

FIVE YEAR CAPITAL PLAN

2020/21 – 2024/25



UNBC –Five Year Capital Plan – June 2019
Approved September 19, 2019 by the UNBC Board of Governors

SUMMARY

This document outlines the University's plans for the next five years for the planning and construction of new buildings and the renewal of others.

These projects include a new multiple use building that will include: student housing expansion, room for First Nations student housing on campus, a re-envisioned First Nations Centre, a new cafeteria as well as purpose built space for new academic programs.

Renewal of the Agora and Research Lab buildings completes the list of identified priorities through this round of capital planning.

UNBC is also undertaking a partnership project with the David Douglas Botanical Garden Society to develop the northern most Botanical Garden in Canada at the University of Northern British Columbia.

Our Priorities

This Plan reflects UNBC's commitment to the internal priorities laid out in our Strategic Road Map.

It also reflects the priorities of the Ministry including the BC Skills for Jobs Blueprint, Aboriginal and Adult Education, International Education as well as the Ministry's current focus on Student Housing.

PLANNING ASSUMPTIONS

Since its inception, UNBC has been characterized by periods of intense development and construction, growth in student population, and expansion in areas of direct relevance to British Columbia and northern communities. The immediate future is expected to be characterized by planning for student housing expansion and growth to meet the needs of new programs in Engineering (in progress), Nursing in the Northeast, Physical Therapy and Occupational Therapy.

All projects are developed in accordance with Ministry priorities and guidelines including LEED requirements, the Wood First Initiative, and "investing in new or improved skills training equipment, technology and facilities to support accessible skills training opportunities".

PLANNED OUTCOMES

The intent is to be able to meet the identified programming and operational needs with a phased-in capital program over the next five years.

This Plan is also very focused on further developing the University's research facilities and infrastructure to enhance current programming in keeping with our research mandate.

Attachments:

- 1/ Prioritized List of the Proposed Projects
- 2/ Summary of Major (>\$5 million) ongoing and/or self-funded projects
- 3/ List of existing Student Housing Inventory
- 4/ Project Descriptions
 - New Mixed Use Housing, Academic Programs and Food Services Building (Category 3 and Category 1)
 - Coast Mountain College and UNBC Terrace Learning Centre (Category 1)
 - Agora Renewal (Category 2)
 - Research Lab Renewal (Category 2)
 - David Douglas Botanical Garden (Self-funded > \$5 million)

Five-Year Capital Plan Instructions (2020/21-2024/25)

Attachment 3: Prioritized List of Proposed Projects

Project Categories

Category 1: New Priority Projects

Category 2: Whole Asset Replacement & Renewal Projects

Category 3: Student Housing Projects

#	Institution	Campus	Project Description	Project Category	Facility Condition Index (for existing assets)	Asset Replacement Value	Anticipated Construction Start Date	Anticipated Occupancy Date	Total Project Budget
1	UNBC	Prince George	Multi-use Building: Housing, First Nations Centre, Food Services and Academic Programs	3	N/A	N/A	Jun/2021	Sep/2022	\$ 52,000,000
2	CMTN and UNBC	Terrace	CMTN and UNBC Terrace Learning Centre	1	N/A	N/A	Apr/2021	Sep/2023	\$ 72,000,000
3	UNBC	PRINCE GEORGE	Agora Renewal	2	0.58	\$ 43,492,870	Apr/2021	n/a	\$ 15,800,000
4	UNBC	PRINCE GEORGE	Research Lab Renewal	2	0.73	\$ 39,099,611	Apr/2023	n/a	\$ 11,700,000
5									\$ -
6									\$ -
7									\$ -
8									\$ -
9									\$ -
10									\$ -
11									\$ -
12									\$ -
13									\$ -
14									\$ -
15									\$ -
									\$ 151,500,000

Five-Year Capital Plan Instructions (2020/21-2024/25)

Attachment 3: Prioritized List of Proposed Projects

Project Categories

Category 1: New Priority Projects

Category 2: Whole Asset Replacement & Renewal Projects

Category 3: Student Housing Projects

#	Institution	Campus	Project Description	Total Cashflow Forecast 2020/21	Total Cashflow Forecast 2021/22	Total Cashflow Forecast 2022/23	Total Cashflow Forecast 2023/24	Total Cashflow Forecast 2024/25	Total Cashflow Forecast Outgoing Years
1	UNBC	Prince George	Multi-use Building: Housing, First Nations Centre, Food Services and Academic Programs	\$ 7,800,000	\$ 20,700,000	\$ 23,500,000			
2	CMTN and UNBC	Terrace	CMTN and UNBC Terrace Learning Centre	\$ 6,500,000	\$ 8,500,000	\$ 36,000,000	\$ 21,000,000		
3	UNBC	PRINCE GEORGE	Agora Renewal	\$ 1,580,000	\$ 7,110,000	\$ 7,110,000			
4	UNBC	PRINCE GEORGE	Research Lab Renewal			\$ 1,170,000	\$ 10,530,000		
5									
6									
7									
8									
9									
10									
11									
12									
13									
14									
15									
				\$ 15,880,000	\$ 36,310,000	\$ 67,780,000	\$ 31,530,000	\$ -	\$ -



Five-Year Capital Plan Instructions (2020/21-2024/25)

Attachment 3: Prioritized List of Proposed Projects

Project Categories

Category 1: New Priority Projects

Category 2: Whole Asset Replacement & Renewal Projects

Category 3: Student Housing Projects

#	Institution	Campus	Project Description	Provincial Cashflow Forecast 2020/21	Provincial Cashflow Forecast 2021/22	Provincial Cashflow Forecast 2022/23	Provincial Cashflow Forecast 2023/24	Provincial Cashflow Forecast 2024/25	Total Provincial Cashflow Forecast Outgoing Years	Total Provincial Budget
1	UNBC	Prince George	Multi-use Building: Housing, First Nations Centre, Food Services and Academic Programs	\$ 4,960,000	\$ 13,290,000	\$ 14,950,000				\$ 33,200,000
2	CMTN and UNBC	Terrace	CMTN and UNBC Terrace Learning Centre	\$ 6,500,000	\$ 8,500,000	\$ 36,000,000	\$ 21,000,000			\$ 72,000,000
3	UNBC	PRINCE GEORGE	Agora Renewal		\$ 1,580,000	\$ 7,110,000	\$ 7,110,000			\$ 15,800,000
4	UNBC	PRINCE GEORGE	Research Lab Renewal				\$ 1,170,000	\$ 10,530,000		\$ 11,700,000
5										\$ -
6										\$ -
7										\$ -
8										\$ -
9										\$ -
10										\$ -
11										\$ -
12										\$ -
13										\$ -
14										\$ -
15										\$ -
				\$ 11,460,000	\$ 23,370,000	\$ 58,060,000	\$ 29,280,000	\$ 10,530,000	\$ -	\$ 132,700,000

Five-Year Capital Plan Instructions (2020/21-2024/25)

Attachment 4: Summary of Major Ongoing and Planned Self-Funded Projects (>\$5 million)



#	Institution	Campus	Project Description	Anticipated Construction Start Date	Anticipated Occupancy Date	Total Project Budget	Total Cashflow Forecast 2020/21	Total Cashflow Forecast 2021/22	Total Cashflow Forecast 2022/23	Total Cashflow Forecast 2023/24	Total Cashflow Forecast 2024/25	Total Cashflow Forecast Outgoing Years
1	UNBC	Prince George	Botanical Garden	1/Apr/20	1/May/21	\$ 5,300,000	\$ 2,700,000			\$ 1,600,000	\$ 1,000,000	
2						\$ -						
3						\$ -						
4						\$ -						
5						\$ -						
6						\$ -						
7						\$ -						
8						\$ -						
9						\$ -						
10						\$ -						
11						\$ -						
12						\$ -						
13						\$ -						
14						\$ -						
15						\$ -						
						\$ 5,300,000	\$ 2,700,000	\$ -	\$ -	\$ 1,600,000	\$ 1,000,000	\$ -

Five-Year Capital Plan Instructions (2020/21-2024/25)

Attachment 5: Existing Student Housing Building Inventory Data



#	Institution	Campus	Municipality	Neighbourhood/ Building Group Name	Building Name	Type (e.g. Single, Quad, Duplex)	Description	Number of Beds	Year Built	Year Renovated (if applicable)	Description of Renovations
1	University of North	Prince George	Prince George		Neyoh - Dorm 1	Quad	Both Housing buildings on campus are identical. They are primarily wood frame construction and the majority of the suites are 4 bedroom with shared kitchen and bathrooms. There are a few 2 bedroom suites for RL Coordinators. There is also some common space provided.	270	1995	2016	The work completed was substantially on the interior and involved the architectural elements (eg. Paint, flooring and furniture replacements, washroom upgrades, upgraded social space, and lighting. All electric baseboard heaters within the suites and common areas were also replaced with hydronic radiators and connected to the Bioenergy Plant. Door hardware was also replaced and upgraded to card access. Basic envelope repairs were completed to the roof and the exterior. as well as a major upgrade to the sidewalk to accommodate accessibility issues. Cost was \$5.2 million.
2	University of North	Prince George	Prince George		Keyoh - Dorm 2	Quad	Both Housing buildings on campus are identical. They are primarily wood frame construction and the majority of the suites are 4 bedroom with shared kitchen and bathrooms. There are a few 2 bedroom suites for RL Coordinators. There is also some common space provided.	270	1996	2017	The work completed was substantially on the interior and involved the architectural elements (eg. Paint, flooring and furniture replacements, washroom upgrades, upgraded social space, and lighting, the same as Neyoh. All electric baseboard heaters within the suites and common areas were also replaced with hydronic radiators and connected to the Bioenergy Plant. Door hardware was also replaced and upgraded to card access. Basic envelope repairs were completed to the roof and the exterior. as well as a major upgrade to the sidewalk to accommodate accessibility issues. Cost was \$5.5 million.
3											
4											
5											
6											
7											
8											
9											
10											
11											
12											
13											
14											
15											

Total: 540

Five-Year Capital Plan (2020/21 - 2024/25)

Attachment 2: Project Overview

UNBC	Prince George	New Mixed Use Housing, Academic Programs and Food Services Building	Project Category 3 (and 1)	Project Priority 1 of 4
------	---------------	---	----------------------------	-------------------------

1.0 Current Situation

- Engineering program is being accommodated in existing spaces, the Physiotherapy and Occupational Therapy programs (20 and 16 FTE respectively) are being accommodated in existing spaces, and students are living in commercial properties off-campus. Existing food services area (cafeteria) is “all you care to eat” for those on the meal plan, which means access is controlled. Much of the campus community feels that they are “cut-off” from some of the best study and social space on campus. This existing area would be repurposed as a combination of open access learning commons, and retail food services.

2.0 Project Description

- Construct a new mixed use building as the heart of the campus. A ten story mass timber residence tower would be situated atop a two story conventional construction academic foundation. The housing will be single bedrooms, with central washrooms. Social and cafeteria space will be incorporated in the lower two floors of the building, along with a relocated kitchen and servery.
- The building will be 8,300 m² overall, with the following breakdown by use:
 - 4,750 m² **housing** – 200 beds, single occupancy bedrooms with central washrooms, no kitchens and basement laundry.
 - 1,200 m² **food services** – cafeteria and kitchen to supports 700 students on campus, plus catering for off campus staff, students and faculty. Seating for 300 in “all you care to eat” plus general access seating for another 150 learners.
 - 1,500 m² **new academic programs** – new programs to come based on academic priorities; space is needed for labs, distance learning enabled classrooms, faculty offices and problem based learning breakout rooms.
- The new building will be to the west of the Wintergarden portion of the Agora, and extends the main campus hub towards the existing residences. Resolves safety related to steep grade between housing and campus buildings.

3.0 Project Objectives

- This project will increase the student housing available on campus, add single occupancy beds, and shift the campus student nucleus closer to the heart of the campus.
- Provides on campus housing option for aboriginal students.
- Demonstrate mass timber construction with highly integrated supply chain integration and efficient site construction.

4.0 Options considered

- Stand-alone housing build was considered, but the locations available were not suitable. One and two bedrooms suites were considered, but are too low of density to be cost-effective to construct.

5.0 Project Outcomes

- Cost Effectiveness:
 - Mass timber passive house will result in lower life cycle costs and GHG emissions. Fast site works will lower overall construction costs.
- Innovation:
 - Active Learning classrooms support emerging pedagogical styles while videoconference delivery enables increasing variety of program offerings in rural parts of the province.
- Strategic Alignment:
 - The project supports the Ministry goals of aboriginal success, advanced wood product use, campus housing for students, and professional programs that support resource development.
 - A signature building that champions sustainability and mass timber construction is a perfect fit for UNBC's vision to be a destination university of choice, and also Canada's Green University. The 2019 Campus Master plan identified the proposed location as a key spot for enhancing the community and culture of the campus.
 - Providing space for academic programs would be based on well documented needs in Northern BC, and support the resource development activities (LNG, Site C) in the area.
- Quality Education:
 - Existing supports for aboriginal learners will be enhanced through purpose built housing.
- Energy and Emission Reduction:
 - As a passive house project this building will use 90% less heat than existing buildings on campus, and will be heated by the Bioenergy facility to further reduce greenhouse gas emissions.

6.0 Project Cost/Funding

- The estimated total capital cost for this project is \$52,000,000 as detailed below.

	Provincial Grant	Provincial Loan	UNBC	Total
Student Housing (200 beds)		21,000,000	7,000,000	28,000,000
Food Services		3,000,000	3,000,000	6,000,000
New Academic Programs	9,000,000			9,000,000
First Nations Centre and Event Space			9,000,000	9,000,000
Total	9,000,000	24,000,000	19,000,000	52,000,000

- Annual operating costs will be cost recovery for the housing and food services portions of the project, new funding sought from government for the operations of the academic programs. The funding for the First Nations Centre will be maintained through internal operating.

7.0 Key Risks

- Multi-use building with multiple funding sources – requires concerted effort to coordinate the design and ensure all funding partners' needs are met.
- Tall wood and mass timber construction using prefabricated elements is still an emerging field in BC. This project will incorporate careful supply chain planning and Building Information Modelling (BIM) to ensure components arrive just in time for short duration construction. BIM will also lower the long term costs of maintaining the building.

8.0 Project Schedule

- Project would begin with functional planning in Fall 2019. Construction would begin in Q1 of 2021/22 and be complete by August 2022.
- This schedule is based on a funding decision by Q4 of 2019/20.

Design Bid Build	2019/20				2020/21				2021/22				2022/23			
	Quarter				Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	
Functional Planning																
Funding Approval																
Design																
Award General Construction Contract																
Construction																
Project Completion																

Five-Year Capital Plan (2020/21 - 2024/25)

Attachment 2: Project Overview

UNBC and CMTN	Terrace	CMTN and UNBC Terrace Learning Centre	Project Category 1	Project Priority 2 of 4
---------------	---------	---------------------------------------	--------------------	-------------------------

1.0 Current Situation

- UNBC will continue to strengthen our partnerships with the colleges that operate in the North, particularly where there are synergies in facility utilization and program delivery. The aim is to provide better pathways for our students wherever possible.
- In particular
- The UNBC Terrace campus is a single 1,314 m² building with an FCI of 0.4 that is owned by UNBC. Due to challenges associated with operating a single remote building, and a desire to provide better pathways for students in the Northwest region, UNBC and Coast Mountain College are proposing combining programming into a single site and a new building.

2.0 Project Description

- At a conceptual level this would be nominally 11,000 m² in gross area and of mass timber construction. The two institutions intend to proceed with functional planning through the summer of 2019 with a possible construction schedule as shown below.

3.0 Project Objectives

- The primary reason for considering this is to provide an enhanced learning environment for our students in North Western BC, and ensure that our students have the supports they need to succeed.
- This would create operational efficiencies especially around facilities, and expand the support systems for students (many of which UNBC shares with CMTN now, even though we are not on the same site).
- UNBC is exploring the idea of moving our operations out of UNBC's existing facility in Terrace, and disposing of both the land and the building.

4.0 Options considered

- The primary option would be to maintain the status quo of each institution within their existing facilities on separate sites while the buildings continue to age.

5.0 Project Outcomes

UNBC is exploring the option of hosting existing programming in the Terrace region within a new building constructed in partnership with Coast Mountain College (CMTN) on their Terrace campus. UNBC programs would include Nursing, Social Work and Education, while CMTN would provide Early Childhood Education, Social Work and Nursing. Shared services within the building would include Library, Cafeteria and Food Services.

On the broader campus level there would be shared usage of existing CMTN facilities including housing and the First Nations Longhouse.

6.0 Project Cost/Funding

- The estimated capital cost for the project is \$72,000,000.

	2019/20	2020/21	2021/22	2022/23	Total
Provincial Cashflow	500,000	10,000,000	40,000,000	21,500,000	72,000,000

- The annual operating costs are anticipated to be met through reallocation of existing resources for the buildings that would be replaced.
- The existing UNBC Terrace building and land could potentially be sold – this revenue has not currently been factored into the project funding.

7.0 Key Risks

- The project is at the concept development stage; key risks and proposed mitigation strategies will be developed as the Functional Planning is completed (Fall 2019).

8.0 Project Schedule

Design Bid Build	2019/20			2020/21				2021/22				2022/23				2023/24				
	Quarter	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Functional Planning																				
Funding Approval																				
Design																				
Award General Construction Contract																				
Construction																				
Project Completion																				

Five-Year Capital Plan (2020/21 - 2024/25)

Attachment 2: Project Overview

UNBC	Prince George	Agora Renewal	Project Category 2	Project Priority 3 of 4
------	---------------	---------------	-----------------------	-------------------------------

1.0 Current Situation

- One of the original five campus buildings, the Agora was constructed in 1994 and contains Lecture Theatres, Main Entrances, Lobby, Offices and Food Services. It connects all the original buildings and behind all these services is the Utilidor that contains all the campus utility infrastructure.
- The exterior of the building includes cast-in-place concrete walls, stone and brick cladding finishing's and pre-cast concrete elements. The roof includes adhered built-up-roof with concrete interlocking pavers, metal roof assemblies and green roofs.
- With the highest FCI (at 0.395) this building has been deemed the highest maintenance priority.
- According to VFA there are \$15.8 million worth of requirements identified in the next five years.

2.0 Project Description

- This project will involve an evaluation, repair and upgrade to the mechanical and electrical systems, stabilization of concrete retaining walls, substantial roof repairs (green, BUR, concrete pavers, etc.), and architectural interior work including glazing, doors, accessibility upgrades and access control.

3.0 Project Objectives

- The primary objective of the project would be to repair and/or replace aging infrastructure prior to any further damage taking place. A number of the upgrades will also have positive energy savings opportunities.

4.0 Options considered

- The only option available is to try to address small parts of this project with the yearly Routine Capital funding. Given the project management resources available and the volume of work required, this would take up to ten years to complete and is not a viable option.

Project Cost/Funding

- Once preliminary planning is complete for this project a detailed plan will be submitted to the Ministry for funding under Major M & R.

8.0 Project Schedule

Preplanning	2019/20
Planning	2020
Design	2020/21
Construction	2021 -2022

Five-Year Capital Plan (2020/21 - 2024/25)

Attachment 2: Project Overview

UNBC	Prince George	Research Lab Renewal	Project Category 2	Project Priority 4 of 4
------	---------------	----------------------	-----------------------	-------------------------------

1.0 Current Situation

- One of the original five campus buildings, this building is a four storey building with approximately 7,581 square meters of floor space. The “Research Lab” was originally built as the only lab on campus and housed, teaching labs, research labs and graduate space. This building is now used solely for Research and Graduate students and contains a variety of research labs, a greenhouse, an archaeology lab, DNA sequencing lab, loading bay, Chemical Stores, multiple specialized labs and substantial associated mechanical and electrical systems.
- The building has the 2nd highest UNBC building FCI at 0.285 with \$11.7 million worth of requirements over the next five years according to the VFA reports.

2.0 Project Description

- This project will involve an evaluation, repair and upgrade to the mechanical and electrical systems, Fire Alarm system renewal, exhaust system renewal (fume hoods), substantial roof repairs (green, BUR, concrete pavers, etc.), and architectural interior work including glazing, doors, accessibility upgrades and access control.

3.0 Project Objectives

- The primary objective of the project would be to repair and/or replace aging infrastructure prior to any further damage taking place. A number of the upgrades will also have positive energy savings opportunities.
- We will also be undertaking the first functional planning exercise for this building since the Teaching Lab was built in 2002/2004 and the use of this original lab building changed.

4.0 Options considered

- The only option available is to try to address small parts of this project with the yearly Routine Capital funding. Given the volume of work required, this would take up to ten years to complete and is not a viable option.

Project Cost/Funding

- Once preliminary planning is complete for this project a detailed plan will be submitted to the Ministry for funding under Major M & R.

8.0 Project Schedule

Planning	2021/22
Design	2022
Construction	2023

Five-Year Capital Plan (2020/21 - 2024/25)

Attachment 2: Project Overview

UNBC	Prince George	David Douglas Botanical Garden	Project Category Self Funded	Project Priority N/A
------	---------------	--------------------------------	---------------------------------	----------------------------

1.0 Project Description

- In partnership with the David Douglas Botanical Garden Society (DDBGS) the University is proceeding to develop a premier northern botanical garden. The garden will be located on the 23 acres (9.3 hectares) of University of Northern British Columbia (UNBC) land that has been designated for this purpose in the UNBC Campus Master Plan 2012.
- The preliminary cost of the project is \$5.3 million and it is anticipated that it will be developed in 3 phases. The length of time it will take to complete the garden will depend on how quickly the funding can be obtained.

2.0 Background Information

- The David Douglas Botanical Garden Society was formed in 1991. Its vision is to develop and maintain a premier northern botanical garden. Its mission, is to:
 - Establish and maintain an aesthetically pleasing botanical garden in partnership with the University of Northern British Columbia;
 - Provide horticultural, botanical and arboricultural education for the public;
 - Advance horticultural and arboricultural knowledge; and,
 - Promote the use of plant material that is viable in northern British Columbia.
- Under an ongoing agreement with the University, the Society has developed 2.7 acres (1.1 hectares) of land into an Educational Display Garden. The site is located in a prominent position on the University lands. Part of this Display Garden includes the Alice Wolczuk Memorial Alpine Berm, a rock garden, lilac walk, a beautiful arched bridge over the detention ponds and connecting the walking trails, and a significant water feature.
- The Society also established the Weller Rose Garden in 1996 in recognition of the achievements of the University's first President Geoffrey Weller and his wife Jean Weller. In addition, the Society developed a Fir Grove, the Master Gardener Program and library, offers garden visits and lectures, and produces a quarterly newsletter.

3.0 Strategic Alignment

- The educational and research mission of the DDBGS aligns well with the University's mission and can assist with the unification of the campus as they embark on their new Strategic Plan as well as help further their environmental sustainability goals and further the physical beautification of the Prince George campus.
- As colleges and universities are often viewed as lofty or even intimidating institutions, a Botanical Garden can serve as a threshold to the larger community. A family may tour a botanical garden at UNBC but would never feel comfortable walking through a Research Lab.
- With the garden's strong northern focus, it is anticipated that substantial research partnerships can be developed with the University and its programs. It is also hoped that the Garden will function as a "living classroom" for a number of UNBC disciplines (Forestry, Natural Resources, Biology, Entomology, First Nations Studies, etc.)
- The Society's outreach programs (Master Gardener classes, workshops, tours) and other activities will help to promote the university and attract people to the campus that may not otherwise venture up the hill.
- The development of the Botanical Garden will also have an impact on the City of Prince George. It will support the present promotion by The City to encourage people to move to Prince George. It will provide a venue for visitors, for events such as weddings and Christmas light displays, and for a variety of educational experiences for both youth and adult visitors.

4.0 Environmental Analysis

- The proposed location of the garden at the University of Northern British Columbia will make this garden the northern most University garden in the country and therefore very unique.