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Sustainable
Infrastructure



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FOR IMMEDIATE RELEASE:

British Columbia Institute of Technology's North Campus Infrastructure Project Earns Envision Gold for Sustainable Infrastructure

WASHINGTON, D.C. – April 30, 2019 – The North Campus Infrastructure Project at the British Columbia Institute of Technology (BCIT) in Burnaby, British Columbia is the recent recipient of the Envision® Gold award for sustainable infrastructure, designated by the Institute for Sustainable Infrastructure (ISI). To reach Gold status, a project must demonstrate that it delivers a heightened range of environmental, social, and economic benefits to the host and affected communities.

"The continuous community engagement throughout the North Campus Infrastructure Project has allowed BCIT to fully understand the needs of its community and to guide development and renewal opportunities that provide long-term benefits. This award further recognizes BCIT for its strong commitment and leadership in sustainability," said Kathy Kinloch, President of BCIT.

Project context and scope

Funded by the Province of British Columbia, the Government of Canada Post-Secondary Institutions Strategic Investment Fund, and BCIT, the North Campus Infrastructure project provides a critical upgrade to the campus' electrical infrastructure. Electrical power at the Burnaby Campus is currently provided through two on-campus high-voltage (HV) receiving stations called Goard Way and Canada Way, which are connected to the 12.5 kV HV service provided by BC Hydro.

"Congratulations to BCIT on receiving the Envision Gold award for sustainable infrastructure. This is a great example of our government's commitment to build modern learning spaces that benefit students, faculty, the community and the environment. These infrastructure upgrades boost innovation and long-term growth, creating good jobs for Canadians," said the Honourable Navdeep Bains, Minister of Innovation, Science and Economic Development.

"BCIT sets the gold standard for innovation and sets the bar for other campuses in Canada," said Melanie Mark, Minister for Advanced Education Skills & Training. "This project is delivering on a commitment to build a more sustainable and resilient campus and showcases our government's commitment to a CleanBC plan to build a cleaner, brighter future for generations to come."

CleanBC aims to reduce climate pollution and boost energy-efficient solutions, while creating more jobs and opportunities for people across the province.

In 2015, BCIT had the condition of all its underground utilities for the Burnaby Campus assessed. The goal of the assessment was to help BCIT better understand the condition of each utility and plan maintenance and infrastructure investments accordingly. The condition assessment revealed that the Canada Way receiving station on the north side of campus and its associated electrical infrastructure was at critical risk of failure. As this critical infrastructure approaches or exceeds its useful life, replacement components have been difficult to come by, necessitating a system replacement. Any disruption to the electrical service at BCIT would have a significant impact on campus operations, such as the temporary closure of educational programming. As such, BCIT made the replacement of the Canada Way receiving station and associated electrical infrastructure one of its highest priorities.

The primary objective of the \$46.9 million North Campus Infrastructure Project is to improve the resiliency and reliability of the electrical infrastructure on the north side of the Burnaby Campus. The project includes constructing a new power receiving substation to replace the aging Canada Way receiving substation which powers about 50% of the campus, including all of the campus' trades-based educational programs. The project also includes replacing 11 substations and all related infrastructure and establishing a new BC Hydro connection at the corner of Carey Ave and Canada Way. The new electrical backbone infrastructure on the north side of campus will encompass three major electrical services: high voltage (HV -12.5/25kV); low voltage (LV - below 750V); and a telecommunications, control, and safety service. The project also includes a number of enhancements and additions to public space.

BCIT worked in close collaboration with Stantec, PCL Constructors Westcoast, R.F. Binnie & Associates, and PFS Studio to deliver this award-winning sustainable project.

The Envision system examines the impact of sustainable infrastructure projects as a whole, through five distinct categories: Quality of Life, Leadership, Resource Allocation, Natural World, and Climate and Resilience. These key areas contribute to the positive social, economic, and environmental impacts on a community.

"Achieving Envision Gold certification is a result of the collaborative efforts of our partners, spanning across disciplines and organizations, all who are dedicated to the successful delivery of this innovative, and sustainable project at BCIT," says Quin MacKenzie, sustainable design lead, Stantec. "Stantec is dedicated to supporting our clients' sustainability and resiliency goals, and together we have designed a project that will set the foundation for continuing campus development well into the future."

Key factors contributing to the North Campus Infrastructure Project earning an Envision Gold award include:

Responding to stakeholder needs

This project is unique in that it integrates a necessary infrastructure upgrade with stakeholder input acquired through the development of a larger Campus Plan. BCIT has been developing a Campus Plan since 2013 to guide development and renewal opportunities. To develop this Campus Plan, BCIT conducted a two-phase stakeholder engagement program to properly account for and capture the campus community's needs, goals, and issues. Stakeholder input played a key role in the development of the North Campus Infrastructure Project. For example, stakeholders requested more bike routes; additional pedestrian-oriented spaces on campus; more covered outdoor spaces to sit, eat and socialize; and more parking specifically dedicated to car share vehicles. Such input has been accommodated in the re-design of English Street as part of this project. English Street—renamed English Walk—will become a pedestrian-friendly corridor connecting the east and west side of campus, and additional car share parking will be incorporated into the design as well. The project also includes the development of new cycling paths along Carey Avenue.

Designing to be resilient to changing conditions

The Burnaby area is expected to experience a number of changes brought on by climate change in the coming years, including warming temperatures; longer dry spells in the summer months; more precipitation in the fall, winter, and spring seasons; and more frequent and intense storm events. The BCIT North Campus Infrastructure Project is designed to be resilient to these anticipated changes. For example, more than 60 per cent of the project's surface has a high solar reflectance index (SRI) value which will keep surfaces cool in the presence of solar radiation. The project's landscaping will also serve to mitigate localized "heat islands" and contribute to a cooler campus microclimate during the expected increase in dry spells and increased ambient air temperatures.

The electrical upgrades will complement and enhance the initiative for BCIT and BC Hydro to design and construct Canada's first Smart Power Microgrid. Microgrids can function independently and collaboratively, helping to balance power generation with demand and reducing the potential for blackouts in extreme weather events. It will be able to integrate current energy sources such as hydro and natural gas, with alternative sources such as biomass, solar and wind. This supports the vision for BCIT to have more resilient and reliable energy infrastructure with the potential for the campus to operate off-grid in the future, in the event of an emergency or other power failure.

"BCIT is the first educational institution in Canada to have the sustainability of one of its infrastructure projects validated through a rigorous, third-party process against the Envision framework," says Melissa Peneycad, ISI's Acting Managing Director. "I hope the success of this project will encourage other educational institutions to follow suit in planning, designing, and delivering more sustainable and resilient infrastructure. ISI is pleased to present the North Campus Infrastructure Project with an Envision Gold award. Congratulations to the entire team on this tremendous accomplishment."

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Above: A rendering of above grade design elements along English Walk, part of the North Campus Infrastructure project at BCIT. [Rendering provided by Stantec]

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ORGANIZATIONAL INFORMATION

About the British Columbia Institute of Technology (BCIT)

For more than 50 years, the British Columbia Institute of Technology (BCIT) has been training the experts, innovators, and professionals who shape our economy – across BC and around the world. With five campuses and over 50,000 students enrolled each year, BCIT is one of BC's largest post-secondary institutes. Through our unique applied education model, students gain the technical skills, real-world experience, and problem-solving ability needed to embrace complexity and lead innovation in a rapidly

changing workforce. The BCIT curriculum is developed through close consultation with industry and delivered by instructors who have direct, hands-on experience in their fields. Learn more at www.bcit.ca

About Stantec

*Communities are fundamental. Whether around the corner or across the globe, they provide a foundation, a sense of place and of belonging. That's why at Stantec, we always **design with community in mind**.*

We care about the communities we serve—because they're our communities too. This allows us to assess what's needed and connect our expertise, to appreciate nuances and envision what's never been considered, to bring together diverse perspectives so we can collaborate toward a shared success.

We're designers, engineers, scientists, and project managers, innovating together at the intersection of community, creativity, and client relationships. Balancing these priorities results in projects that advance the quality of life in communities across the globe.

Stantec trades on the TSX and the NYSE under the symbol STN. Visit us at stantec.com or find us on social media.

About ISI Envision

Envision[®] is the product of a joint collaboration between ISI, which was founded by three national engineering associations: the American Society of Civil Engineers, American Council of Engineering Companies, and American Public Works Association, and the Zofnass Program for Sustainable Infrastructure at Harvard University Graduate School of Design. Information on ISI and Envision can be found on the ISI website www.sustainableinfrastructure.org.