WASHINGTON STATE UNIVERSITY

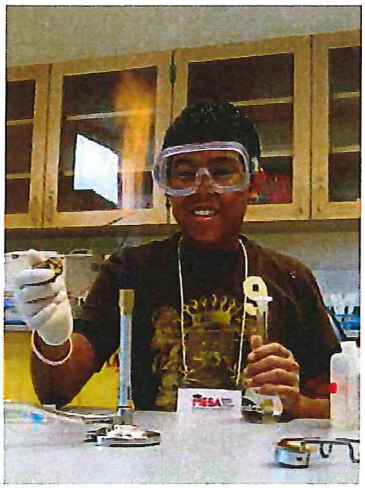
Vancouver Life Sciences Building

2019-21 Request: $4,000,000

Institutional Priority: #4

Project Type: Growth
Project Phase: Design
Gross Square Ft: 60,000

The project is envisioned as a 60,000 gross square foot instructional and research facility that will provide vital learning opportunities for students in STEM disciplines. This building will fill a critical need by providing teaching and research laboratories in high demand STEM related fields. Expansion of lab space is critical to continue to serve the needs of undergraduate students in Southwest Washington who are pursuing STEM careers; but the Vancouver campus is out of space for new labs. The integration of teaching and research labs in one building will increase the opportunities for undergraduate students to participate in research, enhancing their learning and skill development for future STEM careers. New labs for neuroscience, molecular biology and nursing research will provide opportunities for new discoveries to solve societal problems in the areas of health. The facility will also include specialized, dedicated vivarium space to house animals for research labs and federally-funded research programs.



The Life Sciences Building has been a priority in WSU Vancouver's 10 year major capital plan since 2003 and will serve a growing demand for general science classes requiring laboratories. Basic wet labs supporting chemistry, biology, and physics are at or over capacity which precludes growth in STEM and health-related fields unless there are new facilities. Existing labs cannot keep up with demand, limiting access to required lab classes and affecting time-to-degree for students at all levels and across all fields of study. After converting the only viable space on campus to add a teaching lab in the fall of 2013, no other suitable space exists on campus to serve these program needs. The specialized nature of planned laboratory facilities and the broad range of students to be served precludes the use of off-campus space even if it were available.

This project also includes modern research lab space for WSU's highly productive faculty who work to solve society's most significant health problems. The success of the university's research program directly impacts students, as a research element is typically required for graduate degrees and some undergraduate degrees in STEM disciplines. WSU Vancouver research labs employ both graduate and undergraduate students, contributing to their academic experience and their future success as professionals in Washington; 95% of WSU Vancouver alumni remain in the area.

WSU Vancouver is the only public university to serve students from the catchment area of Clark, Skamania, Cowlitz, and Lewis counties, all legislatively defined as underserved regions. Nearly half of these students qualify for the highest levels of state and federal grants; without WSU Vancouver, they would not have access to baccalaureate and graduate higher education. Nearly all students who will use this building are place-bound and are coming from an underserved region.

This project supports the Governor's *Results Washington* goals as WSU Vancouver will be unable to sustain growth in STEM and health-related fields without new wet lab and clinic space. There is also increasing pressure on scheduling of instructional labs, impacting time-to-degree for these students. Upper division and graduate students requiring lab coursework in general science labs are a targeted growth goal for the state of Washington; limiting classes due to lack of suitable space directly conflicts with those goals. The project timeline would provide the first new building on campus in 12 years, adding space to accommodate that campus growth and continued expansion of teaching and research activities, supporting WSU's state-wide goals and land-grant mission.

Institution
Washington State University
Project Title
VANCOUVER LIFE SCIENCES BUILDING
Project Location (City)
Vancouver, WA

1. **Problem Statement (short description of the project – the needs and the benefits):**

   WSU Vancouver opened as a branch campus in 1989, serving upper division and graduate students, and moved to its current location in 1996. A decade later, lower division students were admitted for the first time, greatly increasing the demand on campus laboratories. No new wet labs have been created since the addition of lower division classes; WSU Vancouver is over capacity for general science instructional labs and is challenged to accommodate new growth. Without additional general science labs, many undergraduate students will be unable to register for Chemistry, Biology, or other classes requiring wet labs, creating a choke point in fulfilling general degree requirements for all majors - especially those in the STEM and healthcare fields which require multiple wet lab classes.

   The project is envisioned as a 60,000 gross square foot multi-story instructional facility bringing components of Vancouver's basic, translational, applied, and clinical health programs together in one location on campus, including Nursing, Neuroscience, Psychology, and Molecular Biology. As the Vancouver campus is out of space for new labs, this building fills a critical need by providing teaching and research laboratories for multiple disciplines in STEM-related fields. It includes specialized, dedicated vivarium space to house animals for instructional labs and federally-funded research programs, meeting regulatory requirements and expansion of vivarium based programs.

2. **History of the project or facility:**

   The Life Sciences Building has been a high priority in Vancouver's Ten-Year Major Capital Plan since 2003. This project serves the growing demand for general science classes requiring lab facilities that are at capacity as no new wet labs have been constructed since the addition of lower division classes in 2006. The project will also expand vivarium space and add patient simulation and clinical labs to support the nursing program.

   With the introduction of lower division undergraduates in 2006, scheduled lab sections immediately doubled from 17 sections to 35. Currently, more than 101 sections per term are offered through maximum use of teaching labs in the classroom and science and engineering buildings. Additional facilities are required by 2020 to support general enrollment and program growth in nursing, biology, neuroscience, and engineering. Forty-seven percent of current campus undergraduates are in STEM-related majors, which is steadily increasing in both numbers and proportion of majors.

   In 2013, teaching lab space was increased by converting an engineering classroom to a bioscience teaching lab. Further expansion projects in this manner are not feasible. The specialized nature of planned laboratory facilities and the broad range of students preclude the use of off-campus space, even if it were available. Construction of new on-campus facilities was determined to be the best alternative for serving these programs and the growing student population at Vancouver.

The campus leadership has set a goal of growing enrollment to 5,000 students. This project timeline would provide the first new building on campus in 12 years, to accommodate campus growth and continued expansion of mission-critical teaching and research activities, supporting WSU's statewide goals and land-grant mission.

3. University programs addressed or encompassed by the project:

The building would be interdisciplinary, including Colleges of Nursing, Arts and Science, and Veterinary Medicine. It would add patient simulation labs, which are used in instructional programs for nursing and medical fields. All undergraduate programs would benefit from additional science teaching lab space. Neuroscience, psychology, nursing, and science disciplines would benefit the upper-division and graduate academic programs. Due to the composition of our faculty, interdisciplinary research is, and will be, heavily relied on to compete successfully for federally funded grants. The success of WSU Vancouver's research program directly impacts students as a research element is typically required for graduate degrees. WSU research labs employ both graduate and undergraduate students, contributing to their academic experience and their future success as professionals.

In addition to general instructional lab space, this project includes dedicated research space required to retain highly productive faculty. WSU Vancouver frequently hires assistant professors, and as they succeed, they are targeted for recruitment by competing universities and research labs. To remain competitive, the university must have modern laboratories appropriately equipped with space for graduate students and post-docs. A significant amount of equipment has been obtained from private foundations, community donors, and partners but the requisite space is required. Additionally, the Southwest Washington community – public and private sector – increasingly looks to the campus to provide technological and scientific solutions to emergent regional needs that support the local economy and community.

4. Integral to Achieving Statewide Policy Goals:
Provide degree targets, and describe how the project promotes improvement on 2015-16 degree production totals in the OFM four-year public dashboard.

See **Appendix A** (includes dashboard figures and institutional targets). Information is provided for the WSU system. Impacts to the campus are more significant than to the system, due to the relatively smaller enrollment base on campus and the high proportion of STEM degrees pursued

a. Indicate the number of bachelor's degrees awarded at the close of the 2015-16 academic year.

WSU bachelor's degrees awarded at close of 2015-16 academic year: **5,517**

b. Indicate the number of bachelor's degrees awarded in high-demand fields at the close of the 2015-16 academic year.

WSU bachelor's degrees awarded in high demand fields: **1,976**

c. Indicate the number of advanced degrees awarded at the close of the 2015-16 academic year.

WSU advanced degrees: **1,480** (of which **805** are in high demand fields)

5. **Describe how the project promotes access for underserved regions and place-bound adults through distance learning and/or university centers:**

a. Is distance learning or a university center a large and significant component of the total project scope? If yes, to what degree of percentage?

Yes. WSU Vancouver's entire nursing program had over 90 distance degrees obtained in 2014 at the undergraduate and graduate levels. Campus faculty broadcast classes to all WSU locations and support all WSU nursing students. As the College of Nursing is a statewide system, courses are taught with a hybrid distance education format using videoconference and Blackboard (a learning management system). Academic Media Services (AMS) and patient simulation facilities are required in order to meet academic requirements to grow this vital program. WSU Vancouver nursing faculty broadcast classes to multiple campuses, so distance learning has a significant statewide impact in this high-demand STEM degree program. Additionally, distance-enabled seminar rooms leverage statewide resources to support graduate or other smaller programs. 100% of classrooms in this building are intended to solely or primarily serve distance learning.

b. Is the project likely to enroll a significant number of students who are place-bound or residents of underserved regions?

Yes. Nearly 100% of students served by this project are place-bound and are in an underserved region. The state Legislature founded WSU Vancouver on May 10, 1989, to increase access to higher education in Southwest Washington where a majority of WSU Vancouver students live. In 1990, only 16.8% of Clark County residents ages 25 or older had a bachelor's degree – today that number has grown to 28% but pales in comparison to King County at 48%, the state of Washington at 32%, and the United States at 30%. In 1995, WSU Vancouver had a total enrollment of 850 students and now serves more than 3,500 students at the freshmen through doctoral levels. Almost 80% of campus undergraduate students qualify for financial aid. Almost 50% of our undergraduate students are PELL grant-eligible, reflecting the lowest income group in the United States and are eligible for the highest level of state and federal grants to help pay their tuition. Without WSU Vancouver, they would not have access to baccalaureate and graduate higher education.

There are 13,456 WSU Vancouver alumni, 95% of whom remain in the area. WSU Vancouver is the only public university to serve students from the catchment service area of Clark, Skamania, Cowlitz, and Lewis counties (legislatively defined as underserved regions).

In addition to high quality research and training of students, life sciences faculty are extensively engaged in outreach activities and involved in organizations such as Southwest Washington MESA, that encourages students in middle and high school to get involved in science. A neuroscience faculty member founded a bi-state, multi-campus outreach effort called Northwest NOGGIN (www.nwnoggin.org). This group brings scientists, artists, and students together to educate and engage youth and the public about science and art. These outreach endeavors particularly focus on attracting underrepresented minorities into STEM disciplines in college. Additionally, nursing faculty are working to reduce barriers to high quality health care in low socioeconomic, culturally diverse, and rural regions of Washington.

6. **Integral to Campus/Facilities Master Plan:**
   a. **Describe the proposed project's relationship and relative importance to the institution's most recent Campus/Facilities Master Plan or other applicable strategic plan.**

      The Life Sciences facility is integral to the Vancouver campus master plan and has been on the University's 10-year major capital plan since 2003. The most recent campus master plan update in 2007[1] anticipated this project as the next facility to be constructed on campus. An updated master plan, currently under development, incorporates the pre-design siting within the science and engineering quad. Basic wet labs supporting chemistry, biology, and physics are at or near capacity that will preclude growth for STEM and healthcare majors without this new building. Existing facilities have not kept up with demand, limiting access to required lab classes and affecting degree enrollment. Economically suitable renovation space does not exist on campus due to exhaust and utility requirements for wet lab space.

      This building helps meet the campus' strategic plan Goals and Objectives – Destination 2021. For example, impacts are clear with regard to Goal 1 – "Research" related objectives: increase scholarly productivity, increase research capacity and awards, incubate cross-disciplinary research and increase graduate students' productivity by providing the requisite resources. Research labs and support space, teaching lab space, the vivarium and providing a building where multiple related disciplines can collaborate directly impacts the desired outcomes. Goal 2 – "Student Success", Goal 3 – "Growth", and Goal 5 – "Community" have equally direct goals and objectives facilitated by this building project. Link here: https://admin.vancouver.wsu.edu/strategic-plan.

   b. **Does the project follow the sequencing laid out in the Master Plan (if applicable)? If not, explain why it is being requested now.**

      Yes, this project follows the sequencing of state-funded projects in the master plan and development plan[2] and has been a campus and institutional priority for the last six biennia.

7. **Integral to institution's Academic Programs Plan:**

Describe the proposed project's relationship and relative importance to the institution's most recent Academic Programs Plan.

Must the project be initiated soon in order to:

   a. **Meet academic certification requirements?**

      Yes. The neuroscience program is housed in labs that were originally designed to support plant physiology research but now contain laboratory animals. These labs are at capacity and cannot accommodate expanding research programs and additional scientists. Minor capital remodels and facilities upgrades have been employed to retrofit facilities that are marginally adequate. Compliance with federally mandated AAALAC standards (regulating animal holding) has been a struggle to maintain and growth of these vital research programs is not possible in the current facilities.

      Additionally, WSU is accredited as an institution across all campuses through the Northwest Commission on Colleges and Universities (NWCCU). Not meeting accreditation standards on the Vancouver campus will affect the accreditation of WSU as a whole because degree requirements and resources are expected to be equivalent statewide. Limited access to teaching wet labs

[1] https://admin.vancouver.wsu.edu/capital-planning-and-development/master-plan
[2] http://couggis.wsu.edu/DevelopmentProgram/Biennium/Vancouver19-21.aspx

negatively impacts this academic imperative. This is especially critical within the nursing program as patient simulation labs are a required part of the curriculum beginning in 2017. Existing facilities are not able to accommodate simulation labs so the College of Nursing must partner with other institutions and hold these classes off-site, in some cases across state-lines.

b. Permit enrollment growth and/or specific quality improvements in current programs?

Yes. WSU Vancouver's strategic plan calls for growth in research, enrollment, degree attainment, equity and diversity, and community engagement.

The plan calls for both enrollment growth in existing programs and the implementation of several new degree programs. The Life Sciences building will permit enrollment growth and quality improvements in these existing programs:

- Nursing: Vancouver offers BS, MN, and DNP degrees and has an emerging need for simulation facilities, exam rooms, technology (AMS) enabled classrooms, and faculty offices. The nursing program has more applicants than can be admitted due to a lack of teaching space and a shortage of clinical sites. Campus faculty deliver instruction to all WSU campuses so all courses must fit into AMS classrooms. Patient simulated clinic rooms will allow the campus to offer a portion of required clinical hours on campus, facilitating increased admission numbers. Students from the College of Nursing and the College of Medicine will use these facilities to engage in inter-professional learning activities required for accreditation. Currently, there are no simulated clinical learning facilities on campus, so WSU Vancouver contracts with Oregon Health and Science University, which creates budget and transportation issues for students and faculty as the one-way drive often exceeds one hour.

- Biology: WSU Vancouver offers a B.S. in biology, which is one of the most popular among the 24 degree-granting programs found on campus. High student demand for the degree, coupled with the campus commitment to creating undergraduate research opportunities, has created a pressing need for more teaching labs and research space.

- Neuroscience: WSU Vancouver has an emerging research strength in neuroscience. The B.S. in Neuroscience is one of the fastest-growing majors and there is a need for both research and teaching lab space to accommodate this growth. This degree also serves as a pre-med pathway for students.

- College of Medicine: Collaborative and shared spaces with the College of Nursing will be located in this building to allow for programmatic synergies with undergraduate and graduate student academic and research programs.

- In general, there will be quality improvements to all STEM-related programs on campus with new wet lab space. The campus was originally designed only for upper division students, so it has been difficult to adapt existing facilities to accommodate lower division needs. The lack of wet lab space and the inability to enroll students in required science classes can affect time-to-degree for students and limit program growth.

- The campus was originally founded to serve upper-division and graduate students with lab courses required primarily for classes within the major. With the addition of freshmen and sophomores, all students are required to take at least one lab science course. For students

entering STEM majors, they will require up to eight additional lab courses. This caused demand for lab sciences to escalate dramatically. With no new teaching wet labs constructed during that time, the addition of sections and academic programs is limited by lab capacity. This project addresses that need.

c. Permit initiation of new programs?

Yes. The Life Sciences building will permit initiation of new programs:

- WSU Vancouver anticipates offering the newly-developed B.A. in Human Biology, a multidisciplinary degree that leverages faculty expertise in the biological, environmental, and social sciences.
- WSU is anticipating adding a B.A. in chemistry, which the Vancouver campus will not be able to offer without additional lab space.
- The Elson S. Floyd School of Medicine, a community-based medical school currently pursuing accreditation, requires space on the Vancouver campus. This project will help accommodate this statewide program.

8. Enrollment Growth:

a. Identify the number of additional full-time equivalent (FTE) state-supported students the project is expected to enable the institution to serve when the space is fully occupied. Describe the method by which the number of additional FTEs who can be accommodated by the proposed space has been calculated, and provide and explain the enrollment analysis indicating probable student demand and enrollment from project completion to full occupancy.

The project will house 302 state-supported FTE students when fully occupied.

For instructional lab space, we calculated using lab seats available, applying the mandated 16 hours per week per seat usage requirement and using full-time undergraduate FTE credit hours (15) to generate FTE. This is a conservative estimate as current Life Science labs greatly exceed state-mandated standards. (154 FTE)

For distance-degree enabled classroom space, we used seats available, multiplied by mandated 22 hours per week classroom use and applied full-time graduate FTE credit hours to generate FTE. (97 FTE)

Research labs accommodate two to four researchers at a time. Graduate students in STEM fields are typically paid a stipend from a grant and work on the grant providing the funding. They require space to do this work. This project will accommodate up to 44 graduate students (four per lab) with space within a research lab. Undergraduate students also work within labs, often for credit, typically for fewer than 10 hours per week. Graduate student research space and undergraduate student credit hours were combined. (51 FTE)

The campus master plan reflects estimated growth of 3.5 – 5% annually. STEM enrollments have grown at a higher rate than non-STEM enrollments.

b. Identify how many of the additional FTE enrollments are expected to be in high-demand fields (identified in the OFM statewide public four-year dashboard) and the particular fields in which such growth is expected to occur.

Virtually all FTE will be in high-demand fields. This building will house the WSU neuroscience program (STEM and high demand) for undergraduate and graduate students, provide teaching and research lab space supporting biology, our largest undergraduate science degree (STEM and high demand), provide general instructional teaching labs for all undergraduates requiring a lab science, and students requiring additional lab sciences supporting their major (most science, medical and engineering degrees – all high demand except DNP).

Growth estimates

Neuroscience	25 FTE
Biology	30 FTE
General Education Requirements (ALL Undergrads)	155 FTE
Majors requiring additional lab sciences including all engineering degrees	70 FTE
Nursing	20 FTE

9. Availability of Space/Utilization on Campus:

Describe the institution's plan for improving space utilization and how the project will impact the following:

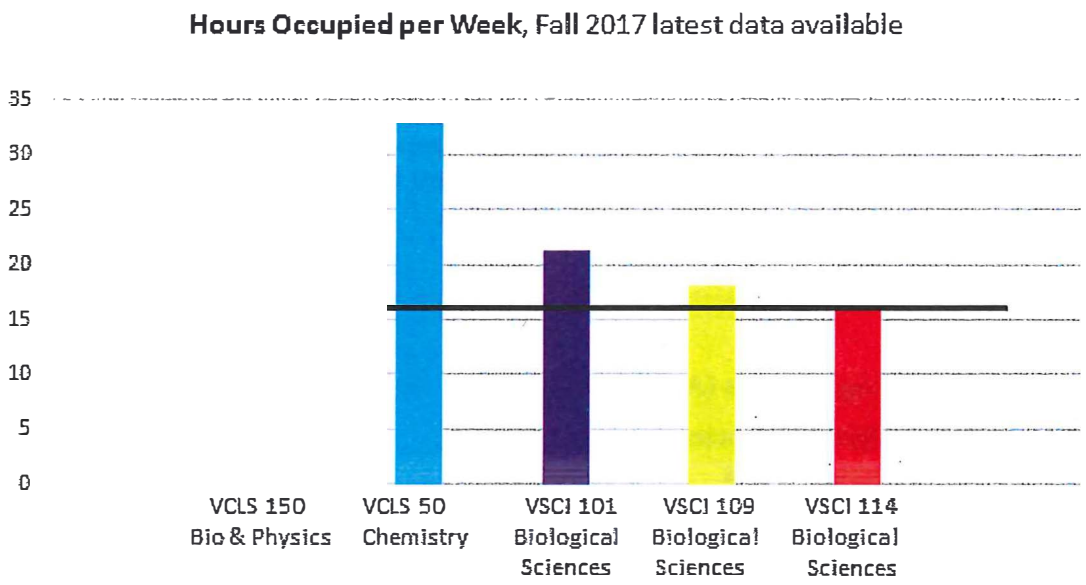
a. The utilization of classroom space

Classroom usage will increase as additional classes are offered with new majors. Very little classroom space is planned for the Life Sciences facility. Accounting for projected annual growth, classroom utilization will approach the HECB standard by the time this facility opens. Classroom space utilization is complicated for this campus as it was initially founded and predominantly designed as an upper division university, with undergraduate degrees awarded in liberal arts and professional disciplines. Recent growth at the campus has been primarily targeted in lower division and STEM fields, which a majority of the facilities were not designed to meet. This trend is expected to continue.

The Vancouver campus has adequate general classroom space but not enough teaching and lab space for the basic science courses. This affects the number of students who can enroll for lab classes and may impact time-to-degree for all students. It is expected the HECB standard will be met by the time the Life Sciences building opens with program expansion, increased enrollment, and optimizing classroom space for changing needs. See **Appendix B.**

b. The utilization of class laboratory space

Overall, WSU Vancouver lab space does not meet the HECB standard. However, life science teaching labs exceed the HECB utilization standard by an average of 27 percent. When class times beyond the 9 a.m. to 6 p.m. time frame are accounted for, the HECB rate is exceeded by an average of 66 percent. The most critical is the chemistry lab that is used 139 percent more than the HECB utilization standard and has nearly 100% enrollment. All but one of the life science teaching labs exceed the standard and are used 27-39 hours per week, as shown below:



As the Vancouver campus is relatively small, the HECB utilization standard is exceedingly difficult to obtain (see **Appendix B**). There are several specialty labs in high demand fields such as engineering and computer science that are used on a limited basis, but are necessary for program accreditation. The utilization of these labs has a substantial impact on the overall HECB utilization rate. However, the HECB rate will be met before the new building is completed through program expansion, increased enrollment, and consolidating instructional and research labs.

This project serves the critical need of providing lab space for WSU Vancouver to offer bachelor's degrees in high demand fields. It would promote access to required coursework by making appropriate space available for instruction. This project is integral in WSU Vancouver's Master Plan as well as essential in WSU Vancouver's academic priorities and planning. Without the ability to add more chemistry lab sections, WSU Vancouver will be unable to accommodate program growth in STEM fields, which account for 47 percent of campus` enrollment.

10. Efficiency of Space Allocation:

a. For each major function in the proposed facility (classroom, instructional labs, offices), identify whether space allocations will be consistent with Facility Evaluation and Planning Guide (FEPG) assignable square feet standards. To the extent any proposed allocations exceed FEPG standards, explain the alternative standard that has been used, and why. See Chapter 4.0 of the Project Evaluation Guidelines for an example. Supporting tables may be included in an appendix.

All space allocations demonstrate a consistency with the Facility Evaluation and Planning Guide for assignable square feet. See efficiency of space allocation chart for more detail: **Appendix C**

b. **Identify the following on form CBS002**:

1. Usable square feet (USF) in the proposed facility: 36,607 sq.ft.
2. Gross square feet (GSF): 60,000 sq.ft. proposed
3. Building efficiency (USF divided GSF): 61%

See also the required Program-Related Space Allocation **(Appendix D).**

11. Reasonableness of Cost:
Provide as much detailed cost information as possible, including baseline comparison of costs per square foot (SF) with the cost data provided in Chapter 5.0 of the Higher Education Capital Project Scoring Process Instructions and a completed OFM C-100 form. Also, describe the construction methodology that will be used for the proposed project.

The Vancouver Life Sciences Building was programmed to be 60,000 square feet with an escalated construction cost of $589 per square foot and a total project cost of $952 per square foot. This research and education facility has a mid-construction date of June 2022 and per chapter five of the project evaluation guidelines, the construction cost per square foot should be $617 per square foot and the total construction cost should be at $874 per square foot. Therefore, the construction cost for this facility is within the expected cost per square foot for this type of construction.

The total project cost is slightly over the evaluation guideline primarily due to the current construction market volatility in the region. A cost consultant familiar with the volatility of the current construction market was hired during the predesign study to confirm that the costs are both reasonable and responsible. Two similar, recently completed or under construction projects in the region are the University of Washington Life Science Building and the Seattle University Center for Science and Innovation. These two projects had a total project cost per square foot of $976 and $960 respectively. The Vancouver Life science total project cost per square foot is lower than both projects.

This project provides cost-effective enrollment access because there are no university centers or distance learning programs that offer science lab teaching courses in the fields of study that will be offered in the Vancouver Life Science Building. The lab teaching courses provide a hands-on learning experience and this type of course cannot be taught in a distance learning mode. The infrastructure is necessary to provide the lab experience to the students.

Construction methodology: This facility will be built using the Design-Build method.

If applicable, provide Life Cycle Cost Analysis results demonstrating significant projected savings for selected system alternates (Uniform at Level II) over 50 years, in terms of net present savings.

In addition to the No Action Alternative, 3 Alternative designs were examined. Each is based on the same site and general building configuration, but with different mechanical (HVAC) systems. Because the mechanical system of any laboratory building is so extensive, comparing several system solutions with various life cycle cost advantages provides the university with valuable cost data with which to proceed. The Alternatives presented are:

- *3.1 - No Action Alternative*
- *3.2 - 100% Outside Air VAV (Ownership Option 1)*
- *3.3 - Dedicated Outside Air with Chilled Beams/Chilled Sails (Ownership Option 2)*
- *3.4 - Enhanced Heat Recovery/Heat Recovery Chiller (Ownership Option 3)*

The financial analysis of options identified that Ownership Option 1 has the lowest first initial cost and Option 3 the lowest life cycle cost. Further review of the total cost per year of ongoing building costs for Options 1 and 3 shows an annual cost of $795,175 for Option 1 and $750,181 for Option 3, a difference of $44,994 per year. If the additional $369,150 in initial first cost to implement Option 3 is considered relative to the cost difference in ongoing building costs between Options 1 and 3, we can see that within nine years, the additional first cost could be recouped by incorporating Option 3 into the project. In

order to balance the project budget, it is likely that less programmatic space would be constructed for the project to address the higher initial first cost. This decision will require further study and analysis of the available options as design proceeds and more information is known.

The Life Cycle Cost Model (**Appendix E**) offers a series of insights as to how the MEP systems for the building can be configured to increase efficiency and lower long term operating costs. As the design progresses, WSU intends to further refine, and potentially implement, some of the variables within Ownership Option 2 and 3. Further investigation is needed to address potential programmatic and operations impacts before they can be fully incorporated. Until all factors can be reviewed WSU has selected Ownership Option 1 at this stage of the process as it offered the greatest balance of lowest initial first cost when compared to total life of equipment and replacement.

APPENDIX A

Vancouver Life Sciences Bldg	Anticipated Growth in Bachelor's Degrees	Anticipated Growth in High Demand Bachelor's Degrees	Anticipated Growth in Advanced Degrees	Anticipated Growth in High Demand Advanced Degrees
2015-16 Actual	5,517	1,976	1,480	805
Additional Degrees Generated by Project	85	70	20	20
Projected Degrees with Building Project	5,602	2,046	1,500	825
Projected Growth Above 2015-16 Actual Degrees	1.5%	3.5%	1.4%	2.5%
Current 2018-19 Target	5,946	2,203	1,481	895
Percent of 2015-16 Actual over 2018-19 Target	92.8%	89.7%	99.9%	89.9%
Projected Degrees as a % of 2018-19 Target	94.2%	92.9%	101.3%	92.2%

Comments: An increase of 85 new bachelor's degrees is expected and of those 70 will be in high demand degree programs. An additional 20 advanced degrees will be awarded and 20 of those will be in high demand areas. Refer to project proposal section 4 for more details.

APPENDIX B

AVAILABILITY OF SPACE

Project Name: Vancouver Life Sciences Building

Campus location: WSU Vancouver Campus

REQUIRED FOR ALL CATEOGRIES EXCEPT ACQUISITION AND INFRASTRUCTURE

Identify the average number of hours per week each (a) classroom seat and (b) classroom lab is expected to be utilized in Fall 2018 on the proposed project's campus. Please fill in the gold shaded cells for the **campus** where the project is located.

(a) General University Classroom Utilization	
Fall 2017 Weekly Contact Hours	26,253
Multiply by % FTE Increase Budgeted	0%
Expected Fall 2018 Contact Hours	26,253
Expected Fall 2018 Contact Seats	1834
Expected Hours per week Utilization	**14.3**
HECB GUC Utilization Standard	22
Difference in Utilization Standard	-35%

(b) General University Lab Utilization	
Fall 2017 Weekly Contact Hours	7,523
Multiply by % FTE Increase Budgeted	0%
Expected Fall 2018 Contact Hours	7,523
Expected Fall 2018 Class Lab Seats	612
Expected Hours per Week Utilization	**12.3**
HECB GUL Utilization Standard	16
Difference in Utilization Standard	-23%

If the campus does not meet the 22 hours per classroom seat and/or the 16 hours per class lab HECB utilization standards, describe any institutional plans for achieving that level of utilization.

Accounting for projected annual enrollment growth, classroom and lab utilization will approach the current HECB standard by the time this facility opens. Because the campus was originally built for upper division and graduate coursework in liberal arts and professional disciplines and has since expanded four year degree programs with emphasis on STEM disciplines, the type of facilities required (science/technology-based) has changed. While there is space available, there is not enough teaching and lab space designed for basic science courses. See full description provided in the proposal narrative, section 9.

APPENDIX C

Efficiency of Space Allocation - Major Functions After Renovation - FEPG Comparison

Vancouver Life Science Building

Use Code	Major Function Space Type	Project ASF/Station	FEPG Standard	Meets Standard (Y/N)	Comments
215	Class Lab - Biological Science	52	65	Y	Meets FEPG Guidelines
215	Class/ Lab Service			N/A	Sized appropriately to serve labs
250	Research lab			N/A	Sized appropriately for the research program needs
255	Research lab service			N/A	Sized appropriately to serve labs
311	Faculty office	120	140	Y	Meets FEPG Guidelines
313	Student Assistant office	64	140 per 2 Min	Y	Equivalent to 128 per 2
314	Clerical office	80	140	Y	Meets FEPG Guidelines
315	Office service, clerical station	32	100	Y	Meets FEPG Guidelines
350	Conference Room	480	520	Y	Meets FEPG Guidelines

APPENDIX D

Program-related Space Allocation Assignable Square Feet Template

Vancouver Life Science Building

Input the assignable square feet for the proposed project under the appropriate space type below:

Type of Space	Points	Assignable Square Foot	Percentage of Total	Score [Points X Percentage]
Instructional Space (Classroom, Lab, Library)	6	29,690	81.1%	4.9
Student Advising/Counseling	4	-	0.0%	-
Childcare	4	-	0.0%	-
Faculty Offices	4	6,405	17.5%	0.7
Administrative	2	512	1.4%	0.0
Maintenance/Central Stores/Student Center	2	-	0.0%	-
Total		36,607	100%	5.6

APPENDIX E

Life Cycle Cost Analysis - Project Summary

Agency	365
Project Title	WSU Vancouver Life Sciences Building

Existing Description	Not Applicable
Lease Option 1 Description	Not Applicable
Lease Option 2 Description	Not Applicable
Ownership Option 1 Description	WSU - Vancouver Life Sciehces Building - Base with 100% Outside Air VAV - Air Cooling (50% enthalpy run-around loop).
Ownership Option 2 Description	WSU - Vancouver Life Sciences Building - Optional with VAV - Air Cooling (Enhanced heat recovery (55,000 CFM) with Heat Recovery Chiller (80 Ton))(Mechanical Alternative #1 in PD Report)
Ownership Option 3 Description	WSU - Vancouver Life Sciences Building - Optional with DOAS - Decoupled Cooling (50% enthalpy run-around loop)(Mechanical Alternative 1A in PD Report)

Lease Options Information	Existing Lease	Lease Option 1	Lease Option 2
Total Rentable Square Feet			
Annual Lease Cost (Initial Term of Lease)	$	$	$
Full Service Cost/SF (Initial Term of Lease)	$	$	$
Occupancy Date	n/a		
Project Initial Costs	n/a	$	$
Persons Relocating			
RSF/Person Calculated			

Ownership Information	Ownership 1	Ownership 2	Ownership 3
Total Gross Square Feet	59,999	59,999	59,999
Total Rentable Square Feet	36,607	36,607	36,607
Occupancy Date	5/1/2023	5/1/2023	5/1/2023
Initial Project Costs	$	$	$
Est Construction TPC ($/GSF)	$ 847	$ 850	$ 857
RSF/Person Calculated			

Financial Analysis of Options

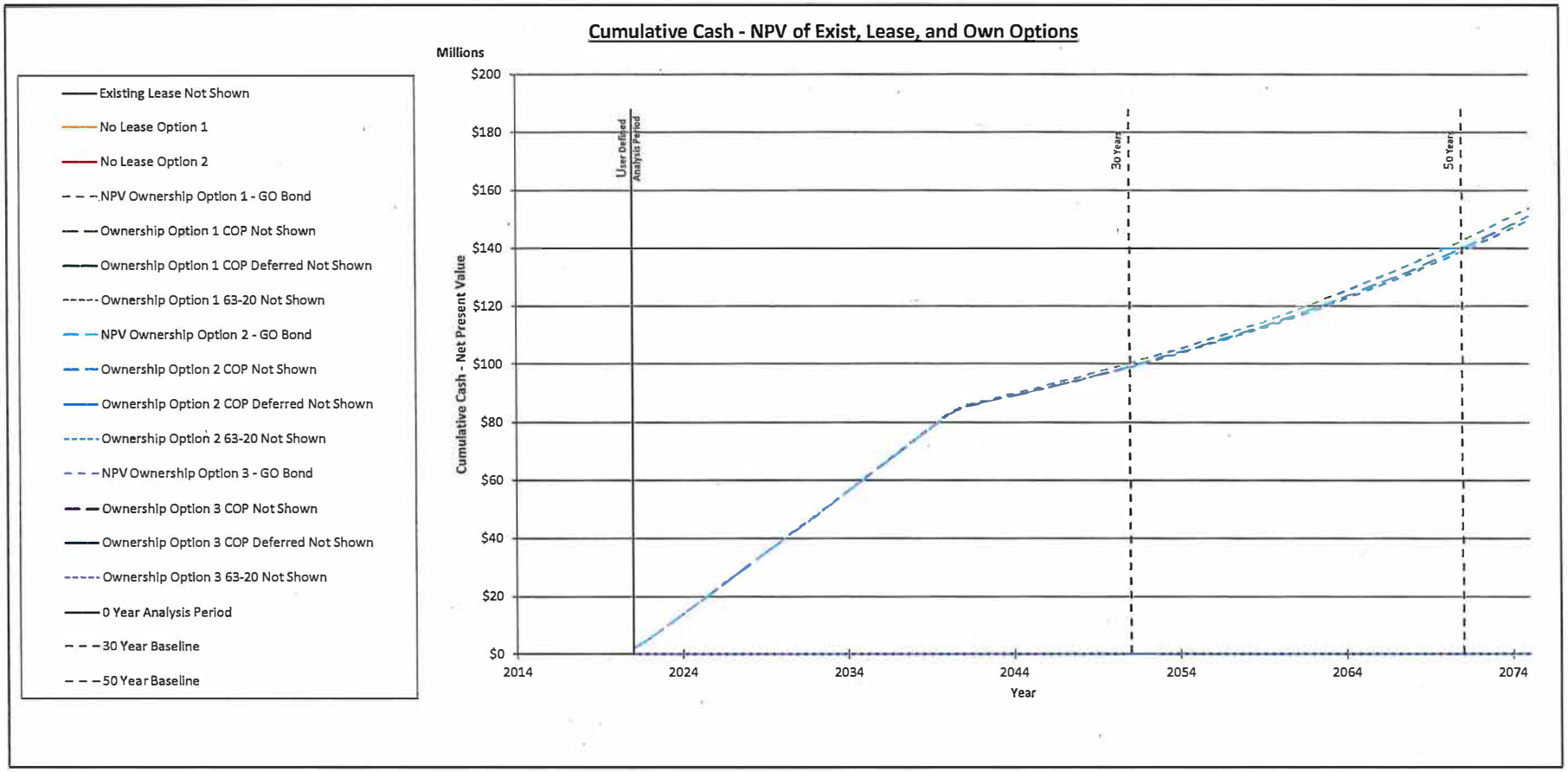
	Display Option?	No	No	No	Yes	No	No	No	Yes	No	No	No	Yes	No	No	No
	Financial Comparisons	Existing Lease	Lease 1	Lease 2	Ownership 1				Ownership 2				Ownership 3			
Years	Financing Means	Current	Current	Current	GO Bond	COP	COP Deferred *	63-20	GO Bond	COP	COP Deferred	63-20	GO Bond	COP	COP Deferred	63-20
0	0 Year Cumulative Cash				$ -				$ -				$ -			
	0 Year Net Present Value				$ -				$ -				$ -			
	Lowest Cost Option (Analysis Period)															

	Financial Comparisons	Existing Lease	Lease 1	Lease 2	Ownership 1				Ownership 2				Ownership 3			
Years	Financing Means	Current	Current	Current	GO Bond	COP	COP Deferred *	63-20	GO Bond	COP	COP Deferred	63-20	GO Bond	COP	COP Deferred	63-20
30	30 Year Cumulative Cash				$ 104,077,448				$ 102,995,350				$ 102,727,443			
	30 Year Net Present Value				$ 98,432,182				$ 97,436,184				$ 97,201,897			
	Lowest Cost Option (30 Years)				3				2				1			

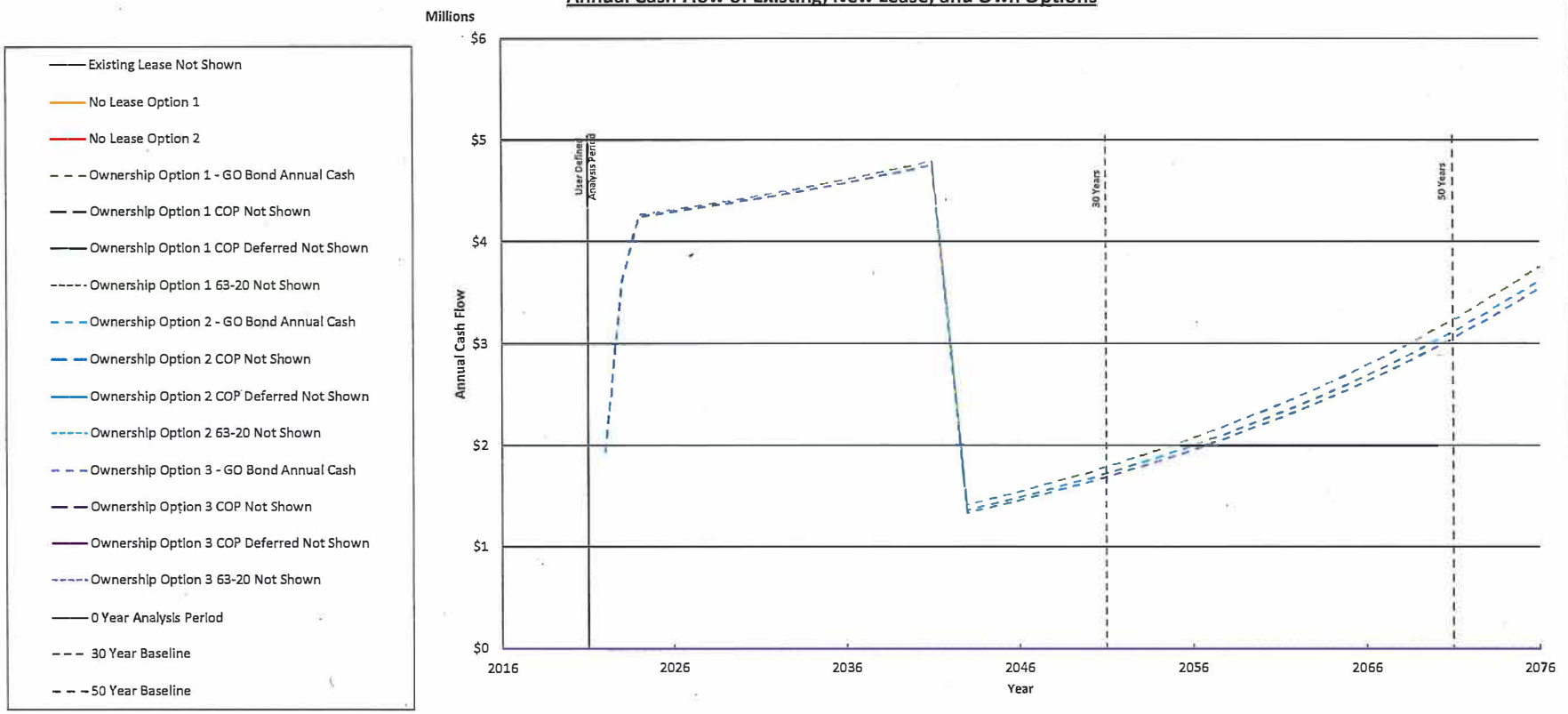
	Financial Comparisons	Existing Lease	Lease 1	Lease 2	Ownership 1				Ownership 2				Ownership 3			
Years	Financing Means	Current	Current	Current	GO Bond	COP	COP Deferred *	63-20	GO Bond	COP	COP Deferred	63-20	GO Bond	COP	COP Deferred	63-20
50	50 Year Cumulative Cash				$ 153,563,008				$ 150,694,283				$ 149,412,924			
	50 Year Net Present Value				$ 139,776,688				$ 137,287,987				$ 136,206,975			
	Lowest Cost Option (50 Years)				3				2				1			

** - Defers payment on principle for 2 years while the building is being constructed. See Instructions on Capitalized Interest.*

Cumulative Cash - NPV of Exist, Lease, and Own Options



Annual Cash Flow of Existing, New Lease, and Own Options



Financial Assumptions

Date of Life Cycle Cost Analysis:	
Analysis Period Start Date	5/1/2021
User Input Years of Analysis	0

All assumptions subject to change to reflect updated costs and conditions.

	Lease Options			Ownership Option 1			Ownership Option 2			Ownership Option 3		
	Existing Lease	Lease Option 1	Lease Option 2	GO Bond	COP	63-20	GO Bond	COP	63-20	GO Bond	COP	63-20
Inflation / Interest Rate	3.006%	3.006%	3.006%	3.160%	3.460%	3.660%	3.160%	3.460%	3.660%	3.160%	3.460%	3.660%
Discount Rate	0.441%	0.441%	0.441%	0.441%	0.441%	0.441%	0.441%	0.441%	0.441%	0.441%	0.441%	0.441%
Length of Financing	N/A	N/A	N/A	20	20	20	20	20	20	20	20	20

See Financial Assumptions tab for more detailed information

COP Deferred and 63-20 Financing defer the payment on principle until construction completion.

New Lease Assumptions

Real Estate Transaction fees are 2.5% of the lease for the first 5 years and 1.25% for each year thereafter in the initial term of the lease.

Tenant Improvements are typically estimated at $15 per rentable square foot.

IT infrastructure is typically estimated at $350 per person.

Furniture costs are typically estimated at $500 per person and do not include new workstations.

Moving Vendor and Supplies are typically estimated at $205 per person.

Default Ownership Options Assumptions

Assumes a 2 month lease to move-in overlap period for outfitting building and relocation.

Assumes surface parking.

The floor plate of the construction option office building is 25,000 gross square feet.

The estimated total project cost for construction is $420.00 per square foot.

See the Capital Construction Defaults tab for more construction assumptions.

Ownership Option 1 Information Sheet

*	*Requires a user input*	*Green Cell*	*= Value can be entered by user.*	*Yellow Cell*

*	**Project Description**	WSU - Vancouver Life Sciences Building - Base with 100% Outside Air VAV - Air Cooling (50% enthalpy run-around loop).
*	**Construction or Purchase/Remodel**	Construction
*	**Project Location**	Vancouver — Market Area = Clark County

	Statistics	
*	Gross Sq Ft	59,999
*	Usable Sq Ft	36,607
	Space Efficiency	61%
	Estimated Acres Needed	3.00
	MACC Cost per Sq Ft	$521.58
	Estimated Total Project Costs per Sq Ft	$730.21
	Escalated MACC Cost per Sq Ft	$604.83
	Escalated Total Project Costs per Sq Ft	$846.76

*	**Move In Date**	5/1/2023

Interim Lease Information	**Start Date**
Lease Start Date	
Length of Lease (in months)	
Square Feet (holdover/temp lease)	
Lease Rate- Full Serviced ($/SF/Year)	
One Time Costs (if double move)	

	Construction Cost Estimates (See Capital Budget System For Detail)			
		Known Costs	Estimated Costs	Cost to Use
	Acquisition Costs Total	$ -	$ -	$ -
A & E	**Consultant Services**			
	A & E Fee Percentage (if services not specified)		6.53% Std	6.53%
	Pre-Schematic Design services	$ 650,000		
	Construction Documents	$ 1,514,541		
	Extra Services	$ 530,000		
	Other Services	$ 680,446		
	Design Services Contingency	$ 168,749		
	Consultant Services Total	$ 3,543,736	$ 2,041,262	$ 3,543,736
	Construction Contracts			
MACC	Site Work	$ 1,448,571		
	Related Project Costs			
	Facility Construction	$ 29,845,788		
	MACC SubTotal	$ 31,294,359	$ 17,999,700	$ 31,294,359
	Construction Contingency (5% default)	$ 1,564,718	$ 1,564,718	$ 1,564,718
	Non Taxable Items			$ -
	Sales Tax	$ 3,315,645		$ 3,315,645
	Construction Additional Items Total	$ 4,880,363	$ 1,564,718	$ 4,880,363
	Equipment			
	Equipment	$ 2,611,535		
	Non Taxable Items			
	Sales Tax	$ 219,369		
	Equipment Total	$ 2,830,904		$ 2,830,904
	Art Work Total	$ 176,711	$ 156,472	$ 176,711
	Other Costs			
	GC/CM Risk Contingency	$ 4,298,229		
	GC/CM or D/B Costs	$ 2,314,660		
	Other	$ 316,906		
	Other Costs Total	$ 6,929,795		$ 6,929,795
	Project Management Total	$ 1,087,588		$ 1,087,588
	Grand Total Project Cost	**$ 50,743,456**	**$ 21,762,151**	**$ 50,743,456**

Construction One Time Project Costs			
One Time Costs	Estimate	Calculated	
Moving Vendor and Supplies		$ -	*$205 / Person in FY09*
Other (not covered in construction)			
Total	$ -	$ -	

	Ongoing Building Costs				
Added Services	New Building Operating Costs	Known Cost /GSF/ 2023	Estimated Cost /GSF/ 2023	Total Cost / Year	Cost / Month
☑	Energy (Electricity. Natural Gas)	$ 2.80	$ 1.41	$ 167,843	$ 13,987
☑	Janitorial Services	$ -	$ 1.58	$ 95,050	$ 7,921
☑	Utilities (Water, Sewer, & Garbage)	$ -	$ 1.17	$ 69,957	$ 5,830
☑	Grounds	$ -	$ 0.15	$ 9,125	$ 760
☑	Pest Control	$ -	$ 0.06	$ 3,802	$ 317
☑	Security	$ -	$ 0.13	$ 7,604	$ 634
☑	Maintenance and Repair	$ -	$ 6.55	$ 393,128	$ 32,761
☑	Management	$ -	$ 0.74	$ 44,103	$ 3,675
☑	Road Clearance	$ -	$ 0.08	$ 4,562	$ 380
☑	Telecom	$ -	$ -	$ -	$ -
	Additional Parking	$ -	$ -	$ -	$ -
	Other	$ -	$ -	$ -	$ -
	Total Operating Costs	**$ 2.80**	**$ 11.86**	**$ 795,175**	**$ 66,265**

Ownership Option 2 Information Sheet

*	***Requires a user input***	*Green Cell*	*= Value can be entered by user.*	*Yellow Cell*

*	**Project Description**	WSU - Vancouver Life Sciences Building - Optional with VAV - Air Cooling (Enhanced heat recovery (55,000 CFM) with Heat Recovery Chiller (80 Ton))(Mechanical Alternative #1 in PD Report)
*	**Construction or Purchase/Remodel**	Construction
*	**Project Location**	Vancouver — Market Area = Clark County

	Statistics	
*	Gross Sq Ft	59,999
*	Usable Sq Ft	36,607
	Space Efficiency	61%
	Estimated Acres Needed	3.00
	MACC Cost per Sq Ft	$523.32
	Estimated Total Project Costs per Sq Ft	$732.65
	Escalated MACC Cost per Sq Ft	$606.85
	Escalated Total Project Costs per Sq Ft	$849.59

*	**Move In Date**	5/1/2023

Interim Lease Information	**Start Date**
Lease Start Date	
Length of Lease (in months)	
Square Feet (holdover/temp lease)	
Lease Rate- Full Serviced ($/SF/Year)	
One Time Costs (if double move)	

	Construction Cost Estimates (See Capital Budget System For Detail)			
		Known Costs	Estimated Costs	Cost to Use
	Acquisition Costs Total	$ -	$ -	$ -
A & E	**Consultant Services**			
	A & E Fee Percentage (if services not specified)		6.52% Std	6.52%
	Pre-Schematic Design services	$ 650,000		
	Construction Documents	$ 1,517,328		
	Extra Services	$ 530,000		
	Other Services	$ 681,698		
	Design Services Contingency	$ 168,951		
	Consultant Services Total	$ 3,547,977	$ 2,048,084	$ 3,547,977
MACC	**Construction Contracts**			
	Site Work	$ 1,448,571		
	Related Project Costs			
	Facility Construction	$ 29,950,381		
	MACC SubTotal	$ 31,398,952	$ 17,999,700	$ 31,398,952
	Construction Contingency (5% default)	$ 1,569,948	$ 1,569,948	$ 1,569,948
	Non Taxable Items			$ -
	Sales Tax	$ 3,324,870		$ 3,324,870
	Construction Additional Items Total	$ 4,894,818	$ 4,894,818	$ 4,894,818
	Equipment			
	Equipment	$ 2,611,535		
	Non Taxable Items			
	Sales Tax	$ 219,369		
	Equipment Total	$ 2,830,904		$ 2,830,904
	Art Work Total	$ 177,302	$ 156,995	$ 177,302
	Other Costs			
	GC/CM Risk Contingency	$ 4,298,229		
	GC/CM or D/B Costs	$ 2,314,660		
	Other	$ 316,906		
	Other Costs Total	$ 6,929,795		$ 6,929,795
	Project Management Total	$ 1,086,962		$ 1,086,962
	Grand Total Project Cost		$ -	**$ 50,866,710**

Construction One Time Project Costs			
One Time Costs	Estimate	Calculated	
Moving Vendor and Supplies		$ -	*$205 / Person in FY09*
Other (not covered in construction)			
Total	$ -	$ -	

	Ongoing Building Costs				
Added Services	New Building Operating Costs	Known Cost /GSF/ 2023	Estimated Cost /GSF/ 2023	Total Cost / Year	Cost / Month
☑	**Energy (Electricity. Natural Gas)**	$ 2.32	$ 1.41	$ 139,134	$ 11,595
☑	**Janitorial Services**	$ -	$ 1.58	$ 95,050	$ 7,921
☑	**Utilities (Water, Sewer, & Garbage)**	$ -	$ 1.17	$ 69,957	$ 5,830
☑	**Grounds**	$ -	$ 0.15	$ 9,125	$ 760
☑	**Pest Control**	$ -	$ 0.06	$ 3,802	$ 317
☑	**Security**	$ -	$ 0.13	$ 7,604	$ 634
☑	**Maintenance and Repair**	$ -	$ 6.55	$ 393,128	$ 32,761
☑	**Management**	$ -	$ 0.74	$ 44,103	$ 3,675
☑	**Road Clearance**	$ -	$ 0.08	$ 4,562	$ 380
☑	**Telecom**	$ -	$ -	$ -	$ -
	Additional Parking	$ -	$ -	$ -	$ -
	Other	$ -	$ -	$ -	$ -
	Total Operating Costs	**$ 2.32**	**$ 11.86**	**$ 766,466**	**$ 63,872**

Ownership Option 3 Information Sheet

*	*Requires a user input*	*Green Cell*	*= Value can be entered by user.*	*Yellow Cell*

*	**Project Description**	WSU - Vancouver Life Sciences Building - Optional with DOAS - Decoupled Cooling (50% enthalpy run-around loop)(Mechanical Alternative 1A in PD Report)
*	**Construction or Purchase/Remodel**	Construction
*	**Project Location**	Vancouver — Market Area = Clark County

	Statistics	
*	Gross Sq Ft	59,999
*	Usable Sq Ft	36,607
	Space Efficiency	61%
	Estimated Acres Needed	3.00
	MACC Cost per Sq Ft	$527.73
	Estimated Total Project Costs per Sq Ft	$738.83
	Escalated MACC Cost per Sq Ft	$611.97
	Escalated Total Project Costs per Sq Ft	$856.75

*	**Move In Date**	5/1/2023

Interim Lease Information	**Start Date**
Lease Start Date	
Length of Lease (in months)	
Square Feet (holdover/temp lease)	
Lease Rate- Full Serviced ($/SF/Year)	
One Time Costs (if double move)	

Construction Cost Estimates (See Capital Budget System For Detail)			
	Known Costs	Estimated Costs	Cost to Use
Acquisition Costs Total	$ -	$ -	$ -
Consultant Services			
A & E Fee Percentage (if services not specified)		6.51% Std	6.51%
Pre-Schematic Design services	$ 650,000		
Construction Documents	$ 1,527,818		
Extra Services	$ 530,000		
Other Services	$ 686,411		
Design Services Contingency	$ 169,711		
Consultant Services Total	$ 3,563,940	$ 2,062,225	$ 3,563,940
Construction Contracts			
Site Work	$ 1,448,571		
Related Project Costs			
Facility Construction	$ 30,214,938		
MACC SubTotal	$ 31,663,509	$ 17,999,700	$ 31,663,509
Construction Contingency (5% default)	$ 1,583,175	$ 1,583,175	$ 1,583,175
Non Taxable Items			$ -
Sales Tax	$ 3,348,204		$ 3,348,204
Construction Additional Items Total	$ 4,931,379	$ 4,931,379	$ 4,931,379
Equipment			
Equipment	$ 2,611,535		
Non Taxable Items			
Sales Tax	$ 219,369		
Equipment Total	$ 2,830,904		$ 2,830,904
Art Work Total	$ 178,798	$ 158,318	$ 178,798
Other Costs			
GC/CM Risk Contingency	$ 4,298,229		
GC/CM or D/B Costs	$ 2,314,660		
Other	$ 316,906		
Other Costs Total	$ 6,929,795		$ 6,929,795
Project Management Total	$ 1,091,092		$ 1,091,092
Grand Total Project Cost		$ -	**$ 51,189,417**

A & E

MACC

Construction One Time Project Costs			
One Time Costs	Estimate	Calculated	
Moving Vendor and Supplies		$ -	*$205 / Person in FY09*
Other (not covered in construction)			
Total	$ -	$ -	

	Ongoing Building Costs				
Added Services	New Building Operating Costs	Known Cost /GSF/ 2023	Estimated Cost /GSF/ 2023	Total Cost / Year	Cost / Month
☑	**Energy (Electricity. Natural Gas)**	$ 2.03	$ 1.41	$ 121,849	$ 10,154
☑	**Janitorial Services**	$ -	$ 1.58	$ 95,050	$ 7,921
☑	**Utilities (Water, Sewer, & Garbage)**	$ -	$ 1.17	$ 69,957	$ 5,830
☑	**Grounds**	$ -	$ 0.15	$ 9,125	$ 760
☑	**Pest Control**	$ -	$ 0.06	$ 3,802	$ 317
☑	**Security**	$ -	$ 0.13	$ 7,604	$ 634
☑	**Maintenance and Repair**	$ 6.57	$ 6.55	$ 394,128	$ 32,844
☑	**Management**	$ -	$ 0.74	$ 44,103	$ 3,675
☑	**Road Clearance**	$ -	$ 0.08	$ 4,562	$ 380
☑	**Telecom**	$ -	$ -	$ -	$ -
	Additional Parking	$ -	$ -	$ -	$ -
	Other	$ -	$ -	$ -	$ -
	Total Operating Costs	**$ 8.60**	**$ 11.86**	**$ 750,181**	**$ 62,515**

OFM

365 - Washington State University
Capital Project Request
2019-21 Biennium

Version: 10 2019-21 WSU Capital Budget Request

Report Number: CBS002
Date Run: 7/30/2018 1:44PM

Project Number: 30000840
Project Title: Washington State University Vancouver - Life Sciences Building

Description

Starting Fiscal Year: 2018
Project Class: Program
Agency Priority: 4

Project Summary

The university requests design funding for an instructional and research facility that will provide cutting edge learning opportunities for students in STEM disciplines at the WSU Vancouver campus. Basic wet labs supporting chemistry, biology, and physics are at or over capacity. Expansion of lab space is critical to continue to serve the needs of undergraduate students in southwest Washington who are pursuing STEM careers (for example, neuroscience, molecular biology, and nursing). After converting the only viable space on campus to add a teaching lab in the fall of 2013, no other suitable space exists on campus to serve these program needs. The specialized nature of planned laboratory facilities and the broad range of students to be served by them preclude the use of off-campus space if it were available. Construction of new on-campus facilities is determined to be the best alternative for serving these programs and the growing student population at Vancouver.

Project Description

Identify the problem or opportunity addressed. Why is the request a priority? (Provide numbers of people or communities not served, students without classroom space, operating budget savings, public safety improvements, history, or other backup necessary to understand the need for the request.) Be prepared to provide detailed cost backup.

WSU Vancouver opened as a branch campus in 1989, serving upper division and graduate students. By legislative directive, lower division students were admitted for the first time in 2006. WSU Vancouver serves students from the catchment area of Clark, Skamania, Cowlitz, and Lewis counties, legislatively defined as underserved regions. Nearly half of students qualify for the highest levels of state and federal grants and without WSU Vancouver, they would not have access to baccalaureate and graduate higher education. Nearly 100% of students served by this project are place-bound students coming from underserved regions.

The addition of lower division students in 2006 greatly increased the demand on campus teaching laboratories. Scheduled lab sessions doubled from 17 sections to 35. Currently, almost 90 sections per term are offered through maximum utilization of teaching labs in the Classroom and Science and Engineering buildings. No new wet labs have been created since the addition of lower division classes; WSU Vancouver is over capacity for general science instructional labs and is challenged to accommodate new growth. Without additional general science labs, many undergraduate students will be unable to register for chemistry, biology, or other classes requiring wet labs, creating a choke point in fulfilling general degree requirements for all majors - especially those in the STEM and healthcare fields. These fields require multiple wet lab classes. Because the WSU Vancouver campus is out of space for new labs, this new building fills a critical need by providing teaching and research laboratories for multiple disciplines in STEM related fields.

In addition to general instructional lab space, this project includes dedicated research space, which is required to retain highly productive faculty. WSU Vancouver frequently hires assistant professors, and as they succeed, they are targeted for recruitment by competing universities and research labs. To remain competitive, the university must have modern laboratories with cutting edge equipment and space for graduate students and post-docs. The success of the university's research program directly impacts students, as a research element is typically required for graduate degrees. WSU Vancouver research labs employ both graduate and undergraduate students, contributing to their academic experience and their future success as professionals in Washington, as 92% of alumni remain in the area.

After converting the only viable space on campus to add a teaching lab in the fall of 2013, no other suitable space exists on campus to serve these program needs. The specialized nature of planned laboratory facilities and the broad range of students to be served by them preclude the use of off-campus space if it were available. Construction of new on-campus facilities is determined to be the best alternative for serving these programs and the growing student population at Vancouver.

What will the request produce or construct (i.e. design of a building, construction of additional space, etc.)? When will the project start and be completed? Identify whether the project can be phased, and if so, what phase is included in this request.

The state legislature funded predesign during 2017-19. The 2019-21 capital budget request is for design funding of a 60,000 gross square foot instructional facility. The building will bring all components of Vancouver's basic, translational, applied, and clinical health programs together in one location on campus, including Nursing, Neuroscience, Psychology, Molecular Biology, and Medical Education. Assuming design funds are secured, the university plans to request state construction funds in the 2021-23 biennium,

OFM

365 - Washington State University
Capital Project Request
2019-21 Biennium

Version: 10 2019-21 WSU Capital Budget Request

Report Number: CBS002
Date Run: 7/30/2018 1:44PM

Project Number: 30000840
Project Title: Washington State University Vancouver - Life Sciences Building

Description

How would the request address the problem or opportunity identified in question #1? What would be the result of not taking action?

If action is not taken, existing labs will continue to be over-capacity, limiting access to required lab classes and significantly affecting time-to-degree for students at all levels and across all fields of study. Opportunities for a STEM-based education for these place-bound students will be lost. Additionally, graduate students, post-docs and faculty may continue to leave WSU to competing universities and research labs in search of modern laboratories with cutting edge equipment and space. This project would add critical space to accommodate existing campus growth and continued expansion of mission-critical teaching and research activities, supporting WSU's statewide goals and land-grant mission.

Which clientele would be impacted by the budget request? Where and how many units would be added, people or communities served, etc. Be prepared to provide detailed cost backup.

This building will enable the campus to award an additional 85 bachelor's degrees annually (70 in high demand fields) as well as an additional 20 advanced degrees in high demand fields. All undergraduate programs would benefit from additional science teaching lab space. Neuroscience, psychology, nursing, and science disciplines would benefit at the upper-division and graduate academic programs. The building would be interdisciplinary, including Colleges of Nursing, Medicine, Arts and Science, and Veterinary Medicine. It would add simulation labs, which are used in instructional programs for nursing and medical fields; currently programs go off-site for simulation requirements, which is a stopgap measure. The success of WSU Vancouver's research program directly impacts students, as a research element is typically required for graduate degrees. The university's research labs employ both graduate and undergraduate students, contributing to their academic experience and their future success as professionals.

The Life Sciences facility will increase the number of students enrolled in STEM and high demand fields by over 100 annually, which is nearly 10% of the state goal. This building will increase the number of students enrolled in online and hybrid courses as the entire nursing program is structured in this manner, contributing to nearly 10% of the state goal. WSU Vancouver will increase the number of graduates in STEM and high demand fields with this project by 105 degrees annually, which is 11% of the state goal. This project will increase the percentage of post-secondary students or students employed in Washington.

Does this request include funding for any IT-related costs (See the IT Appendix for guidance on what is considered an IT-related cost)

This request does not include funding for any IT-related costs.

Will non-state funds be used to complete the project? How much, what fund source, and could the request result in matching federal, state, local or private funds?

Non-state funds will not be used to complete the project. None have been identified.

Describe how this project supports the agency's strategic master plan, contributes to statewide goals, or would enable the agency to perform better. Reference feasibility studies, master plans, space programming, and other analyses as appropriate.

The strategic plan calls for growth in research, enrollment, degree attainment, equity and diversity, and community engagement. The project provides space for both enrollment growth in existing programs, and the implementation of several new degree programs. The Campus Vision Statement reflects increasing the campus size to 5,000 students. This project timeline would provide the first new building on campus in 12 years, adding space to accommodate that campus growth and continued expansion of mission-critical teaching and research activities.

In general, there will be quality improvements to all STEM-related programs on campus with new wet lab space. As the campus was originally designed for only upper division students, it has been difficult to adapt existing facilities to accommodate lower division needs. The lack of wet lab space and the inability to enroll students in required science classes can affect time-to-degree for students and limit program growth.

The Life Sciences building will permit enrollment growth and quality improvements in the following existing programs:

Nursing: Vancouver offers BS, MN, and DNP degrees and has an emerging need for simulation facilities, exam rooms, technology (AMS) enabled classrooms, and faculty offices. The nursing program has more applicants than can be admitted due to a lack of teaching space and a shortage of clinical sites. High fidelity simulation labs and simulated clinic rooms will allow the campus to offer a portion of required clinical hours on campus, facilitating increased admission numbers. Students from the College of Nursing and the College of Medicine will use these facilities to engage in inter-professional learning activities required for accreditation. Currently, there are no simulated clinical learning facilities on campus, so WSU Vancouver contracts with Oregon Health and Science University, which creates budgetary and transportation issues for students and faculty as the one-way drive often exceeds one hour.

Biology: WSU Vancouver offers a B.S. in biology, which is one of the most popular among the 24 degree-granting programs

Project Number: 30000840
Project Title: Washington State University Vancouver - Life Sciences Building

Description

found on campus. High student demand for the degree, coupled with the campus commitment to creating undergraduate research opportunities, has created a pressing need for more teaching lab and research space.
Neuroscience: WSU Vancouver has an emerging research strength in neuroscience The B.S. in Neuroscience is one of the fastest growing majors and there is a need for both research and teaching lab space to accommodate this growth. This degree also serves as a pre-med pathway to graduate students.
College of Medicine: Collaborative and shared spaces with the College of Nursing will be located in this building to allow for programmatic synergies with undergraduate and graduate student academic and research programs.
In general, there will be quality improvements to all STEM-related programs on campus with new wet lab space. The campus was originally designed only for upper division students, so it has been difficult to adapt existing facilities to accommodate lower division needs. The lack of wet lab space and the inability to enroll students in required science classes can affect time-to-degree for students and limit program growth.
In addition to current program offerings, the project will permit initiation of the following new programs:
WSU Vancouver anticipates offering the newly developed B.A. in Human Biology, a multidisciplinary degree that leverages faculty expertise in the biological, environmental, and social sciences. WSU is anticipating adding a B.A. in Chemistry, which the Vancouver campus will not be able to offer without additional lab space. The Elson S. Floyd School of Medicine, a community based medical school also requires space on the Vancouver campus. This project will help accommodate this statewide program.
This building project directly supports the Results Washington initiative, as WSU Vancouver will be unable to sustain growth in STEM and health-related fields without new wet lab and clinic space. There is increasing pressure on upper-division and graduate instructional labs that compete for the same general lab resources, impacting time-to-degree for these students. Upper division and graduate students requiring lab coursework in general science labs are a targeted growth goal for the state of Washington; limiting classes due to lack of suitable space directly conflicts with those goals.
Specifically, the WSU Vancouver Life Sciences facility will support the following Results Washington goals:
1.3.a The project will increase the percentage of eligible students signing up for College Bound through numerous faculty outreach projects and WSU Vancouver's strategic partnership with the Vancouver School District, as the iTech Prep magnet high school is co-located on campus.
1.3.e The project will increase the percentage of postsecondary graduates from community colleges that transfer to WSU Vancouver. The campus accepts many community college transfers into STEM and nursing majors, which this facility will support.
1.3.f The Life Sciences facility will increase the number of students enrolled in STEM and high demand fields by over 100 annually, which is nearly 10% of the state goal.
1.3.g This building will increase the number of students enrolled in online and hybrid courses as the entire nursing program is structured in this manner, contributing to nearly 10% of the state goal.
1.3.h WSU Vancouver will increase the number of graduates in STEM and high demand fields with this project by 105 degrees annually, which is 11% of the state goal.
1.3.i This project will increase the percentage of post-secondary students or students employed in Washington. The building will directly support 20 post-secondary degrees and 92% of WSU alumni remain in the Vancouver area.

If the project is linked to the Puget Sound Action Agenda, describe the impacts on the Action Agenda, including expenditure and FTE detail. See Chapter 14.4 (Puget Sound recover) in the 2017-2019 Operating Budget Instruction.
This project is not linked to the Puget Sound Action Agenda.

Is there additional information you would like decision makers to know when evaluating this request?
The building project directly supports the Results Washington initiative as WSU Vancouver will be unable to sustain growth in STEM and health-related fields without new wet lab and clinic space. There is also increasing pressure on upper-division and graduate instructional labs that compete for the same general lab resources, impacting time-to-degree completion for all students. Upper division and graduate students requiring lab coursework in general science labs are a targeted growth goal for the state of Washington; limiting classes due to lack of suitable space directly conflicts with those goals.
This project must be initiated soon in order to meet academic certification requirements. The neuroscience program is housed in labs that were originally designed to support plant physiology research but now contain laboratory animals. These labs are at capacity and cannot accommodate expanding research programs and additional scientists. Minor capital remodels and facilities upgrades have been employed to retrofit facilities, which are marginally adequate. Compliance with federally mandated AAALAC standards (regulating animal holding) has been a struggle to maintain and growth of these vital research programs is not possible in the current facilities.
Additionally, WSU is accredited as an institution across all campuses through the Northwest Commission on Colleges and

OFM

365 - Washington State University
Capital Project Request
2019-21 Biennium

*

Version: 10 2019-21 WSU Capital Budget Request

Report Number: CBS002
Date Run: 7/30/2018 1:44PM

Project Number: 30000840
Project Title: Washington State University Vancouver - Life Sciences Building

Description

Universities (NWCCU). Not meeting accreditation standards on the Vancouver campus will affect the accreditation of WSU as a whole because degree requirements are expected to be equivalent statewide. Limited access to teaching wet-labs negatively impacts this academic imperative.
This is especially critical within the nursing program as simulation labs are a required part of the curriculum beginning in 2017. Existing facilities are not able to accommodate simulation labs so the College of Nursing is forced to partner with other institutions and hold these classes off-site. WSU Vancouver's entire nursing program had over 90 degrees obtained in 2014 at the undergraduate and graduate levels. Campus faculty broadcast classes to all WSU locations and support all WSU nursing students. It is anticipated that up to 50% of building space could be dedicated to support the nursing program, which is almost entirely delivered by distance learning. WSU Vancouver nursing faculty broadcast classes to multiple campuses, so this program truly has a statewide impact.
* Refer also to the capital project proposal document and supporting appendices.

Location
City: Vancouver **County:** Clark **Legislative District:** 017

Project Type
New Facilities/Additions (Major Projects)

Growth Management impacts
The project will be part of campus development identified in the WSU - Clark County Development Agreement as framed by the Clark County Comprehensive Plan under the umbrella of the State Growth Management Act. WSU Vancouver's physical planning policies are coordinated with many agencies and government units. The Growth Management Act and its companion Traffic Demand Management legislation and the State Environmental Policy Act, however, are applicable to WSU's physical facilities and programs. Growth Management Act (GMA)-WSU will coordinate with Counties and Municipalities throughout the State to ensure compliance with GMA. WSU will avoid construction or activities which would permanently impair "critical" areas on its campuses as they are defined in the GMA. Transportation Demand Management-A companion piece of legislation sets forth a policy for Transportation Demand Management in which the State of Washington will provide leadership. The Director of the State of Washington Department of General Administration (DGA) is required to develop a commute trip reduction plan for state agencies which are Phase I major employers. WSU will conform to the plans developed by DGA. State Environmental Policy Act (SEPA)-WSU has adopted procedures set forth in the State Environmental Policy Act Handbook December 1988 and the State Environmental Policy Act Rules Chapter 197-11 Washington Administrative Code Effective April 4, 1984. Adherence to these procedures will be one of the principal means by which WSU coordinates its compliance with Growth Management requirements.

New Facility: Yes
How does this fit in master plan
http://facilitiesservices.wsu.edu/resources/pdf/masterplan/Vancouver_plan.pdf

Funding

Acct Code	Account Title	Estimated Total	Expenditures Prior Biennium	Expenditures Current Biennium	2019-21 Fiscal Period Reapprops	2019-21 Fiscal Period New Approps
057-1	State Bldg Constr-State	56,600,000				4,000,000
062-1	WSU Building Account-State	500,000		500,000		
	Total	**57,100,000**	**0**	**500,000**	**0**	**4,000,000**

OFM

365 - Washington State University
Capital Project Request
2019-21 Biennium

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Project Number: 30000840
Project Title: Washington State University Vancouver - Life Sciences Building

Funding

		Future Fiscal Periods			
		2021-23	2023-25	2025-27	2027-29
057-1	State Bldg Constr-State	52,600,000			
062-1	WSU Building Account-State				
	Total	**52,600,000**	**0**	**0**	**0**

Schedule and Statistics

	Start Date	End Date
Predesign	02/01/2018	06/01/2018
Design	7/1/2019	6/1/2021
Construction	7/1/2021	5/1/2023

	Total
Gross Square Feet:	60,000
Usable Square Feet:	36,607
Efficiency:	61.0%
Escalated MACC Cost per Sq. Ft.:	589
Construction Type:	Science Labs (teaching)
Is this a remodel?	No
A/E Fee Class:	B
A/E Fee Percentage:	6.68%

Cost Summary

		Escalated Cost	% of Project
Acquisition Costs Total		**0**	**0.0%**
Consultant Services			
Pre-Schematic Design Services		671,970	1.2%
Construction Documents		0	0.0%
Extra Services		564,344	1.0%
Other Services		0	0.0%
Design Services Contingency		190,821	0.3%
Consultant Services Total		**3,809,266**	**6.7%**
Maximum Allowable Construction Cost(MACC)	**35,342,177**		
Site work		1,592,559	2.8%
Related Project Costs		0	0.0%
Facility Construction		33,749,618	59.1%
GCCM Risk Contingency		4,860,438	8.5%
GCCM or Design Build Costs		2,617,418	4.6%
Construction Contingencies		1,769,383	3.1%

OFM

365 - Washington State University
Capital Project Request
2019-21 Biennium

Version: 10 2019-21 WSU Capital Budget Request

Report Number: CBS002
Date Run: 7/30/2018 1:44PM

Project Number: 30000840
Project Title: Washington State University Vancouver - Life Sciences Building

Cost Summary

	Escalated Cost	% of Project
Construction Contracts		
Non Taxable Items	0	0.0%
Sales Tax	3,745,511	6.6%
Construction Contracts Total	**48,334,925**	**84.7%**
Equipment		
Equipment	2,953,124	5.2%
Non Taxable Items	0	0.0%
Sales Tax	248,062	0.4%
Equipment Total	**3,201,186**	**5.6%**
Art Work Total	**176,711**	**0.3%**
Other Costs Total	**348,406**	**0.6%**
Project Management Total	**1,229,845**	**2.2%**
Grand Total Escalated Costs	**57,100,339**	
Rounded Grand Total Escalated Costs	**57,100,000**	

Operating Impacts

Total one time start up and ongoing operating costs

Acct Code	Account Title	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028
FTE	Full Time Employee	5.8	5.9	5.9	5.9	5.9
001-1	General Fund-State	893,000	921,000	921,000	921,000	921,000
	Total	**893,000**	**921,000**	**921,000**	**921,000**	**921,000**

Narrative
Costs are based on calculated M&O rates by building type.

OFM

Capital Project Request

2019-21 Biennium

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Parameter	Entered As	Interpreted As
Biennium	2019-21	2019-21
Agency	365	365
Version	10-A	10-A
Project Classification	*	All Project Classifications
Capital Project Number	30000840	30000840
Sort Order	Project Priority	Priority
Include Page Numbers	Y	Yes
For Word or Excel	N	N
User Group	Agency Budget	Agency Budget
User Id	*	All User Ids

STATE OF WASHINGTON
AGENCY / INSTITUTION PROJECT COST SUMMARY

Agency	Washington State University
Project Name	Washington State University Vancouver - Life Sciences Building
OFM Project Number	30000840

Contact Information	
Name	Jason Baerlocher
Phone Number	509-335-9012
Email	jason.baerlocher @wsu.edu

Statistics			
Gross Square Feet	60,000	MACC per Square Foot	$522
Usable Square Feet	36,607	Escalated MACC per Square Foot	$589
Space Efficiency	61.0%	A/E Fee Class	B
Construction Type	Science labs (teaching)	A/E Fee Percentage	6.68%
Remodel	No	Projected Life of Asset (Years)	75
Additional Project Details			
Alternative Public Works Project	Yes	Art Requirement Applies	Yes
Inflation Rate	3.12%	Higher Ed Institution	Yes
Sales Tax Rate %	8.40%	Location Used for Tax Rate	0605
Contingency Rate	5%		
Base Month	June-18		
Project Administered By	Agency		

Schedule			
Predesign Start	February-18	Predesign End	June-18
Design Start	July-19	Design End	June-21
Construction Start	July-21	Construction End	May-23
Construction Duration	22 Months		

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Project Cost Estimate

Total Project	$50,743,456	Total Project Escalated	$57,100,348
		Rounded Escalated Total	$57,100,000

STATE OF WASHINGTON

AGENCY / INSTITUTION PROJECT COST SUMMARY

Agency	Washington State University
Project Name	Washington State University Vancouver - Life Sciences Building
OFM Project Number	30000840

Cost Estimate Summary

Acquisition			
Acquisition Subtotal	**$0**	**Acquisition Subtotal Escalated**	**$0**

Consultant Services			
Predesign Services	$650,000		
A/E Basic Design Services	$1,514,541		
Extra Services	$530,000		
Other Services	$680,446		
Design Services Contingency	$168,749		
Consultant Services Subtotal	**$3,543,736**	**Consultant Services Subtotal Escalated**	**$3,809,268**

Construction			
GC/CM Risk Contingency	$4,298,229		
GC/CM or D/B Costs	$2,314,660		
Construction Contingencies	$1,564,718	Construction Contingencies Escalated	$1,769,384
Maximum Allowable Construction Cost (MACC)	$31,294,359	Maximum Allowable Construction Cost (MACC) Escalated	$35,342,177
Sales Tax	$3,315,645	Sales Tax Escalated	$3,745,512
Construction Subtotal	**$42,787,611**	**Construction Subtotal Escalated**	**$48,334,929**

Equipment			
Equipment	$2,611,535		
Sales Tax	$219,369		
Non-Taxable Items	$0		
Equipment Subtotal	**$2,830,904**	**Equipment Subtotal Escalated**	**$3,201,187**

Artwork			
Artwork Subtotal	**$176,711**	**Artwork Subtotal Escalated**	**$176,711**

Agency Project Administration			
Agency Project Administration Subtotal	$984,088		
DES Additional Services Subtotal	$0		
Other Project Admin Costs	$0		
Project Administration Subtotal	**$1,087,588**	**Project Administation Subtotal Escalated**	**$1,229,846**

Other Costs			
Other Costs Subtotal	**$316,906**	**Other Costs Subtotal Escalated**	**$348,407**

Project Cost Estimate			
Total Project	**$50,743,456**	Total Project Escalated	**$57,100,348**
		Rounded Escalated Total	**$57,100,000**

Cost Estimate Details

Acquisition Costs					
Item	Base Amount		Escalation Factor	Escalated Cost	Notes
Purchase/Lease					
Appraisal and Closing					
Right of Way					
Demolition					
Pre-Site Development					
Other					
Insert Row Here					
ACQUISITION TOTAL	$0		NA	$0	

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Cost Estimate Details

Consultant Services				
Item	Base Amount	Escalation Factor	Escalated Cost	Notes
1) Pre-Schematic Design Services				
Programming/Site Analysis				
Environmental Analysis				
Predesign Study	$350,000			
Honoraria / Pre-Con	$300,000			
Insert Row Here				
Sub TOTAL	**$650,000**	**1.0338**	**$671,970**	Escalated to Design Start
2) Construction Documents				
A/E Basic Design Services	$1,514,541			69% of A/E Basic Services
Other				
Insert Row Here				
Sub TOTAL	**$1,514,541**	**1.0648**	**$1,612,683**	Escalated to Mid-Design
3) Extra Services				
Civil Design (Above Basic Svcs)				
Geotechnical Investigation	$85,000			
Commissioning	$120,000			
Site Survey	$25,000			
Testing	$125,000			
LEED Services				
Voice/Data Consultant				
Value Engineering				
Constructability Review				
Environmental Mitigation (EIS)	$25,000			
Landscape Consultant				
Audit	$150,000			
Insert Row Here				
Sub TOTAL	**$530,000**	**1.0648**	**$564,344**	Escalated to Mid-Design
4) Other Services				
Bid/Construction/Closeout	$680,446			31% of A/E Basic Services
HVAC Balancing				
Staffing	$0			
Other				
Insert Row Here				
Sub TOTAL	**$680,446**	**1.1308**	**$769,449**	Escalated to Mid-Const.
5) Design Services Contingency				
Design Services Contingency	$168,749			
Other				
Insert Row Here				
Sub TOTAL	**$168,749**	**1.1308**	**$190,822**	Escalated to Mid-Const.
CONSULTANT SERVICES TOTAL	**$3,543,736**		**$3,809,268**	

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Cost Estimate Details

Construction Contracts				
Item	**Base Amount**	**Escalation Factor**	**Escalated Cost**	**Notes**
1) Site Work				
G10 - Site Preparation	$503,605			
G20 - Site Improvements	$681,266			
G30 - Site Mechanical Utilities	$200,700			
G40 - Site Electrical Utilities	$63,000			
G60 - Other Site Construction				
Other				
Insert Row Here				
Sub TOTAL	**$1,448,571**	**1.0994**	**$1,592,559**	
2) Related Project Costs				
Offsite Improvements				
City Utilities Relocation				
Parking Mitigation				
Stormwater Retention/Detention				
Other				
Insert Row Here				
Sub TOTAL	**$0**	**1.0994**	**$0**	
3) Facility Construction				
A10 - Foundations	$440,959			
A20 - Basement Construction	$559,750			
B10 - Superstructure	$2,824,244			
B20 - Exterior Closure	$3,378,265			
B30 - Roofing	$594,870			
C10 - Interior Construction	$2,287,666			
C20 - Stairs	$384,000			
C30 - Interior Finishes	$1,674,226			
D10 - Conveying	$295,000			
D20 - Plumbing Systems	$3,479,942			
D30 - HVAC Systems	$6,599,890			
D40 - Fire Protection Systems	$329,995			
D50 - Electrical Systems	$3,359,944			
F10 - Special Construction	$416,822			
F20 - Selective Demolition	$0			
General Conditions	$2,640,000			
Lab Fixed Equipment	$580,215			
Insert Row Here				
Sub TOTAL	**$29,845,788**	**1.1308**	**$33,749,618**	
4) Maximum Allowable Construction Cost				
MACC Sub TOTAL	**$31,294,359**		**$35,342,177**	

5) GCCM Risk Contingency				
GCCM Risk Contingency	$4,298,229			
Other				
Insert Row Here				
Sub TOTAL	**$4,298,229**	**1.1308**	**$4,860,438**	
6) GCCM or Design Build Costs				
GCCM Fee	$1,157,330			
Bid General Conditions				
GCCM Preconstruction Services	$1,157,330			
Other				
Insert Row Here				
Sub TOTAL	**$2,314,660**	**1.1308**	**$2,617,418**	
7) Construction Contingency				
Allowance for Change Orders	$1,564,718			
Other				
Insert Row Here				
Sub TOTAL	**$1,564,718**	**1.1308**	**$1,769,384**	
8) Non-Taxable Items				
Other				
Insert Row Here				
Sub TOTAL	**$0**	**1.1308**	**$0**	
Sales Tax				
Sub TOTAL	**$3,315,645**		**$3,745,512**	
CONSTRUCTION CONTRACTS TOTAL	**$42,787,611**		**$48,334,929**	

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Cost Estimate Details

Equipment				
Item	Base Amount	Escalation Factor	Escalated Cost	Notes
E10 - Equipment	$1,353,835			
E20 - Furnishings	$1,057,700			
F10 - Special Construction	$200,000			
Other				
Insert Row Here				
Sub TOTAL	**$2,611,535**	**1.1308**	**$2,953,124**	
1) Non Taxable Items				
Other				
Insert Row Here				
Sub TOTAL	**$0**	**1.1308**	**$0**	
Sales Tax				
Sub TOTAL	**$219,369**		**$248,063**	
EQUIPMENT TOTAL	**$2,830,904**		**$3,201,187**	

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Cost Estimate Details

Artwork				
Item	Base Amount	Escalation Factor	Escalated Cost	Notes
Project Artwork	$0			0.5% of Escalated MACC for new construction
Higher Ed Artwork	$176,711			0.5% of Escalated MACC for new and renewal construction
Other				
Insert Row Here				
ARTWORK TOTAL	**$176,711**	**NA**	**$176,711**	

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Cost Estimate Details

Project Management				
Item	Base Amount	Escalation Factor	Escalated Cost	Notes
Agency Project Management	$984,088			
Additional Services				
Onsite Supervision	$103,500			
Insert Row Here				
PROJECT MANAGEMENT TOTAL	**$1,087,588**	**1.1308**	**$1,229,846**	

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Cost Estimate Details

Other Costs				
Item	Base Amount	Escalation Factor	Escalated Cost	Notes
Mitigation Costs				
Hazardous Material Remediation/Removal				
Historic and Archeological Mitigation				
Facilities Support / Admin	$316,906			
Insert Row Here				
OTHER COSTS TOTAL	**$316,906**	**1.0994**	**$348,407**	

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Additional Notes

Tab A. Acquisition
Insert Row Here

Tab B. Consultant Services
Insert Row Here

Tab C. Construction Contracts
Insert Row Here

Tab D. Equipment
Insert Row Here

Tab E. Artwork
Insert Row Here

Tab F. Project Management
Insert Row Here

Tab G. Other Costs
Insert Row Here