

Five-Year Capital Plan (2022/23 - 2026/27)

Attachment 2: Project Overview

Institution BCIT	Campus/City Burnaby	Project Title All projects overview.	Project Category 2&4	Project Priority 2 in total
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1.0 Funding Breakdown

Total Project Cost \$133.2 million	Total Provincial Funding Request \$117.2 million
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2.0 Current Situation

BCIT has nearly 50,000 students enrolled annually (16,600 full-time, 31,600 part-time) in five schools of study. The Institute offers practical career credentials designed for the workplace, has a major role to play in BC's job training infrastructure, and serves as a catalyst for the provincial economy.

BCIT is initiating a program of building renewal to maintain its role in education and the economy of British Columbia. All projects reflect an accumulation of under-investment in the Institute's Burnaby Campus over many years, resulting in teaching and learning facilities that are aging, and increasingly functionally challenged to meet modern standards. Major projects include important infrastructure improvements to the northern part of the campus – the Goard Way Plaza and the Health Sciences Centre. Design has also started on a 464-bed student housing project, and a Business Plan has been submitted to the Province for the first phase of the Trades and Technology renewal.

Two projects are presented here in BCIT's **Capital Plan 2022-2026** as priorities for financial support by the Province of British Columbia. The **Trades & Technology Complex-Phase 2** involves renewal to a number of buildings that provide Trades & Technology education spaces that are currently located in the northern part of the Campus. The project is central to supporting provincial jobs and environmental objectives in the evolving 21st century economy. The second project, **the South Campus Infrastructure Renewal**, reflects the chronic need for investment in the utility systems that underpin the entirety of BCIT's campus operations. This renewal will mitigate continuing service interruptions and life safety risk.

The projects outlined in this plan are consistent with BCIT's **Education Plan 2019-22**. They also align with key Government of British Columbia Ministry Service Plans, and province-wide initiatives that include analysis, strategies, and recommendations that form the *Emerging Economies Task Force 2020* and *CleanBC*.

The TWO priority projects are:

- 1. Trades & Technology Complex-Phase 2**
- 2. South Campus Infrastructure Renewal Project**

The two projects address four interlinked strategic objectives:

1. Support the training and reskilling of the work force, and the creation of new professions to meet BC's employment needs for an economy that is changing through accelerating technological advancement, and the change to clean energy, ecological restoration, and climate adaptation;
2. Renew BCIT's education facilities and basic support servicing and systems infrastructure, much of which is very old and has received relatively little new investment to meet the needs of 21st century education;
3. Recognize the needs of the new economy by providing opportunities for collaborative interdisciplinary programming through multiple school involvement, and the creation of shared centres of competence. These centres will provide leadership and best practices;
4. Build on BCIT's external partnerships involving First Nations, industry, and local governments, as well as national and provincial agencies.

In meeting these objectives, the projects have three special features:

1. **Mass Timber Construction.** This technique will be used for Trades and Technology Phase 1, including the Trades & Technology Centre, Campus Services Centre, and NE21 Carpentry Pavilion. Mass timber construction is currently being incorporated in the design of BCIT's student housing project. Using this sustainable product is cost effective, quick to build, and offers a lower carbon footprint compared to traditional concrete construction.
2. **Supporting Indigenous Learners & Reflecting Indigenous Culture.** The improvements will support BCIT's continuing initiatives to support Indigenous learners throughout the trades.
3. **Meeting Provincial Sustainability Objectives in Energy Conservation.** Better buildings and more energy efficiency both through education and changes to the buildings. The renewal of SE01 will allow the complete electrification of building systems, and achieve "net zero" GHG operating systems.

Prioritized List of BCIT Proposed Projects

Prioritized List of BCIT Proposed Projects							TOTAL CASH FLOW FORECAST (FISCAL YEARS IN MILLIONS)					
#	CAMPUS	PROJECT DESCRIPTION	PROJECT CATEGORY	ANTICIPATED CONSTRUCTION START DATE	ANTICIPATED OCCUPANCY DATE*	TOTAL PROJECT BUDGET	2022/23	2023/24	2024/25	2025/26	2026/27	2027/28
1	Burnaby	Phase 2: T&T Complex NE04 & NE06	2	July 2024	April 2025	\$11.9 M	\$0.5 M	\$1.4 M	\$10.0 M	--	--	--
1	Burnaby	Phase 2: T&T Complex NE12 Steel Trades Building Renewal & Tower	2	February 2025	March 2026	\$17.2	--	\$1.0 M	\$3.3 M	\$12.9 M	--	--
1	Burnaby	Phase 2: T&T Complex SE01 Building Renewal	2	January 2026	July 2027	\$24.9	--	--	\$1.1 M	\$6.0 M	\$14.3 M	\$3.5 M
PROJECT 1 TOTAL						\$54.0 M	\$0.5 M	\$2.4 M	\$14.4 M	\$18.9 M	\$14.3 M	\$3.5 M
2	Burnaby	South Campus Infrastructure Renewal Project	4	January 2024	December 2027	\$79.2 M	\$5.4 M	\$14.0 M	\$14.3 M	\$18.4 M	\$20.4 M	\$6.7 M
*One month added to construction completion for Trades & Technology Complex projects						\$133.2 M	\$5.9 M	\$16.4M	\$28.7 M	\$37.3 M	\$34.7 M	\$10.2 M

NOTE: ALL COSTS INCLUDE TAXES & FIGURES ARE ROUNDED.

Five-Year Capital Plan (2022/23 - 2026/27)

Attachment 2: Project Overview

Institution BCIT	Campus/City Burnaby	Project Title Trades & Technology Complex-Phase 2	Project Category 2 – Whole Asset Renewal	Project Priority 1 of 2
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3.0 Funding Breakdown

Total Project Cost \$54 million	Total Provincial Funding Request \$45.9 million
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4.0 Current Situation

BCIT is the largest provider of trades and technology education in BC, and plays a central role in assisting with the Province's priority of creating a sustainable economy. However, the Institute is challenged in its ability to maintain the quality of education required to serve the province's trades and technology sectors. In BC, the Institute stands out as having received modest investment in its trades education facilities:

- Currently, BCIT is experiencing long waitlists for in-demand trade programs. There is a strong demand for trades training to address industry-driven labour demand. The Institute faces challenges with apprenticeship intake capacities. Each year, the number of intake spaces are filled prior to fulfilling the demand by prospective students, causing them to defer enrolment to another year;
- Most Trades & Technology buildings are more than 50 years old, with several over 60 years old – all have high Facility Condition Indexes (FCIs) ranging from 0.22 to 0.39, indicating poor conditions. BCIT has received only nominal new investments in its trades buildings over the last 20 years;
- Many Trades & Technology buildings have high levels of deferred maintenance costs, ranging up to \$25 million.
- Many of the buildings and associated yard spaces are too small, or functionally inadequate relative to the requirements of modern trades and technology education;
- The buildings have old structures and systems that do not reflect modern construction and energy efficiency standards. Replacement and renovation of these buildings is needed to reduce greenhouse gas emissions, and to meet current seismic standards;
- Collectively, the condition of the facilities does not meet the expectations of students, industry, or the general public;
- The layout of the existing Trades & Technology buildings does not facilitate inter-disciplinary student interaction and understanding, which is essential for modern trades work; and
- In a number of the Trades programs, teaching space is inadequate for coping with current demand, and lacks flexibility for the future.

Current FTEs accommodated

- Electrical Trades 240 FTE - predominately accommodated in Building SE01
- Steel Trades 48 FTE – predominately accommodated in Building NE12
- Piping Trades 112 FTE – predominately accommodated in Building NE06
- Carpentry Trades 64 FTE – predominately accommodated in Building NE04

(Source: SoCE Infographic prepared for T&T Business Case)

Final outcome of buildings

- SE01 – Comprehensive seismic, life safety and mechanical systems renewal.
- NE12 – Comprehensive seismic, life safety and mechanical systems renewal
- NE06 – Addition of covered outdoor workshop and simulation learning modules
- NE04 – Functional interior improvements to improve programmatic efficiency, student safety and provision of centralized tool crib serving.

5.0 Project Description

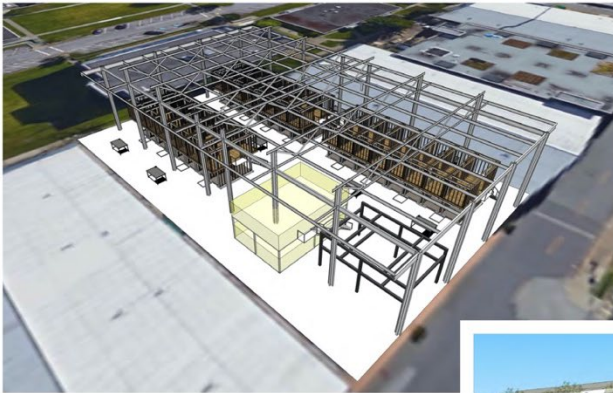
The BCIT Trades & Technology Complex proposal comprises a series of phased projects that will replace and modernize existing functionally inadequate buildings, and enhance and expand the Institute's Trades & Technology teaching space. Figure 1 (page 4) shows a map of the projects at BCIT's Burnaby Campus.

The Phase 2 submission for the proposed renewal of the northern part of the Burnaby Campus was originally part of a larger capital project that has now been split into two phases: Phase 1 involves construction of the new Trades & Technology Centre through relocation of the Campus Services Building and construction of the NE21 Carpentry Pavilion and NE12 Steel & Mass Timber Assembly Structure. Phase 2 includes renewal of four buildings through a mix of renovation and new construction.

A Business Case, including "Class C" quantity surveyor cost estimates, was submitted June 2020. Upon recent review, the Ministry indicated "notional" support for a first phase of the proposal, with a total value of \$153.2 million (\$130.2 million Provincial funding + \$23 million BCIT fundraising contribution) for the new Trades & Technology Centre and replacement Campus Services Centre. The Ministry also instructed BCIT to include the remaining (unfunded) components of the proposal in its highest priority position as a second phase, with approximate value of \$54 million, to fund the NE06 Pipe Fitter Structure, NE12 Steel Trades building renewal, NE12 Steel Trades tower, NE04 Renovation & Addition, and SE01 Renewal & Addition.

BUILDING	CONSTRUCTION START DATE	TOTAL COST
NE06 Pipe Fitting Structure	Third Quarter 2024	\$8.2 million
NE04 Carpentry Renewal & Addition	Third Quarter 2024	\$3.7 million
NE12 Steel Trades Renewal & Tower	First Quarter 2025	\$17.2 million
SE01 Electrical Training Centre	First Quarter 2026	\$24.9 million
TOTAL CAPITAL COST		\$54 million

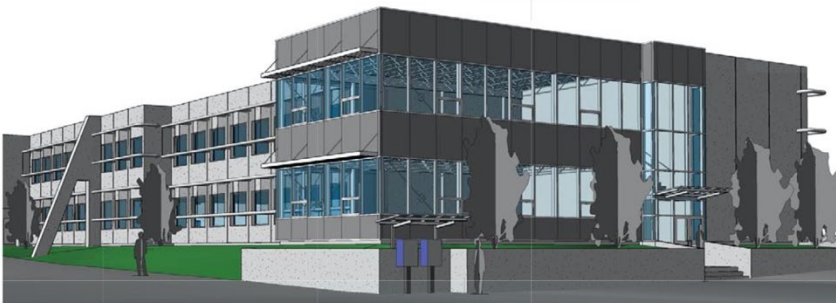
All figures rounded, and escalated by 5% from the 2021-25 Capital Plan.



NE06 Pipe Fitting Structure
(Prepared by Stantec)



Steel Trades Building Renewal
(Prepared by DA Architects)



SE01 Renewal (Prepared by Colborne Architectural Group)

NE06 Pipe Fitting Structure work will consist of renovations to the yard adjacent to NE06. The project includes construction of three wood-framed modular structures, a storage structure, racking, a pipe structure, and an overarching canopy. The new structure will provide learners with a covered outdoor teaching area and spaces for new “Mock-Up Training Modules” that simulate real work conditions. The new structure will allow existing programming to be delivered more safely, and may also reduce conflicts that currently hinder program growth.

NE04 Carpentry Building. Interior renovations to the Carpentry Shop will improve workflow, and provide a safer learning environment for students working with carpentry equipment. This project includes provision of a new centralized tool crib facility to serve the entire carpentry program.

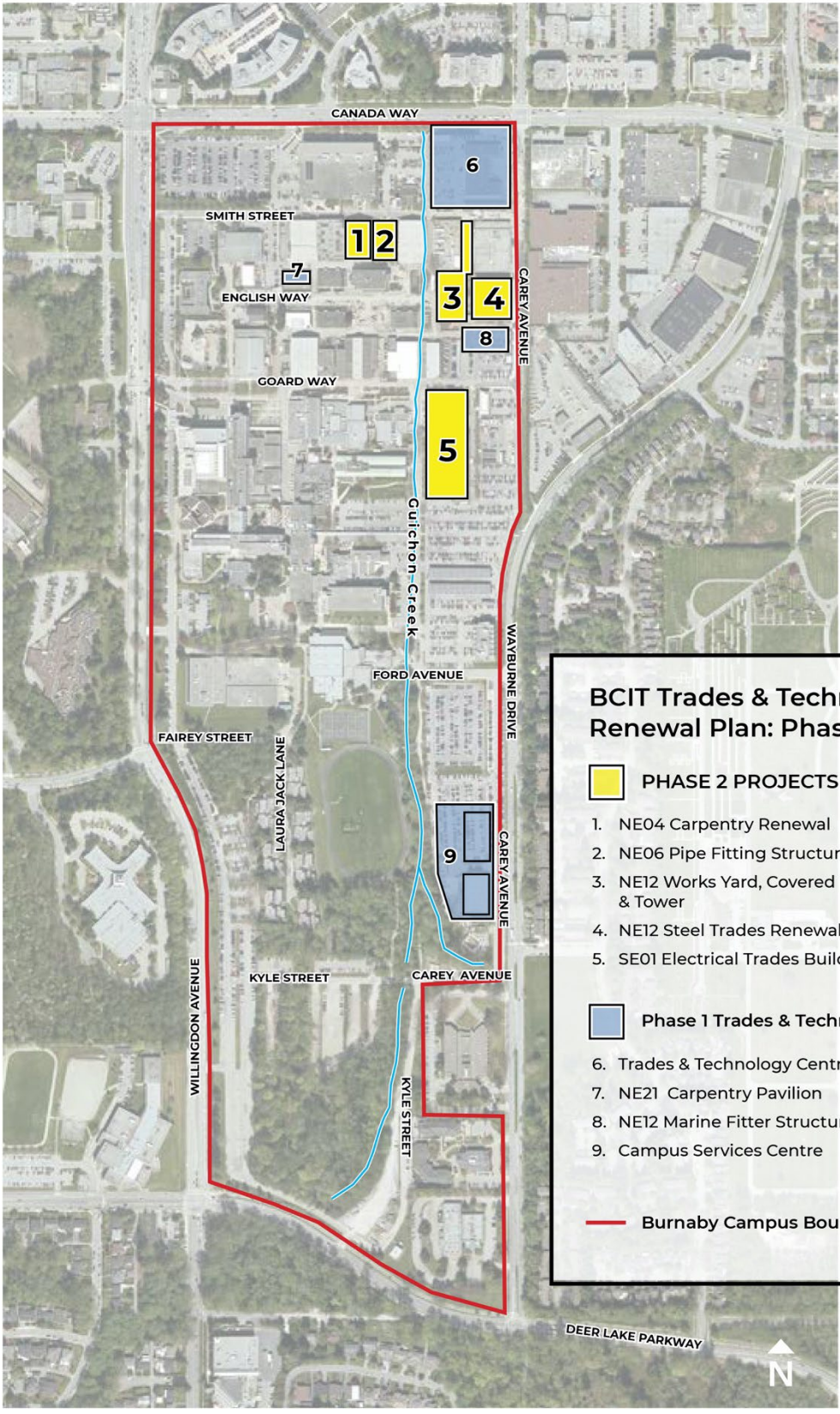
NE12 Steel Trades Building Renewal will comprise extensive renovations to the existing NE12 building, involving layout upgrades that include renewed and modernized instructional workshops, equipment, classrooms, washrooms, and an administration area. Structural and seismic upgrades are part of the project, as are building envelope upgrades. The NE12 Building Renewal also includes construction of a two-level, freestanding training structure for the steel trades, a new gouging/machine shop structure, relocation of the rebar teaching wall, and minor site works. The Steel Trades Tower will provide learners with hands-on simulated experiences in erecting structural steel girders and columns to form a complete structure.

SE01 Electrical Trades Building Renewal. SE01 is currently used as classrooms and labs for BCIT's electrical program and houses the main administrative offices for BCIT's School of Construction & the Environment (SoC&E). The building is a 6,770 m² two-storey, concrete frame, precast-clad building. SE01 is centrally located on the Burnaby Campus near Roper Avenue and Goard Way (the primary north-south pedestrian connector through the Campus), and is viewed as a key academic facility to be maintained and improved for a new 'life cycle', typically with a more than 30-year horizon. It is proposed to upgrade the building's structural, mechanical, and electrical systems, enhancing its energy performance, and add a 185 m² extension. The building renewal will allow complete electrification of building systems, and achieve “net zero” GHG operating systems.


6.0 Project Objectives

- Increase student intake, including Indigenous persons, and reduce waitlists for in-demand trades programs.
- Support programs that align with emerging opportunities for skilled personnel presented by high-tech industries, such as construction, renewable energy, pipelines, mines, and transportation infrastructure.
- Improve the Campus' profile, specifically the Trades program's image and recruitment opportunities.
- Provide industry partnership and journeyman upgrading opportunities.
- Reduce energy use and operating costs.


- Enable renewal or replacement of physically obsolete buildings.
- Modernize to meet new technology requirements.
- Create a flexible 21st century teaching environment for Trades & Technology programs, especially those associated with construction, technology, and other growth industries.
- Develop integrated and collaborative Trades & Technology programming space.
- Create a formal demonstration space and student commons area to showcase the Trades & Technology program, and assist in trades education recruitment.
- Provide safer workshops and laboratories that are more functional and use space more efficiently, including controlled access for delivery trucks.
- Support the implementation of the Campus Plan.
- Showcase mass timber construction, and demonstrate "Living Lab" principles by employing leading edge building science principles in design and construction.




BCIT Trades & Technology Renewal Plan: Phase 2

 PHASE 2 PROJECTS

- 1. NE04 Carpentry Renewal
- 2. NE06 Pipe Fitting Structure
- 3. NE12 Works Yard, Covered Workshops & Tower
- 4. NE12 Steel Trades Renewal
- 5. SE01 Electrical Trades Building Renewal

 Phase 1 Trades & Technology Building

- 6. Trades & Technology Centre
- 7. NE21 Carpentry Pavilion
- 8. NE12 Marine Fitter Structure
- 9. Campus Services Centre

 Burnaby Campus Boundary

7.0 Options considered

- **Status Quo.** This option does not address seismic issues, functional inadequacy, program expansion opportunities, or consolidation requirements.
- **Non-Capital Site Option.** The off-site lease option is also deemed not viable. The programs are an integral part of the overall trades training taught in BCIT. Students need to be in proximity to other shops, structures, and classrooms within the larger Trades' training complex.
- **New & Renewed Facilities.** Preferred. This option best meets project objectives.

8.0 Project Outcomes

Strategic Alignments

The project supports:

- Multiple objectives policy and program initiatives of the Province of BC, and the new buildings will feature energy efficient HVAC, lighting, and building envelopes that will increase energy efficiency and reduce GHG emissions.
- A 30% reduction in energy, and subsequent greenhouse gas emissions is targeted for the renewal of NE12.
- Full electrification of SE01 to achieve "net zero" GHG operating systems.

The project also supports goals and objectives included in:

- Ministry of Advanced Education, Skills and Training Service Plan 2019/20 – 2021/22
- Ministry of Jobs, Trade and Technology Service Plan 2019/20 – 2021/22
- 2020 BCIT/AEST Mandate Letter
 - Support lasting reconciliation with indigenous peoples, through initiatives that increase the participation and success of indigenous learners and implementation of the education-related Calls to Action of the Truth and Reconciliation Commission;
 - Contribute to an accessible relevant post-secondary system;
 - Develop and recognize flexible learning pathways for students to access postsecondary education and skill training; and
 - Strengthen workforce connections for student and worker transitions.
- Ministry of Environment & Climate Change Strategy Service Plan 2019/20 – 2021/22
- Ministry of Ministry of Forests, Lands, Natural Resource Operations and Rural Development Service Plan 2019/20 – 2021/22
- BC Municipalities

- Federation of Canadian Municipalities – Green Municipal Fund
- Federal Adaptation Policy Framework for Climate Change (2011)
- Pan-Canadian Framework on Clean Growth and Climate Change (2016)
- Federal Actions for a Clean Growth Economy
- The Paris Agreement

Cost Effectiveness

- The new and renovated facilities will enable Trades & Technology program integration, and consolidation by creating necessary swing space and program expansion opportunities for in-demand programs.
- The new buildings will provide flexible teaching spaces built to adapt to changes in labour market demand and subsequent program delivery options.
- The covered works yards will provide flexible and appropriate facilities for trades training at modest cost.

Quality Education & Innovation

- The new and renovated buildings will create modern education environments.
- The new and renovated buildings will showcase sustainable construction methods (specifically new technologies and innovations, such as simulation, into the design of labs and workshops, and provide flexible space programming.
- The new and renovated buildings will enable student-centered learning that is adaptable over time to changes in teaching and labour market trends.

Infrastructure Improvements

- This project will make a significant impact in modernizing BCIT's Trades & Technology Complex, creating modern educational environments, and allowing for program expansion.
- The modernization effort will reduce life-safety and occupational health risks, and improve space utilization.

Quality Education

See above.

Energy & Emission Reduction

- These buildings will be more energy efficient both through education and changes to the buildings. The renewal of SE01 will allow the complete electrification of building systems, and achieve "net zero" GHG operating systems.

6.0 Project Cost/Funding

BUILDING	CONSTRUCTION START DATE	TOTAL COST
NE06 Pipe Fitting Structure	Third Quarter 2024	\$8.2 million
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NE12 Steel Trades Renewal & Tower	First Quarter 2025	\$17.2 million
SE01 Electrical Training Centre	First Quarter 2026	\$24.9 million
TOTAL CAPITAL COST		\$54 million

All figures rounded, and escalated by 5% from the 2021-25 Capital Plan.

Phase 2 Cash Flow

It is expected that BCIT will contribute \$8.1 million to the capital cost, with the Province contributing \$45.9 million.

The facility operation costs associated with the renovated NE12 and SE01 and new covered outdoor shop areas will be accommodated within the existing BCIT operations budgets.

7.0 Key Risks

The key risks if the project does not proceed are:

- Retention of existing buildings that do not meet seismic standards, are functionally inadequate, and have high FCIs;
- Progressively widening gap between existing and modern 21st century learning environments;
- BCIT will be constrained in meeting student demand for the Trades & Technology training places;
- Negative impacts on the recruitment of students, faculty, and staff; and
- The Province's ability to successfully implement its strategic priorities and initiatives will be limited.

Five-Year Capital Plan (2022/23 - 2026/27)

Attachment 2: Project Overview

Institution BCIT	Campus/City Burnaby	Project Title South Campus Infrastructure Renewal	Project Category 4 – Routine Capital	Project Priority 2 of 2
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9.0 Funding Breakdown

Total Project Cost \$79.2 million	Total Provincial Funding Request \$71.3 million
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10.0 Current Situation

<p>There is urgent need to renew critical infrastructure at BCIT's Burnaby South Campus. An independent condition assessment shows the majority of the electrical service infrastructure to the southern part of the Campus, including its substations, is past expected serviceable life, and in need of immediate replacement. BC Hydro has initiated a 25 KV conversion project that impacts BCIT on the Willingdon service. The South Campus electrical infrastructure is not able to support this change in its current state as existing infrastructure is rated for 12.5 KV. The BC Hydro conversion started in Spring 2020.</p> <p>The same condition assessment indicated much of the underground civil infrastructure (storm, sanitary, water, and gas) that would be impacted by replacing the electrical systems is also past its expected serviceable life, and it is recommended that it also be replaced at the same time as the electrical upgrades. Three sinkholes have recently developed on campus due to failing stormwater infrastructure, including two along the Guichon Creek culvert system. A possible collapse, or flooding resulting from the culvert's current poor condition, poses a significant risk to students and campus operations (Source: BCIT South Campus Infrastructure Renewal, Business Plan, January 2020, Stantec Consulting Ltd).</p>
<p><u>FTES</u> NA</p>
<p><u>Final Outcome of Buildings</u> NA</p>

11.0 Project Description

This project involves the replacement of electrical equipment at the South Campus, and follows other recent campus electrical renewal projects, including the *Canada Way Electrical Service Replacement Project* and the *Goard Way Electrical Service Replacement Project*. These combined projects will create a more reliable and robust electrical North Campus distribution system, which has been stretched over capacity on several occasions.

The proposed *South Campus Infrastructure Renewal Project* will encompass:

- Replacement of critical aged and failing electrical infrastructure;
- Preparation for the BC Hydro 25 kV upgrade;
- Replacement of aged and failing stormwater infrastructure;
- Replacement of other critical civil infrastructure (sanitary, water, and gas); and
- Support for BCIT's short-term and long-range development, as outlined in the *Burnaby Campus Plan*.

This project will also replace a section of the decaying Guichon Creek culvert with an open drainage channel to mitigate risk to campus operations. The existing culvert provides drainage to a large catchment, including a 218-hectare area of Burnaby, upstream from the Campus. The culvert was assessed in May 2015, and found to be in poor condition. Recent sink hole investigation confirmed the culvert requires immediate replacement. Furthermore, its routing extends beneath two major Trades buildings: SE01 (Electrical Training Centre) and NE08 (Welding), posing significant risk to operations. The proposed daylighting will provide an ecologically restorative solution to the situation, and serve as an important north-south pedestrian connection through the Campus. Modernization of this important infrastructure will ensure continued delivery of education at BCIT, and implement a primary feature of the *Burnaby Campus Plan*.

FTEs Supported

NA

12.0 Project Objectives

- Maintain business continuity for the entire South Campus.
- Upgrade critical deferred maintenance conditions related to electrical equipment reaching end of life.
- Create a more modern electrical distribution system.
- Improve fire protection.
- Replacement of other utilities – stormwater, sewer, gas, and water.
- Create electrical distribution redundancy.
- Align future developments with the *Burnaby Campus Plan*, and above-ground master planning by providing a service corridor, or utility spine, for the South Campus.

13.0 Options considered

Given the risk that electrical failure poses to the Institute's operations, immediate replacement of the electrical distribution system is required. Furthermore, based on recent culvert failures and sinkholes, the Guichon Creek Culvert also requires immediate renewal.

SE16 sinkhole (left) and Kyle Street sinkhole (right)



14.0 Project Outcomes

Strategic Alignments

The project supports the Government of BC's "Focus on sustainable economic growth that strengthens our natural resource sector, continues the development of the emerging economy, supports small business and uses innovation and technology to solve BC problems. A key priority in 2019/20 and beyond will be driving economic growth with cleaner energy and fewer emissions".

- Ministry of Environment and Climate Change Strategy's 2019/20 – 2021/22 Service Plan
 - Goal #1: Effective protection and conservation of the environment.
 - Objective 1.2: Healthy and diverse ecosystems, native species, and habitats.
- CleanBC Plan 2018
 - Initiative: Improve Where We Live, support for infrastructure efficiency upgrades
 - Initiative: Cleaner Industry, clean electricity with new transmission line and interconnectivity to existing lines
- BCIT's Strategic Initiative #4 – Stewardship and resource development to ensure that physical facilities and campus infrastructure needs are met through an integrated plan that accounts for teaching space, research facilities, equipment, and information and education technologies.
- Implementation of the Burnaby Campus Plan.

Cost Effectiveness

BCIT undertook a comprehensive condition assessment of all underground infrastructure. In order to develop a full renewal strategy that replaces aged and failing services on the Burnaby Campus, a systematic approach within zones of scope was developed to:

- Facilitate ease of construction;
- Minimize disruption to ongoing operations; and
- Mitigate the risk of future infrastructure failures.

Innovation

- BCIT intends to design this project to meet Envision® Gold Certification standard.
- Conversion of the existing Guichon underground culvert into an open, ecologically restored open drainage channel will support ongoing initiatives to re-introduce a naturally breeding salmon population within the Guichon Creek watershed.

Infrastructure Improvements

The new infrastructure will provide:

- Modernization of the electrical distribution system to accommodate new BC Hydro 25 KV service;
- Mitigation of the risk of electrical service interruption to buildings within the South Campus;
- Increased load capacity and improved fire protection;
- Additional capacity for future campus expansion;
- Redundancy back-up for North Campus electrical service;
- Reduction in future development costs as new utilities are more accessible and strategically located;
- Restored Guichon Creek drainage infrastructure, which will serve as an important north-south pedestrian spine/green space through the Campus, and mitigate risk to culvert collapse under existing buildings;
- Stormwater infrastructure that is more robust and adaptive to changing climatic conditions; and
- New landscaping and pedestrian improvements consistent with *Burnaby Campus Plan*.

Quality Education

The new infrastructure will provide for:

- The daylighting of Guichon Creek that will act as a “living laboratory” for BCIT students involved in environmental studies programs, and will serve as a demonstration project for other communities considering urban waterway restorations.
- Upgraded electrical and other utility infrastructure that will ensure seamless education delivery, which is currently at risk of interruption due to equipment failure.

Energy and Emission Reduction

This project will contribute to meeting BCIT sustainability goals by:

- Providing a modern and efficient utility system with enhanced performance, reliability, and reduced wastage of resources as a result of incremental responses to system breakdowns;
- Providing economic and operational resiliency through reliable power supply and distribution on campus;
- Maintaining education infrastructure for the long-term benefit of communities; and
- Providing environmental protection through the integration of renewable energy sources.

Other sustainability considerations include:

- **Envision®**. BCIT achieved Envision® Gold Certification for the Canada Way ESR Project, becoming the first educational institution in Canada to have had an infrastructure project certified through the third-party verification process. The South Campus Infrastructure Renewal Project assumes achieving Envision® Gold as the baseline sustainable design target for the project.
- **Climate Change & Resilience**. Project planning has referenced projected climate change impacts for the region; including increase in rainwater and higher temperatures. Additionally, seismic risk has been considered in the conceptual design.

9.0 Project Cost/Funding

- \$79.2 million is the total estimated project cost, including equipment and taxes.
- It is expected that BCIT will contribute \$7.9 million to the capital cost, and the Province will contribute \$71.3 million.
- A preliminary phasing plan divides the project into six spatial areas, with the capital cost expenditure spread over a six-year period.
- The new electrical substations and equipment are expected to marginally increase the operating costs for BCIT. However, it is anticipated these costs will be offset by the decreased occurrence of major emergency shutdowns that interrupt daily campus operations. The replacement of end-of-life electrical services should provide operational efficiencies and reduce the number of unplanned equipment failure repairs.

10.0 Key Risks

The key risks if the project does not proceed are:

- BC Hydro 25 kV conversion will make the current 12.5 kV electrical distribution system obsolete.
- System failure and costs associated with unplanned disruptions to operations; and
- Continued deterioration of the Guichon Creek culvert, including sink hole collapse under existing buildings.

11.0 Project Schedule

See attached Schedule and Phasing Plan below.

South Campus Infrastructure Renewal Phasing Plan (Stantec)

