

SUBJECT	UNDERGRADUATE LIFE SCIENCES TEACHING LABS RENEWAL – BUDGET REVISION
MEETING DATE	FEBRUARY 15, 2018

Forwarded to the Board of Governors on the Recommendation of the President

**APPROVED FOR
SUBMISSION**



Santa J. Ono, President and Vice-Chancellor

DECISION REQUESTED	IT IS HEREBY REQUESTED that <i>the UBC Board of Governors grant approval to:</i>	
	<ol style="list-style-type: none"> <i>Increase the capital budget of the Undergraduate Life Sciences Teaching Labs project from \$80,000,000 to up to \$88,000,000 with a funding release of \$8,000,000 to complete construction; and,</i> <i>Consolidate and adjust internal financing for the project to a single internal loan of up to \$43,635,000 repaid over 30 years from the Central Operating Budget at an annual interest of 5.75%.</i> 	
	Revised Capital Budget	\$88,000,000
	Operating Budget	\$1,426,224
	Revised Schedule	
	Funding Release	\$8,000,000
	Information	
	Expenses to date	\$33,908,000
	Funding released to date	\$80,000,000

Report Date	January 15, 2018
--------------------	------------------

Presented By Andrew Szeri, Provost & Vice-President Academic
 Peter Smalles, Interim Vice-President Finance & Operations; Treasurer
 Simon Peacock, Dean, Faculty of Science
 Dermot Kelleher, Dean, Faculty of Medicine
 John Metras, Acting Associate Vice-President Facilities
 Michael White, Associate Vice-President Campus & Community Planning
 Jennifer Sanguinetti, Acting Managing Director, Infrastructure Development
 Aubrey Kelly, President & CEO, UBC Properties Trust

EXECUTIVE SUMMARY

The Undergraduate Life Sciences Teaching Labs (ULSTL) Renewal project involves an originally budgeted \$80 million renewal and expansion of the Biological Sciences complex to provide modern, well-equipped teaching laboratories for over 2,000 students enrolled in undergraduate life sciences programs. This will replace and consolidate deteriorated teaching labs in the Biological Sciences Centre and North, Wesbrook and D.H. Copp buildings. The project will also address seismic risk associated with three of these buildings and result in the elimination of up to \$115M in deferred maintenance.

Board 3 approval for the project was received on June 14, 2016 conditional on construction tenders being received at or below budget based on 80% of tenders. Construction commenced in July 2016 after more than 80% of the trade packages were received within budget.

The original funding model for the project included \$19.5M from the Provincial Government and \$60.05M in UBC internal loans repaid from the Central Operating Budget and Trek Endowment annual expenditure. Subsequent to Board 3 approval the project was awarded additional external funding through the Federal Government's Post-Secondary Institutions Strategic Investment Fund (SIF). This changed the funding contribution mix to include: \$32.528m from the Federal Government, \$11.838M from the Provincial Government and \$35.635M from UBC.

Construction is now well underway on the renewal of Biological Sciences North and the new construction of Biological Sciences East, with structural work on the new East Wing nearing completion. The project is anticipating completion in January 2019 with program occupancy planned for May 2019 to accommodate the academic calendar.

The project is, at this time, forecasting a significant budget shortfall and it is requested that the Board approve a budget increase of up to \$8M (from \$80M up to \$88M) to complete the project. This increase is proposed to be funded through an adjustment to the internal loans repaid from the Central Operating Budget, increasing the total internal financing requirement from \$35.635M to \$43.635M. Details on the internal loan restructuring are provided in the report. The increased budget includes contingency to ensure funding is sufficient to complete the project. The full \$8M increase will not be used if it is not ultimately required. Sufficient liquidity is available to support the internal financing.

The issues creating the need for a budget increase are due to a number of factors, as follows:

- Market conditions drove total tender values higher than expected, with the remaining 20% of trade values returning \$5M over the pre-tender estimates. Expected value engineering savings, estimated at \$4M, did not materialize at re-tender to off-set this increase.
- Additional work related to the unexpected need to remediate the soil beneath the building has amounted to \$1.5M in unforeseen changes.
- Operational decisions to increase the level of seismic upgrade (75% to 100% of the current building code) and to implement operational measures to reduce the total cost of ownership had a greater impact on constructability than originally expected, resulting in over \$2M in added costs.
- Additional unplanned measures deemed necessary for the project to meet schedule and other government funding requirements have added over \$2M in additional cost.

Cost savings opportunities have been fully explored and implemented where feasible. Further measures, such as shelling out space, cannot be implemented without impacting academic program. The cost changes are of such a comprehensive nature that it was deemed most appropriate to seek a budget revision rather than rely on the Retained Risk Fund which could only provide partial coverage. Details on the Retained Risk Fund and its use on other projects is provided in the Capital Projects Update report. The project team has identified a number of lessons learned for consideration on future projects involving complex renewals and constrained schedules. These are outlined in the report.

<p><i>If this item was previously presented to the Board, please provide a brief description of any major changes since that time.</i></p>	<p>Approval was received for a \$32.528M funding contribution from the Federal Strategic Investment Fund. Provincial funding was concurrently adjusted from \$19.95M to \$11.838M.</p> <p>Project completion is now revised to January 2019, with program occupancy in May 2019.</p> <p>The project is requesting an additional \$8M to cover additional costs due to schedule delays and excessive market escalation. This estimate includes contingency for additional unforeseen changes that may arise during completion of construction.</p>
--	---

INSTITUTIONAL STRATEGIC PRIORITIES SUPPORTED

- Learning
 Research
 Innovation
 Engagement
 International
 (Internal / External)
- or Operational

DESCRIPTION & RATIONALE **Background and Academic Need**

UBC delivers life sciences teaching programs to more than 2,000 FTE students, preparing students for further study or a career in the life sciences sector. Laboratory experiences are essential to learning, providing hands-on opportunities to explore practical problems and conduct research.

Life sciences teaching programs are currently delivered in deteriorating buildings that are 1960-70's era or older and represent significant seismic risk. Original lab configuration and infrastructure hampers the ability of instructors to develop progressive teaching methods centered on student collaboration. Teaching lab sizes limit the ability of programs to respond to increased student demand for placement. Building finishes and systems are beyond or nearing the end of their serviceable life and renovation of individual labs is limited by the inability to improve overall deteriorating building infrastructure.

The project will provide modern, well equipped laboratories and a consolidated home for undergraduate students and teaching faculty in the following programs:

- Faculty of Science: Biology, delivered by Botany and Zoology, currently located in Biological Sciences North Wing and Centre Block
- Faculty of Science: Microbiology & Immunology (M&I), currently located in the Wesbrook Building
- Faculty of Medicine: Biochemistry & Molecular Biology (B&MB), and Cellular and Physiological Sciences (CAPS), currently located in D.H. Copp Building

Project Description

The project will renew Biological Sciences North Wing (built 1976) and replace the deteriorated Biological Sciences Centre Block (built 1948) with a new five-storey addition on the east side of the courtyard. A project site plan is provided in Attachment 2.

Total project area, including rooftop teaching greenhouse space, is 153,320 gross square feet. The project builds on the successful renewal of the Biological Sciences West and South Wings completed in 2011 as part of the Knowledge Infrastructure Program funded by the Federal and Provincial governments and will complete the renewal and expansion of the Biological Sciences complex.

Demolishing Biological Sciences Centre and renewing Biological Sciences North will reduce deferred maintenance by \$50M and significantly reduce structural seismic risks. Teaching programs in Copp and Wesbrook are the primary functions remaining in those buildings, and relocating the programs paves the way for future demolition and an additional deferred maintenance reduction of \$65M.

In the short-term, a consultant team developed a scope of work for functional and life safety upgrades to Wesbrook and minor safety upgrades to Copp which will allow these facilities to be used for swing space to facilitate the Undergraduate Life Sciences Teaching Lab renewal and then, potentially, the planned Undergraduate Chemistry Teaching Lab renewal project (Wesbrook only). Government funding was secured for a limited portion of Copp and Wesbrook life safety upgrade work, which is now complete. The swing space upgrade renovations were completed at the end of May, 2016, and functions were moved to swing space during the month of June.

The design team also investigated undertaking a limited seismic upgrade to Wesbrook; however, the scope of work required was far more extensive than allowed for in the project schedule and budget, and in consultation with Risk Management Services, a decision was made to defer this upgrade. It is anticipated that Wesbrook will be demolished following its use as swing space for lab-intensive construction projects.

Functional Program

Resource Planning Group (RPG) completed a functional program in June 2014, with total new and renewed building area programmed at 16,240 gross square metres (174,795 sf). The Revised Board 2 submission reported that unanticipated cost escalation, compounded by delayed schedule due to deferred Provincial Treasury Board approval, and additional public realm scope required by the Advisory Urban Design Panel, led to building area reduction and project scope changes to keep the project on budget. The existing Workshop Building will be renewed rather than replaced, and the rooftop research greenhouse has been removed from the project scope.

The new and renewed building area is approximately 14,068 gross square metres (151,377 sf) plus 181 gross square metres (1,943 sf) of rooftop teaching greenhouse space, for a total of 14,244 gross square metres (153,320 sf).

The project will include:

- Teaching laboratories for Biology, M&I, B&MB, and CAPS
- Teaching lab support, including preparation rooms, environment chambers, and plant and specimen collections
- Instructors' offices and administrative support
- Student help centre, informal learning space, and student association offices
- Faculty of Science Co-op for life sciences programs (currently in Copp)
- Replacement lecture theatre and classrooms
- Replacement and upgrade of Biological Science complex functions currently in North Wing and Centre Block, including Botany administration hub, post-doctoral and graduate student offices, the Bio Imaging Facility, loading/receiving, central stores, aquatics research and hummingbird lab.

BENEFITS

Learning, Research,
Financial,
Sustainability &
Reputational

Benefits of the proposed project include:

- Provides modern teaching labs for 2,000+ students in life sciences programs.
- Addresses seismic risk in three high or very high risk buildings
- Eliminates up to \$115 million in deferred maintenance.

RISKS

Financial,
Operational &
Reputational

Following Board 3 approval in June 2016, the project satisfied the approval condition by receiving 80% of tenders at or below budget and proceeded to construction stage in order to maintain the aggressive schedule necessary for the Provincial Treasury Certificate.

In the Board 3 submission, risks were identified, which were actively being managed or mitigated. It was believed that each risk was being managed with appropriate controls in place to deal with the potential impacts (e.g. costs and time). However, each of these risks has materialized in ways that have compounded their cost impacts, in a manner that was unforeseen.

Technical Risks

Given the vintage of the Centre Block (1948), the nature in which the connected wings were attached in the 1970s, and the many renovations that occurred through the years, the quality and accuracy of the record drawings was severely lacking. This inaccuracy resulted in a number of building service interconnections (e.g. electrical, IT, water, etc.) that were incorrect or not shown at all, causing significant delay in investigations and diagnosis. While the direct costs associated with this delay were not great, the time delay pushed full building demolition and excavation into the worst weather periods of the year.

Compounding the delay due to building interconnection was the unexpected discovery of contaminated soil. In the crawlspace underneath the Centre Block, asbestos insulation had flaked into the soil throughout the years, making the space a confined entry risk and requiring full abatement. The initial plan to vacuum the soil out was thwarted, due to years of dampness compacting the soil to a near concrete state. In order to prevent significant unnecessary abatement costs, an alternate plan required protecting the soil during demolition and removal of rubble from the site. The combined impact to the project of this and the building interconnections was 4 months of delay and additional cost of approximately \$1.5M.

Funding

As presented in the Board 3 submission, Mechanical and Electrical work was procured through a Design-Build contract and the project completion date was brought forward to April 2018 in order to align with the requirements of the Provincial Treasury Board. The change in procurement method had a material cost of approximately \$2M in added design fees and site coordination efforts, as well as considerable lost time and effort. The lost time and effort came at a critical time in the project, but the decision was made to try to expedite the project in order to meet the April 2018 completion requirement. In order to meet this deadline, and thereby the funding requirements, construction needed to start by July 2016.

Market Conditions

At the time of construction start, 80% of trade tenders were received within budget as per the Board 3 approval condition. However, a few of the outstanding trade prices were viewed as exorbitantly high, and the total value would have consumed most of the contingency. Value engineering measures were undertaken to reduce the total cost, and based on estimates from trades and the project team, the value of these estimated value engineering measures was approximately \$4M in projected savings, which aligned with all of the pre-tender estimates of the project's external Cost Consultant and Construction Manager. Further design would be required to implement most of the value engineering measures, but the estimated \$4M was anticipated to form a construction contingency for the project.

By the time of retendering the redesigned (value engineered) scopes, the schedule was delayed by approximately 6 months, due to the lost time in demolitions and excavation. Significant, unexpectedly high, market escalation had occurred in that time frame (6% according to Statistics Canada), and a considerable number of other large scale projects had commenced elsewhere in the region. The retendered prices reflected the escalation and increased level of construction activity, yielding almost no change in price from the original tendered values, even considering the significant amount of redesign for cost savings. This left very little room to move when the final 20% of trade tenders came in \$5M over pre-tender estimates in the escalating market.

Other Risks

Weather has played a major role in the construction of this project, with near record snowfall and rainfall in late 2016/early 2017 during the excavation phase of the project. A late decision by UBC to seismically upgrade the North Wing to 100%, rather than the budgeted 75%, of the BC Building Code was accounted for in the design. However, changes associated with unexpected site conditions (below grade or behind walls), which were not documented in record drawings, were compounded by the larger and deeper structural components of the upgrade.

Major Risk Event Summary

1. The mandated Design-Build procurement model for Mechanical and Electrical disciplines resulted in a direct impact of approximately \$2M.
2. Decanting and demolition of the Centre Block resulted in 4 months delay and additional General Condition costs.
3. Abatement of hazardous materials, including unexpected additional interior asbestos, unexpected asbestos in the soils beneath the building and unexpected contaminated soils due to leached salt water (from an aquatics research facility) had an estimated impact of \$1.5M.
4. Snow and freezing conditions during excavation resulted in a 2 month delay.
5. The operational decisions that were made later in the project, including revising the seismic upgrade from 75% of current code to 100%, additional, unexpected tree protection and utility re-routing resulted in an additional estimated impact of \$2M.
6. Redesign and repricing after the tenders were received in order to try to bring the project within the original budget was done in an escalating market. This escalation meant that instead of finding the anticipated \$4M that would have brought the project in line with the original budget, no savings were available. The result was that the entire contingency was depleted, which left little margin when the final 20% of trade tenders came in \$5M over pre-tender estimates.

The above is not an exhaustive list of all risk events or added costs, but represents the major events. Much of the above would have been covered under contingency, had the savings materialized in the manner that was discussed. However, the loss of the contingency brings all to the forefront.

Mitigation Strategies

Prior to Board 3 approval significant efforts had been undertaken to maintain the \$80m project budget which had originally been set prior to Board 1 approval in 2014. Included in these efforts were the following major mitigation efforts.

- A major redesign of the East Wing to more closely align the net program areas, eliminate redundant spaces, and optimize the floorplan efficiency resulted in reduction of nearly \$4M.
- Elimination of program elements that were not essential to the overall project success yielded savings of approximately \$5M.
- Synergizing with other campus projects and initiatives to offset project costs generated \$700K in savings.
- Redesign and re-specifying key building components after tenders were received to optimize quality and value returned \$500K to the project.

Many other risks have been and continue to be mitigated through active site coordination, redesign, and alternate solutions. As a recognition of the increase in the project budget, approximately \$600,000 of project management fees has been removed from the forecasted costs to complete.

Lessons Learned

1. Where possible, more exploratory work should be performed prior to abatement and demolition to have a greater understanding of the real quantities.
2. For science buildings, larger contingencies for the abatement work could be carried to account for the years and decades of potential chemicals that are left behind or have contaminated the soils.
3. With the mandated change in procurement of Mechanical and Electrical to Design-Build, further time and funds could have been applied to the project, following the Provincial Treasury Board decision. The risk associated with changing procurement and the project team structure was known in part, but the pursuit of the April 2018 completion date took precedence over a more detailed review.
4. With respect to the Construction Management procurement, more scrutiny on the CM's pre-tender services to raise the bar could have yielded better results or at least earlier knowledge of problems.
5. For complex projects of this nature, particularly where there are major unknowns (renewals), finding ways to incentivise all parties of the project team could produce better outcomes for UBC.

COSTS A revised capital budget of up to \$88M is requested to address the previously identified cost issues. The full \$8M increase will not be used if it is not ultimately required.

Capital & Lifecycle Operating

Project Capital Costs \$000's	Board 1 \$000s	Board 2 \$000s	Revised Board 2 \$000s	Board 3 \$000s	Revised Budget \$000s	\$/GSF
Construction	51,824	53,396	54,435	54,769	66,840	436
Design/Construction Contingency	1,785	3,443	3,586	3,420	2,425	
Construction Management	2,073	2,073	1,826	1,739	1,453	
Cash Allowances	2,633	2,633	2,367	2,093		
Planning & Design	5,182	5,360	5,490	5,375	6,660	
Furniture & Equipment	3,750	3,023	3,023	3,408	950	
Commissioning, Inspection, Moving	829	617	269	332	470	
Permits, Insurance, Legal	525	863	363	503	702	
Project Management	1,462	1,462	1,543	1,506	873	
UBC IT/AV/Security Allowance	2,000	2,000	2,096	1,908	2,535	
Swing Space	2,500	2,922	2,922	2,922	2,922	
Additional Wesbrook Upgrades	2,580					
Subtotal	77,144	77,792	77,920	77,975	85,830	560
Tax	1,230	1,353	1,184	1,170	1,315	
Retained Risk Contingency	446	855	896	855	855	
Construction Financing	1,180					
Total Project Budget	\$ 80,000	\$ 80,000	\$ 80,000	\$ 80,000	\$ 88,000	574

Operating Budget	Board 1	Board 2	Revised Board 2	Board 3	Revised Budget	\$/GSF
Operating Costs	Annual	Annual	Annual	Annual	Annual	
Annual Operations & Maintenance	\$ 1,113,444	\$ 1,113,444	\$ 1,056,401	\$ 976,648	\$ 976,648	6.37
Utilities	\$ 389,793	\$ 389,793	\$ 369,823	\$ 341,904	\$ 341,904	2.23
Total O&M Costs	\$ 1,503,237	\$ 1,503,237	\$ 1,426,224	\$ 1,318,552	\$ 1,318,552	8.60
Less Savings from demolished space	\$ 474,931	\$ 474,931	\$ 402,269	\$ 402,269	\$ 402,269	5.67
Net O&M Cost	\$ 1,028,306	\$ 1,028,306	\$ 1,023,955	\$ 916,283	\$ 916,283	
Life Cycle Capital Costs	Annual	Annual	Annual	Annual	Annual	\$/GSF
Cyclical Maintenance	\$ 613,530	\$ 613,530	\$ 582,098	\$ 538,153	\$ 538,153	3.51
Modernization/Upgrade	\$ 162,559	\$ 162,559	\$ 154,231	\$ 142,588	\$ 142,588	0.93
Total Capital Renewal Cost	\$ 776,089	\$ 776,089	\$ 736,330	\$ 680,741	\$ 680,741	4.44

Faculties of Science and Medicine will pay annual net O&M costs for their respective space. Central operating budget will fund Capital Renewal requirements to the extent possible.

FINANCIAL
Funding Sources,
Impact on Liquidity

Revised Funding / Financing Plan

The original funding model for the project approved at Board 3 included \$19.5M from the Provincial Government and \$60.05M in UBC internal financing comprised of two loans, one for \$22.55M repaid from the Central Operating Budget and the second for \$37.5M repaid initially from the Central Operating Budget and after approximately 5 to 10 years from the Trek Endowment using the 3.5% annual spending allocation attributable to \$57.3 million in incremental endowed land development revenue made possible in part by the project.

The original land endowment funding concept for the project can be summarized as follows:

- Completion of the ULSTL project would allow demolition of Copp building on University Blvd.

- Mixed-use rental housing projects planned on vacant Copp and GSAB sites on University Blvd.
- Addition of rental housing on University Blvd would increase density that could be sold in Wesbrook Place by 301,500 sqft while still maintaining Land Use Plan 20% rental requirement.
- Sale of this density through prepaid market leases would occur over the next 5-10 years as Wesbrook Place is built out. UBC Endowment would receive an additional \$57.3M as a result.
- After 5-10 years, the annual 3.5% endowment spending allocation on the \$57.3M could help support debt service for the Teaching Labs project.

Subsequent to Board 3 approval the following changes have occurred which require a restructuring of the originally approved funding/financing plan:

- 1) The ULSTL project was awarded additional funding through the Federal Government's Post-Secondary Institutions Strategic Investment Fund (SIF). This changed the funding contribution mix to include: \$32.528M from the Federal Government, \$11.838M from the Provincial Government and \$35.635M from UBC.
- 2) The University administration determined that the Copp site on University would be better utilized for needed expansion of student housing. The previously proposed rental housing could be accommodated elsewhere within new neighbourhood developments (e.g. Stadium Neighbourhood). An update to the University Boulevard Design Guidelines to reflect this change is planned to be presented to the Board by June 2018.
- 3) The forecast ULSTL project cost increased from \$80M to \$88M, which increased the required UBC contribution from \$35.635M to \$43.635M.

To address these changes the following funding/financing structure is proposed, including consolidation of internal financing to a single loan of up to \$43,635,000 repaid from the Central Operating Budget. The funding connection to incremental land development revenue and Trek Endowment annual spend has been removed to simplify the funding model. Sufficient liquidity is available to support the additional internal financing. An on-going allocation in the Central Operating Budget has been made to support the annual debt service of \$3.01M.

Funding Sources in \$000s	Board 1+2	Revised Board 2	Board 3	Revised Budget
Provincial Government	\$21,250	\$19,950	\$19,950	\$11,838
Federal Strategic Infrastructure Fund				\$32,528
Central Operating Budget - Internal loan (30 years, 5.75%) repaid from Central Operating Budget.	\$21,250	\$22,550	\$22,550	\$43,635
Initially the Central Operating Budget and after 5 to 10 years from the Trek Endowment – Internal loan (35 years, 5.75%) repaid initially from Central Operating Budget and then from Trek Endowment using 3.5% annual spending allocation attributable to the \$57.3 million endowed land development revenue made possible by this project.	\$37,500	\$37,500	\$37,500	\$0
Total Funding	\$80,000	\$80,000	\$80,000	\$88,000

Cost savings opportunities have been fully explored and implemented where feasible. Further measures, such as shelling out space, cannot be implemented without impacting academic program. The cost changes are of such a comprehensive nature that it was deemed most appropriate to seek a budget revision rather than rely on the Retained Risk Fund which could only provide partial coverage. Details on the Retained Risk Fund and its use on other projects is provided in the Capital Projects Update report.

SCHEDULE Revised Schedule

Implementation Timeline The construction start in July 2016 noted in the Board 3 submission was achieved. The project is targeting a revised completion in January 2019, however, the technical difficulty of moving the departments in the middle of the academic year is too great. Thus, the majority of the users will remain in swing space until May 2019 after which they will move into the renewed facility.

Milestone	Board 1	Board 2	Revised Board 2	Board 3	Revised Schedule
Executive 1, 2	13-Jul	13-Jul	13-Jul	13-Jul	13-Jul
PPAC	13-Sep	13-Sep	13-Sep	13-Sep	13-Sep
Executive 3	13-Nov	13-Nov	13-Nov	13-Nov	13-Nov
Board Information report	14-Feb	14-Feb	14-Feb	14-Feb	14-Feb
UBC Board 1	14-Apr	14-Apr	14-Apr	14-Apr	14-Apr
Provincial Treasury Board Approval of Funding Contribution	Fall 2014	Dec-14 (projected)	Jul-15 (actual)	Jul-15 (actual)	Jul-15 (actual)
UBC Board 2	14-Dec	14-Dec	14-Dec	14-Dec	14-Dec
UBC Revised Board 2			15-Sep	15-Sep	15-Sep
UBC Board 3	15-Jun	15-Jun	16-Jun	16-Jun	16-Jun
Construction Start	15-Jul	15-Jul	16-Jul	16-Jul	16-Jul
Substantial Completion	17-Jun	17-Jun	18-Jun	18-Apr	19-Jan
Final Occupancy	17-Jul	17-Jul	18-Jul	18-Jul	19-May
Board 4	19-Jun	19-Jun	20-Jun	20-Jun	20-Dec

CONSULTATION
Relevant Units,
Internal & External
Constituencies

The project is a top priority for the Faculties of Science and Medicine. Infrastructure Development (Facilities Planning) worked with the user group to develop the functional program and a swing space plan. Campus & Community Planning (C&CP) provided input on off-site utilities, sustainability objectives, siting, and integration with the Public Realm. UBC Energy & Water Services provided a preliminary assessment of utilities requiring relocation.

The project architect is Diamond Schmitt in partnership with CEI Architecture. The project is managed by UBC Project Services (Infrastructure Development). Project Services managed the successful renewal of Biological Sciences West and South which was completed on time and under budget in 2011.

A Development Permit application (DP14030) for renovations to the Undergraduate Life Sciences Teaching Labs was first received on October 16, 2014. The application was subsequently reviewed by the Advisory Urban Review Panel and the Development Review Committee and a Public Open House was held on October 29, 2014 in the lobby of the Earth Sciences Building. The project was given Board 2 approval in December 2014.

Over the following year, modifications were made to the design by the applicant team and the new revised project was given Revised Board 2 approval in September 2015. Due to the extent of the changes and the delay since the previous plan review, a new Development Permit application was requested by Campus and Community Planning. DP application 15038 was received on December 4, 2015. The revised project was presented to the advisory bodies (AUDP and DRC) in December and received support subject to recommendations for follow up by staff. A second Public Open House displaying the new revised plans was held on January 13, 2016.

A revised plan submission for DP15038 responding to the input received from the advisory bodies and staff was received on May 9, 2016. Following staff review, a Development Permit was issued. Board 3 approval was received on June 14, 2016 and construction began in July 2016.

**UBCPT
COMMENTS**
Complete for all reports that include a property component

Date of Review:

Signed off by:

N/A

Previous Report Date

June 14, 2016

Decision

1. Board 3 approval for the Undergraduate Life Sciences teaching Labs Project, subject to construction tenders being received at or below budget based on 80% of tenders, with a funding release of \$73,000,000 to undertake and complete construction.
2. Approval for an internal loan of up to \$22.55 million at 5.75% annual interest paid back over 30 years from the Central operating budget.
3. Approval for an internal loan of up to \$37.5 million at 5.75% annual interest paid back over 35 years initially from the Central Operating Budget and after approximately 5 to 10 years from the Trek Endowment

Capital Budget:	\$80,000,000
Operating Budget:	\$ 1,426,224
Schedule	
Program	
Authorization to issue development permit	
Proceed to working drawings and tender	
Funding Release:	\$73,000,000
Information:	
Expenses to Date:	\$5,705,000
Funding releases to Date	\$7,000,000

Action / Follow Up

Board 3 approval to proceed to construction stage was received in June 2016, conditional upon 80% of tender value being within budget.

Previous Report Date

September 29, 2015

Decision

Board 2 approval to revise the funding plan based on a revised Provincial contribution and to proceed with swing space renovations in advance of a Board 3 approval request for the full renewal work in June 2016.

Capital Budget:	\$80,000,000
Operating Budget:	\$ 1,426,224
Schedule	
Program	
Authorization to issue development permit	
Proceed to working drawings and tender	
Funding Release:	None
Information:	
Expenses to Date:	\$2,039,300
Funding releases to Date	\$7,000,000

Action / Follow Up	Revised Board 2 was conditional on final approval of the Provincial funding contribution, which was received in November, 2015. Proceeded with contract documents and swing space renovations.																						
Previous Report Date	December 4, 2014																						
Decision	<p>Board 2 approval for the Undergraduate Life Sciences Teaching Labs Renewal project with authorization to issue the development permit and a funding release of \$5,500,000 to complete working drawings and tender documents and to proceed with swing space renovation and site works.</p> <table border="0"> <tr> <td>Capital Budget:</td> <td align="right">\$80,000,000</td> </tr> <tr> <td>Operating Budget:</td> <td align="right">\$ 1,503,000</td> </tr> <tr> <td>Schedule</td> <td></td> </tr> <tr> <td>Program</td> <td></td> </tr> <tr> <td>Authorization to issue development permit</td> <td></td> </tr> <tr> <td>Proceed to working drawings and tender</td> <td></td> </tr> <tr> <td>Funding Release:</td> <td align="right">\$5,500,000</td> </tr> <tr> <td colspan="2">Information:</td> </tr> <tr> <td>Expenses to Date:</td> <td align="right">\$498,294</td> </tr> <tr> <td>Funding releases to Date</td> <td align="right">\$1,500,000</td> </tr> </table>	Capital Budget:	\$80,000,000	Operating Budget:	\$ 1,503,000	Schedule		Program		Authorization to issue development permit		Proceed to working drawings and tender		Funding Release:	\$5,500,000	Information:		Expenses to Date:	\$498,294	Funding releases to Date	\$1,500,000		
Capital Budget:	\$80,000,000																						
Operating Budget:	\$ 1,503,000																						
Schedule																							
Program																							
Authorization to issue development permit																							
Proceed to working drawings and tender																							
Funding Release:	\$5,500,000																						
Information:																							
Expenses to Date:	\$498,294																						
Funding releases to Date	\$1,500,000																						
Action / Follow Up																							
Previous Report Date	April 14, 2014																						
Decision	<p>Board 1 approval for the Undergraduate Life Sciences Teaching Labs Renewal with a funding release of \$1,500,000 to commence design.</p> <table border="0"> <tr> <td>Preliminary Capital Budget:</td> <td align="right">\$80,000,000</td> </tr> <tr> <td>Preliminary Operating Budget:</td> <td align="right">\$ 1,503,000</td> </tr> <tr> <td>Schedule</td> <td></td> </tr> <tr> <td>Project in Principle</td> <td></td> </tr> <tr> <td>Location</td> <td></td> </tr> <tr> <td>Consultant Selection</td> <td></td> </tr> <tr> <td>Program</td> <td></td> </tr> <tr> <td>Proceed to Schematic Design</td> <td></td> </tr> <tr> <td>Funding Release:</td> <td align="right">\$1,500,000</td> </tr> <tr> <td colspan="2">Information:</td> </tr> <tr> <td>Expenses to Date:</td> <td align="right">\$0</td> </tr> </table>	Preliminary Capital Budget:	\$80,000,000	Preliminary Operating Budget:	\$ 1,503,000	Schedule		Project in Principle		Location		Consultant Selection		Program		Proceed to Schematic Design		Funding Release:	\$1,500,000	Information:		Expenses to Date:	\$0
Preliminary Capital Budget:	\$80,000,000																						
Preliminary Operating Budget:	\$ 1,503,000																						
Schedule																							
Project in Principle																							
Location																							
Consultant Selection																							
Program																							
Proceed to Schematic Design																							
Funding Release:	\$1,500,000																						
Information:																							
Expenses to Date:	\$0																						
Action / Follow Up	Proceeded with Schematic Designs. Submitted Opportunity Assessment report to Ministry of Advanced Education (AVED)																						
Previous Report Date	February 4, 2014																						
Decision	<p>For Information: Preview of rationale and scope and to seek Board input and support for the proposed funding model prior to Board 1 submission in April 2014.</p> <p>The project involves an \$80 million renewal and expansion of the Biological Sciences complex to provide modern, well equipped teaching laboratories for over 2,000 students enrolled in undergraduate life sciences programs. This will replace and consolidate deteriorated teaching labs in the Biological Sciences Centre and North, Wesbrook and D.H. Copp buildings. The project will also address seismic risk associated with these buildings, which have all been rated high or very high risk, and ultimately result in the elimination of up to \$85M in deferred maintenance.</p>																						

	<p>Funding is proposed to be contributed equally from two sources:</p> <ol style="list-style-type: none">1) An internal loan (\$40 million) repaid from Central Operating Budget supported by expected Vantage College revenue. The project is required in part to support the additional services for expanded enrolment to which Vantage College will materially contribute. <p>Land development revenue (\$40 million) derived from a \$57 million prepaid lease from UBC Properties Trust for development of the General Services & Administration Building (GSAB) and D.H. Copp building sites on University Boulevard for University (faculty/staff) rental housing.</p>
Action / Follow Up	<p>In April 2014, Ministry of Advanced Education advised UBC of notional approval of \$21.25 million in cost sharing for renewal portion of project. Funding plan was revised for Board 1 submission.</p>