safe, challenging and enjoyable work environment where employees share in corporate growth and success.
- To build on a sound financial base where future development is promoted over short-term gain.



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